I-55 Managed Lanes Combined Design Report

Appendix A.3 – Structures

- Structure 022-001 – Lemont Road Bridge Condition Report
- Structure 022-003 –Madison Street Bridge Condition Report
- Structure 016-0016 – IL 50 EB Bridge Condition Report
- Structure 016-0017 – IL 50 WB Bridge Condition Report
- Structure 016-0018 - BRC RR EB Bridge Condition Report
- Structure 016-0019 - BRC RR WB Bridge Condition Report
- Structures Visual Observation Technical Memo
- I-55 over RR Commitments and Flagging Estimate

Transmittal

Stantec Consulting Services Inc.
135 South LaSalle Street
Suite 3100
Chicago, IL 60603-4139

Stantec

To:	Steve Schilke/Srikanth Panguluri	From:	John O'Holleran
Company:	Illinois Department of Transportation – Bureau of Programming	☐	For Your Information
		☐	For Your Approval
		☐	For Your Review
Address:	201 W. Center Court Schaumburg, IL 60196	X	As Requested
Phone:	847.705.4125/847.705.4073		
Date:	April 8, 2013		
File:	I-55 Managed Lane Study		
Delivery:	Regular Mail		

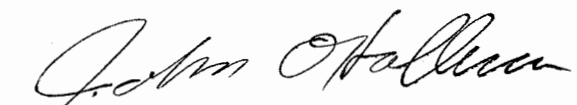
Reference:

Attachment:

Copies	Doc Date	Pages	Description
1	March 26, 2013	127	I-57 over Lemont Road Bridge Condition Report
1	March 25, 2013	1	I-55 over Lemont Road Bridge Condition Report – Disposition of Comments

Transmitted please find 1 copy of the above identified BCR. As discussed, the vertical clearance information will be picked as part of the project survey effort this spring.

Stantec Consulting Services Inc.



John V. O'Holleran, PE
Principal/Project Manager
Tel: 312.262.2400
Fax: 312.262.2301
John.oholleran@stantec.com

c. Powell

One Team. Infinite Solutions.

oj V:\1786\active\178600037_IDOT_I-55\structural\report\022-0001 Lemont

BRIDGE CONDITION REPORT

REGION: 1

DISTRICT: 1

ROUTE: FAI 055 / I-55 EB

COUNTY: Cook

STRUCTURE NUMBER: 016-0016

LOCATION: I-55 Eastbound over Cicero Avenue

PREPARED BY: Stantec

DATE PREPARED: 12/20/13

PROPOSED LETTING DATE: To Be Determined

TABLE OF CONTENTS

ATTACHMENTS:

I. GEOGRAPHICAL & ADMINISTRATIVE DATA

Structure Number:	016-0016
County:	Cook
Route Carried:	FAI 055 / I-55
Feature Crossed:	FAP 0350 / Cicero Avenue
Section:	1112-619-HB
Station:	24+20
Roadway Classification:	Federal Aid Interstate
Design/Posted Speed:	70mph / 55mph
***ADT (current/design):**	86,748 (2012) / 120,186 (2040)
***ADTT (current/design):**	13% = 11,277 (2012) / 13% = 15,624 (2040)
***DHV (current/design):**	5,053 (2012) / 7,601 (2040)
Inventory Rating HS:	1.670 – rated 11/05/01
Operating Rating HS:	2.750 – rated 11/05/01
Sufficiency Rating:	80.0
HBP Eligibility:	No

* Traffic data per the I-55 Managed Lane Phase I Study

Construction / Reconstruction / Repair History

The structure carrying I-55 Eastbound over Illinois Route 50 (Cicero Avenue) was originally built in 1963 as FAI Route 55 over Cicero Avenue under Project I-55-7(29) 281, Section 1112-619 HB. The original construction consisted of two parallel 3-span structures. The two structures carried I-55 eastbound and westbound traffic. The structure consisted of a 7" concrete slab with steel plate girders and wide flange beams supported by reinforced concrete abutments and piers.

As part of Contract 80059, bridge rehabilitation was performed in 1999. The rehabilitation consisted of removing the bituminous concrete overlay, performing deck repairs, removing and replacing the transverse deck joints, eliminating the longitudinal deck joint, placing a new deck concrete overlay, refurbishing the bearings and repairing the substructure and slopewall.

II. PHYSICAL DESCRIPTION OF STRUCTURE

The physical description of the structure is based on a review of the existing available plans dated December 1962 and 1999. Refer to Attachment L for select existing structure plan sheets. Individual components of the existing structure are described below:

Structure Type and Length: The bridge is a three span simply supported plate girder and wide flange beam structure. Span 1 and 3 consist of plate girders and wide flange beams

and Span 2 consists of plate girders exclusively. The fascia girders in Spans 1 and 3 are plate girders with 66" deep webs. The interior beams in Spans 1 and 3 are W30x108 beams. Span 2 consists entirely of plate girders with 66" deep webs. Each span has 10 beams lines. The bridge is approximately 206'-8 ¾" long measured back-to-back of abutments along the curve. The substructure consists of two reinforced concrete stub abutments with wingwalls and two multi-column reinforced concrete piers. The abutments and the piers are supported by concrete piles. The bridge has a 7" reinforced concrete deck plus overlay.

Number / Length of Spans: There are a total of three spans, with approximate lengths as follows (dimensioned from centerline of bearing to centerline of bearing along the curve). Spans are numbered from west to east.

Span 1:	39'-11 5/8"
Span 2:	112'-6 1/2"
Span 3:	45'-7 ½"

Skew: 21°-40'-17" Left

Structure Width: The total width is 59'-5 ½" measured radially out-to-out of the deck. The bridge accommodates three 12' lanes of traffic and 10' inside and outside shoulders.

Expansion Joints:

W Abutment:	2" Neoprene Joint
Pier 1:	1 ¾" Preformed Joint Seal
Pier 2:	2 9/16" Neoprene Joint
E Abutment:	1 ¾" Preformed Joint Seal

Bearings:

W Abutment:	
Beam Line 1, 10	Expansion, Type 2
Beam Line 2 to 9	Expansion, Type 3 w/ bolster
Pier 1:	
Beam Line 1, 10	Fixed, Type 1 and Type 2
Beam Line 2 to 9	Fixed, Type 1 and Type 3 w/ bolster
Pier 2:	
Beam Line 1, 10	Expansion, Type 1 and Type 2
Beam Line 2 to 9	Expansion, Type 1 and Type 3 w/ Bolster

	E Abutment: Beam Line 1 Fixed, Type 2 Beam Line 2 to 9 Fixed, Type 3 w/ bolster Beam Line 10 Fixed, Type 2
Approach Roadway Template:	The approach roadway template matches the bridge. It has three 12' lanes of traffic and 10' inside and outside shoulders.
Existing Wearing Surface:	2 3/8" Micro Silica Concrete Overlay
Existing Vertical Alignment:	The entire structure is on a +1.50% tangent slope going from west to east.
Existing Horizontal Alignment:	The structure is on a curve at a radius of 3819.72' from Station 19+41.41 to Station 32+86.83.
Existing Vertical Clearance:	15'-7 3/8" over Cicero Avenue according to the 1999 repair plans. 15'-5" according to the Master Structure Report which needs to be verified.
Existing Drainage:	There are no drains on the bridge deck or approach slabs.
Parapets and Railings:	There are 1'-8 3/4" wide exterior curb and parapets running the length of the bridge. Parapets were modified in 1999 plans to remove a 9" tall by 1'-0" wide existing handrail and replaced with a 9" tall x 1'-0" wide reinforced concrete section. Per the IDOT Bridge Inspection Report dated 12/10/12, the guardrail currently meets acceptable standards while the guardrail ends and transitions do not.
Existing Utilities Attachments:	There are no light poles attached to the bridge, but there are abandoned conduits running along the south fascia beam and the West Abutment. There is a conduit running along the outside of the South Parapet. There are light fixtures and conduits on the insides of both piers and at the midspan of Beam Lines 1, 6 and 9.
Name Plate:	No name plate was found on the structure.

III. FIELD INSPECTION & PHYSICAL EVALUATION

A field inspection beneath the structure carrying I-55 Eastbound over Cicero Avenue was performed by Stantec on August 21, 2013. The top of deck inspection was performed on September 16, 2013. The high temperature on that date was 65° F. The visual field inspection was performed on foot on the slopewall, sidewalk and the top of deck. The following conditions were observed:

Deck

Deck

The deck was rated in satisfactory condition (NBIS Rating = 6) in the 12/10/12 NBIS inspection. The deck condition observed during this inspection was consistent with the NBIS rating. The underside of deck has multiple areas of delamination, spalling and map cracking. Based on visual inspection, approximately 2.2% of the underside of deck is delaminated or spalled.

The micro-silica concrete overlay on the top of deck has minor hairline transverse and longitudinal cracking mostly along the shoulders. One 3 square foot spall was found in the center lane in Span 2. Wiss, Janey and Elstner performed a condition assessment of the reinforced bridge deck in January 2012. This assessment included a delamination survey performed on the top of the bridge deck using infrared thermography. The infrared thermography indicated 5.6% of the top of deck area was delaminated. See Attachment E for the condition assessment of the reinforced bridge deck. See Attachment I – Photos 1 through 8.

Parapets

The parapets are in satisfactory condition with hairline vertical cracking throughout and minor delaminations and spalls on both the interior and exterior faces of the parapet. The interior face of the South Parapet has approximately 20 square feet of delaminated concrete. The interior face of the North Parapet has approximately 30 square feet of delaminated concrete. The exterior face of the South Parapet has longitudinal hairline cracking with rust staining along most of the length of the parapet. See Attachment I - Photos 9 and 10.

Joints

The preformed joint seals at the East Abutment and Pier 1 and the neoprene joints at West Abutment and Pier 2 are in satisfactory condition with debris in the joint and minor impact damage. The joint widths were measured when the temperature was approximately 65° F. The preformed joint at the East Abutment measured 1" wide. The preformed joint at the Pier 1 measured 1". The neoprene joint at the Pier 2 measured 2 1/8". The neoprene joint at the

West Abutment measured 1 11/16". See Attachment I – Photos 11 through 14.

Superstructure

Beams

The superstructure consists of three simple spans of rolled steel beams and welded plate girders. The beam lines are numbered 1 through 10, numbered from north to south. In Spans 1 and 3, Beam Lines 1 and 10 consist of plate girders with 66" deep webs and Beam Lines 2 through 9 consist of W30x108 beams. In Span 2, all of the beam lines consist of plate girders with 66" deep webs. This structure has welded cover plates on the bottom flanges of the beams in Span 3.

The superstructure was rated in fair condition (NBIS Rating = 5) in the 12/10/2012 NBIS bridge inspection due to initial section loss and minor pitting. The superstructure observed during this inspection was consistent with the NBIS rating.

The steel superstructure typically has paint starting to fail, minor rust and initial section loss and minor pitting. In both Spans 1 and 3, the steel bolsters have been welded transversely to the W30x108 beams. These welds have mostly cracked. Bolts connect the top of the bolster to the bottom flange as part of a retrofit done in 1999. In Span 3, the steel beams have welded cover plates with fatigue category E' details. The welded cover plates were visually inspected from the ground and no defects were noted on the welds. See Attachment I – Photos 15 through 19.

Bearings

The bearings are in satisfactory condition with paint starting to fail and minor rust. No excessive tilting was noted during the inspection.

Utilities

The conduits along the South Fascia Beam and South Abutment are in poor condition with heavy deterioration and open conduit covers. See Attachment I – Photos 20 and 21.

Substructure

The substructure was rated in satisfactory condition (NBIS Rating = 6) in the 12/10/2012 NBIS bridge inspection due to cracks and spalls at the abutment caps and pier columns. The substructure condition observed during this inspection was not consistent with the NBIS rating due to the condition of the piers.

Abutments

The reinforced concrete abutments are in satisfactory condition with multiple hairline vertical cracks and small areas of delaminated/spalled concrete. There is 6 square feet of spalled concrete on the West Abutment. There is 10 square feet of spalled/delaminated concrete on the East Abutment. At both abutments, a minor amount of fill appears to be leaking thru the joint in the backwall. No significant defects were noted at the wingwalls. See Attachment F for the Substructure Condition Survey. See Attachment I – Photo 22 through 26.

Piers

The reinforced concrete piers each consist of four columns with a pier cap. The piers are in fair condition with moderate to heavy delaminations and spalls on the columns and pier caps. Pier 1 has approximately 200 square feet of spalled or delaminated concrete. Pier 2 has approximately 106 square feet of spalled or delaminated concrete. See Attachment F for the Substructure Condition Surveys. See Attachment I – Photo 27 through 30.

Slope Protection

The bridge has concrete slope walls. Both slopewalls are in satisfactory condition with minor hairline cracking throughout. The curb at the East Slopewall has separated from the rest of the slopewall, allowing undermining to occur at the south end. The West Slopewall has a 4' x 4' spall on the slopweall curb and a 1/16" transverse crack that goes the full width of the bridge. See Attachment I – Photo 31 through 34.

Inspection History (NBIS Ratings)

Year	Deck	Super	Sub
2012	6	5	6
2011	6	6	6
2009	6	7	6

Geometric, Horizontal & Vertical Clearance / Hydraulic Data

Geometry

I-55 over Cicero Avenue is on a skew. According to the original plans of December 1962 and the repair plans of 1999, the skew at the intersection of the centerlines of I-55 and Cicero Avenue is 21°-40'-17" Left. The typical roadway section for I-55 consists of three 12' lanes, a 10' inside shoulder, a 10' outside shoulder, a 1'-8 3/4" wide curb and parapet on each side of the structure. The I-55 profile grade is on a tangent at +1.50% going from west to east. The structure is on a horizontal curve at a radius of 3819.72' from Station 19+41.41 to Station 32+86.83. The repair plans from 1999 show the vertical minimum clearance at 15'-7 3/8". However, the Master Structure

Report shows the minimum vertical clearance at 15'-5" under the "Key Route under Data" which needs to be verified.

The typical roadway section for Cicero Avenue consists of three lanes in each direction beneath the structure and a raised concrete median. Cicero Avenue is listed as a principal arterial route. Cicero Avenue is located on a 200-ft. long vertical crest curve with 0.36% and -0.30% slopes going from north to south.

As part of the I-55 Managed Lane Phase I Study, I-55 Eastbound at Cicero Avenue will be widened to the inside to accommodate a proposed 12' managed lane. In the eastbound direction, a 4' buffer between the managed lane with 12.5' shoulder and the general purpose traffic lanes is proposed in this 60 foot median section. This widening will be incorporated into the recommended scope of work for this structure.

Hydraulics

At the structure, the I-55 profile is on a +1.50% tangent going from west to east. The bridge deck cross-section is superelevated 3.3%. There are no deck drains on the bridge deck. Therefore, the water is allowed to flow to the deck joints as it runs off the bridge.

IV. POTENTIAL SCOPE OF WORK DETERMINATION & ANALYSIS

As part of the I-55 Managed Lane Phase I Study, In-Kind Repairs, Structure Widening and Structure Replacement alternatives will be evaluated.

Per Section 2.4.2.4 of the IDOT Bridge Manual, consideration was given to retrofit all end of cover plate locations due to average daily truck traffic. From this information, it was determined that a fatigue evaluation was required. The transverse welds at the ends of the cover plates in Span 3 were evaluated for fatigue life and it was determined that the mean service life is less than 50 years. A cover plate retrofit should be installed.

1. **In-Kind Repairs**

   Perform partial and full depth repairs and apply Protective Coat to the existing deck. Repair areas of spalled or delaminated concrete on the existing substructure units. Perform retrofit repairs on the existing Span 3 cover plates.

2. **Structure Widening**

   Remove and replace the deck and approach slabs and widen both approximately 18' to the north. Remove both the northeast and northwest wingwalls and build an extension onto the north side of both abutments. Build an extension onto the north side of both piers.

Install three new beam lines using W30 steel beams and plate girders that will be composite to the widened bridge deck. The new W30 beam will be larger than the existing W30 to account for the bottom flange cover plate. Perform retrofit repairs on the existing Span 3 cover plates. Repair areas of spalled or delaminated concrete on the existing substructure units.

3. **Superstructure and Partial Substructure Replacement**
   Remove and replace the existing W30 steel beam and steel plate girder superstructure with a continuous three-span galvanized steel plate girder superstructure. Remove and replace pier caps and columns, but reuse the existing pier crash walls and footings. Build an extension onto the north side of both piers. Replace the existing abutments with integral abutments placed behind the existing abutments. Replace concrete slope walls. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

4. **Structure Replacement**
   Remove and replace the entire structure with a continuous three-span galvanized steel plate girder superstructure on integral abutments. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

V. DISCUSSION AND RECOMMENDED SCOPE OF WORK

The opinion of probable costs for each of the alternatives is summarized below. See Attachment G for the opinion of probable costs breakdown.

1. **In-Kind Repairs - $194,400**
2. **Structure Widening - $2,546,200**
3. **Superstructure and Partial Substructure Replacement - $5,403,600**
4. **Structure Replacement - $6,004,700**

Per the I-55 Managed Lane Phase I Study, the managed lane is expected to be implemented in 2020. All widening and replacement alternatives below assume widening approximately 18’ to the centerline of I-55 to accommodate the new managed lane. The proposed structure will provide a 9’-6” outside shoulder, three 12’-0” general purpose traffic lanes, a 4’ buffer between the general purpose traffic lanes and the 12’-0” managed traffic lane and a 12’-6” inside shoulder.

Analysis of Alternative 1 – The calculated percent of deck area requiring full depth repairs is 2.2% and the partial depth repairs is 12.0%. The total deck repair percentage is within the 25% limit presented in the Bridge Condition Report Procedures and Practices Manual for bridge deck repair to be cost effective for a deck not being widened. This alternative can be used to extend the life span of the

existing superstructure in the interim prior to implementing the changes required for the Managed Lane project.

Analysis of Alternative 2 – The calculated percent of deck area requiring full depth repairs is 2.2% and partial depth repairs is 11.0%. Since this deck is 50 years old and has recommended repair area near the upper limit (15%) presented in the BCR Procedures and Practices Manual for a widened deck, it is recommended to replace the deck at the time of widening. Cover plate retrofits will be necessary. Deck joints will remain with this alternative, which will lead to continued degradation of the beams and substructure units. This alternative keeps the existing pier caps in service, which have already been repaired as a result of extensive degradation in 1999.

Analysis of Alternative 3 – This alternative replaces the existing W30 steel beam and steel plate girder superstructure with a continuous three-span galvanized steel plate girder superstructure on integral abutments. The proposed integral abutments will be placed behind the existing abutment to help avoid the existing piles. The resulting assumed span arrangement is approximately 70'/114'/70' measured between the centerline of bearings. Uplift at the abutments must be considered in the design phase given the relatively short exterior spans in the continuous structure. Reusing the existing pier crash walls and footings will simplify construction since it will minimize construction impact to Cicero Avenue.

Using galvanized steel eliminates the need to periodically repaint the beam. Providing a continuous structure will also allow for a reduced girder depth over Cicero Avenue, thereby increasing vertical clearance. The longer exterior spans provide an opportunity to relocate the sidewalks, or a multi-use path, along Cicero Avenue behind the piers. Providing new pier caps, pier columns and integral abutments places the critical portions of the substructure on the same life cycle as the superstructure. Eliminating the deck joints will also help to prevent premature degradation of these substructure elements.

Analysis of Alternative 4 – This alternative completely eliminates the 50-year old structure and replaces it with a new structure with an expected 75-year service life.

The benefits of this alternative are similar to Alternative 3, with the addition of removing and replacing the pier crash walls and pier footings. However, this alternative adds construction complications of reconstructing the piers on or near the same footprint as the existing pier footings, and increases construction impacts to Cicero Avenue. The cost is also greater than Alternative 3 due to the removal and reconstruction of the additional pier elements.

VI. FINAL RECOMMENDATION

Stantec recommends Alternative 3 – Superstructure and Partial Substructure Replacement when the I-55 Managed Lane Project occurs. The selected alternative provides a new superstructure and replaces the critical portions of the substructure. Eliminating the deck joints will help to prevent premature degradation of the

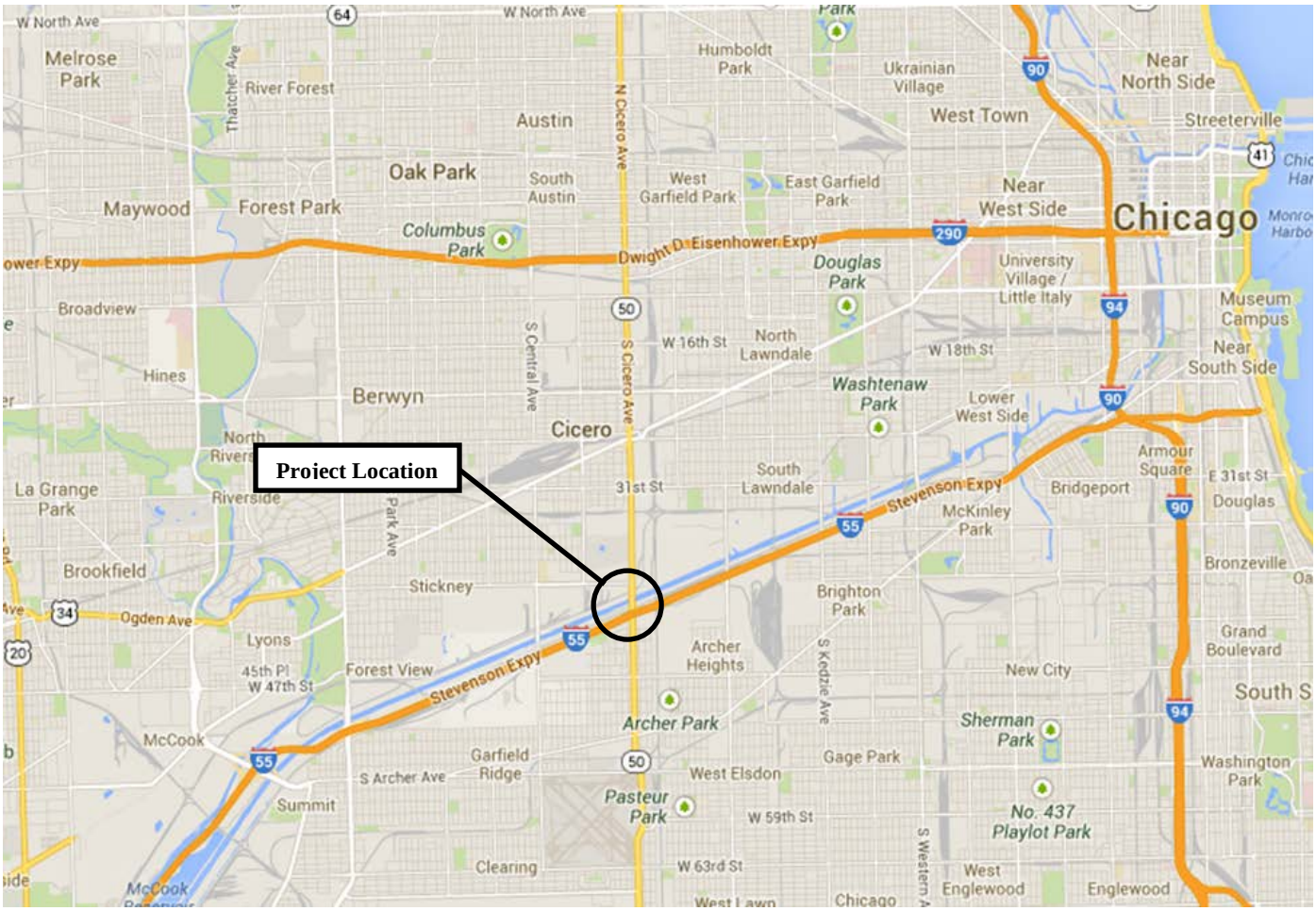
replaced substructure elements. As the I-55 Managed Lane Phase I Study is ongoing, the bridge widening to be presented in the TSL should match the final geometry as presented in the final I-55 Managed Lane Phase I Study. Future improvements to Cicero Avenue, to be determined at a later date, should also be addressed in the TSL.

VII. TRAFFIC STAGING

For Alternatives 2, 3 and 4, the existing deck is wide enough to provide two lanes of traffic in the eastbound direction during stage construction. For Alternative 1, the lanes can be temporarily closed as needed to allow for the deck repairs. The traffic staging design will need to be confirmed by IDOT traffic prior to being implemented.

ATTACHMENT A

Location Map



Location Map

Proposed Improvement:

I-55 over Cicero Avenue (Eastbound)

Municipality: Stickney

County: Cook

Route: FAI 055

Project No: P-91-762-10

Structure No.: 016-0016

ATTACHMENT B

IDOT Master Structure Report

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0016 **District:** 1

Inventory Data

Facility Carried: I- 55 EB STEVENSON
Feature Crossed: IL 50 (CICERO AVE)
Bridge Remarks:
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks:
Maint County: 016 COOK
Maint Responsibility: 01 I.D.O.T.
Service On/Under: 5 SECOND LEVEL INTERCHANGE 1 / HIGHWAY
Reporting Agency: 1 I.D.O.T. - BUREAU OF MAINTENANCE
Main Span Matl/Type: 3 STEEL / 02 STRINGER/MULTI-BEAM/GIRDER
Nbr Of Main Spans: 3 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 0None / 0 None
Toll Facility Indicator: 0 No Toll
Latitude: 41 **D** 49 **M** 1.05 **S** **Longitude:** 87 **D** 44 **M** 38.11 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 2 Both Sides Not Separate

Bridge Name:
Location: 5.7 M SW I94
Status Date: 12/2000
Maint Township: 34 STICKNEY
Skew Angle: 22 **D** 0 **M** 0 **S**

Sufficiency Rating: 80.0
HBP Eligible: No
Replaced By: -
Replaces: -
Last Update Date: 03/12/2013
Parallel Structure: Right
Multi-Level Structure Nbr:
Skew Direction: L Left
Structure Flared: No
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 996000
Substructure Material:
Rated By: 2 IDOT
Inventory Rating: 1.670(60)
Operating Rating: 2.750(99)
Design Load: 01 HS20+MOD
Deck Structure Thickness: 7 **SD:** N **FO:** N

Structure Length: 206.7
AASHTO Bridge Length: 99.9
Length of Long Span: 115.0
Bridge Roadway Width: 56.0
Appr Roadway Width: 60.0
Deck Width: 59.4
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: N N/A
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00
Rate Method: 1 LOAD FACTOR
Load Rating Date: 11/05/2001
Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 0.0
RR Vertical Underclear: 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID INTERSTATE 0055
Appurtenances Main Route 00000
Inventory County: 016 COOK
Township/Road Dist 34 STICKNEY
Municipality 5540 STICKNEY
Urban Area: 1051 1051
Functional Class: 1 INTERSTATE
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 56.0
Horizontal: 57.5 0.0
Lateral:

Station: 10.2500
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2012 / 61150
Est Truck Percentage: 13
Number Of Lanes: 3
One Or Two Way: 1 One-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2032 / 75808
Designated Truck Rte: CLASS I
Special Systems: Yes

Key Route Under Data

FEDERAL-AID PRIMARY 0350
Main Route 00000
016
62 LAKE (CHICAGO)
1051 CHICAGO
1051 1051
3 OTHER PRINCIPAL ARTERIAL
South/East **North/West**
101.9
101.9 0.0

Station: 18.7100
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2011 / 61600
Est Truck Percentage: 12
Number Of Lanes: 7
One Or Two Way: 2 Two-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2032 / 63448
Designated Truck Rte: CLASS II
Special Systems: Yes

*** Marked Route On Data ***

	Designation		Kind	Number
Route #1:	1 Mainline	1	Interstate Highway	055
Route #2:	1 Mainline			
Route #3:	1 Mainline			

*** Marked Route Under Data ***

	Designation		Kind	Number
	1 Mainline	3	State Highway	050
	1 Mainline			
	1 Mainline			

Structure Number: 016-0016 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	12/10/2012	Inspection Temperature:	35Deg. F					** Actual Posted Limits **	
Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	F	MICRO SIL CON OVRLY		Last Paint Type:	U
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Protection:	J	NONE			
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	8.9				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/2000				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date: **Inspection Category:**
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		Reconstructed	
Route:	FAI-55	Sta: 24+20		Sta:	
Section Nbr:	1112-619-HB				
Contract Nbr:					
Fed Aid Pr#:	I 0557029281				
Built By:	1	I.D.O.T.			

Waterway Information

Flood Design Frequency:	YRS	Drainage Area:	Acre
Flood Design Q (CFS):			
Flood Design Nat H W E:		Flood Base Q (CFS):	
Flood Des Open Prop:	SF	Flood Base Nat H W E:	

ATTACHMENT C

Bridge Inspection Report

Illinois Department of Transportation

Routine Inspection Report

SN:	016-0016	**District:**	1	**Spans:**	3	**Appr. Spans:**	0	**Skew:**	22.00	**ADT:**	61150	**Truck Pct:**	13
ADT Un:	61600	**Maint. Co:**	COOK	**Twsp:**	STICKNEY					**Status:**	OPEN - NO RESTRICT		
Facility Carried:	I- 55 EB STEVENSON					**Feature Crossed:**	IL 50 (CICERO AVE)						
Location	5.7 M SW I94			**Municipality:**	STICKNEY					**Team/Sub Section**	E26019		
Bridge Name:						**Material & Type:**	STEEL/STRINGER/MULTI-BEAM/GIRDER						
Insp. Intervals (Mo) Routine NBIS	24	**Fracture Critical:**	0	**Underwater:**	0	**Special Feature:**	N/A						

90 – Inspection Date:	/ /	90C – Temp. (ºF):		90A – Program Manager:	
Is Delinquent: ☐	Reason:				
90A1 – Team Leader:		90A2 – Inspector:			

90B – Inspection Remarks:

Previous Inspection	2008) DK SOFFIT MAP CRKD & JOINTS LEAKING. STL BMS-SPAN 2 MINOR RUST @BOTT FLANGES. PIER CANTILEVERS MAP CRKD. PIER 2 COL 1 MAP CRKD. 2012) Item 59 lowered to "5" due to init sec loss/minor pitting a@ brng areas of few bm ends above P

Resources

Time to Inspect (H:M):	1:0	:	Traffic Control:	3		Boat:			Waders:			Snooper:					
Ladder:	LL		Manlift:			Bucket Truck:			Other:								

Inspector's Appraisals

	Prev	New	Comments
58 – Deck Condition:	6		
59 – Superstructure Cond:	5		
60 – Substructure Cond:	6		
62 – Culvert Condition:	N		
61 – Channel Condition:	N		
71 – Waterway Adequacy:	N		
72 – Approach Rdw Align:	8		
111 – Pier Navig Protection:	N		

90B – Inspector Remarks:

Routine Inspection Report

Structure Number: 0160016

Additional Inspection Data

	Prev	New
36A – Bridge Railing Adequacy:	3	

Rail Types:

Approach Guardrail Adequacy:	Prev	New	36B – Transitions:	Prev	New	36C – Guardrail:	Prev	New	36D – Ends:	Prev	New
				2			3			3	

	Prev	New	
108A – Wearing Surface Type:	F		If "L-Other" Describe:
108B – Type of Membrane:	F		If "E-Other" Describe:
108C – Deck Protection:	J		If "I-Other" Describe:
108D – Total Deck Thickness (in):	8.9		

	Prev	New
59A – Paint Date (Mo/Yr):	10/2000	/
59B – Paint Type:	U	— — — — — — — —

Color: Fascia - ____: Inter. - ____: Railing - ____.

59C – Utilities Attached:		__ __ __

If "B-Other" Describe: _____

		Prev	New
Weight Limit Posting:	70A2 – Single Unit Vehicles:		Tons
	70B2 – Combination Type 3S-1 (3 or 4 axles):		Tons
	70C2 – Combination Type 3S-2 (5 or more axles):		Tons
	70D2 – One Truck at a Time:	0	

Joint Openings (In.) _____

90B – Inspector Remarks Continued:

	Signature	Date
Inspection Team Leader:		/ /
Inspection Program Manager:		/ /

Pontis

Today's Date: 04/19/2013

Structure Number: 016-0016 **District:** 1 **(41) Bridge Status:** 1 OPEN - NO RESTRICT
(6) Feature Crossed: IL 50 (CICERO AVE) **(7) Facility Carried:** I- 55 EB STEVENSON
(9) Location: 5.7 M SW I94 **(7A) Bridge Name:**
Element Inspection Date: 12/10/2012 **Inspectors:** SEDLACEKJL

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	22	2,725	43	5,262	35	4,250	0	0	0	0	12,237
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:	Lt transverse crking; Small Isol spalls, HP & map crking; PD patch Ln 2 E Jnt (Span 2 Bay 3 & Span 3 Bay 1)											
Lead Painted Steel Open Girder												
107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Span 2-Bott flanges freckle rust											
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Lt pitting (Non-Active) @ Bttm Flange South Fascia @ Pier 2 Span 3											
Reinforced Conc Column or Pile Extension												
205	4	100	970	0	0	0	0	0	0	0	0	970
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Pier 2 Col#1 HL map crks											
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Lt vert crking; Pier 1 Wall HL-med vert leach crks											
Reinforced Conc Abutment												
215	4	98	1,902	2	30	0	0	0	0	0	0	1,932
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Lt vert crking in FCR @ W Abut											
Reinforced Conc Pier or Abutment Cap												
234	4	88	224	12	30	0	0	0	0	0	0	254
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Cantilever Pier 1 north & south ends. Pier 2 South Cantilever End has map crking and delams. East Abut- Med horiz crks @ Brg #4.											
Preformed Joint Seal												
302	4	90	56	10	6	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						
Remarks:	Leaking @ East Abut & Pier 1											
Neoprene Expansion Joint												
307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:	Leaking @ West Abut & Pier 2											

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks: West Apprch- Silicone Relief Jnt missing 80%

Concrete Bridge Railing

331	4	99	410	1	3	0	0	0	0	0	0	413
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: Lt vert crking; Lt spalls plow damage; Parapet spalled @ Pier 2 Joint

Steel Open Girder

406	4	100	6	0	0	0	0	0	0	0	0	6
			Minor fatique, out-o		Moderate fatigue, ou		Severe fatigue, out-					

Remarks: Few Bm Ends with minor section loss that have a functioning paint system

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	22	2,725	43	5,262	35	4,250	0	0	0	0	12,237
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		

Remarks: Lt transverse crking; Small Isol spalls, HP & map crking; PD patch Ln 2 E Jnt (Span 2 Bay 3 & Span 3 Bay 1)

Lead Painted Steel Open Girder

107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks: Span 2-Bott flanges freckle rust

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks: Lt pitting (Non-Active) @ Bttm Flange South Fascia @ Pier 2 Span 3

Reinforced Conc Column or Pile Extension

205	4	100	970	0	0	0	0	0	0	0	0	970
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Pier 2 Col#1 HL map crks

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Lt vert crking; Pier 1 Wall HL-med vert leach crks

Reinforced Conc Abutment

215	4	98	1,902	2	30	0	0	0	0	0	0	1,932
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				

Remarks: Lt vert crking in FCR @ W Abut

Reinforced Conc Pier or Abutment Cap

234	4	88	224	12	30	0	0	0	0	0	0	254
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				

Remarks: Cantilever Pier 1 north & south ends. Pier 2 South Cantilever End has map crking and delams. East Abut- Med horiz crks @ Brg #4.

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						

Remarks: Leaking @ East Abut & Pier 1

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				

Remarks: Leaking @ West Abut & Pier 2

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable				

Remarks: West Apprch- Silicone Relief Jnt missing 80%

Concrete Bridge Railing

331	4	99	410	1	3	0	0	0	0	0	0	413
		No deterioration		Minor cracks/spalls		Analysis warranted						

Remarks: Lt vert crking; Lt spalls plow damage; Parapet spalled @ Pier 2 Joint

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty

Concrete Deck Protected w/ Rigid Overlay

22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		

Remarks: Lt transverse crking; Small Isol spalls, HP & map crking; PD patch Ln 2 E Jnt (Span 2 Bay 3 & Span 3 Bay 1)

Lead Painted Steel Open Girder

107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		

Remarks: Span 2-Bott flanges freckle rust

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion	Paint distress	Rust formation	Section loss		Section failure				

Remarks: Lt pitting (Non-Active) @ Bttm Flange South Fascia @ Pier 2 Span 3

Reinforced Conc Column or Pile Extension

205	4	100	970	0	0	0	0	0	0	0	0	970
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Pier 2 Col#1 HL map crks

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Lt vert crking; Pier 1 Wall HL-med vert leach crks

Reinforced Conc Abutment

215	4	98	1,902	2	30	0	0	0	0	0	0	1,932
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Lt vert crking in FCR @ W Abut

Reinforced Conc Pier or Abutment Cap

234	4	89	226	11	28	0	0	0	0	0	0	254
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Cantilever Pier 1 north & south ends. Pier 2 South Cantilever End has map crking and delams. East Abut- Med horiz crks @ Brg #4.

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration	Minor deterioration	Major deterioration							

Remarks: Leaking @ East Abut & Pier 1

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks: Leaking @ West Abut & Pier 2

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable						

Remarks: West Apprch- Silicone Relief Jnt missing 80%

Concrete Bridge Railing

331	4	99	410	1	3	0	0	0	0	0	0	413
			No deterioration	Minor cracks/spalls	Analysis warranted							

Remarks: Lt vert crking; Lt spalls plow damage; Parapet spalled @ Pier 2 Joint

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:	Lt transverse crking; Small Isol spalls, HP & map crking; PD patch Ln 2 E Jnt (, Span 2 Bay#3& Span 3 Bay#1)											
Lead Painted Steel Open Girder												
107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Span 2-Bott flanges freckle rust											
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	4	100	970	0	0	0	0	0	0	0	0	970
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Pier 2 Col#1 HL map crks											
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Lt vert crking; Pier 1 Wall HL-med vert leach crks											
Reinforced Conc Abutment												
215	4	98	1,902	2	30	0	0	0	0	0	0	1,932
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Lt vert crking in FCR @ W Abut											
Reinforced Conc Pier or Abutment Cap												
234	4	92	234	8	20	0	0	0	0	0	0	254
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Cantilever Pier 1 north & south ends. East Abut- Med horiz crks @ Brg #4.											
Preformed Joint Seal												
302	4	90	56	10	6	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						
Remarks:	Leaking @ East Abut & Pier 1											
Neoprene Expansion Joint												
307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:	Leaking @ West Abut & Pier 2											
Movable Discontinous Brg.												
311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks: West Apprch- Silicone Relief Jnt missing 80%

Concrete Bridge Railing

331	4	99	410	1	3	0	0	0	0	0	0	413
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: Lt vert crking; Lt spalls plow damage; Parapet spalled @ Pier 2 Joint

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty

Concrete Deck Protected w/ Rigid Overlay

22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks: Lt trans crking; Isol spalling, HP & map crking; PD patch Ln 2 E jt

Lead Painted Steel Open Girder

107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	970	0	0	0	0	0	0	0	0	970
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Lt vert crking

Reinforced Conc Abutment

215	4	98	1,902	2	30	0	0	0	0	0	0	1,932
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Lt vert crking in FCR @ W abt

Reinforced Conc Pier or Abutment Cap

234	4	92	234	8	20	0	0	0	0	0	0	254
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Cantilever crking both piers south end

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration		Minor deterioration		Major deterioration					

Remarks:

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration							

Remarks: Leaking over Pier 2 and East abut

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration	Minor deterioration	Advanced corrosion								

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration	Minor deterioration	Advanced corrosion								

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable							

Remarks:

Concrete Bridge Railing

331	4	100	413	0	0	0	0	0	0	0	0	413
		No deterioration	Minor cracks/spalls	Analysis warranted								

Remarks: Lt vert crking; Lt spalls plow damage

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty

Concrete Deck Protected w/ Rigid Overlay

22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
		No deficiencies.	Repaired areas exist	Map cracked areas.	Spalls/delaminations	Full depth failures.						

Remarks:

Lead Painted Steel Open Girder

107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
		No corrosion	Paint distress	Rust formation	Section loss	Section failure						

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion	Paint distress	Rust formation	Section loss	Section failure						

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	970	0	0	0	0	0	0	0	0	970
		No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted							

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted							

Remarks:

Reinforced Conc Abutment

215	4	100	1,932	0	0	0	0	0	0	0	0	1,932
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	92	234	8	20	0	0	0	0	0	0	254
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration		Minor deterioration		Major deterioration					

Remarks:

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
			The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration			

Remarks:

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	100	413	0	0	0	0	0	0	0	0	413
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks:

Lead Painted Steel Open Girder

107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion	Paint distress	Rust formation	Section loss		Section failure				

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	970	0	0	0	0	0	0	0	0	970
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Abutment

215	4	100	1,932	0	0	0	0	0	0	0	0	1,932
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	92	234	8	20	0	0	0	0	0	0	254
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration	Minor deterioration	Major deterioration							

Remarks:

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks:

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable						

Remarks:

Concrete Bridge Railing

331	4	100	413	0	0	0	0	0	0	0	0	413
			No deterioration	Minor cracks/spalls	Analysis warranted							

Remarks:

Element Description												
Elem	**Env**	**% 1**	**Qty 1**	**% 2**	**Qty 2**	**% 3**	**Qty 3**	**% 4**	**Qty 4**	**% 5**	**Qty 5**	**Tot Qty**
Concrete Deck Protected w/ Rigid Overlay												
22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:												
Lead Painted Steel Open Girder												
107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	4	100	970	0	0	0	0	0	0	0	0	970
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Abutment												
215	4	100	1,932	0	0	0	0	0	0	0	0	1,932
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier or Abutment Cap												
234	4	92	234	8	20	0	0	0	0	0	0	254
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Preformed Joint Seal												
302	4	100	62	0	0	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						
Remarks:												
Neoprene Expansion Joint												
307	4	100	186	0	0	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:												
Movable Discontinous Brg.												
311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	100	413	0	0	0	0	0	0	0	0	413
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ AC Overlay												
14	4	75	9,218	0	0	25	3,073	0	0	0	0	12,290
			No deficiencies.		Repaired areas.		Map cracked areas.		Spalls/delam exist.		Full depth failures.	

Remarks:

Lead Painted Steel Open Girder

107	4	93	26,533	7	1,997	0	0	0	0	0	0	28,530
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Lead Painted Steel Closed Web/Box Girder and Open

172	4	100	50	0	0	0	0	0	0	0	0	50
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Reinforced Conc Column or Pile Extension

205	4	82	795	10	97	8	78	0	0	0	0	970
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Abutment

215	4	100	1,932	0	0	0	0	0	0	0	0	1,932
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	86	218	8	20	6	15	0	0	0	0	254
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Neoprene Expansion Joint

307	4	52	207	45	180	3	12	0	0	0	0	399
			The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration			

Remarks:

Movable Discontinous Brg.

311	4	67	20	33	10	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Fixed Bearing

313	4	87	26	13	4	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	0	0	100	2	0	0	0	0	0	0	2
		No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable				

Remarks:

Concrete Bridge Railing

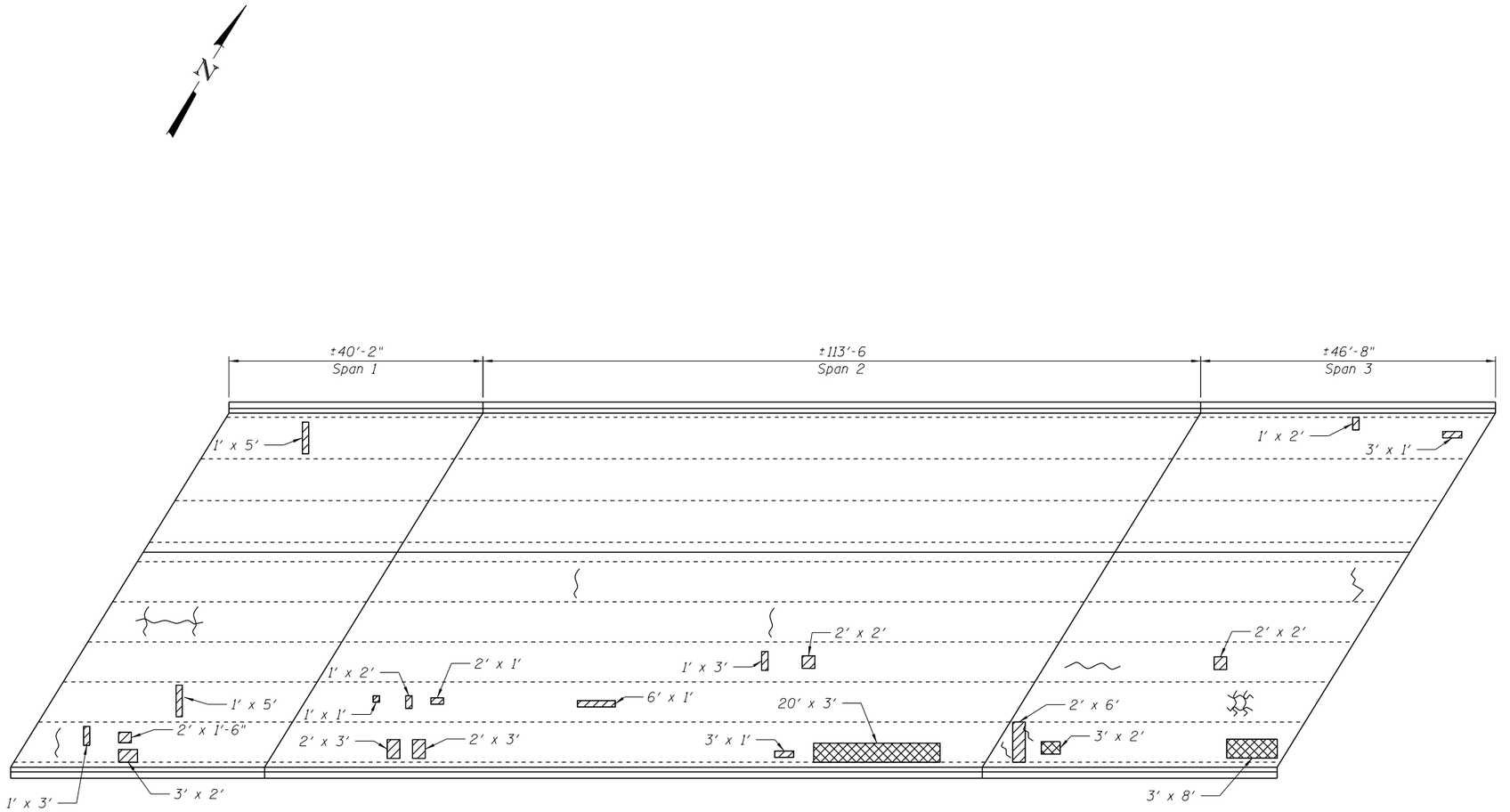
331	4	47	194	29	120	24	99	0	0	0	0	413
		No deterioration		Minor cracks/spalls		Analysis warranted						

Remarks:

Download Date: 04/18/2013

ATTACHMENT D

Bottom of Deck Condition Survey



UNDERSIDE OF DECK

(Eastbound Bridge)

LEGEND

- CRACKED CONCRETE
- MAP CRACKING
- SPALLED CONCRETE
- DELAMINATED CONCRETE

FILE NAME = V:\1786\active\178600037.IDOT.I-55\structural\drawing\sht\dwg.Cicero.Avenue.Underside.of.Deck.dgn

Stantec

USER NAME = jerojas	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/9/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT D – BOTTOM OF DECK CONDITION SURVEY
STRUCTURE NO. 016-0016

SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT E

Condition Assessment of the Reinforced Concrete Bridge Deck

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

January 6, 2012

Ms. Diane M. O'Keefe
Deputy Director of Highways
District One Engineer
Illinois Department of Transportation
201 West Center Court
Schaumburg, Illinois 60196-1096
Attn: Ms. Sarah Wilson (Maintenance Bridge Engineer)

Re: Condition Assessment of Bridge Deck
I-55 Eastbound over IL-50 (Cicero Avenue)
Structure No. 016-0016
District One
Work Order 10
PTB No. 153-18
WJE No. 2009.3645.10

Dear Ms. O'Keefe:

At your request, Wiss, Janney, Elstner Associates, Inc. (WJE) completed a condition assessment of the reinforced concrete bridge deck for Structure No. 016-0016. This work included a visual assessment of concrete deterioration from below the structure. Also included was a delamination survey performed on the top of the bridge deck, based on an infrared thermography (IR) survey. Reinforcing bar cover depth determination was also performed using ground penetrating radar (GPR). These inspection tasks began in July and were completed in September.

Structure Description

The I-55 Eastbound Bridge over Cicero Avenue. IL-50 carries three lanes of traffic and two shoulders. This three span structure is comprised of steel beam and concrete deck construction. Each of the 10 girder lines is connected using steel diaphragms or cross frames. All deck and substructure components are comprised of cast-in-place reinforced concrete construction. Reportedly the bridge structure was originally constructed in 1963 and the current overlay was installed in 2000.

The spans have approximate lengths of 40 ft-7 in, 113 ft-11 in, and 46 ft-3 in., from west-to-east, for a total structure length of 206ft-8 in., back-to-back of abutments. The total deck width out-to-out is 59 ft-5 in. and the deck width to the inside faces of the parapet walls is 56 ft. The total resulting bridge deck area is approximately 10,900 sq. ft. A partial elevation view of the structure looking north is included as Figure 1.

Inspection Methods

The condition of the reinforced concrete bridge deck was assessed using several methods. These methods can be broken down into two major categories: Bottom of Deck Inspection Methods and Top of Deck Inspection Methods.

Bottom of Deck Inspection Methods

The condition of the bottom of the reinforced concrete deck was assessed from grade below the structure in September 2011. All accessible areas of the bottom of the deck were assessed visually. This inspection was completed from the ground beneath the bridge outside of active traffic lanes. Binoculars and/or zoom lenses were used to magnify the view of distant surfaces. Plan drawings of the structure including the structural framing were used to record field notes.

Top of Deck Inspection Methods

The condition of the top of the reinforced concrete deck was assessed using IR equipment to map areas of spalls, patches, and delaminations. This work was subcontracted to Infrasense, Inc. and was performed in July, 2011. Rolling lane closures were utilized during data collection periods to allow the IR data collection vehicle to assess the entire bridge deck surface while moving at approximately 3 mph. Impact Echo (IE) and sounding techniques were used to confirm the presence of delaminations at select locations on each bridge deck. All IR data was analyzed and summarized on bridge deck drawing sheets that show the located defects to scale.

GPR equipment was used to identify the cover depth of the top mat of reinforcing steel from the top surface of the deck. The GPR equipment was mounted to an inspection vehicle and scans were completed at normal operating speeds.

Assessment Results

The reinforced concrete bridge deck was found to be in satisfactory condition overall. Results for each assessment category are included below.

Bottom of Deck

Visual inspection from grade below the bridge was used to assess the bottom of the bridge deck. All areas of spalls or delaminations that could be identified visually were documented. In addition, all areas of previously repaired concrete were noted. Table 1 includes a summary of the visual inspection, including total deck soffit area, the area of spalled concrete, the area of delaminated concrete and the area of previous repairs. Figures 2 and 3 show the typical condition of the deck soffit. The results of the bottom of deck survey are shown on Sheet S-3 of Appendix A.

Table 1. Bottom of Deck Deterioration Summary

Soffit Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Previously Repaired Area (sq.ft)
10,900	50	0.5	180	1.7	1575

Top of Deck

The top of the bridge deck was assessed using both IR and GPR equipment. The IR survey equipment was able to identify delaminations and spalls present in the bridge deck. Figure 4 is an overall view of the top deck surface looking northeast.

Table 2 includes a summary of the total bridge deck area, the total bridge deck area spalled, the total bridge deck area delaminated, the total bridge deck area that should be programmed for repair work and the rebar cover from the top surface of the deck. Sheet S-1 of Appendix A is a scaled bridge deck plan drawing showing the locations of the delaminated or spalled areas. Sheet S-2 of Appendix A is a scaled bridge deck plan drawing showing an image of the IR scan of the bridge. Sheet S-4 of Appendix A is a scaled bridge deck plan drawing showing the location of suggested partial and full depth concrete repairs using conventional patching techniques. Note that repair area boundaries were selected by expanding the boundaries of each delaminated or spalled area by 6 inches to account for saw cutting outside of the delamination and further deterioration prior to the actual start of any repair work. In addition, repair areas were joined when adjacent repairs were spaced at approximately 2 ft. or less. Full depth repair boundaries were determined based on locations where top and bottom surface defects overlapped. No bottom surface repairs were identified based on recommendations from IDOT.

Table 2. Top of Deck Deterioration Summary

Bridge Deck Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Repair Area (sq. ft)	Total Area (%)	Rebar Cover (in.)
10,900	0	0	615	5.6	1382	12.7	3.9

Recommendations and Conclusions

WJE performed a condition assessment of the reinforced concrete bridge deck of the I-55 Eastbound Bridge over IL-50, Cicero Avenue. This condition assessment included: a visual survey of the bottom of the deck and an IR survey of the top of the deck. This information was used to produce repair drawings indicating the size and location of anticipated repair areas.

The repair work should, at a minimum, include partial depth repairs at all locations indicated on Sheet S-4 in Appendix A. If this option is selected, a detailed delamination assessment should be completed by the contractor at the time of the repair work to ensure that all areas of deteriorated concrete are identified. In addition, all re-entrant corners of repair areas should be detailed to include a 4 inch chamfer to reduce the potential for concrete-shrinkage related cracking.

The bridge deck was found to currently be in satisfactory condition, but corrosion-related damage has become apparent and should be repaired.

We would be happy to answer any questions or provide additional information.

Sincerely,

WISS, JANNEY, ELSTNER ASSOCIATES, INC.

Joseph A. Rogers Jr., S.E.
Project Associate

Jonathan C. McGormley, P.E., S.E.
Project Manager

Figures

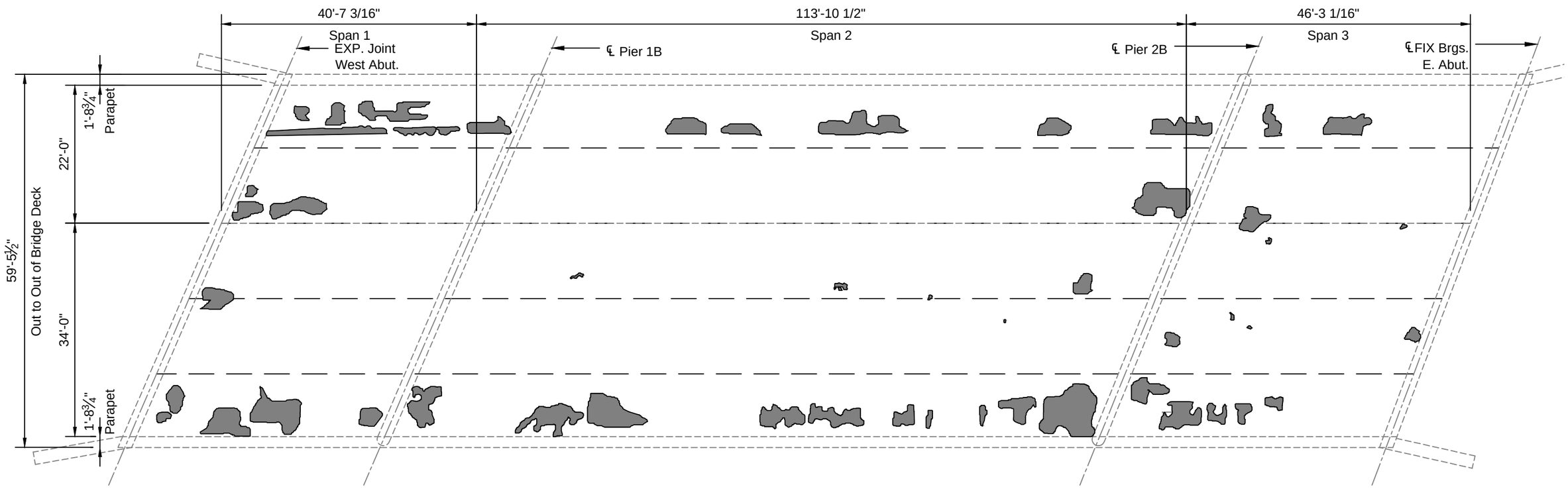
Figure 1. Elevation view, looking north. Photo from Google Streetview

Figure 2. Typical view, deck soffit, southeast corner.

Figure 3. Typical view, deck soffit, west end.

Figure 4. Typical view, deck top surface, looking northeast

Appendix A - Bridge Deck Condition Assessment Drawings



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0016		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft]	10,900	100	SPALL
DELAMINATION	ft]	615	5.6	CRACK
SPALL	ft]	0	0	
CRACKS	ft	-	-	

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

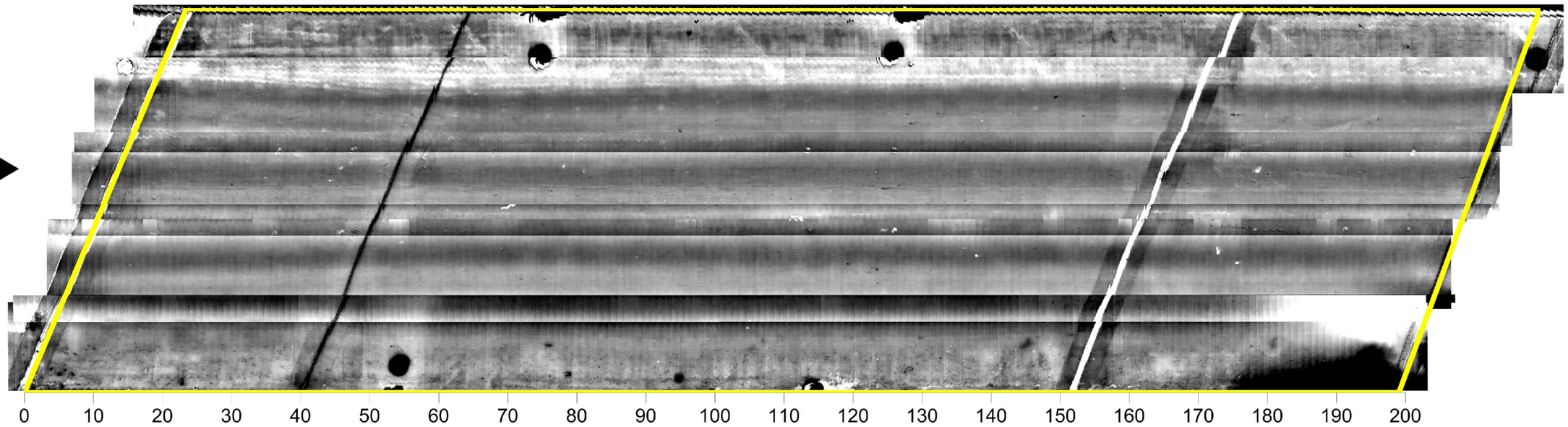
Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0016
EASTBOUND I-55 OVER CICERO AVENUE

Sheet Title
IR Result - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"
Sheet No.	S1



0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

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Client

Illinois Department of Transportation

District One
201 West Center Court
Schaumburg, Illinois 60196

Project

Bridge 016-0016

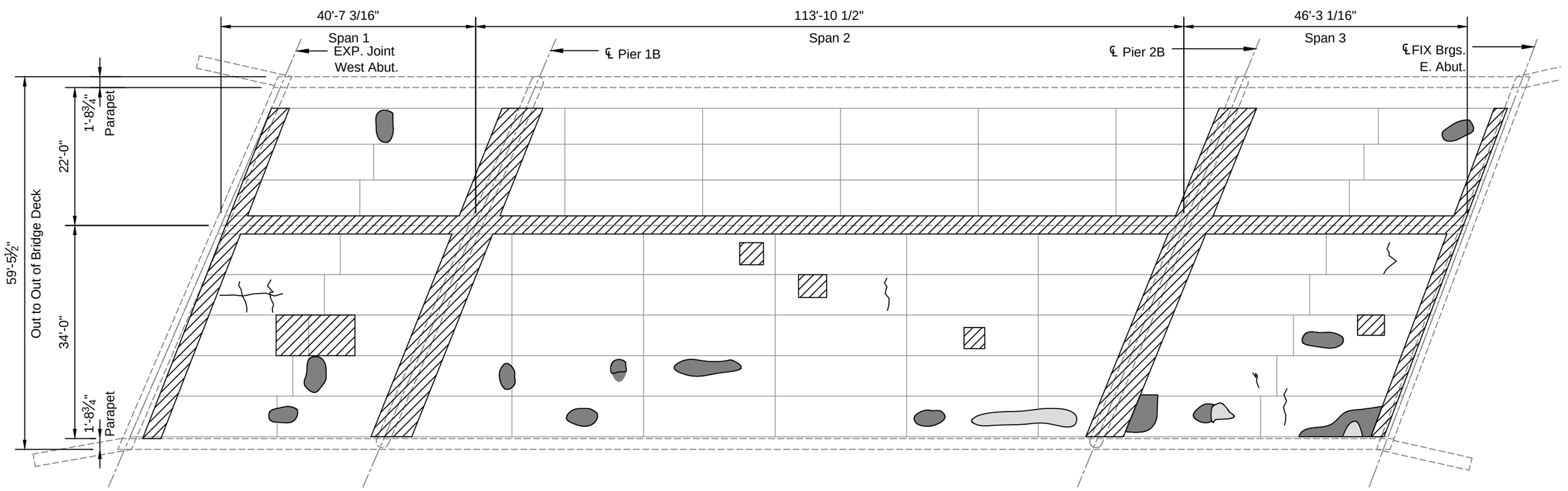
EASTBOUND I-55 OVER CICERO AVENUE

Sheet Title

IR Image - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"

Sheet No. **S2**



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ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft²	10900	100	SPALL
DELAMINATION	ft²	180	1.7	PREV. REPAIR
SPALL	ft²	50	0.5	CRACK
PREVIOUS REPAIRS	ft²	1575	14.4	
CRACKS	ft	-	-	

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

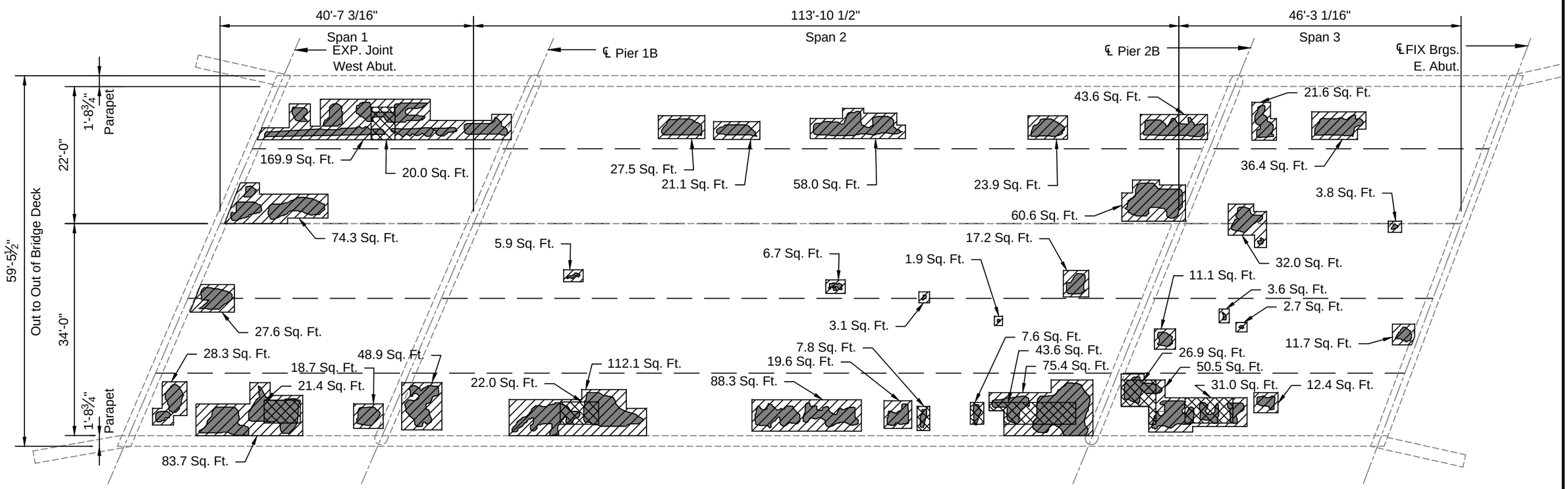
Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0016
EASTBOUND I-55 OVER CICERO AVENUE

Sheet Title
Underside Deterioration

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"
Sheet No.	S3



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0016	
ITEM	UNIT	QUANT.	%
TOTAL AREA	ft²	10900	100
PARTIAL DEPTH REPAIR	ft²	1202	11.0
FULL DEPTH REPAIR	ft²	180	1.7
DELAMINATION	ft²	615	5.6
SPALL	ft²	0	0
CRACKS	ft	-	-

LEGEND

- PARTIAL DEPTH REPAIR
- FULL DEPTH REPAIR
- DELAMINATION
- SPALL
- CRACK

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

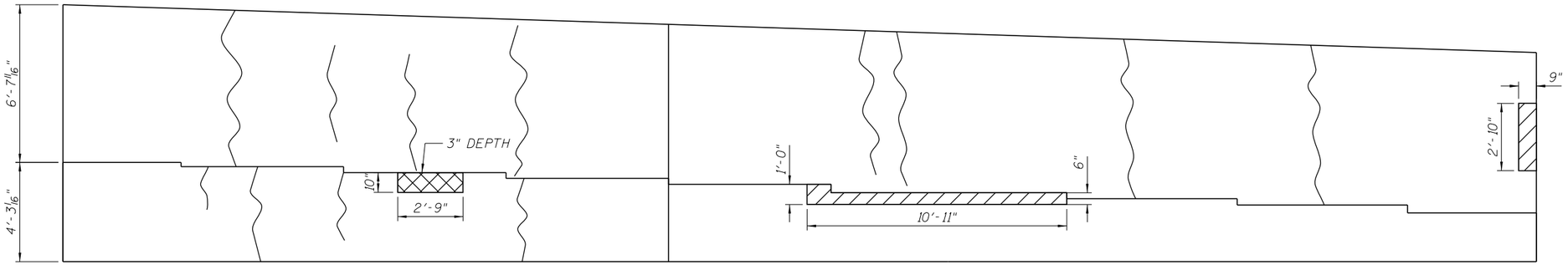
Project
Bridge 016-0016
EASTBOUND I-55 OVER CICERO AVENUE

Sheet Title
Proposed Repairs

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"
Sheet No.	S4

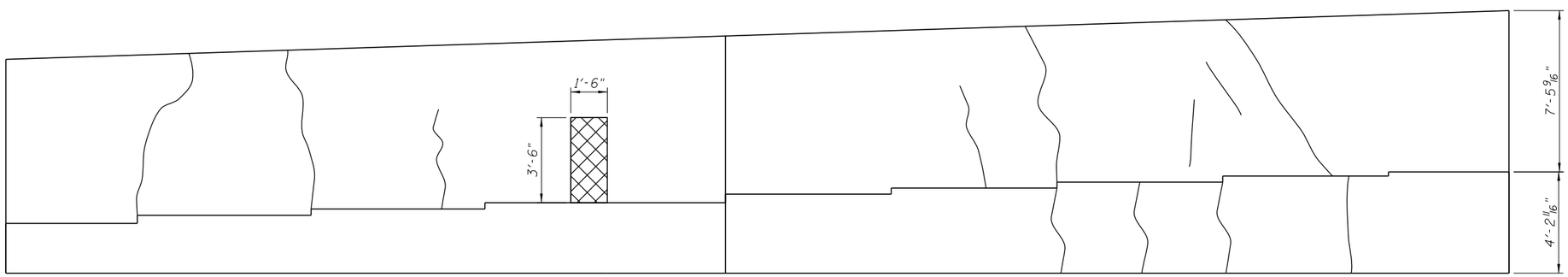
ATTACHMENT F

Substructure Condition Surveys



EAST ABUTMENT

LOOKING EAST



WEST ABUTMENT

LOOKING WEST

LEGEND

- HAIRLINE CRACK (UNLESS OTHERWISE NOTED)
- SPALLED CONCRETE
- DELAMINATED CONCRETE

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Stantec

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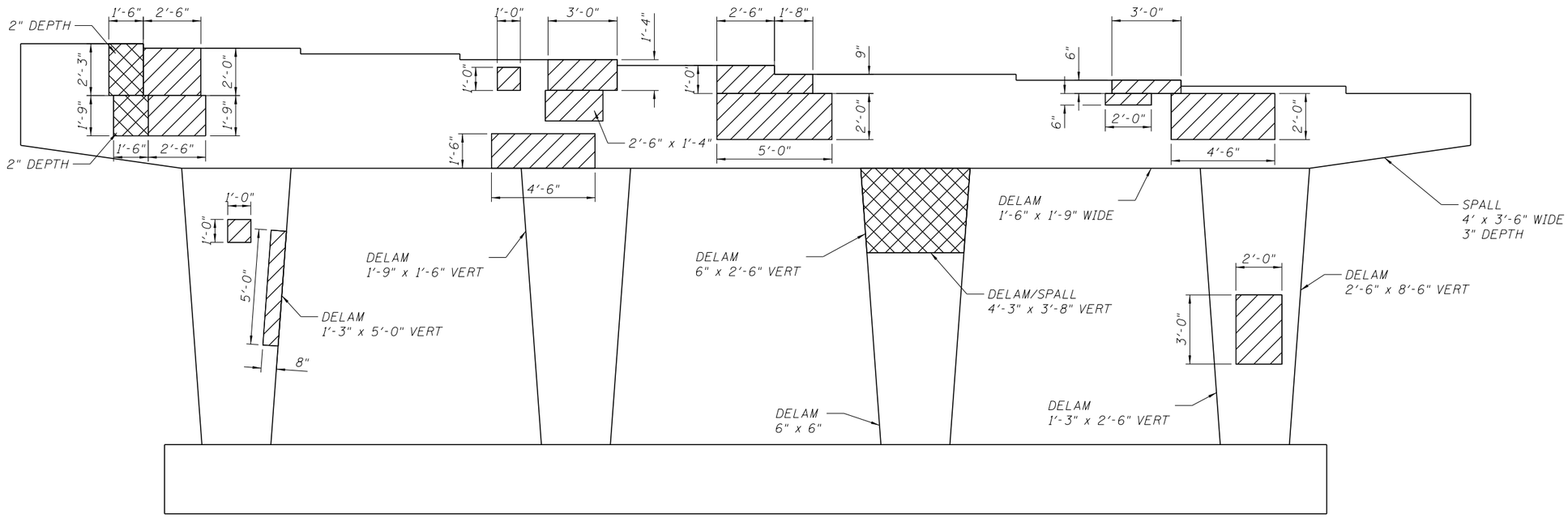
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

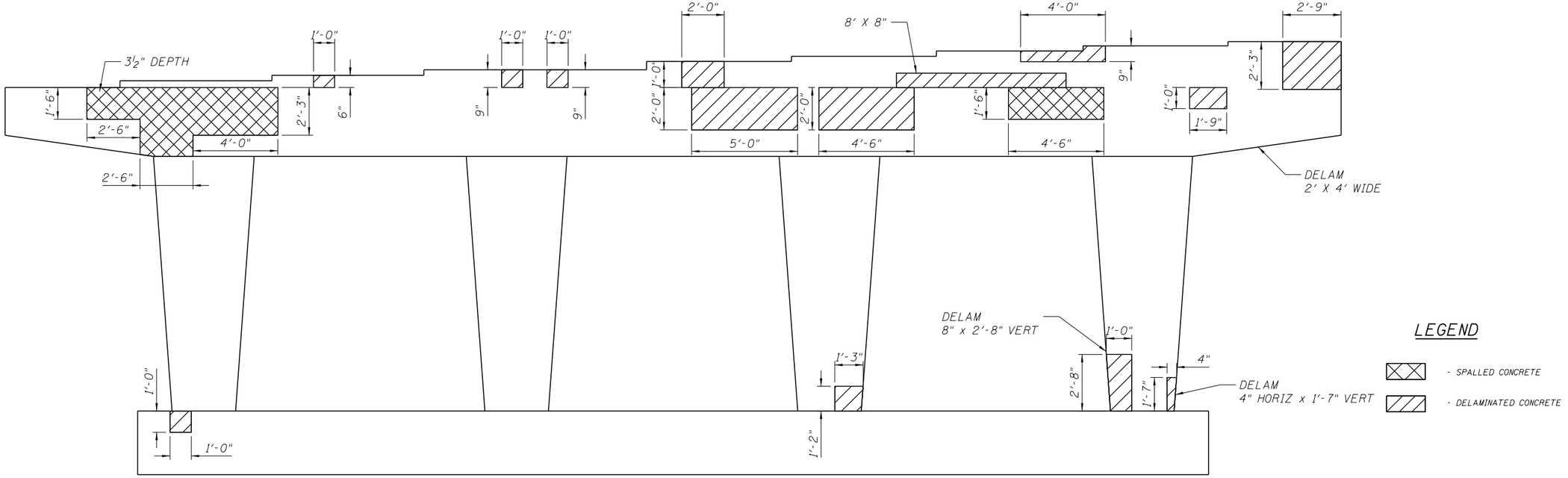
ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016-0016

SHEET NO. 1 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PIER 1
LOOKING EAST



PIER 1
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Stantec

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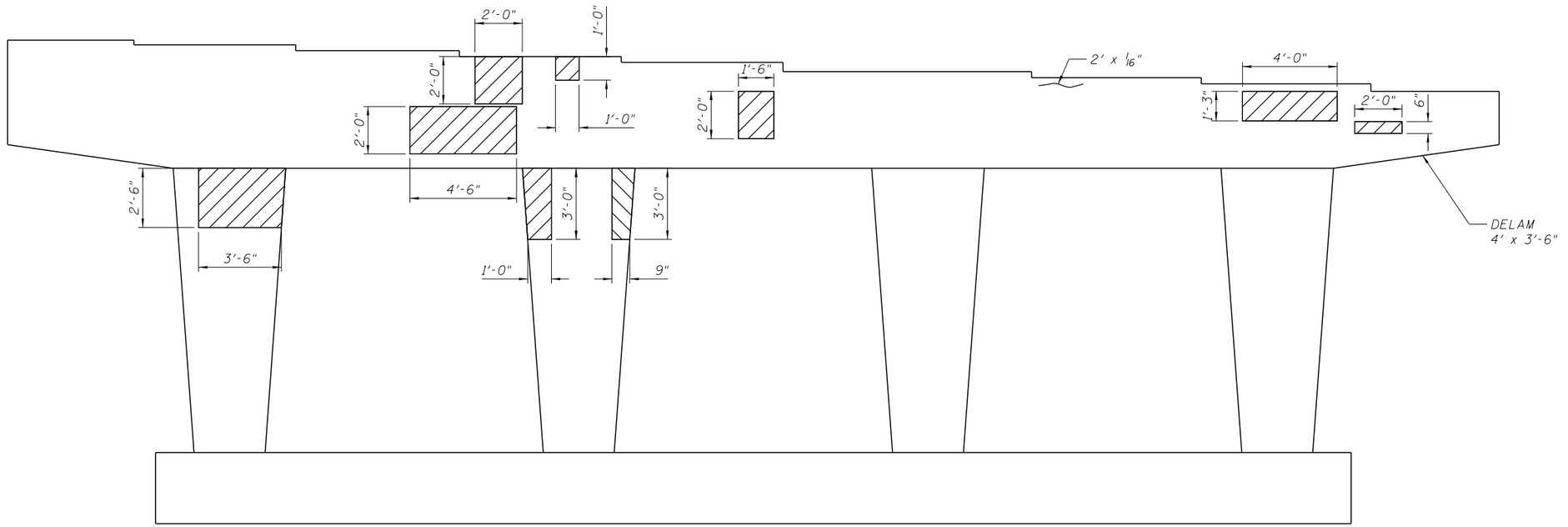
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

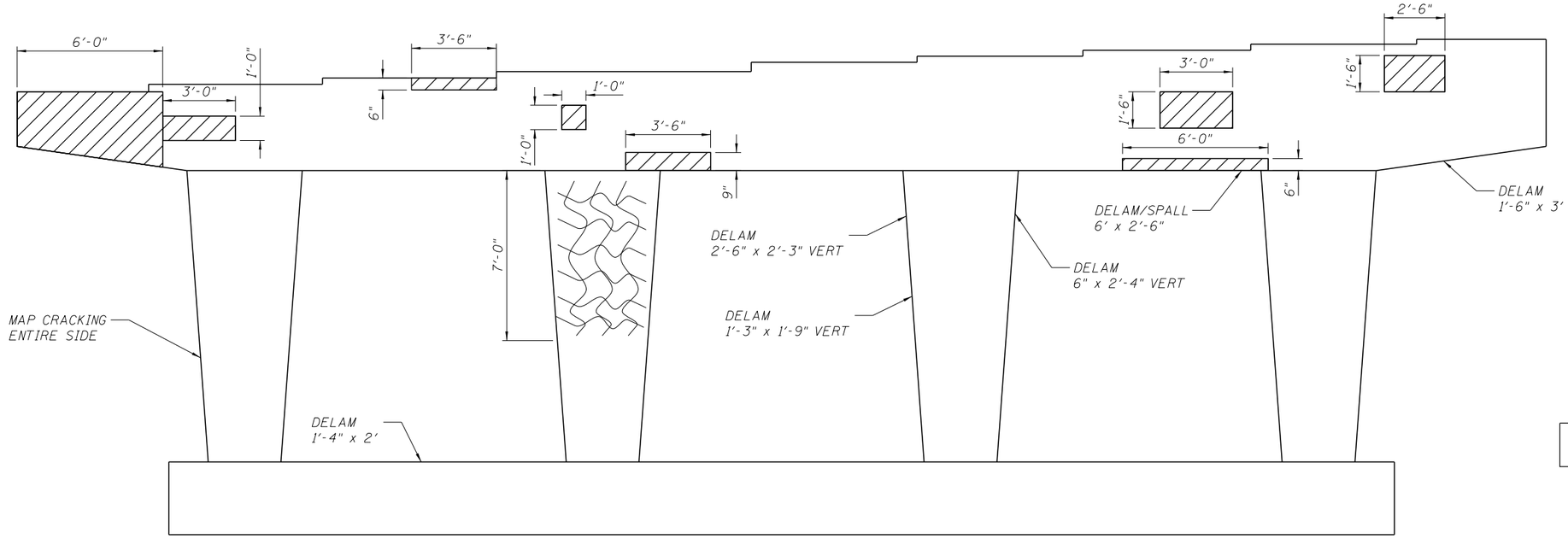
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016-0016
SHEET NO. 2 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PIER 2
LOOKING EAST



LEGEND

- CRACKED CONCRETE
- MAP CRACKING
- SPALLED CONCRETE
- DELAMINATED CONCRETE

PIER 2
LOOKING WEST

FILE NAME = V:\1786\active\1786080037.IDOT.I-55\structural\drawing\sht\dwg_Cicero_Avenue_Pier_Elevation.dgn

Stantec

USER NAME = jerojas	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016-0016
SHEET NO. 3 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT G

Opinion of Probable Costs

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/9/13
Check By:	BHS	*Date:*	12/19/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COSTS		
	I-55 EB over Cicero (016-0016)		

ALTERNATIVE 1 - IN-KIND REPAIRS

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50300300	Protective Coat	1529 sy	$2.00	$3,060
50500105	Furnishing and Erecting Structural Steel	2230 lb	$5.00	$11,150
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	372 sf	$175	$65,100
Z0016001	Deck Slab Repair (Full Depth)	18 sy	$750	$13,500
Z0016200	Deck Slab Repair (Partial Depth)	141 sy	$400	$56,400
			SUB TOTAL =	$149,210
			MOBILIZATION (10%) =	$14,921
			CONTINGENCY (20%) =	$29,842
			TOTAL =	**$194,000**

ALTERNATIVE 2 - STRUCTURE WIDENING

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50102400	Concrete Removal	25 cy	$600	$15,000
50104720	Removal Existing Concrete Deck	1 LS	$154,500	$154,500
50200100	Structure Excavation	281 cy	$35.00	$9,840
50300225	Concrete Structures	202 cy	$700	$141,400
50300255	Concrete Superstructure	726 cy	$800	$580,800
50300260	Bridge Deck Grooving	2189 sy	$7.00	$15,320
50300300	Protective Coat	1915 sy	$2.00	$3,830
50500105	Furnishing and Erecting Structural Steel	1 LS	$339,330	$339,330
50500505	Stud Shear Connectors	1242 each	$3.00	$3,730
50800205	Reinforcement Bars, Epoxy Coated	221900 lbs	$1.75	$388,330
51201400	Fur Stl Pile HP10x42	2,800 ft	$45.00	$126,000
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52000110	Preformed Joint Strip Seal	349 ft	$175	$61,080
52100010	Elastomeric Bearing Assembly, Type I	3 each	$800	$2,400
59100100	Geocomposite Wall Drain	46 sy	$25.00	$1,150
X2070304	Porous Granular Embankment, Special	62 cy	$50.00	$3,100
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	372 sf	$175	$65,100
Z0026407	Temporary Sheet Piling	1108 sf	$30.00	$33,230
Z0046304	Pipe Underdrains for Structures 4"	40 ft	$20.00	$800
			SUB TOTAL =	$1,958,540
			MOBILIZATION (10%) =	$195,854
			CONTINGENCY (20%) =	$391,708
			TOTAL =	**$2,546,200**

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/9/13
Check By:	BHS	*Date:*	12/19/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COSTS		
	I-55 EB over Cicero (016-0016)		

ALTERNATIVE 3 - SUPERSTRUCTURE AND PARTIAL SUBSTRUCTURE REPLACEMENT

CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50101500	Removal of Existing Superstructures	1 LS	$185,400	$185,400
50102400	Concrete Removal	332 cy	$600	$199,200
50104650	Slope Wall Removal	719 sy	$7.00	$5,030
50200100	Structure Excavation	724 cy	$35.00	$25,340
50300225	Concrete Structures	348 cy	$700	$243,600
50300255	Concrete Superstructure	962 cy	$800	$769,600
50300260	Bridge Deck Grooving	2604 sy	$7.00	$18,230
50300300	Protective Coat	2435 sy	$2.00	$4,870
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,834,200	$1,834,200
50500505	Stud Shear Connectors	9144 each	$3.00	$27,430
50800205	Reinforcement Bars, Epoxy Coated	310100 lbs	$1.75	$542,680
51100100	Slope Wall 4 Inch	602 sy	$100	$60,200
51201400	Fur Stl Pile HP10x42	3240 ft	$45.00	$145,800
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52100010	Elastomeric Bearing Assembly, Type I	12 each	$800	$9,600
59100100	Geocomposite Wall Drain	172 sy	$25.00	$4,300
X2070304	Porous Granular Embankment, Special	352 cy	$50.00	$17,600
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0012754	Structural Repair of Concrete (< 5 Inches)	1 sf	$350	$350
Z0026407	Temporary Sheet Piling	1527 sf	$30.00	$45,800
Z0046304	Pipe Underdrains for Structures 4"	187 ft	$20.00	$3,740
			SUB TOTAL =	$4,156,570
			MOBILIZATION (10%) =	$415,657
			CONTINGENCY (20%) =	$831,314
			TOTAL =	**$5,403,600**

ALTERNATIVE 4 - STRUCTURE REPLACEMENT

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50100100	Removal of Existing Structures	1 LS	$468,000	$468,000
50104650	Slope Wall Removal	719 sy	$7.00	$5,030
50200100	Structure Excavation	1023 cy	$35.00	$35,810
50300225	Concrete Structures	585 cy	$700	$409,500
50300255	Concrete Superstructure	962 cy	$800	$769,600
50300260	Bridge Deck Grooving	2604 sy	$7.00	$18,230
50300300	Protective Coat	2435 sy	$2.00	$4,870
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,834,200	$1,834,200
50500505	Stud Shear Connectors	9144 each	$3.00	$27,430
50800205	Reinforcement Bars, Epoxy Coated	357500 lbs	$1.75	$625,630
51100100	Slope Wall 4 Inch	602 sy	$100	$60,200
51201400	Fur Stl Pile HP10x42	6,120 ft	$45.00	$275,400
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
59100100	Geocomposite Wall Drain	172 sy	$25.00	$4,300
X2070304	Porous Granular Embankment, Special	352 cy	$50.00	$17,600
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0026407	Temporary Sheet Piling	1527 sf	$30.00	$45,800
Z0046304	Pipe Underdrains for Structures 4"	187 ft	$20.00	$3,740
			SUB TOTAL =	$4,618,940
			MOBILIZATION (10%) =	$461,894
			CONTINGENCY (20%) =	$923,788
			TOTAL =	**$6,004,700**

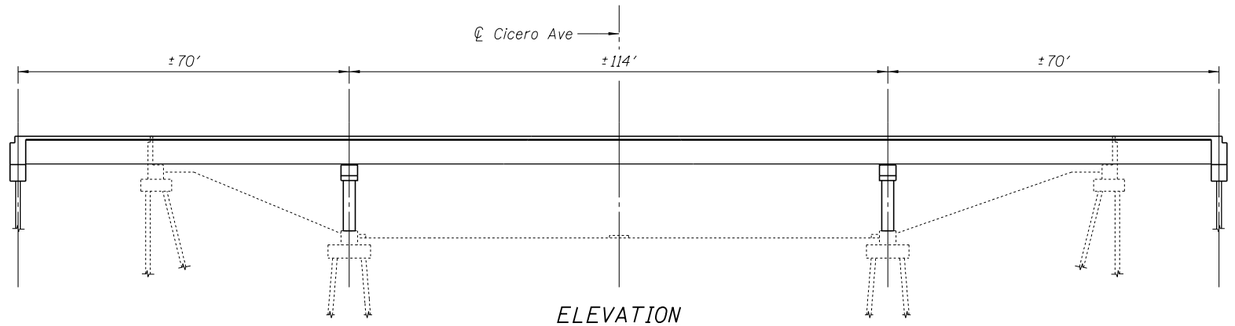
ATTACHMENT H

Proposed Structure Drawings

Notes:

The number and location of substructure units, the profile grade, skew angle, and the bridge length and width are subject to refinement in the TSL phase.

Superstructure type, beam spacing, and rail type to be determined during the TSL phase.



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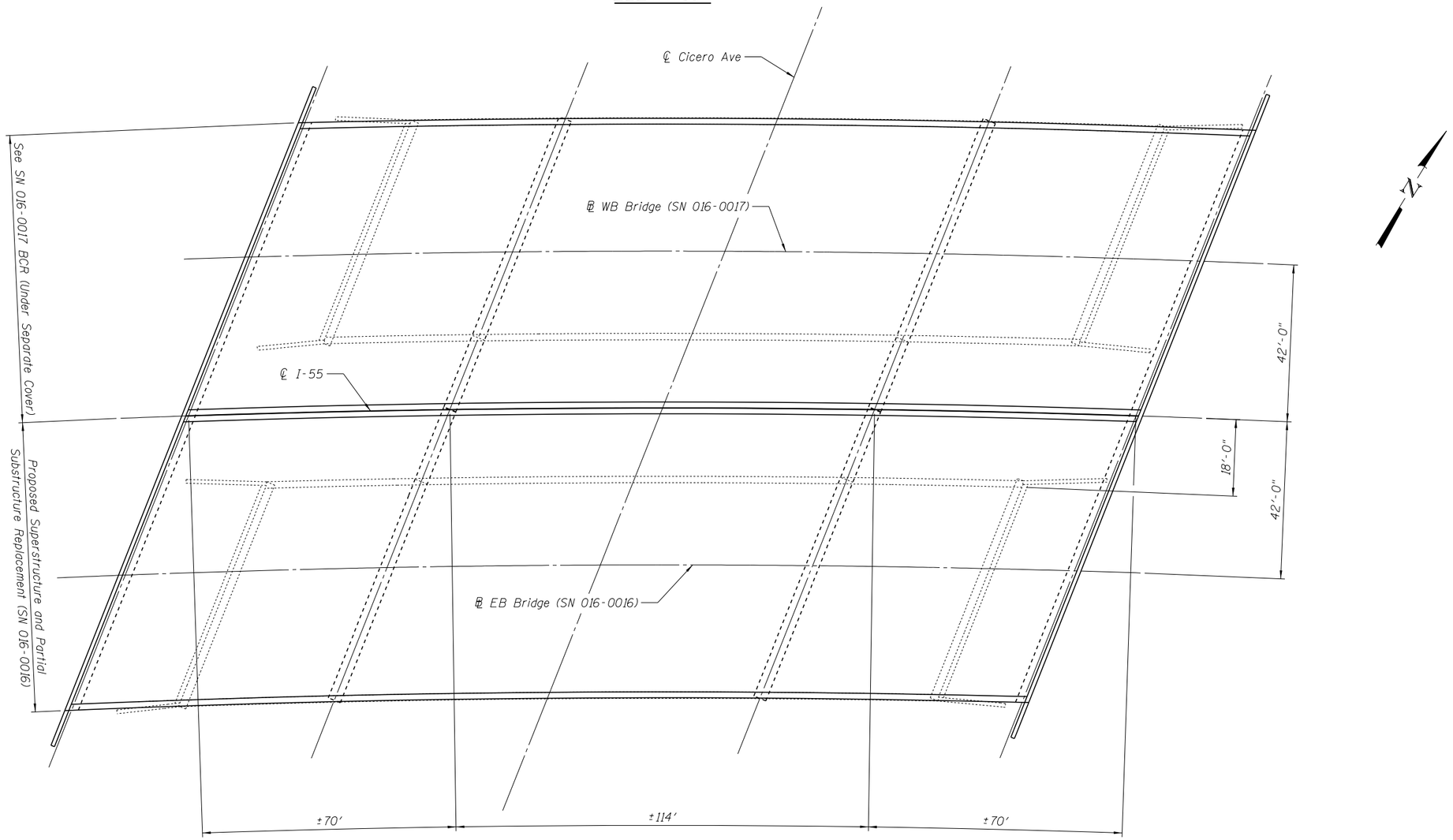

PROPOSED PLAN

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Stantec

USER NAME = bsayers	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 12/19/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT H – PROPOSED STRUCTURE DRAWING
STRUCTURE NO. 016–0016
SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT I

Structure Photos

Photo 1 - Spalls on underside of deck in Span 3 between Beams 9-10 from north, east end, looking east

Photo 2 - Spalls on underside of deck in Span 2 between Beams 9-10 from north, east end, looking west

Photo 3 - Underside of Span 2, south end, looking east

Photo 4 - Underside of deck, Span 1, south end, looking west

Photo 5 – Span 1, looking northeast

Photo 6 – Span 2, looking northeast

Photo 7 - Cracking in shoulder, Span 3, looking east

Photo 8 Span 3, looking northwest

Photo 9 - Outside of South Parapet with minor rust stains, cracking, and minor spalling, looking northeast

Photo 10 - Outside of North Parapet with minor rust stains and cracking, looking southeast

Photo 11 - West Abutment joint, looking north

Photo 12 - Pier 1 joint, looking north

Photo 13 - Pier 2 joint, looking north

Photo 14 - East Abutment joint, looking north

Photo 15 - Typical superstructure in Span 2, looking southwest

Photo 16 - Typical cracked weld between bottom flange of beam in east span and built up steel bolster, looking northeast (Beam 2 from north at East Abutment)

Photo 17 - Typical cover plates on bottom on beams in east span, looking southwest (Beam 3 from north, Span 3)

Photo 18 - South Fascia Beam, looking west

Photo 19 - North Fascia Beam, looking east

Photo 20 - Broken conduit along South Fascia Beam, Span 3, 8' from East Abutment, looking west

Photo 21 - Broken conduit in Span 2 along south fascia beam, 6' from West Pier, looking southeast

Photo 22 - Spall on East Abutment seat between beams 2-3, looking east

Photo 23 - East Abutment, looking east

Photo 24 - West Abutment, looking southwest

Photo 25 - Northwest wingwall, looking southwest

Photo 26 – Southeast wingwall, looking northeast

Photo 27 - East Pier, looking southwest

Photo 28 - Underside of East Pier cap between columns 1-2 from north, looking east

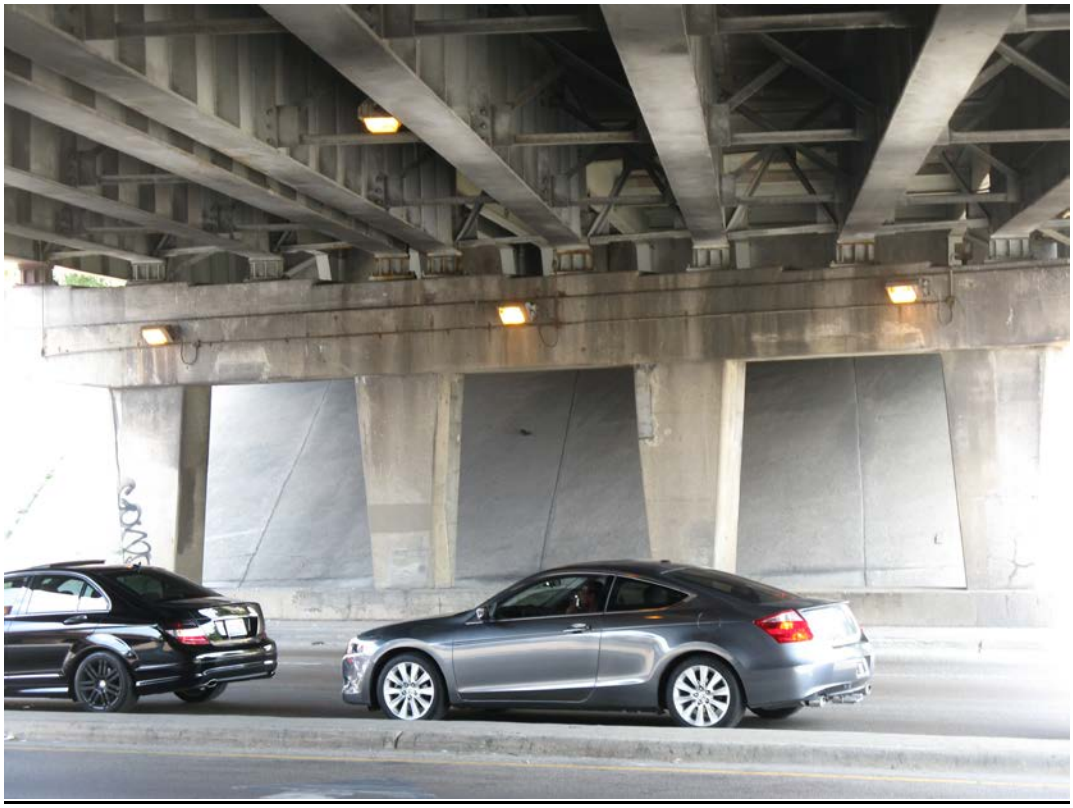


Photo 29 - West Pier, looking east

Photo 30 - Spall on underside of West Pier cap, south end, looking north

Photo 31 - Undermining of east slopewall at south end, looking east

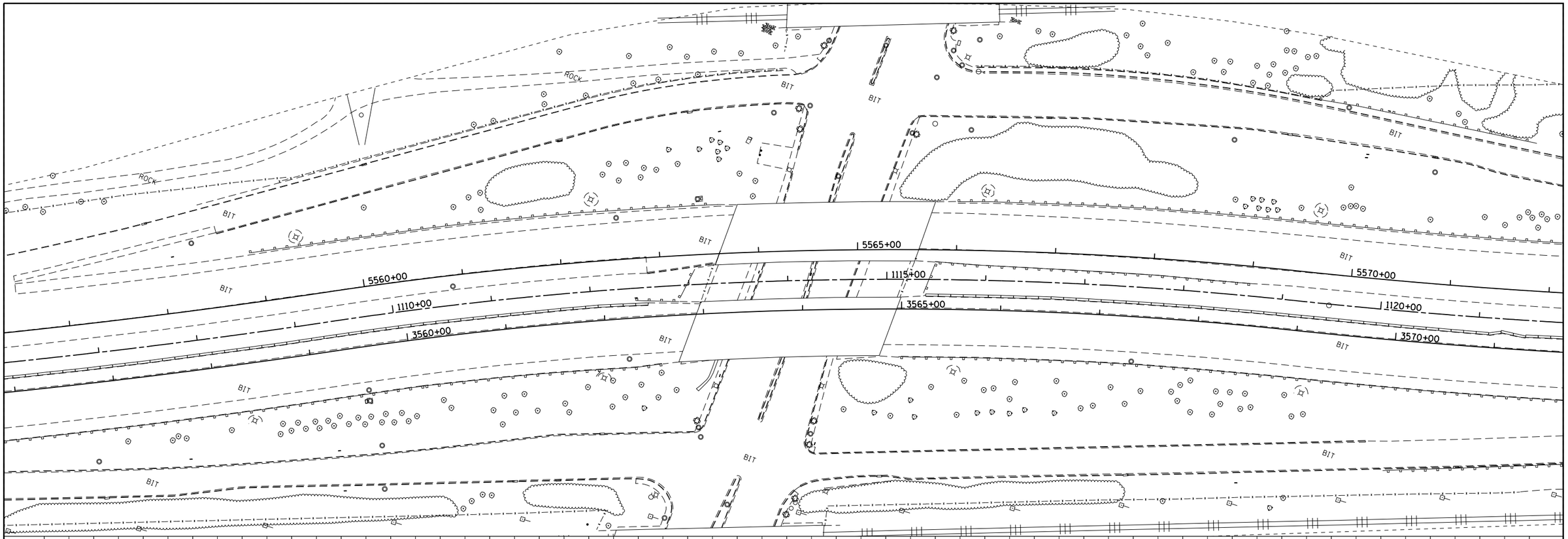
Photo 32 - Undermining of east slopewall at south end, looking east

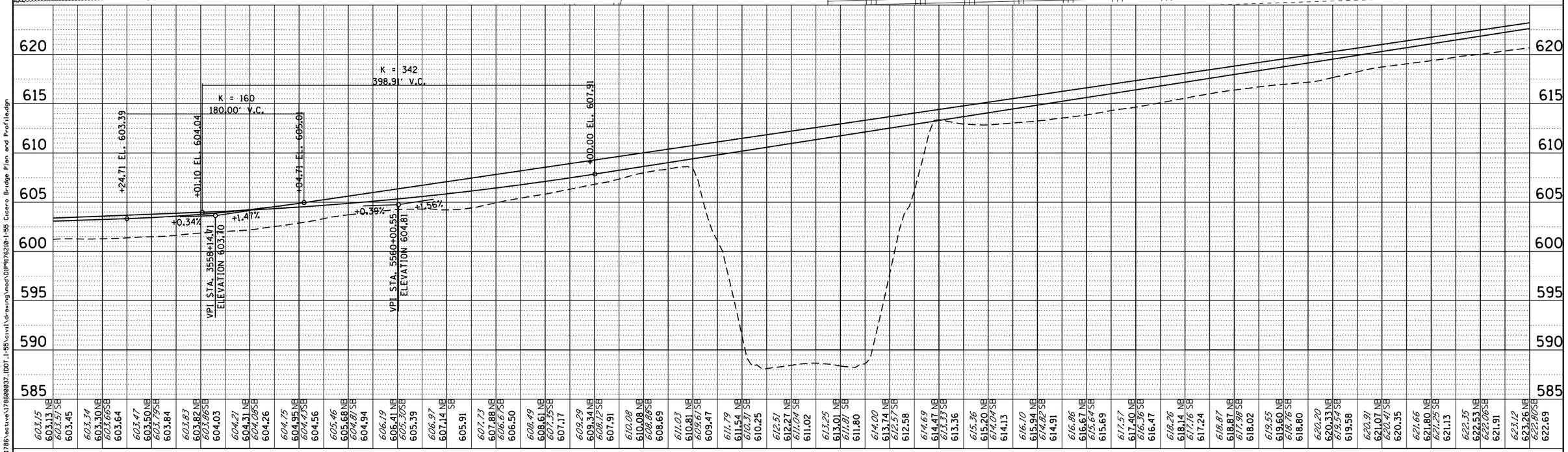
Photo 33 – East slopewall, north half, looking northeast

Photo 34 - Broken section of west slopewall curb with vegetation growing in it, approx half way up, looking west

ATTACHMENT J

Proposed Plan & Profile





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Default

Stantec

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	DRAWN - STANTEC	REVISED -	
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PLOT DATE = 10/4/2013	DATE - 10/04/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

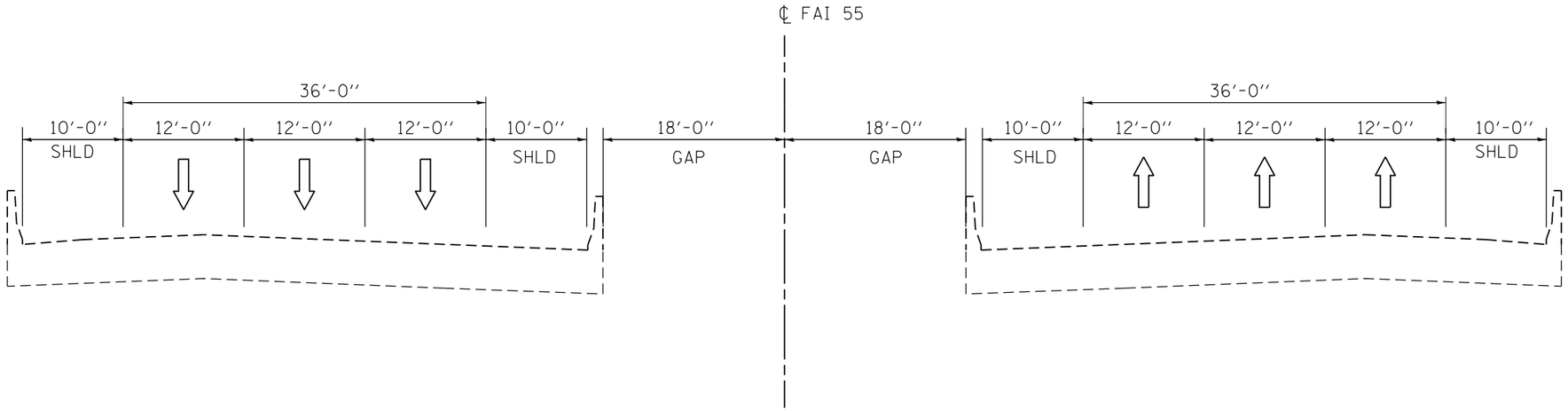
ATTACHMENT J
I-55 OVER CICERO AVE PROPOSED PLAN & PROFILE

SCALE: 1":100' | SHEET ___ OF ___ SHEETS | STA. _____ | TO STA. _____

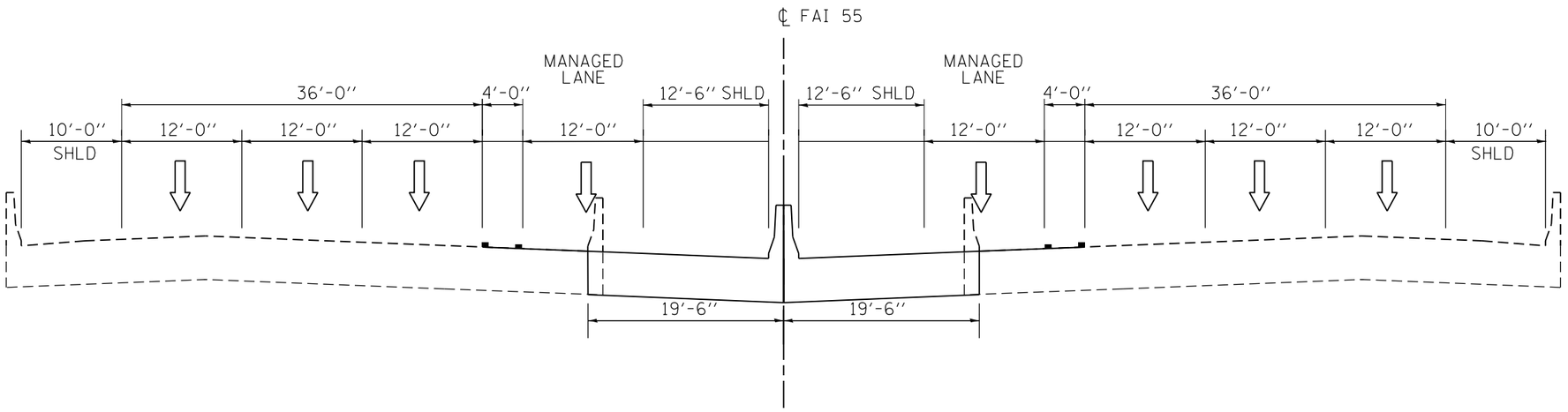
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

ATTACHMENT K

Existing and Proposed Roadway Cross Sections



EXISTING I-55 OVER CICERO AVE TYPICAL SECTION



PROPOSED I-55 OVER CICERO AVE TYPICAL SECTION

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Stantec

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	DRAWN - STANTEC	REVISED -
PLOT SCALE = 13.3343 ' / in.	CHECKED -	REVISED -
PLOT DATE = 10/7/2013	DATE - 10/7/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT K
TYPICAL SECTIONS

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		

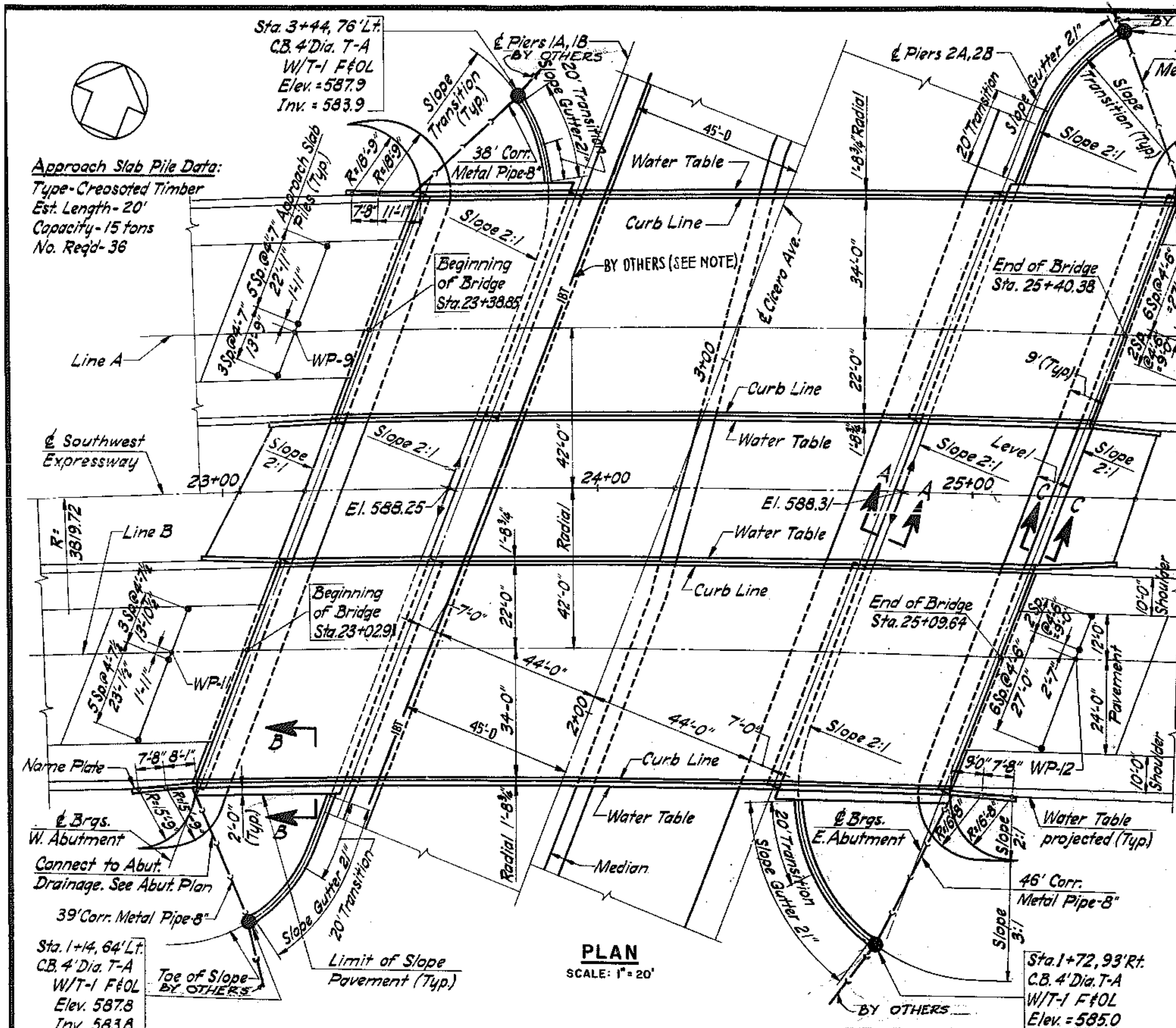
CONTRACT NO.

ILLINOIS FED. AID PROJECT

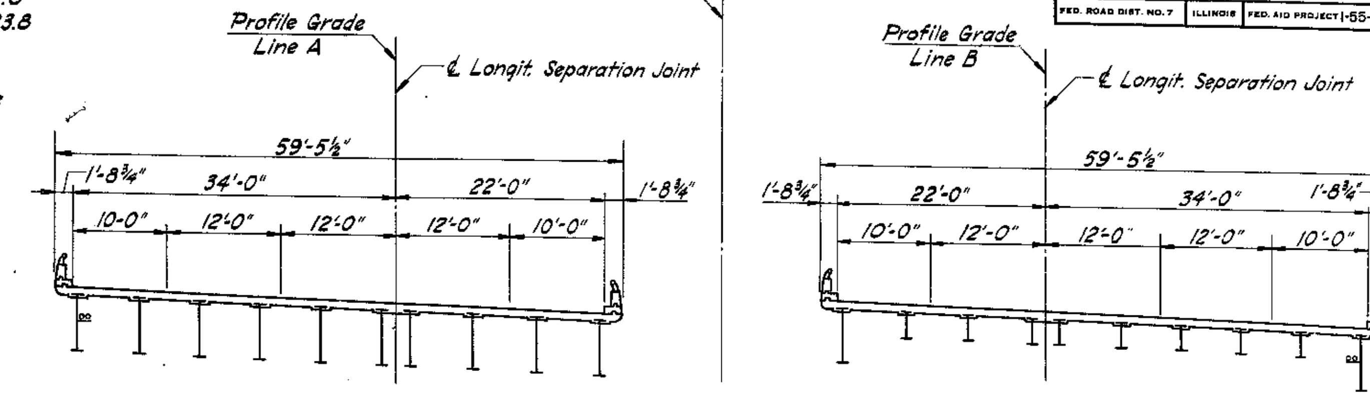
ATTACHMENT L

Abbreviated Existing Plans

F.A.I. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	SOUTHWEST	32	2c
STA. 23 + 02.91	TO STA. 25 + 40.38			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT I-55-7(29)-281		



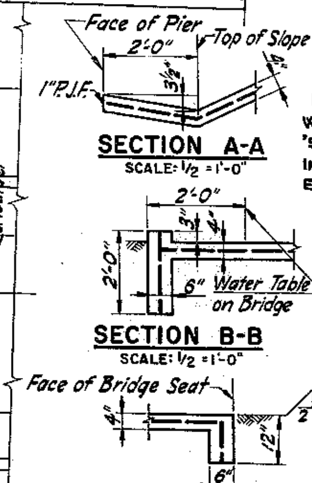
PLAN
SCALE: 1" = 20'



CENTER SPAN

TYPICAL CROSS SECTION
SCALE: 1" = 10'

END SPAN



SECTION A-A
SCALE: 1/2" = 1'-0"

SECTION B-B
SCALE: 1/2" = 1'-0"

SECTION C-C
SCALE: 1/2" = 1'-0"

NOTE: WHEREVER IN THESE PLANS REFERENCE IS MADE TO THE "STANDARD SPECIFICATIONS", IT IS UNDERSTOOD TO INCLUDE THE "SUPPLEMENTAL SPECIFICATIONS", EFFECTIVE APRIL 2, 1962.

NOTE: The cost of Excavation required for the construction of the Abutments in the Embankments is to be incidental to the contract.

SUMMARY OF QUANTITIES							
CODE NUMBER	ITEM	UNIT	QUANTITY BRIDGE A Sub.	BRIDGE A Super.	BRIDGE B Sub.	BRIDGE B Super.	TOTAL for 2 Bridges
016001	Embankment	Cu. Yds.	14620	—	18,260	—	32,880
019001	Porous Granular Embankment	Cu. Yds.	636	—	618	—	1,254
050001	Class "A" Excavation for Structures	Cu. Yds.	256	—	256	—	512
052003	Class "X" Concrete	Cu. Yds.	470.5	3080	471.2	3090	1,558.7
052021	Protective Coat	Sq. Yds.	—	1,449	—	1,454	2,903
054001	Furn. & Erect. Struct. Steel	Lbs.	—	496,970	—	498,710	995,680
059001	Reinforcement Bars	Lbs.	62380	78,510	64,470	78,510.	283,870
060004	Furnishing Creosoted Piles (up to 20')	Lin. Ft.	360	—	360	—	720
060008	Driving Timber Piles	Lin. Ft.	360	—	360	—	720
060043	Driving Concrete Piles	Lin. Ft.	4,335	—	4,425	—	8,760
060044	Furnishing Concrete Piles	Lin. Ft.	4,335	—	4,425	—	8,760
060047	Test Pile Concrete	Ea.	2	—	2	—	4
061001	Name Plates	Ea.	—	1	—	1	2
063001	Corrugated Metal Pipe, 8"	Lin. Ft.	85	—	85	—	170
063020	Perforated Corrugated Metal Pipe, 6"	Lin. Ft.	165	—	165	—	330
075015	CB, T.A, 4' Dia, T.I Fr. & Open Lid	Ea.	2	—	2	—	4
083002	Slope Wall 4 inch	Sq. Yds.	813	—	719	—	1,532
L02710	Rigid Steel Conduit, 2" Dia.	Lin. Ft.		440		440	880
L02738	Rigid Steel Conduit, 2½" Dia.	Lin. Ft.	40	—	30	—	70
L02766	Rigid Steel Conduit, 1½" Dia.	Lin. Ft.	—	10	—	20	30
Z08004	**Aluminum Handrail**	Lin. Ft.	76	403	76	404	959

TWO SIGNS CONFORMING TO STD. 2160-1 SHALL BE ERECTED AT LOCATIONS SHOWN ON THE PLANS (SHEET 2b)

GENERAL NOTES

CONCRETE:

1. Coarse aggregate to be used in parapet handrails and end posts must be absolutely free of chert, flint, limonite, lignite and soft sandstone.
2. The concrete floor slab shall be finished in accordance with article 51.19 of the standard specifications.
3. Slopewall shall be reinforced with welded wire fabric 6"x6" mesh weighing 58#/per 100 sq. ft.
4. All reinforcement bars shall be lapped 20 diameters unless otherwise shown.
5. Permanent forms will not be permitted in forming the concrete floor.
6. Class X concrete shall be used throughout.

STRUCTURAL STEEL:

1. Rivets ¾"φ open holes 13/16"φ unless otherwise noted.
2. Anchor bolts shall be set before riveting diaphragms over supports.
3. Roadway expansion guards shall be assembled in the shop in proper position with the ends in place and shall be left assembled for shop inspection.
4. The following surfaces of the expansion guard shall be given two shop coats of red lead paint: the outside vertical 4" legs of the Ls 6x4x¾.
5. Expansion guards are included in the quantity of structural steel estimated weight 16,560 lbs. Bridge A and 16,610 lbs. Bridge B.
6. Except as otherwise provided all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See article 56.1 to 56.5 inclusive of the standard specifications and the special provisions.
7. Structural carbon steel shall conform to specifications for carbon steel A.S.T.M. designation A-36.

SUBSTRUCTURE:

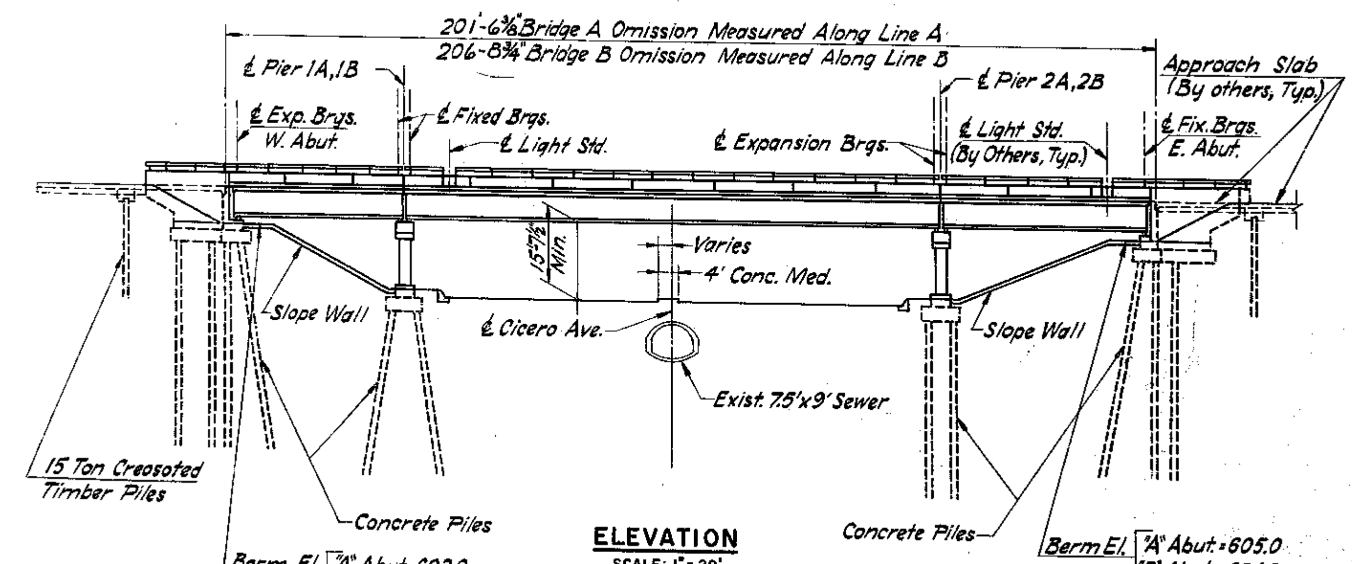
1. The contractor shall drive 4 concrete test piles in a permanent location shown on the pier and abutment footing plans as directed by the engineer before ordering the remainder of the piles.
2. Concrete piles at abutments shall be driven in holes precored through the embankment.
   This work shall be done in accordance with article 60.9 (c) of the standard specifications.
3. Concrete piles at piers shall be driven in holes precored to elevation 574.00.

UTILITIES:

1. The proposed Illinois Bell Telephone Co. line will be in place prior to beginning bridge construction.

DESIGN LOADS AND STRESSES

Specifications: A.A.S.H.O., 1961
Design Load: H20-S16-44 & alternate
25 psf Future wearing surface
Design Stresses: Structural Steel: f = 20,000 psi
Reinforcement Steel: f = 20,000 psi
Concrete: fc = 3,500 psi
fc = 1,400 psi
= 1,000 psi (with earth pressure)
fv = 75 psi (Footings)
n = 10
Piling: Concrete = 30 ton capacity
Creosoted Timber = 15 ton capacity



ELEVATION
SCALE: 1" = 20'

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY

EXPRESSWAY OVER CICERO AVE.

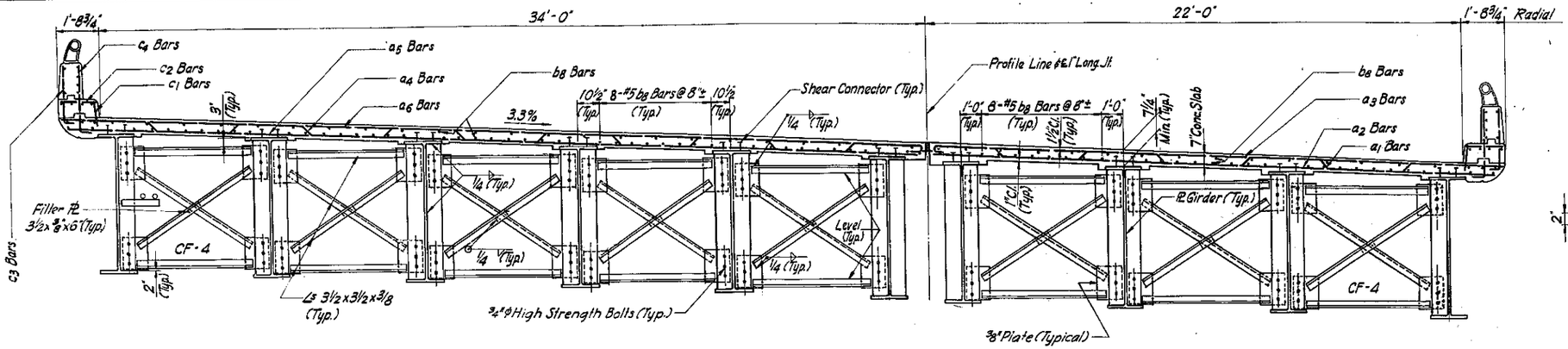
GENERAL PLAN

SCALE: HORIZ. VERT. AS NOTED — DRAWN BY M. Carone
DATE: DEC., 1962 — CHECKED BY J. Harris

L-1

Rev. Removed 200 cu. yd. Special Excav., Rev. Cl. "A" Excav. 1080 to 512 cu. yd. ~~Added Metal Handrail, Type E - 959 lin. ft.~~
3-25-63 Rev. Wt. for E & E.S.S. 493,290# to 496,970# ...

F.A.I. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	SOUTHWEST	32	13
STA. 23+02.91		TO STA. 25+40.38		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



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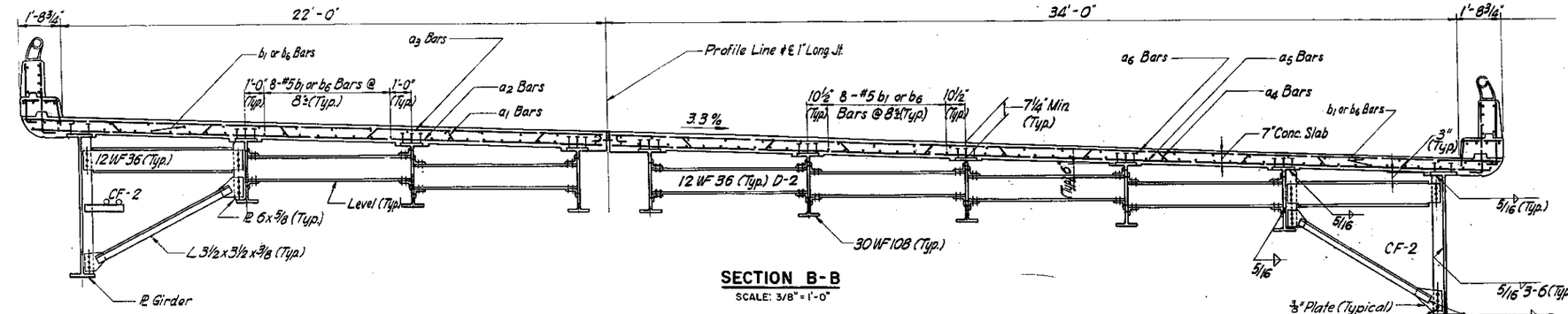
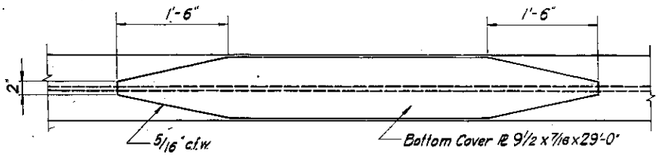


SECTION B-B
SCALE: 3/8" = 1'-0"

LONGITUDINAL JOINT
SCALE: 1" = 1'-0"



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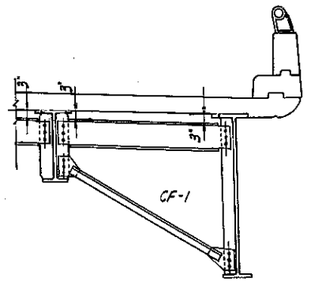

SECTION G-G
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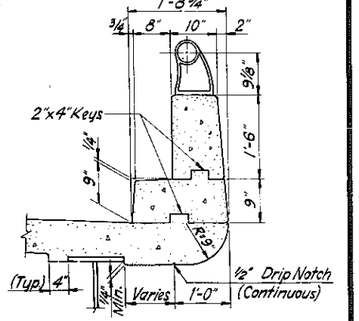
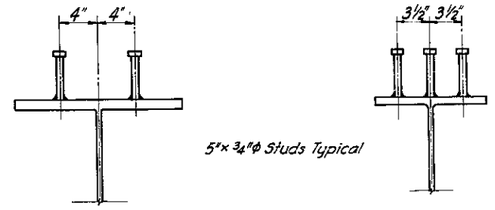


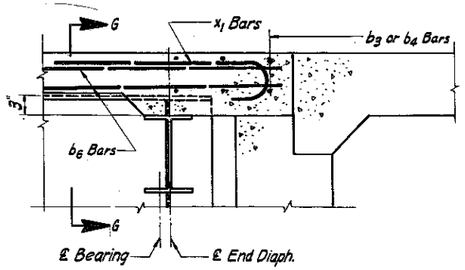
FASCIA DETAILS
SCALE: 3/4" = 1'-0"



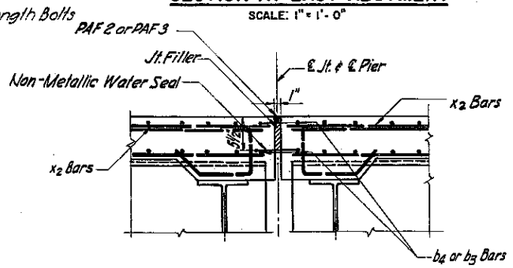
SHEAR CONNECTOR DETAILS
SCALE: 1½" = 1'-0"
(weight of studs included in Structural Steel Quant.)

NOTES:

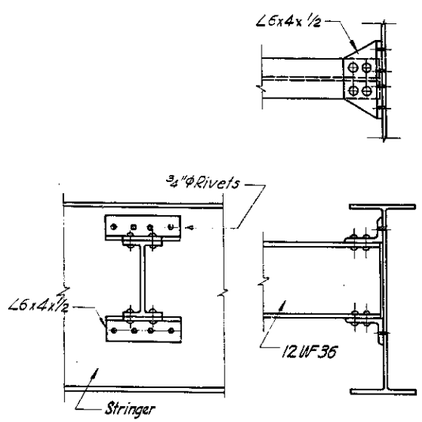
1. For location of sections A-A & B-B, see sheet 12.
2. Section A-A shown for Bridge A, Bridge B similar except for stringer layout and spacing.
3. Section B-B shown for Bridge B, Bridge A similar except for stringer layout and spacing.
4. Use ¾"ϕ rivets, except as otherwise noted.



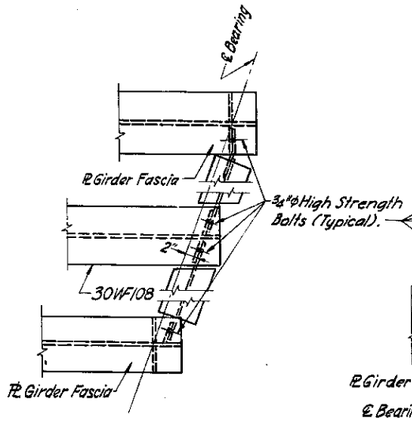
SECTION AT EAST ABUTMENT
SCALE: 1" = 1'-0"



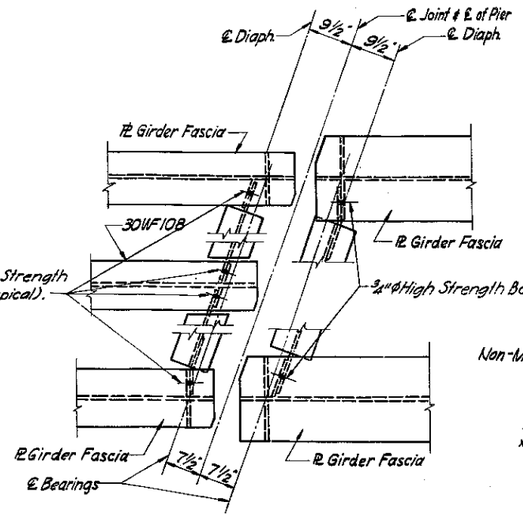
SECTION AT FIXED JOINT
SCALE: 1" = 1'-0"



DIAPHRAGM D-2 CONNECTION DETAIL
SCALE: 1" = 1'-0"



END DIAPHRAGM DETAILS AT ABUTMENT
SCALE: 3/4" = 1'-0"



END DIAPHRAGM DETAIL AT PIERS
SCALE: 3/4" = 1'-0"

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
EXPRESSWAY OVER CICERO AVE.

SUPERSTRUCTURE DETAILS

SCALE: HORIZ. AS NOTED VERT.
DATE : DEC., 1962
DRAWN BY J. Zebedee
CHECKED BY B. Harris

L-2

BRIDGE CONDITION REPORT

REGION: 1

DISTRICT: 1

ROUTE: FAI 055 / I-55 WB

COUNTY: Cook

STRUCTURE NUMBER: 016-0017

LOCATION: I-55 Westbound over Cicero Avenue

PREPARED BY: Stantec

DATE PREPARED: 12/20/13

PROPOSED LETTING DATE: To Be Determined

TABLE OF CONTENTS

ATTACHMENTS:

I. GEOGRAPHICAL & ADMINISTRATIVE DATA

Structure Number:	016-0017
County:	Cook
Route Carried:	FAI 055 / I-55
Feature Crossed:	FAP 0350 / Cicero Avenue
Section:	1112-619-HB
Station:	24+20
Roadway Classification:	Federal Aid Interstate
Design/Posted Speed:	70mph / 55mph
***ADT (current/design):**	80,502 (2012) / 114,556 (2040)
***ADTT (current/design):**	13% = 10,465 (2012) / 13% = 14,892 (2040)
***DHV (current/design):**	5,492 (2012) / 7,963 (2040)
Inventory Rating HS:	1.670 – rated 11/05/01
Operating Rating HS:	2.750 – rated 11/05/01
Sufficiency Rating:	80.0
HBP Eligibility:	No

*Traffic data per the I-55 Managed Lane Phase I Study

Construction / Reconstruction / Repair History

The structure carrying I-55 Westbound over Illinois Route 50 (Cicero Avenue) was originally built in 1963 as FAI Route 55 over Cicero Avenue under Project I-55-7(29) 281, Section 1112-619 HB. The original construction consisted of parallel 3-span structures. The two structures carried I-55 eastbound and westbound traffic. The structure consisted of a 7" concrete slab with steel plate girders and wide flange beams supported by reinforced concrete abutments and piers.

As part of Contract 80059, bridge rehabilitation was performed in 1999 on the westbound structure. The rehabilitation consisted of removing the bituminous concrete overlay, performing deck repairs, removing and replacing the transverse deck joints, eliminating the longitudinal deck joint, placing a new deck concrete overlay, refurbishing the bearings, cleaning and painting the existing steel bridge and repairing the substructure and slopewall.

II. PHYSICAL DESCRIPTION OF STRUCTURE

The physical description of the structure is based on a review of the existing available plans dated December 1962 and 1999. Refer to Attachment J for select existing structure plan sheets. Individual components of the existing structure are described below:

Structure Type and Length: The bridge is a three span simply supported plate girder and wide flange beam structure. Span 1 and

3 consists of plate girders and wide flange beams and Span 2 consists of plate girders exclusively. The fascia beams in Spans 1 and 3 are plate girders with 66" deep webs. The interior beams in Spans 1 and 3 are W30x108 beams. Span 2 consists entirely of plate girders with 66" deep webs. Each span has 10 beams. The bridge is approximately 201'-6 3/8" long measured back-to-back of abutments along the curve. The substructure consists of two reinforced concrete stub abutments with wingwalls and two multi-column reinforced concrete piers. The abutments and the piers are supported by concrete piles. The bridge has a 7" reinforced concrete deck plus overlay.

Number / Length of Spans: There are a total of three spans, with approximate lengths as follows (dimensioned from centerline of bearing to centerline of bearing along the curve). Spans are numbered from west to east.

Span 1:	40'-2 1/16"
Span 2:	111'-10 1/8"
Span 3:	45'-5 1/2"

Skew: 21°-40'-17" Left.

Structure Width: The total width is 59'-5 ½" measured radially out-to-out of the deck. The bridge accommodates three 12' lanes of traffic and 10' inside and outside shoulders.

Expansion Joints:

W Abutment:	2" Neoprene Joint
Pier 1:	1 ¾" Preformed Joint Seal
Pier 2:	2 9/16" Neoprene Joint
E Abutment:	1 ¾" Preformed Joint Seal

Bearings:

W Abutment:	
Beam Line 1, 10	Expansion, Type 2
Beam Line 2 to 9	Expansion, Type 3 w/ bolster
Pier 1:	
Beam Line 1, 10	Fixed, Type 1 and Type 2
Beam Line 2 to 9	Fixed, Type 1 and Type 3 w/ bolster
Pier 2:	
Beam Line 1, 10	Expansion, Type 1 and Type 2
Beam Line 2 to 9	Expansion, Type 1 and
E Abutment:	Fixed, Type 2

	Beam Line 1, 10 Fixed, Type 3 w/ bolster Beam Line 2 to 9
Approach Roadway Template:	The approach roadway template matches the bridge with three 12' lanes of traffic and 10' inside and outside shoulders.
Existing Wearing Surface:	2 3/8" Micro Silica Concrete Overlay
Existing Vertical Alignment:	The entire structure is on a +1.50% tangent slope going from west to east.
Existing Horizontal Alignment:	The structure is on a curve at a radius of 3819.72' from Station 19+41.41 to Station 32+86.83.
Existing Vertical Clearance:	15'-7 3/8" minimum beneath both structures over Cicero Avenue according to the 1999 repair plans. 16'-5" according to the Master Structure Report which needs to be verified.
Existing Drainage:	There are no drains on the bridge deck or approach slabs.
Parapets and Railings:	There are 1'-8 3/4" wide exterior curb and parapets running the length of the bridge. Parapets were modified in 1999 plans to remove a 9" tall by 1'-0" wide existing handrail and replaced with a 9" tall x 1'-0" wide reinforced concrete section. Per the IDOT Bridge Inspection Report dated 12/10/12, the guardrail currently meets acceptable standards while the guardrail ends and transitions do not.
Existing Utilities Attachments:	There are no light poles attached to the bridge, but there are abandoned conduits running along the both fascia beams and the West Abutment. There is a conduit running along the outside of the North Parapet. There are light fixtures and conduits on the insides of both piers and at the midspan of Beam Lines 2, 5 and 9.
Name Plate:	The name plate is located in the northeast corner of the bridge.

III. FIELD INSPECTION & PHYSICAL EVALUATION

A field inspection beneath the structure carrying I-55 Westbound over Cicero Avenue was performed by Stantec on August 21, 2013. The top of deck inspection was performed on September 16, 2013. The high temperature on that date was 65° F. The visual field inspection was performed on foot on the slopewall, sidewalk and the top of deck. The following conditions were observed:

Deck

Deck

The deck was rated in satisfactory condition (NBIS Rating = 6) in the 12/10/12 NBIS inspection. The deck condition observed during this inspection was consistent with the NBIS rating. The underside of deck has multiple areas of delamination, spalling and map cracking. Based on visual inspection, approximately 3.2% of the underside of deck is delaminated or spalled.

The micro-silica concrete overlay on the top of deck has minor hairline transverse and longitudinal cracking mostly along the shoulders. Wiss, Janey and Elstner performed a condition assessment of the reinforced bridge deck in January 2012. This assessment included a delamination survey performed on the top of the bridge deck using infrared thermography. The infrared thermography indicated 3.9% of the top of deck area was delaminated. See Attachment E for the condition assessment of the reinforced bridge deck. See Attachment I – Photos 1 through 7.

Parapets

The parapets are in satisfactory condition with hairline vertical cracking throughout and minor delaminations and spalls on both the interior and exterior faces of the parapet. The interior faces of both parapets have approximately 10 square feet of delaminated concrete each. The exterior face of the South Parapet has longitudinal hairline cracking with rust staining along most of the length of the parapet.

Joints

The preformed joint seals at the East Abutment and Pier 1 and the neoprene joints at West Abutment and Pier 2 are in satisfactory to fair condition with debris in the joint and minor impact damage. The joint at Pier 2 is missing an approximately 6' long piece of neoprene in the center lane. The width of the joints was measured when the temperature was approximately 65° F. The preformed joint at the East Abutment measured 7/8" wide. The preformed joint at the Pier 1 measured 7/8". The neoprene joint at the Pier 2 measured 2 1/8". The neoprene joint at the West Abutment measured 1 7/16". See Attachment I – Photos 8 through 11.

Superstructure

Beams

The superstructure consists of three simple spans of rolled steel beams and welded plate girders. The beam lines are numbered 1 through 10, numbered from north to south. In Spans 1 and 3, Beam Lines 1 and 10 consist of plate girders with 66" deep webs and Beam Lines 2 through 9 consist of W30x108 beams. In Span 2, all of the beam lines consist of plate girders with 66" deep webs. This structure has welded cover plates on the bottom flanges of the beams in Span 3.

The superstructure was rated in fair condition (NBIS Rating = 5) in the 12/10/2012 NBIS bridge inspection due to initial section loss and minor pitting. The superstructure observed during this inspection was consistent with the NBIS rating.

The steel superstructure typically has paint starting to fail, minor rust and initial section loss and minor pitting. In both Spans 1 and 3, the steel bolsters have been welded to the W30x108 beams. These welds have mostly cracked. Bolts connect the top of the bolster to the bottom flange as part of a retrofit done in 1999. In Span 3, the steel beams have welded cover plates with fatigue category E' details. The welded cover plates were visually inspected from the ground and no defects were noted on the welds. At Beam Line 9, the bolster under the W30 at Pier 1 appears to have a crack at the weld connecting the bolster top plate and the angled side plate. See Attachment I – Photos 12 through 18.

Bearings

The bearings are in satisfactory condition with paint starting to fail and minor rust. No excessive tilting was noted during the inspection. See Attachment I – Photo 21.

Utilities

The conduits along the South Fascia Beam and South Abutment are in poor condition with heavy deterioration and open conduit covers. See Attachment I – Photos 19, 20, 24, 25 and 27.

Substructure

The substructure was rated in satisfactory condition (NBIS Rating = 6) in the 12/10/2012 NBIS bridge inspection due to cracks and spalls at the abutment caps and pier columns. The substructure condition observed during this inspection was not consistent with the NBIS rating due to the condition of the piers.

Abutments

The reinforced concrete abutments are in satisfactory condition with multiple hairline vertical cracks and small areas of delaminated/spalled concrete. There is 9 square feet of spalled/delaminated concrete on the West Abutment. There is 1 square foot of spalled concrete on the East Abutment. At both abutments, a minor amount of fill appears to be leaking thru the joint in the backwall. No significant defects were found on the wingwalls. See Attachment F for the Substructure Condition Survey. See Attachment I – Photo 22, 23, 26, 28 through 31.

Piers

The reinforced concrete piers each consist of four columns with a pier cap. The piers are in fair condition with moderate to heavy delaminations and spalls on the columns and pier caps. Pier 1 has approximately 184 square feet of spalled or delaminated concrete. Pier 2 has approximately 150 square feet of spalled or delaminated concrete. See Attachment F for the Substructure Condition Surveys. See Attachment I – Photo 32 through 37.

Slope Protection

The bridge has concrete slope walls. Both slopewalls are in satisfactory condition with minor hairline cracking throughout. The West Slopewall has a 6 square foot spall with exposed reinforcement. See Attachment I – Photo 38 through 40.

Inspection History (NBIS Ratings)

Year	Deck	Super	Sub
2012	6	5	6
2011	6	7	6
2009	6	7	6

Geometric, Horizontal & Vertical Clearance / Hydraulic Data

Geometry

I-55 over Cicero Avenue is on a skew. According to the original plans of December 1962 and the repair plans of 1999, the skew at the intersection of the centerlines of I-55 and Cicero Avenue is 21°-40'-17" Left. The typical roadway section for I-55 consists of three 12' lanes, a 10' inside shoulder, a 10' outside shoulder, a 1'-8 3/4" wide curb and parapet on each side of the structure. The I-55 profile grade is on a tangent at +1.50% going from west to east. The structure is on a horizontal curve at a radius of 3819.72' from Station 19+41.41 to Station 32+86.83. The repair plans from 1999 show the vertical minimum clearance at 15'-7 3/8" beneath both structures. However, the Master Structure Report shows the minimum vertical clearance at 16'-5" under the "Key Route under Data" which needs to be verified.

The typical roadway section for Cicero Avenue beneath the structure consists of three lanes in each direction, one turning lane in the northbound direction, and a median. Cicero Avenue is listed as a principal arterial route. Cicero Avenue is located on a 200-ft. long vertical crest curve with 0.36% and -0.30% slopes going from north to south.

As part of the I-55 Managed Lane Phase I Study, I-55 Westbound at Cicero Avenue will be widened to the inside to accommodate a proposed 12' managed lane. In the westbound direction, a 4' buffer between the managed lane with 12.5' shoulder and the general purpose traffic lanes is proposed in this existing 60 foot median section. This widening will be incorporated into the recommended scope of work for this structure.

Hydraulics

At the structure, the I-55 profile is on a +1.50% tangent going from west to east. The bridge deck cross-section is superelevated 3.3%. There are no deck drains on the bridge deck. Therefore, the water is allowed to flow to the deck joints as it runs off the bridge.

IV. POTENTIAL SCOPE OF WORK DETERMINATION & ANALYSIS

As part of the I-55 Managed Lane Phase I Study, In-Kind Repairs, Structure Widening and Structure Replacement alternatives will be evaluated.

Per Section 2.4.2.4 of the IDOT Bridge Manual, consideration was given to retrofit all end of cover plate locations due to average daily truck traffic. From this information, it was determined that a fatigue evaluation was required. The transverse welds at the ends of the cover plates in Span 3 were evaluated for fatigue life and it was determined that the mean service life is less than 50 years. A cover plate retrofit should be installed.

1. **In-Kind Repairs**

   Perform partial and full depth repairs and apply Protective Coat to the existing deck. Repair areas of spalled or delaminated concrete on the existing substructure units. Perform retrofit repairs on the existing Span 3 cover plates.

2. **Structure Widening**

   Remove and replace the deck and approach slabs and widen both approximately 18' to the north. Remove both the southeast and southwest wingwalls and build an extension onto the south side of both abutments. Build an extension onto the south side of both piers. Install three new beam lines using W30 steel beams and plate girders that will be composite to the widened bridge deck. The new W30

beam will be larger than the existing W30 to account for the bottom flange cover plate. Perform retrofit repairs on the existing Span 3 cover plates. Repair areas of spalled or delaminated concrete on the existing substructure units.

3. **Superstructure and Partial Substructure Replacement**
   Remove and replace the existing W30 steel beam and steel plate girder superstructure with a continuous three-span galvanized steel plate girder superstructure. Remove and replace pier caps and columns, but reuse the existing pier crash walls and footings. Build an extension onto the south side of both piers. Replace the existing abutments with integral abutments placed behind the existing abutments. Replace concrete slope walls. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

4. **Structure Replacement**
   Remove and replace the entire structure with a continuous three-span galvanized steel plate girder superstructure on integral abutments. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

V. DISCUSSION AND RECOMMENDED SCOPE OF WORK

The opinion of probable costs for each of the alternatives is summarized below. See Attachment G for the opinion of probable costs breakdown.

1. **In-Kind Repairs – $177,100**
2. **Structure Widening – $2,516,700**
3. **Superstructure and Partial Substructure Replacement – $5,421,000**
4. **Structure Replacement – $6,014,900**

Per the I-55 Managed Lane Phase I Study, the managed lane is expected to be implemented in 2020. All widening and replacement alternatives below assume widening approximately 18' to the centerline of I-55 to accommodate the new managed lane. The proposed structure will provide a 9'-6" outside shoulder, three 12'-0" general purpose traffic lanes, a 4' buffer between the general purpose traffic lanes and the 12'-0" managed traffic lane and a 12'-6" inside shoulder.

Analysis of Alternative 1 – The calculated percent of deck area requiring full depth repairs is 3.2% and the partial depth repairs is 7.8%. The total deck repair percentage is within the 25% limit presented in the Bridge Condition Report Procedures and Practices Manual for bridge deck repair to be cost effective for a deck not being widened. This alternative can be used to extend the life span of the existing superstructure in the interim prior to implementing the changes required for the Managed Lane project.

Analysis of Alternative 2 – The calculated percent of deck area requiring full depth repairs is 3.2% and partial depth repairs is 7.8%. Since this deck is 50 years old and has recommended repair area approaching the upper limit (15%) presented in the BCR Procedures and Practices Manual for a widened deck, it is recommended to replace the deck at the time of widening. Cover plate retrofits will be necessary. Deck joints will remain with this alternative, which will lead to continued degradation of the beams and substructure units. This alternative keeps the existing pier caps in service, which have already been repaired as a result of extensive degradation in 1999.

Analysis of Alternative 3 – This alternative replaces the existing W30 steel beam and steel plate girder superstructure with a continuous three-span galvanized steel plate girder superstructure on integral abutments. The proposed integral abutments will be placed behind the existing abutment to help avoid the existing piles. The resulting assumed span arrangement is approximately 70'/114'/70' measured between the centerline of bearings. Uplift at the abutments must be considered in the design phase given the relatively short exterior spans in the continuous structure. Reusing the existing pier crash walls and footings will simplify construction since it will minimize construction impact to Cicero Avenue.

Using galvanized steel eliminates the need to periodically repaint the beam. Providing a continuous structure will also allow for a reduced girder depth over Cicero Avenue, thereby increasing vertical clearance. The longer exterior spans provide an opportunity to relocate the sidewalks, or a multi-use path, along Cicero Avenue behind the piers. Providing new pier caps, pier columns and integral abutments places the critical portions of the substructure on the same life cycle as the superstructure. Eliminating the deck joints will also help to prevent premature degradation of these substructure elements.

Analysis of Alternative 4 – This alternative eliminates the 50-year old structure and replaces it with a new structure with an expected 75-year service life.

The benefits of this alternative are similar to Alternative 3, with the addition of removing and replacing the pier crash walls and pier footings. However, this alternative adds construction complications of reconstructing the piers on or near the same footprint as the existing pier footings, and increases construction impacts to Cicero Avenue. The cost is also greater than Alternative 3 due to the removal and reconstruction of the additional pier elements.

VI. FINAL RECOMMENDATION

Stantec recommends Alternative 3 – Superstructure and Partial Substructure Replacement when the I-55 Managed Lane Project occurs. The selected alternative provides a new superstructure and replaces the critical portions of the substructure. Eliminating the deck joints will help to prevent premature degradation of the replaced substructure elements. As the I-55 Managed Lane Phase I Study is ongoing, the bridge widening to be presented in the TSL should match the final geometry as

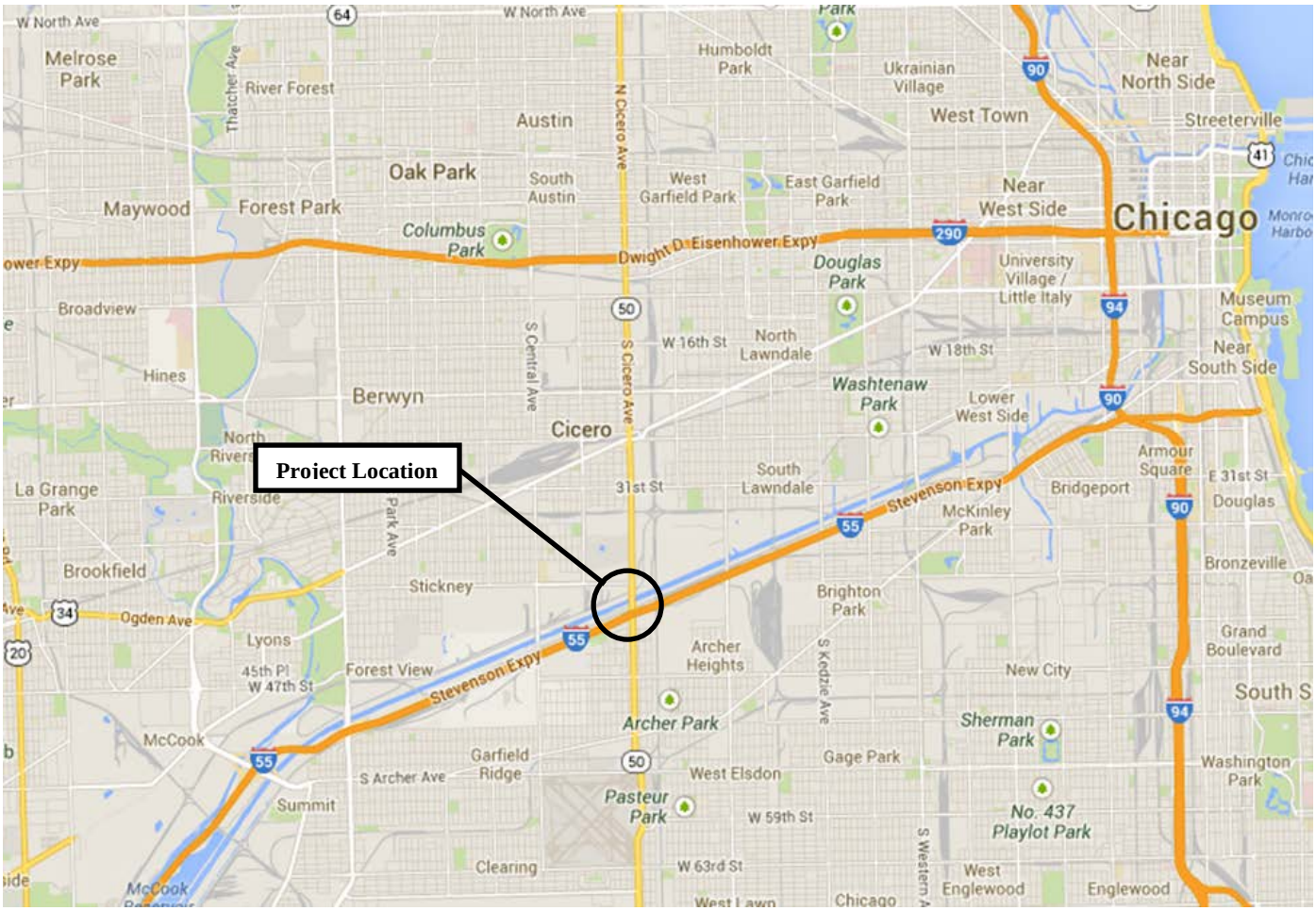
presented in the final I-55 Managed Lane Phase I Study. Future improvements to Cicero Avenue, to be determined at a later date, should also be addressed in the TSL.

VII. TRAFFIC STAGING

For Alternatives 2, 3 and 4, the existing deck is wide enough to provide two lanes of traffic in the westbound direction during stage construction. For Alternative 1, the lanes can be temporarily closed as needed to allow for the deck repairs. The traffic staging design will need to be confirmed by IDOT traffic prior to being implemented.

ATTACHMENT A

Location Map



N

Location Map

Proposed Improvement:

I-55 over Cicero Avenue (Westbound)

Municipality: Stickney

County: Cook

Route: FAI 055

Project No: P-91-762-10

Structure No.: 016-0017

ATTACHMENT B

IDOT Master Structure Report

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0017 **District:** 1

Inventory Data

Facility Carried: I- 55 WB STEVENSON
Feature Crossed: IL 50 (CICERO AVE)
Bridge Remarks:
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks:
Maint County: 016 COOK
Maint Responsibility: 01 I.D.O.T.
Service On/Under: 5 SECOND LEVEL INTERCHANGE 1 / HIGHWAY
Reporting Agency: 1 I.D.O.T. - BUREAU OF MAINTENANCE
Main Span Matl/Type: 3 STEEL / 02 STRINGER/MULTI-BEAM/GIRDER
Nbr Of Main Spans: 3 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 0None / 0 None
Toll Facility Indicator: 0 No Toll
Latitude: 41 **D** 49 **M** 1.4 **S** **Longitude:** 87 **D** 44 **M** 37.16 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 2 Both Sides Not Separate

Bridge Name:
Location: 5.7 M SW I94
Status Date: 12/2000
Maint Township: 62 LAKE (CHICAGO)
Skew Angle: 22 **D** 0 **M** 0 **S**

Sufficiency Rating: 80.0
HBP Eligible: No
Replaced By: -
Replaces: -
Last Update Date: 03/12/2013
Parallel Structure: Left
Multi-Level Structure Nbr:
Skew Direction: L Left
Structure Flared: No
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 996000
Substructure Material:
Rated By: 2 IDOT
Inventory Rating: 1.670(60)
Operating Rating: 2.750(99)
Design Load: 01 HS20+MOD
Deck Structure Thickness: 7 **SD:** N **FO:** N

Structure Length: 202.7
AASHTO Bridge Length: 99.9
Length of Long Span: 113.3
Bridge Roadway Width: 56.0
Appr Roadway Width: 60.0
Deck Width: 59.4
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: N N/A
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00
Rate Method: 1 LOAD FACTOR
Load Rating Date: 11/05/2001
Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 0.0
RR Vertical Underclear: 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID INTERSTATE 0055
Appurtenances Main Route 00000
Inventory County: 016 COOK
Township/Road Dist 34 STICKNEY
Municipality 5540 STICKNEY
Urban Area: 1051 1051
Functional Class: 1 INTERSTATE
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 56.0
Horizontal: 57.5 0.0
Lateral:

Station: 10.2600
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2012 / 61150
Est Truck Percentage: 13
Number Of Lanes: 3
One Or Two Way: 1 One-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2032 / 75808
Designated Truck Rte: CLASS I
Special Systems: Yes

Key Route Under Data

FEDERAL-AID PRIMARY 0350
Main Route 00000
016
62 LAKE (CHICAGO)
1051 CHICAGO
1051 1051
3 OTHER PRINCIPAL ARTERIAL
South/East **North/West**
101.6
101.6 0.0

Station: 18.6900
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2011 / 40800
Est Truck Percentage: 11
Number Of Lanes: 7
One Or Two Way: 2 Two-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2032 / 42024
Designated Truck Rte: CLASS II
Special Systems: Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	3 State Highway	050
	1 Mainline		
	1 Mainline		

Structure Number: 016-0017 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	12/10/2012	Inspection Temperature:	35Deg. F					** Actual Posted Limits **	
Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	F	MICRO SIL CON OVRLY		Last Paint Type:	U
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Protection:	J	NONE			
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	8.9				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/2000				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date: **Inspection Category:**
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		Reconstructed	
Route:	FAI-55	Sta: 24+20		Sta:	
Section Nbr:	1112-619-HB				
Contract Nbr:					
Fed Aid Pr#:	I 0557029281				
Built By:	1	I.D.O.T.			

Waterway Information

Flood Design Frequency:	YRS	Drainage Area:	Acre
Flood Design Q (CFS):			
Flood Design Nat H W E:		Flood Base Q (CFS):	
Flood Des Open Prop:	SF	Flood Base Nat H W E:	

ATTACHMENT C

Bridge Inspection Report

Illinois Department of Transportation

Routine Inspection Report

SN:	016-0017	**District:**	1	**Spans:**	3	**Appr. Spans:**	0	**Skew:**	22.00	**ADT:**	61150	**Truck Pct:**	13
ADT Un:	40800	**Maint. Co:**	COOK	**Twsp:**	LAKE (CHICAGO)					**Status:**	OPEN - NO RESTRICT		
Facility Carried:	I- 55 WB STEVENSON					**Feature Crossed:**	IL 50 (CICERO AVE)						
Location	5.7 M SW I94			**Municipality:**	STICKNEY					**Team/Sub Section**	E26019		
Bridge Name:						**Material & Type:**	STEEL/STRINGER/MULTI-BEAM/GIRDER						
Insp. Intervals (Mo) Routine NBIS	24	**Fracture Critical:**	0	**Underwater:**	0	**Special Feature:**	N/A						

90 – Inspection Date:	/ /	90C – Temp. (ºF):		90A – Program Manager:	
Is Delinquent: ☐	Reason:				
90A1 – Team Leader:		90A2 – Inspector:			

90B – Inspection Remarks:

Previous Inspection: 2008) DK SOFFIT MAP CRKD & SPALLED W/CHLR CONTAM. JOINTS LEAKING. STL BMS-SPANN 2 MINOR RUST @ BOTT FLANGES & LAT BRCNG. PIER 1&2 WALLS SM SPALLS. PIER 2 SOUTH END CANTILEVER MAP CRKD. PIER 2 COL 1 MAP CRKD. Item 59 lowered to "5" due t

Resources

Time to Inspect (H:M):	1:0	:	Traffic Control:	3		Boat:			Waders:			Snooper:					
Ladder:	LL		Manlift:			Bucket Truck:			Other:								

Inspector's Appraisals

	Prev	New	Comments
58 – Deck Condition:	6		
59 – Superstructure Cond:	5		
60 – Substructure Cond:	6		
62 – Culvert Condition:	N		
61 – Channel Condition:	N		
71 – Waterway Adequacy:	N		
72 – Approach Rdw Align:	8		
111 – Pier Navig Protection:	N		

90B – Inspector Remarks:

Routine Inspection Report

Structure Number: 0160017

Additional Inspection Data

	Prev	New
36A – Bridge Railing Adequacy:	3	

Rail Types:

Approach Guardrail Adequacy:	Prev	New	36B – Transitions:	Prev	New	36C – Guardrail:	Prev	New	36D – Ends:	Prev	New
				2			3			3	

	Prev	New	
108A – Wearing Surface Type:	F		If "L-Other" Describe:
108B – Type of Membrane:	F		If "E-Other" Describe:
108C – Deck Protection:	J		If "I-Other" Describe:
108D – Total Deck Thickness (in):	8.9		

	Prev	New
59A – Paint Date (Mo/Yr):	10/2000	/
59B – Paint Type:	U	— — — — — — — —

Color: Fascia - ____: Inter. - ____: Railing - ____.

59C – Utilities Attached:		__ __ __

If "B-Other" Describe: _____

		Prev	New
Weight Limit Posting:	70A2 – Single Unit Vehicles:		Tons
	70B2 – Combination Type 3S-1 (3 or 4 axles):		Tons
	70C2 – Combination Type 3S-2 (5 or more axles):		Tons
	70D2 – One Truck at a Time:	0	

Joint Openings (In.) _____

90B – Inspector Remarks Continued:

	Signature	Date
Inspection Team Leader:		/ /
Inspection Program Manager:		/ /

Pontis

Today's Date: 04/19/2013

Structure Number: 016-0017 **District:** 1 **(41) Bridge Status:** 1 OPEN - NO RESTRICT
(6) Feature Crossed: IL 50 (CICERO AVE) **(7) Facility Carried:** I- 55 WB STEVENSON
(9) Location: 5.7 M SW I94 **(7A) Bridge Name:**
Element Inspection Date: 12/10/2012 **Inspectors:** SEDLACEKJL

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:	WS) HL map crking; Soffit) Isol spalls, HPs, HL-Nar leach crks & chlor contam											
Lead Painted Steel Open Girder												
107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Stl Bms-Span 2 minor rust @ Bott flanges & Lat brcng.											
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Pier 2 Col #1 FCR map crkd											
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Pier 1 & 2- small spalls											
Reinforced Conc Abutment												
215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	HL vert crks in backwall; East Abut- few hl vert crks; West Abut Bkwall -vert crks											
Reinforced Conc Pier or Abutment Cap												
234	4	98	249	2	4	0	0	0	0	0	0	253
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Abut) Crking @ steps; Pier) Crking in cantilever seat (Pier 2 South Nose)											
Preformed Joint Seal												
302	4	90	56	10	6	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						
Remarks:	Leaking @ East Abut & Pier 1											
Neoprene Expansion Joint												
307	4	89	166	11	20	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:	Leaking @ West Abut & Pier 2; Pier 2 Jnt torn @ Lane 1&2 (12ft). West Abut Jnt torn @ Lane 3 (8ft)											

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	99	402	1	4	0	0	0	0	0	0	406
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: HL vert crks; Few small spalls in water table

Steel Open Girder

406	4	100	6	0	0	0	0	0	0	0	0	6
			Minor fatique, out-o		Moderate fatigue, ou		Severe fatigue, out-					

Remarks: Few bm ends with minor section loss that have a functioning paint system

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks: WS) HL map crking; Soffit) Isol spalls, HPs, HL-Nar leach crks & chlor contam

Lead Painted Steel Open Girder

107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks: Stl Bms-Span 2 minor rust @ Bott flanges & Lat brcng.

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Pier 2 Col #1 FCR map crkd

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Pier 1 & 2- small spalls

Reinforced Conc Abutment

215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: HL vert crks in backwall; East Abut- few hl vert crks; West Abut Bkwall -vert crks

Reinforced Conc Pier or Abutment Cap

234	4	98	249	2	4	0	0	0	0	0	0	253
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Abut) Crking @ steps; Pier) Crking in cantilever seat (Pier 2 South Nose)

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration		Minor deterioration		Major deterioration					

Remarks: Leaking @ East Abut & Pier 1

Neoprene Expansion Joint

307	4	89	166	11	20	0	0	0	0	0	0	186
			The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration			

Remarks: Leaking @ West Abut & Pier 2; Pier 2 Jnt torn @ Lane 1&2 (12ft). West Abut Jnt torn @ Lane 3 (8ft)

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	99	402	1	4	0	0	0	0	0	0	406
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: HL vert crks; Few small spalls in water table

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		

Remarks: WS)HL map crking; Soffit) Isol spalls, HPs, HL-Nar leach crks & chlor contam

Lead Painted Steel Open Girder

107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks: Stl Bms-Span 2 minor rust @Bott flanges & Lat brcng.

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion	Paint distress	Rust formation	Section loss		Section failure				

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Pier 2 Col #1 FCR map crkd

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Pier 1& 2- small spalls

Reinforced Conc Abutment

215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: HL vert crks in backwall; East Abut- few hl vert crks; West Abut Bkwall -vert crks

Reinforced Conc Pier or Abutment Cap

234	4	98	249	2	4	0	0	0	0	0	0	253
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Abut) Crking @ steps; Pier) Crking in cantilever seat (Pier 2 South Nose)

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration	Minor deterioration	Major deterioration							

Remarks: Leaking @ East Abut & Pier 1

Neoprene Expansion Joint

307	4	89	166	11	20	0	0	0	0	0	0	186
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks: Leaking @ West Abut & Pier 2; Pier 2 Jnt torn @ Lane 1&2 (12ft). West Abut Jnt torn @ Lane 3 (8ft)

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable						

Remarks:

Concrete Bridge Railing

331	4	99	402	1	4	0	0	0	0	0	0	406
			No deterioration	Minor cracks/spalls	Analysis warranted							

Remarks: HL vert crks; Few small spalls in water table

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:	WS)HL map crking; Soffit) Isol spalls, HPs, HL-Nar leach crks											
Lead Painted Steel Open Girder												
107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Abutment												
215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	HL vert crks in backwall											
Reinforced Conc Pier or Abutment Cap												
234	4	98	249	2	4	0	0	0	0	0	0	253
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Abut) Crking @ steps; Pier) Crking in cantilever seat											
Preformed Joint Seal												
302	4	90	56	10	6	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						
Remarks:	Leakage @ E Abut											
Neoprene Expansion Joint												
307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:	Leakage @ P2											
Movable Discontinous Brg.												
311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	99	402	1	4	0	0	0	0	0	0	406
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: HL vert crks; Few small spalls in water table

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks:

Lead Painted Steel Open Girder

107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Abutment

215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	98	249	2	4	0	0	0	0	0	0	253
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration		Minor deterioration		Major deterioration					

Remarks:

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration							

Remarks:

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration	Minor deterioration	Advanced corrosion								

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration	Minor deterioration	Advanced corrosion								

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable							

Remarks:

Concrete Bridge Railing

331	4	100	406	0	0	0	0	0	0	0	0	406
		No deterioration	Minor cracks/spalls	Analysis warranted								

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
		No deficiencies.	Repaired areas exist	Map cracked areas.	Spalls/delaminations	Full depth failures.						

Remarks:

Lead Painted Steel Open Girder

107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
		No corrosion	Paint distress	Rust formation	Section loss	Section failure						

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion	Paint distress	Rust formation	Section loss	Section failure						

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
		No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted							

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted							

Remarks:

Reinforced Conc Abutment

215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	98	249	2	4	0	0	0	0	0	0	253
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration		Minor deterioration		Major deterioration					

Remarks:

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
			The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration			

Remarks:

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	100	406	0	0	0	0	0	0	0	0	406
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks:

Lead Painted Steel Open Girder

107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion	Paint distress	Rust formation	Section loss	Section failure					

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Abutment

215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	100	253	0	0	0	0	0	0	0	0	253
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Preformed Joint Seal

302	4	100	62	0	0	0	0	0	0	0	0	62
			No deterioration	Minor deterioration	Major deterioration							

Remarks:

Neoprene Expansion Joint

307	4	100	186	0	0	0	0	0	0	0	0	186
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks:

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable						

Remarks:

Concrete Bridge Railing

331	4	100	406	0	0	0	0	0	0	0	0	406
			No deterioration	Minor cracks/spalls	Analysis warranted							

Remarks:

Element Description												
Elem	**Env**	**% 1**	**Qty 1**	**% 2**	**Qty 2**	**% 3**	**Qty 3**	**% 4**	**Qty 4**	**% 5**	**Qty 5**	**Tot Qty**
Concrete Deck Protected w/ AC Overlay												
14	4	65	7,789	0	0	35	4,194	0	0	0	0	11,983
		No deficiencies.		Repaired areas.		Map cracked areas.		Spalls/delam exist.		Full depth failures.		
Remarks:												
Lead Painted Steel Open Girder												
107	4	94	26,531	6	1,693	0	0	0	0	0	0	28,224
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Lead Painted Steel Closed Web/Box Girder and Open												
172	4	92	46	8	4	0	0	0	0	0	0	50
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	4	84	897	9	96	7	75	0	0	0	0	1,068
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Abutment												
215	4	97	1,855	2	38	1	19	0	0	0	0	1,912
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier or Abutment Cap												
234	4	69	175	24	61	7	18	0	0	0	0	253
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Neoprene Expansion Joint												
307	4	76	299	20	79	4	16	0	0	0	0	394
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:												
Movable Discontinous Brg.												
311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Approach Pavement												
323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable				

Remarks:

Concrete Bridge Railing

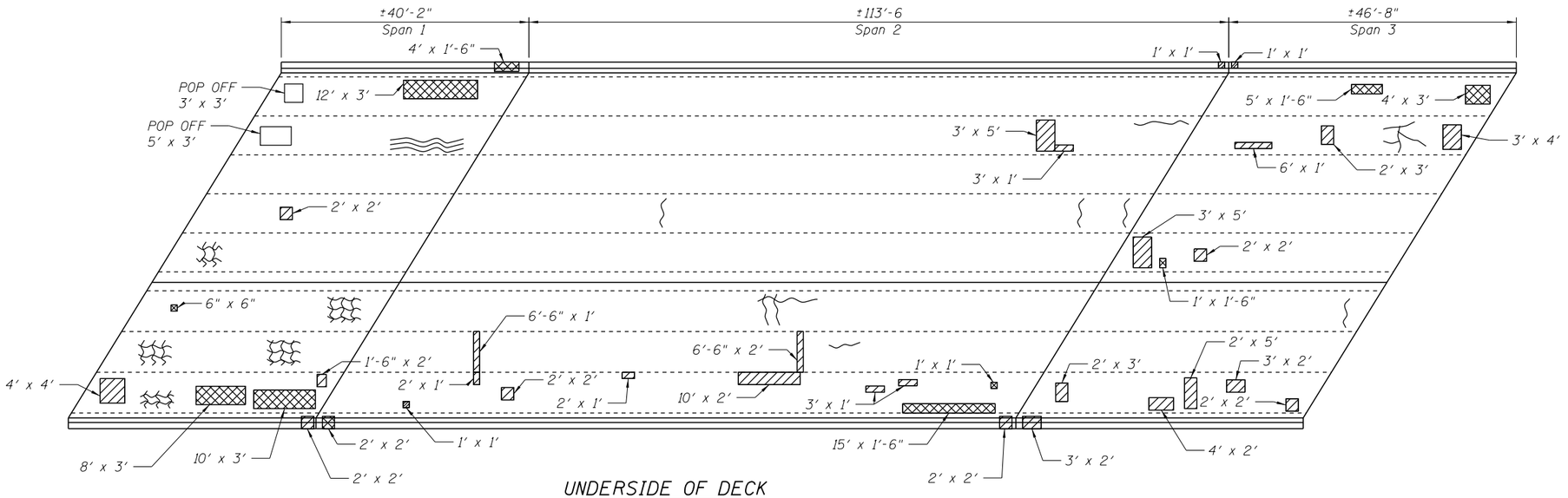
331	4	58	234	25	101	17	69	0	0	0	0	403
		No deterioration		Minor cracks/spalls	Analysis warranted							

Remarks:

Download Date: 04/18/2013

ATTACHMENT D

Bottom of Deck Condition Survey



UNDERSIDE OF DECK

(Westbound Bridge)

LEGEND

- CRACKED CONCRETE
- MAP CRACKING
- SPALLED CONCRETE
- DELAMINATED CONCRETE

NOTE:

1. CENTER SPAN HAS SIGNIFICANT AMOUNT OF DISCOLORED CONCRETE & POP OFF IN EACH BAY

FILE NAME = V:\1786\active\178600037.IDOT.I-55\structure\drawing\sht\dwg_Cicero_Avenue_Underside_of_Deck.dgn

Stantec

USER NAME = jerojas	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/9/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT D – BOTTOM OF DECK CONDITION SURVEY
STRUCTURE NO. 016-0017
SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT E

Condition Assessment of the Reinforced Concrete Bridge Deck

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

January 6, 2012

Ms. Diane M. O'Keefe
Deputy Director of Highways
District One Engineer
Illinois Department of Transportation
201 West Center Court
Schaumburg, Illinois 60196-1096
Attn: Ms. Sarah Wilson (Maintenance Bridge Engineer)

Re: Condition Assessment of Bridge Deck
I-55 Westbound over IL-50 (Cicero Avenue)
Structure No. 016-0017
District One
Work Order 10
PTB No. 153-18
WJE No. 2009.3645.10

Dear Ms. O'Keefe:

At your request, Wiss, Janney, Elstner Associates, Inc. (WJE) completed a condition assessment of the reinforced concrete bridge deck for Structure No. 016-0017. This work included a visual assessment of concrete deterioration from below the structure. Also included was a delamination survey performed on the top of the bridge deck, based on an infrared thermography (IR) survey. Reinforcing bar cover depth determination was also performed using ground penetrating radar (GPR). These inspection tasks began in July and were completed in September.

