



To:	Carl Puzey
Bureau:	Bridges and Structures
Attn:	Patrik Claussen
Date:	July 18, 2017

From:	John Baczek/Steve Schilke
Bureau:	Programming
By:	Mark Peterson
Subject:	Project and Environmental Studies
	BCR Submittal 016-2058 9 <sup>th</sup> Ave over I-290

**Please check appropriate box below:**

- |   |  |                                 |
|---|--|---------------------------------|
| <input type="checkbox"/> Take Necessary Action        | <input type="checkbox"/> For Your Information                  | <input type="checkbox"/> Reply  |
| <input checked="" type="checkbox"/> For Your Comments | <input type="checkbox"/> See Me About the Attached             | <input type="checkbox"/> Return |
| <input type="checkbox"/> Per Your Request             | <input type="checkbox"/> Draft (Letter)(Memo) For my signature | <input type="checkbox"/> Route  |
| <input type="checkbox"/> For Your Approval            |  | <input type="checkbox"/> File   |

**Message**

We are submitting for your review and approval a Bridge Condition Report for the above referenced project. Design Approval is scheduled for September 1, 2017 and the letting date has not been scheduled.

The proposed scope of work for this bridge consists of complete bridge removal and replacement. The proposed roadway geometry for the I-290 reconstruction requires that the replacement two span bridge includes two 18' wide travel lanes, a 12' wide turn lane and two 12' wide sidewalks. On each side of the bridge, new retaining walls will be constructed in line with both abutments to provide additional width for the expressway. The horizontal alignment and vertical profile are not anticipated to change. Vehicular and pedestrian access to this structure will be detoured during reconstruction, eliminating the need for staged construction to maintain traffic. Due to the proximity of the existing trunk sewer, the north abutment foundation may require further coordination.

Completed By

Copies to

Sarah Wilson, Maintenance

Ken Eng, Design

**Response**

Response By

# ABRIDGED BRIDGE CONDITION REPORT



## I. Administrative Data

**REGION:** 1  
**DISTRICT:** 1  
**COUNTY:** Cook  
**ROUTE:** 9<sup>th</sup> Avenue  
**JOB NUMBER:** P-91-597-10  
**STRUCTURE NUMBER:** 016-2058

**LOCATION:** 9<sup>th</sup> Ave. over FAI 290 (I-290)

## II. Roadway/Structure Data

**Roadway Classification:** Major Collector  
**ADT (current):** 8,700 (yr. 2010)  
**ADTT (current):** 2% of ADT  
**Inventory Rating:** 1.030  
**Operating Rating:** 1.720  
**Sufficiency Rating:** 65.0

## Construction / Reconstruction / Repair History:

9<sup>th</sup> Avenue over I-290 in Cook County, Illinois (Structure No. 016-2058) was constructed in 1951 under Section No. 062-3435.1-MFT for Route FA-131. In 1984 improvements included raising the bridge profile, placement of a 2 in. plasticized concrete overlay, and partial and full depth deck slab repair. There was structural steel painting, and removal and replacement of the existing concrete median including a new median steel diaphragm. Bearing replacement, abutment and pier abutment repairs, reconstruction of the parapets, approach slabs and expansion joints, and the replacement of a chain link fence were also included. In 1997, improvements included partial replacement, straightening and strengthening of the fascia beam.

## III. Physical Description of Structure

9<sup>th</sup> Avenue over I-290 consists of four spans carrying two lanes of traffic and sidewalk in both the northbound and southbound directions. The structure has a total length of approximately 209.6 ft (back to back of abutments), a roadway width of approximately 50 ft (face to face of raised sidewalk), a total deck width of 62 ft, and a total deck area of 12,995 sq. ft. The span lengths are 45'-9<sup>3</sup>/<sub>4</sub>", 57'-3", 57'-3", and 45'-9<sup>3</sup>/<sub>4</sub>" on a crest vertical curve. The 8<sup>3</sup>/<sub>4</sub> in. reinforced concrete deck, including a 2 in. concrete overlay, is supported by 12 longitudinal continuous non-composite steel wide flange beams (W30). Expansion joints and elastomeric bearings are used at the abutments, rocker-type bearings at Pier 1 and Pier 3, and fixed bearings at Pier 2. The substructure consists of stub abutments with curved wingwalls and wall piers with square openings. There is no skew. Multiple light poles, sign structures, and underdeck utilities are presently attached to the bridge. See Attachment D for photos.

