December 15, 2014

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATION
DEPARTMENT OF ADMINISTRATION

DIVISION OF PURCHASES BID NO. 7549148

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

RHODE ISLAND CONTRACT NO.2014-CH-071

FEDERAL-AID PROJECT NO. FAP Nos: 3RD-PRTY(225), STP-RESF(284), STP-SRTS-004, STP-TAPS(003)

**Broadway Streetscape Improvement Project**

Farewell Street to Bliss Road

CITY/TOWN OF Newport

COUNTY OF NEWPORT

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. Clarifications

1. Granite Curb

   In lieu of the 1/2" chamfer required on granite curb, a flame rounded edge 1/2" radius is acceptable. Flame rounded curb shall not be adjacent to chamfered curb.

2. References to the 2004 Edition of the Rhode Island Standard Specifications for Road and Bridge Construction

   All Contract 2014-CH-071 references to the 2004 Edition of the Rhode Island Standard Specifications for Road and Bridge Construction shall be replaced by the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013 with all revisions.

## B. General Provisions - Contract Specific

1. Index Pages CS-i and CS-ii

   Remove and replace pages CS-i and CS-ii in their entirety with revised pages CS-i(R-1) and CS-ii(R-1) attached to this Addendum No. 2. The page numbers for respective paragraphs have been updated.

2. Page CS-1

   Remove and replace page CS-1 in its entirety with revised page CS-1(R-1) attached to this Addendum No. 2. The RIDOT Contract Number in paragraph 1 has been updated.

3. Page CS-2

   Remove and replace page CS-2 in its entirety with page CS-2(R-1) attached to this Addendum No. 2. There have been modifications to the last paragraph of Section 3, Utility and Municipal Notification and Coordination.

4. Page CS-3

   Remove and replace page CS-3 in its entirety with revised page CS-3(R-1) attached to this Addendum No. 2. This page was affected due to the added text in Section 3 on page CS-2(R-1).

5. Page CS-4

   Remove and replace page CS-4 in its entirety with revised page CS-4(R-1) attached to this Addendum No. 2. There have been modifications to Section 5, Sequence of Construction.

6. Page CS-5

   Remove and replace page CS-5 in its entirety with revised page CS-5(R-1) attached to this Addendum No. 2. This page was affected due to the added text in Section 5 on page CS-4(R-1).

7. Page CS-6

   Remove and replace page CS-6 in its entirety with revised page CS-6(R-1) attached to this Addendum No. 2. There have been modifications to Section 10, Maintenance of Public Access and Coordination of Existing Benches and Trash Receptacles to include coordination with Waste Management.

8. Page CS-7

   Remove and replace page CS-7 in its entirety with revised page CS-7(R-1) attached to this Addendum No. 2. The link for the Training Guidelines for Personnel Responsible for Work Zone Safety and Mobility has been updated within Section 12. Within Section 16, the lighting segments are broken down for clarity.

9. Page CS-8

   Remove and replace page CS-8 in its entirety with revised page CS-8(R-1) attached to this Addendum No. 2. A list of required shop drawings has been added.

10. Page CS-9

    Remove and replace page CS-9 in its entirety with revised page CS-9(R-1) attached to this Addendum No. 2. A list of required shop drawings has been added. The Substantial Completion Date has been updated within Section 19.

11. Pages CS-10, CS-11 and CS-12

    Remove and replace pages CS-10 and CS-11 in their entirety with revised pages CS-10(R-1) and CS-11(R-1) and new page CS-12 attached to this Addendum No. 2. These pages were affected due to the added text in Section 18 on page CS-8(R-1).

12. Transportation Management Plan

    Remove and replace pages 1 of 4 and 4 of 4 in their entirety with revised pages 1 of 4(R-1) and 4 of 4 (R-1) attached to this Addendum No. 2. The General Project Schedule on page 1 of 4 has been modified. Signatures for the revision are on page 4 of 4. Remove and replace Attachment 1 and Attachment 2 in their entirety with revised pages Attachment 1(R-1) and Attachment 2(R-1) attached to this Addendum No. 2.

## C. Specifications - Job Specific

1. Index Pages JS-i thru JS-v

   Remove and replace pages JS-i thru JS-v in their entirety with revised pages JS-i(R-1) thru JS-v(R-1) attached to this Addendum No. 2. The index has been revised.

2. Pages JS-1, JS-0 and JS-1

   Remove pages JS-1, JS-0 and JS-1 in their entirety and replace with page JS-1(R-1) attached to this Addendum No. 2. Section 105.2000 has been added.

3. Pages JS-1A, JS-1B and JS-1C

   Insert pages JS-1A, JS-1B and JS-1C attached to this Addendum No. 2. The pages have been repaginated. The substantial completion date on page JS-1A has been updated.

4. Page JS-4

   Remove and replace page JS-4 in its entirety with revised page JS-4(R-1) attached to this Addendum No. 2. Section 201 has been revised.

5. Page JS-5

   Remove and replace page JS-5 in its entirety with revised page JS-5(R-1) attached to this Addendum No. 2. Item Code 201.0608 has been revised.

6. Page JS-8

   Remove and replace page JS-8 in its entirety with revised page JS-8(R-1) attached to this Addendum No. 2. Item Code 201.9903 has been revised.

7. Page JS-14

   Remove and replace page JS-14 in its entirety with revised page JS-14(R-1) attached to this Addendum No. 2. Item Code 201.9921 has been revised.

8. Page JS-16

   Remove and replace page JS-16 in its entirety with revised page JS-16(R-1) attached to this Addendum No. 2. Item Code 203.0700 has been deleted.

9. Page JS-16A

   Insert page JS-16A attached to this Addendum No. 2. Item Code 203.9901 has been added.

10. Pages JS-16B and JS-16C

    Insert pages JS-16B and JS-16C attached to this Addendum No. 2. Item Code 206.9901 has been added.

11. Page JS-17

    Remove and replace page JS-17 in its entirety with revised page JS-17(R-1) attached to this Addendum No. 2. Item Code 212.1000 has been revised.

12. Pages JS-18 thru JS-29

    Remove and replace pages JS-18 thru JS-29 in their entirety with revised pages JS-18(R-1) thru JS-29(R-1) attached to this Addendum No. 2. Section 401 has been revised.

13. Pages JS-29A thru JS-29M

    Insert pages JS-29A thru pages JS-29M attached to this Addendum No. 2. Section 401 has been revised and extends onto these pages.

14. Page JS-37

    Remove and replace page JS-37 in its entirety with revised page JS-37(R-1) attached to this Addendum No. 2. Item Code 702.0605 has been deleted.

15. Page JS-39

    Remove and replace page JS-39 in its entirety with revised page JS-39(R-1) attached to this Addendum No. 2. Item Code 702.9902 has been revised.

16. Page JS-39A

    Insert page JS-39A attached to this Addendum No. 2. Item Code 702.9903 has been added.

17. Pages JS-51 and JS-52

    Remove and replace pages JS-51 and JS-52 in their entirety with revised pages JS-51(R-1) and JS-52 (R-1) attached to this Addendum No. 2. Item Code 834.9913 has been deleted.

18. Pages JS 52A thru JS-52E

    Insert pages JS-52A thru JS-52E attached to this Addendum No. 2. Item Code 904.9901 has been added.

19. Page JS-61

    Remove and replace page JS-61 in its entirety with revised page JS-61(R-1) attached to this Addendum No. 2. The name of Item Code 905.9917 has been revised.

20. Page JS-69

    Remove and replace page JS-69 in its entirety with revised page JS-69(R-1) attached to this Addendum No. 2. Information in paragraph number six has been modified.

21. Page JS-79

    Remove and replace page JS-79 in its entirety with revised page JS-79(R-1) attached to this Addendum No. 2. Minor wording change within Field Quality Control.

22. Page JS-87

    Remove and replace page JS-87 in its entirety with revised page JS-87(R-1) attached to this Addendum No. 2. Minor wording change within Field Quality Control.

23. Page JS-100

    Remove and replace page JS-100 in its entirety with revised page JS-100(R-1) attached to this Addendum No. 2. Item Code 937.100 has been revised.

24. Pages JS-102 and JS-103

    Remove and replace pages JS-102 and JS-103 in its entirety with revised page JS-102(R-1) and JS-103(R-1) attached to this Addendum No. 2. Item Code 942.0100 has been deleted from this section.

25. Page JS-110

    Remove and replace page JS-110 in its entirety with revised page JS-110(R-1) attached to this Addendum No. 2. Item Code L01.9902 has been revised.

26. Page JS-115

    Remove and replace page JS-115 in its entirety with revised page JS-115(R-1) attached to this Addendum No. 2. Item Code L01.9903 has been revised.

27. Pages JS-126 and JS-127

    Remove and replace pages JS-126 and JS-127 in their entirety with revised page JS-126(R-1) and JS-127(R-1) attached to this Addendum No. 2. The description section of Item Code L10.9901 has been revised.

28. Page JS-137

    Remove and replace page JS-137 in its entirety with revised page JS-137(R-1) attached to this Addendum No. 2. Note "S" has been revised on this page.

29. Pages JS-163A thru JS-163D

    Insert pages JS-163A thru JS-163D attached to this Addendum No. 2. Item Code L15.9916 and Item Code L15.9917 have been added.

30. Pages JS-164 and JS-165

    Remove and replace pages JS-164 and JS-165 in their entirety with revised pages JS-164(R-1) and JS -165(R-1) attached to this Addendum No. 2. The number for this item has been updated to Item Code L15.9918 and minor edits have caused JS-165(R-1) updates.

31. Page JS-165A

    Insert page JS-165A attached to this Addendum No. 2. Item Code T02.9910 has been added.

32. Pages 179A thru JS-179E

    Insert pages JS-179A thru JS-179E attached to this Addendum No. 2. Item Code T08.9906 has been added.

33. Page JS-180

    Remove and replace page JS-180 in its entirety with revised page JS-180(R-1) attached to this Addendum No. 2. The Materials section of Item Code T09.9901 has been revised.

**D. Distribution of Quantities**

1. Index Pages 1 thru 5

   Remove index pages 1 thru 5 in their entirety and replace with revised index pages 1(R-1) thru 5(R-1) attached to this Addendum No. 2. Changed items are indicated in bold.

2. Page 18

   Remove page 18 in its entirety and replace with revised page 18(R-1) attached to this Addendum No. 2. Item Code 702.0605 has been deleted.

3. Page 19

   Remove page 19 in its entirety and replace with revised page 19(R-1) attached to this Addendum No. 2. The quantities for Item Code 702.0640 and Item Code 702.9902 have been revised.

4. Page 19a

   Insert page 19a attached to this Addendum No. 2. Item Code 703.9901 has extended onto another page.

5. Page 31

   Remove page 31 in its entirety and replace with revised page 31(R-1) attached to this Addendum No. 2. Item Code 834.9913 has been deleted.

6. Page 34

   Remove page 34 in its entirety and replace with revised page 34(R-1) attached to this Addendum No. 2. The name of Item Code 905.9917 has been revised.

7. Page 57

   Remove page 57 in its entirety and replace with revised page 57(R-1) attached to this Addendum No. 2. The names of Item Code L12.9914 and Item Code L12.9915 have been revised.

8. Page 60

   Remove page 60 in its entirety and replace with revised page 60(R-1) attached to this Addendum No. 2. The names of Item Code L15.9910 and Item Code L15.9911 have been revised. The quantity for Item Code L15.9912 has been revised. Item Code L15.9913 and Item Code L15.9914 have been deleted.

9. Page 60a

   Insert page 60a attached to this Addendum No. 2. The removal of Item Code L15.9914 has extended onto another page.

10. Page 61

    Remove page 61 in its entirety and replace with revised page 61(R-1) attached to this Addendum No. 2. Item Code L15.9914 and Item Code L15.9915 have been deleted.

11. Page 67

    Remove page 67 in its entirety and replace with revised page 67(R-1) attached to this Addendum No. 2. The name of Item Code T08.9903 has been revised.

12. Page 81

    Remove page 81 in its entirety and replace with revised page 81(R-1) attached to this Addendum No. 2. Item Code 206.9901, Item Code 403.0300, and Item Code 702.9903 have been added.

13. Page 82

    Insert page 82 attached to this Addendum No. 2. Item Code 702.9903, Item Code 904.9901, Item Code T02.9910 and Item Code T08.9906 have been added.

14. Page 83

    Insert page 83 attached to this Addendum No. 2. Item Code T08.9906 has been added and extends onto this page.

**E. Plans**

1. SHEET NO. 1 - TITLE SHEET

   Remove Sheet No. 1 - Title Sheet in its entirety and replace with revised Sheet No. 1 - Title Sheet(R-1) attached to this Addendum No. 2. Signatures and stampes have been added.

2. SHEET NO. 5 - JOB SPECIFIC PLAN SYMBOLS, LEGENDS & NOTES

   Remove Sheet No. 5 - Job Specific Plan Symbols, Legends & Notes in its entirety and replace with revised Sheet No. 5 - Job Specific Plan Symbols, Legends & Notes(R-1) attached to this Addendum No. 2. The description for TRANS & Detectable Warning System in Roadway & Utility Legend has been revised. Callout NBSP has been added.

3. SHEET NO. 10 - GENERAL PLAN NO. 1 OF 6

   Remove Sheet No. 10 - General Plan No. 1 of 6 in its entirety and replace with revised Sheet No. 10 - General Plan No. 1 of 6(R-1) attached to this Addendum No. 2. Callout for Tree Conservation Measures (TCM) has been added at same locations shown on Landscape Improvement Plans. Callouts have been revised within Enlargement Area 1.

4. SHEET NO. 11 - GENERAL PLAN NO. 2 OF 6

   Remove Sheet No. 11 - General Plan No. 2 of 6 in its entirety and replace with revised Sheet No. 11 - General Plan No. 2 of 6(R-1) attached to this Addendum No. 2. Callout for Tree Conservation Measures (TCM) has been added at same locations shown on Landscape Improvement Plans.

5. SHEET NO. 12 - GENERAL PLAN NO. 3 OF 6

   Remove Sheet No. 12 - General Plan No. 3 of 6 in its entirety and replace with revised Sheet No. 12 - General Plan No. 3 of 6(R-1) attached to this Addendum No. 2. Callout for Tree Conservation Measures (TCM) has been added at same locations shown on Landscape Improvement Plans. SSC and SGC callouts have been added near Kilburn Court.

6. SHEET NO. 32 - DRAINAGE AND UTILITY PLAN NO. 3 OF 6

   Remove Sheet No. 32 - Drainage and Utility Plan No. 3 of 6 in its entirety and replace with revised Sheet No. 32 - Drainage and Utility Plan No. 3 of 6(R-1) attached to this Addendum No. 2. Manhole has been revised from type 4.2.2 to 4.2.2M @ 2 locations; sta 23+36+/- & sta 25+04 +/-.

7. SHEET NO. 33 - DRAINAGE AND UTILITY PLAN SHEET NO. 4 OF 6

   Remove Sheet No. 33 - Drainage and Utility Plan No. 4 of 6 in its entirety and replace with revised Sheet No. 33 - Drainage and Utility Plan No. 4 of 6(R-1) attached to this Addendum No. 2. Leader pointing to Manhole type 4.2.2 has been revised so it points to the proposed structure at sta. 28+29 +/-.

8. SHEET NO. 44 - SIGN & PAVEMENT MARKING PLAN NO. 2 OF 6

   Remove Sheet No. 44 - Sign & Pavement Marking Plan No. 2 of 6 in its entirety and replace with revised Sheet No. 44 - Sign & Pavement Marking Plan No. 2 of 6(R-1) attached to this Addendum No. 2. Location of proposed sign at sta 15+91 +/- has been revised.

9. SHEET NO. 46 - SIGN & PAVEMENT MARKING PLAN NO. 4 OF 6

   Remove Sheet No. 46 - Sign & Pavement Marking Plan No. 4 of 6 in its entirety and replace with revised Sheet No. 46 - Sign & Pavement Marking Plan No. 4 of 6(R-1) attached to this Addendum No. 2. Location of proposed sign at sta 30+27 +/- has been revised.

10. SHEET NOS. 60 THRU 63 - LANDSCAPE IMPROVEMENT PLANS NOS. 1 THRU 4 OF 4.

    Remove Sheet Nos. 60 thru 63 - Landscape Improvement Plans Nos. 1 thru 4 of 4 in their entirety and replace with revised Sheet Nos. 60 thru 63 - Landscape Improvement Plans Nos. 1 thru 4 of 4(R-1) attached to this Addendum No. 2. Note 2 has been added. Information is provided on Sheet No. 62 (R-1) for the proposed landscaping in front of the Dunkin Donuts establishment.

11. SHEET NO. 65 - LANDSCAPE DETAILS SHEET NO. 2 OF 8

    Remove Sheet No. 65 - Landscape Details Sheet No. 2 of 8 in its entirety and replace with revised Sheet No. 5 - Landscape Details Sheet No. 2 of 8(R-1) attached to this Addendum No. 2. Leader to PTC callout in EP-1 has been added.

12. SHEET NO. 70 - LANDSCAPE DETAILS NO. 7 OF 8

    Remove Sheet No. 70 - Landscape Details No. 7 of 8 in its entirety and replace with revised Sheet No. 5 - Landscape Details No. 7 of 8(R-1) attached to this Addendum No. 2. Item code in rain garden signage detail has been revised.

13. SHEET NO. 71 - LANDSCAPE DETAILS NO. 8 OF 8

    Remove Sheet No. 71 - Landscape Details No. 8 of 8 in its entirety and replace with revised Sheet No. 71 - Landscape Details No. 8 of 8(R-1) attached to this Addendum No. 2. Note #1 in (CSB) "Cut Stone Types" detail has been revised to match specification text

14. SHEET NO. 72 - CONSTRUCTION DETAILS NO. 1 OF 2

    Remove Sheet No. 72 - Construction Details No. 1 of 2 in its entirety and replace with revised Sheet No. 72 - Construction Details No. 1 of 2(R-1) attached to this Addendum No. 2. Detail for "Precast 8' Manhole with 48" Manhole Stack" has been revised.

15. SHEET NOS. 74 THRU 87 - BROADWAY CROSS SECTIONS NOS. 1 THRU 14 OF 14

    Remove Sheet Nos. 74 thru 87 - Broadway Cross Section Nos. 1 thru 14 of 14 in their entirety and replace with revised Sheet Nos. 74 thru 87 - Broadway Cross Section Nos. 1 thru 14 of 14(R-1) attached to this Addendum No. 2. Title block has been revised to RIDOT standard.

16. SHEET NO. 88 - MARLBOROUGH STREET CROSS SECTIONS NO. 1 OF 1

    Remove Sheet No. 88 - Marlborough Street Cross Sections No. 1 of 1 in its entirety and replace with revised Sheet No. 88 - Marlborough Street Cross Sections No. 1 of 1(R-1) attached to this Addendum No. 2. Title block has been revised to RIDOT standard.

**F. Contract Dates**

1. Bid-Opening Date

   The Bid-Opening Date has been updated to January 7, 2015.

For RI Department of Transportation
Chief Engineer

# CONTRACT SPECIFIC GENERAL PROVISIONS

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## 1. BRIEF SCOPE OF WORK

Rhode Island Contract No. 2014-CH-071, RI Federal Aid Project Nos. STP-SRTS(004), STP-TAPS(003), STP-RESF(284) and 3RD-PRTY(225) is for the construction of the Broadway Streetscape Improvement Project in the City of Newport, Rhode Island.

This project includes roadway improvements to Broadway and Marlborough Street, from Farewell Street to Bliss Road, and the side street approaches to Broadway. In the southerly section, from Farewell Street to Cranston Avenue, work consists of approximately 2200 feet of full-depth reconstruction of the roadways, including approximately 85 feet of Marlborough Street; Construction will include sidewalk reconstruction on the easterly and westerly sides; the installation of curb extensions; granite curbing; wheelchair ramps; raised crosswalks; landscaping and hardscaping; decorative electrical streetlighting; pavement markings; new street signage; stormwater improvements; and all other incidentals, complete in-place and accepted, as necessary to complete the work of this contract to the satisfaction of the Engineer.

Work on the northerly section, from Cranston Avenue to Bliss Road, includes micromilling and overlay of the existing roadway, and the installation of supplemental street signage, replacement of traffic loop detectors, and pavement markings.

## 2. LIST OF CONTRACT DRAWINGS

A total of 88 contract drawings have been developed for this Project.

| Sheet No. | Description |
|---|---|
| 1 | COVER SHEET |
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## 3. UTILITY AND MUNICIPAL NOTIFICATION AND COORDINATION

The Contractor shall schedule his construction so as to allow for a coordinated highway and utility effort. Upon award, the Contractor shall notify the lead utility relative to his anticipated construction start date. Immediately following the Pre-construction Conference, the Contractor shall initiate any survey layout required for utilities.

| AGENCY | | TELEPHONE |
|---|---|---|
| Department of Public Services | (William Riccio, Jr.) | 845-5841 |
| Newport Department of Utilities | (Julia Forgue) | 845-5601 |
| Narragansett Electric Company | (Thomas Capobianco) | 784-7248 |
| Verizon | (Anthony Filomeno) | 727-9543 |
| National Grid Gas | (Melissa Owens) | 781-907-2845 |
| Cox Communications | (David Velilla) | 615-1284 |
| Newport Fire Alarm | (Lt. Robert Dufault) | 845-5909 |
| Newport Police Department | (Chief Gary Silva) | 845-5776 |
| RIDEM Oil Spills | | 222-1360 |
| Waste Management | | 800-927-4545 |

It is required that the Contractor notify each utility no less than two (2) weeks in advance of the date and time that the Contractor intends to work in the vicinity of the utility's facility or at which time the utility must have its facility adjusted to accommodate construction.

The Contractor shall coordinate the work with utility work being done within the project area. The electric utility will be preforming work in the project area.

The Contractor shall provide all necessary temporary traffic control for utility work to be performed in advance of other construction in each work zone. The Contractor shall coordinate with National Grid. Note that National Grid estimates a 6 week timeline based on 8 hour work days Monday through Friday where one (1) week is five (5) eight (8) hour days.

## 4. NOTICE TO CONTRACTORS

It is understood that all phases of work and the ordering of material called for under the terms of this contract shall commence upon award of the contract.

Note, the "Owner" as used in these specifications is defined as RIDOT and their designated representative.

Before final acceptance, the Contractor shall remove all rubbish, excess materials, equipment, etc. to the satisfaction of the Engineer. All parts of the work shall be left in an acceptable condition. No extra payment shall be made for clean-up.

Erosion and Sediment Control

The Storm Water Pollution Prevention Plan (SWPPP) details the anticipated erosion & sediment controls required for this project. The Contractor must designate a SWPPP contact person, experienced in storm water management on large construction sites, who is available on site throughout the life of the project, and who has the authority to direct Contractor's personnel and/or subcontractor's personnel in

carrying out corrective actions requested by RIDOT's SWPPP Inspector and/or Resident Engineer. The Contractor's designated SWPPP contact person must be available to oversee all SWPPP related activities and to accompany the RIDOT's SWPPP Inspector, as requested, when inspections are performed. All applicable sections of the SWPPP must be signed by the Contractor and applicable subcontractors prior to Notice To Proceed.

Erosion and sediment controls shall be installed prior to the initiation of any earthwork. Installation shall not begin more than 30 days prior to the scheduled start of earthwork in the vicinity of the controls. During the first 90 days following the initiation of earthwork, if the Engineer calls for the replacement of any controls which were installed more than 30 days prior to initiation of earthwork, due to deterioration of the materials, this shall be the responsibility of the Contractor, and shall be accomplished at no cost to the State. Also reference the job specific specification for Code 212.1000 Cleaning and Maintenance of Erosion and pollution Controls.

## 5. SEQUENCE OF CONSTRUCTION

**General.** The following restrictions and lane access and egress control, within the project area, must be adhered to by the Contractor throughout his construction operations:

- Contractor shall be required to maintain travel lanes (11 feet minimum) along Broadway with access to intersecting streets in the project area open to traffic, per the TMP Attachment A, except as approved in writing by RIDOT fourteen (14) calendar days in advance of closure. Night and/or weekend work may be permissible on a case-by-case basis if the construction operation requires additional work zone width to safely accommodate the operation, including milling and resurfacing. The Contractor shall submit a written request to the Engineer at least twenty-four (24) hours in advance of the beginning of performance of such work. Only such work shall be done at night as can be done satisfactorily without creating public nuisance(s). Good lighting and all other necessary facilities for carrying out and inspecting the work shall be provided and maintained at all points where such work is being done. Any work necessary to be performed after regular working hours, such as nights, weekends and on legal holidays, shall be performed without additional expense to the Owner.

- Work shall shutdown by 1 p.m. Friday on holiday weekends and as directed by RIDOT or the City of Newport for Special events. No work shall be performed in the roadway on weekends and holidays, or after 6:00 p.m. on weekdays.

- Temporary traffic control plans for one lane traffic and/or detours shall require approval in writing by RIDOT fourteen (14) calendar days in advance of implementation. Stage 3 does not require additional approval from RIDOT. Stage 3, the installation of the raised crosswalks, shall allow a one lane traffic detour for a maximum duration of 21 days. Unreasonable travel delays, as determined by the Engineer in consultation with the City Department of Public Services, will not be permitted.

- Safe access and egress to side streets and all residential and commercial driveways must be maintained at all times.

- Safe access and egress to adjacent businesses and residences shall be maintained at all times. All new sidewalks must be placed within fourteen (14) consecutive days after removal of

the existing sidewalk. Sidewalks shall be constructed in sections that minimize impact to adjacent buildings. Bluestone paving stock shall be on hand prior to demolition of existing sidewalk near Farewell Street.

- In order to minimize disruptions to existing businesses and reduce the number of lost parking spaces during the construction period, the Contractor shall limit the length of active construction area and restrictive parking area to approximately 600 linear feet at any time within the full depth streetscape limits (Farewell to Cranston). The work could proceed to the next block at the Engineer's discretion. The work zone restriction does not apply to milling and resurfacing operations. The Contractor shall notify the Resident Engineer of the temporary traffic control plans showing locations of work areas and transitions in and out of each section at least seven (7) days in advance of each work zone setup. The traffic control plans shall include construction zones at intersections and any detours required for intersection work.

- Any request to deviate from this procedure shall be submitted by the Contractor to the Engineer at least seven (7) days in advance.

- The Contractor shall schedule his work such that all construction activities along Broadway and the side streets within the project limits are to be completed within the number of calendar days as described on page CS-8 under **Paragraph 19: Award of Contract and Completion Date**.

The City of Newport considers the section of Broadway north of Cranston Avenue to require immediate attention. As such the proposed resurfacing work and associated items must begin and proceed to completion as soon as the notice to proceed is provided. The reconstruction segment south of Cranston Avenue may also proceed if the proposed work utilizes independent resources that will neither impede nor delay the resurfacing work.

The Contractor shall submit a detailed schedule of operations for the Engineer's approval and shall assume full responsibility for all construction operations in the project area as specified above.

The Contractor shall coordinate his work with National Grid to ensure that all utility relocations may proceed without delay. The Contractor shall, immediately upon commencing work at the site, perform all work necessary for the preparation of utility company involvement prior to beginning any other work on the project. Such work will include, but not be limited to, site preparation, tree-trimming, earthwork, removals and relocations or disposals, traffic control, survey, etc., which involve the relocation of overhead wires or underground utilities.

**6. SPECIALTY ITEMS**

The following items are hereby designated as "Specialty Items":

Tree/Stump Removal
Electrical/Street Lighting
Landscape Plants/Planting
Sign Panels
Pavement Markings

## 7. DAMAGE TO EXISTING UTILITIES

The Contractor shall check and verify the exact location of all existing utilities and service connections both underground and overhead with Dig Safe and the City of Newport. Any damage to the utilities which are detailed by Dig Safe shall be the Contractor's responsibility. Cost to repair such damage shall be borne by the Contractor.

## 8. WORK ADJACENT TO GAS LINES, WATER LINES AND TELEPHONE DUCTS

Extreme care shall be exercised during construction in the vicinity of the gas lines, water lines and telephone ducts. Complete coordination with the utility companies shall be maintained.

## 9. SPECIAL REQUIREMENTS FOR TRAFFIC MAINTENANCE AND PROTECTION

In addition to the requirements of the Standard Specifications for Road and Bridge Construction and the Special Requirements of other sections of these contract documents, the following requirements must be adhered to by the Contractor.

The Contractor is advised that the signs and other traffic control devices shown on the plans for maintenance and protection of traffic during construction operations are minimum requirements, and it is the Contractor's responsibility to supplement these if necessary to ensure the public's safety. All Maintenance and Protection of Traffic devices shall be in place and approved by the Engineer prior to starting construction. All Maintenance and Protection of Traffic shall conform to the latest edition and revisions of the Manual on Uniform Traffic Control Devices (MUTCD). The Contractor must submit for approval a traffic control plan when implementing any changes to the details shown on the plans or when providing traffic control for situations differing from those shown on the plans, including subcontractor work.

The construction operations of this project must be coordinated with the local community public safety officials. It is the Contractor's responsibility to coordinate the construction operations of this project with the local public safety officials. In case of an emergency, the Contractor will be required to move equipment and allow the passage of emergency vehicles. The safety of the residents of the area must be considered at all times.

The measurement and payment for all signs, barricades, flag-persons and for the maintenance and movement of traffic protective devices will be under the appropriate bid items at the contract unit bid prices.

**Travel Lane** - A travel lane must be at least 10 feet wide and must be paved with a hard, smooth surface. This surface may be existing pavement, existing base course, or new pavement. Travel on gravel may be required, particularly for intersection roadways and driveways, provided that the surface is maintained smooth and does not exceed two consecutive days in duration at the active work zone location. The Contractor shall maintain satisfactory dust control at his own cost. At no time shall travel be allowed on gravel during inclement weather or if inclement weather is forecast during that period of time. Any deviation from the above will require approval of the Engineer.

**Pedestrian Way** - A pedestrian way must have an unobstructed clear width of four feet and must have a hard, smooth surface, and must conform to all handicapped accessibility requirements. The surface may be existing pavement, new brick pavement, or plywood. All wooden walkways shall meet the Engineer's

approval for surface smoothness and deflection. If there is a drop-off in excess of six inches from the edge of the pedestrian way, a hand rail conforming to all applicable standards shall also be provided. There shall be no additional compensation for the provision of Pedestrian Ways; all costs shall be considered incidental to the Contract.

Pedestrian ways to all building entrances must be maintained at all times. The Contractor shall provide temporary access routes/ramps through construction areas to ensure this access. The Contractor must provide for pedestrians to safely guide them away from broken and uneven pavement, open excavations, drop-offs, construction operations and other hazards at all times.

All temporary construction signs shall be removed, covered or otherwise concealed when there are no construction operations taking place or when they are not needed to properly warn drivers and/or pedestrians. This includes the period between erecting the signs and the starting of construction, as well as when a construction phase is completed or suspended.

The Contractor shall backfill or place steel plates capable of supporting HS-20 vehicle loading over all trenches and excavations at the end of work each day except when otherwise approved by the Engineer. There shall be no additional compensation for backfilling, re-excavating and/or plating these trenches.

The Contractor shall install and maintain Rhode Island Standard barricades with appropriate flashing units, item 923.015 Drum Barricade Standard 26.2.0, at each location where adjustments to grade and/or reconstruction of drainage and utility structures have been made until resurfacing work has been performed. Other types of protective devices may be used if approved by the Engineer.

## 10. MAINTENANCE OF PUBLIC ACCESS & COORDINATION OF EXISTING BENCHES AND TRASH RECEPTACLES

The Contractor, at his own expense, shall keep the streets, highways, roads, private walks and sidewalks, in which he may be at work, open for pedestrians and vehicular traffic at all times unless otherwise authorized by the Engineer in writing. Any temporary access to adjacent buildings, at a minimum, shall be constructed of plywood ramps braced with 2x4s to prevent sagging. If, in the opinion of the Engineer, the interest of abutters and public requires it, a temporary means of crossing and guarding shall be provided as directed and approved by the Engineer. The Contractor shall coordinate with the City to maintain existing benches and trash receptacles until new ones are installed. The Contractor shall coordinate access to the trash receptacles and commercial dumpsters and removal with Waste Management. The Contractor shall perform this work under the direction of the Engineer.

## 11. STORAGE OF CONSTRUCTION MATERIALS AND/OR EQUIPMENT

In addition to the requirements of Section 106 "Storage of Materials" of the Rhode Island Standard Specifications of Road and Bridge Construction, the Contractor shall submit for approval the location of Material & Equipment Storage to the Engineer. The Contractor may use the Newport Public Works Yard facility located at 80 Halsey Street, Newport, RI 02840 for the stockpiling of material with the approval of the Engineer. This facility is not secure - the Contractor will use this area at his own risk. The Contractor may hire a security guard at no cost to the City or State if he so chooses.

## 12. TRANSPORTATION MANAGEMENT PLAN

Included as an appendix (Appendix A) to these Contract Specific General Provisions is the Transportation Management Plan (TMP) for this project. The TMP lays out the set of coordinated transportation management strategies that will be used to manage the work zone safety and mobility impacts of this project. In the event of a discrepancy between information in the TMP and information elsewhere in the Contract Documents, the former shall govern.

*The Department's latest Training Guidelines for Personnel Responsible for Work Zone Safety & Mobility are available under the "Work Zone Safety & Mobility" section at http://www.dot.ri.gov/business/contractorsandconsultants.php.*

## 13. ENVIRONMENTAL PERMITS

Environmental Permits required for this project are on the following pages:

Appendix B: Rhode Island Department of Environmental Management –
Rhode Island Pollutant Discharge Elimination System (RIPDES) Stormwater General Permit for Construction Activity

Appendix C: Storm Water Pollution Prevention Plan (SWPPP)

## 14. USE OF EXPLOSIVES

Explosives shall not be used in the performance of the work of this Contract.

## 15. 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, applicable local authorities, and adjacent/overlapping construction contracts. The Contractors shall coordinate with the Owner of the existing trash receptacles and trash removal services in the project area.

## 16. TEMPORARY LIGHTING

In order to provide temporary lighting for the project, the permanent service pedestals should be used and the permanent conduit runs should be installed in segments. Please refer to item T02.9910 Maintenance of Existing Lighting System for further information.
The lighting design has two service pedestals which can temporarily feed in either direction. The segments are described from south to north.

South segment- From the lighting circuit beginning at Farewell Street to the service pedestal #1 just north of Marlborough Street. The distance is 500 feet.
Middle segments- From Marlborough Street to the service pedestal #2 just north of Ayrault Street. The distance is 1000 feet.
North segment - From Ayrault Street to the end of the lighting circuit just south of Cranston Street. The distance is 500 feet.

**17. HYDRANTS**

All work associated with removing and relocating hydrants within the project area shall conform to the City of Newport standard specifications and standard details. Any new piping shall be ductile iron. The City Fire Department shall be notified 5 days before any hydrant is disconnected.

**18. SHOP DRAWING SUBMITTAL**

The Contractor shall submit seven (7) sets of shop drawings to the Engineer. Shop drawings shall be accompanied by three (3) sets of design computations, cuts from a manufacturer's catalog, and/or supporting technical bulletins.

**In addition to the submission requirements set forth above, the Contractor shall simultaneously submit two (2) sets of the shop drawings, computations, catalog cuts and/or supporting technical bulletins to the Engineer's agent (consultant) in order to expedite review. The address is:**

**Louis Berger**
**117 Kendrick Street, Suite 400**
**Needham, MA 02494**

Shop drawings, all calculations, and design shall be stamped by a Rhode Island registered Professional Engineer.

All shop drawings shall be reviewed by the Engineer and returned to the Contractor for appropriate action within thirty (30) calendar days of submission. Shop drawings that are found to be erroneous, lacking information necessary to control construction, or not in conformance with accepted design criteria will be disapproved and returned to the Contractor. The Contractor shall address the Engineer's comments and resubmit revised shop drawings and/or design computations. The Contractor will not be allowed any increase in contract time for the time taken by the Contractor to submit revised shop drawings caused by erroneous submission, or by a previous submission either lacking the information necessary to control construction, or not conforming to accepted design criteria. Below is a list of shop drawing required for the project.

| Code | Section | Description |
|---|---|---|
| 834.9909 | Cut Stone – CS – 9 | Cut Stone type |
| 834.9910 | Cut Stone – CS – 10 | Cut Stone type |
| 834.9911 | Cut Stone – CS -11 | Cut Stone type |
| 834.9912 | Bluestone Slab – BS | Cut Stone type |
| 702.9902 | Precast Manhole 8' Diameter | Shop drawing |
| L12.9912 | Tree Pit Type G – Left (TPG-L) | Details |
| L12.9912 | Tree Pit Type G – Right (TPG-R) | Details |

| | | |
|---|---|---|
| L12.9919 | Edging | Manufacturer's data sheets |
| L12.9920 | Root Barrier Panels | Manufacturer's data sheets |
| L15.9901 | Bike Rack (New) | Shop drawings |
| L15.9902 | Bench Type A (Backless) – BTA | Shop drawings |
| L15.9903 | Bench Type B (With Back) – BTB | Shop drawings |
| L15.9904 | Bench Type C (4' Length) – BTC | Shop drawings |
| L15.9905 | Bollard (Standard Steel) | Shop drawings |
| L15.9906 | Bollard With Chain | Shop drawings |
| L15.9907 | Receptacle Type 1 (Trash – Reset) – TR–1 | Shop drawings |
| L15.9908 | Receptacle Type 2 (Recycling – Reset) – TR-2 | Shop drawings |
| L15.9909 | Planter, Steel | Shop drawings |
| L15.9910 | Transit Station, Double Bay – TRS | Shop drawings |
| L15.9911 | Transit Station, Single Bay – TRS-1 | Shop drawings |
| T08.9902 | Type "A" Decorative Pole/Luminaire (120W LED) | Shop drawings and calculations |
| T08.9903 | Type "B" Decorative Pole/Luminaire (120W LED) | Shop drawings and calculations |
| T08.9904 | Type "C" Decorative Light Bollard (25W LED) | Shop drawings and calculations |
| T08.9905 | Type "D" Decorative Pole/Luminaire (120W LED) | Shop drawings and calculations |
| T09.9901 | Service Pedestal | Manufacturer's data sheets and wiring Diagram |

This list is provided for the contractor's convenience, and should not be interpreted as the only required submittals. The contractor must review each individual specification for submission requirements.

Shop drawings must be approved by the Engineer prior to performance of the work involved. Such approval will not relieve the Contractor of any responsibility under the contract for the successful completion of the work. Unless otherwise specified in the contract documents, the contract price will include the cost of furnishing all shop drawings.

## 19. AWARD OF CONTRACT AND COMPLETION DATE

The Contractor shall mobilize and begin work within 10 days of receiving the Notice to Proceed from RIDOT. All work described in this contract shall be completed by November 18, 2016.

## 20. CARE AND PROTECTION OF WORK

From the commencement of work until the completion of the same, the Contractor shall be solely responsible for the protection and care of the work covered by the Contract and for the material delivered to the site. All injury, damage or loss of the same, from whatever cause, shall be made good at his expense. He shall take all necessary precautions to prevent injury or damage to the work by flood, freezing or inclement weather at any and all times. The methods used for this purpose shall be subject to approval of the Engineer.

## 21. MATERIALS AND MANUFACTURED ARTICLES

All material and workmanship shall be subject to the approval of the Engineer and shall be in conformity with approved modern practice.

In general, wherever the Contract Documents show or specify a particular make of material, article, device or equipment, it shall be regarded as a standard.

When reference is made in the Contract Documents to standards or specifications of associations such as AWWA, ASTM or others, the provisions of the latest revision of the standard or specification shall be applicable. If two or more makes of materials, manufactured articles, devices or equipment are shown or specified, each should be regarded as the equal of the other. Any other make of material, manufactured article, device or equipment which is the recognized equal of that specified, and is suitable for the purpose intended, will be accepted. In all cases, new materials shall be used, unless this provision is waived by notice from the Engineer in writing.

**22. WATER SUPPLY AND ELECTRICAL ENERGY**

The Contractor shall make his own arrangements for obtaining the electrical energy and a water supply necessary for construction purposes.

**23. PUBLIC SAFEGUARDS**

The Contractor agrees to conduct the work at all times in such a manner that public travel shall not be inconvenienced needlessly, nor shall it be wholly obstructed at any point. He further agrees to be responsible for all legal notices, detour and warning signs, to notify the police and fire departments of the condition of the roads while the work is in progress, providing watchmen, barricades, red lights, danger and warning signs and such other precautions necessary to protect life and property.

**24. CONTRACTOR'S EMPLOYEES**

The Contractor shall be represented on the project site at all times when work is in progress by an experienced superintendent. Only skilled foremen and workmen shall be employed on work requiring special qualifications.

In the event that any Contractor employee neglects to properly serve the public or Owner in a courteous and efficient manner, fails to conduct him/herself properly at the Site, or permits or causes any violation of this Agreement, the Contractor agrees not to employ such person at the Site and Contractor shall replace such person within a reasonable time with a competent and trained employee.

**25. CLEANUP**

During the progress of the work, the Contractor shall keep the site in a generally neat condition. Lunch papers, bottles, lumber cut-offs, drinking cups and like rubbish shall be removed from the site daily. The work shall be cleaned up as the various portions of the project are completed. Any trash stored onsite during the week shall be removed before the weekend. The Contractor may be subject to a fine of $500.00 each occurrence for failure to remove trash from the site every week. Broadway is a vibrant commercial district in the City of Newport so extra care shall be taken to keep the site clean.

Upon completion of the work and before acceptance and final payment shall be made, the Contractor shall, except as otherwise expressly directed or permitted in writing, clean and remove from the sites and adjacent property all surplus and discarded materials, rubbish and temporary structures. He shall restore in an acceptable manner all property which has been damaged during the performance of the work and leave the whole in a neat and presentable condition.

The Contractor shall remove all plant, surplus and waste materials from the site as soon as the work is

completed.

**26. AS-BUILT DRAWINGS**

The Contractor shall be responsible for As-Built drawings that are consistent with standard engineering practice. The drawings should be to scale, with dimensions noted where necessary. All system features should be represented accurately. Three (3) sets of As-Built drawings shall be certified by a RI-registered professional engineer and submitted to the City upon completion. The As-Built drawings shall be paper copy and shall conform to the requirements of plans in Standard Subsection 105.02. As-Built drawings are required prior to final acceptance of the system improvements. The cost of as-built drawings is considered incidental to the project and no separate payment for this item will be made.

**27. PAYMENT FOR TEMPORARY WORK**

No direct or separate payment will be made for providing miscellaneous temporary works, plant, services, Contractor's offices, layout surveys, job description signs, sanitary requirements, safety devices, watchmen, bonds and insurance. Compensation for all such services, things and materials shall be considered as having been included in the price stipulated for the Contract items.

**28. ORDER TO SUSPEND WORK**

If the Engineer considers that any portion of the work should be suspended temporarily because of extreme weather conditions or special events or activities in Newport or for any other reason, he shall order in writing the Contractor to suspend work until conditions permit its resumption. Suspension of work by order of the Engineer shall be considered as a reason for extension of time beyond the completion time previously stated in the Contract.

**29. STATE LAWS AND REGULATIONS**

The Contractor shall comply in all respects with the General Laws of Rhode Island, 1956, relative to registration of motor vehicles, loading of trucks, conditions of work, employment of labor, prevailing wage scales and fringe benefits and the acts amendatory thereof and supplemental thereto.

Safety Code - The Contractor's attention is directed to the safety requirements of the Rhode Island Department of Labor, Industrial Code Commission for Safety and Health, Industrial Safety Code No. 14, Safety Code for Construction Industry and amendments thereof.

**30. PROPERTY MARKERS DISTURBED**

The Contractor shall, at his own expense, retain the services of a licensed surveyor to replace property markers on or adjacent to privately owned property which have been disturbed during the course of construction.

**31. LINES AND GRADES**

The Contractor shall keep the Engineer informed, a reasonable time in advance, of the times and places at which he intends to do work, in order that lines and grades may be checked and necessary measurements for record and payment made with a minimum of inconvenience to the Engineer or delay to the Contractor. The Contractor shall have no claim for damages or extension of time on account of

delays in the giving of lines and grades making record measurements or destruction of such marks and the consequent necessary for replacement. The Engineer will furnish the Contractor with such basic information as to lines and grades as he, the Engineer, deems necessary, but this shall not be construed to mean all lines, grades, elevations and measurements will be made by the Engineer.

The Contractor shall furnish necessary services as required and all wooden stakes, spikes, monuments, or markers of the type and material designated by the Engineer for the proper placement, marking and preservation of all lines and grades necessary under this Contract.

The Contractor shall furnish, in accordance with the RI Standard Specifications of Road and Bridge Construction Section 934, all labor and materials necessary for transferring, marking and preserving all lines, marks or grades that may be given to the Contractor by the Engineer. He shall carefully follow and preserve all such lines, marks and grades. All work during its progress and on its completion shall conform to the plans; it being understood and agreed, however, that such plans may be modified from time to time, in the manner and to the extent herein provided.

**32. PARKING**

Workers personal vehicles shall not be parked at the construction site. Workers shall utilize parking available at the Gateway Center or other areas as determined by the City of Newport.

**33. SHUTDOWN TIMES FOR HOLIDAY WEEKENDS AND SPECIAL EVENTS**

Work shall shutdown on the holiday weekends as noted in the Transportation Management Plan and as directed by the City of Newport for special events. The Contractor shall ensure the site is cleaned up and there are no loose materials in the work zone.

**34. DUST CONTROL**

This work consists of furnishing and applying water and/or calcium chloride to reduce dust nuisance and hazard within the project limits as directed by the Engineer, all in accordance with RIDOT Specifications section 907. No additional payment shall be made for dust control, it shall be considered incidental to the project.

**35. MATERIALS TESTING**

Materials testing and certification during construction shall be completed by RIDOT in accordance with the RIDOT Master Schedule for the Preparation of Project Schedule for Sampling, Testing, and Certification of Materials. The Contractor will be required to coordinate and provide advance notice to RIDOT prior to delivery of materials or fabrication of structures. The Contractor will be responsible for providing all certificates of compliance for materials indicated in the Materials Testing Schedule of this Contract.

**36. LONG LEAD ITEM**

The items for bluestone are long lead items and require approximately 8 weeks for delivery.

# LEVEL 3 TRANSPORTATION MANAGEMENT PLAN

Project Name: **Broadway Streetscape Improvement Project**
RI Design Contract No(s): **2014-CH-071**
Newport Constr. Contract No(s): **N/A**

Submission: **ADV** Date: **8/29/2014**

## PROJECT INFORMATION

Brief Project Description: This Project involves roadway and sidewalk construction on Broadway in Newport, RI. Work includes full depth reconstruction and sidewalk widening of Broadway from Farewell Street to Gould Street; Cold plane and overlay from Gould Street to Malbone Road. Construction will include the installation of bluestone curbing and bluestone sidewalks, belgian block gutters, cement concrete sidewalks, drainage modifications, bluestone wheelchair ramps and crosswalks, cement concrete sidewalks, electric lighting system, pavement markings and new signage.

General Work Limits: General work zone begins at Farewell Street to the south and extends northerly along Broadway to Malbone Road. Parking closures and shoulder closures will be implemented during Construction along Broadway. Lane shifts will be utilized for staged construction. Broadway from Farewell Street to Marlborough Street will be one way for stages 1 and 2.

## WORK ZONE LOCATIONS

| ROADWAY NAME or INTERSECTION | FROM Farewell Street | TO Malbone Road | APPROX. LENGTH |
|---|---|---|---|
| **Broadway** | Sta 10+00± | Sta 46+00 | 3,600 ft |
| | | | |
| | | | |
| | | | |
| | | | |
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General Project Schedule*: It is anticipated that Construction of the Broadway Streetscape Improvement Project will require 2 construction seasons. Stage 1 involves full depth block by block construction of the east side of Broadway from Farewell Street to Equality Park West and mill and overlay of Broadway from Equality Park West to Malbone Road. Stage 2 involves full depth block by block construction of the west side of Broadway from Farewell Street to Equality Park West. Stage 3 involves installation of raised crosswalks.

*The information in this section is not intended to and shall not supersede the approved schedule and milestone/completion dates for the project.

## TRAFFIC-RELATED WORK RESTRICTIONS

General Restrictions: Travel lane widths of 10 feet (minimum) and shoulder widths of 1 foot (minimum) are to be maintained at all times. No work shall be performed in the roadway on weekends and holidays.

Holiday Restrictions: No lane and/or shoulder closures allowed after 1:00 PM on the Friday preceding a holiday weekend.

Continued on next page

## PERFORMANCE MONITORING, CHANGES TO TMP, & CONTINGENCIES

**The Contractor's TMP Implementation Manager (if identified below)** is responsible for keeping the portion of the project being used by public

If at any time (1) a significant deviation from any of the strategies included in the TMP (e.g., the use of an alternate construction sequence) is desired by one or more members of the project implementation team, (2) field observations and/or data suggest that impacts to road users are or will be unacceptable, or (3) one or more performance requirements established in the TMP are not being met in the field, the RIDOT TMP Implementation Manager shall report the situation to his/her supervisor or Division/Section/Unit manager. The supervisor / manager will coordinate with the City of Newport Director of Public Services and/or other interested parties as appropriate and/or necessary to consider and determine whether revised and/or alternate strategies should be implemented in an effort to lessen the adverse safety and/or mobility impacts of the project. If the supervisor / manager deems that strategy changes should be implemented, the changes shall be documented in a revised version of the TMP and RIDOT must approve of the revised TMP prior to their implementation.