Structure Description

The I-55 Westbound Bridge over IL-50, Cicero Avenue carries three lanes of traffic and two shoulders. This three span structure is comprised of steel beam and concrete deck construction. Each of the 10 girder lines is connected using steel diaphragms or cross frames. All deck and substructure components are comprised of cast-in-place reinforced concrete construction. Reportedly the bridge structure was originally constructed in 1963 and the current overlay was installed in 2000.

The spans have approximate lengths of 42 ft-3 in, 113 ft-5 in, and 45 ft-8 in., from west-to-east, for a total structure length of 202 ft-8 in., back-to-back of abutments. The total deck width out-to-out is 59 ft-5 in. and the deck width to the inside faces of the parapet walls is 56 ft. The total resulting bridge deck area is approximately 11,055 sq. ft. A partial elevation view of the structure looking south is included as Figure 1.

Inspection Methods

The condition of the reinforced concrete bridge deck was assessed using several methods. These methods can be broken down into two major categories: Bottom of Deck Inspection Methods and Top of Deck Inspection Methods.

Bottom of Deck Inspection Methods

The condition of the bottom of the reinforced concrete deck was assessed from grade below the structure in September 2011. All accessible areas of the bottom of the deck were assessed visually. This inspection was completed from the ground beneath the bridge outside of active traffic lanes. Binoculars and/or zoom lenses were used to magnify the view of distant surfaces. Plan drawings of the structure including the structural framing were used to record field notes.

Top of Deck Inspection Methods

The condition of the top of the reinforced concrete deck was assessed using IR equipment to map areas of spalls, patches, and delaminations. This work was subcontracted to Infrasense, Inc. and was performed in July, 2011. Rolling lane closures were utilized during data collection periods to allow the IR data collection vehicle to assess the entire bridge deck surface while moving at approximately 3 mph. Impact Echo (IE) and sounding techniques were used to confirm the presence of delaminations at select locations on each bridge deck. All IR data was analyzed and summarized on bridge deck drawing sheets that show the located defects to scale.

GPR equipment was used to identify the cover depth of the top mat of reinforcing steel from the top surface of the deck. The GPR equipment was mounted to an inspection vehicle and scans were completed at normal operating speeds.

Assessment Results

The reinforced concrete bridge deck was found to be in satisfactory condition overall. Results for each assessment category are included below.

Bottom of Deck

Visual inspection from grade below the bridge was used to assess the bottom of the bridge deck. All areas of spalls or delaminations that could be identified visually were documented. In addition, all areas of previously repaired concrete were noted. Table 1 includes a summary of the visual inspection, including total deck soffit area, the area of spalled concrete, the area of delaminated concrete and the area of previous repairs. Figures 2 and 3 show the typical condition of the deck soffit. The results of the bottom of deck survey are shown on Sheet S-3 of Appendix A.

Table 1. Bottom of Deck Deterioration Summary

Soffit Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Previously Repaired Area (sq.ft)
11,055	70	0.6	285	2.6	1705

Top of Deck

The top of the bridge deck was assessed using both IR and GPR equipment. The IR survey equipment was able to identify delaminations and spalls present in the bridge deck. Figure 4 is an overall view of the top deck surface looking southwest.
Table 2 includes a summary of the total bridge deck area, the total bridge deck area spalled, the total bridge deck area delaminated, the total bridge deck area that should be programmed for repair work and the rebar cover from the top surface of the deck. Sheet S-1 of Appendix A is a scaled bridge deck plan drawing showing the locations of the delaminated or spalled areas. Sheet S-2 of Appendix A is a scaled bridge deck plan drawing showing an image of the IR scan of the bridge. Sheet S-4 of Appendix A is a scaled bridge deck plan drawing showing the location of suggested partial and full depth concrete repairs using conventional patching techniques. Note that repair area boundaries were selected by expanding the boundaries of each delaminated or spalled area by 6 inches to account for saw cutting outside of the delamination and further deterioration prior to the actual start of any repair work. In addition, repair areas were joined when adjacent repairs were spaced at approximately 2 ft. or less. Full depth repair boundaries were determined based on locations where top and bottom surface defects overlapped. No bottom surface repairs were identified based on recommendations from IDOT.

Table 2. Top of Deck Deterioration Summary

Bridge Deck Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Repair Area (sq. ft)	Total Area (%)	Rebar Cover (in.)
11,055	0	0	430	3.9	983	8.9	3.9

Recommendations and Conclusions

WJE performed a condition assessment of the reinforced concrete bridge deck of the I-55 Westbound Bridge over IL-50, Cicero Avenue. This condition assessment included: a visual survey of the bottom of the deck and an IR survey of the top of the deck. This information was used to produce repair drawings indicating the size and location of anticipated repair areas.

The repair work should, at a minimum, include partial depth repairs at all locations indicated on Sheet S-4 in Appendix A. If this option is selected, a detailed delamination assessment should be completed by the contractor at the time of the repair work to ensure that all areas of deteriorated concrete are identified. In addition, all re-entrant corners of repair areas should be detailed to include a 4 inch chamfer to reduce the potential for concrete-shrinkage related cracking.

The bridge deck was found to currently be in satisfactory condition, but corrosion-related damage has become apparent and should be repaired.

We would be happy to answer any questions or provide additional information.

Sincerely,

WISS, JANNEY, ELSTNER ASSOCIATES, INC.

Joseph A. Rogers Jr., S.E.
Project Associate

Jonathan C. McGormley, P.E., S.E.
Project Manager

Figures

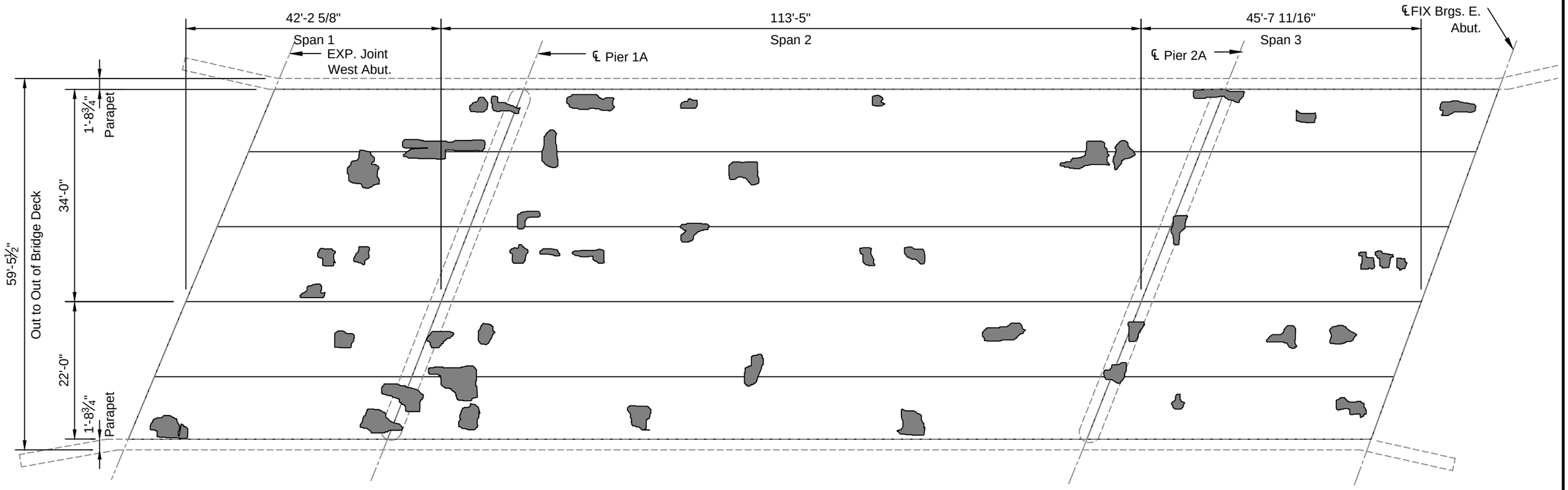
Figure 1. Elevation view, looking south

Figure 2. Typical view, deck soffit, northeast corner.

Figure 3. Typical view, deck soffit, looking west.

Figure 4. Typical view, deck top surface, looking southwest

Appendix A - Bridge Deck Condition Assessment Drawings



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0017		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft²	11055	100	SPALL
DELAMINATION	ft²	430	3.9	CRACK
SPALL	ft²	0	0	
CRACKS	ft	-	-	

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

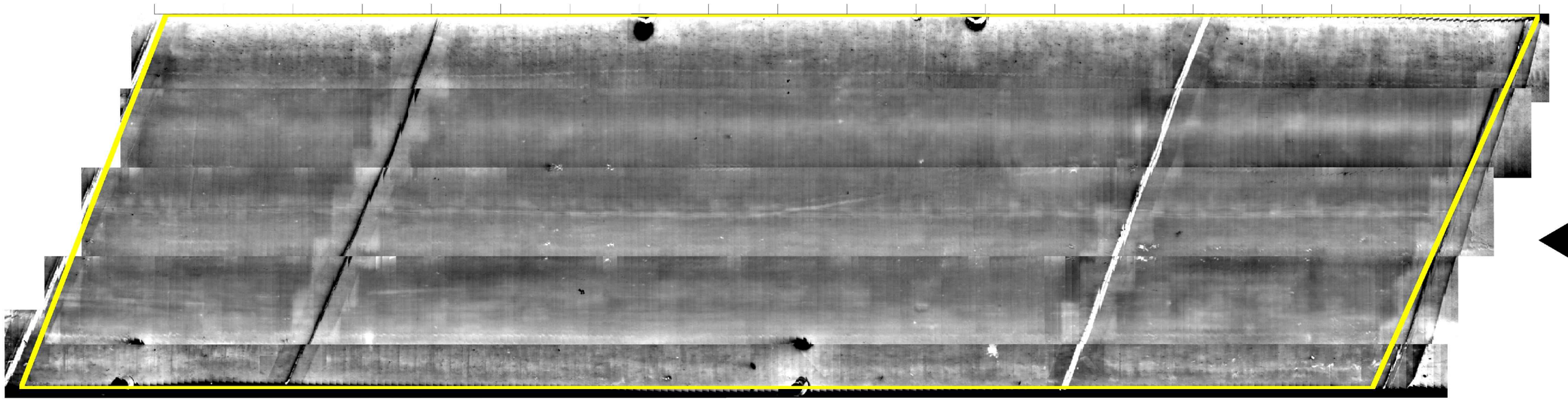
Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0017
WESTBOUND I-55 OVER CICERO AVENUE

Sheet Title
IR Result - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"

Sheet No. **S1**



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0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

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Client

Illinois Department of Transportation

District One
201 West Center Court
Schaumburg, Illinois 60196

Project

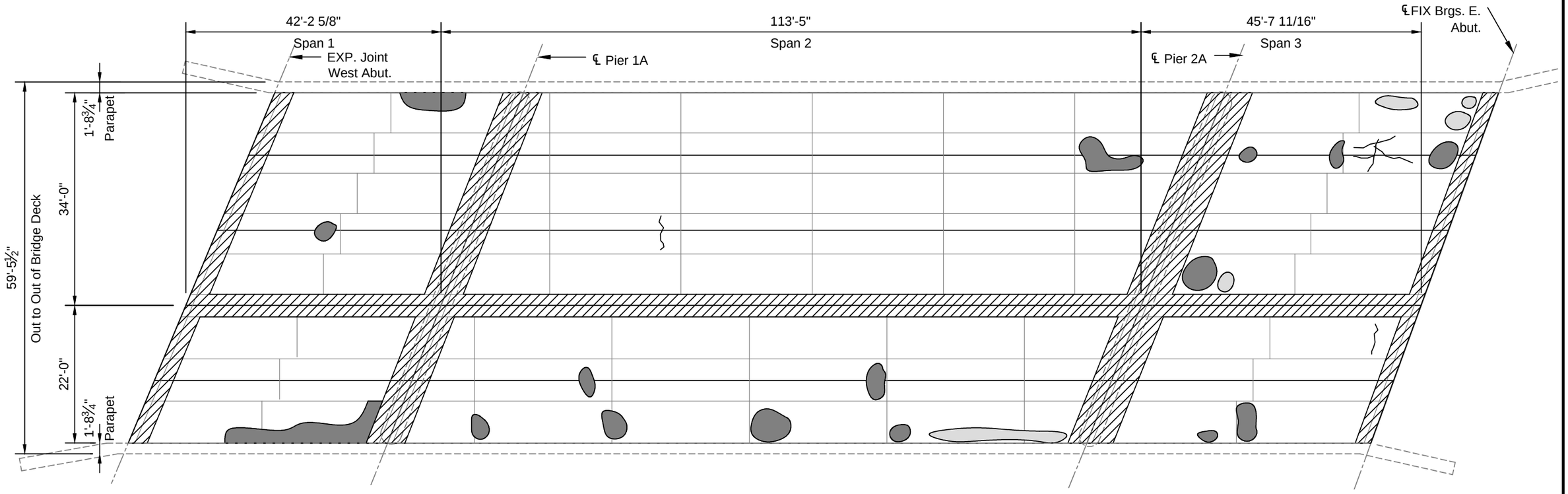
Bridge 016-0017

WESTBOUND I-55 OVER CICERO AVENUE

Sheet Title

IR Image - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16' = 1'
Sheet No.	S2



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0017		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ftJ	11055	100	SPALL
DELAMINATION	ftJ	285	2.6	PREV. REPAIR
SPALL	ftJ	70	0.6	CRACK
PREVIOUS REPAIRS	ftJ	1705	15.4	
CRACKS	ft	-	-	

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

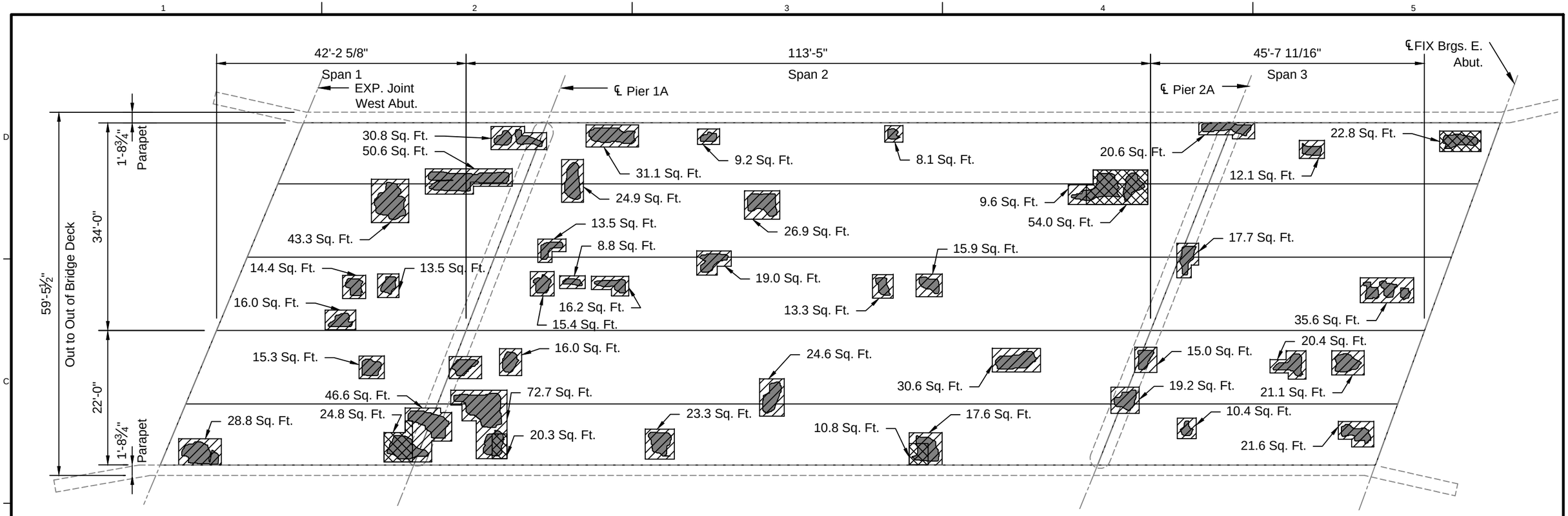
Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0017
WESTBOUND I-55 OVER CICERO AVENUE

Sheet Title
Underside Deterioration

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"
Sheet No.	S3



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0017	
ITEM	UNIT	QUANT.	%
TOTAL AREA	ft²	11055	100
PARTIAL DEPTH REPAIR	ft²	861	7.8
FULL DEPTH REPAIR	ft²	122	1.1
DELAMINATION	ft²	430	3.9
SPALL	ft²	0	0
CRACKS	ft	-	-

LEGEND

- PARTIAL DEPTH REPAIR
- FULL DEPTH REPAIR
- DELAMINATION
- SPALL
- CRACK

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

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330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0017
WESTBOUND I-55 OVER CICERO AVENUE

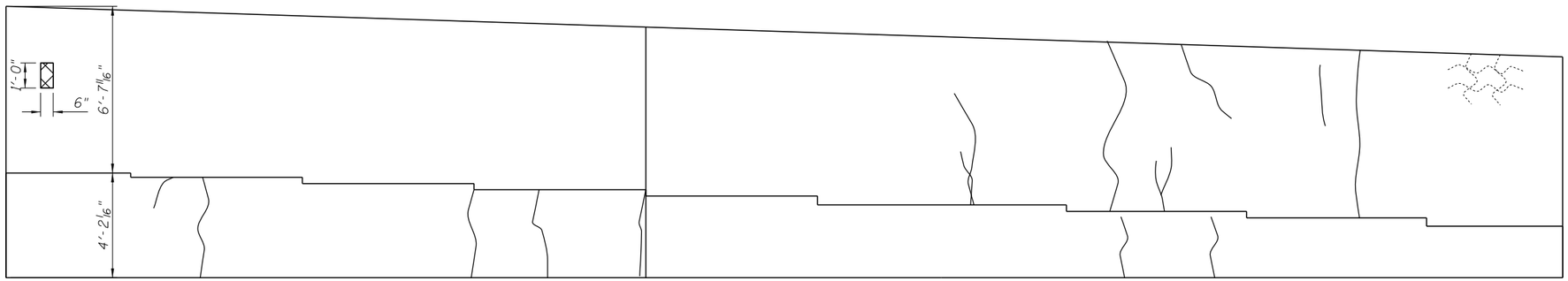
Sheet Title
Proposed Repairs

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"

Sheet No. **S4**

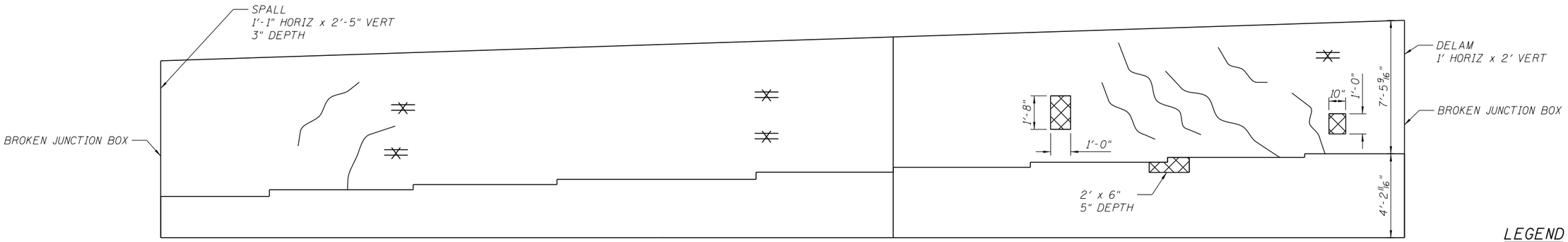
ATTACHMENT F

Substructure Condition Surveys



EAST ABUTMENT

LOOKING EAST



WEST ABUTMENT

LOOKING WEST

LEGEND

- BROKEN CONDUIT
- HAIRLINE CRACK UNLESS OTHERWISE NOTED
- LIGHT MAP CRACKING
- SPALLED CONCRETE
- DELAMINATED CONCRETE

FILE NAME = V:\1786\active\178600037_IDOT_I-55\structural\drawing\sht\dwg_Cicero_Avenue_Abutment_Elevation.dgn

Stantec

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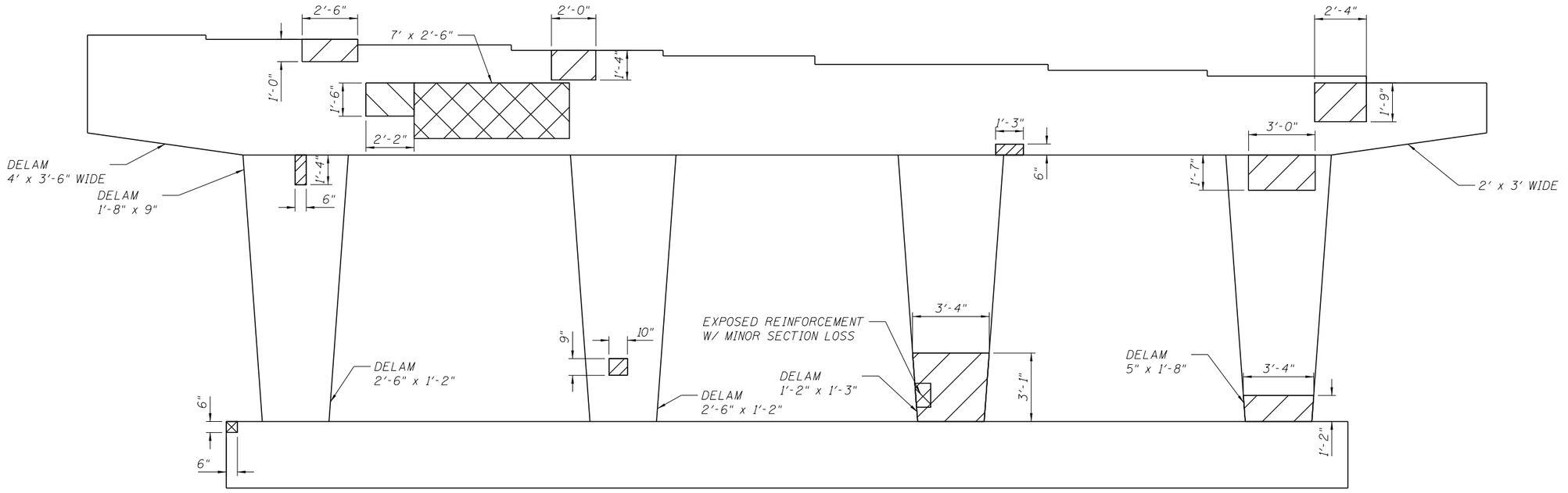
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016-0017

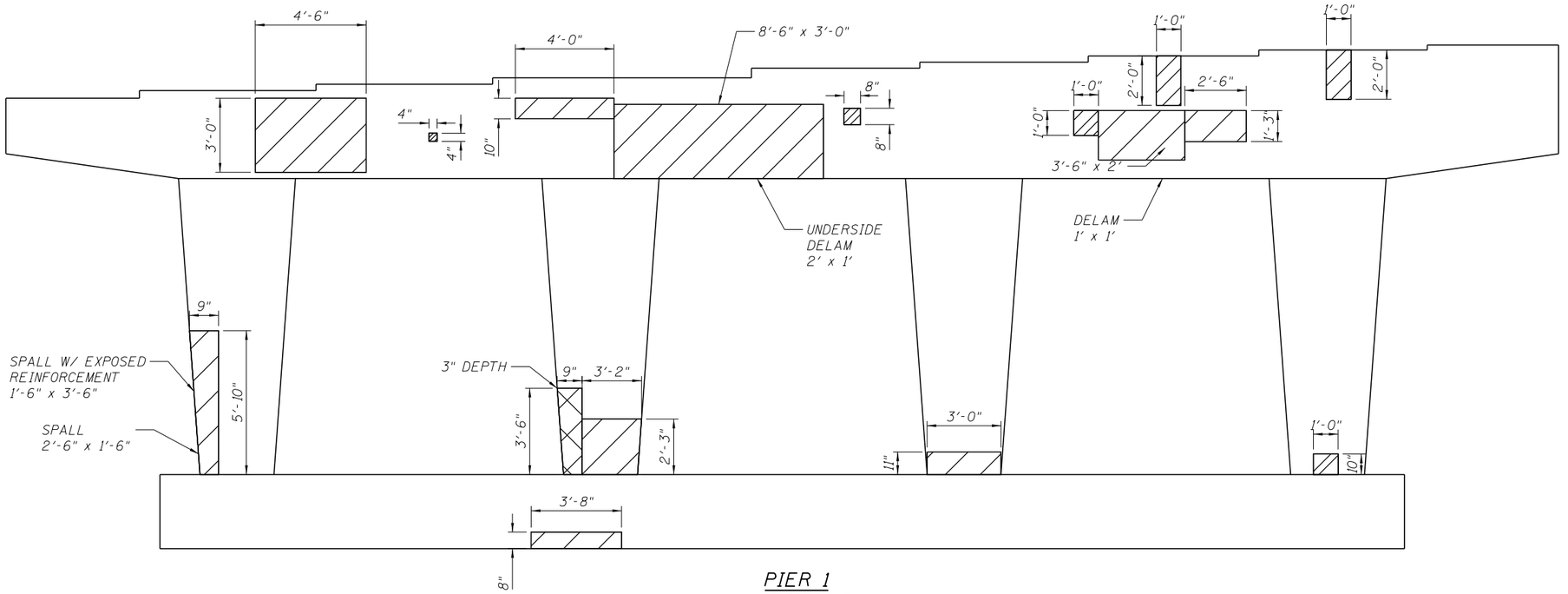
SHEET NO. 1 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PIER 1

LOOKING EAST



PIER 1

LOOKING WEST

LEGEND

- SPALLED CONCRETE
- DELAMINATED CONCRETE

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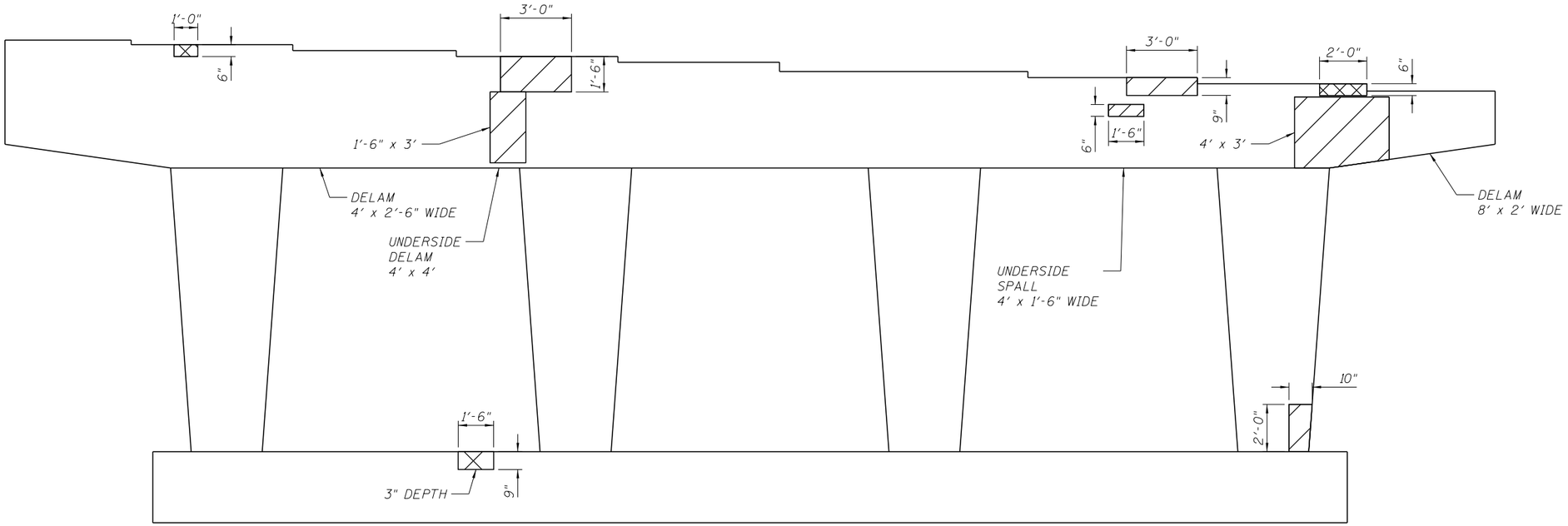
Stantec

USER NAME = jerojas	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

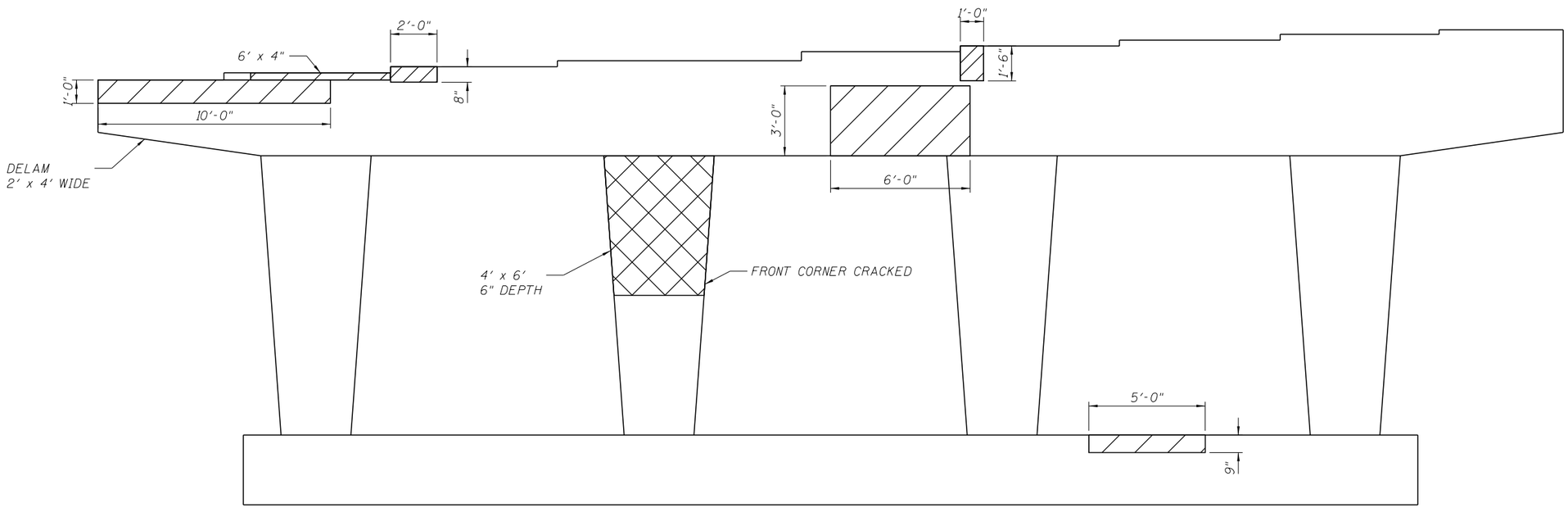
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUPERSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016–0017
SHEET NO. 2 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PIER 2
LOOKING EAST



PIER 2
LOOKING WEST

LEGEND

- SPALLED CONCRETE
- DELAMINATED CONCRETE

FILE NAME = V:\1786\active\17868B037.IDOT.I-55\structural\drawing\sht\dwg.Cicero.Avenue.Pier.Elevation.dgn

Stantec

USER NAME = jerojas	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016-0017
SHEET NO. 3 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT G

Opinion of Probable Costs

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/9/13
Check By:	BHS	*Date:*	12/19/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COSTS		
	I-55 WB over Cicero (016-0017)		

ALTERNATIVE 1 - IN-KIND REPAIRS

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50300300	Protective Coat	1507 sy	$2.00	$3,010
50500105	Furnishing and Erecting Structural Steel	2230 lb	$5.00	$11,150
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	326 sf	$175	$57,050
Z0016001	Deck Slab Repair (Full Depth)	37 sy	$750	$27,750
Z0016200	Deck Slab Repair (Partial Depth)	93 sy	$400	$37,200
			SUB TOTAL =	$136,160
			MOBILIZATION (10%) =	$13,616
			CONTINGENCY (20%) =	$27,232
			TOTAL =	**$177,100**

ALTERNATIVE 2 - STRUCTURE WIDENING

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50102400	Concrete Removal	19 cy	$600	$11,100
50104720	Removal Existing Concrete Deck	1 LS	$154,000	$154,000
50200100	Structure Excavation	269 cy	$35.00	$9,420
50300225	Concrete Structures	201 cy	$700	$140,700
50300255	Concrete Superstructure	720 cy	$800	$576,000
50300260	Bridge Deck Grooving	2167 sy	$7.00	$15,170
50300300	Protective Coat	1883 sy	$2.00	$3,770
50500105	Furnishing and Erecting Structural Steel	1 LS	$337,830	$337,830
50500505	Stud Shear Connectors	1242 each	$3.00	$3,730
50800205	Reinforcement Bars, Epoxy Coated	220200 lbs	$1.75	$385,350
51201400	Fur Stl Pile HP10x42	2,800 ft	$45.00	$126,000
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52000110	Preformed Joint Strip Seal	352 ft	$175	$61,600
52100010	Elastomeric Bearing Assembly, Type I	3 each	$800	$2,400
59100100	Geocomposite Wall Drain	46 sy	$25.00	$1,150
X2070304	Porous Granular Embankment, Special	62 cy	$50.00	$3,100
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	326 sf	$175	$57,050
Z0026407	Temporary Sheet Piling	1103 sf	$30.00	$33,090
Z0046304	Pipe Underdrains for Structures 4"	40 ft	$20.00	$800
			SUB TOTAL =	$1,935,860
			MOBILIZATION (10%) =	$193,586
			CONTINGENCY (20%) =	$387,172
			TOTAL =	**$2,516,700**

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/9/13
Check By:	BHS	*Date:*	12/19/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COSTS		
	I-55 WB over Cicero (016-0017)		

ALTERNATIVE 3 - SUPERSTRUCTURE AND PARTIAL SUBSTRUCTURE REPLACEMENT

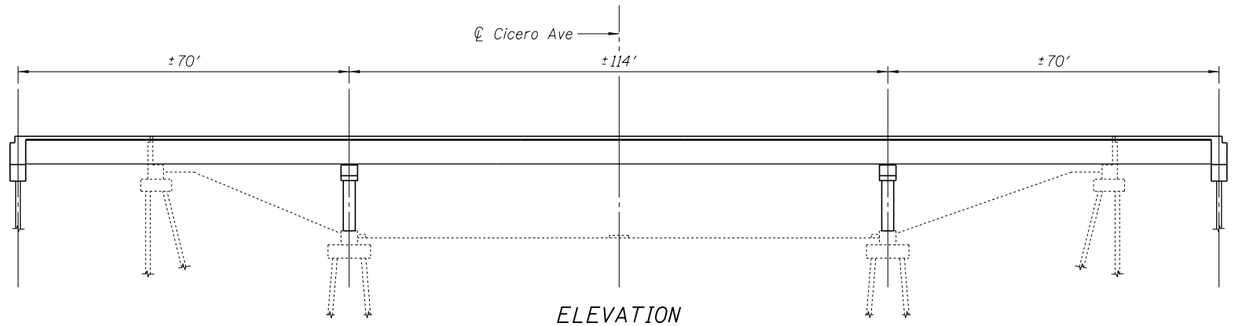
CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50101500	Removal of Existing Superstructures	1 LS	$184,800	$184,800
50102400	Concrete Removal	331 cy	$600	$198,600
50104650	Slope Wall Removal	813 sy	$7.00	$5,690
50200100	Structure Excavation	690 cy	$35.00	$24,150
50300225	Concrete Structures	350 cy	$700	$245,000
50300255	Concrete Superstructure	970 cy	$800	$776,000
50300260	Bridge Deck Grooving	2629 sy	$7.00	$18,400
50300300	Protective Coat	2455 sy	$2.00	$4,910
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,834,200	$1,834,200
50500505	Stud Shear Connectors	9144 each	$3.00	$27,430
50800205	Reinforcement Bars, Epoxy Coated	312500 lbs	$1.75	$546,880
51100100	Slope Wall 4 Inch	606 sy	$100	$60,600
51201400	Fur Stl Pile HP10x42	3240 ft	$45.00	$145,800
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52100010	Elastomeric Bearing Assembly, Type I	12 each	$800	$9,600
59100100	Geocomposite Wall Drain	174 sy	$25.00	$4,350
X2070304	Porous Granular Embankment, Special	355 cy	$50.00	$17,750
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0012754	Structural Repair of Concrete (< 5 Inches)	8 sf	$350	$2,680
Z0026407	Temporary Sheet Piling	1527 sf	$30.00	$45,800
Z0046304	Pipe Underdrains for Structures 4"	188 ft	$20.00	$3,760
			SUB TOTAL =	$4,170,000
			MOBILIZATION (10%) =	$417,000
			CONTINGENCY (20%) =	$834,000
			TOTAL =	**$5,421,000**

ALTERNATIVE 4 - STRUCTURE REPLACEMENT

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50100100	Removal of Existing Structures	1 LS	$467,000	$467,000
50200100	Structure Excavation	993 cy	$35.00	$34,760
50300225	Concrete Structures	589 cy	$700	$412,300
50300255	Concrete Superstructure	970 cy	$800	$776,000
50300260	Bridge Deck Grooving	2629 sy	$7.00	$18,400
50300300	Protective Coat	2455 sy	$2.00	$4,910
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,834,200	$1,834,200
50500505	Stud Shear Connectors	9144 each	$3.00	$27,430
50800205	Reinforcement Bars, Epoxy Coated	360300 lbs	$1.75	$630,530
51100100	Slope Wall 4 Inch	606 sy	$100.00	$60,600
51201400	Fur Stl Pile HP10x42	6,120 ft	$45.00	$275,400
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
59100100	Geocomposite Wall Drain	174 sy	$25.00	$4,350
X2070304	Porous Granular Embankment, Special	355 cy	$50.00	$17,750
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0026407	Temporary Sheet Piling	1527 sf	$30.00	$45,800
Z0046304	Pipe Underdrains for Structures 4"	188 ft	$20.00	$3,760
			SUB TOTAL =	$4,626,790
			MOBILIZATION (10%) =	$462,679
			CONTINGENCY (20%) =	$925,358
			TOTAL =	**$6,014,900**

ATTACHMENT H

Proposed Structure Drawings



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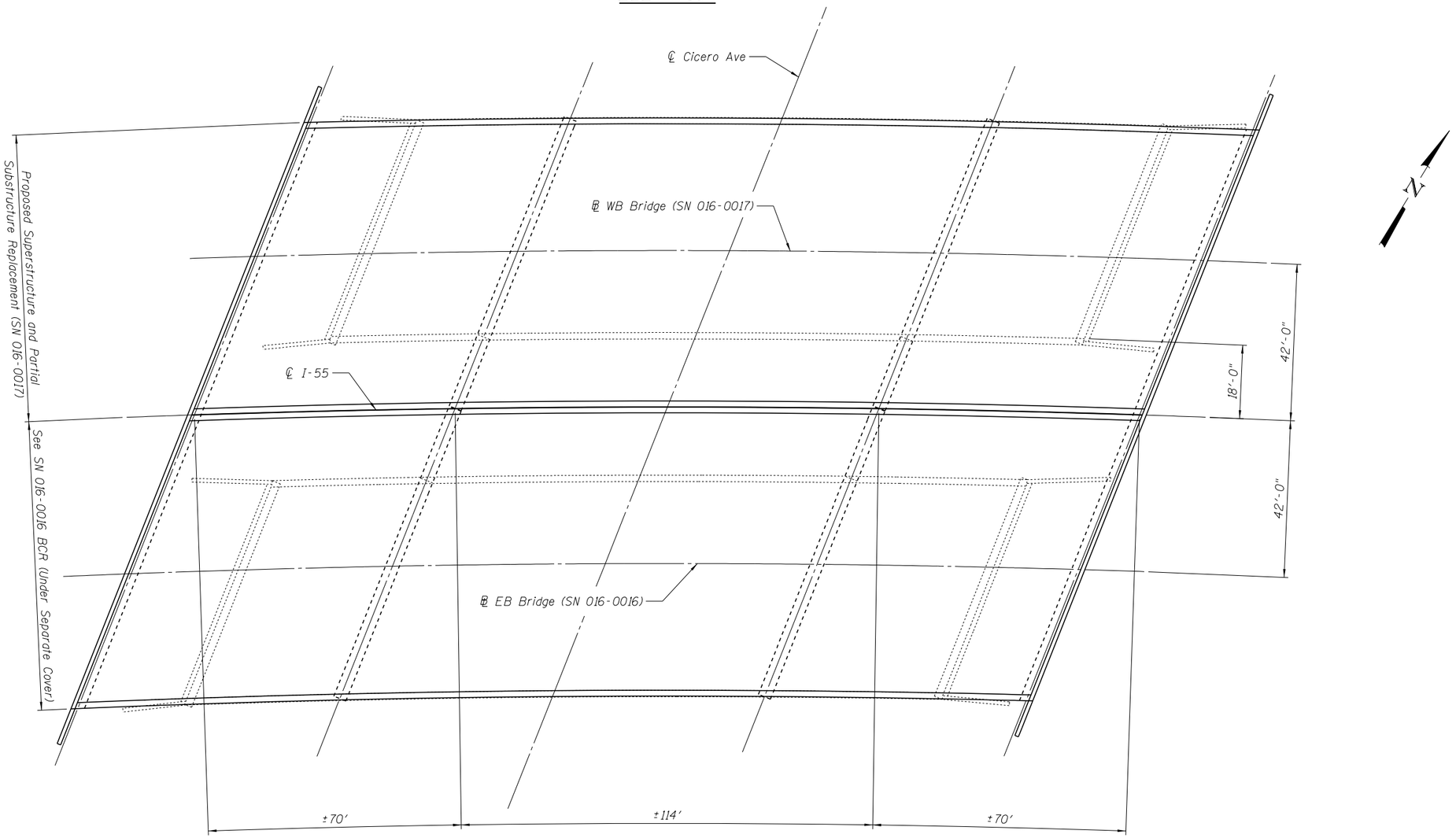


PROPOSED PLAN

Notes:

The number and location of substructure units, the profile grade, skew angle, and the bridge length and width are subject to refinement in the TSL phase.

Superstructure type, beam spacing, and rail type to be determined during the TSL phase.

FILE NAME =

Stantec

USER NAME = bsayers	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 12/19/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT H – PROPOSED STRUCTURE DRAWING
STRUCTURE NO. 016–0017
SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT I

Structure Photos

Photo 1 - Spalling in bay 9, Span 2 , east end, looking west

Photo 2 - Spall underside of deck in Span 3, east end, between beams 1-2 from north, looking west

Photo 3 - Underside of Deck, Span 2, south end, looking east

Photo 4 - Typical discolored concrete and pop off in Span 2, looking east

Photo 5 – Span 3, looking southwest

Photo 6 – Span 2, looking southwest

Photo 7 – Span 1, looking southwest

Photo 8 - East Abutment joint, looking south

Photo 9 - East Pier joint, looking south

Photo 10 - West Pier joint, looking south

Photo 11 - West Abutment joint, looking south

Photo 12 - Crack in built up pedestal on beam 9 from north at West Pier, west span, looking east

Photo 13 - Close up of photo 12

Photo 14 - Typical cracked weld between bottom flange of beam and built up steel pedestal, Beam 6 at East Abutment, looking southeast

Photo 15 - Typical beam with cover plate in Span 1, Beam 4, looking southwest

Photo 16 – Paint peel on Beam 9 in Span 2, looking east

Photo 17 - South fascia beam, looking west

Photo 18 - North fascia beam, Span 2, looking west

Photo 19 - Failed conduit connections, looking southwest

Photo 20 - Broken conduit from brackets along south fascia beam in Span 1, looking southwest

Photo 21 - Typical end beam bearing, beam 1 from north, West Abutment, looking southwest

Photo 22 - East Abutment, looking east

Photo 23 - West Abutment, looking southwest

Photo 24 - Broken and open conduit on north end of West Abutment, looking south

Photo 25 - Broken conduit at West Abutment backwall in bay 1 from north, looking west

Photo 26 - Spall on West Abutment seat in bay 2 from north, looking east

Photo 27 - Spall on front face of West Abutment backwall at south end and open conduit junction box, looking north

Photo 28 - Northwest Wingwall, looking southwest

Photo 29 - Southeast Wingwall, looking east

Photo 30 – Southwest wingwall, looking west

Photo 31 – Northeast wingwall, looking southeast

Photo 32 - East Pier, west face, looking east

Photo 33 - East Pier, spall on underside of cap in between columns 3-4 from north, looking up and east

Photo 34 – East Pier, delam on northeast corner, looking southwest

Photo 35 - Spall in East Pier crashwall, north of second column from north, west face, looking southeast

Photo 36 - West Pier, west face, north end, looking northeast

Photo 37 - Spall on West Pier, south face, bottom of fourth column from north, looking north

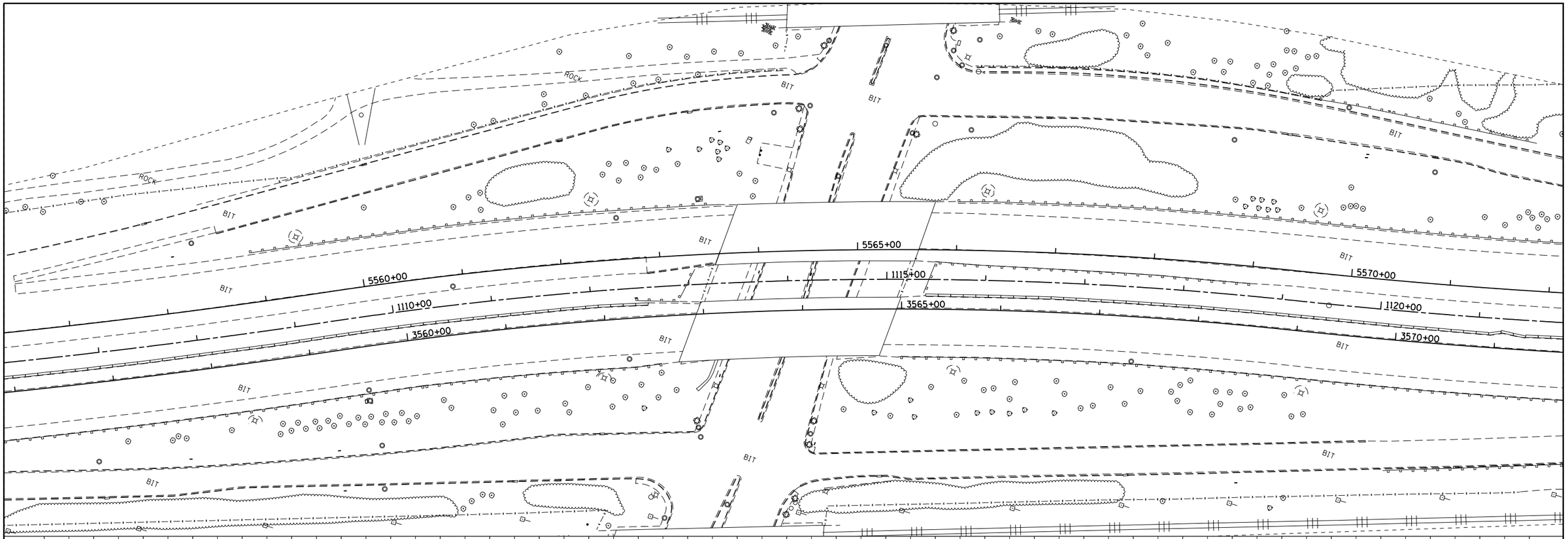
Photo 38 - North half of east slopewall, looking northeast

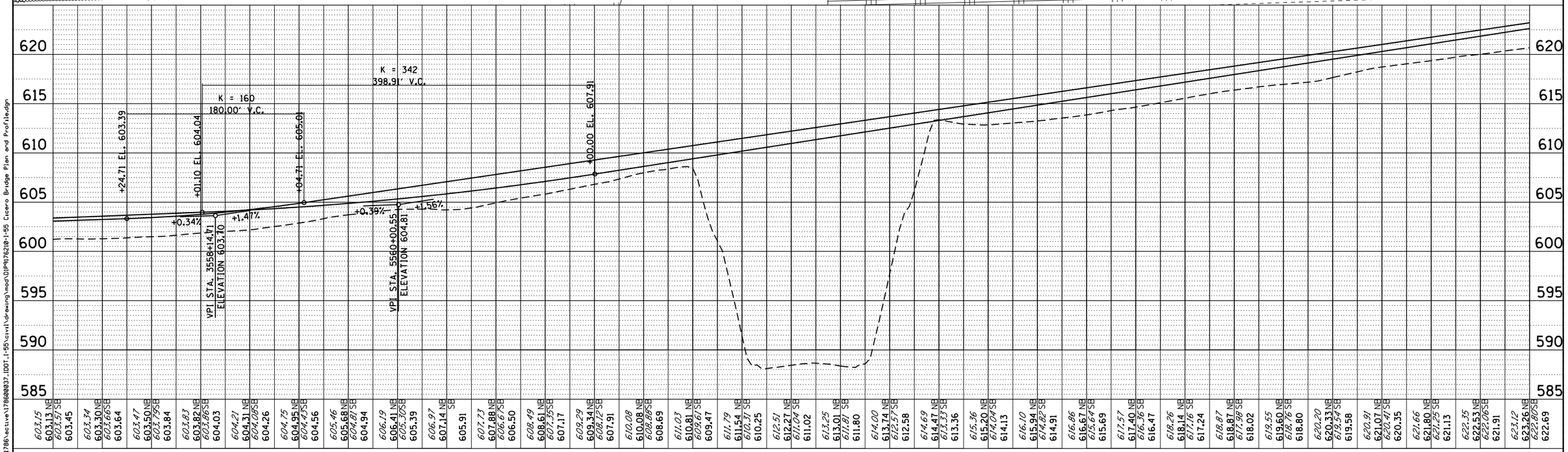
Photo 39 – Cracks in north end of west slopewall, looking southwest

Photo 40 - Spall in west slopewall, looking west

ATTACHMENT J

Proposed Plan & Profile





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Default

Stantec

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	DRAWN - STANTEC	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 10/4/2013	DATE - 10/04/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

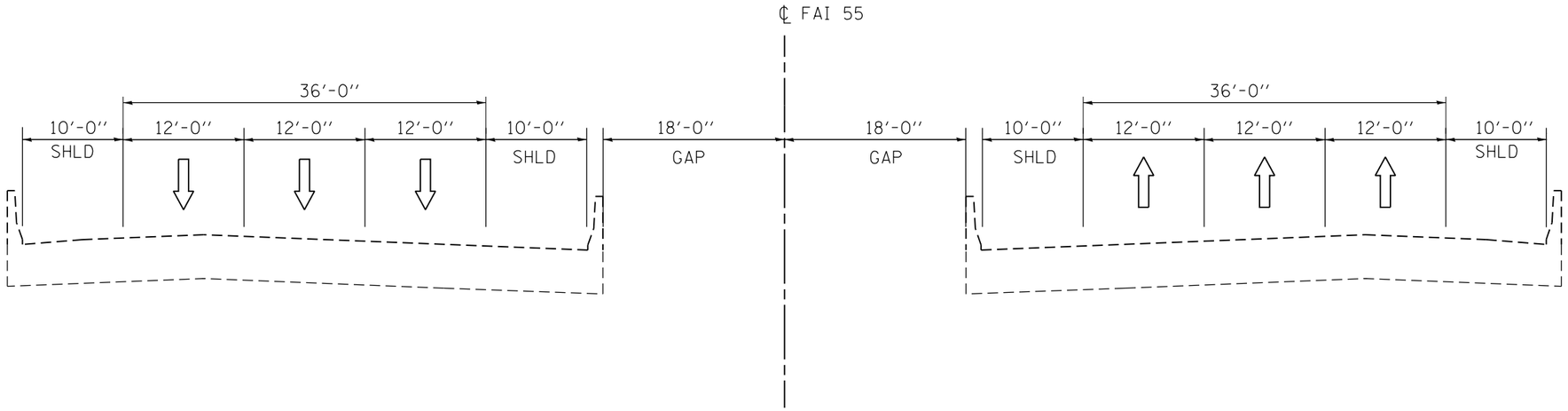
ATTACHMENT J
I-55 OVER CICERO AVE PROPOSED PLAN & PROFILE

SCALE: 1":100' | SHEET ___ OF ___ SHEETS | STA. _____ | TO STA. _____

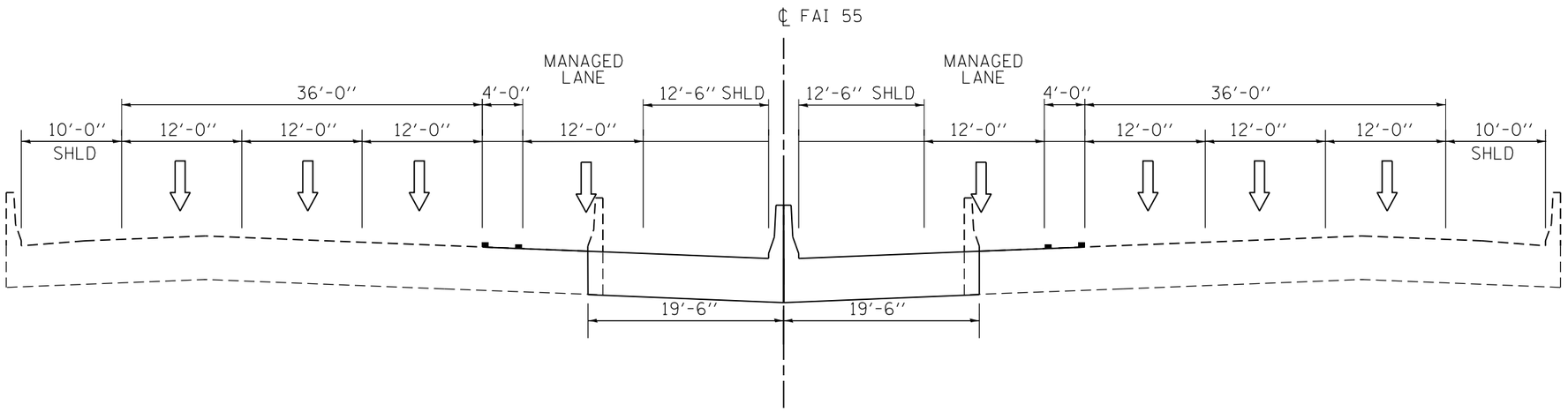
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

ATTACHMENT K

Existing and Proposed Roadway Cross Sections



EXISTING I-55 OVER CICERO AVE TYPICAL SECTION



PROPOSED I-55 OVER CICERO AVE TYPICAL SECTION

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Stantec

USER NAME = mjverheyen	DESIGNED - MJV	REVISED -
	DRAWN - STANTEC	REVISED -
PLOT SCALE = 13.3343 ' / in.	CHECKED -	REVISED -
PLOT DATE = 10/7/2013	DATE - 10/7/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT K
TYPICAL SECTIONS

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		

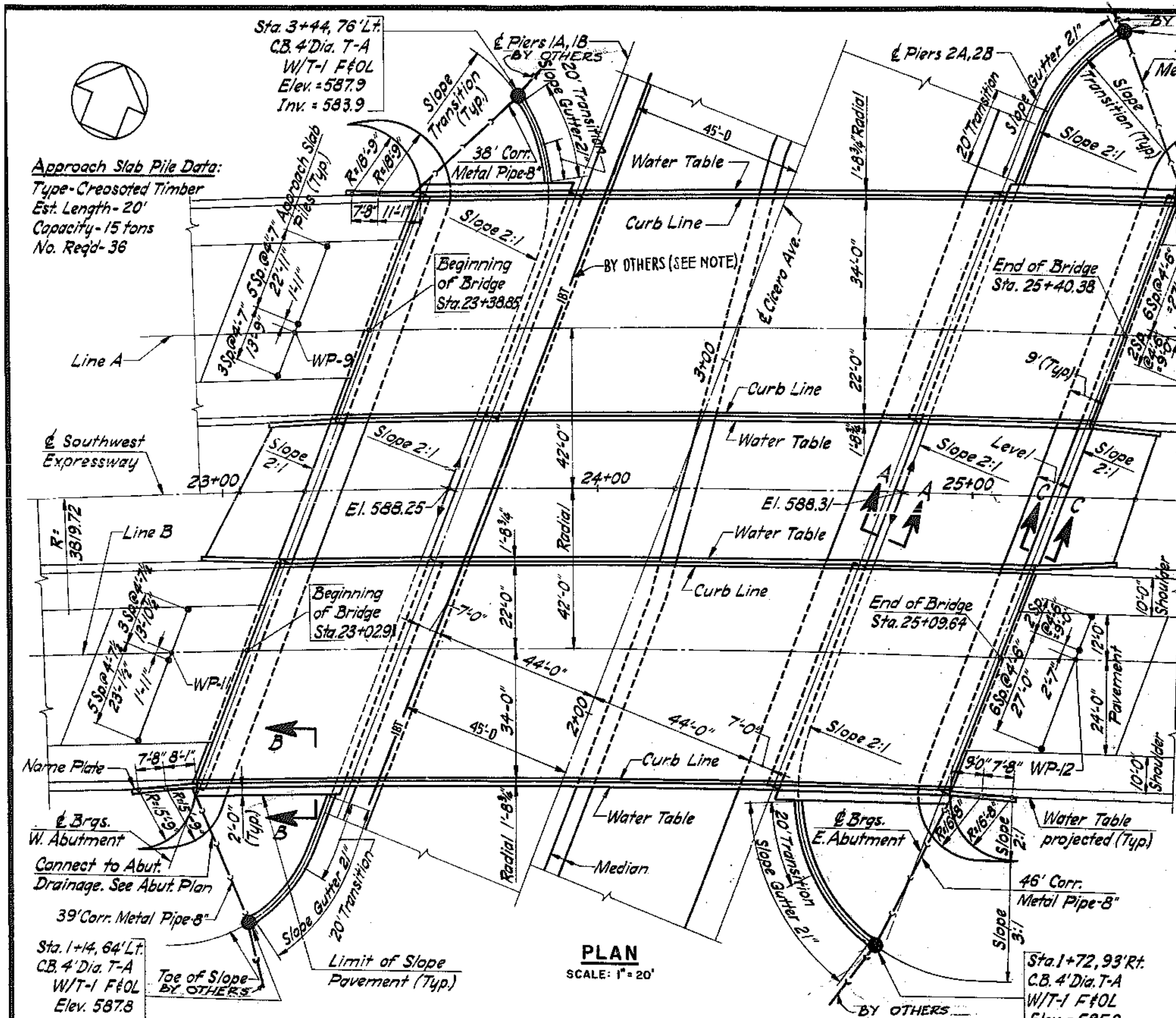
CONTRACT NO.

ILLINOIS FED. AID PROJECT

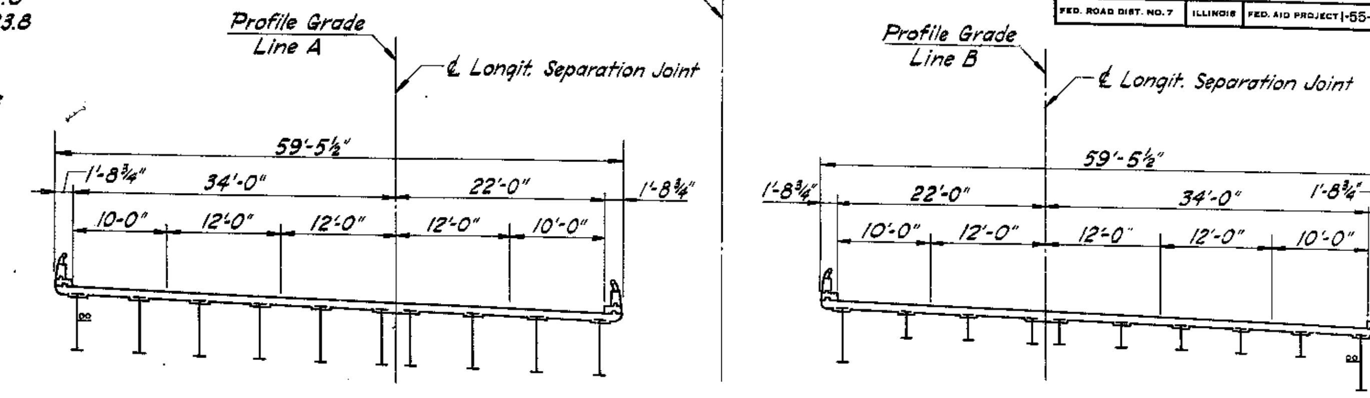
ATTACHMENT L

Abbreviated Existing Plans

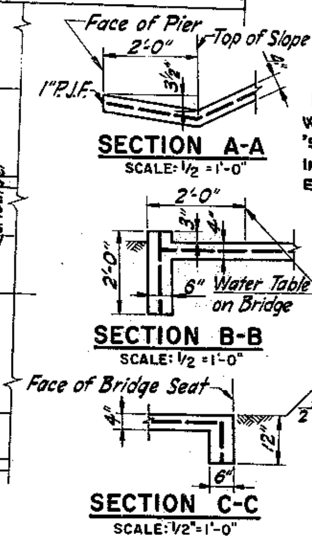
F.A.I. RTE.	SECTION	EXPRESSWAY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	SOUTHWEST	32	2c
STA. 23 + 02.91		TO STA. 25 + 40.38		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT I-55-7(29)-281		



PLAN
SCALE: 1" = 20'



TYPICAL CROSS SECTION
SCALE: 1" = 10'



NOTE:
WHEREVER IN THESE PLANS REFERENCE IS MADE TO THE "STANDARD SPECIFICATIONS", IT IS UNDERSTOOD TO INCLUDE THE "SUPPLEMENTAL SPECIFICATIONS", EFFECTIVE APRIL 2, 1962.

NOTE:
The cost of Excavation required for the construction of the Abutments in the Embankments is to be incidental to the contract.

SUMMARY OF QUANTITIES							
CODE NUMBER	ITEM	UNIT	QUANTITY				
			BRIDGE A		BRIDGE B		TOTAL for 2 Bridges
			Sub.	Super.	Sub.	Super.	
016001	Embankment	Cu. Yds.	14620	—	18,260	—	32,880
019001	Porous Granular Embankment	Cu. Yds.	636	—	618	—	1,254
050001	Class "A" Excavation for Structures	Cu. Yds.	256	—	256	—	512
052003	Class "X" Concrete	Cu. Yds.	470.5	3080	471.2	3090	1,558.7
052021	Protective Coat	Sq. Yds.	—	1,449	—	1,454	2,903
054001	Furn. & Erect. Struct. Steel	Lbs.	—	496,970	—	498,710	995,680
059001	Reinforcement Bars	Lbs.	62380	78,510	64,470	78,510.	283,870
060004	Furnishing Creosoted Piles (up to 20')	Lin. Ft.	360	—	360	—	720
060008	Driving Timber Piles	Lin. Ft.	360	—	360	—	720
060043	Driving Concrete Piles	Lin. Ft.	4,335	—	4,425	—	8,760
060044	Furnishing Concrete Piles	Lin. Ft.	4,335	—	4,425	—	8,760
060047	Test Pile Concrete	Ea.	2	—	2	—	4
061001	Name Plates	Ea.	—	1	—	1	2
063001	Corrugated Metal Pipe, 8"	Lin. Ft.	85	—	85	—	170
063020	Perforated Corrugated Metal Pipe, 6"	Lin. Ft.	165	—	165	—	330
075015	CB, T.A, 4' Dia, T.I Fr. & Open Lid	Ea.	2	—	2	—	4
083002	Slope Wall 4 inch	Sq. Yds.	813	—	719	—	1,532
L02710	Rigid Steel Conduit, 2" Dia.	Lin. Ft.		440		440	880
L02738	Rigid Steel Conduit, 2½" Dia.	Lin. Ft.	40	—	30	—	70
L02766	Rigid Steel Conduit, 1½" Dia.	Lin. Ft.	—	10	—	20	30
Z08004	**Aluminum Handrail**	Lin. Ft.	76	403	76	404	959

TWO SIGNS CONFORMING TO STD. 2160-1 SHALL BE ERECTED AT LOCATIONS SHOWN ON THE PLANS (SHEET 2b)

UTILITIES:
1. The proposed Illinois Bell Telephone Co. line will be in place prior to beginning bridge construction.

GENERAL NOTES

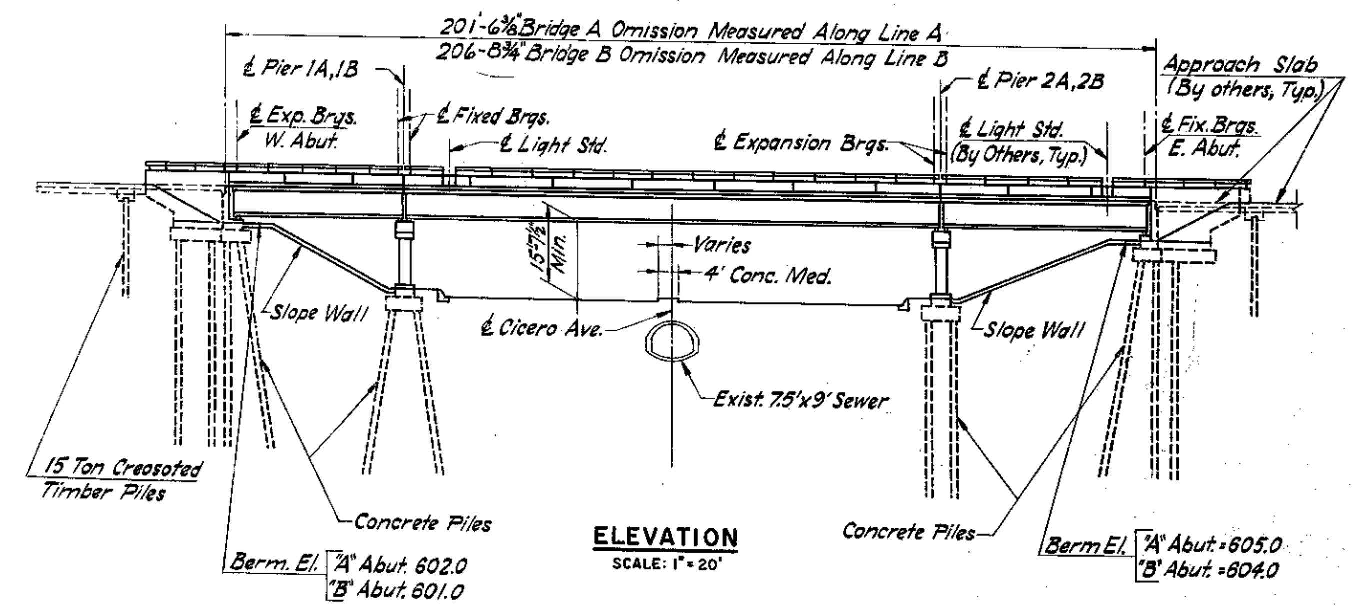
CONCRETE:
1. Coarse aggregate to be used in parapet handrails and end posts must be absolutely free of chert, flint, limonite, lignite and soft sandstone.
2. The concrete floor slab shall be finished in accordance with article 51.19 of the standard specifications.
3. Slopewall shall be reinforced with welded wire fabric 6"x6" mesh weighing 58#/per 100 sq. ft.
4. All reinforcement bars shall be lapped 20 diameters unless otherwise shown.
5. Permanent forms will not be permitted in forming the concrete floor.
6. Class X concrete shall be used throughout.

STRUCTURAL STEEL:
1. Rivets ¾"ϕ open holes 13/16"ϕ unless otherwise noted.
2. Anchor bolts shall be set before riveting diaphragms over supports.
3. Roadway expansion guards shall be assembled in the shop in proper position with the ends in place and shall be left assembled for shop inspection.
4. The following surfaces of the expansion guard shall be given two shop coats of red lead paint: the outside vertical 4" legs of the Ls 6x4x¾.
5. Expansion guards are included in the quantity of structural steel estimated weight 16,560 lbs. Bridge A and 16,610 lbs. Bridge B.
6. Except as otherwise provided all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See article 56.1 to 56.5 inclusive of the standard specifications and the special provisions.
7. Structural carbon steel shall conform to specifications for carbon steel A.S.T.M. designation A-36.

SUBSTRUCTURE:
1. The contractor shall drive 4 concrete test piles in a permanent location shown on the pier and abutment footing plans as directed by the engineer before ordering the remainder of the piles.
2. Concrete piles at abutments shall be driven in holes precored through the embankment.
This work shall be done in accordance with article 60.9 (c) of the standard specifications.
3. Concrete piles at piers shall be driven in holes precored to elevation 574.00.

DESIGN LOADS AND STRESSES

Specifications: A.A.S.H.O., 1961
Design Load: H20-S16-44 & alternate
25 psf Future wearing surface
Design Stresses: Structural Steel: f=20,000 psi
Reinforcement Steel: f=20,000 psi
Concrete: fc=3,500 psi
fc=1,400 psi
=1,000 psi (with earth pressure)
fv= 75 psi (Footings)
n= 10
Piling: Concrete = 30 ton capacity
Creosoted Timber = 15 ton capacity



ELEVATION
SCALE: 1" = 20'

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY

EXPRESSWAY OVER CICERO AVE.

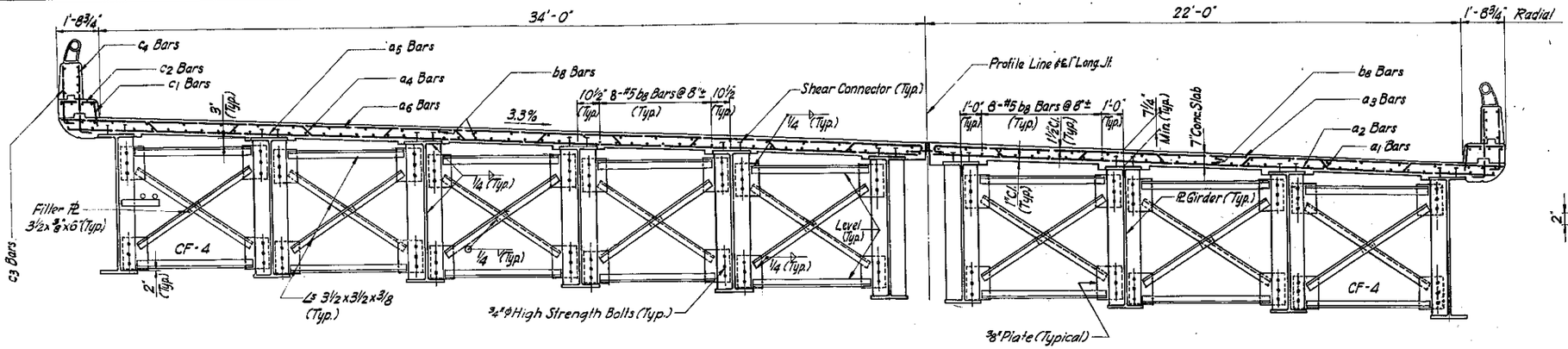
GENERAL PLAN

SCALE: HORIZ. VERT. AS NOTED — DRAWN BY M. Carone
DATE: DEC., 1962 — CHECKED BY

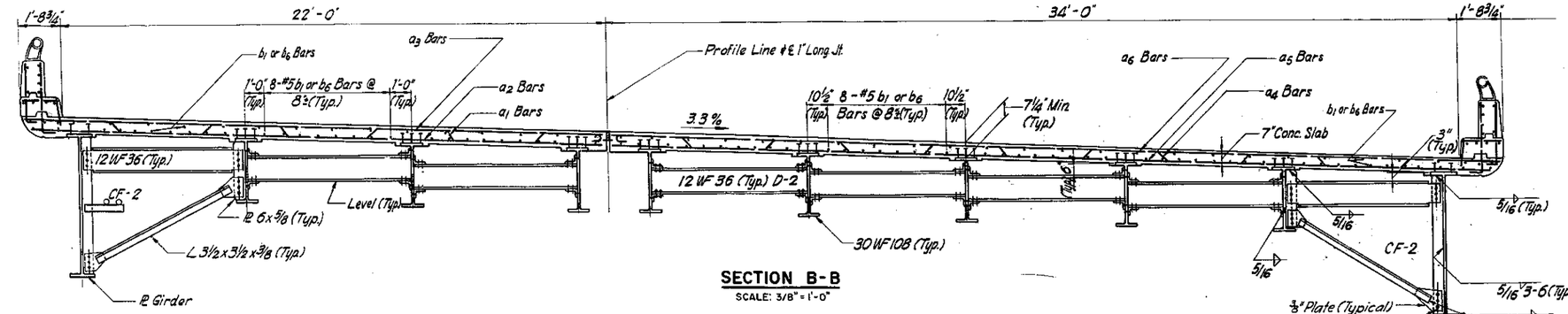
L-1

Rev. 3-25-63 Removed 200 cu.yd. Special Excav., Rev. Cl. "A" Excav. 1080 to 512 cu.yd. ~~Added Metal Handrail Type E = 959 lin. ft.~~
Rev. Wt. for E&E.S.S.

F.A.I. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	SOUTHWEST	32	13
STA. 23+02.91		TO STA. 25+40.38		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

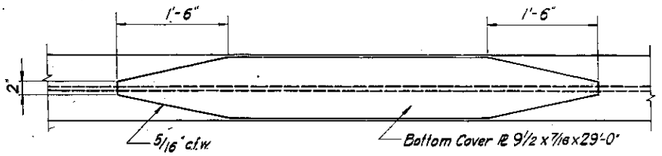


SECTION A-A
SCALE: 3/8" = 1'-0"

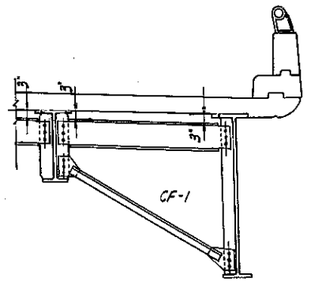


SECTION B-B
SCALE: 3/8" = 1'-0"

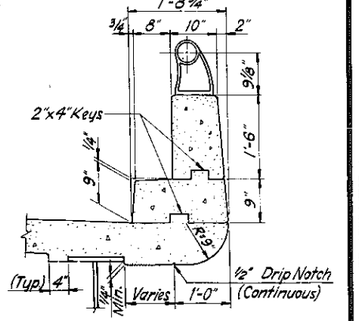
LONGITUDINAL JOINT
SCALE: 1" = 1'-0"



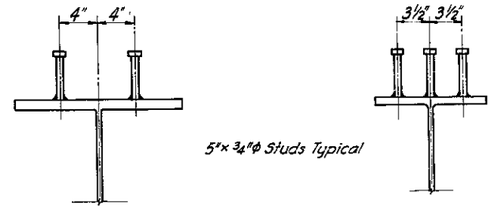
COVER PLATE DETAIL
NOT TO SCALE



SECTION G-G
SCALE: 3/8" = 1'-0"



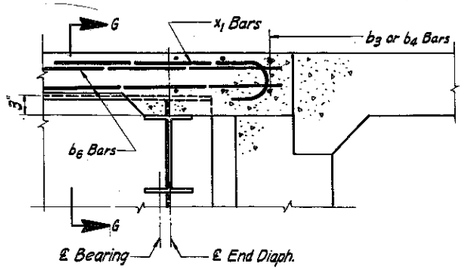
FASCIA DETAILS
SCALE: 3/4" = 1'-0"



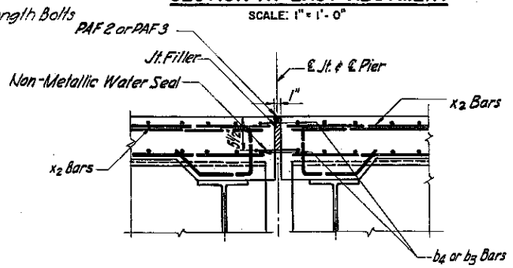
SHEAR CONNECTOR DETAILS
SCALE: 1½" = 1'-0"
(weight of studs included in Structural Steel Quant.)

NOTES:

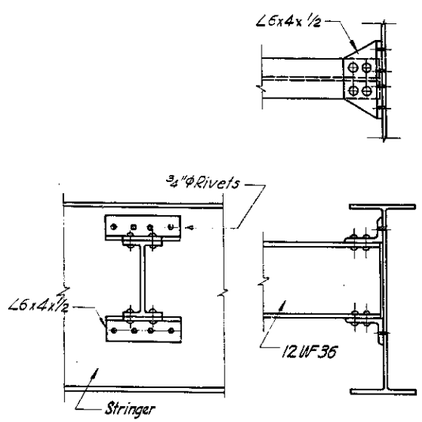
1. For location of sections A-A & B-B, see sheet 12.
2. Section A-A shown for Bridge A, Bridge B similar except for stringer layout and spacing.
3. Section B-B shown for Bridge B, Bridge A similar except for stringer layout and spacing.
4. Use ¾"ϕ rivets, except as otherwise noted.



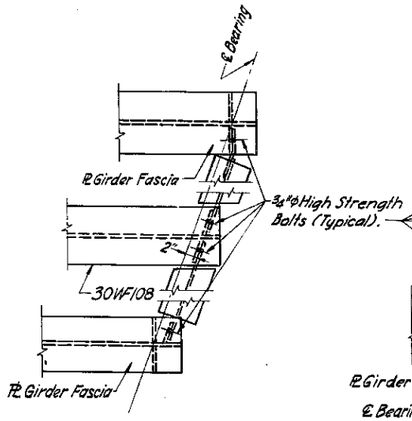
SECTION AT EAST ABUTMENT
SCALE: 1" = 1'-0"



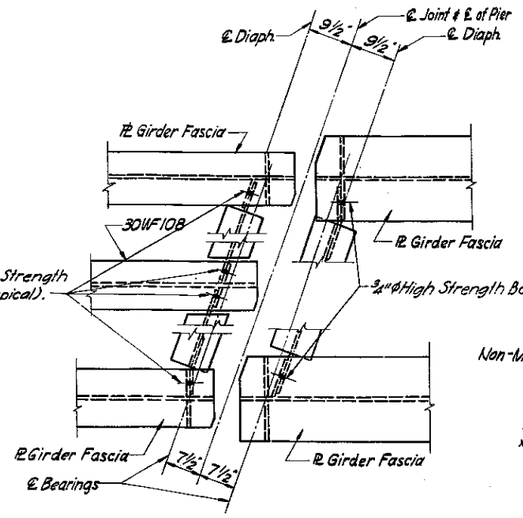
SECTION AT FIXED JOINT
SCALE: 1" = 1'-0"



DIAPHRAGM D-2 CONNECTION DETAIL
SCALE: 1" = 1'-0"



END DIAPHRAGM DETAILS AT ABUTMENT
SCALE: 3/4" = 1'-0"



END DIAPHRAGM DETAIL AT PIERS
SCALE: 3/4" = 1'-0"

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
EXPRESSWAY OVER CICERO AVE.

SUPERSTRUCTURE DETAILS

SCALE: HORIZ. AS NOTED VERT.
DATE : DEC., 1962
DRAWN BY J. Zebedee
CHECKED BY B. Harris

L-2

I 55

Illinois Department of Transportation

Memorandum

To:	John A. Fortmann, Dist. 1	Attn: John Baczek
From:	D. Carl Puzey	By: Patrik D. Claussen
Subject:	Bridges and Structures	
Date:	September 12, 2016	

FAI Route 55
Section 22-1HB-1
DuPage County

P-91-762-10
SN 022-0003

I-55 over South Madison Street

We received the Bridge Condition Report (BCR) for the above-mentioned structure submitted with your email dated August 15, 2016. The report recommends the following scope of work:

- Remove and replace the expansion joints
- Install a new concrete overlay
- Repair the substructure
- Repair the beam ends
- Repair the roadway approach shoulders

We have no objection with the proposed scope of work based on the condition of the existing structure. The Bridge Condition Report is approved. Please submit the Repair plans to our Repairs Unit for review prior to placing this project on a letting.

Please contact Ally Kelley at (217) 785-7623 with any questions.

ADK/kkt0220003-20160912

Illinois Department of Transportation

Informal Transmittal

To:	D. Carl Puzey
Bureau:	Bridges & Structures
Attn:	Patrik Claussen

From:	Harmet/Baczek/Schilke/Baldauf
Bureau:	Programming/Major Projects Unit
	By: Corey Smith
Subject:	BCR Submittal 022-0003 I-55
	Over Madison St 20160812

Date:	8/15/16

Please check appropriate box below:

- ☐ Take Necessary Action
- ☒ For Your Comments
- ☐ Per Your Request
- ☒ For Your Approval
- ☐ For Your Information
- ☐ See Me About the Attached
- ☐ Draft (Letter)(Memo) For My signature
- ☐ Reply
- ☐ Return
- ☐ Route
- ☐ File

Message

We are transmitting for your review and approval a copy of the Bridge Condition Report for the above subject project. Design Approval is scheduled for 8/31/16. This structure is included as part of the I-55 Managed Lanes project which is operating under an accelerated project schedule and a priority of the Secretary and Governor. As such, we appreciate an expedited review in order to meet our scheduled Design Approval.

The proposed scope of work will consist of removing and replacing transverse expansion joints on all four approaches, scarifying concrete deck and installing concrete overlay across entire bridge, removing loose concrete and performing concrete repairs on the piers and abutments, repairing ends of prestressed concrete girders by cleaning and painting strands, repairing approach shoulders on top of deck.

For repairs to the substructure, S Madison St. will have to have traffic reduced to one lane for a 4 weekend lane closure program. Work on the top of deck which includes pouring a concrete overlay and replacing the expansion joints will also require temporary concrete barriers and will follow a similar staged schedule. (See BCR page 6.)

If you have any questions or need additional information, please contact John Baldauf, P.E., Project Manager, at 847-705-4103.

Signature

Copies to | Sarah Wilson | Ken Eng |

Response

Signature

transmem - Revised 2/19/98

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity

BRIDGE CONDITION REPORT

REGION: 1
DISTRICT: 1
ROUTE: I-55
COUNTY: DuPage
PROJECT NUMBER: PTB 169/014
STRUCTURE NUMBER: 022-0003

LOCATION: I-55 over S Madison St. in Burr Ridge, IL

PREPARED FOR: Illinois Department of Transportation

PREPARED BY: Ralph Otrembiak, PE SE- Bloom Companies, LLC

DATE INSPECTED: May 5th, 2016

PROPOSED LETTING DATE: N/A

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity

Table of Contents

I. Administrative Data

Structure Number:	022-0003
County:	DuPage
Route Carried:	I-55
Feature Crossed:	S. Madison St.
Section:	22-1HB-1
Station:	10+00 (S. Madison St.) / 1023 + 92.08 (I-55)

II. Roadway/Structure Data:

Route Carried	
Roadway Classification:	Interstate
Design/Posted Speed:	55 MPH
ADT (current/design):	160000 / N/A
ADTT (current/design):	18600 / N/A
DHV:	
Inventory Rating (HS or HL):	1.635 (58) 07/08/1997
Operating Rating (HS or HL):	2.635 (94) 07/08/1997
Sufficiency Rating:	96.0
Route Crossed	
Roadway Classification:	Major Collector
Design/Posted Speed:	30 MPH
ADT (current/design):	2850 / N/A
ADTT (current/design):	

Construction / Reconstruction / Repair History:

- The structure was originally built in 1958 as two separate bridges.
- The two bridges were merged and widened as well as rehabilitated in 1996.
- The original design live load was HS20-S16-44 including future wearing surface. The design live load for the widening and repair was HS20-44 plus alternate military including future wearing surface.

III. Structure Condition Data:

Inspection History (NBIS Ratings):

Year:	**Deck:**	**Super:**	**Sub:**
2015	7	6	6
2016	7	6	5

Inspection was carried out on May 5th, 2016. Field sketches were prepared by hand and included dimensions and defects. The inspection included an overall visual inspection, defect sketching, and a delamination survey of the substructure. Photographs were also taken of all the pertinent components of the bridge.

In addition to the inspection, a top of deck condition survey was performed by AECOM on June 13th, 2016 using infrared thermography.

Deck:

The deck is in good condition overall (NBIS rating 7).

The deck is 7½" thick, sloping down toward the south at 0.015%. There is no wearing surface. The out-to-out width of each side is 102'-6" (along skew) making the full out-to-out width 205'-0". It is conventionally reinforced and composite with the girders. The spans are numbered 1 to 3 from west to east. The bays between the girders are numbered 1 to 20 from north to south, not including the longitudinal joint bay (see structure naming convention on drawing D2 in Appendix D).

The top of the deck exhibits hairline cracking over span 2 and map cracking on the shoulder over span 2 on the north end (see Photo 51). Abrasion damage on the concrete is present on the east end of the south side due to impact of vehicles over the deteriorated joints (see Photos 49 & 50). Locations of ponding near the parapet over span 2 and near the east transverse joint are present on the south end.

The bottom of the deck is in good condition overall, showing only hairline cracks with efflorescence at approximately uniform spacing in 15 of the 20 bays (see Photo 6). Since the deck was replaced relatively recently, it shows few defects.

In addition to the visual inspection performed by Bloom, a top of deck condition survey was performed using infrared thermography. The thermograph survey shows that <0.1 % (7 SF) of the top of the deck is delaminated, <0.1% (1 SF) of the top of the deck is spalled, 0.1% (28 SF) of the top of deck is patched with epoxy, and 0.3% (66 SF) of the top of deck is patched with concrete.

Superstructure:

The superstructure is in satisfactory condition overall (NBIS rating 6).

The superstructure consists of 22 precast prestressed girders, numbered 1 to 22 from north to south. Reinforced concrete diaphragm members are present at various locations over the supports and at the midspan of each span. For the widening/repair design, four new girders were added between the two structures to merge them into a single structure and two new exterior girders were removed and replaced for the widening.

The girders exhibit spalling on their ends at 23 locations (see Photo 10) and delamination near the end on the bottom flange at 4 locations (see Photo 11). The worst cases of spalling occur on the end of girder 19 where the entire bottom row of stands are exposed and corroded (see Photo 10) and the underside of girder 6 at the west abutment (see Photo 12). Areas of spalling with exposed and corroded stirrups and areas of delamination are present on the underside of the bottom flange of girder 19 in span 3 near pier 2 (see Photo 7). The previously repaired areas on the superstructure are intact (see Photo 8). Corrosion is present on the bearing plates of most of the girders (see Photos 12 & 28).

No active defects are present on the diaphragm members. Previously repaired areas on the diaphragms are intact (see Photo 9).

Substructure:

The substructure is in fair condition overall (NBIS rating 5).

The substructure consists of two multi column piers and open abutments on the west and east. The piers are made up of 15 identical, 3'-6" diameter spiral columns. The columns are spaced 13'-0" on center with the exception of the added outer columns which are set 10'-11¾" on center and the column in the interior pier which are set 13'-2½" on center. The columns are capped with a 3'-3" deep pier cap with 3'-7" cantilevers on each end. The abutments are approximately 190'-1" long (along skew) with 13'-6" wingwalls on all four corners that run parallel with the roadway (see Photos 25 & 26).

Pier 1 is in fair condition overall. Spalling with exposed and corroded reinforcement is present on approximately 2.3% (83 SF) of the columns' surface area and approximately 4.6% (124 SF) of the pier cap's surface area (see Photos 22 - 24). The worst case of spalling on the pier cap is in bay 5 (see Photo 23) and the worst case of spalling on the columns in on the southwest side of column 10 (see Photo 22). Delamination is present on approximately 3.5 % (94 SF) of the pier cap's surface area.

Pier 2 is in fair condition overall. Spalling with exposed and corroded reinforcement is present on approximately 1% (32 SF) of the columns' surface area and approximately 11% (279 SF) of the pier cap's surface area (see Photos 17 - 21). The worst case of spalling on the pier cap is in bay 11 (see Photo 19) and the worst case of spalling on the columns in on the north east side of column 14 (see Photo 20). Delamination is present on approximately 5% (122 SF) of the pier cap's surface area.

The west abutment is in satisfactory condition, exhibiting minor spalling, delamination, cracking, efflorescence and rust and water staining. Spalling with exposed and corroded reinforcement is present on approximately 0.2% (4 SF) of the abutment surface area (see Photo 36). The backwalls of each abutment were partially razed in order to reconstruct the transverse joints. Because of this, there is a cold joint running along the entire length of the abutments (see Photo 37). Efflorescence is found along the length of this joint and water and rust staining is present on the abutment seat and back wall in bay 19. A significant build-up of sediment has been deposited on the abutment seat in bay 3 due to an opening in the transverse joint above (see Photos 39 & 40). A significant amount of Styrofoam particles from the longitudinal joint has accumulated on the abutment seat as well.

The east abutment exhibits spalling with exposed and corroded reinforcement on approximately 0.1% (2.5 SF) of its surface area (see Photo 27). A cold joint similar to the one on the west abutment is present on the east abutment as well and exhibits efflorescence, rust staining, and water staining (see Photo 33). A large sediment deposit is present on the abutment seat in bay 20 (see Photo 29).

Approaches:

The bridge utilizes standard 30'-0" approach slabs on all four corners. The approach slabs are 50'-2" wide, set on a 42 degree skew, forward on the left, similar to the superstructure. Hairline cracking is present on the north west approach slab (see Photo 51) and near the transverse joint on the south west approach slab (see Photo 49). The asphalt shoulders on all four corners of the bridge are is poor condition with potholes and severe cracking (see Photo 48).

Joints:

The transverse joints are in poor condition overall. Approximately 12.5% of the transverse joint at the west end of the east bound side is missing (see Photo 49). The bottom steel plates and anchor bolts are fully exposed at this location. Due to the dip caused by these missing joint sections, the concrete on the deck shows abrasion damage due to traffic impact.

Similar gaps in the transverse joint are present on the west end of the west bound side (see Photo 50). Approximately 4 ft of the joints is completely missing including the bottom steel plate. Similar abrasion damage to the concrete is present at this location but on the approach slab side.
The longitudinal joint most likely has perforations as evidenced by the presence of water on the abutment seats directly beneath them (see Photo 32).

Bearings:

The bearings are in satisfactory condition. They consist of elastomeric expansion bearings (assembly Type 1) which rest directly on the concrete surface at the abutments and piers (see Photo 28). Minor corrosion is present on the bearings over the abutments at 34 locations, mostly in the top plates (see Photos 10, 12, 28, & 36).

Drainage System:

The drainage system consists of 6 (six)- 6 inch diameter deck drains on the south ends of both the east bound and west bound structures, three at each end (see Photo 53). The deck drain down spouts empty directly onto the slopewalls. The drainage system is performing satisfactorily at deck level and with no defects or debris found (see Photo 54). However, the top of deck is susceptible to ponding of water at various locations (see Photo 2).

A drain trough was originally included at the base of the slope walls. On the eastside, this trough was covered up with a new sidewalk during the rehabilitation/widening project. Due to settlement and cracking of the interior slopewall panels, silt and mud from the backfill is not contained. This silt and mud is carried to the sidewalk and roadway by the drainage from the deck drain down spouts above. A local resident stated that from time to time, maintenance personnel collect this mud and place it on the southeast embankment (see Photo 44). A large amount of debris is present at the base of the west slopewall as well (see Photo 3).

Railings:

The railings consist of 32” standard slipform concrete parapets on the north and south ends. At the median, two parapets are set back to back with a 1½” expansion joint between them. On the north end of the south structure is a standard 32” concrete parapet. On the south end of the north structure is a non-standard 45” concrete parapet.

Overall, the parapets are in good condition. The only defects present are thermal expansion cracks at the base of the vertical expansion joints.

Utilities:

Overhead lines cross S. Madison St. on the north end (see Photo 42). An electrical pole is present to the south side of the bridge, on the east side of S Madison Rd (see Photo 45). Record plans show an opening for embedded conduit in the base of the 32" parapet at the longitudinal joint.

Adjacent Land Use:

A wide, unoccupied space is present to the northwest of the bridge with a warehouse on the north side of Joliet Road (see Photo 42). Overhead electrical lines and a 7-11 sign are present on the corner of this unoccupied space. The lot to the northeast of the bridge is occupied by a restaurant (see Photo 43). A large blank unoccupied space is present to the southeast of the bridge (see Photo 44). A similar space is present on the southwest corner of the bridge (see Photo 45).

Other Issues:

A timber tie-back wall is present on the northeast corner of the bridge. The wall is approximately 6'-8" tall at its highest point and 45' long (see Photo 46). The wall retains the embankment above the east sidewalk starting at the north end of the east slopewall. The wall exhibits deterioration on a few of its top members (see Photo 47) and has exposed and deteriorated deadman members behind it. This wall is considered an incidental structure to the bridge and is in fair condition overall. No tilting or bowing of the wall is currently observed.

A chain link fence surrounds the abutments on both sides of the bridge. This fence is a continuation of the chain link fence that runs along I-55 (see Photo 55). At this time there are no locks on the gates at the access points for the abutments.

Bird spikes are present on the top of the pier caps as well as the tops of the bottom flanges on every girder for the length of the sidewalk (see Photo 7).

Concrete slopewalls are present on both sides of the bridge, starting approximately 7'-6" away from each abutment and extending to the sidewalk elevation at a slope of 2:1. Repairs to the slopewalls were included in the 1996 repair work. Separation of the slopewall from the abutment, approximately 3.5" wide, is noted at the east abutment (see Photo 30). Faulting of the concrete slope wall panels is present on the west end, with a maximum offset of 4 inches (see Photo 38).

The east approach guardrail on S Madison St. shows impact damage (see Photo 55). The rail is completely detached from one of the wood posts and loosely hanging on to the wood post on the end. This is not maintained by IDOT and is the responsibility of the local municipality.

IV. Evaluation

The bridge is in fair condition overall. Bloom found the following defects on the deck, superstructure, and substructure:

- Delamination on 4 SF of the west abutment and 2.5 SF of the east abutment.
- Spalling and delamination requiring 415 SF of repair on pier 1.
- Spalling and delamination requiring 450 SF of repair on pier 2.
- Spalling and/or delamination at the ends of girders at 23 locations.

- Hairline cracking and efflorescence on the underside of the deck.
- Hairline cracking on the top of deck.
- Missing sections in the transverse expansion joints.

Other, non-structural defects were noted including the presence of large deposits of silt/debris on abutment seats and at the base of the slopewalls, minor faulting of slopewall panels, and water and rust staining.

V. Recommended Scope of Work

Evaluations of various potential scopes of work were considered based on structural deficiencies, safety to traffic and pedestrians, and site conditions. No geometric evaluation was performed. While investigating alternatives, consideration was given to cost, construction requirements, and safety.

The recommended priority repairs include the following:

- Remove and replace transverse expansion joints on all four approaches.
- Scarify concrete deck and install new concrete overlay across entire bridge.
- Remove loose concrete and perform concrete repairs on the piers and abutments.
- Repair ends of prestressed concrete girders by cleaning and painting strands.
- Repair approach shoulders on top of deck.

Since the expansion joints need to be replaced, a concrete overlay should be installed at the same time. The deterioration at the ends of the prestressed concrete girders has not progressed to the point where bearing has been substantially reduced. Bloom recommends repairing the ends of the girders by cleaning and painting the exposed strands. With the installation of new expansion joints, these areas should remain dry after repairs have been completed.

The concrete repair on the pier caps is mainly overhead so shotcrete concrete repair is recommended for those areas. Hydro-demolition is one option to remove loose concrete which will also clean the rusted rebar and remove chlorides, but standard demolition can also be performed. For smaller pockets of spalling, concrete mortar repair is recommended.

For repairs to the substructure, S Madison St. will have to have traffic reduced to one lane. Bloom recommends a 4 weekend lane closure program. Removal of concrete on the defect areas on piers 1 and 2 will be performed in weeks 1 and 2, respectively. Then shotcrete repairs will be performed on piers 1 and 2 in weeks 3 and 4, respectively. The work area should be protected using temporary concrete barriers and temporary attenuators. Work on the top of deck which includes pouring a concrete overlay and replacing the expansion joints will also require temporary concrete barriers and will follow a similar staged schedule.

These repairs would cost an estimated $1,076,993.00

Secondary items to consider address non-structural issues. These are considered supplemental to the priority items and are as follows:

- Clean up debris at the base of the west slopewall.
- Perform epoxy crack injection for cracks ⅛” or larger on slopewall.
- Fill voids in slopewall caused by faulting of panels.

- Install drainage trough at the base of the east slopewall.
- Replace splitting wood members on the timber tie-back wall.

These secondary items would cost an estimated $26,689.00

Attachment A: Location Map

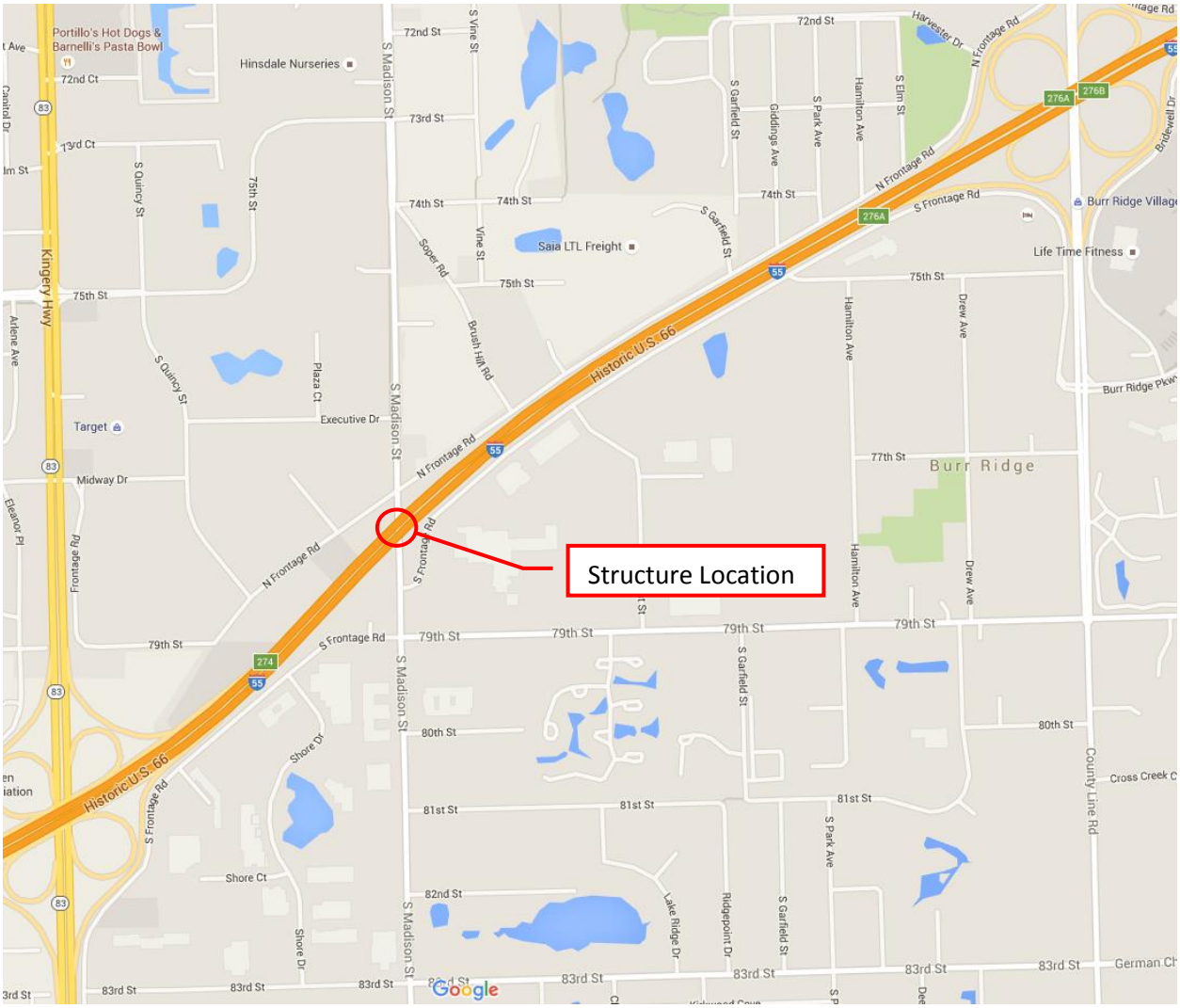


Image from Google. Map Data: ©2016 Google

Attachment B:

IDOT Master Structure Report

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-0003 **District:** 1

Inventory Data

Facility Carried:	I- 55	**Bridge Name:**		**Sufficiency Rating:**	96.0
Feature Crossed:	MADISON ST	**Location:**	0.6 M NE OF IL 83	**HBP Eligible:**	No
Bridge Remarks:	MAX.= 64' ORIGINALLY TWO STRUCTURES.			**Replaced By:**	-
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-
Status Remarks:				**Last Update Date:**	07/05/2012
Maint County:	022 DUPAGE	**Maint Township:**	03 DOWNERS GROVE	**Parallel Structure:**	None
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**	
Service On/Under:	1 HIGHWAY	1 /	HIGHWAY	**Skew Direction:**	L Left
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	42 **D**
Main Span Matl/Type:	6 PRESTRESS CONCRETE CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No
Nbr Of Main Spans:	3	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No
*****Approaches*****				**Border Bridge State:**	
Near #1 Matl/Type:		/		**Bdr State SN:**	
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0
Far #1 Matl/Type:		/		**Structural Steel Wt**	0
Far #2 Matl/Type:		/		**Substructure Material:**	

Structure Length:	172.0						
AASHTO Bridge Length:	99.9						
Length of Long Span:	57.5						
Bridge Roadway Width:	134.0						
Appr Roadway Width:	134.0						
Deck Width:	140.3						
Sidewalk Width Right:	0.0						
Sidewalk Width Left:	0.0						
Navigation Control:	N N/A						
Navigation Horiz Clear:	0						
Navigation Vert Clear:	0						
Culvert Fill Depth:	0.0						
Number Culvert Cells:	0						
Culvert Opening Area:	0.0						
Culvert Cell Height:	0.00						
Culvert Cell Width:	0.00						

Median Width/Type:	3 Ft. / 4 Wall	**Rated By:**	2 IDOT	**Rate Method:**	6		
Guardrail Type L/R:	0None / 0 None	**Inventory Rating:**	1.635(58)	**Load Rating Date:**	07/08/1997	**Railroad Crossing Info**	
Toll Facility Indicator:	0 No Toll	**Operating Rating:**	2.635(94)	**Crossing 1 Nbr:**			
Latitude:	41.74726236 **S**	**Longitude:**	87.93512738 **S**	**Design Load:**	01 HS20+MOD	**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM	**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N			**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:**	0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	5.6900		
Appurtenances	Main Route 00000	**Segment:**			
Inventory County:	022 DUPAGE	**Linked:**	Y		
Township/Road Dist	03 DOWNERS GROVE	**Natl. Hwy System:**	On NHS		
Municipality	6240 WILLOWBROOK	**Inventory Direction:**			
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 158400		
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	11		
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	6		
Max Rdwy Width:	67.1	**One Or Two Way:**	2 Two-Way		
Horizontal:	68.3 68.3	**Bypass Length:**	0		
		Future AADT Yr/Cnt:	2032 / 194950		
		Designated Truck Rte:	CLASS I		
Lateral:		**Special Systems:**	Yes		

Key Route Under Data

FEDERAL-AID URBAN 2674	**Station:**	4.8900			
Main Route 00000	**Segment:**				
022	**Linked:**	Y			
03 DOWNERS GROVE	**Natl. Hwy System:**	Not on NHS			
0759 BURR RIDGE	**Inventory Direction:**				
1051 1051	**Curr AADT Yr/Count:**	2012 / 2850			
5 MAJOR COLLECTOR	**Est Truck Percentage:**	3			
South/East **North/West**	**Number Of Lanes:**	2			
25.5	**One Or Two Way:**	2 Two-Way			
33.0 0.0	**Bypass Length:**	0			
	Future AADT Yr/Cnt:	2032 / 2785			
	Designated Truck Rte:	NONE			
	Special Systems:	No			

*** Marked Route On Data ***

	Designation		Kind	Number
Route #1:	1 Mainline	1	Interstate Highway	055
Route #2:	1 Mainline			
Route #3:	1 Mainline			

*** Marked Route Under Data ***

	Designation		Kind	Number
	1 Mainline	8	Other	
	1 Mainline			
	1 Mainline			

Structure Number: 022-0003 **District: 1**

Data Related to Inspection Information

***** Inspection Intervals *****

Routine NBIS: 24 MOS **Underwater:** 0 MOS **Special:** N

***** Maximum Allowable Posting Limits *****

One Truck At A Time: 0 **Single Unit Vehicles:** Tons
Combination Type 3S-1: Tons **Combination Type 3S-2** Tons

Bridge Posting Level: 5 No Posting Required

Inspection/Appraisal Information

Inspection Date: 11/21/2013 **Inspection Temperature:** 50Deg. F

**** Actual Posted Limits ****

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION
Culvert:	N	NOT APPLICABLE
Channel and Protection:	N	NOT APPLICABLE
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE
Waterway Adequacy:	N	NOT APPLICABLE
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA
Bridge Railing Appraisal:	3	Meets Standards
Approach Guardrail:	233	Not Acceptable Acceptable Acceptable
Pier Navig Protection:	N	N/A

Single Unit Vehicles: Tons
Combination Type 3S-1: Tons
Combination Type 3S-2: Tons
One Truck At A Time: 0

Deck Wearing Surf:	A	BARE DECK NO OVRLAY
Deck Membrane:	F	NONE
Deck Protection:	A	EPOXY COATED REINF
Total Deck Thick:	7.5	
Last Paint Date:		

Last Paint Type:

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1959	Original		1996	Reconstructed
Route:	FAI-55	**Sta:** 1023+92.08		FAI-55	**Sta:** 1023+92.08
Section Nbr:	22-1HB-1			22-1HB-1	
Contract Nbr:				82453	
Fed Aid Pr#:	I 0036005000			NHI556(197)270	
Built By:	1 I.D.O.T.			1 I.D.O.T.	

Attachment C:

Record Plans

FAI 55

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 03	22-1HB-1	DU PAGE	17	2
STA.	TO STA.			
SEC. ROAD DIST. NO. 7	ILLINOIS	F.A. PROJECT		

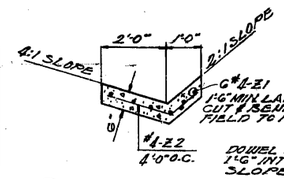
INDEX OF SHEETS

NOTE:
AT EACH ABUTMENT
(1) DRIVE TEST PILE
(2) CONSTRUCT EMBANKMENT AS SHOWN.
(3) DRIVE REMAINDER OF PILES THROUGH EMBANKMENT. SEE SPECIAL PROVISIONS

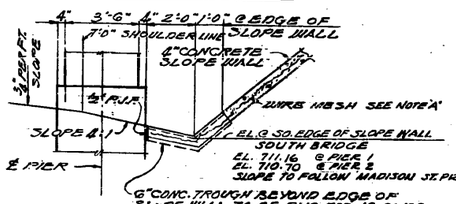
ELEVATIONS AT BOTTOM OF ABUTMENTS AND WINGWALLS

W. ABUTMENT	ELEV.	E. ABUTMENT	ELEV.
N. BRIDGE	724.15	N. BRIDGE	723.93
S. BRIDGE	724.12	S. BRIDGE	724.08

SECTION "C-C"



SECTION "B-B"

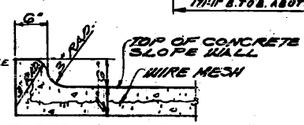


BILL OF MATERIAL-CONCRETE TROUGHS

ITEM	UNIT	TOTAL
CLASS "X" CONCRETE	CU.YDS.	11.0
REINFORCEMENT BARS	LBS.	960

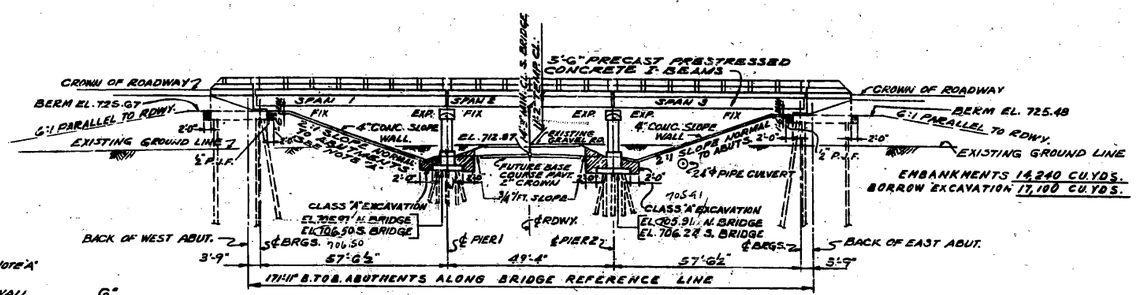
SECTION "A-A"

THRU EDGE OF CONCRETE SLOPE WALL



ELEVATION

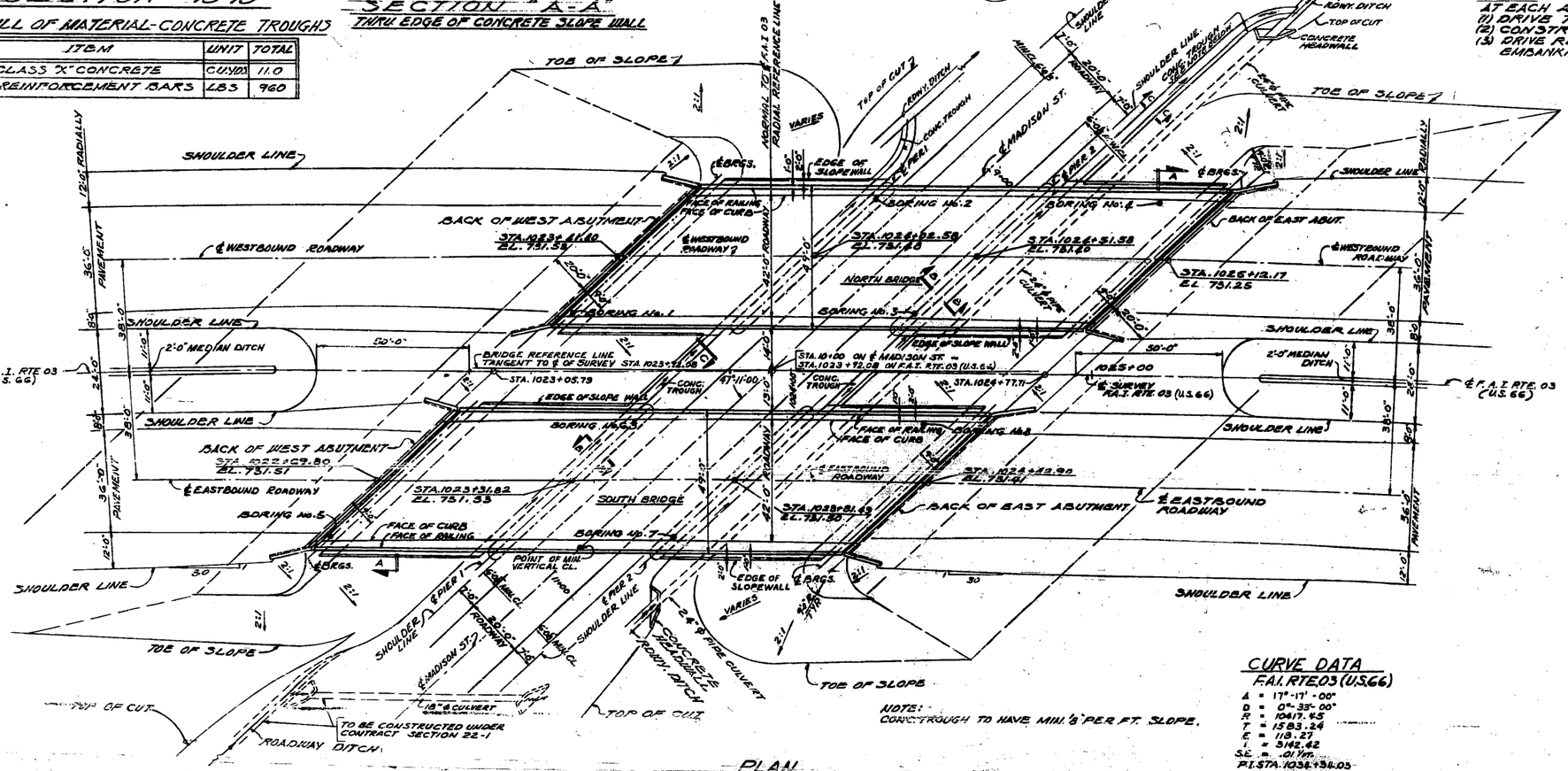
SCALE: 1"=20'



NOTE "A"
REINFORCED WITH WELDED WIRE FABRIC 6 x 6 MESH NO. 4 WIRE WEIGHING APPROX. 58# PER 100 SQ. FT.

PLAN

SCALE 1"=20'



NOTE:
CONC. TROUGH TO HAVE MIN. 6" PER FT. SLOPE.

CURVE DATA

F.A.I. RTE. 03 (U.S. 66)

Δ = 17°-17'-00"
D = 0°-33'-00"
R = 10417.95
T = 1583.24
E = 118.27
L = 3142.42
S.E. = .017 FT.
P.I. STA. 1038+34.05

DESIGN LOAD

L.L. - H20-S16-44 & ALTERNATE
FUTURE D.L. - 1½" BIT. WEARING SURFACE

DESIGN STRESSES

CONCRETE (CAST IN PLACE)
f'c = 3,500 LBS. PER SQ. IN.
fc = 1,400 LBS. PER SQ. IN.
fc = (WITH EARTH PRESSURE) 1000 LBS. PER SQ. IN.
V = (OVER FOOTING) 75 LBS PER SQ. IN.
n = 10

PRESTRESSED CONCRETE
fc = 5,000 LBS. PER SQ. IN.
f'ci = 4,000 LBS. PER SQ. IN.
fc = 2,000 LBS. PER SQ. IN.

REINFORCING STEEL
fs = 20,000 LBS. PER SQ. IN.

PRETENSIONING STEEL
fsu = 248,000 LBS. PER SQ. IN.
fsi = 175,600 LBS. PER SQ. IN.

PILE LOADS
ABUTMENTS = 35 TONS (CONCRETE PILES)
WINGWALLS = 10 TONS (TIMBER PILES)
PIERS = 20 TONS (TIMBER PILES)

ROAD CLASSIFICATION
INTERSTATE

DESIGN SPEED
70 M.P.H.

ALFRED BENESCH & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WABASH AVENUE 567-2 CHICAGO, ILLINOIS

GENERAL PLAN & ELEVATION
GRADE SEPARATION
U.S. ROUTE 66
OVER MADISON STREET
F.A. PROJECT I-03-6(5)
F.A.I. ROUTE 03 SECTION 22-1HB-1
DUPAGE COUNTY
STATION 1023+92.08

Bench Mark:
Top of existing Northeast Wingwall El. 734.38

Existing Structure: S.N. 022-0003 is a three span simple P.P.C. I-beam structure with a total length of 171'-11" and a total out to out width of 134 ft. The structure was constructed in 1959, rehabilitated and widened in 1978, under section 22IHB-1

The road will be kept open at all times by utilizing stage construction. (See cross-section for staging and deck removal). No salvage.

STATION 1023+92.08
REBUILT 199
STATE OF ILLINOIS
F.A.I. RT. 55 SEC. 22-IHB-1
F.A. PROJECT NO.
LOADING HS20 & ALT.
STR. NO. 022-0003

NAME PLATE
See Std. 2113

LOCATION SKETCH

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-55	22-1HB-1	DuPage	401	245
STA. 1023+92.08 TO STA.				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

WORK TO BE PERFORMED

The existing concrete deck is to be removed and replaced with a new concrete deck widened 3'-1" on each side. The structure is to be raised to provide 14'-6" minimum vertical clearance over Madison Street. The existing bearings are to be replaced with elastomeric type bearings and the simple span beams to be made continuous. Remove existing wing walls and replace as shown. Existing beams and diaphragms and substructure to be repaired and re-used except the beams added for the 1978 widening will be replaced. Concrete slope walls are to be repaired. Traffic to be maintained using staged construction.

DESIGN SPECIFICATIONS

1992 AASHTO, 1993 & 1994 Interims

LOADING HS20-44 & ALT.

Allow 25# / sq. ft. for future wearing surface

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi. (Reinf.)
fy = 36,000 psi. (M270 Grade 36)

EXISTING PPC UNITS

CONCRETE
f'c = 5,000 psi
f'ci = 4,000 psi

PRESTRESSING STEEL
fsu = 248,000 psi (1959 Constr.)
fsi = 173,600 psi (1959 Constr.)
Strands = 7/16" ϕ

NEW P.P.C. UNITS

CONCRETE
f'c = 5,000 psi
f'ci = 4,000 psi.
PRESTRESSING STEEL
f's = 270,000 psi.
f'si = 201,960 psi.
strands = 1/2" ϕ (Low Relaxation)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

CURVE DATA
F.A.I. ROUTE 55

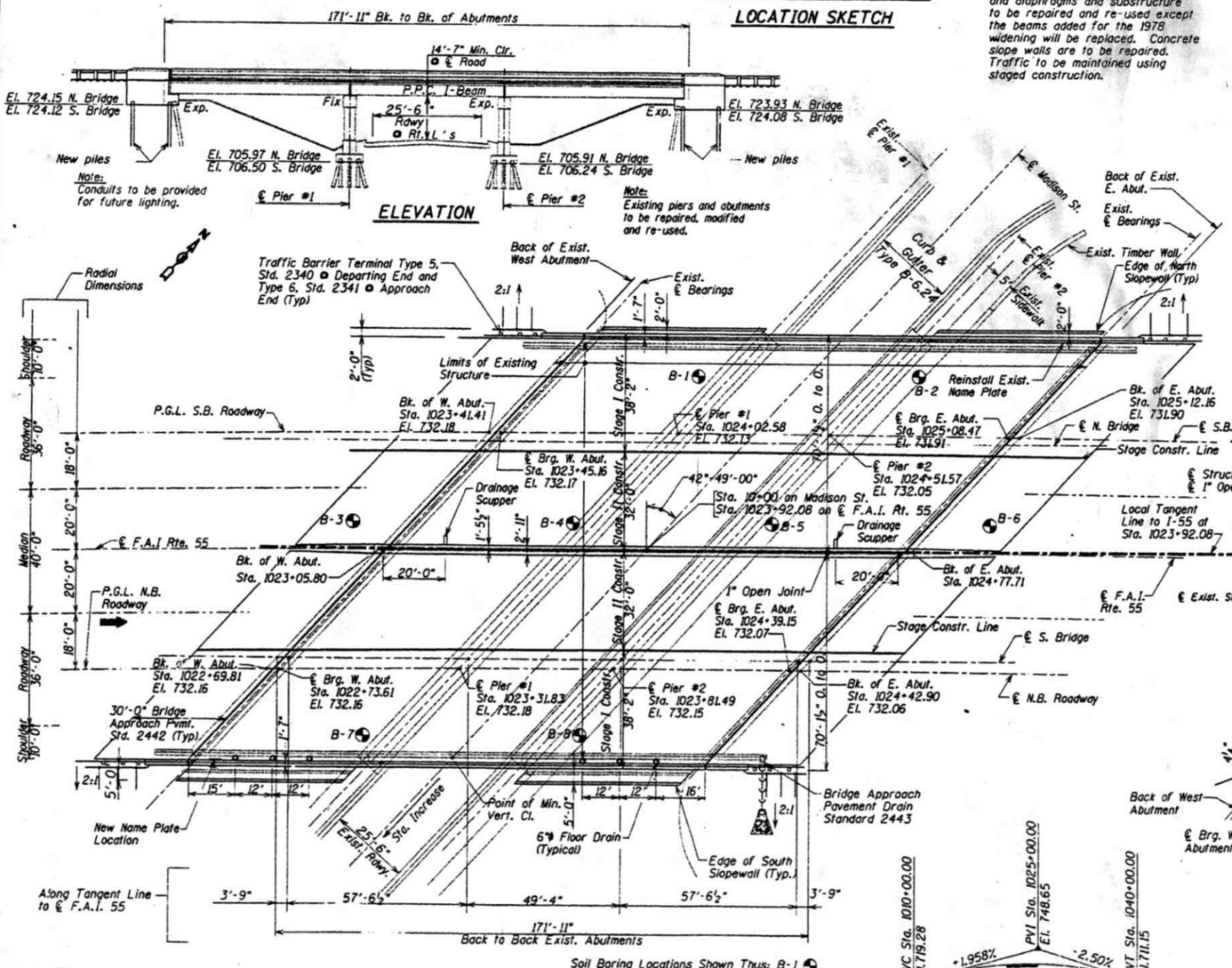
Δ = 17°-17'-00"
D = 0°-33'-00"
R = 10417.45'
T = 1583.24'
E = 118.27'
L = 3142.42
SE=0.015'/Ft.
P.I. Sta. 1034+34.03

GENERAL NOTES

1. All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type I.
2. Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.
3. Slope wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
4. Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
5. The contractor shall drive one test pile in a permanent location at each abutment as directed by the Engineer before ordering the remainder of piles.
6. Bridge Seat Sealer shall be applied to the seat area of the abutment extensions.

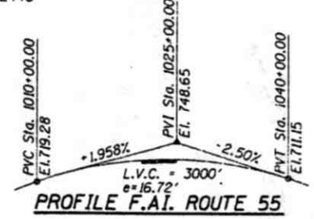
APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
Engineer of Bridges and Structures

10-20-95
DATE EXAMINED
11-30-96
MY LICENSE EXPIRES
Belton C. Ostrom
SIGNATURE

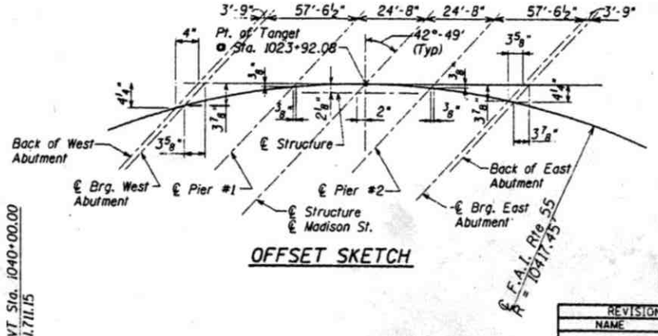


ELEVATION

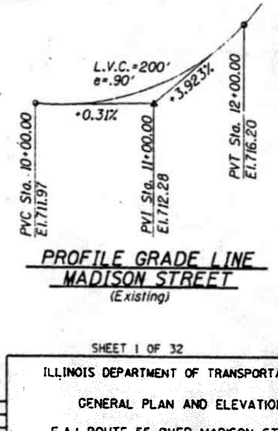
PLAN



PROFILE F.A.I. ROUTE 55



OFFSET SKETCH



PROFILE GRADE LINE MADISON STREET
(Existing)

REVISIONS	
NAME	DATE

SHEET 1 OF 32

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION

F.A.I. ROUTE 55 OVER MADISON STREET
DuPAGE COUNTY
F.A.I. RTE. 55 SECTION 22-1HB-1
STA. 1023+92.08 STRUCTURE NO. 022-0003

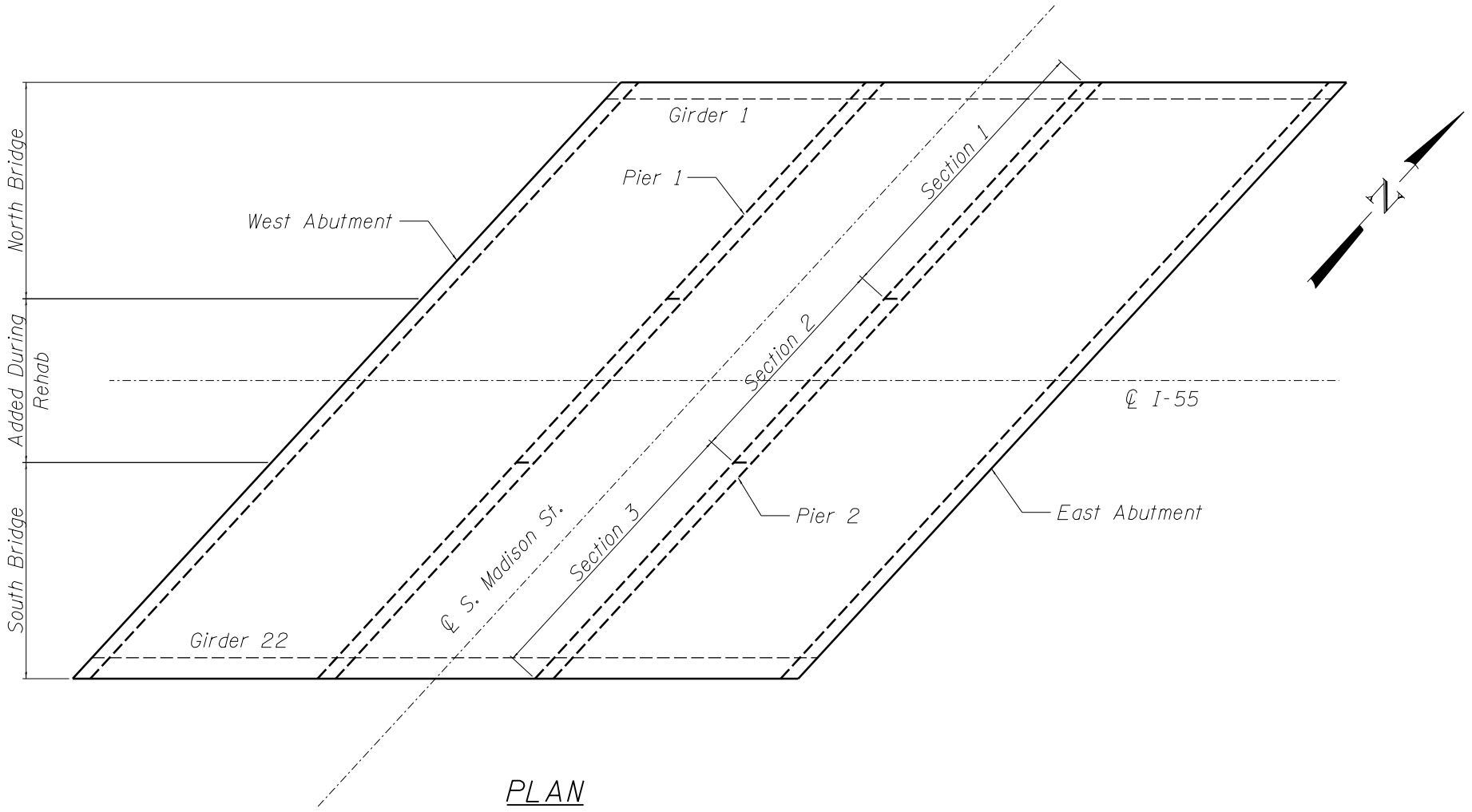
SCALE: VERT.
HORIZ.
DATE 11/20/95

DESIGNED BY K.M.H.
CHECKED BY B.C.O.
DRAWN BY D.C.B.
CHECKED BY K.M.H.

NELSON OSTROM BASKIN BERMAN & ASSOC., INC.
CONSULTING ENGINEERS PARK RIDGE, ILLINOIS

Attachment D:

Field Sketches



PLAN

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I–55 OVER S MADISON ST** **S.N. 022–0003** **NAMING CONVENTION**

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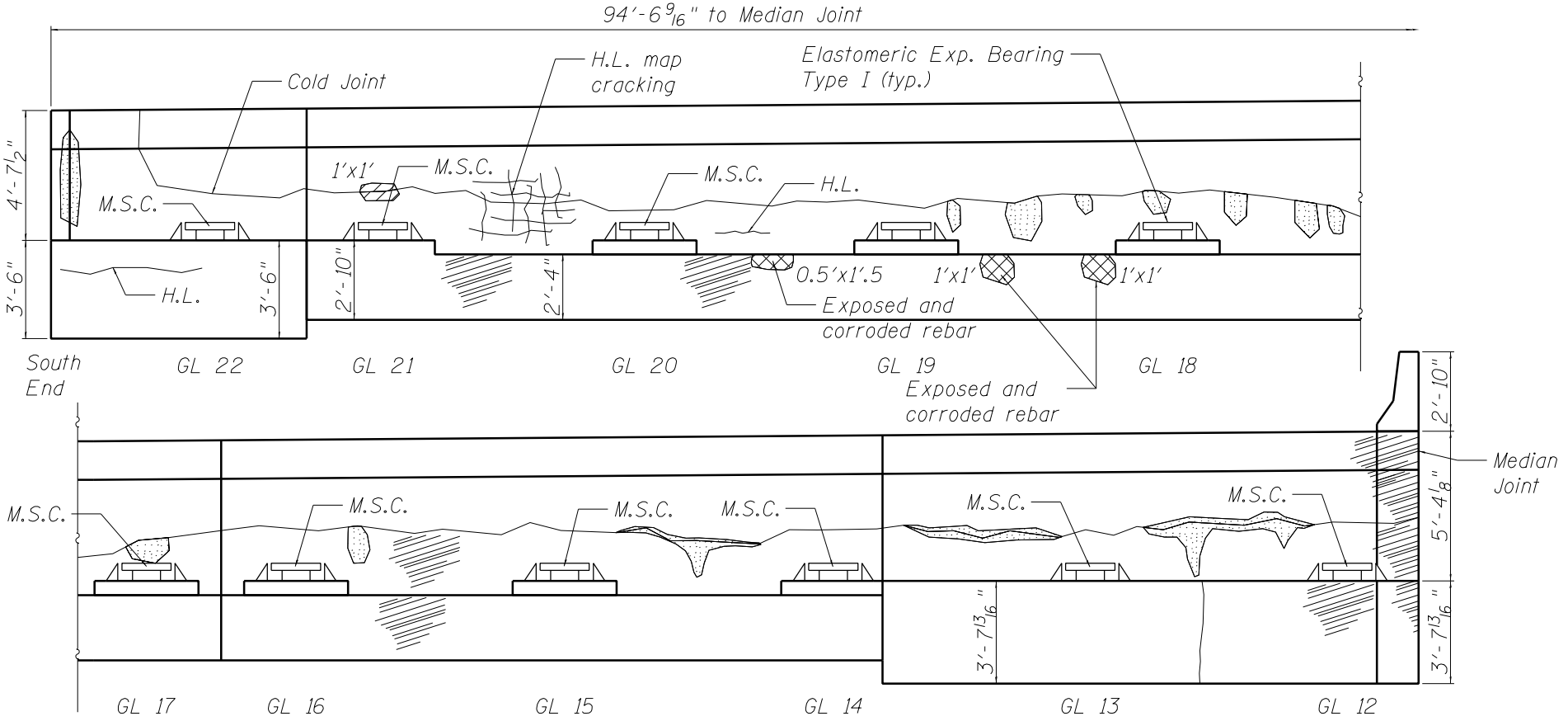

WEST ABUTMENT
SOUTH END ELEVATION

H.L. - Hairline Crack
GL - Girder Line
M.S.C - Minor Surface Corrosion

	Spalling
	Delamination
	Efflorescence
	Water Staining

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I–55 OVER S MADISON ST** **S.N. 022–0003** **WEST ABUTMENT FIELD SKETCH**

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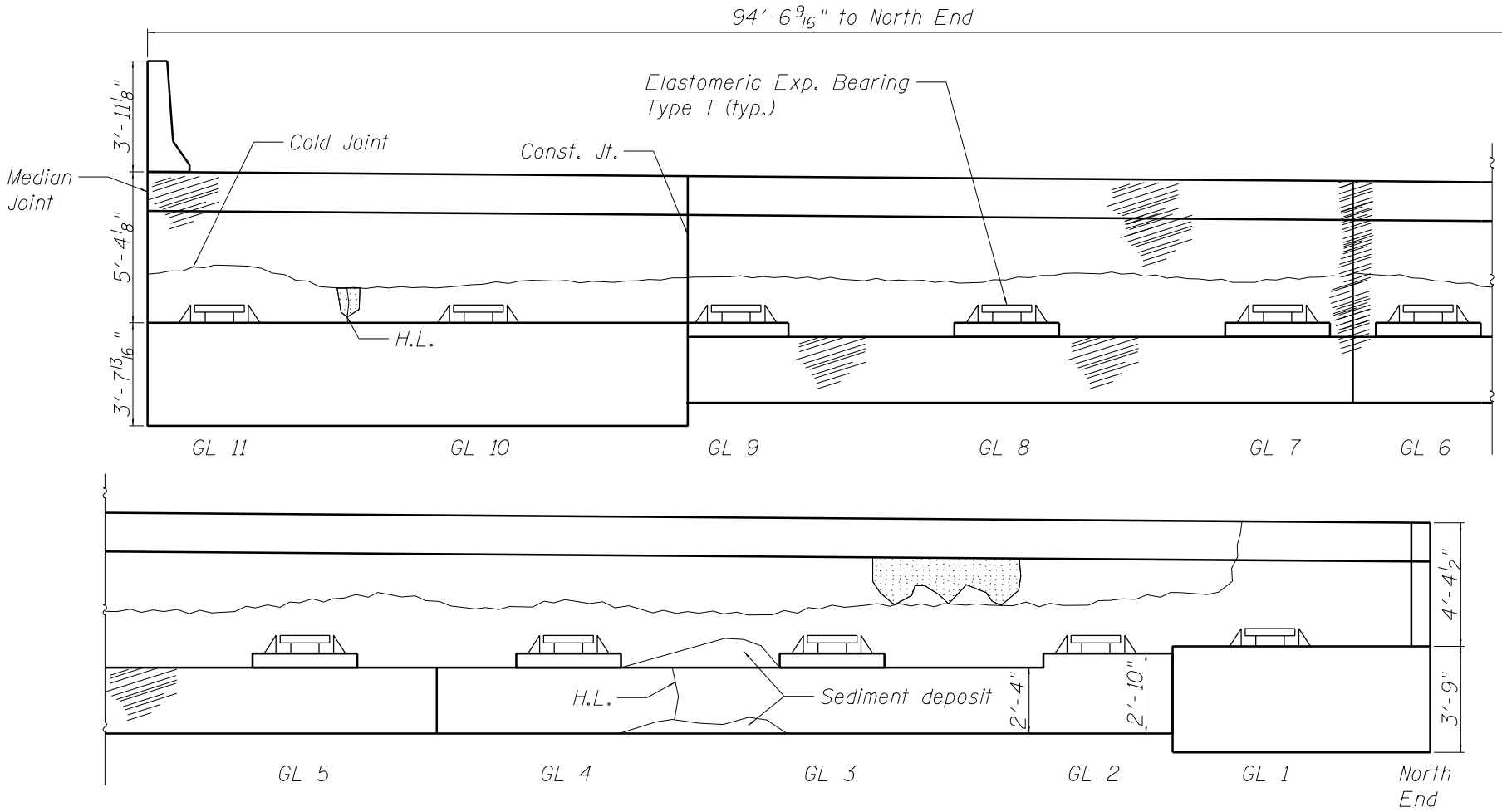

WEST ABUTMENT

NORTH END ELEVATION

H.L. - Hairline Crack
GL - Girder Line
M.S.C - Minor Surface Corrosion

	Spalling
	Delamination
	Efflorescence
	Water Staining

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I–55 OVER S MADISON ST** **S.N. 022–0003** **WEST ABUTMENT FIELD SKETCH**

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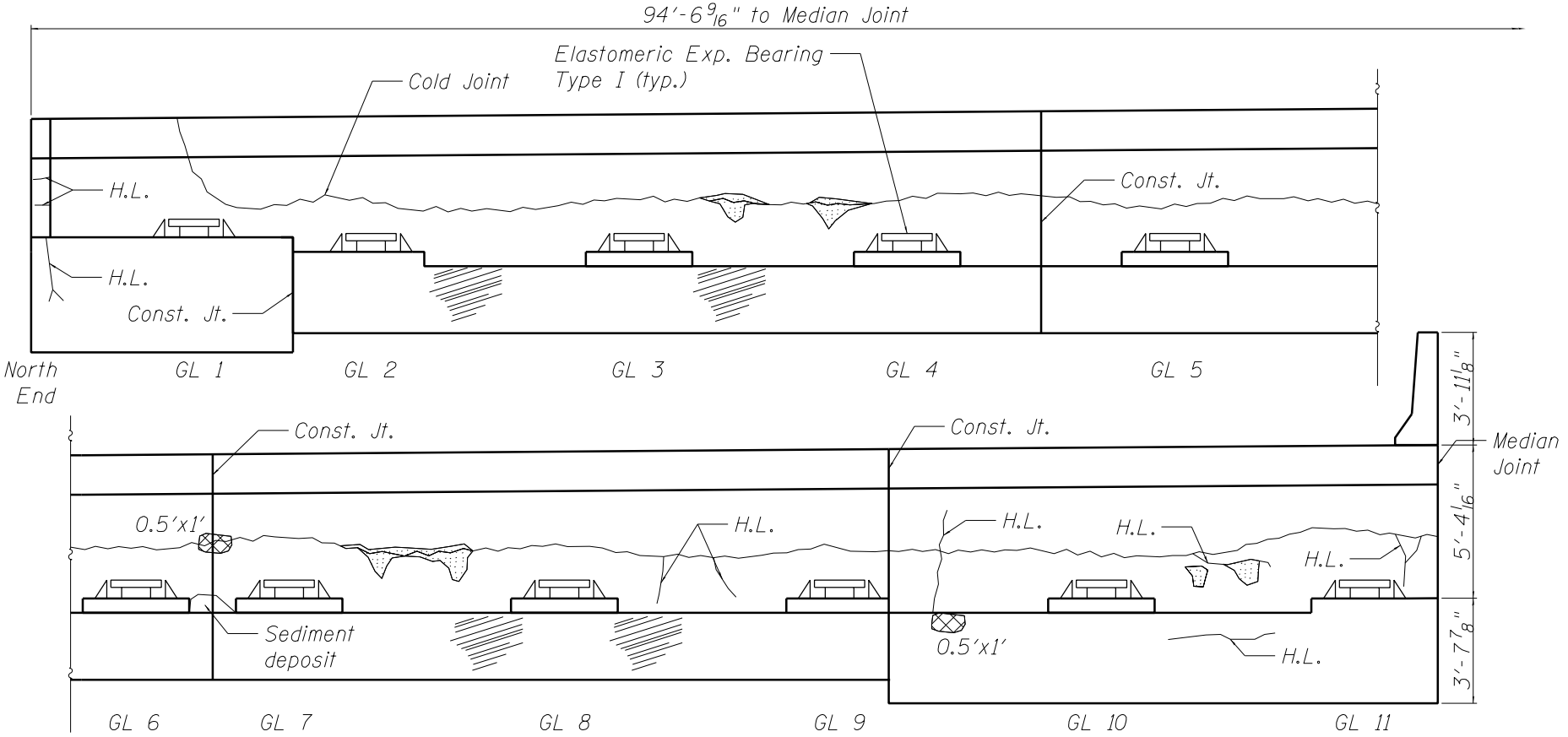

EAST ABUTMENT

NORTH END ELEVATION

H.L. - Hairline Crack
GL - Girder Line
M.S.C - Minor Surface Corrosion

	Spalling
	Delamination
	Efflorescence
	Water Staining

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I–55 OVER S MADISON ST** **S.N. 022–0003** **EAST ABUTMENT FIELD SKETCH**

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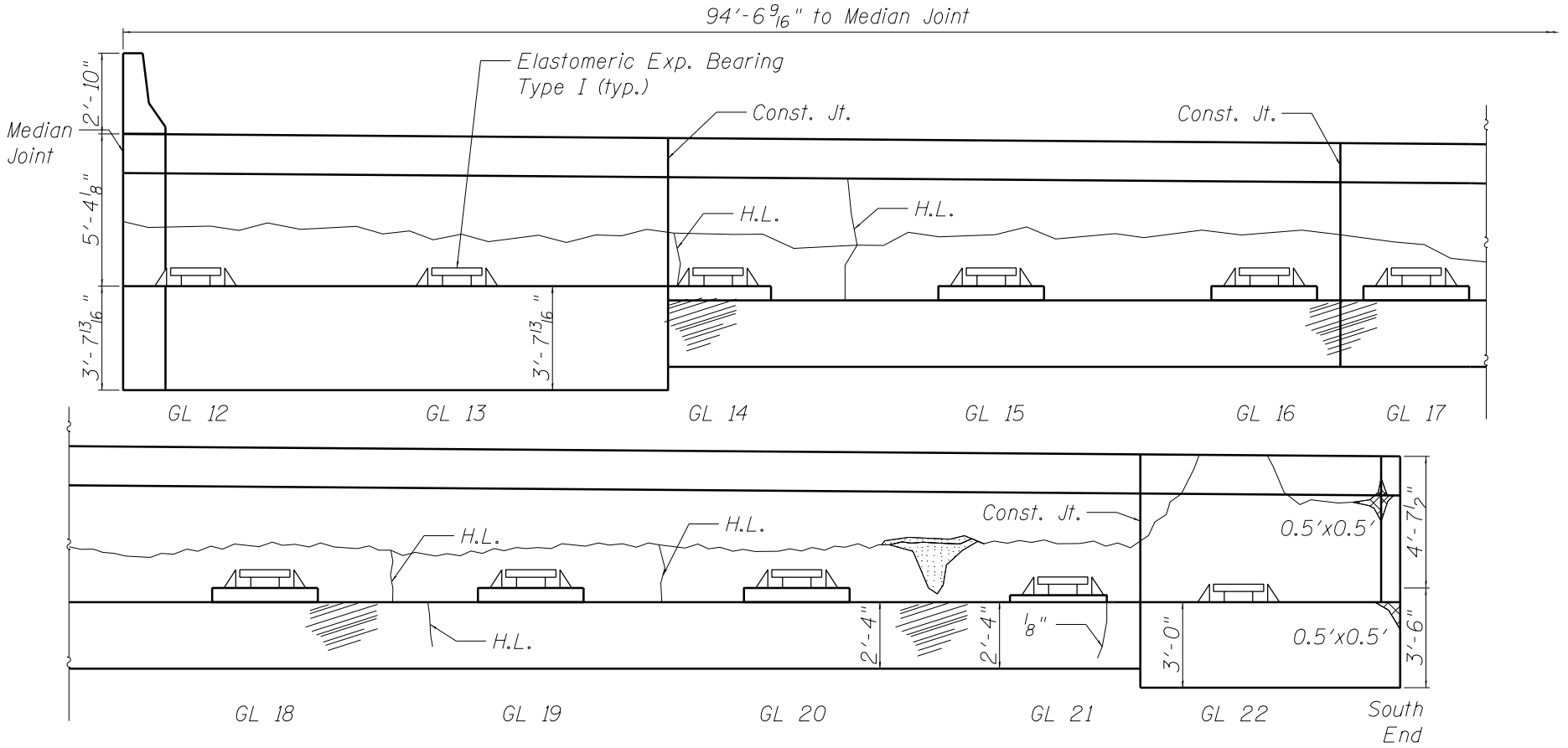

EAST ABUTMENT

SOUTH END ELEVATION

H.L. - Hairline Crack
GL - Girder Line
M.S.C - Minor Surface Corrosion

Spalling
Delamination
Efflorescence
Water Staining

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I–55 OVER S MADISON ST** **S.N. 022–0003** **EAST ABUTMENT FIELD SKETCH**

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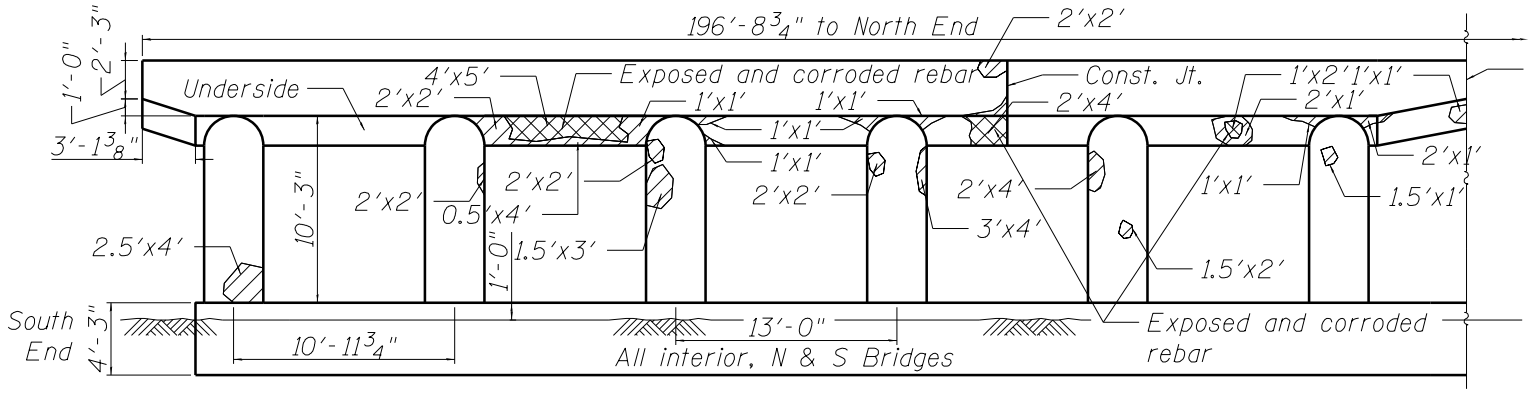
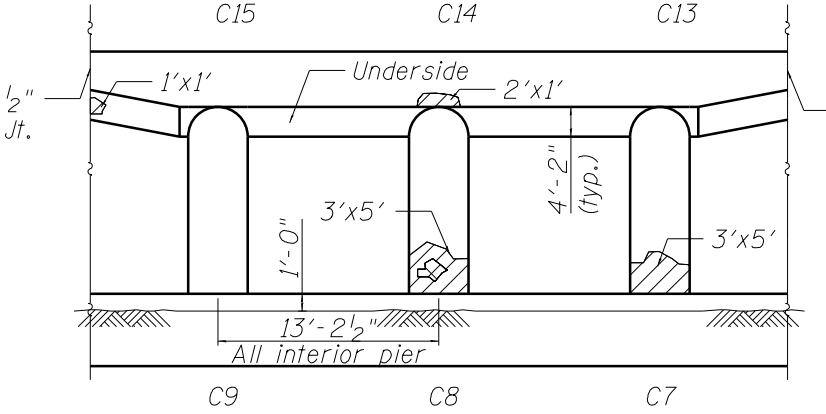
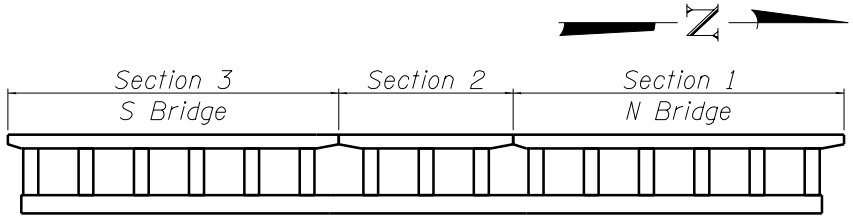


PIER 1: EAST FACE ELEVATION & UNDERSIDE

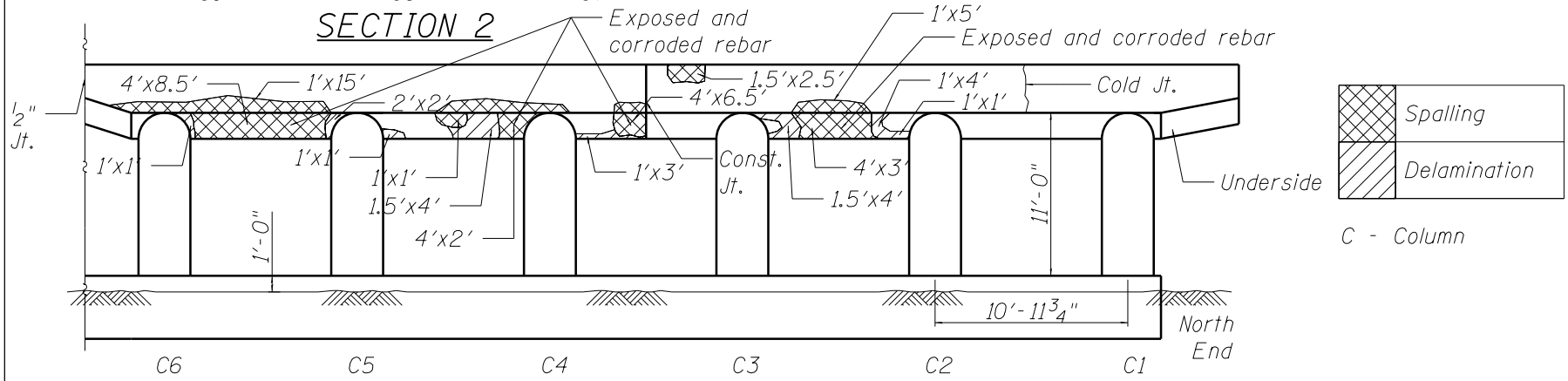


SECTION 3



PIER OVERALL

SECTION 2



SECTION 1

Spalling

Delamination

C - Column

INSPECTOR = RJO	**ILLINOIS DEPARTMENT OF TRANSPORTATION**
INSPECTOR = JA	
INSPECTION DATE = 5/5/2016	

I–55 OVER S MADISON ST
S.N. 022–0003
PIER 1 FIELD SKETCH

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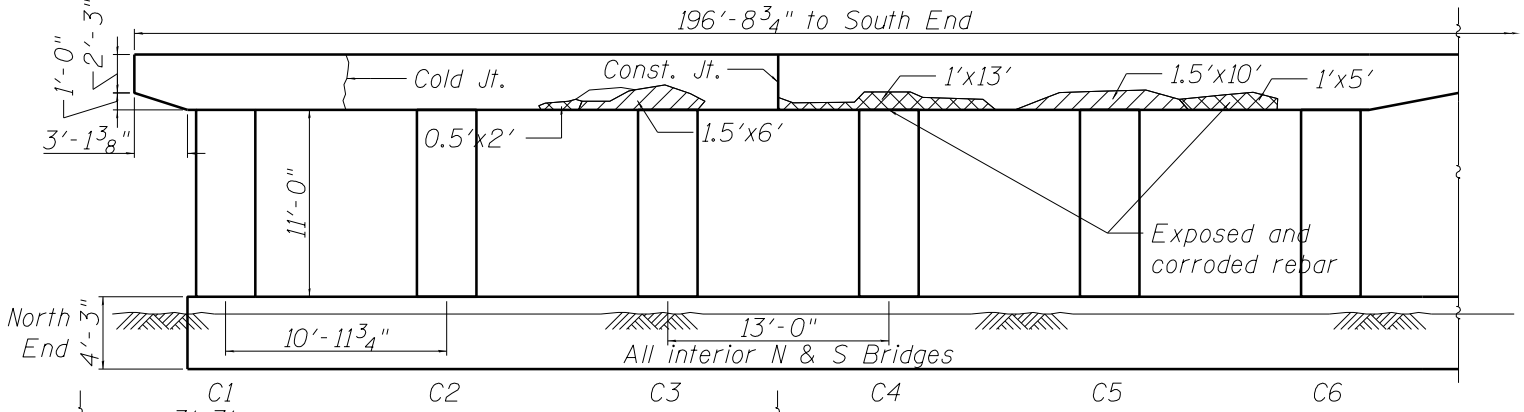
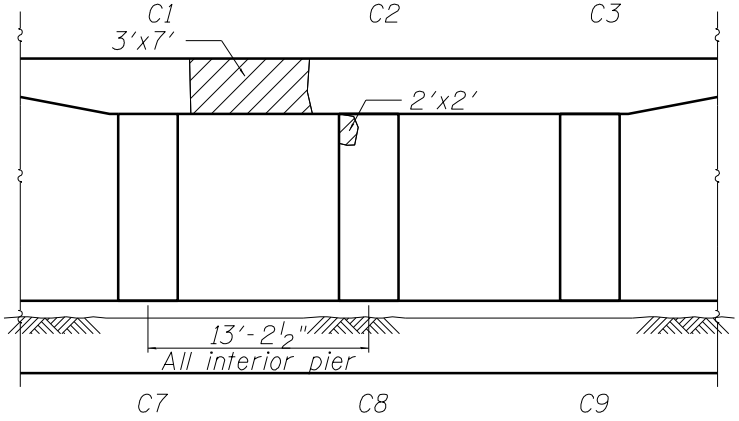


PIER 1: WEST FACE ELEVATION



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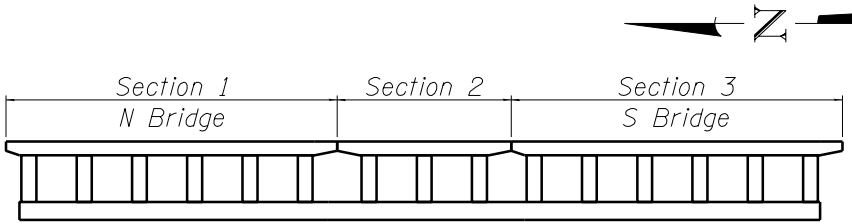
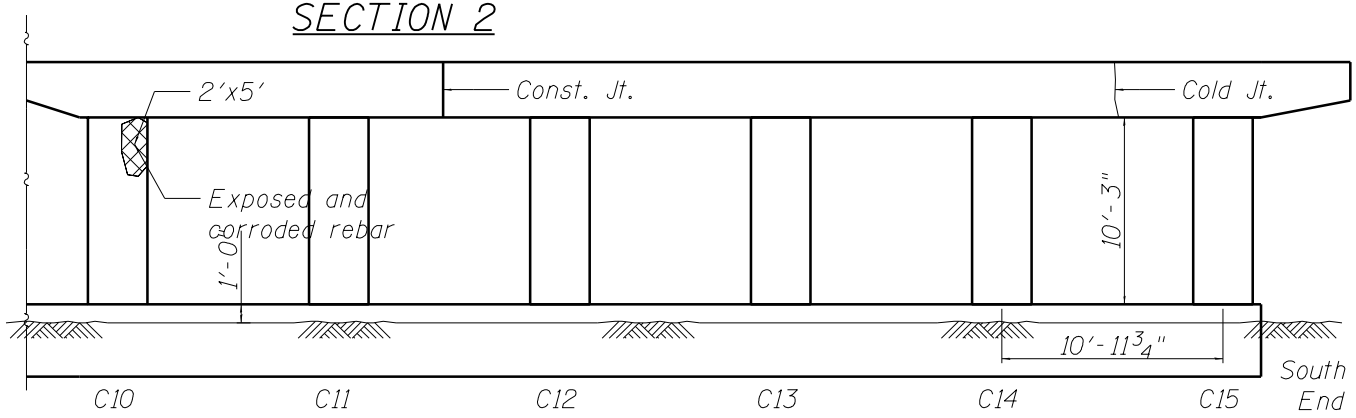


PIER OVERALL

SECTION 2



SECTION 3

Spalling

Delamination

C - Column

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I-55 OVER S MADISON ST** **S.N. 022-0003** **PIER 1 FIELD SKETCH**

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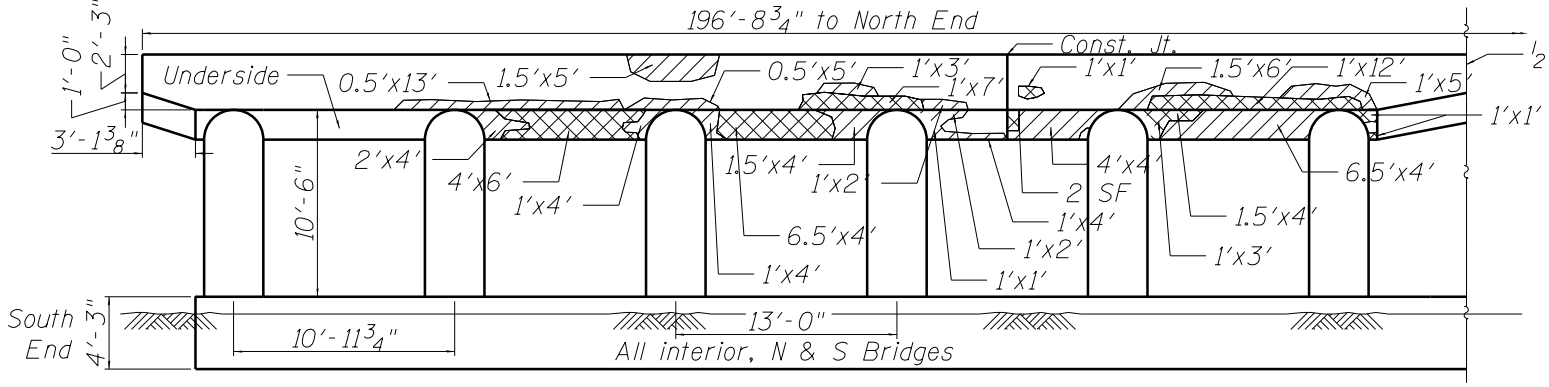
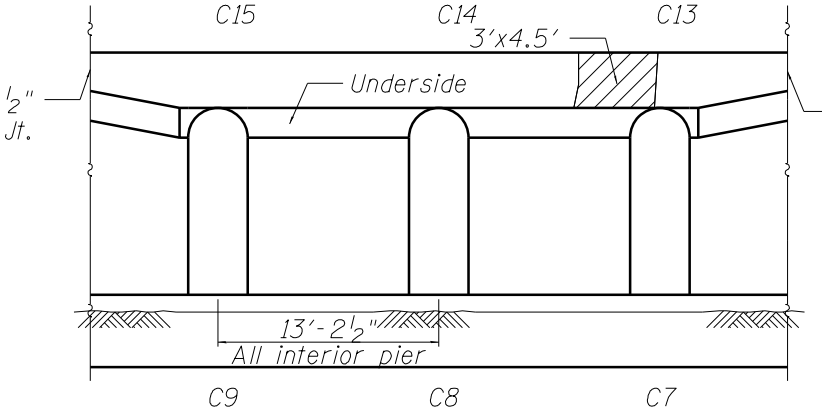


PIER 2: EAST FACE ELEVATION & UNDERSIDE



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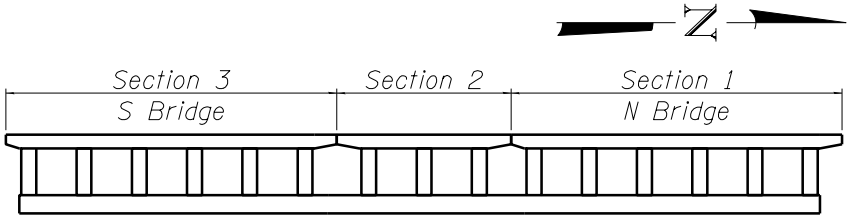
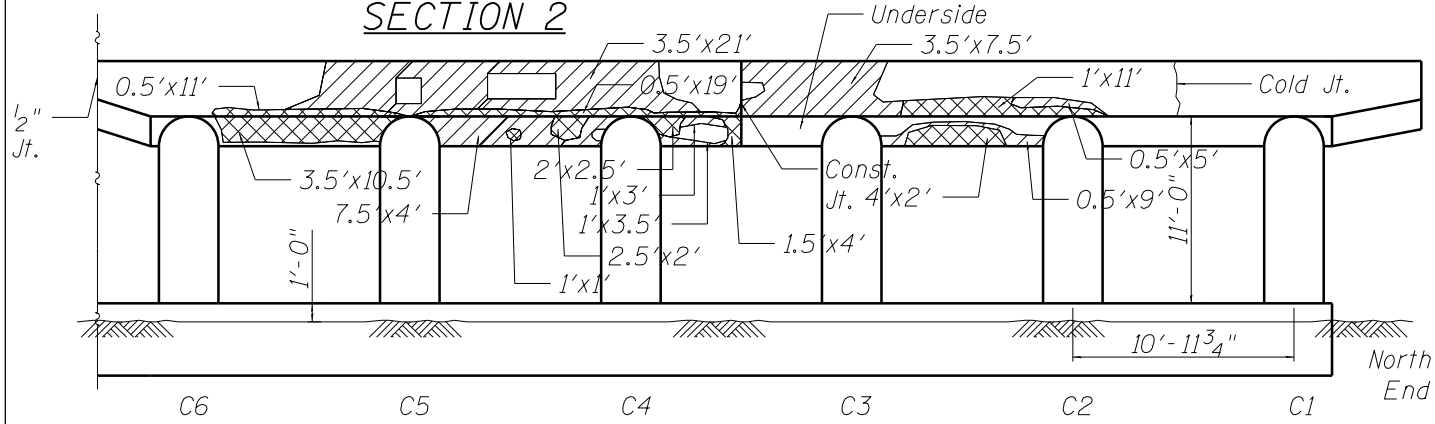


PIER OVERALL

SECTION 2



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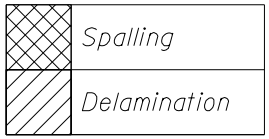

C - Column

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I–55 OVER S MADISON ST** **S.N. 022–0003** **PIER 2 FIELD SKETCH**

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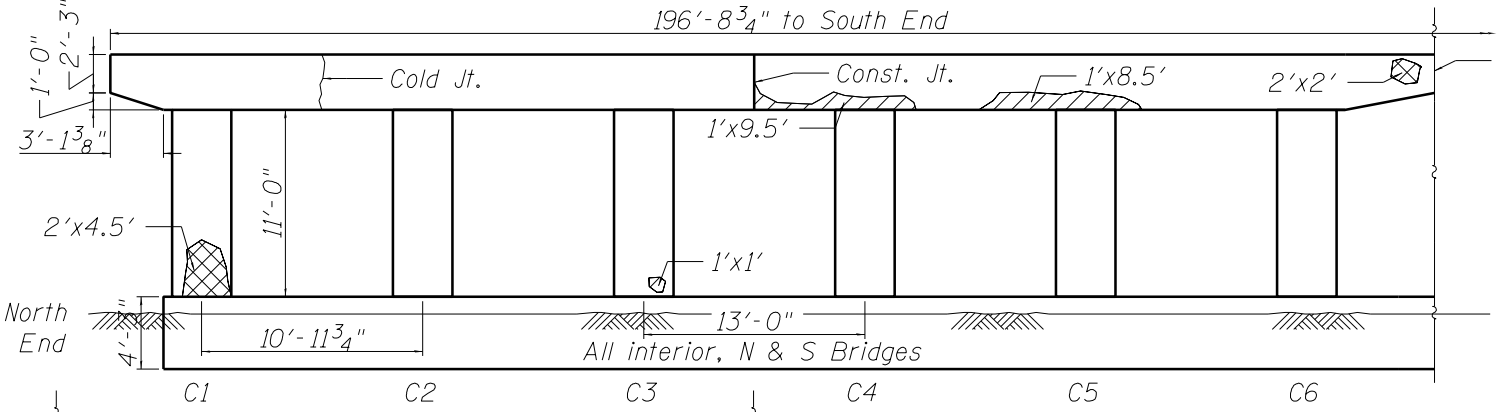
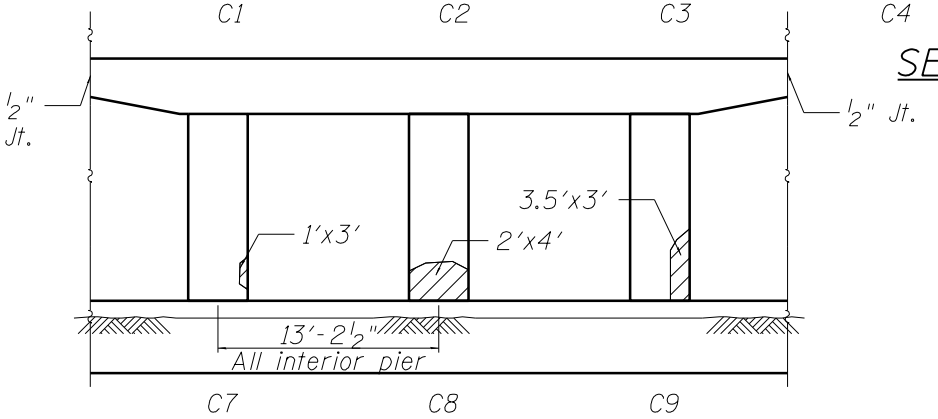


PIER 2: WEST FACE ELEVATION

SECTION 1



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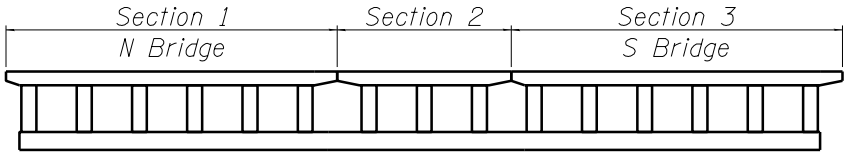
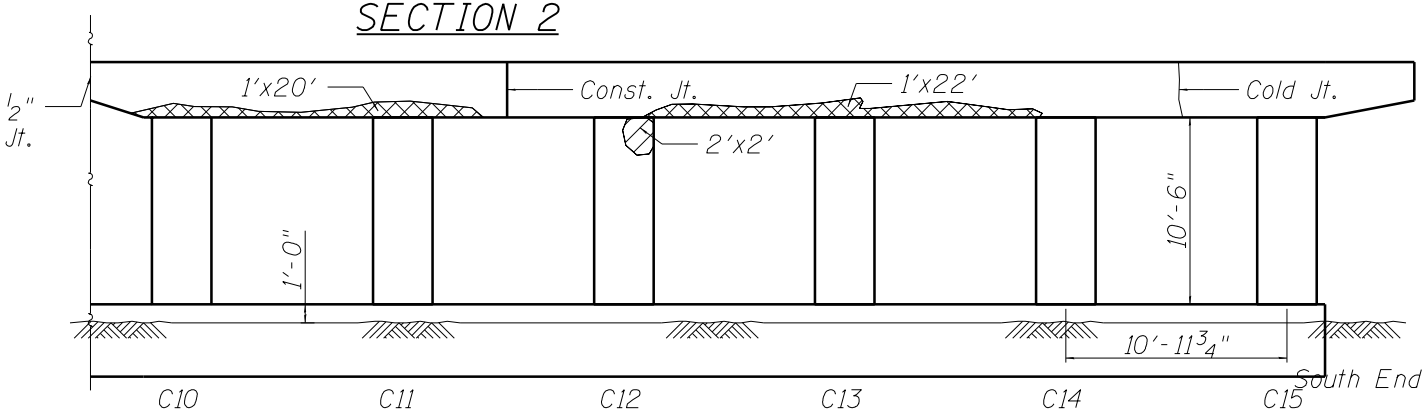


PIER OVERALL



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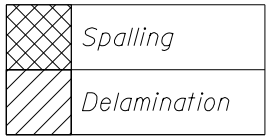

C - Column

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I–55 OVER S MADISON ST** **S.N. 022–0003** **PIER 2 FIELD SKETCH**

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Attachment E:

Top of Deck Survey

AECOM

Final Report

Infrared Thermographic Deck Survey of I-55 over Madison Street (S.N. 022-0003) in DuPage County, Illinois

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity

Prepared for:
Bloom Companies, Inc.
600 W. Fulton
Suite 701
Chicago, IL 60661

Prepared by:
AECOM Technical Services, Inc.
1555 N. RiverCenter Drive, Suite 214
Milwaukee, WI 53212

July, 2016

AECOM Project No. 60504019

AECOM
1555 N. RiverCenter Drive
Suite 214
Milwaukee, Wisconsin 53212
www.aecom.com

414 944 6080 tel
414 944 6081 fax

July 8, 2016

Mr. Lee Austin, P.E.
Senior Associate
Bloom Companies, Inc.
600 W. Fulton, Suite 701
Chicago, IL 60661

Subject: Thermographic Survey Report
AECOM Project No.: 60504019

Dear Mr. Austin,

We are respectfully submitting our final report that presents the results of the infrared thermographic survey conducted on I-55 over Madison Street (Structure No. 022-0003) in DuPage County, Illinois. The report provides a discussion of equipment and procedures used during this project, followed by the results. The results include plans identifying areas of delamination.