# ABRIDGED BRIDGE CONDITION REPORT



## **IV. Discussion and Recommended Scope of Work**

The 9<sup>th</sup> Avenue Bridge will be completely removed and replaced as part of the I-290 reconstruction. Per the final geometry submittal for the I-290 Phase I study, dated October 11, 2016, the replacement two span bridge has an approximate length of 206', a 51' curb to curb width, and an out to out deck width of 79', which includes two 18' wide lanes, a 12' turn lane and two 12' sidewalks. On each side of the bridge, new retaining walls will be constructed in line with both abutments to provide additional width for the expressway. The horizontal alignment and vertical profile are not anticipated to change. Vehicular and pedestrian access to this structure will be detoured during reconstruction, eliminating the need for staged construction to maintain traffic. Due to the proximity of the existing trunk sewer, the north abutment foundation may require further coordination. See Attachment F for the proposed plan and profile.

Despite minor delaminations, spalls, and exposed rebar throughout the bridge, no major repairs are anticipated for this bridge prior to its removal within the next 5-7 years. According to the Bridge Inspection Report, IDOT might clean & paint the structural steel and repair pier walls, column, and pier caps.

Since this bridge will be routinely inspected until removal and the most recent field inspection did not note any fatigue problems, a detailed analysis to determine the remaining fatigue life of the bridge was not performed.

The 2016 estimated cost to remove and replace this structure is \$6,510,000 based on a proposed deck area of 16,274 sq. ft and a unit cost, including contingency, of \$400 per sq. ft.

## **ATTACHMENTS**

**Attachment A. Location Map**

**Attachment B. IDOT Master Structure Report**

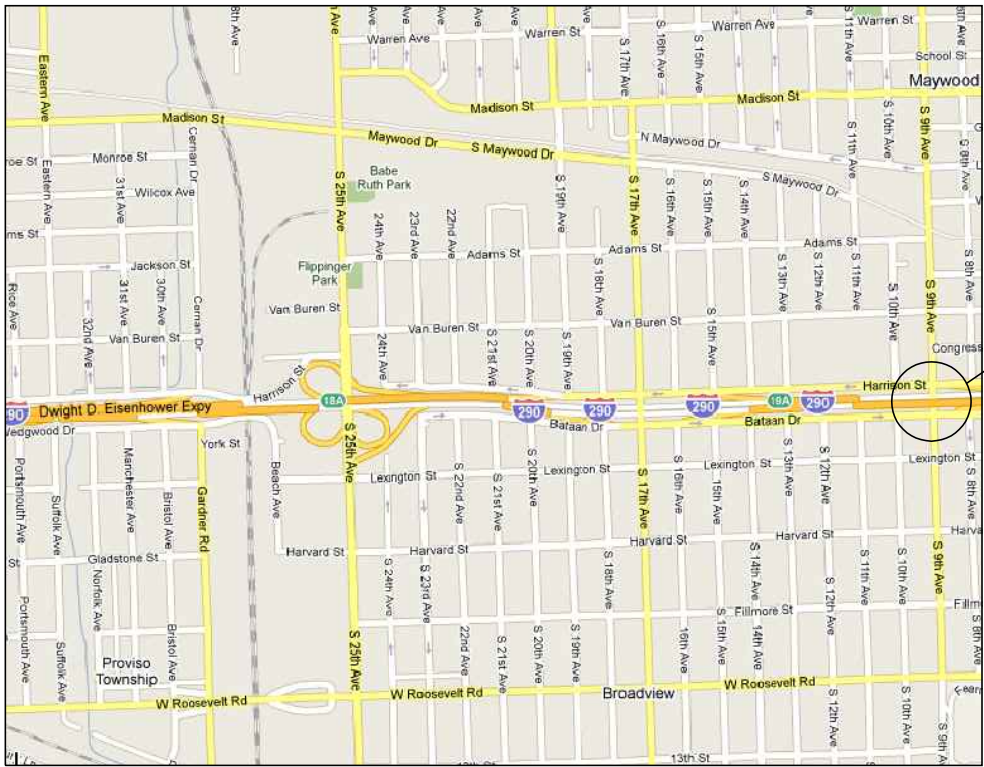
**Attachment C. Bridge Inspection Report**

