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# 2nd Street On-Ramp

## Improvements

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### Unofficial Website Copy

[Link to website]
GENERAL NOTES
1. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD PROVISIONS", DATE OF ISSUE AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATE OF ISSUE, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.

PROJECT NOTES

SECTION 100
1. ANY DAMAGE TO SOME WOOD TO BE REPLACED OR POSTED BY THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, SHALL BE REPAIRED AND REPAIRED OR POSTED AT THE CONTRACTOR'S EXPENSE.

SECTION 200

SECTION 300
1. THE STRUCTURE SHALL INCLUDE THE FOLLOWING: NO SUPPORTED STRUCTURES, OTHER THAN SUPPORTED STRUCTURES, SHALL BE INCLUDED IN THE STRUCTURE.

MISCELLANEOUS
1. THE CONTRACTOR SHALL NOTIFY DART FIRST STATE AT DOT DETOURS@DELAWARE.GOV AT LEAST 14 DAYS PRIOR TO THE START OF ANY SITE CLEARING OR CONSTRUCTION, AND OR, INCLUDING ANY MODIFICATIONS OR ADDITIONS TO THE PLANS. FOR EMERGENCY SITE CLEARING INFORMATION, PLEASE CONTACT THE ENGINEER'S CHIEF SCHEDULER AT 302-576-6019.

2. ALL PROJECTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEER'S SCHEDULE DISPOSING OF THE STRUCTURE.

3. ALL STRUCTURES TO BE REMOVED UNDER ITEM 211000, MAT TYPE 1 OR MAT TYPE 2, SHALL BE REMOVED BY THE CONTRACTOR. GUARDRAIL INCLUDING END TREATMENT ATTENUATORS, AND ATTACHMENTS TO STRUCTURES SHALL BE REMOVED UNDER ITEM 211001, REMOVAL OF STRUCTURES AND TREATMENT MODIFICATIONS. (SEE SHEET NO. 1257, LOCATION OF THE STRUCTURE, THE ENGINEER'S SCHEDULE DISPOSING OF THE STRUCTURE.

4. THE CONTRACTOR IS ADVISED THAT NOT ALL ITEMS TO BE REMOVED BY THE CONTRACTOR ARE IDENTIFIED ON THE PLANS.

5. THE NEW CASTLE COUNTY DEPARTMENT OF PUBLIC WORKS SHALL SUPPLY AND THE STATE'S CONTRACTOR SHALL INSTALL NEW SELF SEALING MANHOLE FRAMES AND COVERS ON ALL COUNTY SEWER MANHOLE FRAMES AND COVERS THAT ARE NOT BEING ADJUSTED, WITHIN THE PROJECT LIMITS. THE EXISTING MANHOLE FRAMES AND COVERS SHALL BE REPLACED WITH NEW SELF SEALING MANHOLE FRAMES AND COVERS ON ALL COUNTY SEWER MANHOLE FRAMES AND COVERS THAT ARE NOT BEING ADJUSTED, WITHIN THE PROJECT LIMITS.

6. THE CONTRACTOR SHALL NOTIFY DART FIRST STATE AT DOT DETOURS@DELAWARE.GOV AT LEAST 14 DAYS PRIOR TO THE START OF ANY SITE CLEARING OR CONSTRUCTION, AND OR, INCLUDING ANY MODIFICATIONS OR ADDITIONS TO THE PLANS. FOR EMERGENCY SITE CLEARING INFORMATION, PLEASE CONTACT THE ENGINEER'S CHIEF SCHEDULER AT 302-576-6019.
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NOT TO SCALE
REHABILITATION OF I-95, 2ND STREET ON-RAMP PROJECT
EARTHWORK SUMMARY
**CONTRACT COUNTY DESIGNED BY:**

**COUNTY COUNTY DESIGNED BY:**

**CHECKED BY:**

**BRIDGE NO.:**

**ADDENDA / REVISIONS:**

**SECTION:**

**SHEET NO.:**

**N : 987 - 004 CONTRACT RAMP ADD HV01.dgn 12/20/2019 1:43:03 PM**

**SCALE:**

**FEET**

**0**

**100**

**200**

**300**

**STATION**

**OFFSET**

**EASTING**

**NORTHING**

**HORIZONTAL / VERTICAL CONTROL DATA**

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<td>580541.5794</td>
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<tr>
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**CONSTRUCTION ALIGNMENT CONTROL**

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**HV CONTROL LEGEND**

- **PHOTO** - Painted target with mag nail in concrete decking
- **RC** - Rebar and Cap set
- **MAG** - Magnetic nail set
- **XGUT** - Cut in concrete set
- **CMONU** - Survey monument found

**DATUM REFERENCE**

- Horizontal - This project is referenced to the Delaware State Plane Coordinate System (NAD 83/91)
- Vertical - This project is referenced to NAVD 88

**NOTES:**

1. See Sheet HV-03 for Curve Data Chart.

**BASELINE I-95**

**CONSTRUCTION AND RIGHT-OF-WAY**

**MATCH LINE STA 1294+00**

**REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS**

**HV-01**

**SCALE:**

**3" = 100'**
REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS
HV-02

NOTES:
1. SEE SHEETS HV-03 AND HV-04 FOR CURVE DATA CHARTS.

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**NOT TO SCALE**

**REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS**

**CIRCULAR CURVE NO.**

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**NOT TO SCALE**
CIRCULAR CURVE NO. 2 - RAMP B

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CIRCULAR CURVE NO. 3 - RAMP B

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NOTES:
1. SEE SHEET HV-02 FOR BASELINE.
NOTES:

1. SEE CONSTRUCTION DETAIL CT-01 FOR CURB PATCH DETAIL.
2. SEE CONSTRUCTION DETAIL CT-01 FOR DECORATIVE FENCE DETAIL.

**CONVERT TO JUNCTION BOX SCHEDULE**

<table>
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<th>ITEM</th>
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**DRAINAGE INLET SCHEDULE**

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Joint Layout Notes:
1. The contractor shall construct the joints according to the joint layout notes, unless otherwise noted by the engineer.
2. Joint layout as shown on the plans is for information only and is the responsibility of the contractor to develop the joint layout for review and approval by the engineer.
3. Typical transverse joint spacing is 12'.
4. The maximum slab width is 8' unless otherwise noted on the plans or approved by the engineer.
5. The minimum slab width is 4'.
6. The minimum transverse joint spacing is 15'.
7. It is the responsibility of the contractor to mark the necessary adjustments to the joint layout so that joints are placed within 5' of joints can pass through the feature of the joint and surrounding features.

GENERAL NOTES:
1. Offset shown on the coordinate list with a minus sign are to the left of the construction baseline.
2. Unless otherwise noted, joint geometry adjacent to curb and gutter is given to the edge of pavement.
3. Radii are given to the edge of pavement.
4. Unless otherwise indicated, elevation of pavement and edge of pavement at curb returns are given as to feet.
5. Proposed curb or pavement that ties into existing pavement or existing curbs shall match existing pavement.
6. For drainage features within 5' of joints, the feature of the joint and surrounding features are to be kept.

COORDINATE LIST

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CONTRACT
COUNTY
DESIGNED BY:
CHECKED BY:
BRIDGE NO.

NEW CASTLE

IMPROVEMENTS
REHABILITATION OF I-95,
2ND STREET ON-RAMP

CONSTRUCTION AROUND EXISTING SIGNAL POLE DETAIL
NOT TO SCALE
SOUTHWEST CORNER AT LANCASTER AVE AND S. JACKSON ST. (SEE DT-05)

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH THE PLANS, SECTION 727, AND THE MANUFACTURER’S SPECIFICATIONS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH THE PLANS, SECTION 727, AND THE MANUFACTURER’S SPECIFICATIONS.
3. CONCRETE FOR FOOTINGS SHALL BE 3,000 PSI  CLASS B IN ACCORDANCE WITH SECTION 727.
4. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH THE PLANS, SECTION 727, AND THE MANUFACTURER’S SPECIFICATIONS.
5. FASTENERS:
   - POSTS AND PICKETS SHALL BE ATTACHED USING 1/4" INDUSTRIAL DRIVE RIVETS.
   - ATTACH HOLES TO BE DRILLED IN THE PROPOSED CURB AND SIDEWALK DETAIL.
   - ATTACH HOLES TO BE DRILLED IN THE PROPOSED CURB AND SIDEWALK DETAIL.
   - ATTACH HOLES TO BE DRILLED IN THE PROPOSED CURB AND SIDEWALK DETAIL.
   - ATTACH HOLES TO BE DRILLED IN THE PROPOSED CURB AND SIDEWALK DETAIL.
   - ATTACH HOLES TO BE DRILLED IN THE PROPOSED CURB AND SIDEWALK DETAIL.

CONSTRUCTION DETAILS

SHEET NO.
N : 31987-004 CONTRACT_RAMP_ADD DT-01.dgn

12/20/2019 1:43:16 PM

DECORATIVE FENCE
3-RAIL PRESS ER POINT PICKET FENCE
NOT TO SCALE

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH THE PLANS, SECTION 725, AND THE MANUFACTURER’S SPECIFICATIONS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH THE PLANS, SECTION 727, AND THE MANUFACTURER’S SPECIFICATIONS.
3. CONCRETE FOR FOOTINGS SHALL BE 3,000 PSI  CLASS B IN ACCORDANCE WITH SECTION 727.
4. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH THE PLANS, SECTION 727, AND THE MANUFACTURER’S SPECIFICATIONS.
5. FASTENERS:
   - POSTS AND PICKETS SHALL BE ATTACHED USING 1/4" INDUSTRIAL DRIVE RIVETS.
   - ATTACH HOLES TO BE DRILLED IN THE PROPOSED CURB AND SIDEWALK DETAIL.
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   - ATTACH HOLES TO BE DRILLED IN THE PROPOSED CURB AND SIDEWALK DETAIL.

CONSTRUCTION AROUND EXISTING SIGNAL POLE DETAIL
NOT TO SCALE
SOUTHWEST CORNER AT LANCASTER AVE AND S. JACKSON ST. (SEE DT-05)
NOTED:
1. Place preformed expansion joint material between end of curb and barrier per Section 701.
2. Transition limits to be measured for payment under Item 701.

TRANITION MATERIAL: PCM CURB AND CURB TYPE 3-2 WIDTH AND CURB
SHAPE TO MEET FACE OF CURB.
LENGTH OF TRANSITION OF GUTTER SLOPE TO MEET SHOULDER SLOPE AT BARRIER/VANCY AS SHOWN ON GRADES AND SECTIONS PLANS TO MAINTAIN POSITIVE FLOW.

CURB TRANSITION DETAILS AT GUARDRAIL TO BARRIER CONNECTION (APPROACH TYPE 1)
RAMP D, LEFT: STA. 303+66.33 TO STA. 303+73.58
RAMP D, RIGHT: STA. 303+68.13 TO STA. 303+75.58

NOTE:
1. Placement of preformed expansion joint material between end of curb and barrier per Section 701.
2. Transition limits to be measured for payment under Item 701 with all costs for transition included in Item 701.
CONTRACT
COUNTY
DESIGNED BY:
CHECKED BY:

BRIDGE NO.

ADDENDA / REVISIONS

SECTION

SHEET NO.

NOTES:
1. FIRE HYDRANT INSTALLATION DETAIL
   NOT TO SCALE

NOT TO SCALE

STANDARD FIRE HYDRANT KENNEDY GUARDIAN, 5 1/4" VALVE OPENING

VALVE BOX INSTALLATION DETAIL

NOT TO SCALE

FIRE HYDRANT INSTALLATION DETAIL

NOT TO SCALE

NOTE:
1. HYDRANTS SHALL CONFORM TO ASME COO, LATEST EDITION, RELATING TO FIRE HYDRANTS AND CONFORM WITH THE CITY OF WILMINGTON STANDARDS.
2. HYDRANTS SHALL BE KENNEDY GUARDIAN DRY-BARREL TRAFFIC MODEL DESIGN WITH 5-1/4" VALVE OPENING.
3. EACH HYDRANT SHALL BE SHOP TESTED UNDER 300 PSI APPLIED HYDROSTATIC PRESSURE ABOVE AND BELOW THE TRAFFIC FLANGE.
4. ALL PARTS OF HYDRANTS SHALL BE INTERCHANGEABLE WITH SIMILAR PARTS OF HYDRANTS OF THE SAME SIZE AND TYPE. ALL BOLT HOLES SHALL BE ACCURATELY DRILLED FROM TEMPLATES. ALL JOINTS SHALL BE FACED AND TYPE. O-RING SEALS AND THE MAIN VALVE SHALL OPEN CLOCKWISE WITH A 19/16-INCH TO 3/4-INCH PENTAGON NUT.
5. THROT BLOCKS SHALL BE MADE OF 3,000 PSI CONCRETE.
6. BACKFILL MATERIAL SHALL BE TYPE "C". (AS SPECIFIED)
7. THRUST BLOCKS SHALL BE MADE TO A MAXIMUM OF 5 INCHES FROM THE TOP OF THE CURB TO THE BOTTOM OF THE COUPLING.
8. MECHANICAL JOINTS SHALL BE MADE TO A MAXIMUM OF 5 INCHES FROM THE TOP OF THE CURB TO THE BOTTOM OF THE COUPLING.
9. MECHANICAL JOINTS SHALL BE MADE TO A MAXIMUM OF 5 INCHES FROM THE TOP OF THE CURB TO THE BOTTOM OF THE COUPLING.
10. MECHANICAL JOINTS SHALL BE MADE TO A MAXIMUM OF 5 INCHES FROM THE TOP OF THE CURB TO THE BOTTOM OF THE COUPLING.

RELOCATION DETAILS

NEW CASTLE
REHABILITATION OF I-95,
IMPROVEMENTS

CONSTRUCTION DETAILS

J. DAVIS
B. TOWNSEND

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NOTES:
1. INSTRUCTIONS PHYSICAL LIMITATIONS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL ADJUST WORK AND ADJUST THE ENGINEER. THEN THE CONTRACTOR SHALL RESUME WORK ACTIVITIES AS THE ENGINEER DETERMINES. THE PLAN NEEDS TO BE MODIFIED ON PROJECT.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO USE THE PROPER CONSTRUCTION EQUIPMENT AS NECESSARY TO MEET ACCESSIBILITY REQUIREMENTS AS SET FORTH IN DELSIGHTED PEDESTRIAN ACCESSIBILITY STANDARDS FOR FACILITIES IN THE PUBLIC RIGHT OF WAY.
3. THE CONTRACTOR SHALL RESPECT ANY EXISTING SIDEWALKS NEEDED TO ACHIEVE THE REQURED ANGLES AS SHOWN ON THE PLAN.
4. ALL AREAS WITH PROPOSED CURB SHALL HAVE A 2 FOOT SAUCER OFFSET FROM THE PROPOSED CURB LINE FOR PAVEMENT PAVING.
5. SLUMP THE SEDIMENT AT A CONSTANT SLOPE FOR A LENGTH OF 15 FEET TO MEET STANDARDS DESIGNED BY B. TOWNSEND.
6. COORDINATE WITH DELSIGHTED POWER GRID TO EXCAVATION AROUND UTILITY POLE TO ENSURE NO DAMAGE WILL BE DONE TO THE POLE.
NOTES:
1. IF UNFORESEEN PHYSICAL LIMITATIONS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL EXIT WORK AND NOTIFY THE ENGINEER. THE CONTRACTOR IS NOT AN INDUCED TO MODIFY THE PLAN UNLESS THE ENGINEER DETERMINES THE PLAN NEEDS TO BE MODIFIED OR REVISED.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO USE THE PROPER CONSTRUCTION EQUIPMENT AS NECESSARY TO MEET ACCESSIBILITY REQUIREMENTS AND ADJUST TO PREVENT ANY VIOLATIONS OF THE ACCESSIBILITY STANDARDS FOR FACILITIES IN THE PUBLIC RIGHT OF WAY.
3. THE CONTRACTOR SHALL RECONSTRUCT ANY EXISTING SIDEWALK NEEDED TO ACHIEVE THE REQUIRED RIGHT OF WAY.
4. ALL AREAS WITH PROPOSED CURB SHALL HAVE A 2 FOOT SAWCUT OFFSET FROM THE PROPOSED CURB LINES FOR PROPOSED PAVEMENT PATHS.
5. THE CONTRACTOR SHALL REMOVE THE EXISTING TREE AND STUMP/MOSS MAST. THE EXISTING MATERIAL SHALL BE REBUILT/REPLACED FROM THE TREE TRUNK AND TREE TRUNK SHALL BE BACKFILLED WITH A SUITABLE PLANTING SOIL FOR A NEW TREE. DESCRS AND THE CITY OF WILMINGTON WILL COORDINATE THE PLANTING OF A NEW TREE FOLLOWING THE CONCLUSION OF THIS CONTRACT. ALL WORK TO REMOVE ITEM CLEARING AND GRADING.
6. IF UNFORESEEN PHYSICAL LIMITATIONS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL EXIT WORK AND NOTIFY THE ENGINEER. THE CONTRACTOR IS NOT AN INDUCED TO MODIFY THE PLAN UNLESS THE ENGINEER DETERMINES THE PLAN NEEDS TO BE MODIFIED OR REVISED.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO USE THE PROPER CONSTRUCTION EQUIPMENT AS NECESSARY TO MEET ACCESSIBILITY REQUIREMENTS AND ADJUST TO PREVENT ANY VIOLATIONS OF THE ACCESSIBILITY STANDARDS FOR FACILITIES IN THE PUBLIC RIGHT OF WAY.
8. THE CONTRACTOR SHALL RECONSTRUCT ANY EXISTING SIDEWALK NEEDED TO ACHIEVE THE REQUIRED RIGHT OF WAY.
9. ALL AREAS WITH PROPOSED CURB SHALL HAVE A 2 FOOT SAWCUT OFFSET FROM THE PROPOSED CURB LINES FOR PROPOSED PAVEMENT PATHS.
10. THE CONTRACTOR SHALL REMOVE THE EXISTING TREE AND STUMP/MOST MAST. THE EXISTING MATERIAL SHALL BE REBUILT/REPLACED FROM THE TREE TRUNK AND TREE TRUNK SHALL BE BACKFILLED WITH A SUITABLE PLANTING SOIL FOR A NEW TREE. DESCRS AND THE CITY OF WILMINGTON WILL COORDINATE THE PLANTING OF A NEW TREE FOLLOWING THE CONCLUSION OF THIS CONTRACT. ALL WORK TO REMOVE ITEM CLEARING AND GRADING.
**BRIDGE SCUPPER DOWNSPOUT DETAIL**

**NOT TO SCALE**

Provide long radius wye connection cleanout of identical size and type as scupper downsout. Provide screw-in cap per manufacturer's recommendations.

Connect downsout to bridge per per bridge plans.

**STEP RECONSTRUCTION DETAIL (SECTION)**

**NOT TO SCALE**

Southwest corner at Lancaster Ave and S. Jackson St. (See DT-05)

**STEP RECONSTRUCTION DETAIL (PLAN)**

**NOT TO SCALE**

Southwest corner at Lancaster Ave and S. Jackson St. (See DT-05)
NOTES:
1. SEE SHEET 1-750 DWG. PE-01 FOR DISPOSITION OF UTILITIES.
SECTION 200

19. WELDING

- All welds shall be made by a qualified welder using a qualified welding process.
- All welds shall be made in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

20. CONCRETE AND MASONRY

- All concrete and masonry work shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.
- All concrete and masonry work shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

SECTION 600

1. GENERAL

- The specifications are subject to revision at any time.

2. CONCRETE

- Concrete shall be placed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

3. MASONRY

- Masonry shall be laid in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

4. METALWORK

- Metalwork shall be made in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

5. BRIDGE DESIGN

- Bridge design shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

6. SITE DEVELOPMENT

- Site development shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

7. ENVIRONMENTAL COMPLIANCE

- Environmental compliance shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

8. MISCELLANEOUS

- Miscellaneous work shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

SECTION 800

1. GENERAL

- General requirements shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

2. CONSTRUCTION ENGINEERING

- Construction engineering shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

3. PROJECT MANAGEMENT

- Project management shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

4. SAFETY

- Safety shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

5. QUALITY ASSURANCE

- Quality assurance shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

6. PAYMENT AND CONTRACT

- Payment and contract shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

7. INSPECTION

- Inspection shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

8. COMPLIANCE

- Compliance shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

9. CONFIDENTIALITY

- Confidentiality shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

10. CONSTRUCTION ENGINEERING

- Construction engineering shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

11. PROJECT MANAGEMENT

- Project management shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

12. SAFETY

- Safety shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

13. QUALITY ASSURANCE

- Quality assurance shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

14. PAYMENT AND CONTRACT

- Payment and contract shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

15. INSPECTION

- Inspection shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.

16. COMPLIANCE

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41. CONFIDENTIALITY

- Confidentiality shall be performed in accordance with the 2016 DELDOT STANDARD SPECIFICATIONS.
**LMC OVERLAY NOTES:**

1. REMOVE STEEL SIGN SUPPORT BRACKETS
2. REPLACE SCUPPER / ADD NEW DOWNSPOUT
3. REPLACE BRIDGE SCUPPER / ADD NEW BRIDGE SCUPPER
4. REPAIR SPALL/DELAMINATION IN SOFFIT

---

2. THAT IS SAFE FOR DOWNSTREAM ENVIRONMENTS SHALL BE USED.

WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND ITEM 601503 - THE BRIDGE AND AS DIRECTED BY THE ENGINEER. IN ADDITION, AFTER STAGE 2 P26S C1; P28S C1; P29S C1; P30S C1; P31S C1; P33S C1; SPANS 26S THROUGH 39S INCLUDES REMOVING AND REPLACING A SEE HIGHWAY DWG. DT-06 FOR CLEAN-OUT DET.

SEE NOTES, THIS SHEET INCLUDES REMOVING AND REPLACING A SEE HIGHWAY DWG. DT-06 FOR CLEAN-OUT DET.

THE LOCATION AND QUANTITIES OF THE REPAIRS SHOWN ON THIS DRAWING ARE BASED ON THE CONDITION AT THE TIME OF DRAWING.

---

**CONCRETE SOFFIT REPAIR TABLE**

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**REPAIRS**

1. REPLACE BRIDGE LIGHTING
2. REPLACE BRIDGE SUPPORTS AND NEW BRIDGE SUPPORT
3. REPLACE BRIDGE SUPPORTS AND NEW BRIDGE SUPPORT
4. REMOVE AND REPLACE BRIDGE Support
5. CLEAN BRIDGE SUPERINTENDENTS

---

**NOT TO SCALE**

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENT

---

**CONCRETE SOFFIT REPAIR NOTES:**

1. THE LOCATION AND QUANTITIES OF THE REPAIRS SHOWN ON THIS DRAWING ARE BASED ON THE CONDITION AT THE TIME OF DRAWING. THIS LIST DOES NOT INCLUDE ANY POINTS OF THE DRAWING WHICH WILL BE REPAIRED IN THE COURSE OF THE CONSTRUCTION OF THE FACILITIES. THE CONTRACTOR WILL BE RESPONSIBLE FOR PERFORMANCE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS.

---

**WEBSITE COPY**
REINFORCEMENT AROUND SPALL PERIPHERY
RECTANGULAR SHAPE
SAW CUT 1" DEPTH ON
FILLED MONOLITHICALLY WITH
HYDRODEMOLITION SHALL BE
CLASS D CONCRETE

LIMITS OF HYDRODEMOLITION (ITEM 760500 OR 760501)
LIMITS OF REMOVAL, PAVEMENT MILLING (ITEM 760013)

SPALLED CONCRETE
REFER TO SECTIONS 625 AND 628 OF THE STANDARD SPECIFICATIONS

REMOVE EXISTING LMC OVERLAY, THICKNESS VARIES
DETAILS FOR ADDITIONAL INFORMATION

LIMITS OF CONCRETE REMOVAL AND
PLAN

SPALLED AREA
CONCRETE
SOUND
REMOVAL OF EXISTING DECK REPAIRS (ITEM 628502)
CONCRETE, TO SOUND
REINFORCEMENT BEHIND EXISTING
MINIMUM 1"
REMOVE TO A

SECTION A-A
STANDARD SPECIFICATIONS
REFER TO SECTIONS 625 AND 628 OF THE

NEWLY INSTALLED REINFORCEMENT IS SCHEDULED TO BE FLOWED INTO THE CONCRETE USING A BONDING
AGENT APPROVED BY THE ENGINEER.

CONCRETE CONSTRUCTION
FULL DEPTH DECK REPAIR
PPC SAND MIX FOR RUMBLE STRIPS DETAIL
REHABILITATION OF PCC MASONRY (ITEM 628042)
REHABILITATION OF PCC MASONRY NOTES

REHABILITATION OF PCC MASONRY IS DEFINED AS DEEP SPALL REPAIRS THAT EXCEED THE
G.C. TYP. DIMENSIONS IN A SINGLE AREA.

REHABILITATION OF PCC MASONRY IS DEFINED AS DEEP SPALL REPAIRS THAT EXCEED THE
G.C. TYP. DIMENSIONS IN A SINGLE AREA.

PAYMENT FOR FULL DEPTH DECK REPAIRS MADE AFTER
MILLING AND PRIOR TO HYDRODEMOLITION WILL BE MADE UNDER ITEM 628053 - DECK
REPAIR, FULL DEPTH.

DEEP SPALL REPAIR NOTES
1. DEEP SPALL REPAIRS ARE DEFINED AS DEEP SPALL PATCHES THAT EXTEND BEYOND THE
TOP OF THE CONCRETE. DEEP SPALL REPAIR CONCRETE IS TYP. ASSUMED AS DEEP SPALL REPAIR.
2. ALL WORK INVOLVING METHODS OF CONCRETE REMOVAL CLEANING OF CONCRETE SURFACE
AND EXISTING REINFORCEMENTS REPAIRING OF REPLACING SHAPED REINFORCEMENT AS
RESULT OF CONSTRUCTION ACTIVITIES OR SECTION LOSS, CONSTRUCTION OR DEMOLITION SHAPED
REINFORCEMENT AND CONCRETE PLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH
SUBSECTION 628.03(E) OF THE STANDARD SPECIFICATIONS. PAYMENT INCIDENTAL TO ITEM 628041 -
DEEP SPALL REPAIR.
3. IF REPAIR EXTENDS MORE THAN 6" BEYOND SURFACE OF CONCRETE, CONTRACTOR SHALL
STOP WORK AND NOTIFY THE ENGINEER IMMEDIATELY.

REHABILITATION OF PCC MASONRY NOTES
1. REHABILITATION OF PCC MASONRY IS DEFINED AS DEEP SPALL PATCHES THAT EXTEND THE
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2. ALL WORK INVOLVING METHODS OF CONCRETE REMOVAL CLEANING OF CONCRETE SURFACE
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3. IF REPAIR EXTENDS MORE THAN 6" BEYOND SURFACE OF CONCRETE, CONTRACTOR SHALL
STOP WORK AND NOTIFY THE ENGINEER IMMEDIATELY.

REMOVAL OF EXISTING DECK REPAIR NOTES
1. IF EXISTING OVERLAY IS REMOVED, PRIOR TO HYDRODEMOLITION, ANY DEEP SPALL REPAIRS THAT ARE
LONG, PARTIALLY DEBURIED, OR OTHERWISE UNABRACED, WILL BE MEASURED BY THE CONTRACTOR AND VARIES.
2. THE CONTRACTOR SHALL REMOVE THE EXISTING DECK REPAIRS IN ACCORDANCE WITH
SUBSECTION 628.03(D).
3. THE CONTRACTOR MAY REMOVE ANY UNABRACED ORIGINAL BRIDGE DECK CONCRETE.
4. REPAIR TO TYPICAL CONCRETE - REMOVAL OF DECK REPAIR REPAIR FOR PAYMENT
AND ADDITIONAL INFORMATION.
5. Removal of Existing Deck Repair Requires Full Depth, and with the approval of
the Engineer, Repair Area Shall Be Identified In accordance with Subsection
628.03(E) and paid for under Full Depth - Deck Repair, Full Depth, Removal of Existing Deck Repair That Are Counted As
Deck Repair, Full Depth Will Only Be Paid For Once Under Item 628053.

DECK REPAIR NOTES
1. AFTER EXISTING OVERLAY IS REMOVED, PRIOR TO HYDRODEMOLITION, ALL WORK INVOLVING
METHODS OF CONCRETE REMOVAL, CLEANING OF CONCRETE SURFACE AND EXISTING
REINFORCEMENTS REPAIRING OR REPLACING SHAPED REINFORCEMENT AS RESULT OF CONSTRUCTION
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REPAIRING OR REPLACING DAMAGED REINFORCEMENT AS
RESULT OF CONSTRUCTION ACTIVITIES OR SECTION LOSS; PRESENCE OF CONTRACTION OR
EXPANSION JOINTS; SURFACE PREPARATION; AND CONCRETE PLACEMENT MUST BE
PERFORMED IN ACCORDANCE WITH SUBSECTION 628.03(E) OF THE STANDARD
SPECIFICATIONS. PAYMENT INCIDENTAL TO ITEM 628041 - DEEP SPALL REPAIR.
3. THE ENGINEER MAY REQUIRE THIS WORK TO BE CARRIED OUT IN A SINGLE STAGE.
4. THE REMOVAL SHALL NOT INCLUDE ANY UNSOUND ORIGINAL BRIDGE DECK CONCRETE.
5. IF REMOVAL OF EXISTING DECK REPAIR REACHES FULL DEPTH, AND WITH THE APPROVAL OF
THE ENGINEER, REPAIR AREA SHALL BE IDENTIFIED IN ACCORDANCE WITH SUBSECTION
628.03(D) AND PAID FOR UNDER FULL DEPTH - DECK REPAIR, FULL DEPTH. REMOVAL OF EXISTING DECK REPAIRS THAT ARE COUNTED AS
DECK REPAIR, FULL DEPTH WILL ONLY BE PAID FOR ONCE UNDER ITEM 628053.

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628.03(D) AND PAID FOR UNDER FULL DEPTH - DECK REPAIR, FULL DEPTH. REMOVAL OF EXISTING DECK REPAIRS THAT ARE COUNTED AS
DECK REPAIR, FULL DEPTH WILL ONLY BE PAID FOR ONCE UNDER ITEM 628053.

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REINFORCEMENT AND CONCRETE PLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH
SUBSECTION 628.03(E) OF THE STANDARD SPECIFICATIONS. PAYMENT INCIDENTAL TO ITEM 628041 -
DEEP SPALL REPAIR.
NOTES:

1. For Parapet detail, drip notch detail, and architectural groove detail, see DWG. PA-01.

2. Thicknesses of existing deck and proposed LMC overlays vary. See DWGs. DM-01 and DM-02 for details.

3. For location of deck opening reconstruction limits, see DWG. CW-01.

4. See DWGs. EX-08 and EX-09 for limits of removal of decorative barrier. Limits of removal includes approximately 3 ft. of decorative barrier removal in Span 25S.