Following your review of this report, we would be pleased to discuss the material contained herein.

Sincerely,

AECOM Technical Services, Inc.

Daniel D. Ulrikson, P.E.
Remote Sensing Department Manager

Enclosure

Table of Contents

Figures

Appendices

1.0 INTRODUCTION

1.1 Background

The Illinois Department of Transportation (IDOT) is responsible for the planning, design, construction, operation and maintenance of thousands of bridge assets within the state. IDOT Region 1/District 1 has responsibility for those assets within the 6 counties that comprise the region. Aging infrastructure and limited funds present a management challenge to the department. Accurate and timely information about the condition of bridges is required to optimize the performance and life of bridges at minimal cost. This report will provide specific bridge condition data that the department's bridge management staff can use in their evaluation of this bridge.

When concrete deteriorates in a highway bridge, repairs become necessary to assure the safety of the bridge, extend its useful life and restore the riding qualities of the deck. Deterioration types requiring repair include delamination, debonding of the overlay and patching on the bridge deck. Delaminated concrete is defined as a horizontal fracture plane, normally occurring at or above the reinforcing steel in the bridge deck. Debonding of the overlay is a separation of asphalt or concrete pavement overlay from the concrete deck which can lead to scaling or pot holes. Patching indicates a previous defect either in the overlay or the bridge deck.

AECOM Technical Services, Inc. was retained by Bloom Companies, Inc.to evaluate the present condition with respect to delaminated concrete of I-55 over Madison Street (Structure No. 022-0003) in DuPage County, Illinois, by conducting an infrared thermographic (IR) survey of the deck. This bridge has a continuously reinforced Portland cement concrete (PCC) deck. No overlay was present at the time of the inspection. The structure was built in 1959 and reconstructed in 1996. It has epoxy coated reinforcement and carries three lanes of traffic in each the northbound and southbound directions. It has a total length of approximately 172 feet and a total roadway width of approximately 134 feet. The total roadway area is approximately 22,530 square feet. Figures 1 and 2 show a general view of the bridge deck.

FIGURE 1

GENERAL VIEW - LOOKING NORTH

FIGURE 2

GENERAL VIEW - LOOKING SOUTH

The IR is capable of detecting delaminated concrete in the bridge deck because of the temperature differential that is established between solid and delaminated concrete when the bridge deck is heated by the sun. Non-destructive testing by IR is often coupled with ground truthing by visual observation or destructive testing, such as coring, to arrive at the optimal interpretation of the non-destructive testing.

1.2 Purpose

The purpose of this project was to evaluate the location and quantities of delaminated concrete in the bridge deck. This information, along with visual observations of the bridge deck and the results of additional testing, can be used to make rehabilitation recommendations.

1.3 Scope

This project scope included the use of a primary non-destructive testing system. The non-destructive method used was an IR survey of the entire bridge deck roadway to identify areas of delaminated concrete.

This report consists of two parts: the text portion and the appendix. The text presents the procedures, analyses, results and conclusions of the survey. The appendix presents the plan sheets showing the infrared survey results.

1.4 Definitions and Abbreviations

The following definitions and abbreviations appear throughout the report:

AECOM	-	AECOM Technical Services, Inc.
Delaminated concrete	-	A horizontal fracture plane occurring at or above the reinforcing steel.
IR	-	Infrared thermography
PCC	-	Portland cement concrete
IDOT	-	Illinois Department of Transportation

1.5 Acknowledgements

Bloom Companies, Inc.

Lee Austin, P.E., Senior Associate

AECOM Technical Services, Inc.

Daniel D. Ulrikson, P.E., Remote Sensing Department Manager
Timothy J. Crowley, Remote Sensing Specialist
David D. Scargall, Remote Sensing Specialist
Brady J. Seston, Remote Sensing Engineer

2.0 INFRARED THERMOGRAPHY

2.1 Introduction

Historically, delaminated concrete has been identified by acoustic methods such as hammer sounding, chain dragging or mechanical acoustic devices. The principle behind sounding is that delaminated areas produce a lower pitched or hollow sound when struck compared to that from non-delaminated areas. The air gap in the delamination causes a change in acoustic response to the imposed signal – for example, the hammer strike. Persons using sounding to identify delaminated areas need judgment and a great deal of time to test a given section of bridge deck.

The same physical condition that disrupts the acoustic response also causes a surface temperature variation. For this project, infrared thermography was used to identify delaminated concrete in the upper portion of the bridge deck. An infrared scanner was used to locate delamination by observing the surface temperature difference between delaminated areas and solid concrete which exists when the pavement or bridge deck is warmed by the sun. Trapped air in a delamination acts as an insulator, permitting the concrete above the delamination to become warmer than the surrounding, more massive pavement. Temperature differences can reach 10ºF on sunny days. The technique has principle advantages of faster data collection, less operator judgment, easy documentation via deck plans, and more accurate results than traditional sounding procedures. The infrared system is considered to be a "passive system" as opposed to the sounding techniques which are considered to be "active systems". Delaminated concrete in the lower portion of the bridge deck is not detectable from the surface because an insufficient amount of the sun's energy penetrates to that depth during the daylight hours.

On bridge decks with flexible overlays, the infrared equipment can often differentiate between delamination in the concrete and debonding of the overlay. In general, if the deck has a flexible overlay and both debonding of the overlay and delaminated concrete exists, slightly different thermal signatures will exist for the delaminated concrete and the debonded overlay. A thermal signature from delaminated concrete is usually oval-shaped, has distinct edges, and has a relatively uniform temperature throughout the signature. The thermal signature from a debonded flexible overlay is, in general, larger in size, non-circular and has a non-uniform temperature throughout. The non-uniform temperature is caused by differing degrees of contact between the overlay and the concrete deck. When this area is viewed with an infrared scanner, these debonded areas appear as a marbled surface.

For bridges with rigid overlays, debonded areas are typically large in size and have a relatively uniform temperature throughout the anomaly. The debonding of the overlay is often the result of the bonding agent drying before the placement of the overlay. A more common rigid overlay related defect is the delaminating of the original deck concrete immediately below the interface with the overlay. This defect has a thermal signature similar in appearance to that of debonding, and can be the result of micro-fracturing of the original deck concrete surface produced through deck preparation activities such as milling or shot blasting.

2.2 Equipment

The infrared scanner used for this work is a small, light-weight, field instrument manufactured by Mikron Infrared, which is capable of detecting thermal radiation. It produces a standard video signal that allows thermal imagery to be recorded on a DVD. This scanner is capable of measuring temperature differences of 0.5ºF. The scanner uses a microbolometer detector. A 45^{o} wide-angle lens was used, which allows the operator to view a pavement width of one and one-quarter lanes. This produces some overlap of data from lane to lane for analysis. It also allows for vehicle movement from side to side during data collection.

A color video camera and DVD recorder were used to obtain control images of the pavement. The control image is used to record surface features such as patches, oil, debris or discoloration. This assures that surface features are not mistaken for delaminated concrete or other defects (debonding, etc.) during the analysis

procedure. This camera was equipped with a lens that allowed the field of view for the control image to match that of the infrared image.

2.3 Procedure

The infrared scanner and video camera were mounted on a mast attached to the front of the inspection van and raised to approximately 14 feet above the bridge deck, as shown in Figure 3. Black and white video produced by the infrared scanner and color video produced by the control camera were displayed on monitors in the van, shown in Figure 4.

FIGURE 3

INFRARED DATA COLLECTION VEHICLE

FIGURE 4

INTERIOR OF DATA COLLECTION VEHICLE

The operator continually monitors the images being recorded. For the infrared image, the temperature range that is being scanned may be adjusted occasionally to allow for slight differences in the pavement temperature. It is important to note that the relative surface temperature is analyzed, not the absolute surface temperature. The control image is monitored for brightness and contrast. The speed of the scanning van was held to approximately three miles per hour along the center of each traffic lane. A single pass was made for each travel lane and shoulder of the bridge.

A digital distance measuring device was used to reference the imagery to a known starting point. The starting point is usually a deck joint or an abutment. Distance measurements were superimposed on both the infrared and the control video images.

Once the van was in position at a reference point, the distance measuring device was zeroed. During the scanning operation, the van was stopped periodically at an area of suspected delaminated concrete to confirm the infrared data. This procedure consists of sounding the pavement to confirm the presence of delaminated concrete. The temperature difference between solid and delaminated pavement was taken directly from the infrared image for calibration purposes.

Certain environmental conditions are required for thermography to be effective. Generally clear skies, winds less than 30 miles per hour, and dry pavement produce suitable temperature differentials between solid and delaminated areas. If these conditions do not occur, an acceptable temperature differential may not be established. Cloudy skies do not allow the sun to heat the bridge deck and establish sufficient temperature differentials. In general, less sunshine is needed for decks without overlays. For overlaid bridge decks, the amount of sunshine needed to establish sufficient temperature differentials varies, based on the type and depth of the overlay. High winds have a cooling effect on the bridge deck surface and reduce the temperature variation between solid and delaminated concrete. If surface moisture is present, it does not allow sufficient temperature differentials to be established in that area. ASTM Standard D 4788 defines the test method for completing bridge deck inspections using infrared thermography.

The structure was inspected on June 13, 2016. The conditions experienced on the day of the inspection are summarized below:

DATE	AMBIENT TEMPERATURE (^{o}F)	WEATHER CONDITIONS	WIND SPEED AND DIRECTION (MPH)	HUMIDITY (%)	PAVEMENT TEMPERATURE DIFFERENCE (^{o}F)
6-13-16	81	Clear	3.5 SE	31	2.5

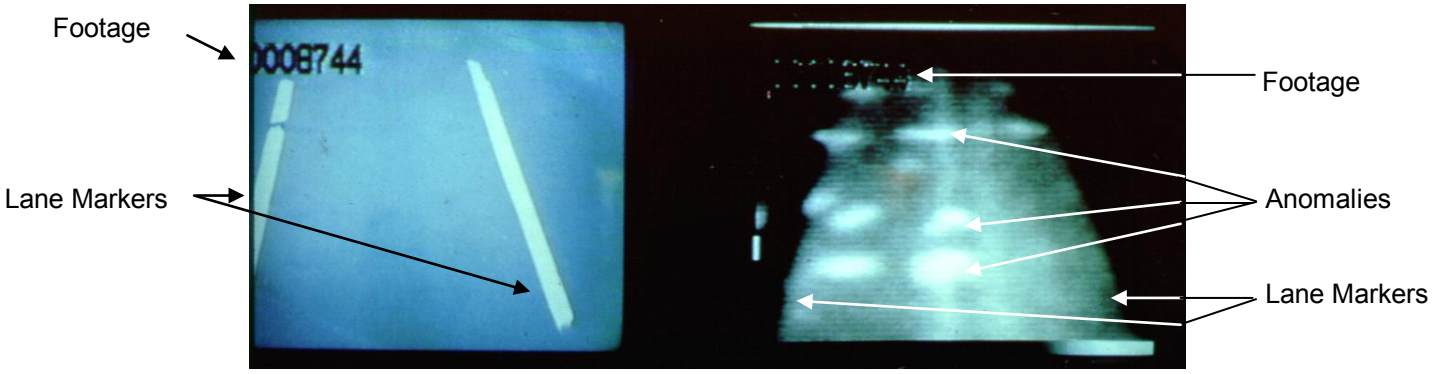
Traffic control was provided by Work Zone Safety, Inc. of Crest Hill, Illinois. This consisted of truck mounted attenuators to alert drivers to move to adjacent lanes during data collection. The survey vehicle was equipped with amber beacons and a directional arrow for additional traffic control.

2.4 Analysis

The infrared analysis procedure consists of a computer-aided interpretation of the video images produced during the field operation. The location of each thermal anomaly shown on the infrared video is plotted on a scaled plan view of the bridge deck. Anomalies show up as white, or "hot", areas. Solid areas appear darker, or "cooler", on the video image. The control video was simultaneously examined to make sure that an anomaly was not caused by discoloration, patching, or debris. Examples of the IR and control images are shown in Figure 5.

FIGURE 5

CONTROL AND INFRARED VIDEO



Anomalies can be separated into two basic categories; 1) delaminated concrete and 2) debonding between the overlay and the concrete deck. The separation of anomalies into these categories is accomplished by coring a representative sample of each type of anomaly detected on the bridge deck and comparing the results with the visual interpretation of the anomaly. These coring results, along with results from past projects are then used to categorize the remaining anomalies.

2.5 Results

Structure Number 022-0003 has a total roadway area of approximately 22,530 square feet. The results of the survey show that approximately 7 square feet (<0.1 percent of the area inspected) was delaminated concrete. In addition, approximately 1 square foot (<0.1 percent of the area inspected) was spalled, approximately 28 square feet (0.1 percent of the area inspected) was patched with epoxy and approximately 66 square feet (0.3 percent of the area inspected) was patched with concrete. The spall and epoxy patches on the deck were located along the lane lines and were the result of missing or removed delineators. No other defects were observed at the time of the survey.

Appendix A presents the infrared thermographic survey plan views of the bridge deck and shows the location and size of all defects observed. Defect types are quantified in the information block found on Sheet 1 of the plan views. The defect quantities are broken down by direction on the plan views.

3.0 SUMMARY AND CONCLUSIONS

As part of this project, an infrared thermographic survey of the bridge deck was performed on Structure Number 022-0003. The purpose of the infrared survey was to locate and quantify delaminations, patching and spalling that may be present in the bridge deck. This survey was performed on June 13, 2016. Survey results are summarized below, followed by conclusions pertaining to the findings.

3.1 Infrared Thermographic Survey

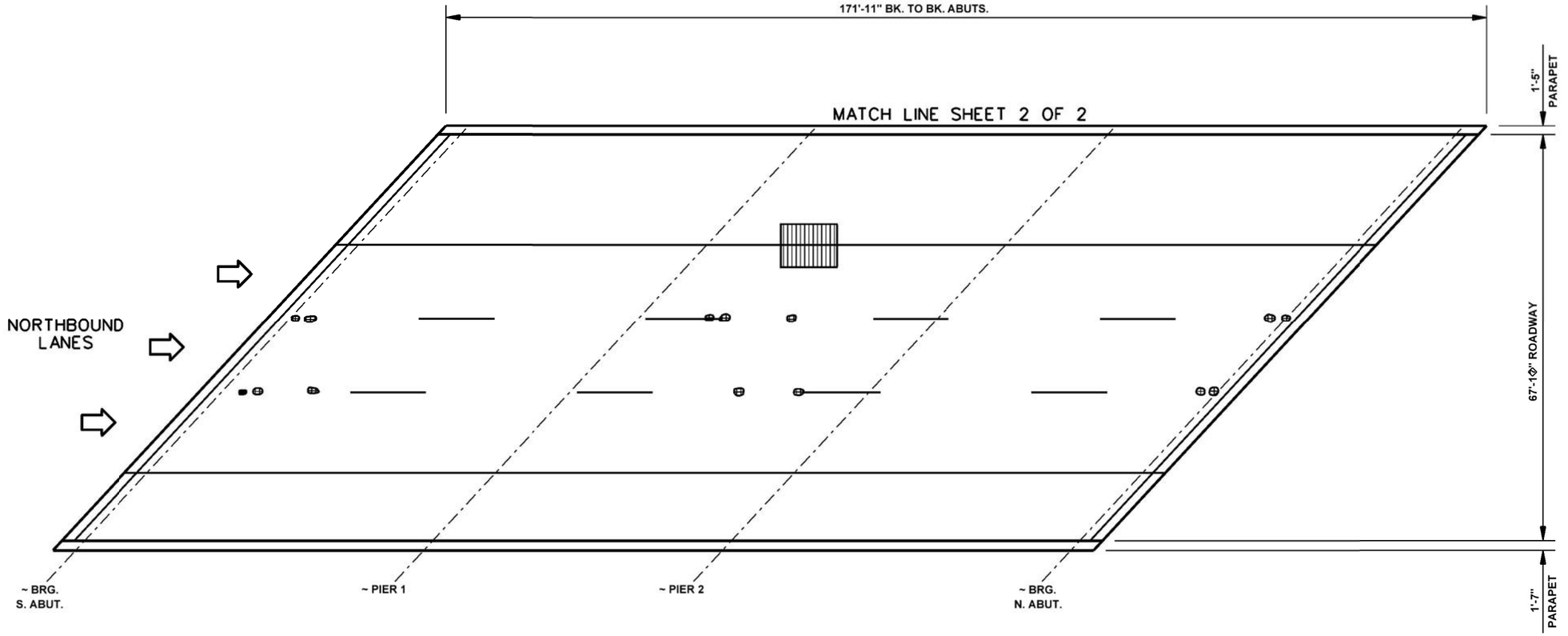
1. A total roadway area of approximately 22,530 square feet was surveyed.
2. Approximately 7 square feet (<0.1 percent of the area inspected) was delaminated concrete.
3. Approximately 1 square foot (<0.1 percent of the area inspected) was spalled.
4. Approximately 28 square feet (0.1 percent of the area inspected) was patched with epoxy.
5. Approximately 66 square feet (0.3 percent of the area inspected) was patched with concrete.

3.2 Conclusions

1. There are 3 delaminations located on this deck, all in Span 1 of the southbound lanes.
2. All of the epoxy patches and the spall are located along the lane markers and are a result of lane delineators that have popped out.
3. There is 1 concrete patch located in Span 2 of the northbound lanes.
4. Original deck design plans indicate the reinforcing steel in this structure is epoxy coated.

APPENDIX A

INFRARED THERMOGRAPHIC DECK SURVEY PLAN VIEWS



N

0' 5' 10' 20'
SCALE

DECK PLAN

INFRARED INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		NORTHBOUND ROADWAY		SOUTHBOUND ROADWAY		TOTAL ROADWAY	
ITEM	UNIT	QUANT.	%	QUANT.	%	QUANT.	%
TOTAL AREA	ft^2	11265		11265		22530	
SHADE/DEBRIS *	ft^2	0		0		0	
DELAMINATION	ft^2	0	0	7	<0.1	7	<0.1
SPALL	ft^2	1	<0.1	0	0	1	<0.1
ASPHALT PATCH	ft^2	0	0	0	0	0	0
EPOXY PATCH	ft^2	18	0.2	10	<0.1	28	0.1
CONCRETE PATCH	ft^2	66	0.6	0	0	66	0.3

LEGEND
- DELAMINATION
- SPALL
- ASPHALT PATCH
- EPOXY PATCH
- CONCRETE PATCH
- SHADE/DEBRIS

* SHADE/DEBRIS AREA SUBTRACTED FROM TOTAL AREA WHEN CALCULATING DEFECT PERCENTAGES.

SURFACE TYPE: CONCRETE - NO OVERLAY

INFRARED INSPECTION DATE: 6/13/16

INFRARED THERMOGRAPHIC INSPECTION PERFORMED BY

AECOM

BRIDGE DECK TOP VIEW

I-55
OVER
MADISON STREET
DuPAGE COUNTY
S.N. 022-0003

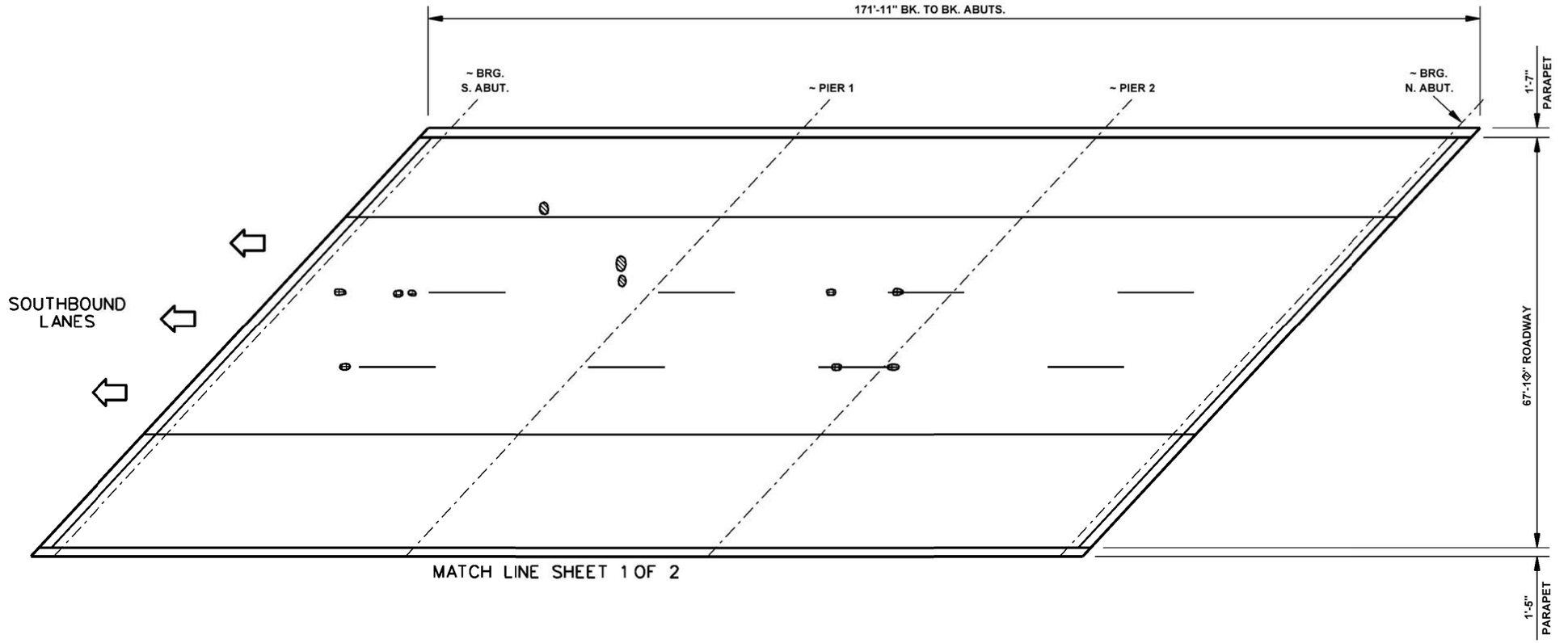
FILE NAME = 22-0003-IR.DGN	USER NAME =	DESIGNED -	REVISED -
		DRAWN - DS	REVISED -
	PLOT SCALE = 1"=20'	CHECKED - DU	REVISED -
	PLOT DATE =	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-55 OVER MADISON STREET
INFRARED THERMOGRAPHIC DECK SURVEY

SCALE: 1"=20' | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
---		DuPAGE	2	1
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



DECK PLAN

INFRARED INSPECTION RESULTS

SEE SHEET 1 OF 2 FOR DEFECT QUANTITIES

LEGEND	
DELAMINATION	
SPALL	
ASPHALT PATCH	
EPOXY PATCH	
CONCRETE PATCH	
SHADE/DEBRIS	

SURFACE TYPE: CONCRETE - NO OVERLAY

INFRARED INSPECTION DATE: 6/13/16

INFRARED THERMOGRAPHIC INSPECTION PERFORMED BY

AECOM

BRIDGE DECK TOP VIEW

I-55
OVER
MADISON STREET
DuPAGE COUNTY
S.N. 022-0003

FILE NAME = 22-0003-IR-2.DGN	USER NAME =	DESIGNED -	REVISED -
		DRAWN - DS	REVISED -
	PLOT SCALE = 1"=20'	CHECKED - DU	REVISED -
	PLOT DATE =	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-55 OVER MADISON STREET
INFRARED THERMOGRAPHIC DECK SURVEY

SCALE: 1"=20' | SHEET 2 OF 2 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
---		DuPAGE	2	2
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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AECOM
1555 N. RiverCenter Drive, Suite 214
Milwaukee, WI 53212
T: 414.944.6080
F: 414.944.6081
aecom.com

Attachment F:

Cost Estimates

Priority Repair Items:

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
44000100	PAVEMENT REMOVAL	SQ YD	38	$22.00	$836.00
48203005	HMA SHOULDERS	SQ YD	38	$18.00	$684.00
50102400	CONCRETE REMOVAL	CU YD	259	$47.00	$12,173.00
50300266	BRIDGE DECK GROOVING	SQ YD	2335	$8.00	$18,680.00
50300300	PROTECTIVE COAT	SQ YD	2335	$3.90	$9,106.50
52000320	NEOPRENE EXPANSION JOINT 2"	FOOT	410	$290.00	$118,900.00
59000200	EPOXY CRACK INJECTION	FOOT	2	$99.00	$198.00
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1	$3,700.00	$3,700.00
70400100	TEMPORARY CONCRETE BARRIER	FOOT	316	$40.00	$12,640.00
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	316	$15.00	$4,740.00
70600235	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE), TEST LEVEL 2	EACH	2	$13,000.00	$26,000.00
70600320	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 2	EACH	2	$2,500.00	$5,000.00
X0322194	POLYMER MODIFIED PORTLAND CEMENT MORTAR	SQ FT	243.5	$400.00	$97,400.00
X0322276	CLEANING AND PAINTING EXPOSED REBAR	SQ FT	30	$74.80	$2,244.00
Z0006000	BRIDGE DECK CONCRETE OVERLAY	SQ YD	2,335	$98.00	$228,830.00
Z0006710	BRIDGE DRAINAGE SYSTEM REPAIR	EACH	1	$810.00	$810.00
Z0010400	CLEANING BRIDGE SEATS	SQ FT	300	$12.00	$3,600.00
Z0012755	STRUCTURAL REPAIR OF CONCRETE (DEPTH LESS THAN 5 INCHES)	SQ FT	673.5	$250.00	$168,375.00
Z0012800	CONCRETE PAVEMENT SCARIFICATION	SQ YD	2,335	$33.00	$77,055.00
Z0015500	DEBRIS REMOVAL	L SUM	1	$5,000.00	$5,000.00
Z0016001	DECK SLAB REPAIR (FD-T1)	SQ YD	1	$1,800.00	$1,800.00
				SUBTOTAL	$797,772.00
67100100	MOBILZATION	L SUM	1	$79,777.20	$79,777.20
X7010200	TRAFFIC CONTROL AND PROTECTION, STANDARD (SPECIAL)	EACH	1	$79,777.20	$79,777.20

Notes:

MOBILIZATION = 10% of Construction Costs
TRAFFIC CONTROL AND PROTECTION, (SPECIAL) = 10% of Construction Costs

15% CONTINGENCY	$119,665.80
TOTAL:	$1,076,993.00

Secondary Repair Items:

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
59000200	EPOXY CRACK INJECTION	FOOT	10	$99.00	$990.00
X0322024	TRENCH DRAIN	EACH	1	$3,600.00	$3,600.00
X0326796	CLEAN TROUGH	EACH	1	$3,900.00	$3,900.00
Z0007118	UNTREATED TIMBER LAGGING	SQ FT	20	$11.00	$220.00
Z0015500	DEBRIS REMOVAL	L SUM	1	$5,000.00	$5,000.00
Z0065730	SLOPEWALL SLUR PUMPING	CU YD	22	$310.00	$6,820.00

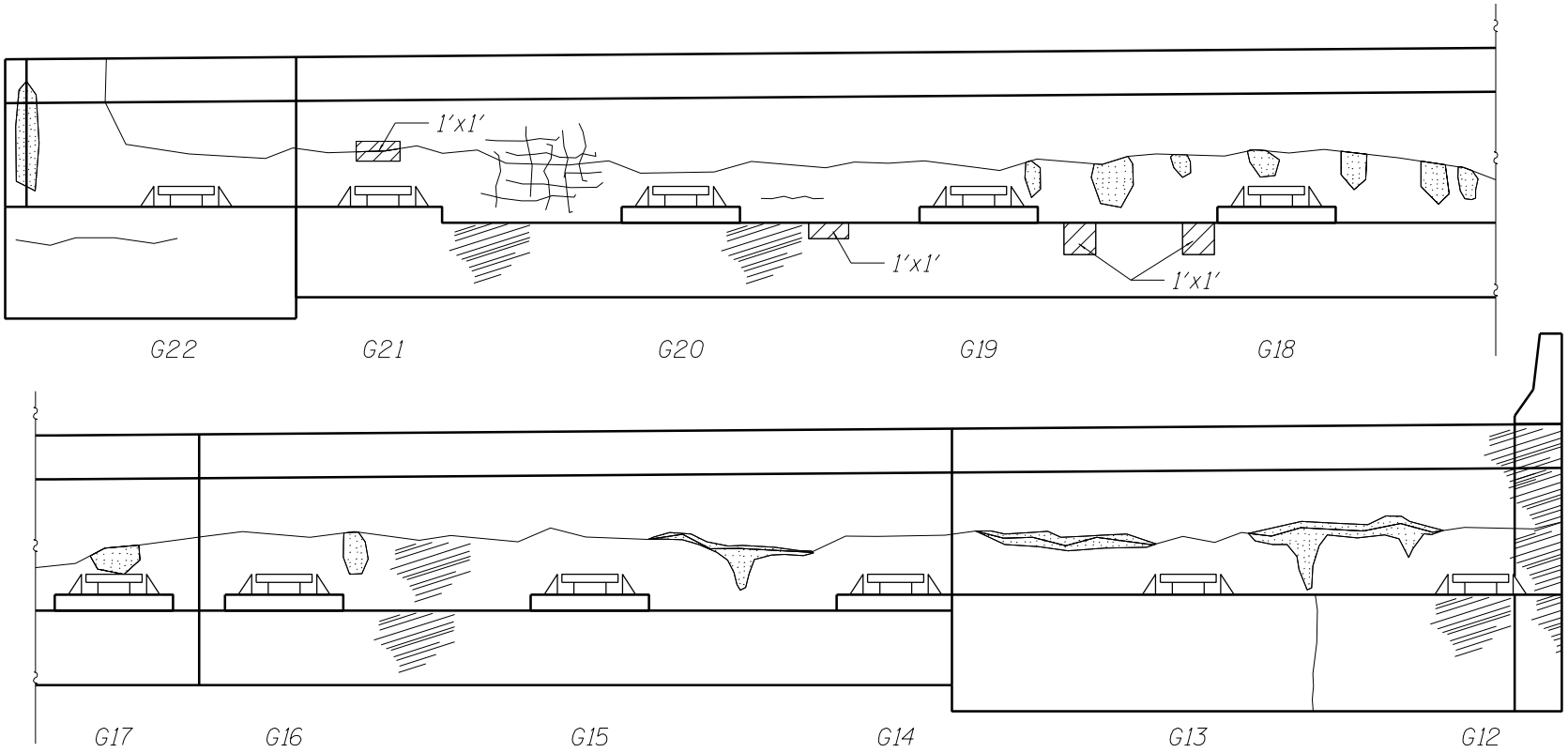
SUBTOTAL: $20,530.00

30% CONTINGENCY: $6,159.00

TOTAL: $26,689.00

Attachment G:

Proposed Repairs



WEST ABUTMENT
SOUTH END ELEVATION

	Polymer Modified Portland Cement Mortar	4	Sq Ft.

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I–55 OVER S MADISON ST** **S.N. 022–0003** **WEST ABUTMENT PROPOSED REPAIRS**

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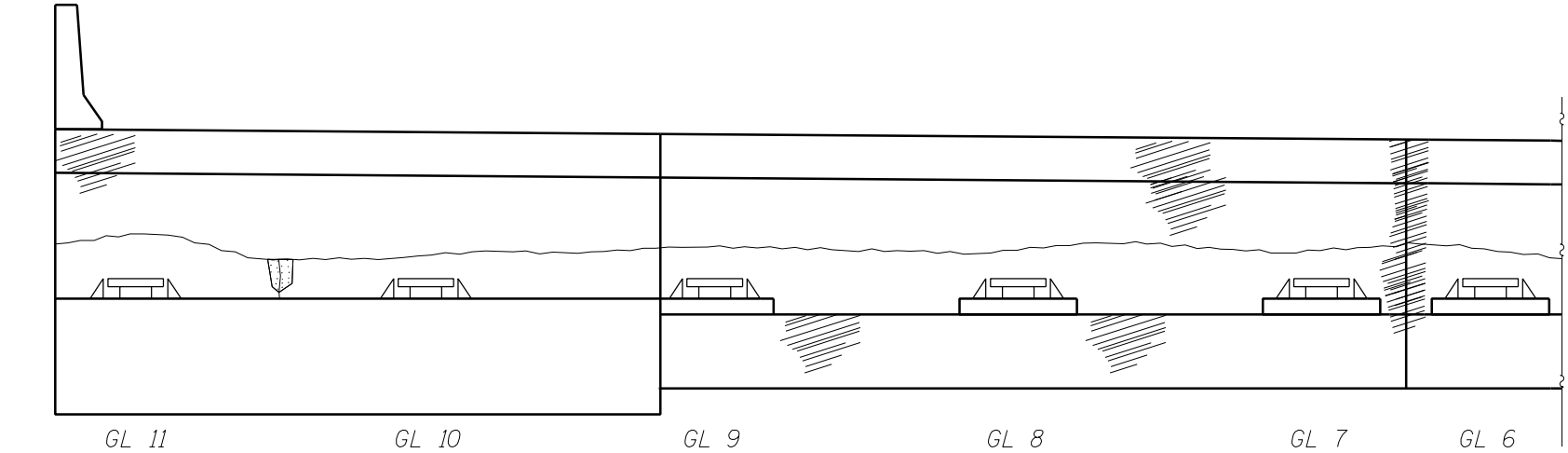

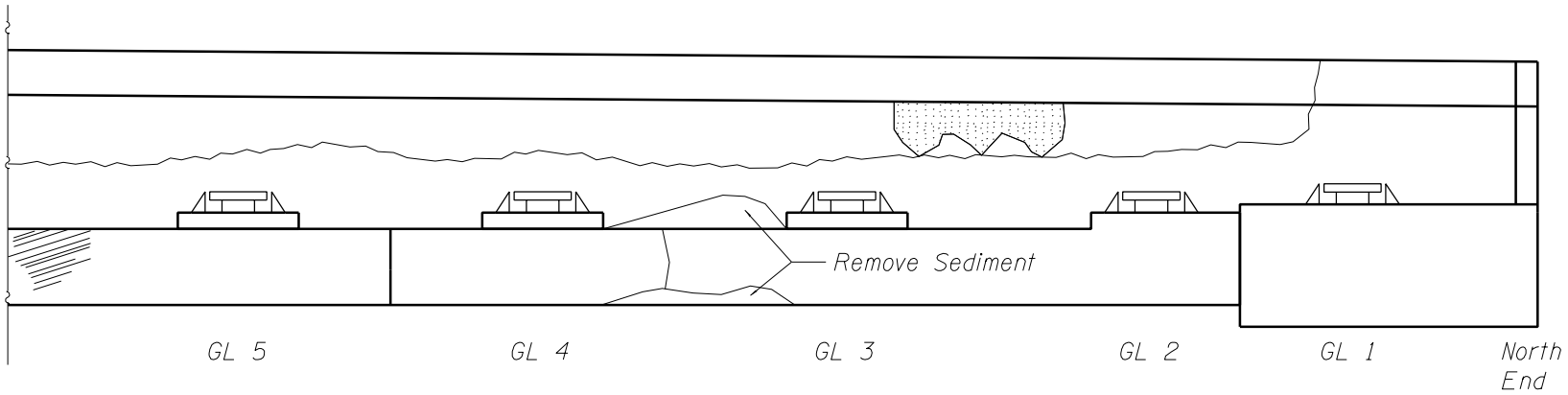

WEST ABUTMENT
NORTH END ELEVATION

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I–55 OVER S MADISON ST** **S.N. 022–0003** **WEST ABUTMENT PROPOSED REPAIRS**

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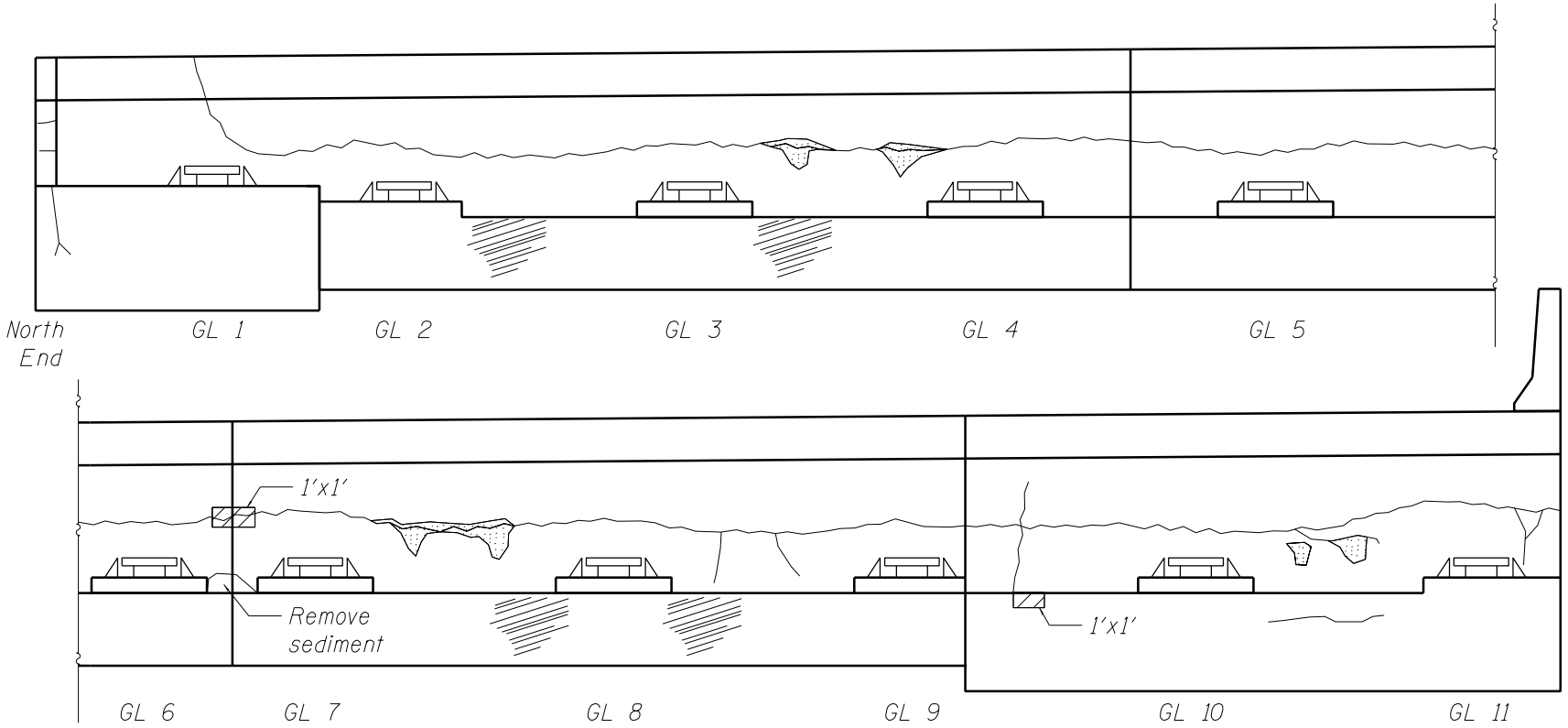

EAST ABUTMENT

NORTH END ELEVATION

	Polymer Modified Portland Cement Mortar	2	Sq Ft.

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I–55 OVER S MADISON ST** **S.N. 022–0003** **EAST ABUTMENT PROPOSED REPAIRS**

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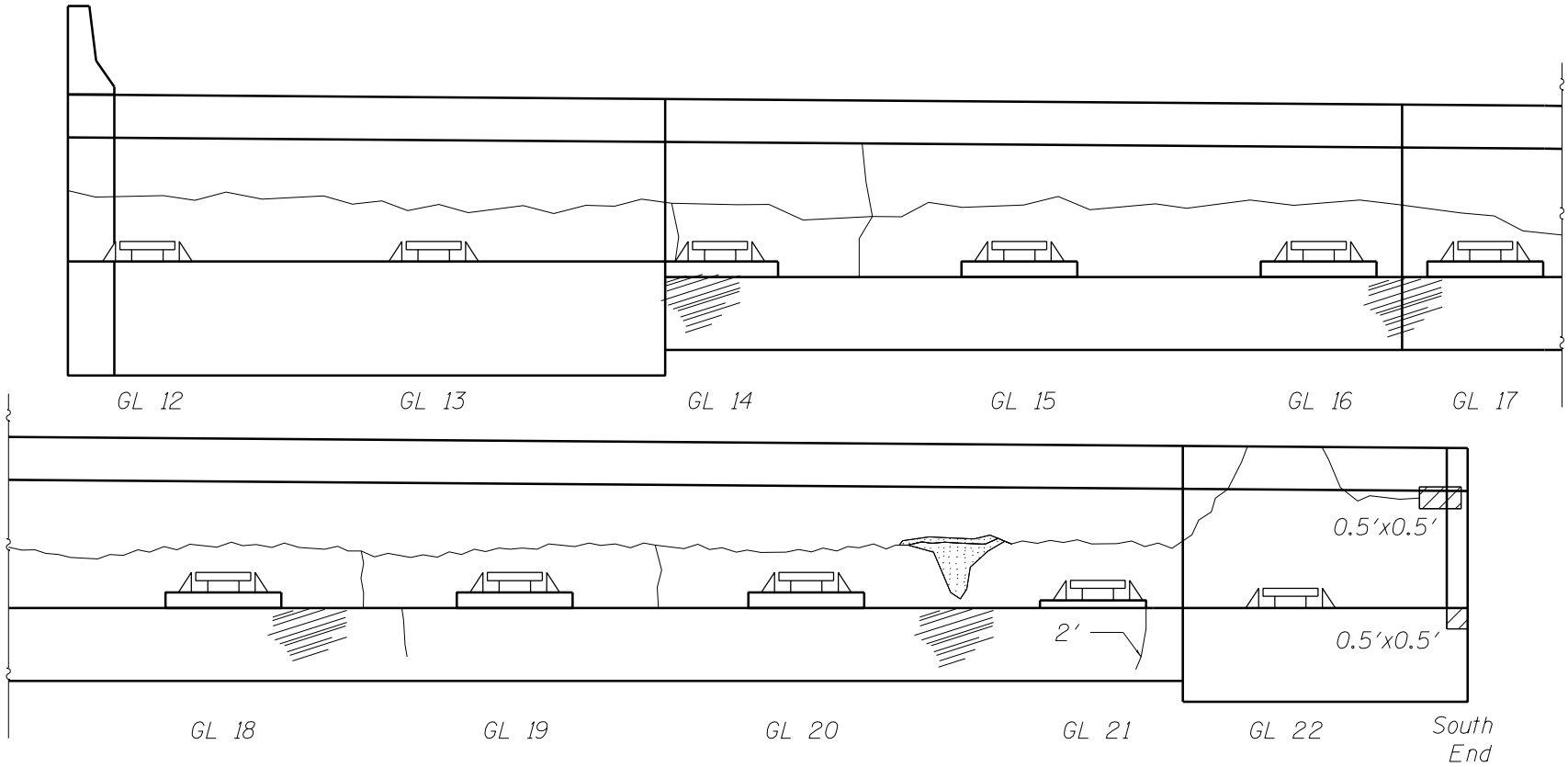

EAST ABUTMENT

SOUTH END ELEVATION

	Polymer Modified Portland Cement Mortar	0.5	Sq Ft.
	Epoxy Crack Injection	2	Ft.

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I-55 OVER S MADISON ST** **S.N. 022-0003** **EAST ABUTMENT PROPOSED REPAIRS**

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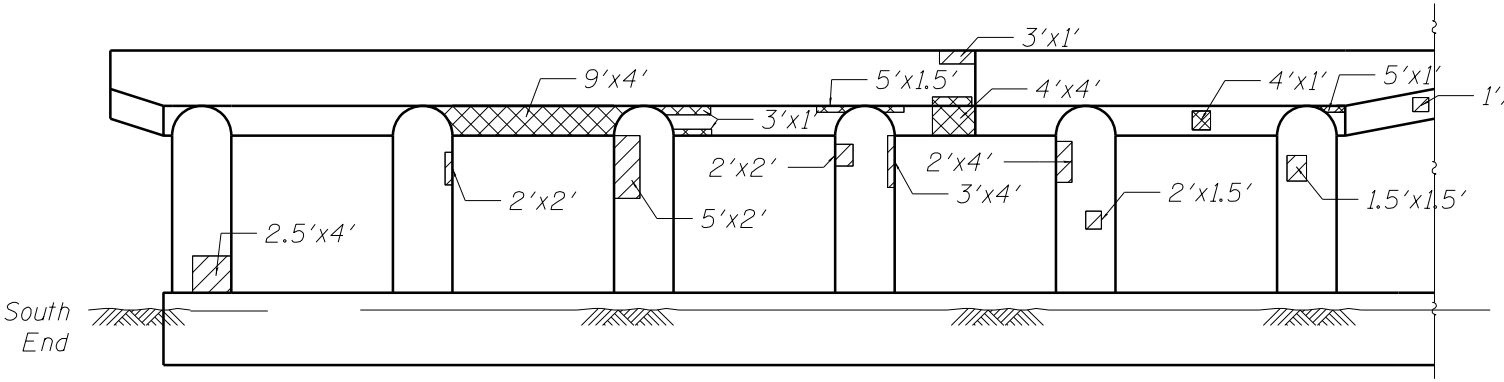
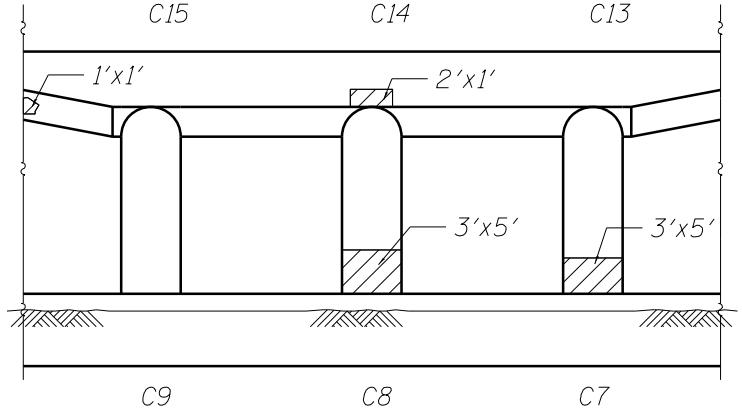
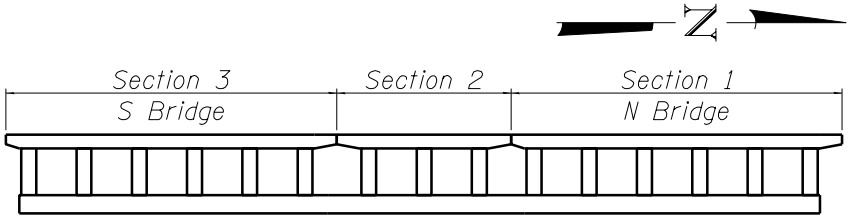
PIER 1: EAST FACE ELEVATION & UNDERSIDE



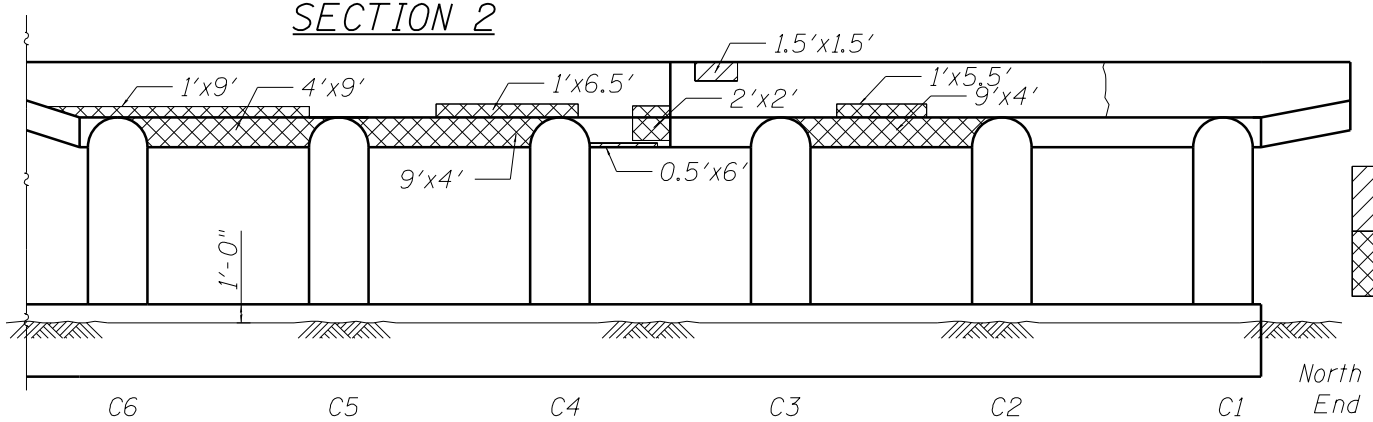
SECTION 3





PIER OVERALL

SECTION 2



SECTION 1

	Polymer Modified Portland Cement Mortar	92.5	Sq Ft.
	High Performance Shotcrete	207.5	Sq Ft.

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I-55 OVER S MADISON ST** **S.N. 022-0003** **PIER 1 PROPOSED REPAIRS**

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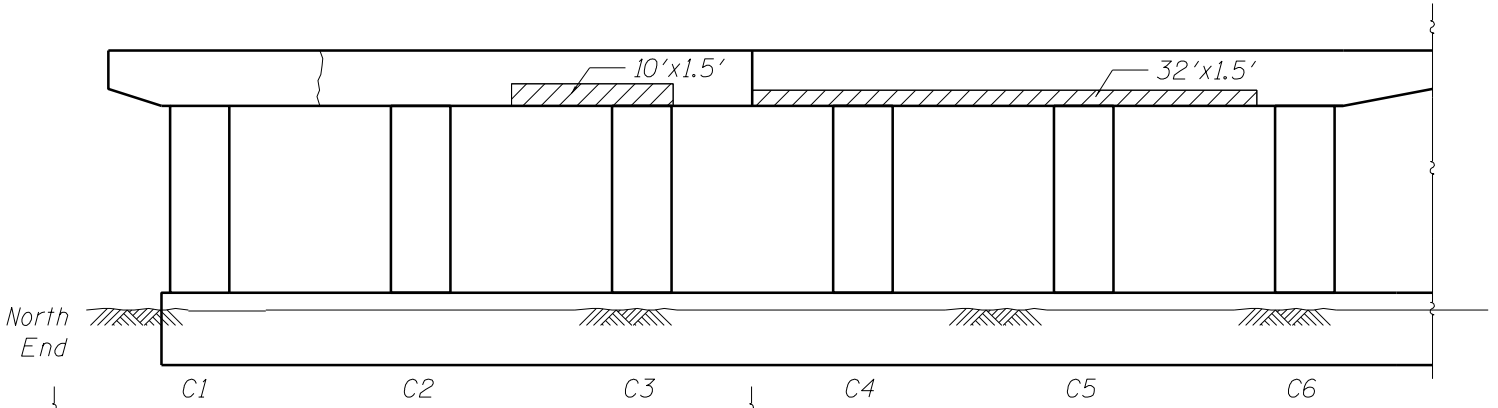
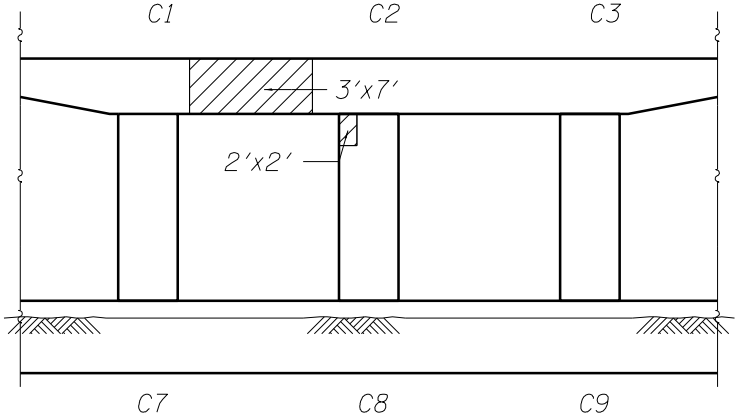
PIER 1: WEST FACE ELEVATION



SECTION 1



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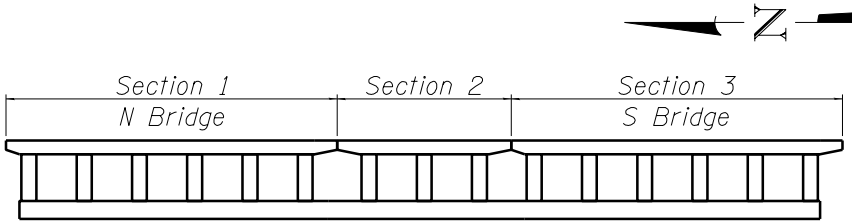
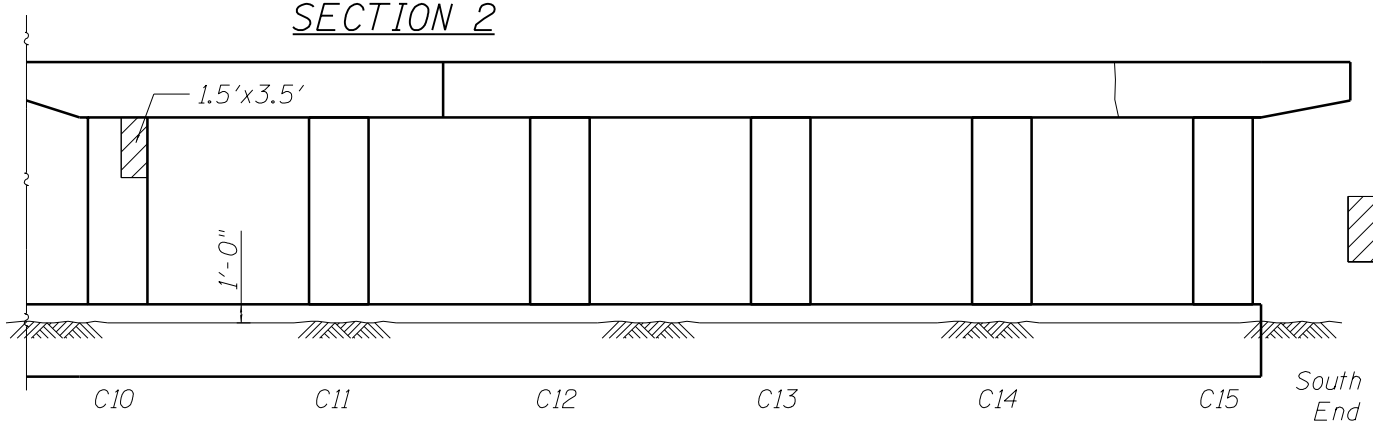


PIER OVERALL



SECTION 3

Polymer Modified Portland Cement Mortar	91.5	Sq Ft.

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I-55 OVER S MADISON ST** **S.N. 022-0003** **PIER 1 PROPOSED REPAIRS**

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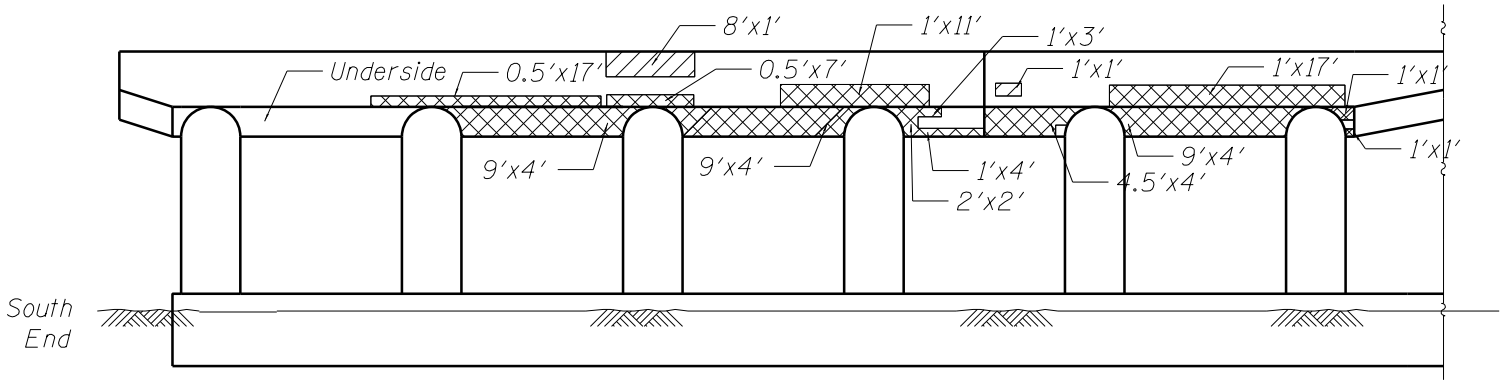
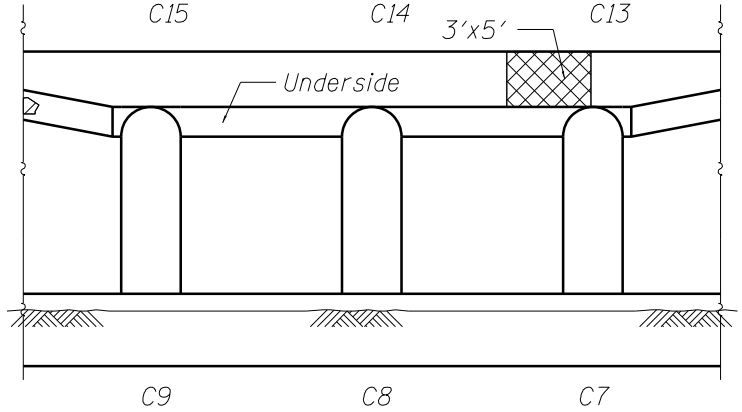
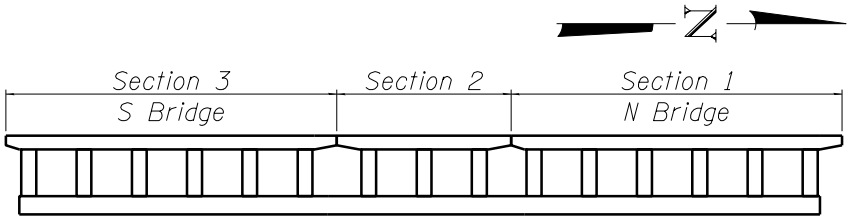


PIER 2: EAST FACE ELEVATION & UNDERSIDE



SECTION 3



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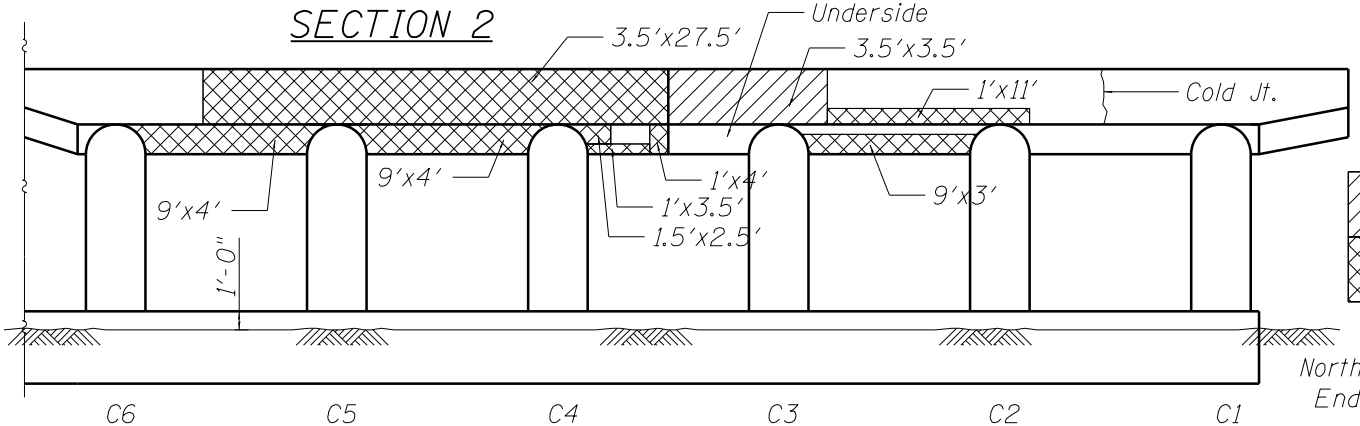

SECTION 2

SECTION 1

	Polymer Modified Portland Cement Mortar	9	Sq Ft.
	High Performace Shotcrete	408.5	Sq Ft.

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I-55 OVER S MADISON ST** **S.N. 022-0003** **PIER 2 PROPOSED REPAIRS**

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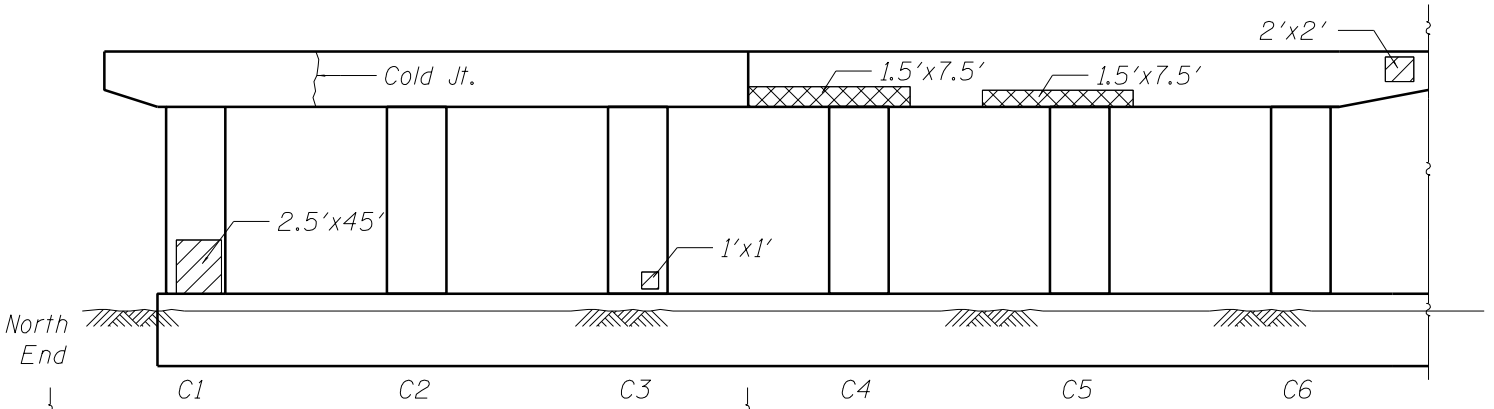
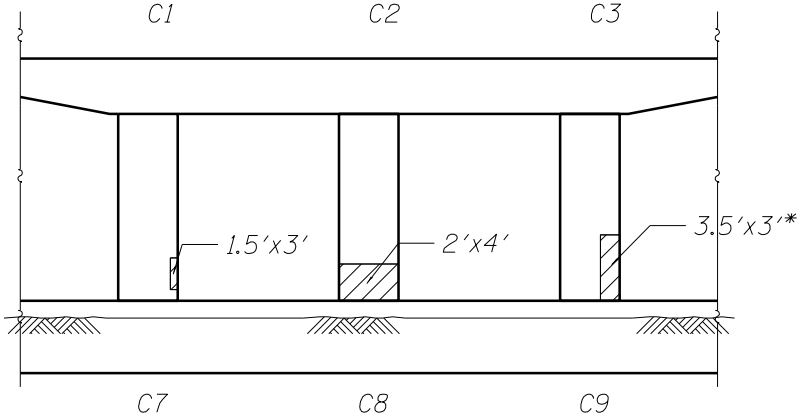


PIER 2: WEST FACE ELEVATION

SECTION 1



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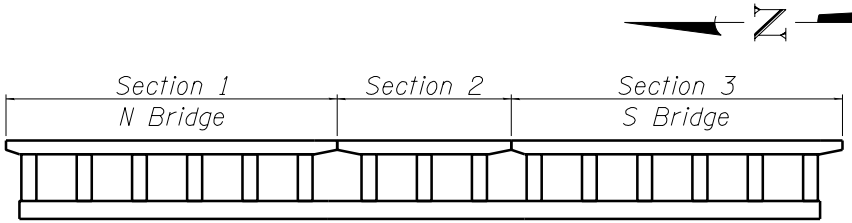
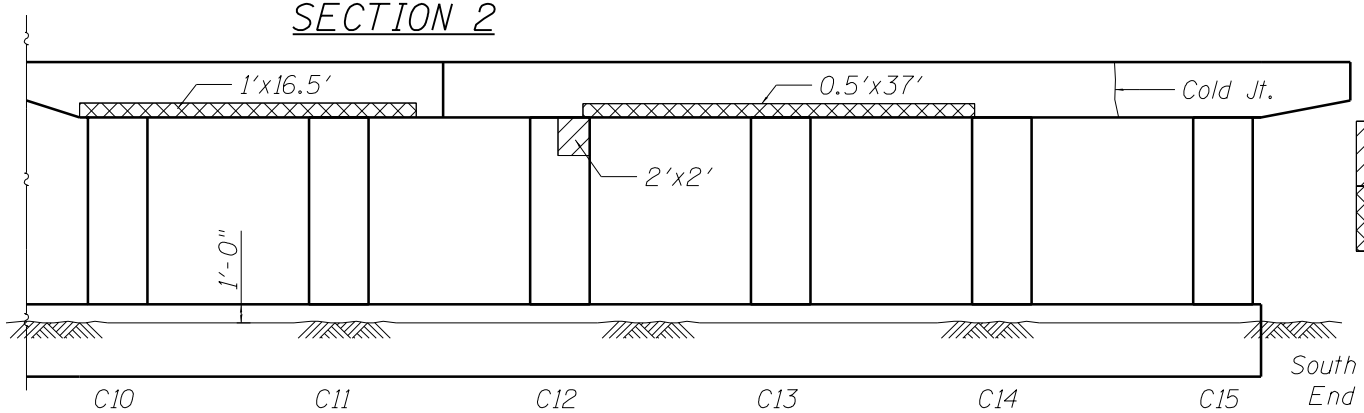


PIER OVERALL



SECTION 3

	Polymer Modified Portland Cement Mortar	43.5	Sq Ft.
	High Performace Shotcrete	57.5	Sq Ft.

* - Defect wraps around column

INSPECTOR = RJO INSPECTOR = JA INSPECTION DATE = 5/5/2016	**ILLINOIS DEPARTMENT OF TRANSPORTATION**	**I-55 OVER S MADISON ST** **S.N. 022-0003** **PIER 2 PROPOSED REPAIRS**

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Attachment H:

Structure Photos

Photo 1: Structure overall, looking north east.

Photo 2: Top of deck looking east from southwest corner, ponding near midspan of south parapet.

Photo 3: Span 1 overall looking south showing debris at base of east slopewall.

Photo 4: Span 2 overall looking south.

Photo 5: Span 3 overall looking south showing fence around west abutment.

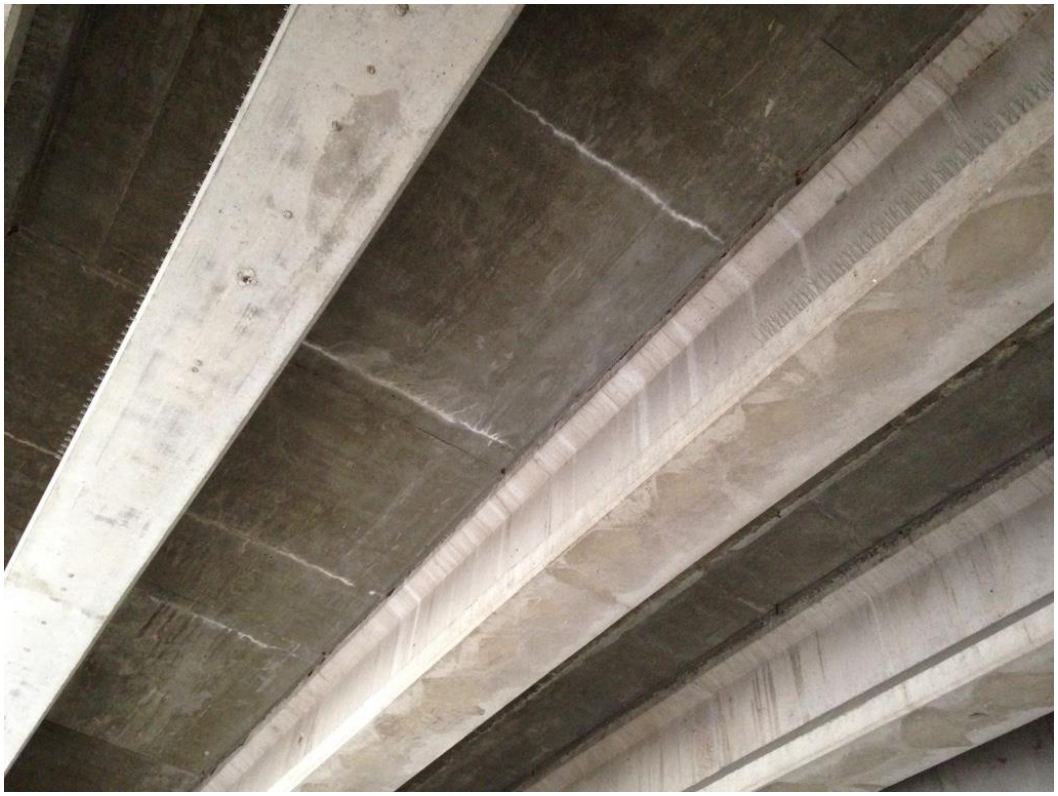


Photo 6: Span 3, bay 5 showing transverse hairline cracks with efflorescence.

Photo 7: Span 3, underside of girder 19 at pier 2 showing spalling with exposed and corroded stirrups.

Photo 8: South face of girder 16 in span 3 showing previously patched area intact.

Photo 9: Diaphragm between girders 21 and 20 at west abutment showing previously patched area intact.

Photo 10: East end of girder 19 showing spalled bottom cover with exposed and corroded bottom row of prestressing strands.

Photo 11: North face of girder 13 over east abutment showing area of delamination above bearing.

Photo 12: Underside of girder 6 over west abutment showing spalling with exposed and corroded reinforcement.

Photo13: South side of structure looking southwest along fascia showing deck drain down spouts.

Photo 14: North side of structure looking southwest along fascia.

Photo 15: Pier 2 overall looking southwest showing build-up of mud on sidewalk.

Photo 16: East face of pier 2 at south end showing addition to pier for widening.

Photo 17: Pier 2, underside of pier cap between columns 13 & 14 showing spalling with exposed and corroded reinforcement.

Photo 18; Pier 2, underside of pier cap between girders 12 & 13 showing spalling with exposed and corroded reinforcement.

Photo 19: Pier 2, underside of pier cap between columns 10 & 11 showing spalling with exposed and corroded reinforcement.

Photo 20: Pier 2, north east face of column 14 showing exposed and corroded spiral reinforcement.

Photo 21: Pier 2, underside of pier cap between columns 3 & 4 showing spalling with exposed and corroded reinforcement on both sides of joint.

Photo 22: Pier 1, southwest face of column 10 showing spalling with exposed and corroded reinforcement near the pier cap.

Photo 23: Pier 1, underside of pier cap between columns 5 & 6 showing spalling with exposed and corroded reinforcement.

Photo 24: Pier 1, underside of pier cap between columns 3 & 4 showing spalling with exposed reinforcement on underside and bottom west corner of pier cap.

Photo 25; East abutment overall looking south along abutment from north end.

Photo 26: West abutment overall looking north along abutment from median.

Photo 27: East abutment back wall south of girder 22 showing spall with loose crack seal and efflorescence.

Photo 28: East bearing under girder 22 (typ.) showing standing water near backwall and corrosion of bearing top plate.

Photo 29: East abutment between girders 19 & 20 showing sediment deposit on abutment seat and light coming through from the top of deck due to missing joint section above.

Photo 30: East abutment between girders 14 & 15 showing approximately 3.5 inch separation of slopewall from abutment seat.

Photo 31: East abutment backwall at median joint showing water staining.

Photo 32: East abutment seat at median joint showing sediment build-up.

Photo 33: East abutment between girders 7 & 8 showing cold joint with efflorescence on backwall and water staining on abutment seat.

Photo 34: West abutment between girders 22 & 21 showing start of addition to abutment for widening.

Photo 35: West abutment between girders 20 & 21 showing water staining on abutment seat.

Photo 36: West abutment between 19 & 20 showing spalling with exposed and corroded reinforcement on abutment seat.

Photo 37: West abutment between girders 14 & 15 showing cold joint with efflorescence on backwall.

Photo 38: West abutment between girders 8 & 9 showing slope wall faulting with an offset of approximately 4 inches.

Photo 39: West abutment between girders 3 & 4 showing large deposit of sediment from the top of deck.

Photo 40: West abutment between girders 3 & 4 showing deposit of sediment and light coming through from top of deck due to missing joint section above.

Photo 41: Southwest wingwall overall (typ.).

Photo 42: Lot to the north west of the bridge showing O.H. electrical lines.

Photo 43: Lot to the north east of the bridge.

Photo 44: Lot to the southeast of the bridge showing dumping location for mud which builds up on the east sidewalk.

Photo 45: Lot to the south west of the bridge showing electrical pole on the east side of S Madison St.

Photo 46: Timber tie-back retaining wall on the north east corner of the bridge starting at the base of the slope wall.

Photo 47: Splitting top members on retaining wall.

Photo 48: Top of deck looking east showing shoulder just beyond east approach slab showing significant cracking and potholes.

Photo 49: Transverse joint on the south west end of the bridge, looking north showing missing sections, exposed steel bolts, abrasion damage on bridge deck concrete and hairline cracking on approach slab.

Photo 50: Transverse joint on north west end of bridge, looking south showing missing sections, exposed steel bolts, and abrasion damage to approach slab concrete.

Photo 51: North west approach slab looking south showing hairline cracking.

Photo 52: Top of deck on north end of bridge, looking west showing hairline longitudinal and transverse cracks on shoulder.

Photo 53: South end of bridge looking west showing deck drain down spouts.

Photo 54: Top of deck showing deck drain free of debris (typ.).

Photo 55: East slopewall looking south showing fence around east abutment.

Photo 56: East approach guardrail on S Madison St. showing impact damage including detachment from first two wood posts.

BRIDGE CONDITION REPORT

REGION: 1

DISTRICT: 1

ROUTE: FAI 055 / I-55 EB

COUNTY: Cook

STRUCTURE NUMBER: 016-0016

LOCATION: I-55 Eastbound over Cicero Avenue

PREPARED BY: Stantec

DATE PREPARED: 12/20/13

PROPOSED LETTING DATE: To Be Determined

TABLE OF CONTENTS

ATTACHMENTS:

I. GEOGRAPHICAL & ADMINISTRATIVE DATA

Structure Number:	016-0016
County:	Cook
Route Carried:	FAI 055 / I-55
Feature Crossed:	FAP 0350 / Cicero Avenue
Section:	1112-619-HB
Station:	24+20
Roadway Classification:	Federal Aid Interstate
Design/Posted Speed:	70mph / 55mph
***ADT (current/design):**	86,748 (2012) / 120,186 (2040)
***ADTT (current/design):**	13% = 11,277 (2012) / 13% = 15,624 (2040)
***DHV (current/design):**	5,053 (2012) / 7,601 (2040)
Inventory Rating HS:	1.670 – rated 11/05/01
Operating Rating HS:	2.750 – rated 11/05/01
Sufficiency Rating:	80.0
HBP Eligibility:	No

* Traffic data per the I-55 Managed Lane Phase I Study

Construction / Reconstruction / Repair History

The structure carrying I-55 Eastbound over Illinois Route 50 (Cicero Avenue) was originally built in 1963 as FAI Route 55 over Cicero Avenue under Project I-55-7(29) 281, Section 1112-619 HB. The original construction consisted of two parallel 3-span structures. The two structures carried I-55 eastbound and westbound traffic. The structure consisted of a 7" concrete slab with steel plate girders and wide flange beams supported by reinforced concrete abutments and piers.

As part of Contract 80059, bridge rehabilitation was performed in 1999. The rehabilitation consisted of removing the bituminous concrete overlay, performing deck repairs, removing and replacing the transverse deck joints, eliminating the longitudinal deck joint, placing a new deck concrete overlay, refurbishing the bearings and repairing the substructure and slopewall.

II. PHYSICAL DESCRIPTION OF STRUCTURE

The physical description of the structure is based on a review of the existing available plans dated December 1962 and 1999. Refer to Attachment L for select existing structure plan sheets. Individual components of the existing structure are described below:

Structure Type and Length: The bridge is a three span simply supported plate girder and wide flange beam structure. Span 1 and 3 consist of plate girders and wide flange beams

and Span 2 consists of plate girders exclusively. The fascia girders in Spans 1 and 3 are plate girders with 66" deep webs. The interior beams in Spans 1 and 3 are W30x108 beams. Span 2 consists entirely of plate girders with 66" deep webs. Each span has 10 beams lines. The bridge is approximately 206'-8 ¾" long measured back-to-back of abutments along the curve. The substructure consists of two reinforced concrete stub abutments with wingwalls and two multi-column reinforced concrete piers. The abutments and the piers are supported by concrete piles. The bridge has a 7" reinforced concrete deck plus overlay.

Number / Length of Spans: There are a total of three spans, with approximate lengths as follows (dimensioned from centerline of bearing to centerline of bearing along the curve). Spans are numbered from west to east.

Span 1:	39'-11 5/8"
Span 2:	112'-6 1/2"
Span 3:	45'-7 ½"

Skew: 21°-40'-17" Left

Structure Width: The total width is 59'-5 ½" measured radially out-to-out of the deck. The bridge accommodates three 12' lanes of traffic and 10' inside and outside shoulders.

Expansion Joints:

W Abutment:	2" Neoprene Joint
Pier 1:	1 ¾" Preformed Joint Seal
Pier 2:	2 9/16" Neoprene Joint
E Abutment:	1 ¾" Preformed Joint Seal

Bearings:

W Abutment:	
Beam Line 1, 10	Expansion, Type 2
Beam Line 2 to 9	Expansion, Type 3 w/ bolster
Pier 1:	
Beam Line 1, 10	Fixed, Type 1 and Type 2
Beam Line 2 to 9	Fixed, Type 1 and Type 3 w/ bolster
Pier 2:	
Beam Line 1, 10	Expansion, Type 1 and Type 2
Beam Line 2 to 9	Expansion, Type 1 and Type 3 w/ Bolster

	E Abutment: Beam Line 1 Fixed, Type 2 Beam Line 2 to 9 Fixed, Type 3 w/ bolster Beam Line 10 Fixed, Type 2
Approach Roadway Template:	The approach roadway template matches the bridge. It has three 12' lanes of traffic and 10' inside and outside shoulders.
Existing Wearing Surface:	2 3/8" Micro Silica Concrete Overlay
Existing Vertical Alignment:	The entire structure is on a +1.50% tangent slope going from west to east.
Existing Horizontal Alignment:	The structure is on a curve at a radius of 3819.72' from Station 19+41.41 to Station 32+86.83.
Existing Vertical Clearance:	15'-7 3/8" over Cicero Avenue according to the 1999 repair plans. 15'-5" according to the Master Structure Report which needs to be verified.
Existing Drainage:	There are no drains on the bridge deck or approach slabs.
Parapets and Railings:	There are 1'-8 3/4" wide exterior curb and parapets running the length of the bridge. Parapets were modified in 1999 plans to remove a 9" tall by 1'-0" wide existing handrail and replaced with a 9" tall x 1'-0" wide reinforced concrete section. Per the IDOT Bridge Inspection Report dated 12/10/12, the guardrail currently meets acceptable standards while the guardrail ends and transitions do not.
Existing Utilities Attachments:	There are no light poles attached to the bridge, but there are abandoned conduits running along the south fascia beam and the West Abutment. There is a conduit running along the outside of the South Parapet. There are light fixtures and conduits on the insides of both piers and at the midspan of Beam Lines 1, 6 and 9.
Name Plate:	No name plate was found on the structure.

III. FIELD INSPECTION & PHYSICAL EVALUATION

A field inspection beneath the structure carrying I-55 Eastbound over Cicero Avenue was performed by Stantec on August 21, 2013. The top of deck inspection was performed on September 16, 2013. The high temperature on that date was 65° F. The visual field inspection was performed on foot on the slopewall, sidewalk and the top of deck. The following conditions were observed:

Deck

Deck

The deck was rated in satisfactory condition (NBIS Rating = 6) in the 12/10/12 NBIS inspection. The deck condition observed during this inspection was consistent with the NBIS rating. The underside of deck has multiple areas of delamination, spalling and map cracking. Based on visual inspection, approximately 2.2% of the underside of deck is delaminated or spalled.

The micro-silica concrete overlay on the top of deck has minor hairline transverse and longitudinal cracking mostly along the shoulders. One 3 square foot spall was found in the center lane in Span 2. Wiss, Janey and Elstner performed a condition assessment of the reinforced bridge deck in January 2012. This assessment included a delamination survey performed on the top of the bridge deck using infrared thermography. The infrared thermography indicated 5.6% of the top of deck area was delaminated. See Attachment E for the condition assessment of the reinforced bridge deck. See Attachment I – Photos 1 through 8.

Parapets

The parapets are in satisfactory condition with hairline vertical cracking throughout and minor delaminations and spalls on both the interior and exterior faces of the parapet. The interior face of the South Parapet has approximately 20 square feet of delaminated concrete. The interior face of the North Parapet has approximately 30 square feet of delaminated concrete. The exterior face of the South Parapet has longitudinal hairline cracking with rust staining along most of the length of the parapet. See Attachment I - Photos 9 and 10.

Joints

The preformed joint seals at the East Abutment and Pier 1 and the neoprene joints at West Abutment and Pier 2 are in satisfactory condition with debris in the joint and minor impact damage. The joint widths were measured when the temperature was approximately 65° F. The preformed joint at the East Abutment measured 1" wide. The preformed joint at the Pier 1 measured 1". The neoprene joint at the Pier 2 measured 2 1/8". The neoprene joint at the

West Abutment measured 1 11/16". See Attachment I – Photos 11 through 14.

Superstructure

Beams

The superstructure consists of three simple spans of rolled steel beams and welded plate girders. The beam lines are numbered 1 through 10, numbered from north to south. In Spans 1 and 3, Beam Lines 1 and 10 consist of plate girders with 66" deep webs and Beam Lines 2 through 9 consist of W30x108 beams. In Span 2, all of the beam lines consist of plate girders with 66" deep webs. This structure has welded cover plates on the bottom flanges of the beams in Span 3.

The superstructure was rated in fair condition (NBIS Rating = 5) in the 12/10/2012 NBIS bridge inspection due to initial section loss and minor pitting. The superstructure observed during this inspection was consistent with the NBIS rating.

The steel superstructure typically has paint starting to fail, minor rust and initial section loss and minor pitting. In both Spans 1 and 3, the steel bolsters have been welded transversely to the W30x108 beams. These welds have mostly cracked. Bolts connect the top of the bolster to the bottom flange as part of a retrofit done in 1999. In Span 3, the steel beams have welded cover plates with fatigue category E' details. The welded cover plates were visually inspected from the ground and no defects were noted on the welds. See Attachment I – Photos 15 through 19.

Bearings

The bearings are in satisfactory condition with paint starting to fail and minor rust. No excessive tilting was noted during the inspection.

Utilities

The conduits along the South Fascia Beam and South Abutment are in poor condition with heavy deterioration and open conduit covers. See Attachment I – Photos 20 and 21.

Substructure

The substructure was rated in satisfactory condition (NBIS Rating = 6) in the 12/10/2012 NBIS bridge inspection due to cracks and spalls at the abutment caps and pier columns. The substructure condition observed during this inspection was not consistent with the NBIS rating due to the condition of the piers.

Abutments

The reinforced concrete abutments are in satisfactory condition with multiple hairline vertical cracks and small areas of delaminated/spalled concrete. There is 6 square feet of spalled concrete on the West Abutment. There is 10 square feet of spalled/delaminated concrete on the East Abutment. At both abutments, a minor amount of fill appears to be leaking thru the joint in the backwall. No significant defects were noted at the wingwalls. See Attachment F for the Substructure Condition Survey. See Attachment I – Photo 22 through 26.

Piers

The reinforced concrete piers each consist of four columns with a pier cap. The piers are in fair condition with moderate to heavy delaminations and spalls on the columns and pier caps. Pier 1 has approximately 200 square feet of spalled or delaminated concrete. Pier 2 has approximately 106 square feet of spalled or delaminated concrete. See Attachment F for the Substructure Condition Surveys. See Attachment I – Photo 27 through 30.

Slope Protection

The bridge has concrete slope walls. Both slopewalls are in satisfactory condition with minor hairline cracking throughout. The curb at the East Slopewall has separated from the rest of the slopewall, allowing undermining to occur at the south end. The West Slopewall has a 4' x 4' spall on the slopweall curb and a 1/16" transverse crack that goes the full width of the bridge. See Attachment I – Photo 31 through 34.

Inspection History (NBIS Ratings)

Year	Deck	Super	Sub
2012	6	5	6
2011	6	6	6
2009	6	7	6

Geometric, Horizontal & Vertical Clearance / Hydraulic Data

Geometry

I-55 over Cicero Avenue is on a skew. According to the original plans of December 1962 and the repair plans of 1999, the skew at the intersection of the centerlines of I-55 and Cicero Avenue is 21°-40'-17" Left. The typical roadway section for I-55 consists of three 12' lanes, a 10' inside shoulder, a 10' outside shoulder, a 1'-8 3/4" wide curb and parapet on each side of the structure. The I-55 profile grade is on a tangent at +1.50% going from west to east. The structure is on a horizontal curve at a radius of 3819.72' from Station 19+41.41 to Station 32+86.83. The repair plans from 1999 show the vertical minimum clearance at 15'-7 3/8". However, the Master Structure

Report shows the minimum vertical clearance at 15'-5" under the "Key Route under Data" which needs to be verified.

The typical roadway section for Cicero Avenue consists of three lanes in each direction beneath the structure and a raised concrete median. Cicero Avenue is listed as a principal arterial route. Cicero Avenue is located on a 200-ft. long vertical crest curve with 0.36% and -0.30% slopes going from north to south.

As part of the I-55 Managed Lane Phase I Study, I-55 Eastbound at Cicero Avenue will be widened to the inside to accommodate a proposed 12' managed lane. In the eastbound direction, a 4' buffer between the managed lane with 12.5' shoulder and the general purpose traffic lanes is proposed in this 60 foot median section. This widening will be incorporated into the recommended scope of work for this structure.

Hydraulics

At the structure, the I-55 profile is on a +1.50% tangent going from west to east. The bridge deck cross-section is superelevated 3.3%. There are no deck drains on the bridge deck. Therefore, the water is allowed to flow to the deck joints as it runs off the bridge.

IV. POTENTIAL SCOPE OF WORK DETERMINATION & ANALYSIS

As part of the I-55 Managed Lane Phase I Study, In-Kind Repairs, Structure Widening and Structure Replacement alternatives will be evaluated.

Per Section 2.4.2.4 of the IDOT Bridge Manual, consideration was given to retrofit all end of cover plate locations due to average daily truck traffic. From this information, it was determined that a fatigue evaluation was required. The transverse welds at the ends of the cover plates in Span 3 were evaluated for fatigue life and it was determined that the mean service life is less than 50 years. A cover plate retrofit should be installed.

1. **In-Kind Repairs**

   Perform partial and full depth repairs and apply Protective Coat to the existing deck. Repair areas of spalled or delaminated concrete on the existing substructure units. Perform retrofit repairs on the existing Span 3 cover plates.

2. **Structure Widening**

   Remove and replace the deck and approach slabs and widen both approximately 18' to the north. Remove both the northeast and northwest wingwalls and build an extension onto the north side of both abutments. Build an extension onto the north side of both piers.

Install three new beam lines using W30 steel beams and plate girders that will be composite to the widened bridge deck. The new W30 beam will be larger than the existing W30 to account for the bottom flange cover plate. Perform retrofit repairs on the existing Span 3 cover plates. Repair areas of spalled or delaminated concrete on the existing substructure units.

3. **Superstructure and Partial Substructure Replacement**
   Remove and replace the existing W30 steel beam and steel plate girder superstructure with a continuous three-span galvanized steel plate girder superstructure. Remove and replace pier caps and columns, but reuse the existing pier crash walls and footings. Build an extension onto the north side of both piers. Replace the existing abutments with integral abutments placed behind the existing abutments. Replace concrete slope walls. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

4. **Structure Replacement**
   Remove and replace the entire structure with a continuous three-span galvanized steel plate girder superstructure on integral abutments. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

V. DISCUSSION AND RECOMMENDED SCOPE OF WORK

The opinion of probable costs for each of the alternatives is summarized below. See Attachment G for the opinion of probable costs breakdown.

1. **In-Kind Repairs - $194,400**
2. **Structure Widening - $2,546,200**
3. **Superstructure and Partial Substructure Replacement - $5,403,600**
4. **Structure Replacement - $6,004,700**

Per the I-55 Managed Lane Phase I Study, the managed lane is expected to be implemented in 2020. All widening and replacement alternatives below assume widening approximately 18’ to the centerline of I-55 to accommodate the new managed lane. The proposed structure will provide a 9’-6” outside shoulder, three 12’-0” general purpose traffic lanes, a 4’ buffer between the general purpose traffic lanes and the 12’-0” managed traffic lane and a 12’-6” inside shoulder.

Analysis of Alternative 1 – The calculated percent of deck area requiring full depth repairs is 2.2% and the partial depth repairs is 12.0%. The total deck repair percentage is within the 25% limit presented in the Bridge Condition Report Procedures and Practices Manual for bridge deck repair to be cost effective for a deck not being widened. This alternative can be used to extend the life span of the

existing superstructure in the interim prior to implementing the changes required for the Managed Lane project.

Analysis of Alternative 2 – The calculated percent of deck area requiring full depth repairs is 2.2% and partial depth repairs is 11.0%. Since this deck is 50 years old and has recommended repair area near the upper limit (15%) presented in the BCR Procedures and Practices Manual for a widened deck, it is recommended to replace the deck at the time of widening. Cover plate retrofits will be necessary. Deck joints will remain with this alternative, which will lead to continued degradation of the beams and substructure units. This alternative keeps the existing pier caps in service, which have already been repaired as a result of extensive degradation in 1999.

Analysis of Alternative 3 – This alternative replaces the existing W30 steel beam and steel plate girder superstructure with a continuous three-span galvanized steel plate girder superstructure on integral abutments. The proposed integral abutments will be placed behind the existing abutment to help avoid the existing piles. The resulting assumed span arrangement is approximately 70'/114'/70' measured between the centerline of bearings. Uplift at the abutments must be considered in the design phase given the relatively short exterior spans in the continuous structure. Reusing the existing pier crash walls and footings will simplify construction since it will minimize construction impact to Cicero Avenue.

Using galvanized steel eliminates the need to periodically repaint the beam. Providing a continuous structure will also allow for a reduced girder depth over Cicero Avenue, thereby increasing vertical clearance. The longer exterior spans provide an opportunity to relocate the sidewalks, or a multi-use path, along Cicero Avenue behind the piers. Providing new pier caps, pier columns and integral abutments places the critical portions of the substructure on the same life cycle as the superstructure. Eliminating the deck joints will also help to prevent premature degradation of these substructure elements.

Analysis of Alternative 4 – This alternative completely eliminates the 50-year old structure and replaces it with a new structure with an expected 75-year service life.

The benefits of this alternative are similar to Alternative 3, with the addition of removing and replacing the pier crash walls and pier footings. However, this alternative adds construction complications of reconstructing the piers on or near the same footprint as the existing pier footings, and increases construction impacts to Cicero Avenue. The cost is also greater than Alternative 3 due to the removal and reconstruction of the additional pier elements.

VI. FINAL RECOMMENDATION

Stantec recommends Alternative 3 – Superstructure and Partial Substructure Replacement when the I-55 Managed Lane Project occurs. The selected alternative provides a new superstructure and replaces the critical portions of the substructure. Eliminating the deck joints will help to prevent premature degradation of the

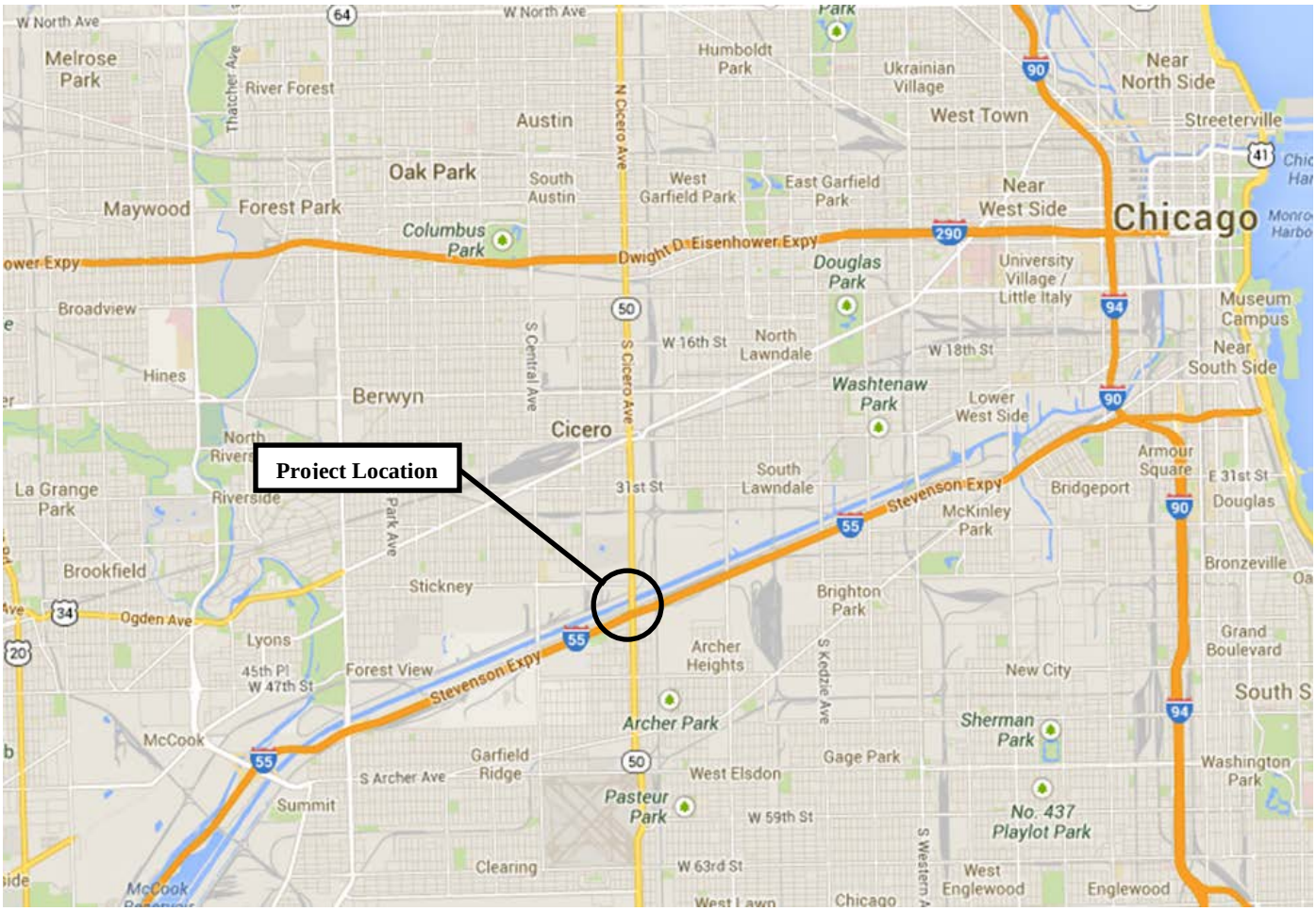
replaced substructure elements. As the I-55 Managed Lane Phase I Study is ongoing, the bridge widening to be presented in the TSL should match the final geometry as presented in the final I-55 Managed Lane Phase I Study. Future improvements to Cicero Avenue, to be determined at a later date, should also be addressed in the TSL.

VII. TRAFFIC STAGING

For Alternatives 2, 3 and 4, the existing deck is wide enough to provide two lanes of traffic in the eastbound direction during stage construction. For Alternative 1, the lanes can be temporarily closed as needed to allow for the deck repairs. The traffic staging design will need to be confirmed by IDOT traffic prior to being implemented.

ATTACHMENT A

Location Map



Location Map

Proposed Improvement:

I-55 over Cicero Avenue (Eastbound)

Municipality: Stickney

County: Cook

Route: FAI 055

Project No: P-91-762-10

Structure No.: 016-0016

ATTACHMENT B

IDOT Master Structure Report

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0016 **District:** 1

Inventory Data

Facility Carried: I- 55 EB STEVENSON
Feature Crossed: IL 50 (CICERO AVE)
Bridge Remarks:
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks:
Maint County: 016 COOK
Maint Responsibility: 01 I.D.O.T.
Service On/Under: 5 SECOND LEVEL INTERCHANGE 1 / HIGHWAY
Reporting Agency: 1 I.D.O.T. - BUREAU OF MAINTENANCE
Main Span Matl/Type: 3 STEEL / 02 STRINGER/MULTI-BEAM/GIRDER
Nbr Of Main Spans: 3 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 0None / 0 None
Toll Facility Indicator: 0 No Toll
Latitude: 41 **D** 49 **M** 1.05 **S** **Longitude:** 87 **D** 44 **M** 38.11 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 2 Both Sides Not Separate

Bridge Name:
Location: 5.7 M SW I94
Status Date: 12/2000
Maint Township: 34 STICKNEY
Skew Angle: 22 **D** 0 **M** 0 **S**

Sufficiency Rating: 80.0
HBP Eligible: No
Replaced By: -
Replaces: -
Last Update Date: 03/12/2013
Parallel Structure: Right
Multi-Level Structure Nbr:
Skew Direction: L Left
Structure Flared: No
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 996000
Substructure Material:
Rated By: 2 IDOT
Inventory Rating: 1.670(60)
Operating Rating: 2.750(99)
Design Load: 01 HS20+MOD
Deck Structure Thickness: 7 **SD:** N **FO:** N

Structure Length: 206.7
AASHTO Bridge Length: 99.9
Length of Long Span: 115.0
Bridge Roadway Width: 56.0
Appr Roadway Width: 60.0
Deck Width: 59.4
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: N N/A
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00
Rate Method: 1 LOAD FACTOR
Load Rating Date: 11/05/2001
Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 0.0
RR Vertical Underclear: 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID INTERSTATE 0055
Appurtenances Main Route 00000
Inventory County: 016 COOK
Township/Road Dist 34 STICKNEY
Municipality 5540 STICKNEY
Urban Area: 1051 1051
Functional Class: 1 INTERSTATE
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 56.0
Horizontal: 57.5 0.0
Lateral:

Station: 10.2500
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2012 / 61150
Est Truck Percentage: 13
Number Of Lanes: 3
One Or Two Way: 1 One-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2032 / 75808
Designated Truck Rte: CLASS I
Special Systems: Yes

Key Route Under Data

FEDERAL-AID PRIMARY 0350
Main Route 00000
016
62 LAKE (CHICAGO)
1051 CHICAGO
1051 1051
3 OTHER PRINCIPAL ARTERIAL
South/East **North/West**
101.9
101.9 0.0

Station: 18.7100
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2011 / 61600
Est Truck Percentage: 12
Number Of Lanes: 7
One Or Two Way: 2 Two-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2032 / 63448
Designated Truck Rte: CLASS II
Special Systems: Yes

*** Marked Route On Data ***

	Designation		Kind	Number
Route #1:	1 Mainline	1	Interstate Highway	055
Route #2:	1 Mainline			
Route #3:	1 Mainline			

*** Marked Route Under Data ***

	Designation		Kind	Number
	1 Mainline	3	State Highway	050
	1 Mainline			
	1 Mainline			

Structure Number: 016-0016 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	12/10/2012	Inspection Temperature:	35Deg. F					** Actual Posted Limits **	
Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	F	MICRO SIL CON OVRLY		Last Paint Type:	U
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Protection:	J	NONE			
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	8.9				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/2000				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date: **Inspection Category:**
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		Reconstructed	
Route:	FAI-55	Sta: 24+20		Sta:	
Section Nbr:	1112-619-HB				
Contract Nbr:					
Fed Aid Pr#:	I 0557029281				
Built By:	1	I.D.O.T.			

Waterway Information

Flood Design Frequency:	YRS	Drainage Area:	Acre
Flood Design Q (CFS):			
Flood Design Nat H W E:		Flood Base Q (CFS):	
Flood Des Open Prop:	SF	Flood Base Nat H W E:	

ATTACHMENT C

Bridge Inspection Report

Illinois Department of Transportation

Routine Inspection Report

SN:	016-0016	**District:**	1	**Spans:**	3	**Appr. Spans:**	0	**Skew:**	22.00	**ADT:**	61150	**Truck Pct:**	13
ADT Un:	61600	**Maint. Co:**	COOK	**Twsp:**	STICKNEY					**Status:**	OPEN - NO RESTRICT		
Facility Carried:	I- 55 EB STEVENSON					**Feature Crossed:**	IL 50 (CICERO AVE)						
Location	5.7 M SW I94			**Municipality:**	STICKNEY					**Team/Sub Section**	E26019		
Bridge Name:						**Material & Type:**	STEEL/STRINGER/MULTI-BEAM/GIRDER						
Insp. Intervals (Mo) Routine NBIS	24	**Fracture Critical:**	0	**Underwater:**	0	**Special Feature:**	N/A						

90 – Inspection Date:	/ /	90C – Temp. (ºF):		90A – Program Manager:	
Is Delinquent: ☐	Reason:				
90A1 – Team Leader:		90A2 – Inspector:			

90B – Inspection Remarks:

Previous Inspection	2008) DK SOFFIT MAP CRKD & JOINTS LEAKING. STL BMS-SPAN 2 MINOR RUST @BOTT FLANGES. PIER CANTILEVERS MAP CRKD. PIER 2 COL 1 MAP CRKD. 2012) Item 59 lowered to "5" due to init sec loss/minor pitting a@ brng areas of few bm ends above P

Resources

Time to Inspect (H:M):	1:0	:	Traffic Control:	3		Boat:			Waders:			Snooper:					
Ladder:	LL		Manlift:			Bucket Truck:			Other:								

Inspector's Appraisals

	Prev	New	Comments
58 – Deck Condition:	6		
59 – Superstructure Cond:	5		
60 – Substructure Cond:	6		
62 – Culvert Condition:	N		
61 – Channel Condition:	N		
71 – Waterway Adequacy:	N		
72 – Approach Rdw Align:	8		
111 – Pier Navig Protection:	N		

90B – Inspector Remarks:

Routine Inspection Report

Structure Number: 0160016

Additional Inspection Data

	Prev	New
36A – Bridge Railing Adequacy:	3	

Rail Types:

Approach Guardrail Adequacy:	Prev	New	36B – Transitions:	Prev	New	36C – Guardrail:	Prev	New	36D – Ends:	Prev	New
				2			3			3	

	Prev	New	
108A – Wearing Surface Type:	F		If "L-Other" Describe:
108B – Type of Membrane:	F		If "E-Other" Describe:
108C – Deck Protection:	J		If "I-Other" Describe:
108D – Total Deck Thickness (in):	8.9		

	Prev	New
59A – Paint Date (Mo/Yr):	10/2000	/
59B – Paint Type:	U	— — — — — — — —

Color: Fascia - ____: Inter. - ____: Railing - ____.

59C – Utilities Attached:		__ __ __

If "B-Other" Describe: _____

		Prev	New
Weight Limit Posting:	70A2 – Single Unit Vehicles:		Tons
	70B2 – Combination Type 3S-1 (3 or 4 axles):		Tons
	70C2 – Combination Type 3S-2 (5 or more axles):		Tons
	70D2 – One Truck at a Time:	0	

Joint Openings (In.) _____

90B – Inspector Remarks Continued:

	Signature	Date
Inspection Team Leader:		/ /
Inspection Program Manager:		/ /

Pontis

Today's Date: 04/19/2013

Structure Number: 016-0016 **District:** 1 **(41) Bridge Status:** 1 OPEN - NO RESTRICT
(6) Feature Crossed: IL 50 (CICERO AVE) **(7) Facility Carried:** I- 55 EB STEVENSON
(9) Location: 5.7 M SW I94 **(7A) Bridge Name:**
Element Inspection Date: 12/10/2012 **Inspectors:** SEDLACEKJL

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	22	2,725	43	5,262	35	4,250	0	0	0	0	12,237
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:	Lt transverse crking; Small Isol spalls, HP & map crking; PD patch Ln 2 E Jnt (Span 2 Bay 3 & Span 3 Bay 1)											
Lead Painted Steel Open Girder												
107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Span 2-Bott flanges freckle rust											
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Lt pitting (Non-Active) @ Bttm Flange South Fascia @ Pier 2 Span 3											
Reinforced Conc Column or Pile Extension												
205	4	100	970	0	0	0	0	0	0	0	0	970
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Pier 2 Col#1 HL map crks											
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Lt vert crking; Pier 1 Wall HL-med vert leach crks											
Reinforced Conc Abutment												
215	4	98	1,902	2	30	0	0	0	0	0	0	1,932
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Lt vert crking in FCR @ W Abut											
Reinforced Conc Pier or Abutment Cap												
234	4	88	224	12	30	0	0	0	0	0	0	254
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Cantilever Pier 1 north & south ends. Pier 2 South Cantilever End has map crking and delams. East Abut- Med horiz crks @ Brg #4.											
Preformed Joint Seal												
302	4	90	56	10	6	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						
Remarks:	Leaking @ East Abut & Pier 1											
Neoprene Expansion Joint												
307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:	Leaking @ West Abut & Pier 2											

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks: West Apprch- Silicone Relief Jnt missing 80%

Concrete Bridge Railing

331	4	99	410	1	3	0	0	0	0	0	0	413
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: Lt vert crking; Lt spalls plow damage; Parapet spalled @ Pier 2 Joint

Steel Open Girder

406	4	100	6	0	0	0	0	0	0	0	0	6
			Minor fatique, out-o		Moderate fatigue, ou		Severe fatigue, out-					

Remarks: Few Bm Ends with minor section loss that have a functioning paint system

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	22	2,725	43	5,262	35	4,250	0	0	0	0	12,237
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		

Remarks: Lt transverse crking; Small Isol spalls, HP & map crking; PD patch Ln 2 E Jnt (Span 2 Bay 3 & Span 3 Bay 1)

Lead Painted Steel Open Girder

107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks: Span 2-Bott flanges freckle rust

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks: Lt pitting (Non-Active) @ Bttm Flange South Fascia @ Pier 2 Span 3

Reinforced Conc Column or Pile Extension

205	4	100	970	0	0	0	0	0	0	0	0	970
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Pier 2 Col#1 HL map crks

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Lt vert crking; Pier 1 Wall HL-med vert leach crks

Reinforced Conc Abutment

215	4	98	1,902	2	30	0	0	0	0	0	0	1,932
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				

Remarks: Lt vert crking in FCR @ W Abut

Reinforced Conc Pier or Abutment Cap

234	4	88	224	12	30	0	0	0	0	0	0	254
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				

Remarks: Cantilever Pier 1 north & south ends. Pier 2 South Cantilever End has map crking and delams. East Abut- Med horiz crks @ Brg #4.

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						

Remarks: Leaking @ East Abut & Pier 1

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				

Remarks: Leaking @ West Abut & Pier 2

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable				

Remarks: West Apprch- Silicone Relief Jnt missing 80%

Concrete Bridge Railing

331	4	99	410	1	3	0	0	0	0	0	0	413
		No deterioration		Minor cracks/spalls		Analysis warranted						

Remarks: Lt vert crking; Lt spalls plow damage; Parapet spalled @ Pier 2 Joint

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty

Concrete Deck Protected w/ Rigid Overlay

22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		

Remarks: Lt transverse crking; Small Isol spalls, HP & map crking; PD patch Ln 2 E Jnt (Span 2 Bay 3 & Span 3 Bay 1)

Lead Painted Steel Open Girder

107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		

Remarks: Span 2-Bott flanges freckle rust

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion	Paint distress	Rust formation	Section loss		Section failure				

Remarks: Lt pitting (Non-Active) @ Bttm Flange South Fascia @ Pier 2 Span 3

Reinforced Conc Column or Pile Extension

205	4	100	970	0	0	0	0	0	0	0	0	970
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Pier 2 Col#1 HL map crks

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Lt vert crking; Pier 1 Wall HL-med vert leach crks

Reinforced Conc Abutment

215	4	98	1,902	2	30	0	0	0	0	0	0	1,932
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Lt vert crking in FCR @ W Abut

Reinforced Conc Pier or Abutment Cap

234	4	89	226	11	28	0	0	0	0	0	0	254
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Cantilever Pier 1 north & south ends. Pier 2 South Cantilever End has map crking and delams. East Abut- Med horiz crks @ Brg #4.

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration	Minor deterioration	Major deterioration							

Remarks: Leaking @ East Abut & Pier 1

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks: Leaking @ West Abut & Pier 2

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable						

Remarks: West Apprch- Silicone Relief Jnt missing 80%

Concrete Bridge Railing

331	4	99	410	1	3	0	0	0	0	0	0	413
			No deterioration	Minor cracks/spalls	Analysis warranted							

Remarks: Lt vert crking; Lt spalls plow damage; Parapet spalled @ Pier 2 Joint

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:	Lt transverse crking; Small Isol spalls, HP & map crking; PD patch Ln 2 E Jnt (, Span 2 Bay#3& Span 3 Bay#1)											
Lead Painted Steel Open Girder												
107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Span 2-Bott flanges freckle rust											
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	4	100	970	0	0	0	0	0	0	0	0	970
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Pier 2 Col#1 HL map crks											
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Lt vert crking; Pier 1 Wall HL-med vert leach crks											
Reinforced Conc Abutment												
215	4	98	1,902	2	30	0	0	0	0	0	0	1,932
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Lt vert crking in FCR @ W Abut											
Reinforced Conc Pier or Abutment Cap												
234	4	92	234	8	20	0	0	0	0	0	0	254
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Cantilever Pier 1 north & south ends. East Abut- Med horiz crks @ Brg #4.											
Preformed Joint Seal												
302	4	90	56	10	6	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						
Remarks:	Leaking @ East Abut & Pier 1											
Neoprene Expansion Joint												
307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:	Leaking @ West Abut & Pier 2											
Movable Discontinous Brg.												
311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks: West Apprch- Silicone Relief Jnt missing 80%

Concrete Bridge Railing

331	4	99	410	1	3	0	0	0	0	0	0	413
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: Lt vert crking; Lt spalls plow damage; Parapet spalled @ Pier 2 Joint

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty

Concrete Deck Protected w/ Rigid Overlay

22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks: Lt trans crking; Isol spalling, HP & map crking; PD patch Ln 2 E jt

Lead Painted Steel Open Girder

107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	970	0	0	0	0	0	0	0	0	970
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Lt vert crking

Reinforced Conc Abutment

215	4	98	1,902	2	30	0	0	0	0	0	0	1,932
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Lt vert crking in FCR @ W abt

Reinforced Conc Pier or Abutment Cap

234	4	92	234	8	20	0	0	0	0	0	0	254
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Cantilever crking both piers south end

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration		Minor deterioration		Major deterioration					

Remarks:

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration							

Remarks: Leaking over Pier 2 and East abut

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration	Minor deterioration	Advanced corrosion								

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration	Minor deterioration	Advanced corrosion								

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable							

Remarks:

Concrete Bridge Railing

331	4	100	413	0	0	0	0	0	0	0	0	413
		No deterioration	Minor cracks/spalls	Analysis warranted								

Remarks: Lt vert crking; Lt spalls plow damage

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty

Concrete Deck Protected w/ Rigid Overlay

22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
		No deficiencies.	Repaired areas exist	Map cracked areas.	Spalls/delaminations	Full depth failures.						

Remarks:

Lead Painted Steel Open Girder

107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
		No corrosion	Paint distress	Rust formation	Section loss	Section failure						

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion	Paint distress	Rust formation	Section loss	Section failure						

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	970	0	0	0	0	0	0	0	0	970
		No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted							

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted							

Remarks:

Reinforced Conc Abutment

215	4	100	1,932	0	0	0	0	0	0	0	0	1,932
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	92	234	8	20	0	0	0	0	0	0	254
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration		Minor deterioration		Major deterioration					

Remarks:

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
			The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration			

Remarks:

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	100	413	0	0	0	0	0	0	0	0	413
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks:

Lead Painted Steel Open Girder

107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion	Paint distress	Rust formation	Section loss		Section failure				

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	970	0	0	0	0	0	0	0	0	970
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Abutment

215	4	100	1,932	0	0	0	0	0	0	0	0	1,932
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	92	234	8	20	0	0	0	0	0	0	254
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration	Minor deterioration	Major deterioration							

Remarks:

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks:

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable						

Remarks:

Concrete Bridge Railing

331	4	100	413	0	0	0	0	0	0	0	0	413
			No deterioration	Minor cracks/spalls	Analysis warranted							

Remarks:

Element Description												
Elem	**Env**	**% 1**	**Qty 1**	**% 2**	**Qty 2**	**% 3**	**Qty 3**	**% 4**	**Qty 4**	**% 5**	**Qty 5**	**Tot Qty**
Concrete Deck Protected w/ Rigid Overlay												
22	4	23	2,855	43	5,262	34	4,120	0	0	0	0	12,237
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:												
Lead Painted Steel Open Girder												
107	4	100	28,530	0	0	0	0	0	0	0	0	28,530
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	4	100	970	0	0	0	0	0	0	0	0	970
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Abutment												
215	4	100	1,932	0	0	0	0	0	0	0	0	1,932
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier or Abutment Cap												
234	4	92	234	8	20	0	0	0	0	0	0	254
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Preformed Joint Seal												
302	4	100	62	0	0	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						
Remarks:												
Neoprene Expansion Joint												
307	4	100	186	0	0	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:												
Movable Discontinous Brg.												
311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	100	413	0	0	0	0	0	0	0	0	413
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ AC Overlay												
14	4	75	9,218	0	0	25	3,073	0	0	0	0	12,290
			No deficiencies.		Repaired areas.		Map cracked areas.		Spalls/delam exist.		Full depth failures.	

Remarks:

Lead Painted Steel Open Girder

107	4	93	26,533	7	1,997	0	0	0	0	0	0	28,530
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Lead Painted Steel Closed Web/Box Girder and Open

172	4	100	50	0	0	0	0	0	0	0	0	50
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Reinforced Conc Column or Pile Extension

205	4	82	795	10	97	8	78	0	0	0	0	970
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Abutment

215	4	100	1,932	0	0	0	0	0	0	0	0	1,932
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	86	218	8	20	6	15	0	0	0	0	254
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Neoprene Expansion Joint

307	4	52	207	45	180	3	12	0	0	0	0	399
			The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration			

Remarks:

Movable Discontinous Brg.

311	4	67	20	33	10	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Fixed Bearing

313	4	87	26	13	4	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	0	0	100	2	0	0	0	0	0	0	2
		No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable				

Remarks:

Concrete Bridge Railing

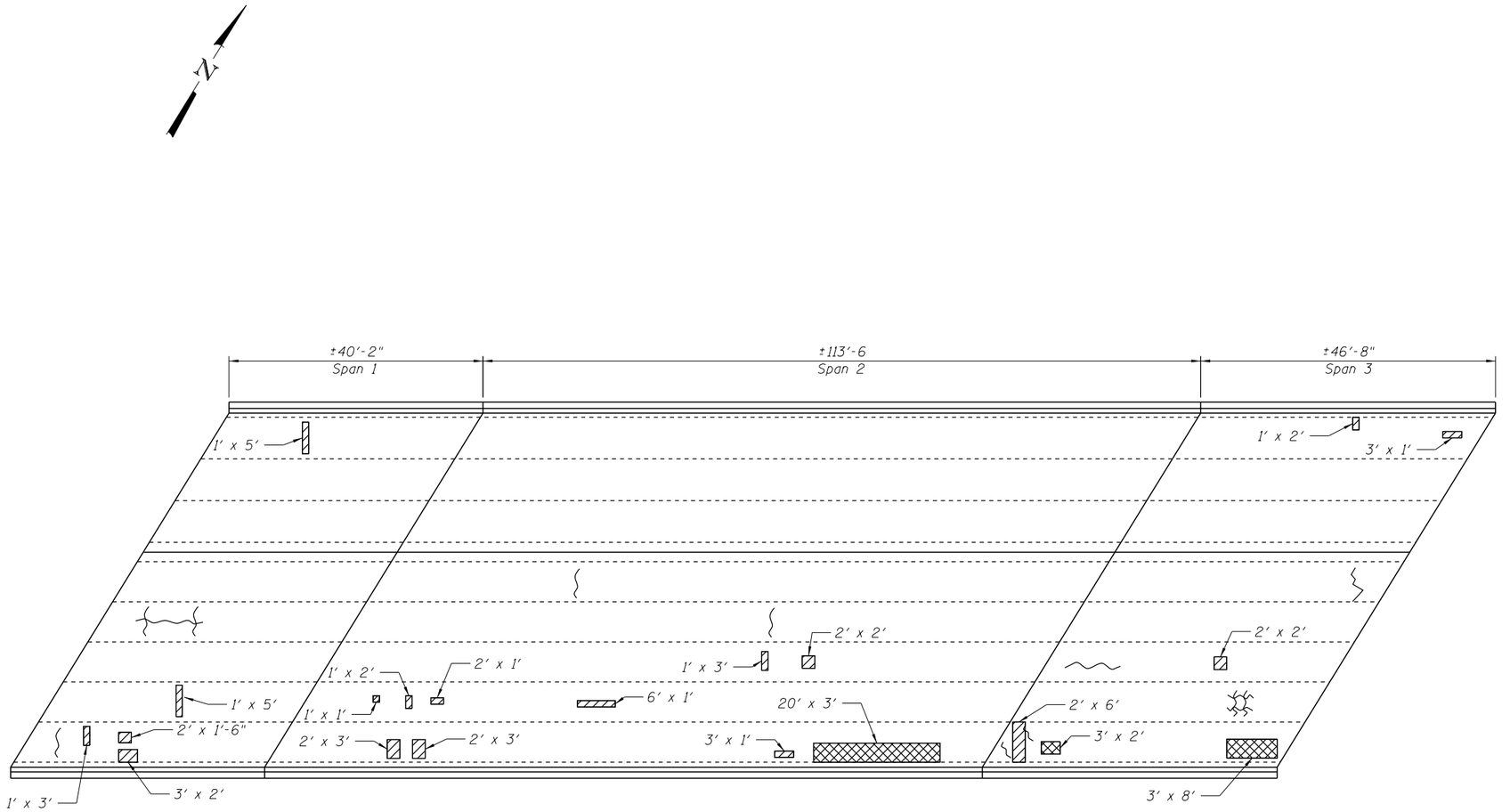
331	4	47	194	29	120	24	99	0	0	0	0	413
		No deterioration		Minor cracks/spalls		Analysis warranted						

Remarks:

Download Date: 04/18/2013

ATTACHMENT D

Bottom of Deck Condition Survey



UNDERSIDE OF DECK

(Eastbound Bridge)

LEGEND

- CRACKED CONCRETE
- MAP CRACKING
- SPALLED CONCRETE
- DELAMINATED CONCRETE

FILE NAME = V:\1786\active\178600037.IDOT.I-55\structural\drawing\sht\dwg.Cicero.Avenue.Underside.of.Deck.dgn

Stantec

USER NAME = jerojas	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/9/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT D – BOTTOM OF DECK CONDITION SURVEY
STRUCTURE NO. 016-0016

SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT E

Condition Assessment of the Reinforced Concrete Bridge Deck

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

January 6, 2012

Ms. Diane M. O'Keefe
Deputy Director of Highways
District One Engineer
Illinois Department of Transportation
201 West Center Court
Schaumburg, Illinois 60196-1096
Attn: Ms. Sarah Wilson (Maintenance Bridge Engineer)

Re: Condition Assessment of Bridge Deck
I-55 Eastbound over IL-50 (Cicero Avenue)
Structure No. 016-0016
District One
Work Order 10
PTB No. 153-18
WJE No. 2009.3645.10

Dear Ms. O'Keefe:

At your request, Wiss, Janney, Elstner Associates, Inc. (WJE) completed a condition assessment of the reinforced concrete bridge deck for Structure No. 016-0016. This work included a visual assessment of concrete deterioration from below the structure. Also included was a delamination survey performed on the top of the bridge deck, based on an infrared thermography (IR) survey. Reinforcing bar cover depth determination was also performed using ground penetrating radar (GPR). These inspection tasks began in July and were completed in September.

Structure Description

The I-55 Eastbound Bridge over Cicero Avenue. IL-50 carries three lanes of traffic and two shoulders. This three span structure is comprised of steel beam and concrete deck construction. Each of the 10 girder lines is connected using steel diaphragms or cross frames. All deck and substructure components are comprised of cast-in-place reinforced concrete construction. Reportedly the bridge structure was originally constructed in 1963 and the current overlay was installed in 2000.

The spans have approximate lengths of 40 ft-7 in, 113 ft-11 in, and 46 ft-3 in., from west-to-east, for a total structure length of 206ft-8 in., back-to-back of abutments. The total deck width out-to-out is 59 ft-5 in. and the deck width to the inside faces of the parapet walls is 56 ft. The total resulting bridge deck area is approximately 10,900 sq. ft. A partial elevation view of the structure looking north is included as Figure 1.

Inspection Methods

The condition of the reinforced concrete bridge deck was assessed using several methods. These methods can be broken down into two major categories: Bottom of Deck Inspection Methods and Top of Deck Inspection Methods.

Bottom of Deck Inspection Methods

The condition of the bottom of the reinforced concrete deck was assessed from grade below the structure in September 2011. All accessible areas of the bottom of the deck were assessed visually. This inspection was completed from the ground beneath the bridge outside of active traffic lanes. Binoculars and/or zoom lenses were used to magnify the view of distant surfaces. Plan drawings of the structure including the structural framing were used to record field notes.

Top of Deck Inspection Methods

The condition of the top of the reinforced concrete deck was assessed using IR equipment to map areas of spalls, patches, and delaminations. This work was subcontracted to Infrasense, Inc. and was performed in July, 2011. Rolling lane closures were utilized during data collection periods to allow the IR data collection vehicle to assess the entire bridge deck surface while moving at approximately 3 mph. Impact Echo (IE) and sounding techniques were used to confirm the presence of delaminations at select locations on each bridge deck. All IR data was analyzed and summarized on bridge deck drawing sheets that show the located defects to scale.

GPR equipment was used to identify the cover depth of the top mat of reinforcing steel from the top surface of the deck. The GPR equipment was mounted to an inspection vehicle and scans were completed at normal operating speeds.

Assessment Results

The reinforced concrete bridge deck was found to be in satisfactory condition overall. Results for each assessment category are included below.

Bottom of Deck

Visual inspection from grade below the bridge was used to assess the bottom of the bridge deck. All areas of spalls or delaminations that could be identified visually were documented. In addition, all areas of previously repaired concrete were noted. Table 1 includes a summary of the visual inspection, including total deck soffit area, the area of spalled concrete, the area of delaminated concrete and the area of previous repairs. Figures 2 and 3 show the typical condition of the deck soffit. The results of the bottom of deck survey are shown on Sheet S-3 of Appendix A.

Table 1. Bottom of Deck Deterioration Summary

Soffit Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Previously Repaired Area (sq.ft)
10,900	50	0.5	180	1.7	1575

Top of Deck

The top of the bridge deck was assessed using both IR and GPR equipment. The IR survey equipment was able to identify delaminations and spalls present in the bridge deck. Figure 4 is an overall view of the top deck surface looking northeast.

Table 2 includes a summary of the total bridge deck area, the total bridge deck area spalled, the total bridge deck area delaminated, the total bridge deck area that should be programmed for repair work and the rebar cover from the top surface of the deck. Sheet S-1 of Appendix A is a scaled bridge deck plan drawing showing the locations of the delaminated or spalled areas. Sheet S-2 of Appendix A is a scaled bridge deck plan drawing showing an image of the IR scan of the bridge. Sheet S-4 of Appendix A is a scaled bridge deck plan drawing showing the location of suggested partial and full depth concrete repairs using conventional patching techniques. Note that repair area boundaries were selected by expanding the boundaries of each delaminated or spalled area by 6 inches to account for saw cutting outside of the delamination and further deterioration prior to the actual start of any repair work. In addition, repair areas were joined when adjacent repairs were spaced at approximately 2 ft. or less. Full depth repair boundaries were determined based on locations where top and bottom surface defects overlapped. No bottom surface repairs were identified based on recommendations from IDOT.

Table 2. Top of Deck Deterioration Summary

Bridge Deck Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Repair Area (sq. ft)	Total Area (%)	Rebar Cover (in.)
10,900	0	0	615	5.6	1382	12.7	3.9

Recommendations and Conclusions

WJE performed a condition assessment of the reinforced concrete bridge deck of the I-55 Eastbound Bridge over IL-50, Cicero Avenue. This condition assessment included: a visual survey of the bottom of the deck and an IR survey of the top of the deck. This information was used to produce repair drawings indicating the size and location of anticipated repair areas.

The repair work should, at a minimum, include partial depth repairs at all locations indicated on Sheet S-4 in Appendix A. If this option is selected, a detailed delamination assessment should be completed by the contractor at the time of the repair work to ensure that all areas of deteriorated concrete are identified. In addition, all re-entrant corners of repair areas should be detailed to include a 4 inch chamfer to reduce the potential for concrete-shrinkage related cracking.

The bridge deck was found to currently be in satisfactory condition, but corrosion-related damage has become apparent and should be repaired.

We would be happy to answer any questions or provide additional information.

Sincerely,

WISS, JANNEY, ELSTNER ASSOCIATES, INC.

Joseph A. Rogers Jr., S.E.
Project Associate

Jonathan C. McGormley, P.E., S.E.
Project Manager

Figures

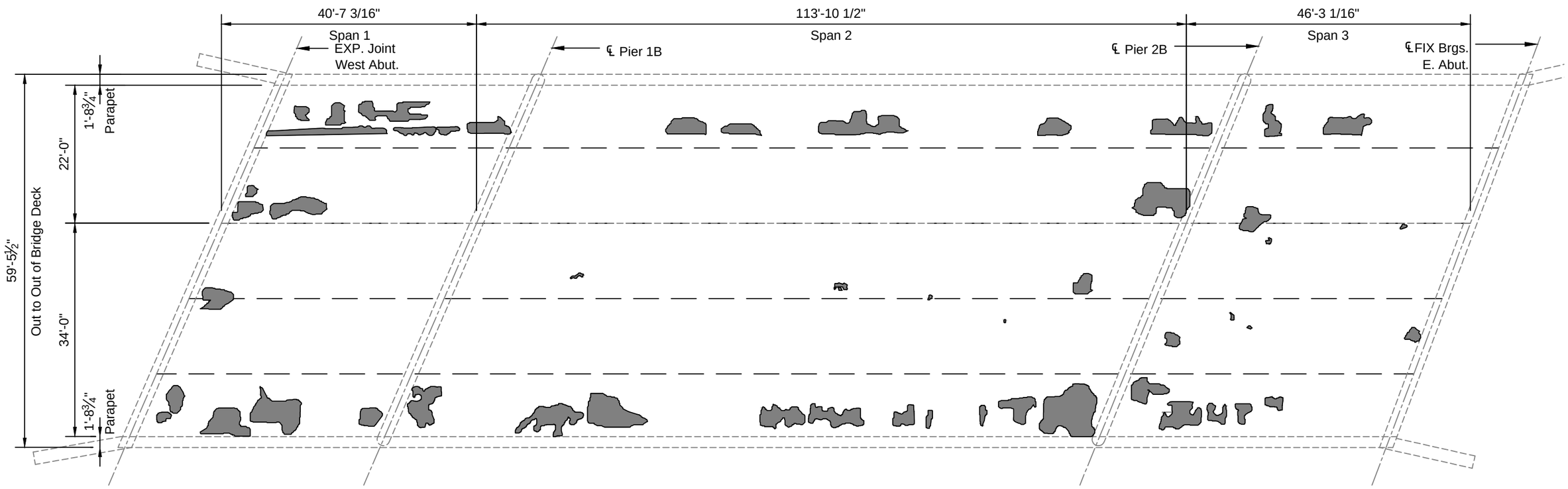
Figure 1. Elevation view, looking north. Photo from Google Streetview

Figure 2. Typical view, deck soffit, southeast corner.

Figure 3. Typical view, deck soffit, west end.

Figure 4. Typical view, deck top surface, looking northeast

Appendix A - Bridge Deck Condition Assessment Drawings



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0016		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft]	10,900	100	SPALL
DELAMINATION	ft]	615	5.6	CRACK
SPALL	ft]	0	0	
CRACKS	ft	-	-	

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0016
EASTBOUND I-55 OVER CICERO AVENUE

Sheet Title
IR Result - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
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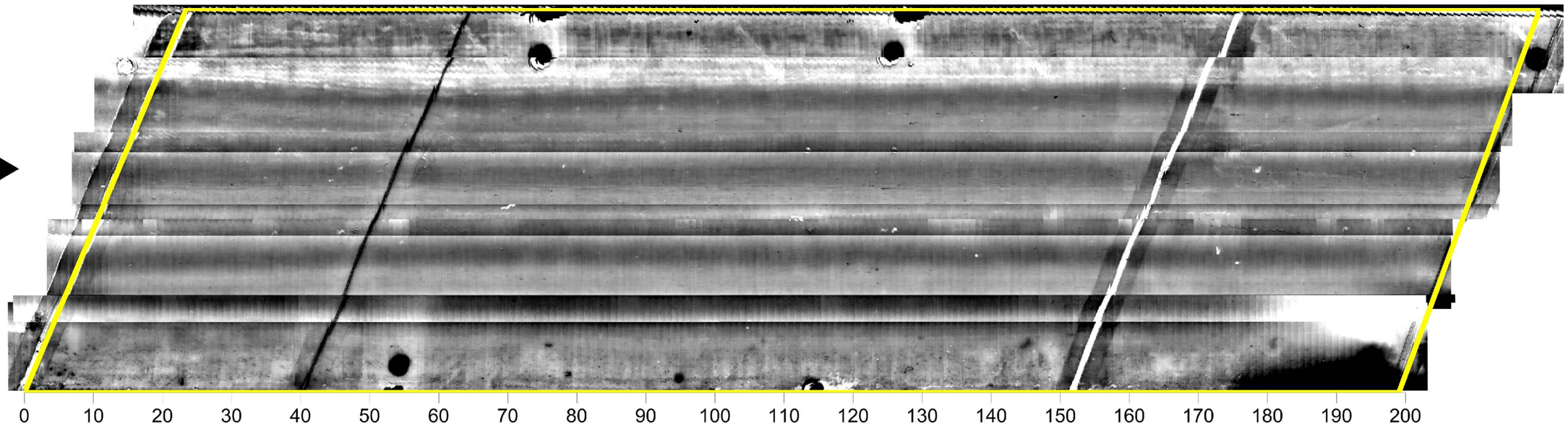
Sheet No.	S1



0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client

Illinois Department of Transportation

District One
201 West Center Court
Schaumburg, Illinois 60196

Project

Bridge 016-0016

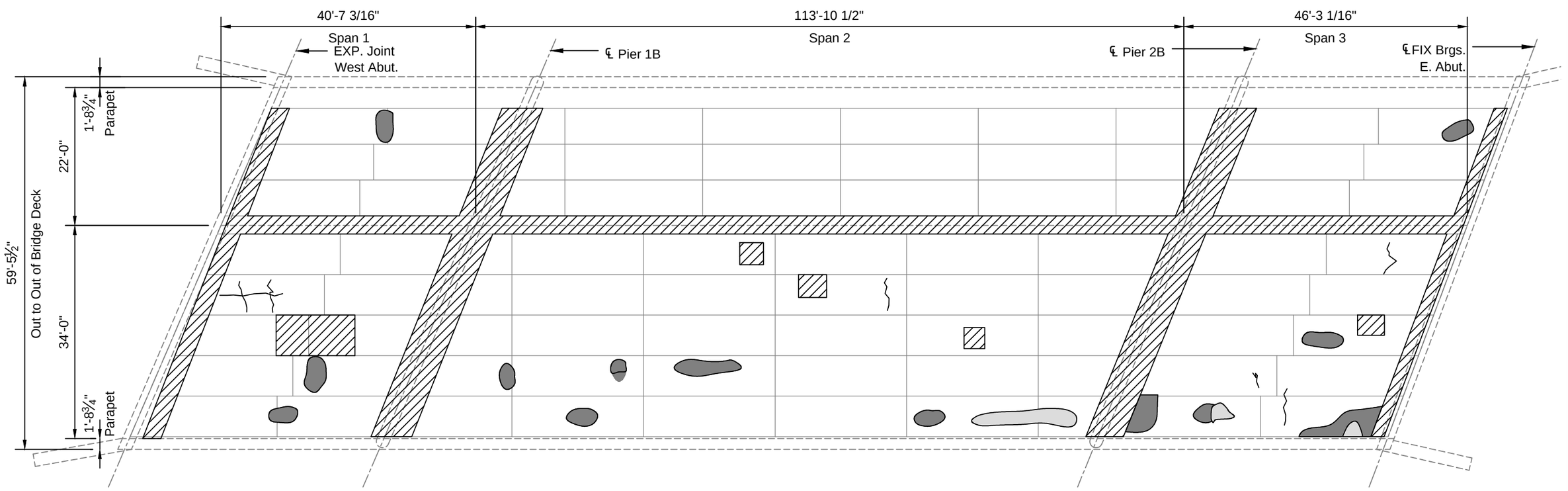
EASTBOUND I-55 OVER CICERO AVENUE

Sheet Title

IR Image - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"

Sheet No. **S2**



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0016		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft²	10900	100	SPALL
DELAMINATION	ft²	180	1.7	PREV. REPAIR
SPALL	ft²	50	0.5	CRACK
PREVIOUS REPAIRS	ft²	1575	14.4	
CRACKS	ft	-	-	

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

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Northbrook, Illinois 60062
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Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0016
EASTBOUND I-55 OVER CICERO AVENUE

Sheet Title
Underside Deterioration

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
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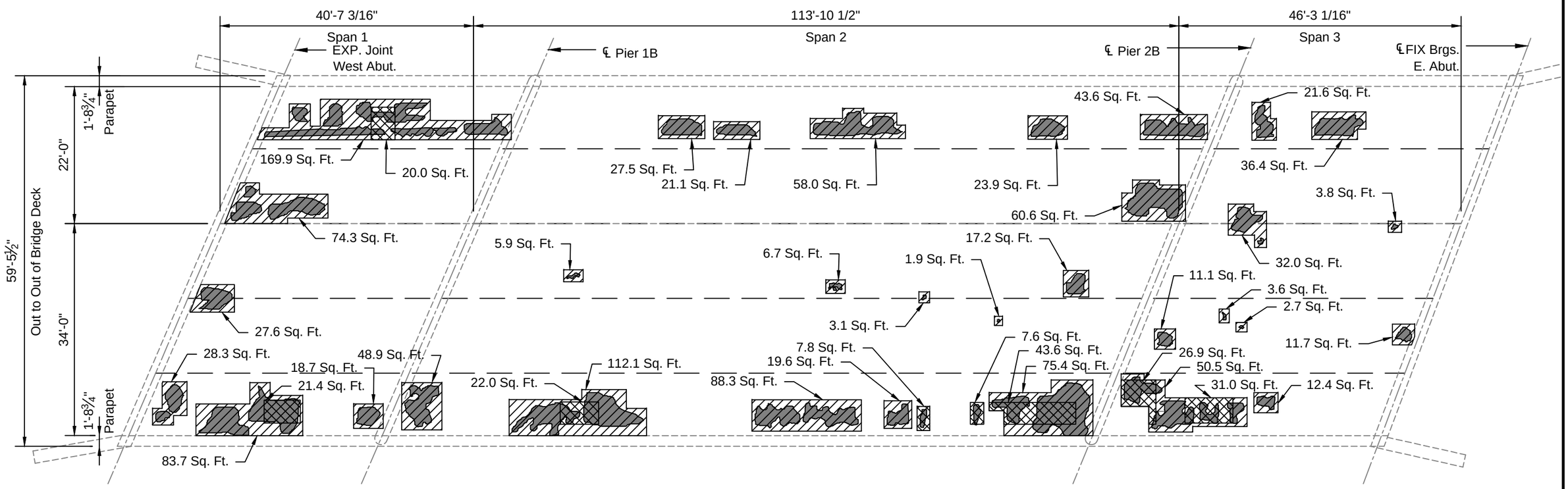
Sheet No.	S3



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0016	
ITEM	UNIT	QUANT.	%
TOTAL AREA	ft²	10900	100
PARTIAL DEPTH REPAIR	ft²	1202	11.0
FULL DEPTH REPAIR	ft²	180	1.7
DELAMINATION	ft²	615	5.6
SPALL	ft²	0	0
CRACKS	ft	-	-

LEGEND

- PARTIAL DEPTH REPAIR
- FULL DEPTH REPAIR
- DELAMINATION
- SPALL
- CRACK

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

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330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

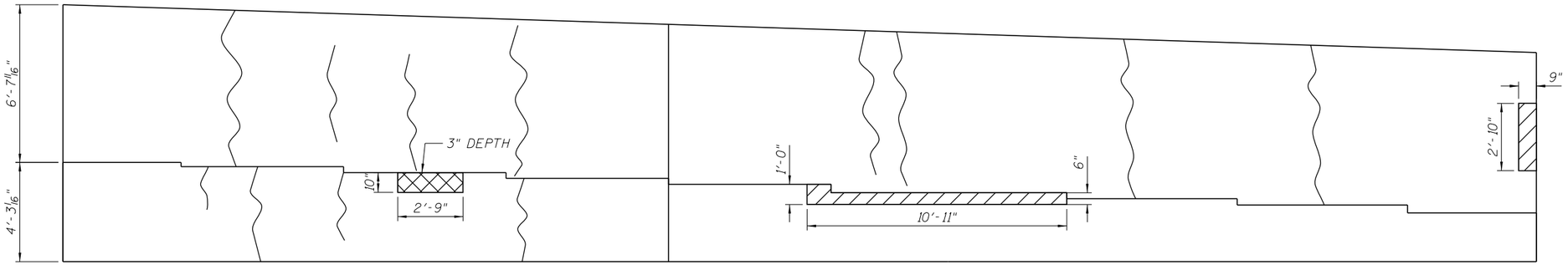
Project
Bridge 016-0016
EASTBOUND I-55 OVER CICERO AVENUE

Sheet Title
Proposed Repairs

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"
Sheet No.	S4

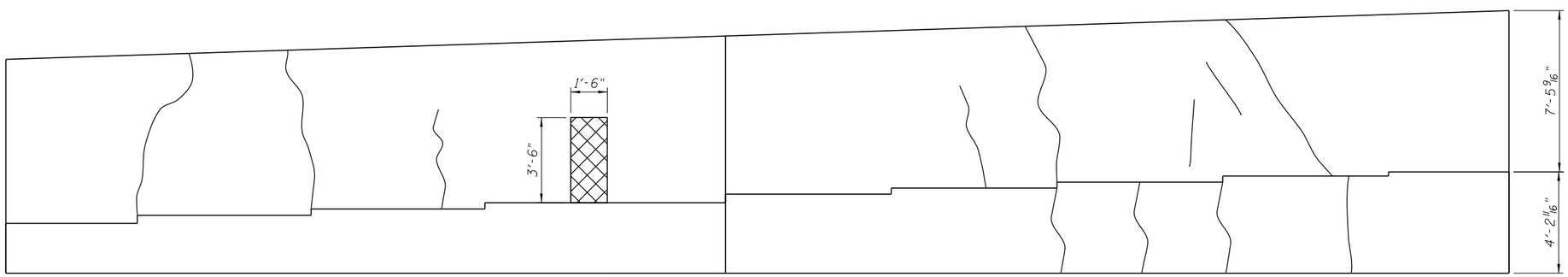
ATTACHMENT F

Substructure Condition Surveys



EAST ABUTMENT

LOOKING EAST



WEST ABUTMENT

LOOKING WEST

LEGEND

- HAIRLINE CRACK (UNLESS OTHERWISE NOTED)
- SPALLED CONCRETE
- DELAMINATED CONCRETE

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Stantec

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	CHECKED - BPS	REVISED -
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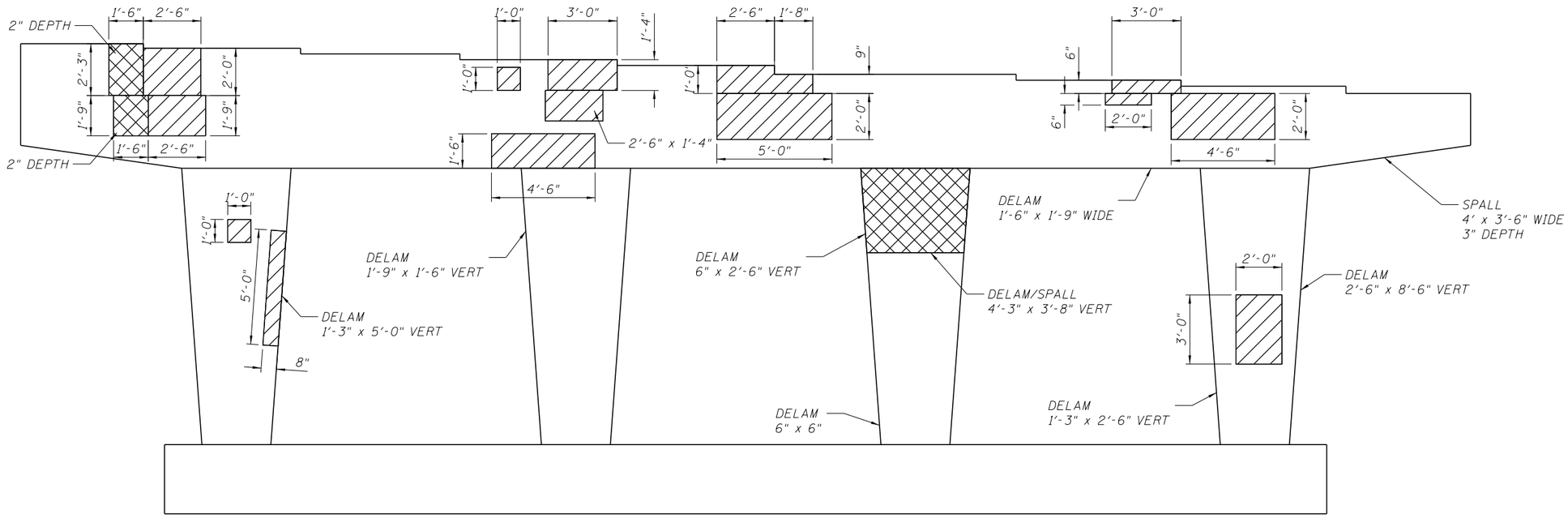
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

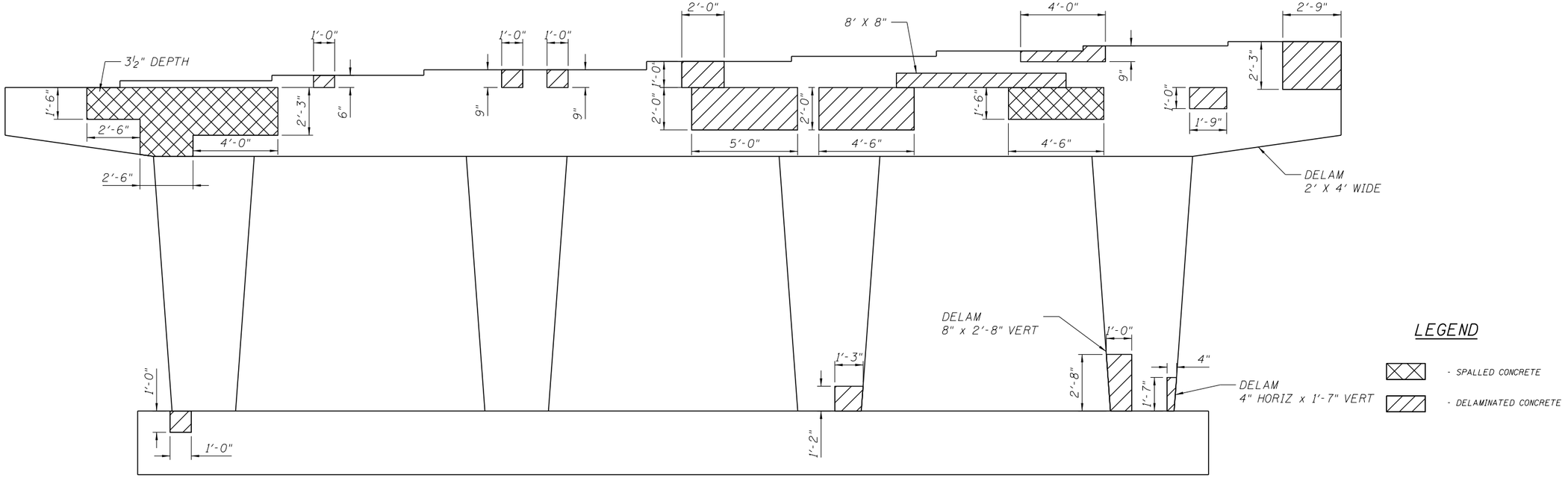
ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016-0016

SHEET NO. 1 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PIER 1
LOOKING EAST



PIER 1
LOOKING WEST

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Stantec

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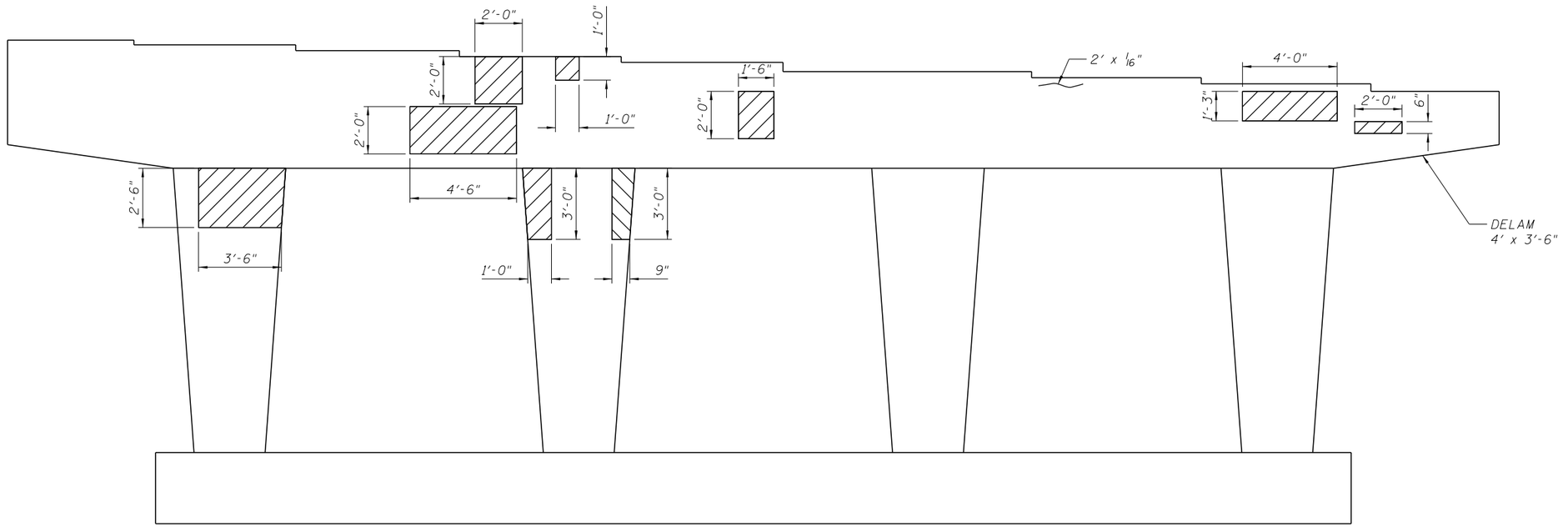
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

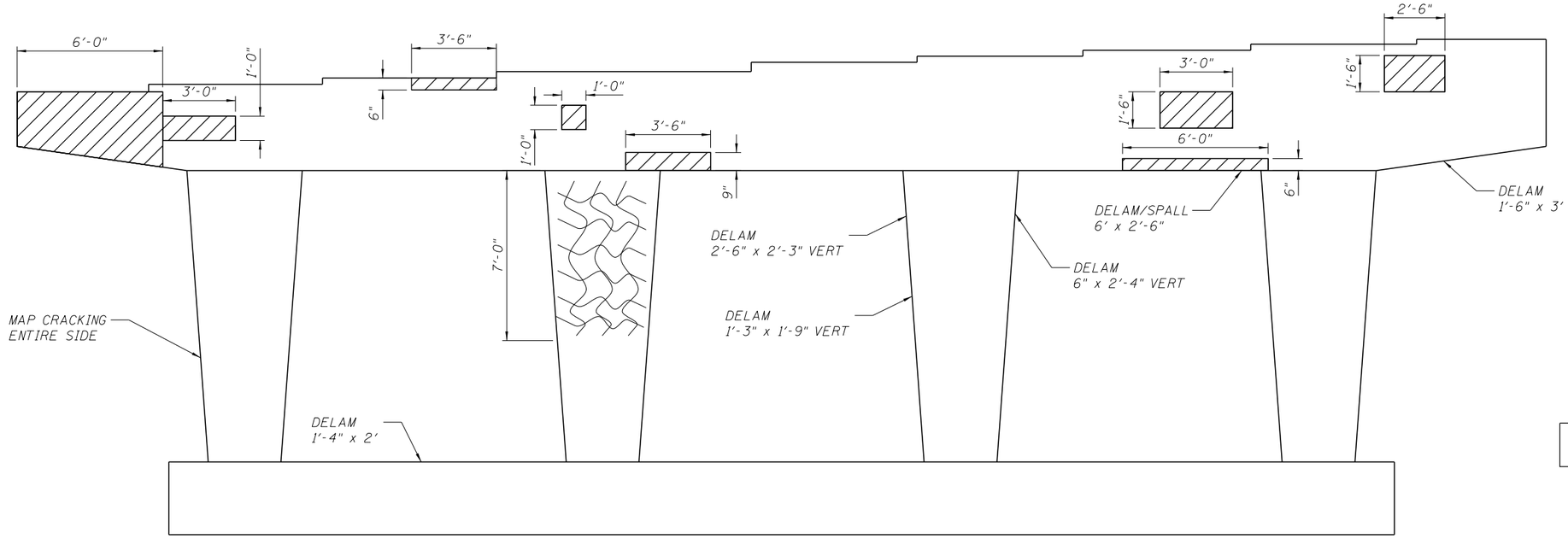
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016-0016
SHEET NO. 2 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PIER 2
LOOKING EAST



LEGEND

- CRACKED CONCRETE
- MAP CRACKING
- SPALLED CONCRETE
- DELAMINATED CONCRETE

PIER 2
LOOKING WEST

FILE NAME = V:\1786\active\1786080037.IDOT.I-55\structural\drawing\sht\dwg_Cicero_Avenue_Pier_Elevation.dgn

Stantec

USER NAME = jerojas	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016-0016
SHEET NO. 3 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT G

Opinion of Probable Costs

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/9/13
Check By:	BHS	*Date:*	12/19/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COSTS		
	I-55 EB over Cicero (016-0016)		

ALTERNATIVE 1 - IN-KIND REPAIRS

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50300300	Protective Coat	1529 sy	$2.00	$3,060
50500105	Furnishing and Erecting Structural Steel	2230 lb	$5.00	$11,150
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	372 sf	$175	$65,100
Z0016001	Deck Slab Repair (Full Depth)	18 sy	$750	$13,500
Z0016200	Deck Slab Repair (Partial Depth)	141 sy	$400	$56,400
			SUB TOTAL =	$149,210
			MOBILIZATION (10%) =	$14,921
			CONTINGENCY (20%) =	$29,842
			TOTAL =	**$194,000**

ALTERNATIVE 2 - STRUCTURE WIDENING

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50102400	Concrete Removal	25 cy	$600	$15,000
50104720	Removal Existing Concrete Deck	1 LS	$154,500	$154,500
50200100	Structure Excavation	281 cy	$35.00	$9,840
50300225	Concrete Structures	202 cy	$700	$141,400
50300255	Concrete Superstructure	726 cy	$800	$580,800
50300260	Bridge Deck Grooving	2189 sy	$7.00	$15,320
50300300	Protective Coat	1915 sy	$2.00	$3,830
50500105	Furnishing and Erecting Structural Steel	1 LS	$339,330	$339,330
50500505	Stud Shear Connectors	1242 each	$3.00	$3,730
50800205	Reinforcement Bars, Epoxy Coated	221900 lbs	$1.75	$388,330
51201400	Fur Stl Pile HP10x42	2,800 ft	$45.00	$126,000
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52000110	Preformed Joint Strip Seal	349 ft	$175	$61,080
52100010	Elastomeric Bearing Assembly, Type I	3 each	$800	$2,400
59100100	Geocomposite Wall Drain	46 sy	$25.00	$1,150
X2070304	Porous Granular Embankment, Special	62 cy	$50.00	$3,100
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	372 sf	$175	$65,100
Z0026407	Temporary Sheet Piling	1108 sf	$30.00	$33,230
Z0046304	Pipe Underdrains for Structures 4"	40 ft	$20.00	$800
			SUB TOTAL =	$1,958,540
			MOBILIZATION (10%) =	$195,854
			CONTINGENCY (20%) =	$391,708
			TOTAL =	**$2,546,200**

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/9/13
Check By:	BHS	*Date:*	12/19/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COSTS		
	I-55 EB over Cicero (016-0016)		

ALTERNATIVE 3 - SUPERSTRUCTURE AND PARTIAL SUBSTRUCTURE REPLACEMENT

CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50101500	Removal of Existing Superstructures	1 LS	$185,400	$185,400
50102400	Concrete Removal	332 cy	$600	$199,200
50104650	Slope Wall Removal	719 sy	$7.00	$5,030
50200100	Structure Excavation	724 cy	$35.00	$25,340
50300225	Concrete Structures	348 cy	$700	$243,600
50300255	Concrete Superstructure	962 cy	$800	$769,600
50300260	Bridge Deck Grooving	2604 sy	$7.00	$18,230
50300300	Protective Coat	2435 sy	$2.00	$4,870
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,834,200	$1,834,200
50500505	Stud Shear Connectors	9144 each	$3.00	$27,430
50800205	Reinforcement Bars, Epoxy Coated	310100 lbs	$1.75	$542,680
51100100	Slope Wall 4 Inch	602 sy	$100	$60,200
51201400	Fur Stl Pile HP10x42	3240 ft	$45.00	$145,800
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52100010	Elastomeric Bearing Assembly, Type I	12 each	$800	$9,600
59100100	Geocomposite Wall Drain	172 sy	$25.00	$4,300
X2070304	Porous Granular Embankment, Special	352 cy	$50.00	$17,600
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0012754	Structural Repair of Concrete (< 5 Inches)	1 sf	$350	$350
Z0026407	Temporary Sheet Piling	1527 sf	$30.00	$45,800
Z0046304	Pipe Underdrains for Structures 4"	187 ft	$20.00	$3,740
			SUB TOTAL =	$4,156,570
			MOBILIZATION (10%) =	$415,657
			CONTINGENCY (20%) =	$831,314
			TOTAL =	**$5,403,600**

ALTERNATIVE 4 - STRUCTURE REPLACEMENT

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50100100	Removal of Existing Structures	1 LS	$468,000	$468,000
50104650	Slope Wall Removal	719 sy	$7.00	$5,030
50200100	Structure Excavation	1023 cy	$35.00	$35,810
50300225	Concrete Structures	585 cy	$700	$409,500
50300255	Concrete Superstructure	962 cy	$800	$769,600
50300260	Bridge Deck Grooving	2604 sy	$7.00	$18,230
50300300	Protective Coat	2435 sy	$2.00	$4,870
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,834,200	$1,834,200
50500505	Stud Shear Connectors	9144 each	$3.00	$27,430
50800205	Reinforcement Bars, Epoxy Coated	357500 lbs	$1.75	$625,630
51100100	Slope Wall 4 Inch	602 sy	$100	$60,200
51201400	Fur Stl Pile HP10x42	6,120 ft	$45.00	$275,400
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
59100100	Geocomposite Wall Drain	172 sy	$25.00	$4,300
X2070304	Porous Granular Embankment, Special	352 cy	$50.00	$17,600
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0026407	Temporary Sheet Piling	1527 sf	$30.00	$45,800
Z0046304	Pipe Underdrains for Structures 4"	187 ft	$20.00	$3,740
			SUB TOTAL =	$4,618,940
			MOBILIZATION (10%) =	$461,894
			CONTINGENCY (20%) =	$923,788
			TOTAL =	**$6,004,700**

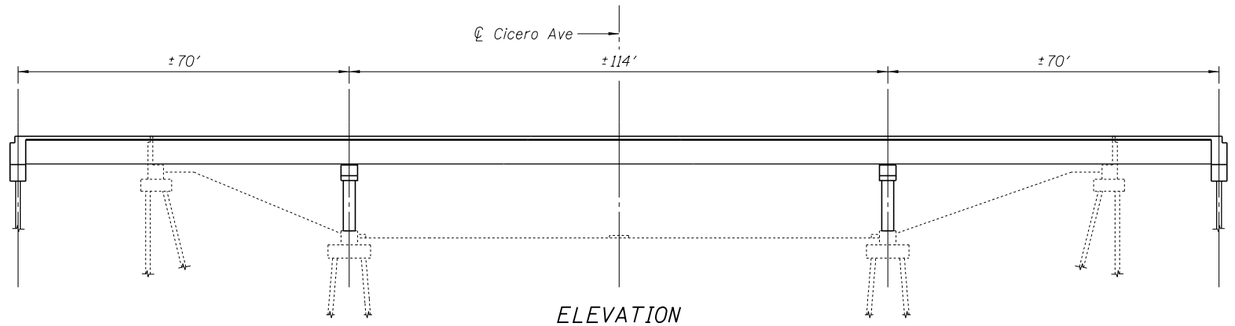
ATTACHMENT H

Proposed Structure Drawings

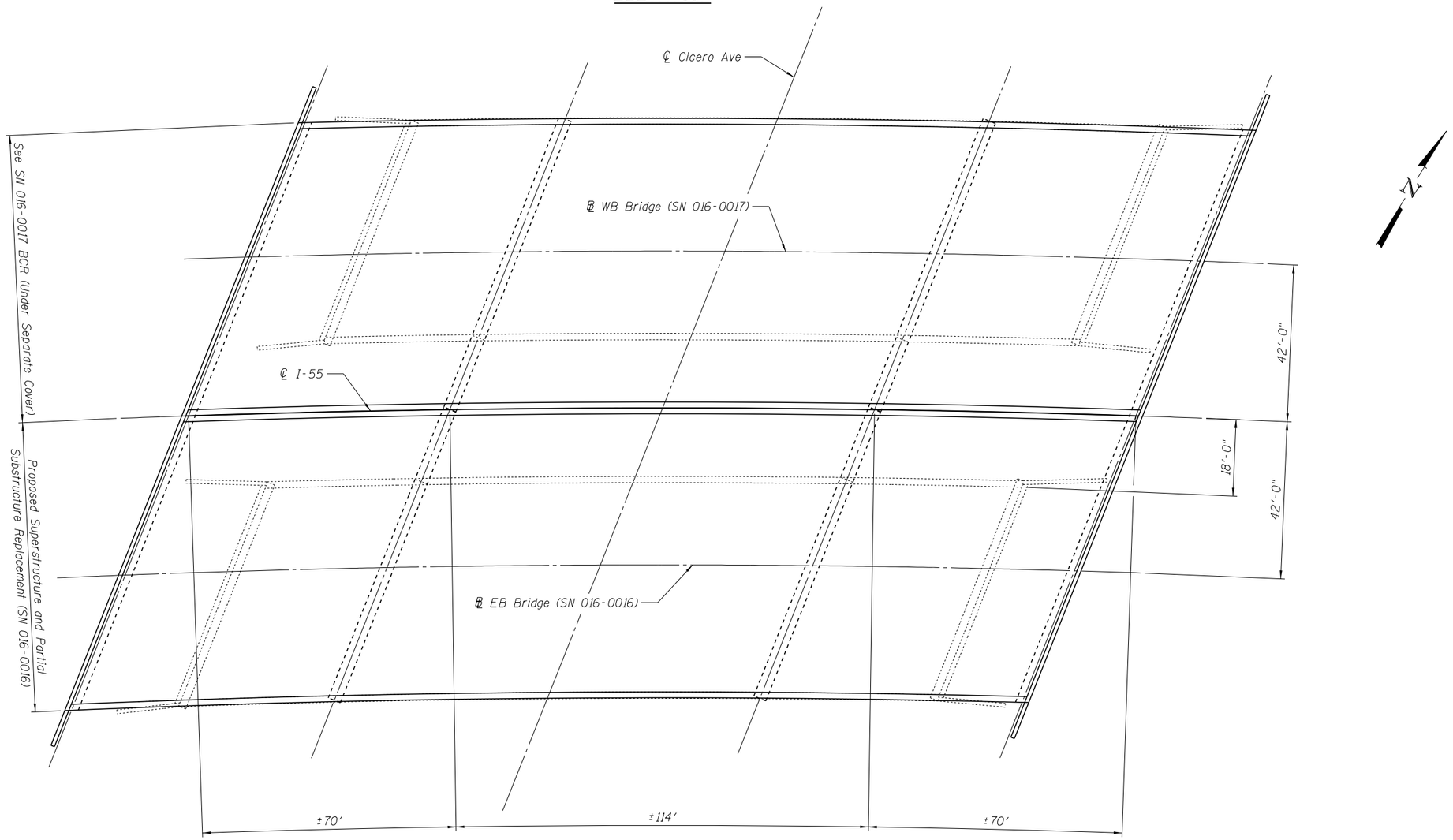
Notes:

The number and location of substructure units, the profile grade, skew angle, and the bridge length and width are subject to refinement in the TSL phase.

Superstructure type, beam spacing, and rail type to be determined during the TSL phase.