If a significant deviation from any of the strategies included in the TMP is requested by the Contractor, unless directed otherwise by RIDOT the Contractor is responsible for preparing and submitting to the RIDOT TMP Implementation Manager appropriate documentation (e.g., design calculations, analysis reports, Temporary Traffic Control Plans, etc.) showing that the requested change(s) are (1) feasible and (2) expected to result in safety and mobility impacts that are no more adverse than the impacts resulting from the strategies already included in the latest approved TMP. RIDOT will review and consider the submittal(s) as described in the preceding paragraph and will determine whether the changes should be implemented. If the requested changes are approved by RIDOT, unless otherwise directed by RIDOT the Contractor shall prepare and submit to the RIDOT TMP Implementation Manager a revised version of the latest approved TMP in both printed and electronic (Microsoft® Excel) format that documents all of the approved changes. Work to implement the changes shall not begin until the RIDOT TMP Implementation Manager has approved of the revised TMP.

When unexpected events (e.g., crashes, inclement weather, unforeseen traffic demands, etc.) occur in a project work zone where one or more lanes are closed, the RIDOT TMP Implementation Manager or his/her responsible designee should (1) determine whether or not the lane closure(s) can/should be removed in order to improve traffic operations and/or minimize delays and (2) if deemed appropriate, take action to remove the lane closure(s).

Other Requirements:

## TMP APPROVALS

*All approvals must be obtained prior to start of work*

| DEPUTY CHIEF ENGINEER | STATE TRAFFIC ENGINEER | CHIEF ENGINEER |
|---|---|---|
| Signature: Frank Corrao, PE | Signature: Robert Rocchio, PE | Signature: Kazem Farhoumand, PE |
| Date: 10/28/14 | Date: 10/22-/14 | Date: 10/29/14 |

| Revision # | Initials | Date |
|---|---|---|
| 1 | FC | 12/11/14 |

| Revision # | Initials | Date |
|---|---|---|
| 1 | RW | 12-11-14 |

| Revision # | Initials | Date |
|---|---|---|
| 1 | KF | 12/11/14 |

## TMP IMPLEMENTATION MANAGERS

*Project managers with the primary responsibility & authority for implementation of this TMP*

| RIDOT | |
|---|---|
| Name: | |
| Title: | |
| Unit: | |
| Office Phone: | |
| Mobile Phone: | |
| E-Mail: | |

| CONTRACTOR (if contract work) | |
|---|---|
| Name: | |
| Title: | |
| Company/Unit: | |
| Office Phone: | |
| Mobile Phone: | |
| E-Mail: | |

ADDENDUM NO. 2

# Lane and Shoulder Closure Restrictions, Stages 1 & 2

## Broadway Streetscape, Newport

| | MINIMUM NUMBER OF LANES TO REMAIN OPEN TO TRAFFIC[1,2,3] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TIME OF DAY | DAY OF WEEK | | | | | | | Additional Restrictions |
| Location | | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | |
| Broadway (Farewell Street to Marlborough Street) | All Hours | 1L | 1L | 1L | 1L | 1L | 1L | 1L | Parking Prohibited |
| Broadway (Marlborough Street to Gould Street) | All Hours | 2L | 2L | 2L | 2L | 2L | 2L | 2L | Parking Prohibited |
| Broadway (Gould Street to Malbone Road) | All Hours | 2L | 2L | 2L | 2L | 2L | 2L | 2L | Parking Prohibited |
| Marlboro Street | 6AM-6PM | 1L (Alt) | 1L (Alt) | 1L (Alt) | 1L (Alt) | 1L (Alt) | 1L (Alt) | 1L (Alt) | |
| Marlboro Street | 6 PM-6AM | 2L | 2L | 2L | 2L | 2L | 2L | 2L | |
| Other One Way Side Streets | 6AM-6PM | CLOSE | CLOSE | CLOSE | CLOSE | CLOSE | CLOSE | CLOSE | Parking Prohibited |
| Other One Way Side Streets | 6 PM-6AM | 1L | 1L | 1L | 1L | 1L | 1L | 1L | |
| Other Two Way Side Streets | 6AM-6PM | CLOSE | CLOSE | CLOSE | CLOSE | CLOSE | CLOSE | CLOSE | Parking Prohibited |
| Other Two Way Side Streets | 6 PM-6AM | 2L | 2L | 2L | 2L | 2L | 2L | 2L | |

**LEGEND:**

| | |
|---|---|
| 2L | A minimum of one 10 ft wide travel lane and one 1 ft wide shoulder shall remain open to traffic in each direction |
| 1L | A minimum of one 10 ft wide travel lane and one 1 ft wide shoulder shall remain open to traffic |
| 1L (Alt) | Maintain 1 lane serving both directions with alternating one way traffic |
| CLOSE | A full road closure with permission from the City |

NOTES:

1. The set-up and break-down of temporary traffic control devices within a traveled way shall be construed as a closure of that traveled way.
2. The provisions noted herein shall not free the Contractor from his responsibility to conduct all work in such a manner that assures the least possible disruption to traffic.
3. Side street closures must be approved by the City 24 hours in advance.

ADDENDUM NO. 2

# Lane and Shoulder Closure Restrictions, Stage 3

## Broadway Streetscape, Newport

| | MINIMUM NUMBER OF LANES TO REMAIN OPEN TO TRAFFIC[1,2,3] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TIME OF DAY | DAY OF WEEK | | | | | | | Additional Restrictions |
| Location | | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | |
| Broadway (Farewell Street to Marlborough Street) | All Hours | 1L | 1L | 1L | 1L | 1L | 1L | 1L | Parking Prohibited |
| Broadway (Marlborough Street to Gould Street) | All Hours | 1L NB | 1L NB | 1L NB | 1L NB | 1L NB | 1L NB | 1L NB | Parking Prohibited |
| Broadway (Gould Street to Malbone Road) | All Hours | 2L | 2L | 2L | 2L | 2L | 2L | 2L | Parking Prohibited |
| Dr. Marcus Wheatland Boulevard | All Hours | 1L SB | 1L SB | 1L SB | 1L SB | 1L SB | 1L SB | 1L SB | Parking Prohibited |
| Side Streets (One Way) | All Hours | 1L | 1L | 1L | 1L | 1L | 1L | 1L | No parking within 150' of work zone |
| Remaining Side Streets (Two Way) | All Hours | 2L | 2L | 2L | 2L | 2L | 2L | 2L | No parking within 150' of work zone |

**LEGEND:**

| | |
|---|---|
| 2L | A minimum of one 10 ft wide travel lane and one 1 ft wide shoulder shall remain open to traffic in each direction |
| 1L | A minimum of one 10 ft wide travel lane and one 1 ft wide shoulder shall remain open to traffic |
| 1L NB | Maintain 1 lane serving the northbound direction |
| 1L SB | Maintain 1 lane serving the southbound direction |

NOTES:

1. The set-up and break-down of temporary traffic control devices within a traveled way shall be construed as a closure of that traveled way.
2. The provisions noted herein shall not free the Contractor from his responsibility to conduct all work in such a manner that assures the least possible disruption to traffic.
3. Sidewalks outside of the active work area must remain open and meet all appicable ADA requirements.

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**105.2000**

**ADJUSTMENT AND/OR RELOCATION OF UTILITIES**

**DESCRIPTION:** The 4th paragraph of **Subsection 105.06; "Cooperation with Utilities,"** of the Standard Specifications for Road and Bridge Construction, Amended August 2013, addresses the situation whereby the adjustment and/or relocation of utilities is required by the Contract. All construction relating to new and/or existing electric and/or telephone facilities shall be performed by a contractor approved by the appropriate utility company, including all adjustments to manholes, frames and covers. If the Contractor has been pre-approved for such work by the respective utility, it may perform this work with its own forces. If the Contractor has not been pre-approved, it must retain a firm that has been so approved. The aforementioned Subsection also instructs the Contractor that prior to the pre-construction conference, it must submit to the Engineer written statements from the respective utility companies that the firm or firms that it has selected are approved for such work.

The only exception from submitting prior written authorization will be if the Contractor selects one or more of the following construction companies that have been pre-approved by the respective utilities, as of December 3, 2014:

**A. Narragansett Electric Authorized Utility Contractors**

1. **J.H. Lynch & Son's, Inc.**
   50 Lynch Place
   Cumberland, RI 02864
   Contact: Susan Cullen
   Phone: (401)333-4300
   Email: scullen@jhlynch.com

2. **Bond Brothers**
   145 Spring Street
   Everett, MA 02149
   Contact: Andy Youngren
   Phone: (617)571-6667
   Email: ayoungren@bondbrothers.com

3. **Rosciti Construction**
   123 King Philip Street
   Johnston, RI 02919
   Contact: John Mazzeo
   Phone: (401)351-6681
   Email: est@rosciti.com

4. **Universal Construction Co.**
   16 Starr Street
   Johnston, RI 02919
   Contact: Joseph Piti
   Phone: (401)942-3119
   Email: ucc@unicori.net

**108.1000**

**PROSECUTION AND PROGRESS**

In accordance with **Section 108.08, Failure to Complete on Time, Para. a., Phased and Interim Completion** the following defines the Completion Dates and Associated Liquidated Damages**:**

Substantial Completion : on or before November 18, 2016
All work shall be completed, as defined by **Section 101.71.**
Liquidated Damages : $ 1,750.00 per calendar day.

**108.03**

**PROSECUTION AND PROGRESS**

In accordance with **Section 108.03, Prosecution and Progress, Para. a. General Requirements, 1. Project Schedule Program:**

The Schedule Level for this contract is Schedule Level B.

Replace **Subsection 108.03; Prosecution and Progress, Para. a. General Requirements, 2. Software** with the following:

2. Software

The software used to generate the CPM Schedule shall be Primavera P6. The version shall be Version 7 or 8. The Contractor shall purchase and maintain a valid software maintenance agreement for each license of software necessary to produce and maintain the Project Schedules. Unless specified elsewhere in the Contract Documents, the Contractor shall comply with the terminology defined by the Primavera Project Management Manual.

**109.04**

**DIFFERING SITE CONDITIONS, CHANGES, EXTRA WORK AND FORCE ACCOUNT WORK.**

**a. Methods of Payment**. Differing site conditions, changes, extra work, and significant changes in the character of the work, all performed in accordance with **SECTION 104; SCOPE OF WORK**, will be paid for in accordance with the following methods as appropriate:

1. Contract unit prices.
2. Unit prices agreed upon in the order authorizing the work.
3. An agreed upon lump sum amount.
4. If directed by the Department, on a Force Account Basis to be compensated in the following manner:

**(a) Labor**. For all labor and foremen in direct charge of the specific operations, the Contractor shall receive the rate of wage actually paid as shown by its certified payroll, which rate shall be at least the prevailing rate of wage (or scale), for each and every hour that said labor and foremen are actually engaged in the work.

No part of the salary or expenses of anyone connected with the Contractor's forces above the grade of foreman, and having general supervision of the work, will be included in the labor item as specified above.

The Engineer reserves the right to determine the number and type of labor employed.

The Contractor shall receive the actual costs paid to, or in behalf of, workers by reason of subsistence and travel allowances, health and welfare benefits, pension fund benefits or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work.

An amount equal to 20 percent of the sum of the above items will also be paid the Contractor.

**(b) Bond, Insurance and Tax.** For property damage, and liability insurance premiums, unemployment insurance contributions, and social security taxes incurred on force account work, the Contractor shall receive the actual cost, to which cost a surcharge of 6-percent will be added. For Worker's Compensation Insurance Premiums, the Contractor shall receive the actual cost of the workers compensation costs incurred, which shall be calculated net of all applicable credits, rebates, refunds and allowances. An additional surcharge will be added to the actual costs incurred. The surcharge amount calculated from the Experience Modification Factors (MOD Factors) as follows:

1. For MOD factors greater than 1.0 the surcharge shall be 6%
2. For MOD factors greater than .80 and less than or equal to 1.0 the surcharge shall be 8%
3. For MOD factors less than or equal to .80 the surcharge shall be 10%

The contractor shall furnish satisfactory evidence of the rate or rates paid for such bonds, insurances and taxes. In addition, the Contractor shall submit a copy of their Worker's Compensation policy showing the current MOD factors.

**(c) Materials.** For materials accepted by the Engineer and used in the work, the Contractor shall receive the actual cost of such materials delivered to the site, including transportation charges paid

**SECTION 201**

**SITE PREPARATION**

Revise Subsection 201.01 Site Preparation DESCRIPTION, of the RI Standard Specifications of Road and Bridge Construction adding to the existing language as follows:

**DESCRIPTION:** Prior to commencement of construction excavation and site disturbance activities, the Contractor shall obtain dated photographs and/or video of foundations and structures abutting the project. These date stamped photographs and/or video shall document the existing condition of the foundations and structures. The Contractor shall submit all photographs to the Engineer in PDF format before any work shall be started. The Engineer shall be provided access to these photographs and/or video at his request. This documentation effort shall not be paid for separately but shall be considered incidental to the overall Contract.

**CODE 201.0608**

**REMOVE AND STOCKPILE DIRECTIONAL REGULATORY AND WARNING SIGNS**

**DESCRIPTION:** The work under this item consists of the removing and stockpiling of directional, regulatory and warning signs from the project area as shown on the Plans and as directed by the Engineer. All work shall be performed in accordance with the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013, with all revisions and as specified in these Specifications.

The W3R signs to be stockpiled shall be returned to the RIDOT maintenance section.

All other signs shall be stockpiled in the City Yard, 60 Hasley Street.

**CODE 201.9903**

**REMOVE & DISPOSE NATIONAL GRID LIGHT FOUNDATIONS**

**DESCRIPTION:** The work under this item consists of coordination with National Grid and furnishing all labor and material to remove and dispose all existing light foundations with National Grid owned poles/luminaires along Broadway project limits.

**MATERIALS:** Restoration of sidewalks must be made using matching material to existing one. Temporary patching shall be a minimum of three feet wide by the entire width of sidewalk.

**CONSTRUCTION METHOD:** Contractor must coordinate with National Grid on the removal of the existing aluminum standards and luminaires after new lighting system is in operation. Existing foundations must be removed 12" below grade and area filled with 6" lifts of compacted gravel borrow. Restore sidewalk with temporary asphalt patch. Existing conduit to each foundation may be abandoned in place.
**Note: Disconnecting and removal of lighting conductors, removal of poles/luminaires to be done by National Grid.**

**METHOD OF MEASUREMENT:** "Remove and Dispose National Grid Light Foundations" shall be paid for per unit price "EACH".

**BASIS OF PAYMENT:** "Remove and Dispose National Grid Light Foundations" shall be paid for at the contract bid price "EACH" including clean fill material, temporary asphalt patch sidewalk restoration, National Grid backcharges, and other miscellaneous equipment necessary to satisfactorily complete this work.

**CODE 201.9921**

**REMOVE AND DISPOSE CROSSWALK LIGHTING & APPURTENANCES - DCWL**

**DESCRIPTION:** The work under this item consists of the removing and disposing of the crosswalk lighting system, two push buttons, and all associated electrical components at the existing crosswalk in front of City Hall. All work shall be performed in accordance with the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013, with all revisions and as specified in these Specifications.

**MATERIALS:** Not applicable.

**CONSTRUCTION METHOD:** The Contractor shall remove the crosswalk lighting system, two push button posts and all associated electrical components by an appropriate means. The Contractor will be responsible for properly disconnecting and removing the electrical service connection including notifying the appropriate utility parties as necessary.

**METHOD OF MEASUREMENT:** "Remove and Dispose Crosswalk Lighting & Appurtenances" will be measured for payment per LUMP SUM for the satisfactory removal and disposal of the lighted crosswalk components at City Hall.

**BASIS OF PAYMENT:** "Remove and Dispose Crosswalk Lighting & Appurtenances" will be paid for at the contract unit price per LUMP SUM. This payment will constitute full compensation for all materials, labor, tools, and incidentals necessary to remove and dispose of the crosswalk lighting system and associated electrical components at the existing crosswalk in front of City Hall to the satisfaction of the Engineer.

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**CODE 203.9901**

**MODIFIED PERVIOUS FILL**

**DESCRIPTION:** The work under this item consists of providing and installing the aggregate as indicated on the Plans. The work is incidental to the item to which it pertains. All work shall be performed in accordance with the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013, with all revisions and as specified in these Specifications.

**MATERIALS:** Modified pervious fill shall conform to the gradation requirements of Section M.01.03, Pervious Fill, of the Rhode Island Specifications for Road and Bridge Construction, Amended August 2013, with all revisions except that 100 percent by weight shall pass the 3/8 inch sieve.

**METHOD OF MEASUREMENT:** No separate measurement or payment shall be made for this item; it shall be incidental to the item for which it pertains.

**BASIS OF PAYMENT:** Not applicable.

**ITEM CODE 206.9901**

**INLET SEDIMENT CONTROL**

**DESCRIPTION:**

This work shall consist of furnishing and installing individual sediment bags at each catch basin within the project area, and removing them at the completion of the project. The purpose of these bags and silt socks is to catch construction related sediment prior to its entry into the existing highway storm drainage system. The work shall also include furnishing and installing the silt socks at each catch basin.

**MATERIALS:**

The Sediment catchment bags and silt socks shall be pre-manufactured for the express purpose described here-in, and shall be constructed of an engineered textile material. While the plans details depict a specific manufactured product, an acceptable equal may be proposed by the Contractor, subject to Engineer review and approval.

**CONSTRUCTION METHODS:**

The Contractor shall be responsible for providing to the Engineer two (2) copies of the manufacturer's instructions for the installation and maintenance of the Inlet Sediment Control, and the installation and maintenance shall conform to these instructions.

The installation of the Inlet Sediment Control Devices shall take place:

- **Inlet sediment control devices shall be installed and cleaning and flushing of storm drainage system shall be complete before earth disturbance for any construction occurs in those particular locations. Inlet Sediment Controls shall be removed during winter shutdown and reset in the spring.**

**METHOD OF MEASUREMENT:**

**"Inlet Sediment Control**" as indicated on the plans or as directed by the engineer will be measured per EACH, representing the number of catch basins actually furnished with the Inlet Sediment Control device in accordance with the plans or as directed by the engineer.

**BASIS OF PAYMENT :**

The accepted quantities of **"Inlet Sediment Control"** will be paid for at the contract unit price per "EACH" as listed in the Proposal. This price so-stated constitutes full and complete compensation for all labor, materials, equipment, tools and incidentals necessary to finish the work, complete and accepted by the Engineer.

No separate payment will be made for the replacement of devices deemed by the Engineer to be the result of the Contractor's operations.

The cleaning and maintenance of the Inlet Sediment Control devices shall be paid for under the bid item for "Cleaning and Maintenance of Erosion Controls."

**CODE 212.1000**

**CLEANING AND MAINTENANCE OF EROSION AND POLLUTION CONTROLS**

**DESCRIPTION: Subsection 212.03.3; Failure to Maintain Erosion and Pollution Controls**, of the Standard Specifications requires that a daily charge be deducted from monies due the Contractor in the event the Engineer decides that erosion and pollution controls are not in place or have not been adequately maintained.

The Contractor shall be held responsible for any and all cost associated with fines and clean-up activities, over and above the penalty assessed herein resulting from Contractor failure in this regard.

The charge for this Contract will be **$ 500.00 per day**.

**CODE 401.9901**
**CLASS 19.0 WITH PAY ADJUSTMENTS**

**CODE 401.9902**
**MODIFIED CLASS 12.5 WITH PAY ADJUSTMENTS**

**Remove Section 401 in its entirety and replace it with the following:**

**SECTION 401**

**DENSE GRADED HOT MIX ASPHALT (HMA) PAVEMENTS**

**401.01 DESCRIPTION**. This work consists of constructing HMA pavements on prepared foundations in conformity with the dimensions and details indicated on the Plans, and in accordance with these Specifications. These Specifications are applicable to all types of Dense Graded HMA pavements irrespective of aggregate gradation, grade of performance graded asphalt binder (PGAB), or pavement use.

The HMA shall be composed of a mixture of aggregate, PGAB, and filler if required. The aggregate shall be sized, graded and combined in such proportions that the resulting mixture meets the gradation requirements of the job mix formula (JMF).

**401.02 MATERIALS**.

**401.02.1 Aggregates.** Aggregates shall meet the applicable requirements of **Subsection M.03.02.2** of these Specifications and AASHTO M 323.

**401.02.2 Performance Graded Asphalt Binder (PGAB).** All grades shall conform to AASHTO M 320 and MP 19. The PGAB shall meet the requirements of PG 64-28, Grade S with the exception of both Class 19.0 and mixes designated as “Base Course” which shall incorporate PG 64-22 Grade S for mixes with less than 15% RAP. Both Class 19.0 and “Base Course” mixes with 15 to 25 percent RAP shall incorporate PG 58-28 Grade S.

Should a class of HMA be designated as “Modified”, the binder shall meet the requirements of PG 64-28, Grade V. The nonrecoverable creep compliance versus percent recovery of the binder shall be plotted and must fall above the curve in Figure X2.1 in Appendix X2 of AASHTO TP-70.

Should a class of HMA be designated as “with WMA” the Contractor shall use a WMA (Warm Mix Additive). WMA shall conform to Section 414 of these specifications.

**401.02.3 Mix Design.** HMA mixes shall conform to AASHTO M 323, "Standard Specification for Superpave Volumetric Mix Design". The design procedure shall follow AASHTO R 35 "Standard Practicefor Superpave Volumetric Design for Hot-Mix Asphalt (HMA)". The optimum binder content (OBC) shall be determined as follows:

a) The OBC for Class 4.75, Class 9.5, and Class 12.5 when not designated as "Base Course" shall be determined using PG 64-28 Grade S.

b) The OBC for Class 4.75, Class 9.5, and Class 12.5 when designated as "Base Course" with less than 15 percent RAP shall be determined using PG 64-22 Grade S.

c) The OBC for Class 4.75, Class 9.5, and Class 12.5 when designated as "Base Course" with 15 to 25 percent RAP shall be determined using PG 58-28 Grade S.

d) The OBC for Class 19.0 with less than 15 percent RAP shall be determined using PG 64-22 Grade S.

e) The OBC for Class 19.0 with 15 to 25 percent RAP shall be determined using PG 58-28 Grade S.

The effective voids in the mineral aggregate ($VMA_{effective}$) and a volumetric phase diagram shall be submitted for each asphalt content during the mix design process. Mix designs shall be developed and signed by an individual certified in "Superpave HMA Mix Design" by the Asphalt Institute. Mix Designs shall be submitted no later than two weeks prior to the date when production of the mixture is scheduled to begin and shall be accompanied by a copy of that individual's certification. No mixture may be produced for State projects until the mix design is approved by the Engineer. Mix designs shall be submitted on forms provided by the Engineer.

The following specific requirements and exceptions to AASHTO M 323 shall apply.

a. The specific gravity, absorption and consensus properties of the aggregates shall be obtained from RIDOT's most recent sampling and testing or from a laboratory accredited to perform AASHTO T 84 and T 85.

b. The implementation of the recommendations of Section 4.2 of AASHTO R 35 is required.

c. The mix shall be coarse graded as defined in Section 6.1.3 of AASHTO M 323.

d. The dust to binder ratio ($P_{0.075}/P_{be}$) shall be 0.5 – 1.0. The effective binder content shall be used to calculate this ratio.

e. In addition to the sieves listed in Table 3 of AASHTO M 323, the 0.600 mm, 0.300 mm and 0.150 mm sieves are required. The 50.0 mm and 37.5 mm sieves are not required.

f. Class 19.0 and mixes designated as "Base Course" shall be designed with a 0%, 10%, 15%, 20% or 25% RAP content. RAP shall not be used in any other mix.

g. $N_{initial}$ shall be 6, $N_{design}$ shall be 50 and $N_{max}$ shall be 75 gyrations.

h. A moisture susceptibility test is not required.

i. The design VMA, VFA, air voids and minimum optimum binder content (OBC) shall meet the following criteria:

**Table 1** – HMA Properties

| Class of Mix | VMA (minimum) | VFA | Air Voids | Minimum OBC |
|---|---|---|---|---|
| 4.75 | 17.5% | 70% - 80% | 4% | 7.0 |
| 9.5 | 16.5% | 70% - 80% | 4% | 6.0 |
| 12.5 | 15.5% | 70% - 80% | 4% | 5.5 |
| 19.0 | 14.5% | 70% - 80% | 4% | 5.0 |

The following procedures shall be adhered to for each mix design:

- Three aggregate trial blends shall be submitted for acceptance before beginning the mix design procedure.

The procedures for mix design submittals shall include:

- All trial mixture data and calculations determined per Section 9 of AASHTO R 35 shall be submitted on forms provided by the Engineer. The Engineer will determine which trial mixture shall be used for the mix design procedure.
- After the mix design is completed it shall be submitted to the Engineer for review and approval.
- The correction factors for each mix for each ignition furnace in the plant lab shall be provided.

The two gyratory cores (AASHTO T 308) and the theoretical maximum specific gravity sample (AASHTO T 209) at the optimum binder content shall be submitted to the Engineer.

Before beginning production of a new HMA mix, a successful plant trial batch shall be performed for that mix and the results forwarded on forms provided by the Engineer.

Should a change in sources of materials be made, a new mix design shall be established before the new material is used. When unsatisfactory results or other conditions make it necessary, the Contractor shall establish a new mix design and submit it to the Engineer for approval.

**401.02.4 Quality Assurance.**

**a. Process Control.** The Contractor shall exercise process control over all production operations. This shall require the constant monitoring of equipment, materials, and production activity such as testing and analysis to ensure that the HMA meets all applicable requirements and is produced within the allowable tolerances.

**b. Acceptance Testing.** Acceptance testing will be conducted by the Engineer.

1. Gradation, Binder Content and Air Void Content

The gradation requirements in Table 2 apply to mixes with and without pay adjustments:

**Table 2** – Gradation Requirements

| | **Class 19.0** | **Class 12.5** | **Class 9.5** | **Class 4.75** |
|---|---|---|---|---|
| 25.0mm (1”) | 100% | 100% | 100% | 100% |
| 19.0mm (3/4”) | 90% - 100% | 100% | 100% | 100% |
| 12.5mm (1/2”) | 90% max | 90% - 100% | 100% | 100% |
| 9.5mm (3/8”) | - | 90% max | 90% - 100% | 95% - 100% |
| 4.75mm (#4) | - | - | 90% max | 85% - 100% |
| 2.36mm (#8) | ± 5% from design | ± 5% from design | ± 5% from design | - |
| 1.18mm (#16) | - | - | - | ±5% from design |
| 0.075mm (#200) | ≥2% | ≥2% | ≥2% | ≥2% |
| Control Sieve | 2.36mm (#8) | 2.36mm (#8) | 2.36mm (#8) | 1.18mm (#16) |

During production of a specific mix, if two consecutive tests do not meet the gradation requirements of Table 2 or one test exceeds double the tolerance on the control sieve, the plant shall cease production of that HMA mix. Production will be allowed to resume after the Contractor completes a successful trial batch for that class of mix, as approved by the Engineer.

The plant shutdown criteria in Table 3 shall apply for binder content and air voids that exceed the following tolerances:

**Table 3** – Plant Shutdown Criteria

| **Pay Adjustments** | **Shutdown Criteria** | **One Test** | **Two Consecutive Tests** |
|---|---|---|---|
| With Pay Adjustments | Optimum Binder Content | ±0.6% | - |
| | Design Air Voids | ±2.0% | - |
| Without Pay Adjustments | Optimum Binder Content | ±0.6% | ±0.4% |
| | Design Air Voids | ±2.0% | ±1.0% |

Production will be allowed to resume after the Contractor completes a successful trial batch for that class of mix, as approved by the Engineer.

**2.** Mix Production – Lots and Sublots

A standard sublot is 600 tons for HMA sampled at the plant for each production run. A standard lot for each mix is five sublots. A sample will be randomly selected and tested for each sublot. At least three sublots will be used when calculating pay adjustments.

If the quantity of HMA needed to finish a production run is projected by the Contractor to be less than the standard sublot size of 600 tons, the projected tonnage may be used to select a random sample. If the projected tonnage is not produced or a random sample is unable to be taken, the Engineer may select a sample at the end of the run or at the paver. If no sample is taken, the tonnage will be added to the previous sublot.

Additional samples may be taken at the discretion of the Engineer.

Gyratory cores and theoretical maximum density samples will be retained by the Engineer for a minimum of two weeks after the results are reported to the Contractor.

**3.** Adjustments to Lots

If one or two sublots are tested after the end of the final standard lot, they will be added to that lot. Three or more sublots tested after the end of the final standard lot will constitute a separate lot. Test results for each sublot will be weighted based on tonnage to determine the final pay adjustment for the lot.

**4.** Plant Pay Adjustments

(a) If a class of HMA is designated with "Pay Adjustments", the pay adjustments for deviation from the optimum binder content (established by the mix design) in Table 4 and the design air void content in Table 5 will apply:

**Table 4** – OBC Pay Adjustments

| Deviation from Optimum Binder Content | Pay Adjustment |
|---|---|
| Less than or equal to 0.1 % | +2% |
| 0.2% | +1% |
| 0.3% | 0% |
| 0.4% | -5% |
| 0.5% | -15% |
| 0.6% | -30% |
| 0.7% | -40% |
| Greater than 0.7 % | -50% or Remove and Replace* |

**Table 5** – Air Void Pay Adjustments

| Deviation from Design Air Void Content | Pay Adjustment |
|---|---|
| Less than or equal to 0.5% | +1% |
| 0.6% to 1.0% | 0% |
| 1.1% to 1.5% | -5% |
| 1.6% to 2.0% | -10% |
| 2.1% to 2.5% | -30% |
| 2.6% to 3.0% | -40% |
| Greater than 3.0% | -50% or Remove and Replace* |

* The decision to make 50% payment or Remove and Replace will be made by the Engineer

Note: All deviation values will be rounded to the nearest 0.1% before applying pay adjustments.

(b) Calculation of Pay Adjustments for Production Binder and Air Void Content

For each test, absolute deviations will be used when determining binder and air void content pay adjustments. Absolute deviations are the values of deviation regardless of sign (±).

The weighted average of the absolute deviations from the optimum binder content of all of the sublots in each lot will be used to determine the appropriate pay adjustments for the lots. The same will apply for air void content. No payment will be made for any pavement that is removed.

All other tolerances shall conform to the RI Standard Specifications.

**c. Independent Assurance Testing.** This testing will be performed by the Department in accordance with the Rhode Island Department of Transportation publication entitled "Schedule for Sampling, Testing and Certification of Materials."

**401.03 CONSTRUCTION METHODS.**

**401.03.1 HMA Mixing Plant.** Mixing plants shall be of sufficient capacity and coordinated to adequately handle the proposed production of HMA. The storage yard shall be maintained neat and orderly and the separate stockpiles shall be readily accessible for sampling.

**a. Requirements for All Plants.**

**1. Equipment for Preparation of PGAB**. Tanks provided for the storage of PGAB shall be equipped to heat and hold the material at the required temperatures. The heating shall be accomplished by steam coils, electricity, or other approved means such that no flame shall be in contact with the tank. The circulating system for the PGAB shall be designed to assure proper and continuous circulation during the operating period. Provision shall be made for measuring storage tanks. An adequate sampling valve shall be provided to ensure the safe and proper sampling of the PGAB.

**2. Cold Feed Bins**. The plant shall include no fewer than three (3) storage bins of sufficient capacity to supply the mixer when it is operating at full capacity. Bins shall be arranged to assure separate and adequate storage of appropriate fractions of the mineral aggregates without contamination. They shall also be so constructed that samples can be readily obtained. Separate dry storage shall be provided for filler or hydrated lime when used and the plant shall be equipped to feed such material into the mixer.

**3. Cold Aggregate Feeder**. The plant shall be provided with accurate mechanical means for uniformly feeding the aggregate into the drier so that uniform production and temperature will be obtained.

**4. Drier**. The plant shall include a drier or driers which continuously agitate the aggregate during the heating and drying process.

**5. PGAB Control Unit**. Satisfactory means, either by weighing or metering, shall be provided to obtain the proper amount of PGAB in the mix within the tolerance specified. Means shall be provided for checking the quantity or rate of flow of PGAB into the mixer.

**6. Thermometric Equipment**. An armored thermometer of adequate range in temperature reading shall be fixed in the PGAB feed line at a suitable location near the charging valve at the mixer unit.

The plant shall also be equipped with either an approved dial-scale, mercury-actuated thermometer, an electric pyrometer, or other approved thermometric instrument so placed at the discharge chute of the drier as to register automatically the temperature of the exiting material.

The Engineer may require replacement of any malfunctioning or inconsistent thermometer by an approved temperature sensing and recording apparatus for better regulation of the temperature of the material.

**7. Dust Collector**. The plant shall be equipped with a dust collector constructed to waste or return uniformly all or any part of the material collected as directed.

**8. Truck Scales**. When required, the HMA shall be weighed on approved scales furnished by the Contractor or on public scales at the Contractor's expense. Such scales shall be tested at least every 60 days or whenever the Engineer deems necessary to assure their accuracy.

**9. Scales**. Scales shall be so located as to be easily readable from the operator's normal work station; otherwise a remote readout shall be supplied.

All plant scales, including truck scales, shall be certified at the expense of the Contractor by a competent and experienced scales technician as follows:

(a) Annually prior to use in State work.

(b) At intervals of not more than 60 calendar days.

(c) At any time ordered by the Engineer.

**10. Safety Requirements**. Adequate and safe access to sampling points shall be provided. Guarded ladders to other plant units shall be placed at all points where accessibility to plant operations is required. Accessibility to the top of truck bodies shall be provided by a platform or other suitable device, placed in an acceptable location near the testing laboratory, to enable the Engineer to obtain samples and mixture temperature data. All gears, pulleys, chains, sprockets, and other dangerous moving parts shall be thoroughly guarded and protected. A clear, clean and unobstructed passage shall be maintained at all times in and around the truck loading area.

**11. HMA Holding Bin**. HMA may be stored in surge and storage systems designed for that purpose. Each surge and storage system must meet the requirements of AASHTO M156, unless otherwise permitted by the Engineer, and may be inspected by the Department to determine acceptance at specific holding times.

Acceptance shall be based upon the ability of the holding bin to hold and discharge mixtures within the quality criteria specified by the mix design and these Specifications.

**b. Requirements for Batching Plants.**

**1. Automatic Proportioning**. The plant shall be equipped with automatic proportioning devices. Such devices shall include equipment for accurately proportioning the various components of the mixture by weight in the proper sequence. PGAB and aggregates shall be proportioned by weight. Additives, if required, may be proportioned by volume or weight. The plant shall be equipped to automatically control the sequence and timing of mixing operations. There shall be auxiliary interlock cutoff circuits to interrupt and stop the automatic cycling of the batching operations at any time an error in weighing occurs, when an aggregate bin becomes empty, or when there is a malfunction of any portion of the control system.

**2. Recording Equipment**. The plant shall be equipped with a digital recorder which will automatically print the following data on delivery tickets:

(a) Batch weights of each size aggregate. Weights printed may be individual or cumulative.

(b) Total weight of aggregates in batch. The weight printed for the last aggregate batched shall be the total weight of aggregates in the batch when cumulative weights are used.

(c) Weight of PGAB in batch.

(d) Weight of total batch.

(e) Total weight of batches in truck.

(f) Total weight of PGAB in all batches in truck.

(g) Date mixed.

(h) The time each batch or load began or the time each was completed.

When silos are utilized, the requirements for delivery tickets shall conform to **Para. c; Requirements for Drum Dryer Mixing Plants**, of this Subsection. In addition, automated batch plant printout tickets generated in accordance with **Para. b** of this Subsection shall be given to the plant inspector and maintained on file.

There shall be sufficient copies of delivery tickets to provide a copy for the plant inspector and a copy for the Resident Engineer for permanent project record. The following information shall also be included on delivery slips:

(i) Name of customer.

(j) Name of project and contract number.

(k) Name of driver and truck number.

(l) Class of HMA.

(m) Additives.

**3. Equipment Failure**. If at any time the automatic proportioning or recording devices become inoperable, the plant may be allowed to batch and mix HMA for a period of not more than 48 hours from the time of the breakdown, if approved by the Engineer. Written permission of the Engineer will be required for periods of operation without automatic proportioning facilities longer than 48 hours.

**4. Screens**. Plant screens, capable of screening all aggregates to the specified sizes and proportions and having normal capacities in excess of the full capacity of the mixer, shall be provided.

**5. Hot Aggregate Bins**. Hot bin storage of sufficient capacity to ensure uniform and continuous operation shall be provided. The bins shall be arranged to ensure separate and adequate storage of appropriate fractions of the aggregate. Each bin shall be provided with overflow pipes, of such size and at such locations as to prevent backing up of material into other compartments or bins. Each bin shall be provided with its individual outlet gate, constructed so that when closed there shall be no leakage. The gates shall cut off quickly and completely. Bins shall be equipped with adequate tell-tale devices to indicate the position of the aggregates in the bins at the lower quarter points. Adequate and convenient facilities shall be provided for obtaining aggregate samples from each hot bin.

**6. Aggregate Scales**. Scales for any weigh box or hopper shall be of the springless dial type, having a full complement of index pointers and shall be of a standard make and design. They shall be accurate to 0.50 percent, have minimum graduations not greater than 0.50 percent and shall be readable and sensitive to 0.25 percent or less. The preceding percentages are based on total batch weight.

**7. Batching Controls**. Batching controls shall be electrically interlocked with the scales to prevent cycling or recycling of batching until scales tare zero.

The batching controls shall meet the following tolerances with respect to the various components weighed in each batch:

| | |
|---|---|
| Combined Aggregate Components: | ±1.5 percent of total batch weight |
| PGAB: | ±0.1 percent of total batch weight |

The total weight of the batch shall not vary more than plus or minus 2 percent from the theoretical design weight.

**8. Time Locking Device**. The mixer shall have an accurate time locking device to control the operation of a complete mixing cycle by locking the weigh box gate, after charging the mixer, until the closing of the mixer discharge gate at the completion of the cycle. It shall lock the PGAB feed throughout the dry mixing period and shall lock the mixer discharge gate throughout the dry and wet mixing periods. The dry mixing period is defined as the interval of time between the opening of the weigh box gate and the commencement of application of the PGAB. The wet mixing period is the interval of time between the commencement of application of the PGAB and the opening of the mixer discharge gate.

The control of the timing shall be flexible and capable of being set at intervals of not more than five seconds throughout the cycles up to three minutes. Changes in mixing time shall be made only when ordered by the Engineer.

**9. Weigh Box or Hopper**. The equipment shall include a means for accurately weighing each size of aggregate in a weigh box or hopper suspended on scales and of ample size to hold a full batch without hand raking or running over. The gate shall close tightly so that no material is allowed to leak into the mixer while a batch is being weighed.

**10. PGAB Control**. The equipment used to measure the PGAB shall be accurate to plus or minus 0.5 percent. The PGAB bucket shall be a non-tilting type with a loose sheet metal cover. The length of the discharge opening trough, bucket or spray bar shall be not less than three-fourths the length of the mixer and it shall discharge directly into the mixer. The PGAB bucket, its discharge valve or valves and spray bar shall be adequately heated. Steam jackets, if used, shall be efficiently drained and all connections shall be so constructed that they will not interfere with the efficient operation of the PGAB scales. The capacity of the PGAB bucket shall be at least 15 percent in excess of the weight of PGAB required in any batch. The plant shall have an adequately heated quick-acting, non-drip, charging valve located directly over the PGAB bucket.

The indicator dial shall have a capacity of at least 15 percent in excess of the quantity of PGAB used in a batch. The controls shall be constructed so that they may be locked at any dial setting and will automatically reset to that reading after the addition of PGAB to each batch. The dial shall be in full view of the mixer operator. The flow of PGAB shall be automatically controlled so that it will begin when the dry mixing period is over. All of the PGAB required for one batch shall be discharged in not more than 15 seconds after the flow has started. The size and spacing of the spray bar openings, trough or PGAB bucket shall provide a uniform application of PGAB the full length of the mixer. The section of the PGAB line between the charging valve and the spray bar shall be provided with a valve and outlet for checking the meter when a metering device is substituted for a PGAB bucket.

**11. Mixer**. The batch mixer shall be capable of producing a uniform mixture within the job mix tolerances. If not enclosed, the mixer box shall be equipped with a dust hood to prevent loss of dust.

The clearance of blades from all fixed and moving parts shall not exceed one inch unless the maximum diameter of the aggregate in the mix exceeds 1¼-inches, in which case the clearance shall not exceed 1½-inches.

**12**. Access to the mixer platform shall be by adequate and safe stairways. A hoist or pulley system shall be provided to raise scale calibration equipment, sampling equipment, and other similar equipment from the ground to the mixer platform and return. There shall be adequate and unobstructed space on the mixer platform.

**c. Requirements for Drum Dryer Mixing Plants.**

**1. Proportioning**. Aggregates and PGAB shall be proportioned by dry weight of the aggregate. Additives, if required, may be proportioned by volume or weight. The cold aggregate feeder shall be synchronized with the PGAB delivery system. Satisfactory means shall be provided to ensure positive interlocking control between each cold bin, the cold aggregate feeder, and the PGAB delivery system. This interlocking control shall be such that production is interrupted if one or more cold bins becomes empty, or the flow of either aggregate or PGAB is obstructed.

**2. Recording Equipment**. The plant shall be equipped with a digital recording device approved by the Engineer by which the proportion of aggregate supplied by each cold bin, the flow rates by weight of dry aggregate and of PGAB, and the cumulative weights of dry aggregate and of PGAB incorporated in the mix are automatically printed. These printed records, showing the date and time of printing, shall be provided to the Engineer at the start and at the end of each production period and at any other times or intervals of time as requested.

The plant shall also have a computerized scale system consisting of a weight batcher and/or a truck scale. Delivery tickets shall be printed on an automatic digital recorder which will print the following information on delivery tickets:

(a) Date loaded.

(b) Net weight of mixture in truck. When a truck scale is used the net weight of the mixture shall be automatically calculated by weighing the truck both empty and full.

(c) Time of each load.

There shall be sufficient copies of delivery tickets to provide a copy for the plant inspector and a copy for the Resident Engineer for permanent project record. The following information shall also be included on delivery slips:

(a) Name of customer.

(b) Name of project and contract number.

(c) Truck identification and name of driver.

(d) Class of HMA.

(e) Additives.

**3. Equipment Failure**. If at any time the automatic recording device or the computerized scale system become inoperable, the plant may be allowed to produce HMA for a period of not more than 48 hours from the time of the breakdown, if approved by the Engineer. Approval will not be granted unless a satisfactory arrangement is made by the Contractor to weigh the mix. Written permission of the Engineer will be required for periods of operation longer than 48 hours during which any required automatic system is not functioning properly.

**4. Aggregate Storage**. Sufficient storage space shall be provided for each stockpile of various sized aggregates which shall be kept separated until they have been introduced into the cold bins that feed the drier. A minimum of four cold feed bins shall be required.

**5. Cold Feed System**. The plant shall have a device at each cold bin to feed the aggregate accurately and uniformly. No gravity type feeders will be permitted. Each adjustment opening shall be provided with indicators graduated to allow proportioning. Each cold bin gate shall be interlocked in such a manner that production is interrupted if one or more cold bins becomes empty or the flow is obstructed.

A mineral filler bin, when required, shall be added to the standard plant cold feed bins, and shall feed the mineral filler at adjustable rates accurately and uniformly. The feeder shall be interlocked so that production is interrupted if the bin becomes empty or the flow is obstructed.

The weighing equipment for all aggregates including mineral filler shall consist of a continuous weighing device either as it is proportioned by the individual feeders or after all materials have been deposited on a common belt. Belt scales shall meet the requirements of N.B.S. Handbook 44 and shall be installed according to the scale manufacturer's recommendations.

The plant shall have an adjustable feed rate control for each aggregate cold bin feeder and mineral filler feeder. The plant shall proportion the total aggregate quantity to the drum mixer with such accuracy and uniformity that the variation of material per interval of time shall not exceed an amount equal to 1.5 percent of the total weight of HMA per interval of time.

An automatic aggregate sampling device shall be provided which will divert a representative combined aggregate sample, including mineral filler, into a hopper or container for the purpose of gradation testing. The container shall cut the full width and depth of the aggregate flow. The sampling point shall be after the aggregate is proportioned and prior to its mixing with PGAB.

**6. PGAB Control Unit**. The PGAB shall be proportioned by a meter accurate to 0.1 percent. A flow switch designed to interrupt production if the PGAB flow is discontinued shall be installed in the delivery line between the meter and the mixer.

The PGAB delivery system shall be coupled with the aggregate delivery system to automatically maintain the required proportions as the aggregate flow varies. The delivery tolerance for PGAB shall be ±0.2 percent of the total mixture weight.

**7. Plant Calibration**. The cold feed and PGAB delivery systems shall be calibrated to insure that the plant is operating within the allowable tolerances. A procedure acceptable to the Engineer and in accordance with the manufacturer's recommendations shall be followed. These calibrations shall be performed prior to the start of each paving season, and at any other time as directed by the Engineer.

**8. Mixer Unit**. The plant shall include a continuous mixer unit having an automatic burner control and capable of producing a uniform mixture within the job mix tolerances. The mixture shall be discharged into a HMA holding bin meeting the requirements of **Para. a.11** of this Subsection.

The moisture content of the mixture upon discharge from the mixer shall not exceed 1.5 percent by weight.

**401.03.2 Hauling Equipment.** Trucks or other equipment used for hauling HMA shall have tight, clean, smooth metal beds which have been thinly coated with an approved release agent. No diesel fuel or other material is to be applied to any portion of the vehicle that comes into contact with the HMA. Any hauling equipment not complying with these Specifications will be immediately rejected along with its load of HMA. Each truck shall have a cover of canvas or other suitable material of such size as to protect the mixture from the weather. Truck beds shall be securely covered and, if necessary, insulated to ensure delivery of the mixture at the specified temperature. Cleaning of equipment, vehicles, and truck beds in areas to be paved is prohibited. Any HMA placed in areas where cleaning takes place is subject to rejection by the Engineer.

**a. Material Transfer Vehicle (MTV).** A material transfer vehicle (MTV) is required for the construction of all HMA friction, surface, intermediate and base courses on all limited access highways. When friction course is used, both the friction course and the underlying layer must be placed using an MTV.

The MTV shall independently deliver HMA from the hauling equipment to the paving equipment. A paving hopper insert with a minimum capacity of 14 tons shall be installed in the hopper of conventional paving equipment when a MTV is used.

As a minimum, the MTV shall have a high capacity truck unloading system which will receive HMA from the hauling equipment; a storage system in the MTV with a minimum capacity of 15 tons of HMA; and a discharge conveyor with the ability to swivel to either side to deliver the mixture to the paver while allowing the MTV to operate from an adjacent lane. In addition, the paving operation must contain a remixing system to blend the mixture prior to placement. The speed of the paver and MTV shall be adjusted to coordinate with the availability of HMA. Failure to keep the MTV supplied with HMA may be cause to cease paving operations for that production. However, more than 2 stoppages shall result in paving being ceased for that production.

When an MTV is to be used on a project, the Contractor shall further investigate the possible movement of the fully or partially loaded MTV on the project. If there are any structures on the project that the fully or partially loaded MTV will traverse, the Contractor shall request an Overweight Permit Check from the Department. Such a request shall be made in writing, and shall include the axle

configuration, weights, and the project limits. Operations shall not begin until this permission is received from the Department and one copy forwarded to the Engineer.

The following is a statewide list of limited access highways (Included are travel lanes, auxilliary lanes, climbing lanes, acceleration and deceleration lanes, ramps, collector/distributor roads, service roads, and shoulders greater than 8 feet).:

| | |
|---|---|
| I-95 | Connecticut State Line to Massachusetts State Line |
| I-195 | I-95 to Massachusetts State Line |
| I-295 | I-95 to Massachusetts State Line |
| US Route 1 | Prosser Trail to Wakefield Cut-Off |
| RI Route 4 | Route 1 to I-95 |
| US Route 6 | Route 102 to Route 101; Route 10 to I-295 |
| RI Route 10 | Park Avenue to Route 6 |
| US Route 6/RI Route 10 | Magnolia Street Bridge to I-95 |
| RI Route 24 | Route 114 to Massachusetts State Line |
| RI Route 37 | Natick Avenue to Post Road |
| RI Route 78 | Route 1 to Connecticut State Line |
| RI Route 99 | Route 146 to Mendon Road |
| East Shore Expressway | I-195 to Wampanoag Trail |
| RI Route 114 | East Shore Expressway to Forbes Street |
| RI Route 138 | Route 1 to Admiral Kalbfus Road |
| RI Route 146 | I-95 to Reservoir Road |
| RI Route 146 | Route 146A to Massachusetts State Line |
| RI Route 403 | Route 4 to Quonset Point |
| Airport Connector | I-95 to Post Road |
| Henderson Bridge Access Roadway | Waterman Street/So. Angell Street to Broadway |

**401.03.3 Pavers**. Unless otherwise shown on the Plans, mixtures shall be spread by means of a mechanical self-powered paver capable of spreading the mixture true to line, grade and crown as approved by the Engineer.

