SUBJECT: **RFQ FOR DESIGN-BUILD SVCS FOR HORIZONTAL/CIVIL ENGINEERING PROJECTS**

BID # **CDB-0006-16** OPEN DATE: **10/21/2015**

COMPETITIVE SEALED PROPOSAL EVALUATION COMMITTEE

KIND AND BASIS OF CONTRACT:
CONSTRUCTION – DESIGN/BUILD

AGENCY: **DEPARTMENT OF PUBLIC WORKS**

BASIS OF AWARD: **QUALIFICATIONS BASED**

NUMBER OF BIDS INVITED: - NUMBER RECEIVED: - OTHER: -

SUMMARY OF BIDS AND RECOMMENDED ACTIONS:

The Department of Public Works has completed negotiations with J.B. Coxwell Contracting, Inc., for the Collins Road Bridge Repairs project in accordance with subject bid.

Recommend approval of award to J. B. Coxwell Contracting, Inc., to provide surveying, geotechnical, environmental, bridge hydraulic report analysis and 60% design services. Guaranteed Maximum Price in the amount of $251,924.46, per attached Scope & Fee Summary "Exhibit M-1" and allowing for the completion of work within 225 days from notice to proceed.

Funding for this project to be executed by Amendment 11A for contract # 6533-54 and encumbered by account: PWCP32ERD549-069505-PW0381-02

Attachments: Recommendation Memo, Exhibit "M-1", Previous Award(s)

BUYER Marilyn Laidler
MARILYN LAIDLER

RESPECTFULLY SUBMITTED
GREGORY PEASE, CHIEF
PROCUREMENT DIVISION

CONCURRENCE BY: **William J. Joyce, P.E., Director of Operations, Public Works Department**

(ALL AWARD ACTIONS SUBJECT TO LAWFULLY APPROPRIATED FUNDS)
ACTION OF CSPEC COMMITTEE ON RECOMMENDATIONS ABOVE

MEMBERS APPROVING_____ MEMBERS DISAPPROVING_____ DATE:_____

_____ _____ OTHER_____

_____ _____

_____ _____

_____ _____

_____ _____

ACTION OF AWARDING AUTHORITY DATE _____

APPROVED_____ DISAPPROVED: _____

OTHER: _____

SIGNATURE OF AUTHENTICATION _____

ONE CITY. ONE JACKSONVILLE.

City of Jacksonville, Florida

Lenny Curry, Mayor

Department of Public Works
Engineering & Construction Management Division
214 N. Hogan Street, 10th Floor
Jacksonville, FL 32202
(904) 255-8762
www.coj.net

May 24, 2018

TO: Gregory W. Pease
Chief of Procurement

THRU: John P. Pappas, P.E.
Director

FROM: William J. Joyce, PE
Director of Operations

SUBJECT: CDB-0006-16 – Design-Build Services - Horizontal & Civil Engineering – Collins Road Bridge Repairs AMENDMENT 11A

Based on the design criteria package, the Department of Public Works, in accordance with Design/Build CDB-0006-16, Contract 6533-54, has completed negotiations with J. B. Coxwell Contracting, Inc., to provide surveying, geotechnical, environmental, bridge hydraulic report analysis and 60% design services for the proposed Collins Road Bridge #724308 repairs. Negotiations have resulted in the GMP amount of $251,924.46 as indicated on the attached Scope & Fee Summary, Exhibit M-1 and allowing for the completion of the work within 225 days from notice to proceed.

Accordingly, this is to recommend that Contract No #6533-54, originally executed May 2, 2016, between the City and J. B. Coxwell Contracting, Inc. for Design-Build Services- Horizontal & Civil Engineering, be amended to incorporate the attached Scope and Fee Summary, Exhibit M-1 for Collins Road Bridge Repairs for the GMP amount of $251,924.46, known as Amendment 11A.

To be encumbered as follows:

PWCP32ERD549-069505-PW0381-02	$251,924.46
TOTAL	$251,924.46

TF/lw

Attachment: Exhibit M-1

ab

EXHIBIT M-1

Gary, we have staff immediately available to begin this work upon your notice-to-proceed. We are again very appreciative of the opportunity to provide you with our design-build services. Should you have any questions or need any further information, please do not hesitate to contact us. We are also available to review and discuss this proposal with you and/or others at your convenience.

Regards,

J.B. Coxwell Contracting, Inc.

Jayson Smith

Jayson Smith, CHMM
Design-Build Manager

Cc: Eddie K. Greene, Vice President of Operations
J.B. Coxwell Contracting, Inc.

Chris C. Blank, Vice President of Operations
J.B. Coxwell Contracting, Inc.

Kevin R. Leadbetter, PE, Vice President
GAI Consultants, Inc.

Nicholas E. Mousa, AICP, Director, Florida Market Initiatives
GAI Consultants, Inc.

Exhibit A
JBCCI Contract Fee Summary For
Pre-Construction & 60% Design for Collins Road Bridge # 724308 Repairs

PART I - GENERAL

1. Project Design-Build Construction Delivery for City of Jacksonville Preconstruction & 60% Design for Collins Road Bridge #724308 Repairs	**2. City Contract Number** 6533-54
3. Name of Design-Builder J.B. Coxwell Contracting, Inc.	**4. Date of Proposal** 5/17/2018

PART II - LABOR RELATED COSTS

5. DIRECT LABOR **Pre-Construction Services**	Hourly Rate	Estimated Hours	Estimated Cost	TOTAL
Project Director	$ 105 00	8	$ 840 00	
Project Manager	$ 57.50	48	$ 2,760 00	
Project Estimator	$ 52 00	40	2,080 00	
Project Administrator	$ 30.00	10	$ 300 00	
			TOTAL DIRECT LABOR	$ 5,980 00
6. OVERHEAD (Combined Fringe Benefits & Administrative) Overhead Rate 54 46%				$ 3,256.71
7. TOTAL LUMP SUM LABOR FEE : Labor + Overhead (Items 5 & 6)				$ 9,236.71

PART III - OTHER COSTS

8. MISCELLANEOUS DIRECT COSTS Reproductions, Courier Service, Postage, Express Delivery, and other Misc Direct Costs	$ 500 00 $ -
MISCELLANEOUS DIRECT COSTS SUB-TOTAL	$ 500.00
9. COST OF THE WORK GAI Consultants, Inc.	$ 220,170 68
	$ -
Project Contingency	$ -
COST OF THE WORK SUB-TOTAL	$ 220,170.68
10. BONDING (1%)	$ -
11. Design-Builder's Fee (10%)	$ 22,017.07

PART IV - FEE SUMMARY

TOTAL - LUMP SUM FEE (Items 7, 8, 9,10 and 11)	$ 251,924.46

EXHIBIT M-1

gai consultants
transforming ideas into reality

May 16, 2018

Jayson Smith
Design-Build Manager
J.B. Coxwell Contracting, Inc.
6741 Lloyd Road West
Jacksonville, Florida 32254

Re: Fee Proposal for 60% Design of Collins Road Bridge Repairs
Design-Build Construction Delivery for the City of Jacksonville
RFQ CDB-0006-16/City Contract No. 6533-54

Dear Mr. Smith:

In accordance with the terms and conditions of our master agreement for professional services dated 06-07-16, **GAI Consultants, Inc., (GAI)**, is providing you with this proposal for the above referenced project.

Project Understanding and Scope of Services

GAI is in receipt of a Design Criteria Package (DCP) issued by the City of Jacksonville dated April 23, 2018 for the subject project. The scope of the work is generally described as providing for 60% design and related services for various repairs to the Collins Road Bridge such as installation of crutch bents, approach slab repairs, channel stabilization, etc. The full details of the proposed repairs that served as the basis for this proposal are per the DCP, which is attached to this proposal for reference.

Based on the above, GAI proposes the following scope of services.

1. Obtain geotechnical data as outlined in the attached Meskel & Associates Engineering, PLLC proposal.
2. Perform environmental services as outlined in the attached Environmental Services Inc. proposal.
3. Obtain survey data necessary to support the 60% design effort.
4. Perform the necessary Bridge Hydraulic Report required for the 60% design effort.
5. GAI will develop 60% design documents for this project so that they are suitable for construction pricing by J.B. Coxwell Contracting, Inc.

Finally, GAI's scope of work will entail managing the project during the 60% design phase, attending project design review meetings, providing quality assurance and quality control during and at the completion of the 60% design phase, documenting meeting results and directives as issued by the City, schedule evaluations, and budgetary controls.

Items <u>not</u> included in this scope of services:

1. Final Design
2. Post Design
3. All Permitting
4. Wetland Mitigation Fees.
5. Landscape Design
6. Hardscape Design
7. Tree Mitigation or Mitigation Fees
8. Irrigation Design.
9. Any other design services not specifically itemized herein.

EXHIBIT M-1

gai consultants
transforming ideas into reality.

If you have any questions, please do not hesitate to give us a call.

Regards,

GAI CONSULTANTS, INC.

Kevin R. Leadbetter, P.E.
Vice President

Attachments: GAI Fee Summary dated May 16, 2018
Design Criteria Package dated April 23, 2018
Environmental Services Inc. Proposal dated May 11, 2018
Meskel & Associates Engineering, PLLC dated May 14, 2018

Exhibit A - Page 1 of 1
CONTRACT FEE SUMMARY FOR
Collins Road Bridge Repair 60% Design Services

PART I - GENERAL	
1. Project - D/B Construction Delivery for COJ Collins Road Bridge 60%	**2. Project Number** CDB-0006-16
3. Name of Consultant GAI Consultants, Inc.	**4. Date of Proposal** 5/16/2018

PART II - LABOR RELATED COSTS				
5. DIRECT LABOR	Hourly Rate	Estimated Hours	Estimated Cost	TOTAL
Principal	$ 104.30	2	$ 208.60	
Project Manager (Responsible Prof.)	$ 84.59	140	$ 11,842.60	
Senior Project Engineer	$ 64.49	198	$ 12,769.02	
Project Engineer	$ 49.14	139	$ 6,830.46	
Engineer Intern	$ 34.38	97	$ 3,334.86	
Senior Designer	$ 37.95	79	$ 2,998.05	
Designer/Sr. CADD Technician	$ 28.43	110	$ 3,127.30	
CADD Technician	$ 25.14	77	$ 1,935.78	
Clerical	$ 19.91	4	$ 79.64	
Survey Manager (PSM)	$ 58.62	10	$ 586.20	
Three Man Survey Crew	$ 79.04	64	$ 5,058.56	
			TOTAL DIRECT LABOR	**$ 48,771.07**
6. OVERHEAD (Combined Fringe Benefits & Administrative) Overhead Rate 173.58%				$ 84,656.82
7. SUBTOTAL: Labor + Overhead (Items 5 & 6)				**$ 133,427.89**
8. PROFIT: Labor Related Costs (Item 7)			x 10%	$ 13,342.79
			SUB-TOTAL SALARY RELATED COSTS	**$ 146,770.68**

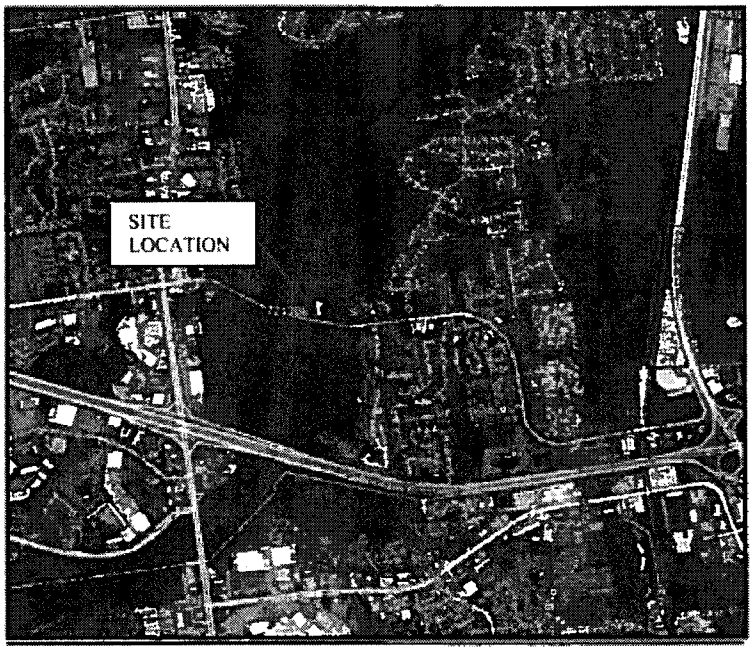
PART III - OTHER COSTS	
9. MISCELLANEOUS DIRECT COSTS	
Misc. Direct Expenses (Lump Sum)	$ 500.00
MISCELLANEOUS DIRECT COSTS SUB-TOTAL	**$ 1,000.00**
10. SUBCONTRACTS (Allowance)	
Environmental Services Inc.	$ 16,400.00
FR Aleman (Allowance)	$ 5,000.00
MAE	$ 51,000.00
SUB-CONTRACT SUB-TOTAL	**$ 72,400.00**
PART IV - SUMMARY	
TOTAL LUMP SUM AMOUNT (Items 5, 6, 8, 9 and 10)	**$ 220,170.68**

REQUEST FOR PROPOSALS

FOR

DESIGN & CONSTRUCTION OF

APPROACH SLAB REPAIRS, BRIDGE REPAIRS, & CHANNEL STABILIZATION FOR BRIDGE #724308 ON COLLINS ROAD



DESIGN – BUILD CONSTRUCTION DELIVERY METHOD

CITY / COUNTY WIDE CONSTRUCTION IMPROVEMENT PROJECTS

RFQ-CDB-0006-16

DESIGN CRITERIA PACKAGE

PROCUREMENT DIVISION

DEPARTMENT OF PUBLIC WORKS
RELEASE DATE: April 23, 2018

PREPARED BY ENGINEERING & CONSTRUCTION MANAGEMENT DIVISION

CITY OF JACKSONVILLE, FLORIDA

APPROACH SLAB REPLACEMENTS ON BRIDGE 724308 ON COLLINS ROAD

RFQ-CDB–0006-16

RELEASE DATE – April 23, 2018

1. INTRODUCTION AND LOCATION:

This Design Criteria Package (DCP) specifies performance-based criteria for the design and construction of replacement of the two approach slabs on Bridge #724308 on Collins Road between the intersections of Collins Road with Blanding Blvd and Roosevelt Blvd. The extent of the work shall follow those outlined within the sketch provided in Appendix A. There is also a copy of the FDOT Significant Deficiency Advisory in Appendix B. Following Hurricanes Matthew and Irma, the City contracted with RS&H to perform channel depth measurements at the City owned bridges to determine if any erosion had occurred due to storm flows. The results of the site visits and their recommendations are provided in Appendix C. The purpose of this DCP is to furnish sufficient information to allow a Design Build Firm to prepare a response to the City's request for proposal (RFP) and to permit the City to enter into scope and fees negotiations for an amendment to design build City Contract No. 6533-54.

The City right-of-way maps and any existing easements will be available upon request.

2. GENERAL:

The Design-Build firm is responsible for design, permitting, and construction as described in Section 4 of the RFQ CDB-0006-16. The Design Build Firm shall prepare and submit a Fee Proposal for the 60% design within twenty one (21) calendar days from the release date of the DCP. **Therefore, the Fee Proposal shall be submitted no later than 5:00 P.M. on May 14, 2018 to Gary Goldsberry, P.E., at 214 N. Hogan Street, Ed Ball Building, 10th Floor, Jacksonville, Florida 32202.**

The Design Builder shall request a meeting (if needed) to discuss items pertaining to the proposed work within one week of the DCP issuance date. The Fee Proposal must include the proposed schedule for the tasks being performed up to and including the submittal of the final documents.

The provisions of the DCP represent the technical, material, and quality requirements for the foregoing project. The Design Build Firm is bound by these requirements for the duration of the project.

With the Fee Proposal J.B. Coxwell Contracting, Inc. shall provide the Guaranteed Maximum Price (GMP) and the Guaranteed Completion Date (GCD) for the 60% design. No more than one week after receiving the approved 60% design from J.B. Coxwell Contracting, Inc., the City shall commence negotiations to reach an agreement on terms of the GMP & GCD for the 100% design, permitting and construction of the right turn lane.

A DCP amendment for the design and construction plans and for the construction of the proposed work may be issued at the City's initiative or at the request of the Design Build Firm, upon the approval by the City Engineer, if the amendment is in the best interest of the City.

The Design Criteria Professional (Gary Goldsberry, P.E.) may amend the provisions of the Design Criteria Package after it has been released to the Design Build Firm, but before the expiration of the 21-day period designated for submittal of the Fee Proposal.

3. SCOPE OF WORK:

The Design Build Firm shall deliver their Fee Proposal for 60% design of the bridge approach slabs, guardrail replacement to current FDOT Standards, and channel scour mitigation at Bridge #724308 on Collins Road based on this DCP. The resulting plans and specifications shall include all the information needed for the City to move forward with a separate scope and fees negotiations for 100% construction completion.

The work associated with this project includes:

- The DBF shall contact Sunshine State One-Call of Florida for underground utility locates. (60%)
- The DBF shall coordinate with utilities for conflict resolution. (60%)
- The DBF shall review City provided documents and request additional as necessary. (60%)
- The DBF shall provide surveying and geotechnical information sufficient to prepare 60% plans and specifications, provide bridge approach slab and any necessary roadway profile modifications, Maintenance of Traffic plan, proposed guardrail replacement to current FDOT Standards, provide a bridge hydraulics report, perform channel scour mitigation design, and perform crutch bent design. (60%)
- The DBF shall provide a final geotechnical report, construction drawings, specifications, approach slabs design, roadway modifications, channel reshaping/armoring scour mitigation design, guardrail replacement design, and crutch bent design. (100%)
- Clean and seal the bridge joints. (100%)
- Repair undermining along approach sidewalks. (100%)
- Provide support for the utilities at northeast and northwest wingwalls. (100%)
- Remove all drift and debris from the channel. (100%)
- Repair areas of erosion and undermining behind the northwest, northeast, and southeast wingwalls. (100%)
- Clean and paint steel backwalls and wingwalls. (100%)
- Repair spall in the bottom southeast corner of Abutment 5 cap. (100%)
- Remove tree from under southeast corner of Abutment 5 cap. (100%)
- Install crutch bents as indicated in the FDOT Phase IV scour report. (See Appendix B) (100%)
- The DBF shall apply for, and pursue to approval, all permits and reviews that will be required for the full and final construction of the replacement approach slabs, guardrailing, and channel reshaping/armoring. (100%)
- All other work required to complete the construction in accordance with the DCP and resulting design. (100%)

The Design Build Firm shall be responsible to comply with the City and FDOT current standards.

4. PERMITS:

The DBF is responsible for applying for and obtaining all permits approvals required from the City and various agencies to perform the work associated with completion of this project per the RFQ CDB-0006-16. The 10-Set submittal shall be submitted at the 90% completion level of detail.

The DBF shall apply on behalf of the City, pay required application and permit fees and secure all approvals and permits from the City and the State regulatory agencies as required by law. Specifically, permits and approvals may be required from, but not limited to, the St Johns River Water Management District, the Florida Department of Environmental Protection, US Army Corps of Engineers, the City 10-set review and any others as may be required for this project. The City will be given copies of the permit application documents and comment responses for all permits applied for.

In addition, the Design Build Firm shall coordinate with all applicable utility companies as required and pay all applicable fees. A limited list of utilities that may be within the construction area are provided in RFQ CDB-0006-16 along with their contact information.

The DBF shall provide the Design Criteria Professional the review and approval of all reports, plans and specifications at the 60%, 10-set submittal, and 100% project development phases. At each of these phases, the DBF shall provide the Design Criteria Professional with two sets of drawings, specifications and engineering calculations.

The DBF shall provide the Design Criteria Professional with five (5) sets of signed and sealed final plans, specifications, work schedule, and engineering calculations prior to the Preconstruction Conference and the issuance of the Notice to Proceed. In addition, at the same time the DBF shall provide the Design Criteria Professional with the final documents consisting of two (2) copies of CDs with the electronic version of all contract documents (drawings (PDFs and AutoCAD format files), specifications (PDFs), engineering calculations (PDFs), permits and approvals (PDFs), and as-built drawings (PDFs and AutoCAD ver.16 or later format files)).

END OF THE DESIGN CRITERIA PACKAGE

Appendix D

Special Conditions

CITY OF JACKSONVILLE, FLORIDA

APPROACH SLAB REPLACEMENTS ON BRIDGE 724308 ON COLLINS ROAD

RFQ-CDB–0006-16

RELEASE DATE – April 20, 2018

1. INTRODUCTION AND LOCATION:

This Design Criteria Package (DCP) specifies performance-based criteria for the design and construction of replacement of the two approach slabs on Bridge #724308 on Collins Road between the intersections of Collins Road with Blanding Blvd and Roosevelt Blvd. The extent of the work shall follow those outlined within the sketch provided in Appendix A. There is also a copy of the FDOT Significant Deficiency Advisory in Appendix B. Following Hurricanes Matthew and Irma, the City contracted with RS&H to perform channel depth measurements at the City owned bridges to determine if any erosion had occurred due to storm flows. The results of the site visits and their recommendations are provided in Appendix C. The purpose of this DCP is to furnish sufficient information to allow a Design Build Firm to prepare a response to the City's request for proposal (RFP) and to permit the City to enter into scope and fees negotiations for an amendment to design build City Contract No. 6533-54.

The City right-of-way maps and any existing easements will be available upon request.

2. GENERAL:

The Design-Build firm is responsible for design, permitting, and construction as described in Section 4 of the RFQ CDB-0006-16. The Design Build Firm shall prepare and submit a Fee Proposal for the 60% design within twenty one (21) calendar days from the release date of the DCP. **Therefore, the Fee Proposal shall be submitted no later than 5:00 P.M. on April 27, 2018 to Gary Goldsberry, P.E., at 214 N. Hogan Street, Ed Ball Building, 10th Floor, Jacksonville, Florida 32202.**

The Design Builder shall request a meeting (if needed) to discuss items pertaining to the proposed work within one week of the DCP issuance date. The Fee Proposal must include the proposed schedule for the tasks being performed up to and including the submittal of the final documents.

The provisions of the DCP represent the technical, material, and quality requirements for the foregoing project. The Design Build Firm is bound by these requirements for the duration of the project.

With the Fee Proposal J.B. Coxwell Contracting, Inc. shall provide the Guaranteed Maximum Price (GMP) and the Guaranteed Completion Date (GCD) for the 60% design. No more than one week after receiving the approved 60% design from J.B. Coxwell Contracting, Inc., the City shall commence negotiations to reach an agreement on terms of the GMP & GCD for the 100% design, permitting and construction of the right turn lane.

A DCP amendment for the design and construction plans and for the construction of the proposed work may be issued at the City's initiative or at the request of the Design Build Firm, upon the approval by the City Engineer, if the amendment is in the best interest of the City.

The Design Criteria Professional (Gary Goldsberry, P.E.) may amend the provisions of the Design Criteria Package after it has been released to the Design Build Firm, but before the expiration of the 21-day period designated for submittal of the Fee Proposal.

3. SCOPE OF WORK:

The Design Build Firm shall deliver their Fee Proposal for 60% design of the bridge approach slabs, guardrail replacement to current FDOT Standards, and channel scour mitigation at Bridge #724308 on Collins Road based on this DCP. The resulting plans and specifications shall include all the information needed for the City to move forward with a separate scope and fees negotiations for 100% construction completion.

The work associated with this project includes:

- The DBF shall contact Sunshine State One-Call of Florida for underground utility locates. (60%)
- The DBF shall coordinate with utilities for conflict resolution. (60%)
- The DBF shall review City provided documents and request additional as necessary. (60%)
- The DBF shall provide surveying and geotechnical information sufficient to prepare 60% plans and specifications, provide bridge approach slab and any necessary roadway profile modifications, Maintenance of Traffic plan, proposed guardrail replacement to current FDOT Standards, provide a bridge hydraulics report, and perform scour mitigation design. (60%)
- The DBF shall provide a final geotechnical report, construction drawings, specifications, approach slabs design, roadway modifications, channel reshaping/armoring design, and guardrail replacement design. (100%)
- Clean and seal the bridge joints. (100%)
- Repair undermining along approach sidewalks. (100%)
- Provide support for th utilities at northeast and northwest wingwalls. (100%)
- Remove all drift and debris from the channel. (100%)
- Repair areas of erosion and undermining behind the northwest, northeast, and southeast wingwalls. (100%)
- Clean and paint steel backwalls and wingwalls. (100%)
- Repair spall in the bottom southeast corner of Abutment 5 cap. (100%)
- Remove tree from under southeast corner of Abutment 5 cap. (100%)
- Install crutch bents as indicated in the FDOT Phase IV scour report. (See Appendix B) (100%)
- The DBF shall apply for, and pursue to approval, all permits and reviews that will be required for the full and final construction of the replacement approach slabs, guardrailing, and channel reshaping/armoring. (100%)
- All other work required to complete the construction in accordance with the DCP and resulting design. (100%)

The Design Build Firm shall be responsible to comply with the City and FDOT current standards.

4. **PERMITS:**

The DBF is responsible for applying for and obtaining all permits approvals required from the City and various agencies to perform the work associated with completion of this project per the RFQ CDB-0006-16. The 10-Set submittal shall be submitted at the 90% completion level of detail.

The DBF shall apply on behalf of the City, pay required application and permit fees and secure all approvals and permits from the City and the State regulatory agencies as required by law. Specifically, permits and approvals may be required from, but not limited to, the St Johns River Water Management District, the Florida Department of Environmental Protection, US Army Corps of Engineers, the City 10-set review and any others as may be required for this project. The City will be given copies of the permit application documents and comment responses for all permits applied for.

In addition, the Design Build Firm shall coordinate with all applicable utility companies as required and pay all applicable fees. A limited list of utilities that may be within the construction area are provided in RFQ CDB-0006-16 along with their contact information.

The DBF shall provide the Design Criteria Professional the review and approval of all reports, plans and specifications at the 60%, 10-set submittal, and 100% project development phases. At each of these phases, the DBF shall provide the Design Criteria Professional with two sets of drawings, specifications and engineering calculations.

The DBF shall provide the Design Criteria Professional with five (5) sets of signed and sealed final plans, specifications, work schedule, and engineering calculations prior to the Preconstruction Conference and the issuance of the Notice to Proceed. In addition, at the same time the DBF shall provide the Design Criteria Professional with the final documents consisting of two (2) copies of CDs with the electronic version of all contract documents (drawings (PDFs and AutoCAD format files), specifications (PDFs), engineering calculations (PDFs), permits and approvals (PDFs), and as-built drawings (PDFs and AutoCAD ver.16 or later format files)).

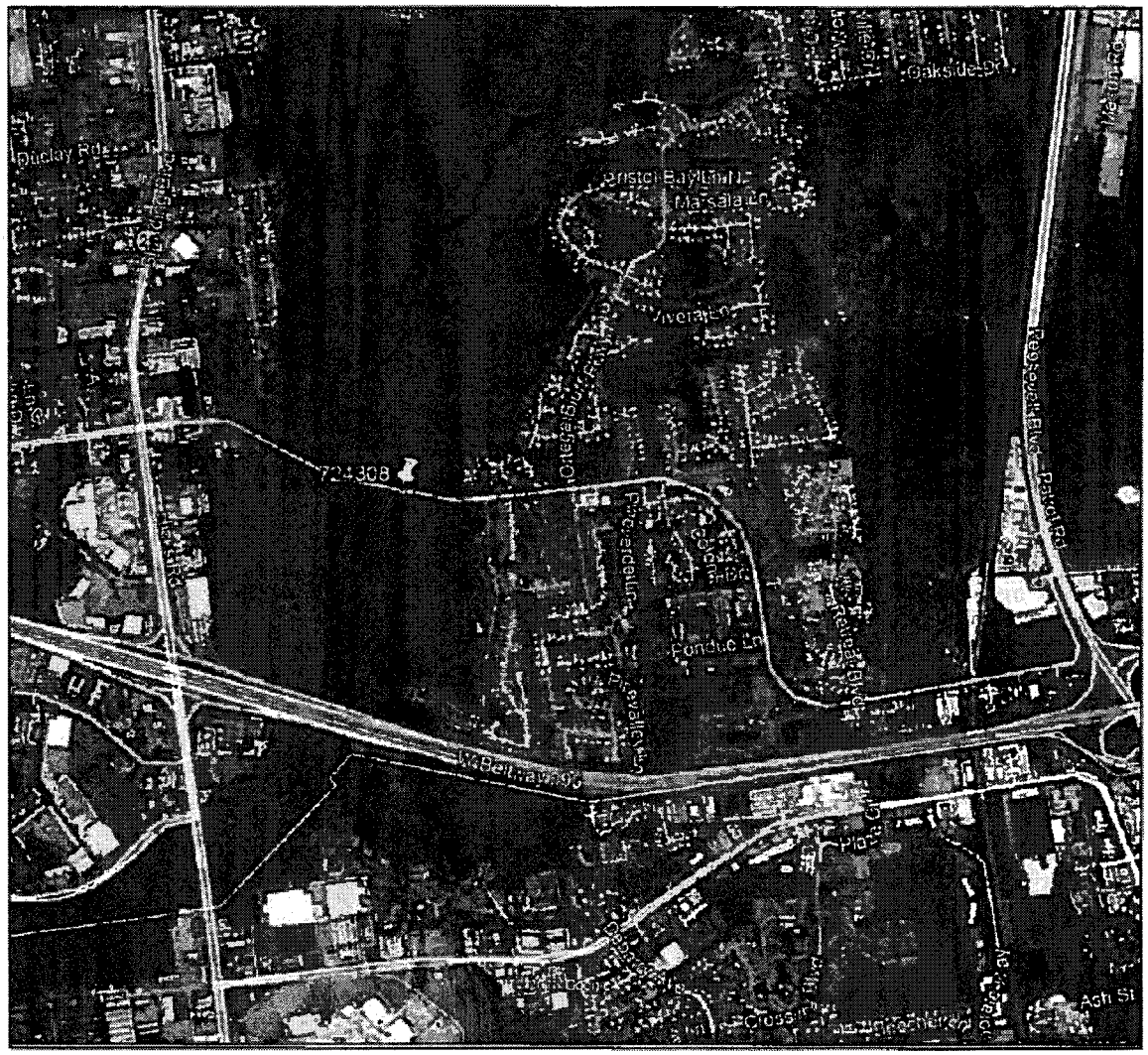
END OF THE DESIGN CRITERIA PACKAGE

LIST OF APPENDICES

Appendix A	Figures
Appendix B	FDOT DOCUMENTS:
	Significant Deficiency Advisory (1-12-18)
	FDOT Scour Critical Bridge – Plan of Action (1-19-17)
	FDOT Bridge Report (1-19-17)
	FDOT Phase IV Scour Report
Appendix C	RS&H Bridge Scour Report Information
Appendix D	Special Conditions

Appendix A

Figures



LAT: 30.201327
LONG: −81.730496

0' 1000' 2000'
SCALE:1"= 2000'

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003 F.A.C.

CITY OF JACKSONVILLE, FLORIDA DEPARTMENT OF PUBLIC WORKS			BRIDGE 724308 ON COLLINS ROAD LOCATION MAP	SHEET NO.
DATE	DRAWN BY	PROJECT #		
APRIL 2018	GJG	PW2012-0063		1

Goldsberry, Gary 4/5/2018 1:47:47 PM G:\EN\21\GOLDSBERRY-GARY\Projects\Bridge\724308 (Collins Road)\DCP\LOCATION MAP.dwg

Appendix B

FDOT Documents

Significant Deficiency Advisory (1-12-18)

AYRES ASSOCIATES

January 12, 2018

TO: Mr. Thomas Fallin
Division Chief of Engineering
City of Jacksonville
Engineering Division
214 N. Hogan St., 10th Floor, Room 1055
Jacksonville, FL 32202

FROM: Michael E. Scherer, P.E.
Structural Engineer
8875 Hidden River Parkway, Suite 200
Tampa, FL 33637

PROJECT: District 2 Local Government Bridge Inspection
Contract No. C9V94
Financial Nos. 214838-3-72-18 & 214839-3-72-18

SUBJECT: **SIGNIFICANT DEFICIENCY ADVISORY**
Interim Inspection – January 11, 2018
Approach Slab Settlement
Bridge No. 724308 – Collins Rd/Ortega River
Duval County

COPY TO: Gary Goldsberry, P.E., City of Jacksonville
Melissa Morgan, FDOT Project Manager
Lydia Capps, FDOT Maintenance Project Manager
David Crissey, Ayres Project Manager

CONTENT: An Ayres inspection team has recently inspected the above referenced bridge and observed settlement issues at both approach slabs.

The report identifies deficiencies (noted herein) which require attention.

Background:

During the January 11, 2018 Interim Inspection, an Ayres inspection team observed ongoing settlement and undermining at both approach slabs.

The following element inspection notes will be addressed in the BrM inspection report;

Element 321 Re Conc Approach Slab:
Note: The approach slabs are not visible due to an asphalt overlay.

CS3 - The following are joint width measurements taken between the top of the barrier walls and approach barriers to monitor any further settlement:

1/00:	NW-2-7/8in.,	SW-2-7/8in.,	NE-2-3/4in.,	SE-2-1/2in.
1/10:	NW-3-1/8in.,	SW-3-1/4in.,	NE-3-1/2in.,	SE-3in.
1/11:	NW-3-1/8in.,	SW-3-5/16in.,	NE-3-1/2in.,	SE-3-1/8in.
1/12:	NW-3-1/8in.,	SW-3-5/16in.,	NE-3-1/2in.,	SE-3-1/8in.
1/13:	NW-3-1/8in.,	SW-3-5/16in.,	NE-3-1/2in.,	SE-3-1/8in.
1/14:	NW-3-1/2in.,	SW-3-1/4in.,	NE-3-1/2in.,	SE-3-1/8in.
1/15:	NW-3-1/8in.,	SW-3-5/16in.,	NE-3-7/8in.,	SE-3-1/4in.
1/16:	NW-3-1/4in.,	SW-3-1/2in.,	NE-4in.,	SE-3-1/2in.

1/17:	NW-3-1/4in.,	SW-3-1/2in.,	NE-4in.,	SE-3-1/4in.	
1/18:	NW-3-1/4in.,	SW-3-1/2in.,	NE-4-1/8in.,	SE-3-1/2in.	INCREASE (See Photo 1)

The top of the east approach slab has a transverse crack/gap partially filled with asphalt, up to full width x 1-1/4in. wide, adjacent to the concrete approach slab header - NO CHANGE (See Photo 2).

The exposed shoulder portions of the approach slabs have diagonal cracks/fractures up to 6ft. long with associated spalls and delaminations throughout – NO CHANGE (See Photo 3). At the east approach slab north shoulder, the crack continues into the asphalt to the approach roadway transition where there is 2in. of settlement in the asphalt – NO CHANGE (See Photo 4).

The west approach slab has a 1ft. 2in. x 1ft. x 3-1/2in. spall/fractures in the south face over Abutment 1 (previously noted north). These cracks extend into the lower portion of the approach barriers – NO CHANGE.

The east approach slab has a 1ft. x 10in. x 6in. spall in the north face over Abutment 5 and a 1ft. x 10in. x 1ft. spall/delamination with associated cracks and exposed rebar in the south face over Abutment 5 – NO CHANGE (See Photo 5).

The approach slabs have 3ft. long x up to 1/16in. wide longitudinal cracks in the concrete headers, adjacent to the abutment joints - NO CHANGE.

Both approach slabs have up to 1/64in. wide longitudinal cracks in the asphalt overlay – NO CHANGE.

The approach slabs have areas of undermining along the outside edges up to 11ft. long x up to 8in. high x an undetermined depth (8ft. plus) – NO CHANGE (See Photo 6).

INCIDENTAL:
The southeast approach sidewalk is undermined 10ft. x 6in. x 1ft. of penetration at the east end of the approach guardrail – INCREASE (See Photo 7).

The northwest approach slope has an 8ft. x 7ft. x 1ft. 8in. area of vegetated erosion under the approach guardrail at the utility ground penetration point – NO CHANGE.

At the northwest wingwall, the utility is no longer supported at the middle support due to settlement – NO CHANGE.

The northeast approach slope has a 12ft. x 6ft. x 2ft. area of erosion at the wingwall end (the utility support at this location is undermined and unsupported) – NO CHANGE (See Photo 8).

AYRES ASSOCIATES

RECOMMENDATIONS: Replace both approach slabs. Repair all undermining along both edges of both approach slabs. Repair undermining along the southeast approach sidewalk. Provide support for the utilities at northeast and northwest wingwalls.

Once sufficient repairs have been completed, please submit the pertinent information regarding said action to Ms. Melissa Morgan, FDOT District 2 (Email - Melissa.Morgan@dot.state.fl.us), and forward a copy to Ayres Associates. A follow-up letter of completed work will be necessary for our files. If you have any questions, please contact me at 813-978-8688.

Thank you.

Sincerely,

Michael E. Scherer, P.E.
Structural Engineer
Ayres Associates

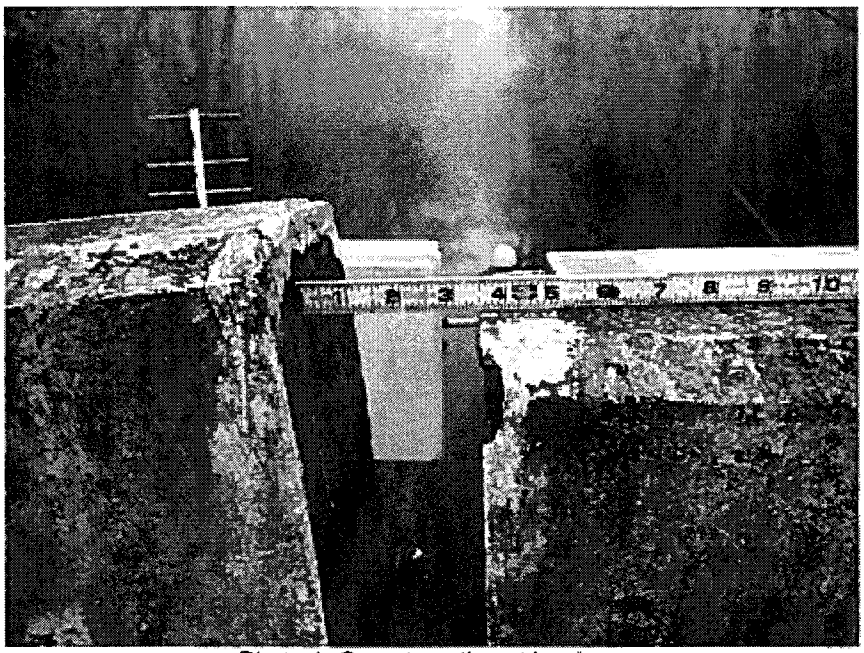


Photo 1: Gap at southeast barriers.

