

**BIDDING AND CONTRACT DOCUMENTS  
FOR THE  
CITY OF RALEIGH, NORTH CAROLINA  
STORMWATER REHABILITATION PROEJCT**

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**ADDENDUM NO. 1**

**Date Issued:**

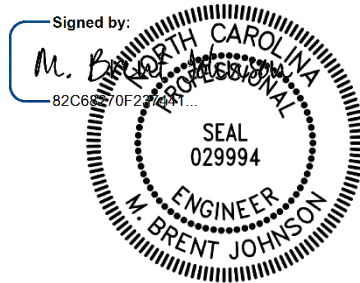
**February 7, 2025**

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Bidders on this Project are hereby notified that this Addendum shall be attached to and made a part of the above named Bidding and Contract Documents dated December 2024.

The following items are issued to add to, modify, and clarify the Bidding and Contract Documents. These items shall have full force and effect as the Bidding and Contract Documents, and cost involved shall be included in the bid prices. Bids, to be submitted on the specified bid date, shall conform with the additions and revisions listed herein.

Acknowledge receipt of the Addendum by inserting its number and date on specified page of the bid documents. Failure to do so may subject the bidder to disqualification.



2/7/2025

**BID OPENING INFORMATION:**

1. The bid opening remains at 10:00 AM, Wednesday 2/12/2025.

**IN THE SPECIFICATIONS:**

SECTION 00010 TABLE OF CONTENTS

1. Under Appendices ADD Worth Street and Bloodworth Street Memo of Findings below SharePoint Link to CCTV Inspection Videos and Reports

SECTION 00100 ADVERTISEMENT FOR BIDS

2. In sentence “Sealed Bids will be received until 10:00am, Wednesday 2/12/2025, at 2550 Operations Way, Room 208, Raleigh, NC 27604, at which time and place bids will be publicly opened and read aloud for construction of the Stormwater Rehabilitation project.” DELETE Room 208 and REPLACE with Room 232

SECTION 00200 INSTRUCTIONS TO BID

1. Under Article 15 - Submittal of Bid Section 15.03 DELETE One Exchange Plaza 7<sup>th</sup> Floor Rm 706 Raleigh, NC 27601 and REPLACE with 2550 Operations Way, Raleigh, NC 27604

SECTION 00410 BID FORM

1. Under Article 1 – Bid Recipient under In Person DELETE Room 208 and REPLACE with Room 232.
2. Under Article 1 – Bid Recipient under By Mail DELETE 1 Exchange Plaza, Suite 706 Raleigh, NC 27601 and REPLACE with 2550 Operations Way, Raleigh, NC 27604.
3. Under Article 5 – Basis of Bid Section 5.01 A.1. Line Item 17 in Description of Owner’s Contingency ADD “: 10% of the subtotal excluding mobilization”

SECTION 00520 AGREEMENT

1. DELETE 00502-X in footer and REPLACE with 00520-X for all pages in section

## SECTION 01 35 13 PROJECT SPECIFIC REQUIREMENTS

1. Under Drawings 1. ADD b. Survey and staking buffer is required for the watercourse buffer permit prior to completing work.
2. Under Drawings ADD the following:
  2. C-10
    - a. Contractor to coordinate with utility regarding removal of utility crossbore.

## SECTION 33 43 01 UV GRP Cured-in-Place Pipe

1. DELETE Section 3.09 B.3.

## APPENDICIES

1. ADD attached Worth Street and Bloodworth Street Memo of Findings

## **BIDDER QUESTIONS:**

Compiled questions received:

1. Question: UV CIPP spec section 33 43 01, paragraph 3.09.B.3 states “air testing shall be performed for CIPP lined sections 30” in diameter and smaller per ASTM F2019 paragraph 7.2.1.2.” Due to the size of these storm lines, pressure testing can become a safety concern. Industry standard is to simply provide a post-CIPP CCTV inspection to identify any potential issues with the installed liner. Would you please consider removing the pressure testing requirement on this project?

Answer: This requirement has been removed per this Addendum.