HMA pavers shall be self-contained, power-propelled units, provided with activated vibratory screed and solid vibratory screed extenders and capable of spreading and finishing courses of plant mixed HMA in lane widths applicable to the specified typical section and thickness shown on the Plans. Pavers used for shoulders and similar construction shall be capable of spreading and finishing courses of HMA in the widths, depths and cross slopes indicated on the Plans.

When laying mixtures, the paver shall be capable of being operated at forward speeds consistent with satisfactory laying of the mixture.

The paver shall be equipped with a receiving hopper having sufficient capacity for a uniform spreading operation. The hopper shall be equipped with a distribution system to place the mixture uniformly in front of the screed.

**a. Screeding.** The screed and screed extenders shall continually vibrate while placing the mixture and shall effectively produce a finished surface of the required evenness and texture without tearing, shoving or gouging the mixture. The screed shall be heated to maintain the HMA at the required placement temperature. Unless otherwise permitted by the Engineer, the screed extenders shall not extend more than two feet from the edge of the augers or auger extensions.

The paver shall be equipped with automatic screed controls with sensors for either or both sides of the paver, capable of sensing grade from an outside reference line, sensing the transverse slope of the screed and providing the automatic signals which operate the screed to maintain the desired grade and transverse slope. The sensor shall be capable of operating from a ski-type device or reference beam of not less than 25 feet in length. The sensor shall also have the capability of operating from a reference line unless the ski-type device or reference beam can ride on an adjacent, newly placed lift of HMA. A reference line shall also be used for the first course placed over in-place, recycled material.

Reference lines for the control of horizontal alignment shall be provided by the Contractor subject to the approval of the Engineer.

When a reference line is used for automatic grade control, the Contractor shall furnish and install all pins, brackets, tensioning devices, wire and accessories necessary for satisfactory operation of the automatic control equipment using a taut stringline set to grade for reference.

The transverse slope controller shall be capable of maintaining the screed at the desired slope within plus or minus 0.1 percent. The paver shall be equipped with automatic feeder controls, properly adjusted to maintain a uniform depth of materials ahead of the screed.

**b. Manual Operation.** Manual operation will be permitted in the construction of irregularly shaped and minor areas, on plant mixed seal courses, or where otherwise directed.

**401.03.4 Conditioning of Existing Surfaces.** Surfaces of curbs, gutters, vertical faces of existing pavements, and all structures to be in contact with the HMA shall be given a thin, even coating of tack coat. Care shall be taken to avoid the splattering of surfaces which will not be in contact with the HMA.

When a tack coat is required, the type and grade and the application methods shall conform to the applicable provisions of both **SECTION M.03; MATERIALS** and **SECTION 403; ASPHALT EMULSION TACK COAT**, of these Specifications.

**401.03.5 Spreading and Finishing.** The mixture shall be laid upon an approved cleaned surface, spread and struck off to the grade and elevation established. HMA pavers shall be used to distribute the mixture either over the entire width or over such partial width as may be practicable.

The practices and guidelines for placing HMA as outlined in Asphalt Institute Publication MS-22, "Construction of Hot Mix Asphalt Pavements" shall be adhered to unless otherwise permitted by the Engineer.

Unnecessary walking on the uncompacted HMA mat shall not be allowed.

Before beginning a new lane, the screed shall be heated to the proper operating temperature and any clumps of cold material in the paver hopper shall be removed.

No trucks or other equipment shall be allowed on freshly placed HMA unless specifically permitted by the Engineer.

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable, the mixture shall be placed as close to its final position as possible. It shall then be spread, raked, and luted by hand tools in a manner which will minimize segregation and result in the required compacted thickness.

Unless otherwise directed by the Engineer, any layer of HMA, called for on side streets or driveways must be placed to a distance of at least three feet beyond the gutter line at the same time that layer is being placed on the adjacent project roadway.

**a. HMA Designated for "Bridge Decks".** When HMA is being placed on a surface which is covered with a waterproofing membrane, the following precautions shall be observed:

1. No traffic other than paving equipment shall be allowed on the membrane.

2. The paver must be moved carefully on and off the membrane. Initial proper adjustment of the paver to the correct depth is very important to prevent tearing the membrane. The Contractor shall be responsible for making any repairs to the membrane or to the HMA overlay necessary to correct damage caused by the paving operation, all at its expense.

3. Any and all tears of the membrane by the paver or trucks shall be repaired immediately to the satisfaction of the Engineer. Vehicle tires shall be clean of any rocks or materials that would puncture the membrane.

4. Truck drivers shall not make quick stops and starts, nor turn the wheels while parked, nor cross the deck at an angle.

**401.03.6 Compaction.** Immediately after the HMA has been spread, struck off, and surface irregularities adjusted, it shall be thoroughly and uniformly compacted by rolling.

The surface shall be rolled when the mixture is in the proper condition and when rolling does not cause undue displacement, cracking, and shoving.

Two rollers are required for all paving operations that exceed a daily total of 500 tons, except in the case of driveway, sidewalk and bridge deck paving operations. The number, weight and type of roller(s) shall be sufficient to compact the mixture to the required density before it reaches the minimum compaction temperature. Vibratory rollers used for compaction shall be operated in the vibratory mode. All rollers used for compaction shall have a minimum operating weight of ten tons or greater. The use of equipment which results in excessive crushing of the aggregate will not be permitted.

The speed of a static weight, steel wheel roller, pneumatic tire roller, or vibratory roller shall not exceed five miles per hour.

Rollers shall not be parked on HMA. When reversing direction, the action shall be smooth, not abrupt. The drive wheel shall approach the new mix, not the tiller wheel.

When a vibratory roller is used for finish rolling, it shall be used in the static mode. Finish rolling shall continue until all roller marks are eliminated.

The motion of the rollers shall be slow enough at all times to avoid displacement of the hot mixture and any displacement resulting from reversing the direction of the rollers, or from any other cause, shall be satisfactorily corrected. The wheels of steel-wheel rollers shall be kept moist and clean to prevent adhesion of the fresh material, but an excess of water will not be permitted.

If satisfactory density cannot be obtained in any lift, and if the Engineer determines it to be structurally inadequate and/or incapable of maintaining material integrity, the Contractor shall remove and replace any such area at its own expense.

Any mixture that becomes loose and broken, mixed with dirt, or is in any way defective shall be removed and replaced with fresh hot mixture, which shall then be compacted to conform to the surrounding area. Any area showing an excess or deficiency of PGAB shall be removed and replaced. Said removal and replacement shall be at the Contractor's expense.

For HMA not designated as with "Pay Adjustments" in-place density shall be a minimum of 92% of the theoretical maximum density obtained at the plant and will be determined using a nuclear density gauge or in-place cores.

If a class of HMA is designated as for "Bridge Decks", an oscillatory roller with a minimum operational weight of 8 tons shall be used. For HMA designated as for "Bridge Decks" and with "Pay Adjustments" the pay adjustments will only apply to binder content and air voids.

If a class of HMA is designated as for "Leveling" it shall be placed with a paver. A pneumatic roller with a minimum operational weight of 8 tons shall be used. For HMA designated as for "Leveling" and with "Pay Adjustments" the pay adjustments will only apply to binder content and air voids.

If a class of HMA is designated as for "Patching", "Miscellaneous Work" or "Paved Waterways" it shall be placed by hand. A vibratory plate compactor or roller shall be used. A hand tamper may be used only if requested, and such request is approved by the Engineer.

**a) In-Place Density for classes of HMA designated as with "Pay Adjustments"**

Cores not taken under the direction of and witnessed by the Engineer will not be used for acceptance. The location of all cores will be determined by the Engineer. Each lot and sublot for in-place density cores will be matched as near as practical to each production lot and sublot used at the plant.

All cores shall be extracted after completion of rolling operations and before the paved section is open to traffic. The Engineer will take immediate possession of the cores upon extraction. If the Contractor does not obtain cores before a sublot is open to traffic, no bonus (pay adjustment resulting in more than 0%) will be paid for the sublot but disincentives will still apply. The cores will be retained by the Engineer for a minimum of 4 weeks after the results are reported to the Contractor.

The Contractor may extract its own cores for QC purposes to monitor in-place density and production quality; such cores will not be used for acceptance.

1. Mat Density

Under the direction and witness by the Engineer, two stratified, randomly selected cores (4" +0"/-0.25" diameter) shall be extracted from the mat by the Contractor for each sublot greater than or equal to 450 tons. One core shall be taken for sublots less than 450 tons. The center of each core used to determine mat density will be at least one foot away from the edge of pavement and any transverse or longitudinal joints or drainage structures.

2. Joint Density

One joint density core shall be extracted for every 3000' or less when a joint is formed. Joint cores shall be extracted so that the center is within two inches of the middle of the sloped portion of a notched-wedge joint or within one inch of the middle of a butt joint.

3. In-Place Density Pay Adjustments

The pay adjustments from Table 6 will be made for in-place mat density:

**Table 6** – Mat Density Pay Adjustments

| In-Place Mat Density | Pay Adjustment |
|---|---|
| 95.0% and greater | +2% |
| 94.0% to 94.9% | +1% |
| 93.0% to 93.9% | 0% |
| 92.0% to 92.9% | -5% |
| 91.0% to 91.9% | -15% |
| 90.0% to 90.9% | -25% |
| 89.0% to 89.9% | -35% |
| Below 89.0% | Remove and Replace |

The pay adjustments from Table 7 will be made for in-place joint density:

**Table 7**– Joint Density Pay Adjustments

| In-Place Joint Density | Pay Adjustment |
|---|---|
| 93.0% and greater | +2% |
| 92.0% to 92.9% | +1% |
| 91.0% to 91.9% | 0% |
| 90.0% to 90.9% | -5% |
| 89.0% to 89.9% | -15% |
| 88.0% to 88.9% | -25% |
| 87.0% to 87.9% | -35% |
| Below 87.0% | -100% |

Note: All density values will be rounded to the nearest 0.1% before applying pay adjustments.

In the event material is required to be removed and replaced, the Engineer will determine the limits of the removal. The required in-place density will be 1% less for the first lift placed on gravel subbase.

4. Calculation of Pay Adjustments for In-Place Density

(i.) For Mat Density:

For each sublot, the bulk specific gravity ($G_{mb}$) of the mat density core(s) will be averaged and then compared to the corresponding plant theoretical maximum specific gravity ($G_{mm}$) to calculate the in-place density for each sublot. The weighted average of the sublot densities in a lot will be used to determine the appropriate pay adjustment for that lot. Lot pay adjustments will be applied to the respective quantity of HMA in each lot.

(ii.) For Joint Density:

For joint density pay adjustment purposes, a joint lot will be defined as 5 joint density results. However, if one or two joint density results are remaining after the final full joint lot is formed, they will be added to the previous joint lot. Three or more joint density results remaining after the final full joint lot will constitute a separate joint lot.

Calculation of in-place joint density will be determined using the $G_{mb}$ of joint density cores and the project average plant $G_{mm}$ of the respective mix. The average of the individual joint density results in a joint lot will be used to determine the appropriate pay adjustment for that joint lot. The calculation of material quantity used to construct the joints will be based on the joint core density, the specified thickness, a width of one foot and the length of the joint that each core represents. This quantity will be deducted from the total tonnage.

**401.03.7 Joints.** Placement of the HMA shall be as continuous as possible. Rollers shall not pass over the unprotected end of a freshly laid mixture unless authorized by the Engineer.

Both longitudinal and transverse joints in successive courses shall be staggered so as not to be one above the other. Longitudinal joints shall be staggered a minimum of 6 inches and shall be arranged so that the longitudinal joint in the top course being constructed shall be at the location of the line dividing the traffic lanes. Any HMA that falls on the cold side of the mat during paving operations shall be raked onto the hot joint. Care shall be taken to ensure that the material pushed onto the hot side of the joint remains in the joint area and is not broadcast over the pavement.

Unless otherwise permitted by the Engineer, a notched wedge joint shall be used. Longitudinal drop-offs will not be allowed on both sides of a lane. Joints shall be constructed so that the height of the notch is the same as the nominal maximum aggregate size. The width of the sloped portion of the joint shall be at least 6” for each inch of lift thickness if the joint will be exposed to traffic, but in all cases it shall be 12” minimum. Tack coat shall be applied to and shall completely cover the longitudinal notched wedge joint, using either a brush or the tack coat distribution truck. Transverse joints and joints at intersections shall be manually brushed with tack coat, leaving a completely covered face.

**401.03.8 Pavement Samples.** As directed, the Contractor shall cut samples from the compacted pavement for testing by the Engineer. Samples of the mixture shall be taken for the full depth of the course at the locations directed by the Engineer.

Where samples have been taken, new material shall be placed and compacted to conform to the surrounding area.

**401.03.9 Surface Tolerances.** At the Engineer's discretion the surface may be tested at selected locations, using an approved 10-foot straightedge furnished by the Contractor. The variation of the surface from the testing edge of the straightedge between any two contacts with the surface shall at no point exceed 1/4-inch. All humps or depressions exceeding the specified tolerance shall be corrected by removing defective work and replacing it with new material as directed.

**401.03.10 Thickness Requirements.** The thickness of a pavement shall be that as shown on the Plans and shall not vary from the specified thickness by more than that specified in **Subsection 401.04**, below, except as otherwise provided for in resurfacing existing pavements.

**401.03.11 Weather Limitations.** HMA shall not be placed on any wet surface, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.

For lifts with a target compacted lift thickness less than or equal to 1.5" both the air and surface temperature in the shade shall be 45$^{o}$ F or greater. For lifts with a target compacted lift thickness greater than 1.5" both the air and surface temperature in the shade shall be 40$^{o}$ F or greater. If an approved WMA (warm mix additive) is used both the air and surface temperature in the shade shall be 35$^{o}$ F or greater regardless of lift thickness. No HMA shall be placed on frozen ground.

For projects that do not specify pay adjustments all rolling shall be completed before the temperature of the mat falls below 165$^{o}$ F. The HMA mat (not including WMA modified pavement) shall be at least 265$^{o}$ F when placed.

**401.03.12 Cold Weather Paving**. If the existing pavement is removed before the winter shutdown, the Contractor shall not close the project for the season until a new HMA layer has been placed and striped with temporary epoxy pavement markings.

**401.03.13 Drop-Offs**.

**a. Longitudinal Drop-Offs**. A longitudinal drop-off occurs along the outside edges of pavement and is the difference in elevation between the top of recently placed HMA pavement and the top of existing ground (or pavement).

**1. For Posted Speeds of 35 mph or Less**. Drop-offs greater than 3 inches but less than 5 inches shall be tapered to a maximum 1-to-1 slope to existing ground or pavement. Drop-offs 5 inches, or greater, shall be tapered to a maximum 4-to-1 horizontal to vertical slope to existing ground or pavement.

**2. For Posted Speeds Greater than 35 mph**. Longitudinal drop-offs will not be permitted within 2 feet of a travel lane. The first 2 feet adjacent to a travel lane must be at grade with the travel lane. However, should either the sequence of operation required by the Contract or the Contractor's approved sequence of operation result in overnight drop-offs greater than 3 inches occurring between 2 and 6 feet from the edge of a travel lane, then such drop-offs shall be tapered to a 4-to-1 horizontal to vertical slope to existing ground or pavement.

All tapers shall be constructed with HMA conforming to the requirements of this **SECTION 401** of these Specifications.

Longitudinal drop-offs within the roadway cross section will not be allowed except as otherwise detailed on the Plans or as described in a Special Provision.

Longitudinal drop-offs will not be paid for separately, but will be included in the contract unit price for HMA pavements as listed in the Proposal.

**b. Transverse Drop-Offs**. Transverse drop-offs occur as follows:

**Pavement removal**. A transverse drop-off occurs when pavement removal operations cease at the end of a working day. The drop-off is the difference in elevation between the bottom of the excavated pavement and the top of the existing pavement.

**Pavement overlay**. A transverse drop-off occurs when pavement overlay operations cease at the end of a working day. The drop-off is the difference in elevation between the top of the overlay pavement and the top of the existing pavement.

If traffic is allowed across either of these drop-offs during the period prior to the resumption of pavement removal or pavement overlay operations, tapers must be provided as follows:

**1. For Posted Speeds of 35 mph or Less**. Transverse drop-offs in place at the end of a working day shall be graded at a slope of 2 feet horizontal to 1 inch vertical.

**2. For Posted Speeds Greater than 35 mph**. Transverse drop-offs in place at the end of a working day shall be graded at a slope of 5 feet horizontal to 1 inch vertical.

All slopes shall be constructed with HMA conforming to the requirements of **SECTION 401** of these Specifications.

The Contractor shall place “BUMP” signs in accordance with the MUTCD (Manual on Uniform Traffic Control Devices) at each drop-off for each direction of traffic.

Prior to the resumption of pavement overlay operations the transition slope shall be removed as follows: The pavement overlay shall be saw cut back approximately 6 inches to expose a fresh, full thickness vertical face. This face shall be brush-painted or pressure sprayed with tack coat, after which the HMA paving may resume.

Transverse drop-offs will not be paid for separately, but will be included in the contract unit prices for HMA pavements as listed in the Proposal.

**401.04 METHOD OF MEASUREMENT.**

**401.04.1 Measurement of HMA Pavement.** HMA Pavements, will be measured by the number of tons actually placed in accordance with the Plans and/or as directed by the Engineer.

**a. Determination of Thickness.** The design thickness of each course as well as of the total HMA pavement structure shall be that indicated on the Plans, or as ordered by the Engineer.

Prior to the determination of placed thickness, the roadway shall exhibit acceptable workmanship and all defects shall have been corrected. The placed thickness of HMA pavement will be determined by cutting or coring holes to full depth. For courses with In-Place Density Cores specified, the average thickness of the Density Cores will be used to determine placed thickness.

For courses where In-Place Density Cores are not specified the following requirements apply: For projects with less than 1 paved lane mile, two cores will be taken. For projects with 1 to 2 paved lane miles, four cores will be taken. For projects with greater than 2 paved lane miles, two cores will be taken from each lane mile, except that there will be a minimum of ten cores for the project, all at the discretion of the Engineer.

Cores will be measured in accordance with ASTM D3549; Standard Test Method for Thickness or Height of Compacted HMA Paving Mixture Specimens. The depth measurement will be considered as applying for the full width of the lane. Measurements will be made at random locations determined by the Engineer and all information relative thereto will be recorded in the project records.

For the determination of thickness, a shoulder width of eight feet or greater will be considered to be a separate lane of the roadway. A shoulder width of less than eight feet will be considered part of the adjacent lane. The Contractor shall fill any holes cut or cored in the pavement with a compacted, dense HMA which is acceptable to the Engineer. If required by the Engineer, the Contractor shall maintain and control traffic while the pavement samples are being taken and while the holes are being filled and compacted. Payment will be made for the applicable traffic control item(s).

**b. Adjustment of Tonnage Quantity.**

The pavement thickness will be considered acceptable if both of the following requirements are met:

(a) The total HMA tonnage delivered and placed does not exceed the tonnage calculated from the approved area measured from the final surface course width by the project length and the pavement thickness specified in the Contract Documents by more than 5 percent.

and,

(b) When Specification Conformity Analysis (Federal Highway Administration Technical Advisory T5080.12; dated June 23, 1989) is applied to the entire roadway or sections thereof as determined by the Engineer, at least 80 percent of the total HMA pavement will have a thickness that meets the minimum pavement thickness. The minimum pavement thickness is that contained in the contract documents minus ½-inch, (e.g., a total pavement thickness of 7 inches will have a minimum pavement thickness requirement of 6.5 inches).

If the first requirement is not met, no payment will be made for all tonnage exceeding 5 percent, unless unusual field conditions are present and documented (e.g., pavement rutting).

If the second requirement indicates that the pavement thickness is deficient, the Contractor with permission of the Engineer shall place a correction course not less than one inch in depth after compaction, provided an acceptable grade and cross section can be achieved. Where an acceptable grade and cross section cannot be achieved through the above means, the Contractor shall reconstruct by cutting back and into the pavement a sufficient distance to permit the placement of an acceptable depth and place new material to achieve the proper depth, cross section and profile. These areas where a corrective course is placed or reconstruction of the pavement is performed, will be measured again as though originally constructed; no compensation will be made to the Contractor for the material removed or removal of materials and disposal thereof or for restoration of affected supporting base or adjacent construction, or for traffic control, adjusting all utility appurtenances in the roadway or for correcting pavement striping. Compensation will be made for the additional pavement correction course accepted in place.

Determination of the quantity to be used for adjusted payment or exclusion for payment will be based on tons per square yard per inch thickness as determined using in-place density cores or 96% of the plant core (AASHTO T245) densities if in-place densities are not available.

Sweeping and cleaning, as included in the items covered by this section, refers to the normal removal of dust, debris, etc. only. Any sweeping and cleaning necessary due to construction being held over for the winter season, in accordance with the approved construction schedule, will be paid for separately.

Work described in **Subsection 401.03.4; Conditioning of Existing Surface**, will be paid for at the contract unit prices for the material used.

**Tolerance Limitation.** Pavement will be considered acceptable when meeting the specifications. Pavement that is not accepted will be excluded from the tolerance allowance. When delivery tickets are directly collected by the Engineer from each truck prior to placing in the hopper, the delivery tickets may be used in the determination of total tonnage delivered and placed. Delivery tickets not collected directly by the Engineer prior to placing in the hopper will not be used to determine tonnage.

When delivery tickets are not used to determine tonnage, the accepted total tonnage delivered and placed will be calculated according to the following formula: [final surface course width] x [project length] x [specified pavement thickness] x [the average unit weight of all acceptance density cores] = contract tonnage. If density cores are not required then 96% of the average unit weight of the plant produced acceptance gyratory cores shall be used.

Payment will be made at full contract unit bid prices with pay adjustments for all accepted HMA up to 105% of the contract quantity tonnage. Accepted HMA quantities above 105% and up to 110% of the contract quantity tonnage will be paid at 50% of the contract unit bid price with the resultant adjusted price further modified by additional pay adjustments as applicable according to the following formula: Pay adjustments will apply to 50% of the contract unit bid price for quantities above 105% and up to 110%.

**401.05 BASIS OF PAYMENT.** The accepted quantity of the HMA will be paid for at its respective contract unit price per ton as listed in the Proposal. The price so-stated constitutes full and complete

compensation for all labor, materials and equipment, and for all incidentals required to finish the work, complete and accepted by the Engineer.

Pay adjustments for binder content, air voids and in-place density will be added together to determine a final pay adjustment for both the mat and the joint. If more than one pay adjustment is negative then only the most negative adjustment will be added to the remaining non-negative adjustments to determine the final pay adjustment. Pay adjustments will be applied to the unit bid price for the applicable item code.

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**CODE 702.9902**

**PRECAST MANHOLE 8' DIAMETER W/ 48" MANHOLE STACK – 4.2.2(M)**

**DESCRIPTION:** All work shall be performed in accordance with Sections702 and all other relevant Sections of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013, with all revisions and as specified in these Specifications. The work of this item consists of constructing an 8' diameter manhole on the existing cement concrete drainage trunk line. The 8' manhole section shall transition to a 4' riser stack as shown on the Plans.

**MATERIALS:** All materials shall conform to Section 702 and all other relevant Sections of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013, with all revisions and as specified in these Specifications.

The Contractor shall provide shop drawings of each structure showing dimensions and reinforcement.

**CONSTRUCTION METHOD:** All work shall be performed in accordance with Section 702 and all other relevant Sections of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013, with all revisions and as specified in these Specifications.

**METHOD OF MEASUREMENT:** "Precast Manhole 8' Diameter w/ 48" Manhole Stack – 4.2.2(M)" will be measured by the number of structures actually installed in accordance with the Plans and/or as directed by the Engineer.

**BASIS OF PAYMENT:** The accepted quantities of "Precast Manhole 8' Diameter w/ 48" Manhole Stack - 4.2.2(M)" will be paid for in at the contract unit price per each structure as listed in the proposal in accordance with Section 702 of the RI Standard Specifications.

**CODE 702.9903**

**PRECAST CATCH BASIN 4' DIAMETER STANDARD 4.4.0 WITH 4' MINIMUM SUMP DEPTH**

**DESCRIPTION:** All work shall be performed in accordance with Section 702 and all other relevant Sections of the Rhode Island Standard Specifications for Road and Bridge Construction, with latest revisions and as specified in these Specifications. The work of this item consists of furnishing and installing catch basins according to RI Standard 4.4.0 with the following exception: a four foot (4') minimum depth of sump shall be required.

**MATERIALS:** All materials shall conform to Section 702 and all other relevant Sections of the Rhode Island Standard Specifications for Road and Bridge Construction, with latest revisions.

**CONSTRUCTION METHOD:** All work shall be performed in accordance with Section 702 and all other relevant Sections of the Rhode Island Standard Specifications for Road and Bridge Construction, with latest revisions.

**METHOD OF MEASUREMENT:** Method of measurement shall be in accordance with section 702.04 of the Rhode Island Standard Specifications for Road and Bridge Construction.

**BASIS OF PAYMENT:** Basis of payment shall be in accordance with section 702.05 of the Rhode Island Standard Specifications for Road and Bridge Construction.

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**CODE 904.9901**

**BLUESTONE PAVERS FOR SIDEWALK**

**DESCRIPTION:**

The work under this item consists of removing existing bluestone sidewalk pavers, including excavation of the existing concrete base and installation new bluestone. The existing wheelchair ramp at Sta. 10+15 LT is being removed and the area restored to sidewalk grade. The work shall include supplying, furnishing, handling and installing bluestone pavers for the surfaces of sidewalks and wheelchair ramps with detectable warning systems. Bluestone pavers will be installed per the setting detail found in the landscape details indicated on the plans, these contract specifications and as directed by the Engineer. The approved bluestone supplier for the project must have qualified personnel, experienced in similar work with projects of this magnitude; have the appropriate equipment and resources that can produce bluestone of this size and quantity in a timely fashion; and be able to deliver the required amount of bluestone material to the project site in accordance with the established schedule commitments identified in the Contract Specific General Provisions. The removed bluestone shall be disposed of by the Contractor.

**SUBMITTALS:**

The Contractor shall submit certifications to the Engineer providing 1) the name of the supplier that will furnish bluestone material to this project; 2) a list of skilled personnel from the supplier, including their qualifications; 3) a list of the supplier's equipment and other resources that are necessary to produce and furnish the quantity of bluestone material needed on this project; 4) the experience and performance record of the supplier on similar projects of this size over the last five years, 5) evidence of successfully achieving the bluestone production rates noted within this specification for similar projects of this size and 6) the ability to meet the project milestones identified in the Contract Specific General Provisions regarding bluestone procurement and schedule of deliveries to the project site.

A representative sample of the bluestone pavers, of not less than 0.25 square yards, shall be submitted to the Engineer and the Rhode Island Historical Preservation and Heritage Commission Architect (Architect) for review and approval prior to placing the complete order for the pavers. The sample to be submitted will exhibit a smooth, thermal finish and blue/grey color.

The Contractor shall also submit a layout(s) of the bluestone paver sidewalk pattern to the Engineer for review and approval prior to performing any installation. The Contractor's layout(s) shall be developed in accordance with the details shown on the plans and the requirements of these contract specifications. The layout(s) shall clearly indicate the size of each paver, the thickness of the pavers, the size and locations of all penetrations, the location of construction joints, the location of expansion joints, the location of control joints and the finished texture of the pavers.

**MATERIALS:**

Bluestone pavers shall be clean, dense, uniformly colored, durable, even-grained stone, free from stains, cracks, chips, irregularities, weak fracture planes and any other defect that, in the opinion of the Engineer, will make the material unsuitable for the intended use. Bluestone pavers shall be sized in rectangular shapes, 36 inches by 42 inches maximum, per the approved layout. The thickness shall be one and one half inches (1 ½") with a tolerance of +/-1/8". The pavers are to be thermal finish to create a non-slip surface, blue-grey in color, and shall be from one supply source to ensure the color consistency of the pavers. The bluestone shall be diamond sawed with a smooth surface. All edges shall be cut perfectly square, except where miter cuts are necessary to form the wheelchair ramp pavers. All cuts shall be straight and true. The thermal "light flame" finish must be performed during the fabrication of the pavers and must not adversely affect the performance, durability or color of the stones.

Potential suppliers for the bluestone pavers include, but are not necessarily limited to, the following:

***Leatherstocking Timber and Natural Stone***, 359 Delaware County Highway 11, Oneonta, New York 13820
**Johnston *& Rhodes Bluestone Co***., P.O. Box 130, East Branch, New York 13756
***Diaz Stone and Pallet, Inc***., RR2 Box 205 Kingsley, Pennsylvania 18826
**Endless *Mountain Stone Co***., P.O. Box 273, Brushville Road, Susquehanna, Pennsylvania 18847
***Meshoppen Stone In****c*., P.O. Box 127, Meshoppen, Pennsylvania 18630
***Sonny & Sons Stone Company***, 13141 State Highway 30, Downsville, New York 13755
***Tompkins Bluestone Co., Inc***., P.O. Box 776, 325 Tar Hollow Road, Hancock, New York 13783.

Cement concrete foundation shall conform to relevant provisions of Section 501, Portland Cement Concrete Pavement and Base, and Section 601, Portland Cement Concrete, of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013.

6x6-W4xW4 welded wire fabric shall conform to Section M05.02.01 Wire Fabric, of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013.

Mortar for setting bed and joints shall conform to Section M.09.05.7, Mortar, of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2014. Only fresh mortar is to be used for this work. Mortar in which initial set has begun or is more than 30 minutes old, whichever comes first, shall be discarded and replaced with fresh mortar. No retempering of mortar will be permitted.

Pervious fill material for weep holes shall conform to the gradation requirements of Section M.01.03, Pervious Fill, of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013, except that 100 percent by weight shall pass the 3/8 inch sieve.

Gravel borrow base material shall conform to Section 302, Gravel Borrow Subbase Courses, of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013. This item, although related to the work of this section, is paid for separately and is part of the work covered under Section 302 of the Standard Specifications.

Detectable warning system shall conform to Section 942, Detectable Warning Systems, of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013. This item, although related to the work of this section, is paid for separately under bid item 942.0100 and is part of the work covered under Section 942 of the Standard Specifications. The type and color is specified in the Job Specific Special Provision for Item Code 942.0100.

**CONSTRUCTION METHODS:**

The work of these items must be performed in a careful, professional manner suitable for the historic character of the area. The subject work is to be accomplished by skilled craftsmen with demonstrated experience in the installation of comparable historic and/or specialty pavements in accordance with the details shown on the plans, these contract specifications and as directed by the Engineer. Removal of existing sidewalk in front of business/commercial establishments shall not be permitted until the required amount of bluestone for a given block has been delivered to the project site and is available for installation by the Contractor.

The sidewalk area and existing bluestone layout/joint pattern shall be inspected to determine the appropriate limits of removal to accomplish the work. The limits shall be discussed with and approved by the Engineer prior to beginning this work. The Contractor shall carefully extract the existing bluestone pavers in the designated limits and stockpile for reuse. The existing base shall be sawcut and excavated, and the bluestone curb removed and set aside per Item 906.0700
After the existing materials have been removed, gravel shall be placed for adjustment of the curb and sidewalk grades to match those of the adjacent curbing and sidewalk grade. The bluestone curb shall then be reset with proper reveal. The bluestone paver structure can then be installed per the landscape details.
Installation sequence for the new bluestone sidewalks and wheelchair ramps shall be as follows: Excavate and remove existing sidewalk materials to proposed subgrade elevation as shown on the plans. Compact subgrade in accordance with applicable specifications and construct 4 inch gravel base, also compacted in accordance with relevant specifications. Install a 4 inch thick, reinforced concrete slab (with 6x6-W4xW4 welded wire fabric embedded 2" below concrete surface) as detailed on the plans. Provide vertical 2" PVC weep holes located 6" from edge of concrete slab and located 3'-0" on center, in every direction, depending on the width of the sidewalk. Each weep hole shall be filled with sand before the mortar bedding is poured. Provide ½" expansion joints, as shown on the plans, in the concrete slab and bluestone pavers every 37’-3”± feet with preformed expansion joint filler conforming to AASHTO-M153. Provide construction joints every 12’-5”± feet in the concrete slab. Provide control joint at approximate midpoint of sidewalk width, at nearest paver joint. Preformed expansion joint filler shall be placed through the concrete slab, mortar bed and between bluestone paver joints. Construction and control joints for the concrete slab shall be located under mortar joints in the bluestone pavers following the joint pattern as detailed on the project plans and as shown on the approved bluestone layout submitted by the Contractor.

Pavers are to be set with 1/2" joints with a 1/16" tolerance. Pavers shall be placed in a running bond pattern such that the joints are either perpendicular or parallel to the curb line using the details shown on the plans. A preformed expansion joint filler conforming to AASHTO-M153 shall be placed between the bluestone pavers/concrete slab and any existing structures at the back of the sidewalk Place the 1" mortar bedding over concrete slab immediately before setting the pavers such that the entire paver is

sitting in the mortar with no voids. The concrete slab and pavers are to be in "saturated-surface dry condition" when the mortar and pavers are placed. Pavers shall be properly seated on the mortar bed using suitable mallets or other tools. Joints shall be pointed flush with the tops of the pavers. Care shall be taken to avoid mortar stains on the tops of the pavers. Mortar dropped on the bluestone surface must be immediately and completely removed. The Contractor must protect the work from pedestrian, vehicular or any other form of damage until the work is accepted.

***Wheelchair Ramps*:** Pavers shall be placed at slopes as shown on the plans which comply with the Americans with Disabilities Act Standards (ADA). Pavers shall be cut such that the "wings" of the ramp are constructed using a minimum number of stones and that the "ramp" is constructed with two equal sized pieces with the joint running parallel with the direction of vehicular traffic as shown on the detail Drawings.

The Contractor shall mark, in the field, the location of all openings needed for sign posts, hydrants, light poles, etc. in accordance with the approved shop drawing layout(s). Approval by the Engineer is required before any cutting of the pavers begins. The openings shall be created using suitable cutting tools to create the neat openings detailed on the plans. If any of the openings are cut in an unapproved location, without the Engineers approval the Contractor shall replace the paver at his own expense. The openings in the pavers shall be cut to the appropriate shape with a maximum joint of 3/8 of an inch filled with mortar as specified above.

**Procurement and Delivery:**
The Contractor's attention is directed to the fact that the bluestone industry typically requires placement of orders, especially one of this magnitude, well in advance of the installation needs to ensure prompt delivery of the materials to the project site. The Contractor is strongly encouraged to provide the requested bluestone submittals for review and approval as soon as possible to ensure the timely placement of the order and the subsequent delivery of stone for installation. The first delivery of bluestone to the project site shall be made between 4 to 8 weeks after placement of the order. All subsequent deliveries of bluestone material shall be made between 2 to 4 weeks after the first delivery. Bluestone material may also be able to be shipped to the project site to coincide with the Contractor's schedule for sidewalk construction activities.

**Storage and Handling:**
The bluestone pavers shall be stored on wood pallets, covered with non-staining, waterproof membrane, and protected from weather, vandalism and theft. It is the Contractor's responsibility to store and protect all materials until the work is complete and accepted. The storage area for materials must be approved in advance by the Engineer. The bluestone pavers shall be handled with care to prevent cracking, chipping, staining, breakage, or other damage. Any pavers damaged or stolen shall be replaced by the Contractor at his own expense. Bluestone pavers containing defects shall not be incorporated into the work and shall become the property of the Contractor.

**Weather Limitations:**
Construction of the concrete slab will be subject to the relevant conditions set forth in Section 601 of these Specifications. No pavers shall be set when the temperature is below 40 degrees or expected to fall below 40 degrees within 36 hours of completion of the day's work. The work is to be properly cured using methods approved by the Engineer. Care must be taken to keep the mortar moist during hot/dry

weather. The work is to be protected from any weather conditions that may damage it, including rain. The completed work is to be left in a clean, workmanlike condition, acceptable to the Engineer.

**METHOD OF MEASUREMENT:**

"Bluestone Pavers for Sidewalk" including one wheelchair ramp will be measured on a per SQUARE YARD basis for installation of bluestone pavers for sidewalks and wheelchair ramps, complete in-place, and accepted by the Engineer.

**BASIS OF PAYMENT:**

"Bluestone Pavers for Sidewalk" including one wheelchair ramp will be paid for at the contract unit price per SQUARE YARD for complete installation of the bluestone sidewalk and bluestone wheelchair ramp. The price per square yard shall include supplying, furnishing, handling and installing bluestone pavers, any necessary stone cutting, cleaning and sweeping pavers, preformed expansion joint filler, mortar joints, mortar setting bed, reinforced concrete slab, sand filled weep holes, and for all materials, labor, tools, and incidentals necessary to install the bluestone sidewalk and wheelchair ramps to the satisfaction of the Engineer. New gravel borrow subbase shall be paid for under its respective pay item. Any root pruning, if required, will be considered subsidiary.

**CODE 905.9916**
**EXPOSED AGGREGATE CEMENT CONCRETE DRIVEWAY; 43.5.0M**

**CODE 905.9917**
**EXPOSED AGGREGATE CEMENT CONCRETE WHEELCHAIR RAMP; 43.3.0M, 43.3.2M**

**DESCRIPTION:** This work shall consist of installing exposed aggregate portland cement concrete driveways and wheelchair ramps on prepared gravel bases. All work shall be performed in accordance with the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013, with all revisions and as specified in these Specifications.

**MATERIALS:** All materials shall be in accordance with Subsection 904.02 of the Amended August 2013 Amended August 2013 Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction and its latest revisions unless specified below.

All concrete related work shall conform to the Item 905.9915 specification.

**CONSTRUCTION METHODS:** Cement concrete driveways and wheelchair ramps shall be constructed according to RI Standard Details 43.5.0 and 43.3.0 (as well as Contract detail 43.3.2M) with the following exceptions:

A. Concrete work including special requirements for the placement, retarder, finishing and sealer shall be performed per Item 905.9915 specification.

B. Wheelchair ramps: 8" concrete depth for radius wheelchair ramps, 6" depth for tangent locations. Shall contain 6x6-6/6 WWM at mid-depth.

**METHOD OF MEASUREMENT:** **"**Exposed Aggregate Cement Concrete Driveways and Wheelchair Ramps" will be measured by the number of CUBIC YARDS of concrete with exposed aggregate finish actually installed in accordance with the Plans and/or directed by the Engineer.

**BASIS OF PAYMENT:** The accepted quantity of **"**Exposed Aggregate Cement Concrete Driveways and Wheelchair Ramps" will be paid at the contract unit price per CUBIC YARD as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, and equipment, including expansion joint material, reinforcement, thickened slab areas, jointing, saw cutting and any and all incidentals required to finish the work, complete and accepted by the Engineer.

Excavation, gravel borrow base and sub-base, trimming and fine grading will be paid separately under their respective item codes.

inches. Prior the placement of the reservoir course, the Engineer shall inspect the subgrade to verify that it is suitable for placement of the reservoir course stone.

3. **Non-Woven Permeable Geotextile:** Shall be placed on the bottom of the excavation and side slopes in accordance with the manufacturer's recommendations and as shown on the plans. Overlap the ends 18", lapped in the direction of natural drainage

4. **Reservoir Crushed Stone Course:** Shall be installed in two (2) 6"-inch maximum lifts (minimum two (2) lifts for proposed reservoir course thickness), and shall be stabilized in place using an eight (8) to ten (10) ton smooth-drum vibratory roller, which shall make a minimum of eight (8) passes over each lift of the reservoir course stone. Initial passes shall be with the roller in vibratory mode, final passes in static mode. Care shall be taken not to over-roll any of the lifts; rolling shall stop whenever the stone is observed to be sliding/shifting in place. Verify placement tolerances: Do not exceed the specified surface grade of the compacted Reservoir Course material more than ±3/4 in. (20 mm) over a 10 ft. (3 m) long straightedge laid in any direction.
5. **Underdrainage:** Conduct pre-installation conference to review excavation perimeter and under drain piping while work is being performed. Install underdrainage and coordinate placement of the drain with the installation of the initial lift of the reservoir course. Establish positive drainage and make drainage connections
6. **Filter Blanket & Filter Course:** Shall each be installed in accordance with AASHTO T-180 Method C or D for density. In addition, the Contractor shall determine the $D_{15}$ and $D_{85}$ particle sizes for both materials, and shall provide testing results to the Department for evaluation.
7. **Crushed Stone Course:** Shall be installed in one 4" lift to achieve the full depth shown of the proposed layer, and shall be stabilized in place using an 2000 lb. (1ton) – 5000lb. (2.5ton) plate compactor or small vibratory roller, which shall make approximately eight (8) to ten (10) passes over the stone. The course shall not be over-compacted: do not crush the stone, do not to over-roll any of the lifts; rolling shall stop whenever the stone is observed to be sliding/shifting in place. Verify placement tolerances. Do not exceed the specified surface grade of the compacted Crushed Stone Course more than ±1/2 in. over a 10 ft long straightedge laid and measured in any direction.
8. **Permeable Paving Setting Bed:** The Contractor shall install the permeable aggregate setting bed evenly across the crushed stone course to a nominal thickness of 1-1/2 in. (40 mm). Work the stone initially placed into the void space of the crushed stone layer to create an even and stable surface. Establish a screeding system to distribute aggregate in the bedding layer. Do not substantially exceed screed area which cannot be covered by pavers in one day. Inspect the Setting Bed Aggregate course prior to commencing the placement of the Permeable Concrete Pavers. Acceptance of the Setting Bed Aggregate occurs with the initiation of final placement of Concrete Paver A.
9. **Preliminary placement of Concrete Paver Type A** Place a sample area of Concrete Paver Type A to verify proper depth of material after compaction. Pavers when set should be slightly 1/18" maximum 'proud' of the flush granite curbing/edge restraint. Adjust screed accordingly. Do not disturb the screeded permeable setting bed aggregate. Occasionally inspect and verify the Permeable Setting Bed Aggregate course though-out initial placement of the permeable concrete pavers.
10. **Concrete Paver Type A Installation:** Select and mix Concrete Pavers Type A from a minimum of three (3) bundles simultaneously drawing the paver vertically rather than horizontally, as they are placed, to produce uniform blend of colors and textures. By installing from a minimum of three (3) bundles simultaneously, variation in color shall be dispersed and

14. Vibrate pavers into leveling course with a low-amplitude plate vibrator capable of a 2,000-lbf. to 5000-lbf (22-kN) compaction force at 80 to 90 Hz. Perform a minimum of four (4) passes across paving with vibrator. Vibrate under the following conditions:
    a. After edge pavers are installed and there is a completed surface.
    b. Compact installed concrete pavers to within 6 feet (1,800 mm) of the laying face before ending each day's work. Cover pavers that have not been compacted and leveling course on which pavers have not been placed, with non-staining plastic sheets to prevent ensure the setting bed is stable and not disturbed.
    c. Protect Concrete Paver surface from scuffing during compaction when utilizing a vibratory plate compactor to bed the pavers. All finished Paver surfaces must be PROTECTED prior to compacting. Acceptable protection methods include:
        1) Neoprene or urethane pad mounted to plate compactor (Paver manufacturer shall provide) or protective ¼ "Plywood sheet.
    a. Any pavers installed that incur damage during compaction shall be replaced immediately.
15. Remove any cracked or structurally damaged pavers and replace with new units prior to installing joint material.
16. Provide, spread and sweep Permeable Joint Open Aggregate into joints immediately after vibrating pavers into Permeable Setting Bed course until full. Vibrate pavers and add Permeable Joint Open Aggregate material until joints are completely filled, then remove excess material. This will require at least 3passes with a plate compactor.
17. Tolerances: Do not exceed 1/32-inch (0.8-mm) unit-to-unit offset from flush (lippage). Do not exceed 1/8 inch in 10 feet (3 mm in 3 m) from level, or indicated slope, for finished surface of paving.
18. Repairing Pavers: Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units same manner as original units, with same joint treatment and with no evidence of replacement.
19. Cleaning Pavers: Remove excess dirt, debris, stains, grit, etc. from exposed paver surfaces; wash and scrub clean, to the Engineer's satisfaction.
20. Seal concrete pavers as recommended by the manufacturer to resist staining. Apply a stabilizing joint sealer for Concrete Pavers Type B in accordance with the manufacturer's written recommendations.

**FIELD QUALITY CONTROL**

A. Verify final elevations for conformance to the drawings after sweeping the surface clean.
    1. Final surface tolerance shall not deviate from grade elevations more than ±3/8 in. (±10 mm) under a 10 ft (3 m) straightedge or indicated slope, for finished surface of paving.

B. Set surface elevation of pavers 1/8 in. (3 mm) above adjacent drainage inlets, concrete collars or channels.

C. Lippage: No greater than 1/8 in. (3 mm) difference in height shall be allowed between the Concrete Pavers and adjacent curbs or paved surfaces unless specifically designed to have a reveal such as a curb.

**SUBMITTALS:**

**FIELD QUALITY CONTROL**

A. Verify final elevations for conformance to the drawings after sweeping the surface clean.
   1. Final surface tolerance shall not deviate from grade elevations more than ±3/8 in. (±10 mm) under a 10 ft (3 m) straightedge or indicated slope, for finished surface of paving.

B. Set surface elevation of pavers 1/8 in. (3 mm) above adjacent drainage inlets, concrete collars or channels.

C. Lippage: No greater than 1/8 in. (3 mm) difference in height shall be allowed between the Concrete Pavers and adjacent curbs or paved surfaces unless specifically designed to have a reveal such as a curb.

**SUBMITTALS:**

A. Material Samples: The Contractor will be required to submit three samples of each material and paving element to the Engineer (in consultation with the City Dept. of Public Services) for approval before ordering material(s). The samples shall demonstrate the final surface color, finish and shape that will be provided throughout the project. All samples shall be full size.

B. Field Paving Samples: The Contractor shall prepare a 5' x 10' sample of Paving Type C and C-T according to the drawings for the Engineer's approval (in consultation with the City Dept. of Public Services).

C. Reports: Test reports and certificates shall be submitted for each material and paving element.

D. Qualifications: The Contractor is cautioned that the visual effect and appearance of the surface is an extremely important project element and that its installation must conform with the details and intent of the drawings and specifications. Paving must be installed by a Contractor or subcontractor with five years of experience in such work; therefore, the Contractor will be required to submit the name of the subcontractor he intends to employ and verification of experience, capability, and facilities to the Engineer for approval.

**PROTECTION OF WORK:** Prohibit traffic (including vehicular, pedestrian, and Contractor's employees) for 24 hours. No traffic of any type will be permitted unless all joints have been filled. The Contractor will be required to block off the area with a barricade system, consisting of at a minimum, reflectorized barrels and caution tape or that deemed appropriate by the Engineer. Coordinate placement and operations with the Maintenance and Protection of Traffic Plans. The cost of the barricade(s) shall be included in the price of the sidewalk surface paving. Any paving damaged before acceptance by the Engineer shall be replaced at no additional cost.

**DELIVERY, STORAGE, AND HANDLING:** All materials for the work of this section shall be delivered, store and handled to preclude damage of any nature. Manufactured materials shall be delivered and stored in their original containers, plainly marked with product and manufacturer's name.

Revise the applicable Subsections of **SECTION 937; Maintenance and Movement of Traffic Protection Devices**, of the RI Standard Specifications for Road and Bridge Construction, August 2013 Edition, and all revisions as follows:

**CODE 937.1000**

**MAINTENANCE AND MOVEMENT OF TRAFFIC PROTECTION DEVICES**

**Subsection 937.05.2; Failure to Comply** requires that charges be deducted from monies due the Contractor for failure to satisfactorily maintain and remove and/or relocate traffic control devices.

**a. Maintenance.** If, in the judgment of the Engineer, the Contractor fails to adequately and safely maintain traffic control devices along any portion of the project, a charge will be assessed as follows:

> For each day the Engineer determines that the Contractor has failed to comply with the provisions of this Section, a charge in the amount of **$1000.00** per day will be deducted from monies due the Contractor.

**b. Movement.** If the Contractor fails to remove and/or relocate traffic control devices for compliance with the traffic-related work restrictions included in the Transportation Management Plan or to otherwise meet changes in traffic conditions, construction operations, or other conditions affecting the safety and/or mobility of the traveling public, a charge(s) will be assessed as follows:

> When the Engineer determines that the Contractor has failed to comply with the provisions of this
> Section, a charge in the amount of **$500.00** per half hour per lane per direction of travel for roadways as specified in the Transportation Management Plan within this Contract will be deducted from monies due the Contractor. The Engineer will be the sole judge in determining the time of the impacted lanes.

**CODE 942.9901**
**DETECTABLE WARNING SYSTEMS STANDARD 48.1.0 - RETROFIT**

**DESCRIPTION:** This work shall include supplying, furnishing, and installing cast iron detectable warning systems for wheelchair ramps. Detectable warning systems shall be installed in existing wheelchair ramp locations (942.9901) and at proposed wheelchair ramp locations (942.0100) as shown on the plans. The warning systems shall meet the dimensions and requirements shown in RI Standard 48.1.0 as well as ADA requirements for detectable warning systems.