ELEVATION



PROPOSED PLAN

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Stantec

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PLOT DATE = 12/19/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT H – PROPOSED STRUCTURE DRAWING
STRUCTURE NO. 016–0016
SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT I

Structure Photos

Photo 1 - Spalls on underside of deck in Span 3 between Beams 9-10 from north, east end, looking east

Photo 2 - Spalls on underside of deck in Span 2 between Beams 9-10 from north, east end, looking west

Photo 3 - Underside of Span 2, south end, looking east

Photo 4 - Underside of deck, Span 1, south end, looking west

Photo 5 – Span 1, looking northeast

Photo 6 – Span 2, looking northeast

Photo 7 - Cracking in shoulder, Span 3, looking east

Photo 8 Span 3, looking northwest

Photo 9 - Outside of South Parapet with minor rust stains, cracking, and minor spalling, looking northeast

Photo 10 - Outside of North Parapet with minor rust stains and cracking, looking southeast

Photo 11 - West Abutment joint, looking north

Photo 12 - Pier 1 joint, looking north

Photo 13 - Pier 2 joint, looking north

Photo 14 - East Abutment joint, looking north

Photo 15 - Typical superstructure in Span 2, looking southwest

Photo 16 - Typical cracked weld between bottom flange of beam in east span and built up steel bolster, looking northeast (Beam 2 from north at East Abutment)

Photo 17 - Typical cover plates on bottom on beams in east span, looking southwest (Beam 3 from north, Span 3)

Photo 18 - South Fascia Beam, looking west

Photo 19 - North Fascia Beam, looking east

Photo 20 - Broken conduit along South Fascia Beam, Span 3, 8' from East Abutment, looking west

Photo 21 - Broken conduit in Span 2 along south fascia beam, 6' from West Pier, looking southeast

Photo 22 - Spall on East Abutment seat between beams 2-3, looking east

Photo 23 - East Abutment, looking east

Photo 24 - West Abutment, looking southwest

Photo 25 - Northwest wingwall, looking southwest

Photo 26 – Southeast wingwall, looking northeast

Photo 27 - East Pier, looking southwest

Photo 28 - Underside of East Pier cap between columns 1-2 from north, looking east

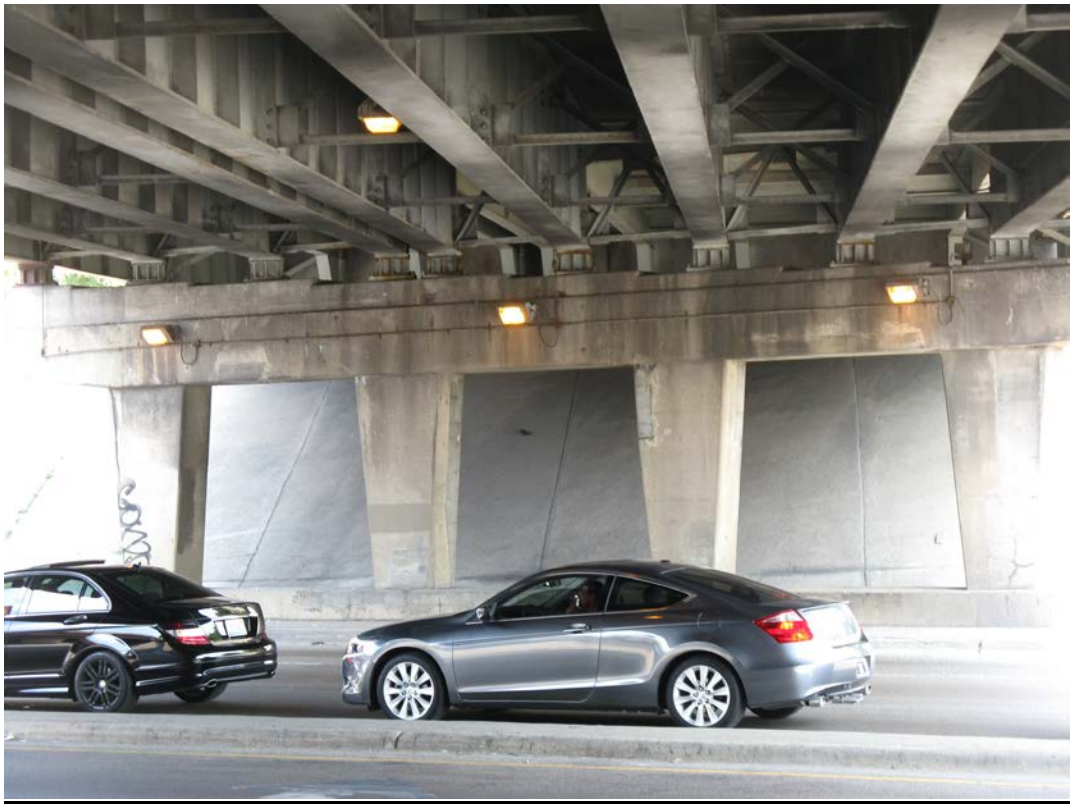


Photo 29 - West Pier, looking east

Photo 30 - Spall on underside of West Pier cap, south end, looking north

Photo 31 - Undermining of east slopewall at south end, looking east

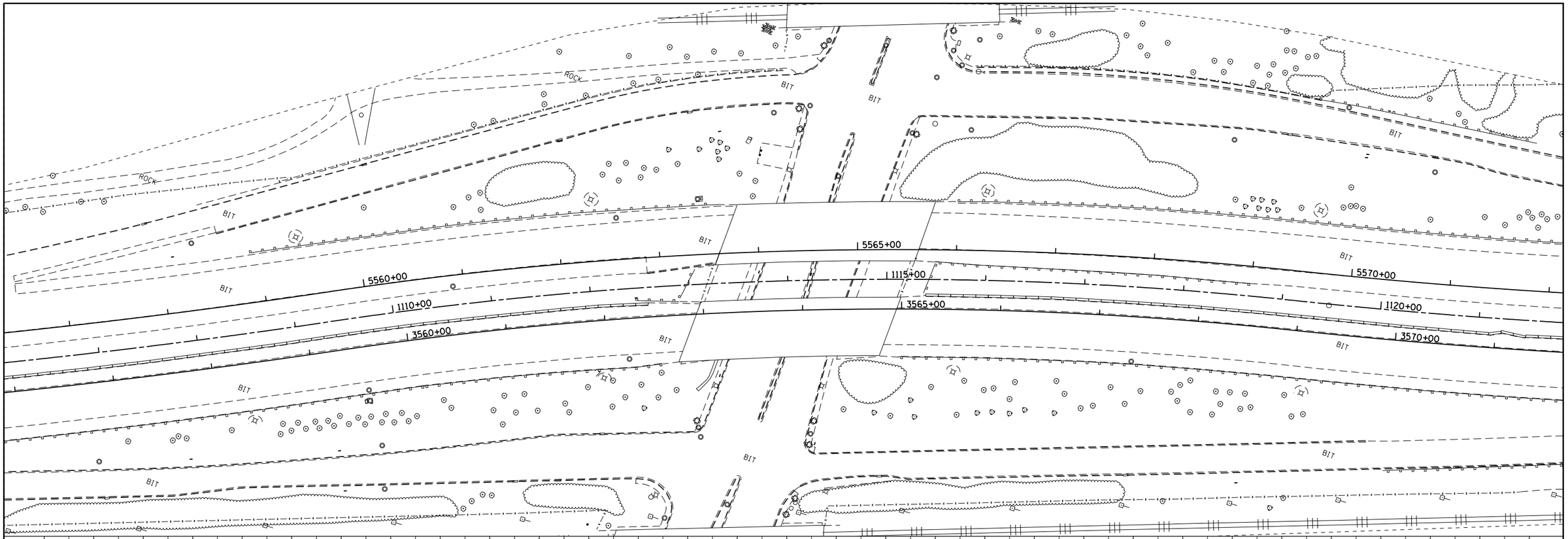
Photo 32 - Undermining of east slopewall at south end, looking east

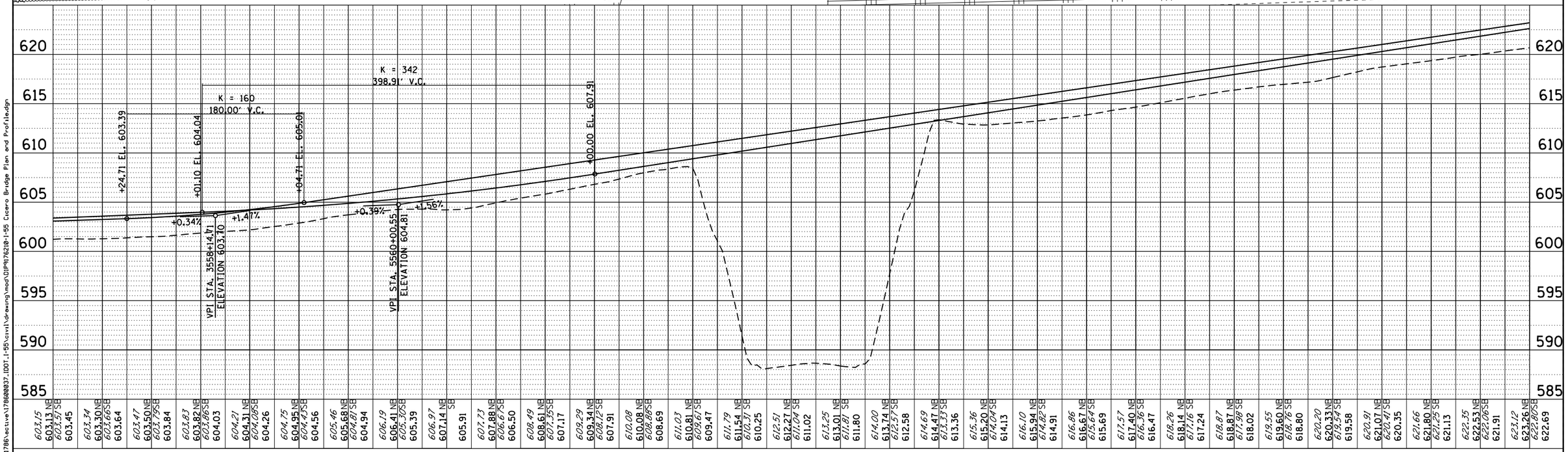
Photo 33 – East slopewall, north half, looking northeast

Photo 34 - Broken section of west slopewall curb with vegetation growing in it, approx half way up, looking west

ATTACHMENT J

Proposed Plan & Profile





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	DRAWN - STANTEC	REVISED -	
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

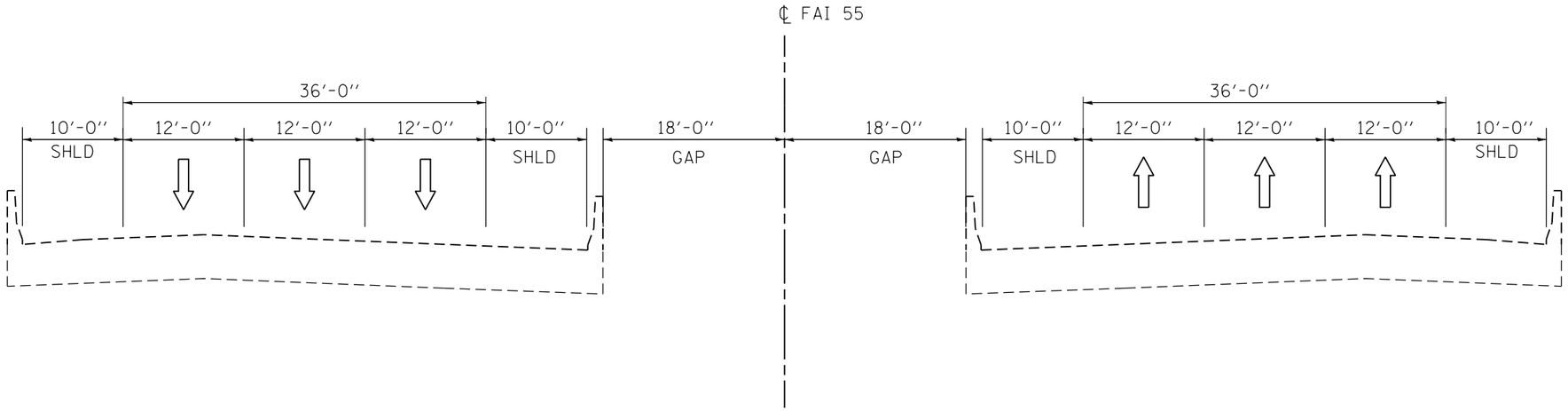
ATTACHMENT J
I-55 OVER CICERO AVE PROPOSED PLAN & PROFILE

SCALE: 1":100' | SHEET ___ OF ___ SHEETS | STA. _____ | TO STA. _____

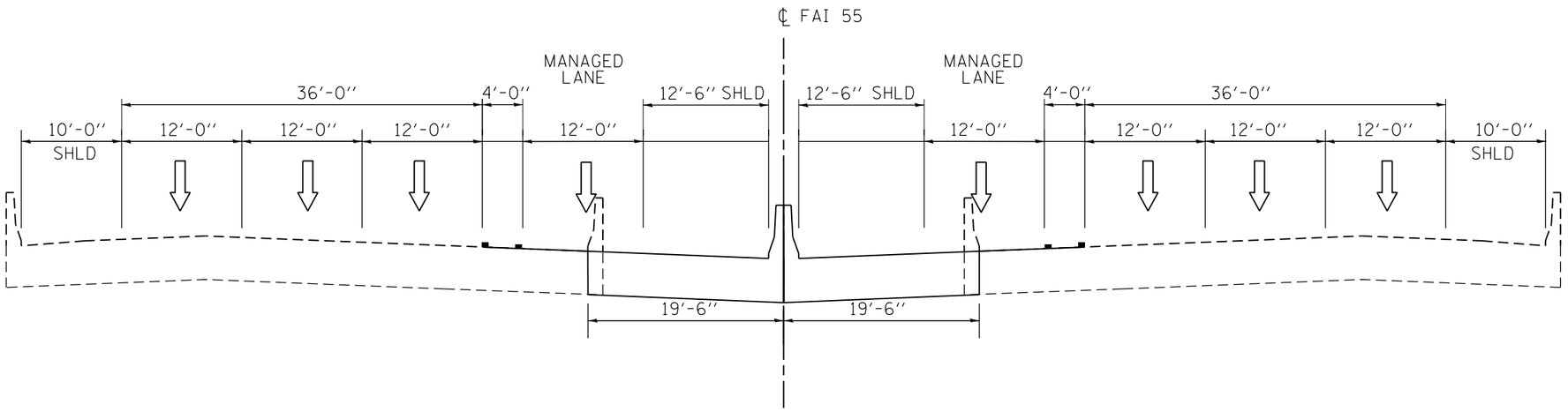
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

ATTACHMENT K

Existing and Proposed Roadway Cross Sections



EXISTING I-55 OVER CICERO AVE TYPICAL SECTION



PROPOSED I-55 OVER CICERO AVE TYPICAL SECTION

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Stantec

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	DRAWN - STANTEC	REVISED -
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PLOT DATE = 10/7/2013	DATE - 10/7/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT K
TYPICAL SECTIONS

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		

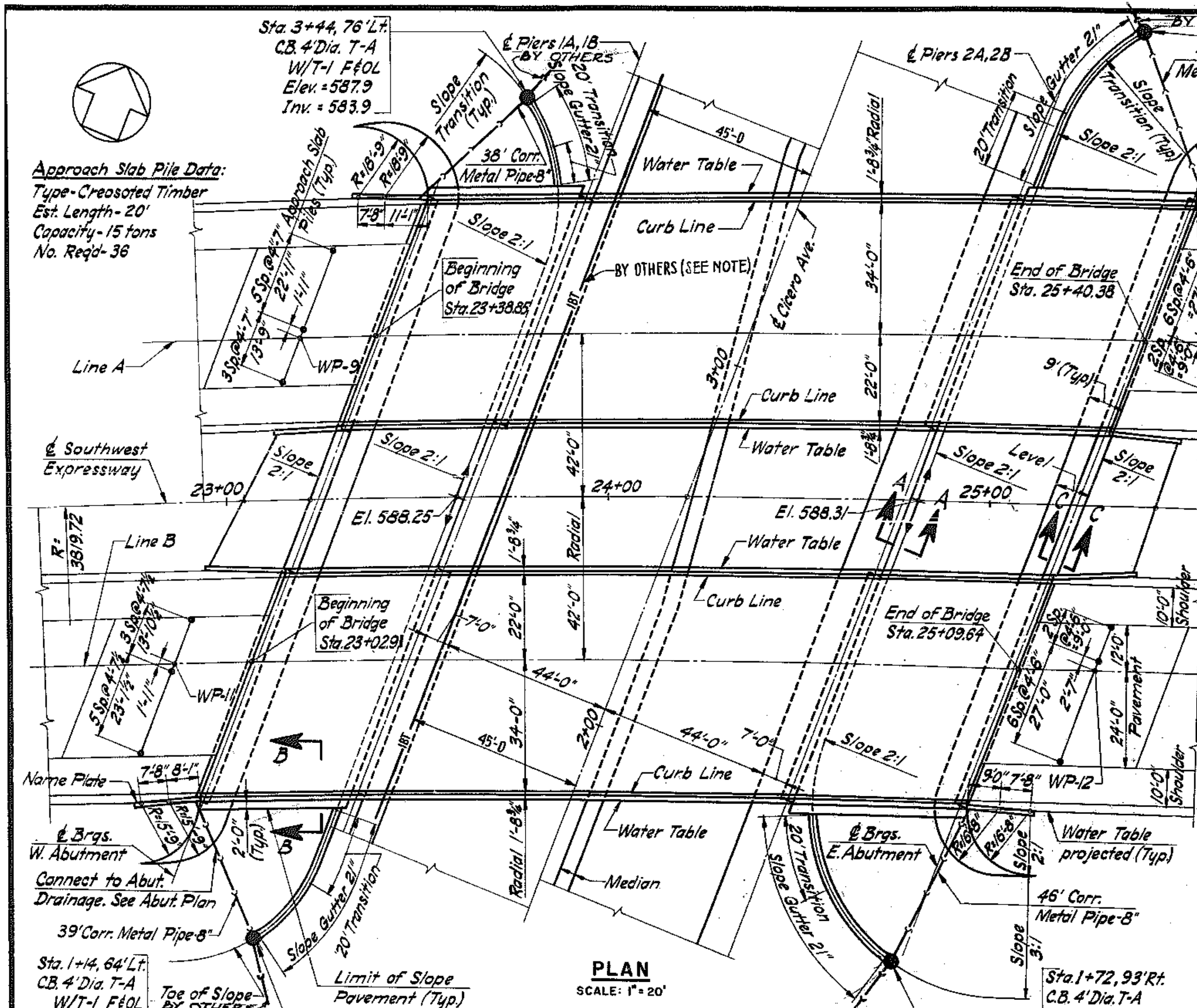
CONTRACT NO.

ILLINOIS FED. AID PROJECT

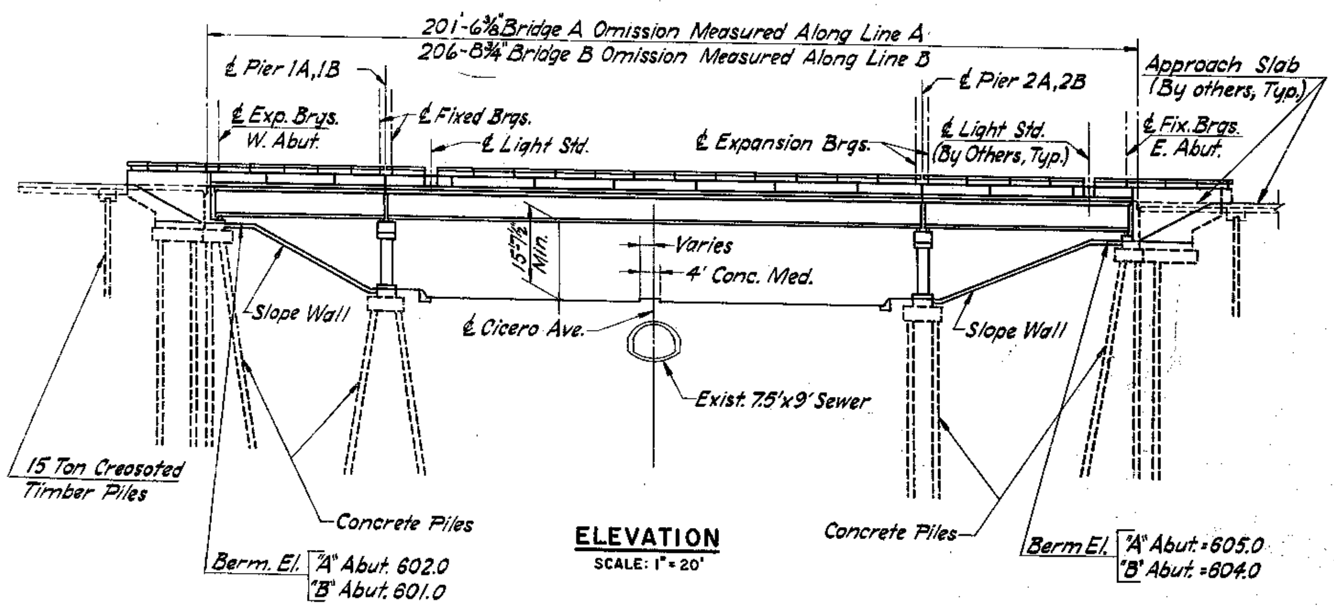
ATTACHMENT L

Abbreviated Existing Plans

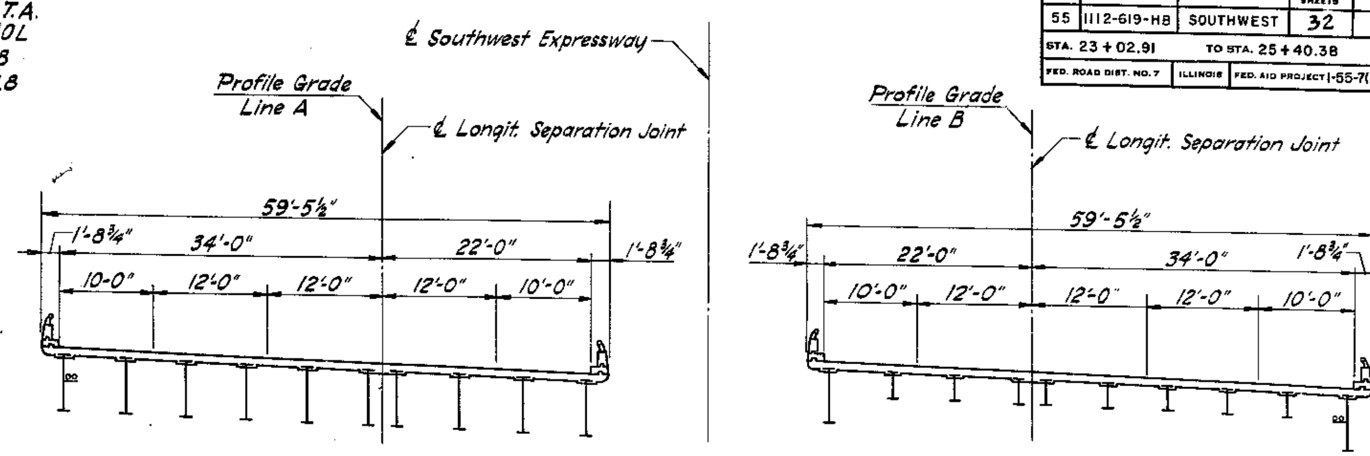
F.A.I. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	SOUTHWEST	32	2c
STA. 23 + 02.91	TO STA. 25 + 40.38			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT I-55-7(29)-281		



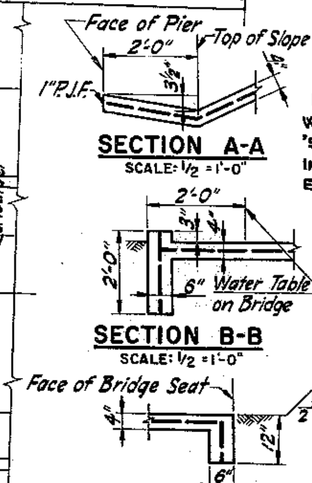
PLAN
SCALE: 1" = 20'



ELEVATION
SCALE: 1" = 20'



CENTER SPAN **TYPICAL CROSS SECTION** **END SPAN**
SCALE: 1" = 10'



SECTION A-A
SCALE: ½" = 1'-0"

SECTION B-B
SCALE: ½" = 1'-0"

SECTION C-C
SCALE: ½" = 1'-0"

NOTE:
WHEREVER IN THESE PLANS REFERENCE IS MADE TO THE "STANDARD SPECIFICATIONS", IT IS UNDERSTOOD TO INCLUDE THE "SUPPLEMENTAL SPECIFICATIONS", EFFECTIVE APRIL 2, 1962.

NOTE:
The cost of Excavation required for the construction of the Abutments in the Embankments is to be incidental to the contract.

SUMMARY OF QUANTITIES							
CODE NUMBER	ITEM	UNIT	QUANTITY				
			BRIDGE A		BRIDGE B		TOTAL for 2 Bridges
			Sub.	Super.	Sub.	Super.	
016001	Embankment	Cu. Yds.	14620	—	18,260	—	32,880
019001	Porous Granular Embankment	Cu. Yds.	636	—	618	—	1,254
050001	Class "A" Excavation for Structures	Cu. Yds.	256	—	256	—	512
052003	Class "X" Concrete	Cu. Yds.	470.5	3080	471.2	3090	1,558.7
052021	Protective Coat	Sq. Yds	—	1,449	—	1,454	2,903
054001	Furn. & Erect. Struct. Steel	Lbs.	—	496,970	—	498,710	995,680
059001	Reinforcement Bars	Lbs.	62380	78,510	64,470	78,510.	283,870
060004	Furnishing Creosoted Piles (up to 20')	Lin. Ft.	360	—	360	—	720
060008	Driving Timber Piles	Lin. Ft.	360	—	360	—	720
060043	Driving Concrete Piles	Lin. Ft.	4,335	—	4,425	—	8,760
060044	Furnishing Concrete Piles	Lin. Ft.	4,335	—	4,425	—	8,760
060047	Test Pile Concrete	Ea.	2	—	2	—	4
061001	Name Plates	Ea.	—	1	—	1	2
063001	Corrugated Metal Pipe, 8"	Lin. Ft.	85	—	85	—	170
063020	Perforated Corrugated Metal Pipe, 6"	Lin. Ft.	165	—	165	—	330
075015	CB, T.A, 4' Dia, T.I Fr. & Open Lid	Ea.	2	—	2	—	4
083002	Slope Wall 4 inch	Sq. Yds.	813	—	719	—	1,532
L02710	Rigid Steel Conduit, 2" Dia.	Lin. Ft.		440		440	880
L02738	Rigid Steel Conduit, 2½" Dia.	Lin. Ft.	40	—	30	—	70
L02766	Rigid Steel Conduit, 1½" Dia.	Lin. Ft.	—	10	—	20	30
Z08004	**Aluminum Handrail**	Lin. Ft.	76	403	76	404	959

TWO SIGNS CONFORMING TO STD. 2160-1 SHALL BE ERECTED AT LOCATIONS SHOWN ON THE PLANS (SHEET 2b)

UTILITIES:

1. The proposed Illinois Bell Telephone Co. line will be in place prior to beginning bridge construction.

GENERAL NOTES

CONCRETE:

1. Coarse aggregate to be used in parapet handrails and end posts must be absolutely free of chert, flint, limonite, lignite and soft sandstone.
2. The concrete floor slab shall be finished in accordance with article 51.19 of the standard specifications.
3. Slopewall shall be reinforced with welded wire fabric 6"x6" mesh weighing 58#/per 100 sq. ft.
4. All reinforcement bars shall be lapped 20 diameters unless otherwise shown.
5. Permanent forms will not be permitted in forming the concrete floor.
6. Class X concrete shall be used throughout.

STRUCTURAL STEEL:

1. Rivets ¾"φ open holes 13/16"φ unless otherwise noted.
2. Anchor bolts shall be set before riveting diaphragms over supports.
3. Roadway expansion guards shall be assembled in the shop in proper position with the ends in place and shall be left assembled for shop inspection.
4. The following surfaces of the expansion guard shall be given two shop coats of red lead paint: the outside vertical 4" legs of the Ls 6x4x¾.
5. Expansion guards are included in the quantity of structural steel estimated weight 16,560 lbs. Bridge A and 16,610 lbs. Bridge B.
6. Except as otherwise provided all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See article 56.1 to 56.5 inclusive of the standard specifications and the special provisions.
7. Structural carbon steel shall conform to specifications for carbon steel A.S.T.M. designation A-36.

SUBSTRUCTURE:

1. The contractor shall drive 4 concrete test piles in a permanent location shown on the pier and abutment footing plans as directed by the engineer before ordering the remainder of the piles.
2. Concrete piles at abutments shall be driven in holes precored through the embankment.
   This work shall be done in accordance with article 60.9 (c) of the standard specifications.
3. Concrete piles at piers shall be driven in holes precored to elevation 574.00.

DESIGN LOADS AND STRESSES

Specifications: A.A.S.H.O., 1961
Design Load: H20-S16-44 & alternate
25 psf Future wearing surface
Design Stresses: Structural Steel: f = 20,000 psi
Reinforcement Steel: f = 20,000 psi
Concrete: fc = 3,500 psi
fc = 1,400 psi
= 1,000 psi (with earth pressure)
fv = 75 psi (Footings)
n = 10
Piling: Concrete = 30 ton capacity
Creosoted Timber = 15 ton capacity

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY

EXPRESSWAY OVER CICERO AVE.

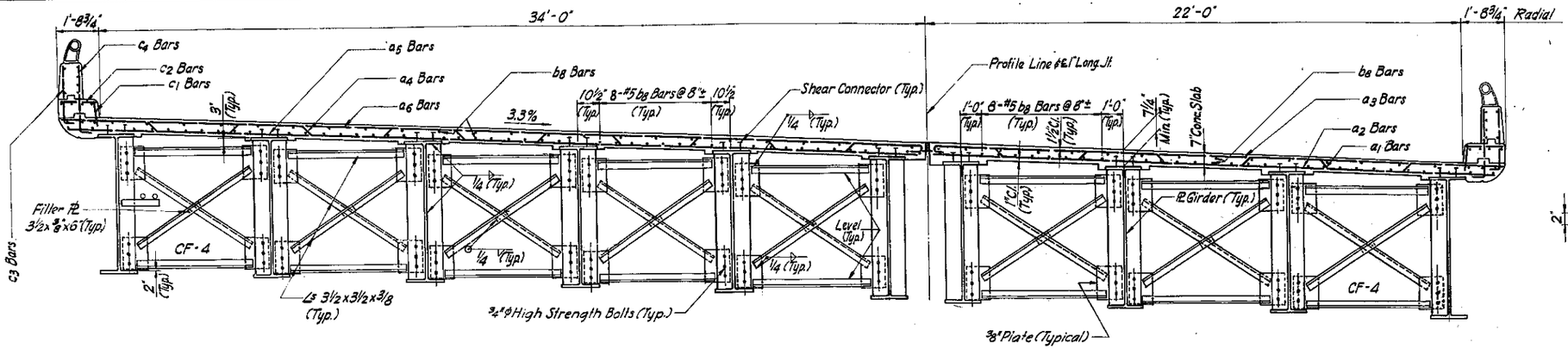
GENERAL PLAN

SCALE: HORIZ. VERT. AS NOTED
DRAWN BY M. Caroni
DATE: DEC., 1962
CHECKED BY S. Harris

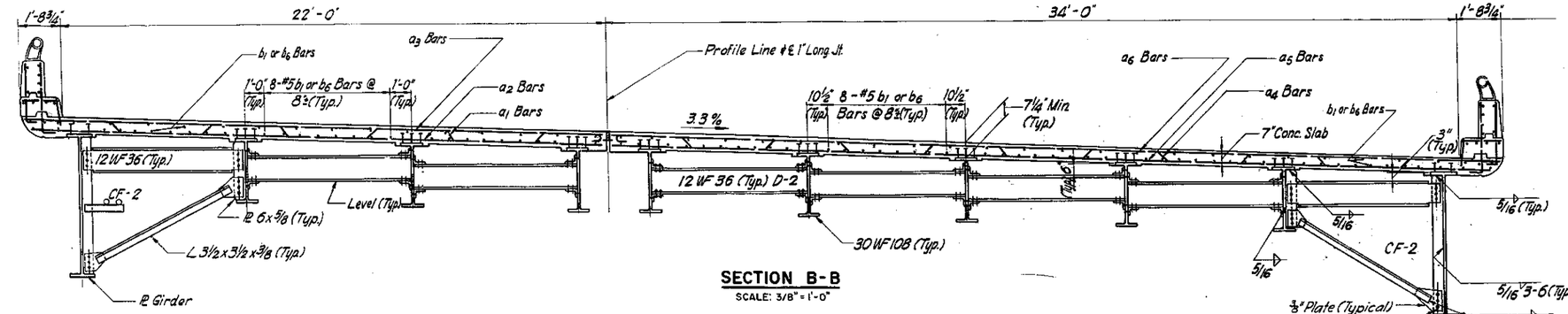
Rev. 3-25-63 Removed 200 cu.yd. Special Excav., Rev. Cl."A" Excav. 1080 to 512 cu.yd. ~~Added Metal Handrail, Type E - 959 lin. ft.~~
Rev. Wt. for F&E.S.S. 493,790# to 496,970# ...

L-1

F.A.I. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	SOUTHWEST	32	13
STA. 23+02.91		TO STA. 25+40.38		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

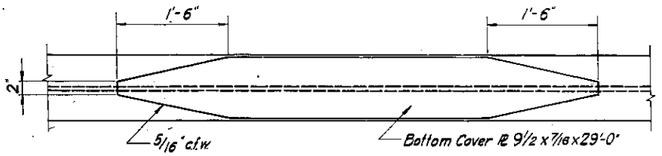


SECTION A-A
SCALE: 3/8" = 1'-0"

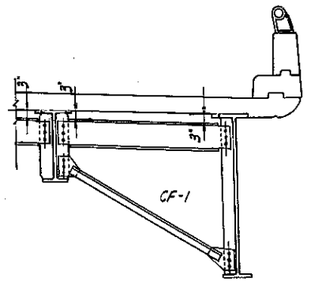


SECTION B-B
SCALE: 3/8" = 1'-0"

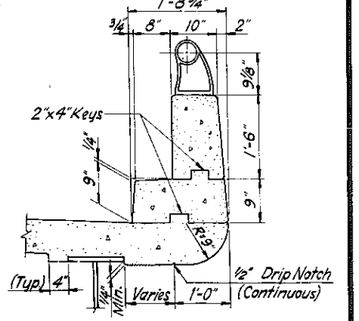
LONGITUDINAL JOINT
SCALE: 1" = 1'-0"



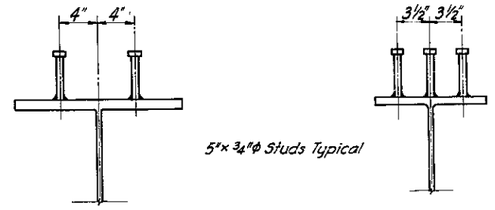
COVER PLATE DETAIL
NOT TO SCALE



SECTION G-G
SCALE: 3/8" = 1'-0"



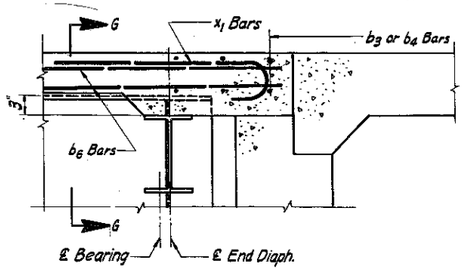
FASCIA DETAILS
SCALE: 3/4" = 1'-0"



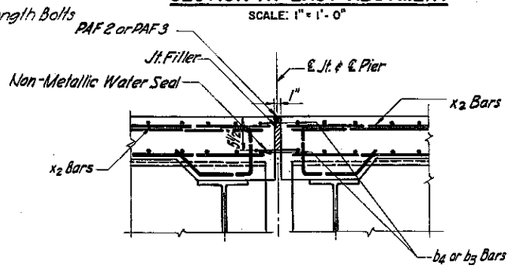
SHEAR CONNECTOR DETAILS
SCALE: 1½" = 1'-0"
(weight of studs included in Structural Steel Quant.)

NOTES:

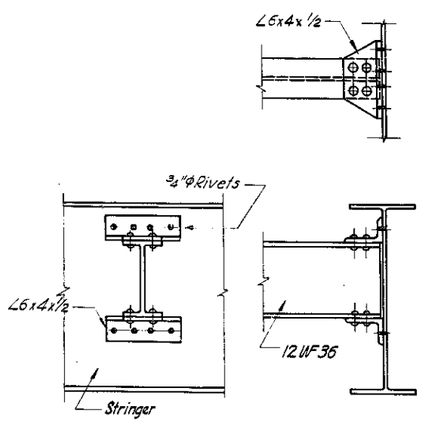
1. For location of sections A-A & B-B, see sheet 12.
2. Section A-A shown for Bridge A, Bridge B similar except for stringer layout and spacing.
3. Section B-B shown for Bridge B, Bridge A similar except for stringer layout and spacing.
4. Use ¾"ϕ rivets, except as otherwise noted.



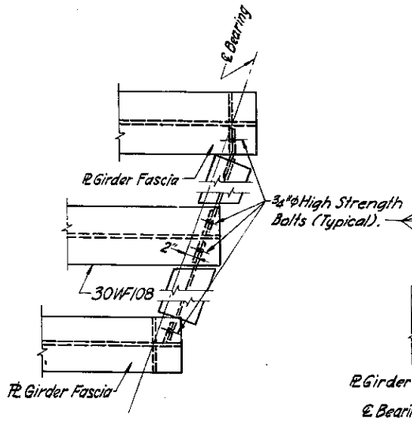
SECTION AT EAST ABUTMENT
SCALE: 1" = 1'-0"



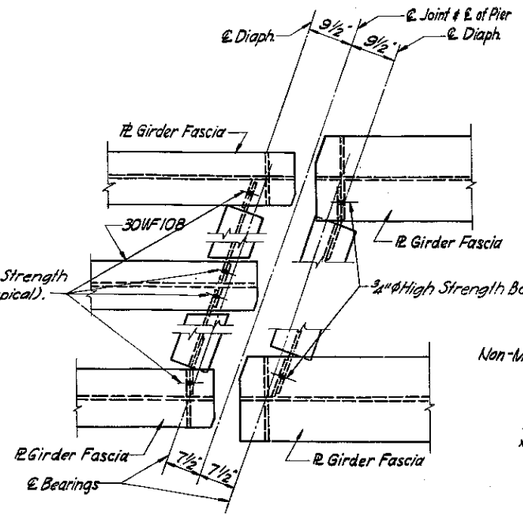
SECTION AT FIXED JOINT
SCALE: 1" = 1'-0"



DIAPHRAGM D-2 CONNECTION DETAIL
SCALE: 1" = 1'-0"



END DIAPHRAGM DETAILS AT ABUTMENT
SCALE: 3/4" = 1'-0"



END DIAPHRAGM DETAIL AT PIERS
SCALE: 3/4" = 1'-0"

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
EXPRESSWAY OVER CICERO AVE.

SUPERSTRUCTURE DETAILS

SCALE: HORIZ. AS NOTED VERT.
DATE : DEC., 1962
DRAWN BY J. Zebedee
CHECKED BY B. Harris

L-2

BRIDGE CONDITION REPORT

REGION: 1

DISTRICT: 1

ROUTE: FAI 055 / I-55 WB

COUNTY: Cook

STRUCTURE NUMBER: 016-0017

LOCATION: I-55 Westbound over Cicero Avenue

PREPARED BY: Stantec

DATE PREPARED: 12/20/13

PROPOSED LETTING DATE: To Be Determined

TABLE OF CONTENTS

ATTACHMENTS:

I. GEOGRAPHICAL & ADMINISTRATIVE DATA

Structure Number:	016-0017
County:	Cook
Route Carried:	FAI 055 / I-55
Feature Crossed:	FAP 0350 / Cicero Avenue
Section:	1112-619-HB
Station:	24+20
Roadway Classification:	Federal Aid Interstate
Design/Posted Speed:	70mph / 55mph
***ADT (current/design):**	80,502 (2012) / 114,556 (2040)
***ADTT (current/design):**	13% = 10,465 (2012) / 13% = 14,892 (2040)
***DHV (current/design):**	5,492 (2012) / 7,963 (2040)
Inventory Rating HS:	1.670 – rated 11/05/01
Operating Rating HS:	2.750 – rated 11/05/01
Sufficiency Rating:	80.0
HBP Eligibility:	No

*Traffic data per the I-55 Managed Lane Phase I Study

Construction / Reconstruction / Repair History

The structure carrying I-55 Westbound over Illinois Route 50 (Cicero Avenue) was originally built in 1963 as FAI Route 55 over Cicero Avenue under Project I-55-7(29) 281, Section 1112-619 HB. The original construction consisted of parallel 3-span structures. The two structures carried I-55 eastbound and westbound traffic. The structure consisted of a 7" concrete slab with steel plate girders and wide flange beams supported by reinforced concrete abutments and piers.

As part of Contract 80059, bridge rehabilitation was performed in 1999 on the westbound structure. The rehabilitation consisted of removing the bituminous concrete overlay, performing deck repairs, removing and replacing the transverse deck joints, eliminating the longitudinal deck joint, placing a new deck concrete overlay, refurbishing the bearings, cleaning and painting the existing steel bridge and repairing the substructure and slopewall.

II. PHYSICAL DESCRIPTION OF STRUCTURE

The physical description of the structure is based on a review of the existing available plans dated December 1962 and 1999. Refer to Attachment J for select existing structure plan sheets. Individual components of the existing structure are described below:

Structure Type and Length: The bridge is a three span simply supported plate girder and wide flange beam structure. Span 1 and

3 consists of plate girders and wide flange beams and Span 2 consists of plate girders exclusively. The fascia beams in Spans 1 and 3 are plate girders with 66" deep webs. The interior beams in Spans 1 and 3 are W30x108 beams. Span 2 consists entirely of plate girders with 66" deep webs. Each span has 10 beams. The bridge is approximately 201'-6 3/8" long measured back-to-back of abutments along the curve. The substructure consists of two reinforced concrete stub abutments with wingwalls and two multi-column reinforced concrete piers. The abutments and the piers are supported by concrete piles. The bridge has a 7" reinforced concrete deck plus overlay.

Number / Length of Spans: There are a total of three spans, with approximate lengths as follows (dimensioned from centerline of bearing to centerline of bearing along the curve). Spans are numbered from west to east.

Span 1:	40'-2 1/16"
Span 2:	111'-10 1/8"
Span 3:	45'-5 1/2"

Skew: 21°-40'-17" Left.

Structure Width: The total width is 59'-5 ½" measured radially out-to-out of the deck. The bridge accommodates three 12' lanes of traffic and 10' inside and outside shoulders.

Expansion Joints:

W Abutment:	2" Neoprene Joint
Pier 1:	1 ¾" Preformed Joint Seal
Pier 2:	2 9/16" Neoprene Joint
E Abutment:	1 ¾" Preformed Joint Seal

Bearings:

W Abutment:	
Beam Line 1, 10	Expansion, Type 2
Beam Line 2 to 9	Expansion, Type 3 w/ bolster
Pier 1:	
Beam Line 1, 10	Fixed, Type 1 and Type 2
Beam Line 2 to 9	Fixed, Type 1 and Type 3 w/ bolster
Pier 2:	
Beam Line 1, 10	Expansion, Type 1 and Type 2
Beam Line 2 to 9	Expansion, Type 1 and
E Abutment:	Fixed, Type 2

	Beam Line 1, 10 Fixed, Type 3 w/ bolster Beam Line 2 to 9
Approach Roadway Template:	The approach roadway template matches the bridge with three 12' lanes of traffic and 10' inside and outside shoulders.
Existing Wearing Surface:	2 3/8" Micro Silica Concrete Overlay
Existing Vertical Alignment:	The entire structure is on a +1.50% tangent slope going from west to east.
Existing Horizontal Alignment:	The structure is on a curve at a radius of 3819.72' from Station 19+41.41 to Station 32+86.83.
Existing Vertical Clearance:	15'-7 3/8" minimum beneath both structures over Cicero Avenue according to the 1999 repair plans. 16'-5" according to the Master Structure Report which needs to be verified.
Existing Drainage:	There are no drains on the bridge deck or approach slabs.
Parapets and Railings:	There are 1'-8 3/4" wide exterior curb and parapets running the length of the bridge. Parapets were modified in 1999 plans to remove a 9" tall by 1'-0" wide existing handrail and replaced with a 9" tall x 1'-0" wide reinforced concrete section. Per the IDOT Bridge Inspection Report dated 12/10/12, the guardrail currently meets acceptable standards while the guardrail ends and transitions do not.
Existing Utilities Attachments:	There are no light poles attached to the bridge, but there are abandoned conduits running along the both fascia beams and the West Abutment. There is a conduit running along the outside of the North Parapet. There are light fixtures and conduits on the insides of both piers and at the midspan of Beam Lines 2, 5 and 9.
Name Plate:	The name plate is located in the northeast corner of the bridge.

III. FIELD INSPECTION & PHYSICAL EVALUATION

A field inspection beneath the structure carrying I-55 Westbound over Cicero Avenue was performed by Stantec on August 21, 2013. The top of deck inspection was performed on September 16, 2013. The high temperature on that date was 65° F. The visual field inspection was performed on foot on the slopewall, sidewalk and the top of deck. The following conditions were observed:

Deck

Deck

The deck was rated in satisfactory condition (NBIS Rating = 6) in the 12/10/12 NBIS inspection. The deck condition observed during this inspection was consistent with the NBIS rating. The underside of deck has multiple areas of delamination, spalling and map cracking. Based on visual inspection, approximately 3.2% of the underside of deck is delaminated or spalled.

The micro-silica concrete overlay on the top of deck has minor hairline transverse and longitudinal cracking mostly along the shoulders. Wiss, Janey and Elstner performed a condition assessment of the reinforced bridge deck in January 2012. This assessment included a delamination survey performed on the top of the bridge deck using infrared thermography. The infrared thermography indicated 3.9% of the top of deck area was delaminated. See Attachment E for the condition assessment of the reinforced bridge deck. See Attachment I – Photos 1 through 7.

Parapets

The parapets are in satisfactory condition with hairline vertical cracking throughout and minor delaminations and spalls on both the interior and exterior faces of the parapet. The interior faces of both parapets have approximately 10 square feet of delaminated concrete each. The exterior face of the South Parapet has longitudinal hairline cracking with rust staining along most of the length of the parapet.

Joints

The preformed joint seals at the East Abutment and Pier 1 and the neoprene joints at West Abutment and Pier 2 are in satisfactory to fair condition with debris in the joint and minor impact damage. The joint at Pier 2 is missing an approximately 6' long piece of neoprene in the center lane. The width of the joints was measured when the temperature was approximately 65° F. The preformed joint at the East Abutment measured 7/8" wide. The preformed joint at the Pier 1 measured 7/8". The neoprene joint at the Pier 2 measured 2 1/8". The neoprene joint at the West Abutment measured 1 7/16". See Attachment I – Photos 8 through 11.

Superstructure

Beams

The superstructure consists of three simple spans of rolled steel beams and welded plate girders. The beam lines are numbered 1 through 10, numbered from north to south. In Spans 1 and 3, Beam Lines 1 and 10 consist of plate girders with 66" deep webs and Beam Lines 2 through 9 consist of W30x108 beams. In Span 2, all of the beam lines consist of plate girders with 66" deep webs. This structure has welded cover plates on the bottom flanges of the beams in Span 3.

The superstructure was rated in fair condition (NBIS Rating = 5) in the 12/10/2012 NBIS bridge inspection due to initial section loss and minor pitting. The superstructure observed during this inspection was consistent with the NBIS rating.

The steel superstructure typically has paint starting to fail, minor rust and initial section loss and minor pitting. In both Spans 1 and 3, the steel bolsters have been welded to the W30x108 beams. These welds have mostly cracked. Bolts connect the top of the bolster to the bottom flange as part of a retrofit done in 1999. In Span 3, the steel beams have welded cover plates with fatigue category E' details. The welded cover plates were visually inspected from the ground and no defects were noted on the welds. At Beam Line 9, the bolster under the W30 at Pier 1 appears to have a crack at the weld connecting the bolster top plate and the angled side plate. See Attachment I – Photos 12 through 18.

Bearings

The bearings are in satisfactory condition with paint starting to fail and minor rust. No excessive tilting was noted during the inspection. See Attachment I – Photo 21.

Utilities

The conduits along the South Fascia Beam and South Abutment are in poor condition with heavy deterioration and open conduit covers. See Attachment I – Photos 19, 20, 24, 25 and 27.

Substructure

The substructure was rated in satisfactory condition (NBIS Rating = 6) in the 12/10/2012 NBIS bridge inspection due to cracks and spalls at the abutment caps and pier columns. The substructure condition observed during this inspection was not consistent with the NBIS rating due to the condition of the piers.

Abutments

The reinforced concrete abutments are in satisfactory condition with multiple hairline vertical cracks and small areas of delaminated/spalled concrete. There is 9 square feet of spalled/delaminated concrete on the West Abutment. There is 1 square foot of spalled concrete on the East Abutment. At both abutments, a minor amount of fill appears to be leaking thru the joint in the backwall. No significant defects were found on the wingwalls. See Attachment F for the Substructure Condition Survey. See Attachment I – Photo 22, 23, 26, 28 through 31.

Piers

The reinforced concrete piers each consist of four columns with a pier cap. The piers are in fair condition with moderate to heavy delaminations and spalls on the columns and pier caps. Pier 1 has approximately 184 square feet of spalled or delaminated concrete. Pier 2 has approximately 150 square feet of spalled or delaminated concrete. See Attachment F for the Substructure Condition Surveys. See Attachment I – Photo 32 through 37.

Slope Protection

The bridge has concrete slope walls. Both slopewalls are in satisfactory condition with minor hairline cracking throughout. The West Slopewall has a 6 square foot spall with exposed reinforcement. See Attachment I – Photo 38 through 40.

Inspection History (NBIS Ratings)

Year	Deck	Super	Sub
2012	6	5	6
2011	6	7	6
2009	6	7	6

Geometric, Horizontal & Vertical Clearance / Hydraulic Data

Geometry

I-55 over Cicero Avenue is on a skew. According to the original plans of December 1962 and the repair plans of 1999, the skew at the intersection of the centerlines of I-55 and Cicero Avenue is 21°-40'-17" Left. The typical roadway section for I-55 consists of three 12' lanes, a 10' inside shoulder, a 10' outside shoulder, a 1'-8 3/4" wide curb and parapet on each side of the structure. The I-55 profile grade is on a tangent at +1.50% going from west to east. The structure is on a horizontal curve at a radius of 3819.72' from Station 19+41.41 to Station 32+86.83. The repair plans from 1999 show the vertical minimum clearance at 15'-7 3/8" beneath both structures. However, the Master Structure Report shows the minimum vertical clearance at 16'-5" under the "Key Route under Data" which needs to be verified.

The typical roadway section for Cicero Avenue beneath the structure consists of three lanes in each direction, one turning lane in the northbound direction, and a median. Cicero Avenue is listed as a principal arterial route. Cicero Avenue is located on a 200-ft. long vertical crest curve with 0.36% and -0.30% slopes going from north to south.

As part of the I-55 Managed Lane Phase I Study, I-55 Westbound at Cicero Avenue will be widened to the inside to accommodate a proposed 12' managed lane. In the westbound direction, a 4' buffer between the managed lane with 12.5' shoulder and the general purpose traffic lanes is proposed in this existing 60 foot median section. This widening will be incorporated into the recommended scope of work for this structure.

Hydraulics

At the structure, the I-55 profile is on a +1.50% tangent going from west to east. The bridge deck cross-section is superelevated 3.3%. There are no deck drains on the bridge deck. Therefore, the water is allowed to flow to the deck joints as it runs off the bridge.

IV. POTENTIAL SCOPE OF WORK DETERMINATION & ANALYSIS

As part of the I-55 Managed Lane Phase I Study, In-Kind Repairs, Structure Widening and Structure Replacement alternatives will be evaluated.

Per Section 2.4.2.4 of the IDOT Bridge Manual, consideration was given to retrofit all end of cover plate locations due to average daily truck traffic. From this information, it was determined that a fatigue evaluation was required. The transverse welds at the ends of the cover plates in Span 3 were evaluated for fatigue life and it was determined that the mean service life is less than 50 years. A cover plate retrofit should be installed.

1. **In-Kind Repairs**

   Perform partial and full depth repairs and apply Protective Coat to the existing deck. Repair areas of spalled or delaminated concrete on the existing substructure units. Perform retrofit repairs on the existing Span 3 cover plates.

2. **Structure Widening**

   Remove and replace the deck and approach slabs and widen both approximately 18' to the north. Remove both the southeast and southwest wingwalls and build an extension onto the south side of both abutments. Build an extension onto the south side of both piers. Install three new beam lines using W30 steel beams and plate girders that will be composite to the widened bridge deck. The new W30

beam will be larger than the existing W30 to account for the bottom flange cover plate. Perform retrofit repairs on the existing Span 3 cover plates. Repair areas of spalled or delaminated concrete on the existing substructure units.

3. **Superstructure and Partial Substructure Replacement**
   Remove and replace the existing W30 steel beam and steel plate girder superstructure with a continuous three-span galvanized steel plate girder superstructure. Remove and replace pier caps and columns, but reuse the existing pier crash walls and footings. Build an extension onto the south side of both piers. Replace the existing abutments with integral abutments placed behind the existing abutments. Replace concrete slope walls. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

4. **Structure Replacement**
   Remove and replace the entire structure with a continuous three-span galvanized steel plate girder superstructure on integral abutments. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

V. DISCUSSION AND RECOMMENDED SCOPE OF WORK

The opinion of probable costs for each of the alternatives is summarized below. See Attachment G for the opinion of probable costs breakdown.

1. **In-Kind Repairs – $177,100**
2. **Structure Widening – $2,516,700**
3. **Superstructure and Partial Substructure Replacement – $5,421,000**
4. **Structure Replacement – $6,014,900**

Per the I-55 Managed Lane Phase I Study, the managed lane is expected to be implemented in 2020. All widening and replacement alternatives below assume widening approximately 18' to the centerline of I-55 to accommodate the new managed lane. The proposed structure will provide a 9'-6" outside shoulder, three 12'-0" general purpose traffic lanes, a 4' buffer between the general purpose traffic lanes and the 12'-0" managed traffic lane and a 12'-6" inside shoulder.

Analysis of Alternative 1 – The calculated percent of deck area requiring full depth repairs is 3.2% and the partial depth repairs is 7.8%. The total deck repair percentage is within the 25% limit presented in the Bridge Condition Report Procedures and Practices Manual for bridge deck repair to be cost effective for a deck not being widened. This alternative can be used to extend the life span of the existing superstructure in the interim prior to implementing the changes required for the Managed Lane project.

Analysis of Alternative 2 – The calculated percent of deck area requiring full depth repairs is 3.2% and partial depth repairs is 7.8%. Since this deck is 50 years old and has recommended repair area approaching the upper limit (15%) presented in the BCR Procedures and Practices Manual for a widened deck, it is recommended to replace the deck at the time of widening. Cover plate retrofits will be necessary. Deck joints will remain with this alternative, which will lead to continued degradation of the beams and substructure units. This alternative keeps the existing pier caps in service, which have already been repaired as a result of extensive degradation in 1999.

Analysis of Alternative 3 – This alternative replaces the existing W30 steel beam and steel plate girder superstructure with a continuous three-span galvanized steel plate girder superstructure on integral abutments. The proposed integral abutments will be placed behind the existing abutment to help avoid the existing piles. The resulting assumed span arrangement is approximately 70'/114'/70' measured between the centerline of bearings. Uplift at the abutments must be considered in the design phase given the relatively short exterior spans in the continuous structure. Reusing the existing pier crash walls and footings will simplify construction since it will minimize construction impact to Cicero Avenue.

Using galvanized steel eliminates the need to periodically repaint the beam. Providing a continuous structure will also allow for a reduced girder depth over Cicero Avenue, thereby increasing vertical clearance. The longer exterior spans provide an opportunity to relocate the sidewalks, or a multi-use path, along Cicero Avenue behind the piers. Providing new pier caps, pier columns and integral abutments places the critical portions of the substructure on the same life cycle as the superstructure. Eliminating the deck joints will also help to prevent premature degradation of these substructure elements.

Analysis of Alternative 4 – This alternative eliminates the 50-year old structure and replaces it with a new structure with an expected 75-year service life.

The benefits of this alternative are similar to Alternative 3, with the addition of removing and replacing the pier crash walls and pier footings. However, this alternative adds construction complications of reconstructing the piers on or near the same footprint as the existing pier footings, and increases construction impacts to Cicero Avenue. The cost is also greater than Alternative 3 due to the removal and reconstruction of the additional pier elements.

VI. FINAL RECOMMENDATION

Stantec recommends Alternative 3 – Superstructure and Partial Substructure Replacement when the I-55 Managed Lane Project occurs. The selected alternative provides a new superstructure and replaces the critical portions of the substructure. Eliminating the deck joints will help to prevent premature degradation of the replaced substructure elements. As the I-55 Managed Lane Phase I Study is ongoing, the bridge widening to be presented in the TSL should match the final geometry as

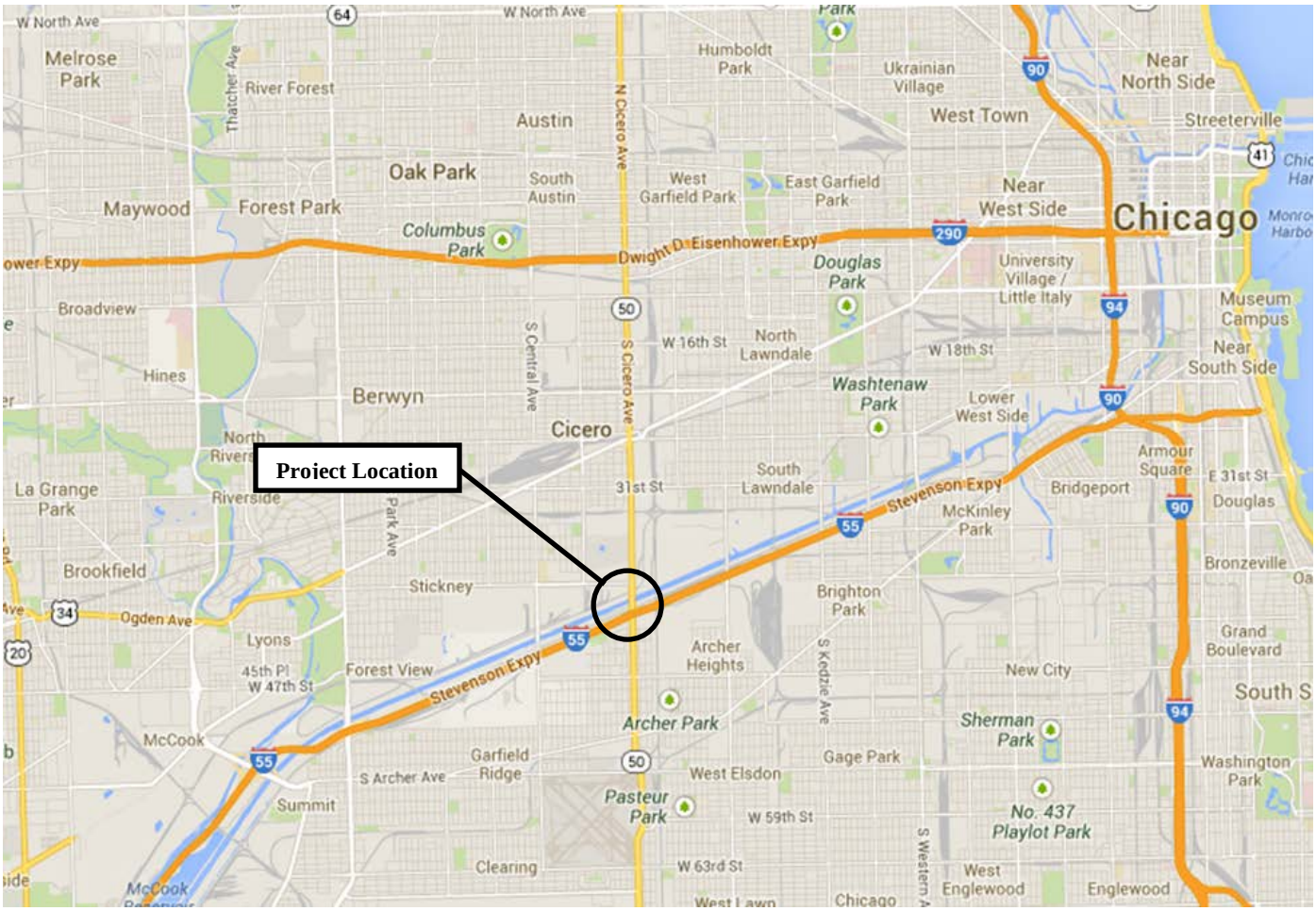
presented in the final I-55 Managed Lane Phase I Study. Future improvements to Cicero Avenue, to be determined at a later date, should also be addressed in the TSL.

VII. TRAFFIC STAGING

For Alternatives 2, 3 and 4, the existing deck is wide enough to provide two lanes of traffic in the westbound direction during stage construction. For Alternative 1, the lanes can be temporarily closed as needed to allow for the deck repairs. The traffic staging design will need to be confirmed by IDOT traffic prior to being implemented.

ATTACHMENT A

Location Map



N

Location Map

Proposed Improvement:

I-55 over Cicero Avenue (Westbound)

Municipality: Stickney

County: Cook

Route: FAI 055

Project No: P-91-762-10

Structure No.: 016-0017

ATTACHMENT B

IDOT Master Structure Report

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0017 **District:** 1

Inventory Data

Facility Carried: I- 55 WB STEVENSON
Feature Crossed: IL 50 (CICERO AVE)
Bridge Remarks:
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks:
Maint County: 016 COOK
Maint Responsibility: 01 I.D.O.T.
Service On/Under: 5 SECOND LEVEL INTERCHANGE 1 / HIGHWAY
Reporting Agency: 1 I.D.O.T. - BUREAU OF MAINTENANCE
Main Span Matl/Type: 3 STEEL / 02 STRINGER/MULTI-BEAM/GIRDER
Nbr Of Main Spans: 3 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 0None / 0 None
Toll Facility Indicator: 0 No Toll
Latitude: 41 **D** 49 **M** 1.4 **S** **Longitude:** 87 **D** 44 **M** 37.16 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 2 Both Sides Not Separate

Bridge Name:
Location: 5.7 M SW I94
Status Date: 12/2000
Maint Township: 62 LAKE (CHICAGO)
Skew Angle: 22 **D** 0 **M** 0 **S**

Sufficiency Rating: 80.0
HBP Eligible: No
Replaced By: -
Replaces: -
Last Update Date: 03/12/2013
Parallel Structure: Left
Multi-Level Structure Nbr:
Skew Direction: L Left
Structure Flared: No
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 996000
Substructure Material:
Rated By: 2 IDOT
Inventory Rating: 1.670(60)
Operating Rating: 2.750(99)
Design Load: 01 HS20+MOD
Deck Structure Thickness: 7 **SD:** N **FO:** N

Structure Length: 202.7
AASHTO Bridge Length: 99.9
Length of Long Span: 113.3
Bridge Roadway Width: 56.0
Appr Roadway Width: 60.0
Deck Width: 59.4
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: N N/A
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00
Rate Method: 1 LOAD FACTOR
Load Rating Date: 11/05/2001
Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 0.0
RR Vertical Underclear: 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID INTERSTATE 0055
Appurtenances Main Route 00000
Inventory County: 016 COOK
Township/Road Dist 34 STICKNEY
Municipality 5540 STICKNEY
Urban Area: 1051 1051
Functional Class: 1 INTERSTATE
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 56.0
Horizontal: 57.5 0.0
Lateral:

Station: 10.2600
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2012 / 61150
Est Truck Percentage: 13
Number Of Lanes: 3
One Or Two Way: 1 One-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2032 / 75808
Designated Truck Rte: CLASS I
Special Systems: Yes

Key Route Under Data

FEDERAL-AID PRIMARY 0350
Main Route 00000
016
62 LAKE (CHICAGO)
1051 CHICAGO
1051 1051
3 OTHER PRINCIPAL ARTERIAL
South/East **North/West**
101.6
101.6 0.0

Station: 18.6900
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2011 / 40800
Est Truck Percentage: 11
Number Of Lanes: 7
One Or Two Way: 2 Two-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2032 / 42024
Designated Truck Rte: CLASS II
Special Systems: Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	3 State Highway	050
	1 Mainline		
	1 Mainline		

Structure Number: 016-0017 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	12/10/2012	Inspection Temperature:	35Deg. F					** Actual Posted Limits **	
Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	F	MICRO SIL CON OVRLY		Last Paint Type:	U
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Protection:	J	NONE			
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	8.9				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/2000				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date: **Inspection Category:**
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		Reconstructed	
Route:	FAI-55	Sta: 24+20		Sta:	
Section Nbr:	1112-619-HB				
Contract Nbr:					
Fed Aid Pr#:	I 0557029281				
Built By:	1	I.D.O.T.			

Waterway Information

Flood Design Frequency:	YRS	Drainage Area:	Acre
Flood Design Q (CFS):			
Flood Design Nat H W E:		Flood Base Q (CFS):	
Flood Des Open Prop:	SF	Flood Base Nat H W E:	

ATTACHMENT C

Bridge Inspection Report

Illinois Department of Transportation

Routine Inspection Report

SN:	016-0017	**District:**	1	**Spans:**	3	**Appr. Spans:**	0	**Skew:**	22.00	**ADT:**	61150	**Truck Pct:**	13
ADT Un:	40800	**Maint. Co:**	COOK	**Twsp:**	LAKE (CHICAGO)					**Status:**	OPEN - NO RESTRICT		
Facility Carried:	I- 55 WB STEVENSON					**Feature Crossed:**	IL 50 (CICERO AVE)						
Location	5.7 M SW I94			**Municipality:**	STICKNEY					**Team/Sub Section**	E26019		
Bridge Name:						**Material & Type:**	STEEL/STRINGER/MULTI-BEAM/GIRDER						
Insp. Intervals (Mo) Routine NBIS	24	**Fracture Critical:**	0	**Underwater:**	0	**Special Feature:**	N/A						

90 – Inspection Date:	/ /	90C – Temp. (ºF):		90A – Program Manager:	
Is Delinquent: ☐	Reason:				
90A1 – Team Leader:		90A2 – Inspector:			

90B – Inspection Remarks:

Previous Inspection: 2008) DK SOFFIT MAP CRKD & SPALLED W/CHLR CONTAM. JOINTS LEAKING. STL BMS-SPANN 2 MINOR RUST @ BOTT FLANGES & LAT BRCNG. PIER 1&2 WALLS SM SPALLS. PIER 2 SOUTH END CANTILEVER MAP CRKD. PIER 2 COL 1 MAP CRKD. Item 59 lowered to "5" due t

Resources

Time to Inspect (H:M):	1:0	:	Traffic Control:	3		Boat:			Waders:			Snooper:					
Ladder:	LL		Manlift:			Bucket Truck:			Other:								

Inspector's Appraisals

	Prev	New	Comments
58 – Deck Condition:	6		
59 – Superstructure Cond:	5		
60 – Substructure Cond:	6		
62 – Culvert Condition:	N		
61 – Channel Condition:	N		
71 – Waterway Adequacy:	N		
72 – Approach Rdw Align:	8		
111 – Pier Navig Protection:	N		

90B – Inspector Remarks:

Routine Inspection Report

Structure Number: 0160017

Additional Inspection Data

	Prev	New
36A – Bridge Railing Adequacy:	3	

Rail Types:

Approach Guardrail Adequacy:	Prev	New	36B – Transitions:	Prev	New	36C – Guardrail:	Prev	New	36D – Ends:	Prev	New
				2			3			3	

	Prev	New	
108A – Wearing Surface Type:	F		If "L-Other" Describe:
108B – Type of Membrane:	F		If "E-Other" Describe:
108C – Deck Protection:	J		If "I-Other" Describe:
108D – Total Deck Thickness (in):	8.9		

	Prev	New
59A – Paint Date (Mo/Yr):	10/2000	/
59B – Paint Type:	U	— — — — — — — —

Color: Fascia - ____: Inter. - ____: Railing - ____.

59C – Utilities Attached:		__ __ __

If "B-Other" Describe: _____

		Prev	New
Weight Limit Posting:	70A2 – Single Unit Vehicles:		Tons
	70B2 – Combination Type 3S-1 (3 or 4 axles):		Tons
	70C2 – Combination Type 3S-2 (5 or more axles):		Tons
	70D2 – One Truck at a Time:	0	

Joint Openings (In.) _____

90B – Inspector Remarks Continued:

	Signature	Date
Inspection Team Leader:		/ /
Inspection Program Manager:		/ /

Pontis

Today's Date: 04/19/2013

Structure Number: 016-0017 **District:** 1 **(41) Bridge Status:** 1 OPEN - NO RESTRICT
(6) Feature Crossed: IL 50 (CICERO AVE) **(7) Facility Carried:** I- 55 WB STEVENSON
(9) Location: 5.7 M SW I94 **(7A) Bridge Name:**
Element Inspection Date: 12/10/2012 **Inspectors:** SEDLACEKJL

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:	WS) HL map crking; Soffit) Isol spalls, HPs, HL-Nar leach crks & chlor contam											
Lead Painted Steel Open Girder												
107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Stl Bms-Span 2 minor rust @ Bott flanges & Lat brcng.											
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Pier 2 Col #1 FCR map crkd											
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Pier 1 & 2- small spalls											
Reinforced Conc Abutment												
215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	HL vert crks in backwall; East Abut- few hl vert crks; West Abut Bkwall -vert crks											
Reinforced Conc Pier or Abutment Cap												
234	4	98	249	2	4	0	0	0	0	0	0	253
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Abut) Crking @ steps; Pier) Crking in cantilever seat (Pier 2 South Nose)											
Preformed Joint Seal												
302	4	90	56	10	6	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						
Remarks:	Leaking @ East Abut & Pier 1											
Neoprene Expansion Joint												
307	4	89	166	11	20	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:	Leaking @ West Abut & Pier 2; Pier 2 Jnt torn @ Lane 1&2 (12ft). West Abut Jnt torn @ Lane 3 (8ft)											

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	99	402	1	4	0	0	0	0	0	0	406
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: HL vert crks; Few small spalls in water table

Steel Open Girder

406	4	100	6	0	0	0	0	0	0	0	0	6
			Minor fatique, out-o		Moderate fatigue, ou		Severe fatigue, out-					

Remarks: Few bm ends with minor section loss that have a functioning paint system

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks: WS) HL map crking; Soffit) Isol spalls, HPs, HL-Nar leach crks & chlor contam

Lead Painted Steel Open Girder

107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks: Stl Bms-Span 2 minor rust @ Bott flanges & Lat brcng.

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Pier 2 Col #1 FCR map crkd

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Pier 1 & 2- small spalls

Reinforced Conc Abutment

215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: HL vert crks in backwall; East Abut- few hl vert crks; West Abut Bkwall -vert crks

Reinforced Conc Pier or Abutment Cap

234	4	98	249	2	4	0	0	0	0	0	0	253
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Abut) Crking @ steps; Pier) Crking in cantilever seat (Pier 2 South Nose)

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration		Minor deterioration		Major deterioration					

Remarks: Leaking @ East Abut & Pier 1

Neoprene Expansion Joint

307	4	89	166	11	20	0	0	0	0	0	0	186
			The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration			

Remarks: Leaking @ West Abut & Pier 2; Pier 2 Jnt torn @ Lane 1&2 (12ft). West Abut Jnt torn @ Lane 3 (8ft)

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	99	402	1	4	0	0	0	0	0	0	406
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: HL vert crks; Few small spalls in water table

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		

Remarks: WS)HL map crking; Soffit) Isol spalls, HPs, HL-Nar leach crks & chlor contam

Lead Painted Steel Open Girder

107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks: Stl Bms-Span 2 minor rust @Bott flanges & Lat brcng.

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion	Paint distress	Rust formation	Section loss		Section failure				

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Pier 2 Col #1 FCR map crkd

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Pier 1& 2- small spalls

Reinforced Conc Abutment

215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: HL vert crks in backwall; East Abut- few hl vert crks; West Abut Bkwall -vert crks

Reinforced Conc Pier or Abutment Cap

234	4	98	249	2	4	0	0	0	0	0	0	253
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks: Abut) Crking @ steps; Pier) Crking in cantilever seat (Pier 2 South Nose)

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration	Minor deterioration	Major deterioration							

Remarks: Leaking @ East Abut & Pier 1

Neoprene Expansion Joint

307	4	89	166	11	20	0	0	0	0	0	0	186
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks: Leaking @ West Abut & Pier 2; Pier 2 Jnt torn @ Lane 1&2 (12ft). West Abut Jnt torn @ Lane 3 (8ft)

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable						

Remarks:

Concrete Bridge Railing

331	4	99	402	1	4	0	0	0	0	0	0	406
			No deterioration	Minor cracks/spalls	Analysis warranted							

Remarks: HL vert crks; Few small spalls in water table

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:	WS)HL map crking; Soffit) Isol spalls, HPs, HL-Nar leach crks											
Lead Painted Steel Open Girder												
107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Abutment												
215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	HL vert crks in backwall											
Reinforced Conc Pier or Abutment Cap												
234	4	98	249	2	4	0	0	0	0	0	0	253
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Abut) Crking @ steps; Pier) Crking in cantilever seat											
Preformed Joint Seal												
302	4	90	56	10	6	0	0	0	0	0	0	62
		No deterioration		Minor deterioration		Major deterioration						
Remarks:	Leakage @ E Abut											
Neoprene Expansion Joint												
307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:	Leakage @ P2											
Movable Discontinous Brg.												
311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	99	402	1	4	0	0	0	0	0	0	406
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: HL vert crks; Few small spalls in water table

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks:

Lead Painted Steel Open Girder

107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Abutment

215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	98	249	2	4	0	0	0	0	0	0	253
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration		Minor deterioration		Major deterioration					

Remarks:

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
		The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration							

Remarks:

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration	Minor deterioration	Advanced corrosion								

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration	Minor deterioration	Advanced corrosion								

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable							

Remarks:

Concrete Bridge Railing

331	4	100	406	0	0	0	0	0	0	0	0	406
		No deterioration	Minor cracks/spalls	Analysis warranted								

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
		No deficiencies.	Repaired areas exist	Map cracked areas.	Spalls/delaminations	Full depth failures.						

Remarks:

Lead Painted Steel Open Girder

107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
		No corrosion	Paint distress	Rust formation	Section loss	Section failure						

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
		No corrosion	Paint distress	Rust formation	Section loss	Section failure						

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
		No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted							

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted							

Remarks:

Reinforced Conc Abutment

215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	98	249	2	4	0	0	0	0	0	0	253
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Preformed Joint Seal

302	4	90	56	10	6	0	0	0	0	0	0	62
			No deterioration		Minor deterioration		Major deterioration					

Remarks:

Neoprene Expansion Joint

307	4	97	180	3	6	0	0	0	0	0	0	186
			The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration			

Remarks:

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	100	406	0	0	0	0	0	0	0	0	406
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	11	1,326	45	5,422	44	5,300	0	0	0	0	12,048
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks:

Lead Painted Steel Open Girder

107	4	100	28,224	0	0	0	0	0	0	0	0	28,224
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	60	0	0	0	0	0	0	0	0	60
			No corrosion	Paint distress	Rust formation	Section loss	Section failure					

Remarks:

Reinforced Conc Column or Pile Extension

205	4	100	1,068	0	0	0	0	0	0	0	0	1,068
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Pier Wall

210	4	100	942	0	0	0	0	0	0	0	0	942
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Abutment

215	4	100	1,912	0	0	0	0	0	0	0	0	1,912
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Pier or Abutment Cap

234	4	100	253	0	0	0	0	0	0	0	0	253
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Preformed Joint Seal

302	4	100	62	0	0	0	0	0	0	0	0	62
			No deterioration	Minor deterioration	Major deterioration							

Remarks:

Neoprene Expansion Joint

307	4	100	186	0	0	0	0	0	0	0	0	186
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks:

Movable Discontinous Brg.

311	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	30	0	0	0	0	0	0	0	0	30
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable						

Remarks:

Concrete Bridge Railing

331	4	100	406	0	0	0	0	0	0	0	0	406
			No deterioration	Minor cracks/spalls	Analysis warranted							

Remarks:

Element Description												
Elem	**Env**	**% 1**	**Qty 1**	**% 2**	**Qty 2**	**% 3**	**Qty 3**	**% 4**	**Qty 4**	**% 5**	**Qty 5**	**Tot Qty**
Concrete Deck Protected w/ AC Overlay												
14	4	65	7,789	0	0	35	4,194	0	0	0	0	11,983
		No deficiencies.		Repaired areas.		Map cracked areas.		Spalls/delam exist.		Full depth failures.		
Remarks:												
Lead Painted Steel Open Girder												
107	4	94	26,531	6	1,693	0	0	0	0	0	0	28,224
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Lead Painted Steel Closed Web/Box Girder and Open												
172	4	92	46	8	4	0	0	0	0	0	0	50
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	4	84	897	9	96	7	75	0	0	0	0	1,068
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier Wall												
210	4	100	942	0	0	0	0	0	0	0	0	942
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Abutment												
215	4	97	1,855	2	38	1	19	0	0	0	0	1,912
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier or Abutment Cap												
234	4	69	175	24	61	7	18	0	0	0	0	253
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Neoprene Expansion Joint												
307	4	76	299	20	79	4	16	0	0	0	0	394
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:												
Movable Discontinous Brg.												
311	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	30	0	0	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Approach Pavement												
323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable				

Remarks:

Concrete Bridge Railing

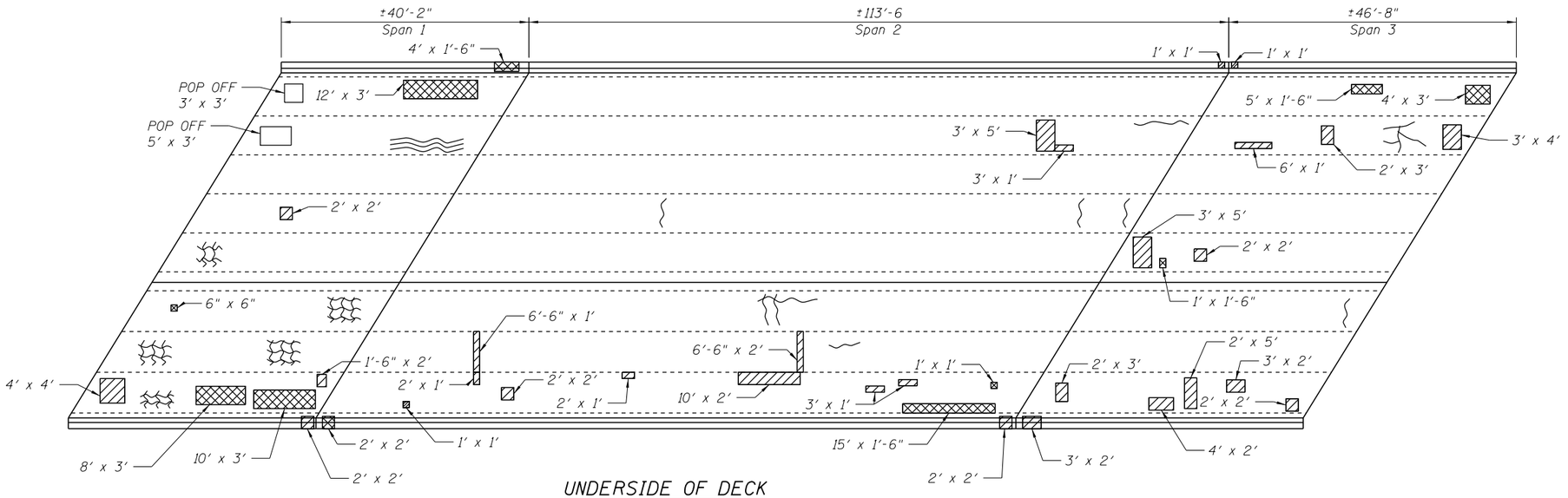
331	4	58	234	25	101	17	69	0	0	0	0	403
		No deterioration		Minor cracks/spalls	Analysis warranted							

Remarks:

Download Date: 04/18/2013

ATTACHMENT D

Bottom of Deck Condition Survey



UNDERSIDE OF DECK

(Westbound Bridge)

LEGEND

- CRACKED CONCRETE
- MAP CRACKING
- SPALLED CONCRETE
- DELAMINATED CONCRETE

NOTE:

1. CENTER SPAN HAS SIGNIFICANT AMOUNT OF DISCOLORED CONCRETE & POP OFF IN EACH BAY

FILE NAME = V:\1786\active\178600037.IDOT.I-55\structure\drawing\sht\dwg_Cicero_Avenue_Underside_of_Deck.dgn

Stantec

USER NAME = jerojas	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/9/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT D – BOTTOM OF DECK CONDITION SURVEY
STRUCTURE NO. 016-0017
SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT E

Condition Assessment of the Reinforced Concrete Bridge Deck

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

January 6, 2012

Ms. Diane M. O'Keefe
Deputy Director of Highways
District One Engineer
Illinois Department of Transportation
201 West Center Court
Schaumburg, Illinois 60196-1096
Attn: Ms. Sarah Wilson (Maintenance Bridge Engineer)

Re: Condition Assessment of Bridge Deck
I-55 Westbound over IL-50 (Cicero Avenue)
Structure No. 016-0017
District One
Work Order 10
PTB No. 153-18
WJE No. 2009.3645.10

Dear Ms. O'Keefe:

At your request, Wiss, Janney, Elstner Associates, Inc. (WJE) completed a condition assessment of the reinforced concrete bridge deck for Structure No. 016-0017. This work included a visual assessment of concrete deterioration from below the structure. Also included was a delamination survey performed on the top of the bridge deck, based on an infrared thermography (IR) survey. Reinforcing bar cover depth determination was also performed using ground penetrating radar (GPR). These inspection tasks began in July and were completed in September.

Structure Description

The I-55 Westbound Bridge over IL-50, Cicero Avenue carries three lanes of traffic and two shoulders. This three span structure is comprised of steel beam and concrete deck construction. Each of the 10 girder lines is connected using steel diaphragms or cross frames. All deck and substructure components are comprised of cast-in-place reinforced concrete construction. Reportedly the bridge structure was originally constructed in 1963 and the current overlay was installed in 2000.

The spans have approximate lengths of 42 ft-3 in, 113 ft-5 in, and 45 ft-8 in., from west-to-east, for a total structure length of 202 ft-8 in., back-to-back of abutments. The total deck width out-to-out is 59 ft-5 in. and the deck width to the inside faces of the parapet walls is 56 ft. The total resulting bridge deck area is approximately 11,055 sq. ft. A partial elevation view of the structure looking south is included as Figure 1.

Inspection Methods

The condition of the reinforced concrete bridge deck was assessed using several methods. These methods can be broken down into two major categories: Bottom of Deck Inspection Methods and Top of Deck Inspection Methods.

Bottom of Deck Inspection Methods

The condition of the bottom of the reinforced concrete deck was assessed from grade below the structure in September 2011. All accessible areas of the bottom of the deck were assessed visually. This inspection was completed from the ground beneath the bridge outside of active traffic lanes. Binoculars and/or zoom lenses were used to magnify the view of distant surfaces. Plan drawings of the structure including the structural framing were used to record field notes.

Top of Deck Inspection Methods

The condition of the top of the reinforced concrete deck was assessed using IR equipment to map areas of spalls, patches, and delaminations. This work was subcontracted to Infrasense, Inc. and was performed in July, 2011. Rolling lane closures were utilized during data collection periods to allow the IR data collection vehicle to assess the entire bridge deck surface while moving at approximately 3 mph. Impact Echo (IE) and sounding techniques were used to confirm the presence of delaminations at select locations on each bridge deck. All IR data was analyzed and summarized on bridge deck drawing sheets that show the located defects to scale.

GPR equipment was used to identify the cover depth of the top mat of reinforcing steel from the top surface of the deck. The GPR equipment was mounted to an inspection vehicle and scans were completed at normal operating speeds.

Assessment Results

The reinforced concrete bridge deck was found to be in satisfactory condition overall. Results for each assessment category are included below.

Bottom of Deck

Visual inspection from grade below the bridge was used to assess the bottom of the bridge deck. All areas of spalls or delaminations that could be identified visually were documented. In addition, all areas of previously repaired concrete were noted. Table 1 includes a summary of the visual inspection, including total deck soffit area, the area of spalled concrete, the area of delaminated concrete and the area of previous repairs. Figures 2 and 3 show the typical condition of the deck soffit. The results of the bottom of deck survey are shown on Sheet S-3 of Appendix A.

Table 1. Bottom of Deck Deterioration Summary

Soffit Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Previously Repaired Area (sq.ft)
11,055	70	0.6	285	2.6	1705

Top of Deck

The top of the bridge deck was assessed using both IR and GPR equipment. The IR survey equipment was able to identify delaminations and spalls present in the bridge deck. Figure 4 is an overall view of the top deck surface looking southwest.
Table 2 includes a summary of the total bridge deck area, the total bridge deck area spalled, the total bridge deck area delaminated, the total bridge deck area that should be programmed for repair work and the rebar cover from the top surface of the deck. Sheet S-1 of Appendix A is a scaled bridge deck plan drawing showing the locations of the delaminated or spalled areas. Sheet S-2 of Appendix A is a scaled bridge deck plan drawing showing an image of the IR scan of the bridge. Sheet S-4 of Appendix A is a scaled bridge deck plan drawing showing the location of suggested partial and full depth concrete repairs using conventional patching techniques. Note that repair area boundaries were selected by expanding the boundaries of each delaminated or spalled area by 6 inches to account for saw cutting outside of the delamination and further deterioration prior to the actual start of any repair work. In addition, repair areas were joined when adjacent repairs were spaced at approximately 2 ft. or less. Full depth repair boundaries were determined based on locations where top and bottom surface defects overlapped. No bottom surface repairs were identified based on recommendations from IDOT.

Table 2. Top of Deck Deterioration Summary

Bridge Deck Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Repair Area (sq. ft)	Total Area (%)	Rebar Cover (in.)
11,055	0	0	430	3.9	983	8.9	3.9

Recommendations and Conclusions

WJE performed a condition assessment of the reinforced concrete bridge deck of the I-55 Westbound Bridge over IL-50, Cicero Avenue. This condition assessment included: a visual survey of the bottom of the deck and an IR survey of the top of the deck. This information was used to produce repair drawings indicating the size and location of anticipated repair areas.

The repair work should, at a minimum, include partial depth repairs at all locations indicated on Sheet S-4 in Appendix A. If this option is selected, a detailed delamination assessment should be completed by the contractor at the time of the repair work to ensure that all areas of deteriorated concrete are identified. In addition, all re-entrant corners of repair areas should be detailed to include a 4 inch chamfer to reduce the potential for concrete-shrinkage related cracking.

The bridge deck was found to currently be in satisfactory condition, but corrosion-related damage has become apparent and should be repaired.

We would be happy to answer any questions or provide additional information.

Sincerely,

WISS, JANNEY, ELSTNER ASSOCIATES, INC.

Joseph A. Rogers Jr., S.E.
Project Associate

Jonathan C. McGormley, P.E., S.E.
Project Manager

Figures

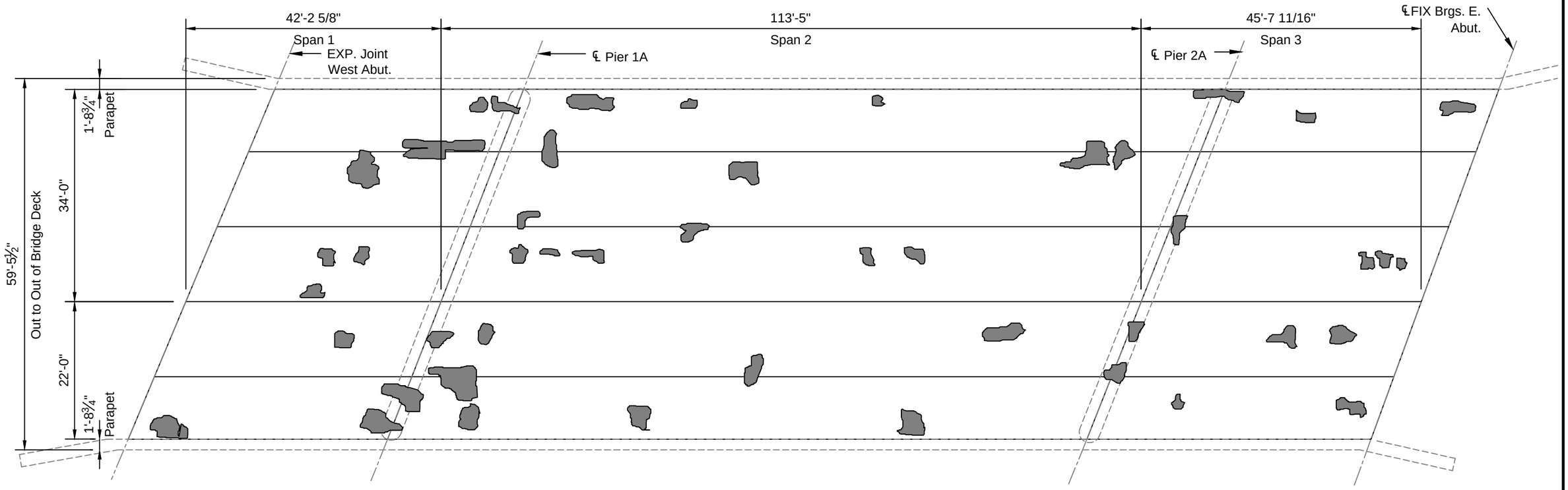
Figure 1. Elevation view, looking south

Figure 2. Typical view, deck soffit, northeast corner.

Figure 3. Typical view, deck soffit, looking west.

Figure 4. Typical view, deck top surface, looking southwest

Appendix A - Bridge Deck Condition Assessment Drawings



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0017		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft²	11055	100	SPALL
DELAMINATION	ft²	430	3.9	CRACK
SPALL	ft²	0	0	
CRACKS	ft	-	-	

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

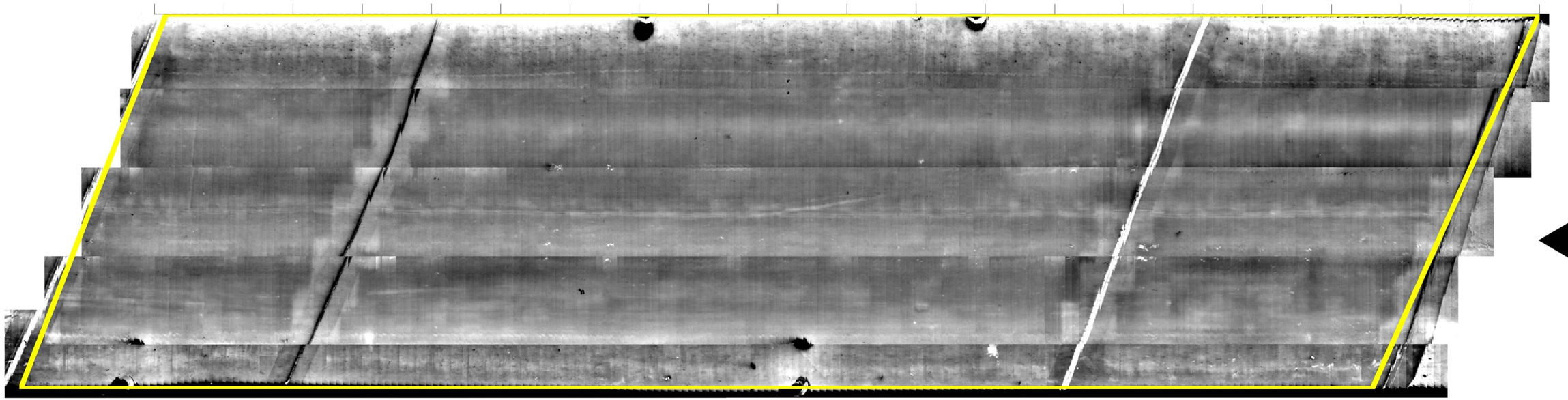
Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0017
WESTBOUND I-55 OVER CICERO AVENUE

Sheet Title
IR Result - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"

Sheet No. **S1**



N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

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Client

Illinois Department of Transportation

District One
201 West Center Court
Schaumburg, Illinois 60196

Project

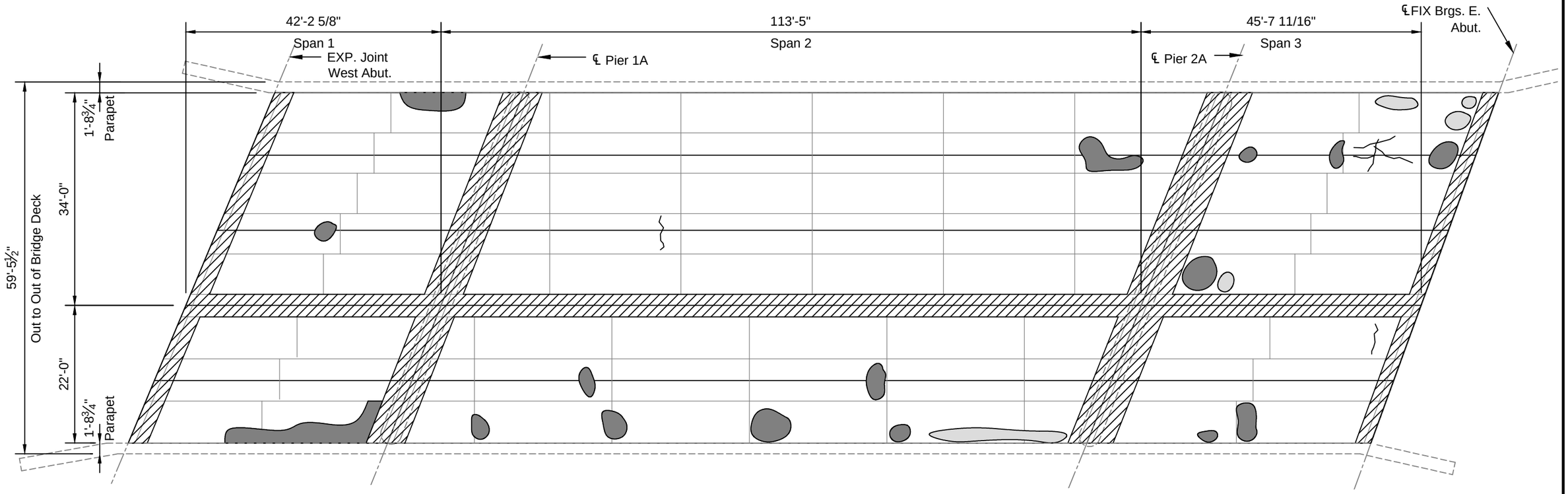
Bridge 016-0017

WESTBOUND I-55 OVER CICERO AVENUE

Sheet Title

IR Image - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16' = 1'
Sheet No.	S2



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0017		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ftJ	11055	100	SPALL
DELAMINATION	ftJ	285	2.6	PREV. REPAIR
SPALL	ftJ	70	0.6	CRACK
PREVIOUS REPAIRS	ftJ	1705	15.4	
CRACKS	ft	-	-	

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

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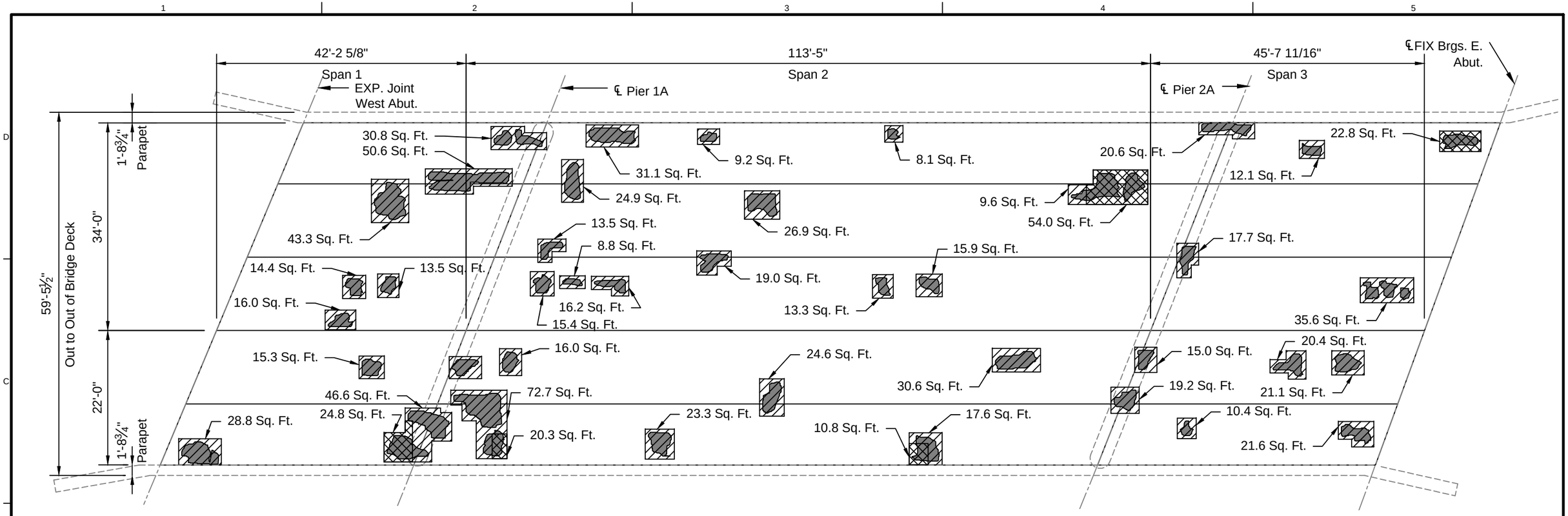
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0017
WESTBOUND I-55 OVER CICERO AVENUE

Sheet Title
Underside Deterioration

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"
Sheet No.	S3



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0017	
ITEM	UNIT	QUANT.	%
TOTAL AREA	ft²	11055	100
PARTIAL DEPTH REPAIR	ft²	861	7.8
FULL DEPTH REPAIR	ft²	122	1.1
DELAMINATION	ft²	430	3.9
SPALL	ft²	0	0
CRACKS	ft	-	-

LEGEND

- PARTIAL DEPTH REPAIR
- FULL DEPTH REPAIR
- DELAMINATION
- SPALL
- CRACK

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0017
WESTBOUND I-55 OVER CICERO AVENUE

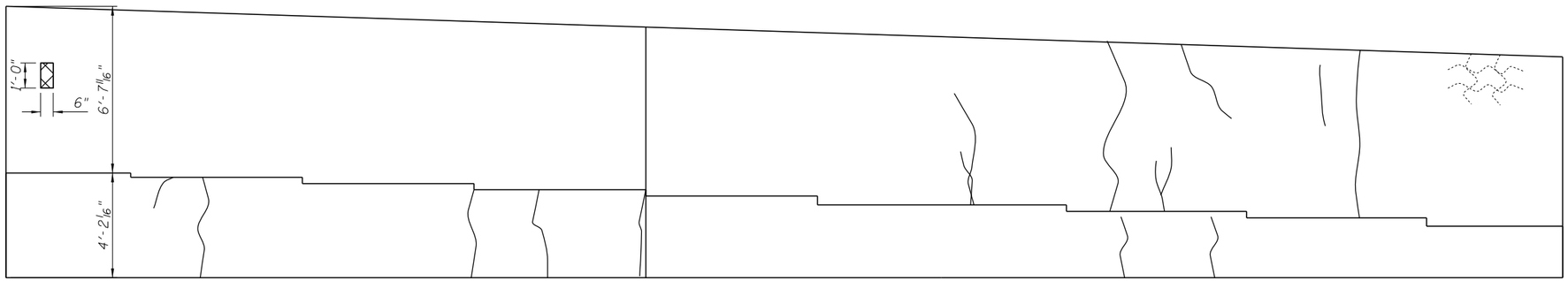
Sheet Title
Proposed Repairs

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"

Sheet No. **S4**

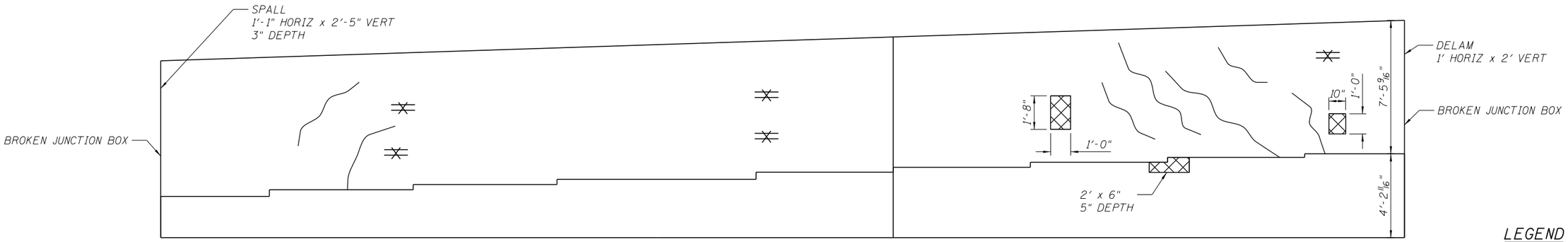
ATTACHMENT F

Substructure Condition Surveys



EAST ABUTMENT

LOOKING EAST



WEST ABUTMENT

LOOKING WEST

LEGEND

- BROKEN CONDUIT
- HAIRLINE CRACK UNLESS OTHERWISE NOTED
- LIGHT MAP CRACKING
- SPALLED CONCRETE
- DELAMINATED CONCRETE

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Stantec

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	CHECKED - BPS	REVISED -
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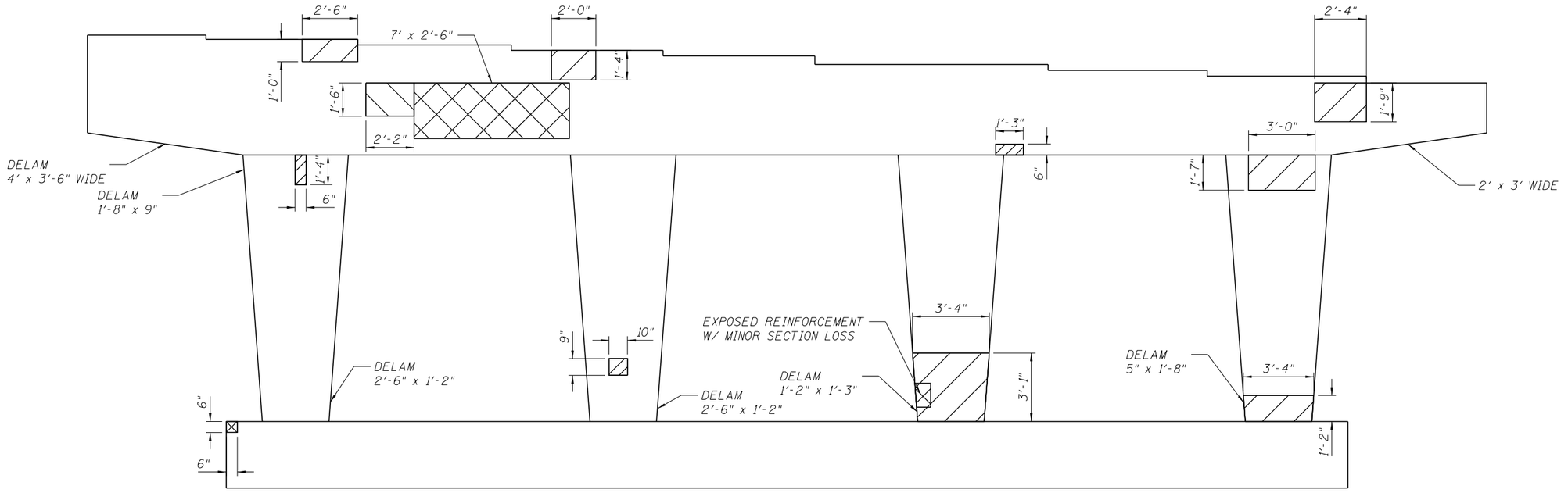
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016-0017

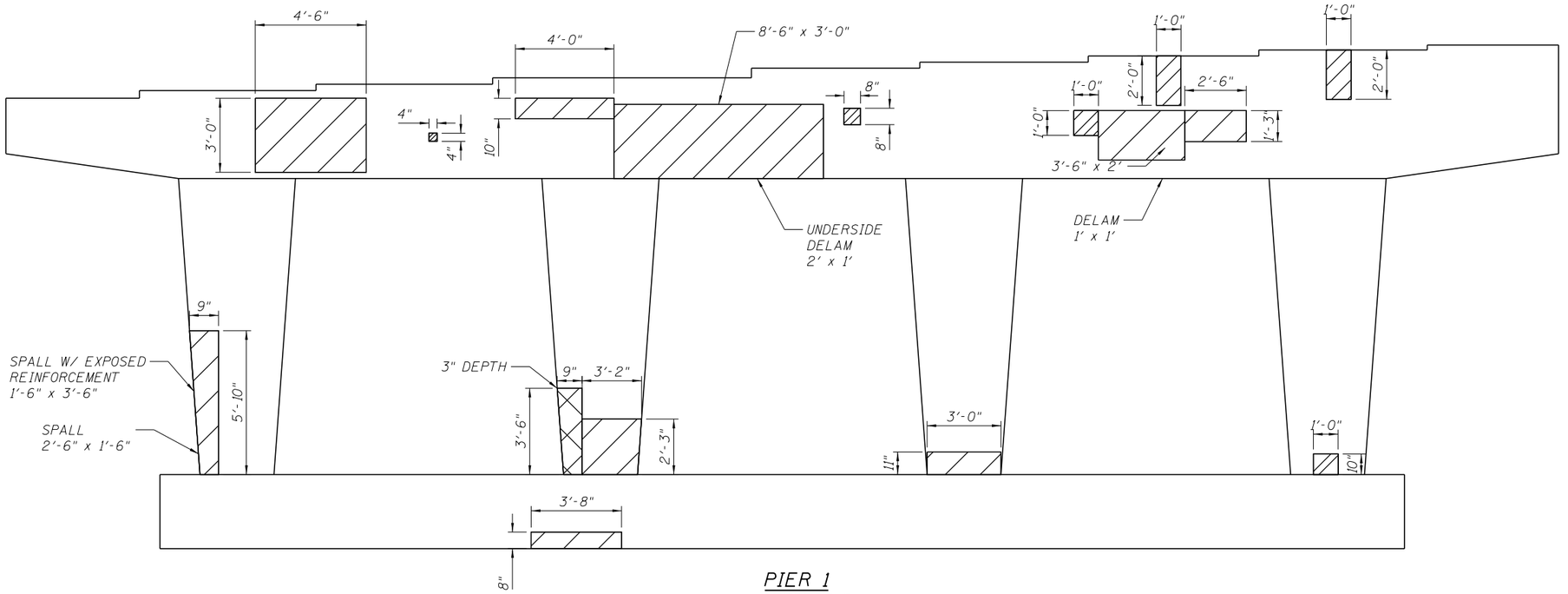
SHEET NO. 1 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PIER 1

LOOKING EAST



PIER 1

LOOKING WEST

LEGEND

- SPALLED CONCRETE
- DELAMINATED CONCRETE

FILE NAME = V:\1786\active\178600037_IDOT_I-55\structural\drawing\sht\dwg_Cicero_Avenue_Pier_Elevation.dgn

Stantec

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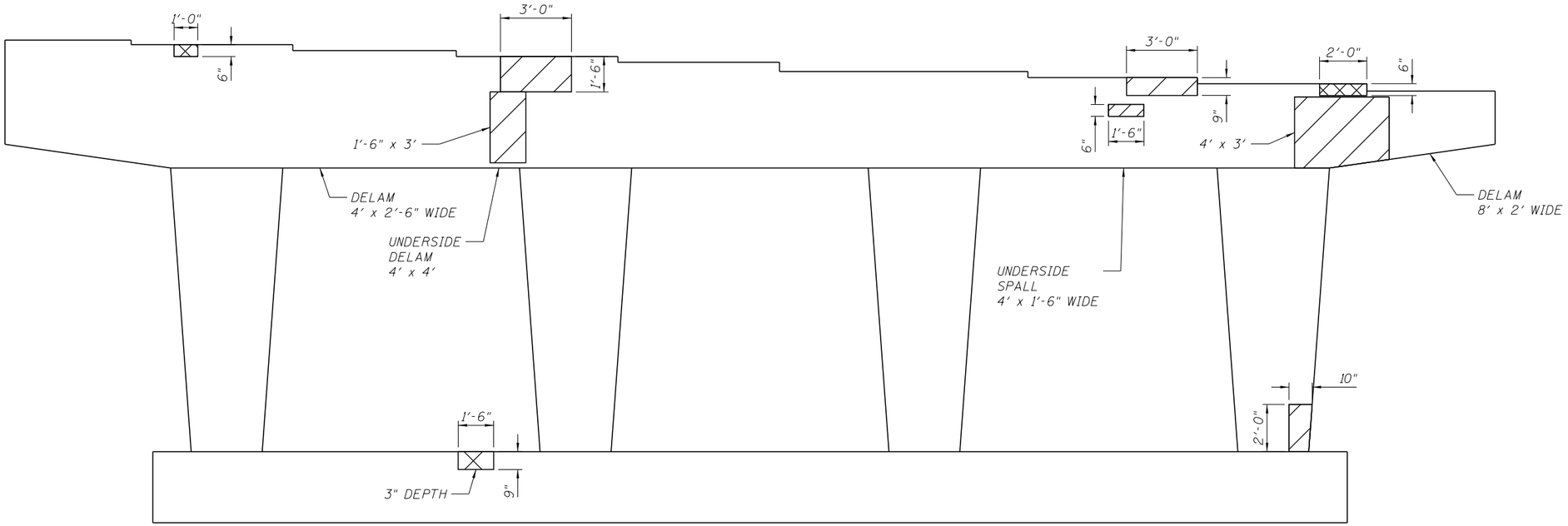
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

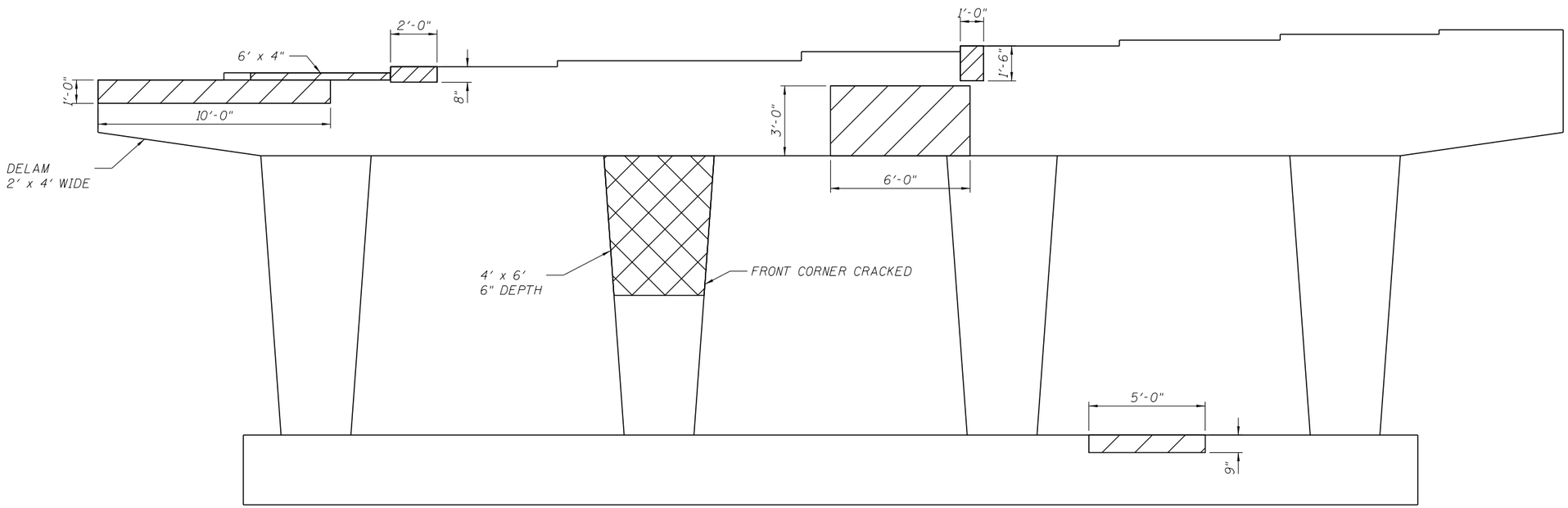
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUPERSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016–0017
SHEET NO. 2 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PIER 2
LOOKING EAST



PIER 2
LOOKING WEST

LEGEND

- SPALLED CONCRETE
- DELAMINATED CONCRETE

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Stantec

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	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/7/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016-0017
SHEET NO. 3 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT G

Opinion of Probable Costs

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/9/13
Check By:	BHS	*Date:*	12/19/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COSTS		
	I-55 WB over Cicero (016-0017)		

ALTERNATIVE 1 - IN-KIND REPAIRS

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50300300	Protective Coat	1507 sy	$2.00	$3,010
50500105	Furnishing and Erecting Structural Steel	2230 lb	$5.00	$11,150
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	326 sf	$175	$57,050
Z0016001	Deck Slab Repair (Full Depth)	37 sy	$750	$27,750
Z0016200	Deck Slab Repair (Partial Depth)	93 sy	$400	$37,200
			SUB TOTAL =	$136,160
			MOBILIZATION (10%) =	$13,616
			CONTINGENCY (20%) =	$27,232
			TOTAL =	**$177,100**

ALTERNATIVE 2 - STRUCTURE WIDENING

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50102400	Concrete Removal	19 cy	$600	$11,100
50104720	Removal Existing Concrete Deck	1 LS	$154,000	$154,000
50200100	Structure Excavation	269 cy	$35.00	$9,420
50300225	Concrete Structures	201 cy	$700	$140,700
50300255	Concrete Superstructure	720 cy	$800	$576,000
50300260	Bridge Deck Grooving	2167 sy	$7.00	$15,170
50300300	Protective Coat	1883 sy	$2.00	$3,770
50500105	Furnishing and Erecting Structural Steel	1 LS	$337,830	$337,830
50500505	Stud Shear Connectors	1242 each	$3.00	$3,730
50800205	Reinforcement Bars, Epoxy Coated	220200 lbs	$1.75	$385,350
51201400	Fur Stl Pile HP10x42	2,800 ft	$45.00	$126,000
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52000110	Preformed Joint Strip Seal	352 ft	$175	$61,600
52100010	Elastomeric Bearing Assembly, Type I	3 each	$800	$2,400
59100100	Geocomposite Wall Drain	46 sy	$25.00	$1,150
X2070304	Porous Granular Embankment, Special	62 cy	$50.00	$3,100
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	326 sf	$175	$57,050
Z0026407	Temporary Sheet Piling	1103 sf	$30.00	$33,090
Z0046304	Pipe Underdrains for Structures 4"	40 ft	$20.00	$800
			SUB TOTAL =	$1,935,860
			MOBILIZATION (10%) =	$193,586
			CONTINGENCY (20%) =	$387,172
			TOTAL =	**$2,516,700**

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/9/13
Check By:	BHS	*Date:*	12/19/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COSTS		
	I-55 WB over Cicero (016-0017)		

ALTERNATIVE 3 - SUPERSTRUCTURE AND PARTIAL SUBSTRUCTURE REPLACEMENT

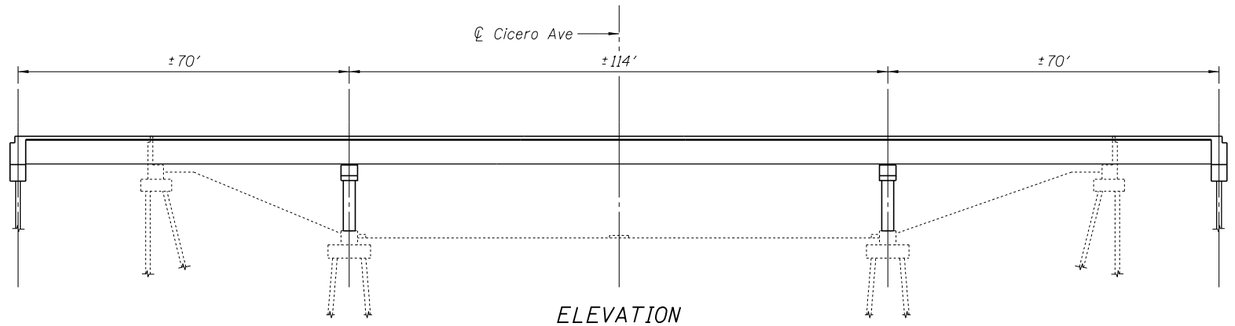
CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50101500	Removal of Existing Superstructures	1 LS	$184,800	$184,800
50102400	Concrete Removal	331 cy	$600	$198,600
50104650	Slope Wall Removal	813 sy	$7.00	$5,690
50200100	Structure Excavation	690 cy	$35.00	$24,150
50300225	Concrete Structures	350 cy	$700	$245,000
50300255	Concrete Superstructure	970 cy	$800	$776,000
50300260	Bridge Deck Grooving	2629 sy	$7.00	$18,400
50300300	Protective Coat	2455 sy	$2.00	$4,910
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,834,200	$1,834,200
50500505	Stud Shear Connectors	9144 each	$3.00	$27,430
50800205	Reinforcement Bars, Epoxy Coated	312500 lbs	$1.75	$546,880
51100100	Slope Wall 4 Inch	606 sy	$100	$60,600
51201400	Fur Stl Pile HP10x42	3240 ft	$45.00	$145,800
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52100010	Elastomeric Bearing Assembly, Type I	12 each	$800	$9,600
59100100	Geocomposite Wall Drain	174 sy	$25.00	$4,350
X2070304	Porous Granular Embankment, Special	355 cy	$50.00	$17,750
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0012754	Structural Repair of Concrete (< 5 Inches)	8 sf	$350	$2,680
Z0026407	Temporary Sheet Piling	1527 sf	$30.00	$45,800
Z0046304	Pipe Underdrains for Structures 4"	188 ft	$20.00	$3,760
			SUB TOTAL =	$4,170,000
			MOBILIZATION (10%) =	$417,000
			CONTINGENCY (20%) =	$834,000
			TOTAL =	**$5,421,000**

ALTERNATIVE 4 - STRUCTURE REPLACEMENT

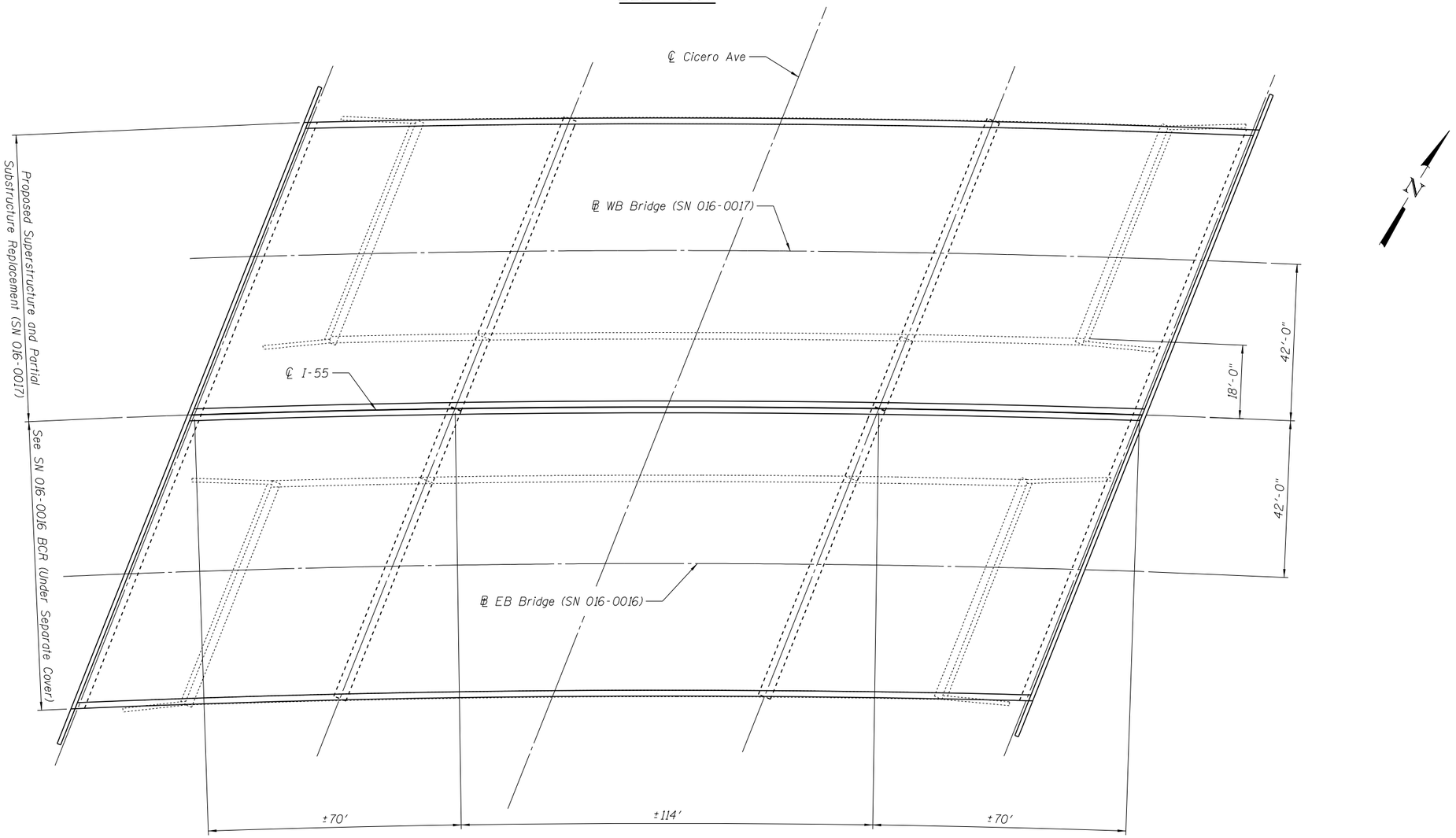
QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50100100	Removal of Existing Structures	1 LS	$467,000	$467,000
50200100	Structure Excavation	993 cy	$35.00	$34,760
50300225	Concrete Structures	589 cy	$700	$412,300
50300255	Concrete Superstructure	970 cy	$800	$776,000
50300260	Bridge Deck Grooving	2629 sy	$7.00	$18,400
50300300	Protective Coat	2455 sy	$2.00	$4,910
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,834,200	$1,834,200
50500505	Stud Shear Connectors	9144 each	$3.00	$27,430
50800205	Reinforcement Bars, Epoxy Coated	360300 lbs	$1.75	$630,530
51100100	Slope Wall 4 Inch	606 sy	$100.00	$60,600
51201400	Fur Stl Pile HP10x42	6,120 ft	$45.00	$275,400
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
59100100	Geocomposite Wall Drain	174 sy	$25.00	$4,350
X2070304	Porous Granular Embankment, Special	355 cy	$50.00	$17,750
Z0004552	Approach Slab Removal	160 sy	$35.00	$5,600
Z0026407	Temporary Sheet Piling	1527 sf	$30.00	$45,800
Z0046304	Pipe Underdrains for Structures 4"	188 ft	$20.00	$3,760
			SUB TOTAL =	$4,626,790
			MOBILIZATION (10%) =	$462,679
			CONTINGENCY (20%) =	$925,358
			TOTAL =	**$6,014,900**

ATTACHMENT H

Proposed Structure Drawings



ELEVATION



PROPOSED PLAN

Notes:

The number and location of substructure units, the profile grade, skew angle, and the bridge length and width are subject to refinement in the TSL phase.

Superstructure type, beam spacing, and rail type to be determined during the TSL phase.

FILE NAME =

Stantec

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	CHECKED - BPS	REVISED -
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PLOT DATE = 12/19/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT H – PROPOSED STRUCTURE DRAWING
STRUCTURE NO. 016–0017
SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT I

Structure Photos

Photo 1 - Spalling in bay 9, Span 2 , east end, looking west

Photo 2 - Spall underside of deck in Span 3, east end, between beams 1-2 from north, looking west

Photo 3 - Underside of Deck, Span 2, south end, looking east

Photo 4 - Typical discolored concrete and pop off in Span 2, looking east

Photo 5 – Span 3, looking southwest

Photo 6 – Span 2, looking southwest

Photo 7 – Span 1, looking southwest

Photo 8 - East Abutment joint, looking south

Photo 9 - East Pier joint, looking south

Photo 10 - West Pier joint, looking south

Photo 11 - West Abutment joint, looking south

Photo 12 - Crack in built up pedestal on beam 9 from north at West Pier, west span, looking east

Photo 13 - Close up of photo 12

Photo 14 - Typical cracked weld between bottom flange of beam and built up steel pedestal, Beam 6 at East Abutment, looking southeast

Photo 15 - Typical beam with cover plate in Span 1, Beam 4, looking southwest

Photo 16 – Paint peel on Beam 9 in Span 2, looking east

Photo 17 - South fascia beam, looking west

Photo 18 - North fascia beam, Span 2, looking west

Photo 19 - Failed conduit connections, looking southwest

Photo 20 - Broken conduit from brackets along south fascia beam in Span 1, looking southwest

Photo 21 - Typical end beam bearing, beam 1 from north, West Abutment, looking southwest

Photo 22 - East Abutment, looking east

Photo 23 - West Abutment, looking southwest

Photo 24 - Broken and open conduit on north end of West Abutment, looking south

Photo 25 - Broken conduit at West Abutment backwall in bay 1 from north, looking west

Photo 26 - Spall on West Abutment seat in bay 2 from north, looking east

Photo 27 - Spall on front face of West Abutment backwall at south end and open conduit junction box, looking north

Photo 28 - Northwest Wingwall, looking southwest

Photo 29 - Southeast Wingwall, looking east

Photo 30 – Southwest wingwall, looking west

Photo 31 – Northeast wingwall, looking southeast

Photo 32 - East Pier, west face, looking east

Photo 33 - East Pier, spall on underside of cap in between columns 3-4 from north, looking up and east

Photo 34 – East Pier, delam on northeast corner, looking southwest

Photo 35 - Spall in East Pier crashwall, north of second column from north, west face, looking southeast

Photo 36 - West Pier, west face, north end, looking northeast

Photo 37 - Spall on West Pier, south face, bottom of fourth column from north, looking north

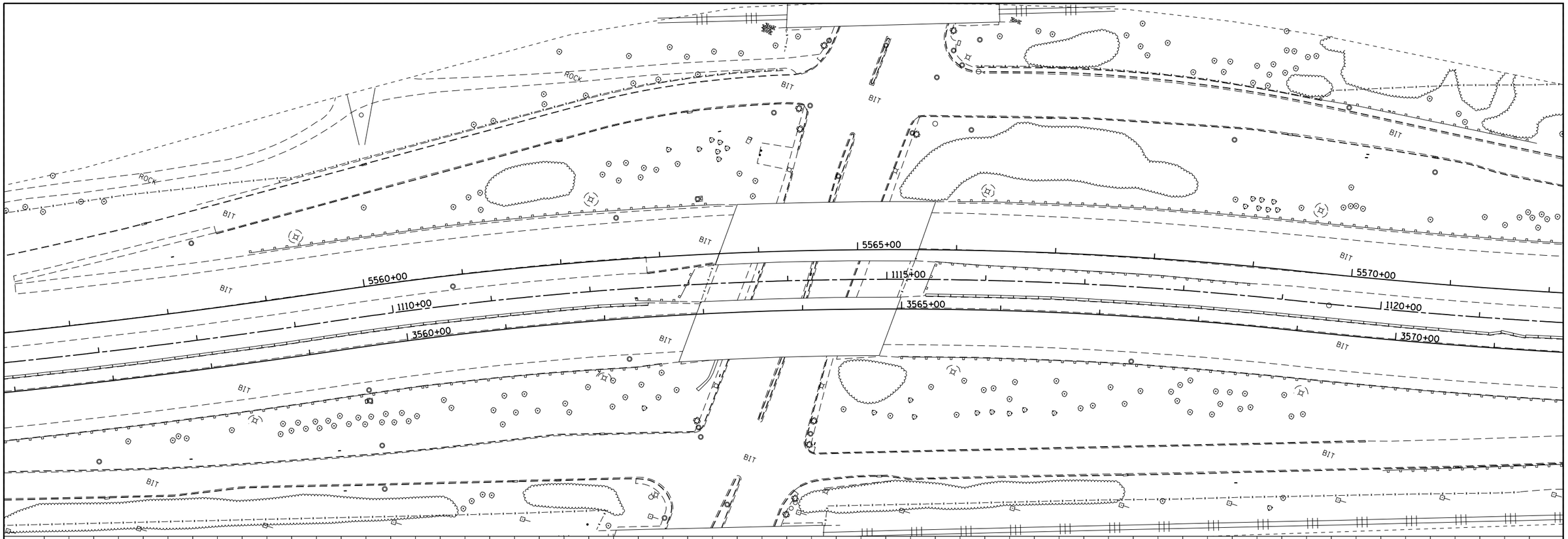
Photo 38 - North half of east slopewall, looking northeast

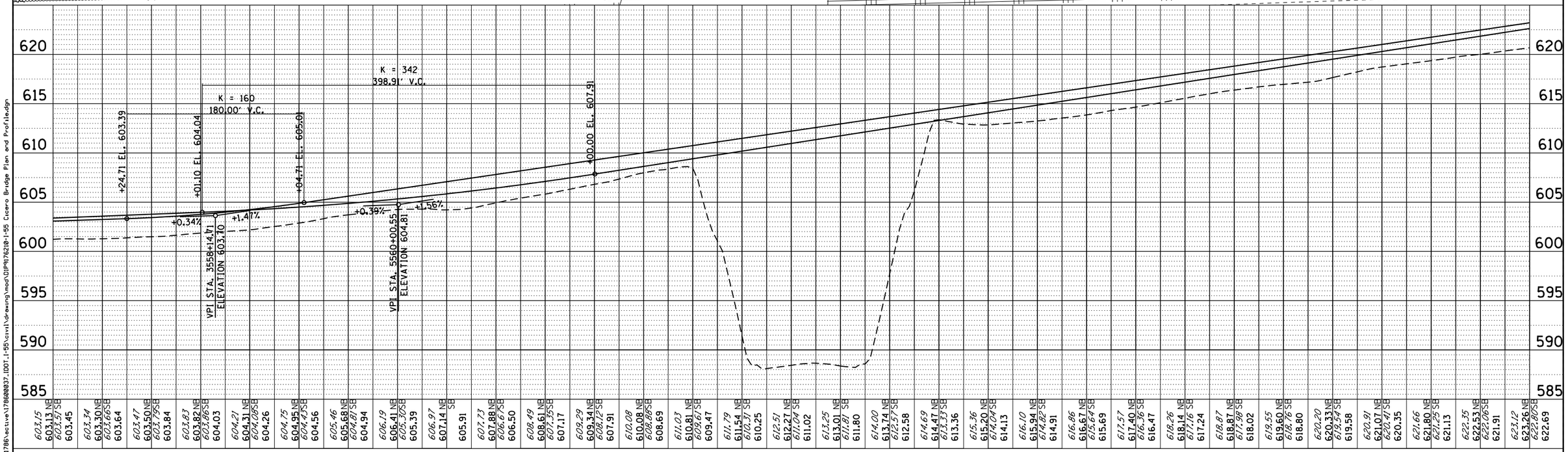
Photo 39 – Cracks in north end of west slopewall, looking southwest

Photo 40 - Spall in west slopewall, looking west

ATTACHMENT J

Proposed Plan & Profile





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PLOT DATE = 10/4/2013	DATE - 10/04/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

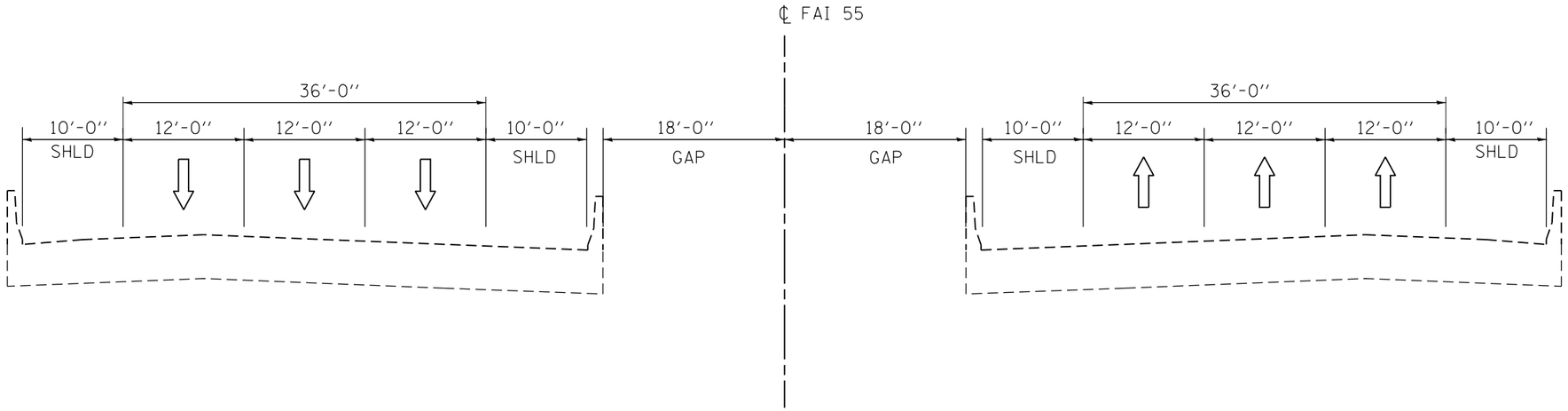
ATTACHMENT J
I-55 OVER CICERO AVE PROPOSED PLAN & PROFILE

SCALE: 1":100' | SHEET ___ OF ___ SHEETS | STA. _____ | TO STA. _____

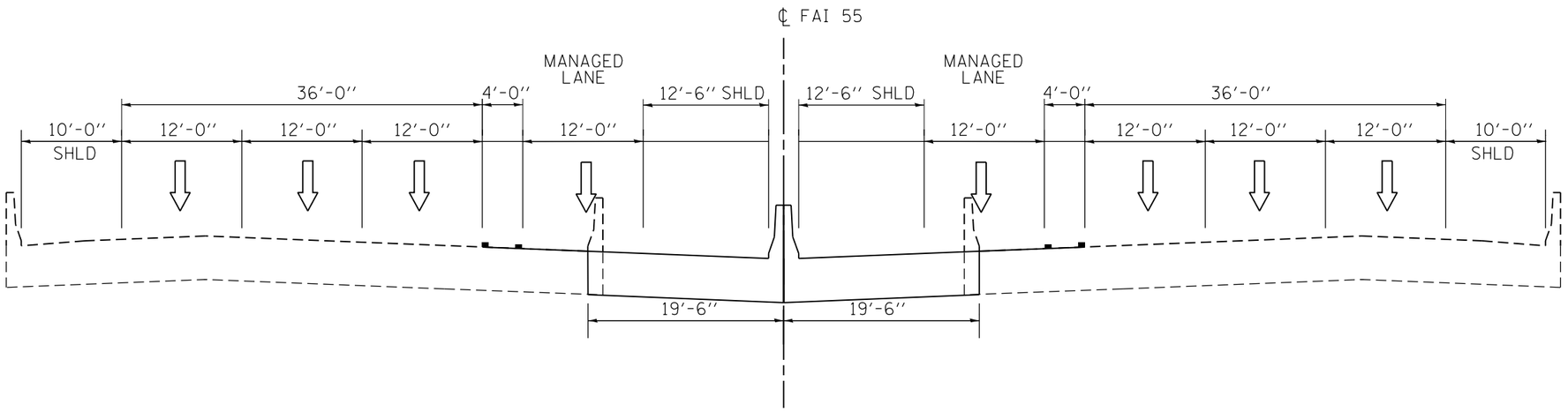
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

ATTACHMENT K

Existing and Proposed Roadway Cross Sections



EXISTING I-55 OVER CICERO AVE TYPICAL SECTION



PROPOSED I-55 OVER CICERO AVE TYPICAL SECTION

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Stantec

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	DRAWN - STANTEC	REVISED -
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PLOT DATE = 10/7/2013	DATE - 10/7/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT K
TYPICAL SECTIONS

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		

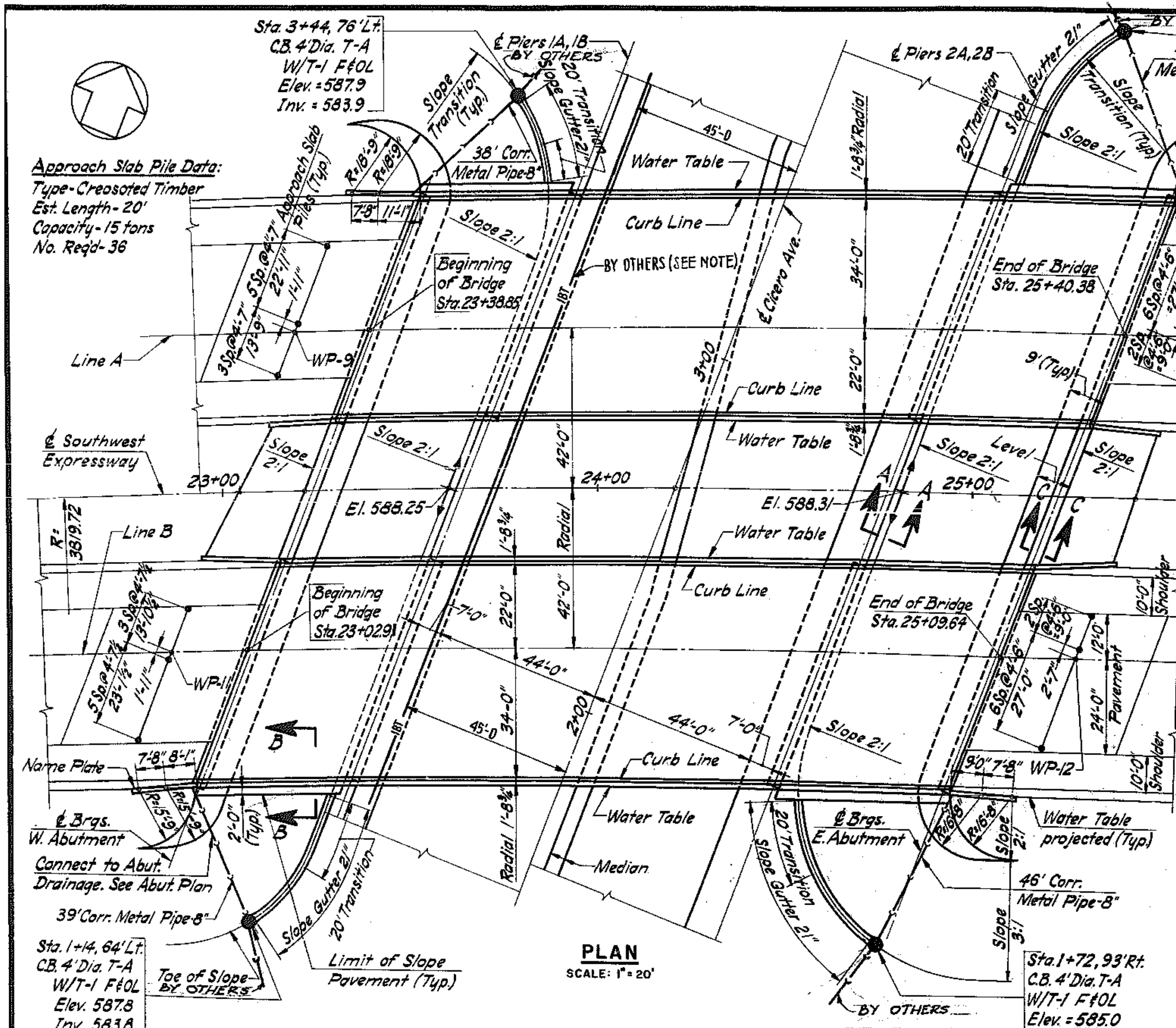
CONTRACT NO.

ILLINOIS FED. AID PROJECT

ATTACHMENT L

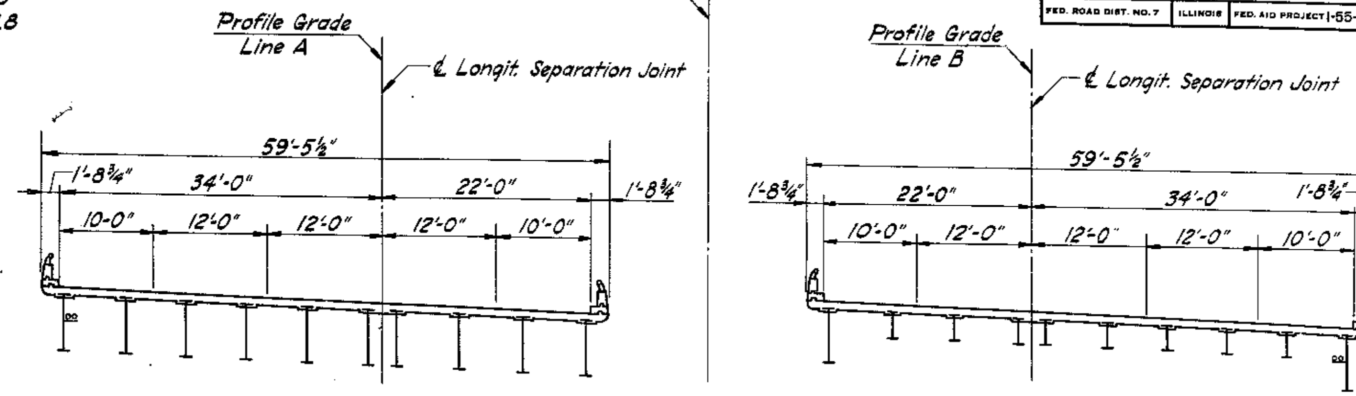
Abbreviated Existing Plans

F.A.I. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	SOUTHWEST	32	2c
STA. 23 + 02.91	TO STA. 25 + 40.38			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT I-55-7(29)-281		



PLAN

SCALE: 1" = 20'

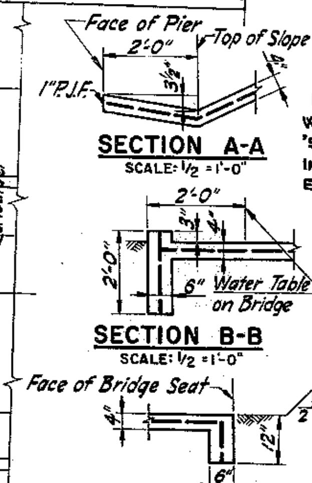


CENTER SPAN

TYPICAL CROSS SECTION

SCALE: 1" = 10'

END SPAN



SECTION A-A

SCALE: ½" = 1'-0"

SECTION B-B

SCALE: ½" = 1'-0"

SECTION C-C

SCALE: ½" = 1'-0"

NOTE:
WHEREVER IN THESE PLANS REFERENCE IS MADE TO THE "STANDARD SPECIFICATIONS", IT IS UNDERSTOOD TO INCLUDE THE "SUPPLEMENTAL SPECIFICATIONS", EFFECTIVE APRIL 2, 1962.

NOTE:
The cost of Excavation required for the construction of the Abutments in the Embankments is to be incidental to the contract.

SUMMARY OF QUANTITIES

CODE NUMBER	ITEM	UNIT	QUANTITY BRIDGE A Sub.	BRIDGE A Super.	BRIDGE B Sub.	BRIDGE B Super.	TOTAL for 2 Bridges
				–		—	
016001	Embankment	Cu. Yds.	14,620	—	18,260	—	32,880
019001	Porous Granular Embankment	Cu. Yds.	636	—	618	—	1,254
050001	Class "A" Excavation for Structures	Cu. Yds.	256	—	256	—	512
052003	Class "X" Concrete	Cu. Yds.	470.5	3080	471.2	309.0	1,558.7
052021	Protective Coat	Sq. Yds.	—	1,449	—	1,454	2,903
054001	Furn. & Erect. Struct. Steel	Lbs.	—	496,970	—	498,710	995,680
059001	Reinforcement Bars	Lbs.	62,380	78,510	64,470	78,510.	283,870
060004	Furnishing Creosoted Piles (up to 20')	Lin. Ft.	360	—	360	—	720
060008	Driving Timber Piles	Lin. Ft.	360	—	360	—	720
060043	Driving Concrete Piles	Lin. Ft.	4,335	—	4,425	—	8,760
060044	Furnishing Concrete Piles	Lin. Ft.	4,335	—	4,425	—	8,760
060047	Test Pile Concrete	Ea.	2	—	2	—	4
061001	Name Plates	Ea.	—	1	—	1	2
063001	Corrugated Metal Pipe, 8"	Lin. Ft.	85	—	85	—	170
063020	Perforated Corrugated Metal Pipe, 6"	Lin. Ft.	165	—	165	—	330
075015	CB, T.A, 4' Dia., T.I Fr. & Open Lid	Ea.	2	—	2	—	4
083002	Slope Wall 4 inch	Sq. Yds.	813	—	719	—	1,532
L02710	Rigid Steel Conduit, 2" Dia.	Lin. Ft.		440		440	880
L02738	Rigid Steel Conduit, 2½" Dia.	Lin. Ft.	40	—	30	—	70
L02766	Rigid Steel Conduit, 1½" Dia.	Lin. Ft.	—	10	—	20	30
				—		—	
Z08004	**Aluminum Handrail**	Lin. Ft.	76	403	76	404	959

TWO SIGNS CONFORMING TO STD. 2160-1 SHALL BE ERECTED AT LOCATIONS SHOWN ON THE PLANS (SHEET 2b)

GENERAL NOTES

CONCRETE:
1. Coarse aggregate to be used in parapet handrails and end posts must be absolutely free of chert, flint, limonite, lignite and soft sandstone.
2. The concrete floor slab shall be finished in accordance with article 51.19 of the standard specifications.
3. Slopewall shall be reinforced with welded wire fabric 6"x6" mesh weighing 58#/per 100 sq. ft.
4. All reinforcement bars shall be lapped 20 diameters unless otherwise shown.
5. Permanent forms will not be permitted in forming the concrete floor.
6. Class X concrete shall be used throughout.

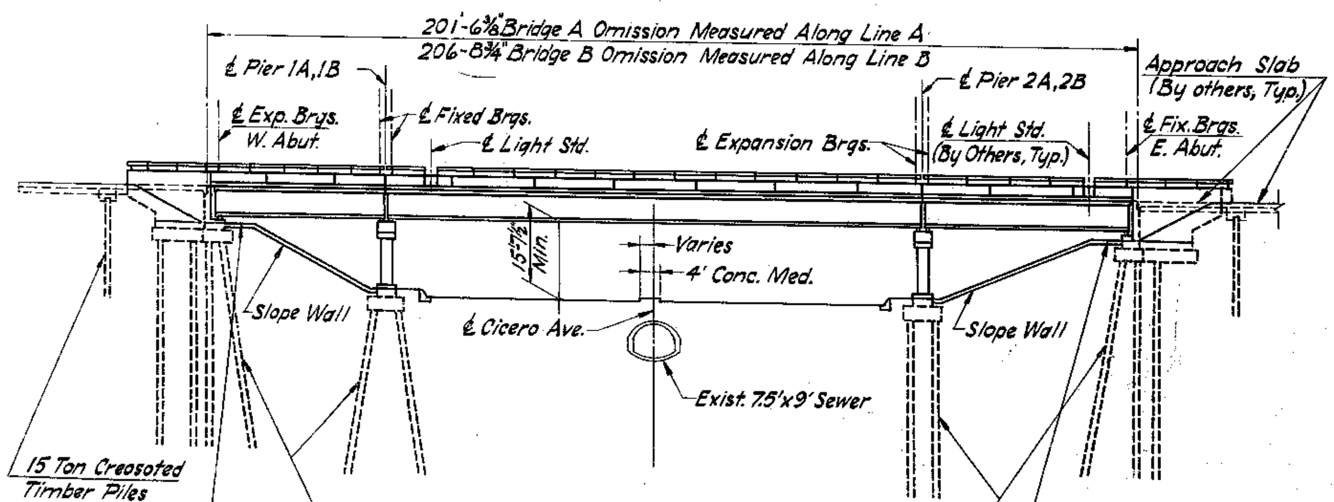
STRUCTURAL STEEL:
1. Rivets ¾" ϕ open holes 13/16" ϕ unless otherwise noted.
2. Anchor bolts shall be set before riveting diaphragms over supports.
3. Roadway expansion guards shall be assembled in the shop in proper position with the ends in place and shall be left assembled for shop inspection.
4. The following surfaces of the expansion guard shall be given two shop coats of red lead paint: the outside vertical 4" legs of the Ls 6x4x¾.
5. Expansion guards are included in the quantity of structural steel estimated weight 16,560 lbs. Bridge A and 16,610 lbs. Bridge B.
6. Except as otherwise provided all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See article 56.1 to 56.5 inclusive of the standard specifications and the special provisions.
7. Structural carbon steel shall conform to specifications for carbon steel A.S.T.M. designation A-36.

SUBSTRUCTURE:
1. The contractor shall drive 4 concrete test piles in a permanent location shown on the pier and abutment footing plans as directed by the engineer before ordering the remainder of the piles.
2. Concrete piles at abutments shall be driven in holes precored through the embankment.
This work shall be done in accordance with article 60.9 (c) of the standard specifications.
3. Concrete piles at piers shall be driven in holes precored to elevation 574.00.

UTILITIES:
1. The proposed Illinois Bell Telephone Co. line will be in place prior to beginning bridge construction.

DESIGN LOADS AND STRESSES

Specifications: A.A.S.H.O., 1961
Design Load: H20-S16-44 & alternate
25 psf Future wearing surface
Design Stresses: Structural Steel: f = 20,000 psi
Reinforcement Steel: f = 20,000 psi
Concrete: fc = 3,500 psi
fc = 1,400 psi
= 1,000 psi (with earth pressure)
fv = 75 psi (Footings)
n = 10
Piling: Concrete = 30 ton capacity
Creosoted Timber = 15 ton capacity



ELEVATION

SCALE: 1" = 20'

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY

EXPRESSWAY OVER CICERO AVE.

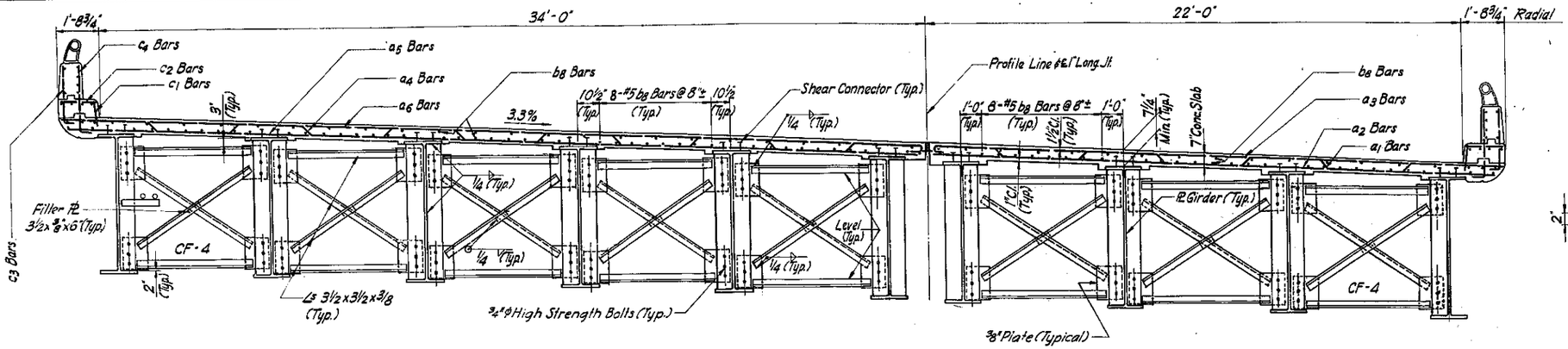
GENERAL PLAN

SCALE: HORIZ. VERT. AS NOTED
DRAWN BY M. Caroni
DATE: DEC., 1962
CHECKED BY S. Harris

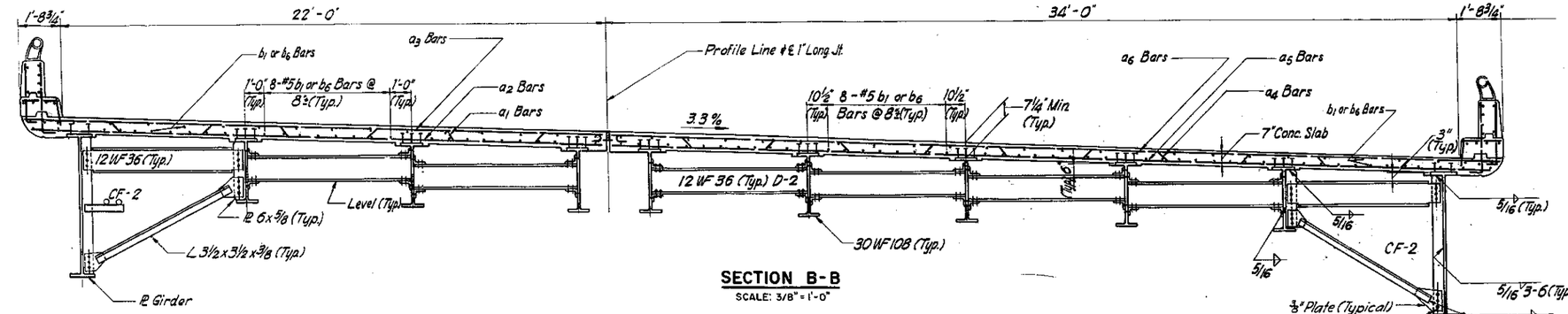
Rev. Removed 200 cu. yd. Special Excav., Rev. Cl. "A" Excav. 1080 to 512 cu. yd. ~~Added Metal Handrail, Type E - 959 lin. ft.~~
3-25-63 Rev. Wt. for F&E.S.S. 493,790# to 496,970# ...

L-1

F.A.I. RTE.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
55	1112-619-HB	SOUTHWEST	32	13
STA. 23+02.91		TO STA. 25+40.38		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

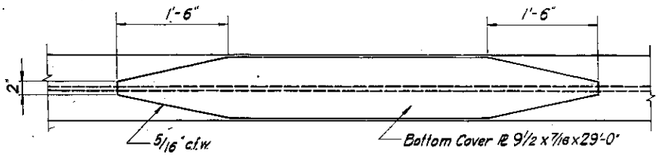


SECTION A-A
SCALE: 3/8" = 1'-0"

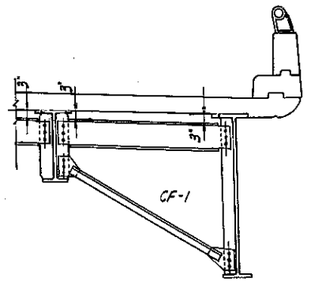


SECTION B-B
SCALE: 3/8" = 1'-0"

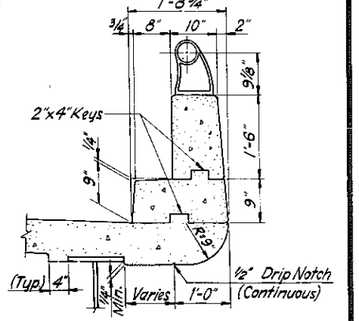
LONGITUDINAL JOINT
SCALE: 1" = 1'-0"



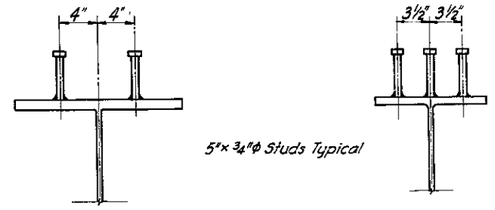
COVER PLATE DETAIL
NOT TO SCALE



SECTION G-G
SCALE: 3/8" = 1'-0"



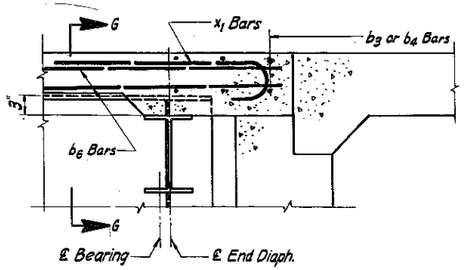
FASCIA DETAILS
SCALE: 3/4" = 1'-0"



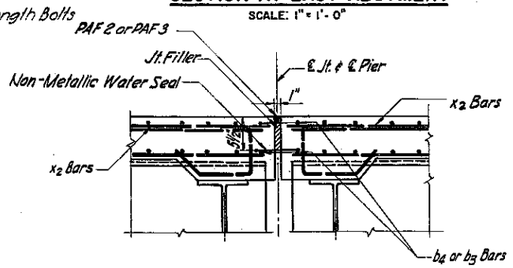
SHEAR CONNECTOR DETAILS
SCALE: 1½" = 1'-0"
(weight of studs included in Structural Steel Quant.)

NOTES:

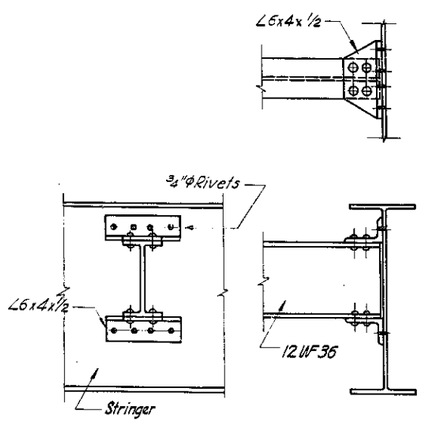
1. For location of sections A-A & B-B, see sheet 12.
2. Section A-A shown for Bridge A, Bridge B similar except for stringer layout and spacing.
3. Section B-B shown for Bridge B, Bridge A similar except for stringer layout and spacing.
4. Use ¾"ϕ rivets, except as otherwise noted.



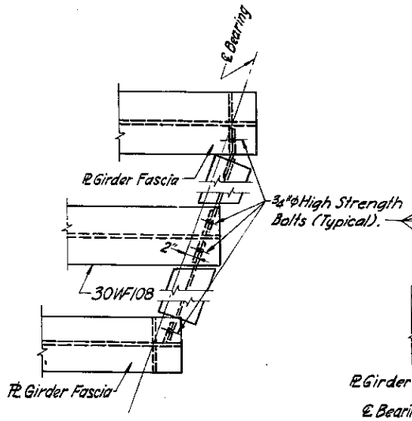
SECTION AT EAST ABUTMENT
SCALE: 1" = 1'-0"



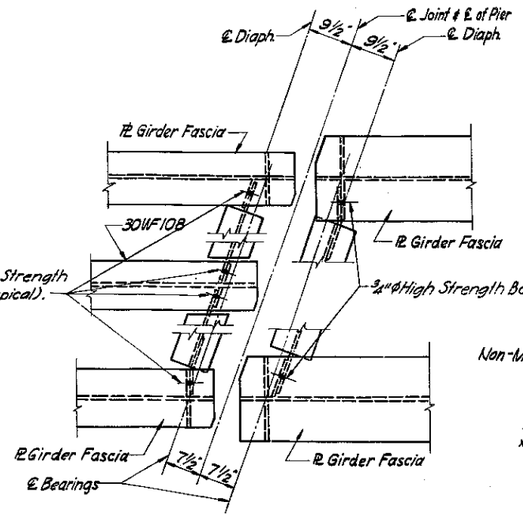
SECTION AT FIXED JOINT
SCALE: 1" = 1'-0"



DIAPHRAGM D-2 CONNECTION DETAIL
SCALE: 1" = 1'-0"



END DIAPHRAGM DETAILS AT ABUTMENT
SCALE: 3/4" = 1'-0"



END DIAPHRAGM DETAIL AT PIERS
SCALE: 3/4" = 1'-0"

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
EXPRESSWAY OVER CICERO AVE.

SUPERSTRUCTURE DETAILS

SCALE: HORIZ. AS NOTED VERT.
DATE : DEC., 1962
DRAWN BY J. Zebedee
CHECKED BY B. Harris

L-2

BRIDGE CONDITION REPORT

REGION: 1

DISTRICT: 1

ROUTE: FAI 055/ I-55 EB

COUNTY: Cook

JOB NUMBER: P-91-762-10

STRUCTURE NUMBER: 016-0018

LOCATION: I-55 Eastbound over RR-BRC

PREPARED BY: Stantec

DATE PREPARED: 12/20/13

PROPOSED LETTING DATE: To Be Determined

TABLE OF CONTENTS

ATTACHMENTS:

A. Location Map
B. IDOT Master Structure Report
C. Bridge Inspection Report
D. Bottom of Deck Condition Survey
E. Condition Assessment of the Reinforced Concrete Bridge Deck
F. Substructure Condition Surveys
G. Opinion of Probable Costs
H. Proposed Structure Drawings
I. Structure Photos
J. Proposed Plan & Profile
K. Existing and Proposed Roadway Cross Sections
L. Abbreviated Existing Plans

I. GEOGRAPHICAL & ADMINISTRATIVE DATA

Structure Number:	016-0018
County:	Cook
Route Carried:	FAI 055 / I-55
Feature Crossed:	RR-BRC
Section:	1212-620-VB
Station:	25+03.37

Roadway Classification:	Federal Aid Interstate
Design/Posted Speed:	70mph / 55mph
***ADT (current/design):**	86,748 (2012) / 120,186 (2040)
***ADTT (current/design):**	13% = 11,277 (2012) / 13% = 15,624 (2040)
***DHV (current/design):**	5,053 (2012) / 7,601 (2040)
Inventory Rating HS:	1.070 – rated 11/05/01
Operating Rating HS:	1.680 – rated 11/05/01
Sufficiency Rating:	84.0
HBP Eligibility:	No

* Traffic data per the I-55 Managed Lane Phase I Study

Construction / Reconstruction / Repair History

The structure carrying I-55 Eastbound over the BRC Railroad (RR-BRC) was originally built in 1963 as FAI Route 55 over RR-BRC under Project IG-55-7(34) 281, Section 1212-620-VB. The original construction consisted of parallel three span structures. The two structures carried I-55 eastbound and westbound traffic.

As part of Contract 82944, plans dated 12/15/95, pin and link replacement was performed. As part of Contract 80059, bridge rehabilitation was performed in 1999. The rehabilitation consisted of removing the bituminous concrete overlay, performing deck repairs, removing and replacing the transverse deck joints, eliminating the longitudinal deck joint, placing a new deck concrete overlay, refurbishing the bearings, cleaning and painting the existing steel bridge and repairing the substructure and slopewall.

II. PHYSICAL DESCRIPTION OF STRUCTURE

The physical description of the structure is based on a review of the existing available plans dated 9/13/63, 12/15/95, and 1999. Refer to Attachment L for select existing structure plan sheets. Individual components of the existing structure are described below:

Structure Type and Length: The bridge is a flared three span wide flange structure with pin and link assemblies in Spans 1

and 3. The exterior beams are W36x135 in Spans 1 and 3. All the interior beams are W27x114 in Spans 1 and 3. The W-beams used in Span 2 are W36x150 with a 1" thick cover plate outside of the bottom flange. The bridge is 168'-2" long measured from back-to-back of abutment. The substructure consists of two reinforced concrete stub abutments with wingwalls and two multi-column reinforced concrete piers. The abutments are supported by concrete piles and the piers are supported on creosoted timber piles. The bridge has a 7" reinforced concrete deck plus overlay.

Number / Length of Spans: There are a total of three spans, with approximate lengths as follows (dimensioned from centerline of bearing to centerline of bearing). Spans are numbered from west to east.

Span 1:	42'-0"
Span 2:	80'-0"
Span 3:	42'-0"

Skew: 22°-00'-23" Left

Structure Width: The total width varies from approximately 81'-1" to 84'-6" measured out-to-out of the deck. The bridge accommodates three 12' lanes of traffic, a ramp lane with variable gore, a 10' inside shoulder, a 5' outside shoulder, and a curb and parapet on each side.

Expansion Joints:

W Abutment:	1 3/4" Preformed Joint Seal
Pier 1:	2" Neoprene Joint
Pier 2:	2" Neoprene Joint
E Abutment:	1 3/4" Preformed Joint Seal

Bearings:

W Abutment:	Fixed
Pier 1:	Fixed
Pier 2:	Expansion
E Abutment:	Fixed

Approach Roadway Template: The approach roadway template matches the bridge with three 12' lanes of traffic, a ramp lane with variable gore, a 10' inside shoulder, and a 5' outside shoulder. The width of the west approach roadway is wider than the east approach roadway due to the variable gore/ramp lane.

Existing Wearing Surface:	2 3/8" Micro Silica Concrete Overlay
Existing Vertical Alignment:	The structure is located on a 1,000-ft. long vertical crest curve with 1.50% and -0.80% slopes going from west to east. The entire structure is located in the -0.80% slope region.
Existing Horizontal Alignment:	The structure is on a horizontal tangent section.
Existing Vertical Clearance:	23'-0" min over BRC Railroad according to the 1999 repair plans.
Existing Drainage:	No existing drainage exists on the structure or approach slabs.
Parapets and Railings:	There are 1'-8 3/4" wide exterior curb and parapets running the length of the bridge. Parapets were modified in 1999 plans to remove a 9" tall by 1'-0" wide existing handrail and replaced with a 9" tall x 1'-0" wide reinforced concrete section. Per the IDOT Bridge Inspection Report dated 12/10/12, the guardrail currently meets acceptable standards while the guardrail ends and transitions do not.
Existing Utilities Attachments:	There are no light poles attached to the bridge, but there is conduit running along the south parapet.
Name Plate:	The two name plates are located on the inside face of the northeast and southwest wingwalls.

III. FIELD INSPECTION & PHYSICAL EVALUATION

A field inspection of the entire structure carrying I-55 Eastbound over the BRC Railroad was performed by Stantec on September 16, 2013. The high temperature on that date was 65° F. The visual field inspection was performed on foot on the slopewall and the top of deck. The following conditions were observed:

Deck

Deck

The deck was rated in fair condition (NBIS Rating = 5) in the 12/10/12 NBIS inspection. The deck condition observed during this inspection was consistent with the NBIS rating. The underside of deck has multiple areas of delamination, spalling and map cracking. Based on visual inspection, approximately 6.0% of the underside of deck is delaminated or spalled.

The micro-silica concrete overlay on the top of deck has minor hairline transverse and longitudinal cracking mostly along the shoulders. Wiss, Janey and Elstner performed a condition assessment of the reinforced bridge deck in July 2011. This assessment included a delamination survey performed on the top of the bridge deck using infrared thermography. The infrared thermography indicated 4.6% of the top of deck area was delaminated. See Attachment E for the condition assessment of the reinforced bridge deck. See Attachment I – Photos 1 through 7.

Parapets

The parapets are in satisfactory condition with hairline vertical cracking throughout and minor delaminations and spalls on the interior face of the parapet. The interior face of the South Parapet has approximately 20 square feet of delaminated concrete. The exterior face of the North parapet has approximately 5 square feet of spalled concrete and the exterior face of the South Parapet has approximately 32 square feet of spalled concrete. See Attachment I - Photos 8 and 9.

Joints

The preformed joint seals at the abutments and the neoprene joint at the piers are in satisfactory condition with debris in the joint and minor impact damage on the joints. The width of the joints was measured when the temperature was approximately 65° F. The preformed joint at the West Abutment measured ¾" wide. The neoprene joint at the West Pier measured 1 9/16". The neoprene joint at the East Pier measured 1 7/16". The preformed joint at the East Abutment measured 3/4". See Attachment I – Photos 10 through 13.

Superstructure

Beams

The superstructure consists of three spans of variable sized rolled steel beams. The beam lines are numbered 1 through 14, numbered from north to south. In Spans 1 and 3, Beam Lines 1 and 14 consist of W36x135 beams and Beam Lines 2 through 13 consist of W27x114 beams. In Span 2, all of the beam lines consist of W36x150 beams. This structure has pin and link assemblies in Spans 1 and 3 and welded cover plates on the bottom flanges of the beams in Span 2.

The superstructure was rated in fair condition (NBIS Rating = 5) in the 12/10/2012 NBIS bridge inspection due to initial section loss and minor pitting. The superstructure observed during this inspection was consistent with the NBIS rating.

The steel superstructure typically has paint starting to fail, minor rust and initial section loss and minor pitting. The pin and link assemblies were visually inspected from the ground and no defects were noted. The 12/10/2012 NBIS inspection used an under bridge inspection unit to do a close up inspection of the pin and link assemblies and no defects were noted. See Attachment C for the Bridge Inspection Report. The steel beams have welded cover plates with fatigue category E' details. The welded cover plates were visually inspected from the ground and no defects were noted on the welds. See Attachment I – Photos 14 through 17.

Bearings

The steel rocker expansion bearings are in satisfactory condition with paint starting to fail and minor rust. No excessive tilting was noted during the inspection. See Attachment I – Photo 19.

Utilities

There is an abandoned utility box on the underside of deck in Span 3 at the south end of the span. See Attachment I – Photo 18.

Substructure

The substructure was rated in satisfactory condition (NBIS Rating = 6) in the 12/10/2012 NBIS bridge inspection due to cracks and spalls at the abutment caps and pier columns. The substructure condition observed during this inspection was consistent with the NBIS rating.

Abutments

The reinforced concrete abutments are in satisfactory condition with multiple vertical cracks that vary in widths from hairline to 3/8" wide. The length of the 1/16" or wider vertical cracks is approximately 23' on the East Abutment and 3' on the West Abutment. There is 2 square feet of spalled concrete on the East Abutment. See Attachment F for the Substructure Condition Survey. See Attachment I – Photo 20 and 21.

Piers

The reinforced concrete piers each consist of seven columns with a pier cap. The piers are in satisfactory condition with minor delaminations and spalls on the columns and pier caps. Pier 1 has approximately 69 square feet of spalled or delaminated concrete. Pier 2 has approximately 8 square feet of spalled or delaminated concrete. See Attachment F for the Substructure Condition Survey. See Attachment I – Photo 22 through 25.

Slope Protection

The bridge has concrete slope walls. The East Slopewall has approximately 50' of transverse cracking. The West Slopewall has approximately 20'

transverse cracking along the bottom. At the southeast corner of the West Slopewall, there is an area approximately 40' long by 8' wide that has settled 3" away from the rest of the slopewall. The East Slopewall has a void at the on the north end approximately 15' west of the abutment. The extent of the void was unable to be determined but the embankment next to the slopewall was not eroded away. See Attachment I – Photo 26.

Inspection History (NBIS Ratings)

Year	Deck	Super	Sub
2012	5	5	6
2011	5	6	6
2009	5	6	6

Geometric, Horizontal & Vertical Clearance / Hydraulic Data

Geometry

I-55 Eastbound over RR-BRC is on a 22°-00'-23" skew left. The typical roadway section consists of three 12' lanes, a variable width ramp gore/lane, a 10' inside shoulder, a 5' outside shoulder, a 1'-8 3/4" wide curb and parapet on each side of the structure. The structure is located on a 1,000-ft. long vertical crest curve with 1.50% and -0.80% slopes going from west to east. The entire structure is located in the -0.80% slope region. The structure is on a horizontal tangent section. The repair plans from 1999 show the vertical minimum clearance at 23'-0" from top of rail to bottom of steel.

The top of rail profile for the RR-BRC at for the west track slopes upwards at a +0.08% slope going north.

As part of the I-55 Managed Lane Phase I Study, I-55 Eastbound at the BRC Railroad will be widened to the inside to accommodate a proposed 12' managed lane eastbound. In the eastbound direction, a 4' buffer between the managed lane with 12.5' shoulder and the general purpose traffic lanes is proposed in this 60 foot median section. This widening will be incorporated into the recommended scope of work for this structure.

Hydraulics

At the structure, the I-55 profile is on a vertical crest curve with the crest of the curve at the location of the structure. The bridge deck goes through superelevation transitions with the center lane and outside lane level 15' east of the back of the West Abutment. The bridge deck achieves normal crown with the center lane at 1% and the outer lane at 2% on the bridge deck approximately 9' west of the East Abutment. There are no deck drains on the bridge deck. Therefore, the water is allowed to flow to the deck joints as it runs off the bridge.

IV. POTENTIAL SCOPE OF WORK DETERMINATION & ANALYSIS

As part of the I-55 Managed Lane Phase I Study, In-Kind Repairs, Structure Widening and Structure Replacement alternatives will be evaluated.

Per Section 2.4.2.4 of the IDOT Bridge Manual, consideration was given to retrofit all end of cover plate locations due to average daily truck traffic. From this information, it was determined that a fatigue evaluation was required. The transverse welds at the ends of the cover plates in Span 2 were evaluated for fatigue life and it was determined that the mean service life is less than 50 years. A cover plate retrofit should be installed.

Repainting the bridge was considered due to the paint starting to fail. All Bridge Designers Memorandum 10.1 states that structures over railroads will typically be cleaned and painted only at deck joints and at the fascia girders. As the paint system is only starting to fail, zone painting was determined not to be necessary at this time for both alternatives.

Since all alternatives would have work being performed near the railroad tracks, the cost of Railroad Protective Liability Insurance should be considered in the opinion of probable costs.

1. **In-Kind Repairs**

   Perform partial and full depth deck repairs and apply Protective Coat to the existing deck. Repair areas of spalled or delaminated concrete on existing abutments and wingwalls. Perform retrofit repairs on the existing Span 2 cover plates. Fill the void under the slopewall at the northwest corner.

