

October 4, 2019

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATION  
DEPARTMENT OF ADMINISTRATION

DIVISION OF PURCHASES BID NO. 7598949

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

RHODE ISLAND CONTRACT NO.2019-CH-026

FEDERAL-AID PROJECT NO. FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

**Broad St Regeneration**

Broad Street at Goff/Exchange Street in Pawtucket to Broad Street at Mendon Road in  
Cumberland.

CITY/TOWN OF Central Falls, Cumberland, Pawtucket

COUNTY OF PROVIDENCE

NOTICE TO PROSPECTIVE BIDDERS

ADDENDUM NO. 2 Prospective bidders and all concerned are hereby notified of the following changes in the Plans, Specifications, Proposal and Distribution of Quantities for this contract. These changes shall be incorporated in the Plans, Specifications, Proposal and Distribution of Quantities, and shall become an integral part of the Contract Documents.

**A. Other Item Changes**

1. Table of Contents - Distribution of Quantities

Delete Pages Index 1 through Index 6 in their entirety and replace them with revised Pages Index 1 (R-2) though Index 6 (R-2) and add Index 7 attached to this Addendum No. 2.

2. Distribution of Quantities - Revisions

Item Codes 201.0610 - REMOVE AND DISPOSE DIRECTIONAL, WARNING, REGULATORY, SERVICE, AND STREET SIGNS, T15.0100 - DIRECTIONAL REGULATORY AND WARNING SIGNS, T15.2000 - PARKING SIGNS, T20.2406 - 6 INCH WHITE FINAL EPOXY RESIN PAVEMENT MARKINGS, T20.2412 - 12 INCH WHITE FINAL EPOXY RESIN PAVEMENT MARKINGS, T20.2804 - 4 INCH YELLOW FINAL EPOXY RESIN PAVEMENT MARKINGS, T20.3401 - FINAL EPOXY RESIN PAVEMENT MARKING SYMBOL - ARROW (STRAIGHT, LEFT, RIGHT OR COMBINED) STANDARD 20.1.0, T20.3416 - FINAL EPOXY RESIN PAVEMENT MARKING SYMBOL SET - BIKE LANE (HELMETED BICYCLIST AND ARROW), 701.0412 - REINFORCED CONCRETE PIPE M 170 CLASS III 12 INCH, 701.0418 - REINFORCED CONCRETE PIPE M 170 CLASS III 18 INCH, 701.0424 - REINFORCED CONCRETE PIPE M 170 CLASS III 24 INCH, 701.6008 - 8 INCH DUCTILE IRON SEWER SAFE PIPE CLASS 52, 701.6012 - 12 INCH DUCTILE IRON SEWER SAFE PIPE CLASS 52, 701.6024 - 24 INCH DUCTILE IRON SEWER SAFE PIPE CLASS 52, 702.0211 - SOLID BLOCK SHALLOW 5'-0" ROUND MANHOLE STANDARD 3.2.2, T15.9901 - REMOVE AND RESET SIGN AND POST, 702.0511 - FRAME AND COVER STANDARD 6.1.0, 702.0516 - FRAME AND GRATE, HIGH CAPACITY, STANDARD 6.3.4, 702.0521 - FRAME AND COVER STANDARD 6.2.0, 702.0522 - FRAME AND COVER STANDARD 6.2.1, 702.0541 - GRANITE INLET STONE 38" STANDARD 7.3.6, 702.0543 - GRANITE APRON STONE 38" STANDARD 7.3.8, 201.0423 - REMOVE AND DISPOSE HANDHOLE, T04.5303 - 14 AWG 3 CONDUCTOR CABLE, T04.5305 - 14 AWG 5 CONDUCTOR CABLE, T04.9901 - VIDEO DETECTION SYSTEM CABLE, T04.9902 - ADVANCED VIDEO DETECTION SYSTEM CABLE, T04.9903 -

OPTICAL DETECTOR CABLE, T05.9901 - BREAK INTO EXISTING HANDHOLE, 702.0605 - PRECAST CATCH BASIN 4' DIAMETER STANDARD 4.4.0, T06.3030 - 3 IN. RIGID STEEL CONDUIT-UNDER EXISTING PAVEMENT, 702.0610 - PRECAST CATCH BASIN 5' DIAMETER STANDARD 4.4.0, T06.3040 - 4 IN. RIGID STEEL CONDUIT-UNDER EXISTING PAVEMENT, T06.5430 - 3 INCH SCHEDULE 80 POLYVINYL CHLORIDE PLASTIC CONDUIT - UNDER EXISTING PAVEMENT, T06.5440 - 4 INCH SCHEDULE 80 POLYVINYL CHLORIDE PLASTIC CONDUIT - UNDER EXISTING PAVEMENT, 702.0630 - PRECAST MANHOLE 4' DIAMETER STANDARD 4.2.0, 702.0713 - PRECAST CONCRETE DROP INLET WITH APRON STONE STANDARD 4.5.1, T11.2008 - TRAFFIC SIGNAL STANDARD, 8 FOOT, STD 19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION, T20.1410 - WATERBORNE PAINT PAVEMENT MARKING WORD ("ONLY", "STOP", "YIELD", "AHEAD", "XING", "SCHOOL", OR OTHER) STANDARD 20.1.0, T11.2010 - TRAFFIC SIGNAL STANDARD, 10 FT, STD 19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION, T11.9903 - 20 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0 (MODIFIED I), T11.9904 - 20 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0 (MODIFIED II), T20.0706 - 6 INCH WHITE WATERBORNE PAINT PAVEMENT MARKINGS, T11.9905 - 20 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0 (MODIFIED III), T11.9907 - 20 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0 (MODIFIED V), T20.0712 - 12 INCH WHITE WATERBORNE PAINT PAVEMENT MARKINGS, T11.9910 - 30 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0 (MODIFIED I), T11.9911 - 45 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0 (MODIFIED I), T20.1401 - WATERBORNE PAINT PAVEMENT MARKING SYMBOL - ARROW (STRAIGHT, LEFT, RIGHT OR COMBINED) STANDARD 20.1.0, T11.9912 - TRAFFIC SIGNAL STANDARD, 4 FOOT - 4 INCH, STD. 19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION, 701.0430 - REINFORCED CONCRETE PIPE M 170 CLASS III 30 INCH, 701.0436 - REINFORCED CONCRETE PIPE M 170 CLASS III 36 INCH, 701.0612 - REINFORCED CONCRETE PIPE M 170 CLASS V 12 INCH, 701.0624 - REINFORCED CONCRETE PIPE M 170 CLASS V 24 INCH, T11.9901 - 15 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STANDARD 19.2.0, T11.9902 - 15 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STANDARD 19.2.0 (MODIFIED I), T11.9906 - 20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED III), T11.9908 - 20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED V), T11.9909 - 20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED VI), T11.9913 - 50 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0, T12.9902 - VIDEO DETECTION SYSTEM HARDWARE, T12.9903 - ADVANCED VIDEO DETECTION SYSTEM HARDWARE, T13.9901 - VIDEO DETECTION SYSTEM CAMERA, T13.9902 - ADVANCED VIDEO DETECTION SYSTEM CAMERA, T13.9903 - OPTICAL DETECTOR - SINGLE CHANNEL, ONE-WAY, T14.3613 - 1 WAY 3 SECTION BRACKET MOUNTED SIGNAL HEAD 12 INCH, T14.3713 - 1 WAY 3 SECTION PEDESTAL MOUNTED SIGNAL HEAD 12 INCH, T14.9901 - 1 WAY PEDESTAL MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER 12 INCH, T14.9903 - 1 WAY BRACKET MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER 12 INCH, 206.0301 - COMPOST FILTER SOCK, 209.9901 - INLET PROTECTION, 702.0510 - HEAVY-DUTY SQUARE FRAME AND ROUND COVER STANDARD 6.1.1, 702.0714 - PRECAST CONCRETE DROP INLET WITH APRON STONE STANDARD 4.5.2, 702.0810 - CONCRETE COVER SHALLOW 5'-0" ROUND MANHOLES STANDARD 4.6.1, 702.0840 - ALTERNATE TOP COVER ROUND PRECAST MANHOLES AND CATCH BASINS STANDARD 4.7.2, 704.0100 - RECONSTRUCT CATCH BASIN/CORBEL CONES, 707.1200 - ADJUST CATCH BASIN TO MANHOLE, 707.1900 - ADJUST FRAME & COVER TO GRADE, 707.2000 - ADJUST FRAME AND GRATE TO GRADE, 201.0414 - REMOVE AND DISPOSE PIPE - ALL SIZES, 201.0410 - REMOVE AND DISPOSE CATCH BASINS, 905.0131 - PORTLAND CEMENT CONCRETE MEDIAN 6" MONOLITHIC, 702.0712 - PRECAST CONCRETE DROP INLET STANDARD 4.5.0, 906.0110 - GRANITE CURB, QUARRY SPLIT STRAIGHT, STANDARD 7.3.0, 905.0110 - PORTLAND CEMENT SIDEWALK MONOLITHIC STANDARD 43.1.0, and T20.0904 - 4 INCH YELLOW WATERBORNE PAINT PAVEMENT MARKINGS have been revised.



Item Codes T11.0820 - 20 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0, T11.0830 - 30 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0, T11.0845 - 45 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0, and T11.0850 - 50 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0 have been deleted.

Delete Pages 11, 12, 13, 24, 28, 31, 34 (R-1), 34a, 35, 36, 37, 39, 40, 41, 46 (R-1), 46a, 47, 48, 49, 50, 51, 52, 53, 54, 55 (R-1), 55a, 56, 57, 58 (R-1), 58a, 59, 60, 61, 62, 63, 64 (R-1), 64a, 65 (R-1), 65a, 66, 74, 77, 79, 124, 126 (R-1), 126a, 132 (R-1), 132a, 150, 226, 227, 228, 229, 231, 233, 234, 235, 236, 237, 238, 239, 240, 241, 243, 244, 247, 248, 252, 253, 254, 255, 256, 257, 258, 259, 260, 262, 264, 265, 266, 267, 271, 272, 273, 274, 275, 276, 277, 279, 282, 284, 285, 287, 288, 289, 290, 291, 292, 294, 295, 298, and 310 in their entirety and replace them with Pages 11 (R-1), 11a, 12 (R-1), 13 (R-1), 24 (R-1), 28(R-1), 28a, 31(R-1), 34 (R-2), 34a (R-1), 35 (R-1), 36 (R-1), 36a, 37 (R-1), 37a, 39 (R-1), 40 (R-1), 40a, 41 (R-1), 41a, 46 (R-2), 46a (R-1), 47 (R-1), 47a, 48 (R-1), 48a, 49 (R-1), 49a, 50 (R-1), 50a, 50b, 51 (R-1), 51a, 52 (R-1), 52a, 53 (R-1), 53a, 54 (R-1), 54a, 55 (R-2), 55a (R-1), 56 (R-1), 56a, 57 (R-1), 57a, 58 (R-2), 58a (R-1), 59 (R-1), 59a, 60 (R-1), 60a, 61 (R-1), 61a, 62 (R-1), 62a, 63 (R-1), 63a, 64 (R-2), 64a (R-1), 65 (R-2), 65a (R-1), 65b, 66 (R-1), 66a, 74 (R-1), 74a, 77 (R-1), 77a, 79 (R-1), 124 (R-1), 126 (R-2), 126a (R-1), 132 (R-2), 132a (R-1), 150(R-1), 150a, 226 (R-1), 227 (R-1), 228 (R-1), 229 (R-1), 231 (R-1), 231a, 233 (R-1), 233a, 234 (R-1), 235 (R-1), 235a, 236 (R-1), 237 (R-1), 238 (R-1), 238a, 239 (R-1), 239a, 240 (R-1), 241 (R-1), 241a, 243 (R-1), 244 (R-1), 247 (R-1), 248 (R-1), 248a, 252 (R-1), 252a, 253 (R-1), 253a, 254 (R-1), 255 (R-1), 255a, 256 (R-1), 257 (R-1), 257a, 258 (R-1), 258a, 259 (R-1), 259a, 260 (R-1), 260a, 262 (R-1), 262a, 264 (R-1), 265 (R-1), 266 (R-1), 267 (R-1), 271 (R-1), 271a, 272 (R-1), 272a, 273 (R-1), 273a, 274 (R-1), 274a, 275 (R-1), 275a, 276 (R-1), 277 (R-1), 279 (R-1), 282 (R-1), 284 (R-1), 285 (R-1), 287 (R-1), 288 (R-1), 288a, 289 (R-1), 289a, 290 (R-1), 291 (R-1), 291a, 292 (R-1), 292a, 293a, 294 (R-1), 294a, 295 (R-1), 298 (R-1), 298a, and 310 (R-1) attached to this Addendum No. 2.

3. Distribution of Quantities - Additions

Item Codes T20.3410 - FINAL EPOXY RESIN PAVEMENT MARKING WORD ("ONLY", "STOP", "YIELD", "AHEAD", "XING", "SCHOOL", OR OTHER) STANDARD 20.1.0, T04.9904 - CATEGORY 6 ETHERNET CABLE, 701.0636 - REINFORCED CONCRETE PIPE M 170 CLASS V 36 INCH, 702.0210 - SOLID BLOCK SHALLOW 4'-0" ROUND MANHOLE STANDARD 3.2.2, 702.0635 - PRECAST MANHOLE 5' DIAMETER STANDARD 4.2.1, 701.6036 - 36 INCH DUCTILE IRON SEWER SAFE PIPE CLASS 52, T11.9914 - TRAFFIC SIGNAL STANDARD, 4 FOOT - 4 INCH, STD. 19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION, T11.9915 - TRAFFIC SIGNAL STANDARD, 18 FOOT, STD. 19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION, T11.9916 - TRAFFIC SIGNAL STANDARD, 8 FOOT, STD. 19.4.0 ALUMINUM PEDESTAL POLE ON EXISTING FOUNDATION, T11.9917 - DUAL MAST ARM (50X30) GALVANIZED STEEL TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0, T12.9905 - INTERSECTION WIDE 360 DEGREE VIDEO DETECTION SYSTEM, 701.5806 - 6 INCH DUCTILE IRON WATER PIPE CLASS 56, MECHANICAL JOINT, 701.5808 - 8 INCH DUCTILE IRON WATER PIPE CLASS 56, MECHANICAL JOINT, 701.8100 - FURNISH AND INSTALL DUCTILE IRON FITTINGS, 701.8150 - TYPE K COPPER SERVICE PIPE, 702.0625 - PRECAST CATCH BASIN 6' SQUARE STANDARD 4.3.0, 702.0800 - CONCRETE COVER SHALLOW 4'-0" ROUND MANHOLES STANDARD 4.6.0, 702.0825 - TOP COVER 6'-0" SQUARE CATCH BASINS AND MANHOLES STANDARD 4.7.0, 701.9001 - CONDUCT LEAKAGE TEST, 701.9002 - STERILIZATION OF WATER MAINS, 701.5406 - 6 INCH DUCTILE IRON WATER PIPE CLASS 52, MECHANICAL JOINT, and 701.5408 - 8 INCH DUCTILE IRON WATER PIPE CLASS 52, MECHANICAL JOINT have been added.

Add Pages 311-318 attached to this Addendum No. 2.

**B. General Provisions - Contract Specific**

1. General Provisions - Contract Specific Index  
Delete Page CS-I and replace it with Page CS-i (R-1) attached to this Addendum No. 2. The Appendix List was revised.
2. General Provisions - Contract Specific Notice to Contractors  
Delete Page CS-4 and CS-5 and replace it with Pages CS-4 (R-1) and CS-5 (R-1) attached to this Addendum No. 2. Section 6C and 6F have been revised.
3. General Provisions – Contract Specific Appendix F  
Delete Appendix F and replace it with Appendix F (R-1) attached to this Addendum No. 2. Structural Disposition List has been revised and signed.
4. General Provisions – Contract Specific Appendix G  
Delete Appendix G Draft SIR and replace it with Appendix G RAWP attached to this Addendum No. 2. Approved RAWP has replaced the SIR.

**C. Specification Change/Addition**

1. Special Provision Index  
Delete Pages JS-i and JS-ii (R-1) and replace it with Pages JS-i (R-1), JS-ii (R-2), and JS-iii. attached to this Addendum No. 2. Item Codes T11.9914, T11.9915, T11.9917, 701.9900, T04.9904, T11.9916, and T12.9905 have been added to the index. Item Code 936.9901 has been deleted from the index.
2. Item Code 702.9901 Bioretention Planter  
Delete Pages JS-21 and replace it with Page JS-21 (R-1) attached to this Addendum No. 2. Item Code 702.9901 has been modified.
3. Item Code 905.9902 Furnish and Install Brick Sidewalk  
Delete Pages JS-24 and replace it with Page JS-24 (R-1) attached to this Addendum No. 2. Item Code 905.9902 has been modified.
4. Item Code 935.9901 Imprint Brick Pattern Crosswalk  
Delete Pages JS-31 and replace it with Page JS-31 (R-1) attached to this Addendum No. 2. Item Code 935.9901 has been modified.
5. Item Code 936.9901 Mobilization  
Delete Pages JS-33 and replace it with Page JS-33 (R-1) attached to this Addendum No. 2. Item Code 936.9901 has been deleted.
6. Item Codes T11.9901 Through T11.9913  
Delete Pages JS-53 through JS-55 and replace it with Pages JS-53 (R-1) through JS-55 (R-1) attached to this Addendum No. 2. Item Codes T11.9901 through T11.9913 have been modified. Item Codes T11.9914, T11.9915, and T11.9917 have been added.
7. Item Codes 701.9900 Water Modifications, T04.9904 Category 6 Ethernet Cable, T11.9916 Traffic Signal Standard, 8 Foot, Std. 19.4.0 Aluminum Pedestal Pole on Existing Foundation  
Add Pages JS-73 through JS-126 attached to this Addendum No. 2. Item Codes 701.9900, T04.9904, T11.9916, and T12.9905 have been added.

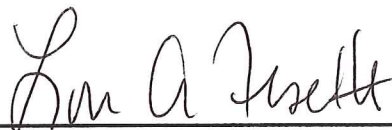


**D. Drawings/Plans - Change/Addition**

1. Volume 1 – Job Specific Plan Symbols, Legend & Notes  
Delete Sheet 5 in its entirety and replace it with Sheet 5 (R-1) attached to this Addendum No. 2. The sheet has been revised.
2. Volume 1 – General Plan Nos. 1, 8, and 14  
Delete Sheets 11, 18, and 24 in their entirety and replace them with Sheets 11 (R-1), 18 (R-1), and 24 (R-1) attached to this Addendum No. 2. The sheets have been revised.
3. Volume 1 – Miscellaneous Details No. 2  
Delete Sheet 39 in its entirety and replace it with Sheet 39 (R-1) attached to this Addendum No. 2. The sheet has been revised.
4. Volume 1 – Drainage & Utility Plan Nos. 1, 8, 14, 15, 16, 17, and 18  
Delete Sheets 41, 48, 54, 55, 56, 57, and 58 in their entirety and replace them with Sheets 41 (R-1), 48 (R-1), 54 (R-1), 55 (R-1), 56 (R-1), 57 (R-1), and 58 (R-1) attached to this Addendum No. 2. The sheets have been revised.
5. Volume 1 – Location Plan Nos. 1, 8, and 14  
Delete Sheets 68, 75, and 81 in their entirety and replace them with Sheets 68 (R-1) and 75 (R-1) attached to this Addendum No. 2. The sheets have been revised.
6. Volume 1 – Profile Nos. 14, 15, 16, 17, and 18  
Delete Sheets 108, 109, 110, 111, and 112 in their entirety and replace them with Sheets 108 (R-1), 109 (R-1), 110 (R-1), 111 (R-1), and 112 (R-1) attached to this Addendum No. 2. The sheets have been revised.
7. Volume 1 – Signing & Striping Plan Nos. 1, 2, 3, 4, 6, 7, 8, 9, 11, 12, 13, 14, 15, 19, 22, 24, and 26  
Delete Sheets 157, 158, 159, 160, 162, 163, 164, 165, 167, 168, 169, 170, 171, 175, 178, 180, and 182 in their entirety and replace them with Sheets 157 (R-1), 158 (R-1), 159 (R-1), 160 (R-1), 162 (R-1), 163 (R-1), 164 (R-1), 165 (R-1), 167 (R-1), 168 (R-1), 169 (R-1), 170 (R-1), 171 (R-1), 175 (R-1), 178 (R-1), 180 (R-1), and 182 (R-1) attached to this Addendum No. 2. The sheets have been revised.
8. Volume 1 – Signing & Striping Typical Details No. 1  
Delete Sheet 184 in its entirety and replace it with Sheet 184 (R-1) attached to this Addendum No. 2. The sheet has been revised.
9. Volume 1 – Traffic Signal Plan No. 1, 2, 3, 4, 5, 6, 7, and 8  
Delete Sheets 186, 187, 188, 189, 190, 191, 192, and 193 in their entirety and replace them with Sheets 186 (R-1), 187 (R-1), 188 (R-1), 189 (R-1), 190 (R-1), 191 (R-1), 192 (R-1), and 193 (R-1) attached to this Addendum No. 2. The sheets have been revised.
10. Volume 1 – Traffic Signal Details 1, 2, 3, 4, 5, and 6  
Delete Sheets 194, 195, 196, 197, 198, and 199 in their entirety and replace them with Sheets 194 (R-1), 195 (R-1), 196 (R-1), 197 (R-1), 197 (R-1), and 199 (R-1) attached to this Addendum No. 2. The sheets have been revised.

11. Volume 2 – Cross Sections 61 through 88

Delete Sheets 62 through 89 in their entirety and replace them with Sheets 62 (R-1) through 89 (r-1) attached to this Addendum No. 2. The sheets have been revised.



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RI Department of Transportation

Manager, Division of Project Management



## Table of Contents - Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

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201.0310	REMOVE AND DISPOSE SHRUBS	1
201.0321	CLEARING AND GRUBBING	1
201.0401	REMOVE AND DISPOSE GRANITE CURB	1
<b>201.0402</b>	<b>REMOVE AND DISPOSE CONCRETE CURB</b>	<b>2</b>
<b>201.0403</b>	<b>REMOVE AND DISPOSE SIDEWALKS</b>	<b>2</b>
<b>201.0409</b>	<b>REMOVE AND DISPOSE FLEXIBLE PAVEMENT</b>	<b>5</b>
<b>201.0410</b>	<b>REMOVE AND DISPOSE CATCH BASINS</b>	<b>10</b>
201.0413	REMOVE AND DISPOSE RISERS	11
<b>201.0414</b>	<b>REMOVE AND DISPOSE PIPE - ALL SIZES</b>	<b>11</b>
201.0415	REMOVE AND DISPOSE GUARDRAIL AND POST ALL TYPES	11
201.0421	REMOVE AND DISPOSE BITUMINOUS CURB	12
<b>201.0423</b>	<b>REMOVE AND DISPOSE HANDHOLE</b>	<b>12</b>
<b>201.0428</b>	<b>REMOVE AND DISPOSE FRAME AND GRATE OR FRAME AND COVER</b>	<b>13</b>
201.0450	REMOVE AND STOCKPILE ON SITE GRANITE CURB	14
<b>201.0610</b>	<b>REMOVE AND DISPOSE DIRECTIONAL, WARNING, REGULATORY, SERVICE, AND STREET SIGNS</b>	<b>23</b>
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201.9902	REMOVE AND RESET CONCRETE CAR STOP	32
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202.9902	LOAD AND HAUL CONTAMINATED SOIL, TYPE 1	33
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202.9904	LOAD, HAUL, AND DISPOSAL OF OTHER WASTE	33
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<b>209.9901</b>	<b>INLET PROTECTION</b>	<b>36</b>
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302.0100	GRAVEL BORROW SUBBASE COURSE	42
303.0100	SPECIAL GRADED AGGREGATE FOR SHAPING AND TRIMMING DRIVEWAYS OR SHOULDERS	42
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<b>701.0412</b>	<b>REINFORCED CONCRETE PIPE M 170 CLASS III 12 INCH</b>	<b>46</b>
<b>701.0418</b>	<b>REINFORCED CONCRETE PIPE M 170 CLASS III 18 INCH</b>	<b>48</b>
<b>701.0424</b>	<b>REINFORCED CONCRETE PIPE M 170 CLASS III 24 INCH</b>	<b>48</b>
<b>701.6008</b>	<b>8 INCH DUCTILE IRON SEWER SAFE PIPE CLASS 52</b>	<b>49</b>
<b>701.6012</b>	<b>12 INCH DUCTILE IRON SEWER SAFE PIPE CLASS 52</b>	<b>50</b>
<b>701.6024</b>	<b>24 INCH DUCTILE IRON SEWER SAFE PIPE CLASS 52</b>	<b>51</b>
<b>702.0211</b>	<b>SOLID BLOCK SHALLOW 5'-0" ROUND MANHOLE STANDARD 3.2.2</b>	<b>51</b>
<b>702.0511</b>	<b>FRAME AND COVER STANDARD 6.1.0</b>	<b>51</b>
<b>702.0516</b>	<b>FRAME AND GRATE, HIGH CAPACITY, STANDARD 6.3.4</b>	<b>52</b>
<b>702.0521</b>	<b>FRAME AND COVER STANDARD 6.2.0</b>	<b>55</b>
<b>702.0522</b>	<b>FRAME AND COVER STANDARD 6.2.1</b>	<b>55</b>
702.0540	GRANITE INLET STONE 5 FOOT STANDARD 7.3.5	56
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T11.9916	TRAFFIC SIGNAL STANDARD, 8 FOOT, STD. 19.4.0 ALUMINUM PEDESTAL POLE ON EXISTING FOUNDATION	317
T11.9917	DUAL MAST ARM (30X50) GALVANIZED STEEL TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0	318
T12.9905	INTERSECTION WIDE 360 DEGREE VIDEO DETECTION SYSTEM	318
T20.1410	WATERBORNE PAINT PAVEMENT MARKING WORD ("ONLY", "STOP", "YIELD", "AHEAD", "XING", "SCHOOL", OR OTHER) STANDARD 20.1.0	318
T20.3410	FINAL EPOXY RESIN PAVEMENT MARKING WORD ("ONLY", "STOP", "YIELD", "AHEAD", "XING", "SCHOOL", OR OTHER) STANDARD 20.1.0	318

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
008	201.0410	Cont.				
		STA. 67+93 LT		1.00	0004	02
		STA. 87+13 RT		1.00	0004	02
<b>Item 201.0410 Total:</b>				<b>11.00</b>		
009	201.0413	<b>REMOVE AND DISPOSE RISERS</b>	<b>EACH</b>			
		BROAD STREET AT ANN & HOPE WAY				
		WESTERN SIDE		1.00	0004	02
		BROAD STREET AT CROSS STREET				
		SE CORNER		1.00	0004	02
		BROAD STREET AT DEXTER STREET				
		NW CORNER		1.00	0004	02
		BROAD STREET AT FALES STREET				
		NE CORNER		1.00	0004	02
		BROAD STREET AT HIGH STREET				
		NE CORNER		1.00	0004	02
		BROAD STREET AT HUNT STREET				
		NW CORNER		1.00	0004	02
<b>Item 201.0413 Total:</b>				<b>6.00</b>		
010	201.0414	<b>REMOVE AND DISPOSE PIPE - ALL SIZES LF</b>				
		BROAD STREET				
		STA. 100+88 LT TO STA.		25.00	0004	02
		100+90 RT				
		STA. 103+52 LT TO STA.		17.00	0004	02
		103+52 RT				
		STA. 106+63 LT TO STA.		17.00	0004	02
		106+63 RT				
		STA. 12+56 LT TO 12+59 LT		4.00	0004	02
		STA. 28+13 LT TO 28+26 LT		16.00	0004	02
		STA. 31+84 LT TO 31+92 LT		13.00	0004	02
		STA. 34+75 LT TO 34+86 LT		13.00	0004	02
		STA. 55+92 LT TO 56+00 LT		12.00	0004	02
		STA. 56+38 RT TO 56+50 RT		13.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
010	201.0414	Cont.				
		STA. 57+75 LT TO 57+86 LT		15.00	0004	02
		STA. 67+87 LT TO 67+93 LT		8.00	0004	02
		STA. 90+18 LT TO STA. 90+18		28.00	0004	02
		RT				
		STA. 94+44 LT TO STA. 94+45		29.00	0004	02
		RT				
<b>Item 201.0414 Total:</b>				<b>210.00</b>		
011	201.0415	REMOVE AND DISPOSE GUARDRAIL AND	LF			
		POST ALL TYPES				
		BROAD STREET				

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
011	201.0415	Cont.		10.00	0004	02
				<b>Item 201.0415 Total:</b>		<b>10.00</b>
012	201.0421	<b>REMOVE AND DISPOSE BITUMINOUS CURB</b>	<b>LF</b>			
		BROAD STREET				
		STA. 61+19 TO 61+21 RT		12.00	0004	02
				<b>Item 201.0421 Total:</b>		<b>12.00</b>
013	201.0423	<b>REMOVE AND DISPOSE HANDHOLE</b>	<b>EACH</b>			
		BROAD STREET AT ANN & HOPE WAY				
		NE CORNER		1.00	0004	02
		NW CORNER		1.00	0004	02
		SE CORNER		1.00	0004	02
		SW CORNER		1.00	0004	02
		WESTERN SIDE		3.00	0004	02
		BROAD STREET AT CROSS STREET				
		NE CORNER		2.00	0004	02
		NW CORNER		2.00	0004	02
		SE CORNER		3.00	0004	02
		SW CORNER		1.00	0004	02
		BROAD STREET AT DEXTER STREET				
		NE CORNER		1.00	0004	02
		NW CORNER		2.00	0004	02
		SE CORNER		1.00	0004	02
		SW CORNER		1.00	0004	02
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		NE CORNER		2.00	0004	02
		NW CORNER		1.00	0004	02
		SE CORNER		1.00	0004	02
		SW CORNER		1.00	0004	02
		BROAD STREET AT FALES STREET				
		NE CORNER		1.00	0004	02



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
013	201.0423 Cont.	NW CORNER		1.00	0004	02
		SE CORNER		1.00	0004	02
		SW CORNER		1.00	0004	02
		BROAD STREET AT HIGH STREET				
		NE CORNER		1.00	0004	02
		NW CORNER		1.00	0004	02
		SE CORNER		1.00	0004	02
		BROAD STREET AT HUNT STREET				
		NE CORNER		1.00	0004	02
		NW CORNER		1.00	0004	02
		SE CORNER		1.00	0004	02
		SW CORNER		1.00	0004	02
<b>Item 201.0423 Total:</b>				<b>36.00</b>		
014	201.0428	<b>REMOVE AND DISPOSE FRAME AND GRATE EACH OR FRAME AND COVER</b>				
		BROAD STREET				
		EXCHANGE STREET		3.00	0004	02
		STA. 11+96 LT		1.00	0004	02
		STA. 11+99 LT		1.00	0004	02
		STA. 12+32 RT		1.00	0004	02
		STA. 12+38 RT		1.00	0004	02
		STA. 12+40 RT		1.00	0004	02
		STA. 12+56 LT		1.00	0004	02
		STA. 126+75 RT		1.00	0004	02
		STA. 159+75 RT		1.00	0004	02
		STA. 27+05 RT		1.00	0004	02
		STA. 28+26 LT		1.00	0004	02
		STA. 31+84 LT		1.00	0004	02
		STA. 34+88 LT		1.00	0004	02
		STA. 37+28 LT		1.00	0004	02
		STA. 50+52 LT		1.00	0004	02
		STA. 50+82 LT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
016	201.0610	Cont.				
		STA. 110+71	RT	2.00	0004	02
		STA. 110+78	LT	1.00	0004	02
		STA. 110+99	LT	2.00	0004	02
		STA. 111+11	RT	1.00	0004	02
		STA. 112+46	RT	1.00	0004	02
		STA. 113+62	RT	1.00	0004	02
		STA. 114+05	LT	1.00	0004	02
		STA. 114+44	RT	1.00	0004	02
		STA. 114+45	LT	1.00	0004	02
		STA. 114+91	LT	2.00	0004	02
		STA. 115+43	RT	1.00	0004	02
		STA. 116+47	LT	4.00	0004	02
		STA. 116+80	LT	6.00	0004	02
		STA. 116+96	LT	1.00	0004	02
		STA. 117+60	LT	2.00	0004	02
		STA. 118+32	RT	3.00	0004	02
		STA. 118+59	RT	1.00	0004	02
		STA. 118+62	RT	2.00	0004	02
		STA. 118+75	LT	2.00	0004	02
		STA. 119+44	RT	1.00	0004	02
		STA. 119+83	LT	3.00	0004	02
		STA. 12+09	RT	1.00	0004	02
		STA. 12+19	RT	2.00	0004	02
		STA. 12+30	LT	1.00	0004	02
		STA. 12+34	LT	3.00	0004	02
		STA. 12+40	LT	1.00	0004	02
		STA. 12+40	RT	1.00	0004	02
		STA. 12+42	RT	1.00	0004	02
		STA. 12+43	RT	1.00	0004	02
		STA. 12+53	RT	1.00	0004	02
		STA. 12+67	RT	1.00	0004	02
		STA. 12+70	RT	1.00	0004	02
		STA. 12+97	LT	1.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
016	201.0610	Cont.				
		STA. 39+94	LT	1.00	0004	02
		STA. 40+00	RT	1.00	0004	02
		STA. 40+06	RT	1.00	0004	02
		STA. 41+33	RT	1.00	0004	02
		STA. 42+02	RT	1.00	0004	02
		STA. 43+53	RT	2.00	0004	02
		STA. 44+43	RT	1.00	0004	02
		STA. 45+51	LT	2.00	0004	02
		STA. 45+54	RT	1.00	0004	02
		STA. 45+56	RT	1.00	0004	02
		STA. 45+59	LT	1.00	0004	02
		STA. 46+00	RT	1.00	0004	02
		STA. 46+43	LT	1.00	0004	02
		STA. 46+60	RT	1.00	0004	02
		STA. 46+67	LT	1.00	0004	02
		STA. 47+14	LT	1.00	0004	02
		STA. 47+83	RT	1.00	0004	02
		STA. 48+08	LT	1.00	0004	02
		STA. 48+37	RT	1.00	0004	02
		STA. 48+90	RT	1.00	0004	02
		STA. 49+28	RT	1.00	0004	02
		STA. 49+51	RT	2.00	0004	02
		STA. 49+61	LT	1.00	0004	02
		STA. 50+13	LT	1.00	0004	02
		STA. 50+13	RT	1.00	0004	02
		STA. 50+48	LT	1.00	0004	02
		STA. 51+19	RT	1.00	0004	02
		STA. 51+32	LT	1.00	0004	02
		STA. 52+37	LT	1.00	0004	02
		STA. 53+03	RT	3.00	0004	02
		STA. 53+77	RT	1.00	0004	02
		STA. 53+85	LT	2.00	0004	02
		STA. 53+95	RT	1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
016	201.0610	Cont.	STA. 54+41 LT	1.00	0004	02



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
016	201.0610	Cont.				
		STA. 85+49 RT		1.00	0004	02
		STA. 85+83 LT		1.00	0004	02
		STA. 87+45 LT		1.00	0004	02
		STA. 87+57 RT		2.00	0004	02
		STA. 88+00 LT		2.00	0004	02
		STA. 89+35 RT		1.00	0004	02
		STA. 89+73 RT		1.00	0004	02
		STA. 89+95 LT		1.00	0004	02
		STA. 90+04 RT		1.00	0004	02
		STA. 90+08 LT		1.00	0004	02
		STA. 90+30 RT		2.00	0004	02
		STA. 90+59 LT		2.00	0004	02
		STA. 90+82 LT		1.00	0004	02
		STA. 91+36 RT		1.00	0004	02
		STA. 91+95 LT		2.00	0004	02
		STA. 94+26 LT		1.00	0004	02
		STA. 94+56 RT		1.00	0004	02
		STA. 94+58 RT		1.00	0004	02
		STA. 94+88 RT		1.00	0004	02
		STA. 95+91 RT		1.00	0004	02
		STA. 97+80 RT		1.00	0004	02
		STA. 98+46 RT		1.00	0004	02
		STA. 98+68 RT		1.00	0004	02
<b>Item 201.0610 Total:</b>				<b>394.00</b>		
017	201.0617	<b>REMOVE AND DISPOSE CONDUIT - ALL SIZES</b>	<b>LF</b>			
		BROAD STREET AT ANN & HOPE WAY AS SHOWN ON PLANS		400.00	0004	02
		BROAD STREET AT CHURCH STREET/JOHN STREET AS SHOWN ON PLANS		5.00	0004	02
		BROAD STREET AT CROSS STREET				

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
025	204.0100	Cont.				
		AREAS				
		FROM 601.0200 CURB LOCK AREAS		4,105.00	0004	02
		FROM 905.0110 & 905.0115		24,352.00	0004	02
		SIDEWALK & DRIVEWAY AREAS				
		FROM 905.0131 MEDIAN AREAS		233.00	0004	02
		(PAWTUCKET)				
		FROM L01.0102 LOAM AREAS		2,153.00	0004	02
		VOLUME 3- MENDON ROAD				
		830' SIDEWALK X 1' /9		93.00	0004	03
		SEE ITEM 201.0409		11.00	0004	03
		SEE ITEM 202.0100		600.00	0004	03
<b>Item 204.0100 Total:</b>				<b>38,241.00</b>		
026	206.0301	COMPOST FILTER SOCK	LF			
		BROAD STREET				
		PROJECT WIDE AS NEEDED FOR		5,000.00	0004	02
		SESC				
		Sta. 100+50 Lt		5.00	0004	02
		Sta. 101+50 Lt		5.00	0004	02
		Sta. 102+50 Lt		5.00	0004	02
		Sta. 103+71 Lt		5.00	0004	02
		Sta. 104+00 Lt			0004	02
		STA. 104+21 LT		5.00	0004	02
		Sta. 106+00 LT		5.00	0004	02
		Sta. 108+50 LT		5.00	0004	02
		Sta. 110+00 LT		5.00	0004	02
		Sta. 110+32 LT		5.00	0004	02
		Sta. 111+02 Lt		5.00	0004	02
		STA. 111+90 LT		5.00	0004	02
		Sta. 112+00 Lt			0004	02
		STA. 112+62 LT		5.00	0004	02
		Sta. 113+25 Lt		5.00	0004	02
		STA. 114+05 LT		5.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
026	206.0301	Cont.				
		Sta. 115+57 Rt		5.00	0004	02
		Sta. 115+90 Rt		5.00	0004	02
		Sta. 116+04 Rt		5.00	0004	02
		Sta. 118+71 Lt		5.00	0004	02
		Sta. 118+79 Lt		5.00	0004	02
		Sta. 120+18 Rt		5.00	0004	02
		Sta. 122+26 Rt		5.00	0004	02
		Sta. 122+40 Lt		5.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

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R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
026	206.0301	Cont.				
		Sta. 124+68 Rt		5.00	0004	02
		Sta. 124+70 Lt		5.00	0004	02
		Sta. 126+00 Lt		5.00	0004	02
		Sta. 126+60 Lt		5.00	0004	02
		Sta. 130+01 Rt		5.00	0004	02
		Sta. 131+94 Rt		5.00	0004	02
		Sta. 131+95 Lt		5.00	0004	02
		Sta. 135+08 Rt		5.00	0004	02
		Sta. 142+93 Lt		5.00	0004	02
		Sta. 146+03 Lt		5.00	0004	02
		Sta. 146+43 Rt		5.00	0004	02
		Sta. 148+52 Rt		5.00	0004	02
		Sta. 149+97 Rt		5.00	0004	02
		Sta. 150+18 Rt		5.00	0004	02
		Sta. 150+26 Lt		5.00	0004	02
		Sta. 157+23 Rt		5.00	0004	02
		Sta. 158+45 Lt		5.00	0004	02
		Sta. 16+91 Lt		5.00	0004	02
		Sta. 18+36 Rt		5.00	0004	02
		Sta. 18+68 Rt		5.00	0004	02
		Sta. 27+87 Lt		5.00	0004	02
		Sta. 28+26 Lt		5.00	0004	02
		Sta. 34+43 Lt		5.00	0004	02
		Sta. 34+50 Lt		5.00	0004	02
		Sta. 45+62 Lt		5.00	0004	02
		Sta. 48+11 Lt		5.00	0004	02
		Sta. 48+32 Lt		5.00	0004	02
		Sta. 48+46 Lt		5.00	0004	02
		Sta. 50+48 Lt		10.00	0004	02
		Sta. 50+73 Lt		5.00	0004	02
		Sta. 50+82 Lt		5.00	0004	02
		Sta. 53+77 Lt		5.00	0004	02
		Sta. 53+88 Lt		5.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
026	206.0301 Cont.	Sta. 56+00 Lt		10.00	0004	02
		Sta. 56+50 Rt		5.00	0004	02
		Sta. 57+86 Lt		10.00	0004	02
		Sta. 58+14 Lt		5.00	0004	02
		Sta. 67+84 Lt		5.00	0004	02
		Sta. 67+95 Lt		10.00	0004	02
		Sta. 76+88 Lt		5.00	0004	02
		Sta. 77+18 Lt		5.00	0004	02
		Sta. 82+88 Lt		5.00	0004	02
		Sta. 82+95 Lt		5.00	0004	02
		Sta. 87+04 Lt			0004	02
		STA. 87+04 LT		10.00	0004	02
		Sta. 87+05 Rt		10.00	0004	02
		Sta. 87+10 Lt			0004	02
		Sta. 87+13 Rt			0004	02
		STA. 87+72 LT		5.00	0004	02
		STA. 89+05 LT		5.00	0004	02
		Sta. 89+22 Lt			0004	02
		STA. 89+65 LT		5.00	0004	02
		Sta. 89+70 Lt			0004	02
		Sta. 89+95 Lt		5.00	0004	02
		STA. 90+70 LT		5.00	0004	02
		Sta. 91+54 Lt		5.00	0004	02
		Sta. 93+25 Lt		5.00	0004	02
		STA. 93+97 LT		5.00	0004	02
		Sta. 94+00 Lt			0004	02
		STA. 94+18 LT		5.00	0004	02
		STA. 94+28 RT		5.00	0004	02
		Sta. 95+02 Lt		5.00	0004	02
		Sta. 95+56 Lt		5.00	0004	02
		Sta. 95+65 Lt		5.00	0004	02
		Sta. 95+92 Lt		5.00	0004	02
		Sta. 96+50 Lt			0004	02



**Distribution of Quantities**

Project Name - Broad St Regeneration

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R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
026	206.0301 Cont.	STA. 96+51 LT		5.00	0004	02
		Sta. 97+25 Lt			0004	02
		STA. 97+26 LT		5.00	0004	02
		STA. 98+25 LT			0004	02
		Sta. 99+15 Lt		5.00	0004	02
		Sta. 99+75 Lt			0004	02
		STA. 99+76 LT		5.00	0004	02
<b>Item 206.0301 Total:</b>				<b>5,455.00</b>		
027	209.9901	<b>INLET PROTECTION</b>	<b>EACH</b>			
		BROAD STREET				

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
027	209.9901 Cont.	Sta. 101+15 Rt			0004	02
		STA. 101+50 RT		1.00	0004	02
		Sta. 102+46 Rt			0004	02
		STA. 102+50 RT		1.00	0004	02
		Sta. 103+72 Rt		1.00	0004	02
		STA. 104+21 RT		1.00	0004	02
		Sta. 104+25 Rt			0004	02
		Sta. 106+00 Rt		1.00	0004	02
		Sta. 107+22 Rt		1.00	0004	02
		Sta. 108+00 Rt		1.00	0004	02
		Sta. 110+00 Rt		1.00	0004	02
		Sta. 111+88 Rt			0004	02
		STA. 111+89 RT		1.00	0004	02
		Sta. 112+66 Lt			0004	02
		STA. 112+87 LT		1.00	0004	02
		Sta. 112+88 Lt			0004	02
		Sta. 114+07 Lt			0004	02
		Sta. 114+30 Lt		1.00	0004	02
		Sta. 116+10 Lt		1.00	0004	02
		Sta. 116+46 Lt		1.00	0004	02
		Sta. 116+76 Rt		1.00	0004	02
		Sta. 116+78 Lt		1.00	0004	02
		Sta. 118+45 Lt		1.00	0004	02
		Sta. 118+71 Lt		1.00	0004	02
		Sta. 118+79 Lt		1.00	0004	02
		Sta. 12+56 Lt		1.00	0004	02
		Sta. 12+59 Lt		1.00	0004	02
		Sta. 122+26 Rt		1.00	0004	02
		Sta. 125+75 Rt		1.00	0004	02
		Sta. 126+75 Rt		1.00	0004	02
		Sta. 129+71 Rt		1.00	0004	02
		Sta. 13+16 Rt		1.00	0004	02
		Sta. 133+93 Rt		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
027	209.9901	Cont.				
		Sta. 134+15 Rt		1.00	0004	02
		Sta. 134+17 Rt		1.00	0004	02
		Sta. 134+46 Rt		1.00	0004	02
		Sta. 134+52 Rt		1.00	0004	02
		Sta. 134+61 Lt		1.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
027	209.9901	Cont.				
		Sta. 34+88	Lt	1.00	0004	02
		Sta. 34+93	Rt	1.00	0004	02
		Sta. 37+22	Lt	1.00	0004	02
		Sta. 37+29	Lt	1.00	0004	02
		Sta. 41+78	Lt	1.00	0004	02
		Sta. 43+04	Rt	1.00	0004	02
		Sta. 45+44	Lt	1.00	0004	02
		Sta. 45+47	Rt	1.00	0004	02
		Sta. 45+62	Lt	1.00	0004	02
		Sta. 46+00	Lt	1.00	0004	02
		Sta. 46+05	Rt	1.00	0004	02
		Sta. 48+11	Lt	1.00	0004	02
		Sta. 48+32	Lt	1.00	0004	02
		Sta. 48+46	Lt	1.00	0004	02
		Sta. 48+46	Rt	1.00	0004	02
		Sta. 50+51	Lt		0004	02
		Sta. 50+73	Lt	1.00	0004	02
		Sta. 50+82	Lt	1.00	0004	02
		Sta. 53+77	Lt	1.00	0004	02
		Sta. 53+85	Lt	1.00	0004	02
		Sta. 55+92	Lt	1.00	0004	02
		Sta. 56+38	Rt	1.00	0004	02
		Sta. 56+53	Rt	1.00	0004	02
		Sta. 56+75	Rt	1.00	0004	02
		Sta. 56+77	Rt	1.00	0004	02
		Sta. 57+75	Lt	1.00	0004	02
		Sta. 58+14	Lt	1.00	0004	02
		Sta. 59+43	Rt	1.00	0004	02
		Sta. 60+12	Lt	1.00	0004	02
		Sta. 62+82	Rt	1.00	0004	02
		Sta. 62+83	Lt	1.00	0004	02
		Sta. 63+30	Rt	1.00	0004	02
		Sta. 63+31	Lt	1.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
027	209.9901	Cont.				
		Sta. 65+08 Lt		1.00	0004	02
		Sta. 65+59 Lt		1.00	0004	02
		Sta. 67+62 Lt		1.00	0004	02
		Sta. 67+84 Lt		1.00	0004	02
		Sta. 71+88 Rt		1.00	0004	02
		Sta. 71+92 Rt		1.00	0004	02
		Sta. 73+86 Lt		1.00	0004	02
		Sta. 73+91 Rt		1.00	0004	02
		Sta. 73+96 Rt		1.00	0004	02
		Sta. 74+46 Lt		1.00	0004	02
		Sta. 75+17 Lt		1.00	0004	02
		Sta. 75+65 Lt		1.00	0004	02
		Sta. 76+76 Lt		1.00	0004	02
		Sta. 76+88 Lt		1.00	0004	02
		Sta. 77+21 Lt		1.00	0004	02
		Sta. 77+35 Lt		1.00	0004	02
		Sta. 79+49 Rt		1.00	0004	02
		Sta. 79+54 Rt		1.00	0004	02
		Sta. 80+18 Lt		1.00	0004	02
		Sta. 82+06 Lt		1.00	0004	02
		Sta. 82+21 Lt		1.00	0004	02
		Sta. 82+89 Rt		1.00	0004	02
		Sta. 82+96 Rt		1.00	0004	02
		Sta. 87+05 Rt			0004	02
		Sta. 87+48 Lt		1.00	0004	02
		Sta. 87+70 Lt			0004	02
		Sta. 88+00 Rt		1.00	0004	02
		Sta. 88+25 Lt			0004	02
		Sta. 88+90 Rt			0004	02
		STA. 88+91 RT		1.00	0004	02
		Sta. 89+05 Rt		1.00	0004	02
		Sta. 89+08 Rt		1.00	0004	02
		Sta. 90+00 Rt		1.00	0004	02



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
027	209.9901	Cont. Sta. 90+10 Lt			0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
027	209.9901 Cont.	Sta. 90+35 Lt			0004	02
		STA. 90+75 RT		1.00	0004	02
		Sta. 91+00			0004	02
		Sta. 91+69		1.00	0004	02
		Sta. 92+50 Rt		1.00	0004	02
		STA. 93+25 LT		1.00	0004	02
		Sta. 93+50 Rt			0004	02
		Sta. 94+06 Rt			0004	02
		Sta. 94+29 Lt			0004	02
		Sta. 94+31 Rt			0004	02
		Sta. 94+51 Lt			0004	02
		Sta. 94+53 Rt		1.00	0004	02
		Sta. 95+00 Rt			0004	02
		STA. 95+01 RT		1.00	0004	02
		Sta. 96+10 Rt			0004	02
		STA. 96+51 RT		1.00	0004	02
		Sta. 97+00 Rt			0004	02
		STA. 97+26 RT		1.00	0004	02
		Sta. 98+10 Rt		1.00	0004	02
		Sta. 99+75 Rt			0004	02
		STA. 99+76 RT		1.00	0004	02
		EXCHANGE STREET				
		Sta. 201+16 Lt		1.00	0004	02
		Sta. 201+83 Lt		2.00	0004	02
		Sta. 201+93 Lt		2.00	0004	02
		Sta. 203+20 Rt		1.00	0004	02
		Sta. 203+79 Rt		1.00	0004	02
		Sta. 203+80 Rt		1.00	0004	02
		Sta. 203+95 Lt		1.00	0004	02
		Sta. 204+02 Lt		1.00	0004	02
		Sta. 204+04 Rt		1.00	0004	02
		Sta. 204+05 Rt		1.00	0004	02
		Sta. 204+98 Lt		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
027	209.9901 Cont.	Sta. 205+25 Lt		1.00	0004	02
				<b>Item 209.9901 Total:</b>		<b>150.00</b>
028	212.2100	<b>MAINTENANCE AND CLEANING OF</b>	<b>LS</b>			
		<b>EROSION AND POLLUTION CONTROLS</b>				
		BROAD STREET				

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
035	601.0200	Cont.				
		STA. 49+49 TO 52+81 RT		12.00	0004	02
		STA. 50+73 TO 53+85 LT		12.00	0004	02
		STA. 52+98 TO 56+52 RT		12.00	0004	02
		STA. 54+07 TO 56+03 RT		8.00	0004	02
		STA. 56+24 TO 57+88 RT		7.00	0004	02
		STA. 56+74 TO 59+56 RT		11.00	0004	02
		STA. 58+11 TO 60+24 LT		8.00	0004	02
		STA. 59+78 TO 65+23 RT		18.00	0004	02
		STA. 60+46 TO 65+23 LT		17.00	0004	02
		STA. 65+45 TO 67+62 LT		9.00	0004	02
		STA. 65+46 TO 74+16 RT		29.00	0004	02
		STA. 67+84 TO 74+08 LT		22.00	0004	02
		STA. 74+30 TO 76+90 LT		10.00	0004	02
		STA. 74+38 TO 78+84 RT		15.00	0004	02
		STA. 77+17 TO 82+21 RT		17.00	0004	02
		STA. 79+07 TO 80+60 RT		6.00	0004	02
		STA. 80+79 TO 80+60 RT		12.00	0004	02
		STA. 87+23 TO 87+48 LT		2.00	0004	02
		STA. 87+30 TO 87+55 RT		1.00	0004	02
		STA. 87+63 TO 89+07 RT		15.00	0004	02
		STA. 87+71 TO 90+10 LT		9.00	0004	02
		STA. 89+31 TO 94+31 RT		51.00	0004	02
		STA. 90+35 TO 91+72 LT		6.00	0004	02
		STA. 92+05 TO 94+29 LT		8.00	0004	02
		STA. 94+51 TO 100+71 LT		21.00	0004	02
		STA. 94+53 TO 98+25 RT		38.00	0004	02
		STA. 98+44 TO 115+59 RT		163.00	0004	02
		VOLUME 3- MENDON ROAD				
		CURB LOCK FOR WCRS AND		17.00	0004	03
		STRAIGHT- SIDEWALKS				
		(201.0402) (460' X 1' X 1'				
		/27)				
<b>Item 601.0200 Total:</b>				<b>1,201.00</b>		

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
036	701.0412	REINFORCED CONCRETE PIPE M 170	LF			
		CLASS III 12 INCH				
		BROAD STREET				
		STA. 104+20 LT TO STA. 104+21 RT		17.00	0004	02
		STA. 105+99 LT TO STA. 106+00 RT		18.00	0004	02
		STA. 107+19 LT TO STA. 107+22 RT		18.00	0004	02
		STA. 107+99 RT TO STA. 108+00 RT		8.00	0004	02
		STA. 108+50 RT TO 110+29 RT			0004	02
		STA. 109+99 RT TO STA. 110+00 RT		8.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
036	701.0412 Cont.	STA. 110+00 RT TO 111+00 RT			0004	02
		STA. 111+00 RT TO 111+88 RT			0004	02
		STA. 111+87 RT TO STA. 111+89 RT		8.00	0004	02
		STA. 111+88 RT TO 112+75 RT			0004	02
		STA. 112+62 LT TO STA. 112+77 LT		14.00	0004	02
		STA. 112+66 LT TO 112+78 LT			0004	02
		STA. 112+75 RT TO 113+25 LT			0004	02
		STA. 112+75 RT TO STA. 112+77 LT		37.00	0004	02
		STA. 112+75 RT TO STA. 113+24 LT		46.00	0004	02
		STA. 112+77 LT TO STA. 112+87 LT		8.00	0004	02
		STA. 112+78 LT TO 112+88 LT			0004	02
		STA. 113+24 LT TO STA. 114+18 LT		90.00	0004	02
		STA. 113+25 LT TO 114+20 LT			0004	02
		STA. 114+05 LT TO STA. 114+20 LT		14.00	0004	02
		STA. 114+18 LT TO STA. 114+20 LT		18.00	0004	02
		STA. 114+20 LT TO 114+30 LT			0004	02
		STA. 114+20 LT TO STA. 114+30 LT		11.00	0004	02
		STA. 125+75 RT TO 126+00 LT		26.00	0004	02
		STA. 126+00 LT TO 126+00 LT		17.00	0004	02
		STA. 150+18 RT TO 150+40 RT		20.00	0004	02
		STA. 25+15 LT TO 25+20 LT		4.00	0004	02
		STA. 27+05 RT TO 27+05 RT		3.00	0004	02
		STA. 28+13 LT TO 28+27 LT		17.00	0004	02
		STA. 31+85 LT TO 31+92 LT		14.00	0004	02



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
036	701.0412 Cont.	STA. 34+75 LT TO 34+88 LT		15.00	0004	02
		STA. 50+75 LT TO 50+77 LT		4.00	0004	02
		STA. 67+87 LT TO 67+95 LT		9.00	0004	02
		STA. 87+04 LT TO 87+34 LT			0004	02
		STA. 87+04 LT TO STA. 87+34		28.00	0004	02
		LT				
		STA. 87+34 LT TO 87+48 LT			0004	02
		STA. 87+34 LT TO STA. 87+48		16.00	0004	02
		LT				
		STA. 87+48 LT TO 87+70 LT			0004	02
		STA. 87+48 LT TO STA. 87+72		16.00	0004	02
		LT				
		STA. 89+05 RT TO 89+08 RT			0004	02
		STA. 94+28 RT TO STA. 94+53		22.00	0004	02
		RT				
		STA. 94+31 RT TO 94+53 RT			0004	02
		STA. 94+51 LT TO STA. 94+53		34.00	0004	02
		RT				
		STA. 94+53 RT TO 94+53 RT			0004	02
		EXCHANGE STREET				
		STA. 201+83 LT		10.00	0004	02
		STA. 201+93 LT		10.00	0004	02
		STA. 203+80 RT		16.00	0004	02
		STA. 203+95 LT TO 204+02 LT		5.00	0004	02
		STA. 204+05 RT		15.00	0004	02
		STA. 204+98 RT TO 205+25 RT		26.00	0004	02
<b>Item 701.0412 Total:</b>				<b>642.00</b>		

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
037	701.0418	<b>REINFORCED CONCRETE PIPE M 170</b>	<b>LF</b>			
		<b>CLASS III 18 INCH</b>				
		BROAD STREET				
		STA. 100+48 LT TO 101+50 LT			0004	02
		STA. 101+50 LT TO 102+50 LT			0004	02
		STA. 102+50 LT TO 104+00 RT			0004	02
		STA. 104+00 RT TO 106+00 RT			0004	02
		STA. 106+00 RT TO 108+50 RT			0004	02
		STA. 107+22 RT TO 108+00 RT			0004	02
		STA. 108+00 RT TO 110+00 RT			0004	02
		STA. 109+99 RT TO STA.		27.00	0004	02
		110+29 RT				
		STA. 110+29 RT TO STA.		67.00	0004	02
		111+00 RT				
		STA. 111+00 RT TO STA.		83.00	0004	02
		111+87 RT				
		STA. 111+87 RT TO STA.		84.00	0004	02
		112+75 RT				
		STA. 97+25 LT TO 98+23 LT			0004	02
		STA. 98+23 LT TO 99+15 LT			0004	02
		STA. 99+15 LT TO 99+75 LT			0004	02
		STA. 99+75 LT TO 100+48 LT			0004	02
<b>Item 701.0418 Total:</b>				<b>261.00</b>		
038	701.0424	<b>REINFORCED CONCRETE PIPE M 170</b>	<b>LF</b>			
		<b>CLASS III 24 INCH</b>				
		BROAD STREET				
		STA. 101+15 RT TO 102+46 RT			0004	02
		STA. 102+46 RT TO 104+25 RT			0004	02
		STA. 104+20 LT TO STA.		175.00	0004	02
		105+99 LT				
		STA. 104+25 RT TO 106+00 RT			0004	02
		STA. 105+99 LT TO STA.		116.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
038	701.0424	Cont.				
		107+19 LT				
		STA. 106+00 RT TO 107+22 RT			0004	02
		STA. 107+19 TO STA. 107+99 RT		76.00	0004	02
		STA. 107+99 RT TO STA.		47.00	0004	02
		108+50 RT				
		STA. 108+50 RT TO STA.		145.00	0004	02
		109+99 RT				
		STA. 87+04 RT TO 88+00 RT			0004	02
		STA. 87+05 RT TO STA. 88+00		86.00	0004	02
		RT				
		STA. 88+00 RT TO 88+90 RT			0004	02
		STA. 88+25 LT TO 89+20 RT			0004	02
		STA. 88+90 RT TO 89+05 RT			0004	02
		STA. 89+05 RT TO 90+00 RT			0004	02
		STA. 89+20 RT TO 89+95 LT			0004	02
		STA. 89+95 LT TO 90+30 LT			0004	02
		STA. 90+00 RT TO 91+00 RT			0004	02
		STA. 90+30 LT TO 90+70 LT			0004	02
		STA. 90+70 LT TO 91+52 LT			0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
038	701.0424	Cont.				
		STA. 91+00 RT TO 91+69 RT			0004	02
		STA. 91+52 LT TO 93+25 LT			0004	02
		STA. 91+69 RT TO 92+50 RT			0004	02
		STA. 92+50 RT TO 93+50 RT			0004	02
		STA. 93+25 LT TO 93+95 LT			0004	02
		STA. 93+50 RT TO 94+06 RT			0004	02
		STA. 93+95 LT TO 94+25 LT			0004	02
		STA. 94+06 RT TO 94+53 RT			0004	02
		STA. 94+25 LT TO 94+50 LT			0004	02
		STA. 94+50 LT TO 95+01 LT			0004	02
		STA. 94+53 RT TO 95+00 RT			0004	02
		STA. 95+00 RT TO 96+10 RT			0004	02
		STA. 95+01 LT TO 95+55 LT			0004	02
		STA. 95+55 LT TO 95+64 LT			0004	02
		STA. 95+64 LT TO 95+90 LT			0004	02
		STA. 95+90 LT TO 96+50 LT			0004	02
		STA. 96+10 RT TO 97+00 RT			0004	02
		STA. 96+50 LT TO 97+25 LT			0004	02
		STA. 97+00 RT TO 98+10 RT			0004	02
		STA. 98+10 RT TO 99+75 RT			0004	02
		STA. 99+75 RT TO 101+15 RT			0004	02
<b>Item 701.0424 Total:</b>					<b>645.00</b>	
039	701.6008	<b>8 INCH DUCTILE IRON SEWER SAFE</b>	<b>LF</b>			
		<b>PIPE CLASS 52</b>				
		BROAD STREET				
		STA. 100+48 LT TO 100+50 LT			0004	02
		STA. 100+48 LT TO STA.		12.00	0004	02
		100+50 LT				
		STA. 101+49 LT TO STA.		12.00	0004	02
		101+50 LT				
		STA. 101+50 LT TO 101+50 LT			0004	02
		STA. 102+49 LT TO STA.		12.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
039	701.6008	Cont.				
		102+50 LT				
		STA. 102+50 LT TO 102+50 LT			0004	02
		STA. 104+00 LT TO 104+00 LT			0004	02
		STA. 104+20 LT TO STA.		11.00	0004	02
		104+21 LT				
		STA. 105+99 LT TO STA.		11.00	0004	02
		106+00 LT				
		STA. 106+00 LT TO 106+00 LT			0004	02
		STA. 108+50 LT TO 108+50 LT			0004	02
		STA. 108+50 LT TO STA.		20.00	0004	02
		108+50 RT				
		STA. 109+99 RT TO STA.		20.00	0004	02
		110+00 LT				
		STA. 110+00 LT TO 110+00 RT			0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
039	701.6008 Cont.	STA. 110+29 RT TO 110+32 LT			0004	02
		STA. 111+00 RT TO 111+02 LT			0004	02
		STA. 111+00 RT TO STA. 111+02 LT		21.00	0004	02
		STA. 111+87 RT TO STA. 111+90 LT		21.00	0004	02
		STA. 111+88 RT TO 112+00 LT			0004	02
		STA. 113+24 LT TO STA. 113+25 LT		13.00	0004	02
		STA. 113+25 LT TO 113+25 LT			0004	02
		STA. 114+05 LT TO 114+20 LT			0004	02
		STA. 37+22 LT TO 37+29 LT		4.00	0004	02
		STA. 50+48 LT TO STA. 50+77 LT		26.00	0004	02
		STA. 50+52 LT TO 50+77 RT			0004	02
		STA. 55+92 LT TO 56+00 LT		16.00	0004	02
		STA. 56+38 RT TO 56+53 RT		14.00	0004	02
		STA. 56+53 RT TO 56+75 RT		20.00	0004	02
		STA. 57+75 LT TO 57+86 LT		17.00	0004	02
		STA. 88+25 LT TO 88+25 LT			0004	02
		STA. 89+05 RT TO STA. 89+05 LT		20.00	0004	02
		STA. 89+20 RT TO 89+22 LT			0004	02
		STA. 89+64 RT TO STA. 89+65 LT		20.00	0004	02
		STA. 89+95 LT TO 89+95 LT			0004	02
		STA. 89+95 LT TO STA. 89+95 LT		11.00	0004	02
		STA. 90+10 LT TO 90+35 LT			0004	02
		STA. 90+70 LT TO 90+70 LT			0004	02
		STA. 90+70 LT TO STA. 90+70 LT		11.00	0004	02
		STA. 91+52 LT TO 91+54 LT			0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
039	701.6008	Cont.				
		STA. 91+54 LT TO STA. 91+65		23.00	0004	02
		RT				
		STA. 93+24 LT TO STA. 93+25		12.00	0004	02
		LT				
		STA. 93+25 LT TO 93+25 LT			0004	02
		STA. 93+95 LT TO 94+00 LT			0004	02
		STA. 93+96 LT TO STA. 93+97		11.00	0004	02
		LT				
		STA. 94+17 LT TO STA. 94+18		12.00	0004	02
		LT				
		STA. 95+00 LT TO STA. 95+02		12.00	0004	02
		LT				
		STA. 95+01 LT TO 95+02 LT			0004	02
		STA. 95+55 LT TO 95+56 LT			0004	02
		STA. 95+55 LT TO STA. 95+56		12.00	0004	02
		LT				
		STA. 95+64 LT TO 95+65 LT			0004	02
		STA. 95+64 LT TO STA. 95+65		12.00	0004	02
		LT				
		STA. 95+90 LT TO 95+92 LT			0004	02
		STA. 95+90 LT TO STA. 95+92		11.00	0004	02
		LT				
		STA. 96+50 LT TO 96+50 LT			0004	02
		STA. 96+50 LT TO STA. 96+51		11.00	0004	02
		LT				
		STA. 97+25 LT TO 97+25 LT			0004	02
		STA. 97+25 LT TO STA. 97+26		11.00	0004	02
		LT				
		STA. 98+23 LT TO 98+25 LT			0004	02
		STA. 99+15 LT TO 99+15 LT			0004	02
		STA. 99+15 LT TO STA. 99+15		11.00	0004	02
		LT				
		STA. 99+75 LT TO 99+75 LT			0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
039	701.6008	Cont.				
		STA. 99+75 LT TO STA. 99+76		11.00	0004	02
		LT				
<b>Item 701.6008 Total:</b>				<b>461.00</b>		
040	701.6012	12 INCH DUCTILE IRON SEWER SAFE	LF			
		PIPE CLASS 52				
		BROAD STREET				
		STA. 110+29 LT TO STA.		45.00	0004	02
		110+32 RT				



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
040	701.6012	Cont.				
		STA. 112+75 RT TO 112+78 LT			0004	02
		Sta. 114+20 LT TO 114+20 LT			0004	02
		STA. 90+30 LT TO 90+35 LT			0004	02
		STA. 94+25 LT TO 94+29 LT			0004	02
		STA. 94+50 LT TO 94+51 LT			0004	02
<b>Item 701.6012 Total:</b>				<b>45.00</b>		
041	701.6024	<b>24 INCH DUCTILE IRON SEWER SAFE</b>	<b>LF</b>			
		<b>PIPE CLASS 52</b>				
		BROAD STREET				
		STA. 87+05 RT TO STA. 87+08		11.00	0004	02
		RT				
		STA. 87+05 TO STA 87+08 RT			0004	02
		STA. 87+08 RT TO STA. 87+98		84.00	0004	02
		LT				
		STA. 87+08 TO STA 88+25 LT			0004	02
<b>Item 701.6024 Total:</b>				<b>95.00</b>		
042	702.0211	<b>SOLID BLOCK SHALLOW 5'-0" ROUND</b>	<b>EACH</b>			
		<b>MANHOLE STANDARD 3.2.2</b>				
		BROAD STREET				
		STA. 100+48 LT		1.00	0004	02
		STA. 101+49 LT		1.00	0004	02
		STA. 102+49 LT		1.00	0004	02
		STA. 104+20 LT		1.00	0004	02
		STA. 87+08			0004	02
		STA. 87+08 RT		1.00	0004	02
		STA. 89+05 RT		1.00	0004	02
		STA. 89+64 RT		1.00	0004	02
		STA. 89+95 LT		1.00	0004	02
		STA. 90+70 LT		1.00	0004	02
		STA. 91+65 RT		1.00	0004	02
		STA. 93+24 LT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
042	702.0211 Cont.	STA. 93+96 LT		1.00	0004	02
		STA. 94+17 LT		1.00	0004	02
		STA. 95+00 LT		1.00	0004	02
		STA. 95+55 LT		1.00	0004	02
		STA. 95+64 LT		1.00	0004	02
		STA. 95+90 LT		1.00	0004	02
		STA. 96+50 LT		1.00	0004	02
		STA. 97+25 LT		1.00	0004	02
		STA. 99+15 LT		1.00	0004	02
		STA. 99+75 LT		1.00	0004	02
<b>Item 702.0211 Total:</b>				<b>21.00</b>		
043	702.0511	<b>FRAME AND COVER STANDARD 6.1.0</b>	<b>EACH</b>			
		BROAD STREET				
		AS NEEDED		5.00	0004	02
		STA 67+95 LT		1.00	0004	02
		STA. 100+50 LT		1.00	0004	02
		STA. 101+50 LT		1.00	0004	02
		STA. 102+50 LT		1.00	0004	02
		STA. 104+00 LT			0004	02
		STA. 104+21 LT		1.00	0004	02
		STA. 106+00 LT		1.00	0004	02
		STA. 108+50 LT		1.00	0004	02
		STA. 110+00 LT		1.00	0004	02
		STA. 110+32 LT		1.00	0004	02
		STA. 111+02 LT		1.00	0004	02
		STA. 111+90 LT		1.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
043	702.0511 Cont.	STA. 112+00 LT			0004	02
		STA. 113+25 LT		1.00	0004	02
		STA. 114+05 LT		1.00	0004	02
		STA. 56+00 LT		1.00	0004	02
		STA. 57+86 LT		1.00	0004	02
		STA. 87+72 LT		1.00	0004	02
		STA. 89+05 LT		1.00	0004	02
		STA. 89+22 LT			0004	02
		STA. 89+65 LT		1.00	0004	02
		STA. 89+95 LT		1.00	0004	02
		STA. 90+70 LT		1.00	0004	02
		STA. 91+51 LT		1.00	0004	02
		STA. 91+54 LT		1.00	0004	02
		STA. 93+25 LT		1.00	0004	02
		STA. 93+97 LT		1.00	0004	02
		STA. 94+00 LT			0004	02
		STA. 94+18 LT		1.00	0004	02
		STA. 94+28 RT		1.00	0004	02
		STA. 95+02 LT		1.00	0004	02
		STA. 95+56 LT		1.00	0004	02
		STA. 95+62 LT			0004	02
		STA. 95+65 LT		1.00	0004	02
		STA. 95+92 LT		1.00	0004	02
		STA. 96+50 LT			0004	02
		STA. 96+51 LT		1.00	0004	02
		STA. 97+25 LT			0004	02
		STA. 97+26 LT		1.00	0004	02
		STA. 98+25 LT			0004	02
		STA. 99+15 LT		1.00	0004	02
		STA. 99+75 LT			0004	02
		STA. 99+76 LT		1.00	0004	02
<b>Item 702.0511 Total:</b>				<b>39.00</b>		

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
044	702.0516	FRAME AND GRATE, HIGH CAPACITY, STANDARD 6.3.4 BROAD STREET	EACH			
		AS NEEDED		15.00	0004	02
		STA. 101+15 RT			0004	02
		STA. 101+50 RT		1.00	0004	02
		STA. 102+46 RT			0004	02
		STA. 102+50 RT		1.00	0004	02
		STA. 104+21 RT		1.00	0004	02
		STA. 104+25 RT			0004	02
		STA. 106+00 RT		1.00	0004	02
		STA. 107+22 RT		1.00	0004	02
		STA. 108+00 RT		1.00	0004	02
		STA. 110+00 RT		1.00	0004	02
		STA. 111+88 RT			0004	02
		STA. 111+89 RT		1.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
044	702.0516	Cont.			0004	02
		STA. 112+66 LT				
		STA. 112+87 LT		1.00	0004	02
		STA. 112+88 LT			0004	02
		STA. 114+05 LT			0004	02
		STA. 114+30 LT		1.00	0004	02
		STA. 118+71 LT		1.00	0004	02
		STA. 118+79 LT		1.00	0004	02
		STA. 12+59 LT		1.00	0004	02
		STA. 122+26 RT		1.00	0004	02
		STA. 125+75 RT		1.00	0004	02
		STA. 126+75 RT		1.00	0004	02
		STA. 142+93 LT		1.00	0004	02
		STA. 146+03 LT		1.00	0004	02
		STA. 150+26 LT		1.00	0004	02
		STA. 150+40 RT		1.00	0004	02
		STA. 18+36 RT		1.00	0004	02
		STA. 25+20 RT		1.00	0004	02
		STA. 27+05 RT		1.00	0004	02
		STA. 28+26 LT		1.00	0004	02
		STA. 31+84 LT		1.00	0004	02
		STA. 32+16 LT		1.00	0004	02
		STA. 34+43 LT		1.00	0004	02
		STA. 34+88 LT		1.00	0004	02
		STA. 37+22 LT		1.00	0004	02
		STA. 45+62 LT		1.00	0004	02
		STA. 48+11 LT		1.00	0004	02
		STA. 48+33 LT		1.00	0004	02
		STA. 48+46 LT		1.00	0004	02
		STA. 50+52 LT			0004	02
		STA. 50+72 LT		1.00	0004	02
		STA. 50+82 LT		1.00	0004	02
		STA. 53+77 LT		1.00	0004	02
		STA. 53+88 LT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
044	702.0516	Cont.	STA. 56+53 RT	1.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
044	702.0516	Cont.				
		STA. 56+75	RT	1.00	0004	02
		STA. 58+13	LT	1.00	0004	02
		STA. 59+43	RT	1.00	0004	02
		STA. 67+84	LT	1.00	0004	02
		STA. 76+90	LT	1.00	0004	02
		STA. 77+18	LT	1.00	0004	02
		STA. 87+48	LT	1.00	0004	02
		STA. 87+70	LT		0004	02
		STA. 88+00	RT	1.00	0004	02
		STA. 88+25	LT		0004	02
		STA. 88+90	RT		0004	02
		STA. 88+91	RT	1.00	0004	02
		STA. 89+05	RT	1.00	0004	02
		STA. 89+08	RT	1.00	0004	02
		STA. 90+00	RT	1.00	0004	02
		STA. 90+10	LT		0004	02
		STA. 90+35	LT		0004	02
		STA. 90+75	RT	1.00	0004	02
		STA. 91+00	RT		0004	02
		STA. 91+69	RT	1.00	0004	02
		STA. 92+50	RT	1.00	0004	02
		STA. 93+25	RT	1.00	0004	02
		STA. 93+50	RT		0004	02
		STA. 94+06	RT		0004	02
		STA. 94+29	LT		0004	02
		STA. 94+31	RT		0004	02
		STA. 94+51	LT		0004	02
		STA. 94+53	RT	1.00	0004	02
		STA. 95+00	RT		0004	02
		STA. 95+01	RT	1.00	0004	02
		STA. 96+10	RT		0004	02
		STA. 96+51	RT	1.00	0004	02
		STA. 97+00	RT		0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
044	702.0516	Cont.				
		STA. 97+26	RT	1.00	0004	02
		STA. 98+10	RT	1.00	0004	02
		STA. 99+75	RT		0004	02
		STA. 99+76	RT	1.00	0004	02
		EXCHANGE STREET				
		STA. 201+83	LT	1.00	0004	02
		STA. 201+93	LT	1.00	0004	02



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
044	702.0516	Cont.				
		STA. 203+80 RT		1.00	0004	02
		STA. 203+95 LT		1.00	0004	02
		STA. 204+05 RT		1.00	0004	02
		STA. 205+25 RT		1.00	0004	02
		VOLUME 3- MENDON ROAD				
		GP 3		2.00	0004	03
<b>Item 702.0516 Total:</b>				<b>83.00</b>		
045	702.0521	<b>FRAME AND COVER STANDARD 6.2.0</b>	<b>EACH</b>			
		BROAD STREET				
		STA. 112+62 LT		1.00	0004	02
		STA. 126+00 LT		1.00	0004	02
		STA. 50+77 LT		1.00	0004	02
		STA. 87+34 LT		1.00	0004	02
<b>Item 702.0521 Total:</b>				<b>4.00</b>		
046	702.0522	<b>FRAME AND COVER STANDARD 6.2.1</b>	<b>EACH</b>			
		BROAD STREET				
		AS NEEDED		20.00	0004	02
		STA. 100+48 LT			0004	02
		STA. 100+48 LT		1.00	0004	02
		STA. 101+49 LT		1.00	0004	02
		STA. 101+50 LT			0004	02
		STA. 102+49 LT		1.00	0004	02
		STA. 102+50 LT			0004	02
		STA. 104+00 RT			0004	02
		STA. 104+20 LT		1.00	0004	02
		STA. 105+99 LT		1.00	0004	02
		STA. 106+00 RT			0004	02
		STA. 107+19 LT		1.00	0004	02
		STA. 107+99 LT		1.00	0004	02
		STA. 108+50 LT		1.00	0004	02
		STA. 108+50 RT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
046	702.0522	Cont.				
		STA. 109+99	RT	1.00	0004	02
		STA. 110+29	RT	1.00	0004	02
		STA. 111+00	RT	1.00	0004	02
		STA. 111+87	RT	1.00	0004	02
		STA. 112+75	RT		0004	02
		STA. 112+77	LT	1.00	0004	02
		STA. 112+78	LT		0004	02
		STA. 113+24	LT	1.00	0004	02
		STA. 113+25	RT		0004	02
		STA. 114+18	LT	1.00	0004	02
		STA. 114+20	LT	1.00	0004	02
		STA. 114+20	RT		0004	02
		STA. 126+00	LT	1.00	0004	02
		STA. 159+75	LT	1.00	0004	02
		STA. 87+08			0004	02
		STA. 87+08	RT	1.00	0004	02
		STA. 87+34	LT		0004	02
		STA. 88+25	LT		0004	02
		STA. 88+29	LT	1.00	0004	02
		STA. 89+05	RT	1.00	0004	02
		STA. 89+20	RT	1.00	0004	02
		STA. 89+64	RT	1.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
046	702.0522	Cont.			0004	02
		STA. 89+95	LT			
		STA. 89+95	LT	1.00	0004	02
		STA. 90+30	LT		0004	02
		STA. 90+70	LT		0004	02
		STA. 90+70	LT	1.00	0004	02
		STA. 91+52	LT		0004	02
		STA. 91+65	RT	1.00	0004	02
		STA. 92+49	RT	1.00	0004	02
		STA. 93+24	LT	1.00	0004	02
		STA. 93+25	LT		0004	02
		STA. 93+95	LT		0004	02
		STA. 93+96	LT	1.00	0004	02
		STA. 94+17	LT	1.00	0004	02
		STA. 94+25	LT		0004	02
		STA. 94+50	LT		0004	02
		STA. 94+51	LT	1.00	0004	02
		STA. 94+53	RT		0004	02
		STA. 95+00	LT	1.00	0004	02
		STA. 95+01	LT		0004	02
		STA. 95+55	LT	1.00	0004	02
		STA. 95+64	LT	1.00	0004	02
		STA. 95+90	LT	1.00	0004	02
		STA. 95+94	LT		0004	02
		STA. 96+50	LT	1.00	0004	02
		STA. 97+25	LT	1.00	0004	02
		STA. 98+09	LT	1.00	0004	02
		STA. 98+25	LT		0004	02
		STA. 99+15	LT	1.00	0004	02
		STA. 99+75	LT	1.00	0004	02
		EXCHANGE STREET				
		STA. 203+79	RT	1.00	0004	02
		STA. 204+02	LT	1.00	0004	02
		STA. 204+04	RT	1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
046	702.0522	Cont. STA. 204+98 RT		1.00	0004	02
<b>Item 702.0522 Total:</b>				<b>65.00</b>		
047	702.0540	<b>GRANITE INLET STONE 5 FOOT</b>	<b>EACH</b>			
		<b>STANDARD 7.3.5</b>				
		BROAD STREET				
		Sta. 115+88 to 115+89 Rt		1.00	0004	02
		Sta. 116+01 to 116+06 Rt		1.00	0004	02
		Sta. 116+48 LT		1.00	0004	02
		Sta. 120+15 to 120+20 Rt		1.00	0004	02
		Sta. 122+37 to 122+42 LT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
047	702.0540	Cont.				
		Sta. 124+65 to 124+70	Rt	1.00	0004	02
		Sta. 124+68 to 124+73	LT	1.00	0004	02
		Sta. 126+57 to 126+62	LT	1.00	0004	02
		Sta. 126+72 to 126+77	Rt	1.00	0004	02
		Sta. 131+91 to 131+96	Lt	1.00	0004	02
		Sta. 131+93 to 131+98	Rt	1.00	0004	02
		Sta. 135+05 to 135+10	RT	1.00	0004	02
		Sta. 135+06 to 135+11	LT	1.00	0004	02
		Sta. 135+97 to 136+01	Rt	1.00	0004	02
		Sta. 142+50 to 142+55	Rt	1.00	0004	02
		Sta. 146+40 to 146+45	Rt	1.00	0004	02
		Sta. 150+24 to 150+29	Lt	1.00	0004	02
		Sta. 157+21 to 157+26	Rt	1.00	0004	02
		Sta. 158+43 to 158+48	LT	1.00	0004	02
		Sta. 16+91	Lt	1.00	0004	02
		Sta. 161+80 to 161+85	LT	1.00	0004	02
		Sta. 163+76 to 163+81	RT	1.00	0004	02
		Sta. 18+67	Rt	1.00	0004	02
		Sta. 28+10	LT	1.00	0004	02
		Sta. 82+86 to 82+91	LT	1.00	0004	02
		Sta. 82+91 to 82+96	LT	1.00	0004	02
		Sta. 82+93 to 82+98	Rt	1.00	0004	02
<b>Item 702.0540 Total:</b>				<b>27.00</b>		

048 702.0541 GRANITE INLET STONE 38'' STANDARD EACH

**7.3.6**

## BROAD STREET

Sta. 100+50	LT	1.00	0004	02
Sta. 101+50	LT	1.00	0004	02
Sta. 102+50	LT	1.00	0004	02
STA. 104+00	LT		0004	02
STA. 104+21	LT	1.00	0004	02
Sta. 106+00	LT	1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
048	702.0541	Cont. Sta. 108+50 LT		1.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
048	702.0541 Cont.	Sta. 110+00 LT		1.00	0004	02
		Sta. 110+32 LT		1.00	0004	02
		Sta. 111+02 LT		1.00	0004	02
		STA. 111+90 LT		1.00	0004	02
		STA. 112+00 LT			0004	02
		STA. 112+62 LT		1.00	0004	02
		Sta. 113+25 LT		1.00	0004	02
		STA. 114+05 LT		1.00	0004	02
		STA. 114+30 LT		1.00	0004	02
		Sta. 126+00 LT		1.00	0004	02
		Sta. 142+91 to 142+96 Lt		1.00	0004	02
		Sta. 145+22 to 145+25 Lt		1.00	0004	02
		Sta. 146+01 to 146+04 Lt		1.00	0004	02
		Sta. 147+44 LT		1.00	0004	02
		STA. 50+48 LT		1.00	0004	02
		Sta. 56+00 LT		1.00	0004	02
		Sta. 57+86 LT		1.00	0004	02
		Sta. 67+95 LT		1.00	0004	02
		STA. 87+72 LT		1.00	0004	02
		STA. 89+05 LT		1.00	0004	02
		STA. 89+22 LT			0004	02
		STA. 89+65 LT		1.00	0004	02
		Sta. 89+95 LT		1.00	0004	02
		Sta. 90+70 LT		1.00	0004	02
		Sta. 91+54 LT		1.00	0004	02
		Sta. 93+25 LT		1.00	0004	02
		STA. 93+97 Lt		1.00	0004	02
		STA. 94+00 LT			0004	02
		STA. 94+18 LT		1.00	0004	02
		STA. 94+28 RT		1.00	0004	02
		Sta. 95+02 LT		1.00	0004	02
		Sta. 95+56 LT		1.00	0004	02
		Sta. 95+65 LT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
048	702.0541	Cont.				
		Sta. 95+92 LT		1.00	0004	02
		STA. 96+50 LT			0004	02
		STA. 96+51 LT		1.00	0004	02
		STA. 97+25 LT			0004	02
		STA. 97+26 LT		1.00	0004	02
		STA. 98+25 LT			0004	02
		Sta. 99+15 LT		1.00	0004	02
		STA. 99+75 LT			0004	02
		STA. 99+76 LT		1.00	0004	02
		VOLUME 3- MENDON ROAD				
		GP 26		1.00	0004	03
				<b>Item 702.0541 Total:</b>		<b>42.00</b>

049 702.0542 GRANITE APRON STONE 5FT. STANDARD EACH  
7.3.7  
BROAD STREET



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
049	702.0542	Cont.				
		Sta. 134+58 to 134+63 Lt		1.00	0004	02
		Sta. 134+64 to 134+69 Lt		1.00	0004	02
		Sta. 34+39 to 34+44 Lt		1.00	0004	02
		Sta. 41+75 to 41+80 LT		1.00	0004	02
		Sta. 43+02 to 43+07 RT		1.00	0004	02
		Sta. 45+98 to 46+03 Rt		1.00	0004	02
		Sta. 56+35 to 56+40 Rt		1.00	0004	02
		Sta. 62+80 to 62+85 Lt		1.00	0004	02
		Sta. 63+28 to 63+33 Rt		1.00	0004	02
		Sta. 63+29 to 63+34 Lt		1.00	0004	02
		Sta. 65+06 to 65+11 Lt		1.00	0004	02
		Sta. 65+58 to 65+63 Lt		1.00	0004	02
		Sta. 71+86 to 71+91 Rt		1.00	0004	02
		Sta. 73+94 to 73+99 Rt		1.00	0004	02
		Sta. 76+73 to 76+78 Lt		1.00	0004	02
		Sta. 77+32 to 77+37 Lt		1.00	0004	02
		Sta. 80+15 to 80+20 LT		1.00	0004	02
		Sta. 82+88 to 82+93 Rt		1.00	0004	02
<b>Item 702.0542 Total:</b>				<b>18.00</b>		
050	702.0543	GRANITE APRON STONE 38'' STANDARD	EACH			
		7.3.8				
		BROAD STREET				
		STA. 101+15 RT			0004	02
		STA. 101+50 RT		1.00	0004	02
		STA. 102+46 RT			0004	02
		STA. 102+50 RT		1.00	0004	02
		STA. 104+21 RT		1.00	0004	02
		STA. 104+25 RT			0004	02
		Sta. 106+00 RT		1.00	0004	02
		Sta. 107+22 RT		1.00	0004	02
		Sta. 108+00 RT		1.00	0004	02
		Sta. 110+00 RT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
050	702.0543	Cont.				
		STA. 111+88	RT		0004	02
		STA. 111+89	RT	1.00	0004	02
		STA. 112+66	LT		0004	02
		STA. 112+88	LT		0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
050	702.0543	Cont.				
		Sta. 114+30	LT	1.00	0004	02
		Sta. 125+75	RT	1.00	0004	02
		Sta. 13+16	RT	1.00	0004	02
		Sta. 134+16	RT	1.00	0004	02
		Sta. 150+40	RT	1.00	0004	02
		Sta. 16+41	RT	1.00	0004	02
		Sta. 25+20	RT	1.00	0004	02
		Sta. 27+05	RT	1.00	0004	02
		Sta. 37+22	LT	1.00	0004	02
		STA. 87+71	LT		0004	02
		Sta. 88+00	RT	1.00	0004	02
		STA. 88+25	LT		0004	02
		STA. 88+90	RT		0004	02
		STA. 88+91	RT	1.00	0004	02
		Sta. 90+00	RT	1.00	0004	02
		STA. 90+10	LT		0004	02
		STA. 90+35	LT		0004	02
		STA. 90+75	RT	1.00	0004	02
		STA. 91+00	RT		0004	02
		Sta. 91+69	RT	1.00	0004	02
		Sta. 92+50	RT	1.00	0004	02
		STA. 93+25	RT	1.00	0004	02
		STA. 93+50	RT		0004	02
		STA. 94+06	RT		0004	02
		STA. 94+29	LT		0004	02
		STA. 94+31	RT		0004	02
		Sta. 94+53	RT	1.00	0004	02
		STA. 95+00	RT		0004	02
		STA. 95+01	RT	1.00	0004	02
		STA. 96+10	RT		0004	02
		STA. 96+51	RT	1.00	0004	02
		STA. 97+00	RT		0004	02
		STA. 97+26	RT	1.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
050	702.0543	Cont.			0004	02
		STA. 98+10	RT			
		STA. 98+10	RT	1.00	0004	02
		STA. 99+75	RT		0004	02
		STA. 99+76	RT	1.00	0004	02
		EXCHANGE STREET				
		Sta. 201+16	LT	1.00	0004	02
		Sta. 201+83	LT	2.00	0004	02
		Sta. 201+93	LT	2.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
050	702.0543	Cont.				
		Sta. 203+80 RT		1.00	0004	02
		Sta. 203+95 LT		1.00	0004	02
		Sta. 204+05 RT		1.00	0004	02
		Sta. 205+25 RT		1.00	0004	02
<b>Item 702.0543 Total:</b>				<b>39.00</b>		
051	702.0605	<b>PRECAST CATCH BASIN 4' DIAMETER</b>	<b>EACH</b>			
		<b>STANDARD 4.4.0</b>				
		BROAD STREET				
		STA. 100+48 LT			0004	02
		STA. 101+15 RT			0004	02
		STA. 101+50 LT			0004	02
		STA. 101+50 RT		1.00	0004	02
		STA. 102+46 RT			0004	02
		STA. 102+50 LT			0004	02
		STA. 102+50 RT		1.00	0004	02
		STA. 104+00 RT			0004	02
		STA. 104+21 RT		1.00	0004	02
		STA. 104+25 RT			0004	02
		STA. 106+00 RT			0004	02
		STA. 107+22 RT			0004	02
		STA. 108+00 RT		1.00	0004	02
		STA. 108+50 RT			0004	02
		STA. 109+99 RT		1.00	0004	02
		STA. 110+00 RT			0004	02
		STA. 110+29 RT			0004	02
		STA. 111+00 RT		1.00	0004	02
		STA. 111+87 RT		1.00	0004	02
		STA. 111+88 RT			0004	02
		STA. 112+62 LT		1.00	0004	02
		STA. 112+66 LT			0004	02
		STA. 112+87 LT		1.00	0004	02
		STA. 112+88 LT			0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
051	702.0605	Cont.				
		STA. 113+25 LT			0004	02
		STA. 114+05 LT			0004	02
		STA. 114+30 LT		1.00	0004	02
		STA. 12+59 LT		1.00	0004	02
		STA. 125+75 RT		1.00	0004	02
		STA. 126+00 LT		1.00	0004	02
		STA. 25+20 RT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
051	702.0605	Cont.				
		STA. 50+77	LT	1.00	0004	02
		STA. 56+53	RT	1.00	0004	02
		STA. 87+48	LT	1.00	0004	02
		STA. 87+70	LT		0004	02
		STA. 88+00	RT		0004	02
		STA. 88+25	LT		0004	02
		STA. 88+90	RT		0004	02
		STA. 89+05	RT	1.00	0004	02
		STA. 89+95	LT		0004	02
		STA. 90+00	RT		0004	02
		STA. 90+35	LT		0004	02
		STA. 90+70	LT		0004	02
		STA. 91+00	RT		0004	02
		STA. 91+52	LT		0004	02
		STA. 91+69	RT		0004	02
		STA. 92+50	RT	1.00	0004	02
		STA. 93+25	LT		0004	02
		STA. 93+25	RT	1.00	0004	02
		STA. 93+50	RT		0004	02
		STA. 94+06	RT		0004	02
		STA. 94+29	LT		0004	02
		STA. 94+51	LT		0004	02
		STA. 94+53	RT	1.00	0004	02
		STA. 94+54	RT		0004	02
		STA. 95+01	LT		0004	02
		STA. 95+01	RT	1.00	0004	02
		STA. 95+55	LT		0004	02
		STA. 95+64	LT		0004	02
		STA. 96+10	RT		0004	02
		STA. 96+50	LT		0004	02
		STA. 96+51	RT	1.00	0004	02
		STA. 97+00	RT		0004	02
		STA. 97+25	LT		0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
051	702.0605	Cont.				
		STA. 97+26 RT		1.00	0004	02
		STA. 98+10 RT		1.00	0004	02
		STA. 98+23 LT			0004	02
		STA. 99+15 LT			0004	02
		STA. 99+75 LT			0004	02



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
051	702.0605	Cont.			0004	02
		STA. 99+75 RT				
		STA. 99+76 RT		1.00	0004	02
		EXCHANGE STREET				
		STA. 201+83 LT		1.00	0004	02
		STA. 201+93 LT		1.00	0004	02
<b>Item 702.0605 Total:</b>				<b>28.00</b>		
052	702.0610	<b>PRECAST CATCH BASIN 5' DIAMETER</b>	<b>EACH</b>			
		<b>STANDARD 4.4.0</b>				
		BROAD STREET				
		STA. 107+19 LT		1.00	0004	02
		STA. 107+99 RT		1.00	0004	02
		STA. 88+00 RT		1.00	0004	02
		STA. 89+20 RT			0004	02
		STA. 90+30 LT			0004	02
		STA. 93+95 LT			0004	02
		STA. 94+25 LT			0004	02
		STA. 95+90 LT			0004	02
<b>Item 702.0610 Total:</b>				<b>3.00</b>		
053	702.0630	<b>PRECAST MANHOLE 4' DIAMETER</b>	<b>EACH</b>			
		<b>STANDARD 4.2.0</b>				
		BROAD STREET				
		STA. 112+75 RT		1.00	0004	02
		STA. 112+77 LT		1.00	0004	02
		STA. 112+78 LT			0004	02
		STA. 114+18 LT		1.00	0004	02
		STA. 114+20 LT		1.00	0004	02
		STA. 114+20 RT			0004	02
		STA. 126+00 LT		1.00	0004	02
		STA. 87+34 LT		1.00	0004	02
		STA. 94+50 LT			0004	02
		STA. 94+53 RT			0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
053	702.0630	Cont.				
				Item 702.0630 Total:	6.00	
054	702.0712	PRECAST CONCRETE DROP INLET STANDARD 4.5.0 BROAD STREET STA. 28+26 LT	EACH			
				1.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
054	702.0712	Cont.				
		STA. 31+84 LT		1.00	0004	02
		STA. 34+88 LT		1.00	0004	02
		STA. 50+52 LT			0004	02
		STA. 56+75 RT		1.00	0004	02
		STA. 89+08 RT			0004	02
		VOLUME 3- MENDON ROAD				
		GP 47		1.00	0004	03
<b>Item 702.0712 Total:</b>				<b>5.00</b>		
055	702.0713	PRECAST CONCRETE DROP INLET WITH	EACH			
		APRON STONE STANDARD 4.5.1				
		BROAD STREET				
		STA. 100+50 LT		1.00	0004	02
		STA. 101+50 LT		1.00	0004	02
		STA. 102+50 LT		1.00	0004	02
		STA. 104+00 LT			0004	02
		STA. 104+21 LT		1.00	0004	02
		STA. 106+00 LT		1.00	0004	02
		STA. 106+00 RT		1.00	0004	02
		STA. 107+22 RT		1.00	0004	02
		STA. 108+50 LT		1.00	0004	02
		STA. 110+00 LT		1.00	0004	02
		STA. 110+00 RT		1.00	0004	02
		STA. 110+32 LT		1.00	0004	02
		STA. 111+02 LT		1.00	0004	02
		STA. 111+89 RT		1.00	0004	02
		STA. 111+90 LT		1.00	0004	02
		STA. 112+00 LT			0004	02
		STA. 113+25 LT		1.00	0004	02
		STA. 114+05 LT		1.00	0004	02
		STA. 27+05 RT		1.00	0004	02
		STA. 50+48 LT		1.00	0004	02
		STA. 56+00 LT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
055	702.0713	Cont.				
		STA. 57+86 LT		1.00	0004	02
		STA. 67+95 LT		1.00	0004	02
		STA. 87+72 LT		1.00	0004	02
		STA. 88+25 LT			0004	02
		STA. 89+05 LT		1.00	0004	02
		STA. 89+08 RT		1.00	0004	02
		STA. 89+22 LT			0004	02
		STA. 89+65 LT		1.00	0004	02
		STA. 89+95 LT			0004	02
		STA. 89+95 LT		1.00	0004	02
		STA. 90+00 RT		1.00	0004	02
		STA. 90+10 LT			0004	02
		STA. 90+70 LT			0004	02
		STA. 90+70 LT		1.00	0004	02
		STA. 90+75 RT		1.00	0004	02
		STA. 91+54 LT		1.00	0004	02
		STA. 91+69 RT		1.00	0004	02
		STA. 93+25 LT		1.00	0004	02
		STA. 93+97 LT		1.00	0004	02
		STA. 94+00 LT			0004	02
		STA. 94+18 LT		1.00	0004	02
		STA. 94+28 RT		1.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
055	702.0713	Cont.			0004	02
		STA. 94+31 RT				
		STA. 95+02 LT		1.00	0004	02
		STA. 95+56 LT		1.00	0004	02
		STA. 95+65 LT		1.00	0004	02
		STA. 95+92 LT		1.00	0004	02
		STA. 96+50 LT			0004	02
		STA. 96+51 LT		1.00	0004	02
		STA. 97+25 LT			0004	02
		STA. 97+26 LT		1.00	0004	02
		STA. 98+25 LT			0004	02
		STA. 99+15 LT		1.00	0004	02
		STA. 99+75 LT			0004	02
		STA. 99+76 LT		1.00	0004	02
		EXCHANGE STREET				
		STA. 203+80 RT		1.00	0004	02
		STA. 204+05 RT		1.00	0004	02
		VOLUME 3- MENDON ROAD				
		GP 15		1.00	0004	03
		GP 21		1.00	0004	03
		GP 22		1.00	0004	03
		GP 29		1.00	0004	03
		GP 30		1.00	0004	03
		GP 34		1.00	0004	03
		GP 35		1.00	0004	03
		GP 42		1.00	0004	03
		GP 46		1.00	0004	03
		GP 49		2.00	0004	03
		GP 51		1.00	0004	03
		GP 52		2.00	0004	03
		GP 8		2.00	0004	03
<b>Item 702.0713 Total:</b>				<b>61.00</b>		

056 702.0714 PRECAST CONCRETE DROP INLET WITH EACH

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
056	702.0714	Cont. APRON STONE STANDARD 4.5.2				
		BROAD STREET				
		STA. 150+40 RT		1.00	0004	02
		STA. 37+22 LT		1.00	0004	02
		STA. 88+91 RT		1.00	0004	02
		EXCHANGE STREET				
		STA. 203+95 LT		1.00	0004	02
		STA. 205+25 RT		1.00	0004	02
<b>Item 702.0714 Total:</b>				<b>5.00</b>		
057	702.0810	CONCRETE COVER SHALLOW 5'-0" ROUND EACH MANHOLES STANDARD 4.6.1				
		BROAD STREET				
		STA. 100+48 LT		1.00	0004	02
		STA. 101+49 LT		1.00	0004	02
		STA. 102+49 LT		1.00	0004	02
		STA. 104+20 LT		1.00	0004	02
		STA. 87+08			0004	02
		STA. 87+08 RT		1.00	0004	02
		STA. 89+05 RT		1.00	0004	02
		STA. 89+64 RT		1.00	0004	02
		STA. 89+95 LT		1.00	0004	02
		STA. 90+70 LT		1.00	0004	02
		STA. 91+65 RT		1.00	0004	02
		STA. 93+24 LT		1.00	0004	02
		STA. 93+96 LT		1.00	0004	02
		STA. 94+17 LT		1.00	0004	02
		STA. 95+00 LT		1.00	0004	02
		STA. 95+55 LT		1.00	0004	02
		STA. 95+64 LT		1.00	0004	02
		STA. 95+90 LT		1.00	0004	02
		STA. 96+50 LT		1.00	0004	02
		STA. 97+25 LT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
057	702.0810	Cont.				
		STA. 99+15 LT		1.00	0004	02
		STA. 99+75 LT		1.00	0004	02
<b>Item 702.0810 Total:</b>				<b>21.00</b>		
058	702.0840	ALTERNATE TOP COVER ROUND PRECAST MANHOLES AND CATCH BASINS STANDARD	EACH			

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
058	702.0840	Cont. 4.7.2				
		BROAD STREET				
		STA. 114+20 LT			0004	02
		STA. 114+20 RT			0004	02
		STA. 88+00 RT		1.00	0004	02
		STA. 88+29 LT		1.00	0004	02
		STA. 89+20 RT		1.00	0004	02
		STA. 90+30 LT			0004	02
		STA. 92+49 RT		1.00	0004	02
		STA. 94+50 LT			0004	02
		STA. 94+51 LT		1.00	0004	02
		STA. 98+09 LT		1.00	0004	02
<b>Item 702.0840 Total:</b>				<b>6.00</b>		
059	702.9901	BIORETENTION CURB INLET PLANTER	EACH			
		BROAD STREET				
		PROJECT WIDE		12.00	0004	02
<b>Item 702.9901 Total:</b>				<b>12.00</b>		
060	704.0100	RECONSTRUCT CATCH BASIN/CORBEL	EACH			
		CONES				
		BROAD STREET				
		AS NEEDED		20.00	0004	02
		STA. 103+71 LT		1.00	0004	02
		STA. 126+75 RT		1.00	0004	02
		STA. 146+03 LT		1.00	0004	02
		STA. 150+18 RT		1.00	0004	02
		STA. 150+26 LT		1.00	0004	02
		STA. 25+15 RT		1.00	0004	02
		STA. 27+05 RT		1.00	0004	02
		STA. 37+29 LT		1.00	0004	02
		STA. 59+43 RT		1.00	0004	02
		STA. 87+05 RT		1.00	0004	02



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
060	704.0100	Cont. EXCHANGE STREET				
		STA. 203+79 RT		1.00	0004	02
		STA. 204+02 LT		1.00	0004	02
		STA. 204+04 RT		1.00	0004	02
		STA. 204+98 RT		1.00	0004	02
				<b>Item 704.0100 Total:</b>		<b>34.00</b>
061	705.1300	RECONSTRUCT CB TYPE 'D' TO CATCH	EACH			

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
065	707.1000	Cont.				
		STA. 89+27		1.00	0004	02
		STA. 90+23		1.00	0004	02
		STA. 92+34		1.00	0004	02
		STA. 94+43		1.00	0004	02
		STA. 96+15		1.00	0004	02
		STA. 98+28		1.00	0004	02
		EXCHANGE STREET				
		STA. 202+20 LT		1.00	0004	02
		STA. 205+15 LT		1.00	0004	02
<b>Item 707.1000 Total:</b>				<b>105.00</b>		
066	707.1200	ADJUST CATCH BASIN TO MANHOLE	EACH			
		BROAD STREET				
		EXCHANGE STREET			0004	02
		STA. 103+71 LT		1.00	0004	02
		STA. 150+18 RT		1.00	0004	02
		STA. 25+15 RT		1.00	0004	02
		STA. 27+05 RT		1.00	0004	02
		STA. 37+29 LT		1.00	0004	02
		EXCHANGE STREET				
		STA. 203+79 RT		1.00	0004	02
		STA. 204+02 LT		1.00	0004	02
		STA. 204+98 RT		1.00	0004	02
<b>Item 707.1200 Total:</b>				<b>8.00</b>		
067	707.1900	ADJUST FRAME & COVER TO GRADE	EACH			
		BROAD STREET				
		STA. 103+72 RT		1.00	0004	02
		STA. 115+57 RT		1.00	0004	02
		STA. 115+90 RT		1.00	0004	02
		STA. 116+04 RT		1.00	0004	02
		STA. 116+10 LT		1.00	0004	02
		STA. 116+46 LT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
067	707.1900	Cont.				
		STA. 116+98	LT	1.00	0004	02
		STA. 118+79	LT	1.00	0004	02
		STA. 118+85	LT	1.00	0004	02
		STA. 120+18	RT	1.00	0004	02
		STA. 120+24	LT	1.00	0004	02
		STA. 122+26	RT	1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
067	707.1900	Cont.				
		STA. 76+86 LT		1.00	0004	02
		STA. 77+21 LT		1.00	0004	02
		STA. 77+35 LT		1.00	0004	02
		STA. 82+47 LT		1.00	0004	02
		STA. 82+88 LT		1.00	0004	02
		STA. 82+95 LT		1.00	0004	02
		STA. 82+95 RT		1.00	0004	02
		STA. 87+05 RT		1.00	0004	02
		EXCHANGE STREET				
		STA. 201+15 RT		1.00	0004	02
		STA. 201+83 LT		1.00	0004	02
		STA. 201+93 LT		1.00	0004	02
<b>Item 707.1900 Total:</b>				<b>89.00</b>		
068	707.2000	ADJUST FRAME AND GRATE TO GRADE	EACH			
		BROAD STREET				
		STA. 103+72 RT		1.00	0004	02
		STA. 116+10 LT		1.00	0004	02
		STA. 116+48 LT		1.00	0004	02
		STA. 116+78 LT		1.00	0004	02
		STA. 118+44 LT		1.00	0004	02
		STA. 12+32 RT		1.00	0004	02
		STA. 12+39 RT		1.00	0004	02
		STA. 12+65 RT		1.00	0004	02
		STA. 13+16 RT		1.00	0004	02
		STA. 133+92 RT		1.00	0004	02
		STA. 134+15 RT		1.00	0004	02
		STA. 134+17 RT		1.00	0004	02
		STA. 134+53 RT		1.00	0004	02
		STA. 134+60 LT		1.00	0004	02
		STA. 134+65 LT		1.00	0004	02
		STA. 135+08 LT		1.00	0004	02
		STA. 136+00 RT		1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
068	707.2000	Cont.	STA. 136+65 RT	1.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
068	707.2000	Cont.				
		STA. 73+85 LT		1.00	0004	02
		STA. 73+91 RT		1.00	0004	02
		STA. 73+96 RT		1.00	0004	02
		STA. 74+45 LT		1.00	0004	02
		STA. 75+17 LT		1.00	0004	02
		STA. 75+65 LT		1.00	0004	02
		STA. 76+75 LT		1.00	0004	02
		STA. 77+34 LT		1.00	0004	02
		STA. 79+50 RT		1.00	0004	02
		STA. 79+55 RT		1.00	0004	02
		STA. 80+17 LT		1.00	0004	02
		STA. 82+07 LT		1.00	0004	02
		STA. 82+20 LT		1.00	0004	02
		STA. 82+90 RT		1.00	0004	02
		STA. 82+95 RT		1.00	0004	02
<b>Item 707.2000 Total:</b>				<b>66.00</b>		
069	707.9901	ADJUST GRANITE TOP	EACH			
		BROAD STREET				
		STA. 130+02 RT		1.00	0004	02
		STA. 27+87 LT		1.00	0004	02
<b>Item 707.9901 Total:</b>				<b>2.00</b>		
070	708.9040	CLEANING AND FLUSHING PIPE ALL SIZES	LF			
		BROAD STREET				
		STA. 103+63 TO 103+71 LT		11.00	0004	02
		STA. 103+71 TO 104+11 LT		39.00	0004	02
		STA. 115+57 TO 115+90 RT		31.00	0004	02
		STA. 115+90 TO 116+04 RT		20.00	0004	02
		STA. 116+04 TO 116+17 RT		20.00	0004	02
		STA. 116+04 TO 116+76 RT		72.00	0004	02
		STA. 116+10 TO 116+17 LT		17.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
083	905.0110	Cont.				
		STA. 79+10 TO 79+18	RT	1.00	0004	02
		STA. 79+18 TO 79+22	RT	1.00	0004	02
		STA. 79+50 TO 79+61	RT	1.00	0004	02
		STA. 79+59 TO 80+58	LT	8.00	0004	02
		STA. 79+81 TO 79+85	RT	1.00	0004	02
		STA. 80+15 TO 80+38	RT	3.00	0004	02
		STA. 80+38 TO 80+58	RT	5.00	0004	02
		STA. 80+53 TO 80+58	RT	1.00	0004	02
		STA. 80+81 TO 80+94	RT	2.00	0004	02
		STA. 80+84 TO 80+88	LT	1.00	0004	02
		STA. 80+86 TO 80+98	RT	3.00	0004	02
		STA. 80+88 TO 81+08	LT	3.00	0004	02
		STA. 80+94 TO 81+01	RT	1.00	0004	02
		STA. 81+01 TO 81+17	RT	4.00	0004	02
		STA. 81+08 TO 81+33	LT	3.00	0004	02
		STA. 81+17 TO 84+24	RT	29.00	0004	02
		STA. 81+75 TO 82+05	LT	3.00	0004	02
		STA. 82+05 TO 82+19	LT	4.00	0004	02
		STA. 82+11 TO 82+19	LT	1.00	0004	02
		STA. 82+51 TO 82+65	LT	4.00	0004	02
		STA. 82+65 TO 84+09	LT	18.00	0004	02
		STA. 87+03 TO 87+33	LT	4.00	0004	02
		STA. 87+03 TO 87+65	RT	7.00	0004	02
		STA. 87+34 TO 87+47	LT	5.00	0004	02
		STA. 87+65 TO 87+85	RT	5.00	0004	02
		STA. 87+71 TO 87+75	LT	1.00	0004	02
		STA. 87+71 TO 87+82	LT	3.00	0004	02
		STA. 87+82 TO 89+24	LT	13.00	0004	02
		STA. 87+85 TO 88+95	RT	11.00	0004	02
		STA. 88+95 TO 89+07	RT	4.00	0004	02
		STA. 88+98 TO 89+07	RT	1.00	0004	02
		STA. 89+32 TO 89+42	RT	1.00	0004	02
		STA. 89+36 TO 89+48	RT	4.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
083	905.0110	Cont.				
		STA. 98+08 TO 98+30 LT		2.00	0004	02
		STA. 98+13 TO 98+23 RT		2.00	0004	02
		STA. 98+19 TO 98+23 RT		1.00	0004	02
		STA. 98+43 TO 98+49 RT		1.00	0004	02
		STA. 98+43 TO 98+55 RT		2.00	0004	02
		STA. 98+48 TO 98+78 LT		3.00	0004	02
		STA. 98+49 TO 99+18 RT		6.00	0004	02
		STA. 99+08 TO 99+97 LT		10.00	0004	02
		STA. 99+56 TO 100+75 RT		14.00	0004	02
		EXCHANGE STREET				
		STA. 200+96 TO 201+03 LT		2.00	0021	01
		STA. 200+96 TO 202+63 LT		25.00	0021	01
		STA. 201+57 TO 201+93 RT		15.00	0021	01
		STA. 202+11 TO 202+22 RT		2.00	0021	01
		STA. 202+86 TO 204+23 RT		26.00	0021	01
		STA. 203+14 TO 203+24 RT		1.00	0021	01
		STA. 203+14 TO 204+44 LT		23.00	0021	01
		VOLUME 3- MENDON ROAD				
		SEE ITEM 201.0403 (600*4"/12		67.00	0004	03
		/3)				
<b>Item 905.0110 Total:</b>				<b>2,740.00</b>		
084	905.0115	PORTLAND CEMENT CONCRETE DRIVEWAY	CY			
		STANDARD 43.5.0				
		BROAD STREET				
		STA. 100+75 TO 101+05 RT		6.00	0004	02
		STA. 100+93 TO 101+03 LT		1.00	0004	02
		STA. 101+25 TO 101+49 RT		5.00	0004	02
		STA. 101+73 TO 101+93 LT		5.00	0004	02
		STA. 102+17 TO 102+44 RT		5.00	0004	02
		STA. 102+47 TO 102+83 RT		7.00	0004	02
		STA. 102+67 TO 103+00 LT		8.00	0004	02
		STA. 103+44 TO 103+77 RT		7.00	0004	02



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
084	905.0115	Cont.				
		STA. 103+81 TO 104+09	RT	6.00	0004	02
		STA. 104+60 TO 104+77	LT	4.00	0004	02
		STA. 104+81 TO 105+10	LT	6.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
084	905.0115	Cont.				
		STA. 93+40 TO 93+57 LT		3.00	0004	02
		STA. 94+67 TO 94+97 LT		7.00	0004	02
		STA. 95+06 TO 95+52 LT		10.00	0004	02
		STA. 95+66 TO 95+90 LT		6.00	0004	02
		STA. 95+71 TO 95+87 RT		4.00	0004	02
		STA. 95+96 TO 96+24 LT		6.00	0004	02
		STA. 96+25 TO 96+45 RT		4.00	0004	02
		STA. 96+63 TO 97+15 LT		11.00	0004	02
		STA. 96+76 TO 96+96 RT		4.00	0004	02
		STA. 97+80 TO 98+08 LT		6.00	0004	02
		STA. 98+30 TO 98+48 LT		4.00	0004	02
		STA. 98+78 TO 99+09 LT		8.00	0004	02
		STA. 99+18 TO 99+56 RT		8.00	0004	02
		STA. 99+97 TO 100+27 LT		7.00	0004	02
		VOLUME 3- MENDON ROAD				
		GP 15 (5' X 5' X 8"/12)/27		1.00	0004	03
		GP 41 (CADORET DR DETAIL)		1.00	0004	03
		((5' X 5' X 8"/12)/27)				
		GP 46 (10' X 5' X 8"/12)/27		2.00	0004	03
		GP 53 (SHOPPING CENTER		3.00	0004	03
		DETAIL) (25' X 5' X 8"/12/27)				
				<b>Item 905.0115 Total:</b>	<b>1,018.00</b>	
085	905.0131	PORTLAND CEMENT CONCRETE MEDIAN	CY			
		6'' MONOLITHIC				
		BROAD STREET				
		STA. 11+07 TO 11+18 LT		1.00	0021	01
		STA. 11+11 TO 11+21 LT		2.00	0021	01
		STA. 11+28 TO 11+32 LT		1.00	0021	01
		EXCHANGE STREET				
		STA. 201+05 TO 202+29 LT		17.00	0021	01
		STA. 201+06 TO 202+10 RT		9.00	0021	01
		STA. 202+22 TO 202+45 RT			0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
085	905.0131 Cont.	STA. 202+33 TO 202+57 LT		3.00	0021	01
		STA. 203+02 TO 203+13 RT		2.00	0021	01
		STA. 203+25 TO 204+26 RT		10.00	0021	01
<b>Item 905.0131 Total:</b>				<b>45.00</b>		
086	905.9902	<b>FURNISH AND INSTALL BRICK SIDEWALK</b>	<b>SY</b>			
		BROAD STREET				

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
089	906.0110	Cont.				
		STA. 201+68 TO 201+89	RT	21.00	0021	01
		STA. 201+85 TO 201+92	LT	7.00	0021	01
		STA. 201+95 TO 202+20	LT	25.00	0021	01
		STA. 202+32 TO 202+44	LT	12.00	0021	01
		STA. 202+36 TO 202+39	LT	3.00	0021	01
		STA. 202+36 TO 202+57	LT	23.00	0021	01
		STA. 202+45 TO 202+64	LT	19.00	0021	01
		STA. 203+28 TO 204+18	RT	80.00	0021	01
		STA. 203+35 TO 204+33	LT	98.00	0021	01
		STA. 203+42 TO 203+87	RT	44.00	0021	01
		STA. 204+03 TO 204+18	RT	15.00	0021	01
		STA. 204+48 TO 204+49	RT	6.00	0021	01
		STA. 204+57 TO 205+70	RT	108.00	0021	01
		STA. 87+07 TO 87+34	LT	28.00	0021	01
		STA. 87+08 TO 87+51	RT	41.00	0021	01
<b>Item 906.0110 Total:</b>				<b>7,676.00</b>		
090	906.0111	<b>GRANITE CURB, QUARRY SPLIT</b>	<b>LF</b>			
		<b>CIRCULAR, STANDARD 7.3.0</b>				
		BROAD STREET				
		STA. 103+24 TO 103+31	LT	8.00	0004	02
		STA. 103+34 TO 103+34	LT	5.00	0004	02
		STA. 103+66 TO 103+69	LT	4.00	0004	02
		STA. 106+27 TO 106+29	LT	2.00	0004	02
		STA. 106+72 TO 106+77	LT	8.00	0004	02
		STA. 11+07 TO 11+08	LT	2.00	0004	02
		STA. 11+11 TO 11+14	LT	4.00	0004	02
		STA. 11+16 TO 11+18	LT	3.00	0004	02
		STA. 11+17 TO 11+21	RT	4.00	0004	02
		STA. 11+20 TO 11+21	LT	3.00	0004	02
		STA. 11+27 TO 11+29	LT	2.00	0004	02
		STA. 11+29 TO 11+32	LT	4.00	0004	02
		STA. 11+33 TO 11+76	RT	43.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
090	906.0111 Cont.	STA. 11+38 TO 11+47 LT		13.00	0004	02
		STA. 11+42 TO 11+45 LT		13.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
138	L11.0103	<b>SHRUB PLANT PROTECTION DEVICE</b>	<b>LF</b>			
		<b>STANDARD 51.2.0</b>				
		BROAD STREET				
		STA. 119+31 LT		1.00	0004	02
<b>Item L11.0103 Total:</b>				<b>1.00</b>		
139	T04.5001	<b>6 AWG SINGLE CONDUCTOR CABLE 600V</b>	<b>LF</b>			
		<b>INSULATION</b>				
		BROAD STREET AT ANN & HOPE WAY				
		AS SHOWN ON PLANS		525.00	0021	01
		BROAD STREET AT CROSS STREET				
		AS SHOWN ON PLANS		630.00	0021	01
		BROAD STREET AT DEXTER STREET				
		AS SHOWN ON PLANS		550.00	0021	01
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		AS SHOWN ON PLANS		550.00	0021	01
		BROAD STREET AT FALES STREET				
		AS SHOWN ON PLANS		370.00	0021	01
		BROAD STREET AT HIGH STREET				
		AS SHOWN ON PLANS		450.00	0021	01
		BROAD STREET AT HUNT STREET				
		AS SHOWN ON PLANS		400.00	0021	01
<b>Item T04.5001 Total:</b>				<b>3,475.00</b>		
140	T04.5303	<b>14 AWG 3 CONDUCTOR CABLE</b>	<b>LF</b>			
		BROAD STREET AT ANN & HOPE WAY				
		AS SHOWN ON PLANS		635.00	0021	01
		BROAD STREET AT CHURCH				
		STREET/JOHN STREET				
		AS SHOWN ON PLANS		500.00	0021	01
		BROAD STREET AT CROSS STREET				
		AS SHOWN ON PLANS		1,375.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
140	T04.5303 Cont.	BROAD STREET AT DEXTER STREET				
		AS SHOWN ON PLANS		365.00	0021	01
		BROAD STREET AT EXCHANGE STREET/GOFF AVENUE				
		AS SHOWN ON PLANS		1,530.00	0021	01
		BROAD STREET AT FALES STREET				
		AS SHOWN ON PLANS		1,025.00	0021	01
		BROAD STREET AT HIGH STREET				
		AS SHOWN ON PLANS		390.00	0021	01
		BROAD STREET AT HUNT STREET				
		AS SHOWN ON PLANS		1,115.00	0021	01
<b>Item T04.5303 Total:</b>				<b>6,935.00</b>		
141	T04.5305	<b>14 AWG 5 CONDUCTOR CABLE</b>	<b>LF</b>			
		BROAD STREET AT ANN & HOPE WAY				
		AS SHOWN ON PLANS		2,780.00	0021	01
		BROAD STREET AT CHURCH STREET/JOHN STREET				
		AS SHOWN ON PLANS		170.00	0021	01
		BROAD STREET AT CROSS STREET				
		AS SHOWN ON PLANS		2,555.00	0021	01
		BROAD STREET AT DEXTER STREET				
		AS SHOWN ON PLANS		1,130.00	0021	01
		BROAD STREET AT EXCHANGE STREET/GOFF AVENUE				
		AS SHOWN ON PLANS		3,205.00	0021	01
		BROAD STREET AT FALES STREET				
		AS SHOWN ON PLANS		2,325.00	0021	01
		BROAD STREET AT HIGH STREET				
		AS SHOWN ON PLANS		1,600.00	0021	01
		BROAD STREET AT HUNT STREET				
		AS SHOWN ON PLANS		2,525.00	0021	01
<b>Item T04.5305 Total:</b>				<b>16,290.00</b>		

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
142	T04.5307	<b>14 AWG 7 CONDUCTOR CABLE</b>	<b>LF</b>			
		BROAD STREET AT ANN & HOPE WAY				
		AS SHOWN ON PLANS		355.00	0021	01
		BROAD STREET AT CHURCH STREET/JOHN STREET				
		AS SHOWN ON PLANS		140.00	0021	01
		BROAD STREET AT CROSS STREET				
		AS SHOWN ON PLANS		225.00	0021	01
		BROAD STREET AT DEXTER STREET				
		AS SHOWN ON PLANS		210.00	0021	01
<b>Item T04.5307 Total:</b>				<b>930.00</b>		
143	T04.9901	<b>VIDEO DETECTION SYSTEM CABLE</b>	<b>LF</b>			
		BROAD STREET AT ANN & HOPE WAY				
		AS SHOWN ON PLANS		1,150.00	0021	01
		BROAD STREET AT CHURCH STREET/JOHN STREET				
		AS SHOWN ON PLANS		775.00	0021	01
		BROAD STREET AT CROSS STREET				
		AS SHOWN ON PLANS		470.00	0021	01
		BROAD STREET AT DEXTER STREET				
		AS SHOWN ON PLANS		515.00	0021	01
		BROAD STREET AT EXCHANGE STREET/GOFF AVENUE				
		AS SHOWN ON PLANS			0021	01
		BROAD STREET AT FALES STREET				
		AS SHOWN ON PLANS		455.00	0021	01
		BROAD STREET AT HIGH STREET				
		AS SHOWN ON PLANS		600.00	0021	01
		BROAD STREET AT HUNT STREET				
		AS SHOWN ON PLANS			0021	01
<b>Item T04.9901 Total:</b>				<b>3,965.00</b>		