**SUBMITTALS:** The Contractor shall submit product literature and manufacturer installation instructions for approval.

**MATERIALS:** Cast iron detectable warning systems shall be Duralast (manufactured by East Jordan Iron Works); Cast-DWD (manufactured by Metadome, LLC); R-4984 Detectable Warning Plate (manufactured by Neenah Foundry); or an approved equal. The cast iron shall be unfinished so that the plate will develop a dark patina in its natural state. The panels shall conform to AASHTO M105 and AASHTO M306, and shall be manufactured with integral embedment lugs for the express installation into fresh unset portland cement concrete.

Cement concrete foundation shall conform to relevant provisions of Section 501, Portland Cement Concrete Pavement and Base, and Section 601, Portland Cement Concrete, of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013, with all revisions.

6x6-W4xW4 welded wire fabric shall conform to Section M05.02.01 Wire Fabric, of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013, with all revisions.

Gravel borrow base material shall conform to Section 302, Gravel Borrow Subbase Courses, of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013, with all revisions. This item, although related to the work of this section, is paid for separately and is part of the work covered under Section 302 of the Standard Specifications.

**CONSTRUCTION METHODS:**

<u>At existing wheelchair ramp locations (942.9901):</u>

The existing bluestone pavers and concrete slab shall be sawcut to the dimensions of the warning panel to be installed at each location. Approval by the Engineer is required before any cutting of the pavers begins. The bluestone pavers shall be carefully removed and stockpiled, and the cement concrete foundation shall be carefully removed to prevent disturbance to adjacent bluestone pavers. The cast iron detectable warning panel shall be installed per the manufacturer's installation instructions on a new 4" (min.) depth cement concrete base, with 6x6-W4xW4 welded wire fabric embedded at mid-depth of the slab.

**METHOD OF MEASUREMENT:** "Detectable Warning Systems Standard 48.1.0-Retrofit" will be measured on a per SQUARE FOOT basis for installation of cast iron detectable warning systems, complete in-place, and accepted by the Engineer.

**BASIS OF PAYMENT:** "Detectable Warning Systems Standard 48.1.0-Retrofit" will be paid for at the contract unit price per SQUARE FOOT for complete installation of the cast iron detectable warning systems. The price per square foot shall include supplying, furnishing, and installing cast iron detectable warning panels, any necessary stone and concrete cutting, cleaning and sweeping pavers, reinforced concrete slab, and for all materials, labor, tools, and incidentals necessary to install the cast iron detectable warning systems to the satisfaction of the Engineer.

**Table 1 Materials Specifications for Bioretention**

| Parameter | Specification | Size | Notes |
|---|---|---|---|
| Geotextile Planting Soil Mulch Sand (2”-4” layer over choker stone) | Class “C” apparent opening size (ASTM-D-4751) grab tensile strength (ASTM-D-4632) burst strength (ASTM-D-4833) sand 84-88% soil fines 8 - 12% (≤ 2% clay) organics 4 - 5% shredded hardwood mulch preferred AASHTO M-6 or ASTM C-33 | 0.02” to 0.04” sand. | for use over underdrains (extend 1 – 1.5 ft each side) and as necessary on sides of bioretention basin USDA soil types loamy sand or sandy loam aged 6 months, minimum Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No rock dust can be used |
| Poured-in-place Concrete (if required) Class A<br>Choking Stone Layer (4” layer pea gravel)<br>Underdrain Gravel<br>Underdrain Piping | See RIDOT Specs. Sec. 600; f’c = 3,000 lb. @ 28 days, normal weight, AASHTO M43 (ASTM D 448) No. 8 or 89 gravel RIDOT Specs. Sec. 703 AASHTO M-43 RIDOT Specs. Sec 703 ASTM D 1785 or AASHTO M-278 air-entrained; reinforcing bars to meet ASTM 615-60 | 0.375” to 0.75”<br>1.0” 4 to 6”<br>rigid schedule 40 PVC | Testing shall conform to RIDOT Standard Materials Testing schedules<br>*Any l concrete design for:* cast-in-place Double-washed and clean of fines 3/8” perf. @ 6” on center, 4 holes per row; minimum of 3” of gravel over pipes; not necessary underneath pipes place or pre-cast) *not using previously approved standards* requires design drawings sealed and approved by a RI licensed structural PE. |

Mixing shall continue for ten (10) minutes to assure the media is completely blended and the resulting mix is free of clods. The resulting media shall be protected from drying with a tarpaulin or similar facsimile prior to placement.

MULCH: A finely shredded, well-aged organic hardwood mulch is the accepted mulch; Bark dust mulches and wood chips will float and move to the perimeter of the bio swale areas during a storm event and are not acceptable. Refer to Specification L06.9902.

**DELIVERY, STORAGE AND HANDLING:**

A. Deliver all approved materials with optimum moisture content as determined by AASHTO T-180 (ASTM D 698)

B. Permanent work and materials shall not be placed in frozen, wet or muddy conditions.

C. Protect soil media from exposure to excess water and from erosion at all times. Do not store media unprotected. Do not allow excess water to enter site prior to compaction. If water is introduced into the media after grading, allow water to drain before re-working.

C. Soil component will be composed of sand/silt/clay conforming to the following weight and gradation requirements:

| Particle | Weight | Size (diameter) |
|---|---|---|
| Sand | 30 to 50% | 0.05mm – 2.0 mm |
| Silt | 10 to 40% | 0.002mm - .05 mm |
| Clay | 20 to 40% | minus 0.002mm |

D. Water absorbent polymer shall be hydrogel/wetting agent such as:

- Gelscape, Ameraq Corporation, Congers, NY,
- Soilmoist, JRM Chemical Inc., Cleveland, OH, or
- Supersorb, Aquarrols Corporation, Cherry Hill, NJ.

E. Water shall conform to Materials Section M. 18.15 of Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013 and all latest revisions.

**STRUCTURAL SOIL MIXING DETAILS:**

Crushed stone, soil, hydrogel, organic matter, and water shall be mixed prior to placement. Mixing shall uniformly blend the specified components in the approximate ratio indicted below and shall meet the additional following requirements:

Approximate ratio of structural soil components:

| Unit Description | Unit Percentage by Weight |
|---|---|
| Crushed stone | 80% ± 3% |
| Soil | 20% ± 3% |
| Water Retention Agent | 0.03% |
| Total Moisture | 10% |

(Stone, soil, and hydrogel ratios are dry weight basis)

The dry water retention agent , shall be as specified and furnished by one of the three (3) manufacturer's identified under item code L06.1001.The water retention agent shall be mixed as per the manufacturer's specifications with a sufficient amount of water to form a slurry sufficient to adhere to the crushed stone. The hydrogel slurry shall be added to the soil at the rate of 1 pound per cubic yard of soil. The soil and slurry mixture shall be added to the crushed stone. Mixing shall continue for ten (10) minutes to assure the crushed stone is completely in contact with the soil/slurry component and the resulting mix is free of clods. The resulting Mix shall be protected from drying or from gaining excessive moisture with a tarpaulin or similar prior to placement.

**CODE L10.9901**

**TREE CONSERVATION MEASURES**

**DESCRIPTION:** Under this Item, the Contractor shall perform hand and/or pneumatic excavation near, in and around existing street trees as indicated and in accordance with the plans, these specifications, and at the direction of the Engineer, with direct on-site supervision of a City Arborist/Forester. The intent of the item is to carefully excavate soil by hand or by pneumatic air device in areas where trenching or other excavation is required adjacent to tree trunks and within the drip line of existing trees and/or in sensitive areas. These are areas, where the use of a backhoe or excavator would not be appropriate and would impact the health of established street trees.

**WORK RELATED AND SPECIFIED IN OTHER SECTIONS:**

201.9911 Remove and Stockpile Stone Curb
906.9910 Granite Curb, Quarry Spilt 7.3.0
906.9911 Granite Curb, Quarry Split Circular 7.3.0
905.9915 Exposed Aggregate Cement Concrete Sidewalk
L12.9901-07 Tree Pits Types A-E
L08.01.1Tree and Shrub Trimming

**MATERIALS, EQUIPMENT AND PRODUCTS:**

A. Hand pruners, hand saws, and large caliper pruning loppers

B. Pneumatic Air-Spade System, with a compressor unit capable of delivering ample air pressure for operating the pneumatic excavator rated at one hundred fifty standard cubic feet per minute (150 cfm) at ninety pounds per square foot gauge (90 psfg).

C. Low level emitting Soaker Hoses, and clean water, sourced from fire hydrants within the project limits, or if un-available, furnished to the site in a water-cube or water buffalo. Water shall be made available at all excavation sites.

**METHOD OF CONSTRUCTION:**

A. Preparation:
Hand-sweep surrounding sidewalk areas, removing all glass, loose trash and debris that could become projectiles once operations commence. Barricade off or otherwise prohibit the parking of vehicles adjacent to excavation. Close sidewalks or otherwise protect and redirect pedestrian traffic around work areas. Prior to beginning work, the area to be trenched/excavated shall be thoroughly wetted, 24 hours in advance, to minimize dust to the greatest extent possible. Trenching/Excavation shall be accomplished either by hand or with a pneumatic device.

B. Execution:
a. Coordinate all Tree Conservation Operations with any other operations regarding the removal of adjacent curbing and concrete sidewalks.
b. Remove all bricks, cobblestones and any other objects in the tree pits.

c. All pneumatic excavation shall be as minimal as possible in width and depth, thereby minimizing the impact on tree roots and other areas where the Engineer determines that conventional machine excavation may be detrimental. Different nozzles may be used on the air spade to expedite the work or minimize the amount of airborne material.
d. Depths shall be 15” below all sidewalk surfaces, and areas to receive Concrete pavers, refer to Contract Drawings. Additional excavation may be required and shall be directed by the Engineer. Depths greater than 18” in areas to receive new curbing and concrete curb lock shall require removal of soil by pick, hand shovel, or other appropriate means.
e. Care shall be taken to avoid rocks being scattered and damaging private or public property such as cars, glass store fronts and windows. In addition, operators must be equipped with adequate protective clothing and gear, in accordance with operator safety recommendations provided by the equipment manufacturer.
f. All tree roots exposed by the pneumatic or hand excavation operation must be kept constantly moist with burlap covered with white plastic and checked a minimum of two (2) times a day, once in the morning (Between 9am and 10:30am) and once in the afternoon, (between 2 and 3:30pm ) for a maximum of forty-eight (48) hours, until backfill is complete as directed by the Engineer,
g. If so directed by the Engineer, soaker hoses shall be installed in a semi-permanent fashion to facilitate properly moist conditions. Necessary provisions for a reliable water supply and any required inspections of piping shall be scheduled in advance.

In cases where roots must be cut, the Contractor must receive approval from the Engineer prior to cutting any roots larger than one inch (1”) in diameter. Roots must be cut cleanly with pruning shears, loppers, or pruning saws. All root cuts must be approved by the Engineer prior to backfilling.

**SUBMITTALS**:

A. The Contractor shall submit in advance the proposed equipment to conduct the excavation. Provide specifications and product literature for review.

B. The Contractor shall submit in advance the proposed method of excavation, and sequence of work, which shall be coordinated with both site preparation and site improvement operations.

**METHOD OF MEASUREMENT:** The quantity of **Tree Conservation Measures** shall be measured under this Item by EACH existing tree location, as required to conserve the existing trees indicated to remain in original position, and to allow the proposed curbing and sidewalk improvements to occur, and in accordance with the plans, specifications, and at the direction of the Engineer.

**METHOD OF PAYMENT:** The price bid shall be a unit price per **EACH** location where tree conservation work occurs. Tree conservation measures shall include all hand and /or Pneumatic Excavation and shall include the cost of all labor, materials, and equipment necessary, including compressor, pneumatic excavation, hand digging, root pruning and all soil removal in accordance with the plans and specifications, to the satisfaction of the Engineer.

1. Backfill exterior and interior of rain garden in alternating lifts to prevent displacing rain garden precast panels. Remove temporary bracing only after backfill is complete.

S. Compact soil materials to not less than the following percentages of maximum dry unit weight according to AASHTO T-180:

1. Under structures, steps, and pavements, scarify and re-compact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.

2. Under walkways, scarify and re-compact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.

**METHOD OF MEASUREMENT:** "Tree Pit Type G" shall be measured by EACH complete in place and ready to receive Bioswale Media, with all under drainage installed, connected to storm drains, with crushed stone and gravel borrow in place , inclusive of the necessary geotextiles and with all modular rain garden components assembled and units installed in place and accepted in accordance with these specifications and the applicable sections of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended August 2013Amended August 2013 with latest revisions, and to the complete satisfaction of the Engineer.

**BASIS OF PAYMENT:** The accepted quantity of “Tree Pit Type G (Type G-L, and G-R)” will be paid for at the contract unit price per “EACH” as listed in the Proposal. The price so stated constitutes full and complete compensation for all labor, all materials, and equipment including but not limited to excavation, soil removal and disposal, installing drainage, aggregates, crushed stone, geo textiles, trimming and fine grading, compacting, and installing any and all tree pit G components and for all labor, all tools, all equipment, any and all and incidentals required to complete the work to the complete satisfaction of the Engineer.

**CODE L15.9916**
**BIKE RACK (Type 2)**

**CODE L15.9917**
**BIKE REPAIR STATION**

**DESCRIPTION:** These items of work shall consist of providing and installing bike racks, and a bike repair station as herein specified and as shown on the sketch including preparation for installing fasteners, anchors, finishing, castings, and concrete slab. The work shall include removal of existing bushes, including roots, removal and stockpile of granite curb and removal of bit concrete pavement. The Contractor shall grade and compact subgrade, provide and place gravel borrow base and place reinforced concrete slabs. Work shall be in accordance the Construction Drawings, the relevant specification sections of the Rhode Island Department of Transportation (RIDOT) Standard Specifications for Road and Bridge Construction, Amended August 2013 with latest revisions, and as directed by the Engineer.

**WORK SPECIFIED IN OTHER SECTIONS**

Section 500 Cast-in-place Concrete
Section 600 Cast-in-place Concrete Foundations

**MATERIALS, PRODUCTS and FABRICATION:**

**Bike Rack:** Bike Rack shall be seamless, steel tube inverted-U unit capable of holding two bikes. Finish to be red, to match the school colors, from the manufacturer listed below or approved equal:

Sportworks
15540 Wood Red Road NE
Bldg. A-200
Woodinville, WA 98072-4508
Tel: 425-483-7000
Salesand support @sportworks.com

Bike racks shall be furnished in accordance with the following:

1. Bike Racks shall all be supplied by the same manufacturer.
2. All Bike Racks shall be constructed with continuous welds.
3. Bike Rack finish shall be TGIC Polyester Powdercoat Paint.
4. Bike Rack color shall be: Red, to match the school colors
5. All fasteners shall be tamperproof stainless steel as approved by the Engineer.

The bike rack shall be constructed with 2” square tubing (mild steel).
The mounting feet shall be 0.375” x 3” x 6” plate.
The rack shall be 23 ¾ “ long x 6” wide x 35” high.
Mounting shall be surface mount using 4 fasteners per bike rack as designated in manufacturer specifications.

**Repair Station:**
The repair station shall be a self-contained unit including a bike hanger, tethered tools, and a manual air pump. From the manufacturer below or approved equal:

Dead Bike Racks
Telephone: 800-298-4915
www.dead.com
Fix It with Air Kit I

Materials:
0.154" tube x 6.308" x 59" steel
Bike Hanger 1.5" SCH 40 Pipe, ¼ " plate
Foot 10" dia x 0.25" plate
Tool Tethers: 5/32" stainless steel cable
Mounting shall be surface mount using 4 fasteners as designated in manufacturer specifications. Finish shall be TGIC polyester powercoat paint.

**METHOD OF CONSTRUCTION:**

A. General:
   1. Contractor shall grade and compact subgrade. Place 8 inch gravel borrow and compact. Place 6" reinforced Class A concrete slab. Joints shall be 6' spacing. Contractor shall remove and dispose of bushes, roots and grass from area. Granite curbing shall be removed and stockpiled, and bit concrete pavement removed.
   2. Install items under this code at specified locations and in accordance with the details shown on the attached sketch.
   3. Adhere to manufacturer's printed instructions regarding installation and assembly.
   4. Provide fasteners and other anchoring devices as required to assure rigid permanent installation.
   5. Concrete slabs to be 6" thick minimum under bike racks, and bike repair station as shown in details, where ever anchor bolts are to be installed.

B. Placement:
   1. Bike rack shall be laid out as indicated on sketch and in accordance with the APBP Bicycle Parking Guidelines for spacing.
   **2.** Bike repair station shall be installed at a location on school property as directed by the Engineer.

**DELIVERY, HANDLING, and STORAGE:**

A. All items shall be delivered individually wrapped and boxed, and shall not be removed prior to installation.

B. All items shall be protected from weather and damage during temporary storage.

C. Any items damaged or with marred finish prior to acceptance shall be rejected and replaced.

**QUALITY CONTROL:**

A. Submit complete shop drawings for all items in this Section.

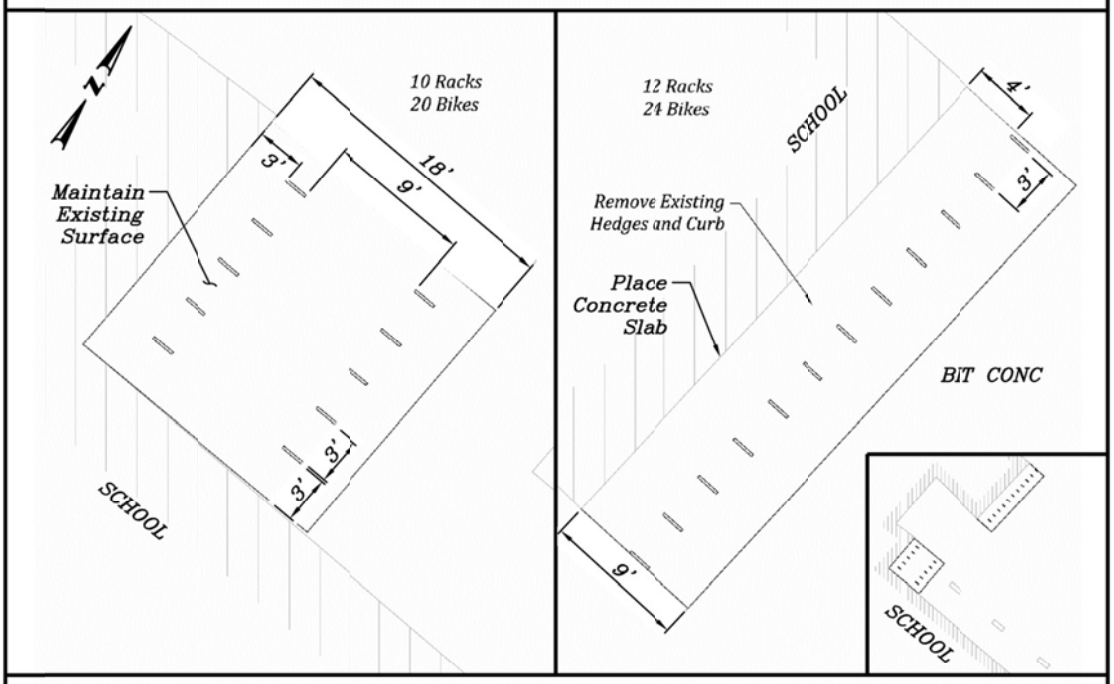
B. Submit color chip samples for final selection by Engineer. Colors to be selected from manufacturer's complete list of available colors.

C. Submit detailed description of all materials and fabrication process. Any component which does not meet the requirements of this section will be rejected.

D. Warranty: Provide written warranty, signed by the Contractor, fabricator, and installer agreeing to repair or remove, replace and reinstall at no additional cost any of the above items that become defective within three years from date of substantial control.

**METHOD OF MEASUREMENT:** The quantity of Bike Rack Type 2 and Bike Repair Station shall be measured by 'Each' unit; accepted in accordance with the RIDOT Standard Specifications for Road and Bridge Construction, Amended August 2013 with latest revisions, this Specification, and to the complete satisfaction of the Engineer:

**BASIS OF PAYMENT**: Bike Rack Type 2 and Bike Repair Station shall be paid for by the contract unit price 'Each' as designated in the Proposal. These payments shall constitute full and complete compensation for all materials listed in the materials section, all assemblies, all fasteners, complete powder-coat painting, and all labor, all tools, all equipment, and all incidentals necessary including any required cast-in -place concrete foundations as required to support the work and to complete the installation work to the complete satisfaction of the Engineer.




NOTE:
BIKE RACKS SHALL BE PLACED IN ACCORDANCE WITH THE ASSOCIATION OF PEDESTRIAN AND BICYCLE PROFESSIONALS - APBP BICYCLE PARKING GUIDELINES

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BIKE RACK LOCATION PLAN

Louis Berger
295 PROMENADE STREET
PROVIDENCE, RI 02908
TEL. 401. 521. 5980
www.louisberger.com

CHECKED BY PWS DATE 12/10/14 SCALE NTS

**CODE L15.9918 (RGS)**

**RAIN GARDEN SIGNAGE**

**DESCRIPTION:** This Work shall include the fabrication, assembly and installation of Rain Garden Signage as shown on the plans. Work shall be performed in accordance with the plans, these specifications, and the relevant specification sections of "The Rhode Island Department of Transportation (RIDOT) Standard Specifications for Road and Bridge Construction Amended August 2013" including all revisions and as directed by the Engineer.

**MATERIALS:** The materials used for implementing the work under this item shall conform to the appropriate Materials Section for that particular item included in the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction Amended August 2013 with latest revisions, unless cited otherwise.

**RELATED SECTIONS:**

L 12.9912 Tree Pit Type G-L
L 12.9913 Tree Pit Type G-R
L 12.9914 Urban BioSwale 1
L 12.9915 Urban BioSwale 2

**MATERIALS:**

A. Aluminum Sheet conforming to ASTM B209 Alloy 6061-T6, 12 gauge or equivalent.

B. Square aluminum tubing, 2"x 2" in the lengths indicated on the plans.

C. Stainless Steel hardware as required to secure signage.

D. HD Vinyl Graphic adhesive sheets.

**CONSTRUCTION METHOD:**

A. Fabrication: The sign shall be made of aluminum sheet product, approximately 10"w x15"h.

B. The signs shall be fabricated with smoothly rounded corners, and detailed to mount flush with the surface of the posts and face of the plate.

C. Signage content: Signs shall comply with four (4) colors and the corresponding public awareness message alert as shown on the plans.

D. Colors shall be Bright White, Black, and Bright Green (Pantone 180C-186 C) and Vivid Blue, and 180c-17as identified by Pantone.

E. Use files to cut and apply vinyl graphics to the surface of the sign.

F. The back of the sign shall be powder coated, posts shall be powder coated as well.

**INSTALLATION:**

A. Verify that field conditions are acceptable and are ready to receive work. Beginning of installation means installer accepts existing conditions.

B. Coordinate with the Engineer for best location within the Storm water treatment structure for signage to be located.

C. Drive post into the ground to the depth shown on the plans. Post shall be plumb and level.

**METHOD OF MEASUREMENT:** "Rain Garden Signage" shall not be measured individually, but shall be measured as part of the Tree Pit or Urban Bio-Swale storm water treatment structure.

**BASIS OF PAYMENT:** "Rain Garden Signage" shall not be paid for individually but rather shall be paid for as part of the LUMP SUM price identified for the various items above. This price shall constitute full and complete compensation for all labor, all tools, all equipment, and any and all incidentals necessary for the fabrication and installation of the signage as shown, inclusive of all l incidentals necessary to finish the work complete in place and accepted by the Engineer.

**CODE T02.9910**
**MAINTENANCE OF EXISTING LIGHTING SYSTEM**

**DESCRIPTION:** The work under this Special Provision shall consist of performing all operations necessary for MAINTENANCE OF EXISTING LIGHTING SYSTEM. This shall include installing temporary lighting conduit, cables and miscellaneous hardware. Also providing and energizing a temporary electric service.

**MATERIALS:** All materials for this item such as trenching, backfill, conduit, conductors, etc. are to furnished and installed according to RIDOT codes and specifications, and National Grid requirements.

**CONSTRUCTION METHOD:** Contractor to provide necessary trenching, backfill, conduit and fittings from the lights or junction box to a point on the service pole or manhole, and supply a sufficient length of conductors to extend to the overhead utility service as required by the Utility and subject to its approval. Connection shall be to National Grid riser pole or manhole secondary system, National Grid light duty handhole, conductors, and miscellaneous connections. The contractor shall fill all disturbed area with 6" lifts of compacted gravel borrow. Restore sidewalk area with temporary asphalt patch. Penetration into National Grid manhole to be done by the utility or their approved Contractor.

Contact the serving Utility to determine the exact locations. Install the service conduit as required by the Utility. Notify the Utility and complete the required applications for inspection. Provide permits, fees, and access for inspections.

**METHOD OF MEASUREMENT:** "MAINTENANCE OF EXISTING LIGHTING SYSTEM" shall not be measured separately for payment.

**BASIS OF PAYMENT:** "MAINTENANCE OF EXISTING LIGHTING SYSTEM" shall not be paid for separately. Payment for this work shall be on a force account basis in accordance with Subsection 109.04 of the standard Specification. Contractor to be responsible for any backcharges from the utility for their work.

**CODE T08.9906**
**TYPE "D" DECORATIVE POLE/LUMINAIRE (120W LED)**

**DESCRIPTION:** The work under these items consists of furnishing and installing new decorative light poles, and luminaires along Broadway from Court House St., at the locations shown on the lighting plans. The work will also include furnishing 2 extra light poles, and luminaries of each type to the City for stock piling.

This decorative pole and luminaire, Type D, is an alternative to Type A, at the discretion of the Engineer. The alternative shall be for all locations shown on the plans as Type A, decorative pole and luminaire.

**MATERIALS:**

**DECORATIVE ROADWAY LUMINAIRE:**
The decorative roadway luminaires shall be furnished as detailed on contract drawings and as specified below. The luminaire shall be the Newporter 1000 Series, Model #F2N7, as manufactured by Pennsylvania Globe Gaslight or equivalent products in compliance with the specifications.

The lantern shall consist of the following components:
Frame/Cradle - The frame of the lantern shall be manufactured from .035 thick stainless steel sheet materials with unitized spot welded construction. Solder will not be used in the fabrication process. The upper and lower frames shall be hinged in two (2) places to allow a minimum opening of 135 degrees for lamp access, and shall be secured by means of a captive brass retaining screw. The decorative vent shall be a three piece assembly of spun aluminum alloy components and shall be captured by the use of a stainless steel ring vent that is spot welded to the head frame. The vent assembly employs weld nuts and three stainless steel screws to secure the vent to the lantern. The cradle assembly shall be formed to the lantern shape as detailed and be fabricated from 5/16" aluminum solid rod, plate and tubing. The cradle shall receive a polyester powder coat finish in gloss black to match the lamp post.

Lenses – All lenses shall be nominal 0.125 thick tempered glasses. The lower and upper panels shall be clear. The mid-frame lenses shall be clear-frosted. Lenses shall be securely fastened in a die formed stainless steel channel, spot welded to the lanterns side rails. One of the four upright rails will be equipped with removable stainless channel wire-way cover. Primary wiring to the LED light engine will be routed through the channel wire-way.

Optics – The lantern shall be equipped with a high performance LED light engine. The light emitting diodes shall be 4500 degree kelvin color temperature with a minimum CRI rating of 70. The diodes shall be controlled using micro lens optics to produce a IESNA Type III asymmetric distribution.

Mounting/Hardware – The lantern shall be designed mount onto a lamp post tenon measuring 2 7/8" OD x 3" tall. The lantern shall be secured to the tenon by means of three (3) black passivated 5/16" – 18 stainless steel hex head screws.

Electrical – The lantern shall be supplied factory prewired and shall have 12" long wire leads. The sire shall be 16 gauge TFFN type only, rated for 90 degrees C service minimum.

The overall luminaire dimensions shall be 47 inches in height and 17 inches in width.

Each luminaire to be furnished with (1) internally mounted 150-watt drivers for operation at *120, 208, 240, 277* volt. The drivers shall produce a constant current at 350 mA. The system wattage shall not exceed 122 system watts. The driver assembly shall be removed and installed using stainless steel fasteners.

The luminaire shall be suitable for use in wet locations per UL1589.

The luminaire shall have a minimum of a 10-year warranty.

The complete light standard shall be powder coated gloss black.

The luminaire manufacturer shall have been in the business of manufacturing outdoor lighting products for a minimum of ten (10) years. The manufacturer shall offer a product warranty against physical defects for no less than five (5) years from the date of installation.

**DECORATIVE ROADWAY POLES (D):**

The Type A shall have a nominal length of 12 feet 0 inches and provide a luminaire mounting height (sidewalk pavement to light center) of 14'0". The poles shall be constructed to support the design load of luminaires, cross arms and all associated appurtenances including banner at a wind speed of 130 mph, 3 second gusted design. Wind load calculations and shop drawings verifying conformance to AASHTO publication "Standard Specifications for Structural supports for Highway Signs, Luminaires and Traffic Signals", 2009 edition shall be provided. Fatigue and breakaway requirements shall not apply. Shop drawings and calculation shall be submitted, stamped by a professional engineer registered in the State of Rhode Island. Pole manufacturer shall submit written documentation to qualify that all iron and steel materials, manufacturing and finishing processes and associated labor required for the supply of the light poles are in compliance with the "Buy America" provisions included within the contract as addressed in the contract specifications.

Shop drawings and calculations shall be submitted, stamped by a professional engineer registered in the State of Rhode Island. Pole manufacturer(s) shall submit written documentation to qualify that all iron and steel materials, manufacturing and finishing processes and associated labor required for the supply of the light poles are in compliance with the "Buy America" provisions included within the contract specifications. Cast iron style shall be approved by the Engineer.

Each pole shall include the following major components:

1. Ornamental Base Section – The base shall be cast of ductile iron per ASTM A536-84 and shall be of heavy wall construction with a minimum wall thickness of ½ inch. The base shall be a one piece "slipover" design and shall measure 51 inches in height with a diameter of 16 inches where it mounts to the foundation. The base shall weigh 213 pounds +/- 5%. A wiring access opening with cast ductile iron cover shall be located in the fluted portion of the base, opposite the hand hole in the steel shaft.

2. Fluted Pole Shaft – The steel pole shaft shall meet all the requirements of ASTM A595-93 Grade A with minimum yield strength of 55 ksi and an ultimate tensile strength of 65 ksi. The shaft shall be of monotube fabrication with a single longitudinal weld, having a minimum of 70% penetration. The pole shaft wall thickness shall be a minimum of 11 gauge and satisfy the structural requirements of AASHTO as stated above. The shaft base diameter shall be 5.6 inches minimum,

and shall taper down by a uniform .14 inches per foot. The shaft shall include a ¾ inch thick base plate attached by complete circumferential welds on both the inside and outside of the shaft. The base plate shall be designed to accept four (4) ¾ inch diameter anchor bolts on an 11 inch bolt circle. The shaft shall be dry formed over a mandrel into a cross section with twelve (12) equally spaced straight, flat and uniform flutes. Flutes shall taper out to a full round shaft section approximately one inch above the top of the base to isnure a tight fit where the shaft enters the decorative base collar.

3. Pole Tenon Assembly – A tenon assembly consisting of a 2 7/8 inch diameter by 3 inch long schedule 40 steel pipe. All tenons shall be welded to the top of the steel pole shaft. A decorative cast iron finishing ring shall be supplied with each pole shaft, designed to slip over the tenon and shoulder onto the top of the pole shaft.

4. Anchor Bolts – A set of of four (4) ¾ inch diameter by 24 inch long, fully hot dipped galvanized anchor bolts shall be furnished with each lighting pole. The manufacturer shall note the anchor bolts yield strength on the shop drawings and structural calculations.

5. Banner Arms – A set of two (2) "clamp-on" style banner arms designed to mount one 18 inch wide x 36 inch long banners shall be supplied with each light pole. Banners will be furnished and installed by the City of Newport and are not part of this contract. The banner clamps shall be sized to fit the pole shaft section for both upper and lower locations. Each clamp assembly shall include (2) ½ inch diameter stainless steel hex head machine bolt fasteners and locking hardware and allow no more than a ½ inch gap between the matching clamp surface when assembled to the pole shaft. The banner arms shall be made from 1 ¼ inch schedule 40 steel pipe. One end of the pip shall be equipped with a ¼ - 20 set screw used as a means to attach a removable 2 inch diameter cast aluminum ball finial.

Finish

The steel lighting pole shaft component paint shall consist of a durable powder coating system over hot dipped galvanizing as described below.

Pole manufacturer(s) shall submit written documentation to qualify that all iron and steel materials, manufacturing and finishing processes and associated labor required for the supply of the light poles are in compliance with the "Buy America" provisions included within the contract specifications.

**FINISH SCHEDULE**

1. The steel pole shaft component paint finish shall consist of a hot dipped galvanized / durable powder coating system as described below.
   Zinc Coating - The product is hot-dipped galvanized to the requirements of ASTM A123. If repairs are required, they are done so in accordance with ASTM A780.
   Surface Preparation - All exterior surfaces shall be blast cleaned to Steel Structures Painting council Surface preparation Specification No. 6 (SSPC-SP6) requirement utilizing cast steel abrasives conforming to the Automotive Engineers (SAE) recommended Practice J827. The blast method used shall be a recalculating, closed cycle centrifugal wheel system with abrasive conforming to SAE Shot No. S280.
   Primer Coating - All exterior surfaces shall be prime with an ATP epoxy powder to a minimum dry film thickness (DFT) of 3.0 mils, with the bottom (8) feet of the pole shaft having a DFT of .6 mils. The coating shall be electrostatically applied and cured in a gas fired convection oven by

heating the steel ATP powder shall be electrostatically applied and partially cured in a gas fired convection oven.
Exterior Coating – All exterior surfaces are coated with Polyester Urethane, TGIC (Triglycidyl Isocyanurate) Polyester to an average dry film thickness DFT of 4.0 mils. The coating is electrostatically applied and cured in a gas fired convection oven. The thermosetting powder resin provides adhesion that meets 5A and 5B classifications of ASTM D3359.

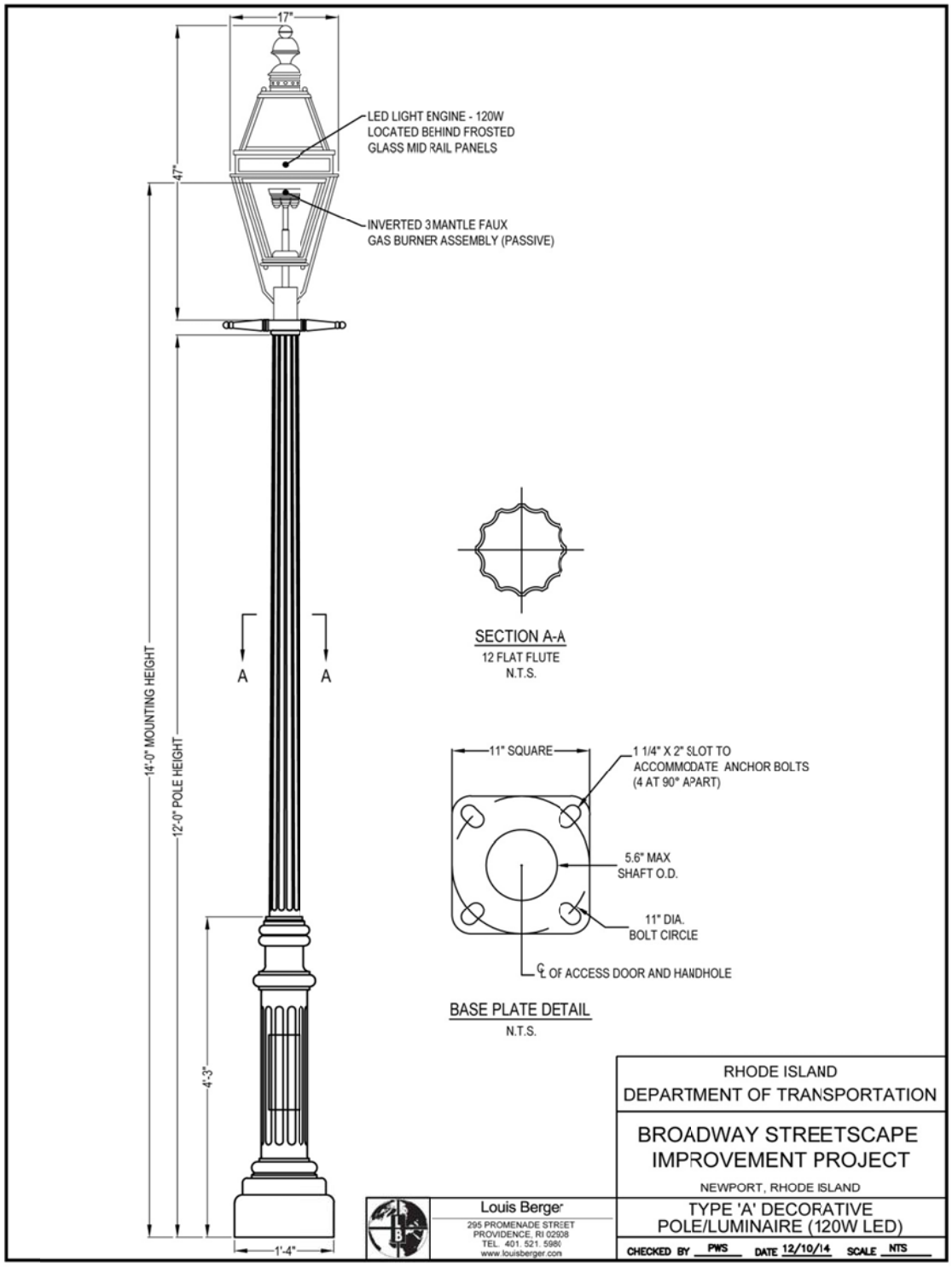
2. The crossarms shall be finished with a durable powder coating system as described below.
   Surface Preparation - All exterior surfaces shall be blast cleaned as described for pole shaft component.
   Coating – All exterior surfaces shall be coated with Polyester Urethane, TGIC (Triglycidyl Isocyanurate) Polyester to an average DFT of 3.0 mils (0.003”). The coating shall be electrostatically applied and cured in a gas fired convection oven. The thermosetting powder resin shall provide adhesion that meets 5A or 5B classifications of ASTM D3359. Color shall be gloss black.

**QUALIFICATIONS / WARRANTIES**
Manufacturers shall have been in the business of manufacturing outdoor lighting products for a minimum of ten (10) years. The manufacturer shall offer a product warranty against all physical defects and workmanship under normal use for no less than five (5) years from the date of installation. **WIRING**: Light pole luminaires shall be wired according to one line diagram (#10 copper) with wiring extended to bottom of pole with a minimum of 5 feet slack to allow connections to be made to In-Line fused and un-fused disconnect devices.

**CONSTRUCTION METHOD:** Follow manufacturer’s instructions.

**METHOD OF MEASUREMENT:** These items shall be measured by the number of “EACH” actually installed in accordance with the Plans and/or as directed by the Engineer.

**BASIS OF PAYMENT:** This item shall be paid at the contract unit price for “EACH” including the whole assembly, including LED Lamp conductors, connectors, tools, accessories, and other miscellaneous electrical equipment necessary to satisfactorily complete and install this item.


17"
47"
LED LIGHT ENGINE - 120W
LOCATED BEHIND FROSTED
GLASS MID RAIL PANELS
INVERTED 3 MANTLE FAUX
GAS BURNER ASSEMBLY (PASSIVE)
14'-0" MOUNTING HEIGHT
12'-0" POLE HEIGHT
A
A
4'-3"
1'-4"
SECTION A-A
12 FLAT FLUTE
N.T.S.
11" SQUARE
1 1/4" X 2" SLOT TO
ACCOMMODATE ANCHOR BOLTS
(4 AT 90° APART)
5.6" MAX
SHAFT O.D.
11" DIA.
BOLT CIRCLE
℄ OF ACCESS DOOR AND HANDHOLE
BASE PLATE DETAIL
N.T.S.
RHODE ISLAND
DEPARTMENT OF TRANSPORTATION
BROADWAY STREETSCAPE
IMPROVEMENT PROJECT
NEWPORT, RHODE ISLAND
Louis Berger
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TEL. 401. 521. 5980
www.louisberger.com
TYPE 'A' DECORATIVE
POLE/LUMINAIRE (120W LED)
CHECKED BY PWS DATE 12/10/14 SCALE NTS

**CODE T09.9901**

**SERVICE PEDESTAL**

**DESCRIPTION:** The work under this item consists of furnishing and installing a 100 amp, 120/240 volt service pedestal to supply power to the lighting circuits as shown in the drawings. Service pedestal to be built and installed according to the following RIDOT standards and specifications: 18.4.0(mod.), 18.4.1, 18.4.4 (mod.), 18.4.5 (mod.), and 18.4.6 (mod.).

**MATERIALS:** All material for this item shall be according to the latest RIDOT standards and specifications and as shown in the drawings and details.

Pedestal to be manufactured by Lake Shore Electric Corp, or approved equal, 205 Willis Street, Bedford, OH 44146, or approved equal. Contact Mr. Michael Shane Tel. 440 232-0200 x231 for details. Pedestal must be sized to contain all equipment shown in details and according to all code requirements. Pedestal to be supplied with all equipment shown (split panel arrangement) in the details, fully wired and tested for final installation. Utility service conduit to be located outside of pedestal footprint. Service pedestal to contain a 5 terminal meter socket w/bypass switch acceptable to local utility. For all other components, refer to attached pedestal details. Contractor to submit, for review and approval, manufacturer's submittal showing pedestal details and wiring diagrams. Service pedestal and meter socket and associated exposed fittings to be painted black.

Materials shall conform to the applicable requirements of subsection M of the Standard Specifications, as amended and all Compilations of Approved Specifications. Metalizing shall comply with Section 827 of the Standard Specifications, as amended and all Compilations of Approved Specifications. Painting shall comply with Section 825 of the Standard Specifications, as amended and all Compilations of Approved Specifications; however, in place of zinc rich primer, additional coats of paint shall be applied directly on top of the metalized surface. Color shall be gloss black.

**CONSTRUCTION METHOD:** "Service Pedestal" is to be installed as shown in the plans and according to the details and modified RIDOT standards. Please note that the foundation is to be 3" above either grass or sidewalk surface.

**METHOD OF MEASUREMENT:** "Service Pedestal" shall be measure for "EACH" including excavation, foundation, grounding grid, service pedestal, and miscellaneous grass area or sidewalk restoration.

**BASIS OF PAYMENT:** "Service Pedestal" shall be paid for at the contract bid for "EACH" including all material, labor, tools, and other miscellaneous equipment necessary to satisfactorily complete this work in accordance with this Special Provision, complete and accepted by the Engineer.

