Final Inspection Comments Report

Contract No. C01500629, DOT-NR-9015-A

Group: Construction

March 21, 2019

Contractor: [Redacted]

Contract Duration: [Redacted] Calendar Days

Award Amount: $593,000.00

Attendees:
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

General Comments:

There were no ADA facilities inspected and/or altered as part of this Contract. The overall quality of workmanship was very good. The Administering Section will generate a minor punchlist.

Respectfully submitted by:

[Redacted]

DelDOT Office of Performance Management
Office of Performance Management
Final Inspection Comments Report
Contract No.: 18-30-0098, Fiscal Year: 2017
McGee Road Bridge Project
Group: Construction
March 12, 2018

General Comments:
There were areas in need of acceptable vegetative stabilization. This work must be completed prior to acceptance.
There were ADA facilities impacted and/or altered as part of this contract. The overall quality of workmanship was very good.

Respectfully submitted by:

[Signature]
Project Manager, Traffic Engineering
DelDOT

[Stamp]
TEMPORARY M.O.T.
IGNORE GPS
FOLLOW ROADWORK SIGNS

END CONSTRUCTION

ROAD CONSTRUCTION AHEAD

I'D TURN BACK IF I WAS YOU

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**712.07 Stone Riprap.** Riprap shall be placed in accordance with this Section, to the dimensions and at the locations shown on the Plans or as established by the Engineer.

The area for placement of the stone riprap shall be excavated to the required placement depth. The area shall be in a relatively smooth condition, free from large stone, vegetation, debris, and areas of soft material. Preparation of the area may include, but is not limited to, excavating, removing unsuitable material, backfilling, placing embankment, and clearing and grubbing.

The geotextile shall be placed on the prepared area in a loose and unstretched condition to minimize tearing and shifting. The adjacent edges of the fabric shall be joined with a lock-type or chain-type stitch folded seam or overlapped a minimum of 12" (305 mm), if permitted. The overlap direction shall be upstream over downstream and upslope over downslope. The fabric shall be anchored in place by securing pins or other acceptable methods. The fabric shall be covered as soon as possible so that it is not exposed for more than two weeks.
CURB

CHECK FLOW

E. Finishing,
1. Perform to a depth of 2 inches below the exposed surface elevations;
2. Use a wood or magnesium float to rub surface smooth;
3. Check the flow line of the gutter to ensure positive drainage
   a. Match vertical alignment with adjacent surfaces such as curbs and drainage inlets.
   b. Correct deviations in the flow line greater than 1/8 inch in 10 feet.
   c. Correct irregularities in grade or alignment of the front and back edges of the curb greater than 1/4 inch in 10 feet.
4. Round front and back edges in accordance with the Standard Construction Details;
5. Brush longitudinally along the surface
G. Joints.

1. Construct contraction joint by tool or saw cut at 10 foot intervals when concrete is sufficiently set.
   a. When curb is constructed adjacent to concrete pavement, align joints with joints in the pavement.
   b. When sidewalk is behind the curb, align all joints in the curb to coincide with joints in the sidewalk.
   c. When curb is placed adjacent to Portland Cement Concrete pavement the curb or pavement, form or tool to allow sealing as shown in the Standard Construction Details C-1 and P-2.

H. Removal of Forms and backfilling

1. Remove forms and backfill when concrete has hardened sufficiently;
2. Repair all defects
3. Remove and replace entire 10 foot finished section of cracked or damaged curb at the direction of the Engineer, at no cost to the Department.

701.04 Method of Measurement. The Engineer will measure Portland Cement Concrete Curb and Integral Portland Cement Concrete Curb as the number of linear feet measured along the linear face of acceptably installed and completed
Weak points
10' offset
702.04 Method of Measurement.

The quantity of Triangular Channelizing Island(s) will be measured as the number of square feet, from face of curb to face of curb, of Triangular Channelizing Island(s) installed and accepted.

Sidewalk Surface Detectable Warning System will be measured and paid for under Item No. 705007.