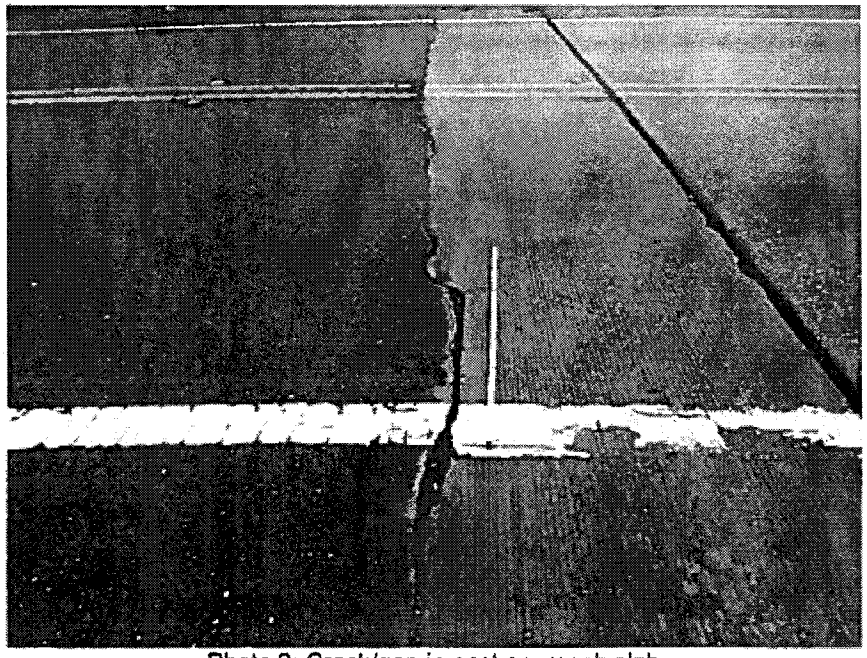


Photo 2: Crack/gap in east approach slab

Photo 3: Fracture in north shoulder of east approach slab

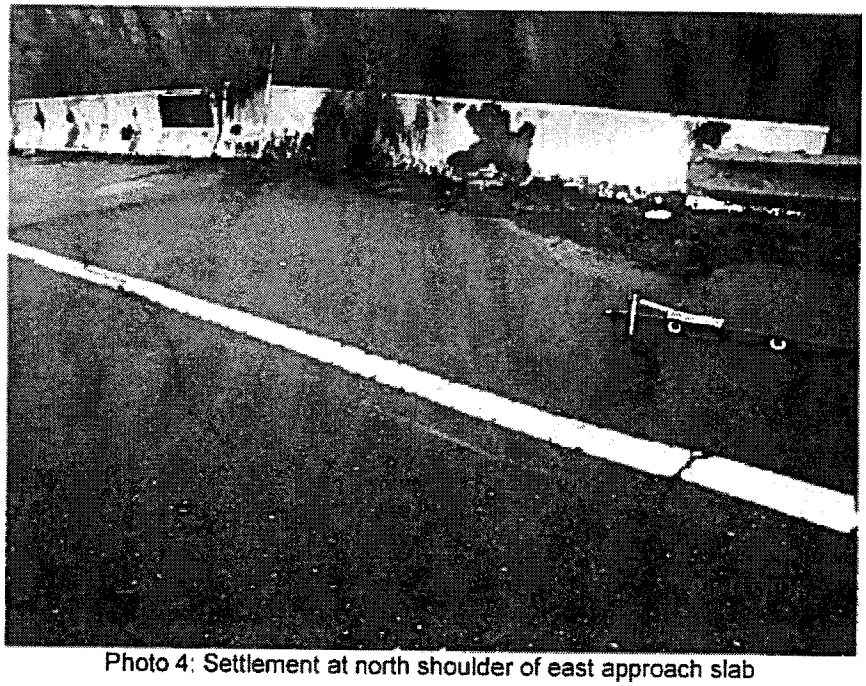


Photo 4: Settlement at north shoulder of east approach slab

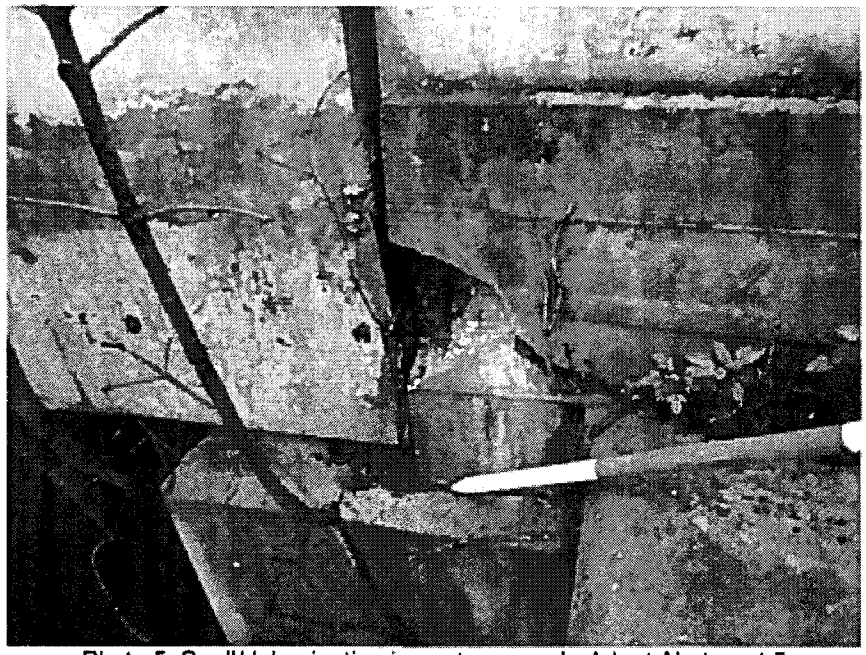


Photo 5: Spall/delamination in east approach slab at Abutment 5

Photo 6: Undermining along south face of east approach slab

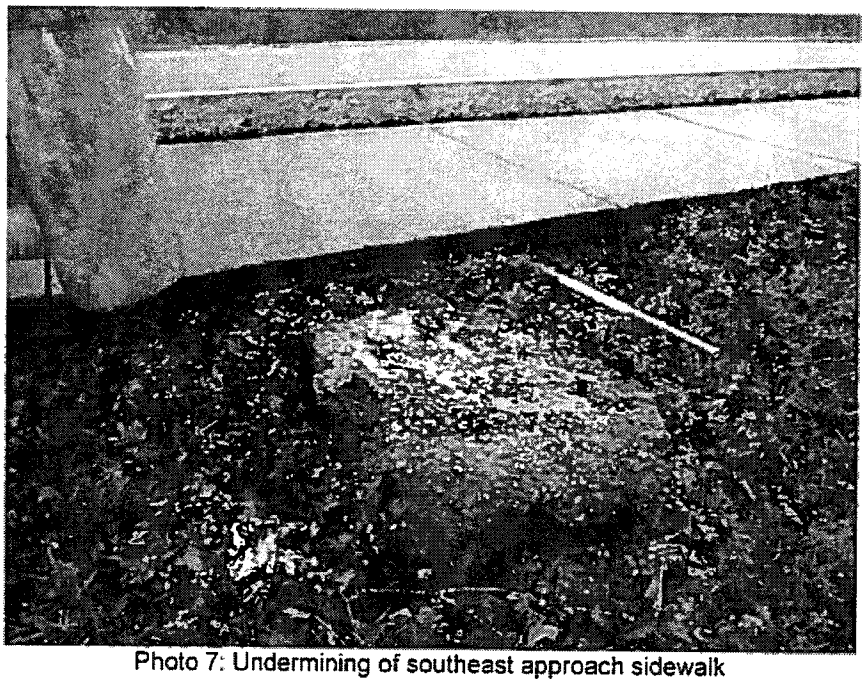


Photo 7: Undermining of southeast approach sidewalk

Photo 8: Undermined utility support on northeast approach slope

FDOT Scour Critical Bridge – Plan of Action (1-19-17)

Bridge No:	724308	**Scour Action Elevation Has Been Exceeded**	
County Section No:	72800000	Location:	Collins Road over Ortega River
State Road No:		Inspection Date:	01/19/2017
U.S. Road No:		Inspector:	Eric Lambert

PROFILE COMPARISON REPORT

Date Groundline Recorded 04/01/1991

Bent No.	Action Left	Action Right	Critical Left	Critical Right	Lead Line Measurement Left	Lead Line Measurement Right
1					13.20	11.10
MS					0.00	0.00
2					19.00	11.90
MS					0.00	0.00
3					24.30	15.00
MS					0.00	0.00
4	25.72	25.72	26.72	26.72	14.20	24.60
MS					0.00	0.00
5					11.80	13.30
MS					0.00	0.00

Comments:

Date Groundline Recorded 01/26/2015

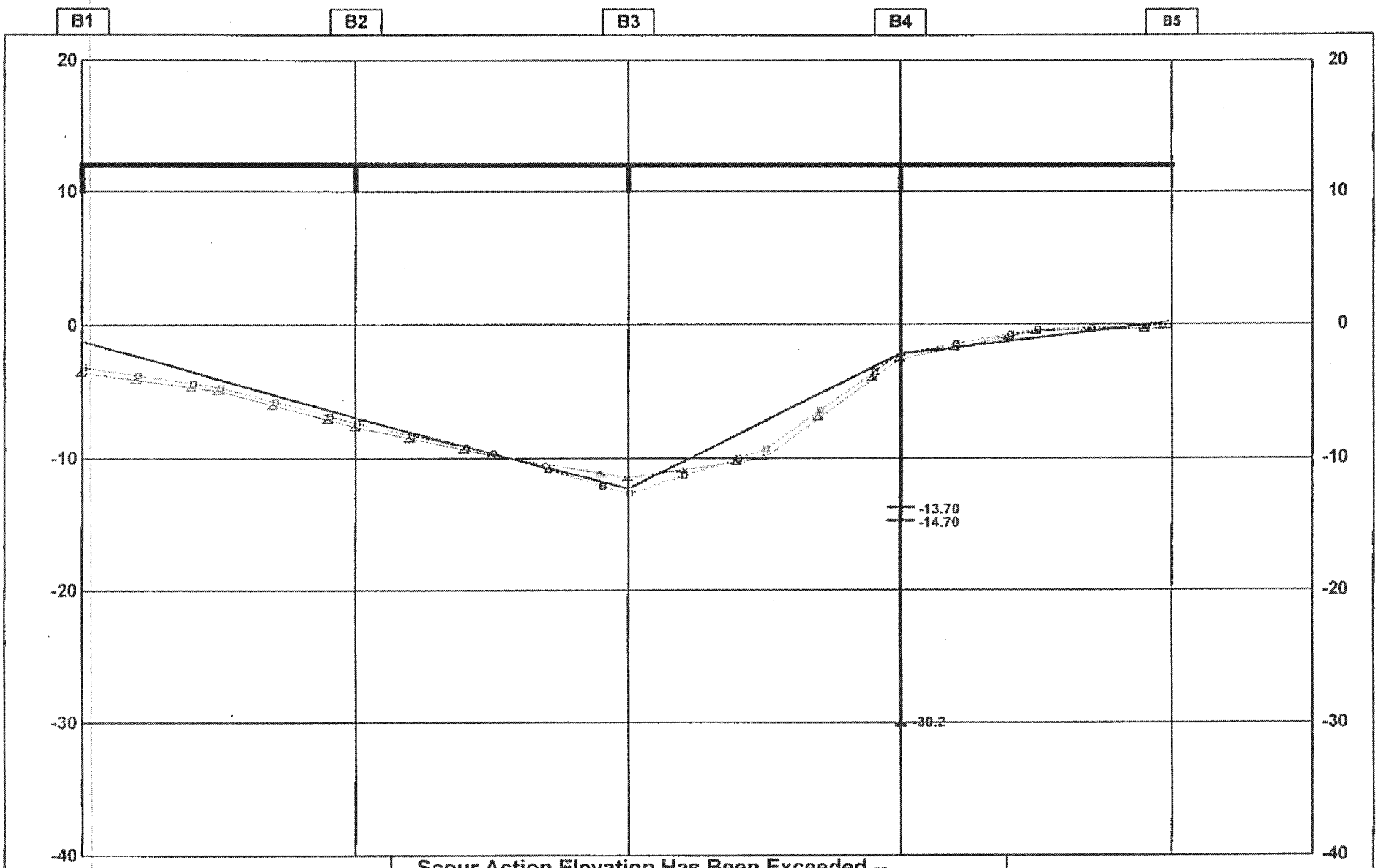
Bent No.	Action Left	Action Right	Critical Left	Critical Right	Lead Line Measurement Left	Lead Line Measurement Right
1					15.20	11.30
MS					16.70	13.40
2					19.40	12.20
MS					21.60	13.70
3					24.70	15.00
MS					21.40	20.90
4	25.72	25.72	26.72	26.72	14.20	25.40
MS					12.40	26.90
5					12.10	14.10
MS					0.00	0.00

Comments:
All measurements are in feet and are referenced to the top of the barrier wall.

Date Groundline Recorded 01/19/2017

Bent No.	Action Left	Action Right	Critical Left	Critical Right	Lead Line Measurement Left	Lead Line Measurement Right
1					15.60	11.50
MS					17.00	13.40
2					19.70	12.20
MS					21.80	13.90
3					23.50	15.50
MS					22.00	20.30
4	25.72	25.72	26.72	26.72	14.60	26.00
MS					12.50	26.70
5					12.30	14.50
MS					0.00	0.00

Comments:
All measurements are in feet and are referenced to the top of the barrier wall.



-- Scour Action Elevation Has Been Exceeded --

LEFT ELEVATION

Scour Critical

Scour Action

CHANNEL LEGEND

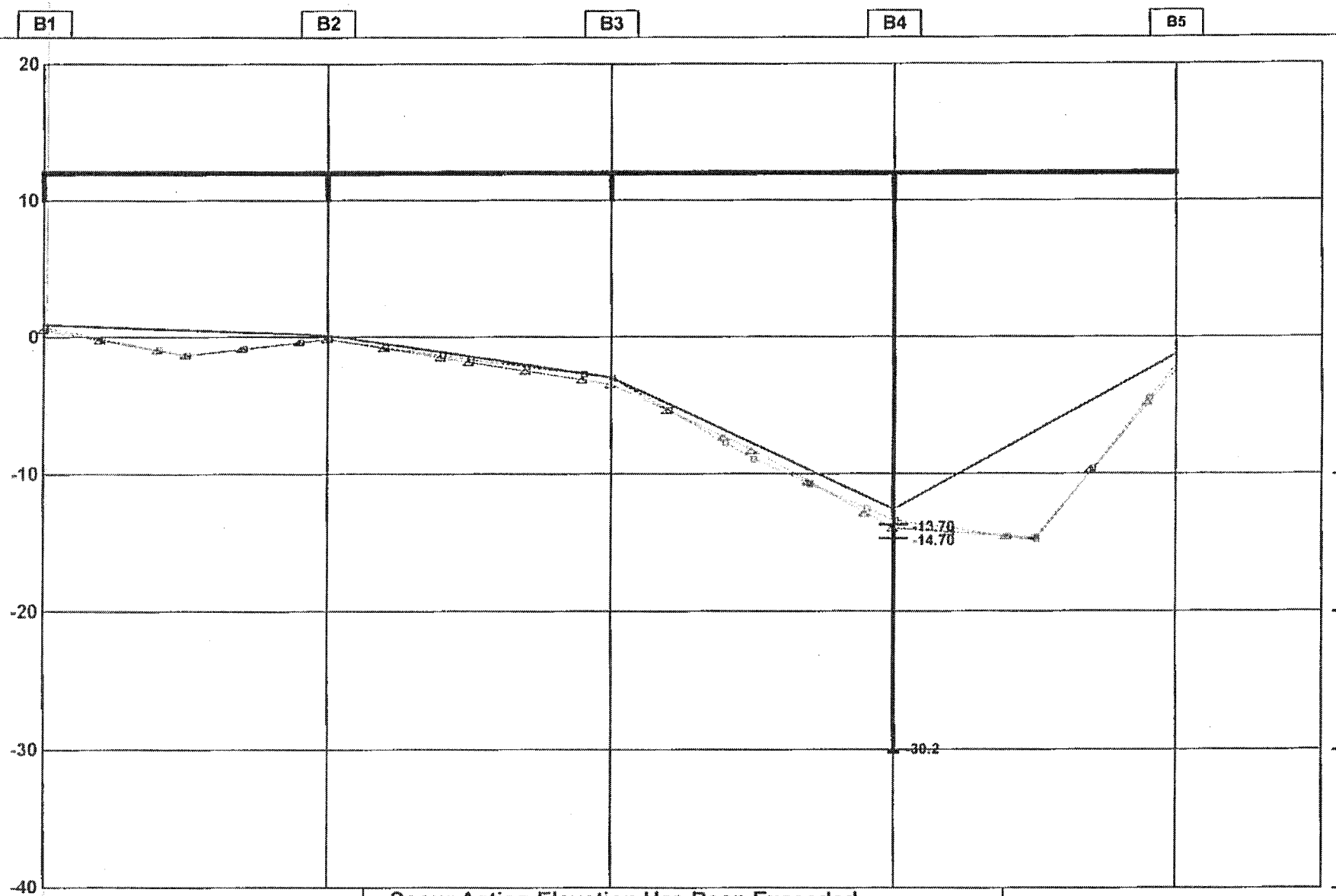
01/19/2017

01/26/2015

04/01/1991

Profile Note: Top of barrier elevation 13.83' left and right sides calculated from the Phase IV Scour Report.
Pile tip elevations obtained from the Phase IV Scour Report.

Scale NTS	BRIDGE NO. 724308 COLLINS ROAD OVER ORTEGA RIVER	Page 2 of 4



-- Scour Action Elevation Has Been Exceeded --

RIGHT ELEVATION

Scour Critical

Scour Action

CHANNEL LEGEND

01/19/2017

01/26/2015

04/01/1991

Profile Note: Top of barrier elevation 13.83' left and right sides calculated from the Phase IV Scour Report.
Pile tip elevations obtained from the Phase IV Scour Report.

Scale NTS	BRIDGE NO. 724308 COLLINS ROAD OVER ORTEGA RIVER	Page 3 of 4

724308

SCOUR CRITICAL BRIDGE - PLAN OF ACTION

1. GENERAL INFORMATION

Structure number: 724308	**City, County, State:** Jacksonville, Duval County, Fl	**Waterway:** Ortega River
Structure name: Collins Road/Ortega River	**State highway or facility carried:** Collins Road	**Owner:** City of Jacksonville
Year built: 1952	**Year rebuilt:** 1983	**Bridge replacement plans (if scheduled):** No **Anticipated opening date:** N/A

Structure type: ☒ Bridge ☐ Culvert

Structure size and description: The bridge is a 4-span, 2-lane structure supported by 18" square prestressed concrete piles. The end bents are exposed steel sheet piles forming spill-through abutments. 170' L x 44' W

Foundations: ☐ Known, type: _____ Depth: _____ ☒ Unknown

Subsurface soil information (*check all that apply*): ☒ Non-cohesive ☐ Cohesive ☐ Rock

Bridge ADT: 17600	**Year/ADT:** 2015	**% Trucks:** 1%

Does the bridge provide service to emergency facilities and/or an evacuation route (Y/N)? N
If so, describe: N/A

2. RESPONSIBILITY FOR POA

Author(s) of POA (name, title, agency/organization, telephone, pager, email):
Anthony Bevilacqua, P.E. – Civil Engineer – Kimley-Horn and Associates Inc. – 561-840-0806 – Anthony.bevilacqua@kimnley-horn.com
Date: 9/17/2013

Concurrences on POA (name, title, agency/organization, telephone, pager, email):
Thomas Fallin – City Engineer - City of Jacksonville – (904) 255-8710, (904) 268-2884 - thomasf@coj.net

POA updated by (name, title, agency, organization): Jim Kelley, Bridge Inspection Supervisor, Kisinger Campo & Associates **Date of update:** 01/19/2017

Items update: NBI Ratings, ADT & Owner Contact Information

POA to be updated every 24 **months by (name, title, agency/organization):**

Date of next update: During routine inspection

3. SCOUR VULNERABILITY

a. Current Item 113 Code: ☒ 3 ☐ 2 ☐ 1 Other:

b. Source of Scour Critical Code: ☐ Observed ☐ Assessment ☒ Calculated Other:

c. **Scour Evaluation Summary:** Phase IV completed

d. **Scour History:**

4. RECOMMENDED ACTION(S) (see Sections 6 and 7)

	Recommended		Implemented	
a. Increased Inspection Frequency	☒ Yes	☐ No	☐ Yes	☒ No
b. Fixed Monitoring Device(s)	☐ Yes	☒ No	☐ Yes	☐ No
c. Flood Monitoring Program	☒ Yes	☐ No	☐ Yes	☐ No
d. Hydraulic/Structural Countermeasures	☒ Yes	☐ No	☐ Yes	☒ No

5. NBI CODING INFORMATION

		Current	Previous
Inspection date		1/19/2017	1-26-2015
Item 113	Scour Critical	3	3
Item 60	Substructure	7	7
Item 61	Channel & Channel Protection	7	7
Item 71	Waterway Adequacy	8	8
Comments: (drift, scour holes, etc. - depict in sketches in Section 10)			

6. MONITORING PROGRAM

☒ **Regular Inspection Program** ☐w/surveyed cross sections
Items to Watch: Signs of movement or settlement; Channel bed elevation changes.

☒ **Increased Inspection Frequency of mo.** ☐w/surveyed cross sections
Items to Watch:

☐ **Underwater Inspection Required**
Items to Watch: _____

☐ **Increased Underwater Inspection Frequency of __ mo.**
Items to Watch: _____

☐ **Fixed Monitoring Device(s)**
Type of Instrument: _____
Installation location(s): _____
Sample Interval: ☐ 30 min. ☐ 1 hr. ☐ 6 hrs. ☐ 12 hrs. ☐ Other: _____
Frequency of data download and review: ☐ Daily ☐ Weekly ☐ Monthly ☐ Other _____
Scour alert elevation(s) for each pier/abutment: _____
Scour critical elevations(s) for each pier/abutment: _____
Survey ties: _____
Criteria of termination for fixed monitoring: _____

☒ **Flood Monitoring Program**

Type: ☒ Visual inspection
☒ Instrument (*check all that apply*):
☒ Portable ☐ Geophysical ☐ Sonar ☒ Other: Weighted Tape

Flood monitoring required: ☒ Yes ☐ No

Flood monitoring event defined by (*check all that apply*):
☐ Discharge _____ ☐ Stage _____
☐ Elev. measured from _____ ☒ Rainfall 8 (in) per 24 (hour)
☐ Flood forecasting information: _____
☐ Flood warning system: _____

Frequency of flood monitoring: ☐1 hr. ☐3 hrs. ☐6 hrs. ☒ Other: Daily

Post-flood monitoring required: ☒ No ☐Yes, within _____ days

Frequency of post-flood monitoring: ☐Daily ☐Weekly ☐Monthly ☐Other: _____

Criteria for termination of flood monitoring: Receding water levels below flood stage and lead line measurements stabilized with no significant change in ground line elevations

Criteria for termination of post-flood monitoring: _____

Scour alert elevation(s) for each pier/abutment: -13.7 NAVD 88

Scour critical elevation(s) for each pier/abutment: -14.7 NAVD 88

Note: Additional details for action(s) required may be included in Section 8.

Action(s) required if scour alert elevation detected (*include notification and closure procedures*): _____

Action(s) required if scour critical elevation detected (*include notification and closure procedures*): _____

Agency and department responsible for monitoring: City of Jacksonville

Contact person (*include name, title, telephone, pager, e-mail*): Thomas Fallin – City Engineer - City of Jacksonville – (904) 255-8710, (904) 268-2884 - thomasf@coj.net

7. COUNTERMEASURE RECOMMENDATIONS

Prioritize alternatives below. Include information on any hydraulic, structural or monitoring countermeasures.

☐ **Only monitoring required (see Section 6 and Section 10 – Attachment F)**
Estimated cost $_____

☒ **Structural/hydraulic countermeasures considered (see Section 10, Attachment F):**

Priority Ranking		Estimated cost
1.	Non-destructive Testing (NDT)	$ 37,000-86,000*
2.	Independent Crutch Bents	$ 533,000*
3.	Bridge Replacement	$ 1,571,000
4.		$
5.		$

***Does not include cost of abutment protection**

Basis for the selection of the preferred scour countermeasure: Instability at existing mud line elevation based on Phase 3 evaluation

Countermeasure implementation project type:
☒ Proposed Construction Project ☐ Maintenance Project
☐ Programmed Construction - Project Lead Agency:
☐ Bridge Bureau ☐ Road Design ☐ Other _____

Agency and department responsible for countermeasure program (if different from Section 6 contact for monitoring):

Contact person (*include name, title, telephone, pager, e-mail*):

Target design completion date: _____

Target construction completion date: _____

Countermeasures already completed: _____

8. BRIDGE CLOSURE PLAN

Scour monitoring criteria for consideration of bridge closure:

- ☐ Water surface elevation reaches _____ at _____
- ☒ Overtopping road or structure
- ☐ Scour measurement results / Monitoring device (See Section 6)
- ☒ Observed structure movement / Settlement
- ☐ Discharge: _____ cfs/cms
- ☐ Flood forecast: _____
- ☐ Other: ☐ Debris accumulation ☐ Movement of riprap/other armor protection ☐ Loss of road embankment

Emergency repair plans (*include source(s), contact(s), cost, installation directions*):

Agency and department responsible for closure: City of Jacksonville

Contact persons (name, title, agency/organization, telephone, pager, email): Thomas Fallin – City Engineer - City of Jacksonville – (904) 255-8710, (904) 268-2884 - thomasf@coj.net

Criteria for re-opening the bridge: Reopen only after the bridge has been inspected and determined to be structurally sound.

Agency and person responsible for re-opening the bridge after inspection: Thomas Fallin – City of Jacksonville, in consultation with FDOT District 2 Structures Maintenance Engineer, Keith Campbell

9. DETOUR ROUTE

Detour route description (route number, from/to, distance from bridge, etc.) - Include map in Section 10, Attachment E.
Collins Road and SR 21 (0.6 mile west of bridge), south on SR 21 to I-295 south, south on I-295 to US 17, US 17 north to Collins Road (1.5 miles east of bridge)

Bridges on Detour Route:

Bridge Number	Waterway	Sufficiency Rating/ Load Limitations	Item 113 Code
720246	CSX RR	95.9/No Restrictions	N
720751	Ortega River	87.1/No Restrictions	5
720708	Ortega River	99.6/No Restrictions	5
720318	CSX RR	89.1/No Restrictions	N

Traffic control equipment (detour signing and barriers) and location(s): Detour signs will be placed at the following intersections: Collins Road and SR 21, SR 21 and I-295 south, I-295 south and US 17, US 17 and Collins Road.

Additional considerations or critical issues (susceptibility to overtopping, limited waterway adequacy, lane restrictions, etc.) : _____

News release, other public notice (include authorized person(s), information to be provided and limitations): _____

10. ATTACHMENTS

Please indicate which materials are being submitted with this POA:

- ☐ **Attachment A: Boring logs and/or other subsurface information**
- ☐ **Attachment B: Cross sections from current and previous inspection reports**
- ☐ **Attachment C: Bridge elevation showing existing streambed, foundation depth(s) and observed and/or calculated scour depths.**
- ☐ **Attachment D: Plan view showing location of scour holes, debris, etc.**
- ☒ **Attachment E: Map showing detour route(s)**
- ☐ **Attachment F: Supporting documentation, calculations, estimates and conceptual designs for scour countermeasures.**
- ☐ **Attachment G: Photos**
- ☐ **Attachment H: Other information:** _____

Scour Critical Bridge-Plan of Action
ATTACHMENT E

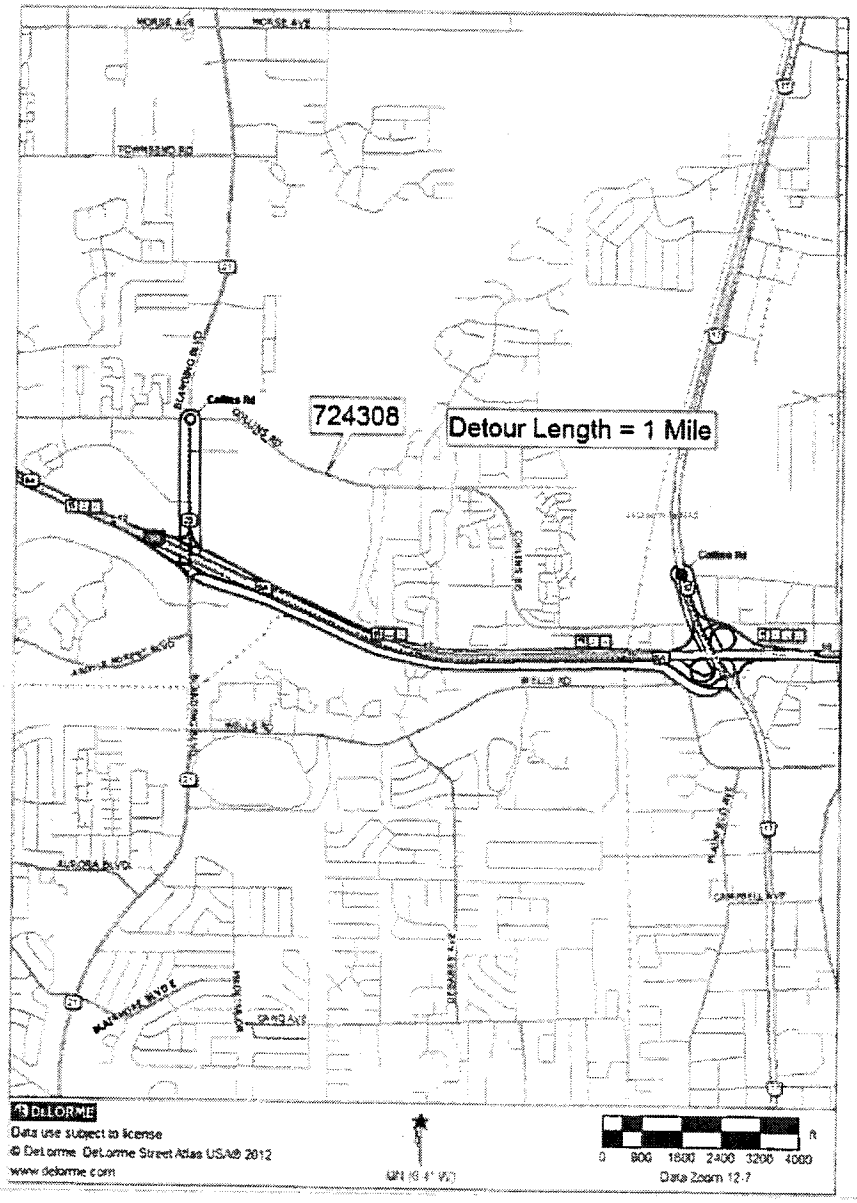
FLORIDA DEPARTMENT OF TRANSPORTATION

DETOUR ROUTE MAP

Bridge No. 724308

CR 18 over Braggs Branch

1.1 Miles East of CR 235A



FDOT Bridge Report (1-9-17)

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

BY:	Kisinger Campo & Assoc.	STRUCTURE NAME:	COLLINS RD/ORTEGA RIVER
OWNER:	4 City/Municipal Hwy Agy	YEAR BUILT:	1952
MAINTAINED BY:	4 City/Municipal Hwy Agy	SECTION NO.:	72 800 000
STRUCTURE TYPE:	5 Prestressed Concrete - 01 Slab	MP:	4.076
LOCATION:	0.65MI E OF BLANDING BLVD	ROUTE:	00000
SERV. TYPE ON:	1 Highway	FACILITY CARRIED:	COLLINS ROAD
SERV. TYPE UNDER:	5 Waterway	FEATURE INTERSECTED:	ORTEGA RIVER

☐ FUNCTIONALLY OBSOLETE ☐ STRUCTURALLY DEFICIENT

TYPE OF INSPECTION: Regular NBI

DATE FIELD INSPECTION WAS PERFORMED: ABOVE WATER: 1/19/2017 UNDERWATER: 1/25/2017

SUFFICIENCY RATING: 95.2
HEALTH INDEX: 96.09

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

BY:	Kisinger Campo & Assoc.	STRUCTURE NAME:	COLLINS RD/ORTEGA RIVER
OWNER:	4 City/Municipal Hwy Agy	YEAR BUILT:	1952
MAINTAINED BY:	4 City/Municipal Hwy Agy	SECTION NO.:	72 800 000
STRUCTURE TYPE:	5 Prestressed Concrete - 01 Slab	MP:	4.076
LOCATION:	0.65MI E OF BLANDING BLVD	ROUTE:	00000
SERV. TYPE ON:	1 Highway	FACILITY CARRIED:	COLLINS ROAD
SERV. TYPE UNDER:	5 Waterway	FEATURE INTERSECTED:	ORTEGA RIVER

- [ ] THIS BRIDGE CONTAINS FRACTURE CRITICAL COMPONENTS
- [x] THIS BRIDGE IS SCOUR CRITICAL
- [ ] THIS REPORT IDENTIFIES DEFICIENCIES WHICH REQUIRE PROMPT CORRECTIVE ACTION
- [ ] FUNCTIONALLY OBSOLETE
- [ ] STRUCTURALLY DEFICIENT

TYPE OF INSPECTION: Regular NBI

DATE FIELD INSPECTION WAS PERFORMED: ABOVE WATER: 1/19/2017 UNDERWATER: 1/25/2017

OVERALL NBI RATINGS:

DECK:	6 Satisfactory	CHANNEL:	7 Minor Damage
SUPERSTRUCTURE:	6 Satisfactory	CULVERT	N N/A (NBI)
SUBSTRUCTURE:	7 Good	SUFF. RATING	95.2
PERF. RATING	2 - Good	HEALTH INDEX:	96.09

FIELD PERSONNEL / TITLE / NUMBER:	INITIALS
Lambert, Eric - Bridge Inspector(CBI #00454) (lead)	_____
Jasper, Andrew - Bridge Inspection Technician	_____
Hitch, Victoria - CBI (#00414) - Lead Diver	_____
Hoogland, Keith - Bridge Inspector (CBI #00341) - Diver	_____
Brewer, James - Diver	_____

REVIEWING BRIDGE INSPECTION SUPERVISOR:

Kelley, James - CBI (# 00269) _____

CONFIRMING REGISTERED PROFESSIONAL ENGINEER:

LoCicero, Thomas - PE #31136 Kisinger Campo & Associates
9270 Plaza Blvd., Suite 605
Certificate of Authorization #2317
Tampa FL 33619

SIGNATURE: _____

DATE: _____

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

All Elements

DECKS : Decks/Slabs

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	8099 / 3	PS Conc Slab (Sonovoid)	7472	99 89	1	0 01	7	0 09	0	.	7480 (SF)
0	1080 / 3	Delamination/Spall/Patched Area	0	.	1	12.5	7	87.5	0	.	8 (SF)
0	510 / 3	Wearing Surfaces	0	.	7480	100	0	.	0	.	7480 sq.ft
0	3230 / 3	Effectiveness (Wearing Surface)	0	.	7480	100	0	.	0	.	7480 sq.ft

Element Inspection Notes:

8099/3 Note: This element represents the prestress concrete slab units with concrete topping.

CS3 - Slab Unit 3-3 has a 3' 6" x 1' x 3" spall/delamination in the south edge near mid-span - INCREASE (See Photo 1).

Slab Unit 3-11 has a 1' 6" x 1' x 3/4" spall around the scupper at the east end of the span - NO CHANGE.

Slab Unit 4-6 has an 8" x 4" x 1/2" spall in the left edge at Abutment 5 - NO CHANGE.

CS2 - Slab Unit 1-11 has a 4" x 3" x 1" spall in the bottom southeast corner over Bent 2 - NO CHANGE.

CS1 - There is up to 3/4" difference in elevation between adjacent slab units - NO CHANGE.

The following is considered incidental to this element:
There is a buildup of dirt and debris up to 8" along the barriers - NO CHANGE (See Photo 2).

1080/3 Refer to Parent Element

510/3 CS2 - The deck top has abrasion wear up to 1/8" deep - NO CHANGE.

The deck top has map cracks up to 1/64" wide - NO CHANGE.

The deck top has transverse, longitudinal and diagonal cracks less than 1/64" wide, heaviest in Lane 1 - NO CHANGE.

3230/3 Refer to Parent Element

DECKS : Joints

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	301 / 3	Pourable Joint Seal	0	.	0	.	220	100	0	.	220 ft
0	2320 / 3	Seal Adhesion	0	.	0	.	220	100	0	.	220 ft

Element Inspection Notes:

301/3 CS3 - The joints have random edge spalls up to 6" x 2" x 1/2", heavily deteriorated sealant, areas of major adhesion loss with dirt and debris accumulated, primarily in the shoulder areas - NO CHANGE (See Photo 3).

2320/3 Refer to Parent Element

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

MISCELLANEOUS : Channel

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	8290 / 3	Channel	0	.	1	100	0	.	0	.	1 (EA)
0	9140 / 3	Debris	0	.	1	100	0	.	0	.	1 (EA)

Element Inspection Notes:

8290/3 Note: This structure is Scour Critical based on the Phase 4 Scour Evaluation dated 6/14/13 and SIA Item 113 being coded a 3 SC-Unstable. The Plan Of Action (POA) was reviewed and requires implementation at this time.

CS2 - There is heavy timber drift and debris throughout the channel which is not restricting the channel flow - INCREASE (See Photo 4).

Refer to the groundline measurements and channel profiles in this report.

9140/3 Refer to Parent Element

MISCELLANEOUS : Other Elements

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	321 / 3	Re Conc Approach Slab	0	.	0	.	890	50	890	50	1780 sq ft
0	4000 / 3	Settlement	0	.	0	.	890	50	890	50	1780 sq ft
0	510 / 3	Wearing Surfaces	0	.	1370	100	0	.	0	.	1370 sq.ft

Element Inspection Notes:

321/3 Note: The approach slabs are not visible due to an asphalt overlay.

CS4 - The top of the east approach slab has a transverse crack/gap partially filled with asphalt, up to full width x 1-1/4" wide, adjacent to the concrete approach slab header - NO CHANGE (See Photo 5).

Refer to the Additional Element Notes for continuation of CS4 deficiencies.

CS3 - The exposed shoulder portions of the approach slabs have diagonal cracks/fractures up to 6' long with associated spalls and delaminations throughout - INCREASE (See Photo 7). At the east approach slab north shoulder, the crack continues into the asphalt to the approach roadway transition where there is 2" of settlement in the asphalt - NEW (See Photo 8).

The west approach slab has a 1' 2" x 1' x 3-1/2" spall/fractures in the north face over Abutment 1 - NO CHANGE. These cracks extend into the lower portion of the approach barriers - NO CHANGE. This was previously noted under Element 8475 R/Conc Walls.