**Distribution of Quantities**

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R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
144	T04.9902	<b>ADVANCED VIDEO DETECTION SYSTEM</b>	<b>LF</b>			
		<b>CABLE</b>				
		BROAD STREET AT CROSS STREET				
		AS SHOWN ON PLANS		220.00	0021	01
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		AS SHOWN ON PLANS			0021	01
		BROAD STREET AT FALES STREET				
		AS SHOWN ON PLANS		185.00	0021	01
		<b>Item T04.9902 Total:</b>		<b>405.00</b>		
145	T04.9903	<b>OPTICAL DETECTOR CABLE</b>	<b>LF</b>			
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		AS SHOWN ON PLANS		570.00	0021	01
		<b>Item T04.9903 Total:</b>		<b>570.00</b>		
146	T05.0100	<b>PRECAST TYPE A HANDHOLE STANDARD</b>	<b>EACH</b>			
		<b>18.2.0</b>				
		BROAD STREET AT ANN & HOPE WAY				
		NE CORNER		1.00	0021	01
		NW CORNER		1.00	0021	01
		SE CORNER		1.00	0021	01
		SW CORNER		1.00	0021	01
		WESTERN SIDE		3.00	0021	01
		BROAD STREET AT CROSS STREET				
		NE CORNER		2.00	0021	01
		NW CORNER		1.00	0021	01
		SE CORNER		3.00	0021	01
		SW CORNER		2.00	0021	01
		BROAD STREET AT DEXTER STREET				
		NE CORNER		1.00	0021	01
		NW CORNER		1.00	0021	01

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
147	T05.1030 Cont.	STA. 116+89 LT		1.00	0021	01
		STA. 116+93 RT		1.00	0021	01
		STA. 53+91 RT		1.00	0021	01
<b>Item T05.1030 Total:</b>				<b>8.00</b>		
148	T05.9901	<b>BREAK INTO EXISTING HANDHOLE</b>	<b>EACH</b>			
		BROAD STREET AT CHURCH				
		STREET/JOHN STREET				
		EASTERN SIDE		1.00	0021	01
		SE CORNER		1.00	0021	01
		BROAD STREET AT CROSS STREET				
		SW CORNER		1.00	0021	01
<b>Item T05.9901 Total:</b>				<b>3.00</b>		
149	T05.9902	<b>BREAK INTO EXISTING MANHOLE</b>	<b>EACH</b>			
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		NE CORNER		1.00	0021	01
<b>Item T05.9902 Total:</b>				<b>1.00</b>		
150	T06.1030	<b>3 IN. RIGID STEEL</b>	<b>LF</b>			
		<b>CONDUIT-UNDERGROUND</b>				
		BROAD STREET AT ANN & HOPE WAY				
		AS SHOWN ON PLANS		20.00	0021	01
<b>Item T06.1030 Total:</b>				<b>20.00</b>		
151	T06.1040	<b>4 IN. RIGID STEEL</b>	<b>LF</b>			
		<b>CONDUIT-UNDERGROUND</b>				
		BROAD STREET AT ANN & HOPE WAY				
		AS SHOWN ON PLANS		30.00	0021	01
<b>Item T06.1040 Total:</b>				<b>30.00</b>		
152	T06.2020	<b>2 IN. RIGID STEEL CONDUIT-OVERHEAD</b>	<b>LF</b>			

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
152	T06.2020 Cont.	BROAD STREET AT ANN & HOPE WAY AS SHOWN ON PLANS		20.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
154	T06.3030	<b>3 IN. RIGID STEEL CONDUIT-UNDER</b>	<b>LF</b>			
		<b>EXISTING PAVEMENT</b>				
		BROAD STREET AT ANN & HOPE WAY AS SHOWN ON PLANS		70.00	0021	01
		BROAD STREET AT CHURCH STREET/JOHN STREET AS SHOWN ON PLANS		30.00	0021	01
		BROAD STREET AT CROSS STREET AS SHOWN ON PLANS		170.00	0021	01
		BROAD STREET AT DEXTER STREET AS SHOWN ON PLANS		80.00	0021	01
		BROAD STREET AT EXCHANGE STREET/GOFF AVENUE AS SHOWN ON PLANS		230.00	0021	01
		BROAD STREET AT FALES STREET AS SHOWN ON PLANS		140.00	0021	01
		BROAD STREET AT HIGH STREET AS SHOWN ON PLANS		60.00	0021	01
		BROAD STREET AT HUNT STREET AS SHOWN ON PLANS		150.00	0021	01
		<b>Item T06.3030 Total:</b>		<b>930.00</b>		
155	T06.3040	<b>4 IN. RIGID STEEL CONDUIT-UNDER</b>	<b>LF</b>			
		<b>EXISTING PAVEMENT</b>				
		BROAD STREET AT CROSS STREET AS SHOWN ON PLANS		10.00	0021	01
		BROAD STREET AT EXCHANGE STREET/GOFF AVENUE AS SHOWN ON PLANS		10.00	0021	01
		BROAD STREET AT FALES STREET AS SHOWN ON PLANS		20.00	0021	01
		BROAD STREET AT HUNT STREET AS SHOWN ON PLANS		10.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
155	T06.3040	Cont.				
Item T06.3040 Total:				50.00		

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
156	T06.5330	<b>3 INCH SCHEDULE 40 POLYVINYL CHLORIDE PLASTIC CONDUIT - UNDER EXISTING PAVEMENT</b>	<b>LF</b>			
		BROAD STREET AT CROSS STREET AS SHOWN ON PLANS		110.00	0021	01
		BROAD STREET AT DEXTER STREET AS SHOWN ON PLANS		60.00	0021	01
		BROAD STREET AT EXCHANGE STREET/GOFF AVENUE AS SHOWN ON PLANS		30.00	0021	01
		BROAD STREET AT FALES STREET AS SHOWN ON PLANS		30.00	0021	01
		BROAD STREET AT HIGH STREET AS SHOWN ON PLANS		30.00	0021	01
		BROAD STREET AT HUNT STREET AS SHOWN ON PLANS		60.00	0021	01
<b>Item T06.5330 Total:</b>				<b>320.00</b>		
157	T06.5340	<b>4 INCH SCHEDULE 40 POLYVINYL CHLORIDE PLASTIC CONDUIT - UNDER EXISTING PAVEMENT</b>	<b>LF</b>			
		BROAD STREET AT ANN & HOPE WAY AS SHOWN ON PLANS		60.00	0021	01
<b>Item T06.5340 Total:</b>				<b>60.00</b>		
158	T06.5430	<b>3 INCH SCHEDULE 80 POLYVINYL CHLORIDE PLASTIC CONDUIT - UNDER EXISTING PAVEMENT</b>	<b>LF</b>			
		BROAD STREET AT ANN & HOPE WAY AS SHOWN ON PLANS		240.00	0021	01
		BROAD STREET AT CROSS STREET AS SHOWN ON PLANS		110.00	0021	01
		BROAD STREET AT DEXTER STREET				

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
158	T06.5430 Cont.	AS SHOWN ON PLANS		120.00	0021	01
		BROAD STREET AT EXCHANGE STREET/GOFF AVENUE				
		AS SHOWN ON PLANS		380.00	0021	01
		BROAD STREET AT FALES STREET				
		AS SHOWN ON PLANS		90.00	0021	01
		BROAD STREET AT HIGH STREET				
		AS SHOWN ON PLANS		150.00	0021	01
		BROAD STREET AT HUNT STREET				
		AS SHOWN ON PLANS		90.00	0021	01
<b>Item T06.5430 Total:</b>				<b>1,180.00</b>		
159	T06.5440	<b>4 INCH SCHEDULE 80 POLYVINYL CHLORIDE PLASTIC CONDUIT - UNDER EXISTING PAVEMENT</b>	<b>LF</b>			
		BROAD STREET AT CROSS STREET				
		AS SHOWN ON PLANS		60.00	0021	01
		BROAD STREET AT FALES STREET				
		AS SHOWN ON PLANS		50.00	0021	01
		BROAD STREET AT HUNT STREET				
		AS SHOWN ON PLANS		50.00	0021	01
<b>Item T06.5440 Total:</b>				<b>160.00</b>		
160	T06.6020	<b>2 INCH POLYVINYL CHLORIDE PLASTIC CONDUIT-OVERHEAD</b>	<b>LF</b>			
		BROAD STREET AT ANN & HOPE WAY				
		AS SHOWN ON PLANS		20.00	0021	01
		BROAD STREET AT CROSS STREET				
		AS SHOWN ON PLANS		20.00	0021	01
		BROAD STREET AT DEXTER STREET				
		AS SHOWN ON PLANS		20.00	0021	01
		BROAD STREET AT FALES STREET				
		AS SHOWN ON PLANS		20.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
160	T06.6020 Cont.	BROAD STREET AT HIGH STREET AS SHOWN ON PLANS		20.00	0021	01



### Distribution of Quantities

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Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
160	T06.6020 Cont.	BROAD STREET AT HUNT STREET AS SHOWN ON PLANS		20.00	0021	01
<b>Item T06.6020 Total:</b>				<b>120.00</b>		
161	T11.0820	20 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0 BROAD STREET AT CROSS STREET NW CORNER BROAD STREET AT EXCHANGE STREET/GOFF AVENUE NW CORNER BROAD STREET AT FALES STREET SE CORNER SW CORNER BROAD STREET AT HIGH STREET NE CORNER BROAD STREET AT HUNT STREET SW CORNER	EACH		0021	01
<b>Item T11.0820 Total:</b>					<b>**DELETED**</b>	
162	T11.0830	30 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0 BROAD STREET AT EXCHANGE STREET/GOFF AVENUE SE CORNER	EACH		0021	01
<b>Item T11.0830 Total:</b>					<b>**DELETED**</b>	
163	T11.0845	45 FOOT STANDARD LOAD STEEL TRAFFIC SIGNAL MAST ARM, POLE AND FOUNDATION STANDARD 19.2.0 BROAD STREET AT CROSS STREET	EACH			

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R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
163	T11.0845 Cont.	NE CORNER			0021	01
Item T11.0845 Total:				**DELETED**		
164	T11.0850	50 FOOT STANDARD LOAD STEEL	EACH			
		TRAFFIC SIGNAL MAST ARM, POLE AND				
		FOUNDATION STANDARD 19.2.0				
		BROAD STREET AT ANN & HOPE WAY				
		WESTERN SIDE			0021	01
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		EASTERN SIDE			0021	01
Item T11.0850 Total:				**DELETED**		
165	T11.2008	TRAFFIC SIGNAL STANDARD, 8 FOOT, STD	EACH			
		19.4.0 ALUMINUM PEDESTAL POLE AND				
		FOUNDATION				
		BROAD STREET AT ANN & HOPE WAY				
		NE CORNER		1.00	0021	01
		NW CORNER		1.00	0021	01
		BROAD STREET AT CHURCH				
		STREET/JOHN STREET				
		SE CORNER		1.00	0021	01
		BROAD STREET AT CROSS STREET				
		NE CORNER		2.00	0021	01
		NW CORNER		1.00	0021	01
		SE CORNER		2.00	0021	01
		SW CORNER		2.00	0021	01
		BROAD STREET AT DEXTER STREET				
		NE CORNER		1.00	0021	01
		SE CORNER		1.00	0021	01
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		NE CORNER		2.00	0021	01

### Distribution of Quantities

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R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
165	T11.2008 Cont.	NW CORNER		2.00	0021	01
		SE CORNER		2.00	0021	01
		SW CORNER		2.00	0021	01
		BROAD STREET AT FALES STREET				
		NE CORNER		1.00	0021	01
		NW CORNER		1.00	0021	01
		SE CORNER		1.00	0021	01
		SW CORNER		1.00	0021	01
		BROAD STREET AT HIGH STREET				
		NE CORNER		1.00	0021	01
		BROAD STREET AT HUNT STREET				
		NE CORNER		1.00	0021	01
		NW CORNER		1.00	0021	01
		SE CORNER		1.00	0021	01
		SW CORNER		1.00	0021	01
<b>Item T11.2008 Total:</b>				<b>29.00</b>		
166	T11.2010	<b>TRAFFIC SIGNAL STANDARD,10 FT, STD EACH</b>				
		<b>19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION</b>				
		BROAD STREET AT ANN & HOPE WAY				
		NE CORNER		1.00	0021	01
		SE CORNER		1.00	0021	01
		BROAD STREET AT CHURCH STREET/JOHN STREET				
		EASTERN SIDE		1.00	0021	01
<b>Item T11.2010 Total:</b>				<b>3.00</b>		
167	T11.9901	<b>15 FOOT GALVANIZED STEEL MAST ARM EACH</b>				
		<b>TRAFFIC SIGNAL POST AND FOUNDATION</b>				
		<b>STD. 19.2.0</b>				
		BROAD STREET AT ANN & HOPE WAY				
		WESTERN SIDE		1.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
167	T11.9901	Cont. BROAD STREET AT HIGH STREET				

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R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
167	T11.9901 Cont.	NW CORNER		1.00	0021	01
		BROAD STREET AT HUNT STREET				
		SE CORNER		1.00	0021	01
<b>Item T11.9901 Total:</b>				<b>3.00</b>		
168	T11.9902	15 FOOT GALVANIZED STEEL MAST ARM	EACH			
		TRAFFIC SIGNAL POST AND FOUNDATION				
		STD. 19.2.0 (MODIFIED I)				
		BROAD STREET AT HUNT STREET				
		NW CORNER		1.00	0021	01
<b>Item T11.9902 Total:</b>				<b>1.00</b>		
169	T11.9903	20 FOOT GALVANIZED STEEL MAST ARM	EACH			
		AND TRAFFIC SIGNAL POST AND				
		FOUNDATION STD. 19.2.0				
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		NW CORNER		1.00	0021	01
		BROAD STREET AT FALES STREET				
		SE CORNER		1.00	0021	01
		SW CORNER		1.00	0021	01
		BROAD STREET AT HIGH STREET				
		NE CORNER		1.00	0021	01
		BROAD STREET AT HUNT STREET				
		SW CORNER		1.00	0021	01
<b>Item T11.9903 Total:</b>				<b>5.00</b>		
170	T11.9904	20 FOOT GALVANIZED STEEL MAST ARM	EACH			
		TRAFFIC SIGNAL POST AND FOUNDATION				
		STD. 19.2.0 (MODIFIED I)				
		BROAD STREET AT FALES STREET				
		NW CORNER		1.00	0021	01
		BROAD STREET AT HUNT STREET				

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
170	T11.9904 Cont.	NE CORNER			0021	01
<b>Item T11.9904 Total:</b>				<b>1.00</b>		
171	T11.9905	20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED II)	EACH			

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Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
171	T11.9905 Cont.	BROAD STREET AT HIGH STREET				
		SW CORNER			0021	01
		BROAD STREET AT HUNT STREET				
		NE CORNER		1.00	0021	01
<b>Item T11.9905 Total:</b>				<b>1.00</b>		
172	T11.9906	20 FOOT GALVANIZED STEEL MAST ARM	EACH			
		TRAFFIC SIGNAL POST AND FOUNDATION				
		STD. 19.2.0 (MODIFIED III)				
		BROAD STREET AT HIGH STREET				
		SE CORNER		1.00	0021	01
<b>Item T11.9906 Total:</b>				<b>1.00</b>		
173	T11.9907	20 FOOT GALVANIZED STEEL MAST ARM	EACH			
		TRAFFIC SIGNAL POST AND FOUNDATION				
		STD. 19.2.0 (MODIFIED IV)				
		BROAD STREET AT DEXTER STREET				
		NW CORNER			0021	01
		BROAD STREET AT HIGH STREET				
		SE CORNER		1.00	0021	01
<b>Item T11.9907 Total:</b>				<b>1.00</b>		
174	T11.9908	20 FOOT GALVANIZED STEEL MAST ARM	EACH			
		TRAFFIC SIGNAL POST AND FOUNDATION				
		STD. 19.2.0 (MODIFIED V)				
		BROAD STREET AT DEXTER STREET				
		NE CORNER		1.00	0021	01
<b>Item T11.9908 Total:</b>				<b>1.00</b>		
175	T11.9909	20 FOOT GALVANIZED STEEL MAST ARM	EACH			
		TRAFFIC SIGNAL POST AND FOUNDATION				
		STD. 19.2.0 (MODIFIED VI)				
		BROAD STREET AT DEXTER STREET				

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R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
175	T11.9909 Cont.	SW CORNER		1.00	0021	01
<b>Item T11.9909 Total:</b>				<b>1.00</b>		
176	T11.9910	25 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED I) BROAD STREET AT DEXTER STREET SW CORNER	EACH	1.00	0021	01
		BROAD STREET AT FALES STREET NE CORNER			0021	01
<b>Item T11.9910 Total:</b>				<b>1.00</b>		
177	T11.9911	30 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED I) BROAD STREET AT ANN & HOPE WAY SE CORNER	EACH		0021	01
		BROAD STREET AT FALES STREET NE CORNER		1.00	0021	01
<b>Item T11.9911 Total:</b>				<b>1.00</b>		
178	T11.9912	45 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED I) BROAD STREET AT ANN & HOPE WAY SW CORNER	EACH	1.00	0021	01
		BROAD STREET AT HIGH STREET SE CORNER			0021	01
<b>Item T11.9912 Total:</b>				<b>1.00</b>		
179	T11.9913	50 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0	EACH			



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FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
179	T11.9913 Cont.	BROAD STREET AT ANN & HOPE WAY				
		SE CORNER			0021	01
		BROAD STREET AT ANN & HOPE WAY				
		WESTERN SIDE		1.00	0021	01
		BROAD STREET AT CROSS STREET				
		NE CORNER		1.00	0021	01
<b>Item T11.9913 Total:</b>				<b>2.00</b>		

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FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
181	T12.9150 Cont.	BROAD STREET AT HIGH STREET				
		AS SHOWN ON PLANS		1.00	0021	01
		BROAD STREET AT HUNT STREET				
		AS SHOWN ON PLANS		1.00	0021	01
<b>Item T12.9150 Total:</b>				<b>7.00</b>		
182	T12.9901	<b>MODIFY EXISTING TRAFFIC SIGNAL</b>	<b>EACH</b>			
		<b>CONTROLLER CABINET</b>				
		BROAD STREET AT CHURCH				
		STREET/JOHN STREET				
		AS SHOWN ON PLANS		1.00	0021	01
<b>Item T12.9901 Total:</b>				<b>1.00</b>		
183	T12.9902	<b>VIDEO DETECTION SYSTEM HARDWARE</b>	<b>EACH</b>			
		BROAD STREET AT ANN & HOPE WAY				
		AS SHOWN ON PLANS		7.00	0021	01
		BROAD STREET AT CHURCH				
		STREET/JOHN STREET				
		AS SHOWN ON PLANS		5.00	0021	01
		BROAD STREET AT CROSS STREET				
		AS SHOWN ON PLANS		2.00	0021	01
		BROAD STREET AT DEXTER STREET				
		AS SHOWN ON PLANS		3.00	0021	01
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		AS SHOWN ON PLANS			0021	01
		BROAD STREET AT FALES STREET				
		AS SHOWN ON PLANS		3.00	0021	01
		BROAD STREET AT HIGH STREET				
		AS SHOWN ON PLANS		4.00	0021	01
		BROAD STREET AT HUNT STREET				
		AS SHOWN ON PLANS			0021	01
<b>Item T12.9902 Total:</b>				<b>24.00</b>		

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FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
184	T12.9903	<b>ADVANCED VIDEO DETECTION SYSTEM</b>	<b>EACH</b>			
		<b>HARDWARE</b>				
		BROAD STREET AT CROSS STREET				
		AS SHOWN ON PLANS		1.00	0021	01
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		AS SHOWN ON PLANS			0021	01
		BROAD STREET AT FALES STREET				
		AS SHOWN ON PLANS		1.00	0021	01
<b>Item T12.9903 Total:</b>				<b>2.00</b>		
185	T12.9904	<b>GPS TIME SYNCHRONIZATION UNIT</b>	<b>EACH</b>			
		BROAD STREET AT ANN & HOPE WAY				
		AS SHOWN ON PLANS		1.00	0021	01
		BROAD STREET AT CHURCH				
		STREET/JOHN STREET				
		AS SHOWN ON PLANS		1.00	0021	01
		BROAD STREET AT CROSS STREET				
		AS SHOWN ON PLANS		1.00	0021	01
		BROAD STREET AT DEXTER STREET				
		AS SHOWN ON PLANS		1.00	0021	01
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		AS SHOWN ON PLANS		1.00	0021	01
		BROAD STREET AT FALES STREET				
		AS SHOWN ON PLANS		1.00	0021	01
		BROAD STREET AT HIGH STREET				
		AS SHOWN ON PLANS		1.00	0021	01
		BROAD STREET AT HUNT STREET				
		AS SHOWN ON PLANS		1.00	0021	01
<b>Item T12.9904 Total:</b>				<b>8.00</b>		
186	T13.8210	<b>ACCESSIBLE PEDESTRIAN DETECTOR -</b>	<b>EACH</b>			

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R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
187	T13.9901 Cont.	BROAD STREET AT ANN & HOPE WAY				
		C1		1.00	0021	01
		C2		1.00	0021	01
		C3		1.00	0021	01
		C4		1.00	0021	01
		C5		1.00	0021	01
		C6		1.00	0021	01
		C7		1.00	0021	01
		BROAD STREET AT CHURCH STREET/JOHN STREET				
		C1		1.00	0021	01
		C2		1.00	0021	01
		C3		1.00	0021	01
		C4		1.00	0021	01
		C5		1.00	0021	01
		BROAD STREET AT CROSS STREET				
		C2		1.00	0021	01
		C3		1.00	0021	01
		BROAD STREET AT DEXTER STREET				
		C1		1.00	0021	01
		C2		1.00	0021	01
		C3		1.00	0021	01
		BROAD STREET AT EXCHANGE STREET/GOFF AVENUE				
		C4			0021	01
		BROAD STREET AT FALES STREET				
		C1		1.00	0021	01
		C2		1.00	0021	01
		C4		1.00	0021	01
		BROAD STREET AT HIGH STREET				
		C1		1.00	0021	01
		C2		1.00	0021	01
		C3		1.00	0021	01

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FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
187	T13.9901 Cont.	C4		1.00	0021	01
		BROAD STREET AT HUNT STREET				
		C1			0021	01
		C2			0021	01
		C3			0021	01
		C4			0021	01
<b>Item T13.9901 Total:</b>				<b>24.00</b>		
188	T13.9902	<b>ADVANCED VIDEO DETECTION SYSTEM</b>	<b>EACH</b>			
		<b>CAMERA</b>				
		BROAD STREET AT CROSS STREET				
		C1		1.00	0021	01
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		C1			0021	01
		C2			0021	01
		C3			0021	01
		BROAD STREET AT FALES STREET				
		C3		1.00	0021	01
<b>Item T13.9902 Total:</b>				<b>2.00</b>		
189	T13.9903	<b>OPTICAL DETECTOR - SINGLE CHANNEL,</b>	<b>EACH</b>			
		<b>ONE-WAY</b>				
		BROAD STREET AT EXCHANGE				
		STREET/GOFF AVENUE				
		D1		1.00	0021	01
		D2		1.00	0021	01
		D3		1.00	0021	01
<b>Item T13.9903 Total:</b>				<b>3.00</b>		
190	T13.9904	<b>MULTIMODE PHASE SELECTOR AND</b>	<b>EACH</b>			
		<b>CHASSIS</b>				
		BROAD STREET AT EXCHANGE				

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FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
190	T13.9904 Cont.	STREET/GOFF AVENUE AS SHOWN ON PLANS		1.00	0021	01

**Distribution of Quantities**

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FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
194	T14.3613 Cont.	HEAD G		1.00	0021	01
		HEAD H			0021	01
		BROAD STREET AT CHURCH STREET/JOHN STREET				
		HEAD K		1.00	0021	01
		BROAD STREET AT EXCHANGE STREET/GOFF AVENUE				
		HEAD F		1.00	0021	01
<b>Item T14.3613 Total:</b>				<b>3.00</b>		
195	T14.3713	<b>1 WAY 3 SECTION PEDESTAL MOUNTED SIGNAL HEAD 12 INCH</b>	<b>EACH</b>			
		BROAD STREET AT ANN & HOPE WAY				
		HEAD H		1.00	0021	01
		HEAD P		1.00	0021	01
		BROAD STREET AT CHURCH STREET/JOHN STREET				
		HEAD J		1.00	0021	01
<b>Item T14.3713 Total:</b>				<b>3.00</b>		
196	T14.9901	<b>1 WAY PEDESTAL MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER 12 INCH</b>	<b>EACH</b>			
		BROAD STREET AT ANN & HOPE WAY				
		P1		1.00	0021	01
		P4		1.00	0021	01
		BROAD STREET AT CHURCH STREET/JOHN STREET				
		P4		1.00	0021	01
		P5		1.00	0021	01
		P7		1.00	0021	01
		BROAD STREET AT CROSS STREET				
		P1		1.00	0021	01

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FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
196	T14.9901	Cont.	P2	1.00	0021	01
			P3	1.00	0021	01



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FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
196	T14.9901 Cont.	P4		1.00	0021	01
		P5		1.00	0021	01
		P6		1.00	0021	01
		P7		1.00	0021	01
		P8		1.00	0021	01
		BROAD STREET AT DEXTER STREET				
		P2		1.00	0021	01
		BROAD STREET AT EXCHANGE STREET/GOFF AVENUE				
		P1		1.00	0021	01
		P2		1.00	0021	01
		P3		1.00	0021	01
		P4		1.00	0021	01
		P5		1.00	0021	01
		P6		1.00	0021	01
		P7		1.00	0021	01
		P8		1.00	0021	01
		BROAD STREET AT FALES STREET				
		P4		1.00	0021	01
		P5		1.00	0021	01
		P6		1.00	0021	01
		P8		1.00	0021	01
		BROAD STREET AT HIGH STREET				
		P2		1.00	0021	01
		BROAD STREET AT HUNT STREET				
		P2		1.00	0021	01
		P4		1.00	0021	01
		P6		1.00	0021	01
		P8		1.00	0021	01
<b>Item T14.9901 Total:</b>				<b>31.00</b>		

197	T14.9902	2 WAY PEDESTAL MOUNTED LED	EACH
		PEDESTRIAN SIGNAL HEAD WITH	

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FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
197	T14.9902	Cont. COUNTDOWN TIMER 12 INCH				

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FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
197	T14.9902 Cont.	BROAD STREET AT CHURCH STREET/JOHN STREET				
		P1/P8		1.00	0021	01
		BROAD STREET AT DEXTER STREET				
		P1/P4		1.00	0021	01
<b>Item T14.9902 Total:</b>				<b>2.00</b>		
198	T14.9903	<b>1 WAY BRACKET MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER 12 INCH</b>	<b>EACH</b>			
		BROAD STREET AT ANN & HOPE WAY				
		P2		1.00	0021	01
		P3		1.00	0021	01
		BROAD STREET AT CHURCH STREET/JOHN STREET				
		P2		1.00	0021	01
		P3		1.00	0021	01
		P6		1.00	0021	01
		BROAD STREET AT CROSS STREET				
		P3			0021	01
		BROAD STREET AT DEXTER STREET				
		P3		1.00	0021	01
		BROAD STREET AT EXCHANGE STREET/GOFF AVENUE				
		P5			0021	01
		BROAD STREET AT FALES STREET				
		P1		1.00	0021	01
		P2		1.00	0021	01
		P3		1.00	0021	01
		P7		1.00	0021	01
		BROAD STREET AT HIGH STREET				
		P1		1.00	0021	01
		P3		1.00	0021	01

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Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
198	T14.9903 Cont.	P4		1.00	0021	01
		BROAD STREET AT HUNT STREET				
		P1		1.00	0021	01
		P3		1.00	0021	01
		P5		1.00	0021	01
		P7		1.00	0021	01
<b>Item T14.9903 Total:</b>				<b>17.00</b>		
199	T15.0100	<b>DIRECTIONAL REGULATORY AND WARNING SIGNS</b>	<b>SF</b>			
		BROAD STREET				
		STA. 101+01 LT R6-1L (36"X12")		3.00	0021	01
		STA. 101+01 LT R6-1R (36"X12")		3.00	0021	01
		STA. 103+09 RT R2-1 (24"X30")		5.00	0021	01
		STA. 103+09 RT S4-3P (24"X8")		1.50	0021	01
		STA. 103+33 LT R1-1 (30"X30")		6.25	0021	01
		STA. 103+76 LT S5-2 (24"X30")		5.00	0021	01
		STA. 106+31 LT R1-1 (30"X30")		6.25	0021	01
		STA. 11+10 LT R1-2 (36"X36"X36")		4.00	0021	01
		STA. 11+30 LT R5-1 (36"X36")		9.00	0021	01
		STA. 11+30 LT R6-1L (54"X18")		6.75	0021	01
		STA. 11+30 LT R6-1R (54"X18")		6.75	0021	01
		STA. 11+35 LT R5-1 (36"X36")		9.00	0021	01
		STA. 11+35 LT R6-1L (54"X18")		6.75	0021	01
		STA. 11+35 LT R6-1R (54"X18")		6.75	0021	01
		STA. 11+41 LT R4-7 (24"X30")		5.00	0021	01
		STA. 11+78 LT R4-7 (24"X30")		5.00	0021	01
		STA. 11+78 LT W9-1(MOD) (30"X30")		6.25	0021	01
		STA. 11+99 RT R10-11		5.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100	Cont. (24"X30")				
		STA. 110+34 LT R1-1 (30"X30")		6.25	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100 Cont.	STA. 110+66 LT W14-1 (30"X30")		6.25	0021	01
		STA. 110+79 LT S1-1L (36"X36")		9.00	0021	01
		STA. 110+79 LT S1-1R (36"X36")		9.00	0021	01
		STA. 110+79 LT W16-7PL (24"X12")		2.00	0021	01
		STA. 110+79 LT W16-7PR (24"X12")		2.00	0021	01
		STA. 110+96 RT S1-1L (36"X36")		9.00	0021	01
		STA. 110+96 RT S1-1R (36"X36")		9.00	0021	01
		STA. 110+96 RT W16-7PL (24"X12")		2.00	0021	01
		STA. 110+96 RT W16-7PR (24"X12")		2.00	0021	01
		STA. 112+64 LT R1-1 (30"X30")		6.25	0021	01
		STA. 114+06 LT R1-1 (30"X30")		6.25	0021	01
		STA. 114+92 LT M1-5 (30"X24")		5.00	0021	01
		STA. 114+92 LT M3-3 (24"X12")		2.00	0021	01
		STA. 115+85 LT M1-5 (30"X24")		5.00	0021	01
		STA. 115+85 LT M3-2 (24"X12")		2.00	0021	01
		STA. 115+85 LT M6-1 (21"X15")		2.25	0021	01
		STA. 115+93 RT R6-1L (36"X12")		3.00	0021	01
		STA. 115+93 RT R6-1R (36"X12")		3.00	0021	01
		STA. 115+95 LT R2-1 (24"X30")		5.00	0021	01
		STA. 115+95 LT S4-3P (24"X8")		1.50	0021	01
		STA. 116+08 LT R5-1 (30"X30")		6.25	0021	01
		STA. 116+40 LT R5-1 (30"X30")		6.25	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100 Cont.	STA. 116+40 LT R6-1R (36"X12")		3.00	0021	01
		STA. 116+40 LT R6-L (36"X12")		3.00	0021	01
		STA. 116+44 RT R10-11 (30"X24")		5.00	0021	01
		STA. 116+85 LT R6-1L (36"X12")		3.00	0021	01
		STA. 116+85 LT R6-1R (36"X12")		3.00	0021	01
		STA. 116+96 LT R3-1 (24"X24")		4.00	0021	01
		STA. 118+32 RT M1-5 (30"X24")		5.00	0021	01
		STA. 118+32 RT M3-4 (24"X12")		2.00	0021	01
		STA. 118+32 RT M6-1 (21"X15")		2.25	0021	01
		STA. 118+77 LT R6-1L (36"X12")		3.00	0021	01
		STA. 118+77 LT R6-1R (36"X12")		3.00	0021	01
		STA. 118+83 LT R10-7 (24"X30")		5.00	0021	01
		STA. 118+88 RT R2-1 (24"X30")		5.00	0021	01
		STA. 118+88 RT S4-3P (24"X8")		1.50	0021	01
		STA. 119+83 LT M1-5 (30"X24")		5.00	0021	01
		STA. 119+83 LT M3-4 (24"X12")		2.00	0021	01
		STA. 119+83 LT M6-1 (21"X15")		2.25	0021	01
		STA. 12+11 RT R4-7 (24"X30")		5.00	0021	01
		STA. 12+21 RT W4-2 (36"X36")		9.00	0021	01
		STA. 12+51 RT R4-7 (24"X30")		5.00	0021	01
		STA. 120+93 LT R1-1 (30"X30")		6.25	0021	01
		STA. 121+29 RT S1-1R (36"X36")		9.00	0021	01
		STA. 121+29 RT W16-7PR (24"X12")		2.00	0021	01
		STA. 121+33 LT S1-1R		9.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100	Cont. (36"X36")				
		STA. 121+33 LT W16+7PR		2.00	0021	01



### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100	Cont.				
		(24"X12")				
		STA. 124+35 LT R1-1 (30"X30")		6.25	0021	01
		STA. 126+75 LT R1-1 (30"X30")		6.25	0021	01
		STA. 129+98 RT R1-1 (30"X30")		6.25	0021	01
		STA. 13+25 RT R2-1 (24"X30")		5.00	0021	01
		STA. 130+06 RT S5-2 (24"X30")		5.00	0021	01
		STA. 132+78 RT M1-5 (30"X24")		5.00	0021	01
		STA. 132+78 RT M3-2 (24"X12")		2.00	0021	01
		STA. 132+78 RT M6-1R		2.25	0021	01
		(21"X15")				
		STA. 134+00 LT R10-12		7.50	0021	01
		(30"X36")				
		STA. 134+10 RT M1-5 (30"X24")		5.00	0021	01
		STA. 134+10 RT M3-2 (24"X12")		2.00	0021	01
		STA. 134+49 RT M1-5 (30"X24")		5.00	0021	01
		STA. 134+49 RT M3-4 (24"X12")		2.00	0021	01
		STA. 134+49 RT M6-1L		2.25	0021	01
		(21"X15")				
		STA. 135+25 LT R3-8 (30"X30")		6.25	0021	01
		STA. 136+06 LT M1-5 (30"X24")		5.00	0021	01
		STA. 136+06 LT M3-2 (24"X12")		2.00	0021	01
		(21"X15")				
		STA. 136+06 LT M6-1L		2.25	0021	01
		STA. 136+90 RT R1-1 (30"X30")		6.25	0021	01
		STA. 139+42 RT R1-1 (30"X30")		6.25	0021	01
		STA. 142+11 RT R1-1 (30"X30")		6.25	0021	01
		STA. 142+92 RT R1-1 (30"X30")		6.25	0021	01
		STA. 144+33 LT M1-5 (30"X24")		5.00	0021	01
		STA. 144+33 LT M3-3 (24"X12")		2.00	0021	01
		STA. 144+33 LT M4-5 (24"X12")		2.00	0021	01
		STA. 144+38 RT R3-8 (30"X30")		6.25	0021	01
		STA. 145+35 LT R10-12		7.50	0021	01
		(30"X36")				

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
199	T15.0100 Cont.	STA. 146+93 LT R10-12 (30"X36")		7.50	0021	01
		STA. 149+90 LT R1-1 (30"X30")		6.25	0021	01
		STA. 149+99 RT R1-1 (30"X30")		6.25	0021	01
		STA. 15+81 LT M1-5 (24"X24")		4.00	0021	01
		STA. 15+81 LT M3-4 (24"X12")		2.00	0021	01
		STA. 150+02 RT M1-5 (30"X24")		5.00	0021	01
		STA. 150+02 RT M3-1 (24"X12")		2.00	0021	01
		STA. 150+02 RT M4-5 (24"X12")		2.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100 Cont.	STA. 150+02 RT M6-1R (21"X15")		2.25	0021	01
		STA. 151+27 RT R2-1 (24"X30")		5.00	0021	01
		STA. 157+09 RT W1-1L (30"X30")		6.25	0021	01
		STA. 158+36 RT R1-1 (30"X30")		6.25	0021	01
		STA. 16+53 LT R1-1 (30"X30")		6.25	0021	01
		STA. 161+61 LT W1-1R (30"X30")		6.25	0021	01
		STA. 161+99 RT M1-R (30"X24")		5.00	0021	01
		STA. 161+99 RT M6-4 (21"X15")		2.25	0021	01
		STA. 162+00 LT R1-1 (30"X30")		6.25	0021	01
		STA. 163+06 LT R2-1 (24"X30")		5.00	0021	01
		STA. 163+93 LT M3-3 (24"X12")		2.00	0021	01
		STA. 163+94 LT M1-5 (30"X24")		5.00	0021	01
		STA. 20+32 RT W11-2L (30"X30")		6.25	0021	01
		STA. 20+32 RT W11-2R (30"X30")		6.25	0021	01
		STA. 20+32 RT W16-7PL (24"X12")		2.00	0021	01
		STA. 20+32 RT W16-7PR (24"X12")		2.00	0021	01
		STA. 20+35 LT W11-2L (30"X30")		6.25	0021	01
		STA. 20+35 LT W11-2R (30"X30")		6.25	0021	01
		STA. 20+35 LT W16-7PL (24"X12")		2.00	0021	01
		STA. 20+35 LT W16-7PR (24"X12")		2.00	0021	01
		STA. 20+57 RT W9-1(MOD) (30"X30")		6.25	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
199	T15.0100	Cont.				
		STA. 23+48 RT R2-1 (24"X30")		5.00	0021	01
		STA. 24+09 RT R1-1 (30"X30")		6.25	0021	01
		STA. 24+80 LT R2-1 (24"X30")		5.00	0021	01
		STA. 25+09 LT R1-1 (30"X30")		6.25	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100	Cont.				
		STA. 25+97 RT R1-1 (30"X30")		6.25	0021	01
		STA. 27+83 LT R5-1 (30"X30")		6.25	0021	01
		STA. 27+83 LT R6-1L (36"X12")		3.00	0021	01
		STA. 27+83 LT R6-1R (36"X12")		3.00	0021	01
		STA. 27+90 LT R1-1 (30"X30")		6.25	0021	01
		STA. 28+16 LT R1-1 (30"X30")		6.25	0021	01
		STA. 28+16 LT R5-1 (30"X30")		6.25	0021	01
		STA. 28+16 LT R6-1L (36"X12")		3.00	0021	01
		STA. 29+36 LT S5-2 (24"X30")		5.00	0021	01
		STA. 29+81 RT S1-1 (36"X36")		9.00	0021	01
		STA. 30+21 RT R1-1 (30"X30")		6.25	0021	01
		STA. 30+26 RT R5-1 (30"X30")		6.25	0021	01
		STA. 30+26 RT R6-1L (36"X12")		3.00	0021	01
		STA. 30+26 RT R6-1R (36"X12")		3.00	0021	01
		STA. 30+38 LT R3-2 (24"X24")		4.00	0021	01
		STA. 31+26 RT M1-1 (24"X24")		4.00	0021	01
		STA. 31+26 RT M6-1 (21"X15")		2.25	0021	01
		STA. 31+38 LT M1-5 (30"X24")		5.00	0021	01
		STA. 31+38 LT M3-3 (24"X12")		2.00	0021	01
		STA. 32+19 RT R10-12 (30"X36")		7.50	0021	01
		STA. 32+23 RT R10-6L (24"X36")		6.00	0021	01
		STA. 32+23 RT S1+1 (36"X36")		9.00	0021	01
		STA. 32+29 LT R10-11 (24"X30")		5.00	0021	01
		STA. 32+32 RT R10-11 (24"X30")		5.00	0021	01
		STA. 32+76 LT M1-1 (24"X24")		4.00	0021	01
		STA. 32+76 LT M6-1 (21"X15")		2.25	0021	01
		STA. 33+22 RT S5-2 (24"X30")		5.00	0021	01
		STA. 33+35 LT S1-1 (36"X36")		9.00	0021	01
		STA. 34+50 LT R1-1 (30"X30")		6.25	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
199	T15.0100	Cont.				
		STA. 34+50 LT R5-1 (30"X30")		6.25	0021	01
		STA. 34+50 LT R6-1L (36"X12")		3.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100	Cont.				
		STA. 45+67 RT R10-11		5.00	0021	01
		(24"X30")				
		STA. 45+93 RT R3-8B (48"X30")		10.00	0021	01
		STA. 46+01 RT R-1 (30"X30")		6.25	0021	01
		STA. 46+01 RT R6-1L (36"X12")		3.00	0021	01
		STA. 46+01 RT R6-1R (36"X12")		3.00	0021	01
		STA. 46+33 LT R10-6 (24"X36")		6.00	0021	01
		STA. 48+08 LT R1-1 (30"X30")		6.25	0021	01
		STA. 48+35 RT R1-1 (30"X30")		6.25	0021	01
		STA. 49+51 RT R1-1 (30"X30")		6.25	0021	01
		STA. 49+55 RT R5-1 (30"X30")		6.25	0021	01
		STA. 49+55 RT R6-1L (36"X12")		3.00	0021	01
		STA. 49+55 RT R6-1R (36"X12")		3.00	0021	01
		STA. 49+70 LT R3-2 (24"X24")		4.00	0021	01
		STA. 50+48 LT R1-1 (30"X30")		6.25	0021	01
		STA. 53+00 RT R6-1L (36"X12")		3.00	0021	01
		STA. 53+00 RT R6-1R (36"X12")		3.00	0021	01
		STA. 53+35 RT W11-2L		6.25	0021	01
		(30"X30")				
		STA. 53+35 RT W16-9P		2.00	0021	01
		(24"X12")				
		STA. 53+84 LT R1-1 (30"X30")		6.25	0021	01
		STA. 54+29 RT W11-2L		6.25	0021	01
		(30"X30")				
		STA. 54+29 RT W11-2R		6.25	0021	01
		(30"X30")				
		STA. 54+29 RT W16-7PL		2.00	0021	01
		(24"X12")				
		STA. 54+29 RT W16-7PR		2.00	0021	01
		(24"X12")				
		STA. 54+46 LT W11-2L		6.25	0021	01
		(30"X30")				
		STA. 54+46 LT W11-2R		6.25	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100	Cont. (30"X30")				
		STA. 54+46 LT W16-7PL		2.00	0021	01



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100 Cont.	STA. 59+88 RT W11-15R (30"X30")		6.25	0021	01
		STA. 59+88 RT W167PL (24"X12")		2.00	0021	01
		STA. 59+88 RT W16-7PR (24"X12")		2.00	0021	01
		STA. 60+22 LT R1-1 (30"X30")		6.25	0021	01
		STA. 60+31 RT R3-17 (24"X18")		3.00	0021	01
		STA. 60+31 RT R3-9CP (30"X12")		2.50	0021	01
		STA. 60+60 LT S1-1 (36"X36")		9.00	0021	01
		STA. 60+81 LT M6-1 (21"X15")		2.25	0021	01
		STA. 60+81 LT W11-1(MOD) (30"X30")		6.25	0021	01
		STA. 61+29 RT S5-2 (24"X30")		5.00	0021	01
		STA. 62+30 LT W11-1(MOD) (30"X30")		6.25	0021	01
		STA. 62+30 LT W16-9P (24"X12")		2.00	0021	01
		STA. 65+21 LT R1-1 (30"X30")		6.25	0021	01
		STA. 67+60 LT R1-1 (30"X30")		6.25	0021	01
		STA. 69+07 LT R2-1 (24"X30")		5.00	0021	01
		STA. 73+81 LT R10-11 (24"X30")		5.00	0021	01
		STA. 74+06 LT R10-6 (24"X36")		6.00	0021	01
		STA. 74+06 LT R3-7BP (24"X12")		2.00	0021	01
		STA. 74+06 RT R10-11 (24"X30")		5.00	0021	01
		STA. 74+39 LT R10-11 (24"X30")		5.00	0021	01
		STA. 74+46 RT EM-1(MOD) (24"X24")		4.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100	Cont.				
		STA. 74+41 RT R10-6 (24"X36")		6.00	0021	01
		STA. 74+41 RT R3-7BP (24"X12")		2.00	0021	01
		STA. 74+46 RT M6-1L (21"X15")		2.25	0021	01
		STA. 74+46 RT M6-3 (21"X15")		2.25	0021	01
		STA. 76+87 LT R1-1 (30"X30")		6.25	0021	01
		STA. 76+87 LT R5-1 (30"X30")		6.25	0021	01
		STA. 76+87 LT R6-1L (36"X12")		3.00	0021	01
		STA. 76+87 LT R6-1R (36"X12")		3.00	0021	01
		STA. 77+20 LT R5-1 (30"X30")		6.25	0021	01
		STA. 77+20 LT R6-1L (36"X12")		3.00	0021	01
		STA. 77+20 LT R6-1R (36"X12")		3.00	0021	01
		STA. 78+07 RT R2-1 (24"X30")		5.00	0021	01
		STA. 80+37 RT W12-2 (36"X36")		9.00	0021	01
		STA. 80+37 RT W16-5PR (24"X18")		3.00	0021	01
		STA. 80+83 LT R10-11 (24"X30")		5.00	0021	01
		STA. 80+97 LT R9-5 (12"X18")		1.50	0021	01
		STA. 81+17 LT W12-2 (36"X36")		9.00	0021	01
		STA. 81+17 LT W16-5PL (24"X18")		3.00	0021	01
		STA. 82+18 LT R1-1 (30"X30")		6.25	0021	01
		STA. 82+60 LT R5-2 (24"X24")		4.00	0021	01
		STA. 85+13 LT R2-1 (24"X30")		5.00	0021	01
		STA. 87+31 LT S5-2 (24"X30")		5.00	0021	01
		STA. 87+46 LT R1-1 (30"X30")		6.25	0021	01
		STA. 87+66 RT W11-15L (30"X30")		6.25	0021	01
		STA. 87+66 RT W11-15R (30"X30")		6.25	0021	01
		STA. 87+66 RT W16-7PL		2.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100	Cont.				
		(24"X12")				
		STA. 87+66 RT W16-7PR		2.00	0021	01
		(24"X12")				
		STA. 87+79 LT W11-15L		6.25	0021	01
		(30"X30")				
		STA. 87+79 LT W11-15R		6.25	0021	01
		(30"X30")				
		STA. 87+79 LT W16-7PL		2.00	0021	01
		(24"X12")				
		STA. 87+79 LT W16-7PR		2.00	0021	01
		(24"X12")				
		STA. 89+35 RT R1-1 (30"X30")		6.25	0021	01
		STA. 89+72 RT R2-1 (24"X30")		5.00	0021	01
		STA. 90+08 LT R1-1 (30"X30")		6.25	0021	01
		STA. 90+30 RT W11-2L		6.25	0021	01
		(30"X30")				
		STA. 90+30 RT W11-2R		6.25	0021	01
		(30"X30")				
		STA. 90+30 RT W16-7PL		2.00	0021	01
		(24"X12")				
		STA. 90+30 RT W16-7PR		2.00	0021	01
		(24"X12")				
		STA. 90+43 LT W11-2L		6.25	0021	01
		(30"X30")				
		STA. 90+43 LT W11-2R		6.25	0021	01
		(30"X30")				
		STA. 90+43 LT W16-7PL		2.00	0021	01
		(24"X12")				
		STA. 90+43 LT W16-7PR		2.00	0021	01
		(24"X12")				
		STA. 91+96 LT R6-1L (36"X12")		3.00	0021	01
		STA. 91+96 LT R6-1R (36"X12")		3.00	0021	01
		STA. 94+26 LT R1-1 (30"X30")		6.25	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
199	T15.0100	Cont.				
		STA. 94+56 RT R1-1 (30"X30")		6.25	0021	01
		STA. 96+48 RT S5-2 (24"X30")		5.00	0021	01
		STA. 98+44 RT R1-1 (30"X30")		6.25	0021	01
<b>Item T15.0100 Total:</b>				<b>1,404.00</b>		
200	T15.0200	<b>REMOVE AND RELOCATE DIRECTIONAL REGULATORY AND WARNING SIGN</b>	<b>EACH</b>			
		BROAD STREET				
		STA. 11+77 LT TO STA. 11+78		1.00	0021	01
		LT				
		STA. 111+24 LT TO STA. 111+16		1.00	0021	01
		LT				
		STA. 12+09 RT TO STA. 12+23		1.00	0021	01
		RT				
		STA. 12+35 RT TO STA. 12+88		1.00	0021	01
		RT				
		STA. 34+50 LT TO STA. 34+50		1.00	0021	01
		LT				
		STA. 37+71 LT TO STA. 37+69		1.00	0021	01
		LT				
		STA. 45+60 LT TO STA. 45+59		1.00	0021	01
		LT				
		STA. 80+90 RT TO STA. 80+87		1.00	0021	01
		RT				
		STA. 81+26 LT TO STA. 81+36		1.00	0021	01
		LT				
<b>Item T15.0200 Total:</b>				<b>9.00</b>		
201	T15.1100	<b>STREET SIGN - OVERHEAD MOUNTED</b>	<b>EACH</b>			
		BROAD STREET AT ANN & HOPE WAY				
		"ANN & HOPE WAY"		1.00	0021	01
		"BROAD ST"		2.00	0021	01
		BROAD STREET AT CROSS STREET				

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
202	T15.2000 Cont.	STA. 27+42 RT R7-108R (12"X18")		1.50	0021	01
		STA. 28+27 RT R7-1L (12"X18")		1.50	0021	01
		STA. 28+49 LT R7-108R (12"X18")		1.50	0021	01
		STA. 29+23 RT R7-108L (12"X18")		1.50	0021	01
		STA. 29+23 RT R7-1R (12"X18")		1.50	0021	01
		STA. 29+63 RT R7-108R (12"X18")		1.50	0021	01
		STA. 30+28 RT R7-1L (12"X18")		1.50	0021	01
		STA. 31+16 LT R7-108L (12"X18")		1.50	0021	01
		STA. 31+41 RT R7-1R (12"X18")		1.50	0021	01
		STA. 32+18 LT R7-1R (12"X18")		1.50	0021	01
		STA. 33+62 RT R7-1 (12"X18")		1.50	0021	01
		STA. 35+10 LT R7-1 (12"X18")		1.50	0021	01
		STA. 36+02 RT R7-1 (12"X18")		1.50	0021	01
		STA. 37+85 RT R7-1 (12"X18")		1.50	0021	01
		STA. 38+58 RT R7-1 (12"X18")		1.50	0021	01
		STA. 39+88 LT R7-1R (12"X18")		1.50	0021	01
		STA. 40+15 LT R7-1 (12"X18")		1.50	0021	01
		STA. 40+34 RT R7-1R (12"X18")		1.50	0021	01
		STA. 40+68 RT R7-108L (12"X18")		1.50	0021	01
		STA. 41+82 LT R7-108R (12"X18")		1.50	0021	01
		STA. 41+82 LT R7-1L (12"X18")		1.50	0021	01
		STA. 42+66 LT R7-108L (12"X18")		1.50	0021	01
		STA. 42+66 LT R7-7R (12"X18")		1.50	0021	01
		STA. 42+90 RT R7-108R (12"X18")		1.50	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
202	T15.2000	Cont. STA. 43+66 RT R7-108L (12"X18")		1.50	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
202	T15.2000 Cont.	STA. 43+79 LT R7-108R (12"X18")		1.50	0021	01
		STA. 43+79 LT R7-7L (12"X18")		1.50	0021	01
		STA. 44+06 RT R7-108R (12"X18")		1.50	0021	01
		STA. 44+06 RT R7-1L (12"X18")		1.50	0021	01
		STA. 44+28 RT R7-1L (12"X18")		1.50	0021	01
		STA. 45+07 LT R7-108L (12"X18")		1.50	0021	01
		STA. 45+47 RT R7-1R (12"X18")		1.50	0021	01
		STA. 45+60 LT R7-1L (12"X18")		1.50	0021	01
		STA. 46+51 RT R7-108L (12"X18")		1.50	0021	01
		STA. 46+57 LT R7-108R (12"X18")		1.50	0021	01
		STA. 47+79 RT R7-108R (12"X18")		1.50	0021	01
		STA. 47+85 LT R7-108L (12"X18")		1.50	0021	01
		STA. 48+53 LT R7-108R (12"X18")		1.50	0021	01
		STA. 48+62 RT R7-108L (12"X18")		1.50	0021	01
		STA. 48+82 RT R7-108R (12"X18")		1.50	0021	01
		STA. 49+69 RT R7-108L (12"X18")		1.50	0021	01
		STA. 50+23 LT R7-108L (12"X18")		1.50	0021	01
		STA. 50+95 LT R7-108R (12"X18")		1.50	0021	01
		STA. 51+00 RT R7-108 (12"X18")		1.50	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
202	T15.2000 Cont.	STA. 52+47 LT R7-108 (12"X18")		1.50	0021	01
		STA. 52+62 RT R7-108R (12"X18")		1.50	0021	01
		STA. 53+25 RT R7-108L (12"X18")		1.50	0021	01
		STA. 53+62 LT R7-108L (12"X18")		1.50	0021	01
		STA. 53+65 RT R7-108R (12"X18")		1.50	0021	01
		STA. 53+65 RT R7-1L (12"X18")		1.50	0021	01



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
202	T15.2000 Cont.	STA. 54+97 LT R7-108R (12"X18")		1.50	0021	01
		STA. 54+97 LT R7-7L (12"X18")		1.50	0021	01
		STA. 55+05 RT R7-108L (12"X18")		1.50	0021	01
		STA. 55+05 RT R7-1R (12"X18")		1.50	0021	01
		STA. 55+81 LT R7-108L (12"X18")		1.50	0021	01
		STA. 55+93 RT R7-108R (12"X18")		1.50	0021	01
		STA. 56+80 LT R7-108R (12"X18")		1.50	0021	01
		STA. 57+01 RT R7-108L (12"X18")		1.50	0021	01
		STA. 57+64 LT R7-108L (12"X18")		1.50	0021	01
		STA. 57+85 RT R7-108R (12"X18")		1.50	0021	01
		STA. 57+85 RT R7-1L (12"X18")		1.50	0021	01
		STA. 58+32 LT R7-108R (12"X18")		1.50	0021	01
		STA. 59+38 RT R7-1 (12"X18")		1.50	0021	01
		STA. 59+59 LT R7-108L (12"X18")		1.50	0021	01
		STA. 61+40 RT R7-1 (12"X18")		1.50	0021	01
		STA. 61+41 LT R7-1 (12"X18")		1.50	0021	01
		STA. 63+80 LT R7-1 (12"X18")		1.50	0021	01
		STA. 63+81 RT R7-1 (12"X18")		1.50	0021	01
		STA. 65+60 RT R7-1 (12"X18")		1.50	0021	01
		STA. 65+64 LT R7-1 (12"X18")		1.50	0021	01
		STA. 67+96 RT R7-1 (12"X18")		1.50	0021	01
		STA. 67+98 LT R7-1 (12"X18")		1.50	0021	01
		STA. 70+28 LT R7-1 (12"X18")		1.50	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
202	T15.2000	Cont. STA. 70+29 RT R7-1 (12"X18")		1.50	0021	01

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
202	T15.2000	Cont.				
		STA. 72+86 LT R7-1 (12"X18")		1.50	0021	01
		STA. 72+86 RT R7-1 (12"X18")		1.50	0021	01
		STA. 74+96 LT R7-1 (12"X18")		1.50	0021	01
		STA. 74+96 RT R7-1 (12"X18")		1.50	0021	01
		STA. 76+58 RT R7-1 (12"X18")		1.50	0021	01
		STA. 76+60 LT R7-1 (12"X18")		1.50	0021	01
		STA. 78+59 RT R7-1 (12"X18")		1.50	0021	01
		STA. 78+72 LT R7-1 (12"X18")		1.50	0021	01
		STA. 80+19 RT R7-1 (12"X18")		1.50	0021	01
		STA. 80+30 LT R7-1 (12"X18")		1.50	0021	01
		STA. 80+41 LT R7-1 (12"X18")			0021	01
		STA. 81+99 LT R7-1 (12"X18")		1.50	0021	01
		STA. 82+01 RT R7-1 (12"X18")		1.50	0021	01
		STA. 84+23 LT R7-1 (12"X18")		1.50	0021	01
		STA. 84+23 RT R7-1 (12"X18")		1.50	0021	01
		STA. 86+82 RT R7-1 (12"X18")		1.50	0021	01
		STA. 88+70 RT R7-1 (12"X18")		1.50	0021	01
		STA. 90+77 LT R7-1L (12"X18")		1.50	0021	01
		STA. 92+00 RT R7-1 (12"X18")		1.50	0021	01
		STA. 94+01 RT R7-1 (12"X18")		1.50	0021	01
		STA. 96+01 RT R7-1 (12"X18")		1.50	0021	01
		STA. 98+01 RT R7-1 (12"X18")		1.50	0021	01
<b>Item T15.2000 Total:</b>				<b>234.00</b>		
203	T15.9901	REMOVE AND RESET SIGN AND POST	EACH			
		BROAD STREET				
		STA. 106+23 LT		1.00	0021	01
		STA. 109+02 RT		1.00	0021	01
		STA. 11+08 RT		1.00	0021	01
		STA. 113+19 LT		1.00	0021	01
		STA. 113+99 LT		1.00	0021	01
		STA. 114+44 RT		1.00	0021	01
		STA. 119+16 RT		1.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
203	T15.9901 Cont.	STA. 124+64 LT		1.00	0021	01

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
203	T15.9901 Cont.	STA. 129+78 LT		1.00	0021	01
		STA. 136+57 RT		1.00	0021	01
		STA. 139+51 RT		1.00	0021	01
		STA. 142+96 RT		1.00	0021	01
		STA. 158+37 RT		1.00	0021	01
		STA. 28+18 LT		1.00	0021	01
		STA. 37+42 RT		1.00	0021	01
		STA. 40+06 RT		1.00	0021	01
		STA. 43+47 LT		1.00	0021	01
		STA. 48+02 RT		1.00	0021	01
		STA. 54+69 LT		1.00	0021	01
		STA. 60+13 LT		1.00	0021	01
		STA. 65+12 RT		1.00	0021	01
		STA. 83+57 LT		1.00	0021	01
		STA. 84+53 RT		1.00	0021	01
		STA. 84+54 LT		1.00	0021	01
		STA. 87+17 RT		1.00	0021	01
		STA. 90+03 LT		1.00	0021	01
		STA. 91+42 LT		1.00	0021	01
		STA. 92+26 LT		1.00	0021	01
		STA. 92+36 LT		1.00	0021	01
		STA. 96+61 LT		1.00	0021	01
<b>Item T15.9901 Total:</b>				<b>30.00</b>		

204	T20.0706	6 INCH WHITE WATERBORNE PAINT	LF			
		PAVEMENT MARKINGS				
		BROAD STREET				
		ON FINAL PAVED SURFACES		31,370.00	0021	01
		ON MICRO MILLED SURFACES		31,370.00	0021	01
<b>Item T20.0706 Total:</b>				<b>62,740.00</b>		

205	T20.0712	12 INCH WHITE WATERBORNE PAINT	LF			
		PAVEMENT MARKINGS				

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
205	T20.0712	Cont. BROAD STREET				

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
205	T20.0712 Cont.	ON FINAL PAVED SURFACES		11,265.00	0021	01
		ON MICRO MILLED SURFACES		11,265.00	0021	01
<b>Item T20.0712 Total:</b>				<b>22,530.00</b>		
206	T20.0904	<b>4 INCH YELLOW WATERBORNE PAINT</b>	<b>LF</b>			
		<b>PAVEMENT MARKINGS</b>				
		BROAD STREET				
		ON FINAL PAVED SURFACES		26,560.00	0021	01
		ON MICRO MILLED SURFACES		26,560.00	0021	01
<b>Item T20.0904 Total:</b>				<b>53,120.00</b>		
207	T20.0912	<b>12 INCH YELLOW WATERBORNE PAINT</b>	<b>LF</b>			
		<b>PAVEMENT MARKINGS</b>				
		BROAD STREET				
		ON FINAL PAVED SURFACES		295.00	0021	01
		ON MICRO MILLED SURFACES		295.00	0021	01
<b>Item T20.0912 Total:</b>				<b>590.00</b>		
208	T20.1401	<b>WATERBORNE PAINT PAVEMENT MARKING</b>	<b>EACH</b>			
		<b>SYMBOL - ARROW (STRAIGHT, LEFT, RIGHT OR COMBINED) STANDARD 20.1.0</b>				
		BROAD STREET				
		ON FINAL PAVED SURFACES		18.00	0021	01
		ON MICRO MILLED SURFACES		18.00	0021	01
<b>Item T20.1401 Total:</b>				<b>36.00</b>		
209	T20.2406	<b>6 INCH WHITE FINAL EPOXY RESIN</b>	<b>LF</b>			
		<b>PAVEMENT MARKINGS</b>				
		BROAD STREET				
		STA. 10+34 TO STA. 11+13 RT		76.00	0021	01
		STA. 10+35 TO STA. 11+13 RT		72.00	0021	01
		STA. 100+30 TO STA. 100+50 LT		36.00	0021	01
		STA. 101+11 TO STA. 101+73 LT		94.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
209	T20.2406 Cont.	STA. 101+99 TO STA. 102+60 LT		94.00	0021	01
		STA. 103+92 TO STA. 104+53 LT		94.00	0021	01
		STA. 105+08 TO STA. 105+48 LT		64.00	0021	01
		STA. 105+67 TO STA. 106+08 LT		64.00	0021	01
		STA. 106+99 TO STA. 107+39 LT		64.00	0021	01
		STA. 107+64 TO STA. 108+92 LT		184.00	0021	01
		STA. 109+28 TO STA. 110+12 LT		124.00	0021	01
		STA. 11+39 TO STA. 11+49 LT		85.00	0021	01
		STA. 11+45 TO STA. 11+58 LT		91.00	0021	01
		STA. 11+51 TO STA. 11+67 LT		97.00	0021	01
		STA. 11+69 TO STA. 11+90 LT		30.00	0021	01
		STA. 11+70 TO STA. 12+00 LT		117.00	0021	01
		STA. 11+86 TO STA. 12+25 RT		90.00	0021	01
		STA. 110+93 TO STA. 115+44 RT		452.00	0021	01
		STA. 111+16 TO STA. 111+56 LT		64.00	0021	01
		STA. 111+96 TO STA. 112+16 LT		36.00	0021	01
		STA. 113+19 TO STA. 113+81 LT		94.00	0021	01
		STA. 114+57 TO STA. 114+97 LT		64.00	0021	01
		STA. 115+97 TO STA. 116+42 RT		46.00	0021	01
		STA. 116+49 TO STA. 116+50 LT		14.00	0021	01
		STA. 116+62 TO STA. 116+63 LT		15.00	0021	01
		STA. 116+94 TO STA. 119+92 RT		298.00	0021	01
		STA. 117+47 TO STA. 117+87 LT		64.00	0021	01
		STA. 118+91 TO STA. 119+97 LT		154.00	0021	01
		STA. 12+02 TO STA. 12+35 RT		91.00	0021	01
		STA. 12+04 TO STA. 12+08 LT		12.00	0021	01
		STA. 12+36 TO STA. 12+59 RT		127.00	0021	01
		STA. 12+36 TO STA. 12+64 RT		98.00	0021	01
		STA. 12+46 TO STA. 13+09 RT		257.00	0021	01
		STA. 12+60 TO STA. 14+73 LT		551.00	0021	01
		STA. 12+70 TO STA. 12+83 RT		40.00	0021	01
		STA. 12+70 TO STA. 13+73 RT		104.00	0021	01
		STA. 120+14 TO STA. 121+31 RT		117.00	0021	01



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
209	T20.2406	Cont.				
		STA. 150+15 TO STA. 157+90	RT	775.00	0021	01
		STA. 150+37 TO STA. 151+67	LT	184.00	0021	01
		STA. 151+92 TO STA. 152+32	LT	64.00	0021	01
		STA. 152+75 TO STA. 153+15	LT	64.00	0021	01
		STA. 153+54 TO STA. 153+94	LT	64.00	0021	01
		STA. 154+30 TO STA. 154+69	LT	64.00	0021	01
		STA. 155+21 TO STA. 155+41	LT	36.00	0021	01
		STA. 155+80 TO STA. 156+20	LT	64.00	0021	01
		STA. 156+48 TO STA. 156+88	LT	64.00	0021	01
		STA. 157+35 TO STA. 158+63	LT	184.00	0021	01
		STA. 158+43 TO STA. 165+35	RT	700.00	0021	01
		STA. 159+09 TO STA. 159+51	LT	64.00	0021	01
		STA. 16+38 TO STA. 17+46	RT	108.00	0021	01
		STA. 16+40 TO STA. 16+82	LT	24.00	0021	01
		STA. 16+88 TO STA. 17+08	LT	8.00	0021	01
		STA. 160+57 TO STA. 160+97	LT	64.00	0021	01
		STA. 161+17 TO STA. 161+37	LT	36.00	0021	01
		STA. 161+59 TO STA. 161+79	LT	36.00	0021	01
		STA. 162+47 TO STA. 163+10	LT	94.00	0021	01
		STA. 163+46 TO STA. 164+52	LT	154.00	0021	01
		STA. 17+13 TO STA. 20+38	LT	1,058.00	0021	01
		STA. 17+50 TO STA. 17+64	RT	6.00	0021	01
		STA. 17+68 TO STA. 18+00	RT	32.00	0021	01
		STA. 18+04 TO STA. 18+24	RT	8.00	0021	01
		STA. 18+30 TO STA. 18+56	RT	16.00	0021	01
		STA. 18+66 TO STA. 18+92	RT	10.00	0021	01
		STA. 18+97 TO STA. 19+34	RT	37.00	0021	01
		STA. 19+39 TO STA. 19+53	RT	6.00	0021	01
		STA. 19+58 TO STA. 20+38	RT	80.00	0021	01
		STA. 20+48 TO STA. 20+57	LT	11.00	0021	01
		STA. 20+48 TO STA. 20+57	RT	11.00	0021	01
		STA. 23+55 TO STA. 24+61	LT	154.00	0021	01
		STA. 24+33 TO STA. 24+95	RT	94.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
209	T20.2406	Cont.				
		STA. 66+69 TO STA. 66+89	LT	8.00	0021	01
		STA. 66+93 TO STA. 67+56	LT	145.00	0021	01
		STA. 67+60 TO STA. 67+86	LT	16.00	0021	01
		STA. 67+91 TO STA. 68+29	LT	14.00	0021	01
		STA. 68+23 TO STA. 68+31	RT	4.00	0021	01
		STA. 68+34 TO STA. 69+79	LT	327.00	0021	01
		STA. 68+35 TO STA. 73+38	RT	1,117.00	0021	01
		STA. 69+82 TO STA. 70+02	LT	8.00	0021	01
		STA. 70+05 TO STA. 70+48	LT	99.00	0021	01
		STA. 70+52 TO STA. 70+66	LT	6.00	0021	01
		STA. 70+70 TO STA. 70+83	LT	38.00	0021	01
		STA. 70+85 TO STA. 70+93	LT	4.00	0021	01
		STA. 70+97 TO STA. 71+31	LT	83.00	0021	01
		STA. 71+36 TO STA. 71+38	LT	2.00	0021	01
		STA. 71+42 TO STA. 71+52	LT	31.00	0021	01
		STA. 71+54 TO STA. 71+62	LT	4.00	0021	01
		STA. 71+64 TO STA. 71+74	LT	31.00	0021	01
		STA. 71+78 TO STA. 71+92	LT	6.00	0021	01
		STA. 71+96 TO STA. 72+38	LT	98.00	0021	01
		STA. 72+40 TO STA. 72+66	LT	10.00	0021	01
		STA. 72+70 TO STA. 73+06		88.00	0021	01
		STA. 73+08 TO STA. 73+40	LT	12.00	0021	01
		STA. 73+41 TO STA. 73+67	RT	10.00	0021	01
		STA. 73+44 TO STA. 73+85	LT	94.00	0021	01
		STA. 74+05 TO STA. 74+39	LT	20.00	0021	01
		STA. 74+10 TO STA. 74+44		20.00	0021	01
		STA. 74+64 TO STA. 74+89	LT	10.00	0021	01
		STA. 74+67 TO STA. 75+04	RT	85.00	0021	01
		STA. 74+91 TO STA. 75+01	LT	31.00	0021	01
		STA. 75+03 TO STA. 75+11	LT	4.00	0021	01
		STA. 75+06 TO STA. 75+14	RT	4.00	0021	01
		STA. 75+12 TO STA. 75+64	LT	122.00	0021	01
		STA. 75+18 TO STA. 75+50	RT	78.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
209	T20.2406	Cont.				
		STA. 81+10 TO STA. 81+36	LT	63.00	0021	01
		STA. 81+12 TO STA. 87+68	RT	1,436.00	0021	01
		STA. 81+38 TO STA. 81+70	LT	12.00	0021	01
		STA. 81+72 TO STA. 82+10	LT	85.00	0021	01
		STA. 82+17 TO STA. 82+51	LT	20.00	0021	01
		STA. 82+58 TO STA. 82+78		8.00	0021	01
		STA. 82+82 TO STA. 87+37	LT	1,012.00	0021	01
		STA. 87+78 TO STA. 88+92	RT	114.00	0021	01
		STA. 87+97 TO STA. 89+24	LT	184.00	0021	01
		STA. 89+45 TO STA. 89+85	LT	64.00	0021	01
		STA. 89+50 TO STA. 90+35	RT	86.00	0021	01
		STA. 90+46 TO STA. 94+26	RT	381.00	0021	01
		STA. 90+76 TO STA. 91+39	LT	94.00	0021	01
		STA. 92+34 TO STA. 93+40	LT	158.00	0021	01
		STA. 93+63 TO STA. 94+03	LT	66.00	0021	01
		STA. 94+69 TO STA. 98+21	RT	352.00	0021	01
		STA. 96+34 TO STA. 96+54	LT	36.00	0021	01
		STA. 97+17 TO STA. 97+79	LT	94.00	0021	01
		STA. 98+09 TO STA. 98+29	LT	36.00	0021	01
		STA. 98+45 TO STA. 110+83	RT	1,238.00	0021	01
		STA. 98+53 TO STA. 98+73	LT	36.00	0021	01
		STA. 99+11 TO STA. 99+95	LT	124.00	0021	01
<b>Item T20.2406 Total:</b>				<b>31,370.00</b>		

210 T20.2412 12 INCH WHITE FINAL EPOXY RESIN LF

**PAVEMENT MARKINGS**

## BROAD STREET

STA. 10+91 TO STA. 11+10	LT	71.00	0021	01
STA. 100+71 TO STA. 100+93	LT	80.00	0021	01
STA. 103+32 TO STA. 103+64	LT	106.00	0021	01
STA. 103+34 TO STA. 103+49	LT	15.00	0021	01
STA. 106+32 TO STA. 106+52	LT	21.00	0021	01
STA. 106+33 TO STA. 106+70	LT	130.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
210	T20.2412 Cont.	STA. 11+12 TO STA. 11+14		35.00	0021	01
		STA. 11+16 TO STA. 11+29		100.00	0021	01
		STA. 11+25 TO STA. 11+33		84.00	0021	01
		STA. 11+48 TO STA. 11+76 LT		40.00	0021	01
		STA. 11+49 TO STA. 12+02 LT		224.00	0021	01
		STA. 11+82 TO STA. 12+13 RT		80.00	0021	01
		STA. 11+83 TO STA. 12+06 LT			0021	01
		STA. 110+35 TO STA. 110+48 LT		13.00	0021	01
		STA. 110+37 TO STA. 110+61 LT		82.00	0021	01
		STA. 110+83 TO STA. 110+93		110.00	0021	01
		STA. 112+65 TO STA. 112+78 LT		13.00	0021	01
		STA. 112+67 TO STA. 112+90 LT		82.00	0021	01
		STA. 114+07 TO STA. 114+20 LT		13.00	0021	01
		STA. 114+09 TO STA. 114+32 LT		81.00	0021	01
		STA. 115+42 TO STA. 115+47 RT		17.00	0021	01
		STA. 115+47 TO STA. 115+63		112.00	0021	01
		STA. 115+57 TO STA. 115+87 RT		102.00	0021	01
		STA. 116+48 TO STA. 116+78 LT		29.00	0021	01
		STA. 116+50 TO STA. 116+80 LT		101.00	0021	01
		STA. 116+52 TO STA. 116+82 RT		108.00	0021	01
		STA. 116+66 TO STA. 116+80 RT		15.00	0021	01
		STA. 116+78 TO STA. 116+89		126.00	0021	01
		STA. 116+92 TO STA. 116+93 LT		20.00	0021	01
		STA. 118+46 TO STA. 118+71 LT		91.00	0021	01
		STA. 119+95 TO STA. 120+11 RT		60.00	0021	01
		STA. 12+09 TO STA. 12+18 LT		23.00	0021	01
		STA. 12+20 TO STA. 12+55 RT		117.00	0021	01
		STA. 12+24 TO STA. 12+50 RT		28.00	0021	01
		STA. 12+38 TO STA. 12+64		157.00	0021	01
		STA. 12+57 TO STA. 12+60 LT		6.00	0021	01
		STA. 12+90 TO STA. 13+00 LT		21.00	0021	01
		STA. 120+94 TO STA. 121+07 LT		14.00	0021	01
		STA. 120+95 TO STA. 121+20 LT		90.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
210	T20.2412 Cont.	STA. 157+98 TO STA. 158+35 RT		122.00	0021	01
		STA. 158+16 TO STA. 158+32 RT		16.00	0021	01
		STA. 16+04 TO STA. 16+29 RT		81.00	0021	01
		STA. 16+26 TO STA. 16+37		134.00	0021	01
		STA. 16+54 TO STA. 16+65 LT		12.00	0021	01
		STA. 16+56 TO STA. 16+76 LT		70.00	0021	01
		STA. 162+04 TO STA. 162+23 LT		55.00	0021	01
		STA. 18+32 TO STA. 18+57 RT		77.00	0021	01
		STA. 20+38 TO STA. 20+48		120.00	0021	01
		STA. 23+82 TO STA. 24+10 RT		91.00	0021	01
		STA. 23+96 TO STA. 24+08 RT		13.00	0021	01
		STA. 25+08 TO STA. 25+38 LT		95.00	0021	01
		STA. 25+10 TO STA. 25+22 LT		12.00	0021	01
		STA. 25+69 TO STA. 25+97 RT		90.00	0021	01
		STA. 25+83 TO STA. 25+95 RT		12.00	0021	01
		STA. 27+61 TO STA. 27+77		132.00	0021	01
		STA. 27+80 TO STA. 28+04 RT		81.00	0021	01
		STA. 27+90 TO STA. 28+10 LT		74.00	0021	01
		STA. 27+91 TO STA. 28+12		22.00	0021	01
		STA. 28+13 TO STA. 28+28		122.00	0021	01
		STA. 29+93 TO STA. 30+18 RT		84.00	0021	01
		STA. 29+97 TO STA. 30+19 RT		24.00	0021	01
		STA. 31+40 RT		26.00	0021	01
		STA. 31+44 TO STA. 31+54		140.00	0021	01
		STA. 31+83 TO STA. 32+22 RT		129.00	0021	01
		STA. 31+95 TO STA. 32+15 LT		72.00	0021	01
		STA. 32+09 TO STA. 32+22 RT		13.00	0021	01
		STA. 32+50 TO STA. 32+62		101.00	0021	01
		STA. 32+64 TO STA. 32+66 LT		15.00	0021	01
		STA. 34+51 TO STA. 34+75 LT		76.00	0021	01
		STA. 34+52 TO STA. 34+73 LT		22.00	0021	01
		STA. 34+61 TO STA. 34+82 RT		71.00	0021	01
		STA. 37+40 TO STA. 37+64 LT		81.00	0021	01

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
210	T20.2412	Cont.				
		STA. 37+50 TO STA. 37+70	RT	66.00	0021	01
		STA. 37+60 TO STA. 37+69	RT	10.00	0021	01
		STA. 39+58 TO STA. 39+72		111.00	0021	01
		STA. 39+65 TO STA. 39+77	LT	13.00	0021	01
		STA. 39+66 TO STA. 39+90	LT	82.00	0021	01
		STA. 39+74 TO STA. 39+97	RT	81.00	0021	01
		STA. 39+86 TO STA. 39+98	RT	12.00	0021	01
		STA. 39+89 TO STA. 40+04		110.00	0021	01
		STA. 43+22 TO STA. 43+41	RT	70.00	0021	01
		STA. 45+26 TO STA. 45+27	RT	19.00	0021	01
		STA. 45+30 TO STA. 45+42		121.00	0021	01
		STA. 45+61 TO STA. 45+77	LT	16.00	0021	01
		STA. 45+62 TO STA. 45+92	RT	30.00	0021	01
		STA. 45+63 TO STA. 45+91	LT	100.00	0021	01
		STA. 45+63 TO STA. 45+91	RT	100.00	0021	01
		STA. 46+06 TO STA. 46+23		123.00	0021	01
		STA. 46+33 TO STA. 46+37	LT	19.00	0021	01
		STA. 48+10 TO STA. 48+22	LT	12.00	0021	01
		STA. 48+10 TO STA. 48+32	LT	80.00	0021	01
		STA. 48+11 TO STA. 48+33	RT	80.00	0021	01
		STA. 48+22 TO STA. 48+34	RT	12.00	0021	01
		STA. 49+35 TO STA. 49+50	RT	16.00	0021	01
		STA. 49+36 TO STA. 49+49	RT	50.00	0021	01
		STA. 50+51 TO STA. 50+62	LT	12.00	0021	01
		STA. 50+51 TO STA. 50+73	LT	80.00	0021	01
		STA. 52+82 TO STA. 52+97	RT	60.00	0021	01
		STA. 53+86 TO STA. 53+98	LT	12.00	0021	01
		STA. 53+87 TO STA. 54+11	LT	81.00	0021	01
		STA. 54+32 TO STA. 54+42		120.00	0021	01
		STA. 56+04 TO STA. 56+23	LT	70.00	0021	01
		STA. 56+52 TO STA. 56+74	RT	81.00	0021	01
		STA. 56+64 TO STA. 56+76	RT	13.00	0021	01
		STA. 57+87 TO STA. 58+12	LT	25.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
210	T20.2412	Cont. STA. 57+89 TO STA. 58+11 LT		80.00	0021	01

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
210	T20.2412	Cont.				
		STA. 59+55 TO STA. 59+77	RT	79.00	0021	01
		STA. 59+66 TO STA. 59+79	RT	13.00	0021	01
		STA. 59+76 TO STA. 59+86		126.00	0021	01
		STA. 60+23 TO STA. 60+35	LT	12.00	0021	01
		STA. 60+24 TO STA. 60+46	LT	80.00	0021	01
		STA. 65+22 TO STA. 65+34	LT	12.00	0021	01
		STA. 65+22 TO STA. 65+45	RT	84.00	0021	01
		STA. 65+23 TO STA. 65+46	LT	80.00	0021	01
		STA. 65+34 TO STA. 65+46	RT	13.00	0021	01
		STA. 67+61 TO STA. 67+73	LT	13.00	0021	01
		STA. 67+62 TO STA. 67+84	LT	83.00	0021	01
		STA. 73+71 TO STA. 77+72	RT	19.00	0021	01
		STA. 73+82 TO STA. 73+96		121.00	0021	01
		STA. 74+08 TO STA. 74+20	LT	12.00	0021	01
		STA. 74+09 TO STA. 74+31	LT	80.00	0021	01
		STA. 74+15 TO STA. 74+37	RT	81.00	0021	01
		STA. 74+28 TO STA. 74+40	RT	12.00	0021	01
		STA. 74+47 TO STA. 74+69		127.00	0021	01
		STA. 74+61 TO STA. 74+68	LT	20.00	0021	01
		STA. 76+89 TO STA. 77+19	LT	31.00	0021	01
		STA. 76+90 TO STA. 77+19	LT	101.00	0021	01
		STA. 78+84 TO STA. 79+09	RT	91.00	0021	01
		STA. 78+96 TO STA. 79+08	RT	14.00	0021	01
		STA. 80+09 TO STA. 81+14	LT	19.00	0021	01
		STA. 80+48	RT	19.00	0021	01
		STA. 80+58 TO STA. 80+86	RT	102.00	0021	01
		STA. 80+72 TO STA. 80+84	RT	13.00	0021	01
		STA. 80+95 TO STA. 81+13		114.00	0021	01
		STA. 82+19 TO STA. 82+35	LT	15.00	0021	01
		STA. 82+19 TO STA. 82+51	LT	112.00	0021	01
		STA. 87+44 TO STA. 87+69	LT	91.00	0021	01
		STA. 87+46 TO STA. 87+58	LT	14.00	0021	01
		STA. 87+67 TO STA. 87+78		121.00	0021	01



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
210	T20.2412	Cont.	STA. 88+92 TO STA. 89+46 RT	53.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
210	T20.2412 Cont.	STA. 89+06 TO STA. 89+35 RT		29.00	0021	01
		STA. 89+21 TO STA. 89+34 RT		14.00	0021	01
		STA. 90+05 TO STA. 90+37 LT		32.00	0021	01
		STA. 90+08 TO STA. 90+36 LT		28.00	0021	01
		STA. 90+09 TO STA. 90+22 LT		14.00	0021	01
		STA. 90+32 TO STA. 90+45		36.00	0021	01
		STA. 90+44 TO STA. 90+56		36.00	0021	01
		STA. 94+28 TO STA. 94+40 LT		12.00	0021	01
		STA. 94+29 TO STA. 94+51 LT		80.00	0021	01
		STA. 94+31 TO STA. 94+59 RT		94.00	0021	01
		STA. 94+42 TO STA. 94+54 RT		13.00	0021	01
		STA. 98+25 TO STA. 98+41 RT		60.00	0021	01
		STA. 98+33 TO STA. 98+43 RT		10.00	0021	01
<b>Item T20.2412 Total:</b>				<b>11,265.00</b>		
211	T20.2804	<b>4 INCH YELLOW FINAL EPOXY RESIN</b>	<b>LF</b>			
		<b>PAVEMENT MARKINGS</b>				
		BROAD STREET				
		STA. 100+96 TO STA. 103+24		457.00	0021	01
		STA. 103+69 TO STA. 106+27		516.00	0021	01
		STA. 106+77 TO STA. 110+34		713.00	0021	01
		STA. 11+56 TO STA. 11+75 LT		101.00	0021	01
		STA. 11+59 TO STA. 11+81 LT		106.00	0021	01
		STA. 11+81 TO STA. 11+87 LT			0021	01
		STA. 11+86 TO STA. 11+92 LT			0021	01
		STA. 110+64 TO STA. 110+83		38.00	0021	01
		STA. 110+93 TO STA. 112+65		344.00	0021	01
		STA. 112+94 TO STA. 114+03		218.00	0021	01
		STA. 114+38 TO STA. 115+47		217.00	0021	01
		STA. 115+97 TO STA. 116+38		81.00	0021	01
		STA. 116+76 LT		16.00	0021	01
		STA. 116+93 TO STA. 118+34		283.00	0021	01
		STA. 118+77 TO STA. 119+92		230.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
211	T20.2804 Cont.	STA. 12+14 TO STA. 12+71 RT		260.00	0021	01
		STA. 12+25 TO STA. 12+72 RT		258.00	0021	01
		STA. 12+88 TO STA. 15+95		615.00	0021	01
		STA. 120+14 TO STA. 120+84		139.00	0021	01
		STA. 121+38 TO STA. 121+94		112.00	0021	01
		STA. 122+22 TO STA. 124+31		418.00	0021	01
		STA. 124+64 TO STA. 126+71		415.00	0021	01
		STA. 127+07 TO STA. 127+79		143.00	0021	01
		STA. 128+90 TO STA. 129+68		156.00	0021	01
		STA. 130+04 TO STA. 134+03		1,008.00	0021	01
		STA. 134+26 TO STA. 134+33 RT		102.00	0021	01
		STA. 134+67 TO STA. 136+58		383.00	0021	01
		STA. 137+02 TO STA. 139+07		411.00	0021	01
		STA. 139+53 TO STA. 141+89		473.00	0021	01
		STA. 142+27 TO STA. 142+63		147.00	0021	01
		STA. 142+88 TO STA. 144+88		686.00	0021	01
		STA. 146+02 TO STA. 146+48		92.00	0021	01
		STA. 146+99 TO STA. 147+03 LT		100.00	0021	01
		STA. 147+34 TO STA. 149+10		714.00	0021	01
		STA. 149+55 TO STA. 149+78 RT		197.00	0021	01
		STA. 150+23 TO STA. 157+90		1,535.00	0021	01
		STA. 158+43 TO STA. 161+97		708.00	0021	01
		STA. 16+36 TO STA. 16+52		32.00	0021	01
		STA. 16+64 TO STA. 16+65 LT		10.00	0021	01
		STA. 16+87 TO STA. 18+25		275.00	0021	01
		STA. 162+30 TO STA. 164+47		434.00	0021	01
		STA. 18+64 TO STA. 20+38		348.00	0021	01
		STA. 20+48 TO STA. 20+57		20.00	0021	01
		STA. 23+34 TO STA. 24+97		326.00	0021	01
		STA. 25+00 TO STA. 25+22 LT		100.00	0021	01
		STA. 25+47 TO STA. 27+64		435.00	0021	01
		STA. 28+25 TO STA. 29+82		314.00	0021	01
		STA. 30+27 TO STA. 31+40		227.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
211	T20.2804	Cont. STA. 31+57 TO STA. 32+47		48.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
211	T20.2804	Cont.				
		STA. 32+65 TO STA. 34+43		356.00	0021	01
		STA. 34+90 TO STA. 37+32		483.00	0021	01
		STA. 37+76 TO STA. 39+60		369.00	0021	01
		STA. 40+07 TO STA. 43+11		608.00	0021	01
		STA. 43+53 TO STA. 45+27		349.00	0021	01
		STA. 45+77 TO STA. 45+78 LT		100.00	0021	01
		STA. 46+37 TO STA. 48+05		336.00	0021	01
		STA. 48+39 TO STA. 49+30		182.00	0021	01
		STA. 49+55 TO STA. 50+45		180.00	0021	01
		STA. 50+79 TO STA. 52+75		393.00	0021	01
		STA. 53+04 TO STA. 53+79		150.00	0021	01
		STA. 54+20 TO STA. 54+32		25.00	0021	01
		STA. 54+42 TO STA. 55+94		304.00	0021	01
		STA. 56+33 TO STA. 56+47		29.00	0021	01
		STA. 56+80 TO STA. 57+83		205.00	0021	01
		STA. 58+17 TO STA. 59+47		260.00	0021	01
		STA. 59+87 TO STA. 65+14		1,055.00	0021	01
		STA. 65+56 TO STA. 67+56		400.00	0021	01
		STA. 67+90 TO STA. 73+73		1,165.00	0021	01
		STA. 74+68 TO STA. 78+76		817.00	0021	01
		STA. 79+17 TO STA. 80+48		263.00	0021	01
		STA. 80+68 TO STA. 80+72 RT		28.00	0021	01
		STA. 81+14 TO STA. 87+38		1,248.00	0021	01
		STA. 87+58 LT		18.00	0021	01
		STA. 87+77 TO STA. 88+92		230.00	0021	01
		STA. 89+50 TO STA. 90+03		108.00	0021	01
		STA. 90+21 LT		16.00	0021	01
		STA. 90+50 TO STA. 94+26		752.00	0021	01
		STA. 94+57 TO STA. 98+21		728.00	0021	01
		STA. 98+46 TO STA. 100+67		442.00	0021	01
<b>Item T20.2804 Total:</b>				<b>26,560.00</b>		

212 T20.2812 12 INCH YELLOW FINAL EPOXY RESIN LF

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
212	T20.2812	Cont. PAVEMENT MARKINGS				
		BROAD STREET				
		STA. 133+15 TO STA. 134+02		40.00	0021	01
		STA. 142+30 TO STA. 142+60		10.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
214	T20.3405	Cont. STA. 10+98 LT		1.00	0021	01

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
214	T20.3405	Cont.	STA. 12+19 LT	1.00	0021	01
<b>Item T20.3405 Total:</b>				<b>2.00</b>		
215	T20.3416	<b>FINAL EPOXY RESIN PAVEMENT MARKING EACH</b>				
		<b>SYMBOL SET - BIKE LANE (HELMETED BICYCLIST AND ARROW)</b>				
		BROAD STREET				
		STA. 11+76 LT		1.00	0021	01
		STA. 12+02 LT		1.00	0021	01
		STA. 12+63 LT		1.00	0021	01
		STA. 12+87 LT		1.00	0021	01
		STA. 13+00 RT		1.00	0021	01
		STA. 14+06 LT		1.00	0021	01
		STA. 15+03 RT		1.00	0021	01
		STA. 16+06 LT		1.00	0021	01
		STA. 16+56 RT		1.00	0021	01
		STA. 17+98 LT		1.00	0021	01
		STA. 19+18 RT		1.00	0021	01
		STA. 19+98 LT		1.00	0021	01
		STA. 60+50 RT		1.00	0021	01
		STA. 60+80 LT		1.00	0021	01
		STA. 62+84 LT		1.00	0021	01
		STA. 63+06 RT		1.00	0021	01
		STA. 64+89 RT		1.00	0021	01
		STA. 64+96 LT		1.00	0021	01
		STA. 66+61 RT		1.00	0021	01
		STA. 67+38 LT		1.00	0021	01
		STA. 68+11 RT		1.00	0021	01
		STA. 69+35 LT		1.00	0021	01
		STA. 69+74 RT		1.00	0021	01
		STA. 71+07 LT		1.00	0021	01
		STA. 71+74 RT		1.00	0021	01
		STA. 73+55 RT		1.00	0021	01



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
215	T20.3416	Cont.				
		STA. 73+65	LT	1.00	0021	01
		STA. 74+90	RT	1.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
215	T20.3416	Cont.				
		STA. 76+63 LT		1.00	0021	01
		STA. 77+09 RT		1.00	0021	01
		STA. 78+68 LT		1.00	0021	01
		STA. 79+35 RT		1.00	0021	01
		STA. 80+30 LT		1.00	0021	01
		STA. 80+43 RT		1.00	0021	01
		STA. 81+35 RT		1.00	0021	01
		STA. 81+91 LT		1.00	0021	01
		STA. 83+38 RT		1.00	0021	01
		STA. 83+81 RT		1.00	0021	01
		STA. 85+39 RT		1.00	0021	01
		STA. 85+83 LT		1.00	0021	01
		STA. 87+16 LT		1.00	0021	01
		STA. 87+41 RT		1.00	0021	01
<b>Item T20.3416 Total:</b>				<b>42.00</b>		
216	T20.3418	<b>FINAL EPOXY RESIN PAVEMENT MARKING EACH</b>				
		<b>SYMBOL SET - BICYCLE DETECTOR</b>				
		BROAD STREET				
		STA. 80+81 RT		1.00	0021	01
<b>Item T20.3418 Total:</b>				<b>1.00</b>		
217	T20.9901	<b>24 INCH EPOXY RESIN PAVEMENT</b>	<b>LF</b>			
		<b>MARKINGS GREEN</b>				
		BROAD STREET				
		STA. 15+99 TO STA. 16+25 RT		12.00	0021	01
		STA. 16+40 TO STA. 16+82 LT		18.00	0021	01
		STA. 18+30 TO STA. 18+56 RT		12.00	0021	01
		STA. 60+22 TO STA. 60+48 LT		20.00	0021	01
		STA. 65+17 TO STA. 65+51 LT		20.00	0021	01
		STA. 65+18 TO STA. 65+52 RT		20.00	0021	01
		STA. 67+60 TO STA. 67+86 LT		16.00	0021	01
		STA. 74+05 TO STA. 74+39 LT		20.00	0021	01

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
225	410.9901	<b>SEWER MANHOLE PAVEMENT PATCH (SMPP)</b>	<b>EACH</b>			
		VOLUME 3- MENDON ROAD				
		GP 31		1.00	0004	03
		GP 47		2.00	0004	03
		GP 48		2.00	0004	03
		GP 49		2.00	0004	03
		GP 50		2.00	0004	03
		GP 51		1.00	0004	03
		GP 52		1.00	0004	03
<b>Item 410.9901 Total:</b>				<b>11.00</b>		
226	702.0510	<b>HEAVY-DUTY SQUARE FRAME AND ROUND</b>	<b>EACH</b>			
		<b>COVER STANDARD 6.1.1</b>				
		BROAD ST				
		STA. 87+98 LT		1.00	0004	02
		VOLUME 3- MENDON ROAD				
		GP 52		2.00	0004	03
		GP 6		2.00	0004	03
<b>Item 702.0510 Total:</b>				<b>5.00</b>		
227	702.0517	<b>FRAME AND GRATE, STANDARD 6.3.2</b>	<b>EACH</b>			
		VOLUME 3- MENDON ROAD				
		GP 12		3.00	0004	03
		GP 25		7.00	0004	03
		GP 26		4.00	0004	03
		GP 37		2.00	0004	03
		GP 4		1.00	0004	03
		GP 40		4.00	0004	03
		GP 51		2.00	0004	03
		GP 6		1.00	0004	03
<b>Item 702.0517 Total:</b>				<b>24.00</b>		
228	702.0531	<b>PRECAST CONCRETE INLET STONE 38''</b>	<b>EACH</b>			

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

<b>Item No.</b>	<b>Item Code</b>	<b>Description</b>	<b>UM</b>	<b>Qty.</b>	<b>Pay Code</b>	<b>Seq. No.</b>
228	702.0531	Cont. STANDARD 7.1.6				

VOLUME 3- MENDON ROAD

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
250	906.0261	Cont.				
		GP 51 (SHELTER LANE DETAIL)		2.00	0004	03
		GP 53 (SHOPPING CENTER DETAIL)		1.00	0004	03
		GP 56 (BILTMORE AVE DETAIL)		1.00	0004	03
<b>Item 906.0261 Total:</b>				<b>7.00</b>		
251	906.0280	3' PRECAST CONCRETE TRANSITION CURB STANDARD 7.1.1 VOLUME 3- MENDON ROAD	EACH			
		GP 15		1.00	0004	03
		GP 53 (SHOPPING DETAIL)		2.00	0004	03
<b>Item 906.0280 Total:</b>				<b>3.00</b>		
252	917.0105	REMOVE AND REPLACE RURAL MAILBOX POST WITH STANDARD 15.1.0 VOLUME 3- MENDON ROAD	EACH			
		GP 44		1.00	0004	03
<b>Item 917.0105 Total:</b>				<b>1.00</b>		
253	923.0105	DRUM BARRICADE STANDARD 26.2.0 VOLUME 3- MENDON ROAD	BDAY			
		DRAINAGE		3,400.00	0004	03
		SEWER MANHOLES		600.00	0004	04
<b>Item 923.0105 Total:</b>				<b>4,000.00</b>		
254	925.0112	PORTABLE CHANGEABLE MESSAGE SIGN VOLUME 3- MENDON ROAD	PDAY			
		DRAINAGE/SIDEWALK		150.00	0004	03
		SEWER MANHOLES		40.00	0004	04
<b>Item 925.0112 Total:</b>				<b>190.00</b>		
255	701.0430	REINFORCED CONCRETE PIPE M 170 CLASS III 30 INCH	LF			

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
255	701.0430	Cont. BROAD ST.				
		STA. 100+48 LT TO STA. 101+49 LT		96.00	0004	02
		STA. 101+49 LT TO STA. 102+49 LT		95.00	0004	02
		STA. 102+49 LT TO STA. 104+20 LT		167.00	0004	02
		STA. 95+00 LT TO STA. 95+55 LT		51.00	0004	02
		STA. 95+55 LT TO STA. 95+64 LT		5.00	0004	02
		STA. 95+64 LT TO STA. 95+90 LT		22.00	0004	02
		STA. 95+90 LT TO STA. 96+50 LT		55.00	0004	02
		STA. 96+50 LT TO STA. 97+25 LT		70.00	0004	02
		STA. 97+25 LT TO STA. 98+09 LT		79.00	0004	02
		STA. 98+09 LT TO STA. 99+15 LT		101.00	0004	02
		STA. 99+15 LT TO STA. 99+75 LT		55.00	0004	02
		STA. 99+75 LT TO STA. 100+48 LT		68.00	0004	02
<b>Item 701.0430 Total:</b>				<b>864.00</b>		
256	701.0436	REINFORCED CONCRETE PIPE M 170 CLASS III 36 INCH BROAD ST	LF			
		STA. 88+29 LT TO STA. 89+05 RT		71.00	0004	02
		STA. 89+20 RT TO STA. 89+64		39.00	0004	02

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
256	701.0436	Cont.				
		RT				
		STA. 89+64 RT TO STA. 89+95		27.00	0004	02
		LT				
		STA. 89+95 LT TO STA. 90+70		70.00	0004	02
		LT				
		STA. 90+70 LT TO STA. 91+65		90.00	0004	02
		RT				
		STA. 91+65 RT TO STA. 92+49		79.00	0004	02
		RT				
		STA. 92+49 RT TO STA. 93+24		71.00	0004	02
		LT				
		STA. 93+24 LT TO STA. 93+96		68.00	0004	02
		LT				
		STA. 93+96 LT TO STA. 94+17		16.00	0004	02
		LT				
		STA. 94+17 LT TO STA. 94+51		29.00	0004	02
		LT				
		STA. 94+51 LT TO STA. 95+00		44.00	0004	02
		LT				
<b>Item 701.0436 Total:</b>				<b>604.00</b>		
257	701.0612	<b>REINFORCED CONCRETE PIPE M 170</b>	<b>LF</b>			
		<b>CLASS V 12 INCH</b>				
		BROAD ST				
		STA. 101+49 LT TO STA.		16.00	0004	02
		101+50 RT				
		STA. 102+49 LT TO STA.		15.00	0004	02
		102+50 RT				
		STA. 88+91 RT TO STA. 89+05		11.00	0004	02
		RT				
		STA. 89+05 RT TO STA. 89+05		7.00	0004	02
		RT				
		STA. 89+05 RT TO STA. 89+08		11.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
257	701.0612	Cont.				
		RT				
		STA. 89+95 LT TO STA. 90+00		17.00	0004	02
		RT				
		STA. 90+70 LT TO STA. 90+75		17.00	0004	02
		RT				
		STA. 91+65 LT TO STA. 91+69		8.00	0004	02
		RT				
		STA. 92+49 LT TO STA. 92+50		6.00	0004	02
		RT				
		STA. 93+24 LT TO STA. 93+25		16.00	0004	02
		RT				
		STA. 95+00 LT TO STA. 95+01		16.00	0004	02
		RT				
		STA. 96+50 LT TO STA. 96+51		16.00	0004	02
		RT				
		STA. 97+25 LT TO STA. 97+26		17.00	0004	02
		RT				
		STA. 98+09 LT TO STA. 98+10		16.00	0004	02
		RT				
		STA. 99+75 LT TO STA. 99+76		16.00	0004	02
		RT				
<b>Item 701.0612 Total:</b>				<b>205.00</b>		
258	701.0624	<b>REINFORCED CONCRETE PIPE M 170</b>	<b>LF</b>			
		<b>CLASS V 24 INCH</b>				
		BROAD ST				
		STA. 87+98 LT TO STA. 88+00		13.00	0004	02
		RT				
<b>Item 701.0624 Total:</b>				<b>13.00</b>		
259	701.5406	<b>6 INCH DUCTILE IRON WATER PIPE</b>	<b>LF</b>			
		<b>CLASS 52, MECHANICAL JOINT</b>				
		BROAD ST				



**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
259	701.5406	Cont.				
		STA. 100+88 LT TO STA. 100+90 RT		25.00	0004	02
		STA. 90+18 LT TO STA. 90+18 RT		25.00	0004	02
		STA. 94+44 LT TO STA. 94+45 RT		28.00	0004	02
<b>Item 701.5406 Total:</b>				<b>78.00</b>		
260	701.5408	<b>8 INCH DUCTILE IRON WATER PIPE</b>	<b>LF</b>			
		<b>CLASS 52, MECHANICAL JOINT</b>				
		BROAD ST				
		STA. 103+52 LT TO STA. 103+52 RT		20.00	0004	02
		STA. 106+63 LT TO STA. 106+63 RT		20.00	0004	02
<b>Item 701.5408 Total:</b>				<b>40.00</b>		
261	701.6036	<b>36 INCH DUCTILE IRON SEWER SAFE</b>	<b>LF</b>			
		<b>PIPE CLASS 52</b>				
		BROAD ST				
		STA. 87+98 LT TO STA. 88+29 LT		26.00	0004	02
		STA. 89+05 RT TO STA. 89+20 RT		10.00	0004	02
<b>Item 701.6036 Total:</b>				<b>36.00</b>		
262	701.8100	<b>FURNISH AND INSTALL DUCTILE IRON</b>	<b>LBS</b>			
		<b>FITTINGS</b>				
		BROAD ST				
		STA. 100+88 LT TO STA. 100+90 RT		300.00	0004	02
		STA. 103+52 LT TO STA. 103+52 RT		450.00	0004	02

**Distribution of Quantities**

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
262	701.8100	Cont.				
		STA. 106+63 LT TO STA. 106+63 RT		450.00	0004	02
		STA. 90+18 LT TO STA. 90+18 RT		300.00	0004	02
		STA. 94+44 LT TO STA. 94+45 RT		300.00	0004	02
<b>Item 701.8100 Total:</b>				<b>1,800.00</b>		
263	701.8150	<b>TYPE K COPPER SERVICE PIPE</b>	<b>LF</b>			
		BROAD ST AS NEEDED		600.00	0004	02
<b>Item 701.8150 Total:</b>				<b>600.00</b>		
264	701.9001	<b>CONDUCT LEAKAGE TEST</b>	<b>EACH</b>			
		BROAD ST STA. 100+88 LT TO STA. 100+90 RT		1.00	0004	02
		STA. 103+52 LT TO STA. 103+52 RT		1.00	0004	02
		STA. 106+63 LT TO STA. 106+63 RT		1.00	0004	02
		STA. 90+18 LT TO STA. 90+18 RT		1.00	0004	02
		STA. 94+44 LT TO STA. 94+45 RT		1.00	0004	02
<b>Item 701.9001 Total:</b>				<b>5.00</b>		
265	701.9002	<b>STERILIZATION OF WATER MAINS</b>	<b>LS</b>			
		BROAD ST PROJECT WIDE		1.00	0004	02
<b>Item 701.9002 Total:</b>				<b>1.00</b>		
266	702.0210	<b>SOLID BLOCK SHALLOW 4'-0" ROUND</b>	<b>EACH</b>			

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
266	702.0210	Cont. MANHOLE STANDARD 3.2.2				
		BROAD ST				
		STA. 105+99 LT		1.00	0004	02
		STA. 108+50 RT		1.00	0004	02
		STA. 110+29 RT		1.00	0004	02
		STA. 113+24 LT		1.00	0004	02
<b>Item 702.0210 Total:</b>				<b>4.00</b>		
267	702.0625	PRECAST CATCH BASIN 6' SQUARE STANDARD 4.3.0	EACH			
		BROAD ST				
		STA. 87+98 LT		1.00	0004	02
<b>Item 702.0625 Total:</b>				<b>1.00</b>		
268	702.0635	PRECAST MANHOLE 5' DIAMETER STANDARD 4.2.1	EACH			
		BROAD ST				
		STA. 88+29 LT		1.00	0004	02
		STA. 89+20 RT		1.00	0004	02
		STA. 92+49 RT		1.00	0004	02
		STA. 94+51 LT		1.00	0004	02
		STA. 98+09 LT		1.00	0004	02
<b>Item 702.0635 Total:</b>				<b>5.00</b>		
269	702.0800	CONCRETE COVER SHALLOW 4'-0" ROUND MANHOLES STANDARD 4.6.0	EACH			
		BROAD ST				
		STA. 105+99 LT		1.00	0004	02
		STA. 108+50 RT		1.00	0004	02
		STA. 110+29 RT		1.00	0004	02
		STA. 113+24 LT		1.00	0004	02
<b>Item 702.0800 Total:</b>				<b>4.00</b>		

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
270	702.0825	TOP COVER 6'-0" SQUARE CATCH BASINS AND MANHOLES STANDARD 4.7.0 BROAD ST STA. 87+98 LT	EACH	1.00	0004	02
<b>Item 702.0825 Total:</b>				<b>1.00</b>		
271	T04.9904	CATEGORY 6 ETHERNET CABLE BROAD STREET AT EXCHANGE STREET AS SHOWN ON PLANS BROAD STREET AT HUNT STREET AS SHOWN ON PLANS	LF	190.00	0021	01
<b>Item T04.9904 Total:</b>				<b>365.00</b>		
272	T11.9914	TRAFFIC SIGNAL STANDARD, 4 FOOT - 4 INCH, STD. 19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION BROAD STREET AT HIGH STREET SE CORNER	EACH	1.00	0021	01
<b>Item T11.9914 Total:</b>				<b>1.00</b>		
273	T11.9915	TRAFFIC SIGNAL STANDARD, 18 FOOT, STD. 19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION BROAD STREET AT ANN & HOPE WAY SE CORNER	EACH	1.00	0021	01
<b>Item T11.9915 Total:</b>				<b>1.00</b>		
274	T11.9916	TRAFFIC SIGNAL STANDARD, 8 FOOT, STD. 19.4.0 ALUMINUM PEDESTAL POLE ON EXISTING FOUNDATION BROAD STREET AT CROSS STREET SW CORNER	EACH	1.00	0021	01
<b>Item T11.9916 Total:</b>				<b>1.00</b>		

### Distribution of Quantities

Project Name - Broad St Regeneration

Estimate Name - Addendum No. 2

R.I. Contract No. - 2019-CH-026

FAP Nos: 3RD-PRTY(254), REV-MEND(001), STP-0114(026), STPG-HSIP(068)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
275	T11.9917	DUAL MAST ARM (30X50) GALVANIZED STEEL TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 BROAD STREET AT EXCHANGE STREET/GOFF AVENUE EASTERN SIDE	EACH	1.00	0021	01
<b>Item T11.9917 Total:</b>				<b>1.00</b>		
276	T12.9905	INTERSECTION WIDE 360 DEGREE VIDEO DETECTION SYSTEM BROAD STREET AT EXCHANGE STREET/GOFF AVENUE AT CABINET BROAD STREET AT HUNT STREET AT CABINET	EACH	1.00	0021	01
<b>Item T12.9905 Total:</b>				<b>2.00</b>		
277	T20.1410	WATERBORNE PAINT PAVEMENT MARKING WORD ("ONLY", "STOP", "YIELD", "AHEAD", "XING", "SCHOOL", OR OTHER) STANDARD 20.1.0 BROAD STREET ON FINAL PAVED SURFACES ON MICRO MILLED SURFACES	EACH	2.00	0021	01
<b>Item T20.1410 Total:</b>				<b>4.00</b>		
278	T20.3410	FINAL EPOXY RESIN PAVEMENT MARKING WORD ("ONLY", "STOP", "YIELD", "AHEAD", "XING", "SCHOOL", OR OTHER) STANDARD 20.1.0 BROAD STREET STA. 10+38 RT	EACH	2.00	0021	01
<b>Item T20.3410 Total:</b>				<b>2.00</b>		

## GENERAL PROVISIONS – CONTRACT SPECIFIC

### INDEX

Paragraph	Title	Page
1.	BRIEF SCOPE OF WORK	CS-1
2.	LIST OF CONTRACT DOCUMENTS	CS-1
3.	UTILITY AND MUNICIPAL NOTIFICATION AND COORDINATION	CS-2
4.	COORDINATION WITH OTHER CONTRACTS	CS-4
5.	SPECIALTY ITEMS	CS-4
6.	NOTICE TO CONTRACTORS	CS-4
7.	SEQUENCE OF CONSTRUCTION AND SCHEDULE	CS-5
8.	SOIL EROSION AND SEDIMENT CONTROL PLAN	CS-7
9.	ENVIRONMENTAL PERMITS	CS-7

APPENDIX A – NATIONAL GRID GUIDELINES FOR WORKING AROUND GAS

APPENDIX B – PRELIMINARY CONTRACT SUBMITTAL LIST

APPENDIX C – TRANSPORTATION MANAGEMENT PLAN

APPENDIX D – SOIL EROSION AND SEDIMENT CONTROL PLAN

APPENDIX E – RIPDES GENERAL PERMIT (TO BE INCLUDED UPON APPROVAL)

APPENDIX F – STRUCTURAL DISPOSITION LIST

APPENDIX G – REMEDIAL ACTION WORK PLAN

- f. National Grid will purge the old gas main of gas, wipe test sample the inside of the pipe, cap the ends and abandon in place. If the wipe test results show PCB contamination and a section or sections need to be removed by the Contractor, then it will be the responsibility of and cost to the Contractor to hire Clean Harbors to provide and open top container to accept the removed sections of pipe, arrange to have the pipe cleaned to meet environmental requirements, and to dispose of the pipe sections as scrap metal. National Grid also requires that the open pipe ends of the abandoned pipe remaining in the ground be sealed or capped.

#### 4. COORDINATION WITH OTHER CONTRACTS

It shall be the Contractor's responsibility to coordinate, cooperate and schedule his work and all segments thereof with the Engineer, other contractors, utility owners, and applicable local authorities, so as to minimize impacts to the construction schedule.

The Contractor is hereby notified that the construction contracts listed below will be ongoing simultaneously with his contract and he shall be responsible to coordinate his work efforts with those Contractors.

- Barton Street Bridge Replacement Project (Design RIC #2016-EB-025D)
- Pawtucket Station Project (RIC #2018-DB-010)

#### 5. SPECIALTY ITEMS

Specialty Items in this Contract are as follows:

- Traffic Signal Systems
- Directional, Regulatory, Warning, Delineators and Street Signs (Except temporary construction signs)
- Striping
- Seeding Items

#### 6. NOTICE TO CONTRACTORS

##### A. Standard Specifications

The reference "Standard Specifications" as written in the General Provisions – Contract Specific and the Job Specific Specifications shall mean the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction Amended March 2018, including Compilation of Approved Specifications Dated September 2018 and June 2019.

##### B. Contract Submittal List (CSL)

The Contract Submittal List (CSL) shall be a table listing shop drawings and submittals required for the Contract, some of which are critical to the commencement of construction. A preliminary CSL is included in Appendix B. Shop drawings and submittals are required for, but not limited to, the items included in the CSL.

##### C. Plans and Shop Drawings

The Contractor shall note specification "105.02 Plans and Shop Drawings". The Contractor shall submit Shop Drawings electronically directly to the Consulting Engineer (VHB, 1 Cedar Street, Suite

400, Providence, RI 02903, Attn: James Pisano, P.E. [jpisano@vhb.com](mailto:jpisano@vhb.com)) simultaneously with each of the official submittals to the State.

D. Use of Explosives

The Contractor is NOT allowed to use explosives on this project.

E. Unit Bid Item and Lump sum Bid Item Payments

For requirements and work described in the Contract Documents but not expressly identified to be measured separately for payment, the costs thereof shall be included in the contract bid prices of the items of work to which they pertain as listed in the Proposal.

F. Mobilization and Demobilization

To clarify Section 936 Mobilization and Demobilization, the RIDOT will not withhold retainage in accordance with Section 109.06 Payment for Work of the Standard Specifications.

G. Dust Control

The Contractor is prohibited from using calcium chloride as dust control. The Contractor shall only use water to control dust.

H. Storage of Construction Material and/or Equipment

The Contractor shall place all equipment and material in his/her field yard or on site in a location approved by the Engineer.

Stockpiles shall be covered and must be located outside any areas of RIDEM jurisdiction including but not limited to wetlands and their associated buffers. Any storage or stockpile of construction material and/or equipment on private property will be the Contractor's responsibility.

There shall be no storage of construction equipment and/or parking of vehicles under the drip lines of any trees.

I. Right-of-Way

The Contractor shall be aware that the right of occupancy and/or use for Assessor's Plat 2942 in the City of Pawtucket, Plat 2943 in the City of Central Falls, and Plat 2944 in Town of Cumberland have not yet been obtained. These parcels are affected by two-hundred twenty-four (224) temporary easements and are located along Broad Street at the intersections of Exchange Street and Goff Street in Pawtucket through the intersection of Mendon Road in Cumberland. The contract will not be awarded and notice to proceed issued until the Department has full legal access to areas needed for construction. Arrangements have been made to have all Right-of-Way (ROW) physically available on or before December 31, 2019.