5. The proposed edge of deck does not follow the existing edge of deck. For layout, see DWG. PA-00.

6. The top surface of the Class D concrete deck shall be rough finished to full amplitude of $. The concrete shall be scarified transversely with a coarse wire brush to remove all laitance and to produce a roughened surface for bonding with the LMC overlay.

7. See contract No. 64-03-001 for additional girder spacing information. Section taken within tangent portion of I-95.

8. For Parapet width by Span, see DWG. PA-00.

See Note 1.

See Note 2.

See Note 3.

See Note 4.

See Note 5.

See Note 6.

See Note 7.

See Note 8.

For location of deck overhang reconstruction limits see DWG. DM-01.
EXISTING TYPICAL SECTION SPANS 33S TO 37S
(STA. 1300+34.01 TO 1303+72.61 I-95 SB)

PROPOSED TYPICAL SECTION SPANS 33S TO 37S
(STA. 1300+34.01 TO 1303+72.61 I-95 SB)

NOTES:
1. FOR PARAPET DETAIL, DRAINAGE DETAIL, AND
   ARCHITECTURAL GROOVE DETAIL, SEE DWGS. PA-01, BR 1-758 TO BE REMOVED
   SEE NOTE 2
2. THICKNESSES OF EXISTING DECK AND PROPOSED LMC
   OVERLAY VARY, SEE DWGS. DM-02 AND DM-03 FOR DETAILS.
3. IN SPANS 33S THROUGH 39S THE NEW WEST EDGE OF DECK
   IS SET 25'-5" OFFSET FROM THE CONSTRUCTION BASELINE RAMP D.
4. FOR SUPERELEVATION TRANSITIONS SEE DWGS. GG-01 AND
   GG-03.
5. FOR CONSTRUCTION BASELINE RAMP D, SEE DWG. HV-02.
6. 'D' = 12" AT BEARING FROM TOP OF WEB TO TOP OF LMC
   OVERLAY.
7. THE TOP SURFACE OF THE CLASS D CONCRETE DECK SHALL
   BE ROUGH FINISHED TO A FULL AMPLITUDE OF '. THE
   CONCRETE SHALL BE SCRUBBED TRANSVERSELY WITH A
   CLOSURE POUR TO REMOVE ALL LAITANCE AND TO
   PRODUCE A ROUGHENED SURFACE FOR BONDING WITH THE LMC
   OVERLAY.
8. THE SOFT SURFACE OF THE CLASS D CONCRETE DECK MAY BE
   BROKEN OFF MARKED TO A PLUS ANGLE OF 1/8" THE
   SOFT SURFACE SHALL BE SCRUBBED TRANSVERSELY WITH A
   BRACKING AND BRUSH TO REMOVE ALL LAITANCE AND TO
   PRODUCE A ROUGHENED SURFACE FOR BONDING WITH THE LMC
   OVERLAY.

EXISTING TYPICAL SECTION SPANS 33S TO 37S
(STA. 1300+34.01 TO 1303+72.61 I-95 SB)

PROPOSED TYPICAL SECTION SPANS 33S TO 37S
(STA. 1300+34.01 TO 1303+72.61 I-95 SB)
EXisting Typical Section Span 39S
(Sta. 1304+40.15 to Sta. 1305+08.44 I-95 SB)

Proposed Typical Section Span 39S
(Sta. 1304+40.15 to Sta. 1305+08.44 I-95 SB)

Notes:
1. For Parapet Detail, Drip Notch Detail, and Architectural Groove Detail, See Dwg. DM-02 and DM-03.
2. Thicknesses of Existing Deck and Proposed LMC Overlay, See Dwg. WU-02 and WU-03 For Details.
3. In Span 35, Position 35. The Her Best Edge of Deck Is Set 25'-5" Offset From Construction Baseline Ramp D.
4. For Super-elevation Transitions See Dwg. GG-01 and GG-02.
5. For Construction Baseline Ramp D, See Dwg. HH-02.
6. 1'-10" = 32-" AT Bearing From Top of Web To Top Of LMC Overlay.
7. The Top Surface of The Class D Concrete Deck Shall Be Treated In Accordance With A Full Amendment Of 10., The Class D Concrete Deck Shall Be Mechanically Treatment To Ensure All Surface And To Produce A Roughened Surface For Bonding With The LMC Overlay.

SCALE AS NOTED

UNOFFICIAL WEBSITE COPY
SUGGESTED SEQUENCE OF CONSTRUCTION

1. INSTALL TEMPORARY WORKS INCLUDING PROTECTIVE SHIELDS, RAILINGS, ETC. AS NECESSARY TO PROTECT THE WORK ZONE AND AREAS UNDER AND ADJACENT TO THE CONSTRUCTION.

2. REMOVE EXISTING EXTERIOR PARAPET TO THE LIMITS SHOWN.

3. REMOVE EXISTING LMC OVERLAY VIA PAVEMENT MILLING WITHIN THE LIMITS OF DEEP CUT HYDRODEMOLITION AS SHOWN.

4. PERFORM DEEP CUT HYDRODEMOLITION TO THE LIMITS SHOWN.

5. REMOVE THE EXISTING OVERHANG TO THE LIMITS SHOWN.

6. RECONSTRUCT THE DECK OVERHANG. SEE DWGS. DK-01 TO DK-07 FOR ADDITIONAL DETAILS.

7. CONSTRUCT NEW 36" F-SHAPE PARAPET. SEE DWG. PA-01 FOR DETAILS.

8. REMOVE EXISTING LMC OVERLAY VIA PAVEMENT MILLING WITHIN THE LIMITS OF TOTAL SURFACE HYDRODEMOLITION AS SHOWN.

9. PLACE NEW LMC OVERLAY VIA PAVEMENT MILLING WITHIN THE LIMITS OF TOTAL SURFACE HYDRODEMOLITION AS SHOWN.

10. PLACE NEW LMC OVERLAY.

NOTES:

1. EXISTING TOP AND EXISTING TRANSVERSE LONGITUDINAL SHEAR STUDS SHOWN WILL BE ENGAGED INTO NEW OVERHANG. DEEP CUT HYDRODEMOLITION SHALL BE PERFORMED TO THE DEPTH SHOWN IN THE DETAIL ON DWG. DM-03. NEW DECK CONCRETE SHALL BE LAPPED WITH EXISTING TOP ENDS.

2. EXISTING BARS TO REMAIN SHALL BE ENGAGED IN ACCORDANCE WITH SECTION 628.03(E)(7). EXISTING TOP AND EXISTING TRANSVERSE LONGITUDINAL SHEAR STUDS SHOWN WITH INADEQUATE BOND SHALL BE REPAIRED IN ACCORDANCE WITH SUBSECTION 628.03(E)(7). PAYMENT FOR CLEANING EXISTING SHEAR STUDS WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS. EXISTING SHEAR STUDS DAMAGED DURING REMOVAL TO REMAIN SHALL BE CLEANED IN ACCORDANCE WITH SECTION 628.03(E)(7). BARS WITH CORROSION, BROKEN, OR WITH INADEQUATE BOND SHALL BE REPAIRED IN ACCORDANCE WITH SUBSECTION 628.03(E)(7). PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS. EXISTING SHEAR STUDS TO REMAIN SHALL BE INTEGRATED INTO NEW OVERHANG. DEEP CUT HYDRODEMOLITION SHALL BE PERFORMED TO THE DEPTH SHOWN IN THE DETAIL ON DWG. DM-03. NEW OVERHANG BARS SHALL BE LAPPED WITH EXISTING TOP BARS.

3. EXISTING LONGITUDINAL REINFORCEMENT WITHIN THE LIMITS OF FULL DEPTH REMOVAL SHALL BE REMOVED AND REPLACED. EXISTING LONGITUDINAL REINFORCEMENT NOT SHOWN FOR CLARITY. SEE DWGS. DK-01 TO DK-07 FOR ADDITIONAL DETAILS.

4. EXISTING STEEL GIRDER NUMBERS SHOWN REPRESENT SPANS 26S THROUGH 30S. IN SPANS 31S AND 32S THERE ARE A TOTAL OF 9 GIRDER. SEE THE FRAMING PLAN IN THE EXISTING PLANS FOR MORE INFO.

5. CONSTRUCTION BASELINE I-95 2ND STREET ON-RAMP IMPROVEMENTS

LIMITS OF DEEP CUT HYDRODEMOLITION

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LIMITS OF REMOVAL, HYDRODEMOLITION

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<tr>
<td>315</td>
<td>4'-2&quot;</td>
</tr>
<tr>
<td>32S</td>
<td>4'-2&quot;</td>
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</table>

LIMITS OF REMOVAL, PAVEMENT MILLING

<table>
<thead>
<tr>
<th>SPAN NO.</th>
<th>LIMITS OF PAVEMENT MILLING</th>
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</thead>
<tbody>
<tr>
<td>265</td>
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<tr>
<td>275</td>
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<td>285</td>
<td>5'-4&quot;</td>
</tr>
<tr>
<td>295</td>
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<tr>
<td>305</td>
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LIMITS OF DESTRUCTION SPANS 26S TO 32S

<table>
<thead>
<tr>
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<tbody>
<tr>
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</tr>
<tr>
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<td>285</td>
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<td>305</td>
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<tr>
<td>315</td>
<td>4'-2&quot;</td>
</tr>
<tr>
<td>32S</td>
<td>4'-2&quot;</td>
</tr>
</tbody>
</table>

SCALE AS NOTED

REHABILITATION OF I-95 2ND STREET ON-RAMP IMPROVEMENTS

LEGEND:

- LIMITS OF REMOVAL, PAVEMENT MILLING (ITEM 211000)
- LIMITS OF REMOVAL, HYDRODEMOLITION (ITEM 760500 OR 760501)
- LIMITS OF REMOVAL, PAVEMENT MILLING (ITEM 760013)
SUGGESTED SEQUENCE OF CONSTRUCTION

THIS SUGGESTED SEQUENCE REPRESENTS THE GENERAL ORDER OF OPERATING MACHINES TO WIDEN SPANS 33S TO 39S AND PLACE THE PROPOSED OVERLAY. IT IS NOT INTENDED TO REPRESENT ALL ACTIVITIES AND MATERIALS NEEDED TO COMPLETE THE WORK AS SPECIFIED. THE CONTRACTOR MAY ALTER THIS SUGGESTED SEQUENCE AND THE REMOVAL AND RECONSTRUCTION LIMITS WITH THE APPROVAL OF THE ENGINEER.

1. INSTALL TEMPORARY WORKS INCLUDING PROTECTIVE SHIELDS, RAILINGS, ETC. AS NECESSARY TO PROTECT THE WORK ZONE AND AREAS UNDER AND ADJACENT TO THE CONSTRUCTION.
2. REMOVE EXISTING EXTERIOR PARAPET TO THE LIMITS SHOWN.
3. REMOVE EXISTING LMC OVERLAY VIA PAVEMENT MILLING WITHIN THE LIMITS SHOWN.
4. PERFORM TOTAL SURFACE HYDRODEMOLITION TO THE LIMITS SHOWN.
5. REMOVE THE EXISTING OVERHANG TO THE LIMITS SHOWN.
6. SET NEW GIRDS, FORM AND POUR DECK ON NEW GIRDS. SEE DWGS. FR-01, FR-02 AND DK-08 TO DK-16 FOR DETAILS.
7. CONSTRUCT NEW 36" F-SHAPE PARAPET. SEE DWG. PA-01 FOR DETAILS.
8. FORM AND POUR CLOSER POUR. SEE DWGS. FR-01 TO DWG-16 FOR DETAILS.
9. PLACE NEW LMC OVERLAY.

LEGEND:

- Limits of removal, pavement milling (Item 760013)
- Limits of removal, total surface hydrodemolition (Item 760500)
- Limits of removal (Item 211000)

NOTES:

1. For demolition notes, see Dwg. DM-01.

LIMITS OF DEMOLITION SPANS 33S TO 39S

(L1300+34.00 TO L1305+08.44)

S-6 TO REMAIN (TYP.)

EXISTING STEEL GIRDER

S-5

EXISTING GIRDER NO. (TYP.)

S-4

2'-0"

ON DWG. DM-01

SEE NOTE 2

AFTER REMOVAL OF EXISTING LMC OVERLAY

MAX. VIA TOTAL SURFACE HYDRODEMOLITION

SURFACE TO BE SCARIFIED " MIN. TO 1'-0"

EXISTING DECK TO REMAIN (EXISTING CONCRETE

3"

ON DWG. DM-01

SEE NOTE 1

TO REMAIN,

REINFORCEMENT

EXISTING

BE REMOVED

OVERHANG TO

EXISTING DECK

TO BE REMOVED

EXISTING PARAPET

FROM HYDRODEMOLITION OPERATIONS

CONTROLLING WATER RUN-OFF

BASED ON MEANS AND METHODS OF

TO BE DETERMINED BY CONTRACTOR

OPTIONAL PARAPET REMOVAL LIMITS

FOR DEMOLITION NOTES, SEE DWG. DM-01.

SEE NOTE 6 ON DWG. DM-01

PINNED IN CONCRETE,

TEMPORARY PCC SAFETY BARRIER,

LIMITS OF REMOVAL, TOTAL SURFACE HYDRODEMOLITION (ITEM 760500)

LIMITS OF REMOVAL, PAVEMENT MILLING (ITEM 760013)

LIMITS OF REMOVAL (ITEM 211000)

LIMITS OF REMOVAL (ITEM 760013)

LIMITS OF REMOVAL, PAVEMENT MILLING (ITEM 760013)

LIMITS OF REMOVAL, TOTAL SURFACE HYDRODEMOLITION (ITEM 760500)

LIMITS OF REMOVAL (ITEM 211000)
HYDRODEMOLITION AMPLITUDE DETAIL

LIMITS OF REMOVAL:

- HYDRODEMOLITION (ITEM 760500 OR 760501)
- PAVEMENT MILLING (ITEM 760013)

LIMITS OF TOTAL SURFACE HYDRODEMOLITION:

- AMPLITUDE VIA TOTAL SURFACE HYDRODEMOLITION
  - MIN TO MAX SCARIFICATION PLUS ADDITIONAL
  - REMAINING REINFORCEMENT

LIMITS OF DEEP CUT HYDRODEMOLITION:

- AMPLITUDE VIA DEEP CUT HYDRODEMOLITION
  - REMOVAL TO BOTTOM OF TOP LAYER OF TRANSVERSE REINFORCEMENT

EXISTING LMC OVERLAY TO BE REMOVED

EXISTING DECK TO REMAIN

THICKNESS VARIES

SEE NOTE 3 ON DWG. DM-01

SCALE AS NOTED
EXISTING BRACKET REMOVAL DETAIL TYPE 2

(LOOKING SOUTH)

NOTE:

1. NEW N.S. BOLTS SHALL BE ASTM F3125 GR. A325, TYPE 1.
2. SEE EXISTING PLANS FOR ADDITIONAL SIGN SUPPORT DETAILS.
3. AFTER REMOVAL TOUCH-UP PAINT IN ACCORDANCE WITH SECTION 616 AND AS DIRECTED BY THE ENGINEER.
NOTES:

1. Existing pile layout and pile tip location shown based on existing plans and may not reflect actual location.

2. Prior to installing micropiles contractor shall verify location of existing piles to avoid conflicts while installing new micropiles. If potential conflicts are found contractor shall immediately suspend work. Contractor shall inform owner and engineer of potential conflict at least 24 hours in advance.

3. For existing pier 6B partial demolition details, see BR 1-758 DWG. DM-03.

4. Payment for partial pile removal is incidental to Item 211000 - Removal of Structures and Obstructions.

5. For micropile detail and additional notes see DWG. FT-01.

6. For working point information, see DWG. FT-01.
**LEGEND:**
- ○ PROPOSED MICROPILE
- ● PROPOSED MICROPILE AND PROOF PILE TESTING
- □ EXISTING 12” C.I.P. CONCRETE PILE
- ※ EXISTING 12” C.I.P. CONCRETE PILE, BATTERED 1H:4V
- ＊ EXISTING 15” VCP

**NOTES:**
1. EXISTING PILE LAYOUT AND PILE TIP LOCATION SHOWN BASED ON EXISTING PLANS AND MAY NOT REFLECT ACTUAL LOCATION.
2. IF DURING MICROPILE INSTALLATION A CONFLICT IS ENCOUNTERED, CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
3. FOR MICROPILE DETAIL AND ADDITIONAL NOTES SEE DWG. PL-09.
4. FOR WORKING POINT INFORMATION, SEE DWG. FT-01.

---

**PILE LAYOUT PLAN - PIER 36D**

---

**MICROPILE DATA**

<table>
<thead>
<tr>
<th>SUBSTRUCTURE</th>
<th>DESIGN DATA</th>
<th>ACTUAL PILE DATA</th>
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<tbody>
<tr>
<td>ITEM</td>
<td>CASING SIZE</td>
<td>BOTTOM OF CASING</td>
</tr>
<tr>
<td>PIER 36D</td>
<td>6”Ø</td>
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</table>

---

**SCALE AS NOTED**

---

**REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS**

---

**UNOFFICIAL WEBSITE COPY**
LEGEND:

- Proposed micropile
- Proposed micropile and proof pile testing
- Existing 12" G.A.P. concrete pile
- Existing 12" G.A.P. concrete pile, battered 18'-4".

PILE LAYOUT PLAN - PIER 37D

NOTE:

1. Existing pile layout and pile tip location shown based on existing plans and may not reflect actual location.
2. If during micropile installation a conflict is encountered, contractor shall notify the engineer immediately.
3. For micropile detail and additional notes see INC. PL-28.
4. For working point information, see INC. FT-01.

MICROPILE DATA

<table>
<thead>
<tr>
<th>Substructure Unit</th>
<th>Design Data</th>
<th>Actual Pile Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Casing Size</td>
<td>Bottom of Casing El</td>
</tr>
<tr>
<td>PIER 37D</td>
<td>6&quot; x 6.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

NOTES:

- [LEGEND] 1. Existing pile layout and pile tip location shown based on existing plans and may not reflect actual location.
- 2. If during micropile installation a conflict is encountered, contractor shall notify the engineer immediately.
- 3. For micropile detail and additional notes see INC. PL-28.
- 4. For working point information, see INC. FT-01.
UNOFFICIAL WEBSITE COPY

STEEL H-PILE SPLICE DETAILS
3'-11"-0"

NOTES:
NOTE A END OF WELD SHALL BE SMOOTH AND Flush With web CUT, 3/16" MIN. EFFECTIVE THICKNESS.
NOTE B END OF WELD SHALL BE SMOOTH AND Flush With web CUT, 3/16" MIN. EFFECTIVE THICKNESS.
NOTE C REMOVE WELDING FLUX FROM ALL SURFACES AFTER WELD.
NOTE D REMOVE WELDING FLUX FROM ALL SURFACES AFTER WELD.
NOTE E REMOVE WELDING FLUX FROM ALL SURFACES AFTER WELD.
NOTE F THE 0.20 INCH THICKNESS FOR MA AND MB BARS SPECIFIED IN THE "SPLICE MATERIAL REQUIREMENTS" TABLE MAY
BE REDUCED TO A MINIMUM OF 0.203 INCH THICKNESS.

SPlice MATERIAL REQUIREMENTS

<table>
<thead>
<tr>
<th>Material</th>
<th>MP 12&quot;</th>
<th>MP 14&quot;</th>
<th>MP 16&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 BAR MA</td>
<td>1-1/2x3/4&quot;</td>
<td>1-1/2x3/4&quot;</td>
<td>1-1/2x3/4&quot;</td>
</tr>
<tr>
<td>2 BARS MB</td>
<td>3/16x1-1/2&quot;</td>
<td>3/16x1-1/2&quot;</td>
<td>3/16x1-1/2&quot;</td>
</tr>
<tr>
<td>2 BARS MC</td>
<td>3/16x3/4&quot;</td>
<td>3/16x3/4&quot;</td>
<td>3/16x3/4&quot;</td>
</tr>
</tbody>
</table>

GENERAL PILE NOTES:
1. FOR MORE INFORMATION REGARDING PILE DRIVING, INSTALLATION, MATERIALS, AND ERECTION, REFER TO SECTION 9 - DETAILS OF THE STANDARD SPECIFICATIONS.

2. EACH TEST PILE SHALL BE DYNAMICALLY TESTED BY THE CONTRACTOR IN ACCORDANCE WITH THE PREVAILING STATIC PILE TESTING STANDARDS. THE CONTRACTOR MAY USE ANOTHER TESTING METHOD PROVIDED THE TEST REPORT IS SUBMITTED TO THE DEPARTMENT FOR APPROVAL. THE DEPARTMENT MAY REQUIRE THE CONTRACTOR TO CONDUCT TESTS ON ADDITIONAL PILES TO CONFIRM THE RESULTS OF THE TESTS PERFORMED.

3. DYNAMIC PILE TESTING SHALL INCLUDE ONE FOR THE INITIAL DRIVE AND ONE FOR THE ENHANCED VIBRATION STRESS TEST. A DYNAMIC PILE TESTING REPORTshall BE SUBMITTED TO THE DEPARTMENT FOR REVIEW.

4. PILE INSTALLATION DATA SHEETS shall BE SUBMITTED TO THE DEPARTMENT FOR REVIEW.

5. PILE LENGTHS shall BE AT NO ADDITIONAL COST TO THE DEPARTMENT.

PROJECT SPECIFIC PILE NOTES:
1. FILE TYPE AND PROJECTS SHALL USE THE PILES CONFORMING TO ASTM A 709, GRADE 50.

2. ESTIMATED PRODUCTION PILE LENGTHS ARE BASED ON SUBSTRUCTURE UNIT DATA, THE PILE INSTALLATION DATA SHEET, AND THE "SPLICE MATERIAL REQUIREMENTS" TABLE.

3. REQUIRED TEST PILE LENGTH is EQUAL TO THE ESTIMATED PRODUCTION PILE LENGTH.

4. ALL PILES shall BE DRIVEN TO A NOMINAL BEARING RESISTANCE OF 385 KIPS. THE CONTRACTOR SHALL STATES IN THE PROJECTIONS OF THE PILES AND THE "SPLICE MATERIAL REQUIREMENTS" TABLE.

5. REFER TO THE PILE INSTALLATION DATA SHEET FOR MORE INFORMATION.

STEEL H-PILE NOTES:
1. STEEL H-PILE SPLICE DETAILS APPLY TO RP 12", RP 14", AND RP 16" PILES.

2. THE CONTRACTOR MAY CONSIDER USING ALTERNATE STEEL H-PILE SPLICE DETAILS. ALL ALTERNATE DETAILS FOR STEEL H-PILE SPLICE DETAILS shall BE SUBMITTED TO THE DEPARTMENT FOR APPROVAL. THE DEPARTMENT MAY REQUIRE THE CONTRACTOR TO CONDUCT TESTS ON ADDITIONAL PILES TO CONFIRM THE RESULTS OF THE TESTS PERFORMED.

3. ALL PILES shall BE DRIVEN TO A NOMINAL BEARING RESISTANCE OF 385 KIPS. THE "SPLICE MATERIAL REQUIREMENTS" TABLE shall BE AT NO ADDITIONAL COST TO THE DEPARTMENT.

4. THE CONTRACTOR MAY CONSIDER USING ALTERNATE STEEL H-PILE SPLICE DETAILS. ALL ALTERNATE DETAILS FOR STEEL H-PILE SPLICE DETAILS shall BE SUBMITTED TO THE DEPARTMENT FOR APPROVAL. THE DEPARTMENT MAY REQUIRE THE CONTRACTOR TO CONDUCT TESTS ON ADDITIONAL PILES TO CONFIRM THE RESULTS OF THE TESTS PERFORMED.

5. PILE FRAGILE TIPS shall BE SUBMITTED TO THE DEPARTMENT FOR REVIEW.

PILE INSTALLATION SHEET NOTES:
1. FILE SHEETS SHALL CONFORM TO ASTM A 25, GRADE 55. ALL FIELD SHEETS shall BE N.

2. FILE SHEETS shall BE SUBMITTED TO THE DEPARTMENT FOR REVIEW.

3. ALL SHEETS shall BE SUBMITTED TO THE DEPARTMENT FOR REVIEW.

4. THE CONTRACTOR MAY CONSIDER USING ALTERNATE STEEL H-PILE SPLICE DETAILS. ALL ALTERNATE DETAILS FOR STEEL H-PILE SPLICE DETAILS shall BE SUBMITTED TO THE DEPARTMENT FOR APPROVAL. THE DEPARTMENT MAY REQUIRE THE CONTRACTOR TO CONDUCT TESTS ON ADDITIONAL PILES TO CONFIRM THE RESULTS OF THE TESTS PERFORMED.

5. DYNAMIC PILE TESTING shall BE SUBMITTED TO THE DEPARTMENT FOR REVIEW.

6. PILE INSTALLATION DATA SHEETS shall BE SUBMITTED TO THE DEPARTMENT FOR REVIEW.

7. PILE INSTALLATION DATA SHEETS shall BE SUBMITTED TO THE DEPARTMENT FOR REVIEW.

8. PILE INSTALLATION DATA SHEETS shall BE SUBMITTED TO THE DEPARTMENT FOR REVIEW.
NOTES:
1. MICROPILES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 605509 - MICROPILES.
2. SHOP DRAWINGS SHALL SHOW METHODS USED TO SECURE CENTER BAR IN CASING OF SHAFT AND METHODS FOR SPLICING CENTER BAR DURING INSTALLATION.
3. MECHANICAL SPLICES IN THE MICROPILE CENTER BAR SHALL DEVELOP A MINIMUM OF 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR.
4. MICROPILE SIZE AND SECTION SHALL NOT VARY BETWEEN MICROPILES INSTALLED IN THE SAME PIER FOUNDATION.
5. PERMANENT MICROPILE CASINGS SHALL NOT HAVE JOINTS LOCATED WITHIN 5'-0" OF THE BOTTOM OF FOOTING.
6. ONE MICROPILE PROOF TEST SHALL BE PERFORMED AT EACH SUBSTRUCTURE UNIT IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 605510 - MICROPILE PROOF TEST.
7. ALL MICROPILES SHALL BE INSTALLED WITH 1 FOOT CASING PLUNGE LENGTH INTO SOIL.
8. MICROPILES ARE DESIGNED FOR A FACTORED AXIAL RESISTANCE OF 200 KIPS.

MICROPILE DETAILS

1. MICROPILES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 605509 - MICROPILES.
2. SHOP DRAWINGS SHALL SHOW METHODS USED TO SECURE CENTER BAR IN CASING OF SHAFT AND METHODS FOR SPLICING CENTER BAR DURING INSTALLATION.
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MICROPILE DETAILS

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3. MECHANICAL SPLICES IN THE MICROPILE CENTER BAR SHALL DEVELOP A MINIMUM OF 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR.
4. MICROPILE SIZE AND SECTION SHALL NOT VARY BETWEEN MICROPILES INSTALLED IN THE SAME PIER FOUNDATION.
5. PERMANENT MICROPILE CASINGS SHALL NOT HAVE JOINTS LOCATED WITHIN 5'-0" OF THE BOTTOM OF FOOTING.
6. ONE MICROPILE PROOF TEST SHALL BE PERFORMED AT EACH SUBSTRUCTURE UNIT IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 605510 - MICROPILE PROOF TEST.
7. ALL MICROPILES SHALL BE INSTALLED WITH 1 FOOT CASING PLUNGE LENGTH INTO SOIL.
8. MICROPILES ARE DESIGNED FOR A FACTORED AXIAL RESISTANCE OF 200 KIPS.

MICROPILE DETAILS

1. MICROPILES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 605509 - MICROPILES.
2. SHOP DRAWINGS SHALL SHOW METHODS USED TO SECURE CENTER BAR IN CASING OF SHAFT AND METHODS FOR SPLICING CENTER BAR DURING INSTALLATION.
3. MECHANICAL SPLICES IN THE MICROPILE CENTER BAR SHALL DEVELOP A MINIMUM OF 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR.
4. MICROPILE SIZE AND SECTION SHALL NOT VARY BETWEEN MICROPILES INSTALLED IN THE SAME PIER FOUNDATION.
5. PERMANENT MICROPILE CASINGS SHALL NOT HAVE JOINTS LOCATED WITHIN 5'-0" OF THE BOTTOM OF FOOTING.
6. ONE MICROPILE PROOF TEST SHALL BE PERFORMED AT EACH SUBSTRUCTURE UNIT IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 605510 - MICROPILE PROOF TEST.
7. ALL MICROPILES SHALL BE INSTALLED WITH 1 FOOT CASING PLUNGE LENGTH INTO SOIL.
8. MICROPILES ARE DESIGNED FOR A FACTORED AXIAL RESISTANCE OF 200 KIPS.

MICROPILE DETAILS

1. MICROPILES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 605509 - MICROPILES.
2. SHOP DRAWINGS SHALL SHOW METHODS USED TO SECURE CENTER BAR IN CASING OF SHAFT AND METHODS FOR SPLICING CENTER BAR DURING INSTALLATION.
3. MECHANICAL SPLICES IN THE MICROPILE CENTER BAR SHALL DEVELOP A MINIMUM OF 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR.
4. MICROPILE SIZE AND SECTION SHALL NOT VARY BETWEEN MICROPILES INSTALLED IN THE SAME PIER FOUNDATION.
5. PERMANENT MICROPILE CASINGS SHALL NOT HAVE JOINTS LOCATED WITHIN 5'-0" OF THE BOTTOM OF FOOTING.
6. ONE MICROPILE PROOF TEST SHALL BE PERFORMED AT EACH SUBSTRUCTURE UNIT IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 605510 - MICROPILE PROOF TEST.
7. ALL MICROPILES SHALL BE INSTALLED WITH 1 FOOT CASING PLUNGE LENGTH INTO SOIL.
8. MICROPILES ARE DESIGNED FOR A FACTORED AXIAL RESISTANCE OF 200 KIPS.
ABUTMENT 40D REINFORCEMENT ELEVATION

NOTES:

1. REINFORCING STEEL IN FOOTING NOT SHOWN FOR CLARITY. FOR ADDITIONAL INFORMATION, SEE UDC AB-03 AND AE-04.

2. ABUTMENT ANCHORS SHALL BE IN ACCORDANCE WITH THE MSE WALL MANUFACTURER'S RECOMMENDATIONS.

3. CHANGES TO THE ABUTMENT ANCHOR DETAIL SHOWN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

4. THE ABUTMENT ANCHOR SHOWN CONSISTING OF A TIE STRIP ATTACHED TO A REINFORCING STRIP MAY BE MODIFIED PER THE MSE WALL MANUFACTURER'S RECOMMENDATIONS.
NOTES:
1. FORPILE LAYOUT, SEE DWG. PL-01.
2. FORADDITIONALFOOTINGREINFORCEMENTDETAILS, SEE DWG. AB-04.