The east approach slab has a 1' x 10" x 6" spall in the north face over Abutment 5 and a 1' x 10" x 1' spall/delamination with associated cracks and exposed rebar in the south face over Abutment 5 - INCREASE (See Photo 9).

The approach slabs have 3' long x up to 1/16" wide longitudinal cracks in the concrete headers, adjacent to the abutment joints - NO CHANGE.

Both approach slabs have up to 1/64" wide longitudinal cracks in the asphalt overlay and

The approach slabs have areas of undermining along the outside edges up to 11' long x up to 8" high x an undetermined depth - NO CHANGE (See Photo 10).

The following is considered incidental to this element:
The southeast approach sidewalk is undermined 10' x 6" x 1' of penetration at the east end

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

of the approach guardrail - INCREASE (See photo 11).

The northwest approach slope has an 8' x 7' x 1' 8" area of vegetated erosion under the approach guardrail at the utility ground penetration point - NO CHANGE.

At the northwest wingwall, the utility is no longer supported at the middle support due to settlement - NEW (See Photo 12).

The northeast approach slope has a 12' x 6' x 2' area of erosion at the wingwall end (the utility support at this location is undermined and unsupported) - NO CHANGE.

4000/3 Refer to Parent Element

510/3 Refer to Parent Element

MISCELLANEOUS : Other Elements

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	8474 / 3	Metal Wall	0	.	93	44.71	115	55.29	0	.	208 ft
0	1000 / 3	Corrosion	0	.	93	44.71	115	55.29	0	.	208 ft

Element Inspection Notes:

8474/3 Note: This element represents the steel sheet pile backwalls and wingwalls.

CS3 - The backwalls and wingwalls have areas of heavy flaking corrosion at the mudline and extending down 4' below the cap - NO CHANGE (See Photo 13).

CS2 - The backwalls and wingwalls have moderate surface corrosion - NO CHANGE.

The following is considered incidental to this element:
There is erosion 1' 6" long x 7" wide x 2' deep behind the northwest wingwall, 9" from the west end - NO CHANGE.

The northeast wingwall has erosion up to 2' x 3' x 1' behind the sheet piles - NO CHANGE.

The southeast wingwall is undermined 2' 5" high x 3' wide extending back under 14' from the east end - NO CHANGE (See Photo 14).

1000/3 Refer to Parent Element

SUBSTRUCTURE : Substructure

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	215 / 3	Re Conc Abutment	89	98.89	0	.	1	1.11	0	.	90 ft
0	1080 / 3	Delamination/Spall/Patched Area	0	.	0	.	1	100	0	.	1 ft

Element Inspection Notes:

215/3 CS3 - The bottom southeast corner of Abutment 5 cap has an 11" x 3" x 2" spall with exposed rebar having up to 10% section loss - NO CHANGE (See Photo 15).

CS1 - Both abutment caps have random vertical cracks less than 1/64" wide - NO CHANGE.

The following is considered to be incidental to the element:
A tree is under the southeast corner of the Abutment 5 cap - NO CHANGE (See Photo 16).

1080/3 Refer to Parent Element

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

SUBSTRUCTURE : Substructure

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	226 / 3	Pre Conc Pile	17	42.5	16	40	7	17.5	0	.	40 (EA)
0	1080 / 3	Delamination/Spall/Patched Area	0	.	0	.	3	100	0	.	3 (EA)
0	1190 / 3	Abrasion(PSC/RC)	0	.	16	100	0	.	0	.	16 (EA)
0	6000 / 3	Scour	0	.	0	.	4	100	0	.	4 (EA)

Element Inspection Notes:

226/3 CS3 - Pile 3-2 has a 6" x 4" x 3/4" spall in the northeast corner - NEW.

Pile 3-6 has an 8" x 5" x 1" spall in the northwest corner, 9' 6" below the cap - NO CHANGE (See Photo 17).

The action elevation has been exceeded at Bent 4 on the right side. Refer to the groundline measurements and channel profiles in this report - NEW.

Pile 5-1 has a 6" diameter x 1/4" deep spall in the west face adjacent to the cap - NO CHANGE.

CS2 - The piles in Bents 2, 3 and 4 have scale damage up to 1/2" deep - NO CHANGE.

The piles have corner spalls up to 3" x 2" x 1/2". These spalls could not be verified due to the scale damage.

1080/3 Refer to Parent Element

1190/3 Refer to Parent Element

6000/3 Refer to Parent Element

SUBSTRUCTURE : Substructure

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	234 / 3	Re Conc Pier Cap	135	100	0	.	0	.	0	.	135 ft

Element Inspection Notes:

234/3 No Notes

SUPERSTRUCTURE : Bearings

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	310 / 1	Elastomeric Bearing	8	100	0	.	0	.	0	.	8 each

Element Inspection Notes:

310/1 No Notes

SUPERSTRUCTURE : Superstructure

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	331 / 3	Re Conc Bridge Railing	340	100	0	.	0	.	0	.	340 ft
0	521 / 3	Conc Prot Coating	0	.	0	.	0	.	2400	100	2400 sq ft
0	3540 / 3	Eff(Crete Protect Coat)	0	.	0	.	0	.	2400	100	2400 sq ft

Element Inspection Notes:

331/3 CS1 - The barriers have random vertical cracks up to full height x less than

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

1/64" wide - NO CHANGE.

The following is considered incidental to this element:
The approach guardrails are mounted too low and the end terminals do not meet current FDOT standards - NO CHANGE (See Photo 18).

The northeast approach guardrail has impact damage up to 20' long and the northeast guardrail end terminal has impact damage - NO CHANGE.

The southeast approach guardrail has moderate to heavy impact damage, 6' from the bridge attachment and the southeast object marker is missing - INCREASE (See Photo 18).

521/3 CS4 - The paint (previously Class 5 finish) on the barriers is peeling throughout - NO CHANGE.

3540/3 Refer to Parent Element

Total Number of Elements*: 10
*excluding defects/protective systems

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Inspector Recommendations

UNIT: 0 **DECKS**

ELEMENT/ENV: 301 / 3 Pourable Joint Seal **ELEM CATEGORY: Joints**

CONDITION STATE			PRIORITY
3	MMS Quantity: 220 lf	Element Estimated Quantity: 220 ft	3

WORK ORDER RECOMMENDATION:

Clean and seal the joints.

ELEMENT/ENV: 8099 / 3 PS Conc Slab (Sonovoid) **ELEM CATEGORY: Decks/Slabs**

CONDITION STATE			PRIORITY
1 , 2 , 3	MMS Quantity: 240 sf	Element Estimated Quantity: 7480 (SF)	3

WORK ORDER RECOMMENDATION:

Remove dirt and debris from along the barriers.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Inspector Recommendations

UNIT: 0 **MISCELLANEOUS**

ELEMENT/ENV: 321 / 3 Re Conc Approach Slab **ELEM CATEGORY: Other Elements**

CONDITION STATE		PRIORITY
3 , 4	MMS Quantity: 6 sf Element Estimated Quantity: 1780 sq ft	3

WORK ORDER RECOMMENDATION:
Provide support for the utilities at northeast and northwest wingwalls.

3 , 4	MMS Quantity: 80 sf Element Estimated Quantity: 1780 sq ft	3

WORK ORDER RECOMMENDATION:
Repair all undermining along both edges of both approach slabs.

3 , 4	MMS Quantity: 10 sf Element Estimated Quantity: 1780 sq.ft	3

WORK ORDER RECOMMENDATION:
Repair undermining along the southeast approach sidewalk.

3 , 4	MMS Quantity: 1780 sf Element Estimated Quantity: 1780 sq.ft	3

WORK ORDER RECOMMENDATION:
Replace both approach slabs.

ELEMENT/ENV: 8290 / 3 Channel **ELEM CATEGORY: Channel**

CONDITION STATE		PRIORITY
2	MMS Quantity: 10 mh Element Estimated Quantity: 1 (EA)	3

WORK ORDER RECOMMENDATION:
Remove all drift and debris from the channel.

ELEMENT/ENV: 8474 / 3 Metal Wall **ELEM CATEGORY: Other Elements**

CONDITION STATE		PRIORITY
2 , 3	MMS Quantity: 200 mh Element Estimated Quantity: 208 ft	3

WORK ORDER RECOMMENDATION:
Clean and paint steel backwalls and wingwalls.

2 , 3	MMS Quantity: 6 mh Element Estimated Quantity: 208 ft	3

WORK ORDER RECOMMENDATION:
Repair areas of erosion and undermining behind the northwest northeast and southeast wingwalls.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308
DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Inspector Recommendations

UNIT: 0 **SUBSTRUCTURE**

ELEMENT/ENV: 215 / 3 Re Conc Abutment **ELEM CATEGORY: Substructure**

CONDITION STATE			PRIORITY
1 , 3	MMS Quantity: 4 mh	Element Estimated Quantity: 90 ft	3

WORK ORDER RECOMMENDATION:
Repair spall in the bottom southeast corner of Abutment 5 cap.

1 , 3	MMS Quantity: 4 mh	Element Estimated Quantity: 90 ft	3

WORK ORDER RECOMMENDATION:
Remove tree from under southeast corner of Abutment 5 cap.

ELEMENT/ENV: 226 / 3 Pre Conc Pile **ELEM CATEGORY: Substructure**

CONDITION STATE			PRIORITY
1 , 2 , 3	MMS Quantity: 3 mh	Element Estimated Quantity: 40 (EA)	3

WORK ORDER RECOMMENDATION:
Install crutch bents as indicated in the Phase IV scour report.

UNIT: 0 **SUPERSTRUCTURE**

ELEMENT/ENV: 331 / 3 Re Conc Bridge Railing **ELEM CATEGORY: Superstructure**

CONDITION STATE			PRIORITY
1	MMS Quantity: 250 lf	Element Estimated Quantity: 340 ft	3

WORK ORDER RECOMMENDATION:
Replace approach guardrails to current FDOT standards.

Structure Notes

BRIDGE OWNER: CITY OF JACKSONVILLE
Bridge Inventoried from west to east.

Due to the condition of Element 321 R/Conc Approach Slab, a 12-month inspection interval is recommended until repairs are completed.

A new photo inventory will be required in 2023 unless upgrades/reconstruction alter structure or approach roadway prior to 2023.

The scour storm information was changed from U-unknown foundation to 3-Scour Critical as a result of the Unknown Foundation Scour Project findings. The Scour Critical elevation information in the CIDR is in NAVD88 datum and was obtained from the Phase IV Scour evaluation report. mdm 09/2013

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

INSPECTION NOTES: **KKRB** **1/19/2017**

TRAFFIC RESTRICTION: The Florida Department of Transportation has directed Kisinger, Campo & Associates to express the Department's policies to post weight restrictions by the Operating Ratings. Based on conditions identified in this inspection report, the current load rating analysis dated 4/11/00, is valid and the structure should not be posted. The structure is not posted.

LOAD CAPACITY EVALUATION:
A cursory review of the current load rating analysis dated 4/11/00 was conducted during this inspection by Thomas LoCicero, P.E. 3/2/17. The findings of this review and inspection reveal no substantial deterioration, geometric changes or additional dead load to the bridge that warrant the need for a new load rating analysis; therefore, the current load rating is considered applicable.

Element 8475 R/Conc Walls was deleted during this inspection.

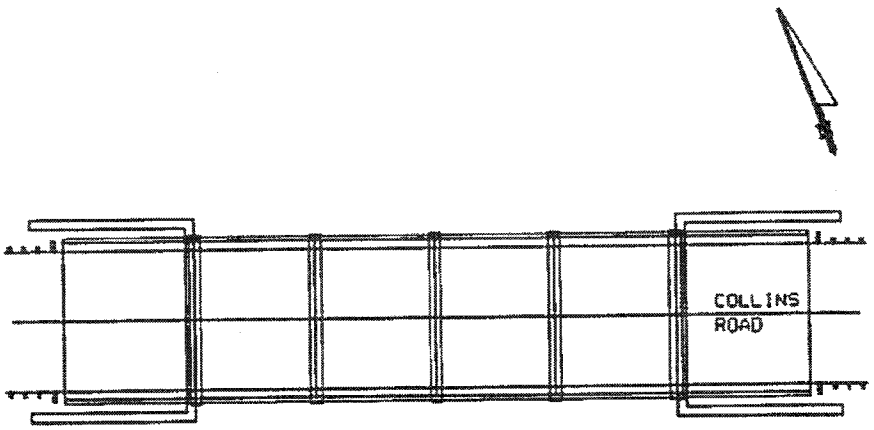
Sufficiency Rating Calculation Accepted by knkcarl at 3/21/2017 8:41:23 AM

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b). Florida Statutes Only the cover page of this report may be inspected and copied.

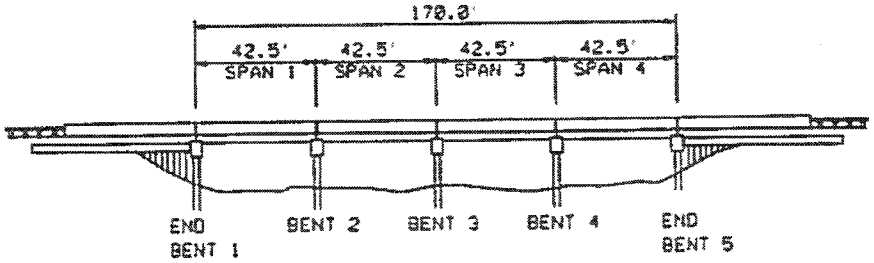
FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308
DISTRICT: D2 - Lake City

INSPECTION DATE: 1/19/2017 KKRB



PLAN
NOT TO SCALE



ELEVATION
NOT TO SCALE

DIMENSIONS ARE IN FEET
UNLESS OTHERWISE NOTED

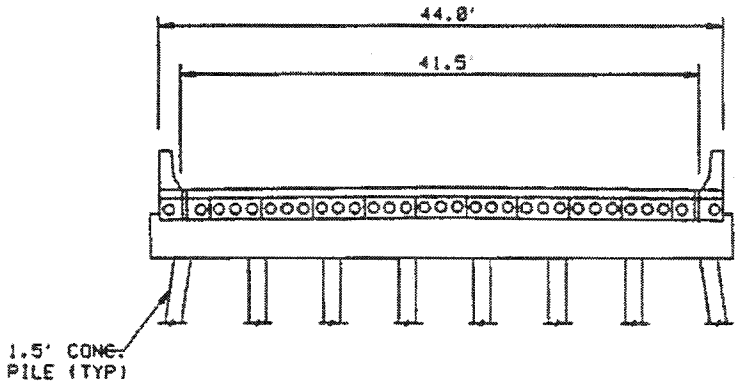
Sketch 1

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**



TYPICAL SECTION LOOKING NORTH
NOT TO SCALE

DIMENSIONS ARE IN FEET
UNLESS OTHERWISE NOTED

Sketch 2

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308
DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Continuation of Element 321 R/Conc Approach Slab:

CS4 (Continued) – Measurements were taken at the top of the joints between the approach barriers and bridge barriers to monitor settlement:

Date of Measurement	Abutment 1 (Left)	Abutment 1 (Right)	Abutment 5 (Left)	Abutment 5 (Right)
January 2017	3-1/4"	3-1/2"	4"	3-1/4"
January 2016	3-1/4"	3-1/2"	4"	3-1/2"
January 2015	3-1/8"	3-5/16"	3-7/8"	3-1/4"
January 2014	3-1/2"	3-1/4"	3-1/2"	3-1/8"
January 2013	3-1/8"	3-5/16"	3-1/2"	3-1/8"
January 2012	3-1/8"	3-5/16"	3-1/2"	3-1/8"
January 2011	3-1/8"	3-5/16"	3-1/2"	3-1/8"
January 2010	3-1/8"	3-1/4"	3-1/2"	3"
January 2000 (Original)	2-7/8"	2-7/8"	2-3/4"	2-1/2"

(See Photo 6 for a typical view of gaps at the approach barrier/bridge barrier joints)
These conditions show an INCREASE from January 2000.

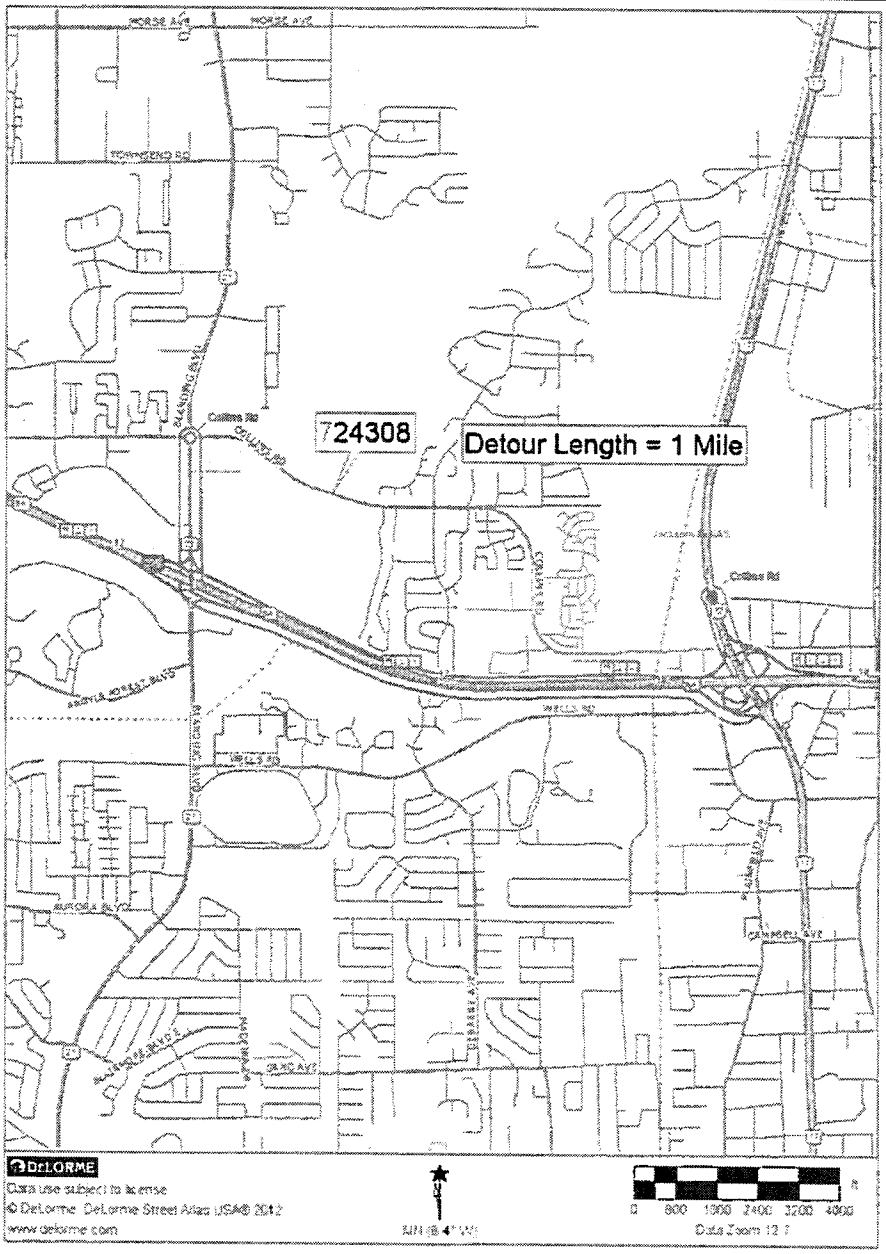
ADDITIONAL ELEMENT NOTES

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**



Collins Road over Ortega River **0.65 Mile East of Blanding Blvd**

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

EAST APPROACH

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

SOUTH ELEVATION

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

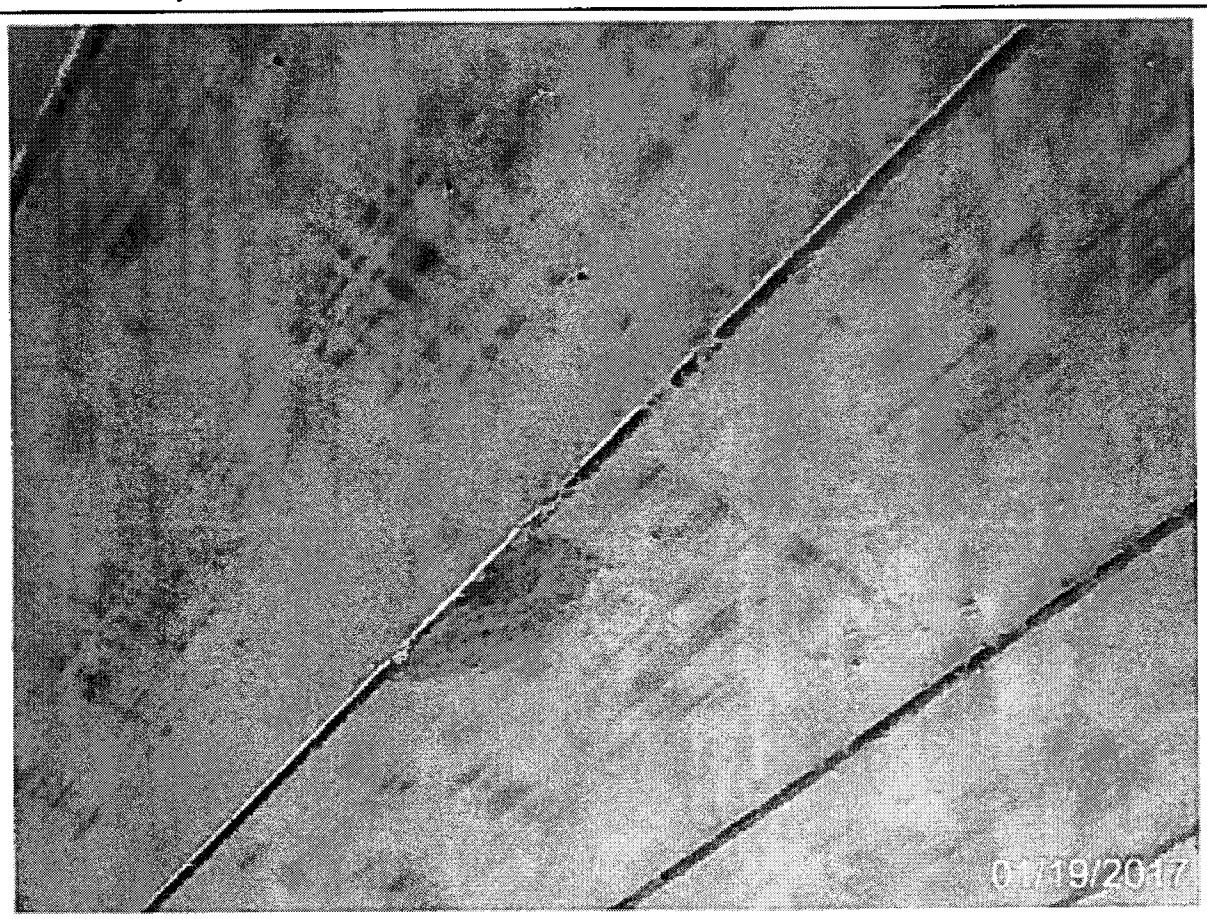


Photo 1 – Element 8099 PS Conc Slab (Sonovoid)

Spall/delamination in the south edge of Slab Unit 3-3

REPAIR RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 2 – Element 8099 PS Conc Slab (Sonovoid)

Dirt and debris along the barriers

REPAIR RECOMMENDATION:
Remove dirt and debris from along the barriers.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 3 – Element 301 Pourable Joint Seal

Heavily deteriorated sealant filled with dirt and debris

REPAIR RECOMMENDATION:
Clean and seal the joints.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 4 – Element 8290 Channel

Drift and debris in the channel

REPAIR RECOMMENDATION:
Remove all drift and debris from the channel.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

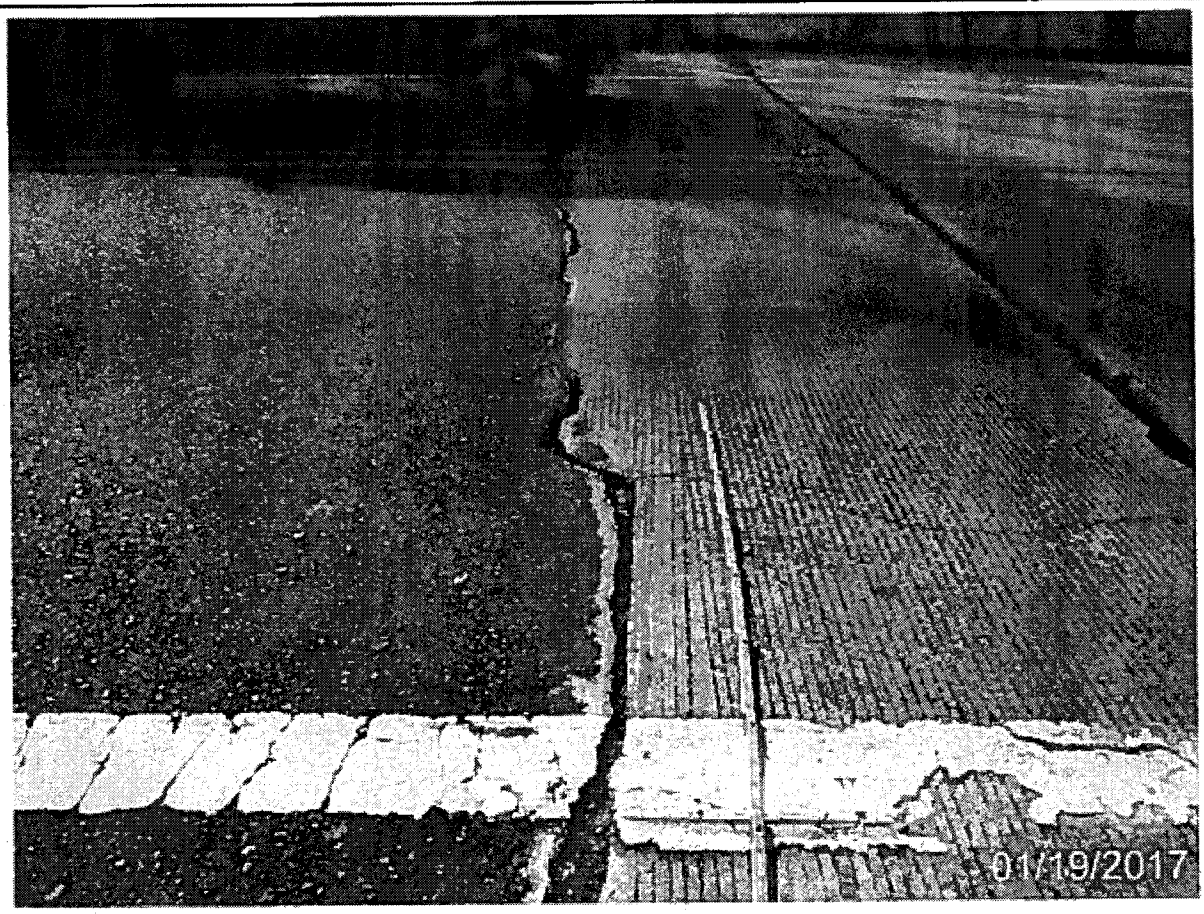


Photo 5 – Element 321 Re Conc Approach Slab

Transverse crack/gap in the east approach slab

REPAIR RECOMMENDATION:
Replace both approach slabs.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 6 - Element 321 Re Conc Approach Slab

Opening at the top of the northeast approach barrier/bridge barrier transition

REPAIR RECOMMENDATION:
See Photo 5.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

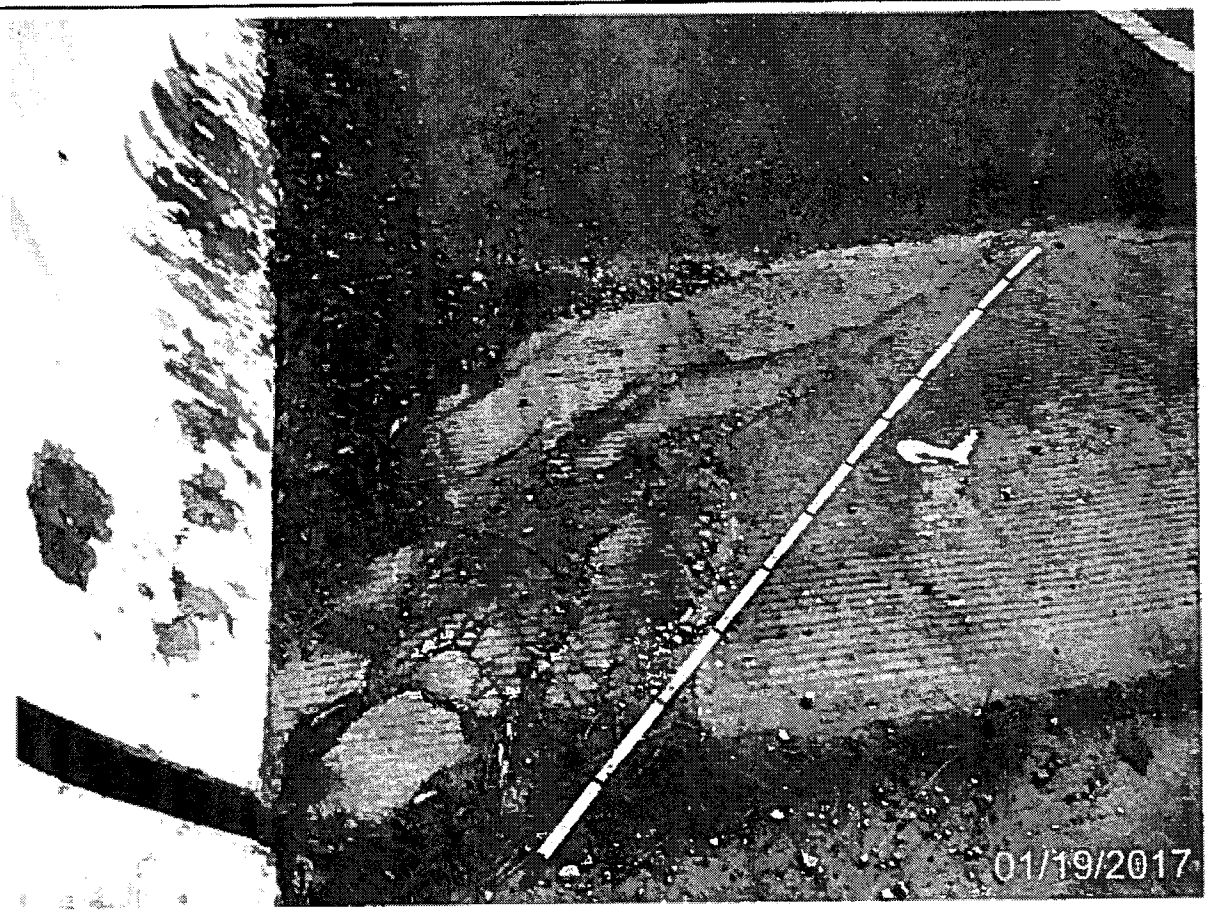


Photo 7 - Element 321 Re Conc Approach Slab

Diagonal crack/fracture with spalls and delaminations in the north shoulder of the east approach slab

REPAIR RECOMMENDATION:
See Photo 5.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 8 - Element 321 Re Conc Approach Slab

Settlement in the north shoulder of the east approach slab

REPAIR RECOMMENDATION:
See Photo 5

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 9 - Element 321 Re Conc Approach Slab

Spall/delamination in the south face of the east approach slab at the abutment

REPAIR RECOMMENDATION:
See Photo 5.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 10 – Element 321 Re Conc Approach Slab

Undermining along the south face of the west approach slab

REPAIR RECOMMENDATION:
Repair all undermining along both edges of both approach slabs.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308
DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 11 - Element 321 Re Conc Approach Slab

Undermining along the southeast approach sidewalk

REPAIR RECOMMENDATION:
Repair undermining along the southeast approach sidewalk.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 12 – Element 321 Re Conc Approach Slab

Unsupported utility at the northwest wingwall

REPAIR RECOMMENDATION:
Provide support for the utilities at northeast and northwest wingwalls.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308
DISTRICT: D2 - Lake City
INSPECTION DATE: 1/19/2017 KKRB

Photo 13 – Element 8474 Metal Wall

Typical corrosion on the southeast wingwall

REPAIR RECOMMENDATION:
Clean and paint steel backwalls and wingwalls.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 14 - Element 8474 Metal Wall

Erosion and undermining at the end of the southeast wingwall

REPAIR RECOMMENDATION:
Repair areas of erosion and undermining behind the northwest northeast and southeast wingwalls

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119 071(3)(a) and 119 071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308
DISTRICT: D2 - Lake City
INSPECTION DATE: 1/19/2017 KKRB

Photo 15 – Element 215 Re Conc Abutment

Spall in the bottom southeast corner of Abutment 5 cap

REPAIR RECOMMENDATION:
Repair spall in the bottom southeast corner of Abutment 5 cap

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 16 - Element 215 Re Conc Abutment

Tree growing under the southeast corner of Abutment 5 cap

REPAIR RECOMMENDATION:
Remove tree from under southeast corner of Abutment 5 cap.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

Photo 17 – Element 226 Pre Conc Pile

Spall in the northwest corner of Pile 3-6

REPAIR RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City

INSPECTION DATE: 1/19/2017 KKRB

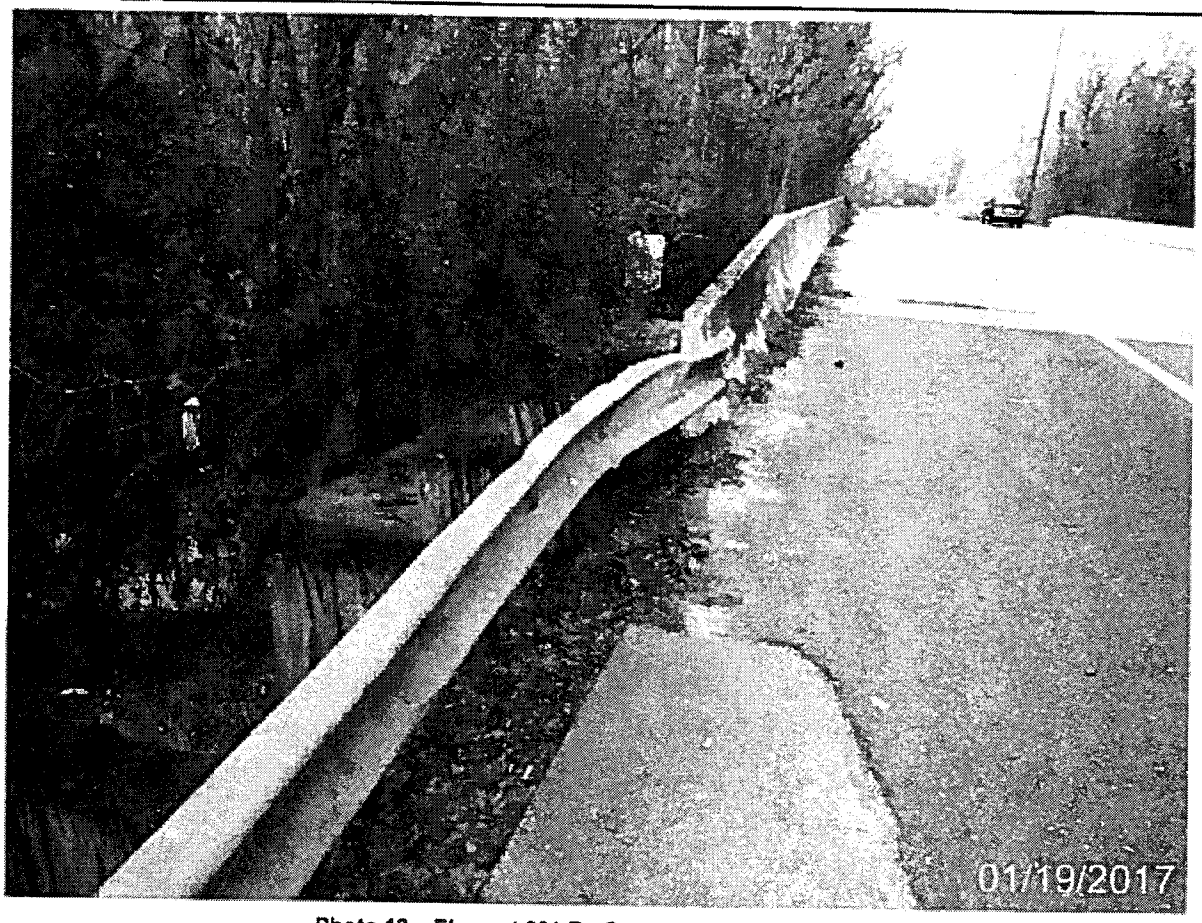


Photo 18 – Element 331 Re Conc Bridge Railing

Impact damage to the southeast approach guardrail and mounted too low

REPAIR RECOMMENDATION:
Replace the approach guardrails to current FDOT standards.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

F. FIELD PREPARATION and CHECKLIST

Structure ID 724308

Inspection Date: N/A Underwater: 01/25/17

A. Tools and Equipment

Full Size Cargo Van	Yes	X	No		Pick-up Truck	Yes		No X
Automobile	Yes		No	X				
Camera	Yes	X	No		Video	Yes		No X
NDT Equipment.	Yes		No	X				
NDT Type	N/A							
Binoculars	Yes		No	X				
Diving Performed.	Yes	X	No		Max Depth: 14'	Current: Light		

Dive Mode: SCUBA

Hand Tools

1. Standard Inspection Tools
2. Chipping Hammer
3. Inspection Hand Tools
4. Flashlight
5. Folding Rulers
6. Camera

Other:

B. Services

Flag Crew: N/A Snooper: N/A

Electrician: N/A Other: _____

C. Scheduling (Brief Explanation)

Routine Inspection, no special scheduling needed.

Man Hours: 3.0hrs. Dive Time: 1.0hr. Travel Time: 24.0hrs. Office Time: 1.0hr.