## 7. SEQUENCE OF CONSTRUCTION AND SCHEDULE

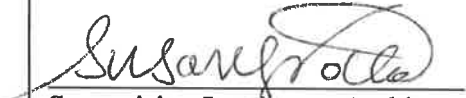
General Stipulations: The Contractor shall adhere to the following requirements:



Appendix F  
Structural Disposition List

9/24/2019

Broad Street Regeneration  
 Pawtucket/Central Falls/Cumberland, Rhode Island  
 RI Design Contract No. 2016-EH-052  
 RI Construction Contract No. 2019-CH-026  
 RI Federal Aid-Project No. STP-0114(026), STPG-HSIP(068)

Approved  Supervising Landscape Architect
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Right-of-Way  
 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-1-1	Sta. 12+87, 47' Rt to Sta. 13+73, 24' Rt	Masonry Wall	Encroachment/ Property Improvement	Existing to Remain		
SD-1-2	Sta. 13+96, 25' Rt to Sta. 14+16, 25' Rt	Masonry Wall	Encroachment/ Property Improvement	Existing to Remain		
SD-1-3	Sta. 14+60, 35' Lt to Sta. 14+72, 45' Lt	Planter - Mulch - Tree - Concrete Curb	Property Improvement	Remove and Replace Existing to Remain Remove and Reset		
SD-1-4	Sta. 15+07. 45' Lt to Sta. 15+19, 35' Lt	Planter - Mulch - Bush - Private Sign - Light Pole - Concrete Curb	Property Improvement	Remove and Replace Existing to Remain Existing to Remain Existing to Remain Remove and Reset		
SD-2-1	Sta. 17+44, 25' Rt	Sign & Post	Encroachment / Property Improvement	Existing to Remain		

9/24/2019

Broad Street Regeneration  
Pawtucket/Central Falls/Cumberland, Rhode Island  
RI Design Contract No. 2016-EH-052  
RI Construction Contract No. 2019-CH-026  
RI Federal Aid-Project No. STP-0114(026), STPG-HSIP(068)

Approved

Supervising Landscape Architect

Right-of-Way  
Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
					Replacement Material Size	Value (each)
SD-2-2	Sta. 17+77, 25' Rt	Steel Post	Property Improvement	Existing to Remain		
SD-2-3	Sta. 17+00, 41' Lt	Raised Planter with Flag Pole	Property Improvement	Existing to Remain		
SD-2-4	Sta. 18+68, 29' Rt	Private Sign with Three (3) Posts	Property Improvement	Existing to Remain		
SD-2-5	Sta. 20+34, 35' Rt	Post with Chain	Property Improvement	Existing to Remain		
SD-3-1	Sta. 23+66, 36' Rt	Tree	Property Improvement	Existing to Remain		
SD-3-2	Sta. 23+83, 30' Rt	Post	Property Improvement	Existing to Remain		
SD-3-3	Sta. 23+83, 30' Rt and Sta. 24+08, 30' Rt	Concrete Curb	Property Improvement	Remove and Replace		

9/24/2019

Broad Street Regeneration  
Pawtucket/Central Falls/Cumberland, Rhode Island  
RI Design Contract No. 2016-EH-052  
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Approved

Supervising Landscape Architect

Right-of-Way  
Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
					Replacement Material Size	Value (each)
SD-3-4	Sta. 24+08, 34' Rt to Sta. 25+52, 27' Rt	Planter - Mulch - Two (2) Signs - Bushes	Property Improvement	Remove and Replace Existing to Remain Existing to Remain		
SD-3-5	Sta. 24+93, 26' Lt to Sta. 25+02, 39' Lt	Fence	Property Improvement	Existing to Remain		
SD-3-6	Sta. 25+01, 29' Lt	Planter - Bush - Mulch	Property Improvement	Existing to Remain Existing to Remain		
SD-3-7	Sta. 25+57, 36' Rt to Sta. 25+68, 39' Rt	Ten (10) Bollards	Property Improvement	Existing to Remain		
SD-3-8	Sta. 25+97, 30' Rt	Sign & Post	Property Improvement	Existing to Remain		
SD-3-9	Sta. 25+73, 29' Lt and Sta. 25+73, 38' Lt	Two (2) Car Stops	Property Improvement	Remove and Reset		
SD-3-10	Sta. 26+57, 27' Lt to Sta. 27+20, 27' Lt	Fence with Concrete Edging	Property Improvement	Existing to Remain		
SD-4-1	Sta. 27+23, 27' Lt to Sta. 27+82, 27' Lt	Steel Posts w/Chain Fence	Property Improvement	Existing to Remain		

9/24/2019

Broad Street Regeneration  
Pawtucket/Central Falls/Cumberland, Rhode Island  
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Approved

Supervising Landscape Architect

Right-of-Way  
Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
					Replacement Material Size	Value (each)
SD-4-2	Sta. 27+82, 30' Lt	Sign & Post	Encroachment/ Property Improvement	Existing to Remain		
SD-4-3	Sta. 27+62, 30' Rt, Sta. 27+68, 29' Rt, Sta. 27+68, 35' Rt, Sta. 27+68, 41' Rt	Four (4) Bollards	Encroachment/ Property Improvement	Existing to Remain		
SD-4-4	Sta. 28+11, 46' Rt	Sign & Post	Encroachment/ Property Improvement	Existing to Remain		
SD-4-5	Sta. 28+57, 32' Lt	Sign & Post	Property Improvement	Existing to Remain		
SD-4-6	Sta. 28+74, 43' Rt	Sign	Property Improvement	Existing to Remain		
SD-4-7	Sta. 28+74, 45' Rt	Post	Property Improvement	Existing to Remain		
SD-4-8	Sta. 28+74, 33' Lt to Sta. 28+96, 31' Lt	Raised Planter	Property Improvement	Existing to Remain		

Broad Street Regeneration  
 Pawtucket/Central Falls/Cumberland, Rhode Island  
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Approved  <hr style="width: 80%; margin: auto;"/> Supervising Landscape Architect
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Right-of-Way  
 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-4-9	Sta. 28+19, 46' Lt to Sta. 28+56, 26' Lt	Fence with Concrete Edging	Property Improvement	Existing to Remain		
SD-4-10	Sta. 28+94, 42' Rt	Sign	Property Improvement	Existing to Remain		
SD-4-11	Sta. 29+14, 39' Rt to Sta. 29+45, 38' Rt	Chain Link Fence	Encroachment/ Property Improvement	Existing to Remain		
SD-4-12	Sta. 29+27, 38' Lt to Sta. 29+46, 38' Lt	Raised Timber Planter - Private Sign	Property Improvement	Existing to Remain		
SD-4-13	Sta. 29+94, 32' Lt to Sta. 30+12, 35' Lt	Raised Timber Planter	Property Improvement	Existing to Remain		
SD-4-14	Sta. 30+26, 46' Rt to Sta. 31+89, 80' Rt	Granite Edging	Property Improvement	Existing to Remain		
SD-5-1	Sta. 33+51, 26' Rt to Sta. 33+69, 34' Rt	Planter - Bushes - Mulch - Granite Curb	Property Improvement	Existing to Remain Remove and Replace Existing to Remain		

Broad Street Regeneration  
 Pawtucket/Central Falls/Cumberland, Rhode Island  
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Approved  <hr style="width: 80%; margin: auto;"/> Supervising Landscape Architect
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Right-of-Way  
 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-5-2	Sta. 34+17, 20' Rt to Sta. 34+55, 28' Rt	Concrete Berm	Property Improvement	Existing to Remain		
SD-5-3	Sta. 34+89, 30' Lt	Steel Post	Property Improvement	Existing to Remain		
SD-5-4	Sta. 34+89, 25' Lt	Sign & Foundation	Property Improvement	Existing to Remain		
SD-5-5	Sta. 36+23, 22' Rt to Sta. 37+47, 42' Rt	Concrete Curb	Property Improvement	Existing to Remain		
SD-5-6	Sta. 37+70, 34' Lt to Sta. 38+14, 23' Lt	Brick Area - Brick - Three (3) Trees - Granite Curb - Metal Grates (3)	Property Improvement	Remove and Replace Remove and Dispose Remove and Replace Remove and Dispose	Three (3) Kwanzan Cherry 1-1.5" Caliber	\$500/each
SD-5-7	Sta. 38+42, 26' Lt	Sign	Property Improvement	Existing to Remain		
SD-5-8	Sta. 38+51, 26' Rt	Tree	Property Improvement	Existing to Remain		
SD-5-9	Sta. 38+54, 37' Lt to Sta. 38+56, 22' Lt	Guardrail	Property Improvement	Existing to Remain		

9/24/2019

Broad Street Regeneration  
Pawtucket/Central Falls/Cumberland, Rhode Island  
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Approved

Supervising Landscape Architect

Right-of-Way  
Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
					Replacement Material Size	Value (each)
SD-5-10	Sta. 38+81, 24' Rt to Sta. 38+99, 24' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-6-1	Sta. 39+07, 24' Rt to Sta. 39+15, 24' Rt	Chain Link Fence/Granite Edging	Property Improvement	Existing to Remain		
SD-6-2	Sta. 39+52, 27' Lt	Sign & Foundation	Property Improvement	Existing to Remain		
SD-6-3	Sta 39+05, 30' Rt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-6-4	Sta. 39+63, 29' Rt	Sign & Foundation	Property Improvement	Existing to Remain		
SD-6-5	Sta. 40+64, 24' Rt to Sta. 40+82, 24' Rt	Chain Link Fence with Concrete Edging	Property Improvement	Existing to Remain		
SD-6-6	Sta. 41+12, 25' Rt to Sta. 42+01, 35' Rt	Concrete Edging	Property Improvement	Existing to Remain		
SD-6-7	Sta 42+61, 30' Rt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-6-8	Sta. 42+01, 25' Rt to Sta. 43+11, 35' Rt	Chain Link Fence with Concrete Edging	Property Improvement	Existing to Remain		



Broad Street Regeneration  
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Right-of-Way  
 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-6-9	Sta. 42+98, 26' Lt	Steel Post	Property Improvement	Existing to Remain		
SD-6-10	Sta. 43+51, 62' Rt to Sta. 44+14, 34' Rt	Chain Link Fence/Granite Edging	Property Improvement	Existing to Remain		
SD-6-11	Sta. 44+27, 28' Rt	Tree	Property Improvement	Existing to Remain		
SD-6-12	Sta. 44+24, 34' Rt to Sta. 44+78, 35' Rt	Concrete Retaining Wall with Fence	Property Improvement	Existing to Remain		
SD-7-1	Sta. 44+88, 35' Rt to Sta. 45+52, 45' Rt	Concrete Retaining Wall	Property Improvement	Existing to Remain		
SD-7-2	Sta. 46+02, 50' Rt to Sta. 46+35, 24' Rt	Planter - Granite Curb - Tree - Shrubs - Mulch	Property Improvement	Existing to Remain		
SD-7-3	Sta 47+50, 30' Rt	Stamped and Colored Concrete Walkway	Property Improvement	Existing to Remain		

Broad Street Regeneration  
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 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-7-4	Sta. 47+49, 37' Rt	Park Bench	Property Improvement	Existing to Remain		
SD-7-5	Sta. 47+61, 37' Rt	Tree	Property Improvement	Existing to Remain		
SD-7-6	Sta. 47+83, 39' Rt to Sta. 48+01, 39' Rt	Raised Planter - Three (3) Signs - Shrubs - Mulch	Property Improvement	Existing to Remain		
SD-7-7	Sta. 48+43, 43' Rt to Sta. 48+50, 26' Rt	Cinder Block Raised Planter - Sign - Flowers	Property Improvement	Existing to Remain		
SD-7-8	Sta. 48+50, 26' Rt to Sta. 48+73, 27' Rt	Concrete Curb	Property Improvement	Existing to Remain		
SD-7-9	Sta. 48+73, 27' Rt to Sta. 48+73, 46' Rt	Cinder Block Raised Planter - Flowers	Property Improvement	Existing to Remain		
SD-7-10	Sta. 48+77, 26' Rt to Sta. 48+94, 26' Rt	Concrete Curb	Property Improvement	Existing to Remain		

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Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
					Replacement Material Size	Value (each)
SD-7-11	Sta. 48+93, 26' Lt	Sign & Foundation	Property Improvement	Existing to Remain		
SD-7-12	Sta. 49+20, 27' Rt to Sta. 49+29, 41' Rt	Concrete Curb	Property Improvement	Remove and Replace		
SD-7-13	Sta. 49+41, 25' Lt	Steel Post	Property Improvement	Existing to Remain		
SD-7-14	Sta. 49+80, 29' Lt to Sta. 49+91, 29' Lt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-8-1	Sta. 50+93, 25' Rt to Sta. 50+98, 25' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-8-2	Sta. 51+38, 26' Rt to Sta. 51+42, 26' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-8-3	Sta. 51+40, 30' Lt to Sta. 51+55, 28' Lt	Raised Stone Planter - Plants	Property Improvement	Existing to Remain		
SD-8-4	Sta. 51+55, 28' Lt, Sta. 51+81, 28' Lt, Sta. 51+94, 27' Lt, Sta. 52+15, 27' Lt	Four (4) Light Poles	Property Improvement	Existing to Remain		

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					Replacement Material Size	Value (each)
SD-8-5	Sta. 51+79, 26' Rt to Sta. 51+88, 26' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-8-6	Sta.51+82, 27' Lt to Sta. 51+93, 27' Lt	Raised Stone Planter - Bushes - Private Sign	Property Improvement	Existing to Remain		
SD-8-7	Sta.52+15, 27' Lt to Sta. 52+30, 27' Lt	Raised Stone Planter - Bushes	Property Improvement	Existing to Remain		
SD-8-8	Sta.53+04, 25' Rt to Sta. 54+58, 35' Rt	Raised Timber Planter - Crushed Stone - Plants - Sign	Property Improvement	Existing to Remain		
SD-8-9	Sta.54+88, 37' Rt to Sta. 55+13, 24' Rt	Raised Timber Planter - Crushed Stone - Plants - Sign	Property Improvement	Existing to Remain		
SD-9-1	Sta.55+82, 29' Lt	Concrete Steps with Hand Railing	Property Improvement	Existing to Remain		
SD-9-2	Sta.56+27, 24' Rt to Sta. 56+44, 34' Rt	Post and Rail Fence	Property Improvement	Existing to Remain		

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					Size	Value (each)
SD-9-3	Sta. 56+33, 34' Lt, Sta.56+34, 35' Lt, Sta. 56+34, 32' Lt, Sta. 56+44, 28' Lt, Sta. 56+79, 28' Lt	Five (5) Steel Poles	Property Improvement	Existing to Remain		
SD-9-4	Sta. 58+37, 32' Lt	Tree	Property Improvement	Existing to Remain		
SD-9-5	Sta. 58+57, 36' Lt to Sta. 58+58, 24' Lt	Granite Curb Planter - Bush - Mulch - Curb	Property Improvement	Existing to Remain		
SD-9-6	Sta. 58+68, 33' Lt	Raised Planter - Flowers - Mulch	Property Improvement	Existing to Remain		
SD-9-7	Sta. 59+44, 28' Rt, Sta. 59+45, 29' Rt, Sta. 59+47, 29' Rt	Sign and Two (2) Steel Poles	Property Improvement	Existing to Remain		
SD-9-8	Sta. 59+71, 33' Lt	Tree	Property Improvement	Existing to Remain		

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					Replacement Material Size	Value (each)
SD-9-9	Sta. 60+04, 24' Lt	Tree Shrub	Encroachment	Remove and Dispose Remove and Dispose	1 Arborvitae 4-5'Ht 1 Taxus Shrub 18-24" cont.	\$200 \$115
SD-9-10	Sta. 60+04, 33' Lt	Tree	Property Improvement	Existing to Remain		
SD-9-11	Sta. 59+87, 37' Rt to Sta. 60+00, 31' Rt	Raised Planter - Bushes - Mulch - Rock - Sign	Property Improvement	Existing to Remain		
SD-9-12	Sta. 60+56, 26' Lt	Concrete Footing	Property Improvement	Existing to Remain		
SD-9-13	Sta. 60+61, 29' Lt to Sta. 61+09, 29' Lt	Six (6) Concrete Car Stops	Property Improvement	Remove and Reset		
SD-9-14	Sta. 61+19, 42' Rt to Sta. 61+22, 25' Rt	Steel Guardrail	Property Improvement	Existing to Remain		
SD-9-15	Sta. 61+19, 37' Rt to Sta. 61+21, 25' Rt	Bituminous Curb	Property Improvement	Remove and Replace		

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Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-9-16	Sta. 61+23, 26' Rt	Sign and Light Foundation	Property Improvement	Existing to Remain		
SD-9-17	Sta. 61+28, 30' Rt to Sta. 62+34, 26' Rt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-10-1	Sta. 61+52, 26' Lt to Sta. 61+96, 33' Lt	Concrete Berm with Raised Planter	Property Improvement	Existing to Remain		
SD-10-2	Sta. 61+67, 32' Rt	Private Sign	Property Improvement	Existing to Remain		
SD-10-3	Sta. 61+96, 26' Lt	Sign	Property Improvement	Existing to Remain		
SD-10-4	Sta. 62+20, 34' Lt to Sta. 62+75, 26' Lt	Concrete Berm	Property Improvement	Existing to Remain		
SD-10-5	Sta. 62+85, 25' Rt to Sta. 63+21, 25' Rt	Concrete Curb	Property Improvement	Existing to Remain		
SD-10-6	Sta. 62+85, 29' Rt to Sta. 63+21, 35' Rt	Two (2) Trees	Property Improvement	Existing to Remain		
SD-10-7	Sta. 63+02, 28' Lt	Sign	Property Improvement	Existing to Remain		

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Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
					Replacement Material Size	Value (each)
SD-10-8	Sta. 63+22, 29' Rt to Sta. 63+37, 29' Rt	Raised Planter - Curb - Bushes	Property Improvement	Existing to Remain		
SD-10-9	Sta. 63+24, 42' Lt to Sta. 63+82, 26' Lt	Raised Planter - Concrete Curb - Mulch - Bushes - Sign	Property Improvement	Existing to Remain		
SD-10-10	Sta. 63+40, 27' Rt	Post	Property Improvement	Existing to Remain		
SD-10-11	Sta. 63+69, 29' Rt to Sta. 63+89, 25' Rt	Raised Planter - Shrubs - Granite Curb - Sign	Property Improvement	Existing to Remain		
SD-10-12	Sta. 64+38, 26' Rt and Sta. 64+52, 26' Rt	Posts	Property Improvement	Existing to Remain		
SD-10-13	Sta. 64+58, 33' Rt	Sign	Property Improvement	Existing to Remain		
SD-10-14	Sta. 65+12, 29' Rt	Shrub	Property Improvement	Remove and Dispose	2' Taxus Shrub 2-2/12' H B&B	\$180



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					Replacement Material Size	Value (each)
SD-10-15	Sta. 64+98, 27' Lt	Sign and Foundation	Encroachment/ Property Improvement	Existing to Remain		
SD-10-16	Sta. 65+65, 45' Rt, Sta. 65+86, 46' Rt, 65+92, 45' Rt, Sta. 66+13, 46' Rt, Sta. 66+18, 46' Rt, Sta. 66+40, 47' Rt	Six (6) Bollards	Property Improvement	Existing to Remain		
SD-10-17	Sta. 66+10, 33' Lt	Sign and Foundation	Property Improvement	Existing to Remain		
SD-10-18	Sta. 66+07, 26' Lt, Sta. 66+11, 26' Lt	Two (2) Posts	Property Improvement	Existing to Remain		
SD-10-19	Sta. 66+61, 29' Lt to Sta. 66+61, 42' Lt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-10-20	Sta. 66+59, 26' Lt	Steel Post	Property Improvement	Existing to Remain		
SD-10-21	Sta. 66+61, 32' Lt	Car Stop	Property Improvement	Remove and Reset		

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					Size	Value (each)
SD-11-1	Sta. 67+06, 36' Lt to Sta. 67+34, 36' Lt	Raised Brick Planter	Property Improvement	Existing to Remain		
SD-11-2	Sta. 67+06, 25' Lt to Sta. 67+35, 24' Lt	Sign and Concrete Berm	Property Improvement	Existing to Remain		
SD-11-3	Sta. 67+90, 57' Lt to Sta. 68+08, 24' Lt	Planter - Tree - Mulch - Sign - Concrete Curb	Property Improvement	Existing to Remain Remove and Replace Existing to Remain Remove and Reset		
SD-11-4	Sta. 68+34, 33' Lt to Sta. 69+74, 37' Lt	Planter - Concrete Curb - Mulch - Five (5) Trees - Bushes - Two (2) Signs	Property Improvement	Remove and Reset Remove and Replace Existing to Remain Existing to Remain Existing to Remain		
SD-11-5	Sta. 68+53, 26' Rt, Sta. 68+92, 26' Rt, Sta. 69+33, 26' Rt, Sta. 69+72, 26' Rt, Sta. 69+93, 26' Rt, Sta. 70+13, 25' Rt	Six (6) Trees	Property Improvement	Existing to Remain		

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Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-11-6	Sta. 69+56, 25' Rt, Sta. 69+78, 27' Rt, Sta. 69+87, 27' Rt, Sta. 69+98, 27' Rt, Sta. 70+08, 27' Rt, Sta. 70+18, 27' Rt	Five (5) Granite Benches	Property Improvement	Existing to Remain		
SD-11-7	Sta. 70+05, 37' Lt to Sta. 70+09, 26' Lt	Planter - Concrete Curb - Sign - Mulch	Property Improvement	Remove and Reset Existing to Remain Remove and Replace		
SD-11-8	Sta. 70+09, 26' Lt to Sta. 70+82, 25' Lt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-11-9	Sta. 70+31, 28' Rt to Sta. 70+75, 27' Rt	Metal Fence	Property Improvement	Existing to Remain		
SD-11-10	Sta. 71+26, 26' Rt to Sta. 74+06, 27' Rt	Chain Link Fence on Concrete Retaining Wall	Property Improvement	Existing to Remain		
SD-11-11	Sta. 72+20, 27' Lt	Sign and Foundation	Property Improvement	Existing to Remain		
SD-11-12	Sta. 72+72, 25' Lt to Sta. 73+99, 57' Lt	Chain Link Fence	Property Improvement	Remove and Reset		

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SD-11-13	Sta. 72+94, 29' Lt	Sign and Foundation	Property Improvement	Existing to Remain		
SD-12-1	Sta. 74+41, 26' Lt, 74+47, 26' Lt, 74+51, 26' Lt	Four (4) Steel Poles	Property Improvement	Existing to Remain		
SD-12-2	Sta. 74+48, 40' Rt to Sta. 75+01, 24' Rt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-12-3	Sta. 74+99, 26' Lt	Steel Pole	Property Improvement	Existing to Remain		
SD-12-4	Sta. 75+17, 29' Lt	Catch Basin	Property Improvement	Adjust to Grade		
SD-12-5	Sta. 75+24, 25' Rt to Sta. 75+49, 25' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-12-6	Sta. 75+32, 27' Lt	Sign and Foundation	Property Improvement	Existing to Remain		
SD-12-7	Sta. 75+48, 40' Rt to Sta. 75+49, 25' Rt	Wood Fence	Property Improvement	Existing to Remain		
SD-12-8	Sta. 75+65, 30' Lt	Catch Basin	Property Improvement	Adjust to Grade		

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Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
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SD-12-9	Sta. 77+49, 26' Rt	Sign and Foundation	Encroachment/ Property Improvement	Existing to Remain		
SD-12-10	Sta. 78+09, 26' Rt to Sta. 78+50, 27' Rt	Posts and Chain Fence	Encroachment/ Property Improvement	Existing to Remain		
SD-12-11	Sta. 78+20, 31' Lt, Sta. 78+22, 31' Lt	Two (2) Signs	Property Improvement	Existing to Remain		
SD-12-12	Sta. 78+22, 25' Lt	Overhead sign	Encroachment/ Property Improvement	Existing to Remain		
SD-13-1	Sta. 79+17, 28' Rt	Sign and Foundation	Encroachment/ Property Improvement	Existing to Remain		
SD-13-2	Sta. 79+77, 31' Lt	Sign and Foundation	Property Improvement	Existing to Remain		
SD-13-3	Sta. 79+79, 25' Lt to Sta. 80+45, 26' Lt	Metal Fence on Concrete Wall	Property Improvement	Existing to Remain		

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SD-13-4	Sta. 80+45, 26' Lt to Sta. 80+53, 35' Lt	Raised Planter - Shrubs	Property Improvement	Existing to Remain		
SD-13-5	Sta. 80+74, 29' Lt	Sign	Property Improvement	Remove and Reset		
SD-13-6	Sta. 81+27, 24' Lt	Steel Post and Phone Booth	Property Improvement	Existing to Remain		
SD-13-7	Sta. 81+29, 28' Lt	Sign and Foundation	Encroachment/ Property Improvement	Existing to Remain		
SD-13-8	Sta. 81+28, 30' Lt to Sta. 81+79, 30' Lt	Driveway/Parking Lot Temporary Parking Spaces Effected	Encroachment/ Property Improvement	Remove and Replace		
SD-13-9	Sta. 81+76, 25' Lt	Private Sign	Encroachment/ Property Improvement	Existing to Remain		
SD-14-1	Sta. 87+21, 29' Rt	Private Sign	Property Improvement	Existing to Remain		

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					Size	Value (each)
SD-14-2	Sta. 87+62, 27' Rt	Private Sign	Property Improvement	Existing to Remain		
SD-14-3	Sta. 87+68, 31' Rt, Sta. 87+80, 27' Rt, Sta. 87+83, 32' Rt	Three (3) Flagpoles	Property Improvement	Existing to Remain		
SD-14-4	Sta. 87+92, 25' Rt, Sta. 87+96, 26' Rt, Sta. 88+00, 26' Rt, Sta. 88+04, 26' Rt, Sta. 88+08, 26' Rt, Sta. 88+13, 26' Rt, Sta. 88+17, 26' Rt, Sta. 88+21, 26' Rt, Sta. 88+25, 26' Rt, Sta. 88+30, 26' Rt	Ten (10) Steel posts for chain fence	Property Improvement	Existing to Remain		
SD-14-5	Sta. 89+40, 44' Rt to Sta. 90+47, 25' Rt	Concrete Edging	Property Improvement	Existing to Remain		
SD-14-6	Sta. 90+43, 27' Lt to Sta. 91+42, 26' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-15-1	Sta. 91+15, 27' Rt to Sta. 91+42, 26' Rt	Planter - Three (3) Light Post - Crushed Stone	Property Improvement	Existing to Remain		

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SD-15-2	Sta. 91+66, 26' Rt to Sta. 92+64, 27' Rt	Bus Area - Two (2) Trash Cans - Bench - Stone Walk Way	Property Improvement	Existing to Remain		
SD-15-3	Sta. 91+99, 27' Rt	Sign and Foundation	Property Improvement	Existing to Remain		
SD-15-4	Sta. 92+96, 26' Rt to Sta. 92+96, 42' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-15-5	Sta. 95+38, 26' Rt to Sta. 995+42, 37' Rt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-15-6	Sta. 93+63, 26' Rt to Sta. 93+64, 31' Rt	Planter - Chain Link Fence - Wall - Plants	Property Improvement	Existing to Remain		
SD-15-7	Sta. 95+20, 25' Rt to Sta. 95+38, 25' Rt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-15-8	Sta. 95+43, 28' Rt to Sta. 95+72, 30' Rt	Chain Link Fence	Property Improvement	Remove and Reset		



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SD-15-9	Sta. 96+18, 30' Rt	Tree	Property Improvement	Existing to Remain		
SD-15-10	Sta. 96+20, 40' Lt to Sta. 96+22, 26' Lt	Timber with Chain Link Fence	Property Improvement	Existing to Remain		
SD-15-11	Sta. 96+27, 25' Rt to Sta. 96+27, 35' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-15-12	Sta. 96+31, 33' Lt to Sta. 96+59, 40' Lt	Masonry Wall with Fence	Property Improvement	Existing to Remain		
SD-15-13	Sta. 96+43, 34' Rt, Sta. 96+79, 42' Rt	Masonry Wall	Property Improvement	Existing to Remain		
SD-15-4	Sta. 91+65, 25' Lt to Sta. 91+97, 25' Lt	Granite Curb & Sign	Property Improvement	Existing to Remain		
SD-16-1	Sta. 97+13, 35' Lt to Sta. 97+52, 40' Lt	Concrete Retaining Wall	Property Improvement	Existing to Remain		
SD-16-2	Sta. 97+62, 26' Lt to Sta. 98+10, 26' Lt	Granite Curb	Property Improvement	Existing to Remain		

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SD-16-3	Sta. 97+65, 29' Lt	Sign	Property Improvement	Existing to Remain		
SD-16-4	Sta. 97+81, 34' Lt	Catch Basin	Property Improvement	Existing to Remain		
SD-16-5	Sta. 97+79, 33' Rt to Sta. 98+20, 39' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-16-6	Sta. 98+10, 26' Lt to Sta. 98+34, 26' Lt	Granite Curb	Property Improvement	Existing to Remain		
SD-16-7	Sta. 98+34, 38' Lt to Sta. 98+78, 26' Lt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-16-8	Sta. 98+50, 39' Rt to Sta. 98+97, 28' Rt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-16-9	Sta. 98+51, 39' Rt	Tree	Property Improvement	Existing to Remain		
SD-16-10	Sta. 98+51, 31' Rt	Light Pole	Property Improvement	Existing to Remain		
SD-16-11	Sta. 98+75, 33' Lt	Tree	Property Improvement	Existing to Remain		

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SD-16-12	Sta. 98+99, 27' Rt	Sign and Foundation	Property Improvement	Existing to Remain		
SD-16-13	Sta. 99+07, 29' Lt	Steel Post	Property Improvement	Existing to Remain		
SD-16-14	Sta. 99+63, 34' Lt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-16-15	Sta. 100+10, 37' Lt to Sta. 100+11, 30' Lt	Wooden Fence	Property Improvement	Existing to Remain		
SD-16-16	Sta. 100+21, 28' Rt to Sta. 101+65, 29' Rt	Chain Link Fence on Concrete Berm	Property Improvement	Existing to Remain		
SD-16-17	Sta. 100+69, 28' Lt	Sign and Foundation	Property Improvement	Existing to Remain		
SD-16-18	Sta. 100+73, 41' Lt to Sta. 101+74, 28' Lt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-16-19	Sta. 100+94, 27' Lt to Sta. 102+03, 27' Lt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-16-20	Sta. 102+22, 30' Rt, Sta. 102+23, 24' Rt	Two (2) Bollards	Property Improvement	Existing to Remain		

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RI Federal Aid-Project No. STP-0114(026), STPG-HSIP(068)

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Right-of-Way  
Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
					Replacement Material Size	Value (each)
SD-16-21	Sta. 102+41, 25' Rt to Sta. 102+44, 34' Rt	Curbing	Property Improvement	Existing to Remain		
SD-17-1	Sta. 102+68, 27' Lt to Sta. 102+98, 26' Lt	Chain Fence with Steel Posts	Property Improvement	Existing to Remain		
SD-17-2	Sta. 102+77, 26' Rt	Sign	Property Improvement	Existing to Remain		
SD-17-3	Sta. 102+94, 30' Rt to Sta. 103+01, 30' Lt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-17-4	Sta. 103+03, 33' Rt	Flagpole	Property Improvement	Existing to Remain		
SD-17-5	Sta. 103+46, 25' Rt to Sta. 103+47, 36' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-17-6	Sta. 103+84, 32' Rt	Sign and Foundation	Property Improvement	Existing to Remain		
SD-17-7	Sta. 104+33, 27' Lt to Sta. 104+62, 27' Lt	Chain Link Fence with Concrete Berm	Property Improvement	Existing to Remain		
SD-17-8	Sta. 104+76, 38' Lt	Chain Link Fence	Property Improvement	Remove and Reset		

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					Size	Value (each)
SD-17-9	Sta. 105+57, 25' Rt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-17-10	Sta. 105+76, 28' Lt	Stairs with Railings	Property Improvement	Existing to Remain		
SD-17-11	Sta. 105+90, 31' Rt to Sta. 106+17, 34' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-17-12	Sta. 106+19, 24' Rt to Sta. 106+41, 29' Rt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-17-13	Sta. 107+30, 29' Rt	Sign with Foundation	Property Improvement	Existing to Remain		
SD-17-14	Sta. 107+48, 30' Lt	Planter with Berm	Property Improvement	Existing to Remain		
SD-17-15	Sta. 107+66, 31' Lt	Planter with Berm	Property Improvement	Existing to Remain		
SD-17-16	Sta. 107+88, 33' Rt	Planter - Sign - Flowers - Mulch	Property Improvement	Existing to Remain		

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 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-17-17	Sta. 108+67, 28' Lt	Sign and Foundation	Property Improvement	Existing to Remain		
SD-18-1	Sta. 110+50, 27' Rt	Planter - Mulch	Property Improvement	Remove and Replace		
SD-18-2	Sta. 109+25, 30' Lt	Sign and Foundation	Encroachment/ Property Improvement	Existing to Remain		
SD-18-3	Sta. 109+43, 26' Rt	Light Pole and Foundation	Property Improvement	Existing to Remain		
SD-18-4	Sta. 109+75, 24' Rt	Sign	Property Improvement	Existing to Remain		
SD-18-5	Sta. 109+84, 33' Lt to Sta. 110+09, 34' Lt	Planter - Mulch - Bush	Property Improvement	Existing to Remain		
SD-18-6	Sta. 109+98, 27' Rt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-18-7	Sta. 110+08, 25' Rt to Sta. 110+15, 25' Rt	Chain Link Fence	Property Improvement	Remove and Reset		

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Right-of-Way  
 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-18-8	Sta. 110+22, 42' Lt	Tree	Property Improvement	Existing to Remain		
SD-18-9	Sta. 111+54, 32' Rt, Sta. 111+80, 32' Rt	Two (2) Catch Basins	Property Improvement	Existing to Remain		
SD-18-10	Sta. 111+82, 27' Rt, Sta. 111+85, 26' Rt, Sta. 111+87, 32' Rt, Sta. 111+87, 26' Rt, Sta. 111+90, 26' Rt, Sta. 111+92, 29' Rt, Sta. 111+92, 33' Rt, Sta. 111+92, 36' Rt	Seven (7) Bollards and Telephone Box	Property Improvement	Existing to Remain		
SD-18-11	Sta. 112+13, 24' Rt to Sta. 112+65, 24' Rt	Metal Fence	Property Improvement	Remove and Reset		
SD-18-12	Sta. 112+87, 26' Rt to Sta. 113+30, 25' Rt	Metal Fence	Property Improvement	Remove and Reset		
SD-19-1	Sta. 115+31, 24' Lt to Sta. 115+94, 24' Lt	Guardrail	Property Improvement	Existing to Remain		

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 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-19-2	Sta. 116+22, 37' Rt	Planter - Sign - Mulch - Plants - Guardrail	Property Improvement	Existing to Remain Remove and Replace Existing to Remain Existing to Remain		
SD-19-3	Sta. 116+36, 36' Lt	- Sign and Foundation	Property Improvement	Existing to Remain		
SD-19-4	Sta. 116+83, 26' Rt	Planter - Guardrail - Sign - Shrubs	Property Improvement	Remove and Dispose Existing to Remain Existing to Remain		
SD-19-5	Sta. 116+94, 34' Lt	Planter - Sign and Foundation - Bituminous Curb - Post	Property Improvement	Existing to Remain		
SD-19-6	Sta. 118+33, 42' Rt to Sta. 118+66, 23' Rt	- Guardrail	Property Improvement	Existing to Remain		
SD-19-7	Sta. 117+97, 26' Rt	Granite Curb	Property Improvement	Remove and Replace		



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Right-of-Way  
 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-19-8	Sta. 118+23, 26' Rt	Granite Curb	Property Improvement	Remove and Replace		
SD-19-9	Sta. 118+33, 42' Rt to Sta. 118+66, 23' Rt	Chain Link Fence and Gate	Property Improvement	Remove and Reset		
SD-19-10	Sta. 118+79, 35' Rt to Sta. 118+79, 23' Rt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-19-11	Sta. 118+79, 44' Lt to Sta. 27' Lt	Raised Planter - Shrubs - Mulch - Tree	Property Improvement	Existing to Remain		
SD-19-12	Sta. 118+89, 27' Rt to Sta. 118+93, 27' Rt	- Concrete Walkway	Property Improvement	Remove and Replace		
SD-19-13	Sta. 119+31, 34' Lt	Planter - Sign - Mulch - Shrubs - Tree	Property Improvement	Existing to Remain Remove and Replace Existing to Remain Existing to Remain		
SD-19-14	Sta. 119+42, 23' Rt to Sta. 119+62, 23' Rt	Chain Link Fence with Gate above Concrete Retaining Wall	Property Improvement	Existing to Remain		

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 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-19-15	Sta. 112+24, 31' Lt to Sta. 120+60, 31' Lt.	Planter - Two (2) Trees - Mulch - Sign	Property Improvement	Existing to Remain		
SD-20-1	Sta. 120+75, 27' Lt to Sta. 120+75, 48' Lt	Wood Fence	Encroachment/ Property Improvement	Existing to Remain		
SD-20-2	Sta. 121+06, 37' Rt to Sta. 121+08, 23' Rt	Retaining Wall	Property Improvement	Existing to Remain		
SD-20-3	Sta. 121+27, 32' Lt to Sta. 121+27, 29' Lt	Two (2) Signs	Property Improvement	Existing to Remain		
SD-20-4	Sta. 122+29, 28' Rt	Concrete Walkway	Property Improvement	Existing to Remain		
SD-20-5	Sta. 123+46, 23' Rt to Sta. 123+51, 23' Rt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-20-6	Sta. 123+51, 33' Rt to Sta. 123+77, 40' Rt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-20-7	Sta. 123+68, 26' Lt to Sta. 124+29, 43' Lt	Chain Link Fence	Property Improvement	Remove and Reset		

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Right-of-Way  
Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
					Replacement Material Size	Value (each)
SD-20-8	Sta. 123+91, 32' Rt to Sta. 123+97, 32' Rt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-20-9	Sta. 124+24, 24' Rt to Sta. 124+28, 23' Rt	Planter - Shrubs - Fence	Property Improvement	Existing to Remain		
SD-20-10	Sta. 124+48, 23' Rt to Sta. 124+77, 23' Rt	- Chain Link Fence	Property Improvement	Remove and Replace		
SD-20-11	Sta. 124+65, 29' Rt to Sta. 124+69, 29' Rt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-20-12	Sta. 124+70, 27' Lt, Sta. 124+79, 27' Lt, Sta 124+69, 37' Lt	Shrub Shrub Shrub	Property Improvement	Remove and Dispose Remove and Dispose Existing to Remain	3-5' cont.	\$80 \$80
SD-20-13	Sta. 124+93, 23' Rt to Sta. 125+38, 29' Rt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-20-14	Sta. 124+92, 30' Lt	Steps with Railing	Property Improvement	Existing to Remain		
SD-20-15	Sta. 125+44, 24' Lt to Sta. 125+48, 24' Lt	Concrete Walkway	Property Improvement	Remove and Replace		

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Right-of-Way  
 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					<u>Size</u>	<u>Value (each)</u>
SD-21-1	Sta. 126+19, 38' Lt to Sta. 126+19, 27' Lt	Chain Link Fence	Property Improvement	Existing to Remain		
SD-21-2	Sta. 126+39, 25' Lt to Sta. 126+68, 46' Lt	Chain Link Fence	Encroachment/ Property Improvement	Existing to Remain		
SD-21-3	Sta. 126+49, 27' Rt	Billboard	Property Improvement	Existing to Remain		
SD-21-4	Sta. 126+39, 36' Lt to Sta. 126+65 36, Lt	Planter - Mulch - Tree - HMA Walkway	Property Improvement	Remove and Replace Existing to Remain Existing to Remain		
SD-21-5	Sta. 130+39, 26' Lt to Sta. 143+00, 29' Lt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-21-6	Sta. 130+75, 28' Rt	Concrete Walk	Property Improvement	Remove and Replace		
SD-21-7	Sta. 131+22, 33' Rt to Sta. 131+22, 27' Rt	Steel Railing	Property Improvement	Existing to Remain		

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 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-21-8	Sta. 131+54, 28' Rt	Steel Post	Property Improvement	Existing to Remain		
SD-21-9	Sta. 132+20, 30' Rt	Concrete Walk	Property Improvement	Remove and Replace		
SD-22-1	Sta. 132+69, 41' Rt to Sta. 132+69, 24' Rt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-22-2	Sta. 132+72, 30' Rt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-22-3	Sta. 135+22, 23' Rt to Sta. 135+42, 27' Rt	Planter Five (5) Shrubs	Property Improvement	Existing to Remain		
SD-22-4	Sta. 137+50, 30' Rt	Planter - Sign - Flowers - Shrubs	Property Improvement	Existing to Remain		
SD-23-1	Sta. 140+68, 27' Rt	- Sign and Foundation	Property Improvement	Existing to Remain		
SD-23-2	Sta. 141+15, 38' Rt to Sta. 141+20, 27' Rt	Wood Fence with Steel Posts	Property Improvement	Existing to Remain		

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 Structure Disposition List

Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-23-3	Sta. 141+20, 27' Rt	Steel Post	Property Improvement	Existing to Remain		
SD-23-4	Sta. 142+26, 24' Rt	Sign and Foundation	Encroachment/ Property Improvement	Existing to Remain		
SD-24-1	Sta. 145+67, 20' Rt to Sta. 145+67, 42' Rt	Planter - Mulch - Sign - Shrubs	Property Improvement	Existing to Remain		
SD-24-2	Sta. 145+90, 46' Rt to Sta. 146+00, 24' Rt	- Steel Post with Wood Fence	Property Improvement	Existing to Remain		
SD-24-3	Sta. 147+05, 20' Rt to Sta. 147+27, 28' Rt	Planter - Mulch - Sign	Property Improvement	Remove and Replace Existing to Remain		
SD-24-4	Sta. 147+22, 65' Lt to Sta. 147+91, 34' Lt	Hedge	Encroachment/ Property Improvement	Remove and Dispose Remove and Dispose	(40) Privet Hedge 3-4' cont. (2) Privet arch 4-5' B&B	\$94.50 \$148.50

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Structure	Location	Description	Status	Disposition	(For RIDOT use only) Replacement Material	
					Size	Value (each)
SD-24-5	Sta. 147+64, 21' Rt	Planter - Mulch - Sign - Sign - Shrubs	Property Improvement	Remove and Replace Existing to Remain Remove and Dispose Existing to Remain		
SD-24-6	Sta. 147+88, 21' Rt	Planter - Mulch - Sign - Shrubs	Property Improvement	Remove and Replace Existing to Remain Existing to Remain		
SD-24-7	Sta. 148+02, 30' Lt to Sta. 148+46, 30' Lt	- Chain Link Fence	Encroachment/ Property Improvement	Existing to Remain		
SD-24-8	Sta. 148+55, 44' Lt to Sta. 149+18, 45' Lt	Chain Link Fence with Gates	Encroachment/ Property Improvement	Remove and Reset		
SD-24-9	Sta. 149+50, 26' Lt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-24-10	Sta. 149+28, 43' Rt	Tree	Property Improvement	Existing to Remain		

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Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
					Replacement Material Size	Value (each)
SD-24-11	Sta. 149+36, 70' Rt	Tree	Property Improvement	Existing to Remain		
SD-24-12	Sta. 149+42, 31' Lt	Tree	Property Improvement	Existing to Remain		
SD-24-13	Sta. 149+73, 29' Lt to Sta. 149+73, 47' Lt	Stone Retaining Wall	Property Improvement	Existing to Remain		
SD-24-14	Sta. 149+79, 35' Lt	Tree	Property Improvement	Existing to Remain		
SD-25-1	Sta. 153+52, 50' Rt to Sta. 153+52, 34' Rt	Timber Guardrail on Concrete Retaining Wall	Property Improvement	Existing to Remain		
SD-25-2	Sta. 154+11, 25' Lt to Sta. 154+12, 38' Lt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-25-3	Sta. 154+45, 26' Lt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-25-4	Sta. 154+85, 37' Lt to Sta. 154+85, 26' Lt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-25-5	Sta. 155+06, 31' Lt	Tree	Property Improvement	Existing to Remain		



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SD-25-6	Sta. 155+21, 26' Lt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-25-7	Sta. 155+34, 30' Lt	Tree	Property Improvement	Existing to Remain		
SD-25-8	Sta. 155+59, 41' Lt to Sta. 155+59, 25' Lt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-25-9	Sta. 155+96, 26' Lt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-25-10	Sta. 156+70, 26' Lt	Concrete Walkway	Property Improvement	Remove and Replace		
SD-26-1	Sta. 157+13, 41' Lt to Sta. 157+13, 27' Lt	Chain Link Fence	Property Improvement	Remove and Reset		
SD-26-2	Sta. 158+10, 30' Lt	Tree	Property Improvement	Existing to Remain		
SD-26-3	Sta. 159+28, 22' Rt to Sta. 160+08, 23' Rt	Timber Guardrail	Encroachment	Existing to Remain		

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Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
					Replacement Material Size	Value (each)
SD-26-4	Sta. 160+02, 24' Lt, Sta. 160+04, 25' Lt, Sta. 160+05, 25' Lt	Three (3) Steel Poles	Encroachment	Existing to Remain		
SD-26-5	Sta. 160+13, 26' Rt	Sign and Foundation	Encroachment/ Property Improvement	Existing to Remain		
SD-26-6	Sta. 160+33, 23' Rt to Sta. 160+91, 23' Rt	Timber Guardrail	Encroachment	Existing to Remain		
SD-26-7	Sta. 161+09, 23' Rt to Sta. 161+32, 23' Rt	Timber Guardrail	Encroachment	Existing to Remain		
SD-26-8	Sta. 161+25, 30' Rt	Light Pole	Property Improvement	Existing to Remain		
SD-26-9	Sta. 161+51, 23' Rt to Sta. 162+61, 23' Rt	Timber Guardrail	Encroachment	Existing to Remain		
SD-26-10	Sta. 161+52, 40' Lt to Sta. 161+99, 25' Lt	Planter - Eleven (11) Shrubs - Mulch	Encroachment/ Property Improvement	Existing to Remain Remove and Replace		
SD-26-11	Sta. 162+10, 30' Rt	- Light Pole	Property Improvement	Existing to Remain		

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Structure	Location	Description	Status	Disposition	(For RIDOT use only)	
					Replacement Material Size	Value (each)
SD-26-12	Sta. 162+76, 25' Lt	Sign and Foundation	Encroachment/ Property Improvement	Existing to Remain		
SD-26-13	Sta. 162+85, 23' Rt to Sta. 163+11, 34' Rt	Timber Guardrail	Encroachment/ Property Improvement	Existing to Remain		
SD-26-14	Sta. 162+77, 25' Lt to Sta. 163+59, 25' Lt	Chain Link Fence	Encroachment	Remove and Reset		
SD-26-15	Sta. 162+84, 25' Lt, Sta. 162+89, 25' Lt, Sta. 162+94, 25' Lt, Sta. 162+98, 25' Lt	Four (4) Steel Posts	Encroachment	Existing to Remain		
SD-26-16	Sta. 162+96, 25' Rt	Light Pole and Foundation	Encroachment	Existing to Remain		
SD-27-1	Sta. 163+03, 25' Lt, Sta. 163+08, 25' Lt	Two (2) Steel Posts	Encroachment	Existing to Remain		
SD-27-2	Sta. 163+34, 25' Lt, Sta. 163+40, 25' Lt, Sta. 163+46, 25' Lt, Sta. 163+50, 25' Lt	Four (4) Steel Posts	Encroachment	Existing to Remain		

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<u>Structure</u>	<u>Location</u>	<u>Description</u>	<u>Status</u>	<u>Disposition</u>	<u>(For RIDOT use only)</u> <u>Replacement Material</u> <u>Size</u> <u>Value (each)</u>	
SD-27-3	Sta. 163+62, 28' Lt	Tree	Property Improvement	Existing to Remain		

Appendix G  
Remedial Action Work Plan (RAWP)

# Broad Street Regeneration

Broad Street  
Cumberland, Central Falls and Pawtucket,  
Rhode Island

PREPARED FOR



2 Capital Hill  
Providence, RI 02903  
401.222.2450

PREPARED BY

---



1 Cedar Street, Suite 400  
Providence, RI 02903  
401.272.8100

October 2, 2019

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# 1

## Introduction

On behalf of our Clients, the Rhode Island Department of Transportation (RIDOT), Vanasse Hangen Brustlin, Inc. (VHB) has completed this Remedial Action Work Plan (RAWP) for the Broad Street Regeneration Project for Broad Street in Cumberland, Central Falls and Pawtucket, Rhode Island. The project area is further identified as an approximately 2.9-mile segment of Broad Street, from Exchange Street in Pawtucket to just before Mendon Road in Cumberland. This segment of Broad Street is referred to as 'the Site' throughout this report. Broad Street consists of State-owned roadway in Cumberland and Central Falls and City owned in Pawtucket, Rhode Island. A Site Location Map is included as **Figure 1**. The RIDEM has assigned file number SR-08-1911 to the Site.

This RAWP has been prepared in accordance with Section 9.0 of the *Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases (Remediation Regulations)* to detail the remedy recommended in the Site Investigation Report (SIR) and approved by the RIDEM Office of Waste Management (OWM) in a Program Letter dated September 16, 2019 relative to impacts to soils identified during site investigation activities. This plan was prepared with consideration to the following reports and correspondence:

- › Corridor Land Use Evaluation, prepared by VHB, dated March 12, 2018;
- › Draft Limited Subsurface Investigation Memo, prepared by VHB, dated August 16, 2019;
- › Release Notification Form, prepared by RIDOT, dated August 31, 2018;
- › Letter of Responsibility, issued by RIDEM OWM, dated September 19, 2018;
- › Pre-Site Investigation Public Notice, prepared by VHB, dated September 19, 2018;
- › Site Investigation Report, prepared by VHB, dated September 6, 2019;
- › Program Letter, issued by RIDEM OWM, dated September 16, 2019; and
- › Post-Site Investigation Public Notice, prepared by VHB, mailed September 18, 2019.

VHB performed these investigations on behalf of the RIDOT to support roadway improvements as part of the Broad Street Regeneration Project. A Site Location Map illustrating the approximate extent of the project area in relation to surrounding areas is included as **Figure 1**.

Pursuant to the Rhode Island General Laws, Title 23, *Health and Safety*, Chapter 23-19.14, *Industrial Property Remediation and Reuse Act*, Section 23-19.14-15, *Environmental Equity and Public Participation*, a public meeting was advertised and held at the Adams Public Library in Central Falls on October 9, 2018. Following the public comment period, VHB Pre-Site Investigation Summary Letter to the RIDEM OWM on April 3, 2019.

Site investigation activities were summarized in the Site Investigation Report received by the RIDEM OWM on September 9, 2019. The RIDEM OWM issued a Program Letter on September 16, 2019.

Post-Site Investigation Public Notices were subsequently mailed to all abutting property owners, tenants, and the municipalities, regarding the substantive findings of the completed investigation in accordance with Rules 7.07 and 7.09 of the Remediation Regulations on September 18, 2019. The opportunity for public review and comment on the technical feasibility of the proposed remedial alternatives commenced on September 18, 2019 and the period closed October 2, 2019, with no substantive comments received.

This RAWP presents a remedial action to eliminate or maintain direct exposure to impacted soils during the redevelopment of Broad Street. Direct exposure to impacted soils at the Site will be managed via soil excavation and construction during roadway improvements, which will serve as an engineered cap. An Environmental Land Usage Restriction (ELUR), which will include a Soil Management Plan (SMP), will be recorded for the regulated capped portion of the roadway after construction is complete.

VHB prepared a draft ELUR (attached as **Appendix B**) on behalf of the Client. The draft ELUR proposes the following restrictions and requirements:

- › Limited future use of the property;
- › The Site's capped areas are to remain in place and be maintained in good condition, as needed;
- › RIDEM notification and appropriate soil compliance should future soil excavation/disturbances be required unless otherwise exempt; and
- › Annual evaluation of the properties for ELUR compliance.

Implementation of the RAWP is proposed to commence concurrently with redevelopment of the Site. This RAWP has been prepared on behalf of and for the exclusive use of RIDOT. Limitations associated with this practice are included in **Appendix A**.

# 2

## Site Description and Overview

### 2.1 Location and Site Description

The project area is described as an approximately 2.9-mile segment of Broad Street, from Exchange Street in Pawtucket to just before Mendon Road in Cumberland, Rhode Island, hereinafter referred to as “the Site.” A Site Detail Map is included as **Figure 2** illustrating pertinent features in the general vicinity of the Site. Current land use in the vicinity of the Site is primarily commercial and also includes a mix of residential and industrial uses.

### 2.2 Environmental Setting

According to the Soil Survey of Rhode Island (Rector 1981), soils at the northern portion of the Site (north of the Blackstone River) primarily consists of Merrimac-Urban land complex, 0 to 8 percent slopes. This soil-type is described as a generally fine sandy loam to gravelly loamy sand. The parent material is described as loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss. The southern portion of the Site (south of the Blackstone River) is described as primarily Urban Land and to a lesser extent, Merrimac-Urban land complex. Urban Land is described as the result of human transported material.

The topography across the Site is mostly flat and generally slopes to the south. The elevation of the Site at the approximate center is 66 feet above sea level.

According to the RIDEM Environmental Resources Map, the groundwater classification at the Site is primarily GB and also includes GA/GAA. The majority of the Site is classified as GB, however, a portion of the northern extent of the Site in Cumberland is classified GA and the furthest northern extent is GAA. Groundwater resources classified GAA are those resources that have been designated suitable for public or private drinking water uses without prior treatment. GAA groundwaters are located within groundwater reservoirs and portions of their recharge areas, wellhead protection areas for community water supply wells, and/or groundwater dependent areas that are physically isolated from reasonable alternative water supplies and where the existing groundwater supply warrants the highest level of protection. Groundwater resources classified as GA are those resources that have been designated suitable for public or private drinking water use without treatment. Groundwater resources

classified as GB are those resources that may not be suitable for public or private drinking water use without treatment due to known or potential degradation.

The nearest waterbody is the Blackstone River, which Broad Street either crosses or is located 400 feet away at the nearest point otherwise. According to the RIDEM Water Quality Regulations, the northern portion of the Blackstone River is a Class B1 water body. Class B1 water bodies are designated for primary and secondary contact recreational activities and fish and wildlife habitat. They are suitable for compatible industrial processes and cooling, hydropower, aquacultural uses, navigation, and irrigation and other agricultural uses. Primary contact recreational activities may be impacted due to pathogens from approved wastewater discharges. The southern portion of the Blackstone River in the vicinity of the Site is classified as B1{a}. The {a} denomination indicates these waters will likely be impacted by combined sewer overflows in accordance with approved CSO Facilities Plans and in compliance with rule 19.E.1 of these regulations and the Rhode Island CSO Policy. Therefore, primary contact recreational activities; shell fishing uses; and fish and wildlife habitat will likely be restricted.

The Flood Insurance Rate Maps Providence County, Rhode Island (Community Panel No. 44007C0192G, dated March 3, 2009; 44007C0194J dated 10/2/2015; and 44007C0307J dated 10/2/2015) indicates that the Site is primarily located in an "Area of Minimal Flood Hazard Zone X." However, where Broad Street crosses the Blackstone River in Central Falls, portions of the Site appear to include areas Without Base Flood Elevation (BFE) and areas of 0.2 percent Annual Chance Flood Hazard; areas of 1 percent annual chance flood with average depths of less than 1 foot with drainage areas less than 1 square mile; and areas protected by levees from 1 percent annual chance flood.

## **2.3 Site Operational History**

Based on publicly available historical aerial photographs and Sanborn Fire Insurance Maps, the general vicinity of the Site has been developed for residential, commercial and/or industrial purposes since at least 1894. Numerous filling stations/gas stations, auto body shops/garages, fire stations, mills/manufacturing facilities and other businesses that may have used and/or stored OHM were noted in the historical records in the vicinity of the Site.

The Site remains primarily commercial and also includes a mix of residential and industrial uses. During windshield surveys included as part of the CLUE, VHB confirmed the presence of multiple gasoline and/or automobile service stations adjacent to Broad Street and a variety of chain retail stores (i.e. CVS), restaurants, and small businesses. Residential apartments were present on the upper stories of many of the buildings that contained small businesses or restaurants on the first story in some areas including Central Falls, as well as dwellings located along Broad Street in other areas including Cumberland.

# 3

## Summary of Site Soil and Groundwater Conditions

Site Investigation activities in accordance with the Remediation Regulations have been completed at the Site by VHB in June 2018. Pertinent data from the assessment and investigation has been included in previous reports as outlined in **Section 1**.

The following sections further outline the constituents of concern identified in soil at the Site to address the requirements of the RIDEM Site Remediation Regulations.

### 3.1 Soil

Laboratory analytical results from soil samples collected during the subsurface investigation indicated exceedances of total petroleum hydrocarbons, metals (arsenic, lead) and semi volatile organic compounds (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, pyrene) above the RIDEM Residential Direct Exposure Criteria (RDEC) and/or RIDEM Industrial/Commercial Direct Exposure Criteria (I/CDEC) at the Site.

The laboratory data was also compared to either GA or GB Leachability Criteria (LC), as applicable based upon the location where the soil samples were collected. No exceedances of the applicable GALC or GBLC were reported in the laboratory analytical data.

### 3.2 Groundwater

Laboratory analytical results from groundwater sampling conducted during the subsurface investigation did not indicate any concentrations above the applicable GB Groundwater Objectives set forth in the Remediation Regulations.

Although part of the Site was classified as GA/GAA, the portions of the Site where monitoring wells were installed are classified GB.

# 4

## Remedial Activities

As detailed in Section 9.0 of the Remediation Regulations, this work plan describes the remedial actions necessary under these regulations.

### 4.1 Remedial Objectives (Rule 9.02)

The remedial objective for this Site as recommended in the SIR and approved by the RIDEM OWM is to reduce possible direct exposure to impacted soils via limited soil excavation, capping, and institutional controls. Remediation will be conducted concurrently with Site redevelopment.

In accordance with Section 9.02 of the Remediation Regulations, this Section addresses remedial objectives for all potentially impacted media (soil, groundwater, surface water, air, and sediment) for the Site. Remedial objectives for each of the media prescribed by the regulations are discussed below.

#### 4.1.1 Soil

The remedial objective for soil is to reduce possible direct exposure to impacted soils and entrainment through wind and runoff via limited excavation, capping, and institutional controls. Exceedances of the RIDEM RDEC and/or the I/CDEC were detected in numerous locations along the project area.

As needed, soils where data indicated exceedances of RIDEM criteria will be removed during construction. The horizontal extent of the capping will generally include the entire extent of the project area due to exceedances of various contaminants of concern in a majority of the soil borings advanced during subsurface investigations in June 2018. Some extents where data indicated soils are not in exceedance of applicable RIDEM criteria may be managed separately, as determined by the environmental professional during construction activities. Some areas will be excavated or otherwise disturbed prior to capping and some areas will be capped directly, depending on the proposed improvements in those areas. Some impacted soils from those areas requiring excavation may be transferred to other regulated areas of the Site prior to capping. Any excavated or regraded contaminated soils not interred beneath the cap will be disposed of at an off-Site licensed disposal facility.

Since contaminated soil will be left in place beneath the cap, an ELUR will be required for the Site. The ELUR will require that capped portions of the Site remain in place and any soil disturbed post-remediation be managed in accordance with a RIDEM-approved Soil Management Plan (SMP).

#### **4.1.2 Groundwater**

VHB compared groundwater concentration data to the RIDEM GB Groundwater Objectives established in the Remediation Regulations, as shown on Table 2.

The groundwater data indicated no exceedances of the RIDEM GB Groundwater Objectives.

#### **4.1.3 Air**

Constituents of concern identified during the Site Investigation are not commonly associated with adverse impacts to ambient or indoor air. Therefore, no remedial objectives for air are proposed. However, dust control measures will be required during construction and earthwork activities. Refer to the dust control subsection (**Section 4.8**) below for information pertaining to fugitive dust issues.

#### **4.1.4 Surface Water/Sediment**

Entrainment of impacted soil through wind and stormwater runoff has the potential to impact adjacent surface water and sediments. By capping impacted soil, the potential for migration through entrainment will be eliminated. Surface and erosion runoff controls will also be provided as detailed in the soil stockpile management/erosion control subsection (**Section 4.7**) below.

### **4.2 Proposed Remedy (Rule 9.03)**

Remedial actions will be conducted concurrently with Site redevelopment. Public advertising of the project by the RIDOT has already been completed in August 2019 and the selected contractor is anticipated to start work in March 2020. The remedial action will consist of the encapsulation of soil throughout the Site in order to eliminate direct exposure. Some jurisdictional soils may be re-interred under the cap, or remain in place where existing paved areas are proposed to be left undisturbed. The majority of Broad Street is currently proposed for milling and overlay, therefore underlying soils will not be disturbed except for areas where the installation of drainage structures or other intrusive work are scheduled to occur within the roadway.

The following minimum encapsulation methods, depicted on **Figure 3**, are proposed for the Broad Street Project in its entirety with the exception of any existing paved areas where soils are to be left undisturbed as a cap-in-place (e.g., areas where only milling and overlay of paving is proposed).

- 1) Two (2) feet of clean, imported fill (such as in landscaped areas, if any);
- 2) 12 inches of clean, imported fill underlain with a geotextile fabric; or



- 3) Four inches of pavement (asphalt or concrete) above subbase material. Please note that in some areas, reuse of existing subbase material deemed usable by the contractor and RIDOT is expected as a cost saving measure; however, not all existing subbase material is expected to be deemed reusable. Therefore, the fill material may be replaced in part or in whole by clean imported fill. All clean imported fill material used in capping will be certified to be clean via laboratory sampling and analysis or otherwise deemed non-jurisdictional. In addition, please note that the majority of the existing paved surfaces are proposed to be milled and overlaid with 1.5 inches of new bituminous pavement. In such instances, the new asphalt layer combined with the existing undisturbed pavement and underlying subbase will serve as the cap.

Since impacted soil will be left in place with a cap, an ELUR will be required for the Site. An ELUR is a legal document drafted for the purpose of placing a notice of restrictions on the use or physical condition of a property for the protection of human health. The ELUR will require that the capped portions of the property remain in place, any soil disturbed post-remediation will be managed in accordance with a RIDEM approved Soil Management Plan (SMP). A copy of the draft ELUR for this property is included in **Appendix B**. Upon completion of the proposed construction activities and RIDEM approval, the ELUR will be filed in the Town of Cumberland and Cities of Central Falls and Pawtucket Land Evidence Records.

The proposed remedy will meet the remedial objectives as follows:

- 1) The use of a cap will prevent migration of hazardous substances by eliminating impacted soil exposure to wind;
- 2) The use of the cap will physically prevent direct contact with impacted soil beneath the cap;
- 3) Volatilization is not a concern for the Site; however, the cap will prevent entrainment of contaminants through wind and rain; and
- 4) Surface runoff will be controlled through the use of erosion controls during construction as described herein.

### **4.3 Points of Compliance (Rule 9.06)**

During Site construction activities, the construction superintendent and the RIDOT engineer, along with the assistance of a VHB representative, will monitor construction to document that the engineered controls are properly constructed in accordance with the RAWP. Operation logs will be kept and submitted upon the completion of the project.

Proper disposal of excess impacted soil (if any) will be supported by laboratory reports, transportation records, and disposal paperwork. The proper installation of the cap will be documented by photographs and field measurements. These compliance points will be presented in a Remedial Closure Report along with Operations Logs and other information deemed pertinent by VHB to demonstrate compliance with this RAWP. Annually, the area subject to the ELUR, which includes the engineered barrier, will be inspected and documented to identify areas in need of maintenance/repairs, and evaluated to ensure that

all property restrictions are being adhered to. The annual inspection will be documented in a written report with an Annual Compliance Evaluation Form, which will be forwarded to the RIDEM OWM annually.

#### **4.4 Proposed Schedule (Rule 9.07)**

The proposed Site remedy consists of soil encapsulation via engineered controls and implementation of an ELUR. The remedial actions will be completed concurrently with Site redevelopment construction. Work is proposed to begin in March of 2020.

The Remedial Action Closure Report, draft ELUR, and draft SMP will be submitted within 30 days following the completion of the remedial action. The ELUR and SMP will be finalized by the property owners within 60 days following the approval by RIDEM OWM and will be recorded with the Town of Cumberland and the Cities of Central Falls and Pawtucket Land Evidence Records. A recorded copy of the ELUR will be forwarded to RIDEM OWM within 15 days of filing.

#### **4.5 Contractors and/or Consultants (Rule 9.08)**

The RIDOT put the project out to bid in August of 2019 and a Contractor has yet to be selected for this project. VHB will conduct weekly inspections once construction begins to document construction activities and installation of the engineered cap and is available to conduct the yearly cap inspections.

#### **4.6 Design Standards and Technical Specifications (Rule 9.10)**

The following minimum encapsulation methods, depicted on **Figure 3**, are proposed for the Broad Street Regeneration project in its entirety with the exception of areas of existing pavement or roadways which will be maintained as a cap-in-place.

- 1) Two (2) feet of clean, imported fill (such as in landscaped areas, if any);
- 2) 12 inches of clean, imported fill underlain with a geotextile fabric; or
- 3) Four inches of pavement (asphalt or concrete) above subbase material. Please note that in some areas, reuse of existing subbase material deemed usable by the contractor and RIDOT is expected as a cost saving measure; however, not all existing subbase material is expected to be deemed reusable. Therefore, the fill material may be replaced in part or in whole by clean imported fill. All clean imported fill material used in capping will be certified to be clean via laboratory sampling and analysis or otherwise deemed non-jurisdictional. In addition, please note that the majority of the existing paved surfaces are proposed to be milled and overlaid with 1.5 inches of new bituminous pavement. In such instances, the new asphalt layer combined with the existing undisturbed pavement and underlying subbase will serve as the cap.

A figure depicting the specifications of these cap types is attached to the Draft SMP provided as Exhibit C of the ELUR (located in **Appendix B** of this report).

In areas where a geotextile fabric will be used as part of the engineered barrier/cap, the fabric will possess minimum specifications applicable to geotextiles used for the purposes of soil separation as established by the American Association of State Highway Transportation Officials (AASHTO) Publication M-288-06. Specifically, the fabric shall possess a minimum permittivity of  $0.02 \text{ sec}^{-1}$ , a minimum apparent opening size of 0.6 mm (maximum average roll value), and an ultraviolet stability of at least 50% after 500 hours of exposure.

All soil imported to the Site for construction of the cap (including, but not limited to, loam, common borrow, gravel borrow, etc.) will meet RDEC or will be certified to be non-jurisdictional. Clean fill and loam proposed to be used at the Site will be sampled and approved **prior** to importation to the Site. Clean fill and imported soil will be sampled for arsenic at a frequency of one sample per 500 cubic yards. One-quarter of the total number of compliance samples of clean fill (which equates to one sample per 2,000 cubic yards) will be sampled for VOCs, Polycyclic Aromatic Hydrocarbons (PAHs), Total Metals (PP13), and TPH.

#### **4.7 Soil Stockpile Management**

Temporary stockpiling of Site soil may be necessary for work to be conducted at the Site. The locations of temporary stockpiles will be at the discretion of the contractor. All excavated material which requires stockpiling as detailed in previous section, will be temporarily stockpiled on top of 6-milimeter (6-mil) polyethylene sheeting and covered with 6-mil polyethylene sheeting in a contractor-designated stockpile area on Site. The stockpiles will be covered whenever there is no active excavation being conducted. Stockpiles of clean imported soil will be sufficiently separated from stockpiles of excavated impacted soil so as to avoid potential comingling of the materials.

#### **4.8 Dust Control**

All reasonable precautions will be taken to prevent the excessive generation of dust during soil excavation, stockpiling, loading, and other soil handling activities. Work at the Site must comply with all applicable federal, state, and local regulations, including the RIDEM [Air Pollution Control Regulations](#), and specifically Regulation No. 5 regarding control of fugitive dust. Dust control measures must be implemented as required, to prevent airborne particulate matter from leaving the Site at all times. Dust control measures (such as wetting soils or the application of calcium chloride) shall be implemented on an as needed basis (i.e. visual evidence of airborne dust) throughout the project. All stockpiles shall be inspected on a daily basis to ensure compliance with RIDEM [Air Pollution Control Regulations](#). VHB will conduct periodic Site visits to ensure dust control measures are being implemented if necessary. This information will then be recorded in the operating logs.

#### **4.9 Sedimentation and Erosion Control**

Prior to the start of excavation activities, sediment and erosion controls, consisting of compost filter socks, silt fencing, or other equivalent methods proposed by the construction contractor will be installed at the Site.

#### **4.10 Health and Safety Plan**

A Health and Safety Plan will be developed by the contractor, or their sub-consultant, for implementation with consideration to OSHA regulations. A copy of VHB's site-specific plan is attached as **Appendix C**.

#### **4.11 Operating Log (Rule 9.14)**

An Operating Log that conforms with the requirements of Rule 9.14 of the Remediation Regulations will be utilized and maintained during all remedial actions. The Operating Logs will detail information such as thickness, composition, and location of the cap and will also document earthwork activities and monitoring to ensure that the appropriate regulations are complied with when on-Site. A copy of the Operating Log template is included as **Appendix D**. The Operating Log will be readily available at the Site during construction. The Responsible Party will keep a copy of the Operating Log for a minimum of three years following completion of the remedy. All information recorded in the Operating Logs will be summarized in a Remedial Action Closure Report submitted to the RIDEM OWM, following the completion of remediation and redevelopment activities.

When a VHB representative is on-Site, an Operating Log will be completed by VHB for activities witnessed by the VHB representative.

#### **4.12 Management of Remediation Waste**

Any remediation waste generated will be managed in accordance with state and federal requirements and disposal documentation will be provided to RIDEM OWM. If excess Site soil is generated, the material will be sampled for the appropriate disposal parameters and disposed of at a permitted facility. Copies of disposal paperwork (e.g., weight slips) will be included in the Remedial Action Closure Report.

#### **4.13 Security Procedures (Rule 9.15)**

Security will be addressed by the utilization of temporary construction fencing, if needed. In Any excavations will be secured at the conclusion of each workday, using methods such as backfilling open excavation areas, placing road plates over areas that have not been backfilled, etc. Access to any fenced off areas will be controlled by the use of a gate. The fence gate will be secured at the conclusion of each workday during the construction project by the construction superintendent.

#### **4.14 Shutdown, Closure, and Post-Closure Requirements (Rule 9.16)**

Upon completion of the project, a Remedial Action Closure Report will be submitted to the RIDEM OWM outlining all field activities that were completed. The report will also include a schedule for yearly cap inspection. Any maintenance necessary to repair or maintain the cap will also be noted.

#### **4.15 Institutional Controls and Notices (Rule 9.17)**

The ELUR and SMP will be finalized by the Client and Owners following the approval by RIDEM OWM and will be recorded for the properties in the Land Evidence Records for the Town of Cumberland and Cities of Central Falls and Pawtucket. A recorded copy of the ELUR will be forwarded to RIDEM OWM by the Responsible Party. A copy of the draft ELUR and SMP are attached as **Appendix B**.

#### **4.16 Compliance Determination**

Successful completion of the Site capping activities documented in the Operating Logs, along with field measurements, photo-documentation, soil disposal weight slips will be used to demonstrate compliance with the work plan. All information associated with these actions will be submitted to RIDEM OWM as required.

# 5

## Certification Statements

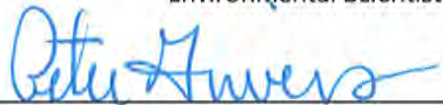
VHB submits the following statements of certification:

### Certification by Preparer:


Vanasse Hangen Brustlin, Inc. has prepared this RAWP for contaminated soil at the Broad Street Regeneration project in accordance with the requirements of Section 9.0 of the Remediation Regulations and certifies the accuracy of the information contained in the report to the best of our knowledge.



Prepared by: Fred T. Bevans  
Environmental Scientist


  
Date

Reviewed by: Peter M. Grivers, P.E., LSP  
Senior Project Manager


  
Date

### Certification by Civil Engineer:

The cross-section capping specifications and other technical specifications included in this RAWP (e.g., geotextile fabric proposed for use in landscaped areas) have been prepared under my supervision as a registered Professional Engineer in the State of Rhode Island.



Project Engineer: Rick Rhodes, P.E.  
Director of Highway Engineering

  
Date

### Certification by Owner/Operator

I, a representative of the Rhode Island Department of Transportation, certify that the information contained in this report is a complete and accurate representation of the conditions at the Broad Street Regeneration project and the proposed remedial activities to the best of my knowledge.

  
\_\_\_\_\_  
Owner/Operator Representative

10-1-19  
\_\_\_\_\_  
Date

Brian M Moore  
\_\_\_\_\_  
Printed Name

ADMINISTRATOR  
\_\_\_\_\_  
Title

# 6

## References

Environmental Risk Information Services, Inc. Database Report (No. 20180111172), January 15, 2018.

Federal Emergency Management Agency Flood Insurance Rate Map, Providence County, Rhode Island, Community Panel No. 44007C0192G, dated March 3, 2009; 44007C0194J dated 10/2/2015; and 44007C0307J dated 10/2/2015.

Hermes, O.D., L.P. Gromet and D.P. Murray, Bedrock Geologic Map of Rhode Island, 1994.

Rhode Island Department of Environmental Management Groundwater Classification and Well Head Protection Area Map, 2010.

Rhode Island Department of Environmental Management Rules and Regulations for Groundwater Quality, June 2010.

Rhode Island Department of Environmental Management Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases, November 2011.

Rhode Island Department of Environmental Management Environmental Resources Map, accessed September 2019.

Vanasse Hangen Brustlin, Inc., Corridor Land Use Evaluation, March 12, 2018.

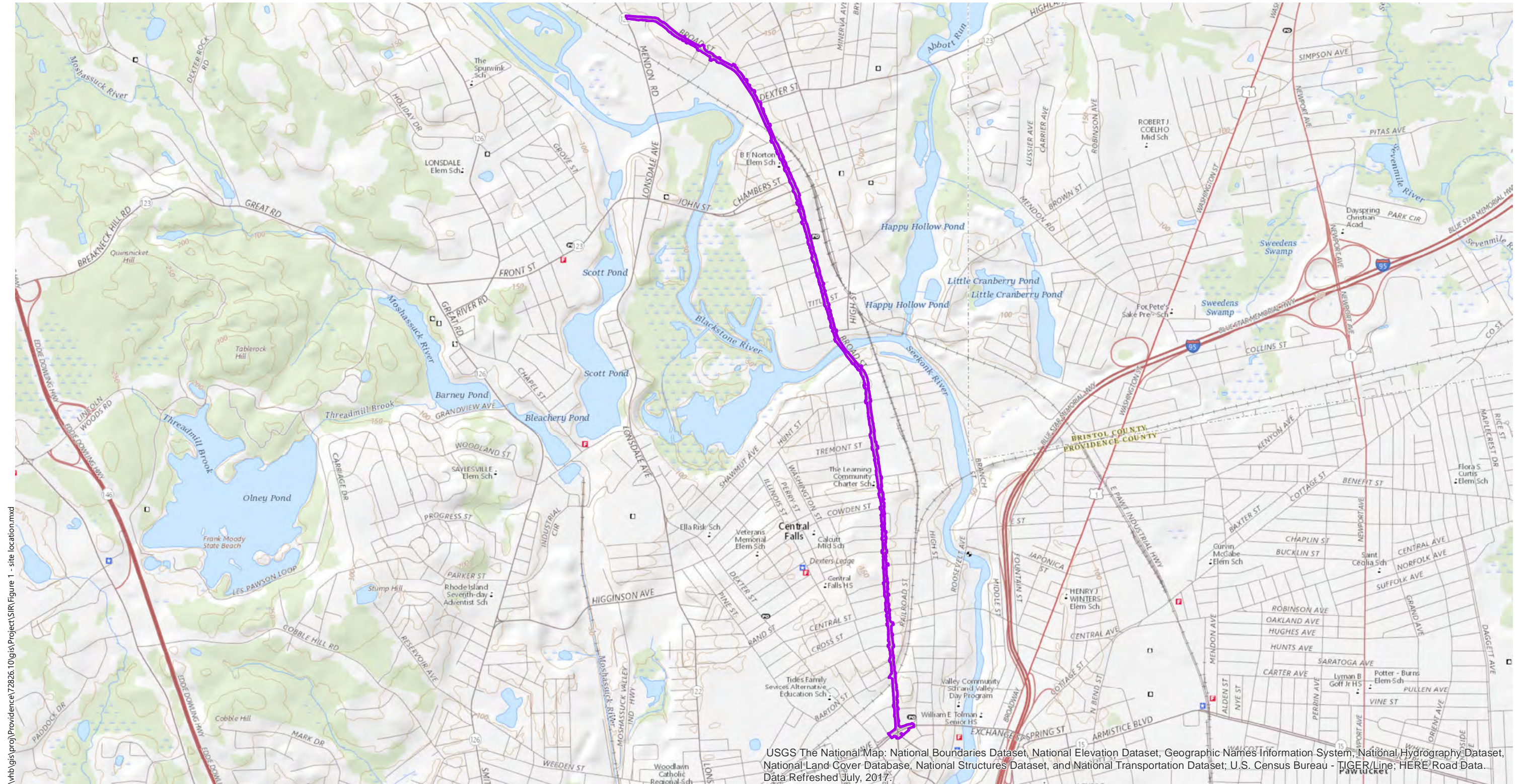
Vanasse Hangen Brustlin, Inc., Limited Site Investigation Memo, August 16, 2018.



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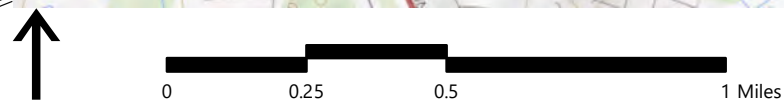
# Figures





\\vhb\gis\proj\Providence\72826\_10\gis\Project\SR\Figure 1 - site location.mxd

USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data. Data Refreshed July, 2017.



**Legend**  
 Project Area (LOD)

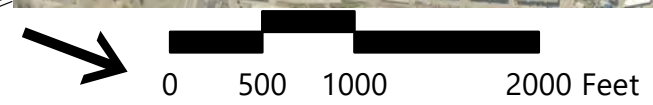
**Broad Street Regeneration Project** | Pawtucket, Central Falls, Cumberland, Rhode Island

**Site Location Map**  
 Source: USGS Topo Maps





\\vhb\GIS\proj\Providence\72826.10\gis\Project\SR\Figure 2 - overall locations.mxd



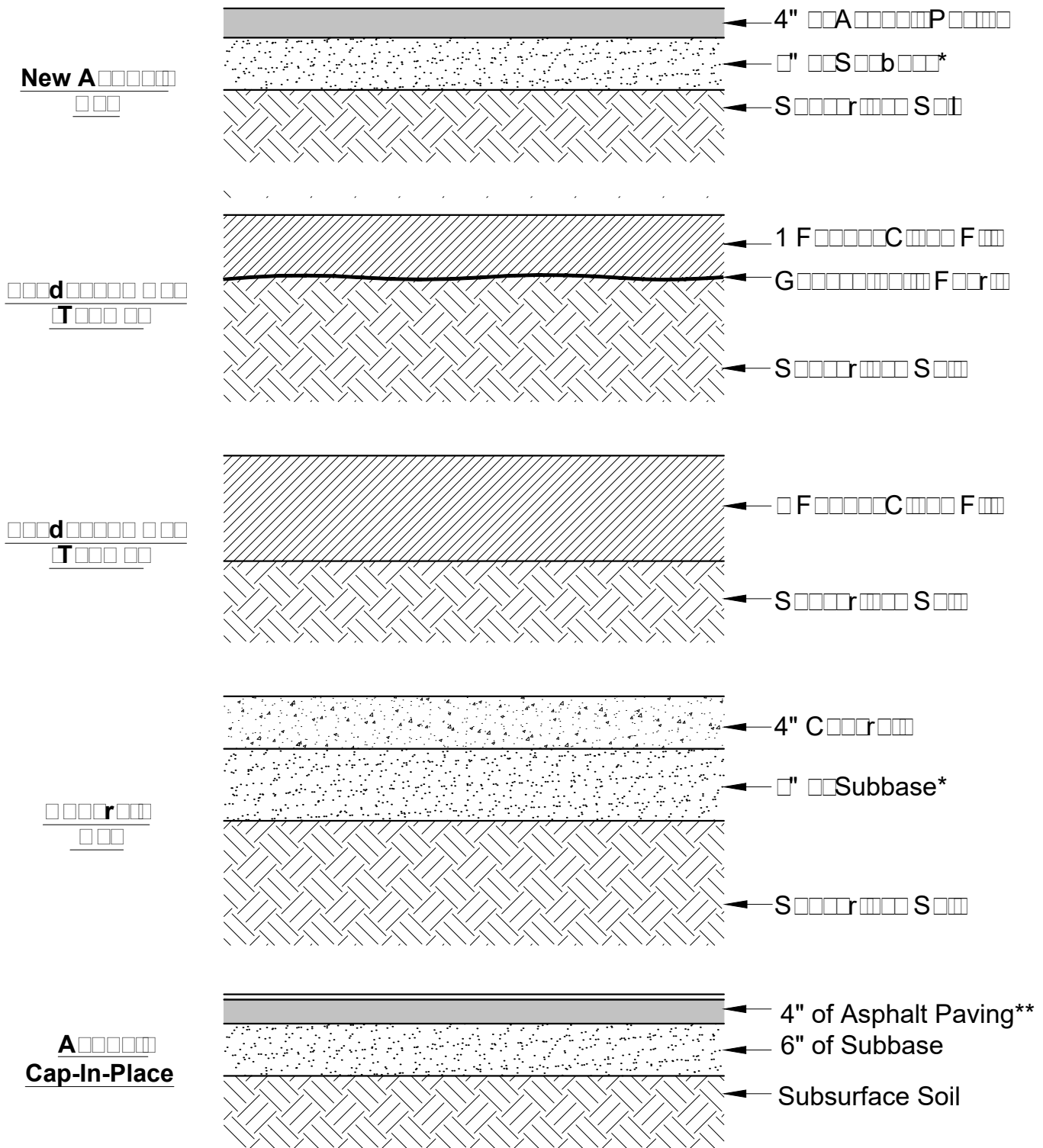
**Broad Street Regeneration Project** | Broad Street  
Pawtucket, Central Falls, Cumberland, Rhode Island

- Legend**
- Monitoring Well
  - Soil Boring
  - Townline
  - Project Area (LOD)
  - Stateline

**Site Detail Map - Overall Project Area**  
Source: RIDEM Aerial, April 2018

ADDENDUM NO. 2





\*Subbase consisting of existing subbase, certified clean fill subbase or a combination of the two.  
 \*\*Top 1.5 inches of existing asphalt to be resurfaced via mill and overlay and otherwise undisturbed as a cap-in-place.

Figure 3  
 Existing Concrete Slab on Subbase

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## Appendix A: Limitations

## **Limitations**

### **Broad Street Regeneration Cumberland, Central Falls and Pawtucket, Rhode Island**

This report has been prepared for the sole and exclusive use of Vanasse Hangen Brustlin, Inc. and The Rhode Island Department of Transportation, and is subject to and issued in connection with the Agreement and provisions thereof. Any use or reliance upon information provided in this report, without the specific written authorization of Client and VHB, shall be at the User's sole risk.

In conducting this work plan, VHB has obtained and relied upon information from multiple sources to form certain conclusions regarding potential environmental issues at and in the vicinity of the subject property. Except as otherwise noted, no attempt has been made to verify the accuracy or completeness of such information.

No attempt has been made to assess the compliance status of any past or present Owner or Operator of the Site with any federal, state, or local laws or regulations.

The findings, observations, and conclusions presented in this report are limited by the scope of services outlined in our Agreement, which regulates schedule and budgetary constraints imposed, but the Client for the current phase of environmental assessment. Furthermore, the assessment has been performed in accordance with generally accepted engineering practices. No other warranty, expressed or implied, is made.

The assessment presented in this report is based solely upon information gathered to date. Should further environmental or other relevant information be developed at a later date, the Client should bring the information to the attention of VHB as soon as possible. Based upon an evaluation, VHB may modify the report and its conclusions.

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## Appendix B: Draft ELUR and SMP

**Appendix G**  
**ENVIRONMENTAL LAND USAGE RESTRICTION**

This Declaration of Environmental Land Usage Restriction (“Restriction”) is made on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ by ~~property owner~~**the State of Rhode Island and City of Pawtucket**, and its successors and/or assigns (hereinafter, the “Grantor”).

**WITNESSETH:**

WHEREAS, the Grantors ~~\_\_\_\_\_ (name)~~**the State of Rhode Island and City of Pawtucket** ~~is are~~ the Owner in fee simple of certain real property identified as ~~[specify Plat, Lot(s), address and Town or City]~~**Broad Street at Exchange Street in Pawtucket, Rhode Island, Broad Street throughout Central Falls, Rhode Island and Broad Street within Cumberland, Rhode Island connecting to the intersection with Mendon Road** Rhode Island (the “Property”), more particularly described in Exhibit A (Legal Description) which is attached hereto and made a part hereof;

WHEREAS, the Property ~~as shown in Exhibit B (or portion thereof identified in the Class I survey which is attached hereto as Exhibit 2A and is made a part hereof)~~ has been determined to contain soil ~~and/or groundwater~~ which is contaminated with certain Hazardous Materials and/or petroleum in excess of applicable ~~residential and/or industrial/commercial Direct Exposure Criteria, GA Leachability Criteria and/or applicable GA groundwater objective] criteria~~ pursuant to the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (“Remediation Regulations”);

WHEREAS, the Grantor and the Department have determined that the environmental land use restrictions set forth below are consistent with the regulations adopted by the Rhode Island Department of Environmental Management (“Department”) pursuant to R.I.G.L. § 23-19.14-1 and that this restriction shall be a Conservation Restriction pursuant to R.I.G.L. § 34-39-1 et. seq. and shall not be subject to the 30\_-year limitation provided in R.I.G.L. § 34-4-21;

WHEREAS, the Department's written approval of this Restriction is contained in the document entitled: ~~[Remedial Decision Letter/ Settlement Agreement/ Order of Approval/ Remedial Approval Letter]~~ issued pursuant to the Remediation Regulations;

WHEREAS, to prevent exposure to or migration of Hazardous Substances and to abate hazards to human health and/or the environment, and in accordance with the ~~[Remedial Decision Letter/ Remedial Agreement/ Order of Approval/ Remedial Approval Letter]~~, the Grantor desires to impose certain restrictions upon the use, occupancy, and activities of and at the ~~[Property/Contaminated-Site]~~;

WHEREAS, the Grantor believes that this Restriction will effectively protect public health and the environment from such contamination; and



WHEREAS, the Grantor intends that such restrictions shall run with the land and be binding upon and enforceable against the Grantor and the Grantor's successors and assigns.

NOW, THEREFORE, Grantor agrees as follows:

**A. Restrictions Applicable to the ~~Property/Contaminated-Site~~:** In accordance with the ~~Remedial Decision Letter/ Remedial Agreement/ Order of Approval/ Remedial Approval Letter~~, the use, occupancy and activity of and at the ~~Property/Contaminated-Site~~ is restricted as follows:

i. No residential use of the ~~Property/Contaminated-Site~~ shall be permitted that is contrary to Department approvals and restrictions contained herein;

~~ii. No groundwater at the Property/Contaminated-Site shall be used as potable water;~~

~~iii.~~ii. No soil at the ~~Property/Contaminated-Site~~ shall be disturbed in any manner without written permission of the Department's Office of Waste Management, except as permitted in the Remedial Action Work Plan (RAWP) or Soil Management Plan (SMP) approved by the Department in a written approval letter dated \_\_\_\_\_ (date) contained in Exhibit BC and attached hereto;

~~iv.~~ Humans engaged in activities at the ~~Property/Contaminated-Site~~ shall not be exposed to soils containing Hazardous Materials and/or petroleum in concentrations exceeding the applicable Department approved Direct Exposure Criteria set forth in the Remediation Regulations;

~~v. Water at the Property/Contaminated-Site shall be prohibited from infiltrating soils containing Hazardous Materials and/or petroleum in concentrations exceeding the applicable Department approved leachability criteria set forth in the Remediation Regulations;~~

~~vi. No subsurface structures shall be constructed on the Property/Contaminated-Site over groundwater containing Hazardous Materials and/or petroleum in concentrations exceeding the applicable Department approved GA or GB Groundwater Objectives set forth in the Remediation Regulations;~~

~~vii.~~v. The engineered controls at the ~~Property/Contaminated-Site~~ described in the ~~RAWP or SMP~~ contained in Exhibit BC attached hereto shall not be disturbed and shall be properly maintained to prevent humans engaged in ~~residential or industrial/commercial~~ passive activity from being exposed to soils containing Hazardous Materials and/or petroleum in concentrations exceeding the applicable Department-approved ~~residential and/or industrial/commercial~~ Direct Exposure Criteria in accordance with the Remediation Regulations; and

~~viii.~~vi. The engineered controls at the ~~Property/Contaminated-Site~~ described in the

~~[RAWP or Soil Management Plan SMP]~~ contained in Exhibit BC attached hereto shall not be disturbed and shall be properly maintained so that water does not infiltrate soils containing Hazardous Materials and/or petroleum in concentrations exceeding the applicable Department-approved leachability criteria set forth in the Remediation Regulations.

**B. No action shall be taken, allowed, suffered, or omitted at the ~~[Property/Contaminated-Site]~~ if such action or omission is reasonably likely to:**

- i. Create a risk of migration of Hazardous Materials and/or petroleum;
- ii. Create a potential hazard to human health or the environment; or
- iii. Result in the disturbance of any engineering controls utilized at the ~~[Property/Contaminated-Site]~~, except as permitted in the Department-approved ~~[RAWP or SMP]~~ contained in Exhibit BC.

**C. Emergencies:** In the event of any emergency which presents a significant risk to human health or to the environment, including but not limited to, maintenance and repair of utility lines or a response to emergencies such as fire or flood, the application of Paragraphs A (iii.-viii.) and B above may be suspended, provided such risk cannot be abated without suspending such Paragraphs and the Grantor complies with the following:

- i. Grantor shall notify the Department's Office of Waste Management in writing of the emergency as soon as possible but no more than three (3) business days after Grantor's having learned of the emergency. (This does not remove Grantor's obligation to notify any other necessary state, local or federal agencies.);
- ii. Grantor shall limit both the extent and duration of the suspension to the minimum period reasonable and necessary to adequately respond to the emergency;
- iii. Grantor shall implement reasonable measures necessary to prevent actual, potential, present and future risk to human health and the environment resulting from such suspension;
- iv. Grantor shall communicate at the time of written notification to the Department its intention to conduct the Emergency Response Actions and provide a schedule to complete the Emergency Response Actions;
- v. Grantor shall continue to implement the Emergency Response Actions, on the schedule submitted to the Department, to ensure that the ~~[Property/Contaminated-Site]~~ is remediated in accordance with the Remediation Regulations (or applicable variance) or restored to its condition prior to such emergency. Based upon information submitted to the Department at the time the ELUR was recorded pertaining to known environmental conditions at the ~~[Property/Contaminated-Site]~~, emergency maintenance and repair of utility lines shall only require restoration of the ~~[Property/Contaminated-Site]~~ to its condition prior to the maintenance and repair of the utility lines; and

vi. Grantor shall submit to the Department, within ten (10) days after the completion of the Emergency Response Action, a status report describing the emergency activities that have been completed.

**D. Release of Restriction; Alterations of Subject Area:** The Grantor shall not make, or allow or suffer to be made, any alteration of any kind in, to, or about any portion of the ~~{Property/Contaminated-Site}~~ inconsistent with this Restriction unless the Grantor has received the Department's prior written approval for such alteration. If the Department determines that the proposed alteration is significant, the Department may require the amendment of this Restriction. Alterations deemed insignificant by the Department will be approved via written correspondence (e.g., a letter or email) from the Department. The Department shall not approve any such alteration and shall not release the ~~{Property/Contaminated-Site}~~ from the provisions of this Restriction unless the Grantor demonstrates to the Department's satisfaction that Grantor has managed the ~~{Property/Contaminated-Site}~~ in accordance with applicable regulations.

**E. Notice of Lessees and Other Holders of Interests in the ~~{Property/Contaminated-Site}~~:** The Grantor, or any future holder of any interest in the ~~{Property/Contaminated-Site}~~, shall cause any lease, grant, or other transfer of any interest in the ~~{Property/Contaminated-Site}~~ to include a provision expressly requiring the lessee, grantee, or transferee to comply with this Restriction. The failure to include such provision shall not affect the validity or applicability of this Restriction to the ~~{Property/Contaminated-Site}~~.

**F. Enforceability:** If any court of competent jurisdiction determines that any provision of this Restriction is invalid or unenforceable, the Grantor shall notify the Department in writing within fourteen (14) days of such determination.

**G. Binding Effect:** All of the terms, covenants, and conditions of this Restriction shall run with the land and shall be binding on the Grantor, its successors and assigns, and each Owner and any other party entitled to control, possession or use of the ~~{Property/Contaminated-Site}~~ during such period of Ownership or possession.

**H. Inspection & Non-Compliance:** It shall be the obligation of the Grantor, or any future holder of any interest in the ~~{Property/Contaminated-Site}~~, to provide for annual inspections of the ~~{Property/Contaminated-Site}~~ for compliance with the ELUR in accordance with Department requirements.

~~{An officer or Director of the company with direct knowledge of past and present conditions of the {Property/Contaminated-Site} (the "Company Representative"), or}~~ A qualified environmental professional will, on behalf of the Grantor or future holder of any interest in the ~~{Property/Contaminated-Site}~~, evaluate the compliance status of the ~~{Property/Contaminated-Site}~~ on an annual basis. Upon completion of the evaluation, the ~~{Company Representative or}~~ environmental professional will prepare and simultaneously submit to the Department and to the Grantor or future holder of any interest in the ~~{Property/Contaminated-Site}~~ an evaluation report detailing the findings of the inspection, and noting any compliance violations at the ~~{Property/Contaminated-Site}~~. If the

**[Property/Contaminated-Site]** is determined to be out of compliance with the terms of the ELUR, the Grantor or future holder of any interest in the **[Property/Contaminated-Site]** shall submit a corrective action plan in writing to the Department within ten (10) days of receipt of the evaluation report, indicating the plans to bring the **[Property/Contaminated-Site]** into compliance with the ELUR, including, at a minimum, a schedule for implementation of the plan.

In the event of any violation of the terms of this Restriction, which remains uncured more than ninety (90) days after written notice of violation, all Department approvals and agreements relating to the **[Property/Contaminated-Site]** may be voided at the sole discretion of the Department.

**I. Terms Used Herein:** The definitions of terms used herein shall be the same as the definitions contained in Section 3 (DEFINITIONS) of the Remediation Regulations.

IN WITNESS WHEREOF, the Grantor has hereunto set (his/her) hand and seal on the day and year set forth above.

**[Name of Person(s), company, LLC or LLP]** State of Rhode Island and the City of Pawtucket

By: \_\_\_\_\_  
Grantor (signature) \_\_\_\_\_ Grantor (typed name)

STATE OF RHODE ISLAND  
COUNTY OF \_\_\_\_\_

In (CITY/TOWN), in said County and State, on the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me Personally appeared \_\_\_\_\_, to me known and known by me to be the party executing the foregoing instrument and (he/she) acknowledged said instrument by (him/her) executed to be (his/her) free act and deed.

Notary Public: \_\_\_\_\_

My Comm. Expires: \_\_\_\_\_

**Exhibit A**  
**LEGAL DESCRIPTION**  
*(to be completed by Owner)*

**Exhibit B**  
**SITE PLAN**





\\vhb\GIS\proj\Providence\72826.10\gis\Project\SR\Figure 2 - overall locations.mxd



**Broad Street Regeneration Project** | Broad Street  
Pawtucket, Central Falls, Cumberland, Rhode Island

- Legend**
- Monitoring Well
  - Soil Boring
  - Townline
  - Project Area (LOD)
  - Stateline
- ADDENDUM NO. 2

**Site Detail Map - Overall Project Area**  
Source: RIDEM Aerial, April 2018



**Exhibit C**  
**SOIL MANAGEMENT PLAN**



## **Post Remediation Soil Management Plan**

### **Broad Street from Intersection of Mendon Road to Exchange Street within Cumberland, Central Falls and Pawtucket, Rhode Island.**

This Soil Management Plan (SMP) has been prepared to establish procedures that will be followed should future construction/maintenance activities at the Broad Street property require the need to manage soils excavated from the subsurface or when existing site surfaces / Department approved engineered controls (asphalt, concrete, landscaping and/or foundations) are disturbed. The plan serves to supplement, and will be initiated by, the RIDEM notification requirement established by the Environmental Land Use Restriction (ELUR) for the property.

#### *Background*

The Property, located as defined as Broad Street beginning at the intersection with Mendon Road within Cumberland, through Broad Street in Central Falls, and up to the intersection of Broad Street and Exchange Street in Pawtucket, Rhode Island, was formerly developed for the purpose of state and municipal roadways. The property was found to contain total petroleum hydrocarbons, metals (arsenic, lead), and polycyclic aromatic hydrocarbons (benzo(a)anthracene, benzo(a)pyrene, benzo(k)fluoranthene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno (1,2,3-cd)pyrene, naphthalene and pyrene) in soils during a site investigation performed at the property. More recently, the site is proposed for reconstruction to make improvements to Broad Street. The Department approved remedy included, as described by the Remedial Decision Letter dated **DATE**, limited excavation of soils and offsite disposal at a licensed facility, encapsulation of any remaining soils that contain exceedances of applicable Department criteria with clean fill materials and paved surfaces to limit exposure to subsurface soils, and an institutional control in the form of a Department approved ELUR. The regulated site soils are covered with Department approved engineered controls (refer to the attached figure), consisting of asphalt pavement, and landscaping in order to prevent direct exposure to regulated soils.

#### *Applicable Area*

This SMP and affiliated ELUR, which restricts the property to **Industrial/Commercial** use, pertains to the areas shown on the attached site figure.

#### *Soil Management*

The direct exposure pathway is the primary concern at the site. Individuals engaged in activities at the site may be exposed through incidental ingestion, dermal contact, or inhalation of vapors or entrained soil particles if proper precautions are not taken. Therefore, the following procedures will be followed to minimize the potential of exposure.

During site work, the appropriate precautions will be taken to restrict unauthorized access to project staging areas that may contain equipment, clean fill material, or excavated contaminated soil.

During all site/earth work, dust suppression (e.g. watering, etc) techniques must be employed as needed. If it is anticipated due to the nature of the contaminants of concern that odors may be generated during site activities, air monitoring and means to control odors will be utilized, as appropriate (e.g. odor-suppressing foam, etc).

In the event that an unexpected observation or situation arises during site work, such activities will immediately stop. Workers will not attempt to handle the situation themselves but will contact the appropriate authority for further direction.

In the event that certain soils on site were not previously characterized, these soils are presumed to be regulated until such time that it is demonstrated to the Department, through sampling and laboratory analysis that they are not regulated. (For example, presumptive remedies or locations of previously inaccessible soil.)

If excess soil is generated / excavated from the Property, the soil is to remain on-site for analytical testing, to be performed by an environmental professional, in order to determine the appropriate disposal and/or management options. The soil must be placed in drums or placed on and covered with polyethylene/plastic sheeting during the entire duration of its staging and secured with appropriate controls to limit the loss of the cover and protect against storm-water and / or wind erosion (e.g. hay bales, silt fencing, rocks, etc).

Excavated soils will be staged and temporarily stored in a designated area of the property. Within reason, the storage location will be selected to limit the unauthorized access to the materials (e.g., away from public roadways/walkways). No regulated soil will be stockpiled on-site for greater than 60 days without prior Department approval.

In the event that stockpiled soils pose a risk or threat of leaching hazardous materials, a proper leak-proof container (e.g. drum or lined roll-off) or secondary containment will be utilized.

Soils excavated from the site may not be re-used as fill on residential property. Excavated fill material shall not be re-used as fill on commercial or industrial properties unless it meets the Department's Method 1 Residential Direct Exposure Criteria for all constituents listed in Table 1 of the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations). Copies of the laboratory analysis results shall be maintained by the site owner and included in the annual inspection report for the site, or the closure report if applicable. In the event that the soil does not meet any of these criteria, the material must be properly managed and disposed of off site at a licensed facility.

Site soils, which are to be disposed of off-site, must be done so at a licensed facility in accordance with all local, state, and federal laws. Copies of the material shipping records associated with the disposal of the material shall be maintained by the site owner and included in the annual inspection report for the site.

Best soil management practices should be employed at all times and regulated soils should be segregated into separate piles (or cells or containers) as appropriate based upon the results of analytical testing, when multiple reuse options are planned (e.g. reuse on-site, reuse at a Department approved Industrial/Commercial property, or disposal at a Department approved licensed facility).

All non-disposable equipment used during the soil disturbance activities will be properly decontaminated as appropriate prior to removal from the site. All disposable equipment used during the soil disturbance activities will be properly containerized and disposed of following completion of the work. All vehicles utilized during the work shall be properly decontaminated as appropriate prior to leaving the site.

At the completion of site work, all exposed soils are required to be recapped with Department approved engineered controls as shown on the attached Engineered Controls Detail figure. These measures must also be consistent with the Department approved ELUR recorded on the property. Any clean fill material brought on site is required to meet the Department's Method 1 Residential Direct Exposure Criteria or be designated by an Environmental Professional as Non-Jurisdictional under the Remediation Regulations. The Annual Inspection Report for the site, or Closure Report if applicable, should include either analytical sampling results from the fill demonstrating compliance or alternatively include written certification by an Environmental Professional that the fill is not jurisdictional.

#### *Worker Health and Safety*

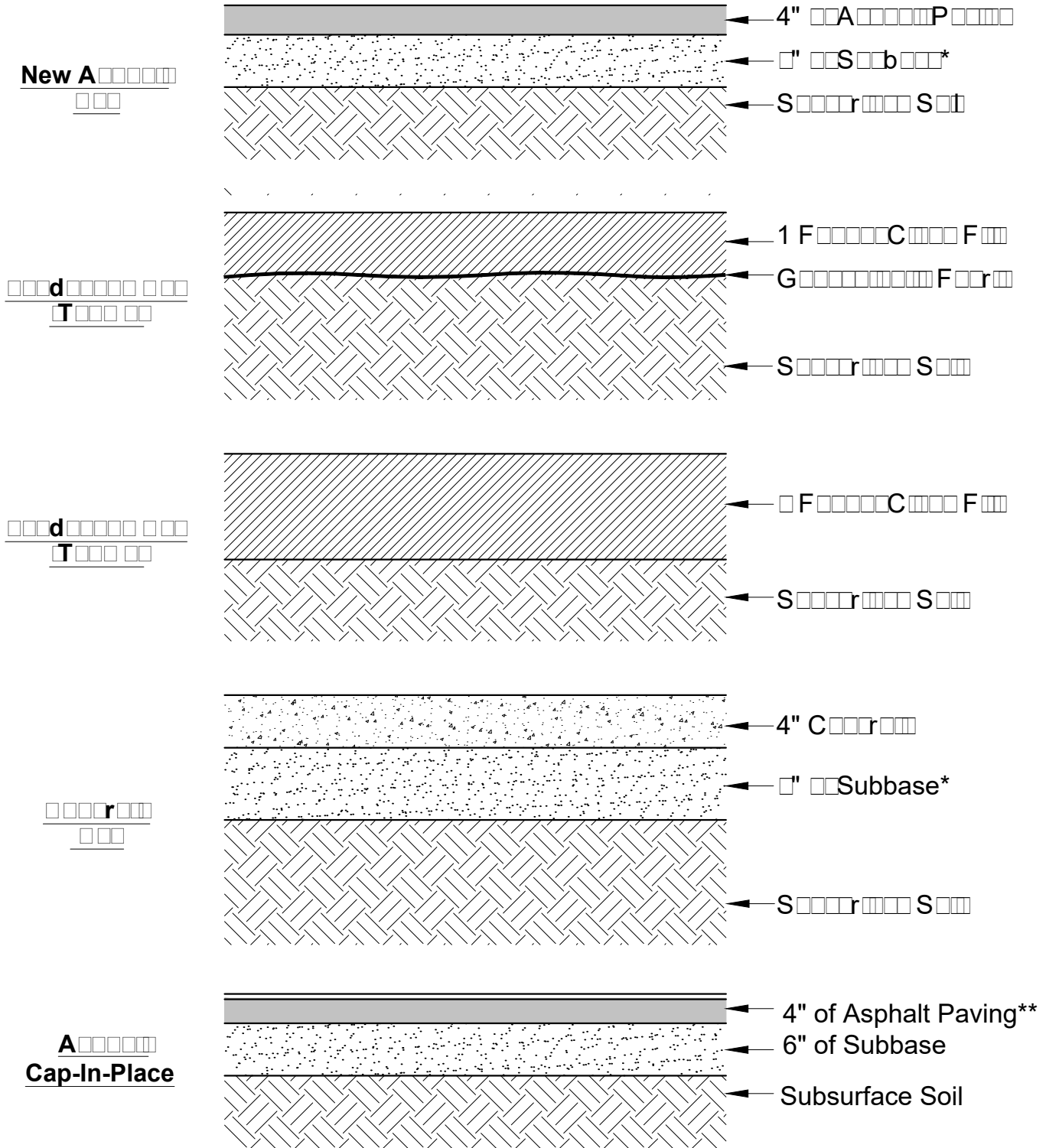
To ensure the health and safety of on-site workers, persons involved in the excavation and handling of the material on site are required to wear a minimum of Level D personal protection equipment, including gloves, work boots and eye protection. Workers are also required to wash their hands with soap and water prior to eating, drinking, smoking, or leaving the site.

#### *Department Approval*

In accordance with Section A iii of the ELUR, no soil at the property is to be disturbed in any manner without prior written permission of the Department's Office of Waste Management, except for minor inspections, maintenance, and landscaping activities that do not disturb the contaminated soil at the Site. As part of the notification process, the site owner shall provide a brief written description of the anticipated site activity involving soil excavation. The notification should be submitted to the Department no later than 60 days prior to the proposed initiation of the start of site activities. The description shall include an estimate of the volume of soil to be excavated, a list of the known and anticipated contaminants of concern, a site figure clearly identifying the proposed areas to be excavated/disturbed, the duration of the project and the proposed disposal location of the soil.

Following written Notification, the Department will determine the post closure reporting requirements. Significant disturbances of regulated soil will require submission of a Closure

Report for Department review and approval documenting that the activities were performed in accordance with this SMP and the Department approved ELUR. Minor disturbances of regulated soil may be documented through the annual certification submitted in accordance with Section H (Inspection & Non-Compliance) of the Department approved ELUR. The Department will also make a determination regarding the necessity of performing Public Notice to abutting property owners/tenants concerning the proposed activities. Work associated with the Notification will not commence until written Department approval has been issued. Once Department approval has been issued, the Department will be notified a minimum of two (2) days prior to the start of activities at the site. Shall any significant alterations to the Department approved plan be necessary, a written description of the proposed deviation, will be submitted to the Department for review and approval prior to initiating such changes.



\*Subbase consisting of existing subbase, certified clean fill subbase or a combination of the two.  
 \*\*Top 1.5 inches of existing asphalt to be resurfaced via mill and overlay and otherwise undisturbed as a cap-in-place.

Existing Concrete

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## Appendix C: VHB Site-Specific Health and Safety Plan

# Broad Street Regeneration

Cumberland; Central Falls; and Pawtucket,  
Rhode Island

PREPARED BY

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1 Cedar Street  
Suite 400  
Providence, RI 02903  
401.272.8100

June 8, 2018

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## List of Attachments

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### Description

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Figure

Emergency Hospital Route

City of Pawtucket Department of Public Works Permit

Hazardous Substance Fact Sheets for Suspected Site Contaminants



## Introduction

This Site-Specific Health and Safety Plan (HASP) has been prepared by Vanasse Hangen Brustlin, Inc. (VHB) for the sole and exclusive use by VHB personnel while working at the Broad Street Regeneration project in the Town of Cumberland and in the cities of Central Falls and Pawtucket in the State of Rhode Island (the “Project Area”). VHB’s work at the Project Area is being conducted at the request of the Rhode Island Department of Transportation (RIDOT) to support the design and construction phases of the regeneration project. Use or reliance upon information provided in this HASP by any party other than VHB, shall be at the User’s sole risk.

In preparing this HASP, VHB has obtained and relied upon information from multiple sources to form certain conclusions regarding potential environmental issues at and in the vicinity of the Project Area. Except as otherwise noted, no attempt has been made to verify the accuracy or completeness of such information. In preparing this HASP, no attempt has been made to assess the compliance status of any past or present Owner(s) or Operator(s) of the Project Area with any federal, state, or local laws or regulations.

The guidance presented in this HASP is based solely upon information gathered to date. Should further environmental or other relevant information be obtained at a later date, VHB will evaluate and modify the HASP as appropriate. This HASP is established for field work consisting of pre-clearing/vacuum excavation observations, soil drilling observations, monitoring well installation observations, soil sampling, groundwater monitoring well development, and groundwater sampling as part of limited subsurface investigation activities within the Project Area.

## General Site Information

Site Name: Broad Street Regeneration  
 Broad Street (Route 114)  
 Cumberland, Central Falls, and Pawtucket; Rhode Island

**Table 1a – Emergency Information and Local Resources  
 Cumberland, Rhode Island**

<b>Public and Private Resources</b>	<b>Telephone Numbers</b>
Cumberland Police Department	911 or 401.333.2500
Cumberland Fire Department	911 or 401.658.0544
Cumberland Department of Public Works	401.728.2400 x143
Cumberland Sewer Department	401.728.2400 x122

**Table 1b – Emergency Information and Local Resources  
 Central Falls, Rhode Island**

<b>Public and Private Resources</b>	<b>Telephone Numbers</b>
Central Falls Police Department	911 or 401.727.7411
Central Falls Fire Department	911 or 401.727.7446
Central Falls Department of Public Works	401.727.7466

**Table 1c – Emergency Information and Local Resources  
 Pawtucket, Rhode Island**

<b>Public and Private Resources</b>	<b>Telephone Numbers</b>
Pawtucket Police Department	911 or 401.726.3911
Pawtucket Fire Department	911 or 401.725-1420
Pawtucket Department of Public Works	401.728.0500 ext. 233
Pawtucket Sewer Department	401.722.3325

**Table 1d – Emergency Information and Local Resources  
 Project-Wide Contacts**

<b>Public and Private Resources</b>	<b>Telephone Numbers</b>
Pawtucket Water Supply Board	401.729.5005
The Miriam Hospital – Emergency Room	401.793.2500
Rhode Island State Police	401.444.1000
National Grid (Emergency Gas Leak Number)	800.640.1595
DigSafe	888.344.7233
American Association of Poison Control Centers	800.222.1222

Nearest Hospital: The Miriam Hospital - Emergency Services  
164 Summit Avenue  
Providence, Rhode Island 02906

Directions:

- 1) Head south on Broad Street (from any point in the Project Area);
- 2) Continue onto Main Street;
- 3) Slight right to merge onto I-95 S (0.4 miles);
- 4) Take exit 25 for RI-126/Smithfield Ave toward US-1/N Main Street (2.1 miles);
- 5) Turn left onto RI-126 S/Smithfield Ave (0.2 miles);
- 6) Turn right onto Nashua Street (0.3 miles);
- 7) Turn left onto Frost Street (0.2 miles);
- 8) Turn left onto N Main Street (266 feet);
- 9) Turn right onto 5<sup>th</sup> Street (473 feet); and
- 10) Turn left (0.2 miles) into The Miriam Hospital – Emergency Room.

A map depicting the emergency hospital route (from the approximate northern extent of the Project Area) is attached.

## Site/Hazard Overview

### Site Description and History

The subject of this HASP is the Broad Street Regeneration project, which is located in the Town of Cumberland and in the cities of Central Falls and Pawtucket, in the State of Rhode Island. The limits of the project include Broad Street, curb to curb, and adjacent sidewalk areas stretching approximately from Exchange Street in Pawtucket to Mendon Road in Cumberland (refer to **Figures**). The State of Rhode Island owns and maintains the roadway within the Town of Cumberland and the City of Central Falls while the City of Pawtucket owns and maintains the roadway segment within the City.

The Project Area and the adjacent properties have a robust commercial/industrial history. The following property uses have been determined from Sanborn Maps, aerial photographs, historical city directories, historical environmental reports, and site inspections:

- › Historical Land Use – various mills, fire houses, automotive garages, laundry facilities, gasoline stations, railroad tracks, train station, photo shops, etc.
- › Present Day Land Use – offices, residential buildings, automotive sales & service facilities, gasoline stations, laundromat, car wash, industrial buildings

Based on the past and current information of the Site area, residual soil and groundwater contamination may be present.

## Regulatory Exceedances Summary

VHB has conducted subsurface investigations and/or remediation activities of several properties in close proximity to the Project Area and has also reviewed available environmental reports for nearby properties at the Rhode Island Department of Environmental Management (RIDEM). Contamination above levels established in the RIDEM Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (the Remediation Regulations) that have been documented on adjacent properties may have migrated to the Project Area, including:

- › Residential Direct Exposure Criteria – arsenic, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, beryllium, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, lead, manganese, mercury, PCBs, phenanthrene, pyrene, thallium, TPH;
- › Industrial/Commercial Direct Exposure Criteria – arsenic, benzo(a)pyrene, lead, PCBs, TPH; and
- › GB Leachability Criteria – TPH.

## Tasks

VHB staff will be conducting limited subsurface investigation tasks (e.g., observation of pre-clearing and soil borings, monitoring well installations, etc.). Field screening of soils, soil sampling, and groundwater sampling activities are anticipated.

## Hazard Assessment

**Table 2 – Hazards of Concern (Check all that apply):**

<b>X Heat Stress</b>	Excavation/Trenching	Radiological
Cold Stress	<b>X General Construction &amp; Traffic</b>	Biological
Explosion/Flammable	<b>X Inorganic Chemicals</b>	<b>X Noise</b>
Confined Space	<b>X Volatile Organic Chemicals</b>	<b>X Corrosives</b>
<b>X Physical Hazard</b>	<b>X Semi-Volatile Organic Chemicals</b>	Other

### Heat Stress

During the summer months, warm weather may become a health factor. Personnel working on-site may have to wear protective clothing and/or respirators, which would increase the chance of workers suffering from heat-related problems. The situation will be monitored on days when the ambient temperature exceeds 70°F. Workers must be briefed on the signs and symptoms of heat-related problems and on preventative measures.

The three levels of Heat Stress are:

- Heat Cramps;

- Heat Exhaustion; and
- Heat Stroke.

Symptoms of heat cramps include muscle spasms. Treatment includes providing liquid with electrolytes.

Weakness, fatigue, dizziness, heavy sweating, headache, nausea, fainting and pale, cool moist skin are all symptoms of heat exhaustion. Treatment includes resting in a cool place and providing plenty of liquids with electrolytes if the person is conscious; if unconscious, get medical help immediately.

Symptoms of heat stroke are very dry, hot skin, mottled blue or red appearance, confusion, convulsions, rapidly rising temperature and unconsciousness. If any person experiences these symptoms get medical attention immediately. **Heat stroke is a life-threatening emergency.**

### **Physical Hazards, General Construction & Traffic**

The operation of heavy equipment poses hazards. Physical hazards may be associated with the malfunction, misuse, or improper operation of such equipment. Personnel not directly involved with equipment operation should stand a safe distance away from the machinery. **Personnel should wear hard-hats, eye protection, hearing protection, steel toe boots, and reflective safety vests whenever working within established work zones. Nitrile gloves should be worn when in contact with soil and/or groundwater.** Personnel should be aware of these physical obstacles at all times and take the necessary precautions to avoid them while in the Project Area.

The Project Area may contain rough or unfamiliar terrain that can lead to injury. Slips, trips, and falls are the most common accidents caused by varying terrain. These accidents may result in cuts, bruises, and sprains. Falls may result in broken bones. Carefully examine unfamiliar terrain. Look out for holes, undergrowth, and open water. Avoid banks of rivers or creeks. VHB personnel should be vigilant when moving across the Project Area and avoid activities that may be distracting, including note-taking, texting, emailing, photographing, etc. except when in a stationary standing or seated position.

VHB staff shall wear boots with good ankle support and good traction, long pants, long-sleeved shirts, and long socks in the field. Under no circumstances will shorts, tube tops, muscle shirts, or sandals be worn on any VHB work sites.

Several borings may require partial or complete lane closures due to their locations along the edges of roadways or in travel lanes. VHB will conduct all work in roadways with the assistance of state police detail officers and a sub-contracted traffic control company. Traffic controls utilized may include traffic cones, signs, and other safety measures (as needed) and must be in place before any work is conducted in the roadway. VHB will not attempt to access any unsafe work areas unless escorted by police or traffic control personnel. VHB will wear appropriate

reflective clothing, and the appropriate safety measures will be taken while working near oncoming traffic.

The City of Pawtucket Department of Public Works has issued a "Permit to Occupy and/or Excavate the Public Right of Way and/or Repair Utilities on Private Property" to New England Geotech, Inc., who is a subcontractor. A copy of the permit is attached to this report.

## **Noise**

Elevated noise levels may be encountered during the project due to the drill rig used to advance the soil borings. Persons working in close proximity to such equipment shall wear sufficient hearing protection, which may include foam ear plugs or earmuffs. Hand signals must be used for communication in these situations. Hand signals shall be established and practiced prior to donning protective hearing equipment.

## **Chemical Hazards**

### **Inorganic Compounds**

The most likely route of exposure of inorganic compounds to on-site personnel is by inhalation or ingestion of contaminated soil particles. The primary inorganic contaminants of concern are heavy metals, however, inorganic chemicals such as pesticides may also be present within grassy areas along the roadways. Numerous state hazardous waste sites with elevated levels of heavy metals are located along the Project Area.

Care shall be taken to minimize dust generation whenever possible. If visible emissions are released during work activities in the Project Area, dust control in the form of applying water or a water mist shall be sufficiently sprayed to reduce visible emissions.

### **Volatile Organic Compounds (VOCs)**

Volatile organic compounds (VOCs) may be present at the Project due to the presence of several leaking underground storage tanks that contained petroleum and other volatile chemicals that were reported at properties near the work area. VOCs may be encountered in soil during drilling or in groundwater that may infiltrate the work area. Exposure to VOCs would be through inhalation of organic vapors, or inadvertent ingestion of contaminated soil or groundwater. Total VOCs will be routinely monitored in ambient air within various work zones. VHB personnel will have a Photoionization Detector (PID) on hand to monitor for the presence of total VOCs at the Project Area.

### Semi-Volatile Organic Compounds (SVOCs)

Semi-volatile organic compounds (SVOCs) may be present at the Project Area as a result of nearby industrial properties and the potential presence of urban fill material. SVOCs include the subset of PAHs which have been identified in RIDEM reports for some of the adjacent properties. Exposure to SVOCs would be through inhalation and/or ingestion of contaminated soil or groundwater. Similar care should be taken as discussed above under Inorganic Compounds and VOCs to minimize dust generation.

### Chemical Exposures

**Table 3** summarizes chemicals that are known to be on adjacent properties and therefore have the potential to be found in soil and groundwater within the Project Area. Nitrile gloves should be worn when contacting soil, such as during measurements, screening, or any required sampling. The Project Area is large with many abutting historic properties of concern. VHB personnel shall be vigilant in evaluating, monitoring and observing conditions in the Project Area throughout progression of the work. Should any unexpected or unusual conditions (i.e. waste in the environment, containers, tanks, unusual colors or odors, etc.) be encountered work shall immediately STOP and the situation re-assessed before continuing. VHB personnel will contact the Project Manager or other Senior Environmental Staff for advice on how to proceed.

**Table 3 – Known and Suspect Chemical Contaminants in Soil and/or Groundwater**

<b>Chemical Contaminant</b>	<b>Potential Hazard</b>	<b>OSHA PEL (8-Hour TWA)</b>	<b>NIOSH REL (8-Hour TWA)*</b>	<b>IDLH</b>
Arsenic	Toxic by inhalation, skin absorption, ingestion, and skin and/or eye contact. Affects liver, kidneys, skin, lungs, and lymphatic system. Symptoms include ulceration of nasal septum, dermatitis of skin, gastrointestinal disturbances, and respiratory irritation.	0.010 mg/m <sup>3</sup>	0.002 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>
Beryllium	Toxic by inhalation and skin and/or eye contact. Affects eyes, skin, and respiratory system. Symptoms include anorexia, weight loss, weakness, exhaustion, chest pain, cough, irritation of the eyes, and dermatitis of skin.	0.002 mg/m <sup>3</sup>	0.0005 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>
Coal Tar Pitch Volatiles	Toxic by inhalation and skin and/or eye contact. Affects respiratory system, skin, bladder, and kidneys. Symptoms may include dermatitis of skin and bronchitis.	0.2 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	500 ppm
Gasoline	Toxic by inhalation, skin absorption, ingestion, and skin and/or eye contact. Affects eyes, skin, respiratory system, central nervous system, liver, and kidneys. Symptoms include irritation of eyes, skin,	-	-	-



	and/or mucous membrane, dermatitis of skin, headache, lassitude, blurred vision, dizziness, slurred speech, confusion, and convulsions.			
Lead	Toxic by inhalation, ingestion, and skin and/or eye contact. Affects eyes, gastrointestinal tract, central nervous system, kidneys, blood, and gingival tissue. Symptoms may include weakness, exhaustion, insomnia, facial pallor, constipation, abdominal pain, paralysis of the wrist or ankles, and eye irritation.	0.050 mg/m <sup>3</sup>	0.050 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>
Manganese	Toxic by inhalation and ingestion. Affects the respiratory system, central nervous system, blood, and kidneys. Symptoms include insomnia, mental confusion, dry throat, cough, chest tightness, breathing difficulty, flu-like fever, low-back pain, vomiting, weakness, and exhaustion.	5 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>	500 mg/m <sup>3</sup>
Mercury	Toxic by inhalation, skin absorption, ingestion, and skin and/or eye contact. Affects eyes, skin, respiratory system, central nervous system, and kidneys. Symptoms include irritation of the skin and/or eyes, cough, chest pain, breathing difficulty, insomnia, irritability, indecision, headache, weakness, exhaustion, and salivation.	0.1 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Polychlorinated Biphenyls (PCBs)	Toxic by inhalation, absorption, ingestion, and skin and/or eye contact. Affects skin, eyes, liver, and reproductive system. Symptoms may include eye irritation and chloracne.	0.5 mg/m <sup>3</sup>	0.001 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>
Thallium	Toxic by inhalation, skin absorption, ingestion, and skin and/or eye contact. Affects eyes, respiratory system, central nervous system, liver, kidneys, gastrointestinal tract, and body hair. Symptoms include nausea, diarrhea, abdominal pain, vomiting, and chest pain.	0.1 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>

\*See Appendix A and Appendix C (NIOSH Pocket Guide) for chemical properties and hazards. Minimize workplace exposure concentrations; limit number of workers exposed.

## Symptoms of Chemical Exposure

On-site workers should be aware of the specific symptoms of acute chemical exposure listed in **Table 3**. In general, workers should also be aware of some indications of toxic effects of chemical exposure which are described below:

- › Observable by others:
  - Changes in complexion, skin discoloration;
  - Lack of coordination;
  - Changes in demeanor;
  - Papillary response;
  - Changes in speech pattern; and
  - Difficulty breathing.
- › Non-observable by others:
  - Headaches;
  - Dizziness;
  - Blurred vision;
  - Cramps;
  - Irritation of eyes, skin, or respiratory tract;
  - Nausea; and
  - Chills.

## First Aid

General first aid procedures for exposure include, but are not limited to, the following procedures:

- › If contaminant contacts the eyes, irrigate immediately with copious amounts of water;
- › If contaminant contacts the skin, wash with soap and water promptly; and
- › If contaminant is inhaled, move the exposed person to fresh air at once. If the worker's breathing has stopped, perform artificial respiration **ONLY** if appropriately trained and currently certified by the Red Cross or equivalent. Request appropriate medical attention as soon as possible by dialing 911 or other relevant telephone numbers listed in **Table 1**.

On-site personnel shall keep a First-Aid kit at the Project Area during all work activities.

## On-Site Control

A Site-Safety Officer will be designated to coordinate access control to the work zone. No unauthorized personnel should enter the work zone to perform waste site cleanup activities without the appropriate 40-hour OSHA Site Worker Safety Training. Control boundaries have been established as follows:

- › **Exclusion Zone:** A 10-foot perimeter around the soil excavations will be treated as the Exclusion Zone;
- › **Contaminant Reduction Zone:** A designated area outside of the Exclusion Zone

will be treated as the Contaminant Reduction Zone. All equipment will be decontaminated in this zone prior to being transferred to the Support Zone; and

- › **Support Zone:** The remainder of the Project Area outside of the Contaminant Reduction Zone will be considered the Support Zone.

**Table 4 – Personnel Contact Information**

Site Safety Officer:	Shelby Marokhovsky, VHB Environmental Scientist 339.223.2798 (mobile)
Regulatory Authority:	Rhode Island Department of Environmental Management
State Agency Representative:	Not Applicable
Local Agency:	Not Applicable
Local Agency Representative:	Not Applicable
Contractor:	New England Geotech Dan Regan, Owner – 401.560.0600 Strategic Environmental Services – 844.209.9857 Thomas Dykstra or Ross Hartman
Emergency Contacts:	Peter M. Grivers, VHB Senior Project Manager 401.457.2036 (office) OR 401.935.5080 (mobile) Jamie M. Pisano, VHB Transportation Project Manager 401.457.2068 (office)

### Action Levels and Personnel Protection

The initial level of personnel protection will be Level D.

Level D personnel protection will include:

- › Chemical-resistant (nitrile) or leather gloves;
- › Boots/shoes, leather or chemical resistant, steel toe and shank;
- › Safety glasses;
- › Hard hat; and
- › Hearing protection.

Field monitoring action levels are presented in **Table 5**. TVOC background readings will be taken with the PID prior to the initiation of work. Action levels are not inclusive of background conditions that exist under normal conditions.

**Table 5 – Action Levels**

Location	Action Level	Response
Work Area	10 ppm TVOC in the ambient air (measured with PID)	Shut down operations and allow area to equilibrate with background air quality before re-starting operations. If conditions above 10 ppm persist, VHB personnel should leave the work area and the Project Manager should be contacted. It is possible that personnel may upgrade to Level C.

Work Area	Visible Dust (sustained in the breathing zone)	If visible dust is being generated in the breathing zone for sustained periods of time, then work shall stop and the need for dust mitigation efforts will be evaluated.
Exclusion Zone	Any detection of TVOC in the ambient air above background levels.	Modify work practices to minimize volatilization of contaminants.
	5 ppm TVOC	Stop work until controls are identified that will reduce volatilization of contaminants. Do not restart work unless authorized by the Project Manager, Department Director, and/or the Health and Safety Coordinator.

## General Safety Requirements

All persons entering and/or working within the Project Area shall adhere to the following General Safety Procedures:

- › No employee or subcontractor may be allowed on-site without the prior knowledge and consent of the Site Safety Officer and review of these Health and Safety procedures. All VHB personnel engaged in this project will sign the Health and Safety Plan (HASP) to acknowledge that they have read and understand the HASP;
- › There will be no activities conducted on-site without sufficient back-up personnel. At a minimum, two persons must be present at the Project Area. This may be two VHB personnel, one VHB personnel and one sub-contractor, one VHB personnel and one police detail officer, etc.;
- › All contractors or subcontractor personnel shall bring to the attention of the Site Safety Officer or Supervisors any unsafe condition or practice associated with the work activities that they are unable to correct themselves;
- › There will be no smoking, eating, drinking, chewing gum or tobacco, or applying cosmetics in the work zone or exclusion zone;
- › Hands shall be thoroughly cleaned prior to smoking, eating, or other activities outside the work zone or exclusion zone;
- › Team members must avoid unnecessary contamination (i.e. walking through known or suspected "hot" zones or contaminated puddles, kneeling or sitting on the ground, leaning against potentially contaminated barrels or equipment);
- › Respiratory devices may not be worn with beards, long sideburns, or under other conditions that prevent a proper seal;
- › No visitors will be allowed access without the knowledge and consent of the Site Manager and/or Safety Officer. All visitors will be required to be briefed on safety procedures and will be required to be escorted while on-Site; and
- › All excavations will be conducted by VHB subcontractors in compliance with all applicable state, federal, and local regulations including, but not necessarily

limited to, EPA/OSHA and RIDEM Standards. Excavations greater than four feet deep which require people to work in the excavation will have sides sloped no greater than 45° (1 to 1) or as amended/updated by OSHA, or be shored pursuant to all applicable OSHA requirements.

- › Under no circumstances shall VHB personnel enter confined spaces, or suspect confined spaces. Confined Space Entry requires special Health and Safety evaluations and planning, with review and approval by VHB Corporate Health and Safety personnel.

## Personal Protective Equipment

Based on an evaluation of potential hazards, the following levels of personal protection have been designated for the applicable areas or tasks:

Location	Job Function	Level of Protection
Exclusion Zone	Pre-Clearing, Drilling, Soil Sampling, Well Installation, Groundwater Sampling	A B C <b>D</b> Other
Contaminant Reduction Zone	Decontamination	A B C <b>D</b> Other
Support Zone	Field Vehicle and Supplies	A B C <b>D</b> Other

## Decontamination Procedures

All non-expendable equipment will be cleaned according to Standard Operating Protocols. This protocol includes:

- › Rinse with tap water;
- › Wash with Alconox detergent (or soap) and water; and
- › Rinse with distilled or tap water.

Heavy machinery and equipment leaving the Exclusion Zone will be decontaminated in the Support Zone by brushing soil from the equipment using a long-handled brush. The decontamination procedure for Level D requires the disposal of gloves, Tyvek suites (if used), and boot covers (if used) in plastic lined containers on-site. All non-disposable equipment used on-Site that becomes contaminated will be cleaned by the protocol referenced above.

## Emergency Medical Care

The following are qualified on-site First Aid Responders and/or EMTs: None

First Aid equipment is available on-site at the following locations:

First Aid Kit:	<u>Located in field vehicle</u>
Emergency Eye Wash:	<u>Water is kept in the field vehicle</u>
Emergency Shower:	<u>Water is kept in the field vehicle</u>

Site Resource(s) and Locations:

Water Supply:	<u>Water is kept in the field vehicle</u>
Telephones:	<u>Portable telephone in field vehicle</u>
Communication Systems:	<u>Mobile telephones</u>

## Emergency Procedures

On-site personnel will use the following standard emergency procedures. These procedures may be modified as appropriate and required for each incident. The Site-Safety Officer will be notified of any on-site emergencies and will be responsible for ensuring that the appropriate procedures are followed:

- › **Fire/Explosion:** The Fire Department will be notified and all personnel moved to a safe distance from the involved area;
- › **Personal Protective Equipment Failure:** If any worker experiences a failure or malfunction of personal protective equipment that adversely affects the protection factor, that person and his/her buddy will immediately leave the Exclusion Zone. Re-entry will not be permitted until the equipment has been repaired or replaced; and
- › **Other Equipment Failure:** If any other equipment on-site fails to operate properly, the Site Manager and Site Safety Officer will be notified and will then evaluate the effect of such failure on continuing operations. If the failure affects personnel safety or prevents completion of the investigation activities, all personnel will leave the Exclusion Zone until the situation is remedied through appropriate action(s).