2. **Structure Widening**

   Remove and replace the concrete deck and approach slabs and widen both approximately 18' to the centerline of I-55. Remove both the northeast and northwest wingwalls and build an extension onto the north side of both abutments. Build an extension onto the north side of both piers. Install 3 new beam lines using W27 and W36 steel beams with pin and link assemblies that will be composite to the widened bridge deck. The new W36 beam will be larger sections than the existing W36 to compensate for the omission of a bottom flange cover plate. Perform retrofit repairs on the existing Span 2 cover plates. Repair areas of spalled or delaminated concrete on existing abutments and wingwalls. Fill the void under the slopewall at the north end and repair the southeast corner.

3. **Superstructure and Partial Substructure Replacement**

   Remove and replace the existing steel beam superstructure with galvanized W36 continuous steel beams. Remove and replace pier

caps, but reuse the existing pier columns and footings. Build an extension onto the north side of both piers. Replace the existing abutments with integral abutments placed behind the existing abutments. Replace concrete slope walls. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

4. **Structure Replacement**
   Remove and replace the entire structure with a continuous three-span galvanized steel W-shape beam superstructure on integral abutments. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

V. DISCUSSION AND RECOMMENDED SCOPE OF WORK

The opinion of probable costs for each of the alternatives is summarized below. See Attachment G for the opinion of probable costs breakdown.

1. **In-Kind Repairs – $248,800**
2. **Structure Widening – $2,629,900**
3. **Superstructure and Partial Substructure Replacement – $4,676,600**
4. **Structure Replacement – $5,809,600**

Per the I-55 Managed Lane Phase I Study, the managed lane is expected to be implemented in 2020. All widening and replacement alternatives below assume the proposed structure will provide a 6'-0" outside shoulder, one 16'-0" ramp lane, a variable width gore, three 12'-0" general purpose traffic lanes, a 4' buffer between the general purpose traffic lanes and the 11'-0" managed traffic lane and a 12'-6"inside shoulder.

Analysis of Alternative 1 – The calculated percent of deck area requiring full depth repairs is 6.0% and the partial depth repairs is 8.0%. The total deck repair percentage is within the 25% limit presented in the Bridge Condition Report Procedures and Practices Manual for deck repair to be cost effective for a deck not being widened. This alternative can be used to extend the life span of the existing superstructure in the interim prior to implementing the changes required for the Managed Lane project.

Analysis of Alternative 2 – This alternative widens the structure approximately 18' to the centerline of I-55 to accommodate the new managed lane. The calculated percent of deck area requiring full depth repairs is 6.0% and partial depth repairs is 8.0%. Since this deck is 50 years old and has a recommended repair area at the upper limit (15%) presented in the BCR Procedures and Practices Manual for deck repair to be cost effective for a widened deck, it is recommended to replace the deck at the time of widening.

The existing pin and link assemblies were evaluated for elimination by making the structure continuous. This was considered not practical as it would require replacing the W27 beams in Spans 1 and 3 and replacing the existing abutments to account for the deeper beams. Instead, the pin and link assemblies will remain on the existing beams, which is not preferred from a maintenance standpoint. Cover plate retrofits will be necessary. Deck joints will also remain with this alternative, which will lead to continued degradation of the beams and substructure units.

Analysis of Alternative 3 – This alternative replaces existing W27 and W36 steel beam superstructure with a continuous three-span galvanized steel rolled beam (W36) superstructure on new integral abutments. The proposed abutments should be placed behind the existing abutments to avoid conflicting with the existing concrete piles. The resulting assumed span arrangement is approximately 50'/80'/50' measured between the centerline of bearings. Uplift at the abutments must be considered in the design phase given the relatively short exterior spans in the continuous structure.

The existing pier columns are in satisfactory condition with minimal rehabilitation required. Reusing the existing pier columns and footings will simplify construction since it will minimize construction impact to the BRC Railroad. In the future, the pier columns can be encased or strengthened with carbon fiber wrap if the rate of concrete degradation exceeds that of the replaced structure elements.

Using galvanized steel eliminates the need to periodically repaint the beam. Eliminating the deck joints will also help to prevent premature degradation of the beams and substructure elements. Providing new pier caps and integral abutments places most of the substructure on the same life cycle as the superstructure. The vertical clearance over the railroad will slightly improve due to the efficiency of the continuous structure allowing for the elimination of cover plates.

Analysis of Alternative 4 – This alternative completely eliminates the 50-year old structure and replaces it with a new structure with an expected 75-year service life. Increasing the length of Span 2 to avoid the existing piles is not feasible since deeper beams would be required, thereby reducing the vertical clearance over the railroad. On the other hand, shortening Span 2 cannot be assumed since moving the piers closer to the tracks will likely be prohibited by the railroad. Therefore, the new piers will be assumed at the same location as the existing, thereby creating piling conflicts with the existing timber piles. Similar to Alternative 3, for cost estimating purposes the proposed structure is assumed to have spans of approximately 50'/80'/50'.

The benefits of this alternative are similar to Alternative 3, with the addition of removing and replacing the pier columns and pier footings. Therefore, future maintenance of the pier columns will be less than the structure provided in Alternative 3. However, this alternative adds construction complications of reconstructing the piers on the same footprint as the existing pier footings. The cost is also greater than Alternative 3 due to the removal and reconstruction of the additional pier elements.

VI. FINAL RECOMMENDATION

Stantec recommends Alternative 3 – Superstructure and Partial Substructure Replacement when the I-55 Managed Lane Project occurs. The selected alternative provides a new superstructure and replaces most of the critical portions of the substructure. Eliminating the deck joints will help to prevent premature degradation of the replaced substructure elements. As the I-55 Managed Lane Phase I Study is ongoing, the bridge widening to be presented in the TSL should match the final geometry as presented in the final I-55 Managed Lane Phase I Study.

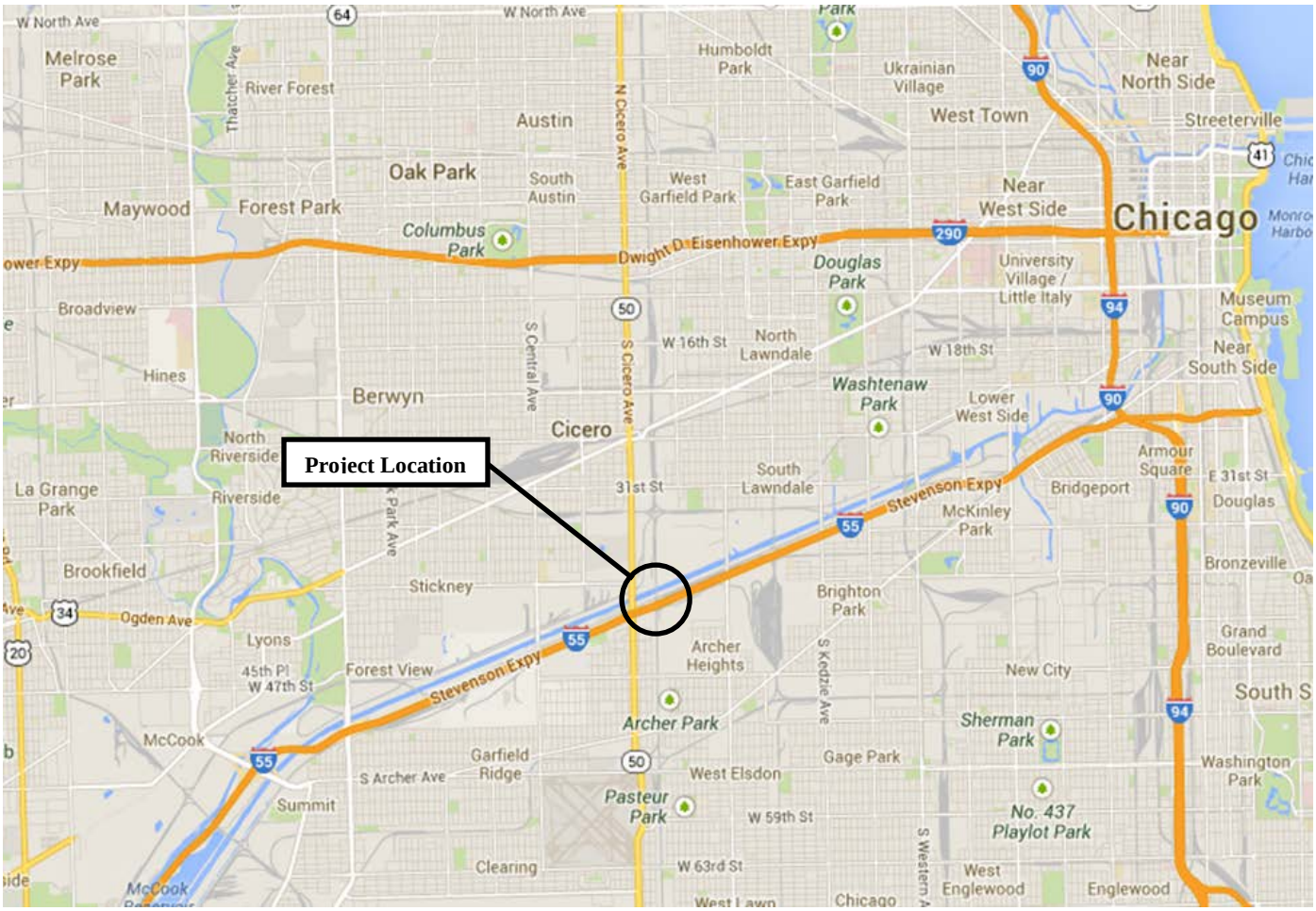
Based on the current condition of the bridge, the repairs of the deck or the substructure are not required in the short term. The ends of the cover plates and the pin and link assemblies should continue to be monitored by inspection.

VII. TRAFFIC STAGING

For Alternatives 2, 3, and 4, the existing deck is wide enough to provide two lanes of traffic in the eastbound direction during stage construction. For Alternative 1, the lanes can be temporarily closed as needed to allow for the deck repairs. The traffic staging design will need to be confirmed by IDOT traffic prior to being implemented.

ATTACHMENT A

Location Map



Location Map

Proposed Improvement:

I-55 over BRC Railroad (Eastbound)

Municipality: Chicago

County: Cook

Route: FAI 055

Project No: P-91-762-10

Structure No.: 016-0018

ATTACHMENT B

IDOT Master Structure Report

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0018 **District:** 1

Inventory Data

Facility Carried: I- 55 EB STEVENSON
Feature Crossed: RR - BRC
Bridge Remarks:
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks:
Maint County: 016 COOK
Maint Responsibility: 01 I.D.O.T.
Service On/Under: 1 HIGHWAY 2 / RAILROAD
Reporting Agency: 1 I.D.O.T. - BUREAU OF MAINTENANCE
Main Span Matl/Type: 4 STEEL CONTINUOUS / 02 STRINGER/MULTI-BEAM/GIRDER
Nbr Of Main Spans: 3 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 0None / 0 None
Toll Facility Indicator: 0 No Toll
Latitude: 41 **D** 49 **M** 5.86 **S** **Longitude:** 87 **D** 44 **M** 20.4 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 0 None

Bridge Name:
Location: 0.3 M NE ILL 50
Status Date: 12/2000
Maint Township: 62 LAKE (CHICAGO)
Skew Angle: 22 **D** 0 **M** 23 **S**

Sufficiency Rating: 84.0
HBP Eligible: No
Replaced By: 016-2669
Replaces: -
Last Update Date: 07/05/2012
Parallel Structure: Right
Multi-Level Structure Nbr:
Skew Direction: L Left
Structure Flared: Yes
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 896000
Substructure Material:

Rated By: 2 IDOT
Inventory Rating: 1.070(38)
Operating Rating: 1.680(60)
Design Load: 01 HS20+MOD
Deck Structure Thickness: 7 **SD:** N **FO:** N

Structure Length: 168.1
AASHTO Bridge Length: 99.9
Length of Long Span: 78.0
Bridge Roadway Width: 77.7
Appr Roadway Width: 60.0
Deck Width: 81.1
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: N N/A
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00

Rate Method: 2 ALLOWABLE STRESS
Load Rating Date: 11/05/2001
Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 14.0
RR Vertical Underclear: 22 **Ft** 10 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID INTERSTATE 0055
Appurtenances Main Route 00000
Inventory County: 016 COOK
Township/Road Dist 62 LAKE (CHICAGO)
Municipality 1051 CHICAGO
Urban Area: 1051 1051
Functional Class: 1 INTERSTATE
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 77.7
Horizontal: 79.1 0.0
Lateral:

Station: 10.6000
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2012 / 72400
Est Truck Percentage: 7
Number Of Lanes: 4
One Or Two Way: 1 One-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2032 / 75808
Designated Truck Rte: CLASS I
Special Systems: Yes

Key Route Under Data

Station:
Segment:
Linked:
Natl. Hwy System:
Inventory Direction:
Curr AADT Yr/Count: /
Est Truck Percentage:
South/East **North/West**
Number Of Lanes:
One Or Two Way:
Bypass Length:
Future AADT Yr/Cnt: /
Designated Truck Rte:
Special Systems:

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

Designation	Kind	Number

Structure Number: 016-0018 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	Y	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	12/10/2012	Inspection Temperature:	35Deg. F					** Actual Posted Limits **	
Deck:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	F	MICRO SIL CON OVRLY		Last Paint Type:	U
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	J	NONE			
Underclearance-Vert/Lat.:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Total Deck Thick:	8.7				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	07/2000				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	2	Doesn't Meet Standards							
Approach Guardrail:	232	Not Acceptable	Acceptable	Not Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date: Inspection Category:
Temperature: Inspection Method:
Appraisal Rating:

Scour Critical Information

Rating: Evaluation Method:
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		Reconstructed	
Route:	FAI-55	Sta:	25+03.37	Sta:	
Section Nbr:	1212-620-VB				
Contract Nbr:					
Fed Aid Pr#:	IG 0557034281				
Built By:	1	I.D.O.T.			

Waterway Information

Flood Design Frequency:	YRS	Drainage Area:	Acre
Flood Design Q (CFS):			
Flood Design Nat H W E:		Flood Base Q (CFS):	
Flood Des Open Prop:	SF	Flood Base Nat H W E:	

ATTACHMENT C

Bridge Inspection Report

Illinois Department of Transportation

Routine Inspection Report

SN:	016-0018	**District:**	1	**Spans:**	3	**Appr. Spans:**	0	**Skew:**	22.01	**ADT:**	72400	**Truck Pct:**	7
ADT Un:		**Maint. Co:**	COOK	**Twsp:**	LAKE (CHICAGO)					**Status:**	OPEN - NO RESTRICT		
Facility Carried:	I- 55 EB STEVENSON					**Feature Crossed:**	RR - BRC						
Location	0.3 M NE ILL 50			**Municipality:**	CHICAGO					**Team/Sub Section**	E26019		
Bridge Name:						**Material & Type:**	STEEL CONTINUOUS/STRINGER/MULTI-BEAM/GIRDER						
Insp. Intervals (Mo) Routine NBIS	24	**Fracture Critical:**	0	**Underwater:**	0	**Special Feature:**	48						

90 – Inspection Date:	/ /	90C – Temp. (ºF):		90A – Program Manager:	
Is Delinquent: ☐	Reason:				
90A1 – Team Leader:		90A2 – Inspector:			

90B – Inspection Remarks:

Previous Inspection	2008) #58-DK CHLOR CONTAM W/LEACHING MAP CRKS & SM SPALLS. FILLETS SPALLING. #59 PAINT PEELING & RUST TYP. ESP @FASCIAS & BMS 6 & 7. #60 CRKS@ ABUT CAPS & COLUMNS. 2012) Item 59 lowered to "5" due to init. sec loss/minor pitting @ brng

Resources

Time to Inspect (H:M):	1:0	:	Traffic Control:	3		Boat:			Waders:			Snooper:					
Ladder:			Manlift:			Bucket Truck:			Other:	UB50 for Pin & Link							

Inspector's Appraisals

	Prev	New	Comments
58 – Deck Condition:	5		
59 – Superstructure Cond:	5		
60 – Substructure Cond:	6		
62 – Culvert Condition:	N		
61 – Channel Condition:	N		
71 – Waterway Adequacy:	N		
72 – Approach Rdw Align:	8		
111 – Pier Navig Protection:	N		

90B – Inspector Remarks:

BBS-BIR (Rev. 8/12)
Sheet 1 of 2

Routine Inspection Report

Structure Number: 0160018

Additional Inspection Data

	Prev	New
36A – Bridge Railing Adequacy:	2	

Rail Types:

Approach Guardrail Adequacy:	Prev	New	36B – Transitions:	Prev	New	36C – Guardrail:	Prev	New	36D – Ends:	Prev	New
				2			3			2	

	Prev	New	
108A – Wearing Surface Type:	F		If "L-Other" Describe:
108B – Type of Membrane:	F		If "E-Other" Describe:
108C – Deck Protection:	J		If "I-Other" Describe:
108D – Total Deck Thickness (in):	8.7		

	Prev	New
59A – Paint Date (Mo/Yr):	07/2000	/
59B – Paint Type:	U	— — — — — — — —

Color: Fascia - ____: Inter. - ____: Railing - ____.

59C – Utilities Attached:		— — —

If "B-Other" Describe: _____

		Prev	New
Weight Limit Posting:	70A2 – Single Unit Vehicles:		Tons
	70B2 – Combination Type 3S-1 (3 or 4 axles):		Tons
	70C2 – Combination Type 3S-2 (5 or more axles):		Tons
	70D2 – One Truck at a Time:	0	

Joint Openings (In.) _____

90B – Inspector Remarks Continued:

	Signature	Date
Inspection Team Leader:		/ /
Inspection Program Manager:		/ /

Pontis

Today's Date: 04/19/2013

Structure Number: 016-0018 **District:** 1 **(41) Bridge Status:** 1 OPEN - NO RESTRICT
(6) Feature Crossed: RR - BRC **(7) Facility Carried:** I- 55 EB STEVENSON
(9) Location: 0.3 M NE ILL 50 **(7A) Bridge Name:**
Element Inspection Date: 12/10/2012 **Inspectors:** SEDLACEKJL

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	64	8,856	26	3,550	10	1,375	0	0	0	25	13,806
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		

Remarks: Soffit-Chlor contam areas w/map crks;HPs@const jt WS) HL map cracking w/isol PD patch emerging. Fillets spalling typ.

Lead Painted Steel Open Girder												
107	4	30	5,483	50	9,137	20	3,553	0	0	0	0	18,173
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		

Remarks: Freckled rust thru-out; Bott flanges-Lt surf rust(mod @ edges & Bm 6&7) Paint peel@ bttm flng; Init sec loss(minor pitting on fascias)

Lead Painted Steel Pin and/or Hanger												
161	4	96	27	4	1	0	0	0	0	0	0	28
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		

Remarks: Span 1 Bm #14- coverplate misaligned.

Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	84	0	0	0	0	0	0	0	0	84
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		

Remarks: Init pitting @ Abuts & Diaphs

Reinforced Conc Column or Pile Extension												
205	3	99	3,263	0	0	1	34	0	0	0	0	3,297
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				

Remarks: HL-Nar crks w/HPs and shallow rebar spalls. P1 undercap-spalls @ Col 3&4; P2 Col 7 hl-med vert crks.

Reinforced Conc Abutment												
215	3	100	972	0	0	0	0	0	0	0	0	972
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				

Remarks: Backwall-HL-Nar vert crks

Reinforced Conc Pier or Abutment Cap												
234	3	91	278	1	4	7	22	0	0	0	0	304
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				

Remarks: Abut)HL-Nar vert leach crks Piers)P2 btwn cols 3-4 edge crk & HP bttm cap, P1 spall w/exp @ S Nose

Preformed Joint Seal												
302	4	100	168	0	0	0	0	0	0	0	0	168
		No deterioration		Minor deterioration		Major deterioration						

Remarks:

Neoprene Expansion Joint												
307	4	100	174	0	0	0	0	0	0	0	0	174
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				

Remarks: Plow damage

Movable Discontinous Brg.

311	4	100	28	0	0	0	0	0	0	0	0	28
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks: Longit crking

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: HL vert crks. W Abut @ water table 3ft x 6in spall w/exp rebar.

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
			Minor fatigue, out-o		Moderate fatigue, ou		Severe fatigue, out-					

Remarks: Span 1 Bm #14- coverplate misaligned.

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	65	8,976	26	3,550	9	1,255	0	0	0	25	13,806
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		

Remarks: Soffit-Chlor contam areas w/map crks;HPs@const jt WS) HL map cracking w/isol PD patch emerging. Fillets spalling typ.

Lead Painted Steel Open Girder

107	4	30	5,483	50	9,137	20	3,553	0	0	0	0	18,173
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		

Remarks: Freckled rust thru-out; Bott flanges-Lt surf rust(mod @ edges & Bm 6&7) Paint peel@ bttm flng; Init sec loss(minor pitting on fascias)

Lead Painted Steel Pin and/or Hanger

161	4	96	27	4	1	0	0	0	0	0	0	28
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		

Remarks: Span 1 Bm #14- coverplate misaligned.

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	84	0	0	0	0	0	0	0	0	84
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		

Remarks: Init pitting @ Abuts & Diaphs

Reinforced Conc Column or Pile Extension

205	3	99	3,263	0	0	1	34	0	0	0	0	3,297
		No deterioration		Minor cracks/spalls	Delams/spalls		Analysis warranted					

Remarks: HL-Nar crks w/HPs and shallow rebar spalls. P1 undercap-spalls @ Col 3&4; P2 Col 7 hl-med vert crks.

Reinforced Conc Abutment

215	3	100	972	0	0	0	0	0	0	0	0	972
		No deterioration		Minor cracks/spalls	Delams/spalls		Analysis warranted					

Remarks: Backwall-HL-Nar vert crks

Reinforced Conc Pier or Abutment Cap

234	3	91	278	1	4	7	22	0	0	0	0	304
		No deterioration		Minor cracks/spalls	Delams/spalls		Analysis warranted					

Remarks: Abut)HL-Nar vert leach crks Piers)P2 btwn cols 3-4 edge crk & HP bttm cap, P1 spall w/exp @ S Nose

Preformed Joint Seal

302	4	100	168	0	0	0	0	0	0	0	0	168
		No deterioration		Minor deterioration	Major deterioration							

Remarks:

Neoprene Expansion Joint

307	4	100	174	0	0	0	0	0	0	0	0	174
		The element shows mi		The seal maybe punct	The seal maybe heavi		Major deterioration					

Remarks: Plow damage

Movable Discontinous Brg.

311	4	100	28	0	0	0	0	0	0	0	0	28
		No deterioration		Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration		Minor deterioration	Advanced corrosion							

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration		Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration		Cracks/spalls	Major cracks/spalls		Broken/Unstable					

Remarks: Longit crking

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
		No deterioration		Minor cracks/spalls	Analysis warranted							

Remarks: HL vert crks. W Abut @ water table 3ft x 6in spall w/exp rebar.

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
		Minor fatigue, out-o		Moderate fatigue, ou	Severe fatigue, out-							

Remarks: Span 1 Bm #14- coverplate misaligned.

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	66	9,148	26	3,550	8	1,108	0	0	0	0	13,806
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:	Soffit-Chlor contam areas w/map crks;HPs@const jt WS) HL-Nar trans crks w/long crks in Ln1. Fillets spalling typ.											
Lead Painted Steel Open Girder												
107	4	30	5,483	50	9,137	20	3,553	0	0	0	0	18,173
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Freckled rust thru-out; Bott flanges-Lt surf rust(mod @ edges & Bm 6&7) Paint peel@ bttm flng; Init sec loss(minor pitting on fascias)											
Lead Painted Steel Pin and/or Hanger												
161	4	96	27	4	1	0	0	0	0	0	0	28
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Span 1 Bm #14- coverplate misaligned.											
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	84	0	0	0	0	0	0	0	0	84
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Init pitting @ Abuts & Diaphs											
Reinforced Conc Column or Pile Extension												
205	3	99	3,263	0	0	1	34	0	0	0	0	3,297
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	HL-Nar crks w/HPs and shallow rebar spalls. P1 undercap-spalls @ Col 3&4; P2 Col 7 hl-med vert crks.											
Reinforced Conc Abutment												
215	3	100	972	0	0	0	0	0	0	0	0	972
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Backwall-HL-Nar vert crks											
Reinforced Conc Pier or Abutment Cap												
234	3	93	282	1	4	6	18	0	0	0	0	304
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Abut)HL-Nar vert leach crks Piers)P2 btwn cols 3-4 edge crk & HP bttm cap, P1 spall w/exp @ S Nose											
Preformed Joint Seal												
302	4	100	168	0	0	0	0	0	0	0	0	168
		No deterioration		Minor deterioration		Major deterioration						
Remarks:												
Neoprene Expansion Joint												
307	4	100	174	0	0	0	0	0	0	0	0	174
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:	Plow damage											
Movable Discontinous Brg.												
311	4	100	28	0	0	0	0	0	0	0	0	28
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks: Longit crking

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks: HL vert crks. W Abut @ water table 3ft x 6in spall w/exp rebar.

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
			Minor fatigue, out-o		Moderate fatigue, ou		Severe fatigue, out-					

Remarks: Span 1 Bm #14- coverplate misaligned.

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	67	9,218	26	3,540	8	1,048	0	0	0	0	13,806
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks: Soffit)Chlor contam areas w/map crks;HPs@const jt WS) HL-Nar trans crks w/long crks in Ln1

Lead Painted Steel Open Girder

107	4	31	5,543	50	9,087	19	3,543	0	0	0	0	18,173
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks: Freckled rust throughout; Lwr flanges have Lt surf rust(mod @ edges) Paint peels on bot of bttm fl; Init sec loss(minor pitting on fascias)

Lead Painted Steel Pin and/or Hanger

161	4	100	28	0	0	0	0	0	0	0	0	28
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	84	0	0	0	0	0	0	0	0	84
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks: Init pitting @ abuts & diaphs

Reinforced Conc Column or Pile Extension

205	3	99	3,263	0	0	1	34	0	0	0	0	3,297
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: HL-Nar crks w/HPs and shallow rebar spalls

Reinforced Conc Abutment

215	3	100	972	0	0	0	0	0	0	0	0	972
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks: Backwall) HL-Nar vert crks

Reinforced Conc Pier or Abutment Cap

234	3	93	282	1	4	6	18	0	0	0	0	304
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted					

Remarks: Abut)HL-Nar vert crks Piers)P2 btwn cols 3-4 edge crk & HP bttm cap, P1 spall w/exp @ S Nose

Preformed Joint Seal

302	4	100	168	0	0	0	0	0	0	0	0	168
		No deterioration	Minor deterioration		Major deterioration							

Remarks:

Neoprene Expansion Joint

307	4	100	174	0	0	0	0	0	0	0	0	174
		The element shows mi	The seal maybe punct		The seal maybe heavi		Major deterioration					

Remarks: Plow damage

Movable Discontinous Brg.

311	4	100	28	0	0	0	0	0	0	0	0	28
		No deterioration	Minor deterioration		Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration	Minor deterioration		Advanced corrosion							

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration	Minor deterioration		Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration	Cracks/spalls		Major cracks/spalls		Broken/Unstable					

Remarks: Long crking

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
		No deterioration	Minor cracks/spalls		Analysis warranted							

Remarks: HL vert crks

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
		Minor fatigue, out-o	Moderate fatigue, ou		Severe fatigue, out-							

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	67	9,218	26	3,540	8	1,048	0	0	0	0	13,806
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:												
Lead Painted Steel Open Girder												
107	4	31	5,543	50	9,087	19	3,543	0	0	0	0	18,173
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Lead Painted Steel Pin and/or Hanger												
161	4	100	28	0	0	0	0	0	0	0	0	28
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	84	0	0	0	0	0	0	0	0	84
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	3	100	3,297	0	0	0	0	0	0	0	0	3,297
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Abutment												
215	3	100	972	0	0	0	0	0	0	0	0	972
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier or Abutment Cap												
234	3	100	304	0	0	0	0	0	0	0	0	304
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Preformed Joint Seal												
302	4	100	168	0	0	0	0	0	0	0	0	168
		No deterioration		Minor deterioration		Major deterioration						
Remarks:												
Neoprene Expansion Joint												
307	4	100	174	0	0	0	0	0	0	0	0	174
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:												
Movable Discontinous Brg.												
311	4	100	28	0	0	0	0	0	0	0	0	28
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks:

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
			Minor fatigue, out-o		Moderate fatigue, ou		Severe fatigue, out-					

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	67	9,218	26	3,540	8	1,048	0	0	0	0	13,806
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks:

Lead Painted Steel Open Girder

107	4	31	5,543	50	9,087	19	3,543	0	0	0	0	18,173
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Lead Painted Steel Pin and/or Hanger

161	4	100	28	0	0	0	0	0	0	0	0	28
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	84	0	0	0	0	0	0	0	0	84
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Reinforced Conc Column or Pile Extension

205	3	100	3,297	0	0	0	0	0	0	0	0	3,297
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Abutment

215	3	100	972	0	0	0	0	0	0	0	0	972
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier or Abutment Cap

234	3	100	304	0	0	0	0	0	0	0	0	304
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Preformed Joint Seal

302	4	100	168	0	0	0	0	0	0	0	0	168
			No deterioration		Minor deterioration		Major deterioration					

Remarks:

Neoprene Expansion Joint

307	4	100	174	0	0	0	0	0	0	0	0	174
			The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration			

Remarks:

Movable Discontinous Brg.

311	4	100	28	0	0	0	0	0	0	0	0	28
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks:

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
			Minor fatigue, out-o		Moderate fatigue, ou		Severe fatigue, out-					

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	68	9,341	25	3,495	7	970	0	0	0	0	13,806
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:												
Lead Painted Steel Open Girder												
107	4	82	14,973	18	3,200	0	0	0	0	0	0	18,173
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Lead Painted Steel Pin and/or Hanger												
161	4	100	28	0	0	0	0	0	0	0	0	28
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	84	0	0	0	0	0	0	0	0	84
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	3	100	3,297	0	0	0	0	0	0	0	0	3,297
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Abutment												
215	3	100	972	0	0	0	0	0	0	0	0	972
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier or Abutment Cap												
234	3	100	304	0	0	0	0	0	0	0	0	304
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Preformed Joint Seal												
302	4	100	168	0	0	0	0	0	0	0	0	168
		No deterioration		Minor deterioration		Major deterioration						
Remarks:												
Neoprene Expansion Joint												
307	4	100	174	0	0	0	0	0	0	0	0	174
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:												
Movable Discontinous Brg.												
311	4	100	28	0	0	0	0	0	0	0	0	28
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks:

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
			Minor fatigue, out-o		Moderate fatigue, ou		Severe fatigue, out-					

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ AC Overlay												
14	4	90	12,063	0	0	10	1,340	0	0	0	0	13,403
			No deficiencies.		Repaired areas.		Map cracked areas.		Spalls/delam exist.		Full depth failures.	

Remarks:

Lead Painted Steel Open Girder

107	4	89	16,174	11	1,999	0	0	0	0	0	0	18,173
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Lead Painted Steel Pin and/or Hanger

161	4	100	28	0	0	0	0	0	0	0	0	28
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Lead Painted Steel Closed Web/Box Girder and Open

172	4	100	84	0	0	0	0	0	0	0	0	84
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Reinforced Conc Column or Pile Extension

205	3	100	3,297	0	0	0	0	0	0	0	0	3,297
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Abutment

215	3	93	904	3	29	4	39	0	0	0	0	972
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier or Abutment Cap

234	3	100	304	0	0	0	0	0	0	0	0	304
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				

Remarks:

Neoprene Expansion Joint

307	4	60	90	40	60	0	0	0	0	0	0	150
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				

Remarks:

Movable Discontinous Brg.

311	4	100	28	0	0	0	0	0	0	0	0	28
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Fixed Bearing

313	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	0	0	100	2	0	0	0	0	0	0	2
		No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable				

Remarks:

Concrete Bridge Railing

331	4	84	281	12	40	4	13	0	0	0	0	334
		No deterioration		Minor cracks/spalls		Analysis warranted						

Remarks:

Steel Pin and Hanger

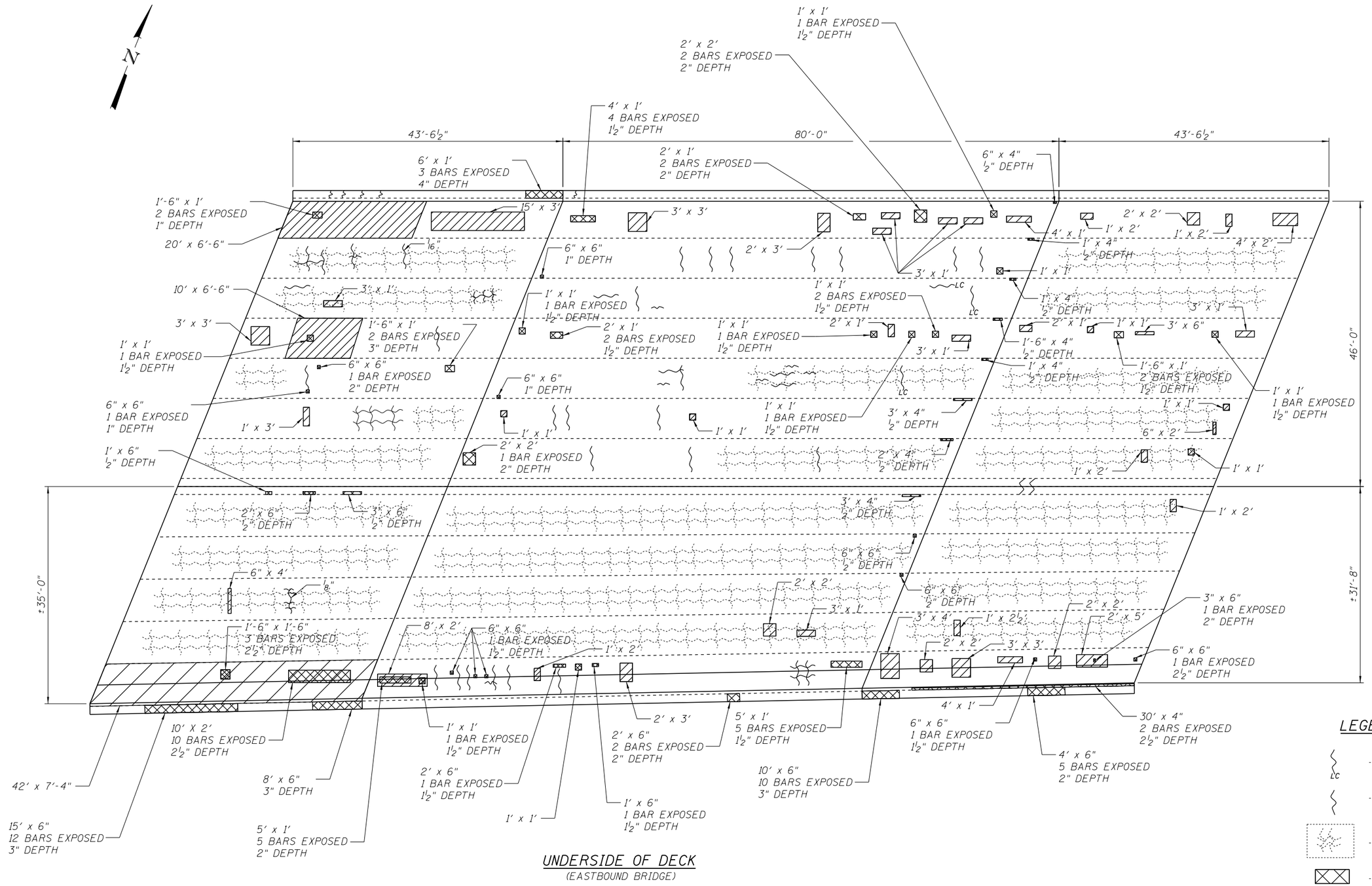
411	4	0	0	0	0	100	28	0	0	0	0	28
		Minor fatigue, out-o		Moderate fatigue, ou		Severe fatigue, out-						

Remarks:

Download Date: 04/18/2013

ATTACHMENT D

Bottom of Deck Condition Survey



UNDERSIDE OF DECK
(EASTBOUND BRIDGE)

FILE NAME = V:\1786\active\178600037.IDOT.I-55\structural\drawing\sht\dwg.BRC.Railroad.Underside.of.Deck.Plan.dgn

Stantec

USER NAME = jerojas	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/4/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT D – BOTTOM OF DECK CONDITION SURVEY
STRUCTURE NO. 016-0018
SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1212-620-VB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT E

Condition Assessment of the Reinforced Concrete Bridge Deck

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

January 6, 2012

Ms. Diane M. O'Keefe
Deputy Director of Highways
District One Engineer
Illinois Department of Transportation
201 West Center Court
Schaumburg, Illinois 60196-1096
Attn: Ms. Sarah Wilson (Maintenance Bridge Engineer)

Re: Condition Assessment of Bridge Deck
I-55 Eastbound over BRC Railroad
Structure No. 016-0018
District One
Work Order 10
PTB No. 153-18
WJE No. 2009.3645.10

Dear Ms. O'Keefe:

At your request, Wiss, Janney, Elstner Associates, Inc. (WJE) completed a condition assessment of the reinforced concrete bridge deck for Structure No. 016-0018. This work included a visual assessment of concrete deterioration from below the structure. Also included was a delamination survey performed on the top of the bridge deck, based on an infrared thermography (IR) survey. Reinforcing bar cover depth determination was also performed using ground penetrating radar (GPR). These inspection tasks began in July and were completed in September.

Structure Description

The I-55 Eastbound Bridge over BRC Railroad carries four lanes of traffic and two shoulders. This three span structure is comprised of a concrete deck supported by steel beams. Each of the 14 girder lines is connected using steel diaphragms. All deck and substructure components are comprised of cast-in-place reinforced concrete construction. Reportedly the bridge structure was originally constructed in 1963 and the current overlay was installed in 2000.

The spans have approximate lengths of 42 ft, 80 ft, and 42 ft, from west to east, for a total structure length of 168 ft-2 in., back-to-back of abutments. The total deck width varies. The total resulting bridge deck area is approximately 13,260 sq. ft. A partial elevation view of the structure looking southwest is included as Figure 1.

Inspection Methods

The condition of the reinforced concrete bridge deck was assessed using several methods. These methods can be broken down into two major categories: Bottom of Deck Inspection Methods and Top of Deck Inspection Methods.

Bottom of Deck Inspection Methods

The condition of the bottom of the reinforced concrete deck was assessed from grade below the structure in September 2011. All accessible areas of the bottom of the deck were assessed visually. This inspection was completed from the ground beneath the bridge outside of active railroad tracks. Binoculars and/or zoom lenses were used to magnify the view of distant surfaces. Plan drawings of the structure including the structural framing were used to record field notes.

Top of Deck Inspection Methods

The condition of the top of the reinforced concrete deck was assessed using IR equipment to map areas of spalls, patches, and delaminations. This work was subcontracted to Infrasense, Inc. and was performed in July, 2011. Rolling lane closures were utilized during data collection periods to allow the IR data collection vehicle to assess the entire bridge deck surface while moving at approximately 3 mph. Impact Echo (IE) and sounding techniques were used to confirm the presence of delaminations at select locations on each bridge deck. All IR data was analyzed and summarized on bridge deck drawing sheets that show the located defects to scale.

GPR equipment was used to identify the cover depth of the top mat of reinforcing steel from the top surface of the deck. The GPR equipment was mounted to an inspection vehicle and scans were completed at normal operating speeds.

Assessment Results

The reinforced concrete bridge deck was found to be in satisfactory condition overall. Results for each assessment category are included below.

Bottom of Deck

Visual inspection from grade below the bridge was used to assess the bottom of the bridge deck. All areas of spalls or delaminations that could be identified visually were documented. In addition, all areas of previously repaired concrete were noted. Table 1 includes a summary of the visual inspection, including total deck soffit area, the area of spalled concrete, the area of delaminated concrete and the area of previous repairs. Figures 2 and 3 show the typical condition of the deck soffit. The results of the bottom of deck survey are shown on Sheet S-3 of Appendix A.

Table 1. Bottom of Deck Deterioration Summary

Soffit Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Previously Repaired Area (sq.ft)
13,260	20	0.2	355	2.7	2130

Top of Deck

The top of the bridge deck was assessed using both IR and GPR equipment. The IR survey equipment was able to identify delaminations and spalls present in the bridge deck. Figure 4 is an overall view of the top deck surface looking northwest.

Table 2 includes a summary of the total bridge deck area, the total bridge deck area spalled, the total bridge deck area delaminated, the total bridge deck area that should be programmed for repair work and the rebar cover from the top surface of the deck. Sheet S-1 of Appendix A is a scaled bridge deck plan drawing showing the locations of the delaminated or spalled areas. Sheet S-2 of Appendix A is a scaled bridge deck plan drawing showing an image of the IR scan of the bridge. Sheet S-4 of Appendix A is a scaled bridge deck plan drawing showing the location of suggested partial and full depth concrete repairs using conventional patching techniques. Note that repair area boundaries were selected by expanding the boundaries of each delaminated or spalled area by 6 inches to account for saw cutting outside of the delamination and further deterioration prior to the actual start of any repair work. In addition, repair areas were joined when adjacent repairs were spaced at approximately 2 ft. or less. Full depth repair boundaries were determined based on locations where top and bottom surface defects overlapped. No bottom surface repairs were identified based on recommendations from IDOT.

Table 2. Top of Deck Deterioration Summary

Bridge Deck Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Repair Area (sq. ft)	Total Area (%)	Rebar Cover (in.)
13,260	0	0	605	4.6	1223	9.2	4.4

Recommendations and Conclusions

WJE performed a condition assessment of the reinforced concrete bridge deck of the I-55 Eastbound Bridge over BRC Railroad. This condition assessment included: a visual survey of the bottom of the deck and an IR survey of the top of the deck. This information was used to produce repair drawings indicating the size and location of anticipated repair areas.

The repair work should, at a minimum, include partial depth repairs at all locations indicated on Sheet S-4 in Appendix A. If this option is selected, a detailed delamination assessment should be completed by the contractor at the time of the repair work to ensure that all areas of deteriorated concrete are identified. In addition, all re-entrant corners of repair areas should be detailed to include a 4 inch chamfer to reduce the potential for concrete-shrinkage related cracking.

The bridge deck was found to currently be in satisfactory condition, but corrosion-related damage has become apparent and should be repaired.

We would be happy to answer any questions or provide additional information.

Sincerely,

WISS, JANNEY, ELSTNER ASSOCIATES, INC.

Joseph A. Rogers Jr., S.E.
Project Associate

Jonathan C. McGormley, P.E., S.E.
Project Manager

Figures

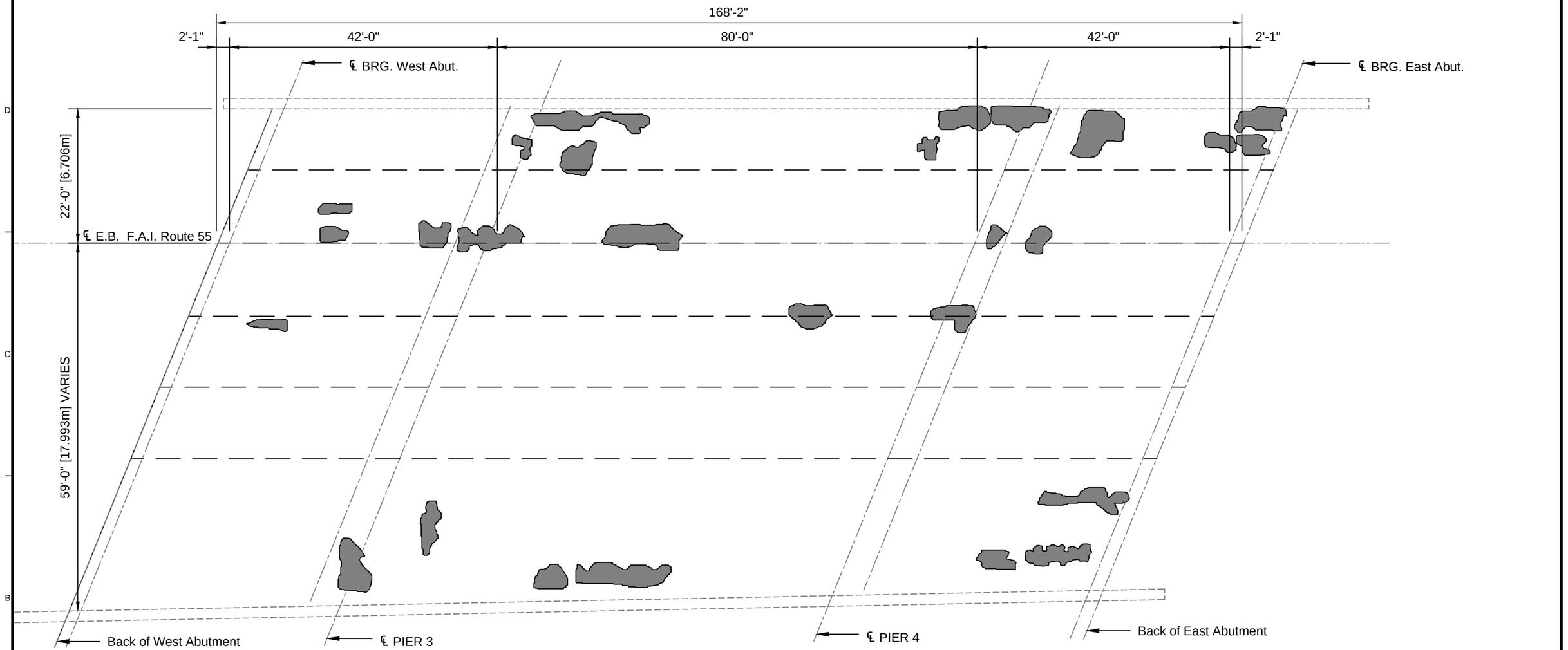
Figure 1. Elevation View, looking southwest.

Figure 2. Typical view, deck soffit, looking west.

Figure 3. Typical view, deck soffit, looking east.

Figure 4.Typical view, deck top surface, looking northwest

Appendix A - Bridge Deck Condition Assessment Drawings



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0018		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft²	13260	100	SPALL
DELAMINATION	ft²	605	4.6	CRACK
SPALL	ft²	0	0	
CRACKS	ft	-	-	

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

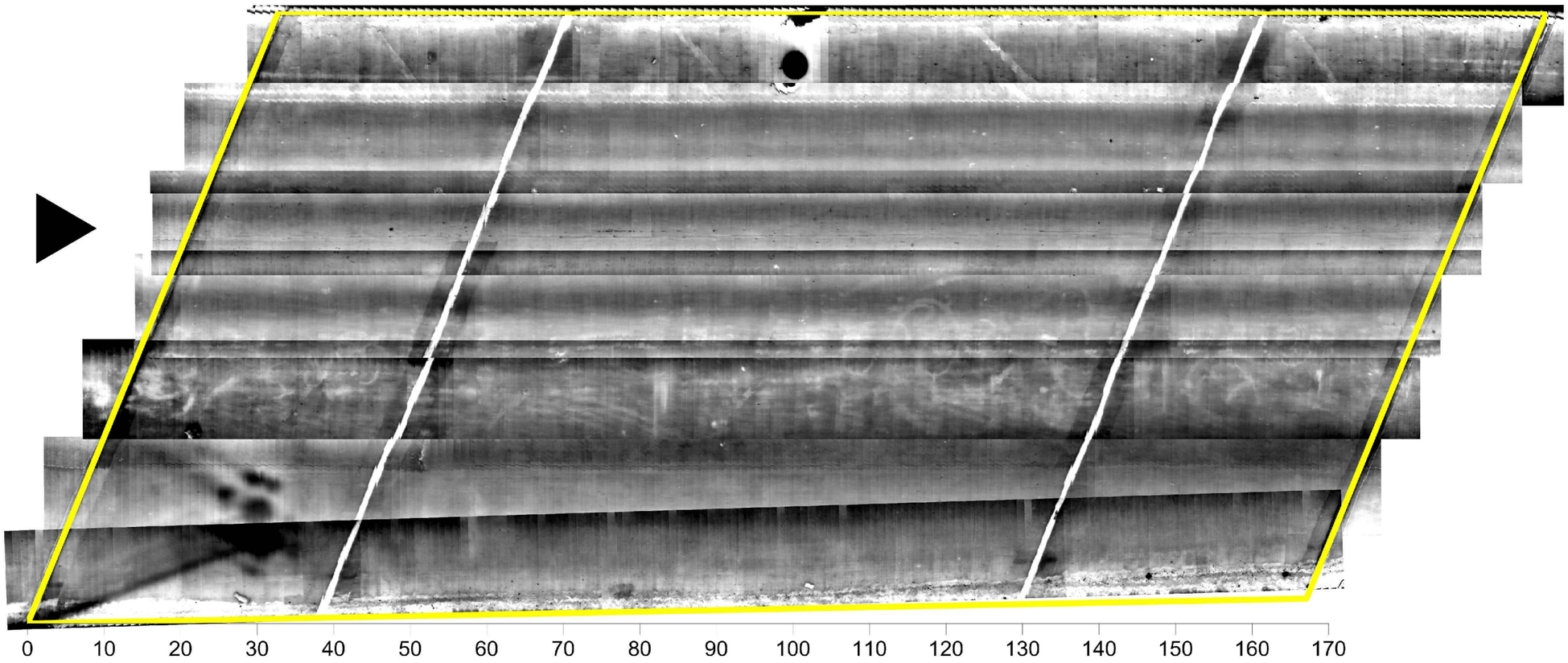
WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0018
EASTBOUND I-55 OVER R.R.

Sheet Title
IR Result - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"
Sheet No.	S1



N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client

Illinois Department of Transportation

District One
201 West Center Court
Schaumburg, Illinois 60196

Project

Bridge 016-0018

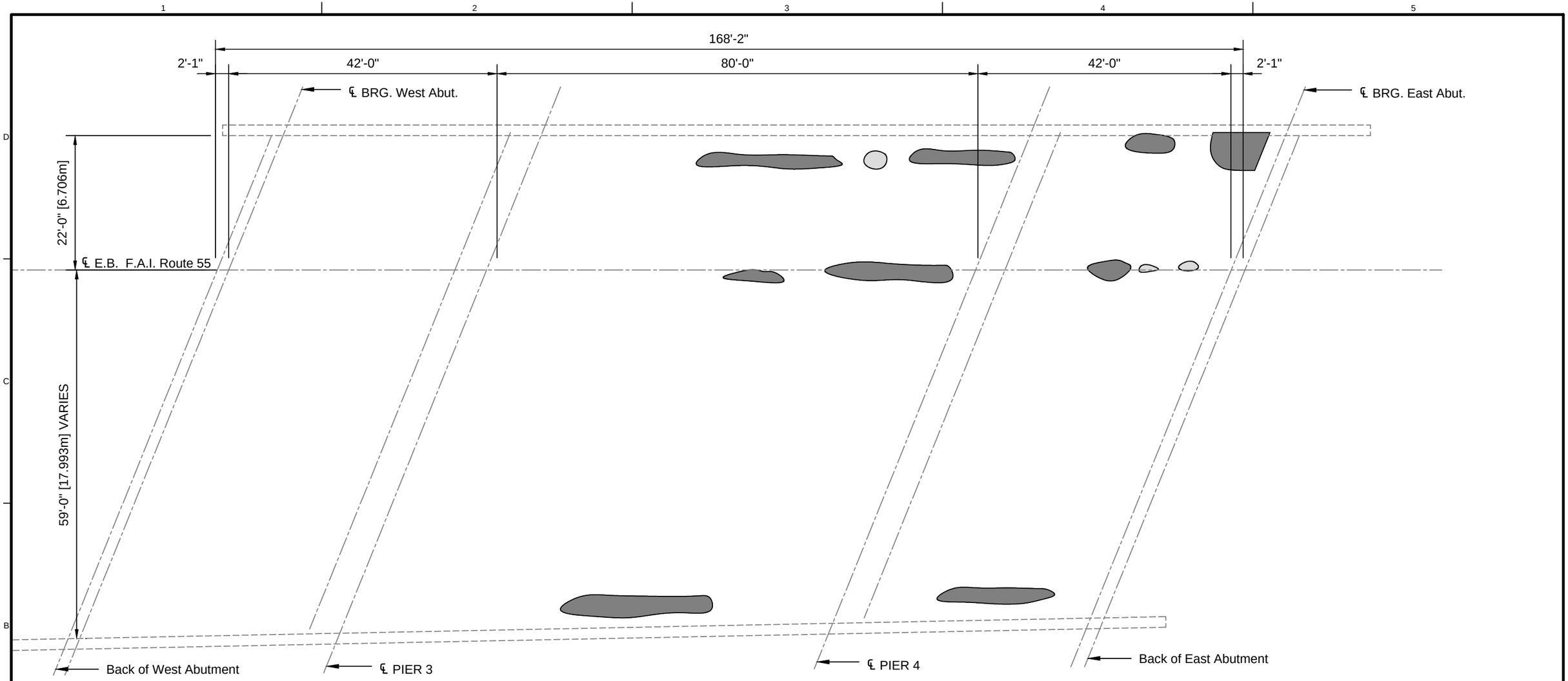
EASTBOUND I-55 OVER R.R.

Sheet Title

IR Image - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"

Sheet No. **S2**



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0018		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft|	13260	100	SPALL
DELAMINATION	ft|	355	2.7	PREV. REPAIR
SPALL	ft|	20	0.2	CRACK
PREVIOUS REPAIRS	ft|	2130	16.1	
CRACKS	ft	-	-	

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

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Northbrook, Illinois 60062
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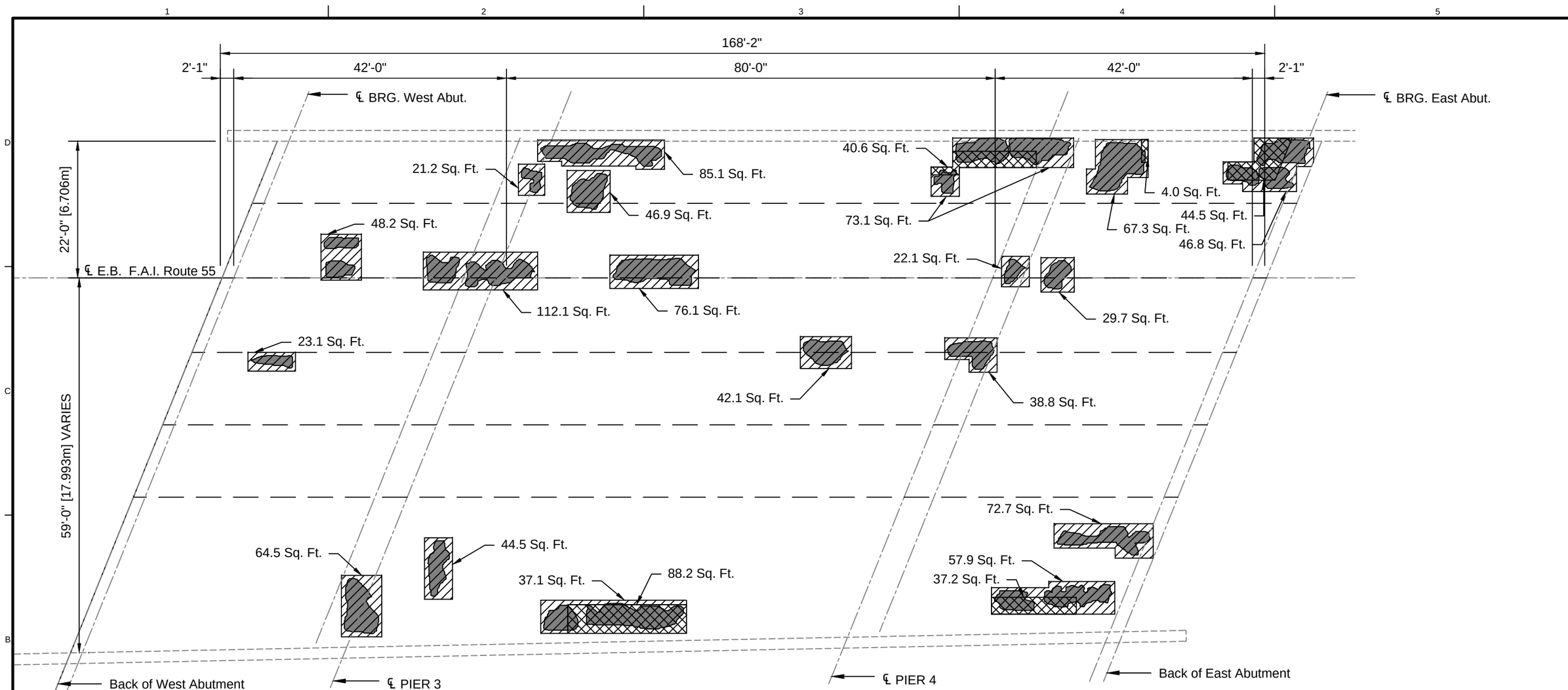
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0018
EASTBOUND I-55 OVER R.R.

Sheet Title
Underside Deterioration

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"
Sheet No.	S3



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0018	
ITEM	UNIT	QUANT.	%
TOTAL AREA	ft²	13260	100
PARTIAL DEPTH REPAIR	ft²	1009	7.6
FULL DEPTH REPAIR	ft²	214	1.6
DELAMINATION	ft²	605	4.6
SPALL	ft²	0	0
CRACKS	ft	-	-

LEGEND

- PARTIAL DEPTH REPAIR
- FULL DEPTH REPAIR
- DELAMINATION
- SPALL
- CRACK

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

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330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
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Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0018
EASTBOUND I-55 OVER R.R.

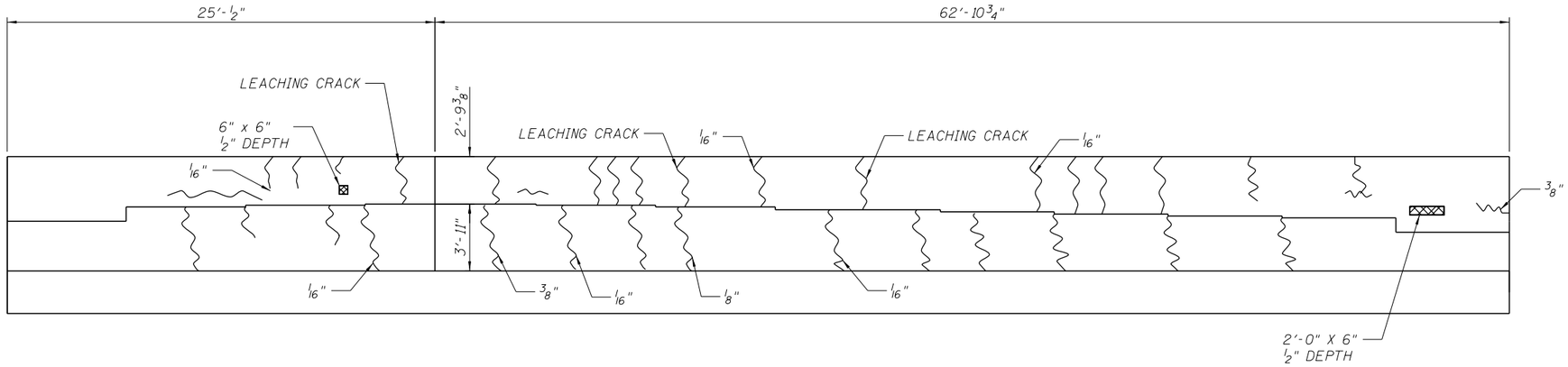
Sheet Title
Proposed Repairs

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"

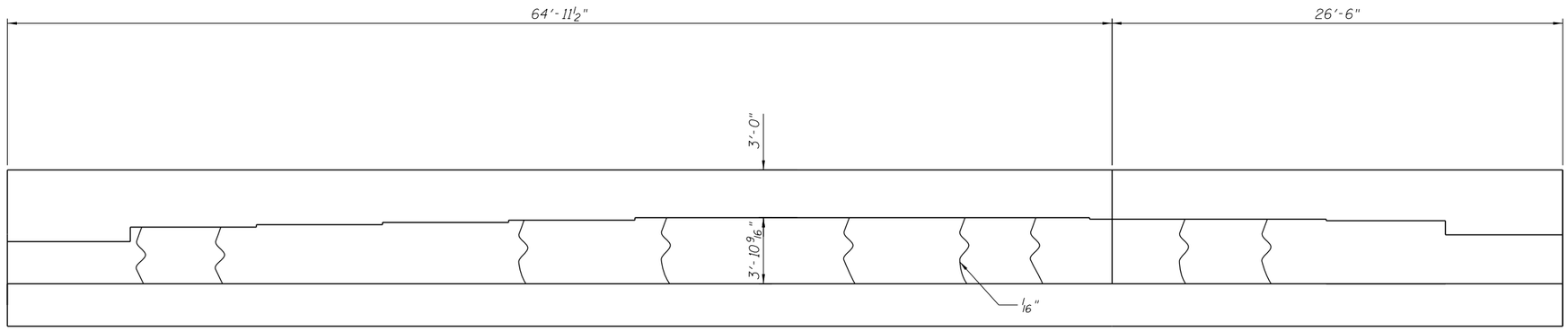
Sheet No. **S4**

ATTACHMENT F

Substructure Condition Surveys



EAST ABUTMENT LOOKING EAST



WEST ABUTMENT LOOKING WEST

LEGEND

- HAIRLINE CRACK (UNLESS OTHERWISE NOTED)
- SPALLED CONCRETE
- DELAMINATED CONCRETE

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Stantec

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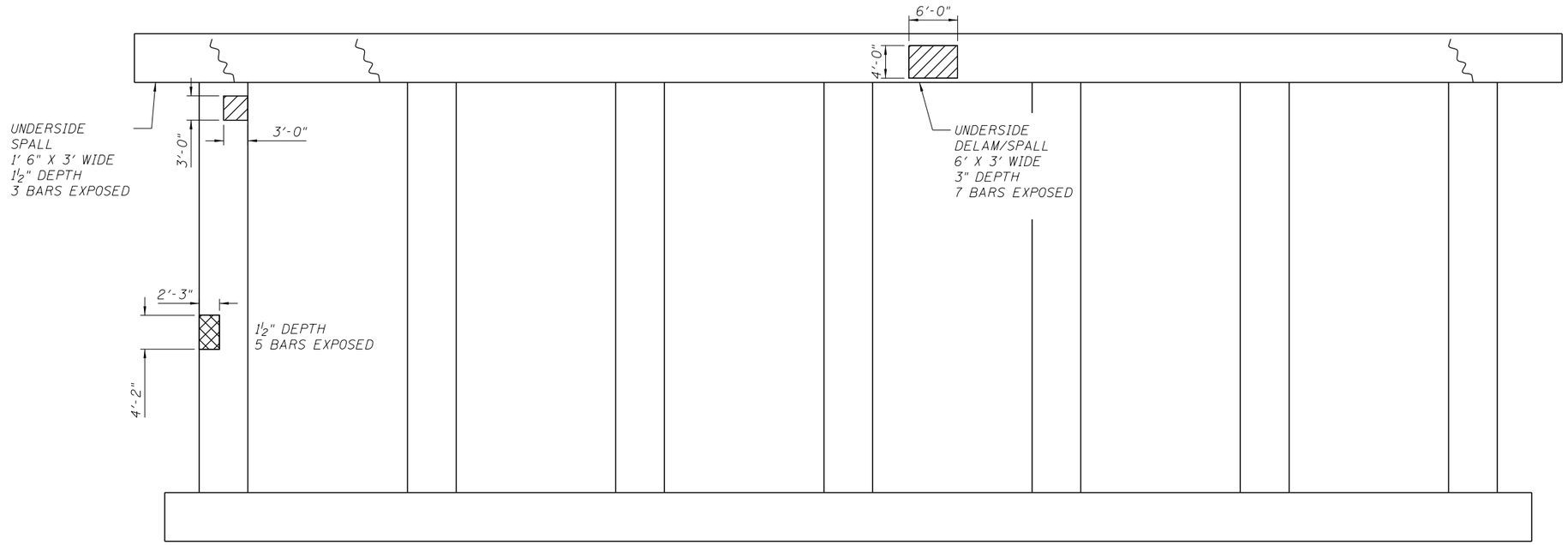
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/5/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

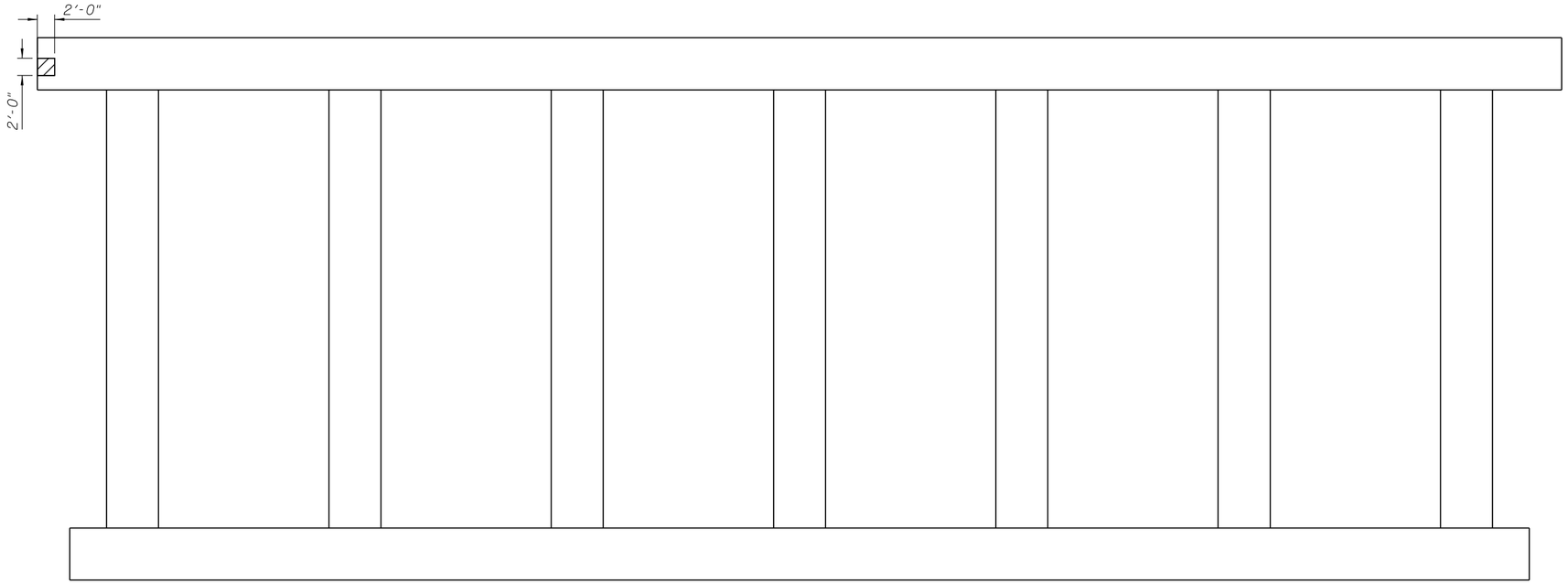
ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016-0018
SHEET NO. 1 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1212-620-VB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PIER 1

LOOKING EAST



PIER 1

LOOKING WEST

LEGEND

- CRACKED CONCRETE
- SPALLED CONCRETE
- DELAMINATED CONCRETE

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Stantec

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	CHECKED - BPS	REVISED -
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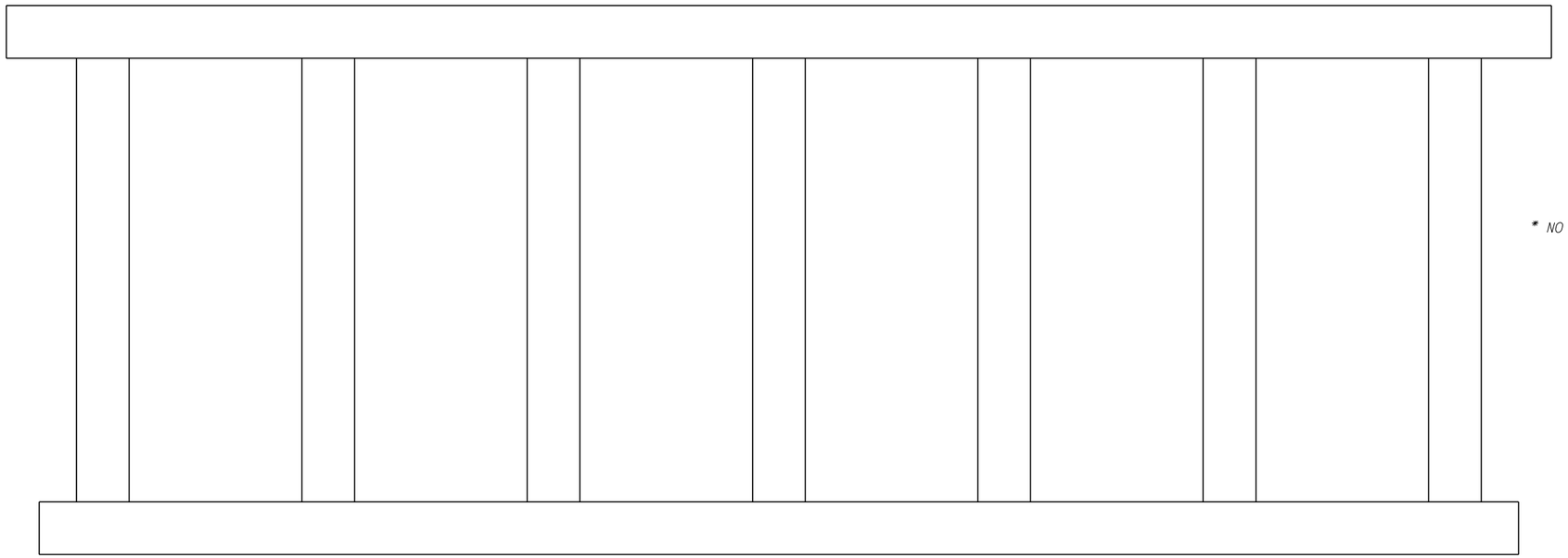
PLOT DATE = 10/5/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016–0018

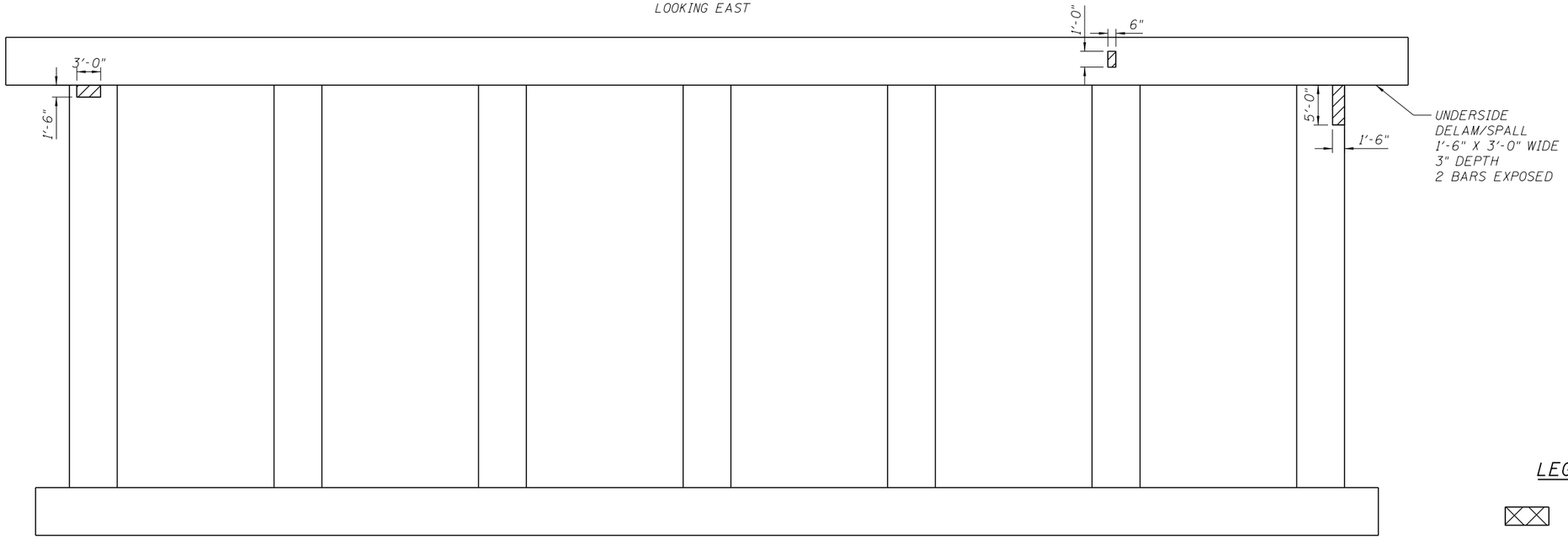
SHEET NO. 2 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1212-620-VB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



* NO DEFECTS

PIER 2
LOOKING EAST



LEGEND

- SPALLED CONCRETE
- DELAMINATED CONCRETE

PIER 2
LOOKING WEST

FILE NAME = V:\1786\active\178600037_IDOT_I-55\structural\drawing\sht\dwg_BRC_Railroad_Pier_Elevation.dgn

Stantec

USER NAME = jerojas	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
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PLOT DATE = 10/5/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016–0018
SHEET NO. 3 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1212-620-VB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT G

Opinion of Probable Costs

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/5/13
Check By:	BHS	*Date:*	12/17/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COST		
	I-55 EB over BRC Railroad (016-0018)		

ALTERNATIVE 1 - IN-KIND REPAIRS

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50300300	Protective Coat	1680 sy	$2.00	$3,360
50500105	Furnishing and Erecting Structural Steel	7940 lb	$5.00	$39,700
59000200	Epoxy Crack Injection	26 ft	$150	$3,900
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	136 sf	$175	$23,800
Z0016001	Deck Slab Repair (Full Depth)	89 sy	$750	$66,750
Z0016200	Deck Slab Repair (Partial Depth)	122 sy	$400	$48,800
Z0048665	Railroad Protective Liability Insurance	1 LS	$5,000	$5,000
			SUB TOTAL =	$191,310
			MOBILIZATION (10%) =	$19,131
			CONTINGENCY (20%) =	$38,262
			TOTAL =	**$248,800**

ALTERNATIVE 2 - STRUCTURE WIDENING

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50102400	Concrete Removal	9 cy	$600	$5,400
50104720	Removal of Existing Concrete Deck	1 LS	$179,000	$179,000
50200100	Structure Excavation	258 cy	$35.00	$9,030
50300225	Concrete Structures	212 cy	$700	$148,400
50300255	Concrete Superstructure	807 cy	$800	$645,600
50300260	Bridge Deck Grooving	2465 sy	$7.00	$17,260
50300300	Protective Coat	1995 sy	$2.00	$3,990
50500105	Furnishing and Erecting Structural Steel	1 LS	$285,600	$285,600
50500505	Stud Shear Connectors	378 each	$3.00	$1,130
50800205	Reinforcement Bars, Epoxy Coated	244150 lbs	$1.75	$427,260
51201400	Fur Stl Pile HP10x42	3,280 ft	$45.00	$147,600
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52000110	Preformed Joint Strip Seal	450 ft	$175	$78,750
52100010	Elastomeric Bearing Assembly, Type I	3 each	$800	$2,400
59000200	Epoxy Crack Injection	26 ft	$150	$3,900
59100100	Geocomposite Wall Drain	26 sy	$25.00	$650
X2070304	Porous Granular Embankment, Special	36 cy	$50.00	$1,800
Z0004552	Approach Slab Removal	292 sy	$35.00	$10,220
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	136 sf	$175	$23,800
Z0026407	Temporary Sheet Piling	580 sf	$30.00	$17,410
Z0046304	Pipe Underdrains for Structures 4"	40 ft	$20.00	$800
Z0048665	Railroad Protective Liability Insurance	1 LS	$5,000	$5,000
			SUB TOTAL =	$2,023,000
			MOBILIZATION (10%) =	$202,300
			CONTINGENCY (20%) =	$404,600
			TOTAL =	**$2,629,900**

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/5/13
Check By:	BHS	*Date:*	12/17/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COST		
	I-55 EB over BRC Railroad (016-0018)		

ALTERNATIVE 3 - SUPERSTRUCTURE AND PARTIAL SUBSTRUCTURE REPLACEMENT

CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50101500	Removal of Existing Superstructures	1 LS	$215,000	$215,000
50102400	Concrete Removal	305 cy	$600	$183,000
50104650	Slope Wall Removal	1530 sy	$7.00	$10,710
50200100	Structure Excavation	679 cy	$35.00	$23,760
50300225	Concrete Structures	337 cy	$700	$235,900
50300255	Concrete Superstructure	944 cy	$800	$755,200
50300260	Bridge Deck Grooving	2629 sy	$7.00	$18,400
50300300	Protective Coat	2226 sy	$2.00	$4,450
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,126,000	$1,126,000
50500505	Stud Shear Connectors	9180 each	$3.00	$27,540
50800205	Reinforcement Bars, Epoxy Coated	303400 lbs	$1.75	$530,950
51100100	Slope Wall 4 Inch	1458 sy	$100	$145,800
51201400	Fur Stl Pile HP10x42	4540 ft	$45.00	$204,300
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52100010	Elastomeric Bearing Assembly, Type I	17 each	$800	$13,600
59100100	Geocomposite Wall Drain	162 sy	$25.00	$4,050
X2070304	Porous Granular Embankment, Special	275 cy	$50.00	$13,750
Z0004552	Approach Slab Removal	292 sy	$35.00	$10,220
Z0012754	Structural Repair of Concrete (< 5 Inches)	52 sf	$175	$9,100
Z0026407	Temporary Sheet Piling	1597 sf	$30.00	$47,910
Z0046304	Pipe Underdrains for Structures 4"	237 ft	$20.00	$4,740
Z0048665	Railroad Protective Liability Insurance	1 LS	$5,000	$5,000
			SUB TOTAL =	$3,597,380
			MOBILIZATION (10%) =	$359,738
			CONTINGENCY (20%) =	$719,476
			TOTAL =	**$4,676,600**

ALTERNATIVE 4 - STRUCTURE REPLACEMENT

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50100100	Removal of Existing Structures	1 LS	$578,000	$578,000
50104650	Slope Wall Removal	1530 sy	$7.00	$10,710
50200100	Structure Excavation	1217 cy	$35.00	$42,600
50300225	Concrete Structures	699 cy	$700	$489,300
50300255	Concrete Superstructure	944 cy	$800	$755,200
50300260	Bridge Deck Grooving	2629 sy	$7.00	$18,400
50300300	Protective Coat	2226 sy	$2.00	$4,450
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,126,000	$1,126,000
50500505	Stud Shear Connectors	9180 each	$3.00	$27,540
50800205	Reinforcement Bars, Epoxy Coated	375800 lbs	$1.75	$657,650
51100100	Slope Wall 4 Inch	1458 sy	$100	$145,800
51201400	Fur Stl Pile HP10x42	9,580 ft	$45.00	$431,100
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52100010	Elastomeric Bearing Assembly, Type I	17 each	$800	$13,600
59100100	Geocomposite Wall Drain	162 sy	$25.00	$4,050
X2070304	Porous Granular Embankment, Special	275 cy	$50.00	$13,750
Z0004552	Approach Slab Removal	292 sy	$35.00	$10,220
Z0026407	Temporary Sheet Piling	4093 sf	$30.00	$122,790
Z0046304	Pipe Underdrains for Structures 4"	237 ft	$20.00	$4,740
Z0048665	Railroad Protective Liability Insurance	1 LS	$5,000	$5,000
			SUB TOTAL =	$4,468,900
			MOBILIZATION (10%) =	$446,890
			CONTINGENCY (20%) =	$893,780
			TOTAL =	**$5,809,600**

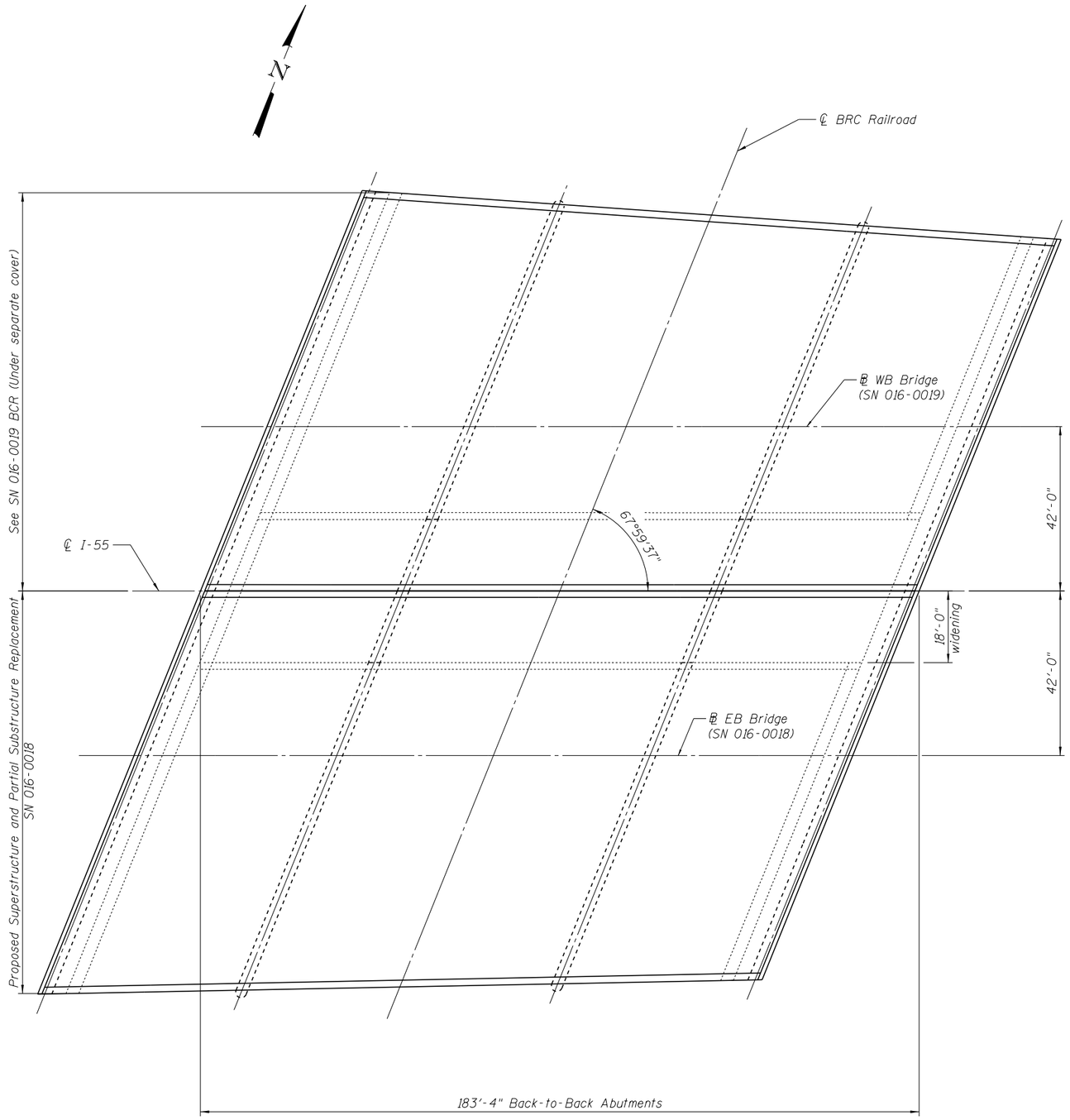
ATTACHMENT H

Proposed Structure Drawings

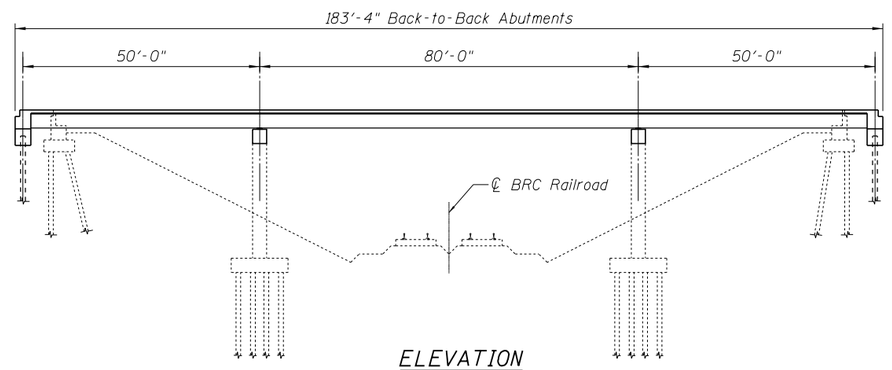
Notes:

The number and location of substructure units, the profile grade, skew angle, and the bridge length and width are subject to refinement in the TSL phase.

Superstructure type, beam spacing, and rail type to be determined during the TSL phase.



PROPOSED PLAN



ELEVATION

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Stantec

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	CHECKED - BPS	REVISED -
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PLOT DATE = 12/17/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT H – PROPOSED STRUCTURE DRAWINGS
STRUCTURE NO. 016–0018
SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1212-620-VB	COOK		____
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT I

Structure Photos

Photo 1 - Delaminated underside of deck at south side of Span 1

Photo 2 - Typical underside of Span 1, looking west

Photo 3 - Typical underside of Span 3, looking east

Photo 4 - Typical underside of Span 2, looking west

Photo 5 – Top of Deck in Span 3, looking northwest

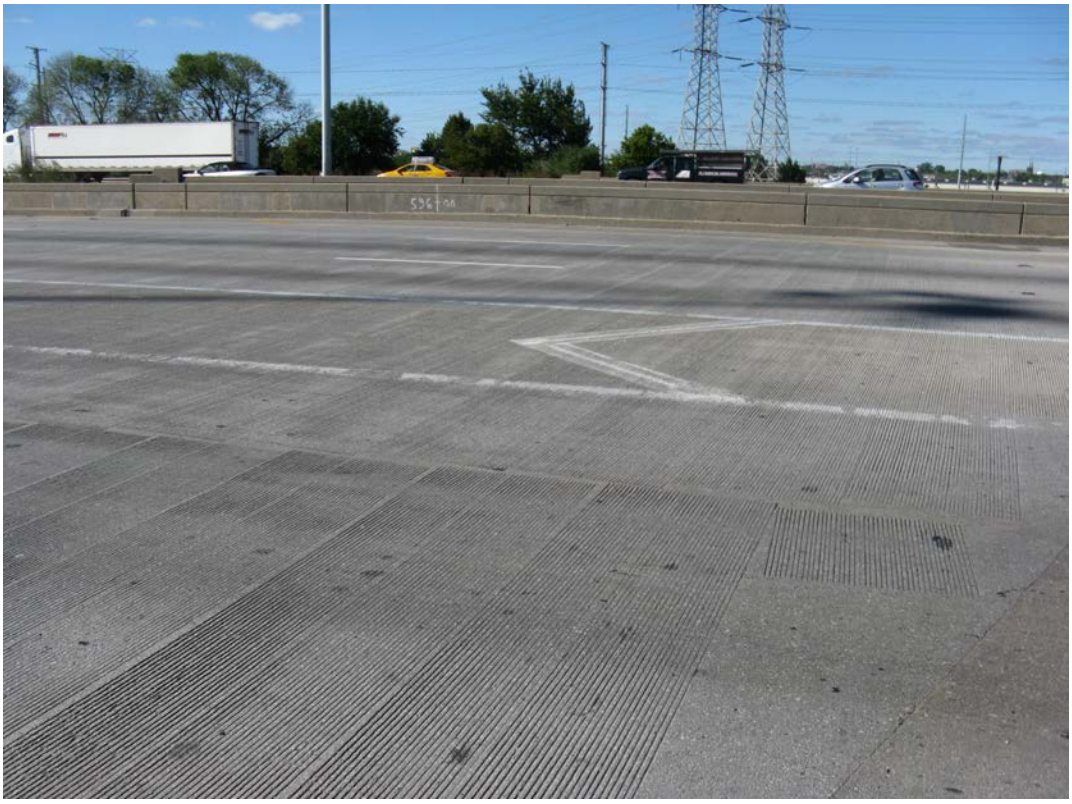


Photo 6 – Top of Deck in Span 2, looking northwest

Photo 7 – Top of Deck in Span 1, looking northwest

Photo 8 - Spalled parapet at north side at Span 1, looking southeast

Photo 9 - Spalled parapet on south side of Span 3, looking west

Photo 10 - East Abutment joint, looking north

Photo 11 - Pier 2 joint, looking north

Photo 12 - Pier 1 joint, looking north

Photo 13 - West Abutment joint, looking north

Photo 14 - Underside of Span 2 Beams, looking east

Photo 15 - North fascia, looking southwest

Photo 16 - Pin and link hangers in Span 1, looking north

Photo 17 - South fascia in Span 3, looking northwest

Photo 18 - Abandoned utility box in Span 3, southern most bay

Photo 19 - Typical bearing at East Abutment, looking southeast

Photo 20 - West Abutment, looking northwest

Photo 21 - East Abutment, looking southeast

Photo 22 – Pier 1, looking northeast

Photo 23 - Delaminated and spalled underside of Pier 1, looking northeast

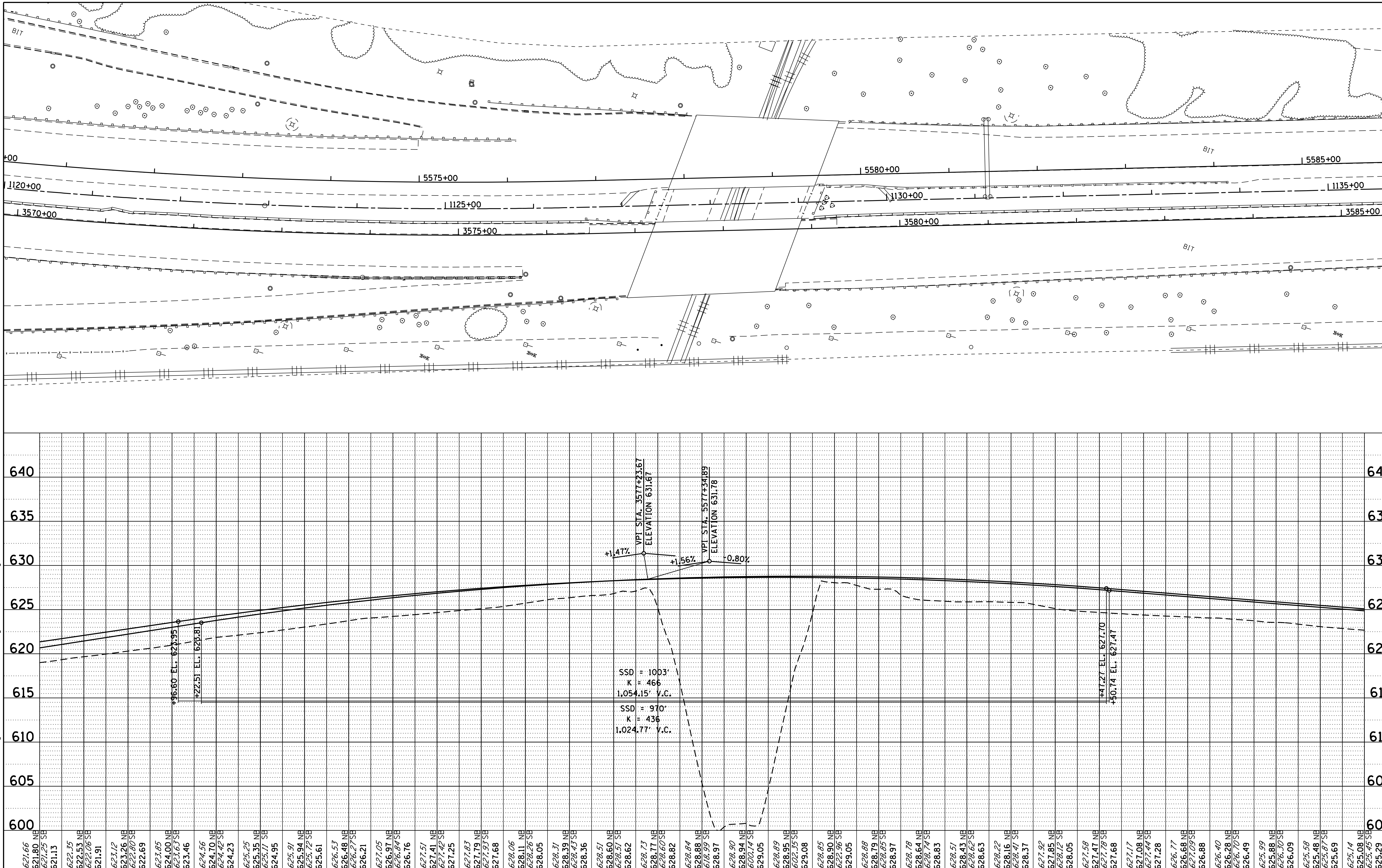
Photo 24 - Spalled column at Pier 1

Photo 25 – Pier 2, looking southwest

Photo 26 - Cracked west slopewall at southeast corner, looking east

ATTACHMENT J

Proposed Plan & Profile



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	DRAWN - STANTEC	REVISED -	
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PLOT DATE = 10/4/2013	DATE - 10/04/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT J
I-55 OVER BRC RAILROAD PROPOSED PLAN & PROFILE

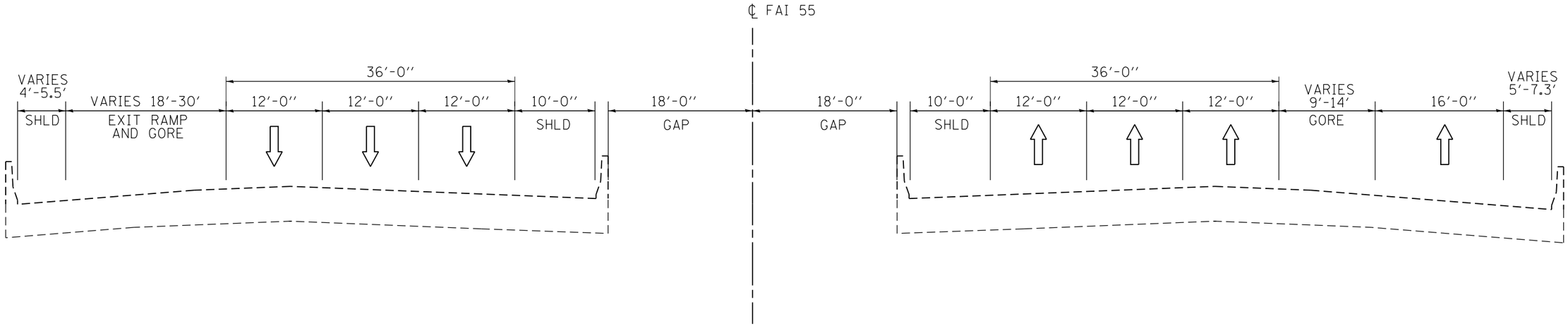
SCALE: 1":100' | SHEET ___ OF ___ SHEETS | STA. ________ TO STA. ________

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

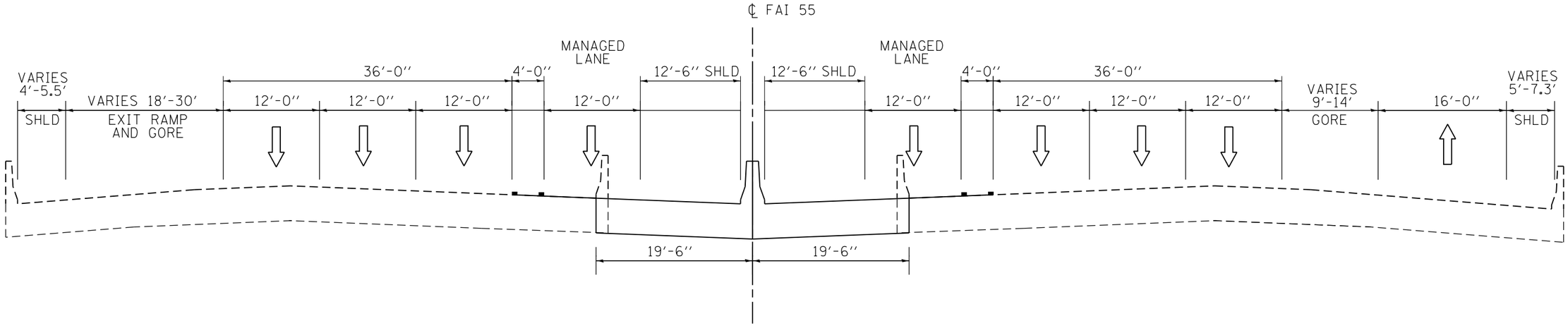
Default

ATTACHMENT K

Existing and Proposed Roadway Cross Sections



EXISTING I-55 OVER BRC RR TYPICAL SECTION



PROPOSED I-55 OVER BRC RR TYPICAL SECTION

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Stantec

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	DRAWN - STANTEC	REVISED -
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PLOT DATE = 10/4/2013	DATE - 10/4/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT K
TYPICAL SECTIONS

SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		

CONTRACT NO.

ILLINOIS FED. AID PROJECT

ATTACHMENT L

Abbreviated Existing Plans

FORM 400

FEDERAL AID ROUTE NO.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
55	1212-B2D V.B. 1212-B2D F	SOUTHWEST	33	3
FED. ROAD DIST. NO.	ILLINOIS	PROJECT IG-55-7 134 281		

Note:
Bulkheads required to retain earth at fascia girder bearings for existing R.R. Bridge are not a part of these plans.

Creosoted Piles, 15 Ton capacity, for approach slabs. Do not drive approach piles below elev. 627.0. Final cutoff to be by others. (Typical) Est. Length of Piles 30'

Shed

Existing Interlocking Tower (To be Removed By Others)

Shed (To be Removed by others)

Limit of Conc. Slope Wall (Typ.)

Point of Min. Underclearance

℄ Pier 1

℄ Pier 2

Fascia Line

Curb Line

Outhouse (To be Relocated)

Sta. 28+74.437

Light LA Standard (Typ.)

End of Deck

1" Exp. Jt.

BK. of Abut. A

BK. of Abut. B

Ref. Pt. A
℄ Sta. 24+36.26
Gr. El. 628.98

℄ R. W.B. Bridge

Ref. Pt. B
℄ Sta. 26+04.43
Gr. El. 629.14

Station Equation
P.T. Sta. 36+57.39 Back
= Sta. 23+30.14 Ahead

℄ F.A.I. 55 & ℄ S.W. Expressway

W.B. BRIDGE

SPAN 1 — SPAN 2 — SPAN 3

℄ Sta. 24+80.35
Gr. El. 629.09

℄ Sta. 25+60.35
Gr. El. 629.16

Sta. 24+19.83

Sta. 25+03.37 (℄ Exp.)
Sta. 1+79.97 (℄ Belt Ry.)

Sta. 25+86.92

Curb Line

Fascia Line

℄ E.B. Bridge

Ref. Pt. C
℄ Sta. 24+02.31
Gr. El. 628.87

℄ Sta. 24+46.40
Gr. El. 629.01

℄ Sta. 25+26.40
Gr. El. 629.15

Ref. Pt. D
℄ Sta. 25+70.48
Gr. El. 629.16

SPAN 4 — SPAN 5 — SPAN 6

Nose 2:6 R

Nose 3:0 R

(To be removed)

Existing Struct. (Belt Ry.)

BK. of Abut. C

BK. of Abut. D

Taper 50:1

℄ Pier 3

℄ Pier 4

Rad. Varies (Typ.)

E.B. BRIDGE

Concrete Crib Wall

See Sta. Equation

℄ Belt Ry.

℄ No. Track

Joint User's Line

Sta. 24+36.685 Base Line
Sta. 0+02.00 ℄ Belt Ry.

℄ Base Line

G M & O. R.R. Main Line

Track Lines

Existing Conc. Culvert (To be Modified) — SEE SHEET NO. 28

PLAN
Scale: 1"=20'

Creosoted Piles, 15 Ton Capacity, driven by bridge contractor. Cap by others. (Typical)

Light Standard (Typ.) (Not Included in these Plans)

BK. of Abut. A or C

BK. of Abut. B or D

℄ Piers 1 & 3

℄ Piers 2 & 4

9'-0" (Typ.)

Fix. — Hinge — Exp.

El. 618.50

El. 622.65

El. 622.85

El. 618.70

El. 592.00

Concrete Slope Wall (Typ.)

℄ Belt Ry.

20 Ton Capacity Creosoted Timber Piles (Typ. for Piers)

25 Ton Capacity Reinforced Conc. Piles (Typ. for Abuts.)

Note: For Section at existing R.R. Bridge See Sect. G-G, Sheet 26.

Fill to Bottom of Footing Before Driving Piles (Typ.)

TYP. SECTION AT RT. ANGLE TO TRACKS
(All Dimensions Shown Are Normal To Tracks)
Scale: 1"=16'

℄ S.W. Expressway

℄ Belt Ry.

15+00 Iron Rod — 165.00' — 20+00 Iron Pipe — 112°00'23" — 24+36.685 Spike — 25+00 Iron Pipe — 30+00 Iron Pipe

Base Line

Outside face of Rail (G.M. & O. R.R.)

SURVEY TIES
No Scale

2'-0" — 6" — Fascia Line

Note: Slopewall shall be reinforced with welded wire fabric 6"x 6" mesh, #4 wire, weighing 58 lbs. per 100 sq. ft. (Typ.)

SECTION A-A

SECTION B-B
(Between Existing R.R. Abuts.)

BILL OF MATERIAL		
ITEM	UNIT	QUANTITY
Slopewall, 4"	Sq. Yds.	3060
Creosoted Piles, 20.1 to 38 ft.	Lin. Ft.	1680

GENERAL NOTES

CLASS X CONCRETE SHALL BE USED THROUGHOUT.

THE CONCRETE FLOOR SLAB SHALL BE FINISHED IN ACCORDANCE WITH ARTICLE 51.19 OF THE STANDARD SPECIFICATIONS AND SHALL BE POURED IN ONE CONTINUOUS OPERATION BETWEEN CONSTRUCTION JOINTS.

BEVEL ALL EXPOSED CONCRETE CORNERS 3/4" UNLESS NOTED.

ALL REINFORCEMENT BARS SHALL BE LAPPED 20 DIAMETERS UNLESS OTHERWISE SHOWN.

THE CONTRACTOR SHALL DRIVE FOUR (4) CONC. TEST PILES IN PERMANENT LOCATIONS, ONE (1) AT EACH ABUTMENT, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, BEFORE ORDERING THE REMAINDER OF THE PILES. THE CONTRACTOR SHALL DRIVE FOUR (4) CREOSOTED TIMBER TEST PILES IN PERMANENT LOCATIONS, ONE (1) AT EACH PIER, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, BEFORE ORDERING THE REMAINDER OF THE CREOSOTED TIMBER PILES.

HOLES FOR CONCRETE PILES AT EACH ABUTMENT SHALL BE PRECORED IN ACCORDANCE WITH ARTICLE 60.0(e) OF THE STANDARD SPECIFICATIONS.

BORING DATA IS SHOWN ONLY AS A GUIDE TO BIDDERS IN ESTIMATING SOIL CONDITIONS WHICH MAY BE ENCOUNTERED IN THE WORK.

THE BACK FACES OF ABUTMENTS AND WINGWALLS SHALL BE WATERPROOFED FROM THE TOP OF FOOTING TO TOP OF GROUND SURFACE IN ACCORDANCE WITH ARTICLE 51.21 OF THE STANDARD SPECIFICATIONS.

STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.

ALL CONNECTIONS FOR STRUCTURAL STEEL SHALL BE RIVETED EXCEPT AS NOTED. ALL RIVETS SHALL BE 3/4" DIAMETER IN 13/16" DIAMETER HOLES.

ALL ROCKERS, BOLSTERS, PINTLES, BEARING PLATES, LEAD PLATES AND ANCHOR BOLTS SHALL BE FABRICATED AND SET IN ACCORDANCE WITH ARTICLE 51.15 OF THE STANDARD SPECIFICATIONS AND ARE INCLUDED IN THE QUANTITY OF STRUCTURAL STEEL.

ONE(1) SIGN CONFORMING TO STANDARD 2160-1 SHALL BE ERECTED AT A LOCATION AS DIRECTED BY THE ENGINEER.

STRUCTURAL STEEL SHALL RECEIVE ONE SHOP COAT OF RED LEAD PAINT AND TWO FIELD COATS OF ALUMINUM PAINT EXCEPT AS OTHERWISE SPECIFIED. SEE ARTICLES 56.1 to 56.6 INCLUSIVE, OF THE STANDARD SPECIFICATIONS. ALL PAINT TO BE FURNISHED AND APPLIED BY THE CONTRACTOR INVOLVED.

SHOP INSPECTION OF STRUCTURAL STEEL BY ILLINOIS DIVISION OF HIGHWAYS BEFORE PAINTING.

HIGH STRENGTH STEEL BOLTS MAY BE SUBSTITUTED FOR RIVETS IN ACCORDANCE WITH ARTICLE 54.9(i) OF THE STANDARD SPECIFICATIONS.

ANCHOR BOLTS SHALL BE SET BEFORE RIVETING DIAPHRAGMS OVER SUPPORTS.

ALL ALUMINUM HANDRAIL, INCLUDING RAIL POST ANCHORS, SHALL BE INCLUDED IN THE QUANTITY OF ~~STRUCTURAL STEEL~~ ALUMINUM HANDRAIL

MODIFICATION OF EXISTING RAILROAD FACILITIES AS SHOWN ARE NOT A PART OF THESE PLANS.

COARSE AGGREGATE WHICH IS TO BE USED IN THE CONCRETE PARAPET AND END POSTS MUST BE ABSOLUTELY FREE OF CHERT, FLINT, LIMONITE, LIGNITE AND SOFT SANDSTONE.

PERMANENT FORMS WILL NOT BE PERMITTED IN FORMING THE CONCRETE FLOOR.

DESIGN LOAD:
LIVE LOAD = H20-S16-44 & ALTERNATE MILITARY LOADING
FUTURE DEAD LOAD = 2" BITUMINOUS WEARING SURFACE

DESIGN STRESSES:
CONCRETE
f_c' = 3500 psi — v = 75 psi (FOOTINGS)
f_c = 1400 psi — n = 10
f_c = 1000 psi (WITH EARTH PRESSURE)

REINFORCING STEEL:
f_s = 20,000 psi

STRUCTURAL STEEL: (ASTM A-36)
f_s = 20,000 psi

PILE LOADS:
ABUTMENTS — 25 TONS (REINFORCED CONCRETE PILES)
PIERS — 20 TONS (CREOSOTED TIMBER)
APPROACH PILES = 15 TONS (CREOSOTED TIMBER)
EQUIVALENT FLUID PRESSURE = 40 pcf

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
B.R.C. OVERPASS STRUCTURE

GENERAL PLAN AND ELEVATION

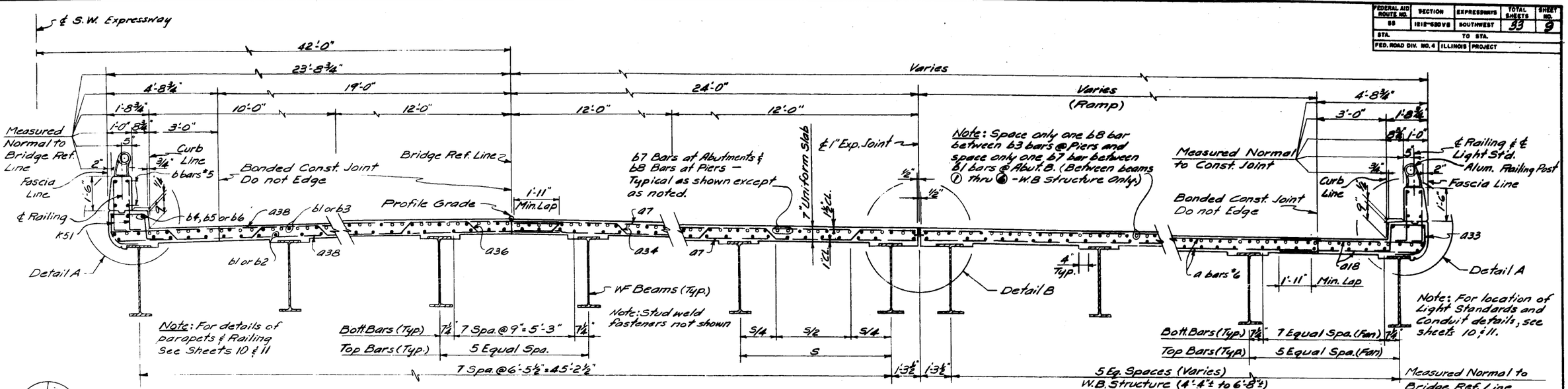
SCALE: AS NOTED — DATE: 9-13-63

HAZELET & ERDAL CONSULTING ENGINEERS

Rev. 11-18-63: Deleted Creo. Piles up to 20' (840'), Added Creo. Piles 20.1' to 38' (1680'). W.C.K.

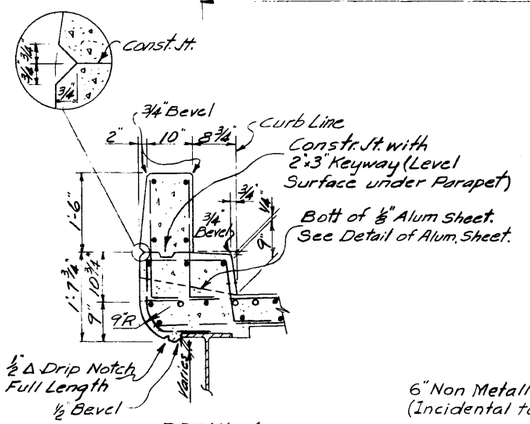
FORM 400

FEDERAL AID ROUTE NO.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
55	1212-620 V B	SOUTHWEST	33	9
STA.	TO STA.			
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



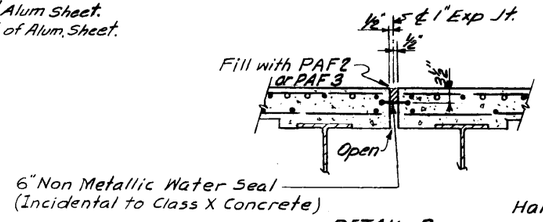
DECK CROSS SECTION

W.B. Structure Looking West
E.B. Structure Looking East
Scale: ½" = 1'-0"



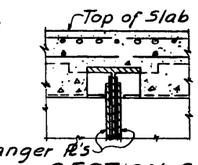
DETAIL A

Scale: ¾" = 1'-0"



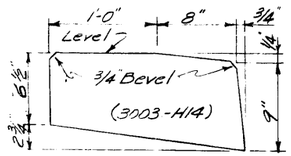
DETAIL B

Scale: ¾" = 1'-0"



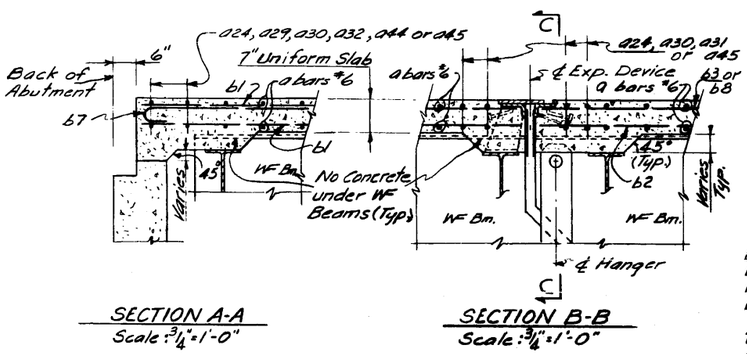
SECTION C-C

Scale: ¾" = 1'-0"



DETAIL OF ⅛" ALUMINUM SHEETS

Scale: 1½" = 1'-0"

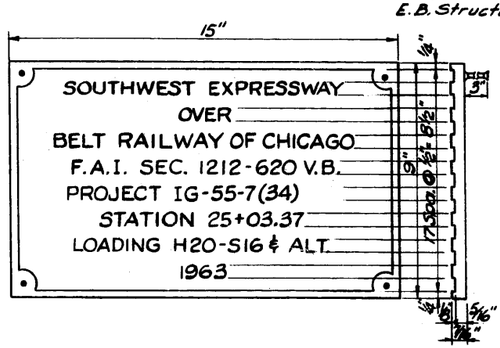


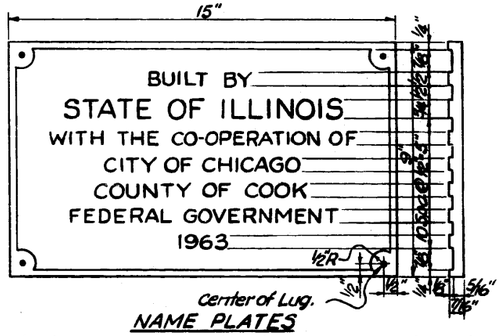
SECTION A-A

Scale: ¾" = 1'-0"

SECTION B-B

Scale: ¾" = 1'-0"





NAME PLATES

Notes for Name Plates: The material shall be best quality brass or bronze. Border and lettering shall be raised 1/8", square cut and not tapered. The top surface shall be polished and have a matted background.

The Contractor shall obtain approval of the Engineer before commencement of work and inscription.

Use two name plates, one of each type shown above, for each bridge located on the abutment wingwalls and as directed by the Engineer.

BILL OF MATERIAL

Description	Unit	EB.	W.B.
Class X Concrete	Cu. Yds.	358.1	338.4
Protective Coat	Sq. Yds.	1628	1532
Aluminum Handrail,	Lin. Ft.	331	325
Reinforcement Bars	Lbs.	92,338	92,634
Conduit, 1¼" Dia. Galvanized Steel	Lin. Ft.	11	11
Conduit, 2" Dia. Galvanized Steel	Lin. Ft.	94	94
2" Asbestos Cement Conduit, Type I	Lin. Ft.	251	245
Cast Iron Junction Boxes	Each	2	2
Name Plates	Each	2	2

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
B.R.C. OVERPASS STRUCTURE

DECK DETAILS

SCALE: AS NOTED DATE: 9-13-63

CONSTRUCTION DRAWING NO. 167
DRAWN BY: CSN DATE: 6-14-63
CHECKED BY: [illegible] DATE: 7-22-63
APPROVED BY: [illegible] DATE: 7-22-63

BRIDGE CONDITION REPORT

REGION: 1

DISTRICT: 1

ROUTE: FAI-55 / I-55 WB

COUNTY: Cook

JOB NUMBER: P-91-762-10

STRUCTURE NUMBER: 016-0019

LOCATION: I-55 Westbound over RR-BRC

PREPARED BY: Stantec

DATE PREPARED: 12/20/13

PROPOSED LETTING DATE: To Be Determined

TABLE OF CONTENTS

ATTACHMENTS:

I. GEOGRAPHICAL & ADMINISTRATIVE DATA

Structure Number:	016-0019
County:	Cook
Route Carried:	FAI 055 / I-55
Feature Crossed:	RR-BRC
Section:	1212-620-VB
Station:	25+03.37
Roadway Classification:	Federal Aid Interstate
Design/Posted Speed:	70mph / 55 mph
***ADT (current/design):**	80,502 (2012) / 114,556 (2040)
***ADTT (current/design):**	13% = 10,465 (2012) / 13% = 14,892 (2040)
***DHV (current/design):**	5,492 (2012) / 7,963 (2040)
Inventory Rating HS:	1.070 – rated 11/5/01
Operating Rating HS:	1.680 – rated 11/5/01
Sufficiency Rating:	86.0
HBP Eligibility:	No

*Traffic data per the I-55 Managed Lane Phase I Study

Construction / Reconstruction / Repair History

The structure carrying I-55 Westbound over the BRC Railroad (RR-BRC) was originally built in 1963 as FAI Route 55 over RR-BRC under Project IG-55-7(34) 281, Section 1212-620-VB. The original construction consisted of parallel three span structures. The two structures carried I-55 eastbound and westbound traffic.

As part of Contract 82944, plans dated 12/15/95, pin and link replacement was performed. As part of Contract 80059, bridge rehabilitation was performed in 1999. The rehabilitation consisted of removing the bituminous concrete overlay, performing deck repairs, removing and replacing the transverse deck joints, eliminating the longitudinal deck joint, placing a new deck concrete overlay, refurbishing the bearings, cleaning and painting the existing steel bridge and repairing the substructure and slopewall.

II. PHYSICAL DESCRIPTION OF STRUCTURE

The physical description of the structure is based on a review of the existing available plans dated 9/13/63, 12/15/95, and 1999. Refer to Attachment L for select existing structure plan sheets. Individual components of the existing structure are described below:

Structure Type and Length: The bridge is a flared three span wide flange steel structure with pin and link assemblies in spans 1 and 3. The exterior beams are W36x135 in Spans 1

and 3. All the interior beams are W27x114 in Spans 1 and 3. The W-beams in Span 2 are W35x150 with a 1" thick cover plate outside of the bottom flange. The bridge is 168'-2" long measured from back-to-back of abutments. The substructure consists of two reinforced concrete stub abutments with wingwalls and two multi-column reinforced concrete piers. The abutments are supported by concrete piles and the piers are supported on creosoted timber piles. The bridge has a 7" reinforced concrete deck plus overlay.

Number / Length of Spans: There are a total of three spans, with approximate lengths as follows (dimensioned from centerline of bearing to centerline of bearing). Spans are numbered from west to east.

Span 1:	42'-0"
Span 2:	80'-0"
Span 3:	42'-0"

Skew: 22°-00'-23" Left

Structure Width: The total width varies from approximately 72'-2" to 83'-6" measured out-to-out of the deck. The bridge accommodates three 12' lanes of traffic, a ramp lane with variable gore, a 10' inside shoulder, a 5' outside shoulder, and a curb and parapet on each side.

Expansion Joints:

W Abutment:	1 3/4" Preformed Joint Seal
Pier 1:	2" Neoprene Joint
Pier 2:	2" Neoprene Joint
E Abutment:	1 3/4" Preformed Joint Seal

Bearings:

W Abutment:	Fixed
Pier 1:	Fixed
Pier 2:	Expansion
E Abutment:	Fixed

Approach Roadway Template: The approach roadway template matches the bridge with three 12' lanes of traffic, a variable ramp lane with variable gore, a 10' inside shoulder, and a 5' outside shoulder. The width of the west approach roadway is wider than the east approach roadway due to the variable gore/ramp lane.

Existing Wearing Surface:	2 3/8" Micro Silica Concrete Overlay
Existing Vertical Alignment:	The structure is located on a 1,000-ft. long vertical crest curve with 1.50% and -0.80% slopes going from west to east. The entire structure is located in the -0.80% slope region.
Existing Horizontal Alignment:	The structure is on a horizontal tangent section.
Existing Vertical Clearance:	23'-0" min over BRC Railroad according to the 1999 repair plans.
Existing Drainage:	No existing drainage exists on the structure or approach slabs.
Parapets and Railings:	There are 1'-8 3/4" wide exterior curb and parapets running the length of the bridge. Parapets were modified in 1999 plans to remove a 9" tall by 1'-0" wide existing handrail and replaced with a 9" tall x 1'-0" wide reinforced concrete section. Per the IDOT Bridge Inspection Report dated 12/10/12, the guardrail currently meets acceptable standards while the guardrail ends and transitions do not.
Existing Utilities Attachments:	There are no light poles attached to the bridge, but there is conduit running along the north parapet.
Name Plate:	The two name plates are located on the inside face of the northeast and southwest wingwalls.

III. FIELD INSPECTION & PHYSICAL EVALUATION

A field inspection of the entire structure carrying I-55 Westbound over the BRC Railroad was performed by Stantec on September 16, 2013. The high temperature on that date was 65° F. The visual field inspection was performed on foot on the slopewall and the top of deck. The following conditions were observed:

Deck

Deck

The deck was rated in fair condition (NBIS Rating = 5) in the 12/10/12 NBIS inspection. The deck condition observed during this inspection was consistent with the NBIS rating. The underside of deck has multiple areas of delamination, spalling, transverse and map cracking. Based on visual

inspection, approximately 4.6 % of the underside of deck is delaminated or spalled.

The micro-silica concrete overlay on the top of deck has minor hairline transverse and longitudinal cracking mostly along the shoulders. One spall that measured 1 square foot was noted on the top of deck in the gore. Wiss, Janey and Elstner performed a condition assessment of the reinforced bridge deck in July 2011. This assessment included a delamination survey performed on the top of the bridge deck using infrared thermography. The infrared thermography indicated 5.4% of the top of deck area was delaminated. See Attachment E for the condition assessment of the reinforced bridge deck. See Attachment I – Photos 1 through 6.

Parapets

The parapets are in satisfactory condition with hairline vertical cracking throughout and minor delaminations and spalls on both the interior and exterior faces of the parapet. The interior face of the South Parapet has approximately 5 square feet of delaminated concrete. The exterior face of the North Parapet has approximately 8 square feet of spalled concrete. See Attachment I – Photos 7 through 8.

Joints

The preformed joint seals at the abutments and the neoprene joint at the piers are in satisfactory condition with debris in the joint and minor impact damage on the joints. The width of the joints was measured when the temperature was approximately 65° F. The preformed joint at the West Abutment measured ¾" wide. The neoprene joint at the West Pier measured 1 9/16". The neoprene joint at the East Pier measured 1 7/16". The preformed joint at the East Abutment measured 11/16". See Attachment I – Photos 9 through 13.

Superstructure

Beams

The superstructure consists of three spans of variable sized rolled steel beams. The beam lines are numbered 1 through 14, numbered from north to south. In Spans 1 and 3, Beam Lines 1 and 14 consist of W36x135 beams and Beam Lines 2 through 13 consist of W27x114 beams. In Span 2, all of the beam lines consist of W36x150 beams. This structure has pin and link assemblies in Spans 1 and 3 and welded cover plates on the bottom flanges of the beams in Span 2.

The superstructure was rated in fair condition (NBIS Rating = 5) in the 12/10/2012 NBIS bridge inspection due to initial section loss and minor pitting. The superstructure observed during this inspection was consistent with the NBIS rating.

The steel superstructure typically has paint starting to fail, minor rust and initial section loss and minor pitting. The pin and link assemblies were visually inspected from the ground. In Span 1, the guide plate under the pin and link assembly at the south fascia beam is bent downward away from the restraining plates. The 12/10/2012 NBIS inspection used an under bridge inspection unit to do a close up inspection of the pin and link assemblies and no defects were noted. See Attachment C for the Bridge Inspection Report. The steel beams have welded cover plates with fatigue category E' details. The welded cover plates were visually inspected from the ground and no defects were noted on the welds. See Attachment I – Photos 14 through 18.

Bearings

The steel rocker expansion bearings are in satisfactory condition with paint starting to fail and minor rust. No excessive tilting was noted during the inspection. See Attachment I – Photo 19.

Utilities

An abandoned conduit is located on the inside of the south fascia beam. The conduit has many broken brackets and the conduit has fallen down in Span 3. See Attachment I – Photos 20 and 21.

Substructure

The substructure was rated in satisfactory condition (NBIS Rating = 6) in the 12/10/2012 NBIS bridge inspection due to cracks and spalls at the abutment caps and pier columns. The substructure condition observed during this inspection was consistent with the NBIS rating.

Abutments

The reinforced concrete abutments are in satisfactory condition with multiple vertical cracks that vary in widths from hairline to 3/8" wide. The length of the 1/16" or wider vertical cracks is approximately 20' on the East Abutment and 16' on the West Abutment. There is 7 square feet of delaminated concrete on the East Abutment. See Attachment F for the Substructure Condition Survey. See Attachment I – Photos 22 and 23.

Piers

The reinforced concrete piers each consist of seven columns with a pier cap. The piers are in satisfactory condition with minor delaminations and spalls on the columns and pier caps. Pier 1 has approximately 67 square feet of spalled or delaminated concrete. Pier 2 has approximately 8 square feet of spalled or delaminated concrete. See Attachment F for the Substructure Condition Survey. See Attachment I – 24 through 26.

Slope Protection

The bridge has concrete slope walls. The East Slopewall has approximately 50' of transverse cracking. The West Slopewall has approximately 50' transverse cracking along the bottom and at the northwest corner of the slopewall. The West Slopewall has a void at the top of the slopewall on the north end. The extent of the void was unable to be determined but the embankment next to the slopewall was not eroded away. See Attachment I – 27 and 28.

Inspection History (NBIS Ratings)

Year	Deck	Super	Sub
2012	5	5	6
2011	5	6	6
2009	5	6	6

Geometric, Horizontal & Vertical Clearance / Hydraulic Data

Geometry

I-55 Westbound over RR-BRC is on a 22°-00'-23" skew left. The typical roadway section consists of three 12' lanes, a variable width ramp gore/lane, a 10' inside shoulder, a 5' outside shoulder, a 1'-8 3/4" wide curb and parapet on each side of the structure. The structure is located on a 1,000-ft. long vertical crest curve with 1.50% and -0.80% slopes going from west to east. The entire structure is located in the -0.80% slope region. The structure is on a horizontal tangent section. The repair plans from 1999 show the vertical minimum clearance at 23'-0" from top of rail to bottom of steel.

The top of rail profile for the RR-BRC at for the west track slopes upwards at a +0.08% slope going north.

As part of the I-55 Managed Lane Phase I Study, I-55 Westbound at the BRC Railroad will be widened to the inside to accommodate a proposed 12' managed lane westbound. In the westbound direction, a 4' buffer between the managed lane with 12.5' shoulder and the general purpose traffic lanes is proposed in this 60 foot median section. This widening will be incorporated into the recommended scope of work for this structure.

Hydraulics

At the structure, the I-55 profile is on a vertical crest curve with the crest of the curve at the location of the structure. The bridge deck goes through superelevation transitions with the inside lane and inside shoulder level 19' west of the back of the West Abutment. The bridge deck achieves normal crown with the inside lane at 1% and the shoulder at 2% on the bridge deck approximately 47' west of the Pier 2. There are no deck drains on the bridge

deck. Therefore, the water is allowed to flow to the deck joints as it runs off the bridge.

IV. POTENTIAL SCOPE OF WORK DETERMINATION & ANALYSIS

As part of the I-55 Managed Lane Phase I Study, In-Kind Repairs, Structure Widening and Structure Replacement alternatives will be evaluated.

Per Section 2.4.2.4 of the IDOT Bridge Manual, consideration was given to retrofit all end of cover plate locations due to average daily truck traffic. From this information, it was determined that a fatigue evaluation was required. The transverse welds at the ends of the cover plates in Span 2 were evaluated for fatigue life and it was determined that the mean service life is less than 50 years. A cover plate retrofit should be installed.

Repainting the bridge was considered due to the paint starting to fail. All Bridge Designers Memorandum 10.1 states that structures over railroads will typically be cleaned and painted only at deck joints and the fascias. As the paint system is only starting to fail, zone painting was determined not to be necessary at this time for both alternatives.

Since all alternatives would have work being performed near the railroad tracks, the cost of Railroad Protective Liability Insurance should be considered in the opinion of probable costs.

1. **In-Kind Repairs**

   Perform partial and full depth deck repairs and apply Protective Coat to the existing deck. Repair areas of spalled or delaminated concrete on existing abutments and wingwalls. Repair the guide plate at the south fascia beam in Span 1. Perform retrofit repairs on the existing Span 2 cover plates. Fill the void under the slopewall at the northwest corner.

2. **Structure Widening**

   Remove and replace the concrete deck and approach slabs and widen both approximately 18’ to the centerline of I-55. Remove both the southeast and southwest wingwalls and build an extension onto the south side of both abutments. Build an extension onto the south side of both piers. Install 3 new beam lines using W27 and W36 steel beams with pin and link assemblies that will be composite to the widened bridge deck. The new W36 beam will be larger sections than the existing W36x150 to compensate for the omission of a bottom flange cover plate. Perform retrofit repairs on the existing Span 2 cover plates. Repair areas of spalled or delaminated concrete on

existing abutments and wingwalls. Fill the void under the slopewall at the northwest corner.

3. **Superstructure and Partial Substructure Replacement**
   Remove and replace the existing steel beam superstructure with galvanized W36 continuous steel beams. Remove and replace pier caps, but reuse the existing pier columns and footings. Build an extension onto the south side of both piers. Replace the existing abutments with integral abutments placed behind the existing abutments. Replace concrete slope walls. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

4. **Structure Replacement**
   Remove and replace the entire structure with a continuous three-span galvanized steel W-shape beam superstructure on integral abutments. The deck geometry will accommodate the proposed roadway geometry from the I-55 Managed Lane Phase I Study.

V. DISCUSSION AND RECOMMENDED SCOPE OF WORK

The opinion of probable costs for each of the alternatives is summarized below. See Attachment G for the opinion of probable costs breakdown.

1. **In-Kind Repairs – $224,100**
2. **Structure Widening – $2,540,700**
3. **Superstructure and Partial Substructure Replacement – $4,523,200**
4. **Structure Replacement – $5,613,800**

Per the I-55 Managed Lane Phase I Study, the managed lane is expected to be implemented in 2020. All widening and replacement alternatives below assume the proposed structure will provide a 6'-0" outside shoulder, one 16'-0" ramp lane, a variable width gore, three 12'-0" general purpose traffic lanes, a 4' buffer between the general purpose traffic lanes and the 11'-0" managed traffic lane and a 12'-6" inside shoulder.

Analysis of Alternative 1 – The calculated percent of deck area requiring full depth repairs is 4.6% and the partial depth repairs is 10.0%. The total deck repair percentage is within the 25% limit presented in the Bridge Condition Report Procedures and Practices Manual for deck repair to be cost effective for a deck not being widened. This alternative can be used to extend the life span of the existing superstructure in the interim prior to implementing the changes required for the Managed Lane project.

Analysis of Alternative 2 – This alternative widens the structure approximately 18' to the centerline of I-55 to accommodate the new managed lane. The calculated percent of deck area requiring full depth repairs is 4.6% and partial depth repairs is

10.0%. Since this deck is 50 years old and has a recommended repair area at the upper limit (15%) presented in the BCR Procedures and Practices Manual for deck repair to be cost effective for a widened deck, it is recommended to replace the deck at the time of widening.

The existing pin and link assemblies were evaluated for elimination by making the structure continuous. This was considered not practical as it would require replacing the W27 beams in Spans 1 and 3 and replacing the existing abutments to account for the deeper beams. Instead, the pin and link assemblies will remain on the existing beams, which is not preferred from a maintenance standpoint. Cover plate retrofits will be necessary. Deck joints will also remain with this alternative, which will lead to continued degradation of the beams and substructure units.

Analysis of Alternative 3 – This alternative replaces existing W27 and W36 steel beam superstructure with a continuous three-span galvanized steel rolled beam (W36) superstructure on new integral abutments. The proposed abutments should be placed behind the existing abutments to avoid conflicting with the existing concrete piles. The resulting assumed span arrangement is approximately 50'/80'/50' measured between the centerline of bearings. Uplift at the abutments must be considered in the design phase given the relatively short exterior spans in the continuous structure.

The existing pier columns are in satisfactory condition with minimal rehabilitation required. Reusing the existing pier columns and footings will simplify construction since it will minimize construction impact to the BRC Railroad. In the future, the pier columns can be encased or strengthened with carbon fiber wrap if the rate of concrete degradation exceeds that of the replaced structure elements.

Using galvanized steel eliminates the need to periodically repaint the beam. Eliminating the deck joints will also help to prevent premature degradation of the beams and substructure elements. Providing new pier caps and integral abutments places most of the substructure on the same life cycle as the superstructure. The vertical clearance over the railroad will slightly improve due to the efficiency of the continuous structure allowing for the elimination of cover plates.

Analysis of Alternative 4 – This alternative completely eliminates the 50-year old structure and replaces it with a new structure with an expected 75-year service life. Increasing the length of Span 2 to avoid the existing piles is not feasible since deeper beams would be required, thereby reducing the vertical clearance over the railroad. On the other hand, shortening Span 2 cannot be assumed since moving the piers closer to the tracks will likely be prohibited by the railroad. Therefore, the new piers will be assumed at the same location as the existing, thereby creating piling conflicts with the existing timber piles. Similar to Alternative 3, for cost estimating purposes the proposed structure is assumed to have spans of approximately 50'/80'/50'.

The benefits of this alternative are similar to Alternative 3, with the addition of removing and replacing the pier columns and pier footings. Therefore, future maintenance of the pier columns will be less than the structure provided in

Alternative 3. However, this alternative adds construction complications of reconstructing the piers on the same footprint as the existing pier footings. The cost is also greater than Alternative 3 due to the removal and reconstruction of the additional pier elements.

VI. FINAL RECOMMENDATION

Stantec recommends Alternative 3 – Superstructure and Partial Substructure Replacement when the I-55 Managed Lane Project occurs. The selected alternative provides a new superstructure and replaces most of the critical portions of the substructure. Eliminating the deck joints will help to prevent premature degradation of the replaced substructure elements. As the I-55 Managed Lane Phase I Study is ongoing, the bridge widening to be presented in the TSL should match the final geometry as presented in the final I-55 Managed Lane Phase I Study.

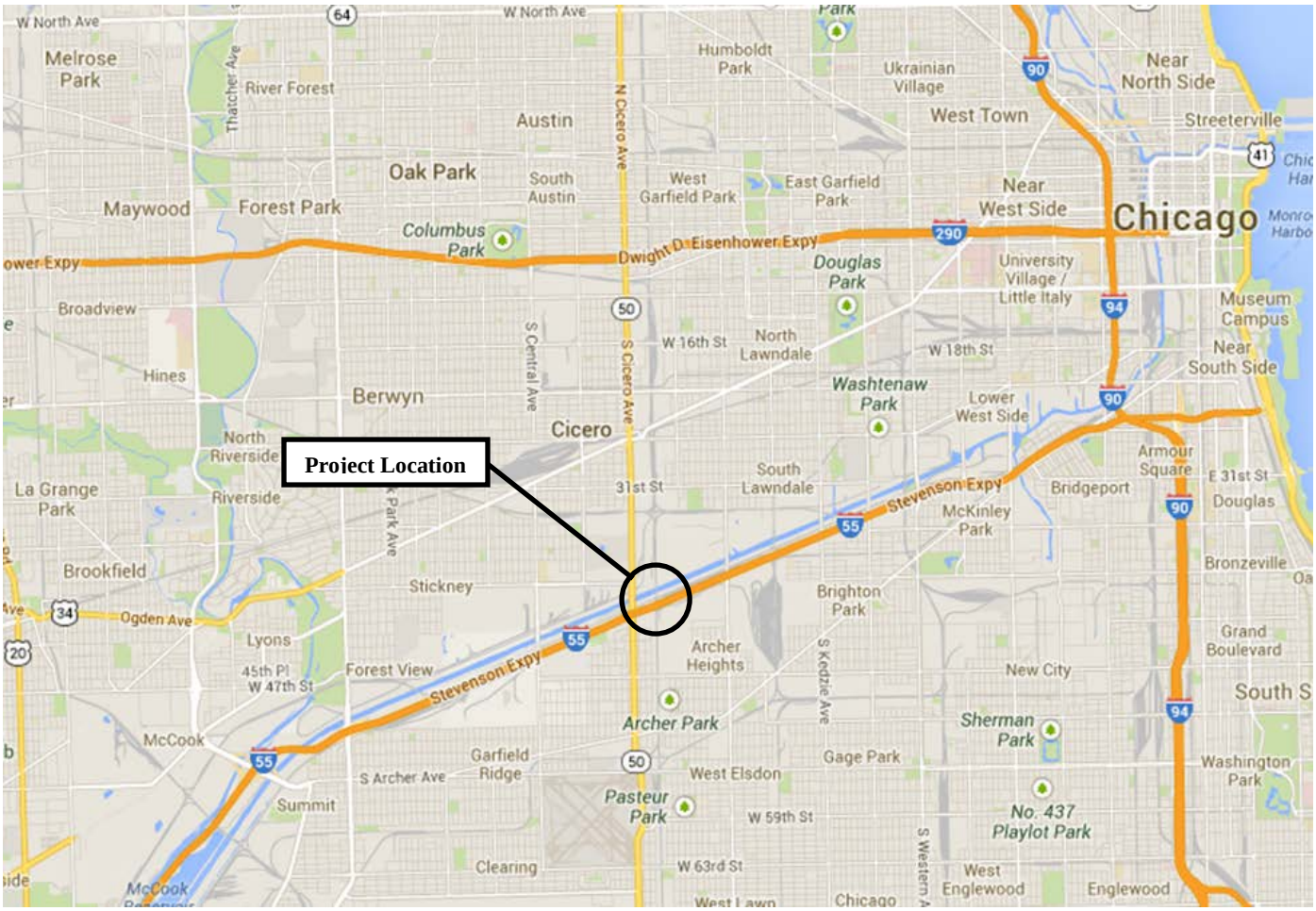
Based on the current condition of the bridge, the repairs of the deck or the substructure are not required in the short term. The ends of the cover plates and the pin and link assemblies should continue to be monitored by inspection.

VII. TRAFFIC STAGING

For Alternatives 2, 3 and 4, the existing deck is wide enough to provide two lanes of traffic in the westbound direction during stage construction. For Alternative 1, the lanes can be temporarily closed as needed to allow for the deck repairs. The traffic staging design will need to be confirmed by IDOT traffic prior to being implemented.

ATTACHMENT A

Location Map



N

Location Map

Proposed Improvement:

I-55 over BRC Railroad (Westbound)

Municipality: Chicago

County: Cook

Route: FAI 055

Project No: P-91-762-10

Structure No.: 016-0019

ATTACHMENT B

IDOT Master Structure Report

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0019 **District:** 1

Inventory Data

Facility Carried: I- 55 WB STEVENSON
Feature Crossed: RR - BRC
Bridge Remarks:
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks:
Maint County: 016 COOK
Maint Responsibility: 01 I.D.O.T.
Service On/Under: 1 HIGHWAY 2 / RAILROAD
Reporting Agency: 1 I.D.O.T. - BUREAU OF MAINTENANCE
Main Span Matl/Type: 4 STEEL CONTINUOUS / 02 STRINGER/MULTI-BEAM/GIRDER
Nbr Of Main Spans: 3 **Nbr Of Approach Spans:** 0
*****Approaches*****
Near #1 Matl/Type: /
Near #2 Matl/Type: /
Far #1 Matl/Type: /
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 0None / 0 None
Toll Facility Indicator: 0 No Toll
Latitude: 41 **D** 49 **M** 6 **S** **Longitude:** 87 **D** 44 **M** 19.93 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 0 None

Bridge Name:
Location: 0.25 M E ILL 50
Status Date: 12/2000
Maint Township: 62 LAKE (CHICAGO)
Skew Angle: 22 **D** 0 **M** 23 **S**
Deck Structure Thickness: 7 **SD:** N **FO:** N
Inventory Rating: 1.070(38)
Operating Rating: 1.680(60)
Design Load: 01 HS20+MOD

Sufficiency Rating: 86.0
HBP Eligible: No
Replaced By: 016-2670
Replaces: -
Last Update Date: 07/05/2012
Parallel Structure: Left
Multi-Level Structure Nbr:
Skew Direction: L Left
Structure Flared: Yes
Historical Significance: No
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 896000
Substructure Material:
Rated By: 2 IDOT
Load Rating Date: 11/05/2001

Structure Length: 168.1
AASHTO Bridge Length: 99.9
Length of Long Span: 91.0
Bridge Roadway Width: 68.6
Appr Roadway Width: 60.0
Deck Width: 72.0
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: N N/A
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00
Rate Method: 2 ALLOWABLE STRESS
Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 14.0
RR Vertical Underclear: 22 **Ft** 08 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID INTERSTATE 0055
Appurtenances Main Route 00000
Inventory County: 016 COOK
Township/Road Dist 62 LAKE (CHICAGO)
Municipality 1051 CHICAGO
Urban Area: 1051 1051
Functional Class: 1 INTERSTATE
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 68.6
Horizontal: 70.0 0.0
Lateral:

Station: 10.6100
Segment:
Linked: Y
Natl. Hwy System: On NHS
Inventory Direction:
Curr AADT Yr/Count: 2012 / 72400
Est Truck Percentage: 7
Number Of Lanes: 4
One Or Two Way: 1 One-Way
Bypass Length: 0
Future AADT Yr/Cnt: 2032 / 75808
Designated Truck Rte: CLASS I
Special Systems: Yes

Key Route Under Data

Station:
Segment:
Linked:
Natl. Hwy System:
Inventory Direction:
Curr AADT Yr/Count: /
Est Truck Percentage:
South/East **North/West**
Number Of Lanes:
One Or Two Way:
Bypass Length:
Future AADT Yr/Cnt: /
Designated Truck Rte:
Special Systems:

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

Designation	Kind	Number

Structure Number: 016-0019 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	Y	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 12/10/2012 **Inspection Temperature:** 35Deg. F

Deck:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						**Single Unit Vehicles:**	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						**Combination Type 3S-1:**	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	0
Channel and Protection:	N	NOT APPLICABLE		**Deck Wearing Surf:**	F	MICRO SIL CON OVRLY		**Last Paint Type:**	T
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		**Deck Membrane:**	F	NONE		FLD ZINC & ACRYLIC	
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA		**Deck Protection:**	J	NONE			
Underclearance-Vert/Lat.:	6	EQUAL TO PRESENT MINIMUM CRITERIA		**Total Deck Thick:**	8.7				
Waterway Adequacy:	N	NOT APPLICABLE		**Last Paint Date:**	07/2000				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date: **Inspection Category:**
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		Reconstructed	
Route:	FAI-55	**Sta:**	25+03.37	**Sta:**	
Section Nbr:		1212-620-VB			
Contract Nbr:					
Fed Aid Pr#:		IG 0557034281			
Built By:	1	I.D.O.T.			

Waterway Information

Flood Design Frequency:	YRS	**Drainage Area:**	Acre
Flood Design Q (CFS):			
Flood Design Nat H W E:		**Flood Base Q (CFS):**	
Flood Des Open Prop:	SF	**Flood Base Nat H W E:**	

ATTACHMENT C

Bridge Inspection Report

Illinois Department of Transportation

Routine Inspection Report

SN:	016-0019	**District:**	1	**Spans:**	3	**Appr. Spans:**	0	**Skew:**	22.01	**ADT:**	72400	**Truck Pct:**	7
ADT Un:		**Maint. Co:**	COOK	**Twsp:**	LAKE (CHICAGO)					**Status:**	OPEN - NO RESTRICT		
Facility Carried:	I- 55 WB STEVENSON					**Feature Crossed:**	RR - BRC						
Location	0.25 M E ILL 50			**Municipality:**	CHICAGO					**Team/Sub Section**	E26019		
Bridge Name:						**Material & Type:**	STEEL CONTINUOUS/STRINGER/MULTI-BEAM/GIRDER						
Insp. Intervals (Mo) Routine NBIS	24	**Fracture Critical:**	0	**Underwater:**	0	**Special Feature:**	48						

90 – Inspection Date:	/ /	90C – Temp. (ºF):		90A – Program Manager:	
Is Delinquent: ☐	Reason:				
90A1 – Team Leader:		90A2 – Inspector:			

90B – Inspection Remarks:

Previous Inspection	(2008) #58-DK CHLOR CONTAM W/LEACHING MAPCRKS & SM SPALLS. FILLETS SPALLING. #59 PAINT PEELING & RUST TYP. ESP @ FASCIAS & BMS 8 & 9. #60 CRKS& SPALLS@ ABUT CAPS & COLUMNS. 2012) Item 59 lowered to "5" due to init. sec loss/minor pitting

Resources

Time to Inspect (H:M):	1:0	:	Traffic Control:	3		Boat:			Waders:			Snooper:					
Ladder:			Manlift:			Bucket Truck:			Other:	UB50 for Pin & Link							

Inspector's Appraisals

	Prev	New	Comments
58 – Deck Condition:	5		
59 – Superstructure Cond:	5		
60 – Substructure Cond:	6		
62 – Culvert Condition:	N		
61 – Channel Condition:	N		
71 – Waterway Adequacy:	N		
72 – Approach Rdw Align:	8		
111 – Pier Navig Protection:	N		

90B – Inspector Remarks:

Routine Inspection Report

Structure Number: 0160019

Additional Inspection Data

	Prev	New
36A – Bridge Railing Adequacy:	3	

Rail Types:

Approach Guardrail Adequacy:	Prev	New	36B – Transitions:	Prev	New	36C – Guardrail:	Prev	New	36D – Ends:	Prev	New
				2			3			3	

	Prev	New	
108A – Wearing Surface Type:	F		If "L-Other" Describe:
108B – Type of Membrane:	F		If "E-Other" Describe:
108C – Deck Protection:	J		If "I-Other" Describe:
108D – Total Deck Thickness (in):	8.7		

	Prev	New
59A – Paint Date (Mo/Yr):	07/2000	/
59B – Paint Type:	T	— — — — — — — —

Color: Fascia - ____: Inter. - ____: Railing - ____.

59C – Utilities Attached:		— — —

If "B-Other" Describe: _____

		Prev	New
Weight Limit Posting:	70A2 – Single Unit Vehicles:		Tons
	70B2 – Combination Type 3S-1 (3 or 4 axles):		Tons
	70C2 – Combination Type 3S-2 (5 or more axles):		Tons
	70D2 – One Truck at a Time:	0	

Joint Openings (In.) _____

90B – Inspector Remarks Continued:

	Signature	Date
Inspection Team Leader:		/ /
Inspection Program Manager:		/ /

Pontis

Today's Date: 04/19/2013

Structure Number: 016-0019 **District:** 1 **(41) Bridge Status:** 1 OPEN - NO RESTRICT
(6) Feature Crossed: RR - BRC **(7) Facility Carried:** I- 55 WB STEVENSON
(9) Location: 0.25 M E ILL 50 **(7A) Bridge Name:**
Element Inspection Date: 12/10/2012 **Inspectors:** SEDLACEKJL

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	62	8,016	31	4,092	7	910	0	0	0	16	13,034
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:	Soffit- Chlor Contam, map crking w/HPs; Spalling w/exp rebar along longit jnt WS- HL diag & long crks spans 1&3; Isol HL map crks mainly S. Shldr; Few pop-outs w/PD emerging, Fillets spalling typ.											
Lead Painted Steel Open Girder												
107	4	29	5,349	51	9,180	20	3,644	0	0	0	0	18,173
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Lt to med rust @ bot flng & scattered web areas; Laminated rust @ top of bttm fl Bms #8&9 w/minor pitting due to old long. jt; Init sec loss to fascias. Paint peeling @ #8&9 and Fascias.											
Lead Painted Steel Pin and/or Hanger												
161	4	100	28	0	0	0	0	0	0	0	0	28
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	84	0	0	0	0	0	0	0	0	84
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Init pitting @ abut diaphs											
Reinforced Conc Column or Pile Extension												
205	3	100	3,293	0	0	0	4	0	0	0	0	3,297
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Few shallow spalls w/ exp rebar. Pier 1 spall w/rebar @ col #7.											
Reinforced Conc Abutment												
215	4	100	1,092	0	0	0	0	0	0	0	0	1,092
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Backwall) HL leach crks; Isol spall @ NW backwall											
Reinforced Conc Pier or Abutment Cap												
234	3	93	292	1	3	6	19	0	0	0	0	314
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Abut) HL-Nar Vert leach crks; Piers) Shallow Rebar spalls @ N end P1. Pier 1Cap spall/delam @ Bms 9&10. WAbut @ spalls @Bm13/14 & Bm 12/13. EAbut @ Bm1&2.											
Preformed Joint Seal												
302	4	100	156	0	0	0	0	0	0	0	0	156
		No deterioration		Minor deterioration		Major deterioration						
Remarks:												
Neoprene Expansion Joint												
307	4	100	162	0	0	0	0	0	0	0	0	162
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				

Remarks:

Continuous Seal Neoprene Expansion Joint

308	4	100	162	0	0	0	0	0	0	0	0	162
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks:

Movable Discontinous Brg.

311	4	100	28	0	0	0	0	0	0	0	0	28
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable						

Remarks: Nar random crks

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
			No deterioration	Minor cracks/spalls	Analysis warranted							

Remarks: HL Vert crks

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
			Minor fatigue, out-o	Moderate fatigue, ou	Severe fatigue, out-							

Remarks: Span 1 Pier 1 coverplate misaligned.

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	62	8,121	31	4,092	6	805	0	0	0	16	13,034
		No deficiencies.		Repaired areas exist	Map cracked areas.		Spalls/delaminations		Full depth failures.			

Remarks: Soffit- Chlor Contam, map crking w/HPs; Spalling w/exp rebar along longit jnt WS- HL diag & long crks spans 1&3; Isol HL map crks mainly S. Shldr; Few pop-outs w/PD emerging, Fillets spalling typ.

Lead Painted Steel Open Girder

107	4	29	5,349	51	9,180	20	3,644	0	0	0	0	18,173
		No corrosion		Paint distress	Rust formation		Section loss		Section failure			

Remarks: Lt to med rust @ bot flng & scattered web areas; Laminated rust @ top of bttm fl Bms #8&9 w/minor pitting due to old long. jt; Init sec loss to fascias. Paint peeling @ #8&9 and Fascias.

Lead Painted Steel Pin and/or Hanger

161	4	100	28	0	0	0	0	0	0	0	0	28
		No corrosion		Paint distress	Rust formation		Section loss		Section failure			

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	84	0	0	0	0	0	0	0	0	84
			No corrosion	Paint distress	Rust formation	Section loss		Section failure				

Remarks: Init pitting @ abut diaphs

Reinforced Conc Column or Pile Extension

205	3	100	3,293	0	0	0	4	0	0	0	0	3,297
			No deterioration	Minor cracks/spalls	Delams/spalls		Analysis warranted					

Remarks: Few shallow spalls w/ exp rebar. Pier 1 spall w/rebar @ col #7.

Reinforced Conc Abutment

215	4	100	1,092	0	0	0	0	0	0	0	0	1,092
			No deterioration	Minor cracks/spalls	Delams/spalls		Analysis warranted					

Remarks: Backwall) HL leach crks; Isol spall @ NW backwall

Reinforced Conc Pier or Abutment Cap

234	3	93	292	1	3	6	19	0	0	0	0	314
			No deterioration	Minor cracks/spalls	Delams/spalls		Analysis warranted					

Remarks: Abut) HL-Nar Vert leach crks; Piers) Shallow Rebar spalls @ N end P1. Pier 1Cap spall/delam @ Bms 9&10. WAbut @ spalls @Bm13/14 & Bm 12/13. EAbut @ Bm1&2.

Preformed Joint Seal

302	4	100	156	0	0	0	0	0	0	0	0	156
			No deterioration	Minor deterioration	Major deterioration							

Remarks:

Neoprene Expansion Joint

307	4	100	162	0	0	0	0	0	0	0	0	162
			The element shows mi	The seal maybe punct	The seal maybe heavi		Major deterioration					

Remarks:

Continuous Seal Neoprene Expansion Joint

308	4	100	162	0	0	0	0	0	0	0	0	162
			The element shows mi	The seal maybe punct	The seal maybe heavi		Major deterioration					

Remarks:

Movable Discontinous Brg.

311	4	100	28	0	0	0	0	0	0	0	0	28
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls		Broken/Unstable					

Remarks: Nar random crks

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
		No deterioration		Minor cracks/spalls	Analysis warranted							

Remarks: HL Vert crks

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
		Minor fatigue, out-o		Moderate fatigue, ou	Severe fatigue, out-							

Remarks: Span 1 Pier 1 coverplate misaligned.

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty

Concrete Deck Protected w/ Rigid Overlay

22	4	64	8,287	31	4,092	5	655	0	0	0	0	13,034
		No deficiencies.		Repaired areas exist	Map cracked areas.		Spalls/delaminations		Full depth failures.			

Remarks: Soffit- Chlor Contam, map crking w/HPs; Spalling w/exp rebar along longit jnt WS- HL diag & long crks spans 1&3; Isol HL map crks mainly S. Shldr; Few pop-outs w/PD emerging, Fillets spalling typ.

Lead Painted Steel Open Girder

107	4	29	5,349	51	9,180	20	3,644	0	0	0	0	18,173
		No corrosion		Paint distress	Rust formation		Section loss		Section failure			

Remarks: Lt to med rust @ bot flng & scattered web areas; Laminated rust @ top of bttm fl Bms #8&9 w/minor pitting due to old long. jt; Init sec loss to fascias. Paint peeling @ #8&9 and Fascias.

Lead Painted Steel Pin and/or Hanger

161	4	100	28	0	0	0	0	0	0	0	0	28
		No corrosion		Paint distress	Rust formation		Section loss		Section failure			

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	84	0	0	0	0	0	0	0	0	84
		No corrosion		Paint distress	Rust formation		Section loss		Section failure			

Remarks: Init pitting @ abut diaphs

Reinforced Conc Column or Pile Extension

205	3	100	3,293	0	0	0	4	0	0	0	0	3,297
		No deterioration		Minor cracks/spalls	Delams/spalls		Analysis warranted					

Remarks: Few shallow spalls w/ exp rebar. Pier 1 spall w/rebar @ col #7.

Reinforced Conc Abutment

215	4	100	1,092	0	0	0	0	0	0	0	0	1,092
		No deterioration		Minor cracks/spalls	Delams/spalls		Analysis warranted					

Remarks: Backwall) HL leach crks; Isol spall @ NW backwall

Reinforced Conc Pier or Abutment Cap

234	3	93	292	1	3	6	19	0	0	0	0	314
		No deterioration		Minor cracks/spalls	Delams/spalls		Analysis warranted					

Remarks: Abut) HL-Nar Vert leach crks; Piers) Shallow Rebar spalls @ N end P1. Pier 1Cap spall/delam @ Bms 9&10. WAbut @ spalls @Bm13/14 & Bm 12/13. EAbut @ Bm1&2.

Preformed Joint Seal

302	4	100	156	0	0	0	0	0	0	0	0	156
		No deterioration		Minor deterioration	Major deterioration							

Remarks:

Neoprene Expansion Joint

307	4	100	162	0	0	0	0	0	0	0	0	162
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks:

Continuous Seal Neoprene Expansion Joint

308	4	100	162	0	0	0	0	0	0	0	0	162
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks:

Movable Discontinous Brg.

311	4	100	28	0	0	0	0	0	0	0	0	28
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable						

Remarks: Nar random crks

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
			No deterioration	Minor cracks/spalls	Analysis warranted							

Remarks: HL Vert crks

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
			Minor fatigue, out-o	Moderate fatigue, ou	Severe fatigue, out-							

Remarks: Span 1 Pier 1 coverplate misaligned.

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	64	8,314	31	4,092	5	628	0	0	0	0	13,034
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:	Soffit) Map crking w/HPs; Spalling w/exp rebar along long jt WS) HL diag & long crks spans 1&3; Isol HL map crks mainly S. Shldr; Few pop-outs w/PD emerging											
Lead Painted Steel Open Girder												
107	4	29	5,349	51	9,180	20	3,644	0	0	0	0	18,173
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Lt rust to bot fl & scattered web areas; Laminated rust to top of bttm fl Bms 8&9 w/minor pitting due to old long. jt; Init sec loss to fascias											
Lead Painted Steel Pin and/or Hanger												
161	4	100	28	0	0	0	0	0	0	0	0	28
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	84	0	0	0	0	0	0	0	0	84
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:	Init pitting @ abut diaphrs											
Reinforced Conc Column or Pile Extension												
205	3	100	3,293	0	0	0	4	0	0	0	0	3,297
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Few shallow rebar spalls											
Reinforced Conc Abutment												
215	4	100	1,092	0	0	0	0	0	0	0	0	1,092
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Backwall) HL leach crks; Isol spall @ NW backwall											
Reinforced Conc Pier or Abutment Cap												
234	3	94	294	1	3	5	17	0	0	0	0	314
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:	Abut) HL-Nar Vert crks; Piers) Shallow Rebar spalls @ N end P1											
Preformed Joint Seal												
302	4	100	156	0	0	0	0	0	0	0	0	156
		No deterioration		Minor deterioration		Major deterioration						
Remarks:												
Neoprene Expansion Joint												
307	4	100	162	0	0	0	0	0	0	0	0	162
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:												
Continuous Seal Neoprene Expansion Joint												
308	4	100	162	0	0	0	0	0	0	0	0	162
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:												

Movable Discontinous Brg.

311	4	100	28	0	0	0	0	0	0	0	0	28
		No deterioration	Minor deterioration		Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration	Minor deterioration		Advanced corrosion							

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration	Minor deterioration		Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration	Cracks/spalls		Major cracks/spalls		Broken/Unstable					

Remarks: Nar random crks

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
		No deterioration	Minor cracks/spalls		Analysis warranted							

Remarks: HL Vert crks

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
		Minor fatigue, out-o	Moderate fatigue, ou		Severe fatigue, out-							

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	64	8,314	31	4,092	5	628	0	0	0	0	13,034
		No deficiencies.	Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.			

Remarks:

Lead Painted Steel Open Girder

107	4	29	5,349	51	9,180	20	3,644	0	0	0	0	18,173
		No corrosion	Paint distress		Rust formation		Section loss		Section failure			

Remarks:

Lead Painted Steel Pin and/or Hanger

161	4	100	28	0	0	0	0	0	0	0	0	28
		No corrosion	Paint distress		Rust formation		Section loss		Section failure			

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	84	0	0	0	0	0	0	0	0	84
		No corrosion	Paint distress		Rust formation		Section loss		Section failure			

Remarks:

Reinforced Conc Column or Pile Extension

205	3	100	3,297	0	0	0	0	0	0	0	0	3,297
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Abutment

215	4	100	1,092	0	0	0	0	0	0	0	0	1,092
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Reinforced Conc Pier or Abutment Cap

234	3	100	314	0	0	0	0	0	0	0	0	314
			No deterioration	Minor cracks/spalls	Delams/spalls	Analysis warranted						

Remarks:

Preformed Joint Seal

302	4	100	156	0	0	0	0	0	0	0	0	156
			No deterioration	Minor deterioration	Major deterioration							

Remarks:

Neoprene Expansion Joint

307	4	100	162	0	0	0	0	0	0	0	0	162
			The element shows mi	The seal maybe punct	The seal maybe heavi	Major deterioration						

Remarks:

Movable Discontinous Brg.

311	4	100	28	0	0	0	0	0	0	0	0	28
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration	Minor deterioration	Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration	Cracks/spalls	Major cracks/spalls	Broken/Unstable						

Remarks:

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
			No deterioration	Minor cracks/spalls	Analysis warranted							

Remarks:

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
			Minor fatigue, out-o	Moderate fatigue, ou	Severe fatigue, out-							

Remarks:

Element Description												
Elem	**Env**	**% 1**	**Qty 1**	**% 2**	**Qty 2**	**% 3**	**Qty 3**	**% 4**	**Qty 4**	**% 5**	**Qty 5**	**Tot Qty**
Concrete Deck Protected w/ Rigid Overlay												
22	4	64	8,314	31	4,092	5	628	0	0	0	0	13,034
		No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.		
Remarks:												
Lead Painted Steel Open Girder												
107	4	29	5,349	51	9,180	20	3,644	0	0	0	0	18,173
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Lead Painted Steel Pin and/or Hanger												
161	4	100	28	0	0	0	0	0	0	0	0	28
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Non-Lead Painted Steel Closed Web/Box Girder and O												
173	4	100	84	0	0	0	0	0	0	0	0	84
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	3	100	3,297	0	0	0	0	0	0	0	0	3,297
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Abutment												
215	4	100	1,092	0	0	0	0	0	0	0	0	1,092
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier or Abutment Cap												
234	3	100	314	0	0	0	0	0	0	0	0	314
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Preformed Joint Seal												
302	4	100	156	0	0	0	0	0	0	0	0	156
		No deterioration		Minor deterioration		Major deterioration						
Remarks:												
Neoprene Expansion Joint												
307	4	100	162	0	0	0	0	0	0	0	0	162
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:												
Movable Discontinous Brg.												
311	4	100	28	0	0	0	0	0	0	0	0	28
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
			No deterioration		Minor deterioration		Advanced corrosion					

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
			No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks:

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
			No deterioration		Minor cracks/spalls		Analysis warranted					

Remarks:

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
			Minor fatigue, out-o		Moderate fatigue, ou		Severe fatigue, out-					

Remarks:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	% 5	Qty 5	Tot Qty
Concrete Deck Protected w/ Rigid Overlay												
22	4	64	8,314	31	4,092	5	628	0	0	0	0	13,034
			No deficiencies.		Repaired areas exist		Map cracked areas.		Spalls/delaminations		Full depth failures.	

Remarks:

Lead Painted Steel Open Girder

107	4	85	15,473	15	2,700	0	0	0	0	0	0	18,173
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Lead Painted Steel Pin and/or Hanger

161	4	100	28	0	0	0	0	0	0	0	0	28
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder and O

173	4	100	84	0	0	0	0	0	0	0	0	84
			No corrosion		Paint distress		Rust formation		Section loss		Section failure	

Remarks:

Reinforced Conc Column or Pile Extension

205	3	100	3,297	0	0	0	0	0	0	0	0	3,297
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Abutment

215	4	100	1,092	0	0	0	0	0	0	0	0	1,092
			No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted			

Remarks:

Reinforced Conc Pier or Abutment Cap

234	3	100	314	0	0	0	0	0	0	0	0	314
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted					

Remarks:

Preformed Joint Seal

302	4	100	156	0	0	0	0	0	0	0	0	156
		No deterioration	Minor deterioration		Major deterioration							

Remarks:

Neoprene Expansion Joint

307	4	100	162	0	0	0	0	0	0	0	0	162
		The element shows mi	The seal maybe punct		The seal maybe heavi		Major deterioration					

Remarks:

Movable Discontinous Brg.

311	4	100	28	0	0	0	0	0	0	0	0	28
		No deterioration	Minor deterioration		Advanced corrosion							

Remarks:

Fixed Bearing

313	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration	Minor deterioration		Advanced corrosion							

Remarks:

Moveable Steel Bearings below continuous decks

316	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration	Minor deterioration		Advanced corrosion							

Remarks:

Approach Pavement

323	4	100	2	0	0	0	0	0	0	0	0	2
		No deterioration	Cracks/spalls		Major cracks/spalls		Broken/Unstable					

Remarks:

Concrete Bridge Railing

331	4	100	334	0	0	0	0	0	0	0	0	334
		No deterioration	Minor cracks/spalls		Analysis warranted							

Remarks:

Steel Pin and Hanger

411	4	0	0	100	28	0	0	0	0	0	0	28
		Minor fatigue, out-o	Moderate fatigue, ou		Severe fatigue, out-							

Remarks:

Element Description												
Elem	**Env**	**% 1**	**Qty 1**	**% 2**	**Qty 2**	**% 3**	**Qty 3**	**% 4**	**Qty 4**	**% 5**	**Qty 5**	**Tot Qty**
Concrete Deck Protected w/ AC Overlay												
14	4	90	11,235	0	0	10	1,248	0	0	0	0	12,483
		No deficiencies.		Repaired areas.		Map cracked areas.		Spalls/delam exist.		Full depth failures.		
Remarks:												
Lead Painted Steel Open Girder												
107	4	90	16,356	10	1,817	0	0	0	0	0	0	18,173
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Lead Painted Steel Pin and/or Hanger												
161	4	100	28	0	0	0	0	0	0	0	0	28
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Lead Painted Steel Closed Web/Box Girder and Open												
172	4	100	84	0	0	0	0	0	0	0	0	84
		No corrosion		Paint distress		Rust formation		Section loss		Section failure		
Remarks:												
Reinforced Conc Column or Pile Extension												
205	3	100	3,297	0	0	0	0	0	0	0	0	3,297
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Abutment												
215	4	90	983	5	55	5	55	0	0	0	0	1,092
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Reinforced Conc Pier or Abutment Cap												
234	3	100	314	0	0	0	0	0	0	0	0	314
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted				
Remarks:												
Neoprene Expansion Joint												
307	4	0	0	100	150	0	0	0	0	0	0	150
		The element shows mi		The seal maybe punct		The seal maybe heavi		Major deterioration				
Remarks:												
Movable Discontinous Brg.												
311	4	100	28	0	0	0	0	0	0	0	0	28
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Fixed Bearing												
313	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration		Minor deterioration		Advanced corrosion						
Remarks:												
Moveable Steel Bearings below continuous decks												
316	4	100	14	0	0	0	0	0	0	0	0	14
		No deterioration		Minor deterioration		Advanced corrosion						

Remarks:

Approach Pavement

323	4	0	0	100	2	0	0	0	0	0	0	2
		No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable				

Remarks:

Concrete Bridge Railing

331	4	82	274	12	40	6	20	0	0	0	0	334
		No deterioration		Minor cracks/spalls		Analysis warranted						

Remarks:

Steel Pin and Hanger

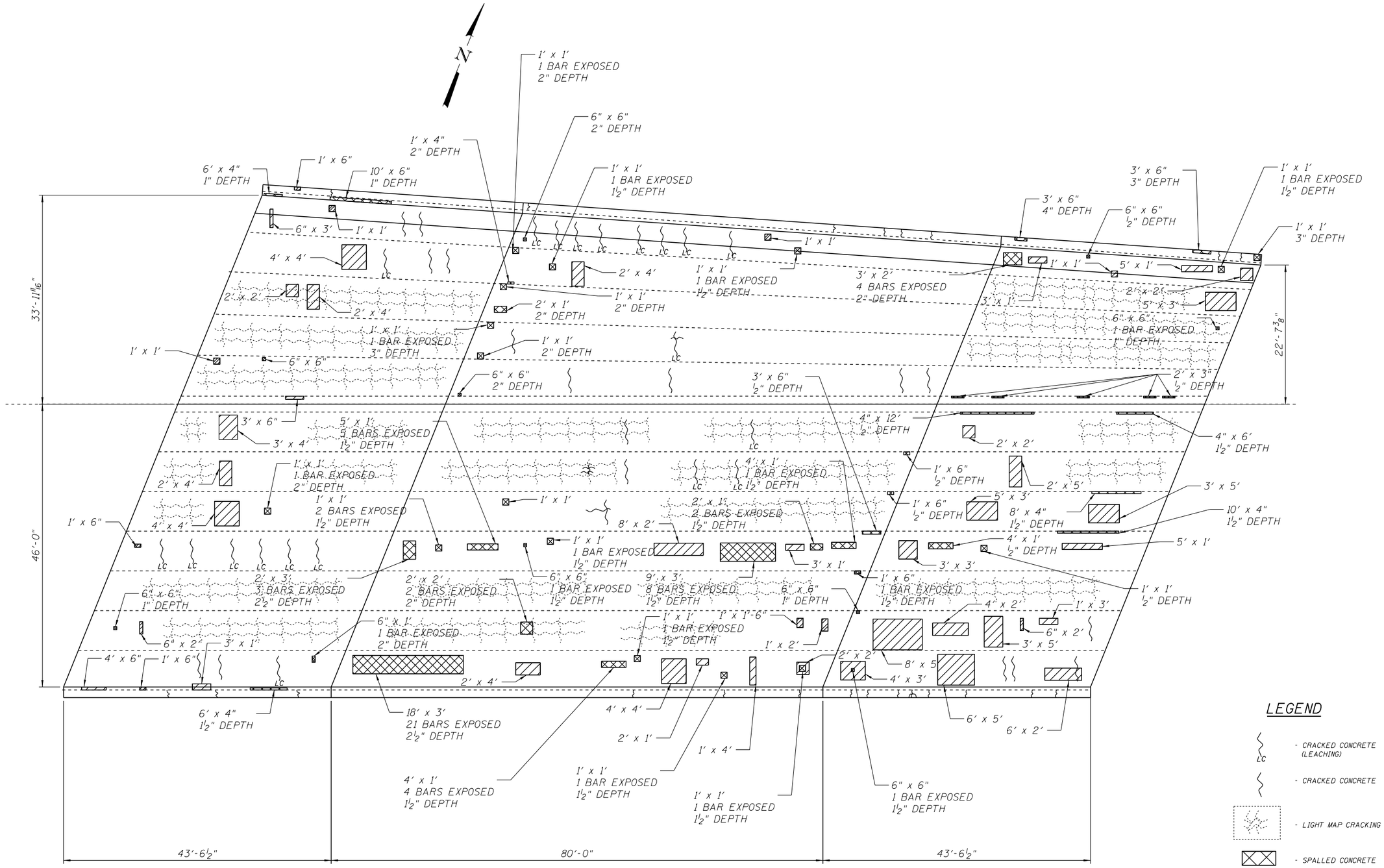
411	4	0	0	0	0	100	28	0	0	0	0	28
		Minor fatigue, out-o		Moderate fatigue, ou		Severe fatigue, out-						

Remarks:

Download Date: 04/18/2013

ATTACHMENT D

Bottom of Deck Condition Survey



UNDERSIDE OF DECK
(WESTBOUND BRIDGE)

LEGEND

- LC - CRACKED CONCRETE (LEACHING)
- CRACKED CONCRETE
- LIGHT MAP CRACKING
- SPALLED CONCRETE
- DELAMINATED CONCRETE

FILE NAME = V:\1786\active\178600037_IDOT_I-55\structural\drawing\sht\dwg_BRC_Railroad_Underside_of_Deck_Plan.dgn

Stantec

USER NAME = jerojas	DESIGNED - JSR	REVISED -
	CHECKED - BPS	REVISED -
PLOT SCALE = N/A	DRAWN - JSR	REVISED -
PLOT DATE = 10/4/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT D – BOTTOM OF DECK CONDITION SURVEY
STRUCTURE NO. 016–0019
SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1212-620-VB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT E

Condition Assessment of the Reinforced Concrete Bridge Deck

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

January 6, 2012

Ms. Diane M. O'Keefe
Deputy Director of Highways
District One Engineer
Illinois Department of Transportation
201 West Center Court
Schaumburg, Illinois 60196-1096
Attn: Ms. Sarah Wilson (Maintenance Bridge Engineer)

Re: Condition Assessment of Bridge Deck
I-55 Westbound over BRC Railroad
Structure No. 016-0019
District One
Work Order 10
PTB No. 153-18
WJE No. 2009.3645.10

Dear Ms. O'Keefe:

At your request, Wiss, Janney, Elstner Associates, Inc. (WJE) completed a condition assessment of the reinforced concrete bridge deck for Structure No. 016-0019. This work included a visual assessment of concrete deterioration from below the structure. Also included was a delamination survey performed on the top of the bridge deck, based on an infrared thermography (IR) survey. Reinforcing bar cover depth determination was also performed using ground penetrating radar (GPR). These inspection tasks began in July and were completed in September.