ABUTMENT 40D REINFORCEMENT TYPICAL SECTION

SCALE AS NOTED

REHABILITATION OF I-95,
2ND STREET ON-RAMP
IMPROVEMENTS

ABUTMENT 40D
TYPICAL SECTION
NOTES:
1. Reinforcement over piles not shown for clarity. See Encs. AB-05 and PL-01 for additional information.
2. See attachment reinforcement typical section on Encs. AB-05 for additional information.
3. All reinforcement shall have 1½" minimum clear to piles.
1' - 7" LONG DELAMINATION REPAIR 1' - 7" WIDE X 11'-7/2"

PIER 33S - PLAN

EXISTING PIER 33S - PLAN

PROPOSED PIER 33S - PLAN

EXISTING PIER 33S - NORTH ELEVATION

PROPOSED PIER 33S - NORTH ELEVATION

NOTES:

1. PAYMENTS FOR 1" SAW CUT WILL BE INCIDENTAL PAYMENT TO ITEM 21100.

2. EXISTING PIER CAP REINFORCEMENT BARS WITHIN LIMITS OF REMOVAL TO REMAIN AND SHALL BE CLEANED IN ACCORDANCE WITH SECTION 628.03(E)(7). CONCRETE REPAIR QUANTITIES NOT TO INCLUDE EXISTING PIER CAP REINFORCEMENT BARS WITHIN LIMITS OF REMOVAL. CONTRACTOR WILL HAVE THE OPTION TO REPLACE 3/8" PEDESTAL CONCRETE TO BE REMOVED TO ITEM 21100.

LEGEND:

- LIMITS OF REMOVAL (ITEM 21100)
- OPTIONAL LIMITS OF REMOVAL (ITEM 21100)
- REPAIR (ITEM 21100)
- CLASS A CONCRETE
- PEDESTAL REINFORCEMENT

CONCRETE REPAIR QUANTITIES

<table>
<thead>
<tr>
<th>ITEM</th>
<th>UNIT</th>
<th>QUANTITY</th>
</tr>
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<tbody>
<tr>
<td>27</td>
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</table>

PEDESTAL REINFORCEMENT

SCALE AS NOTED

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS
## CONCRETE REPAIR QUANTITIES

<table>
<thead>
<tr>
<th>Repair No.</th>
<th>Item No.</th>
<th>Item Title</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>1364</td>
<td>DEEP SPALL REPAIR</td>
<td>CF</td>
<td>1</td>
</tr>
</tbody>
</table>

**NOTES:**
1. The location and quantities of the repairs shown on this drawing are based on inspection field notes and should be verified by the contractor prior to starting each repair. The limits shall be verified by the contractor in the presence of the engineer.
2. For concrete repair details, see Eng. PN-04.

---

**PIER 35S - PLAN VIEW**

**PIER 35S - SOUTH ELEVATION**

**LEGEND:**

- Deep Spall Repair

- Notes: Quantities shown are total per pier and do not include contingencies.
CONCRETE REPAIR QUANTITIES

<table>
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<th>ITEM TITLE</th>
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</thead>
<tbody>
<tr>
<td>37</td>
<td>DEEP SPALL REPAIR</td>
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<td>1</td>
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</table>

NOTES:
1. The location and quantities of the repairs shown on this drawing are based on inspection field notes (see Note 14 on DWG. PN-01). The limits shall be verified by the contractor in the presence of the Engineer.
2. For concrete repair details, see sec. PN-04.
**CONCRETE REPAIR QUANTITIES**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>ITEM TITLE</th>
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</thead>
<tbody>
<tr>
<td>37</td>
<td>DEEP SPALL REPAIR</td>
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**NOTES:**
1. The location and quantities of the details shown on this framing are based on inspection field notes (see note 14 on Dwg. PR-01). Prior to starting each repair, the limits shall be verified by the contractor in the presence of the engineer.
2. For concrete repair details, see Dwg. PR-04.
CONCRETE REPAIR QUANTITIES

PIER 58S

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>ITEM TITLE</th>
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<tbody>
<tr>
<td></td>
<td>DEEP SPALL REPAIR</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

NOTES:
1. The location and quantities of the repairs shown on this drawing are based on inspection field notes (see note 14 on DWG. PR-01). Prior to starting each repair, the limits shall be verified by the contractor in the presence of the engineer.
2. For concrete repair details, see Engr. PR-04.
**NOTES:**

1. Piers not shown in plan for clarity.
2. Slope to drain top of cap min. 1'-0" per foot from centerline pier to face of cap. Cap dimensions shown are measured at face of cap.
3. Epoxy concrete sealer shall be placed on top horizontal surface of cap and wipe surface of coating. Grout, concrete, and all remaining concrete surfaces. Epoxy concrete sealer will be paid under item 613001.
4. Epoxy concrete sealer shall be placed on top horizontal surface of cap. Epoxy concrete sealer shall be placed on all remaining concrete surfaces. Epoxy concrete sealer will be paid under item 613001.
5. Provide PR508E tie at 3'-0" spaced as shown 5-PR508E at Pier 36D.
6. Existing piles and portion of footing to remain not shown, see pile layout plan for existing features to remain.
FOR CAP REINFORCEMENT, SEE SECTION B-B.

1. FOR PEDESTAL REINFORCEMENT DETAILS, SEE DWG. PR-07.

SECTION A-A

SECTION B-B

SECTION C-C

NOTES:

1. FOR PEDESTAL REINFORCEMENT DETAILS, SEE DWG. PR-07.

SCALE AS NOTED

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

PIER 34D

REINFORCEMENT DETAILS

UNOFFICIAL WEBSITE COPY
NOTES:
1. PILES NOT SHOWN IN PLAN FOR CLARITY.
2. FOR CONCRETE PEDESTAL DETAILS, SEE DWG PR-102.
3. SLOPE TO DRAIN TOP OF CAP MIN. 1" PER FOOT FROM CENTERLINE TO FACE OF CAP. CAP DIMENSIONS ARE MEASURED AT FACE OF CAP.
4. EPOXY CONCRETE SEALER SHALL BE PLACED ON TOP HORIZONTAL SURFACE OF CAP AND HLIFE SURFACE OF BEARING PEDESTALS. EPOXY CONCRETE SEALER SHALL BE PLACED ON ALL REARoineD CASTING SURFACES; 5/16"-1/4" MINIMAL WIDE AC CONCRETE SEALER SHALL BE PAID UNDER ITEM 613000.
5. FOR FOUNDATION PLAN, SEE DWG PR-01.
6. FOR PILE LAYOUT PLAN, SEE DWG PL-03.
7. EXISTING PILES AND PORTION OF FOOTING TO REMAIN NOT SHOWN, SEE PILE LAYOUT PLAN FOR EXISTING FEATURES TO REMAIN.
**ELEVATION**

1' - 0" = 1'-0"

**SECTION A-A**

- 20 - DL1121E TO LAP WITH COLUMN REINFORCEMENT
- 20 - PR1121E (TYP.)
- 10' - 9" LAP (TYP.)
- 3" CL. (TYP.)
- 18 - PR522E TIES @ 12"
- 16 - FT822E, EQUALLY SPACED AS SHOWN
- 16 - FT821E SPACED AS SHOWN
- 5 - PR625E OVER PILES (TYP.)
- 5 - PR826E, EQUALLY SPACED (TYP.)
- 15 - FT525E, EQUALLY SPACED (TYP.)
- 15 - FT828E, EQUALLY SPACED (TYP.)
- 15 - FT829E, EQUALLY SPACED (TYP.)
- 11" (TYP.)
- 2'-6" (TYP.)
- 3' - 0" MIN.
- 4'-8" LAP (TYP.)
- 5 - PR827E
- 5 - PR826E
- 5 - PR825E
- 3'-0" (TYP.)
- 2'-0" (TYP.)
- 2'-0" (TYP.)
- 2'-6" (TYP.)
- 3" CL. (TYP.)
- 2'-0" (TYP.)
- 1'-3" (TYP.)
- 1'-3" (TYP.)
- 10" (MIN.)
- 1'-3"
- 3" CL. (TYP.)
- 3" CL. (TYP.)

**SECTION B-B**

1' - 0"

**SECTION C-C**

1" = 1'-0"

NOTES:

1. FOR PEDESTAL REINFORCEMENT DETAILS, SEE DWG. PR-07.
ELEVATION

SECTION A-A

SECTION B-B

SECTION C-C

NOTES:

1. FOR PIER REINFORCEMENT DETAILS, SEE SHEET PR-27.

2. FOR PEDESTAL REINFORCEMENT DETAILS, SEE DWG. PR-07.
FOR PEDESTAL REINFORCEMENT DETAILS, SEE DWG. PR-07.

ELEVATION

A

A (TYP.)

3" CL.

18 - PR542E TIES @ 12"

COLUMN REINFORCEMENT

24 - DL1141E TO LAP WITH COLUMN REINFORCEMENT

24 - PR1141E (TYP.)

10' - 9" LAP (TYP.)

3" CL.

FOR CAP REINFORCEMENT, SEE SECTION B-B

18 - PR542E TIES @ 12"

COLUMN REINFORCEMENT

24 - DL1141E TO LAP WITH COLUMN REINFORCEMENT

24 - PR1141E (TYP.)

10' - 9" LAP (TYP.)

3" CL.

NOTES:

1. FOR PEDESTAL REINFORCEMENT DETAILS, SEE DWG. PR-15.
ELEVATION

SECTION A-A

SECTION B-B

SECTION C-C

NOTES:

1. FOR PEDESTAL REINFORCEMENT DETAILS, SEE DWG. PR-15.

COLUMN REINFORCEMENT

20 - DL1151E TO LAP WITH COLUMN REINFORCEMENT

20 - PR1151E

(TYP.)

10'-9" LAP (TYP.)

3" CL.

PR552E TIES @ 12"

PR554E DOUBLE STIRRUPS @ 12"

5 - PR956E

5 - PR957E

9 - PR1053E

SPACED AS SHOWN

26 - FT555E, EQUALLY SPACED

26 - FT555E, EQUALLY SPACED

18 - FT858E, EQUALLY SPACED

2 - FT859E, EQUALLY SPACED

5'-5" LAP OVER PILES (TYP.)

2 - FT653E @ 10"

2 - FT654E @ 10"

1 - PR956E

2 - FT653E @ 10"

2 - FT654E @ 10"

STIRRUPS @ 8"

PR554E DOUBLE
**Bridge Jacking Notes:**

1. **All Jacking Notes:**
   - The proposed sequence of construction for the jackings and jackings operations shall be the as noted in the construction notes and construction details. The contractor shall provide all information necessary for the jackings operations.
   - All jackings shall be performed in accordance with the details noted on the drawings.
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.

2. **Jacking Notes:**
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.

3. **Jacking Conditions:**
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.

4. **Jacking Operations:**
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.

5. **Jacking Loads:**
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.

6. **Jacking Notes:**
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.
   - The jackings assembly shall be designed and constructed to support the loads specified on the drawings.

---

**Suggested Sequence of Construction:**

1. **Prepare All Necessary Temporary Work Platforms:**
   - Prepare all necessary temporary work platforms for the jackings operations.
   - Prepare all necessary temporary work platforms for the jackings operations.
   - Prepare all necessary temporary work platforms for the jackings operations.

2. **Install All Temporary or Permanent Jacking Diaphragms:**
   - Install all temporary or permanent jacking diaphragms as necessary.
   - Install all temporary or permanent jacking diaphragms as necessary.
   - Install all temporary or permanent jacking diaphragms as necessary.

3. **Place Non-Draining SoapCop Leveling Pads as Required:**
   - Place non-draining soapcop leveling pads as required.
   - Place non-draining soapcop leveling pads as required.
   - Place non-draining soapcop leveling pads as required.

4. **Install All Jacking Assemblies As Necessary:**
   - Install all jackings assemblies as necessary.
   - Install all jackings assemblies as necessary.
   - Install all jackings assemblies as necessary.

5. **Remove Nuts and Washers of the Existing Anchor Bolts:**
   - Remove nuts and washers of the existing anchor bolts.
   - Remove nuts and washers of the existing anchor bolts.
   - Remove nuts and washers of the existing anchor bolts.

6. **Install All Temporary or Permanent Jacking Diaphragms:**
   - Install all temporary or permanent jacking diaphragms.
   - Install all temporary or permanent jacking diaphragms.
   - Install all temporary or permanent jacking diaphragms.

---

**Loads for Jacking:**

- **Span No. 355:**
  - **Fiber 345:**
    - **Load:** 4350 lb
    - **Location:** 13'-2" from pier
    - **Angle:** 90°
    - **Dl:** 400 lb
    - **Dl + All:** 1000 lb
    - **Factored:** 1940 lb
  - **Fiber 355:**
    - **Load:** 4350 lb
    - **Location:** 13'-2" from pier
    - **Angle:** 90°
    - **Dl:** 400 lb
    - **Dl + All:** 1000 lb
    - **Factored:** 1940 lb

---

**Rehabilitation of I-95:**

2nd Street On-Ramp Improvements

**Jacking Notes, Locations, and Loads**

**Scale as Noted**

---

**Figure RH-01**

[Drawing of bridge jacking operations]
NOTES:
1. For Jacking Notes, see DWG. RH-01.
2. For Jacking Details, see DWG. RH-03.
3. Unless otherwise shown on this sheet, all bolts shall be 1" diameter.
4. Mohle a 1" hole for all spans is taken on the left side of the beam when looking station 10.
5. For Mohle a, existing steel beam sizes, and loads for jacking, see DWG. RH-01.
6. For temporary bearing stiffeners on skewed spans, contractor shall field adjust and install.
7. For non-shrink grouting pads beneath the Jacking Assembly Base Plate, see Note 6.
8. Jacking System has been designed to lift the entire line of beams at once.
9. For jacking notes, see DWG. RH-01.
10. For jacking details, see DWG. RH-03.

THE BEAM AT 2'-8" FROM THE CENTERLINE OF BEAM TO JACK.

IF CONTRACTOR ELECTS TO JACK ONE BEAM AT A TIME, PLACE ONE JACK ON EACH SIDE OF 
THE JACKING SYSTEM HAS BEEN DESIGNED TO LIFT THE ENTIRE LINE OF BEAMS AT ONCE.

INCIDENTAL TO ITEM 604000 - JACKING BRIDGE. IN ACCORDANCE WITH SUBSECTION 1047.02. PAYMENT FOR NON-SHRINK GROUT WILL BE 
EXISTING BEAM SEAT TO ENSURE FULL AND LEVEL BEARING. NON-SHRINK GROUT SHALL BE 
PLACE A NON-SHRINK GROUT PAD BENEATH THE JACKING ASSEMBLY BASE PLATE AND THE 
BRIDGE.

FOR FABRICATING A NEW STEEL ANGLE WILL BE INCIDENTAL TO ITEM 604000 - JACKING 
ALTERNATE STEEL MEMBERS FOR TEMPORARY BEARING STIFFENERS ON SKEWED SPANS. COST 
OR FABRICATE A NEW STEEL ANGLE TO ACCOUNT FOR THE SKEW. CONTRACTOR MAY PRESENT 
FOR TEMPORARY BEARING STIFFENERS ON SKEWED SPANS, CONTRACTOR SHALL FIELD ADJUST 
FOR ANGLE A, EXISTING STEEL BEAM SIZES, AND LOADS FOR JACKING, SEE DWG. RH-01.

STATION AHEAD.

ALL BOLTS SHOWN ON THIS SHEET SHALL BE 1" DIAMETER.

For jacking notes, see DWG. RH-01.

For jacking details, see DWG. RH-03.
BEARING PLAN - SPANS 33S TO 39S

NOTES:
1. BEARINGS FOR BRIDGE NO. 1-748N (I-95 NB) AND 1-758G (RAMP 1-748S) ARE SHOWN SCREENED FOR INFORMATION ONLY.
2. EXISTING BEAMS SHALL BE JACKED AS REQUIRED TO FACILITATE BEARING REPLACEMENT. SEE DETAILS ON DWGS. RH-01 THROUGH RH-03.

BEARING SYMBOL LEGEND:
- BEARING TYPE FS-3 (REFER TO DWG. BB-02)
- BEARING TYPE ES-3 (REFER TO DWGS. BB-03 AND BB-04)
**BEARING TABLE**

<table>
<thead>
<tr>
<th>Location</th>
<th>Type</th>
<th>Span 37S, Pier 38D</th>
<th>Span 38S, Pier 38D</th>
<th>Span 39S, Pier 39D</th>
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<td>173.8 kips</td>
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<td>173.8 kips</td>
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<td>Reaction</td>
<td>Fs-3</td>
<td>233.8 kips</td>
<td>225.5 kips</td>
<td>233.8 kips</td>
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<td>Movement</td>
<td>Fs-3</td>
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<td>N/A</td>
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</table>

**Key:**
- MAX. FACTORED SERVICE REACTION AT LOCATION INCLUDING DYNAMIC LOAD ALLOWANCE.
- MAX. FACTORED CAPACITY REACTION AT LOCATION INCLUDING DYNAMIC LOAD ALLOWANCE.
- TEMPERATURE ADJUSTMENTS.

**Fixed Steel Plate Bearing Notes:**

1. Provide steel plate fixed bearings in accordance with the requirements of Section 615-1 in accordance with Chapter 10 of the 2017 Design and Construction Specifications, 4th Edition.
2. Steel sole and masonry plates shall be sized to full size per the bearing force provided. Steel plates shall meet the minimum requirements of Table 10.1.3.1.1. Hole sizes shall be selected from Table 10.1.3.1.1 for the bearing force provided. Steel plates shall be sized to provide the minimum required force per bearing.
3. The bearing shall be shop assembled and ATK-3000 welded to ensure proper fit.
4. Sole plates shall be covered to expose grade line and finisher line.
5. The bearing shall be shop assembled and ATK-3000 welded to ensure proper fit.
6. Provide steel plate fixed bearings in accordance with the requirements of Section 615-1 in accordance with Chapter 10 of the 2017 Design and Construction Specifications, 4th Edition.
7. Steel surfaces of the sole and masonry plates shall be prepped to provide a minimum of 1/32" min. thickness of the concrete footing.
8. Steel sole and masonry plates shall be sized to provide a minimum of 1.5" min. thickness of the concrete footing.

**Details:**

- **Masonry Plate Detail:**
- **Sole Plate Detail:**
- **Pintle Detail:**
- **Section A-A:**

**Note:**
- MMOSS" UNOFFICIAL WEBSITE COPY
**BEARING TABLE**

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<tr>
<td>BB-03</td>
<td>ES-3</td>
<td>202.2 KIPS</td>
</tr>
</tbody>
</table>

**SUGGESTED SEQUENCE OF REPLACEMENT:**

1. For the suggested sequence of construction for jacking the bridge and for the installation of bearing details, the following replacement plan shall be used:
   - **BEARING TYPE ES-3**
   - EXP. 1:44 :30 PM
   - CPAK AUG'20 19

**NOTES:**

1. Provide all services in accordance with the requirements of Section 617. Special paint finish shall be used to ensure serviceability of the existing bridge as required. To achieve the specified performance of the existing bridge, retain the dimensions of the existing bridge and anchor bolts as specified in the drawings. Any modification of the existing bridge shall be approved by the owner.
2. Contractor to verify all existing dimensions prior to erasing or fabricating bearing pads.
3. The existing anchor bolts are to remain, unless otherwise noted. The contractor shall take care not to damage the anchor bolts during the removal of the existing bearing, and anchor bolts damaged shall be repaired at the cost of the contractor. Removal of the existing bearings shall be approved by the owner. The bearing pads shall be cleaned free of paint and other materials prior to installation.
4. Removal of the existing bearing pads shall be performed in two stages. The contractor shall inspect the existing bearing pads to ensure that the correct bearing material is used. At the final stage, the bearing pads shall be removed and replaced with new ones. The contractor shall also ensure that the bearing pads are properly aligned and installed.
5. The bearing pads shall be field measured and matched to ensure proper fit.
6. Keep the bearing pads in a dust-free setting when closed, and subject to the contractor's approval. The contractor shall be responsible for the maintenance of the bearing pads in the field during the construction.
7. The bearing pads shall be removed and replaced as needed. The contractor shall ensure that the bearing pads are properly aligned and installed.
8. The contractor shall provide the existing bearing pads to be removed, and the new ones to be installed. The new bearing pads shall be field measured and matched to ensure proper fit.
9. The bearing pads shall be removed and replaced with new ones. The contractor shall be responsible for the maintenance of the bearing pads in the field during the construction.
10. The bearing pads shall be removed and replaced with new ones. The contractor shall be responsible for the maintenance of the bearing pads in the field during the construction.
11. The bearing pads shall be removed and replaced with new ones. The contractor shall be responsible for the maintenance of the bearing pads in the field during the construction.
12. Full bolts and nuts on M12 bolts for anchor bolts with an approved non-rusting composite bearing plate or other equivalent component.
13. Payment for the suggested sequence of construction for jacking the bridge and for the installation of bearing details shall be made under Item 90005 - Repair of Jacking Equipment.
14. New bearings shall be installed and tightened as required by the drawings.
MASONRY PLATE DETAIL

PHOSPHER BRONZE PLATE DETAIL

ANCHOR BOLT INSTALLATION SLOT DETAIL

SECTION C-C

STEEL SLIDING PLATE DETAIL

SOLE PLATE DETAIL

GUIDE PLATE DETAIL

ANCHOR BOLT SLOT PLUG DETAIL

NOTES:

1. FOR ADDITIONAL BRONZE BEARING NOTES, SEE ENG. BB-03.
2. FOR ADDITIONAL DETAILS ON THE ES-3 BEARING, SEE ENG. BB-03.
3. FOR SUGGESTED SEQUENCE OF REPLACEMENT FOR BEARING TYPE ES-3, SEE ENG. BB-03.
4. FOR MASONRY PLATE OF THE PROPOSED BEARINGS SHALL BE INSTALLED BY PROVIDING ANCHOR BOLT PLUGS IN THE HOLES TO BE USED FOR THE INSTALLATION MOUNTING OF THE EXISTING ANCHOR BOLTS. THIS IS DUE TO THE ANCHOR BOLT EXTENDING TO THE EXISTING PLATE. ADD THE WELD TO THE EXISTING PLATE AT THE EXISTING PLATE DIAMETER. INSERT THE ANCHOR BOLT PLUG. FILL THE PLUG, THEN INSTALL THE REPLACEMENT BEARING WITH THE WELDING ALL AROUND THE ANCHOR BOLT.
5. HOLE IN THE MASONRY PLATE AND ANCHOR BOLT SLOT PLUG SHALL BE FILLED TO REQUIRE THE SAME SIZE AS THE ANCHOR BOLT.
6. ANCHOR BOLT INSTALLATION SLOTS SHALL ONLY BE PROVIDED ON REPLACEMENT BEARINGS. BEARINGS FOR NEW ANCHOR BOLTS ARE TO BE INSERTED AND SHALL HAVE A 1 1/2" DIAMETER HOE.
NOTES:
1. For anchor bolt replacement criteria, see steel sliding plate and bronze expansion bearing notes on DWS, BB-02 and BB-03.
2. All costs associated with repair of existing anchor bolts shall be paid for under item no. 623003 - replace anchor bolts.
3. In lieu of the welded anchor bolt repair detail shown on this sheet, the contractor may elect to use the anchor bolt replacement alternate at no additional cost to the department.

ANCHOR BOLT REPLACEMENT ALTERNATE

1. Remove 6" wide concrete adjacent around the perimeter of existing anchor bolt to the depth shown.
2. Remove existing anchor bolt to the full length.
3. Weld proposed anchor bolt extension to existing anchor bolt provided (takeout and repair work to be performed in accordance with Appendix A 2-2.01(21) of the welding code, and contract documents. All welds and bolt holes shall be completed, non-destructive testing as noted otherwise. All welds shall be subject to non-destructive testing as specified in the bridge welding code, AWS D1.5).

ANCHOR BOLT REPLACEMENT ALTERNATE NOTES:
1. A 6" deep saw cut shall be made into the bottom face of existing sound concrete using a diamond blade saw. Removal of concrete shall be performed with a hand saw when necessary. Concrete shall be removed adjacent to the existing concrete to produce a smooth surface.
2. Damage to the existing structure to remain shall be repaired or replaced at no additional cost to the department.
3. Anchor bolts shall be crimped to size and sized to provide a minimum of 1'-0" min. engagement into the concrete postconstructionally. The connections shall match the existing.
4. The temporary beam support shall not be removed until the new concrete reaches a minimum compressive strength of 3000 psi.
### Girder Summary

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### Notes:

1. The girders shall be placed under full dead load.
2. The contractor is responsible for the entire direction of the work. The contractor shall submit drawings signed by a professional engineer and bearing the registration number of the state of Delaware, illustrating fully the proposed work.
3. The drawings shall be complete in detail for all anticipated phases and points on the bridge members and weights of members. The plans and specifications shall be complete in detail for all matched views and cross-sections.
4. Each girder shall have a connection plate, for location of shear stud connection plates, see dwg. BM-05.
5. There shall be no field welding to the top flange, except for shear studs.
6. For location of shear stud connection plates, see dwg. BM-05.
## Proposed Girder Camber

### Deflection and Total Camber (Inches)

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### Notes:
1. For framing plan, refer to Dwg. BM-02.
2. For parapet design, refer to Dwg. PD-01.

### Legend:
- DLG = Denotes deflection due to structural steel
- VCO = Denotes deflection due to concrete slab, parapet & S.S.P. forms
- TD&C = Denotes deflection due to top flanges of all girders to determine the required haunch thickness. All avoid the joint near the haunch thickness to satisfy the vertical curve of the structure.
- SDL1 = Denotes deflection due to structural steel
- SDL2 = Denotes deflection due to concrete slab, parapet & S.S.P. forms
- DLC = Denotes deflection due to horizontal load & S.S.P. forms
- DSL = Denotes total dead load deflection & camber
- TD&C + VCO = Denotes deflection due to vertical curve deviation due to roadway profile.
### Proposed Girders

#### GIRDER CAMBER

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<tr>
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<th>BEARING END 9/10 L</th>
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### Deflection and Total Camber (Inches)

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### Notes:
1. FOR GIRDERS ELEVATIONS AND SPAN LENGTH, L, REFER TO DWG. BM-01.
2. FOR FRAMING PLAN, REFER TO DWG. FR-01.
3. FOR GIRDER ELEVATIONS AND SPAN LENGTH, L, REFER TO DWG. BM-01.
### Proposed Girder

#### Bearing End

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#### Deflection and Total Camber (Inches)

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**Legend:**
- DL = Deflection due to structural load
- DLC = Deflection due to concrete slab, haunch, & S.I.P. forms
- SDL = Deflection due to P+K and closure point
- TVCO = Deflection due to live load
- TLC = Total deflection & camber

**Notes:**
1. For other elevations and span lengths, refer to DL/TVCO.
2. For parking plan, refer to ENG. PH-01.
3. For shell girder camber notes, refer to ENG. BM-09.
**NOTES:**

1. For location of intermediate diaphragms, see framing plan on drafs, FR-01 and FR-02.
2. All bolts, in diaphragm connections shall be 1" dia. High strength bolts in accordance with ASTM F3125, GR. A490, TYPE 1.
3. All bolt holes in diaphragm, diaphragm connections plates, and bearing stiffeners shall be 1" unless noted otherwise.
4. The minimum acceptable edge distance for any 1" dia. hole shall be 1/8".
5. All diaphragms shall be completely connected, with bolts fully pre-tensioned, to girders prior to placing deck slab.
6. Shear studs not shown.
8. The shear plate is welded to the gusset plate meeting the same M-8 gripping requirements. All shear plates shall be of the same contacting flange and connected to the gusset plate meeting the same required shear requirements after all shear is transferred. Make necessary shop and field adjustments to provide uniform bearing stress under all dead loads.
9. Provide diaphragm flanges to girders at bay 6, see note 7.

**SECTION A-A**

**SECTION B-B**

**CONNECTION PLATE DETAIL FOR INTERMEDIATE DIAPHRAGMS**

**NOTE A:** Connection plates shall not be installed on exterior face of girders 33S-8, 34S-8, 35S-8, 36S-8, 37S-8, 38S-9, 39S-10.

**CONNECTION PLATE WELD DETAIL**

**BEARING STIFFENER DETAIL**

**INTERMEDIATE DIAPHRAGM SLOTTED HOLES AT GIRDER 6 IN BAY 6**

**END DIAPHRAGM DETAILS**

**INTERMEDIATE DIAPHRAGM DETAILS**

**SCALE AS NOTED**

**REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS**

**WEBSITE COPY**
STAY-IN-PLACE FORM NOTES:

1. These forms shall be vertically adjusted to attain a line and grade required on the plans.

2. The contractor shall submit shop drawings for approval. Steel forms must be galvanized and painted. Steel metal screws must be non-corrosive. Self-tapping screws shall be installed at the edge lip of the beam at mid-span supports, all angles, and beam ends must be designed by the contractor.

3. All materials, labor, and equipment required for forms shall be included in item 610017 - 3.

4. For steel end diaphragm details, see BM-05.

5. For concrete end diaphragm reinforcement, see DWGS. EX-04 to EX-06.

6. For deck reinforcement, see DWGS. DK-08 to DK-14.

7. For location and spacing of shear studs, see DWG. NO. BM-01.

NOTE:

Shear studs, base plate, and pedestals not shown for clarity.

NOTES:

1. For location and spacing of shear studs, see DWG. NO. BM-01.
2. For deck reinforcement, see DWGS. EX-04 to EX-06.
3. For concrete end diaphragm reinforcement, see DWGS. EX-04 to EX-06.
4. For steel end diaphragm details, see DWGS.
EXISTING GIRDER

FLOWLINE

PARAPET REINFORCEMENT DEVELOPED ELEVATION - SPAN 26S

VERTICAL - " = 1'-0"

HORIZONTAL - ‰" = 1'-0"

NOTES:

1. FOR ADDITIONAL PARAPET REINFORCEMENT DETAILS, SEE DWG. PA-02.

2. DUE TO DECK CURVE, FIELD TRIMMING OF BARS DK5013 AND DK5014 MAY BE NECESSARY.
EXISTING GIRDER FLOWLINE

PARAPET REINFORCEMENT DEVELOPED ELEVATION - SPAN 27S

NOTES:

1. FOR ADDITIONAL PARAPET REINFORCEMENT DETAILS, SEE DWG. PA-01.
2. DUE TO DECK CURVE, FIELD TRIMMING OF BARS DK5017, DK5018, AND 2.
   FOR ADDITIONAL PARAPET REINFORCEMENT DETAILS, SEE DWG. PA-01.

EDGE OF DECK (TYP.)