## **ATTACHMENTS:**

1. Pre-Bid Agenda
2. Pre-Bid Sign-In Sheet
3. Worth Street and Bloodworth Street Memo of Findings



## Pre-Bid Meeting

**Date: Tuesday January 28, 2025**

**Time: 1:00PM**

**Location: Transportation Field Services Facility  
2550 Operations Way, Raleigh, NC 27604**

### 1. INTRODUCTIONS:

Owner: City of Raleigh: Stormwater Management  
Project Manager: Claudia White, EIT

Consultant: CDM Smith  
Engineer: Brent Johnson, PE and Kara Gromicko

### 2. PURPOSE

The purpose of this meeting is to inform prospective bidders about the Project and allow bidders to ask questions regarding the Project. We will provide a brief overview of the project and will follow with a question & answer session. At that time, if you have a question related to the requirements of the project, please state your name, your organization, and your question.

Nothing during this meeting, as far as clarifications and/or answers is to be construed as an official answer. These questions will be discussed and/or clarified in Addenda and only then will the response be an official clarification and/or answer to your question.

### 3. PROJECT INFORMATION

This project consists of furnishing and installing complete, including labor, equipment, parts, materials, and other incidental work for the construction of the Stormwater Rehabilitation Project, Project No. SM-2023-022. Approximate quantities involved are as follows:

<b>Type of Work</b>	<b>Quantity</b>	<b>Units</b>
<b>12" Diameter UV Cured Glass Reinforced Pipe Lining</b>	<b>355</b>	<b>LF</b>
<b>15" Diameter UV Cured Glass Reinforced Pipe Lining</b>	<b>1,315</b>	<b>LF</b>
<b>18" Diameter UV Cured Glass Reinforced Pipe Lining</b>	<b>950</b>	<b>LF</b>
<b>36" Diameter UV Cured Glass Reinforced Pipe Lining</b>	<b>425</b>	<b>LF</b>
<b>42" Diameter UV Cured Glass Reinforced Pipe Lining</b>	<b>65</b>	<b>LF</b>
<b>48" Diameter UV Cured Glass Reinforced Pipe Lining</b>	<b>70</b>	<b>LF</b>
<b>54" Diameter UV Cured Glass Reinforced Pipe Lining</b>	<b>245</b>	<b>LF</b>
<b>Doghouse Junction Installation</b>	<b>3</b>	<b>EA</b>
<b>Custom Box Repair</b>	<b>2</b>	<b>EA</b>
<b>Pipe Invert Repair</b>	<b>25</b>	<b>CY</b>
<b>Extensive Grout Repairs</b>	<b>2</b>	<b>Box Culverts</b>
<b>Concrete slab tops with manhole frame and cover</b>	<b>3</b>	<b>EA</b>
<b>Removal of driveway and concrete curb installation</b>		<b>LS</b>

Bidding Documents may be viewed and ordered online by registering with Duncan Parnell via their bid room <https://bidroom.duncan-parnell.com/> . Registration with Duncan Parnell is required to obtain the bid documents and be added to the official Plan Holder's List. Addenda will only be notified to those buying full sets from Duncan Parnell via their bid room. The cost of bid documents and shipping is non-refundable. OWNER/ARCHITECT/ENGINEER will

NOT be responsible for copies of the bid documents obtained from sources other than from Duncan Parnell. If you need any assistance ordering or getting registered on <https://bidroom.duncan-parnell.com/> please contact: Michaela Bruinius at [onstech@duncan-parnell.com](mailto:onstech@duncan-parnell.com) or 704-526-1856.

Review Section 00200, Instructions to Bidders and Appendixes for permits, and CCTV Inspection Requests (I will send received email)

#### 4. CONTRACT TIME

##### Contract Time

Section 00520-3 Article 4

The Work will be substantially completed within 180 days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 210 days after the date when the Contract Times commence to run.

##### Adverse Weather:

Section 00700 4.05 C. and 00800 4.05

##### "5. Weather-Related Delays

a. Abnormal Weather Conditions as set forth in Paragraph 4.05.C.2 of the General Conditions are defined as the occurrence of one or more of the following conditions which prevents exterior construction activity or access to the site.