## Signature Page

I have read, understood, and agree to comply with the provisions set forth in this Site-specific Health and Safety Plan and as reviewed in the Health and Safety briefing by the Site-Safety Officer.

### Prepared By:

Shelby Miller Marokhovsky	<u>Shelby Miller Marokhovsky</u>	<u>6/12/18</u>
Site-Safety Officer	Signature	Date

### Reviewed By:

Peter M. Grivers	<u>Peter M. Grivers</u>	<u>6/12/18</u>
Senior Project Manager	Signature	Date

### VHB Personnel

Signature	Date
<u>Shelby Miller Marokhovsky</u>	<u>6/12/2018</u>
_____	_____
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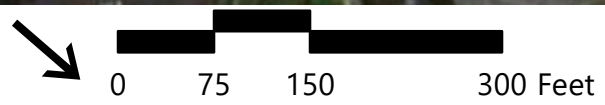
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## Figures





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**Broad Street Regeneration**

Cumberland, RI

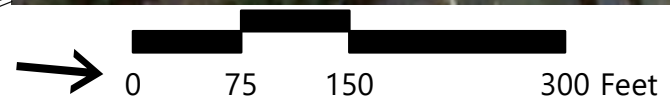
**Locations Marked Out for  
Subsurface Investigation Work**

DigSafe #20182006151





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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Broad Street Regeneration**

Cumberland, RI

**Locations Marked Out for  
Subsurface Investigation Work**

DigSafe #20182006151





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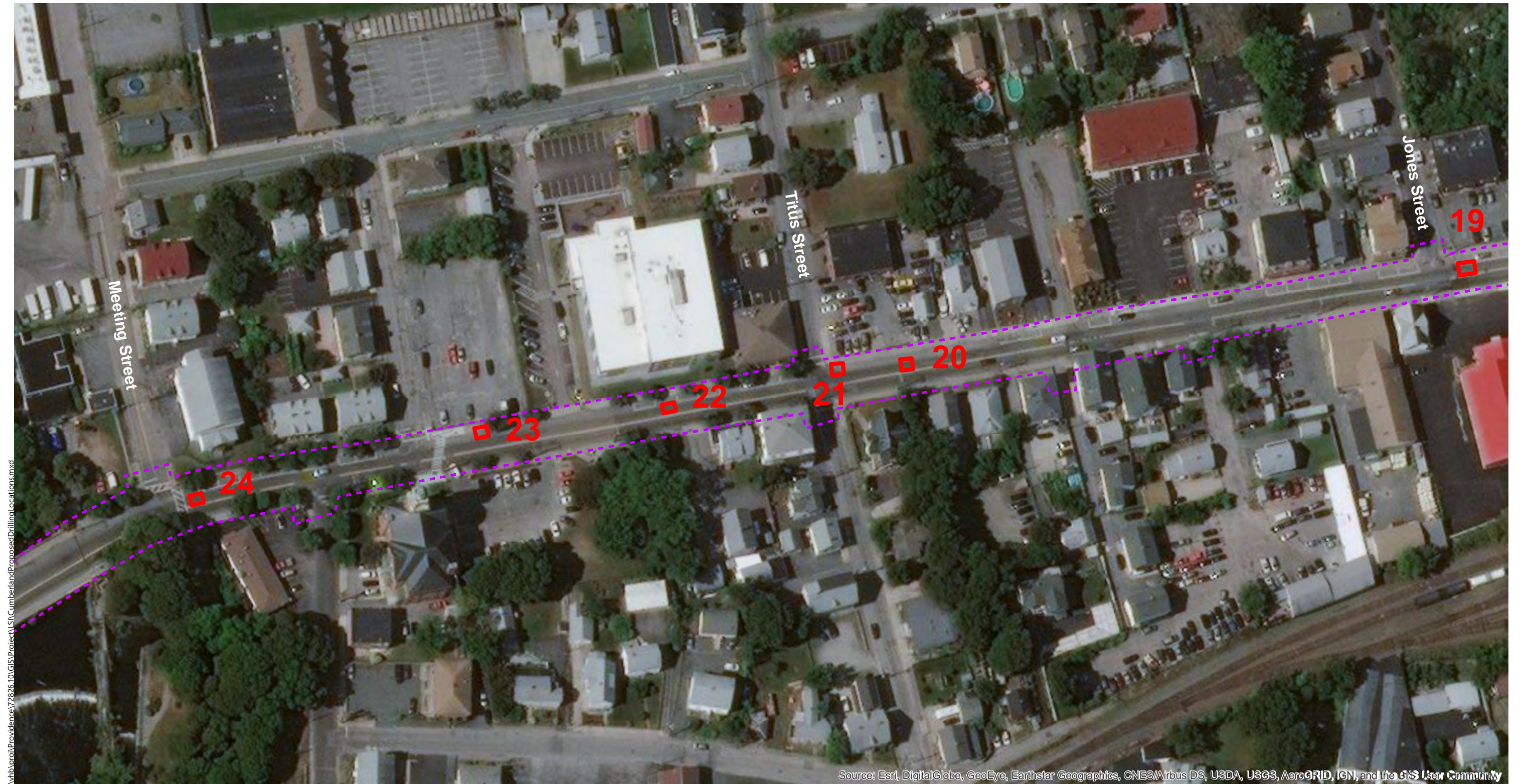
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Cumberland, RI

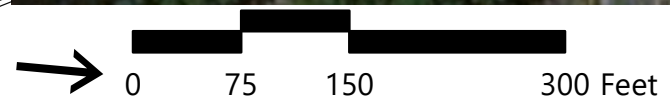
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DigSafe #20182006151





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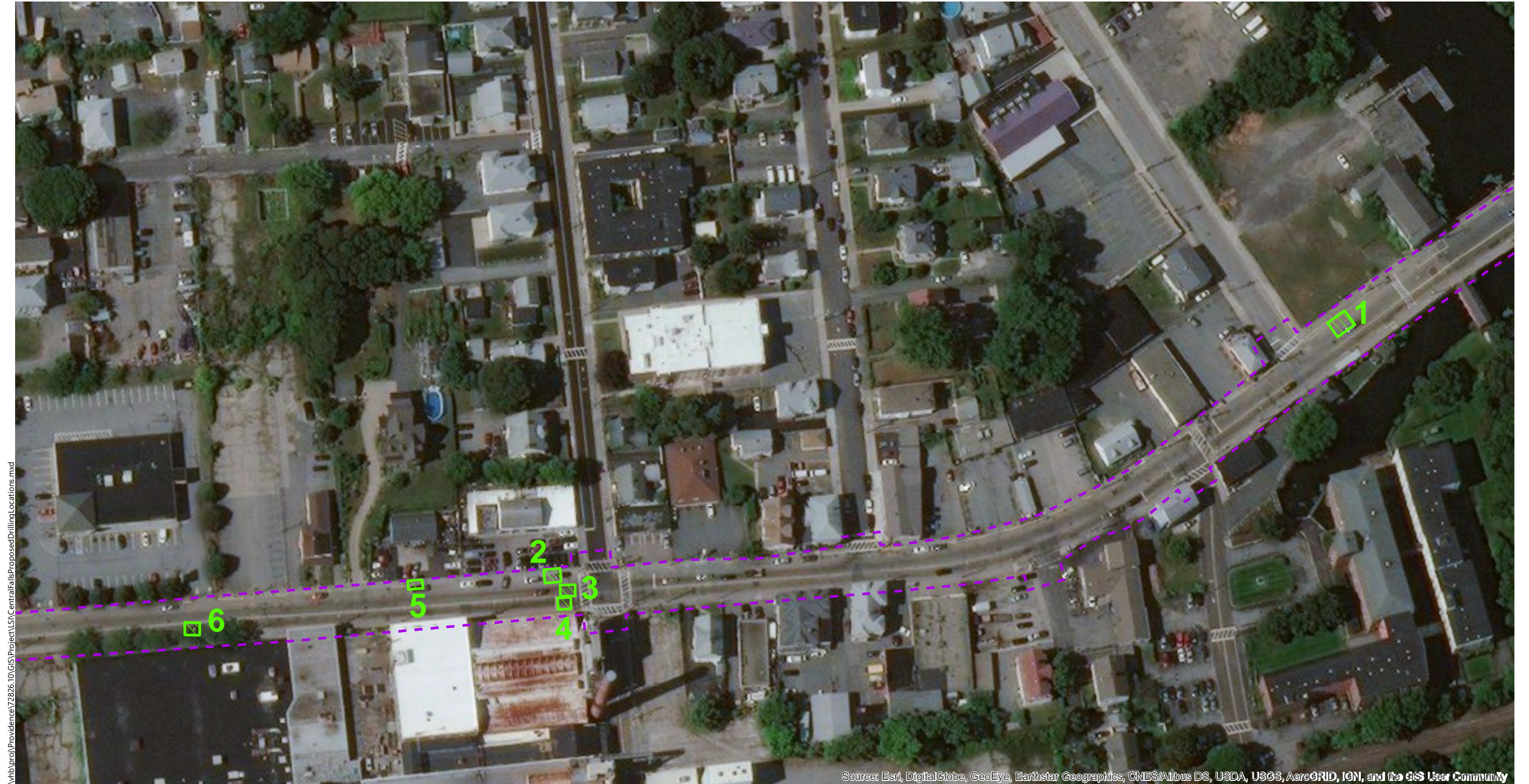
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Cumberland, RI

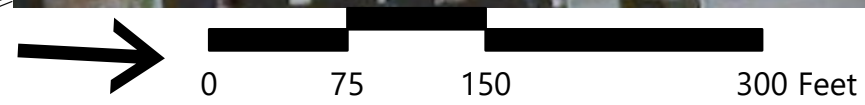
**Locations Marked Out for  
Subsurface Investigation Work**

DigSafe #20182006151





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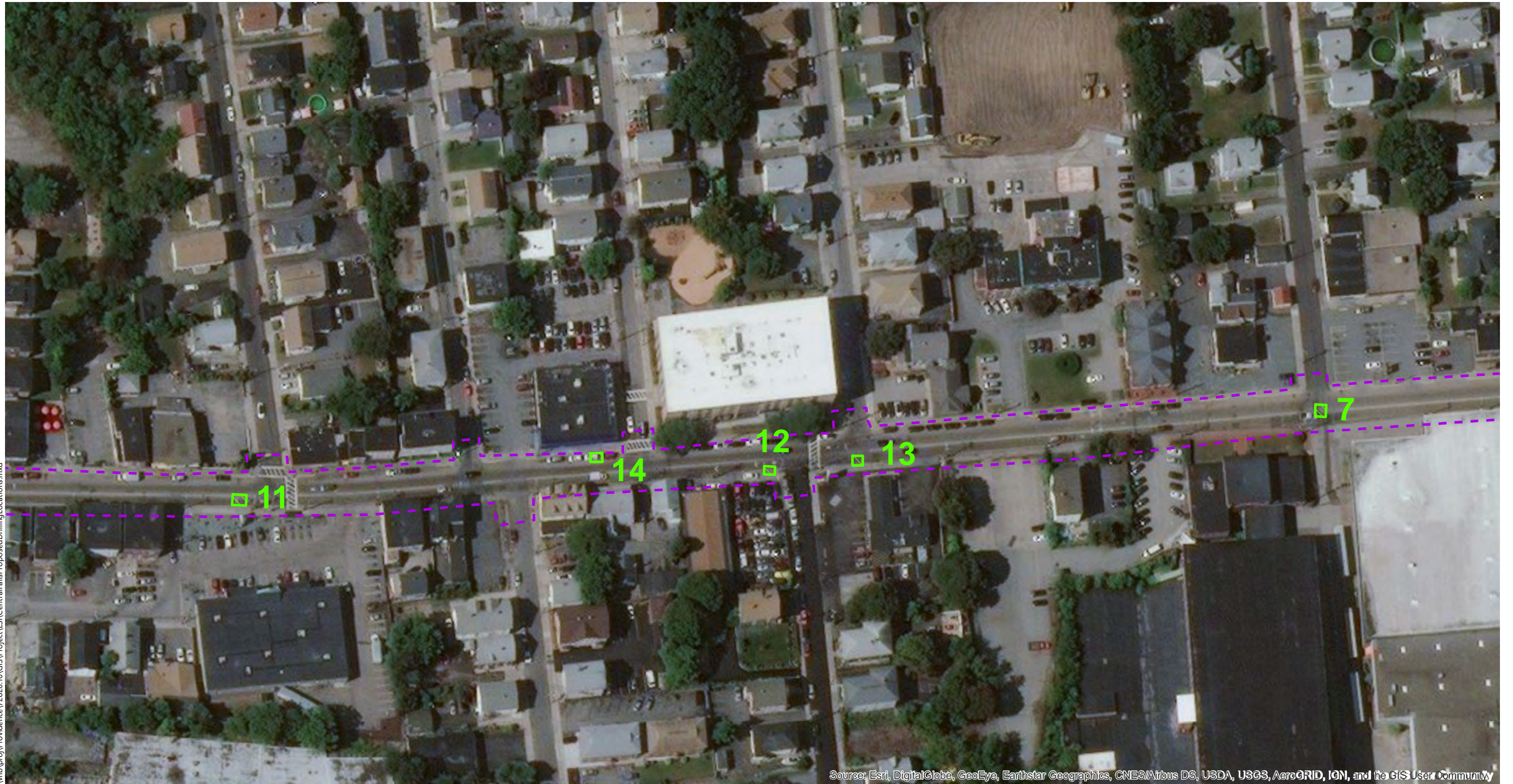
**Broad Street Regeneration**

Central Falls, RI

**Locations Marked Out for  
Subsurface Investigation Work**

DigSafe #20182006229





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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Broad Street Regeneration**

Central Falls, RI

**Locations Marked Out for  
Subsurface Investigation Work**

DigSafe #20182006229 (Location 7)  
DigSafe #20182300264





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**Broad Street Regeneration** | Central Falls, RI

**Locations Marked Out for  
Subsurface Investigation Work**

DigSafe #20182300264





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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Broad Street Regeneration**

Central Falls, RI

**Locations Marked Out for  
Subsurface Investigation Work**

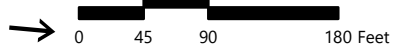
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Legend**

-  Pawtucket DigSafe Boxes
-  Review Area Outline

**Broad Street Regeneration**

Pawtucket, RI

**Locations Marked Out for Subsurface Investigation Work**

DigSafe #20182213372

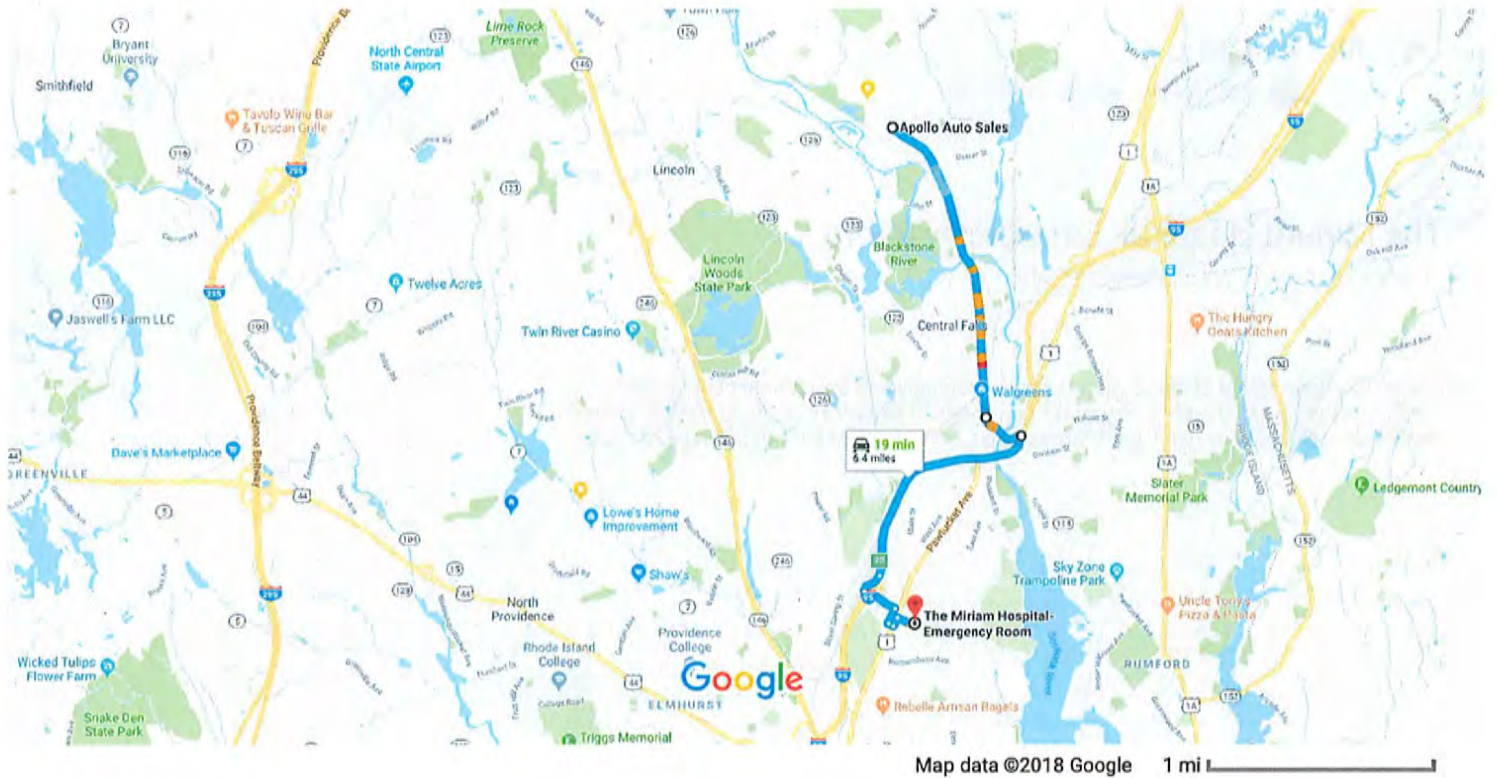
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## Emergency Hospital Route





# Apollo Auto Sales to The Miriam Hospital- Emergency Room Drive 6.4 miles, 19 min



## Apollo Auto Sales

625 Broad St, Cumberland, RI 02864

### Take Broad St and I-95 S to 5th St in Providence

- |   |                 |
|---|-----------------|
|   | 19 min (6.2 mi) |
| ↑ 1. Head east on Broad St toward Fairview Ave  |                 |
| ↑ 2. Continue onto Main St  | 2.9 mi          |
| ↗ 3. Slight right to merge onto I-95 S<br>⚠ Parts of this road may be closed at certain times or days | 0.4 mi          |
| ↘ 4. Take exit 25 for RI-126/Smithfield Ave toward US-1/N Main St                                     | 2.1 mi          |
| ↙ 5. Turn left onto RI-126 S/Smithfield Ave   | 0.2 mi          |
| ↘ 6. Turn right onto Nashua St  | 0.3 mi          |
| ↙ 7. Turn left onto Frost St  | 0.2 mi          |
| ↙ 8. Turn left onto N Main St   | 266 ft          |
|   | 472 ft          |

ADDENDUM NO. 2

Continue on 5th St to your destination

1 min (0.2 mi)

➤ 9. Turn right onto 5th St

0.2 mi

⬅ 10. Turn left

 Destination will be on the left

95 ft

## The Miriam Hospital- Emergency Room

164 Summit Ave, Providence, RI 02906

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

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# City of Pawtucket Department of Public Works Permit

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## **Hazardous Substance Fact Sheets for Suspected Site Contaminants**

C	<b>Chlorodiphenyl (42% chlorine)</b>	<b>Formula:</b> C <sub>6</sub> H <sub>4</sub> ClC <sub>6</sub> H <sub>3</sub> Cl <sub>2</sub> (approx)	<b>CAS#:</b> 53469-21-9	<b>RTECS#:</b> TQ1356000	<b>IDLH:</b> Ca [5 mg/m <sup>3</sup> ]	
	<b>Conversion:</b>	<b>DOT:</b> 2315 171				
	<b>Synonyms/Trade Names:</b> Aroclor® 1242, PCB, Polychlorinated biphenyl					
	<b>Exposure Limits:</b> <b>NIOSH REL*:</b> Ca TWA 0.001 mg/m <sup>3</sup> See Appendix A [*Note: The REL also applies to other PCBs.]			<b>OSHA PEL:</b> TWA 1 mg/m <sup>3</sup> [skin]		<b>Measurement Methods (see Table 1):</b> <b>NIOSH</b> 5503 <b>OSHA</b> PV2089
	<b>Physical Description:</b> Colorless to light-colored, viscous liquid with a mild, hydrocarbon odor.					
<b>Chemical &amp; Physical Properties:</b> <b>MW:</b> 258 (approx) <b>BP:</b> 617-691°F <b>Sol:</b> Insoluble <b>Fl.P:</b> NA <b>IP:</b> ? <b>Sp.Gr(77°F):</b> 1.39 <b>VP:</b> 0.001 mmHg <b>FRZ:</b> -2°F <b>UEL:</b> NA <b>LEL:</b> NA		<b>Personal Protection/Sanitation (see Table 2):</b> <b>Skin:</b> Prevent skin contact <b>Eyes:</b> Prevent eye contact <b>Wash skin:</b> When contam <b>Remove:</b> When wet or contam <b>Change:</b> Daily <b>Provide:</b> Eyewash Quick drench		<b>Respirator Recommendations (see Tables 3 and 4):</b> <b>NIOSH</b> ¥: ScbaF: Pd, Pp/SaF: Pd, Pp: AScba <b>Escape:</b> GmFOv100/ScbaE		
Nonflammable Liquid, but exposure in a fire results in the formation of a black soot containing PCBs, polychlorinated dibenzofurans & chlorinated dibenzo-p-dioxins.						
<b>Incompatibilities and Reactivities:</b> Strong oxidizers						
<b>Exposure Routes, Symptoms, Target Organs (see Table 5):</b> <b>ER:</b> Inh, Abs, Ing, Con <b>SY:</b> Irrit eyes; chloracne; liver damage; repro effects; [carc] <b>TO:</b> Skin, eyes, liver, repro sys [in animals: tumors of the pituitary gland & liver, leukemia]			<b>First Aid (see Table 6):</b> <b>Eye:</b> Irr immed <b>Skin:</b> Soap wash immed <b>Breath:</b> Resp support <b>Swallow:</b> Medical attention immed			

<b>Chlorodiphenyl (54% chlorine)</b>	<b>Formula:</b> C <sub>6</sub> H <sub>3</sub> Cl <sub>2</sub> C <sub>6</sub> H <sub>2</sub> Cl <sub>3</sub> (approx)	<b>CAS#:</b> 11097-69-1	<b>RTECS#:</b> TQ1360000	<b>IDLH:</b> Ca [5 mg/m <sup>3</sup> ]	
<b>Conversion:</b>	<b>DOT:</b> 2315 171				
<b>Synonyms/Trade Names:</b> Aroclor® 1254, PCB, Polychlorinated biphenyl					
<b>Exposure Limits:</b> <b>NIOSH REL*:</b> Ca TWA 0.001 mg/m <sup>3</sup> See Appendix A [*Note: The REL also applies to other PCBs.]			<b>OSHA PEL:</b> TWA 0.5 mg/m <sup>3</sup> [skin]		<b>Measurement Methods (see Table 1):</b> <b>NIOSH</b> 5503 <b>OSHA</b> PV2088
<b>Physical Description:</b> Colorless to pale-yellow, viscous liquid or solid (below 50°F) with a mild, hydrocarbon odor.					
<b>Chemical &amp; Physical Properties:</b> <b>MW:</b> 326 (approx) <b>BP:</b> 689-734°F <b>Sol:</b> Insoluble <b>Fl.P:</b> NA <b>IP:</b> ? <b>Sp.Gr(77°F):</b> 1.38 <b>VP:</b> 0.00006 mmHg <b>FRZ:</b> 50°F <b>UEL:</b> NA <b>LEL:</b> NA		<b>Personal Protection/Sanitation (see Table 2):</b> <b>Skin:</b> Prevent skin contact <b>Eyes:</b> Prevent eye contact <b>Wash skin:</b> When contam <b>Remove:</b> When wet or contam <b>Change:</b> Daily <b>Provide:</b> Eyewash Quick drench		<b>Respirator Recommendations (see Tables 3 and 4):</b> <b>NIOSH</b> ¥: ScbaF: Pd, Pp/SaF: Pd, Pp: AScba <b>Escape:</b> GmFOv100/ScbaE	
Nonflammable Liquid, but exposure in a fire results in the formation of a black soot containing PCBs, polychlorinated dibenzofurans, and chlorinated dibenzo-p-dioxins.					
<b>Incompatibilities and Reactivities:</b> Strong oxidizers					
<b>Exposure Routes, Symptoms, Target Organs (see Table 5):</b> <b>ER:</b> Inh, Abs, Ing, Con <b>SY:</b> Irrit eyes, chloracne; liver damage; repro effects; [carc] <b>TO:</b> Skin, eyes, liver, repro sys [in animals: tumors of the pituitary gland & liver, leukemia]			<b>First Aid (see Table 6):</b> <b>Eye:</b> Irr immed <b>Skin:</b> Soap wash immed <b>Breath:</b> Resp support <b>Swallow:</b> Medical attention immed		

## A

<b>ANTU</b>		<b>Formula:</b> C <sub>10</sub> H <sub>7</sub> NHC(NH <sub>2</sub> )S	<b>CAS#:</b> 86-88-4	<b>RTECS#:</b> YT9275000	<b>IDLH:</b> 100 mg/m <sup>3</sup>
<b>Conversion:</b>		<b>DOT:</b> 1651 153			
<b>Synonyms/Trade Names:</b> α-Naphthyl thiocarbamide, 1-Naphthyl thiourea, α-Naphthyl thiourea					
<b>Exposure Limits:</b> NIOSH REL: TWA 0.3 mg/m <sup>3</sup> OSHA PEL: TWA 0.3 mg/m <sup>3</sup>				<b>Measurement Methods (see Table 1):</b> NIOSH S276 (II-5)	
<b>Physical Description:</b> White crystalline or gray, odorless powder. [rodenticide]					
<b>Chemical &amp; Physical Properties:</b> MW: 202.3 BP: Decomposes Sol: 0.06% Fl.P: NA IP: ? Sp.Gr: ? VP: Low MLT: 388°F UEL: NA LEL: NA Noncombustible Solid	<b>Personal Protection/Sanitation (see Table 2):</b> Skin: N.R. Eyes: N.R. Wash skin: N.R. Remove: N.R. Change: Daily		<b>Respirator Recommendations (see Tables 3 and 4):</b> NIOSH/OSHA 3 mg/m <sup>3</sup> : CcrOv95/Sa 7.5 mg/m <sup>3</sup> : Sa:Cf/PapOvHie 15 mg/m <sup>3</sup> : CcrFOv100/GmFOv100/ PaprTOvHie/SaT:Cf/ScbaF/SaF 100 mg/m <sup>3</sup> : Sa:Pd,Pp §: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba Escape: GmFOv100/ScbaE		
<b>Incompatibilities and Reactivities:</b> Strong oxidizers, silver nitrate					
<b>Exposure Routes, Symptoms, Target Organs (see Table 5):</b> ER: Inh, Ing SY: After ingestion of large doses: vomit, dysp, cyan, coarse pulm rales; liver damage TO: Resp sys, blood, liver			<b>First Aid (see Table 6):</b> Eye: Irr immed Skin: Soap wash prompt Breath: Resp support Swallow: Medical attention immed		

<b>Arsenic (inorganic compounds, as As)</b>		<b>Formula:</b> As (metal)	<b>CAS#:</b> 7440-38-2 (metal)	<b>RTECS#:</b> CG0525000 (metal)	<b>IDLH:</b> Ca [5 mg/m <sup>3</sup> (as As)]
<b>Conversion:</b>		<b>DOT:</b> 1558 152 (metal); 1562 152 (dust)			
<b>Synonyms/Trade Names:</b> Arsenic metal: Arsenia Other synonyms vary depending upon the specific As compound. [Note: OSHA considers "Inorganic Arsenic" to mean copper acetoarsenite & all inorganic compounds containing arsenic except ARSINE.]					
<b>Exposure Limits:</b> NIOSH REL: Ca C 0.002 mg/m <sup>3</sup> [15-minute] See Appendix A OSHA PEL: [1910.1018] TWA 0.010 mg/m <sup>3</sup>				<b>Measurement Methods (see Table 1):</b> NIOSH 7300, 7301, 7303, 9102, 7900 OSHA ID105	
<b>Physical Description:</b> Metal: Silver-gray or tin-white, brittle, odorless solid.					
<b>Chemical &amp; Physical Properties:</b> MW: 74.9 BP: Sublimes Sol: Insoluble Fl.P: NA IP: NA Sp.Gr: 5.73 (metal) VP: 0 mmHg (approx) MLT: 1135°F (Sublimes) UEL: NA LEL: NA	<b>Personal Protection/Sanitation (see Table 2):</b> Skin: Prevent skin contact Eyes: Prevent eye contact Wash skin: When contam/Daily Remove: When wet or contam Change: Daily Provide: Eyewash Quick drench		<b>Respirator Recommendations (see Tables 3 and 4):</b> NIOSH ‡: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba Escape: GmFAG100/ScbaE  See Appendix E (page 351)		
Metal: Noncombustible Solid in bulk form, but a slight explosion hazard in the form of dust when exposed to flame.					
<b>Incompatibilities and Reactivities:</b> Strong oxidizers, bromine azide [Note: Hydrogen gas can react with inorganic arsenic to form the highly toxic gas arsine.]					
<b>Exposure Routes, Symptoms, Target Organs (see Table 5):</b> ER: Inh, Abs, Con, Ing SY: Ulceration of nasal septum, derm, GI disturbances, peri neur, resp irrit, hyperpig of skin, [carc] TO: Liver, kidneys, skin, lungs, lymphatic sys [lung & lymphatic cancer]			<b>First Aid (see Table 6):</b> Eye: Irr immed Skin: Soap wash immed Breath: Resp support Swallow: Medical attention immed		





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## Beryllium &amp; beryllium compounds (as Be)

**Synonyms & Trade Names** Beryllium metal: Beryllium  
Other synonyms vary depending upon the specific beryllium compound.

<b>CAS No.</b> 7440-41-7 (metal)	<b>RTECS No.</b> <a href="#">DS1750000 (metal)</a> (/niosh-rtecs/DS1AB3Fo.html)	<b>DOT ID &amp; Guide</b> 1566 154 ( <a href="http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx/guide154/">http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx/guide154/</a> ) ( <a href="http://www.cdc.gov/Other/disclaimer.html">http://www.cdc.gov/Other/disclaimer.html</a> ) (compounds) 1567 134 ( <a href="http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx/guide134/">http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx/guide134/</a> ) ( <a href="http://www.cdc.gov/Other/disclaimer.html">http://www.cdc.gov/Other/disclaimer.html</a> ) (powder)
<b>Formula</b> Be (metal)	<b>Conversion</b>	<b>IDLH</b> Ca [4 mg/m <sup>3</sup> (as Be)] See: <a href="#">7440417 (/niosh/idlh/7440417.html)</a>
<b>Exposure Limits</b> <b>NIOSH REL</b> : Ca C 0.0005 mg/m <sup>3</sup> See <a href="#">Appendix A (nengapdx.html)</a> <b>OSHA PEL</b> : TWA 0.002 mg/m <sup>3</sup> C 0.005 mg/m <sup>3</sup> (30 minutes), with a maximum peak of 0.025 mg/m <sup>3</sup>		<b>Measurement Methods</b> <b>NIOSH</b> <a href="#">7102 (/niosh/docs/2003-154/pdfs/7102.pdf)</a> , <a href="#">7300 (/niosh/docs/2003-154/pdfs/7300.pdf)</a> , <a href="#">7301 (/niosh/docs/2003-154/pdfs/7301.pdf)</a> , <a href="#">7303 (/niosh/docs/2003-154/pdfs/7303.pdf)</a> , <a href="#">9102 (/niosh/docs/2003-154/pdfs/9102.pdf)</a> ; <b>OSHA ID125G</b> ( <a href="http://www.osha.gov/dts/sltc/methods/inorganic/id125g/id125g.html">http://www.osha.gov/dts/sltc/methods/inorganic/id125g/id125g.html</a> ) ( <a href="http://www.cdc.gov/Other/disclaimer.html">http://www.cdc.gov/Other/disclaimer.html</a> ), <b>ID206</b> ( <a href="http://www.osha.gov/dts/sltc/methods/inorganic/id206/id206.html">http://www.osha.gov/dts/sltc/methods/inorganic/id206/id206.html</a> ) ( <a href="http://www.cdc.gov/Other/disclaimer.html">http://www.cdc.gov/Other/disclaimer.html</a> ) See: <b>NMAM</b> (/niosh/docs/2003-154/) or <b>OSHA Methods</b> ( <a href="http://www.osha.gov/dts/sltc/methods/index.html">http://www.osha.gov/dts/sltc/methods/index.html</a> ) ( <a href="http://www.cdc.gov/Other/disclaimer.html">http://www.cdc.gov/Other/disclaimer.html</a> )

**Physical Description** Metal: A hard, brittle, gray-white solid.

<b>MW:</b> 9.0	<b>BP:</b> 4532°F	<b>MLT:</b> 2349°F	<b>Sol:</b> Insoluble	<b>VP:</b> 0 mmHg (approx)	<b>IP:</b> NA
<b>Sp.Gr:</b> 1.85 (metal)	<b>Fl.P:</b> NA	<b>UEL:</b> NA	<b>LEL:</b> NA		

Metal: Noncombustible Solid in bulk form, but a slight explosion hazard in the form of a powder or dust.

**Incompatibilities & Reactivities** Acids, caustics, chlorinated hydrocarbons, oxidizers, molten lithium

**Exposure Routes** inhalation, skin and/or eye contact

**Symptoms** Berylliosis (chronic exposure): anorexia, weight loss, lassitude (weakness, exhaustion), chest pain, cough, clubbing of fingers, cyanosis, pulmonary insufficiency; irritation eyes; dermatitis; [potential

ADDENDUM NO. 2

occupational carcinogen]

**Target Organs** Eyes, skin, respiratory system

**Cancer Site** [lung cancer]

**Personal Protection/Sanitation** (See [protection codes \(protect.html\)](#))

**Skin:** Prevent skin contact

**Eyes:** Prevent eye contact

**Wash skin:** Daily

**Remove:** When wet or contaminated

**Change:** Daily

**Provide:** Eyewash

**First Aid** (See [procedures \(firstaid.html\)](#))

**Eye:** Irrigate immediately

**Breathing:** Fresh air

#### Respirator Recommendations

#### NIOSH

#### At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:

(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

#### Escape:

(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.

[Click here \(pgintrod.html#nrp\)](#) for information on selection of N, R, or P filters.

Any appropriate escape-type, self-contained breathing apparatus

[Important additional information about respirator selection \(pgintrod.html#mustread\)](#)

See also: [INTRODUCTION \(/niosh/npg/pgintrod.html\)](#) See ICSC CARD: [0226](#)

[\(/niosh/ipcsneng/nengo226.html\)](#) See MEDICAL TESTS: [0025 \(/niosh/docs/2005-110/nmedo025.html\)](#)

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## Coal tar pitch volatiles

**Synonyms & Trade Names** Synonyms vary depending upon the specific compound (e.g., pyrene, phenanthrene, acridine, chrysene, anthracene & benzo(a)pyrene). [Note: NIOSH considers coal tar, coal tar pitch, and creosote to be coal tar products.]

<b>CAS No.</b> 65996-93-2	<b>RTECS No.</b> <a href="/niosh-rtecs/GF841098.html">GF8655000 (/niosh-rtecs/GF841098.html)</a>	<b>DOT ID &amp; Guide</b> 2713 153 ( <a href="http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx/guide153/">http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx/guide153/</a> ) ( <a href="http://www.cdc.gov/Other/disclaimer.html">http://www.cdc.gov/Other/disclaimer.html</a> ) (acridine)
	<b>Conversion</b>	<b>IDLH</b> Ca [80 mg/m <sup>3</sup> ] See: <a href="/niosh/idlh/65996932.html">65996932 (/niosh/idlh/65996932.html)</a>

**Exposure Limits** **NIOSH**  
**REL** : Ca TWA 0.1 mg/m<sup>3</sup>  
(cyclohexane-extractable fraction)  
[See Appendix A \(nengapdxa.html\)](#) [See Appendix C \(nengapdxc.html\)](#)  
**OSHA PEL** : TWA 0.2 mg/m<sup>3</sup>  
(benzene-soluble fraction)  
[1910.1002] [See Appendix C \(nengapdxc.html\)](#)

**Measurement Methods**  
**OSHA 58**  
<http://www.osha.gov/dts/sltc/methods/organic/org058/org058.html>  
 (<http://www.cdc.gov/Other/disclaimer.html>)  
See: [NMAM \(/niosh/docs/2003-154/\)](/niosh/docs/2003-154/) or [OSHA Methods \(http://www.osha.gov/dts/sltc/methods/index.html\)](http://www.osha.gov/dts/sltc/methods/index.html)   
(<http://www.cdc.gov/Other/disclaimer.html>)

**Physical Description** Black or dark-brown amorphous residue.

Properties vary depending upon the specific compound.				

Combustible Solids

**Incompatibilities & Reactivities** Strong oxidizers

**Exposure Routes** inhalation, skin and/or eye contact

**Symptoms** dermatitis, bronchitis, [potential occupational carcinogen]

**Target Organs** respiratory system, skin, bladder, kidneys

**Cancer Site** [lung, kidney & skin cancer]

**Personal Protection/Sanitation** ([See protection codes \(protect.html\)](#))

**Skin:** Prevent skin contact

**Eyes:** Prevent eye contact

**Wash skin:** Daily

**Remove:** No recommendation

**Change:** Daily

**First Aid** ([See procedures \(firstaid.html\)](#))

**Eye:** Irrigate immediately

**Skin:** Soap wash immediately

**Breathing:** Respiratory support

**Swallow:** Medical attention immediately

#### Respirator Recommendations

### NIOSH

#### At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:

(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

#### Escape:

(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.

[Click here \(pgintrod.html#nrp\)](#) for information on selection of N, R, or P filters.

Any appropriate escape-type, self-contained breathing apparatus

[Important additional information about respirator selection \(pgintrod.html#mustread\)](#)

See also: [INTRODUCTION \(/niosh/npg/pgintrod.html\)](#) See ICSC CARD: [1415](#)

[\(/niosh/ipcsneng/neng1415.html\)](#) See MEDICAL TESTS: [0054 \(/niosh/docs/2005-110/nmed0054.html\)](#)

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# Gasoline

**Synonyms & Trade Names** Motor fuel, Motor spirits, Natural gasoline, Petrol [Note: A complex mixture of volatile hydrocarbons (paraffins, cycloparaffins, and aromatics).]

**CAS No.** 8006-61-9

**RTECS No.**  
[LX3300000](http://www.niosh-rtecs.com/LX3300000/) ([/niosh-rtecs/LX325AA0.html](http://www.niosh-rtecs.com/LX325AA0.html))

**DOT ID & Guide** 1203 [128](http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx/guide128/) (<http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx/guide128/>) [☒](http://www.cdc.gov/Other/disclaimer.html)  
<http://www.cdc.gov/Other/disclaimer.html>

**Conversion** 1 ppm =  
 4.5 mg/m<sup>3</sup> (approx)

**IDLH** Ca [N.D.]  
 See: [IDLH INDEX](http://www.niosh.gov/IDLH/IDLHINDEX.html) ([/niosh/idlh/intridl4.html](http://www.niosh.gov/IDLH/IDLHINDEX.html))

**Exposure Limits** **NIOSH REL** : Ca See [Appendix A](http://www.niosh.gov/AppendixA/nengapdx.html) ([nengapdx.html](http://www.niosh.gov/AppendixA/nengapdx.html))

**OSHA PEL** † ([nengapdxg.html](http://www.niosh.gov/AppendixA/nengapdxg.html)): none

**Measurement Methods**

**OSHA PV2028**

(<http://www.osha.gov/dts/sltc/methods/partial/pv2028/2028.html>)

[☒](http://www.cdc.gov/Other/disclaimer.html) (<http://www.cdc.gov/Other/disclaimer.html>)

See: **NMAM** ([/niosh/docs/2003-154/](http://www.niosh.gov/docs/2003-154/)) or **OSHA Methods**

(<http://www.osha.gov/dts/sltc/methods/index.html>) [☒](http://www.cdc.gov/Other/disclaimer.html)

(<http://www.cdc.gov/Other/disclaimer.html>)

**Physical Description** Clear liquid with a characteristic odor.

**MW:** 110  
(approx)

**BP:**  
102°F

**FRZ:** ?

**Sol:**  
Insoluble

**VP:** 38-300 mmHg

**IP:** ?

**Sp.Gr(60°F):**  
0.72-0.76

**Fl.P:**  
-45°F

**UEL:**  
7.6%

**LEL:** 1.4%

Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.

**Incompatibilities & Reactivities** Strong oxidizers such as peroxides, nitric acid & perchlorates

**Exposure Routes** inhalation, skin absorption, ingestion, skin and/or eye contact

**Symptoms** irritation eyes, skin, mucous membrane; dermatitis; headache, lassitude (weakness, exhaustion), blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonitis (aspiration liquid); possible liver, kidney damage; [potential occupational carcinogen]

**Target Organs** Eyes, skin, respiratory system, central nervous system, liver, kidneys

**Cancer Site** [in animals: liver & kidney cancer]

**Personal Protection/Sanitation** (See protection codes ([protect.html](http://www.niosh.gov/protect.html)))

**Skin:** Prevent skin contact

**Eyes:** Prevent eye contact

**Wash skin:** When contaminated

ADDENDUM NO. 2

**First Aid** (See procedures ([firstaid.html](http://www.niosh.gov/firstaid.html)))

**Eye:** Irrigate immediately

**Skin:** Soap flush immediately

**Breathing:** Respiratory support

**Swallow:** Medical attention immediately

**Remove:** When wet (flammable)

**Change:** No recommendation

**Provide:** Eyewash, Quick drench

#### Respirator Recommendations

### NIOSH

**At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:**

(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

**Escape:**

(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister

Any appropriate escape-type, self-contained breathing apparatus

[Important additional information about respirator selection \(pgintrod.html#mustread\)](#)

See also: [INTRODUCTION \(/niosh/npg/pgintrod.html\)](#)

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## Lead

**Synonyms & Trade Names** Lead metal, Plumbum

<b>CAS No.</b> 7439-92-1	<b>RTECS No.</b> OF7525000 ( <a href="/niosh-rtecs/OF72D288.html">/niosh-rtecs/OF72D288.html</a> )	<b>DOT ID &amp; Guide</b>
<b>Formula</b> Pb	<b>Conversion</b>	<b>IDLH</b> 100 mg/m <sup>3</sup> (as Pb) See: <a href="/niosh/idlh/7439921.html">7439921 (/niosh/idlh/7439921.html)</a>

**Exposure Limits** **NIOSH REL** \*: TWA (8-hour) 0.050 mg/m<sup>3</sup> See [Appendix C \(nengapdx.html\)](#) [\*Note: The REL also applies to other lead compounds (as Pb) -- see Appendix C.]  
**OSHA PEL** \*: [1910.1025] TWA 0.050 mg/m<sup>3</sup> See [Appendix C \(nengapdx.html\)](#) [\*Note: The PEL also applies to other lead compounds (as Pb) -- see Appendix C.]

**Measurement Methods**

**NIOSH** [7082 \(/niosh/docs/2003-154/pdfs/7082.pdf\)](#), [7105 \(/niosh/docs/2003-154/pdfs/7105.pdf\)](#), [7300 \(/niosh/docs/2003-154/pdfs/7300.pdf\)](#), [7301 \(/niosh/docs/2003-154/pdfs/7301.pdf\)](#), [7303 \(/niosh/docs/2003-154/pdfs/7303.pdf\)](#), [7700 \(/niosh/docs/2003-154/pdfs/7700.pdf\)](#), [7701 \(/niosh/docs/2003-154/pdfs/7701.pdf\)](#), [7702 \(/niosh/docs/2003-154/pdfs/7702.pdf\)](#), [9100 \(/niosh/docs/2003-154/pdfs/9100.pdf\)](#), [9102 \(/niosh/docs/2003-154/pdfs/9102.pdf\)](#), [9105 \(/niosh/docs/2003-154/pdfs/9105.pdf\)](#);

**OSHA ID121**

(<http://www.osha.gov/dts/sltc/methods/inorganic/id121/id121.html>)  
<http://www.cdc.gov/Other/disclaimer.html>), **ID125G** (<http://www.osha.gov/dts/sltc/methods/inorganic/id125g/id125g.html>)  
<http://www.cdc.gov/Other/disclaimer.html>), **ID206** (<http://www.osha.gov/dts/sltc/methods/inorganic/id206/id206.html>)  
<http://www.cdc.gov/Other/disclaimer.html>)

See: **NMAM** (</niosh/docs/2003-154/>) or **OSHA Methods** (<http://www.osha.gov/dts/sltc/methods/index.html>) <http://www.cdc.gov/Other/disclaimer.html>)

**Physical Description** A heavy, ductile, soft, gray solid.

<b>MW:</b> 207.2	<b>BP:</b> 3164°F	<b>MLT:</b> 621°F	<b>Sol:</b> Insoluble	<b>VP:</b> 0 mmHg (approx)	<b>IP:</b> NA
<b>Sp.Gr:</b> 11.34	<b>Fl.P:</b> NA	<b>UEL:</b> NA	<b>LEL:</b> NA		

Noncombustible Solid in bulk form.

**Incompatibilities & Reactivities** Strong oxidizers, hydrogen peroxide, acids**Exposure Routes** inhalation, ingestion, skin and/or eye contact

ADDENDUM NO. 2



**Symptoms** lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension

**Target Organs** Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue

**Personal Protection/Sanitation** (See [protection codes \(protect.html\)](#))

**Skin:** Prevent skin contact

**Eyes:** Prevent eye contact

**Wash skin:** Daily

**Remove:** When wet or contaminated

**Change:** Daily

**First Aid** (See [procedures \(firstaid.html\)](#))

**Eye:** Irrigate immediately

**Skin:** Soap flush promptly

**Breathing:** Respiratory support

**Swallow:** Medical attention immediately

#### **Respirator Recommendations**

(See [Appendix E \(nengapdx.html\)](#))

#### **NIOSH/OSHA**

##### **Up to 0.5 mg/m<sup>3</sup>:**

(APF = 10) Any air-purifying respirator with an N100, R100, or P100 filter (including N100, R100, and P100 filtering facepieces) except quarter-mask respirators.

[Click here \(pgintrod.html#nrp\)](#) for information on selection of N, R, or P filters.

(APF = 10) Any supplied-air respirator

##### **Up to 1.25 mg/m<sup>3</sup>:**

(APF = 25) Any supplied-air respirator operated in a continuous-flow mode

(APF = 25) Any powered, air-purifying respirator with a high-efficiency particulate filter.

##### **Up to 2.5 mg/m<sup>3</sup>:**

(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.

[Click here \(pgintrod.html#nrp\)](#) for information on selection of N, R, or P filters.

(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode

(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter

(APF = 50) Any self-contained breathing apparatus with a full facepiece

(APF = 50) Any supplied-air respirator with a full facepiece

##### **Up to 50 mg/m<sup>3</sup>:**

(APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode

##### **Up to 100 mg/m<sup>3</sup>:**

(APF = 2000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

##### **Emergency or planned entry into unknown concentrations or IDLH conditions:**

(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

##### **Escape:**

(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.

[Click here \(pgintrod.html#nrp\)](#) for information on selection of N, R, or P filters.

Any appropriate escape-type, self-contained breathing apparatus



[Important additional information about respirator selection \(pgintrod.html#mustread\)](#)

See also: [INTRODUCTION \(/niosh/npg/pgintrod.html\)](#) See ICSC CARD: [0052 \(/niosh/ipcsneng/neng0052.html\)](#) See MEDICAL TESTS: [0127 \(/niosh/docs/2005-110/nmedo127.html\)](#)

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Centers for Disease Control and Prevention 1600 Clifton Road Atlanta, GA 30329-4027, USA  
800-CDC-INFO (800-232-4636) TTY: (888) 232-6348 - [Contact CDC-INFO](#)



<b>Manganese compounds and fume (as Mn)</b>		<b>Formula:</b> Mn (metal)	<b>CAS#:</b> 7439-96-5 (metal)	<b>RTECS#:</b> OO9275000 (metal)	<b>IDLH:</b> 500 mg/m <sup>3</sup> (as Mn)
<b>Conversion:</b>		<b>DOT:</b>			
<b>Synonyms/Trade Names: Manganese metal:</b> Colloidal manganese, Manganese-55 Synonyms of other compounds vary depending upon the specific manganese compound.					
<b>Exposure Limits:</b> <b>NIOSH REL*:</b> TWA 1 mg/m <sup>3</sup> ST 3 mg/m <sup>3</sup> [*Note: Also see specific listings for Manganese cyclopentadienyl tricarbonyl, Methyl cyclopentadienyl manganese tricarbonyl, and Manganese tetroxide.] <b>OSHA PEL*:</b> C 5 mg/m <sup>3</sup> [*Note: Also see specific listings for Manganese cyclopentadienyl tricarbonyl and Methyl cyclopentadienyl manganese tricarbonyl.]				<b>Measurement Methods (see Table 1):</b> <b>NIOSH</b> 7300, 7301, 7303, 9102 <b>OSHA</b> ID121, ID125G	
<b>Physical Description:</b> A lustrous, brittle, silvery solid.					
<b>Chemical &amp; Physical Properties:</b> <b>MW:</b> 54.9 <b>BP:</b> 3564°F <b>Sol:</b> Insoluble <b>F.I.P.:</b> NA <b>IP:</b> NA <b>Sp.Gr:</b> 7.20 (metal) <b>VP:</b> 0 mmHg (approx) <b>MLT:</b> 2271°F <b>UEL:</b> NA <b>LEL:</b> NA Metal: Combustible Solid		<b>Personal Protection/Sanitation (see Table 2):</b> <b>Skin:</b> N.R. <b>Eyes:</b> N.R. <b>Wash skin:</b> N.R. <b>Remove:</b> N.R. <b>Change:</b> N.R.		<b>Respirator Recommendations (see Tables 3 and 4):</b> <b>NIOSH</b> <b>10 mg/m<sup>3</sup>:</b> 95XQ/Sa <b>25 mg/m<sup>3</sup>:</b> Sa:Cf/PapRHi <b>50 mg/m<sup>3</sup>:</b> 100F/SaT:Cf/PapRTHie/ScbaF/SaF <b>500 mg/m<sup>3</sup>:</b> Sa:Pd,Pp <b>§:</b> ScbaF:Pd,Pp/SaF:Pd,Pp:AScba <b>Escape:</b> 100F/ScbaE	
		<b>Incompatibilities and Reactivities:</b> Oxidizers [Note: Will react with water or steam to produce hydrogen.]			
<b>Exposure Routes, Symptoms, Target Organs (see Table 5):</b> <b>ER:</b> Inh, Ing <b>SY:</b> Parkinson's; asthenia, insom, mental conf; metal fume fever: dry throat, cough, chest tight, dysp, rales, flu-like fever; low-back pain; vomit; mal; lass; kidney damage <b>TO:</b> Resp sys, CNS, blood, kidneys				<b>First Aid (see Table 6):</b> <b>Breath:</b> Resp support <b>Swallow:</b> Medical attention immed	

M

<b>Manganese cyclopentadienyl tricarbonyl (as Mn)</b>		<b>Formula:</b> C <sub>5</sub> H <sub>5</sub> Mn(CO) <sub>3</sub>	<b>CAS#:</b> 12079-65-1	<b>RTECS#:</b> OO9720000	<b>IDLH:</b> N.D.
<b>Conversion:</b>		<b>DOT:</b>			
<b>Synonyms/Trade Names:</b> Cyclopentadienylmanganese tricarbonyl, Cyclopentadienyl tricarbonyl manganese, MCT					
<b>Exposure Limits:</b> <b>NIOSH REL:</b> TWA 0.1 mg/m <sup>3</sup> [skin] <b>OSHA PEL†:</b> C 5 mg/m <sup>3</sup>				<b>Measurement Methods (see Table 1):</b> None available	
<b>Physical Description:</b> Yellow, crystalline solid with a characteristic odor. [Note: An antiknock additive for gasoline. May be found in an oil & gaseous solution.]					
<b>Chemical &amp; Physical Properties:</b> <b>MW:</b> 204.1 <b>BP:</b> Sublimes <b>Sol:</b> Slight <b>F.I.P.:</b> ? <b>IP:</b> ? <b>Sp.Gr:</b> ? <b>VP:</b> ? <b>MLT:</b> 167°F (Sublimes) <b>UEL:</b> ? <b>LEL:</b> ? Combustible Solid		<b>Personal Protection/Sanitation (see Table 2):</b> <b>Skin:</b> Prevent skin contact <b>Eyes:</b> Prevent eye contact <b>Wash skin:</b> When contam <b>Remove:</b> When wet or contam <b>Change:</b> Daily		<b>Respirator Recommendations (see Tables 3 and 4):</b> Not available.	
		<b>Incompatibilities and Reactivities:</b> Oxygen			
<b>Exposure Routes, Symptoms, Target Organs (see Table 5):</b> <b>ER:</b> Inh, Abs, Ing, Con <b>SY:</b> In animals: irrit skin; pulm edema; convuls; CNS, resp sys, kidney changes; decr resistance to infection <b>TO:</b> Skin, resp sys, CNS, kidneys				<b>First Aid (see Table 6):</b> <b>Eye:</b> Irr immed <b>Skin:</b> Soap wash <b>Breath:</b> Resp support <b>Swallow:</b> Medical attention immed	

<b>Mercury compounds [except (organo) alkyls] (as Hg)</b>		<b>Formula:</b> Hg (metal)	<b>CAS#:</b> 7439-97-6 (metal)	<b>RTECS#:</b> OV4550000 (metal)	<b>IDLH:</b> 10 mg/m <sup>3</sup> (as Hg)
<b>Conversion:</b>		<b>DOT:</b> 2809 172 (metal)			
<b>Synonyms/Trade Names:</b> <b>Mercury metal:</b> Colloidal mercury, Metallic mercury, Quicksilver Synonyms of "other" Hg compounds vary depending upon the specific compound.					
<b>Exposure Limits:</b> <b>NIOSH REL:</b> Hg Vapor: TWA 0.05 mg/m <sup>3</sup> [skin] Other: C 0.1 mg/m <sup>3</sup> [skin]				<b>OSHA PEL†:</b> C 0.1 mg/m <sup>3</sup>	
				<b>Measurement Methods (see Table 1):</b> <b>NIOSH 6009 OSHA ID140</b>	
<b>Physical Description:</b> Metal: Silver-white, heavy, odorless liquid. [Note: "Other" Hg compounds include all inorganic & aryl Hg compounds except (organo) alkyls.]					
<b>Chemical &amp; Physical Properties:</b> <b>MW:</b> 200.6 <b>BP:</b> 674°F <b>Sol:</b> Insoluble <b>F.I.P.:</b> NA <b>IP:</b> ? <b>Sp.Gr:</b> 13.6 (metal) <b>VP:</b> 0.0012 mmHg <b>FRZ:</b> -38°F <b>UEL:</b> NA <b>LEL:</b> NA Metal: Noncombustible Liquid		<b>Personal Protection/Sanitation (see Table 2):</b> <b>Skin:</b> Prevent skin contact <b>Eyes:</b> N.R. <b>Wash skin:</b> When contam <b>Remove:</b> When wet or contam <b>Change:</b> Daily		<b>Respirator Recommendations (see Tables 3 and 4):</b> <b>Mercury vapor:</b> <b>NIOSH</b> <b>0.5 mg/m<sup>3</sup>:</b> CcrS†/Sa <b>1.25 mg/m<sup>3</sup>:</b> Sa:Cf/Pap†(canister) <b>2.5 mg/m<sup>3</sup>:</b> CcrFS†/GmFS†/SaT:Cf/Pap†(canister)/ScbaF/SaF <b>10 mg/m<sup>3</sup>:</b> Sa:Pd,Pp <b>§:</b> ScbaF:Pd,Pp/SaF:Pd,Pp:AScba <b>Escape:</b> GmFS/ScbaE  <b>Other mercury compounds:</b> <b>NIOSH/OSHA</b> <b>1 mg/m<sup>3</sup>:</b> CcrS†/Sa <b>2.5 mg/m<sup>3</sup>:</b> Sa:Cf/Pap†(canister) <b>5 mg/m<sup>3</sup>:</b> CcrFS†/GmFS†/SaT:Cf/Pap†(canister)/ScbaF/SaF <b>10 mg/m<sup>3</sup>:</b> Sa:Pd,Pp <b>§:</b> ScbaF:Pd,Pp/SaF:Pd,Pp:AScba <b>Escape:</b> GmFS/ScbaE	
<b>Incompatibilities and Reactivities:</b> Acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper					
<b>Exposure Routes, Symptoms, Target Organs (see Table 5):</b> <b>ER:</b> Inh, Abs, Ing, Con <b>SY:</b> Irrit eyes, skin; cough, chest pain, dysp, bron, pneu; tremor, insom, irrity, indecision, head, lass; stomatitis, salv; GI dist, anor, low-wgt; prot <b>TO:</b> Eyes, skin, resp sys, CNS, kidneys				<b>First Aid (see Table 6):</b> <b>Eye:</b> Irr immed <b>Skin:</b> Soap wash prompt <b>Breath:</b> Resp support <b>Swallow:</b> Medical attention immed	

M

<b>Mercury (organo) alkyl compounds (as Hg)</b>		<b>Formula:</b>	<b>CAS#:</b>	<b>RTECS#:</b>	<b>IDLH:</b> 2 mg/m <sup>3</sup> (as Hg)
<b>Conversion:</b>		<b>DOT:</b>			
<b>Synonyms/Trade Names:</b> Synonyms vary depending upon the specific (organo) alkyl mercury compound.					
<b>Exposure Limits:</b> <b>NIOSH REL:</b> TWA 0.01 mg/m <sup>3</sup> ST 0.03 mg/m <sup>3</sup> [skin]				<b>OSHA PEL†:</b> TWA 0.01 mg/m <sup>3</sup> C 0.04 mg/m <sup>3</sup>	
				<b>Measurement Methods (see Table 1):</b> None available	
<b>Physical Description:</b> Appearance and odor vary depending upon the specific (organo) alkyl mercury compound.					
<b>Chemical &amp; Physical Properties:</b> Properties vary depending upon the specific (organo) alkyl mercury compound.		<b>Personal Protection/Sanitation (see Table 2):</b> <b>Skin:</b> Prevent skin contact <b>Eyes:</b> Prevent eye contact <b>Wash skin:</b> When contam <b>Remove:</b> When wet or contam <b>Change:</b> Daily <b>Provide:</b> Eyewash Quick drench		<b>Respirator Recommendations (see Tables 3 and 4):</b> <b>NIOSH/OSHA</b> <b>0.1 mg/m<sup>3</sup>:</b> Sa <b>0.25 mg/m<sup>3</sup>:</b> Sa:Cf <b>0.5 mg/m<sup>3</sup>:</b> SaT:Cf/ScbaF/SaF <b>2 mg/m<sup>3</sup>:</b> Sa:Pd,Pp <b>§:</b> ScbaF:Pd,Pp/SaF:Pd,Pp:AScba <b>Escape:</b> ScbaE	
<b>Incompatibilities and Reactivities:</b> Strong oxidizers such as chlorine					
<b>Exposure Routes, Symptoms, Target Organs (see Table 5):</b> <b>ER:</b> Inh, Abs, Ing, Con <b>SY:</b> Pares; ataxia, dysarthria; vision, hearing dist; spasticity, jerking limbs; dizz; salv; lac; nau, vomit, diarr, constip; skin burns; emotional dist; kidney inj; possible terato effects <b>TO:</b> Eyes, skin, CNS, PNS, kidneys				<b>First Aid (see Table 6):</b> <b>Eye:</b> Irr immed <b>Skin:</b> Soap wash immed <b>Breath:</b> Resp support <b>Swallow:</b> Medical attention immed	

<b>Tetryl</b>	<b>Formula:</b> (NO <sub>2</sub> ) <sub>3</sub> C <sub>6</sub> H <sub>2</sub> N(NO <sub>2</sub> )CH <sub>3</sub>	<b>CAS#:</b> 479-45-8	<b>RTECS#:</b> BY6300000	<b>IDLH:</b> 750 mg/m <sup>3</sup>
<b>Conversion:</b>	<b>DOT:</b>			
<b>Synonyms/Trade Names:</b> N-Methyl-N,2,4,6-tetranitroaniline; Nitramine; 2,4,6-Tetryl; 2,4,6-Trinitrophenyl-N-methylnitramine				
<b>Exposure Limits:</b> NIOSH REL: TWA 1.5 mg/m <sup>3</sup> [skin] OSHA PEL: TWA 1.5 mg/m <sup>3</sup> [skin]			<b>Measurement Methods (see Table 1):</b> NIOSH S225 (II-3)	
<b>Physical Description:</b> Colorless to yellow, odorless, crystalline solid.				
<b>Chemical &amp; Physical Properties:</b> MW: 287.2 BP: 356-374°F (Explodes) Sol: 0.02% F.I.P: Explodes IP: ? Sp.Gr: 1.57 VP: <1 mmHg MLT: 268°F UEL: ? LEL: ? Combustible Solid (Class A Explosive)	<b>Personal Protection/Sanitation (see Table 2):</b> <b>Skin:</b> Prevent skin contact <b>Eyes:</b> Prevent eye contact <b>Wash skin:</b> When contam/Daily <b>Remove:</b> When wet or contam <b>Change:</b> Daily	<b>Respirator Recommendations (see Tables 3 and 4):</b> <b>NIOSH/OSHA</b> <b>7.5 mg/m<sup>3</sup>:</b> Qm <b>15 mg/m<sup>3</sup>:</b> 95XQ*/Sa* <b>37.5 mg/m<sup>3</sup>:</b> Sa:Cf*/PaprHie* <b>75 mg/m<sup>3</sup>:</b> 100F/ScbaF/SaF <b>750 mg/m<sup>3</sup>:</b> SaF:Pd,Pp <b>§:</b> ScbaF:Pd,Pp/SaF:Pd,Pp:AScba <b>Escape:</b> 100F/ScbaE		
<b>Incompatibilities and Reactivities:</b> Oxidizable materials, hydrazine				
<b>Exposure Routes, Symptoms, Target Organs (see Table 5):</b> <b>ER:</b> Inh, Abs, Ing, Con <b>SY:</b> Sens derm, itch, eryt; edema on nasal folds, cheeks, neck; kera; sneez; anemia; cough, coryza; irrity; mal, head, lass, insom; nau, vomit; liver, kidney damage <b>TO:</b> Eyes, skin, resp sys, CNS, liver, kidneys			<b>First Aid (see Table 6):</b> <b>Eye:</b> Irr immed <b>Skin:</b> Soap wash prompt <b>Breath:</b> Resp support <b>Swallow:</b> Medical attention immed	

<b>Thallium (soluble compounds, as TI)</b>	<b>Formula:</b>	<b>CAS#:</b>	<b>RTECS#:</b>	<b>IDLH:</b> 15 mg/m <sup>3</sup> (as TI)
<b>Conversion:</b>	<b>DOT:</b> 1707 151 (compounds, n.o.s.)			
<b>Synonyms/Trade Names:</b> Synonyms vary depending upon the specific soluble thallium compound.				
<b>Exposure Limits:</b> NIOSH REL: TWA 0.1 mg/m <sup>3</sup> [skin] OSHA PEL: TWA 0.1 mg/m <sup>3</sup> [skin]			<b>Measurement Methods (see Table 1):</b> NIOSH 7300, 7301, 7303, 9102 OSHA ID121	
<b>Physical Description:</b> Appearance and odor vary depending upon the specific soluble thallium compound.				
<b>Chemical &amp; Physical Properties:</b> Properties vary depending upon the specific soluble thallium compound.	<b>Personal Protection/Sanitation (see Table 2):</b> <b>Skin:</b> Prevent skin contact <b>Eyes:</b> Prevent eye contact <b>Wash skin:</b> When contam <b>Remove:</b> When wet or contam <b>Change:</b> Daily	<b>Respirator Recommendations (see Tables 3 and 4):</b> <b>NIOSH/OSHA</b> <b>0.5 mg/m<sup>3</sup>:</b> Qm <b>1 mg/m<sup>3</sup>:</b> 95XQ/Sa <b>2.5 mg/m<sup>3</sup>:</b> Sa:Cf/PapHie <b>5 mg/m<sup>3</sup>:</b> 100F/SaT:Cf/PaprTHie/ScbaF/SaF <b>15 mg/m<sup>3</sup>:</b> SaF:Pd,Pp <b>§:</b> ScbaF:Pd,Pp/SaF:Pd,Pp:AScba <b>Escape:</b> 100F/ScbaE		
<b>Incompatibilities and Reactivities:</b> Varies				
<b>Exposure Routes, Symptoms, Target Organs (see Table 5):</b> <b>ER:</b> Inh, Abs, Ing, Con <b>SY:</b> Nau, diarr, abdom pain, vomit; ptosis, strabismus; peri neuritis, tremor; retster tight, chest pain, pulm edema; convuls, chorea, psychosis; liver, kidney damage; alopecia; pares legs <b>TO:</b> Eyes, resp sys, CNS, liver, kidneys, GI tract, body hair			<b>First Aid (see Table 6):</b> <b>Eye:</b> Irr immed <b>Skin:</b> Water flush prompt <b>Breath:</b> Resp support <b>Swallow:</b> Medical attention immed	

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## Appendix D: Operating Log

**Broad Street Reconstruction  
Cumberland, Central Falls, Pawtucket, Rhode Island  
DAILY OPERATIONS LOG SUMMARY  
Remedial Action Work Plan**

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**NAME:**

**WEATHER:**

**DATE & TIME:**

**WIND:**

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**GENERAL CONSTRUCTION ACTIVITY:**

- 

**EARTHWORK ACTIVITY:**

- 

**SOIL AND EROSION MONITORING:**

- 

**DUST MONITORING:**

- 

**HEALTH AND SAFETY MONITORING:**

- 

**CONVERSATION NOTES:**

-

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T11.9909	20 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0 (Modified VI)	
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704.9905	Reconstruct Gutter Inlet	
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**Bioretention Soil.** Soil shall be Mixture 3 from the Rhode Island Department of Transportation Linear Stormwater Manual February 2019.

Compost shall not be used as organic matter. See Section 2.3.5; Bioretention Swale of the Rhode Island Department of Transportation Linear Stormwater Manual February 2019 for acceptable organic soil amendments.

**Seeding.** Seeding shall conform to the requirements of Subsection M.18.10.2; Park Mix of the Standard Specifications.

**Erosion Control Blanket.** Erosion Control Blanket shall conform to the requirements of Section M.18; Landscaping Materials of the Standard Specifications. Erosion Control Blanket shall be an extended term product, double netted, and degradable.

**Curbing.** Curbing shall conform to the Subsections 906.02 Materials of the Standard Specifications.

**Inspection of Materials.** All materials will be subject to periodic inspection for compliance with approved methods of manufacture. Material samples will be obtained by the Engineer for laboratory testing to determine compliance with Specifications. In addition, material test certificates shall be required. Such inspection of manufacturing plants, materials testing, and certificates shall provide the basis for acceptance of materials.

**CONSTRUCTION METHODS.** Construction methods shall conform to the Subsections 702.03, 703.03, 911.03, L.01.03, and L.05.03; Construction Methods of the Standard Specifications.

**METHOD OF MEASUREMENT.** “BIORETENTION CURB INLET PLANTER” shall be measured by the number of “Each” unit actually installed.

**BASIS OF PAYMENT.** The accepted quantity of “BIORETENTION CURB INLET PLANTER” shall be paid for at the contract unit price per “Each”, which price shall include full compensation for all labor, materials, tools, and equipment, including clearing and grubbing, excavation, trench excavation (except Trench Excavation - Rock and Trench Rock Excavation/Mechanical), gravel, grouted stone, mortar, filter fabric/geotextiles, filter stone, curbing, impermeable liner, pea gravel, PVC piping and fittings, bioretention soil, plantings, seeding, erosion control blanket, inspection, sediment forebays, underdrain, bioretention soil, check dams, loam & seed, all dewatering, including pumping, draining, or bailing, the legal disposal of all excess or unsuitable excavated materials, and all other incidentals required to perform the work, complete and accepted by the Engineer.

Additional payment for modifications to the curbing, drain holes, shall be considered incidental to the curb installation included in this item.

**CODE 905.9902**  
**FURNISH AND INSTALL BRICK SIDEWALK**

**DESCRIPTION:** The work shall include the construction of brick sidewalk consisting of brick pavers on a 4” cement concrete slab at the locations indicated on the plans or as directed by the Engineer, all in accordance with these specifications.

**MATERIALS:** Brick pavers shall be installed to match the existing brick in size, thickness, color and texture for each location specified in the Contract Documents. Joint treatment shall be installed to match joint treatment in the surrounding brick in appearance. Joint treatment shall be natural sand joint filler or a mortared joint.

Portland Cement Concrete. Portland cement concrete shall be Class XX(AE) (4,000 psi) for sidewalks, typical driveways and commercial driveways, and shall conform to the requirements as set forth in Subsections 601.01.1; Classification, and 601.03.1; Proportioning, of the Standard Specifications, and the applicable requirements of SECTION M.02, PORTLAND CEMENT CONCRETE of the Standard Specifications.

Natural Sand. Natural sand shall conform to the requirements set forth in Subject Aggregate for Masonry Mortar, AASHTO M 45-92.

Mortar - Mortar shall conform to relevant requirements of Section M of the Standard Specifications unless specified otherwise in this special provision. Color of mortar shall match mortar on adjacent brick walk. The Contractor shall supply samples prior to starting work for approval.

**CONSTRUCTION METHODS:** The brick pavers shall be applied to a four (4) inch depth cement concrete slab and mortar in place to match the surrounding brick sidewalk at each individual location. The contractor shall submit brick paver samples to the Engineer for approval prior to installation for each location.

**METHOD OF MEASUREMENT:** “FURNISH AND INSTALL BRICK SIDEWALK” will be measured per Square Yard of brick sidewalk actually placed in accordance with the specifications at locations directed by the Engineer.

**BASIS OF PAYMENT:** The accepted quantities of “FURNISH AND INSTALL BRICK SIDEWALK” will be paid for at the contract unit price per Square Yard of brick paver installed. The price shall constitute full payment for all labor, materials, brick sample submittals, bricks, cement concrete, mortaring, equipment, and all incidentals required to complete the work as specified to the satisfaction of the Engineer.

shall be employed for this work item. Specifically, the installation crew shall remain the same through the duration of the project.

The Contractor shall provide conclusive proof that he is qualified to and has previously produced such textured paving as specified and can comply with the provisions specified herein and shown on the Plans. Proof shall consist of verification that the installer is an accredited, licensed installer of the patented IMPRINT material/process with a minimum of five (5) years of related experience. The Contractor will be required to furnish, upon request by the State, documentation of a minimum of five (5) completed projects utilizing the IMPRINT material. The Contractor shall submit aforementioned evidence within thirty (30) days after the Notice to Proceed is received, and it shall be the responsibility of the prime bidder to ensure that the subcontractor he intends to use for this work be pre-qualified in accordance with this specification.

EQUIPMENT: The Contractor must possess and be familiar with the specialized machinery necessary to perform the procedures as outlined and contained within this completed technical specification package, including, but not limited to, appropriate trucks, air compressors, miscellaneous asphalt equipment, dispensers, mixers, melters, applicators, cutters and/or specialized tools etc.

PROTECTION OF PROPERTY: All surfaces, utility structures, poles, curbing, stone and other features not intended to be affected by the installation of the textured paving shall be protected from being contacted by the IMPRINT material. The Contractor shall be responsible for completely cleaning and/or restoring any surface or object or drainage system that is contaminated as a result of the Contractor's activities, at no additional cost to the State.

All surface drains and other points of possible liquid or sand runoff shall be covered and/or blocked so that no liquid or sand is deliberately or accidentally released into the drainage system. The Engineer shall approve all methods of protecting property and the drainage system.

#### **CONSTRUCTION METHODS:**

PAVEMENT PREPARATION: The Contractor shall be responsible for the preparation, placement and patterning of IMPRINT. The preparation of the pavement surface shall be performed in accordance with the Manufacturers' recommendations.

For the pre-existing pavement, the pavement shall be milled out entirely to accommodate the IMPRINT material.

- A. In order to achieve an Imprint surface that is level with the surrounding pavement, the pavement will require milling to achieve proper depth level before the application of Imprint.
- B. The installation area boundaries shall be saw-cut prior to excavating the pavement materials for a clean edge. All pavement materials shall be milled and all excess material removed. The depth of the milled area shall allow the depth of the Imprint material to be maintained within a range of ¾" to 1" depth across the entire installation.
- C. The existing pavement must be free of cracks. The milling process will not necessarily remove pavement cracks. If the applicator chooses to over-mill cracked areas and re-apply a pavement layer, the applicator will need to be certain that the cracks do not reappear as these will reflect through the Imprint surface.

All excavated material(s) shall be legally disposed of in a proper manner. There will be no additional compensation for the disposal of excavated materials. All work area(s) where the pavement has been removed shall be left in a neat and clean condition, to the satisfaction of the Engineer.

**SPECIFICATION DELETED**

**CODE T11.9901**  
**15 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0**

**CODE T11.9902**  
**15 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0 (MODIFIED I)**

**CODE T11.9903**  
**20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0**

**CODE T11.9904**  
**20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0 (MODIFIED I)**

**CODE T11.9905**  
**20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0 (MODIFIED II)**

**CODE T11.9906**  
**20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0 (MODIFIED III)**

**CODE T11.9907**  
**20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0 (MODIFIED IV)**

**CODE T11.9908**  
**20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0 (MODIFIED V)**

**CODE T11.9909**  
**20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0 (MODIFIED VI)**

**CODE T11.9910**  
**25 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0 (MODIFIED I)**

**CODE T11.9911**  
**30 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0 (MODIFIED I)**

**CODE T11.9912**  
**45 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0 (MODIFIED I)**

**CODE T11.9913**  
**50 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0**

**CODE T11.9917**  
**DUAL MAST ARM (30X50) GALVANIZED STEEL TRAFFIC SIGNAL**  
**POST AND FOUNDATION STD 19.2.0**

**DESCRIPTION:** This work consists of furnishing and installing Galvanized Steel Mast Arms and Poles with Foundations at the locations indicated on the Plans and/or as directed by the Engineer, all in accordance with the Standard Specifications. All traffic signal mast arms, poles and foundations shall conform to **SECTION T.11; TRAFFIC SIGNAL STANDARDS AND POSTS**, of the Standard Specifications.

**MATERIALS:** All materials shall be in accordance with the applicable provisions of **Subsection T.11.02** of the Standard Specifications.

**CONSTRUCTION METHODS:** Traffic signal mast arms, poles, and foundations shall be installed in accordance with the applicable provisions of **Subsection T.11.03** of the Standard Specifications.

All proposed mast arms shall be designed and fabricated to ensure that all baseplates are no larger in diameter than RIDOT approved mast arms of the same length as designed in support of revised RIDOT Standard Detail 19.2.0.

Existing mast arms shall be supported during the excavation for the proposed mast arm foundations at the locations noted on the Plans or as directed by the Engineer.

Shop drawing submittals shall include complete details of each Overhead Signal Structure including but not limited to elevation views, cross sections and details necessary for the complete fabrication and erection of each structure. The Contractor shall submit shop drawing sketches of each individual structure with dimensions included for all resultant clearances as required within this specification and the project plans. The structure geometry shall be drawn to actual scale per fabricator's custom design.

**METHOD OF MEASUREMENT:** All traffic signal mast arms, posts and foundations shall be measured for payment by the unit "EACH" of such units actually furnished and installed in accordance with the Plans or as directed by the Engineer.

**BASIS OF PAYMENT:** "15 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0", "15 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED I)", "20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0", "20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED I)", "20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED II)", "20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED III)", "20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED IV)", "20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED V)", "20 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED VI)", "25 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED I)", "30 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED I)", "45 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0 (MODIFIED I)", "50 FOOT GALVANIZED STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0", and "DUAL MAST ARM (30X50) GALVANIZED STEEL TRAFFIC SIGNAL POST AND FOUNDATION STD. 19.2.0" shall be paid for at their respective contract unit price bid per "EACH" as listed in the Proposal. The price so-stated shall constitute full compensation for all design, materials, labor, tools, equipment, temporary support of existing mast arms, and all incidentals required to finish the work, complete in place and accepted by the Engineer.

**CODE T11.9914**  
**TRAFFIC SIGNAL STANDARD, 4 FOOT – 4 INCH, STD. 19.4.0**  
**ALUMINUM PEDESTAL POLE AND FOUNDATION**

**CODE T11.9915**  
**TRAFFIC SIGNAL STANDARD, 18 FOOT, STD. 19.4.0 ALUMINUM PEDESTAL POLE AND**  
**FOUNDATION**

**DESCRIPTION:** The work under this item shall conform to the applicable requirements of **SECTION T.11; TRAFFIC SIGNAL STANDARDS AND POSTS**, of the Standard Specifications.

**MATERIALS:** The materials for this item shall be in accordance with the applicable provisions of **Subsection T.11.02** of the Standard Specifications and shall also conform to the following requirements:

- 4 foot - 4 inch pedestal pole with pole cap – Alloy Castings Co., Inc., or approved equivalent
- 18 foot pedestal pole with pole cap – Alloy Castings Co., Inc., or approved equivalent

**CONSTRUCTION METHODS:** Traffic signal pedestal poles and foundations shall be installed in accordance with the applicable provisions of **Subsection T.11.03** of the Standard Specifications.

The foundation size of the pedestal poles shall not exceed 20"x20" square.

**METHOD OF PAYMENT:** "TRAFFIC SIGNAL STANDARD, 4 FOOT – 4 INCH, STD. 19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION" and "TRAFFIC SIGNAL STANDARD, 18 FOOT, STD. 19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION" shall be measured for payment by the unit "EACH" for each unit actually installed in accordance with the Plans or as directed by the Engineer.

**BASIS OF PAYMENT:** "TRAFFIC SIGNAL STANDARD, 4 FOOT – 4 INCH, STD. 19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION" and "TRAFFIC SIGNAL STANDARD, 18 FOOT, STD. 19.4.0 ALUMINUM PEDESTAL POLE AND FOUNDATION" shall be paid for at their respective contract unit price per "EACH" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all design, materials, labor, tools, equipment and all incidentals required to finish the work, complete in place and accepted by the Engineer.



**CODE 707.9900  
WATER MODIFICATIONS**

**DESCRIPTION.** This item of work shall consist of modifying the existing water system owned by Pawtucket Water Supply Board (PWSB) in reasonably close conformity with the details as indicated on the Plans or as directed by the Engineer, all in accordance with these Specifications.

All work described in these Specifications and/or indicated on the Plans shall be in strict accordance with the best-recognized practices for water main construction and the attached PWSB specifications and details.

**Applicable Standards.** American Water Works Association (AWWA) standards shall be considered to be part of the Requirements for Water Mains, Services and Appurtenances. The PWSB reserves the right to make exceptions to the Requirements. If required, a manufacturer's Certificate of Compliance shall be submitted to PWSB for components incorporated into the water system.

**MATERIALS.** All materials including pipe, fittings, valves and other related appurtenances shall conform to the latest standards issued by the ASTM, AWWA and ANSI/NSF, where such standards exist.

All materials for use on water main installations and appurtenant services shall adhere to the attached Pawtucket Water Supply Board Specifications for Water Main and Service Materials

**Pipe Bedding.** Material for pipe bedding shall be as specified in Section 701 of the Standard Specifications for Class B Bedding.

**Concrete Thrust Blocks and Collars.** Concrete for thrust blocks and collars uses shall meet the requirements of Class B as specified in Section 601 of the Standard Specifications.

**CONSTRUCTION METHODS.**

**General Requirements**

**Notification.** PWSB shall be notified at least forty-eight (48) hours prior to any item being installed within the system. Pressure testing and/or chlorination shall require a two (2) business day notification. It is a requirement that a representative of the PWSB witness all testing.

Dig-Safe® is to be notified prior to commencement of work. Any broken or damaged utility connection or services (water, sewer, gas, telephone, electric, etc.) shall be fully repaired at the expense of the party responsible for the damage. Underground structures shall be thoroughly supported or otherwise protected to maintain uninterrupted service.

**Inspection.** Inspection of all installations shall be conducted to ensure compliance with all applicable PWSB standards. PWSB personnel shall be given full access to the project at all times for inspection or observation of construction of the water main in progress as deemed necessary by PWSB. Failure to construct the new extension of the system as per the approval will cause immediate cessation of all construction work.

RIDOT is solely responsible to control their contractor in the progression of work to ensure the water infrastructure installation is accomplished in accordance with the approval. Any part of the installation found to be noncompliant shall be immediately corrected at the owner's cost to the satisfaction of PWSB.

Prior to final acceptance of the project by the Department, a complete set of As-Built Drawings must be submitted, reviewed and approved. As-Built Drawings at a minimum shall be:

- a. Stamped and signed by a Professional Engineer and/or land surveyor registered in the State of Rhode Island.

- b. Compile and accurately show the limits of all properties, easements, roads and right-of-way for the project.
- c. Measured horizontal and vertical locations of the above and below grade water main, valves, fittings, services, and appurtenances, referenced to permanent surface improvements, above grade permanent structures, and/or permanent visible and accessible features of the installation.
- d. Three point measured swing ties from permanent surface improvements, above grade permanent structures and/or visible and accessible features of the installation to identify all bends, services and end caps.
- e. Detail of water main tap connection and all utility crossings.

Design drawings and record drawings of the progress of the work shall be maintained at the job site and shall be available for PWSB inspectors to view at any time. Failure to have these documents available for review or failure to have the documents prepared, may cause cessation of all construction work and disconnection from the PWSB system until such time that remedial measures to those requirements have been made.

**Disposal of Removed Materials.** Water pipe and/or appurtenances that are removed shall remain the property of the party whose responsibility it shall be to properly dispose of the same.

Water mains, water services, and hydrant runouts that are disconnected from the system and abandoned in place shall be capped at ALL openings. When pipes are severed at tees, the remaining tee shall be removed and replaced with a section of straight pipe, if possible.

**Trench Excavation and Backfill.** Water mains and services shall be installed with a minimum cover of 4'-6" to the crown of the pipe in an AWWA "Type 5 Trench". Where unsuitable material is found at or below the grade of the placement of the pipe or fitting, said material shall be removed to the required width and depth and replaced with thoroughly compacted bank run or processed gravel. Material shall be deposited across the full width and length of the trench in layers of not more than twelve (12) inches in depth, before compaction. Each layer shall be compacted to 95% Standard Proctor to a minimum depth of the street subgrade.

Temporary and permanent pavement shall be installed over the freshly backfilled trench in an existing street or sidewalk using hot bituminous concrete. Pavement installation shall be installed in accordance with applicable State and Local Municipal standards and requirements.

**Specific Components**

**Pipe and Fittings.** Pipes and appurtenances should be installed with a minimum earth cover of 4'-6" over the crown of the pipe in an AWWA "Type 5 Trench", or as directed by PWSB.

Metallized, detectable identification tape, 2-inches wide, blue in color and imprinted with the words "CAUTION - WATER LINE BURIED BELOW," shall be utilized over all mains. The tape shall be buried 12-inches below finished grade.

Maximum changes in alignment (offset or deflection) of each 18-foot length of pipe shall not exceed the values in the following table:

PIPE SIZE (in.)	PUSH-ON JOINT (in.)	MECH. JOINT (in.)
4	14	23
6	14	20
8-12	14	15

14-16	8	10
18-20	8	8
24-30	8	7
36	8	6
42-48	6	6
54	4	-

Maximum changes in alignment (offset or deflection) of each 20-foot length of pipe shall not exceed the values in the following table:

PIPE SIZE (in.)	PUSH-ON JOINT (in.)	MECH. JOINT (in.)
4	16	26
6	16	23
8-12	16	17
14-16	9	11
18-20	9	9
24-30	9	8
36	9	7
42-48	6	6
54	5	-

Compacted gravel bedding (12" min) shall be installed under the entire length of the pipe and across the full width of the trench. Firm bearing shall be achieved by tamping selected material at the sides of the pipe/fitting, up to the "spring line" (mid-point height).

Whenever pipe laying operations cease for an extended period of time (over 30 minutes), all openings are to be closed with a watertight plug or other means approved by PWSB. Water shall be kept out of the trench while the pipe is being installed. If required, fittings, in addition to those shown on the plans, shall be provided when crossing utilities or other immovable obstructions that may be encountered when installing water facilities. At least a 12-inch layer of compacted gravel shall be left between all pipes or other subsurface structures, whether they are installed or relocated.

Adequate temporary provisions shall be made to provide for the flow from sewers or drains interfered with by the work. All necessary measures shall be taken to prevent sewage or other contaminating matter from entering the water main.

Pipe cuts shall be made so as to leave a smooth end at right angles to the main axis of the pipe and also chamfered to conform to the manufactured spigot end. Particular care shall be exercised to minimize damage to the cement mortar lining when making cuts. Machine field cuts shall be made on pipes that are 16-inches and larger.

New pipes and fittings shall be subjected to a careful visual inspection just before installation. Any fitting showing a crack or any fitting or pipe that has received a severe blow, which may have caused an incipient fracture even though no such fracture can be seen, or any fitting or pipe discovered to be defective, shall be marked as "REJECTED" and removed at once from the work site. Pipe showing a crack may be cut off at a point at least 12-inches from the visible limit of the crack before the pipe is installed, provided the remaining portion is perfectly sound as determined by testing. Cut ends, used with push-on joints, shall be chamfered to prevent damage to the

gasket when the pipe is assembled. Any defective pipe or fitting discovered after installation shall be removed and replaced at the installer's expense.

Pipes shall be cleaned of all excess asphaltic coating, debris, dirt, or other deleterious material, before installation. Care shall be taken in loading, transporting and unloading, to prevent injury to the coatings on the pipes and/or fittings. Any damage to the coatings shall be repaired as directed by a representative of PWSB. Pipes or fittings shall not be dropped.

**Valves.** Each valve that can be operated with a wrench or "key" shall be equipped with a sliding-type cast iron gate valve box.

**Gate.** Valves shall be installed at all intersections and in each direction and line valves placed no further apart than 800 feet apart, and/or as directed by PWSB.

Each valve shall be equipped with a sliding-type cast iron gate valve box unless otherwise directed by PWSB.

**Butterfly.** Each valve shall be equipped with a sliding-type cast iron gate valve box unless otherwise directed by PWSB.

**Swing-Check.** Valves are to be mounted in an upright horizontal position. Direct access to the valve shall be accomplished by using a precast concrete manhole (5' I.D. min) with heavy duty cast iron manhole frame and solid 30" dia. (min.) cover. Concrete structure and cover shall be capable of withstanding an AASHTO H-20 load. Covers shall have a diamond check pattern with the word "WATER" (in caps) cast upon it. Corrosion resistant, non-slip steps or ladder shall be permanently affixed to the interior vertical wall of the manhole.

Depending on the pipe diameter, a resilient seated gate or butterfly valve shall be placed on each side of the swing-check valve, exterior of the manhole.

**Tapping.** Each valve shall be equipped with a sliding-type cast iron gate valve box unless otherwise directed by PWSB.

#### **Valve Boxes.**

**Gate Valve Box.** Each valve that can be operated with a wrench or "key" shall be equipped with a sliding-type, cast iron, gate valve box. Boxes shall be positioned so that no load is transmitted to the valve body. A gate box aligner, manufactured of high strength plastic, shall be used with each installation to center the valve operating nut within the box.

**Gate Valve Roadway Box.** Gate valve roadway boxes shall be used for 1-1/2 and 2-inch curb stops. Boxes shall be positioned so that no load is transmitted to the stop body or service pipe.

**Blowoff Assembly.** A 2-inch blowoff assembly shall be used at the terminus of a dead end main. Installation should be on the main at the "spring line" of the pipe within 2-feet of the end cap, or on the end cap itself.

**Fire Hydrants.** Hydrants shall be located so that they are, at a minimum, no more than 1,000 feet apart, or as required by the local fire department.

They shall be designed and installed so that when properly installed a standard 15-inch hydrant wrench will not contact the ground when making a full 360-degree turn on any nozzle cap.

Hydrants shall be set plumb with the steamer port (or central hose nozzle) facing the roadway. Hydrants shall be positioned with the center of the operating nut 24-inches back from the face of curb, or as required by the local fire chief.

Manufacturer's "bury mark" or ground line shall be set at finished grade. If there is no mark on the hydrant, the bottom of the breaking ring (flange) shall be set at a minimum of 2-inches to a maximum of 4-inches above finished grade. Depth of bury shall be at least 4'-6". The base of the hydrant shall be set on either a flat stone or concrete slab that is at least 14-inches square and 6-inches thick.

Hydrants shall be restrained using poured concrete thrust blocks in conjunction with a mechanical joint restraining device or strapped back to the hydrant gate valve.

A drainage pit shall be excavated below and around each hydrant and backfilled to a height of at least 6-inches above all drain ports with at least 1 cubic yard of 1/2 to 1-inch washed crushed stone. Stone shall be compacted prior to backfilling and compaction of the hydrant. Aggregates shall be covered with a layer of non-woven filter fabric to lessen the intrusion of fine soil particles into the stone.

Hydrants shall be fed from the main with a 6 or 8-inch ductile iron lateral (8-inch is used when hydrant laterals exceed a length of 10-feet). A resilient seated gate valve (MJ) shall be installed in the lateral between the tee and the hydrant. Special anchor or swivel tees (MJ) shall be used to connect the hydrant branch to the main.

For the purpose of standardization and the maintenance of reasonable parts inventories and repair capabilities, PWSB only allows a certain model of fire hydrant in its system.

**Service Connections.** Each tap to the main shall be made under pressure by PWSB personnel or, under some circumstances, an approved contractor. Taps shall be made using an approved method and equipped with a bronze corporation stop-compression type- with copper tube size (CTS) on the service side.

Taps should be made so that the service line will extend to the point where the meter will be located at the nearest point in the building at a 90-degree angle to the street.

Direct taps up to 1-inch may be made in the main. Larger taps shall require a service saddle. Ordinarily, taps will be made at the ten o'clock or two-o'clock position on the circumference of the pipe. When more than one tap is to be made in the main in close proximity to one another, they should be staggered around the circumference at least 12-inches apart.

Services up to 2-inches shall be equipped with a curb stop located 1-foot behind the face of curb or edge of pavement. Curb stops shall be bronze, compression fitted, without drip. Direction of opening shall be to the "RIGHT."

Generally speaking, service lines from the main to curb stop are installed by PWSB. Owners shall provide a marker (painted and/or staked) to indicate where they prefer the service to be located (must be approved by PWSB). Service from building to curb stop shall be installed by the Owner and inspected by PWSB (for sizes 2-inches and smaller-use of intermediate couplings is strongly discouraged.).

Depth to the crown of the service pipe shall be a minimum of 4'-6" below finished grade, throughout the installation.

Metallized detectable identification tape, 2-inches wide, blue in color and imprinted with the words "CAUTION - WATER LINE BURIED BELOW," shall be utilized over all service lines from the main to the curb stop. The tape shall be buried a depth of 12-inches below finished grade.

A full-ported ball valve (2-inch or less) rated for the service pressure, but not less than 150 psi, shall be installed just prior to the location of the meter coupling and one at the effluent side of the second meter coupling.

**Thrust Restraint.** The preferred method of counteracting thrust is through the use of a mechanical joint restraint device. Poured concrete thrust blocks are also allowed and may be used as an option or in conjunction with a mechanical joint restraint device.

Thrust blocks shall be designed using a soil bearing strength of 1,500 pounds per square foot (psf). They shall be constructed in place using Portland cement concrete (R.I. Dept. of Transportation Class "B") having a 28-day compressive strength of at least 3,000 psi, and be located in such a way so as to bear against undisturbed earth. They shall be utilized on all water mains for the following conditions:

- Pipeline direction changes (tees, bends, etc.)
- Dead end lines (caps, plugs or hydrants)
- Transition pieces (reducers, offsets, etc.)

PIPE SIZE (in)	TEES & DEAD ENDS	90 BEND	45 BEND	22 ¼ BEND	11 ½ BEND
4	2,356	3,332	1,803	919	462
6	5,301	7,497	4,058	2,069	1,039
8	9,425	13,329	7,213	3,677	1,848
10	14,726	20,826	11,271	5,746	2,887
12	21,206	29,989	16,230	8,274	4,157
14	28,863	40,819	22,091	11,262	5,658
16	37,699	53,315	28,854	14,709	7,390
18	47,713	67,476	36,518	18,617	9,353
20	58,905	83,304	45,084	22,984	11,547
24	84,823	119,958	64,921	33,096	16,628
30	132,536	187,434	101,439	51,713	25,982
36	190,852	269,905	146,072	74,467	37,413
42	259,770	367,371	198,820	101,357	50,924
48	339,292	479,831	259,683	132,385	66,513
54	429,416	607,287	328,661	167,550	84,180
60	530,144	749,736	405,754	206,852	103,926
66	641,474	907,181	490,963	250,291	125,751

\*Calculated by the Formula  $T = (2PA \sin(\Theta/2)) \times 1.25$  (except for Tees & Dead Ends where  $T = PA \times 1.25$ ) where

- ....
- T = Thrust, in pounds
  - P = Water Pressure, in pounds per square inch
  - A = Area of Pipe, in square inches
  - Θ = Bend Deflection Angle, in degrees
  - 1.25 Factor of Safety

The sides of thrust blocks shall be formed. Forms shall be removed before backfilling commences. Curing time should be at least forty-eight (48) hours. Minimum bearing shall be that which is depicted on the plans or as directed by PWSB. Felt roofing paper shall be used to protect pipe joints. Concrete shall not be placed over bolts or nuts, or placed in such a way that will prevent the removal of joints (NOTE: concrete reaction blocks may be used when bearing against undisturbed soil cannot be achieved).

Vertical fittings shall be anchored to thrust blocks using at least two (2) #5 (5/8-inch minimum), Grade 60, deformed steel rebars. Blocks shall be designed by a professional engineer for pipe sizes greater than 12-inches. Anchors shall be bent to match to outside radius of the fitting to be restrained.

Thrust restraint, where concrete blocks cannot be poured against undisturbed earth, shall be via restrained joint as approved by PWSB. This may be accomplished by using a mechanical joint restraining device.

Restrained joint pipe lengths (restrained length), where required, shall be sufficient to counter the thrust imparted by 1 1/2 times the anticipated working pressure, but not less than 150 psi. Calculations for determining the length of pipe restraint shall be based on, the following assumptions: Trench Configuration - A WW A Type 4; Soil Type - Silt 1; Depth of Bury - 4.0' (min); Working Pressure - 150 psi (min); and Factor of Safety - 1.5 (NOTE: computer software such as that produced and distributed by the Ductile Iron Pipe Research Association [DIPRA] may be used [website [www.dipra.org](http://www.dipra.org)]). A printed copy of detailed calculations shall be submitted to PWSB for review and approval prior to implementation. Design data shall be displayed on the appropriate plan sheets.

Steel tie rods will be allowed with permission from PWSB. If allowed, they shall be of sufficient strength to withstand forces imparted to them. A factor of safety of 2.0 shall be used for all rod thickness calculations. Rods shall be protected from corrosion with at least two (2) coats of asphaltic paint or fusion-bonded epoxy coating.

**Leakage and Pressure Testing.** The water main is subject to pressure and leakage tests. In general the testing shall be conducted in accordance with AWWA C600, Section 5 except that 0 leakage is allowed. For piping installations greater than 1,000 feet testing shall be accomplished in sections no greater than 1,000 feet.

Tests for leakage shall be done by the Applicant's contractor and shall be witnessed by a PWSB representative. Testing shall last for at least 1 hour and pressure shall not vary by more than  $\pm 5$  psi for the duration of the test. Any additional water needed to maintain the required pressure shall be accurately measured in a manner approved by PWSB. During this test all hydrant laterals shall be in the "OPEN" position. Methods of testing and plans showing sections to be tested shall be submitted to PWSB for approval.

All apparatus, material, and labor necessary for making the tests, including caps temporarily set to accommodate pressure testing, shall be furnished by the installer. Leaks discovered during testing shall be repaired by the installer.

Arrangements for securing water for test purposes and the expense of the same shall be borne by the installer. Water utilized for this purpose, which is obtained directly from the PWSB system, must flow through an approved backflow prevention device that has been tested and certified to be in working condition at the time it is used for this purpose.

**Disinfection.** The water main shall be disinfected after cleaning by chlorination. Chlorination shall be done in accordance with AWWA C651.

Following the chlorination period, all treated water shall be flushed from the lines and replaced with water from the distribution system. All treated water flushed from the lines shall be de-chlorinated. Discharge to sanitary sewers is not allowed. Sodium bisulfate shall be applied in a manner and of sufficient quantity to properly de-chlorinate the water prior to discharge in accordance with AWWA C651.

Bacteriological sampling and testing shall be completed in accordance with AWWA C651 for the relocated main. Sampling shall be accomplished with sterile bottles treated with sodium thiosulfate. No hose or fire hydrant shall be used in collection of samples. Water must sit in the main for at least 24 hours prior to taking a sample. In the event that bacteriological analyses are not satisfactory, including background bacteria levels, re-chlorination and sampling of the water main will be required.

Particular attention is directed to the requirement that a double check valve backflow prevention device installation shall be made in the water supply to main under treatment, to prevent possible backflow or back-siphonage of treated solution into the distribution system that is in service.

PWSB approval must be obtained before any main is placed into service.

Connections at cuttings shall be swabbed with 50 ppm solution of Chlorine at locations when other methods are not applicable.

The contractor shall make all necessary arrangements for securing the water for test purposes and shall bear the expense of these arrangements.

The installer shall furnish and install suitable temporary testing plugs, cap, pumps, pipe connections and other appurtenances, as necessary. Water samples shall be collected by a PWSB representative at points no further apart than 1,000 feet. Sample testing shall be done at the PWSB laboratory.

Water shut-downs shall be coordinated with the owner of the specific system being worked on and shall be performed only as authorized by the PWSB at no additional expense to the state. The contractor should assume that **all tie-ins requiring a shutdown of the existing water distribution system will be performed during off peak hours**. No additional compensation shall be granted to the contractor to perform these tie-ins during premium time. All additional costs shall be covered in the unit cost of the items being installed.

**METHOD OF MEASUREMENT.** “Water Pipe and Service Tubing” of various types of materials and sizes shall be measured by the number of linear feet actually installed in accordance with the Plans and/or as directed by the Engineer.

“Fittings and Couplings” of various types of materials and sizes shall be measured by the number of pounds actually installed in accordance with the Plans and/or as directed by the Engineer.

“Gate Valves, Valves and Service Boxes, Service Brass, Blow-off Assemblies, Hydrants and Leakage Tests” of various types of materials and sizes shall be measured by the number of each unit actually installed in accordance with the Plans and/or as directed by the Engineer.

“Disinfection of New Water Mains” shall be measured as 50-percent complete when samples of water are taken from the water main after all the chlorine has been flushed from the system. “Disinfection of New Water Mains” shall be measured as 100-percent complete when samples of water are taken from the water main after all the chlorine has been flushed from the system meet laboratory standards as determined by the Rhode Island Department of Health.

**BASIS OF PAYMENT.** The accepted quantities of the various types and sizes of “Water Pipe and Service Tubing” indicated on the Plans will be paid for at the respective contract unit prices per linear foot as listed in the Proposal. These separate payments so stated constitutes full and complete compensation for all labor, materials, tools and equipment, including ductile iron pipe, sawcutting, excavation (except trench rock excavation and excavation of unsuitable material below grade), sheeting, shoring, and bracing for excavation and backfill, pipe bedding class B, laying, setting and joining pipe, removal of temporary caps or plugs with or without restraints, provisions of joint restraint, installing pipe on pipe hangers, slides and guides, backfill, temporary pavement patching, and other incidentals necessary to finish the work required, complete and accepted by the Engineer.

The accepted quantities of the various types and sizes of “Fittings and Couplings” indicated on the Plans will be paid for at the respective contract unit prices per pound as listed in the Proposal. These separate payments so stated constitutes full and complete compensation for all labor, materials, tools and equipment, including fittings,



couplings, excavation (except trench rock excavation and excavation of unsuitable material below grade), sheeting, shoring, and bracing for excavation and backfill, pipe bedding class B, laying, setting and joining pipe, concrete thrust and anchor blocks, anchor rods, removal of temporary caps or plugs with or without restraints, provisions of joint restraint, backfill, and other incidentals necessary to finish the work required, complete and accepted by the Engineer.

The accepted quantities of the various types and sizes of “Gate Valves, Valves and Service Boxes, Service Brass, Blow-off Assemblies, Hydrants and Leakage Tests” indicated on the Plans will be paid for at the respective contract unit prices per each as listed in the Proposal. These separate payments so stated constitutes full and complete compensation for all labor, materials, tools and equipment, including gate valves, valves and service boxes, service brass, blow-off assemblies, hydrants, excavation (except trench rock excavation and excavation of unsuitable material below grade), sheeting, shoring, and bracing for excavation and backfill, pipe bedding class B, removal of temporary caps or plugs with or without restraints, provision of joint restraint, pressure and leakage tests, sterilization of water main, backfill, and other incidentals necessary to finish the work required, complete and accepted by the Engineer.

“Disinfection of Water Mains” will be paid for at the contract unit price per lump sum as listed in the Proposal as follows:

- a. First Payment. The first payment of 50-percent of the contract unit price per lump sum will be made when samples are taken from the water main after all chlorine has been flushed from the system.
- b. Second Payment. The second payment of the contract unit price per lump sum less the first payment will be made when the samples meet the laboratory standards as determined by the Rhode Island Department of Health, Division of Water Supply.

This price so stated constitutes full and complete compensation for all labor, materials, tools and equipment, including disinfecting solution, flushing, sampling, repeated treatments, double check valves and installation, sterilization of water main, and other incidentals necessary to finish the work required, complete and accepted by the Engineer.

Payment for bedding material shall conform to Subsection 701.05.4, Bedding Material, of the Standard Specifications.

This specification covers the following item codes:

Item Code 701.5406	6 Inch Ductile Iron Water Pipe Class 52, Mechanical Joint
Item Code 701.5408	8 Inch Ductile Iron Water Pipe Class 52, Mechanical Joint
Item Code 701.8100	Furnish and Install Ductile Iron Fittings
Item Code 701.8150	Type K Copper Service Pipe
Item Code 701.8160	Blow Off Assembly
Item Code 701.9001	Conduct Leakage Test
Item Code 701.9002	Sterilization of Water Mains
Item Code 713.8268	Adjust Curb Stop Box to Grade
Item Code 713.8269	Adjust Water Gate Boxes to Grade



**INSERTION VALVES:** 4" thru 12", EZ Valve as manufactured by Advanced Valve Technologies, LLC, AWWA C509 for material specifications, OPEN RIGHT, or approved equal.

**BUTTERFLY VALVES:** 16" and larger, Mueller B-3211-20, AWWA C504, OPEN RIGHT, Mechanical Joint, Class 150B or approved equal.

**VALVE BOXES:** 5-1/4", Telescope Type, with cover marked "WATER".

**HYDRANTS:** Mueller Super Centurion A-423, AWWA C502, ULFM approved, OPEN LEFT, 5'6" bury, Paint 2 coats approved Chrome Yellow, **NO SUBSTITUTION.**

**SERVICE PIPE:** 1" or 2" Type "K" Copper, AWWA C800.

**CORPORATION STOPS:** 1" or 2" Mueller B-25008 Ball Valve, AWWA C800, or approved equal.

**CURB STOPS:** 1" or 2" Mueller B-25209 Ball Valve, AWWA C800, or approved equal.

**CURB BOXES:** Erie Type, w/lid & plug, Range 4'6" to 5'6" Mueller H-10334, 33" rod, or approved equal.

**PIPE COUPLINGS:** Cast, bolted straight and transition; Smith-Blair No. 441, epoxy coated with stainless steel hardware, AWWA C219, or approved equal.

**RESTRAINED COUPLINGS:** Series 3800 MEGA-COUPLING, as manufactured by EBAA Iron, Inc. of Eastland, TX, AWWA C219 or approved equal.

**AIR RELEASE:** Mueller H-10284 (with a copper riser tube) or approved equal (to include TWO: 1" IPT to 1" type "K" copper fittings).

**BLOW-OFF:** 2" Gil Industries Aquarius Blow-Off System with a 2" stop & drain valve, 2" copper riser pipe to the length required, as manufactured by Gil Industries Inc. of Pensacola Florida, or approved equal, installed with a 5-1/4", telescope type valve box with cover marked "WATER".

**ABOVE GROUND  
METER VAULT:** The vault shall be an insulated heated enclosure of aluminum construction and shall comply with ASSE 1060, Class I. The vault interior dimensions shall be appropriately sized by the manufacturer based on interior piping items. The enclosure must be capable of maintaining a minimum temperature of 40<sup>0</sup> F (4<sup>0</sup>C) and shall be supported by a concrete pad in accordance with the manufacturer's recommendations. It shall be manufactured by Hot Box or an approved equal. Vaults located in open areas such as public parks, playgrounds or ballfields shall be enclosed by a 6-foot high chain link fence and locking gate in accordance with RIDOT Standard 31.2.

## APPENDIX A



85 Branch Street  
Pawtucket, RI 02860  
401-729-5000  
www . PWSB . org

### WATER MAIN DISINFECTION PROCEDURE

The following procedures shall be strictly adhered to after the installation of new water mains, the cleaning and lining of existing water mains, or as directed by the Pawtucket Water Supply Board.

#### DISINFECTION PREPARATIONS

- a. The contractor shall utilize a by-pass piping system for flushing, filling, testing and chlorination of various sized water mains. The by-pass piping shall consist of corporation stops or valves on the supply line and the main to be filled. A reduced pressure zone device (relief valve between two check valves) shall be installed in the temporary piping system to insure that no water is allowed to return to the supply line. Fire hydrants may be utilized for feed points only if properly flushed and the above by-pass piping is installed. Fire hydrants SHALL NOT be used as sample points. Line valves SHALL NOT be used under any circumstances to fill, flush, test or chlorinate water mains. Newly installed water main SHALL NOT be physically connected to an existing distribution system water main until all flushing, disinfection and testing has been completed.
- b. During construction or cleaning water main sections, joints and valves must be kept CLEAN and DRY as possible.
- c. A corporation stop shall be provided within 5 feet of the beginning of the new main for feeding of the liquid chlorine, and at sampling locations designated by the Pawtucket Water Supply Board Chemist or a member of the Engineering staff. These sampling locations shall be within 10 feet of the end of the section of main to be chlorinated. This will be to provide for sampling points along the main. Hydrants shall not be used for sampling points but may be used as a feed point for chlorination. Copper tubing shall be used for all chlorination and sampling pipe.
- d. Chlorination of valves, fittings, and short lengths (under 50 feet long), of main shall be disinfected by contact swabbing and/or brushing with a 4-percent NSF-61 approved sodium or calcium hypochlorite solution.
- e. Mains shall be pressure tested to 1.5 times the system working pressure, and shall be required to hold pressure for at least two hours. This shall be verified by a member of the Water Supply Engineering Department.

#### DISINFECTION OF WATER MAINS, TEMPORARY MAINS, AND SERVICES

All mains and appurtenances shall be disinfected with NSF-61 approved chlorine in accordance with provisions of the American Water Works Association Standard C651, latest revision thereof, AND as follows:

- a. Water mains and services shall be thoroughly flushed. Flushing shall be at a rate sufficient to create a water velocity of at least 3.0 feet per second through the pipe. A turbidity reading of less than 5.00 NTU and a

color of less than 15 Hazen units must be verified by the Water Supply Representative prior to introduction of chlorine.

- b. NSF-61 approved liquid chlorine in the form of sodium hypochlorite with a concentration of 5-15% shall be introduced into the main(s) to be tested. The chlorine solution must come into contact with ALL sections of the main that is to be disinfected. The whole main must be filled with chlorinated water (no air), and the concentration of such water must not be less than 25 milligrams per liter as verified by a Water Supply Representative.
- c. The superchlorinated water must stand isolated in the main for at least twenty four (24) hours. After this MINIMUM retention time, the Water Supply Representative will re-test the concentration of chlorine in the main at all the sampling points. The concentration must be a least 10 mg/L. If concentration is below this level, step (b) must be repeated.
- d. Once the concentration is verified, the superchlorinated water must be flushed from the main through the various sampling points until the concentration of residual chlorine at each sampling point reaches a level of no higher than 1.5 mg/L (or system level) and turbidity of less than 1.00 NTU (or system level) as verified by the Water Supply Representative.
- e. Microbiological testing will be done a minimum of 16 hours after step (d) has been completed, but BEFORE the main is put into service. A Water Supply Representative will obtain samples at all sampling points along the main for analysis to determine if coliform bacteria is present. These samples are tested in accordance with the Enzyme Substrate Coliform Test (SM-9223B) and, if required, the Standard Heterotrophic Plate Count Procedure (SM-9215B). Within 24 hours the results will be made available by the Water Supply Chemist. If results indicate the presence of coliform bacteria, further flushing will be required, and new samples must be obtained. Once the main has been certified by the Water Supply Chemist, the main may be place into service with permission of the Chief Engineer.
- f. Under certain conditions, an emergency type chlorination may be conducted with the written approval of the Chief Engineer.

#### DISPOSING OF HEAVILY CHLORINATED WATER

FINAL FLUSHING - Disposal of heavily chlorinated water shall be in in accordance with provisions of the American Water Works Association Standard C651, latest revision thereof, AND as follows:

Heavily chlorinated water that possibly may discharge as runoff to any body of water, river or stream shall be neutralized by treating with sulfur dioxide. Such locations shall be determined by the Water Supply Representative. The primary choice of neutralizing agent is sulfur dioxide but the contractor may use, if requested, an approved substitute as listed in AWWA Std. C655, latest revision. The chlorine residual of the discharge flow shall be continuously monitored to allow the adjustment of the sulfur dioxide feed to thoroughly neutralize the water discharge. Otherwise, all other heavily chlorinated water will be discharged as runoff to the roadway surface or to the sewer system which shall be in accordance with the current rules and regulations governed by the local sewer authority. The following list is of the streets in Pawtucket that have drains that empty directly into a river and therefore any discharge must be dechlorinated before entering into the drainage system.

**List of Streets in Pawtucket with Storm Drains Emptying into River**  
**All Heavily Chlorinated Water Must Be Dechlorinated Prior to Discharge**

<b><u>Street</u></b>	<b><u>Section of Street</u></b>
Archer St.	Clews to Maplecrest
Arland Ave. (North not South)	Rice to Pinecrest
Armistice Blvd.	All of the Street
Central Ave.	Arland to Diana
Daggett Ave.	Huthinson to Central
Daggett Ave.	Winsor to Stafford
Daggett Ave.	Lindesta to Eddington
Eddington St.	All of the Street
Fenwood Ave.	All of the Street
Grosvenor Ave.	All of the Street
Grotto Ave.	Power to Legion Dr.
Huthinson Ave.	All of the Street
Leather Ave.	All of the Street
Liverpool St.	Bristol to London
London Ave.	All of the Street
Manton St.	All of the Street
Maplecrest Dr.	Archer to Karen
Maryland Ave.	All of the Street
Nathael Ave.	All of the Street
Parkside Ave.	All of the Street
Pearson Ave.	All of the Street
Piave St.	All of the Street
Rice St.	Kirk to Arland
Riverview Ave	All of the Street
Roosevelt Ave.	Exchange to Leather
School St.	Exeter to Beverage Hill
Service Rd.	All of the Street
Smithfield Ave.	Piave to Grotto
Stafford St.	All of the Street
Talcott Ave.	All of the Street
Terrace Ave.	All of the Street
Varnum Ave	All of the Street



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PAWTUCKET WATER SUPPLY BOARD

WATER MAIN DISINFECTION PROCEDURE SUMMARY

A. PRESSURE TEST:

NOTIFY PWSB LABORATORY THAT MAIN IS READY FOR TESTING & DISINFECTION. 1.5 TIMES THE SYSTEM WORKING PRESSURE FOR 2 HOURS. COMPLIANCE CHECKED BY THE WATER SUPPLY BOARD ENGINEERING DEPT.

B. FLUSHING:

FLUSH AT VELOCITY OF AT LEAST 3.0 FEET PER SECOND. TURBIDITY AND COLOR WILL BE VERIFIED BY WATER SUPPLY REPRESENTATIVE. TURBIDITY MUST BE LESS THAN 5.00 NTU AND COLOR LESS THAN 15 UNITS BEFORE CHLORINE CAN BE ADDED.

C. CHLORINATION:

ADD NSF-61 APPROVED LIQUID CHLORINE TO OBTAIN A MINIMUM CONCENTRATION OF 25 mg/L. WATER SUPPLY REPRESENTATIVE WILL TEST FOR COMPLIANCE. ALLOW TO STAND FOR 24 HOURS. RESIDUAL MUST BE NOT LESS THAN 10 mg/L. WATER SUPPLY REPRESENTATIVE WILL TEST FOR COMPLIANCE.

D. MICROBIOLOGICAL SAMPLING:

FLUSH HEAVILY CHLORINATED WATER FROM MAIN, UNTIL CHLORINE IS NO HIGHER THAN 1.50 mg/L (or system level) AND TURBIDITY IS LESS THAN 1.00 NTU (or system level). ONCE MAIN HAS BEEN ALLOWED TO STAND FOR A MINIMUM OF 16 HOURS, THE WATER SUPPLY REPRESENTATIVE WILL TAKE SAMPLE(S) FOR COLIFORM BACTERIA (AND HPC, IF REQUIRED) TESTS. WATER SUPPLY CHEMIST WILL ADVISE OF COMPLIANCE WITHIN 24 HOURS.

E. COMPLIANCE AND CERTIFICATION:

WATER SUPPLY CHEMIST WILL SEND DISINFECTION CERTIFICATE TO WATER SUPPLY ENGINEERING.

WATER SUPPLY ENGINEERING WILL ADVISE WATER SUPPLY T&D SUPERVISOR OR CONTRACTOR TO TIE IN AND PLACE MAIN IN SERVICE.

NO MAIN SHALL BE TURNED ON WITHOUT WATER SUPPLY CHEMIST CERTIFICATE OF COMPLIANCE.