702.05 Basis of Payment.

The quantity of Triangular Channelizing Island(s) will be paid for at the Contract Unit Price per square foot. Price and payment constitutes full compensation for saw cutting bituminous pavement, saw cutting concrete full depth, removal and disposal of existing Materials, foundation preparation, furnishing and placing all Materials including GAB, concrete for curb and sidewalk, expansion joint Material, construction of curb ramps within the limits of the island, bituminous and/or P.C.C. pavement patching, furnishing and installing delineator(s) and for all labor, tools and materials necessary to complete the Work.

No additional payment will be made under other Contract Items for Work necessary to construct the island except Item No. 705007 - Sidewalk Surface Detectable Warning System.

Note: The curb and sidewalk components are not to be placed monolithically unless otherwise directed by the Plans or the Engineer.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
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<tbody>
<tr>
<td>702000</td>
<td>TRIANGULAR CHANNELIZING ISLANDS</td>
<td>SF</td>
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</table>

revised 12/28/2016: The quantity of Triangular Channelizing Island(s) will be paid for at the Contract Unit Price per square foot. Price and payment constitutes full compensation for saw cutting bituminous pavement, saw cutting concrete full depth, removal and disposal of existing Materials, foundation preparation, furnishing and placing all Materials including GAB, concrete for curb and sidewalk, expansion joint Material, construction of Pedestrian Connections within the limits of the island, bituminous and/or P.C.C. pavement patching, furnishing and installing delineator(s) and for all labor, tools and incidentals necessary to complete the Work.
HEADACHE

**NOTES:**

1. WHEN P.C.C. CURB OR INTEGRAL P.C.C. CURB AND GUTTER IS PLACED ADJACENT TO PORTLAND CEMENT CONCRETE PAVEMENT, CONSTRUCT THE JOINT AS PER THE LONGITUDINAL JOINT SEALANT DETAIL ON DETAIL P-2, SHEET 3. USE APPROVED JOINT FILLER TO SEAL. WORK TO BE PAID UNDER RESPECTIVE CURB AND GUTTER ITEM.

2. THE DEPRESSED CURB DIMENSIONS (INCLUDING 1" LIP) ON THIS SHEET ARE FOR USE AT ENTRANCES ONLY. FOR CURB DEPRESSIONS AT CURB RAMPS, SEE NOTE 3.

3. AT CURB RAMPS, DEPRESS CURB FLUSH WITH THE PAVEMENT (WITH NO LIP). SLOPE THE TOP OF THE CURB 8.3% OR FLATTER IN THE DIRECTION OF PEDESTRIAN TRAVEL.

4. DEPRESS CURB FLUSH WITH PAVEMENT OR ADJACENT AREA AT ALL CORNERS OF TRIANGULAR ISLANDS, TAPERING BACK TO FULL HEIGHT AT A RATE OF 4:1.

5. TAPER END OF CURB RUNS NOT PART OF AN ISLAND OR MEDIAN FLUSH WITH PAVEMENT OR ADJACENT AREA AT A RATE OF 12:1.

6. FOR SUBDIVISION APPLICATIONS, A MINIMUM OF 6" OF GABR IS REQUIRED.

<table>
<thead>
<tr>
<th>ROADWAY TRANSPORTATION</th>
<th>P.C.C. CURB</th>
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<tbody>
<tr>
<td>STANDARD NO.</td>
<td>C-1 (2017)</td>
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</table>
3.8.5.2 Drainage Design

Drainage conditions shall be considered when designing blended transitions or curb ramps to avoid or correct existing ponding conditions. When a blended transitions or curb ramp is adjacent to a drainage inlet where ponding occurs, and the ponding cannot be corrected by modifying the throat of the drainage inlet, the designer should pursue relocation of the PAR and/or drainage facilities.

Snapshot taken from Section 3.8.5.2 of the 2018 Pedestrian Accessibility Standards
Form removal  vs Monolithic pour?
Vertical Gaps

3.3.2 PAR Vertical Surface Discontinuities
Vertical surface discontinuities between adjacent surfaces shall be beveled where greater than ¼ inch. Vertical surface discontinuities between ¼ inch and ½ inch shall be beveled with a slope not steeper than 2H:1V (50.0%) as illustrated in Figure 3.3.2. Where a vertical difference of ½ inch or less is impracticable, the surface discontinuity shall be sloped no steeper than 12H:1V (8.3%). The transition between the depressed curb at a blended transition or ramp segment and gutter must meet the requirements of Section 3.8.7.8. Beveling shall be applied across the entire limits of the vertical surface discontinuity.