D. Site Conditions

Boat Needed: No Type of Boat: N/A

Location of Boat Ramp: N/A

Lengthy Travel Required: N/A

Difficult Access: No

Water Obviously Polluted. No

Water quality is fair: Yes

Strong Water Current: No

Other: N/A

E. UNDERWATER ELEMENTS INSPECTED:

- 8290 Channel
- 226 Pre Conc Pile - Bents 2 through 4 each with eight 18" concrete piles

FIELD PREPARATION DATA

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
Inspection

Structure ID: 724308

DISTRICT: D2 - Lake City **INSPECTION DATE: 1/19/2017 KKRB**

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

D: LOAD CAPACITY INFORMATION

FORM 850-010-09
MAINTENANCE - 8/93
Page 1 of 1

1. BRIDGE DATA.
Bridge Number 724 058 Date 08/24/99
STR Type Main (BMIS Item B1(43)) 501 STR Type APR (BMIS Item B2(44))
2. POSTING DATE
Posted NO If yes, Existing Posting Needed NO If Yes, Proposed
Restrictions Restrictions
BMIS Item H1(41) A BMIS Item H11(70) 5
BMIS Item H7 (31) UNKNOWN

3. ANALYSIS DATA:

A. Method of Analysis:
X Load Factor
Working Stress

B. Analysis System:
BARS-PC Release 5.5-MOD 3.2
SALOD
BRUFEM
Load Test
X Other HAND CALCS.

C. Analysis Based On:
Design Drawings
As-Built Record Plans
Shop Drawings
Field Measurement
Catalogs
Sample Testing
Other

D. Data Stored
District Office
Central Office
Microfilm
Bridge Owner
Materials Test Lab
Other

E. Controlling Member Analyzed:
Material:
Steel
X Concrete
Cast in Place
X Precast
X Prestressed
Post Tensioned
Timber
Other

Span
X Simple
Continuous
Frame

Slab
Non-Composite
X Composite

Function:
X Slab
Stringer
Floor Beam
Girder
Culvert
Truss

Shape:
Rolled
Built-up Welded
Built-up Riveted
Box Shape
AASHTO Girders
X Other RECTANGULAR

Substructure
Bent Construction
Piling
Cap
Pier Construction
Piling
Footing
Column
Cap

4. Load Rating Summary Table:

LOAD RATING SUMMARY FOR OPERATING RATING

(GROSS TONS)

VEHICLE TYPE	TONS	OPR RATING	OPR FACTOR	SPAN NO.	SPAN LENGTH	CONTR. MEMBER	M OR V	LLDF
SU2	17	46.4	2.729	SPANS 1-4	42.0'	P.S. SLAB	M	
SU3	33	47.7	1.445	SPANS 1-4	42.0'	P.S. SLAB	M	
SU4	35	47.2	1.349	SPANS 1-4	42.0'	P.S. SLAB	M	
C3	28	69.1	2.468	SPANS 1-4	42.0'	P.S. SLAB	M	
C4	36.6	67.0	1.831	SPANS 1-4	42.0'	P.S. SLAB	M	
C5	40.0	70.2	1.755	SPANS 1-4	42.0'	P.S. SLAB	M	
ST5*	40.0	75.6	1.890	SPANS 1-4	42.0'	P.S. SLAB	M	
HS20	36	57.5	1.597	SPANS 1-4	42.0'	P.S. SLAB	M	

HS 20 Inventory Rating 49.2 Tons Rating Factor 1.367

5. Comments:
* Only the rating for the rating truck ST5 is calculated in this rating analysis. See attached sheets for calculations and assumptions used in the analysis.
All other ratings and information were obtained from the previous load rating dated 12/15/89 and are included in this summary sheet for completeness.

6. Computations:
Performed By J. Huang, P.E. Date 08/24/99
Checked By S. A. Shoop, P.E. Date 08/24/99
Reviewed By G. A. Klevens, P.E. Date 9/8/99

7. Responsible Engineer:
P.E. # 47157 Date 9/11/99

LOAD RATING ANALYSIS SUMMARY

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

Routine Underwater Bridge Inspection Report
BOLT UNDERWATER SERVICES, INC.
for
KISINGER CAMPO & ASSOCIATES, CORP.

NBI Structure ID. (8): **724308** Underwater Date (93): 01/25/17

Structure/Roadway Identification:

District (2):	02 Local
County (3):	Duval
Feature Intersected (6):	Ortega River
Facility Carried (7):	Collins Road

Underwater Inspection Details:

Special Crew Hours:	3.0
Max. Depth:	14' at Bent 4
Type of Dive Insp.:	Level II (SCUBA)
Type of Boat Used:	N/A
Water Type/Marine Growth:	Fresh/Tannic/Riverine – Algae

Previous Inspection:

Lead Diver:	C.B.I. No.:	Inspection Date:
Hoogland, Keith S.	00341	01/13/15

Inspection Personnel:

Field Personnel:	Title	C.B.I. No.:	Duty:	Signature:
Hitch, Victoria	C.B.I. Diver-Inspector	00414/Lead	Tend	
Hoogland, Keith S.	C.B.I. Diver-Inspector	00341	Dive	
Brewer, James D.	Diver		Dive	

CHANNEL
ELEMENT: 8290 1: ea.

NOTE: The channel flows in south of Span 4, runs east to west under the bridge and exits at Span 2 to the north.

CS-2 9140
There is heavy timber drift and debris *throughout the channel* (previously reported at Bents 2 3 and 4). INCREASE.

PILES
ELEMENT: 226 P/S CONCRETE 24: ea.

CS-2 1190
The piles have scale *up to ½" deep* from the high-water mark down. INCREASE. 22EA.

CS-3 1080
Pile 3-2: NE corner, spall, 6" H x 4" W x ¾" D. NEW. 1EA.

Pile 3-6: NW corner 9' 6" below cap, spall, 8" H x 5" W x 1" D NO CHANGE. 1EA.

NOTE: The piles have corner spalls up to 3" H x 2" W x ½" D, cannot be determined due to scale depth.

Cleaning Log: No cleaning due to freshwater environment.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

Bridge No:	724308	**Scour Action Elevation Has Been Exceeded**	
County Section No:	72800000	Location:	Collins Road over Ortega River
State Road No:		Inspection Date:	01/19/2017
U.S. Road No:		Inspector:	Eric Lambert

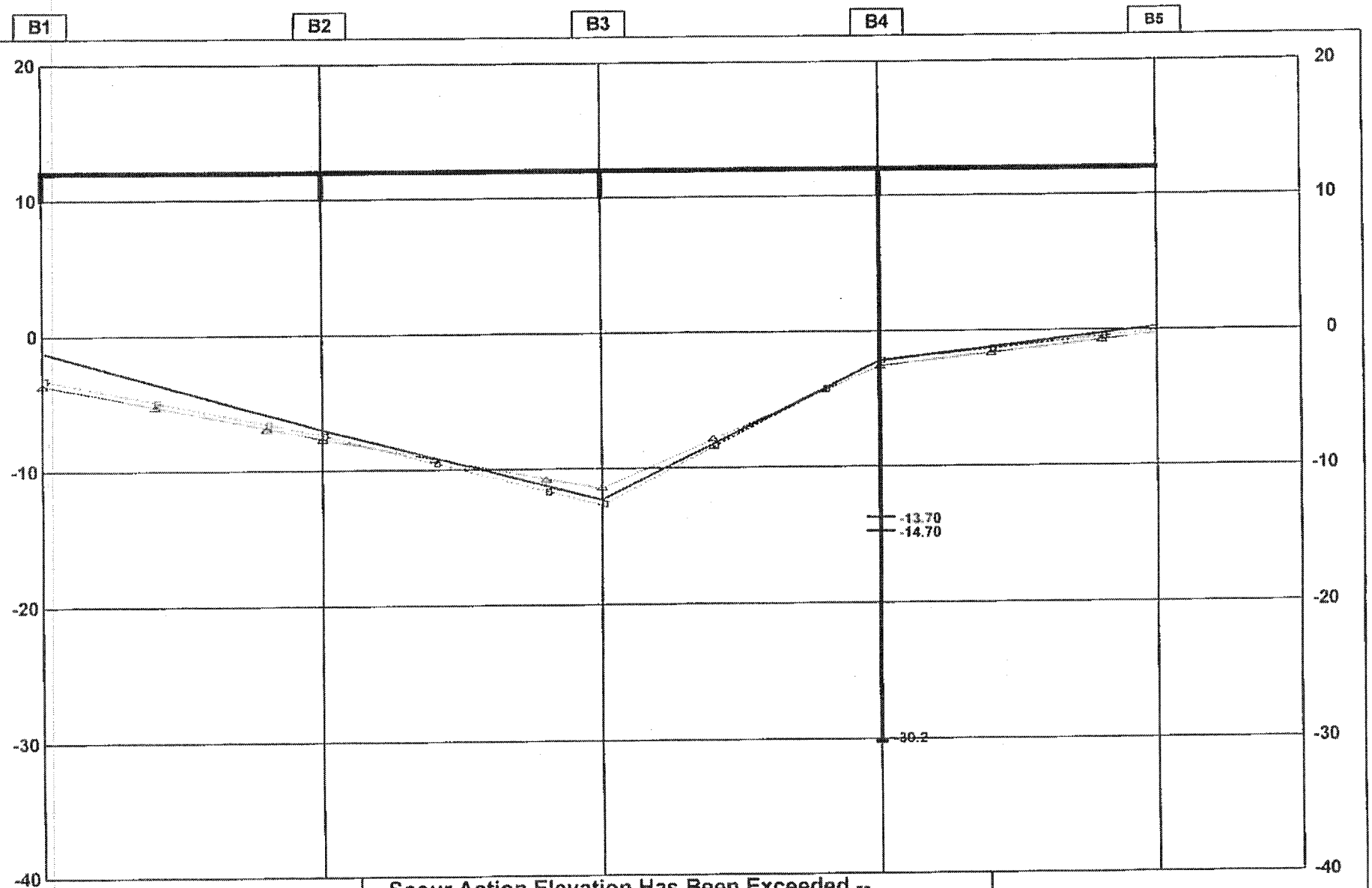
PROFILE COMPARISON REPORT

Date Groundline Recorded 04/01/1991							Date Groundline Recorded 01/26/2015							Date Groundline Recorded 01/19/2017						
Bent	Action		Critical		Lead Line Measurement		Bent	Action		Critical		Lead Line Measurement		Bent	Action		Critical		Lead Line Measurement	
No.	Left	Right	Left	Right	Left	Right	No.	Left	Right	Left	Right	Left	Right	No.	Left	Right	Left	Right	Left	Right
1					13.20	11.10	1					15.20	11.30	1					15.60	11.50
2					19.00	11.90	2					19.40	12.20	2					19.70	12.20
3					24.30	15.00	3					24.70	15.00	3					23.50	15.50
4	25.72	25.72	26.72	26.72	14.20	24.60	4	25.72	25.72	26.72	26.72	14.20	25.40	4	25.72	25.72	26.72	26.72	14.60	26.00
5					11.80	13.30	5					12.10	14.10	5					12.30	14.50

Comments.

Comments.
All measurements are in feet and are referenced to the top of the barrier wall.

Comments:
All measurements are in feet and are referenced to the top of the barrier wall.



-- Scour Action Elevation Has Been Exceeded --

LEFT ELEVATION

Scour Critical

Scour Action

CHANNEL LEGEND

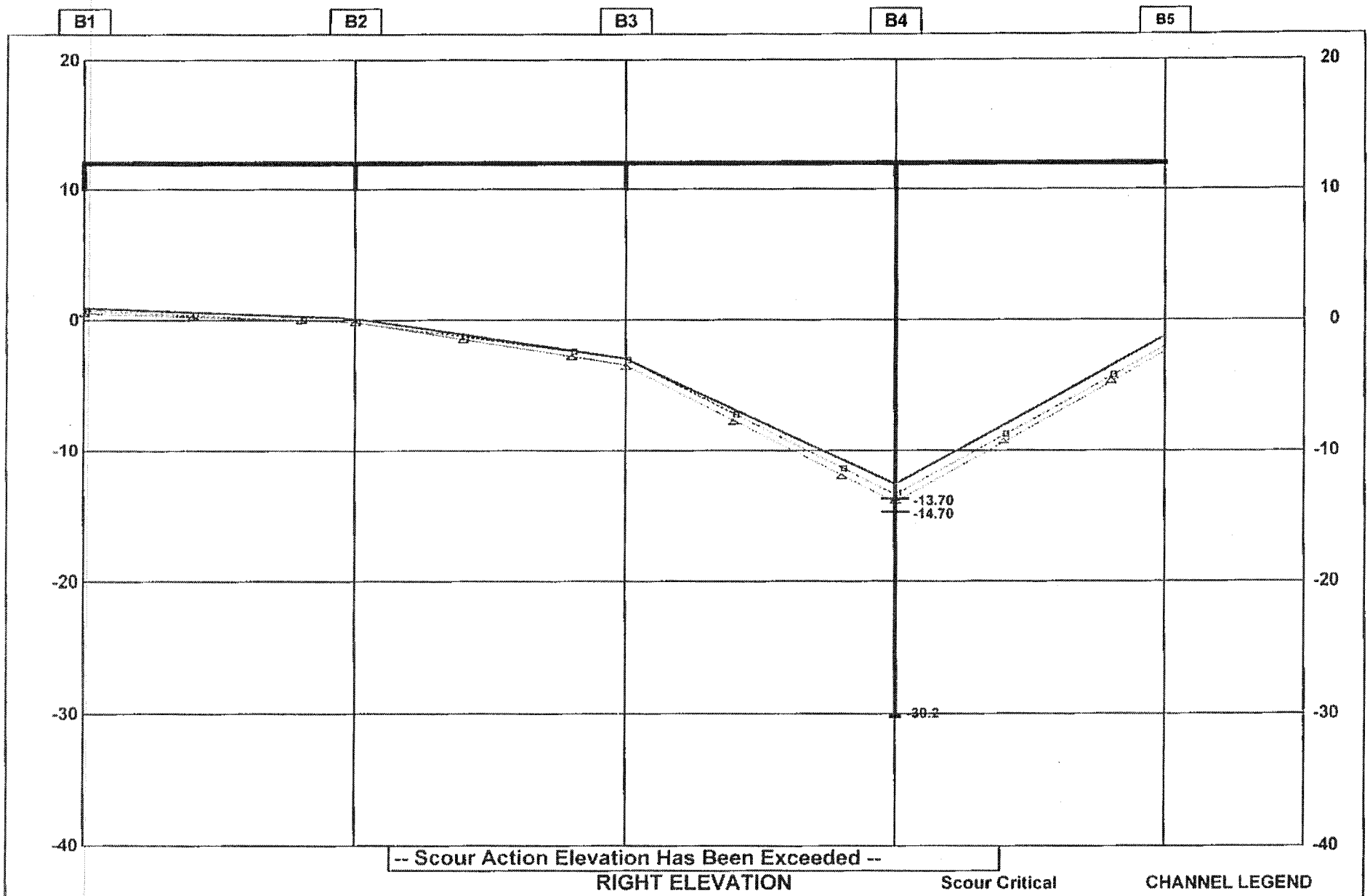
01/19/2017

01/26/2015

04/01/1991

Profile Note: Top of barrier elevation 13.83' left and right sides calculated from the Phase IV Scour Report.
Pile tip elevations obtained from the Phase IV Scour Report.

Scale NTS	BRIDGE NO. 724308 COLLINS ROAD OVER ORTEGA RIVER	Page 2 of 3



-- Scour Action Elevation Has Been Exceeded --

RIGHT ELEVATION

Scour Critical

Scour Action

CHANNEL LEGEND

01/19/2017

01/26/2015

04/01/1991

Profile Note: Top of barrier elevation 13.83' left and right sides calculated from the Phase IV Scour Report.
Pile tip elevations obtained from the Phase IV Scour Report.

Scale NTS	BRIDGE NO. 724308 COLLINS ROAD OVER ORTEGA RIVER	Page 3 of 3

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
CIDR

REPORT ID: INSP005
Structure ID: 724308
DATE PRINTED: 9/13/2017

Description

Structure Unit Identification

Bridge/Unit Key: 724308 0
Structure Name: COLLINS RD/ORTEGA RIVER
Description: SPANS 1 THROUGH 4
Type: M - Main

Roadway Identification

NBI Structure No (8): 724308
Position/Prefix (5): 1 - Route On Structure
Kind Hwy (Rte Prefix): 5 City Street
Design Level of Service: 1 Mainline
Route Number/Suffix: 00000 / 0 N/A (NBI)
Feature Intersect (6): ORTEGA RIVER
Critical Facility: Not Defense-crit
Facility Carried (7): COLLINS ROAD
Mile Point (11): 4.076
Latitude (16): 030d12'05.0" Long (17): 081d43'49.7"

Roadway Traffic and Accidents

Lanes (28): 2 Medians: 0 Speed: 40 mph
ADT Class: 4 ADT Class 4
Recent ADT (29): 17600 Year (30): 2015
Future ADT (114) 30536 Year (115): 2037
Truck % ADT (109): 1
Detour Length (19): 1 mi
Detour Speed: 30 mph
Accident Count -1 Rate:

Roadway Classification

Nat. Hwy Sys (104): 0 Not on NHS
National base Net (12): 0 - Not on Base Network
LRS Inventory Rte (13a): 72 800 000 Sub Rte (13b): 00
Functional Class (26): 17 Urban Collector
On Federal Aid System: Yes
Defense Hwy (100) 0 Not a STRAHNET hwy
Direction of Traffic (102): 2 2-way traffic
Emergency: [ ]

Roadway Clearances

Vertical (10): 99.99 ft Appr. Road (32): 24 ft
Horiz. (47): 41.5 ft Roadway (51): 41.5 ft
Truck Network (110): 0 Not part of natl netwo
Toll Facility (20): 3 On free road
Fed. Lands Hwy (105): 0 N/A (NBI)
School Bus Route: [X]
Transit Route: [ ]

NBI Project Data

Proposed Work (075A):
Work To Be Done By (075B):
Improvement Length (076) 169.95 ft

Improvement Cost (094): $ 6,000.00
Roadway Improvement Cost (095): $ 48,000.00
Total Cost (096): $ 59,000.00
Year of Estimate (097):

NBI Rating

Channel (61): 7 Minor Damage
Deck (58): 6 Satisfactory
Superstructure (59): 6 Satisfactory
Substructure (60): 7 Good

Culvert (62): N N/A (NBI)
Waterway (71): 8 Equal Desirable
Unrepaired Spalls: -1 sq.ft.
Review Required: [X]

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
CIDR

REPORT ID: INSP005
Structure ID: 724308
DATE PRINTED: 9/13/2017

Structure Identification

Admin Area: North Florida
District (2): D2 - Lake City
County (3): (72)Duval
Place Code (4): Jacksonville
Location (9): 0.65MI E OF BLANDING BLVD
Border Br St/Reg (98): Not Applicable (P) Share: 0 %
Border Struct No (99):
FIPS State/Region (1): 12 Florida Region 4-Atlanta
NBIS Bridge Len (112): Y - Meets NBI Length

Parallel Structure (101): No || bridge exists
Temp. Structure (103): Not Applicable (P)
Maint. Resp. (21): 4 City/Municipal Hwy Agy
Owner (22): 4 City/Municipal Hwy Agy
Historic Signif. (37): 5 Not eligible for NRHP

Geometrics

Spans in Main Unit (45): 4
Approach Spans (46): 0
Length of Max Span (48): 42.5 ft
Structure Length (49): 170 ft
Total Length: 170 ft
Deck Area: 7480 sqft
Structure Flared (35): 0 No flare

Age and Service

Year Built (27): 1952
Year Reconstructed (106): 1983
Type of Service On (42a): 1 Highway
Under (42b): 5 Waterway
Fracture Critical Details: Not Applicable

Structure Type and Material

Curb/Sidewalk (50): Left: 0 ft Right: 0 ft
Bridge Median (33): 0 No median
Main Span Material (43A): 5 Prestressed Concrete
Appr Span Material (44A): Not Applicable (P)
Main Span Design (43B): 01 Slab
Appr Span Design (44B): Not Applicable (P)

Deck Type and Material

Deck Width (52): 44 ft
Skew (34): 0 deg
Deck Type (107): 2 Concrete Precast Panel
Surface (108): 2 Integral Concrete
Membrane: 0 None
Deck Protection: None

Appraisal

Structure Appraisal

Open/Posted/Closed (41): A Open, no restriction
Deck Geometry (68): 5 Above Tolerable
Underclearances (69): N Not applicable (NBI)
Approach Alignment (72): 8-No Speed Red thru Curv
Bridge Railings (36a): 0 Substandard
Transitions (36b): 0 Substandard

Approach Guardrail (36c): 0 Substandard
Approach Guardrail Ends (36d): 0 Substandard
Scour Critical (113): 3 SC - Unstable

Navigation Data

Navigation Control (38): Permit Not Required
Nav Vertical Clr (39): 0 ft
Nav Horizontal Clr (40): 0 ft
Min Vert Lift Clr (116): 0 ft
Pier Protection (111): 1 Not Required

NBI Condition Rating

Sufficiency Rating: 95.2
Health Index: 96.09
Structural Eval (67): 6 Equal Min Criteria
Deficiency: Not Deficient

Minimum Vertical Clearance

Over Structure (53): 99.99 ft
Under (reference) (54a): N Feature not hwy or RR
Under (54b): 0 ft

Minimum Lateral Underclearance

Reference (55a): N Feature not hwy or RR
Right Side (55b): 0 ft
Left Side (56): 0 ft

Schedule

Current Inspection

Inspection Date: 01/19/2017
Inspector: KNKCALE - Eric Lambert
Bridge Group: C9V94
Alt. Bridge Group:
Primary Type: Regular NBI
Review Required: [X]

Next Inspection Date Scheduled

NBI: 01/19/2019
Element: 01/19/2018
Fracture Critical:
Underwater: 01/25/2019
Other/Special: 01/19/2018

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
CIDR

REPORT ID: INSP005
Structure ID: 724308
DATE PRINTED: 9/13/2017

Schedule Cont.

Inspection Types Performed NBI [X] Element [X] Fracture Critical [ ] Underwater [X] Other Special [X]

Inspection Intervals	Required (92)	Frequency (92)	Last Date (93)
Fracture Critical	[ ]	mos	
Underwater	[X]	24 mos	01/25/2017
Other Special	[X]	12 mos	01/19/2017
NBI		24 mos (91)	01/19/2017 (90)

Inspection Resources

Crew Hours:	6
Flagger Hours:	0
Helper Hours:	0
Snooper Hours:	0
Special Crew Hours:	3
Special Equip Hours:	0

Bridge Related

General Bridge Information

Parallel Bridge Seq:
Channel Depth: 14 ft
Radio Frequency: -1
Phone Number:
Exception Date:
Exception Type: Unknown
Accepted By Maint: 01/01/1983
Warranty Expiration: 00/00/0000
Performance Rating: 2 - Good

Bridge Rail 1: Concrete jersey type
Bridge Rail 2: Not applicable-No rail
Electrical Devices: No electric service
Culvert Type: Not applicable
Maintenance Yard: Not FDOT Maintained
FIHS ON / OFF: No Routes on FIHS
Previous Structure:
2nd Previous Structure:
Replacement Structure:

Permitted Utilities: Power [ ] Water [ ] Gas [ ] Fiber Optic [ ] Sewage [ ] Other [ ]

Bridge Load Rating Information

Inventory Type (065): 1 LF Load Factor
Operating Type (063): 1 LF Load Factor
Original Design Load (031): 0 Unknown
Date: 04/11/2000
Initials: GAK
Load Rating Rev. Recom.:
Load Rating Plans Status: Unknown

Inventory Rating (066): 49.2 tons
Operating Rating (064): 57.5 tons
FL120 Permit Rating: -1.0 tons
HS20/FL120 Max Span Rating: 57.5 tons
Dynamic Impact in Percent: 30 %
Governing Span Length: 42.0 ft
Minimum Span Length: 42.0 ft
Distribution Method: Others

Load Rating Notes:

LEGAL LOADS

SU2: 46.4 tons
SU3: 47.7 tons
SU4: 47.2 tons
C3: 69.1 tons
C4: 67.0 tons
C5: 70.2 tons
ST5: 75.6 tons
Posting (070): 5 At/Above Legal Loads
Open/Posted/Closed (041): A Open, no restriction

POSTING

Recom. SU Posting: 99 tons
Recom. C Posting: 99 tons
Recom. ST5 Posting: 99 tons
Actual SU Posting: 99 tons
Actual C Posting: 99 tons
Actual ST5 Posting: 99 tons
Actual Blanket Posting: 99 tons

FLOOR BEAM (FB) FB Present: No

FB Span Length, Gov: 0.0 ft
FB Spacing, Gov: 0.0 ft
FB OPR Rating: 0.0 tons
FB SU4 OPR Rating: 0.0 tons
FB FL120 Rating: 0.0 tons

SEGMENTAL (SEG)

SEG Wing-Span: -1.0 ft
SEG Web-to-Web Span: -1.0 ft
SEG FL120 Transverse: -1.0 tons
SEG Single Axle Transverse: -1.0 tons
SEG Tandem Axle Transverse: -1.0 tons

Bridge Scour and Storm Information

Pile Driving Record: No pile driving records
Foundation Type: Unknown
Mode of Flow: Tidal
Rating Scour Eval: Scour Critical
Highest Scour Eval: Phase IV completed
Scour Evaluation Method:

Scour Recommended I: Perform Phase II
Scour Recommended II: Perform Phase III
Scour Recommended III: Perform Phase IV
Scour Elevation: -14.7 ft
Action Elevation: -13.7 ft
Storm Frequency: 100

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR Report with PDF attachment(s)
CIDR

REPORT ID: INSP005
Structure ID: 724308
DATE PRINTED: 9/13/2017

Elements

Inspection Date: 01/19/2017 KKRB

DECKS : Decks/Slabs

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	8099 / 3	PS Conc Slab (Sonovoid)	7472	99.89	1	0.01	7	0.09	0	.	7480 (SF)
0	1080 / 3	Delamination/Spall/Patched Area	0	.	1	12.5	7	87.5	0	.	8 (SF)
0	510 / 3	Wearing Surfaces	0	.	7480	100	0	.	0	.	7480 sq.ft
0	3230 / 3	Effectiveness (Wearing Surface)	0	.	7480	100	0	.	0	.	7480 sq.ft

DECKS : Joints

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	301 / 3	Pourable Joint Seal	0	.	0	.	220	100	0	.	220 ft
0	2320 / 3	Seal Adhesion	0	.	0	.	220	100	0	.	220 ft

MISCELLANEOUS : Channel

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	8290 / 3	Channel	0	.	1	100	0	.	0	.	1 (EA)
0	9140 / 3	Debris	0	.	1	100	0	.	0	.	1 (EA)

MISCELLANEOUS : Other Elements

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	321 / 3	Re Conc Approach Slab	0	.	0	.	890	50	890	50	1780 sq ft
0	4000 / 3	Settlement	0	.	0	.	890	50	890	50	1780 sq ft
0	510 / 3	Wearing Surfaces	0	.	1370	100	0	.	0	.	1370 sq ft

MISCELLANEOUS : Other Elements

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	8474 / 3	Metal Wall	0	.	93	44.71	115	55.29	0	.	208 ft
0	1000 / 3	Corrosion	0	.	93	44.71	115	55.29	0	.	208 ft

SUBSTRUCTURE : Substructure

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	215 / 3	Re Conc Abutment	89	98.89	0	.	1	1.11	0	.	90 ft
0	1080 / 3	Delamination/Spall/Patched Area	0	.	0	.	1	100	0	.	1 ft

SUBSTRUCTURE : Substructure

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	226 / 3	Pre Conc Pile	17	42.5	16	40	7	17.5	0	.	40 (EA)
0	1080 / 3	Delamination/Spall/Patched Area	0	.	0	.	3	100	0	.	3 (EA)
0	1190 / 3	Abrasion(PSC/RC)	0	.	16	100	0	.	0	.	16 (EA)
0	6000 / 3	Scour	0	.	0	.	4	100	0	.	4 (EA)

SUBSTRUCTURE : Substructure

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	234 / 3	Re Conc Pier Cap	135	100	0	.	0	.	0	.	135 ft

SUPERSTRUCTURE : Bearings

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	310 / 1	Elastomeric Bearing	8	100	0	.	0	.	0	.	8 each

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

REPORT ID: INSP005

Inspection/CIDR Report with PDF attachment(s)

Structure ID: 724308

CIDR

DATE PRINTED: 9/13/2017

SUPERSTRUCTURE : Superstructure

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
0	331 / 3	Re Conc Bridge Railing	340	100	0	.	0	.	0	.	340 ft
0	521 / 3	Conc Prot Coating	0	.	0	.	0	.	2400	100	2400 sq ft
0	3540 / 3	Eff(Crete Protect Coat)	0	.	0	.	0	.	2400	100	2400 sq ft

Total Number of Elements*: 10
*excluding defects/protective systems

Inspection Information

Inspection Date: 01/19/2017 **Type:** Regular NBI

Inspector: KNKCALE-P - Eric Lambert

Inspection Notes: TRAFFIC RESTRICTION: The Florida Department of Transportation has directed Kisinger, Campo & Associates to express the Department's policies to post weight restrictions by the Operating Ratings. Based on conditions identified in this inspection report, the current load rating analysis dated 4/11/00, is valid and the structure should not be posted. The structure is not posted.

LOAD CAPACITY EVALUATION:
A cursory review of the current load rating analysis dated 4/11/00 was conducted during this inspection by Thomas LoCicero, P.E. 3/2/17. The findings of this review and inspection reveal no substantial deterioration, geometric changes or additional dead load to the bridge that warrant the need for a new load rating analysis; therefore, the current load rating is considered applicable.

Element 8475 R/Conc Walls was deleted during this inspection.

Sufficiency Rating Calculation Accepted by knkcarl at 3/21/2017 8:41:23 AM

Structure Notes

BRIDGE OWNER: CITY OF JACKSONVILLE
Bridge Inventoried from west to east.

Due to the condition of Element 321 R/Conc Approach Slab, a 12-month inspection interval is recommended until repairs are completed.

A new photo inventory will be required in 2023 unless upgrades/reconstruction alter structure or approach roadway prior to 2023.

The scour storm information was changed from U-unknown foundation to 3-Scour Critical as a result of the Unknown Foundation Scour Project findings. The Scour Critical elevation information in the CIDR is in NAVD88 datum and was obtained from the Phase IV Scour evaluation report. mdm 09/2013

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FDOT Phase IV Scour Report

Prepared For:	SCOUR EVALUATION REPORT	Prepared By:
DISTRICT 2 Scott Hamilton Project Manager	FPN 427347-2-72-01 FDOT CONTRACT NUMBER C-8Y23	Kimley-Horn and Associates, Inc. 1920 Wekiva Way, Suite 200 West Palm Beach, FL 33411-2410 (561) 845-0665

REPORT IDENTIFICATION

■ PHASE 1	■ PHASE 2	■ PHASE 3	■ PHASE 4
Qualitative Evaluation/ Assessment Date: 01/26/1996*	Hydraulic/Hydrologic Assessment Date: 03/06/2013	Structural/Geotechnical Assessment Date: 05/29/2013	Plan of Action Date: 06/14/2013

**Phase 1 Addendum dated 09/19/2011*

Bridge Number: 724308 Name: Collins Road/Ortega River

Location: 0.65 miles east of Blanding Blvd. County: Duval

SCOUR VULNERABILITY

SCOUR MODE: ☐ Riverine ☐ Tidal ■ Both

SCOUR RATING: Scour Critical: ■ Yes ☐ No

Foundations: ☐ Known ■ Unknown

BMS RATING:

	Previous	Current
I 7 (113) Scour Critical	U	3
G3.00 (60) Substructure	7	7
G5.00 (61) Channel & Channel Protection	7	7
I 5 (71) Waterway Adequacy	8	8
G13.00 Substructure Movable Spans	N/A	N/A

** Insufficient data to determine rating at this time*

RECOMMENDATION: The recommended plan of action is to increase monitoring frequency until either the installation of structural countermeasures is completed, or a revised recommendation is developed based on reanalysis of pile bents utilizing information obtained through the use of Non-Destructive Testing (NDT) procedures.

Name of Engineer	Initials	Engineering Registration Number	Discipline
MELANIE A. WADSWORTH PE, CFM	MAW	50746 AZ	HYDRAULICS
FREDELIX O. MENEZ, PE, CFM	Fom	41858, AZ	HYDRAULICS (QA/QC)
ANTHONY M. BEVILACQUA, PE	Amb	59262, FL	STRUCTURAL
JAMEA LONG, PE	JML	58677, FL	STRUCTURAL (QA/QC)

Reviewing Bridge Engineer/Supervisor			Confirming Registered Professional Engineer		
Jamea Long	58677, FL	JML	Anthony M. Bevilacqua	59262	
Name	P.E. No.	Initials	Name	P.E. No.	Signature/Seal

STATE OF FLORIDA PROFESSIONAL ENGINEER No. 59262

1.0 SUMMARY OF FINDINGS

Bridge No. 724308 carries Collins Road traffic over Ortega River in Duval County, Florida. The 4-span, 2-lane bridge was constructed in 1952 and later reconstructed in 1983. The superstructure consists of precast/prestressed (PC/PS) concrete voided slab units. The intermediate pile bents utilize a single line of eight 18-inch square PC/PS concrete piles normal to the center line of the bridge. The end bents are pile supported spill through type backed with a steel sheet pile retaining wall. A Location Map is provided as **Figure 1**.

During the risk screening process (Stage 1) of the FHWA/FDOT Unknown Foundation (UF) Manual, Bridge No. 724308 was not classified as a High Priority bridge. As part of the Addendum to the Phase 1 Scour Evaluation (Stage 2), the bridge was rated as Scour Susceptible, Medium Priority due to the short estimated pile embedment.

The Phase 2 analysis (Stage 3) rated bridge 724308 as Scour Critical based on the following: (1) maximum total estimated scour depth at the piers of 10.7 feet for the 100-year storm event, (2) maximum total estimated scour depth at the abutments of 4.3 feet for the 100-year storm event, (3) estimated minimum remaining pile embedment depth of 5.7 feet, and (4) estimated pile embedment of 15.5 feet at time of installation per the Phase 1 Addendum.

The Phase 3 analysis (Stage 4) maintained the same Scour Critical classification based on the results of the stability analysis which showed Bent 4 to be unstable at the existing mud line elevation; therefore, countermeasure alternatives are limited to crutch bents (with abutment protection) or full bridge replacement. However, armoring countermeasures are provided in this Phase 4 (Stage 5) analysis should the pile tips be modified through the use of Non-Destructive Testing (NDT) methods. The use of NDT may be warranted for this bridge due to low embedment values estimated during the Phase 3 analysis. If NDT results in a revised Phase 3 analysis which shows that the bridge is stable, abutment armoring (such as rubble riprap) will still be required.

Recommendations:
The following Plan of Action is recommended:
- Determine the feasibility of conducting Non-destructive testing (NDT) to refine pile tip elevations, reevaluate scour analyses and determine if hydraulic countermeasures are warranted over more costly procedures such as crutch bents or full bridge replacement.
- If required, design and construct permanent scour countermeasures to protect from scour and future degradation at the bridge.
- Conduct bridge inspections at least annually and following moderate storm events (2-year event or greater) to monitor scour depths at piers and abutments until countermeasures are installed. Owner is responsible for monitoring following significant storm events.
- Prepare and update contingency plan should the bridge require closure during severe storm events until countermeasures are installed.

2.0 SCOUR COUNTERMEASURES

The primary objectives of the countermeasures are to stabilize the bridge and to protect the piers and abutments from the estimated scour associated with the 100-year flood event. The results from the Phase 2 analysis are summarized as follows:

Storm Event	Q	V_{max}	Maximum Contraction	Maximum Local Scour (ft)		Estimated Future	Maximum Total Estimated Scour (ft)	
(yr)	(cfs)	(ft/s)	Scour (ft)	Pier	Abut	Degradation (ft)	Pier	Abut
100	4,050	5.4	3.6	6.4	3.6	0.7	10.7	4.3
500	8,740	5.2	4.2	6.3	6.0	0.7	11.2	6.7

The survey for this bridge was referenced in State Plane Florida East (ft), North American Vertical Datum 88 (ft).

Since the Phase 3 stability analysis resulted in instability at the existing mud line, countermeasure alternatives are generally limited to crutch bents (with abutment protection) or full bridge replacement. However, should the pile tips be modified through the use of NDT (described as Alternative 1 below), armoring countermeasures could be applicable in the future.

(CONTINUED)

Alternative 1 consists of NDT to determine the embedment depth of the bridge foundation. The estimate of probable cost to perform NDT ranges from $37,000 for typical "Surface" NDT methods to $86,000 for typical "Subsurface" NDT methods. This cost results in the test itself and not the resulting countermeasures as those are dependent on the NDT results.

The estimated costs were calculated based upon the extent and configuration of the bridge, abutments, and channel geometry determined in the Phase 2 Report and are considered probable cost estimates. It is assumed the NDT will be performed on each pile at each intermediate bent and that sufficient access for installation of the testing equipment is available at the bridge. The dimensions, elevations and intersecting angles used in this report are based on the information obtained during the Phase 1, 2 and 3 analyses and may not represent as-built conditions.

The engineer who determines, designs, and specifies the appropriate NDT method is responsible for verifying field dimensions and measuring current channel dimensions prior to beginning NDT.

The engineer will adjust quantities accordingly. The probable cost values listed in this report were based on information from the FHWA/FDOT Procedural Manual (see **Attachment I**).

The results of the NDT will be used to reevaluate each phase of the scour evaluation.

Alternative 2 consists of the installation of crutch bents at all three intermediate bents and the installation of rubble riprap at both abutments in front of the existing steel sheet pile wall (located directly behind each abutment). Each crutch bent utilizes two PC/PS concrete piles, one on each end of the pile cap. Steel crutch beams run along each side of the pile cap and span the entire width of the bridge. Each beam rests on a steel support bracket corbel which is through-bolted at the top of each PC/PS concrete pile. Typically, the crutch beams would be connected to the slab units through the use of mechanical anchorage and shims; however, since the superstructure utilizes PC/PS concrete voided slab units, this method cannot be used due to conflicts with prestressing strands running along the bottom of each unit. As an alternative, the crutch beams will utilize continuous neoprene bearing pads similar to those currently used at the intermediate bent supports. Shimming will be necessary to ensure proper bearing between the slab units and the crutch beam and avoide cracking in the CIP concrete topping slab.

Alternative 3 consists of full bridge replacement.

An opinion of the probable cost (OPC) of each alternative is summarized as follows:

Alternative 1: Non-destructive testing (NDT)	$ 37,000 - 86,000*
Alternative 2: Independent Crutch Bents	$ 533,000*
Alternative 3: Bridge Replacement	$ 1,571,000

*Does not include the cost of abutment protection

Conceptual drawings, quantity estimates and opinions of probable cost (OPC) for each alternative are provided in **Attachment I, Scour Countermeasures**. The actual dimensions and layout of the proposed countermeasures should be verified during final design. Based on the OPCs shown above, Alternative 1 (NDT) should be completed; however, quantities and costs for these alternatives may change during final design. NDT will still require abutment protection.

In the event NDT results in the need of further hydraulic countermeasures, three hydraulic countermeasure alternatives have been considered as part of this Phase 4 analysis. All alternatives consist of measures to armor the piers, abutments, and the channel under the bridge. Design calculations for each alternative followed the design guidelines set forth in the Federal Highway Administration Hydraulic Engineering Circular No. 23 (HEC-23).

Each alternative includes toedowns at both the upstream and downstream faces of the bridge. The toedowns should extend across the full width of the channel. Each toedown should have a minimum depth of 4.3 ft below the existing grade elevations in order to provide sufficient protection for contraction scour associated with the 100-yr event as well as future degradation. By armoring the channel bottom and providing toedowns at the upstream and downstream limits, the alternatives will protect from the occurrence of local scour at the piers and abutments. Filter fabric should be placed underneath each alternative.