- 1) Rain or ice in excess of one tenth of an inch (0.10") liquid measure;
- 2) Temperatures that do not rise above 32 degrees Fahrenheit during the workday;
- 3) Accumulated snow in excess of one inch (1.00")"

"The Contractor shall include five (5) Abnormal Weather Condition days per month in his initial Construction Progress Schedule; no weather-related delay will be granted for these days. When the construction schedule includes partial month(s), the included days shall prorated based on the percentage of the month included in the schedule."

##### Engineering Expenses

Section 00800-SC-7.03.E

"If Contractor's Work requires inspection, as determined by the Owner, more than 10 hours in a work day or 40 hours in a work week, Monday through Friday excluding holidays, or on the weekends, Contractor shall submit a written request to the Owner five (5) working days

prior to the scheduled Work. Contractor shall pay for the Resident Project Representative's time beyond the above hours at the rate of \$75 / hour."

#### Liquidated Damages

Section 00520 Article 4 - 4.03: Page 00520-3 and 4

1. Substantial Completion: Contractor shall pay Owner \$300 for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete.

2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times or any proper extension thereof granted by Owner, Contractor shall pay Owner \$500 for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment."

#### **5. MWBE**

The City of Raleigh MWBE requirements for projects is in Section 00440 of the Bid Documents. A representative from our MWBE office can talk more about the requirements and answer any questions.

City has an aspirational goal of 15% of the total contract amount to be performed by MWBE businesses for construction and building projects of \$300,000 or more and construction and building projects of \$100,000 or more that have state funding.

The failure to submit a properly executed Affidavit A or Affidavit B with a bid will render the bid non-responsive and bid will not be considered for award.

#### **6. BIDDING**

The Bidder is advised to read the bid documents thoroughly so the submitted bid will be complete and responsive. Section 00200 included INSTRUCTIONS TO BIDDERS. Section 00409 is the Bidders Checklist. Section 00410 is Bid Form.

Bid Form – Owner's Contingency – 10% of the Subtotal excluding Mobilization.

#### **7. TRIMBLE UNITY CONSTRUCT – E-BUILDER**

Contractor will be required to use Trimble unity construct for payment applications and review of daily reports.

#### **8. SPECIAL CONSTRUCTION REQUIREMENTS**

Plans and Technical Specification Division 01 Section 01 35 13 include requirements/specifications unique to this job that are outside of the City of Raleigh Standard Stormwater Technical Project Specifications. Please review section for full list of requirements.

Jones Street

- Night work required.

E Martin Street

- Night work required.
- E Martin Street site will require coordination with utility company outside of City contract on cross bore. Amanda Phyfer will facilitate coordination.

Burgess

- Work to fall under NWP3 and NC DEQ GC4239 conditions.
- Stream diversion as needed to complete rehabilitation.

**9. ADDENDA**

Only addenda can amend the bid documents.

**10. BIDS**

Sealed Bids will be received until 2/12/2025 at 10:00AM, Wednesday at 2550 Operations Way, Room 232, Raleigh, NC 27604, at which time and place bids will be publicly opened and read aloud. Addendum will update room location. Mailing location will be updated to Transportation Field Services facility address: 2550 Operations Way, Raleigh, NC 27604

Two Envelope system required. Bid Security and Contractor’s License Number must be present in envelope before bid is opened.

For a bid to be properly evaluated it must be responsive and responsible. All sections of the bid must be properly completed.

**11. GENERAL DISCUSSION AND QUESTIONS**

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**12. COMMENTS FROM OWNER, ENGINEER, AND OTHERS**

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**13. ADJORN**

If you have not signed the Prebid Attendance Sheet, please do so before leaving. On behalf of the City of Raleigh, thank you for your interest in this important project.