**Attachment D. Structure Photos**

**Attachment E. Abbreviated Existing Plans**

**Attachment F. Proposed Plan and Profile**

**ATTACHMENT A**  
**LOCATION MAP**



9th Ave.  
Bridge

LOCATION MAP

**ATTACHMENT B**

**IDOT MASTER STRUCTURE REPORT**

**Illinois Department of Transportation  
Structures Information Management System  
Structure Summary Report**

Date: 10/30/2015

Page: 1

Structure Number: 016-2058

District: 1

**Inventory Data**

<b>Facility Carried:</b> 9TH AVE	<b>Bridge Name:</b>	<b>Sufficiency Rating:</b> 65.0	<b>Structure Length:</b> 206.1
<b>Feature Crossed:</b> I-290 IKE	<b>Location:</b> 2.0 M W IL 43	<b>HBP Eligible:</b> Yes	<b>AASHTO Bridge Length:</b> 99.9
<b>Bridge Remarks:</b>		<b>Replaced By:</b> -	<b>Length of Long Span:</b> 57.1
<b>Bridge Status:</b> 1 OPEN - NO RESTRICT	<b>Status Date:</b> 04/1988	<b>Replaces:</b> -	<b>Bridge Roadway Width:</b> 50.0
<b>Status Remarks:</b>		<b>Last Update Date:</b> 07/05/2012	<b>Appr Roadway Width:</b> 50.0
<b>Maint County:</b> 016 COOK	<b>Maint Township:</b> 27 PROVISO	<b>Parallel Structure:</b> None	<b>Deck Width:</b> 62.0
<b>Maint Responsibility:</b> 14 I.D.O.T.	MUNICIPALITY	<b>Multi-Level Structure Nbr:</b>	<b>Sidewalk Width Right:</b> 5.0
<b>Service On/Under:</b> 1 HIGHWAY	1 / HIGHWAY	<b>Skew Direction:</b> N	<b>Sidewalk Width Left:</b> 5.0
<b>Reporting Agency:</b> 1 I.D.O.T. - BUREAU OF MAINTENANCE		<b>Skew Angle:</b> 0 D	<b>Navigation Control:</b> N N/A
<b>Main Span Matl/Type:</b> 4 STEEL CONTINUOUS	/ 02 STRINGER/MULTI-BEAM/GIRDER	<b>Structure Flared:</b> No	<b>Navigation Horiz Clear:</b> 0
<b>Nbr Of Main Spans:</b> 4	<b>Nbr Of Approach Spans:</b> 0	<b>Historical Significance:</b> No	<b>Navigation Vert Clear:</b> 0
<b>***Approaches***</b>		<b>Border Bridge State:</b>	<b>Culvert Fill Depth:</b> 0.0
<b>Near #1 Matl/Type:</b> /		<b>Bdr State SN:</b>	<b>Number Culvert Cells:</b> 0
<b>Near #2 Matl/Type:</b> /		<b>Bdr State % Responsibility:</b> 0	<b>Culvert Opening Area:</b> 0.0
<b>Far #1 Matl/Type:</b> /		<b>Structural Steel Wt</b> 350000	<b>Culvert Cell Height:</b> 0.00
<b>Far #2 Matl/Type:</b> /		<b>Substructure Material:</b>	<b>Culvert Cell Width:</b> 0.00
<b>Median Width/Type:</b> 0 Ft. / 0 None		<b>Rated By:</b> 2 IDOT	<b>Rate Method:</b> 7
<b>Guardrail Type L/R:</b> 0None / 0 None		<b>Inventory Rating:</b> 1.030(37)	<b>Load Rating Date:</b> 08/04/1999
<b>Toll Facility Indicator:</b> 0 No Toll		<b>Operating Rating:</b> 1.720(61)	<b>Railroad Crossing Info</b>
<b>Latitude:</b> 41.87114326	<b>S Longitude:</b> 87.84346313	<b>Design Load:</b> 02 HS20	<b>Crossing 1 Nbr:</b>
<b>Deck Structure Type:</b> A CIP CON NRMLLY FORM		<b>Deck Structure Thickness:</b> 7 SD: N FO: Y	<b>Crossing 1 Nbr:</b>
<b>Sidewalks Under Structure:</b> 0 None			<b>RR Lateral Underclear:</b> 0.0
			<b>RR Vertical Underclear:</b> 0 Ft 0 In