**NOTE:** IF COLIFORM TESTING IS POSITIVE, STEPS C. AND D. MUST BE REPEATED.





Pawtucket

**WATER SUPPLY BOARD**

ENGINEERING DEPARTMENT  
85 BRANCH ST, PAWTUCKET RI

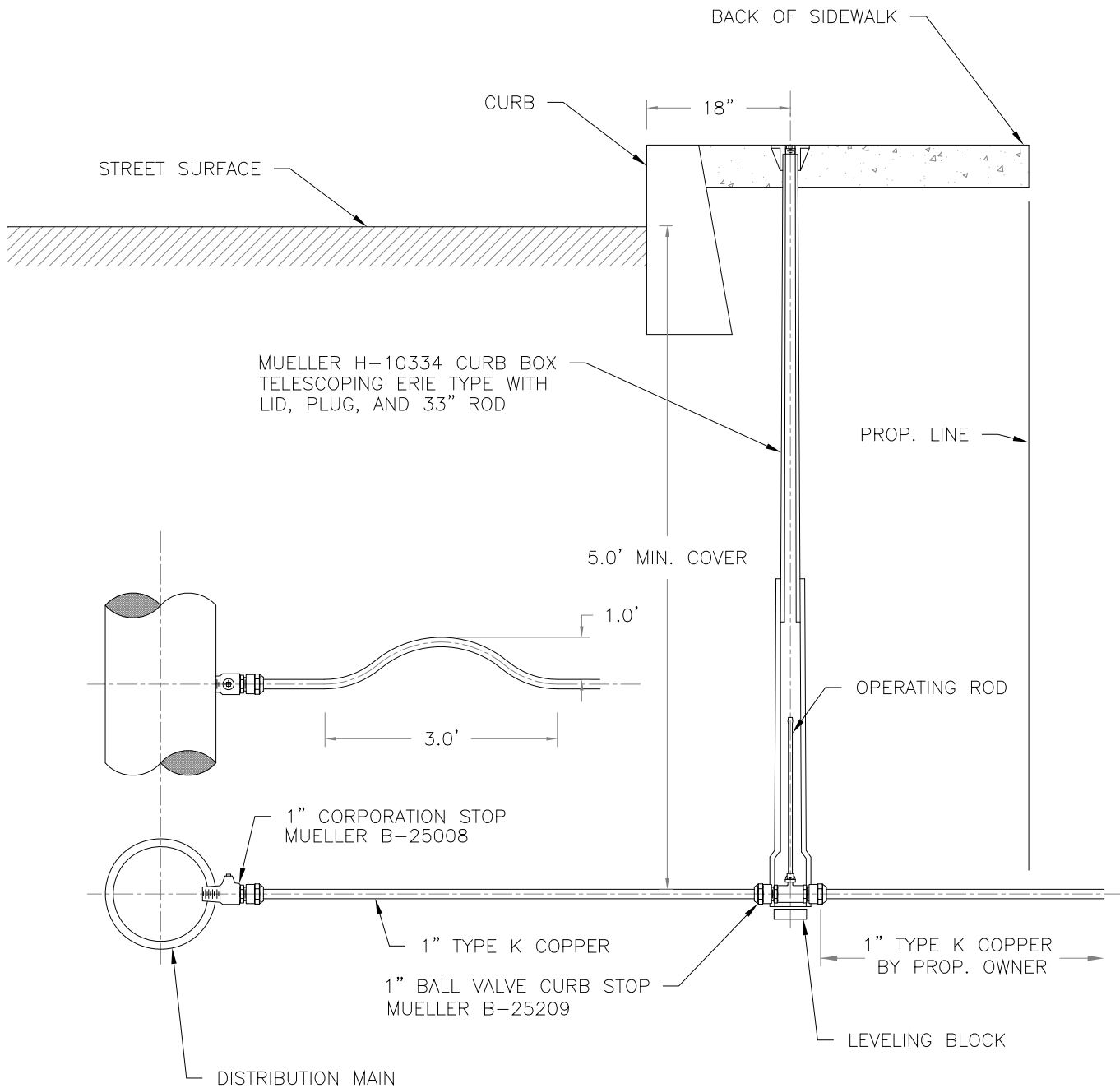
## Standard Construction Details

June 2017

# Pawtucket Water Supply Board Engineering Department

## Standard Details

Standard Number	Description	Revision Date
1.01	New 1" Service Installation	Feb. 2007
1.02	1" Service Replacement	Feb. 2007
1.03	New 2" Service Installation	Aug. 2013
1.04	2" Service Replacement	Feb. 2007
1.05	Water / Sewer Separation Detail - Parallel Placement	Dec. 2013
1.06	Water / Sewer Separation Detail - At Crossing	Jan. 2012
2.01	Typical Meter Installation	Jun. 2017
3.01	Gate Valve Installation	Feb. 2006
3.02	Gate Valve Replacement	Aug. 2013
3.03	Butterfly Valve Installation	Feb. 2006
3.04	Butterfly Valve Replacement	Aug. 2013
3.05	1" Blowoff Installation	Feb. 2006
3.06	2" Blowoff Installation	May 2006
3.07	1" Air Release Installation	May 2006
4.01	Fire Hydrant Installation	Aug. 2013
4.02	Fire Hydrant Replacement	Feb. 2006
5.01	Main Connection at Intersection (Cross)	Feb. 2006
5.02	Main Connection at Intersection (Tee)	Feb. 2006
5.03	Main Connection at Intersection (Offset)	Feb. 2006
5.04	Restraints at Fittings	May 2006
6.01	Typical Trench Detail	Jan. 2014
6.02	Pavement Replacement	Jan. 2011
6.03	Pavement Replacement - RIDOT Concrete Road base	Feb. 2013
7.01	Signing and Barricades	Feb. 2006
8.01	Typical "Temporary By-Pass Piping" Installation	Jan. 2014
8.02	Temporary Water Service Connection At Hydrant	Jan. 2011
9.01	New Chain Link Fence w/ Barb Wire Installation	Mar. 2006
9.02	New Chain Link Fence Installation	Apr. 2017



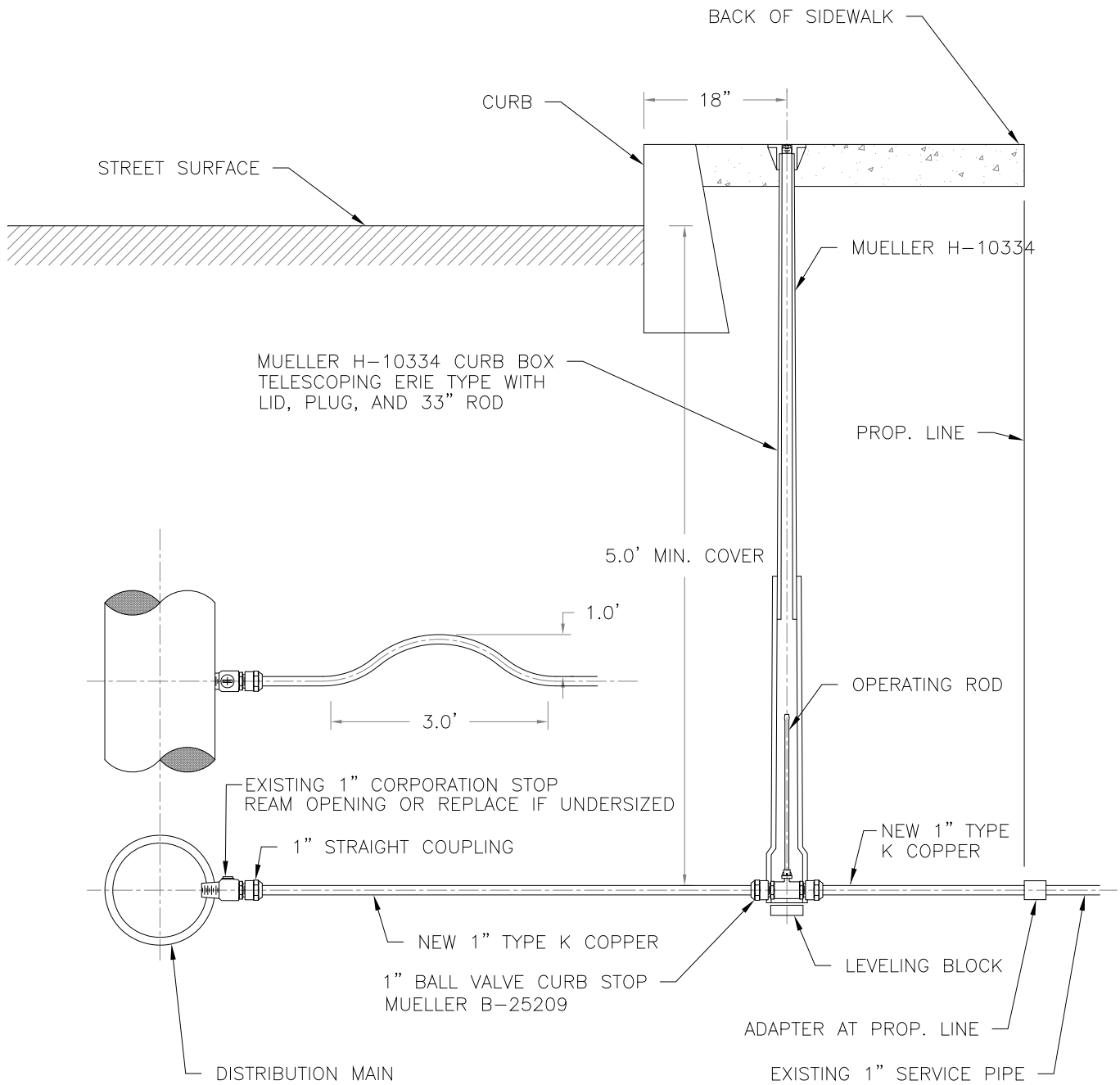
PAWTUCKET WATER SUPPLY BOARD

NEW 1" SERVICE INSTALLATION

REVISION DATE:  
FEB. 2007

NOT TO SCALE

STD. NO.  
**1.01**



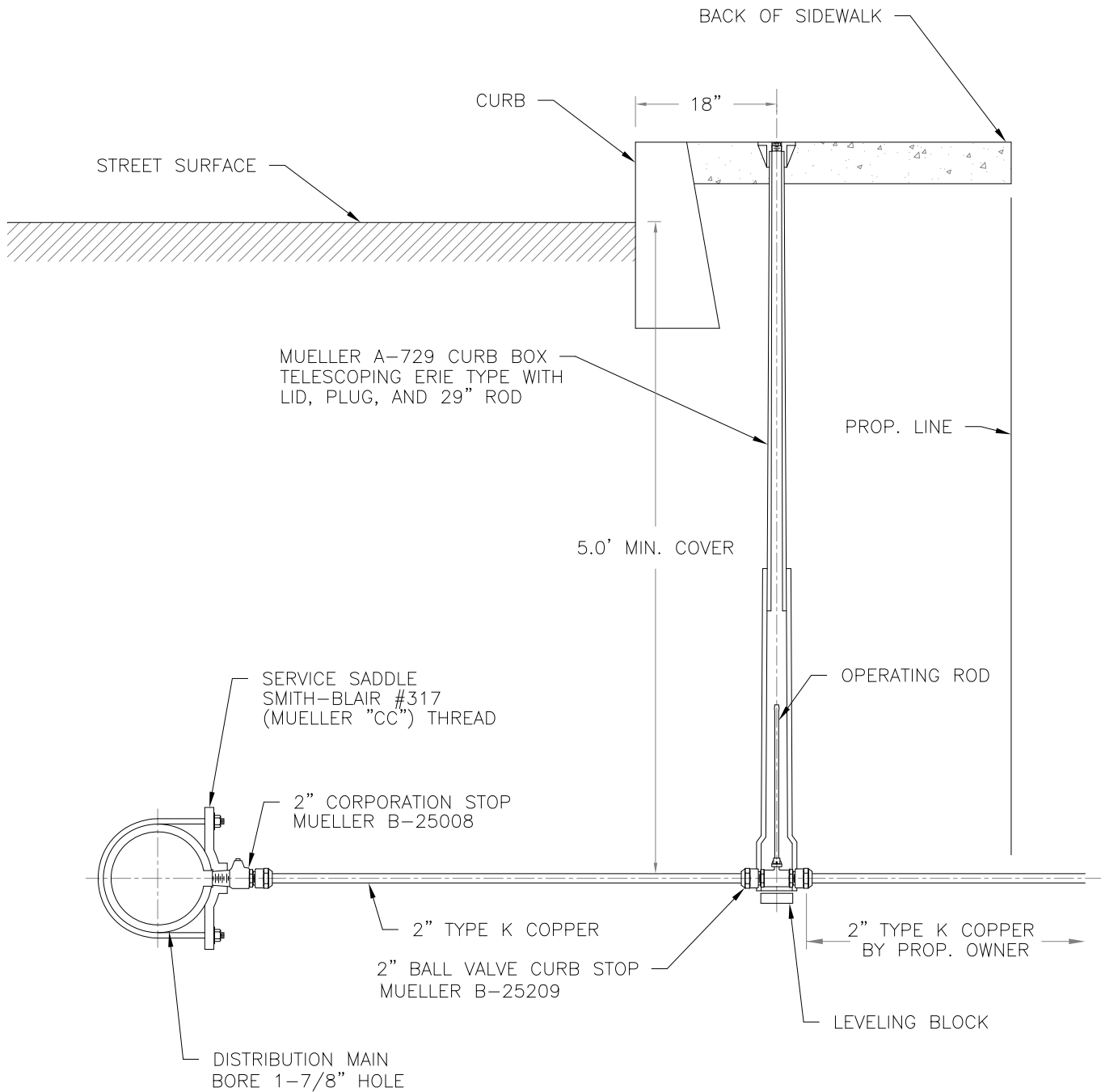
PAWTUCKET WATER SUPPLY BOARD

1" SERVICE REPLACEMENT

REVISION DATE:  
FEB. 2007

NOT TO SCALE

STD. NO.  
**1.02**



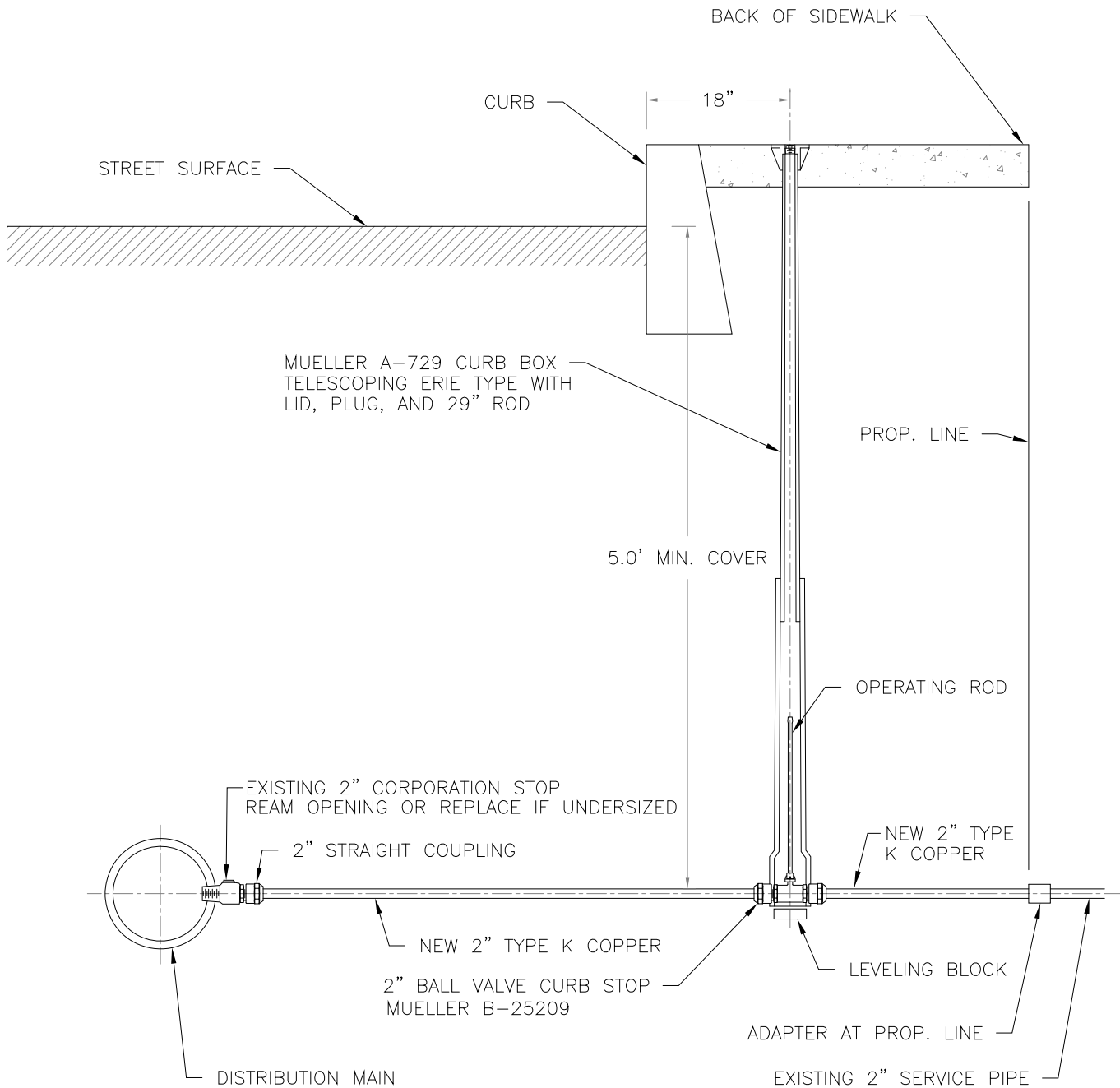
PAWTUCKET WATER SUPPLY BOARD

NEW 2" SERVICE INSTALLATION

REVISION DATE:  
AUG. 2013

NOT TO SCALE

STD. NO.  
**1.03**



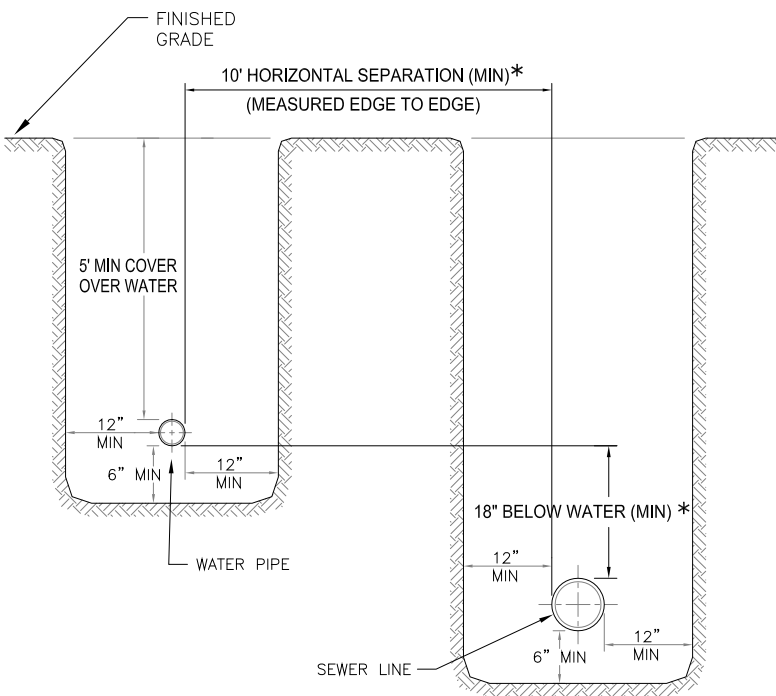
PAWTUCKET WATER SUPPLY BOARD

2" SERVICE REPLACEMENT

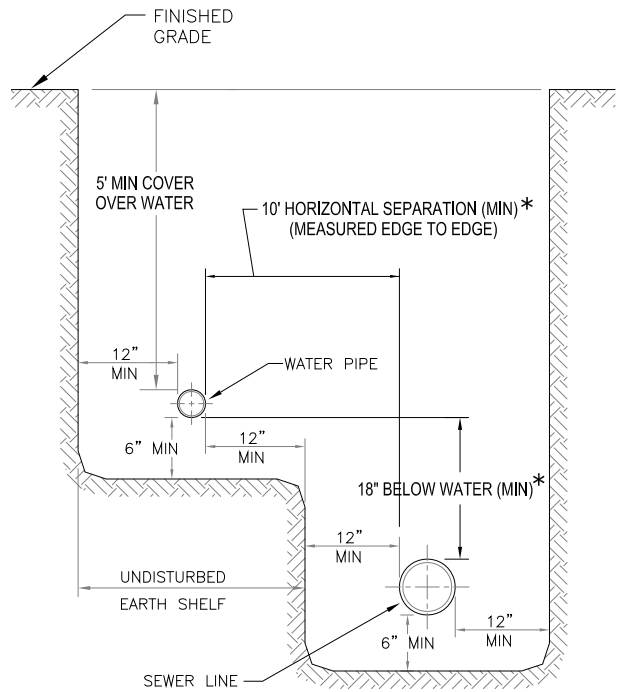
REVISION DATE:  
FEB. 2007

NOT TO SCALE

STD. NO.  
**1.04**



SEPARATE TRENCHES ( PREFERRED )



SAME TRENCH WITH UNDISTURBED EARTH SHELF

\* NO MINIMUM VERTICAL SEPARATION IS REQUIRED PROVIDED A 10 FOOT HORIZONTAL SEPARATION IS MAINTAINED BETWEEN WATER PIPE AND SEWER LINE.

WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10 FOOT HORIZONTAL SEPARATION, A DEVIATION MAY BE GRANTED ON A CASE BY CASE BASIS. SUCH DEVIATION MAY ALLOW INSTALLATION OF THE SEWER LINE CLOSER TO THE WATER PIPE PROVIDED THAT THE SEWER LINE AND WATER PIPE ARE LAID IN SEPARATE TRENCHES (OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER LINE) AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER LINE SHALL BE AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER PIPE.

IF BOTH THE 10 FOOT MINIMUM HORIZONTAL AND 18 INCH MINIMUM VERTICAL SEPARATION CANNOT BE MAINTAINED, ONE OF THE FOLLOWING OPTIONS MUST BE USED FOR A DISTANCE THAT WILL PROVIDE THE REQUIRED 10 FOOT HORIZONTAL OR 18 INCH VERTICAL SEPARATION:

OPTION A: CONSTRUCT SEWER LINE USING AWWA APPROVED WATER MAIN PIPE AND PRESSURE TEST TO 150psi.

OPTION B: ENCASE SEWER LINE IN CONCRETE (MIN. 6 INCHES THICK) OR SLEEVE. (SEE PWSB STD. DETAIL 1.06 FOR SLEEVE DETAIL)

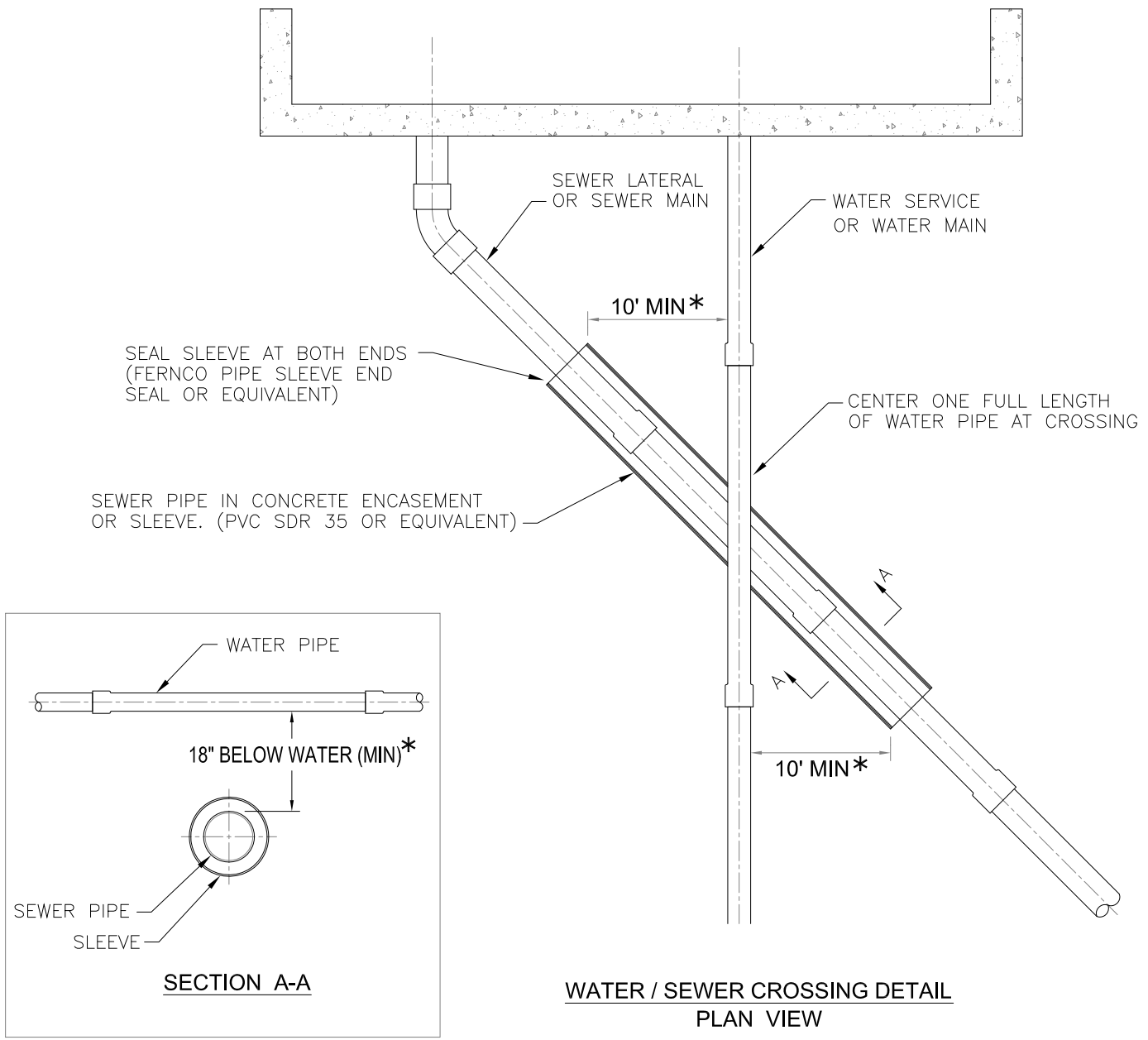


**PAWTUCKET WATER SUPPLY BOARD  
WATER AND SEWER SEPARATION DETAIL  
FOR PARALLEL PLACEMENT**

REVISION DATE:  
DEC. 2013

NOT TO SCALE

STD. NO.  
**1.05**



\* IF THE 18 INCH MINIMUM VERTICAL SEPARATION CANNOT BE MAINTAINED, ONE OF THE FOLLOWING OPTIONS MUST BE USED FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, MEASURED PARALLEL TO THE WATER PIPE:

OPTION A: CONSTRUCT SEWER USING AWWA APPROVED WATER MAIN PIPE AND PRESSURE TEST TO 150psi.

OPTION B: ENCASE SEWER PIPE IN CONCRETE (MIN. 6 INCHES THICK) OR SLEEVE.



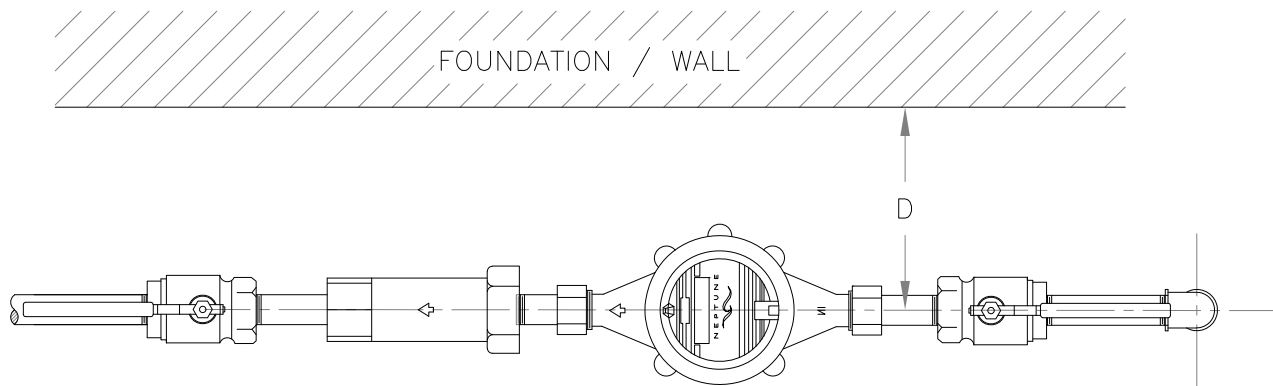
**PAWTUCKET WATER SUPPLY BOARD**  
**WATER AND SEWER SEPARATION DETAIL**  
**AT CROSSING**

REVISION DATE:  
 JAN. 2012

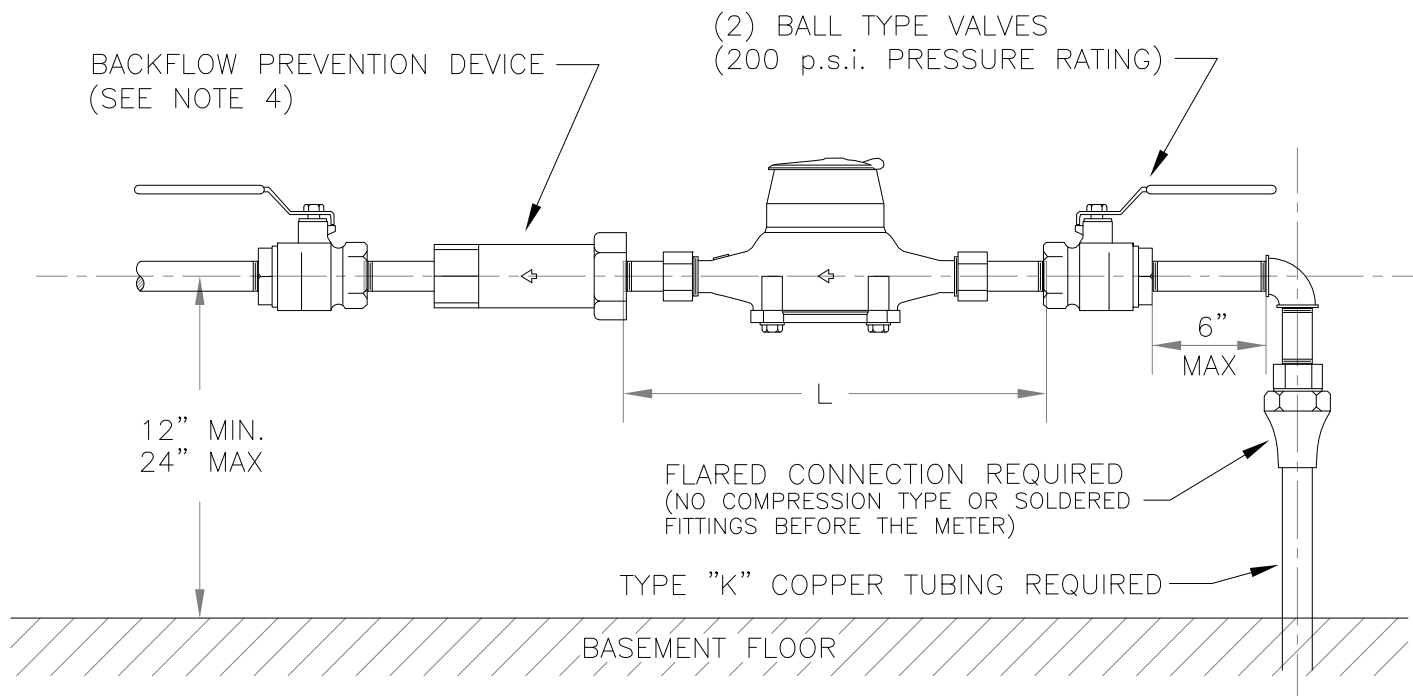
NOT TO SCALE

STD. NO.  
**1.06**





METER INSTALLATION – TOP VIEW



METER INSTALLATION – SIDE VIEW

NOTES:

1. THE METER SHALL BE LOCATED AS NEAR AS POSSIBLE TO THE POINT AT WHICH THE SERVICE ENTERS THE BUILDING.
2. THE METER SHALL BE INSTALLED HORIZONTALLY.
3. METERS INSTALLED INSIDE BUILDINGS SHALL NOT BE INSTALLED IN PITS.
4. INDIVIDUAL RESIDENCES (RESTRICTED TO 3-UNIT RESIDENCES OR LESS) REQUIRE A RESIDENTIAL DUAL CHECK VALVE; ALL OTHER WATER SERVICES REQUIRE A PWSB APPROVED TESTABLE BACKFLOW PREVENTION DEVICE IN ACCORDANCE WITH SECTION 10 OF THE PWSB RULES & REGULATIONS. ALL MODELS OF BACKFLOW PREVENTION DEVICES ARE REQUIRED TO BE LEAD FREE.

METER SIZE	L	D
5/8"	12 1/2"	12"
3/4"	14 1/4"	12"
1"	16 1/4"	12"
1 1/2" (FLANGED END)	13"	18"
2" (FLANGED END)	17"	18"

**Pawtucket**  
WATER SUPPLY BOARD



**PAWTUCKET WATER SUPPLY BOARD**

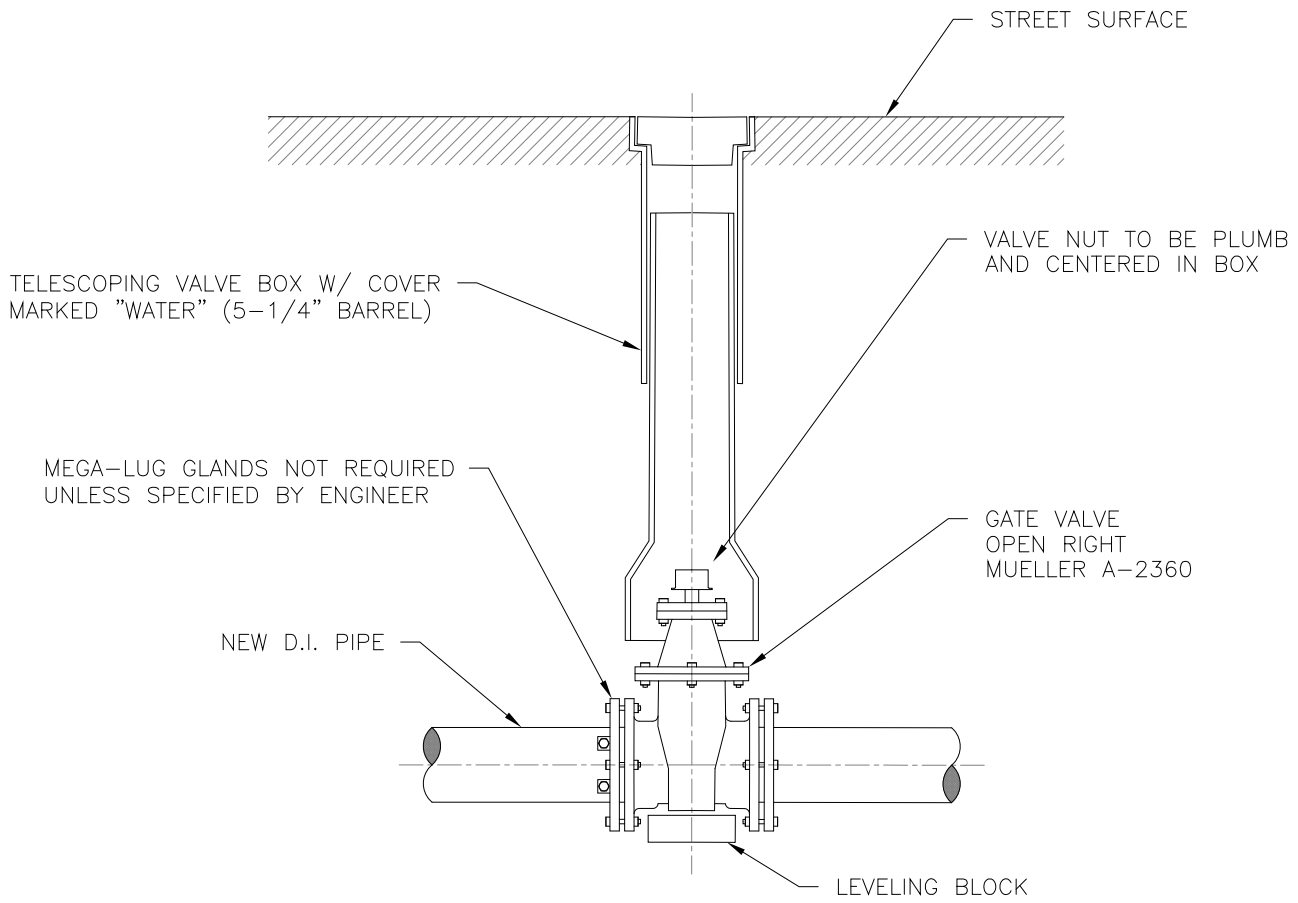
**TYPICAL METER INSTALLATION**

REVISION DATE:  
JUNE 2017

NOT TO SCALE

STD. NO.

**2.01**



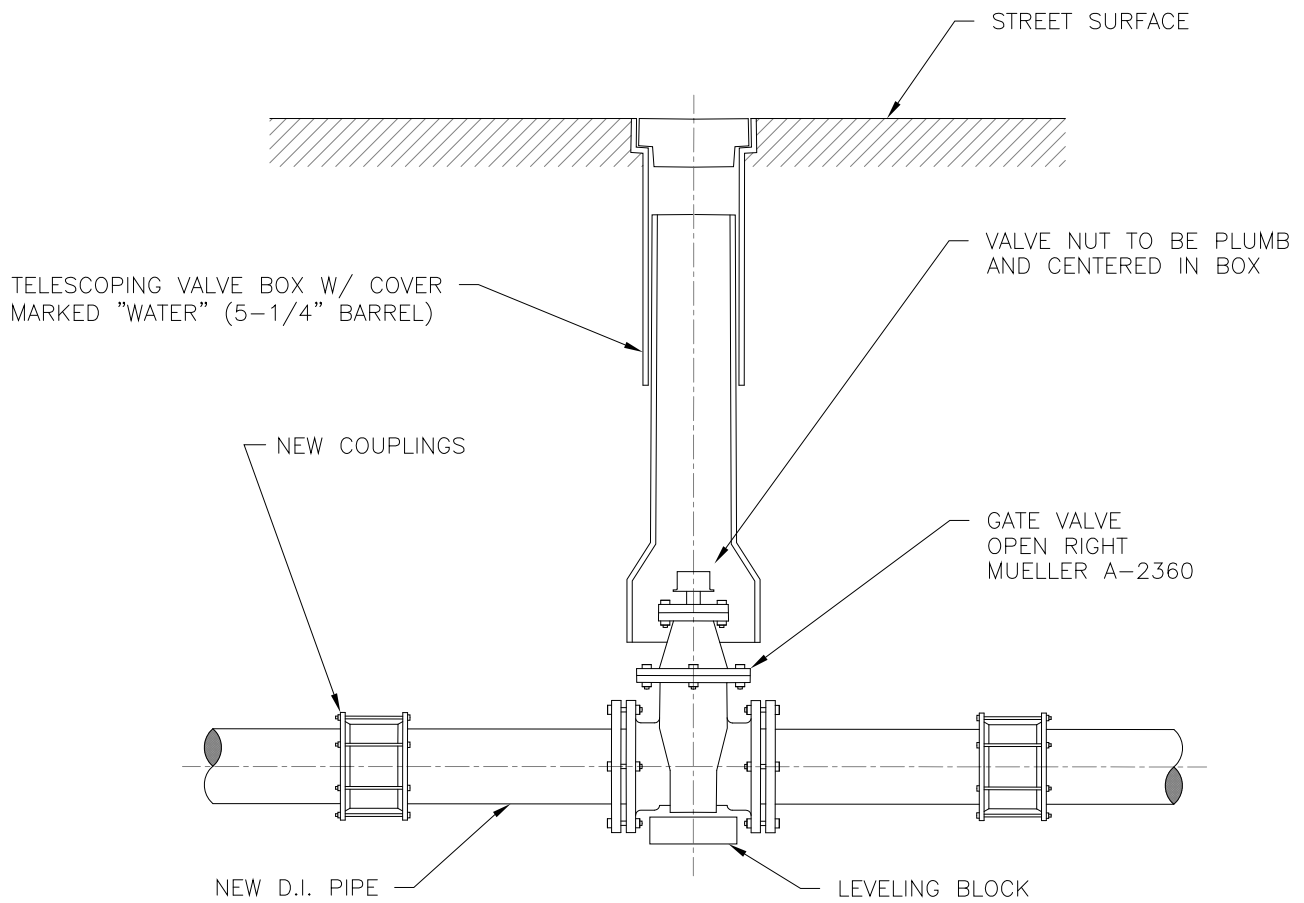
PAWTUCKET WATER SUPPLY BOARD

GATE VALVE INSTALLATION

REVISION DATE:  
FEB. 2006

NOT TO SCALE

STD. NO.  
**3.01**



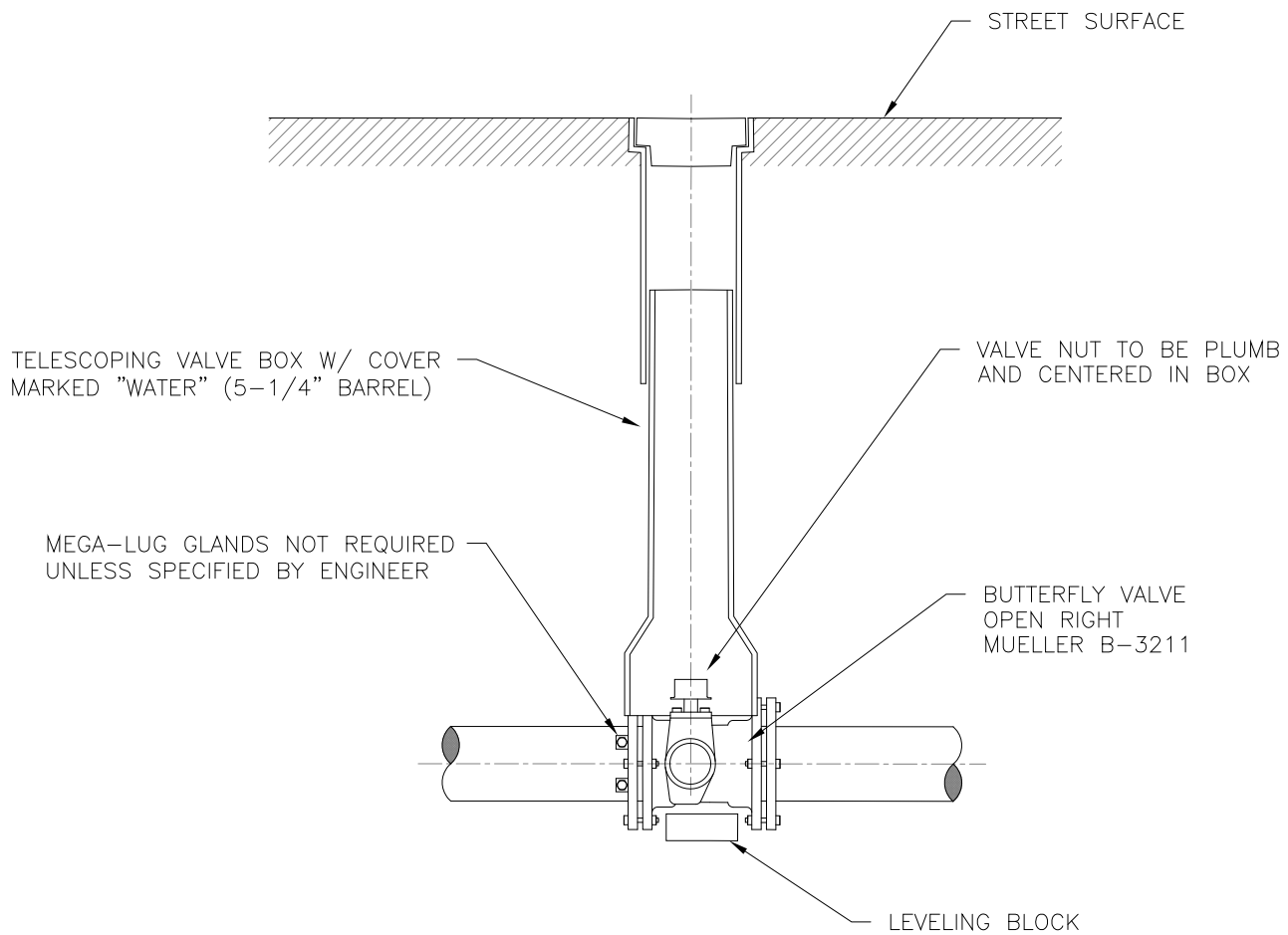
PAWTUCKET WATER SUPPLY BOARD

GATE VALVE REPLACEMENT

REVISION DATE:  
AUG. 2013

NOT TO SCALE

STD. NO.  
**3.02**

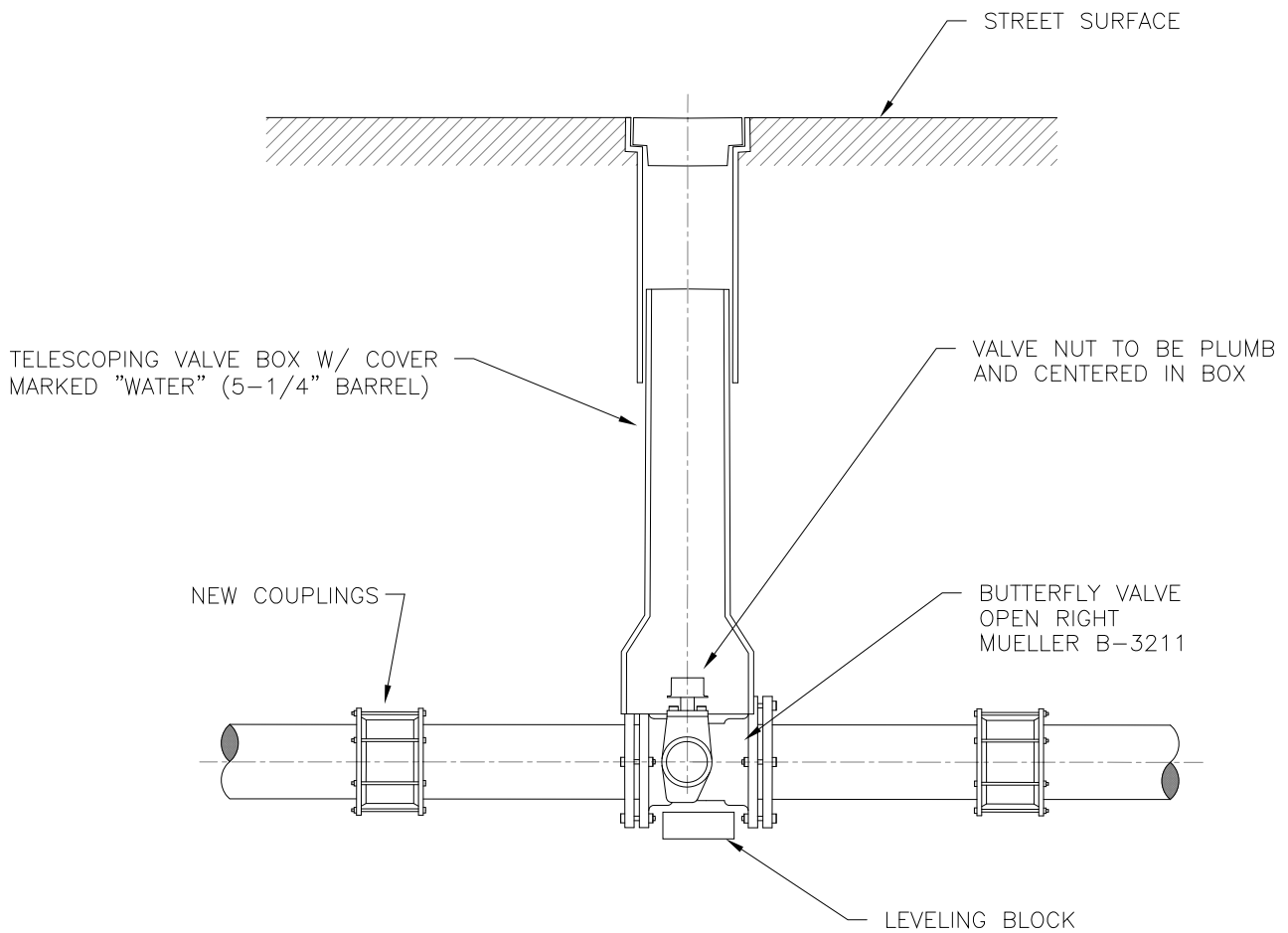


PAWTUCKET WATER SUPPLY BOARD  
**BUTTERFLY VALVE INSTALLATION**

REVISION DATE:  
 FEB. 2006

NOT TO SCALE

STD. NO.  
**3.03**

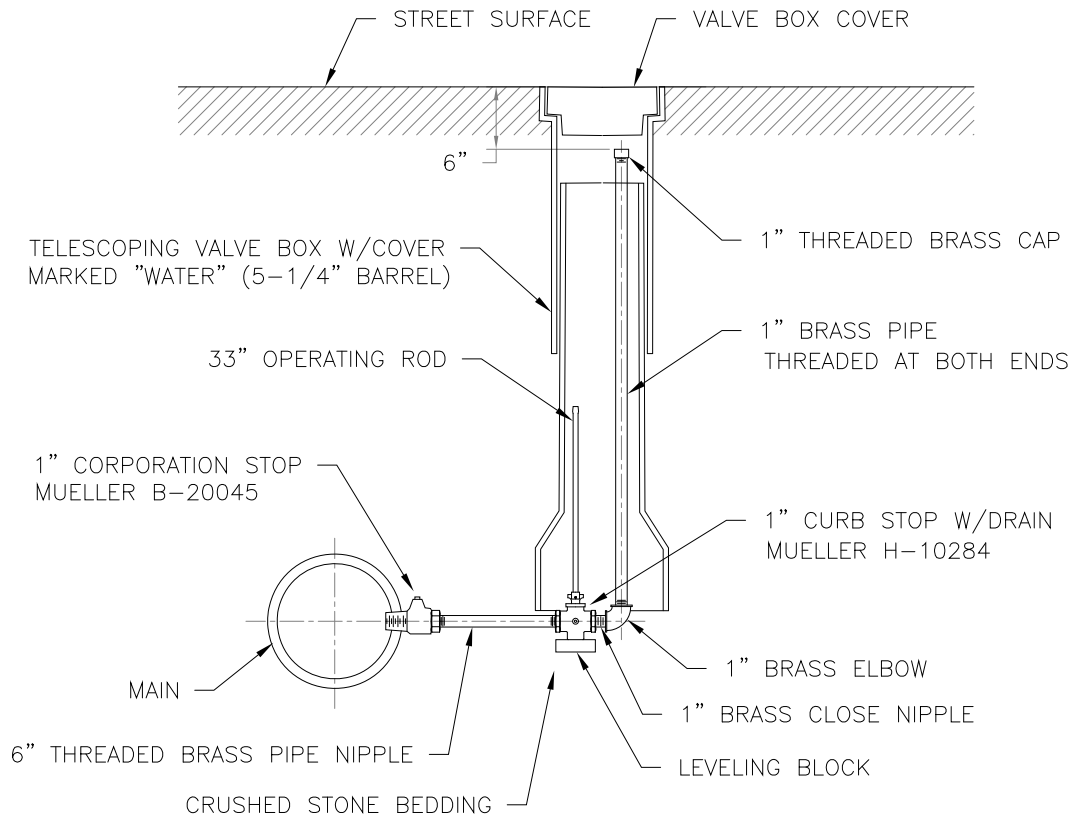


PAWTUCKET WATER SUPPLY BOARD  
**BUTTERFLY VALVE REPLACEMENT**

REVISION DATE:  
 AUG. 2013

NOT TO SCALE

STD. NO.  
**3.04**



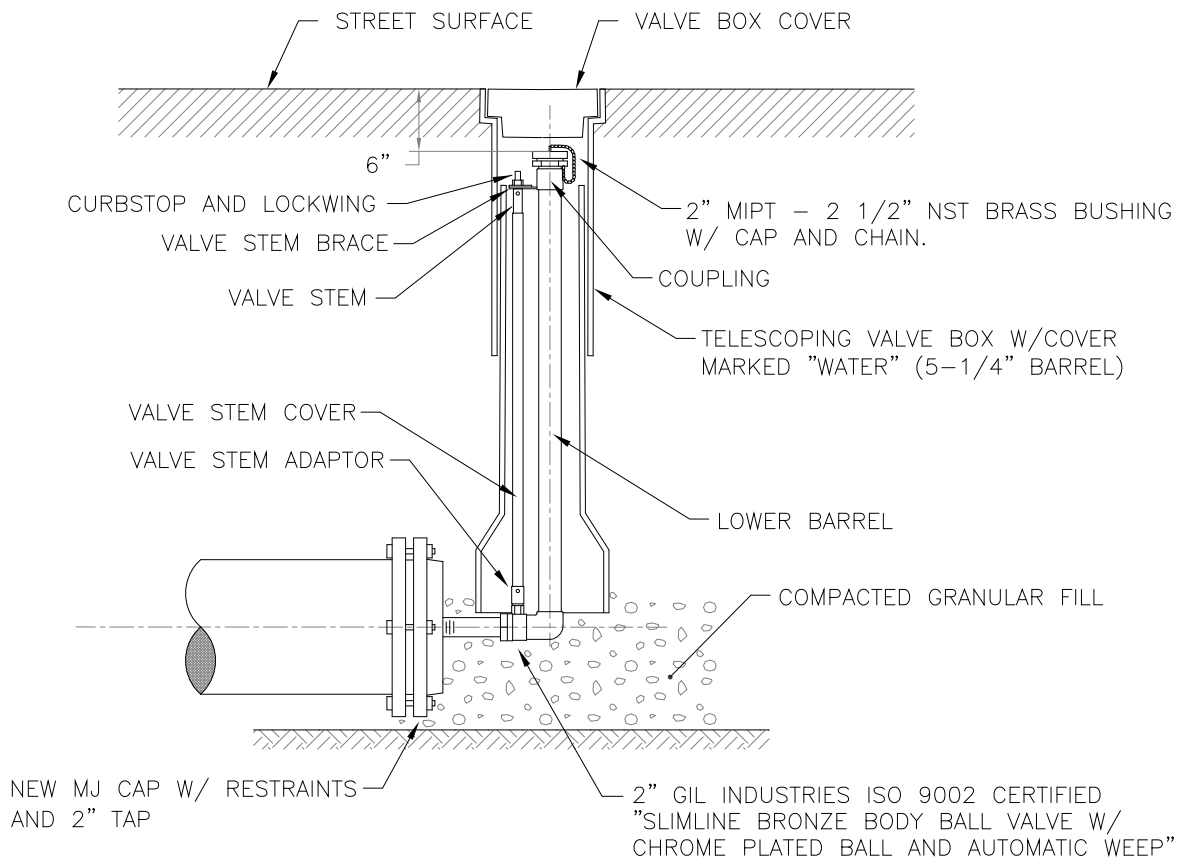
PAWTUCKET WATER SUPPLY BOARD

1" BLOWOFF INSTALLATION

REVISION DATE:  
FEB. 2006

NOT TO SCALE

STD. NO.  
**3.05**



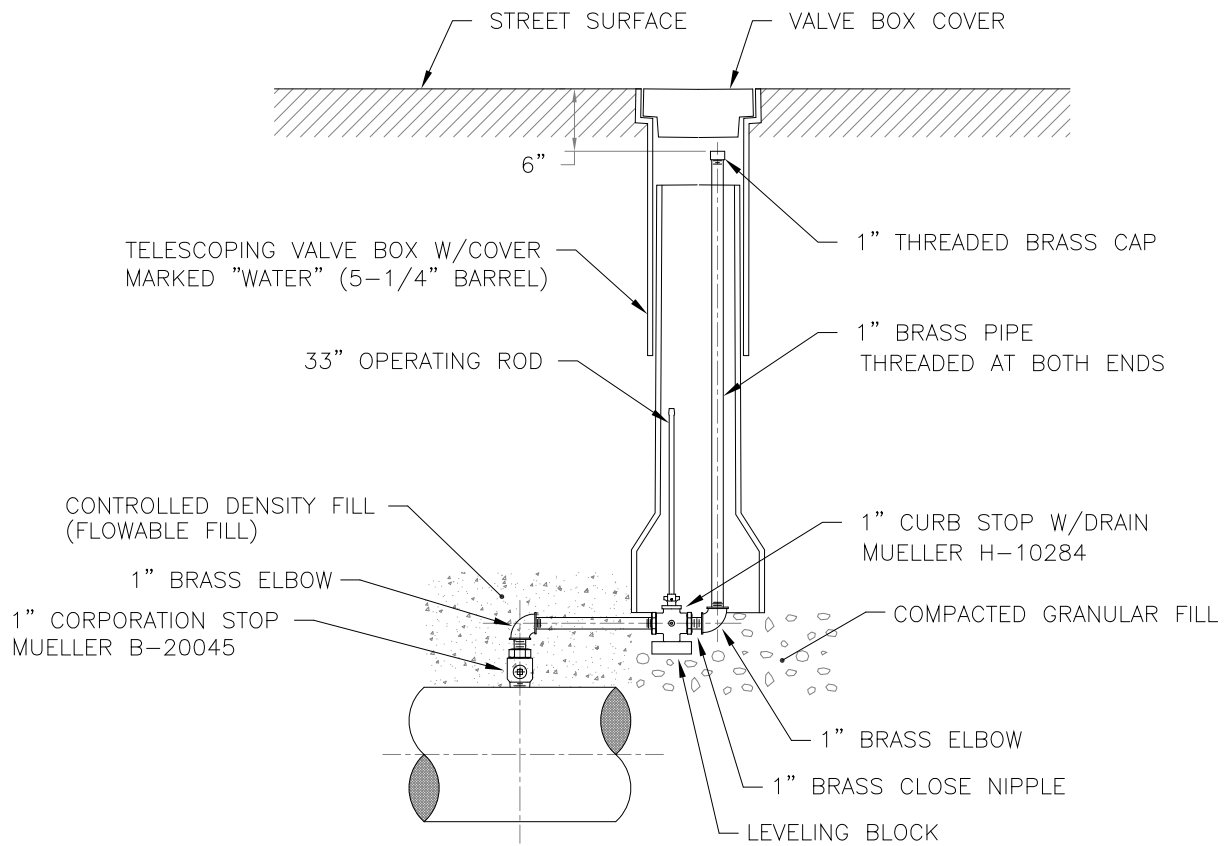
PAWTUCKET WATER SUPPLY BOARD

2" BLOWOFF INSTALLATION

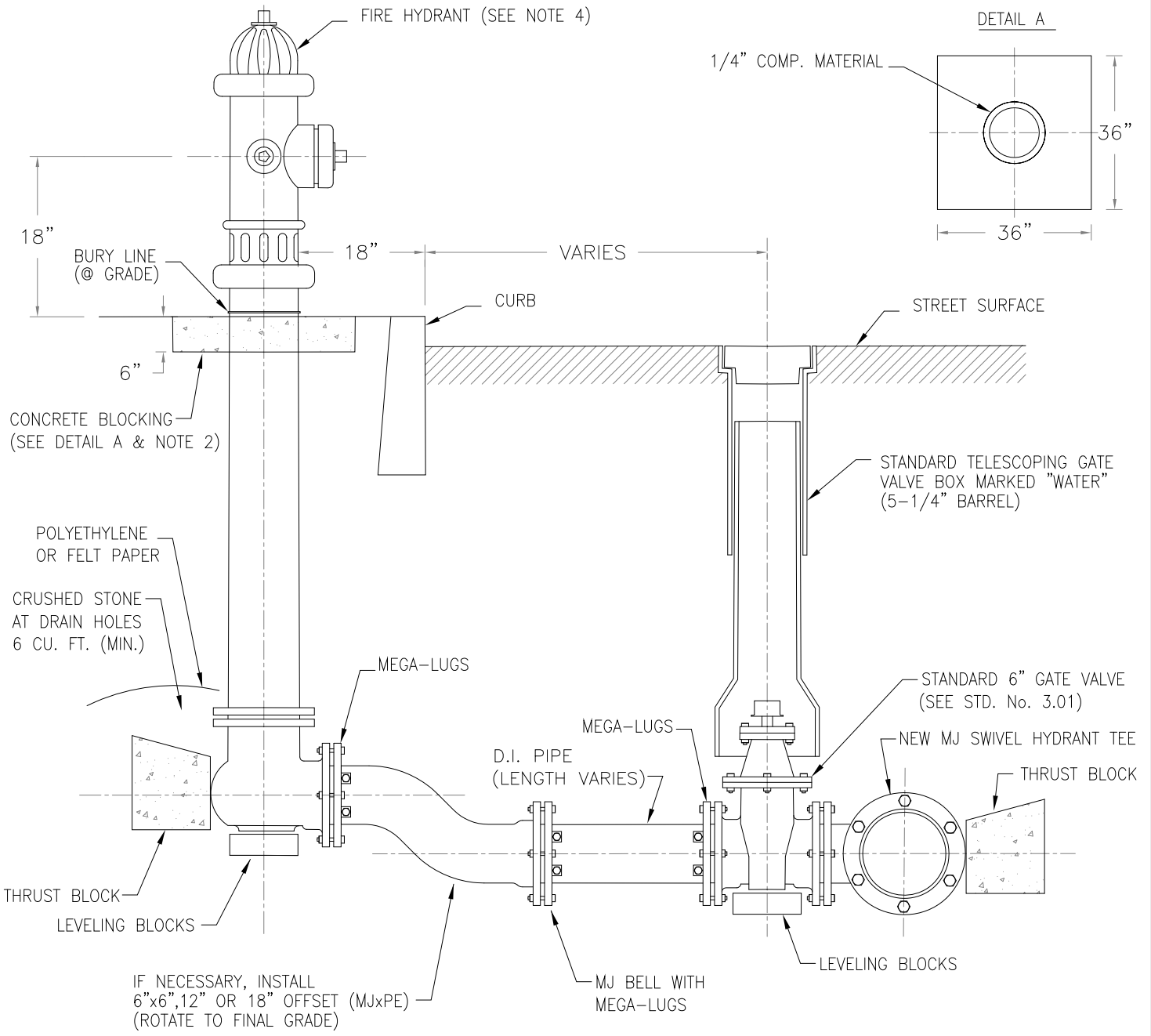
REVISION DATE:  
MAY 2006

NOT TO SCALE

STD. NO.  
**3.06**







NOTES:

1. HYDRANT MUST BE BURIED TO PROPER DEPTH (BURY LINE ) TO ALLOW SUFFICIENT CLEARANCE TO BOLT/UNBOLT THE UPPER BARREL AND SAFETY FLANGES.
2. WHERE UPPER RESTRAINT BY SIDEWALK IS NOT PROVIDED, INSTALL CONCRETE BLOCKING ON HYDRANT BARREL AS SHOWN.
3. USE BOTH MEGA-LUG RESTRAINT GLANDS AND THRUST BLOCKS. THRUST BLOCKING SHALL HAVE A MINIMUM OF 3 SQUARE FEET AGAINST UNDISTURBED EARTH.
4. HYDRANT TO BE MUELLER A-423 SUPER CENTURION, MJ SHOE, 5-1/4" MAIN VALVE, 4-1/2" PUMPER & (2) 2-1/2" HOSE NOZZLES, OPEN LEFT, COLOR TO BE CHROME YELLOW, BURY TO BE MEASURED IN FIELD.

**Pawtucket**  
WATER SUPPLY BOARD



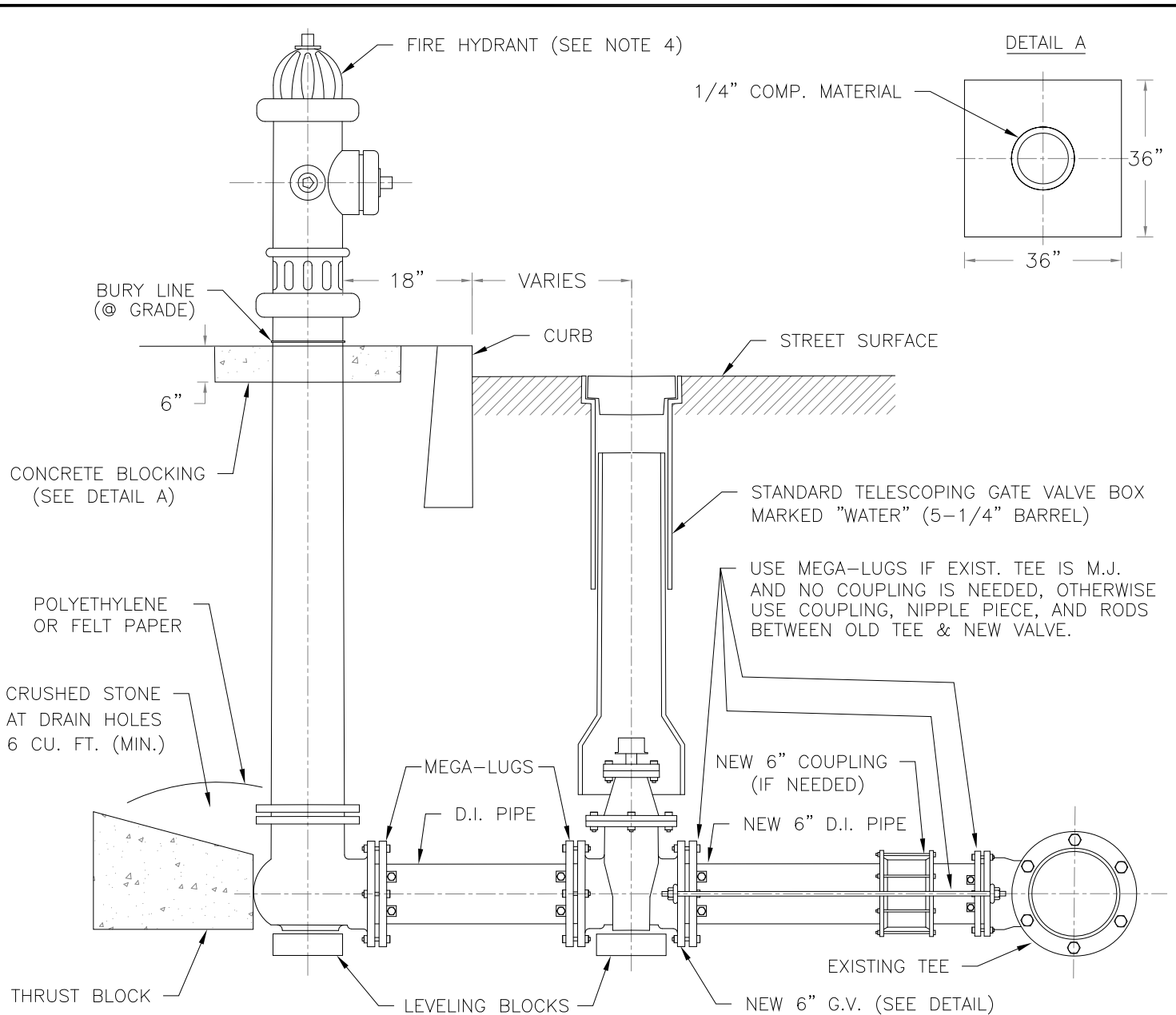
**PAWTUCKET WATER SUPPLY BOARD**

**NEW FIRE HYDRANT AND  
RESET FIRE HYDRANT INSTALLATION**

REVISION DATE:  
AUG. 2013

NOT TO SCALE

STD. NO.  
**4.01**



NOTES:

1. HYDRANT MUST BE BURIED TO PROPER DEPTH (BURY LINE ) TO ALLOW SUFFICIENT CLEARANCE TO BOLT/UNBOLT THE UPPER BARREL AND SAFETY FLANGES. IF NEEDED, INSTALL PWSB SUPPLIED EXTENSION.
2. WHERE UPPER RESTRAINT BY SIDEWALK IS NOT PROVIDED, INSTALL CONCRETE BLOCKING ON HYDRANT BARREL AS SHOWN.
3. USE BOTH MEGA-LUG RESTRAINT GLANDS AND THRUST BLOCKS. THRUST BLOCKING SHALL HAVE A MINIMUM OF 3 SQUARE FEET AGAINST UNDISTURBED EARTH.
4. HYDRANT TO BE MUELLER A-423 SUPER CENTURION, MJ SHOE, 5-1/4" MAIN VALVE, 4-1/2" PUMPER & (2) 2-1/2" HOSE NOZZLES, OPEN LEFT, COLOR TO BE CHROME YELLOW, BURY TO BE MEASURED IN FIELD.



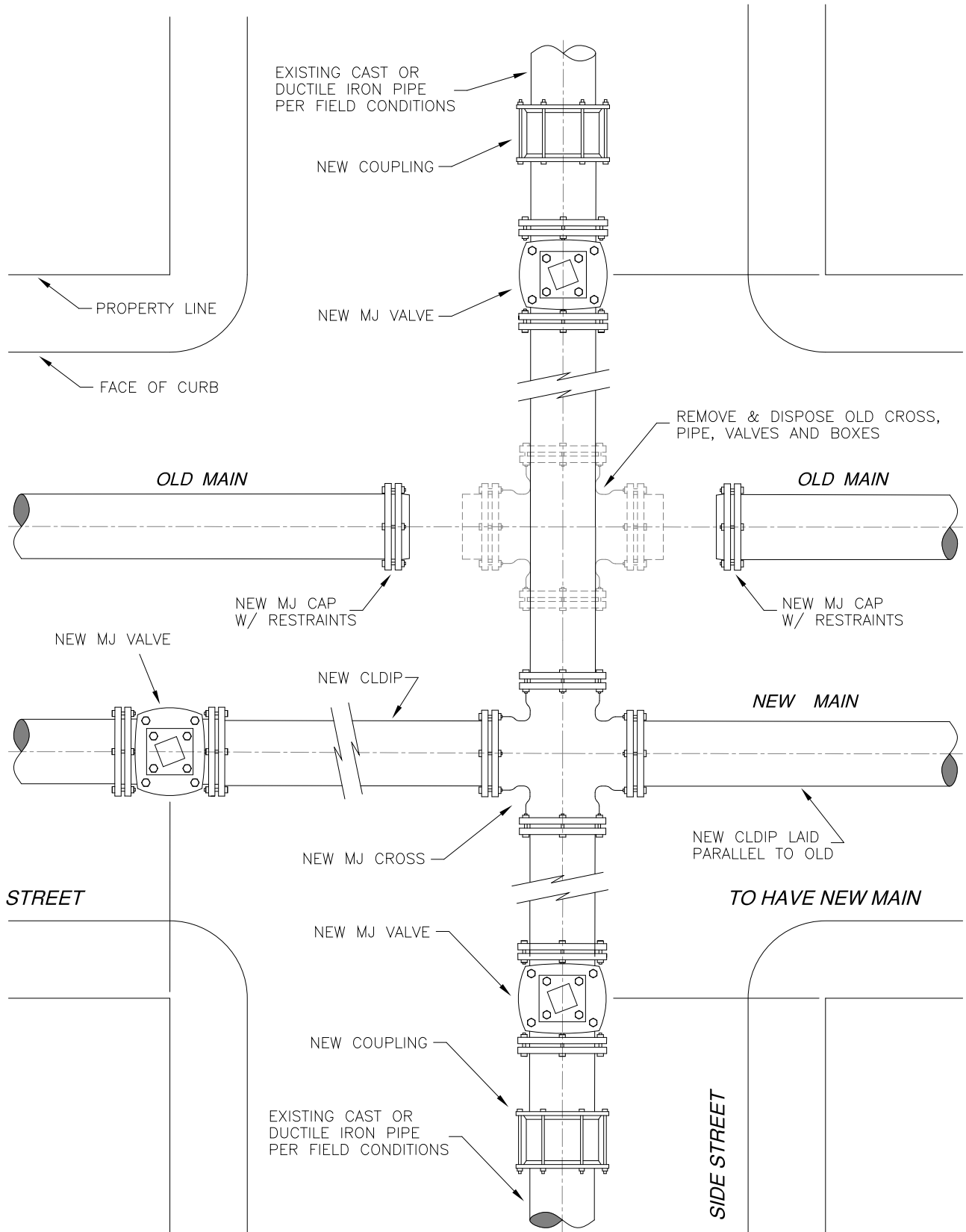
PAWTUCKET WATER SUPPLY BOARD

FIRE HYDRANT REPLACEMENT

REVISION DATE:  
FEB. 2006

NOT TO SCALE

STD. NO.  
**4.02**



**Pawtucket**  
WATER SUPPLY BOARD

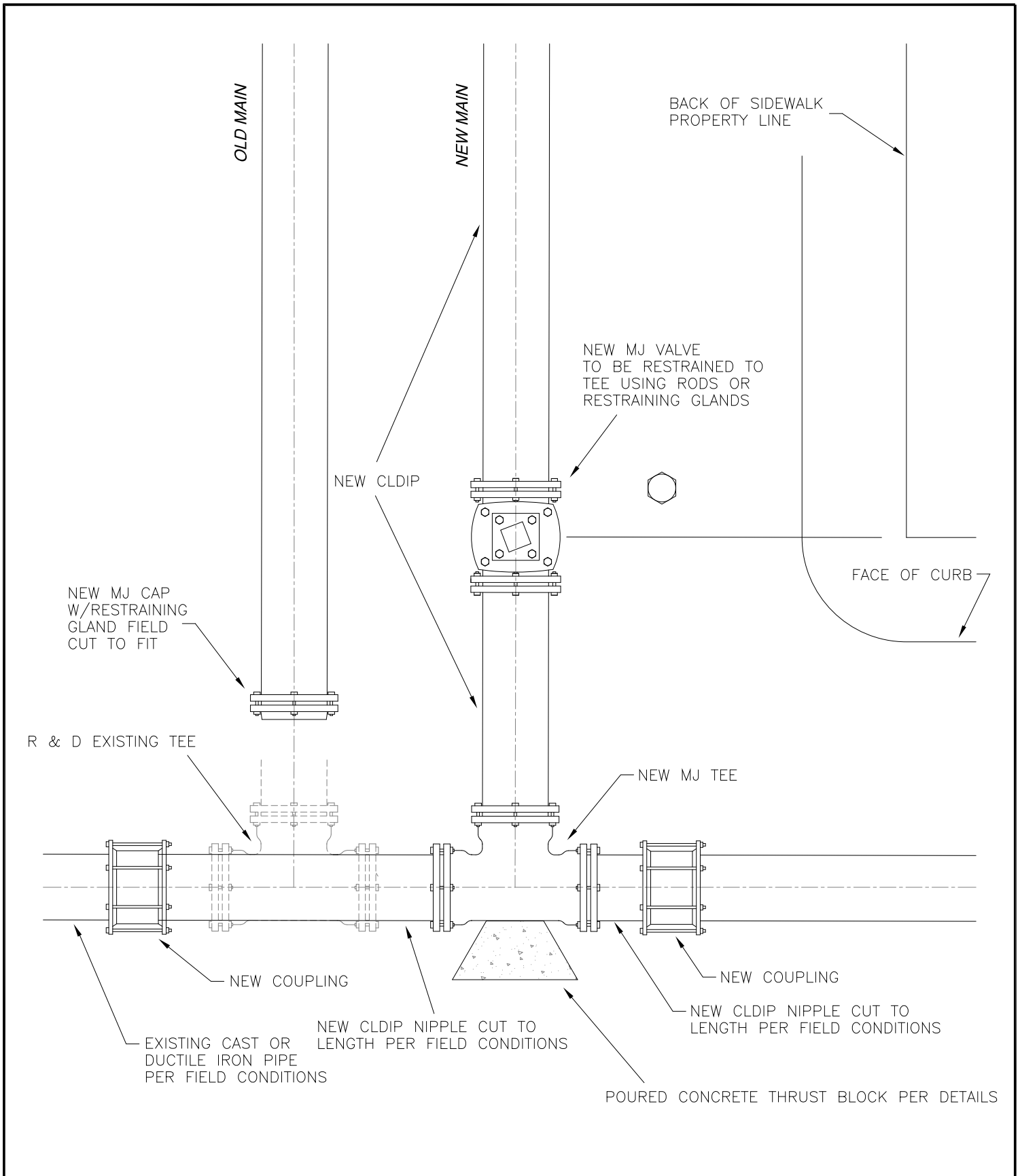


**PAWTUCKET WATER SUPPLY BOARD**  
**MAIN CONNECTION AT INTERSECTION**  
**(CROSS)**

REVISION DATE:  
FEB. 2006

NOT TO SCALE

STD. NO.  
**5.01**

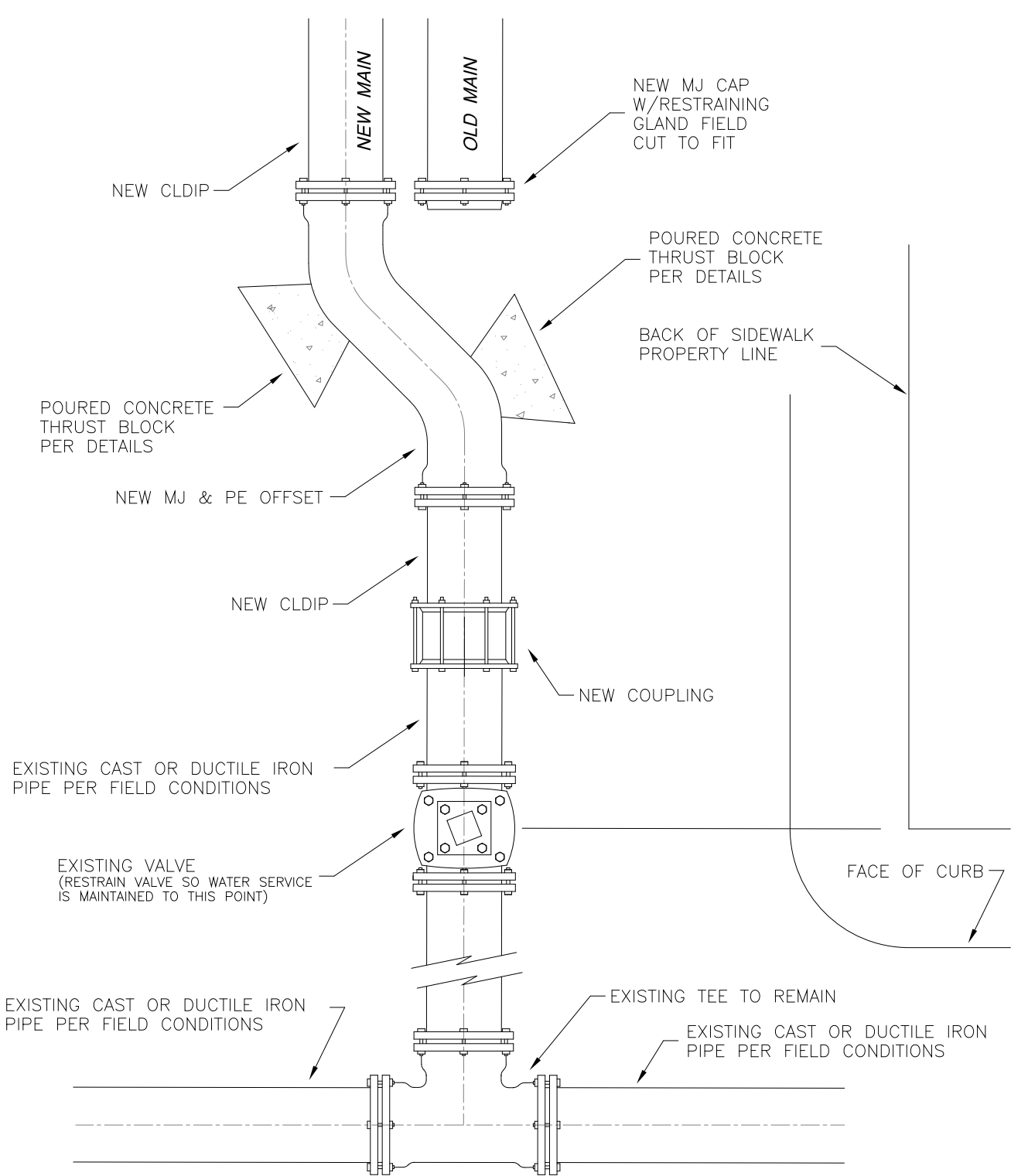


**PAWTUCKET WATER SUPPLY BOARD**  
**MAIN CONNECTION AT INTERSECTION**  
**(CUT-IN TEE)**

REVISION DATE:  
FEB. 2006

NOT TO SCALE

STD. NO.  
**5.02**

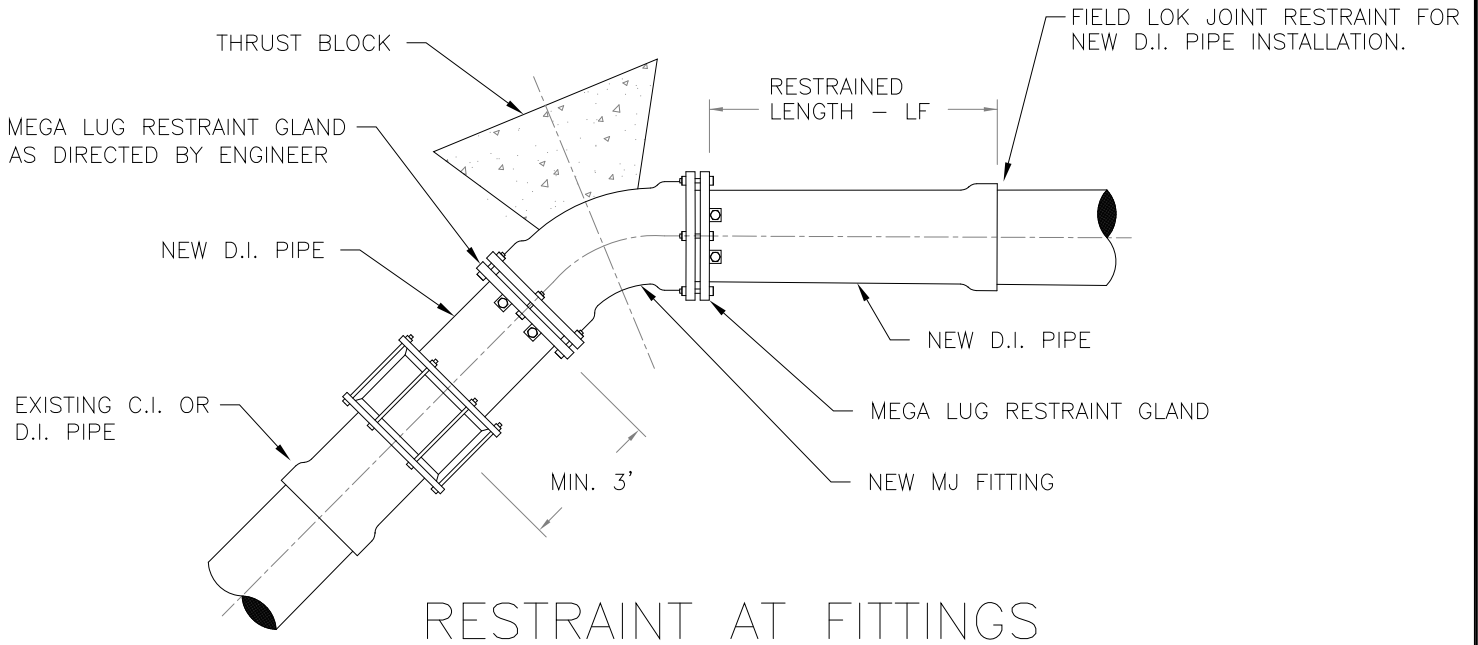


PAWTUCKET WATER SUPPLY BOARD  
 MAIN CONNECTION AT INTERSECTION  
 (OFFSET)

REVISION DATE:  
 FEB. 2006

NOT TO SCALE

STD. NO.  
**5.03**



## RESTRAINT AT FITTINGS

MINIMUM SURFACE AREA OF CONCRETE THRUST BLOCK AGAINST UNDISTURBED EARTH - IN S.F. (SQUARE FEET)

MINIMUM RESTRAINED LENGTH OF PIPE ON EITHER SIDE OF FITTING - IN L.F. (LINEAR FEET)

PIPE SIZE	PLUG		TEE		90° BEND		45° BEND		22½° BEND		11¼° BEND	
	SF	LF	SF	LF	SF	LF	SF	LF	SF	LF	SF	LF
6"	2.8	37	2.8	32	4.0	18	2.1	7	1.1	4	1.0	2
8"	4.8	48	4.8	43	6.8	23	3.7	10	1.9	5	1.0	2
10"	7.3	58	7.3	53	10.3	28	5.6	12	2.8	6	1.4	3
12"	10.3	69	10.3	63	14.5	33	7.9	14	4.0	6	2.0	3
16"	17.8	89	17.8	83	25.2	42	13.6	17	7.0	8	3.5	4
20"	27.5	108	27.5	102	38.9	51	21.0	21	10.7	10	5.4	5
24"	39.2	127	39.2	121	55.4	59	30.0	25	15.3	12	7.7	6

1. ALL CONCRETE TO BE CLASS B (AE)
2. THE "SF" VALUES IN THE ABOVE TABLE ARE BASED ON 3000 p.s.f. SOIL BEARING CAPACITY, 150 p.s.i. TEST PRESSURE AND A 1.5 FACTOR OF SAFETY.
3. THE "LF" VALUES IN THE ABOVE TABLE ARE BASED ON A TYPE 3 LAYING CONDITIONS, A SAND SILT SOIL DESIGNATION, A 5 FOOT RUN LENGTH, 150 P.S.I. TEST PRESSURE AND A 1.5 FACTOR OF SAFETY AS USED IN THE "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" COMPUTER PROGRAM BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION.
4. IF SOIL CONDITIONS OR EXCAVATION LIMITS ENCOUNTERED DURING CONSTRUCTION MAKE IT UNFEASIBLE TO PLACE THRUST BLOCKS AGAINST UNDISTURBED EARTH OF THE PROPER BEARING CAPACITY, THE CONTRACTOR SHALL DESIGN AND PLACE SPECIAL REACTION BLOCKS OF SUFFICIENT WEIGHT TO RESIST FULL THRUST UNDER ALL CONDITIONS. THE DESIGN SHALL BE SUBJECT TO PWSB APPROVAL.
5. MINIMUM SURFACE AREAS SHALL BE INCREASED BY 50% IF DEEMED NECESSARY BY THE ENGINEER.
6. A MECHANICAL JOINT RESTRAINT SYSTEM MUST BE USED FOR VERTICAL BENDS.
7. AT THE DISCRETION OF THE ENGINEER, A JOINT RESTRAINT SYSTEM MAY BE SUBSTITUTED FOR OR USED IN COMBINATION WITH PROPER THRUST BLOCKING.
8. A 48 HR. CURING PERIOD MUST BE GIVEN BEFORE FULL LINE PRESSURE CAN BE APPLIED TO NEW CONCRETE THRUST BLOCKS.
9. ANCHOR BLOCK DESIGN FOR PIPE LARGER THAN 24" SHALL BE REVIEWED ON AN INDIVIDUAL BASIS BY THE PWSB.



**PAWTUCKET WATER SUPPLY BOARD**

## **RESTRAINT AT FITTINGS**

REVISION DATE:  
MAY 2006

NOT TO SCALE

STD. NO.  
**5.04**

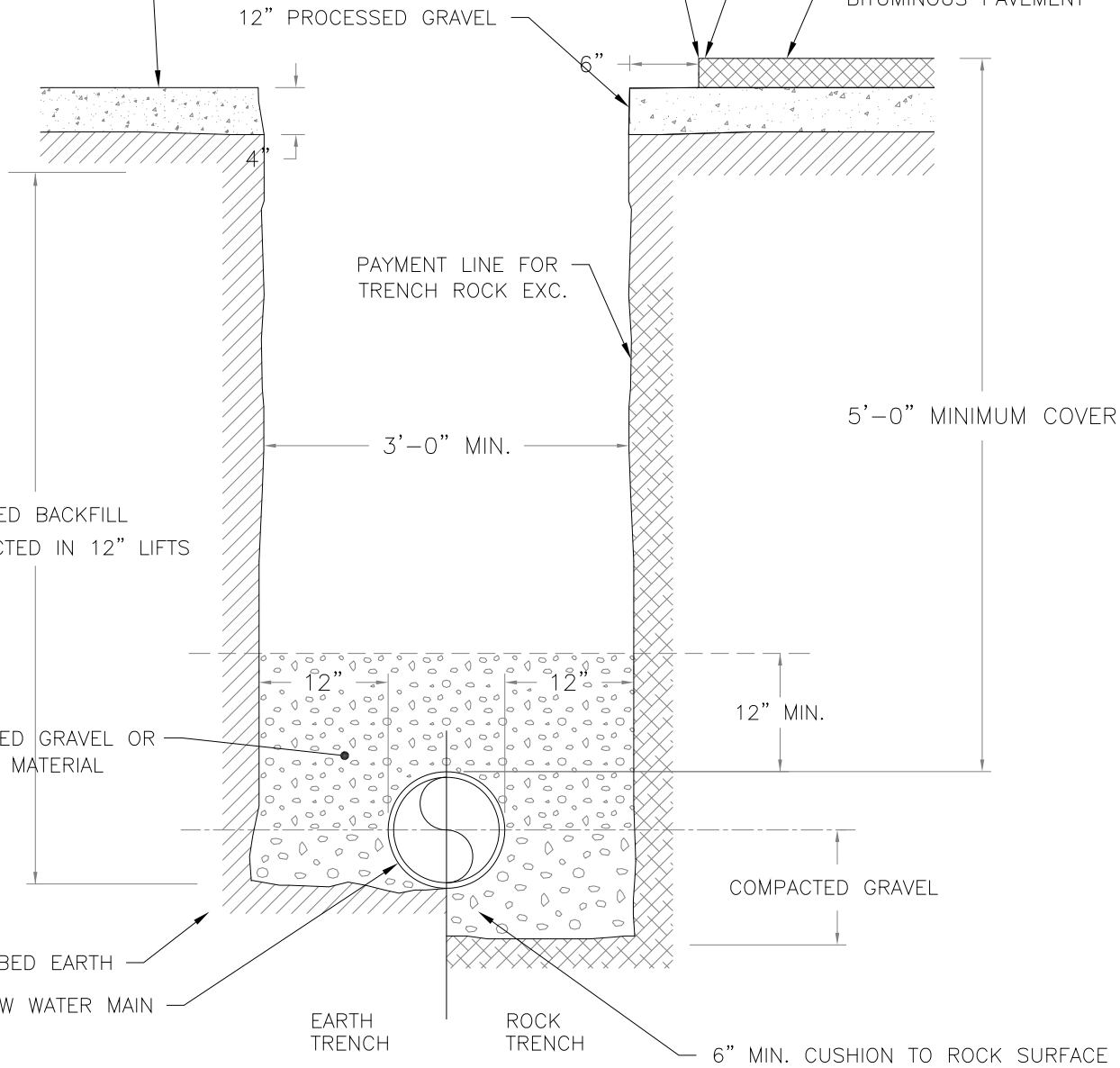
LOAM & SEED IN EXIST.  
GRASSED AREAS

SAWCUT PAVEMENT EDGE

PAVEMENT PAYMENT LIMIT

12" PROCESSED GRAVEL

BITUMINOUS PAVEMENT



NOTE: SUITABLE BACKFILL SHALL BE SELECTED FROM EXCAVATED MATERIALS AND IS SUBJECT TO THE APPROVAL OF THE PWSB ENGINEER.

**Pawtucket**  
WATER SUPPLY BOARD



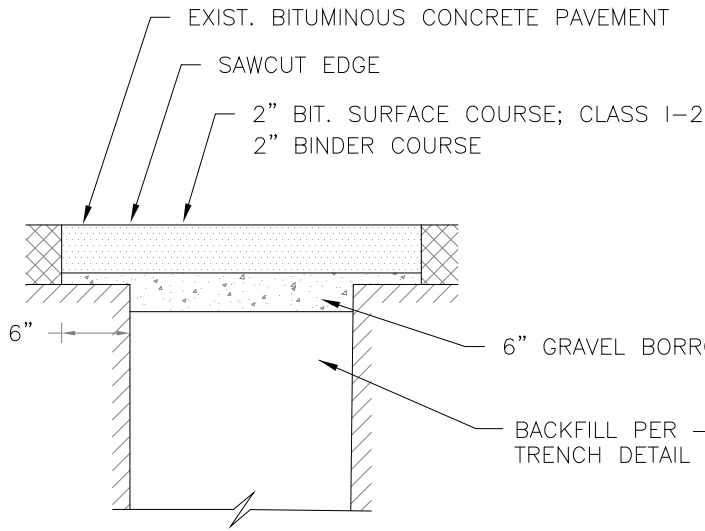
PAWTUCKET WATER SUPPLY BOARD

TYPICAL TRENCH DETAIL

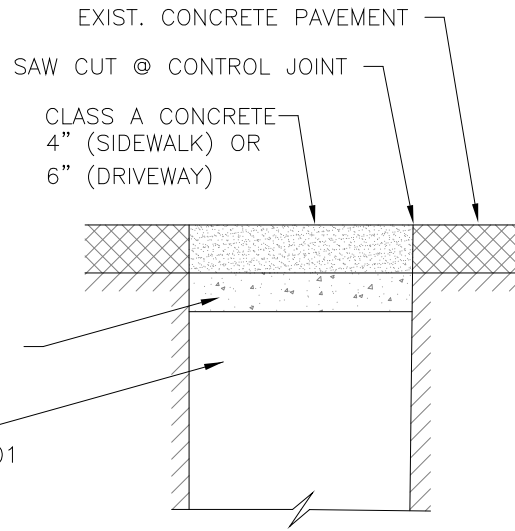
REVISION DATE:  
MAY 2006

NOT TO SCALE

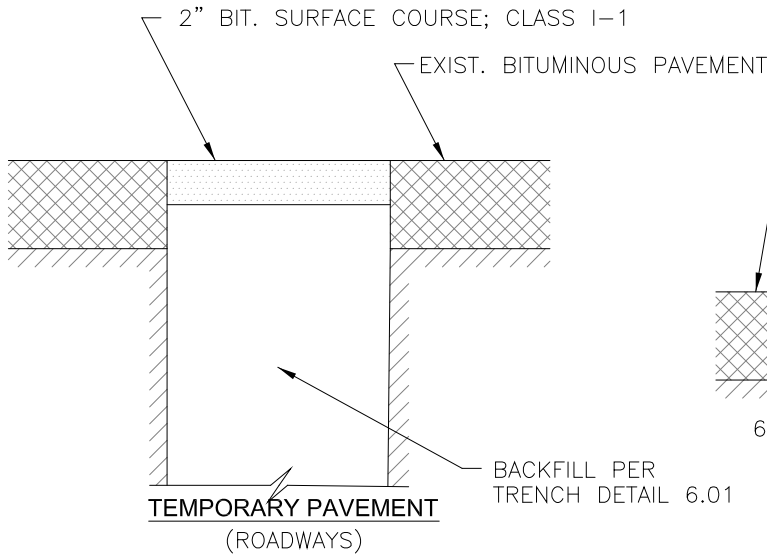
STD. NO.  
**6.01**



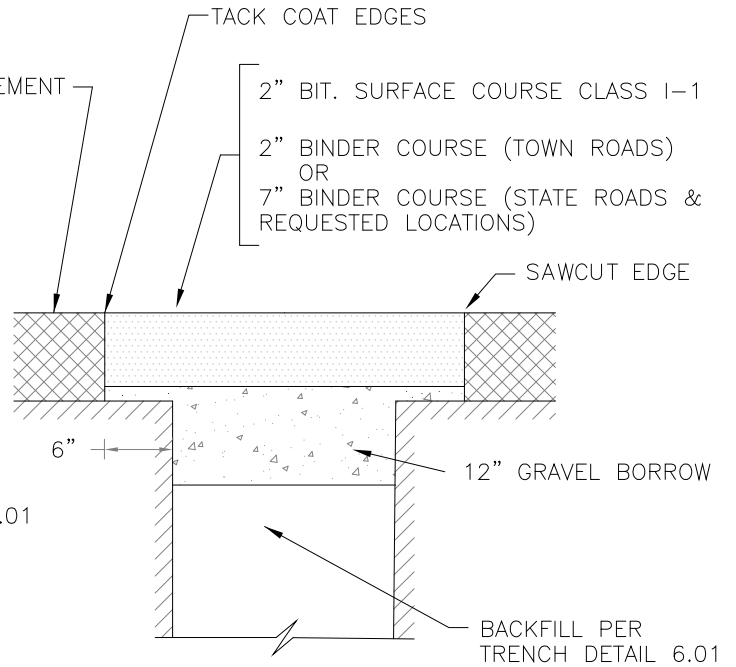
**PERMANENT PAVEMENT**  
(BIT. DRIVEWAYS & SIDEWALKS)



**PERMANENT PAVEMENT**  
(CONC. DRIVEWAYS & SIDEWALKS)



**TEMPORARY PAVEMENT**  
(ROADWAYS)



**PERMANENT PAVEMENT**  
(ROADWAYS)

**NOTES:**

1. FOR TEMPORARY AND PERMANENT PATCHING IN STATE ROADS, THE CONTRACTOR SHALL MEET ALL REQUIREMENTS OF THE RIDOT.
2. THE CONTRACTOR IS REQUIRED TO OBTAIN AND MEET THE REQUIREMENTS OF ANY AND ALL PERMITS FROM THE STATE, CITY OR TOWN THAT THE WORK WILL BE PERFORMED IN.



**PAWTUCKET WATER SUPPLY BOARD**

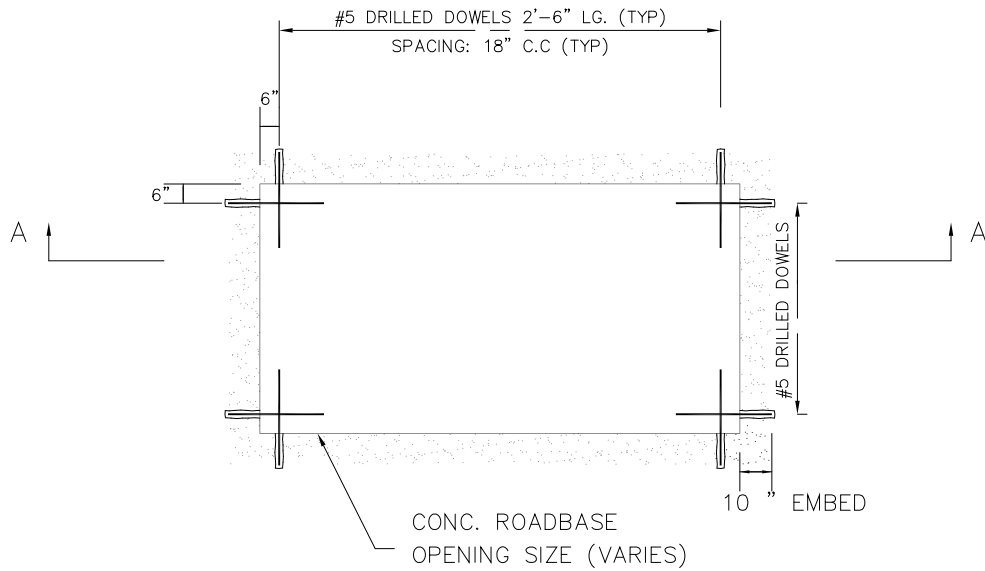
**PAVEMENT REPLACEMENT**

REVISION DATE:  
JAN. 2011

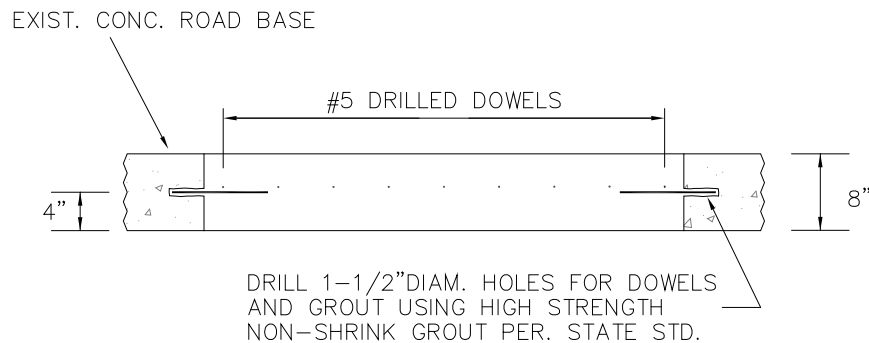
NOT TO SCALE

STD. NO.  
**6.02**





CONC. ROADBASE REPAIR  
PLAN VIEW  
(NTS)



SECTION A-A  
(NTS)

- NOTES:
1. THE CLASS OF CONCRETE TO BE USED SHALL BE IN ACCORDANCE WITH SECTION 601.01.1, TABLE 1 TITLED "PORTLAND CEMENT CONCRETE" OF THE STATE STANDARD SPECIFICATIONS.
  2. MATCH EXISTING BITUMINOUS (CLASS I-1)
  3. ALL WORK TO MEET REQUIREMENTS OF THE STATE STANDARD SPECIFICATIONS.



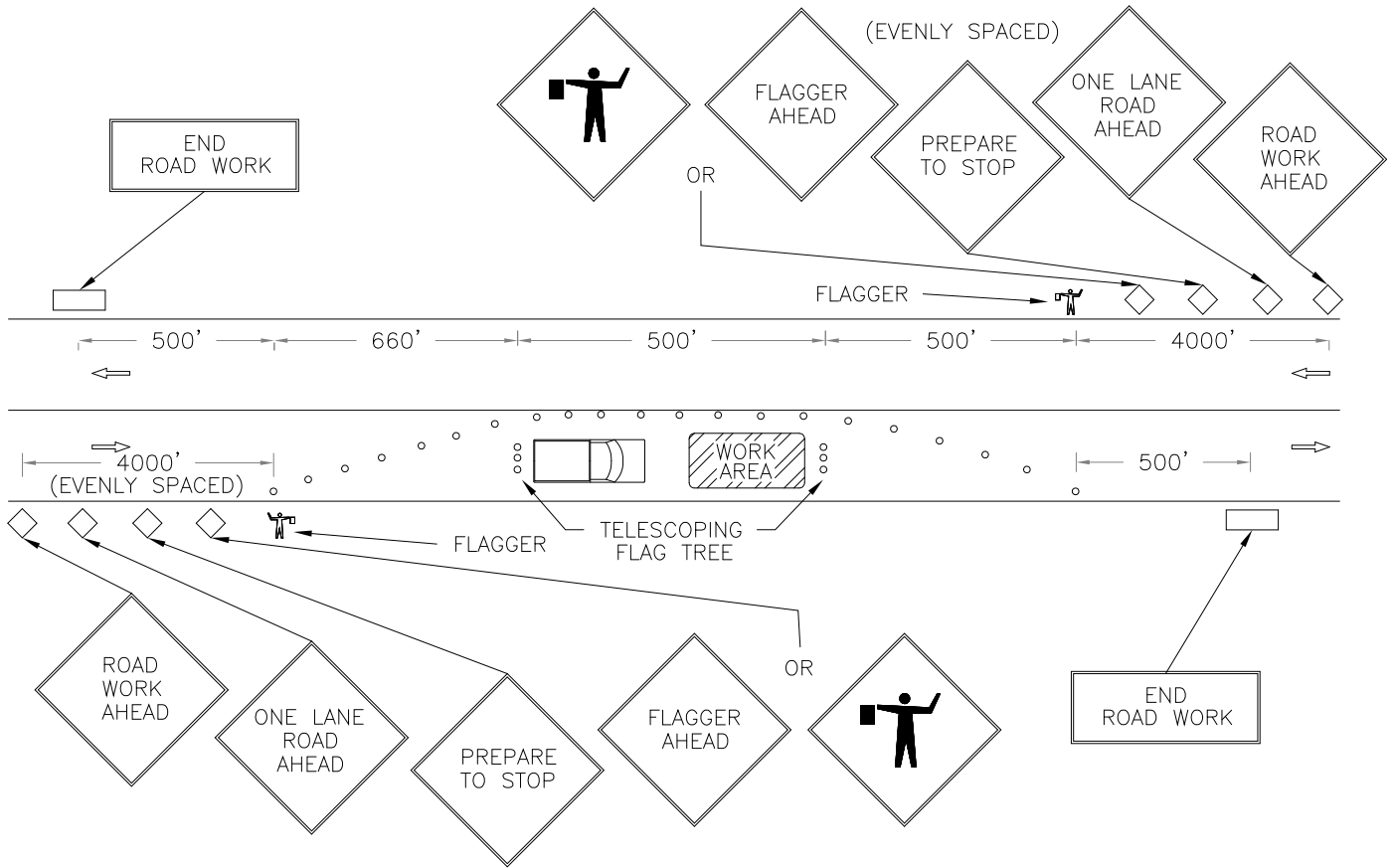
PAWTUCKET WATER SUPPLY BOARD

RIDOT CONCRETE ROADBASE  
PAVEMENT REPLACEMENT

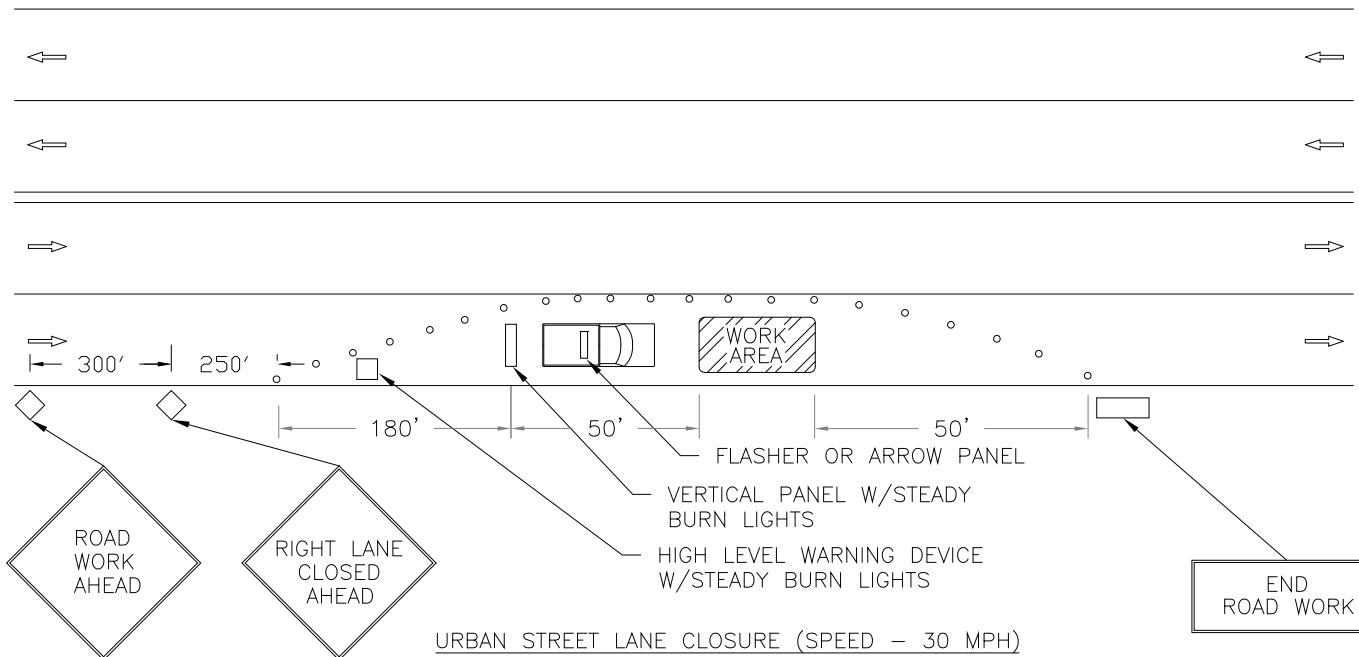
REVISION DATE:  
FEB. 2013

NOT TO SCALE

STD. NO.  
**6.03**



RURAL TWO-LANE HIGHWAY – ALTERNATING ONE-WAY OPERATION



URBAN STREET LANE CLOSURE (SPEED – 30 MPH)

Pawtucket  
WATER SUPPLY BOARD



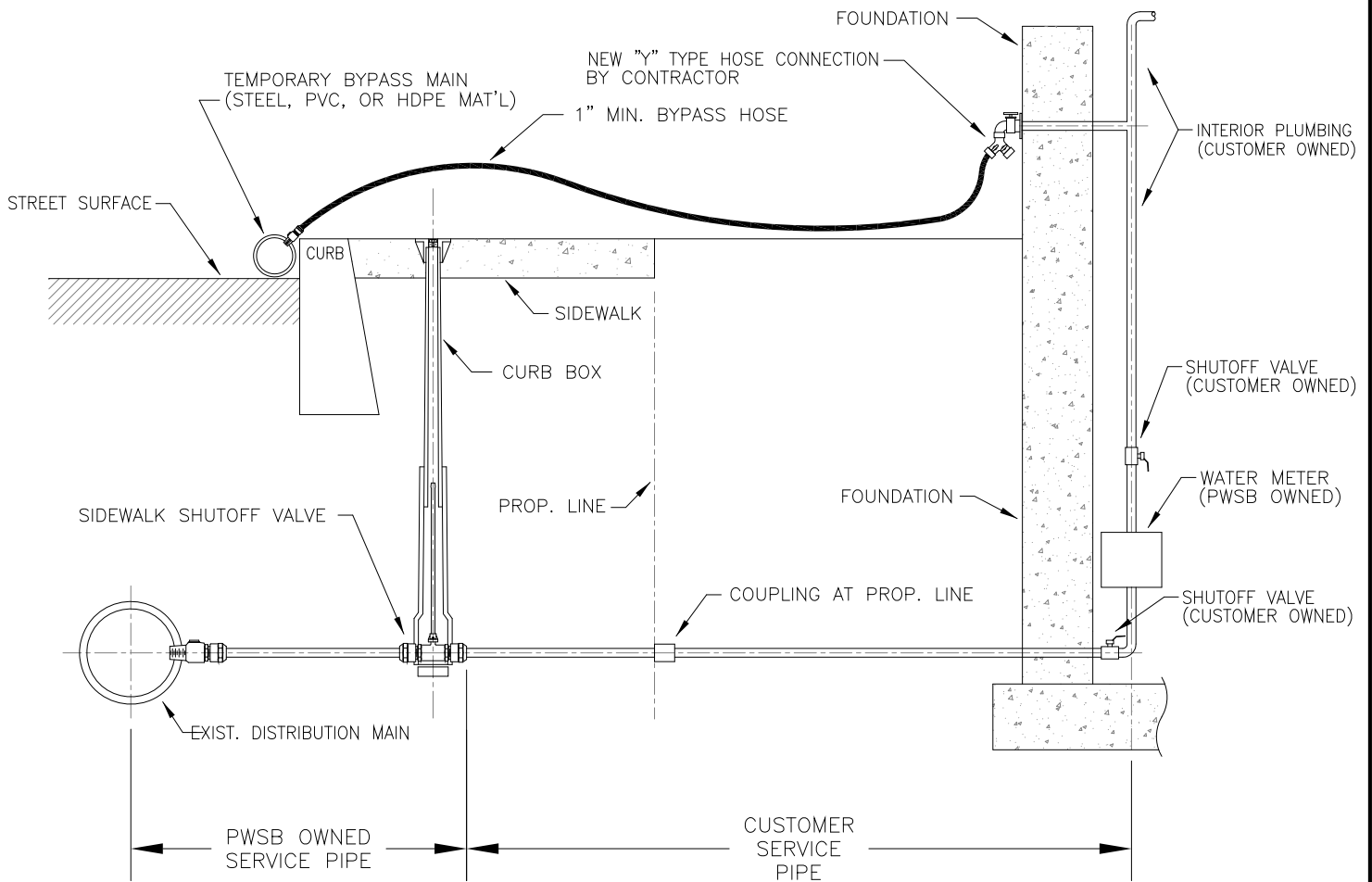
PAWTUCKET WATER SUPPLY BOARD

SIGNING AND BARRICADES

REVISION DATE:  
FEB. 2006

NOT TO SCALE

STD. NO.  
**7.01**



1. TEMPORARY BYPASS PIPING & SERVICE MATERIAL SHALL BE APPROVED BY THE PWSB PRIOR TO INSTALLATION AND SHALL BE NSF-61 AND/OR FDA APPROVED FOR CONTACT WITH DRINKING WATER AND SHALL BE INSTALLED IN ACCORDANCE WITH THE PWSB SPECIFICATIONS FOR "TEMPORARY BYPASS PIPING AND SERVICES" LATEST REVISION.
2. PRIOR TO INSTALLATION, CONTRACTOR SHALL SUBMIT 2 COPIES OF BYPASS LAYOUT PLAN TO THE PWSB FOR REVIEW & APPROVAL.
3. TEMPORARY BYPASS MAIN SHALL REQUIRE A MINIMUM OF TWO "FEED" CONNECTIONS TO EXISTING ACTIVE HYDRANTS OR MAINS, IF POSSIBLE.
4. TEMPORARY REMOVAL OF WATER METERS SHALL BE PERFORMED BY PWSB METER DEPARTMENT PERSONNEL ONLY.

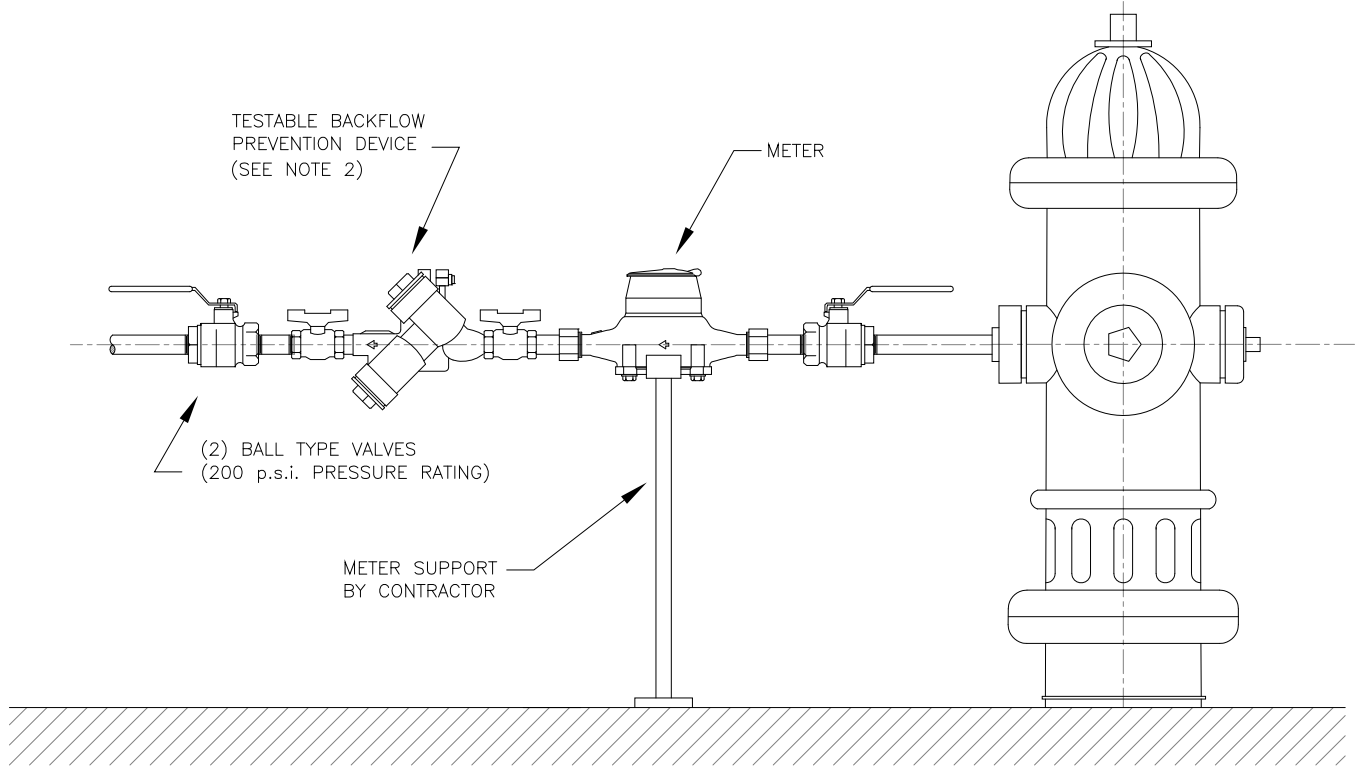


**PAWTUCKET WATER SUPPLY BOARD**  
**TYPICAL "TEMPORARY BYPASS PIPING"**  
**INSTALLATION**

REVISION DATE:  
 JAN 2011

NOT TO SCALE

STD. NO.  
**8.01**



TEMPORARY METER INSTALLATION – ELEVATION VIEW

NOTES

1. THE METER SHALL BE INSTALLED HORIZONTALLY.
2. TEMPORARY WATER SERVICE CONNECTIONS REQUIRE A PWSB APPROVED TESTABLE BACKFLOW PREVENTION DEVICE. ALL IN ACCORDANCE WITH SECTION 10 OF THE PWSB REGULATIONS, LATEST REVISION.
3. CONTRACTOR MUST NOTIFY THE PWSB METER DEPARTMENT WHEN THE METER INSTALLATION IS COMPLETE.



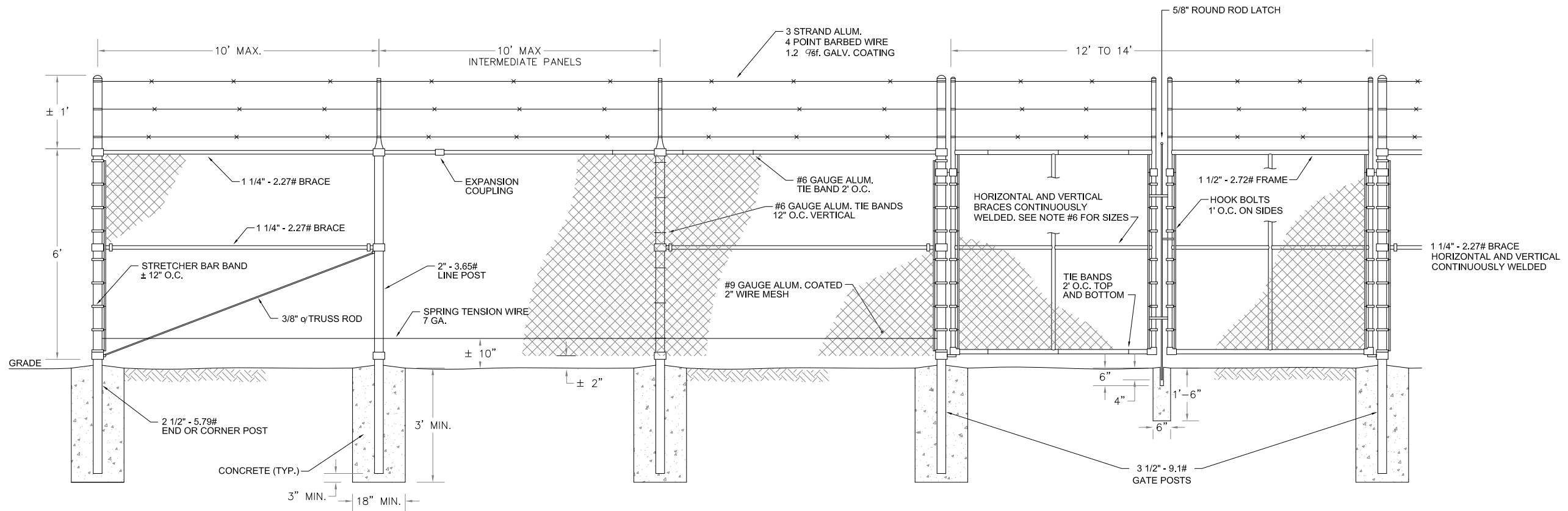
PAWTUCKET WATER SUPPLY BOARD

TEMPORARY WATER SERVICE CONNECTION AT HYDRANT

REVISION DATE:  
JAN. 2011

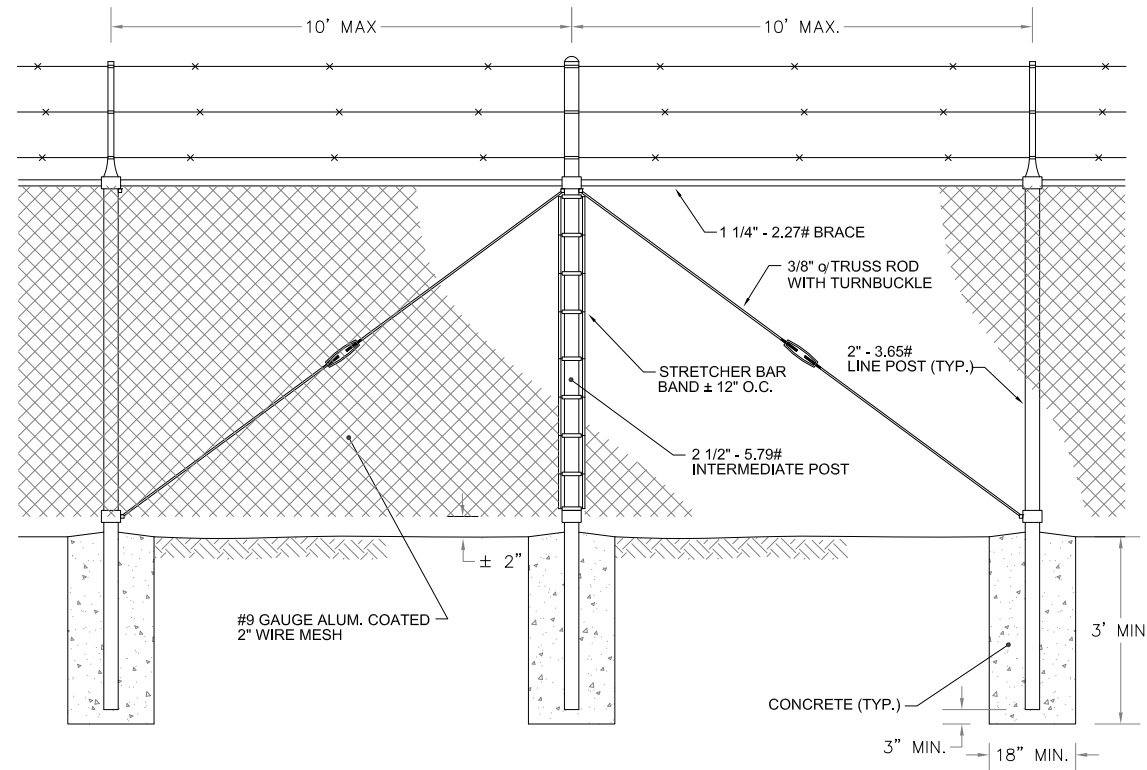
NOT TO SCALE

STD. NO.  
**8.02**



**ELEVATION WITH DOUBLE GATE**

NOT TO SCALE



**ELEVATION AT INTERMEDIATE POST**

NOT TO SCALE

**NOTES**

1. FENCE SHALL BE IN ACCORDANCE WITH SECTION 902 OF THE R.I. STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED.
2. ALL PIPES REFER TO SCHEDULE 40 NORMAL PIPE SIZES.
3. ALL FENCE POSTS SHALL BE PROVIDED WITH GALVANIZED CAST STEEL OR MALLEABLE IRON POST TOPS.
4. FENCE FABRIC SHALL HAVE TWISTED BARBED SELVAGES IN THE TOP AND BOTTOM EDGES.
5. WHERE LEDGE IS ENCOUNTERED AT FENCE POST FOOTINGS, POSTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 902.03.2 OF THE STANDARD SPECIFICATIONS.
6. FOR 12' GATE, 1 1/4" - 2.27# BRACE IS TO BE USED FOR VERTICAL AND HORIZONTAL BRACING AND FOR 14' GATE, 1 1/2" - 2.72# BRACE IS TO BE USED FOR VERTICAL AND HORIZONTAL BRACING.
7. SPRING TENSION WIRE - NO.7 GA. - CORRUGATED HEAVILY GALV. (1.6 OZ.)

**Pawtucket**  
WATER SUPPLY BOARD

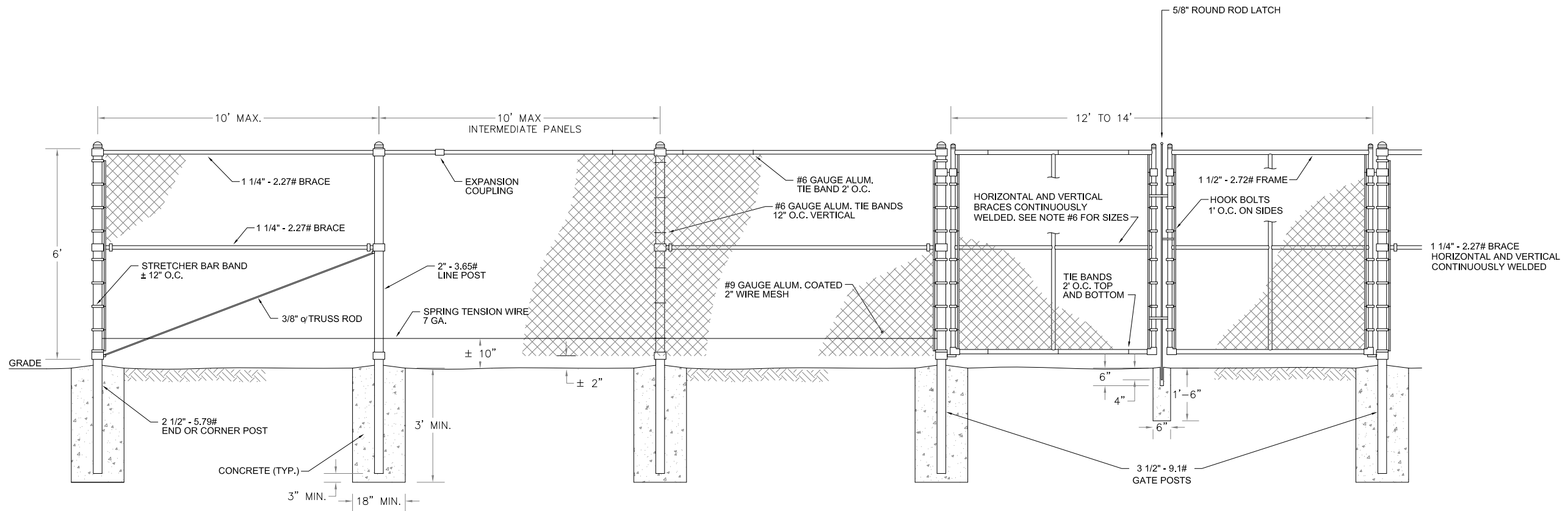


**PAWTUCKET WATER SUPPLY BOARD**  
**NEW CHAIN LINK FENCE WITH BARBED WIRE**  
**INSTALLATION**

REVISION DATE:  
MAR 2006

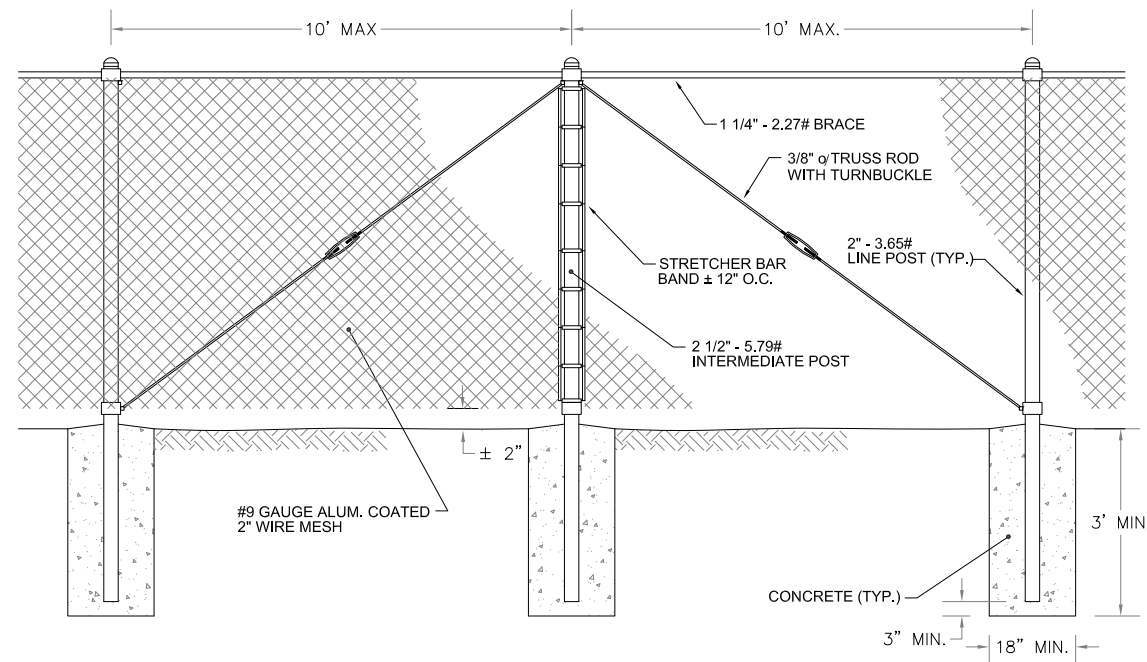
NOT TO SCALE

STD. NO.  
**9.01**



**ELEVATION WITH DOUBLE GATE**

NOT TO SCALE



**ELEVATION AT INTERMEDIATE POST**

NOT TO SCALE

**NOTES**

1. FENCE SHALL BE IN ACCORDANCE WITH SECTION 902 OF THE R.I. STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED.
2. ALL PIPES REFER TO SCHEDULE 40 NORMAL PIPE SIZES.
3. ALL FENCE POSTS SHALL BE PROVIDED WITH GALVANIZED CAST STEEL OR MALLEABLE IRON POST TOPS.
4. FENCE FABRIC SHALL HAVE TWISTED BARBED SELVAGES IN THE TOP AND BOTTOM EDGES.
5. WHERE LEDGE IS ENCOUNTERED AT FENCE POST FOOTINGS, POSTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 902.03.2 OF THE STANDARD SPECIFICATIONS.
6. FOR 12' GATE, 1 1/4\"/>

**Pawtucket**  
WATER SUPPLY BOARD



PAWTUCKET WATER SUPPLY BOARD

NEW CHAIN LINK FENCE INSTALLATION

REVISION DATE:  
APRIL 2017

NOT TO SCALE

STD. NO.  
**9.02**

**CODE T04.9904**  
**CATEGORY 6 ETHERNET CABLE**

**DESCRIPTION:** This work consists of furnishing and installing category 6 ethernet cable at the locations indicated on the Plans, or as directed by the Engineer, and shall be in conformance with the applicable sections of the Rhode Island Standard Specifications.