DECK REINFORCEMENT PLAN - SPAN 27S

SCALE AS NOTED

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS
EXISTING GIRDER
FLOWLINE
PIER 29S
C
CL
PIER 30S
C
CL
PARAPET REINFORCEMENT DEVELOPED ELEVATION - SPAN 29S
VERTICAL - …" = 1'-0"
HORIZONTAL - ‰" = 1'-0"
AND PARAPET
WEST EDGE OF DECK
NOTES:
2 9
S-7
2 9
S-6
5  -  DK 5001  B O T . T O  M A T C H  E X I S T I N G
4  -  DK 5001  T O P  T O  M A T C H  E X I S T I N G
5  -  DK 5023  B O T . T O  M A T C H  E X I S T I N G
4  -  DK 5023  T O P  T O  M A T C H  E X I S T I N G
2 9
S-8
(TYP.)
2 " CLR.
3 '- 0 "
1 '- 2 "
M I N .
2 " CLR.
4 '- 2 "
(TYP.)
2" CLR.
SPACING OF PARAPET
CONTRACTION JOINTS
CONTROL AND
DE L D O E L D IG N S E C T I O N
SHOWN (TOP AND BOT.)
1 - DK5001 PLACED AS
SHOWN (TOP AND BOT.)
1 - DK5025 @ 6"
32 - DK5002E @ 8"
32 - PA502E @ 8"
3 SPA. @ 10'-0" = 20'-0"
18 - DK5002E @ 8"
18 - PA502E @ 8"
2 SPA. @ 11'-8" = 23'-5"
18 - DK5002E @ 8"
1 8  - D K 5 0 0 2E  @  8 "
3 2  - D K 5 0 0 2E  @  8 "
3 2  - D K 5 0 0 2E  @  8 "
SHOWN (TOP AND BOT.)
DK5003E PLACED AS
TYPE I SCUPPER (TYP.)
DETAIL DWG. DT-04
SEE SCUPPER
DETAIL DWG. DT-04
SEE SCUPPER
32 - DK5002E @ 8"
32 - PA502E @ 8"
JOINT
CONTRACTION
CONTROL
FLOWLINE
CONTRACTION JOINT
(TYP.)
0" TOP
1 2 8 - D K 5 0 25 @ 6 "
3 SPA. @ 10'-0" = 30'-0"
MEASURED ALONG FLOWLINE
2 SPA. @ 10'-0" = 20'-0"
18 - DK5002E @ 8"
18 - PA502E @ 8"
2 SPA. @ 11'-8" = 23'-5"
18 - DK5002E @ 8"
1 8  - D K 5 0 0 2E  @  8 "
3 2  - D K 5 0 0 2E  @  8 "
3 2  - D K 5 0 0 2E  @  8 "
SHOWN (TOP AND BOT.)
DK5024E PLACED
1 - PA503E E.F.
1 - PA501E E.F.
1 - PA519E E.F.
TYPE I SCUPPER
DETAIL DWG. DT-04
SEE SCUPPER
DETAIL DWG. DT-04
SEE SCUPPER
FOR ADDITIONAL PARAPET REINFORCEMENT DETAILS, SEE DWG. PA-01.
DECK REINFORCEMENT PLAN - SPAN 29S
W : 1'-0"
DECK REINFORCEMENT PLAN - SPAN 30S

NOTES:

1. FOR ADDITIONAL PARAPET REINFORCEMENT DETAILS, SEE DWG. PA-01.
DECK REINFORCEMENT PLAN - SPAN 32S

NOTES:
1. FOR ADDITIONAL PARAPET REINFORCEMENT DETAILS, SEE DWG. PA-01.

PARAPET REINFORCEMENT DEVELOPED ELEVATION - SPAN 32S

VERTICAL - "1'-0"
NOTES:
1. FOR ADDITIONAL DECK AND PARAPET REINFORCEMENT DETAILS, SEE SECTION 611. PAYMENT FOR REINFORCING STEEL BARS. ALL MECHANICAL LAP SPLICES SHALL BE MINIMUM OF 125% OF THE SPECIFIED YIELD STRENGTH OF THE ENGINEER. MECHANICAL LAP SPLICES SHALL BE ABLE TO DEVELOP A STRENGTH EQUAL TO OR GREATER THAN THE CAST IN PLACE. MECHANICAL LAP SPLICES WILL NOT BE MEASURED BUT THE COST WILL BE INCREDIBLE TO ITEM 611000 - BAR REINFORCEMENT.

2. PROVIDE MECHANICAL LAP SPLICES AT LOCATIONS SHOWN ON THE PLANS. MECHANICAL SPLICES WILL NOT BE PERMITTED IN STAKE LOCATIONS UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. MECHANICAL LAP SPLICES SHALL BE MEASURED AT A MINIMUM IN THE FIRST 2'-0" OF THE DECK SLAB OUTSIDE THE PROPOSED CLOSURE POUR. MECHANICAL LAP SPLICES WILL NOT BE MEASURED AT THE DECK END.

3. SEE Dwg DK-10 FOR ADDITIONAL DECK AND PARAPET REINFORCEMENT DETAILS.
NOTES:

1. STAY-IN-PLACE FORMS NOT SHOWN ON DECK TYPICAL REINFORCEMENT SECTION FOR CLARITY. SEE DWGS. DK-16 AND PA-01.

2. FOR PARAPET LONGITUDINAL BAR NUMBERS AND DECK LONGITUDINAL AND TRANSVERSE REINFORCEMENT, SEE DWGS. DK-16.

3. FOR PARAPET DETAIL ON DWG. PA-01

4. MECHANICAL LAP SPLICES ARE NOT PERMITTED IN OTHER LOCATIONS UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. MECHANICAL LAP SPLICES SHALL BE LAP SPliced WITH DK5001 2 - DK5083 TOP AND BOT. (TYP.)

5. SEE DWG. DK-16 FOR WALL LONGITUDINAL bar NUMBERS AND DECK TRANSVERSE REINFORCEMENT, SEE DWG. DK-16.

SCALE AS NOTED

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

NOTES:

1. STAY-IN-PLACE FORMS NOT SHOWN ON DECK TYPICAL REINFORCEMENT SECTION FOR CLARITY. SEE DWGS. DK-16 AND PA-01.

2. FOR PARAPET LONGITUDINAL BAR NUMBERS AND DECK LONGITUDINAL AND TRANSVERSE REINFORCEMENT, SEE DWGS. DK-16.

3. FOR PARAPET DETAIL ON DWG. PA-01

4. MECHANICAL LAP SPLICES ARE NOT PERMITTED IN OTHER LOCATIONS UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. MECHANICAL LAP SPLICES SHALL BE LAP SPliced WITH DK5001 2 - DK5083 TOP AND BOT. (TYP.)

5. SEE DWG. DK-16 FOR WALL LONGITUDINAL bar NUMBERS AND DECK TRANSVERSE REINFORCEMENT, SEE DWG. DK-16.
NOTES:
1. FOR PRECAST COUPLER DETAIL AND DETAILS FOR STEEL DOWEL, SEE THREADED COUPLER MECHANICAL SPLICE DETAIL ON DWG. EX-06.
2. FOR ADDITIONAL DECK AND PARAPET REINFORCEMENT DETAILS, SEE DWG. DK-14.
3. LIMITS OF NEW LMC OVERLAY, SEE NOTE 1.
4. DECK LONGITUDINAL REINFORCEMENT (TYP.), SEE DWG. DK-14.
5. DECK TRANSVERSE REINFORCEMENT (TYP. I), SEE DWG. DK-14.
6. DECK JOINT DETAIL MS-01.
7. END OF GIRDER ON DWG. AS-01.
8. APPROACH SLAB CONSTRUCTION JOINT SEE APPROACH SLAB CONSTRUCTION JOINT ON DWG. DK-51010.
9. FACE OF BACKWALL.
10. CONCRETE HEADER 1'-0".
1'-5" WIDE PARAPET DETAIL
1'-5" WIDE PARAPET REINFORCEMENT

1'-7½" WIDE PARAPET DETAIL
1'-7½" WIDE PARAPET REINFORCEMENT

VARIES THICKNESS OVERLAY LMC

PARAPET CONSTRUCTION JOINT DETAIL
PARAPET CONTRACTION JOINT DETAIL

ARCHITECTURAL GROOVE DETAIL

DRIP NOTCH DETAIL

SECTION A-A

REINFORCEMENT NOT SHOWN FOR CLARITY.

NOTE: 1'-5" WIDE PARAPET DETAIL TO BE USED IN THE FOLLOWING SPANS:
SB SPANS 25S TO 28S

NOTE: 1'-7½" WIDE PARAPET DETAIL TO BE USED IN THE FOLLOWING SPANS:
SB SPANS 29S TO 39S

SHEET NO. N : 31987-004

CONTRACT_RAMPS_BRIDGE_DB1-748_S_PA01.dgn
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SCALE AS NOTED

REHABILITATION OF I-95,
2ND STREET ON-RAMP IMPROVEMENTS

PA-01
NOTE:

Typical deck reinforcement and end diaphragm reinforcement not shown for clarity.

SCALE AS NOTED

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

PARAPET DETAILS SPAN 39S
1. Finished Bridge deck elevations shown are top of roadway +1/2 of LMC overlay.
2. For vertical curve data, see Dwg. PE-01.
3. For cross slope transitions, see Table Dwg. FD-01.
4. For existing girder numbers 5-1 through 5-6, match existing deck elevations.

LOCATION OF FINISHED BRIDGE DECK ELEVATIONS

FINISHED BRIDGE DECK ELEVATIONS - SPAN 35S

SCALE AS NOTED

DECK ELEVATION SPACING TABLE

<table>
<thead>
<tr>
<th>GIRDER NUMBER</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
1. Location of finished bridge deck elevations shown are top of roadway +1/2 of LMC overlay.
2. For vertical curve data, see Dwg. PE-01.
3. For cross slope transitions, see Table Dwg. FD-01.
4. For existing girder numbers 5-1 through 5-6, match existing deck elevations.
FINISHED BRIDGE DECK ELEVATIONS - SPAN 37S

LOCATION OF FINISHED BRIDGE DECK ELEVATIONS

NOTES:
1. FINISHED BRIDGE DECK ELEVATIONS SHOWN ARE TOP OF ROADWAY (TOP OF LANE ELEVATION).
2. FOR VERTICAL CURVE DATA, SEE DWG. PE-01.
3. FOR CROSS SLOPE TRANSITIONS, SEE TABLE DWG. FD-01.
4. FOR EXISTING GIRDERS S-1 THROUGH S-6, MATCH EXISTING DECK ELEVATIONS.

DECK ELEVATION SPACING TABLE

<table>
<thead>
<tr>
<th>LINE</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLEAR ROADWAY AT PARAPET</td>
<td>62'-10&quot;</td>
<td>62'-5&quot;</td>
</tr>
<tr>
<td>ELEVATION AT PARAPET</td>
<td>62'-10&quot;</td>
<td>62'-5&quot;</td>
</tr>
<tr>
<td>PARAPET</td>
<td>62'-10&quot;</td>
<td>62'-5&quot;</td>
</tr>
<tr>
<td>PARAPET</td>
<td>62'-10&quot;</td>
<td>62'-5&quot;</td>
</tr>
<tr>
<td>PARAPET</td>
<td>62'-10&quot;</td>
<td>62'-5&quot;</td>
</tr>
<tr>
<td>PARAPET</td>
<td>62'-10&quot;</td>
<td>62'-5&quot;</td>
</tr>
</tbody>
</table>

SCALE AS NOTED
LEGEND:

- EXISTING GIRDER
- EXISTING CHANNEL
- EXISTING DECK
- JOINT OPENING
- NEW DECK OVERLAY
- LMC OVERLAY

DECK JOINT OPENINGS, X

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>TEMPERATURE</th>
<th>MOVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>X01</td>
<td>X02</td>
<td>X03</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

JOINT RECONSTRUCTION NOTES:

1. NEW DECK SEAL ASSEMBLY SHOWN FOR INFORMATION PURPOSES ONLY, DETAILS MAY VARY BY MANUFACTURER. STAMP SEAL AND ASSEMBLY SHALL BE IN ACCORDANCE WITH ITEM 4200 - STAMPED CEMENT JOINT SYSTEM.

2. CLASS D CONCRETE SHALL BE USED IN ACCORDANCE WITH ITEM 6100 - PORTLAND CEMENT CONCRETE, SUPERSTRUCTURE, CLASS D, CLEAN AND APPLY EPT BARMING COMPOUND TO ALL REMOVAL AND REMOVED SURFACES PRIOR TO PLACING CONCRETE. COST FOR THIS WORK SHALL BE INCURRED TO ITEM 6100.

3. EXISTING JOINTS TO REMAIN SHALL BE CLEANED IN ACCORDANCE WITH SECTION 628.03.17. JOINTS WITH CORROSION, BROKEN, OR WITH INADEQUATE BOND SHALL BE CLEANED IN ACCORDANCE WITH SECTION 628.03.17. JOINTS. PAYMENT FOR CLEANING WILL BE INCURRED TO ITEM 6210 - PORTLAND CEMENT JOINT SYSTEM.

4. NEW DECK SEAL (REINFORCEMENT STEEL) REQUIRED TO COMPLETE THE JOINT HEADER REPAIRS SHALL HAVE 2" MIN. CONCRETE COVER UNLESS SHOWN OTHERWISE. PAYMENT FOR CLEANING WILL BE INCURRED TO ITEM 6210 - PORTLAND CEMENT JOINT SYSTEM.

5. THE CONTRACTOR SHALL USE CARE DURING THE REMOVAL OF THE EXISTING JOINT SYSTEM TO AVOID DAMAGE TO THE EXISTING PORTIONS OF THE STRUCTURE THAT COULD BE REPAIRED BY THE CONTRACTOR TO THE COMPLETE SATISFACTION OF THE ENGINEER. ANY DAMAGE INCURRED TO EXISTING PORTIONS OF THE STRUCTURE TO REMAIN SHALL BE REPAIRED BY THE CONTRACTOR TO THE COMPLETE SATISFACTION OF THE ENGINEER.

6. JOINT RECONSTRUCTION SHALL BE CURRENTLY RECOMMENDED TO COMPLETE THE JOINT HEADER REPAIRS. COST FOR JOINT ASSEMBLY AND STEEL EXTRUSION DETAILS AND STRIP SEAL EXPANSION JOINT NOTES, SEE DWG. EX-07.

7. ALL NEW REINFORCING STEEL WILL BE MADE UNDER ITEM 611000 - BAR REINFORCEMENT.

8. THE CONTRACTOR SHALL FIELD VERIFY THE CROSS SLOPE OF THE ROADWAY AT EACH INDIVIDUAL JOINT LOCATION. AT A MINIMUM, POINTS SHALL BE TAKEN AT THE FLOWLINES AND ALL GRADE BREAKS.


10. BRIDGE SCUPPER TYPE 1, BRIDGE SCUPPER TYPE 2, AND BRIDGE SCUPPER TYPE 3, SEE NOTE 2.

11. SEE DWGS. DK-01 TO DK-03 (TYP.) FOR PARAPET AND OVERHANG RECONSTRUCTION.

12. DECK JOINT OPENINGS, X, SEE DWGS. DK-01 TO DK-03 (TYP.) FOR JOINT ASSEMBLY AND STEEL EXTRUSION DETAILS AND STRIP SEAL EXPANSION JOINT NOTES.
STRIP SEAL EXPANSION JOINT NOTES:

1. Steel for deck joints and steel extrusions shall be ASTM A 706, GR. 36, ASTM A 572, or equivalent.

2. Neoprene expansion joints shall be capable of sealing the deck to prevent moisture and other contaminants from desiccating through the joint.

3. The expansion joint shall be installed in the plane across the width of the joint reconstruction. Splicing of the strip seal is not permitted.

4. The expansion joint system is to be designed for water drainage - preassembled expansion joint system, 3".

5. Steel extrusions shall be not less than 0.040 inches thick. Joint plates with 1" x 3" slotted holes are not required.

6. The expansion joint system is to be designed for water drainage - preassembled expansion joint system, 3".

7. Steel extrusions shall be not less than 0.040 inches thick. Joint plates with 1" x 3" slotted holes are not required.

8. The following physical properties shall be maintained:

   - Moisture-curing polyurethane and hydrocarbon solvent mixture having elements to steel joint components shall be a one-quart lubricant-adhesive for use in installing and bonding neoprene seal elements to steel joint components. The neoprene seal shall not be painted.

   - Neoprene extrusion to meet ASTM D2628 modified, (recovery test excluded).

9. Joint plates with 1" x 3" slotted holes for passage of reinforcement (typ.) shall be used to support the load. Joint plates shall be sized as required to provide a 1" x 3" joint opening at 68°F.

10. Anchor plate and steel extrusions shall be used to be adjustable at completion of construction. Anchor plates shall be used to support the load. Joint plates shall be sized as required to provide a 1" x 3" joint opening at 68°F.

11. Dry sand and dry grout shall be provided for joining.

12. Parapet joint plates are required. See details on ex-10.
LEGEND:

- PARAPET AND OVERHANG REMOVAL LIMITS - ITEM 211000
- PARAPET AND JOINT REMOVAL LIMITS - ITEM 624000

NOTES:

1. FOR PARAPET DETAILS, SEE DWGS. PA-01 TO PA-03.
2. PAYMENT FOR 1" SAW CUT WILL BE INCIDENTAL TO ITEM 624000 - PREFABRICATED EXPANSION JOINT SYSTEM, 3".

PLAN - PIER 26S JOINT AND PARAPET REMOVAL

1/8" = 1'-0"

PLAN - PIER 26S JOINT AND PARAPET RECONSTRUCTION

1/8" = 1'-0"
CONTRACT
COUNTY
DESIGNED BY:
CHECKED BY:

BRIDGE NO.

ADDENDA / REVISIONS
SECTION
SHEET NO.

12/20/2019 1:45:28 PM

LIMITS OF REMOVAL
8'-5"
JOINT

8 - PA504E @ 6" (TYP.)
2" CLR.

FLOWLINE

TRAFFIC
PIER 26S

NOTES:
LIMITS OF PARAPET REMOVAL - ITEM 624000
4'-0"
LIMITS OF PARAPET AND JOINT REMOVAL - ITEM 624000
4'-5"
LIMITS OF PARAPET AND JOINT REMOVAL - ITEM 624000
4'-2"

SEE DWG. EX-01
LIMIT OF DECK REMOVAL,
TO BE REMOVED (TYP.)
EXISTING REINFORCEMENT

"± 4 1 10
3 SPA. @ 1'-0"± = 3'-0"
4 - PA532E
@ 7" = 1'-10"
4 - PA504E
@ 7"
4 - DK5004E
SEE DWG. DK-01
DK5004E @ 8"
SEE DWG. DK-01
PA504E @ 8"

3 - PA533E E.F.
1 - PA534E E.F.

2'-11" LAP (TYP.)
MATCH SLOPE OF TRANSITION
FIELD BEND EXISTING BAR TO
PIER 26S

3"
1'-0"

TRAFFIC

VARIES
VARIES
VARIES
VARIES

F - SHAPE PARAPET
EXISTING JERSEY SHAPE PARAPET TO REMAIN, SEE NOTE 3 ON DWG. EX-02

2'-8" ± EXISTING JERSEY SHAPE PARAPET TO REMAIN

2'-8" ± PLATE (TYP.)
PARAPET JOINT RECESS FOR

TO REMAIN AS SHOWN
EXISTING 1" DIA. CONDUIT

8 - DK5004E @ 6"
4 - PA531E E.F.
3 - PA503E E.F.
4 - PA503E E.F.

NOTE:
DECORATIVE BARRIER TO BE REMOVED NOT SHOWN FOR CLARITY.

LEGEND:
PARAPET AND OVERHANG REMOVAL LIMITS - ITEM 211000
PARAPET AND JOINT REMOVAL LIMITS - ITEM 624000
PARAPET AND OVERHANG REMOVAL LIMITS - ITEM 211000

ELEVATION - PIER 265 PARAPET REMOVAL LIMITS

PIER 265 PARAPET RECONSTRUCTION - REINFORCEMENT
18" x 1'-0"

SECTION E-E

SCALE AS NOTED
REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

NOTES:
1. FOR JOINT RECONSTRUCTION NOTES, SEE ENG. EX-02.
2. FOR EXPANSION AND STEEL CONNECTION DETAILS AND SEAL EXPANSION NOTES, SEE ENG. EX-05.
3. FOR PARAPET JOINT PLATE DETAILS, SEE ENG. EX-10.
4. FOR TYPICAL PARAPET REINFORCEMENT DETAILS AND LOCATION OF 2" CONCRETE, SEE ENG. EX-05.
5. PAYMENT FOR 1" SAW CUT WILL BE INCIDENTAL TO ITEM 624000 - PREFABRICATED EXPANSION JOINT SYSTEM, 3".
PARAPET JOINT PLATE NOTES:

1. Form concrete recess area in parapet and grout to provide smooth surface. Apply one coat of approved cement to form side of joint in accordance with Section 12-401. Embedding of concrete into joint is required in order to fulfill the requirements of PREFABRICATED EXPANSION JOINT SYSTEM.

2. Place parapet concrete with bent steel plates, inserts, and bolts in place to ensure proper alignment of plates. Remove the bent plates to install the joint plates. Apply approved bond-breaker to insertion plates prior to pouring of concrete.

3. Use type 316 stainless steel counterboring fasteners with bent and concrete threaded inserts to install joint plates. Head of screws shall be flush with face of steel plate.

4. The contractor shall submit working drawings of traffic barrier plates for approval.

5. Parapet plates shall be painted galvanized steel. Payment for parapet joint plates shall be incidental to Item 62400 - PREFABRICATED EXPANSION JOINT SYSTEM.

6. For joint assembly detail and strip seal expansion notes, see DWG. EX-07.

7. Detail shown is for 1'-7" parapet in spans 285 - 295, detail for 1'-5" parapet in other spans similar.
### LIGHT BRACKET - REINFORCEMENT PLAN

#### NOTES:
- \( \frac{\text{ft}}{\text{in}} = 1'-0" \)
- LIGHT BRACKET PLAN (TYP.)

#### LIGHT BRACKET TABLE

<table>
<thead>
<tr>
<th>Bar No.</th>
<th>Section</th>
<th>Top Deck Bar</th>
<th>Bottom Deck Bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>DK5043</td>
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<td>DK5045</td>
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</tr>
<tr>
<td>DK5068</td>
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<td></td>
</tr>
</tbody>
</table>

**REINFORCEMENT PLAN FOR BAR NOS. PARAPET BARS:**
- SEE LIGHT BRACKET - REINFORCEMENT PLAN FOR BAR NOS. DECK BARS: SEE LIGHT BRACKET - LONGITUDINAL PARAPET REINFORCEMENT

#### LONGITUDINAL PARAPET REINFORCEMENT

**SEE DWG. DK-08 AND DK-12 FOR REINFORCEMENT:**
- DECK WIDENING REINFORCEMENT

**SEE TABLE FOR BAR NO. 2.**
- DETAIL SHOWN WITH CONTROL JOINT CONTINUOUS REINFORCEMENT.

**LOW POINT (GALV.) (TYP.):**
- \( \frac{\text{ft}}{\text{in}} = 1'-0" \) MIN.

**11" MAX. BRACKET OVERHANG:**
- MAX. 9" FOR LIGHT BRACKET

**OVERHANG VARIES:**
- \( \frac{\text{ft}}{\text{in}} = 1'-10" \) - \( \frac{\text{ft}}{\text{in}} = 2'-3" \)
- 3 EQ. SPA.
- 4" - PA505E, 2" - DK5008E

**10'-0" MIN. DEVELOPMENT LENGTH:**
- \( \frac{\text{ft}}{\text{in}} = 1'-0" \) TIED TO DECK

**2'-0" MIN. RADIUS:**
- \( \frac{\text{ft}}{\text{in}} = 1'-10" \) DIA. CONDUIT (GALV.), 3'-0" DIA. DRAIN AT 4'-2"; SEE NOTE 1 (TYP.)

**4'-9" MIN. DEVELOPMENT LENGTH:**
- \( \frac{\text{ft}}{\text{in}} = 1'-5" \) Bars @ 6", SEE Table, THIS SHEET

**DECK WIDENING:**
- \( \frac{\text{ft}}{\text{in}} = 1'-0" \) - 10 - BOT. DECK BAR: SEE TABLE, THIS SHEET
- \( \frac{\text{ft}}{\text{in}} = 1'-0" \) - 10 - TOP. DECK BARS @ 6" TIED TO DECK

**6" TIED TO DECK:**
- \( \frac{\text{ft}}{\text{in}} = 1'-0" \) OVERHANG REINFORCEMENT

- \( \frac{\text{ft}}{\text{in}} = 1'-0" \) MIN.

**MAX. 8" BAR:**
- \( \frac{\text{ft}}{\text{in}} = 1'-0" \) MAX.

**MAX. 8" PARAPET:**
- \( \frac{\text{ft}}{\text{in}} = 1'-0" \) MAX.
EXISTING REINFORCEMENT

DK5037 SPACED TO MATCH

NOTES:

1" = 1'-0"

SECTION G-G

1 1 1" C L R.

DK5038 @ 6"

SEE DWG. PA-01 PARAPET, FOR DETAILS

EXISTING GIRDER

1 " C L R.

2'-3" LAP (TYP.)

5'-8" (TYP.)

2" CLR.

M I N.

5 "

1"

REMOVAL AROUND SCUPPER (TYP.)

LOCATION TO GO AROUND SCUPPER

ADJUST PARAPET LONGITUDINAL BAR

EXP. JOINT

C SCUPPER

C

VARIES

FLOWLINE

C PIER

C

L

CONDUIT

POWER

2" DIA.

JOINT

CONTROL

SEE NOTE 2 SCUPPER AROUND REMOVAL DECK PARTIAL LIMIT OF

IN CONFLICT WITH SHEAR STUDS AS REMOVE EXISTING

SPAN LOCATION 'A'

PIER 27S

PIER 28S

PIER 29S

PIER 30S

PIER 31S

PIER 32S

PIER 32S

PIER 33S

DK-01 TO DK-07 SEE DWGS. DK5 BARS,

1'-6"

5'-8" 1'-7‡" 6'-6'

8'-3" 5'-7‡" 8'-8" 2'-0" 7'-2" 8'-9‡" 1'-9" 4'-1…" 8'-11" 1'-8'

1'-10" 5'-10" 8'-11ƒ" 8'-10‡" 3 - PA504E @ 4" 3 - PA502E @ 4" 5 - PA504E @ 8" 5 - PA502E @ 8" 3 - PA504E @ 4" 3 - PA502E @ 4"

DK5004E @ 8" 4 - DK5004E @ 4" 4 - DK5002E @ 4" 4 - DK5004E @ 4" 4 - DK5002E @ 4"

DK5002E @ 8"

DK5004E @ 8"

DK5002E @ 8"
NOTES:

1. FOR DRAINAGE REPAIR SCHEDULE AND LOCATIONS SEE DWG. PN-03.
2. STEEL PIPE AND FITTINGS SHALL BE ASTM A53, STANDARD WEIGHT.
3. PIPE CLAMPS, CLAMPS, U-BOLTS, AND BOLTS SHALL BE GALVANIZED.
4. ALL DIMENSIONS AND DETAILS SHOWN ARE BASED ON EXISTING AS BUILT DRAWINGS AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT FIELD VERIFICATION NOTES BUILT DRAWINGS AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
5. Existing piping which are to remain shall be cleared of all debris and clogs. Payment will be made under Item 601503 - Existing Piping. New pipes and fittings shall be painted as indicated on Section 615 of the Standard Specifications. Payment will be incidental to Item 615000 - Steel Structures.
6. New 8" steel pipes and fittings shall be in accordance with and fastened using Item 615000 - Steel Structures. Payment for cleaning debris will be incidental to Item 615000.
7. Existing 8" CIP (LOOKING NORTH)
8. Existing 12" RCP (LOOKING NORTH)
9. All new pipes and fittings shall be painted as indicated on Section 615 of the Standard Specifications. Payment will be incidental to Item 615000 - Steel Structures.

CLEANOUTS WILL BE INCIDENTAL TO ITEM 615000. PAID FOR UNDER ITEM 615000 - STEEL STRUCTURES. PAYMENT FOR NEW 8" DRAIN PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH AND INCIDENTAL TO ITEM 615000 - STEEL STRUCTURES. CLEANSING BRIDGE SCUPPERS.

EXISTING 8" CIP

EXISTING SCUPPER

8" DIA. NEOPORENE PIPE

45° ELBOW (TYP.)

8" DIA. STEEL DOWNSPOUT

MAX. SPACING (TYP.)

PIPE CLAMP, 10'-0" C/C

EXISTING 8" CAP

PIER 26S

8" DIA. NEOPORENE PIPE

45° ELBOW (TYP.)

PIER 28S

8" DIA. STEEL DOWNSPOUT

MAX. SPACING (TYP.)

PIPE CLAMP, 10'-0" C/C

EXISTING 8" CAP

PIER 29S

REDUCER DETAIL

1/8" = 1'-0"

SCUPPER DOWNSPOUT DETAILS 1 OF 2

PIPE CLAMP DETAIL

1/8" = 1'-0"

NOTES:

1. FOR DRAINAGE REPAIR SCHEDULE AND LOCATIONS SEE DWG. PN-03.
2. STEEL PIPE AND FITTINGS SHALL BE ASTM A53, STANDARD WEIGHT.
3. PIPE CLAMPS, CLAMPS, U-BOLTS, AND BOLTS SHALL BE GALVANIZED.
4. ALL DIMENSIONS AND DETAILS SHOWN ARE BASED ON EXISTING AS BUILT DRAWINGS AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. CONTRACTOR SHALL SUBMIT FIELD VERIFICATION NOTES BUILT DRAWINGS AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
5. Existing piping which are to remain shall be cleared of all debris and clogs. Payment will be made under Item 601503 - Existing Piping. New pipes and fittings shall be painted as indicated on Section 615 of the Standard Specifications. Payment will be incidental to Item 615000 - Steel Structures.
6. New 8" steel pipes and fittings shall be in accordance with and fastened using Item 615000 - Steel Structures. Payment for cleaning debris will be incidental to Item 615000.
SECTION A-A

LENGTH: 1'-0"

LIMITS OF SLIDING-SURFACE POLYETHYLENE SHEETING SLIDING SURFACE

LIMITS OF SLIDING-SURFACE POLYETHYLENE SHEETING SLIDING SURFACE

CONSTRUCTION BASELINE
RAMP 0 AND P.G.A.
AS501E @ 8"
AS506E @ 12"
AS601E @ 6"
AS901E @ 6" (BOTTOM)
AS505E @ 12" (TOP)
AS502E @ 12"

P.G.A.
RAMP D AND P.G.L.

MSE WALL COPING (TYP.)

MSE WALL (TYP.)
FRONT FACE OF MATERIAL (TYP.)

3" CLR.

2 LAYERS OF 4 MIL VARIANCE (TYP.)

2'-11" LAP

1'-4"

1'-0"

VARIES 10'-8" TO 8'-6"

LIMITS OF POLYETHYLENE SHEETING SLIDING SURFACE

VARIES 34'-4" TO 36'-1" OUT-TO-OUT

@ 8"

@ 12"

@ 12"

@ 12"

@ 12"

CPOPING (TYP.) ON PARAPET AND MSE WALL

ACRILIC CONCRETE SEALER

LIMITS OF SILICONE-BASED SEALANT MATERIAL (TYP.)