**Key Route On Data**

<b>Key Route Nbr:</b> FEDERAL-AID URBAN	2733	<b>Station:</b> 2.5200
<b>Appurtenances</b> Main Route	00000	<b>Segment:</b>
<b>Inventory County:</b> 016 COOK		<b>Linked:</b> Y
<b>Township/Road Dist</b> 27 PROVISO		<b>Natl. Hwy System:</b> Not on NHS
<b>Municipality</b> 3635 MAYWOOD		<b>Inventory Direction:</b>
<b>Urban Area:</b> 1051 1051		<b>Curr AADT Yr/Count:</b> 2014 / 8200
<b>Functional Class:</b> 5 MAJOR COLLECTOR		<b>Est Truck Percentage:</b> 7
<b>** CLEARANCES **</b> South/East	North/West	<b>Number Of Lanes:</b> 4
<b>Max Rdwy Width:</b> 50.0		<b>One Or Two Way:</b> 2 Two-Way
<b>Horizontal:</b> 60.0 0.0		<b>Bypass Length:</b> 0
		<b>Future AADT Yr/Cnt:</b> 2032 / 8961
		<b>Designated Truck Rte:</b> NONE
<b>Lateral:</b>		<b>Special Systems:</b> No

**Key Route Under Data**

<b>Key Route Nbr:</b> FEDERAL-AID INTERSTATE	0290	<b>Station:</b> 5.6800
<b>Appurtenances</b> Main Route	00000	<b>Segment:</b>
<b>Inventory County:</b> 016		<b>Linked:</b> Y
<b>Township/Road Dist</b> 27 PROVISO		<b>Natl. Hwy System:</b> On NHS
<b>Municipality</b> 3635 MAYWOOD		<b>Inventory Direction:</b>
<b>Urban Area:</b> 1051 1051		<b>Curr AADT Yr/Count:</b> 2014 / 177400
<b>Functional Class:</b> 1 INTERSTATE		<b>Est Truck Percentage:</b> 5
<b>** CLEARANCES **</b> South/East	North/West	<b>Number Of Lanes:</b> 6
<b>Max Rdwy Width:</b> 0.0		<b>One Or Two Way:</b> 2 Two-Way
<b>Horizontal:</b> 51.0 51.0		<b>Bypass Length:</b> 0
		<b>Future AADT Yr/Cnt:</b> 2032 / 186842
		<b>Designated Truck Rte:</b> CLASS I
		<b>Special Systems:</b> 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	290
1 Mainline	3 State Highway	110
1 Mainline		

**Illinois Department of Transportation  
Structures Information Management System  
Structure Summary Report**

Date: 10/30/2015

Page: 2

Structure Number: 016-2058

District: 1

**Data Related to Inspection Information**

<b>*** Inspection Intervals ***</b>			<b>*** Maximum Allowable Posting Limits ***</b>				<b>Bridge Posting Level:</b>	
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:	06/05/2014	Inspection Temperature:	74Deg. F	<b>** Actual Posted Limits **</b>		
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:	5	FAIR CONDITION - MINOR SECTION LOSS, CRACKS		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:	C
Structural Evaluation:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE	Deck Membrane:	F NONE	LD SHP GRN&AL FNL	
Deck Geometry:	3	INTOLERABLE - HIGH PRIORITY FOR CORRECTION	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:	09/1985		
Approach Roadway Align:	7	BETTER THAN PRESENT MINIMUM 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:		Inspection Method:		Appraisal Rating:	
Temperature:					

**Scour Critical Information**

**Miscellaneous**

Rating:		Evaluation Method:		Microfilm Data Recorded:	Yes
Analysis Date:					

**Construction Information**

Year:	1951	Original	Reconstructed
Route:	FA-131	Sta: 217+47.64	Sta:
Section Nbr:	062-3435.1-MFT		
Contract Nbr:			
Fed Aid Pr#:	UI 2610013000		
Built By:	0	UNKNOWN	



**ATTACHMENT C**

**BRIDGE INSPECTION REPORT**

SN: 016-2058	District: 1	Spans: 4	Appr. Spans: 0	Skew: 0	ADT: 8700	Truck Pct: 2
ADT Un: 181100	Maint. Co: COOK	Twsp: PROVISO		Status: OPEN, NO RESTRICTIONS		
Facility Carried: 9TH AVE			Feature Crossed: I-290 IKE			
Location: 2.0 M W IL 43		Municipality: MAYWOOD		Team/Sub Section: E23/014		Insp/Rte: 023
Bridge Name:			Material & Type: STEEL CONTINUOUS/MULTI-BEAM			
Insp. Intervals Routine: 24		Fracture Critical: 0	Underwater: 0	Special: N/A	Element Level: 24	
90 - Inspection Date: 6/5/14		90C - Temp. (°F): 74	90B1 - In-Depth		<input checked="" type="checkbox"/>	
Is Delinquent:	Reason:					
90A - Agency Program Manager: J. Landers		90A3 - Consultant Program Manager:				
90A1 - Team Leader: J. Khalil		90A2 - Inspector:				
90B - Inspection Remarks:						
Pier/Insp	NUMEROUS SPALLS WITH EXPOSED REBAR PRESENT ON SUB-STRUCTURE ELEMENTS (PIERS). OUT OF PLANE BENDING ON BEAM 11 OVER WB I-290 LANE 2					