(CONTINUED)

One hydraulic alternative consists of installing 18-inch thick layer of riprap (D_{50} of 9 inches) to armor the full width of the channel. The riprap should extend upstream of the bridge at least one channel width and downstream of the bridge at least 1.5 channel widths at a maximum slope of 2H:1V

A second hydraulic alternative consists of installing 6-inch gabion mattresses will be used to armor the full width of the channel under the bridge. The gabion mattresses should extend upstream of the bridge at least one channel width and downstream of the bridge at least 1.5 channel widths at a maximum slope of 2H:1V.

A third alternative consists of articulated concrete block (ACB) system along the full width of the channel under the bridge. The armor should extend upstream of the bridge at least one channel width and downstream of the bridge at least 1.5 channel widths at a maximum slope of 2H:1V.

The following assumptions have been made as part of this study:
- Dewatering will not be required during construction.
- GFM/ACB or Gabion mattresses can be installed along existing channel bottom with minimal grading.

It is recommended that scour countermeasures be inspected at least every two years and after each 25-year storm event (8 inches of rainfall in a 24-hr period). If inspection reveals that countermeasures have been disturbed or damaged, repairs should be completed as soon as possible. If significant scour and damage results from a major flood event, the City of Jacksonville Director of Public Works must evaluate the safety of the bridge and decide whether or not closure is necessary.

3.0 MATERIAL AND DOCUMENTATION

Florida Department of Transportation (FDOT), District 2
Bridge Inspection Reports, dated 01/06/2009, 01/11/2011 and 01/21/2013
Phase 1 Scour Evaluation Report for Bridge No. 724308, 01/26/1996

Florida Division of Emergency Management (DEM), State Emergency Response Team (SERT)
Taylor County Evacuation Routes and Zones, 05/30/2012

Kimley-Horn and Associates, Inc.
Phase 3 Scour Evaluation Report for Bridge No. 724308, 05/29/2013

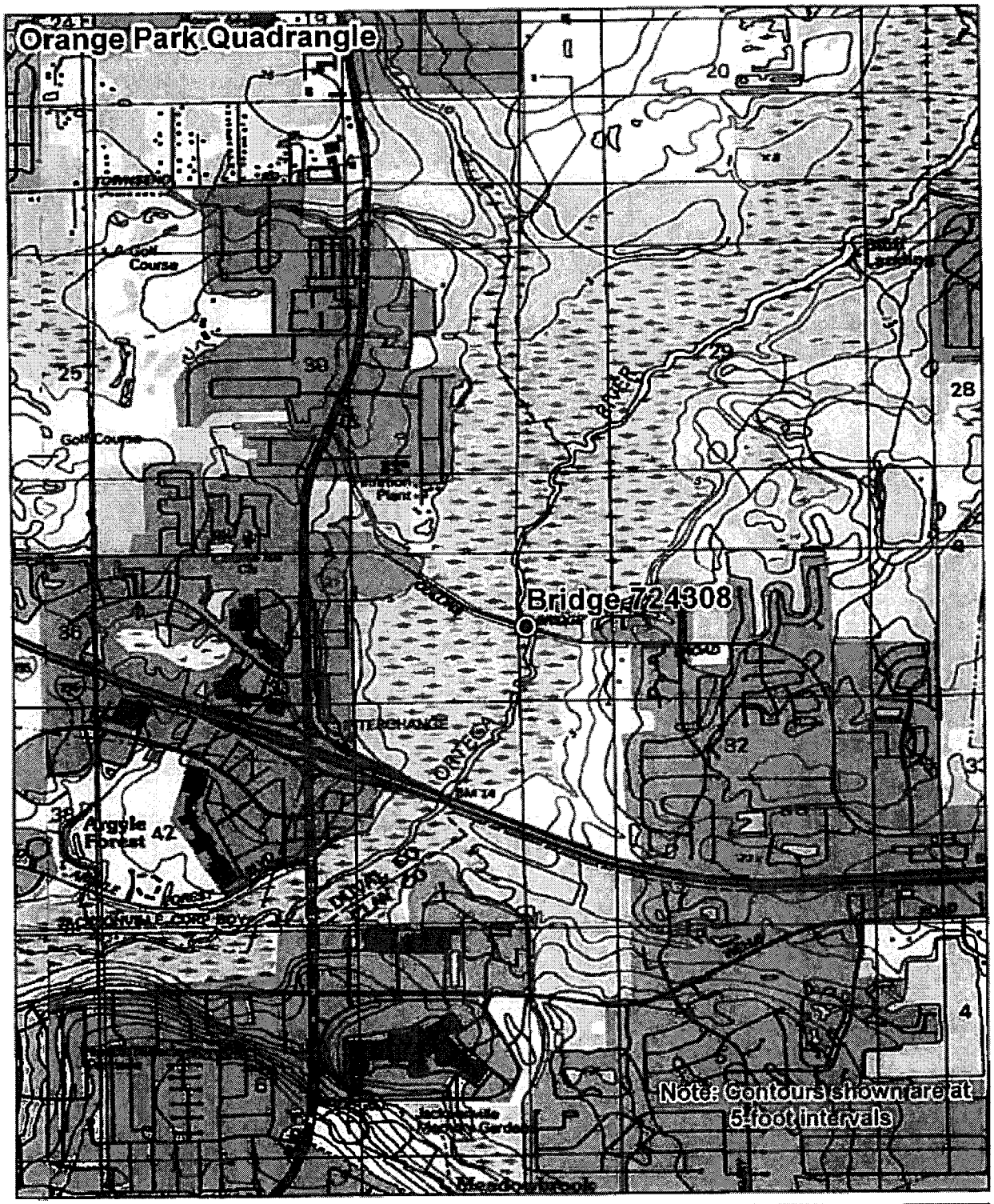
STV
Addendum to Phase 1 Scour Evaluation Report for Bridge No. 724308, 09/19/2011

Survey
Morgan & Eklund, Bathymetric & Topographic Survey, Ortega River Bridge, Duval County, Florida, 2012

Taylor Engineering
Phase 2 Scour Evaluation Report for Bridge No. 724308, 03/06/2013

U.S. Geological Survey (USGS)
USGS Orange Park Quadrangle topographic map, 5 ft contours, dated 1992

Attachments:
I. Scour Countermeasures
II. Plan of Action



0 1,000 2,000 4,000 Feet Kimley-Horn and Associates, Inc.	FDOT UF Bridge Scour Bridge No. 724308
	Figure 1. Location Map

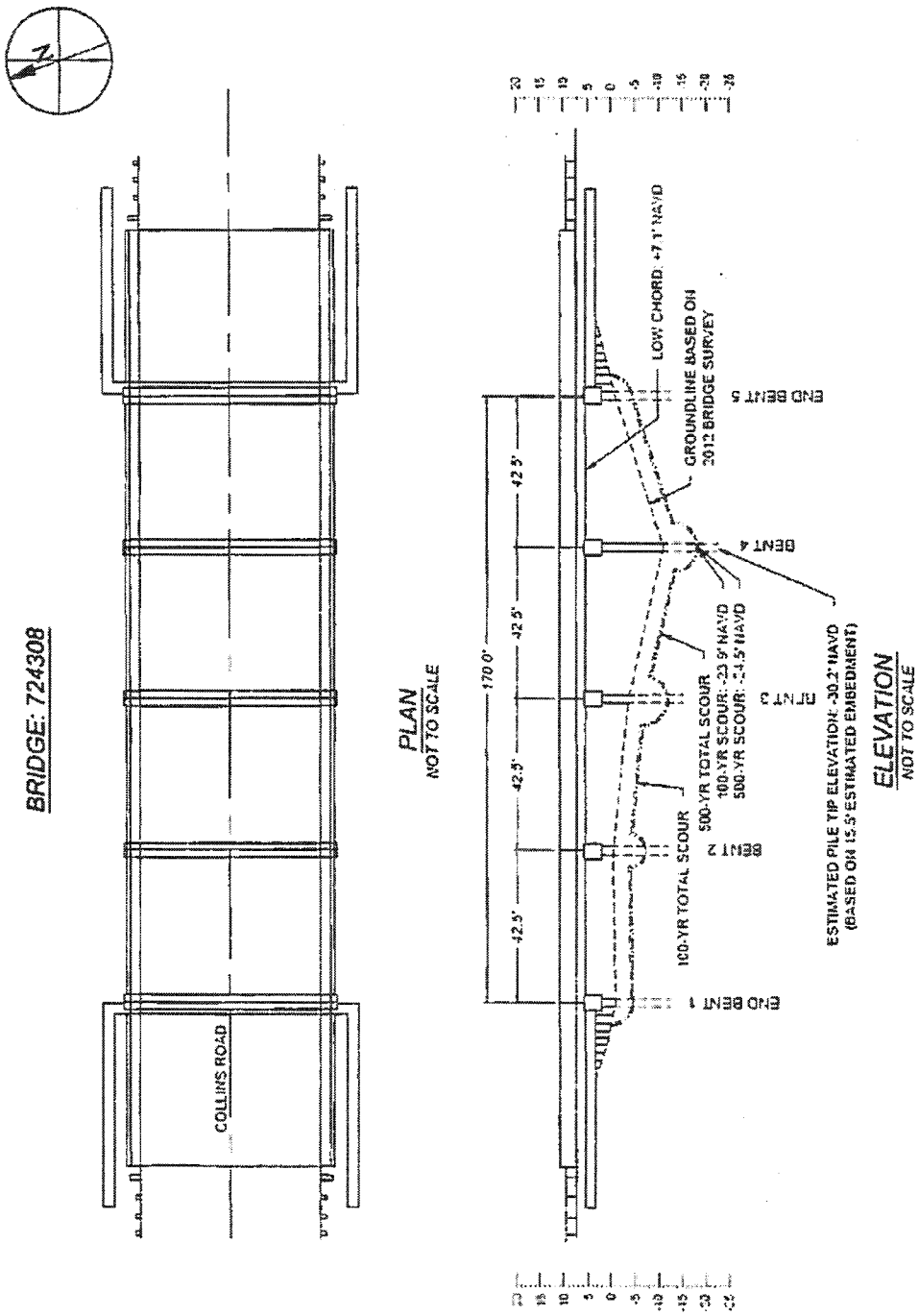


Figure 2 Plan and Elevation

BRIDGE NO 724308

SCOUR EVALUATION – PLAN OF ACTION

Bridge #: 724308	County: Duval	Route: Collins Road	Over: Ortega River

1. SCOUR VULNERABILITY RATING (PER FHWA)

a. Structure Type: ■ Bridge ☐ Bridge Culvert

b. Foundations: ☐ Known ■ Unknown

c. Scour Rating History:

Phase 1 Rating:	Scour Critical	☐ Yes	■ No	
	Scour Susceptible:	☐ High	■ Medium	☐ Low
	Low Risk:	☐ High	☐ Medium	☐ Low
Phase 2 Rating:	Scour Critical	■ Yes	☐ No	
	Scour Susceptible:	☐ High	☐ Medium	☐ Low
	Low Risk:	☐ High	☐ Medium	☐ Low
Phase 3 Rating:	Scour Critical	■ Yes	☐ No	

2. BMS CODING INFORMATION

	Before Implementation of Countermeasures	After Implementation of Permanent Countermeasures
Item 113 Scour	3	7
Item 60 Substructure	7	7
Item 61 Channel & Channel Protection	7	7
Item 71 Waterway Adequacy	8	8

3. TEMPORARY COUNTERMEASURE RECOMMENDATION

☐ Temporary Countermeasures not required

☐ Install temporary scour countermeasures

- ☐ Riprap with monitoring (Monitoring program required)
- ☐ Monitoring device (Monitoring program required)
- ☐ other _____

☐ Close bridge (see 6)

☐ Fixed instrument monitoring program

Type of instrument: ☐ Sonar Device ☐ Sliding Collar ☐ Other

Installation location(s): _____

Sample interval: ☐ 30 min. ☐ 1 hr. ☐ 6 hrs. ☐ 12 hrs. ☐ Other

Frequency of data logger downloading: ☐ Weekly ☐ Bi-weekly ☐ Monthly ☐ Other

Scour-critical elevation(s): _____

Action required if scour-critical elevation detected: _____

Ground truth requirements _____

3. TEMPORARY COUNTERMEASURE RECOMMENDATION...(Continued)...

■ Portable / Geophysical Instruments Monitoring Program

Type: ☐ Probe ☐ Sonar ☐ Geophysical ■ Other Weighted Tape

Regular monitoring required ■ Yes ☐ No

Flood monitoring required ■ Yes ☐ No

Flood monitoring event defined by ☐ Discharge _____ cfs ☐ Stage _____ ft

☐ Distance to water surface from handrail _____ ft

■ Other Rainfall in excess of 5" in a 24-hr period (2-year storm event)

Location of measurement(s) Piers and abutments

Frequency of regular monitoring ☐ Bi-annual

■ Other Annual

Frequency of flood monitoring ■ Daily ■ Other Until flood flows recede

Scour-critical elevation(s) - 14.7 NAVD88 (Existing Mud Line Elevation)

Action required if scour-critical elevation detected: The City of Jacksonville Director of Public Works will evaluate bridge safety and decide if closure is necessary.

4. PERMANENT COUNTERMEASURE RECOMMENDATION

☐ No further action required

■ Scour countermeasure alternatives considered

	Description	Estimated Cost
	Prioritized alternatives (with #1 as recommended alternative) *Abutment protection not included	
1	■ Non-destructive testing (NDT)*	$37,000-86,000
	☐ Spur field	
	☐ Sill or drop structure	
	☐ Lengthen bridge	
	☐ Relief bridge(s)	
	☐ Channel improvements	
	☐ Riprap with monitoring (Monitoring program required)	
	☐ Monitoring device (Monitoring program required)	
2	■ Strengthen foundation (e.g., crutch bents)*	$533,000
	☐ Protect foundations with sheet piling	
	☐ Protect foundations with grouted riprap (Monitoring program required)	
	☐ Protect foundations with gabions (Monitoring program required)	
	☐ Protect foundations with tremic concrete	
	☐ Regular and Flood Monitoring	
	☐ Other _____	
	☐ Repair existing countermeasures	
	☐ Close bridge (see 6)	
3	■ Bridge replacement	$1,571,000

4. PERMANENT COUNTERMEASURE RECOMMENDATION...(Continued)...

☐ Fixed instrument monitoring program

Type of instrument: ☐ Sonar Device ☐ Sliding Collar ☐ Other

Installation location(s): _____

Sample interval: ☐ 30 min. ☐ 1 hr. ☐ 6 hrs. ☐ 12 hrs. ☐ Other

Frequency of data logger downloading: ☐ Weekly ☐ Bi-weekly ☐ Monthly ☐ Other

Scour-critical elevation(s): _____

Action required if scour-critical elevation detected: _____

Ground truth requirements _____

■ Portable / Geophysical Instruments Monitoring Program

Type: ☐ Probe ☐ Sonar ☐ Geophysical ■ Other Weighted Tape

Regular monitoring required ■ Yes ☐ No

Flood monitoring required ■ Yes ☐ No

Flood monitoring event defined by ☐ Discharge _____ cfs ☐ Stage _____ ft

☐ Distance to water surface from handrail _____ ft

■ Other Rainfall in excess of 8" in 24-hr period

Location of measurement(s) Piers and abutments

Frequency of regular monitoring ■ Bi-annual

☐ Other _____

Frequency of flood monitoring ■ Daily ■ Other Until flood flows recede

Scour-critical elevation(s) -14.7 NAVD88 (Existing Mud Line Elevation)

Action required if scour-critical elevation detected: The City of Jacksonville Director of Public Works will evaluate bridge safety and decide if closure is necessary.

5. SCHEDULE FOR IMPLEMENTATION OF COUNTERMEASURES

Scheduled completion date: Temporary Immediate Permanent After Design of Countermeasures*

Other Scheduling Information:

*Design of countermeasures to proceed immediately

6. BRIDGE CLOSURE PLAN

ADT: 10801	Year: 2011	% Trucks: 5	Bridge Length: 170 feet

Plan currently available: ☐ Yes - Source _____

■ No

Scour Monitoring Criteria for Closure:

- ☐ Water Surface Elevation
- ☐ Scour Measurement Results
- ■ Observed Structure Movement / Settlement

Responsible for Closure: *At a minimum, the roadway should be posted and barricaded at both approach*

James M. (Jim) Robinson, P.E.
Director of Public Works - City of Jacksonville
(904) 255-8786
jrobinson@coj.net

Detour Route:

From the east side of Bridge 724308, proceed east on Collins Rd approximately 2.0 miles to US-17 (Roosevelt Blvd) - proceed south on US-17 (Roosevelt Blvd) approximately 0.5 miles to I-295 - proceed west on I-295 approximately 2.0 miles to SR-21 (Blanding Blvd) - proceed north on SR-21 (Blanding Blvd) approximately 0.5 miles to Collins Rd - proceed east on Collins Rd approximately 0.6 mile to the west side of bridge 724308. Total detour length is approximately 5.6 miles.

ADT:	Year:	% Trucks:

Other Bridges on Detour Route:

Bridge Number:	Waterway	Condition	Checked for Scour
720247 (West Bound I-295)	Ortega River	94.7 / Open, No Restriction	3 SC - Unstable
720319 (East Bound I-295)	Ortega River	90.6 / Open, No Restriction	3 SC - Unstable

Traffic control equipment and location:

Barriers will be required on each side of the bridge. Detour signing will be required at the following intersections: Collins Rd & US-17 (Roosevelt Blvd); US-17 (Roosevelt Blvd) & I-295; I-295 & SR-21 (Blanding Blvd); and SR-21 (Blanding Blvd) & Collins Rd. Further signage may be required along Collins Rd from the east side of the bridge to US-17 (Roosevelt Blvd) approximately 2.0 miles and from the west side of the bridge to SR-21 (Blanding Blvd) approximately 0.6 miles, to notify local traffic of the bridge closure.

Responsible for re-opening after inspection:

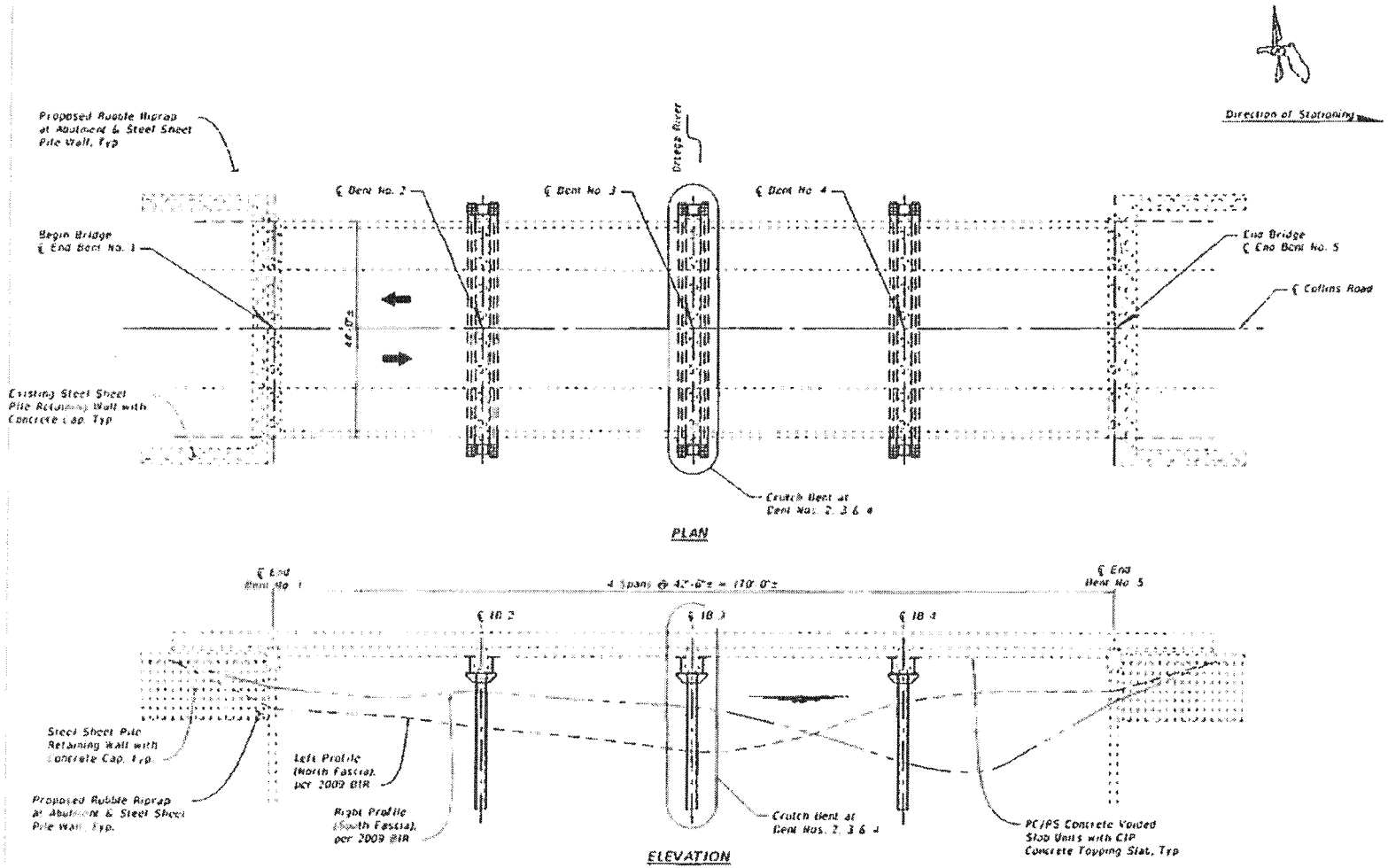
James M. (Jim) Robinson, P.E.
Director of Public Works - City of Jacksonville
(904) 255-8786
jrobinson@coj.net

ATTACHMENT I

SCOUR COUNTERMEASURES

CONCEPTUAL SKETCHES

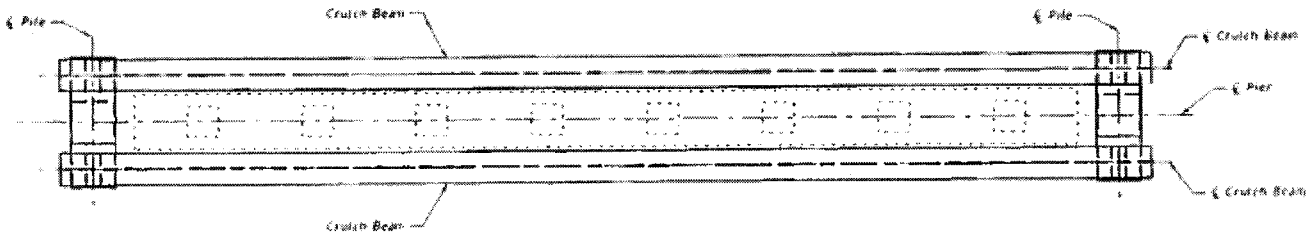
OPINIONS OF PROBABLE COST



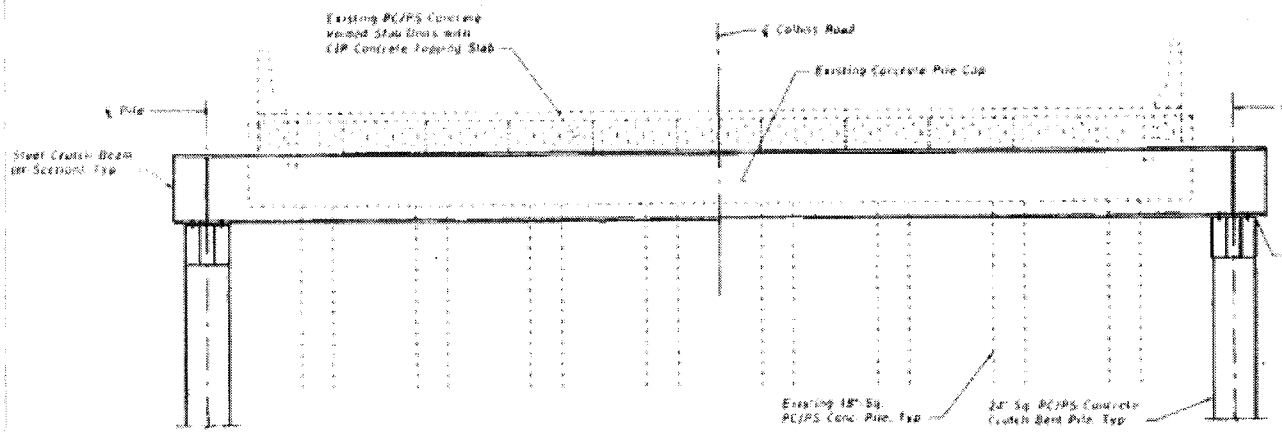
CONCEPTUAL SKETCHES
NOT FOR CONSTRUCTION

Alternative #2 - Crutch Bent - Plan & Elevation

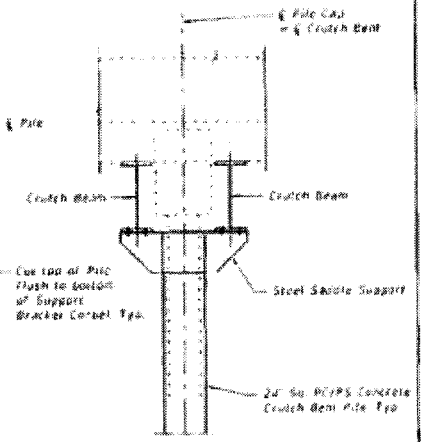
Bridge No. 724308 - Collins Road over the Ortega River



PLAN



ELEVATION

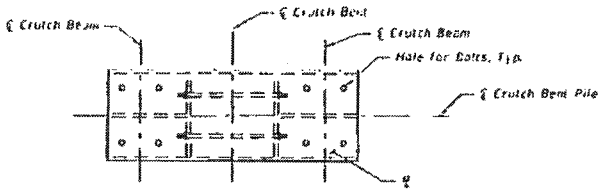


END ELEVATION

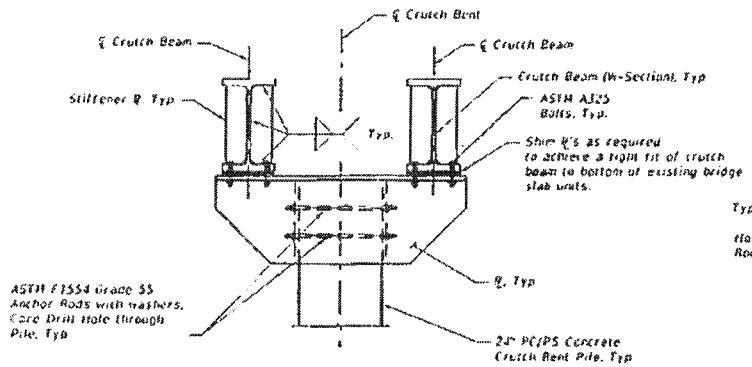
CONCEPTUAL SKETCHES
NOT FOR CONSTRUCTION

Alternative #2 - Crutch Bent - Details (1 of 2)

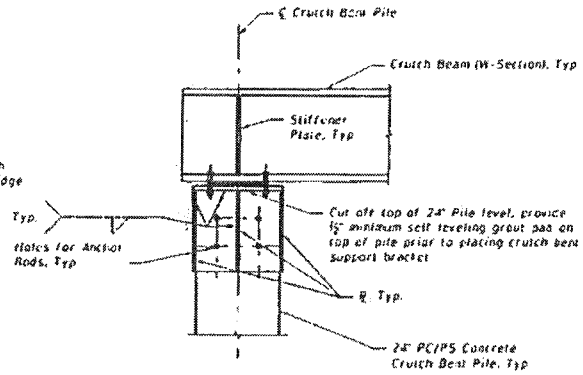
Bridge No. 724308 - Collins Road over the Ortega River



PLAN



ELEVATION

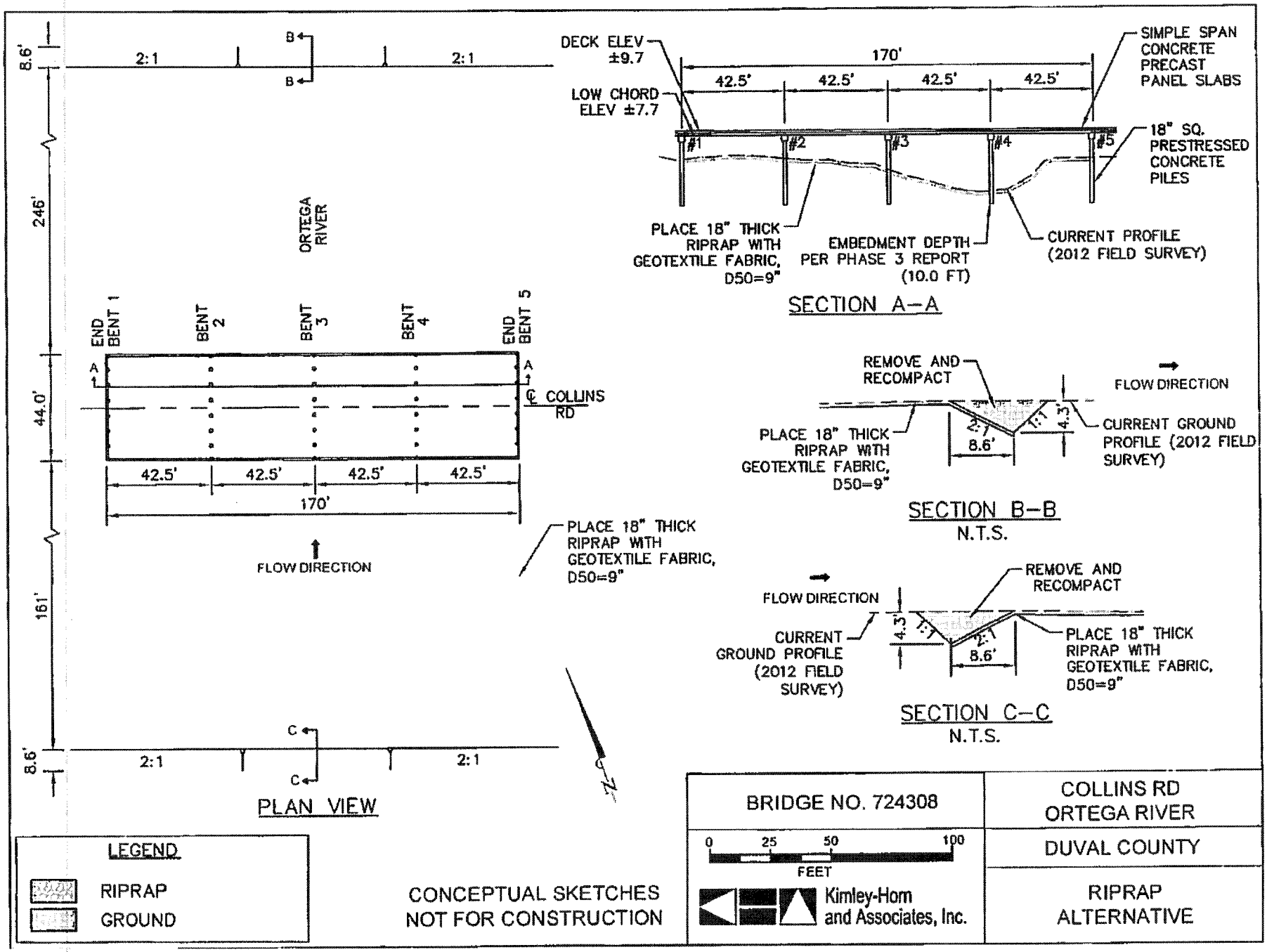


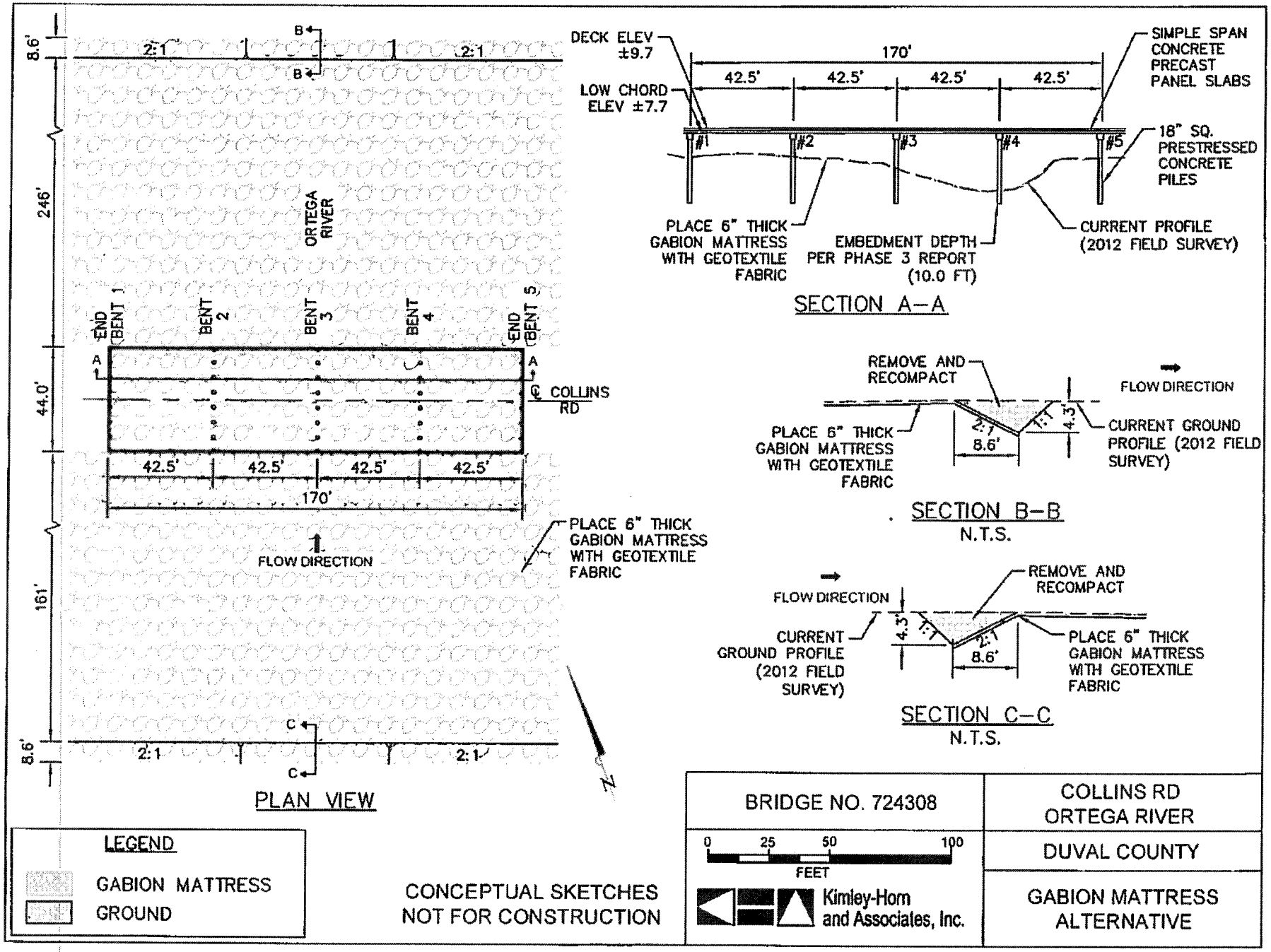
SIDE ELEVATION

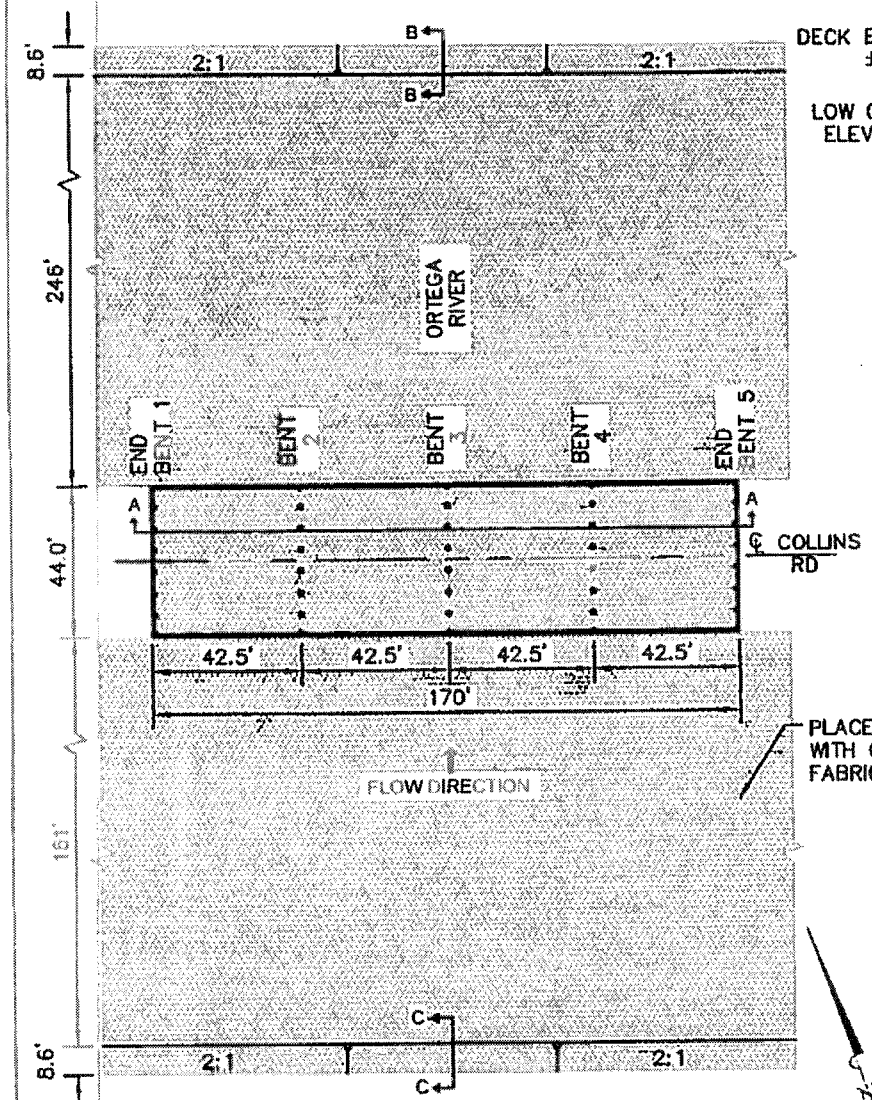
CONCEPTUAL SKETCHES
NOT FOR CONSTRUCTION

Alternative #2 - Crutch Bent - Details (2 of 2)