Figure 3.3.2 PAR Vertical Elevation Differences
Non-controlled construction joint creates a gap.
Maintenance issue without the curb

Horizontal Gap
evidence of ponding?  
Sidewalk elevation?
PEDESTRIAN IMPROVEMENTS
ADJUSTMENTS

3. Excavate and remove existing castings.
   a. Take care to not damage castings. Clean.
   b. Replace castings where specified.

4. If existing Structure is in good condition, frame and grate or manhole frame and cover
   a. Set forms for adjusting frame such that
   b. Placing frame on bricks, blocks or otherwise

5. If existing Structure is in poor condition, as
   a. Keep silt and debris away from Structure until Work is complete.
   b. Set frame as directed in Section 602.03.D.4.a.

6. Install steps on the back wall of drainage inlets or manholes as needed in accordance with Section 602.03.B.4.

7. Pour flow channel if specified in the Contract Documents and as directed by the Engineer.

8. Form drainage inlet or manhole top unit as shown in the Contract Documents or approved Working Drawings.

9. Place concrete in accordance with Section 610.03.E.
   a. Cure Concrete in accordance with Section 610.03.I.
   b. Remove forms in accordance to Section 610.03.K.

10. Backfill the area around drainage inlets and manholes in accordance with Section 602.03.B.7

11. Dispose of materials in accordance with Section 602.03.C.3.
VALUES vs mowers

Seal
Drainage Inlets
• Fill flush.
• Need positive drainage.
• Removal formwork.
Frame adjustments

Flush
2020 clarification in Spec and Detail
BRIDGE LOCATIONS
Settlement
STRUCTURES

Settlement or joints?
B. Furnish and Construct Drainage Inlets, Manholes and Junction Boxes:

1. Excavate to the required depth in accordance with Section 207.03. Compact the foundation upon which the concrete floor of the Structure is to be placed to a firm, even surface to the acceptance of the Engineer.

2. Place the Structure as shown in the Contract Documents. Use cast-in-place construction for drainage Structures that tie in to existing pipes and Structures unless otherwise specified in the Contract Documents or if the Engineer approves the use of precast Structures. Use precast Structures for all new construction unless otherwise specified in the Contract Documents or directed by the Engineer.
   a. Construct cast-in-place reinforced concrete Structures in accordance with Section 610.
   b. Construct precast reinforced concrete Structures in accordance with Section 612.
   c. Provide precast reinforced concrete round manhole riser sections and appurtenances in accordance with Section 612.

3. Set the frames of castings in concrete.

4. Install steps on the backwall for all drainage inlets and manholes, and junction boxes that utilize a removable top slab, as specified in the Contract Documents or are 4 feet or more in depth, measured from the top of grate or cover to the invert of the lowest pipe. Provide a minimum embedment of 3 inches in the wall and ensure that the steps protrude out 6 inches from the wall. Begin steps within 24 inches of the top of grate/lid and end steps no more than 12 inches above the lowest invert except where a pipe is in the backwall. Space steps vertically at 12 inch intervals.

5. Ensure inlet and outlet pipes are the same size and type as the connecting pipes shown in the Contract Documents and that pipes extend through the walls and are flush with the inside of the wall. When the end of a reinforced concrete pipe is cut off, ensure that the end is cut clean and smoothly finished with mortar so that no bar reinforcement remains exposed. Fill any space between the pipe and the walls of the drainage inlet with non-shrink grout conforming to the requirements of Section 1047, with a minimum strength of 5000 pounds per square inch. Ensure that the greatest dimension of the opening in the drainage inlet for the pipe is no greater than the outside pipe diameter plus 4 inches.