**14. OPTIONAL SITE VISIT**







## Technical Memorandum



*To: City of Raleigh, Stormwater*

*From: Ned Mueller, PE, CDM Smith*

*Date: July 24, 2024 (updated October 12, 2024)*

*Subject: Assessment of 96-in Junction Box Below SW Worth Street*

### 1.0 Introduction

As part of the Phase 1 Rehab project, City noted that there was exposed steel in the top slab of the junction box below SW Worth Street. As there are no record drawings available and heavy corrosion and spalling was observed, it was determined that it would be prudent to perform a cursory visual inspection by a Structural Engineer. The exact age of the junction box is not known, but it was estimated by City staff as potentially as old as 80 or 90 years. In addition, it was unclear whether there was a bottom to the box or whether it was built over a stream bed with only walls and top and confirmation needed for rehab recommendations.

### 2.0 Inspection Summary

CDM Smith conducted a condition assessment of the interior of the junction box on June 14, 2024. City of Raleigh staff were onsite to serve as attendants for the confined space entry. In addition to the junction box directly below SW Worth St, the 96-inch diameter reinforced concrete pipe and adjacent junction boxes were observed to determine if the conditions present were consistent with the nearby areas. This included a similar junction box presumably below S Bloodworth St. The construction and age of this structure appear to be similar to the Worth St box. A general diagram as provided of the main areas inspected and referenced in this memorandum (Figure 1). Section 3.0 of this memo describes findings and recommendations for the Worth Street Box. Section 4.0 of this memo describes findings and recommendations for the S. Bloodworth St Box.

### 3.0 Inspection Findings and Recommendations – Worth Street Box

The Worth St structure appears to be constructed of mixed materials. From what could be observed, it seems that the walls of the box are actually constructed of stone, masonry, and/or large concrete sections fitted together and covered with a cementitious mortar coat, often referred to as a “parge” coat (**Figure 2**). The parge coat was thickly applied to form a relatively flat wall surface, but the substrate is visible in various locations. At one location, what looks like a repair of a vertical crack in the box wall was observed (**Figure 3**). The end of the junction box was measured to be approximately 13 feet from the edge each of the storm drain openings on the North and the South end. No settlement, lateral movement, or significant cracking in the walls were identified that would suggest oversteering or failure in the Worth St box.



Figure 1. Aerial layout of Inspected Area.

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There appears to be no floor slab or cast footing in the bottom of the box, with an uneven layer of rock/riprap serving as the bottom (**Figure 4**). Due to the standing water in the box, it was not possible to verify that the base of the wall was not exposed. Even so, it does appear that the riprap is adequately covering the base of the walls at the time of inspection.

The end walls where the RCP ties into the box are constructed of a combination of reinforced concrete and masonry block. The end walls appeared to be relatively new and in good condition compared to the junction boxes.

The main top slab of the box appears to be concrete with encased steel shapes. They are most likely hot rolled I-beams or rails, but due to corrosion and concrete encasement the type of member was not able to be verified or exclude the possibility of either channels or tees. . The overall thickness of the top slab was not able to be determined, but there was roughly 3 to 4 inches of thickness at the recessed circular opening in the base of the storm drain inlet. It should be noted that prior evaluations of the Worth St box by Raleigh Water and CDM Smith as part of a water main replacement project estimated the top slab thickness as 5-6 inches thick and this seems consistent with what was observed.

The encased steel beams are roughly spaced 2 feet on center. In the locations where the steel members are exposed, they are significantly corroded. No sagging or cracking was observed in the top slab, but there were areas where there was significant spalling around and between the beams. A large percentage of the members were exposed, and it was clear that there was substantial section loss of the steel and the concrete surface (**Figure 5 and 6**). Since the original dimensions of the steel beams is unknown, it is impossible to determine how much section loss has taken place. Based on the less progressed degradation of the top slab in the Bloodworth box, it seems likely that the steel was too close to the concrete surface and began to corrode. This corrosion resulted in expansion that cracked and spalled the concrete. This cycle continued as more of the steel was exposed and resulted in the widespread degradation currently seen. It is possible that the steel members were used as left in place support for forming and concrete placement, but it seems more likely that they were intended as structural support for the top slab to span between the walls. The fact that no reinforcement was observed in the heavily spalled areas at least indicates that there is no reinforcement in approximately the bottom 2 inches. It is still possible that there is rebar in the top half of the slab, but there is no way to confirm that without destructive testing. As a result, it was assumed that the steel members are part of the structural system. A ductile iron pipe was noted embedded in the top slab of the Worth St box. There was a gap around the pipe and what appears to be wood beams, likely used for forming and left in place, were visible (**Figure 7**).