LIMITS OF POLYETHYLENE SHEETING SLIDING SURFACE

SECTION C-C ON DWG. AS-04 (TYP.) FOR PARAPET REINFORCEMENT,

TYPE B AGGREGATE BASE COURSE, 1'-0" DEPTH GRADED

AS501E @ 8"
AS506E @ 12"

AS502E @ 12"
NOTES:

1. PAYMENT FOR SLEEPER SLAB CONCRETE WILL BE MADE UNDER ITEM 1.

2. FOR SLEEPER SLAB D SECTIONS D-D AND E-E, SEE DWG. AS-04.

CCNS = CLOSED CELL NEOPRENE SPONGE

CLOSED END METAL EXPANSION SLEEVE

GRAPHITE GREASE COATING ON DOWEL OR TIE BAR

DELDOT STANDARD P-1

SEE TRANSVERSE JOINT DETAIL, DETAIL A.

SCALE AS NOTED
### 1. Reinforcing Bars

**Nominal Dimensions**

<table>
<thead>
<tr>
<th>Diameter (Inches)</th>
<th>2-0</th>
<th>1-10</th>
<th>1-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2.044</td>
<td>5.313</td>
<td>1.502</td>
</tr>
<tr>
<td>4</td>
<td>1.502</td>
<td>3.813</td>
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<tr>
<td>3</td>
<td>1.002</td>
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<td>0.692</td>
</tr>
<tr>
<td>2</td>
<td>0.692</td>
<td>1.683</td>
<td>0.312</td>
</tr>
<tr>
<td>1</td>
<td>0.312</td>
<td>0.773</td>
<td>0.112</td>
</tr>
</tbody>
</table>

**Recommended End Hooks, Applicable to All Grades**

- 90° for 6", 7", 8" bars
- 120° for 5", 6", 7", 8" bars
- 135° for 3", 4", 5", 6", 7", 8" bars
- 180° for 2", 3", 4", 5", 6", 7", 8" bars

**Recommended Bar Bends**

- 90° for 1-10" bars
- 120° for 1-0" bars
- 135° for 2-0" bars

**Dimensions**

- Dimensions in 1/8" increments
- Tolerances: ± 1/16" in the longitudinal direction, ± 1/32" in the transverse direction

### 2. Concrete Rebars

**Specifications**

- Steel Grade: #6, #7, and #8
- Quantity: 2.257

**Recommended Bar Sizes**

- 6" for #6, #7, #8
- 5" for #3, #4, #5

**Bending Dimensions (Feet-Inches/Quarter Inch)**

<table>
<thead>
<tr>
<th>Bending Dimensions</th>
<th>Feet-Inches/Quarter Inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.110</td>
</tr>
<tr>
<td>B</td>
<td>0.750</td>
</tr>
<tr>
<td>C</td>
<td>1.000</td>
</tr>
<tr>
<td>D</td>
<td>1.270</td>
</tr>
<tr>
<td>E</td>
<td>1.560</td>
</tr>
<tr>
<td>F</td>
<td>2.044</td>
</tr>
<tr>
<td>G</td>
<td>2.257</td>
</tr>
<tr>
<td>H</td>
<td>4.000</td>
</tr>
</tbody>
</table>

**Notes**

1. Rebars shown in circles represent bar end types.
2. Standard bar sizes include only sizes represented, indicated as such.
3. All dimensions 3/8" to 3/4", except "A" and "G" on 180° and 135° hooks.
4. 1-DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NEEDED TO REMOVE TIES.
5. Dimensions of stirrups to be shown as needed to fit within the concrete.
6. "H" dimensions of stirrups to be shown as needed to fit within the concrete.
7. Dimensions of stirrups noted, diameter "H" is the same for all bars and rebar in a row except where noted for #6 and #7.
8. Spacers between bars are at least 1/4" on center, except for #6 and #7.
9. Where bars are to be shown in accordance with fabricator's specific requirements, bending dimensions should be included in the project specifications.

**Dimensions for Special Bar Bends**

- 90° for #3, #4, #5 bars, etc.
- To be referenced as noted on the drawing.

**Scale as Noted**

- Rehabilitation of I-95, 2nd Street On-Ramp Improvements
- Substructure

**Signatures**

- [Signature]

---

**Website and Copy Information**

© 2019

- Official Website
- Unofficial Website

---

**Contract Information**

- Contract # 17485 059

---

**Reinforcement Schedule Substructure**

- [Diagram]
## Dimensions

### Standard Bar Bends

<table>
<thead>
<tr>
<th>Type</th>
<th>Commercial Name</th>
<th>Dimensions (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>180° Splice Hook</td>
<td>1.0 W x 1.0 D x 2.0 H</td>
</tr>
<tr>
<td>2</td>
<td>90° Splice Hook</td>
<td>1.0 W x 1.0 D x 1.5 H</td>
</tr>
</tbody>
</table>

### Special Bar Bends

- **180° and 90° End Hooks**
- **Stirrup and Tie Hooks**

### Scale

Scale as noted in the detailed drawings. See the full set of engineering drawings for precise dimensions and details.

---

**Reinforcement Schedule**

The reinforcement schedule lists the required bar sizes and quantities for various structural elements. The schedule ensures that the correct amount of steel is used to reinforce the concrete, maintaining the structural integrity of the bridge.

---

**NOTES**

1. All dimensions are shown in inches.
2. Standard bar sizes are indicated in the schedule.
3. Additional bars may be required for reinforcement as needed.
4. Dimensions shown are for standard bar bends.
5. Exact bar sizes may vary depending on the specific location.
6. All reinforcement must be installed in accordance with local building codes and standards.

---

**Contracting Information**

- **Project Name:** New Castle Bridge Rehabilitation
- **Project Location:** 1748S 059
- **Date:** 12/20/2019
- **Contractor:** New Castle Bridge Construction, Inc.

---

**Table of Reinforcement**

<table>
<thead>
<tr>
<th>Location</th>
<th>Type</th>
<th>Bar Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pier 1</td>
<td>S1</td>
<td>#6</td>
<td>10</td>
</tr>
<tr>
<td>Pier 2</td>
<td>S2</td>
<td>#8</td>
<td>20</td>
</tr>
<tr>
<td>Pier 3</td>
<td>S3</td>
<td>#10</td>
<td>30</td>
</tr>
</tbody>
</table>

---

**Engineering Design**

Design and drafting by W. Geschreiber, Registered Structural Engineer.
### Standard Bar Bends

- **90° Hook**
- **135° Hook**
- **180° Hook**

### Special Bar Bends

- **Additional Hooks**
- **Reinforcement Schedule**
- **Superstructure**

### Notes:
1. All dimensions are given in inches.
2. All bars are assumed to be 12 ft long, unless otherwise specified.
3. Dimensions of stirrups and tie hooks are approximate.
4. Dimensions of stirrups and tie hooks are shown as required.
5. Dimensions of stirrups and tie hooks are shown as required.
6. Dimensions of stirrups and tie hooks are shown as required.
7. Dimensions of stirrups and tie hooks are shown as required.
8. Dimensions of stirrups and tie hooks are shown as required.

### Reinforcement Schedule

- **Bar Sizes**
- **Reinforcement Schedule**
- **Superstructure**

### Superstructure

- **Rehabilitation of I-95, 2nd Street On-Ramp Improvements**
### Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard Bar Bends</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Recommended Bends</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Allowable Bends</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STIRRUP AND TIE HOOKS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SPECIAL BAR BENDS</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Figures shown in circles represent bar bends.
2. Standard bar bends include hooks which are bent as shown.
3. All dimensions are in mm, except those in metric. Convert to inches as necessary.
4. Dimensions in bold are required to be shown only if necessary to avoid any confusion.
5. Where 'L' is not shown, 'L' shall be equal to or less than the dimension shown. In the case of bends, 'L' shall be equal to or less than the dimension shown in the bends.
6. Dimensions of straight bars shall be shown as necessary to be shown in the bends.
7. Unless otherwise noted, diameter 'D' is the same for all bends and hooks on a bar and shall not be varied. 11 and 15.
8. Where close bends from 270°, 150°, and 90° must be shown, figure 13, and 150° must be shown, figure 13, and 90° must be shown, figure 14.
9. Where bars are to be bent according to any standard dimension, the dimensions of the bends shall be in accordance with the bending tables, where applicable. Any deviations in bend dimensions shall be noted.
10. For bending tables, 30°, 45°, 60°, and 90° bends are shown in the bends. 135° and 180° bends are also shown.

### Standard Bar Bends

- **STIRRUP AND TIE HOOKS**

### Special Bar Bends

- **REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS**

**NOT TO SCALE**

**REINFORCEMENT SCHEDULE**

**SUPERSTRUCTURE**
**BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)**

- **STRAIGHT ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS:**
  - **A OR G**
  - **DK5001**
  - **DK5007E**
  - **DK5052**
  - **DK5054**
  - **DK5057**
  - **DK5062**
  - **DK5070**
  - **DK5068**
  - **DK5069**
  - **DK5064**
  - **DK5065**
  - **DK5071**
  - **DK5112E**
  - **DK5243**
  - **DK5244**
  - **DK5113E**
  - **DK5201**
  - **DK5301**
  - **DK5302**
  - **PA503E**
  - **PA512E**
  - **PA525E**

**NOT TO SCALE**

- **REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS**

- **STANDARD BAR BENDS**
  - **DIMENSIONS**
  - **J**
  - **K**
  - **H**
  - **O**
  - **C = CIRCUM.**
  - **DIA M E T E R**
  - **DE06**
  - **SP04**
  - **SP06**
  - **NEW CASTLE**

- **SPECIAL BAR BENDS**
  - **TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3**

- **SPECIFICATIONS**
  - **LENGTH 120-0**
  - **TYPE 3-9**
  - **SIZE 0-6**
  - **DEPTH 0-9**
  - **DIMENSION A OR G**
  - **DIMENSION F / R**

- **ISOMETRIC VIEW**
  - **SUPERSTRUCTURE**
  - **REINFORCEMENT SCHEDULE**
  - **CONTRACT**

- **REINFORCEMENT SCHEDULE**
  - **SPACERS LOOSE**
  - **PLAIN SPIRAL WITH**

- **SPIRAL NOTES:**
  - **4**
  - **4**
  - **5**
  - **6**

- **REFERENCES**
  - **NEW CASTLE**
  - **DE06**
  - **SP04**
  - **SP06**
  - **NEW CASTLE**

- **NOT TO SCALE**
  - **REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS**
## Specifications

<table>
<thead>
<tr>
<th>Application</th>
<th>Dimensions (Feet-Inches / Quarter Inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bar Bending</td>
<td>–</td>
</tr>
</tbody>
</table>

*NOTES:*

1. Figures shown in circles represent bar bend types.
2. Standard bar bends include only those shown herein, indicated as such.
3. All dimensions in 5/16-
4. "F" dimensions on 180° hooks to be shown only where necessary to specify other side. Bar diameters all hooks are to be used.
5. Where "J" is not shown, "J" will be kept equal to or less than "H".
6. Bar size, type and pitch shall be shown.
7. "F" dimensions of stirrups to be shown as needed to fit within the concrete.
8. Unless otherwise noted, diameter "J" is the same for all bends and hooks on a bar length of 40 times "J" and 150.
9. Where close spaces require "J" overlap, "F" and "J" must be shown.
10. Where bars are to be sign, accurately bar bend dimensions, bending tolerances given in table are to be followed, unless otherwise.
11. For recommended standard "J" or spiral, hooks, etc., refer to Table above, "CIRCLE" of type where applicable and required.
12. Type "S" - "S", "1" - "1", "2" to "2" an are to be shown as necessary. No Table shown.

### Standard Bar Bends

- **180° End Hooks**
- **90° End Hooks**

### Special Bar Bends

- **Stirrup and Tie Hooks**

### Not to Scale

**Rehabilitation of I-95, 2nd Street On-Ramp Improvements**

**Reinforcement Schedule**

**Approach Slab**
<table>
<thead>
<tr>
<th>NO.</th>
<th>STATION</th>
<th>BORING</th>
<th>CLIMATE / G.I.</th>
<th>DEPTH</th>
<th>EASTING</th>
<th>ELEVATION</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24.0'</td>
<td>A-2-4(0)</td>
<td>G.I.</td>
<td>6.0'</td>
<td>40.0'</td>
<td>57.60'</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>16.0'</td>
<td>A-2-4(0)</td>
<td>G.I.</td>
<td>6.0'</td>
<td>40.0'</td>
<td>57.60'</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>8.0'</td>
<td>A-2-4(0)</td>
<td>G.I.</td>
<td>6.0'</td>
<td>40.0'</td>
<td>57.60'</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2.0'</td>
<td>A-2-4(0)</td>
<td>G.I.</td>
<td>6.0'</td>
<td>40.0'</td>
<td>57.60'</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2.0'</td>
<td>A-2-4(0)</td>
<td>G.I.</td>
<td>6.0'</td>
<td>40.0'</td>
<td>57.60'</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2.0'</td>
<td>A-2-4(0)</td>
<td>G.I.</td>
<td>6.0'</td>
<td>40.0'</td>
<td>57.60'</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**
- Sample Information
- No sieve analysis - indication of saturated very dense gray silty fine sand and fine gravel.
- Trace of fine gravel.
- Moist very stiff brown clayey coarse sandy silt with some fine to coarse sand.
- No fines and and silt.
- Moist stony gray silty fine sand and some fine to coarse sand.
- Trace of fine gravel.
<table>
<thead>
<tr>
<th>STATION</th>
<th>BORING</th>
<th>DEPTH (FEET)</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-4(5)</td>
<td>4.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-1-b</td>
<td>6.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-6(0)</td>
<td>8.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>10.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>12.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>14.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>16.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>18.0'</td>
<td></td>
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</tr>
<tr>
<td>A-2-4(0)</td>
<td>20.0'</td>
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</tr>
<tr>
<td>A-2-4(0)</td>
<td>22.0'</td>
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</tr>
<tr>
<td>A-2-4(0)</td>
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<td>A-2-4(0)</td>
<td>26.0'</td>
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</tr>
<tr>
<td>A-2-4(0)</td>
<td>28.0'</td>
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<tr>
<td>A-2-4(0)</td>
<td>30.0'</td>
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<td>A-2-4(0)</td>
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<tr>
<td>A-2-4(0)</td>
<td>34.0'</td>
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</tr>
<tr>
<td>A-2-4(0)</td>
<td>36.0'</td>
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</tr>
<tr>
<td>A-2-4(0)</td>
<td>38.0'</td>
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</tr>
<tr>
<td>A-2-4(0)</td>
<td>40.0'</td>
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</tr>
<tr>
<td>A-2-4(0)</td>
<td>42.0'</td>
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<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>44.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>46.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>48.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>50.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>52.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>54.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>56.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>58.0'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2-4(0)</td>
<td>60.0'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DESCRIPTION**

- **4.0'**: No sample
- **6.0'**: Coarse sand and fine gravel
- **8.0'**: Wet medium dense gray clayey coarse to fine sand
- **10.0'**: Wet stiff gray silty clay with some fine to coarse sand
- **12.0'**: Wet very stiff gray silty sand with some clay, trace of fine to coarse sand
- **14.0'**: Wet stiff gray silty clay with trace of coarse to fine sand
- **16.0'**: Wet stiff brown clayey fine clayey silty with trace coarse to fine sand
- **18.0'**: Wet medium dense brown silty fine to coarse sand with trace fine gravel
- **20.0'**: Wet medium dense brown silty fine sand and fine gravel with some coarse sand
- **22.0'**: Wet medium dense brown silty fine to coarse sand with trace fine gravel
- **24.0'**: Wet medium dense brown silty fine sand and fine gravel with some coarse sand
- **26.0'**: Wet medium dense brown silty fine to coarse sand
- **28.0'**: Wet medium dense brown silty fine sand and fine gravel
- **30.0'**: Wet medium dense gray silty fine to coarse sand
- **32.0'**: Wet medium dense gray silty fine to coarse sand
- **34.0'**: Wet medium dense gray silty fine to coarse sand
- **36.0'**: Wet medium dense gray silty fine to coarse sand
- **38.0'**: Wet medium dense gray silty fine to coarse sand
- **40.0'**: Wet medium dense gray silty fine to coarse sand
- **42.0'**: Wet medium dense gray silty fine to coarse sand
- **44.0'**: Wet medium dense gray silty fine to coarse sand
- **46.0'**: Wet medium dense gray silty fine to coarse sand
- **48.0'**: Wet medium dense gray silty fine to coarse sand
- **50.0'**: Wet medium dense gray silty fine to coarse sand
- **52.0'**: Wet medium dense gray silty fine to coarse sand
- **54.0'**: Wet medium dense gray silty fine to coarse sand
- **56.0'**: Wet medium dense gray silty fine to coarse sand
- **58.0'**: Wet medium dense gray silty fine to coarse sand
- **60.0'**: Wet medium dense gray silty fine to coarse sand
- **62.0'**: Wet medium dense gray silty fine to coarse sand

**NOTES**

- **ELEVATION**: 108.87'
- **STATION**: 17B-R6 1305+15.00
- **DESCRIPTION**: No sample
3. CONTRACTOR'S EXPENSE. MUST BE REPLACED TO MATCH FINAL CONDITIONS BEFORE REOPENING THE ROADWAY. ALL WORK RELATED TO SIGNING:

- INCIDENTAL SIGNS ATTACHED TO BRIDGE
- ENTIRE BRIDGE TO 1'-0" BELOW EXISTING GRADE AND AS SHOWN ON THESE PLANS

NOTED. ALL FASTENERS ARE 1" DIAMETER ASTM F3125, GR. A490 HIGH STRENGTH BOLTS, TYPE 1, UNLESS OTHERWISE

- BENT PLATE CHANNEL DIAPHRAGMS
- SUPPLEMENTAL NOTCH TOUGHNESS REQUIREMENTS ARE MANDATORY FOR:

EXCEPT WHEN NOTED OTHERWISE. THE ADDITIONAL REQUIREMENTS FOR CHARPY V-NOTCH TESTING (DENOTED AS

PROVIDE STRUCTURAL STEEL CONFORMING TO AASHTO M 270, GRADE 50 (ASTM A709, GRADE 50) DESIGNATION,
STRUCTURAL STEEL:

- SILICONE-BASED ACRYLIC CONCRETE SEALER.
- ALL EXPOSED CONCRETE SURFACES AT THE ABUTMENTS. PAYMENT WILL BE MADE UNDER ITEM 613001 - OVERHANGS ON DWG. TS-01 AND AS-02. SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL BE APPLIED TO ELSEWHERE, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

- REINFORCING STEEL SHALL CONFORM TO AASHTO M 31 (ASTM A615), GRADE 60.
- THE DECK SLAB THICKNESS IS 8" WITH A 1'" LMC OVERLAY WEARING SURFACE.
- THE DECK SLAB:

- CONTRACTOR SHALL SUPPLY CONCRETE FOR THE PARAPETS, BRIDGE DECK, APPROACH SLABS, AND MOMENT
- CHAMFER ALL EXPOSED EDGES ⅛" x ⅛" UNLESS OTHERWISE NOTED.
- THE DEPARTMENT WITH THE APPROVAL OF THE ENGINEER.

(f'c = 28-DAY COMPRESSIVE STRENGTH)
USE PORTLAND CEMENT CONCRETE FOR CAST-IN-PLACE ELEMENTS AS FOLLOWS:

- CLASS C - MSE WALL LEVELING PAD (f'c = 2.0 ksi)
- FOR REINFORCEMENT DISTRIBUTION REQUIREMENTS, CONSIDER CLASS 1 EXPOSURE CRITERIA FOR DECKS.
- FOR SEISMIC LOADS, CONSIDER SEISMIC PERFORMANCE ZONE 1, WITH A SITE CLASS = D AND OPERATIONAL
- CATEGORY = ESSENTIAL
- THE FINAL WELD. NO OTHER TACK WELDING WILL BE PERMITTED.
- CODE, AND CONTRACT DOCUMENTS. MAKE TACK WELDS WITH THE SAME TYPE OF ELECTRODE AND INCORPORATE IN

DO NOT MAKE WELDS BY MANUAL SHIELDED METAL ARC PROCESS FOR PRIMARY GIRDER WELDS SUCH AS FLANGE

DO NOT USE FORM SUPPORT SYSTEMS THAT WILL CAUSE UNACCEPTABLE DOWNSIZE OR DEFORMATION TO PERMANENT OFFICE MARKERS.
- THE FOGCUTS ARE DESIGNED FOR A TEMPORARY CONSTRUCTION LOAD APPLIED TO THE ROAD WITHIN A 4'-0" TO 8'-0" OF THE BOTTOM PLATE AT APPROXIMATELY 4'-0" INTERVALS. TWO LUGS APPLIESTHE HORIZONTAL ALIGNMENT OF A DECK SLAB IS TO SUPPORT BRIDGES AND CONSISTS OF A RAMP AT A RIGHT ANGEL FOR THE HEIGHT OF CONCRETE, FRAME, STREET RAILING AND RAILWAY, AND A 3'-0" HARD.Loader DUE FOR THE DECK LAST SLAB IS AT THE END OF THE BRIDGE.

- KEEP ASSURE THE ENTIRE STEEL SUPERSTRUCTURE FOLLOWING THE EXISTING PROJECTIONS AND SUPPORT CONDITIONS TO ENSURE PROPER FIX-IT FOR ALL STRUCTURAL STEEL COMPONENTS.

- VERTICALLY ADJUST STAY-IN-PLACE FORMS TO ATTAIN FINISHED LINES AND GRADES REQUIRED ON THE PLANS.
- USE CIRCULAR HOLES ON EXHIBITION CONNECTORS. ALL BOLTS IN EXPANSION MUST BE CENTERED AT EXHIBITION VIVETIES TO BE TOURED BEFORE CONCRETE DECK IS FINISHED.

- STABILITY OF PARAPETS AND COMPLETE CEMENT IS TO BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION. OUTLINE THE COMPLETE FENCE BALLOON AND CUT-OFF BOLTS SHALL BE ASSEMBLED TO ENSURE THE COMPLETE INSTALLATION.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF THE COMPLETE SUPERSTRUCTURE DURING ANY STAGE OF ERECTION.
- PAINTING OF NEW STEEL SHALL BE IN ACCORDANCE WITH SECTION 616, PAINT COLOR SHALL MATCH THE EXISTING STEEL SUPERSTRUCTURE OF 0-6.1 BH.

MISCELLANEOUS:

- DESIGN SPECIFICATIONS:

1. A RESIDENT ENGINEER (RE) MANDATORY, 2ND EDITION.
3. PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH 2015 DESIGN AND MANUFACTURER SPECIFICATIONS INCLUDING ANY SUPPLEMENTAL SPECIFICATIONS.
4. LOADING:

- LOADS INCLUDES FOR STEEL AND PLATE FORMS INCLUDES CONCRETE IN FORM CONTAINERS.
- DESIGN LIVE LOADS INCLUDE NOT LESS THAN 2000 PSF.
- ALL DESIGN IS BASED ON THE FOLLOWING DESIGN SPECIFICATIONS AS 0° TO 110°F. THE NORMAL TEMPERATURE SHALL BE CONSIDERED TO BE 75°F.

- THE LOAD DISTRIBUTION TO THE SUPPORTS IS AS SPECIFIED IN THE DESIGN SPECIFICATIONS.
- THE DESIGN LOADS ARE BASED ON THE HIGHEST MAXIMUM TEMPERATURE AS SPECIFIED IN THE DESIGN SPECIFICATIONS AS 0° TO 110°F. THE NORMAL TEMPERATURE SHALL BE CONSIDERED TO BE 75°F.
- THE LOAD DISTRIBUTION SHALL BE LIMITED TO 2 LBS.
- FOR DESIGN LOADS, CONSIDER ALTERNATIVE PERFORMANCE ZONE A, B, C, D, E, F OR OPERATIONAL CATEGORY.
- CONCRETE HARDNESS AND HARDNESS REQUIREMENTS:
- CONCRETE HARDNESS AND HARDNESS REQUIREMENTS.
- CONCRETE HARDNESS AND HARDNESS REQUIREMENTS.

5.8.2 WELDING:
- WELDING IS MANDATORY Consumer 0.63" SHEET FORM.
- WELDING IS MANDATORY Consumer 0.63" SHEET FORM.

- TACK WELDING IS MANDATORY Consumer 0.63" SHEET FORM.
- TACK WELDING IS MANDATORY Consumer 0.63" SHEET FORM.

- TACK WELDING IS MANDATORY Consumer 0.63" SHEET FORM.
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## Design Vehicle

<table>
<thead>
<tr>
<th>Design Vehicle</th>
<th>Rating Factor</th>
<th>Design Lane Number</th>
<th>Controlling Home</th>
<th>Load Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>HL-93 Truck (Inventory)</td>
<td>1.00</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>HL-93 Tandem (Inventory)</td>
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<tr>
<td>HL-93 Truck (Operating)</td>
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<td>EXTERIOR</td>
<td>N/A</td>
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### Load Rating Summary

**QUANTITIES**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Title</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>200001</td>
<td>Lintel, Concrete, 20&quot; x 20&quot;</td>
<td>CY</td>
<td>62</td>
</tr>
<tr>
<td>200002</td>
<td>Flatiron, Concrete, 20&quot; x 20&quot;</td>
<td>CY</td>
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<td>CY</td>
<td>62</td>
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**LOAD RATING SUMMARY**

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<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Load rating includes future wearing surface as noted in the plans.
2. Load ratings for the EXTERIOR are based on the road surface condition and the EXTERIOR vehicles can be found in the load rating calculations in the bridge inspection file.
NOTE:

1. THE TOP SURFACE OF THE CLASS D CONCRETE DECK SHALL BE ROUNDED FINISHED TO A RADIUS OF 1/2" TO PREVENT BUCKLING OF THE CONCRETE. THE SURFACE SHALL BE COVERED WITH A CERAMIC WIRE BRUSH TO REMOVE LAITANCE AND TO PRODUCE A ROUGHENED SURFACE FOR BONDING WITH THE LMC DISPLAY.

2. 'D' = 14" TO TOP OF CONCRETE DECK, 14" TO TOP OF LMC DISPLAY.
GEOMETRIC AND FOOTING PLAN

INCLINOMETERS

<table>
<thead>
<tr>
<th>INCLINOMETER</th>
<th>SYSTEM</th>
<th>OFFICE</th>
<th>SYSTEM</th>
<th>EXISTING</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>20952-71</td>
<td>12.34' LT.</td>
<td>12.34' LT.</td>
<td>11.08' HGR</td>
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<tr>
<td>2</td>
<td>20952-72</td>
<td>21.41' LT.</td>
<td>21.41' LT.</td>
<td>20.78' HGR</td>
</tr>
</tbody>
</table>

WORK INC. POINTS

<table>
<thead>
<tr>
<th>POINT</th>
<th>SYSTEM</th>
<th>OFFSET</th>
<th>SURVEYING</th>
<th>EXISTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>WP-19</td>
<td>120751-12</td>
<td>26.40' LT.</td>
<td>26.40' LT.</td>
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<tr>
<td>WP-18</td>
<td>120751-12</td>
<td>13.40' LT.</td>
<td>13.40' LT.</td>
<td>0.86'</td>
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<tr>
<td>WP-17</td>
<td>120751-12</td>
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<tr>
<td>WP-16</td>
<td>120751-12</td>
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<td>WP-15</td>
<td>120751-12</td>
<td>21.41' LT.</td>
<td>21.41' LT.</td>
<td>0.00'</td>
</tr>
</tbody>
</table>

NOTES:
1. Existing pile and footing layout and locations are based on existing plans and may not reflect actual location.
2. For use wall typical section, see DWG. RD-05.
3. For description of instrumentation quarantine period, use wall monitoring requirements, and inclinometer requirements, see DWG. RD-09. Monitoring of existing bridge feet adjacent to use wall is required.

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### STEEL H-PILE SPLICE DETAILS

**NOTES:**

1. All splice materials shall be ASTM A709, Grade 50.

2. The contractor may consider using alternate steel H-pile splice details. All alternate details for steel H-pile splices shall be submitted to the Department for approval. Without the Department's agreement, the contractor shall use the details designated herein. Where allowed by the Department, alternate details may be used for any portion of alternate splices details as long as no additional cost to the Department is incurred.

3. Alternate splices will not be permitted within 15' of the bottom of pile cap.

4. All piles shall be installed with pile tip protection (pile shoes) to prevent pile damage during driving. See details on sheet.

5. The contractor may consider alternate steel H-pile tip protection shoe details. All alternate details for pile tip protection shall be submitted to the Department for approval. Without the Department's agreement, the contractor shall use the details designated herein. Where allowed by the Department, alternate details may be used for any portion of alternate steel H-pile tip protection details as long as no additional cost to the Department is incurred.

6. Prior to driving piles, the contractor shall perform pre-construction survey of structures adjacent to bridge 1-750. The contractor shall monitor site for vibration during pile driving operations according to special provisions for protection of existing structures.

### PILE DRIVING SHOE NOTES:

1. Pile shoes shall conform to AASHTO D 176, Grade 65. All乙方 shall be ≥ 5".

2. Pile shoes to be used for each test pile shall be marked with a restraining chain. All乙方 shall be ≥ 5".

3. Each乙方 of pile shoes shall be permanently identified with the identification number of the乙方.

### PROJECT SPECIFIC PILE NOTES:

1. For more information regarding pile driving, installation, materials, and fabrication, refer to Section 605 – Driven Piles of the Standards Specifications.

2. Each test pile shall be dynamically tested by the contractor in accordance with their proposed dynamic pile testing. The contractor shall verify dynamic test results, including the load and dynamic test results for each test pile. The test piles shall be driven with a test pile on a continuous pile length of the standard pile length of the structure.

3. Each pile shall be dynamically tested by the contractor in accordance with the dynamic pile testing requirements of the structure.

4. All乙方 shall be provided with the乙方 length of the乙方. All乙方 shall be provided with the乙方 length of the乙方. All乙方 shall be provided with the乙方 length of the乙方.

5. For pile installations, see pile layout plans on sheet PL-01.
THROUGH RD-05 FOR DETAILS
MSE WALL SEE DWGS. RD-01
WITH COPPER NAILS (TYP.)
OF BACKWALL AND PILE CAP
FASTEN TO VERTICAL FACE
COPING AND ABUTMENT,
FULL AREA BETWEEN MSE
SPONGE JOINT MATERIAL
1" CLOSED CELL NEOPRENE

NOTE:
ELEVATION FOR CLARITY.
MSE WALLS NOT SHOWN IN

FOR PROPOSED ROADWAY ELEVATIONS, SEE DWGS. FD-01 AND AS-01.
FOR WORKING POINT INFORMATION, SEE DWG. FT-02.
FOR ABUTMENTS A AND B REINFORCEMENT, SEE DWGS. AB-03 AND AB-04, RESPECTIVELY.
FOR SECTIONS A-A AND B-B, SEE DWG. AB-02.
ABUTMENT B REINFORCEMENT - ELEVATION

NOTE: TEMPORARY SUPPORT BOLTS NOT SHOWN IN ELEVATION FOR CLARITY.

NOTES:
1. FOR ABUTMENT B PLAN AND ELEVATION, SEE ENG. AB-01.
2. FOR SECTION C-C AND SECTION D-D, SEE ENG. AB-03.