6. Pour flow channel.

7. Backfill the area around drainage inlets and manholes with Borrow Type C Material to the required elevation in accordance with Section 207. Approval is required prior to the placement of any backfill.
Honeycombing
2020 SPECIFICATION

2020
2” BELOW FINISH GRADE
SEE SOMETHING OUT OF THE NORM…
SAY SOMETHING
Standing Water

Remove Bag
REPAIRS & REPLACEMENT
Guardrail

GRADING

Maintenance Pavement Strip

2"
orientation

Voids

Removed post
Strap per end anchorage and manufacture detail

Direction

Maintenance Strip
Height?
2020 Leave out post

2020 curved guardrail
Post placement

Thru bolts and plate
JOINTS

Fill lift holes

PIPPES

PIPE CULVERTS

<table>
<thead>
<tr>
<th>k. Joint separations greater than manufacturer's recommendation or as follows (whichever is less):</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. 12-36 inch diameter Round</td>
</tr>
<tr>
<td>ii. 42 inch and larger diameter Round</td>
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<tr>
<td>iii. All Elliptical</td>
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Exposed Rebar
Flare support: Adding to 2020 details
N. *Surface Tolerances.* Maximum deviation both longitudinal and transverse is 1/4 inch in 10 feet. Correct or remove areas exceeding these tolerances at no expense to the Department.
401.15 Basis of Payment. The quantity of hot-mix, hot-laid bituminous concrete will be paid for at the Contract unit price per ton (metric ton). Price and payment will constitute full compensation for furnishing, preparing, hauling, and placing all materials, including asphalt for tack coat; for removing hot-mix bituminous concrete from around manholes, drainage inlets, valves, and similar features; for removing and replacing excess asphalt cement, as determined by the Engineer; for applying a fog coat; and for all labor, equipment, tools, and incidentals required to complete the work, including the correction of defective work.
porous bituminous concrete
Paving beyond the width limits

DAMAGE?
Discuss Paving limits
Drop offs at the edge of pavement
Pavement Safety Edge

2018

2020
**JOINTS**

**Seal**

**DELTAWARE DEPARTMENT OF TRANSPORTATION**

<table>
<thead>
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<th>BUTT JOINTS</th>
<th>APPROVED</th>
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<tr>
<td>STANDARD NO.</td>
<td>P-3 (2014)</td>
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<tr>
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<td>1 OF 1</td>
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<tr>
<td>RECOMMENDED</td>
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**NOTES**

1. SEAL THE MUDDLE OF THE OVERLAY TO ASSURE A SMOOTHER TRANSITION THROUGH THE BUTT JOINT.
2. CRACK SEAL THE JOINT BETWEEN THE BUTT JOINT AND THE EXISTING PAVEMENT.

**CONDITION**

- GREATER THAN X
- LESS THAN X
- EQUAL TO X

**SLOPE**

- FEET INCHES

2/16/2014

**SIGNATURE ON FILE**
PCC Pavement

**2018**

Sealant Detail:
- Transverse and Longitudinal Joint
- 0.3T (10" P.C.C. Pavement)
- 0.4T (12" P.C.C. Pavement)

**2020**

Sealant Detail:
- Transverse and Longitudinal Joint
- Updated to 1/4"

Top of Slab

Initial Saw Cut:
- 1/8" Minimum
- 3/8" Maximum

Backer Rod:
- Uncompressed Diameter = 5/8"

Note:
- See Note 10
- Hot-poured Joint Sealant

Update to 1/4"
STABILIZATION

Slit Fence was here
STRIPING

Remove Temporary

Black out
Missing Parts

Reflector
RUMBLE STRIPS
I saw the sign?

96. Signs should be located so that they:
   A. Are outside the clear zone unless placed on a breakaway or yielding support (see Section 2A.19),
   B. Optimize nighttime visibility,
   C. Minimize the effects of mud splatter and debris,
   D. Do not obscure each other,
   E. Do not obscure the sight distance to approaching vehicles on the major street for drivers who are stopped on minor-street approaches, and
   F. Are not hidden from view.

Snapshot taken from Section 2A.16 of the DEMUTCD
Are all the signs installed and per schedule?
Correct signs with size, placement, color...
SIGNAL POLES

Filling below the base.
2020: Place shroud or skirt

Grading.
LIGHT POLES

Grading
LOOKING AHEAD

- Technology
- Spec and Detail improvements
- Communication
THANK YOU

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