Based on the appearance of the concrete, it does seem likely to be relatively old. When compared to the newer concrete placed at the interface between the junction box and the new RCP end wall (**Figure 8**), it is clear that the top slab concrete has larger aggregate and less uniformity than modern concrete.

## **Recommendations – Worth Street Box**

Based on the present conditions, no signs of imminent structural distress or failure were observed. However, there is a longer-term concern about the safety of the top slab on the Worth St junction box if degradation continues. Since several factors such as the age, slab thickness, concrete strength, and size of steel members cannot be easily verified, it is not possible at this time to determine the original structural strength and remaining useful life of the system. This provides the City with three possible options going forward.

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Option 1 is that the City proceed with Phase 1 I/I remediation in the near term. This would involve using a cementitious coating to line the existing drop inlets, pipe connections, and any other areas or defects that are allowing I/I to enter the stormwater system. While this does not add structural strength to the box culvert, it will prevent future sink holes and loss of soil support adjacent to the structure.

Option 2 is to perform a more detailed structural investigation to verify slab thickness measurements, take cores to verify concrete strength, confirm the grade and dimensions of the steel members, and assess how well the base of the walls are supported. This would inform us if the stormwater system requires replacement or if rehabilitation of the existing structure is viable. Rehabilitation of the existing structure would likely include removal of any loose concrete and corroded steel from the top slab. A rust inhibitor would be applied to the exposed steel to help prevent future corrosion. Lastly, a spray or trowel applied grout would be placed to build back the thickness of the top slab and cover the steel members, so they are not exposed to the elements. Other structural modifications that may be required during the rehabilitation effort would be to add supplemental reinforcement or concrete to the existing structure.

Option 3 would be similar to Option 1 with the addition of some smaller remediation measures. A rust inhibitor would be applied to the exposed steel to help stop corrosion and the concrete spalling it leads to. Non-shrink grout could be used to fill any large voids (such as the exposed pipe shown in Figure 7) to help create a more uniform surface for the proposed cementitious lining. This will aid in stabilizing and sealing off areas that may not be easily lined. This coating and any grout fill would be applied prior to the already proposed cementitious coating that will line the interior of the box as part of the I/I remediation. While this will not act as a permanent fix to the existing conditions, it should be adequate to keep conditions from deteriorating further and extend the useful life of the existing system.

***Update***

*Based on the feedback from the City, it seems that this temporary repair is the most prudent course of action to ensure that the life of the existing system is extended until a full rehab or replacement is considered in the future.*

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**Figure 2. Typical Masonry Wall for Worth Box. Encased Steel Beams in Top ab visible above.**



**Figure 3. Repaired crack in box wall. No evidence of leaking or continued movement were observed.**



**Figure 4. Interior view of Worth St box showing floor, walls, and top slab.**



**Figure 5. View of degradation on bottom of top slab at end of Worth St box.**



**Figure 6. Visible steel corrosion and section loss of concrete between beams.**



**Figure 7. Embedded DIP in top slab of Worth St box with visible wood.**



**Figure 8. Comparison of original top slab concrete and the more recently placed concrete for the RCP end wall interface.**

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## 4.0 Inspection Findings and Recommendations – S Bloodworth Street Box

The S Bloodworth Street structure was not part of the scope of work; however, a prudent inspection will also check structures in the vicinity as a comparison to the structure in question both in terms of level of degradation and structural similarities/thicknesses.

The Bloodworth St Box appeared to be extremely similar to the one at SW Worth St. The walls consisted of an unknown masonry covered with a parge coat and the riprap stream bed forming the floor. A slight difference would be that the bottom flange of the steel members in the roof slab appear to have been fully encased in concrete as opposed to the bottom flange being flush with the bottom face of the concrete slab. This may be a contributing factor to why there is less degradation of the top slab than at Worth Street (Figure 9 and 10). The amount of corrosion and spalling was much more significant in the Worth St box than the Bloodworth Street box. Even though the top slab was noted to be in better condition at this box, some notable condition issues were noted at the time of the inspection. Two full-length vertical cracks were observed in the wall of the Bloodworth junction box that could possibly be related to the gaps below the wall causing stress on the structure or settlement (**Figure 11**).