**MATERIALS:** The category 6 ethernet cable shall be shielded outdoor cable with shielded connectors and shall conform to the relevant provisions of the Rhode Island Standard Specifications including all revisions.

**CONSTRUCTION METHODS:** All cables shall be handled carefully during storage and shall be drawn into the conduit system without damage to covering sheath insulation or conductor. Wiring shall not be done until the raceway system has been completed. Only lubricant manufactured specifically to assist in cable pulling shall be used.

Wiring installed in raceways shall have slack cable left at all pulling points. No wiring shall be installed until the conduit systems have been approved by the Engineer.

The Contractor shall submit for approval the manufacturer's notarized certificates of compliance for all wire and cable.

**METHOD OF MEASUREMENT:** "CATEGORY 6 ETHERNET CABLE" will be measured for payment by the "LINEAR FOOT" actually installed in accordance with the Plans and/or as directed by the Engineer.

Measurement shall be along the centerline of the conduit. A 5-foot allowance will be made for slacked cables in handholes. A 10-foot allowance will be made for slacked cables in traffic signal controller cabinets.

**BASIS OF PAYMENT:** The accepted quantity of "CATEGORY 6 ETHERNET CABLE" will be paid for at the contract unit price per "LINEAR FOOT" of cable actually installed. The price so-stated constitutes full and complete compensation for all materials, shielded connectors, equipment, tools, labor and all incidentals required to finish the work, complete in place and accepted by the Engineer.

**CODE T11.9916**  
**TRAFFIC SIGNAL STANDARD, 8 FOOT, STD. 19.4.0**  
**ALUMINUM PEDESTAL POLE ON EXISTING FOUNDATION**

**DESCRIPTION:** The work under this item shall conform to the applicable requirements of **SECTION T.11; TRAFFIC SIGNAL STANDARDS AND POSTS**, of the Standard Specifications. The work consists of installing a new 8 foot aluminum pedestal pole on an existing foundation once the existing aluminum pedestal pole has been removed.

**MATERIALS:** The materials for this item shall be in accordance with the applicable provisions of **Subsection T.11.02** of the Standard Specifications and shall also conform to the following requirements:

- 8 foot pedestal pole with pole cap – Alloy Castings Co., Inc., or approved equal

**CONSTRUCTION METHODS:** Traffic signal pedestal poles and foundations shall be installed in accordance with the applicable provisions of **Subsection T.11.03** of the Standard Specifications.

**METHOD OF PAYMENT:** “TRAFFIC SIGNAL STANDARD, 8 FOOT, STD. 19.4.0 ALUMINUM PEDESTAL POLE ON EXISTING FOUNDATION” shall be measured for payment by the unit "EACH" for each unit installed and accepted by the Engineer.

**BASIS OF PAYMENT:** “TRAFFIC SIGNAL STANDARD, 8 FOOT, STD. 19.4.0 ALUMINUM PEDESTAL POLE ON EXISTING FOUNDATION” shall be paid for at the contract bid price "EACH" which price and payment shall constitute full compensation for furnishing all labor, materials, bonding, attachment hardware and other incidentals complete in place and accepted by the Engineer.

The removal of the existing aluminum pedestal pole shall be included in the contract bid price for Item Code 945.0200 Remove and Salvage Traffic Signal Equipment.



**CODE T12.9905**  
**INTERSECTION WIDE 360 DEGREE VIDEO DETECTION SYSTEM**

**DESCRIPTION:** This item of work shall conform to the applicable sections of the Rhode Island Standard Specifications with the following additions.

The Contractor shall furnish and install vehicle detection systems that detect vehicles on a roadway by processing images sent from a sensor to an interface board with detector outputs that can be received by the traffic signal controller. These traffic sensors shall be installed at the locations shown on the Plans and in accordance with these specifications.

**MATERIALS:** The detection system shall be non-intrusive (i.e. above ground) and shall consist of mounting brackets, traffic sensor and detection module. The detection system also, at a minimum, shall be able to collect and store volume and speed of vehicles and bicycles; stop bar detection; and NEMA TS 2 compatible. Components of the detection system shall all be the same as to make and model with the following additions or approved equivalent.

A. Hardware:

a. *Communications Interface*

- i. Shall support 4G LTE cellular connectivity with MIMO and diversity (Bands 2, 4, 5, 13, 17, 25), HSPA+, GSM/GPRS/EDGE, EV-DO Rev A, 1XRTT with peak downlink of 100Mbps and peak uplink of 50Mbps.
- ii. Shall support 802.11 a/b/g/n with MIMO and Diversity antennas with security of at least 64/128 bits WEP, WPA, WPA2.
- iii. Shall support GPS.
- iv. Shall support GLONASS.
- v. Shall support communication of detection data, video imagery, and traffic analytics to the Server via the Communication Service.
- vi. Shall support remote configuration of vehicle detection zones.
- vii. Shall provide galvanic isolation between earth ground and logic ground.

b. *Communications Antenna*

- i. Shall provide an externally mounted antenna for supporting functionality of Communications Interface.
- ii. Shall contain the following fully-enclosed antenna elements and quantities in a single enclosure:
  1. 2G/3G/LTE MIMO (quantity: 2)
  2. 2.4GHz/5GHz WIFI MIMO (quantity: 2)
  3. GPS/GLONASS/BEIDOU (quantity: 1)
- iii. Shall have labeled antenna terminations for easy installation.
- iv. Shall not exceed 35mm in height.
- v. Shall be colored Pantone 427 U for blend with traffic cabinet construction.
- vi. Shall be IP67 rated and mounted on the cabinet with a water-tight seal made of a closed cell rubber type foam and medium-firm acrylic adhesive with bonding features including a high initial adhesion and excellent high/low temperature holding power with excellent peel strength.

- vii. Shall capture Vehicle Identification Data via a wireless traffic probe utilizing Wi-Fi MAC address identification technology.

*c. Camera*

- i. Shall provide 360 degrees of visibility from the point of installation.
- ii. Shall be powered via Power over Ethernet (PoE) and be IEEE802.3af compliant.
- iii. Shall support configuration in both spherical “fisheye” configuration, and rectangular “quad view”.
- iv. Shall support at least 9 megapixel (MP) capture.
- v. Shall support ability to capture 4K video.
- vi. Shall provide H.264 and MJPEG image compression.
- vii. Shall support RTSP streaming.
- viii. Shall support maximum aperture ratio of 1:1.9.
- ix. Shall support focal length of 1.38mm
- x. Contractor shall supply 1 camera (and any additional cameras if required to provide a functioning vehicle detection system) as indicated on the Plans

*d. Camera Mount*

- i. Shall include all mounting hardware with device.
- ii. Mounting fixture shall be constructed of weatherproof painted aluminum.
- iii. Mounting hardware shall be fully assembled to camera and ready to attach to pole or extension arm.
- iv. Mounting hardware shall support vertical pole installation, horizontal pole installation, or attachment via a 1 ¼” threaded fitting.
- v. Mounting fixture (including camera, 40ft cable) shall not exceed 485mm x 370mm x 205mm in size, and 3.8kg in weight.
- vi. Shall include 40 feet of shielded ethernet cable for connection to PoE power source and internet access.
- vii. Shall include two-way ethernet coupler rated to IP68 for connection to cabinet ethernet cable

*e. SDLC Controller Interface*

- i. Shall provide all necessary cabling to connect to a cabinet’s existing Port 1/SDLC bus.
- ii. Shall support reading terminal and facility input & outputs at a frequency of at least 10 times per second.
- iii. Shall support reading channel state at a frequency of at least 10 times per second.
- iv. Shall support acquisition of Malfunction Management Unit (MMU) fault status including conflict, red failure, and clearance failure.
- v. Shall support reading information from all detectors wired into the cabinet supporting up to 1 ms resolution between detection events.
- vi. Shall detect failure of a detector in either always high, or always low, mode.
- vii. Shall support capturing and reporting Controller Faults based on MMU status bits of ‘in conflict’, ‘red failure’, ‘diagnostic failure’, ‘in failure state’, and ‘local flash’.

*f. Peripheral Interface*

- i. Shall support 2 x USB 2.0 device ports.
- ii. Shall support 4 x 10/100/1000 Ethernet ports.
- iii. Shall support PoE on 2 of the above ports, with at least one of which capable of supporting PoE+.
- iv. Shall support industrial temperature-rated storage comprising a solid state drive of at least 64 GB.
- v. Shall provide light-emitting diode (LED) indicators for Server connectivity, Ethernet link/activity, power, cellular link/activity, and signal strength.
- vi. Shall support 4 x RS232 serial connections (one port configurable to RS485) with RJ45 connectors.
- vii. Shall provide Digital IO pins 4 x I/O pins (200mA sinking each), digital input, 0~30V, 1 x 24VDC supply pin (200mA max sourcing), 5 x ground.
- viii. Shall provide galvanic isolation between earth ground and logic ground.
- ix. Shall provide data buffering of all Telemetry Data (controller state, detector actuations, pre-emption events) during periods of loss of cellular connection for at least 12 minutes.
- x. Shall provide data buffering of all Telemetry Data during periods of loss of power for at least 10 seconds.

#### *Video Processing Unit*

- i. Shall support processing of a minimum of two simultaneous feeds from Camera units.
- ii. Shall display status of detection channels
- iii. Shall include a USB 2.0 device port.
- iv. Shall include 4 x 10/100/1000 Ethernet ports.
- v. Shall support PoE on two of the above ports.
- vi. Shall include onboard processing capabilities to perform video- based vehicle detection and generation of traffic analytics.
- vii. Shall provide 24 NEMA-rated GPIO ports that can be configured for actuation.
- viii. Shall support all requirements found in 2.2.1.6 SDLC Controller Interface
- ix. Shall provide the capability to act as one or more SDLC detector racks and support generating detections on up to 64 channels

#### B. Video Detection:

##### *a. Configuration*

- i. Shall support remote configuration of detection zones and system settings via Communications Service and Software.
- ii. Shall allow for configuration at the roadside, by a laptop computer connected via ethernet to the Video Processing Unit and Software.
- iii. Shall support the configuration of entries, exits, and turning movements for additional traffic analytics.
- iv. Shall support maintaining multiple detection zone configurations that can be remotely selected and enabled at any time using Software.
- v. Shall store historical versions of detection zone configurations that can be restored at any time using Software.

*b. Detection*

- i. Shall support a minimum of 100 unique video detection zones.
- ii. Shall support both rectangular and irregular polygon shaped zones.
- iii. Shall support real-time detection of vehicles, cyclists, and pedestrians in configurable detection zones per camera.
- iv. Shall ensure the the detection system meets or exceeds the FDOT TERL 98% detection accuracy requirement in good weather conditions.
- v. Shall support identification of unacceptable video feed, including interrupted video signal.
- vi. Shall support directional detection zones to reduce false detections from objects traveling in other directions.
- vii. Shall support the tracking of vehicles and pedestrians for video analytics applications

*C. Communications Service*

*1. Cellular Communications*

- i. Shall provide 4G LTE cellular data service between the Communications Interface and the Server via a national commercial carrier using Bands 2, 4, 5, 13, 17, and 25
- ii. Shall provide failover support from 4G to 3G to 2G with incremental fallback on appropriate bands.

*2. Server*

- i. Shall be hosted at a professional cloud hosting facility with redundancy of at least two instances, with automatic load balancing
- ii. Shall scale to support any simultaneous number of connections.
- iii. Shall support storage of all detection data and traffic analytics in perpetuity

*3. Secure Communications*

- i. Shall provide a Virtual Private Network (VPN) for secure data transmission between the Communications Interface and Server.
- ii. Shall create a private network where IP traffic can be transmitted from a traffic cabinet directly into the traffic management center and any central software systems.
- iii. Shall use authentication based on public key infrastructure (PKI) and encryption using PKI and the TLS/DTLS1.0+ protocol.
- iv. Shall support HTTPS/SSL communication to the Server from the public internet for access of the User Interface.
- v. Shall support revoking of all authenticated user names, passwords, or keys at any time.
- vi. Shall support simultaneous integration across a heterogeneous mix of different technologies and providers, including different cellular providers, fiber connected networks, and point-to-point radio solutions.
- vii. Shall support integrating an unlimited number of intersections with the customers Central Management System and be capable of supporting both IP and serial-over-IP connections to all controller models in the field.
- viii. Shall be hosted at a professional cloud hosting facility with redundancy of at least two instances, with automatic load balancing
- ix. Shall scale to support any simultaneous number of connections.

- x. Shall support storage of all detection data and traffic analytics in perpetuity
- D. Installation and Training - The manufacturer of the vehicle detection system, or their representative, shall design sensor layout, placement and lens size, and supervise the installation and testing of the equipment. A factory certified representative from the supplier shall be on-site for a minimum of one (1) day.
- E. The Contractor shall provide eight (8) hours of personnel training in the use of the vehicle detection system and software. The Contractor is to coordinate with the Cities of Pawtucket and Central Falls as to the exact location and time of the training. It is the responsibility of the Contractor to provide training manuals, class notes, and other instructional materials for up to twelve (12) attendees at the training session. No training shall begin unless and until the final inspection process indicates, in the opinion of the Engineer, that the vehicle detection system is sufficiently complete and operational such that training would be useful at the time.
- F. The manufacturer shall provide three (3) complete sets of maintenance manuals for the installed equipment. These manuals shall have complete set-up, maintenance and troubleshooting procedures presented in an organized format. One of the three sets shall be delivered to each of the appropriate departments for the Cities of Pawtucket and Central Falls.
- G. The Contractor shall include with this item five (5) years of cellular data coverage at no additional cost to the agency. This cellular data coverage shall incur any overage data charges and will not impact the state at any additional cost.
- H. Warranty, Maintenance and Support - The traffic sensor shall be warranted by its supplier for a minimum of one (1) year. The vehicle detection system shall be warranted by its supplier for a minimum of one (1) year. The warranties for both the traffic sensor and vehicle detection system shall be completely transferrable from the Contractor to the Cities of Pawtucket and Central Falls. During the warranty period, the supplier shall provide technical support by telephone during normal business hours and request for support by telephone shall be answered by factory certified personnel within one (1) hour.  
  
During the warranty period, certified personnel from the supplier shall be on site within seventy-two (72) hours if required.
- I. The Contractor shall supply and install extension brackets to support proposed vehicle detection sensors as shown on the plans.
- J. Access hole(s) shall be provided in the connection to allow wires to pass from the strain poles and vehicle detection sensors to the extension brackets. The sides of all holes in the connections shall be deburred to prevent the wires from chaffing.
- K. The extension bracket length and attachment heights shall be verified by the Contractor based on existing grade at the site, the location of overhead utility cables and traffic appurtenance mounting heights. Acceptance of extension brackets will be contingent upon review and approval of shop drawings submitted by the Contractor. The Contractor shall be responsible for selecting the proper length of bracket and achieving the proper orientation of the extension brackets and may be required to field adjust the location of the extension brackets in the presence of the Engineer to properly align vehicle detection sensors.

**CONSTRUCTION METHODS:** Intersection Wide 360 Degree Video Detection System shall be installed in accordance with the Plans. All components of the Intersection Wide 360 Degree Video Detection System shall be installed in accordance with the manufacturer's recommendations. The locations of the video detection zones

shown on the plans are approximate. Final size and locations of the video detection zones shall be positioned in the field and tested in cooperation with the Engineer to ensure that detection zones are established to cover the approach width and that the detection system is functioning to the satisfaction of the Engineer.

**METHOD OF MEASUREMENT:** “INTERSECTION WIDE 360 DEGREE VIDEO DETECTION SYSTEM” shall be measured for payment by the unit “EACH” for each unit installed and accepted.

**BASIS OF PAYMENT:** “INTERSECTION WIDE 360 DEGREE VIDEO DETECTION SYSTEM”, will be paid for at the contract unit price per “EACH” which price shall include full compensation for all materials, equipment, tools, testing, field adjustments, labor, training, and work incidental thereto complete in place and accepted by the Engineer.





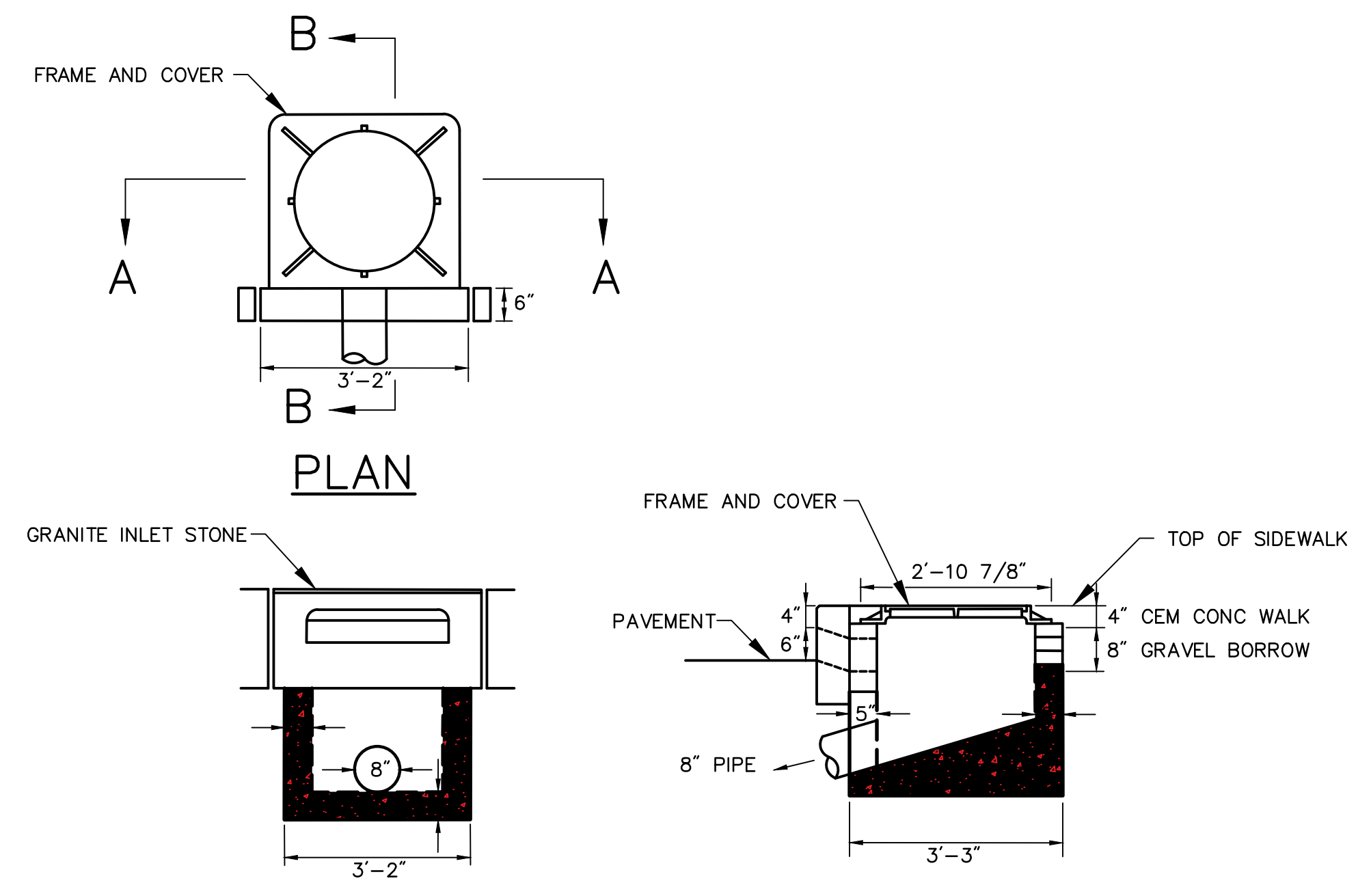








FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			39	201



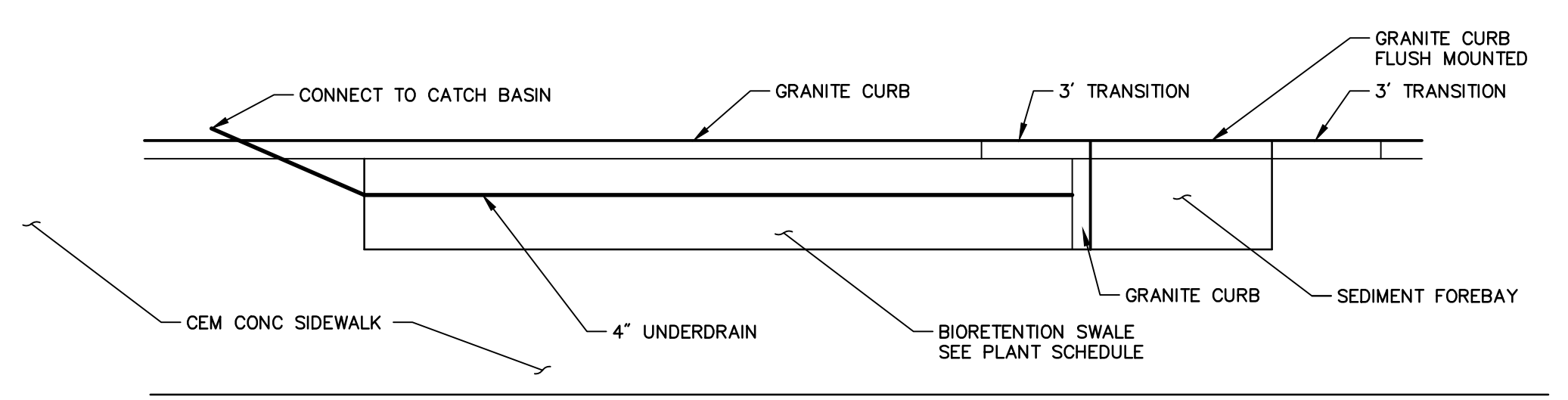
SECTION A-A

SECTION B-B

NOTES:

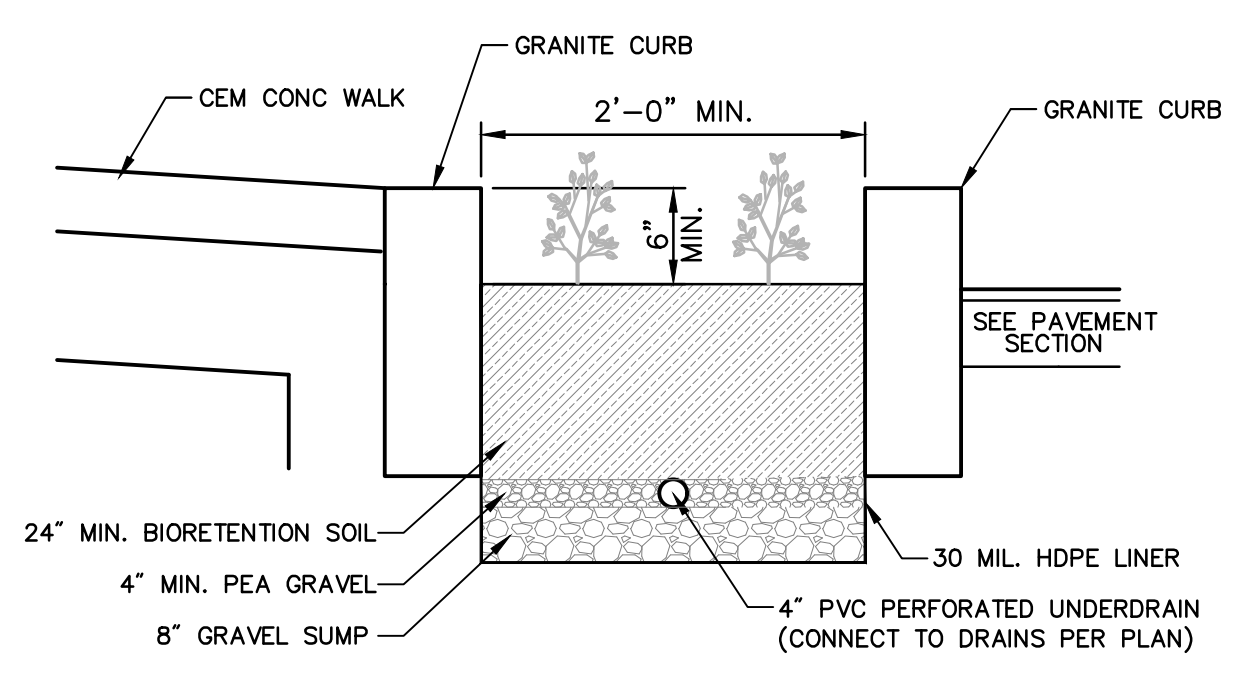
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM REQUIRED CONCRETE REINFORCEMENT = 0.12 SQ. IN./LIN. FT. (EACH WAY).
3. MINIMUM COVER ON REINFORCEMENT SHALL BE 2".

4.5.1M  
NOT TO SCALE



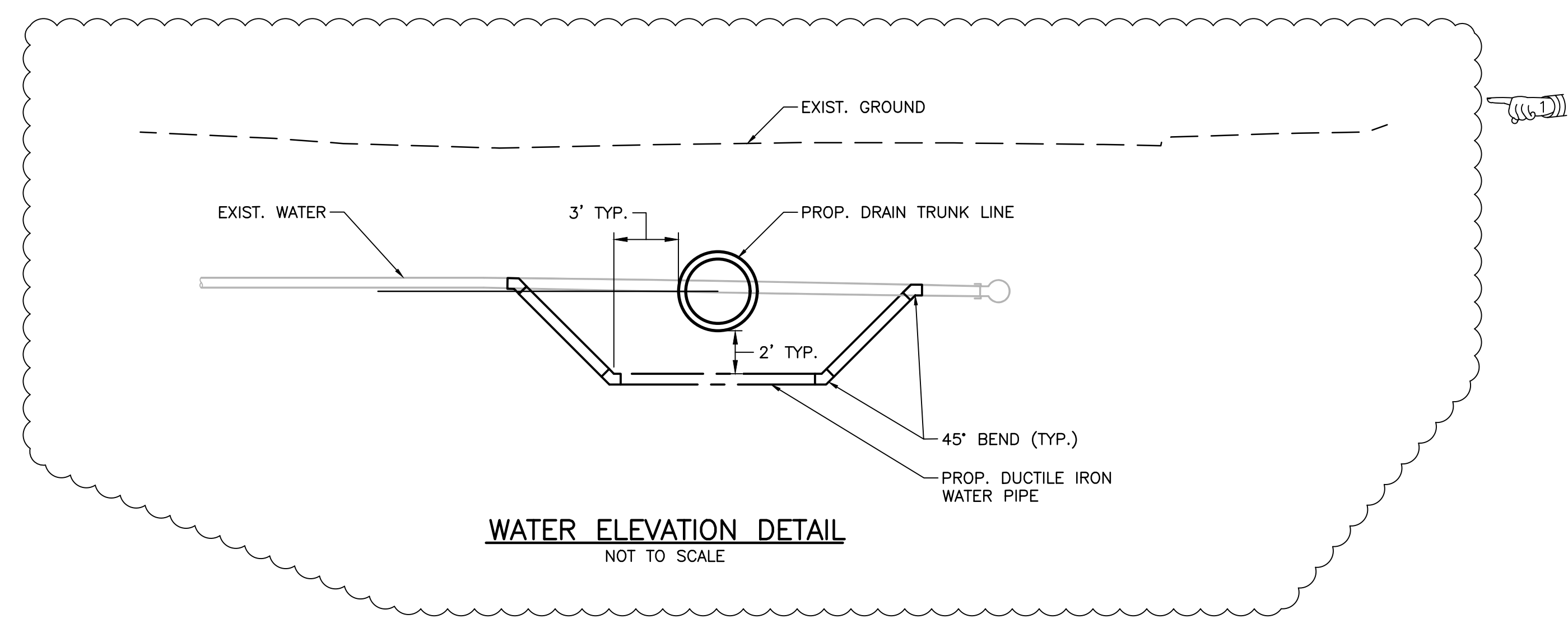
PLAN VIEW

PLANT SCHEDULE				
BIORETENTION	QTY	BOTANICAL NAME	COMMON NAME	REMARKS
CA	4	CLETHRA ALNIFOLIA	SUMMERSWEET	1 GAL
CL		CORNUS AMOMIUM	SILK DOGWOOD	1 GAL
P		PANICUM VIRGATUM	SWITCH GRASS	1 GAL

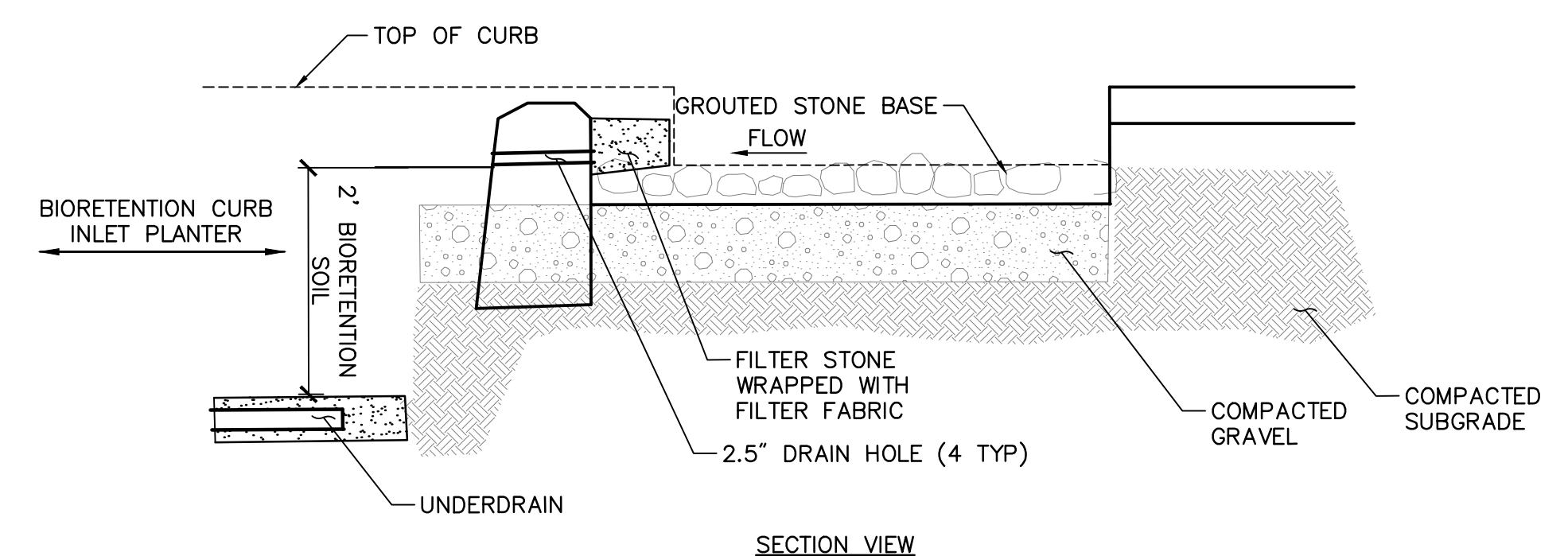


SECTION VIEW

BIORETENTION CURB INLET PLANTER  
NOT TO SCALE



WATER ELEVATION DETAIL  
NOT TO SCALE



SECTION VIEW

SEDIMENT FOREBAY  
NOT TO SCALE

REVISIONS		
NO.	DATE	BY
1	10/4/19	VHB

RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION

BROAD STREET (ROUTE 114)  
REGENERATION PROJECT

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

MISCELLANEOUS  
DETAILS NO. 00

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

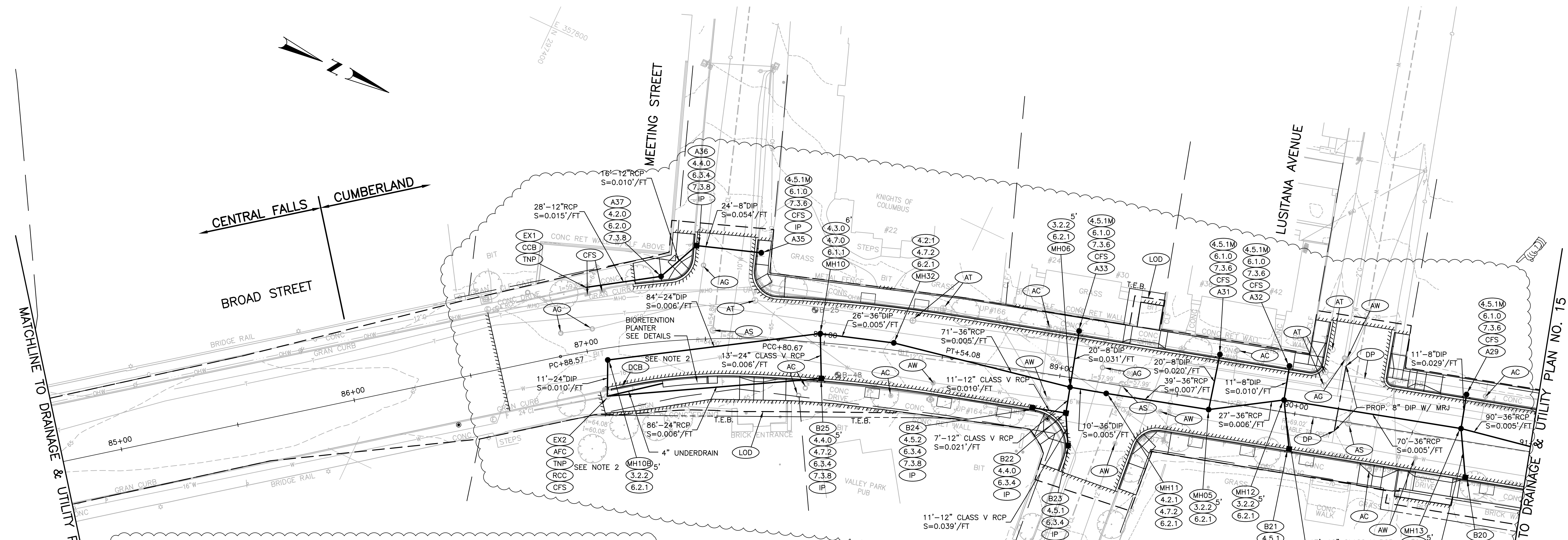
1 Cedar Street  
Suite 400  
Providence, RI 02903  
401.272.8100











DRAINAGE STRUCTURE TABLE			
STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
A29	STA. 90+70, -20' LT.	RIM=69.75	INV.(OUT)=67.52
A31	STA. 89+65, -20' LT.	RIM=68.96	INV.(OUT)=66.73
A32	STA. 89+95, -20' LT.	RIM=69.20	INV.(OUT)=66.78
A33	STA. 89+05, -20' LT.	RIM=68.13	INV.(OUT)=65.90
A35	STA. 87+72, -36' LT.	RIM=65.61	INV.(OUT)=61.52
A36	STA. 87+48, -39' LT.	RIM=64.52	INV.(IN-N)=60.20 INV.(OUT)=60.16
A37	STA. 87+34, -27' LT.	RIM=64.47	INV.(IN-NW)=60.00 INV.(OUT)=59.92
B20	STA. 90+75, 15' RT.	RIM=69.22	INV.(OUT)=66.31
B21	STA. 90+00, 15' RT.	RIM=68.77	INV.(OUT)=65.50

DRAINAGE STRUCTURE TABLE			
STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
B22	STA. 89+05, 15' RT.	RIM=67.57	INV.(IN-S)=64.10 INV.(IN-NE)=63.85 INV.(OUT)=64.00
B23	STA. 89+08, 28' RT.	RIM=67.93	INV.(OUT)=64.27
B24	STA. 88+91, 15' RT.	RIM=67.29	INV.(OUT)=64.21
B25	STA. 88+00, 14' RT.	RIM=65.24	INV.(IN-SW)=60.69 INV.(OUT)=60.62
EX1	STA. 87+04, -27' LT.	RIM=64.15	INV.(IN-NW)=59.50 INV.(OUT)=59.39
EX2	STA. 87+05, 20' RT.	RIM=64.68	INV.(IN-SW)=60.15 INV.(IN-NW)=60.10
MH05	STA. 89+64, 4' RT.	RIM=68.70	INV.(IN-W)=66.33 INV.(IN-NW)=61.87 INV.(OUT)=61.77
MH06	STA. 89+05, 4' RT.	RIM=67.89	INV.(IN-N)=61.35 INV.(IN-E)=63.86 INV.(IN-W)=65.27 INV.(OUT)=61.31
MH10	STA. 87+98, -4' LT.	RIM=65.51	INV.(IN-N)=60.80 INV.(OUT)=60.77

DRAINAGE STRUCTURE TABLE			
STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
MH10B	STA. 87+08, 5' RT.	RIM=64.05	INV.(IN-NW)=60.26 INV.(OUT)=60.26
MH11	STA. 89+20, 4' RT.	RIM=68.15	INV.(IN-N)=61.50 INV.(OUT)=61.40
MH12	STA. 89+95, -5' LT.	RIM=68.93	INV.(IN-W)=66.67 INV.(IN-N)=62.13 INV.(IN-NE)=65.33 INV.(OUT)=62.03
MH13	STA. 90+70, -5' LT.	RIM=69.49	INV.(IN-W)=67.19 INV.(IN-N)=62.58 INV.(IN-NE)=66.14 INV.(OUT)=62.48
MH32	STA. 88+29, -3' LT.	RIM=66.23	INV.(IN-N)=60.95 INV.(OUT)=60.93

**NOTE**

- R.I. STD. 3.2.2 SHALL BE BUILT WITH 3 FOOT SUMP. THIS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF ITEM 702.0210 OR 702.0211.
- THE EXISTING HIGH CAPACITY INLET SHALL BE RECONSTRUCTED BY REMOVING THE SHELF AND REBUILDING OUTER WALL AROUND THE NEW 24" RCP TO BE TIED INTO EXISTING STRUCTURE. THE REMOVAL OF THE SHELF SHALL BE PAID FOR BY ITEM 201.0410 AND THE REBUILDING OF THE OUTERWALL SHALL BE PAID FOR BY ITEM 704.0100.



REVISIONS		
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1	10/4/19	VHB

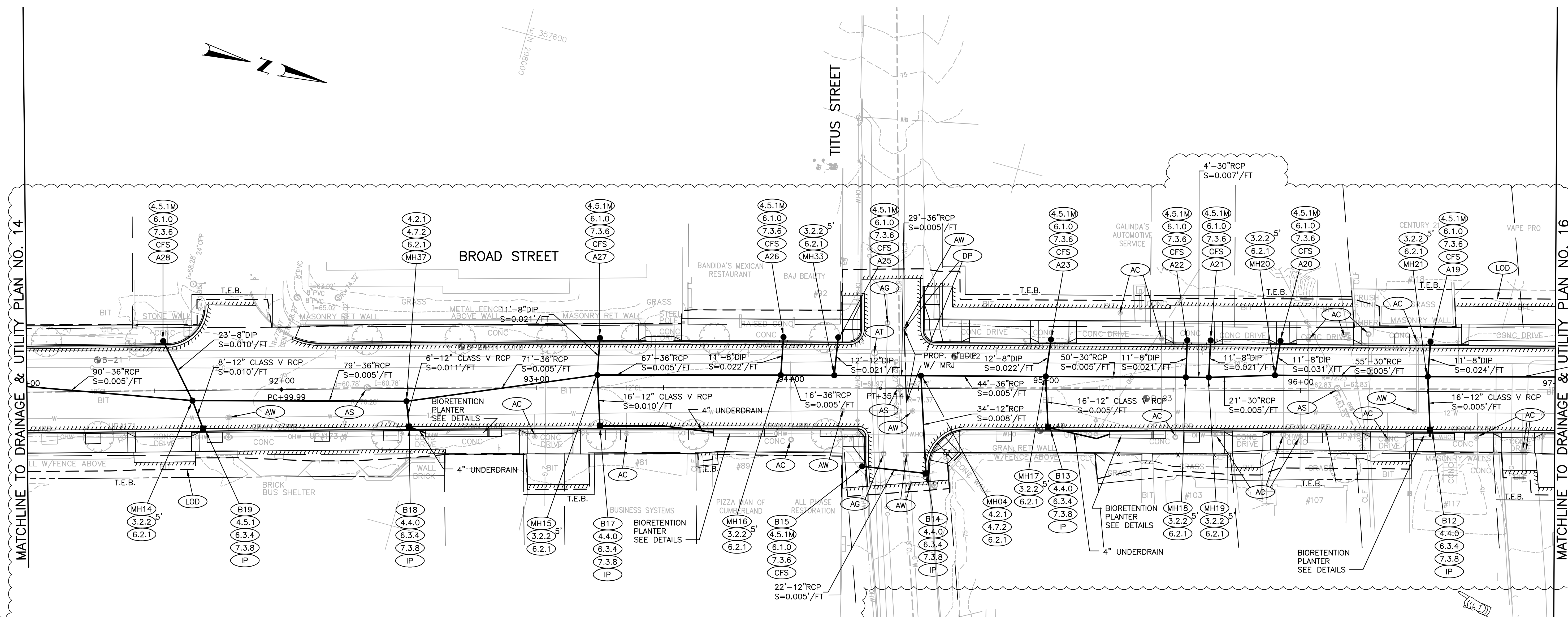
RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION

**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**DRAINAGE  UTILIT   
PLAN NO. 14**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_



**DRAINAGE STRUCTURE TABLE**

STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
A19	STA. 96+51, -20' LT.	RIM=73.11	INV.(OUT)=70.75
A20	STA. 95+92, -20' LT.	RIM=72.78	INV.(OUT)=70.55
A21	STA. 95+65, -20' LT.	RIM=72.52	INV.(OUT)=70.24
A22	STA. 95+56, -20' LT.	RIM=72.54	INV.(OUT)=70.30
A23	STA. 95+02, -20' LT.	RIM=72.37	INV.(OUT)=70.00
A25	STA. 94+18, -20' LT.	RIM=71.83	INV.(OUT)=69.54
A26	STA. 93+97, -20' LT.	RIM=71.69	INV.(OUT)=69.40
A27	STA. 93+25, -20' LT.	RIM=71.28	INV.(OUT)=69.04
A28	STA. 91+54, -20' LT.	RIM=70.22	INV.(OUT)=67.90
B12	STA. 96+51, 15' RT.	RIM=72.55	INV.(OUT)=69.30

**DRAINAGE STRUCTURE TABLE**

STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
B13	STA. 95+01, 15' RT.	RIM=71.72	INV.(OUT)=68.46
B14	STA. 94+53, 33' RT.	RIM=71.90	INV.(IN-S)=67.89 INV.(OUT)=67.79
B15	STA. 94+28, 31' RT.	RIM=71.92	INV.(OUT)=68.00
B17	STA. 93+25, 15' RT.	RIM=70.71	INV.(OUT)=67.45
B18	STA. 92+50, 15' RT.	RIM=70.38	INV.(OUT)=67.00
B19	STA. 91+69, 15' RT.	RIM=69.91	INV.(OUT)=66.90
MH04	STA. 94+51, -5' LT.	RIM=71.73	INV.(IN-N)=64.96 INV.(IN-E)=67.52 INV.(OUT)=64.86
MH14	STA. 91+65, 4' RT.	RIM=70.11	INV.(IN-N)=63.13 INV.(IN-SW)=67.67 INV.(IN-NE)=66.82 INV.(OUT)=63.03
MH15	STA. 93+24, -5' LT.	RIM=71.00	INV.(IN-W)=68.80 INV.(IN-N)=64.09 INV.(IN-E)=67.29 INV.(OUT)=63.99
MH16	STA. 93+96, -5' LT.	RIM=71.42	INV.(IN-W)=69.15 INV.(IN-N)=64.53 INV.(OUT)=64.43

**DRAINAGE STRUCTURE TABLE**

STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
MH17	STA. 95+00, -5' LT.	RIM=72.01	INV.(IN-W)=69.75 INV.(IN-N)=65.28 INV.(IN-E)=68.38 INV.(OUT)=65.18
MH18	STA. 95+55, -5' LT.	RIM=72.32	INV.(IN-W)=70.06 INV.(IN-N)=65.64 INV.(OUT)=65.54
MH19	STA. 95+64, -5' LT.	RIM=72.37	INV.(IN-W)=70.00 INV.(IN-N)=65.77 INV.(OUT)=65.67
MH20	STA. 95+90, -6' LT.	RIM=72.49	INV.(IN-W)=70.22 INV.(IN-N)=65.98 INV.(OUT)=65.88
MH21	STA. 96+50, -6' LT.	RIM=72.82	INV.(IN-W)=70.50 INV.(IN-N)=66.36 INV.(IN-E)=69.22 INV.(OUT)=66.26
MH33	STA. 94+17, -5' LT.	RIM=71.54	INV.(IN-N)=64.71 INV.(IN-W)=69.30 INV.(OUT)=64.61
MH37	STA. 92+49, 5' RT.	RIM=70.57	INV.(IN-NW)=63.63 INV.(IN-E)=66.94 INV.(OUT)=63.53

**NOTE**  
 1. R.I. STD. 3.2.2 SHALL BE BUILT WITH 3 FOOT SUMP. THIS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF ITEM 702.0210 OR 702.0211.



ADDENDUM NO. 2



**REVISIONS**

NO.	DATE	BY
1	10/4/19	VHB

RHODE ISLAND  
 DEPARTMENT OF TRANSPORTATION

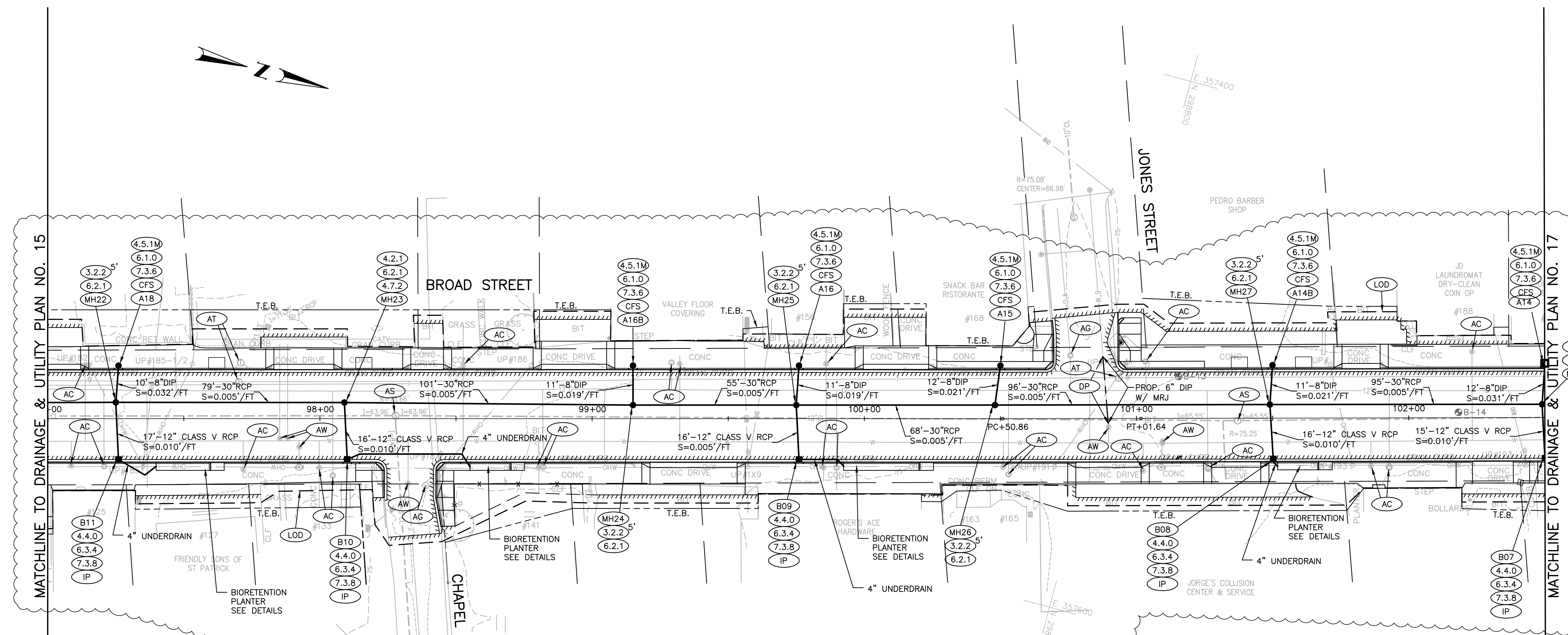
**BROAD STREET (ROUTE 114)  
 REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**DRAINAGE  UTILIT   
 PLAN NO. 1**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_





MATCHLINE TO DRAINAGE & UTILITY PLAN NO. 15

MATCHLINE TO DRAINAGE & UTILITY PLAN NO. 17

DRAINAGE STRUCTURE TABLE			
STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
A14	STA. 102+50, -20' LT.	RIM=76.46	INV.(OUT)=74.23
A14B	STA. 101+50, -20' LT.	RIM=75.68	INV.(OUT)=73.40
A15	STA. 100+50, -20' LT.	RIM=75.21	INV.(OUT)=72.85
A16	STA. 99+76, -20' LT.	RIM=74.90	INV.(OUT)=72.50
A16B	STA. 99+15, -20' LT.	RIM=74.49	INV.(OUT)=72.20
A18	STA. 97+26, -20' LT.	RIM=73.53	INV.(OUT)=71.15
B07	STA. 102+50, 15' RT.	RIM=75.99	INV.(OUT)=72.50
B08	STA. 101+50, 15' RT.	RIM=75.12	INV.(OUT)=71.56
B09	STA. 99+76, 15' RT.	RIM=74.33	INV.(OUT)=70.90
B10	STA. 98+10, 15' RT.	RIM=73.42	INV.(OUT)=70.00

DRAINAGE STRUCTURE TABLE			
STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
B11	STA. 97+26, 15' RT.	RIM=72.96	INV.(OUT)=69.56
MH22	STA. 97+25, -6' LT.	RIM=73.23	INV.(IN-W)=70.82 INV.(IN-N)=66.82 INV.(IN-E)=69.39 INV.(OUT)=66.72
MH23	STA. 98+09, -6' LT.	RIM=73.70	INV.(IN-N)=67.32 INV.(IN-E)=69.83 INV.(OUT)=67.22
MH24	STA. 99+15, -5' LT.	RIM=74.30	INV.(IN-W)=71.98 INV.(IN-N)=67.93 INV.(OUT)=67.83
MH25	STA. 99+75, -5' LT.	RIM=74.63	INV.(IN-W)=72.28 INV.(IN-N)=68.31 INV.(IN-E)=70.82 INV.(OUT)=68.21
MH26	STA. 100+48, -5' LT.	RIM=74.92	INV.(IN-W)=72.61 INV.(IN-N)=68.76 INV.(OUT)=68.66
MH27	STA. 101+49, -5' LT.	RIM=75.41	INV.(IN-W)=73.16 INV.(IN-N)=69.34 INV.(IN-E)=71.40 INV.(OUT)=69.24
MH28	STA. 102+49, -5' LT.	RIM=76.19	INV.(IN-W)=73.87 INV.(IN-N)=69.92 INV.(IN-E)=72.35 INV.(OUT)=69.82

**NOTE**  
 1. R.I. STD. 3.2.2 SHALL BE BUILT WITH 3 FOOT SUMP. THIS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF ITEM 702.0210 OR 702.0211.



REVISIONS		
NO.	DATE	BY
1	10/4/19	VHB

RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION

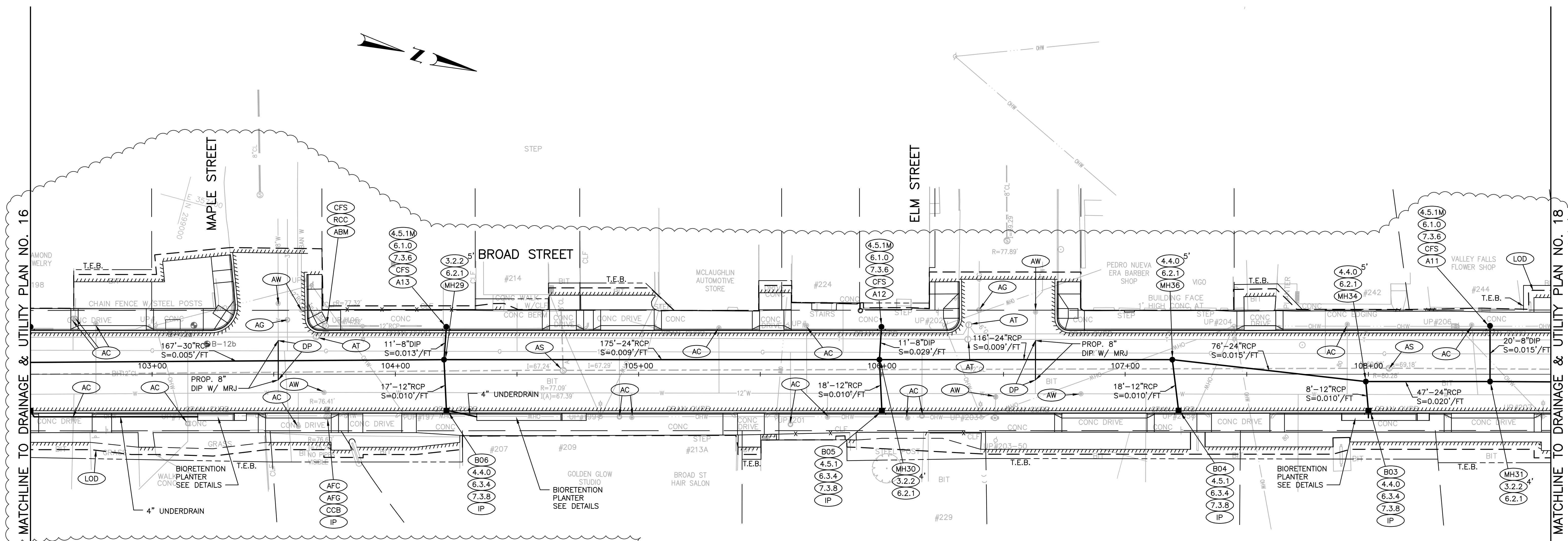
**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**DRAINAGE  UTILIT   
PLAN NO  1**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_





MATCHLINE TO DRAINAGE & UTILITY PLAN NO. 16

MATCHLINE TO DRAINAGE & UTILITY PLAN NO. 18

**DRAINAGE STRUCTURE TABLE**

STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
A11	STA. 108+50, -20' LT.	RIM=81.46	INV.(OUT)=79.00
A12	STA. 106+00, -20' LT.	RIM=78.40	INV.(OUT)=76.11
A13	STA. 104+21, -20' LT.	RIM=77.37	INV.(OUT)=74.83
B03	STA. 108+00, 15' RT.	RIM=79.86	INV.(OUT)=76.60
B04	STA. 107+22, 15' RT.	RIM=78.70	INV.(OUT)=75.00
B05	STA. 106+00, 15' RT.	RIM=77.83	INV.(OUT)=74.10
B06	STA. 104+21, 15' RT.	RIM=76.91	INV.(OUT)=73.20
MH29	STA. 104+20, -6' LT.	RIM=77.18	INV.(IN-E)=73.03 INV.(IN-N)=70.86 INV.(IN-W)=74.69 INV.(OUT)=70.76
MH30	STA. 105+99, -6' LT.	RIM=78.11	INV.(IN-E)=73.92 INV.(IN-N)=72.54 INV.(IN-W)=75.78 INV.(OUT)=72.44
MH31	STA. 108+50, 3' RT.	RIM=81.23	INV.(IN-W)=78.70 INV.(IN-N)=75.96 INV.(OUT)=75.86

**DRAINAGE STRUCTURE TABLE**

STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
MH34	STA. 107+99, 3' RT.	RIM=80.18	INV.(IN-N)=74.92 INV.(IN-E)=76.52 INV.(OUT)=74.82
MH36	STA. 107+19, -6' LT.	RIM=78.95	INV.(IN-N)=73.68 INV.(IN-E)=74.82 INV.(OUT)=73.58

**NOTE**

1. R.I. STD. 3.2.2 SHALL BE BUILT WITH 3 FOOT SUMP. THIS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF ITEM 702.0210 OR 702.0211.



**REVISIONS**

NO.	DATE	BY
1	10/4/19	VHB

RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION

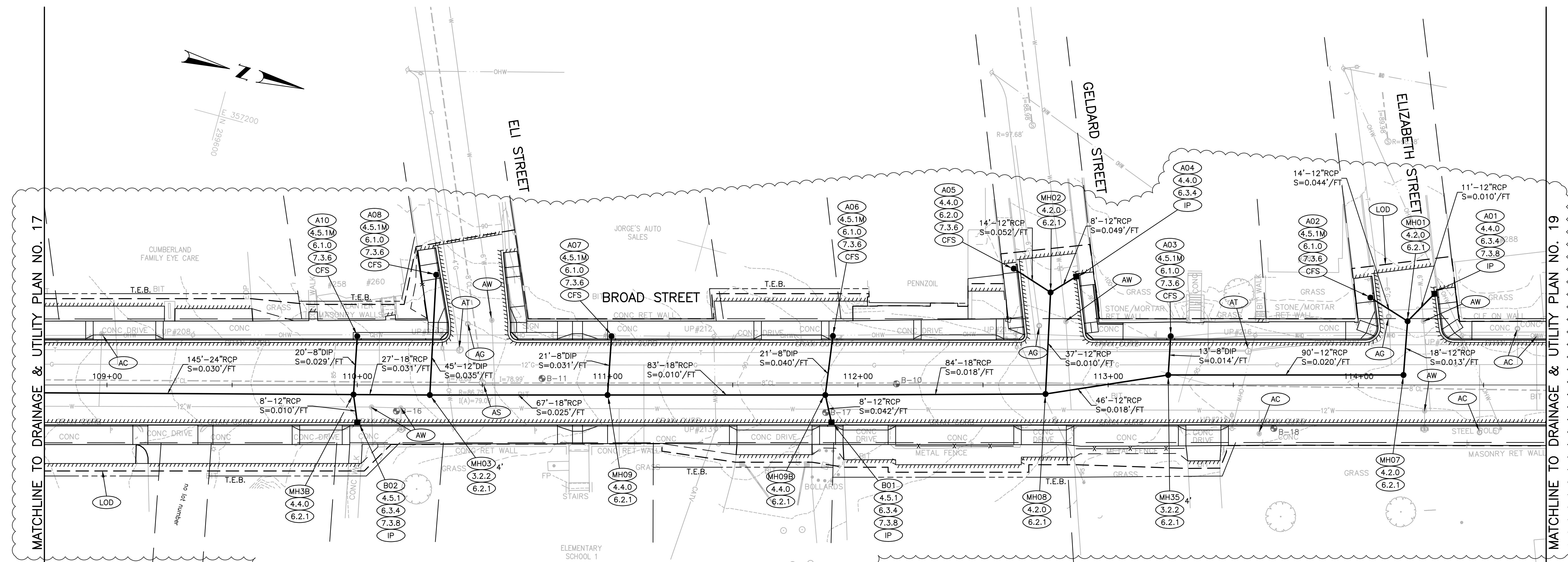
**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**DRAINAGE  UTILIT   
PLAN NO  1**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

1 Cedar Street  
Suite 400  
Providence, RI 02903  
401.272.8100



**DRAINAGE STRUCTURE TABLE**

STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
B02	STA. 110+00, 15' RT.	RIM=85.19	INV.(OUT)=81.30
MH01	STA. 114+20, -25' LT.	RIM=96.21	INV.(IN-S)=90.40 INV.(IN-NW)=89.60 INV.(OUT)=89.50
MH02	STA. 112+77, -37' LT.	RIM=94.50	INV.(IN-NW)=90.00 INV.(IN-S)=89.00 INV.(OUT)=86.41
MH03	STA. 110+29, 4' RT.	RIM=86.43	INV.(IN-W)=83.58 INV.(IN-N)=81.72 INV.(OUT)=81.62
MH3B	STA. 109+99, 4' RT.	RIM=85.47	INV.(IN-N)=80.81 INV.(IN-W)=82.52 INV.(IN-NE)=81.22 INV.(OUT)=80.31
MH07	STA. 114+18, -4' LT.	RIM=96.14	INV.(IN-W)=89.27 INV.(OUT)=89.17
MH08	STA. 112+75, 4' RT.	RIM=93.73	INV.(IN-W)=86.04 INV.(IN-NW)=86.44 INV.(OUT)=85.94
MH09	STA. 111+00, 4' RT.	RIM=88.67	INV.(IN-N)=83.50 INV.(IN-W)=85.69 INV.(OUT)=83.40
MH09B	STA. 111+87, 4' RT.	RIM=91.23	INV.(IN-W)=87.70 INV.(IN-N)=84.43 INV.(IN-NE)=87.00 INV.(OUT)=84.33
MH35	STA. 113+24, -4' LT.	RIM=95.03	INV.(IN-N)=87.37 INV.(IN-W)=92.75 INV.(OUT)=87.27

**DRAINAGE STRUCTURE TABLE**

STR. #	STATION & OFFSET	RIM ELEVATION	INVERTS
A01	STA. 114+30, -36' LT.	RIM=96.44	INV.(OUT)=89.71
A02	STA. 114+05, -35' LT.	RIM=97.00	INV.(OUT)=91.00
A03	STA. 113+25, -20' LT.	RIM=95.29	INV.(OUT)=92.93
A04	STA. 112+87, -43' LT.	RIM=94.74	INV.(OUT)=90.40
A05	STA. 112+62, -46' LT.	RIM=94.96	INV.(OUT)=89.70
A06	STA. 111+90, -20' LT.	RIM=91.56	INV.(OUT)=88.54
A07	STA. 111+02, -19' LT.	RIM=88.95	INV.(OUT)=86.32
A08	STA. 110+32, -44' LT.	RIM=88.50	INV.(OUT)=85.15
A10	STA. 110+00, -19' LT.	RIM=85.75	INV.(OUT)=83.12
B01	STA. 111+89, 15' RT.	RIM=90.98	INV.(OUT)=87.35

**NOTE**  
 1. R.I. STD. 3.2.2 SHALL BE BUILT WITH 3 FOOT SUMP. THIS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF ITEM 702.0210 OR 702.0211.



**REVISIONS**

NO.	DATE	BY
1	10/4/19	VHB

RHODE ISLAND  
 DEPARTMENT OF TRANSPORTATION

**BROAD STREET (ROUTE 114)  
 REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**DRAINAGE  UTILIT   
 PLAN NO.  1**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_



**CURVE TABLE**

CURVE	RADIUS	LENGTH	TANGENT	DELTA
C1	35.00	12.21'	6.17'	019°59'46"
C2	15.00	31.91'	27.00'	121°53'53"
C3	30.00	16.29'	8.35'	031°07'03"
C4	2.00	3.81'	2.81'	109°04'32"
C5	2.00	2.64'	1.55'	075°35'20"
C6	2.00	2.58'	1.50'	073°49'43"
C7	1.00	1.78'	1.23'	101°57'27"
C8	2.00	3.60'	2.52'	103°10'28"
C9	1.00	1.86'	1.34'	106°31'33"
C10	35.00	67.13'	49.88'	109°53'30"
C11	588.00	91.97'	46.08'	008°57'41"
C12	5.00	15.71'	INFINITY	180°00'00"
C13	50.00	15.46'	7.79'	017°43'00"
C14	10.00	15.69'	9.98'	089°53'17"
C15	250.00	71.32'	35.90'	016°20'44"
C16	698.00	15.09'	7.55'	001°14'20"
C17	2.00	5.06'	6.34'	144°59'49"
C18	4.00	2.36'	1.21'	033°45'51"
C19	721.00	11.58'	5.79'	000°55'13"
C24	25.00	14.49'	7.46'	033°13'02"

**CURVE TABLE**

CURVE	RADIUS	LENGTH	TANGENT	DELTA
C25	25.00	21.48'	11.45'	049°13'38"
C26	721.00	32.58'	16.30'	002°35'22"
C27	25.00	16.56'	8.60'	037°56'48"
C28	2.00	4.92'	5.64'	140°56'24"
C29	730.00	21.28'	10.64'	001°40'12"
C30	730.00	37.73'	18.87'	002°57'40"
C31	735.00	74.21'	37.14'	005°47'05"
C32	5.00	16.02'	160.97'	183°33'30"
C33	2.00	3.16'	2.02'	090°34'32"
C34	2.00	3.00'	1.86'	085°54'07"
C35	2.00	3.16'	2.02'	090°34'32"
C36	699.00	97.92'	49.04'	008°01'34"
C37	2.00	6.20'	99.52'	177°41'51"
C38	612.00	97.08'	48.64'	009°05'18"
C39	2.00	3.24'	2.10'	092°47'21"
C40	25.00	48.19'	36.00'	110°26'51"

**BASELINE CURVE TABLE**

CURVE	RADIUS	LENGTH	TANGENT	DELTA
B-1	180.00	160.08	85.77	050°57'20"
B-26	700.00	457.01	236.98	037°24'24"

**TRAVERSE COORDINATES**

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
5	289927.4618	358659.3592	77.71	TRV /DH
217	290223.1433	359043.3182	81.78	TRV /DHSET
237	290304.1039	359354.5967	74.76	TRV /DHSET

**CONSTRUCTION BASELINE COORDINATE DATA**

CURVE	DESCRIPTION	NORTHING	EASTING
B-1	PC 10+49.73	290045.7038	359103.4010
	PI	290094.7609	359033.0454
	PT 12+09.81	290180.3054	359026.8275
B-26	CC	290193.3544	359206.3539
	PC 201+92.99	290130.4367	358959.8862
	PI	290270.6266	359150.9557
B-26	PT 206+50.00	290265.9168	359387.8914
	CC	289566.0550	359373.9796

**REVISIONS**

NO.	DATE	BY
1	10/4/19	VHB

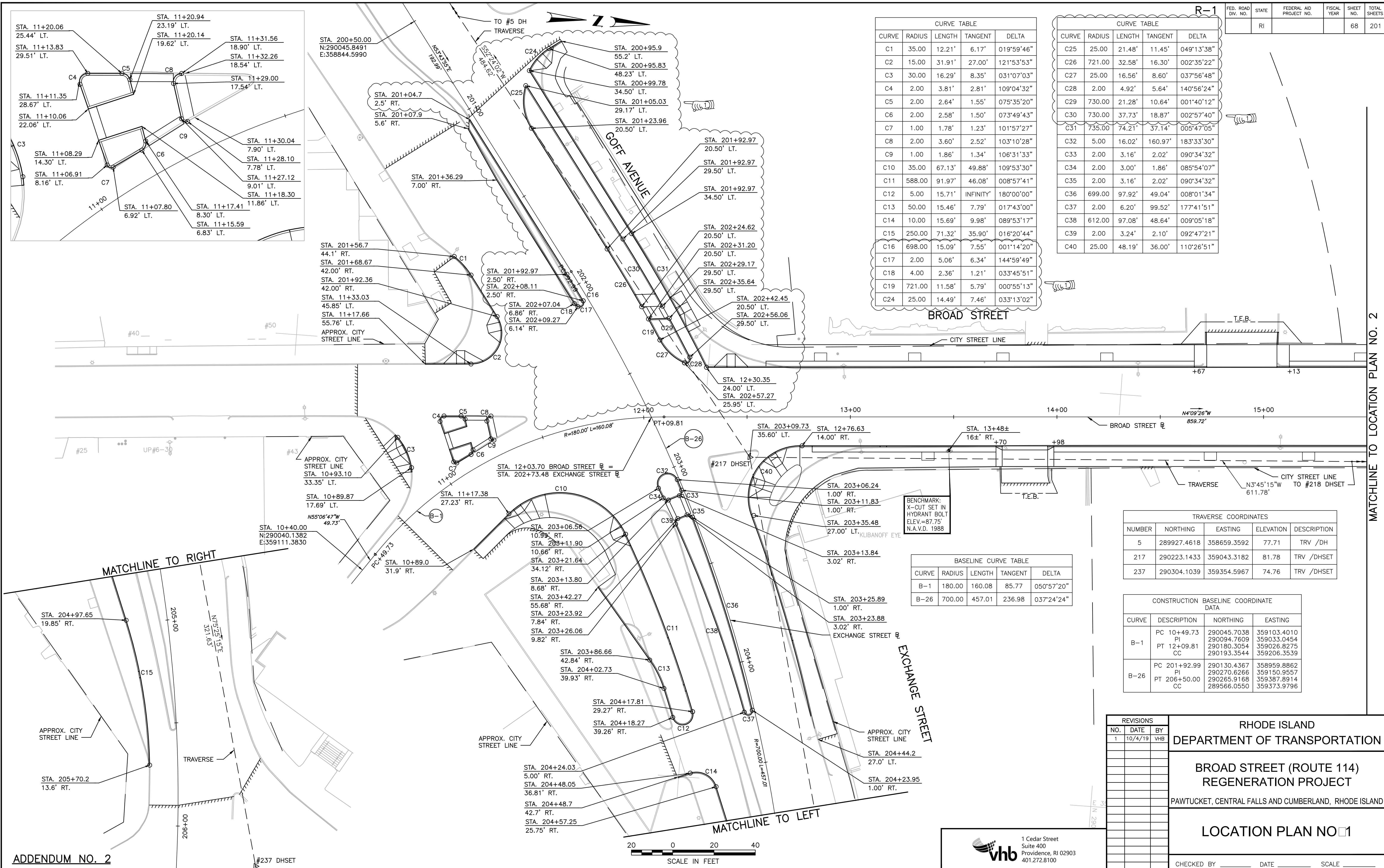
**RHODE ISLAND**  
 DEPARTMENT OF TRANSPORTATION

**BROAD STREET (ROUTE 114)**  
 REGENERATION PROJECT

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**LOCATION PLAN NO. 01**

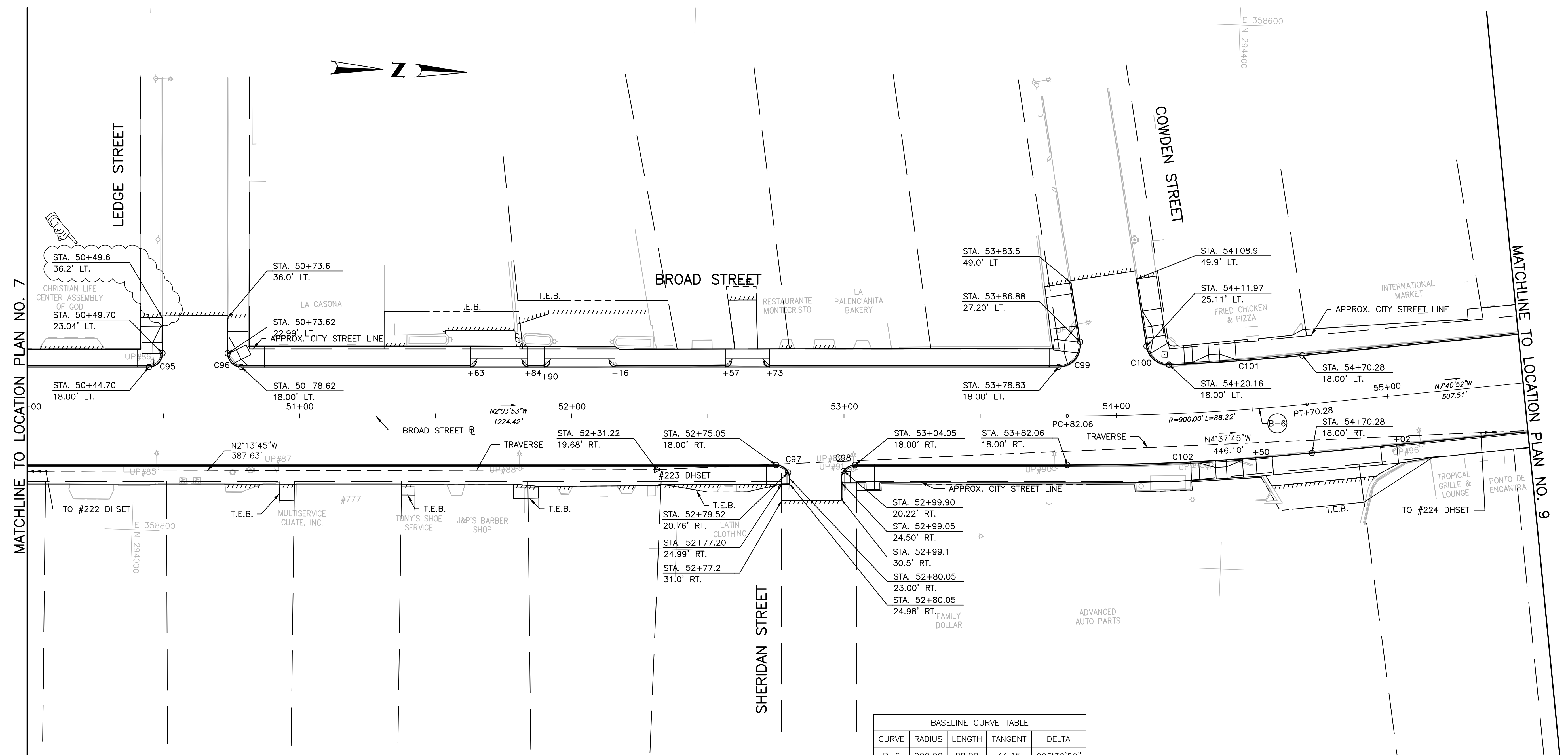
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ADDENDUM NO. 2



MATCHLINE TO LOCATION PLAN NO. 2



CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C95	5.00	7.89'	5.04'	090°27'58"
C96	5.00	7.84'	4.99'	089°49'55"
C97	5.00	5.53'	3.09'	063°23'07"
C98	5.00	4.91'	2.67'	056°15'04"
C99	8.00	13.79'	9.32'	098°44'19"
C100	8.00	11.71'	7.19'	083°53'09"
C101	882.00	49.12'	24.57'	003°11'27"
C102	918.00	89.99'	45.03'	005°36'59"

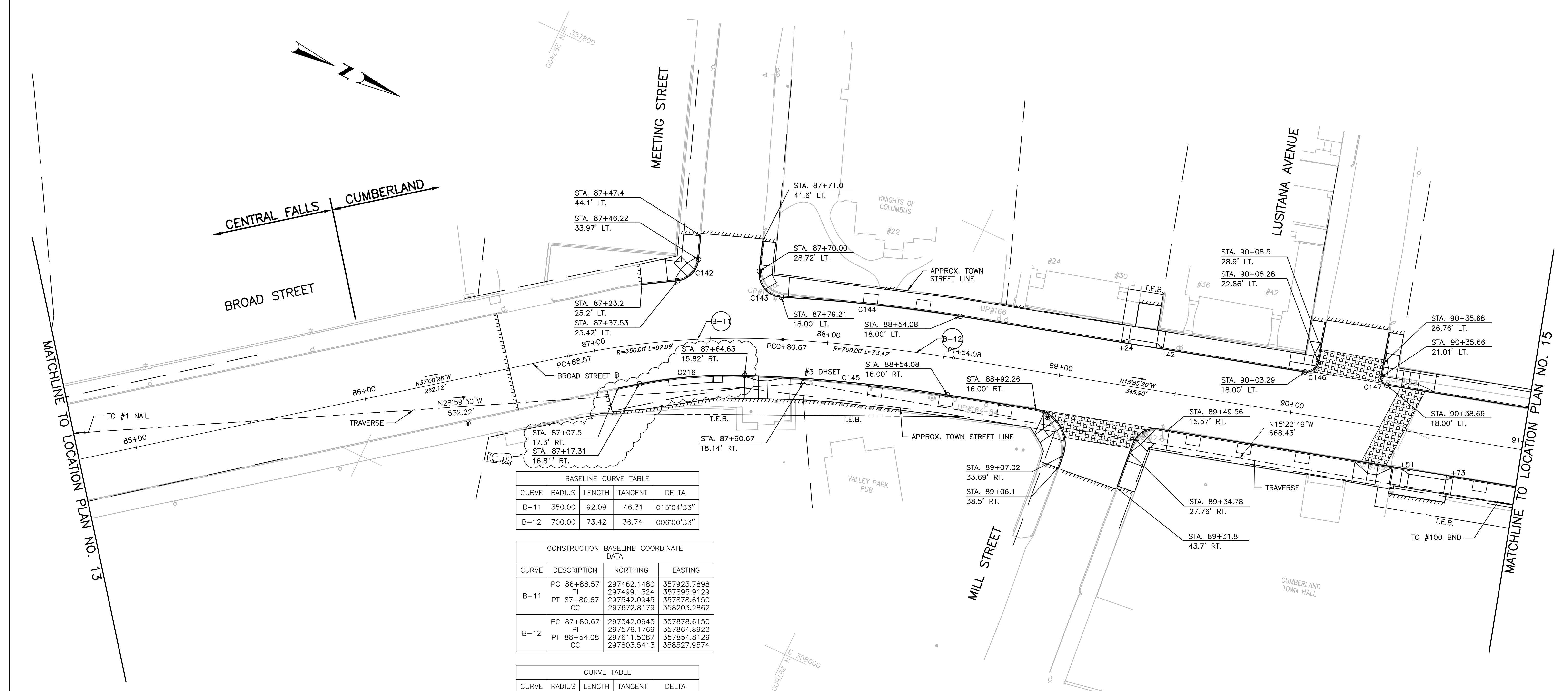
BASELINE CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
B-6	900.00	88.22	44.15	005°36'59"

CONSTRUCTION BASELINE COORDINATE DATA			
CURVE	DESCRIPTION	NORTHING	EASTING
B-6	PC 53+82.06	294341.8116	358745.8637
	PI	294385.9286	358744.2731
	PT 54+70.28	294429.6782	358738.3726
	CC	294309.3841	357846.4481

TRAVERSE COORDINATES				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
223	294191.7767	358770.9667	109.98	TRV /DHSET



REVISIONS			RHODE ISLAND DEPARTMENT OF TRANSPORTATION	
NO.	DATE	BY		
1	10/4/19	VHB	BROAD STREET (ROUTE 114) REGENERATION PROJECT PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND	
			LOCATION PLAN NO. 00	
			CHECKED BY _____ DATE _____ SCALE _____	



CURVE	RADIUS	LENGTH	TANGENT	DELTA
B-11	350.00	92.09	46.31	015°04'33"
B-12	700.00	73.42	36.74	006°00'33"

CURVE	DESCRIPTION	NORTHING	EASTING
B-11	PC 86+88.57	297462.1480	357923.7898
	PI	297499.1324	357895.9129
	PT 87+80.67	297542.0945	357878.6150
	CC	297672.8179	358203.2862
B-12	PC 87+80.67	297542.0945	357878.6150
	PI	297576.1769	357864.8922
	PT 88+54.08	297611.5087	357854.8129
	CC	297803.5413	358527.9574

CURVE	RADIUS	LENGTH	TANGENT	DELTA
C142	10.00	13.79'	8.25'	079°01'22"
C143	10.00	16.28'	10.59'	093°15'34"
C144	718.00	76.83'	38.45'	006°07'52"
C145	684.00	87.05'	43.58'	007°17'29"
C146	5.00	7.71'	4.86'	088°23'51"
C147	3.00	4.73'	3.01'	090°14'29"
C216	200.00	45.18'	22.69'	012°56'40"

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
3	297557.9350	357891.8641	65.36	TRV DHSET



REVISIONS			RHODE ISLAND DEPARTMENT OF TRANSPORTATION	
NO.	DATE	BY		
1	10/4/19	VHB	BROAD STREET (ROUTE 114) REGENERATION PROJECT PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND	
			LOCATION PLAN NO. 14	
			CHECKED BY _____ DATE _____ SCALE _____	

1 Cedar Street  
 Suite 400  
 Providence, RI 02903  
 401.272.8100





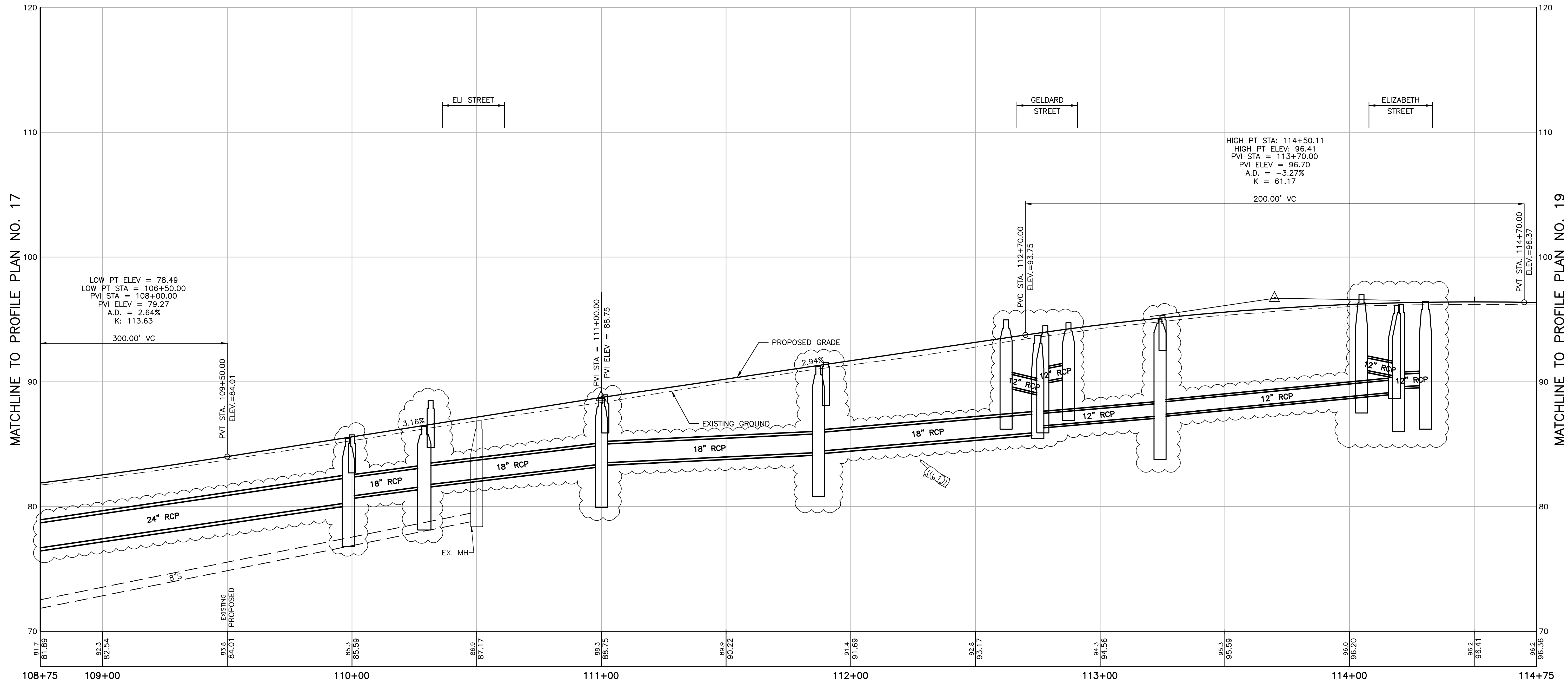




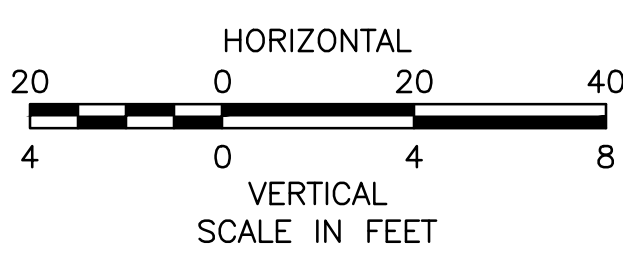




FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			112	201



108+75    109+00    110+00    111+00    112+00    113+00    114+00    114+75



ADDENDUM NO. 2

**vhb**  
 1 Cedar Street  
 Suite 400  
 Providence, RI 02903  
 401.272.8100

REVISIONS		
NO.	DATE	BY
1	10/4/19	VHB

**RHODE ISLAND**  
**DEPARTMENT OF TRANSPORTATION**

**BROAD STREET (ROUTE 114)**  
**REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**PROFILE NO. 01**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

























































ITEM NO.	ITEM CODE	ITEM DESCRIPTION
1	T05.0100	Precast Type "A" Handhole Std. 18.2.0
1b	T05.9902	Break Into Existing Manhole
2	T12.9150	Meter Socket W/ Manual Bypass
3	T12.0018	Actuated Controller TS-2, Type 1 w/8 Phase Assembly Ground Mounted Including Foundation and Cabinet Std. 19.1.0
3h	T12.9904	GPS Time Synchronization Unit
3g	T12.9905	Intersection Wide 360 Degree Video Detection System
4b	T11.9903	20 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0
4o	T11.9917	Dual Mast Arm (30X50) Galvanized Steel Traffic Signal Post and Foundation Std. 19.2.0
4k	T11.2008	Traffic Signal Standard, 8 Foot, Std 19.4.0 Aluminum Pedestal Pole and Foundation
5d	T14.3513	1 Way 3 Section Mast Arm Mounted Signal Head 12 Inch
5g	T14.3613	1 Way 3 Section Bracket Mounted Signal Head 12 Inch
5j	T14.9901	1 Way Pedestal Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
6d	T06.2020	2 Inch Rigid Steel Conduit - Overhead
6g	T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement
6h	T06.3030	3 Inch Rigid Steel Conduit - Under Existing Pavement
6i	T06.3040	4 Inch Rigid Steel Conduit - Under Existing Pavement
6r	T06.5300	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6u	T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
7a	T04.5303	14 AWG 3 Conductor Cable
7b	T04.5305	14 AWG 5 Conductor Cable
7g	T04.9903	Optical Detector Cable
7m	T04.5001	6 AWG Single Conductor Cable 600v Insulation
7q	T04.9904	Category 6 Ethernet Cable
9b	T13.9903	Optical Detector - Single Channel, One-Way
9d	T13.9904	Multimode Phase Selector and Chassis
9e	T13.9905	Optical Detector Confirmation Beacon
10	T13.8210	Accessible Pedestrian Detector - Pushbutton with Sign
11	945.0100	Remove and Dispose Traffic Signal Equipment
12	945.0200	Remove and Salvage Traffic Signal Equipment
DHH	201.0423	Remove and Dispose Handhole
RDC	201.0617	Remove and Dispose Conduit - All Sizes

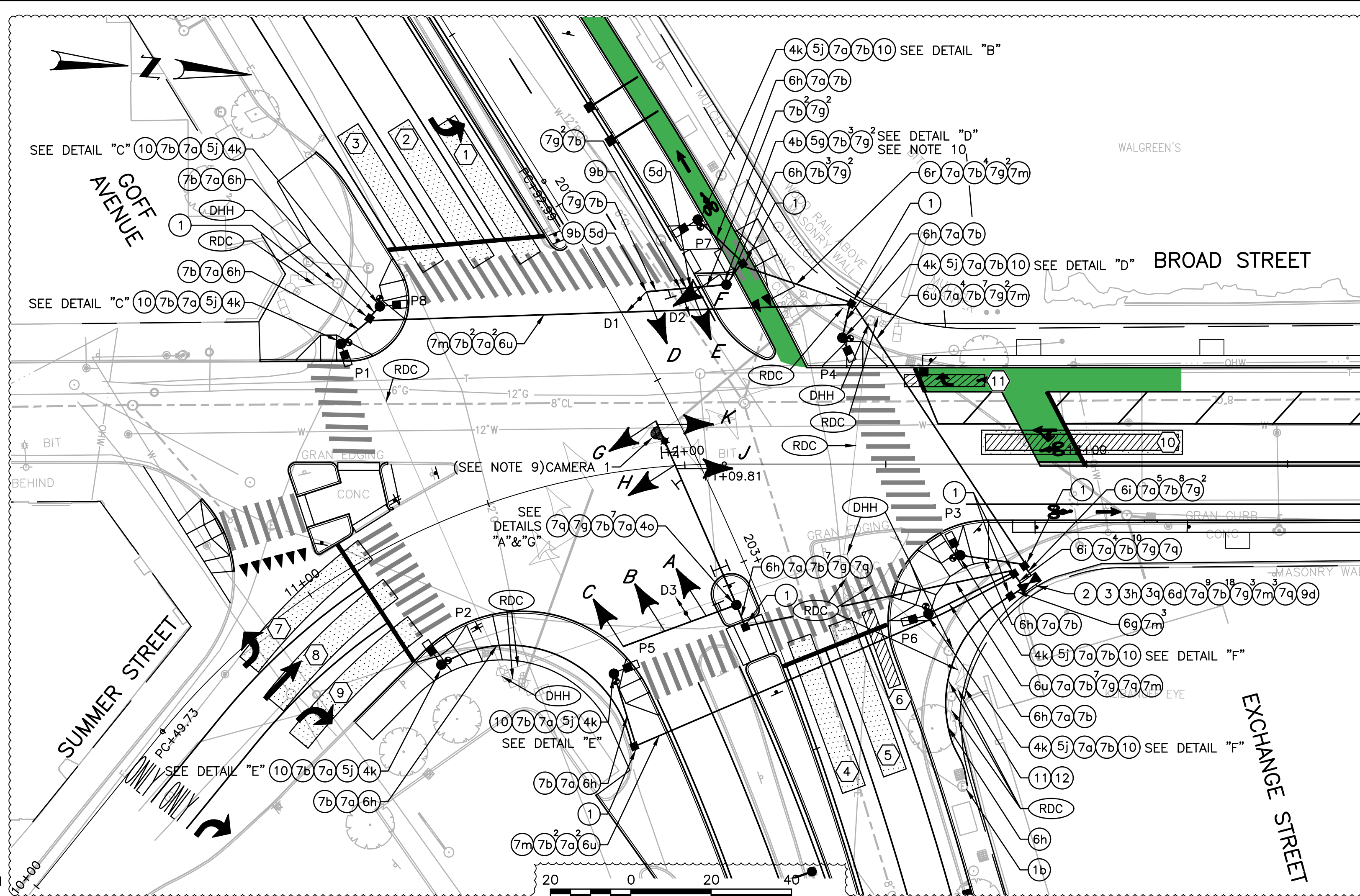
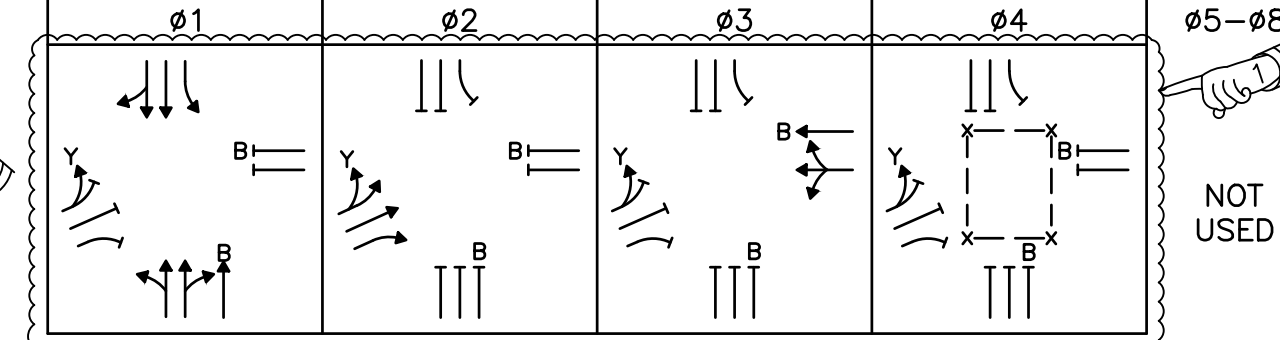
**TRAFFIC SIGNAL CONSTRUCTION NOTES:**

- THE ITEM "REMOVE AND DISPOSE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
MISCELLANEOUS TRAFFIC SIGNAL CABLE AND WIRING SHALL BE REMOVED AND LEGALLY DISPOSED OF IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- THE ITEM "REMOVE AND SALVAGE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
(1) LOCAL CONTROLLER, GROUND MOUNTED CABINET AND ASSOCIATED EQUIPMENT, (2) TRAFFIC SIGNAL MAST ARM POLES AND FOUNDATIONS, (10) TRAFFIC SIGNAL HEADS, (3) PEDESTAL POLES, (8) PEDESTRIAN SIGNAL HEADS, (4) PEDESTRIAN PUSHBUTTONS SHALL BE REMOVED AND SALVAGED IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- REMOVAL OF EXISTING HANDHOLES AND CONDUIT ASSOCIATED WITH THE TRAFFIC SIGNAL SHALL BE PAID FOR UNDER THE APPROPRIATE INDIVIDUAL AND SEPARATE PAY ITEMS.
- FINISHED GRADE OF PROPOSED TRAFFIC SIGNAL POLE FOUNDATIONS SHALL BE FLUSH WITH THE EXISTING OR PROPOSED FINISHED GRADE OF THE ADJACENT SIDEWALK. WHERE POLE FOUNDATIONS ARE PROPOSED WITHIN THE LIMITS OF WHEELCHAIR RAMPS, THE TOP OF FOUNDATION GRADE SHALL BE SET TO ALLOW THE POLE BASEPLATE TO BE INSTALLED ABOVE FINISHED WHEELCHAIR RAMP GRADE.

**SEQUENCE AND TIMING DIAGRAM**

APPROACH	DIRECTION	HOUSING	SEQUENCE AND TIMING								FLASHING OPERATION	
			ø1	ø2	ø3	ø4						
MINIMUM INTERVAL			6	6	6							
VEHICLE EXTENSION			2.6	2.6	2.6							
MAXIMUM 1			25	25	25							
MAXIMUM 2			25	25	25							
YELLOW CLEARANCE			3.5	3.5	3.5					3		
RED CLEARANCE				3.5								
PED. WALK/CHANGE										7/19		
GOFF AVENUE	EB	A,B,C	G	Y	R	R	R	R	R	R	R	FY
EXCHANGE STREET	WB	D,E	G	Y	R	R	R	R	R	R	R	FY
SUMMER STREET	NB	F,G,H	R	R	R	G	Y	R	R	R	R	FR
BROAD STREET	SB	J,K	R	R	R	R	R	G	Y	R	R	FR
PEDESTRIAN X-ING	E-W	P1-P4	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW
PEDESTRIAN X-ING	N-S	P5-P8	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW
DETECTOR			NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK						
RECALL			SOFT	OFF	OFF	OFF						

- SEQUENCE AND TIMING NOTES:**
- FLASHING OPERATION PER M.U.T.C.D.
  - MAXIMUM 1 = NORMAL OPERATION
  - MAXIMUM 2 = NOT USED
  - PED. W/FDW UPON PUSHBUTTON ACTUATION ONLY
  - B = BICYCLE
  - Y = YIELD



**TRAFFIC SIGNAL CONSTRUCTION NOTES (CONT.):**

- THE EXISTING CONDUIT NETWORK SHOWN ON THIS PLAN IS BASED ON ASSUMED LOCATIONS AND SIZES. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDUIT LOCATION AND SIZE FOR ACCURACY AND ADEQUACY PRIOR TO PERFORMING THE WORK.
- THE CONTRACTOR SHALL INSTALL THE SIGNAL CABINET ON A 12" RISER EXTENSION BASE. THE COST OF THE EXTENSION BASE SHALL BE CONSIDERED INCIDENTAL TO ITEM CODE T12.0018.
- THE CONTRACTOR SHALL INSTALL AN EXTENSION BRACKET FOR OPTICAL DETECTOR "D1" TO PROVIDE A CLEAR LINE OF SIGHT OVER SIGNAL HEAD "D."
- SEE STANDARD NOTES PLAN AND JOB SPECIFIC PLAN SYMBOLS, LEGEND & NOTES PLAN FOR ADDITIONAL INFORMATION.
- CAMERA 1 SHALL BE INCLUDED IN THE COST OF ITEM CODE T12.9905 INTERSECTION WIDE 360 DEGREE VIDEO DETECTION SYSTEM.
- SIGNAL HEAD "F" SHALL BE MOUNTED ON THE WESTERN SIDE OF THE MAST ARM POLE AS SHOWN ON THE PLAN.
- SEE TRAFFIC SIGNAL DETAILS NO. 1 FOR ADDITIONAL DETAILS.

**VIDEO DETECTOR DATA**

DETECTOR ZONE NO.	CAMERA NUMBER	APPROX. SIZE DET. ZONE	DELAY (SEC)	CALL PHASE	REMARKS
1	1	6'x40'	3	ø1	PROPOSED
2	1	6'x40'	3	ø1	PROPOSED
3	1	6'x40'	3	ø1	PROPOSED
4	1	6'x40'	3	ø1	PROPOSED
5	1	6'x40'	3	ø1	PROPOSED
6	1	4'x20'	3	ø1	PROPOSED BICYCLE
7	1	6'x40'	3	ø2	PROPOSED
8	1	6'x40'	3	ø2	PROPOSED
9	1	6'x40'	3	ø2	PROPOSED
10	1	6'x50'	3	ø3	PROPOSED
11	1	4'x20'	3	ø3	PROPOSED BICYCLE

- NOTES:**
- DETECTOR ZONE 10 SHALL DETECT BOTH VEHICLES AND BICYCLES.

**COORDINATION DATA**  
(ALL ENTRIES IN SECONDS)

	PLAN 1	PLAN 2	PLAN 3
CYCLE LENGTH	75	90	90
OFFSET	12	78	78
SPLIT ø1	21	29	29
SPLIT ø2	21	25	25
SPLIT ø3	22	25	25
SPLIT ø4	11	11	11
COORDINATED PHASE	ø1	ø1	ø1
PLAN 1 - MONDAY-FRIDAY 7:00AM-10:00AM			
PLAN 2 - MONDAY-FRIDAY 10:00AM-2:00PM			
SATURDAY-SUNDAY 9:00AM-6:00PM			
PLAN 3 - MONDAY-FRIDAY 2:00PM-6:00PM			
FREE - ALL OTHER TIME PERIODS			

- NOTES:**
- ø1 "CALL NON ACTUATED" DURING COORDINATION.
  - OFFSET: BEG OF ø1 GREEN.
  - PLAN FORCE OFF/FLOATING FORCE OFF SHALL BE IN EFFECT.
  - SPLIT TIMES EQUAL GREEN PLUS CLEARANCES.
  - INHIBIT MAX. TERMINATION SHALL BE IN EFFECT DURING COORDINATION.
  - INTERSECTION TO DROP OUT OF COORDINATION WHILE SERVICING ø4 PEDESTRIAN.

**vhb**  
1 Cedar Street  
Suite 400  
Providence, RI 02903  
401.272.8100

**SIGNAL HEAD SPACING**

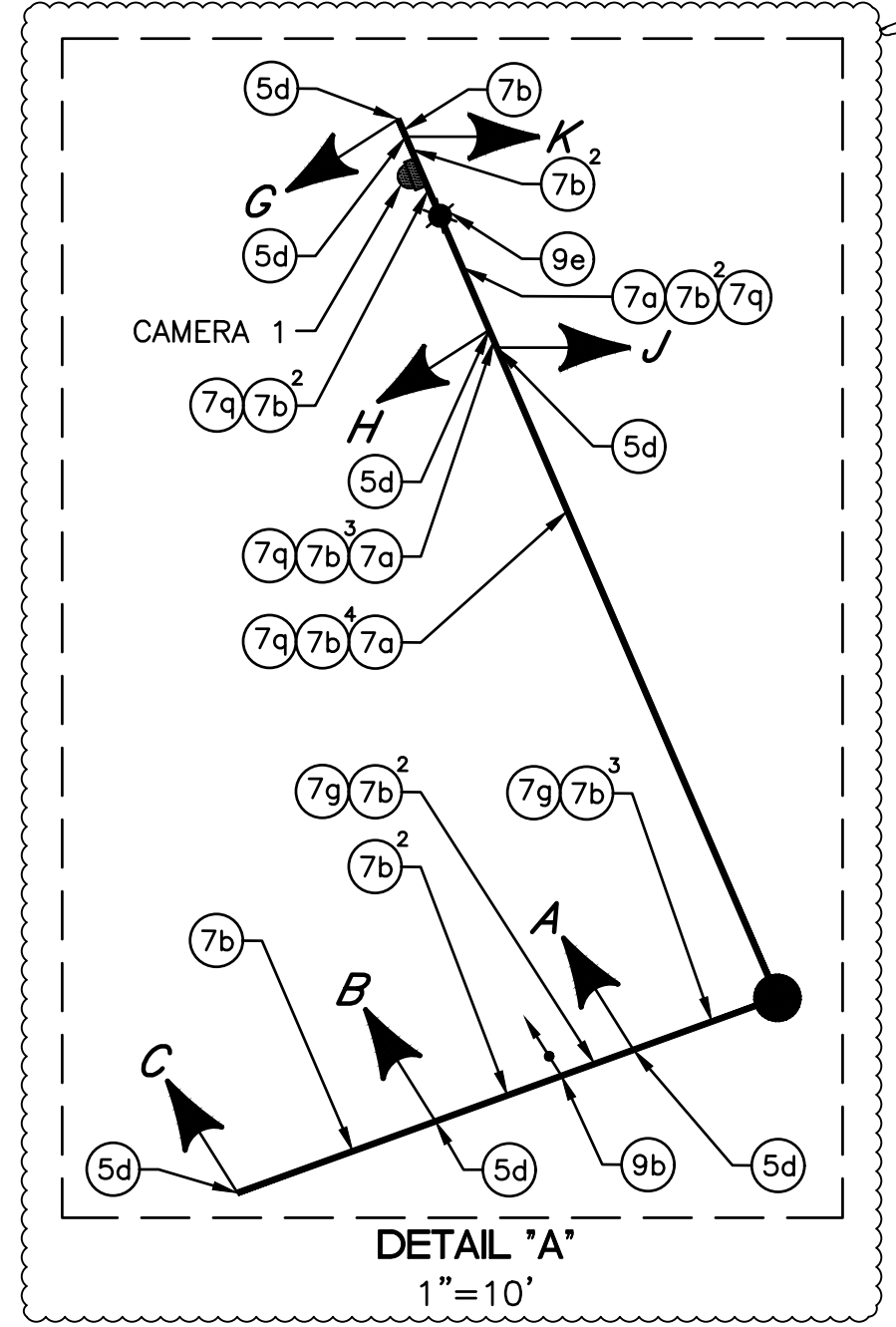
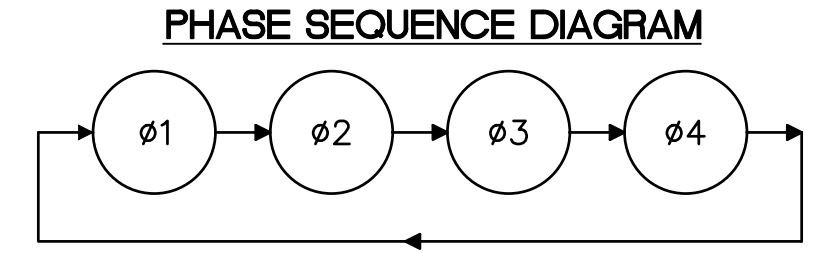
SIGNAL HEAD	DISTANCE FROM CENTER OF MAST ARM POLE
A	8'
B	19'
C	30'
D	20'
E	9'
G	50'
H	38'
J	37'
K	49'

**SIGNAL HEAD DATA**

A,B,C,D,E,F,G,H,J,K	P1-P8
(R) (Y) (G)	(Ped) (B)

ALL 12" LENS

- NOTES:**
- ALL TRAFFIC SIGNAL HEADS ARE PROPOSED.
  - ALL PEDESTRIAN SIGNAL HEADS ARE PROPOSED.
  - ALL PROPOSED RED, YELLOW, AND GREEN SIGNAL DISPLAYS SHALL BE EQUIPPED WITH LED MODULES.
  - 5" BACKPLATES WITH A 3" REFLECTIVE STRIP (YELLOW, TYPE IIB ADHESIVE SHEETING) SHALL BE PROVIDED ON ALL TRAFFIC SIGNAL HEADS.



**REVISIONS**

NO.	DATE	BY
1	10/4/19	VHB

**RHODE ISLAND DEPARTMENT OF TRANSPORTATION**

**BROAD STREET (ROUTE 114) REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**TRAFFIC SIGNAL PLAN NO. 1**  
BROAD STREET AT EXCHANGE STREET/GOFF AVENUE

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

0004D\_V1\_186\_TSIGNAL001\_ADD02



ITEM NO.	ITEM CODE	ITEM DESCRIPTION
1	T05.0100	Precast Type "A" Handhole Std. 18.2.0
1a	T05.9901	Break Into Existing Handhole
2	T12.9150	Meter Socket W/ Manual Bypass
3	T12.0018	Actuated Controller TS-2, Type 1 w/8 Phase Assembly Ground Mounted Including Foundation and Cabinet Std. 19.1.0
3f	T12.9902	Video Detection System Hardware
3g	T12.9903	Advanced Video Detection System Hardware
3h	T12.9904	GPS Time Synchronization Unit

4h	T11.9913	50 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0
4k	T11.2008	Traffic Signal Standard, 8 Foot, Std 19.4.0 Aluminum Pedestal Pole and Foundation
4n	T11.9916	Traffic Signal Standard, 8 Foot, Std 19.4.0 Aluminum Pedestal Pole on Existing Foundation
5d	T14.3513	1 Way 3 Section Mast Arm Mounted Signal Head 12 Inch
5f	T14.3516	1 Way 4 Section Mast Arm Mounted Signal Head 12 Inch (w/ Dual Ind., Dual Row LED Arrow)
5j	T14.9901	1 Way Pedestal Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch

6d	T06.2020	2 Inch Rigid Steel Conduit - Overhead
6g	T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement
6h	T06.3030	3 Inch Rigid Steel Conduit - Under Existing Pavement
6i	T06.3040	4 Inch Rigid Steel Conduit - Under Existing Pavement
6r	T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6u	T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6v	T06.5440	4 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6w	T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead
7a	T04.5303	14 AWG 3 Conductor Cable
7b	T04.5305	14 AWG 5 Conductor Cable
7c	T04.5307	14 AWG 7 Conductor Cable
7h	T04.9901	Video Detection System Cable (As Specified by Manufacturer)
7i	T04.9902	Advanced Video Detection System Cable (As Specified by Manufacturer)
7m	T04.5001	6 AWG Single Conductor Cable 600v Insulation
9f	T13.9901	Video Detection System Camera
9g	T13.9902	Advanced Video Detection System Camera
10	T13.8210	Accessible Pedestrian Detector - Pushbutton with Sign
11	945.0100	Remove and Dispose Traffic Signal Equipment
12	945.0200	Remove and Salvage Traffic Signal Equipment
RDR	201.0413	Remove and Dispose Risers
DHH	201.0423	Remove and Dispose Handhole
RDC	201.0617	Remove and Dispose Conduit - All Sizes
BOL	903.9901	Concrete Filled Galvanized Steel Bollard

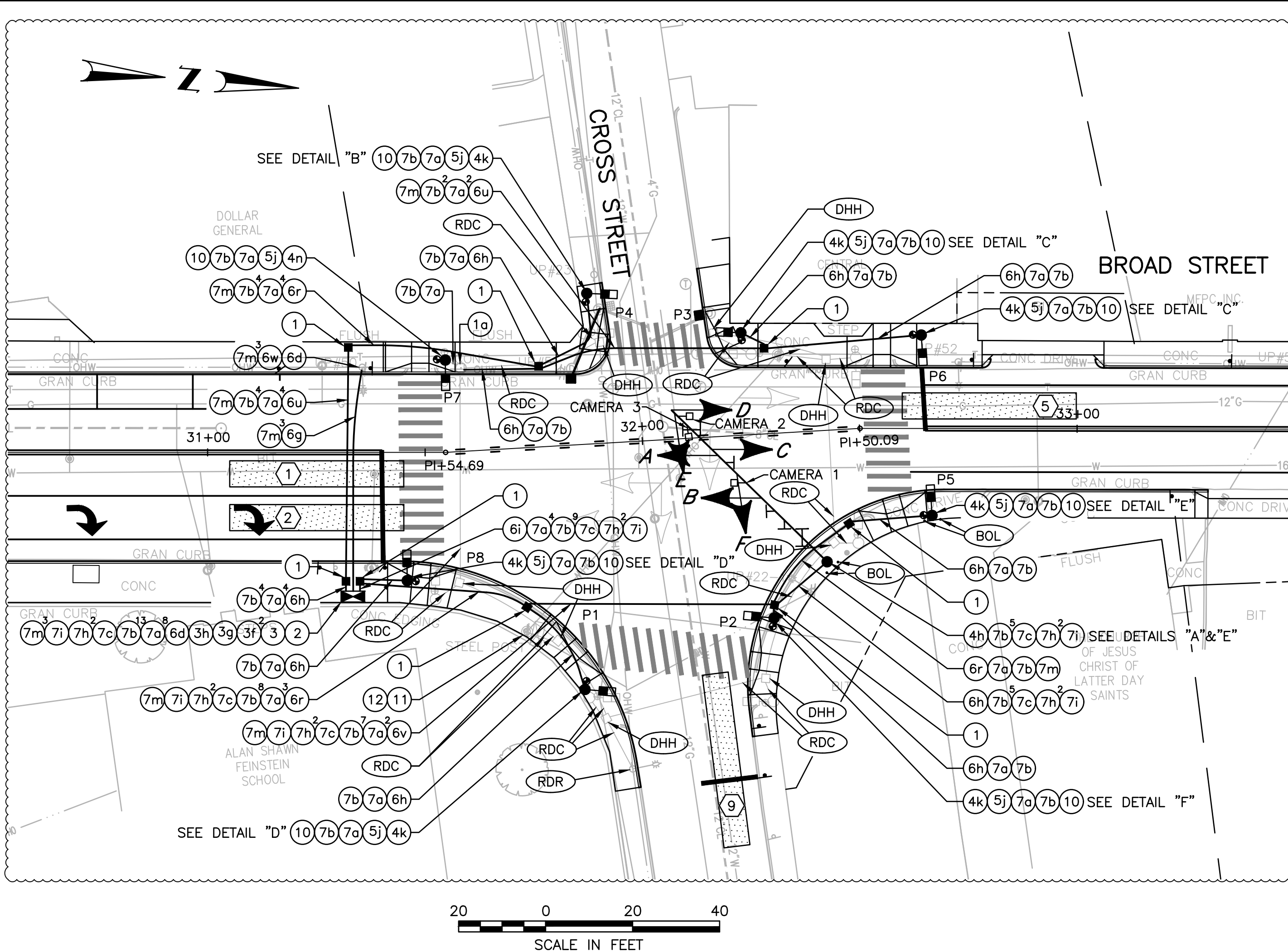
**TRAFFIC SIGNAL CONSTRUCTION NOTES:**

- THE ITEM "REMOVE AND DISPOSE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:
  - SPAN WIRE ASSEMBLY, MISCELLANEOUS TRAFFIC SIGNAL CABLE AND WIRING SHALL BE REMOVED AND LEGALLY DISPOSED OF IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- THE ITEM "REMOVE AND SALVAGE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:
  - LOCAL CONTROLLER, POLE MOUNTED CABINET AND ASSOCIATED EQUIPMENT, (2) SPAN POLES AND FOUNDATIONS, (6) TRAFFIC SIGNAL HEADS, (8) PEDESTAL POLES, (8) PEDESTRIAN SIGNAL HEADS, (8) PEDESTRIAN PUSHBUTTONS SHALL BE REMOVED AND SALVAGED IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- REMOVAL OF EXISTING HANDHOLES, CONDUIT, AND RISERS ASSOCIATED WITH THE TRAFFIC SIGNAL SHALL BE PAID FOR UNDER THE APPROPRIATE INDIVIDUAL AND SEPARATE PAY ITEMS.
- FINISHED GRADE OF PROPOSED TRAFFIC SIGNAL POLE FOUNDATIONS SHALL BE FLUSH WITH THE EXISTING OR PROPOSED FINISHED GRADE OF THE ADJACENT SIDEWALK. WHERE POLE FOUNDATIONS ARE PROPOSED WITHIN THE LIMITS OF WHEELCHAIR RAMPS, THE TOP OF FOUNDATION GRADE SHALL BE SET TO ALLOW THE POLE BASEPLATE TO BE INSTALLED ABOVE FINISHED WHEELCHAIR RAMP GRADE.

SEQUENCE AND TIMING DIAGRAM													
APPROACH	DIRECTION	HOUSING	ø1		ø2		ø3		ø4				FLASHING OPERATION
MINIMUM INTERVAL			6		10		6						
VEHICLE EXTENSION			2.6		2.6		2.6						
MAXIMUM 1			15		35		25						
MAXIMUM 2			15		35		25						
YELLOW CLEARANCE				3.5		3.5		3.5		3			
RED CLEARANCE				2.5		2.5		3.0					
PED. WALK/CHANGE									7/10				
BROAD STREET	NB	A,B	R	R	R	G	Y	R	R	R	R	R	FY
BROAD STREET	SB-LT	C	G	Y*	R*	G	Y	R	R	R	R	R	FY
BROAD STREET	SB	D	G	Y*	R*	G	Y	R	R	R	R	R	FY
CROSS STREET	WB	E,F	R	R	R	R	R	G	Y	R	R	R	FR
PEDESTRIAN X-ING	N-S	P1-P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
PEDESTRIAN X-ING	E-W	P5-P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
DETECTOR			NON-LOCK		NON-LOCK		NON-LOCK		NON-LOCK				
RECALL			OFF		SOFT		OFF		OFF				

- SEQUENCE AND TIMING NOTES:**
- FLASHING OPERATION PER M.U.T.C.D.
  - MAXIMUM 1 = NORMAL OPERATION
  - MAXIMUM 2 = NOT USED
  - PED. W/FDW UPON PUSHBUTTON ACTUATION ONLY
  - PERM = PERMISSIVE
  - \* = SHALL REMAIN G IF PHASE 2 IS NEXT

**ADDENDUM NO. 2**



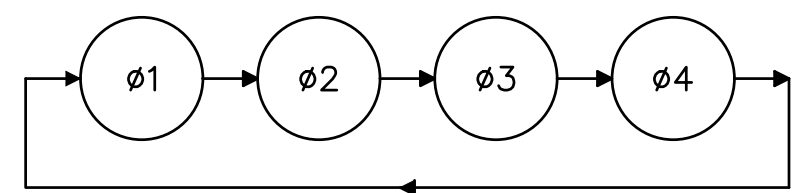
**TRAFFIC SIGNAL CONSTRUCTION NOTES (CONT.):**

- THE EXISTING CONDUIT NETWORK SHOWN ON THIS PLAN IS BASED ON ASSUMED LOCATIONS AND SIZES. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDUIT LOCATION AND SIZE FOR ACCURACY AND ADEQUACY PRIOR TO PERFORMING THE WORK.
- THE CONTRACTOR SHALL INSTALL THE SIGNAL CABINET ON A 12" RISER EXTENSION BASE. THE COST OF THE EXTENSION BASE SHALL BE CONSIDERED INCIDENTAL TO ITEM CODE T12.0018.
- SEE STANDARD NOTES PLAN AND JOB SPECIFIC PLAN SYMBOLS, LEGEND & NOTES PLAN FOR ADDITIONAL INFORMATION.
- SEE TRAFFIC SIGNAL DETAILS NO. 1 FOR ADDITIONAL DETAILS.

VIDEO DETECTOR DATA					
DETECTOR ZONE NO.	CAMERA NUMBER	APPROX. SIZE DET. ZONE	DELAY (SEC)	CALL PHASE	REMARKS
1	1	6'x40'	3	ø2	PROPOSED
2	1	6'x40'	3	ø2	PROPOSED
5	2	6'x40'	3	ø1/ø2	PROPOSED
9	3	6'x40'	3	ø3	PROPOSED

- NOTES:**
- DETECTOR ZONE 5 SHALL CALL/EXTEND PHASE 1 AND CALL/EXTEND PHASE 2 BY UTILIZING 2 CHANNELS (5 & 6) OF DETECTION. A 3 SECOND DELAY SHALL BE PROGRAMMED IN THE CONTROLLER FOR PHASE 1 AND PHASE 2.

**PHASE SEQUENCE DIAGRAM**



**COORDINATION DATA**

(ALL ENTRIES IN SECONDS)

	PLAN 1	PLAN 2	PLAN 2
CYCLE LENGTH	105	105	105
OFFSET	44	42	42
SPLIT ø1	14	14	14
SPLIT ø2	42	39	39
SPLIT ø3	29	32	32
SPLIT ø4	20	20	20
COORDINATED PHASE	ø2	ø2	ø2

- PLAN 1 - MONDAY-FRIDAY 7:00AM-10:00AM  
 PLAN 2 - MONDAY-FRIDAY 10:00AM-2:00PM  
 SATURDAY-SUNDAY 9:00AM-6:00PM  
 PLAN 3 - MONDAY-FRIDAY 2:00PM-6:00PM  
 FREE - ALL OTHER TIME PERIODS

- NOTES:**
- ø2 "CALL NON ACTUATED" DURING COORDINATION.
  - OFFSET: BEG OF ø2 GREEN.
  - PLAN FORCE OFF/FLOATING FORCE OFF SHALL BE IN EFFECT.
  - SPLIT TIMES EQUAL GREEN PLUS CLEARANCES.
  - INHIBIT MAX. TERMINATION SHALL BE IN EFFECT DURING COORDINATION.