**Resources**

Time to Inspect(H:M):	1:20	:	Traffic Control:		Boat:		Waders:		Snooper:	
Ladder:		Manlift:		Bucket Truck:		Other:				

**Inspector's Appraisals**

58 - Deck Condition:	Prev: 6	New: 5	<i>5/6</i>
<i>cracks in the overlay and soffit</i>			
59 - Superstructure Cond:	5	5	
<i>medium to heavy rust thru out Steel Structure</i>			
60 - Substructure Cond:	5	5	
<i>cracks, spalls w/exposed rebars at pier caps and columns.</i>			
62 - Culvert Condition:	N	N	
61 - Channel Condition:	N	N	
71 - Waterway Adequacy:	N	N	
72 - Approach Rdwy Align:	7	7	
111 - Pier Navig Protection:	N	N	

**90B - Inspection Remarks:**

(2014) The structure is 4 span Steel Continuous with Gravel Slopewalls and stub abutments. Beam ends are accessible and an in-depth should be performed every cycle. an in-depth was performed on 6/5/14



**Additional Inspection Data**

36A - Bridge Railing Adequacy:	Prev	New	Approach Guardrail Adequacy: 36B - Transitions:	Prev	New	36C - Guardrail:	Prev	New	36CD - Ends:	Prev	New
	3			1			1			1	

108A - Wearing Surface Type:	Prev	New	If 'L-Other' Describe:
	E		
108B - Type of Membrane:	Prev	New	If 'E-Other' Describe:
	F		
108C - Deck Protection:	Prev	New	If 'I-Other' Describe:
	J		
108D - Total Deck Thickness (In.):	8.5		

59A - Paint Date(Mo/Yr):	09/1985		Color: Fascia - _____; Inter. - _____; Railing - _____.
59B - Paint Type:	C		
59C - Utilities Attached:	9		

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:			

Joint Openings (In.): \_\_\_\_\_

**90B - Inspection Remarks:**

	Signature	Date
Inspection Team Leader:	<i>James A. Knudsen</i>	6/5/14
Consultant Program Manager:		1/1
Agency Program Manager:	<i>[Signature]</i>	6/23/14



Historical Remarks

Inspection Date	Remarks
06/11/12	NUMEROUS SPALLS WITH EXPOSED REBAR PRESENT ON SUB-STRUCTURE ELELMENTS (PIERS). OUT OF PLANE BENDING ON BEAM 11 OVER WB I-290 LANE 2
11/18/10	NUMEROUS SPALLS WITH EXPOSED REBAR PRESENT ON SUB-STRUCTURE ELELMENTS (PIERS). OUT OF PLANE BENDING ON BEAM 11 OVER WB I-290 LANE 2
12/09/08	SPALLS WITH EXPOSED REBAR PRESENT ON SUB-STRUCTURE ELELMENTS.



**Element Level Inspection Report**

SN: 016-2058	District: 1	Spans: 4	Appr. Spans: 0	Skew: 0	ADT: 8700	Truck Pct: 2
ADT Un: 181100	Maint. Co: COOK	Twsp: PROVISO		Status: OPEN, NO RESTRICTIONS		
Facility Carried: 9TH AVE		Feature Crossed: I-290 IKE				
Location: 2.0 M W IL 43		Municipality: MAYWOOD		Team/Sub Section: E23/014		Insp/Rte: 023
Bridge Name:			Material & Type: STEEL CONTINUOUS/MULTI-BEAM			
Insp. Intervals Routine: 24		Fracture Critical: 0		Underwater: 0		Special: N/A
Element Level: 24						

93D - Inspection Date:	6/5/14	93C6 - Temp. (°F):	74
Is Delinquent		Reason:	
90E - Agency Program Manager:	J. Landers	90E3 - Consultant Program Manager:	
90E1 - Team Leader:	J. Khalil	90E2 - Inspector:	