Structure Description

The I-55 Westbound Bridge over BRC Railroad carries four lanes of traffic and two shoulders. This three span structure is comprised of a concrete deck supported by steel beams. Each of the 14 girder lines is connected using steel diaphragms. All deck and substructure components are comprised of cast-in-place reinforced concrete construction. Reportedly the bridge structure was originally constructed in 1963 and the current overlay was installed in 2000.

The spans have approximate lengths of 42 ft, 80 ft, and 42 ft, from west to east, for a total structure length of 168 ft-2 in., back-to-back of abutments. The total deck width varies. The total resulting bridge deck area is approximately 12,415 sq. ft. A partial elevation view of the structure looking northwest is included as Figure 1.

Inspection Methods

The condition of the reinforced concrete bridge deck was assessed using several methods. These methods can be broken down into two major categories: Bottom of Deck Inspection Methods and Top of Deck Inspection Methods.

Bottom of Deck Inspection Methods

The condition of the bottom of the reinforced concrete deck was assessed from grade below the structure in September 2011. All accessible areas of the bottom of the deck were assessed visually. This inspection was completed from the ground beneath the bridge outside of active railroad tracks. Binoculars and/or zoom lenses were used to magnify the view of distant surfaces. Plan drawings of the structure including the structural framing were used to record field notes.

Top of Deck Inspection Methods

The condition of the top of the reinforced concrete deck was assessed using IR equipment to map areas of spalls, patches, and delaminations. This work was subcontracted to Infrasense, Inc. and was performed in July, 2011. Rolling lane closures were utilized during data collection periods to allow the IR data collection vehicle to assess the entire bridge deck surface while moving at approximately 3 mph. Impact Echo (IE) and sounding techniques were used to confirm the presence of delaminations at select locations on each bridge deck. All IR data was analyzed and summarized on bridge deck drawing sheets that show the located defects to scale.

GPR equipment was used to identify the cover depth of the top mat of reinforcing steel from the top surface of the deck. The GPR equipment was mounted to an inspection vehicle and scans were completed at normal operating speeds.

Assessment Results

The reinforced concrete bridge deck was found to be in satisfactory condition overall. Results for each assessment category are included below.

Bottom of Deck

Visual inspection from grade below the bridge was used to assess the bottom of the bridge deck. All areas of spalls or delaminations that could be identified visually were documented. In addition, all areas of previously repaired concrete were noted. Table 1 includes a summary of the visual inspection, including total deck soffit area, the area of spalled concrete, the area of delaminated concrete and the area of previous repairs. Figures 2 and 3 show the typical condition of the deck soffit. The results of the bottom of deck survey are shown on Sheet S-3 of Appendix A.

Table 1. Bottom of Deck Deterioration Summary

Soffit Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Previously Repaired Area (sq.ft)
12,415	25	0.2	235	1.9	2155

Top of Deck

The top of the bridge deck was assessed using both IR and GPR equipment. The IR survey equipment was able to identify delaminations and spalls present in the bridge deck. Figure 4 is an overall view of the top deck surface looking southwest.

Table 2 includes a summary of the total bridge deck area, the total bridge deck area spalled, the total bridge deck area delaminated, the total bridge deck area that should be programmed for repair work and the rebar cover from the top surface of the deck. Sheet S-1 of Appendix A is a scaled bridge deck plan drawing showing the locations of the delaminated or spalled areas. Sheet S-2 of Appendix A is a scaled bridge deck plan drawing showing an image of the IR scan of the bridge. Sheet S-4 of Appendix A is a scaled bridge deck plan drawing showing the location of suggested partial and full depth concrete repairs using conventional patching techniques. Note that repair area boundaries were selected by expanding the boundaries of each delaminated or spalled area by 6 inches to account for saw cutting outside of the delamination and further deterioration prior to the actual start of any repair work. In addition, repair areas were joined when adjacent repairs were spaced at approximately 2 ft. or less. Full depth repair boundaries were determined based on locations where top and bottom surface defects overlapped. No bottom surface repairs were identified based on recommendations from IDOT.

Table 2. Top of Deck Deterioration Summary

Bridge Deck Area (sq. ft)	Spalled Area (sq. ft)	Total Area (%)	Delaminated Area (sq. ft)	Total Area (%)	Repair Area (sq. ft)	Total Area (%)	Rebar Cover (in.)
12,415	0	0	665	5.4	1414	11.4	3.4

Recommendations and Conclusions

WJE performed a condition assessment of the reinforced concrete bridge deck of the I-55 Westbound Bridge over BRC Railroad. This condition assessment included: a visual survey of the bottom of the deck and an IR survey of the top of the deck. This information was used to produce repair drawings indicating the size and location of anticipated repair areas.

The repair work should, at a minimum, include partial depth repairs at all locations indicated on Sheet S-4 in Appendix A. If this option is selected, a detailed delamination assessment should be completed by the contractor at the time of the repair work to ensure that all areas of deteriorated concrete are identified. In addition, all re-entrant corners of repair areas should be detailed to include a 4 inch chamfer to reduce the potential for concrete-shrinkage related cracking.

The bridge deck was found to currently be in satisfactory condition, but corrosion-related damage has become apparent and should be repaired.

We would be happy to answer any questions or provide additional information.

Sincerely,

WISS, JANNEY, ELSTNER ASSOCIATES, INC.

Joseph A. Rogers Jr., S.E.
Project Associate

Jonathan C. McGormley, P.E., S.E.
Project Manager

Figures

Figure 1. Elevation View, looking northwest.

Figure 2. Typical view, deck soffit, looking west.

Figure 3. Typical view, deck soffit, looking east.

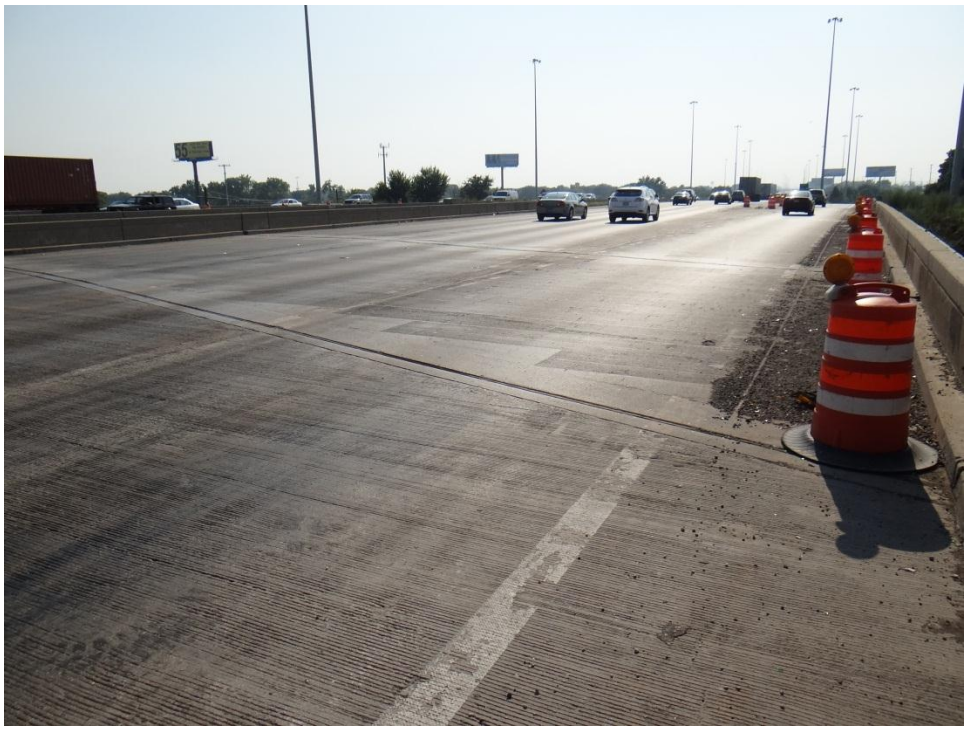
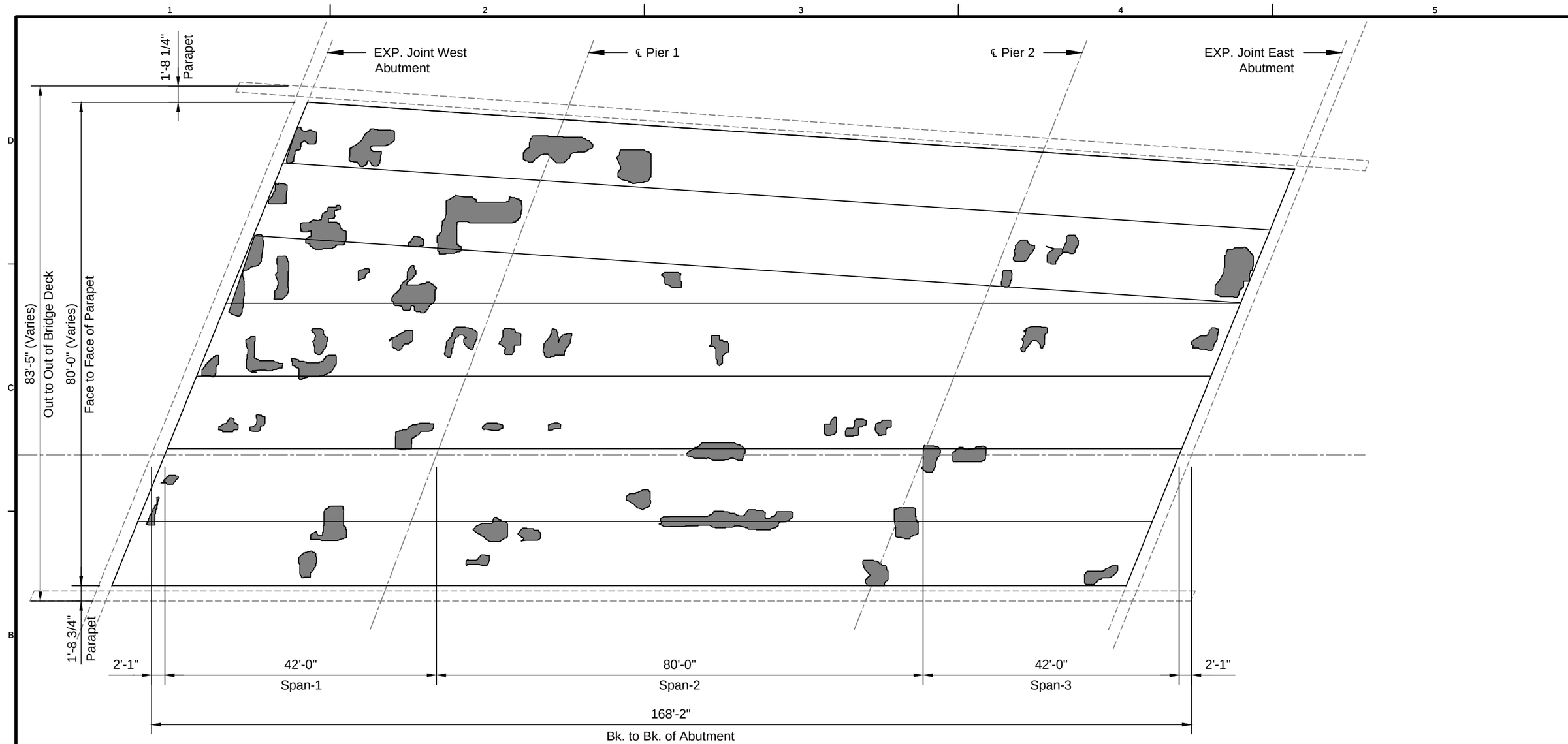


Figure 4.Typical view, deck top surface, looking southwest

Appendix A - Bridge Deck Condition Assessment Drawings



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0019		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft²	12415	100	SPALL
DELAMINATION	ft²	665	5.4	CRACK
SPALL	ft²	0	0	
CRACKS	ft	-	-	

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

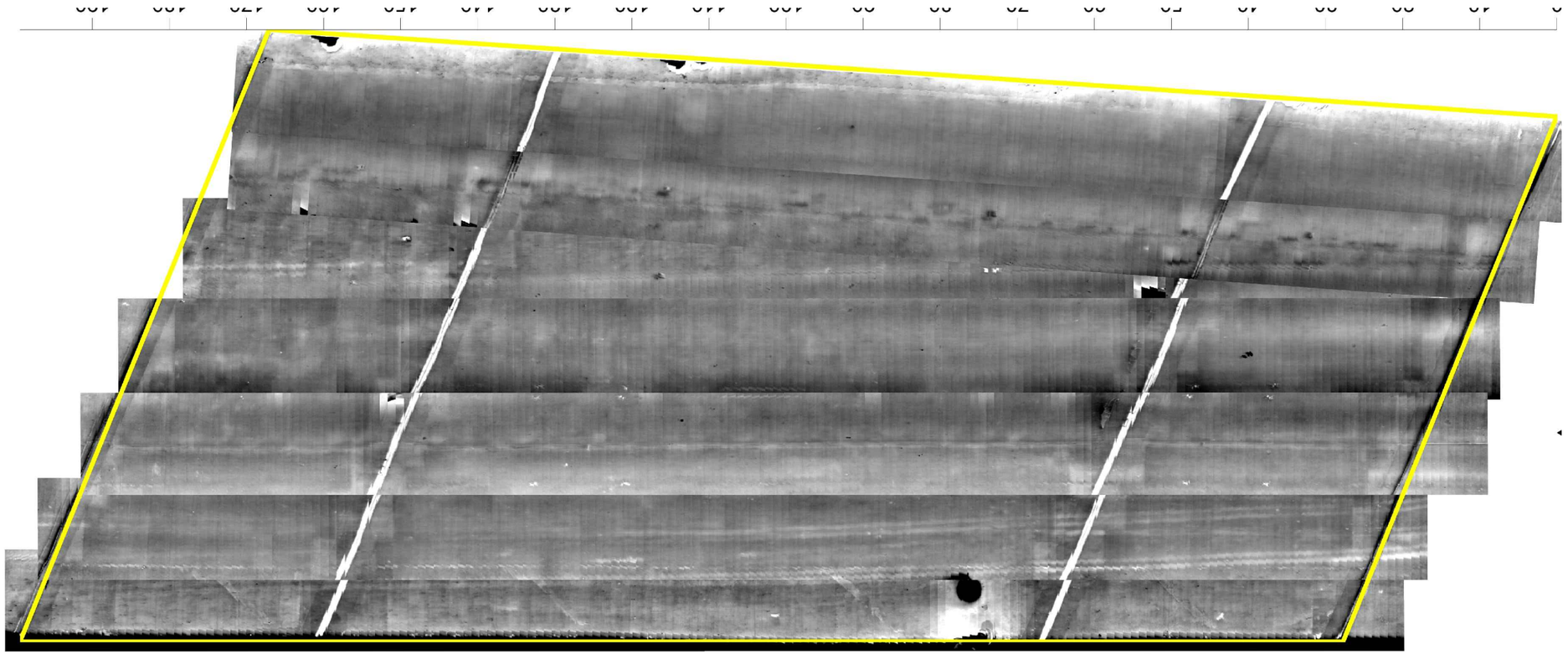
Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0019
WESTBOUND I-55 OVER R.R.

Sheet Title
IR Result - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	As Noted

Sheet No. **S1**



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THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

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Client

Illinois Department of Transportation

District One
201 West Center Court
Schaumburg, Illinois 60196

Project

Bridge 016-0019

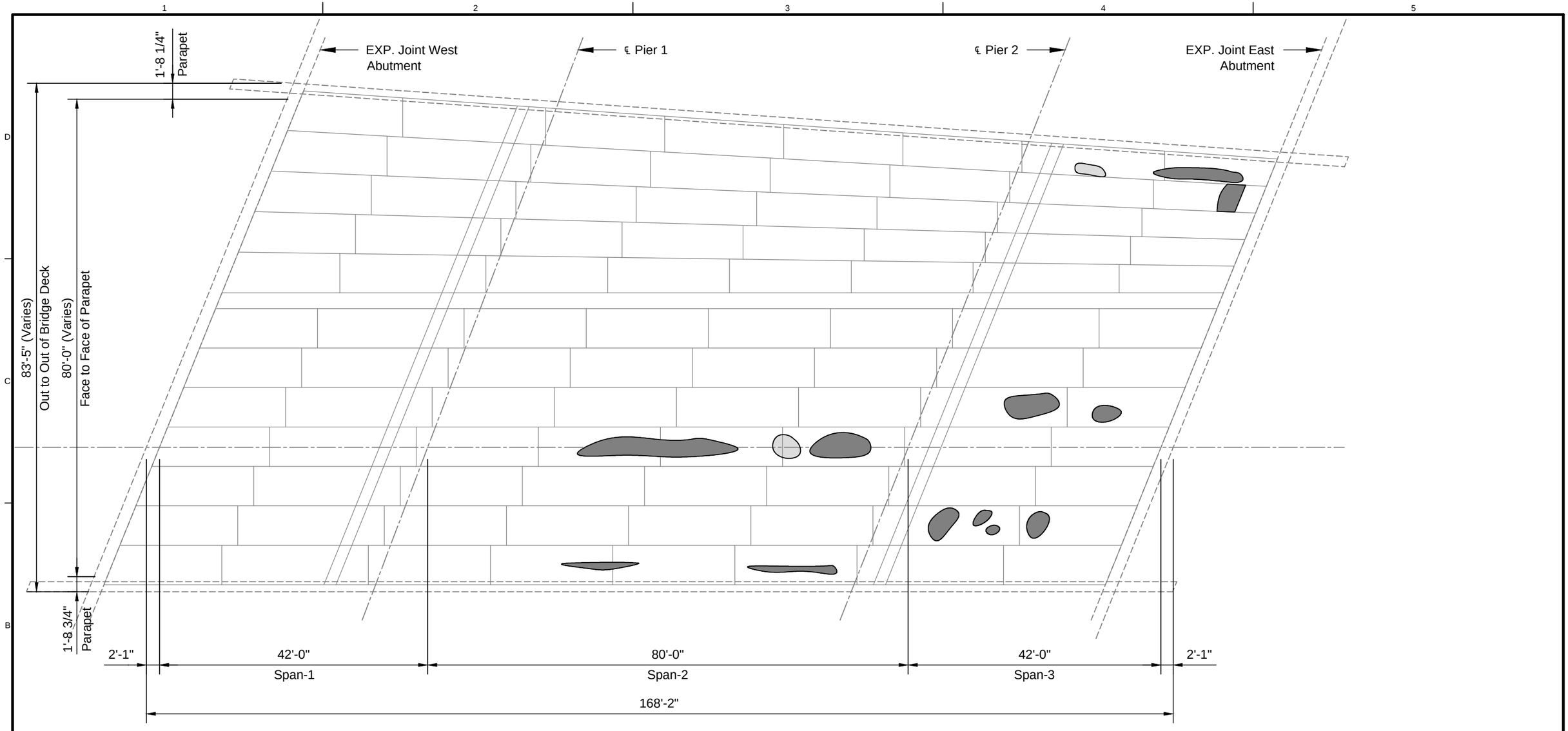
WESTBOUND I-55 OVER R.R.

Sheet Title

IR Image - Top Surface

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'

Sheet No. **S2**



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0019		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ftJ	12415	100	SPALL
DELAMINATION	ftJ	235	1.9	PREV. REPAIR
SPALL	ftJ	25	0.2	CRACK
PREVIOUS REPAIRS	ftJ	2155	17.4	
CRACKS	ft	-	-	

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0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

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330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

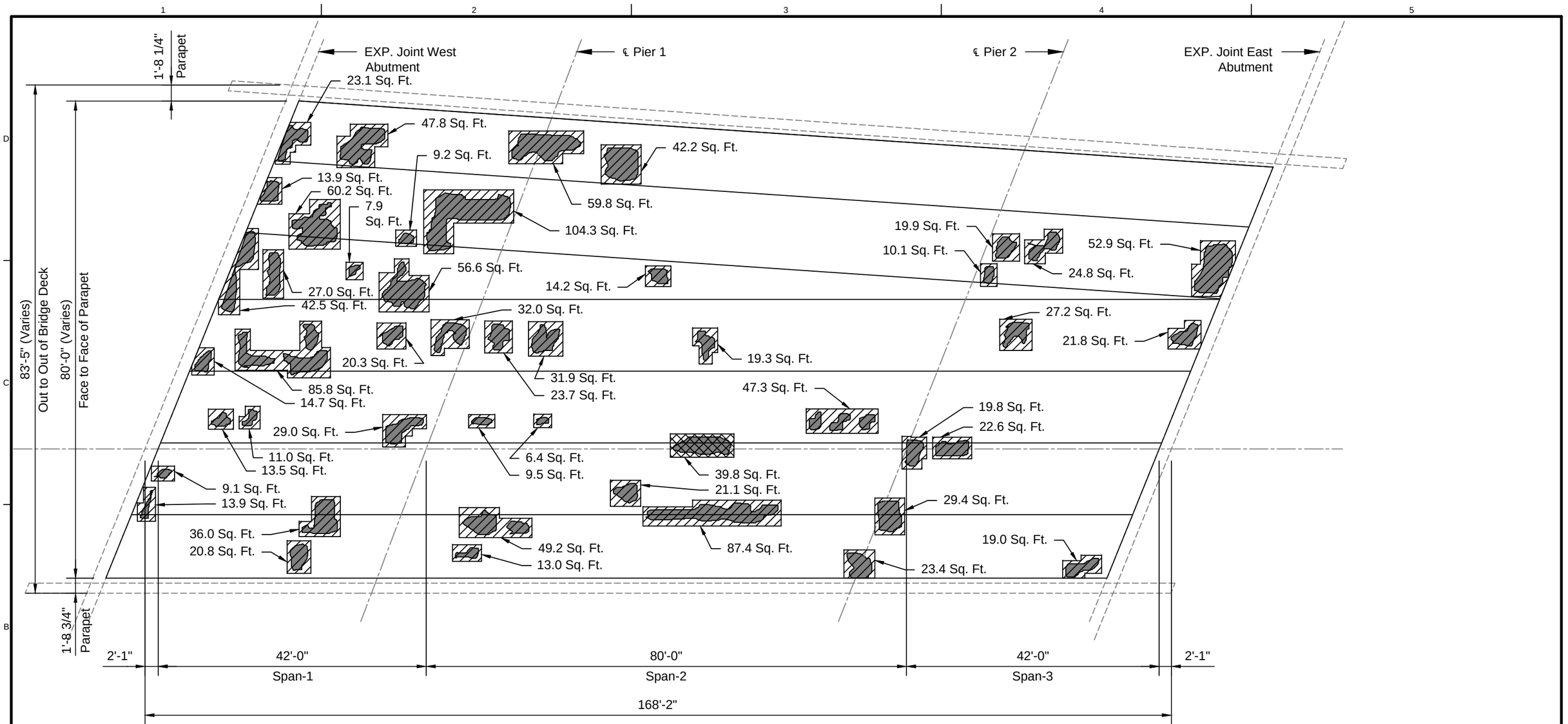
Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0019
WESTBOUND I-55 OVER R.R.

Sheet Title
Underside Deterioration

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'

Sheet No. **S3**



FIELD OBSERVATION SUMMARY		STRUCTURE # 016-0019	
ITEM	UNIT	QUANT.	%
TOTAL AREA	ft²	12415	100
PARTIAL DEPTH REPAIR	ft²	1374	11.1
FULL DEPTH REPAIR	ft²	40	0.3
DELAMINATION	ft²	665	5.4
SPALL	ft²	0	0
CRACKS	ft	-	-

LEGEND

- PARTIAL DEPTH REPAIR
- FULL DEPTH REPAIR
- DELAMINATION
- SPALL
- CRACK

N

0 1/2" 1"

THIS SHEET PLOTS FULL SIZE AT 11x17 (INCHES)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.4813 fax
www.wje.com

Client
Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, Illinois 60196

Project
Bridge 016-0019
WESTBOUND I-55 OVER R.R.

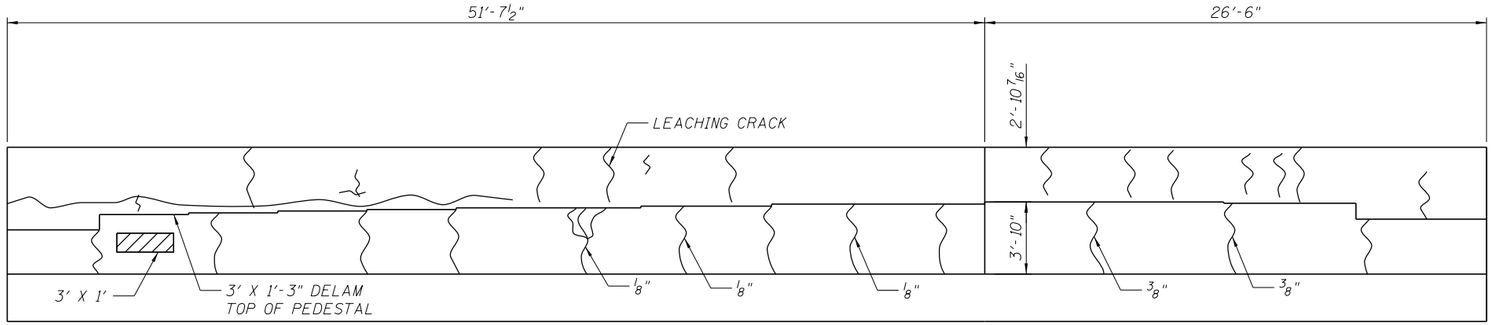
Sheet Title
Proposed Repairs

Proj. No.	2009.3645.10
Date	November 19 2011
Drawn	JJZ
Checked	JAR
Scale	1/16" = 1'-0"

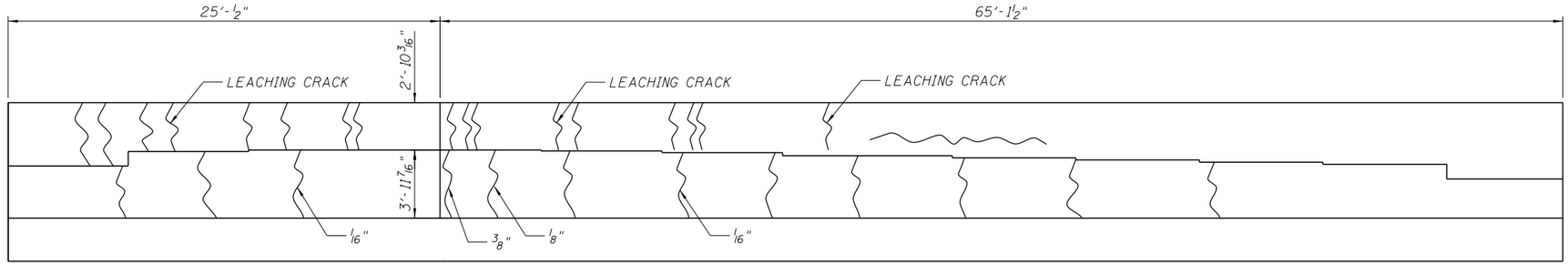
Sheet No. **S4**

ATTACHMENT F

Substructure Condition Surveys



EAST ABUTMENT LOOKING EAST



WEST ABUTMENT LOOKING WEST

LEGEND

- HAIRLINE CRACK (UNLESS OTHERWISE NOTED)
- SPALLED CONCRETE
- DELAMINATED CONCRETE

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	CHECKED - BPS	REVISED -
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PLOT DATE = 10/4/2013	CHECKED - BPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016–0019
SHEET NO. 1 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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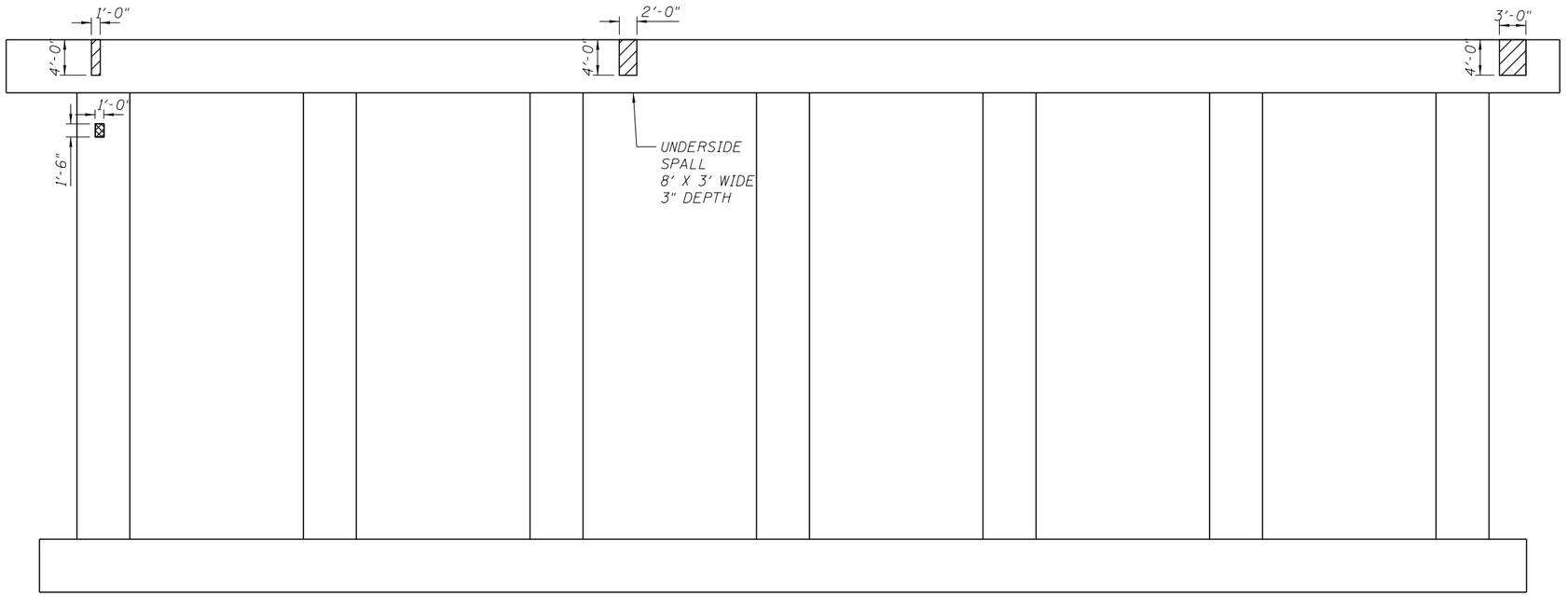
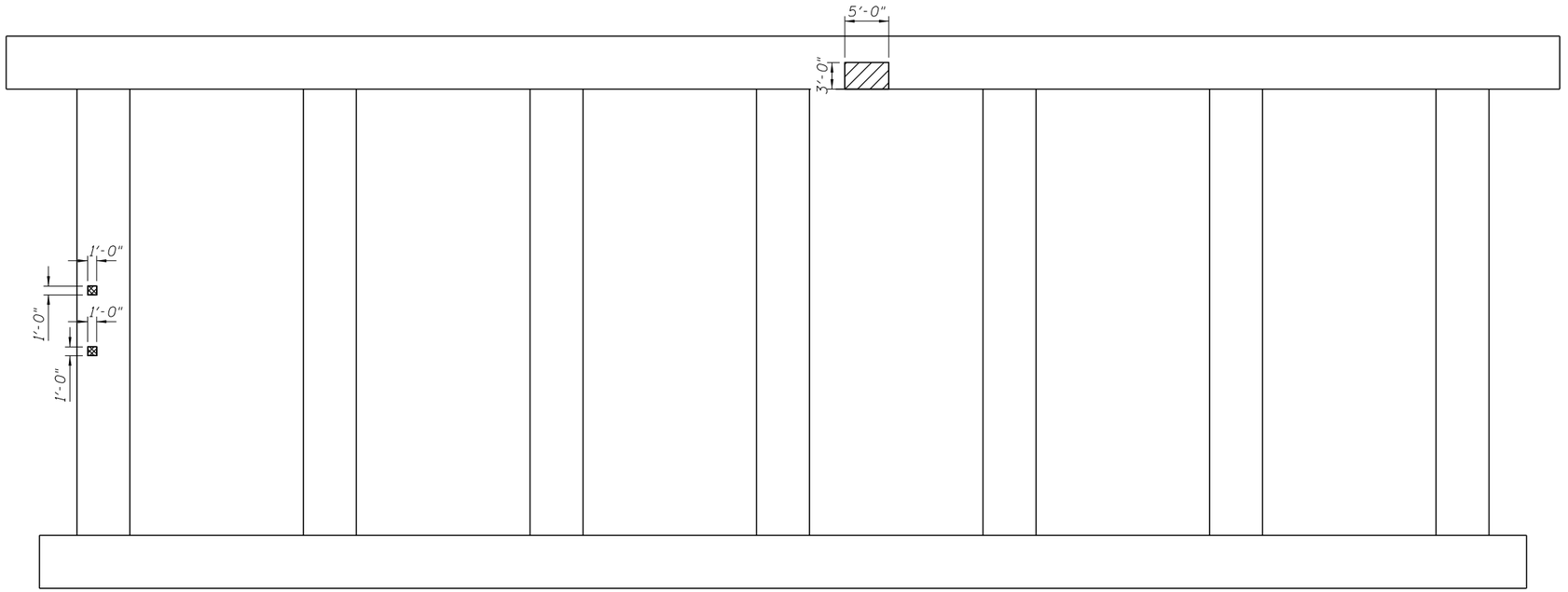
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PIER 1

LOOKING EAST



PIER 1

LOOKING WEST

LEGEND

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- DELAMINATED CONCRETE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016–0019

SHEET NO. 2 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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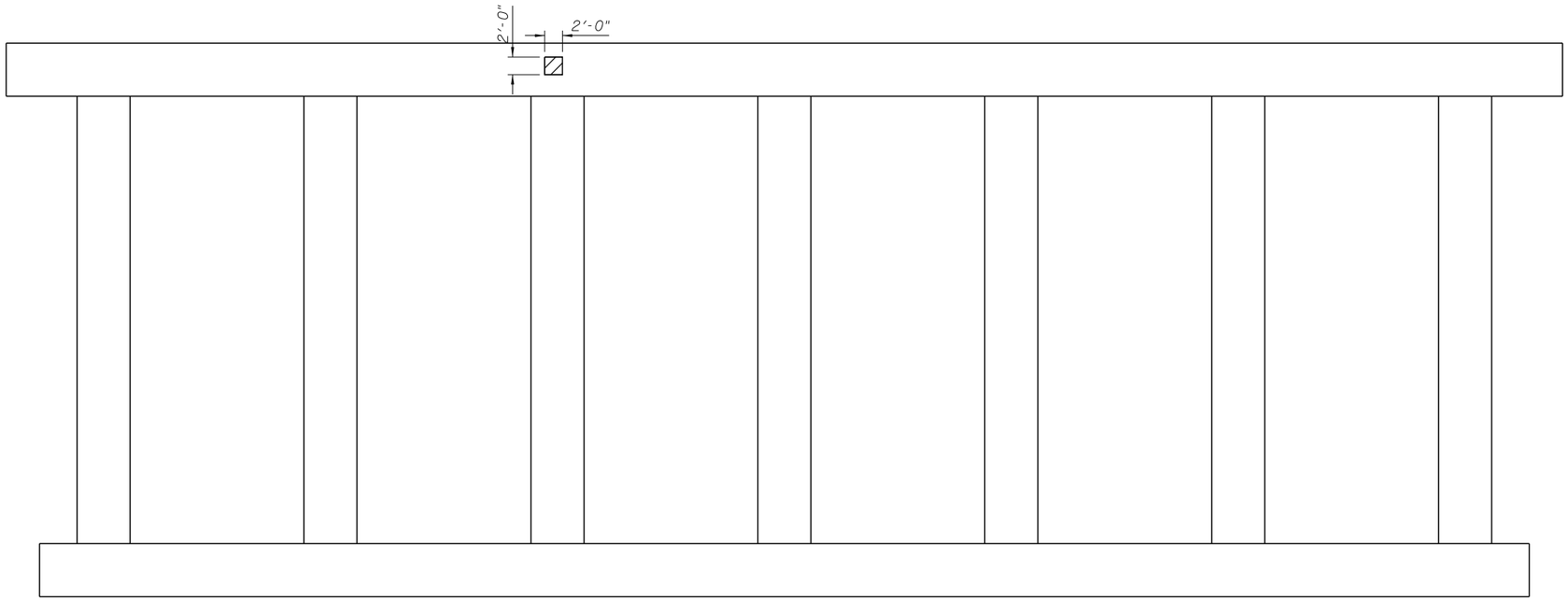
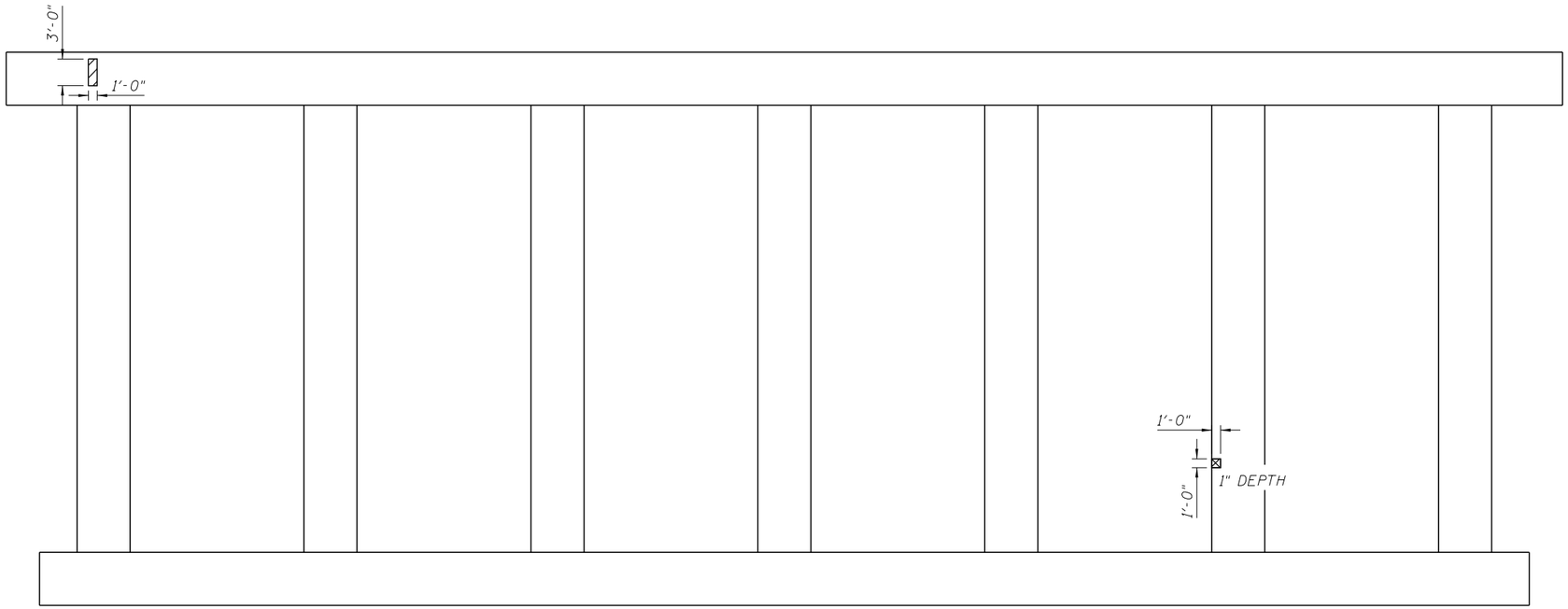
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PIER 2

LOOKING EAST



LEGEND

- SPALLED CONCRETE
- DELAMINATED CONCRETE

PIER 2

LOOKING WEST

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT F – SUBSTRUCTURE CONDITION SURVEY
STRUCTURE NO. 016–0019

SHEET NO. 3 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1212-620-VB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT G

Opinion of Probable Costs

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/4/13
Check By:	BHS	*Date:*	12/19/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COST		
	I-55 WB over BRC Railroad (016-0019)		

ALTERNATIVE 1 - IN-KIND REPAIRS

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50300300	Protective Coat	1585 sy	$2.00	$3,170
50500105	Furnishing and Erecting Structural Steel	7940 lb	$5.00	$39,700
59000200	Epoxy Crack Injection	36 ft	$150	$5,400
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	95 sf	$175	$16,630
Z0016001	Deck Slab Repair (Full Depth)	63 sy	$750	$47,250
Z0016200	Deck Slab Repair (Partial Depth)	138 sy	$400	$55,200
Z0048665	Railroad Protective Liability Insurance	1 LS	$5,000	$5,000
			SUB TOTAL =	$172,350
			MOBILIZATION (10%) =	$17,235
			CONTINGENCY (20%) =	$34,470
			TOTAL =	**$224,100**

ALTERNATIVE 2 - STRUCTURE WIDENING

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50102400	Concrete Removal	9 cy	$600	$5,160
50104720	Removal of Existing Concrete Deck	1 LS	$169,000	$169,000
50200100	Structure Excavation	209 cy	$35.00	$7,320
50300225	Concrete Structures	210 cy	$700	$147,000
50300255	Concrete Superstructure	770 cy	$800	$616,000
50300260	Bridge Deck Grooving	2336 sy	$7.00	$16,350
50300300	Protective Coat	1900 sy	$2.00	$3,800
50500105	Furnishing and Erecting Structural Steel	1 LS	$285,600	$285,600
50500505	Stud Shear Connectors	378 each	$3.00	$1,130
50800205	Reinforcement Bars, Epoxy Coated	234500 lbs	$1.75	$410,380
51201400	Fur Stl Pile HP10x42	3,280 ft	$45.00	$147,600
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52000110	Preformed Joint Strip Seal	428 ft	$175	$74,900
52100010	Elastomeric Bearing Assembly, Type I	3 each	$800	$2,400
59000200	Epoxy Crack Injection	36 ft	$150	$5,400
59100100	Geocomposite Wall Drain	30 sy	$25.00	$750
X2070304	Porous Granular Embankment, Special	40 cy	$50.00	$2,000
Z0004552	Approach Slab Removal	270 sy	$35.00	$9,450
Z0012754	Struct Repair of Concrete (Depth = < 5 Inches)	95 sf	$175	$16,630
Z0026407	Temporary Sheet Piling	657 sf	$30.00	$19,700
Z0046304	Pipe Underdrains for Structures 4"	40 ft	$20.00	$800
Z0048665	Railroad Protective Liability Insurance	1 LS	$5,000	$5,000
			SUB TOTAL =	$1,954,370
			MOBILIZATION (10%) =	$195,437
			CONTINGENCY (20%) =	$390,874
			TOTAL =	**$2,540,700**

Sheet:		*of*	
Calc By:	JSR	*Date:*	10/4/13
Check By:	BHS	*Date:*	12/19/13
Project Number:	**178600037**		
Subject:	OPINION OF PROBABLE COST		
	I-55 WB over BRC Railroad (016-0019)		

ALTERNATIVE 3 - SUPERSTRUCTURE AND PARTIAL SUBSTRUCTURE REPLACEMENT

CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50101500	Removal of Existing Superstructures	1 LS	$203,000	$203,000
50102400	Concrete Removal	271 cy	$600	$162,600
50104650	Slope Wall Removal	1530 sy	$7.00	$10,710
50200100	Structure Excavation	653 cy	$35.00	$22,870
50300225	Concrete Structures	325 cy	$700	$227,500
50300255	Concrete Superstructure	900 cy	$800	$720,000
50300260	Bridge Deck Grooving	2492 sy	$7.00	$17,440
50300300	Protective Coat	2122 sy	$2.00	$4,240
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,126,000	$1,126,000
50500505	Stud Shear Connectors	9180 each	$3.00	$27,540
50800205	Reinforcement Bars, Epoxy Coated	290000 lbs	$1.75	$507,500
51100100	Slope Wall 4 Inch	1386 sy	$100	$138,600
51201400	Fur Stl Pile HP10x42	4540 ft	$45.00	$204,300
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
52100010	Elastomeric Bearing Assembly, Type I	17 each	$800	$13,600
59100100	Geocomposite Wall Drain	154 sy	$25.00	$3,850
X2070304	Porous Granular Embankment, Special	262 cy	$50.00	$13,100
Z0004552	Approach Slab Removal	270 sy	$35.00	$9,450
Z0012754	Structural Repair of Concrete (< 5 Inches)	5 sf	$350	$1,580
Z0026407	Temporary Sheet Piling	1597 sf	$30.00	$47,910
Z0046304	Pipe Underdrains for Structures 4"	226 ft	$20.00	$4,520
Z0048665	Railroad Protective Liability Insurance	1 LS	$5,000	$5,000
			SUB TOTAL =	$3,479,310
			MOBILIZATION (10%) =	$347,931
			CONTINGENCY (20%) =	$695,862
			TOTAL =	**$4,523,200**

ALTERNATIVE 4 - STRUCTURE REPLACEMENT

QUANTITY CODE	QUANTITY DESCRIPTION	QUANTITY	UNIT COST	TOTAL COST
50100100	Removal of Existing Structures	1 LS	$550,000	$550,000
50104650	Slope Wall Removal	1530 sy	$7.00	$10,710
50200100	Structure Excavation	1159 cy	$35.00	$40,570
50300225	Concrete Structures	672 cy	$700	$470,400
50300255	Concrete Superstructure	900 cy	$800	$720,000
50300260	Bridge Deck Grooving	2492 sy	$7.00	$17,440
50300300	Protective Coat	2122 sy	$2.00	$4,240
50500105	Furnishing and Erecting Structural Steel	1 LS	$1,126,000	$1,126,000
50500505	Stud Shear Connectors	9180 each	$3.00	$27,540
50800205	Reinforcement Bars, Epoxy Coated	359400 lbs	$1.75	$628,950
51100100	Slope Wall 4 Inch	1386 sy	$100	$138,600
51201400	Fur Stl Pile HP10x42	9,580 ft	$45.00	$431,100
51203400	Test Pile Stl HP10x42	4 each	$2,000	$8,000
59100100	Geocomposite Wall Drain	154 sy	$25.00	$3,850
X2070304	Porous Granular Embankment, Special	262 cy	$50.00	$13,100
Z0026407	Temporary Sheet Piling	3942 sf	$30.00	$118,260
Z0046304	Pipe Underdrains for Structures 4"	226 ft	$20.00	$4,520
Z0048665	Railroad Protective Liability Insurance	1 LS	$5,000	$5,000
			SUB TOTAL =	$4,318,280
			MOBILIZATION (10%) =	$431,828
			CONTINGENCY (20%) =	$863,656
			TOTAL =	**$5,613,800**

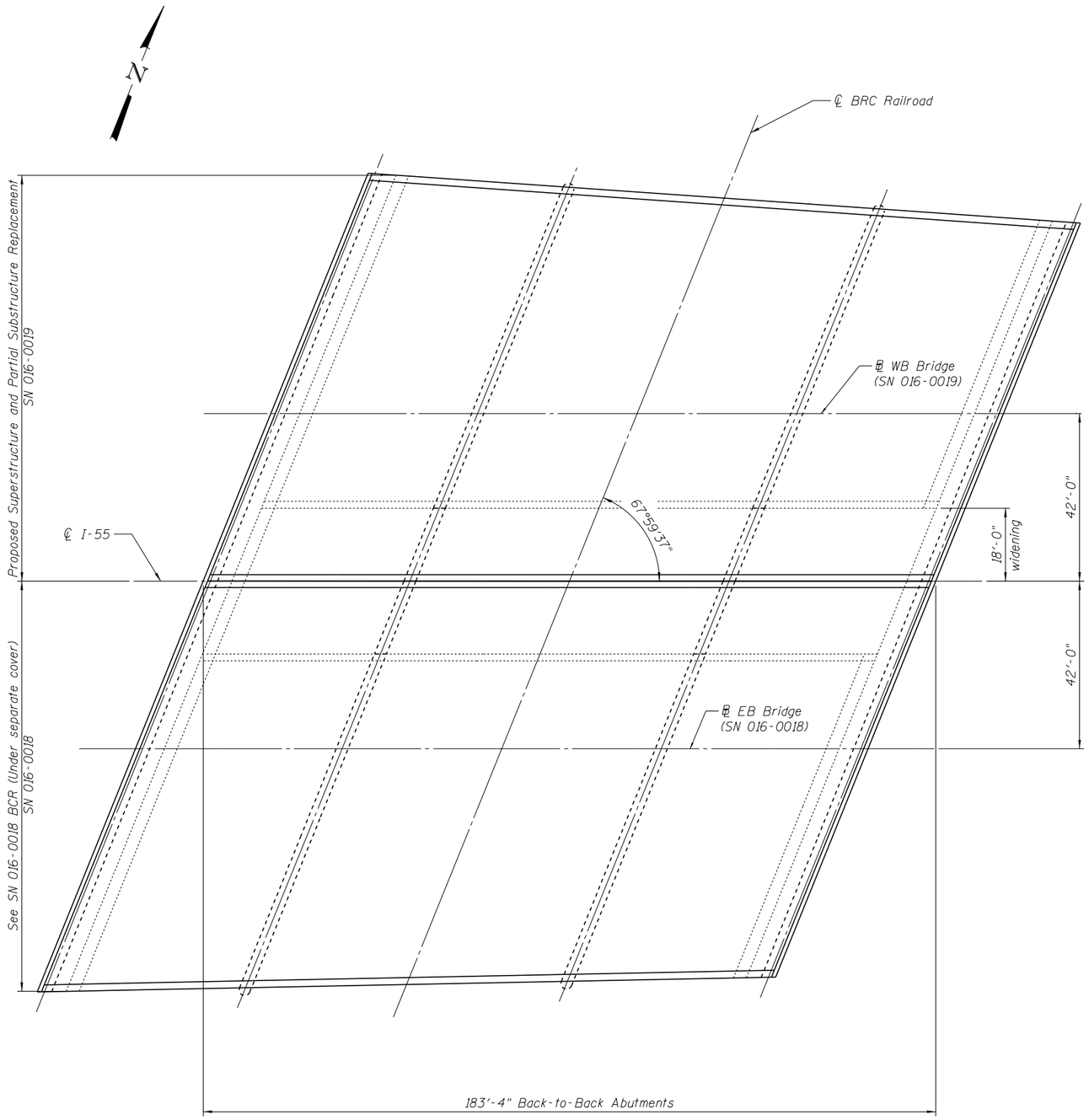
ATTACHMENT H

Proposed Structure Drawings

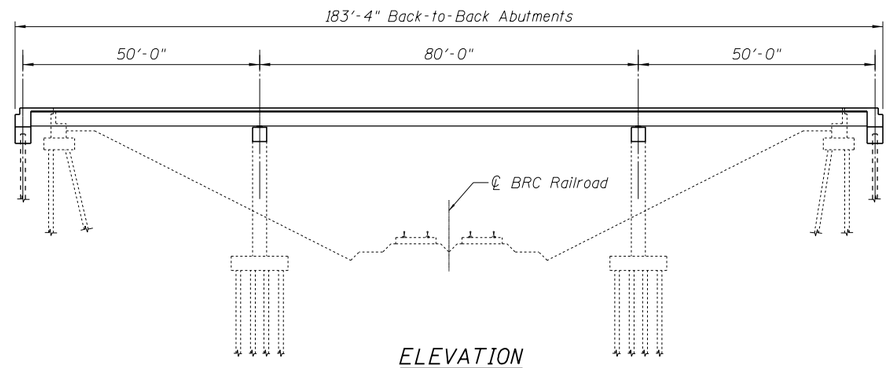
Notes:

The number and location of substructure units, the profile grade, skew angle, and the bridge length and width are subject to refinement in the TSL phase.

Superstructure type, beam spacing, and rail type to be determined during the TSL phase.



PROPOSED PLAN



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT H – PROPOSED STRUCTURE DRAWINGS
STRUCTURE NO. 016–0019
SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	1212-620-VB	COOK		
		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

ATTACHMENT I

Structure Photos

Photo 1- Underside of Span 2, looking west

Photo 2 - Underside of Span 3, looking east

Photo 3 - Deteriorated concrete in Span 1, looking west

Photo 4 – Top of Deck in Span 1, looking south

Photo 5 – Top of Deck, Span 1, looking south

Photo 6 – Top of Deck Span 1, looking southwest

Photo 7 - North parapet in Span 1, looking west

Photo 8 - South parapet in Span 3, looking northwest

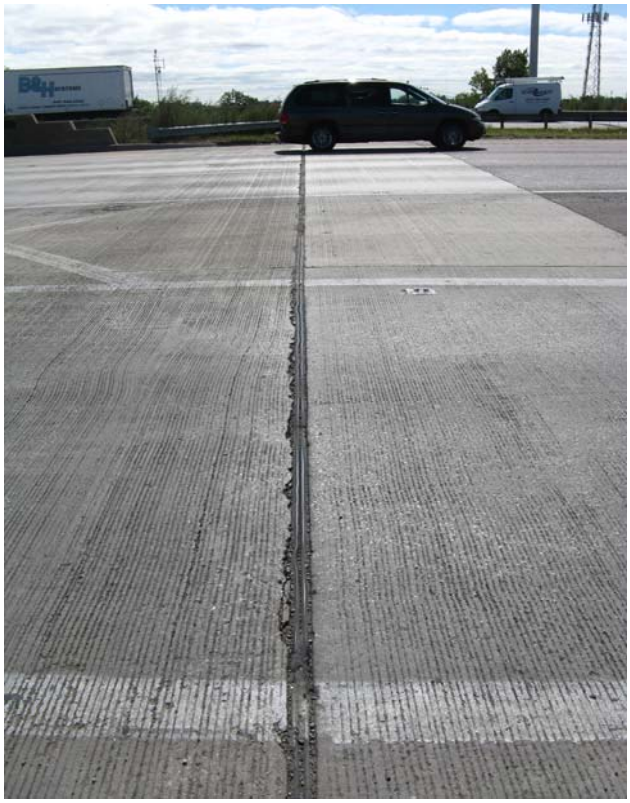


Photo 9 - Typical joint at approach slab (West Approach shown), looking south

Photo 10 - West Abutment joint, looking south

Photo 11 – Pier 1 joint, looking south

Photo 12 – Pier 2 joint, looking south

Photo 13 - East Abutment joint, looking south

Photo 14 - South fascia beam, looking northeast

Photo 15 - Bent guide plate at south fascia beam in Span 1, looking southeast

Photo 16 - Underside of Span 2 Beams, looking east

Photo 17 - North fascia, looking southeast

Photo 18 – Span South fascia, looking north

Photo 19 - Typical bearing at East Abutment, looking southeast

Photo 20 - Broken conduit on south side of Span 3, looking south

Photo 21 - Broken brackets on conduit, looking south

Photo 22 - East Abutment, looking southeast

Photo 23 - West Abutment, looking northwest

Photo 24 – Pier 1, looking west

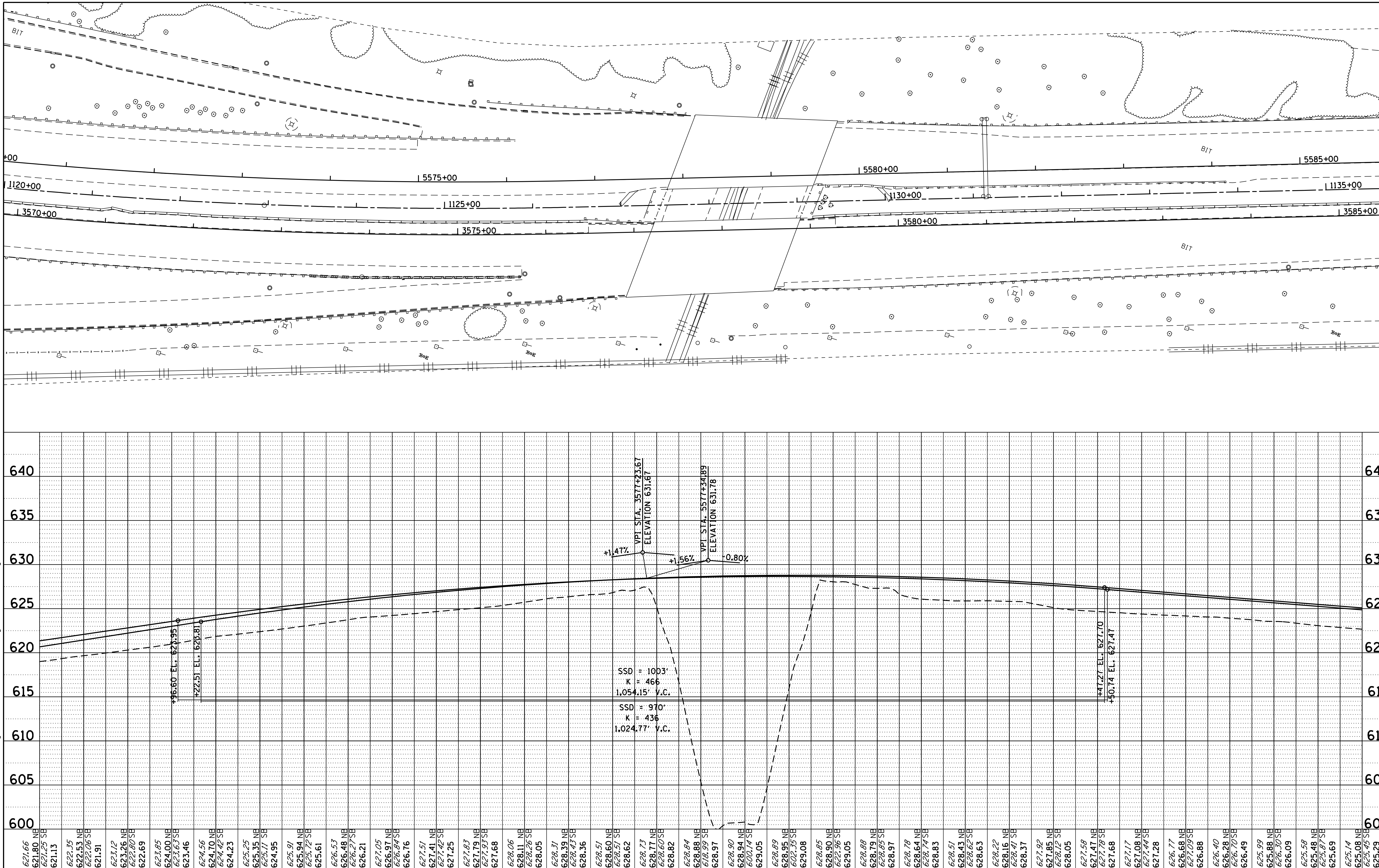
Photo 25 – Pier 2, looking east

Photo 26 - Underside and face of Pier 1, looking east

Photo 27 - Crack at Span 1 slopewall, looking northwest

ATTACHMENT J

Proposed Plan & Profile



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	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 10/4/2013	DATE - 10/04/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT J
I-55 OVER BRC RAILROAD PROPOSED PLAN & PROFILE

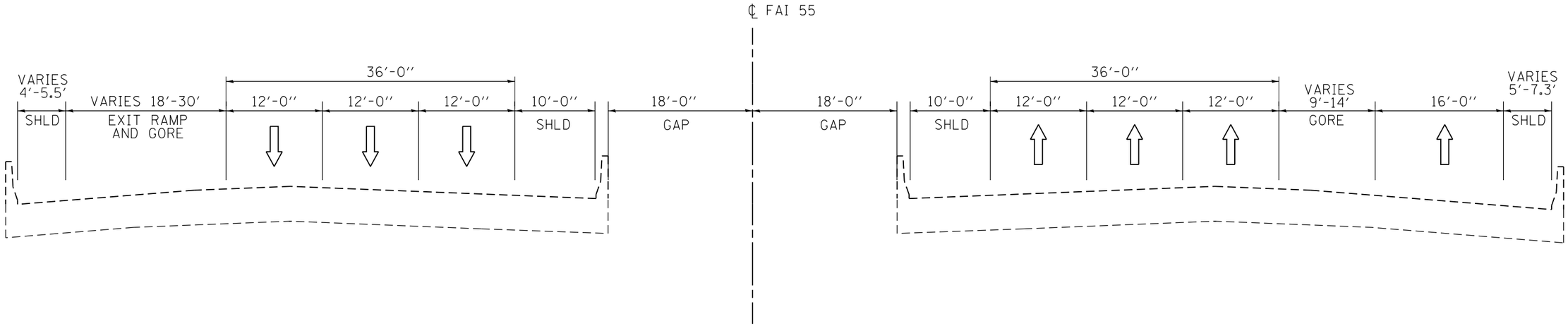
SCALE: 1":100' | SHEET ___ OF ___ SHEETS | STA. ________ TO STA. ________

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

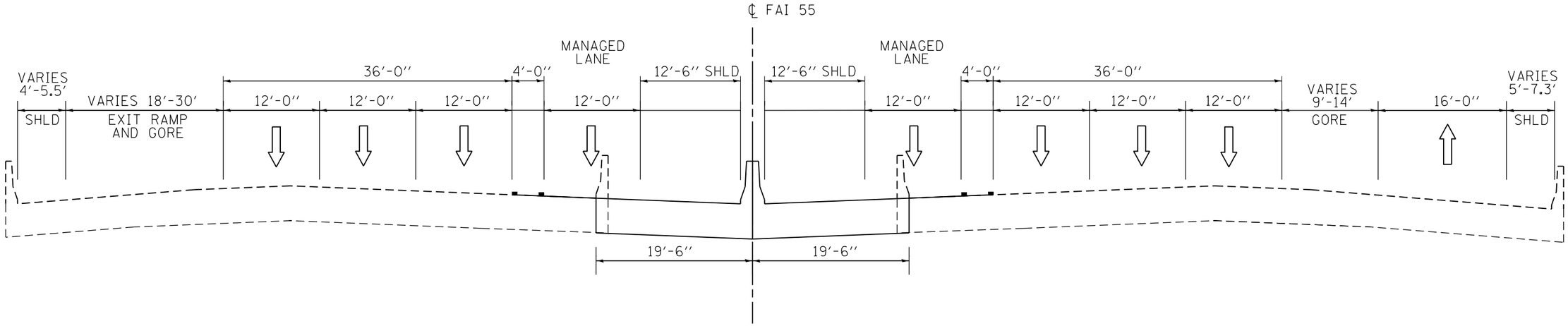
Default

ATTACHMENT K

Existing and Proposed Roadway Cross Sections



EXISTING I-55 OVER BRC RR TYPICAL SECTION



PROPOSED I-55 OVER BRC RR TYPICAL SECTION

FILE NAME = V:\1786\active\178600037.IDOT.I-55\civil\drawing\mod\DIP\178210-tgpicals-sheets Cicero Ave and RR Structure.dgn

Stantec

USER NAME = mjverheyen	DESIGNED - MJV	REVISED -
	DRAWN - STANTEC	REVISED -
PLOT SCALE = 13.3300 ' / in.	CHECKED -	REVISED -
PLOT DATE = 10/4/2013	DATE - 10/4/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ATTACHMENT K
TYPICAL SECTIONS

SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK		

CONTRACT NO.

ILLINOIS FED. AID PROJECT

ATTACHMENT L

Abbreviated Existing Plans

FORM 400

FEDERAL AID ROUTE NO.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
55	1212-B2D V.B. 1212-B2D F	SOUTHWEST	33	3
FED. ROAD DIST. NO.	ILLINOIS	PROJECT IG-55-7 134 281		

Note:
Bulkheads required to retain earth at fascia girder bearings for existing R.R. Bridge are not a part of these plans.

Creosoted Piles, 15 Ton capacity, for approach slabs. Do not drive approach piles below elev. 627.0. Final cutoff to be by others. (Typical) Est. Length of Piles 30'

Shed

Existing Interlocking Tower (To be Removed By Others)

Shed (To be Removed by others)

Limit of Conc. Slope Wall (Typ.)

Point of Min. Underclearance

℄ Pier 1

℄ Pier 2

Fascia Line

Curb Line

Outhouse (To be Relocated)

Sta. 28+74.437

Light LA Standard (Typ.)

End of Deck

1" Exp. Jt.

BK. of Abut. A

BK. of Abut. B

Ref. Pt. A
℄ Sta. 24+36.26
Gr. El. 628.98

℄ R. W.B. Bridge

Ref. Pt. B
℄ Sta. 26+04.43
Gr. El. 629.14

Station Equation
P.T. Sta. 36+57.39 Back
= Sta. 23+30.14 Ahead

℄ F.A.I. 55 & ℄ S.W. Expressway

W.B. BRIDGE

SPAN 1 — SPAN 2 — SPAN 3

℄ Sta. 24+80.35
Gr. El. 629.09

℄ Sta. 25+60.35
Gr. El. 629.16

Sta. 24+19.83

Sta. 25+03.37 (℄ Exp.)
Sta. 1+79.97 (℄ Belt Ry.)

Sta. 25+86.92

Curb Line

Fascia Line

℄ E.B. Bridge

Ref. Pt. C
℄ Sta. 24+02.31
Gr. El. 628.87

℄ Sta. 24+46.40
Gr. El. 629.01

℄ Sta. 25+26.40
Gr. El. 629.15

Ref. Pt. D
℄ Sta. 25+70.48
Gr. El. 629.16

SPAN 4 — SPAN 5 — SPAN 6

Nose 2:6 R

Nose 3:0 R

(To be removed)

Existing Struct. (Belt Ry.)

BK. of Abut. C

BK. of Abut. D

Taper 50:1

℄ Pier 3

℄ Pier 4

Rad. Varies (Typ.)

E.B. BRIDGE

Concrete Crib Wall

See Sta. Equation

℄ Belt Ry.

℄ No. Track

Joint User's Line

Sta. 24+36.685 Base Line
Sta. 0+02.00 ℄ Belt Ry.

℄ Base Line

G M & O. R.R. Main Line

Track Lines

Existing Conc. Culvert (To be Modified) — SEE SHEET NO. 28

PLAN
Scale: 1"=20'

Creosoted Piles, 15 Ton Capacity, driven by bridge contractor. Cap by others. (Typical)

Light Standard (Typ.) (Not Included in these Plans)

BK. of Abut. A or C

BK. of Abut. B or D

℄ Piers 1 & 3

℄ Piers 2 & 4

9'-0" (Typ.)

Fix. — Hinge — Exp.

El. 618.50

El. 622.65

El. 622.85

El. 618.70

El. 592.00

Concrete Slope Wall (Typ.)

℄ Belt Ry.

20 Ton Capacity Creosoted Timber Piles (Typ. for Piers)

25 Ton Capacity Reinforced Conc. Piles (Typ. for Abuts.)

Note: For Section at existing R.R. Bridge See Sect. G-G, Sheet 26.

Fill to Bottom of Footing Before Driving Piles (Typ.)

TYP. SECTION AT RT. ANGLE TO TRACKS
(All Dimensions Shown Are Normal To Tracks)
Scale: 1"=16'

℄ S.W. Expressway

℄ Belt Ry.

15+00 Iron Rod — 165.00' — 20+00 Iron Pipe — 112°00'23" — 24+36.685 Spike — 25+00 Iron Pipe — 30+00 Iron Pipe

Base Line

Outside face of Rail (G.M. & O. R.R.)

SURVEY TIES
No Scale

2'-0" — 6" — Fascia Line

Note: Slopewall shall be reinforced with welded wire fabric 6"x 6" mesh, #4 wire, weighing 58 lbs. per 100 sq. ft. (Typ.)

SECTION A-A

SECTION B-B
(Between Existing R.R. Abuts.)

BILL OF MATERIAL		
ITEM	UNIT	QUANTITY
Slopewall, 4"	Sq. Yds.	3060
Creosoted Piles, 20.1 to 38 ft.	Lin. Ft.	1680

GENERAL NOTES

CLASS X CONCRETE SHALL BE USED THROUGHOUT.

THE CONCRETE FLOOR SLAB SHALL BE FINISHED IN ACCORDANCE WITH ARTICLE 51.19 OF THE STANDARD SPECIFICATIONS AND SHALL BE POURED IN ONE CONTINUOUS OPERATION BETWEEN CONSTRUCTION JOINTS.

BEVEL ALL EXPOSED CONCRETE CORNERS 3/4" UNLESS NOTED.

ALL REINFORCEMENT BARS SHALL BE LAPPED 20 DIAMETERS UNLESS OTHERWISE SHOWN.

THE CONTRACTOR SHALL DRIVE FOUR (4) CONC. TEST PILES IN PERMANENT LOCATIONS, ONE (1) AT EACH ABUTMENT, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, BEFORE ORDERING THE REMAINDER OF THE PILES. THE CONTRACTOR SHALL DRIVE FOUR (4) CREOSOTED TIMBER TEST PILES IN PERMANENT LOCATIONS, ONE (1) AT EACH PIER, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, BEFORE ORDERING THE REMAINDER OF THE CREOSOTED TIMBER PILES.

HOLES FOR CONCRETE PILES AT EACH ABUTMENT SHALL BE PRECORED IN ACCORDANCE WITH ARTICLE 60.0(e) OF THE STANDARD SPECIFICATIONS.

BORING DATA IS SHOWN ONLY AS A GUIDE TO BIDDERS IN ESTIMATING SOIL CONDITIONS WHICH MAY BE ENCOUNTERED IN THE WORK.

THE BACK FACES OF ABUTMENTS AND WINGWALLS SHALL BE WATERPROOFED FROM THE TOP OF FOOTING TO TOP OF GROUND SURFACE IN ACCORDANCE WITH ARTICLE 51.21 OF THE STANDARD SPECIFICATIONS.

STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.

ALL CONNECTIONS FOR STRUCTURAL STEEL SHALL BE RIVETED EXCEPT AS NOTED. ALL RIVETS SHALL BE 3/4" DIAMETER IN 13/16" DIAMETER HOLES.

ALL ROCKERS, BOLSTERS, PINTLES, BEARING PLATES, LEAD PLATES AND ANCHOR BOLTS SHALL BE FABRICATED AND SET IN ACCORDANCE WITH ARTICLE 51.15 OF THE STANDARD SPECIFICATIONS AND ARE INCLUDED IN THE QUANTITY OF STRUCTURAL STEEL.

ONE(1) SIGN CONFORMING TO STANDARD 2160-1 SHALL BE ERECTED AT A LOCATION AS DIRECTED BY THE ENGINEER.

STRUCTURAL STEEL SHALL RECEIVE ONE SHOP COAT OF RED LEAD PAINT AND TWO FIELD COATS OF ALUMINUM PAINT EXCEPT AS OTHERWISE SPECIFIED. SEE ARTICLES 56.1 to 56.6 INCLUSIVE, OF THE STANDARD SPECIFICATIONS. ALL PAINT TO BE FURNISHED AND APPLIED BY THE CONTRACTOR INVOLVED.

SHOP INSPECTION OF STRUCTURAL STEEL BY ILLINOIS DIVISION OF HIGHWAYS BEFORE PAINTING.

HIGH STRENGTH STEEL BOLTS MAY BE SUBSTITUTED FOR RIVETS IN ACCORDANCE WITH ARTICLE 54.9(i) OF THE STANDARD SPECIFICATIONS.

ANCHOR BOLTS SHALL BE SET BEFORE RIVETING DIAPHRAGMS OVER SUPPORTS.

ALL ALUMINUM HANDRAIL, INCLUDING RAIL POST ANCHORS, SHALL BE INCLUDED IN THE QUANTITY OF ~~STRUCTURAL STEEL~~ ALUMINUM HANDRAIL

MODIFICATION OF EXISTING RAILROAD FACILITIES AS SHOWN ARE NOT A PART OF THESE PLANS.

COARSE AGGREGATE WHICH IS TO BE USED IN THE CONCRETE PARAPET AND END POSTS MUST BE ABSOLUTELY FREE OF CHERT, FLINT, LIMONITE, LIGNITE AND SOFT SANDSTONE.

PERMANENT FORMS WILL NOT BE PERMITTED IN FORMING THE CONCRETE FLOOR.

DESIGN LOAD:
LIVE LOAD = H20-S16-44 & ALTERNATE MILITARY LOADING
FUTURE DEAD LOAD = 2" BITUMINOUS WEARING SURFACE

DESIGN STRESSES:
CONCRETE
f_c' = 3500 psi — v = 75 psi (FOOTINGS)
f_c = 1400 psi — n = 10
f_c = 1000 psi (WITH EARTH PRESSURE)

REINFORCING STEEL:
f_s = 20,000 psi

STRUCTURAL STEEL: (ASTM A-36)
f_s = 20,000 psi

PILE LOADS:
ABUTMENTS — 25 TONS (REINFORCED CONCRETE PILES)
PIERS — 20 TONS (CREOSOTED TIMBER)
APPROACH PILES = 15 TONS (CREOSOTED TIMBER)
EQUIVALENT FLUID PRESSURE = 40 pcf

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
B.R.C. OVERPASS STRUCTURE

GENERAL PLAN AND ELEVATION

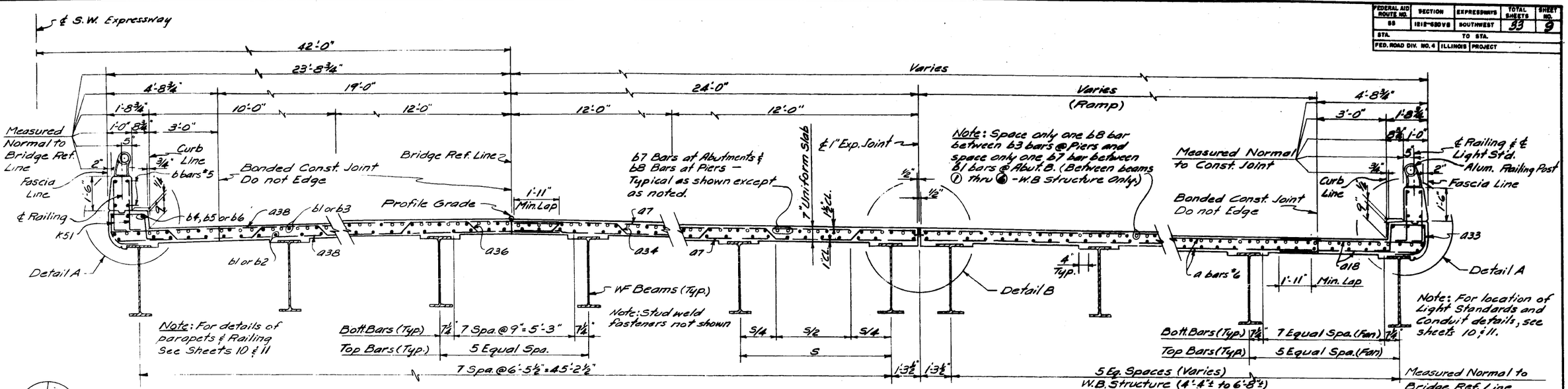
SCALE: AS NOTED — DATE: 9-13-63

HAZELET & ERDAL CONSULTING ENGINEERS

Rev. 11-18-63: Deleted Creo. Piles up to 20' (840'), Added Creo. Piles 20.1' to 38' (1680'). W.C.K.

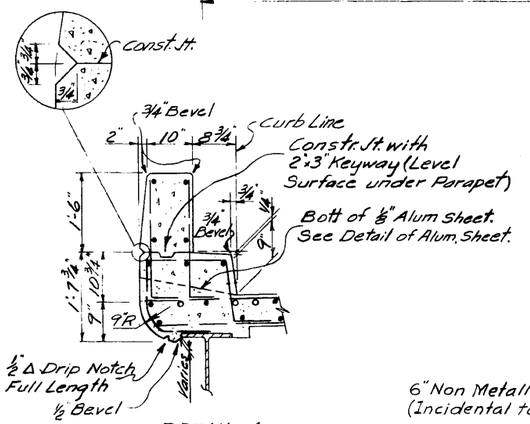
FORM 400

FEDERAL AID ROUTE NO.	SECTION	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
55	1212-620 V B	SOUTHWEST	33	9
STA.	TO STA.			
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



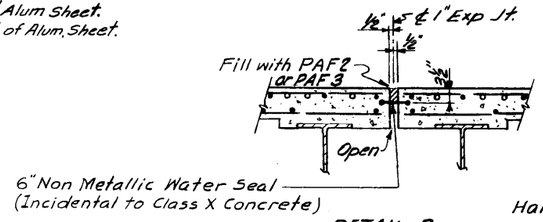
DECK CROSS SECTION

W.B. Structure Looking West
E.B. Structure Looking East
Scale: ½" = 1'-0"



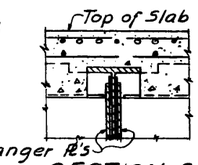
DETAIL A

Scale: ¾" = 1'-0"



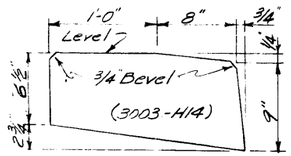
DETAIL B

Scale: ¾" = 1'-0"



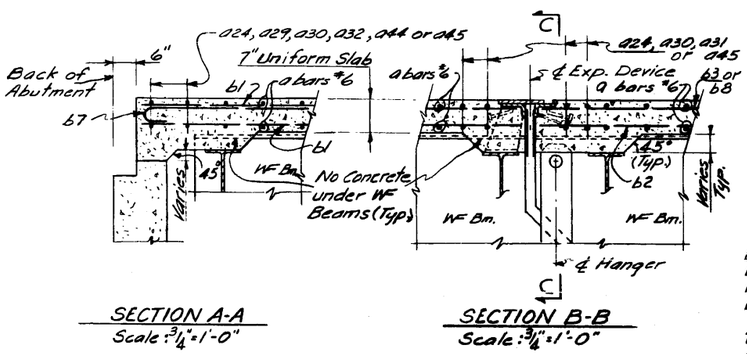
SECTION C-C

Scale: ¾" = 1'-0"



DETAIL OF ⅛" ALUMINUM SHEETS

Scale: 1½" = 1'-0"

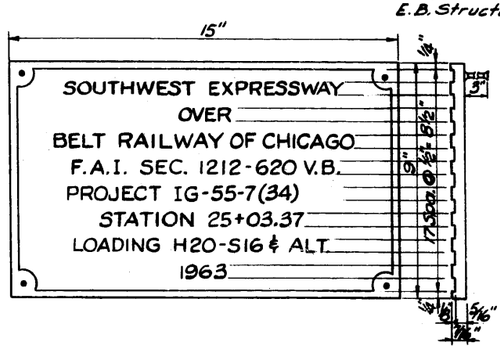


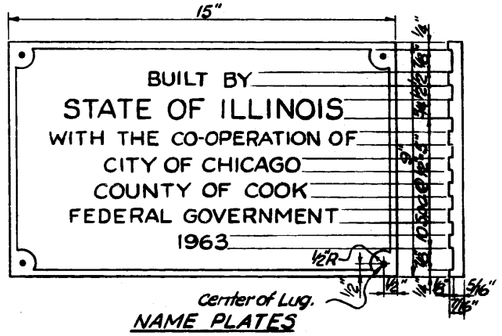
SECTION A-A

Scale: ¾" = 1'-0"

SECTION B-B

Scale: ¾" = 1'-0"





NAME PLATES

Notes for Name Plates: The material shall be best quality brass or bronze. Border and lettering shall be raised 1/8", square cut and not tapered. The top surface shall be polished and have a matted background.

The Contractor shall obtain approval of the Engineer before commencement of work and inscription.

Use two name plates, one of each type shown above, for each bridge located on the abutment wingwalls and as directed by the Engineer.

BILL OF MATERIAL

Description	Unit	EB.	W.B.
Class X Concrete	Cu. Yds.	358.1	338.4
Protective Coat	Sq. Yds.	1628	1532
Aluminum Handrail,	Lin. Ft.	331	325
Reinforcement Bars	Lbs.	92,338	92,634
Conduit, 1¼" Dia. Galvanized Steel	Lin. Ft.	11	11
Conduit, 2" Dia. Galvanized Steel	Lin. Ft.	94	94
2" Asbestos Cement Conduit, Type I	Lin. Ft.	251	245
Cast Iron Junction Boxes	Each	2	2
Name Plates	Each	2	2

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
B.R.C. OVERPASS STRUCTURE

DECK DETAILS

SCALE: AS NOTED DATE: 9-13-63

CONSTRUCTION DRAWING NO. 167
DRAWN BY: CSN DATE: 6-14-63
CHECKED BY: [illegible] DATE: 7-22-63
APPROVED BY: [illegible] DATE: 7-22-63

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0001
W.B. I-55 over E.B. Joliet Road
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0001 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated February 10, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span steel beam bridge consisting of nine lines of continuous beams (see Photo 1). Span lengths from west to east are 95'-$5^{7}/_{16}$", 84'-$11^{15}/_{16}$" and 87'-5¾". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the superstructure as being in good condition, which concurs with the findings from the cursory field check. Minor paint peeling and rusting is visible on bottom flanges of exterior beams. Heavy rusting is visible on beam sections that appear to have been replaced due to impact damage (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor to moderate horizontal and vertical cracks with leaching are visible on abutments. Delaminations and map cracking are visible on the pier crashwalls and columns (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. Moderate longitudinal cracks are visible on the west approach slab. Anchor blocks are damaged along sections of both expansion joints (see Photo 4). Moderate to heavy cracking and vegetation growth is present on both slopewalls (see Photo 5). Some bearing pads on the west abutment exhibit a slight lean (see Photo 6).

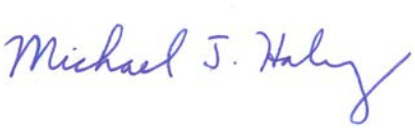
Based on the structure summary report and field check, S.N. 016-0001 is suitable for reuse after rehabilitation of the substructure and expansion joints. Both slopewalls should be repaired.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

Guardrail transitions should be brought up to current IDOT standards.

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0001 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB	**Bridge Name:**		**Sufficiency Rating:**	96.0	**Structure Length:**	275.5
Feature Crossed:	JOLIET RD EB	**Location:**	2.1 M SW US 45	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	92.5
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	60.0
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	60.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	None	**Deck Width:**	63.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	62 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	556860	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.590(57)	**Load Rating Date:**	05/23/1997	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.645(95)		**Crossing 1 Nbr:**	
Latitude:	41.75924676 **S**	**Longitude:** 87.90791728 **S**		**Design Load:** 01 HS20+MOD		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	0.4700
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	0759 BURR RIDGE	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 75950
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	60.0	**One Or Two Way:**	1 One-Way
Horizontal:	61.1 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 78383
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 3562		**Station:**	0.1600
Main Route 00000		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	Not on NHS
0759 BURR RIDGE		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 11750
4 MINOR ARTERIAL		**Est Truck Percentage:**	11
South/East	**North/West**	**Number Of Lanes:**	2
36.2		**One Or Two Way:**	1 One-Way
36.2	0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 6438
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0001 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***		*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1: Tons	5 No Posting Required
		Special:	N	Single Unit Vehicles: Tons		Combination Type 3S-2 Tons	

Inspection/Appraisal Information

Inspection Date: 02/10/2015 **Inspection Temperature:** 33Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						** Actual Posted Limits **	
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-1:	Tons
Culvert:	N	NOT APPLICABLE						Combination Type 3S-2:	Tons
Channel and Protection:	N	NOT APPLICABLE						One Truck At A Time: 0	
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	U	
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE	FLD AL EPY & ACRLC		
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Deck Protection:	A	EPOXY COATED REINF			
Waterway Adequacy:	N	NOT APPLICABLE		Total Deck Thick:	7.5				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Last Paint Date:	06/2003				
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1962	Original		1996	Reconstructed		
Route:	FAI-55		**Sta:** 1112+69.36	FAI-55		**Sta:** 1112+81.01	
Section Nbr:		0101-601-HB			0101-601-HB		
Contract Nbr:					82686		
Fed Aid Pr#:		I 0557008272			NHI557(187)275		
Built By:	1	I.D.O.T.		1	I.D.O.T.		

Pontis

Today's Date: 08/27/2015

Structure Number: 016-0001 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: JOLIET RD EB
(7) Facility Carried: I- 55 WB
(9) Location: 2.1 M SW US 45
(7A) Bridge Name:
Element Inspection Date: 02/10/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	97	954	3	26	0	0	0	0	980
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Few small HPs @ repaired areas										
Reinforced Conc Pier Wall										
210	4	100	4,138	0	8	0	0	0	0	4,146
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Few small HPs @ repaired areas @ columns. Pier 1 column #2,3,5,6&7. Pier 2 col 3&4 FCR map crackd.										
Reinforced Conc Abutment										
215	4	99	1,903	1	20	0	0	0	0	1,923
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Backwalls have vert leach crks										
Reinforced Conc Pier or Abutment Cap										
234	4	98	531	2	13	0	0	0	0	544
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Abut) HL vert cracking										
Elastomeric Bearing										
310	4	93	25	7	2	0	0	0	0	27
		No deterioration		Minor deterioration		Major deterioration				
Remarks: Slight pad lean @ West Abut Brg#1										
Fixed Bearing										
313	4	100	9	0	0	0	0	0	0	9
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	100	530	0	0	0	0	0	0	530
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks: HL vert crks w/few hor crks @ transitions										

Concrete Deck Protected w/ Coated Bars

8026	4	99	16,598	1	150	0	0	0	0	16,748

Remarks: WS- HL trans crks w/few random intersecting crks & isol shallow spall; Soffit) HL trans leach crking

Non-Lead Painted Steel Open Girder

8118	4	100	24,032	0	0	0	0	0	0	24,032

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	18	0	0	0	0	0	0	18

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	96	259	4	12	0	0	0	0	271

Remarks: Misaligned @ staged constr jt; lt leakage @ both

Approach Pavement

8323	4	50	1	50	1	0	0	0	0	2

Remarks: Med-wide diag crks @ both; slight "as built" misalign LN3 W Apprch.

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0003
I-55 over Wolf Rd. and Flagg Creek
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0003 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated December 2, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a five span steel beam bridge consisting of twenty lines of continuous beams (see Photo 1). Span lengths from west to east are 40'-4", 67'-6", 63'-3", 67'-6" and 40'-4". The superstructure is supported by pile bent abutments and reinforced multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the superstructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Minor to moderate paint peeling and rusting is visible (see Photo 3). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor vertical cracks with leaching are visible on the abutments. Small spalls and delaminations under bearings are visible on the piers (see Photo 4). IDOT rates the underclearance vertical and lateral as being adequate to be left in place, which concurs with the findings from the cursory field check. Scrape marks are visible on beam bottom flanges over Wolf Rd. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, approach alignment and bridge railing appraisal items. Large longitudinal cracks, transverse cracks and spalls are visible on both approach slabs (see photo 5). The expansion joint seals appear to be in good condition, however a large amount of debris buildup on the west abutment bearing seats indicates that holes are present. Anchor blocks are missing along sections of the west expansion joint.

Based on the structure summary report and field check, S.N. 016-0003 is suitable for reuse after rehabilitation of the substructure and expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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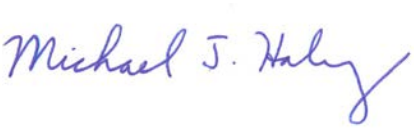

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0003 **District:** 1

Inventory Data

Facility Carried:	I- 55 STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	96.0	**Structure Length:**	282.4
Feature Crossed:	WOLF RD & FLAG CR	**Location:**	1.5 M W US 45	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	MAX.= 59.0, STRUC. STEEL WGT.WAS 902000			**Replaced By:**	-	**Length of Long Span:**	67.5
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	136.1
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	136.1
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	None	**Deck Width:**	142.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	6 / HIGHWAY-WATERWAY		**Skew Direction:**	N None	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	0 **D**	**Navigation Control:**	0 No
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	5 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	117022	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	3 Ft. / 4 Wall			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.815(65)	**Load Rating Date:**	05/23/1997	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.750(99)		**Crossing 1 Nbr:**	
Latitude:	41.76067000 **S** **Longitude:**	87.89660000 **S**	**Design Load:**	02 HS20		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	1.0300
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	2760 INDIAN HEAD PARK	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 157800
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	8
Max Rdwy Width:	68.0	**One Or Two Way:**	2 Two-Way
Horizontal:	69.2 69.2	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 174585
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN	2689	**Station:**	8.9200
Main Route	00000	**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	Not on NHS
2760 INDIAN HEAD PARK		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 11300
4 MINOR ARTERIAL		**Est Truck Percentage:**	4
South/East **North/West**		**Number Of Lanes:**	2
65.0		**One Or Two Way:**	2 Two-Way
65.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 8858
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0003 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	12/02/2014	Inspection Temperature:	32Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	7	GOOD CONDITION - SOME MINOR PROBLEMS		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	CJ
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		LD SHP GRN&AL FNL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	7.5			IR/ZC/OXIDE ALKYD	
Waterway Adequacy:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Last Paint Date:	10/1996				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	111	Does Not Exist	Does Not Exist	Does Not Exist					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:	12/02/2011					
Temperature:	40	Inspection Method:	PV	Probe	Visual	
				Appraisal Rating:	7	GOOD - SMALL CRACKS IN UNDERWATER UNITS

Scour Critical Information

Rating:	8	CALCULATED SCOUR ABOVE FOOTING	Evaluation Method:	B	Rational Analysis
Analysis Date:		09/30/1994			

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		1996	Reconstructed		
Route:	FAI-55		Sta: 1140+41.64	FAI-55		Sta: 1140+41.64	
Section Nbr:		0202-602HB			0101R,0102-631R		
Contract Nbr:					82686		
Fed Aid Pr#:					I 0557064272		
Built By:	1	I.D.O.T.			1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number: 016-0003 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: WOLF RD & FLAG CR
(7) Facility Carried: I- 55 STEVENSON
(9) Location: 1.5 M W US 45
(7A) Bridge Name:
Element Inspection Date: 12/02/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: MastnySC
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Lead Painted Steel Open Girder										
107	4	94	51,644	6	3,475	0	0	0	0	55,119
		No corrosion		Paint distress		Rust formation		Section loss		Section failure
Remarks: Lt scattered rust bttm flange										
Reinforced Conc Column or Pile Extension										
205	4	99	5,475	1	30	0	15	0	0	5,520
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Crking w/few HPs & shallow spalls (Col 2 P4)										
Reinforced Conc Pier Wall										
210	4	100	7,670	0	20	0	8	0	0	7,698
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Crking w/few HPs & shallow spalls										
Reinforced Conc Abutment										
215	4	92	550	8	50	0	0	0	0	600
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Abut backwalls have vert crks w/leach										
Reinforced Conc Pier or Abutment Cap										
234	4	96	767	1	8	3	25	0	0	800
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Pier)Scattered crking w/few surf spalls;map crk & leach @ P2 btwn bms 2 & 3 also @ Bm 10 pier 4; W Face pier 2 ;Abut) Few vert crks										
Preformed Joint Seal										
302	4	100	423	0	0	0	0	0	0	423
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Elastomeric Bearing										
310	4	50	20	50	20	0	0	0	0	40
		No deterioration		Minor deterioration		Major deterioration				
Remarks: Lt rust to assemblies @ abuts & longit joint										

Fixed Bearing

313	4	50	10	50	10	0	0	0	0	20
		No deterioration		Minor deterioration		Advanced corrosion				

Remarks: @ Pier #3-Lt rust to assemblies

Concrete Bridge Railing

331	4	99	832	1	8	0	0	0	0	840
		No deterioration		Minor cracks/spalls		Analysis warranted				

Remarks: Vert leach crks typ.

Concrete Deck Protected w/ Coated Bars

8026	4	96	38,366	4	1,450	0	0	0	0	39,816

Remarks: Soffit) HL-Nar scattered trans leach crks; haunch crks @ abuts; Deckpounding on bms @ isol loc most near piers; WS) Numerous HL-nar trans crks w/some intersecting long crks

Lead Painted Steel Closed Web/Box Girder Ends

8172	4	80	32	20	8	0	0	0	0	40

Remarks: Lt rust bm ends @ webs & diaphrs

Continuous Seal Neoprene Expansion Joint

8308	4	94	135	6	8	0	0	0	0	143

Remarks: WB LN 3 has small missing section

Moveable Steel Bearings below continuous decks

8316	4	97	58	3	2	0	0	0	0	60

Remarks: @ Pier #1, 2 &4

Approach Pavement

8323	4	0	0	100	4	0	0	0	0	4

Remarks: Longit & random map/ x-verse crks

Steel Open Girder

8406	4	100	180	0	0	0	0	0	0	180

Remarks: Span #4-Small scrapes/impact damage on most Bms over Wolf Rd

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0004
E.B. I-55 over BNSF Railway Separation
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0004 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated April 23, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span continuous steel girder bridge (see Photo 1). Span lengths from west to east are 91'-$3^5/_8$", 117'-0", 117'-0" and 91'-$3^5/_8$". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers on crashwalls. There is no overlay on the structure.

A BNSF ROW fence prevented access to view the deck soffit, superstructure, substructure and underclearance vert/lat. IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks and scattered longitudinal cracks are visible throughout the top of deck (see Photo 2). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, approach alignment and bridge railing appraisal items. Anchor blocks are damaged or missing along sections of both expansion joints (see Photos 3 and 4).

Based on the structure summary report and field check, S.N. 016-0004 is suitable for reuse after rehabilitation of the substructure, superstructure and expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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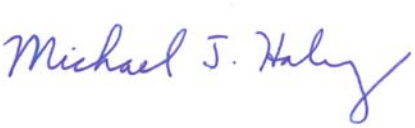


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0004 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	86.0
Feature Crossed:	RR - BNSF	**Location:**	0.3 M E US 45	**HBP Eligible:**	No
Bridge Remarks:	DESIGN LOAD MS18&ALT			**Replaced By:**	-
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	07/2000	**Replaces:**	-
Status Remarks:	PER KRAMARZ			**Last Update Date:**	02/19/2015
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Right
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**	
Service On/Under:	1 HIGHWAY	2 / RAILROAD		**Skew Direction:**	L Left
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	58 **D**
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No
Nbr Of Main Spans:	4	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No
Approaches				**Border Bridge State:**	
Near #1 Matl/Type:		/		**Bdr State SN:**	
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0
Far #1 Matl/Type:		/		**Structural Steel Wt**	114345
Far #2 Matl/Type:		/		**Substructure Material:**	
Median Width/Type:	0 Ft. / 0 None			**Rated By:**	2 IDOT
Guardrail Type L/R:	0None / 0 None			**Inventory Rating:**	1.155(41)
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	1.920(69)
Latitude:	41.76242074 **S**	**Longitude:**	87.86201295 **S**	**Design Load:**	99 UNKNOWN
Deck Structure Type:	A CIP CON NRMLLY FORM			**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N
Sidewalks Under Structure:	0 None				

Sufficiency Rating:	86.0	**Structure Length:**	427.4
HBP Eligible:	No	**AASHTO Bridge Length:**	99.9
Replaced By:	-	**Length of Long Span:**	117.0
Replaces:	-	**Bridge Roadway Width:**	76.4
Last Update Date:	02/19/2015	**Appr Roadway Width:**	76.4
Parallel Structure:	Right	**Deck Width:**	79.6
Multi-Level Structure Nbr:		**Sidewalk Width Right:**	0.0
Skew Direction:	L Left	**Sidewalk Width Left:**	0.0
Skew Angle:	58 **D**	**Navigation Control:**	N N/A
Structure Flared:	No	**Navigation Horiz Clear:**	0
Historical Significance:	No	**Navigation Vert Clear:**	0
Border Bridge State:		**Culvert Fill Depth:**	0.0
Bdr State SN:		**Number Culvert Cells:**	0
Bdr State % Responsibility:	0	**Culvert Opening Area:**	0.0
Structural Steel Wt	114345	**Culvert Cell Height:**	0.00
Substructure Material:		**Culvert Cell Width:**	0.00
Rated By:	2 IDOT	**Rate Method:**	6
Inventory Rating:	1.155(41)	**Load Rating Date:**	01/08/2001 **Railroad Crossing Info**
Operating Rating:	1.920(69)	**Crossing 1 Nbr:**	
Design Load:	99 UNKNOWN	**Crossing 1 Nbr:**	
Deck Structure Thickness:	7.5 **SD:** N **FO:** N	**RR Lateral Underclear:**	11.1
		RR Vertical Underclear:	23 **Ft** 10 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	2.8400
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	2645 HODGKINS	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 64500
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	10
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	67.8	**One Or Two Way:**	1 One-Way
Horizontal:	67.8 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 83945
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	**Kind**	**Number**
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	**Kind**	**Number**

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0004 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	04/23/2014	Inspection Temperature:	51Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	US
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Total Deck Thick:	7.5			SHP ZINC&FLD ACRYL	
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/2000				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		1999	Reconstructed		
Route:	FAI-55	Sta:	166+28.48	FAI55	Sta:	14+626.10	
Section Nbr:	0404-673VB			0404(606VB&676B)			
Contract Nbr:				82979			
Fed Aid Pr#:	IG 0557104274			55-7(196)279			
Built By:	1	I.D.O.T.		1	I.D.O.T.		

Pontis

Today's Date: 08/27/2015

Structure Number: 016-0004 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: RR - BNSF
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 0.3 M E US 45
(7A) Bridge Name:
Element Inspection Date: 04/23/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	1	100	2,719	0	0	0	0	0	0	2,719
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	1	100	14,722	0	0	0	0	0	0	14,722
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Vert & diag crking @ P#2,P#3								
Reinforced Conc Abutment										
215	1	100	1,953	0	0	0	0	0	0	1,953
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier or Abutment Cap										
234	1	98	685	2	16	0	0	0	0	701
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Pier) Few map crk & HPs P#1,P#2; Abut)Edge crks & spalls @ E								
Elastomeric Bearing										
310	4	0	0	100	20	0	0	0	0	20
		No deterioration		Minor deterioration		Major deterioration				
Remarks:		Lt rusting of assemblies @ sections of older steel								
Fixed Bearing										
313	4	0	0	100	10	0	0	0	0	10
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Pot Bearing										
314	4	0	0	100	20	0	0	0	0	20
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Concrete Bridge Railing

331	4	0	0	100	855	0	0	0	0	855
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: HL vertical and horizontal crks

Concrete Deck Protected w/ Coated Bars

8026	4	93	31,750	7	2,450	0	0	0	0	34,200

Remarks: Soffit) Trans leach crks; WS) Trans crking; map cracking

Non-Lead Painted Steel Open Girder

8118	4	97	52,963	3	1,750	0	0	0	0	54,713

Remarks: Few isol paint peels; Lt-med surf rust throughout

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	20	0	0	0	0	0	0	20

Remarks: Init sec loss @ bm ends & diaphs @ abuts

Neoprene Expansion Joint

8307	4	94	261	6	16	0	0	0	0	277

Remarks: Lt leakage

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks:

Steel Open Girder

8406	4	0	0	40	4	60	6	0	0	10

Remarks: Few abut bm ends have minor pitting/sec loss that has been painted.

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0005
W.B. I-55 over BNSF Railway Separation
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0005 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated April 23, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span continuous steel girder bridge (see Photo 1). Span lengths from west to east are 91'-3½", 117'-0", 117'-0" and 91'-3½". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers on crashwalls. There is no overlay on the structure.

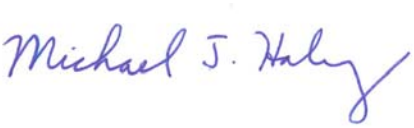
A BNSF ROW fence prevented access to view the deck soffit, superstructure, substructure and underclearance vert/lat. IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks and scattered longitudinal cracks are visible throughout the top of deck (see Photo 2). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, approach alignment and bridge railing appraisal items. Anchor blocks are damaged or missing along sections of the west expansion joint (see Photo 3).

Based on the structure summary report and field check, S.N. 016-0005 is suitable for reuse after rehabilitation of the superstructure and expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

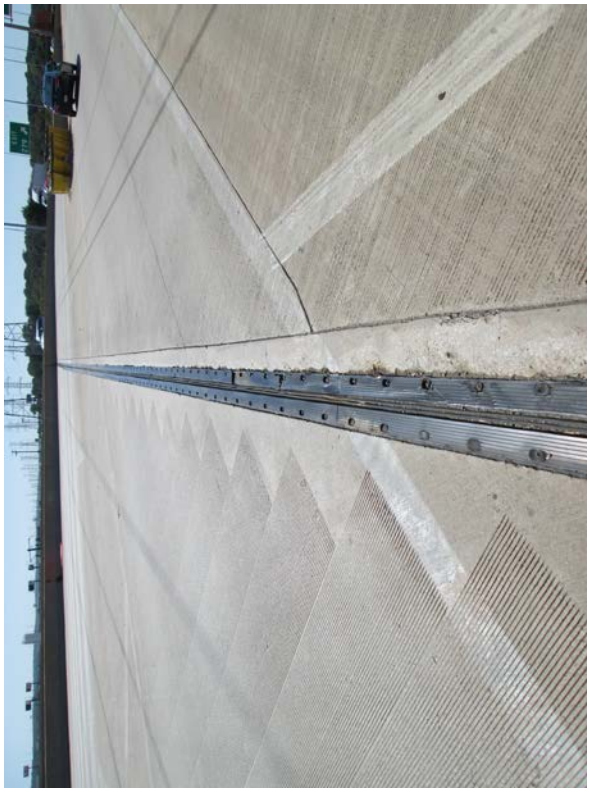


Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0005 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	87.0	**Structure Length:**	427.4
Feature Crossed:	RR - BNSF	**Location:**	0.3 M E US 45	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	DESIGN LOAD MS18&ALT			**Replaced By:**	-	**Length of Long Span:**	117.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	96.9
Status Remarks:				**Last Update Date:**	02/19/2015	**Appr Roadway Width:**	96.9
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Left	**Deck Width:**	100.1
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	2 / RAILROAD		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	58 D	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	Yes	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	584000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.210(43)	**Load Rating Date:**	05/29/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.020(72)		**Crossing 1 Nbr:**	
Latitude:	41.76243765 **S**	**Longitude:** 87.86190060 **S**		**Design Load:** 99 UNKNOWN		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	15.6
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 22 **Ft** 07 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	2.8500
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	2645 HODGKINS	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 68900
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	97.0	**One Or Two Way:**	1 One-Way
Horizontal:	98.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 83945
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	**Kind**	**Number**
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	**Kind**	**Number**

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0005 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	04/23/2014	Inspection Temperature:	51Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	US
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Total Deck Thick:	7.5			SHP ZINC&FLD ACRYL	
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	05/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		2000	Reconstructed		
Route:	FAI-55		Sta: 166+28.48	FAI55		Sta: 14+626.10	
Section Nbr:		0404-673-VB			0404-676B-R-1		
Contract Nbr:					82969		
Fed Aid Pr#:		IG 0557104274			55-7(219)277		
Built By:	1	I.D.O.T.			1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number: 016-0005 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: RR - BNSF
(7) Facility Carried: I- 55 WB STEVENSON
(9) Location: 0.3 M E US 45
(7A) Bridge Name:
Element Inspection Date: 04/23/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	1	100	3,737	0	0	0	0	0	0	3,737
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	1	100	16,009	0	0	0	0	0	0	16,009
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	1	100	2,070	0	0	0	0	0	0	2,070
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier or Abutment Cap										
234	1	100	950	0	0	0	0	0	0	950
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Elastomeric Bearing										
310	4	0	0	100	26	0	0	0	0	26
		No deterioration		Minor deterioration		Major deterioration				
Remarks:	Lt rusting to assemblies @ older steel									
Fixed Bearing										
313	4	0	0	100	26	0	0	0	0	26
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Pot Bearing										
314	4	0	0	100	26	0	0	0	0	26
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Concrete Bridge Railing

331	4	0	0	100	842	0	0	0	0	842
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: HL vert and horiz crks

Concrete Deck Protected w/ Coated Bars

8026	4	93	40,137	7	3,100	0	0	0	0	43,237

Remarks: Soffit) Trans leach crks; WS) Trans crks; scattered map cracking

Non-Lead Painted Steel Open Girder

8118	4	100	67,007	0	0	0	0	0	0	67,007

Remarks: Lt-med surf rust throughout old steel; Isol paint peels

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	26	0	0	0	0	0	0	26

Remarks: Init sec loss @ abuts

Neoprene Expansion Joint

8307	4	94	363	6	24	0	0	0	0	387

Remarks: Leakage allowing debris to seat

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0006
E.B. I-55 over Santa Fe Drive
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0006 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 13, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span steel girder bridge consisting of nine lines of continuous girders (see Photo 1). Span lengths from west to east are 75'-10¼", 97'-1" and 75'-10¼". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks are visible throughout the top of deck and soffit (see Photo 2). IDOT rates the superstructure as being in fair condition, which concurs with the findings from the cursory field check. Minor section loss is visible at girder ends (see Photo 3). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor vertical and horizontal cracking is visible on abutment caps, and pier crash walls. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment and bridge railing appraisal items. Anchor blocks are damaged along sections of both expansion joints (see Photo 4). Large cracks are visible at the tops of both slopewalls (see Photo 5).

Based on the structure summary report and field check, S.N. 016-0006 is suitable for reuse after rehabilitation of the superstructure and expansion joints. Slope walls should be repaired.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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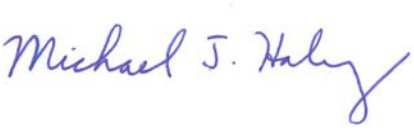


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0006 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	87.0	**Structure Length:**	257.8
Feature Crossed:	SANTA FE DR	**Location:**	0.4 M E US 45	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	DESIGN LOAD MS18&ALT			**Replaced By:**	-	**Length of Long Span:**	97.1
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	02/2000	**Replaces:**	-	**Bridge Roadway Width:**	65.3
Status Remarks:	PER KRAMARZ			**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	65.3
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Right	**Deck Width:**	68.4
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	4 / HIGHWAY-RAILROAD		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	50 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	876000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None	**Inventory Rating:**	1.100(39)	**Load Rating Date:**	01/08/2001	**Railroad Crossing Info**	
Toll Facility Indicator:	0 No Toll	**Operating Rating:**	1.835(66)			**Crossing 1 Nbr:**	
Latitude:	41.76269149 **S** **Longitude:** 87.86009870 **S**	**Design Load:**	99 UNKNOWN			**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM	**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N			**RR Lateral Underclear:**	15.5
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 24 **Ft** 03 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	3.0100
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	2645 HODGKINS	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 68900
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	65.3	**One Or Two Way:**	1 One-Way
Horizontal:	66.5 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 83945
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 2719		**Station:**	3.8100
Main Route 00000		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	On NHS
2645 HODGKINS		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 8500
5 MAJOR COLLECTOR		**Est Truck Percentage:**	8
South/East	**North/West**	**Number Of Lanes:**	2
0.0		**One Or Two Way:**	2 Two-Way
56.0	0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 4738
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0006 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	08/13/2014	Inspection Temperature:	82Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	US
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Total Deck Thick:	7.5			SHP ZINC&FLD ACRYL	
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/2000				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: Inspection Method:
Appraisal Rating:

Scour Critical Information

Rating: Evaluation Method:
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		1999	Reconstructed
Route:	FAI-55	Sta: 174+00		FAI 55	Sta: 14+861.73
Section Nbr:	0404-674-HB			0404-640R	
Contract Nbr:				82979	
Fed Aid Pr#:	I 0557083274			55-7(196)279	
Built By:	1	I.D.O.T.		1	I.D.O.T.

Pontis

Today's Date: 08/27/2015

Structure Number: 016-0006 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: SANTA FE DR
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 0.4 M E US 45
(7A) Bridge Name:
Element Inspection Date: 08/13/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	2	98	1,885	2	40	0	0	0	0	1,925
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Isol Vert Crking										
Reinforced Conc Pier Wall										
210	2	100	5,047	0	0	0	0	0	0	5,047
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	2	100	1,470	0	0	0	0	0	0	1,470
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier or Abutment Cap										
234	2	97	405	3	14	0	0	0	0	419
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Abut) Minor horiz edge crks										
Elastomeric Bearing										
310	4	70	19	30	8	0	0	0	0	27
		No deterioration		Minor deterioration		Major deterioration				
Remarks: Lt rusting to few assys										
Fixed Bearing										
313	4	100	9	0	0	0	0	0	0	9
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	100	516	0	0	0	0	0	0	516
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks: HL Vert crks										

Concrete Deck Protected w/ Coated Bars

8026	4	99	17,140	1	145	0	0	0	0	17,285

Remarks: WS- Trans crks w/isol intersecting; Soffit-Trans leach crks typ.

Non-Lead Painted Steel Open Girder

8118	4	99	30,816	1	440	0	0	0	0	31,256

Remarks: Lt-med surf rust throughout old steel

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	11	2	44	8	44	8	0	0	18

Remarks: Initial sec loss @ abuts

Continuous Seal Neoprene Expansion Joint

8308	4	94	198	6	12	0	0	0	0	210

Remarks: Leakage

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0007
W.B. I-55 over Santa Fe Drive
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0007 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 13, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span steel girder bridge consisting of eleven lines of continuous girders (see Photo 1). Span lengths from west to east are 75'-10¼", 97'-1" and 75'-10¼". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

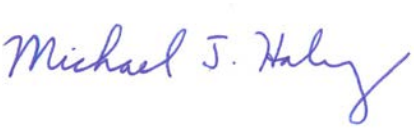
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). Minor longitudinal and transverse cracks are visible on the top of deck. IDOT rates the superstructure as being in fair condition, which concurs with the findings from the cursory field check. Minor section loss is visible at beam ends (see Photo 3). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Moderate vertical and horizontal cracking is visible on abutment seats, and pier crash walls. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment and bridge railing appraisal items. Anchor blocks are damaged along sections of both expansion joints (see Photo 4). Moderate diagonal cracks are visible on both approach slabs.

Based on the structure summary report and field check, S.N. 016-0007 is suitable for reuse after rehabilitation of the substructure, superstructure and expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0007 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	87.0	**Structure Length:**	257.8
Feature Crossed:	SANTA FE DR	**Location:**	0.4 M E US 45	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	DESIGN LOAD MS18&ALT			**Replaced By:**	-	**Length of Long Span:**	97.1
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	75.5
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	74.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Left	**Deck Width:**	78.7
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	4 / HIGHWAY-RAILROAD		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	50 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	Yes	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	876000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.100(39)	**Load Rating Date:**	05/29/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	1.835(66)		**Crossing 1 Nbr:**	
Latitude:	41.76270634 **S**	**Longitude:** 87.85998583 **S**		**Design Load:** 99 UNKNOWN		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	15.5
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 24 **Ft** 03 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	3.0200
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	2645 HODGKINS	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 68900
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	75.5	**One Or Two Way:**	1 One-Way
Horizontal:	76.7 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 83945
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 2719		**Station:**	3.7900
Main Route 00000		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	On NHS
2645 HODGKINS		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 8500
5 MAJOR COLLECTOR		**Est Truck Percentage:**	8
South/East	**North/West**	**Number Of Lanes:**	2
33.8		**One Or Two Way:**	2 Two-Way
56.0	0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 4738
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0007 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	08/13/2014	Inspection Temperature:	82Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	US
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Total Deck Thick:	7.5			SHP ZINC&FLD ACRYL	
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	05/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		2000	Reconstructed	
Route:	FAI-55	Sta: 174+00		FAI55	Sta: 14+861.73	
Section Nbr:	0404-674-HB			0404-676B-R-1		
Contract Nbr:				82969		
Fed Aid Pr#:	I 0557083274			55-7(219)277		
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number: 016-0007 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: SANTA FE DR
(7) Facility Carried: I- 55 WB STEVENSON
(9) Location: 0.4 M E US 45
(7A) Bridge Name:
Element Inspection Date: 08/13/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Element Description										
Reinforced Conc Column or Pile Extension										
205	2	100	2,501	0	0	0	0	0	0	2,501
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	2	100	6,505	0	0	0	0	0	0	6,505
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	2	95	1,714	5	86	0	0	0	0	1,800
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Backwall) HL vert leach crks									
Reinforced Conc Pier or Abutment Cap										
234	2	96	501	4	20	0	0	0	0	521
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Abut) Scattered Hor edge crks									
Elastomeric Bearing										
310	4	22	8	78	28	0	0	0	0	36
		No deterioration		Minor deterioration		Major deterioration				
Remarks:	Lt rust to assemblies.									
Fixed Bearing										
313	4	100	12	0	0	0	0	0	0	12
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	100	487	0	0	0	0	0	0	487
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:	HL Vert crks									

Concrete Deck Protected w/ Coated Bars

8026	4	99	20,772	1	254	0	0	0	0	21,026

Remarks: WS) Trans crking w/isol intersecting long crks; Soffit)Trans leach crks typ.

Non-Lead Painted Steel Open Girder

8118	4	99	40,090	1	560	0	0	0	0	40,650

Remarks: Lt-med surf rust.

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	33	8	50	12	17	4	0	0	24

Remarks: Init sec loss @ bm ends. Minor Spkld rust @ bott flanges.

Continuous Seal Neoprene Expansion Joint

8308	4	99	263	1	4	0	0	0	0	267

Remarks: Leakage. East Neop Jnt- Lane 1 - 4ft damaged.

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0008
E.B. I-55 over BNSF Railway Separation
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0008 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 12, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span continuous steel girder bridge (see Photo 1). Span lengths from west to east are 70'-$6^{7}/_{8}$", 106'-$11^{1}/_{8}$" and 70'-$6^{7}/_{8}$". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers on crashwalls. There is no overlay on the structure.

A BNSF ROW fence prevented access to view the deck soffit, superstructure, substructure and underclearance vert/lat. IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks are visible on a majority of the top of deck. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, approach alignment and bridge railing appraisal items. Anchor blocks are damaged or missing along sections of both expansion joints (see Photo 2). A small section of the west approach parapet is spalled with exposed reinforcing bars (see Photo 3).

Based on the structure summary report and field check, S.N. 016-0008 is suitable for reuse after rehabilitation of the substructure, superstructure and expansion joints. The damaged section of approach parapet should be repaired.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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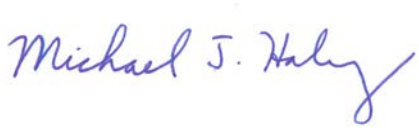


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 08/17/2015
Page: 1

Structure Number: 016-0008 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	71.0	**Structure Length:**	255.2
Feature Crossed:	RR - BNSF	**Location:**	0.6 M E US 45	**HBP Eligible:**	Yes	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	DESIGN LOAD MS18&ALT			**Replaced By:**	-	**Length of Long Span:**	106.9
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	02/2000	**Replaces:**	-	**Bridge Roadway Width:**	65.3
Status Remarks:	PER KRAMARZ			**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	64.3
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Right	**Deck Width:**	68.4
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	2 / RAILROAD		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	42 D	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	862000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.100(39)	**Load Rating Date:**	01/11/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	1.830(65)		**Crossing 1 Nbr:**	
Latitude:	41.76291793 **S**	**Longitude:** 87.85842453 **S**		**Design Load:** 99 UNKNOWN		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** Y **FO:** N		**RR Lateral Underclear:**	16.9
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 23 **Ft** 06 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	3.1400
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	2645 HODGKINS	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 77600
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	65.3	**One Or Two Way:**	1 One-Way
Horizontal:	66.5 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 83945
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	**Kind**	**Number**
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	**Kind**	**Number**

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0008 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	12 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	08/12/2015	Inspection Temperature:	81Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	4	POOR CONDITION - ADVANCED DETERIORATION						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	CU
Structural Evaluation:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		LD SHP GRN&AL FNL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Total Deck Thick:	7.5			FLD AL EPY & ACRLC	
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/2000				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		1999	Reconstructed
Route:	FAI-55	Sta: 179+85.65		FAI55	Sta: 15+041.71
Section Nbr:	0404-606-VB			0404-640ETC.	
Contract Nbr:				82979	
Fed Aid Pr#:	IG 0557084274			55-7(196)279	
Built By:	1	I.D.O.T.		1	I.D.O.T.

Pontis

Today's Date: 08/27/2015

Structure Number: 016-0008 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: RR - BNSF
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 0.6 M E US 45
(7A) Bridge Name:
Element Inspection Date: 08/12/2015
(90E) Agency Program Manager: AsfourSE
(90E3) Consultant Program Manager:
(90E1) Team Leader: SalaymehTA
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	2	100	1,442	0	0	0	0	0	0	1,442
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	2	100	5,177	0	0	0	0	0	0	5,177
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Vert crking below columns; Horiz edge crks @ SE P #2								
Reinforced Conc Abutment										
215	2	100	1,812	0	0	0	0	0	0	1,812
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier or Abutment Cap										
234	2	93	338	7	24	0	0	0	0	362
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Abut- Several epoxy sealed crks; Pier-Few small map crked and spalled areas SE P#2								
Elastomeric Bearing										
310	4	89	24	11	3	0	0	0	0	27
		No deterioration		Minor deterioration		Major deterioration				
Remarks:		Initial rusting @ few assemblies								
Fixed Bearing										
313	4	100	9	0	0	0	0	0	0	9
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	99	495	0	0	1	6	0	0	501
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:		HL vert crks								

Concrete Deck Protected w/ Coated Bars

8026	4	99	16,970	1	180	0	0	0	0	17,150

Remarks: WS-Trans crks; few intersecting; Soffit- HL trans leach crks

Non-Lead Painted Steel Open Girder

8118	4	91	26,706	8	2,200	1	400	0	10	29,316

Remarks: Old steel has Lt-med surf rust; Flaking rust on cross bracing throughout; 10 % Section loss (>1/16") on Lwr Flange Bm 1.

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	11	2	72	13	6	1	11	2	18

Remarks: Initial sect loss @ several bm ends; Bms 4,6 have >10% (or 1/16"); Small Hole Bm 1 @ W Abut End.

Continuous Seal Neoprene Expansion Joint

8308	4	93	170	7	12	0	0	0	0	182

Remarks: Leakage

Approach Pavement

8323	4	50	1	50	1	0	0	0	0	2

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0009
W.B. I-55 over BNSF Railway Separation
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0009 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 12, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span continuous steel girder bridge (see Photo 1). Span lengths from west to east are 70'-$6^{7}/_{8}$", 106'-$11^{1}/_{8}$" and 70'-$6^{7}/_{8}$". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers on crashwalls. There is no overlay on the structure.

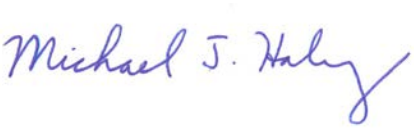
A BNSF ROW fence prevented access to view the deck soffit, superstructure, substructure and underclearance vert/lat. IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks are visible on a majority of the top of deck. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, approach alignment and bridge railing appraisal items. Anchor blocks are damaged or missing along sections of both expansion joints (see Photo 2). Moderate diagonal cracks are visible on both approach slabs.

Based on the structure summary report and field check, S.N. 016-0009 is suitable for reuse after rehabilitation of the superstructure and expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 08/17/2015
Page: 1

Structure Number: 016-0009 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	71.0	**Structure Length:**	255.2
Feature Crossed:	RR - BNSF	**Location:**	0.6 M E US 45	**HBP Eligible:**	Yes	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	DESIGN LOAD MS18&ALT			**Replaced By:**	-	**Length of Long Span:**	106.9
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	74.0
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	74.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Left	**Deck Width:**	77.3
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	2 / RAILROAD		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	42 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	862000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.100(39)	**Load Rating Date:**	05/30/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	1.830(65)		**Crossing 1 Nbr:**	
Latitude:	41.76286597 **S**	**Longitude:** 87.85878818 **S**		**Design Load:** 99 UNKNOWN		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** Y **FO:** N		**RR Lateral Underclear:**	16.9
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 23 **Ft** 06 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	3.1200
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	2645 HODGKINS	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 77600
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	74.0	**One Or Two Way:**	1 One-Way
Horizontal:	75.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 83945
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0009 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	12 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	08/12/2015	Inspection Temperature:	81Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	4	POOR CONDITION - ADVANCED DETERIORATION						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	CU
Structural Evaluation:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		LD SHP GRN&AL FNL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Total Deck Thick:	7.5			FLD AL EPY & ACRLC	
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	05/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		2000	Reconstructed	
Route:	FAI-55	Sta: 179+85.65		FAI-55	Sta: 15+041.71	
Section Nbr:	0404-606-VB			0404-676B-R-1		
Contract Nbr:				82969		
Fed Aid Pr#:	IG 0557084274			55-7(219)277		
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number:	016-0009 **District:** 1	**(41) Bridge Status:**	1 OPEN - NO RESTRICT
(6) Feature Crossed:	RR - BNSF	**(7) Facility Carried:**	I- 55 WB STEVENSON
(9) Location:	0.6 M E US 45	**(7A) Bridge Name:**	
Element Inspection Date:	08/12/2015		
(90E) Agency Program Manager:	AsfourSE	**(90E3) Consultant Program Manager:**	
(90E1) Team Leader:	SalaymehTA	**(90E2) Inspector:**	

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	2	100	1,649	0	0	0	0	0	0	1,649
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	2	100	5,228	0	4	0	0	0	0	5,232
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Pier 1@ Bm#2 East Face - HL horiz leach crks.									
Reinforced Conc Abutment										
215	2	100	1,812	0	0	0	0	0	0	1,812
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier or Abutment Cap										
234	2	100	418	0	0	0	0	0	0	418
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Elastomeric Bearing										
310	4	87	26	13	4	0	0	0	0	30
		No deterioration		Minor deterioration		Major deterioration				
Remarks:	Initial rusting @ few assemblies									
Fixed Bearing										
313	4	100	10	0	0	0	0	0	0	10
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	100	502	0	0	0	0	0	0	502
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:	HL vert crking									

Concrete Deck Protected w/ Coated Bars

8026	4	99	19,259	1	110	0	0	0	0	19,369

Remarks: WS-Trans crks;few intersecting cracks; Soffit- HL trans leach crks. W Abut- Bm#4- small spall.

Non-Lead Painted Steel Open Girder

8118	4	89	25,693	8	2,400	2	600	0	60	28,753

Remarks: Lt-med surf rust

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	30	6	70	14	0	0	0	0	20

Remarks: Bm Ends painted-Initial sect loss @ bm ends. Pitting @ W Abut Bm#5 stiffeners. E Abut Bm#5 hole in diaph.

Continuous Seal Neoprene Expansion Joint

8308	4	94	196	0	0	6	12	0	0	208

Remarks: Leakage. West Neop Jnt 12 ft missing @ Lane 2.

Approach Pavement

8323	4	50	1	50	1	0	0	0	0	2

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0012
W.B. I-55 over CSXT RR
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0012 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 22, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel beam bridge consisting of eleven lines of continuous beams (see Photo 1). Span lengths from west to east are 50'-0", 60'-0", 60'-0" and 50'-0". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers on crashwalls. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks are visible throughout the top of deck and soffit. IDOT rates the superstructure as being in fair condition, which concurs with the findings from the cursory field check. Minor rusting is visible on the top and bottom flanges of all beams. Pitting is visible on some beam ends (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor vertical cracking is visible along the abutments and piers. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment, and bridge railing appraisal. Minor to moderate longitudinal and transverse cracks are visible on both approach slabs (see Photo 3).

Based on the structure summary report and field check, S.N. 016-0012 is suitable for reuse after rehabilitation of the superstructure. The approach guardrail transitions should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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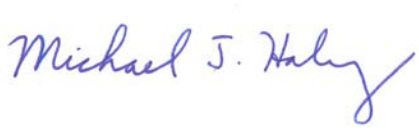


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0012 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	85.0	**Structure Length:**	224.0
Feature Crossed:	RR - CSXT	**Location:**	2.2 M SW ILL 43	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	DESIGN LOAD MS18&ALT			**Replaced By:**	-	**Length of Long Span:**	60.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	66.8
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	60.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Left	**Deck Width:**	70.0
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	2 / RAILROAD		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	8 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	656000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.730(62)	**Load Rating Date:**	11/14/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.750(99)		**Crossing 1 Nbr:**	
Latitude:	41.78379522 **S**	**Longitude:** 87.83048108 **S**		**Design Load:** 99 UNKNOWN		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	8.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 23 **Ft** 00 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	5.2500
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	5620 SUMMIT	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 77600
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	66.8	**One Or Two Way:**	1 One-Way
Horizontal:	68.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 83945
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	**Kind**	**Number**
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	**Kind**	**Number**

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0012 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***					Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required	
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons			

Inspection/Appraisal Information

Inspection Date:	08/22/2014	Inspection Temperature:	86Deg. F				** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS					Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	CU
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE	LD SHP GRN&AL FNL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	7.5		FLD AL EPY & ACRLC	
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	05/2001			
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	23N	Not Acceptable	Acceptable	N/A				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		2000	Reconstructed	
Route:	FAI-55		Sta: 280+17.71	FAI-55		Sta: 18+539.815
Section Nbr:		0505-607-VB			0404-640,ETC	
Contract Nbr:					82458	
Fed Aid Pr#:		IG 0557067276			55-7(176)279	
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number: 016-0012 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: RR - CSXT
(7) Facility Carried: I- 55 WB STEVENSON
(9) Location: 2.2 M SW ILL 43
(7A) Bridge Name:
Element Inspection Date: 08/22/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	2,195	0	10	0	0	0	0	2,205
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Isol small HPs @ P1 Col2; HL spider cracking										
Reinforced Conc Pier Wall										
210	4	100	4,707	0	0	0	0	0	0	4,707
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Scattered HL vert crks										
Reinforced Conc Abutment										
215	4	100	1,298	0	0	0	0	0	0	1,298
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Scattered HL vert leach crks @ Backwalls										
Reinforced Conc Pier or Abutment Cap										
234	4	99	348	1	2	0	0	0	0	350
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Isol HP under cap @ P1										
Preformed Joint Seal										
302	4	100	141	0	0	0	0	0	0	141
		No deterioration		Minor deterioration		Major deterioration				
Remarks: Debris filled										
Elastomeric Bearing										
310	4	91	40	9	4	0	0	0	0	44
		No deterioration		Minor deterioration		Major deterioration				
Remarks: East Abut- Brgs 6,7 & 9 rusted.										
Fixed Bearing										
313	4	100	11	0	0	0	0	0	0	11
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Concrete Bridge Railing

331	4	100	443	0	0	0	0	0	0	443
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: HL vert leach crks

Concrete Deck Protected w/ Coated Bars

8026	4	98	15,222	2	278	0	0	0	0	15,500

Remarks: Wrg Surf- HL-Nar Trans crking; Soffit) Scattered HL trans leach crks

Non-Lead Painted Steel Open Girder

8118	4	97	21,072	3	618	0	0	0	0	21,690

Remarks: Med rust along upper flange edges throughout except @ new beams; Old fascias have init-med web/flange rust

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	82	18	18	4	0	0	0	0	22

Remarks: Few old beam ends have inactive pitting with init rusting after being repainted

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Nar-med random crking @ both

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0013
E.B. I-55 over CSXT RR
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0013 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 22, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel girder bridge consisting of eleven lines of continuous girders (see Photo 1). Span lengths from west to east are 50'-0", 60'-0", 60'-0" and 50'-0". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers on crashwalls. There is no overlay on the structure.

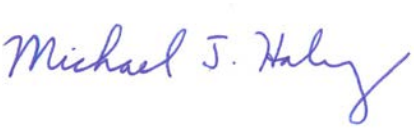
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit. IDOT rates the superstructure as being in fair condition, which concurs with the findings from the cursory field check. Minor to moderate rusting is visible on the top and bottom flanges of interior beams. Pitting is visible on some beam ends (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor vertical cracks and small spalls are visible along the abutments, and piers. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. Minor to moderate longitudinal cracks are visible on both approach slabs (see Photo 3). A few free falling drains don't extend bellow the bottom flanges of girders. One drain pipe is missing (see Photo 4).

Based on the structure summary report and field check, S.N. 016-0013 is suitable for reuse after rehabilitation of the substructure, superstructure and free-fall drainage. The approach guardrail transitions should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0013 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	85.0	**Structure Length:**	224.0
Feature Crossed:	RR - CSXT	**Location:**	2.2 M SW ILL 43	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	DESIGN LOAD MS18&ALT			**Replaced By:**	-	**Length of Long Span:**	60.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	66.6
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	60.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Right	**Deck Width:**	70.0
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	2 / RAILROAD		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	8 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	656000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00

Median Width/Type: 0 Ft. / 0 None **Rated By:** 2 IDOT **Rate Method:** 6

Guardrail Type L/R: 0None / 0 None **Inventory Rating:** 1.730(62) **Load Rating Date:** 11/14/2001 **Railroad Crossing Info**

Toll Facility Indicator: 0 No Toll **Operating Rating:** 2.750(99) **Crossing 1 Nbr:**

Latitude: 41.78390055 **S** **Longitude:** 87.83034600 **S** **Design Load:** 99 UNKNOWN **Crossing 1 Nbr:**

Deck Structure Type: A CIP CON NRMLLY FORM **Deck Structure Thickness:** 7.5 **SD:** N **FO:** N **RR Lateral Underclear:** 8.0

Sidewalks Under Structure: 0 None **RR Vertical Underclear:** 23 **Ft** 00 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	5.2600
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	5620 SUMMIT	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 77600
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	66.6	**One Or Two Way:**	1 One-Way
Horizontal:	67.8 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 83945
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	**Kind**	**Number**
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	**Kind**	**Number**

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0013 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	08/22/2014	Inspection Temperature:	86Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	CU
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		LD SHP GRN&AL FNL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	7.5			FLD AL EPY & ACRLC	
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	05/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	23N	Not Acceptable	Acceptable	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		2000	Reconstructed	
Route:	FAI-55		Sta: 280+17.71	FAI-55		Sta: 18+539.815
Section Nbr:		0505-607VB			0404-640,ETC	
Contract Nbr:					82458	
Fed Aid Pr#:		IG 0557067276			55-7(196)279	
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number: 016-0013 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: RR - CSXT
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 2.2 M SW ILL 43
(7A) Bridge Name:
Element Inspection Date: 08/22/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	1,830	0	8	0	0	0	0	1,838
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: HL vert crks										
Reinforced Conc Pier Wall										
210	4	100	4,760	0	1	0	0	0	0	4,761
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Isol HL vert crks.										
Reinforced Conc Abutment										
215	4	100	1,298	0	0	0	0	0	0	1,298
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Backwall) HL vert leach crks										
Reinforced Conc Pier or Abutment Cap										
234	4	100	349	0	1	0	0	0	0	350
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Pier) HL vert crks. Pier 3 East Face small spall under Bm#8.										
Preformed Joint Seal										
302	4	100	141	0	0	0	0	0	0	141
		No deterioration		Minor deterioration		Major deterioration				
Remarks: Debris filled										
Elastomeric Bearing										
310	4	91	40	9	4	0	0	0	0	44
		No deterioration		Minor deterioration		Major deterioration				
Remarks: Rusting to few assemblies.										
Fixed Bearing										
313	4	100	11	0	0	0	0	0	0	11
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Concrete Bridge Railing

331	4	100	443	0	0	0	0	0	0	443
		No deterioration	Minor cracks/spalls		Analysis warranted					

Remarks: HL vert leach crks

Concrete Deck Protected w/ Coated Bars

8026	4	98	15,242	2	258	0	0	0	0	15,500

Remarks: WS) HL-Nar Trans crking w/some intersecting long crks; Soffit) HL trans leach crks

Non-Lead Painted Steel Open Girder

8118	4	98	21,215	2	475	0	0	0	0	21,690

Remarks: Med rust along upper flange edges throughout except @ new bms; Old fascias have initial web/flange rust

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	82	18	18	4	0	0	0	0	22

Remarks: Few old bm ends have inactive pitting after repainting. Few ends init. rusting.

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Nar-med random crks @ both

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0014
E.B. I-55 over Chicago Sanitary & Ship Canal
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0014 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated May 15, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a five span steel beam/girder bridge (see Photo 1). Each end span consists of nine lines of simply supported beams with span lengths of 49'-11¼". The three middle spans consist of nine lines of continuous girders with span lengths from west to east of 176'-0", 240'-6" and 176'-0". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on some section of soffit (see Photo 2). IDOT rates the superstructure as being in fair condition, which concurs with the findings from the cursory field check. Moderate paint peeling and rusting is visible on the old fascia beams. IDOT rates the substructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Moderate cracking, delaminations and spalling is visible on most piers (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. A few free-falling drains don't extend below the bottom flange of the exterior girder (see Photo 4). Anchor blocks are damaged along sections of the east expansion joint. Moderate diagonal cracks are visible on both approach slabs. One steel end diaphragm is missing nuts (see Photo 5).

Based on the structure summary report and field check, S.N. 016-0014 is suitable for reuse after rehabilitation of the substructure, superstructure, expansion joints and free-fall drainage.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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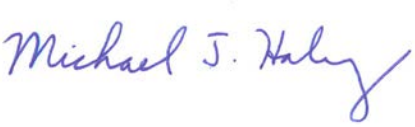


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0014 **District:** 1

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	85.0	**Structure Length:**	699.1
Feature Crossed:	SAN & SHIP CANAL	**Location:**	0.9 M SW ILL 43	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	DESIGN LOAD MS18&ALT			**Replaced By:**	-	**Length of Long Span:**	240.5
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	72.0
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	70.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Right	**Deck Width:**	75.0
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	6 / HIGHWAY-WATERWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	45 D	**Navigation Control:**	1 Yes
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	160
Nbr Of Main Spans:	5 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	37
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	5000000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.235(44)	**Load Rating Date:**	11/19/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.055(73)		**Crossing 1 Nbr:**	
Latitude:	41.79643579 **S**	**Longitude:** 87.81329466 **S**		**Design Load:** 99 UNKNOWN		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	8.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 20 **Ft** 08 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	6.4600
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	5620 SUMMIT	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 72600
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	72.0	**One Or Two Way:**	1 One-Way
Horizontal:	73.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 84409
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

MUNICIPAL STREET 3000		**Station:**	0.2300
Main Route 05620		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	Not on NHS
5620 SUMMIT		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	1998 / 200
7 LOCAL		**Est Truck Percentage:**	0
South/East	**North/West**	**Number Of Lanes:**	2
0.0		**One Or Two Way:**	2 Two-Way
36.0	0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 215
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	5 Municipal Streets	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 2

Structure Number: 016-0014 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	60 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	05/15/2015	Inspection Temperature:	70Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	FS
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		LD FLD GRN&AL FNL	
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	7.5			SHP ZINC&FLD ACRYL	
Waterway Adequacy:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Last Paint Date:	10/2000				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	2	IN PLACE AND FUNCTIONING							

Underwater Inspection/Appraisal Information

Inspection Date:	11/10/2011							
Temperature:	45	Inspection Method:	DPSV	Diver		Probe	Sonar	Visual
			Appraisal Rating:	7	GOOD - SMALL CRACKS IN UNDERWATER UNITS			

Scour Critical Information

Rating:	8	CALCULATED SCOUR ABOVE FOOTING	Evaluation Method:	B Rational Analysis
Analysis Date:	02/01/1993			

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original	2000	Reconstructed	
Route:	FAI-55	Sta: 346+70	FAI55	Sta: 20+513.228	
Section Nbr:	0707-616-B		0404-640,ETC		
Contract Nbr:			82458		
Fed Aid Pr#:	I 0557081277		55-7(196)279		
Built By:	1	I.D.O.T.	1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number:	016-0014 **District:** 1	**(41) Bridge Status:**	1 OPEN - NO RESTRICT
(6) Feature Crossed:	SAN & SHIP CANAL	**(7) Facility Carried:**	I- 55 EB STEVENSON
(9) Location:	0.9 M SW ILL 43	**(7A) Bridge Name:**	
Element Inspection Date:	05/15/2015		
(90E) Agency Program Manager:	MastnySC	**(90E3) Consultant Program Manager:**	
(90E1) Team Leader:	SedlacekJL	**(90E2) Inspector:**	

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Lead Painted Steel Open Girder										
107	4	75	79,315	25	26,439	0	0	0	0	105,754
		No corrosion		Paint distress		Rust formation		Section loss		Section failure

Remarks: N Fascia & Old S Fascia-med rust w/init sec loss @web, btm flang &stiffeners; Paint peeling & rusting; Span 2 Bm#9 sect loss @gusset plate @Pier 2,half & qrtr span.

Reinforced Conc Column or Pile Extension										
205	2	99	4,682	0	20	0	10	0	0	4,712
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: Pier 3 Col 4 has vert crking; Pier 2 Col 4 has a small spall w/exp

Reinforced Conc Pier Wall										
210	2	100	10,924	0	4	0	0	0	0	10,928
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: Minor Delam @ Pier 3

Reinforced Conc Abutment										
215	2	100	937	0	0	0	0	0	0	937
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks:

Reinforced Conc Pier or Abutment Cap										
234	2	93	586	3	20	4	26	0	0	632
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: Piers) Delams, map crking, & minor spalls w/exp rebar. P2 EFace spall w/exp 3'wx6'h; P3 S Nose spall w/exp 3'x1'

Modular Joints										
303	4	100	103	0	0	0	0	0	0	103
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		

Remarks:

Elastomeric Bearing										
310	4	0	0	100	36	0	0	0	0	36
		No deterioration		Minor deterioration		Major deterioration				

Remarks:

Fixed Bearing

313	4	0	0	100	9	0	0	0	0	9
		No deterioration		Minor deterioration	Advanced corrosion					

Remarks:

Pot Bearing

314	4	0	0	100	9	0	0	0	0	9
		No deterioration		Minor deterioration	Advanced corrosion					

Remarks: @ Pier 2

Concrete Bridge Railing

331	4	0	0	100	1,392	0	0	0	0	1,392
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: Slipformed) Vert & Hor crking

Concrete Deck Protected w/ Coated Bars

8026	4	97	50,976	3	1,426	0	0	0	0	52,402

Remarks: WS) HL-Nar trans crks w/some intersecting long. Soffit) Few HL trans leach crks

Non-Lead Painted Steel Open Girder

8118	4	100	22,090	0	0	0	0	0	0	22,090

Remarks:

Non-Lead Painted Steel Open Girder Ends

8176	4	100	72	0	0	0	0	0	0	72

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	97	307	3	8	0	0	0	0	315

Remarks: Plow damage @ East Abut Jnt

Moveable Steel Bearings below continuous decks

8316	4	0	0	100	9	0	0	0	0	9

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Diag & random crking @ E & W

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0015
W.B. I-55 over Chicago Sanitary & Ship Canal
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0015 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated May 15, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a five span steel beam/girder bridge (see Photo 1). Each end span consists of nine lines of simply supported beams with span lengths of 49'-11¼". The three middle spans consist of nine lines of continuous girders with span lengths from west to east of 176'-0", 240'-6" and 176'-0". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

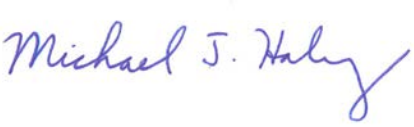
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks are visible on a majority of the top of the deck. IDOT rates the superstructure as being in fair condition, which concurs with the findings from the cursory field check. Moderate paint peeling and rusting is visible on the old fascia beams (see Photo 2). IDOT rates the substructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Minor to moderate cracking, delaminations and spalling is visible on the abutments and piers (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. Anchor blocks are damaged along sections of both expansion joints (see Photo 4).

Based on the structure summary report and field check, S.N. 016-0015 is suitable for reuse after rehabilitation of the substructure, superstructure and expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

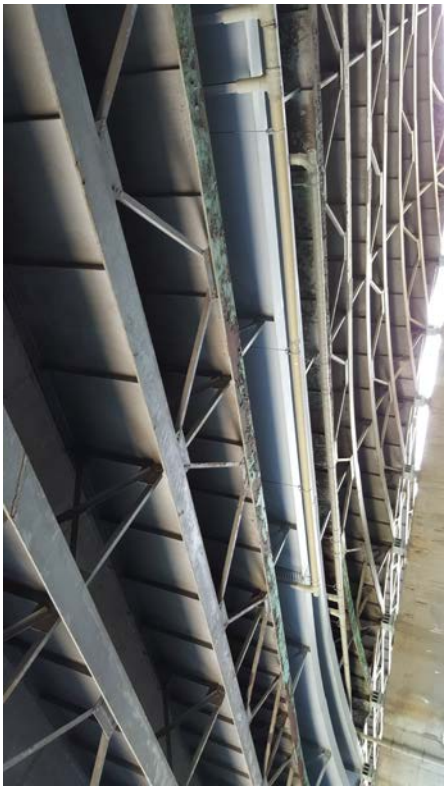


Photo 2

Photo 3

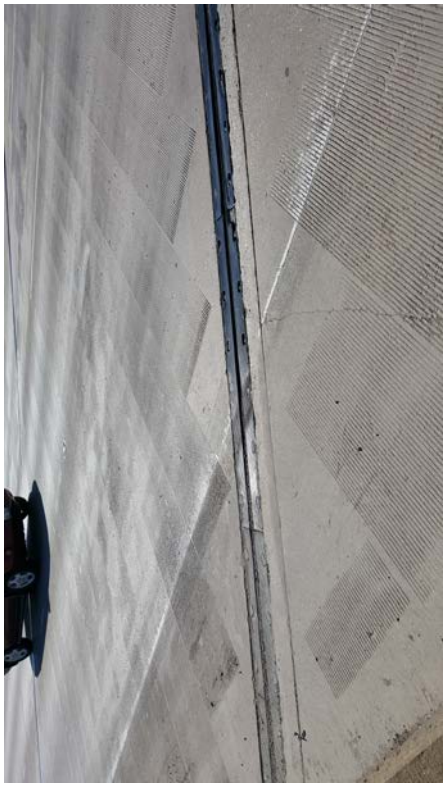


Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0015 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	86.0	**Structure Length:**	699.1
Feature Crossed:	SAN & SHIP CANAL	**Location:**	0.9 M SW ILL 43	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	240.5
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	72.0
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	72.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Left	**Deck Width:**	75.1
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	6 / HIGHWAY-WATERWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	45 **D**	**Navigation Control:**	1 Yes
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	161
Nbr Of Main Spans:	5 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	38
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	5000000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None		**Rated By:** 2 IDOT		**Rate Method:** 6		
Guardrail Type L/R:	0None / 0 None	**Inventory Rating:**	1.235(44)	**Load Rating Date:**	11/19/2001	**Railroad Crossing Info**	
Toll Facility Indicator:	0 No Toll	**Operating Rating:**	2.055(73)			**Crossing 1 Nbr:**	
Latitude:	41.79642631 **S** **Longitude:**	87.81293776 **S**	**Design Load:** 99 UNKNOWN			**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM	**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N			**RR Lateral Underclear:**	1.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 20 **Ft** 08 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	6.4800
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	5620 SUMMIT	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 72600
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	72.0	**One Or Two Way:**	1 One-Way
Horizontal:	73.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 84409
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

MUNICIPAL STREET 3000		**Station:**	0.2400
Main Route 05620		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	Not on NHS
5620 SUMMIT		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	1998 / 200
7 LOCAL		**Est Truck Percentage:**	0
South/East	**North/West**	**Number Of Lanes:**	2
0.0		**One Or Two Way:**	2 Two-Way
36.0	0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 215
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	**Kind**	**Number**
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	**Kind**	**Number**
	1 Mainline	5 Municipal Streets	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0015 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	**Underwater:**	60 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 05/15/2015 **Inspection Temperature:** 70Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Single Unit Vehicles:**	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						**Combination Type 3S-1:**	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	0
Channel and Protection:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED	**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY			**Last Paint Type:**	FS
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE	**Deck Membrane:**	F	NONE		LD FLD GRN&AL FNL		
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA	**Deck Protection:**	A	EPOXY COATED REINF				
Underclearance-Vert/Lat.:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE	**Total Deck Thick:**	7.5			SHP ZINC&FLD ACRYL		
Waterway Adequacy:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA	**Last Paint Date:**	10/2000					
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	333	Acceptable Acceptable Acceptable							
Pier Navig Protection:	2	IN PLACE AND FUNCTIONING							

Underwater Inspection/Appraisal Information

Inspection Date: 11/10/2011
Temperature: 45 **Inspection Method:** DPSV Diver Probe Sonar Visual
Appraisal Rating: 7 GOOD - SMALL CRACKS IN UNDERWATER UNITS

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 02/01/1993

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		2000	Reconstructed		
Route:	FAI-55		**Sta:** 346+70	FAI55		**Sta:** 20+513.228	
Section Nbr:		0707-616-B			0404-640,ETC		
Contract Nbr:					82458		
Fed Aid Pr#:		I 0557081277			55-7(196)279		
Built By:	1	I.D.O.T.		1	I.D.O.T.		

Pontis

Today's Date: 08/27/2015

Structure Number: 016-0015 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: SAN & SHIP CANAL
(7) Facility Carried: I- 55 WB STEVENSON
(9) Location: 0.9 M SW ILL 43
(7A) Bridge Name:
Element Inspection Date: 05/15/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Lead Painted Steel Open Girder										
107	4	74	78,254	26	27,500	0	0	0	0	105,754
		No corrosion		Paint distress		Rust formation		Section loss		Section failure

Remarks: Original Fascia girders have section loss in splices, webs,flanges & stiffeners @ old drain locs; Numerous small to med holes in gusset plates @same locs; rusting & scattered peeling elsewhere

Reinforced Conc Column or Pile Extension										
205	2	99	4,678	1	30	0	0	0	0	4,708
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: Pier 2 South Face has delams

Reinforced Conc Pier Wall										
210	2	100	10,760	0	0	0	0	0	0	10,760
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks:

Reinforced Conc Abutment										
215	2	100	898	0	0	0	0	0	0	898
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: East Abut-few HL vert leach crks

Reinforced Conc Pier or Abutment Cap										
234	2	91	579	3	20	6	40	0	0	639
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: Pier 2-horiz crking w/few delams WFace spall@Brg#9; P3 Cap-W Corner-large spall w/exp bars 4'x1' @ N.Nose. P4 EFace spalls w/exp @ Brgs 6,7&8

Preformed Joint Seal										
302	4	0	0	100	705	0	0	0	0	705
		No deterioration		Minor deterioration		Major deterioration				

Remarks:

Modular Joints										
303	4	100	102	0	0	0	0	0	0	102
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		

Remarks:

Elastomeric Bearing

310	4	0	0	94	34	0	0	6	2	36
		No deterioration		Minor deterioration	Major deterioration					

Remarks: Pier 4 Brg#8 rusted, Brg#6 paint peeling; Pier 3-Brg#5 bolt not tightened

Fixed Bearing

313	4	0	0	96	26	4	1	0	0	27
		No deterioration		Minor deterioration	Advanced corrosion					

Remarks: E Abut brng @ N fascia not brng properly

Pot Bearing

314	4	0	0	100	9	0	0	0	0	9
		No deterioration		Minor deterioration	Advanced corrosion					

Remarks: @ Pier 2

Concrete Bridge Railing

331	4	0	0	100	1,396	0	0	0	0	1,396
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: Slipformed) HL Vert & Hor cracks

Concrete Deck Protected w/ Coated Bars

8026	4	97	51,572	3	1,500	0	0	0	0	53,072

Remarks: WS) HL-Nar transv crks w/few intersecting Soffit) Few HL trans leach crks

Non-Lead Painted Steel Open Girder

8118	4	100	22,247	0	10	0	0	0	0	22,257

Remarks: Pier 4 Bm Ends rusted

Non-Lead Painted Steel Open Girder Ends

8176	4	93	50	7	4	0	0	0	0	54

Remarks: Pier 4 Bm Ends rusted

Continuous Seal Neoprene Expansion Joint

8308	4	95	306	0	0	5	16	0	0	322

Remarks: Plow damage w/small missing hold-down sections @ East Apprch Ln 3 (8ft) damaged; West Apprch Ln#2&3 (8ft) damaged

Moveable Steel Bearings below continuous decks

8316	4	0	0	100	9	0	0	0	0	9

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Random & map crking E & W

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0020
BNSF West Bridge over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0020 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated October 18, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel girder bridge consisting of eight lines of simply supported girders with a concrete deck covered in ballast (see Photo 1). The overall structure length is 294'-0". The superstructure is supported by pile bent abutments and reinforced concrete solid wall piers.

IDOT rates the superstructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Moderate to heavy paint peeling and rusting is visible on all girders (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor cracking is visible on the abutments and piers. IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action, which concurs with the findings from the cursory field check. There are multiple locations with impact damage over E.B. I-55 (see Photo 2). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for the deck item. The slopewalls exhibit heavy cracking (see Photo 3).

Based on the structure summary report and field check, S.N. 016-0020 is suitable for reuse after rehabilitation of the superstructure. Both slopewalls should be replaced.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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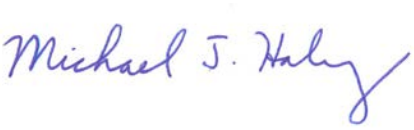

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

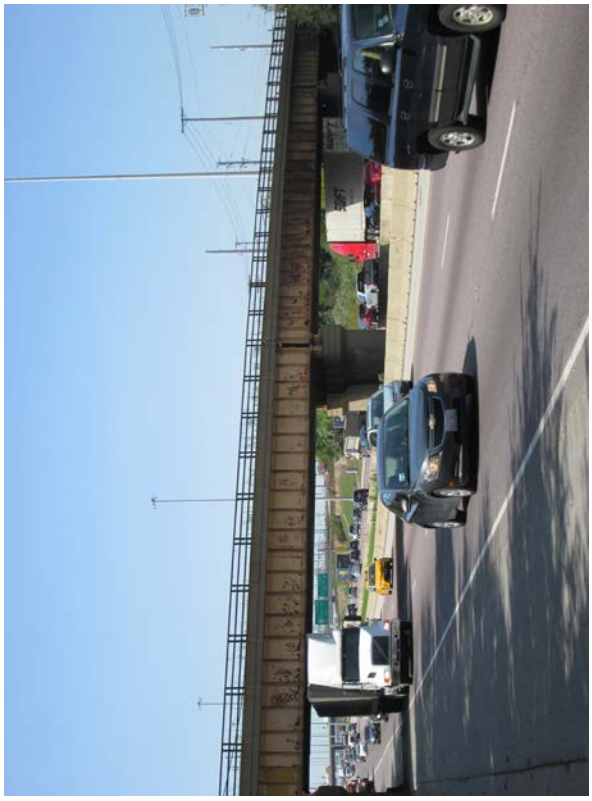

Photo 1

Photo 2

Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0020 **District: 1**

Inventory Data

Facility Carried:	RR - BNSF WEST BR	**Bridge Name:**		**Sufficiency Rating:**		**Structure Length:**	294.0
Feature Crossed:	I- 55 STEVENSON	**Location:**	1.5 M NE ILL 50	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	80.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	0.0
Status Remarks:				**Last Update Date:**	08/08/2014	**Appr Roadway Width:**	0.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	None	**Deck Width:**	0.0
Maint Responsibility:	16 I.D.O.T.		RAILROAD	**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	2 RAILROAD		1 / HIGHWAY	**Skew Direction:**	N None	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	0 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	3 STEEL		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	1504000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None		**Rated By:** 2 IDOT		**Rate Method:** N		
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:** ()	**Load Rating Date:**	04/13/1999	**Railroad Crossing Info**	
Toll Facility Indicator:	0 No Toll		**Operating Rating:** ()			**Crossing 1 Nbr:**	
Latitude:	41.82596385 **S** **Longitude:**	87.71458529 **S**	**Design Load:** 99 UNKNOWN			**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	8 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:		**Station:**	
Appurtenances		**Segment:**	
Inventory County:		**Linked:**	
Township/Road Dist		**Natl. Hwy System:**	
Municipality		**Inventory Direction:**	
Urban Area:		**Curr AADT Yr/Count:**	/
Functional Class:		**Est Truck Percentage:**	
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	
Max Rdwy Width:		**One Or Two Way:**	
Horizontal:		**Bypass Length:**	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
Lateral:		**Special Systems:**	

Key Route Under Data

FEDERAL-AID INTERSTATE	0055	**Station:**	11.8900
Main Route	00000	**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 179000
1 INTERSTATE		**Est Truck Percentage:**	6
South/East	**North/West**	**Number Of Lanes:**	6
36.0		**One Or Two Way:**	2 Two-Way
74.0	74.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 184370
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:			
Route #2:			
Route #3:			

*** Marked Route Under Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0020 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	N
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons	

Inspection/Appraisal Information

Inspection Date:	10/18/2014	Inspection Temperature:	50Deg. F					** Actual Posted Limits **	
Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Single Unit Vehicles:	Tons
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	JC
Structural Evaluation:	*			Deck Membrane:	F	NONE		IR/ZC/OXIDE ALKYD	
Deck Geometry:	*			Deck Protection:	J	NONE		LD SHP GRN&AL FNL	
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	8.0				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	04/1990				
Approach Roadway Align:	N	NOT APPLICABLE							
Bridge Railing Appraisal:	N	N/A							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original	Reconstructed	
Route:	FAI-55	Sta: 92+85	Sta:	
Section Nbr:	1313-622-SB			
Contract Nbr:				
Fed Aid Pr#:	I-IG0557030283			
Built By:	1	I.D.O.T.		

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0020 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55 STEVENSON
(7) Facility Carried: RR - BNSF WEST BR
(9) Location: 1.5 M NE ILL 50
(7A) Bridge Name:
Element Inspection Date: 10/18/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Lead Painted Steel Open Girder										
107	4	69	22,118	11	3,500	20	6,500	0	0	32,118
		No corrosion		Paint distress		Rust formation		Section loss		Section failure

Remarks: Minor pack rust btwn bot fl & cover plates; Peeling to bare metal @ fascias(int & exterior)

Reinforced Conc Pier Wall										
210	4	98	2,873	2	64	0	0	0	0	2,937
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: Map crks typ;few delams

Reinforced Conc Abutment										
215	4	100	1,924	0	0	0	0	0	0	1,924
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks:

Reinforced Conc Pier or Abutment Cap										
234	4	98	215	2	4	0	0	0	0	219
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: HL Vert Crking at Pier Cap Ends

Open Expansion Joint										
304	2	100	175	0	0	0	0	0	0	175
		No deterioration		Minor deterioration		Advanced corrosion				

Remarks:

Movable Discontinous Brg.										
311	4	88	28	13	4	0	0	0	0	32
		No deterioration		Minor deterioration		Advanced corrosion				

Remarks: Lt rust to assemblies

Fixed Bearing										
313	4	83	20	17	4	0	0	0	0	24
		No deterioration		Minor deterioration		Advanced corrosion				

Remarks: Lt rust to assemblies

Miscellaneous- Bridge Railing

333	2	0	0	100	584	0	0	0	0	584
		No deterioration		Minor cracks/spalls	Major deterioration					

Remarks: Rusted

Concrete Deck Protected w/ Thin Overlay

8018	2	99	10,154	1	124	0	0	0	0	10,278

Remarks: Ballast over conc deck; Isol trans leach crks. At longit joint HL-Med leaching map crks w/ efflor

Lead Painted Steel Closed Web/Box Girder Ends

8172	4	79	44	21	12	0	0	0	0	56

Remarks: Lt rust & peeling paint

Steel Open Girder

8406	4	0	0	100	4	0	0	0	0	4

Remarks: Bttm flng of W fascia over I55 EB ln 2-Deep gouges in Bms 5,6,7,8 over EB Ln 3; I55 WB Gouges in Bms 5,6,7,8 over WB Ln 3;

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0021
BNSF East Bridge over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0021 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated October 18, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel through girder bridge consisting of two lines of simply supported girders supporting floor beams and a steel plate deck covered with ballast (see Photo 1). Span lengths from south to north are 46'-9¾", 84'-2", 84'-2" and 46'-9¾". The superstructure is supported by pile bent abutments and reinforced concrete solid wall piers.

IDOT rates the superstructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Moderate to heavy paint peeling and rusting is visible on all girders and floor beams (see Photo 2). IDOT rates the substructure as being in good condition. The findings from the cursory field check don't match IDOT's substructure rating. Large spalls with exposed reinforcement are visible on the north solid wall pier (see Photo 3). IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action. The findings from the cursory field check match IDOT's underclearance rating. Scrape marks are visible on the through girder bottom flanges over W.B. I-55 traffic. A large crack is visible on the south slope wall (see Photo 4).

Based on the structure summary report and field check, S.N. 016-0021 is suitable for reuse after rehabilitation of the substructure. Both slopewalls should be repaired.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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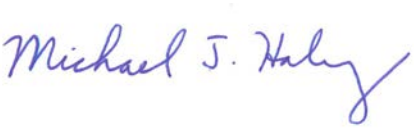


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0021 **District:** 1

Inventory Data

Facility Carried:	RR - BNSF EAST BR	**Bridge Name:**		**Sufficiency Rating:**	**Structure Length:** 262.0
Feature Crossed:	I- 55 STEVENSON	**Location:**	1.55 M NE ILL 50	**HBP Eligible:** No	**AASHTO Bridge Length:** 99.9
Bridge Remarks:	NOTE: 107 IS A STEEL PLATE 3/8" THICK COVERED WITH BALLAST			**Replaced By:** -	**Length of Long Span:** 84.2
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:** -	**Bridge Roadway Width:** 0.0
Status Remarks:				**Last Update Date:** 08/08/2014	**Appr Roadway Width:** 0.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:** None	**Deck Width:** 0.0
Maint Responsibility:	16 I.D.O.T.		RAILROAD	**Multi-Level Structure Nbr:**	**Sidewalk Width Right:** 0.0
Service On/Under:	2 RAILROAD		1 / HIGHWAY	**Skew Direction:** N None	**Sidewalk Width Left:** 0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:** 0 **D**	**Navigation Control:** N N/A
Main Span Matl/Type:	3 STEEL		/ 03 GIRDER AND FLOORBEAM SYSTEM	**Structure Flared:** No	**Navigation Horiz Clear:** 0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:** 0			**Historical Significance:** No	**Navigation Vert Clear:** 0
Approaches				**Border Bridge State:**	**Culvert Fill Depth:** 0.0
Near #1 Matl/Type:	/			**Bdr State SN:**	**Number Culvert Cells:** 0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:** 0	**Culvert Opening Area:** 0.0
Far #1 Matl/Type:	/			**Structural Steel Wt** 894000	**Culvert Cell Height:** 0.00
Far #2 Matl/Type:	/			**Substructure Material:**	**Culvert Cell Width:** 0.00
Median Width/Type:	0 Ft. / 0 None		**Rated By:** 2 IDOT	**Rate Method:** N	
Guardrail Type L/R:	0None / 0 None	**Inventory Rating:**	()	**Load Rating Date:** 04/13/1999	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll	**Operating Rating:**	()		**Crossing 1 Nbr:**
Latitude:	41.82632484 **S Longitude:** 87.71345855 **S**	**Design Load:**	99 UNKNOWN		**Crossing 1 Nbr:**
Deck Structure Type:	I STEEL PL (INC ORTH)	**Deck Structure Thickness:**	0.4 **SD:** N **FO:** Y		**RR Lateral Underclear:** 0.0
Sidewalks Under Structure:	0 None				**RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:		**Station:**	
Appurtenances		**Segment:**	
Inventory County:		**Linked:**	
Township/Road Dist		**Natl. Hwy System:**	
Municipality		**Inventory Direction:**	
Urban Area:		**Curr AADT Yr/Count:**	/
Functional Class:		**Est Truck Percentage:**	
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	
Max Rdwy Width:		**One Or Two Way:**	
Horizontal:		**Bypass Length:**	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
Lateral:		**Special Systems:**	

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	11.9600
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 179000
1 INTERSTATE		**Est Truck Percentage:**	6
South/East	**North/West**	**Number Of Lanes:**	6
36.0		**One Or Two Way:**	2 Two-Way
54.0	54.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 184370
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:			
Route #2:			
Route #3:			

*** Marked Route Under Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0021 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	N
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons	

Inspection/Appraisal Information

Inspection Date:	10/18/2014	Inspection Temperature:	51Deg. F					** Actual Posted Limits **	
Deck:	N	NOT APPLICABLE						Single Unit Vehicles:	Tons
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	JC
Structural Evaluation:	*			Deck Membrane:	F	NONE		IR/ZC/OXIDE ALKYD	
Deck Geometry:	*			Deck Protection:	J	NONE		LD SHP GRN&AL FNL	
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	1.0				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	04/1990				
Approach Roadway Align:	N	NOT APPLICABLE							
Bridge Railing Appraisal:	N	N/A							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original	Reconstructed	
Route:	FAI-55	Sta: 96+68.09	Sta:	
Section Nbr:	1313-623-SB			
Contract Nbr:				
Fed Aid Pr#:	I-IG0557031283			
Built By:	1	I.D.O.T.		

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0021 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55 STEVENSON
(7) Facility Carried: RR - BNSF EAST BR
(9) Location: 1.55 M NE ILL 50
(7A) Bridge Name:
Element Inspection Date: 07/29/2015
(90E) Agency Program Manager: ThompsonDC
(90E3) Consultant Program Manager:
(90E1) Team Leader: ThompsonDC
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Corrugated/Orthotropic/Etc. Deck										
30	2	100	5,624	0	0	0	0	0	0	5,624
		No deficiencies.		Repaired areas.		Map cracked areas.		Potholes exist.		Adv corr/cracks.
Remarks: Test										
Lead Painted Steel Open Girder										
107	4	83	8,534	17	1,750	0	0	0	0	10,284
		No corrosion		Paint distress		Rust formation		Section loss		Section failure
Remarks:										
Lead Painted Steel Floor Beam										
152	4	85	16,786	14	2,750	1	225	0	0	19,761
		No corrosion		Paint distress		Rust formation		Section loss		Section failure
Remarks:										
Reinforced Conc Pier Wall										
210	4	95	1,527	4	60	1	22	0	0	1,609
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	100	780	0	0	0	0	0	0	780
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier or Abutment Cap										
234	4	92	131	8	12	0	0	0	0	143
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Open Expansion Joint										
304	2	100	116	0	0	0	0	0	0	116
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Movable Discontinous Brg.

311	4	100	8	0	0	0	0	0	0	8
		No deterioration	Minor deterioration		Advanced corrosion					

Remarks:

Fixed Bearing

313	4	100	8	0	0	0	0	0	0	8
		No deterioration	Minor deterioration		Advanced corrosion					

Remarks:

Lead Painted Steel Floor Beam Below Deck Joints

8191	4	87	1,096	13	160	0	0	0	0	1,256

Remarks:

Steel Open Girder

8406	4	100	9	0	0	0	0	0	0	9

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0022
E.B. I-55 over Kedzie Ave.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0022 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated September 2, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span steel beam bridge consisting of nine lines of continuous beams (see Photo 1). Span lengths from west to east are 43'-0", 81'-3" and 43'-0". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

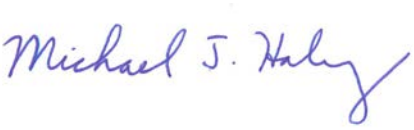
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible over a majority of the soffit (see Photo 2). Hairline longitudinal cracks are visible on the top of deck. IDOT rates the substructure as being in very good condition. The findings from the cursory field check don't match IDOT's substructure rating. Minor vertical cracking is visible on abutment and pier caps. Map cracking and possible delaminations are present at the bases of some columns (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. Moderate diagonal cracking is visible on the approach slabs (see Photo 4). Anchor blocks are missing along sections of the east expansion joint.

Based on the structure summary report and field check, S.N. 016-0022 is suitable for reuse after rehabilitation of the substructure and expansion joints. The approach guardrail transitions should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0022 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	96.0	**Structure Length:**	172.1
Feature Crossed:	KEDZIE AVE	**Location:**	2 M NE ILL 50	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	81.1
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	11/1999	**Replaces:**	-	**Bridge Roadway Width:**	66.9
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	58.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Right	**Deck Width:**	70.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 /	HIGHWAY	**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	21 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	580000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None			**Inventory Rating:**	1.795(64)	**Load Rating Date:**	11/16/2000 **Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	2.750(99)	**Crossing 1 Nbr:**	
Latitude:	41.82906439 **S**	**Longitude:**	87.70474075 **S**	**Design Load:** 01	HS20+MOD	**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM			**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N	**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	12.5000
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 89500
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	6
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	56.5	**One Or Two Way:**	1 One-Way
Horizontal:	58.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 99447
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 2831		**Station:**	11.3600
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 19200
4 MINOR ARTERIAL		**Est Truck Percentage:**	9
South/East **North/West**		**Number Of Lanes:**	5
0.0		**One Or Two Way:**	2 Two-Way
28.0 36.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 30488
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0022 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	09/02/2014	Inspection Temperature:	84Deg. F				** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	S
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE	SHP ZINC&FLD ACRYL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	7.5			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	05/2001			
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		1999	Reconstructed
Route:	FAI-55	Sta: 125+44		FAI-55	Sta: 30+174.611
Section Nbr:	1314-624-HB			1314-624 HB	
Contract Nbr:				82692	
Fed Aid Pr#:	I 0557032283			IMD-55-7(204)2	
Built By:	1	I.D.O.T.		1	I.D.O.T.

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0022 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: KEDZIE AVE
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 2 M NE ILL 50
(7A) Bridge Name:
Element Inspection Date: 09/02/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	3	100	455	0	0	0	0	0	0	455
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:										
Reinforced Conc Pier Wall										
210	3	100	1,411	0	0	0	0	0	0	1,411
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:										
Reinforced Conc Abutment										
215	3	100	1,164	0	0	0	0	0	0	1,164
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:	Backwalls- HL vert leach crks typ.									
Reinforced Conc Pier or Abutment Cap										
234	3	100	296	0	0	0	0	0	0	296
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:	East Abut- HL vert leach crks typ.									
Elastomeric Bearing										
310	4	100	27	0	0	0	0	0	0	27
		No deterioration	Minor deterioration		Major deterioration					
Remarks:										
Fixed Bearing										
313	4	100	9	0	0	0	0	0	0	9
		No deterioration	Minor deterioration		Advanced corrosion					
Remarks:	@ Pier 2									
Reinforced Concrete Approach Slab										
321	4	100	1,440	0	0	0	0	0	0	1,440
		No deterioration	Cracks/spalls		Major cracks/spalls		Broken/Unstable			
Remarks:	Random HL-Med diag crking. PJS Relief Jnts sunken in.									

Concrete Bridge Railing

331	4	84	284	16	54	0	0	0	0	338
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: HL vert crks typ.

Concrete Deck Protected w/ Coated Bars

8026	4	99	11,751	1	84	0	0	0	0	11,835

Remarks: Wrg Surf- Isol HL trans crks; Soffit- HL trans leach crks

Non-Lead Painted Steel Open Girder

8118	4	100	15,648	0	0	0	0	0	0	15,648

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	18	0	0	0	0	0	0	18

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	95	143	0	0	5	8	0	0	151

Remarks: East Joint has 8' missing /damaged @ Lanes 2&3.

Approach Pavement

8323	4	50	1	50	1	0	0	0	0	2

Remarks: Random HL-Med diag crking. PJS Relief Jnts sunken in.

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0023
W.B. I-55 over Kedzie Ave
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0023 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated September 2, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span steel beam bridge consisting of eleven lines of continuous beams (see Photo 1). The span lengths from west to east are 45'-6", 81'-3" and 45'-6". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks are visible on the top of deck and soffit. IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor vertical cracking and spalling is visible on the abutments and piers. A large crack is visible on the east abutment wingwall (see Photo 2). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. A large crack is present on the east slopewall (see Photo 3). Impact damage is visible on the southeast approach parapet (see Photo 4).