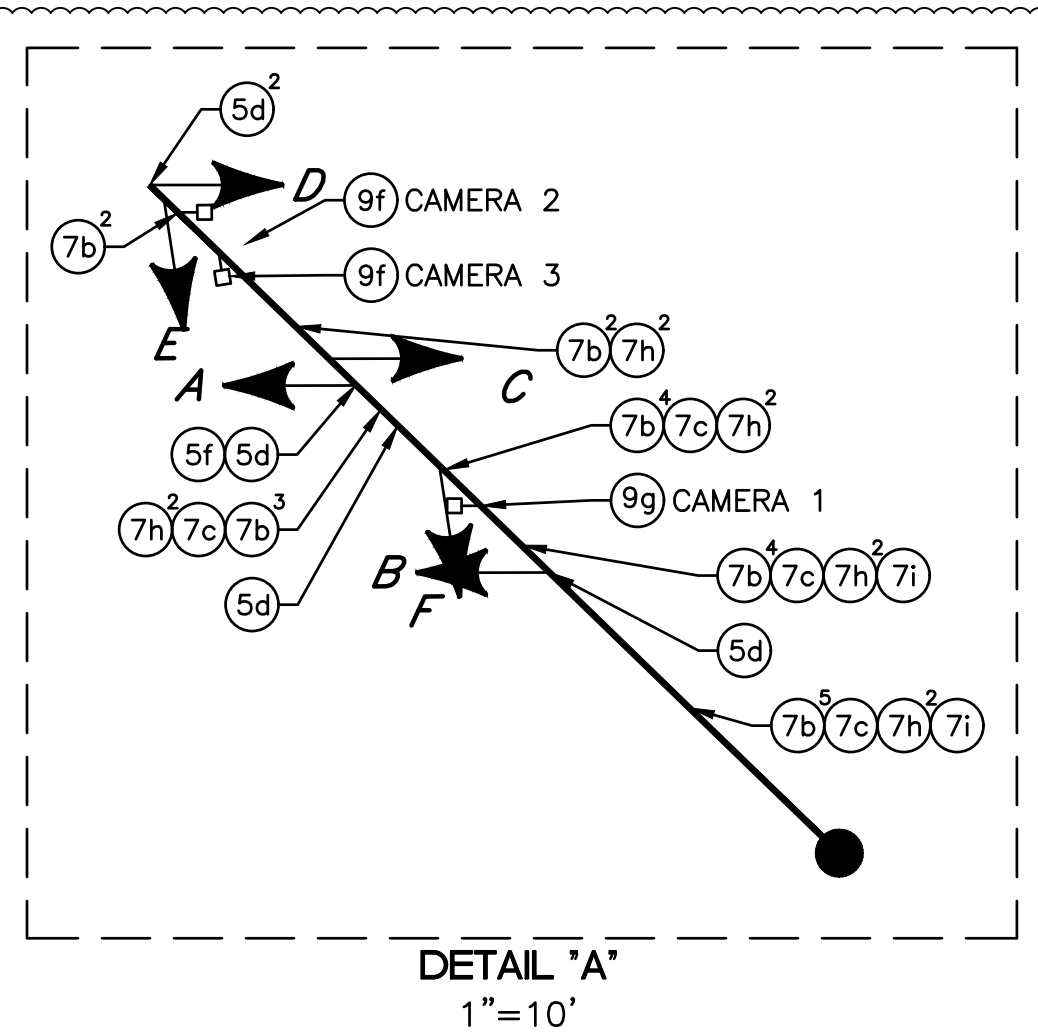
1 Cedar Street  
 Suite 400  
 Providence, RI 02903  
 401.272.8100

SIGNAL HEAD DATA		
A,B,D,E,F	C	P1-P8
R	R	WALKING
Y	Y	FLASHER
G	G	(ALL L.E.D. MODULES)
ALL 12" LENS		

- NOTES:**
- ALL TRAFFIC SIGNAL HEADS ARE PROPOSED.
  - ALL PEDESTRIAN SIGNAL HEADS ARE PROPOSED.
  - ALL PROPOSED RED, YELLOW, AND GREEN SIGNAL DISPLAYS SHALL BE EQUIPPED WITH LED MODULES.
  - 5" BACKPLATES WITH A 3" REFLECTIVE STRIP (YELLOW, TYPE IIIB ADHESIVE SHEETING) SHALL BE PROVIDED ON ALL TRAFFIC SIGNAL HEADS.

**SIGNAL HEAD SPACING**

SIGNAL HEAD	DISTANCE FROM CENTER OF MAST ARM POLE
A	35'
B	21'
C	37'
D	50'
E	49'
F	29'



REVISIONS

NO.	DATE	BY
1	10/4/19	VHB

RHODE ISLAND  
 DEPARTMENT OF TRANSPORTATION

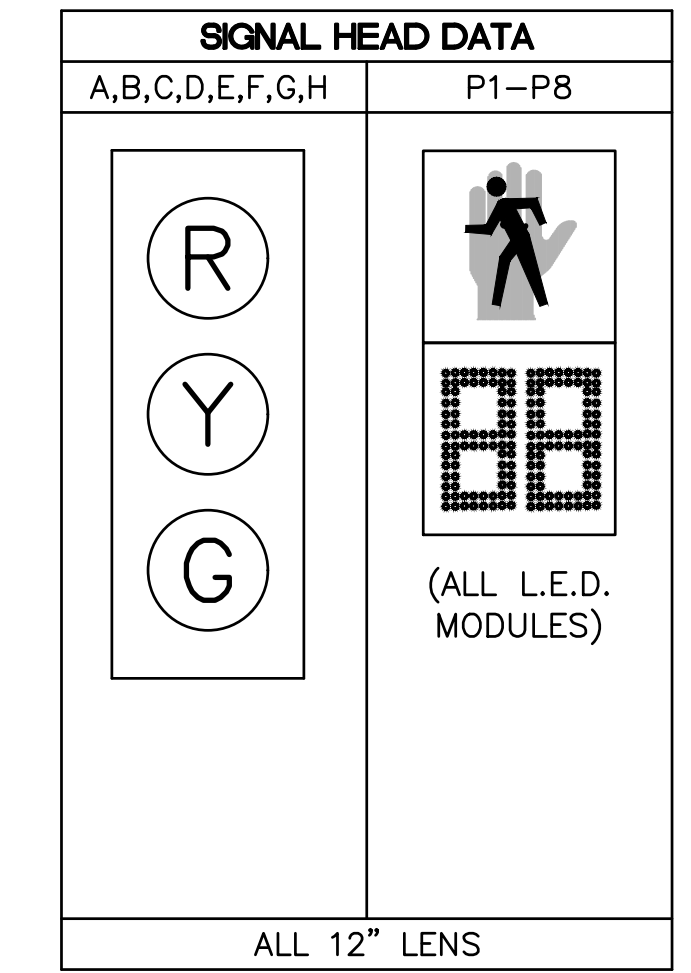
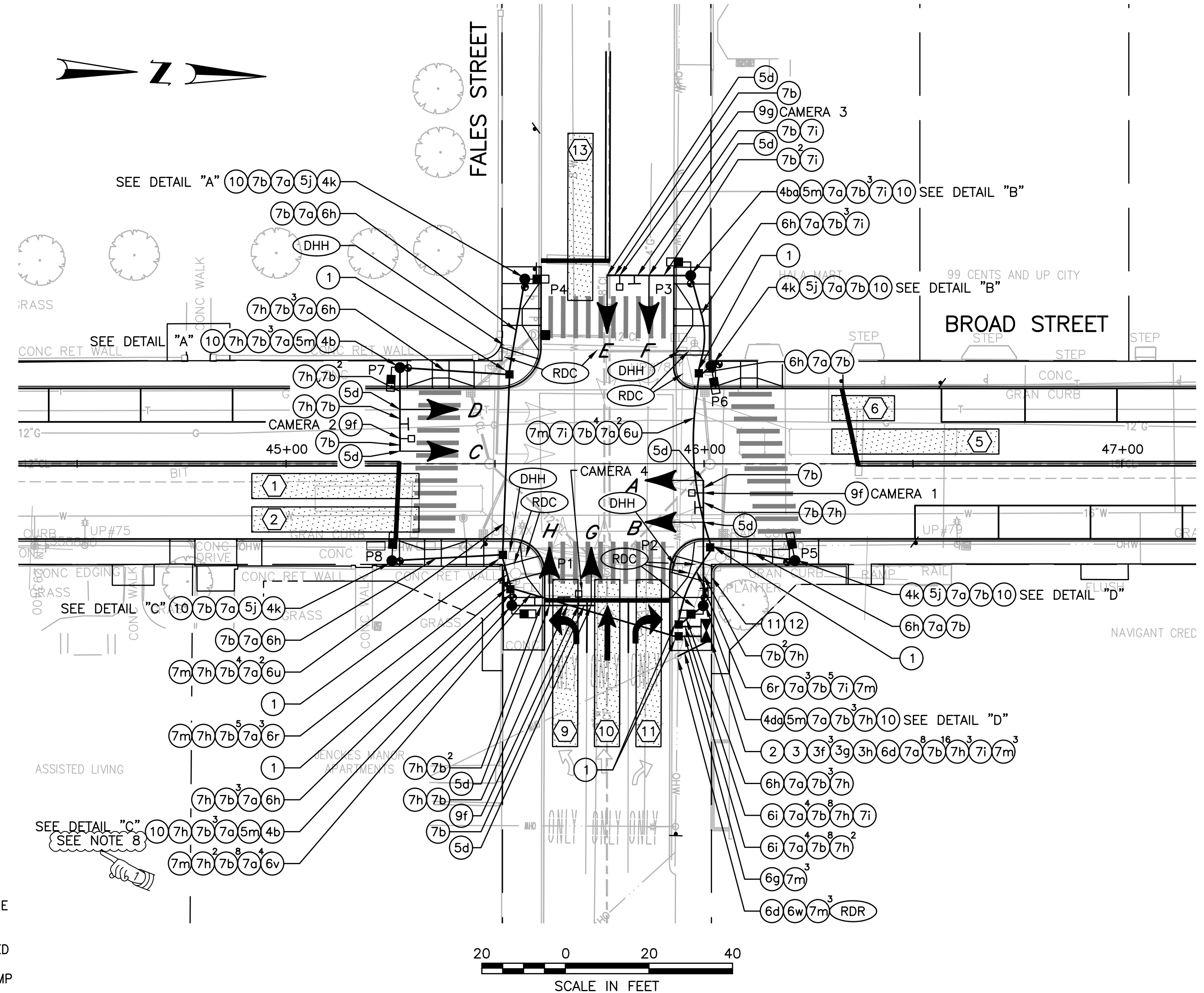
BROAD STREET (ROUTE 114)  
 REGENERATION PROJECT

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

TRAFFIC SIGNAL PLAN NO. [ ] [ ]  
 BROAD STREET AT CROSS STREET

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

ITEM NO.	ITEM CODE	ITEM DESCRIPTION
1	T05.0100	Precast Type "A" Handhole Std. 18.2.0
2	T12.9150	Meter Socket W/ Manual Bypass
3	T12.0018	Actuated Controller TS-2, Type 1 w/8 Phase Assembly Ground Mounted Including Foundation and Cabinet Std. 19.1.0
3f	T12.9902	Video Detection System Hardware
3g	T12.9903	Advanced Video Detection System Hardware
3h	T12.9904	GPS Time Synchronization Unit
4b	T11.9903	20 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0
4ba	T11.9904	20 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0 (Modified I)
4da	T11.9911	30 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0 (Modified I)
4k	T11.2008	Traffic Signal Standard, 8 Foot, Std 19.4.0 Aluminum Pedestal Pole and Foundation
5d	T14.3513	1 Way 3 Section Mast Arm Mounted Signal Head 12 Inch
5j	T14.9901	1 Way Pedestal Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
5m	T14.9903	1 Way Bracket Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
6d	T06.2020	2 Inch Rigid Steel Conduit - Overhead
6g	T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement
6h	T06.3030	3 Inch Rigid Steel Conduit - Under Existing Pavement
6i	T06.3040	4 Inch Rigid Steel Conduit - Under Existing Pavement
6r	T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6u	T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6v	T06.5440	4 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6w	T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead
7a	T04.5303	14 AWG 3 Conductor Cable
7b	T04.5305	14 AWG 5 Conductor Cable
7h	T04.9901	Video Detection System Cable (As Specified by Manufacturer)
7i	T04.9902	Advanced Video Detection System Cable (As Specified by Manufacturer)
7m	T04.5001	6 AWG Single Conductor Cable 600v Insulation
9f	T13.9901	Video Detection System Camera
9g	T13.9902	Advanced Video Detection System Camera
10	T13.8210	Accessible Pedestrian Detector - Pushbutton with Sign
11	945.0100	Remove and Dispose Traffic Signal Equipment
12	945.0200	Remove and Salvage Traffic Signal Equipment
RDR	201.0413	Remove and Dispose Risers
DHH	201.0423	Remove and Dispose Handhole
RDC	201.0617	Remove and Dispose Conduit - All Sizes



- NOTES:
- ALL TRAFFIC SIGNAL HEADS ARE PROPOSED.
  - ALL PEDESTRIAN SIGNAL HEADS ARE PROPOSED.
  - ALL PROPOSED RED, YELLOW, AND GREEN SIGNAL DISPLAYS SHALL BE EQUIPPED WITH LED MODULES.
  - 5" BACKPLATES WITH A 3" REFLECTIVE STRIP (YELLOW, TYPE IIIB ADHESIVE SHEETING) SHALL BE PROVIDED ON ALL TRAFFIC SIGNAL HEADS.

- TRAFFIC SIGNAL CONSTRUCTION NOTES:**
- THE ITEM "REMOVE AND DISPOSE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
MISCELLANEOUS TRAFFIC SIGNAL CABLE AND WIRING SHALL BE REMOVED AND LEGALLY DISPOSED OF IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
  - THE ITEM "REMOVE AND SALVAGE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
(1) LOCAL CONTROLLER, GROUND MOUNTED CABINET AND ASSOCIATED EQUIPMENT, (4) TRAFFIC SIGNAL MAST ARM POLES AND FOUNDATIONS, (8) TRAFFIC SIGNAL HEADS, (8) PEDESTRIAN SIGNAL HEADS, (3) PEDESTRIAN PUSHBUTTONS SHALL BE REMOVED AND SALVAGED IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
  - REMOVAL OF EXISTING HANDHOLES, CONDUIT, AND RISERS ASSOCIATED WITH THE TRAFFIC SIGNAL SHALL BE PAID FOR UNDER THE APPROPRIATE INDIVIDUAL AND SEPARATE PAY ITEMS.
  - FINISHED GRADE OF PROPOSED TRAFFIC SIGNAL POLE FOUNDATIONS SHALL BE FLUSH WITH THE EXISTING OR PROPOSED FINISHED GRADE OF THE ADJACENT SIDEWALK. WHERE POLE FOUNDATIONS ARE PROPOSED WITHIN THE LIMITS OF WHEELCHAIR RAMPS, THE TOP OF FOUNDATION GRADE SHALL BE SET TO ALLOW THE POLE BASEPLATE TO BE INSTALLED ABOVE FINISHED WHEELCHAIR RAMP GRADE.
  - THE EXISTING CONDUIT NETWORK SHOWN ON THIS PLAN IS BASED ON ASSUMED LOCATIONS AND SIZES. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDUIT LOCATION AND SIZE FOR ACCURACY AND ADEQUACY PRIOR TO PERFORMING THE WORK.

- TRAFFIC SIGNAL CONSTRUCTION NOTES (CONT.):**
- THE CONTRACTOR SHALL INSTALL THE SIGNAL CABINET ON A 12" RISER EXTENSION BASE. THE COST OF THE EXTENSION BASE SHALL BE CONSIDERED INCIDENTAL TO ITEM CODE T12.0018
  - SEE STANDARD NOTES PLAN AND JOB SPECIFIC PLAN SYMBOLS, LEGEND & NOTES PLAN FOR ADDITIONAL INFORMATION.
  - THE CONTRACTOR SHALL ENSURE THAT THE EXISTING MAST ARM IS SUPPORTED DURING EXCAVATION ON THE SOUTHEAST CORNER. THE COST OF SUPPORTING THE EXISTING MAST ARM SHALL BE CONSIDERED INCIDENTAL TO ITEM T11.9903.
  - SEE TRAFFIC SIGNAL DETAILS NO. 2 FOR ADDITIONAL DETAILS.

**COORDINATION DATA**  
(ALL ENTRIES IN SECONDS)

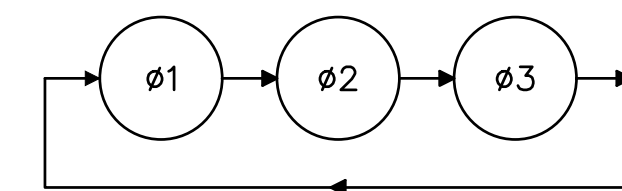
	PLAN 1	PLAN 2	PLAN 3
CYCLE LENGTH	105	105	105
OFFSET	56	96	96
SPLIT Ø1	65	59	59
SPLIT Ø2	22	28	28
SPLIT Ø3	18	18	18
COORDINATED PHASE	Ø1	Ø1	Ø1

PLAN 1 - MONDAY-FRIDAY 7:00AM-10:00AM  
 PLAN 2 - MONDAY-FRIDAY 10:00AM-2:00PM  
 SATURDAY-SUNDAY 9:00AM-6:00PM  
 PLAN 3 - MONDAY-FRIDAY 2:00PM-6:00PM  
 FREE - ALL OTHER TIME PERIODS

**SIGNAL HEAD SPACING**

SIGNAL HEAD	DISTANCE FROM CENTER OF MAST ARM POLE
A	30'
B	20'
C	20'
D	10'
E	20'
F	10'
G	19'
H	9'

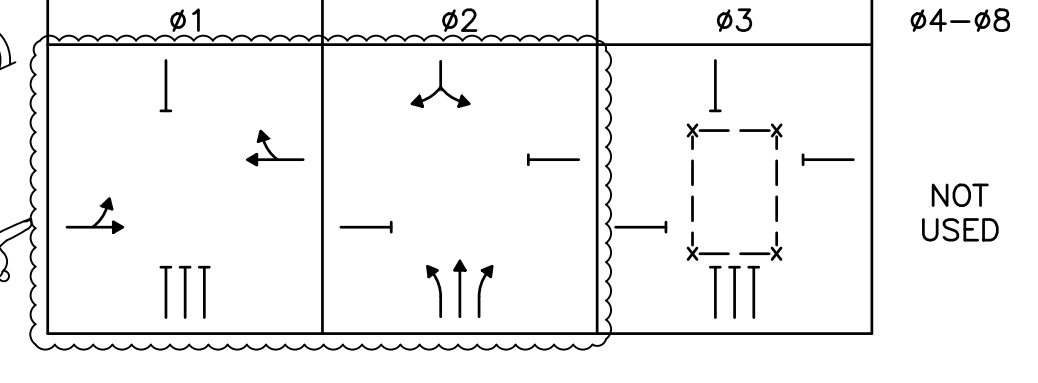
**PHASE SEQUENCE DIAGRAM**



**SEQUENCE AND TIMING DIAGRAM**

APPROACH	DIRECTION	HOUSING	Ø1	Ø2	Ø3	FLASHING OPERATION
MINIMUM INTERVAL			10	6		
VEHICLE EXTENSION			2.6	2.6		
MAXIMUM 1			35	20		
MAXIMUM 2			35	20		
YELLOW CLEARANCE			3.5	3	3	
RED CLEARANCE			2	2		
PED. WALK/CHANGE					7/8	
BROAD STREET NB	A,B	G	Y	R	R	FY
BROAD STREET SB	C,D	G	Y	R	R	FY
FALES STREET WB	E,F	R	R	G	Y	FR
FALES STREET EB	G,H	R	R	G	Y	FR
PEDESTRIAN X-ING N-S	P1-P4	DW	DW	DW	DW	DARK
PEDESTRIAN X-ING E-W	P5-P8	DW	DW	DW	DW	DARK
DETECTOR		NON-LOCK	NON-LOCK	NON-LOCK		
RECALL		SOFT	OFF	OFF		

- SEQUENCE AND TIMING NOTES:**
- FLASHING OPERATION PER M.U.T.C.D.
  - MAXIMUM 1 = NORMAL OPERATION
  - MAXIMUM 2 = NOT USED
  - PED. W/FDW UPON PUSHBUTTON ACTUATION ONLY
  - PERM = PERMISSIVE



**VIDEO DETECTOR DATA**

DETECTOR ZONE NO.	CAMERA NUMBER	APPROX. SIZE DET. ZONE	DELAY (SEC)	CALL PHASE	REMARKS
1	1	6'x40'	3	Ø1	PROPOSED
2	1	6'x40'	3	Ø1	PROPOSED
5	2	6'x40'	3	Ø1	PROPOSED
6	2	6'x15'	3	Ø1	PROPOSED
9	3	6'x40'	3	Ø2	PROPOSED
10	3	6'x40'	3	Ø2	PROPOSED
11	3	6'x40'	3	Ø2	PROPOSED
13	4	6'x40'	3	Ø2	PROPOSED

- NOTES:**
- Ø1 "CALL NON ACTUATED" DURING COORDINATION.
  - OFFSET: BEG OF Ø1 GREEN.
  - PLAN FORCE OFF/FLOATING FORCE OFF SHALL BE IN EFFECT.
  - SPLIT TIMES EQUAL GREEN PLUS CLEARANCES.
  - INHIBIT MAX. TERMINATION SHALL BE IN EFFECT DURING COORDINATION.

REVISIONS

NO.	DATE	BY
1	10/4/19	VHB

RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION

**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**TRAFFIC SIGNAL PLAN NO. 000**  
BROAD STREET AT FALES STREET

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_





ITEM NO.	ITEM CODE	ITEM DESCRIPTION
1	T05.0100	Precast Type "A" Handhole Std. 18.2.0
2	T12.9150	Meter Socket W/ Manual Bypass
3	T12.0018	Actuated Controller TS-2, Type 1 w/8 Phase Assembly Ground Mounted Including Foundation and Cabinet Std. 19.1.0

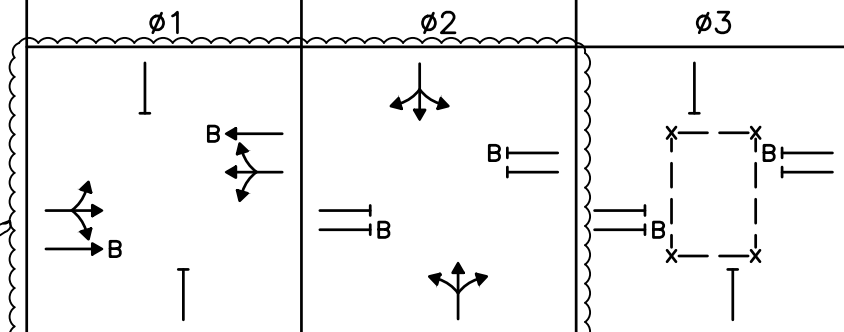
3h	T12.9904	GPS Time Synchronization Unit
3a	T12.9905	Intersection Wide 360 Degree Video Detection System
4a	T11.9901	15 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0
4aa	T11.9902	15 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0 (Modified I)
4b	T11.9903	20 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0
4bb	T11.9905	20 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0 (Modified II)
4k	T11.2008	Traffic Signal Standard, 8 Foot, Std 19.4.0 Aluminum Pedestal Pole and Foundation
5d	T14.3513	1 Way 3 Section Mast Arm Mounted Signal Head 12 Inch
5j	T14.9901	1 Way Pedestal Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
5m	T14.9903	1 Way Bracket Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
6d	T06.2020	2 Inch Rigid Steel Conduit - Overhead
6g	T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement
6h	T06.3030	3 Inch Rigid Steel Conduit - Under Existing Pavement
6i	T06.3040	4 Inch Rigid Steel Conduit - Under Existing Pavement
6r	T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6u	T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6v	T06.5440	4 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6w	T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead
7a	T04.5303	14 AWG 3 Conductor Cable
7b	T04.5305	14 AWG 5 Conductor Cable
7m	T04.5001	6 AWG Single Conductor Cable 600v Insulation
7g	T04.9904	Category 6 Ethernet Cable
10	T13.8210	Accessible Pedestrian Detector - Pushbutton with Sign
11	945.0100	Remove and Dispose Traffic Signal Equipment
12	945.0200	Remove and Salvage Traffic Signal Equipment
RDR	201.0413	Remove and Dispose Risers
DHH	201.0423	Remove and Dispose Handhole
RDC	201.0617	Remove and Dispose Conduit - All Sizes
BOL	903.9901	Concrete Filled Galvanized Steel Bollard

**SIGNAL HEAD SPACING**

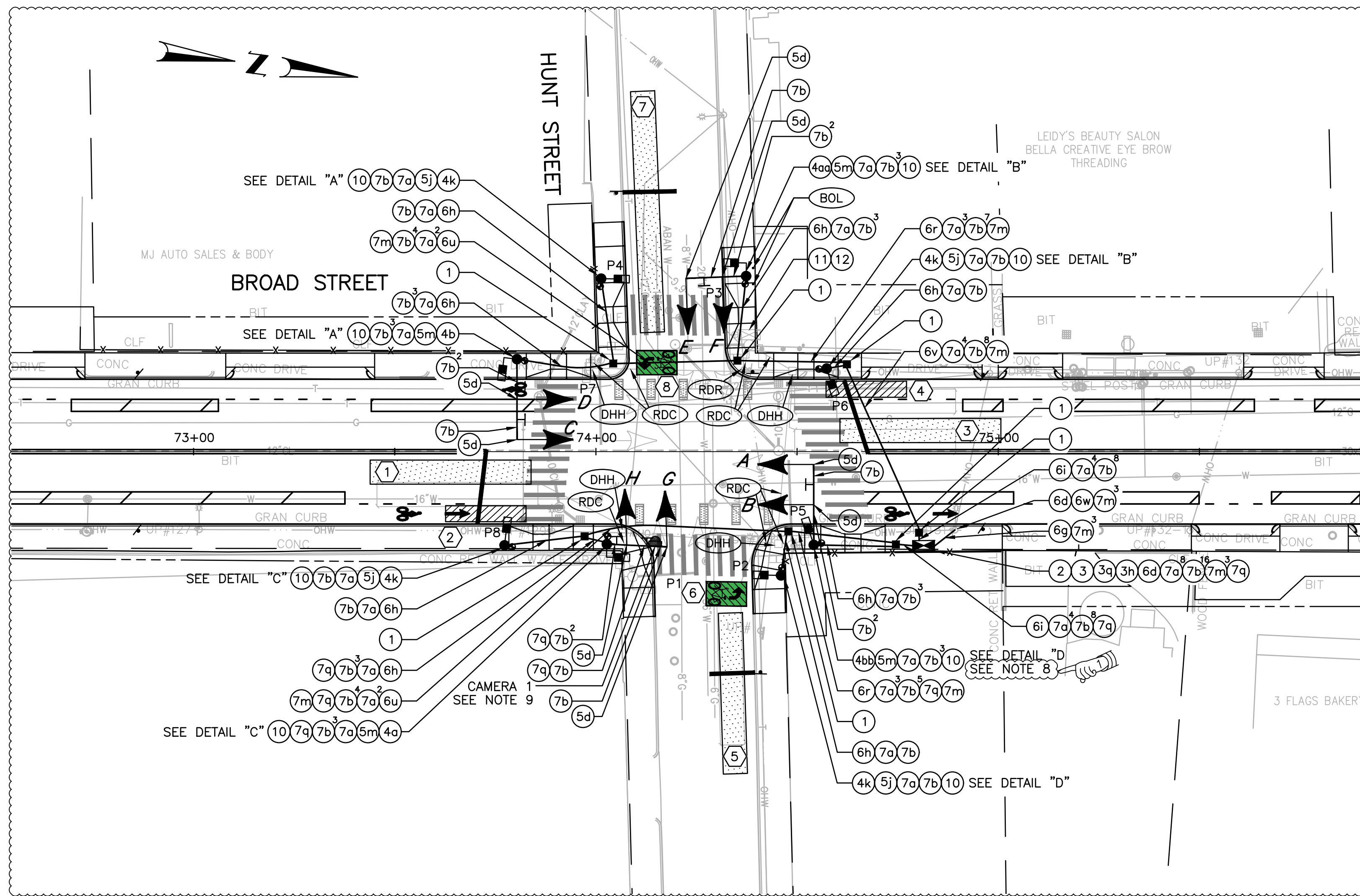
SIGNAL HEAD	DISTANCE FROM CENTER OF MAST ARM POLE
A	20'
B	10'
C	20'
D	10'
E	15'
F	6'
G	15'
H	5'

SEQUENCE AND TIMING DIAGRAM												FLASHING OPERATION	
APPROACH	DIRECTION	HOUSING	ø1			ø2			ø3				
MINIMUM INTERVAL			10			6							
VEHICLE EXTENSION			2.6			2.6							
MAXIMUM 1			35			35							
MAXIMUM 2			35			35							
YELLOW CLEARANCE				3.5			4			3			
RED CLEARANCE					1.5			2					
PED. WALK/CHANGE										7/8			
BROAD STREET	NB	A,B	G	Y	R	R	R	R	R	R	R	R	FY
BROAD STREET	SB	C,D	G	Y	R	R	R	R	R	R	R	R	FY
HUNT STREET	WB	E,F	R	R	R	G	Y	R	R	R	R	R	FR
HUNT STREET	EB	G,H	R	R	R	G	Y	R	R	R	R	R	FR
PEDESTRIAN X-ING	N-S	P1-P4	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	DARK
PEDESTRIAN X-ING	E-W	P5-P8	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	DARK
DETECTOR			NON-LOCK			NON-LOCK			NON-LOCK				
RECALL			SOFT			OFF			OFF				

- SEQUENCE AND TIMING NOTES:**
- FLASHING OPERATION PER M.U.T.C.D.
  - MAXIMUM 1 = NORMAL OPERATION
  - MAXIMUM 2 = NOT USED
  - PED. W/FDW UPON PUSHBUTTON ACTUATION ONLY
  - PERM = PERMISSIVE
  - B = BICYCLE



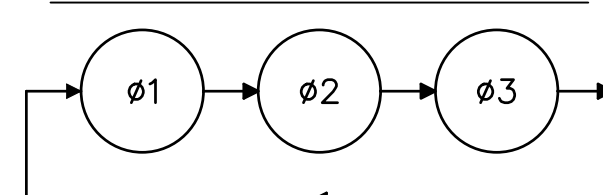
ø4-ø8  
NOT USED



SCALE IN FEET

VIDEO DETECTOR DATA					
DETECTOR ZONE NO.	CAMERA NUMBER	APPROX. SIZE DET. ZONE	DELAY (SEC)	CALL PHASE	REMARKS
1	1	6'x40'	3	ø1	PROPOSED
2	1	4'x20'	3	ø1	PROPOSED BICYCLE
3	1	6'x40'	3	ø1	PROPOSED
4	1	4'x20'	3	ø1	PROPOSED BICYCLE
5	1	6'x40'	3	ø2	PROPOSED
6	1	6'x10'	3	ø2	PROPOSED BICYCLE
7	1	6'x60'	3	ø2	PROPOSED
8	1	6'x10'	3	ø2	PROPOSED BICYCLE

**PHASE SEQUENCE DIAGRAM**



**COORDINATION DATA**

(ALL ENTRIES IN SECONDS)

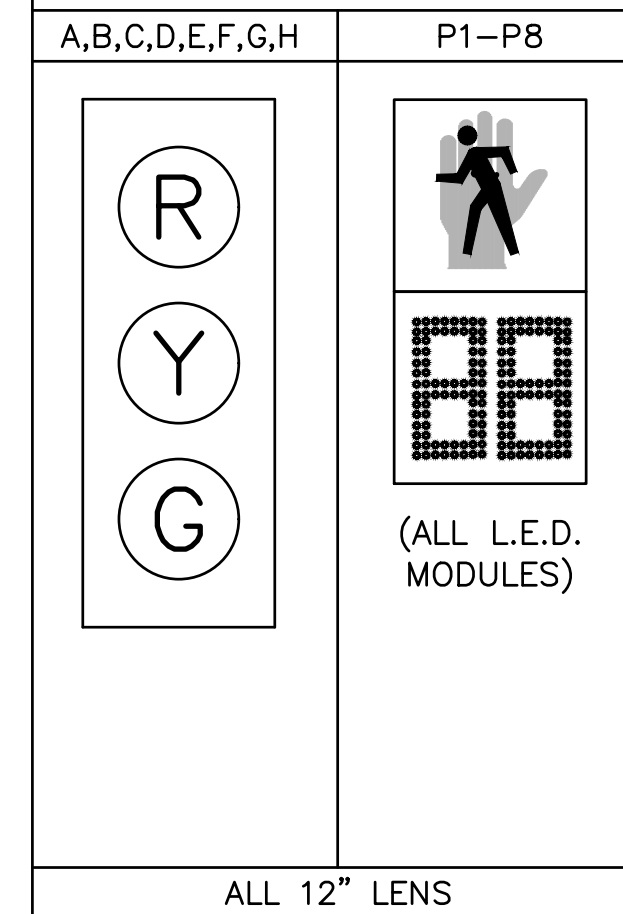
	PLAN 1	PLAN 2	PLAN 3
CYCLE LENGTH	105	105	105
OFFSET	95	32	32
SPLIT ø1	50	52	52
SPLIT ø2	37	35	35
SPLIT ø3	18	18	18
COORDINATED PHASE	ø1	ø1	ø1
PLAN 1 - MONDAY-FRIDAY 7:00AM-10:00AM			
PLAN 2 - MONDAY-FRIDAY 10:00AM-2:00PM SATURDAY-SUNDAY 9:00AM-6:00PM			
PLAN 3 - MONDAY-FRIDAY 2:00PM-6:00PM			
FREE - ALL OTHER TIME PERIODS			

- NOTES:**
- ø1 "CALL NON ACTUATED" DURING COORDINATION.
  - OFFSET: BEG OF ø1 GREEN.
  - PLAN FORCE OFF/FLOATING FORCE OFF SHALL BE IN EFFECT.
  - SPLIT TIMES EQUAL GREEN PLUS CLEARANCES.
  - INHIBIT MAX. TERMINATION SHALL BE IN EFFECT DURING COORDINATION.

R-1

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			189	201

**SIGNAL HEAD DATA**



**NOTES:**

- ALL TRAFFIC SIGNAL HEADS ARE PROPOSED.
- ALL PEDESTRIAN SIGNAL HEADS ARE PROPOSED.
- ALL PROPOSED RED, YELLOW, AND GREEN SIGNAL DISPLAYS SHALL BE EQUIPPED WITH LED MODULES.
- 5" BACKPLATES WITH A 3" REFLECTIVE STRIP (YELLOW, TYPE IIIB ADHESIVE SHEETING) SHALL BE PROVIDED ON ALL TRAFFIC SIGNAL HEADS.

**TRAFFIC SIGNAL CONSTRUCTION NOTES:**

- THE ITEM "REMOVE AND DISPOSE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
  
MISCELLANEOUS TRAFFIC SIGNAL CABLE AND WIRING SHALL BE REMOVED AND LEGALLY DISPOSED OF IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- THE ITEM "REMOVE AND SALVAGE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
  
(1) LOCAL CONTROLLER, POLE MOUNTED CABINET AND ASSOCIATED EQUIPMENT, (4) TRAFFIC SIGNAL MAST ARM POLES AND FOUNDATIONS, (8) TRAFFIC SIGNAL HEADS, (8) PEDESTRIAN SIGNAL HEADS, (4) PEDESTRIAN PUSHBUTTONS SHALL BE REMOVED AND SALVAGED IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- REMOVAL OF EXISTING HANDHOLES, CONDUIT, AND RISERS ASSOCIATED WITH THE TRAFFIC SIGNAL SHALL BE PAID FOR UNDER THE APPROPRIATE INDIVIDUAL AND SEPARATE PAY ITEMS.
- FINISHED GRADE OF PROPOSED TRAFFIC SIGNAL POLE FOUNDATIONS SHALL BE FLUSH WITH THE EXISTING OR PROPOSED FINISHED GRADE OF THE ADJACENT SIDEWALK. WHERE POLE FOUNDATIONS ARE PROPOSED WITHIN THE LIMITS OF WHEELCHAIR RAMPS, THE TOP OF FOUNDATION GRADE SHALL BE SET TO ALLOW THE POLE BASEPLATE TO BE INSTALLED ABOVE FINISHED WHEELCHAIR RAMP GRADE.
- THE EXISTING CONDUIT NETWORK SHOWN ON THIS PLAN IS BASED ON ASSUMED LOCATIONS AND SIZES. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDUIT LOCATION AND SIZE FOR ACCURACY AND ADEQUACY PRIOR TO PERFORMING THE WORK.
- THE CONTRACTOR SHALL INSTALL THE SIGNAL CABINET ON A 12" RISER EXTENSION BASE. THE COST OF THE EXTENSION BASE SHALL BE CONSIDERED INCIDENTAL TO ITEM CODE T12.0018
- SEE STANDARD NOTES PLAN AND JOB SPECIFIC PLAN SYMBOLS, LEGEND & NOTES PLAN FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL ENSURE THAT THE EXISTING MAST ARM IS SUPPORTED DURING THE EXCAVATION FOR THE PROPOSED MAST ARM FOUNDATION ON THE NORTHEAST CORNER. THE COST OF SUPPORTING THE EXISTING MAST ARM SHALL BE CONSIDERED INCIDENTAL TO ITEM T11.9905.
- CAMERA 1 SHALL BE INCLUDED IN THE COST OF ITEM CODE T12.9905 INTERSECTION WIDE 360 DEGREE VIDEO DETECTION SYSTEM.
- SEE TRAFFIC SIGNAL DETAILS NO. 3 FOR ADDITIONAL DETAILS.

REVISIONS		
NO.	DATE	BY
1	10/4/19	VHB

**RHODE ISLAND**  
**DEPARTMENT OF TRANSPORTATION**

**BROAD STREET (ROUTE 114)**  
**REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**TRAFFIC SIGNAL PLAN NO. 4**  
BROAD STREET AT HUNT STREET

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_





FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			190	201

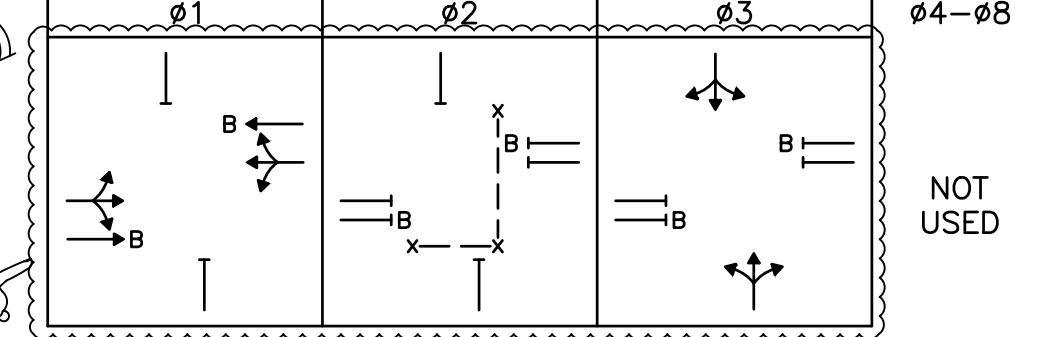
ITEM NO.	ITEM CODE	ITEM DESCRIPTION
1	T05.0100	Precast Type "A" Handhole Std. 18.2.0
2	T12.9150	Meter Socket W/ Manual Bypass
3	T12.0018	Actuated Controller TS-2, Type 1 w/8 Phase Assembly Ground Mounted Including Foundation and Cabinet Std. 19.1.0
3f	T12.9902	Video Detection System Hardware
3h	T12.9904	GPS Time Synchronization Unit
4a	T11.9901	15 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0
4b	T11.9903	20 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0
4bc	T11.9906	20 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0 (Modified III)
4bd	T11.9907	20 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0 (Modified IV)
4i	T11.9914	Traffic Signal Standard, 4 Foot - 4 Inch, Std 19.4.0 Aluminum Pedestal Pole and Foundation
4k	T11.2008	Traffic Signal Standard, 8 Foot, Std 19.4.0 Aluminum Pedestal Pole and Foundation
5d	T14.3513	1 Way 3 Section Mast Arm Mounted Signal Head 12 Inch
5j	T14.9901	1 Way Pedestal Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
5m	T14.9903	1 Way Bracket Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
6d	T06.2020	2 Inch Rigid Steel Conduit - Overhead
6g	T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement
6h	T06.3030	3 Inch Rigid Steel Conduit - Under Existing Pavement
6r	T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6u	T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6w	T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead
7a	T04.5303	14 AWG 3 Conductor Cable
7b	T04.5305	14 AWG 5 Conductor Cable
7h	T04.9901	Video Detection System Cable (As Specified by Manufacturer)
7m	T04.5001	6 AWG Single Conductor Cable 600v Insulation
9f	T13.9901	Video Detection System Camera
10	T13.8210	Accessible Pedestrian Detector - Pushbutton with Sign
11	945.0100	Remove and Dispose Traffic Signal Equipment
12	945.0200	Remove and Salvage Traffic Signal Equipment
RDR	201.0413	Remove and Dispose Risers
DHH	201.0423	Remove and Dispose Handhole
RDC	201.0617	Remove and Dispose Conduit - All Sizes

**SIGNAL HEAD SPACING**

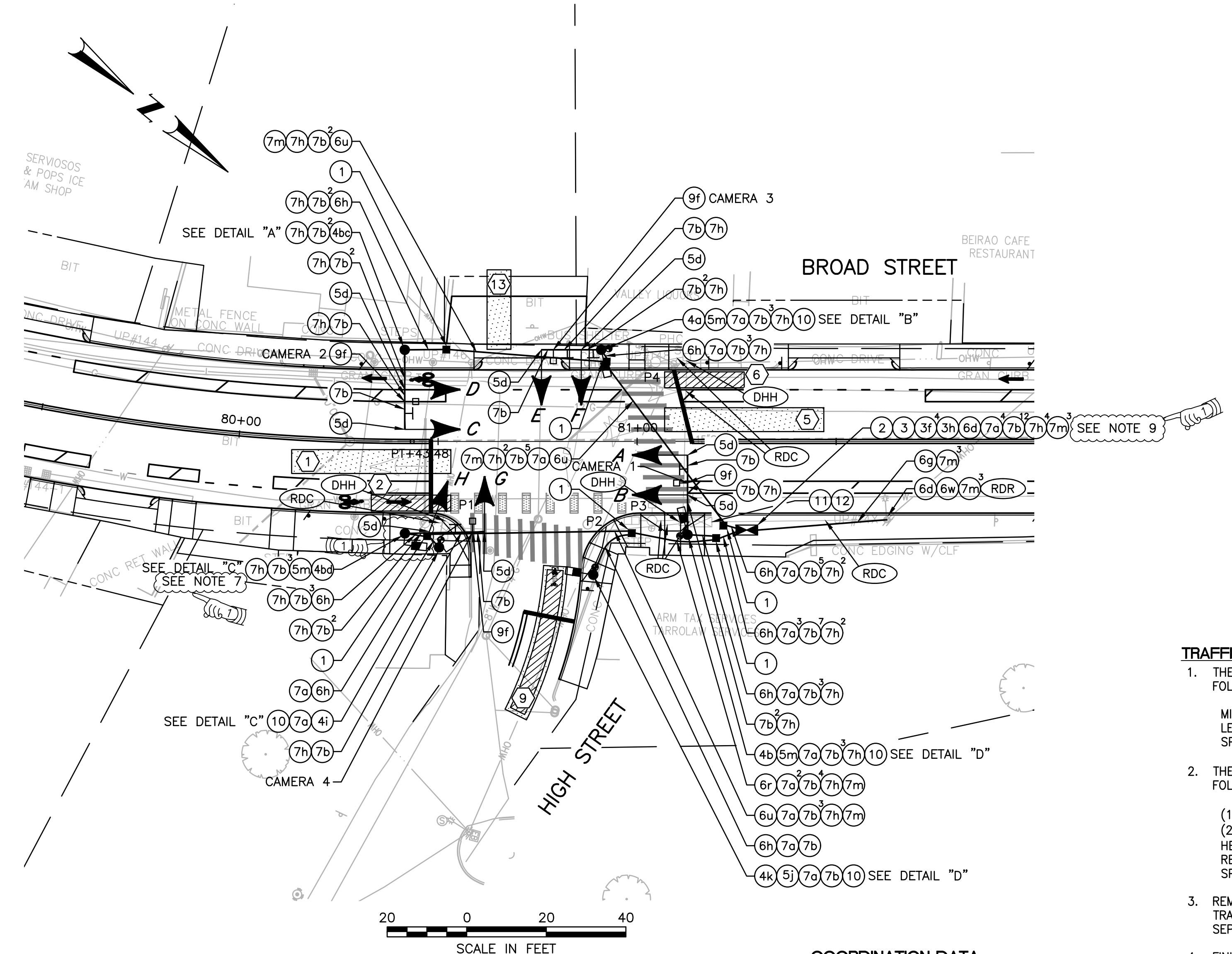
SIGNAL HEAD	DISTANCE FROM CENTER OF MAST ARM POLE
A	20'
B	10'
C	20'
D	10'
E	15'
F	5'
G	20'
H	6'

SEQUENCE AND TIMING DIAGRAM												
APPROACH	DIRECTION	HOUSING	ø1		ø2		ø3		ø4		FLASHING OPERATION	
MINIMUM INTERVAL			10				6					
VEHICLE EXTENSION			2.6				2.6					
MAXIMUM 1			35				20					
MAXIMUM 2			35				20					
YELLOW CLEARANCE			4		3		3.5					
RED CLEARANCE			1.5				1.5					
PED. WALK/CHANGE					7/8							
BROAD STREET	NB	A,B	G	Y	R	R	R	R	R	R	FY	
BROAD STREET	SB	C,D	G	Y	R	R	R	R	R	R	FY	
HIGH STREET	WB	E,F	R	R	R	R	R	G	Y	R	FR	
DRIVEWAY	EB	G,H	R	R	R	R	R	G	Y	R	FR	
PEDESTRIAN X-ING	N-S	P1-P2	DW	DW	DW	W/FDW	DW	DW	DW	DW	DARK	
PEDESTRIAN X-ING	E-W	P3-P4	DW	DW	DW	W/FDW	DW	DW	DW	DW	DARK	
DETECTOR			NON-LOCK		NON-LOCK		NON-LOCK					
RECALL			SOFT		OFF		OFF					

**SEQUENCE AND TIMING NOTES:**  
 1. FLASHING OPERATION PER M.U.T.C.D.  
 2. MAXIMUM 1 = NORMAL OPERATION  
 3. MAXIMUM 2 = NOT USED  
 4. PED. W/FDW UPON PUSHBUTTON ACTUATION ONLY  
 5. PERM = PERMISSIVE  
 6. B = BICYCLE



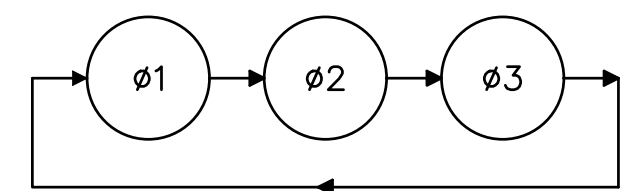
**ADDENDUM NO. 2**



VIDEO DETECTOR DATA					
DETECTOR ZONE NO.	CAMERA NUMBER	APPROX. SIZE DET. ZONE	DELAY (SEC)	CALL PHASE	REMARKS
1	1	6'x40'	3	ø1	PROPOSED
2	1	4'x20'	3	ø1	PROPOSED BICYCLE
5	2	6'x40'	3	ø1	PROPOSED
6	2	4'x20'	3	ø1	PROPOSED BICYCLE
9	3	6'x40'	3	ø3	PROPOSED
13	4	6'x20'	5	ø3	PROPOSED

**NOTES:**  
 1. DETECTOR ZONE 9 SHALL DETECT BOTH VEHICLES AND BICYCLES.

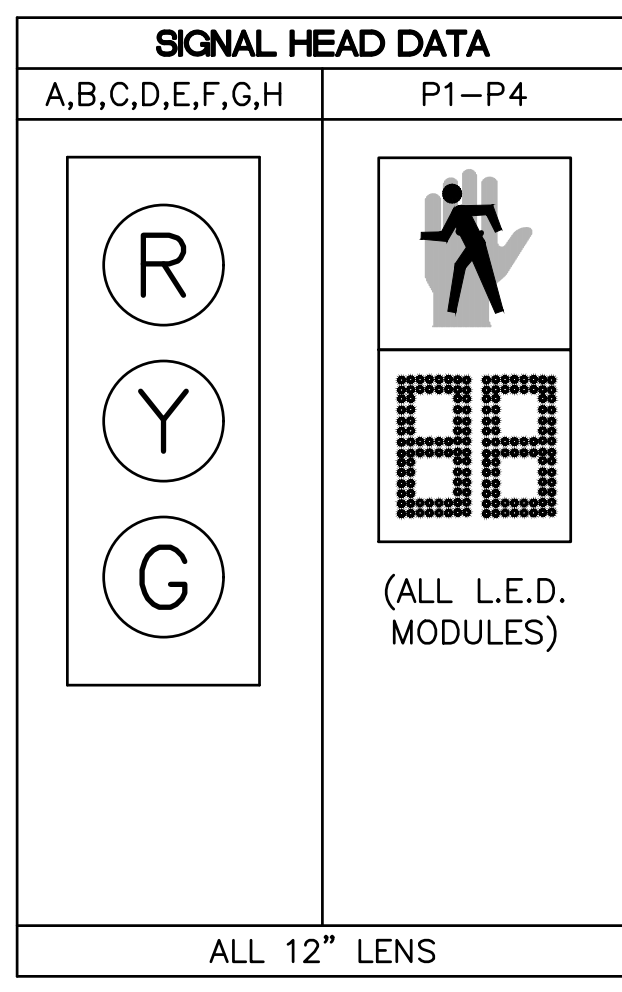
**PHASE SEQUENCE DIAGRAM**



**COORDINATION DATA**  
(ALL ENTRIES IN SECONDS)

	PLAN 1	PLAN 2	PLAN 3
CYCLE LENGTH	105	105	105
OFFSET	96	28	28
SPLIT ø1	63	60	60
SPLIT ø2	18	18	18
SPLIT ø3	24	27	27
COORDINATED PHASE	ø1	ø1	ø1
PLAN 1 - MONDAY-FRIDAY	7:00AM-10:00AM		
PLAN 2 - MONDAY-FRIDAY	10:00AM-2:00PM		
SATURDAY-SUNDAY	9:00AM-6:00PM		
PLAN 3 - MONDAY-FRIDAY	2:00PM-6:00PM		
FREE	- ALL OTHER TIME PERIODS		

**NOTES:**  
 1. ø1 "CALL NON ACTUATED" DURING COORDINATION.  
 2. OFFSET: BEG OF ø1 GREEN.  
 3. PLAN FORCE OFF/FLOATING FORCE OFF SHALL BE IN EFFECT.  
 4. SPLIT TIMES EQUAL GREEN PLUS CLEARANCES.  
 5. INHIBIT MAX. TERMINATION SHALL BE IN EFFECT DURING COORDINATION.



**NOTES:**  
 1. ALL TRAFFIC SIGNAL HEADS ARE PROPOSED.  
 2. ALL PEDESTRIAN SIGNAL HEADS ARE PROPOSED.  
 3. ALL PROPOSED RED, YELLOW, AND GREEN SIGNAL DISPLAYS SHALL BE EQUIPPED WITH LED MODULES.  
 4. 5" BACKPLATES WITH A 3" REFLECTIVE STRIP (YELLOW, TYPE IIB ADHESIVE SHEETING) SHALL BE PROVIDED ON ALL TRAFFIC SIGNAL HEADS.

**TRAFFIC SIGNAL CONSTRUCTION NOTES:**

- THE ITEM "REMOVE AND DISPOSE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
 MISCELLANEOUS TRAFFIC SIGNAL CABLE AND WIRING SHALL BE REMOVED AND LEGALLY DISPOSED OF IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- THE ITEM "REMOVE AND SALVAGE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
 (1) LOCAL CONTROLLER, GROUND MOUNTED CABINET AND ASSOCIATED EQUIPMENT, (2) TRAFFIC SIGNAL MAST ARM POLES AND FOUNDATIONS, (6) TRAFFIC SIGNAL HEADS, (4) PEDESTRIAN SIGNAL HEADS, (3) PEDESTRIAN PUSHBUTTONS SHALL BE REMOVED AND SALVAGED IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- REMOVAL OF EXISTING HANDHOLES, CONDUIT, AND RISERS ASSOCIATED WITH THE TRAFFIC SIGNAL SHALL BE PAID FOR UNDER THE APPROPRIATE INDIVIDUAL AND SEPARATE PAY ITEMS.
- FINISHED GRADE OF PROPOSED TRAFFIC SIGNAL POLE FOUNDATIONS SHALL BE FLUSH WITH THE EXISTING OR PROPOSED FINISHED GRADE OF THE ADJACENT SIDEWALK. WHERE POLE FOUNDATIONS ARE PROPOSED WITHIN THE LIMITS OF WHEELCHAIR RAMPS, THE TOP OF FOUNDATION GRADE SHALL BE SET TO ALLOW THE POLE BASEPLATE TO BE INSTALLED ABOVE FINISHED WHEELCHAIR RAMP GRADE.
- THE EXISTING CONDUIT NETWORK SHOWN ON THIS PLAN IS BASED ON ASSUMED LOCATIONS AND SIZES. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDUIT LOCATION AND SIZE FOR ACCURACY AND ADEQUACY PRIOR TO PERFORMING THE WORK.
- THE CONTRACTOR SHALL INSTALL THE SIGNAL CABINET ON A 12" RISER EXTENSION BASE. THE COST OF THE EXTENSION BASE SHALL BE CONSIDERED INCIDENTAL TO ITEM CODE T12.0018
- THE CONTRACTOR SHALL ENSURE THAT THE EXISTING MAST ARM IS SUPPORTED DURING THE EXCAVATION FOR THE PROPOSED MAST ARM FOUNDATION ON THE SOUTHEAST CORNER. THE COST OF SUPPORTING THE EXISTING MAST ARM SHALL BE CONSIDERED INCIDENTAL TO ITEM T11.9907.
- SEE STANDARD NOTES PLAN AND JOB SPECIFIC PLAN SYMBOLS, LEGEND & NOTES PLAN FOR ADDITIONAL INFORMATION.
- TRAFFIC SIGNAL CONTROLLER CABINET SHALL BE ORIENTED SO THAT THE CABINET DOOR IS FACING AWAY FROM THE ROADWAY.
- SEE TRAFFIC SIGNAL DETAILS NO. 4 FOR ADDITIONAL DETAILS.

REVISIONS		
NO.	DATE	BY
1	10/4/19	VHB

**RHODE ISLAND**  
**DEPARTMENT OF TRANSPORTATION**

**BROAD STREET (ROUTE 114)**  
**REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**TRAFFIC SIGNAL PLAN NO. 000**  
 BROAD STREET AT HIGH STREET

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_





ITEM NO.	ITEM CODE	ITEM DESCRIPTION
1a	T05.9901	Break Into Existing Handhole
3d	T12.9901	Modify Existing Traffic Signal Controller Cabinet
3f	T12.9902	Video Detection System Hardware
3h	T12.9904	GPS Time Synchronization Unit
4k	T11.2008	Traffic Signal Standard, 8 Foot, Std 19.4.0 Aluminum Pedestal Pole and Foundation
4m	T11.2010	Traffic Signal Standard, 10 Foot, Std 19.4.0 Aluminum Pedestal Pole and Foundation
5d	T14.3513	1 Way 3 Section Mast Arm Mounted Signal Head 12 Inch
5g	T14.3613	1 Way 3 Section Bracket Mounted Signal Head 12 Inch
5h	T14.3713	1 Way 3 Section Pedestal Mounted Signal Head 12 Inch
5j	T14.9901	1 Way Pedestal Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
5k	T14.9902	2 Way Pedestal Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
5m	T14.9903	1 Way Bracket Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
6h	T06.3030	3 Inch Rigid Steel Conduit - Under Existing Pavement
7a	T04.5303	14 AWG 3 Conductor Cable
7b	T04.5305	14 AWG 5 Conductor Cable
7c	T04.5307	14 AWG 7 Conductor Cable
7h	T04.9901	Video Detection System Cable (As Specified by Manufacturer)
9f	T13.9901	Video Detection System Camera
10	T13.8210	Accessible Pedestrian Detector - Pushbutton with Sign
11	945.0100	Remove and Dispose Traffic Signal Equipment
12	945.0200	Remove and Salvage Traffic Signal Equipment
RDC	201.0617	Remove and Dispose Conduit - All Sizes
AHH	T05.1030	Adjust Handhole to Grade

**TRAFFIC SIGNAL CONSTRUCTION NOTES:**

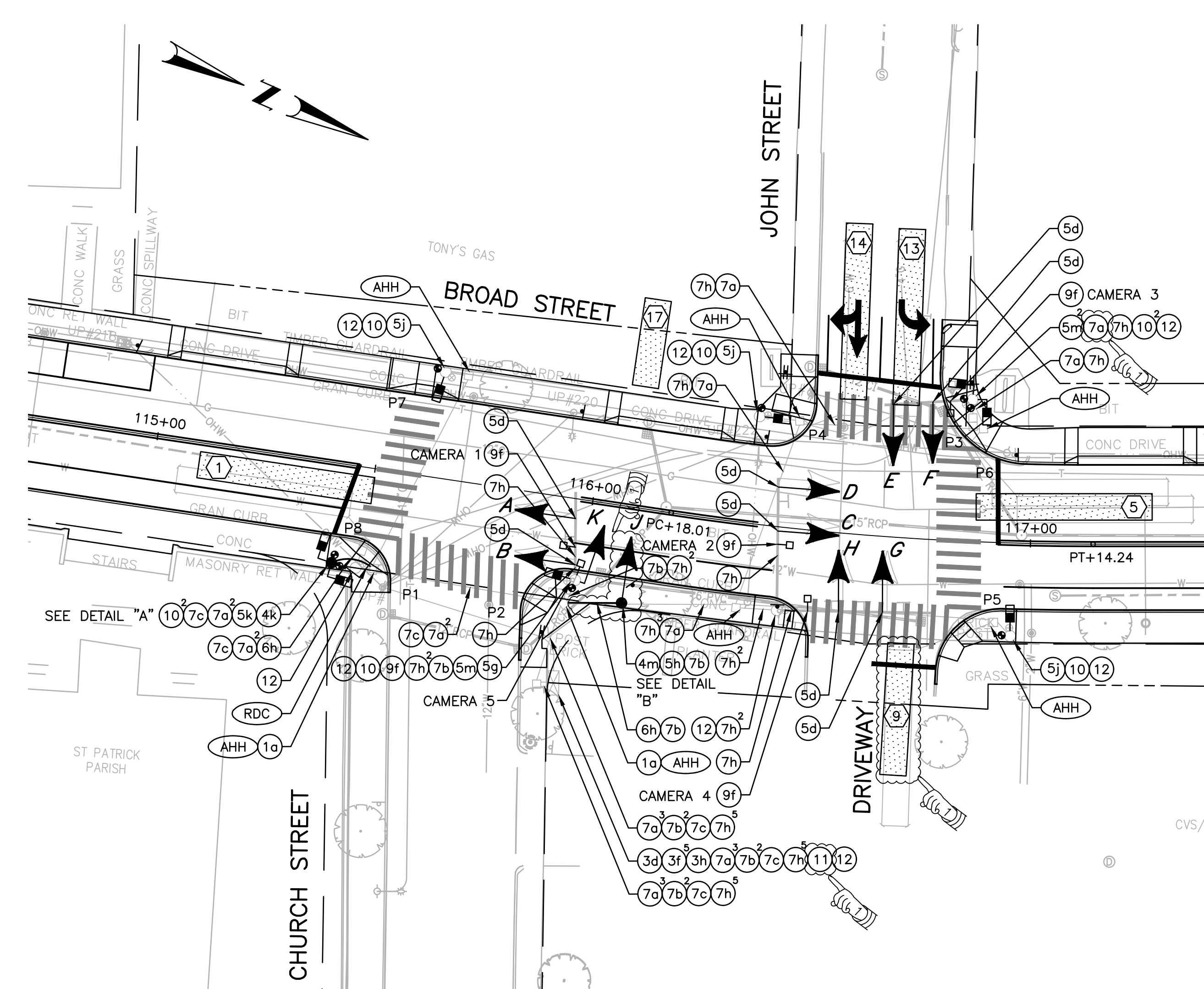
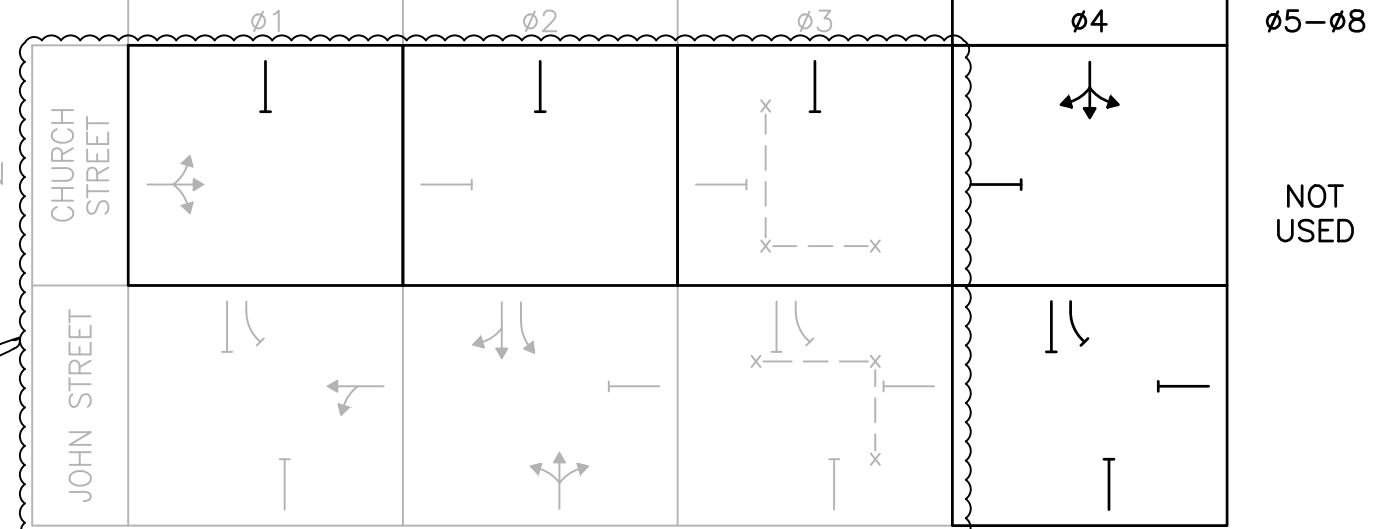
- THE ITEM "REMOVE AND DISPOSE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
MISCELLANEOUS TRAFFIC SIGNAL CABLE AND WIRING SHALL BE REMOVED AND LEGALLY DISPOSED OF IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- THE ITEM "REMOVE AND SALVAGE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
(2) DETECTOR RELAYS (1) PEDESTAL POLE, (8) TRAFFIC SIGNAL HEADS, (10) PEDESTRIAN SIGNAL HEADS, (7) PEDESTRIAN PUSHBUTTONS SHALL BE REMOVED AND SALVAGED IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- REMOVAL OF EXISTING CONDUIT ASSOCIATED WITH THE TRAFFIC SIGNAL SHALL BE PAID FOR UNDER THE APPROPRIATE INDIVIDUAL AND SEPARATE PAY ITEM.
- FINISHED GRADE OF PROPOSED TRAFFIC SIGNAL POLE FOUNDATIONS SHALL BE FLUSH WITH THE EXISTING OR PROPOSED FINISHED GRADE OF THE ADJACENT SIDEWALK. WHERE POLE FOUNDATIONS ARE PROPOSED WITHIN THE LIMITS OF WHEELCHAIR RAMPS, THE TOP OF FOUNDATION GRADE SHALL BE SET TO ALLOW THE POLE BASEPLATE TO BE INSTALLED ABOVE FINISHED WHEELCHAIR RAMP GRADE.
- THE EXISTING CONDUIT NETWORK SHOWN ON THIS PLAN IS BASED ON ASSUMED LOCATIONS AND SIZES. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDUIT LOCATION AND SIZE FOR ACCURACY AND ADEQUACY PRIOR TO PERFORMING THE WORK.
- SEE STANDARD NOTES PLAN AND JOB SPECIFIC PLAN SYMBOLS, LEGEND & NOTES PLAN FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL REPAIR THE HOLE IN THE SIDE OF THE TRAFFIC SIGNAL POLES AND MAST ARMS ONCE THE EXISTING PEDESTRIAN PUSHBUTTONS AND TRAFFIC SIGNAL HEADS HAVE BEEN REMOVED. THE METHOD OF REPAIR SHALL BE APPROVED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCIDENTAL TO ITEM CODE 945.9902.

**SEQUENCE AND TIMING DIAGRAM**

APPROACH	DIRECTION	HOUSING	ø1				ø2				ø3				ø4				FLASHING OPERATION
MINIMUM INTERVAL			10				6								5				
VEHICLE EXTENSION			2.6				2.6								2.4				
MAXIMUM 1			35				20								15				
MAXIMUM 2			35				20								15				
YELLOW CLEARANCE			3.5				4			3					3				
RED CLEARANCE				3.5			3.5										2.5		
PED. WALK/CHANGE										7/10									
BROAD STREET	NB	A,B	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
BROAD STREET	SB	C,D	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
DRIVEWAY	WB	E,F	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	FR
JOHN STREET	EB	G,H	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	FR
DRIVEWAY	EB	J,K	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
PEDESTRIAN X-ING	N-S	P1-P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
PEDESTRIAN X-ING	E-W	P5-P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
DETECTOR			NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK				
RECALL			SOFT				OFF				OFF				OFF				

**SEQUENCE AND TIMING NOTES:**

- FLASHING OPERATION PER M.U.T.C.D.
- MAXIMUM 1 = NORMAL OPERATION
- MAXIMUM 2 = NOT USED
- PED. W/FDW UPON PUSHBUTTON ACTUATION ONLY



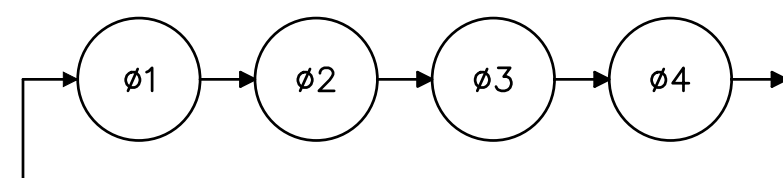
**TRAFFIC SIGNAL CONSTRUCTION NOTES (CONT.):**

- THE CONTRACTOR SHALL UTILIZE EXISTING CABLING TO THE SIGNAL CONTROLLER CABINET FOR TRAFFIC SIGNAL HEADS A, B, C, D, E, F, G, & H, PEDESTRIAN SIGNAL HEADS P2, P3, P4, P5, & P7 AND FOR PEDESTRIAN PUSHBUTTONS P2, P3, P4, P5, & P7.
- UPON COMPLETION OF INSTALLING NEW MAST ARM MOUNTED TRAFFIC SIGNAL HEADS, THE CONTRACTOR SHALL ENSURE THAT ALL EXISTING OVERHEAD MOUNTED SIGNS ARE NOT BLOCKED FROM VIEW IN ALL APPLICABLE DIRECTIONS. THE EXISTING OVERHEAD MOUNTED SIGNS SHALL BE RELOCATED AS NEEDED. THE COST OF THIS WORK SHALL BE INCIDENTAL TO ITEM CODE T14.3513.
- SEE TRAFFIC SIGNAL DETAILS NO. 4 FOR ADDITIONAL DETAILS.

**VIDEO DETECTOR DATA**

DETECTOR ZONE NO.	CAMERA NUMBER	APPROX. SIZE DET. ZONE	DELAY (SEC)	CALL PHASE	REMARKS
1	1	6'x40'	3	ø1	PROPOSED
5	2	6'x40'	3	ø1	PROPOSED
9	3	6'x30'	5	ø2	PROPOSED
13	4	6'x40'	3	ø2	PROPOSED
14	4	6'x40'	3	ø2	PROPOSED
17	5	6'x20'	5	ø4	PROPOSED

**PHASE SEQUENCE DIAGRAM**



**COORDINATION DATA**

(ALL ENTRIES IN SECONDS)

	PLAN 1	PLAN 2	PLAN 3
CYCLE LENGTH	105	105	105
OFFSET	53	101	101
SPLIT ø1	40	39	39
SPLIT ø2	34	35	35
SPLIT ø3	20	20	20
SPLIT ø4	11	11	11
COORDINATED PHASE	ø1	ø1	ø1

PLAN 1 - MONDAY-FRIDAY 7:00AM-10:00AM  
 PLAN 2 - MONDAY-FRIDAY 10:00AM-2:00PM  
 SATURDAY-SUNDAY 9:00AM-6:00PM  
 PLAN 3 - MONDAY-FRIDAY 2:00PM-6:00PM  
 FREE - ALL OTHER TIME PERIODS

**NOTES:**

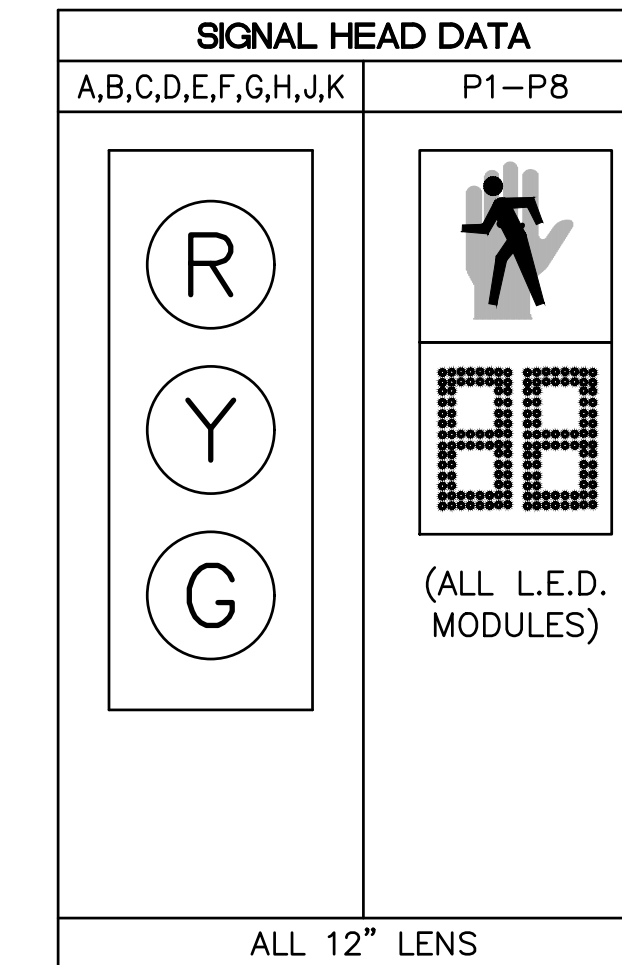
- ø1 "CALL NON ACTUATED" DURING COORDINATION.
- OFFSET: BEG OF ø1 GREEN.
- PLAN FORCE OFF/FLOATING FORCE OFF SHALL BE IN EFFECT.
- SPLIT TIMES EQUAL GREEN PLUS CLEARANCES.
- INHIBIT MAX. TERMINATION SHALL BE IN EFFECT DURING COORDINATION.

TRAFFIC SIGNAL NO. 091



R-1

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			191	201



**NOTES:**

- ALL TRAFFIC SIGNAL HEADS ARE PROPOSED.
- ALL PEDESTRIAN SIGNAL HEADS ARE PROPOSED.
- ALL PROPOSED RED, YELLOW, AND GREEN SIGNAL DISPLAYS SHALL BE EQUIPPED WITH LED MODULES.
- 5" BACKPLATES WITH A 3" REFLECTIVE STRIP (YELLOW, TYPE IIIB ADHESIVE SHEETING) SHALL BE PROVIDED ON ALL TRAFFIC SIGNAL HEADS.

**VIDEO DETECTION CAMERA SPACING**

CAMERA NUMBER	DISTANCE FROM CENTER OF MAST ARM POLE
1	7.5'
2	15'
3	5'
4	7'

**SIGNAL HEAD SPACING**

SIGNAL HEAD	APPROXIMATE DISTANCE FROM CENTER OF MAST ARM POLE		RELOCATED DISTANCE
	EXISTING	PROPOSED	
A	14.9'	14'	0.9'
B	4.7'	3.5'	1.2'
C	20.1'	18'	2.1'
D	30'	28'	2'
E	18.8'	18'	0.8'
F	9.8'	9'	0.8'
G	25.1'	24'	1.1'
H	15'	14'	1'

PEDESTRIAN PUSHBUTTON	MESSAGE
P1	CHURCH STREET, WALK SIGN IS ON TO CROSS CHURCH STREET
P3	JOHN STREET, WALK SIGN IS ON TO CROSS JOHN STREET
P6,P8	BROAD STREET, WALK SIGN IS ON TO CROSS BROAD STREET

PEDESTRIAN PUSHBUTTON	MESSAGE
P1	WAIT, WAIT TO CROSS CHURCH STREET AT BROAD STREET
P3	WAIT, WAIT TO CROSS JOHN STREET AT BROAD STREET
P6	WAIT, WAIT TO CROSS BROAD STREET AT JOHN STREET
P8	WAIT, WAIT TO CROSS BROAD STREET AT CHURCH STREET

NO.	DATE	BY
1	10/4/19	VHB

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

BROAD STREET (ROUTE 114) REGENERATION PROJECT

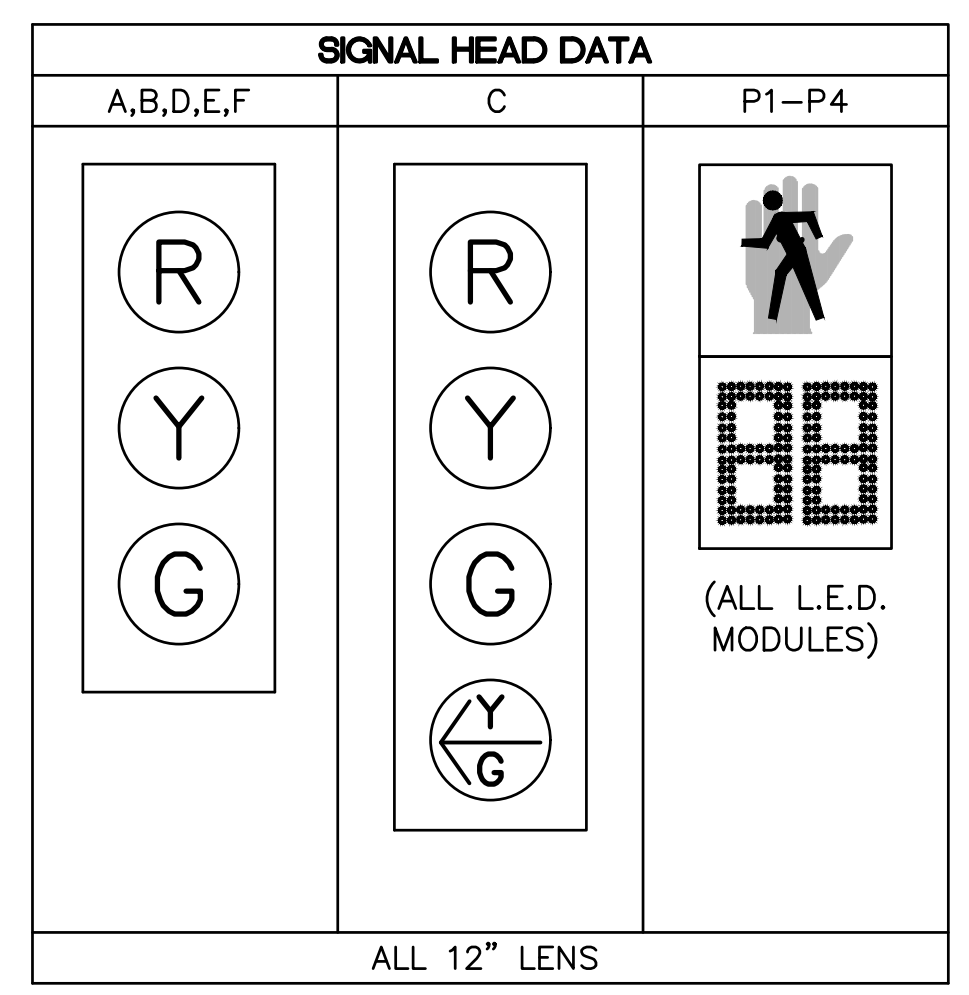
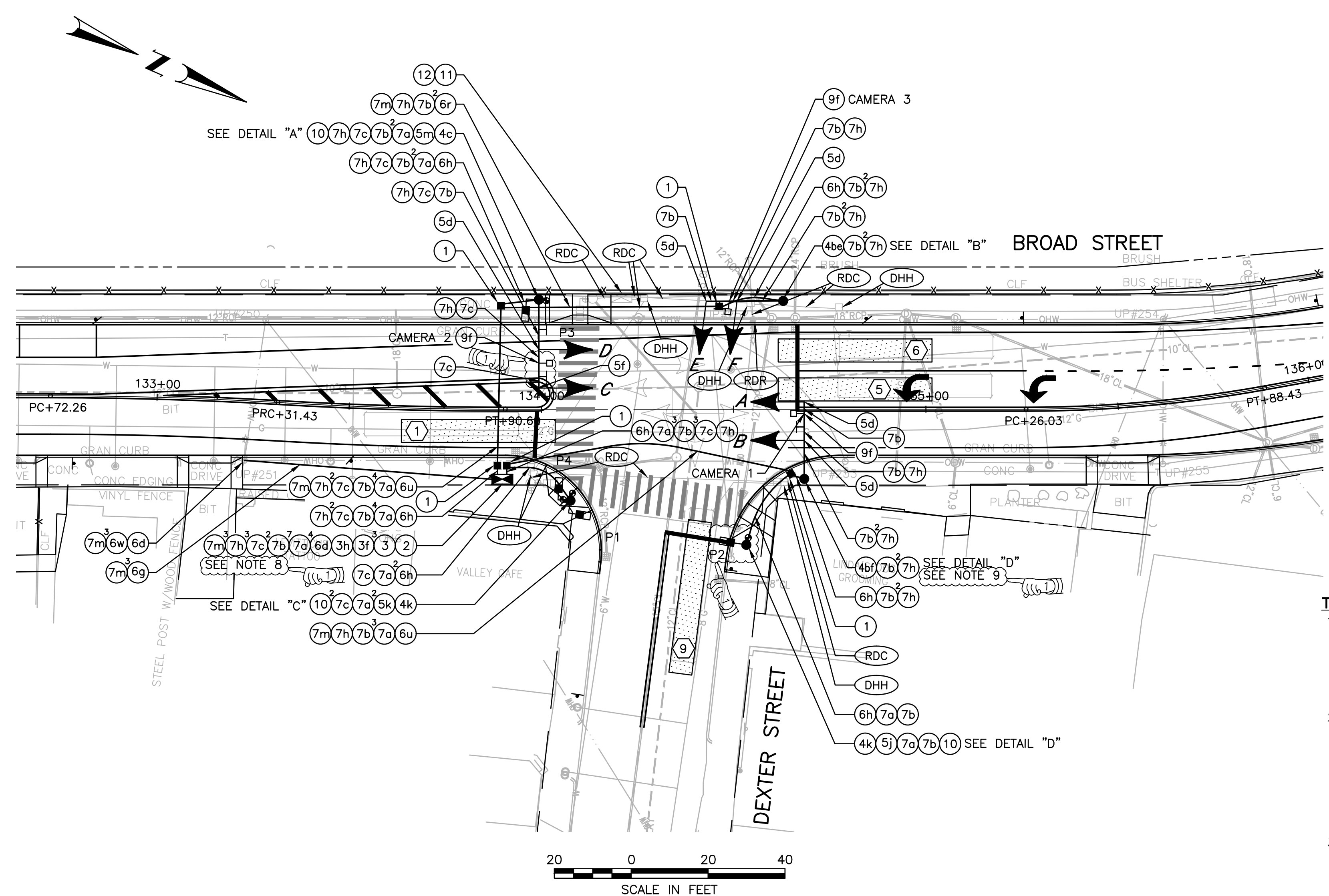
PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

TRAFFIC SIGNAL PLAN NO. 091  
 BROAD STREET AT JOHN STREET (CHURCH STREET)

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

ADDENDUM NO. 2

ITEM NO.	ITEM CODE	ITEM DESCRIPTION
1	T05.0100	Precast Type "A" Handhole Std. 18.2.0
2	T12.9150	Meter Socket W/ Manual Bypass
3	T12.0018	Actuated Controller TS-2, Type 1 w/8 Phase Assembly Ground Mounted Including Foundation and Cabinet Std. 19.1.0
3f	T12.9902	Video Detection System Hardware
3h	T12.9904	GPS Time Synchronization Unit
4be	T11.9908	20 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0 (Modified V)
4bf	T11.9909	20 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0 (Modified VI)
4c	T11.9910	25 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0 (Modified I)
4k	T11.2008	Traffic Signal Standard, 8 Foot, Std 19.4.0 Aluminum Pedestal Pole and Foundation
5d	T14.3513	1 Way 3 Section Mast Arm Mounted Signal Head 12 Inch
5f	T14.3516	1 Way 4 Section Mast Arm Mounted Signal Head 12 Inch (w/ Dual Ind., Dual Row LED Arrow)
5j	T14.9901	1 Way Pedestal Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
5k	T14.9902	2 Way Pedestal Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
5m	T14.9903	1 Way Bracket Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
6d	T06.2020	2 Inch Rigid Steel Conduit - Overhead
6g	T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement
6h	T06.3030	3 Inch Rigid Steel Conduit - Under Existing Pavement
6r	T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6u	T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6w	T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead
7a	T04.5303	14 AWG 3 Conductor Cable
7b	T04.5305	14 AWG 5 Conductor Cable
7c	T04.5307	14 AWG 7 Conductor Cable
7h	T04.9901	Video Detection System Cable (As Specified by Manufacturer)
7m	T04.5001	6 AWG Single Conductor Cable 600v Insulation
9f	T13.9901	Video Detection System Camera
10	T13.8210	Accessible Pedestrian Detector - Pushbutton with Sign
11	945.0100	Remove and Dispose Traffic Signal Equipment
12	945.0200	Remove and Salvage Traffic Signal Equipment
RDR	201.0413	Remove and Dispose Risers
DHH	201.0423	Remove and Dispose Handhole
RDC	201.0617	Remove and Dispose Conduit - All Sizes



- NOTES:
- ALL TRAFFIC SIGNAL HEADS ARE PROPOSED.
  - ALL PEDESTRIAN SIGNAL HEADS ARE PROPOSED.
  - ALL PROPOSED RED, YELLOW, AND GREEN SIGNAL DISPLAYS SHALL BE EQUIPPED WITH LED MODULES.
  - 5" BACKPLATES WITH A 3" REFLECTIVE STRIP (YELLOW, TYPE IIIB ADHESIVE SHEETING) SHALL BE PROVIDED ON ALL TRAFFIC SIGNAL HEADS.

**TRAFFIC SIGNAL CONSTRUCTION NOTES:**

- THE ITEM "REMOVE AND DISPOSE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
 MISCELLANEOUS TRAFFIC SIGNAL CABLE AND WIRING SHALL BE REMOVED AND LEGALLY DISPOSED OF IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- THE ITEM "REMOVE AND SALVAGE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
 (1) LOCAL CONTROLLER, GROUND MOUNTED CABINET AND ASSOCIATED EQUIPMENT, (1) TRAFFIC SIGNAL MAST ARM POLE AND FOUNDATION, (6) TRAFFIC SIGNAL HEADS, (2) PEDESTAL POLES (4) PEDESTRIAN SIGNAL HEADS, (4) PEDESTRIAN PUSHBUTTONS SHALL BE REMOVED AND SALVAGED IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- REMOVAL OF EXISTING HANDHOLES, CONDUIT, AND RISERS ASSOCIATED WITH THE TRAFFIC SIGNAL SHALL BE PAID FOR UNDER THE APPROPRIATE INDIVIDUAL AND SEPARATE PAY ITEMS.
- FINISHED GRADE OF PROPOSED TRAFFIC SIGNAL POLE FOUNDATIONS SHALL BE FLUSH WITH THE EXISTING OR PROPOSED FINISHED GRADE OF THE ADJACENT SIDEWALK. WHERE POLE FOUNDATIONS ARE PROPOSED WITHIN THE LIMITS OF WHEELCHAIR RAMPS, THE TOP OF FOUNDATION GRADE SHALL BE SET TO ALLOW THE POLE BASEPLATE TO BE INSTALLED ABOVE FINISHED WHEELCHAIR RAMP GRADE.
- THE EXISTING CONDUIT NETWORK SHOWN ON THIS PLAN IS BASED ON ASSUMED LOCATIONS AND SIZES. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDUIT LOCATION AND SIZE FOR ACCURACY AND ADEQUACY PRIOR TO PERFORMING THE WORK.
- THE CONTRACTOR SHALL INSTALL THE SIGNAL CABINET ON A 12" RISER EXTENSION BASE. THE COST OF THE EXTENSION BASE SHALL BE CONSIDERED INCIDENTAL TO ITEM CODE T12.0018
- SEE STANDARD NOTES PLAN AND JOB SPECIFIC PLAN SYMBOLS, LEGEND & NOTES PLAN FOR ADDITIONAL INFORMATION.
- TRAFFIC SIGNAL CONTROLLER CABINET SHALL BE ORIENTED SO THAT THE CABINET DOOR IS FACING AWAY FROM THE ROADWAY.
- BASE PLATE FOR THE PROPOSED MAST ARM ON THE NORTHEAST CORNER OF THE INTERSECTION SHALL BE A MAXIMUM OF 13" DIAMETER TO PROVIDE MINIMUM ADA CLEARANCE OF 32" FROM THE BACK OF THE PROPOSED CURB.
- SEE TRAFFIC SIGNAL DETAILS NO. 5 FOR ADDITIONAL DETAILS.

PEDESTRIAN PUSHBUTTON	MESSAGE
APD	APD SPEECH WALK MESSAGE (WHEN WALK INDICATION IS ON)
P1	DEXTER STREET, WALK SIGN IS ON TO CROSS DEXTER STREET
P4	BROAD STREET, WALK SIGN IS ON TO CROSS BROAD STREET

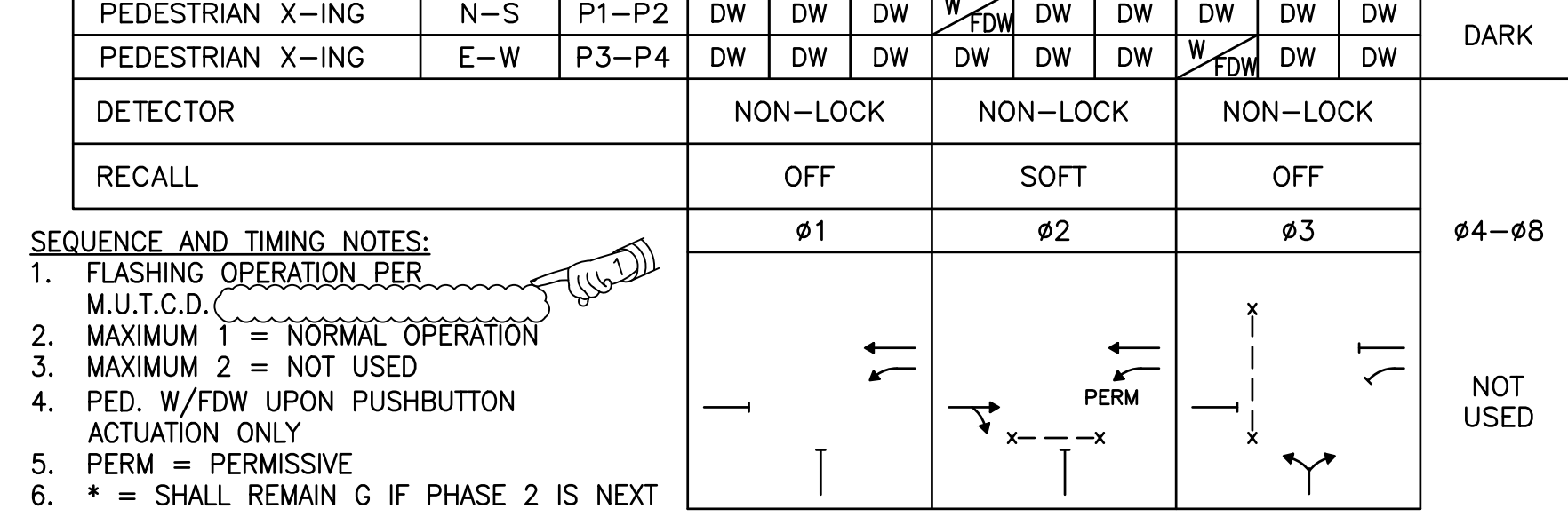
PEDESTRIAN PUSHBUTTON	MESSAGE
APD	APD SPEECH MESSAGE (WHEN WALK INDICATION IS NOT ON)
P1	WAIT, WAIT TO CROSS DEXTER STREET AT BROAD STREET
P4	WAIT, WAIT TO CROSS BROAD STREET AT DEXTER STREET

**SEQUENCE AND TIMING DIAGRAM**

APPROACH	DIRECTION	HOUSING	Ø1	Ø2	Ø3	FLASHING OPERATION	
MINIMUM INTERVAL			6	10	6		
VEHICLE EXTENSION			2.6	2.6	2.4		
MAXIMUM 1			15	35	20		
MAXIMUM 2			15	35	20		
YELLOW CLEARANCE			3.5	3.5	3.5		
RED CLEARANCE			1.5	1.5	1.5		
PED. WALK/CHANGE			7/8	7/7	7/7		
BROAD STREET	NB	A,B	R R R	G Y R	R R R	FY	
BROAD STREET	SB-LT	C	G	Y*	R*	G Y R R R R R	FY
BROAD STREET	SB	D	G	Y*	R*	G Y R R R R R	FY
DEXTER STREET	WB	E,F	R R R	R R R	R G Y R	FR	
PEDESTRIAN X-ING	N-S	P1-P2	DW DW DW	W FDW DW DW DW	DW DW DW	DARK	
PEDESTRIAN X-ING	E-W	P3-P4	DW DW DW	DW DW DW	W FDW DW DW	DARK	
DETECTOR			NON-LOCK	NON-LOCK	NON-LOCK		
RECALL			OFF	SOFT	OFF		
			Ø1	Ø2	Ø3	Ø4-Ø8	

**SEQUENCE AND TIMING NOTES:**

- FLASHING OPERATION PER M.U.T.C.D.
- MAXIMUM 1 = NORMAL OPERATION
- MAXIMUM 2 = NOT USED
- PED. W/FDW UPON PUSHBUTTON ACTION ONLY
- PERM = PERMISSIVE
- \* = SHALL REMAIN G IF PHASE 2 IS NEXT



**VIDEO DETECTOR DATA**

DETECTOR ZONE NO.	CAMERA NUMBER	APPROX. SIZE DET. ZONE	DELAY (SEC)	CALL PHASE	REMARKS
1	1	6'x40'	3	Ø2	PROPOSED
5	2	6'x40'	3	Ø1	PROPOSED
6	2	6'x40'	3	Ø2	PROPOSED
9	3	6'x40'	3	Ø3	PROPOSED

**COORDINATION DATA**  
(ALL ENTRIES IN SECONDS)

	PLAN 1	PLAN 2	PLAN 3
CYCLE LENGTH	105	105	105
OFFSET	4	94	94
SPLIT Ø1	22	18	18
SPLIT Ø2	46	49	49
SPLIT Ø3	37	38	38
COORDINATED PHASE	Ø2	Ø2	Ø2

- PLAN 1 - MONDAY-FRIDAY 7:00AM-10:00AM  
 PLAN 2 - MONDAY-FRIDAY 10:00AM-2:00PM  
 SATURDAY-SUNDAY 9:00AM-6:00PM  
 PLAN 3 - MONDAY-FRIDAY 2:00PM-6:00PM  
 FREE - ALL OTHER TIME PERIODS

- NOTES:
- Ø2 "CALL NON ACTUATED" DURING COORDINATION.
  - OFFSET: BEG OF Ø2 GREEN.
  - PLAN FORCE OFF/FLOATING FORCE OFF SHALL BE IN EFFECT.
  - SPLIT TIMES EQUAL GREEN PLUS CLEARANCES.
  - INHIBIT MAX. TERMINATION SHALL BE IN EFFECT DURING COORDINATION.

**TRAFFIC SIGNAL NO. 514**

REVISIONS

NO.	DATE	BY
1	10/4/19	VHB

RHODE ISLAND  
 DEPARTMENT OF TRANSPORTATION

**BROAD STREET (ROUTE 114)  
 REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**TRAFFIC SIGNAL PLAN NO. 000**  
 BROAD STREET AT DEXTER STREET

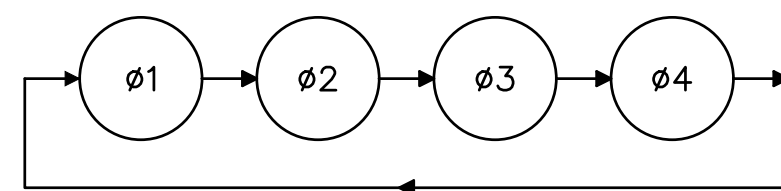
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_





ITEM NO.	ITEM CODE	ITEM DESCRIPTION
1	T05.0100	Precast Type "A" Handhole Std. 18.2.0
2	T12.9150	Meter Socket W/ Manual Bypass
3	T12.0018	Actuated Controller TS-2, Type 1 w/8 Phase Assembly Ground Mounted Including Foundation and Cabinet Std. 19.1.0
3f	T12.9902	Video Detection System Hardware
3h	T12.9904	GPS Time Synchronization Unit
4a	T11.9901	15 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0
4ga	T11.9912	45 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0 (Modified I)
4h	T11.9913	50 Foot Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0
4j	T11.9915	Traffic Signal Standard, 18 Foot, Std 19.4.0 Aluminum Pedestal Pole and Foundation
4k	T11.2008	Traffic Signal Standard, 8 Foot, Std 19.4.0 Aluminum Pedestal Pole and Foundation
4m	T11.2010	Traffic Signal Standard, 10 Foot, Std 19.4.0 Aluminum Pedestal Pole and Foundation
5d	T14.3513	1 Way 3 Section Mast Arm Mounted Signal Head 12 Inch
5f	T14.3516	1 Way 4 Section Mast Arm Mounted Signal Head 12 Inch (w/ Dual Ind., Dual Row LED Arrow)
5g	T14.3613	1 Way 3 Section Bracket Mounted Signal Head 12 Inch
5h	T14.3713	1 Way 3 Section Pedestal Mounted Signal Head 12 Inch
5j	T14.9901	1 Way Pedestal Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
5m	T14.9903	1 Way Bracket Mounted LED Pedestrian Signal Head With Countdown Timer 12 Inch
6b	T06.1030	3 Inch Rigid Steel Conduit - Underground
6c	T06.1040	4 Inch Rigid Steel Conduit - Underground
6d	T06.2020	2 Inch Rigid Steel Conduit - Overhead
6g	T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement
6h	T06.3030	3 Inch Rigid Steel Conduit - Under Existing Pavement
6s	T06.5340	4 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6u	T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement
6w	T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead
7a	T04.5303	14 AWG 3 Conductor Cable
7b	T04.5305	14 AWG 5 Conductor Cable
7c	T04.5307	14 AWG 7 Conductor Cable
7h	T04.9901	Video Detection System Cable (As Specified by Manufacturer)
7m	T04.5001	6 AWG Single Conductor Cable 600v Insulation
9f	T13.9901	Video Detection System Camera
10	T13.8210	Accessible Pedestrian Detector - Pushbutton with Sign
11	945.0100	Remove and Dispose Traffic Signal Equipment
12	945.0200	Remove and Salvage Traffic Signal Equipment
RDR	201.0413	Remove and Dispose Risers
DHH	201.0423	Remove and Dispose Handhole
RDC	201.0617	Remove and Dispose Conduit - All Sizes

PHASE SEQUENCE DIAGRAM



SEQUENCE AND TIMING DIAGRAM

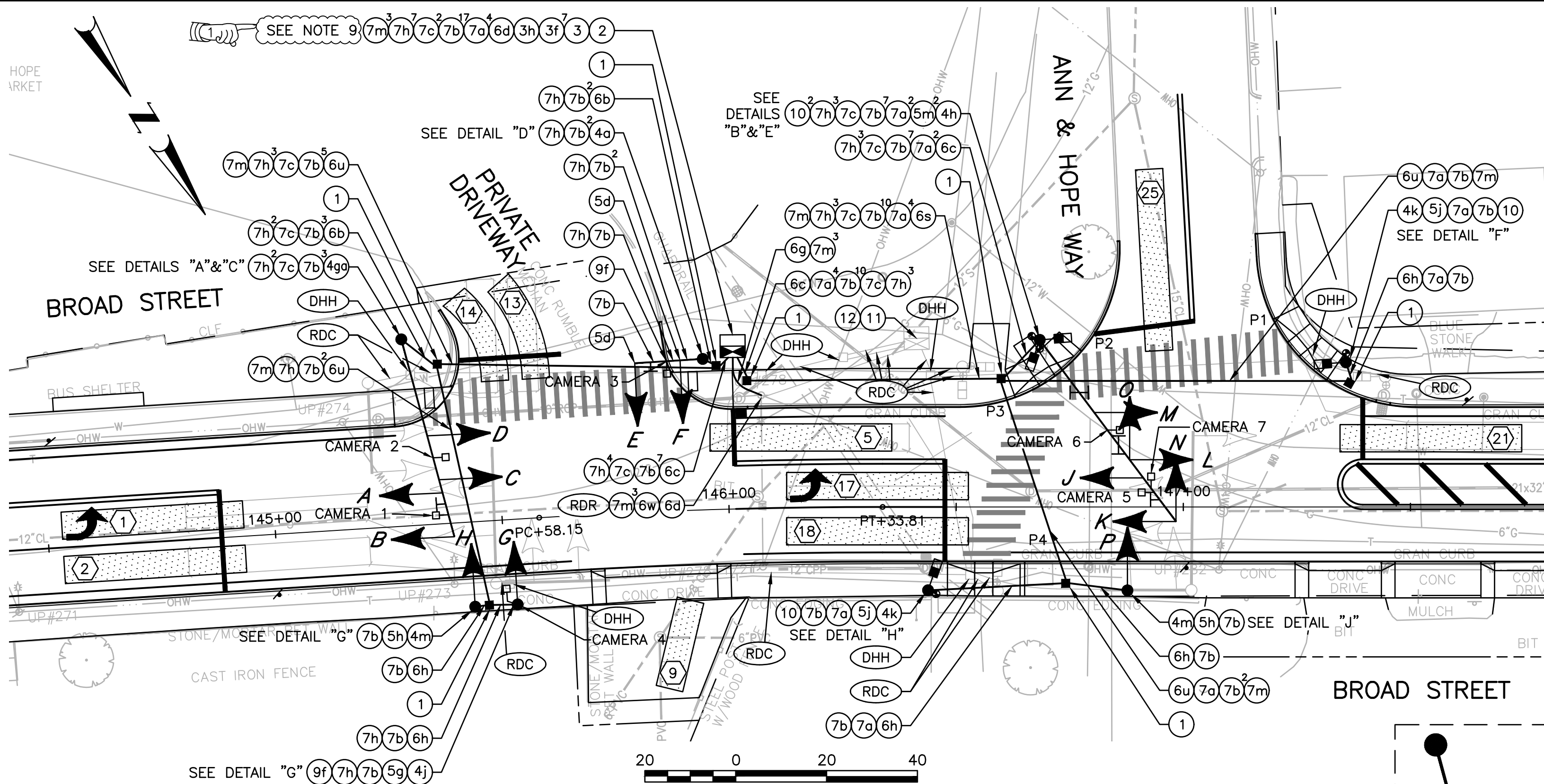
APPROACH	DIRECTION	HOUSING	ø1	ø2	ø3	ø4	FLASHING OPERATION
MINIMUM INTERVAL			6	10	6	6	
VEHICLE EXTENSION			2.6	2.6	2.6	2.6	
MAXIMUM 1			20	30	20	20	
MAXIMUM 2			20	30	20	20	
YELLOW CLEARANCE			3.5	3.5	4	3.5	
RED CLEARANCE			2.5	2.5	2	1.5	
PED. WALK/CHANGE			7/10		7/7		
BROAD STREET NB-LT	A	G	Y*	R*	G	Y	RY
BROAD STREET NB	B	G	Y*	R*	G	Y	RY
BROAD STREET SB	C,D	R	R	G	Y*	R*	RY
DRIVEWAY WB	E,F	R	R	R	G	Y	RY
DRIVEWAY EB	G,H	R	R	R	R	G	RY
BROAD STREET NB-LT	J	G	Y*	R*	G	Y*	RY
BROAD STREET NB	K	G	Y*	R*	G	Y*	RY
BROAD STREET SB	L,M	R	R	R	G	Y	RY
ANN & HOPE WAY	EB	N,O,P	R	R	R	R	GY
PEDESTRIAN X-ING	N-S	P1-P2	DW	DW	DW	DW	DW
PEDESTRIAN X-ING	E-W	P3-P4	DW	DW	DW	DW	DW
DETECTOR			NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK	
RECALL			OFF	SOFT	OFF	OFF	

SEQUENCE AND TIMING NOTES:

- FLASHING OPERATION PER M.U.T.C.D.
- MAXIMUM 1 = NORMAL OPERATION
- MAXIMUM 2 = NOT USED
- PED. W/FDW UPON PUSHBUTTON ACTUATION ONLY
- PERM = PERMISSIVE
- \* = SHALL REMAIN G IF PHASE 2 IS NEXT
- + = SHALL REMAIN G IF PHASE 3 IS NEXT
- # = SHALL REMAIN G IF PHASE 4 IS NEXT

ADDENDUM NO. 2

DRIVEWAY	ø1	ø2	ø3	ø4
DRIVEWAY				
ANN & HOPE WAY				



TRAFFIC SIGNAL CONSTRUCTION NOTES:

- THE ITEM "REMOVE AND DISPOSE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
MISCELLANEOUS TRAFFIC SIGNAL CABLE AND WIRING SHALL BE REMOVED AND LEGALLY DISPOSED OF IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- THE ITEM "REMOVE AND SALVAGE TRAFFIC SIGNAL EQUIPMENT" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS:  
(1) LOCAL CONTROLLER, GROUND MOUNTED CABINET AND ASSOCIATED EQUIPMENT, (3) TRAFFIC SIGNAL MAST ARM POLES AND FOUNDATIONS, (12) TRAFFIC SIGNAL HEADS, (3) PEDESTAL POLES (4) PEDESTRIAN SIGNAL HEADS, (4) PEDESTRIAN PUSHBUTTONS SHALL BE REMOVED AND SALVAGED IN ACCORDANCE WITH SECTION 945 OF THE STANDARD SPECIFICATIONS.
- REMOVAL OF EXISTING HANDHOLES, CONDUIT, AND RISERS ASSOCIATED WITH THE TRAFFIC SIGNAL SHALL BE PAID FOR UNDER THE APPROPRIATE INDIVIDUAL AND SEPARATE PAY ITEMS.
- FINISHED GRADE OF PROPOSED TRAFFIC SIGNAL POLE FOUNDATIONS SHALL BE FLUSH WITH THE EXISTING OR PROPOSED FINISHED GRADE OF THE ADJACENT SIDEWALK. WHERE POLE FOUNDATIONS ARE PROPOSED WITHIN THE LIMITS OF WHEELCHAIR RAMPS, THE TOP OF FOUNDATION GRADE SHALL BE SET TO ALLOW THE POLE BASEPLATE TO BE INSTALLED ABOVE FINISHED WHEELCHAIR RAMP GRADE.
- THE EXISTING CONDUIT NETWORK SHOWN ON THIS PLAN IS BASED ON ASSUMED LOCATIONS AND SIZES. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDUIT LOCATION AND SIZE FOR ACCURACY AND ADEQUACY PRIOR TO PERFORMING THE WORK.
- THE CONTRACTOR SHALL INSTALL THE SIGNAL CABINET ON A 12" RISER EXTENSION BASE. THE COST OF THE EXTENSION BASE SHALL BE CONSIDERED INCIDENTAL TO ITEM CODE T12.0018
- THE CONTRACTOR SHALL PERFORM A TEST PIT FOR THE PROPOSED PEDESTAL POLE "P1" LOCATED ON THE SOUTHWESTERLY CORNER OF THE BROAD STREET AND ANN & HOPE WAY INTERSECTION TO CONFIRM THAT THERE ARE NO OBSTRUCTIONS WITH THE PROPOSED FOUNDATION. IF OBSTRUCTIONS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD TO WORK TOGETHER ON IDENTIFYING AN ALTERNATE LOCATION FOR THE PEDESTAL POLE.
- SEE STANDARD NOTES PLAN AND JOB SPECIFIC PLAN SYMBOLS, LEGEND & NOTES PLAN FOR ADDITIONAL INFORMATION.
- TRAFFIC SIGNAL CONTROLLER CABINET SHALL BE ORIENTED SO THAT THE CABINET DOOR IS FACING AWAY FROM THE ROADWAY.
- SEE TRAFFIC SIGNAL DETAILS NO. 6 FOR ADDITIONAL DETAILS.

VIDEO DETECTOR DATA

DETECTOR ZONE NO.	CAMERA NUMBER	APPROX. SIZE DET. ZONE	DELAY (SEC)	CALL PHASE	REMARKS
1	1	6'x40'	3	ø1	PROPOSED
2	1	6'x40'	3	ø2	PROPOSED
5	2	6'x40'	3	ø2	PROPOSED
9	3	6'x20'	5	ø3	PROPOSED
13	4	6'x25'	5	ø3	PROPOSED
14	4	6'x25'	8	ø3	PROPOSED
17	5	6'x40'	3	ø1	PROPOSED
18	5	6'x40'	3	ø2	PROPOSED
21	6	6'x40'	3	ø2	PROPOSED
25	7	6'x40'	3	ø4	PROPOSED

SIGNAL HEAD SPACING

SIGNAL HEAD	DISTANCE FROM CENTER OF MAST ARM POLE
A	35'
B	45'
C	32'
D	22'
E	15'
F	5'
J	38'
K	50'
L	33'
M	20'
N	50'
O	33'

COORDINATION DATA  
(ALL ENTRIES IN SECONDS)

	PLAN 1	PLAN 2	PLAN 3
CYCLE LENGTH	105	105	105
OFFSET	73	34	34
SPLIT ø1	27	27	27
SPLIT ø2	35	34	34
SPLIT ø3	20	20	20
SPLIT ø4	23	24	24
COORDINATED PHASE	ø2	ø2	ø2
PLAN 1 - MONDAY-FRIDAY	7:00AM-10:00AM		
PLAN 2 - MONDAY-FRIDAY	10:00AM-2:00PM		
	SATURDAY-SUNDAY	9:00AM-6:00PM	
PLAN 3 - MONDAY-FRIDAY	2:00PM-6:00PM		
FREE	- ALL OTHER TIME PERIODS		

NOTES:

- ø2 "CALL NON ACTUATED" DURING COORDINATION.
- OFFSET: BEG OF ø2 GREEN.
- PLAN FORCE OFF/FLOATING FORCE OFF SHALL BE IN EFFECT.
- SPLIT TIMES EQUAL GREEN PLUS CLEARANCES.
- INHIBIT MAX. TERMINATION SHALL BE IN EFFECT DURING COORDINATION.

TRAFFIC SIGNAL NO. 512



R-1

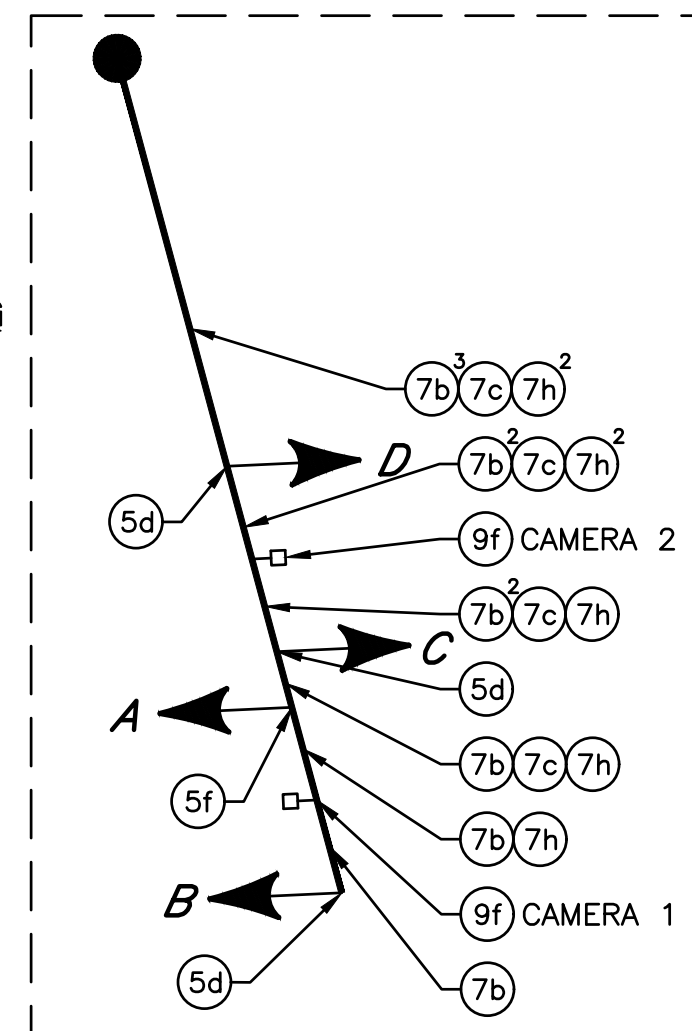
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			193	201

SIGNAL HEAD DATA		
A,J	B,C,D,E,F,G,H,K,L,M,N,O,P	P1-P4
R	R	WALK SIGN
Y	Y	WALK SIGN
G	G	WALK SIGN
Y/G		(ALL L.E.D. MODULES)

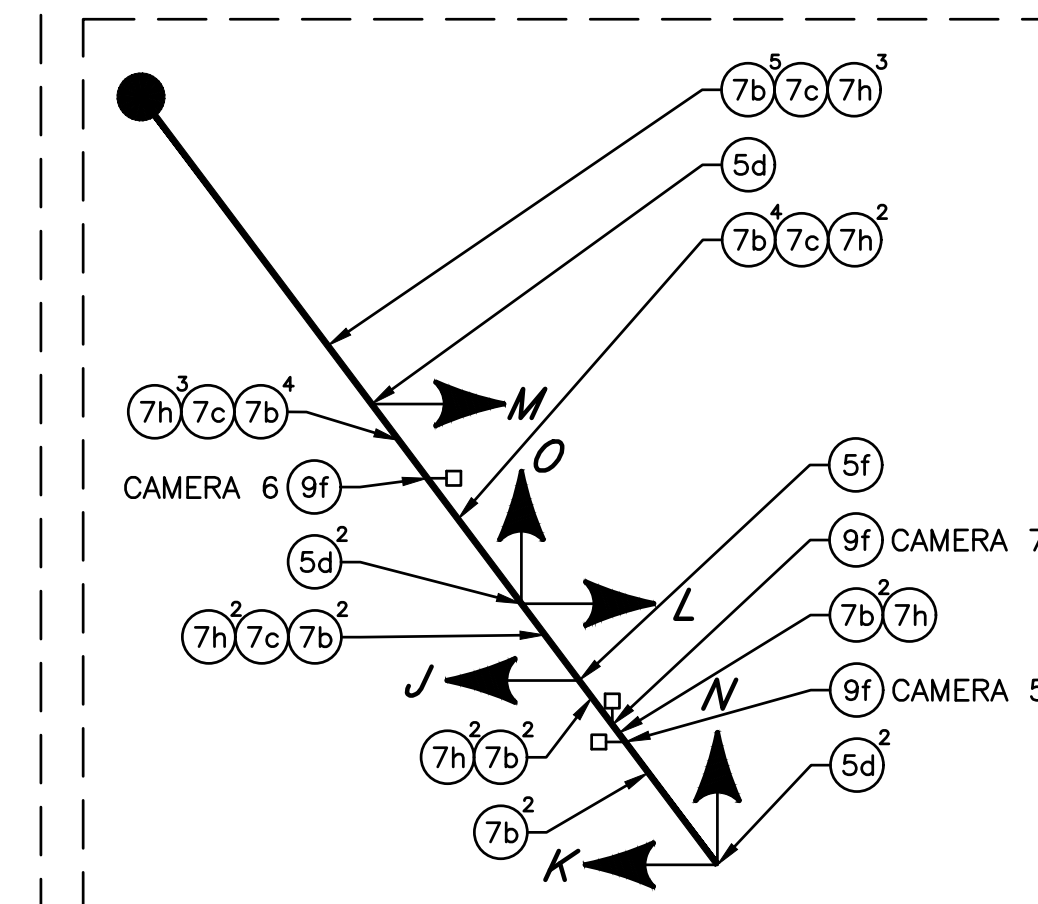
ALL 12" LENS

NOTES:

- ALL TRAFFIC SIGNAL HEADS ARE PROPOSED.
- ALL PEDESTRIAN SIGNAL HEADS ARE PROPOSED.
- ALL PROPOSED RED, YELLOW, AND GREEN SIGNAL DISPLAYS SHALL BE EQUIPPED WITH LED MODULES.
- 5" BACKPLATES WITH A 3" REFLECTIVE STRIP (YELLOW, TYPE III B ADHESIVE SHEETING) SHALL BE PROVIDED ON ALL TRAFFIC SIGNAL HEADS.