**Resources**

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

**Inspector's Appraisals**

Element	Element Description	Env	Quantity	Unit	CS1	CS2	CS3	CS4
8022	Concrete Deck Protected w/ Rigid Overlay	3	13020	SF	12370	650	0	0
	Remarks	Spalling on underside along former longitudinal joint. Random cracking in overlay. cracking and spalling at sidewalks						
107	Lead Painted Steel Open Girder	4	21070	SF	15070	6000	0	0
	Remarks	Generally rust thru-out. Heaviest on bottom flanges.						
8172	Lead Painted Steel Closed Web/Box Girder and Open	4	24	EA	24	0	0	0
	Remarks							
210	Reinforced Conc Pier Wall	4	1880	SF	1480	100	300	0
	Remarks	Cracks, spalls, and delamin's present in repaired areas @ piers 1,2, &3. See substructure drawings in file.						
215	Reinforced Conc Abutment	4	1120	SF	1093	22	5	0
	Remarks	Spall at south abutment.						
234	Reinforced Conc Pier or Abutment Cap	4	330	LF	241	32	57	0
	Remarks	Spalls with exposed rebar present. See substructure drawings in file.						
302	Preformed Joint Seal	3	125	LF	0	0	0	125
	Remarks	Some length shredded at both abutments. both joints are overcompressed						
310	Elastomeric Bearing	4	24	EA	0	0	22	2
	Remarks	Bearings showing signs of surface to medium rust. Bearings at beam 11 & 2 @ north and south abutment has advance corrosion.						
313	Fixed Bearing	4	12	EA	0	12	0	0
	Remarks	Bearings showing signs of surface to medium rust.						
8316	Moveable Steel Bearings below continuous decks	4	24	EA	0	0	24	0
	Remarks	Bearings showing signs of surface to medium rust.						
8323	Approach Pavement	3	2	EA	1	1	0	0
	Remarks	Longitudinal crack present in the south approach in the northbound lane.						
331	Concrete Bridge Railing	3	420	LF	0	420	0	0
	Remarks							
8406	Steel Open Girder	4	2	LF	0	2	0	0
	Remarks	Slight upward bend of beam 11 bottom flange over WB lane 2.						

805B Sidewalk

minor spalls at both sidewalks

3 2100 SF 2060 40



	Signature	Date
Inspection Team Leader:	<i>Jared Kell</i>	6/5/14
Consultant Program Manager:		1/1
Agency Program Manager:	<i>JJZ</i>	6/23/14

Sidewalk

5' X 210' X 2 sides = 2100 SF



**Structure Number:** 0162058

Location & Inventory Information

Facility Carried: 9TH AVE

Feature Crossed: I-290 IKE

Location: 2.0 M W IL 43

Team Section: E23

Mat/Type/#Spans: Steel continuous/Multi-beam/4

*** PROPOSED MAINTENANCE REPAIRS ***							
(Only Active IWC's are Shown)							
Repair Code	Repair Description	IWC Date	Completed By	Prt. Code	Qty.	Unit	Inspector
<b>Status</b>	<b>Comments</b>	<i>6/5/14</i>					
<u>557</u>	EXPANSION JOINT REPAIR	<del>06/11/2012</del>	CM	H	0	LIN. FT.	KHALILJS
AP	remove and replace both expansion joints at both abutments						
<u>558</u>	ROADWAY JOINT MAINTENANCE	<del>06/11/2012</del>	OO	H	105	LIN. FT.	KHALILJS
AP	Reseal pavement releif joints. <i>6/5/14</i>						
<u>656</u>	CLEANING AND PAINTING	<del>06/11/2012</del>	CM	H	21070	SQ. FT.	KHALILJS
AP	Clean & paint structural steel. <i>6/5/14</i>						
<u>750</u>	BRIDGE CONCRETE REPAIR	<del>06/11/2012</del>	CM	H	259	SQ. FT.	KHALILJS
AP	Form conrcete repair to pier walls, column, and pier caps.						