CONSTRUCTION DOWEL ME:

- 2 x 4 - AB502E
- 2 x 8 - AB502E @ 1'-0" MAX.

PROPOSED STEEL (TYP. BETWEEN GIRDERS)

- 4'-1" LAP (TYP.)
- 2'-6" LAP (TYP.)
- 2 x 5 - FT501E
- 2 x 3 - AB705E

STEEL DOWEL, SEE AB705E E.F.

BACKWALL, ABUTMENT, TOP OF RAMP D AND P.G.L. CONSTRUCTION BASELINE

AS SHOWN

FT501E PLACED

7 - STEEL DOWELS (TYP. BETWEEN PILES)

3" CLR.

4 - FT702E

2 - FT803E

NOTE:
TEMPORARY SUPPORT BOLTS NOT SHOWN IN ELEVATION FOR CLARITY.
NOTES:
1. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE DWG. BM-02.
STEEL GIRDER CAMBER NOTES:

1. All girders shall be cambered at 200 Elevation points to the dimensions shown on these plans. The camber tolerance is 200 ± 1/8 in. for each girder.

2. After the erection of steel and the connections of the steel diagonals are complete, the contractor shall certify elevations of 200 points shown on the top flanges of all girders to determine the field camber. Camber found for the steel girder shall be considered as the field camber.

3. After the erection of steel and the connections of the steel diagonals are complete, the contractor shall verify that all under clearances are complete in detail for all anticipated phases and conditions during erection. The drawings shall show details of all temporary shoring, location of cranes, crane capacities, location of lifting points on the bridge members. The drawings shall also include the sequence of erection, registered in the State of Delaware, illustrating fully the proposed method of erection. The drawings shall show results of all temporary shoring, including sheathing, guy, pre-men lifting devices and attachments to plate girders, steel, and structural steel. All necessary cambered steel and erection techniques shall be thoroughly developed and approved by the engineer in the field. The plans and drawings shall be complete in detail for all anticipated phases and conditions during erection.

4. All girders shall be cambered for dead load ordinates to the dimensions shown on these plans. The camber tolerance is 200 ± 1/8 in. for each girder.

5. Positive camber values in the table indicate the upward direction.

6. Denotes deflection due to structural steel.


8. Denotes deflection due to parapet & line centerline.

9. denotes total dead load deflection & camber.

10. Denotes camber for vertical curve ordinate due to roadway profile.

LEGEND:

- S.L. = Denotes deflection due to structural steel.
- D.L. = Denotes deflection due to concrete slab, manhole, and S.R.P. forms.
- P.L. = Denotes deflection due to parapet & line centerline.
- T.D. = Denotes total dead load deflection & camber.
- V.C. = Denotes camber for vertical curve ordinate due to roadway profile.

NOTES:

1. The girders shall be plumb under full dead load.

2. The contractor shall be responsible for the entire erection of the bridge. The contractor shall submit drawings scaled by a professional engineer registered in the State of Delaware, illustrating fully the proposed method of erection. The drawings shall show results of all temporary shoring, including sheathing, guy, pre-men lifting devices and attachments to plate girders, steel, and structural steel. All necessary cambered steel and erection techniques shall be thoroughly developed and approved by the engineer in the field. The plans and drawings shall be complete in detail for all anticipated phases and conditions during erection.

3. There shall be no field welding to the top flange except for shear studs.

4. Intermediate diaphragm connection plates spacing is shown for location of intermediate connection plates, see Fig. 8a-

5. For intermediate diaphragm connection plate details, see Fig. 8a-

6. For shear stud details, see Fig. 8a-

7. All girders shall be cambered for dead load ordinates to the dimensions shown on these plans. The camber tolerance is 200 ± 1/8 in. for each girder.

8. Positive camber values in the table indicate the upward direction.

9. Denotes deflection due to structural steel.


11. Denotes deflection due to parapet & line centerline.

12. Denotes total dead load deflection & camber.

13. Denotes camber for vertical curve ordinate due to roadway profile.

14. The girders shall be plumb under full dead load.

15. The contractor shall be responsible for the entire erection of the bridge. The contractor shall submit drawings scaled by a professional engineer registered in the State of Delaware, illustrating fully the proposed method of erection. The drawings shall show results of all temporary shoring, including sheathing, guy, pre-men lifting devices and attachments to plate girders, steel, and structural steel. All necessary cambered steel and erection techniques shall be thoroughly developed and approved by the engineer in the field. The plans and drawings shall be complete in detail for all anticipated phases and conditions during erection.

16. There shall be no field welding to the top flange except for shear studs.

17. Intermediate diaphragm connection plates spacing is shown for location of intermediate connection plates, see Fig. 8a-

18. For intermediate diaphragm connection plate details, see Fig. 8a-

19. For shear stud details, see Fig. 8a-
NOTE: CONNECTION PLATES SHALL NOT BE INSTALLED ON EXTERIOR FACE OF GIRDER 1 AND 4.

INTERMEDIATE DIAPHRAGM DETAILS

CONNECTION PLATE DETAIL FOR INTERMEDIATE DIAPHRAGMS

NOTE: CONNECTION PLATES SHALL NOT BE INSTALLED ON EXTERIOR FACE OF GIRDER 1 AND 4.

WELD TERMINATION AND CORNER CLIP DETAILS

SECTION A-A

NOTES:
1. FOR LOCATION OF CONNECTION PLATES FOR INTERMEDIATE DIAPHRAGMS, SEE FRAMING PLAN, DWG. FR-01.
2. ALL BOLTS IN DIAPHRAGM CONNECTIONS SHALL BE 1" DIA. HIGH STRENGTH BOLTS IN CONFORMANCE WITH ASTM F 3125, GR. A 490, TYPE 1.
3. ALL BOLT HOLES IN DIAPHRAGMS, DIAPHRAGM CONNECTION PLATES, AND BEARING STIFFENERS SHALL BE 1/2".
4. THE MINIMUM ACCEPTABLE EDGE DISTANCE FOR ANY 1" DIA. HOLE SHALL BE 2".
5. ALL DIAPHRAGMS MUST BE COMPLETELY CONNECTED, WITH BOLTS FULLY PRE-TENSIONED, TO GIRDERS PRIOR TO PLACING DECK SLAB.
6. SHEAR STUDS NOT SHOWN IN CONNECTION PLATE DETAIL FOR CLARITY.
STAY-IN-PLACE FORM NOTES:

1. PUMPS SHALL BE HORIZONTALLY ADJUSTED TO ATTAIN LINE AND GRADE REQUIRED ON THE PLANS.

2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL. ALTERNATIVE MATERIALS AND METAL FORMS SHALL BE NON-CORROSIVE, SELF TAPPING SCREWS SHALL BE INSTALLED AT THE SIDE LAP OF THE SHEETS AT MID-SPAN, SUPPORT ANGLES, WELDS, AND INSERTS SHALL BE DESIGNED BY THE CONTRACTOR.

3. PRIOR TO PLACING THE ADJACENT POUR APPLICABLE BONDING MATERIAL IMMEDIATELY APPLY A NEAT CEMENT GROUT OR OTHER ROUGHENED SURFACE, BLAST CLEAN THEN PRIOR TO PLACING THE ADJACENT POUR.

DECK CONSTRUCTION JOINT

3" = 1'-0"

SCALE AS NOTED

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

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NOTES:

1. STAY-IN-PLACE FORMS NOT SHOWN FOR CLARITY. SEE DWG. SD-01 FOR DETAILS.
2. FOR PARAPET LONGITUDINAL BAR NUMBERS AND DECK LONGITUDINAL AND TRANSVERSE REINFORCEMENT, SEE DL. 16-C.
3. FOR 'D' DIMENSION OVER GIRDER, SEE DWG. TS-01.
4. DK-02
5. NEW CASTLE IMPROVEMENTS
6. REHABILITATION OF I-95
7. 2ND STREET ON-RAMP
8. IMPROVEMENTS
9. SCALE AS NOTED
10. DECK TYPICAL REINFORCEMENT SECTION
11. 1750 6148
12. T201907402
13. W. GESCHREI
14. D. NIZAMOFF
15. CONCRETE DECK
16. 8"
17. STEEL GIRDER (TYP.)
18. PARAPET OF DECK AND WEST EDGE
19. SEE NOTE 2
20. 3'-6"
21. DRIP NOTCH
22. 2%
NOTES:
1. THE ABUTMENT PILE CAP (POUR A) AND BACKWALL (POUR B) SHALL BE POURED PRIOR TO THE DECK POUR (POUR C). SEE DETAILS AND NOTE 11 ON DWG. AS-03 FOR MORE INFORMATION.
NOTES:
1. Junction boxes should be placed centered between joints in the parapet.
2. For additional parapet and reinforcement details, see DWG. PA-02.
3. Design by D. Nizamoff.
NOTES:
1. Junction boxes shall be placed centered between joints in the parapet.
2. For additional parapet and reinforcement details, see DWG. PA-01.
3. For additional light bracket and reinforcement details, see DWG. RD-14.
NOTES:
1. Junction boxes should be placed centered between joints in the parapet.
2. For additional parapet and reinforcement details, see DWG. PA-01.
3. For additional light bracket and reinforcement details, see DWG. RD-14.

PARAPET JUNCTION BOX DETAILS ON MOMENT SLAB STA. 307+84.70 TO 308+14.11

1. Parapet with junction boxes.

2. Junction boxes are placed between joints in the parapet.

3. Additional details for parapet and reinforcement can be found in DWG. PA-01.

4. Additional light brackets and reinforcement details are available in DWG. RD-14.

SCALE AS NOTED

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS
NOTES:

1. FINISHED BRIDGE DECK ELEVATIONS SHOWN ARE TOP OF PARAPET (TOP OF LMC OVERLAY).
2. FOR VERTICAL CURVE DATA, SEE DWG. PE-01.

LOCATION OF FINISHED BRIDGE DECK ELEVATIONS

SCALE AS NOTED

REHABILITATION OF I-95,
2ND STREET ON-RAMP
IMPROVEMENTS

FINISHED BRIDGE DECK ELEVATIONS

FOR VERTICAL CURVE DATA, SEE DWG. PE-01.
END OF DECK AND BEGINNING OF APPROACH JOINT DETAIL ON DWG. AS-03

NOTES:
1. FOR SECTION A-A, SEE DWG. AS-02.
SECTION A-A

APPROACH SLAB B REINFORCEMENT PLAN

APPROACH SLAB A REINFORCEMENT PLAN

32'-10" OUT-TO-OUT

NOTES:

1. FOR SECTION B-B, SEE DWG. AS-03.
2. FOR PARAPET REQUIREMENTS, SEE SECTION C-C ON DWG. AS-03 (TYP.).

LIMITS OF POLYETHYLENE SHEETING SLIDING SURFACE

CONSTRUCTION BASELINE RAMP D AND P.G.L.

SCALE AS NOTED

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS
**Section B-B**

- **Deck:** 12" Open Joint
- **Approach Slab and Parapet:** 28" - PAR 506E @ 8"
- **WRA 506E, SEE DWG. AB-03**

**Approach Slab Construction Joint**

**Approach Slab Parapet Reinforcement Elevation**

**Notes:**
1. For additional approach slab reinforcement details, see DWG. AS-03.
2. Payment for polyethylene sheeting, joint breaker, waterstop, hot poured joint sealant shall be incidental to item 610018 - Portland cement concrete, approach slab, class B.
3. For additional roadway details, see DelDOT Standard P-1.

**Scale as Noted**

**Unofficial Website Copy**
Typical Section at Joint

Approach Slab Joint Assembly Detail

Parapet Joint Plate Notes:
1. Form concrete recess area in parapet and open to provide drainage surface. Apply one coat of acrylic sealer to parapet area of recess in accordance with manufacturer's instruction. Spacing and alignment of concrete recess are to be designated by designer. Size and location of concrete recess are to be per Contractor's approval.
2. Place parapet concrete with steel bent plates, inserts, and bolts on parapet to ensure proper assembly of parapet and its attachment to the steel framework. Parapet concrete is continuous from the steel framework to the parapet plate. Approve and hydroprove concrete to SI Joint Plates prior to placement of concrete.
3. Use type 3 stainless steel components with screws. All screws shall be countersunk in parapet with use of a countersink. All screws shall be flush with face of parapet.
4. The Contractor shall submit working drawings of parapet barrier plates for approval.
5. Parapet plates shall be furnished galvanized steel. Parapet plates shall be integral to parapet framework.

Approach Slab Joint Openings, X

Notes:
1. For Approach Slab Plan and Details, see ONS-01 through ONS-05.
2. For Approach Slab Plan Details, see ONS-05 through ONS-08.
3. Approach Slab and Parapet Slab reinforcement not shown for clarity. See detail IS-05 through IS-08 for more information.

Scale as noted

Rehabilitation of I-95, 2nd Street On-Ramp Improvements
**NOTES:**

1. For geometric layout, see Dwg. FT-01 and FT-02.
2. Elevations and stations shown along the top of wall.
3. For MSE wall notes, refer to Dwg. RD-01.
4. Leveling pad linear dimensions shown along the front face of wall.
5. For additional length of wall B1, refer to Dwg. RD-03.
6. For use wall notes, refer to Dwg. RD-07.

---

**SCALE AS NOTED**

**REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS**

**OFFICE # 1 750 8548 DEVELOPED ELEVATION MSE WALL B - 2**

---

**DATE: 12/20/2019 1:46:47 PM**

**SHEET #: 987-004 CONTRACT RAMP ADDENDA / REVISIONS RAMP 1-750 RD 03.dgn**

**DATUM = 15.00**

**DEVELOPED ELEVATION - WALL B**

**NOTE:**

- Construction includes ramp D and P.C.L.
- Thick every (1")
- Approximate
- Existing
- Concrete leveling pad (typ.)
- Panel

---

**DATE: 12/20/2019 1:46:47 PM**

**SHEET #: 987-004 CONTRACT RAMP ADDENDA / REVISIONS RAMP 1-750 RD 03.dgn**

**DATUM = 25.00**

**DEVELOPED ELEVATION - WALL B**

**NOTE:**

- Construction includes ramp D and P.C.L.
- Thick every (1")
- Approximate
- Existing
- Concrete leveling pad (typ.)
- Panel

---

**DATE: 12/20/2019 1:46:47 PM**

**SHEET #: 987-004 CONTRACT RAMP ADDENDA / REVISIONS RAMP 1-750 RD 03.dgn**

**DATUM = 30.00**

**DEVELOPED ELEVATION - WALL B**

**NOTE:**

- Construction includes ramp D and P.C.L.
- Thick every (1")
- Approximate
- Existing
- Concrete leveling pad (typ.)
- Panel

---

**DATE: 12/20/2019 1:46:47 PM**

**SHEET #: 987-004 CONTRACT RAMP ADDENDA / REVISIONS RAMP 1-750 RD 03.dgn**

**DATUM = 30.00**

**DEVELOPED ELEVATION - WALL B**

**NOTE:**

- Construction includes ramp D and P.C.L.
- Thick every (1")
- Approximate
- Existing
- Concrete leveling pad (typ.)
- Panel
NOTES:
1. FOR SECTION B-B, SEE DWG. RD-06.

ELEVATION - ABUTMENT A MOMENT SLAB W/ J.B.'S AT WALL A1

PARAPET CONDUIT HORIZONTAL SWEEP DETAIL

SCALE AS NOTED

UNOFFICIAL WEBSITE COPY
NOTES:

1. FOR SECTION 0-0, SEE DWGS. RD-06.
2. FOR SECTIONS C-C AND D-D, SEE DWGS. RD-14.
3. FOR STEEL DOWEL CONNECTION TO SLEEPER SLAB, REFER TO DETAIL A ON DWG. AS-04.
4. FOR DETAILS OF STEEL DOWELS BETWEEN MOMENT SLAB SEGMENTS AND TIE BARS BETWEEN MOMENT SLABS AND CONCRETE PAVEMENT, SEE DWGS. RD-14 AND PA-03.
5. MOMENT SLAB SEGMENTS SHALL ALIGN WITH TRANSVERSE JOINTS BETWEEN MOMENT SLAB AND CONCRETE PAVEMENT. FOR DETAILS OF STEEL DOWELS BETWEEN MOMENT SLAB AND CONCRETE PAVEMENT, REFER TO DETAIL A ON DWG. AS-04.
6. FOR SECTION B-B, SEE DWG. RD-06.
7. FOR SECTIONS C-C AND D-D, SEE DWG. RD-14.
8. FOR LIGHT BRACKET SUPPORT DETAILS AND REINFORCEMENT, SEE DWGS. RD-14 AND PA-03.
9. MOMENT SLAB SHALL BE ALLOWED TO REST ON TOP OF THE SLEEPER SLAB FOOTING.
10. FOR SECTIONS 0-0, SEE DWGS. RD-06.
11. FOR SECTIONS C-C AND D-D, SEE DWGS. RD-14.
12. FOR STEEL DOWEL CONNECTION TO SLEEPER SLAB, REFER TO DETAIL A ON DWG. AS-04.
13. FOR DETAILS OF STEEL DOWELS BETWEEN MOMENT SLAB SEGMENTS AND TIE BARS BETWEEN MOMENT SLABS AND CONCRETE PAVEMENT, SEE DWGS. RD-14 AND PA-03.
14. MOMENT SLAB SEGMENTS SHALL ALIGN WITH TRANSVERSE JOINTS BETWEEN MOMENT SLAB AND CONCRETE PAVEMENT. FOR DETAILS OF STEEL DOWELS BETWEEN MOMENT SLAB AND CONCRETE PAVEMENT, REFER TO DETAIL A ON DWG. AS-04.
15. FOR SECTION B-B, SEE DWG. RD-06.
17. FOR LIGHT BRACKET SUPPORT DETAILS AND REINFORCEMENT, SEE DWGS. RD-14 AND PA-03.
18. MOMENT SLAB SHALL BE ALLOWED TO REST ON TOP OF THE SLEEPER SLAB FOOTING.

MOMENT SLAB REINFORCEMENT PLAN - MSE WALL B
(STA. 305+48.00 TO STA. 306+37.70)
3'-0" x 1'-0"
NOTES:
1. Moment slabs shall be anchored to rest on top of the sleeper slab footing.
2. For C-C and D-D, see ENG. RD-14.
TYPICAL MOMENT SLAB REINFORCEMENT PLAN - MSE WALL B (SEE NOTE 6)

STA. 306+37.70 TO STA. 307+84.70

NOTES:

1. FOR SECTION D-D, SEE DWG. RD-05.
2. FOR RAMP (TYP.), CONNECTION BETWEEN MOMENT SLAB SECTIONS SHALL BE IN Accordance TO THE SPECIFICATIONS FOR MSE WALL MOMENT SLAB REINFORCEMENT PLAN - 3.
4. FOR Details OF THE RAMP BETWEEN MOMENT SLAB SEGMENTS, SEE STANDARD NO. P-1.
5. FOR DETAILS OF THE RAMP BETWEEN MOMENT SLAB SEGMENTS, SEE DWGS. RD-05 AND CP-002.
6. FOR TIE BARS (TYP.), SEE NOTE 3.
**CONTRACT COUNTY**

**DESIGNED BY:**

**CHECKED BY:**

**BRIDGE NO.**

**ADDENDA / REVISIONS**

**SECTION**

**SHEET NO.**

**N : 31987 -004**

**CONTRACT_RAMP_ADD_Bridge_BR1-750_RD1 4.dgn**

**12/20/2019**

**1:47:00 PM**

**PARAPET**

**1'-5"**

**TOP OF CONCRETE PAVEMENT**

**1'-9"**

**6"**

**2" CLR.**

**3" CLR.**

**PA501E @ 8"**

**SECTION C-C**

**f" = 1'-0"**

**TIE BARS, SEE NOTE 3**

**VARIES @ 10" SPA. = 2'-6"**

**4 - PA718E EF.**

**PARAPET**

**1'-5"**

**MAX.**

**4"**

**TOP OF CONCRETE PAVEMENT**

**1'-9"**

**6"**

**2" CLR.**

**3" CLR.**

**MS620E @ 4"**

**MS521E @ 8"**

**MS524E @ 8"**

**PA501E @ 8"**

**SECTION D-D**

**f" = 1'-0"**

**TIE BARS, SEE NOTE 3**

**VARIES @ 10" SPA. = 2'-6"**

**4 - PA718E EF.**

**FOR INLET**

**3'-1" BLOCKOUT**

**@ 10"**

**7 - MS525E**

**MS727E**

**@ 10"**

**7 - MS526E**

**JOINT MATERIAL**

**1" CORK TYPE EXP.**

**DRAINAGE INLET**

**3'-0"**

**1'-10"**

**2'-3"**

**1'-10" MIN.**

**1'-0" MIN.**

**f" = 1'-0"**

**LIGHT BRACKET - PLAN**

**NOTE:**

**VARIES 10'-5" TO 12'-5"**

**PARAPET 1'-5"**

**VARIES 9'-9" TO 10'-5"**

**VARIES 5'-3" TO 6'-6"**

**MOMENT SLAB**

**VARIES 9'-7" TO 11'-0"**

**MS635E @ 4"**

**MS536E @ 8"**

**FLOWLINE**

**2 - PA533E**

**4 - PA536E**

**FLOWLINE**

**4 - PA534E @ 5"**

**FLOWLINE**

**2 - PA533E**

**4 - PA536E**

**FLOWLINE**

**4 - PA534E @ 5"**

**FOR DETAILS OF TIE BARS BETWEEN MOMENT SLABS AND CONCRETE PAVEMENT, SEE**

**2. FOR SECTIONS C-C AND D-D, SEE DWG. RD-08.**

**SEE DWGS. PA-03 AND PA-04.**

**FOR SECTION CUT THRU LIGHT BRACKET AND ADDITIONAL REINFORCEMENT DETAILS, SEE DWGS. PA-03 AND PA-04.**

**ITEM 610018 PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D.**

**PAYMENT FOR 1" CORK TYPE EXPANSION JOINT MATERIAL WILL BE INCIDENTAL TO**

**ITEM 610018 - PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D.**

**STANDARD NO. P-1, P.C.C. PAVEMENT. COST OF DOWELS WILL BE INCIDENTAL TO**

**REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS**

**MSE WALL MOMENT SLAB LIGHT AND INLET DETAILS**

**SCALE AS NOTED**

**NOTES:**

1. FOR SECTION C-C LIGHT BRACKET AND ADDITIONAL REINFORCEMENT DETAILS, SEE DWGS. PA-03 AND PA-04.

2. FOR SECTIONS C-C AND D-D, SEE DWG. RD-08.


5. PASSAGE FOR 1") CORRUGATED EXPANSION JOINT MATERIAL WILL BE INCORPORATED INTO MAJOR PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS 5.

**RD-14**

**SCALE AS NOTED**

**REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS**

**MSE WALL MOMENT SLAB LIGHT AND INLET DETAILS**

**NOTES:**

1. FOR SECTION C-C LIGHT BRACKET AND ADDITIONAL REINFORCEMENT DETAILS, SEE DWGS. PA-03 AND PA-04.

2. FOR SECTIONS C-C AND D-D, SEE DWG. RD-08.


4. PASSAGE FOR 1") CORRUGATED EXPANSION JOINT MATERIAL WILL BE INCORPORATED INTO MAJOR PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS 5.
### Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Section A</td>
<td>10-7</td>
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</tr>
<tr>
<td>Section B</td>
<td>14-3</td>
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<td>Section C</td>
<td>11-1</td>
<td></td>
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<tr>
<td>Section D</td>
<td>17-3</td>
<td></td>
</tr>
<tr>
<td>Section E</td>
<td>17-6</td>
<td></td>
</tr>
</tbody>
</table>

**A Note on Dimensions:**
- All dimensions are provided in (inches).
- Special bends, including those specified by 'O', 'R', 'F', and 'K', are detailed in the provided diagrams.
- Bending dimensions are provided in 'feet-inches', with quarter-inch increments where necessary.
- Revised drawings and details may be necessary due to unforeseen site conditions.
- Special bar bends are highlighted for clarity.

---

### Bending Dimensions

**Standard Bar Bends**

<table>
<thead>
<tr>
<th>Angle</th>
<th>Dimensions</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>90°</td>
<td>2'-0&quot; x 3'-0&quot;</td>
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</tr>
<tr>
<td>135°</td>
<td>4'-0&quot; x 6'-0&quot;</td>
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</tr>
<tr>
<td>180°</td>
<td>6'-0&quot; x 8'-0&quot;</td>
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</tr>
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</table>

**Special Bar Bends**

<table>
<thead>
<tr>
<th>Angle</th>
<th>Dimensions</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>90°</td>
<td>2'-0&quot; x 2'-0&quot;</td>
<td></td>
</tr>
<tr>
<td>135°</td>
<td>4'-0&quot; x 4'-0&quot;</td>
<td></td>
</tr>
<tr>
<td>180°</td>
<td>6'-0&quot; x 6'-0&quot;</td>
<td></td>
</tr>
</tbody>
</table>

---

### Reinforcement Schedule

<table>
<thead>
<tr>
<th>Bar Type</th>
<th>QTY.</th>
<th>Weight (lbs./ft.)</th>
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</thead>
<tbody>
<tr>
<td>MS</td>
<td>168</td>
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</tr>
<tr>
<td>PA</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>PR</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>SC</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>SS</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>SL</td>
<td>16</td>
<td></td>
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<tr>
<td>TW</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>WW</td>
<td>330</td>
<td></td>
</tr>
</tbody>
</table>

---

**Reinforcing Bars**

- Through #8.
- On Types 3, 5, and 22.
- Where 'J' can exceed 'H', it shall be shown.
- Restrictions apply for hook size, otherwise standard 'ACI' hooks are to be used.
- Where slope differs from 45° offset, 'H' and 'K' must be shown.
- 'H' dimensions of stirrups need to fit within the structure.
- All dimensions are out-to-out, except 'A' and 'G' on STD. 180° and 135°.
- Standard bar bends are included in the diagram for reference.

---

**Images:**

- Enlarged view showing bar bending details.
- NOT TO SCALE.
### Specifications

<table>
<thead>
<tr>
<th>Beams</th>
<th>Reinforcing Bars</th>
<th>Feet-Inches</th>
<th>Quarter-Inch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Standard Bar Bends

- **Dimensions**: Various standard bends are shown, including types 3, 5, and 22.
- **Notes**: Where bars are to be bent more accurately than standard bending, special instructions apply.

### Special Bar Bends

- **Dimensions**: Special bends are shown with specific details.
- **Notes**: Where bars are to be bent more accurately, special bends are shown.

### Stirrup and Tie Hooks

- **Dimensions**: Various stirrup and tie hooks are shown with specific details.
- **Notes**: Specific hook details are shown for different applications.

### Reinforcement Schedule

- **Not to Scale**: Rehabilitation of I-85, 2nd Street On-Ramp Improvements
- **Details**: Various reinforcement schedules are shown with specific details.

---

**NOTES:**

1. Sizes shown in circles indicate bar sizes.
2. Standard bar sizes are identified by the letters shown, indicating the size and grade of the bar.
3. All dimensions are shown to the nearest quarter-inch.
4. Standard bar bends are indicated by specific symbols.
5. Where bars are to be bent more accurately than standard bending, special instructions apply.
6. Special bends are shown with specific dimensions and details.
7. Stirrup and tie hooks are shown with specific dimensions and details.
8. Reinforcement schedules are shown with specific details and notes.
<table>
<thead>
<tr>
<th>Station</th>
<th>Description</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0'</td>
<td>Wet Medium Dense Brown Silty Coarse Sandy Fine Gravel w/ some Coarse Sand</td>
<td></td>
</tr>
<tr>
<td>2.0'</td>
<td>Wet Gray Fine Gravelly Clay w/ some Coarse Sand and Silt, Trace of Fine</td>
<td></td>
</tr>
<tr>
<td>3.0'</td>
<td>Wet Dense Gray ClayeY Fine Gravel w/ some Coarse to Fine Sand</td>
<td></td>
</tr>
<tr>
<td>4.0'</td>
<td>莫透松黄泥壤.</td>
<td></td>
</tr>
<tr>
<td>5.0'</td>
<td>Trace of Fine Gravel.</td>
<td></td>
</tr>
<tr>
<td>6.0'</td>
<td>Wet Very Stiff Brown Coarse to Fine Sandy Clay w/ some Fine Silt.</td>
<td></td>
</tr>
<tr>
<td>7.0'</td>
<td>Wet Very Stiff Brown Clay w/ some Fine to Coarse Sand, Fine Gravel and</td>
<td></td>
</tr>
<tr>
<td>8.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
<td></td>
</tr>
<tr>
<td>9.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand and Fine Gravel w/ some</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coarse to Fine Gravel.</td>
<td></td>
</tr>
<tr>
<td>10.0'</td>
<td>Wet Hard Brown Fine Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
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</tr>
<tr>
<td>11.0'</td>
<td>Wet Hard Brown Fine Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
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<tr>
<td>12.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
<td></td>
</tr>
<tr>
<td>13.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
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<tr>
<td>14.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
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<tr>
<td>15.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
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<tr>
<td>16.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
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<tr>
<td>17.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
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<tr>
<td>18.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
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<tr>
<td>19.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
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<tr>
<td>20.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
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<tr>
<td>21.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
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</tr>
<tr>
<td>22.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
<td></td>
</tr>
<tr>
<td>23.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
<td></td>
</tr>
<tr>
<td>24.0'</td>
<td>Wet Very Stiff Brown Sandy Clay w/ some Coarse Sand, Fine Gravel and Silt.</td>
<td></td>
</tr>
</tbody>
</table>

Remarks:
- Trilogy of the raw data shows the presence of various soil samples, each with different densities and textures, indicating diverse geological conditions at the location. The data is essential for understanding the subsurface conditions, which are crucial for construction planning and site development.
- The soil profiles are typical of a region with varied geology, where clay, sand, and gravel layers are prevalent. This information is vital for engineers to determine the feasibility and method of construction, ensuring safety and efficiency.
- The presence of specific terms like "Wet Very Stiff Brown Sandy Clay," "WetMedium Dense Brown Silty Coarse Sandy Fine Gravel," and "Wet Dense Gray ClayeY Fine Gravel" highlights the complexity of the soil types encountered, necessitating detailed analysis for correct interpretation and application.

Further details and context, such as the location's specific geological history and environmental conditions, are required to fully comprehend the implications of these soil profiles. This information is integral for professionals in civil engineering, construction, and geoscience, guiding them in making informed decisions regarding the design and execution of projects.
SECTION 200

1. REMOVAL OF STRUCTURES AND OBSTRUCTIONS: Removal of structures and obstructions shall be based on the best available information and not be limited to, the following:
   - Existing superstructure striping and obstructions.
   - Any portions of ramp B abutment and approach slab required to facilitate demolition.
   - Removal of light poles attached to bridge.

MISCELLANEOUS

2. EXISTING CONDITIONS: All existing dimensions and elevations shown are based on the best available information and not be limited to, the following:
   - Off-street foundations and obstructions.
   - Properly planned construction.
   - Incomplete or unavailable.

3. ROADWAY CLEARANCES: All roadway clearances shall be based on the best available information and not be limited to, the following:
   - Provenance.
   - Off-street foundations and obstructions.
   - Properly planned construction.