DETAIL "A"  
1"=10'



DETAIL "B"  
1"=10'

PEDESTRIAN PUSHBUTTON	MESSAGE
P2	APD SPEECH WALK MESSAGE (WHEN WALK INDICATION IS ON)
P2	ANN & HOPE WAY, WALK SIGN IS ON TO CROSS ANN & HOPE WAY
P3	BROAD STREET, WALK SIGN IS ON TO CROSS BROAD STREET
PEDESTRIAN PUSHBUTTON	APD SPEECH MESSAGE (WHEN WALK INDICATION IS NOT ON)
P2	WAIT, WAIT TO CROSS ANN & HOPE WAY AT BROAD STREET
P3	WAIT, WAIT TO CROSS BROAD STREET AT ANN & HOPE WAY

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RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION

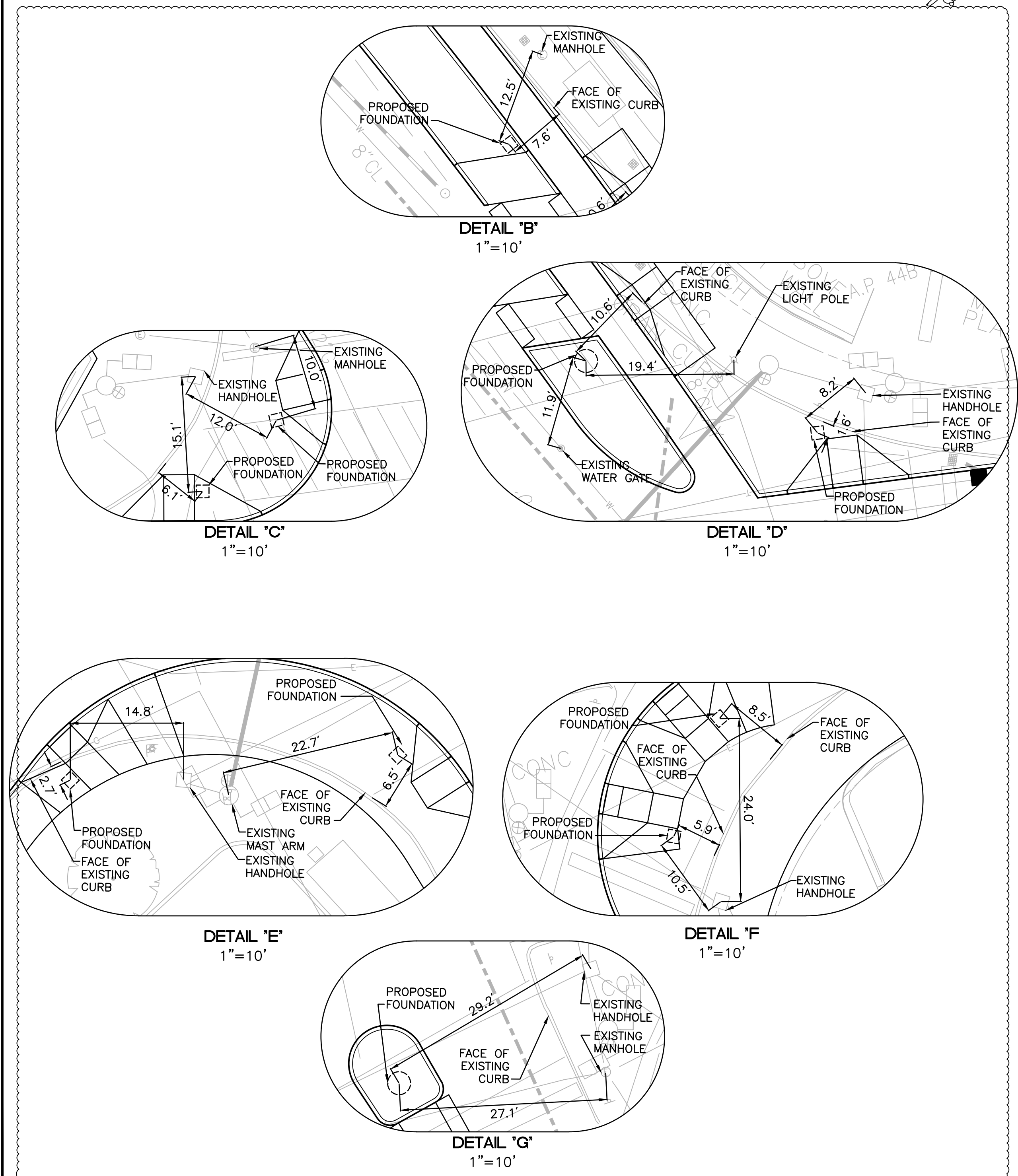
BROAD STREET (ROUTE 114)  
REGENERATION PROJECT

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

TRAFFIC SIGNAL PLAN NO. □□  
BROAD STREET AT ANN & HOPE WAY/PRIVATE DRIVEWAY

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

**BROAD STREET AT E CHANGE STREET  
(TRAFFIC SIGNAL PLAN NO 1)**

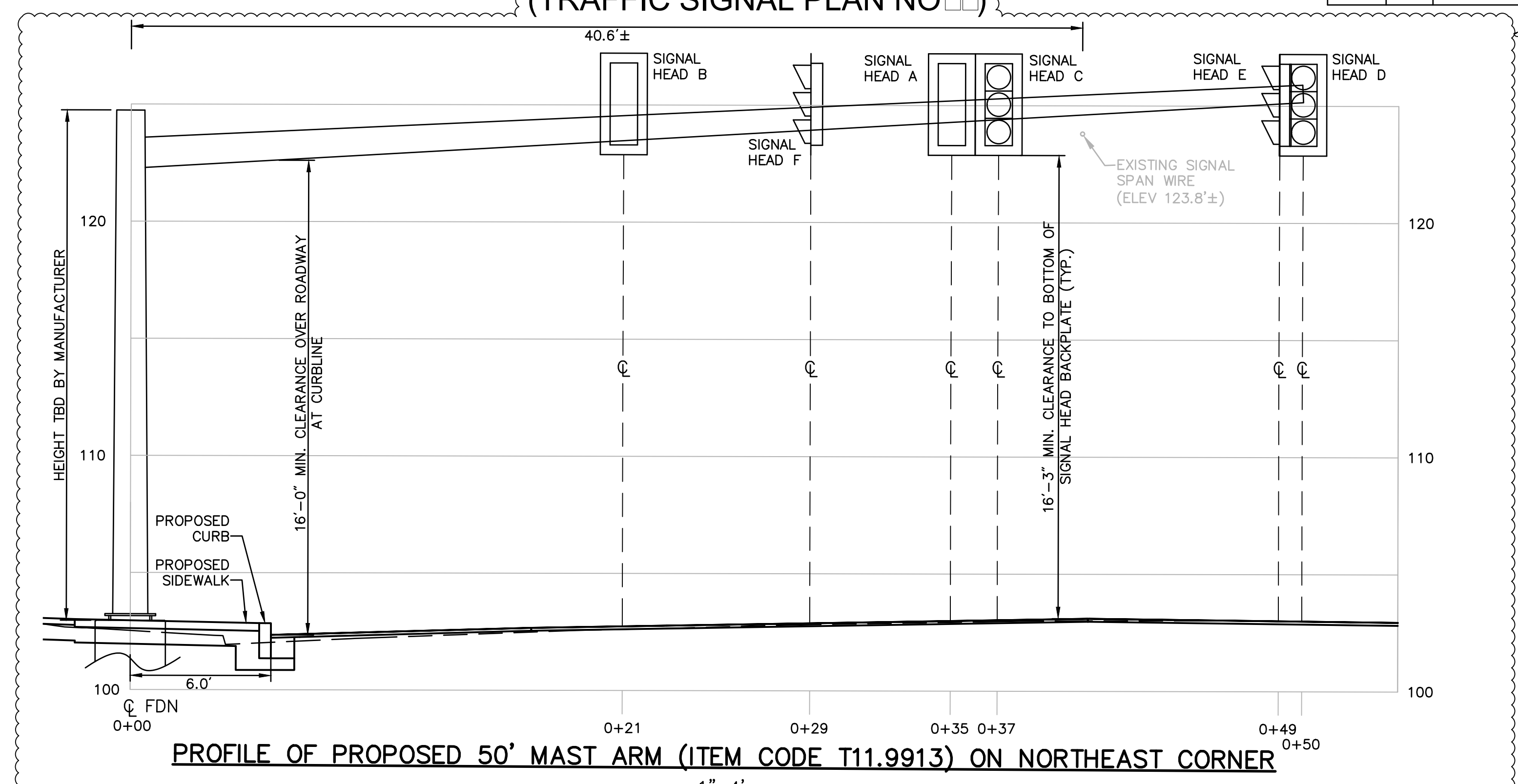


ADDENDUM NO. 2

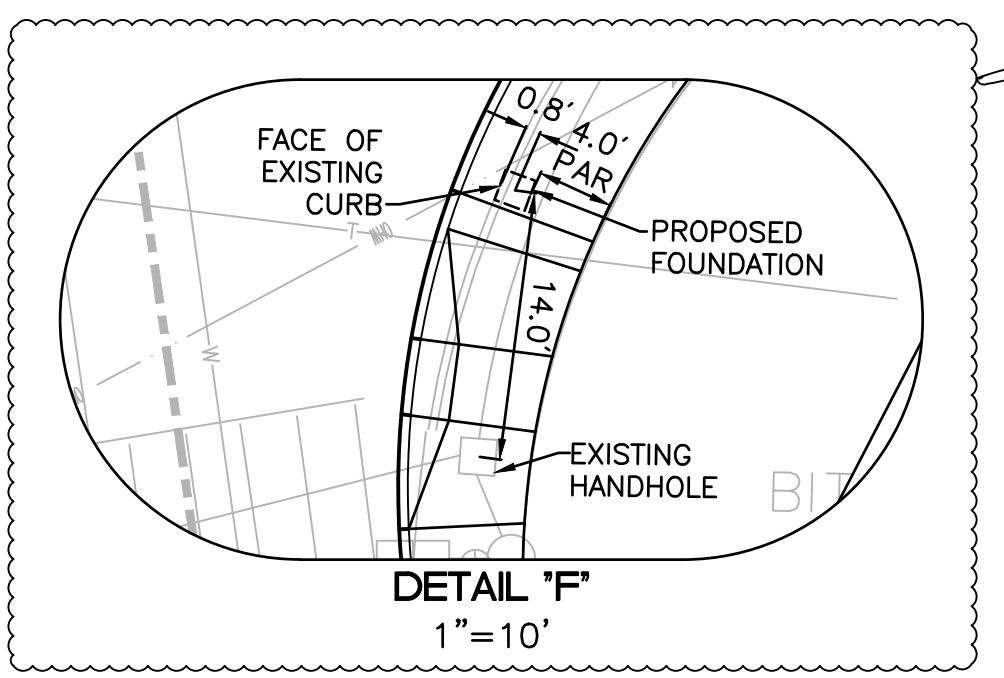
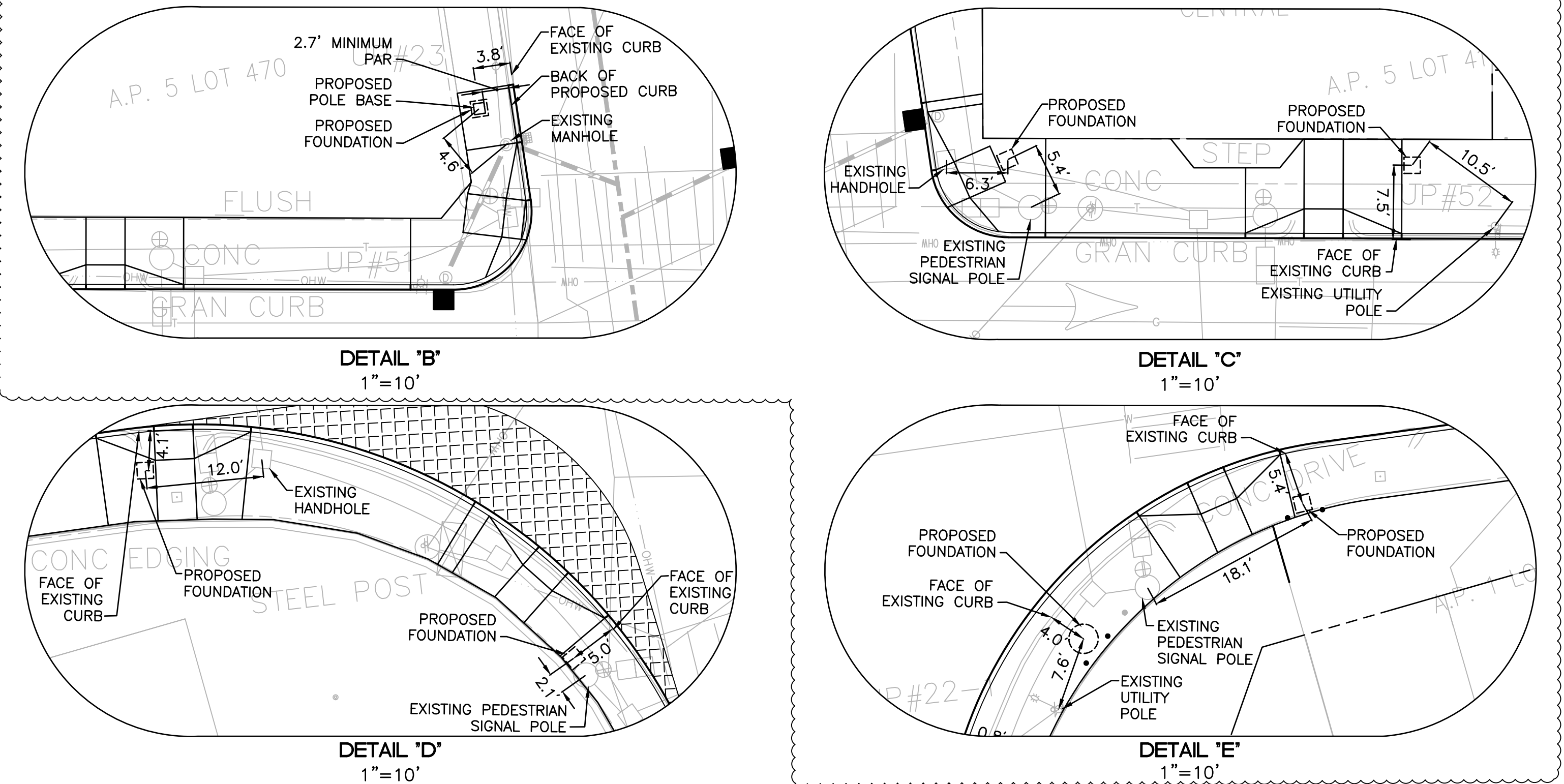
**BROAD STREET AT CROSS STREET  
(TRAFFIC SIGNAL PLAN NO 1)**

R-1

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**PROFILE OF PROPOSED 50' MAST ARM (ITEM CODE T11.9913) ON NORTHEAST CORNER**



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**RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION**

**BROAD STREET (ROUTE 114)  
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PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

**TRAFFIC SIGNAL  
DETAILS NO 1**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_





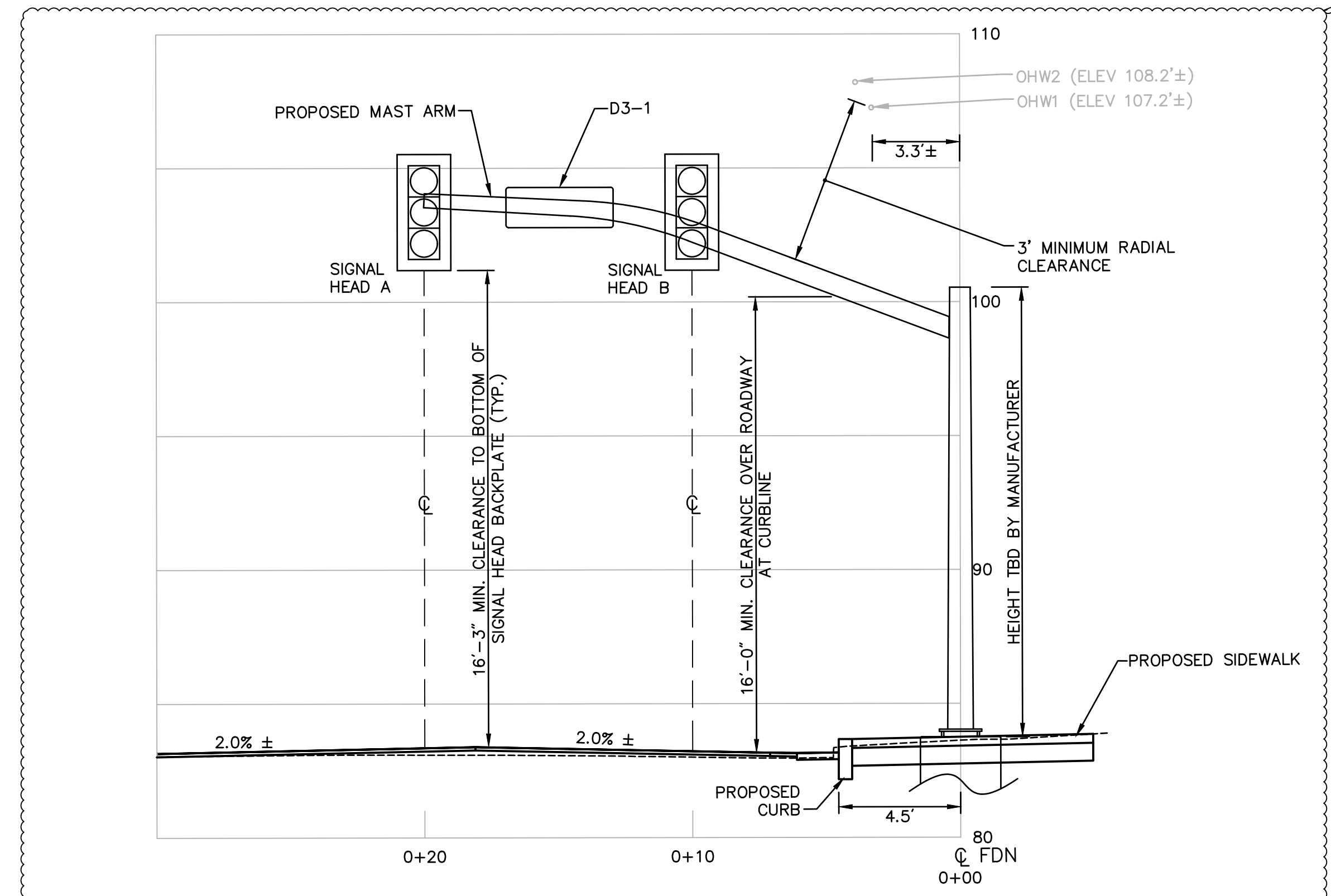




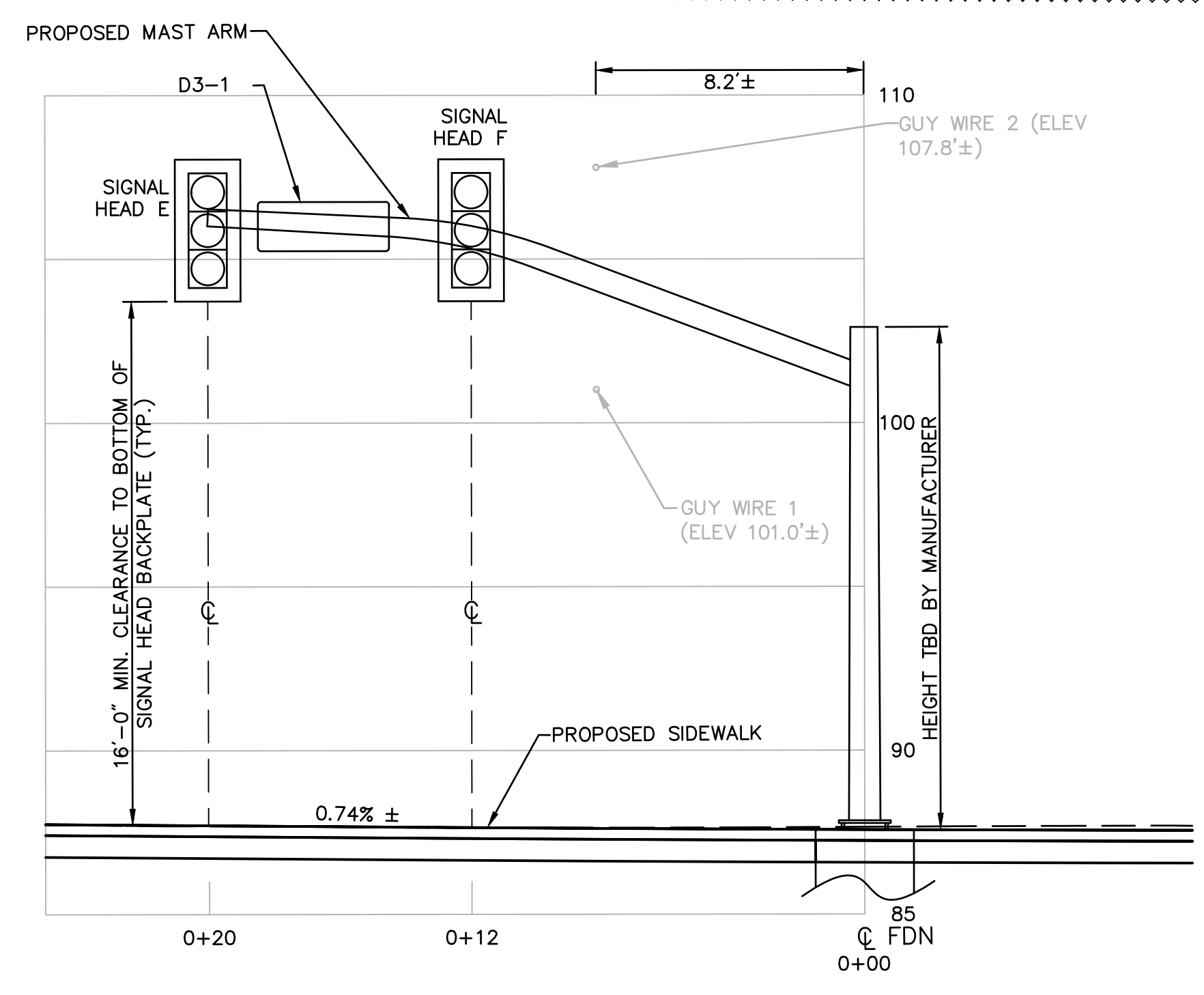




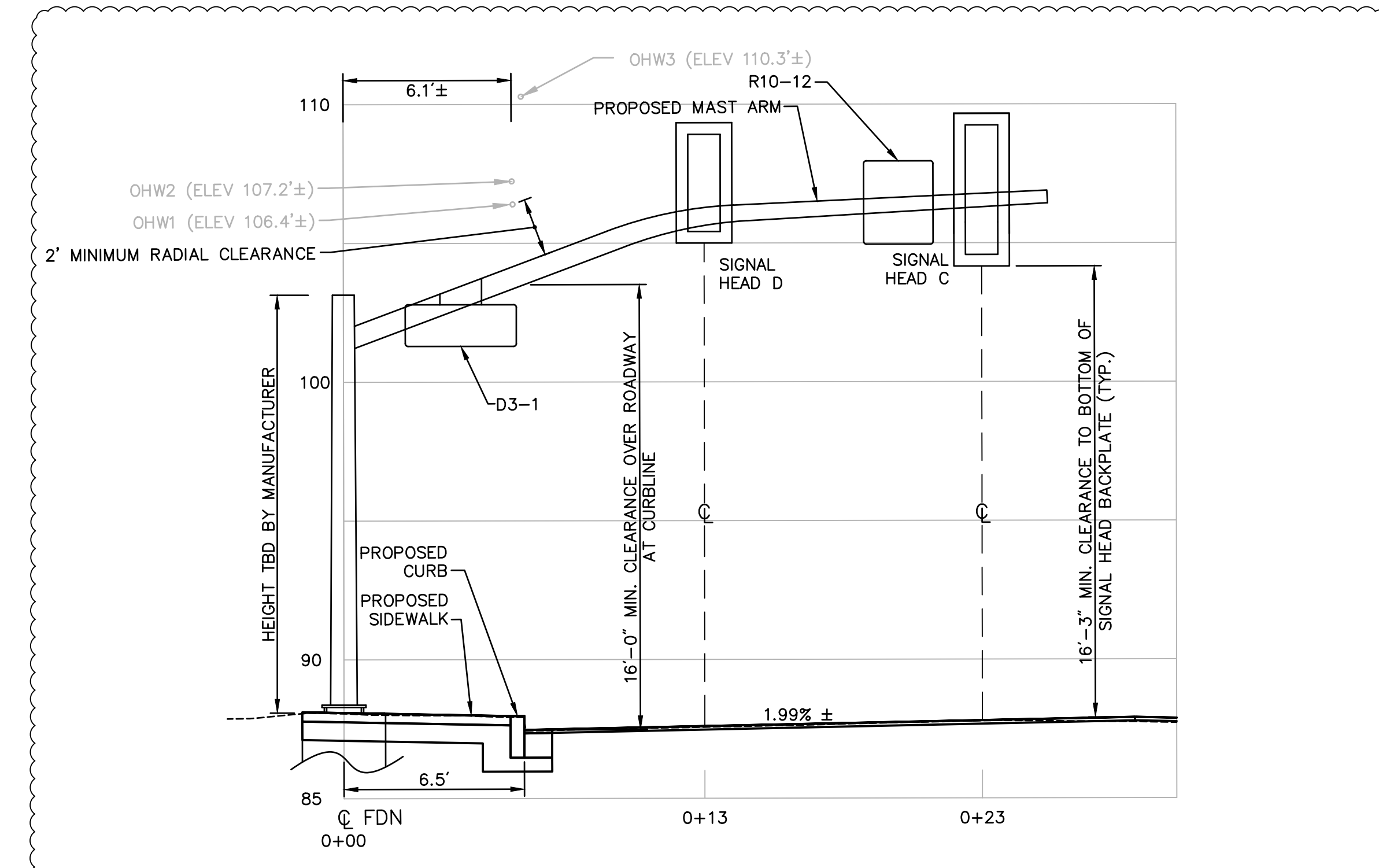
**BROAD STREET AT DEETER STREET**  
(TRAFFIC SIGNAL PLAN NO. 00)



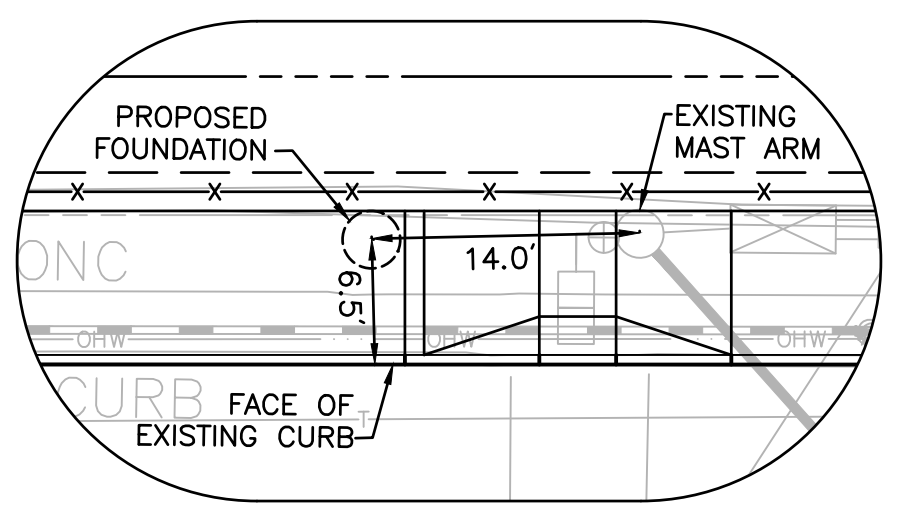
PROFILE OF PROPOSED 20' MAST ARM (ITEM CODE T11.9909) ON NORTHEAST CORNER  
1"=4'



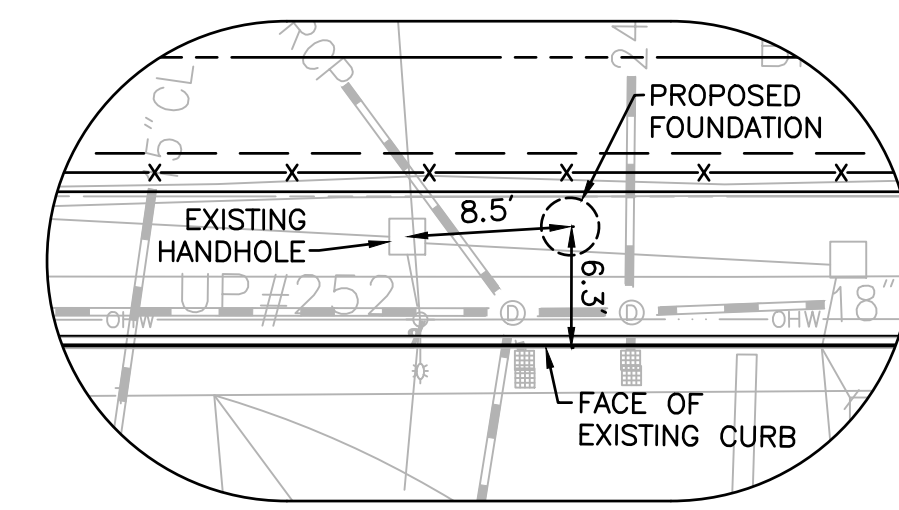
PROFILE OF PROPOSED 20' MAST ARM (ITEM CODE T11.9908) ON NORTHWEST CORNER  
1"=4'



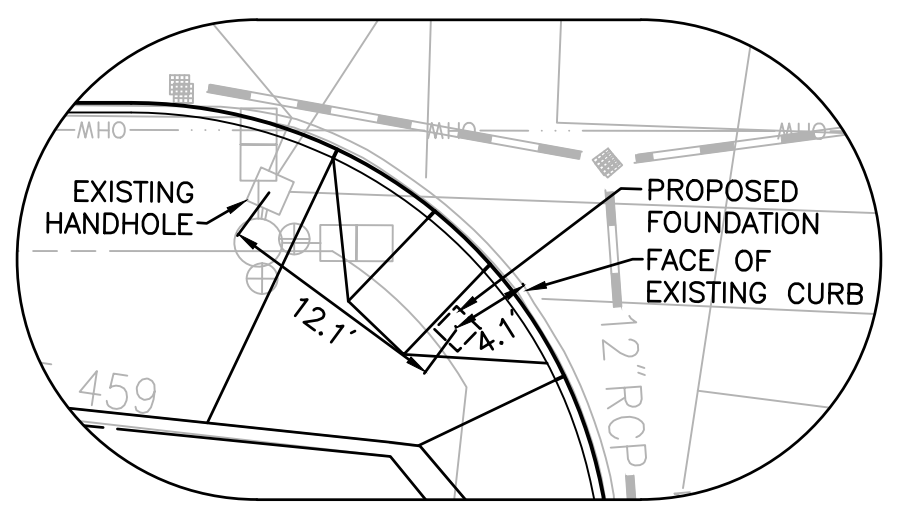
PROFILE OF PROPOSED 25' MAST ARM (ITEM CODE T11.9910) ON SOUTHWEST CORNER  
1"=4'



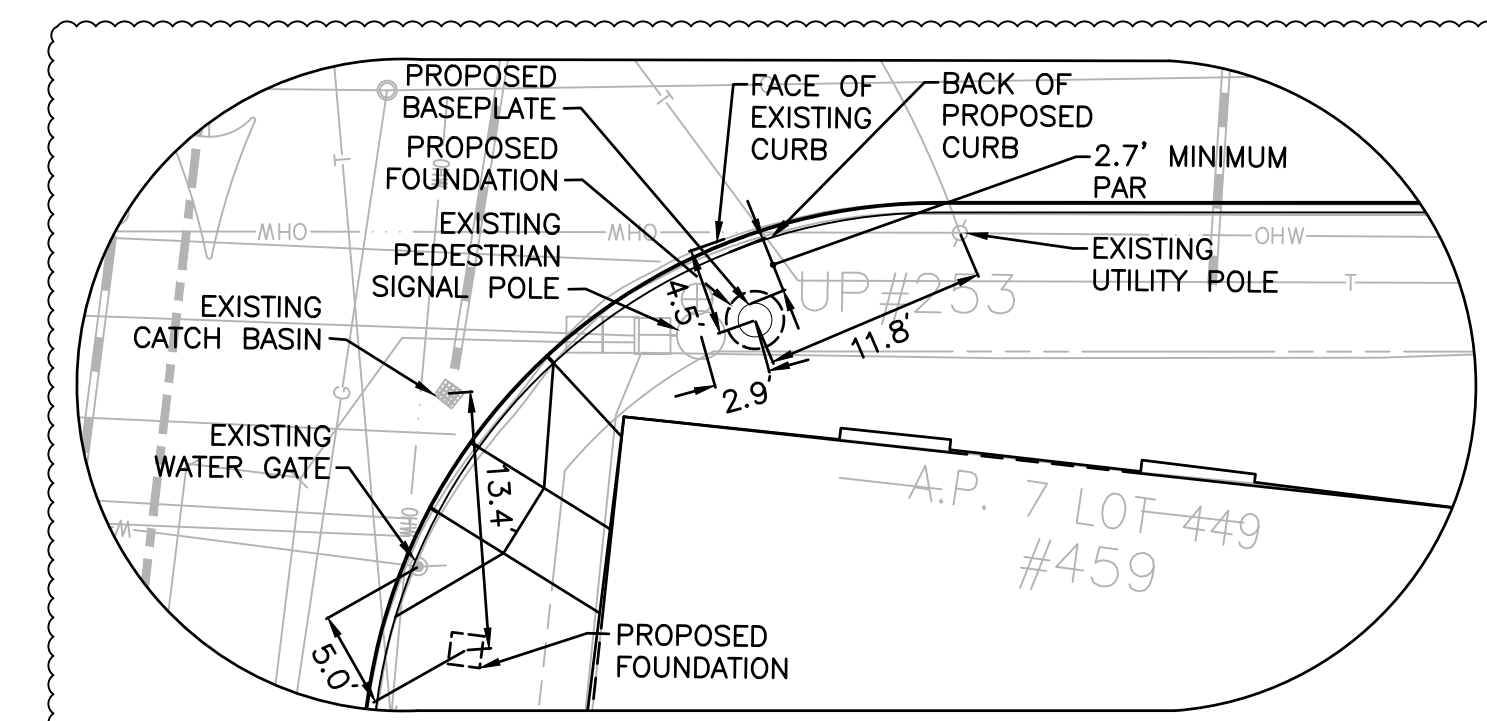
DETAIL 'A'  
1"=10'



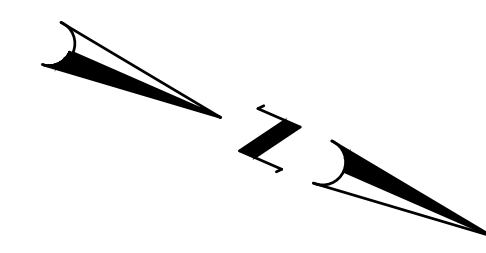
DETAIL 'B'  
1"=10'



DETAIL 'C'  
1"=10'



DETAIL 'D'  
1"=10'



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DEPARTMENT OF TRANSPORTATION

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REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

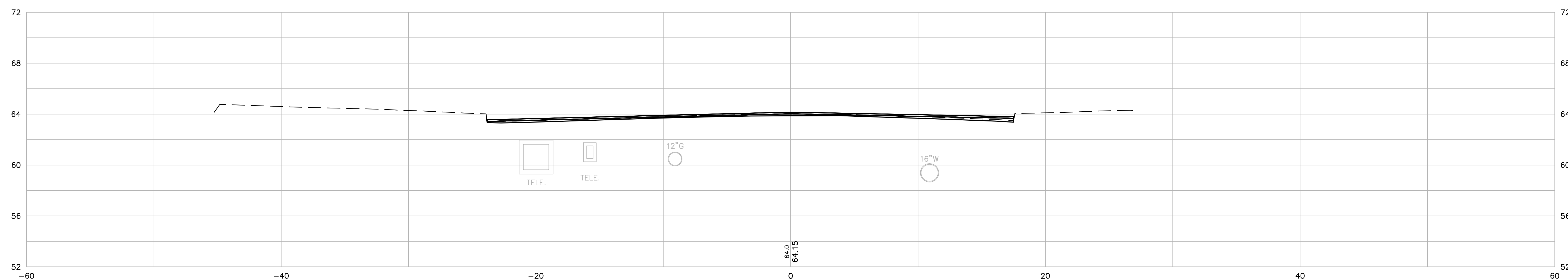
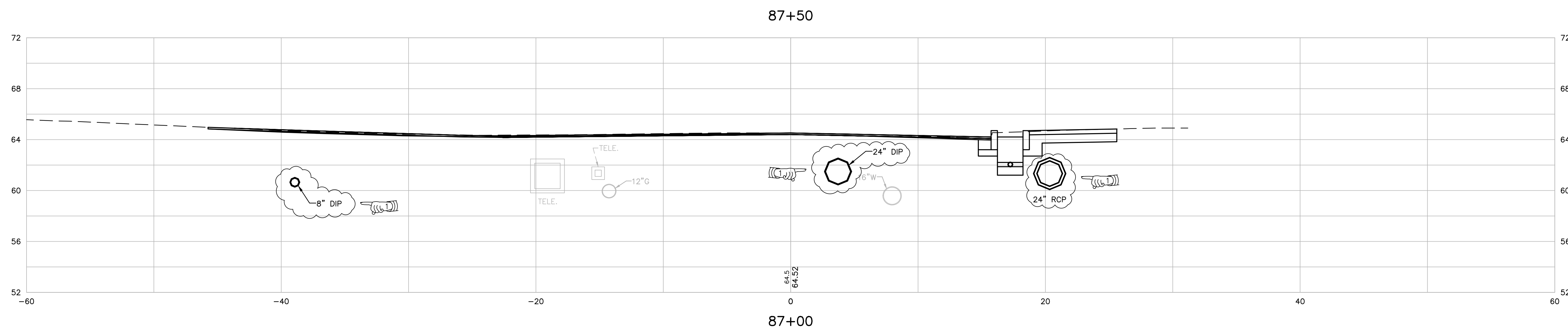
**TRAFFIC SIGNAL  
DETAILS NO. 00**

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1 Cedar Street  
 Suite 400  
 Providence, RI 02903  
 401.272.8100



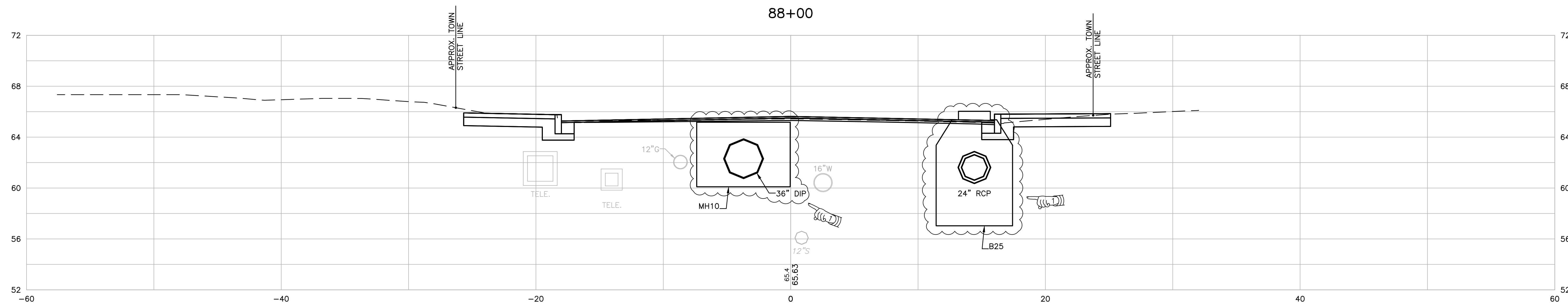
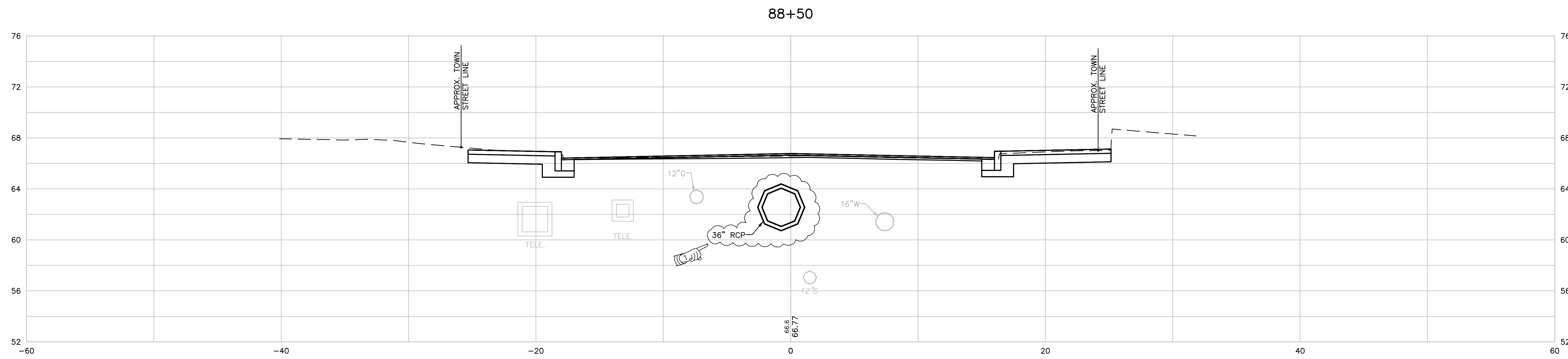
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			62	137



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**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**  
PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND  
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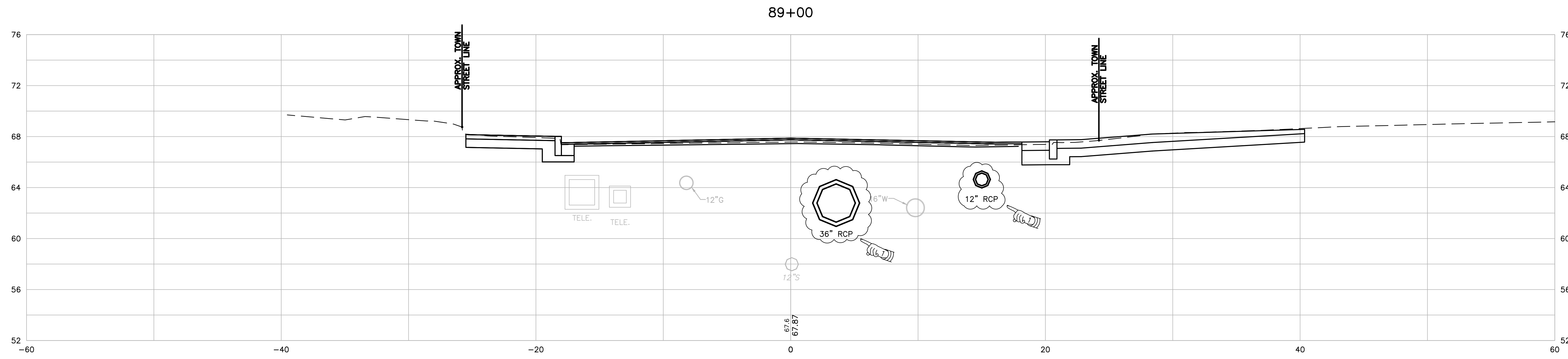
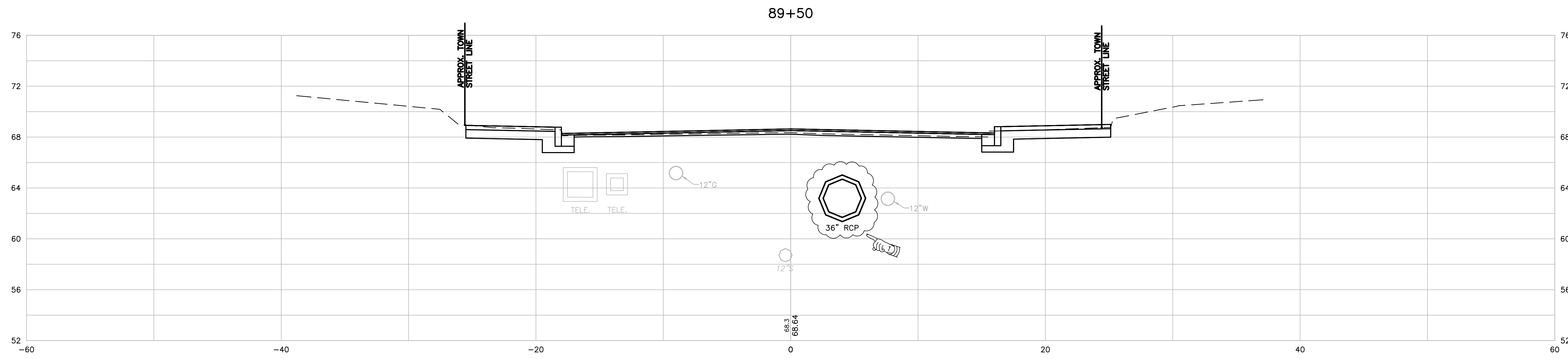
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			63	137



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**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**  
PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND  
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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			64	137

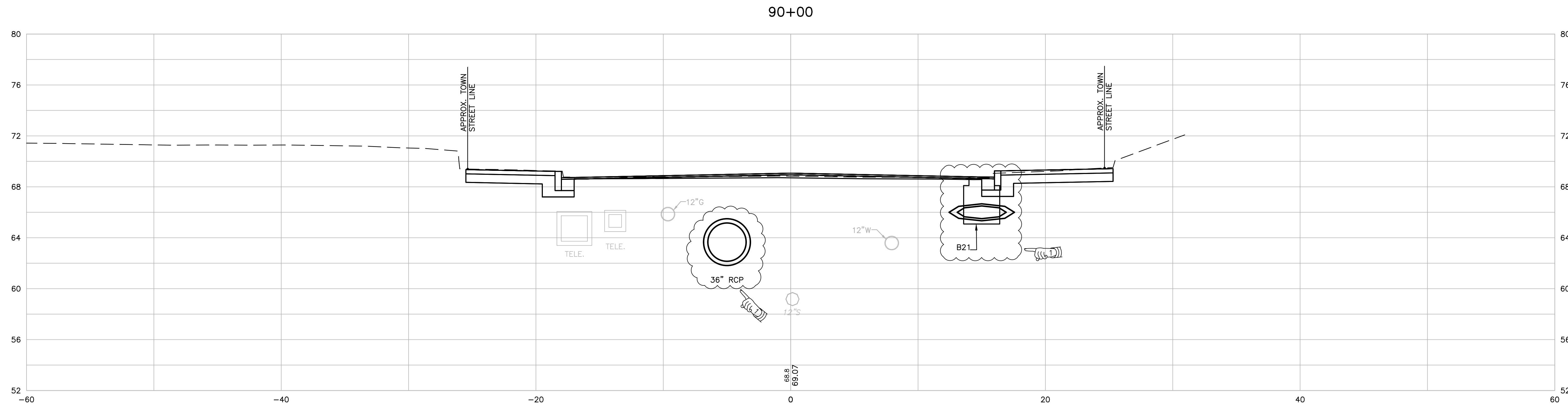
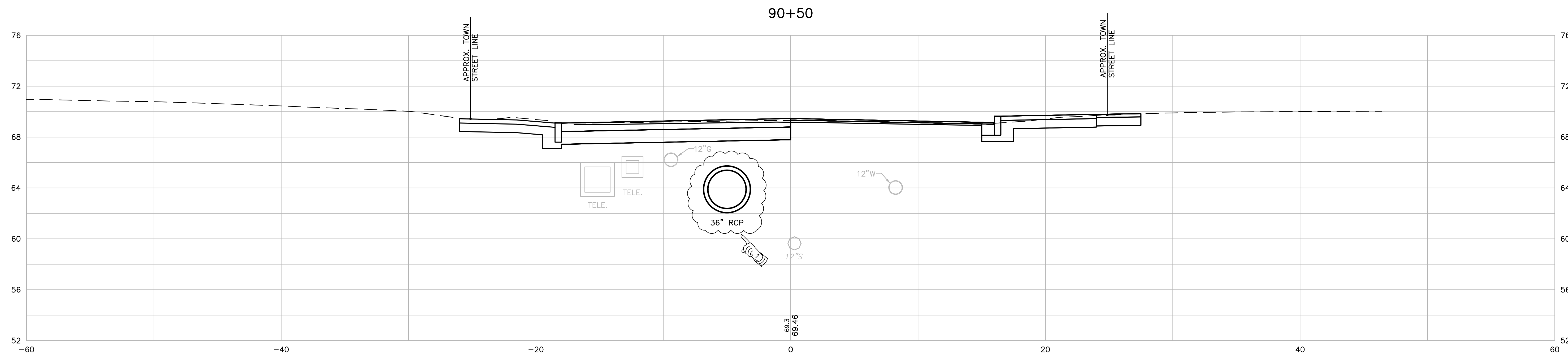


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**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**  
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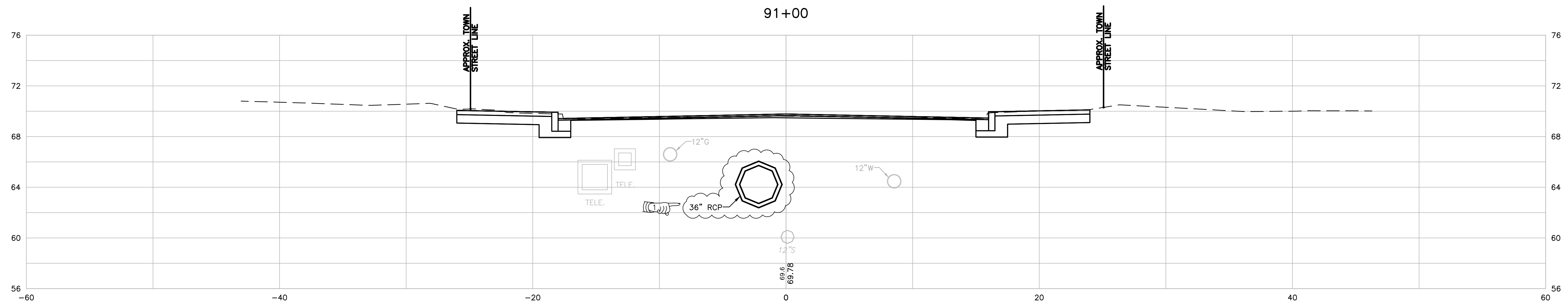
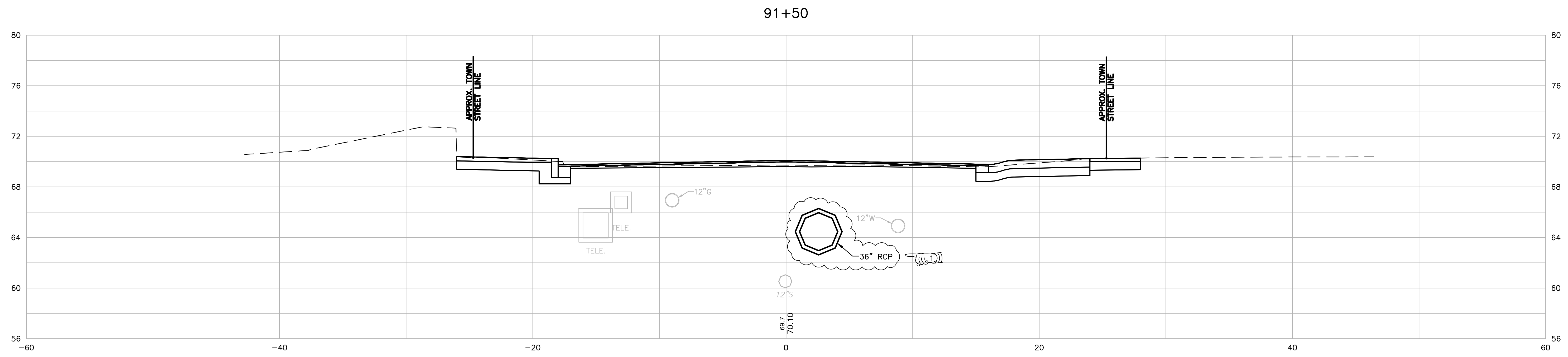
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			65	137



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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			66	137



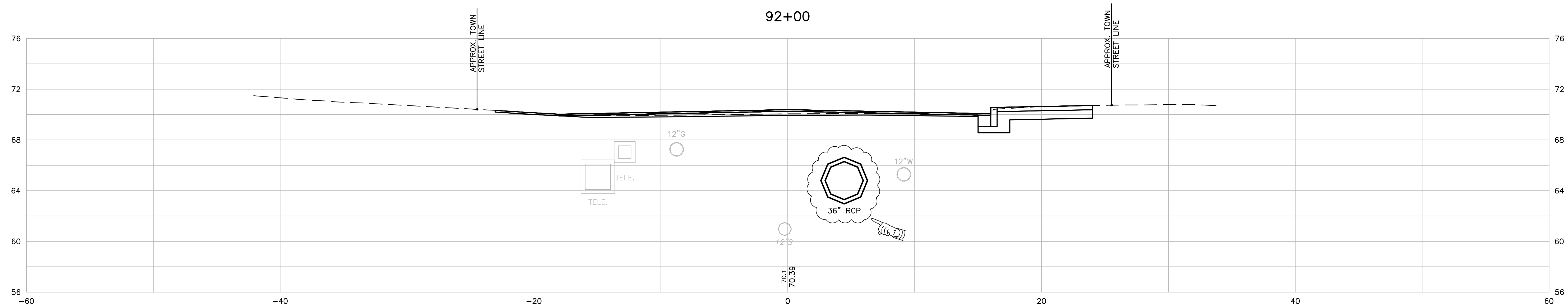
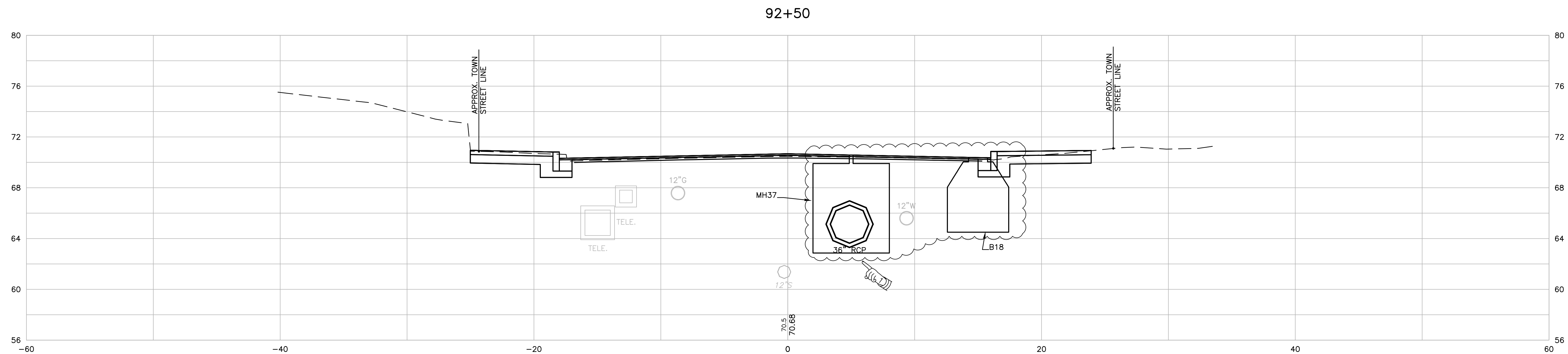
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**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**  
PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

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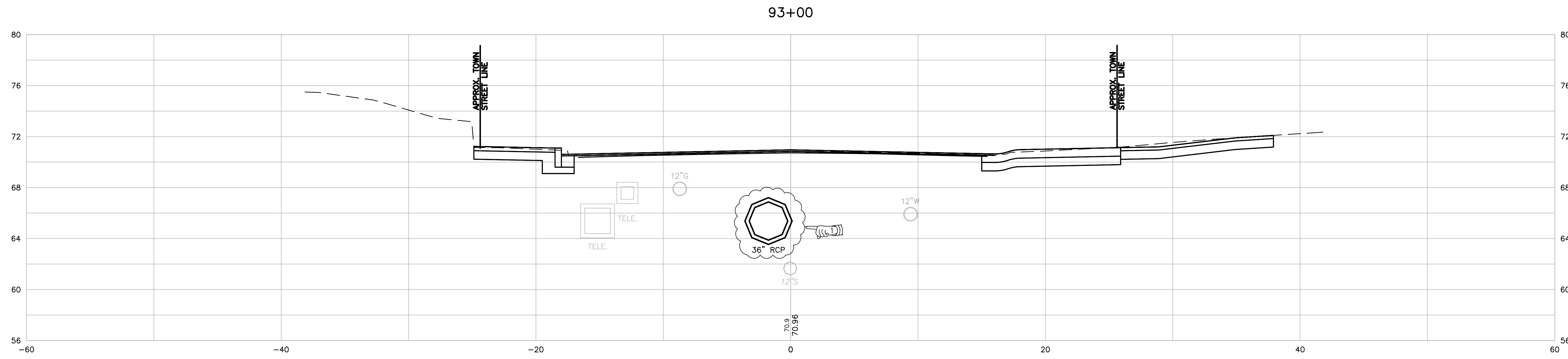
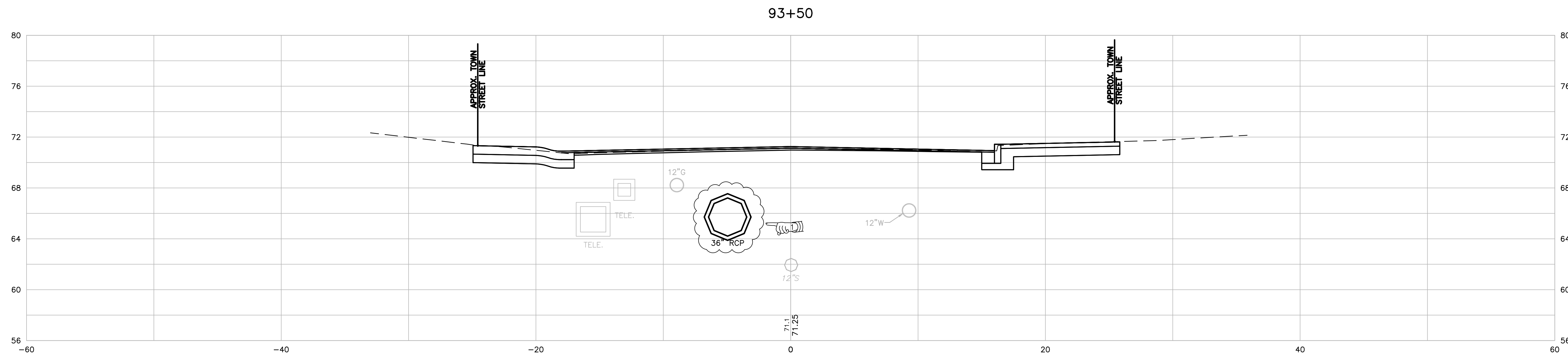


FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			67	137



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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			68	137

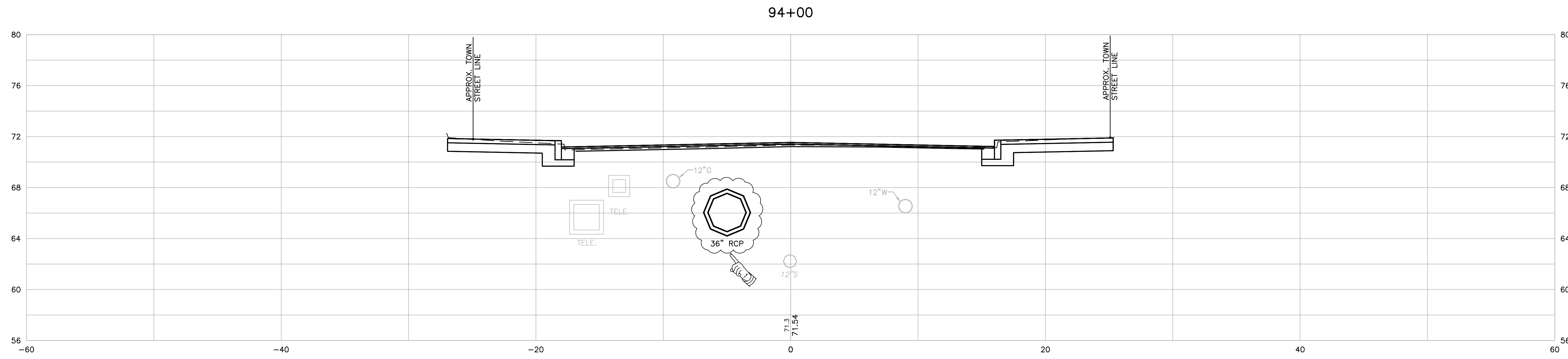
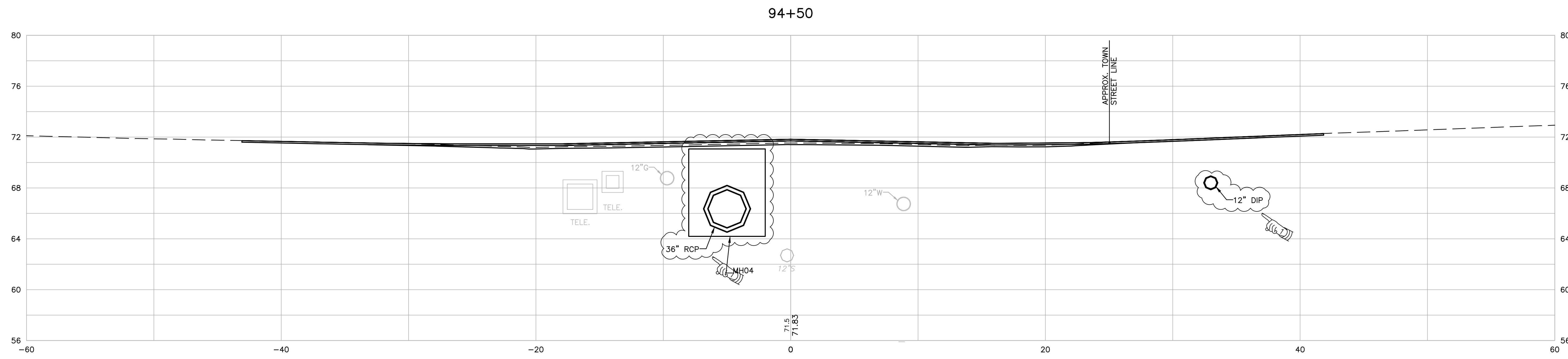


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**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**  
PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

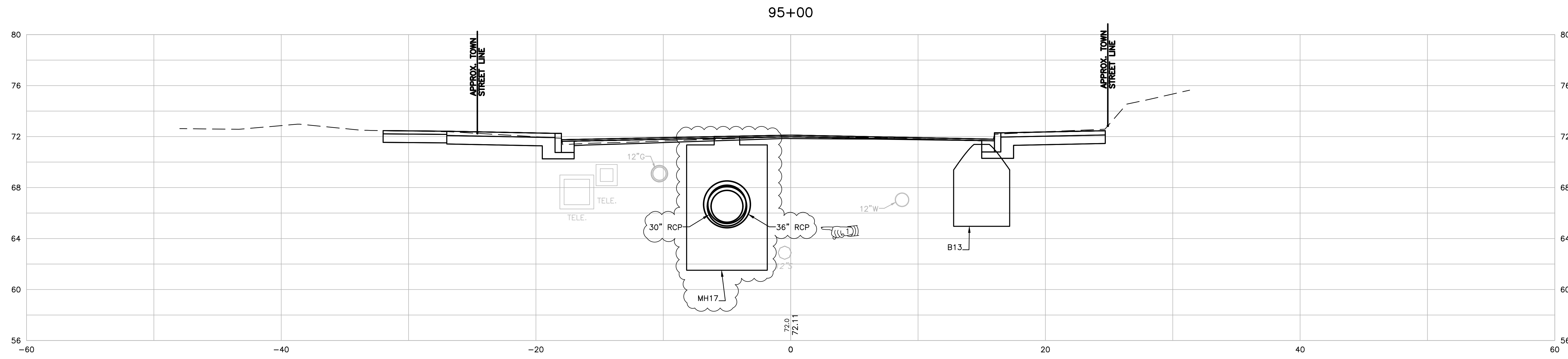
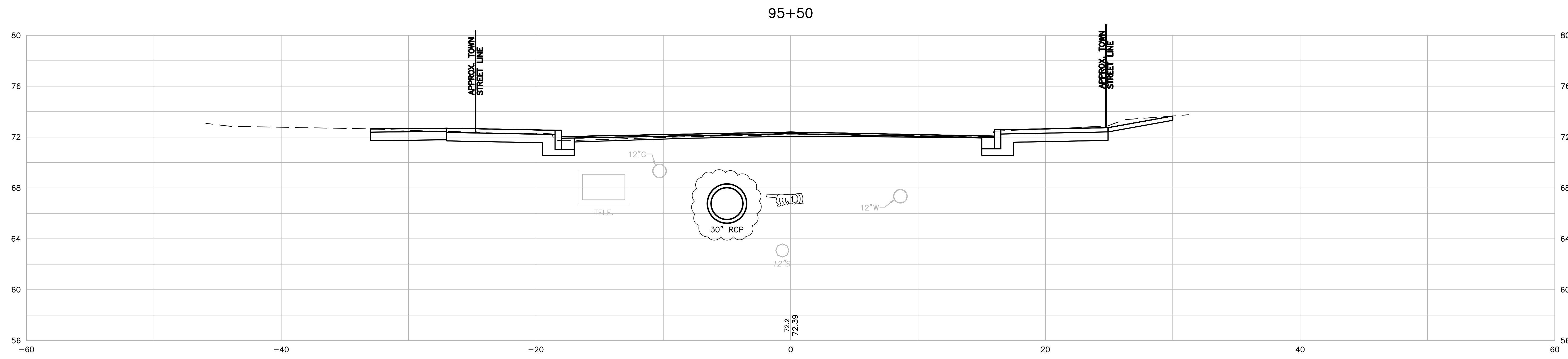
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			69	137



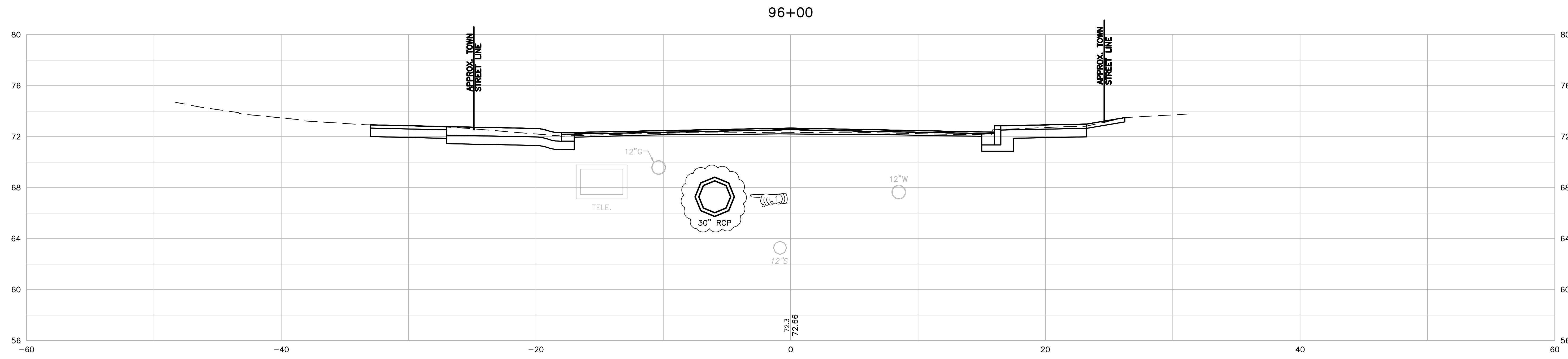
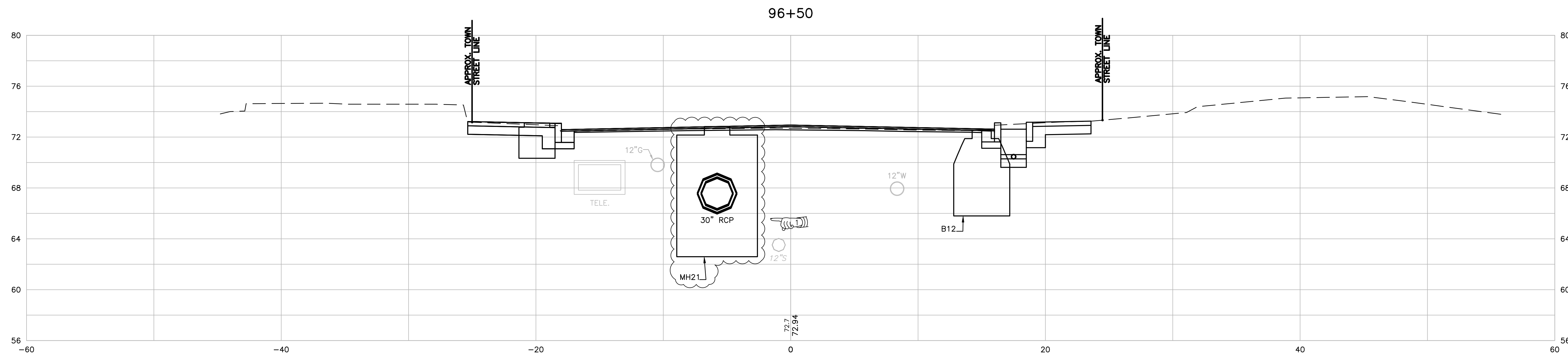
REVISIONS		
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1	10/4/19	VHB

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			70	137



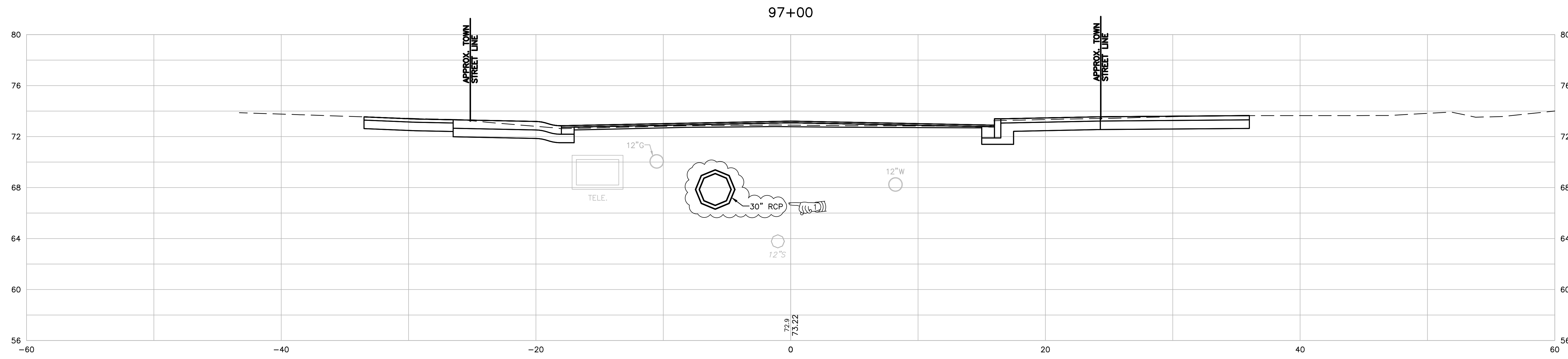
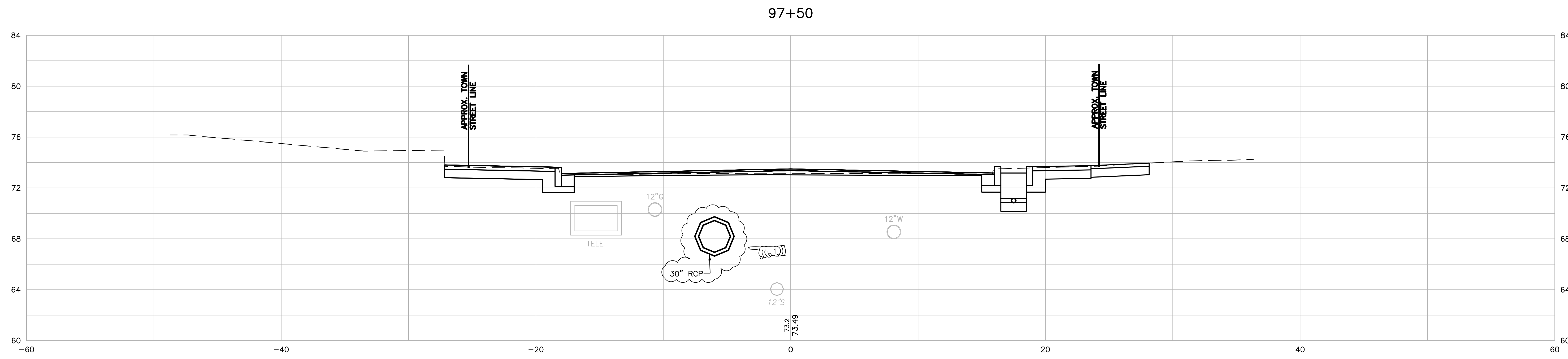
REVISIONS		
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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			71	137



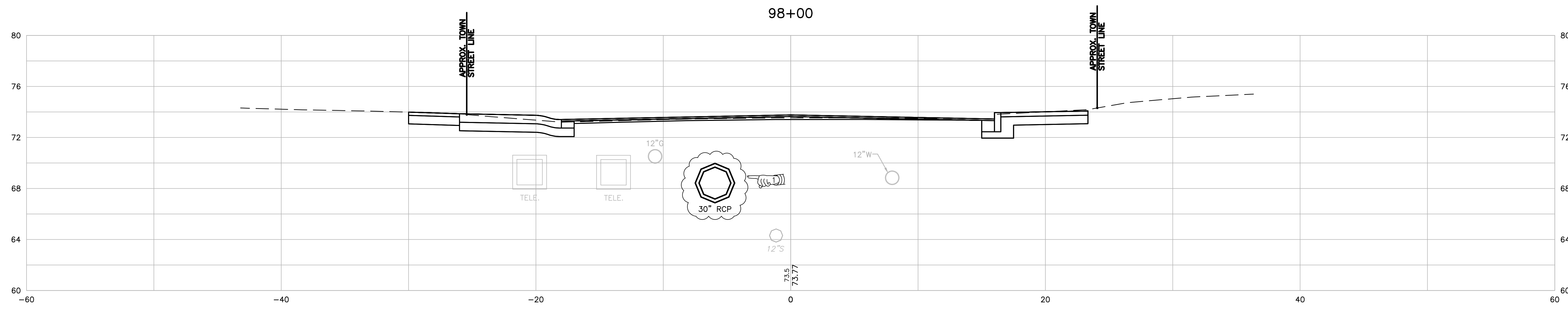
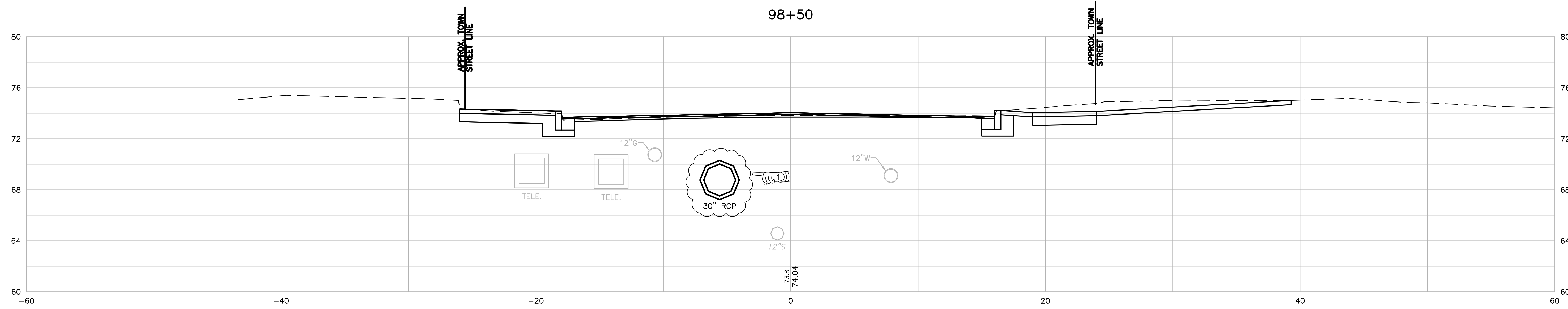
REVISIONS		
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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			72	137



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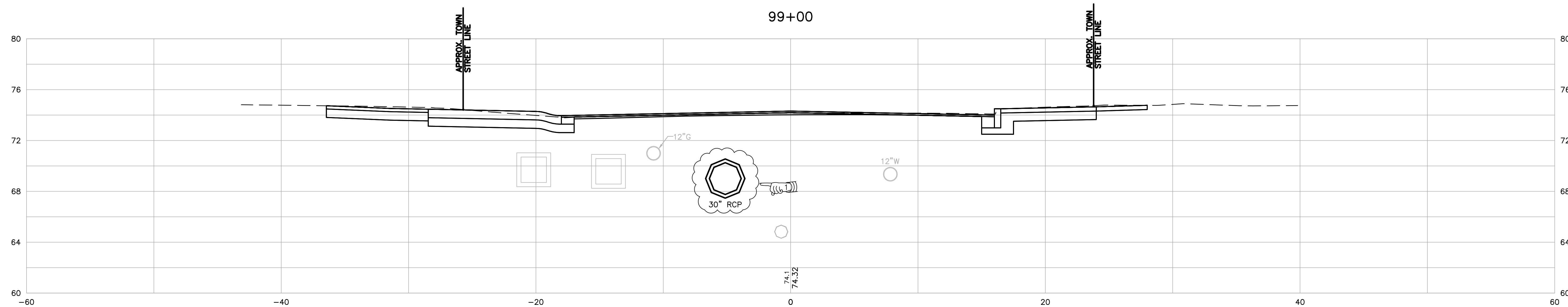
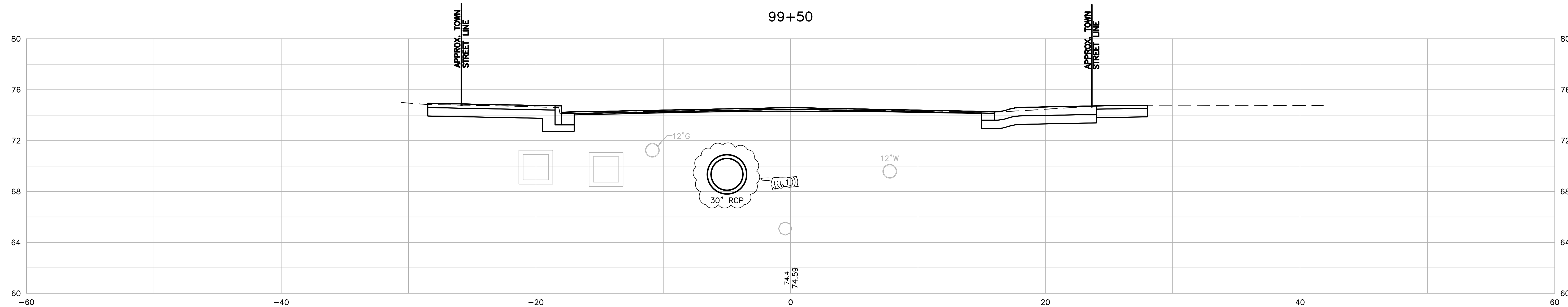
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	RI			73	137



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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			74	137



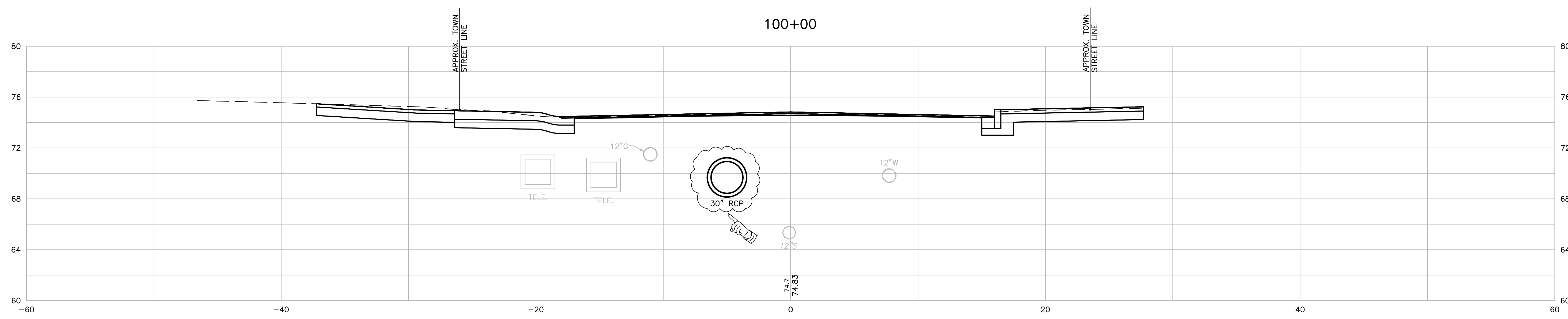
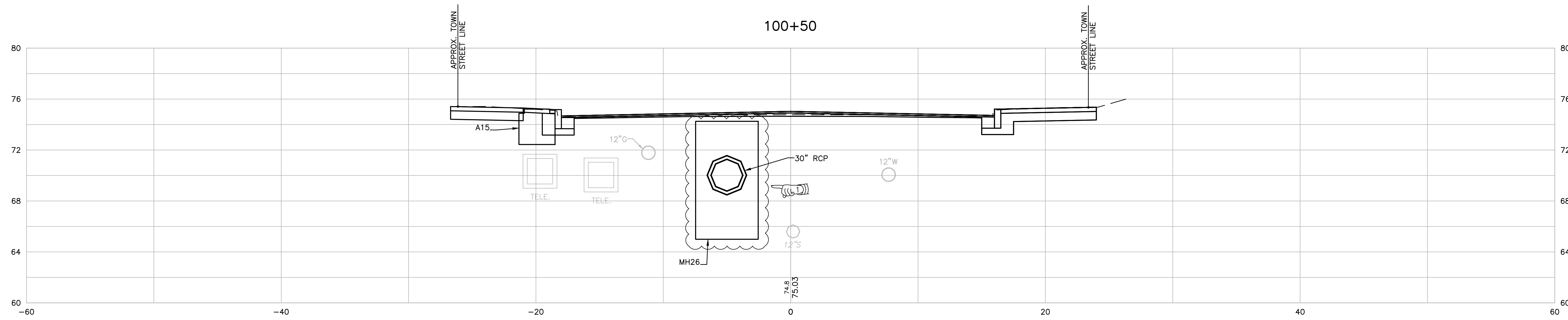
REVISIONS		
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**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

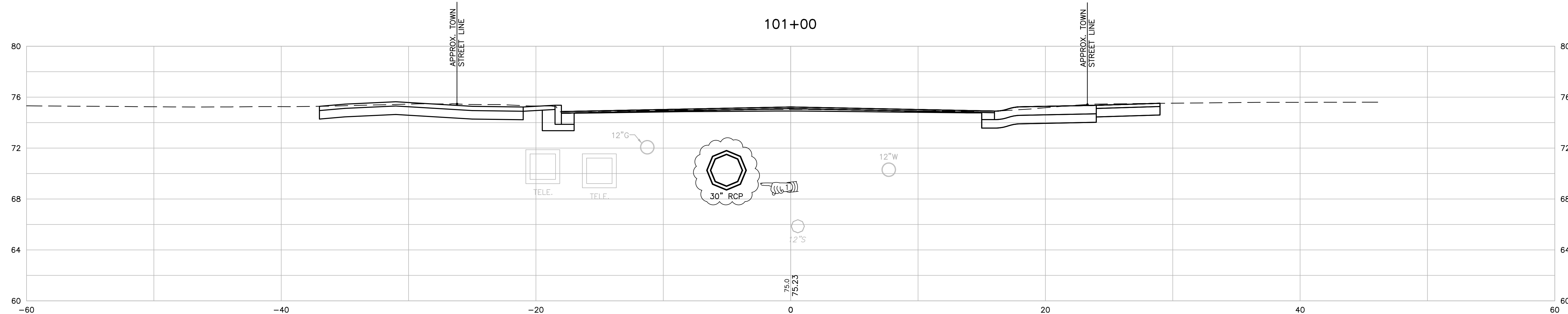
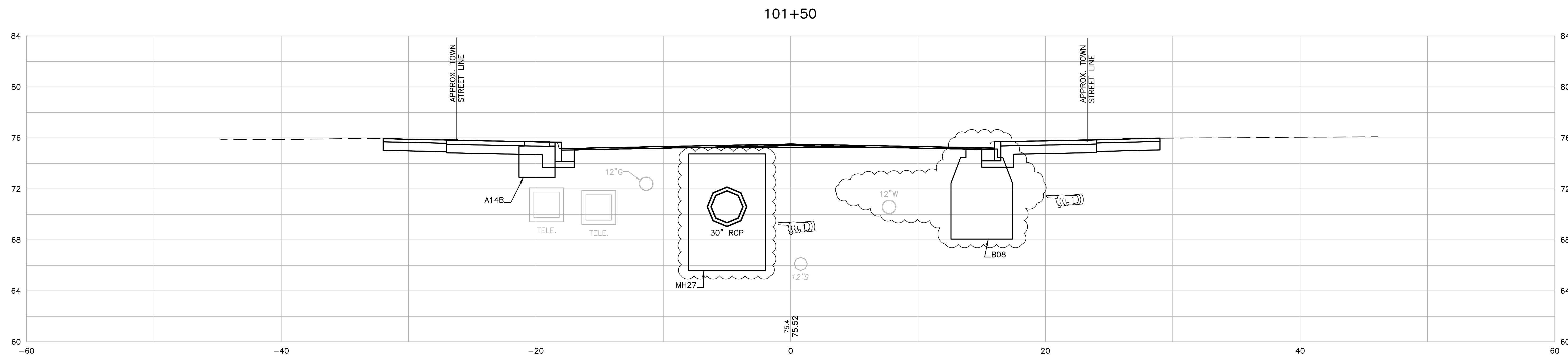
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			75	137



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**BROAD STREET (ROUTE 114)  
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PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

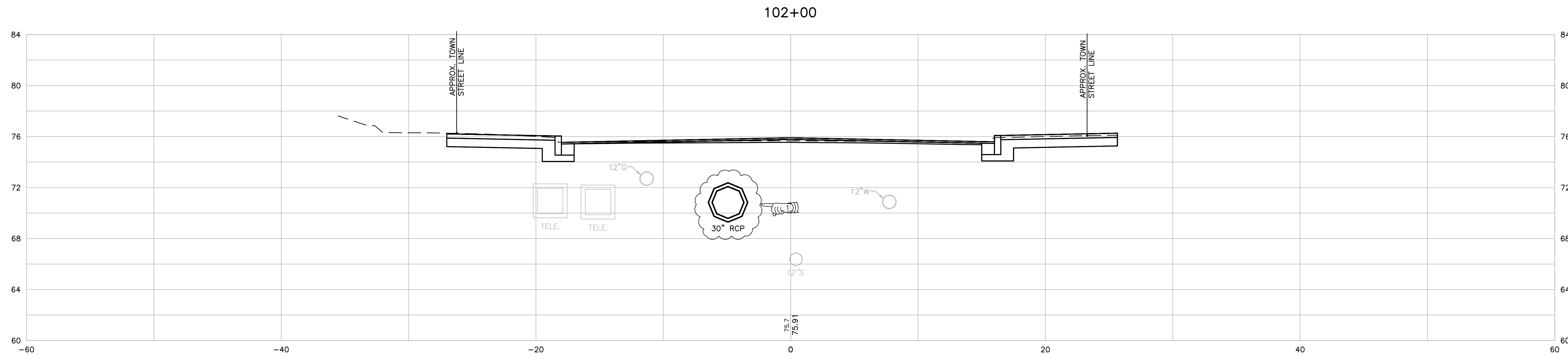
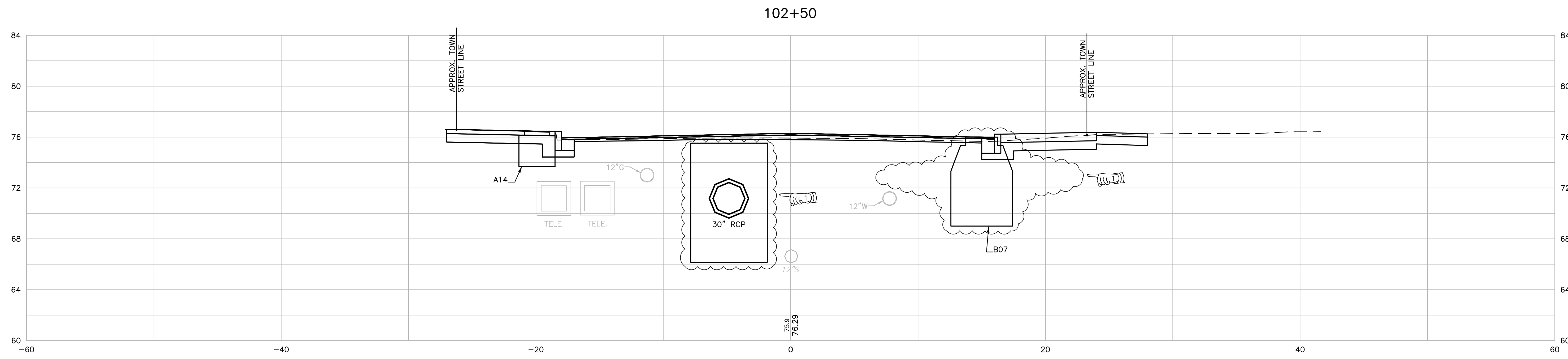
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			76	137



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PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND  
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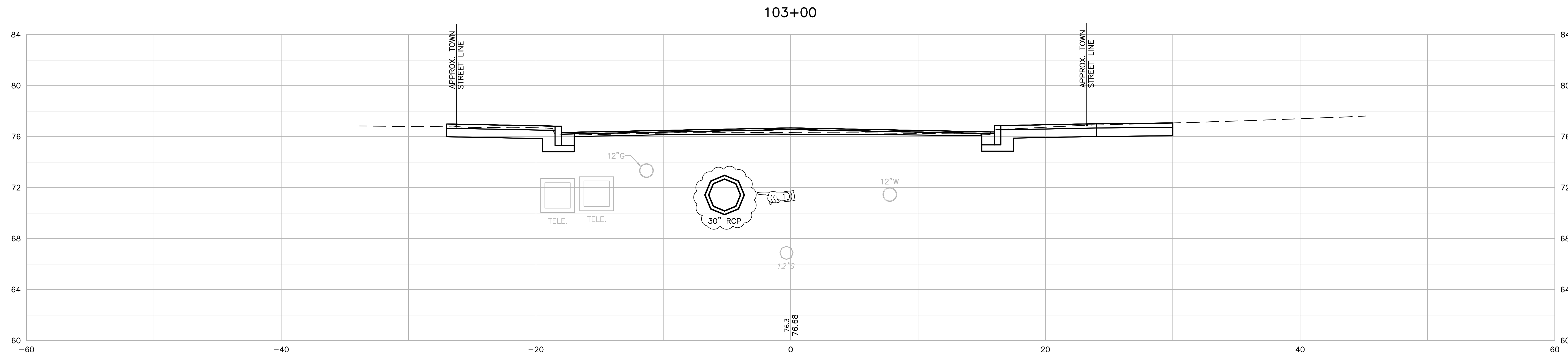
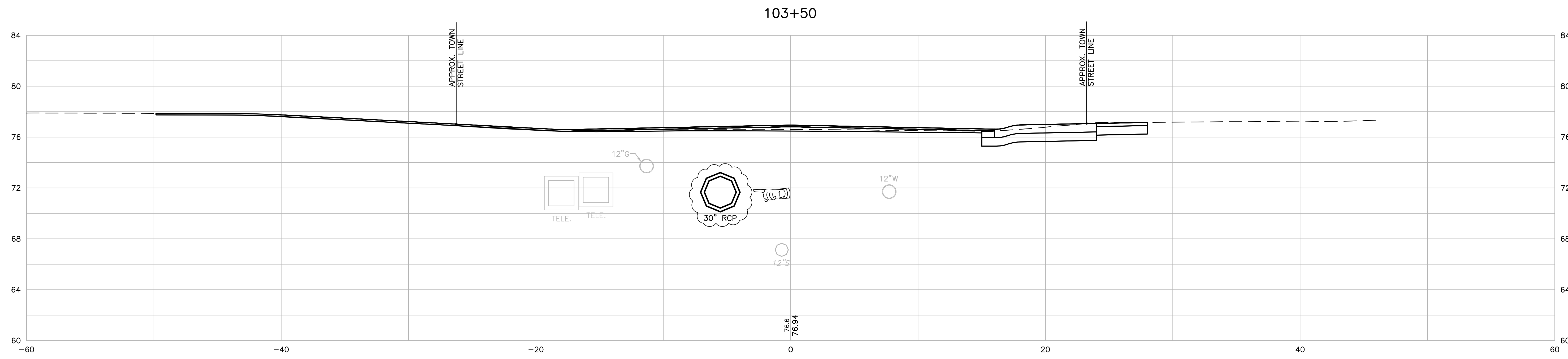
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			77	137



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**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**  
PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

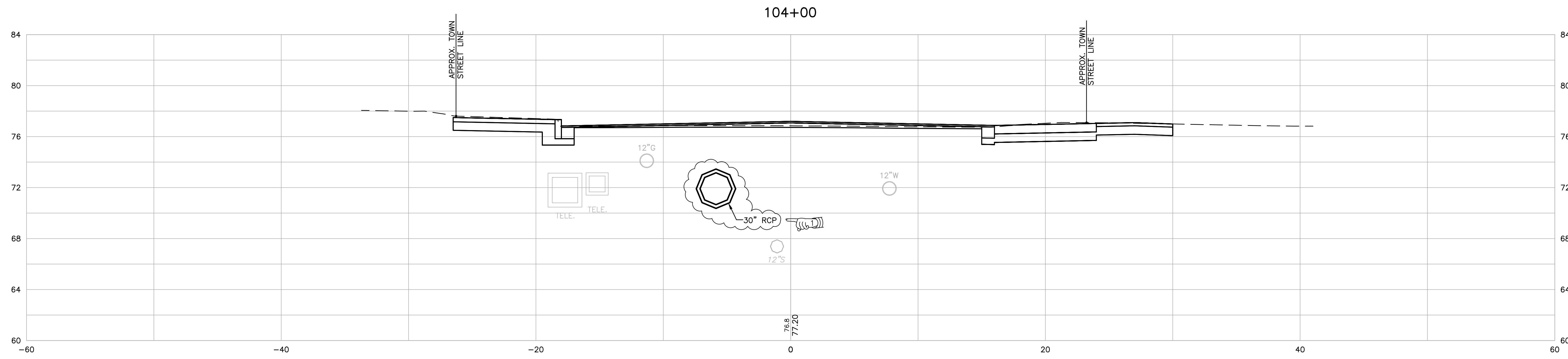
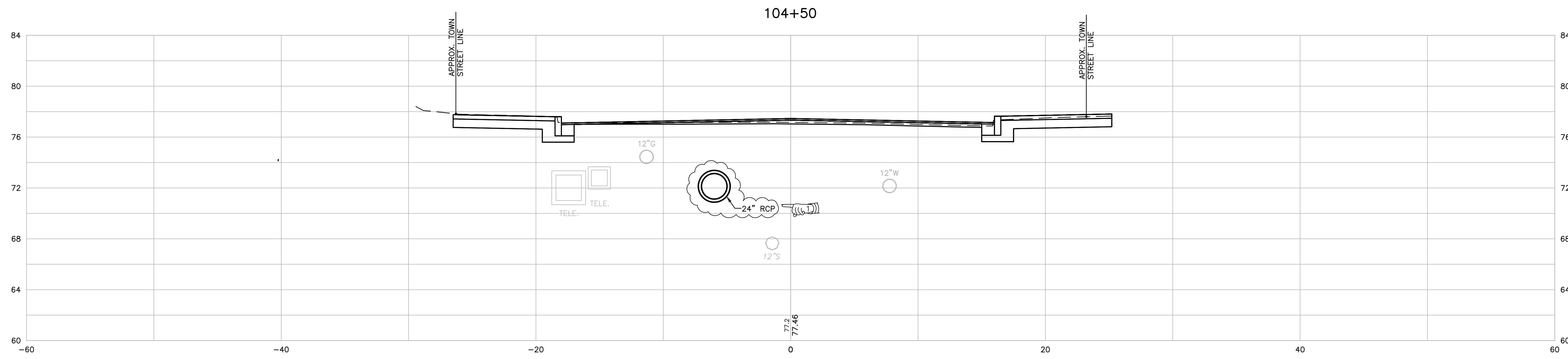
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			78	137



REVISIONS		
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**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**  
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CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			79	137



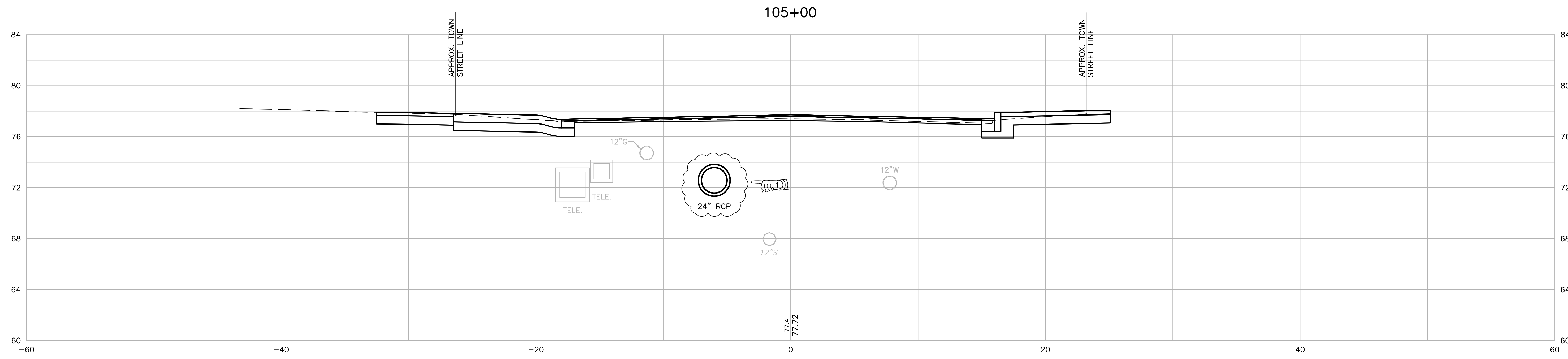
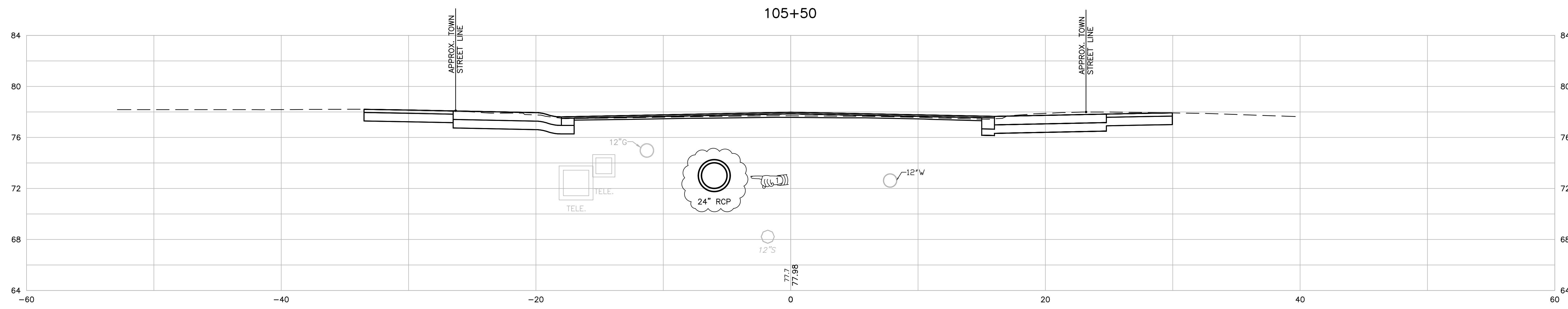
REVISIONS		
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**BROAD STREET (ROUTE 114)  
REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

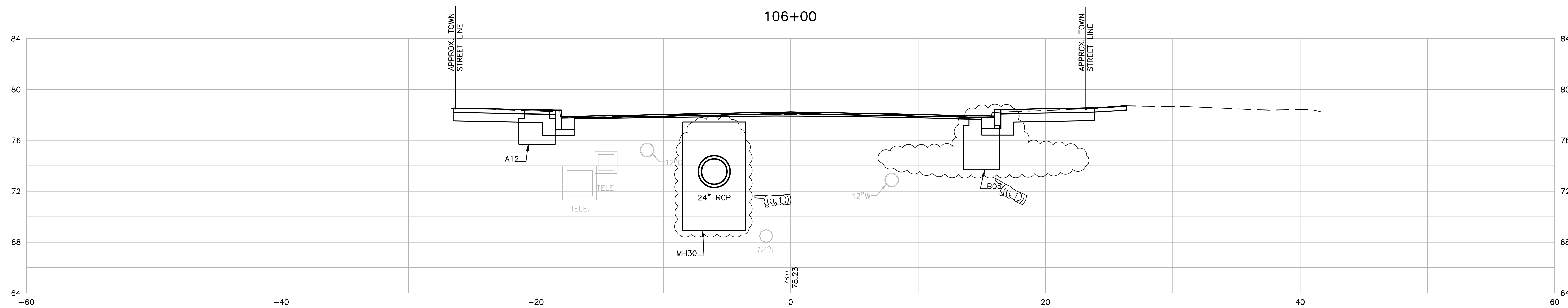
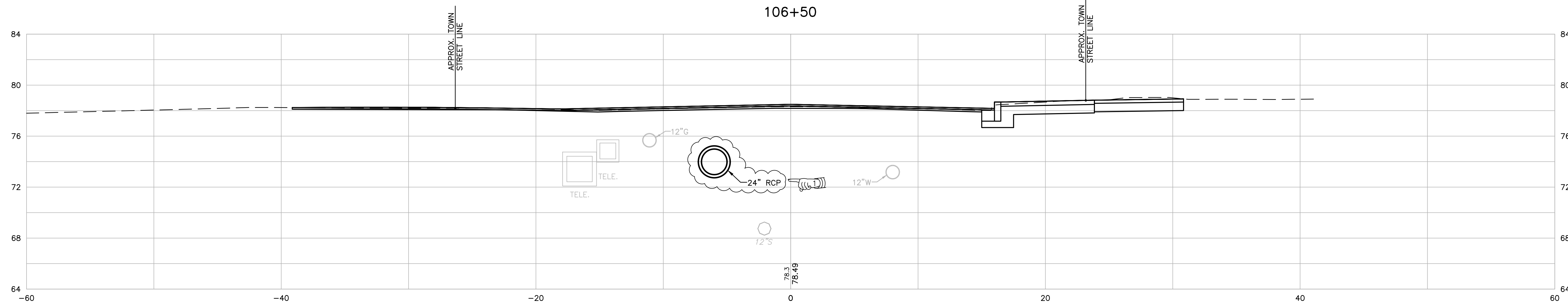
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			80	137



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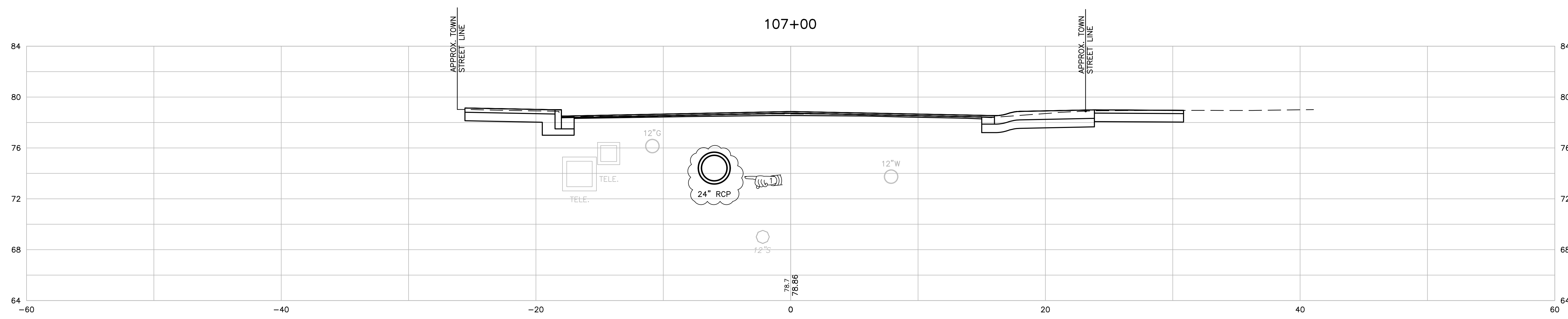
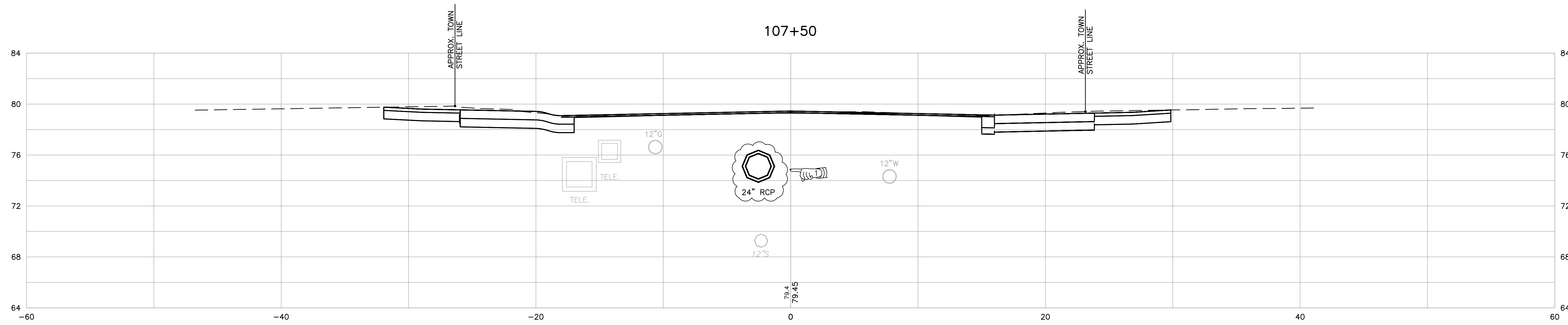


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	RI			81	137



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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			82	137



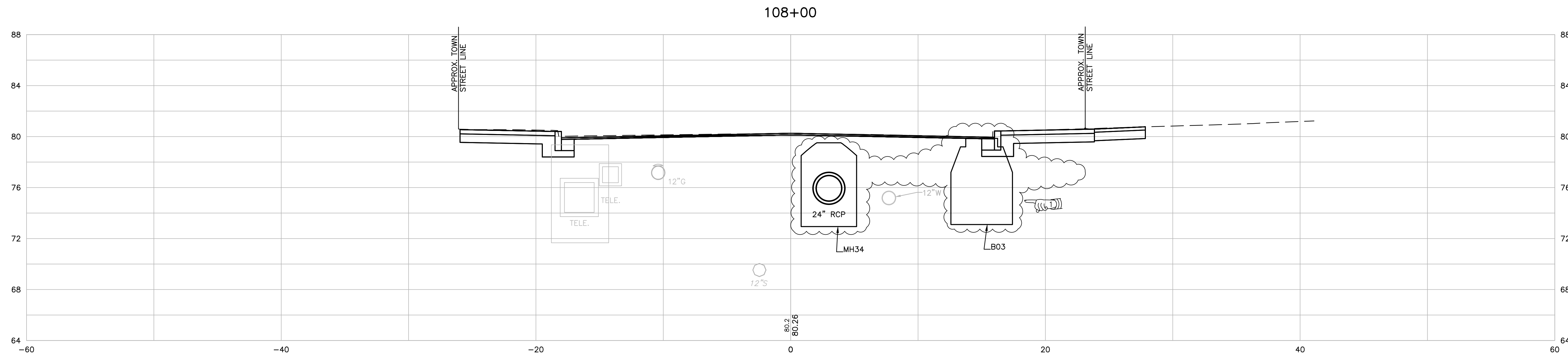
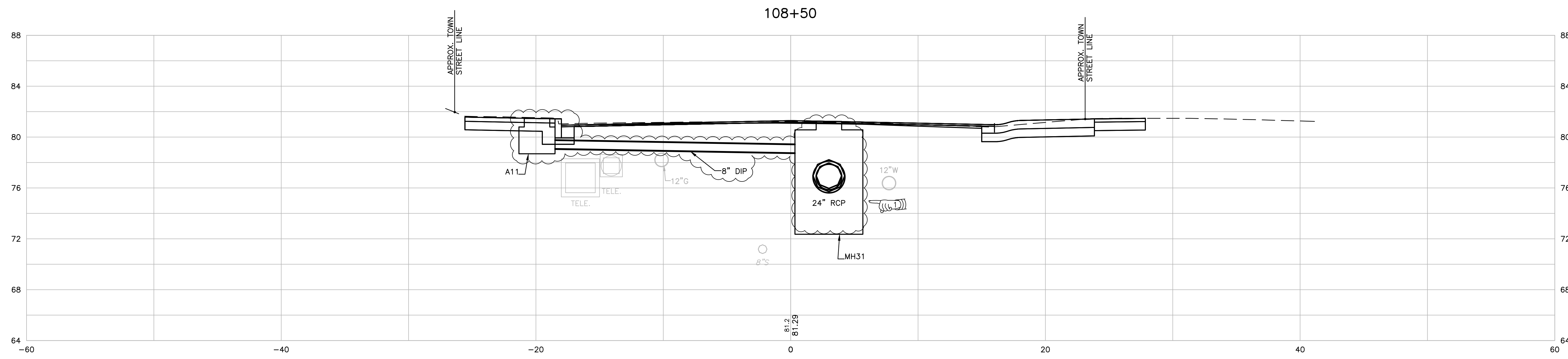
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PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

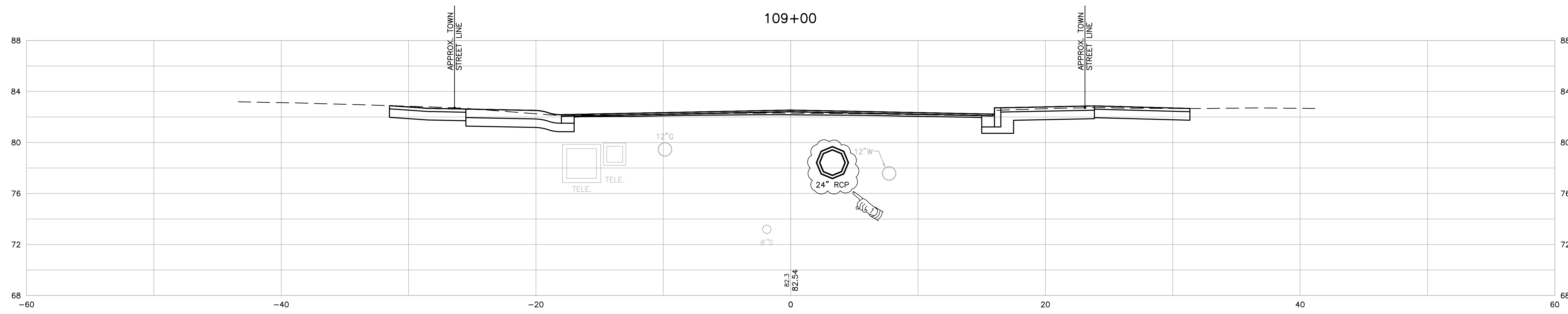
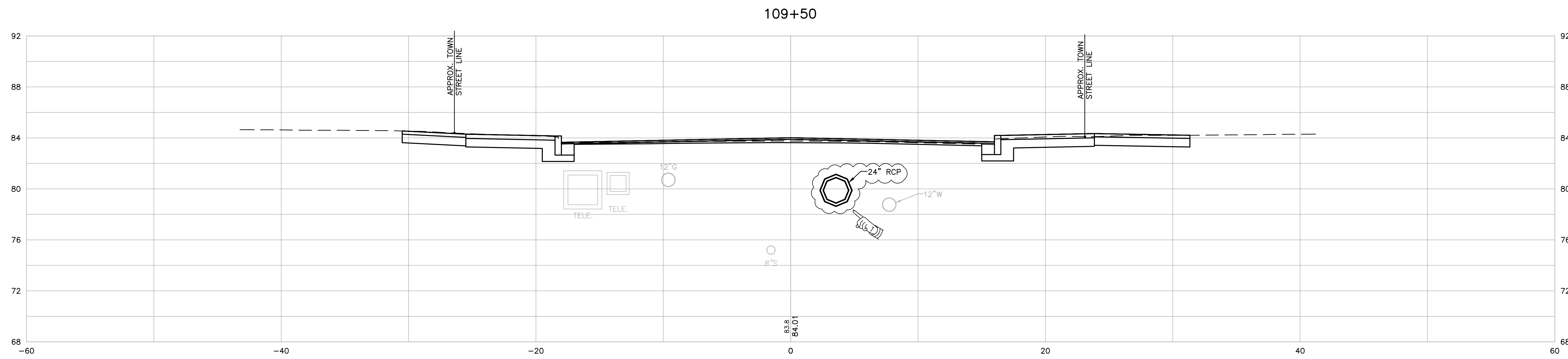
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	RI			83	137



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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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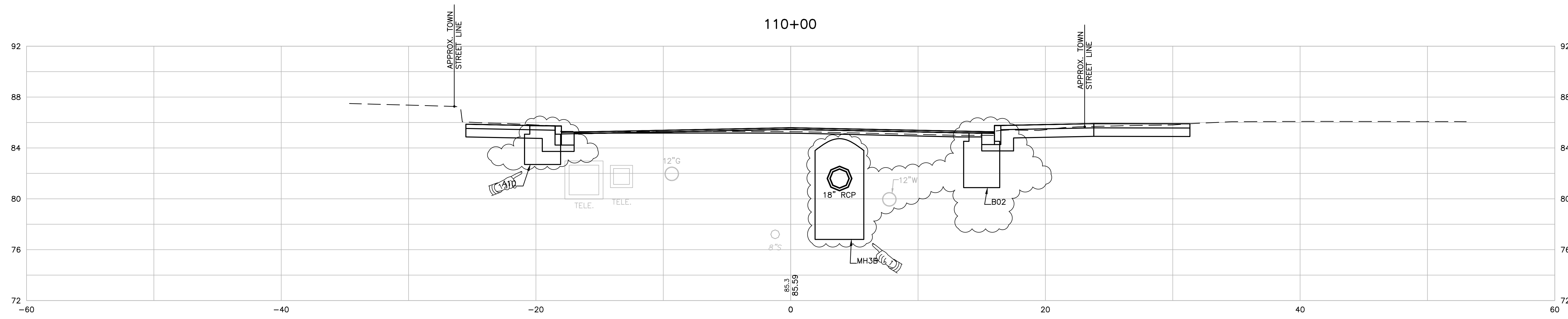
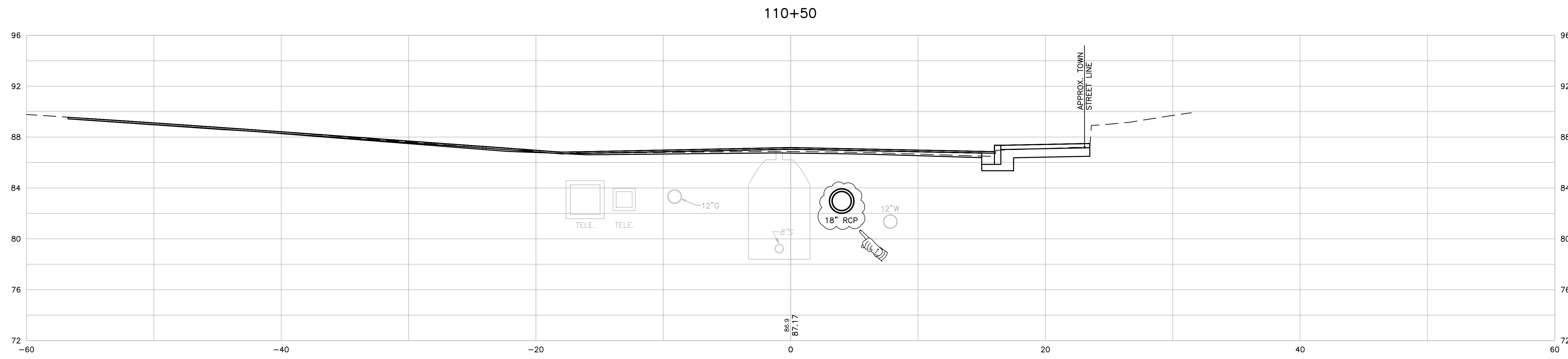
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REGENERATION PROJECT**

PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

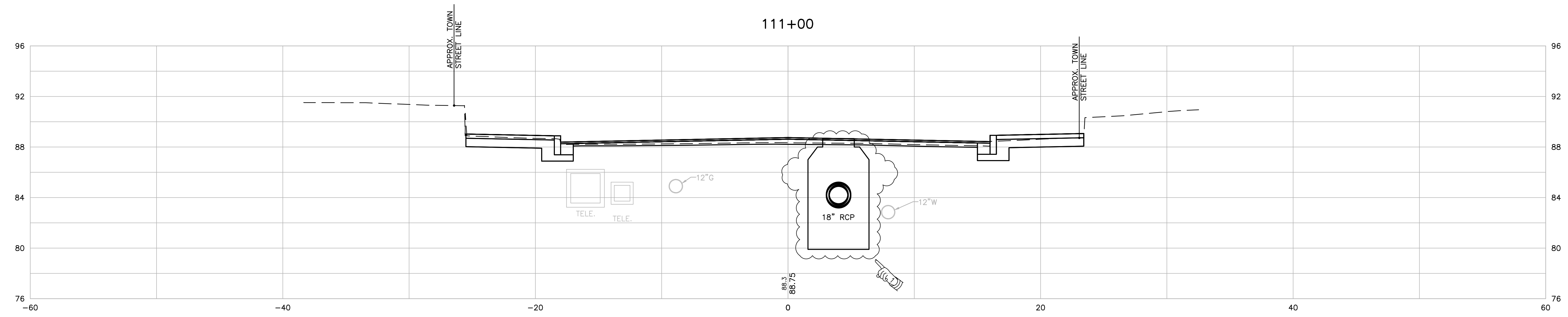
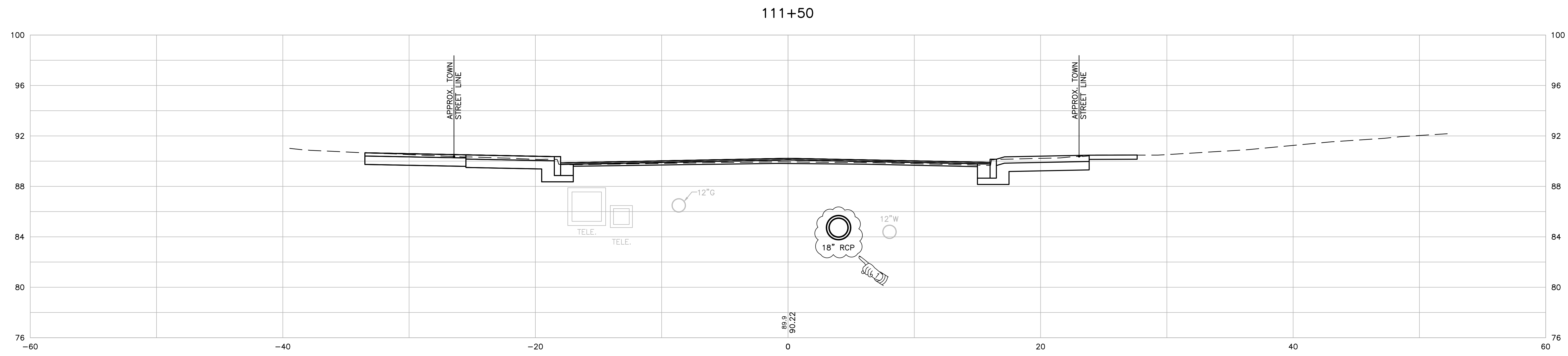
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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			85	137



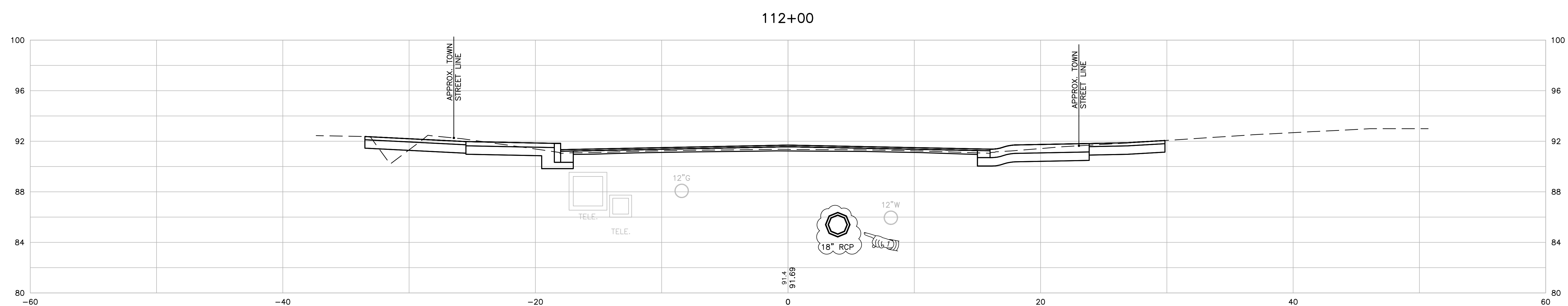
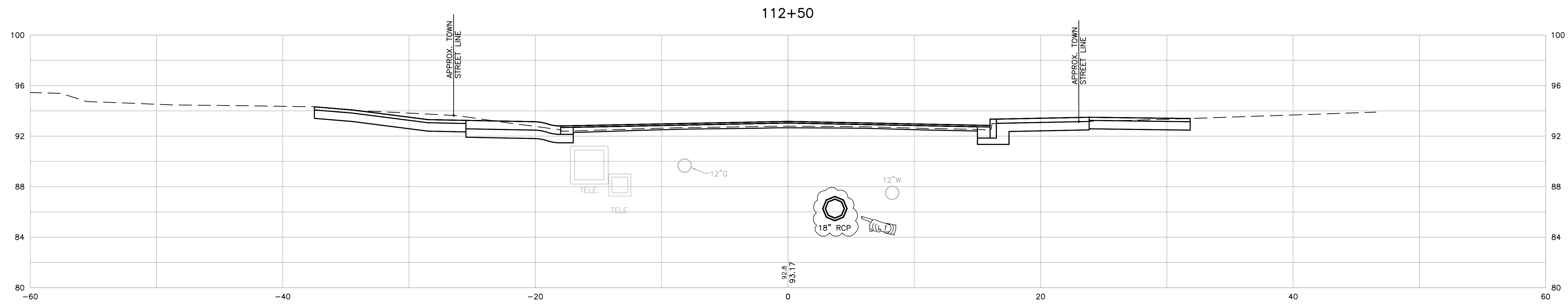
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	RI			86	137



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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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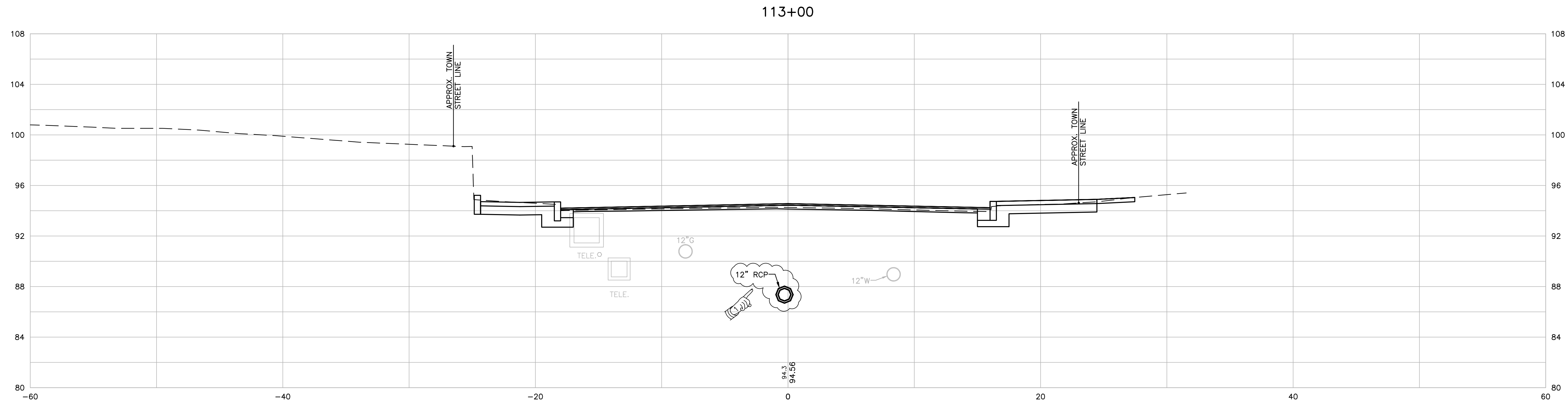
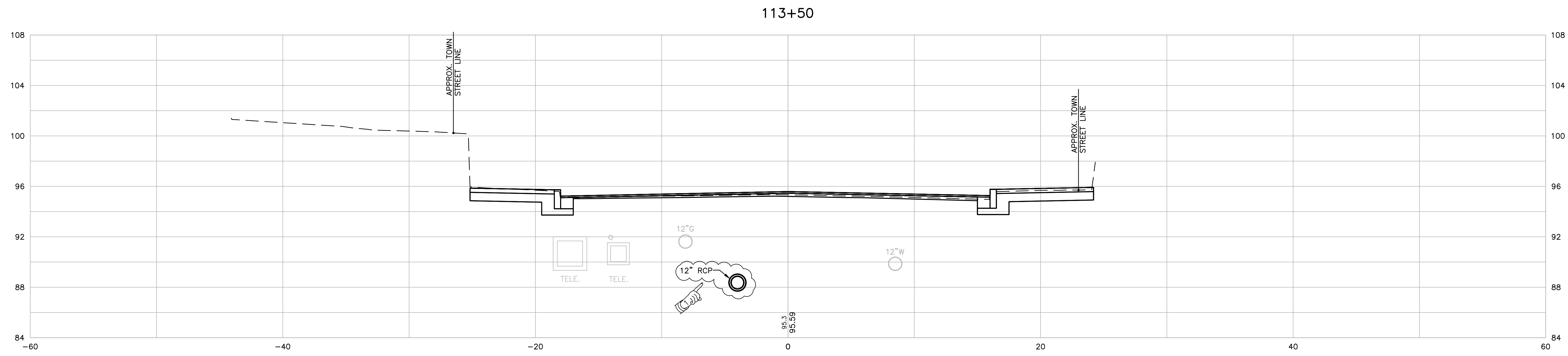


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	RI			88	137



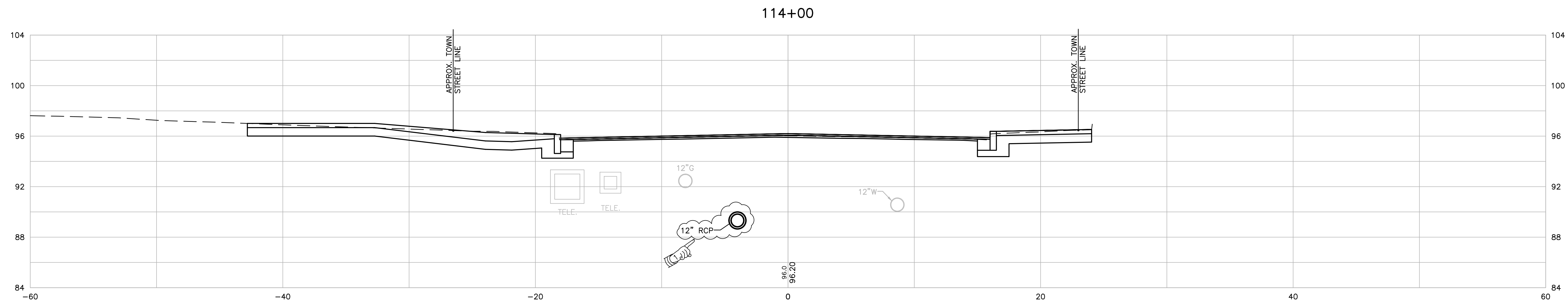
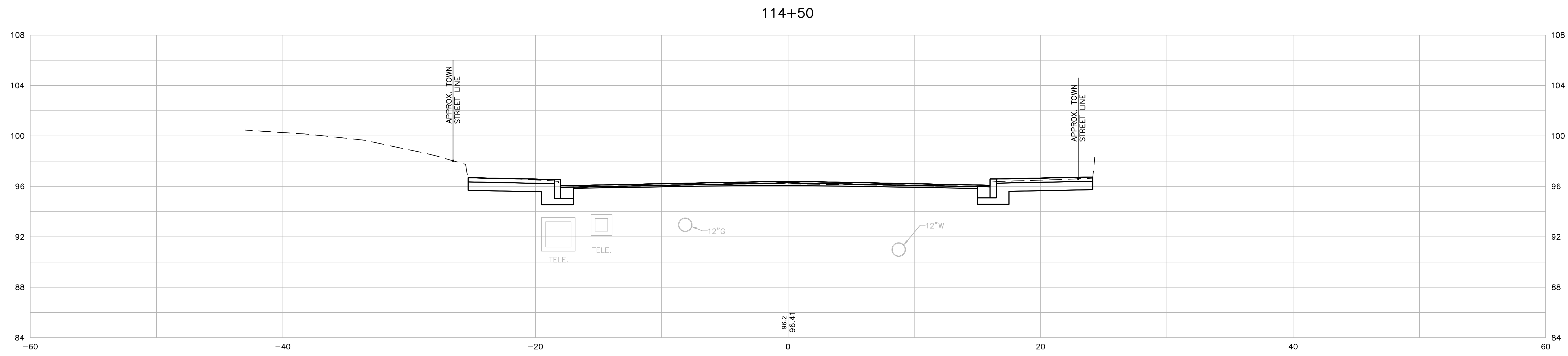
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PAWTUCKET, CENTRAL FALLS AND CUMBERLAND, RHODE ISLAND

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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			89	137



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