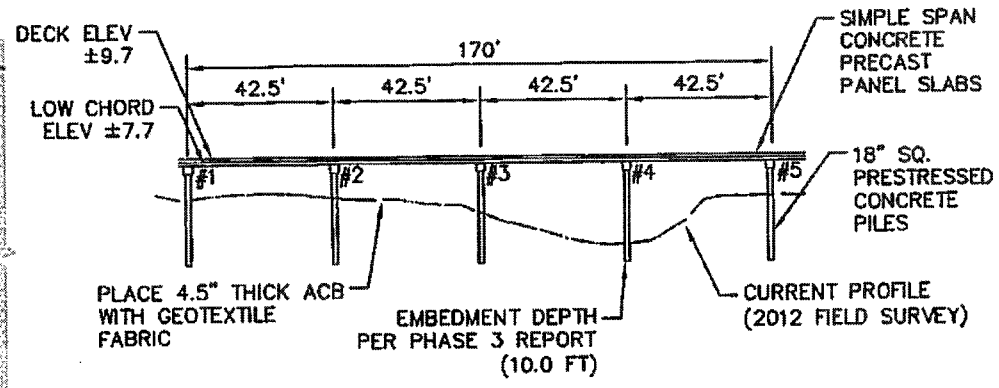
Bridge No. 724308 - Collins Road over the Ortega River


8.6'
2:1
B
B
2:1
246'
ORTEGA RIVER
END BENT 1
BENT 2
BENT 3
BENT 4
END BENT 5
A
1
A
℄ COLLINS RD
44.0'
42.5'
42.5'
42.5'
42.5'
170'
FLOW DIRECTION
PLACE 18" THICK RIPRAP WITH GEOTEXTILE FABRIC, D50=9"
161'
8.6'
2:1
C
C
2:1
PLAN VIEW
DECK ELEV ±9.7
LOW CHORD ELEV ±7.7
170'
42.5'
42.5'
42.5'
42.5'
SIMPLE SPAN CONCRETE PRECAST PANEL SLABS
#1
#2
#3
#4
#5
18" SQ. PRESTRESSED CONCRETE PILES
PLACE 18" THICK RIPRAP WITH GEOTEXTILE FABRIC, D50=9"
EMBEDMENT DEPTH PER PHASE 3 REPORT (10.0 FT)
CURRENT PROFILE (2012 FIELD SURVEY)
SECTION A–A
REMOVE AND RECOMPACT
FLOW DIRECTION
PLACE 18" THICK RIPRAP WITH GEOTEXTILE FABRIC, D50=9"
2:1
1:1
4.3'
8.6'
CURRENT GROUND PROFILE (2012 FIELD SURVEY)
SECTION B–B
N.T.S.
FLOW DIRECTION
REMOVE AND RECOMPACT
CURRENT GROUND PROFILE (2012 FIELD SURVEY)
4.3'
1:1
2:1
8.6'
PLACE 18" THICK RIPRAP WITH GEOTEXTILE FABRIC, D50=9"
SECTION C–C
N.T.S.
N
LEGEND
RIPRAP
GROUND
CONCEPTUAL SKETCHES
NOT FOR CONSTRUCTION
BRIDGE NO. 724308
0
25
50
100
FEET
Kimley-Horn and Associates, Inc.
COLLINS RD
ORTEGA RIVER
DUVAL COUNTY
RIPRAP
ALTERNATIVE

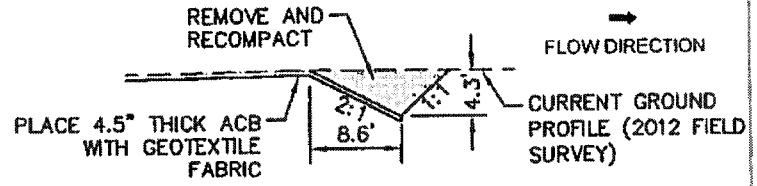

8.6'
2:1
B
B
246'
ORTEGA RIVER
END BENT 1
BENT 2
BENT 3
BENT 4
END BENT 5
A
A
44.0'
℄ COLLINS RD
42.5'
42.5'
42.5'
42.5'
170'
FLOW DIRECTION
PLACE 6" THICK GABION MATTRESS WITH GEOTEXTILE FABRIC
161'
C
C
8.6'
2:1
2:1
PLAN VIEW
N
DECK ELEV ±9.7
LOW CHORD ELEV ±7.7
170'
42.5'
42.5'
42.5'
42.5'
SIMPLE SPAN CONCRETE PRECAST PANEL SLABS
#1
#2
#3
#4
#5
18" SQ. PRESTRESSED CONCRETE PILES
PLACE 6" THICK GABION MATTRESS WITH GEOTEXTILE FABRIC
EMBEDMENT DEPTH PER PHASE 3 REPORT (10.0 FT)
CURRENT PROFILE (2012 FIELD SURVEY)
SECTION A–A
REMOVE AND RECOMPACT
FLOW DIRECTION
PLACE 6" THICK GABION MATTRESS WITH GEOTEXTILE FABRIC
2:1
1:1
4.3'
8.6'
CURRENT GROUND PROFILE (2012 FIELD SURVEY)
SECTION B–B
N.T.S.
FLOW DIRECTION
REMOVE AND RECOMPACT
CURRENT GROUND PROFILE (2012 FIELD SURVEY)
4.3'
1:1
2:1
8.6'
PLACE 6" THICK GABION MATTRESS WITH GEOTEXTILE FABRIC
SECTION C–C
N.T.S.
LEGEND
GABION MATTRESS
GROUND
CONCEPTUAL SKETCHES
NOT FOR CONSTRUCTION
BRIDGE NO. 724308
0 25 50 100
FEET
Kimley-Horn and Associates, Inc.
COLLINS RD
ORTEGA RIVER
DUVAL COUNTY
GABION MATTRESS ALTERNATIVE



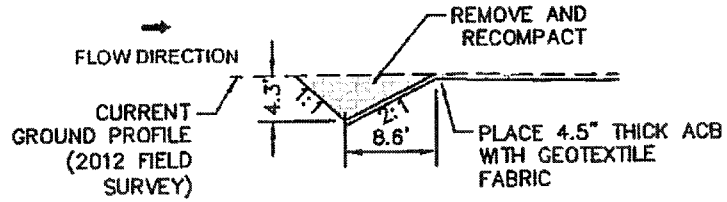
PLAN VIEW



SECTION A–A



SECTION B–B
N.T.S.



SECTION C–C
N.T.S.

LEGEND

- ACB
- GROUND

CONCEPTUAL SKETCHES
NOT FOR CONSTRUCTION

BRIDGE NO. 724308	COLLINS RD ORTEGA RIVER
0 25 50 100 FEET	DUVAL COUNTY
Kimley-Horn and Associates, Inc.	ACB ALTERNATIVE

FDOT - District 2 - Unknown Foundations, Phase 4/Stage 5

Step 6.8 (UF Manual): Check the Warrant of Non-Destructive Testing (NDT)

Follow the Non-Destructive Testing Procedures to select the appropriate NDT and estimate the cost.

Compare the cost of countermeasures to the cost of NDTs and decide which should be done. It is difficult to decide the least expensive approach at this point. If the countermeasures are installed, then only the cost of countermeasures will be incurred. If the NDTs are performed and the results show that the bridge is stable for the expected scour, then only the cost of NDTs (and the stability analysis) will be incurred. However, if the results show that the bridge is not stable, then the countermeasure will be needed and the cost of both the NDTs and the countermeasures will be incurred. Assuming that the chance that the bridge is stable verses unstable is about even, then the NDTs should be performed (i.e., NDTs are warranted) if their cost is less than half the cost of countermeasures. However, if the cost of NDTs is greater than half the cost of countermeasures, then the countermeasures should be installed without performing the NDTs.

If in the judgment of the evaluating team the bridge is more likely to be shown stable, then the recommendation to perform NDTs could be made even if their cost is greater than half the cost of countermeasures. However, there is still a chance that the bridge will be shown to be unstable, and the cost of both NDTs and countermeasures would be incurred. Therefore, as the cost of the NDTs approaches the cost of countermeasures it is much safer to install the countermeasures and avoid doubling the cost for the bridge. And if the cost of NDTs exceeds the cost of countermeasures, then the countermeasures should be installed without performing the NDTs.

If in the judgment of the evaluating team the bridge is more likely to be shown unstable, then the recommendation could be made to rule out NDTs even if their cost is less than half the cost of countermeasures. However, as the cost becomes a small percentage of the cost of countermeasures, then even a small risk of showing the bridge to be stable is worth taking.

If NDT is warranted, perform the testing and establish the foundation dimensions. Complete the Scour Evaluation Process, including Phase 2, 3, and 4 Evaluations if needed.

If NDT is not warranted, then reclassify the bridge and prepare a Plan of Action including the installation of the countermeasures. Recheck the warrant of AM and include an AM Plan in the POA if needed.

Bridge No.	Foundation (Size/Type)	Embed. (ft)[1]	Flow Chart Decision Process[2] A Inferred?	B Vert. Driven?	C Battered?	D[3] NDT Options 1, 2, 3 & 4
724308	8~18"-Sq. PC/PS Conc. Piles	10.0	Yes	Yes	Yes	CS, PS, BM & US, BS & BW

Note 1: Estimated current embedment from Phase 3 Report

Note 2: For Steps "A, B, C & D" see flowchart on subsequent pages (Ref: UF Manual, Figure 1.6: NDT Flow CHART)

Note 3 per UF Manual, Figure 1.6: NDT Flow CHART

Legend:

Subsurface Methods

CS = Cross Hole Sonic Method	BS = Borehole Sonic Method	BM = Borehole Magnetic Method
PS = Parallel Seismic Method	BR = Borehole Radar Method	IF = Induction Field

Surface Methods

US = Ultraseismic Method	GPR = Ground Penetrating Radar
BW = Bending Wave Method	SW = Surface Wave Spectral Analysis

Bridge No.	NDT Options	Total NDT Cost per Bridge: Surface	Subsurface
724308	CS, PS, BM & US, BS & BW	$ 36,900	$ 85,500

Note: For derivation of NDT Cost per Bridge, see subsequent pages

Opinion of Probable NDT Costs

Note: Units Costs taken from FHWA/FDOT UF Manual

# of piles per bent for NDT	8
# of Interm. bents for NDT	3
Total # of piles	24

Typical Surface NDT Methods (e.g. Ultra-Seismic)

Items	Units	Qty	Unit Cost	Total Cost
Mobilization[1]	*per bridge*	1	$ 1,500	$ 1,500
MOT[2]	*per bridge*	1	$ 1,000	$ 1,000
Testing Equipment[3]	*per pile*	24	$ 1,100	$ 26,400
Testing Personnel[4]	*per bridge*	1	$ 3,000	$ 3,000
Soil Borings &/or Probes[5]	*per bridge*	1	$ -	$ -
Laboratory & Engineering[6]	*per bridge*	1	$ 5,000	$ 5,000
			Σ (Surface) =	$ 36,900

Typical Subsurface NDT Methods (e.g. Cross Hole Sonic)

Items	Units	Qty	Unit Cost	Total Cost
Mobilization[1]	*per bridge*	1	$ 2,000	$ 2,000
MOT[2]	*per bridge*	1	$ 2,500	$ 2,500
Testing Equipment[3]	*per pile*	24	$ 2,500	$ 60,000
Testing Personnel[4]	*per bridge*	1	$ 3,000	$ 3,000
Soil Borings &/or Probes[5]	*per bridge*	1	$ 8,000	$ 8,000
Laboratory & Engineering[6]	*per bridge*	1	$ 10,000	$ 10,000
			Σ (Subsurface) =	$ 85,500

Table Notes *(per UF Manual)*

1. Mobilization costs include equipment and personnel.
2. MOT costs are from 0 to 9 hours.
3. Testing equipment costs are based on 5% of the average cost to purchase testing equipment.
4. Testing personnel costs are based on 4 to 9 hours of a field engineer and trained technician's time.
5. Soil boring and/or probes costs include drilling, casing, grouting, etc.
6. Laboratory and engineering estimates include data analysis, computations and report preparation with recommendations.

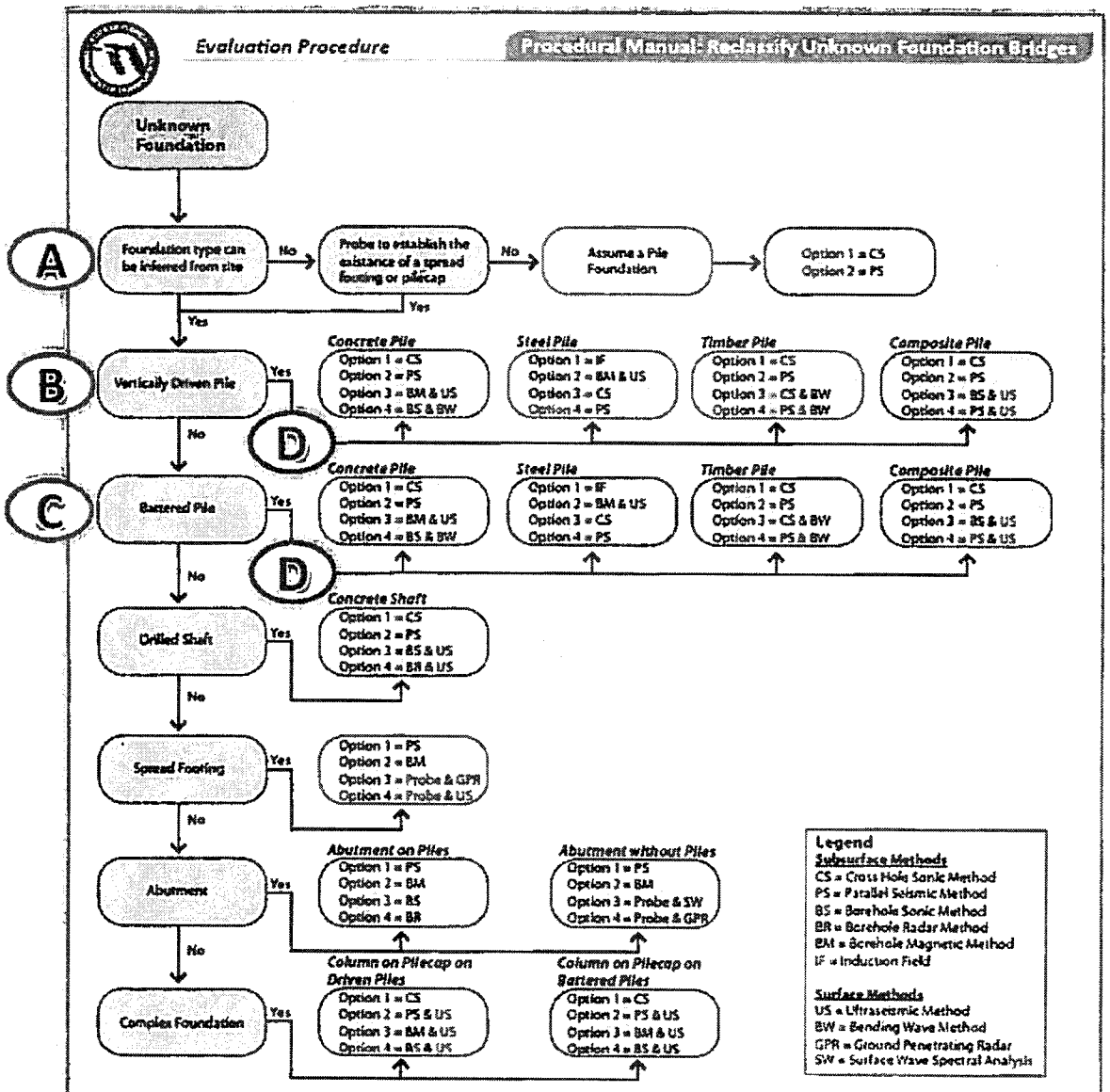


Figure 1.6: NDT Flow Chart

Table 1.6: Estimated Cost of NDT Methods

TESTING METHOD	TOTAL COST PER TEST		MOBILIZATION 1		NOT 2		TESTING EQUIPMENT 3		TESTING PERSONNEL 4		SOIL BORINGS AND/OR PROBES 5		LABORATORY AND ENGINEERING 6	
	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
SURFACE NDT METHODS														
SONIC ECHO	$4,500	$11,400	$500	$1,500	$0	$1,000	$500	$900	$1,000	$3,000	$0	$0	$2,500	$5,000
BENDING WAVES	$4,500	$11,400	$500	$1,500	$0	$1,000	$500	$900	$1,000	$3,000	$0	$0	$2,500	$5,000
ULTRA-SEISMIC	$4,600	$11,600	$500	$1,500	$0	$1,000	$600	$1,100	$1,000	$3,000	$0	$0	$2,500	$5,000
SURFACE WAVE SPECTRAL ANALYSIS	$4,500	$11,400	$500	$1,500	$0	$1,000	$500	$900	$1,000	$3,000	$0	$0	$2,500	$5,000
GROUND PENETRATING RADAR	$6,000	$14,000	$500	$1,500	$0	$1,000	$2,000	$3,500	$1,000	$3,000	$0	$0	$2,500	$5,000
DYNAMIC FOUNDATION RESPONSE	$4,500	$11,500	$500	$1,500	$0	$1,000	$500	$1,000	$1,000	$3,000	$0	$0	$2,500	$5,000
SUBSURFACE NDT METHODS														
PARALLEL SEISMIC TEST	$10,000	$22,800	$500	$2,000	$1,000	$2,500	$500	$1,300	$1,000	$3,000	$2,000	$4,000	$5,000	$10,000
BOREHOLE RADAR	$11,500	$25,000	$500	$2,000	$1,000	$2,500	$2,000	$3,500	$1,000	$3,000	$2,000	$4,000	$5,000	$10,000
BOREHOLE SONIC TEST	$10,500	$23,000	$500	$2,000	$1,000	$2,500	$1,000	$1,500	$1,000	$3,000	$2,000	$4,000	$5,000	$10,000
CROSS HOLE SONIC TEST	$12,700	$28,000	$500	$2,000	$1,000	$2,500	$1,700	$2,500	$1,000	$3,000	$4,000	$8,000	$5,000	$10,000
INDUCTION FIELD	$10,000	$22,500	$500	$2,000	$1,000	$2,500	$500	$1,000	$1,000	$3,000	$2,000	$4,000	$5,000	$10,000
BOREHOLE MAGNETIC	$9,000	$22,500	$500	$2,000	$1,000	$2,500	$500	$1,000	$1,000	$3,000	$2,000	$4,000	$5,000	$10,000

NOTES:
1. MOBILIZATION COSTS INCLUDE EQUIPMENT AND PERSONNEL
2. NOT COSTS ARE FROM 0 TO 9 HOURS
3. TESTING EQUIPMENT COSTS ARE BASED ON 5% OF THE AVERAGE COST TO PURCHASE TESTING EQUIPMENT
4. TESTING PERSONNEL COSTS ARE BASED ON 1 TO 9 HOURS OF A FIELD ENGINEER AND TRAINED TECHNICIANS TIME
5. SOIL BORING AND/OR PROBES COSTS INCLUDE DRILLING, CASING, GROUTING, ETC.
6. LABATORY AND ENGINEERING ESTIMATES INCLUDE DATA ANALYSIS, COMPUTATIONS AND REPORT PREPARATION WITH RECOMMENDATIONS

Opinion of Probable Cost - Crutch Bent

Bridge No. 724308

Collins Road over the Ortega River

Duval County, Florida

Alternative #2 - Crutch Bent

Pay Item Number	Description	Quantity	Unit	Unit Price[1]	Cost
455-34-5	Prestressed Concrete Piling (24" Sq.)	300	LF	$ 100.00	$ 30,000
455-143-5	Test Piles - Prestressed Concrete (24" Sq.)	180	LF	$ 200.00	$ 36,000
460-1-2	Structural Steel-Rehab, Low Alloy[2]	100,500	LB	$ 3.00	$ 301,500
				SUBTOTAL	**$ 367,500**
101-1	Mobilization[3]	10% of Subtotal ($5k Min)			$ 36,750
102-1	Maintenance of Traffic[4]	5% of Subtotal ($5k Min)			$ 18,375
-	Contingency[5]	30% of Subtotal			$ 110,250
				TOTAL[6]	**$ 533,000**

Notes:

1. *Unit Price based on FDOT SDG (Jan 2013), Ch. 9 BDR Bridge Cost Estimating. In addition, values were compared, where applicable, to the costs from FDOT Statewide Item Average Unit Cost.*
2. *Unit cost includes cost of jacking & shimming operations*
3. *Mobilization costs are 10% of the subtotal, but no less than $5,000.*
4. *MOT costs are 5% of the subtotal, but no less than $5,000.*
5. *A 15% contingency will be added to projects that cost more than $750,000, otherwise a 30% contingency will be used.*
6. *The above opinions of probable cost (OPCs) are preliminary. OPCs should be updated during final design.*

Quantities - Crutch Bent

455-34-5	Prestressed Concrete Piling (24" Sq.)		
455-143-5	Test Piles - Prestressed Concrete (24" Sq.)		
	L (ft)	N	Total L (ft)
Production Piles	75	4	300
Test Piles	90	2	180

460-1-2	Structural Steel-Rehab, Low Alloy				
	wt. (plf)	L (ft)	N	Total L (ft)	W (lb)
Beam, PLs, Bolts, etc.	335	100	3	300	100,500

Steel Notes:

- *Weight = (Detail Factor) x (268 plf/beam) ~ 335 plf*
  where: Detail Factor = 25% for bracket, bolts, washers, shim plates, mech. anchors, stiff's, welds, etc.
- *Length of 1-crutch bent = 2 beams x (45' cap + 5' extension) = 100' per bent*

Opinion of Probable Cost - Bridge Replacement
Bridge No. 724308
Collins Road over the Ortega River
Duval County, Florida

Alternative #3 - Bridge Replacement

Pay Item Number	Description	Quantity	Unit	Unit Price[1]	Cost
-	Replacement	8,005	SF	$ 106.00	$ 848,600
-	Demolition	7,480	SF	$ 48.00	$ 359,100
				SUBTOTAL	$ 1,207,700
-	Contingency[2]			30% of Subtotal	$ 362,400
				TOTAL	$ 1,571,000

Notes:

1. *Square footage cost based on FDOT SDG Ch. 9 (Jan. 2013) assuming the following:*
   - *Medium Span Bridge*
   - *Concrete Deck/Prestressed Girder - Simple Span*
   - *Average of Low/High (Unit Price)*
2. *Contingency = 30% for construction over water & phased construction*

Quantities - Bridge Replacement

Item	Width (Max/Min)		Length	Area	Cost		
	Min (FT)	Max (FT)	Min (FT)	(SF)	Min ($/SF)	Max ($/SF)	Avg ($/SF)
Replacement	47.083	47.083	170	8,005	$ 66	$ 145	$ 106
Demolition	44	44		7,480	$ 35	$ 60	$ 48

Notes:

1. *Square footage cost based on FDOT SDG Ch. 9 (Jan. 2013) assuming the following:*
   - *Medium Span Bridge*
   - *Concrete Deck/Prestressed Girder - Simple Span*
2. *Average of Low/High cost used due to construction over water & phased construction*
3. *Replacement width includes 2-12' lanes, 2-10' shldrs, 2-1.5417' railings*

ATTACHMENT II

SCOUR CRITICAL BRIDGE

PLAN OF ACTION

SCOUR CRITICAL BRIDGE - PLAN OF ACTION

1. GENERAL INFORMATION

Structure number: 724308	**City, County, State:** Jacksonville, Duval County, FL	**Waterway:** Ortega River
Structure name: Collins Road/Ortega River	**State highway or facility carried:** Collins Road	**Owner:** City of Jacksonville
Year built: 1952	**Year rebuilt:** 1983	**Bridge replacement plans (if scheduled):** No **Anticipated opening date:** N/A

Structure type: ☒ Bridge ☐ Culvert

Structure size and description: The bridge is a 4-span, 2-lane structure supported by 18-inch square prestressed concrete piles. The end bents are exposed steel sheet piles forming spill-through abutments.

Foundations: ☐ Known, type: ___ Depth: _____ ☒ Unknown

Subsurface soil information (*check all that apply*): ☒ Non-cohesive ☐ Cohesive ☐ Rock ☐ Unknown

Bridge ADT: 10801	**Year/ADT:** 2011	**% Trucks:** 5

Does the bridge provide service to emergency facilities and/or an evacuation route (Y/N)? N
If so, describe: Bridge 724308 is not on a designated evacuation route; however it should be noted that the following emergency services are located within the vicinity of Bridge 724308:

- Clay County Sheriff Office, 212 Blanding Blvd, Orange Park, FL 1.9 mi SW
- Clay County Fire Department, 207 Blanding Blvd, Orange Park, FL 1.9 mi SW
- Orange Park Medical Center, 2001 Kingsley Avenue, Orange Park, FL ~ 4.2 mi SW

2. RESPONSIBILITY FOR POA

Author(s) of POA (name, title, agency/organization, telephone, pager, email):
Anthony Bevilacqua, P.E. - Civil Engineer - Kimley-Horn and Associates Inc. - (561) 840-0806
anthony.bevilacqua@kimley-horn.com
Date: June 2013

Concurrences on POA (name, title, agency/organization, telephone, pager, email):
James M. (Jim) Robinson, P.E. - Director of Public Works - City of Jacksonville - (904) 255-8786 - jrobinson@coj.net

POA updated by (name, title, agency, organization): _____ **Date of update:** _____
Items update: _____

POA to be updated/reviewed every 24 **months by (name, title, agency/organization):** FDOT District 2 Bridge Maintenance Office, (386) 961-7000

Date of next update: 6/2015

3. SCOUR VULNERABILITY

a. Current Item 113 Code: ☐ 3 ☐ 2 ☐ 1 Other: U

b. **Source of Scour Critical Code:** ☐ Observed ☐ Assessment ☐ Calculated Other: Unknown

c. **Scour Evaluation Summary:** Phase 4 Completed

d. **Scour History:** Comparison of historic channel cross-section measurements from previous inspection reports indicates little change in channel bed elevation.

4. RECOMMENDED ACTION(S) (see Sections 6 and 7)

	Recommended		Implemented	
a. Increased Inspection Frequency	☒ Yes	☐ No	☐ Yes	☐ No
b. Fixed Monitoring Device(s)	☐ Yes	☒ No	☐ Yes	☐ No
c. Flood Monitoring Program	☒ Yes	☐ No	☐ Yes	☐ No
d. Hydraulic/Structural Countermeasures	☒ Yes	☐ No	☐ Yes	☐ No

5. NBI CODING INFORMATION

		Current	Previous
Inspection date		1/2012	1/2010
Item 113	Scour Critical	U	U
Item 60	Substructure	7	7
Item 61	Channel & Channel	7	7
Item 71	Waterway Adequacy	8	8
Comments: (drift, scour holes, etc. - depict in sketches in Section 10)		____	____

6. MONITORING PROGRAM

☒ **Regular Inspection Program** ☐ w/surveyed cross sections
Items to Watch: Signs of movement or settlement, Channel bed elevation changes

☒ **Increased Inspection Frequency of** 12 **mo.** ☐ w/surveyed cross sections
Items to Watch: Signs of movement or settlement, Channel bed elevation changes

☐ **Underwater Inspection Required**
Items to Watch: _____

☐ **Increased Underwater Inspection Frequency of** __ **mo.**
Items to Watch: _____

☐ **Fixed Monitoring Device(s)**
Type of Instrument: _____
Installation location(s): _____
Sample Interval: ☐ 30 min. ☐ 1 hr. ☐ 6 hrs. ☐ 12 hrs. ☐ Other: _____
Frequency of data download and review: ☐ Daily ☐ Weekly ☐ Monthly ☐ Other _____
Scour alert elevation(s) for each pier/abutment: _____
Scour critical elevations(s) for each pier/abutment: _____
Survey ties: _____

Criteria of termination for fixed monitoring: _____

☒ **Flood Monitoring Program**

Type: ☒ Visual inspection
☒ Instrument (*check all that apply*):
☒ Portable ☐ Geophysical ☐ Sonar ☒ Other: Weighted Tape

Flood monitoring required: ☒ Yes ☐ No

Flood monitoring event defined by (*check all that apply*):
☐ Discharge _____ ☐ Stage _____
☐ Elev. measured from _____ ☒ Rainfall 5" (in/mm) per 24 (hour)
☐ Flood forecasting information: _____
☐ Flood warning system: _____

Frequency of flood monitoring: ☐1 hr. ☐3 hrs. ☐6 hrs. ☒ Other: Daily

Post-flood monitoring required: ☒ No ☐Yes, within _____ days

Frequency of post-flood monitoring: ☐Daily ☐Weekly ☐Monthly ☐Other: _____

Criteria for termination of flood monitoring: Until Flood Flows Recede

Criteria for termination of post-flood monitoring: _____

Scour alert elevation(s) for each pier/abutment: -14.7 NAVD 88 (Existing Mud Line Elevation)

Scour critical elevation(s) for each pier/abutment: -14.7 NAVD 88 (Existing Mud Line Elevation)

Note: *Additional details for action(s) required may be included in Section 8.*

Action(s) required if scour alert elevation detected (*include notification and closure procedures*): _____

Action(s) required if scour critical elevation detected (*include notification and closure procedures*): _____

Agency and department responsible for monitoring: FDOT District 2 Structures Maintenance is responsible for routine inspection every 2 years, and the appropriate local government is responsible for the post storm maintenance.

Contact person (*include name, title, telephone, pager, e-mail*): Keith Campbell - District 2 Structures Maintenance Engineer - (386) 961-7000 - keith.campbell@dot.state.fl.us

7. COUNTERMEASURE RECOMMENDATIONS

Prioritize alternatives below. Include information on any hydraulic, structural or monitoring countermeasures.

☐ **Only monitoring required (see Section 6 and Section 10 – Attachment F)**
Estimated cost $_____

☒ **Structural/hydraulic countermeasures considered (see Section 10, Attachment F):**

Priority Ranking	Estimated cost
(1) Non-destructive testing (NDT)	$ 37,000-86,000*
(2) Independent Crutch Bents	$ 533,000
(3) Bridge Replacment	$ 1,571,000
(4) _____	$ _____
(5) ___	$

***Does not include the cost of abutment protection**

Basis for the selection of the preferred scour countermeasure: Instability at existing mud line elevation based on Phase 3 evaluation.

Countermeasure implementation project type:

☒ Proposed Construction Project ☐ Maintenance Project
☐ Programmed Construction - Project Lead Agency:
☐ Bridge Bureau ☐ Road Design ☐ Other _____

Agency and department responsible for countermeasure program (if different from Section 6 contact for monitoring): City of Jacksonville - Public Works

Contact person (*include name, title, telephone, pager, e-mail*): James M. (Jim) Robinson, P.E. - Director of Public Works - City of Jacksonville - (904) 255-8786 - jrobinson@coj.net

Target design completion date: _____

Target construction completion date: _____

Countermeasures already completed: _____

8. BRIDGE CLOSURE PLAN

Scour monitoring criteria for consideration of bridge closure:

☐ Water surface elevation reaches _____ at _____
☐ Overtopping road or structure
☐ Scour measurement results / Monitoring device (See Section 6)
☒ Observed structure movement / Settlement
☐ Discharge: _____ cfs/cms
☐ Flood forecast: _____
☐ Other: ☐ Debris accumulation ☐ Movement of riprap/other armor protection
☐ Loss of road embankment

Emergency repair plans (*include source(s), contact(s), cost, installation directions*): James M. (Jim) Robinson, P.E. - Director of Public Works - City of Jacksonville - (904) 255-8786 - jrobinson@coj.net

Agency and department responsible for closure: City of Jacksonville - Public Works

Contact persons (name, title, agency/organization, telephone, pager, email): FDOT District 2 Bridge Maintenance Office, (386) 961-7000

Criteria for re-opening the bridge: Reopen only after the bridge has been inspected and determined to be structurally sound.

Agency and person responsible for re-opening the bridge after inspection: James M. (Jim) Robinson, P.E. - Director of Public Works - City of Jacksonville - (904) 255-8786 - jrobinson@coj.net

9. DETOUR ROUTE

Detour route description (route number, from/to, distance from bridge, etc.) - Include map in Section 10, Attachment E.

From the east side of Bridge 724308, proceed east on Collins Rd approximately 2.0 miles to US-17 (Roosevelt Blvd) - proceed south on US-17 (Roosevelt Blvd) approximately 0.5 miles to I-295 - proceed west on I-295 approximately 2.0 miles to SR-21 (Blanding Blvd) - proceed north on SR-21 (Blanding Blvd) approximately 0.5 miles to Collins Rd - proceed east on Collins Rd approximately 0.6 mile to the west side of bridge 724308. Total detour length is approximately 5.6 miles.

Bridges on Detour Route:

Bridge Number	Waterway	Sufficiency Rating/ Load	Item 113 Code

		Limitations	
720247 (WB I-295)	Ortega River	94.7 / Open, No Restriction	3 SC - Unstable
720319 (EB I-295)	Ortega River	90.6 / Open, No Restrictions	3 SC - Unstable

Traffic control equipment (detour signing and barriers) and location(s): Barriers will be required on each side of the bridge. Detour signing will be required at the following intersections: Collins Rd & US-17 (Roosevelt Blvd); US-17 (Roosevelt Blvd) & I-295, I-295 & SR-21 (Blanding Blvd); and SR-21 (Blanding Blvd) & Collins Rd. Further signage may be required along Collins Rd from the east side of the bridge to US-17 (Roosevelt Blvd) approximately 2.0 miles and from the west side of the bridge to SR-21 (Blanding Blvd) approximately 0.6 miles, to notify local traffic of the bridge closure.

Additional considerations or critical issues (susceptibility to overtopping, limited waterway adequacy, lane restrictions, etc.) :

News release, other public notice (include authorized person(s), information to be provided and limitations): _____

10. ATTACHMENTS

Please indicate which materials are being submitted with this POA:

- ☐ **Attachment A: Boring logs and/or other subsurface information**
- ☒ **Attachment B: Cross sections from current and previous inspection reports**
- ☒ **Attachment C: Bridge elevation showing existing streambed, foundation depth(s) and observed and/or calculated scour depths (REFER TO PHASE 4 REPORT)**
- ☐ **Attachment D: Plan view showing location of scour holes, debris, etc.**
- ☒ **Attachment E: Map showing detour route(s)**
- ☒ **Attachment F: Supporting documentation, calculations, estimates and conceptual designs for scour countermeasures. (REFER TO PHASE 4 REPORT)**
- ☐ **Attachment G: Photos**
- ☐ **Attachment H: Other information:** _____

Scour Critical Bridge – Plan of Action
ATTACHMENT B

FLORIDA DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS FROM BRIDGE INSPECTION REPORTS

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
BRIDGE INSPECTION REPORT
APPENDIX

Bridge No. 724308 Type of Inspection: Routine Inspection Date: 1/21/2013

SOUNDINGS (GROUNDLINE MEASUREMENTS)

These measurements are provided to track changes in the channel bottom profile
Refer to the next page for graphical representation of this data.

CHANNEL PROFILE

LEFT SIDE (NORTH FASCIA)				CHANGE	
	04/01/91	01/11/11	01/21/13	2011-2013	1991-2013
Abutment 1	13.2	15.0	15.5	- 0.5	- 2.3
Mid-span		17.2	17.2	0.0	
Bent 2	19.0	19.4	19.2	+ 0.2	- 0.2
Mid-span		21.5	21.5	0.0	
Bent 3	24.3	24.4	24.2	+ 0.2	+ 0.1
Mid-span		22.1	21.6	+ 0.5	
Bent 4	14.2	13.7	14.4	- 0.7	- 0.2
Mid-span		12.2	12.1	+ 0.1	
Abutment 5	11.8	11.4	11.9	- 0.5	- 0.1

Waterline at Bent 3		13.2	13.2

RIGHT SIDE (SOUTH FASCIA)				CHANGE	
	04/01/91	01/11/11	01/21/13	2011-2013	1991-2013
Abutment 1	11.1	11.1	11.3	- 0.2	- 0.2
Mid-span		13.3	13.5	- 0.2	
Bent 2	11.9	12.0	12.4	- 0.4	- 0.5
Mid-span		13.6	13.9	- 0.3	
Bent 3	15.0	15.0	15.1	- 0.1	- 0.1
Mid-span		19.2	19.6	- 0.4	
Bent 4	24.6	25.0	25.8	- 0.8	- 1.2
Mid-span		27.1	27.1	0.0	
Abutment 5	13.3	14.2	14.0	+ 0.2	- 0.7

Waterline at Bent 3		13.2	13.2

All measurements are in feet and are referenced to the top of the barrier wall.

Note: A positive change indicates aggradation and a negative change indicates degradation. Blank spaces in table indicate that no measurement was taken.