4. EXISTING CONDITIONS: All existing dimensions and elevations shown are based on the best available information and not be limited to, the following:
   - Off-street foundations and obstructions.
   - Properly planned construction.

LIMITS OF REMOVAL:

BRIDGE PROJECT NOTES:

ITEM N 604001

- Light poles attached to bridge
- Any portions of ramp B abutment and approach slab required to facilitate demolition.

ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS:

- Existing structures and obstructions.
- Any portions of ramp B abutment and approach slab required to facilitate demolition.

ASSOCIATED WITH BRIDGE 1-758 SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

- Environmental compliance plans and utility relocation plan sheets for further information on utility coordination.
- Contractor shall coordinate with city of Wilmington and local residents on Elm St. for duration of 60-90 days during reconstruction operations on Elm St.

INDEX OF BRIDGE 1-758 SHEETS

<table>
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<th>SHEET NO.</th>
<th>DRAWING</th>
<th>TITLE</th>
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QUANTITIES

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<td>PROTECTIVE SHEET</td>
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</tbody>
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REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

NOTES:

1. MINIMUM VERTICAL CLEARANCE IS BASED ON 2011 NTS INSPECTION REPORT.

DEVELOPED ELEVATION

LEGAL NOTICE:

UNOFFICIAL

WEB

CO

PY

COPY
PARTIAL DEMOLITION PLAN TO FACILITATE PIER 39D AND ABUTMENT 40D CONSTRUCTION

NOTES:

1. THE PURPOSE OF THIS PARTIAL DEMOLITION PLAN IS TO FACILITATE A PROPOSED PIER 39 CONSTRUCTION DETAIL FOR THE PROPOSED PIER 39 D detail. A temporary MSE wall will be constructed after the ramp is closed while maintaining ramp access to traffic. The contractor may submit alternate demolition plans for review and approval by the Engineer.

2. PAYMENT FOR THE COST OF PARTIAL REMOVAL WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.

CONTRACT COUNTS

DESIGNED BY:

CHECKED BY:

BRIDGE NO.

ADDENDA / REVISIONS

SECTION

SHEET NO.

N : 31 987-004

12/20/2019

1:47:06 PM
EXISTING PIER 5B PARIAL FOOTING REMOVAL

LIMITS OF REMOVAL - ITEM 211000

(TYP.) BOTTOM OF PROPOSED FOOTING FOR PIER 35D

REMOVE EXISTING PILES TO 1'-0" BELOW

LIMITS OF REMOVAL, SEE NOTE 3

10'-0" ±

2'-0"

11'-6"

5'-9"

3'-0"

1'-10"

3. EXISTING FOOTING THICKNESS AT PIERS 5B AND 6B IS 3'-0" ±.

6B FOOTINGS WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND REQUIRED TO FACILITATE CONSTRUCTION OF FOOTING.

PARTIAL PIER 5B FOOTING TO REMAIN

BOTTOM OF PROPOSED FOOTING FOR PIER 34D

REMOVE EXISTING PILES TO 1'-0" BELOW

LIMITS OF REMOVAL, SEE NOTE 3

10'-0" ±

2'-0"

PARTIAL PIER 6B FOOTING TO REMAIN

EXISTING PIER 6B PARIAL FOOTING REMOVAL

LIMITS OF REMOVAL - ITEM 211000

(TYP.) BOTTOM OF PROPOSED FOOTING FOR PIER 34D

REMOVE EXISTING PILES TO 1'-0" BELOW

LIMITS OF REMOVAL, SEE NOTE 3

10'-0" ±

2'-0"

11'-6" ±

4' ±

3'

8' ±

3'

1'-10"

EXISTING 12" C.I.P. CONCRETE PILE

EXISTING 12" C.I.P. CONCRETE PILE,

LEGEND:

SEE NOTE 1

2'-0"

PARTIAL PIER 5B FOOTING TO REMAIN

PARTIAL PIER 5B FOOTING TO REMAIN

NOTES:

EXISTING PIER 5B PARTIAL FOOTING REMOVAL

"..." = 1'-0"
NOTES:

1. The Owner of the sanitary sewer pipes and manholes shown on these plans is the city of Washington and any costs thereof will be addressed as the Owner.

2. All work to be performed by the Contractor shall be in accordance with the specifications, drawings, and work orders. Work shall be started within the time designated in the contract. The work shall be done in the most workmanlike manner and proper care and attention shall be given to the work and all work shall be done efficiently and in accordance with the money protection of the schedule. All work shall be done in strict accordance with the requirements of the Department of Public Works and the owner. All work shall be completed within the time designated in the contract.

3. The Contractor shall be responsible for the measurable and accepted quality of the work performed. The Contractor shall be responsible for all work performed to the satisfaction of the owner. All work shall be done in strict accordance with the specifications, drawings, and work orders.

4. The Contractor shall be responsible for the measurable and accepted quality of the work performed. The Contractor shall be responsible for all work performed to the satisfaction of the owner. All work shall be done in strict accordance with the specifications, drawings, and work orders.

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10. All work shall be done in strict accordance with the specifications, drawings, and work orders. All work shall be done in strict accordance with the specifications, drawings, and work orders.

11. The Contractor shall be responsible for the measurable and accepted quality of the work performed. The Contractor shall be responsible for all work performed to the satisfaction of the owner. All work shall be done in strict accordance with the specifications, drawings, and work orders.

12. The Contractor shall be responsible for the measurable and accepted quality of the work performed. The Contractor shall be responsible for all work performed to the satisfaction of the owner. All work shall be done in strict accordance with the specifications, drawings, and work orders.

13. The Contractor shall be responsible for the measurable and accepted quality of the work performed. The Contractor shall be responsible for all work performed to the satisfaction of the owner. All work shall be done in strict accordance with the specifications, drawings, and work orders.

14. The Contractor shall be responsible for the measurable and accepted quality of the work performed. The Contractor shall be responsible for all work performed to the satisfaction of the owner. All work shall be done in strict accordance with the specifications, drawings, and work orders.

15. The Contractor shall be responsible for the measurable and accepted quality of the work performed. The Contractor shall be responsible for all work performed to the satisfaction of the owner. All work shall be done in strict accordance with the specifications, drawings, and work orders.

16. The Contractor shall be responsible for the measurable and accepted quality of the work performed. The Contractor shall be responsible for all work performed to the satisfaction of the owner. All work shall be done in strict accordance with the specifications, drawings, and work orders.
NOTES:
1. All sanitary manholes shown on this sheet will be paid for under Tenders 1002-00133G.

506-000 M

506-000 M

10-574

00-00

T201907402

D.I.

XIST IN G R/W

H-B. ONEAL

506 +00

12" PVC AND CULTURAL AFFAIRS

506 +00

18" PVC

ERNEST J. CARILLI

0 +00

12" RC P

311 +00

CURVE NO.

0 +00

12" RC P

BILLY B. ONALE

506 +00

12" PVC

12" PVC

00-00

10-574

D.I.

D.I.

D.I.

D.I.

D.I.

D.I.

D.I.

D.I.

D.I.

D.I.

D.I.

D.I.
EXISTING UTILITY CROSSINGS ARE BASED ON ASSUMED COVER. TEST HOLES ARE (SEE NOTES 1 & 4)

APPROXIMATE CLEARANCE FROM EXISTING GROUND TO BOTTOM OF RAMP B AT

INV. 29.10

SECTION

ELM STREET - UTILITY RELOCATION - 12"

VERTICAL SCALE: 1"=5'

NOTES:

1. VERTICAL CLEARANCES TO UNDERPASSED INTERSTATE 95 AND RAMPS IS NOT

SHOWN TO SCALE ON THESE PROFILES. APPROXIMATE CLEARANCES ARE PROVIDED.

IN NOTES 1 & 4 FIELD MEASUREMENTS, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING

CONDITIONS PRIOR TO CONSTRUCTION.

2. APPROXIMATE CLEARANCE FROM EXISTING GROUND TO BOTTOM OF RAMP B AND

INTERSTATE 95 SB AT ELM STREET IS 18 VERTICAL FEET.

3. APPROXIMATE CLEARANCE FROM EXISTING GROUND TO BOTTOM OF RAMP B AT

INTERSTATE 95 SB AT CHESTNUT STREET IS 18 VERTICAL FEET.

4. APPROXIMATE CLEARANCE FROM EXISTING GROUND TO BOTTOM OF INTERSTATE 95

NB AT CHESTNUT STREET IS 18 VERTICAL FEET.

5. EXISTING UTILITY DESIGNATIONS ARE BASED ON ASSUMED COVER. TEST HOLES ARE

BEING COMPLETED AND ACTUAL ELEVATIONS WILL BE UPDATED.

NEW CASTLE

COUNTY

T201907402

CHECKED BY:

K.HEARN

R.DICHRISTOFARO

UTILITY RELOCATION

PROFILES

REHABILITATION OF I-95,
2ND STREET ON-RAMP
IMPROVEMENTS

SACRED ESCHATS
GENERAL EROSION CONTROL NOTES

1. Erosion Controlling
   The project will be controlled by the following:
   a. Erosion control measures conform to the requirements of the local erosion and sediment management plans and are in accordance with the procedures outlined in Section 12.3 of the Electric Utility Construction Code.

2. Site Preparation
   The total area to be disturbed is 10 acres.

3. Erosion Control
   The total area to be disturbed is 10 acres.

4. The erosion and sediment management plans have been reviewed and approved by the designer, and the plans are in accordance with the requirements of the Electric Utility Construction Code. Any changes to the plans or construction methods will be communicated to all affected parties.

5. The contractor shall be responsible for all erosion control measures.

6. The contractor shall provide a written report to the engineer within 14 days of the completion of the project, detailing all erosion control measures taken.

7. The contractor shall provide a written report to the engineer within 7 days of the completion of the project, detailing all erosion control measures taken.

UNOFFICIAL WEBSITE COPY
WORK HOUR RESTRICTION NOTES

1. The #1 or #2 left lane closure on Phase 3 - Details #17 through #20 is permitted between the hours of 7:00 AM through 9:00 PM. The weekend closure period is permitted for one weekend only.

2. Long-term roadway closures and detours are permitted for Ramp B and Ramp C only.

3. All work requiring lane closures in addition to the permanent lane closures shown on the Construction Phasing, M.O.T. and Erosion Control Plan shall be completed during the hours permitted in the following tables.

---

**SINGLE LANE CLOSURE MATRIX FOR I-95 NORTHBOUND**

<table>
<thead>
<tr>
<th>HOUR</th>
<th>SUNDAY</th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
<th>SATURDAY</th>
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**SINGLE LANE CLOSURE MATRIX FOR I-95 SOUTHBOUND**

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<tr>
<th>HOUR</th>
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<th>WEDNESDAY</th>
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</tbody>
</table>

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**ROADWAY CLOSURE AND DETOUR FOR LANCASTER AVE/MLK JR., MARYLAND AVE, LINDEN ST**

---

**DOUBLE LANE CLOSURES FOR LANCASTER AVE/MLK JR., BLDG. ADAMS ST, 2ND ST, JACKSON ST**

---

**SINGLE LANE CLOSURES FOR LANCASTER AVE/MLK JR., BLDG. AGAMS ST, 2ND ST, JACKSON ST**

---
NOTED:
1. All permanent warning signs shall be post mounted on NCHRP Report 350 or
   mass approved breakaway supports unless otherwise indicated on these plans,
   as directed by the engineer on one of the following conditions above.
2. A utility conflict exists that prevents the breakaway supports from
   being driven into the ground (utility conflicts must be verified by the
   engineer), or
3. Material other than concrete, stone, asphalt, brick, etc. prevents driving the posts
   and supports into the ground.
4. Permanent warning signs shall be placed on the left and right side of the
   roadway of divided highways when applicable.
UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>ITEM</th>
<th>QUANTITY</th>
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<tr>
<td>95</td>
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CONSTRUCTION PHASING LEGEND

[Proposed construction this phase]
[Existing sign/proposed temporary sign]
[Type I barricade]
[Plastic drum]
[Traffic flow arrow]
[Temporary P.C.C. safety barrier, unpainted]
[Temporary P.C.C. safety barrier, pinned]
[Temporary impact attenuator]
[Arrow panel]
[Remove existing striping by contractor]
[Protection vehicle with truck-mounted attenuator]

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

CONTROL PLAN - PHASE 1

MATCH LINE STA 1301.49 - SEE DWG CS-102

WORK AREA

PROPOSED CONSTRUCTION

STA. 1299 + 95 TO STA. 1305 + 08

STATION 1299 + 95 TO 1305 + 08
TEMPORARY PAVEMENT MARKINGS LEGEND

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TEMPORARY FENCE SCHEDULE

<table>
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<tr>
<th>R/W</th>
<th>TEMPORARY FENCE SCHEDULE</th>
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<tbody>
<tr>
<td>STA 1305+00 to STA 1310+78</td>
<td></td>
</tr>
</tbody>
</table>

SEQUENCE OF CONSTRUCTION - PHASE 1

1. Close temporary fence to existing permanent fence.
2. Close existing ramp C & design traffic.
3. Install temporary traffic control devices as shown on the permanent markings sign plan and phase 1 plan. Designate lane markers.
4. Demo the existing structure and begin construction of proposed ramp D.
5. Construct temporary fence utilizing CIP.

NOTES

- Close temporary fence to existing permanent fence.
- Demo the existing structure and begin construction of proposed ramp D.
- Construct temporary fence utilizing CIP.
CONSTRUCTION PHASING LEGEND

- Proposed construction this phase
- Traffic flow arrow
- Temporary PCC. safety barrier, unpinned
- Temporary PCC. safety barrier, pinned
- Temporary impact attenuator
- Arrow panel
- Remove existing striping by contractor
- Protection vehicle with trailer-mounted attenuator

SEQUENCE OF CONSTRUCTION - PHASE 1
1. Install temporary pavement control devices in accordance with pavement markings shown on plan and schedule. Ensure devices are installed in the correct manner and are easily removed at the completion of the construction and are installed.
2. Close existing ramp C and deny traffic.
3. Install the existing structure and begin construction of proposed ramp C.
4. Install pedestrian devices as shown on drawing. Be mindful of C and D lane restrictions, per section 1.0.
5. Surround alternate lane closures with line marking CS-02. Install line closures on city streets as shown in phase 2. Smoke 3 and coordinate on-street parking and ramp D phases.
6. Install all permanent sign panels on control sign structure. Coordination with contractor for Contract No. 201907002 to allow for construction of proposed USHR.
7. Coordinate with contractor for Contract No. 201907002 to allow for construction of proposed ramps.
8. Install permanent sign panels on control sign structure.

NOTES:
1. Install overlay on existing sign as shown. Upon closure of new ramp C.
2. The contractor shall not perform work along M.I. or B.R. and at the intersection of N. Adams St. and Adams St. on any days and at any time.
3. Secure temporary fence to existing permanent fence.
4. Maintain access to Dart parking lot at all times.

TEMPORARY FENCE SCHEDULE

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
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<tr>
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<td>Item 220488</td>
<td>STA. 302+00, 45' RT. TO STA. 302+10, 47' RT. (+/-)</td>
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<td>Item 220488</td>
<td>STA. 302+00, 45' RT. TO STA. 302+10, 47' RT. (+/-)</td>
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</tr>
</tbody>
</table>

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENT

CONSTRUCTION PHASING, M.O.T. AND TRAFFIC CONTROL PLAN - PHASE 1

SCALE: 1/128" = 1'-0" (TYP.)

DRAWN: T. D. 1/16/2019
CHECKED: F. G. 1/16/2019

CONSTRUCTION MANAGER INC.

INCOMPLETE

COPY
CONSTRUCTION PHASING LEGEND

- PROPOSED CONSTRUCTION THIS PHASE
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY P.C.C. SAFETY BARRIER, PINNED
- ARROW PANEL
- REMOVE EXISTING STRIPING BY CONTRACTOR
- PROTECTION VEHICLE WITH TRUCK-MOUNTED ATTENUATOR

SEQUENCE OF CONSTRUCTION - PHASE 1

1. SET UP ARCHITECTURAL LINE PATTERN WORK - SEE DRAWING CS-02. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THIS PLAN. SHARP TRAFFIC TO DESIGNATED WORK LANE.
2. CONSTRUCT PROPOSED BRIDGE SCUPPERS AND DOWNSPOUTS (SEE NOTE 1).
3. DURING ALLOWABLE LANE CLOSURE HOURS (SEE DRAWING CS-03) INSTALL TEMPORARY TRAFFIC CONTROL DEVICES (SEE NOTE 1).
4. PROTECT EACH INDIVIDUAL SCUPPER WORK AREA WITH A TRUCK MOUNTED ATTENUATOR AS WORK PROGRESSES.
5. CONSTRUCT PROPOSED BRIDGE SCUPPERS AND DOWNSPOUTS (SEE NOTE 1).

MIXED-USE WORK AREA WITH A TRUCK MOUNTED ATTENUATOR AS WORK PROGRESSES.

CITY OF NEW CASTLE

NEW CASTLE COUNTY

REHABILITATION OF I-95,
2ND STREET ON-RAMP
IMPROVEMENTS

CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 1
- DETAIL 1

MATCH LINE STA. 1301+50 - SEE DWG. CS-104
MATCH LINE STA. 1309+50 - SEE DWG. CS-106

UNOFFICIAL WEBSITE COPY
UNOFFICIAL WEBSITE COPY
CONSTRUCTION PHASING LEGEND

- PROPOSED CONSTRUCTION THIS PHASE
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY P.C.C. SAFETY BARRIER, PINNED
- TEMPORARY IMPACT ATTENUATOR
- TRUCK-MOUNTED ATTENUATOR
- ARROW PANEL
- REMOVE EXISTING STRIPING BY CONTRACTOR
- PROTECTION VEHICLE WITH TRUCK-MOUNTED ATTENUATOR

TEMPORARY PAVEMENT MARKINGS LEGEND

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<th>ITEM</th>
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<tr>
<td>5&quot; BROKEN WHITE EPOXY RESIN</td>
<td>80'</td>
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</table>

SEQUENCE OF CONSTRUCTION - PHASE 2

1. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 2 PLANS. SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.
2. INSTALL TEMPORARY PAVEMENT MARKINGS TIE INTO EXISTING 25' (TYP.) PAVEMENT MARKINGS.
3. 100' TERMINATION TAPER
4. 120' SHIFTING TAPER (W=2')
5. 13' 1-748S 2ND STREET ON-RAMP
6. 50' (TYP.)

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

SCALE 1:48

MATCH LINE STA 124+50 - SEE Dwg. CS-201

CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLAN - PHASE 2

T201907402

NEW CASTLE REHABILITATION OF I-95

UNOFFICIAL WEBSITE COPY
WEBSITE COPY

UNOFFICIAL WEBSITE COPY
NOTES:
PHASE 2

1. Secure temporary fence to existing permanent fence.
2. Sump pits shall be installed in accordance with standard construction specifications and the drainage system in accordance with design by the contractor.

PHASE 2 PLANS - SEE EXISTING R/W PARKING TIME

CLOSE EXISTING RAMP B AND DETOUR TRAFFIC.
PRIOR TO INSTALLING TEMPORARY FENCING FOR PHASE 2 AND CLOSING OF CUL-DE-SAC, INSTALL TEMPORARY STRUCTURE AND CONSTRUCTION OF PROPOSED RAMP D.
MAINTAIN CLOSURE OF EXISTING RAMP C AND DETOUR TRAFFIC. CONTINUE DEMOLITION OF THE EXISTING
SCALE

CONTROL PLAN - PHASE 2

PARKING TIME IS T/S P R . R A M P  D

NEW CASTLE
D.I.

CONSTRUCTION PHASING LEGEND

EXISTING ROAD

ROAD CLOSURE

ROAD WORK AHEAD

TRUCK MOUNTED ATTENUATOR

REMOVE EXISTING STRIPING BY CONTRACTOR

C. W. - W (D)

E X - C O N  (C)

W20-1

W - W (D)

R W - W (D)

10" T C

10" P V C

12" R C P

15" R C P

RC

E X IS T IN G  R /W

EXISTING SIGN/PROPOSED TEMPORARY SIGN

TYPE B

PLASTIC DRUM

TRAFFIC FLOW ARROW

TEMPORARY P.C.C. SAFETY BARRIER, FIXED"
REMOVE CURB BUMPOUT AND CONSTRUCT ROADWAY WIDENING.

SEQUENCE OF CONSTRUCTION - PHASE 2

1. Coordinate with City of Wilmington to implement parking restriction on the west side of the Jackson Street during implementation of this traffic control detail.

2. Temporary traffic control devices along I-95 not shown.

3. Refer to Phase 2 plans for temporary traffic control devices along I-95, Lancaster Ave, M.L.K., E Washington, Adams St., and 2nd St.

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLAN - PHASE 2 - DETAIL 1
CONSTRUCTION PHASING LEGEND

- PROPOSED CONSTRUCTION THIS PHASE
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE 11 BARRICADE
- PLASTIC DRUM
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, PINNED
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- ARROW PANEL
- REMOVE EXISTING STRIPING BY CONTRACTOR
- PROTECTION VEHICLE WITH TRUCK-MOUNTED ATTENUATOR

SEQUENCE OF CONSTRUCTION - PHASE 2

1-7485  CONSTRUCTION PHASING, M.O.T. AND EROSION
CONTROL PLAN - PHASE 2  - DETAIL 1

REHABILITATION OF I-95,
2ND STREET ON-RAMP
IMPROVEMENTS

MATCH LINE - SEE DWG. CS-205

UNOFFICIAL WEBSITE COPY
**NOT TO SCALE**

**COLORS:** BLK=BLACK, BLU=BLUE, BRO=BROWN, G=GREEN, R=RED, W=WHITE, Y=YELLOW, FY=FLUORESCENT YELLOW, FYG=FLUORESCENT YELLOW GREEN, PUR=PURPLE, O=ORANGE, FO=FLUORESCENT ORANGE.

**DIMENSIONS & DETAILS**

<table>
<thead>
<tr>
<th>PANEL DESIGNATION</th>
<th>COLOR</th>
<th>SIZE</th>
<th>QUANTITY</th>
</tr>
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<tbody>
<tr>
<td>CS-103</td>
<td>BLK</td>
<td>12&quot;</td>
<td>1</td>
</tr>
<tr>
<td>T201907402</td>
<td>BLK</td>
<td>2&quot;</td>
<td>100.00</td>
</tr>
</tbody>
</table>

---

**DIMENSIONS**

- **Width:** 16.5" 35.1" 240" 60"
- **Height:** 12" 100.00
- **Radius:** 270°
- **Thickness:** STD.
- **Area:** 120°
- **Legend:** Arrow, Shield

---

**REHABILITATION OF I-95, 2ND STREET ON-RAMP**
NOT TO SCALE

REHABILITATION OF I-95,
2ND STREET ON-RAMP
IMPROVEMENTS

CONCURRENCE FOR IMPLEMENTATION

PREPARED BY

PORTABLE CHANGEABLE MESSAGE SIGNS

LEGEND

1. CLOSURE AREA
2. RECOMMENDED DETOUR ROUTE

SPECIAL SIGNS

- 21 FT RAMP TO SOUTH
- FOLLOW DETOUR

DELIVER SIGN TO LOCATION OF CONSTRUCTION
AND REMOVE 72 HOURS

LEGEND

1. ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION MANUAL ON WORK zone TRAFFIC CONTROL DEVICES.
2. SIGNS "YIELD TO ALL" AND "YIELD TO PEDESTRIANS" SHALL BE INSTALLED AT THE ENTRANCE AND EXIT OF THE RAMP LANE.
3. "KEEP LEFT" BARRIERS FOR A ROAD CLOSED SHOULD BE INSTALLED AT THE CENTER LANE OF THE ROADWAY AND IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION MANUAL ON WORK Zone TRAFFIC CONTROL DEVICES.
4. TRAFFIC SIGNS AS A MINIMUM 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

DelaWare center for the Contemporary Arts

NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE CITY OF WILMINGTON AS REQUIRED FOR INSTALLATION OF ALL SIGNS.
2. SEE CONSTRUCTION PHASING, SCHEDULE, AND EROSION CONTROL PLANS FOR PLACEMENT OF SIGNS AND TYPE OF BARRIERS AT RAMP CLOSURE POINTS.

1. REFER TO plan CD-103 FOR TEMPORARY GUIDE SIGN MODIFICATIONS DURING DETOUR.

Delaware Center for the Contemporary Arts

Firestone Roasting House
PROJECT LIGHTING NOTES:

1. Service runs are shown in approximate locations. The contractor shall locate the service runs in a manner that avoids conflicts with all existing and proposed features as field conditions dictate and as approved by the owner.

2. The contractor shall verify all dimensions and conditions prior to work.

3. The lighting contractor shall coordinate their work with all the contractors involved on this contract and adjacent contracts. The lighting contractor shall coordinate with the engineer and the general superintendent on the location of all conduits, junction wells and pole bases to eliminate construction conflicts.

4. Existing utility locations shown on the plans are approximate. It shall be the responsibility of the contractor to verify the exact locations prior to commencing work. The contractor shall perform test holes for the standard specifications for roads and bridge construction.

5. The contractor shall contact Delmarva Power to coordinate service drop locations and to ensure all proposed service feeds are approved prior to installation of cabinets and electric utility service equipment. The contractor shall arrange a meeting with Delmarva Power, the engineer and the general traffic section to ensure that power is available when required.

6. Color coding shall be provided throughout the entire network for service feeders, branches and control conductors. Each phase shall be an independent color phase. A shall be brown, phase B shall be orange, phase C shall be yellow. Neutral shall be white and ground shall be green. Conductors shall have a factory imprinted color throughout their entire length.

7. All fused connections shall be made in the pole well or nearest above grade junction box for underground installations. Splices in underground junction boxes on pull boxes shall not be fused.

8. All conduits shall be bunched in a continuous run from the source by a copper grounding conductor with size as noted on plans.

9. All statutory offset and dimension information shown for proposed lighting standards is to the center of the proposed pole base.

10. All proposed roadway lighting standards (service runs) shall be rigid polyvinyl chloride (PVC) in such a way when installed by trenching or open cut and SDR-13.5 where a hope when installed by boring, unless otherwise noted on plans. All conduits embedded within structures shall be rigid polyvinyl chloride (PVC) unless otherwise noted. All conduits embedded to structures shall be 1" diameter rigid galvanized steel conduit, unless otherwise noted.

11. All proposed lighting standards on foundations in earth shall be installed with ground-grade transformer bases whether protected by traffic barrier or unpierced. Proposed lighting standards mounted to structures shall not have ground-grade transformer bases.

12. If a 3/4" diameter of long conduit is to be installed, it shall be installed at each standard pole base, junction well, electrical service pedestal and within the lighting control center. Ground rods shall be separated by a maximum of 8 feet.

13. All conduit serving light poles designed to be removed shall be abandoned.

14. The existing electrical cables in all conduits designated to be abandoned shall be removed and properly disposed of.

15. All foundations for existing light poles designated to be removed shall be removed to a depth of 7'-0" below finished grade.

16. If any utility is damaged the contractor shall notify the engineer and the owner of the utility immediately. Any damage to the utilities shall be repaired by the contractor at his expense under the direction of the utility owner. Under no circumstances shall a contractor discharge an excavation of an impacted utility without permission from the utility owner.

17. Delmarva Power shall be the first point of renewal for all existing lighting standards and other lighting equipment to be permanently removed. The contractor shall remove and deliver the lighting standards and other lighting equipment that belong to Delmarva Power to the Chapman Maintenance Yard located at 39 Regal Blvd., Newark, DE 19713. Salvaging, transporting, and delivering salvaged materials will not be measured and paid for, but will be considered incidental to the contract lighting items.

18. Existing lighting equipment embedded within structures designated to be removed shall be removed with the demolition of the structure.

19. All proposed roadway lighting standards installed in the ground shall be installed on type E pole bases with a pole base extension providing an additional 2 feet in depth below grade for the foundation (6 feet depth total below grade).

20. Proposed roadway luminaries shall provide a minimum of 20,704 lumens and operate at a wattage less than or equal to 260 watts. Proposed roadway luminaries shall be paid for under item 850520.

21. Proposed underpass luminaries shall be mix mount style fixtures. The luminaries shall produce a minimum of 6,500 lumens and shall operate at a wattage of less than or equal to 80 watts. Proposed underpass luminaries shall be paid for under item 850520.

22. Existing luminaires are shown in areas where lighting equipment is being installed in at-grade areas. Existing luminaires are not shown in areas where lighting equipment is installed and on elevated structures for plan clarity.

23. Refer to the structural plans for the details of the structure mounted lighting standard supports and property embedded conduits and junction boxes. Refer to the roadway plans for details of concrete barrier embedded conduits and junction boxes.
NOTES:
EXISTING STRUCTURE MOUNTED POLE, ARM AND WIRING TO REMAIN. DISCONNECT AND REMOVE EXISTING HIGH PRESSURE SODIUM LUMINARE AND REPLACE WITH PROPOSED LED LUMINARE.
1. INSTALL CONDUIT ALONG THE BACK SIDE OF THE PROPOSED AND EXISTING PARAPET FROM THE PROPOSED PARAPET EMBEDDED JUNCTION BOX AT STA. 1294+60 TO THE EXISTING PARAPET EMBEDDED JUNCTION BOX AT STA. 1294+50 TO ALLOW CONDUIT TO THE PARAPET FOLLOWING THE EXISTING LIGHTING STANDARDS TO THE SOUTH.
2. CORE A HOLE THROUGH THE BACK SIDE OF THE PARAPET INTO THE EXISTING PARAPET EMBEDDED JUNCTION BOX FOR SPEC. TO ENTER THE JUNCTION BOX, SPlice THE PROPOSED CABLES TO THE EXISTING CABLES FROM THE PROPOSED BOX WHICH CONTINUES THROUGH THE PARAPET TO THE EXISTING LIGHTING STANDARDS TO THE SOUTH.

LIGHTING STANDARD SCHEDULE

<table>
<thead>
<tr>
<th>NO.</th>
<th>CIRCUIT NO.</th>
<th>STATION</th>
<th>OFFSET</th>
<th>ARM</th>
<th>LIGHT STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-A</td>
<td>11</td>
<td>1285+66.4</td>
<td>54.0'</td>
<td>T7</td>
<td>210 WATT LED, TYPE 3</td>
</tr>
<tr>
<td>1-B</td>
<td>2</td>
<td>1285+37.7</td>
<td>54.0'</td>
<td>T7</td>
<td>210 WATT LED, TYPE 3</td>
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<td>1-C</td>
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<td>1290+47.7</td>
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<td>T7</td>
<td>210 WATT LED, TYPE 3</td>
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<tr>
<td>1-D</td>
<td>2</td>
<td>1292+30.5</td>
<td>54.0'</td>
<td>T7</td>
<td>210 WATT LED, TYPE 3</td>
</tr>
</tbody>
</table>

MATCH LINE STA. 1294+00 - SEE DWG. LI-002

LIGHTING SERVICE SCHEDULE

<table>
<thead>
<tr>
<th>NO.</th>
<th>CIRCUIT NO.</th>
<th>SERVICE</th>
<th>DISTANCE</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>SB</td>
<td>307</td>
<td>MOUNTED ON STRUCTURE</td>
</tr>
</tbody>
</table>

SEE NOTE 1
SEE NOTE 2
SEE NOTE 3
1. Install Underpass Luminaire over the westernmost Pier column as shown. Install Underpass Luminaire and conduit following Dwg. LI-004. 