*JJZ 6/23/14*

**ATTACHMENT D**

**STRUCTURE PHOTOGRAPHS**





Photo 1 - Overall Looking West



Photo 2 - Top of Bridge Looking South





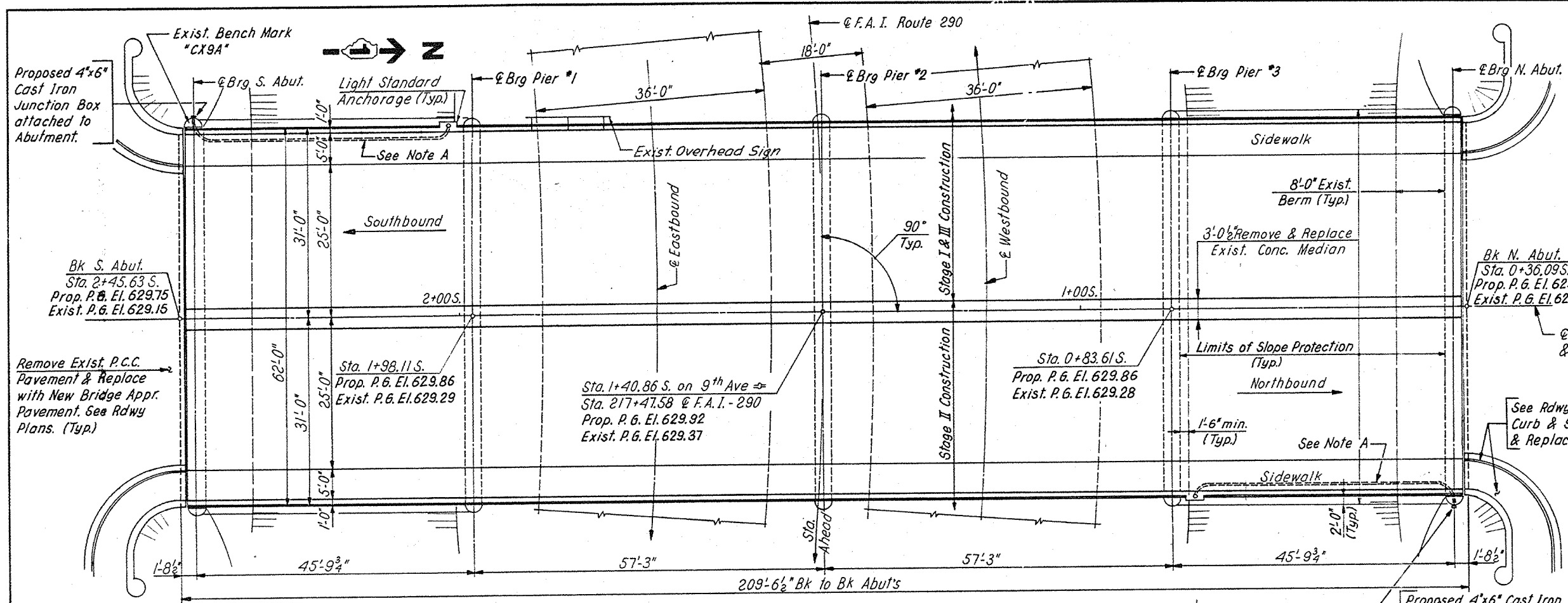
Photo 3 – Typical Pier and Underdeck Layout



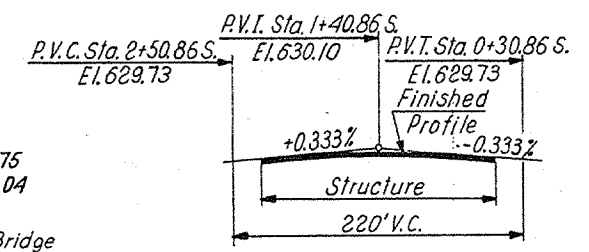
Photo 4 – South Abutment and Slopewall

**ATTACHMENT E**

**ABBREVIATED EXISTING PLANS**



**BENCH MARK** A standard Cook County bronze disk set on the Southwest Pier of the overpass. 32 feet West of the centerline of 9th Ave., and 29.50 feet North of the centerline of Balaan Drive. El. 629.630