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Estimate Name - Addendum No. 2
R.I. Contract No. - 2014-CH-071
FAP Nos: 3RD-PRTY(225), STP-RESF(284), STP-SRTS-004, STP-TAPS(003)


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| 201.0305 | COMPLETE REMOVAL AND DISPOSAL OF ISOLATED STUMPS (6'' TO 24'') | 1 |
| 201.0402 | REMOVE AND DISPOSE CONCRETE CURB | 1 |
| 201.0403 | REMOVE AND DISPOSE SIDEWALKS | 1 |
| 201.0407 | REMOVE AND DISPOSE PAVEMENT AND RIGID BASE | 2 |
| 201.0410 | REMOVE AND DISPOSE CATCH BASINS | 2 |
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|---|---|---|---|---|---|---|
| 042 | 702.0605 | PRECAST CATCH BASIN 4' DIAMETER | EACH | | | |
| | | STANDARD 4.4.0 | | | | |
| | | BROADWAY | | | | |
| | | 10+64 LT | | | 0006 | 02 |
| | | 10+93 LT | | | 0006 | 02 |
| | | 12+33 RT | | | 0006 | 02 |
| | | 12+58 RT | | | 0006 | 02 |
| | | 12+76 LT | | | 0006 | 02 |
| | | 14+47 LT | | | 0006 | 02 |
| | | 15+19 LT | | | 0006 | 02 |
| | | 16+39 LT | | | 0006 | 02 |
| | | 19+12 LT | | | 0006 | 02 |
| | | 19+15 RT | | | 0006 | 02 |
| | | 20+15 LT | | | 0006 | 02 |
| | | 21+93 LT | | | 0006 | 02 |
| | | 23+40 LT | | | 0006 | 02 |
| | | 24+04 RT | | | 0006 | 02 |
| | | 24+86 RT | | | 0006 | 02 |
| | | 24+99 LT | | | 0006 | 02 |
| | | 25+16 LT | | | 0006 | 02 |
| | | 25+50 RT | | | 0006 | 02 |
| | | 26+44 RT | | | 0006 | 02 |
| | | 27+13 RT | | | 0006 | 02 |
| | | 28+28 RT | | | 0006 | 02 |
| | | 28+32 LT | | | 0006 | 02 |
| | | 28+91 RT | | | 0006 | 02 |
| | | 30+70 RT | | | 0006 | 02 |
| | | Item 702.0605 Total: | **DELETED** | | | |
| 043 | 702.0630 | PRECAST MANHOLE 4' DIAMETER | EACH | | | |
| | | STANDARD 4.2.0 | | | | |
| | | BROADWAY | | | | |
| | | 12+53 RT | | 1.00 | 0006 | 02 |

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|---|---|---|---|---|---|---|
| **043** | **702.0630 Cont.** | **Item 702.0630 Total:** | | **1.00** | | |
| **044** | **702.0640** | **PRECAST MANHOLE 6' DIAMETER STANDARD 4.2.2** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 23+36 LT | | | 0006 | 02 |
| | | 25+04 LT | | | 0006 | 02 |
| | | 28+28 LT | | 1.00 | 0006 | 02 |
| | | **Item 702.0640 Total:** | | **1.00** | | |
| **045** | **702.9901** | **MODIFIED CATCH BASIN WITH GUTTER INLET - 3.4.1M** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 12+34 RT | | 1.00 | 0006 | 02 |
| | | **Item 702.9901 Total:** | | **1.00** | | |
| **046** | **702.9902** | **PRECAST MANHOLE 8' DIAMETER W/ 48" MANHOLE STACK - 4.2.2M** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 23+36 LT | | 1.00 | 0006 | 02 |
| | | 25+04 LT | | 1.00 | 0006 | 02 |
| | | **Item 702.9902 Total:** | | **2.00** | | |
| **047** | **703.9901** | **6" PERFORATED POLYVINYL CHLORIDE PIPE M278 UNDERDRAIN WITH FILTER MATERIAL STANDARD 1.1.0** | **LF** | | | |
| | | BROADWAY | | | | |
| | | 10+94 TO 12+32, LT | | 138.40 | 0006 | 05 |
| | | 12+77 TO 13+64, LT | | 87.50 | 0006 | 05 |
| | | 14+49 TO 14+62, LT | | 20.70 | 0006 | 05 |
| | | 14+91 TO 15+18, LT | | 27.70 | 0006 | 05 |
| | | 15+19 TO 15+97, LT | | 81.30 | 0006 | 05 |
| | | 16+40 TO 17+07, LT | | 66.50 | 0006 | 05 |

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|---|---|---|---|---|---|---|
| **047** | **703.9901 Cont.** | 17+10 TO 18+88, LT | | 179.50 | 0006 | 05 |

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| **070** | **834.9912** | **BLUESTONE SLAB - BS** | **SF** | | | |
| | | BROADWAY | | | | |
| | | 27+13 RT | | 33.00 | 0006 | 02 |
| | | 27+93 RT | | 20.00 | 0006 | 02 |
| | | 28+33 LT | | 31.00 | 0006 | 02 |
| | | 28+89 RT | | 22.00 | 0006 | 02 |
| | | 29+10 RT | | 22.00 | 0006 | 02 |
| | | 29+13 LT | | 23.00 | 0006 | 02 |
| | | 29+32 RT | | 22.00 | 0006 | 02 |
| | | 29+57 RT | | 21.00 | 0006 | 02 |
| | | 30+03 LT | | 18.00 | 0006 | 02 |
| | | 30+14 RT | | 13.00 | 0006 | 02 |
| | | 30+60 RT | | 16.00 | 0006 | 02 |
| | | ROUNDING | | | | |
| | | PROJECTWIDE | | 9.00 | 0006 | 02 |
| | | **Item 834.9912 Total:** | | **250.00** | | |
| 071 | 834.9913 | **REMOVE AND RESET BLUESTONE SIDEWALK PAVERS - RBSW** | **SY** | | | |
| | | BROADWAY | | | | |
| | | 10+04 TO 10+34, LT | | | 0006 | 02 |
| | | ROUNDING | | | | |
| | | PROJECT WIDE | | | 0006 | 02 |
| | | **Item 834.9913 Total:** | | ****DELETED**** | | |
| **072** | **905.9901** | **CROSSWALK 1 - FLUSH** | **LS** | | | |
| | | BROADWAY | | | | |
| | | 10+70 | | 1.00 | 0006 | 02 |
| | | **Item 905.9901 Total:** | | **1.00** | | |
| **073** | **905.9902** | **CROSSWALK 2 - RAISED** | **LS** | | | |
| | | BROADWAY | | | | |
| | | 12+60 | | 1.00 | 0006 | 02 |

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Estimate Name - Addendum No. 2
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FAP Nos: 3RD-PRTY(225), STP-RESF(284), STP-SRTS-004, STP-TAPS(003)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|---|---|---|---|---|---|---|
| **082** | **905.9915 Cont.** | 25+53 TO 25+69, RT | | 2.00 | 0021 | 01 |
| | | 26+13 TO 26+62, RT | | 7.00 | 0021 | 01 |
| | | 26+85 TO 28+30, RT | | 33.10 | 0006 | 02 |
| | | 28+00 TO 30+23, LT | | 41.60 | 0006 | 02 |
| | | 28+51 TO 29+73, RT | | 16.10 | 0006 | 02 |
| | | 30+16 TO 30+81, RT | | 6.00 | 0006 | 02 |
| | | 30+21 TO 30+37, LT | | 1.80 | 0006 | 02 |
| | | 30+65 TO 31+33, LT | | 15.00 | 0006 | 02 |
| | | MARLBOROUGH STREET | | | | |
| | | 1+15 TO 1+75, RT | | 5.20 | 0006 | 02 |
| | | 1+15 TO 1+87, LT | | 18.60 | 0006 | 02 |
| | | ROUNDING | | | | |
| | | PROJECT WIDE | | 7.10 | 0006 | 02 |
| | | **Item 905.9915 Total:** | | **610.00** | | |
| **083** | **905.9916** | **EXPOSED AGGREGATE CEMENT CONCRETE** | **CY** | | | |
| | | **DRIVEWAY; 43.5.0M** | | | | |
| | | BROADWAY | | | | |
| | | 16+90 RT | | 4.30 | 0021 | 01 |
| | | 18+77 LT | | 7.40 | 0006 | 02 |
| | | 21+25 RT | | 11.30 | 0021 | 01 |
| | | 22+49 RT | | 8.30 | 0021 | 01 |
| | | 23+10 RT | | 11.00 | 0021 | 01 |
| | | 23+22 LT | | 12.40 | 0006 | 02 |
| | | 25+10 RT | | 12.50 | 0021 | 01 |
| | | 25+92 RT | | 8.80 | 0021 | 01 |
| | | ROUNDING | | | | |
| | | PROJECTWIDE | | 4.00 | 0006 | 02 |
| | | **Item 905.9916 Total:** | | **80.00** | | |
| **084** | **905.9917** | **EXPOSED AGGREGATE CEMENT CONCRETE** | **CY** | | | |
| | | **WHEELCHAIR RAMP; 43.3.0M, 43.3.2M** | | | | |

# Distribution of Quantities

Project Name - Broadway Streetscape Improvement Project
Estimate Name - Addendum No. 2
R.I. Contract No. - 2014-CH-071
FAP Nos: 3RD-PRTY(225), STP-RESF(284), STP-SRTS-004, STP-TAPS(003)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|---|---|---|---|---|---|---|
| **149** | **L12.9913 Cont.** | 21+18 LT | | 1.00 | 0031 | 07 |
| | | **Item L12.9913 Total:** | | **2.00** | | |
| **150** | **L12.9914** | **URBAN BIOSWALE 1 UBS-1** | **LS** | | | |
| | | BROADWAY | | | | |
| | | 15+01 LT | | 1.00 | 0020 | 08 |
| | | **Item L12.9914 Total:** | | **1.00** | | |
| **151** | **L12.9915** | **URBAN BIOSWALE 2 UBS-2** | **LS** | | | |
| | | BROADWAY | | | | |
| | | 14+55 LT | | 1.00 | 0020 | 08 |
| | | **Item L12.9915 Total:** | | **1.00** | | |
| **152** | **L12.9916** | **PLANTER 1 (PL-1)** | **LS** | | | |
| | | BROADWAY | | | | |
| | | 13+78 LT | | 1.00 | 0031 | 07 |
| | | **Item L12.9916 Total:** | | **1.00** | | |
| **153** | **L12.9917** | **PLANTER 2 (PL-2)** | **LS** | | | |
| | | BROADWAY | | | | |
| | | 14+87 RT | | 1.00 | 0031 | 07 |
| | | **Item L12.9917 Total:** | | **1.00** | | |
| **154** | **L12.9918** | **PLANTER 3 (PL-3)** | **LS** | | | |
| | | BROADWAY | | | | |
| | | 26+30 RT | | 1.00 | 0006 | 04 |
| | | **Item L12.9918 Total:** | | **1.00** | | |
| **155** | **L15.9901** | **BIKE RACK (NEW)** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 13+97 TO 14+09 RT | | 2.00 | 0006 | 05 |
| | | 17+05 TO 17+19 LT | | 4.00 | 0006 | 05 |
| | | 26+10 LT | | 1.00 | 0006 | 05 |

# Distribution of Quantities

Project Name - Broadway Streetscape Improvement Project
Estimate Name - Addendum No. 2
R.I. Contract No. - 2014-CH-071
FAP Nos: 3RD-PRTY(225), STP-RESF(284), STP-SRTS-004, STP-TAPS(003)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|---|---|---|---|---|---|---|
| **163** | **L15.9909** | **PLANTER, STEEL - PLAN** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 10+54 TO 28+76, RT | | 7.00 | 0031 | 07 |
| | | 10+87 TO 27+41, LT | | 4.00 | 0031 | 07 |
| | | **Item L15.9909 Total:** | | **11.00** | | |
| **164** | **L15.9910** | **TRANSIT STATION, DOUBLE BAY - TRS** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 24+74 RT | | 1.00 | 0006 | 02 |
| | | **Item L15.9910 Total:** | | **1.00** | | |
| **165** | **L15.9911** | **TRANSIT STATION, SINGLE BAY - TRS-1** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 16+73 RT | | 1.00 | 0006 | 02 |
| | | **Item L15.9911 Total:** | | **1.00** | | |
| **166** | **L15.9912** | **REMOVE, STOCKPILE, & RESET EXISTING BIKE RACK - 1, 2, 3, 4** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 12+50 LT | | 1.00 | 0006 | 02 |
| | | 15+76, RT | | 1.00 | 0006 | 02 |
| | | 15+87, RT | | 1.00 | 0006 | 02 |
| | | 19+15, LT | | 1.00 | 0006 | 02 |
| | | **Item L15.9912 Total:** | | **4.00** | | |
| **167** | **L15.9913** | **REMOVE, STOCKPILE, & RESET EXISTING BIKE RACK - 2** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 15+76 RT | | | 0006 | 02 |
| | | **Item L15.9913 Total:** | | ****DELETED**** | | |
| **168** | **L15.9914** | **REMOVE, STOCKPILE, & RESET EXISTING BIKE RACK - 3** | **EACH** | | | |

# Distribution of Quantities

Project Name - Broadway Streetscape Improvement Project
Estimate Name - Addendum No. 2
R.I. Contract No. - 2014-CH-071
FAP Nos: 3RD-PRTY(225), STP-RESF(284), STP-SRTS-004, STP-TAPS(003)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|---|---|---|---|---|---|---|
| 168 | L15.9914 Cont. | BROADWAY | | | | |
| | | 15+87 RT | | | 0006 | 02 |

# Distribution of Quantities

Project Name - Broadway Streetscape Improvement Project
Estimate Name - Addendum No. 2
R.I. Contract No. - 2014-CH-071
FAP Nos: 3RD-PRTY(225), STP-RESF(284), STP-SRTS-004, STP-TAPS(003)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|---|---|---|---|---|---|---|
| 168 | L15.9914 Cont. | Item L15.9914 Total: | | **DELETED** | | |
| 169 | L15.9915 | REMOVE, STOCKPILE, & RESET EXISTING BIKE RACK - 4 | EACH | | | |
| | | BROADWAY | | | | |
| | | 19+15 LT | | | 0006 | 02 |
| | | Item L15.9915 Total: | | **DELETED** | | |
| **170** | **L15.9916** | **BIKE RACK TYPE 2** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | PROJECT WIDE - MIDDLE SCHOOL | | 22.00 | 0006 | 05 |
| | | **Item L15.9916 Total:** | | **22.00** | | |
| **171** | **L15.9917** | **BIKE REPAIR STATION** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | PROJECT WIDE - MIDDLE SCHOOL | | 1.00 | 0006 | 05 |
| | | **Item L15.9917 Total:** | | **1.00** | | |
| **S172** | **T04.6902** | **'2' STRANDED COPPER CONDUCTOR 600V INSULATION** | **LF** | | | |
| | | BROADWAY | | | | |
| | | PROJECT WIDE | | 693.00 | 0021 | 09 |
| | | **Item T04.6902 Total:** | | **693.00** | | |
| **173** | **T04.6904** | **'4' STRANDED COPPER CONDUCTOR 600V INSULATION** | **LF** | | | |
| | | BROADWAY | | | | |
| | | PROJECT WIDE | | 13,803.00 | 0021 | 09 |
| | | **Item T04.6904 Total:** | | **13,803.00** | | |
| **174** | **T04.6908** | **'8' STRANDED COPPER CONDUCTOR 600V INSULATION** | **LF** | | | |
| | | BROADWAY | | | | |

# Distribution of Quantities

Project Name - Broadway Streetscape Improvement Project
Estimate Name - Addendum No. 2
R.I. Contract No. - 2014-CH-071
FAP Nos: 3RD-PRTY(225), STP-RESF(284), STP-SRTS-004, STP-TAPS(003)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|---|---|---|---|---|---|---|
| **187** | **T06.9902 Cont.** | **Item T06.9902 Total:** | | **380.00** | | |
| **188** | **T08.9901** | **DECORATIVE POLE FOUNDATION - TYPE "A" & "B"** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 10+69 TO 30+13, LT | | 18.00 | 0021 | 09 |
| | | 11+15 TO 30+83, RT | | 20.00 | 0021 | 09 |
| | | MARLBOROUGH STREET | | | | |
| | | 1+49 LT | | 1.00 | 0021 | 09 |
| | | **Item T08.9901 Total:** | | **39.00** | | |
| **S189** | **T08.9902** | **TYPE "A" DECORATIVE POLE/LUMINAIRE (120W LED)** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 10+69 LT | | 1.00 | 0021 | 09 |
| | | 11+15 RT | | 1.00 | 0021 | 09 |
| | | 11+91 LT | | 1.00 | 0021 | 09 |
| | | 12+25 RT | | 1.00 | 0021 | 09 |
| | | 12+81 LT | | 1.00 | 0021 | 09 |
| | | 13+23 RT | | 1.00 | 0021 | 09 |
| | | 13+63 LT | | 1.00 | 0021 | 09 |
| | | 14+14 RT | | 1.00 | 0021 | 09 |
| | | 15+16 RT | | 1.00 | 0021 | 09 |
| | | CONTINGENCY | | | | |
| | | PROJECT WIDE | | 2.00 | 0021 | 09 |
| | | **Item T08.9902 Total:** | | **11.00** | | |
| **S190** | **T08.9903** | **TYPE "B" DECORATIVE POLE/LUMINAIRE (120W LED)** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 14+71 LT | | 1.00 | 0021 | 09 |
| | | 14+86 RT | | 1.00 | 0021 | 09 |
| | | 15+66 LT | | 1.00 | 0021 | 09 |

# Distribution of Quantities

Project Name - Broadway Streetscape Improvement Project
Estimate Name - Addendum No. 2
R.I. Contract No. - 2014-CH-071
FAP Nos: 3RD-PRTY(225), STP-RESF(284), STP-SRTS-004, STP-TAPS(003)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|---|---|---|---|---|---|---|
| **S210** | **T20.9926 Cont.** | 13+06 RT | | 1.00 | 0021 | 06 |
| | | 15+91 LT | | 1.00 | 0021 | 06 |
| | | 17+13 RT | | 1.00 | 0021 | 06 |
| | | 18+56 LT | | 1.00 | 0021 | 06 |
| | | 22+92 LT | | 1.00 | 0021 | 06 |
| | | 27+14 LT | | 1.00 | 0021 | 06 |
| | | **Item T20.9926 Total:** | | **7.00** | | |
| **211** | **206.9901** | **INLET SEDIMENT CONTROL** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | PROJECT WIDE | | 65.00 | 0006 | 02 |
| | | CONTINGENCY | | | | |
| | | PROJECT WIDE | | 5.00 | 0006 | 02 |
| | | **Item 206.9901 Total:** | | **70.00** | | |
| **212** | **403.0300** | **ASPHALT EMULSION TACK COAT** | **SY** | | | |
| | | BROADWAY | | | | |
| | | 31+32 TO 45+59, LT/RT | | 7,364.40 | 0006 | 02 |
| | | ROUNDING | | 5.60 | 0006 | 02 |
| | | **Item 403.0300 Total:** | | **7,370.00** | | |
| **213** | **702.9903** | **PRECAST CATCH BASIN 4' DIAMETER STANDARD 4.4.0 WITH 4' MINIMUM SUMP DEPTH** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | 10+64, LT | | 1.00 | 0006 | 02 |
| | | 10+93, LT | | 1.00 | 0006 | 02 |
| | | 12+33, RT | | 1.00 | 0006 | 02 |
| | | 12+58, RT | | 1.00 | 0006 | 02 |
| | | 12+76, LT | | 1.00 | 0006 | 02 |
| | | 14+47, LT | | 1.00 | 0006 | 02 |
| | | 15+19, LT | | 1.00 | 0006 | 02 |
| | | 16+39, LT | | 1.00 | 0006 | 02 |

# Distribution of Quantities

Project Name - Broadway Streetscape Improvement Project
Estimate Name - Addendum No. 2
R.I. Contract No. - 2014-CH-071
FAP Nos: 3RD-PRTY(225), STP-RESF(284), STP-SRTS-004, STP-TAPS(003)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|---|---|---|---|---|---|---|
| **213** | **702.9903 Cont.** | 19+12, LT | | 1.00 | 0006 | 02 |
| | | 19+15, RT | | 1.00 | 0006 | 02 |
| | | 20+15, LT | | 1.00 | 0006 | 02 |
| | | 21+93, LT | | 1.00 | 0006 | 02 |
| | | 23+40, LT | | 1.00 | 0006 | 02 |
| | | 24+04, RT | | 1.00 | 0006 | 02 |
| | | 24+86, RT | | 1.00 | 0006 | 02 |
| | | 24+99, LT | | 1.00 | 0006 | 02 |
| | | 25+16, LT | | 1.00 | 0006 | 02 |
| | | 25+50, RT | | 1.00 | 0006 | 02 |
| | | 26+44, RT | | 1.00 | 0006 | 02 |
| | | 27+13, RT | | 1.00 | 0006 | 02 |
| | | 28+28, RT | | 1.00 | 0006 | 02 |
| | | 28+32, LT | | 1.00 | 0006 | 02 |
| | | 29+91, RT | | 1.00 | 0006 | 02 |
| | | 30+70, RT | | 1.00 | 0006 | 02 |
| | | **Item 702.9903 Total:** | | **24.00** | | |
| **214** | **904.9901** | **BLUESTONE PAVERS FOR SIDEWALK** | **SY** | | | |
| | | BROADWAY | | | | |
| | | 10+04 TO 10+34, LT | | 32.40 | 0006 | 02 |
| | | ROUNDING | | 2.60 | 0006 | 02 |
| | | **Item 904.9901 Total:** | | **35.00** | | |
| **215** | **T02.9910** | **MAINTENANCE OF EXISTING LIGHTING SYSTEM** | **EACH** | | | |
| | | BROADWAY | | | | |
| | | PROJECT WIDE | | 20,000.00 | 0021 | 09 |
| | | **Item T02.9910 Total:** | | **20,000.00** | | |
| **216** | **T08.9906** | **TYPE "D" DECORATIVE POLE/LUMINAIRE (120W LED)** | **EACH** | | | |
| | | BROADWAY | | | | |

# Distribution of Quantities

Project Name - Broadway Streetscape Improvement Project
Estimate Name - Addendum No. 2
R.I. Contract No. - 2014-CH-071
FAP Nos: 3RD-PRTY(225), STP-RESF(284), STP-SRTS-004, STP-TAPS(003)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|---|---|---|---|---|---|---|
| **216** | **T08.9906 Cont.** | 10+69, LT | | 1.00 | 0021 | 09 |
| | | 11+15, RT | | 1.00 | 0021 | 09 |
| | | 11+91, LT | | 1.00 | 0021 | 09 |
| | | 12+25, RT | | 1.00 | 0021 | 09 |
| | | 12+81, LT | | 1.00 | 0021 | 09 |
| | | 13+23, RT | | 1.00 | 0021 | 09 |
| | | 13+63, LT | | 1.00 | 0021 | 09 |
| | | 14+14, RT | | 1.00 | 0021 | 09 |
| | | 15+16, RT | | 1.00 | 0021 | 09 |
| | | CONTINGENCY | | | | |
| | | PROJECT WIDE | | 2.00 | 0021 | 09 |
| | | **Item T08.9906 Total:** | | **11.00** | | |

| R-1 | FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| | | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(004) | 2014 | 1 | 88 |

## INDEX


| SHEET NO. | DESCRIPTION |
|---|---|
| 1 | COVER SHEET |
| 2 | STANDARD PLAN SYMBOLS & STANDARD LEGEND |
| 3-4 | STANDARD NOTES |
| 5 | JOB SPECIFIC PLAN SYMBOLS, LEGEND & NOTES |
| 6 | KEY PLAN |
| 7-9 | TYPICAL SECTIONS |
| 10-15 | GENERAL PLANS |
| 16-19 | PROFILES |
| 20-23 | GRADING PLANS |
| 24-29 | LOCATION PLANS |
| 30-35 | DRAINAGE & UTILITY PLANS |
| 36-39 | LIGHTING PLANS |
| 40-42 | LIGHTING DETAILS |
| 43-48 | SIGN AND PAVEMENT MARKING PLANS |
| 49-50 | SIGN SUMMARY |
| 51-55 | MAINTENANCE & PROTECTION OF TRAFFIC PLANS |
| 56-59 | LANDSCAPE PLANS |
| 60-63 | LANDSCAPE IMPROVEMENT PLANS |
| 64-71 | LANDSCAPE DETAILS |
| 72-73 | CONSTRUCTION DETAILS |
| 74-88 | CROSS SECTIONS |


STATE OF RHODE ISLAND

# DEPARTMENT OF TRANSPORTATION

PLAN, PROFILE AND SECTIONS OF PROPOSED

# BROADWAY

# STREETSCAPE IMPROVEMENT PROJECT

## FAREWELL STREET TO BLISS ROAD

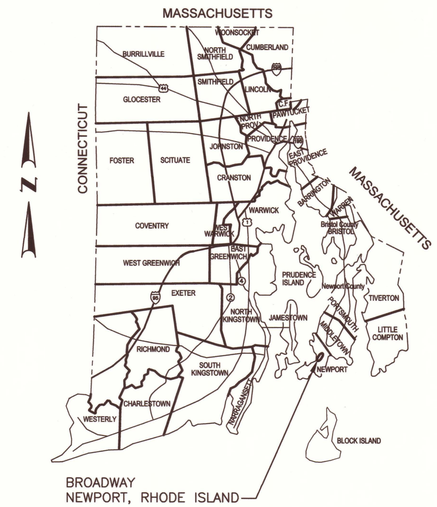
CITY OF NEWPORT
COUNTY OF NEWPORT

RI CONTRACT NO. 2014-CH-071, F.A. PROJECT NO'S. STP-RESF(284), STP-TAPS(003), STP-SRTS(004), 3RD-PRTY(225)

**PAVEMENT STRUCTURE (FDC)**
2" MODIFIED CLASS 12.5 HMA WITH PAY FACTORS
5" CLASS 19 HMA WITH PAY FACTORS (TWO-2.5" LIFTS)
3"± SELECT LEVELING & FILLER AGGREGATE OR
12" GRAVEL BORROW SUBBASE COURSE

**PAVEMENT STRUCTURE (MMO)**
2" MICRO-MILLING
2" MODIFIED CLASS 12.5 HMA WITH PAY FACTORS

0.7 MILES

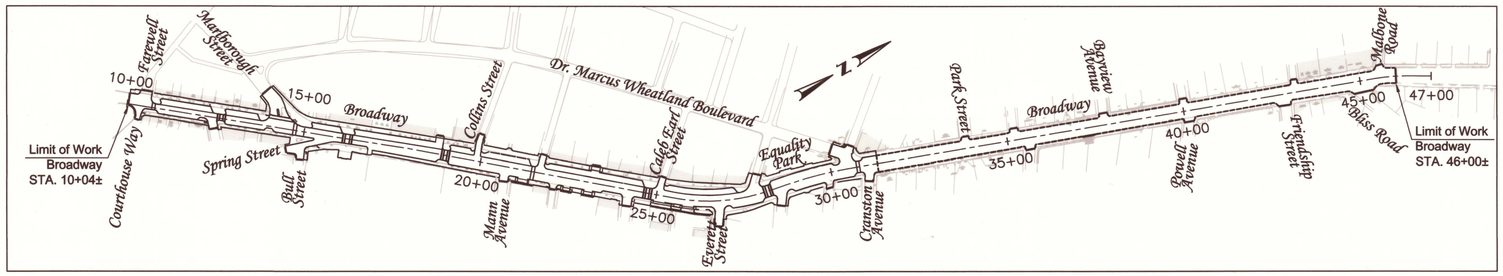



**LOCATION MAP**
SCALE: 1"=8 MILES

**DESIGN DESIGNATION**
DESIGN SPEED 30 M.P.H.

**R.I. STANDARD SPECIFICATIONS AND STANDARD DETAILS**

SPECIFICATIONS TO GOVERN THIS PROJECT ARE THE R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED AUGUST 2013, WITH ALL REVISIONS AND THE STATE AND FEDERAL SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS. STANDARD DETAILS FOR THIS PROJECT ARE R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.




**LAYOUT PLAN**
SCALE: 1"=200'

REGISTERED PROFESSIONAL ARCHITECT
DONALD A. LEGRAND
No. 1137
RHODE ISLAND

SHEETS 56-71

LYNN BETH FARRINGTON
No. 11036
REGISTERED PROFESSIONAL ENGINEER
CIVIL

SHEETS 1-55, 72-88

**SCALES OF DRAWINGS**

| | | | |
|---|---|---|---|
| Plans | 1 inch = 20 feet | | |
| Profiles | 1 inch = 20 feet | Horizontal | |
| Profiles | 1 inch = 4 feet | Vertical | |
| Cross Sections | 1 inch = 4 feet | Horizontal | |
| Cross Sections | 1 inch = 4 feet | Vertical | |

BASE OF LEVELS
NGVD 29

NAD(83)


BETA
ENGINEERING SUCCESS TOGETHER
6 Blackstone Valley Place
Lincoln, RI 02865
401.333.2382
email: BETA@BETA-inc.com

Louis Berger
166 VALLEY STREET, BUILDING 5
PROVIDENCE, RI 02909
TEL. 401. 521. 5980
www.louisberger.com


Contract Number 2014-CH-071
Number of Sheet 1
Total Sheets 88

R.I. DEPARTMENT OF TRANSPORTATION

APPROVED
DEPUTY CHIEF ENGINEER — DATE 11/25/14
APPROVED
CHIEF ENGINEER — DATE 11/25/14
APPROVED
DIRECTOR — DATE 11/25/14

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR — DATE

ADDENDUM NO. 2

COVER.DWG

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP–RESF(284)<br>STP–TAPS(003)<br>STP–SRTS(004)<br>3RD–PRTT(225) | 2014 | 5 | 88 |

## CONSTRUCTION LAYOUT NOTES:

1. THE CONTRACTOR SHALL ESTABLISH ALL NECESSARY HORIZONTAL AND VERTICAL CONTROL AND SUBSEQUENTLY LAYOUT ALL LINE, GRADE AND STRUCTURES. THE RESIDENT ENGINEER WILL NOT AUTHORIZE CONSTRUCTION ACTIVITIES TO COMMENCE UNTIL HE IS SATISFIED THAT ALL GROUND CONTROL HAS BEEN ESTABLISHED, TIED DOWN, AND DULY RECORDED IN STANDARD FIELD BOOKS. A SURVEY IN ACCORDANCE WITH SECTION 934 WILL BE PREPARED BY THE CONTRACTOR.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT EXISTING CONDITIONS ARE NOT OBLITERATED BEFORE CONTROL IS ESTABLISHED. THE CONTRACTOR SHALL ENSURE THAT CONSTRUCTION LAYOUT IS PROVIDED IN SUFFICIENT DETAIL, THEREBY ENABLING HIM TO CONSTRUCT THE PROJECT IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

## GENERAL NOTES:

1. REFERENCES TO "AT NO ADDITIONAL COST/EXPENSE TO THE STATE" ON SHEET 3 SHALL MEAN "AT NO ADDITIONAL COST/EXPENSE TO THE STATE AND/OR CITY".
2. REFERENCES TO "RIDOT LANDSCAPE REPRESENTATIVE" ON SHEET 4 SHALL MEAN "CITY REPRESENTATIVE".
3. ALL UTILITIES NOT REFERENCED FOR MODIFICATION WILL BE "EXISTING TO REMAIN" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. UPON REMOVAL OF EXISTING SIDEWALKS AND ROADWAY PAVEMENT BY THE CONTRACTOR, THE ENGINEER WILL MAKE A DETERMINATION OF THE SUITABILITY OF THE EXISTING GRAVEL BORROW SUBBASE FOR RE–USE. IF EXISTING MATERIAL IS DETERMINED TO BE UNSUITABLE FOR REUSE AS GRAVEL BORROW SUBBASE, THE CONTRACTOR SHALL REMOVE THE EXISTING BASE MATERIAL BELOW PROPOSED SIDEWALKS AND ROADWAY, AND PLACE NEW GRAVEL BORROW SUBBASE TO THE DEPTH SHOWN ON THE PLANS AND DETAILS.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO WALLS, BUILDINGS, FENCES AND WALKS THAT ARE ABUTTING SIDEWALKS AND DRIVEWAYS DESIGNATED FOR REPLACEMENT. WHERE INDICATED OR DIRECTED, THE CONTRACTOR SHALL FULL DEPTH SAWCUT THE SIDEWALK SIX (6) INCHES IN FRONT OF ALL WALLS, BUILDINGS, FENCES, LOT CURB, ETC., PRIOR TO REMOVING SIDEWALK PAVEMENT. CONTRACTOR SHALL USE HAND EXCAVATION METHODS FOR LAST SIX (6) INCHES UP TO WALLS AND BUILDINGS.
6. NEW CURBING SHALL MEET AND MATCH CURBING ON SIDE STREETS WHERE SIDEWALKS TERMINATE IN CURBED AREAS.
7. CONTRACTOR TO INSTALL PREFORMED JOINT FILLER AT ALL PROPOSED SIDEWALK LOCATIONS THAT ABUT EXISTING CONCRETE FOUNDATIONS, WALLS, NEW SIGN POSTS, OR UTILITY STRUCTURES.
8. ACCORDING TO BEST INFORMATION, THE PAVEMENT STRUCTURE ALONG BROADWAY IS MADE UP OF BIT. CONC. SURFACE COURSE (3"±) OVER CEM. CONC. BASE (8"±). IN ORDER TO PLACE NEW FULL DEPTH CONSTRUCTION, THE CEM. CONC. BASE SHALL BE REMOVED.
9. GENERAL NOTE #13 ON SHEET 3 IS NOT APPLICABLE TO THIS PROJECT.

## DRAINAGE & UTILITY NOTES:

1. ALL REINFORCED CONCRETE PIPE SHALL BE AASHTO, CLASS III WITH MORTAR JOINTS UNLESS OTHERWISE NOTED.
2. ALL DUCTILE IRON PIPE FOR DRAINAGE SHALL BE CLASS 52, CEMENT–LINED.
3. ALL BACKFILL ADJACENT TO DRAINAGE STRUCTURES SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH AASHTO T–180 METHOD C OR D.
4. ALL PROPOSED DRAINAGE STRUCTURES SHALL BE OF PRECAST CONCRETE CONSTRUCTION UNLESS OTHERWISE INDICATED ON THE PLANS OR AUTHORIZED BY THE ENGINEER.
5. EXISTING PIPE INVERT ELEVATIONS SHOWN ON THE DRAINAGE AND UTILITY PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING, ESTABLISHING AND/OR MODIFYING INVERT ELEVATIONS DURING CONSTRUCTION. ANY MODIFICATIONS SHALL BE APPROVED BY THE ENGINEER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING ANY EXISTING DRAINAGE STRUCTURE OR PIPES/CULVERTS THAT ENTER ANY PORTION OF AN EXISTING DRAINAGE STRUCTURE OR CULVERT SYSTEM SCHEDULED TO BE MODIFIED PER THE CONSTRUCTION DRAWINGS ALL ABANDONED PIPES SHALL BE PLUGGED WITH A BRICK AND MORTAR PLUG.
7. BACKFILL FOR CATCH BASINS, MANHOLES AND PIPE TO BE REMOVED SHALL BE REPLACED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND WILL BE INCLUDED IN THE COST OF THE ITEM TO BE REMOVED.
8. ALL EXISTING ROADWAY BOXES AND SIDEWALK CURB STOPS FOR ALL UTILITIES WITHIN THE PROJECT WORK LIMITS SHALL BE ADJUSTED TO GRADE AS REQUIRED OR AS DIRECTED BY THE ENGINEER.

## SIGN AND PAVEMENT MARKING NOTES:

1. ALL SIGNS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION WITH THE LATEST REVISIONS, AND THE CITY OF NEWPORT SIGN DETAILS
2. ALL PERMANENT PAVEMENT MARKINGS SHALL BE EPOXY RESIN PAVEMENT MARKINGS. TEMPORARY PAVEMENT MARKINGS SHALL BE FAST – DRYING WATERBORNE PAINT.
3. ALL PAVEMENT MARKINGS ARE TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION, WITH THE LATEST REVISIONS.
4. STOP BARS SHALL BE PLACED A MINIMUM OF FOUR (4) FEET BEHIND AND PARALLEL TO THE CROSSWALKS.
5. ALL SIGNS SHALL BE HIGH INTENSITY TYPE IV MIN. PRISMATIC SHEETING (SEE CITY SPECIFICATIONS).
6. ALL SIGN POSTS AND SIGN HARDWARE SHALL BE FURNISHED WITH A BLACK FINISH.

## ELECTRIC LIGHTING GENERAL NOTES

SEE LIGHTING PLANS (SHEETS 36–39)

## MAINTENANCE AND PROTECTION OF TRAFFIC NOTES

SEE MAINTENANCE AND PROTECTION OF TRAFFIC PLANS (SHEETS 51–55)

## ROADWAY & UTILITY LEGEND

| | |
|---|---|
| 1.1.5 | TREE PIT UNDERDRAIN |
| 3.4.1M | DRIVEWAY BASIN AND GUTTER INLET STANDARD 3.4.1 (MODIFIED) |
| 4.2.2M | PRECAST 8'–0" ROUND MANHOLE WITH 48" MANHOLE STACK |
| 4W | 4" EPOXY RESIN PAVEMENT MARKINGS – WHITE |
| 7.3.0 X" | GRANITE CURB SET AT X" REVEAL |
| 7.3.3R | GRANITE WHEELCHAIR RAMP RETURN CURB |
| 8W | 8" EPOXY RESIN PAVEMENT MARKINGS – WHITE |
| 19.6.0 | TRAFFIC DETECTORS–LOOP |
| 48.1.0R | RETROFIT EXIST. BLUESTONE WCR WITH 48.1.0 |
| AM | ADJUST MANHOLE |
| BCD–M | BITUMINOUS CONCRETE DRIVEWAY (MODIFIED) |
| CDC | CHIMNEY DRAIN CONNECTION |
| CDT | CUT AND DISPOSE TREE |
| CWR | RAISED PAVER CROSSWALK |
| CWF | FLUSH PAVER CROSSWALK |
| DBS | REMOVE AND DISPOSE BUS SHELTER |
| DTS | REMOVE AND DISPOSE TREE STUMP |
| DCWL | REMOVE AND DISPOSE CROSSWALK LIGHTING & APPURTENANCES |
| ETR | EXISTING TO REMAIN |
| FDC | FULL DEPTH CONSTRUCTION |
| MMO | MICRO–MILLING AND OVERLAY |
| NBSP | FURNISH AND INSTALL BLUESTONE PAVERS (SEE 7) |
| RBC | REMOVE AND RESET BLUESTONE CURB |
| RBSW | REMOVE AND RESET BLUESTONE SIDEWALK PAVERS |
| RCBC | RECONSTRUCT CB/CORBEL CONE |
| RCBM | RECONSTRUCT CATCH BASIN TO MANHOLE |
| RCMC | RECONSTRUCT MANHOLE/CORBEL CONES |
| RPB | RELOCATE PAPER BOX (BY OTHERS) |
| RRC | REMOVE AND RESET GRANITE CORNER |
| SBB | REMOVE AND STOCKPILE BELGIAN BLOCK |
| SBP | REMOVE AND STOCKPILE BRICK PAVERS |
| SBSP | REMOVE AND STOCKPILE BLUESTONE PAVERS |
| SBSS | REMOVE AND STOCKPILE BLUESTONE SLAB |
| SEB | REMOVE AND STOCKPILE EXISTING BENCH |
| SEBR–1 | REMOVE AND STOCKPILE EXISTING BIKE RACK–1 |
| SEBR–2 | REMOVE AND STOCKPILE EXISTING BIKE RACK–2 |
| SEBR–3 | REMOVE AND STOCKPILE EXISTING BIKE RACK–3 |
| SEBR–4 | REMOVE AND STOCKPILE EXISTING BIKE RACK–4 |
| SRC | REMOVE AND STOCKPILE GRANITE CORNER |
| SSC | REMOVE AND STOCKPILE STONE CURB |
| SSP | REMOVE AND STOCKPILE STONE PLANTER |
| STP | STAND PIPE |
| STR | REMOVE AND STOCKPILE TRASH RECEPTACLE |
| S–1 | FULL DEPTH SAWCUT CEMENT CONC SIDEWALK/DRIVEWAY |
| S–2 | SAWCUT PAVEMENT AND RIGID BASE (CUT AND MATCH) TRANS |
| S–3 | PARTIAL DEPTH SAWCUT BIT. CONC. PAVEMENT (CUT AND MATCH) TRANS |
| TRANS | PAVEMENT TRANSITION AT LIMITS OF WORK (SEE SHEET 73) |
| | DETECTABLE WARNING SYSTEM (ALSO SHOWN AS 48.1.0) |
| | DETECTABLE WARNING SYSTEM AT RAISED CROSSWALK |

## TYPICAL SIGN DESIGNATION SYMBOL

SIGN ASSEMBLY NUMBER
MUTCD SIGN NUMBER(S) AND SIZE(S)
SIGN MOUNTING, R.I. STD.

ADDENDUM NO. 2

## LANDSCAPE LEGEND

| | |
|---|---|
| ALS | AMENDED LOAM SOIL |
| BOL | BOLLARD |
| BR | BIKE RACK |
| BOLCH | BOLLARD AND CHAIN |
| BS | BLUESTONE SLAB |
| BSM | BIO–SWALE SOIL MEDIA |
| BTA | BENCH TYPE 'A' |
| BTB | BENCH TYPE 'B' |
| BTC | BENCH TYPE 'C' |
| CPD | CIRCULAR PAVING DETAIL |
| CSB | CUT STONE TYPES |
| CW1–F | CROSSWALK 1 – FLUSH |
| CW2–R | CROSSWALK 2 – RAISED |
| CW3–F | CROSSWALK 3 – FLUSH |
| CW4–F | CROSSWALK 4 – FLUSH |
| CW5–R | CROSSWALK 5 – RAISED |
| CW6–R | CROSSWALK 6 – RAISED |
| CW7–F | CROSSWALK 7 – FLUSH |
| CW8–R | CROSSWALK 8 – RAISED |
| CW9–R | CROSSWALK 9 – RAISED |
| CW10–F | CROSSWALK 10 – FLUSH |
| CSF | CUT STONE FOUNDATION |
| CSID | CUT STONE INSTALLATION DETAIL |
| EBR–1 | RESET EXISTING BIKE RACK–1 |
| EBR–2 | RESET EXISTING BIKE RACK–2 |
| EBR–3 | RESET EXISTING BIKE RACK–3 |
| EBR–4 | RESET EXISTING BIKE RACK–4 |
| EP–1 | ENLARGEMENT PLAN 1 |
| SER | EDGE RESTRAINT |
| GER | GRANITE EDGE RESTRAINT |
| PL–1 | PLANTER 1 |
| PL–2 | PLANTER 2 |
| PL–3 | PLANTER 3 |
| PLAN | STEEL PLANTER |

## LANDSCAPE LEGEND (CONT.)

| | |
|---|---|
| PTA | PAVING TYPE 'A' PERMEABLE PAVING |
| PTB | PAVING TYPE 'B' CROSSWALKS AND SIDEWALKS |
| PTC | PAVING TYPE 'C' ACCENT BANDS |
| PTC–N | PAVING TYPE 'C' SIDEWALK 'N' (NARROW) |
| RAC | RIVERSTONE ACCENT PAVING |
| RAC–GB | RIVERSTONE ACCENT PAVING – GRAVEL BASE |
| RB | ROOT BARRIER |
| RBP | REMOVE, STOCKPILE AND RESET BRICK PAVERS |
| RCBB | REUSED COBBLESTONE PAVER |
| RGS | RAIN GARDEN SIGN |
| RS–1 | ROADWAY SECTION–1 |
| RS–2 | ROADWAY SECTION–2 |
| STRS | STRUCTURAL SOIL |
| TCM | TREE CONSERVATION MEASURES |
| TPA–1 | TREE PIT TYPE A – EXISTING TREE |
| TPB–1 | TREE PIT TYPE B – EXISTING TREE |
| TPB–2 | TREE PIT TYPE B – NEW TREE |
| TPC–1 | TREE PIT TYPE C – EXISTING TREE |
| TPC–2 | TREE PIT TYPE C – NEW TREE |
| TPD–1 | TREE PIT TYPE D – EXISTING TREE |
| TPE–1 | TREE PIT TYPE E – EXISTING TREE |
| TPF–A | TREE PIT TYPE F–A – NEW TREE |
| TPF–B | TREE PIT TYPE F–B – NEW TREE |
| TPF–C | TREE PIT TYPE F–C – NEW TREE |
| TPF–D | TREE PIT TYPE F–D – NEW TREE |
| TPG–L | TREE PIT TYPE G – LEFT |
| TPG–R | TREE PIT TYPE G – RIGHT |
| TR–1 | TRASH RECEPTACLE |
| TR–2 | RECYCLING RECEPTACLE PACKAGE |
| TRS | TRANSIT SHELTER |
| TRS–1 | TRANSIT SHELTER – 1 BAY |
| TT | TREE TRIMMING |

## LANDSCAPE LEGEND (CONT.)

| | |
|---|---|
| UBS 1 | URBAN BIO–SWALE 1 |
| UBS 2 | URBAN BIO–SWALE 2 |
| UBSP | URBAN BIO–SWALE PERSPECTIVE |
| UBSS | URBAN BIO–SWALE SECTION |
| 43.1.0M | EXPOSED AGGREGATE CONCRETE PAVING – 5" THICK SIDEWALK |
| 43.3.0M | EXPOSED AGGREGATE CONCRETE PAVING – 6" THICK WCR |
| 43.3.1M | EXPOSED AGGREGATE CONCRETE PAVING – 6" THICK WCR |
| 43.3.2M | EXPOSED AGGREGATE CONCRETE PAVING – 6" THICK WCR W/ CURB RETURNS |
| 43.5.0M | EXPOSED AGGREGATE CONCRETE PAVING – 8" THICK DRIVEWAY |

## ELECTRIC LIGHTING LEGEND (SEE LIGHTING PLANS–SHEETS 36–39)

| | |
|---|---|
| | SERVICE PEDESTAL–3R STAINLESS STEEL ENCLOSURE (PAINTED BLACK) W/100 AMP–120/240V.–1ø–3WIRE |
| A | TYPE "A" COMPOSITE HANDHOLE (13"x24"x18") 18.2.0 |
| A̸ | TYPE "A" COMPOSITE HANDHOLE FOR FUTURE COMM. (13"x24"x18") 18.2.0 |
| B | TYPE "B" COMPOSITE HANDHOLE (17"x30"x18") 18.2.2 |
| H | NGRID PRECAST LIGHT DUTY HANDHOLE – NG STD. 3327 |
| E | 2" RIGID STEEL CONDUIT TO UTILITY MANHOLE–SECONDARY SERVICE (3–#1 CU & 1–#6 CU GRD.) |
| S/L | 2" PVC SCH. 40 CONDUIT–LIGHTING CIRCUITS (SCH. 80 AT ROADWAY CROSSINGS) |
| | (2) 4" PVC SCH. 40 CONDUIT FOR FUTURE CITY COMMUNICATIONS (SCH. 80 AT ROADWAY CROSSINGS) |
| S/L S/L | 2" AND/OR 4" PVC SCH. 80 ROADWAY CROSSINGS |
| | ¾" PVC SCH. 40 CONDUIT – BOLLARD CIRCUIT |
| TYPE "A" | TYPE "A" DECORATIVE POLE (14') WITH 150 WATT HPS LUMINAIRE |
| TYPE "B" | TYPE "B" DECORATIVE POLE (18') WITH TWIN 150 WATT HPS LUMINAIRE |
| TYPE "C" | TYPE "C" DECORATIVE BOLLARD WITH 50 WATT HPS |
| N.G. | NATIONAL GRID ALUMINUM POLE |
| N–E | NEWPORT DECORATIVE POLE/LUMINAIRE – ELECTRIC HPS |
| N–G | NEWPORT DECORATIVE POLE/LUMINAIRE – GAS |
| R&S | REMOVE AND STACK |
| R&D | REMOVE AND DISPOSE |

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BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

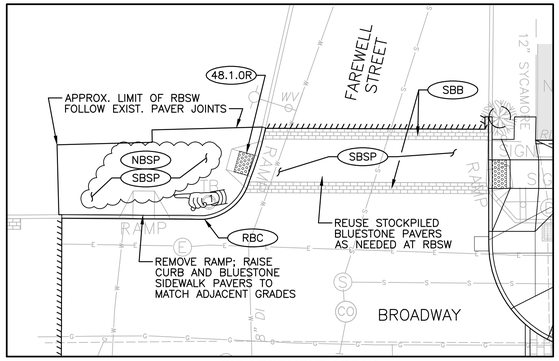
JOB SPECIFIC PLAN SYMBOLS, LEGENDS & NOTES

CHECKED BY MPW DATE 11/20/14 SCALE AS NOTED

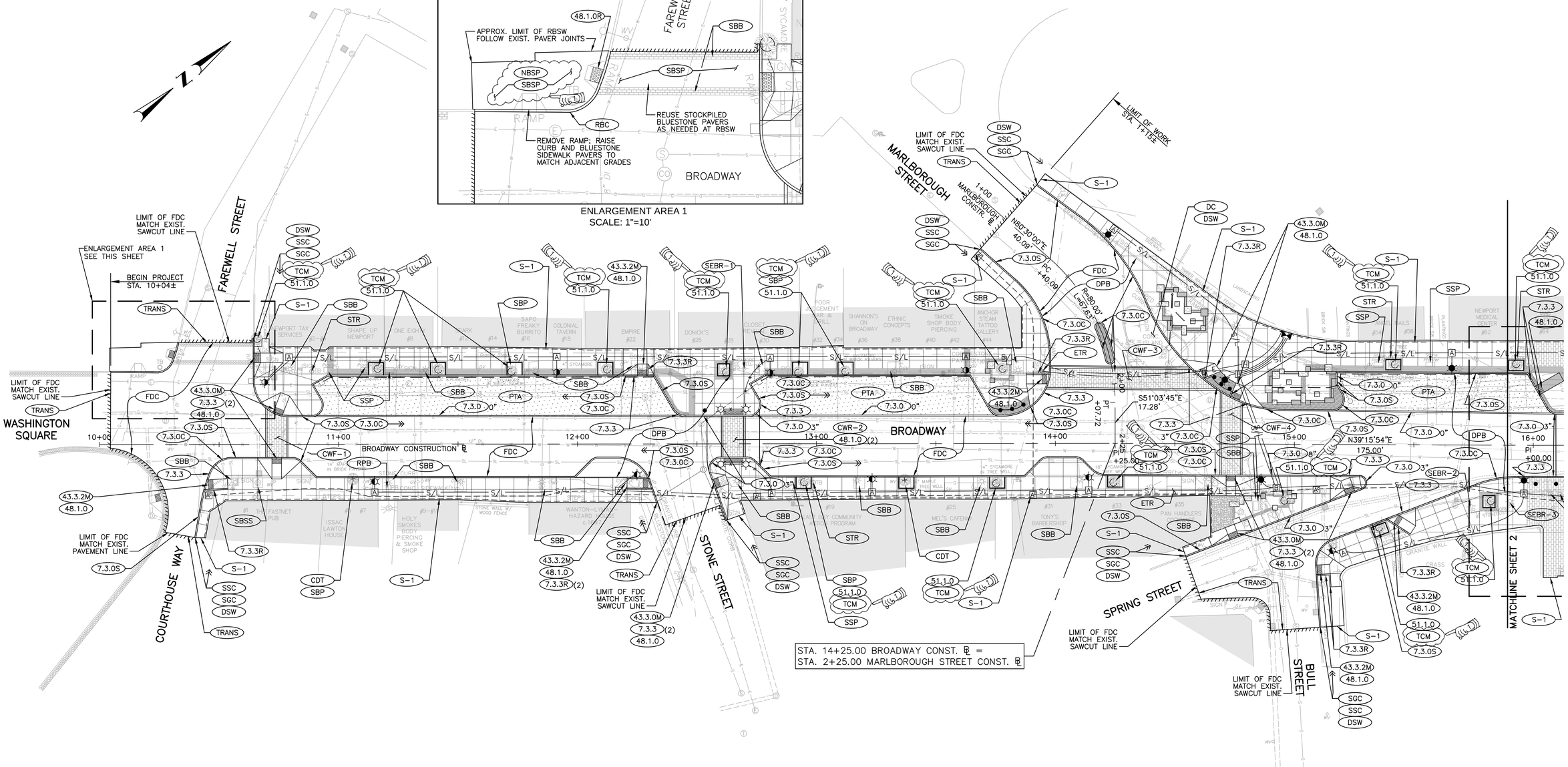
JOB SPECIFIC.DWG

R-1

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 10 | 88 |




ENLARGEMENT AREA 1
SCALE: 1"=10'




NOTE:

SEE LANDSCAPE IMPROVEMENT PLANS AND DETAILS (SHEETS 60 – 71) FOR PROPOSED SIDEWALK SURFACE TREATMENTS

20 0 20 40 80

HORIZONTAL SCALE IN FEET
SCALE 1" = 20'-0"

ADDENDUM NO. 2

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BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

GENERAL PLAN

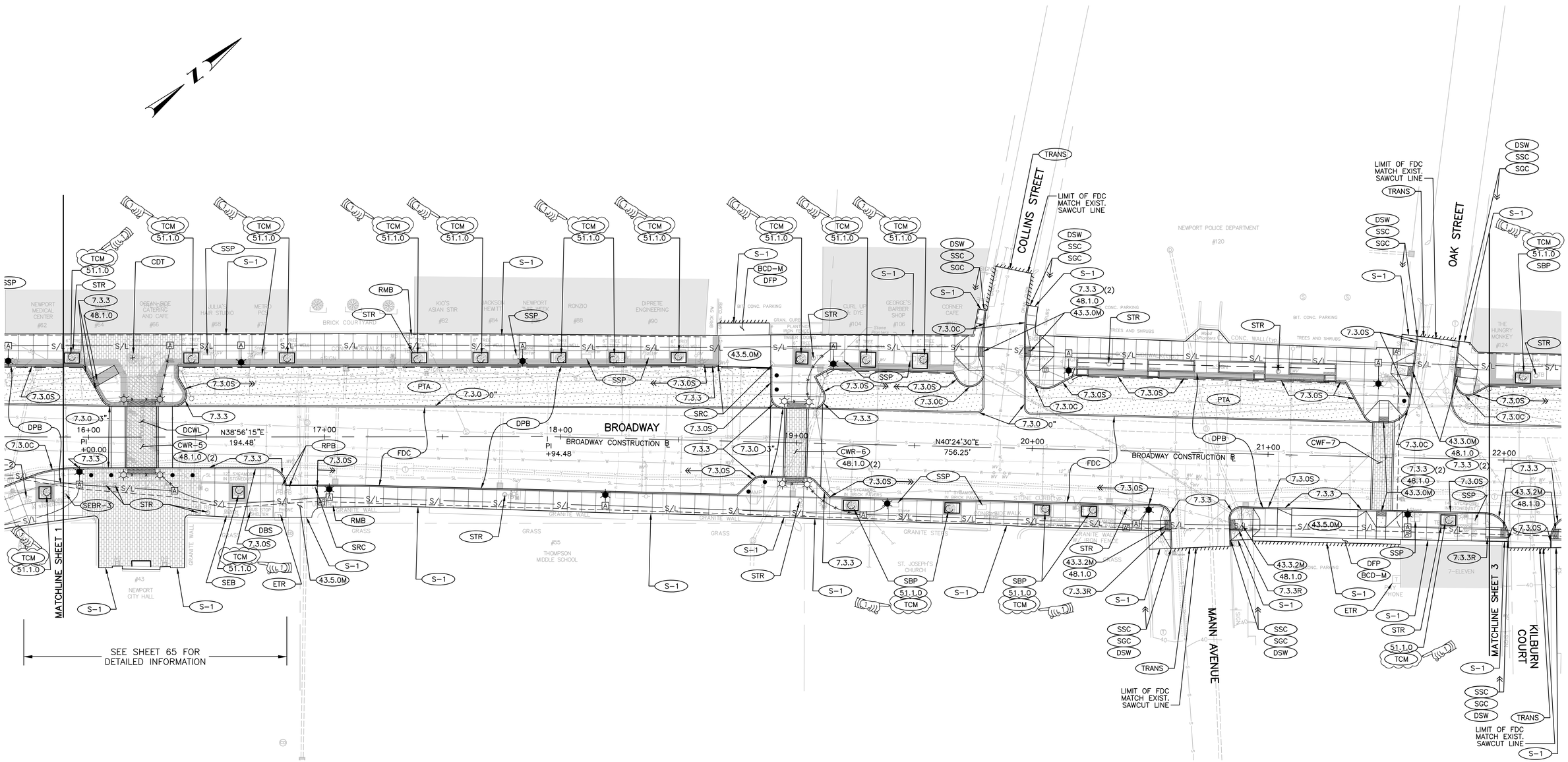
SHEET 1 OF 6

CHECKED BY PWS DATE 11/20/14 SCALE AS NOTED

GENERAL.DWG

R-1

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTI(225) | 2014 | 11 | 88 |




NOTE:

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20 0 20 40 80

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NEWPORT, RHODE ISLAND

GENERAL PLAN

SHEET 2 OF 6

CHECKED BY PWS DATE 11/20/14 SCALE AS NOTED

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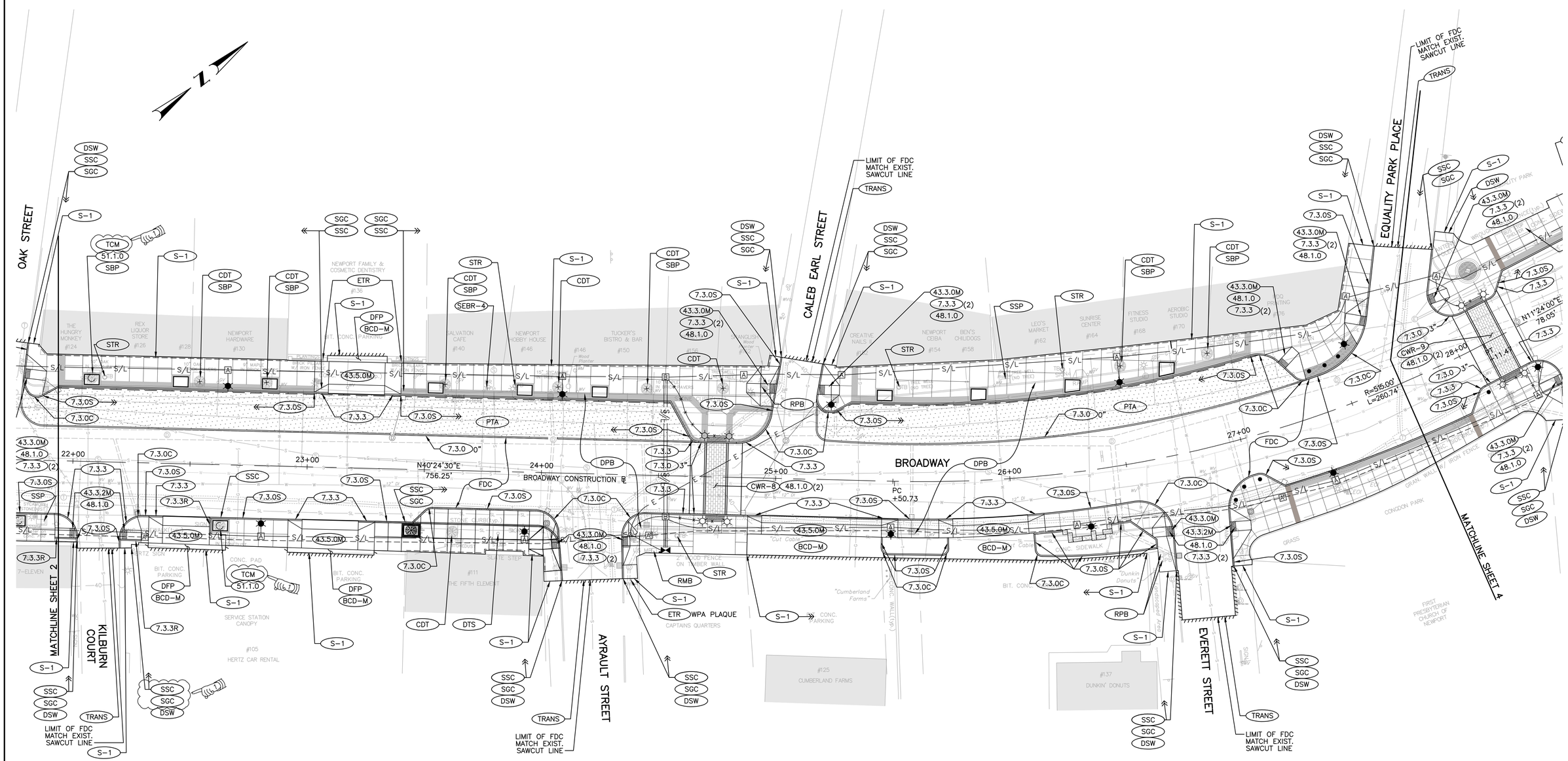
R–1

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP–RESF(284)<br>STP–TAPS(003)<br>STP–SRTS(002)<br>3RD–PRTY(225) | 2014 | 12 | 88 |

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# BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

## GENERAL PLAN

SHEET 3 OF 6

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GENERAL.DWG

R-1

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
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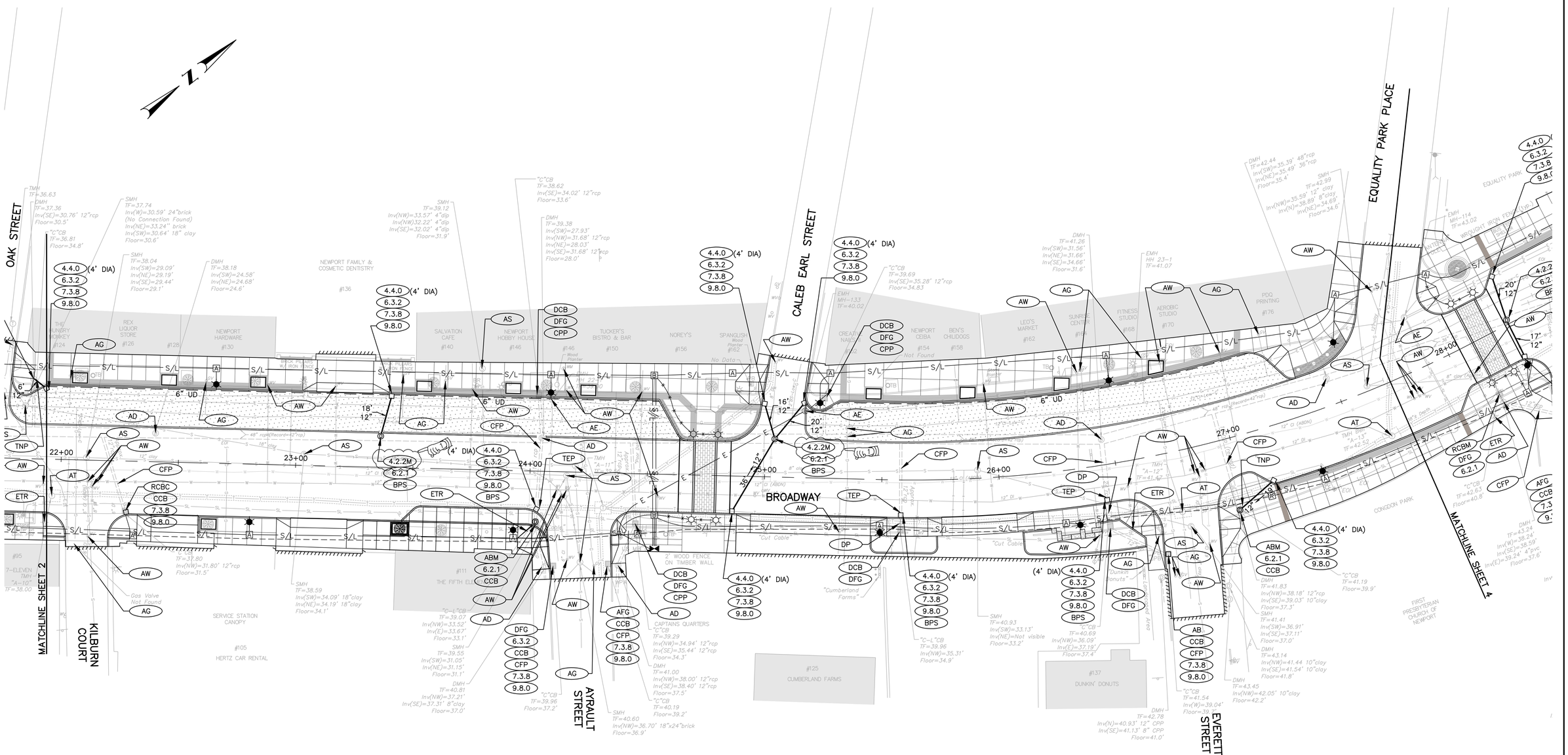


NOTES:
1. ALL DRAIN PIPE SHALL BE RCP UNLESS OTHERWISE NOTED.

ADDENDUM NO. 2

20 0 20 40 80
HORIZONTAL SCALE IN FEET
SCALE 1" = 20'-0"


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# BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

## DRAINAGE & UTILITY PLAN

SHEET 3 OF 6

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UTILITY.DWG

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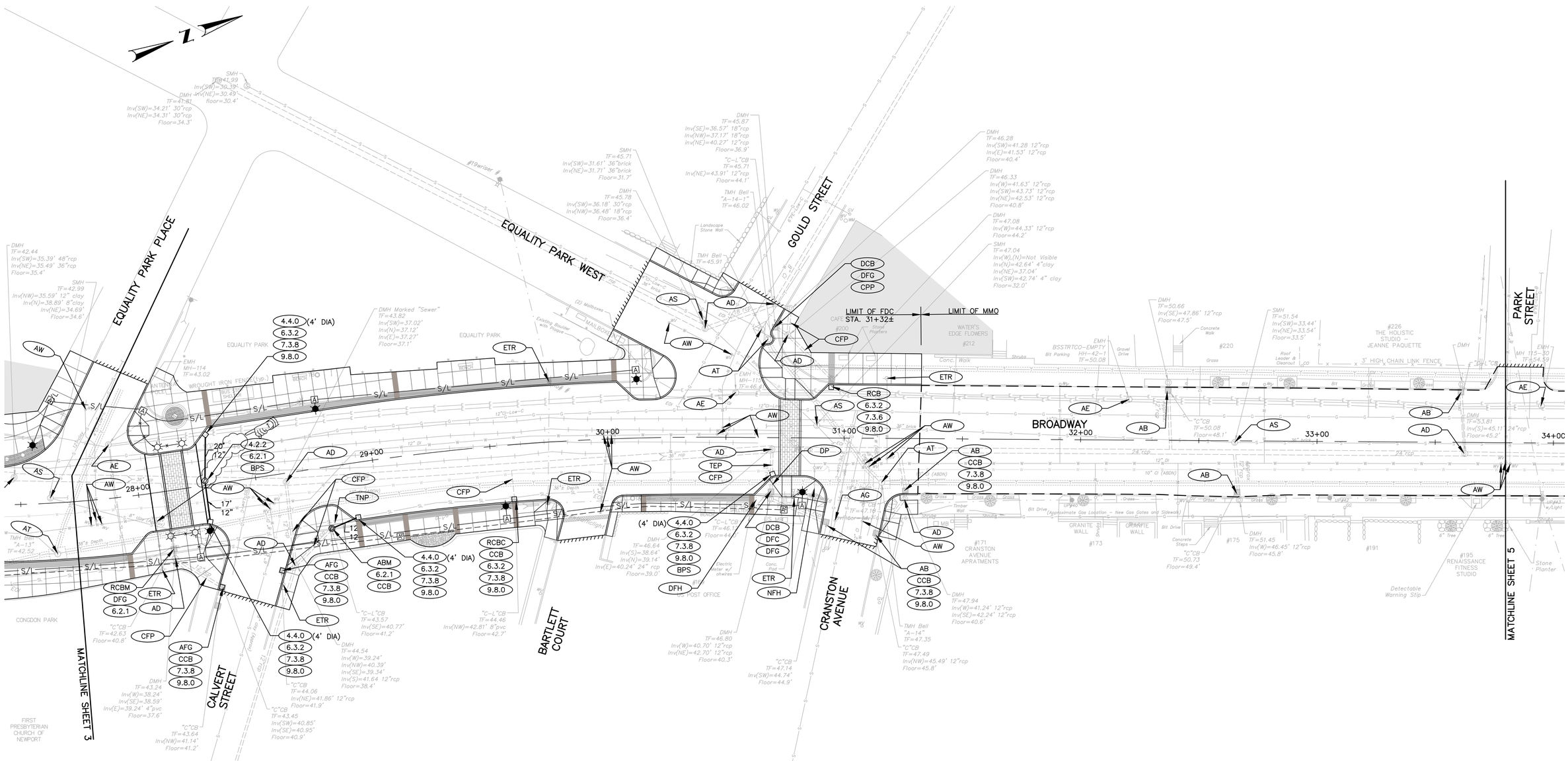
|---|---|---|---|---|---|---|
| | | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(004)<br>3RD-PRTY(225) | 2014 | 33 | 88 |




NOTES:
1. ALL DRAIN PIPE SHALL BE RCP UNLESS OTHERWISE NOTED.

ADDENDUM NO. 2

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HORIZONTAL SCALE IN FEET
SCALE 1" = 20'-0"

| REVISIONS | | |
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# BROADWAY STREETSCAPE IMPROVEMENT PROJECT

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## DRAINAGE & UTILITY PLAN

SHEET 4 OF 6


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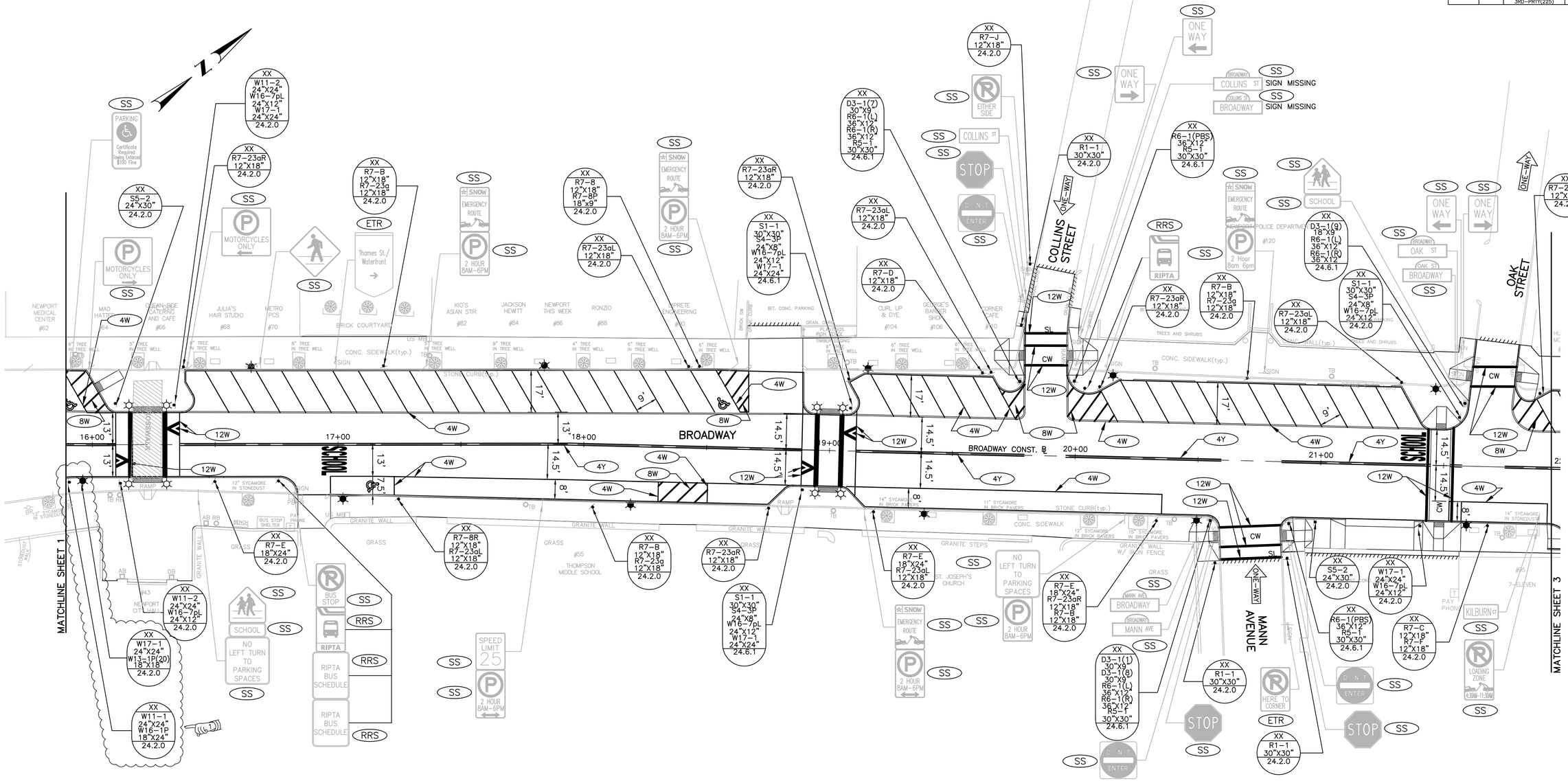
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(004)<br>3RD-PRTT(225) | 2014 | 44 | 88 |

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HORIZONTAL SCALE IN FEET

SCALE 1" = 20'-0"

ADDENDUM NO. 2

| REVISIONS | | |
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# BROADWAY STREETSCAPE IMPROVEMENT PROJECT

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## SIGN & PAVEMENT MARKING PLAN

SHEET 2 OF 6


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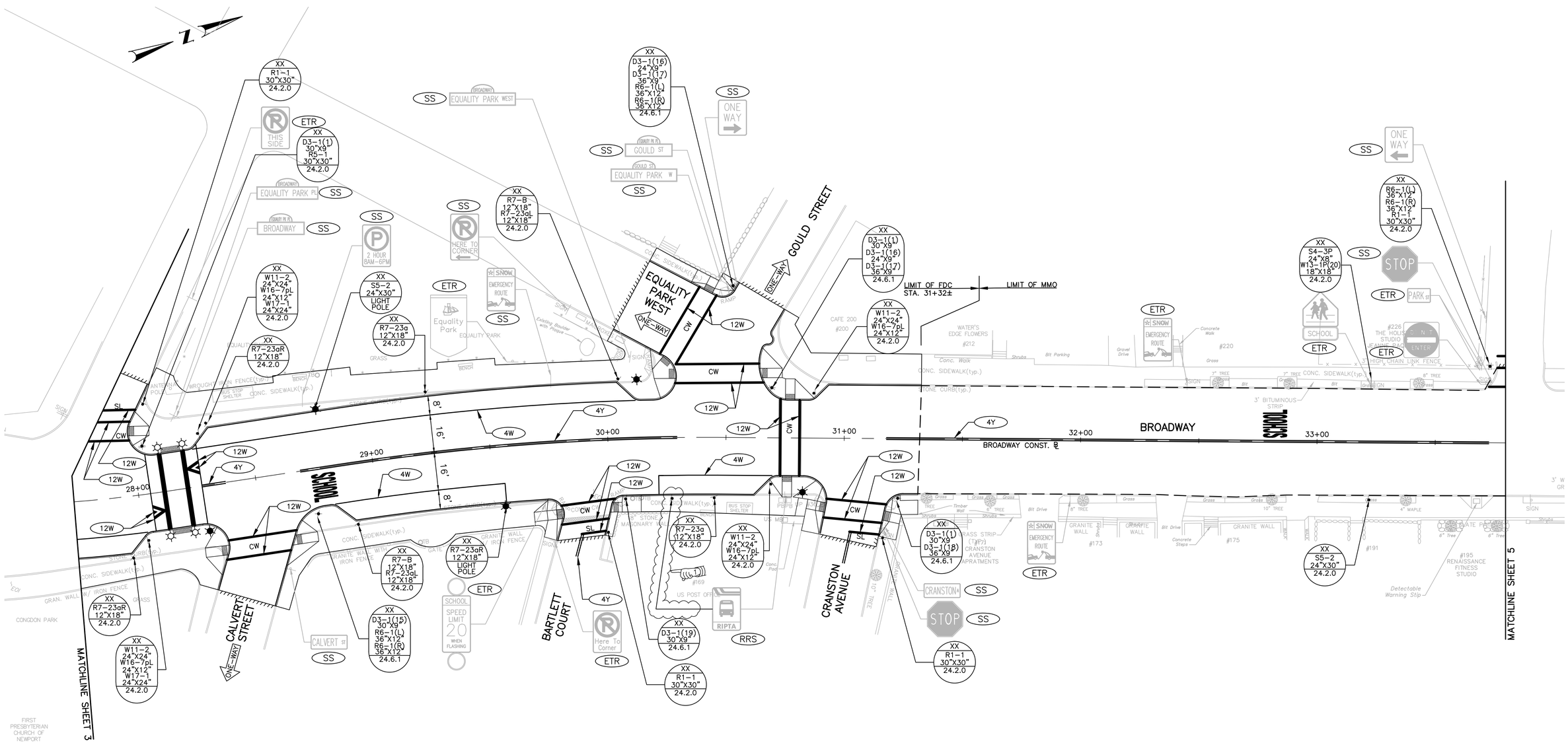
SIGN&PAVMENT.DWG

R-1

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 46 | 88 |




20 0 20 40 80

HORIZONTAL SCALE IN FEET

SCALE 1" = 20'-0"

ADDENDUM NO. 2

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BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

SIGN & PAVEMENT MARKING PLAN

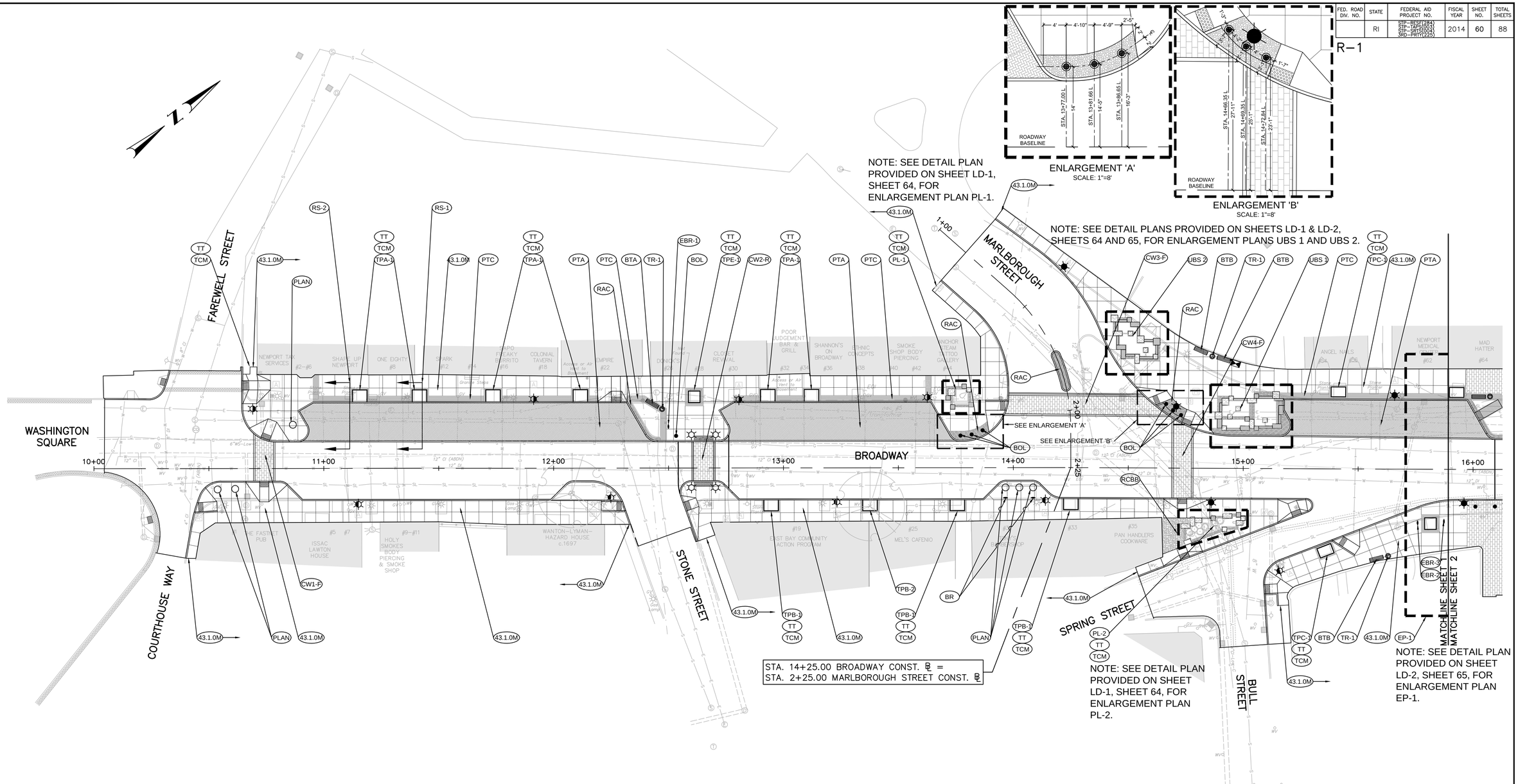
SHEET 4 OF 6

CHECKED BY LBF DATE 11/20/14 SCALE AS NOTED

SIGN&PAVMENT.DWG

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 60 | 88 |

R-1




NOTES:
1. SEE LANDSCAPE PLANS FOR PLACEMENT OF AMENDED LOAM SOIL (ALS) AND URBAN BIO-SWALE SOIL MEDIA (BSM).
2. ALL TREE CONSERVATION MEASURES (TCM) WORK IS TO BE DONE WHEN THE EXCAVATION OF THE SIDEWALK AND CURB IS ADJACENT TO TREE TRUNKS OR WITHIN THE DRIP LINE OF EXISTING TREES. THE CALLOUTS ARE ALSO SHOWN ON THE GENERAL PLANS.

ADDENDUM NO. 2

20 0 20 40 80
HORIZONTAL SCALE IN FEET
SCALE 1" = 20'-0"


BETA ENGINEERING SUCCESS TOGETHER
6 Blackstone Valley Place
Lincoln, RI 02865
401.333.2382
email: BETA@BETA-inc.com

Louis Berger
295 PROMENADE STREET
PROVIDENCE, RI 02908
TEL. 401. 521. 5980
www.louisberger.com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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

# BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

## LI-1 LANDSCAPE IMPROVEMENT PLAN

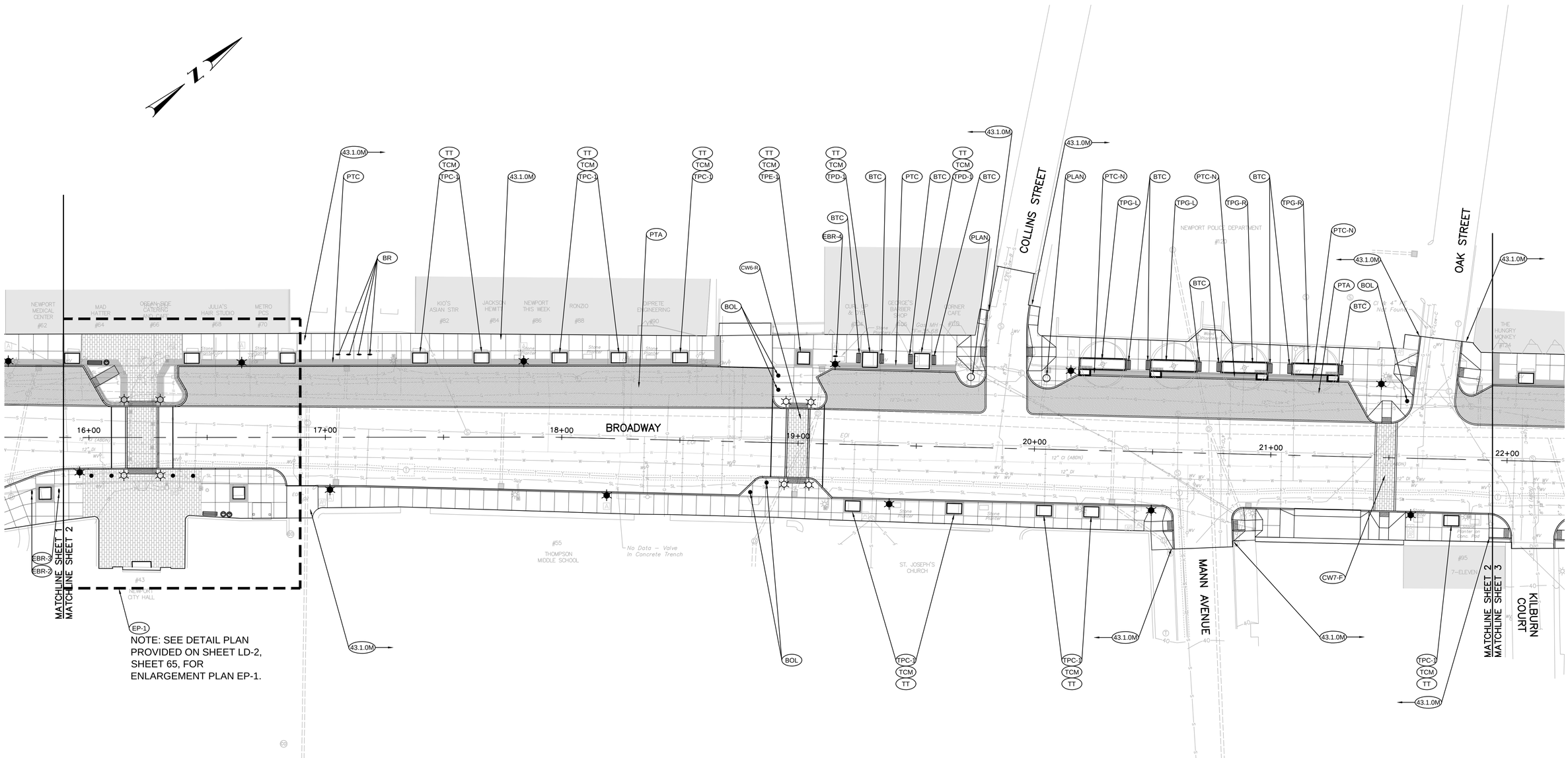
SHEET 1 OF 4

CHECKED BY AG DATE 11/20/14 SCALE AS NOTED

HARDSCAPE.DWG

R–1

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP–RESF(284)<br>STP–TAPS(003)<br>STP–SRTS(004)<br>3RD–PRTY(225) | 2014 | 61 | 88 |




NOTES:

1. SEE LANDSCAPE PLANS FOR PLACEMENT OF AMENDED LOAM SOIL (ALS) AND URBAN BIO-SWALE SOIL MEDIA (BSM).
2. ALL TREE CONSERVATION MEASURES (TCM) WORK IS TO BE DONE WHEN THE EXCAVATION OF THE SIDEWALK AND CURB IS ADJACENT TO TREE TRUNKS OR WITHIN THE DRIP LINE OF EXISTING TREES. THE CALLOUTS ARE ALSO SHOWN ON THE GENERAL PLANS.

20 0 20 40 80

HORIZONTAL SCALE IN FEET
SCALE 1" = 20'-0"

ADDENDUM NO. 2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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

# BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

## LI-2 LANDSCAPE IMPROVEMENT PLAN

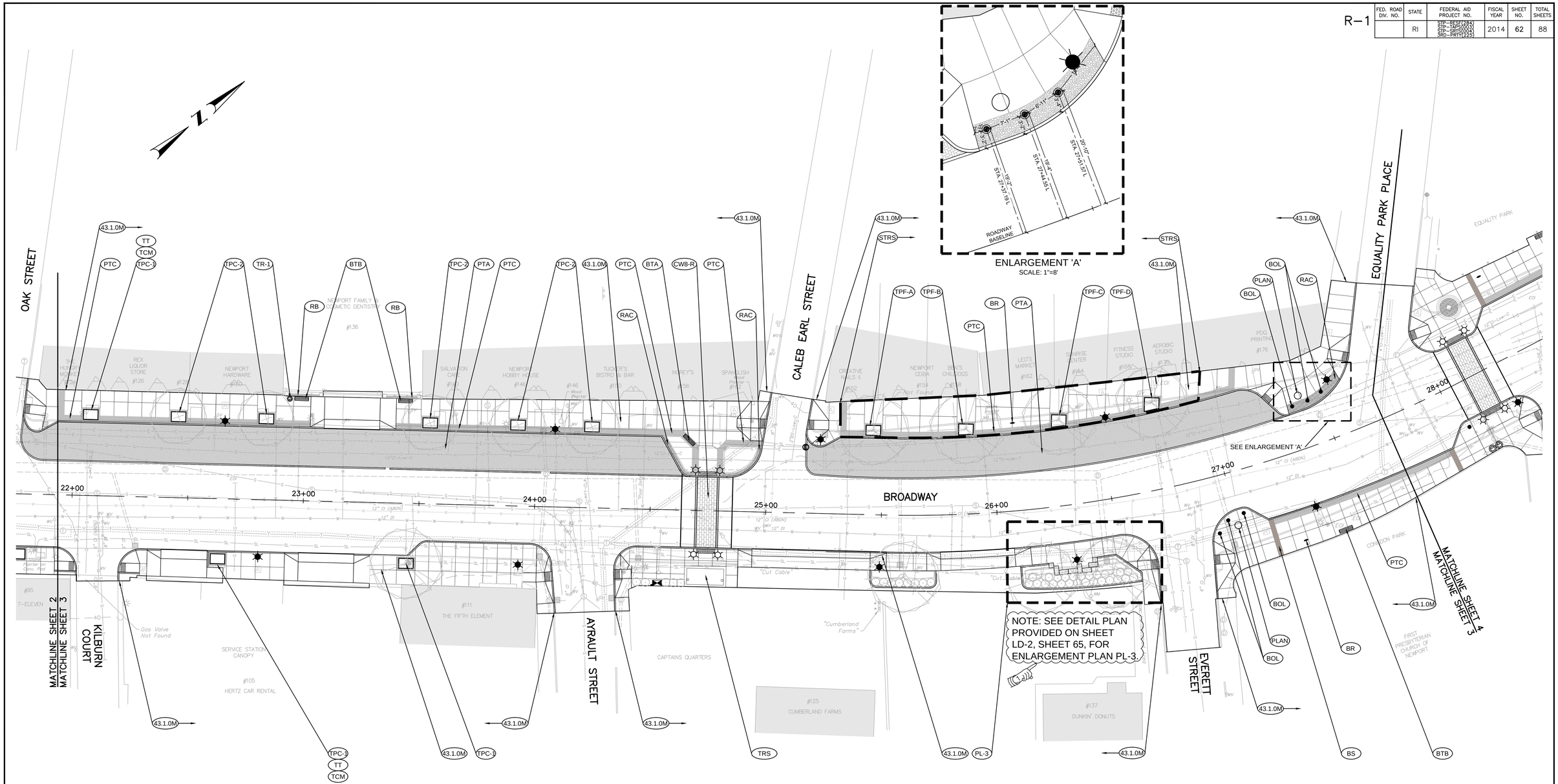
SHEET 2 OF 4

CHECKED BY AG DATE 11/20/14 SCALE AS NOTED

HARDSCAPE.DWG

R–1

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP–RESF(284)<br>STP–TAPS(003)<br>STP–SRTS(004)<br>3RD–PRTY(225) | 2014 | 62 | 88 |




NOTES:
1. SEE LANDSCAPE PLANS FOR PLACEMENT OF AMENDED LOAM SOIL (ALS) AND URBAN BIO-SWALE SOIL MEDIA (BSM).
2. ALL TREE CONSERVATION MEASURES (TCM) WORK IS TO BE DONE WHEN THE EXCAVATION OF THE SIDEWALK AND CURB IS ADJACENT TO TREE TRUNKS OR WITHIN THE DRIP LINE OF EXISTING TREES. THE CALLOUTS ARE ALSO SHOWN ON THE GENERAL PLANS.

ADDENDUM NO. 2

20 0 20 40 80
HORIZONTAL SCALE IN FEET
SCALE 1" = 20'-0"

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# BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

## LI-3 LANDSCAPE IMPROVEMENT PLAN

SHEET 3 OF 4

CHECKED BY AG DATE 11/20/14 SCALE AS NOTED

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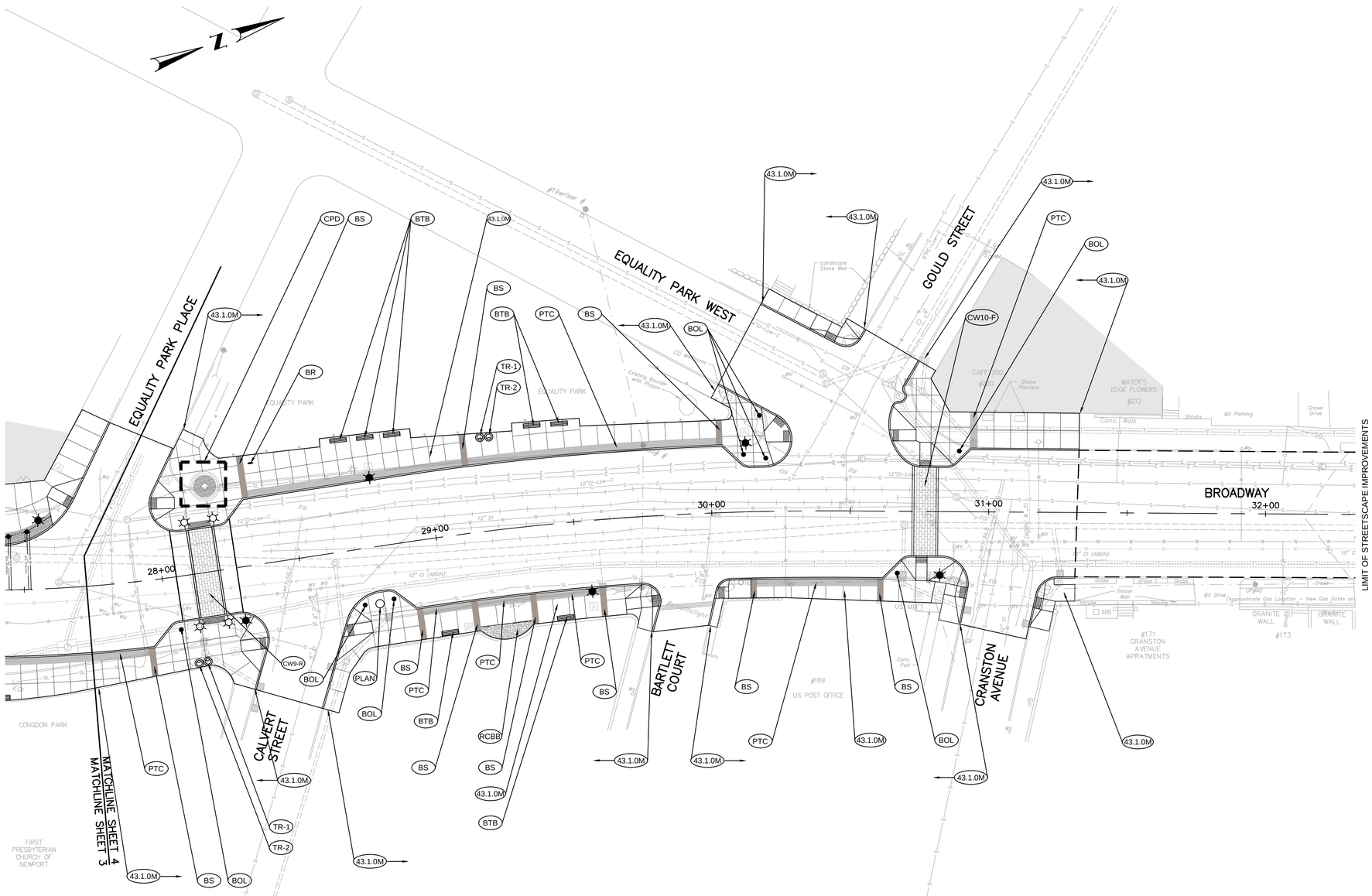
| R-1 | FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| | | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(004)<br>3RD-PRTY(225) | 2014 | 63 | 88 |




NOTES:

1. SEE LANDSCAPE PLANS FOR PLACEMENT OF AMENDED LOAM SOIL (ALS) AND URBAN BIO-SWALE SOIL MEDIA (BSM).
2. ALL TREE CONSERVATION MEASURES (TCM) WORK IS TO BE DONE WHEN THE EXCAVATION OF THE SIDEWALK AND CURB IS ADJACENT TO TREE TRUNKS OR WITHIN THE DRIP LINE OF EXISTING TREES. THE CALLOUTS ARE ALSO SHOWN ON THE GENERAL PLANS.

ADDENDUM NO. 2

20 0 20 40 80

HORIZONTAL SCALE IN FEET
SCALE 1" = 20'-0"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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

# BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

## LI-4 LANDSCAPE IMPROVEMENT PLAN

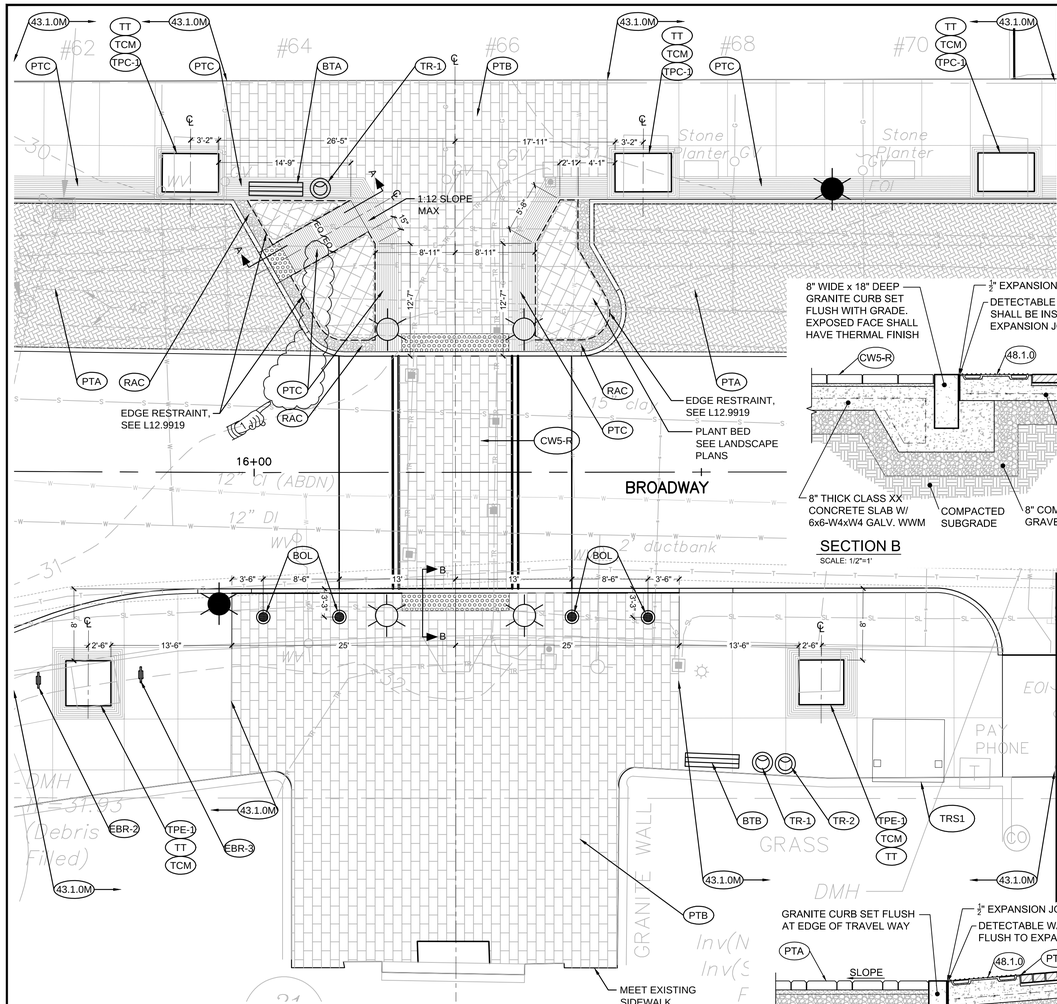
SHEET 4 OF 4

CHECKED BY AG DATE 11/20/14 SCALE AS NOTED

HARDSCAPE.DWG

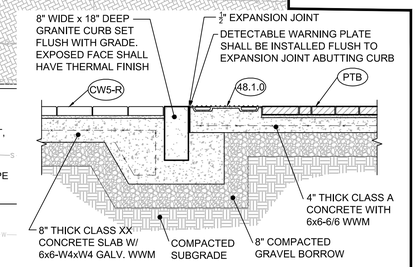
| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(004)<br>3RD-PRIT(225) | 2014 | 65 | 88 |

R-1



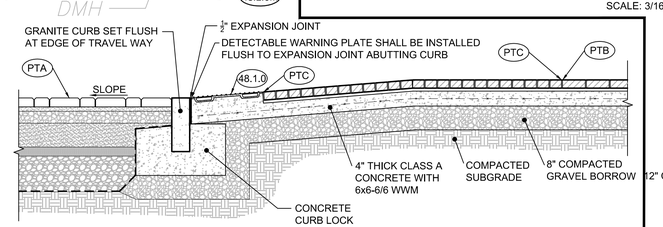

## EP-1 ENLARGEMENT PLAN IN FRONT OF CITY HALL

SCALE: 1/8"-1'



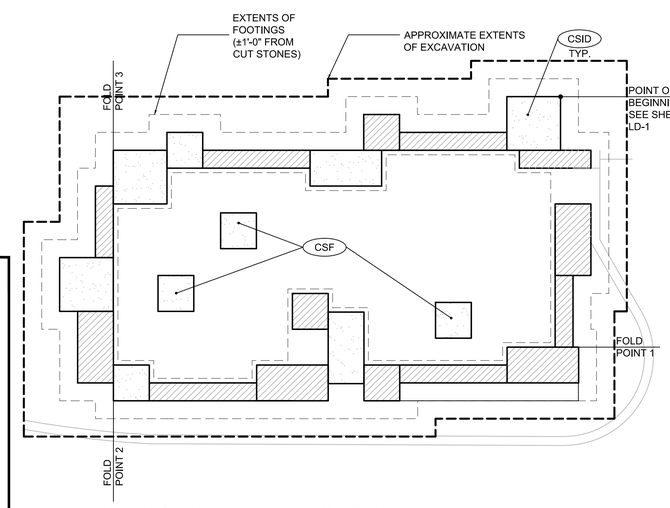

## SECTION B

SCALE: 1/2"=1'



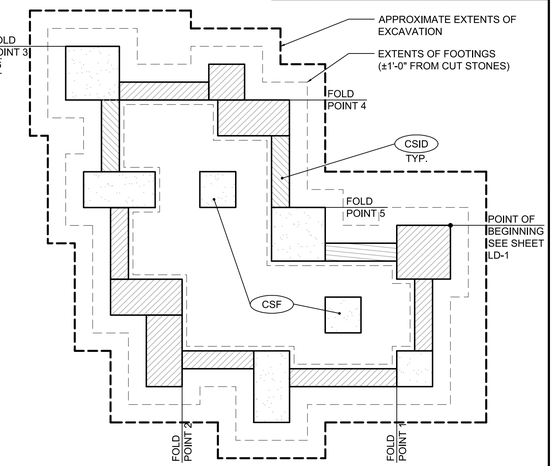

## SECTION A

SCALE: 1/2"=1'



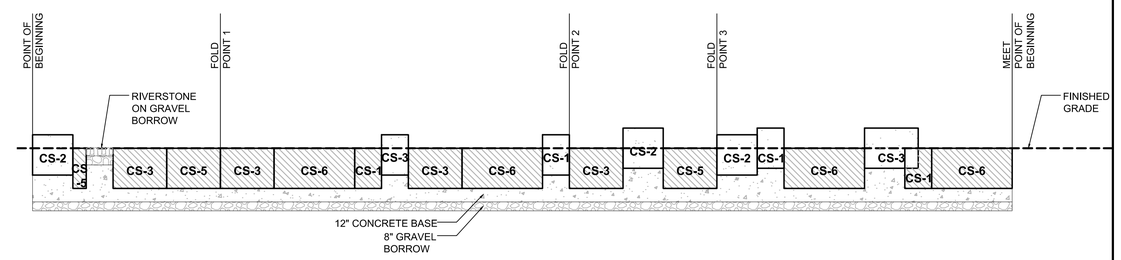

## URBAN BIO-SWALE 1: LAYOUT PLAN

SCALE: 1/4"=1'



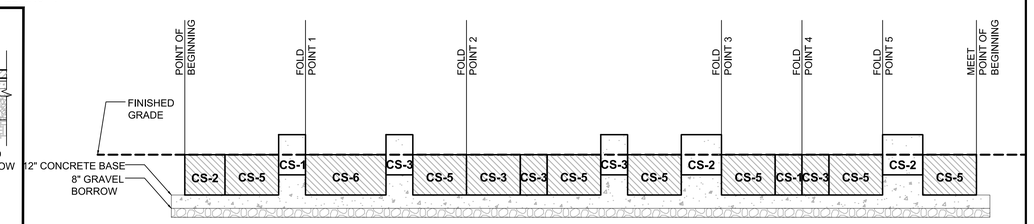

## URBAN BIO-SWALE 2: LAYOUT PLAN

SCALE: 1/4"=1'



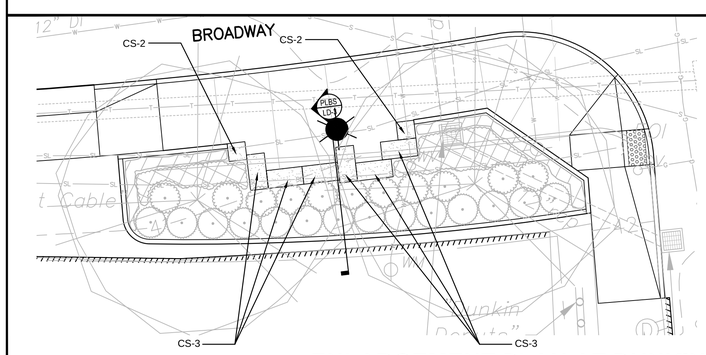

## URBAN BIO-SWALE 1: UNFOLDED SECTION

SCALE: 3/16"=1'




## URBAN BIO-SWALE 2: UNFOLDED SECTION

SCALE: 3/16"=1'

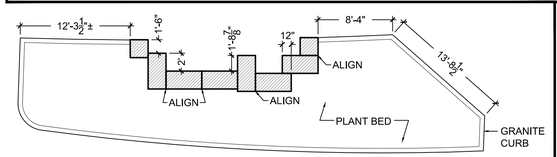



NOTE: SEE SHEET LD-8 FOR CUT STONE TYPES AND DIMENSIONS.