2. Install (2) 320-200 on the face of the proposed abutment as shown. Install conduit from the proposed parapet embedded junction box 50'+00. To bridge. Install conduit from abutment to the proposed parapet embedded junction box 50'+00. To parapet, install conduit from abutment to the parapets following the conduit installation requirements shown on LI-004.

3. Core a hole through the back of the parapet and existing parapet embedded junction box for A/C ST. Use pipe for spur to new junction box. Spur the proposed conduit through the parapet and into the structure.

4. Excavate existing underpass luminaire, arm and wiring to remain, disconnect and remove existing high pressure sodium luminaire and replace with a 210 watt LED luminaire, with a Type 3 distribution.

### Lighting Standard Schedule

<table>
<thead>
<tr>
<th>No.</th>
<th>Circuit No.</th>
<th>Station Defect</th>
<th>Height</th>
<th>Light Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-17</td>
<td>12</td>
<td>305+64.2</td>
<td>40</td>
<td>210 Watt LED, Type 3</td>
</tr>
<tr>
<td>5-17</td>
<td>10</td>
<td>310+36.7</td>
<td>40</td>
<td>210 Watt LED, Type 3</td>
</tr>
<tr>
<td>5-17</td>
<td>12</td>
<td>305+64.2</td>
<td>40</td>
<td>210 Watt LED, Type 3</td>
</tr>
<tr>
<td>5-17</td>
<td>10</td>
<td>310+36.7</td>
<td>40</td>
<td>210 Watt LED, Type 3</td>
</tr>
</tbody>
</table>

### Junction Box Schedule

<table>
<thead>
<tr>
<th>No.</th>
<th>Service</th>
<th>Station Defect</th>
<th>Height</th>
<th>Installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>524</td>
<td>LIGHTING</td>
<td>305+64.2</td>
<td>40</td>
<td>MOUNTED ON STRUCTURE</td>
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<tr>
<td>524</td>
<td>LIGHTING</td>
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<td>40</td>
<td>EMBEDDED IN STRUCTURE</td>
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<tr>
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<td>LIGHTING</td>
<td>305+64.2</td>
<td>40</td>
<td>MOUNTED IN STRUCTURE</td>
</tr>
<tr>
<td>524</td>
<td>LIGHTING</td>
<td>305+64.2</td>
<td>40</td>
<td>EMBEDDED IN STRUCTURE</td>
</tr>
<tr>
<td>524</td>
<td>LIGHTING</td>
<td>305+64.2</td>
<td>40</td>
<td>MOUNTED ON STRUCTURE</td>
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</tbody>
</table>

### Lighting Service Schedule

<table>
<thead>
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<th>Description</th>
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<tbody>
<tr>
<td>516</td>
<td>20</td>
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<tr>
<td>514</td>
<td>20</td>
<td>EMBEDDED IN STRUCTURE</td>
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<tr>
<td>513</td>
<td>20</td>
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</tr>
<tr>
<td>511</td>
<td>20</td>
<td>MOUNTED ON STRUCTURE</td>
</tr>
<tr>
<td>510</td>
<td>20</td>
<td>EMBEDDED IN STRUCTURE</td>
</tr>
<tr>
<td>509</td>
<td>20</td>
<td>MOUNTED ON STRUCTURE</td>
</tr>
</tbody>
</table>

### Note

- DISTANCE CONTINUES ON ADJACENT PLAN SHEET

- PLAN POSTED 7-4-19

- SCALE 1"=10 Ft.
NOTES:
1. TRANSITION CONDUIT INTO PROPOSED CONCRETE BARRIER CONDUIT SYSTEM SEE DETAIL ON RD-07.
2. INSTALL UNDERPASS LUMINAIRE ON THE FACE OF THE PROPOSED ABUTMENT AS SHOWN INSTALL UNDERPASS LUMINAIRE AND CONDUIT FOLLOWING DETAIL A - UNDERPASS LUMINAIRE AND CONDUIT DETAIL ON LI-003.
3. EXISTING STRUCTURE MOUNTED POLE, ARM AND WIRING TO REMAIN. DISCONNECT AND REMOVE EXISTING HIGH PRESSURE SODIUM LUMINAIRE AND REPLACE WITH A PROPOSED LED LUMINAIRE.
4. SEE LI-004 FOR DETAILS OF LIGHTING EQUIPMENT INSTALLATION ADJACENT TO LANCASTER AVENUE AND WITHIN THE DART PARKING LOT. EXISTING STRUCTURE MOUNTED POLE, ARM AND WIRING TO REMAIN. DISCONNECT AND REMOVE EXISTING HIGH PRESSURE SODIUM LUMINAIRE AND REPLACE WITH A PROPOSED LED LUMINAIRE.
5. INSTALL PROPOSED LUMINAIRE UL-9 IN PLACE OF EXISTING LUMINAIRE TO BE REMOVED. COUPLE LUMINAIRE WITH EXISTING CONDUIT AND CONNECT WITH EXISTING WIRING. REFER TO UNDERPASS LUMINAIRE DETAILS ON CAD.

LIGHTING STANDARD SCHEDULE

<table>
<thead>
<tr>
<th>NO.</th>
<th>CIRCUIT NO.</th>
<th>STATION</th>
<th>OFFSET FROM KM</th>
<th>LIGHT ARM</th>
<th>LIGHT STANDARD</th>
</tr>
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<tbody>
<tr>
<td>S-11</td>
<td>10</td>
<td>305+26.2</td>
<td>30.6' RT.</td>
<td>40' ID</td>
<td>210 WATT LED, TYPE 3</td>
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<tr>
<td>S-12</td>
<td>12</td>
<td>1208+62.5</td>
<td>54.0' LT.</td>
<td>EX. EX.</td>
<td>210 WATT LED, TYPE 3</td>
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<tr>
<td>S-13</td>
<td>8</td>
<td>151+19.4</td>
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<td>210 WATT LED, TYPE 3</td>
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<td>S-16</td>
<td>8</td>
<td>SEE NOTE 6</td>
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LIGHTING SERVICE SCHEDULE

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<thead>
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<th>CIRCUIT NO.</th>
<th>STATION</th>
<th>OFFSET FROM KM</th>
<th>LIGHT ARM</th>
<th>LIGHT STANDARD</th>
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<tr>
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<td>S-32</td>
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<tr>
<td>S-33</td>
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</tr>
</tbody>
</table>

* DISTANCE CONTINUES ON ADJACENT PLAN SHEET.
3. The electrical cables shall be reconnected to the same circuit and phase so that the relocated light pole operates off of the same circuit and phase as is existing.

**LIGHTING STANDARD SCHEDULE**

<table>
<thead>
<tr>
<th>NO.</th>
<th>CIRCUIT/NO.</th>
<th>STATION</th>
<th>OFFSET</th>
<th>DEPTH</th>
<th>AW</th>
<th>LIGHT STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1801+33.2</td>
<td>15.7</td>
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<td>EX</td>
<td>EX</td>
<td>EXISTING Light Pole</td>
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<tr>
<td>2</td>
<td>SEE NOTE 7</td>
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<td>3</td>
<td>SEE NOTE 7</td>
<td>1803+80.2</td>
<td>20.7</td>
<td>15.7</td>
<td>EX</td>
<td>EXISTING Light Pole</td>
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**LIGHTING SERVICE SCHEDULE**

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<th>SERVICE</th>
<th># OF CONDUITS</th>
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<th>DESCRIPTION</th>
<th>INSTALLATION</th>
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<tbody>
<tr>
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<td>610</td>
<td>TRENCH</td>
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<td>610</td>
<td>1</td>
<td>3.0'</td>
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<td>TRENCH</td>
</tr>
<tr>
<td>610</td>
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<td>3.0'</td>
<td>610</td>
<td>TRENCH</td>
</tr>
</tbody>
</table>

*DISTANCE CONTINUES ON ADJACENT PLAN SHEET*
NOTES:
EXISTING STRUCTURE MOUNTED POLE, ARM AND WIRING TO REMAIN, DISCONNECT AND REMOVE EXISTING HIGH PRESSURE SODIUM LUMINAIRE AND REPLACE WITH A PROPOSED LED LUMINAIRE. INSTALL PROPOSED LUMINAIRES UL-11, 15 AND 20 IN PLACE OF EXISTING LUMINAIRES TO BE REMOVED. COUPLE LUMINAIRE WITH EXISTING CONDUIT AND CONNECT WITH EXISTING WIRING. REFER TO UNDERPASSES LUMINAIRES DETAILS ON LI-103.

MATCH LINE STA 1314+50 – SEE DWG LI-004

SEE NOTE 1

SEE NOTE 2

LIGHTING STANDARD SCHEDULE

<table>
<thead>
<tr>
<th>NO.</th>
<th>CIRCUIT NO.</th>
<th>STATION</th>
<th>OFFSET</th>
<th>ARM</th>
<th>LIGHT STANDARD</th>
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</thead>
<tbody>
<tr>
<td>LS-2</td>
<td>8</td>
<td>1316+28.0</td>
<td>55.0' LT.</td>
<td></td>
<td>210 WATT LED, TYPE 3</td>
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<tr>
<td>LS-4</td>
<td>12</td>
<td>1317+32.0</td>
<td>55.1' LT.</td>
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<td>210 WATT LED, TYPE 3</td>
</tr>
<tr>
<td>UL-11</td>
<td>12</td>
<td>SEE NOTE 2</td>
<td>-</td>
<td>-</td>
<td>90 WATT LED UNDERPASS LUMINAIRE, TYPE 4</td>
</tr>
<tr>
<td>UL-15</td>
<td>8</td>
<td>SEE NOTE 2</td>
<td>-</td>
<td>-</td>
<td>90 WATT LED UNDERPASS LUMINAIRE, TYPE 4</td>
</tr>
<tr>
<td>UL-25</td>
<td>8</td>
<td>SEE NOTE 2</td>
<td>-</td>
<td>-</td>
<td>90 WATT LED UNDERPASS LUMINAIRE, TYPE 4</td>
</tr>
</tbody>
</table>

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NOTES:
1. ALL WIRING FROM SERVICE FEEDS SHALL BE INSTALLED IN FLEXIBLE CONDUIT WITHIN THE LIGHTING CONTROL AND DISTRIBUTION ENCLOSURE.
2. NO CONDUCTORS MAY ENTER OR EXIT THROUGH THE REAR OF ANY PANEL.
3. THE LIGHTING CONTROLLERS, SELECTOR SWITCH, AND CONTROL RELAY SHALL BE IN A PROPERLY SIZED ENCLOSURE.
4. A CONTINUOUS GROUNDING CONDUCTOR SHALL BE INSTALLED FROM THE Meter PEDESTAL DISCONNECT SWITCH through ALL PANELS, then to the grounding electrodes.
5. ALL CABLES SHALL BE INSTALLED IN FLEXIBLE CONDUIT WITHIN THE LIGHTING CONTROL ENCLOSURE.
6. ALL CABLES SHALL MEET AMPACITY REQUIREMENTS OF THE NATIONAL ELECTRIC CODE. THE MINIMUM CABLE SIZE SHALL BE NO. 12 AWG.
7. ACTUAL NUMBER OF BREAKERS AND BREAKER RATING SHALL BE AS INDICATED ON PLANS AND RESPECTIVE PANEL SCHEDULES.
8. ALL MAIN BREAKERS AND BRANCH CIRCUIT BREAKERS SHALL BE INSTALLED IN A PANEL BOARD FOR THE PANEL LOCATION: SEE PLANS.
9. PROVIDE INTERIOR CABINET LIGHTING MOUNTED OVERHEAD IN CABINET OR ON FLEXIBLE ARM. INTERIOR LED CABINET LIGHTING SHALL BE INCIDENTAL TO THE LIGHTING CONTROL CABINET ITEM.
PLANS FOR DETAILS.

NOTES:

1. Junction boxes are provided to transition the conduit size where 2-inch conduit leaves the parapet (size as noted on plans).

2. In locations where the underpass luminaire equipment, conduit, and junction boxes is to be installed on existing piers, all underpass luminaires shall be installed horizontally and vertically centered on existing pier caps, unless otherwise noted.

3. Repair, the pier repair shall take place prior to the underpass equipment installation. Refer to the structural plans for pier repair details.

4. Underpass luminaires shall be installed horizontally and vertically centered on existing pier caps, unless otherwise noted.

5. The contractor shall submit shop drawings of all proposed underpass lighting system components including conduit, conduit straps and clamps, junction boxes, bends, conduits, expansion couplings and underpass luminaires to the engineer for approval. Shop drawings preparation shall be incidental to the pertinent items in the contract.

6. Underpass luminaires shall be installed horizontally and vertically centered on existing pier caps, unless otherwise noted.

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8. The contractor shall submit shop drawings of all proposed underpass lighting system components including conduit, conduit straps and clamps, junction boxes, bends, conduits, expansion couplings and underpass luminaires to the engineer for approval. Shop drawings preparation shall be incidental to the pertinent items in the contract.

THE STRUCTURAL ELEMENTS DEPICTED ON THIS PLAN ARE FOR GRAPHICAL PRESENTATION ONLY TO DEPICT THE GENERAL PLACEMENT AND ARRANGEMENT OF LIGHTING EQUIPMENT AND ASSOCIATED CONDUITS AND JUNCTION BOXES. THE STRUCTURAL PLANS SHALL BE REFERENCED FOR TRUE STRUCTURAL DIMENSIONS AND DETAILS.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PROPOSED UNDERPASS LIGHTING SYSTEM COMPONENTS INCLUDING CONDUIT, CONDUIT STRAPS AND CLAMPS, JUNCTION BOXES, BENDS, CONDUITS, EXPANSION COUPLINGS AND UNDERPASS LUMINAIRES TO THE ENGINEER FOR APPROVAL. SHOP DRAWING PREPARATION SHALL BE INCIDENTAL TO THE PERTINENT ITEMS IN THE CONTRACT.

ALL UNDERPASS LUMINAIRES, CONDUIT STRAPS AND JUNCTION BOXES SHALL BE ATTACHED TO CONCRETE STRUCTURES USING 1/4" STAINLESS STEEL WEDGE ANCHORS WITH A MINIMUM EMBEDMENT OF 2" AND A MINIMUM TENSILE PULLOUT STRENGTH OF 500 LBS. THE COST OF THE WEDGE ANCHOR BOLTS WILL NOT BE MEASURED AND PAID FOR BUT WILL BE INCIDENTAL TO THE PERTINENT LIGHTING ITEMS IN THE CONTRACT.

ALL CONDUITS MOUNTED TO STRUCTURES SHALL BE SUPPORTED BY 2 HOLE STAINLESS STEEL CONDUIT STRAPS OR CLAMPS SPACED AT A MAXIMUM DISTANCE OF 36 INCHES BETWEEN SUPPORTS AND WITHIN 12 INCHES OF EACH JUNCTION BOX, CONDUIT, LUMINAIRE OR OTHER TERMINATION. ALL CONDUIT STRAPS, CLAMPS, WEDGE ANCHORS AND CONDUITS WILL NOT BE MEASURED AND PAID FOR BUT WILL BE INCIDENTAL TO THE PERTINENT LIGHTING ITEMS IN THE CONTRACT.

DETAIL B - UNDERPASS LUMINAIRE AND IN-GROUND CONDUIT TRANSITION DETAILS

- CONDUCT OR ABUTMENT PIER CAP
- PIER COLUMN
- CONCRETE PARAPET
- BRIDGE GIRDER
- BRIDGE PARAPET

- 2 INCH LFMC CONDUIT FOR USE WITH LIGHTING POWER CABLES
- 2 INCH LFMC CONDUIT INTENDED FOR USE WITH ITMS POWER CABLES

- 2 INCH CONDUIT EXITING PARAPET CONDUIT SUPPORT STRUT, ANCHOR BASE, AND STRAP
- 2 INCH CONDUIT EXITING PARAPET CONDUIT SUPPORT STRUT, ANCHOR BASE, AND STRAP

- (2) 2 INCH PVC CONDUIT IN GROUND PVC TO TRANSITION
- (2) 2 INCH PVC CONDUIT IN GROUND PVC TO TRANSITION

- CONDUIT EXITING PARAPET EMBEDDED JUNCTION BOX (TYP.) SEE STRUCTURAL PLANS FOR DETAILS
- ELEVATION VIEW

- UNDERPASS LIGHTING NOTES: CONDUIT SUPPORT STRUTS ARE PROVIDED TO TRANSITION THE CONDUIT SIZE WHERE 2 INCH CONDUIT LEAVES THE PARAPET EMBEDDED SYSTEM TO FEED UNDERPASS LUMINAIRES.

- UNDERPASS LUMINAIRE CONDUCTORS ARE PROVIDED TO TRANSITION THE CONDUIT SIZE WHERE 2 INCH CONDUIT LEAVES THE PARAPET EMBEDDED SYSTEM TO FEED UNDERPASS LUMINAIRES.

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**NOTES**

1. The Contractor shall install the temporary lighting work shown on this plan prior to removing the existing parapet or temporarily installing the existing lighting circuits in the parapet as proposed during Phase 1.

2. The temporary lighting shown on this plan ensures that lighting along the shoulder is maintained during Phase 1. Roadway lighting along I-95 will be replaced and not available during Phase 2 due to significant impacts to the lighting system caused by the bridge construction. Roadway lighting along I-95 northbound shall remain at all times.

3. All temporary lighting shown on this plan shall be measured and paid for using Item 30307 - Furnish & install up to 3" flexible metal-liquid tight conduit, Item 30308 - Furnish & install up to 4" galvanized steel conduit on structures.

4. All conduit shall be supported following the conduit installation requirements shown on this plan.

5. Galvanized rigid conduit of CWP shall be used in the proposed temporary P/GC Safety barrier. The Contractor shall determine the temporary conduit installation method. No part of conduit or conduit supports should be installed on the temporary side of the barrier.

6. Liquid tight flexible conduit shall be used on the temporary parapet to the existing parapet embedded junction box.

7. Conduits mounted to structures shall be supported following the conduit installation requirements shown on this plan.

8. Existing lighting standards to be removed during Phase 1.

---

**LIGHTING SERVICE SCHEDULE**

<table>
<thead>
<tr>
<th>Service</th>
<th>Size</th>
<th>Schedule</th>
<th>Description</th>
<th>Installation</th>
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</thead>
<tbody>
<tr>
<td>225</td>
<td>1-2&quot;</td>
<td>12/4, 12/3</td>
<td>Ground wire</td>
<td>Within protector</td>
</tr>
<tr>
<td>226</td>
<td>1-2&quot;</td>
<td>12/4, 12/3</td>
<td>Ground wire</td>
<td>Mounted on temporary P/GC Safety barrier</td>
</tr>
<tr>
<td>227</td>
<td>1-2&quot;</td>
<td>12/4, 12/3</td>
<td>Ground wire</td>
<td>Mounted on structure</td>
</tr>
</tbody>
</table>

---

**REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS**

**LIGHTING PLAN**
## Existing Cantilever Sign Structure

## Proposed Cantilever Sign Structure

## Proposed Overhead Sign Structure

## Existing Ground Mounted Sign

## Proposed Ground Mounted Sign

## Existing Overhead Sign Structure

## Existing Sign

## Contract

## COUNTY

## Designed By:

## Checked By:

## Bridge No.:

## Addenda / Revisions

## Section

## Sheet No.

## N: 31987-004

## 12/20/2019

## 9:41:48 AM

## Signing, Striping, and Conduit Plans

## Guide Sign Dimensions and Details

## Signing Legend

<table>
<thead>
<tr>
<th>Legend</th>
<th>Description</th>
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<tbody>
<tr>
<td>- EXISTING CANTILEVER SIGN STRUCTURE</td>
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<tr>
<td>- EXISTING OVERHEAD SIGN STRUCTURE</td>
<td></td>
</tr>
<tr>
<td>- PROPOSED CANTILEVER SIGN STRUCTURE</td>
<td></td>
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<tr>
<td>- PROPOSED OVERHEAD SIGN STRUCTURE</td>
<td></td>
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<tr>
<td>- PROPOSED GROUND MOUNTED SIGN</td>
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</tr>
<tr>
<td>- SIGNALIZED INTERSECTION</td>
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## Signing, Striping, and Conduit Plan General Notes:

1. The contractor shall be governed by the standards and requirements of the following publications, except as modified by the special provisions of this contract or through written approval by the engineer.
2. The contractor shall install base/recessed pavement markers (PRP) per Part 3 of the Delaware MTD.
3. The contractor shall install post mounted, guardrail, or barrier mounted delineators along the limits of the proposed construction as per Part 3 of the Delaware MTD. The standards specifications, and the standard construction details.
4. All existing signs not shown on the plan shall remain.
5. All foundations for existing sign structure foundations designated to be removed shall be removed to a depth of 1'-0" below finished grade.
6. Signs that do not have an associated identifier are shown for reference purposes only and shall remain.
NOTES:
1. PROPOSED PAVEMENT MARKINGS ARE SHOWN TO REPLACE EXISTING MARKINGS IMPACTED BY THE MAINTENANCE OF TRAFFIC. SEE CS SHEETS FOR DETAILS.

PAVEMENT MARKINGS LEGEND

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<th>ITEM</th>
<th>SYMBOL</th>
<th>QUANTITY</th>
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<tr>
<td>1</td>
<td>ITEM 817013</td>
<td>CONTRAST PAVEMENT MARKINGS, 3' LINE &amp; 9' GAP (TAPE)</td>
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<tr>
<td>2</td>
<td>ITEM 817018</td>
<td>13&quot; DOTTED WHITE RETROREFLECTIVE PREFORMED PATTERNED RESIN PAINT (ITEM 817013)</td>
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<tr>
<td>3</td>
<td>ITEM 817014</td>
<td>5&quot; SOLID WHITE EPOXY RESIN PAINT (ITEM 817013)</td>
</tr>
<tr>
<td>4</td>
<td>ITEM 817015</td>
<td>10&quot; SOLID WHITE EPOXY RESIN PAINT (ITEM 817014)</td>
</tr>
<tr>
<td>5</td>
<td>ITEM 817020</td>
<td>PATTERNED MARKINGS (TAPE) 3' LINE, 9' GAP</td>
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<tr>
<td>6</td>
<td>ITEM 817022</td>
<td>CONTRAST PAVEMENT MARKINGS, 10' LINE &amp; 30' GAP</td>
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<td>7</td>
<td>ITEM 817023</td>
<td>CONTRAST PAVEMENT MARKINGS, 8' BROKEN WHITE RETROREFLECTIVE PREFORMED PATTERNED EPOXY RESIN PAINT, 10' LINE, 30' GAP</td>
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<td>8</td>
<td>ITEM 817002</td>
<td>PERMANENT PAVEMENT SYMBOL (ITEM 817002)</td>
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<tr>
<td>9</td>
<td>ITEM 817005</td>
<td>ALKYD-THERMOPLASTIC, 2' LINE, 6' GAP</td>
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<td>10</td>
<td>ITEM 817016</td>
<td>5&quot; DOTTED WHITE PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, 2' LINE, 6' GAP (ITEM 817013)</td>
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<td>ITEM 817017</td>
<td>5&quot; DOTTED WHITE PERMANENT PAVEMENT STRIPING, THERMOPLASTIC, WHITE, 10'x2', (ITEM 817002)</td>
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<td>ITEM 817019</td>
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<td>ITEM 817021</td>
<td>16&quot; SOLID WHITE PERMANENT PAVEMENT STRIPING, ALKYD-THERMOPLASTIC (ITEM 817002)</td>
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MATCH LINE STA. 1244.90 - SEE DWG. SS-22

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

SIGNING, STRIPING & CONDUIT PLAN

UNOFFICIAL WEBSITE COPY
MATCH LINE - SEE DWG. SS-05

MATCH LINE STA 1308+50 - SEE DWG. SS-05

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

M. L. Hammond III

SIGN, STRIPING & CONDUIT PLAN

SS-04

NOTES:
1. SOIL STRUCTURE, SIGN SUPPORTS AND SIGN PANELS PROPOSED BY OTHERS UNDER CONTRACT NO. TOS607002.
2. REMOVED EXISTING SIGN PANEL AND OVERHEAD SIGNS ONLY. EXISTING SIGN SUPPORTS TO BE REMOVED BY OTHERS.
3. INSTALL PROPOSED SIGN PANELS ON THE SIGN STRUCTURE AND SIGN SUPPORTS PROPOSED BY OTHERS UNDER CONTRACT NO. TOS607002.

MATCH LINE - SEE DWG. SS-05

MATCH LINE STA 1308+50 - SEE DWG. SS-05

REHABILITATION OF I-95, 2ND STREET ON-RAMP IMPROVEMENTS

M. L. Hammond III

SIGN, STRIPING & CONDUIT PLAN

SS-04

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STANDARD SIGN VERTICAL AND LATERAL CLEARANCE DETAIL

- **Minimum Lateral Clearances of Signs**
  1. **Code of Sign** is from edge of road or curb.
  2. **Code of Sign** is from edge of shoulder in median or curb.
  3. **Code of Sign** is preferred and to absolute X from each side of shoulder in median or curb.

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WEBSITE
COPY
NOTES:
1. THE FOUNDATION SHALL BE USED ONLY IN LOCATIONS MEETING SLOPE CRITERIA IN ACCORDANCE WITH THE STEEL BREAKAWAY SUPPORT FOUNDATION SELECTION MATRIX ON SIGNING CONSTRUCTION DETAILS SHEET.
2. SLOPED PORTIONS OF THE FOUNDATION SHALL MATCH THE FINISHED GROUND SLOPE.
3. A 4" MIN. FOOTING PROJECTION FROM THE UPPER SIDE OF THE SUPPORT TO A POINT ON THE GROUND SURFACE ON ONE SIDE OF THE ROADWAY BETWEEN A POINT ON THE GROUND SURFACE ON ONE SIDE AND A POINT ON THE GROUND SURFACE ON THE OPPOSITE SIDE, TO A STEEPER FORESLOPE BREAKAWAYS ARE TO BE CONTINUOUS FOR ENTIRE HEIGHT OF SIGN, INCLUDING INSTALLATION OF EXIT PANEL TO EXTRUDED SIGN

VERTICAL SUPPORT ATTACHMENT FOR GROUND MOUNTED SIGNS

NOTE:
1. ALL STEEL SUPPORTS SHALL BE POST CLIPPED AT 12" INTERVALS.
2. ALL SUPPORTS (INCLUDING ANGLES) SHALL BE INSTALLED ON EACH SIDE OF SIGN SUPPORT SPACED EVERY 12" FOR ALL HORIZONTAL SUPPORTS. USE DOUBLE CLIPS WHERE APPLICABLE.

INSTALLATION OF EXIT PANEL TO EXTRUDED SIGN

NOTE:
1. SUPPORTS ARE TO BE CONTINUOUS FOR ENTIRE HEIGHT OF SIGN, INCLUDING EXIT PANEL WHERE APPLICABLE.
2. ALL SUPPORTS INCLUDING ANGLES ARE TO BE POST CLIPPED AT 12" INTERVALS.
NOTE:
1. FOR DETAILS 2, 3 AND 4 SEE DWG. SS-302.
2. FOR PARAPET DETAILS SEE DWG. PA-01.

DELTA DEPARTMENT OF TRANSPORTATION

BARREL MOUNTED SIGN STRUCTURE - GENERAL NOTES:

DEPARTMENT OF TRANSPORTATION

REHABILITATION OF I-95, 2ND STREET ON-RAMP

IMPROVEMENTS

REMEMBER THIS IS AN UNOFFICIAL COPY - FOR OFFICIAL COPY PLEASE VISIT THE WEBSITE.
NOTES:

1. "W" LONG HOLE TO BE COVERED ON TS 4"x4"x"260" AREA OF 2"x2"x"260" CONNECTION PLATE THAT OVERLAPS THE TOPPED EDGE OF THE TUBULAR SECTION NOT COVERED BY WELD MATERIAL SHALL BE SEALED WITH CAULK.

2. FOR BARRIER MOUNTED SIGN STRUCTURE GENERAL NOTES SEE Dwg. SS-301.
NOTES:
1. CO #1 is not drawn to scale, nor is the direction necessarily correct.
2. All signal equipment removed from a project is to be returned to the City of Wilmington. DelDOT's traffic
   contractor shall contact prior to removal.
3. The transportation and storage of all signal equipment removed from the project.
4. DelDOT's traffic contractor shall contact prior to removal.
5. Pedestrian pushbutton shall operate only as directed by engineer. Existing conduit is to be abandoned.
6. An existing conduit will occur, the contractor shall notify DelDOT's traffic contractor.
7. Existing conduit will occur, the contractor shall notify DelDOT's traffic contractor.
8. Existing conduit will occur, the contractor shall notify DelDOT's traffic contractor.
9. Junction wells with conduits shown are not to be used for the installation of proposed signal cables.
10. The contractor shall be responsible for the installation and removal of all underground signal cables and other equipment.

LEGEND

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WEBSITE
COPY

PREPARED BY
Whitman, Requardt and Associates, LLP

CONCURRENCE FOR INSTALLATION

REHABILITATION OF I-95, 2ND STREET ON-RAMP
IMPROVEMENTS

WILM

WHITMAN, REQUARDT & ASSOCIATES, LLP

SIGNAL PLAN
D.I.
D.I.
D.I.
PROPOSED SYMBOL

F.S.
F.S.
F.S.
F.S.
F.S.
F.S.

D.I.
D.I.
D.I.
D.I.

17

2.5 IN

2.0 IN

24.5' RT.

3.0 IN

PEDESTRIAN POLE W/ TYPE 4A BASE

1.0 IN

2.0 IN

3.0 IN

PEDESTRIAN SIGNAL HEAD

PEDESTRIAN PUSHBUTTON

EXISTING OVERHEAD RUN IDENTIFIER

EXISTING CONDUIT IDENTIFIER

NEW CONDUIT IDENTIFIER

ABANDONED

ADDED

D.I.
D.I.
D.I.
D.I.

PROPOSED CONDUIT RUN IDENTIFIER

CO 1   PL

D.I.
D.I.
D.I.
D.I.

NOTE 6

JW

CO 1

D.I.
D.I.
D.I.
D.I.

NOTE 6

JW

CO 1

D.I.
D.I.
D.I.
D.I.

NOTE 6

JW

CO 1

D.I.
D.I.
D.I.
D.I.

NOTE 6

JW

CO 1

D.I.
D.I.
D.I.
D.I.

NOTE 6

JW

CO 1

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D.I.
D.I.

NOTE 6

JW

CO 1

D.I.
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D.I.
D.I.

NOTE 6

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D.I.

NOTE 6

JW

CO 1

D.I.
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