Based on the structure summary report and field check, S.N. 016-0023 is suitable for reuse after rehabilitation of the substructure. The approach guardrail transitions should be brought up to current IDOT standards and damaged approach parapets should be replaced. The east slopewall should be repaired.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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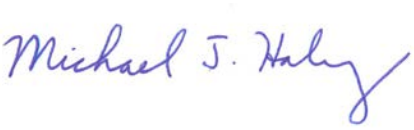

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0023 **District:** 1

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**	3.6 MI SW OF I94	**Sufficiency Rating:**	96.0	**Structure Length:**	172.1
Feature Crossed:	KEDZIE AVE	**Location:**	2 M NE ILL 50	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	81.1
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	75.5
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	58.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Left	**Deck Width:**	82.0
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 /	HIGHWAY	**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	21 D	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	580000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:**	2 IDOT	**Rate Method:**	6
Guardrail Type L/R:	0None / 0 None			**Inventory Rating:**	1.795(64)	**Load Rating Date:**	11/16/2000
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	2.750(99)	**Railroad Crossing Info**	
Latitude:	41.82911422 **S**	**Longitude:**	87.70457880 **S**	**Design Load:**	01 HS20+MOD	**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM			**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N	**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:**	0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	12.5100
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 89500
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	6
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	56.5	**One Or Two Way:**	1 One-Way
Horizontal:	58.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 99447
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 2831		**Station:**	11.3300
Main Route 00000		**Segment:**	
016		**Linked:**	Y
86 WEST CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 19200
4 MINOR ARTERIAL		**Est Truck Percentage:**	9
South/East **North/West**		**Number Of Lanes:**	5
0.0		**One Or Two Way:**	2 Two-Way
36.0 28.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 30488
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0023 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 09/02/2014 **Inspection Temperature:** 84Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						** Actual Posted Limits **	
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Single Unit Vehicles:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-1:	Tons
Culvert:	N	NOT APPLICABLE						Combination Type 3S-2:	Tons
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		One Truck At A Time:	0
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		Last Paint Type:	S
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF		SHP ZINC&FLD ACRYL	
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	05/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		2000	Reconstructed	
Route:	FAI-55	Sta: 125+44		FAI-55	Sta: 125+44	
Section Nbr:	1314-624-HB			141562,.3;1515.4 ETC		
Contract Nbr:				82989		
Fed Aid Pr#:	I 0557032283					
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 09/03/2015

Structure Number:	016-0023 **District:** 1	**(41) Bridge Status:**	1 OPEN - NO RESTRICT
(6) Feature Crossed:	KEDZIE AVE	**(7) Facility Carried:**	I- 55 WB STEVENSON
(9) Location:	2 M NE ILL 50	**(7A) Bridge Name:**	3.6 MI SW OF I94
Element Inspection Date:	09/02/2014		
(90E) Agency Program Manager:	MastnySC	**(90E3) Consultant Program Manager:**	
(90E1) Team Leader:	SedlacekJL	**(90E2) Inspector:**	

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	1,629	0	0	0	0	0	0	1,629
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	3	99	1,444	1	12	0	0	0	0	1,456
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		P1 wall-few small spalls @ Col 3&7. Map crks @ column bases								
Reinforced Conc Abutment										
215	3	100	1,202	0	0	0	0	0	0	1,202
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Backwalls- HL vert leach crks & bkwalls typ.								
Reinforced Conc Pier or Abutment Cap										
234	3	100	356	0	0	0	0	0	0	356
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		East Abut- HL vert crks @ steps. West Abut-HL vert leach crks- Backwalls- HL vert leach crk typ.								
Elastomeric Bearing										
310	4	100	33	0	0	0	0	0	0	33
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Fixed Bearing										
313	4	100	11	0	0	0	0	0	0	11
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:		@ Pier 2								
Concrete Bridge Railing										
331	4	87	295	13	44	0	0	0	0	339
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:		HL vert crks								

Concrete Deck Protected w/ Coated Bars

8026	4	100	14,039	0	42	0	0	0	0	14,081

Remarks: WS) HL trans crks; HL random cracking ;Soffit) HL trans leach crks

Non-Lead Painted Steel Open Girder

8118	4	100	19,160	0	0	0	0	0	0	19,160

Remarks: Few lt collision scrapes Span 1 N End.

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	22	0	0	0	0	0	0	22

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	100	179	0	0	0	0	0	0	179

Remarks:

Approach Pavement

8323	4	50	1	50	1	0	0	0	0	2

Remarks: Med random crks. East Apprch- 1ft x 1ft pothole in lane 1

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0024
E.B. I-55 over California Ave.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0024 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated September 12, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span steel beam bridge consisting of ten lines of continuous beams (see Photo 1). Span lengths from west to east are 41'-6", 100'-6" and 45'-6". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit. Hairline longitudinal cracks are visible on the top of deck. There are a few shallow spalls in the top of deck adjacent to the east expansion joint (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor vertical cracking is visible on the abutments and piers. The top of the east pier footing is delaminated (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. Moderate diagonal cracking is visible on the approach slabs (see Photo 4).

Based on the structure summary report and field check, S.N. 016-0024 is suitable for reuse after rehabilitation of the substructure. The approach guardrail transitions should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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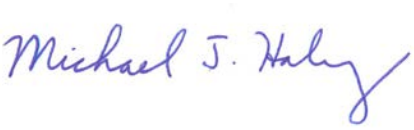

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

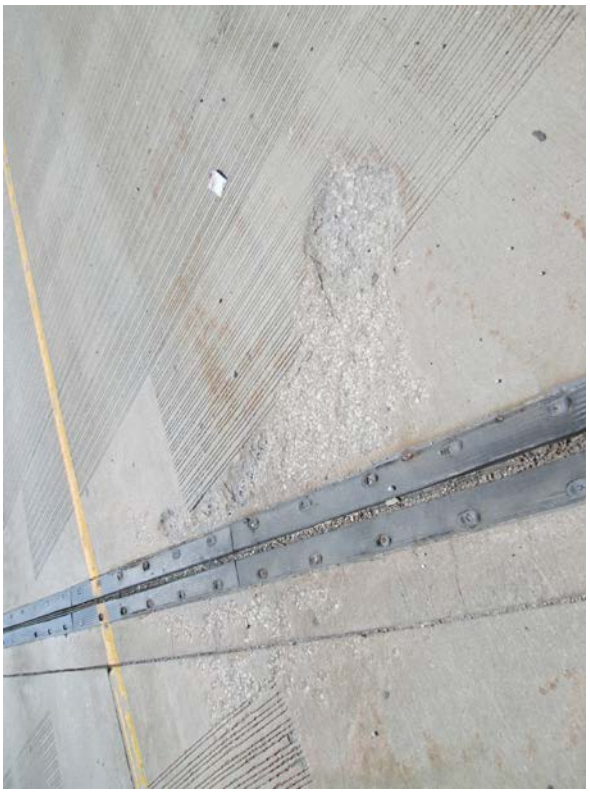

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0024 **District:** 1

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	94.0	**Structure Length:**	191.0
Feature Crossed:	CALIFORNIA AVE	**Location:**	3 M SW DAN RYAN	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	DESIGN LOAD MS18&ALT			**Replaced By:**	-	**Length of Long Span:**	100.5
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	07/1999	**Replaces:**	-	**Bridge Roadway Width:**	77.4
Status Remarks:				**Last Update Date:**	12/10/2012	**Appr Roadway Width:**	60.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO (CHICAGO)	**Parallel Structure:**	Right	**Deck Width:**	80.7
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	21 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	792000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.755(63)	**Load Rating Date:**	11/16/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.750(99)		**Crossing 1 Nbr:**	
Latitude:	41.83212996 **S**	**Longitude:** 87.69504488 **S**	**Design Load:**	99 UNKNOWN		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	13.0400
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 79950
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	7
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	77.4	**One Or Two Way:**	1 One-Way
Horizontal:	78.6 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 95069
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 2839		**Station:**	3.7700
Main Route 00000		**Segment:**	
016		**Linked:**	Y
86 WEST CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 16900
5 MAJOR COLLECTOR		**Est Truck Percentage:**	15
South/East **North/West**		**Number Of Lanes:**	6
72.0		**One Or Two Way:**	2 Two-Way
84.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 19570
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0024 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 09/12/2014 **Inspection Temperature:** 56Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					** Actual Posted Limits **	
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Single Unit Vehicles:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Combination Type 3S-1:	Tons
Culvert:	N	NOT APPLICABLE					Combination Type 3S-2:	Tons
Channel and Protection:	N	NOT APPLICABLE	Deck Wearing Surf:	A	BARE DECK NO OVRLAY		One Truck At A Time: 0	
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA	Deck Membrane:	F	NONE		Last Paint Type:	S
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA	Deck Protection:	A	EPOXY COATED REINF		SHP ZINC&FLD ACRYL	
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION	Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE	Last Paint Date:	05/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		1999	Reconstructed	
Route:	FAI-55	Sta: 154+14.26		FAI-55	Sta: 31+049.329	
Section Nbr:	1414-625-HB			1314-638,ETC		
Contract Nbr:				82692		
Fed Aid Pr#:	I 0557033284			55-7(199)288		
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0024 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: CALIFORNIA AVE
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 3 M SW DAN RYAN
(7A) Bridge Name:
Element Inspection Date: 09/12/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	99	1,407	1	12	0	0	0	0	1,419
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Repaired areas crking										
Reinforced Conc Pier Wall										
210	4	100	971	0	0	0	0	0	0	971
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	98	1,178	2	24	0	0	0	0	1,202
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Vert crks @ backwalls typ.										
Reinforced Conc Pier or Abutment Cap										
234	4	97	342	3	12	0	0	0	0	354
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Piers- Crking @ cantilever ends; Abut Vert crking @ steps typ. W. Abut-Med vert leach crks @ Brg #5.										
Elastomeric Bearing										
310	4	100	30	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Fixed Bearing										
313	4	100	10	0	0	0	0	0	0	10
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	95	359	5	18	0	0	0	0	377
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks: HL vert crks										

Concrete Deck Protected w/ Coated Bars

8026	4	99	15,402	1	220	0	0	0	0	15,622

Remarks: Soffit) Trans leach crks; Few areas <5' c/c WS) HL trans crks w/isol long crks

Non-Lead Painted Steel Open Girder

8118	4	100	18,320	0	0	0	0	0	0	18,320

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	20	0	0	0	0	0	0	20

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	100	176	0	0	0	0	0	0	176

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0025
W.B. I-55 over California Ave.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0025 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated September 12, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span steel beam bridge consisting of nine lines of continuous beams (see Photo 1). Span lengths from west to east are 41'-6", 100'-6" and 45'-6". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor longitudinal and transverse cracks are visible on a majority of the top of the deck. IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor vertical cracking is visible on the abutments and pier footings. Some previous column repairs are map cracked (see Photo 2). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items.

Based on the structure summary report and field check, S.N. 016-0025 is suitable for reuse without rehabilitation. The approach guardrail transitions should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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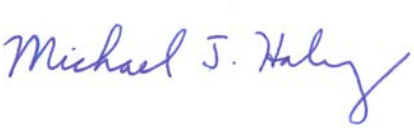

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0025 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	96.0	**Structure Length:**	191.0
Feature Crossed:	CALIFORNIA AVE	**Location:**	3 M SW DAN RYAN	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	100.5
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	66.9
Status Remarks:				**Last Update Date:**	12/10/2012	**Appr Roadway Width:**	60.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Left	**Deck Width:**	70.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 /	HIGHWAY	**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	21 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	792000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None			**Inventory Rating:**	1.755(63)	**Load Rating Date:**	11/16/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	2.750(99)	**Crossing 1 Nbr:**	
Latitude:	41.83218000 **S** **Longitude:**	87.69489000 **S**		**Design Load:** 01 HS20+MOD		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM			**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N	**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	13.0500
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 79950
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	7
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	66.9	**One Or Two Way:**	1 One-Way
Horizontal:	68.1 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 95069
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 2839		**Station:**	3.7400
Main Route 00000		**Segment:**	
016		**Linked:**	Y
86 WEST CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 16900
5 MAJOR COLLECTOR		**Est Truck Percentage:**	15
South/East **North/West**		**Number Of Lanes:**	6
0.0		**One Or Two Way:**	2 Two-Way
84.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 19570
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0025 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 09/12/2014 **Inspection Temperature:** 56Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						** Actual Posted Limits **	
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Single Unit Vehicles:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-1:	Tons
Culvert:	N	NOT APPLICABLE						Combination Type 3S-2:	Tons
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		One Truck At A Time: 0	
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		Last Paint Type:	S
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF		SHP ZINC&FLD ACRYL	
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	05/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		2000	Reconstructed	
Route:	FAI-55		Sta: 154+14.26	FAI-55		Sta: 154+14.26
Section Nbr:		1414-625-HB			1415(.2,.3),1515.4 ETC	
Contract Nbr:					82989	
Fed Aid Pr#:		I 0557033284				
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0025 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: CALIFORNIA AVE
(7) Facility Carried: I- 55 WB STEVENSON
(9) Location: 3 M SW DAN RYAN
(7A) Bridge Name:
Element Inspection Date: 09/12/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	3	98	1,225	2	24	0	0	0	0	1,249
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Crking in repaired areas										
Reinforced Conc Pier Wall										
210	3	100	903	0	0	0	0	0	0	903
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	3	99	1,983	1	12	0	0	0	0	1,995
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Vert crks @ backwalls										
Reinforced Conc Pier or Abutment Cap										
234	3	99	294	1	4	0	0	0	0	298
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: HL Vert crks @ steps typ. W Abut- Med vert crks @ Brg #2/3										
Elastomeric Bearing										
310	4	100	27	0	0	0	0	0	0	27
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Fixed Bearing										
313	4	100	9	0	0	0	0	0	0	9
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	94	350	6	22	0	0	0	0	372
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks: HL vert crking										

Concrete Deck Protected w/ Coated Bars

8026	4	100	13,369	0	42	0	0	0	0	13,411

Remarks: Soffit) Trans leach crks; WS) Trans leach crks

Non-Lead Painted Steel Open Girder

8118	4	100	16,384	0	0	0	0	0	0	16,384

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	18	0	0	0	0	0	0	18

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	100	155	0	0	0	0	0	0	155

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Crking West Apprch

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0026
W.B. I-55 over Western Ave. Viaduct
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0026 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated October 16, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a twenty-six span steel beam viaduct totaling 2,135 ft. in length (see Photo 1). The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. General discoloration and minor transverse cracks with leaching are visible on a majority of the soffit. IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor cracking is visible on abutment caps (see Photo 2). IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority for of corrective action, which concurs with the findings from the cursory field check. The clearance to piers that are adjacent to Western Ave. is less than 8 ft. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, approach alignment, bridge railing appraisal and approach guardrail items. Anchor blocks are damaged along sections of the west expansion joint. Possible fire damage to the deck soffit and beam ends is visible above the east abutment (see Photo 3).

Based on the structure summary report and field check, S.N. 016-0026 is suitable for reuse after rehabilitation of the expansion joints. The approach guardrail transitions should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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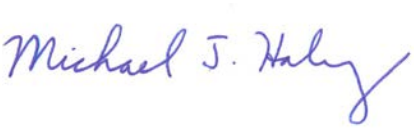


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0026 **District:** 1

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	89.0	**Structure Length:**	2135.0
Feature Crossed:	WESTERN AVE VIADUCT	**Location:**	2.5 M SW DAN RYAN	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	RR LAT.& VER.CL.UNOBTAINABLE. # SPANS ITEM 45 - SPAN 24A & 24 = 27 SPANS			**Replaced By:**	-	**Length of Long Span:**	117.7
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	59.1
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	73.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Left	**Deck Width:**	62.3
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	4 /	HIGHWAY-RAILROAD	**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	21 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	27 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	10000000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.295(46)	**Load Rating Date:**	04/20/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.160(77)		**Crossing 1 Nbr:**	
Latitude:	41.83320471 **S** **Longitude:**	87.69159120 **S**	**Design Load:** 01	HS20+MOD		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	13.3400
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 85050
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	6
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	59.1	**One Or Two Way:**	1 One-Way
Horizontal:	60.2 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 95069
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID PRIMARY 0370		**Station:**	10.7500
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 14700
3 OTHER PRINCIPAL ARTERIAL		**Est Truck Percentage:**	13
South/East **North/West**		**Number Of Lanes:**	4
48.0		**One Or Two Way:**	2 Two-Way
70.0 63.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 15141
		Designated Truck Rte:	NONE
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation		Kind	Number
Route #1:	1 Mainline	1	Interstate Highway	055
Route #2:	1 Mainline			
Route #3:	1 Mainline			

*** Marked Route Under Data ***

	Designation		Kind	Number
	1 Mainline	8	Other	
	1 Mainline			
	1 Mainline			

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0026 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 10/16/2014 **Inspection Temperature:** 58Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					** Actual Posted Limits **	
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Single Unit Vehicles:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-1:	Tons
Culvert:	N	NOT APPLICABLE					Combination Type 3S-2:	Tons
Channel and Protection:	N	NOT APPLICABLE	Deck Wearing Surf:	A	BARE DECK NO OVRLAY		One Truck At A Time: 0	
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA	Deck Membrane:	F	NONE		Last Paint Type:	S
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA	Deck Protection:	A	EPOXY COATED REINF		SHP ZINC&FLD ACRYL	
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION	Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE	Last Paint Date:	08/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	233	Not Acceptable	Acceptable		Acceptable			
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		2000	Reconstructed		
Route:	FAI-55		Sta: 131+67.77	FAI-55		Sta: 131+67.77	
Section Nbr:		207-1415.2-CF			1415(.2,.3);1515.4		
Contract Nbr:					82989		
Fed Aid Pr#:		I-IG0557108284					
Built By:	1	I.D.O.T.		1	I.D.O.T.		

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0026 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: WESTERN AVE VIADUCT
(7) Facility Carried: I- 55 WB STEVENSON
(9) Location: 2.5 M SW DAN RYAN
(7A) Bridge Name:
Element Inspection Date: 10/16/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	3	100	22,897	0	0	0	0	0	0	22,897
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Pier 16 Col #1 small spall.										
Reinforced Conc Pier Wall										
210	3	100	17,508	0	0	0	0	0	0	17,508
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Pier 5-vert crks. Pier 18 & 19-med vert leach crks. Pier 20 FCR map crkd.										
Reinforced Conc Abutment										
215	3	100	1,284	0	0	0	0	0	0	1,284
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier or Abutment Cap										
234	3	100	1,953	0	0	0	0	0	0	1,953
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: East & West Abut Bkwall-vert leach crks.										
Preformed Joint Seal										
302	4	100	82	0	0	0	0	0	0	82
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Modular Joints										
303	4	100	271	0	0	0	0	0	0	271
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks:										
Elastomeric Bearing										
310	4	97	189	0	0	3	6	0	0	195
		No deterioration		Minor deterioration		Major deterioration				
Remarks: Lt Rusting at few assemblies P 22										

Fixed Bearing

313	4	100	76	0	0	0	0	0	0	76
		No deterioration		Minor deterioration		Advanced corrosion				

Remarks:

Concrete Bridge Railing

331	4	100	4,256	0	0	0	0	0	0	4,256
		No deterioration		Minor cracks/spalls		Analysis warranted				

Remarks: HL Vert crks

Concrete Deck Protected w/ Coated Bars

8026	4	93	130,915	7	10,310	0	0	0	0	141,225

Remarks: Soffit) Trans leach crcking w/ few areas <5' c/c WS)Trans crks w/intersect longitudinal

Non-Lead Painted Steel Open Girder

8118	4	100	193,188	0	0	0	0	0	0	193,188

Remarks: Noticeable sagging @ Span 2 All Beams

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	102	0	0	0	0	0	0	102

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	95	121	0	0	5	6	0	0	127

Remarks: 5' of Hold Down Missing @ West Abut Lane 3

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0027
W.B. I-55 over Lock St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0027 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 22, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span steel beam bridge consisting of nine lines of continuous beams (see Photo 1). Span lengths from west to east are 60'-4½", 69'-1½" and 60'-4½". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

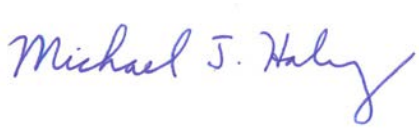
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the superstructure as being in good condition, which concurs with the findings from the cursory field check. Multiple bays on both ends exhibit possible fire damage (see Photo 3). IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor spalls are visible on the piers (see Photo 4). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment and bridge railing appraisal items. Transverse cracks are visible on both approach slabs. The strip seal is damaged along sections of both expansion joints (see Photo 5).

Based on the structure summary report and field check, S.N. 016-0027 is suitable for reuse after rehabilitation of the expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0027 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	98.0	**Structure Length:**	194.9
Feature Crossed:	LOCK ST	**Location:**	1.1 M SW I94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	69.1
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	69.2
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	57.1
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Left	**Deck Width:**	72.4
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	3 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	406000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.840(66)	**Load Rating Date:**	04/20/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.750(99)		**Crossing 1 Nbr:**	
Latitude:	41.84066881 **S** **Longitude:**	87.66141562 **S**	**Design Load:**	01 HS20+MOD		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	14.9800
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 71800
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	69.2	**One Or Two Way:**	1 One-Way
Horizontal:	70.3 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 87087
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

MUNICIPAL STREET 2150		**Station:**	0.1700
Main Route 01051		**Segment:**	
016		**Linked:**	Y
86 WEST CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	1998 / 10
7 LOCAL		**Est Truck Percentage:**	0
South/East **North/West**		**Number Of Lanes:**	2
65.5		**One Or Two Way:**	2 Two-Way
65.5 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 10
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	5 Municipal Streets	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0027 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	08/22/2014	Inspection Temperature:	82Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	U
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	07/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		2000	Reconstructed		
Route:	FAI-55		Sta: 197+53.87	FAI-55		Sta: 197+53.87	
Section Nbr:		207-1616.7			1616(.4,.6)R-1,ETC		
Contract Nbr:					82992		
Fed Aid Pr#:		I 0557074285					
Built By:	1	I.D.O.T.		1	I.D.O.T.		

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0027 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: LOCK ST
(7) Facility Carried: I- 55 WB STEVENSON
(9) Location: 1.1 M SW I94
(7A) Bridge Name:
Element Inspection Date: 08/22/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	3	100	1,318	0	2	0	0	0	0	1,320
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	3	100	1,789	0	1	0	0	0	0	1,790
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		HL cracking crash wall.								
Reinforced Conc Abutment										
215	3	100	866	0	4	0	0	0	0	870
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Few shallow rebar spalls @ backwalls.								
Reinforced Conc Pier or Abutment Cap										
234	3	100	308	0	0	0	0	0	0	308
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Shrinkage cracking.								
Preformed Joint Seal										
302	4	100	144	0	0	0	0	0	0	144
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Elastomeric Bearing										
310	4	100	27	0	0	0	0	0	0	27
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Fixed Bearing										
313	4	100	9	0	0	0	0	0	0	9
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Concrete Bridge Railing

331	4	100	383	0	0	0	0	0	0	383
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: HL vert crking

Concrete Deck Protected w/ Coated Bars

8026	4	89	12,346	11	1,522	0	0	0	0	13,868

Remarks: Soffit) HL trans leach crcking; WS) HL-nar trans crks w/ longit Sp1 Lns 2 & 3. Haunch

Non-Lead Painted Steel Open Girder

8118	4	99	16,640	1	252	0	0	0	0	16,892

Remarks: Fire residue near few interior beam ends

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	67	12	33	6	0	0	0	0	18

Remarks: Fire residue @ few interior beam ends

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0028
E.B. I-55 over Lock St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0028 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 22, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span steel beam bridge consisting of ten lines of continuous beams (see Photo 1). Span lengths from west to east are 60'-4", 69'-1" and 60'-4". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

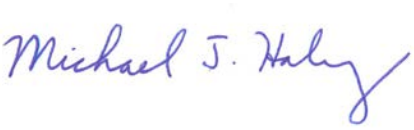
IDOT rates the deck as being in satisfactory condition, which concurs with the findings from the cursory field check. Moderate transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, substructure, deck geometry, underclearance vert/lat, approach alignment and bridge railing appraisal items. Multiple bays along the east abutment exhibit possible fire damage (see Photo 3). A few elastomeric bearings on the west abutment are exhibiting rotation with a slight amount of uplift along the inside edges (see Photo 4). Small spalls, large transverse cracks and longitudinal cracks are visible on both approach slabs (see Photo 5).

Based on the structure summary report and field check, S.N. 016-0028 is suitable for reuse without rehabilitation.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0028 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	98.0	**Structure Length:**	194.7
Feature Crossed:	LOCK ST	**Location:**	1.1 M SW I94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	DESIGN LOAD MS18SALT			**Replaced By:**	-	**Length of Long Span:**	69.1
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	07/1999	**Replaces:**	-	**Bridge Roadway Width:**	77.5
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	73.8
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO (CHICAGO)	**Parallel Structure:**	Right	**Deck Width:**	80.8
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	2 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	406000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.350(48)	**Load Rating Date:**	10/17/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.250(81)		**Crossing 1 Nbr:**	
Latitude:	41.84076768 **S** **Longitude:**	87.66122146 **S**	**Design Load:**	99 UNKNOWN		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	14.9900
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 71800
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	77.5	**One Or Two Way:**	1 One-Way
Horizontal:	78.7 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 87087
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

MUNICIPAL STREET 2150		**Station:**	0.1800
Main Route 01051		**Segment:**	
016		**Linked:**	Y
86 WEST CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	1998 / 10
7 LOCAL		**Est Truck Percentage:**	0
South/East **North/West**		**Number Of Lanes:**	2
30.2		**One Or Two Way:**	2 Two-Way
69.9 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 12
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	5 Municipal Streets	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0028 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 08/22/2014 **Inspection Temperature:** 82Deg. F

Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	S
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	07/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		1999	Reconstructed		
Route:	FAI-55		Sta: 197+53.87	FAI-55		Sta: 34+021.981	
Section Nbr:		207-1616.7			1616(.4,.6)+1717.6-3P		
Contract Nbr:					82981		
Fed Aid Pr#:		I 0557074285					
Built By:	1	I.D.O.T.		1	I.D.O.T.		

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0028 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: LOCK ST
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 1.1 M SW I94
(7A) Bridge Name:
Element Inspection Date: 08/22/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	3	100	1,285	0	0	0	0	0	0	1,285
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	3	100	1,917	0	0	0	0	0	0	1,917
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		HL cracking @ crash wall.								
Reinforced Conc Abutment										
215	3	99	947	1	6	0	0	0	0	953
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Few shallow rebar spalls @ backwalls.								
Reinforced Conc Pier or Abutment Cap										
234	3	100	331	0	0	0	0	0	0	331
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Shrinkage cracking.								
Preformed Joint Seal										
302	4	100	161	0	0	0	0	0	0	161
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Elastomeric Bearing										
310	4	100	30	0	0	0	0	0	0	30
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Fixed Bearing										
313	4	100	10	0	0	0	0	0	0	10
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Concrete Bridge Railing

331	4	100	384	0	0	0	0	0	0	384
		No deterioration		Minor cracks/spalls		Analysis warranted				

Remarks: HL vert crks

Concrete Deck Protected w/ Coated Bars

8026	4	90	13,648	10	1,588	0	0	0	0	15,236

Remarks: Soffit) HL trans leach crcking w/majority < 5' c/c; WS) Trans crking w/intersecting long crks

Non-Lead Painted Steel Open Girder

8118	4	99	18,606	1	150	0	0	0	0	18,756

Remarks: Fire residue near interior beam ends.

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	80	16	20	4	0	0	0	0	20

Remarks: Fire residue @ few interior ends.

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Nar Random Crks

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0029
E.B. I-55 over Loomis St. and Fuller St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0029 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated September 9, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a six span steel beam bridge consisting of ten lines of continuous beams. (see Photo 1). Span lengths from west to east are 81'-9", 103'-6", 60'-2", 60'-0", 68'-6" and 54'-3". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the superstructure as being in very good condition, which concurs with the findings from the cursory field check. A few side retainers are missing (see Photo 3). Additionally, possible fire damage to the beam ends is visible above the east abutment (see Photo 4). IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Shallow spalls and minor vertical cracks are visible on the abutments (see Photo 5). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance ver/lat, approach alignment and bridge railing appraisal items. Sections of the west expansion joint seal are missing. Anchor blocks are damaged along sections of the east expansion joint. Large transverse cracks and small spalls are visible on both approach slabs (see Photo 6).

Based on the structure summary report and field check, S.N. 016-0029 is suitable for reuse after rehabilitation of the superstructure and expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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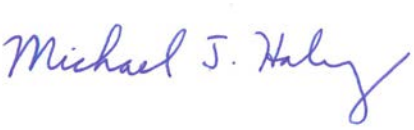

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0029 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	98.0	**Structure Length:**	435.9
Feature Crossed:	LOOMIS & FULLER STS	**Location:**	0.9 M SW I94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	103.8
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	11/1999	**Replaces:**	-	**Bridge Roadway Width:**	72.8
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	60.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Right	**Deck Width:**	76.1
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	15 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	6 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	536000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	1Steel Plate Beam / 0 None		**Inventory Rating:**	1.640(59)	**Load Rating Date:**	10/20/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.735(98)		**Crossing 1 Nbr:**	
Latitude:	41.84193838 **S** **Longitude:**	87.65887744 **S**	**Design Load:**	01 HS20+MOD		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	15.1100
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 77650
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	7
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	72.8	**One Or Two Way:**	1 One-Way
Horizontal:	72.8 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 87087
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 2862		**Station:**	1.5200
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 5000
5 MAJOR COLLECTOR		**Est Truck Percentage:**	3
South/East **North/West**		**Number Of Lanes:**	6
60.0		**One Or Two Way:**	2 Two-Way
65.4 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 5150
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0029 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	09/09/2015	Inspection Temperature:	80Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	S
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	08/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		1999	Reconstructed
Route:	FAI-55	Sta: 207+40.87		FAI-55	Sta: 207+40.87
Section Nbr:	207-1616.8			1616(.4,.6)+1717.6-3P	
Contract Nbr:				82981	
Fed Aid Pr#:	EACI0557107268				
Built By:	1	I.D.O.T.		1	I.D.O.T.

Pontis

Today's Date: 10/08/2015

Structure Number: 016-0029 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: LOOMIS & FULLER STS
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 0.9 M SW I94
(7A) Bridge Name:
Element Inspection Date: 09/09/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: AbudanJ
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	2	100	4,896	0	0	0	0	0	0	4,896
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	2	100	5,058	0	0	0	0	0	0	5,058
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Note: No Pier 3								
Reinforced Conc Abutment										
215	2	95	165	5	8	0	0	0	0	173
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Bkwalls- vert leach crks typ w/few isol pop-out spalls @W.								
Reinforced Conc Pier or Abutment Cap										
234	2	100	649	0	0	0	0	0	0	649
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Pier 4 & 6 Cap South nose- mapckd								
Elastomeric Bearing										
310	4	0	0	100	40	0	0	0	0	40
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Fixed Bearing										
313	4	0	0	100	10	0	0	0	0	10
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Pot Bearing										
314	4	0	0	100	20	0	0	0	0	20
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Concrete Bridge Railing

331	4	0	0	100	861	0	0	0	0	861
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks:

Concrete Deck Protected w/ Coated Bars

8026	4	84	27,494	16	5,300	0	0	0	0	32,794

Remarks: Trans leach crcks. Some spans crks <2ft apart.On top few intersecting and diagonal cracks.

Non-Lead Painted Steel Open Girder

8118	4	100	46,432	0	3	0	0	0	0	46,435

Remarks: Few areas-paint peeling @bott flanges.

Non-Lead Painted Steel Open Girder Ends

8176	4	80	16	20	4	0	0	0	0	20

Remarks: paint damaged due to a fire by homless people at the beam ends at east abutment

Continuous Seal Neoprene Expansion Joint

8308	4	94	175	0	0	6	12	0	0	187

Remarks: West Abut Ln 3 & 4(Ramp lane) 2 sections missing. E Abut plow damage Ln 4, leaking joint over west abutment.

Approach Pavement

8323	4	0	0	100	2	0	0	0	0	2

Remarks: East Apprch- Ln1 wide longit crk

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Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0030
E.B. I-55 over Throop St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0030 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated January 15, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span PPC I-beam bridge consisting of nine lines of continuous beams (see Photo 1). Span lengths from west to east are 55'-8", 69'-2" and 55'-8". The superstructure is supported by integral abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in satisfactory condition, which concurs with the findings from the cursory field check. Moderate transverse cracks with leaching are visible on a majority of the soffit. A small spall is visible on the west end of top of deck (see Photo 2). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, substructure, deck geometry, underclearance vert/lat, approach alignment and bridge railing appraisal items. Small chip spalls due to suspected impact damage are visible on some beam bottom flanges (see Photo 3). Large transverse and longitudinal cracks are visible on both approach slabs. Pressure relief joint seals appear to be sunken in.

Based on the structure summary report and field check, S.N. 016-0030 is suitable for reuse after rehabilitation of the deck.

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Telephone: (630) 323-5168
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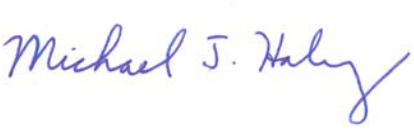

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0030 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	97.0	**Structure Length:**	180.4
Feature Crossed:	THROOP ST	**Location:**	0.7 M SW I94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	69.1
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	11/1999	**Replaces:**	-	**Bridge Roadway Width:**	61.0
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	44.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Right	**Deck Width:**	64.3
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	4 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	6 PRESTRESS CONCRETE CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	396000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.655(59)	**Load Rating Date:**	10/17/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.670(96)		**Crossing 1 Nbr:**	
Latitude:	41.84420918 **S** **Longitude:**	87.65357746 **S**	**Design Load:**	01 HS20+MOD		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	15.4100
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 77650
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	7
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	61.0	**One Or Two Way:**	1 One-Way
Horizontal:	62.2 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 87087
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

MUNICIPAL STREET 2104		**Station:**	0.1400
Main Route 01051		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	1998 / 300
7 LOCAL		**Est Truck Percentage:**	0
South/East **North/West**		**Number Of Lanes:**	4
0.0		**One Or Two Way:**	2 Two-Way
64.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 318
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	5 Municipal Streets	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 2

Structure Number: 016-0030 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	01/15/2015	Inspection Temperature:	35Deg. F					** Actual Posted Limits **	
Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE			
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:					
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		1999	Reconstructed	
Route:	FAI-55	Sta: 220+54.47		FAI-55	Sta: 134+721.52	
Section Nbr:	207-1616.9			207-1616.9		
Contract Nbr:				82981		
Fed Aid Pr#:	I 0557075286			ACHPD-IM-55-7		
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0030 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: THROOP ST
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 0.7 M SW I94
(7A) Bridge Name:
Element Inspection Date: 01/15/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	100	1,605	0	0	0	0	0	0	1,605
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Column or Pile Extension										
205	4	100	620	0	0	0	0	0	0	620
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	4	100	426	0	0	0	0	0	0	426
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	100	292	0	0	0	0	0	0	292
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Seepage @ bms									
Reinforced Conc Pier or Abutment Cap										
234	4	100	258	0	0	0	0	0	0	258
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Elastomeric Bearing										
310	4	100	18	0	0	0	0	0	0	18
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Concrete Bridge Railing										
331	4	100	361	0	0	0	0	0	0	361
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:	HL vert crks throughout									

Concrete Deck Protected w/ Coated Bars

8026	4	87	10,077	13	1,520	0	0	0	0	11,597

Remarks: Soffit) Trans leach crks <5' c/c throughout; Diag Crks @ Int Abuts; WS) HL-Nar trans crking. Small Pothole in Lane 3/Rt Shldr.

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Random crking. Both Relief PJS Jnts sunken in.

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October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0031
W.B. I-55 over Throop St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0031 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated January 15, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span PPC I-beam bridge consisting of ten lines of continuous beams (see Photo 1). Span lengths from west to east are 55'-7", 69'-0" and 55'-7". The superstructure is supported by integral abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit. Diagonal cracks are visible on the soffit above the integral abutment diaphragms (see Photo 2). IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Seepage is visible under several beams at the integral abutments (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, underclearance vert/lat, approach alignment and bridge railing appraisal items. Diagonal cracks and small spalls along the deck joints are visible on both approach slabs (see Photo 4).

Based on the structure summary report and field check, S.N. 016-0031 is suitable for reuse without rehabilitation.

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Consulting Engineers
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576 Oakmont Lane
Westmont, Illinois 60559
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E-mail: info@lineng.com

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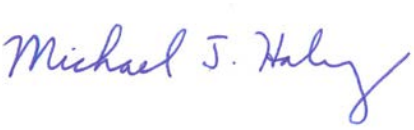

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0031 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	98.0	**Structure Length:**	180.2
Feature Crossed:	THROOP ST	**Location:**	0.7 M SW I94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	69.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	68.9
Status Remarks:				**Last Update Date:**	10/23/2014	**Appr Roadway Width:**	58.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Left	**Deck Width:**	72.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	3 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	6 PRESTRESS CONCRETE CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	396000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.655(59)	**Load Rating Date:**	04/26/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.670(96)		**Crossing 1 Nbr:**	
Latitude:	41.84427778 **S**	**Longitude:** 87.65340555 **S**		**Design Load:** 01 HS20+MOD		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	15.4200
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 77650
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	7
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	68.9	**One Or Two Way:**	1 One-Way
Horizontal:	70.1 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 87087
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

MUNICIPAL STREET 2104		**Station:**	0.1300
Main Route 01051		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	1998 / 300
7 LOCAL		**Est Truck Percentage:**	0
South/East **North/West**		**Number Of Lanes:**	4
0.0		**One Or Two Way:**	2 Two-Way
64.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 318
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	5 Municipal Streets	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0031 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	01/15/2015	Inspection Temperature:	35Deg. F				** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE		
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Protection:	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Total Deck Thick:	7.5			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	NNN	N/A	N/A	N/A				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		2000	Reconstructed
Route:	FAI-55	Sta: 220+54.47		FAI-55	Sta: 220+54.47
Section Nbr:	207-1616.9			1616(.4,.6)R-1,ETC	
Contract Nbr:				82992	
Fed Aid Pr#:	I 0557075286				
Built By:	1	I.D.O.T.		1	I.D.O.T.

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0031 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: THROOP ST
(7) Facility Carried: I- 55 WB STEVENSON
(9) Location: 0.7 M SW I94
(7A) Bridge Name:
Element Inspection Date: 01/15/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	100	1,780	0	0	0	0	0	0	1,780
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Column or Pile Extension										
205	1	100	859	0	0	0	0	0	0	859
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	1	100	698	0	0	0	0	0	0	698
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Few vert crks typ.									
Reinforced Conc Abutment										
215	1	100	525	0	0	0	0	0	0	525
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Seepage @ bms									
Reinforced Conc Pier or Abutment Cap										
234	1	100	185	0	0	0	0	0	0	185
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Elastomeric Bearing										
310	4	100	20	0	0	0	0	0	0	20
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Concrete Bridge Railing										
331	4	100	360	0	0	0	0	0	0	360
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:	HL vert crks throughout									

Concrete Deck Protected w/ Coated Bars

8026	4	87	11,270	13	1,730	0	0	0	0	13,000

Remarks: Soffit) Few HL trans crks. Diag Crks @ Int Abuts; WS) Few HL-Nar trans crks

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Random crking. East Relief PJS Jnt sunken in.

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Consulting Engineers

Springfield, IL **Westmont, IL**

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October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0034
E.B. I-55 over Halsted St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0034 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated November 26, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a 73'-6" long single span PPC I-beam bridge consisting of nine lines of simply supported beams (see Photo 1). The superstructure is supported by closed wall abutments. There is no overlay on the structure.

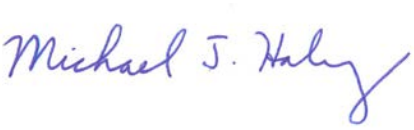
IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Map cracking is visible on portions of the abutment walls (see Photo 2). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck, superstructure, deck geometry, underclearance vert/lat, approach alignment and bridge railing appraisal items. Moderate transverse and longitudinal cracks are visible on both approach slabs. Small spalls are visible on the east approach slab (see Photo 3).

Based on the structure summary report and field check, S.N. 016-0034 is suitable for reuse without rehabilitation.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

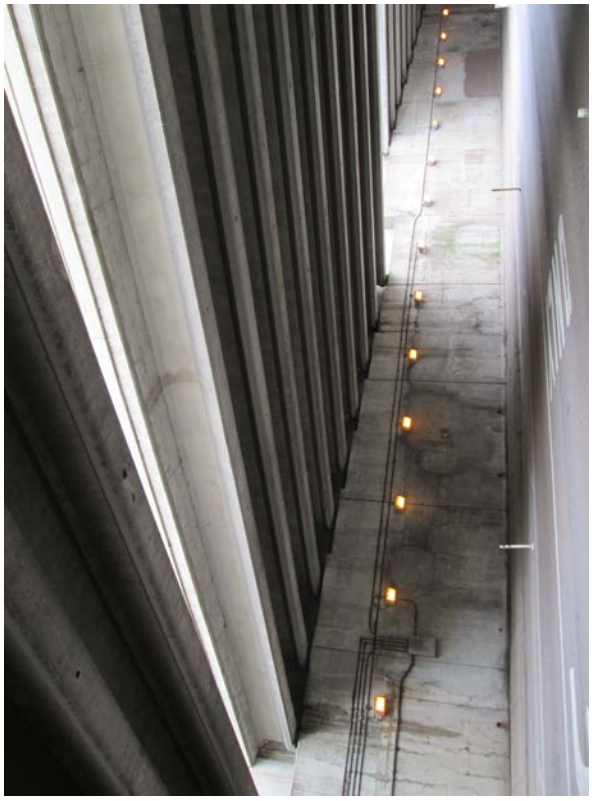


Photo 1

Photo 2

Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0034 **District:** 1

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	94.0	**Structure Length:**	73.7
Feature Crossed:	HALSTED ST	**Location:**	0.2 M SW I94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	70.0
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	71.2
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	07/1999	**Replaces:**	-	**Bridge Roadway Width:**	57.1
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	56.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Right	**Deck Width:**	60.4
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	18 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	5 PRESTRESS CONCRETE	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	1 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	226000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.265(45)	**Load Rating Date:**	05/16/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.115(76)		**Crossing 1 Nbr:**	
Latitude:	41.84615302 **S**	**Longitude:** 87.64532538 **S**		**Design Load:** 01 HS20+MOD		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	15.9300
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 64050
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	54.5	**One Or Two Way:**	1 One-Way
Horizontal:	55.5 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 41921
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 3730		**Station:**	7.4800
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 12100
4 MINOR ARTERIAL		**Est Truck Percentage:**	13
South/East **North/West**		**Number Of Lanes:**	5
0.0		**One Or Two Way:**	2 Two-Way
82.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 16171
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0034 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 11/26/2014 **Inspection Temperature:** 31Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						** Actual Posted Limits **	
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Single Unit Vehicles:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-1:	Tons
Culvert:	N	NOT APPLICABLE						Combination Type 3S-2:	Tons
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		One Truck At A Time:	0
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		Last Paint Type:	
Deck Geometry:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:					
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		1999	Reconstructed	
Route:	FAI-55	Sta: 7+28.82		FAI-55	Sta: 135+425.77	
Section Nbr:	1717.2-1B			1616(.4,.6)+1717.6-3P		
Contract Nbr:				82981		
Fed Aid Pr#:	I 0557043287			ACHPD-IM-55-7(		
Built By:	3	COUNTY AGENCY		1	I.D.O.T.	

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0034 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: HALSTED ST
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 0.2 M SW I94
(7A) Bridge Name:
Element Inspection Date: 11/26/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	100	653	0	0	0	0	0	0	653
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	96	2,655	3	85	1	17	0	0	2,757
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	East & West Abuts Map Crkd @ FCR w/few HPs									
Reinforced Conc Pier or Abutment Cap										
234	4	84	127	16	24	0	0	0	0	151
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Elastomeric Bearing										
310	4	100	9	0	0	0	0	0	0	9
		No deterioration		Minor deterioration		Major deterioration				
Remarks:	@ West Abut									
Fixed Bearing										
313	4	100	9	0	0	0	0	0	0	9
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:	@ East Abut									
Concrete Bridge Railing										
331	4	100	147	0	0	0	0	0	0	147
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:	Spider crking (slipformed).HL to Med Vertical Crks typ.									
Concrete Deck Protected w/ Coated Bars										
8026	4	89	3,955	11	480	0	0	0	0	4,435
Remarks:	Soffit) Few HL trans leach cracks; WS) HL trans crks w/few intersecting longit crks									

P/S Conc Beam Ends Incl Diaphrams Under Deck Joint

8237	4	100	18	0	0	0	0	0	0	18

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	100	121	0	0	0	0	0	0	121

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Random Map & Diag crking @ East & West Apprchs

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0035
W.B. I-55 over Halsted St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0035 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated November 26, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a 73'-7½" long single span PPC I-beam bridge consisting of ten lines of simply supported beams (see Photo 1). The superstructure is supported by closed wall abutments. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor longitudinal and transverse cracks are visible on a majority of the top of deck. IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Map cracking is visible on previously repaired portions of the abutment walls (see Photo 2). IDOT rates the deck geometry as being intolerable with a high priority for replacement. The findings from the cursory field check don't match IDOT's deck geometry rating. The roadway width appears to be adequate for a three lane interstate bridge. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, underclearance vert/lat, approach alignment and bridge railing appraisal items. Moderate transverse and longitudinal cracks are visible on both approach slabs (see Photo 3). Anchor blocks are damaged along sections of the west expansion joint.

Based on the structure summary report and field check, S.N. 016-0035 is suitable for reuse after rehabilitation of the expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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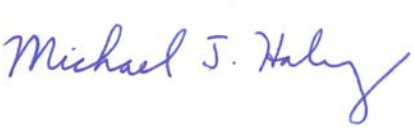


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

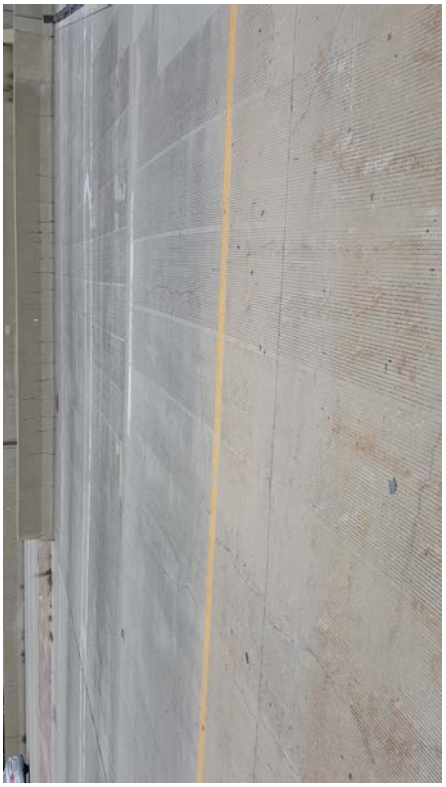


Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0035 **District:** 1

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	87.0	**Structure Length:**	76.7
Feature Crossed:	HALSTED ST	**Location:**	0.2 M SW I94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	72.5
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	74.2
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	63.3
Status Remarks:				**Last Update Date:**	02/26/2015	**Appr Roadway Width:**	65.8
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Left	**Deck Width:**	66.6
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	18 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	5 PRESTRESS CONCRETE	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	1 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.265(45)	**Load Rating Date:**	05/16/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.115(76)		**Crossing 1 Nbr:**	
Latitude:	41.84621442 **S**	**Longitude:** 87.64516895 **S**	**Design Load:**	01 HS20+MOD		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	15.9400
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 128100
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	5
Max Rdwy Width:	63.3	**One Or Two Way:**	1 One-Way
Horizontal:	64.5 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 83842
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 3730		**Station:**	7.4700
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 12100
4 MINOR ARTERIAL		**Est Truck Percentage:**	13
South/East **North/West**		**Number Of Lanes:**	5
0.0		**One Or Two Way:**	2 Two-Way
82.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 16171
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0035 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	11/26/2014	Inspection Temperature:	31Deg. F				** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		
Deck Geometry:	2	INTOLERABLE - HIGH PRIORITY FOR REPLACEMENT		Deck Protection:	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	7.5			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	NNN	N/A	N/A	N/A				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		2000	Reconstructed
Route:	FAI-55	Sta: 7+28.82		FAI-55	Sta: 7+28.82
Section Nbr:	1717.2-1B			1616(.4,.6)R-1 ETC	
Contract Nbr:				82992	
Fed Aid Pr#:	I 0557043287				
Built By:	3	COUNTY AGENCY		1	I.D.O.T.

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0035 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: HALSTED ST
(7) Facility Carried: I- 55 WB STEVENSON
(9) Location: 0.2 M SW I94
(7A) Bridge Name:
Element Inspection Date: 11/26/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	100	723	0	0	0	0	0	0	723
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	97	3,761	2	90	0	15	0	0	3,866
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		East & West Abuts Map Crkd @ FCR w/few HPs								
Reinforced Conc Pier or Abutment Cap										
234	4	100	190	0	0	0	0	0	0	190
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Elastomeric Bearing										
310	4	100	10	0	0	0	0	0	0	10
		No deterioration		Minor deterioration		Major deterioration				
Remarks:		@ West Abut								
Fixed Bearing										
313	4	100	10	0	0	0	0	0	0	10
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:		@ East Abut								
Concrete Bridge Railing										
331	4	100	146	0	0	0	0	0	0	146
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:		(Slipformed) HL Vert & Hor crking throughout & spider crking @ random locations.								
Concrete Deck Protected w/ Coated Bars										
8026	4	96	4,759	4	175	0	0	0	0	4,934
Remarks:		Soffit) Few HL trans Leach cracks WS) HL-Nar trans crks w/few intersecting long crks								

P/S Conc Beam Ends Incl Diaphrams Under Deck Joint

8237	4	100	20	0	0	0	0	0	0	20

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	91	129	0	0	9	12	0	0	141

Remarks: West Neop Jnt leaking. Missing Hold Down and Damage @ West Abut Lane #3

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Random Map & Diag crking @ East & West Apprchs

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0046
IL 171 S.B. Ramp (First Ave.) over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0046 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report. Broad-based recommendations for this structure are provided below.

A cursory field check discovered that this structure is being entirely replaced under Job No. D-91-191-10. The current IDOT structure summary report does not reflect the planned full bridge replacement. The new structure shall be adequate for re-use.

LIN ENGINEERING, LTD.

Michael T. Haley, PE, SE
Structural Manager

Appendix A – IDOT Structure Summary Report

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 10/27/2015
Page: 1

Structure Number: 016-0046 **District: 1**

Inventory Data

Facility Carried:	IL 171 SB RMP I55 EB	**Bridge Name:**		**Sufficiency Rating:**	81.0	**Structure Length:**	305.9
Feature Crossed:	I- 55 STEVENSON	**Location:**	1.4 M SW ILL 43	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	85.9
Bridge Status:	D DELETED	**Status Date:**	04/2015	**Replaces:**	016-1512	**Bridge Roadway Width:**	22.0
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	36.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	None	**Deck Width:**	28.0
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	33 D	**Navigation Control:**	N N/A
Main Span Matl/Type:	3 STEEL	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	5 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	278000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None		**Rated By:** 2 IDOT		**Rate Method:** 6		
Guardrail Type L/R:	0None / 0 None	**Inventory Rating:**	1.445(52)	**Load Rating Date:**	08/18/2009	**Railroad Crossing Info**	
Toll Facility Indicator:	0 No Toll	**Operating Rating:**	2.415(86)			**Crossing 1 Nbr:**	
Latitude:	41.79232000 **S Longitude:**	87.82197000 **S**	**Design Load:** 02 HS20			**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM	**Deck Structure Thickness:**	7 **SD:** Y **FO:** N			**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	0.4500
Appurtenances	Ramp 06430	**Segment:**	
Inventory County:	016 COOK	**Linked:**	N
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	5620 SUMMIT	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2000 / 9300
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	0
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	1
Max Rdwy Width:	22.0	**One Or Two Way:**	1 One-Way
Horizontal:	26.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 9588
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	5.8800
Main Route 00000		**Segment:**	
016		**Linked:**	
16 LYONS		**Natl. Hwy System:**	On NHS
5620 SUMMIT		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 132000
1 INTERSTATE		**Est Truck Percentage:**	9
South/East	**North/West**	**Number Of Lanes:**	7
36.0		**One Or Two Way:**	2 Two-Way
67.0	69.5	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 135960
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0046 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	01/10/2014	Inspection Temperature:	40Deg. F					** Actual Posted Limits **	
Deck:	4	POOR CONDITION - ADVANCED DETERIORATION						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	F	MICRO SIL CON OVRLY		Last Paint Type:	CH
Structural Evaluation:				Deck Membrane:	F	NONE		LD SHP GRN&AL FNL	
Deck Geometry:				Deck Protection:	J	NONE			
Underclearance-Vert/Lat.:				Total Deck Thick:	8.5			FLD ZINC & VINYL	
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	11/1994				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	232	Not Acceptable	Acceptable	Not Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		1994	Reconstructed	
Route:	FAI 55		Sta: 312+55.25	FAU2746		Sta:
Section Nbr:		0707-611HB			0707-611HB-R	
Contract Nbr:					82123	
Fed Aid Pr#:		I 0557085277				
Built By:	1	I.D.O.T.		1	I.D.O.T.	

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0047
GM&O RR over I-55 Ramp
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0047 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report. Broad-based recommendations for this structure are provided below.

No bridge matching the description provided for in the current IDOT structure summary report (see Appendix A) was located during a cursory field check. It is possible that this structure no longer exists and that the structure summary report was never removed from official record. S.N. 016-0047 should be removed from the project scope of services.

LIN ENGINEERING, LTD.

Michael T. Haley, PE, SE
Structural Manager

Appendix A – IDOT Structure Summary Report

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0047 **District: 1**

Inventory Data

Facility Carried:	GM&O RR	**Bridge Name:**		**Sufficiency Rating:**		**Structure Length:**	109.0
Feature Crossed:	I-55 RP TO ASHLAND	**Location:**	0.14 M W ASHLD P5C	**HBP Eligible:**	Yes	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	68.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	0.0
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	0.0
Maint County:	016 COOK	**Maint Township:**		**Parallel Structure:**	None	**Deck Width:**	0.0
Maint Responsibility:	06 RAILROAD			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	2 RAILROAD	1 / HIGHWAY		**Skew Direction:**	N None	**Sidewalk Width Left:**	0.0
Reporting Agency:	6 RAILROAD			**Skew Angle:**	0 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	7 TIMBER	/ 00 OTHER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None		**Rated By:** N N/A		**Rate Method:** N		
Guardrail Type L/R:	0None / 0 None	**Inventory Rating:**	()	**Load Rating Date:**	05/25/1985	**Railroad Crossing Info**	
Toll Facility Indicator:	0 No Toll	**Operating Rating:**	()			**Crossing 1 Nbr:**	
Latitude:	41.83716000 **S Longitude:**	87.66958000 **S**	**Design Load:** 02 HS20			**Crossing 1 Nbr:**	
Deck Structure Type:		**Deck Structure Thickness:**	0 **SD:** **FO:**			**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	4 Both Sides Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:		**Station:**	
Appurtenances		**Segment:**	
Inventory County:		**Linked:**	
Township/Road Dist		**Natl. Hwy System:**	
Municipality		**Inventory Direction:**	
Urban Area:		**Curr AADT Yr/Count:**	/
Functional Class:		**Est Truck Percentage:**	
** CLEARANCES **	**South/East** **North/West**	**Number Of Lanes:**	
Max Rdwy Width:		**One Or Two Way:**	
Horizontal:		**Bypass Length:**	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
Lateral:		**Special Systems:**	

Key Route Under Data

FEDERAL-AID INTERSTATE	0055	**Station:**	0.8300
Ramp	13760	**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2002 / 21300
1 INTERSTATE		**Est Truck Percentage:**	0
South/East	**North/West**	**Number Of Lanes:**	2
0.0		**One Or Two Way:**	2 Two-Way
34.6	0.0	**Bypass Length:**	76
		Future AADT Yr/Cnt:	2021 / 12690
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:			
Route #2:			
Route #3:			

*** Marked Route Under Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 2

Structure Number: 016-0047 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	N
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons	

Inspection/Appraisal Information

Inspection Date: Inspection Temperature: Deg. F

Deck:
Superstructure:
Substructure:
Culvert:
Channel and Protection:
Structural Evaluation:
Deck Geometry:
Underclearance-Vert/Lat.:
Waterway Adequacy:
Approach Roadway Align:
Bridge Railing Appraisal:
Approach Guardrail:
Pier Navig Protection:

Deck Wearing Surf:
Deck Membrane:
Deck Protection:
Total Deck Thick:
Last Paint Date:

** Actual Posted Limits **
Single Unit Vehicles: Tons
Combination Type 3S-1: Tons
Combination Type 3S-2: Tons
One Truck At A Time:
Last Paint Type:

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: Inspection Method:
Appraisal Rating:

Scour Critical Information

Rating: Evaluation Method:
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original	Reconstructed	
Route:	FAI-55	Sta: 69+92.49	Sta:	
Section Nbr:	101-681-HB			
Contract Nbr:				
Fed Aid Pr#:	00000000000000			
Built By:	3	COUNTY AGENCY		

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0316
IL 43 (Harlem Ave.) over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0316 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 22, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel beam bridge consisting of twenty-four lines of continuous beams with a hinge in spans 1 and 4 (see Photo 1). Span lengths from south to north are 49'-0", 84'-1½", 84'-1½" and 41'-6". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is a dense concrete overlay on the structure.

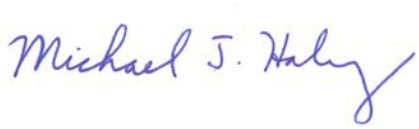
IDOT rates the deck as being in satisfactory condition. The findings from the cursory field check don't match IDOT's deck rating. Moderate transverse cracks with leaching and large spalled areas with exposed rebar are visible on the soffit (see Photo 2). Spalls are also visible on the deck overlay, sidewalks, medians and parapets (see Photo 3). IDOT rates the superstructure as being in fair condition, which concurs with the findings from the cursory field check. Moderate to heavy paint peeling and rusting is visible on the web and flanges of all beams (see Photo 4). IDOT rates the substructure as being in good condition. The findings from the cursory field check don't match IDOT's substructure rating. Minor to heavy spalls, horizontal cracks and vertical cracks are visible on abutments (see Photo 5). A large vertical crack is visible between the abutment and wingwall (see Photo 6). Delaminations, map cracks and spalls are visible on the piers. IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action, which concurs with the findings from the cursory field check. Impact damage and scrape marks are visible on the exterior beams over W.B. I-55 traffic (see Photo 7). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, approach alignment, and approach guardrail items. The bridge parapet is missing several sections of steel railing (see Photo 8). Anchor blocks and joint seals are damaged or missing along sections of both expansion

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

joints (see Photo 9). Anchor bolts are missing on some bearings at both abutments (see Photo 10).

Based on the structure summary report and field check, S.N. 016-0316 is suitable for replacement of the deck and rehabilitation of the substructure and superstructure. The approach guardrails should be brought up to current IDOT standards.

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

Photo 10

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0316 **District: 1**

Inventory Data

Facility Carried:	IL 43 (HARLEM AVE)	**Bridge Name:**		**Sufficiency Rating:**	83.0	**Structure Length:**	251.1
Feature Crossed:	I- 55 STEVENSON	**Location:**	0.47 MI N OF ARCHER	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	84.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	03/1998	**Replaces:**	-	**Bridge Roadway Width:**	130.0
Status Remarks:	PER KRAMARZ MEMO 3-10-98			**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	44.0
Maint County:	016 COOK	**Maint Township:**	34 STICKNEY	**Parallel Structure:**	None	**Deck Width:**	150.0
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	5.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 /	HIGHWAY	**Skew Direction:**	R Right	**Sidewalk Width Left:**	5.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	21 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	1104000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00

Median Width/Type: 10 Ft. / 2 Mountable, all types **Rated By:** 2 IDOT **Rate Method:** 6
Guardrail Type L/R: 0None / 0 None **Inventory Rating:** 1.210(43) **Load Rating Date:** 12/14/2010 **Railroad Crossing Info**
Toll Facility Indicator: 0 No Toll **Operating Rating:** 2.020(72) **Crossing 1 Nbr:**
Latitude: 41.79906290 **S** **Longitude:** 87.80211048 **S** **Design Load:** 02 HS20 **Crossing 1 Nbr:**
Deck Structure Type: A CIP CON NRMLLY FORM **Deck Structure Thickness:** 7 **SD:** N **FO:** Y **RR Lateral Underclear:** 0.0
Sidewalks Under Structure: 0 None **RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID PRIMARY 0348	**Station:**	25.2400
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	34 STICKNEY	**Natl. Hwy System:**	On NHS
Municipality	2010 FOREST VIEW	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2013 / 45600
Functional Class:	3 OTHER PRINCIPAL ARTERIAL	**Est Truck Percentage:**	16
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	9
Max Rdwy Width:	142.0	**One Or Two Way:**	2 Two-Way
Horizontal:	153.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 45114
		Designated Truck Rte:	CLASS II
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	7.0700
Main Route 00000		**Segment:**	
016		**Linked:**	Y
34 STICKNEY		**Natl. Hwy System:**	On NHS
2010 FOREST VIEW		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 125400
1 INTERSTATE		**Est Truck Percentage:**	10
South/East **North/West**		**Number Of Lanes:**	6
36.0		**One Or Two Way:**	2 Two-Way
73.0 73.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 147084
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	3 State Highway	043
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0316 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	Y	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	08/22/2014	Inspection Temperature:	86Deg. F					** Actual Posted Limits **	
Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	E	PLAS DENSE CON OVLY		Last Paint Type:	H
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		FLD ZINC & VINYL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	9.0				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/1990				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	222	Not Acceptable	Not Acceptable	Not Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		1990	Reconstructed	
Route:	FAI-55	Sta: 500+82.13	FAP-848	Sta: REMARKS		
Section Nbr:	207.0708.2A		207-0708.2A-CF			
Contract Nbr:			80528			
Fed Aid Pr#:	I 0557114278					
Built By:	3	COUNTY AGENCY	1	I.D.O.T.		

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0316 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55 STEVENSON
(7) Facility Carried: IL 43 (HARLEM AVE)
(9) Location: 0.47 MI N OF ARCHER
(7A) Bridge Name:
Element Inspection Date: 08/22/2014
(90E) Agency Program Manager: LandersJJ
(90E3) Consultant Program Manager:
(90E1) Team Leader: KhaliIJS
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Lead Painted Steel Open Girder										
107	4	72	40,679	28	16,000	0	0	0	0	56,679
		No corrosion		Paint distress		Rust formation		Section loss		Section failure

Remarks: Scattered areas of paint peeling on diaphragms & surface rust present on beams bottom flanges & webs.

Reinforced Conc Column or Pile Extension										
205	4	99	2,502	0	0	1	14	0	0	2,516
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: Delamins @ pier#1 column #5 & 6

Reinforced Conc Pier Wall										
210	4	100	4,131	0	0	0	0	0	0	4,131
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks:

Reinforced Conc Abutment										
215	4	98	1,194	2	24	0	0	0	0	1,218
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: W. Abut (wingwall sw corner meas crack). also NW corner

Reinforced Conc Pier or Abutment Cap										
234	4	97	744	2	16	1	8	0	0	768
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks:

Preformed Joint Seal										
302	4	0	0	87	495	13	75	0	0	570
		No deterioration		Minor deterioration		Major deterioration				

Remarks: rubber filling over compressed at N. abutment of SB lanes

Movable Discontinous Brg.										
311	4	0	0	100	48	0	0	0	0	48
		No deterioration		Minor deterioration		Advanced corrosion				

Remarks:

Fixed Bearing

313	4	0	0	100	24	0	0	0	0	24
		No deterioration		Minor deterioration	Advanced corrosion					

Remarks:

Concrete Bridge Railing

331	4	0	0	73	220	27	80	0	0	300
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: spalls, cracks and delams at bottom of parapets

Concrete Deck Protected w/ Rigid Overlay

8022	4	98	38,660	2	900	0	40	0	0	39,600

Remarks: F.D. patches & scattered areas of chloride contamination in soffit. Light transv. cracks in wearing surface. Exposed rebars

Non-Lead Painted Steel Pin and Hanger

8162	4	100	48	0	0	0	0	0	0	48

Remarks:

Lead Painted Steel Closed Web/Box Girder Ends

8172	4	31	44	69	100	0	0	0	0	144

Remarks: Some surface rust present.

Continuous Seal Neoprene Expansion Joint

8308	4	0	0	95	292	5	14	0	0	306

Remarks: Joint worn (possible plow damage) & seal ripped @ various areas. Missing neo. section in SB turning lane & median and NBL 3.

Moveable Steel Bearings below continuous decks

8316	4	0	0	100	48	0	0	0	0	48

Remarks:

Approach Pavement

8323	4	0	0	100	2	0	0	0	0	2

Remarks: Pot-holes & map cracking thru-out both approach pavt's

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0484
S.B. IL 171 (First Ave.) over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0484 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report. Broad-based recommendations for this structure are provided below.

No structure summary report exists on the Illinois Bridge Information website. A cursory field check discovered that this structure is being entirely replaced under Job No. D-91-191-10. The new structure shall be adequate for re-use.

LIN ENGINEERING, LTD.

Michael T. Haley, PE, SE
Structural Manager

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0485
N.B. IL 171 (First Ave.) over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0485 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report (see Appendix A). Broad-based recommendations for this structure are provided below.

A cursory field check discovered that this structure is being entirely replaced under Job No. D-91-191-10. The current IDOT structure summary report does not reflect the planned full bridge replacement. The new structure shall be adequate for re-use.

LIN ENGINEERING, LTD.

Michael T. Haley, PE, SE
Structural Manager

Appendix A – IDOT Structure Summary Report

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0485 **District: 1**

Inventory Data

Facility Carried:	IL 171 NB FIRST AVE	**Bridge Name:**		**Sufficiency Rating:**	49.0	**Structure Length:**	293.6
Feature Crossed:	I- 55 STEVENSON	**Location:**	1.4 M SW IL 43	**HBP Eligible:**	Yes	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	VC 7-26-94			**Replaced By:**	-	**Length of Long Span:**	74.1
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	016-1511	**Bridge Roadway Width:**	44.2
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	33.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Right	**Deck Width:**	50.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	9 D	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	5 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	706000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.310(47)	**Load Rating Date:**	07/13/2005	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.180(78)		**Crossing 1 Nbr:**	
Latitude:	41.79333427 **S**	**Longitude:** 87.82071291 **S**		**Design Load:** 02 HS20		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7 **SD:** Y **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID PRIMARY 0373	**Station:**	0.0300
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	5620 SUMMIT	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2013 / 21100
Functional Class:	3 OTHER PRINCIPAL ARTERIAL	**Est Truck Percentage:**	14
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	44.2	**One Or Two Way:**	1 One-Way
Horizontal:	48.2 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 28119
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	5.9900
Main Route 00000		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	On NHS
5620 SUMMIT		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 132000
1 INTERSTATE		**Est Truck Percentage:**	9
South/East	**North/West**	**Number Of Lanes:**	6
36.0		**One Or Two Way:**	2 Two-Way
56.2	69.5	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 135960
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	3 State Highway	171
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0485 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	12 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	09/08/2014	Inspection Temperature:	78Deg. F				** Actual Posted Limits **	
Deck:	4	POOR CONDITION - ADVANCED DETERIORATION					Single Unit Vehicles:	Tons
Superstructure:	4	POOR CONDITION - ADVANCED DETERIORATION					Combination Type 3S-1:	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	F	MICRO SIL CON OVRLY	Last Paint Type:	C
Structural Evaluation:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Deck Membrane:	F	NONE	LD SHP GRN&AL FNL	
Deck Geometry:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Protection:	J	NONE		
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	8.5			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	09/1989			
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	2	Doesn't Meet Standards						
Approach Guardrail:	332	Acceptable	Acceptable	Not Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		1994	Reconstructed	
Route:	FAI-55		Sta: 318+07.25	FAU2744		Sta:
Section Nbr:		0707-608-HB			0606-627UB-BR	
Contract Nbr:					82123	
Fed Aid Pr#:		I 0557082277				
Built By:	1	I.D.O.T.			1 I.D.O.T.	

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0537
Willow Springs Rd. over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0537 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 29, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel beam bridge consisting of twelve lines of continuous beams with a hinge in spans 1 and 4 (see Photo 1). Span lengths from south to north are 34'-6", 67'-6½", 67'-6½" and 36'-0". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is a concrete overlay on the structure.

IDOT rates the deck as being in satisfactory condition, which concurs with the findings from the cursory field check. Map cracking is visible on a majority of the wearing surface (see Photo 2). Transverse cracks with leaching, general discoloration, and fillet spalls are visible throughout the soffit (see Photo 3). IDOT rates the superstructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Minor to moderate rusting is visible around the pin and hanger connections (see Photo 4). IDOT rates the substructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Minor to moderate cracks, spalls and delaminations are visible on the abutments and piers (see Photo 5). IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action, which concurs with the findings from the cursory field check. Impact damage to the beams is visible above E.B. I-55 traffic lanes (see Photo 6). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, approach alignment, bridge railing appraisal and approach guardrail items. Heavy cracking is present on both slopewalls. A visible rotation is present in some bearings on the south abutment (see Photo 7).

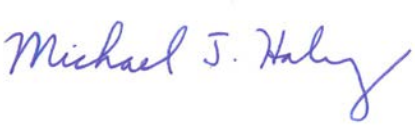
Based on the structure summary report and field check, S.N. 016-0537 is suitable for replacement of the deck and rehabilitation of the substructure and superstructure. Slopewalls

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

should be repaired. The approach guardrail ends should be brought up to current IDOT standards.

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1


Photo 2


Photo 3


Photo 4

Photo 5

Photo 6

Photo 7

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0537 **District: 1**

Inventory Data

Facility Carried:	WILLOW SPRINGS RD	**Bridge Name:**		**Sufficiency Rating:**	90.5	**Structure Length:**	210.0
Feature Crossed:	I- 55 STEVENSON	**Location:**	1 M W US 45	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	68.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	58.0
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	40.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	None	**Deck Width:**	70.0
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	5.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	N None	**Sidewalk Width Left:**	5.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	0 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	386000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.005(36)	**Load Rating Date:**	12/04/2008	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	1.680(60)		**Crossing 1 Nbr:**	
Latitude:	41.76134832 **S**	**Longitude:** 87.88694797 **S**		**Design Load:** 02 HS20		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID URBAN 2697	**Station:**	4.0400
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	Not on NHS
Municipality	1272 COUNTRYSIDE	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 10300
Functional Class:	4 MINOR ARTERIAL	**Est Truck Percentage:**	2
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	58.0	**One Or Two Way:**	2 Two-Way
Horizontal:	68.0 0.0	**Bypass Length:**	5
		Future AADT Yr/Cnt:	2032 / 11742
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	1.5600
Main Route 00000		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	On NHS
1272 COUNTRYSIDE		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 148400
1 INTERSTATE		**Est Truck Percentage:**	8
South/East **North/West**		**Number Of Lanes:**	6
36.0		**One Or Two Way:**	2 Two-Way
54.5 54.5		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 169126
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	8 Other	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0537 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	Y	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	08/29/2014	Inspection Temperature:	91Deg. F					** Actual Posted Limits **	
Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Single Unit Vehicles:	Tons
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-1:	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	F	MICRO SIL CON OVRLY		Last Paint Type:	A
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		LD SHP PRM GRN FNL	
Deck Geometry:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Protection:	J	NONE			
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	9.0				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/2006				
Approach Roadway Align:	7	BETTER THAN PRESENT MINIMUM CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	332	Acceptable	Acceptable	Not Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original	1990	Reconstructed	
Route:	FAI-55	Sta: 1167+51.08	FAU2697	Sta: 78+52.80	
Section Nbr:	0202-604-HB		3066 W&RS&T-3-10BR(84)		
Contract Nbr:			80156		
Fed Aid Pr#:	I 0557065272		IX-6003(851)		
Built By:	1 I.D.O.T.		1 I.D.O.T.		

Pontis

Today's Date: 08/27/2015

Structure Number: 016-0537 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55 STEVENSON
(7) Facility Carried: WILLOW SPRINGS RD
(9) Location: 1 M W US 45
(7A) Bridge Name:
Element Inspection Date: 08/29/2014
(90E) Agency Program Manager: LandersJJ
(90E3) Consultant Program Manager:
(90E1) Team Leader: KhaliJS
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	99	1,777	0	0	1	16	0	0	1,793
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Spall with exposed rebar at base of column 1, pier 3.									
Reinforced Conc Pier Wall										
210	4	96	1,841	0	0	4	70	0	0	1,911
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	delamins and spalls w/exp bars @ piers 1 & 3									
Reinforced Conc Abutment										
215	4	85	659	13	100	2	12	0	0	771
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Scattered cracks in backwalls.. Spall at east corner, north backwall.									
Reinforced Conc Pier or Abutment Cap										
234	4	88	308	3	12	9	30	0	0	350
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Small (<2 sf) spalls scattered on pier caps. Vertical cracks at abutments. spall w /exp bars @ pier cap # 2 south face.									
Preformed Joint Seal										
302	3	0	0	100	140	0	0	0	0	140
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Elastomeric Bearing										
310	4	0	0	83	20	17	4	0	0	24
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Fixed Bearing										
313	4	0	0	89	32	11	4	0	0	36
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Concrete Bridge Railing

331	3	0	0	100	418	0	0	0	0	418
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks:

Concrete Deck Protected w/ Rigid Overlay

8022	3	62	9,115	34	5,000	3	509	0	0	14,624

Remarks: Map cracks throughout wearing surface. Delams in soffit at construction joints. Some fillets spalling especially below sidewalks.

Non-Lead Painted Steel Open Girder

8118	4	80	17,542	20	4,523	0	0	0	0	22,065

Remarks: Surface rust on bottom flanges.

Non-Lead Painted Steel Pin and Hanger

8162	3	0	0	100	24	0	0	0	0	24

Remarks: Moderate rust on hangers

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	3	33	24	67	48	0	0	0	0	72

Remarks: lisght surf rust below joints at pins.

Continuous Seal Neoprene Expansion Joint

8308	3	77	54	17	12	6	4	0	0	70

Remarks:

Approach Pavement

8323	3	100	2	0	0	0	0	0	0	2

Remarks:

Steel Open Girder

8406	3	0	0	0	0	100	5	0	0	5

Remarks: Permament deformations evident in bottom flange of E.Fascia beam over lane 3 SB I-55.

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0587
County Line Rd. over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0587 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated October 17, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel beam bridge consisting of fourteen lines of continuous beams (see Photo 1). Span lengths from south to north are 54'-7", 93'-0", 93'-0" and 54'-7". The superstructure is supported by integral abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in very good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the deck soffit. A few diagonal cracks are visible on the top of deck (see Photo 2). IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Areas of previous repairs are visible on all piers. IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action. The findings from the cursory field check don't match IDOT's underclearance vertical and lateral rating. There appears to be sufficient clearance under the structure (see Photos 3 & 4). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, approach alignment, bridge railing appraisal and approach guardrail items. Minor diagonal cracking is visible on both approaches.

Based on the structure summary report and field check, S.N. 016-0587 is suitable for reuse without rehabilitation.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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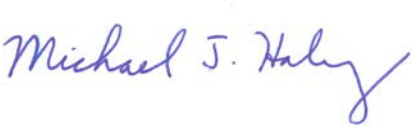

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0587 **District: 1**

Inventory Data

Facility Carried:	COUNTY LINE RD	**Bridge Name:**		**Sufficiency Rating:**	85.8	**Structure Length:**	298.0
Feature Crossed:	I- 55 STEVENSON	**Location:**	2.6 M W US 45	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	MAX.= 48.0			**Replaced By:**	-	**Length of Long Span:**	93.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	10/2014	**Replaces:**	-	**Bridge Roadway Width:**	92.7
Status Remarks:				**Last Update Date:**	01/22/2015	**Appr Roadway Width:**	92.7
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	None	**Deck Width:**	99.9
Maint Responsibility:	13 I.D.O.T.		COUNTY	**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE		1 / HIGHWAY	**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	28 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:			/	**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:			/	**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:			/	**Structural Steel Wt**	928350	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:			/	**Substructure Material:**	5	**Culvert Cell Width:**	0.00
Median Width/Type:	4 Ft. / 3 Curb			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	0.845(30)	**Load Rating Date:**	03/15/2011	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	1.415(50)		**Crossing 1 Nbr:**	
Latitude:	41.75822653 **S**	**Longitude:**	87.91591850 **S**	**Design Load:** 93 HL93		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	8 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID URBAN 2684	**Station:**	4.2000
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	Not on NHS
Municipality	0759 BURR RIDGE	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 19800
Functional Class:	4 MINOR ARTERIAL	**Est Truck Percentage:**	5
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	6
Max Rdwy Width:	0.0	**One Or Two Way:**	2 Two-Way
Horizontal:	98.0 0.0	**Bypass Length:**	4
		Future AADT Yr/Cnt:	2032 / 25647
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	0.0000
Main Route 00000		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	On NHS
0759 BURR RIDGE		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2013 / 167800
1 INTERSTATE		**Est Truck Percentage:**	7
South/East	**North/West**	**Number Of Lanes:**	8
36.0		**One Or Two Way:**	2 Two-Way
66.5	66.5	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 186327
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	8 Other	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0587 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	10/17/2014	Inspection Temperature:	40Deg. F					** Actual Posted Limits **	
Deck:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	A
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		LD SHP PRM GRN FNL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	8.0				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	07/2014				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1959	Original		2014	Reconstructed		
Route:	FAI-55		Sta: 1086+08.80 FAI 55			Sta:	
Section Nbr:		22-1HB			22-1HB-R		
Contract Nbr:					60K77		
Fed Aid Pr#:		I 0556002272			NHPP-TE-055(00		
Built By:	3	COUNTY AGENCY			1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number:	016-0587 **District:** 1	**(41) Bridge Status:**	1 OPEN - NO RESTRICT
(6) Feature Crossed:	I- 55 STEVENSON	**(7) Facility Carried:**	COUNTY LINE RD
(9) Location:	2.6 M W US 45	**(7A) Bridge Name:**	
Element Inspection Date:	10/17/2014		
(90E) Agency Program Manager:	WilsonSM	**(90E3) Consultant Program Manager:**	
(90E1) Team Leader:	HarringtonCC	**(90E2) Inspector:**	

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	3,048	0	0	0	0	0	0	3,048
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: substructure repairs done CN# 60K77 2014										
Reinforced Conc Pier Wall										
210	4	100	3,063	0	0	0	0	0	0	3,063
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: substructure repairs done CN# 60K77 2014										
Reinforced Conc Abutment										
215	4	100	1,030	0	0	0	0	0	0	1,030
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: north and south abutments removed and replaced now integral abutments CN# 60K77 2014										
Reinforced Conc Pier or Abutment Cap										
234	4	100	562	0	0	0	0	0	0	562
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: new integral abutments and substructure repairs done CN# 60K77 2014										
Elastomeric Bearing										
310	4	100	28	0	0	0	0	0	0	28
		No deterioration		Minor deterioration		Major deterioration				
Remarks: elastomeric bearings at pier 1 and 3 CN# 60K77 2014										
Fixed Bearing										
313	4	100	14	0	0	0	0	0	0	14
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks: salvaged bearings from structure used in CN# 60K77 2014										
Concrete Bridge Railing										
331	4	100	652	0	0	0	0	0	0	652
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks: new railing CN# 60K77 2014										

Concrete Deck Protected w/ Coated Bars

8026	4	100	26,939	0	0	0	0	0	0	26,939

Remarks: new deck CN# 60K77 2014

Non-Lead Painted Steel Open Girder

8118	4	100	34,645	0	0	0	0	0	0	34,645

Remarks: new super CN# 60K77

Approach Pavement

8323	4	0	0	0	0	100	4	0	0	4

Remarks: new approaches CN# 60K77 2014

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0724
Central Ave. over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0724 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated February 04, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a multiple span steel girder/beam second level interchange bridge consisting of four main spans and eight approach spans (see Photo 1). The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in excellent condition. The findings from the cursory field check don't match IDOT's deck rating. Minor transverse cracks with leaching are visible on a majority of the main span soffits (see Photo 2). IDOT rates the superstructure as being in excellent condition. The findings from the cursory field check don't match IDOT's superstructure rating. Minor rusting is visible on the top flanges of some girders. IDOT rates the substructure as being in excellent condition. The findings from the cursory field check don't match IDOT's substructure rating. Minor cracking is visible on some pier caps and columns (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment and bridge railing appraisal items.

Based on the structure summary report and field check, S.N. 016-0724 is suitable for reuse without rehabilitation.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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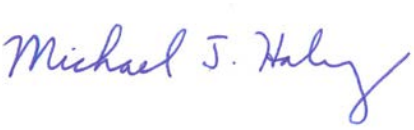

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0724 **District: 1**

Inventory Data

Facility Carried:	CENTRAL AVE & RAMPS	**Bridge Name:**		**Sufficiency Rating:**	96.6 **Structure Length:** 325.9
Feature Crossed:	I- 55 STEVENSON	**Location:**	1.1 M SW IL 50	**HBP Eligible:**	No **AASHTO Bridge Length:** 99.9
Bridge Remarks:	OLD T.L.= 5761' ONE BRIDGE. NOW THREE SEPERATE STRUCTURES. 7-27-88.			**Replaced By:**	- **Length of Long Span:** 89.2
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	05/2014	**Replaces:**	- **Bridge Roadway Width:** 73.5
Status Remarks:				**Last Update Date:**	07/05/2012 **Appr Roadway Width:** 74.0
Maint County:	016 COOK	**Maint Township:**	56 CICERO (CICERO)	**Parallel Structure:**	None **Deck Width:** 89.0
Maint Responsibility:	13 I.D.O.T.		COUNTY	**Multi-Level Structure Nbr:**	**Sidewalk Width Right:** 4.5
Service On/Under:	1 HIGHWAY		1 / HIGHWAY	**Skew Direction:** R	Right **Sidewalk Width Left:** 4.5
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:** 21 **D**	**Navigation Control:** 0 No
Main Span Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No **Navigation Horiz Clear:** 0
Nbr Of Main Spans:	24 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No **Navigation Vert Clear:** 0
*****Approaches*****				**Border Bridge State:**	**Culvert Fill Depth:** 0.0
Near #1 Matl/Type:			/	**Bdr State SN:**	**Number Culvert Cells:** 0
Near #2 Matl/Type:			/	**Bdr State % Responsibility:**	0 **Culvert Opening Area:** 0.0
Far #1 Matl/Type:			/	**Structural Steel Wt**	6476000 **Culvert Cell Height:** 0.00
Far #2 Matl/Type:			/	**Substructure Material:**	**Culvert Cell Width:** 0.00
Median Width/Type:	3 Ft. / 3 Curb			**Rated By:** 2 IDOT	**Rate Method:** 7
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.355(48) **Load Rating Date:**	07/13/2005 **Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.090(75)	**Crossing 1 Nbr:**
Latitude:	41.81077000 **S Longitude:**	87.76280000 **S**	**Design Load:** 01	HS20+MOD	**Crossing 1 Nbr:**
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7 **SD:** N **FO:** N	**RR Lateral Underclear:** 0.0
Sidewalks Under Structure:	0 None				**RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID URBAN 2797	**Station:**	1.8300
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	34 STICKNEY	**Natl. Hwy System:**	Not on NHS
Municipality	5540 STICKNEY	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 29200
Functional Class:	4 MINOR ARTERIAL	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	6
Max Rdwy Width:	0.0	**One Or Two Way:**	2 Two-Way
Horizontal:	83.0 0.0	**Bypass Length:**	2
		Future AADT Yr/Cnt:	2032 / 10094
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	9.2400
Main Route 00000		**Segment:**	
016		**Linked:**	Y
34 STICKNEY		**Natl. Hwy System:**	On NHS
2010 FOREST VIEW		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 128800
1 INTERSTATE		**Est Truck Percentage:**	10
South/East **North/West**		**Number Of Lanes:**	6
36.0		**One Or Two Way:**	2 Two-Way
80.5 77.5		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 151925
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	8 Other	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0724 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 02/04/2014 **Inspection Temperature:** 25Deg. F

Deck:	9	EXCELLENT CONDITION					** Actual Posted Limits **		
Superstructure:	9	EXCELLENT CONDITION					Single Unit Vehicles:		Tons
Substructure:	9	EXCELLENT CONDITION					Combination Type 3S-1:		Tons
Culvert:	N	NOT APPLICABLE					Combination Type 3S-2:		Tons
Channel and Protection:	N	NOT APPLICABLE					One Truck At A Time:	0	
Structural Evaluation:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	A	
Deck Geometry:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Deck Membrane:	F	NONE	LD SHP PRM GRN FNL		
Underclearance-Vert/Lat.:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Waterway Adequacy:	N	NOT APPLICABLE		Total Deck Thick:	8.0				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Last Paint Date:	06/2013				
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		2012	Reconstructed	
Route:	FAI-55	Sta: 615+75.11	FAI 55		Sta:	
Section Nbr:	207-1011.1CF			0711.2R &1011.1BR		
Contract Nbr:				60999		
Fed Aid Pr#:	I 0557041280			SCIM-SCBHI-55-		
Built By:	3	COUNTY AGENCY		1	I.D.O.T.	

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0724 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55 STEVENSON
(7) Facility Carried: CENTRAL AVE & RAMPS
(9) Location: 1.1 M SW IL 50
(7A) Bridge Name:
Element Inspection Date: 02/04/2014
(90E) Agency Program Manager: AsfourSE
(90E3) Consultant Program Manager:
(90E1) Team Leader: CowleyJ
(90E2) Inspector:

Element Insp. Delinquent | Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	14,300	0	0	0	0	0	0	14,300
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	4	100	19,300	0	0	0	0	0	0	19,300
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	100	6,893	0	0	0	0	0	0	6,893
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier or Abutment Cap										
234	4	100	1,263	0	0	0	0	0	0	1,263
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Strip Seal Expansion Joint										
300	4	100	350	0	0	0	0	0	0	350
		No leakage		Minor leakage		Major leakage				
Remarks:	At Abut 1 & Abut 4									
Modular Joints										
303	4	100	186	0	0	0	0	0	0	186
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks:	At ramp abuts									
Fixed Bearing										
313	4	100	22	0	0	0	0	0	0	22
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Pot Bearing

314	4	100	128	0	0	0	0	0	0	128
			No deterioration	Minor deterioration	Advanced corrosion					

Remarks:

Concrete Bridge Railing

331	4	100	1,513	0	0	0	0	0	0	1,513
			No deterioration	Minor cracks/spalls	Analysis warranted					

Remarks:

Concrete Deck Protected w/ Coated Bars

8026	4	100	95,149	0	0	0	0	0	0	95,149

Remarks:

Non-Lead Painted Steel Open Girder

8118	4	100	200,888	0	0	0	0	0	0	200,888

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	76	0	0	0	0	0	0	76

Remarks:

Approach Pavement

8323	4	100	4	0	0	0	0	0	0	4

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0744
Pulaski Rd. over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0744 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated October 18, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a multiple span steel girder/beam second level interchange bridge consisting of four main spans and twenty-six approach ramp spans (see Photo 1). The superstructure is supported by stem abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in satisfactory condition, which concurs with the findings from the cursory field check. Transverse cracks are visible on a majority of the main span soffits (see Photo 2). IDOT rates the superstructure as being in fair condition, which concurs with the findings from the cursory field check. Minor paint peeling and rusting is visible on the bottom flanges of interior girders. Moderate paint peeling is visible on webs of exterior girders. IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor cracking is visible on some pier caps and columns (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. Expansion joints are in poor condition. Joint seals have failed along the majority of the center section of deck (see Photo 4 and 5).

Based on the structure summary report and field check, S.N. 016-0744 is suitable for reuse after rehabilitation of the superstructure and expansion joints. Approach guardrails should be brought up to current IDOT standards.

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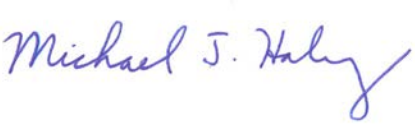

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-0744 **District: 1**

Inventory Data

Facility Carried:	PULASKI RD & RAMPS	**Bridge Name:**		**Sufficiency Rating:**	69.0	**Structure Length:**	259.6
Feature Crossed:	I- 55 STEVENSON	**Location:**	0.92 M S OF 31ST ST	**HBP Eligible:**	Yes	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	MAX.= 28.0. APPROACH SPANS ARE THE RAMPS TO/FROM I-55 WHICH ARE INCLUDED HERE.			**Replaced By:**	-	**Length of Long Span:**	101.8
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	56.0
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	52.0
Maint County:	016 COOK	**Maint Township:**	86 WEST CHICAGO	**Parallel Structure:**	None	**Deck Width:**	100.0
Maint Responsibility:	14 I.D.O.T.		MUNICIPALITY	**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	8.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE		1 / HIGHWAY	**Skew Direction:**	R Right	**Sidewalk Width Left:**	8.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	22 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	26		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:			/	**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structural Steel Wt**	4050000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:			/	**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	4 Ft. / 3 Curb			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None			**Inventory Rating:**	1.290(46)	**Load Rating Date:**	12/11/1997
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	2.150(77)	**Railroad Crossing Info**	
Latitude:	41.82358612 **S**	**Longitude:**	87.72406731 **S**	**Design Load:** 02 HS20		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM			**Deck Structure Thickness:**	7.5 **SD:** N **FO:** Y	**Crossing 1 Nbr:**	
Sidewalks Under Structure:	0 None					**RR Lateral Underclear:**	0.0
						RR Vertical Underclear: 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID URBAN 2812	**Station:**	17.4800
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	86 WEST CHICAGO (CHICAGO)	**Natl. Hwy System:**	Not on NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 8600
Functional Class:	4 MINOR ARTERIAL	**Est Truck Percentage:**	15
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	6
Max Rdwy Width:	0.0	**One Or Two Way:**	2 Two-Way
Horizontal:	31.0 31.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 22248
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	11.4100
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 156300
1 INTERSTATE		**Est Truck Percentage:**	7
South/East	**North/West**	**Number Of Lanes:**	6
36.0		**One Or Two Way:**	2 Two-Way
75.8	75.8	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 169950
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation		**Kind**		**Number**
Route #1:	1 Mainline		8 Other		
Route #2:	1 Mainline				
Route #3:	1 Mainline				

*** Marked Route Under Data ***

	Designation		**Kind**		**Number**
	1 Mainline		1 Interstate Highway		055
	1 Mainline				
	1 Mainline				

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0744 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	10/18/2014	Inspection Temperature:	51Deg. F					** Actual Posted Limits **	
Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Single Unit Vehicles:	Tons
Superstructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	BJ
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Membrane:	F	NONE		LD SHP PRM AL FNL	
Deck Geometry:	2	INTOLERABLE - HIGH PRIORITY FOR REPLACEMENT		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Total Deck Thick:	7.5			IR/ZC/OXIDE ALKYD	
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	07/1996				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	232	Not Acceptable	Acceptable	Not Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		1997	Reconstructed
Route:	FAI-55	Sta:		FAI-55	Sta:
Section Nbr:	1213-621-HB			2829.1HB-R(89)	
Contract Nbr:				80712	
Fed Aid Pr#:	I 0557036282				
Built By:	0	UNKNOWN		1	I.D.O.T.

Pontis

Today's Date: 09/03/2015

Structure Number: 016-0744 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55 STEVENSON
(7) Facility Carried: PULASKI RD & RAMPS
(9) Location: 0.92 M S OF 31ST ST
(7A) Bridge Name:
Element Inspection Date: 10/18/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	96	14,871	3	456	1	120	0	0	15,447
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Isolated lt map crcking & leach areas									
Reinforced Conc Pier Wall										
210	4	98	14,847	2	250	0	45	0	0	15,142
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	81	1,206	9	130	10	145	0	0	1,481
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Lt vert crking w/ isolated leaching; backwall lt vert crking w/ isolated leaching									
Reinforced Conc Pier or Abutment Cap										
234	4	93	1,176	5	60	2	26	0	0	1,262
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Scattered lt vert crcking; map crcking pier cap @ C-1 & C-2									
Pourable Joint Seal										
301	4	0	0	33	140	24	100	43	180	420
		No deterioration		Minor leakage		Leakage problems				
Remarks:	Missing @ median area west side									
Preformed Joint Seal										
302	4	0	0	45	140	39	120	16	50	310
		No deterioration		Minor deterioration		Major deterioration				
Remarks:	Leakage									
Elastomeric Bearing										
310	4	89	217	9	22	2	6	0	0	245
		No deterioration		Minor deterioration		Major deterioration				
Remarks:	Side retainer missing from brgs on E end of 1st pier N of I-55									

Fixed Bearing

313	4	97	122	2	2	2	2	0	0	126
		No deterioration		Minor deterioration		Advanced corrosion				

Remarks:

Concrete Bridge Railing

331	4	92	3,446	4	142	5	174	0	0	3,762
		No deterioration		Minor cracks/spalls		Analysis warranted				

Remarks: Ramp B has collision spalls; scattered vert crking

Concrete Deck Protected w/ Coated Bars

8026	4	75	84,781	25	28,268	0	24	0	0	113,073

Remarks: Lt haunch crking; wearing surface transv crcking; median has lg crcking

Sidewalk (SF)

8058	4	100	962	0	0	0	0	0	0	962

Remarks:

Non-Lead Painted Steel Open Girder

8118	4	95	191,881	5	10,098	0	0	0	0	201,979

Remarks: Minor section loss @ bm ends & diaph under jts; paint failing on btm fl's; paint peeling widespread w/surf rust

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	77	230	23	70	0	0	0	0	300

Remarks: Minor section loss (inactive) @ bm ends. Esp. P# C8

Neoprene Expansion Joint

8307	4	31	491	22	350	47	734	0	0	1,575

Remarks: Neo block dam & missing @: SB Pulaski longit jt in rt turn ln I-55 to Pulaski; in diag exp jt rt turn ln from SB I-55; rt turn ln from Pulaski to SB I-55

Approach Pavement

8323	4	75	3	25	1	0	0	0	0	4

Remarks:

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Fax: (630) 323-5174
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October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-0968
W.B. I-55 over Loomis St. and Fuller St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-0968 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated September 9, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a seven span steel beam bridge consisting of nine lines of continuous beams (see Photo 1). Span lengths from west to east are 84'-8", 100'-0", 76'-2", 76'-8", 74'-2", 68'-6" and 55'-3". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the superstructure as being in very good condition, which concurs with the findings from the cursory field check. Possible fire damage to the beam ends is visible above the both abutments (see Photo 3). IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor vertical cracks are visible on the abutments. Map cracking is visible on several pier columns (see Photo 4). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance ver/lat, approach alignment and bridge railing appraisal items. Anchor blocks are damaged along sections of the west expansion joint. Minor transverse cracks, diagonal cracks, and small spalls adjacent to the expansion joints are visible on both approach slabs (see Photo 5).

Based on the structure summary report and field check, S.N. 016-0968 is suitable for reuse after rehabilitation of the expansion joints.

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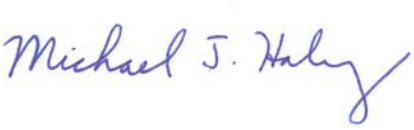

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

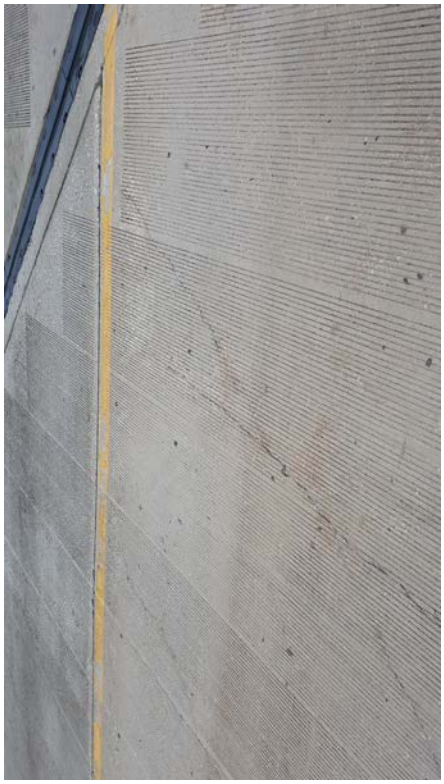

Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 10/27/2015
Page: 1

Structure Number: 016-0968 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	98.0	**Structure Length:**	541.9
Feature Crossed:	LOOMIS & FULLER STS	**Location:**	0.9 M SW I-94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	100.8
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	68.9
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	60.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO (CHICAGO)	**Parallel Structure:**	Left	**Deck Width:**	72.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	15 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	7 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	1792000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00

Median Width/Type: 0 Ft. / 0 None **Rated By:** 2 IDOT **Rate Method:** 6
Guardrail Type L/R: 0None / 1 Steel Plate Beam **Inventory Rating:** 1.570(56) **Load Rating Date:** 04/27/2001 **Railroad Crossing Info**
Toll Facility Indicator: 0 No Toll **Operating Rating:** 2.615(94) **Crossing 1 Nbr:**
Latitude: 41.84221757 **S Longitude:** 87.65827977 **S** **Design Load:** 01 HS20+MOD **Crossing 1 Nbr:**
Deck Structure Type: A CIP CON NRMLLY FORM **Deck Structure Thickness:** 7.5 **SD:** N **FO:** N **RR Lateral Underclear:** 0.0
Sidewalks Under Structure: 2 Both Sides Not Separate **RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	15.1400
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 77650
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	7
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	68.9	**One Or Two Way:**	1 One-Way
Horizontal:	68.9 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 87087
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 2862		**Station:**	1.5000
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 6600
5 MAJOR COLLECTOR		**Est Truck Percentage:**	4
South/East **North/West**		**Number Of Lanes:**	6
65.4		**One Or Two Way:**	2 Two-Way
65.4 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 6798
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0968 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 09/09/2015 **Inspection Temperature:** 80Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						** Actual Posted Limits **	
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Single Unit Vehicles:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-1:	Tons
Culvert:	N	NOT APPLICABLE						Combination Type 3S-2:	Tons
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		One Truck At A Time:	0
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE		Last Paint Type:	S
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF		SHP ZINC&FLD ACRYL	
Underclearance-Vert/Lat.:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	08/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		2000	Reconstructed
Route:	FAI-55	Sta: 207+40.87		FAI 55	Sta:
Section Nbr:	207-1616.8			(1616(.4&.6)R-1ETC&1717.6	
Contract Nbr:				82992	
Fed Aid Pr#:	EACI0557107286				
Built By:	1	I.D.O.T.		1	I.D.O.T.

Pontis

Today's Date: 10/08/2015

Structure Number: 016-0968 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: LOOMIS & FULLER STS
(7) Facility Carried: I- 55 WB STEVENSON
(9) Location: 0.9 M SW I-94
(7A) Bridge Name:
Element Inspection Date: 09/09/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: AbudanJ
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	4,799	0	0	0	0	0	0	4,799
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	4	100	6,175	0	0	0	0	0	0	6,175
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	100	797	0	0	0	0	0	0	797
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		Backwall)HL vert crks								
Reinforced Conc Pier or Abutment Cap										
234	4	100	690	0	0	0	0	0	0	690
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Elastomeric Bearing										
310	4	100	63	0	0	0	0	0	0	63
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Fixed Bearing										
313	4	100	9	0	0	0	0	0	0	9
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	100	1,084	0	0	0	0	0	0	1,084
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:		HL vert crks								

Concrete Deck Protected w/ Coated Bars

8026	4	94	36,651	6	2,450	0	0	0	0	39,101

Remarks: Soffit) trans leach crcking; WS)HL-Nar trans crks w/isol intersecting long crks.

Non-Lead Painted Steel Open Girder

8118	4	100	47,907	0	0	0	0	0	0	47,907

Remarks:

Non-Lead Painted Steel Open Girder Ends

8176	4	100	18	0	0	0	0	0	0	18

Remarks: Homeless Fire Residue @ W Abut

Continuous Seal Neoprene Expansion Joint

8308	4	100	175	0	0	0	0	0	0	175

Remarks: Leaking @ Both Abuts

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Random crks; Diag @ W Abut

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-1009
Damen Ave. over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-1009 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated July 18, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a multiple span steel girder/beam second level interchange bridge consisting of four main spans and forty-four approach ramp spans (see Photo 1). The superstructure is supported by pile bent abutments and reinforced concrete hammerhead piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition. The findings from the cursory field check don't match IDOT's deck rating. Transverse cracks are visible on a majority of the main span soffits. Map cracking is visible on a majority of the main span section of deck (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor cracking is visible on the cantilever arms of some hammerhead piers (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. Impact damage is visible along a few sections of concrete bridge parapet (see Photo 4).

Based on the structure summary report and field check, S.N. 016-1009 is suitable for reuse after rehabilitation of the bridge parapet and expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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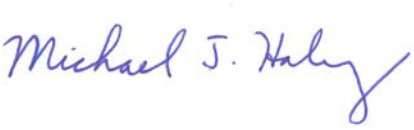

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 08/17/2015
Page: 1

Structure Number: 016-1009 **District:** 1

Inventory Data

Facility Carried:	DAMEN AVE & 4 RAMPS	**Bridge Name:**		**Sufficiency Rating:**	100.0	**Structure Length:**	3865.0
Feature Crossed:	I- 55 STEVENSON	**Location:**	1.9 M SW I-90,94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	ITEMS 46 & 49 INCLUDES RAMPS.			**Replaced By:**	-	**Length of Long Span:**	108.3
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	05/2001	**Replaces:**	-	**Bridge Roadway Width:**	88.5
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	88.5
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	None	**Deck Width:**	138.4
Maint Responsibility:	14 I.D.O.T.		MUNICIPALITY	**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	8.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE		1 / HIGHWAY	**Skew Direction:**	N None	**Sidewalk Width Left:**	8.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	0 **D**	**Navigation Control:**	0 No
Main Span Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	Yes	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4	**Nbr Of Approach Spans:**	44	**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:			/	**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structural Steel Wt**	3056504	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:			/	**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	4 Ft. / 3 Curb			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.120(40)	**Load Rating Date:**	12/01/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	1.870(67)		**Crossing 1 Nbr:**	
Latitude:	41.83729004 **S**	**Longitude:**	87.67545092 **S**	**Design Load:** 99 UNKNOWN		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID URBAN 2850	**Station:**	10.0100
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 24100
Functional Class:	5 MAJOR COLLECTOR	**Est Truck Percentage:**	15
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	6
Max Rdwy Width:	0.0	**One Or Two Way:**	2 Two-Way
Horizontal:	44.0 36.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 15759
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	14.2600
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 129700
1 INTERSTATE		**Est Truck Percentage:**	8
South/East **North/West**		**Number Of Lanes:**	9
36.0		**One Or Two Way:**	2 Two-Way
54.0 54.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 169641
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	8 Other	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1009 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	07/18/2015	Inspection Temperature:	82Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	U
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	05/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		2000	Reconstructed
Route:	FAI-55	Sta:	156+36.1	FAI 55	Sta:
Section Nbr:	207-1515.2			1515(2,4)R-1&(1516.2&1616	
Contract Nbr:				82990	
Fed Aid Pr#:	I 0557111285				
Built By:	3	COUNTY AGENCY		1	I.D.O.T.

Pontis

Today's Date: 09/03/2015

Structure Number: 016-1009 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55 STEVENSON
(7) Facility Carried: DAMEN AVE & 4 RAMPS
(9) Location: 1.9 M SW I-90,94
(7A) Bridge Name:
Element Inspection Date: 07/18/2015
(90E) Agency Program Manager: AsfourSE
(90E3) Consultant Program Manager:
(90E1) Team Leader: SalaymehTA
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	8,337	0	0	0	0	0	0	8,337
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	4	100	47,814	0	0	0	0	0	0	47,814
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	100	263	0	0	0	0	0	0	263
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Ramps 1&2									
Reinforced Conc Pier or Abutment Cap										
234	4	99	2,002	1	20	0	0	0	0	2,022
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	LT cantilever crking Piers 9N & 8S									
Strip Seal Expansion Joint										
300	4	0	0	100	208	0	0	0	0	208
		No leakage		Minor leakage		Major leakage				
Remarks:	minor defect and minor leakage									
Modular Joints										
303	4	100	326	0	0	0	0	0	0	326
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks:										
Elastomeric Bearing										
310	4	0	0	100	177	0	0	0	0	177
		No deterioration		Minor deterioration		Major deterioration				
Remarks:	minor deterioration									

Fixed Bearing

313	4	0	0	100	46	0	0	0	0	46
		No deterioration		Minor deterioration	Advanced corrosion					

Remarks: minor surface rust

Pot Bearing

314	4	0	0	100	108	0	0	0	0	108
		No deterioration		Minor deterioration	Advanced corrosion					

Remarks: minor deterioration

Concrete Bridge Railing

331	4	0	0	98	7,072	2	120	0	0	7,192
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: HL Vert Crks throughout w/few map cracked areas

Concrete Deck Protected w/ Coated Bars

8026	4	99	192,433	1	2,080	0	0	0	0	194,513

Remarks: Lt trans leach crking

Non-Lead Painted Steel Open Girder

8118	4	100	315,946	0	500	0	0	0	0	316,446

Remarks: Bms 1 & 2 top of btm fl Bay 1 side paint peeling

Non-Lead Painted Steel Floor Beam

8129	4	100	10,824	0	0	0	0	0	0	10,824

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	111	0	0	0	0	0	0	111

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	84	54	16	10	0	0	0	0	64

Remarks: Lt plow damage to hold-downs on West Ramps

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Ramps 1&2

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

November 6, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-1046
E.B. I-55 Ramp to S.B. I-94/E.B. I-90
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-1046 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated July 24, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a fourteen span continuous steel girder bridge totaling 1,625.4 ft. in length (see Photo 1). The superstructure is supported by a stem abutment, reinforced concrete hammerhead and multi-column piers. There is no overlay on the structure.

We were unable to gain access to view the top of deck and approaches. IDOT rates the deck as being in satisfactory condition, which concurs with the findings from the cursory field check. Transverse cracks with leaching are visible on the majority of the soffit. Longitudinal cracks with leaching are visible on some spans (see Photo 2). IDOT rates the superstructure as being in good condition, which concurs with the findings from the cursory field check. Minor to moderate paint peeling and rusting is visible on some beams (see Photo 3). IDOT rates the substructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Moderate cracking is visible on the abutment and piers (see Photo 4). IDOT rates the underclearance vertical and lateral as being not applicable. The findings from the cursory field check don't match IDOT's underclearance vertical and lateral rating. This ramp goes over the E.B. I-55 Ramp to N.B. I-94/W.B. I-90. The clearance appears to be adequate. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, approach alignment and bridge railing appraisal items.

Based on the structure summary report and field check, S.N. 016-1046 is suitable for reuse after rehabilitation of the substructure. Sand module impact attenuators should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
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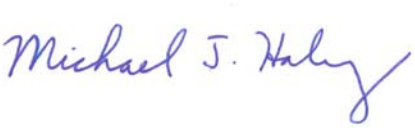

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1


Photo 2


Photo 3


Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1046 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB RMP RYAN SB	**Bridge Name:**	55 EB RMP TO SB RYAN	**Sufficiency Rating:**	96.6	**Structure Length:**	1625.4
Feature Crossed:	DRY LAND	**Location:**	AT I-94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	135.9
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	03/1998	**Replaces:**	-	**Bridge Roadway Width:**	26.0
Status Remarks:	AS PER EFK, 03/10/98			**Last Update Date:**	10/31/2013	**Appr Roadway Width:**	26.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	None	**Deck Width:**	29.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	9 / OTHER		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	D	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	17 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	1100000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00

Median Width/Type: 0 Ft. / 0 None **Rated By:** 2 IDOT **Rate Method:** 6

Guardrail Type L/R: 0None / 0 None **Inventory Rating:** 1.570(56) **Load Rating Date:** 11/16/1998 **Railroad Crossing Info**

Toll Facility Indicator: 0 No Toll **Operating Rating:** 2.620(94) **Crossing 1 Nbr:**

Latitude: 41.84643183 **S Longitude:** 87.64303156 **S** **Design Load:** 02 HS20 **Crossing 1 Nbr:**

Deck Structure Type: A CIP CON NRMLLY FORM **Deck Structure Thickness:** 9 **SD:** N **FO:** N **RR Lateral Underclear:** 0.0

Sidewalks Under Structure: 0 None **RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0094	**Station:**	0.2300
Appurtenances	Ramp 27750	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2000 / 14500
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	0
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	1
Max Rdwy Width:	26.0	**One Or Two Way:**	1 One-Way
Horizontal:	26.0 0.0	**Bypass Length:**	3
		Future AADT Yr/Cnt:	2032 / 14944
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

Designation	Kind	Number

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1046 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 07/24/2015 **Inspection Temperature:** 75Deg. F

Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						**Single Unit Vehicles:**	Tons
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-1:**	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	0
Channel and Protection:	N	NOT APPLICABLE		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	SZC
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		**Deck Membrane:**	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Deck Protection:**	A	EPOXY COATED REINF		FIELD O Z E&P	
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		**Total Deck Thick:**	9.0			LD SHP GRN&AL FNL	
Waterway Adequacy:	N	NOT APPLICABLE		**Last Paint Date:**	08/2013				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original		1997	Reconstructed
Route:	FAI-55	**Sta:** 21+19		FAI55	**Sta:** 20+535.399
Section Nbr:	1717.6-1P			SW-1717.6-IP	
Contract Nbr:				82449	
Fed Aid Pr#:	I 0557049287			ACNHI-55-7(193	
Built By:	4	CITY		1	I.D.O.T.

Pontis

Today's Date: 11/05/2015

Structure Number: 016-1046 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: DRY LAND
(7) Facility Carried: I- 55 EB RMP RYAN SB
(9) Location: AT I-94
(7A) Bridge Name: 55 EB RMP TO SB RYAN
Element Inspection Date: 07/24/2015
(90E) Agency Program Manager: WilsonSM
(90E3) Consultant Program Manager:
(90E1) Team Leader: MastnySC
(90E2) Inspector:

Element Insp. Delinquent 0 Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Lead Painted Steel Open Girder										
107	4	100	9,545	0	0	0	0	0	0	9,545
		No corrosion		Paint distress		Rust formation		Section loss		Section failure
Remarks:	Bm Ends & Fascias Painted. Spans 15-17 have moderate rust w/paint peels throughout (worst @ N Fascia)									
Reinforced Conc Column or Pile Extension										
205	4	100	8,503	0	0	0	12	0	0	8,515
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Piers 51-53 (older) have few med vert crks w/isol HPs & shallow rebar spalls									
Reinforced Conc Pier Wall										
210	4	100	1,720	0	0	0	0	0	0	1,720
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	100	620	0	0	0	0	0	0	620
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Backwall and stem have few HL vert crks									
Reinforced Conc Pier or Abutment Cap										
234	4	100	476	0	0	0	0	0	0	476
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Piers 51-53 (older) have map crking & delams to underside of cap & few isol shallow rebar spalls									
Strip Seal Expansion Joint										
300	4	0	0	100	78	0	0	0	0	78
		No leakage		Minor leakage		Major leakage				
Remarks:	@Pier 57, P53, P5									
Modular Joints										
303	4	100	58	0	0	0	0	0	0	58
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks:	@West Abut, P62									

Elastomeric Bearing

310	4	0	0	100	30	0	0	0	0	30
		No deterioration		Minor deterioration		Major deterioration				

Remarks:

Fixed Bearing

313	4	0	0	100	35	0	0	0	0	35
		No deterioration		Minor deterioration		Advanced corrosion				

Remarks:

Pot Bearing

314	4	0	0	100	30	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion				

Remarks:

Concrete Bridge Railing

331	4	0	0	100	2,880	0	0	0	0	2,880
		No deterioration		Minor cracks/spalls		Analysis warranted				

Remarks: Typ vert HL Leach crks throughout. Slipformed

Concrete Deck Protected w/ Rigid Overlay

8022	4	97	13,863	3	430	0	0	0	0	14,293

Remarks: Spans 11-17 Soffit) Many areas of intersecting long/transv. crks esp. Sp 15-17

Concrete Deck Protected w/ Coated Bars

8026	4	100	27,766	0	0	0	0	0	0	27,766

Remarks: WS) HL-nar trans crking; Soffit) HL trans leach crks spans 1-10

Non-Lead Painted Steel Open Girder

8118	4	100	74,000	0	0	0	0	0	0	74,000

Remarks: Paint peel exposing primer on bottom flange of N Fascia (Spans 11-14)

Non-Lead Painted Steel Open Girder Ends

8176	4	100	40	0	0	0	0	0	0	40

Remarks:

Approach Pavement

8323	4	100	1	0	0	0	0	0	0	1

Remarks: Med trans crks w appr

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-1058
E.B. I-55 over Western Ave. Viaduct
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-1058 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated October 16, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a twenty-seven span steel beam viaduct totaling 2,135.0 ft. in length (see Photo 1). The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit. Longitudinal cracks are visible on the end span soffits (see Photo 2). IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor cracking is visible on abutment caps. IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority for of corrective action, which concurs with the findings from the cursory field check. The clearances to piers that are adjacent to Western Ave. appear to be less than 8 ft. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, approach alignment and bridge railing appraisal items. Preformed joint seals are damaged along a small section of the east expansion joint. Gasoline is being stored on top of the east abutment (see Photo 3). Additionally, possible fire damage to the deck soffit and beam ends is visible above the east abutment (see Photo 4).

Based on the structure summary report and field check, S.N. 016-1058 is suitable for reuse after rehabilitation of the expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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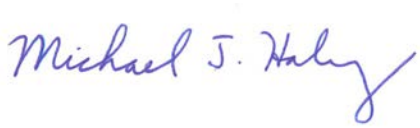

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1058 **District:** 1

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	87.0	**Structure Length:**	2135.0
Feature Crossed:	WESTERN AVE VIADUCT	**Location:**	2.5 M SW DAN RYAN	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	# SPANS ITEM 45, 24 A & 24 = 27 SPANS.			**Replaced By:**	-	**Length of Long Span:**	117.6
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	07/1999	**Replaces:**	-	**Bridge Roadway Width:**	68.9
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	88.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Right	**Deck Width:**	72.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	21 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	27 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	7200000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.335(48)	**Load Rating Date:**	11/20/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.225(80)		**Crossing 1 Nbr:**	
Latitude:	41.83316317 **S** **Longitude:**	87.69172361 **S**	**Design Load:**	01 HS20+MOD		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	13.3300
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 85050
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	6
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	5
Max Rdwy Width:	68.9	**One Or Two Way:**	1 One-Way
Horizontal:	70.1 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 95069
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID PRIMARY 0370		**Station:**	10.6900
Main Route 00000		**Segment:**	
016		**Linked:**	Y
86	WEST CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
1051	CHICAGO	**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 14700
3	OTHER PRINCIPAL ARTERIAL	**Est Truck Percentage:**	13
South/East	**North/West**	**Number Of Lanes:**	4
48.0		**One Or Two Way:**	2 Two-Way
70.0	0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 15141
		Designated Truck Rte:	NONE
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1058 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	10/16/2014	Inspection Temperature:	58Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	S
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	08/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		1999	Reconstructed		
Route:	FAI-55		Sta: 131+67.77	FAI-55		Sta: 131+67.77	
Section Nbr:		207-1415.2-CF			1997-073BR		
Contract Nbr:					82692		
Fed Aid Pr#:		I-IG0557108284					
Built By:	3	COUNTY AGENCY			1	I.D.O.T.	

Pontis

Today's Date: 09/03/2015

Structure Number: 016-1058 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: WESTERN AVE VIADUCT
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 2.5 M SW DAN RYAN
(7A) Bridge Name:
Element Inspection Date: 10/16/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	31,385	0	0	0	0	0	0	31,385
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Pier 19 -FCR map crkd @ col										
Reinforced Conc Pier Wall										
210	4	100	14,728	0	0	0	0	0	0	14,728
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Pier 18 med vert leach crks. Pier 19-FCR map crkd. Pier 20-FCR map crkd.										
Reinforced Conc Abutment										
215	4	100	1,228	0	0	0	0	0	0	1,228
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: East & West Abut Bkwall-vert leach crks.										
Reinforced Conc Pier or Abutment Cap										
234	4	100	2,029	0	0	0	0	0	0	2,029
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Preformed Joint Seal										
302	4	92	92	0	0	8	8	0	0	100
		No deterioration		Minor deterioration		Major deterioration				
Remarks: Lt leakage @ E Abut										
Modular Joints										
303	4	100	309	0	0	0	0	0	0	309
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks:										
Elastomeric Bearing										
310	4	97	244	0	0	3	8	0	0	252
		No deterioration		Minor deterioration		Major deterioration				
Remarks: Lt init rust to few bearing assemblies @ E Abut and Pier 22										

Fixed Bearing

313	4	100	86	0	0	0	0	0	0	86
		No deterioration	Minor deterioration		Advanced corrosion					

Remarks:

Concrete Bridge Railing

331	4	100	4,260	0	0	0	0	0	0	4,260
		No deterioration	Minor cracks/spalls		Analysis warranted					

Remarks: HL vert cracking typ.

Concrete Deck Protected w/ Coated Bars

8026	4	93	150,183	7	11,860	0	0	0	0	162,043

Remarks: Trans leach crking w/few intersecting longitudinal crks Soffit) HL Trans leach crks w/few areas < 5' c/c

Non-Lead Painted Steel Open Girder

8118	4	100	184,734	0	0	0	0	0	0	184,734

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	116	0	0	0	0	0	0	116

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	100	147	0	0	0	0	0	0	147

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Random cracking.

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-1059
E.B. I-55 Ramp to N.B. I-94/W.B. I-90
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-1059 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated May 27, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a fourteen span continuous steel girder third level interchange bridge totaling 1,174.0 ft. in length (see Photo 1). The superstructure is supported by a pile bent abutment and reinforced concrete multi-column piers. There is no overlay on the structure.

We were unable to gain access to view the top of deck. IDOT rates the deck as being in good condition. The findings from the cursory field check don't match IDOT's deck rating. Transverse cracks with leaching are visible on a majority of the soffit. Longitudinal cracks with leaching are visible on some sections of the soffit (see Photo 2). Possible delaminations are visible in the soffit over E.B. I-55 traffic. IDOT rates the superstructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Scattered paint peeling and rust are visible on the majority of girders. IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. A few minor spalls and cracks are visible on the pier caps and columns. Large cracks are visible on some previously repaired areas (See Photo 3). IDOT rates the deck geometry as being intolerable and requiring a high priority of corrective action, which concurs with the findings from the cursory field check. Vertical clearance to I-94 is less than 15 ft. IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action, which concurs with the findings from the cursory field check. Vertical clearance to the W.B. I-55 ramp is less than 15ft. Minor scrape marks are visible on the exterior beam bottom flange (see Photo 4). No notable defects or differences were observed between our cursory field check and IDOT's structure summary report for: approach alignment, bridge railing appraisal and approach guardrail items. Large longitudinal cracks and a spall in the approach parapet are visible on the west approach slab (see Photo 5).

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

Based on the structure summary report and field check, S.N. 016-1059 is suitable for reuse after rehabilitation of the substructure.

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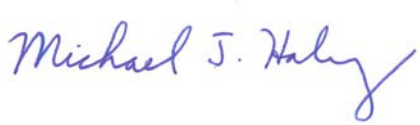


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

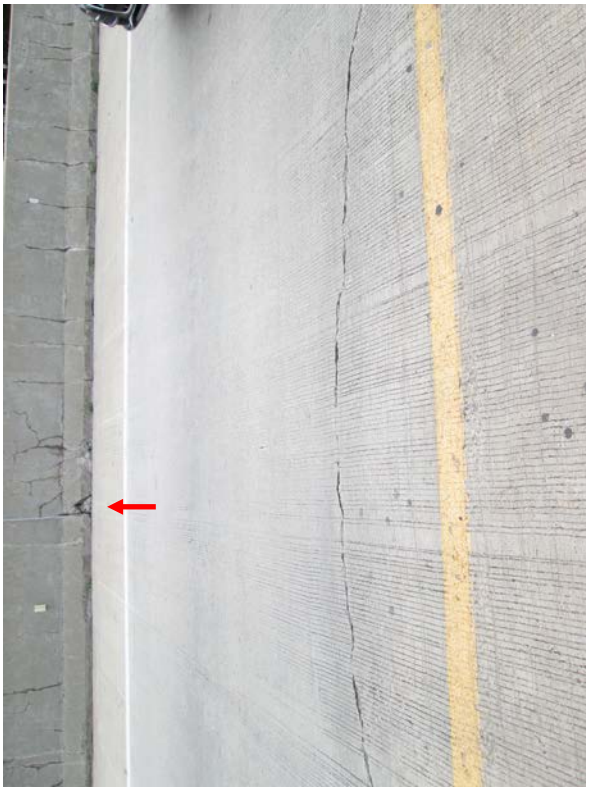


Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1059 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB TO RYAN NB	**Bridge Name:**	55EB RMP TO 90,94NB	**Sufficiency Rating:**	81.2	**Structure Length:**	1174.0
Feature Crossed:	I- 55 STEVENSON	**Location:**	0.1 M E I-94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	80.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	25.9
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	25.9
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Left	**Deck Width:**	29.1
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	6 THIRD LEVEL INTERCHANGE 1 / HIGHWAY			**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	30 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS / 02 STRINGER/MULTI-BEAM/GIRDER			**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	14 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	1200000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None	**Inventory Rating:**	1.065(38)	**Load Rating Date:**	11/18/1998	**Railroad Crossing Info**	
Toll Facility Indicator:	0 No Toll	**Operating Rating:**	1.775(63)			**Crossing 1 Nbr:**	
Latitude:	41.84786457 **S** **Longitude:** 87.64232718 **S**	**Design Load:**	99 UNKNOWN			**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM	**Deck Structure Thickness:**	7.5 **SD:** N **FO:** Y			**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0094	**Station:**	0.9900
Appurtenances	Ramp 27860	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2002 / 41900
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	0
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	1
Max Rdwy Width:	25.9	**One Or Two Way:**	1 One-Way
Horizontal:	26.0 0.0	**Bypass Length:**	3
		Future AADT Yr/Cnt:	2032 / 43157
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	16.1600
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 56700
1 INTERSTATE		**Est Truck Percentage:**	17
South/East **North/West**		**Number Of Lanes:**	6
0.0		**One Or Two Way:**	2 Two-Way
46.0 46.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 83842
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1059 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***		*** Maximum Allowable Posting Limits ***				Bridge Posting Level:
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1: Tons	5 No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2 Tons	

Inspection/Appraisal Information

Inspection Date: 05/27/2015 **Inspection Temperature:** 75Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Single Unit Vehicles:**	Tons
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						**Combination Type 3S-1:**	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	0
Channel and Protection:	N	NOT APPLICABLE		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	S
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		**Deck Membrane:**	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		**Deck Protection:**	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		**Total Deck Thick:**	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		**Last Paint Date:**	05/1998				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original	Reconstructed	
Route:	FAI-55	**Sta:**	**Sta:**	
Section Nbr:	1717.6-1P			
Contract Nbr:				
Fed Aid Pr#:	I 0557049287			
Built By:	4	CITY		

Pontis

Today's Date: 09/03/2015

Structure Number: 016-1059 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55 STEVENSON
(7) Facility Carried: I- 55 EB TO RYAN NB
(9) Location: 0.1 M E I-94
(7A) Bridge Name: 55EB RMP TO 90,94NB
Element Inspection Date: 05/27/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Lead Painted Steel Open Girder										
107	4	87	30,700	13	4,400	0	0	0	0	35,100
		No corrosion		Paint distress		Rust formation		Section loss		Section failure
Remarks:	Lt surf rust@ Bott flanges & webs; Paint is peeling and flaking @ Bott flanges & webs. Lat Bracing rusted @ Spans 12 &13									
Reinforced Conc Column or Pile Extension										
205	4	99	5,235	1	60	0	5	0	0	5,300
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Vert crking. P34 NFace Col#1 spall w/exp 2ftx2ft, Col#2 spall w/exp @ base; P36 Col HL map crks @ FCR									
Reinforced Conc Abutment										
215	4	100	287	0	0	0	0	0	0	287
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Homeless debris @ West Abut									
Reinforced Conc Pier or Abutment Cap										
234	4	100	449	0	0	0	0	0	0	449
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	P35 Cap-delam & sm spalls under Bm#5									
Strip Seal Expansion Joint										
300	4	100	142	0	0	0	0	0	0	142
		No leakage		Minor leakage		Major leakage				
Remarks:	New Strip Seal @ P43 to P45									
Preformed Joint Seal										
302	4	100	26	0	0	0	0	0	0	26
		No deterioration		Minor deterioration		Major deterioration				
Remarks:	PJS @ P33									
Elastomeric Bearing										
310	4	100	86	0	0	0	0	0	0	86
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										

Fixed Bearing

313	4	100	5	0	0	0	0	0	0	5
		No deterioration	Minor deterioration		Advanced corrosion					

Remarks:

Concrete Bridge Railing

331	4	96	1,930	4	80	0	0	0	0	2,010
		No deterioration	Minor cracks/spalls		Analysis warranted					

Remarks: Repaired area above I-55 NB East Rail; HL Vert Cracking. Map Cracking Outside Face of N Rail Near W Abut.

Concrete Deck Protected w/ Coated Bars

8026	4	96	30,335	4	1,245	0	0	0	0	31,580

Remarks: Transverse leach cracking throughout majority; WS has few mapcracked areas

Non-Lead Painted Steel Open Girder

8118	4	98	18,930	2	350	0	0	0	0	19,280

Remarks: Paint peels scattered

Non-Lead Painted Steel Open Girder Ends

8176	4	79	64	21	17	0	0	0	0	81

Remarks: Bm Ends rusted @ Spans 6,7 &8

Continuous Seal Neoprene Expansion Joint

8308	4	100	30	0	0	0	0	0	0	30

Remarks: Neop Jnt @ West Abut

Approach Pavement

8323	4	100	1	0	0	0	0	0	0	1

Remarks: @ SW Approach

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

November 9, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-1083
W.B. I-55 over Ashland Ave. Viaduct
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-1083 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 4, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a twenty-nine span continuous steel beam bridge totaling 2,456.8 ft. in length (see Photo 1). The superstructure is supported by a vaulted abutment and reinforced concrete multi-column piers. There is no overlay on the structure.

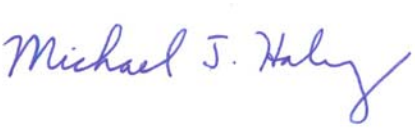
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor cracks and shallow spalls are visible on the abutment and piers (see Photo 3). IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action, which concurs with the findings from the cursory field check. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, approach alignment, bridge railing appraisal and approach guardrail items. Anchor blocks are damaged along sections of the west expansion joint (see Photo 4).

Based on the structure summary report and field check, S.N. 016-1083 is suitable for reuse after rehabilitation of the expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

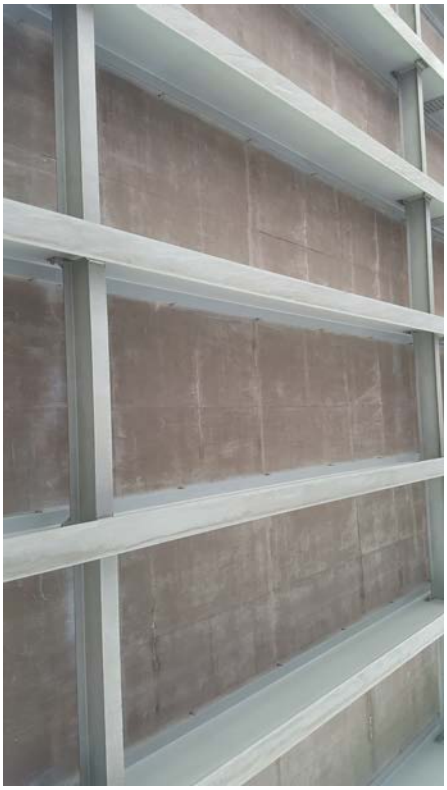


Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 10/27/2015
Page: 1

Structure Number: 016-1083 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB ELEVATED	**Bridge Name:**	1.3-2.6 MI SW OF I94	**Sufficiency Rating:**	94.0	**Structure Length:**	2456.8
Feature Crossed:	ASHLAND AVE VIADUCT	**Location:**	2.6 M SW I-90,94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	(34A)SKEW IS L BUT ANGLES NOT AVAILABLE			**Replaced By:**	-	**Length of Long Span:**	131.7
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	59.0
Status Remarks:				**Last Update Date:**	11/15/2012	**Appr Roadway Width:**	44.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Left	**Deck Width:**	62.3
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	4 /	HIGHWAY-RAILROAD	**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	15 D	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	29 **Nbr Of Approach Spans:**	1		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	5 PRESTRESS CONCRETE	/	02 STRINGER/MULTI-BEAM/GIRDER	**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	11750000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00

Median Width/Type: 0 Ft. / 0 None **Rated By:** 2 IDOT **Rate Method:** 6
Guardrail Type L/R: 0None / 0 None **Inventory Rating:** 1.240(44) **Load Rating Date:** 04/23/2002 **Railroad Crossing Info**
Toll Facility Indicator: 0 No Toll **Operating Rating:** 2.000(72) **Crossing 1 Nbr:**
Latitude: 41.83706565 **S** **Longitude:** 87.67419528 **S** **Design Load:** 02 HS20 **Crossing 1 Nbr:**
Deck Structure Type: A CIP CON NRMLLY FORM **Deck Structure Thickness:** 7.5 **SD:** N **FO:** Y **RR Lateral Underclear:** 7.1
Sidewalks Under Structure: 2 Both Sides Not Separate **RR Vertical Underclear:** 23 **Ft** 03 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	14.3300
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 64850
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
** CLEARANCES **	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	59.0	**One Or Two Way:**	1 One-Way
Horizontal:	60.2 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 73027
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 2853		**Station:**	16.2000
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 20000
4 MINOR ARTERIAL		**Est Truck Percentage:**	9
South/East **North/West**		**Number Of Lanes:**	7
0.0		**One Or Two Way:**	2 Two-Way
72.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 26265
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1083 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 08/04/2015 **Inspection Temperature:** 85Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS							
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED							
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED							
Culvert:	N	NOT APPLICABLE							
Channel and Protection:	N	NOT APPLICABLE							
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA							
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION							
Waterway Adequacy:	N	NOT APPLICABLE							
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

**** Actual Posted Limits ****

Single Unit Vehicles:	Tons
Combination Type 3S-1:	Tons
Combination Type 3S-2:	Tons
One Truck At A Time:	0

Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	U
Deck Membrane:	F	NONE	FLD AL EPY & ACRLC	
Deck Protection:	A	EPOXY COATED REINF		
Total Deck Thick:	7.5			
Last Paint Date:	10/2001			

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		2000	Reconstructed
Route:	FAI-55	Sta: 166+00		FAI-55	Sta: 166+00
Section Nbr:	207-1515.2-CF			1516.2-B	
Contract Nbr:				82990	
Fed Aid Pr#:	I 0557111285				
Built By:	3	COUNTY AGENCY		1	I.D.O.T.

Pontis

Today's Date: 10/08/2015

Structure Number:	016-1083 **District:** 1	**(41) Bridge Status:**	1 OPEN - NO RESTRICT
(6) Feature Crossed:	ASHLAND AVE VIADUCT	**(7) Facility Carried:**	I- 55 WB ELEVATED
(9) Location:	2.6 M SW I-90,94	**(7A) Bridge Name:**	1.3-2.6 MI SW OF I94
Element Inspection Date:	08/04/2015		
(90E) Agency Program Manager:	AsfourSE	**(90E3) Consultant Program Manager:**	
(90E1) Team Leader:	CowleyJ	**(90E2) Inspector:**	

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	100	350	0	0	0	0	0	0	350
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Column or Pile Extension										
205	3	99	50,016	1	700	0	20	0	0	50,736
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		(Pier 32 not included, calc on 016-1085), HL vert, horiz or map crks								
Reinforced Conc Pier Wall										
210	3	100	20,825	0	0	0	10	0	0	20,835
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		(Pier 32 not included, calc on 016-1085); HL vert crks; Note- WB Lns- no Pier 18, P20 or P30								
Reinforced Conc Abutment										
215	4	100	1,140	0	0	0	0	0	0	1,140
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		West Abut- South Retaining Wall - HL map crks								
Reinforced Conc Pier or Abutment Cap										
234	4	100	2,672	0	0	0	0	0	0	2,672
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Modular Joints										
303	4	97	367	0	0	3	10	0	0	377
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks:		(Pier 32 not included, calc on 016-1085); Mod Jnts @ P6, P12, P19 & P32; CS3 @ P19 damaged gland near rt shoulder								
Elastomeric Bearing										
310	4	0	0	100	255	0	0	0	0	255
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										

Fixed Bearing

313	4	0	0	100	70	0	0	0	0	70
		No deterioration		Minor deterioration	Advanced corrosion					

Remarks:

Reinforced Concrete Approach Slab

321	4	94	2,921	6	180	0	0	0	0	3,101
		No deterioration	Cracks/spalls		Major cracks/spalls		Broken/Unstable			

Remarks: @ West End; HL to wide x-verse crks.

Concrete Bridge Railing

331	4	0	0	98	4,724	2	90	0	0	4,814
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: Light vertical cracking (typ inside & outside face).

Concrete Deck Protected w/ Coated Bars

8026	4	96	174,962	4	6,350	0	0	0	0	181,312

Remarks: Dk Soffit- HL-wide scattered trans leach crks in soffit.

Non-Lead Painted Steel Open Girder

8118	4	100	249,227	0	0	0	0	0	0	249,227

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	96	0	0	0	0	0	0	96

Remarks: (West row only @ pier 32)

Continuous Seal Neoprene Expansion Joint

8308	4	51	31	33	20	0	0	16	10	61

Remarks: West Abut worn blocks missing blocks in both shoulders

Approach Pavement

8323	4	100	1	0	0	0	0	0	0	1

Remarks: HL to wide x-verse crks. West Relief Jnt 36 ft missing.

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

November 9, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-1084
E.B. I-55 over Ashland Ave. Viaduct
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-1084 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 4, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a twenty-nine span continuous steel beam bridge totaling 2,510.2 ft. in length (see Photo 1). The superstructure is supported by a vaulted abutment and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the substructure as being in very good condition. The findings from the cursory field check don't match IDOT's substructure rating. A few minor cracks, and spalls with exposed rebar are visible on the piers and abutment. Severe map cracks are visible on one column (See Photo 3). IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action, which concurs with the findings from the cursory field check. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, approach alignment and bridge railing appraisal items. Large transverse and diagonal cracks are visible on the west approach slab. Anchor blocks are damaged along sections of the west expansion joint (see Photo 4).

Based on the structure summary report and field check, S.N. 016-1084 is suitable for reuse after rehabilitation of the expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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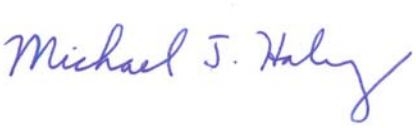


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

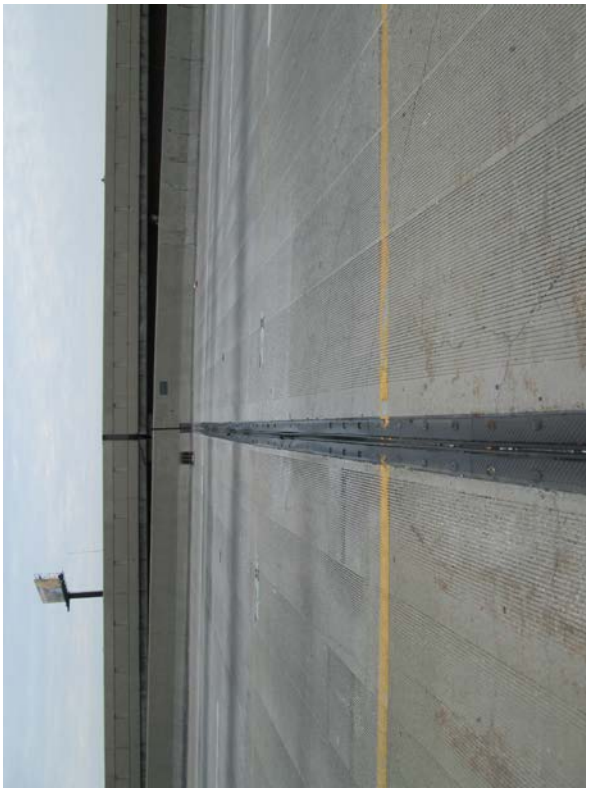


Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1084 **District:** 1

Inventory Data

Facility Carried:	I- 55 EB ELEVATED	**Bridge Name:**		**Sufficiency Rating:**	94.0	**Structure Length:**	2510.2
Feature Crossed:	ASHLAND AVE VIADUCT	**Location:**	2.6 M SW I-90,94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	(34A)SKEW IS L BUT ANGLES NOT AVAILABLE			**Replaced By:**	-	**Length of Long Span:**	131.7
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/1999	**Replaces:**	-	**Bridge Roadway Width:**	62.0
Status Remarks:				**Last Update Date:**	11/15/2012	**Appr Roadway Width:**	47.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Right	**Deck Width:**	65.3
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	4 /	HIGHWAY-RAILROAD	**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	15 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	29 **Nbr Of Approach Spans:**	1		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	5 PRESTRESS CONCRETE	/	02 STRINGER/MULTI-BEAM/GIRDER	**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	11750000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:**	2 IDOT	**Rate Method:**	6
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.155(41)	**Load Rating Date:**	01/04/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	1.925(69)		**Crossing 1 Nbr:**	
Latitude:	41.83706215 **S** **Longitude:**	87.67440439 **S**		**Design Load:**	02 HS20	**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	2 Both Sides Not Separate					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	14.3200
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 64850
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	62.0	**One Or Two Way:**	1 One-Way
Horizontal:	63.2 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 73027
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 2853		**Station:**	16.2400
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	On NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 20000
4 MINOR ARTERIAL		**Est Truck Percentage:**	9
South/East **North/West**		**Number Of Lanes:**	7
0.0		**One Or Two Way:**	2 Two-Way
72.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 26265
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1084 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	08/04/2015	Inspection Temperature:	85Deg. F				** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	U
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE	FLD AL EPY & ACRLC	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	7.5			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/2001			
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	NNN	N/A	N/A	N/A				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original		2000	Reconstructed
Route:	FAI-55	Sta: 166+00		FAI-55	Sta: 33+325
Section Nbr:	207-1516.2-CF			1515.2,1516.2	
Contract Nbr:				82980	
Fed Aid Pr#:	I 0557111285			HPD-ACHPD-IM-5	
Built By:	3	COUNTY AGENCY		1	I.D.O.T.

Pontis

Today's Date: 10/08/2015

Structure Number:	016-1084 **District:** 1	**(41) Bridge Status:**	1 OPEN - NO RESTRICT
(6) Feature Crossed:	ASHLAND AVE VIADUCT	**(7) Facility Carried:**	I- 55 EB ELEVATED
(9) Location:	2.6 M SW I-90,94	**(7A) Bridge Name:**	
Element Inspection Date:	08/04/2015		
(90E) Agency Program Manager:	AsfourSE	**(90E3) Consultant Program Manager:**	
(90E1) Team Leader:	CowleyJ	**(90E2) Inspector:**	

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	100	354	0	0	0	0	0	0	354
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Column or Pile Extension										
205	4	100	68,687	0	120	0	0	0	0	68,807
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		(Pier 32 not included, calc on 016-1086); Pier 6 Col#8 severe map crks; HL Map crks typ.								
Reinforced Conc Pier Wall										
210	4	100	27,524	0	0	0	10	0	0	27,534
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		(Pier 32 not included, calc on 016-1086) Spalling on crashwall in CTA area. HL vert crks typ.								
Reinforced Conc Abutment										
215	4	100	1,178	0	0	0	0	0	0	1,178
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		HL vert crks typ.								
Reinforced Conc Pier or Abutment Cap										
234	4	99	3,115	1	25	0	0	0	0	3,140
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:		map cracking in N end of pier 19								
Modular Joints										
303	4	100	385	0	0	0	0	0	0	385
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks:		(Pier 32 not included, calc on 016-1086)								
Elastomeric Bearing										
310	4	0	0	100	323	0	0	0	0	323
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										

Fixed Bearing

313	4	0	0	100	52	0	0	0	0	52
		No deterioration		Minor deterioration	Advanced corrosion					

Remarks:

Reinforced Concrete Approach Slab

321	4	100	3,238	0	0	0	0	0	0	3,238
		No deterioration		Cracks/spalls	Major cracks/spalls		Broken/Unstable			

Remarks: HL -wide x-verse crks typ. near West Abut Exp Jnt (West End)

Concrete Bridge Railing

331	4	0	0	98	4,907	2	80	0	0	4,987
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: Light vert crking @ inside & outside face typ.

Concrete Deck Protected w/ Coated Bars

8026	4	97	190,863	3	5,750	0	0	0	0	196,613

Remarks: Dk Soffit- HL-wide trans leach crks in soffit.

Non-Lead Painted Steel Open Girder

8118	4	100	270,046	0	0	0	0	0	0	270,046

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	104	0	0	0	0	0	0	104

Remarks: (West row only @ pier32)

Continuous Seal Neoprene Expansion Joint

8308	4	38	24	63	40	0	0	0	0	64

Remarks: @ West Abut seal torn in all 3 lanes blocks worn and broken

Approach Pavement

8323	4	100	1	0	0	0	0	0	0	1

Remarks: @ West End- HL -wide x-verse crks typ.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

November 6, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-1085
W.B. I-55 over South Branch Chicago River
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-1085 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 5, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel beam bridge consisting of nine lines of continuous beams (see Photo 1). Span lengths from west to east are 85'-3", 106'-5", 106'-5" and 87'-1". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

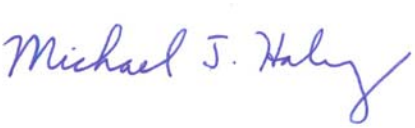
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor horizontal cracks are visible on the pier columns (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, waterway adequacy, approach alignment, and bridge railing appraisal items. Anchor blocks are damaged along sections of the east expansion joint (see Photo 4).

Based on the structure summary report and field check, S.N. 016-1085 is suitable for reuse after rehabilitation of the substructure and expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1085 **District: 1**

Inventory Data

Facility Carried:	I- 55 WB ELEVATED	**Bridge Name:**		**Sufficiency Rating:**	93.0	**Structure Length:**	387.1
Feature Crossed:	S BR CHICAGO RIVER	**Location:**	1.1 M SW I-94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	106.4
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	72.8
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	88.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Left	**Deck Width:**	76.1
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	5 / WATERWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	15 **D**	**Navigation Control:**	1 Yes
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	90
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	31
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	1700000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00

Median Width/Type: 0 Ft. / 0 None **Rated By:** 2 IDOT **Rate Method:** 6

Guardrail Type L/R: 0None / 0 None **Inventory Rating:** 1.575(56) **Load Rating Date:** 12/14/2005 **Railroad Crossing Info**

Toll Facility Indicator: 0 No Toll **Operating Rating:** 2.625(94) **Crossing 1 Nbr:**

Latitude: 41.83952218 **S** **Longitude:** 87.66349501 **S** **Design Load:** 01 HS20+MOD **Crossing 1 Nbr:**

Deck Structure Type: A CIP CON NRMLLY FORM **Deck Structure Thickness:** 7.5 **SD:** N **FO:** N **RR Lateral Underclear:** 0.0

Sidewalks Under Structure: 0 None **RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	14.8700
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 71800
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	72.8	**One Or Two Way:**	1 One-Way
Horizontal:	74.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 87087
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	**Kind**	**Number**
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	**Kind**	**Number**

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1085 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	60 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 08/05/2015 **Inspection Temperature:** 84Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					**Single Unit Vehicles:**	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					**Combination Type 3S-1:**	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE					**One Truck At A Time:**	0
Channel and Protection:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED	**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	S
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA	**Deck Membrane:**	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA	**Deck Protection:**	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	N	NOT APPLICABLE	**Total Deck Thick:**	7.5				
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA	**Last Paint Date:**	07/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	NNN	N/A N/A N/A						
Pier Navig Protection:	2	IN PLACE AND FUNCTIONING						

Underwater Inspection/Appraisal Information

Inspection Date: 10/12/2011
Temperature: 75 **Inspection Method:** DPSV Diver Probe Sonar Visual
Appraisal Rating: 7 GOOD - SMALL CRACKS IN UNDERWATER UNITS

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 10/05/1995

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original	2000	Reconstructed	
Route:	FAI-55	**Sta:** 188+57.19	FAI-55	**Sta:** 166+00	
Section Nbr:	207-1616.6		1516.2-B		
Contract Nbr:			82990		
Fed Aid Pr#:	I 0557073285				
Built By:	3	COUNTY AGENCY	1	I.D.O.T.	

Pontis

Today's Date: 10/08/2015

Structure Number: 016-1085 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: S BR CHICAGO RIVER
(7) Facility Carried: I- 55 WB ELEVATED
(9) Location: 1.1 M SW I-94
(7A) Bridge Name:
Element Inspection Date: 08/05/2015
(90E) Agency Program Manager: AsfourSE
(90E3) Consultant Program Manager:
(90E1) Team Leader: CowleyJ
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	5,862	0	0	0	12	0	0	5,874
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Few small spalls										
Reinforced Conc Pier Wall										
210	4	100	5,409	0	0	0	0	0	0	5,409
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: P33 West Face-map crks btwn Col 1&2										
Reinforced Conc Abutment										
215	4	100	865	0	0	0	0	0	0	865
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: East Abut										
Reinforced Conc Pier or Abutment Cap										
234	4	100	416	0	0	0	0	0	0	416
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Modular Joints										
303	4	100	74	0	0	0	0	0	0	74
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks: @Pier 32 adjacent to 016-1084										
Elastomeric Bearing										
310	4	0	0	100	36	0	0	0	0	36
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Fixed Bearing										
313	4	0	0	100	9	0	0	0	0	9
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Concrete Bridge Railing

331	4	0	0	90	694	10	80	0	0	774
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: HL-wide Vertical cracking typical thru-out.

Concrete Deck Protected w/ Coated Bars

8026	4	88	24,617	12	3,250	0	0	0	0	27,867

Remarks: Soffit-Scattered leach crks. Dk Surface-Numerous trans crks & medium crking w/intersecting crks.

Non-Lead Painted Steel Open Girder

8118	4	100	33,806	0	0	0	0	0	0	33,806

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	18	0	0	0	0	0	0	18

Remarks:

Neoprene Expansion Joint

8307	4	100	74	0	0	0	0	0	0	74

Remarks: @ East Abut

Approach Pavement

8323	4	0	0	100	1	0	0	0	0	1

Remarks: HL - Med x-verse cracking @ East Apprch

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

November 6, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-1086
E.B. I-55 over South Branch Chicago River
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-1086 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 5, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel beam bridge consisting of ten lines of continuous beams (see Photo 1). Span lengths from west to east are 85'-3", 106'-5", 106'-5" and 87'-1". The superstructure is supported by a pile bent abutment and reinforced concrete multi-column piers. There is no overlay on the structure.

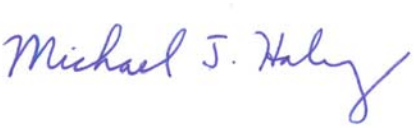
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Moderate transverse cracks with leaching are visible on some sections of the soffit (see Photo 2). IDOT rates the superstructure as being in good condition, which concurs with the findings from the cursory field check. Possible fire damage to the beam ends is visible above the east abutment (see Photo 3). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor spalls are visible on pier walls located in the river (see Photo 4). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, waterway adequacy, approach alignment and bridge railing appraisal items. Anchor blocks are damaged along sections of the east expansion joint (see Photo 5). Moderate transverse and longitudinal cracks are visible on the east approach slab. Some elastomeric bearings have shifted at the abutments (see Photo 6).

Based on the structure summary report and field check, S.N. 016-1086 is suitable for reuse after rehabilitation of the substructure and expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1086 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB ELEVATED	**Bridge Name:**		**Sufficiency Rating:**	93.0	**Structure Length:**	387.1
Feature Crossed:	S BR CHICAGO RIVER	**Location:**	1.1 M SW I-94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	106.4
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	07/1999	**Replaces:**	-	**Bridge Roadway Width:**	68.9
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	88.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Right	**Deck Width:**	72.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	5 / WATERWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	15 **D**	**Navigation Control:**	1 Yes
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	90
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	31
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	1700000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.725(62)	**Load Rating Date:**	12/01/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.750(99)		**Crossing 1 Nbr:**	
Latitude:	41.83941538 **S**	**Longitude:** 87.66368151 **S**	**Design Load:**	01 HS20+MOD		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	18.8
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 22 **Ft** 02 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	14.8600
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 71800
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	68.9	**One Or Two Way:**	1 One-Way
Horizontal:	70.1 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 87087
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-1086 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	60 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	08/05/2015	Inspection Temperature:	84Deg. F				** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	S
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE	SHP ZINC&FLD ACRYL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		Total Deck Thick:	7.5			
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Last Paint Date:	07/2001			
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	NNN	N/A	N/A	N/A				
Pier Navig Protection:	2	IN PLACE AND FUNCTIONING						

Underwater Inspection/Appraisal Information

Inspection Date:	10/12/2011							
Temperature:	75	Inspection Method:	DPSV	Diver		Probe	Sonar	Visual
				Appraisal Rating:	7	GOOD - SMALL CRACKS IN UNDERWATER UNITS		

Scour Critical Information

Rating:	8	CALCULATED SCOUR ABOVE FOOTING	Evaluation Method:	B	Rational Analysis
Analysis Date:	10/05/1995				

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1963	Original	1998	Reconstructed	
Route:	FAI-55	Sta: 188+57.19	FAI-55	Sta: 33+764.979	
Section Nbr:	207-1616.6		1616.6 CF		
Contract Nbr:			82980		
Fed Aid Pr#:	I 0557073285		HPD-ACHPD-IM-5		
Built By:	3	COUNTY AGENCY	1	I.D.O.T.	

Pontis

Today's Date: 10/08/2015

Structure Number: 016-1086 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: S BR CHICAGO RIVER
(7) Facility Carried: I- 55 EB ELEVATED
(9) Location: 1.1 M SW I-94
(7A) Bridge Name:
Element Inspection Date: 08/05/2015
(90E) Agency Program Manager: AsfourSE
(90E3) Consultant Program Manager:
(90E1) Team Leader: CowleyJ
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	3	100	5,557	0	0	0	20	0	0	5,577
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Few small spalls @ Pier 33 & P34 (from collisions).										
Reinforced Conc Pier Wall										
210	3	100	10,830	0	10	0	0	0	0	10,840
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Pier 34 N end e face										
Reinforced Conc Abutment										
215	3	91	481	9	48	0	0	0	0	529
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Shallow backwall & haunch spalls @ East Abutment near fire damaged beams #6,7&8.										
Reinforced Conc Pier or Abutment Cap										
234	3	100	392	0	0	0	0	0	0	392
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Modular Joints										
303	4	100	78	0	0	0	0	0	0	78
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks: @P32 adjacent to 016-1084										
Elastomeric Bearing										
310	4	93	37	0	0	8	3	0	0	40
		No deterioration		Minor deterioration		Major deterioration				
Remarks: Fire damage to beam 6,7 & 8 at East Abutment.										
Fixed Bearing										
313	4	100	10	0	0	0	0	0	0	10
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										

Concrete Bridge Railing

331	4	0	0	87	674	13	100	0	0	774
		No deterioration	Minor cracks/spalls		Analysis warranted					

Remarks: Vertical cracking typical thru-out

Concrete Deck Protected w/ Coated Bars

8026	4	91	26,781	9	2,525	0	0	0	0	29,306

Remarks: Dk Soffit-Scattered leach crks. Dk Surface-HL-med transverse crks (All lanes). CS2 near east abut

Non-Lead Painted Steel Open Girder

8118	4	96	38,258	4	1,500	0	0	0	0	39,758

Remarks: Minor fire damage at East abut, Bms 6,7&8 (though paint intact) mostly soot covered. end diaphrams have some paint loss

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	85	17	15	3	0	0	0	0	20

Remarks: Fire damage to Bm# 6,7&8, diaphrams on either side, @East Abutment.

Continuous Seal Neoprene Expansion Joint

8308	4	0	0	100	78	0	0	0	0	78

Remarks: East Abut gland torn sealant around blocks worn off

Approach Pavement

8323	4	100	1	0	0	0	0	0	0	1

Remarks: East Apprch- HL-med x-verse crks typ.

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-2021
I-55 over CN Spur
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-2021 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated July 7, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is single cell reinforced concrete culvert with a clear height of 22.00 ft. and a clear width of 20.10 ft. (see Photo 1).

A large fence prevented access to the culvert during the cursory field check. During the cursory field check it was noted that the CN Spur has been abandoned and no longer connects to any main line track. S.N. 016-2021 no longer serves a purpose and should be entirely removed.

LIN ENGINEERING, LTD.

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2021 **District: 1**

Inventory Data

Facility Carried:	I- 55 STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	88.5	**Structure Length:**	23.4
Feature Crossed:	RR - CN SPUR	**Location:**	0.5 M W IL 43	**HBP Eligible:**	No	**AASHTO Bridge Length:**	21.4
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	22.4
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	112.0
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	132.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	None	**Deck Width:**	114.0
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	2 / RAILROAD		**Skew Direction:**	N None	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	0 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	1 CONCRETE	/ 19 CULVERT		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	1 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	6.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	1
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	440.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	0	**Culvert Cell Height:**	22.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	20.10

Median Width/Type: 20 Ft. / 1 Open Median **Rated By:** 2 IDOT **Rate Method:** 7

Guardrail Type L/R: 0None / 0 None **Inventory Rating:** 0.750(27) **Load Rating Date:** 08/04/1999 **Railroad Crossing Info**

Toll Facility Indicator: 0 No Toll **Operating Rating:** 1.000(36) **Crossing 1 Nbr:** 289718 T

Latitude: 41.79652099 **S** **Longitude:** 87.80815521 **S** **Design Load:** 99 UNKNOWN **Crossing 1 Nbr:**

Deck Structure Type: **Deck Structure Thickness:** 0 **SD:** N **FO:** N **RR Lateral Underclear:** 10.3

Sidewalks Under Structure: 0 None **RR Vertical Underclear:** 20 **Ft** 09 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	6.7500
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	5620 SUMMIT	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 72600
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	0.0	**One Or Two Way:**	2 Two-Way
Horizontal:	112.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 84409
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	**Kind**	**Number**
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

Designation	**Kind**	**Number**

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2021 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	07/07/2014	Inspection Temperature:	88Deg. F				** Actual Posted Limits **	
Deck:	N	NOT APPLICABLE					Single Unit Vehicles:	Tons
Superstructure:	N	NOT APPLICABLE					Combination Type 3S-1:	Tons
Substructure:	N	NOT APPLICABLE					Combination Type 3S-2:	Tons
Culvert:	6	SATISFACTORY CONDITION - MINOR DETERIORATION					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	N	N/A - NO DECK	Last Paint Type:	
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Membrane:	N	N/A		
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	N	N/A		
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	0.0			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	N	N/A						
Approach Guardrail:	N3N	N/A	Acceptable N/A					
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: Inspection Method:
Appraisal Rating:

Scour Critical Information

Rating: Evaluation Method:
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1964	Original	Reconstructed	
Route:	I-55	Sta:	Sta:	
Section Nbr:	0707-612VB			
Contract Nbr:				
Fed Aid Pr#:	00000000000000			
Built By:	0	UNKNOWN		

Pontis

Today's Date: 08/27/2015

Structure Number: 016-2021 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: RR - CN SPUR
(7) Facility Carried: I- 55 STEVENSON
(9) Location: 0.5 M W IL 43
(7A) Bridge Name:
Element Inspection Date: 07/07/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Abutment										
215	4	81	1,192	15	220	4	64	0	0	1,476
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: WWs leaning @ NE, SE & SW; Wings have crking w/shallow spalls w/ exp rebar

Concrete Culvert										
241	4	90	374	0	0	10	40	0	0	414
		No deterioration		Minor deterioration		Moderate deteriorati		Major deterioration		

Remarks: Inside each end spalling w/ exp rebar; Numerous vert leach crks; Top has numerous trans leach crks beneath roadway

Culvert Settlement										
8460	4	0	0	100	4	0	0	0	0	4

Remarks: @NE, NW, SE & SW wingwalls

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-2665
US 12/20/45 (La Grange Rd.) over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-2665 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated November 20, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a two span steel girder bridge consisting of twelve lines of continuous girders (see Photo 1). Both spans are 137'-11" in length. The superstructure is supported by vaulted abutments and a reinforced concrete multi-column pier. There is no overlay on the structure.

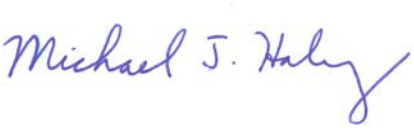
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks are visible on a majority of top of deck. IDOT rates the superstructure as being in good condition, which concurs with the findings from the cursory field check. Moderate paint peeling and rusting is visible on the girder bottom flanges (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor vertical cracking with leaching is visible on abutments (see Photo3). IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action, which concurs with the findings from the cursory field check. Impact damage is visible on the east exterior girder over W.B. I-55 traffic (see Photo 4). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, approach alignment, bridge railing appraisal and approach guardrail items. Anchor blocks are damaged or missing along sections of both expansion joints. Minor to moderate longitudinal and diagonal cracks are visible on both approach slabs (see Photo 5).

Based on the structure summary report and field check, S.N. 016-2665 is suitable for reuse after rehabilitation of the superstructure and expansion joints. The approach guardrail ends should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1


Photo 2


Photo 3

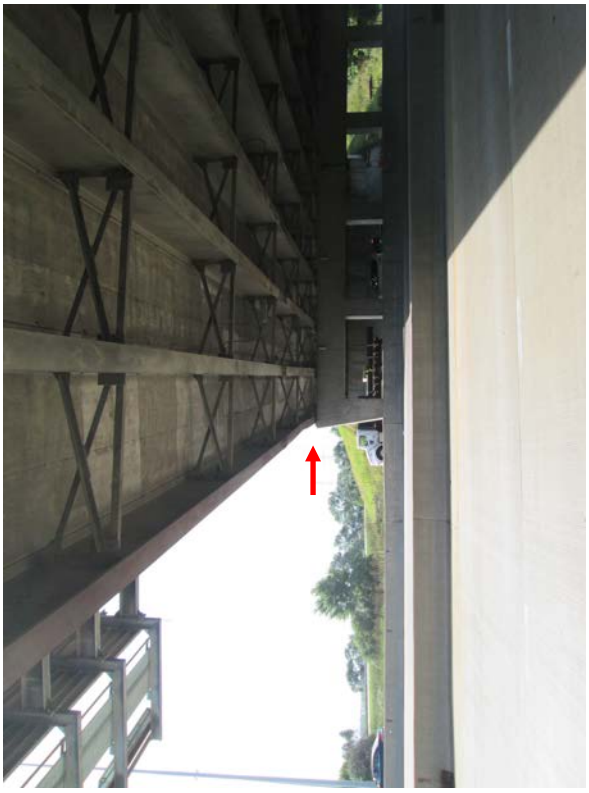


Photo 4

Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2665 **District: 1**

Inventory Data

Facility Carried:	US 12,20,45 LAGRANGE	**Bridge Name:**		**Sufficiency Rating:**	96.0	**Structure Length:**	325.5
Feature Crossed:	I- 55 STEVENSON	**Location:**	5 M SW IL 43	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	137.8
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	02/1996	**Replaces:**	016-0340	**Bridge Roadway Width:**	95.6
Status Remarks:	BRIDGE OPENED AUTOMATICALLY BY KEY ROUTE ON UPDATE TRANSACTION			**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	94.6
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	None	**Deck Width:**	101.9
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 / HIGHWAY		**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	8 **D**	**Navigation Control:**	0 No
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	2 **Nbr Of Approach Spans:**	2		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	838430	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	4 Ft. / 3 Curb			**Rated By:**	2 IDOT	**Rate Method:**	6
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.130(40)	**Load Rating Date:**	01/07/2008	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	1.885(67)			**Crossing 1 Nbr:**
Latitude:	41.76167491 **S**	**Longitude:**	87.86747868 **S**	**Design Load:**			**Crossing 1 Nbr:**
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.7	**SD:** N	**FO:** Y	**RR Lateral Underclear:** 0.0
Sidewalks Under Structure:	0 None						**RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID PRIMARY 0330	**Station:**	28.1700
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	2645 HODGKINS	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2013 / 76200
Functional Class:	3 OTHER PRINCIPAL ARTERIAL	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	95.6	**One Or Two Way:**	2 Two-Way
Horizontal:	47.8 47.8	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 76529
		Designated Truck Rte:	CLASS II
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	2.5700
Main Route 00000		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	On NHS
1272 COUNTRYSIDE		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 131800
1 INTERSTATE		**Est Truck Percentage:**	9
South/East	**North/West**	**Number Of Lanes:**	6
36.0		**One Or Two Way:**	2 Two-Way
50.0	50.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 171598
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	2 U.S. Highways	012
Route #2:	1 Mainline	2 U.S. Highways	020
Route #3:	1 Mainline	2 U.S. Highways	045

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2665 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	11/20/2014	Inspection Temperature:	43Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	P
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		OTHER COATING SYS	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	7.7				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	05/1996				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	332	Acceptable	Acceptable	Not Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1995	Original	Reconstructed	
Route:	FAP330	Sta: 9+487.034	Sta:	
Section Nbr:	0203-632 HB-K-1			
Contract Nbr:	82184			
Fed Aid Pr#:				
Built By:	1	I.D.O.T.		

Pontis

Today's Date: 08/27/2015

Structure Number: 016-2665 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55 STEVENSON
(7) Facility Carried: US 12,20,45 LAGRANGE
(9) Location: 5 M SW IL 43
(7A) Bridge Name:
Element Inspection Date: 11/20/2014
(90E) Agency Program Manager: LandersJJ
(90E3) Consultant Program Manager:
(90E1) Team Leader: KhalilJS
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	503	0	0	0	0	0	0	503
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	4	100	1,268	0	0	0	0	0	0	1,268
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	100	3,539	0	0	0	0	0	0	3,539
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Superficial cracking with no rust stains @ both abutments.									
Reinforced Conc Pier or Abutment Cap										
234	4	100	404	0	0	0	0	0	0	404
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Elastomeric Bearing										
310	4	0	0	0	0	100	24	0	0	24
		No deterioration		Minor deterioration		Major deterioration				
Remarks:	Bottom & top plates and retainer angles have surface rust present @ abutments.									
Fixed Bearing										
313	4	0	0	100	12	0	0	0	0	12
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Reinforced Concrete Approach Slab										
321	4	85	4,055	0	0	15	715	0	0	4,770
		No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable		
Remarks:	S. approach in SBL 2 & 3 have measurable cracks (2/16"). N. approach have minor cracking thru-out NB & SB Lanes. Estimated at 15%									

Concrete Bridge Railing

331	4	0	0	100	649	0	0	0	0	649
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks:

Concrete Deck Protected w/ Coated Bars

8026	4	95	26,887	5	1,415	0	0	0	0	28,302

Remarks: Very minor transv. cracks in wearing surface at random areas (estimated @ 5%).

Non-Lead Painted Steel Open Girder

8118	4	92	38,829	8	3,376	0	0	0	0	42,205

Remarks: Paint chalking & peeling @ S. & N. Fascia and interior beams on bottom flanges and webs (estimated @ 8%).

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	24	0	0	0	0	0	0	24

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	0	0	97	196	3	7	0	0	203

Remarks: North joint in NBL 3 loose 4' section & South joint in SBL 1 & 2 loose 3' section. Remaining joint worn and evidence of leakage.

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-2678
I-294 Ramps over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-2678 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated July 24, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a two span steel girder bridge consisting of eight lines of continuous curved girders (see Photo 1). Span lengths along the tangent from south to north are 119'-$1^{15}/_{16}$" and 99'-$1^{7}/_{8}$". The superstructure is supported by vaulted abutments and a reinforced concrete multi-column pier. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor full height cracking is visible on the abutments (see Photo 3). IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action. The findings from the cursory field check don't match IDOT's underclearance rating. The underclearance appears to meet the minimum requirements to be left in place as is. No notable defects or differences were observed between our cursory field check and IDOT's structure summary report for: superstructure, deck geometry, approach alignment, bridge railing appraisal and approach guardrail items.

Based on the structure summary report and field check, S.N. 016-2678 is suitable for reuse without rehabilitation. The approach guardrail transitions should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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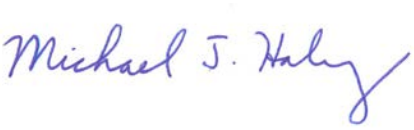


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2678 **District: 1**

Inventory Data

Facility Carried:	I-294 RAMPS I-55	**Bridge Name:**		**Sufficiency Rating:**	96.0	**Structure Length:**	295.4
Feature Crossed:	I- 55 STEVENSON	**Location:**	1.8 M W US 45 P10	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	117.5
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2002	**Replaces:**	016-0042	**Bridge Roadway Width:**	56.0
Status Remarks:	BRIDGE OPENED AUTOMATICALLY BY KEY ROUTE ON UPDATE TRANSACTION			**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	40.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	None	**Deck Width:**	61.4
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 /	HIGHWAY	**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	20 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	2 **Nbr Of Approach Spans:**	2		**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	5 PRESTRESS CONCRETE	/	02 STRINGER/MULTI-BEAM/GIRDER	**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	5 PRESTRESS CONCRETE	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structural Steel Wt**	590000	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.065(38)	**Load Rating Date:**	02/24/2003	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	1.720(61)		**Crossing 1 Nbr:**	
Latitude:	41.75921052 **S**	**Longitude:**	87.90219193 **S**	**Design Load:** 02 HS20		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	0.3700
Appurtenances	Ramp 00570	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	2760 INDIAN HEAD PARK	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 13200
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	0
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	1
Max Rdwy Width:	28.0	**One Or Two Way:**	1 One-Way
Horizontal:	29.2 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 13596
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	0.7600
Main Route 00000		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	On NHS
2760 INDIAN HEAD PARK		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 152300
1 INTERSTATE		**Est Truck Percentage:**	8
South/East	**North/West**	**Number Of Lanes:**	7
36.0		**One Or Two Way:**	2 Two-Way
80.7	0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 170465
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2678 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	07/24/2014	Inspection Temperature:	74Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	S
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	06/2003				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	2002	Original		Reconstructed
Route:	FAI 55	Sta: 70+05.02		Sta:
Section Nbr:	0101-681-H			
Contract Nbr:	60277			
Fed Aid Pr#:				
Built By:	1	I.D.O.T.		

Pontis

Today's Date: 08/27/2015

Structure Number: 016-2678 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55 STEVENSON
(7) Facility Carried: I-294 RAMPS I-55
(9) Location: 1.8 M W US 45 P10
(7A) Bridge Name:
Element Inspection Date: 07/24/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	100	451	0	0	0	0	0	0	451
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks: Access Door @ NW Retaining Wall.										
Reinforced Conc Column or Pile Extension										
205	4	100	564	0	0	0	0	0	0	564
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:										
Reinforced Conc Pier Wall										
210	4	100	1,080	0	0	0	0	0	0	1,080
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks: Vert leach crks @ Crash Wall										
Reinforced Conc Abutment										
215	4	100	3,410	0	0	0	0	0	0	3,410
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks: Stem- HL vert & horiz crks; Bkwall- Isol HL vert crks										
Reinforced Conc Pier or Abutment Cap										
234	4	100	331	0	0	0	0	0	0	331
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:										
Elastomeric Bearing										
310	4	100	16	0	0	0	0	0	0	16
		No deterioration	Minor deterioration		Major deterioration					
Remarks:										
Fixed Bearing										
313	4	100	8	0	0	0	0	0	0	8
		No deterioration	Minor deterioration		Advanced corrosion					
Remarks:										

Concrete Bridge Railing

331	4	89	539	11	64	0	0	0	0	603
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: HL vert leach crks w/HL hor crks @ transitions

Concrete Deck Protected w/ Coated Bars

8026	4	100	18,315	0	0	0	0	0	0	18,315

Remarks: WS) HL trans crks; Soffit) Isol HL trans leach crks

Non-Lead Painted Steel Open Girder

8118	4	100	24,895	0	0	0	0	0	0	24,895

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	16	0	0	0	0	0	0	16

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	100	130	0	0	0	0	0	0	130

Remarks: Leakage @ both

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Both Apprches- Nar-med diag crking

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-2695
E.B. I-55 Ramp to N.B. I-94 over Throop St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-2695 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated August 26, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span PPC I-Beam bridge consisting of four lines of continuous beams (see Photo 1). Span lengths from west to east are 55'-7", 69'-1" and 55'-7". The superstructure is supported by integral abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

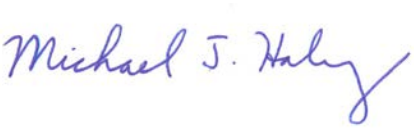
Traffic conditions prevented access to view the top of deck. IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the deck geometry as being intolerable and requiring a high priority of replacement. The findings from the cursory field check don't match IDOT's deck geometry rating. The ramp roadway width appears to be more than 16 ft. IDOT rates the underclearance vertical and lateral as being intolerable and requiring a high priority of corrective action, which concurs with the findings from the cursory field check. Small chip spalls due to suspected impact damage are visible on some beam bottom flanges (see Photos 2 and 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, substructure, approach alignment and bridge railing appraisal items. Moderate longitudinal cracks are visible on both approach slabs.