In the Bloodworth junction box, there was at least one location where there was a significant void below the wall (**Figure 12**). The streambed of this box varied more in elevation and looks to potentially be experiencing mild scour. It is also possible that these gaps below the wall are allowing for infiltration or erosion behind the wall.

A cutout in the Bloodworth box appeared to show roughly a 5- to 6-inch-thick slab at that location, which is consistent with the estimated thickness of the box at Worth Street (**Figure 13**).

Another issue observed in the Bloodworth St junction box, was exposed rebar at the closures between the RCP end walls and the top slab of the box. At the one end, it appears that some of the reinforcement is not properly spliced or tied and was pushed downward during concrete placement (**Figure 14**). The other end seems to have continuous reinforcement, but the bars were either set too low or not enough concrete was placed to fill in below the bars (**Figure 15**).

### Recommendations – S Bloodworth St Box

Based on the observed conditions, CDM Smith recommends adding the Bloodworth Street Box to the Phase 1 rehab project specifically to fill in the voids at the base of the walls.

The ground above and around the box should be briefly inspected to assess whether any settlement or erosion is taking place that would indicate infiltration or settlement associated with the voids at the base of the walls. Even if it does not appear that settlement is taking place, the voids below the walls of the box should be remediated to prevent these issues from developing in the future. There are two main approaches that could be taken.

The first option would be filling and sealing the locations where there are currently large voids and erosion is taking place. The most likely method for filling the voids would be pumped grout with formwork. This should be done to not only fill the voided area directly below the walls, but also any that are present on the other side of the wall that erosion may have caused. The placement of grout to seal up the area at the base of the wall and stream bed should help stabilize the wall and stop any additional erosion at these locations.

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The second option would include placement of a new concrete base slab for the bottom of the box to seal off the entire stream bed and the bottom of the walls where infiltration and erosion is taking place. This would help counteract the possibility of the infiltration and erosion just migrating to other portions of the wall that are not sealed up in the future.

Additionally, the exposed steel and reinforcement should be addressed similarly to the box at Worth Street. A rust inhibitor would be applied to the exposed steel to help stop corrosion and the concrete spalling it leads to. Non-shrink grout could be used to fill any large voids (such as the exposed reinforcement shown in Figure 15) to help create a more uniform surface for the proposed cementitious lining. This will aid in stabilizing and sealing off areas that may not be easily lined. This coating and any grout fill would be applied prior to the already proposed cementitious coating that will line the interior of the box as part of the I/I remediation. While this will not act as a permanent fix to the existing conditions, it should be adequate to keep conditions from deteriorating further and extend the useful life of the existing system.

### ***Update***

*Raleigh Stormwater observed sink holes developing in the areas around the Bloodworth box and performed dye testing that confirmed infiltration was entering the box at 3 locations that likely lead to the erosion/soil loss observed at the surface near the box. These specific locations should also be filled and sealed in addition to the recommendations above, regardless of which rehabilitation option is selected.*



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**Figure 9. Partially exposed steel beams in Bloodworth junction box top slab & showing better condition of top slab compared to Worth St**



**Figure 10. Partially exposed steel beams in Bloodworth junction box top slab & showing better condition of top slab compared to Worth St**



**Figure 11. Unrepaired vertical cracks in wall of Bloodworth junction box**



**Figure 12. Noticeable void below the wall of Bloodworth junction box wall.**



**Figure 13. Opening in top slab of Bloodworth box**



**Figure 14. Exposed, unspliced reinforcement at one end of Bloodworth St junction box at transition of original top slab to newer RCP end wall.**



**Figure 15. Exposed reinforcement at one end of Bloodworth St junction box at transition of original top slab to newer RCP end wall.**