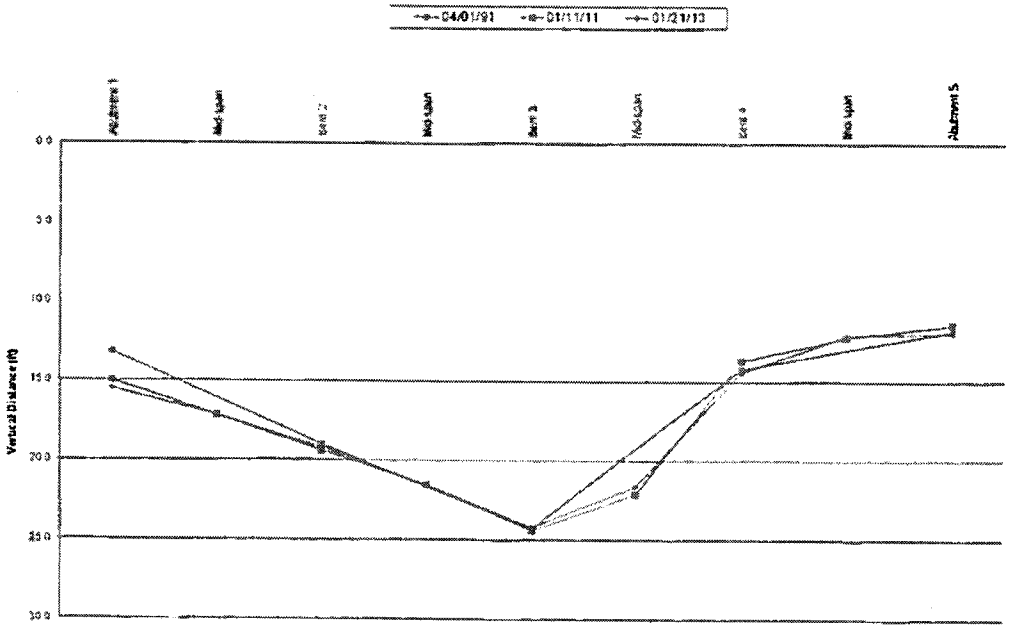
- Indicates that there is a change of +/- 3 ft or more

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
BRIDGE INSPECTION REPORT
APPENDIX

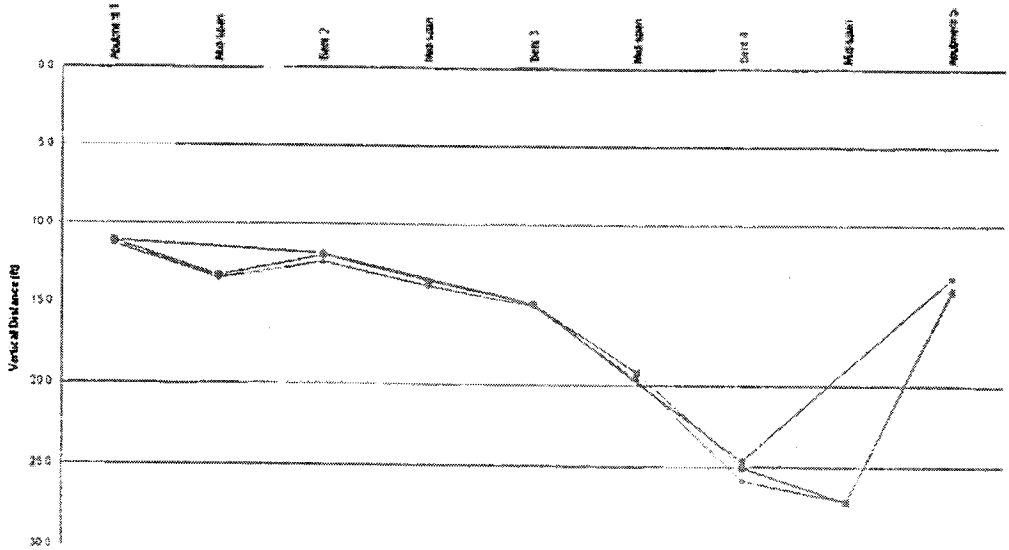
Bridge No. 724308 | Type of Inspection: Routine | Inspection Date: 1/21/2013

CHANNEL PROFILES

CHANNEL PROFILE - NORTH FASCIA

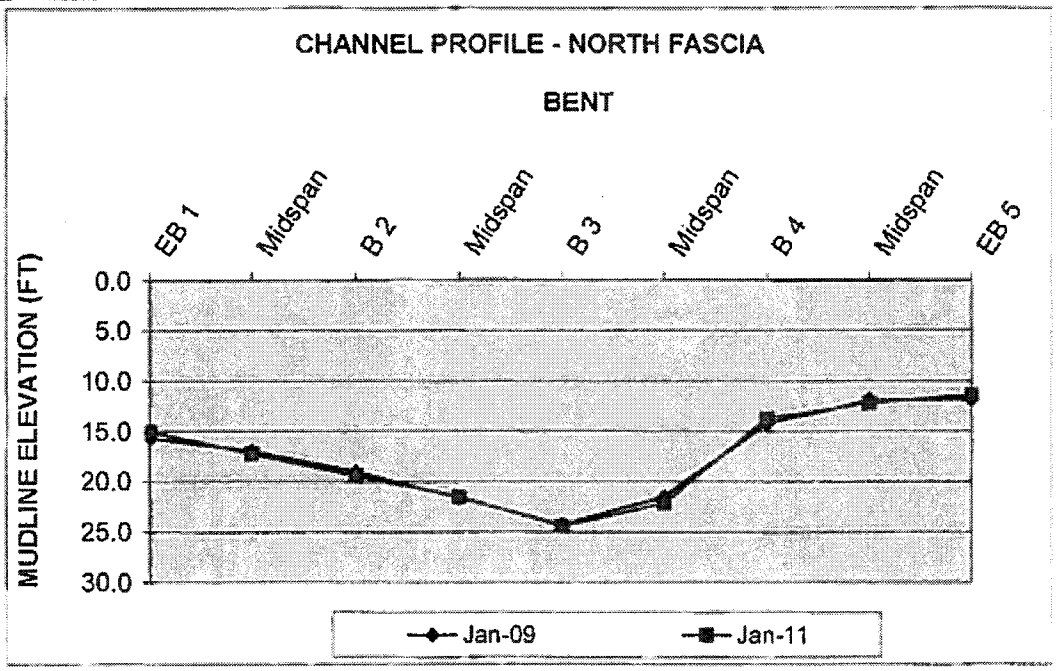


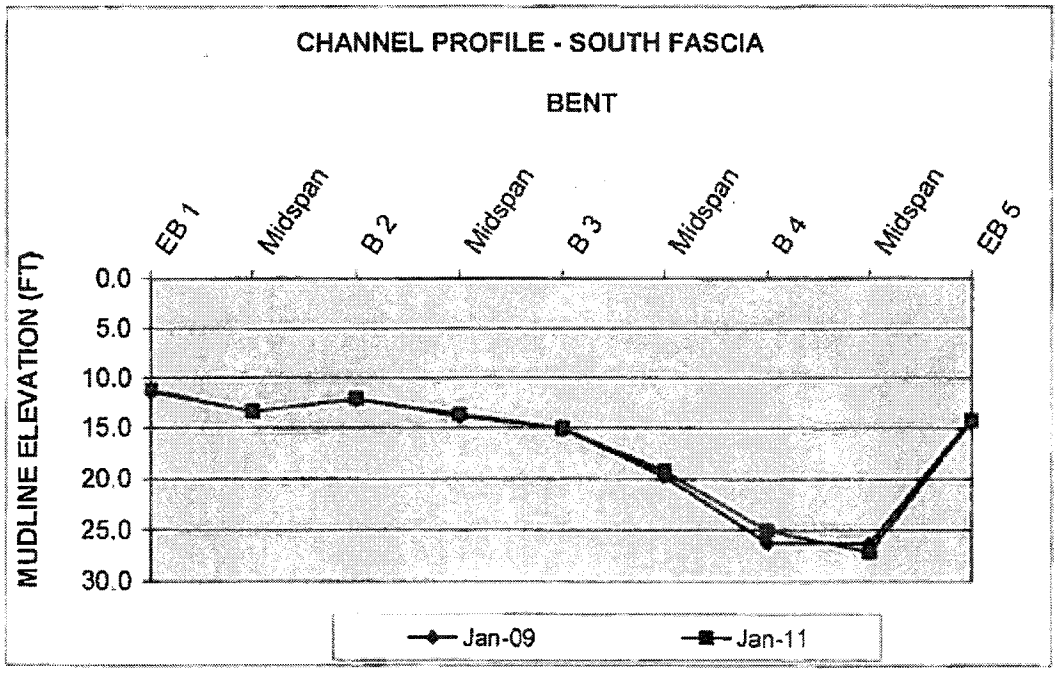
CHANNEL PROFILE - SOUTH FASCIA



Bridge No. 724308 | Type of Inspection: Routine | Inspection Date: 1/11/2011

CHANNEL PROFILES

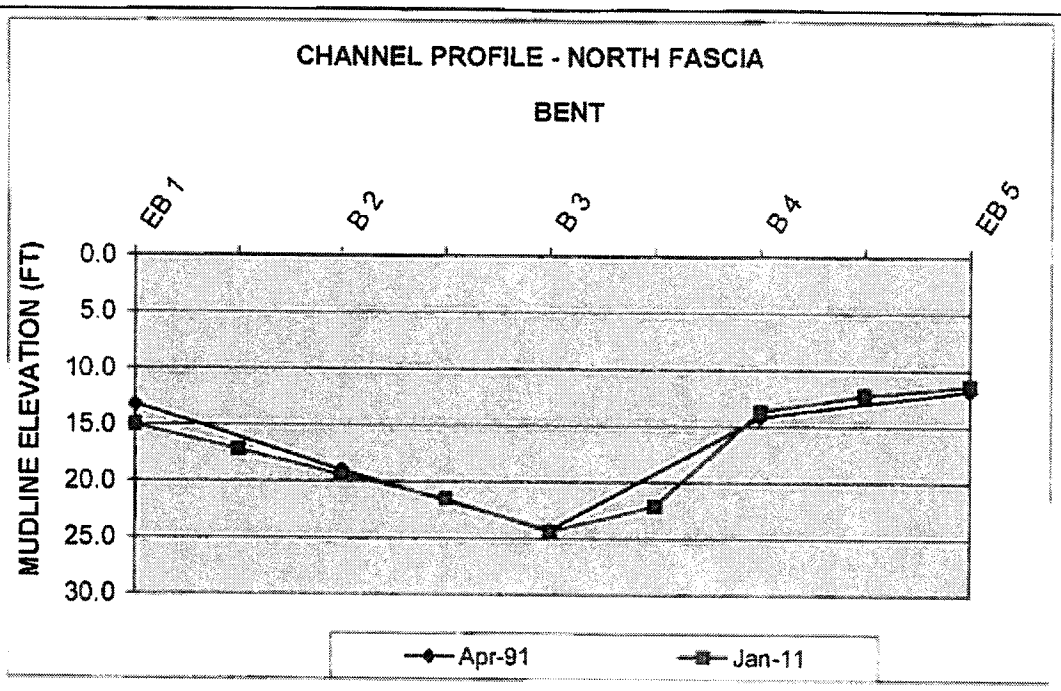


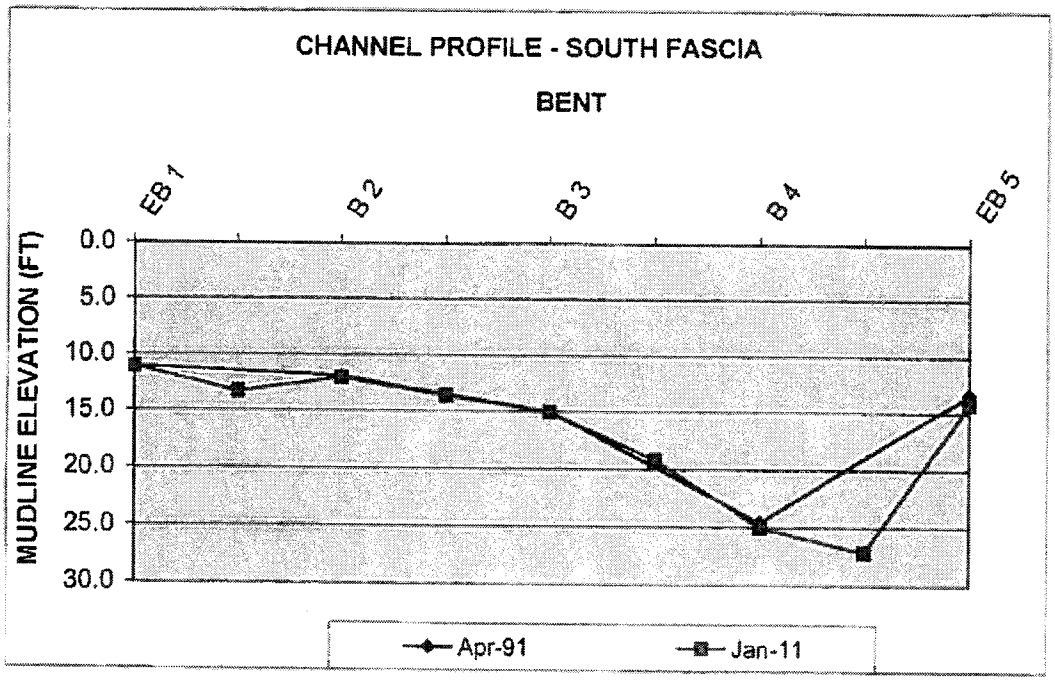


FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
BRIDGE INSPECTION REPORT
APPENDIX

Bridge No. 724308 | Type of Inspection: Routine | Inspection Date: 1/11/2011

CHANNEL PROFILES





FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
BRIDGE INSPECTION REPORT
APPENDIX

Bridge No. 724308 Type of Inspection: Routine Inspection Date: 1/11/2011

SOUNDINGS (GROUNDLINE MEASUREMENTS)

CHANNEL PROFILE NOTES:

These measurements are provided to track changes in the channel bottom profile. Refer to the preceding pages for graphical representations of this data.

CHANNEL PROFILE

LEFT SIDE (NORTH FASCIA)				CHANGE	
	Apr-91	Jan-09	Jan-11	2009-2011	1991-2011
EB 1	13.2	15.6	15.0	0.6	-1.8
Midspan		16.9	17.2	-0.3	
B 2	19.0	19.0	19.4	-0.4	-0.4
Midspan		21.6	21.5	0.1	
B 3	24.3	24.2	24.4	-0.2	-0.1
Midspan		21.5	22.1	-0.6	
B 4	14.2	14.2	13.7	0.5	0.5
Midspan		11.9	12.2	-0.3	
EB 5	11.8	11.8	11.4	0.4	0.4
W/L at B 3		13.9	13.2		

RIGHT SIDE (SOUTH FASCIA)				CHANGE	
	Apr-91	Jan-09	Jan-11	2009-2011	1991-2011
EB 1	11.1	11.3	11.1	0.2	0.0
Midspan		13.3	13.3	0.0	
B 2	11.9	12.1	12.0	0.1	-0.1
Midspan		13.8	13.6	0.2	
B 3	15.0	15.1	15.0	0.1	0.0
Midspan		19.7	19.2	0.5	
B 4	24.6	26.2	25.0	1.2	-0.4
Midspan		26.3	27.1	-0.8	
EB 5	13.3	14.0	14.2	-0.2	-0.9
W/L at B 3		13.9	13.2		

All measurements are in feet and are referenced to the top of the barrier.

Note: A positive change indicates aggradation and a negative change indicates degradation. Blank spaces in table indicate that no measurement was taken.

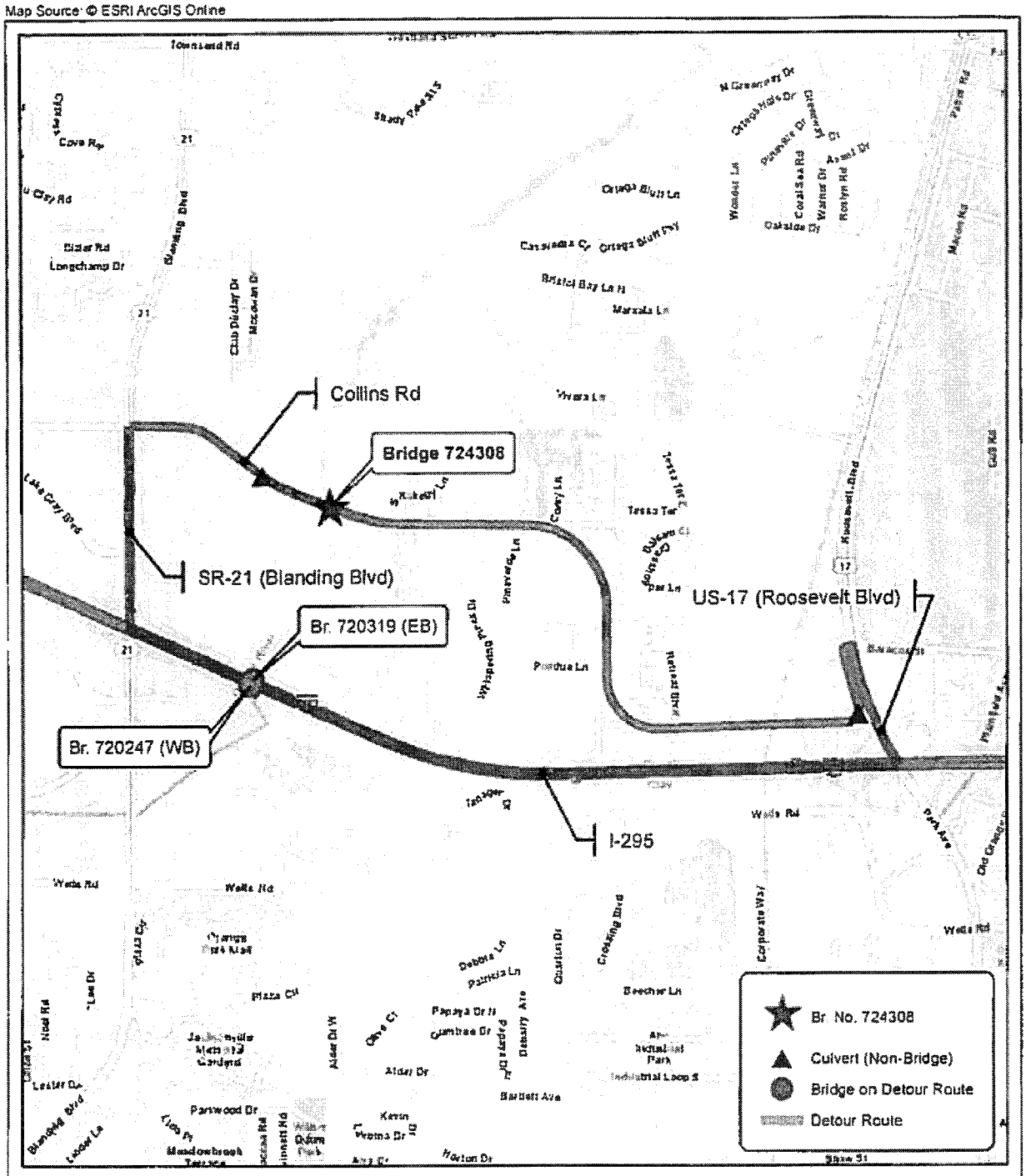
- Indicates that there is a change of ± 3 ft. or more.

Scour Critical Bridge – Plan of Action
ATTACHMENT E

FLORIDA DEPARTMENT OF TRANSPORTATION

DETOUR ROUTE MAP

Map Source: © ESRI ArcGIS Online



N
W E
S

0 500 1,000 2,000
Feet

Kimley-Horn and Associates, Inc.

DETOUR ROUTE MAP

Bridge No. 724308 - Collins Rd over Ortega River

Collins Rd, SR-21 (Blanding Blvd), I-295, and US-17 (Roosevelt Blvd)

Detour Length = 5.6 miles

Appendix C

RS&H Bridge Scour Report Information

BRIDGE NO. = 724308

LEFT SIDE

	Scour Action	Scour Critical	1/26/2015	10/12/2016 Hurricane Matthew	1/19/2017	9/16/2017 Hurricane Irma	Change
			Previous	Previous	Previous	Current	
Bent 1			15.2	15.3	15.6	15.3	0.3
MS			16.7	16.9	17.0	16.8	0.2
Bent 2			19.4	19.6	19.7	19.4	0.3
MS			21.6	21.6	21.8	22.0	-0.2
Bent 3			24.7	24.9	23.5	24.2	-0.7
MS			21.4	21.7	22.0	22.4	-0.4
Bent 4	25.72	26.72	14.2	14.5	14.6	14.4	0.2
MS			12.4	12.6	12.5	12.5	0.0
Bent 5			12.1	12.2	12.3	12.3	0.0

Waterline at Bent 2	11.2

RIGHT SIDE

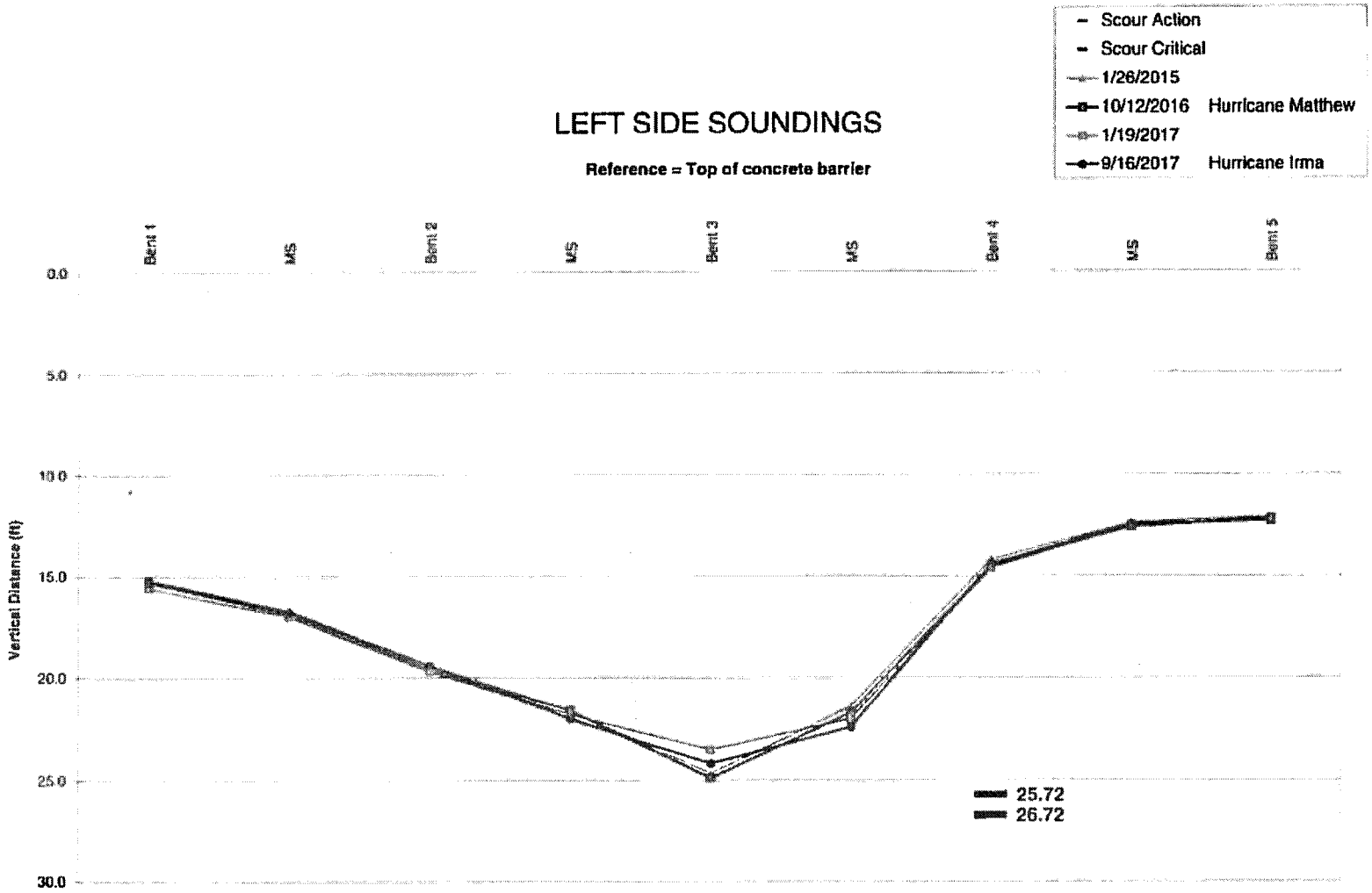
	Scour Action	Scour Critical	1/26/2015	10/12/2016 Hurricane Matthew	1/19/2017	9/16/2017 Hurricane Irma	Change
			Previous	Previous	Previous	Current	
Bent 1			11.3	11.4	11.5	11.2	0.3
MS			13.4	13.3	13.4	13.0	0.4
Bent 2			12.2	12.0	12.2	11.9	0.3
MS			13.7	13.8	13.9	13.5	0.4
Bent 3			15.0	15.2	15.5	15.0	0.5
MS			20.9	19.3	20.3	19.8	0.5
Bent 4	25.72	26.72	25.4	26.1	26.0	26.2	-0.2
MS			26.9	27.1	26.7	26.7	0.0
Bent 5			14.1	14.4	14.5	14.5	0.0

Waterline at Bent 2	11.2

NOTE: - = An increase in degradation.
Blank box = No previous measurement available.
Relative Channel Plots Are Not To Scale.
Any Vertical Curvature Of Datum Point Is Not Reflective In Plot.
The waterline and mudline measurements, in reference to the top of the concrete barrier, are provided for future comparison. All measurements are in feet.

LEFT SIDE SOUNDINGS

Reference = Top of concrete barrier

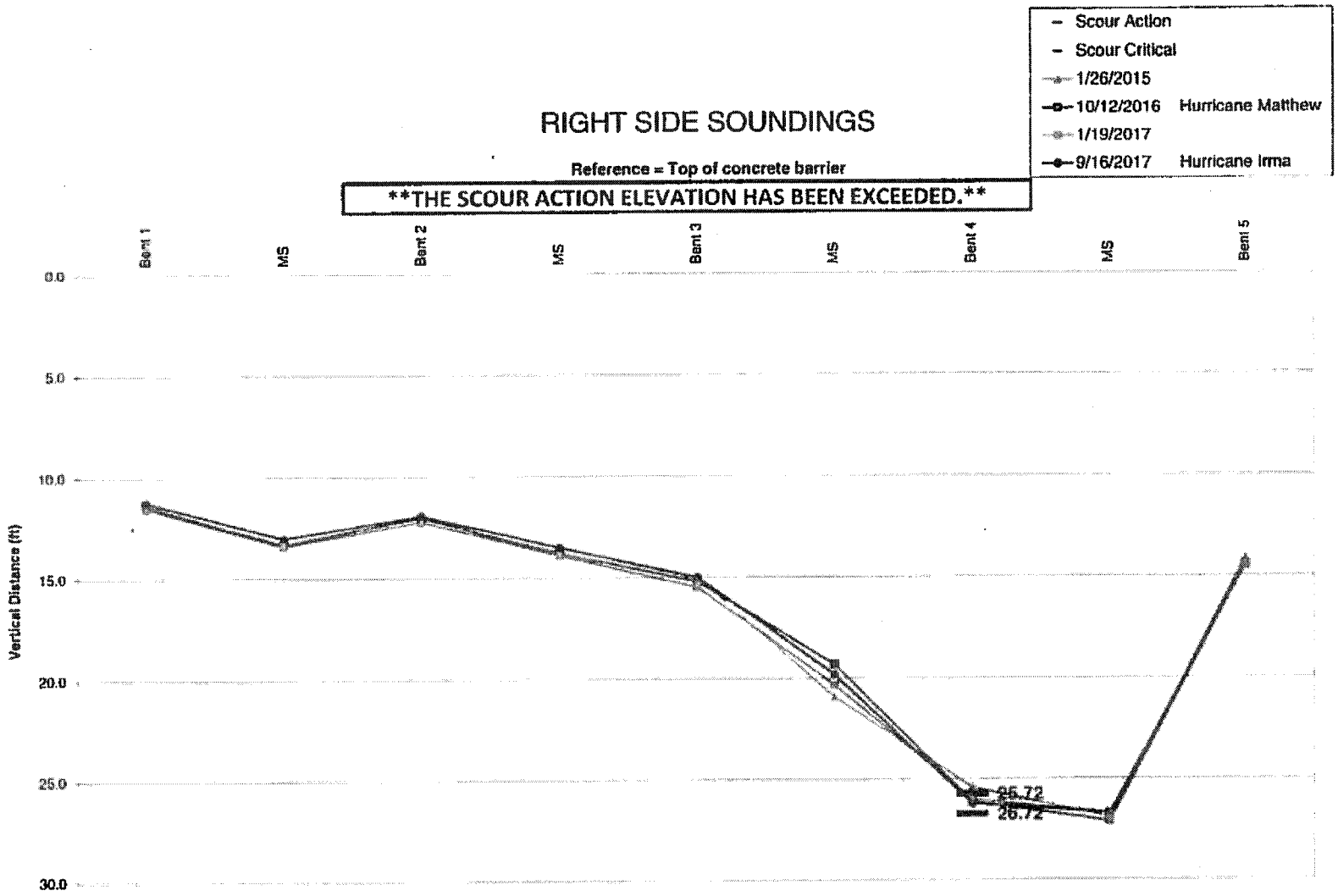


Relative Channel Plots Are Not To Scale.
Any Vertical Curvature Of Datum Point Is Not Reflective In Plot.

RIGHT SIDE SOUNDINGS

Reference = Top of concrete barrier

THE SCOUR ACTION ELEVATION HAS BEEN EXCEEDED.



Relative Channel Plots Are Not To Scale.
Any Vertical Curvature Of Datum Point Is Not Reflective In Plot.

Appendix D

Special Conditions

APPROACH SLAB REPAIRS, BRIDGE REPAIRS, & CHANNEL STABILIZATION FOR BRIDGE #724208 ON COLLINS ROAD

SPECIAL CONDITIONS

INDEX

Paragraph No.	TITLE
1.	APPLICATION OF SPECIAL CONDITIONS
2.	NOISE POLLUTION CONTROL
3.	EROSION CONTROL AND POLLUTION ABATEMENT
4.	SURVEYS AND GRADE STAKES
5.	TEMPORARY WATER/UTILITIES
6.	EXISTING UTILITIES
7.	MAINTENANCE OF TRAFFIC
8.	SHOP DRAWINGS
9.	COORDINATION OF CONSTRUCTION WITH EXISTING UTILITIES
10.	TREE PROTECTION ON PUBLICLY OWNED OR CONTROLLED PROPERTY

SPECIAL CONDITIONS

1. APPLICATION OF SPECIAL CONDITIONS

CONFLICTS

Where conflicts exist between the Special Conditions and other parts of the Contract Documents, the order of precedence, as set forth in the Design Build Services Contract, shall apply. If certain situations arise whereby it would be difficult or impossible for the Special Conditions to prevail then the final decision shall be made by the City Engineer.

2. NOISE POLLUTION CONTROL

Jacksonville's Noise Pollution Control rule is referred to herein to heighten the Contractor's awareness of the applicable restrictions and enforcements contained therein. It is the Contractor's responsibility to be familiar with the provisions of the ordinance and to arrange work activities in such a manner to be in compliance with the ordinance requirements. No additional compensation will be allowed for complying with the ordinance.

3. EROSION CONTROL AND POLLUTION ABATEMENT

3.1 The NPDES permit program requires that if the magnitudes of construction activities covered by the general permit are above certain thresholds, development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) specifically designed for each construction site is required. Also involved are certain certification, notification, inspection and record-keeping activities.

3.2 SPECIFIC REQUIREMENTS
The Contractor shall implement and comply with Best Management Practices (BMPs) and controls which prevent the pollution of storm water discharges.

4. SURVEYS AND GRADE STAKES

The Contractor shall be responsible for setting all grade stakes, lines and levels. Any reference points, points of intersection, property corners, or bench marks which are disturbed during construction shall be restored by a land surveyor registered to practice in the State of Florida, and all costs thereof shall be borne by the Contractor. The setting of grade stakes and alignment to be accomplished by a registered land surveyor may be waived by the Engineer in the event the Contractor desires to utilize his own personnel and furnishes, in writing, to the Engineer, satisfactory evidence that his personnel are qualified to set the grade and all alignment stakes.

5. TEMPORARY WATER/UTILITIES

All construction water required in accomplishing the work shall be furnished by the Contractor. The water required for carrying out the work may be obtained from fire hydrants, existing water main connections, or new connections approved by the Owner. The Contractor shall pay to JEA for water used in the flushing and disinfecting of the

water lines. In addition, a deposit will be required for back flow preventer and water meter assembly if construction water is obtained from JEA. The Contractor shall pay JEA for any water required to complete the work in accordance with the meter reading at the established rate.

6. EXISTING UTILITIES

It shall be the Contractor's sole responsibility to locate above and underground utilities sufficiently in advance of construction activities to allow adequate time to propose and obtain the Engineer's approval of changes in the work necessary to resolve utility conflicts.

The Contractor shall contact One Call of Florida to request that it locate all facilities owned by the utilities, which participate in this locator program. Should the Contractor encounter any unidentified utility work in the immediate area, the Engineer shall be notified. The Contractor is reminded the laws of Florida require him to notify any gas company, which may have underground lines in the work area, at least 48 hours in advance of any digging operation. Failure by the Contractor to call One Call of Florida prior to digging shall obligate the Contractor for any damages resulting from his work to participating utility company facilities and associated repair costs thereto. It is the Contractor's responsibility to request line protection for power lines and support of power poles during trench operations (when needed) from JEA at least ten (10) working days in advance.

7. MAINTENANCE OF TRAFFIC

The work shall be in accordance with the City Specification Section 510, and the following:

At no time shall any road within the project limits be closed to local or thru traffic unless specifically shown in the approved 10-set plans.

The Contractor shall be responsible for maintaining asphalt surfaces at all times; the Contractor shall coordinate the work of others to assure good riding surfaces for the public at all times.

Contractor shall maintain access to all private property at all times.

8. SHOP DRAWINGS

Shop drawings, approved by the Engineer of Record, are required for structures and all manufactured and fabricated items prior to purchase. Approved copies of the shop drawings shall also be conveyed via e-mail to the Owner for review and stamped Approved for Construction prior to purchase.

9. COORDINATION OF CONSTRUCTION WITH EXISTING UTILITIES

The Contractor shall establish liaison with, and coordinate his work with all utilities, including but not limited to: JEA (formerly Jacksonville Electric Authority), AT&T, TECO/People's Gas, COMCAST, City Traffic Engineer, the Department of Public Works, City of Jacksonville, and any other utility providers within the project limits to prevent interference with overhead and buried electrical, water sewer, telephone TV cables and gas facilities.

The following is a list of utility companies or businesses which may have utilities within the job site, there may be others, and there coordination representative:

JEA – Water/Sewer	Michael Barber	(904) 665-6754
JEA – Electric	Ryan Heaton	(904) 665-6171
AT&T	P.K. Patel	(904) 727-1568
COMCAST	James Graham	(904) 380-6341
Sunshine State One Call		(800) 432-4770
TECO/People's Gas	Doug Davis	(904) 443-7317

If utility conflicts are encountered, these various utility owners will need time to relocate their facilities. The Contractor shall coordinate his work with the utility companies to minimize the length of time (duration) that maintenance of traffic is required.

The Contractor shall at all times conduct his operation so as to interfere with existing utilities as little as possible. The Contractor shall develop a program in cooperation with the Engineer, which shall provide for the construction of, and putting into service, the new work in the most orderly manner possible. Should utilities be encountered, all work of connecting with, cutting into, and reconstructing existing pipes and structures shall be planned so as not to interfere with the operation of the existing utilities.

10. TREE PROTECTION ON PUBLICLY-OWNED OR CONTROLLED PROPERTY

10.1 The CONTRACTOR shall protect all trees, in accordance with Chapter 656 (Part 12 – Landscape and Tree Protection Regulations) of the Jacksonville Ordinance Code from damage by vehicles, equipment and machinery, except those trees designated for removal (via permit) on the construction drawings. Removal of any tree not so designated nor permitted, shall be only upon specific approval by the ENGINEER.

10.2 Excavated dirt shall not be piled around the base of the tree. The CONTRACTOR shall not bury or burn any refuse around or near the trees. The CONTRACTOR shall proceed with caution when excavating in the vicinity of root structure of any tree. Excavation shall be by hand if necessary.

Roots up to 2 inches in diameter when severed do not require any pruning paint. Roots from 2 inches to 4 inches in diameter must be severed with a pruning saw and painted.

An axe or similar tool is not acceptable for pruning. The wood shall be treated with asphalt-type pruning paint as soon as possible after pruning. Roots over 4 inches shall not be severed except as directed by the ENGINEER.

10.3 Pre-Construction Barriers: Prior to any site disturbance, barriers will be put up around each tree to be protected. These barriers should be constructed of 2 x 4's or any other practical materials which will discourage disturbance near the tree. To conform to the Jacksonville Ordinance Code, these barriers should be at least six feet away from the trunk of the tree and protect an area that is at least 50 percent of the unpaved area covered by the crown spread of the tree.

When conditions permit, barriers are to be placed in such a manner as to provide the largest undisturbed area possible.

10.4 Cutting of Roots: Cutting tree roots will be kept to a minimum and only allowed when absolutely necessary. In such instances the CONTRACTOR shall insure that all cuts are made clean with a saw, free of all loose soil, and sealed with pruning paint or shellac. At no time will roots be pulled, ripped or cut with a blade, backhoe or other mechanical device.

10.5 Changing of Grade: Additional fill under the crown spread of trees will be kept to a minimum. If additional fill is unavoidable, all fill material shall consist of clean, coarse sand or gravel, free of silt and clay to allow for free movement of air and water. Lowering the grade under the crown spread of trees will not be permitted.

10.6 Pruning of Branches: Should branches require pruning to provide for roadway or other necessary clearance, it will be cut back to a main stem or crotch of the tree. All cuts will be made at the bench collar to allow the natural healing process of the tree to occur. To further promote the natural healing process, no pruning paint or other material will be applied to pruning cuts.

10.7 Wounds: If a tree is wounded during construction, all bark surrounding the wound shall be cut away and carefully removed. Care shall be taken to leave as much cambium as possible.

10.8 Any tree whose root system has been disturbed or damaged must be properly fertilized to aid in its recovery. The hole or punch-bar method shall be used for applying fertilizer. The holes should be approximately 12 inches to 18 inches deep, 1 inch to 2 inches in diameter, 2 feet apart, and extend 2 feet past the drip line of the tree. DO NOT apply fertilizer within one foot of the trunk of a small tree (up to 6 inches diameter) or within three feet of the trunk of a large tree (over 6 inches diameter). Injury to the root collar and trunk base may result. The type of fertilizer to be used shall be 25% organic 8-8-8 with minor elements included. Chemical analysis as follows: Total Nitrogen, not less than 8.0 percent available Phosphoric Acid, not less than 8.0 percent water soluble potash, not less than 8.0 percent. Fertilizer shall be applied at the following rates and shall be evenly distributed among the holes.

Hardwoods up to 6" Dia.	2 lbs. per inch of dia.
Hardwoods over 6" Dia.	4 " " " " "
Evergreens up to 6" Dia.	1 " " " " "
Evergreens over 6" Dia.	2 " " " " "

10.9 It shall be the responsibility of the ENGINEER to make all decisions pertaining to removal of trees. The ENGINEER is granted authority, as a blanket permit, for the necessary removal of trees under the requirements of the Code. Each project file is to contain documentation and a brief explanation of the ENGINEER'S decision to remove trees so as to provide the justification for such action for later reference. The final authority in settling any conflict with trees on publicly-owned or controlled property shall remain with the Director of Public Works.

ENVIRONMENTAL SERVICES, INC.
7220 Financial Way, Suite 100
Jacksonville, FL 32256

Phone 904-470-2200 * Fax 904-470-2112

www.environmentalservicesinc.com

11 May 2018

Mr. Bob Baxter
GAI Consultants, Inc.
1301 Riverplace Boulevard, Suite 900
Jacksonville, Florida 32207

RE: Collins Road Bridge Repair (EJ18180.00)
Duval County, Florida

Dear Mr. Baxter:

Thank you for contacting Environmental Services, Inc. (ESI). Pursuant to our recent conversation, ESI is pleased to enclose the attached proposal. Please note under our Terms section at the end of the proposal that, as the client, you assure ESI that we have permission to work on the property being evaluated and that you will advise us regarding the proper procedures for accessing the property.

If the attached meets your requirements, please approve by signing and returning the enclosed document to us by mail to the address above, by fax (904-470-2112) or via email (ghowalt@esinc.cc). We are prepared to proceed upon receipt of the signed contract. We look forward to working with you.

Please contact me should you have any questions. Thank you for selecting ESI to assist with your environmental consulting needs.