ADDENDUM NO. 2

## PL-3 ENLARGEMENT PLAN AT DUNKIN DONUTS PARKING LOT

SCALE: 1/8"-1'




## PL-3 CUT STONE LAYOUT PLAN

SCALE: 1/8"=1'

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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

LD-2 LANDSCAPE DETAILS

SHEET 2 OF 8


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LDPLAN002.DWG

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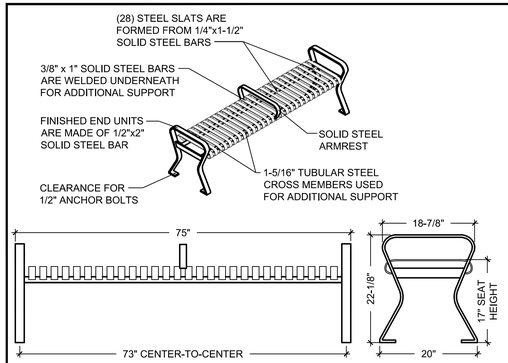
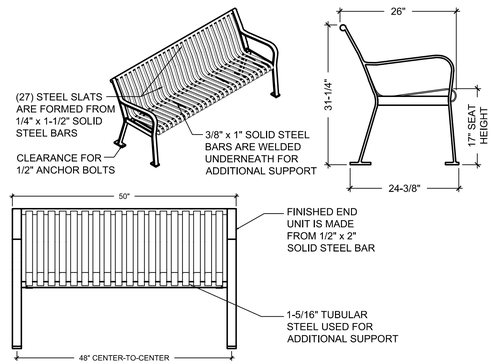
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(004)<br>3RD-PRTY(225) | 2014 | 70 | 88 |

R-1



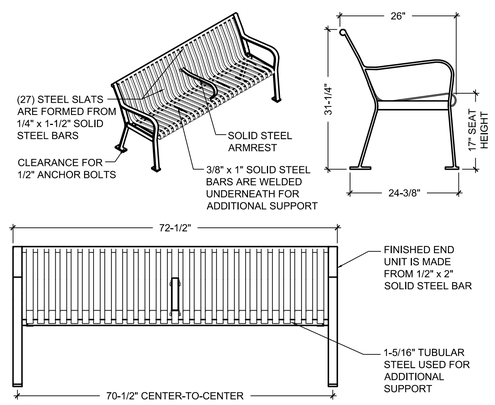

NOTES:
1. DRAWING NOT TO SCALE. DO NOT SCALE DRAWINGS.
2. FINISH SHALL BE POWDER-COATED WITH T.G.I.C. POLYESTER POWDER-COATINGS. THE THICKNESS OF THE RESULTING FINISH AVERAGES 8-10 MILS (200-250 MICRONS).
3. ANCHOR BOLTS SHALL BE PROVIDED BY CONTRACTOR..
4. REFER TO (GF) FOR MOUNTING AND FOUNDATIONS.

## (BTA) BENCH TYPE 'A' - WITHOUT BACK
SCALE: 3/4"=1'



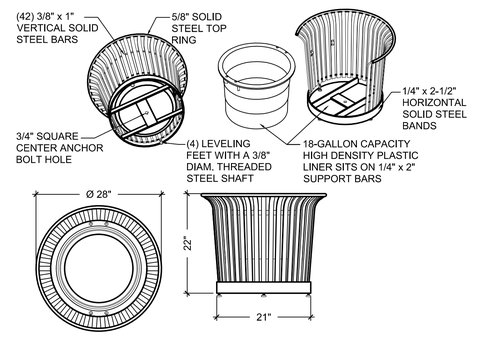

NOTES:
1. DRAWINGS NOT TO SCALE. DO NOT SCALE DRAWINGS.
2. FINISH SHALL BE POWDER-COATED WITH T.G.I.C. POLYESTER POWDER-COATINGS. THE THICKNESS OF THE RESULTING FINISH AVERAGES 8-10 MILS (200-250 MICRONS).
3. ANCHOR BOLTS SHALL BE PROVIDED BY CONTRACTOR.
4. REFER TO (GF) FOR MOUNTING AND FOUNDATIONS.

## (BTC) BENCH TYPE 'C' - 4'-0" WITH BACK
SCALE: 3/4"=1'



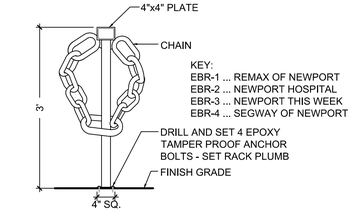

NOTES:
1. DRAWINGS NOT TO SCALE. DO NOT SCALE DRAWINGS.
2. FINISH SHALL BE POWDER-COATED WITH T.G.I.C. POLYESTER POWDER-COATINGS. THE THICKNESS OF THE RESULTING FINISH AVERAGES 8-10 MILS (200-250 MICRONS).
3. ANCHOR BOLTS SHALL BE PROVIDED BY CONTRACTOR.
4. REFER TO (GF) FOR MOUNTING AND FOUNDATIONS.

## (BTB) BENCH TYPE 'B' - WITH BACK
SCALE: 3/4"=1'




NOTES:
1. DRAWINGS NOT TO SCALE. DO NOT SCALE DRAWINGS.
2. FINISH SHALL BE POWDER-COATED BLACK. THE THICKNESS OF THE RESULTING FINISH AVERAGES 8-10 MILS (200-250 MICRONS).
3. ANCHOR BOLTS SHALL BE OMITTED AT THE DISCRETION OF THE CLIENTS.
4. CONTRACTOR SHALL PROVIDE ANCHOR BOLT.

## (PLAN) PLANTER
SCALE: 3/4"=1'

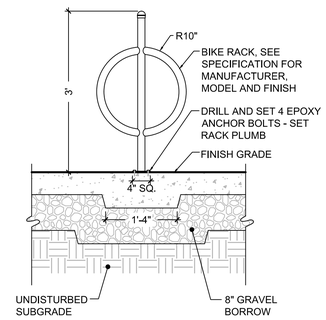



## (EBR-1) EXISTING BIKE RACK - RESET FROM CITY STOCKPILE
SCALE: 3/4"=1'

## (EBR-2) EXISTING BIKE RACK - RESET FROM CITY STOCKPILE
SCALE: 3/4"=1'

## (EBR-3) EXISTING BIKE RACK - RESET FROM CITY STOCKPILE
SCALE: 3/4"=1'

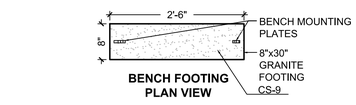
## (EBR-4) EXISTING BIKE RACK - RESET FROM CITY STOCKPILE
SCALE: 3/4"=1'



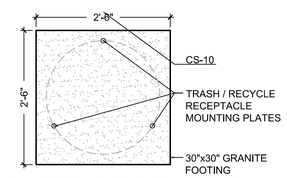

SECTION

NOTE:
CONTRACTOR TO PROVIDE ONE (1) SURFACE MOUNT BIKE RACK AT LOCATION SHOWN ON PLAN.

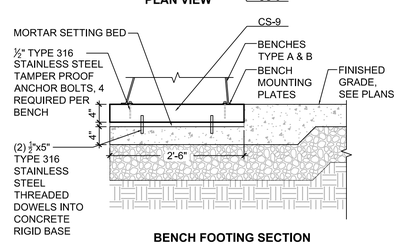
## (BR) BIKE RACK
SCALE: 3/4"=1'



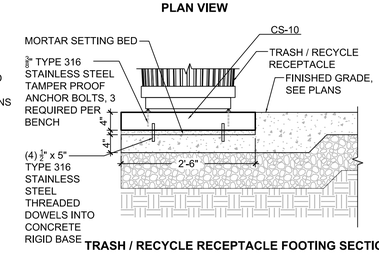

BENCH FOOTING PLAN VIEW




TRASH / RECYCLE RECEPTACLE FOOTING PLAN VIEW



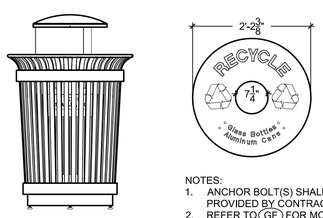

BENCH FOOTING SECTION
NTS




TRASH / RECYCLE RECEPTACLE FOOTING SECTION
NTS

NOTES:
1. SEE SPECIFICATIONS FOR MANUFACTURERS, MODELS AND FINISHES.
2. SEE SHEET LD-8 FOR CUT STONE TYPES AND DIMENSIONS.

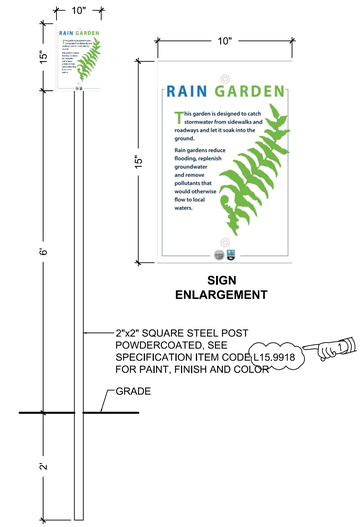
## (GF) RECEPTACLE & BENCH GRANITE FOOTINGS
SCALE: 3/4"=1'



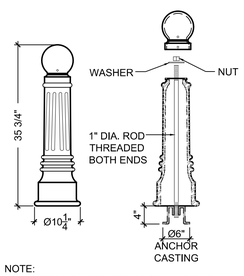

NOTES:
1. ANCHOR BOLT(S) SHALL BE PROVIDED BY CONTRACTOR.
2. REFER TO (GF) FOR MOUNTING AND FOUNDATIONS.

## (TR-1) TRASH RECEPTACLE - RESET FROM CITY STOCKPILE
SCALE: 3/4"=1'

## (TR-2) RECYCLING RECEPTACLE - RESET FROM CITY STOCKPILE
SCALE: 3/4"=1'

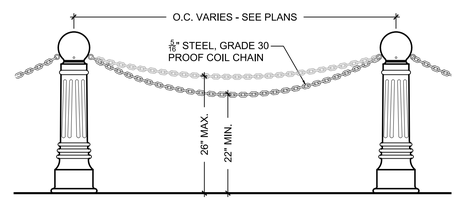



## (RGS) RAIN GARDEN SIGNAGE
SCALE: 3/4"=1'



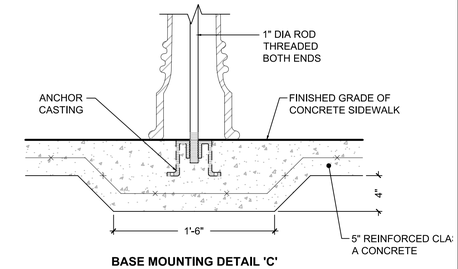

NOTE:
BOLLARDS ARE POSITIONED ON VARIOUS MATERIALS - REFER TO BASE MOUNTING DETAILS 'C', 'P', OR 'S' FOR CORRECT APPLICATION.

## (BOL) BOLLARD
SCALE: 3/4"=1'

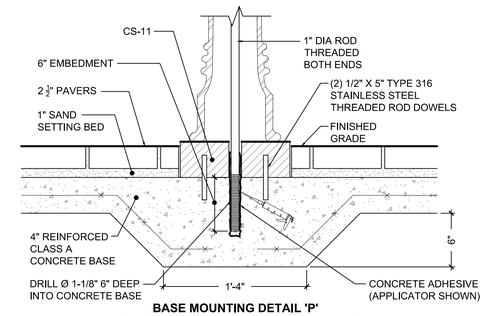



NOTE:
BOLLARDS ARE POSITIONED ON VARIOUS MATERIALS - REFER TO BASE MOUNTING DETAILS 'C', 'P', OR 'S' FOR CORRECT APPLICATION.

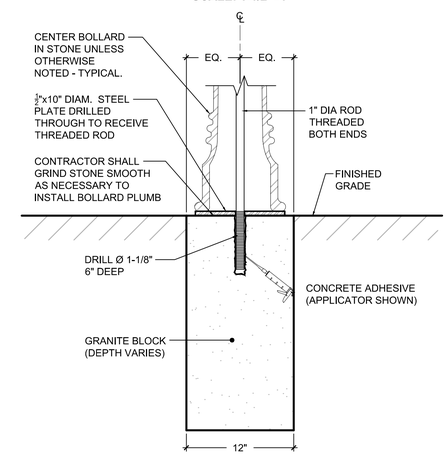
## (BOLCH) BOLLARD AND CHAIN
SCALE: 3/4"=1'




BASE MOUNTING DETAIL 'C'
(CONCRETE MOUNTING)
SCALE: 1-1/2"=1'




BASE MOUNTING DETAIL 'P'
(MOUNTING CONFIGURATION FOR PAVERS)
SCALE: 1-1/2"=1'




BASE MOUNTING DETAIL 'S'
(STONE MOUNTING CONFIGURATION, FOR USE IS UBS-1 UBS-2)
SCALE: 1-1/2"=1'

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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

LD-7 LANDSCAPE DETAILS

SHEET 7 OF 8

CHECKED BY AG DATE 11/20/14 SCALE AS NOTED


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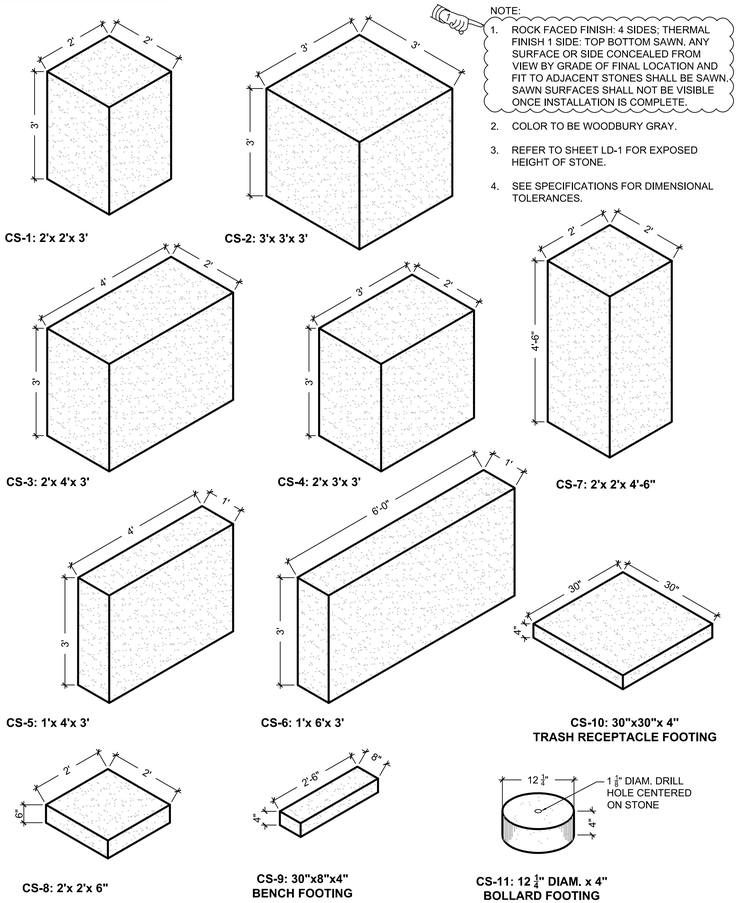
ADDENDUM NO. 2

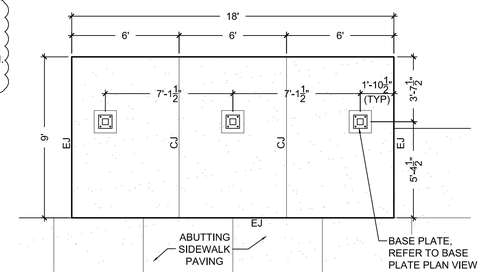
LDPLAN007.DWG

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP–RESF(284)<br>STP–TAPS(003)<br>STP–SRTS(004)<br>3RD–PRTY(225) | 2014 | 71 | 88 |

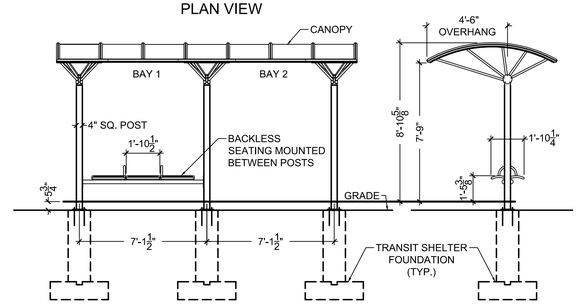
NOTE:
1. ROCK FACED FINISH: 4 SIDES: THERMAL FINISH 1 SIDE: TOP BOTTOM SAWN. ANY SURFACE OR SIDE CONCEALED FROM VIEW BY GRADE OF FINAL LOCATION AND FIT TO ADJACENT STONES SHALL BE SAWN. SAWN SURFACES SHALL NOT BE VISIBLE ONCE INSTALLATION IS COMPLETE.
2. COLOR TO BE WOODBURY GRAY.
3. REFER TO SHEET LD-1 FOR EXPOSED HEIGHT OF STONE.
4. SEE SPECIFICATIONS FOR DIMENSIONAL TOLERANCES.



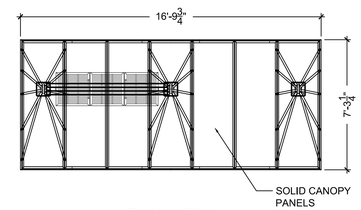

CSB CUT STONE TYPES
SCALE: 1/2"=1'




TRANSIT SHELTER SLAB PLAN VIEW




FRONT ELEVATION SIDE ELEVATION



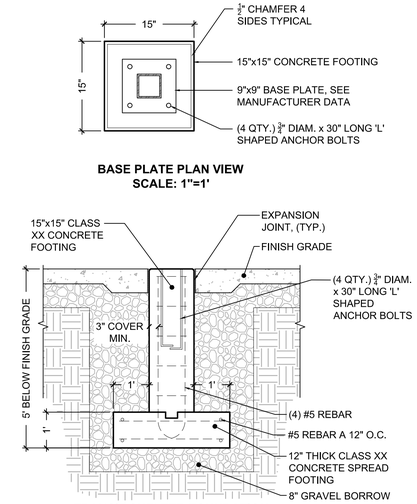

PLAN VIEW

NOTE:
TRS1 SHOWN AT LEFT.

NOTES:
1. TRANSIT SHELTER 1 (TRS1) TO HAVE ONLY ONE (1) 7'-1 ½" SEGMENT WITH BACKLESS SEATING.
2. TRANSIT SHELTER DESIGN BASED ON PRE-FABRICATED STRUCTURES.
3. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER.

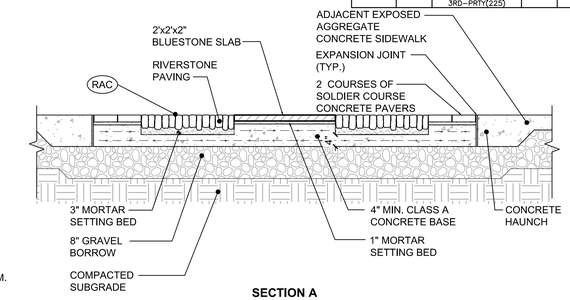
TRS TRANSIT SHELTER
SCALE: 1/4"=1'

TRS1 TRANSIT SHELTER
SCALE: 1/4"=1'

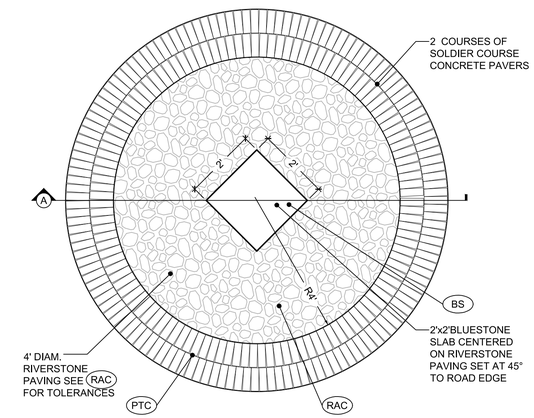



TRS TRANSIT SHELTER

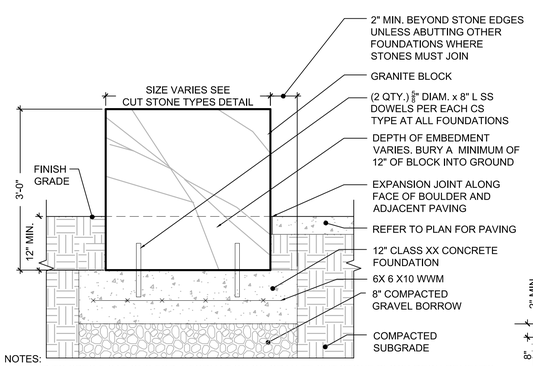
TRS1 TRANSIT SHELTER




SECTION A

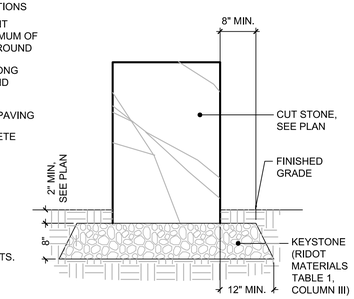



CPD CIRCULAR PAVING DETAIL
SCALE: 1/2"=1'

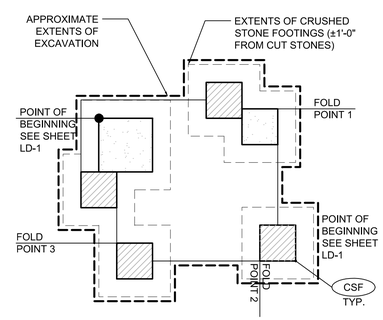



NOTES:
1. REFER TO SPECIFICATIONS FOR INFORMATION ON GRANITE CUT STONE BLOCK REQUIREMENTS.
2. SEE CUT STONE TYPES DETAIL FOR SPECIFIC SIZES.
3. SEE DETAIL PLAN FOR STONE HEIGHTS.
4. SEE PLANS FOR PLACEMENT.

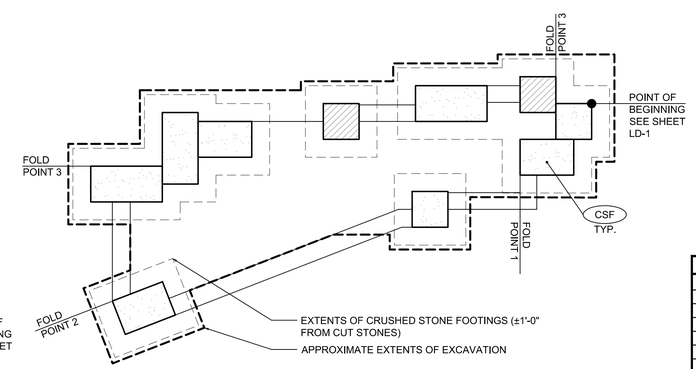
CSF CUT STONE FOUNDATION
SCALE: 3/4"=1'




CSID CUT STONE INSTALLATION
SCALE: 3/4"=1'




PL-1: LAYOUT PLAN
SCALE: 1/4"=1'




PL-2: LAYOUT PLAN
SCALE: 1/4"=1'

ADDENDUM NO. 2

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Lincoln, RI 02865
401.333.2382
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Louis Berger
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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

LD-8 LANDSCAPE DETAILS

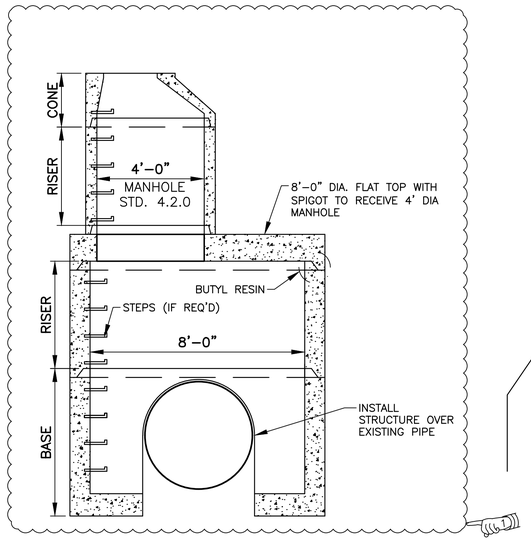
SHEET 8 OF 8

CHECKED BY AG DATE 11/20/14 SCALE AS NOTED

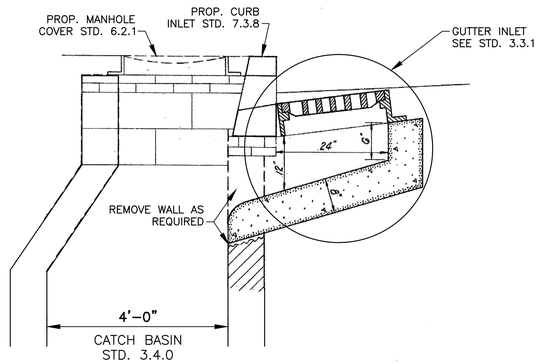
LDPLAN008.DWG

R-1

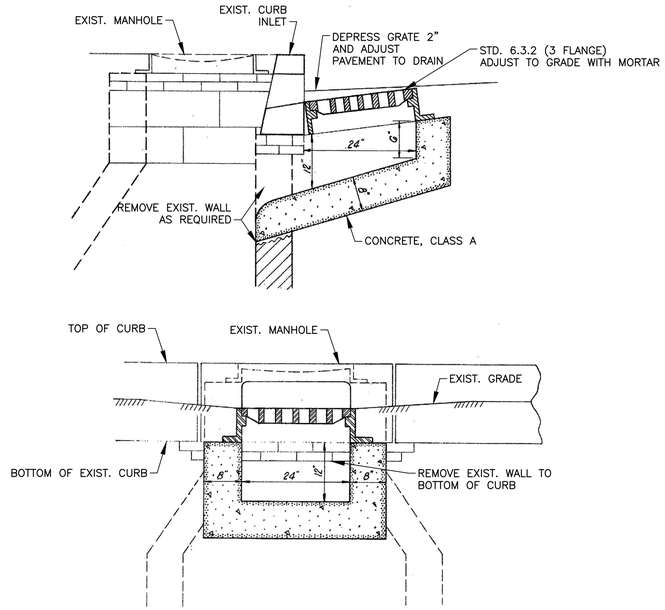
| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 72 | 88 |



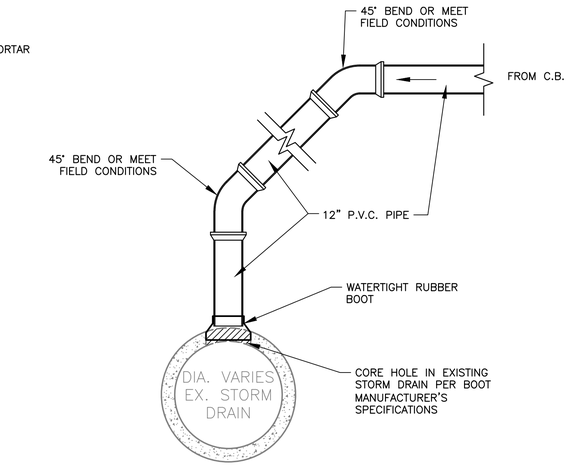

PRECAST 8' MANHOLE WITH 48" MANHOLE STACK (4.2.2(M))
NOT TO SCALE



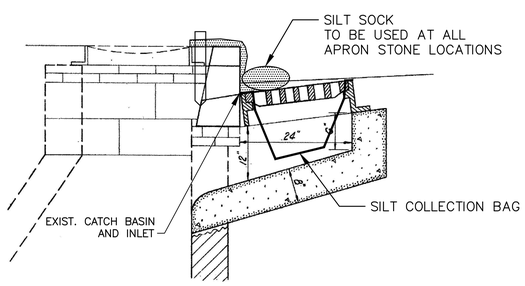

MODIFIED TYPE "D" ROUND CATCH BASIN DETAIL (3.4.1M)
NOT TO SCALE



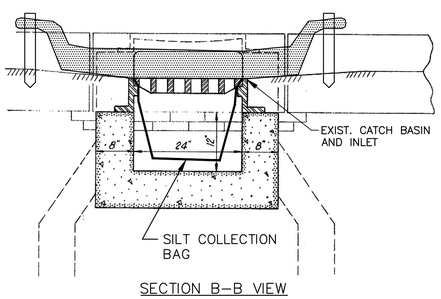

RECONSTRUCT TYPE "D" CATCH BASIN, TO CATCH BASIN WITH GUTTER INLET (RCB)
NOT TO SCALE



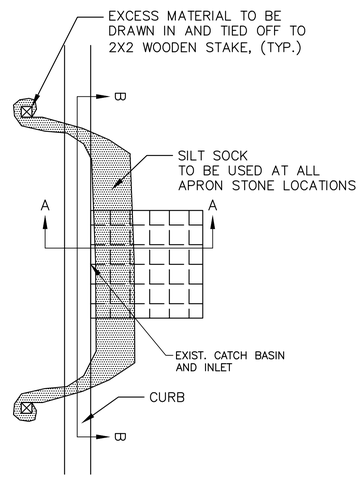

CHIMNEY DRAIN CONNECTION (CDC)
NOT TO SCALE




SECTION A–A VIEW

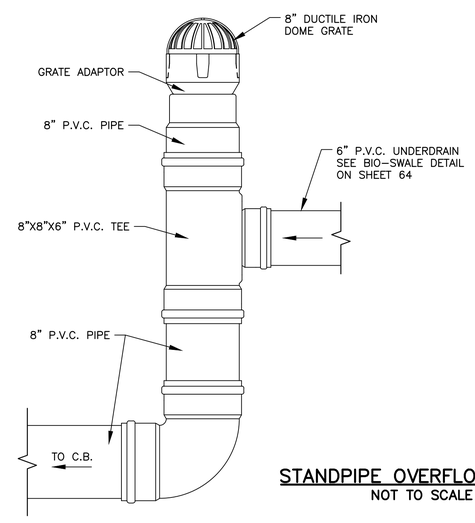



SECTION B–B VIEW

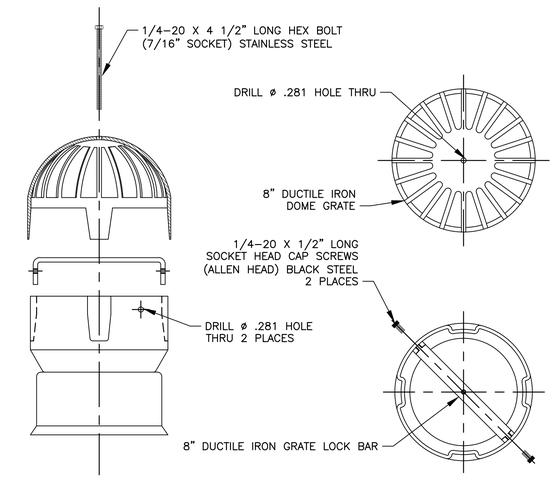



PLAN VIEW

INLET PROTECTION DETAIL
NOT TO SCALE




STANDPIPE OVERFLOW DETAIL (STP)
NOT TO SCALE

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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

CONSTRUCTION DETAILS

SHEET 1 OF 2


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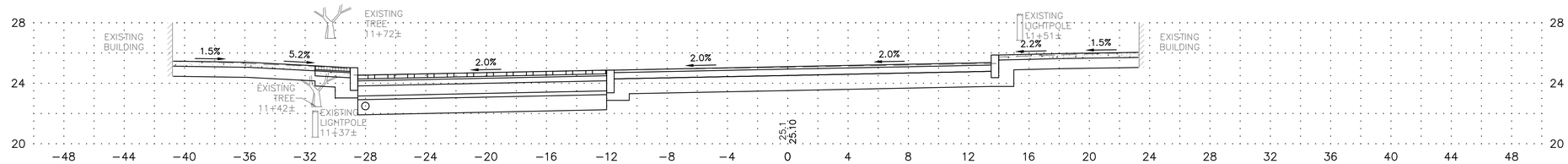
R-1

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTT(225) | 2014 | 74 | 88 |

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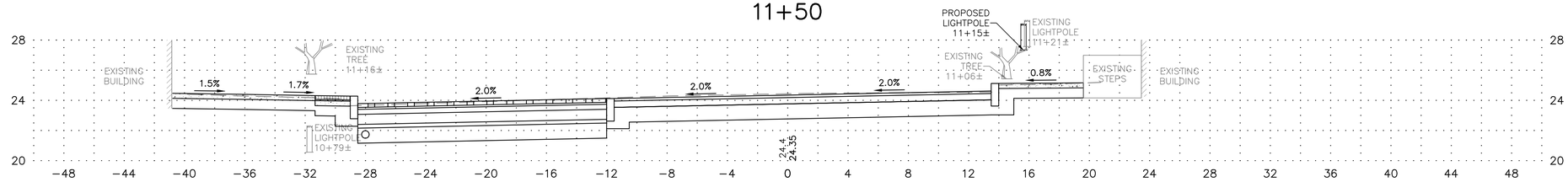
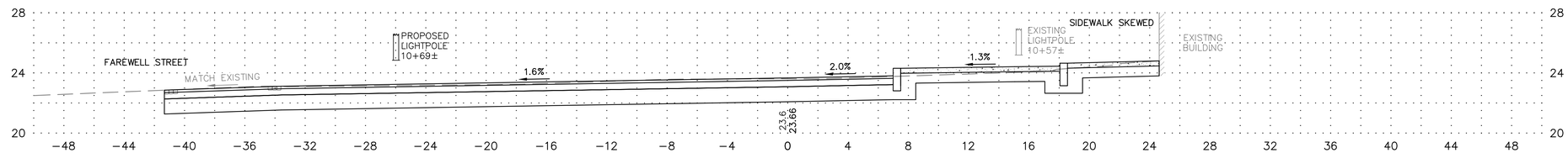



11+00

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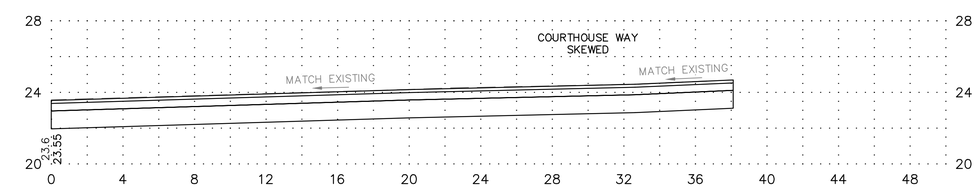


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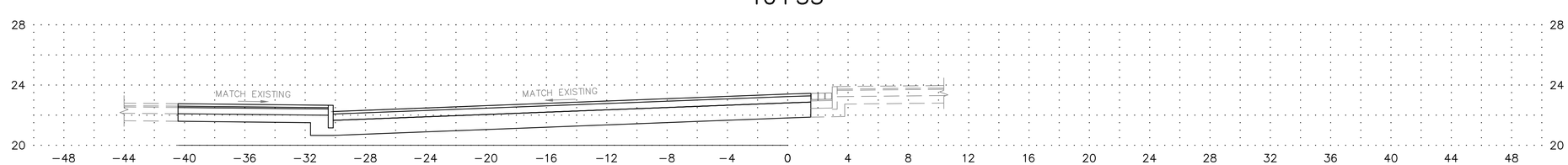


10+05

HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

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BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

SHEET 1 OF 14

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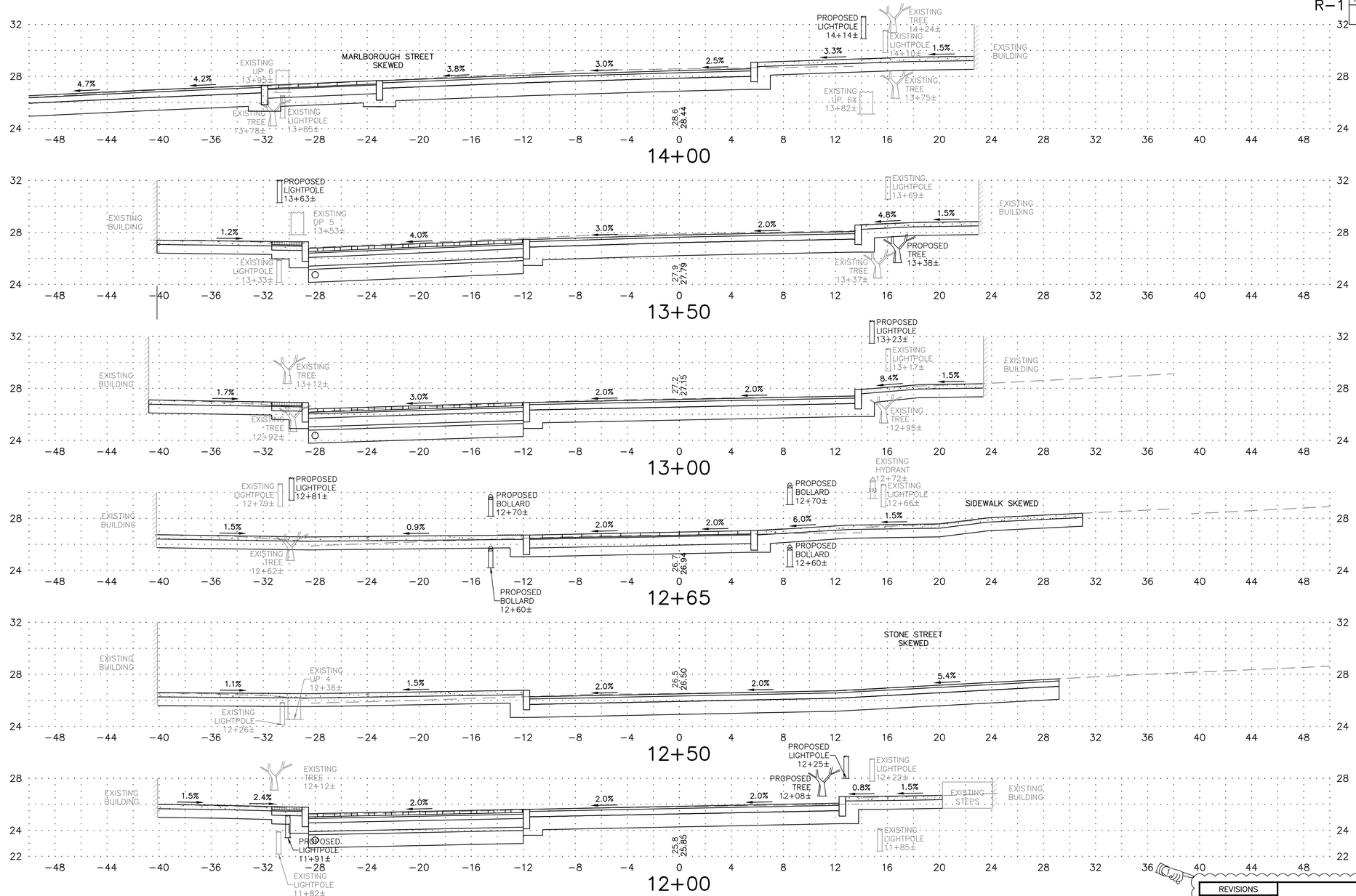
R-1

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTT(225) | 2014 | 75 | 88 |

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BROADWAY STREETSCAPE IMPROVEMENT PROJECT

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SHEET 2 OF 14


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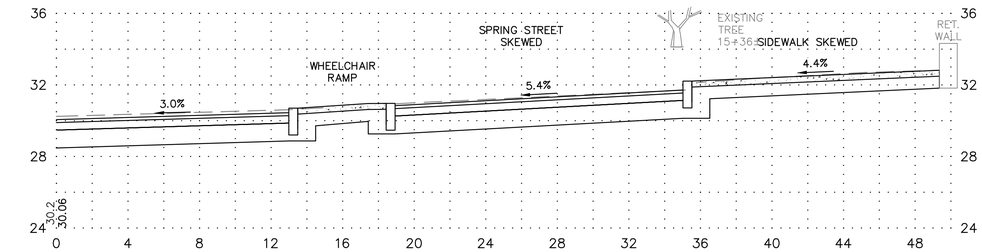
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 76 | 88 |

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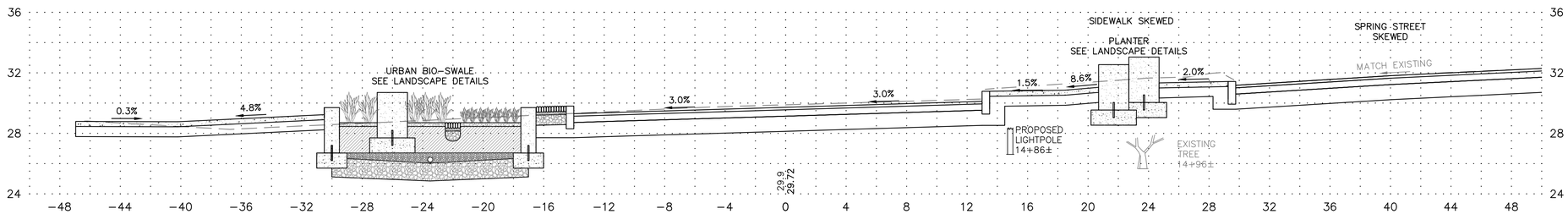


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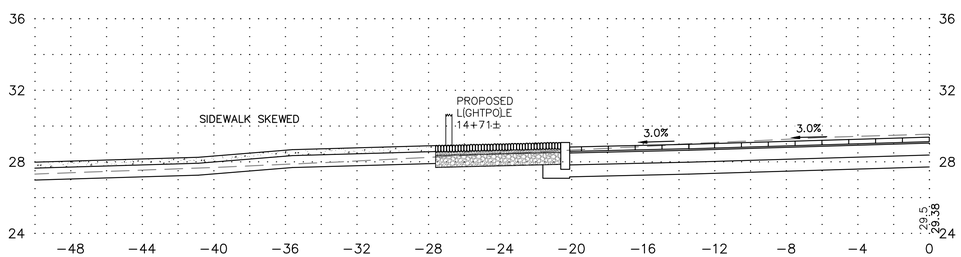


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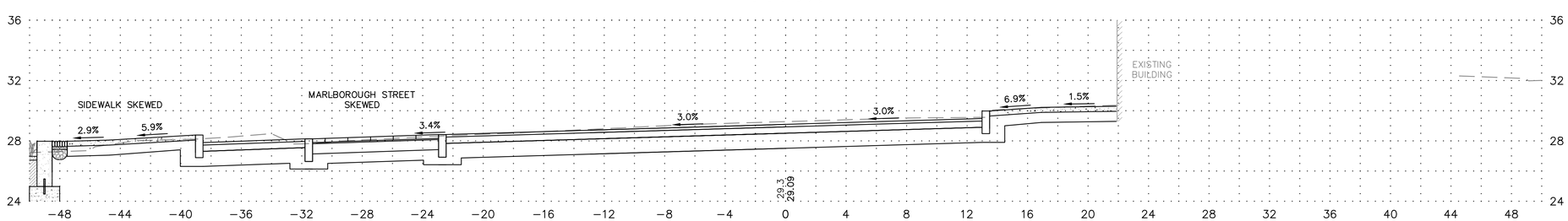


14+50

HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

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BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

SHEET 3 OF 14

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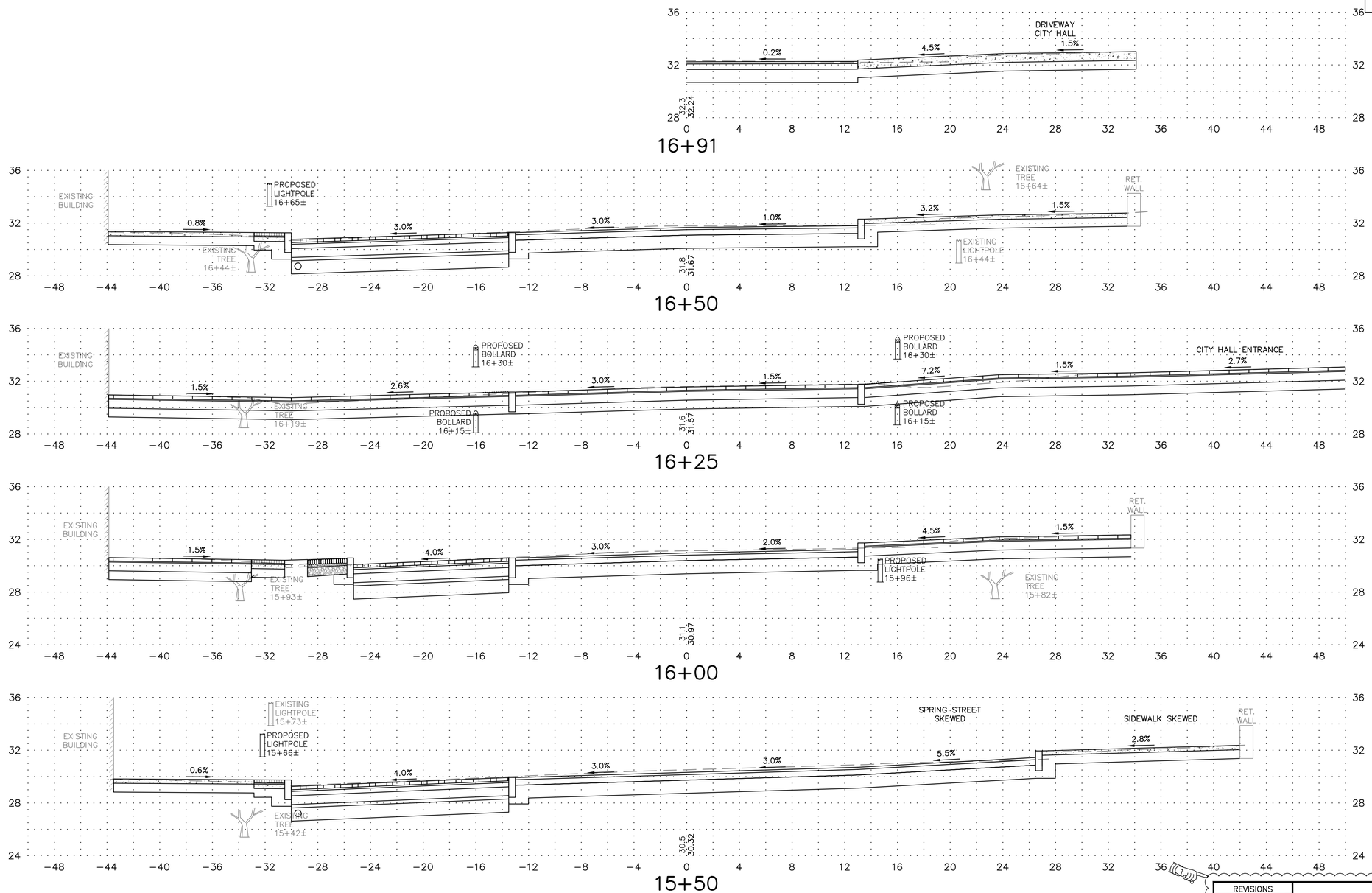
SECTIONS.DWG