Based on the structure summary report and field check, S.N. 016-2695 is suitable for reuse without rehabilitation.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

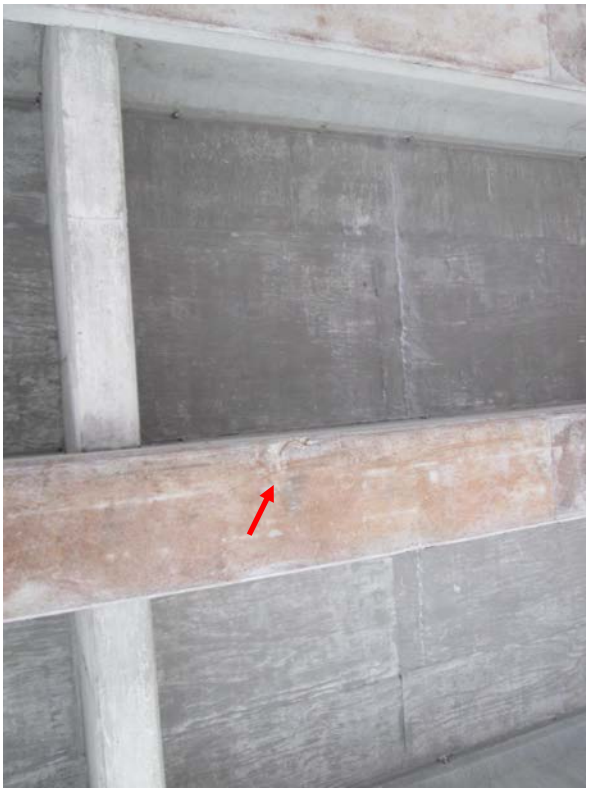


Photo 2

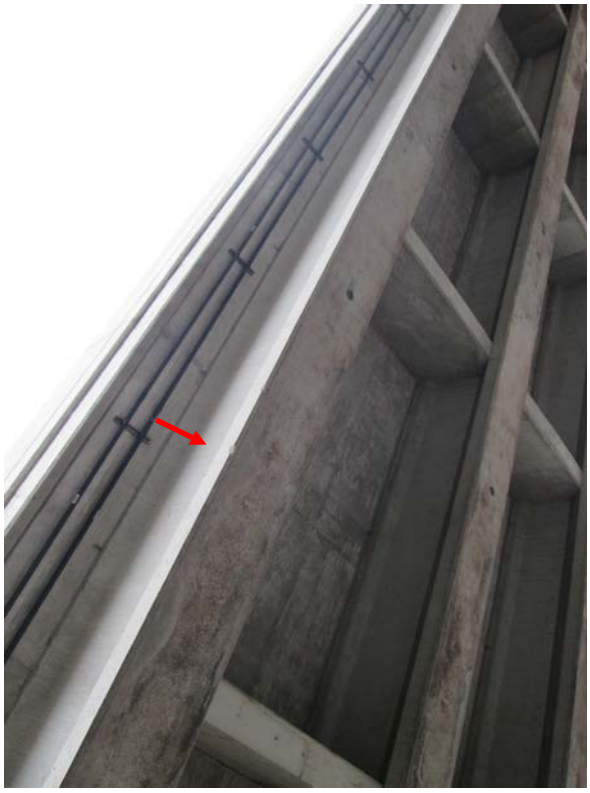


Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-2695 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB TO I-94 NB	**Bridge Name:**		**Sufficiency Rating:**	77.0	**Structure Length:**	180.4
Feature Crossed:	THROOP ST	**Location:**	0.7 MI. SW I-90,94	**HBP Eligible:**	Yes	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	69.1
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	06/2000	**Replaces:**	-	**Bridge Roadway Width:**	25.9
Status Remarks:	BRIDGE OPENED AUTOMATICALLY BY KEY ROUTE ON UPDATE TRANSACTION			**Last Update Date:**	03/28/2013	**Appr Roadway Width:**	25.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	None	**Deck Width:**	29.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	4 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	6 PRESTRESS CONCRETE CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.490(53)	**Load Rating Date:**	10/23/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.395(86)		**Crossing 1 Nbr:**	
Latitude:	41.84360943 **S**	**Longitude:** 87.65462917 **S**	**Design Load:**			**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	9.4 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0094	**Station:**	0.1000
Appurtenances	Ramp 27860	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2002 / 41900
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	0
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	2
Max Rdwy Width:	25.9	**One Or Two Way:**	1 One-Way
Horizontal:	27.1 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 43157
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

MUNICIPAL STREET 2104		**Station:**	0.2300
Main Route 01051		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	1998 / 300
7 LOCAL		**Est Truck Percentage:**	0
South/East	**North/West**	**Number Of Lanes:**	2
0.0		**One Or Two Way:**	2 Two-Way
0.0	0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 164
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	5 Municipal Streets	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2695 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	08/26/2014	Inspection Temperature:	85Deg. F				** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		
Deck Geometry:	2	INTOLERABLE - HIGH PRIORITY FOR REPLACEMENT		Deck Protection:	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	9.3			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	NNN	N/A	N/A	N/A				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	1999	Original	Reconstructed	
Route:	FAI 55	Sta: 140+275.91	Sta:	
Section Nbr:	207-1616.9			
Contract Nbr:	82981			
Fed Aid Pr#:	ACHPD-IM-55-7(			
Built By:	1 I.D.O.T.			

Pontis

Today's Date: 09/03/2015

Structure Number: 016-2695 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: THROOP ST
(7) Facility Carried: I- 55 EB TO I-94 NB
(9) Location: 0.7 MI. SW I-90,94
(7A) Bridge Name:
Element Inspection Date: 08/26/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	100	713	0	1	0	0	0	0	714
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks: Small chip spall Bm2, Span 2 over SB Lanes.										
Reinforced Conc Column or Pile Extension										
205	3	100	593	0	0	0	0	0	0	593
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:										
Reinforced Conc Pier Wall										
210	3	100	465	0	0	0	0	0	0	465
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:										
Reinforced Conc Abutment										
215	3	100	387	0	0	0	0	0	0	387
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks: Integral Abutments- Few hl vert crks @ East & West Abuts										
Reinforced Conc Pier or Abutment Cap										
234	3	100	116	0	0	0	0	0	0	116
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:										
Elastomeric Bearing										
310	4	100	4	0	0	0	0	0	0	4
		No deterioration	Minor deterioration		Major deterioration					
Remarks: @ Pier 2										
Concrete Bridge Railing										
331	4	99	359	1	2	0	0	0	0	361
		No deterioration	Minor cracks/spalls		Analysis warranted					
Remarks: HL vert crks; Small spall along N Rail @ section interface.										

Concrete Deck Protected w/ Coated Bars

8026	4	97	5,099	3	164	0	0	0	0	5,263

Remarks: WS) Few HL-Nar trans & long crks; Nar diag crking @ corners Soffit) Several HL leach crks @ < 5' c/c

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Med diagonal and random crks

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-2696
E.B. I-55 Ramp to N.B. I-94 over Archer Ave.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-2696 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated January 15, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel girder bridge consisting of five lines of continuous girders (see Photo 1). Span lengths from west to east are 192'-10", 214'-3", 214'-3" and 165'-4" along the local tangent. The superstructure is supported by closed wall abutments, reinforced concrete hammerhead and straddle piers. There is no overlay on the structure.

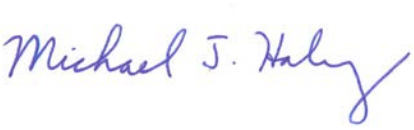
Traffic conditions prevented access to view the top of deck. IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit. IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor vertical cracking is visible on portions of the abutment walls. Minor flexural cracks are visible on the straddle cap (see Photo 2). IDOT rates the deck geometry as being intolerable and requiring a high priority of replacement. The findings from the cursory field check don't match IDOT's deck geometry rating. The ramp roadway width appears to be more than 16 ft. IDOT rates the underclearance vertical and lateral as being intolerable and requiring a high priority of corrective action, which concurs with the findings from the cursory field check. The clearance to the piers appears to be less than 6 ft. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, approach alignment and bridge railing appraisal items. Moderate longitudinal cracks are visible on both approach slabs.

Based on the structure summary report and field check, S.N. 016-2696 is suitable for reuse without rehabilitation.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-2696 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB TO I-94 NB	**Bridge Name:**		**Sufficiency Rating:**	77.0	**Structure Length:**	791.3
Feature Crossed:	ARCHER AVE & QUARRY	**Location:**	0.3 M SW I-90,94	**HBP Eligible:**	Yes	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	214.2
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/2000	**Replaces:**	-	**Bridge Roadway Width:**	25.9
Status Remarks:				**Last Update Date:**	03/28/2013	**Appr Roadway Width:**	25.9
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	None	**Deck Width:**	29.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**		**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	0 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.745(62)	**Load Rating Date:**	10/23/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.750(99)		**Crossing 1 Nbr:**	
Latitude:	41.84537705 **S**	**Longitude:**	87.64764746 **S**	**Design Load:**		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	9.2 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0094	**Station:**	0.5100
Appurtenances	Ramp 27860	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2002 / 41900
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	0
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	2
Max Rdwy Width:	25.9	**One Or Two Way:**	1 One-Way
Horizontal:	27.1 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 43157
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID URBAN 3785		**Station:**	2.5400
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 14000
5 MAJOR COLLECTOR		**Est Truck Percentage:**	7
South/East **North/West**		**Number Of Lanes:**	2
0.0		**One Or Two Way:**	2 Two-Way
0.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 10506
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2696 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 01/15/2015 **Inspection Temperature:** 35Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Single Unit Vehicles:**	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						**Combination Type 3S-1:**	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	0
Channel and Protection:	N	NOT APPLICABLE		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	US
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Deck Membrane:**	F	NONE		FLD AL EPY & ACRLC	
Deck Geometry:	2	INTOLERABLE - HIGH PRIORITY FOR REPLACEMENT		**Deck Protection:**	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		**Total Deck Thick:**	9.1			SHP ZINC&FLD ACRYL	
Waterway Adequacy:	N	NOT APPLICABLE		**Last Paint Date:**	08/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	1999	Original	Reconstructed	
Route:	FAI 55	**Sta:** 140+577.75	**Sta:**	
Section Nbr:				
Contract Nbr:	82981			
Fed Aid Pr#:	ACHPD-IM-55-7(			
Built By:	1	I.D.O.T.		

Pontis

Today's Date: 09/03/2015

Structure Number: 016-2696 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: ARCHER AVE & QUARRY
(7) Facility Carried: I- 55 EB TO I-94 NB
(9) Location: 0.3 M SW I-90,94
(7A) Bridge Name:
Element Inspection Date: 01/15/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	2,057	0	0	0	0	0	0	2,057
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Pier 1- Col #1 HL-Med horiz Crks										
Reinforced Conc Abutment										
215	4	100	3,258	0	0	0	0	0	0	3,258
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: East Abut- Med vert crks under Bm#5										
Reinforced Conc Pier or Abutment Cap										
234	4	100	175	0	0	0	0	0	0	175
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Modular Joints										
303	4	100	56	0	0	0	0	0	0	56
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks: West & East Joints-Steel Edge Bm- minor wear & rust (mostly @ left shldr)										
Fixed Bearing										
313	4	100	5	0	0	0	0	0	0	5
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Pot Bearing										
314	4	100	20	0	0	0	0	0	0	20
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	100	1,561	0	0	0	0	0	0	1,561
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks: lt vert crcking										

Concrete Deck Protected w/ Coated Bars

8026	4	92	20,861	8	1,750	0	0	0	0	22,611

Remarks: Soffitt: Lt transv crking w/minor leaching. Conc Dk W.S. Lt trans crking w/isolated tine spalls. Wrg Surf map crkd thru-out deck

Non-Lead Painted Steel Open Girder

8118	4	100	85,508	0	0	0	0	0	0	85,508

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	10	0	0	0	0	0	0	10

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Few HL-Med longitudinal crks @ West Apprch

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-2697
E.B. I-55 Ramp to N.B. I-94 over Halsted St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-2697 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated November 26, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a 72'-5" long single span PPC I-beam bridge consisting of five lines of simply supported beams (see Photo 1). The superstructure is supported by closed wall abutments. There is no overlay on the structure.

Traffic conditions prevented access to view the top of deck and approaches. IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor vertical cracks are visible on the abutment walls (see Photo 2). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck, superstructure, deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items.

Based on the structure summary report and field check, S.N. 016-2697 is suitable for reuse without rehabilitation.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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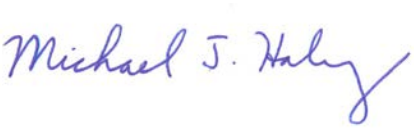

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-2697 **District:** 1

Inventory Data

Facility Carried:	I- 55 EB TO I-94 NB	**Bridge Name:**		**Sufficiency Rating:**	100.0	**Structure Length:**	75.6
Feature Crossed:	HALSTED ST	**Location:**	SOUTH SIDE OF I-55	**HBP Eligible:**	No	**AASHTO Bridge Length:**	68.7
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	70.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	02/2000	**Replaces:**	-	**Bridge Roadway Width:**	25.9
Status Remarks:	AS PER KRAMARZ			**Last Update Date:**	03/28/2013	**Appr Roadway Width:**	25.9
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	None	**Deck Width:**	29.2
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	16 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	5 PRESTRESS CONCRETE	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	1 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.175(42)	**Load Rating Date:**	10/02/1998	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.275(81)		**Crossing 1 Nbr:**	
Latitude:	41.84599514 **S**	**Longitude:** 87.64468048 **S**	**Design Load:**			**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	9.4 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0094	**Station:**	0.7100
Appurtenances	Ramp 27860	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2002 / 41900
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	0
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	1
Max Rdwy Width:	25.9	**One Or Two Way:**	1 One-Way
Horizontal:	27.1 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 43157
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID URBAN 3730		**Station:**	7.5400
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 12100
4 MINOR ARTERIAL		**Est Truck Percentage:**	13
South/East **North/West**		**Number Of Lanes:**	4
0.0		**One Or Two Way:**	2 Two-Way
66.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 16171
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2697 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 11/26/2014 **Inspection Temperature:** 31Deg. F

Deck:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					** Actual Posted Limits **	
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					**Single Unit Vehicles:**	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					**Combination Type 3S-1:**	Tons
Culvert:	N	NOT APPLICABLE					**Combination Type 3S-2:**	Tons
Channel and Protection:	N	NOT APPLICABLE		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY	**One Truck At A Time:**	0
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Deck Membrane:**	F	NONE	**Last Paint Type:**	
Deck Geometry:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Deck Protection:**	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		**Total Deck Thick:**	9.4			
Waterway Adequacy:	N	NOT APPLICABLE		**Last Paint Date:**				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	1997	Original		Reconstructed	
Route:	FAI 55	**Sta:**	134+407.80	**Sta:**	
Section Nbr:	1616(9,10)HB;0616(.9,.10)				
Contract Nbr:	82449				
Fed Aid Pr#:	ACNHI-55-7(193				
Built By:	1	I.D.O.T.			

Pontis

Today's Date: 09/03/2015

Structure Number: 016-2697 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: HALSTED ST
(7) Facility Carried: I- 55 EB TO I-94 NB
(9) Location: SOUTH SIDE OF I-55
(7A) Bridge Name:
Element Inspection Date: 11/26/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	100	362	0	0	0	0	0	0	362
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:										
Reinforced Conc Abutment										
215	4	71	850	29	350	0	0	0	0	1,200
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:	HL to Med map crks in FCR areas. @ Bott of Abut: East Abut-6ft x 4ft; West Abut-7ftx 5ft									
Reinforced Conc Pier or Abutment Cap										
234	4	100	61	0	0	0	0	0	0	61
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:										
Preformed Joint Seal										
302	4	100	62	0	0	0	0	0	0	62
		No deterioration	Minor deterioration		Major deterioration					
Remarks:										
Elastomeric Bearing										
310	4	100	5	0	0	0	0	0	0	5
		No deterioration	Minor deterioration		Major deterioration					
Remarks:	@ West Abut									
Fixed Bearing										
313	4	100	5	0	0	0	0	0	0	5
		No deterioration	Minor deterioration		Advanced corrosion					
Remarks:	@ East Abut.									
Concrete Bridge Railing										
331	4	83	119	17	25	0	0	0	0	144
		No deterioration	Minor cracks/spalls		Analysis warranted					
Remarks:	Vert crcking & many scrapes									

Concrete Deck Protected w/ Coated Bars

8026	4	93	1,958	7	150	0	0	0	0	2,108

Remarks: HL transv crking

P/S Conc Beam Ends Incl Diaphrams Under Deck Joint

8237	4	100	10	0	0	0	0	0	0	10

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-2698
E.B. I-55 Ramp to S.B. I-94 over Halsted St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-2698 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated November 26, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a 72'-6" long single span PPC I-beam bridge consisting of five lines of simply supported beams (see Photo 1). The superstructure is supported by closed wall abutments. There is no overlay on the structure.

Traffic conditions prevented access to view the top of deck. IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor hairline transverse and vertical cracks are visible on the abutment walls (see Photo 2). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck, superstructure, deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items.

Based on the structure summary report and field check, S.N. 016-2698 is suitable for reuse without rehabilitation. The approach guardrail end should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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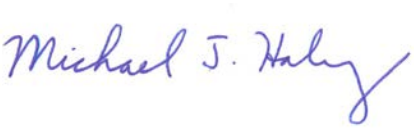

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2698 **District:** 1

Inventory Data

Facility Carried:	I- 55 EB TO I-94 SB	**Bridge Name:**		**Sufficiency Rating:**	100.0
Feature Crossed:	HALSTED ST	**Location:**	SOUTH SIDE OF I-55	**HBP Eligible:**	No
Bridge Remarks:				**Replaced By:**	-
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	07/1998	**Replaces:**	-
Status Remarks:	INSPECTED 02/27/98			**Last Update Date:**	03/28/2013
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	None
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**	
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	L Left
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	16 D
Main Span Matl/Type:	5 PRESTRESS CONCRETE	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No
Nbr Of Main Spans:	1 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No
Approaches				**Border Bridge State:**	
Near #1 Matl/Type:	/			**Bdr State SN:**	
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0
Far #1 Matl/Type:	/			**Structural Steel Wt**	0
Far #2 Matl/Type:	/			**Substructure Material:**	
Median Width/Type:	0 Ft. / 0 None			**Rated By:**	2 IDOT
Guardrail Type L/R:	0None / 0 None			**Inventory Rating:**	1.295(46)
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	2.255(81)
Latitude:	41.84632989 **S**	**Longitude:**	87.64412006 **S**	**Design Load:**	
Deck Structure Type:	A CIP CON NRMLLY FORM			**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N
Sidewalks Under Structure:	0 None				

Structure Length:	75.9	**Rate Method:**	6
AASHTO Bridge Length:	68.3	**Load Rating Date:**	10/02/1998
Length of Long Span:	70.0	**Railroad Crossing Info**	
Bridge Roadway Width:	25.9	**Crossing 1 Nbr:**	
Appr Roadway Width:	25.9	**Crossing 1 Nbr:**	
Deck Width:	29.2	**RR Lateral Underclear:**	0.0
Sidewalk Width Right:	0.0	**RR Vertical Underclear:**	0 **Ft** 0 **In**
Sidewalk Width Left:	0.0		
Navigation Control:	N N/A		
Navigation Horiz Clear:	0		
Navigation Vert Clear:	0		
Culvert Fill Depth:	0.0		
Number Culvert Cells:	0		
Culvert Opening Area:	0.0		
Culvert Cell Height:	0.00		
Culvert Cell Width:	0.00		

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0094	**Station:**	0.1600
Appurtenances	Ramp 27750	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2000 / 14500
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	0
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	1
Max Rdwy Width:	25.9	**One Or Two Way:**	1 One-Way
Horizontal:	27.1 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 14944
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID URBAN	3730	**Station:**	7.5500
Main Route	00000	**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 12100
4 MINOR ARTERIAL		**Est Truck Percentage:**	13
South/East **North/West**		**Number Of Lanes:**	4
0.0		**One Or Two Way:**	2 Two-Way
51.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 16171
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2698 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	11/26/2014	Inspection Temperature:	31Deg. F				** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE		
Deck Geometry:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Total Deck Thick:	7.5			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	1997	Original	Reconstructed	
Route:	FAI 55	Sta: 134+407.80		Sta:
Section Nbr:	1616(.9,.10)HB;(1616(.9,.			
Contract Nbr:	82449			
Fed Aid Pr#:	ACNHI-55-7(193			
Built By:	1	I.D.O.T.		

Pontis

Today's Date: 09/03/2015

Structure Number: 016-2698 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: HALSTED ST
(7) Facility Carried: I- 55 EB TO I-94 SB
(9) Location: SOUTH SIDE OF I-55
(7A) Bridge Name:
Element Inspection Date: 11/26/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	100	362	0	0	0	0	0	0	362
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:										
Reinforced Conc Abutment										
215	4	67	800	33	400	0	0	0	0	1,200
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:	HL to Med Shrinkage crcks in FCR areas; Vertical leach crks @ bottom of Abut wall.									
Reinforced Conc Pier or Abutment Cap										
234	4	100	61	0	0	0	0	0	0	61
		No deterioration	Minor cracks/spalls		Delams/spalls		Analysis warranted			
Remarks:										
Preformed Joint Seal										
302	4	100	62	0	0	0	0	0	0	62
		No deterioration	Minor deterioration		Major deterioration					
Remarks:										
Elastomeric Bearing										
310	4	100	5	0	0	0	0	0	0	5
		No deterioration	Minor deterioration		Major deterioration					
Remarks:	@ West Abut									
Fixed Bearing										
313	4	100	5	0	0	0	0	0	0	5
		No deterioration	Minor deterioration		Advanced corrosion					
Remarks:	@ East Abut									
Concrete Bridge Railing										
331	4	49	70	51	74	0	0	0	0	144
		No deterioration	Minor cracks/spalls		Analysis warranted					
Remarks:	Vert crcking; scrapes & chipping due to collision damage									

Concrete Deck Protected w/ Coated Bars

8026	4	85	1,793	15	315	0	0	0	0	2,108

Remarks: HL transv leach crking

P/S Conc Beam Ends Incl Diaphrams Under Deck Joint

8237	4	100	10	0	0	0	0	0	0	10

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: longit crking

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-2699
S.B. I-94 Ramp to W.B. I-55 over Halsted St.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-2699 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated November 26, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a 74'-4" long single span steel girder bridge consisting of eight lines of simply supported beams (see Photo 1). The superstructure is supported by closed wall abutments. There is no overlay on the structure.

Traffic conditions prevented access to the top of deck and approaches. IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor horizontal and vertical cracks are visible on the abutment walls. IDOT rates the underclearance vertical and lateral as being not applicable. The findings from the cursory field check don't match IDOT's underclearance vertical and lateral rating. Halsted St. passes below the structure; the clearance appears to be adequate. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck, superstructure, deck geometry, approach alignment, bridge railing appraisal and approach guardrail items.

Based on the structure summary report and field check, S.N. 016-2699 is suitable for reuse after rehabilitation of the expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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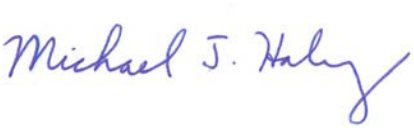


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2699 **District: 1**

Inventory Data

Facility Carried:	I- 94 SB TO I-55 WB	**Bridge Name:**		**Sufficiency Rating:**	100.0	**Structure Length:**	77.7
Feature Crossed:	HALSTED ST	**Location:**	NORTH SIDE OF I-55	**HBP Eligible:**	No	**AASHTO Bridge Length:**	71.3
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	71.8
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	05/2001	**Replaces:**	-	**Bridge Roadway Width:**	33.5
Status Remarks:				**Last Update Date:**	03/28/2013	**Appr Roadway Width:**	32.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	None	**Deck Width:**	36.7
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	9 / OTHER		**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	2 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	3 STEEL	/ 02	STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	1 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	142824	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None			**Inventory Rating:**	2.535(91)	**Load Rating Date:**	12/12/2000 **Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	2.750(99)	**Crossing 1 Nbr:**	
Latitude:	41.84731144 **S** **Longitude:**	87.64418228 **S**		**Design Load:**		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM			**Deck Structure Thickness:**	9.3 **SD:** N **FO:** N	**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0094	**Station:**	0.7800
Appurtenances	Ramp 27650	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2002 / 48000
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	0
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	1
Max Rdwy Width:	33.5	**One Or Two Way:**	1 One-Way
Horizontal:	34.7 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 49440
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

		Station:	
		Segment:	
		Linked:	
		Natl. Hwy System:	
		Inventory Direction:	
		Curr AADT Yr/Count:	/
		Est Truck Percentage:	
South/East	**North/West**	**Number Of Lanes:**	
		One Or Two Way:	
		Bypass Length:	
		Future AADT Yr/Cnt:	/
		Designated Truck Rte:	
		Special Systems:	

*** Marked Route On Data ***

	Designation	**Kind**	**Number**
Route #1:	1 Mainline	1 Interstate Highway	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	**Kind**	**Number**

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2699 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	11/26/2014	Inspection Temperature:	31Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	S
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		Total Deck Thick:	9.4				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	08/2002				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	111	Does Not Exist	Does Not Exist	Does Not Exist					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	2000	Original	Reconstructed	
Route:	FAI 55	Sta: 60+254.65		Sta:
Section Nbr:	(1616(.4,.6))R-1ETC			
Contract Nbr:	82992			
Fed Aid Pr#:	IMD-55-7(217)2			
Built By:	1	I.D.O.T.		

Pontis

Today's Date: 09/03/2015

Structure Number: 016-2699 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: HALSTED ST
(7) Facility Carried: I- 94 SB TO I-55 WB
(9) Location: NORTH SIDE OF I-55
(7A) Bridge Name:
Element Inspection Date: 11/26/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Abutment										
215	3	92	1,680	8	150	0	0	0	0	1,830
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Shrinkage crcks in FCR areas. HI vert crks typ.										
Reinforced Conc Pier or Abutment Cap										
234	3	100	82	0	0	0	0	0	0	82
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Elastomeric Bearing										
310	4	100	8	0	0	0	0	0	0	8
		No deterioration		Minor deterioration		Major deterioration				
Remarks: @ East Abut										
Concrete Bridge Railing										
331	4	100	149	0	0	0	0	0	0	149
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks: HL vert crks										
Concrete Deck Protected w/ Coated Bars										
8026	4	95	2,591	5	140	0	0	0	0	2,731
Remarks: WS) Isol Trans crks; Soffit) Isol HL trans leach crks										
Non-Lead Painted Steel Open Girder										
8118	4	100	5,504	0	0	0	0	0	0	5,504
Remarks:										
Continuous Seal Neoprene Expansion Joint										
8308	4	95	72	5	4	0	0	0	0	76
Remarks: Lt Damage @ West Jnt-Lane 1										

Moveable Steel Bearings below continuous decks

8316	4	100	8	0	0	0	0	0	0	8

Remarks: @ W. Abut

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: Few random crks

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-2702
E.B. I-55 over Archer Ave.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-2702 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated May 4, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel girder bridge consisting of ten lines of continuous girders (see Photo 1). Span lengths from west to east are 121'-5", 147'-8", 147'-8" and 134'-6". The superstructure is supported by closed wall abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

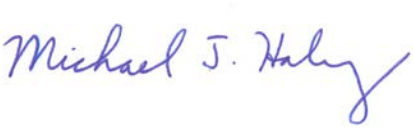
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on sections of the soffit (see Photo 2). IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor vertical cracking is visible on portions of the abutment walls (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, underclearance vert/lat, approach alignment and bridge railing appraisal items. Moderate transverse and longitudinal cracks are visible on both approach slabs. Small spalls are visible on the east approach slab (see Photo 4). The joint seal is missing along sections of the west expansion joint.

Based on the structure summary report and field check, S.N. 016-2702 is suitable for reuse after rehabilitation of the expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-2702 **District: 1**

Inventory Data

Facility Carried:	I- 55 EB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	91.0	**Structure Length:**	556.7
Feature Crossed:	ARCHER AV &QUARRY ST	**Location:**	0.3 M SW I-94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	147.6
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	02/2000	**Replaces:**	016-0032	**Bridge Roadway Width:**	57.6
Status Remarks:	PER KRAMARZ			**Last Update Date:**	08/20/2014	**Appr Roadway Width:**	72.0
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Right	**Deck Width:**	60.9
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**		**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	0 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None		**Rated By:** 2 IDOT		**Rate Method:** 6		
Guardrail Type L/R:	0None / 0 None	**Inventory Rating:**	1.495(53)	**Load Rating Date:**	10/24/2000	**Railroad Crossing Info**	
Toll Facility Indicator:	0 No Toll	**Operating Rating:**	2.495(89)			**Crossing 1 Nbr:**	
Latitude:	41.84538192 **S** **Longitude:**	87.64969892 **S**	**Design Load:**			**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM	**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N			**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	15.6400
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 64050
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	57.6	**One Or Two Way:**	1 One-Way
Horizontal:	58.8 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 87087
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 3785		**Station:**	2.5800
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 14000
5 MAJOR COLLECTOR		**Est Truck Percentage:**	7
South/East **North/West**		**Number Of Lanes:**	6
0.0		**One Or Two Way:**	2 Two-Way
78.3 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 21012
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2702 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 05/04/2015 **Inspection Temperature:** 72Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS							
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED							
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED							
Culvert:	N	NOT APPLICABLE							
Channel and Protection:	N	NOT APPLICABLE							
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Deck Geometry:	7	BETTER THAN PRESENT MINIMUM CRITERIA							
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE							
Waterway Adequacy:	N	NOT APPLICABLE							
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

**** Actual Posted Limits ****

Single Unit Vehicles:	Tons
Combination Type 3S-1:	Tons
Combination Type 3S-2:	Tons
One Truck At A Time:	0

Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	S
Deck Membrane:	F	NONE	SHP ZINC&FLD ACRYL	
Deck Protection:	A	EPOXY COATED REINF		
Total Deck Thick:	7.5			
Last Paint Date:	08/2001			

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	1999	Original	Reconstructed	
Route:	FAI 55	Sta: 35+075	Sta:	
Section Nbr:	1616.10			
Contract Nbr:	82981			
Fed Aid Pr#:	ACHPD-IM-55-7(			
Built By:	1	I.D.O.T.		

Pontis

Today's Date: 09/03/2015

Structure Number: 016-2702 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: ARCHER AV &QUARRY ST
(7) Facility Carried: I- 55 EB STEVENSON
(9) Location: 0.3 M SW I-94
(7A) Bridge Name:
Element Inspection Date: 05/04/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	3	100	2,598	0	0	0	0	0	0	2,598
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	3	100	3,964	0	0	0	0	0	0	3,964
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier or Abutment Cap										
234	3	100	309	0	0	0	0	0	0	309
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Fixed Bearing										
313	4	100	10	0	0	0	0	0	0	10
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Pot Bearing										
314	4	100	40	0	0	0	0	0	0	40
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	100	1,110	0	0	0	0	0	0	1,110
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:	HL to Narrow vert crks typ thru-out									
Concrete Deck Protected w/ Coated Bars										
8026	4	94	32,393	6	2,150	0	0	0	0	34,543
Remarks:	Soffitt: HL trans crking. W.S. HL to narrow trans crking; Several map cracked areas									

Non-Lead Painted Steel Open Girder

8118	4	100	86,013	0	0	0	0	0	0	86,013

Remarks:

Non-Lead Painted Steel Open Girder Ends

8176	4	100	20	0	0	0	0	0	0	20

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	100	122	0	0	0	0	0	0	122

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks:

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Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-2703
W.B. I-55 over Archer Ave.
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-2703 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated May 4, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a five span steel girder bridge consisting of thirteen lines of curved continuous girders (see Photo 1). Span lengths from west to east are 129'-4", 128'-3", 108'-6", 109'-4" and 139'-3". The superstructure is supported by closed wall abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor longitudinal and transverse cracks are visible on a majority of the top of deck (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor vertical cracking and map cracking is visible on portions of the abutment walls (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, underclearance vert/lat, approach alignment and bridge railing appraisal items. Moderate longitudinal and transverse cracks are visible on both approach slabs. Anchor blocks are missing along sections of the west expansion joint (see Photo 4).

Based on the structure summary report and field check, S.N. 016-2703 is suitable for reuse after rehabilitation of the expansion joints.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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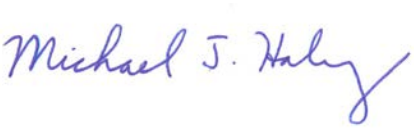

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-2703 **District:** 1

Inventory Data

Facility Carried:	I- 55 WB STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	96.0	**Structure Length:**	619.8
Feature Crossed:	ARCHER AV &QUARRY ST	**Location:**	0.3 M SW I-94	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	142.1
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	05/2001	**Replaces:**	016-0033	**Bridge Roadway Width:**	80.7
Status Remarks:				**Last Update Date:**	03/28/2013	**Appr Roadway Width:**	82.3
Maint County:	016 COOK	**Maint Township:**	83 SOUTH CHICAGO	**Parallel Structure:**	Left	**Deck Width:**	84.0
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	N None	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	0 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	5 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	1888666	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.345(48)	**Load Rating Date:**	05/02/2001	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.240(80)		**Crossing 1 Nbr:**	
Latitude:	41.84536586 **S**	**Longitude:** 87.64984723 **S**	**Design Load:**			**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	15.6300
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	83 SOUTH CHICAGO (CHICAGO)	**Natl. Hwy System:**	On NHS
Municipality	1051 CHICAGO	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 64050
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	80.7	**One Or Two Way:**	1 One-Way
Horizontal:	81.9 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 87087
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 3785		**Station:**	2.6000
Main Route 00000		**Segment:**	
016		**Linked:**	Y
83 SOUTH CHICAGO (CHICAGO)		**Natl. Hwy System:**	Not on NHS
1051 CHICAGO		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 14000
5 MAJOR COLLECTOR		**Est Truck Percentage:**	7
South/East **North/West**		**Number Of Lanes:**	4
0.0		**One Or Two Way:**	2 Two-Way
78.3 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 21012
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2703 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	05/04/2015	Inspection Temperature:	72Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	S
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	08/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	NNN	N/A	N/A	N/A					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	2000	Original		Reconstructed	
Route:	FAI 55		Sta: 235+172.95	Sta:	
Section Nbr:					
Contract Nbr:	82992				
Fed Aid Pr#:					
Built By:	1	I.D.O.T.			

Pontis

Today's Date: 09/03/2015

Structure Number: 016-2703 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: ARCHER AV &QUARRY ST
(7) Facility Carried: I- 55 WB STEVENSON
(9) Location: 0.3 M SW I-94
(7A) Bridge Name:
Element Inspection Date: 05/04/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	3	100	5,582	0	0	0	0	0	0	5,582
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	98	7,604	2	186	0	0	0	0	7,790
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Lt vert crking E & W Abuts									
Reinforced Conc Pier or Abutment Cap										
234	4	99	655	1	8	0	0	0	0	663
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Minor Cracking.									
Modular Joints										
303	4	100	83	0	0	0	0	0	0	83
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks:										
Fixed Bearing										
313	4	100	13	0	0	0	0	0	0	13
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Pot Bearing										
314	4	100	78	0	0	0	0	0	0	78
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	100	1,229	0	0	0	0	0	0	1,229
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:	HL to Narrow vert crks typ thru-out									

Concrete Deck Protected w/ Coated Bars

8026	4	96	49,616	4	1,980	0	0	0	0	51,596

Remarks: Soffitt: HL trans crking. W.S. HL to narrow trans crking w/map cracked areas

Non-Lead Painted Steel Open Girder

8118	4	100	115,017	0	0	0	0	0	0	115,017

Remarks: Few isolated paint peels

Non-Lead Painted Steel Open Girder Ends

8176	4	100	26	0	0	0	0	0	0	26

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	90	75	10	8	0	0	0	0	83

Remarks: Missing hold downs @ W Abut

Approach Pavement

8323	4	50	1	50	1	0	0	0	0	2

Remarks: Med-wide longit crks @ E

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Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-2704
I-55 over Des Plaines River
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-2704 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated May 26, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a five span steel girder bridge consisting of nineteen lines of curved continuous girders with a total length of 702.6 ft. (see Photo 1). The superstructure is supported by closed wall abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor cracking is visible on abutment walls and pier columns. IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority for of corrective action. The findings from the cursory field check don't match IDOT's underclearance rating. There appears to be sufficient clearance underneath the structure to be left in place as is (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, approach alignment, bridge railing appraisal and approach guardrail items. A few anchor bolts at the abutments are bent (see Photo 4). Some free-falling drains don't extend below the bottom flange of the exterior girder near the west abutment (see Photo 5). Minor transverse and longitudinal cracks are visible on both approach slabs.

Based on the structure summary report and field check, S.N. 016-2704 is suitable for reuse after rehabilitation of free-fall drainage.

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Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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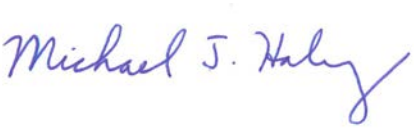

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 016-2704 **District: 1**

Inventory Data

Facility Carried:	I- 55 STEVENSON	**Bridge Name:**		**Sufficiency Rating:**	94.0	**Structure Length:**	702.6
Feature Crossed:	DES PLAINES RIVER	**Location:**	0.9 M E OF US 45	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	ALSO RPLCS 016-0011			**Replaced By:**	-	**Length of Long Span:**	172.9
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	05/2001	**Replaces:**	016-0010	**Bridge Roadway Width:**	132.1
Status Remarks:				**Last Update Date:**	03/28/2013	**Appr Roadway Width:**	132.1
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	None	**Deck Width:**	138.9
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	6 / HIGHWAY-WATERWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	57 **D**	**Navigation Control:**	0 No
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	5 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	1696200	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.275(45)	**Load Rating Date:**	06/12/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.130(76)		**Crossing 1 Nbr:**	
Latitude:	41.76357722 **S**	**Longitude:** 87.85368981 **S**	**Design Load:**			**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	3.3900
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	2645 HODGKINS	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 155200
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	6
Max Rdwy Width:	0.0	**One Or Two Way:**	2 Two-Way
Horizontal:	57.8 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 167890
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 1692		**Station:**	1.2800
Main Route 00000		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	Not on NHS
2645 HODGKINS		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 1700
5 MAJOR COLLECTOR		**Est Truck Percentage:**	18
South/East **North/West**		**Number Of Lanes:**	2
24.0		**One Or Two Way:**	2 Two-Way
26.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 2069
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-2704 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 05/26/2015 **Inspection Temperature:** 70Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS							
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED							
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED							
Culvert:	N	NOT APPLICABLE							
Channel and Protection:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED		Deck Wearing Surf:	A	BARE DECK NO OVRLAY			
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE			
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	7.5				
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Last Paint Date:	08/2001				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

**** Actual Posted Limits ****

Single Unit Vehicles:	Tons
Combination Type 3S-1:	Tons
Combination Type 3S-2:	Tons
One Truck At A Time:	0
Last Paint Type:	S
	SHP ZINC&FLD ACRYL

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 08/02/2001

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	2000	Original		2002	Reconstructed
Route:	FAI 55		Sta: 15+455.08	FAI 55	Sta:
Section Nbr:		0404-676B		0404-640R&0101(.)R-1	
Contract Nbr:		82969		82979	
Fed Aid Pr#:		55-7(219)277			
Built By:	1	I.D.O.T.		1	I.D.O.T.

Pontis

Today's Date: 08/27/2015

Structure Number: 016-2704 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: DES PLAINES RIVER
(7) Facility Carried: I- 55 STEVENSON
(9) Location: 0.9 M E OF US 45
(7A) Bridge Name:
Element Inspection Date: 05/26/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	1	100	63,872	0	0	0	0	0	0	63,872
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	1	100	31,884	0	0	0	0	0	0	31,884
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	1	100	5,365	0	0	0	0	0	0	5,365
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	East & West Abut Bkwall - HL to med vert crks typ.									
Reinforced Conc Pier or Abutment Cap										
234	1	100	1,650	0	0	0	0	0	0	1,650
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	HL-Med diag & vert crks typ; HL leach cracks in pier cantilever sections									
Modular Joints										
303	4	100	565	0	0	0	0	0	0	565
		No deterioration		Minor deterioration		Advanced corrosion		Corrosion is advance		
Remarks:										
Fixed Bearing										
313	1	0	0	100	18	0	0	0	0	18
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Pot Bearing										
314	4	0	0	100	90	0	0	0	0	90
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:	Brg Plate Bolts @ angle (typ.)									

Concrete Bridge Railing

331	4	0	0	100	2,846	0	0	0	0	2,846
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: HI-Med vert crking typ.

Concrete Deck Protected w/ Coated Bars

8026	4	99	97,900	1	1,000	0	0	0	0	98,900

Remarks: HL-Med x-verse, diag & longit crks typ. esp. in Bays 1-10 (I-55 NB lanes)

Non-Lead Painted Steel Open Girder

8118	4	100	174,236	0	0	0	0	0	0	174,236

Remarks:

Non-Lead Painted Steel Open Girder Ends

8176	4	100	36	0	0	0	0	0	0	36

Remarks:

Approach Pavement

8323	4	100	4	0	0	0	0	0	0	4

Remarks: East & West Approch- HL-Med diag crks typ. East Approch- WB Lanes pothole @Ln#2 3'x3'

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Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-9820
S.B. I-294 over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-9820 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated June 6, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel girder bridge consisting of twelve lines of simply supported plate girders and built up girders (see Photo 1). Span lengths from south to north are 98'-0", 156'-1", 139'-4" and 102'-0". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. The structure summary reports states that the deck has a bituminous overlay. A bituminous overlay was not present during our cursory field check. It is possible that the structure has a concrete overlay instead.

IDOT rates the deck as being in good condition. The findings from the cursory field check don't match IDOT's deck rating. The interior span soffits are hidden from view by shielding and should be assumed to be in poor condition. Minor transverse cracks with leaching are visible on a majority of the exterior span soffits. Numerous spalls, previous repairs and asphalt patches are visible on the top of deck (see Photo 2). IDOT rates the superstructure as being in good condition, which concurs with the findings from the cursory field check. Minor rusting is visible along the bottom flanges of built up girders, some of these flanges appear to be warped (see Photo 3). A few abutment fixed bearing anchor bolts are bent. IDOT rates the substructure as being in fair condition. The findings from the cursory field check don't match IDOT's substructure rating. Moderate cracking is visible on abutment caps (see Photo 4). A small loss of bearing area is visible on some abutment seats (see Photo 5). Moderate map cracking and a significant amount of previous concrete repair work is visible on the pier columns and caps (see Photo 6). Some of these previous repairs appear to be failing. IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action, which concurs with the findings from the cursory field check. Clearance along the inside shoulders of I-55 appears to be less than 4 ft. No notable defects or differences were observed between the

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Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

cursory field check and IDOT's structure summary report for: deck geometry, approach alignment, bridge railing appraisal and approach guardrail items. Numerous spalls, previous repairs and asphalt patches are visible on the approach slabs.

Based on the structure summary report and field check, S.N. 016-9820 is suitable for replacement of the deck and rehabilitation of the substructure and superstructure. The approach guardrails should be brought up to current IDOT standards. However, in order to continue the widened bus lane along the inside shoulder of I-55 it may be necessary to fully replace the structure due to lack of adequate horizontal clearance.

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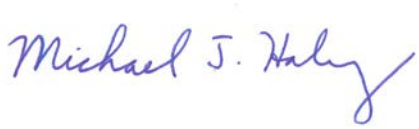

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Photo 1

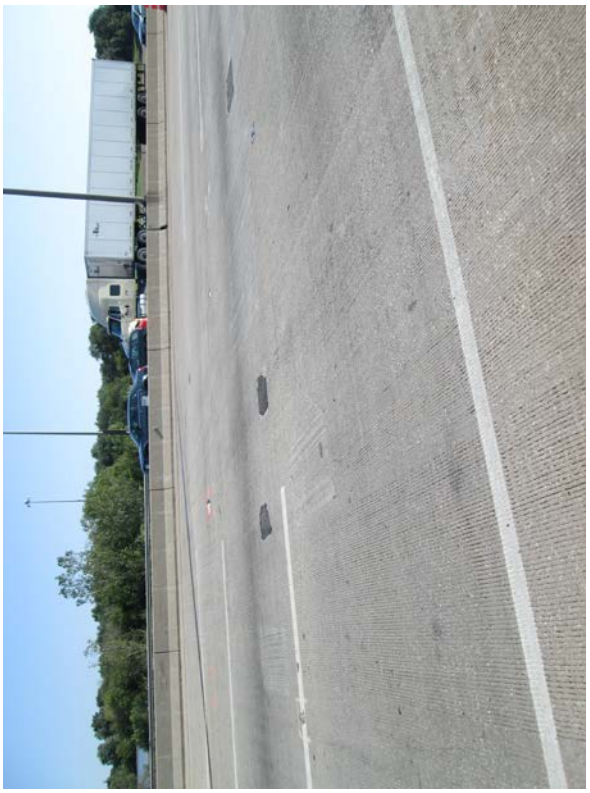

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-9820 **District:** 1

Inventory Data

Facility Carried:	I-294 SB	**Bridge Name:**		**Sufficiency Rating:**	78.3	**Structure Length:**	498.0
Feature Crossed:	I 55	**Location:**	I294 AT I55 P10	**HBP Eligible:**	Yes	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	156.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	54.3
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	52.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Right	**Deck Width:**	70.0
Maint Responsibility:	02 ILL. TOLLWAY COMMISSION			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	8 ILLINOIS TOLLWAY AUTHORITY			**Skew Angle:**	65 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	3 STEEL	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	6 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 3 Consultant		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.920(69)	**Load Rating Date:**	03/02/2011	**Railroad Crossing Info**
Toll Facility Indicator:	6 Toll Road		**Operating Rating:**	2.750(99)		**Crossing 1 Nbr:**	
Latitude:	41.76076055 **S**	**Longitude:**	87.89285071 **S**	**Design Load:** 99 UNKNOWN		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	0 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0294	**Station:**	29.5000
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	1272 COUNTRYSIDE	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2013 / 65550
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	16
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	54.3	**One Or Two Way:**	1 One-Way
Horizontal:	55.8 0.0	**Bypass Length:**	1
		Future AADT Yr/Cnt:	2032 / 59586
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	1.2500
Main Route 00000		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	On NHS
2760 INDIAN HEAD PARK		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 148400
1 INTERSTATE		**Est Truck Percentage:**	8
South/East	**North/West**	**Number Of Lanes:**	4
0.0		**One Or Two Way:**	2 Two-Way
53.8	60.8	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 84563
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	294
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-9820 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 06/06/2014 **Inspection Temperature:** 80Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					** Actual Posted Limits **	
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Substructure:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS					Combination Type 3S-1:	Tons
Culvert:	N	NOT APPLICABLE					Combination Type 3S-2:	Tons
Channel and Protection:	N	NOT APPLICABLE	Deck Wearing Surf:	G	BITUMINOUS OVERLAY		One Truck At A Time:	0
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE	Deck Membrane:	A	WATERPROOF MEM SYST		Last Paint Type:	
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA	Deck Protection:	J	NONE			
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION	Total Deck Thick:	0.0				
Waterway Adequacy:	N	NOT APPLICABLE	Last Paint Date:					
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	22N	Not Acceptable Not Acceptable N/A						
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	1958	Original	Reconstructed	
Route:		Sta: 1397+11.79	Sta:	
Section Nbr:				
Contract Nbr:				
Fed Aid Pr#:		00000000000000		
Built By:	2	OTHER STATE AGENCY		

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 016-9821
N.B. I-294 over I-55
Cook County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 016-9821 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated June 6, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel girder bridge consisting of fourteen lines of simply supported plate girders and built up girders (see Photo 1). Span lengths from south to north are 102'-0", 139'-4", 156'-1" and 98'-0". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. The structure summary reports states that the deck has a bituminous overlay. A bituminous overlay was not present during our cursory field check. It is possible that the structure has a concrete overlay instead.

IDOT rates the deck as being in good condition. The findings from the cursory field check don't match IDOT's deck rating. The interior span soffits are hidden from view by shielding and should be assumed to be in poor condition. Minor transverse cracks with leaching are visible on a majority of the exterior span soffits. Numerous spalls, previous repairs and asphalt patches are visible on the top of deck (see Photo 2). IDOT rates the superstructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Minor rusting is visible along the bottom flanges of some built up girders. About half of the abutment fixed bearing anchor bolts are loose or bent (see Photo 3). IDOT rates the substructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Minor spalling is visible on some abutment seats (see Photo 3). Moderate map cracking and a significant amount of previous concrete repair work is visible on the pier columns and caps (see Photo 4). Some of these previous repairs appear to be failing. IDOT rates the underclearance vertical and lateral as being intolerable requiring a high priority of corrective action, which concurs with the findings from the cursory field check. Clearance along the inside shoulders of I-55 appears to be less than 4 ft. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck, geometry, approach alignment, bridge railing

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

appraisal and approach guardrail items.

Based on the structure summary report and field check, S.N. 016-9821 is suitable for replacement of the deck and rehabilitation of the substructure and superstructure. The approach guardrails should be brought up to current IDOT standards. However, in order to continue the widened bus lane along the inside shoulder of I-55 it may be necessary to fully replace the structure due to lack of adequate horizontal clearance.

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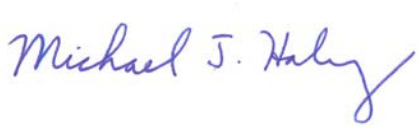

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Photo 1

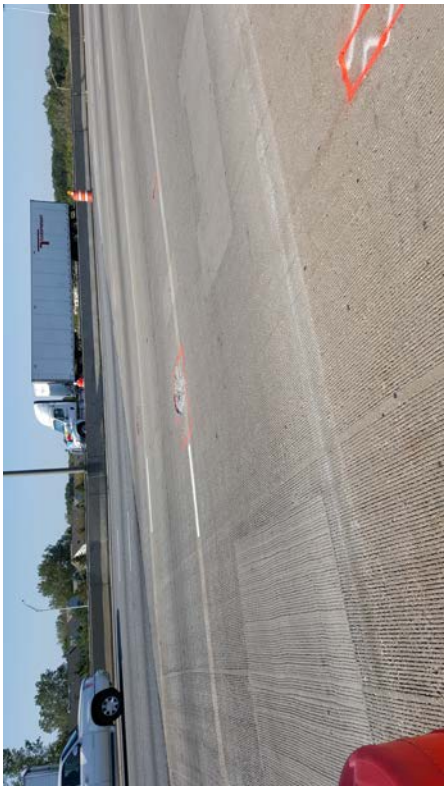

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-9821 **District: 1**

Inventory Data

Facility Carried:	I-294 NB	**Bridge Name:**		**Sufficiency Rating:**	89.8	**Structure Length:**	498.0
Feature Crossed:	I 55	**Location:**	I294 AT I55 P10	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	156.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	54.3
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	52.0
Maint County:	016 COOK	**Maint Township:**	16 LYONS	**Parallel Structure:**	Left	**Deck Width:**	70.0
Maint Responsibility:	02 ILL. TOLLWAY COMMISSION			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	8 ILLINOIS TOLLWAY AUTHORITY			**Skew Angle:**	65 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	3 STEEL	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	6 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 3 Consultant		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.650(59)	**Load Rating Date:**	03/02/2011	**Railroad Crossing Info**
Toll Facility Indicator:	6 Toll Road		**Operating Rating:**	2.750(99)		**Crossing 1 Nbr:**	
Latitude:	41.76071070 **S**	**Longitude:**	87.89269717 **S**	**Design Load:** 99 UNKNOWN		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	0 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0294	**Station:**	29.5100
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	16 LYONS	**Natl. Hwy System:**	On NHS
Municipality	1272 COUNTRYSIDE	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2013 / 65550
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	16
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	54.3	**One Or Two Way:**	1 One-Way
Horizontal:	55.8 0.0	**Bypass Length:**	1
		Future AADT Yr/Cnt:	2032 / 59586
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	1.2700
Main Route 00000		**Segment:**	
016		**Linked:**	Y
16 LYONS		**Natl. Hwy System:**	On NHS
2760 INDIAN HEAD PARK		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 148400
1 INTERSTATE		**Est Truck Percentage:**	8
South/East	**North/West**	**Number Of Lanes:**	4
0.0		**One Or Two Way:**	2 Two-Way
53.8	60.8	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 84563
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	**Kind**	**Number**
Route #1:	1 Mainline	1 Interstate Highway	294
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	**Kind**	**Number**
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-9821 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***		*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1: Tons	5 No Posting Required
		Special:	N	Single Unit Vehicles: Tons		Combination Type 3S-2 Tons	

Inspection/Appraisal Information

Inspection Date: 06/06/2014 **Inspection Temperature:** 80Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION					
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION					
Culvert:	N	NOT APPLICABLE					
Channel and Protection:	N	NOT APPLICABLE	Deck Wearing Surf:	G	BITUMINOUS OVERLAY	Last Paint Type:	
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA	Deck Membrane:	A	WATERPROOF MEM SYST		
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA	Deck Protection:	J	NONE		
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION	Total Deck Thick:	0.0			
Waterway Adequacy:	N	NOT APPLICABLE	Last Paint Date:				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA					
Bridge Railing Appraisal:	3	Meets Standards					
Approach Guardrail:	22N	Not Acceptable Not Acceptable N/A					
Pier Navig Protection:	N	N/A					

**** Actual Posted Limits ****

Single Unit Vehicles:	Tons
Combination Type 3S-1:	Tons
Combination Type 3S-2:	Tons
One Truck At A Time:	0

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	1958	Original	Reconstructed	
Route:		Sta: 1397+11.79	Sta:	
Section Nbr:				
Contract Nbr:				
Fed Aid Pr#:		00000000000000		
Built By:	2	OTHER STATE AGENCY		

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Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 022-0003
I-55 over Madison St.
DuPage County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 022-0003 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated November 21, 2013 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a three span PPC I-beam bridge consisting of twenty-two lines of continuous beams (see Photo 1). Span lengths from west to east are 57'-6 ½", 49'-4" and 57'-6 ½". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit (see Photo 2). IDOT rates the superstructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Stirrup bars are exposed up to half the perimeter of bottom flanges at a few beam ends over the fixed piers. Beam ends at both the north and south abutments are spalled exposing prestressing strands (see Photo 3). IDOT rates the substructure as being in satisfactory condition. The findings from the cursory field check don't match IDOT's substructure rating. Significant spalling with probable section loss is visible on pier caps (see Photo 4). Minor cracking and spalling is visible on columns and abutments. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. Anchor blocks are damaged or missing along sections of both expansion joints (see Photo 5). Large pot holes in the asphalt shoulders are present where shoulders and approach slabs meet (see Photo 6). Minor to moderate diagonal cracks are visible on both approaches.

Based on the structure summary report and field check, S.N. 022-0003 is suitable for reuse after rehabilitation of the substructure, superstructure and expansion joints. The approach guardrail

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

transitions should be brought up to current IDOT standards.

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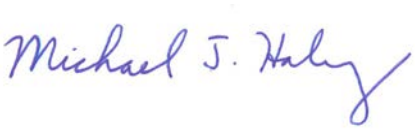


Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

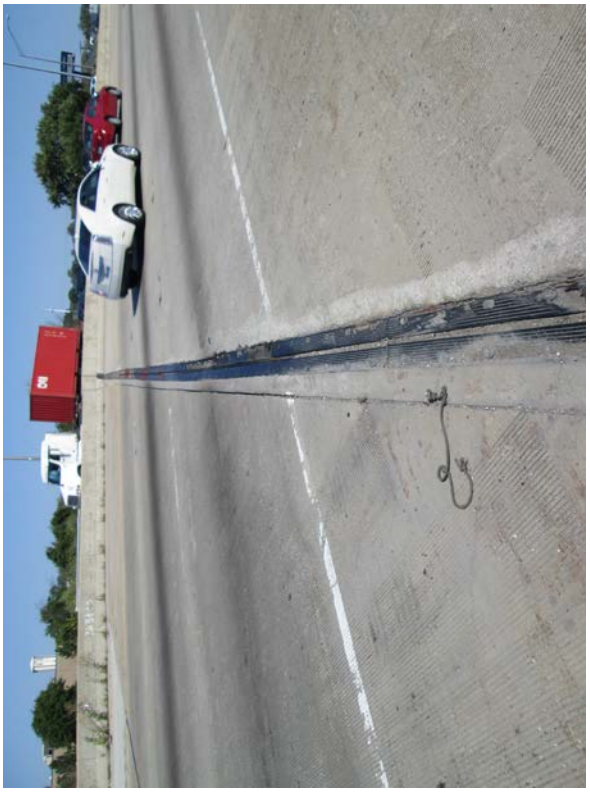


Photo 5

Photo 6

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-0003 **District:** 1

Inventory Data

Facility Carried:	I- 55	**Bridge Name:**		**Sufficiency Rating:**	96.0	**Structure Length:**	172.0
Feature Crossed:	MADISON ST	**Location:**	0.6 M NE OF IL 83	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	MAX.= 64' ORIGINALLY TWO STRUCTURES.			**Replaced By:**	-	**Length of Long Span:**	57.5
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	134.0
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	134.0
Maint County:	022 DUPAGE	**Maint Township:**	03 DOWNERS GROVE	**Parallel Structure:**	None	**Deck Width:**	140.3
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 / HIGHWAY		**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	42 D	**Navigation Control:**	N N/A
Main Span Matl/Type:	6 PRESTRESS CONCRETE CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	3	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	3 Ft. / 4 Wall			**Rated By:**	2 IDOT	**Rate Method:**	6
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.635(58)	**Load Rating Date:**	07/08/1997	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	2.635(94)			**Crossing 1 Nbr:**
Latitude:	41.74726236 **S**	**Longitude:**	87.93512738 **S**	**Design Load:**	01 HS20+MOD		**Crossing 1 Nbr:**
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5	**SD:** N **FO:** N		**RR Lateral Underclear:** 0.0
Sidewalks Under Structure:	0 None						**RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	5.6900
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	022 DUPAGE	**Linked:**	Y
Township/Road Dist	03 DOWNERS GROVE	**Natl. Hwy System:**	On NHS
Municipality	6240 WILLOWBROOK	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 158400
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	11
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	6
Max Rdwy Width:	67.1	**One Or Two Way:**	2 Two-Way
Horizontal:	68.3 68.3	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 194950
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID URBAN 2674		**Station:**	4.8900
Main Route 00000		**Segment:**	
022		**Linked:**	Y
03 DOWNERS GROVE		**Natl. Hwy System:**	Not on NHS
0759 BURR RIDGE		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2012 / 2850
5 MAJOR COLLECTOR		**Est Truck Percentage:**	3
South/East **North/West**		**Number Of Lanes:**	2
25.5		**One Or Two Way:**	2 Two-Way
33.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 2785
		Designated Truck Rte:	NONE
		Special Systems:	No

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	055
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	8 Other	
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-0003 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 11/21/2013 **Inspection Temperature:** 50Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					** Actual Posted Limits **	
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION					Single Unit Vehicles:	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION					Combination Type 3S-1:	Tons
Culvert:	N	NOT APPLICABLE					Combination Type 3S-2:	Tons
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	One Truck At A Time:	0
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE	Last Paint Type:	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	7.5			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1959	Original		1996	Reconstructed		
Route:	FAI-55		Sta: 1023+92.08	FAI-55		Sta: 1023+92.08	
Section Nbr:		22-1HB-1			22-1HB-1		
Contract Nbr:					82453		
Fed Aid Pr#:		I 0036005000			NHI556(197)270		
Built By:	1	I.D.O.T.			1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number: 022-0003 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: MADISON ST
(7) Facility Carried: I- 55
(9) Location: 0.6 M NE OF IL 83
(7A) Bridge Name:
Element Inspection Date: 11/21/2013
(90E) Agency Program Manager: SEDLACEKJL
(90E3) Consultant Program Manager:
(90E1) Team Leader:
(90E2) Inspector:

Element Insp. Delinquent | Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	99	3,580	0	0	1	50	0	0	3,630
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Span 2 Bott Flange spalls w/exp strands @ Bm#19, 20 & 21. Span 2 Top Flange spall ed @ Bm#7									
Reinforced Conc Column or Pile Extension										
205	3	94	3,298	0	6	6	220	0	0	3,524
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Few areas of med vert crking w/delams. Pier 1 &2 sm spalls w/exp rebar									
Reinforced Conc Pier Wall										
210	3	96	2,159	0	0	4	80	0	0	2,239
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	3	97	2,252	0	0	3	62	0	0	2,314
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Backwall) Some lt spalling @ hor const jt.; Wings) Nar Vert crks									
Reinforced Conc Pier or Abutment Cap										
234	3	52	394	5	40	42	320	0	0	754
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Pier 1 &2 spalls, exp rebar & delam@undersides. FCR failing in some areas.									
Elastomeric Bearing										
310	4	0	0	100	88	0	0	0	0	88
		No deterioration		Minor deterioration		Major deterioration				
Remarks:	Many assemblies have initial rust; N Fascia Bmg @W Abut lipping up									
Concrete Bridge Railing										
331	4	0	0	100	672	0	0	0	0	672
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:	HL vert crks typ.									

Concrete Deck Protected w/ Coated Bars

8026	4	96	23,259	4	850	0	0	0	0	24,109

Remarks: WS) Nar transv & random crking, esp SB lanes; Soffit) HL-Nar trans leach crks

P/S Conc Beam Ends Incl Diaphrams Under Deck Joint

8237	4	0	0	0	0	100	44	0	0	44

Remarks: Most ends have minor crks & small spalls w/exp strands & stirrups @ Span 2 Brns #4, 7&14

Neoprene Expansion Joint

8307	4	0	0	0	0	89	332	11	42	374

Remarks: Plow damaged; leaks @both Abuts; Sections missing I55N WAbut-Ln1 (6ft), EAbut-Ln1 (6ft), Ln2 (6ft), Ln3 (12ft); I55S WAbut-Ln3 (6ft), EAbut-Ln2 (6ft)

Approach Pavement

8323	4	100	4	0	0	0	0	0	0	4

Remarks: Nar-med diag crks @ all

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 022-0050
S.B. IL 83 over I-55
DuPage County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 022-0050 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated January 15, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel beam bridge consisting of nine lines of continuous beams (see Photo 1). Span lengths from south to north are 91'-3", 77'-1", 77'-1" and 91'-3". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

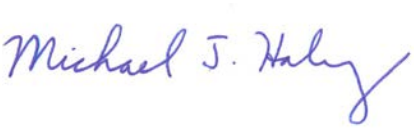
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracking is visible on a majority of the top of deck. IDOT rates the superstructure as being in good condition, which concurs with the findings from the cursory field check. Minor rusting is visible on bottom flanges of most beams (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor cracking is visible on pier caps and crashwalls (see Photo 3). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items.

Based on the structure summary report and field check, S.N. 022-0050 is suitable for reuse without rehabilitation. The approach guardrail transitions should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-0050 **District: 1**

Inventory Data

Facility Carried:	IL 83 SB	**Bridge Name:**		**Sufficiency Rating:**	99.0	**Structure Length:**	342.6
Feature Crossed:	I- 55	**Location:**	1.2 MI NW COOK CO	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	92.3
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/2002	**Replaces:**	-	**Bridge Roadway Width:**	58.1
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	51.8
Maint County:	022 DUPAGE	**Maint Township:**	03 DOWNERS GROVE	**Parallel Structure:**	Left	**Deck Width:**	61.4
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 /	HIGHWAY	**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	27 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	Yes	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	639722	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None			**Inventory Rating:**	1.650(59)	**Load Rating Date:**	06/05/2002 **Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	2.750(99)	**Crossing 1 Nbr:**	
Latitude:	41.74191000 **S**	**Longitude:**	87.94453000 **S**	**Design Load:** 02 HS20		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM			**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N	**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID PRIMARY 0344	**Station:**	17.5900
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	022 DUPAGE	**Linked:**	Y
Township/Road Dist	03 DOWNERS GROVE	**Natl. Hwy System:**	On NHS
Municipality	0000	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2013 / 23650
Functional Class:	3 OTHER PRINCIPAL ARTERIAL	**Est Truck Percentage:**	13
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	58.1	**One Or Two Way:**	1 One-Way
Horizontal:	59.3 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 26235
		Designated Truck Rte:	CLASS II
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	5.0600
Main Route 00000		**Segment:**	
022		**Linked:**	Y
03 DOWNERS GROVE		**Natl. Hwy System:**	On NHS
0000		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 135100
1 INTERSTATE		**Est Truck Percentage:**	12
South/East	**North/West**	**Number Of Lanes:**	10
65.5		**One Or Two Way:**	2 Two-Way
65.5	65.5	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2021 / 179820
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	3 State Highway	083
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-0050 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 01/15/2015 **Inspection Temperature:** 19Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Single Unit Vehicles:**	Tons
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-1:**	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	0
Channel and Protection:	N	NOT APPLICABLE		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	S
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		**Deck Membrane:**	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		**Deck Protection:**	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		**Total Deck Thick:**	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		**Last Paint Date:**	05/2002				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1959	Original		2001	Reconstructed	
Route:	FAI-55	**Sta:** 989+99.25	IL.RT83		**Sta:** 4+265.44	
Section Nbr:		22-1HB-2		22-IHB-2-R		
Contract Nbr:				60276		
Fed Aid Pr#:		I 0556005271				
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number: 022-0050 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55
(7) Facility Carried: IL 83 SB
(9) Location: 1.2 MI NW COOK CO
(7A) Bridge Name:
Element Inspection Date: 01/15/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: MastnySC
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	1,516	0	0	0	0	0	0	1,516
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	4	97	1,814	3	50	0	0	0	0	1,864
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	100	931	0	0	0	0	0	0	931
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier or Abutment Cap										
234	4	97	345	3	10	0	0	0	0	355
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Elastomeric Bearing										
310	4	100	36	0	0	0	0	0	0	36
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Fixed Bearing										
313	4	100	9	0	0	0	0	0	0	9
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	100	338	0	0	0	0	0	0	338
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:										

Concrete Deck Protected w/ Coated Bars

8026	4	97	20,923	0	0	3	600	0	0	21,523

Remarks:

Non-Lead Painted Steel Open Girder

8118	4	100	32,551	0	0	0	0	0	0	32,551

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	18	0	0	0	0	0	0	18

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	0	0	87	122	13	18	0	0	140

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 022-0051
N.B. IL 83 over I-55
Dupage County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 022-0051 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated January 15, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel beam bridge consisting of nine lines of continuous beams (see Photo 1). Span lengths from south to north are 91'-3", 77'-1", 77'-1" and 91'-3". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

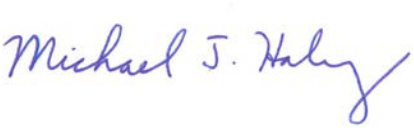
IDOT rates the deck as being in good condition. The findings from the cursory field check don't match IDOT's deck rating. Transverse cracks weren't visible on the deck soffit. IDOT rates the superstructure as being in good condition, which concurs with the findings from the cursory field check. Minor rusting is visible on the bottom flanges of most beams (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor cracking is visible on the abutments and piers. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. Anchor blocks are missing along sections of the north expansion joint (see Photo 3).

Based on the structure summary report and field check, S.N. 022-0051 is suitable for reuse after rehabilitation of the expansion joints. The approach guardrail transitions should be brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

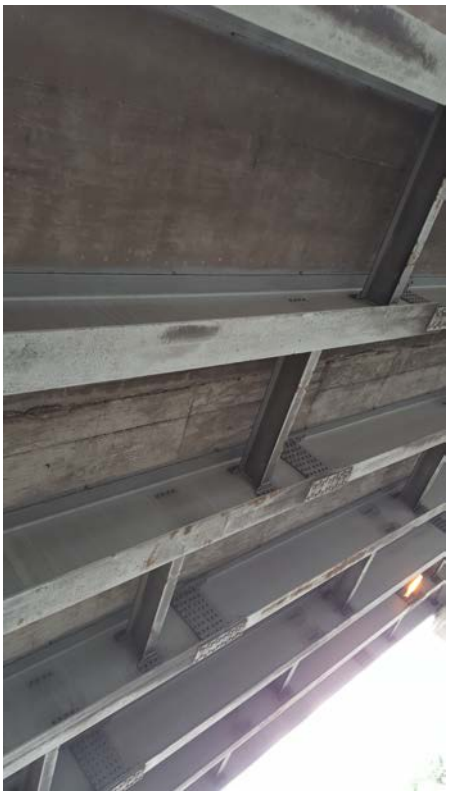


Photo 2

Photo 3

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-0051 **District: 1**

Inventory Data

Facility Carried:	IL 83 NB	**Bridge Name:**		**Sufficiency Rating:**	99.0	**Structure Length:**	342.6
Feature Crossed:	I- 55	**Location:**	1.2 M NW OF COOK CO	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	92.3
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/2002	**Replaces:**	-	**Bridge Roadway Width:**	58.1
Status Remarks:				**Last Update Date:**	06/21/2014	**Appr Roadway Width:**	51.8
Maint County:	022 DUPAGE	**Maint Township:**	03 DOWNERS GROVE	**Parallel Structure:**	Right	**Deck Width:**	61.4
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 /	HIGHWAY	**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	27 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	Yes	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	639722	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None			**Inventory Rating:**	1.650(59)	**Load Rating Date:**	06/05/2002 **Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	2.750(99)	**Crossing 1 Nbr:**	
Latitude:	41.74177134 **S**	**Longitude:**	87.94452502 **S**	**Design Load:** 02 HS20		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM			**Deck Structure Thickness:**	7.5 **SD:** N **FO:** N	**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID PRIMARY 0344	**Station:**	17.6000
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	022 DUPAGE	**Linked:**	Y
Township/Road Dist	03 DOWNERS GROVE	**Natl. Hwy System:**	On NHS
Municipality	0000	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2013 / 16400
Functional Class:	3 OTHER PRINCIPAL ARTERIAL	**Est Truck Percentage:**	9
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	3
Max Rdwy Width:	58.1	**One Or Two Way:**	1 One-Way
Horizontal:	59.3 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 26235
		Designated Truck Rte:	CLASS II
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	5.0800
Main Route 00000		**Segment:**	
022		**Linked:**	Y
03 DOWNERS GROVE		**Natl. Hwy System:**	On NHS
0000		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 135100
1 INTERSTATE		**Est Truck Percentage:**	12
South/East **North/West**		**Number Of Lanes:**	10
65.5		**One Or Two Way:**	2 Two-Way
65.5 65.5		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2021 / 179820
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	3 State Highway	083
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-0051 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***		*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1: Tons	5 No Posting Required
		Special:	N	Single Unit Vehicles: Tons		Combination Type 3S-2 Tons	

Inspection/Appraisal Information

Inspection Date: 01/15/2015 **Inspection Temperature:** 19Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					** Actual Posted Limits **	
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Combination Type 3S-1:	Tons
Culvert:	N	NOT APPLICABLE					Combination Type 3S-2:	Tons
Channel and Protection:	N	NOT APPLICABLE					One Truck At A Time: 0	
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	S
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE	SHP ZINC&FLD ACRYL	
Underclearance-Vert/Lat.:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Deck Protection:	A	EPOXY COATED REINF		
Waterway Adequacy:	N	NOT APPLICABLE		Total Deck Thick:	7.5			
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Last Paint Date:	05/2002			
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1959	Original		2001	Reconstructed	
Route:	FAI-55	**Sta:** 989+99.25	IL RT83		**Sta:** 4+265.433	
Section Nbr:		22-1HB-2		22-IHB-2-R		
Contract Nbr:				60276		
Fed Aid Pr#:		I 0556005271				
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number: 022-0051 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55
(7) Facility Carried: IL 83 NB
(9) Location: 1.2 M NW OF COOK CO
(7A) Bridge Name:
Element Inspection Date: 01/15/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: MastnySC
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	1,540	0	0	0	0	0	0	1,540
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier Wall										
210	4	98	1,834	2	30	0	0	0	0	1,864
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	100	932	0	0	0	0	0	0	932
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Pier or Abutment Cap										
234	4	97	344	3	12	0	0	0	0	356
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Elastomeric Bearing										
310	4	100	36	0	0	0	0	0	0	36
		No deterioration		Minor deterioration		Major deterioration				
Remarks:										
Fixed Bearing										
313	4	100	9	0	0	0	0	0	0	9
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Concrete Bridge Railing										
331	4	100	338	0	0	0	0	0	0	338
		No deterioration		Minor cracks/spalls		Analysis warranted				
Remarks:										

Concrete Deck Protected w/ Coated Bars

8026	4	97	20,923	0	0	3	600	0	0	21,523

Remarks:

Non-Lead Painted Steel Open Girder

8118	4	100	32,551	0	0	0	0	0	0	32,551

Remarks:

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	4	100	18	0	0	0	0	0	0	18

Remarks:

Continuous Seal Neoprene Expansion Joint

8308	4	74	104	0	0	26	36	0	0	140

Remarks:

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 022-0072
Cass Ave. over I-55
DuPage County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 022-0072 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated October 22, 2013 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span steel beam bridge consisting of twenty-two lines of continuous beams (see Photo 1). Span lengths from south to north are 45'-8", 87'-11", 87'-11" and 45'-8". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

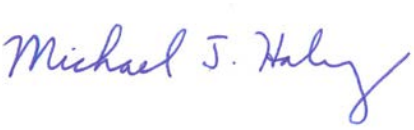
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks with leaching are visible on a majority of the soffit. IDOT rates the superstructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Moderate paint peeling and rusting is visible on the web and flanges of all beams (see Photo 2). Initial section loss may be present at beam ends (see Photo 3). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor to moderate cracking and spalling is visible along both abutments and piers (see Photo 4). No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. Moderate cracks are visible on the north slopewall.

Based on the structure summary report and field check, S.N. 022-0072 is suitable for reuse after rehabilitation of the substructure and expansion joints. The approach guardrail transitions should be brought up to current IDOT standards. The north slopewall should be repaired.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 022-0072 **District: 1**

Inventory Data

Facility Carried:	CASS AVE	**Bridge Name:**		**Sufficiency Rating:**	99.0	**Structure Length:**	272.0
Feature Crossed:	I- 55	**Location:**	1.7 M W IL 83	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	MAX.= 46.0			**Replaced By:**	-	**Length of Long Span:**	87.9
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	02/2002	**Replaces:**	-	**Bridge Roadway Width:**	108.4
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	75.0
Maint County:	022 DUPAGE	**Maint Township:**	03 DOWNERS GROVE	**Parallel Structure:**	None	**Deck Width:**	111.4
Maint Responsibility:	13 I.D.O.T.		COUNTY	**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE		1 / HIGHWAY	**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	19 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:			/	**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:			/	**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:			/	**Structural Steel Wt**	1290400	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:			/	**Substructure Material:**		**Culvert Cell Width:**	0.00

Median Width/Type: 16 Ft. / 3 Curb **Rated By:** 2 IDOT **Rate Method:** 6
Guardrail Type L/R: 0None / 0 None **Inventory Rating:** 1.300(46) **Load Rating Date:** 05/03/2002 **Railroad Crossing Info**
Toll Facility Indicator: 0 No Toll **Operating Rating:** 2.165(77) **Crossing 1 Nbr:**
Latitude: 41.73151182 **S** **Longitude:** 87.97295233 **S** **Design Load:** 02 HS20 **Crossing 1 Nbr:**
Deck Structure Type: A CIP CON NRMLLY FORM **Deck Structure Thickness:** 7.5 **SD:** N **FO:** N **RR Lateral Underclear:** 0.0
Sidewalks Under Structure: 0 None **RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID URBAN 2650	**Station:**	6.4300
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	022 DUPAGE	**Linked:**	Y
Township/Road Dist	03 DOWNERS GROVE	**Natl. Hwy System:**	Not on NHS
Municipality	1397 DARIEN	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2012 / 9100
Functional Class:	4 MINOR ARTERIAL	**Est Truck Percentage:**	3
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	6
Max Rdwy Width:	0.0	**One Or Two Way:**	2 Two-Way
Horizontal:	109.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 9023
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	3.4600
Main Route 00000		**Segment:**	
022		**Linked:**	Y
03 DOWNERS GROVE		**Natl. Hwy System:**	On NHS
1397 DARIEN		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 150400
1 INTERSTATE		**Est Truck Percentage:**	11
South/East **North/West**		**Number Of Lanes:**	8
0.0		**One Or Two Way:**	2 Two-Way
79.8 79.6		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 185592
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	8 Other	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-0072 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	10/22/2013	Inspection Temperature:	40Deg. F				** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION					Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY	Last Paint Type:	Z
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE	FIELD O Z E&P	
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE		Total Deck Thick:	7.5			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/2003			
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1960	Original		2000	Reconstructed	
Route:	FAI-55		Sta: 903+35.51	FAI-55		Sta:
Section Nbr:		22-1HB-4			22-1HB-4-R	
Contract Nbr:					60278	
Fed Aid Pr#:		I 0556003269				
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 08/27/2015

Structure Number: 022-0072 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55
(7) Facility Carried: CASS AVE
(9) Location: 1.7 M W IL 83
(7A) Bridge Name:
Element Inspection Date: 10/22/2013
(90E) Agency Program Manager: SEDLACEKJL
(90E3) Consultant Program Manager:
(90E1) Team Leader:
(90E2) Inspector:

Element Insp. Delinquent | Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Lead Painted Steel Open Girder										
107	4	36	20,000	64	35,160	0	0	0	0	55,160
		No corrosion		Paint distress		Rust formation		Section loss		Section failure

Remarks: Med rust on btm flanges & webs. Minor rust at top flanges.

Reinforced Conc Column or Pile Extension										
205	4	98	2,148	0	0	2	50	0	0	2,198
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: Spalls w/ exposed rebar @Pier 1 &3. FCR failing.

Reinforced Conc Pier Wall										
210	4	95	3,512	0	0	5	200	0	0	3,712
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: Spalls w/ exposed rebar @Pier 1 &3

Reinforced Conc Abutment										
215	4	100	1,188	0	0	0	0	0	0	1,188
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: North & South Bkwall-HL vert leach crks.

Reinforced Conc Pier or Abutment Cap										
234	4	99	588	1	4	0	0	0	0	592
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		

Remarks: Lt cracking

Preformed Joint Seal										
302	4	0	0	78	362	22	100	0	0	462
		No deterioration		Minor deterioration		Major deterioration				

Remarks: Both Jnts leaking

Elastomeric Bearing										
310	4	0	0	100	88	0	0	0	0	88
		No deterioration		Minor deterioration		Major deterioration				

Remarks:

Fixed Bearing

313	4	0	0	100	66	0	0	0	0	66
		No deterioration		Minor deterioration	Advanced corrosion					

Remarks:

Concrete Bridge Railing

331	4	0	0	94	508	6	30	0	0	538
		No deterioration		Minor cracks/spalls	Analysis warranted					

Remarks: HL-Med vert cracking

Concrete Deck Protected w/ Coated Bars

8026	4	90	26,765	10	3,120	0	0	0	0	29,885

Remarks: Lt trans leach crking

Lead Painted Steel Closed Web/Box Girder Ends

8172	4	47	62	53	70	0	0	0	0	132

Remarks: Lt rusting @ N&S Abuts, Pier 1 &3 Bm Ends.

Approach Pavement

8323	4	100	4	0	0	0	0	0	0	4

Remarks:

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 022-0088
Woodward Ave. over I-55
DuPage County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 022-0088 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated July 7, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a two span steel girder bridge consisting of eleven lines of continuous girders (see Photo 1). Span lengths from south to north are 137'-11" and 161'-2". The superstructure is supported by sand filled vaulted abutments and a reinforced concrete multi-column pier. There is no overlay on the structure.

IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor transverse cracks are visible on a majority of the top of deck. IDOT rates the superstructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Minor to moderate paint peeling and rusting is visible on the bottom flanges of all girders (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Minor spalls are visible along the abutment stem (see Photo 3). IDOT rates the approach guardrail transitions as not meeting current standards, which concurs with the findings from the cursory field check. The northeast approach guardrail exhibits impact damage. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck geometry, underclearance vert/lat, approach alignment and bridge railing appraisal items. Large longitudinal and diagonal cracks are visible on both approach slabs (see Photo 4). Expansion joint Anchor blocks are damaged at the bridge parapets and median (see Photo 5).

Based on the structure summary report and field check, S.N. 022-0088 is suitable for reuse after rehabilitation of the substructure and expansion joints. The approach guardrail transitions should be repaired and brought up to current IDOT standards.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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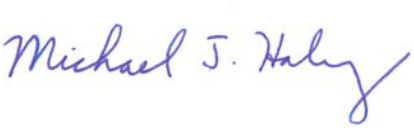

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 022-0088 **District: 1**

Inventory Data

Facility Carried:	WOODWARD AVE	**Bridge Name:**		**Sufficiency Rating:**	83.0	**Structure Length:**	348.7
Feature Crossed:	I- 55	**Location:**	1.1 M SW LEMONT RD	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	SAND FILLED VAULTED ABUTMENTS - TREATED AS APPROACH PAVEMENT SMW.			**Replaced By:**	-	**Length of Long Span:**	160.2
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	12/1998	**Replaces:**	-	**Bridge Roadway Width:**	53.1
Status Remarks:	PER KRAMARZ MEMO 3-26-98			**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	26.0
Maint County:	022 DUPAGE	**Maint Township:**	03 DOWNERS GROVE	**Parallel Structure:**	None	**Deck Width:**	81.0
Maint Responsibility:	19 I.D.O.T.		TOWNSHIP OR ROAD DISTRICT	**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	13.8
Service On/Under:	1 HIGHWAY		1 / HIGHWAY	**Skew Direction:**	R Right	**Sidewalk Width Left:**	13.8
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	8 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	2	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:			/	**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:			/	**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:			/	**Structural Steel Wt**	400312	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:			/	**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	10 Ft. / 3 Curb			**Rated By:**	2 IDOT	**Rate Method:**	6
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.105(39)	**Load Rating Date:**	02/28/2000	**Railroad Crossing Info**
Toll Facility Indicator:	0 No Toll		**Operating Rating:**	1.845(66)			**Crossing 1 Nbr:**
Latitude:	41.70773671 **S**	**Longitude:**	88.02448675 **S**	**Design Load:**	02 HS20		**Crossing 1 Nbr:**
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	7.5	**SD:** N **FO:** N		**RR Lateral Underclear:** 0.0
Sidewalks Under Structure:	0 None						**RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID URBAN 2593	**Station:**	4.5100
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	022 DUPAGE	**Linked:**	Y
Township/Road Dist	03 DOWNERS GROVE	**Natl. Hwy System:**	Not on NHS
Municipality	6350 WOODRIDGE	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2012 / 9200
Functional Class:	4 MINOR ARTERIAL	**Est Truck Percentage:**	8
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	26.6	**One Or Two Way:**	2 Two-Way
Horizontal:	64.2 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 9915
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	0.3400
Main Route 00000		**Segment:**	
022		**Linked:**	Y
03 DOWNERS GROVE		**Natl. Hwy System:**	On NHS
6350 WOODRIDGE		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 114900
1 INTERSTATE		**Est Truck Percentage:**	11
South/East **North/West**		**Number Of Lanes:**	10
36.0		**One Or Two Way:**	2 Two-Way
116.0 133.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2021 / 174825
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	8 Other	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-0088 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	07/07/2015	Inspection Temperature:	68Deg. F					** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Single Unit Vehicles:	Tons
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	GQ
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Membrane:	F	NONE		SHP ZINC & VINYL	
Deck Geometry:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Deck Protection:	C	OTHER COATED REINF			
Underclearance-Vert/Lat.:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Total Deck Thick:	7.5			OTHER PROTECT SYS	
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	10/1998				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	233	Not Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1959	Original		1998	Reconstructed
Route:	FAI-3	Sta: 738+35.69		I-355	Sta: 9+999.406
Section Nbr:	22-2HB-2			95-00034-00-PV	
Contract Nbr:				83305	
Fed Aid Pr#:	I 0036008000			I 0036008000	
Built By:	0	UNKNOWN		5	FEDERAL AGENCY

Pontis

Today's Date: 08/27/2015

Structure Number: 022-0088 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55
(7) Facility Carried: WOODWARD AVE
(9) Location: 1.1 M SW LEMONT RD
(7A) Bridge Name:
Element Inspection Date: 07/07/2015
(90E) Agency Program Manager: AsfourSE
(90E3) Consultant Program Manager:
(90E1) Team Leader: SalaymehTA
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Reinforced Conc Column or Pile Extension										
205	4	100	604	0	3	0	0	0	0	607
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Honeycombing @ base of Col #6										
Reinforced Conc Pier Wall										
210	4	100	922	0	0	0	0	0	0	922
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:										
Reinforced Conc Abutment										
215	4	99	1,231	1	8	0	0	0	0	1,239
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: Stem) Crking @ widening; HL vert crking; Backwall) HL-Nar vert crking										
Reinforced Conc Pier or Abutment Cap										
234	4	98	238	2	4	0	0	0	0	242
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks: HI vert crks @ Col #6										
Elastomeric Bearing										
310	4	0	0	100	22	0	0	0	0	22
		No deterioration		Minor deterioration		Major deterioration				
Remarks: Lt-med surf rust to bearing assemblies @ Abts; Brg#2 @ W. abt lipping up @ seat										
Fixed Bearing										
313	4	0	0	100	11	0	0	0	0	11
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:										
Reinforced Concrete Approach Slab										
321	2	98	2,990	2	60	0	0	0	0	3,050
		No deterioration		Cracks/spalls		Major cracks/spalls		Broken/Unstable		
Remarks: NE wide longit crks, HL-med diag crks. NW wide longit crks. SE wide longit crks, not aligned w/rdway. SW wide longit crks.										

Concrete Bridge Railing

331	2	0	0	100	897	0	0	0	0	897
		No deterioration	Minor cracks/spalls		Analysis warranted					

Remarks: HL Vert Crks, map crks typ.

Concrete Deck Protected w/ Coated Bars

8026	2	94	22,779	6	1,400	0	0	0	0	24,179

Remarks: WS: Lt Transv. Crks; Soffit Lt trans leach crks

Non-Lead Painted Steel Open Girder

8118	4	100	71,396	0	20	0	0	0	0	71,416

Remarks: Lt surf rust to bottom flanges @ Bms #5,6,7,8 &9 (original steel)

Non-Lead Painted Steel Closed Web/Box Girder Ends

8173	2	55	12	45	10	0	0	0	0	22

Remarks: Lt surf rust to bm ends @ Bms #5,6,7,8 &9 (original steel); Isol paint peel @ Bm ends of East Abut

Continuous Seal Neoprene Expansion Joint

8308	2	94	154	6	10	0	0	0	0	164

Remarks:

Approach Pavement

8323	2	0	0	100	2	0	0	0	0	2

Remarks: Appr pavement North &South end has med map, longit & diag crks. All approaches have med diag & map crks & wide longit crks.

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 022-0089
Clarendon Hills Rd. over I-55
DuPage County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 022-0089 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated April 22, 2015 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a four span PPC I-Beam bridge (see Photo 1). Spans 1 and 4 contain seven lines of simply supported beams while spans 2 and 3 contain eight lines of continuous beams. Span lengths from south to north are 49'-9", 74'-9", 74'-9" and 49'-9". The superstructure is supported by pile bent abutments and reinforced concrete multi-column piers. There is no overlay on the structure.

IDOT rates the superstructure as being in poor condition, which concurs with the findings from the cursory field check. Stirrup bars are exposed the full perimeter of bottom flanges at a few beam ends in the continuous unit with some strands exposed inside the exterior perimeter of strands (see Photo 2). The ends of the beams at both the north and south abutments are spalled. Some beam end spalls at the south abutment extend through the bearing line (see Photo 3). Minor to severe corrosion is visible on the abutment fixed bearings. Some bottom flanges are spalled off facing the direction of traffic over W.B. I-55 (see Photo 4), due to suspected impact damage. IDOT rates the substructure as being in satisfactory condition, which concurs with the findings from the cursory field check. Moderate spalls with exposed rebar are visible along the bottom of cap and top of columns at the south pier. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck, deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail items. Large cracks and undermining are visible on north and south slopewalls (see Photo 5).

Based on the structure summary report and field check, S.N. 022-0089 is suitable for reuse after rehabilitation of the substructure, superstructure and expansion joints. Both slope walls should be

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

replaced and approach guardrail transitions should be brought up to current IDOT standards.

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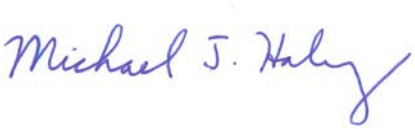

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

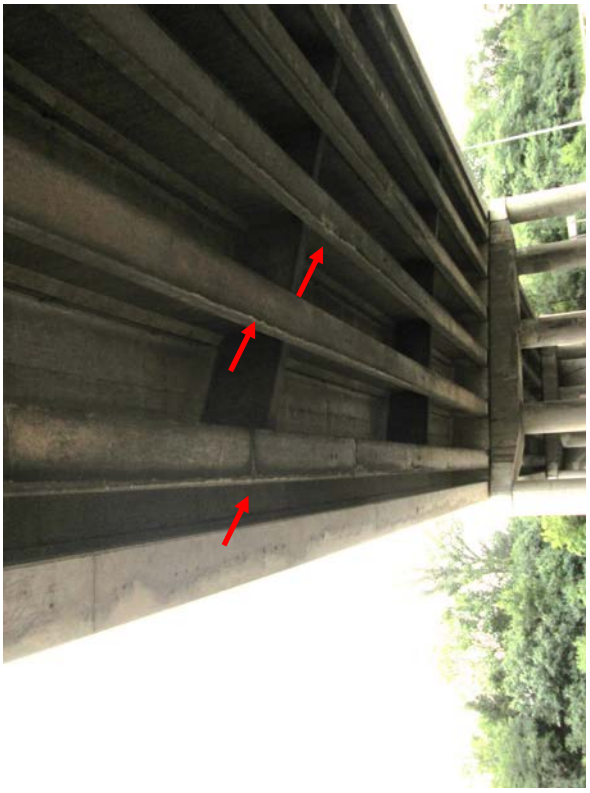

Photo 4

Photo 5

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/28/2015
Page: 1

Structure Number: 022-0089 **District: 1**

Inventory Data

Facility Carried:	CLARENDON HILLS RD	**Bridge Name:**		**Sufficiency Rating:**	70.0	**Structure Length:**	251.9
Feature Crossed:	I- 55	**Location:**	0.5 M W IL 83	**HBP Eligible:**	Yes	**AASHTO Bridge Length:**	99.9
Bridge Remarks:	DESIGN LOAD MS18			**Replaced By:**	-	**Length of Long Span:**	74.7
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	05/2001	**Replaces:**	-	**Bridge Roadway Width:**	35.4
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	24.0
Maint County:	022 DUPAGE	**Maint Township:**	03 DOWNERS GROVE	**Parallel Structure:**	None	**Deck Width:**	38.7
Maint Responsibility:	13 I.D.O.T.		COUNTY	**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY		1 / HIGHWAY	**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:**	24 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	5 PRESTRESS CONCRETE		/ 02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	4	**Nbr Of Approach Spans:**	0	**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:			/	**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:			/	**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:			/	**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:			/	**Substructure Material:**		**Culvert Cell Width:**	0.00

Median Width/Type: 0 Ft. / 0 None **Rated By:** 2 IDOT **Rate Method:** 6

Guardrail Type L/R: 0None / 0 None **Inventory Rating:** 1.700(61) **Load Rating Date:** 09/04/2014 **Railroad Crossing Info**

Toll Facility Indicator: 0 No Toll **Operating Rating:** 2.840(102) **Crossing 1 Nbr:**

Latitude: 41.73784000 **S** **Longitude:** 87.95391000 **S** **Design Load:** 02 HS20 **Crossing 1 Nbr:**

Deck Structure Type: A CIP CON NRMLLY FORM **Deck Structure Thickness:** 7.5 **SD:** Y **FO:** N **RR Lateral Underclear:** 0.0

Sidewalks Under Structure: 0 None **RR Vertical Underclear:** 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID URBAN 2663	**Station:**	3.4400
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	022 DUPAGE	**Linked:**	Y
Township/Road Dist	03 DOWNERS GROVE	**Natl. Hwy System:**	Not on NHS
Municipality	0000	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2012 / 3350
Functional Class:	5 MAJOR COLLECTOR	**Est Truck Percentage:**	1
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	2
Max Rdwy Width:	35.4	**One Or Two Way:**	2 Two-Way
Horizontal:	36.6 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 7241
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	4.5200
Main Route 00000		**Segment:**	
022		**Linked:**	Y
03 DOWNERS GROVE		**Natl. Hwy System:**	On NHS
0000		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 152700
1 INTERSTATE		**Est Truck Percentage:**	11
South/East **North/West**		**Number Of Lanes:**	6
56.0		**One Or Two Way:**	2 Two-Way
64.1 64.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 187598
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	8 Other	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-0089 **District:** 1

Data Related to Inspection Information

*** Inspection Intervals ***		*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	12 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:** Tons	5 No Posting Required
		Special:	N	**Single Unit Vehicles:** Tons		**Combination Type 3S-2** Tons	

Inspection/Appraisal Information

Inspection Date: 04/22/2015 **Inspection Temperature:** 48Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS				**Single Unit Vehicles:**	Tons
Superstructure:	4	POOR CONDITION - ADVANCED DETERIORATION				**Combination Type 3S-1:**	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION				**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE				**One Truck At A Time:**	0
Channel and Protection:	N	NOT APPLICABLE	**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY	**Last Paint Type:**	
Structural Evaluation:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE	**Deck Membrane:**	F	NONE		
Deck Geometry:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE	**Deck Protection:**	A	EPOXY COATED REINF		
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE	**Total Deck Thick:**	7.5			
Waterway Adequacy:	N	NOT APPLICABLE	**Last Paint Date:**				
Approach Roadway Align:	6	EQUAL TO PRESENT MINIMUM CRITERIA					
Bridge Railing Appraisal:	3	Meets Standards					
Approach Guardrail:	233	Not Acceptable Acceptable Acceptable					
Pier Navig Protection:	N	N/A					

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1960	Original		2002	Reconstructed	
Route:	FAI-55		**Sta:** 960+74.92	FAI-55		**Sta:** 10+000.00
Section Nbr:		22-1HB-3			97-03121-00-BR	
Contract Nbr:					83383	
Fed Aid Pr#:		I 0556004270				
Built By:	1	I.D.O.T.		1	I.D.O.T.	

Pontis

Today's Date: 08/25/2015

Structure Number: 022-0089 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55
(7) Facility Carried: CLARENDON HILLS RD
(9) Location: 0.5 M W IL 83
(7A) Bridge Name:
Element Inspection Date: 04/22/2015
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent: N Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
P/S Conc Open Girder										
109	4	98	1,845	1	28	0	9	0	0	1,882
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	All interior lwr fl's @ P2 exhibiting hp's along w/few spalls exposing rusted reint & strands, impact spall bm 7 sp2 no exposure									
Reinforced Conc Column or Pile Extension										
205	4	99	1,694	0	0	1	18	0	0	1,712
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	P3 columns exhibiting unsound map cracked areas @ tops w/most col repairs exhibiting hl map cracks									
Reinforced Conc Pier Wall										
210	4	100	1,881	0	0	0	0	0	0	1,881
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	HL-isol narrow vert cracks									
Reinforced Conc Abutment										
215	4	100	685	0	0	0	0	0	0	685
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Backwalls: hl vert cracks									
Reinforced Conc Pier or Abutment Cap										
234	4	97	211	0	0	3	6	0	0	217
		No deterioration		Minor cracks/spalls		Delams/spalls		Analysis warranted		
Remarks:	Piers: P3 cap underside spalls w/exp btwn Col #1&2 and Col #4&5. Numer locations all piers w/hl-narrow horiz edge cracks. Abts:hl-narrow horz cracks @ S abt.									
Preformed Joint Seal										
302	4	0	0	100	85	0	0	0	0	85
		No deterioration		Minor deterioration		Major deterioration				
Remarks:	@N & S Abut, Leak									
Movable Discontinous Brg.										
311	4	0	0	100	30	0	0	0	0	30
		No deterioration		Minor deterioration		Advanced corrosion				
Remarks:	Lt surface edge rusting									

Fixed Bearing

313	4	53	16	47	14	0	0	0	0	30
		No deterioration	Minor deterioration		Advanced corrosion					

Remarks: Fascia brngs @ abuts have lt rust to assemblies

Concrete Bridge Railing

331	4	100	498	0	0	0	0	0	0	498
		No deterioration	Minor cracks/spalls		Analysis warranted					

Remarks:

Concrete Deck Protected w/ Coated Bars

8026	4	99	9,510	1	125	0	0	0	0	9,635

Remarks: HL trans crking to ws and soffit.

P/S Conc Beam Ends Incl Diaphrams Under Deck Joint

8237	4	0	0	98	43	0	0	2	1	44

Remarks: All interior ends exhibiting hp's to bottom fl's w/many having small spalls @ very ends(beyond bearings)

Continuous Seal Neoprene Expansion Joint

8308	4	0	0	100	85	0	0	0	0	85

Remarks: @Pier 1 &3, Leak

Approach Pavement

8323	4	100	2	0	0	0	0	0	0	2

Remarks: N & S exhibiting hl-narrow random cracks that were sealed and have re-cracked

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 022-2006
N.B. I-55. Ramp to N.B. I-355 over I-55
DuPage County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 022-2006 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated April 16, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a two span steel girder bridge consisting of five lines of curved continuous girders. (see Photo 1). Span lengths from south to north are 179'-$10^{1}/_{2}$" and 173'-$7^{5}/_{8}$". The superstructure is supported by vaulted abutments and a reinforced concrete multi-column pier. There is no overlay on the structure.

IDOT rates the superstructure as being in very good condition. The findings from the cursory field check don't match IDOT's superstructure rating. Minor rusting is visible along the bottom flanges of girders (see Photo 2). Paint is beginning to crack on the girders in some locations. IDOT rates the substructure as being in very good condition, which concurs with the findings from the cursory field check. Minor map cracking is visible on abutment caps and pier columns (see Photo 3). IDOT rates the underclearance vertical and lateral as intolerable requiring a high priority for corrective action, which concurs with the findings from the cursory field check. Clearances along the inside shoulders of I-55 appear to be less than 4 ft. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: deck, deck geometry, approach alignment, bridge railing appraisal and approach guardrail items. A large spall is visible on the east bridge parapet (see Photo 4). The top of the south slopewall is beginning to delaminate/spall (see Photo 5). Moderate diagonal cracks are visible on both approach slabs (see Photo 6).

Based on the structure summary report and field check, S.N. 022-2006 is suitable for reuse without rehabilitation. The south slopewall and east parapet should be repaired.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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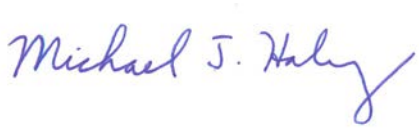

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Appendix C – PONTIS Report

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-2006 **District: 1**

Inventory Data

Facility Carried:	I- 55 NB TO I-355 NB	**Bridge Name:**		**Sufficiency Rating:**	96.0	**Structure Length:**	410.4
Feature Crossed:	I- 55	**Location:**	1 M W OF LEMONT RD	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	179.8
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	03/2009	**Replaces:**	-	**Bridge Roadway Width:**	34.0
Status Remarks:	STATUS CHANGED BY TWH PER 3-17-2009 AUDIT REPORT			**Last Update Date:**	11/19/2014	**Appr Roadway Width:**	34.0
Maint County:	022 DUPAGE	**Maint Township:**	03 DOWNERS GROVE	**Parallel Structure:**	None	**Deck Width:**	37.2
Maint Responsibility:	21 ILL. TOLLWAY COMMISSION	I.D.O.T.		**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY	1 /	HIGHWAY	**Skew Direction:**	R Right	**Sidewalk Width Left:**	0.0
Reporting Agency:	8 ILLINOIS TOLLWAY AUTHORITY			**Skew Angle:**	34 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	2 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:		/		**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:		/		**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:		/		**Structural Steel Wt**	810860	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:		/		**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 3 Consultant		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.280(46)	**Load Rating Date:**	03/02/2011	**Railroad Crossing Info**
Toll Facility Indicator:	6 Toll Road		**Operating Rating:**	2.250(81)		**Crossing 1 Nbr:**	
Latitude:	41.70556696 **S**	**Longitude:**	88.02826646 **S**	**Design Load:** 02 HS20		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	8 **SD:** N **FO:** Y		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0055	**Station:**	1.0700
Appurtenances	Ramp 35020	**Segment:**	
Inventory County:	099 WILL	**Linked:**	Y
Township/Road Dist	04 DUPAGE	**Natl. Hwy System:**	On NHS
Municipality	0000	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2013 / 16800
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	0
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	1
Max Rdwy Width:	36.0	**One Or Two Way:**	1 One-Way
Horizontal:	40.0 40.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 87567
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	0.0700
Main Route 00000		**Segment:**	
022		**Linked:**	Y
03 DOWNERS GROVE		**Natl. Hwy System:**	On NHS
6350 WOODRIDGE		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 106500
1 INTERSTATE		**Est Truck Percentage:**	12
South/East **North/West**		**Number Of Lanes:**	6
36.0		**One Or Two Way:**	2 Two-Way
40.0 0.0		**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 163424
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 022-2006 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	04/16/2014	Inspection Temperature:	55Deg. F					** Actual Posted Limits **	
Deck:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED						Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE						One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	A	BARE DECK NO OVRLAY		Last Paint Type:	S
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	F	NONE		SHP ZINC&FLD ACRYL	
Deck Geometry:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Deck Protection:	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION		Total Deck Thick:	8.0				
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:	06/2007				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	2007	Original	Reconstructed	
Route:		Sta: 57+36	Sta:	
Section Nbr:				
Contract Nbr:		I05771		
Fed Aid Pr#:				
Built By:	2	OTHER STATE AGENCY		

Pontis

Today's Date: 08/27/2015

Structure Number: 022-2006 **District:** 1
(41) Bridge Status: 1 OPEN - NO RESTRICT
(6) Feature Crossed: I- 55
(7) Facility Carried: I- 55 NB TO I-355 NB
(9) Location: 1 M W OF LEMONT RD
(7A) Bridge Name:
Element Inspection Date: 01/15/2014
(90E) Agency Program Manager: MastnySC
(90E3) Consultant Program Manager:
(90E1) Team Leader: SedlacekJL
(90E2) Inspector:

Element Insp. Delinquent | Element Insp. Delinquent Reason:

Element Description

Elem	Env	% 1	Qty 1	% 2	Qty 2	% 3	Qty 3	% 4	Qty 4	Tot Qty
Strip Seal Expansion Joint										
300	4	100	80	0	0	0	0	0	0	80
		No leakage		Minor leakage		Major leakage				

Remarks:

Concrete Bridge Railing										
331	4	99	701	1	10	0	0	0	0	711
		No deterioration		Minor cracks/spalls		Analysis warranted				

Remarks: Vert Cracking w/collision scrapes/shallow spalls (E Side).

Concrete Deck Protected w/ Coated Bars										
8026	4	99	13,288	1	140	0	0	0	0	13,428

Remarks: HL Trans cracking; Shallow Bird Baths in WS Span 1

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Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 099-0336
S.B. I-355 over I-55
Will County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 099-0336 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated April 15, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a two span steel girder bridge totaling 356.7 ft. in length consisting of eight lines of continuous girders (see Photo 1). The superstructure is supported by vaulted abutments and a reinforced concrete multi-column pier. There is no overlay on the structure.

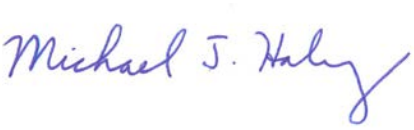
IDOT rates the deck as being in good condition, which concurs with the findings from the cursory field check. Minor longitudinal and diagonal cracks are visible on the top of deck near the expansion joints. Minor transverse cracks with leaching are visible on a majority of the deck soffit (see Photo 2). IDOT rates the substructure as being in very good condition. The findings from the cursory field check don't match IDOT's substructure rating. Minor spalls and rust stains are visible at the base of earwalls (see Photo 3). Vertical cracks and horizontal bearing seat cracks are visible on the abutments (see Photo 4). Minor vertical cracks are visible on the pier. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, underclearance vert/lat, approach alignment, bridge railing appraisal and approach guardrail appraisal items.

Based on the structure summary report and field check, S.N. 099-0336 is suitable for reuse after rehabilitation of the substructure.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

LIN ENGINEERING, LTD.



Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-0336 **District: 1**

Inventory Data

Facility Carried:	I-355 SB	**Bridge Name:**		**Sufficiency Rating:**	98.0	**Structure Length:**	356.7
Feature Crossed:	I-55	**Location:**	1.3M S OF BOUGHTON	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	148.7
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/2010	**Replaces:**	-	**Bridge Roadway Width:**	99.9
Status Remarks:				**Last Update Date:**	04/10/2014	**Appr Roadway Width:**	99.9
Maint County:	099 WILL	**Maint Township:**	04 DUPAGE	**Parallel Structure:**	Right	**Deck Width:**	99.9
Maint Responsibility:	02 ILL. TOLLWAY COMMISSION			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 / HIGHWAY		**Skew Direction:**		**Sidewalk Width Left:**	0.0
Reporting Agency:	8 ILLINOIS TOLLWAY AUTHORITY			**Skew Angle:**	0 **D**	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER		**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	2 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 3 Consultant		**Rate Method:** 6	
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.280(46)	**Load Rating Date:**	03/02/2011	**Railroad Crossing Info**
Toll Facility Indicator:	6 Toll Road		**Operating Rating:**	2.140(77)		**Crossing 1 Nbr:**	
Latitude:	41.70389564 **S**	**Longitude:**	88.03081886 **S**	**Design Load:** 02 HS20		**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	0 **SD:** N **FO:** N		**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:** 0 **Ft** 0 **In**	

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0355	**Station:**	1.6900
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	099 WILL	**Linked:**	Y
Township/Road Dist	04 DUPAGE	**Natl. Hwy System:**	On NHS
Municipality	3185 LEMONT	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2013 / 34850
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	13
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	24.0	**One Or Two Way:**	1 One-Way
Horizontal:	48.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 43784
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	35.9100
Main Route 00000		**Segment:**	
099		**Linked:**	Y
04 DUPAGE		**Natl. Hwy System:**	On NHS
6350 WOODRIDGE		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 106500
1 INTERSTATE		**Est Truck Percentage:**	13
South/East	**North/West**	**Number Of Lanes:**	10
36.0		**One Or Two Way:**	2 Two-Way
40.0	0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 176744
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	355
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-0336 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date: 04/15/2014 Inspection Temperature: 40Deg. F

							** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Superstructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-1:	Tons
Substructure:	8	VERY GOOD CONDITION - NO PROBLEMS NOTED					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	N	N/A - NO DECK	Last Paint Type:	
Structural Evaluation:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		Deck Membrane:	N	N/A		
Deck Geometry:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA		Deck Protection:	N	N/A		
Underclearance-Vert/Lat.:	6	EQUAL TO PRESENT MINIMUM CRITERIA		Total Deck Thick:	0.0			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: Inspection Method:
Appraisal Rating:

Scour Critical Information

Rating: Evaluation Method:
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	2007	Original	Reconstructed	
Route:		Sta:		Sta:
Section Nbr:				
Contract Nbr:				
Fed Aid Pr#:				
Built By:	2	OTHER STATE AGENCY		

LIN ENGINEERING,LTD.
Consulting Engineers

Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

October 27, 2015

MEMORANDUM

Mr. John Fortmann, Region One Engineer
Illinois Department of Transportation
Region One/District One

Attn: Steven Schilke

RE: Existing S.N. 099-9944
N.B. I-355 over I-55
Will County
PTB 158-002/P-91-762-10

The purpose of this technical memo is to summarize the current condition of existing S.N. 099-9944 in addition to geometrics and other factors. A cursory field check was performed to supplement the information contained in IDOT's structure summary report dated April 15, 2014 (see Appendix B). Broad-based recommendations for this structure are provided below.

The structure is a two span steel girder bridge totaling 360.0 ft. in length consisting of ten lines of continuous girders (see Photo 1). The superstructure is supported by vaulted abutments and a reinforced concrete multi-column pier. There is no overlay on the structure.

IDOT rates the deck as being in good condition. The findings from the cursory field check don't match IDOT's deck rating. Minor transverse cracks are visible throughout the top of deck and soffit. Small 1 in. deep spalls are visible on the top of deck (see Photo 2). IDOT rates the substructure as being in good condition, which concurs with the findings from the cursory field check. Map cracking is visible on the face of abutments (see Photo 3). IDOT rates the underclearance vertical and lateral as meeting the minimum tolerable limits to be left in place as is, which concurs with the findings from the cursory field check. Clearance along the inside shoulders of I-55 appear to be less than 5 ft. No notable defects or differences were observed between the cursory field check and IDOT's structure summary report for: superstructure, deck geometry, approach alignment, bridge railing appraisal and approach guardrail items. An anchor bolt nut is loose on the east exterior girder at the north abutment bearing (see Photo 4). Moderate diagonal cracks are visible on both approach slabs.

Based on the structure summary report and field check, S.N. 099-9944 is suitable for reuse after rehabilitation of the deck.

LIN ENGINEERING,LTD.
Consulting Engineers
Springfield, IL **Westmont, IL**

576 Oakmont Lane
Westmont, Illinois 60559
Telephone: (630) 323-5168
Fax: (630) 323-5174
E-mail: info@lineng.com

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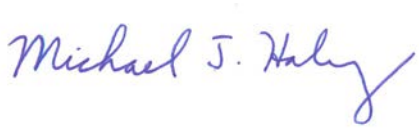

Michael T. Haley, PE, SE
Structural Manager

Appendix A – Photos

Appendix B – IDOT Structure Summary Report

Photo 1

Photo 2

Photo 3

Photo 4

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Date: 07/27/2015
Page: 1

Structure Number: 099-9944 **District: 1**

Inventory Data

Facility Carried:	I-355 NB	**Bridge Name:**		**Sufficiency Rating:**	92.3	**Structure Length:**	360.0
Feature Crossed:	I-55	**Location:**	1.3M S OF BOUGHTON	**HBP Eligible:**	No	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	180.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	10/1999	**Replaces:**	-	**Bridge Roadway Width:**	59.0
Status Remarks:	BRIDGE OPENED AUTOMATICALLY BY KEY ROUTE ON UPDATE TRANSACTION			**Last Update Date:**	04/10/2014	**Appr Roadway Width:**	61.0
Maint County:	099 WILL	**Maint Township:**	04 DUPAGE	**Parallel Structure:**	Left	**Deck Width:**	63.0
Maint Responsibility:	02 ILL. TOLLWAY COMMISSION			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 /	HIGHWAY	**Skew Direction:**	L Left	**Sidewalk Width Left:**	0.0
Reporting Agency:	8 ILLINOIS TOLLWAY AUTHORITY			**Skew Angle:**	8 D	**Navigation Control:**	N N/A
Main Span Matl/Type:	3 STEEL	/	02 STRINGER/MULTI-BEAM/GIRDER	**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	2 **Nbr Of Approach Spans:**	0		**Historical Significance:**	No	**Navigation Vert Clear:**	0
*****Approaches*****				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**		**Culvert Cell Width:**	0.00
Median Width/Type:	2 Ft. / 4 Wall			**Rated By:**	3 Consultant	**Rate Method:**	6
Guardrail Type L/R:	0None / 0 None		**Inventory Rating:**	1.080(38)	**Load Rating Date:**	03/02/2011	**Railroad Crossing Info**
Toll Facility Indicator:	6 Toll Road		**Operating Rating:**	1.910(68)		**Crossing 1 Nbr:**	
Latitude:	41.70422464 **S**	**Longitude:**	88.03088154 **S**	**Design Load:**	99 UNKNOWN	**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM		**Deck Structure Thickness:**	0 **SD:** N	**FO:** N	**RR Lateral Underclear:**	0.0
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:**	0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr:	FEDERAL-AID INTERSTATE 0355	**Station:**	1.6800
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	099 WILL	**Linked:**	Y
Township/Road Dist	04 DUPAGE	**Natl. Hwy System:**	On NHS
Municipality	3185 LEMONT	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2013 / 34850
Functional Class:	1 INTERSTATE	**Est Truck Percentage:**	13
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	0.0	**One Or Two Way:**	1 One-Way
Horizontal:	48.0 0.0	**Bypass Length:**	1
		Future AADT Yr/Cnt:	2032 / 43784
		Designated Truck Rte:	CLASS I
Lateral:		**Special Systems:**	Yes

Key Route Under Data

FEDERAL-AID INTERSTATE 0055		**Station:**	35.9000
Main Route 00000		**Segment:**	
099		**Linked:**	Y
04 DUPAGE		**Natl. Hwy System:**	On NHS
6350 WOODRIDGE		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 106500
1 INTERSTATE		**Est Truck Percentage:**	13
South/East	**North/West**	**Number Of Lanes:**	10
0.0		**One Or Two Way:**	2 Two-Way
160.0	160.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 176744
		Designated Truck Rte:	CLASS I
		Special Systems:	Yes

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	1 Interstate Highway	355
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number
	1 Mainline	1 Interstate Highway	055
	1 Mainline		
	1 Mainline		

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 099-9944 **District: 1**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	24 MOS	Underwater:	0 MOS	One Truck At A Time:	0	Combination Type 3S-1:	Tons	5	No Posting Required
		Special:	N	Single Unit Vehicles:	Tons	Combination Type 3S-2	Tons		

Inspection/Appraisal Information

Inspection Date:	04/15/2014	Inspection Temperature:	40Deg. F				** Actual Posted Limits **	
Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Single Unit Vehicles:	Tons
Superstructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Combination Type 3S-1:	Tons
Substructure:	7	GOOD CONDITION - SOME MINOR PROBLEMS					Combination Type 3S-2:	Tons
Culvert:	N	NOT APPLICABLE					One Truck At A Time:	0
Channel and Protection:	N	NOT APPLICABLE		Deck Wearing Surf:	N	N/A - NO DECK	Last Paint Type:	
Structural Evaluation:	7	BETTER THAN PRESENT MINIMUM CRITERIA		Deck Membrane:	N	N/A		
Deck Geometry:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Deck Protection:	N	N/A		
Underclearance-Vert/Lat.:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		Total Deck Thick:	0.0			
Waterway Adequacy:	N	NOT APPLICABLE		Last Paint Date:				
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA						
Bridge Railing Appraisal:	3	Meets Standards						
Approach Guardrail:	333	Acceptable	Acceptable	Acceptable				
Pier Navig Protection:	N	N/A						

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: Inspection Method:
Appraisal Rating:

Scour Critical Information

Rating: Evaluation Method:
Analysis Date:

Miscellaneous

Microfilm Data Recorded: No

Construction Information

Year:	1989	Original	Reconstructed	
Route:		Sta:	Sta:	
Section Nbr:				
Contract Nbr:				
Fed Aid Pr#:				
Built By:	2	OTHER STATE AGENCY		

O'Holleran, John

From: Baldauf, John E. <John.Baldauf@Illinois.gov>
Sent: Tuesday, July 26, 2016 2:45 PM
To: O'Holleran, John
Cc: Schilke, Steven E; Smith, Corey J.
Subject: FW: RR Structures | I-55 Managed Lanes
Attachments: CO-11285.0.pdf; CO-11286.0.pdf; CO-11283.0.pdf; CO-11284.0.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

FYI – we also requested a cost estimate from our RR Unit for flagging and any other associated costs with the proposed railroad work.

John Baldauf, P.E.
Project Manager

Illinois Department of Transportation
Bureau of Programming | Major Projects Unit
201 West Center Court | Schaumburg, IL 60196-1096
Phone: 847.705.4103 | john.baldauf@illinois.gov


Please consider the environment before printing this email.

From: Stoddard, Keith W.
Sent: Tuesday, July 26, 2016 2:26 PM
To: Baldauf, John E.
Cc: Schilke, Steven E; Smith, Corey J.; Broviak, Pamela A.; Rayyan, Issam Y
Subject: RE: RR Structures | I-55 Managed Lanes

John

Based on the title commitments we received in December 2015, attached, additional documents I reviewed and the location of the improvements shown in your exhibits it is my opinion that additional ROW/Easements will not be needed at the Railroads mentioned directly below.

B&O RR-The State has Fee Simple interest per Document # 19024366-, Commitment 11284.0, Current Owner-People of the State of Illinois, Department of Transportation (from 12-29-15 email)

Sincerely,

Keith W. Stoddard PLS
Chief of Plats and Plans
Illinois Department of Transportation
District 1, Bureau of Land Acquisition
201 West Center Ct.
Schaumburg, IL 60196-1096
847-705-4771 (Office)
847-705-4218 (Fax)
keith.stoddard@illinois.gov

From: Baldauf, John E.
Sent: Monday, July 25, 2016 11:39 AM
To: Stoddard, Keith W.
Cc: Schilke, Steven E; Smith, Corey J.; Broviak, Pamela A.; Rayyan, Issam Y
Subject: RE: RR Structures | I-55 Managed Lanes

Keith,

We are nearing completion of Phase I and at this time we are only proposing work to I-55 over the BRC Railroad (full bridge replacement), B&O Railroad (widening – sub & superstructure), and GM&O Railroad (widening – superstructure only). All widening will occur in the I-55 median (see attached location maps).

Based on the information provided it is our understanding the State has existing easement and/or fee simple rights at the subject locations an no additional ROW will be necessary. Please confirm and/or let us know if you need anything additional from us.

Thank you,

John Baldauf, P.E.
Project Manager

Illinois Department of Transportation
Bureau of Programming | Major Projects Unit
201 West Center Court | Schaumburg, IL 60196-1096
Phone: 847.705.4103 | john.baldauf@illinois.gov

From: Stoddard, Keith W.
Sent: Thursday, December 17, 2015 2:08 PM
To: Baldauf, John E.; Schilke, Steven E
Cc: Smith, Corey J.
Subject: RE: RR Structures | I-55 Managed Lanes

John

We have received 3 of the 4 commitments.

- GM&O RR- The State has easements rights-Commitment 11283.0, Current Owner- Illinois Central Railroad Company, see Item 9, Schedule B Easements Rights to Cook County Highway Department
- B&O RR-The State has Fee Simple interest per Document # 19024366-, Have not received commitment yet.
- BRC RR-Unable to find conveyance document, may need ROW-Commitment 11285, Current Owner-The State of Illinois, in Trust for the People of the State of Illinois
- CSXT RR-Need ROW-Commitment 11286, Current Owner-Baltimore and Ohio Chicago Terminal Railroad

Sincerely,

Keith W. Stoddard PLS
Chief of Plats and Plans
Illinois Department of Transportation
District 1, Bureau of Land Acquisition
201 West Center Ct.
Schaumburg, IL 60196-1096
847-705-4771 (Office)

847-705-4218 (Fax)
keith.stoddard@illinois.gov

From: Baldauf, John E.
Sent: Tuesday, November 10, 2015 4:43 PM
To: Stoddard, Keith W.; Schilke, Steven E
Cc: Smith, Corey J.
Subject: RE: RR Structures | I-55 Managed Lanes

Good Afternoon Keith,

Just a friendly follow up regarding the status of the order, we wanted to check if you have received anything yet.

Thank you,

John Baldauf, P.E.
Project Manager

Illinois Department of Transportation
Bureau of Programming | Major Projects Unit
201 West Center Court | Schaumburg, IL 60196-1096
Phone: 847.705.4103 | john.baldauf@illinois.gov

From: Stoddard, Keith W.
Sent: Tuesday, October 13, 2015 9:16 AM
To: Baldauf, John E.; Schilke, Steven E
Cc: Smith, Corey J.
Subject: RE: RR Structures | I-55 Managed Lanes

John

The commitment were ordered on September 28th , I do not expect to receive them until the week of October 26th .

Sincerely,

Keith W. Stoddard PLS
Chief of Plats and Plans
Illinois Department of Transportation
District 1, Bureau of Land Acquisition
201 West Center Ct.
Schaumburg, IL 60196-1096
847-705-4771 (Office)
847-705-4218 (Fax)
keith.stoddard@illinois.gov

From: Baldauf, John E.
Sent: Tuesday, October 13, 2015 9:11 AM
To: Stoddard, Keith W.; Schilke, Steven E
Cc: Smith, Corey J.
Subject: RE: RR Structures | I-55 Managed Lanes

Good Morning Keith,

I know you mentioned it might take 4 weeks to obtain this documentation, but we just wanted to follow up with you to see if you received any information or updates yet.

Thank Keith!

John Baldauf, P.E.

Illinois Department of Transportation
Bureau of Programming | Project and Environmental Studies
201 West Center Court | Schaumburg, IL 60196-1096
Phone: 847.705.4103 | john.baldauf@illinois.gov

From: Stoddard, Keith W.
Sent: Monday, September 28, 2015 11:48 AM
To: Schilke, Steven E
Cc: Smith, Corey J.; Baldauf, John E.
Subject: RE: RR Structures | I-55 Managed Lanes

I ordered them priority so I expect to receive them in 4 weeks.

Sincerely,

Keith W. Stoddard PLS
Chief of Plats and Plans
Illinois Department of Transportation
District 1, Bureau of Land Acquisition
201 West Center Ct.
Schaumburg, IL 60196-1096
847-705-4771 (Office)
847-705-4218 (Fax)
keith.stoddard@illinois.gov

From: Schilke, Steven E
Sent: Monday, September 28, 2015 11:40 AM
To: Stoddard, Keith W.
Cc: Smith, Corey J.; Baldauf, John E.
Subject: Re: RR Structures | I-55 Managed Lanes

So you have a timeframe when we can
Expect them?

On Sep 28, 2015, at 11:39 AM, Stoddard, Keith W. <Keith.Stoddard@Illinois.gov> wrote:

> Title Commitments have been ordered
>
> Sincerely,
>
> Keith W. Stoddard PLS
> Chief of Plats and Plans

Illinois Department of Transportation
District 1, Bureau of Land Acquisition
201 West Center Ct.
Schaumburg, IL 60196-1096
847-705-4771 (Office)
847-705-4218 (Fax)
keith.stoddard@illinois.gov

From: Stoddard, Keith W.
Sent: Monday, September 28, 2015 10:47 AM
To: Schilke, Steven E
Cc: Smith, Corey J.; Baldauf, John E.
Subject: RE: RR Structures | I-55 Managed Lanes

Steve

As a follow up to our conversation this morning my opinion based on the documentation I was able to find in our archives is as follows:

- GM&O RR- The State has easements rights
- B&O RR-The State has Fee Simple interest per Document # 19024366
- BRC RR-Unable to find conveyance document, may need ROW
- CSXT RR-Need ROW

I will be ordering Title Commitments at all 4 crossings with the priority being the BRC RR crossing. For your use I have included the documentation I found for each RR.

Sincerely,

Keith W. Stoddard PLS
Chief of Plats and Plans
Illinois Department of Transportation
District 1, Bureau of Land Acquisition
201 West Center Ct.
Schaumburg, IL 60196-1096
847-705-4771 (Office)
847-705-4218 (Fax)
keith.stoddard@illinois.gov

From: Baldauf, John E.
Sent: Friday, September 25, 2015 9:28 AM
To: Stoddard, Keith W.
Cc: Schilke, Steven E; Smith, Corey J.
Subject: RR Structures | I-55 Managed Lanes
Importance: High

Keith,

As discussed, please provide information regarding ROW rights & ownership at the following I-55 structures over railroads (location maps attached):

I-55 Managed Lane Bridges			
Location	Feature Crossed	SN	Scope

1	RR BRC (I-55 EB)	016-0018	Replacement
	RR BRC (I-55 WB)	016-0019	Replacement
2	CSXT Railroad Bridge (I-55 WB)	016-0012	Widening and rehabilitation
	CSXT Railroad Bridge (I-55 EB)	016-0013	Widening and rehabilitation
3	B&O RR/Western Ave (I-55 EB)	016-1058	Widening and rehabilitation
	B&O RR/Western Ave (I-55 WB)	016-0026	Widening and rehabilitation
4	GM&O RR/Ashland Ave (I-55 EB)	016-1084	Widening and rehabilitation
	GM&O RR/Ashland Ave (I-55 WB)	016-1083	Widening and rehabilitation

Thank you,

John Baldauf, P.E.

Illinois Department of Transportation
Bureau of Programming | Project and Environmental Studies
201 West Center Court | Schaumburg, IL 60196-1096
Phone: 847.705.4103 | john.baldauf@illinois.gov

12/14/2015

Prepared For:

Illinois Department of Transportation 1
201 West Center Court
Schaumburg, IL 60196-1096

Effective Date of Commitment: December 01, 2015

Job:	R-90-999-90	WTG#:	I1-2015CO-11283.0
:		Effective Date:	December 01, 2015
County:	Cook	Section:	31
Section:	I-55 RR Bridges	Township:	39N
Parcel:		Range:	14E

Tax Parcel Number(s):
17-31-204-053(pt); 17-31-204-046(pt); 17-31-502-028(pt)

12/14/2015

Job R-90-999-90

County Cook
Section I-55 RR Bridges
Parcel

A.L.T.A. COMMITMENT FORM

Schedule A

WTG Number: I1-2015CO-11283.0
Effective Date: December 01, 2015

1. Policy or Policies to be issued: 2006 ALTA Owner's

   Proposed Amount of Insurance: $1,000.00
   Proposed Insured: The People of the State of Illinois
   Department of Transportation

2. The estate or interest in the land described or referred to in this commitment is a Fee Simple and title hereto is at the effective date hereof vested in:

   Illinois Central Railroad Company

3. The land referred to in this commitment is described as follows:

   See Attached Page 2 of Schedule A

ISSUED BY:

Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

Job R-90-999-90

County Cook
Section I-55 RR Bridges
Parcel

WTG Number: I1-2015CO-11283.0

A.L.T.A. COMMITMENT FORM

Schedule A Continued

LEGAL DESCRIPTION

THAT PART OF BLOCK 2 IN CANAL TRUSTEE'S SUBDIVISION OF THE EAST ONE HALF OF SECTION 31, TOWNSHIP 39 NORTH, RANGE 14, EAST OF THE THIRD PRINCIPAL MERIDIAN, BOUND AND DESCRIBED AS FOLLOWS: COMMENCING IN THE WEST LINE OF SAID BLOCK 2, BEING THE EAST LINE OF SOUTH WOOD STREET, 341.0 FEET SOUTH OF THE NORTHWEST CORNER OF BLOCK 2 AFORESAID; THENCE EAST PARALLEL WITH THE NORTH LINE OF SAID BLOCK 2, BEING THE SOUTH LINE OF WEST 31ST STREET, TO THE INTERSECTION WITH A LINE 41.0 FEET NORTHWESTERLY OF AND PARALLEL WITH THE CENTER LINE BETWEEN MAIN TRACKS OF THE GULF MOBILE AND OHIO RAILROAD, FOR A POINT OF BEGINNING; THENCE NORTHEASTERLY ON SAID PARALLEL LINE TO THE INTERSECTION WITH THE NORTH LINE OF BLOCK 2 AFORESAID; THENCE EAST IN SAID NORTH LINE TO THE INTERSECTION WITH THE NORTHEASTERLY LINE OF BLOCK 2 AFORESAID, BEING THE SOUTHWESTERLY LINE OF SOUTH ROBINSON STREET; THENCE SOUTHEASTERLY IN SAID NORTHEASTERLY LINE TO THE NORTHEAST CORNER OF LOT 1 IN STINSON'S RESUBDIVISION OF THE SOUTHWESTERLY ONE HALF OF LOT 37, ALL OF LOTS 38, 39, AND 45 TO 77 INCLUSIVE, IN STINSON'S SUBDIVISION OF BLOCKS 1, 2, AND 10, IN CANAL TRUSTEE'S SUBDIVISION AFOREMENTIONED; THENCE SOUTHWESTERLY ALONG THE NORTHWESTERLY LINE OF LOTS 1 TO 12 INCLUSIVE OF STINSON'S RESUBDIVISION AFORESAID, TO THE NORTHWESTERLY CORNER OF LOT 12 AFORESAID; THENCE WEST TO A POINT IN A LINE 110.0 FEET NORTHWESTERLY OF AND PARALLEL WITH SAID NORTHWESTERLY LINE OF LOTS 1 TO 12, SAID POINT BEING 370.0 FEET NORTHEASTERLY OF THE WEST LINE OF BLOCK 2 AFORESAID (AS MEASURED IN SAID 110.0 FEET PARALLEL LINE); THENCE SOUTHWESTERLY IN SAID PARALLEL LINE TO THE

12/14/2015

Job R-90-999-90

County Cook
Section I-55 RR Bridges
Parcel

INTERSECTION WITH THE AFOREMENTIONED LINE 341.0 FEET SOUTH OF AND PARALLEL WITH THE NORTH LINE OF SAID BLOCK 2; THENCE WEST TO POINT OF BEGINNING. SITUATED IN THE COUNTY OF COOK AND IN THE STATE OF ILLINOIS.

PERMANENT TAX NUMBER(S): 17-31-204-053(pt); 17-31-204-046(pt); 17-31-502-028(pt)

ISSUED BY:
Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

WTG Number: I1-2015CO-11283.0

A.L.T.A. COMMITMENT FORM

Schedule B
Exceptions

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the Company:

GENERAL EXCEPTIONS:

1. Rights or claims of parties in possession not shown by the public records.

2. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land.

3. Easements, or claims of easements, not shown by the public records.

4. Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.

5. Taxes or special assessments which are not shown as existing liens by the public records.

6. Loss or damage by reason of there being recorded in the public records, any deeds, mortgages, lis pendens, liens or other title encumbrances subsequent to the Commitment date and prior to the effective date of the final Policy.

SPECIAL EXCEPTIONS:

1. The lien of taxes for the year 2015 and thereafter.

   Taxes for the property in question are EXEMPT.

   PERMANENT TAX NUMBER: 17-31-204-053(pt)

   Taxes for the property in question are not currently being assessed nor taxed by the County of Cook. Due to this we reserve the right to raise any additional exceptions that may be deemed necessary.

   PERMANENT TAX NUMBER: 17-31-204-046(pt)

ISSUED BY:
Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

Taxes for the property in question are not currently being assessed nor taxed by the County of Cook. Due to this we reserve the right to raise any additional exceptions that may be deemed necessary.

PERMANENT TAX NUMBER: 17-31-502-028(pt)

2. Rights of parties in possession, encroachments, overlaps, overhangs, unrecorded easements, deficiency in quantity of ground, farm drainage systems, tile systems or irrigation systems which would be disclosed by an accurate survey and inspection of the premises.

3. Rights of the Public, the State and the Municipality in and to that part of the land, if any, taken or used for road purposes.

4. Confirmed Special Assessments, if any, not certified to by the Company.

5. Financing Statements, if any, not certified to by the Company.

6. For information purposes only, the taxes are assessed to the following:

For Parcel: 17-31-204-053(pt)
City of Chicago
30 N. LaSalle Ste 3700
Chicago, Il 60602
For Parcel: 17-31-204-046(pt)
No name available
For Parcel: 17-31-502-028(pt)
No name available

7. Conveyances within the past five years: None.

8. Contiguous property owned by record title holder: None.

PLEASE CONTACT OUR OFFICE REGARDING CONTIGUOUS PROPERTY AS THE SUBJECT PROPERTY IS OWNED BY A RAILROAD COMPANY.

9. A Grant and Plat of Easement dated January 13, 1964 and recorded February 10, 1964 as Document No. 19044004 made by Gulf, Mobile & Ohio Railroad to County of Cook, Department of Highways recorded in the Cook County Recorder's Office.

10. A Memorandum of Easement dated June 28, 1984 and recorded August 7, 1984

as Document No. 27203243 made by Illinois Central Gulf Railroad Company to MC Telecommunications Corporation recorded in the Cook County Recorder's Office.

11. A Memorandum of Easement dated October 22, 1984 and recorded January 29, 1985 as Document No. 27422665 made by Illinois Central Gulf Railroad Company to GTE Sprint Communication Corporation recorded in the Cook County Recorder's Office.

12. Upon a conveyance or mortgage of said property in question, we should be furnished with a certified copy of proper resolutions passed by the proper parties authorizing the execution of the documents of conveyance or mortgage.

13. We are unable to locate the original deed to the railroad and therefore cannot determine if the railroad was conveyed fee title, a conditional conveyance with a possibility of reverter or a right of way only. We should be informed of the type of estate or interest to be acquired as our commitment and subsequent policy may be subject to any potential interests that may arise as a result of the above. Due to the above, this commitment is subject to such further exceptions, if any, as may be deemed necessary.

14. Note: This tax parcel number covers more than the property in question.

15. An Order Establishing a Freeway recorded July 17, 1961 as document 18218786, made by State of Illinois, Department of Public Works and Buildings.

16. A Route Location Decision recorded July 17, 1961 as document 18218787, made by State of Illinois, Department of Public Works and Buildings.

- End Schedule B -

Please refer all inquiries to John D. Ammons at (630) 892-2323

12/14/2015

WTG Number: I1-2015CO-11283.0

MINUTES OF CONDEMNATION

In order that we may guarantee title after completion of any proceedings for condemnation in exercise of the proposed insured's right of eminent domain, we note the following.

I. Upon the filing of complaint a proper Lis Pendens Notice should be recorded in the appropriate Recorder's office.

II. Our Policy, when issued, will be subject to direct attack upon any decrees and or judgments entered in the proceedings.

III. The following persons are necessary parties to any such proceedings.

A. All parties acquiring rights in the premises subsequent to the date of the report and prior to a complete Lis Pendens.

B. Any person other than those herein named known to the Plaintiff or the Plaintiff's attorney to have or claim an interest in the premises.

C. If it is known that any of the necessary parties named herein are deceased, their heirs or devisees should be made parties by name, if known, and if unknown, then by the name and description of Unknown Heirs and Devisees of such deceased person or persons.

D. If it is not known or cannot be ascertained whether any of said necessary parities be living or dead, then such parties should be made parties by name, also such parties should be their heirs or devisees, should be made parties to the proceedings as UNKNOWN OWNERS.

E. All persons in possession of any part of the premises in question and all persons whose rights would be disclosed by an inspection of the premises.

F. All parties claiming by through or under lease agreements whether oral or written, for premises.

G. All parties claiming by or through or under installment contracts for deed or like agreements.

WTG Number: I1-2015CO-11283.0

MINUTES OF CONDEMNATION CONTINUED

IV. The following persons are noted of record and are necessary parties to any proceedings:

H. The Plaintiff is:

The People of the State of Illinois, Department of Transportation

I. The Defendants are:

1. Illinois Central Railroad Company
2. City of Chicago

J. Any parties named above who have executed all necessary documents for the Grant of Easement and Right of Way after payment of agreed consideration theretofore need not be joined as party defendants for our policy to be issued.

END MINUTES OF CONDEMNATION
Please refer all inquiries to John D. Ammons at (630) 892-2323

12/22/2015

Prepared For:

Illinois Department of Transportation 1
201 West Center Court
Schaumburg, IL 60196-1096

Effective Date of Commitment: November 27, 2015

Job:	R-90-999-90	WTG#:	I1-2015CO-11284.0
:		Effective Date:	November 27, 2015
County:	Cook	Section:	36
Section:	I-55 RR Bridges	Township:	39N
Parcel:		Range:	13E

Tax Parcel Number(s):
No PIN assigned

12/22/2015

Job R-90-999-90

County Cook
Section I-55 RR Bridges
Parcel

A.L.T.A. COMMITMENT FORM

Schedule A

WTG Number: I1-2015CO-11284.0
Effective Date: November 27, 2015

1. Policy or Policies to be issued: 2006 ALTA Owner's

   Proposed Amount of Insurance: $1,000.00
   Proposed Insured: The People of the State of Illinois
   Department of Transportation

2. The estate or interest in the land described or referred to in this commitment is a Fee Simple and title hereto is at the effective date hereof vested in:

   The People of the State of Illinois, Department of Transportation

3. The land referred to in this commitment is described as follows:

   See Attached Page 2 of Schedule A

ISSUED BY:

Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

12/22/2015

Job R-90-999-90

County Cook
Section I-55 RR Bridges
Parcel

WTG Number: I1-2015CO-11284.0

A.L.T.A. COMMITMENT FORM

Schedule A Continued

LEGAL DESCRIPTION

ALL THAT PART OF THE FOLLOWING DESCRIBED PARCEL LYING EAST OF THE WEST LINE OF VACATED CAMPBELL AVENUE (EXTENDED) AND EAST OF THE EAST LINE OF LOT 22 (EXTENDED SOUTH) IN BLOCK 7 IN STEEL AND BUCHANANA SUBDIVISION (ALSO KNOWN AS MANCHESTER) OF THAT PART OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF SECTION 36, TOWNSHIP 39 NORTH, RANGE 13, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS, LYING NORTH OF ILLINOIS AND MICHIGAN CANAL, COOK COUNTY, ILLINOIS, TO WIT:

THAT PART OF THE ILLINOIS AND MICHIGAN CANAL AND THE 90 FOOT RESERVE STRIPS ON EITHER SIDE OF SAID CANAL FALLING WITHIN THE NORTHEAST QUARTER OF SECTION 36, TOWNSHIP 39 NORTH, RANGE 13, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS, EXCEPT THAT PART LYING WEST OF A LINE DESCRIBED AS FOLLOWS: COMMENCING AT A POINT ON THE SOUTHERLY LINE OF THE SOUTHERLY CANAL RESERVE OF THE ILLINOIS AND MICHIGAN CANAL, WHICH IS 617.29 FEET (AS MEASURED ALONG SAID LINE) SOUTH WESTERLY OF THE INTERSECTION OF SAID SOUTHERLY LINE WITH THE WEST LINE OF CAMPBELL AVENUE AS DEDICATED SEPTEMBER 1, 1904 (NOW VACATED) PRODUCED NORTH; THENCE NORTH ALONG A LINE PERPENDICULAR TO THE SOUTH LINE OF THE NORTH EAST QUARTER OF SAID SECTION 36, 301.68 FEET TO THE NORTHERLY LINE OF THE NORTHERLY CANAL RESERVE OF THE ILLINOIS AND MICHIGAN CANAL.

SITUATED IN THE COUNTY OF COOK AND IN THE STATE OF ILLINOIS.

ISSUED BY:
Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

12/22/2015

Job R-90-999-90

County Cook
Section I-55 RR Bridges
Parcel

PERMANENT TAX NUMBER(S): No PIN assigned

ISSUED BY:
Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

12/22/2015

WTG Number: I1-2015CO-11284.0

A.L.T.A. COMMITMENT FORM

Schedule B
Exceptions

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the Company:

GENERAL EXCEPTIONS:

1. Rights or claims of parties in possession not shown by the public records.

2. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land.

3. Easements, or claims of easements, not shown by the public records.

4. Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.

5. Taxes or special assessments which are not shown as existing liens by the public records.

6. Loss or damage by reason of there being recorded in the public records, any deeds, mortgages, lis pendens, liens or other title encumbrances subsequent to the Commitment date and prior to the effective date of the final Policy.

SPECIAL EXCEPTIONS:

1. The lien of taxes for the year 2015 and thereafter.

   Taxes for the property in question are not currently being assessed nor taxed by the County of Cook. Due to this we reserve the right to raise any additional exceptions that may be deemed necessary.

   PERMANENT TAX NUMBER: No PIN assigned

2. Rights of parties in possession, encroachments, overlaps, overhangs, unrecorded easements, deficiency in quantity of ground, farm drainage systems, tile systems or irrigation systems which would be disclosed by an accurate survey and inspection of the premises.

ISSUED BY:
Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

3. Rights of the Public, the State and the Municipality in and to that part of the land, if any, taken or used for road purposes.

4. Confirmed Special Assessments, if any, not certified to by the Company.

5. Financing Statements, if any, not certified to by the Company.

6. For information purposes only, the taxes are assessed to the following:

   For Parcel(s): No PIN assigned

7. Conveyances within the past five years: None.

8. Contiguous property owned by record title holder: None.

PLEASE CONTACT OUR OFFICE REGARDING CONTIGUOUS PROPERTY AS THE SUBJECT PROPERTY IS OWNED BY THE STATE OF ILLINOIS.

9. Terms, conditions and reservations restricting the use and conveyance of the subject property set forth in Federal legislation.

10. An Order Establishing a Freeway made by the State of Illinois Department of Public Works and Buildings recorded July 17, 1961 as document 18218786.

11. A Route Location Decision made by the State of Illinois Department of Public Works and Buildings recorded July 17, 1961 as document 18218787.

12. Possible interest by use, lease, occupation or otherwise of Norfolk Southern Railway Company and CSX Transportation Company (both as successors to Consolidated Rail Corporation), Baltimore & Ohio Chicago Terminal Railroad Company and the Indiana Harbor Belt Railroad Company.

13. We cannot determine if other railroads may use of or have leases in the subject property. We reserve the right to revise our commitment should information become available disclosing the names of other railroads having rights to, or the use of, the railroad lines lying within the subject property.

14. Existing unrecorded leases, if any, and all rights thereof and all acts done or suffered thereunder by any lessee or by any party claiming by, through or under said lease or lessees.

- End Schedule B -

Please refer all inquiries to John D. Ammons at (630) 892-2323

12/22/2015

WTG Number: I1-2015CO-11284.0

MINUTES OF CONDEMNATION

In order that we may guarantee title after completion of any proceedings for condemnation in exercise of the proposed insured's right of eminent domain, we note the following.

I. Upon the filing of complaint a proper Lis Pendens Notice should be recorded in the appropriate Recorder's office.

II. Our Policy, when issued, will be subject to direct attack upon any decrees and or judgments entered in the proceedings.

III. The following persons are necessary parties to any such proceedings.

A. All parties acquiring rights in the premises subsequent to the date of the report and prior to a complete Lis Pendens.

B. Any person other than those herein named known to the Plaintiff or the Plaintiff's attorney to have or claim an interest in the premises.

C. If it is known that any of the necessary parties named herein are deceased, their heirs or devisees should be made parties by name, if known, and if unknown, then by the name and description of Unknown Heirs and Devisees of such deceased person or persons.

D. If it is not known or cannot be ascertained whether any of said necessary parities be living or dead, then such parties should be made parties by name, also such parties should be their heirs or devisees, should be made parties to the proceedings as UNKNOWN OWNERS.

E. All persons in possession of any part of the premises in question and all persons whose rights would be disclosed by an inspection of the premises.

F. All parties claiming by through or under lease agreements whether oral or written, for premises.

G. All parties claiming by or through or under installment contracts for deed or like agreements.

WTG Number: I1-2015CO-11284.0

MINUTES OF CONDEMNATION CONTINUED

IV. The following persons are noted of record and are necessary parties to any proceedings:

H. The Plaintiff is:

The People of the State of Illinois, Department of Transportation

I. The Defendants are:

1. Note: the owner of the subject property is The State of Illinois
2. Norfolk Southern Railway Company
3. CSX Transportation Company
4. Baltimore & Ohio Chicago Terminal Railroad Company
5. Indiana Harbor Belt Railroad Company

J. Any parties named above who have executed all necessary documents for the Grant of Easement and Right of Way after payment of agreed consideration theretofore need not be joined as party defendants for our policy to be issued.

END MINUTES OF CONDEMNATION

Please refer all inquiries to John D. Ammons at (630) 892-2323

12/15/2015

Prepared For:

Illinois Department of Transportation 1
201 West Center Court
Schaumburg, IL 60196-1096

Effective Date of Commitment: December 01, 2015

Job:	R-90-999-90	WTG#:	I1-2015CO-11285.0
:		Effective Date:	December 01, 2015
County:	Cook	Section:	3
Section:	I-55 RR Bridges	Township:	38N
Parcel:		Range:	13E

Tax Parcel Number(s):
No PIN assigned

12/15/2015

Job R-90-999-90

County Cook
Section I-55 RR Bridges
Parcel

A.L.T.A. COMMITMENT FORM

Schedule A

WTG Number: I1-2015CO-11285.0
Effective Date: December 01, 2015

1. Policy or Policies to be issued: 2006 ALTA Owner's

   Proposed Amount of Insurance: $1,000.00
   Proposed Insured: The People of the State of Illinois
   Department of Transportation

2. The estate or interest in the land described or referred to in this commitment is a Fee Simple and title hereto is at the effective date hereof vested in:

   The State of Illinois, in Trust for the People of the State of Illinois

3. The land referred to in this commitment is described as follows:

   See Attached Page 2 of Schedule A

ISSUED BY:

Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

12/15/2015

Job R-90-999-90

County Cook
Section I-55 RR Bridges
Parcel

WTG Number: I1-2015CO-11285.0

A.L.T.A. COMMITMENT FORM

Schedule A Continued

LEGAL DESCRIPTION

THAT PART OF THE ILLINOIS AND MICHIGAN CANAL AND THE 90 FOOT WIDE STRIPS LYING ON EITHER SIDE THEREOF LOCATED IN SECTION 3, IN TOWNSHIP 38 NORTH, RANGE 13, EAST OF THE THIRD PRINCIPAL MERIDIAN IN COOK COUNTY, ILLINOIS. LYING NORTH OF THE NORTH LINE OF THE RIGHT OF WAY OF THE GULF MOBILE & OHIO RAILROAD (N/K/A ILLINOIS CENTRAL RAILROAD COMPANY)

PERMANENT TAX NUMBER(S): No PIN assigned

ISSUED BY:
Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

WTG Number: I1-2015CO-11285.0

A.L.T.A. COMMITMENT FORM

Schedule B
Exceptions

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the Company:

GENERAL EXCEPTIONS:

1. Rights or claims of parties in possession not shown by the public records.

2. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land.

3. Easements, or claims of easements, not shown by the public records.

4. Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.

5. Taxes or special assessments which are not shown as existing liens by the public records.

6. Loss or damage by reason of there being recorded in the public records, any deeds, mortgages, lis pendens, liens or other title encumbrances subsequent to the Commitment date and prior to the effective date of the final Policy.

SPECIAL EXCEPTIONS:

1. The lien of taxes for the year 2015 and thereafter.

   Taxes for the property in question are not currently being assessed nor taxed by the County of Cook. Due to this we reserve the right to raise any additional exceptions that may be deemed necessary.

   PERMANENT TAX NUMBER: No PIN assigned

2. Rights of parties in possession, encroachments, overlaps, overhangs, unrecorded easements, deficiency in quantity of ground, farm drainage systems, tile systems or irrigation systems which would be disclosed by an accurate survey and inspection of the premises.

3. Rights of the Public, the State and the Municipality in and to that part of the land, if any, taken or used for road purposes.

4. Confirmed Special Assessments, if any, not certified to by the Company.

5. Financing Statements, if any, not certified to by the Company.

6. For information purposes only, the taxes are assessed to the following:

For Parcel(s): No PIN assigned

7. Conveyances within the past five years: None.

8. Contiguous property owned by record title holder: None.

9. Right, title and interest of the Belt Railway Company of Chicago and the Chicago & Western Indiana Railroad Company in and to the subject property. We do not find a recorded conveyance or easement to or in favor of the Chicago & Western Indiana Railroad Company or Belt Railway Company of Chicago or its predecessors.

10. Terms, conditions and reservations restricting the use and conveyance of the subject property set forth in Federal legislation.

11. Possible reversionary rights in and to The United States of America. We note that legislation establishing rights in the State of Illinois require that the property be used and maintained for highway, park, recreational or other public purpose.

12. An Order Establishing a Freeway made by the State of Illinois Department of Public Works and Buildings recorded July 17, 1961 as document 18218786.

13. A Route Location Decision made by the State of Illinois Department of Public Works and Buildings recorded July 17, 1961 as document 18218787.

- End Schedule B -

Please refer all inquiries to John D. Ammons at (630) 892-2323

12/15/2015

WTG Number: I1-2015CO-11285.0

MINUTES OF CONDEMNATION

In order that we may guarantee title after completion of any proceedings for condemnation in exercise of the proposed insured's right of eminent domain, we note the following.

I. Upon the filing of complaint a proper Lis Pendens Notice should be recorded in the appropriate Recorder's office.

II. Our Policy, when issued, will be subject to direct attack upon any decrees and or judgments entered in the proceedings.

III. The following persons are necessary parties to any such proceedings.

A. All parties acquiring rights in the premises subsequent to the date of the report and prior to a complete Lis Pendens.

B. Any person other than those herein named known to the Plaintiff or the Plaintiff's attorney to have or claim an interest in the premises.

C. If it is known that any of the necessary parties named herein are deceased, their heirs or devisees should be made parties by name, if known, and if unknown, then by the name and description of Unknown Heirs and Devisees of such deceased person or persons.

D. If it is not known or cannot be ascertained whether any of said necessary parities be living or dead, then such parties should be made parties by name, also such parties should be their heirs or devisees, should be made parties to the proceedings as UNKNOWN OWNERS.

E. All persons in possession of any part of the premises in question and all persons whose rights would be disclosed by an inspection of the premises.

F. All parties claiming by through or under lease agreements whether oral or written, for premises.

G. All parties claiming by or through or under installment contracts for deed or like agreements.

WTG Number: I1-2015CO-11285.0

MINUTES OF CONDEMNATION CONTINUED

IV. The following persons are noted of record and are necessary parties to any proceedings:

H. The Plaintiff is:

The People of the State of Illinois, Department of Transportation

I. The Defendants are:

1. Note: the owner of the subject property is The State of Illinois
2. Belt Railway Company of Chicago
3. Chicago & Western Indiana Railroad Company

J. Any parties named above who have executed all necessary documents for the Grant of Easement and Right of Way after payment of agreed consideration theretofore need not be joined as party defendants for our policy to be issued.

END MINUTES OF CONDEMNATION

Please refer all inquiries to John D. Ammons at (630) 892-2323

12/15/2015

Prepared For:

Illinois Department of Transportation 1
201 West Center Court
Schaumburg, IL 60196-1096

Effective Date of Commitment: December 01, 2015

Job:	R-90-999-90	WTG#:	I1-2015CO-11286.0
:		Effective Date:	December 01, 2015
County:	Cook	Section:	14
Section:	I-55 RR Bridges	Township:	38N
Parcel:		Range:	12E

Tax Parcel Number(s):
18-14-501-001(pt); 18-14-501-004(pt)

12/15/2015

Job R-90-999-90

County Cook
Section I-55 RR Bridges
Parcel

A.L.T.A. COMMITMENT FORM

Schedule A

WTG Number: I1-2015CO-11286.0
Effective Date: December 01, 2015

1. Policy or Policies to be issued: 2006 ALTA Owner's

   Proposed Amount of Insurance: $1,000.00
   Proposed Insured: The People of the State of Illinois
   Department of Transportation

2. The estate or interest in the land described or referred to in this commitment is a Fee Simple and title hereto is at the effective date hereof vested in:

   Baltimore and Ohio Chicago Terminal Railroad

3. The land referred to in this commitment is described as follows:

   See Attached Page 2 of Schedule A

ISSUED BY:

Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

12/15/2015

Job R-90-999-90

County Cook
Section I-55 RR Bridges
Parcel

WTG Number: I1-2015CO-11286.0

A.L.T.A. COMMITMENT FORM

Schedule A Continued

LEGAL DESCRIPTION

ALL THAT PART OF THE FORMER CHICAGO AND CALUMET TERMINAL RAILWAY COMPANY RIGHT OF WAY, 100 FEET IN WIDTH, RUNNING IN A GENERAL NORTHWESTERLY/SOUTHEASTERLY DIRECTION THROUGH THE SOUTH 1/2 OF THE WEST 1/2 OF THE NORTHEAST 1/4, OF SECTION 14, TOWNSHIP 38 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, COOK COUNTY, ILLINOIS, BEING THAT LAND CONVEYED TO SAID CHICAGO AND CALUMET TERMINAL RAILWAY COMPANY BY DEED RECORDED AS DOCUMENT 1155432. SITUATED IN THE COUNTY OF COOK, IN THE STATE OF ILLINOIS.

PERMANENT TAX NUMBER(S): 18-14-501-001(pt); 18-14-501-004(pt)

ISSUED BY:
Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

12/15/2015

WTG Number: I1-2015CO-11286.0

A.L.T.A. COMMITMENT FORM

Schedule B
Exceptions

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the Company:

GENERAL EXCEPTIONS:

1. Rights or claims of parties in possession not shown by the public records.

2. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land.

3. Easements, or claims of easements, not shown by the public records.

4. Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.

5. Taxes or special assessments which are not shown as existing liens by the public records.

6. Loss or damage by reason of there being recorded in the public records, any deeds, mortgages, lis pendens, liens or other title encumbrances subsequent to the Commitment date and prior to the effective date of the final Policy.

SPECIAL EXCEPTIONS:

1. The lien of taxes for the year 2015 and thereafter.

   Taxes for the property in question are not currently being assessed nor taxed by the County of Cook. Due to this we reserve the right to raise any additional exceptions that may be deemed necessary.

   PERMANENT TAX NUMBER: 18-14-501-001(pt)

Taxes for the property in question are not currently being assessed nor taxed by the County of Cook. Due to this we reserve the right to raise any additional exceptions that may be deemed necessary.

ISSUED BY:
Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

WTG Number: I1-2015CO-11286.0

PERMANENT TAX NUMBER: 18-14-501-004(pt)

2. Rights of parties in possession, encroachments, overlaps, overhangs, unrecorded easements, deficiency in quantity of ground, farm drainage systems, tile systems or irrigation systems which would be disclosed by an accurate survey and inspection of the premises.

3. Rights of the Public, the State and the Municipality in and to that part of the land, if any, taken or used for road purposes.

4. Confirmed Special Assessments, if any, not certified to by the Company.

5. Financing Statements, if any, not certified to by the Company.

6. For information purposes only, the taxes are assessed to the following:

For Parcel(s): 18-14-501-001(pt); 18-14-501-004(pt)
No name available

7. Conveyances within the past five years: None.

8. Contiguous property owned by record title holder: None.

PLEASE CONTACT OUR OFFICE REGARDING CONTIGUOUS PROPERTY AS THE SUBJECT PROPERTY IS OWNED BY A RAILROAD COMPANY.

9. An Order Establishing a Freeway recorded July 17, 1961 as document 18218786, made by State of Illinois, Deparrtment of Public Works and Buildings.

10. An Route Location Decision recorded July 17, 1961 as document 18218787, made by State of Illinois, Deparrtment of Public Works and Buildings.

11. Any and all rights of the United States of America, the State of Illinois, the municipality and the public in and to that part of the subject property lying within the bed of the Desplaines River, and the rights, if any, of the adjoining property owners in and to the free and unobstructed flow of the water thereof.

12. Upon a conveyance or mortgage of said property in question, we should be furnished with a certified copy of proper resolutions passed by the proper parties authorizing the execution of the documents of conveyance or mortgage.

13. Note: This tax parcel number covers more than the property in question.

ISSUED BY:
Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

WTG Number: I1-2015CO-11286.0

- End Schedule B -

Please refer all inquiries to John D. Ammons at (630) 892-2323

ISSUED BY:
Wheatland Title Guaranty Company
105 W. Veterans Parkway
Yorkville, Illinois 60560

Agent for:
Fidelity National Title Insurance Company

12/15/2015

WTG Number: I1-2015CO-11286.0

MINUTES OF CONDEMNATION

In order that we may guarantee title after completion of any proceedings for condemnation in exercise of the proposed insured's right of eminent domain, we note the following.

I. Upon the filing of complaint a proper Lis Pendens Notice should be recorded in the appropriate Recorder's office.

II. Our Policy, when issued, will be subject to direct attack upon any decrees and or judgments entered in the proceedings.

III. The following persons are necessary parties to any such proceedings.

A. All parties acquiring rights in the premises subsequent to the date of the report and prior to a complete Lis Pendens.

B. Any person other than those herein named known to the Plaintiff or the Plaintiff's attorney to have or claim an interest in the premises.

C. If it is known that any of the necessary parties named herein are deceased, their heirs or devisees should be made parties by name, if known, and if unknown, then by the name and description of Unknown Heirs and Devisees of such deceased person or persons.

D. If it is not known or cannot be ascertained whether any of said necessary parities be living or dead, then such parties should be made parties by name, also such parties should be their heirs or devisees, should be made parties to the proceedings as UNKNOWN OWNERS.

E. All persons in possession of any part of the premises in question and all persons whose rights would be disclosed by an inspection of the premises.

F. All parties claiming by through or under lease agreements whether oral or written, for premises.

G. All parties claiming by or through or under installment contracts for deed or like agreements.

WTG Number: I1-2015CO-11286.0

MINUTES OF CONDEMNATION CONTINUED

IV. The following persons are noted of record and are necessary parties to any proceedings:

H. The Plaintiff is:

The People of the State of Illinois, Department of Transportation

I. The Defendants are:

1. Baltimore and Ohio Chicago Terminal Railroad

J. Any parties named above who have executed all necessary documents for the Grant of Easement and Right of Way after payment of agreed consideration theretofore need not be joined as party defendants for our policy to be issued.

END MINUTES OF CONDEMNATION
Please refer all inquiries to John D. Ammons at (630) 892-2323

From:	Baldauf, John E.
To:	O"Holleran, John
Cc:	Schilke, Steven E; Smith, Corey J.
Subject:	FW: RR Structures | I-55 Managed Lanes
Date:	Wednesday, July 27, 2016 7:41:42 AM

John O.,

Please incorporate into the cost estimate.

Thank you,

John Baldauf, P.E.
Project Manager

Illinois Department of Transportation
Bureau of Programming | Major Projects Unit
201 West Center Court | Schaumburg, IL 60196-1096
Phone: 847.705.4103 | john.baldauf@illinois.gov

From: Rabadi, Andy E
Sent: Tuesday, July 26, 2016 2:59 PM
To: Baldauf, John E.
Cc: Schilke, Steven E; Smith, Corey J.
Subject: RE: RR Structures | I-55 Managed Lanes

RR flagging costs depend on the number of days the contractor is anticipated to work on the RR ROW. As a rough estimate, I anticipate that we will need $250K for flaggers, engineering review and construction inspection for each location.

Andy Rabadi
Senior Railroad Engineer
(847) 705-4256

From: Baldauf, John E.
Sent: Tuesday, July 26, 2016 2:39 PM
To: Rabadi, Andy E
Cc: Schilke, Steven E; Smith, Corey J.
Subject: FW: RR Structures | I-55 Managed Lanes

Andy,

Please see below in regards to proposed work over three railroads (BRC, B&O, & GM&O) along the I-55 managed lane corridor. Please see attached for location maps.

Could you provide a cost estimate for railroad flagging and other associated railroad costs for the scope of work at these locations?

Thank you,

John Baldauf, P.E.
Project Manager

Illinois Department of Transportation
Bureau of Programming | Major Projects Unit
201 West Center Court | Schaumburg, IL 60196-1096
Phone: 847.705.4103 | john.baldauf@illinois.gov

From: Stoddard, Keith W.
Sent: Tuesday, July 26, 2016 2:26 PM
To: Baldauf, John E.
Cc: Schilke, Steven E; Smith, Corey J.; Broviak, Pamela A.; Rayyan, Issam Y
Subject: RE: RR Structures | I-55 Managed Lanes

John

Based on the title commitments we received in December 2015, attached, additional documents I reviewed and the location of the improvements shown in your exhibits it is my opinion that additional ROW/Easements will not be needed at the Railroads mentioned directly below.

B&O RR-The State has Fee Simple interest per Document # 19024366-, Commitment 11284.0, Current Owner-People of the State of Illinois, Department of Transportation (from 12-29-15 email)

Sincerely,

Keith W. Stoddard PLS
Chief of Plats and Plans
Illinois Department of Transportation
District 1, Bureau of Land Acquisition
201 West Center Ct.
Schaumburg, IL 60196-1096
847-705-4771 (Office)
847-705-4218 (Fax)
keith.stoddard@illinois.gov

From: Baldauf, John E.
Sent: Monday, July 25, 2016 11:39 AM
To: Stoddard, Keith W.
Cc: Schilke, Steven E; Smith, Corey J.; Broviak, Pamela A.; Rayyan, Issam Y
Subject: RE: RR Structures | I-55 Managed Lanes

Keith,

We are nearing completion of Phase I and at this time we are only proposing work to I-55 over the BRC Railroad (full bridge replacement), B&O Railroad (widening – sub & superstructure), and GM&O Railroad (widening – superstructure only). All widening will occur in the I-55 median (see attached location maps).

Based on the information provided it is our understanding the State has existing easement and/or fee simple rights at the subject locations an no additional ROW will be necessary. Please confirm and/or let us know if you need anything additional from us.

Thank you,

John Baldauf, P.E.
Project Manager

Illinois Department of Transportation
Bureau of Programming | Major Projects Unit
201 West Center Court | Schaumburg, IL 60196-1096
Phone: 847.705.4103 | john.baldauf@illinois.gov

From: Stoddard, Keith W.
Sent: Thursday, December 17, 2015 2:08 PM
To: Baldauf, John E.; Schilke, Steven E
Cc: Smith, Corey J.
Subject: RE: RR Structures | I-55 Managed Lanes

John

We have received 3 of the 4 commitments.

- GM&O RR- The State has easements rights-Commitment 11283.0, Current Owner- Illinois Central Railroad Company, see Item 9, Schedule B Easements Rights to Cook County Highway Department
- B&O RR-The State has Fee Simple interest per Document # 19024366-, Have not received commitment yet.
- BRC RR-Unable to find conveyance document, may need ROW-Commitment 11285, Current Owner-The State of Illinois, in Trust for the People of the State of Illinois
- CSXT RR-Need ROW-Commitment 11286, Current Owner-Baltimore and Ohio Chicago Terminal Railroad

Sincerely,

Keith W. Stoddard PLS
Chief of Plats and Plans
Illinois Department of Transportation
District 1, Bureau of Land Acquisition

201 West Center Ct.
Schaumburg, IL 60196-1096
847-705-4771 (Office)
847-705-4218 (Fax)
keith.stoddard@illinois.gov

From: Baldauf, John E.
Sent: Tuesday, November 10, 2015 4:43 PM
To: Stoddard, Keith W.; Schilke, Steven E
Cc: Smith, Corey J.
Subject: RE: RR Structures | I-55 Managed Lanes

Good Afternoon Keith,

Just a friendly follow up regarding the status of the order, we wanted to check if you have received anything yet.

Thank you,

John Baldauf, P.E.
Project Manager

Illinois Department of Transportation
Bureau of Programming | Major Projects Unit
201 West Center Court | Schaumburg, IL 60196-1096
Phone: 847.705.4103 | john.baldauf@illinois.gov

From: Stoddard, Keith W.
Sent: Tuesday, October 13, 2015 9:16 AM
To: Baldauf, John E.; Schilke, Steven E
Cc: Smith, Corey J.
Subject: RE: RR Structures | I-55 Managed Lanes

John

The commitment were ordered on September 28th , I do not expect to receive them until the week of October 26th .

Sincerely,

Keith W. Stoddard PLS
Chief of Plats and Plans
Illinois Department of Transportation
District 1, Bureau of Land Acquisition
201 West Center Ct.
Schaumburg, IL 60196-1096

847-705-4771 (Office)
847-705-4218 (Fax)
keith.stoddard@illinois.gov

From: Baldauf, John E.
Sent: Tuesday, October 13, 2015 9:11 AM
To: Stoddard, Keith W.; Schilke, Steven E
Cc: Smith, Corey J.
Subject: RE: RR Structures | I-55 Managed Lanes

Good Morning Keith,

I know you mentioned it might take 4 weeks to obtain this documentation, but we just wanted to follow up with you to see if you received any information or updates yet.

Thank Keith!

John Baldauf, P.E.

Illinois Department of Transportation
Bureau of Programming | Project and Environmental Studies
201 West Center Court | Schaumburg, IL 60196-1096
Phone: 847.705.4103 | john.baldauf@illinois.gov

From: Stoddard, Keith W.
Sent: Monday, September 28, 2015 11:48 AM
To: Schilke, Steven E
Cc: Smith, Corey J.; Baldauf, John E.
Subject: RE: RR Structures | I-55 Managed Lanes

I ordered them priority so I expect to receive them in 4 weeks.

Sincerely,

Keith W. Stoddard PLS
Chief of Plats and Plans
Illinois Department of Transportation
District 1, Bureau of Land Acquisition
201 West Center Ct.
Schaumburg, IL 60196-1096
847-705-4771 (Office)
847-705-4218 (Fax)
keith.stoddard@illinois.gov

From: Schilke, Steven E
Sent: Monday, September 28, 2015 11:40 AM
To: Stoddard, Keith W.

Cc: Smith, Corey J.; Baldauf, John E.
Subject: Re: RR Structures | I-55 Managed Lanes

So you have a timeframe when we can
Expect them?

On Sep 28, 2015, at 11:39 AM, Stoddard, Keith W. <Keith.Stoddard@Illinois.gov> wrote:

> Title Commitments have been ordered
>
> Sincerely,
>
> Keith W. Stoddard PLS
> Chief of Plats and Plans
> Illinois Department of Transportation
> District 1, Bureau of Land Acquisition
> 201 West Center Ct.
> Schaumburg, IL 60196-1096
> 847-705-4771 (Office)
> 847-705-4218 (Fax)
> keith.stoddard@illinois.gov
>
> ---
>
> **From:** Stoddard, Keith W.
> **Sent:** Monday, September 28, 2015 10:47 AM
> **To:** Schilke, Steven E
> **Cc:** Smith, Corey J.; Baldauf, John E.
> **Subject:** RE: RR Structures | I-55 Managed Lanes
>
> Steve
>
> As a follow up to our conversation this morning my opinion based on the documentation I was able to find in our archives is as follows:
>
> - GM&O RR- The State has easements rights
> - B&O RR-The State has Fee Simple interest per Document # 19024366
> - BRC RR-Unable to find conveyance document, may need ROW
> - CSXT RR-Need ROW
>
> I will be ordering Title Commitments at all 4 crossings with the priority being the BRC RR crossing. For your use I have included the documentation I found for each RR.
>
> Sincerely,
>
> Keith W. Stoddard PLS
> Chief of Plats and Plans

Illinois Department of Transportation
District 1, Bureau of Land Acquisition
201 West Center Ct.
Schaumburg, IL 60196-1096
847-705-4771 (Office)
847-705-4218 (Fax)
keith.stoddard@illinois.gov

From: Baldauf, John E.
Sent: Friday, September 25, 2015 9:28 AM
To: Stoddard, Keith W.
Cc: Schilke, Steven E; Smith, Corey J.
Subject: RR Structures | I-55 Managed Lanes
Importance: High

Keith,

As discussed, please provide information regarding ROW rights & ownership at the following I-55 structures over railroads (location maps attached):

I-55 Managed Lane Bridges			
Location	Feature Crossed	SN	Scope
1	RR BRC (I-55 EB)	016-0018	Replacement
	RR BRC (I-55 WB)	016-0019	Replacement
2	CSXT Railroad Bridge (I-55 WB)	016-0012	Widening and rehabilitation
	CSXT Railroad Bridge (I-55 EB)	016-0013	Widening and rehabilitation
3	B&O RR/Western Ave (I-55 EB)	016-1058	Widening and rehabilitation
	B&O RR/Western Ave (I-55 WB)	016-0026	Widening and rehabilitation
4	GM&O RR/Ashland Ave (I-55 EB)	016-1084	Widening and rehabilitation
	GM&O RR/Ashland Ave (I-55 WB)	016-1083	Widening and rehabilitation

Thank you,

John Baldauf, P.E.

Illinois Department of Transportation
Bureau of Programming | Project and Environmental Studies
201 West Center Court | Schaumburg, IL 60196-1096

Phone: 847.705.4103 | john.baldauf@illinois.gov