Sincerely yours,

ENVIRONMENTAL SERVICES, INC.

Gary K Howalt

Gary K. Howalt
Principal

GKH/smc/EJ18180 proposal doc
S pf051018f

ENVIRONMENTAL SERVICES, INC.

PROPOSAL FOR SERVICES
ESI PROJECT NO. EJ18180.00

The following Contract for Services is an agreement between Environmental Services, Inc. (ESI) and GAI Consultants, Inc. (Client) with the terms specified herein. Client agrees that the company/individual signing this agreement has the ability to compensate ESI for the work described herein whether or not the proposed project materializes. ESI agrees to perform the following tasks for the associated fee.

Project Name: **Collins Road Bridge Repair**
Project Location: **Duval County, Florida**

SCOPE OF SERVICES		FEE
Task 1.	**Wetland Delineation**	$2,000.00
	ESI will field delineate the limits of jurisdictional wetlands pursuant to the current methodologies of the U.S. Army Corps of Engineers [(ACOE) 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)], Florida Department of Environmental Protection (FDEP) and St. Johns River Water Management District [(SJRWMD) Florida Unified Wetland Delineation Methodology, Chapter 62-340, F.A.C.]. We will provide you and your chosen land surveyor with a flagging key map showing the approximate location of the jurisdictional line.	
	This task does not include the formal mapping of the wetland boundary. A licensed land surveyor must perform this mapping.	
Task 2.	**SJRWMD Pre-application Meeting**	$900.00
	ESI will participate in one pre-application meeting at the SJRWMD office to discuss preliminary project design and potential wetland impacts.	
Task 3.	**ACOE Pre-application Meeting**	$900.00
	ESI will request one pre-application meeting at the ACOE office to discuss preliminary project design and potential wetland impacts.	
Task 4.	**SJRWMD Notice General Environmental Resource Permit**	$2,600.00
	ESI will assist your consulting engineer in preparation and submittal of a General Environmental Resource Permit application.	

This permit will require approximately 60 to 120 days from the date of application submittal to obtain. The permit will require approval from the St. Johns River Water Management District staff.

**This cost does not include the permit application fee of $250.00 payable to St. Johns River Water Management District.*

Task 5. ACOE Nationwide Permit $2,600.00

If the proposed wetland impacts qualify, ESI will prepare a pre-construction notification package in accordance with ACOE Nationwide Permit Number 14 requirements, including site plans, a Nationwide Permit Checklist, and supporting documentation.

It is likely that the project impacts will be authorized by ACOE under the Nationwide Permit. These permits are usually issued within 45 to 60 days.

The cost for mitigation bank credits for up to 0.5 ac of impacts is $5,400.00 and is not included in this proposal.

Task 6. Requests for Additional Information (RAI) $3,500.00 estimate (not to exceed)

ESI will prepare responses to one RAI from each permitting agency.

In most cases, the representatives from ACOE and SJRWMD ask for additional information related to the project which is not typically included in the permit application. The content and detail of these requests are difficult to predict at this time as this is dependent upon the level of scrutiny that the agency personnel and others offering comments feel is appropriate for the project. Typically, SJRWMD issues one RAI with questions related to both environmental and stormwater engineering issues. ACOE RAIs typically consist of providing technical responses to comments from U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), U.S. Environmental Protection Agency (EPA) or others.

Task 7. Historic Resources FMSF Recordation & Letter Report $1,900.00

ESI will conduct a desktop investigation and field inspection of all historic resources associated with the proposed bridge replacement/alteration in accordance with procedures outlined

by the Florida State Historic Preservation Office (FLSHPO), Division of Historical Resources and Florida Department of Transportation (FLDOT). All project personnel will meet the qualifications for Historian and Architectural Historian as outlined in the *Secretary of the Interior's Professional Qualification Standards*

Prior to initiating fieldwork, ESI will conduct a desktop review of maps and site information on file at the FL DOT and SHPO for previously recorded historic resources located within the project area of potential effect (APE). Florida Master Site File (FMSF) records will also be consulted for previously recorded properties listed in or considered eligible for listing in the *National Register of Historic Places* (National Register) located within the project area.

Architectural assessment will include background research, photographic documentation of the resource and its relation to the project APE and completion of FMSF Bridge Form.

Following completion of the analyses, a brief letter report will be prepared for the client detailing the results of the investigation. This letter report will include a summary of the results of the background research and field investigations; site photographs; completed FMSF Bridge Form and supporting documentation.

Task 8.	**Project Coordination & Meetings** ESI will coordinate with the project team, participate in project progress meetings and meetings with regulatory agency staff as requested.	$2,000.00 estimate (not to exceed)

Additional services not specifically addressed herein will be invoiced on a time and materials basis at standard ESI hourly rates. We will provide you with a written proposal for these tasks if, or when, they become necessary. We are prepared to proceed upon receipt of the signed contract.

ESI is committed to providing quality service to our clients. Every project is reviewed by a senior technical manager to ensure that the work has been performed in compliance with our goal of providing superior service and solutions to our clients.

ENVIRONMENTAL SERVICES, INC.

Project Name: **Collins Road Bridge Repair (EJ18180.00)**
Project Location: **Duval County, Florida**

Task 1:	Wetland Delineation	Fee:	$2,000.00
Task 2:	SJRWMD Pre-application Meeting	Fee:	$900.00
Task 3:	ACOE Pre-application Meeting	Fee:	$900.00
Task 4:	SJRWMD General Environmental Resource Permit Application	Fee:	$2,600.00
Task 5:	ACOE Nationwide Permit Application	Fee:	$2,600.00
Task 6:	Requests for Additional Information	Fee:	$3,500.00 est. NTE
Task 7:	Historic Resources FMSF Recordation & Letter Report	Fee:	$1,900.00
Task 8:	Project Coordination & Meetings	Fee:	$2,000.00 est. NTE

TERMS:

- ESI will complete the work described above in a timely manner unless delayed by Client's request, lack of information, or intervening factors beyond our control.
- Client assures ESI that it has permission to work on the subject property and will advise ESI of proper procedures for accessing subject property.
- **ESI will maintain a minimum $1,000,000 errors and omissions (professional liability) insurance; $1,000,000 per occurrence and $2,000,000 aggregate general liability insurance for the duration of the project. If any additional insurance requirements are necessary, please return the specifications with the signed proposal. They will become a part of this contract as agreed by both parties.**
- Outside services and expenses such as subcontractors and special purchases will be invoiced with a handling fee of 15 percent.
- **A retainer of $0.00 is required; the retainer will be subtracted from the <u>last</u> invoice and is required by ESI to initiate work.**
- Client will provide ESI with any special billing formats or considerations with the signed contract.
- Billing is done monthly. **<u>Payment is due immediately upon receipt of the invoice</u>**; after 30 days the Client agrees to pay 1.5 percent late fee per month or portion thereof on unpaid balances. Unpaid balances after 60 days from the date of the invoice may result in work stoppage until overdue accounts are resolved.
- Failure to pay within 60 days from the date of invoice will be considered by ESI to be a breach of contract, and ESI may cease work and withhold all work product immediately without penalty from the Client.
- Client agrees that this contract is an agreement between Client and ESI. Payment is due from Client at the time services are performed. Payment shall not be contingent upon regulatory action or upon resolution of any legal matter that ESI is not a party to. If ESI is being contracted to complete work which Client will use in a legal dispute, Client agrees to pay ESI in a timely manner without regard to the current standing of that legal dispute. ESI fees may not be incorporated into real estate closings without prior written consent from ESI.
- This agreement shall be governed by the laws of the State of Florida, United States. Any lawsuit, proceeding or action arising out of or relating to this agreement must be brought in any court of competent jurisdiction located within Duval County, Jacksonville, Florida. Each of the parties irrevocably submits and consents to the exclusive jurisdiction of such court in any such lawsuit, proceeding or action, and waives any defense or objection it may now or hereafter have to personal jurisdiction, venue, or inconvenient forum.
- ESI rates change on March 1 of each year.
- **This proposal is valid for a period of 60 days following the date of issuance.**

TERMS ACCEPTED:		**ENVIRONMENTAL SERVICES, INC.**	
SIGNATURE:	_____	SIGNATURE:	Gary K Howalt
NAME:	_____	NAME:	Gary K. Howalt
FIRM:	_____	FIRM:	Environmental Services, Inc.
TITLE:	_____	TITLE:	Principal
DATE:	_____	DATE:	11 May 2018

GKH/smc/EJ18180 proposal doc
S pl051018f

ENVIRONMENTAL SERVICES, INC.
SCHEDULE OF LABOR AND EXPENSE RATES

POSITION	RATE
Technical	
Assistant Scientist	$43.00/Hour
Environmental Technician	$53.00/Hour
Project Scientist	$63.00/Hour
Senior Scientist	$78.00/Hour
Senior Geologist	$123.00/Hour
Project Archaeologist	$48.00/Hour
Senior Archaeologist	$63.00/Hour
Historic Resource Specialist	$83.00/Hour
Sustainability Specialist	$103.00/Hour
Project Forester	$93.00/Hour
Senior Forester	$108.00/Hour
Project Manager	$103.00/Hour
Senior Manager	$113.00/Hour
Forest Biometrician	$118.00/Hour
SR Forest Biometrician	$148.00/Hour
VP/Technical Director	$148.00/Hour
SR VP/Technical Director	$160.00/Hour
SR VP II/Technical Director	$180.00/Hour
Principal	$200.00/Hour
Administrative	
Receptionist	$38.00/Hour
Administrative Assistant	$53.00/Hour
Exec. Admin Assistant	$73.00/Hour
Graphics	
GIS/CAD Technician	$63.00/Hour
GIS/CAD Analyst	$83.00/Hour
GIS/CAD Manager	$108.00/Hour
GIS/CAD Senior Manager	$113.00/Hour

EXPENSE	CHARGE
Additional Services	
GIS/CAD Usage	$30.00/Hour
Global Positioning System	$50.00/Day
ATV Usage	$50.00/Day
Boat Usage	$100.00/Day
Local Courier Service	$13.00/Delivery
Outside Graphics	Cost + 15%
All Subcontracted Services	Cost + 15%
Travel	
Vehicle Mileage Rate	$0.545/Mile
Travel Expenses	Cost
Copies	
Photocopy Per Page	$0.15
Color Copy Per Page	$1.50 8 ½ x 11
	$2.50 8 ½ x 14
	$3.00 11 x 17
Full Size Copy Per Page	$2.00 24 x 36
	or 36 x 48 b/w
	$20.00 24 x 36
	or 36 x 48 color
Blueprints or Xerox Per Page	$2.50
Aerial Photography	$50 0 - 15 acres
	$100 16 - 50 acres
	$200 51 - 100 acres
	$300 101 - 999 acres
	$500 1000+ acres

ENVIRONMENTAL SERVICES, INC.

Environmental Services, Inc. (ESI) is an environmental consulting firm which has been in business for over 31 years. ESI provides services in a variety of disciplines, please keep us in mind for your future environmental, cultural and sustainable resource needs.

Cultural Resource Management

- Archaeology Surveys
- Historic Structure Surveys
- Underwater Archaeology
- Conservation Analysis
- Predictive Modeling
- Cemetery Studies/Conservation

Carbon & Greenhouse Gas (GHG)

- Greenhouse Gas (GHG) Emissions & Offsets
- ANSI Accreditation under
- ISO 14065
- GHG Offset Validations/ Verifications
- GHG Emissions Verifications
- Ecosystem Services
- Air, Water. Waste Footprint
- Analysis and Reduction
- Sustainable Action Planning
- Education/Outreach

Forestry

- Tree Ordinance & Compliance
- Arboricultural Assessments
- & Landscape Planning
- Land Management Planning
- Fire Management & Prescribed Burning
- Timber Assessment & Management

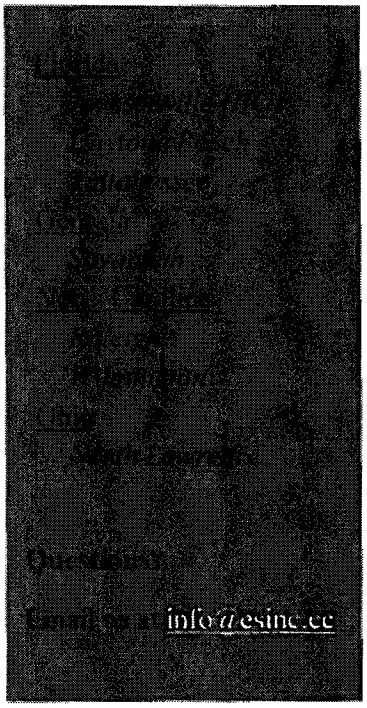
Ecology

- Due Diligence
- Permitting & Compliance
- Wetland Delineation/ Assessment
- Endangered & Threatened Species
- Mitigation
- Soil & Site Evaluation
- Aquatic & Marine Assessments
- Erosion & Sediment Control

Site Assessment & Remediation

- Phase I & II Environmental Site Assessments
- Soil & Groundwater
- Assessments
- Soil & Groundwater
- Remediation
- Petroleum/Hazardous Materials
- Storage Tank Management
- Brownsfields Assessments
- Industrial Hygiene
- HUD Environmental
- Assessments
- USGBC LEED Green Building

OFFICE LOCATIONS



Follow ESI on Social Media

Meskel & Associates Engineering
Geotechnical • Environmental • Inspection • Testing

May 14, 2018

Mr. Robert E. Baxter, PE
GAI Consultants, Inc.
1301 Riverplace Blvd., Suite 900
Jacksonville, Florida 32207

Subject: Proposal for Geotechnical Exploration and Engineering Services
COJ – Collins Road Bridge Repairs
Jacksonville, Florida
MAE Proposal No. 009018

Dear Mr. Baxter:

MESKEL & ASSOCIATES ENGINEERING, PLLC (MAE) is pleased to present this proposal to provide the geotechnical exploration and engineering services for the subject project. This proposal was requested by you via electronic correspondence on May 4, 2018. This correspondence included a document titled, "Request for Proposals for Design & Construction of Approach Slab Repairs, Bridge Repairs, and Channel Stabilization for Bridge No. 724308 on Collins Road – RFQ-CDB-0006-16 Design Criteria Package" prepared by the City of Jacksonville's Engineering & Construction Management Division, dated April 23, 2018, that includes a site description and scope of services for the project.

We understand the project is located at Bridge No. 724308 on Collins Road between the intersections of Collins Road with Blanding Boulevard and Roosevelt Boulevard. It is also our understanding that the City is seeking to a team to design and construct the replacement of two approach slabs as the existing approach slabs on both ends of the bridge are showing obvious signs of settlement and erosion beneath the slabs. Following Hurricanes Matthew and Irma in 2016 and 2017 respectively, channel depth measurements were obtained by the City and it was determined that this bridge is scour critical and requires countermeasures such as channel armoring or crutch bents.

At this time, the City's objective is to have 60% design plans prepared for the bridge approach slabs, guardrail replacement, and channel mitigation. The 60% plans and specifications shall include all information required for the City to move forward with a separate scope and fees negotiations for 100% design and construction.

The existing four-span bridge is approximately 170 feet long and consists of a concrete flat-slab deck supported by 18-inch square prestressed, precast concrete piles. Based on discussions with GAI about the method of channel mitigation planned, crutch bents will be installed at bents 2, 3, and 4.

The objective of the geotechnical exploration is to provide site and subsurface information to evaluate the subsurface conditions for the proposed crutch bent construction and approach slab repairs. Based on the provided information, we propose the following field investigation as shown in the table below.

Test Location	Test No. & Type	Test Depth ft below ground surface
Bents 2, 3, and 4	3 Standard Penetration Test (SPT)	125' (including coring through the bridge deck)
Approach Slabs	4 SPT (two at each approach slab)	50' (including coring through the approach slab)
Creek	2 Bulk Samples (soil and water)	Up to 2' (D50 and corrosion series testing)

Due to the limited access at the bridge and existing overhead utilities on the north side of the bridge, we will perform the borings through the existing bridge deck and approach slabs with our truck-mounted drill rig. Please refer to the attached Boring Location Plan for the approximate planned locations of our borings. We will locate the borings using our hand-held GPS equipment, accurate to within 3 meters (+/- 10 feet). **It should be noted that Maintenance-of-Traffic (lane closure with flagging operations) will be required in order to drill through the bridge deck within the existing travel lane. Coring through the deck will be required.**

In accordance with Florida law, we will attempt to locate existing underground utilities at the site by utilizing the Sunshine State One-Call (SSOC) system. Any private utilities not included in the SSOC system will need to be located by the Owner. All borings and tests will be performed in general accordance with ASTM procedures.

Once the borings are completed, they will be backfilled with grout per St. Johns River Water Management District guidelines. The bridge deck will be patched with non-shrink grout. We will take all reasonable precautions to prevent damage to the existing site features. The recovered soil samples will be described in the field by the field crew. The field logs and samples will be delivered to our laboratory, where the logs will be reviewed, and the samples will be classified, by a geotechnical engineer in general accordance with ASTM D2488.

If unusual or unanticipated soil conditions are encountered during drilling prior to or at the anticipated termination depths, we will contact you immediately to discuss the matter. We will not explore to depths beyond our scope of services without your consent.

Laboratory classification and soil index property tests will be performed in general accordance with ASTM procedures for each applicable test as necessary on selected soil samples to confirm the soil classification and provide engineering characteristics to estimate compressibility.

A geotechnical engineer, licensed in the State of Florida, will direct the geotechnical exploration and provide an engineering evaluation of the subsurface conditions encountered at the boring locations. The results of the exploration and engineering evaluation will be documented in a report that will include the following:

- Our understanding of the planned construction and general description of the project;
- A boring location plan detailing the location of each boring and type of equipment used;
- Field exploration procedures and soil sampling methods used;
- Graphical representation in profile view of our boring logs and stratification which will detail the number of borings performed, description and thickness of each soil layer, any fluid loss(es) during drilling, and SPT-N values at each sample interval;
- The laboratory test procedures performed, and the results obtained;
- Recommendations for approach slab repairs;
- Recommendations for deep foundation elements supporting the crutch bents including our estimate of the performance of the foundation system (axial compressive and uplift capacities); and
- Recommendations for testing required during site preparation and earthwork construction.

8936 Western Way, Suite 12
Jacksonville, Florida 32256
Phone: (904)519-6990 | Fax: (904)519-6992

Based on the scope of the services outlined above, we propose to complete our work for the estimated fee shown in the table below.

Task Description	Estimated Fee
Basic Services (Field Exploration, Laboratory Testing, Engineering - 60% Plans Submittal)	$ 40,500.00
Maintenance-of-Traffic [1]	$ 10,500.00
TOTAL	**$ 51,000.00**

1. This is an estimated fee based on ACME Barricades, LC providing lane closure and flagging operations over a period of 5 days. If Maintenance-of-Traffic (MOT) is provided by JB Coxwell, our total fee will consist of the Basic Services only.

The fee includes submittal of an electronic report for the 60% plans submittal. A final signed and sealed report will be prepared as part of the 100% design plans submittal which is not included in this scope of services. We will contact you immediately if we encounter subsurface conditions that could require the borings to be advanced to deeper depths, and/or if additional engineering analysis/evaluation outside the scope of this proposal is necessary.

Once authorization is received, a utility locate request will be submitted. We will mobilize our equipment to the site within one week once the utilities have been located and marked. It should be noted that utility clearance within an existing body of water requires 10 business days for locaters to mark conflicts. We anticipate the field work will take 4 to 5 days to complete, weather permitting. Verbal results can be provided within 2 to 3 days after completion of the field work. Laboratory testing will take up to one week to complete depending on the amount of lab testing assigned. We plan to submit our engineering report within 3 weeks following completion of the field exploration and laboratory testing programs.

We appreciate this opportunity to provide this proposal for your project. If you have any questions concerning this proposal, or if we can serve you in any other way, please contact me.

Sincerely,
MESKEL & ASSOCIATES ENGINEERING, LLC

Brett H. Harbison

Brett Harbison, P.E.
Director, Geotechnical Services

P. Rodney Mank, P.E.
Principal Engineer

Distribution: Mr. Robert E. Baxter, PE / GAI Consultants, Inc. One e-mail copy

PROPOSAL AUTHORIZATION
For Geotechnical Services
COJ – Collins Road Bridge Repairs
Jacksonville, Florida
MAE Proposal No. 009018

Billing Information:

Company Name: _____

Attention: _____
Company
Address: _____

Phone No.: _____ Email: _____

Project Contact Name:
(if different than above) _____

Additional Reports: Please List Below Any Additional Parties To Receive Reports.

1. _____

_____

No. of Reports Required:_____

2. _____

_____

No. of Reports Required:_____

NOTE: Our fee includes submittal of an electronic copy for each report. If bound paper copies are requested, the client will be charged $50 for each additional copy.

MAE invoices should be received by you by the _____ of each month (date required for your processing)

The Client representative named below has read the General Conditions that are attached and made a part of this proposal, and agrees to be bound to the terms of the General Conditions.

Name: _____ Title: _____

Signature: _____ Date: _____

PROPOSAL DOCUMENT GENERAL CONDITIONS

Payment - Payment shall be due within 30 days after date of invoice.

Insurance - Meskel & Associates Engineering (MAE) maintains Commercial General Liability with limits of $1,000,000 - per occurrence, $2,000,000 general aggregate, $2,000,000 products and completed operations aggregate. A certificate of insurance can be provided at your request evidencing such coverage. All subcontractors to MAE maintain Workers' Compensation, Employer's Liability with limits of $1,000,000 bodily injury by accident - each accident, $1,000,000 bodily injury by disease - each employee, $1,000,000 bodily injury by disease - policy limit. Workers Compensation coverage is in accordance with the Workers Compensation Law for the State of Florida.

Professional Liability: MAE maintains Professional Liability with limits of $2,000,000 each claim and $3,000,000 aggregate. A certificate of insurance can be provided at your request evidencing such coverage.

Right-of-Entry - Unless otherwise agreed, Client will furnish right-of-entry on the property for MAE to make the planned borings, surveys, and/or exploration. MAE will take reasonable precautions to minimize damage to the property caused by its equipment and sampling procedures, but the cost of restoration or damage which may result from the planned operations is not included in the contracted amount.

Legal Jurisdiction - The parties agree that any actions brought to enforce any provision of this Agreement shall only be brought in a court of competent jurisdiction located in Jacksonville, Duval County, Florida.

Damage to Existing Man-made Objects - It shall be the responsibility of the Owner or his duly authorized representative to disclose the presence and accurate location of all hidden or obscure man-made objects relative to field tests, sampling, or boring locations. When cautioned, advised or given data in writing that reveal the presence or potential presence of underground or overhead obstructions, such as utilities, MAE will give special instructions to its field personnel. As evidenced by your acceptance of this proposal, Client agrees to indemnify and save harmless MAE from all claims, suits, losses, personal injuries, death and property liability resulting from unusual subsurface conditions or damages to subsurface structures, owned by Client or third parties, occurring in the performance of the proposed work, whose presence and exact locations were not revealed to MAE in writing, and to reimburse MAE for expenses in connection with any such claims or suits, including reasonable attorney's fees.

Limitation of Responsibility - Client hereby agrees to the fullest extent permitted by law the Consultant's total liability to Client for any and all injuries, claims, losses, expenses or damages whatsoever arising out of or in any way relating to the project, the site, or this Agreement from any cause or causes including but not limited to the Consultant's negligence, errors, omissions, strict liability, breach of contract, or breach of warranty shall not exceed the greater of the total amount paid by the Client for the services of the Consultant under this contract or $50,000.00, whichever is greater.

Client and the Consultant agree that to the fullest extent permitted by law the Consultant shall not be liable to Client for any special, indirect or consequential damages whatsoever, whether caused by the Consultant's negligence, errors, omissions, strict liability, breach of contract, breach of warranty or other cause or causes whatsoever.

To the fullest extent permitted by law, Client agrees to defend, indemnify, and hold Consultant, its agents, subcontractors, and employees harmless from and against any and all claims, defense costs, including attorneys' fees, damages, and other liabilities arising out of or in any way related to Consultant's reports or recommendations concerning this Agreement, Consultant's presence on the project property, or the presence, release, or threatened release of asbestos, hazardous substances, or pollutants on or from the project property; **provided that** Client shall not indemnify Consultant against liability for damages to the extent caused by the negligence or intentional misconduct of Consultant, its agents, subcontractors, or employees.

Use of Documents - All documents, including but not limited to drawings, specifications, reports, and data or programs stored electronically, prepared by the Consultant are related exclusively to the services described in this Agreement, and may be used only if the Client has satisfied all of its obligations under this Agreement. They are not intended or represented to be suitable for use, partial use or reuse by the Client or others on extensions of this project or on any other project. Any modifications made by the Client to any of the Consultant's documents, or any use, partial use or reuse of the documents without written authorization or adaptation by the Consultant will be at the Client's sole risk and without liability to the Consultant, and the Client shall indemnify, defend and hold the Consultant harmless from all claims, damages, losses and expenses, including but not limited to attorneys' fees, resulting therefrom. The Consultant's electronic files and source code developed in the development of application code remain the property of the Consultant and shall be provided to the Client only if expressly provided for in this Agreement. Any electronic files not containing an electronic seal are provided only for the convenience of the Client, and use of them is at the Client's sole risk. In the case of any defects in the electronic files or any discrepancies between them and the hardcopy of the documents prepared by the Consultant, the hardcopy shall govern. Because data stored in electronic media format can deteriorate or be modified without the Consultant's authorization, the Client has 60 days to perform acceptance tests, after which it shall be deemed to have accepted the data.

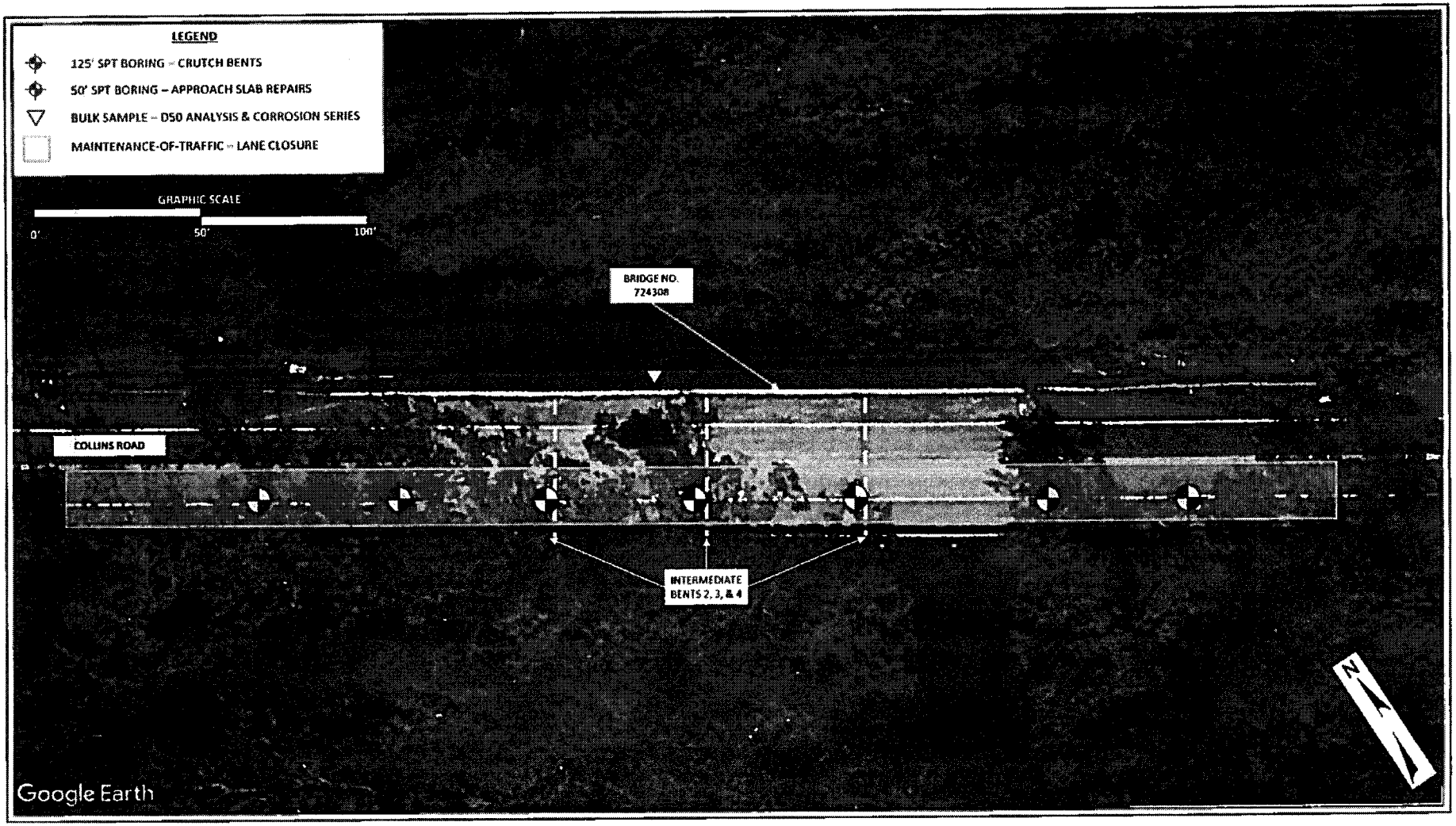
PURSUANT TO FLORIDA STATUTES SECTION 558.0035 (2013) AN INDIVIDUAL EMPLOYEE OR AGENT OF MAE MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE.

Sampling or Testing Location - Unless specifically stated to the contrary, the fees included in this proposal do not include costs associated with professional land surveying of the site or the accurate horizontal and vertical locations of tests. Field tests or boring locations described in our report or shown on our sketches are based on specific information furnished to us by others or estimates made in the field by our technicians. Such dimensions, depths or elevations should be considered as approximations unless otherwise stated in the report.

Sample Handling and Retention - Generally test samples or specimens are consumed and/or substantially altered during the conduct of tests and MAE, at its sole discretion, will dispose (subject to the following) of any remaining residue immediately upon completion of test unless required in writing by the Client to store or otherwise handle the samples. (a) NON HAZARDOUS SAMPLES: At Client's written request, MAE will store test samples and specimens, or the residue thereof for ninety (90) days after submission of MAE's report to Client free of storage charges. After the initial 90 days and upon written request, MAE will store test specimens or samples for a mutually acceptable storage charge and period of time. (b) HAZARDOUS OR POTENTIALLY HAZARDOUS SAMPLES: In the event that samples contain substances or constituents hazardous or detrimental to human health, safety or the environment as defined by federal, state or local statutes, regulations, or ordinances ("Hazardous Substances" and "Hazardous Constituents", respectively), MAE will, after completion of testing and at Client's expense: (i) return such samples to Client; (ii) using a manifest signed by Client as generator, will have such samples transported to a location selected by Client for final disposal. Client agrees to pay all costs associated with the storage, transport, and disposal of such samples. Client recognizes and agrees that MAE is acting as a Bailee and at no time does MAE assume title of said waste.

Discovery of Unanticipated Hazardous Materials - Hazardous materials or certain types of hazardous materials may exist at a site where there is no reason to believe they could or should be present. MAE and Client agree that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. MAE and Client also agree that the discovery of unanticipated hazardous materials may make it necessary for MAE to take immediate measures to protect health and safety. MAE agrees to notify Client as soon as practicable should unanticipated hazardous materials or suspected hazardous materials be encountered. Client encourages MAE to take any and all measures that, in MAE's professional opinion, are justified to preserve and protect the health and safety of MAE's personnel and the public. Client agrees to compensate MAE for the additional cost of working to protect employees' and the public's health and safety. In addition, Client waives any claim against MAE, and agrees to defend, indemnify and save MAE harmless from any claim or liability for injury or loss arising from MAE's discovery of unanticipated hazardous materials or suspected hazardous materials. Client also agrees to compensate MAE for any time spent and expenses incurred by MAE in defense of any such claim, with such compensation to be based upon MAE's prevailing fee schedule and expense reimbursement policy relative to recovery of direct project costs.

Force Majeure - MAE shall not be held responsible for any delay or failure in performance of any part of this Agreement to the extent such delay or failure is caused by fire, flood, explosion, war, strike, embargo, government requirement, civil or military authority, acts of God, act or omission of subcontractors, carriers, client or other similar causes beyond its control.



Project Manager	BHH	Project No	009018	MAE Meskel & Associates Engineering Geotechnical • Environmental • Inspection • Testing	8936 WESTERN WAY. – SUITE 12 • JACKSONVILLE, FLORIDA 32256 PH. (904) 519-6990 • FAX (904) 519-6992 • www.Meskelengineering.com
Drawn by	BHH	Scale	AS SHOWN		
Checked by	BHH	File Name	009018.BLP		
Approved by	BHH	Date	05/14/2018		

PROPOSED BORING LOCATION PLAN

CITY OF JACKSONVILLE – COLLINS ROAD BRIDGE REPAIR
JACKSONVILLE, FLORIDA

FIG NO. 1

SUBJECT: **RFQ- FOR DESIGN- BUILD SERVICES OF HORIZONTAL/CIVIL ENGINEERING PROJECTS**

BID # **CDB-0006-16** OPEN DATE: **10/21/2015**

COMPETITIVE SEALED PROPOSAL EVALUATION COMMITTEE

KIND AND BASIS OF CONTRACT:
CONSTRUCTION – DESIGN/BUILD

AGENCY: **DEPARTMENT OF PUBLIC WORKS**

BASIS OF AWARD: **EVALUATION CRITERIA**

NUMBER OF BIDS INVITED: 5 NUMBER RECEIVED: 5 OTHER: 1

SUMMARY OF BIDS AND RECOMMENDED ACTIONS:

The City had previously issued this RFP, and the evaluation committee has evaluated proposals. Subsequently, presentations were conducted and evaluated on January 28, 2016. Based upon the combination of proposal and presentation evaluations, scores and rankings are as follows (Listed in alphabetical order):

2) Archer-Western – 118.25
3) Callaway Contracting, Inc. - 100
1) J.B. Coxwell Contracting, Inc. - 121.5

Recommend approval of award to J.B. Coxwell Contracting, Inc., as receiving the highest score in accordance with the evaluation and ranking above. Period of Service will be five (5) years from effective date of contract with funding not-to-exceed $6,000,000.00 annually. To be executed by formal contract through Office of General Counsel.

Attachments: Recommendation Memo, Scoring Matrix, Previous Award

BUYER Marilyn Laidler
MARILYN LAIDLER

RESPECTFULLY SUBMITTED
GREGORY PEASE, CHIEF
PROCUREMENT DIVISION

CONCURRENCE BY: **Thomas N. Fallin, P.E., Acting Chief-Engineering & Construction Management Division**

(ALL AWARD ACTIONS SUBJECT TO LAWFULLY APPROPRIATED FUNDS)
ACTION OF CSPEC COMMITTEE ON RECOMMENDATIONS ABOVE

MEMBERS APPROVING 5 MEMBERS DISAPPROVING _____ DATE: 2/4/16

OTHER _____

ACTION OF AWARDING AUTHORITY DATE 2/04/16

APPROVED ✓ DISAPPROVED: _____

Sam E. Mousa
Chief Administrative Officer
For: Mayor Lenny Curry
Under Authority of
Executive Order No. 2015-05

OTHER: _____

SIGNATURE OF AUTHENTICATION _____

SUBJECT: RFQ- FOR DESIGN- BUILD SERVICES OF HORIZONTAL/CIVIL ENGINEERING PROJECTS

BID # CDB-0006-16

OPEN DATE: 10/21/2015

COMPETITIVE SEALED PROPOSAL EVALUATION COMMITTEE

KIND AND BASIS OF CONTRACT:
CONSTRUCTION – DESIGN/BUILD

AGENCY: DEPARTMENT OF PUBLIC WORKS

BASIS OF AWARD: EVALUATION CRITERIA

NUMBER OF BIDS INVITED: 5 NUMBER RECEIVED: 5 OTHER: 1

SUMMARY OF BIDS AND RECOMMENDED ACTIONS:

The City had previously issued this RFP, and the evaluation committee has evaluated proposals. Based upon the proposal evaluation, the average scores and rankings are as follows (Listed in alphabetical order):

2) Archer-Western Contractors, LLC. – 91
1) J.B. Coxwell Contracting- 92
3) Callaway Contracting- 74

Pursuant to Section 2.6 – Award of Contract of the RFP, recommend approval to conduct formal interviews with each of the three-top ranked Firms.

Attachments: Recommendation Memo, Scoring Matrix, Bid Tabulation, Section 2.6, JSEB Letter

BUYER Marilyn Laidler
MARILYN LAIDLER

RESPECTFULLY SUBMITTED
GREGORY PEASE, CHIEF
PROCUREMENT DIVISION

CONCURRENCE BY: William J. Joyce, P.E., Chief-Engineering & Construction Management

(ALL AWARD ACTIONS SUBJECT TO LAWFULLY APPROPRIATED FUNDS)

ACTION OF CSPEC COMMITTEE ON RECOMMENDATIONS ABOVE

MEMBERS APPROVING 5 MEMBERS DISAPPROVING _____ DATE: 12-30-15

OTHER _____

ACTION OF AWARDING AUTHORITY

DATE 1/01/16

MR APPROVED ✓ DISAPPROVED: _____

OTHER: _____

Sam E. Mousa
Chief Administrative Officer
For: Mayor Lenny Curry
Under Authority of:
Executive Order No. 2015-05

SIGNATURE OF AUTHENTICATION

QWS3270X 6/1/2018 3:49 PM
FAML6350 V5.1 ** NW COJ FAMIS PRODUCTION ** 06/01/2018
LINK TO: ACCOUNT SUMMARY INQUIRY 3:49 PM

FISCAL MO/YEAR : 09 2018 CURRENCY CODE :
INDEX CODE : PWCP32ERD549 PW ROAD CAPITAL PROJECTS (F5490)
SUBOBJECT : 069505 DM-OTHER CONSTRUCTION COSTS
PROJECT : PW0381 COUNTYWIDE INTERSECTION IMP,BRIDGE REHAB
PROJECT DETAIL : 02 COUNTYWIDE INTERSECTION IMP,BRGE-BRIDGES
GRANT :
GRANT DETAIL :
USER CODE :

S	JUNE 2018	ANNUAL BALANCE	ALL YEARS BALANCE
ESTIMATED REVENUES	.00	.00	.00
REVENUES	.00	.00	.00
UNREALIZED REVENUES	.00	.00	.00
BUDGET	.00	438,783.00	2,882,914.00
EXPENDITURES	.00	178,433.80	309,000.36
ENCUMBRANCES	.00	248,189.35	262,539.35
PRE-ENCUMBRANCES	.00	.00	.00
REMAINING BALANCE	.00	12,159.85	2,311,374.29

F1-HELP F2-SELECT F4-PRIOR F5-NEXT
F9-LINK F10-PRIOR-MO F11-NEXT-MO
G005 - PRIOR RECORD DISPLAYED