R-1

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 77 | 88 |




HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

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BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

SHEET 4 OF 14

CHECKED BY MPW DATE 11/20/14 SCALE AS NOTED

SECTIONS.DWG

R-1

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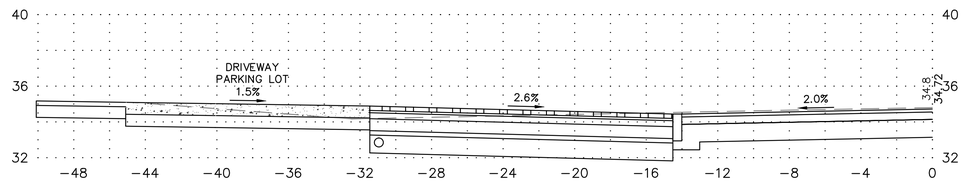
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(004)<br>3RD-PRTY(225) | 2014 | 78 | 88 |

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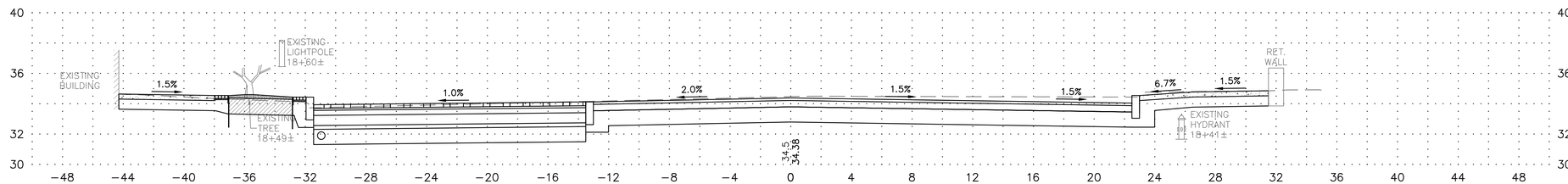


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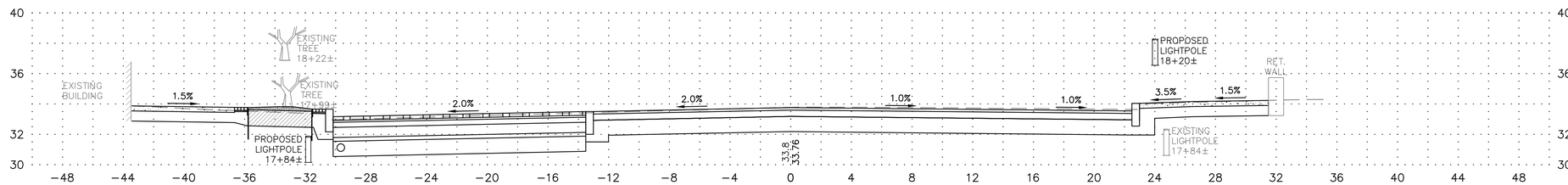


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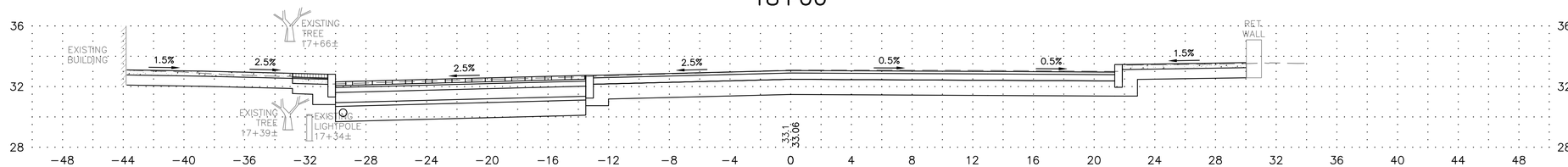


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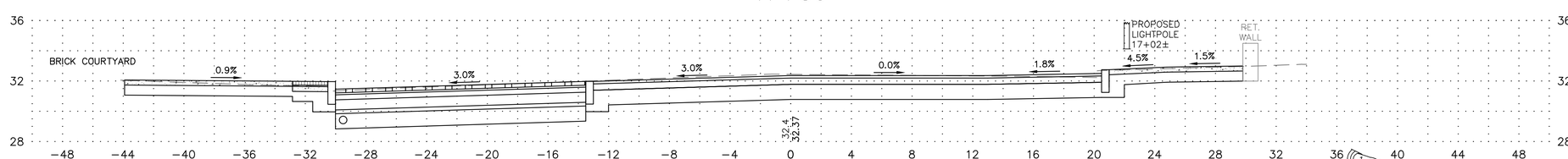


17+00

HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

ADDENDUM NO. 2

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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

SHEET 5 OF 14

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R-1

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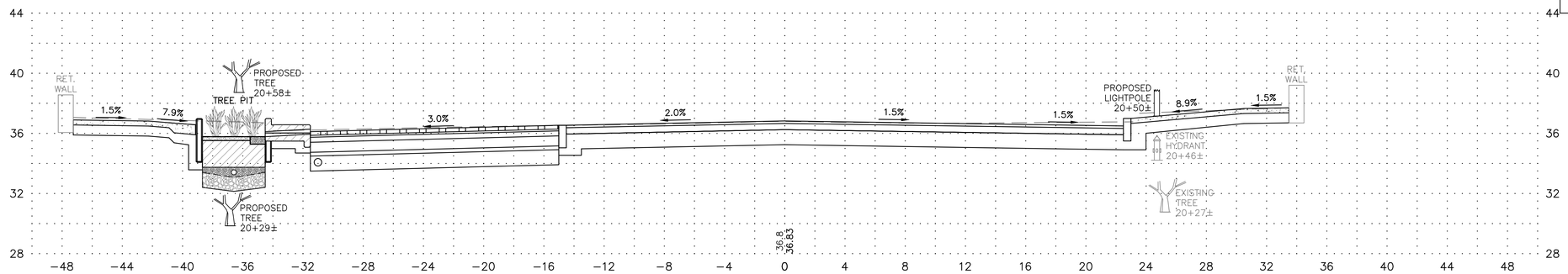
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 79 | 88 |

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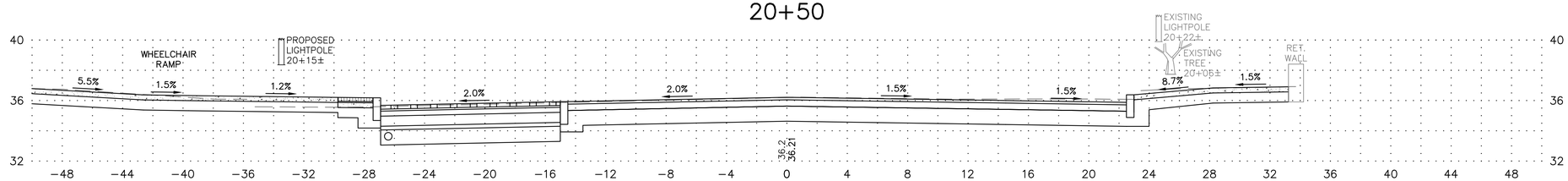


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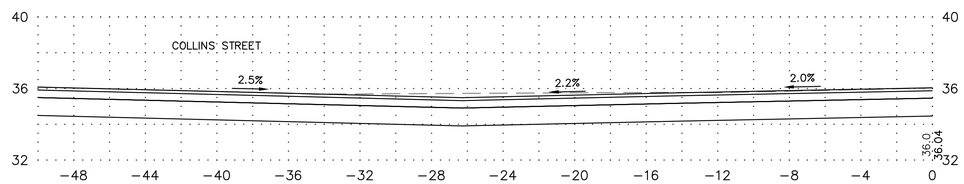
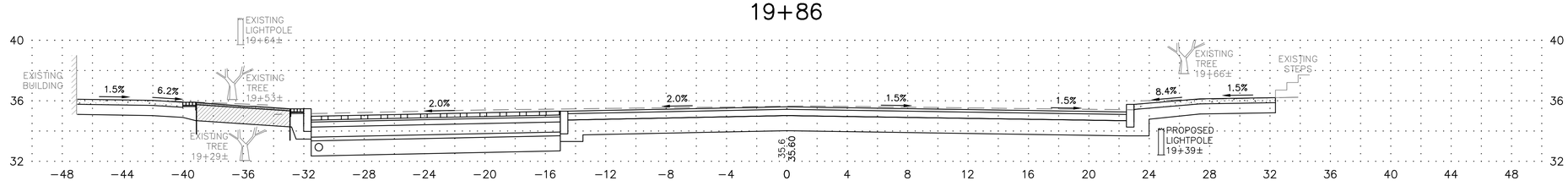
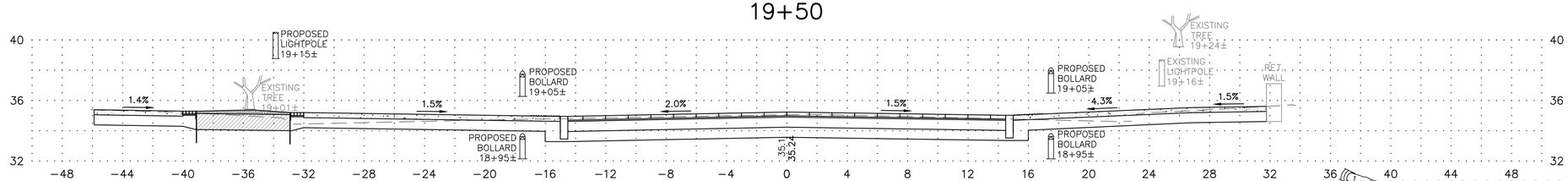



19+86




19+50




19+00

HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

ADDENDUM NO. 2


Louis Berger
295 PROMENADE STREET
PROVIDENCE, RI 02908
TEL. 401. 521. 5980
www.louisberger.com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| 1 | 12/10/14 | PWS |

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

SHEET 6 OF 14

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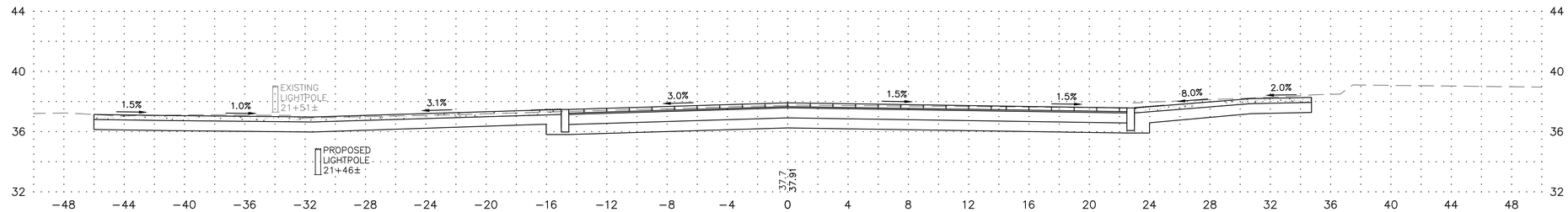
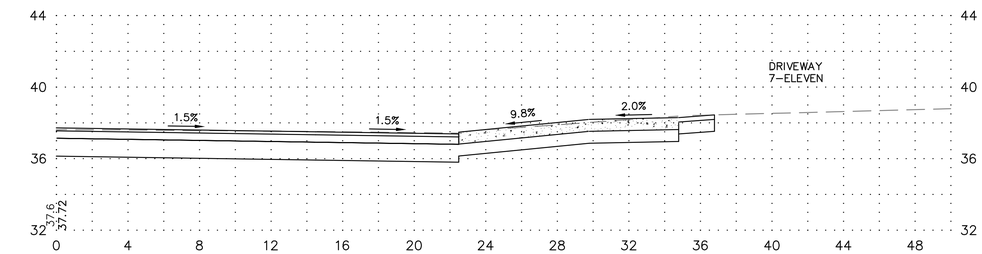
SECTIONS.DWG

R-1

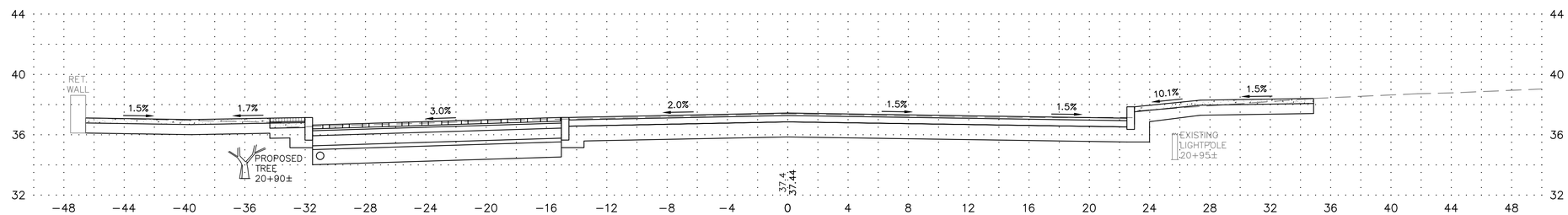
| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 80 | 88 |



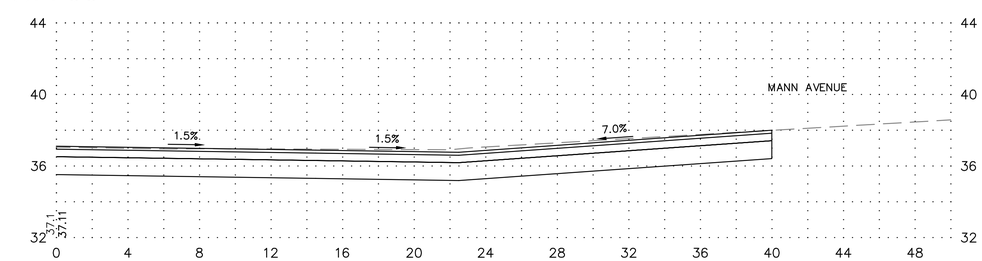

21+50




21+26




21+00




20+73

HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

ADDENDUM NO. 2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BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

SHEET 7 OF 14

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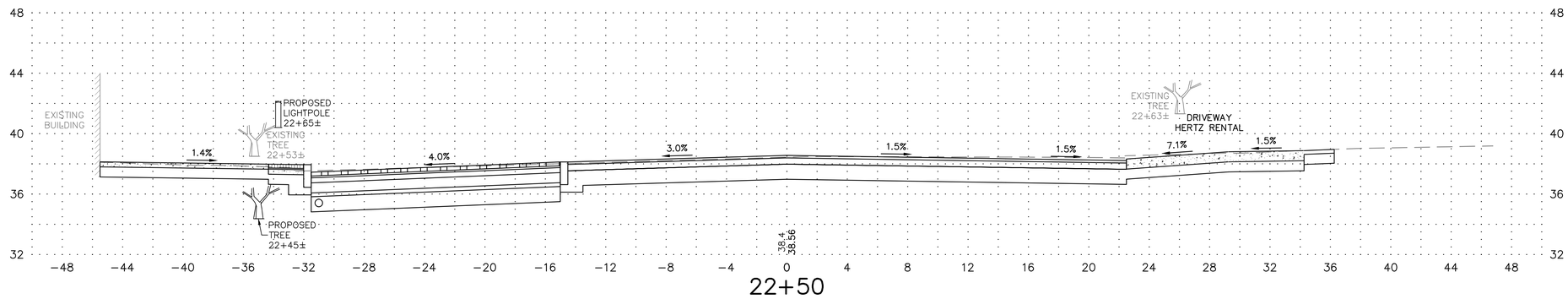
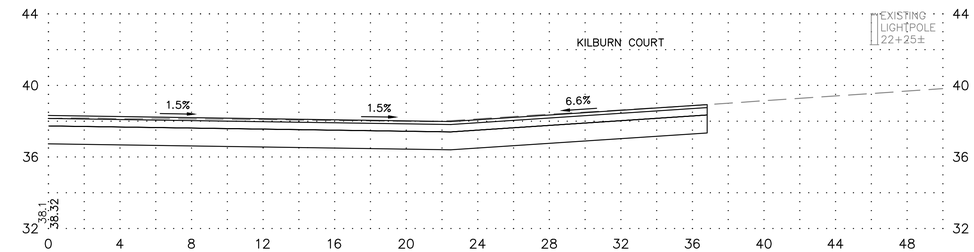
R-1

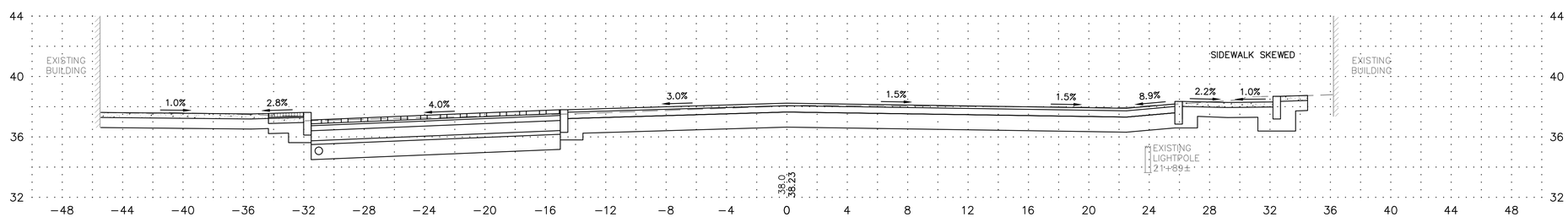
| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(004)<br>3RD-PRTY(225) | 2014 | 81 | 88 |



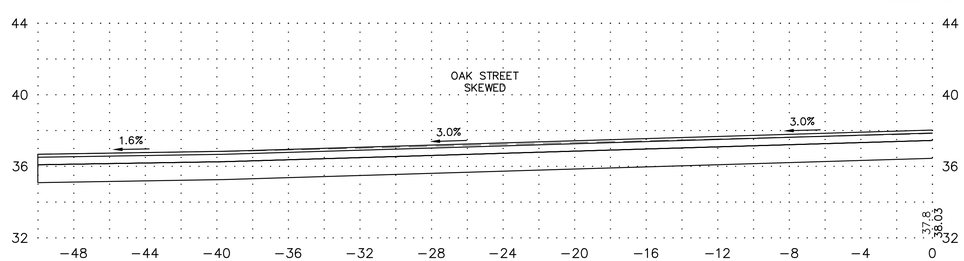

22+50




22+13




22+00




21+69

HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

ADDENDUM NO. 2

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BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

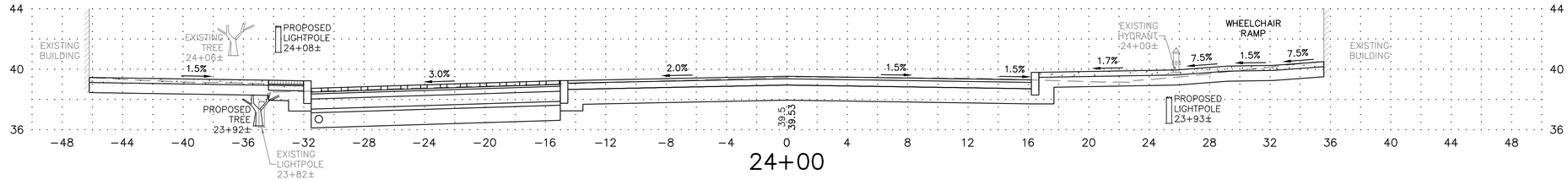
SHEET 8 OF 14

CHECKED BY MPW DATE 11/20/14 SCALE AS NOTED

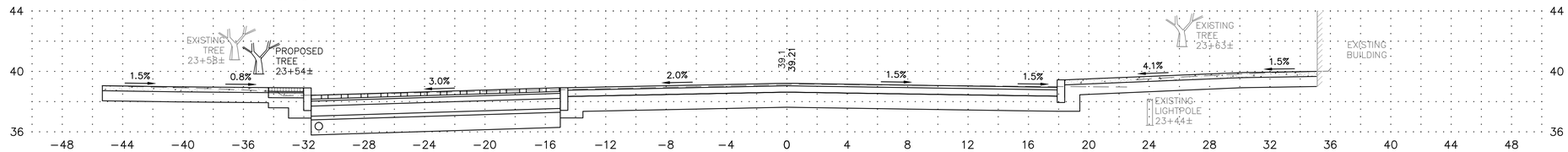
SECTIONS.DWG

R-1

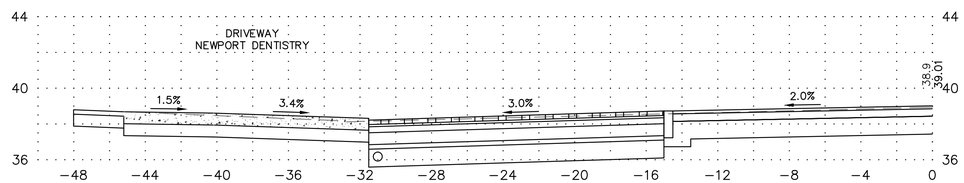
| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 82 | 88 |



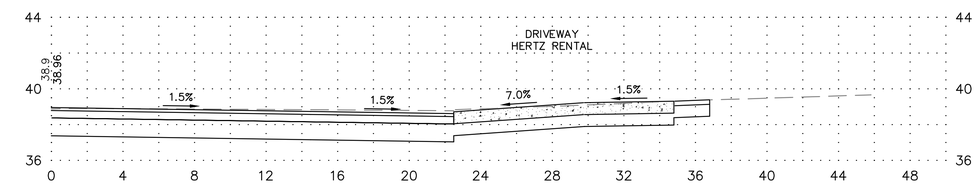

24+00



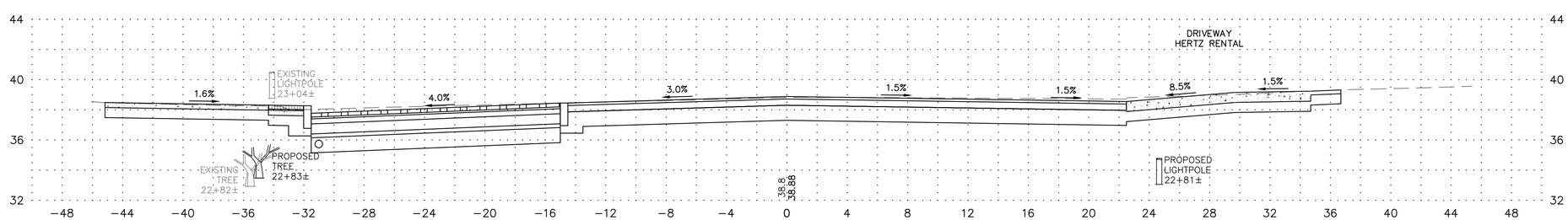

23+50




23+20




23+11




23+00

HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

ADDENDUM NO. 2

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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

SHEET 9 OF 14


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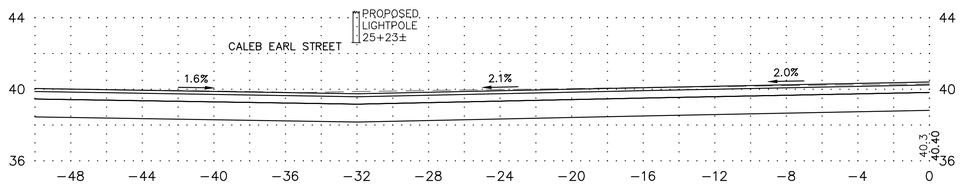
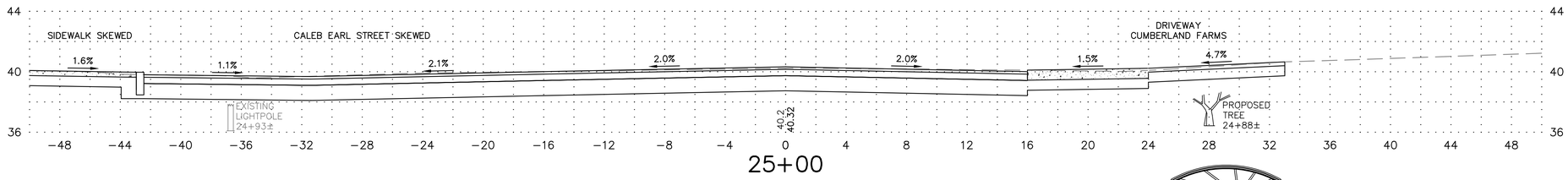
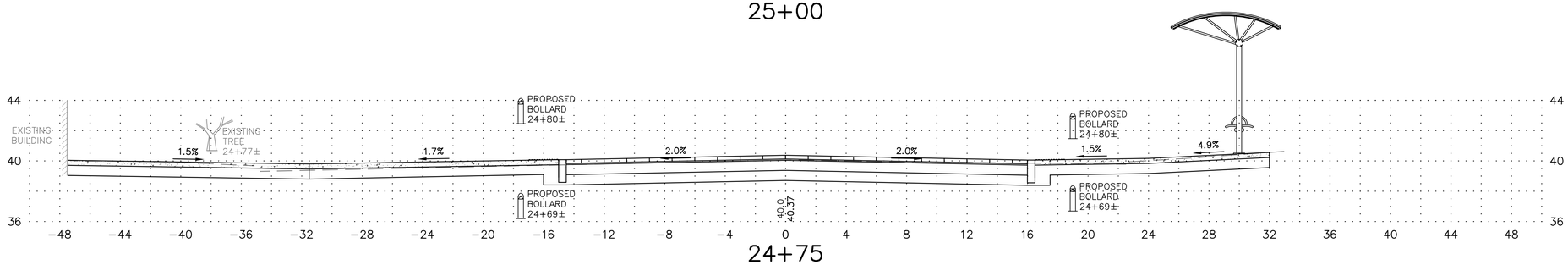
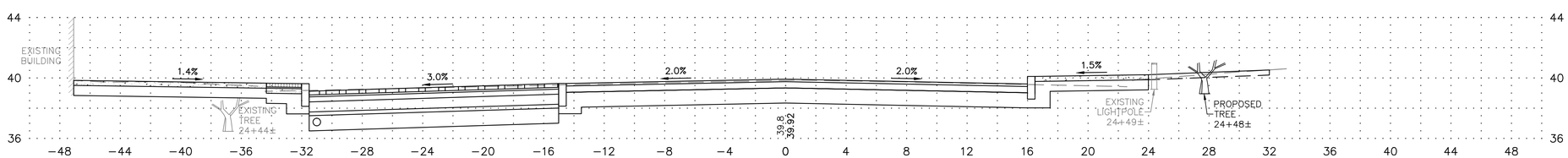
R-1

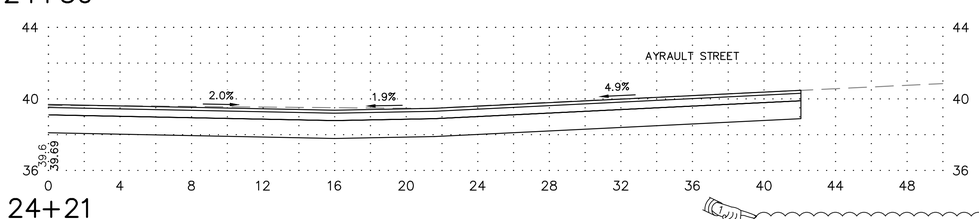
| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 83 | 88 |




HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

ADDENDUM NO. 2

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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

SHEET 10 OF 14

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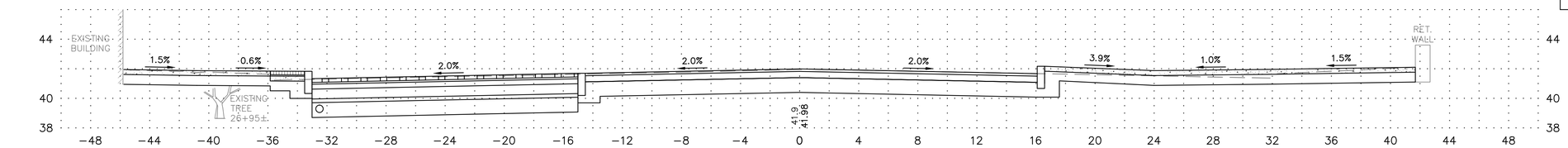
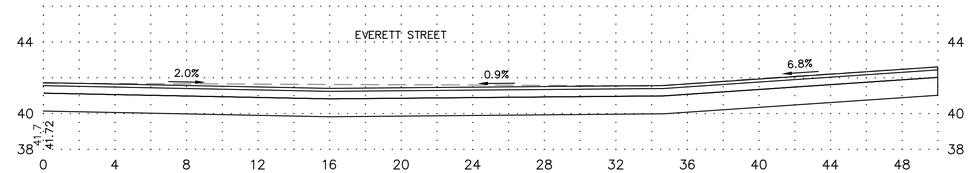
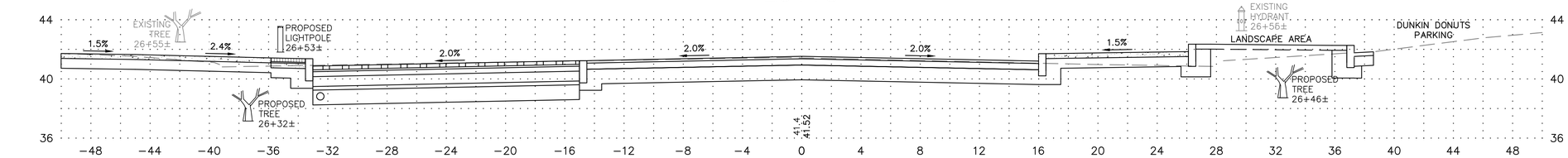
| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 84 | 88 |



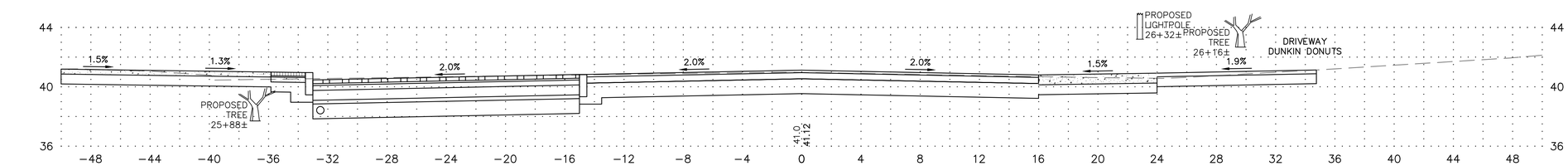

27+00



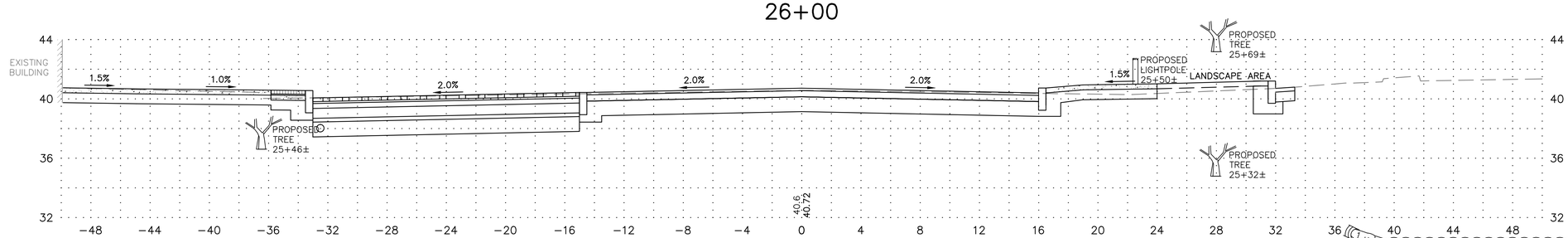

26+75




26+50




26+00




25+50

HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

ADDENDUM NO. 2


Louis Berger
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TEL. 401. 521. 5980
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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

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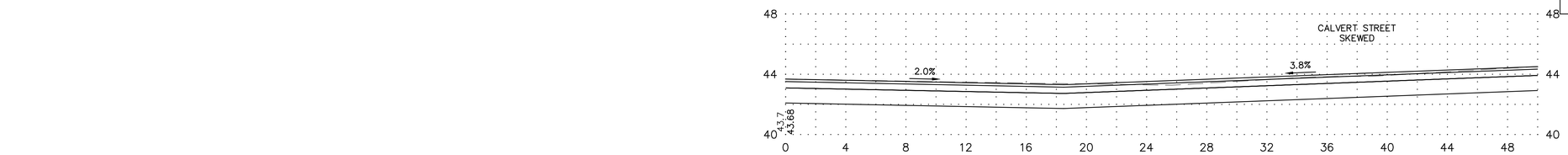
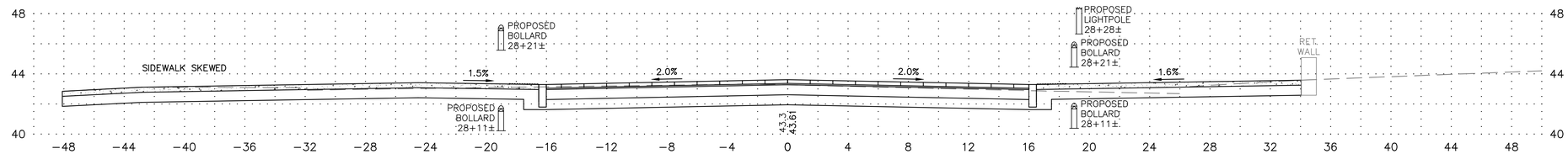
R-1

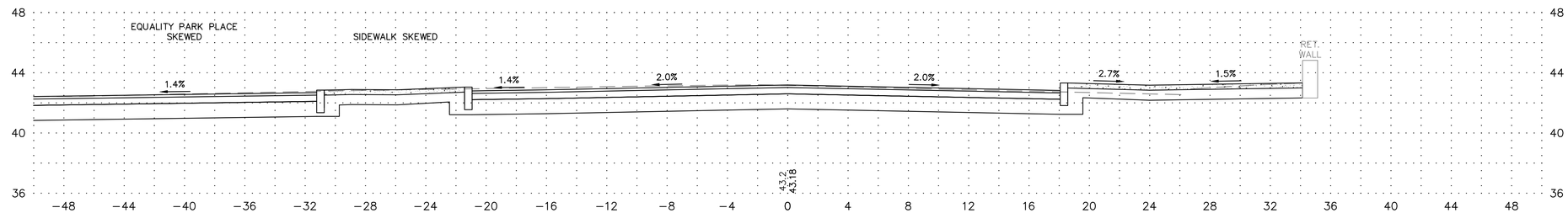
| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(004)<br>3RD-PRTY(225) | 2014 | 85 | 88 |



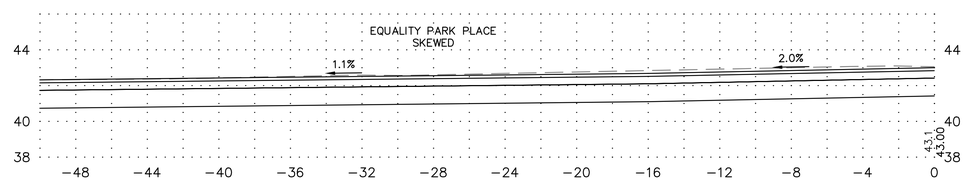

28+41



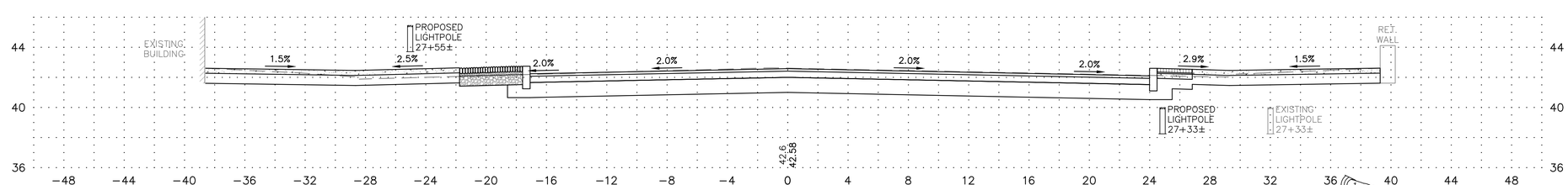

28+15




28+00




27+85




27+50

HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

ADDENDUM NO. 2

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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

SHEET 12 OF 14

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SECTIONS.DWG

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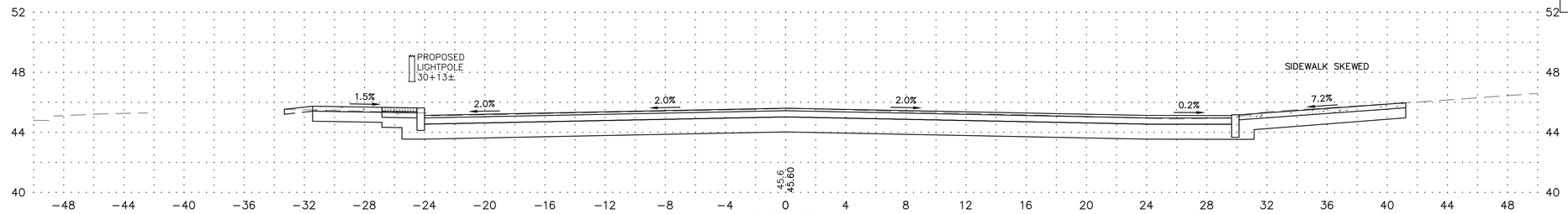
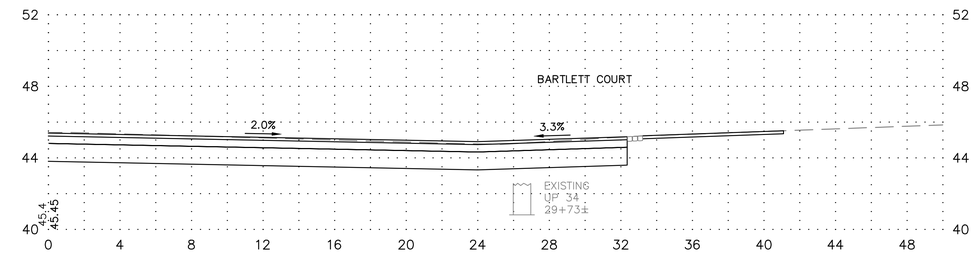
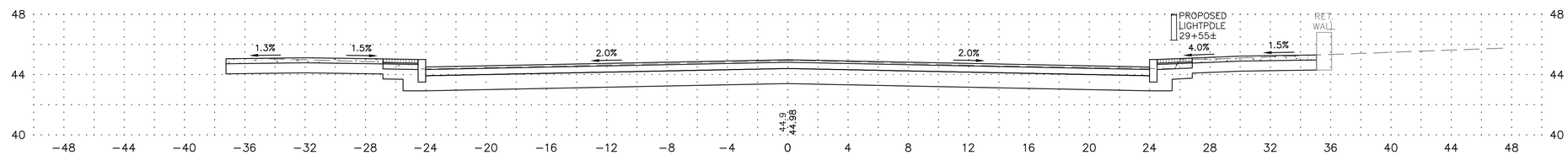
| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 86 | 88 |



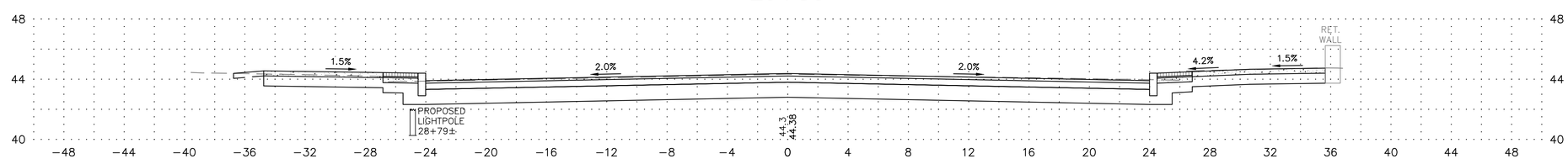

30+00



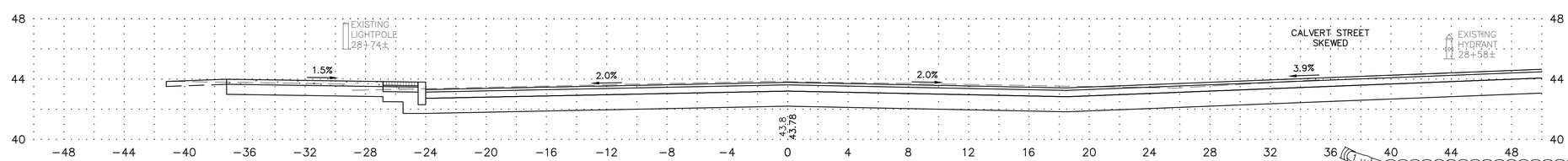

29+88




29+50




29+00




28+50

HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

ADDENDUM NO. 2

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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

SHEET 13 OF 14

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SECTIONS.DWG

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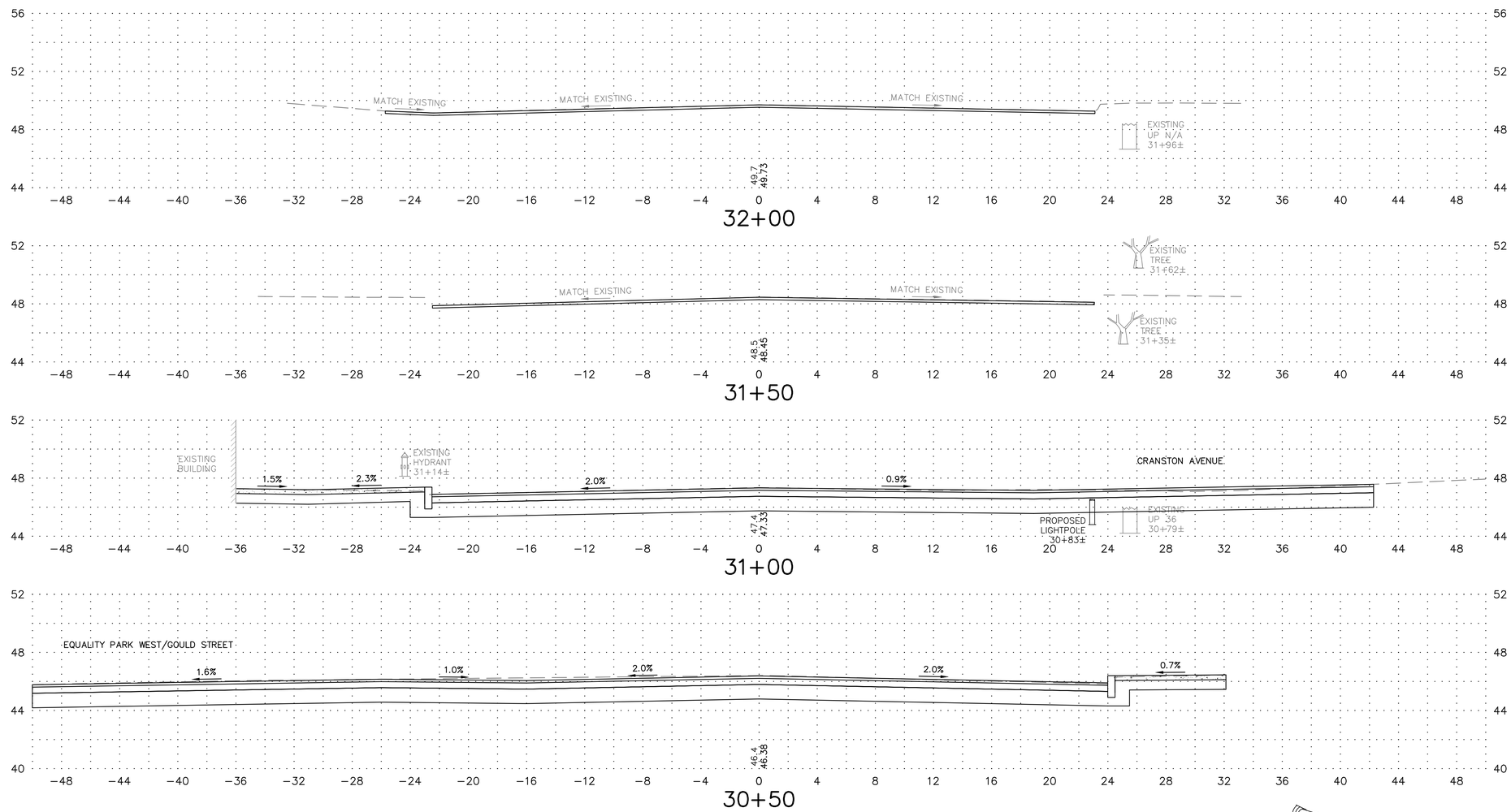
| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(004)<br>3RD-PRTT(225) | 2014 | 87 | 88 |




HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

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RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

BROADWAY CROSS SECTIONS

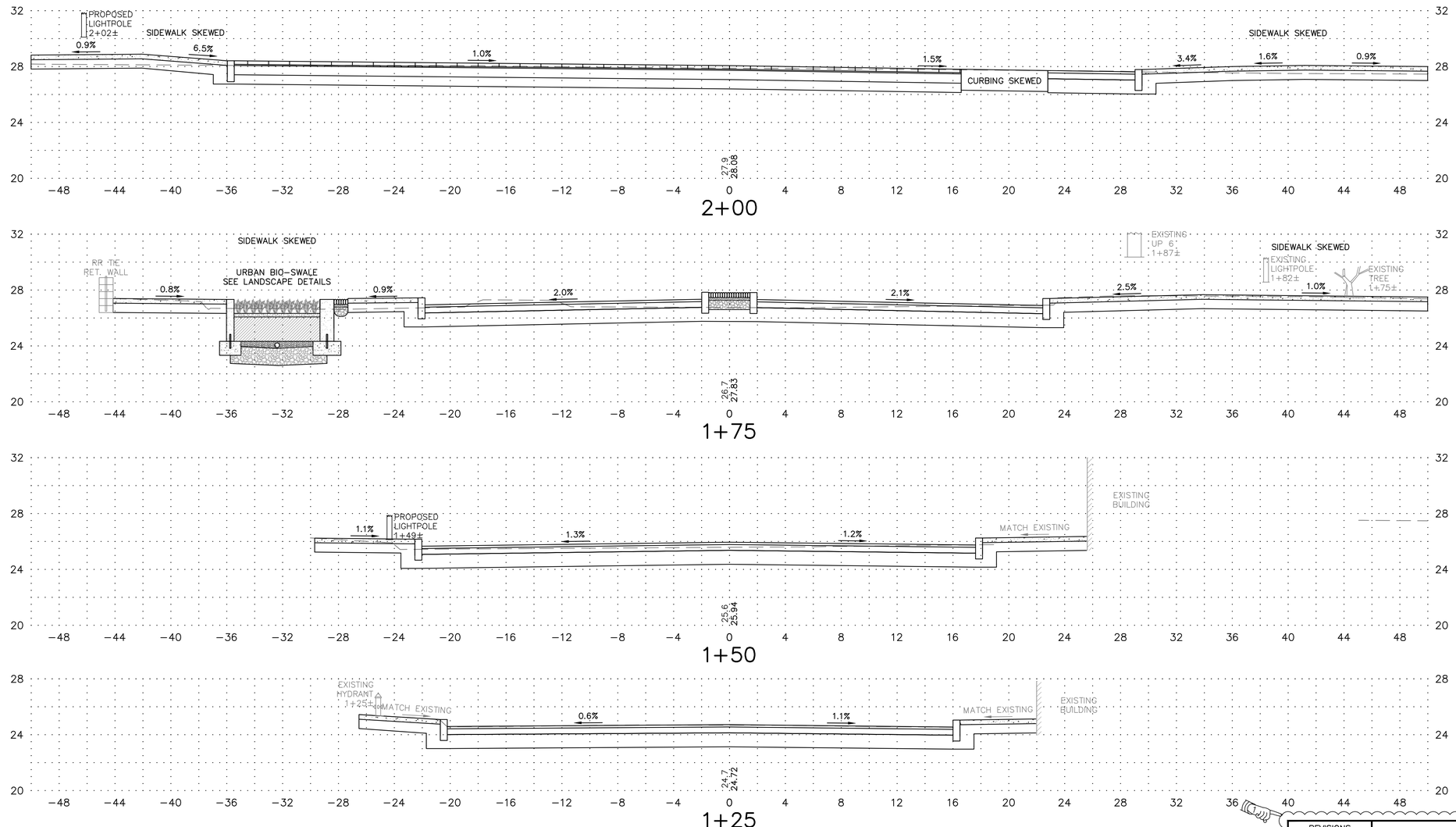
SHEET 14 OF 14

CHECKED BY MPW DATE 11/20/14 SCALE AS NOTED

SECTIONS.DWG

R-1

| FED. ROAD DIV. NO. | STATE | FEDERAL AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | RI | STP-RESF(284)<br>STP-TAPS(003)<br>STP-SRTS(002)<br>3RD-PRTY(225) | 2014 | 88 | 88 |




HORIZONTAL SCALE 1" = 4'-0"

VERTICAL SCALE 1" = 4'-0"

ADDENDUM NO. 2

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RHODE ISLAND
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BROADWAY STREETSCAPE IMPROVEMENT PROJECT

NEWPORT, RHODE ISLAND

MARLBOROUGH STREET CROSS SECTIONS

SHEET 1 OF 1

CHECKED BY MPW DATE 11/20/14 SCALE AS NOTED

SECTIONS.DWG