PROPOSED PROFILE ALONG PGL 9TH AVENUE

**GENERAL NOTES**

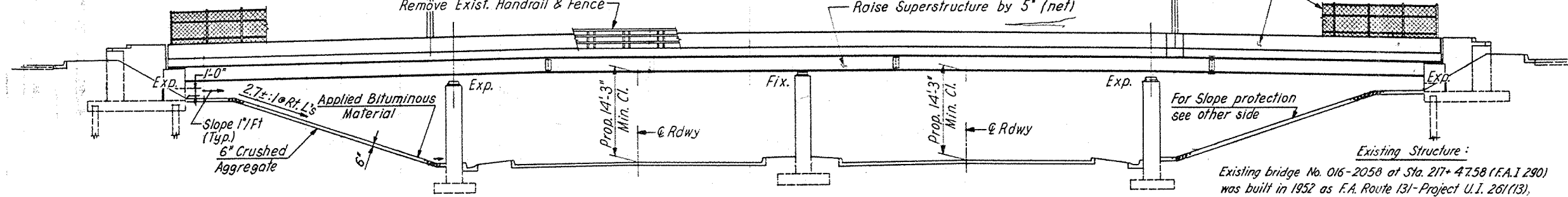
- THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUCTURAL STEEL.
- SEE SPECIAL PROVISIONS FOR CLEANING AND PAINTING OF EXISTING STEEL BRIDGE.
- FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
- PROTECTIVE COAT SHALL BE APPLIED TO NEWLY CONSTRUCTED SIDEWALKS AND PARAPETS ONLY.
- 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.
- EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS., AND 3/4" X 12" HOOKED BOLTS. FASTENERS SHALL BE HIGH STRENGTH BOLTS, BOLTS TO BE 3/4" Ø. OPEN HOLES TO BE 15/16" UNLESS OTHERWISE NOTED.
- REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 OR M-53 GRADE 60.
- ALL EXISTING UTILITY CONDUITS AND WIRING SHALL BE ADJUSTED BY THEIR RESPECTIVE OWNERS BEFORE RAISING BRIDGE.
- CALCULATED WEIGHT OF STRUCTURAL STEEL = 27,350 LBS.

**Note A:**  
Remove Exist. 2" Dia. Rigid Steel Conduit & reattach to underside of Slab. Provide new No. 8AWG electric Cables from Pole to Junction Box. See Section A-A, Sheet No. 5 & Special Provisions.

**PLAN**

Relocate Exist. Light Pole on New Parapet. (Typ.) (See Special Provisions)

Proposed 4x6 Cast Iron Junction Box attached to Abutment.



**ELEVATION**

Existing Structure:  
Existing bridge No. 016-2058 at Sta. 217+47.58 (F.A.I. 290) was built in 1952 as F.A. Route 131-Project U.I. 261(13). Section 062-3435-1-M.F.T. It is a 4-Spans Continuous W Beam Bridge with 7" Concrete Deck, 62'-0" out to out Structure, 209'-6" Bk. to Bk. Abutments.

TYP DETAILS OF SLOPE PAVING (See Special Provisions)

**TOTAL BILL OF MATERIAL**

Item	Unit	Supstr.	Substr.	Total
Protective Coat	Sq. Yds	157	—	157
Class X Concrete	Cu. Yds	67.8	16.0	83.8
Reinforcement Bars	Lbs	6,290	3,990	10,280
Expansion Bolts (Special)	Each	820	—	820
Concrete Removal	Cu. Yds	24	13	37
Expansion Bolts 3/4" Ø	Each	44	—	44
Bridge Handrail Removal	Lin. Ft	414	—	414
Fence Removal	Lin. Ft	414	—	414
Chain Link Fence 6" (Bridge)	Lin. Ft	410	—	410
Structural Steel	L. Sum	1	—	1
Reinforcement Bars (Epoxy Cld)	Lbs	1,370	—	1,370
Preformed Joint Seal 4"	Lin. Ft	126	—	126
Elastomeric Bearing Assembly Type-II	Each	24	—	24
Jackup Existing Structure	L. Sum	1	—	1

Item	Unit	Supstr.	Substr.	Total
Concrete Bridge Deck Scarification (4")	Sq. Yds	1,060	—	1,060
Deck Slab Repair (Full Depth)	Sq. Yds	20	—	20
Deck Slab Repair (Partial Depth)	Sq. Yds	194	—	194
Concrete Curb Repair	Lin. Ft	20	—	20
Plasticized Bridge Deck Concrete Overlay	Sq. Yds	1,150	—	1,150
Repair Concrete Structures	Sq. Ft	—	122	122
Epoxy Crack Sealing	Lin. Ft	600	113	713
Beam Straightening	L. Sum	1	—	1
Cleaning and Painting Steel Bridge No. 1	L. Sum	1	—	1
Slope Paving, Crushed Aggregate	Sq. Yds	—	667	667
Structure Excavation	Cu. Yds	—	26	26
Relocation of Existing Lighting Unit	Each	2	—	2
Protective Shield	Sq. Yds	75	—	75

**NOTES**

- DESIGN LOADING  
HS 20-44
- DESIGN STRESSES (\*\* New Construction)  
\*\*  $f_s = 20,000$  p.s.i. M183 Structural Steel  
 $f_s = 18,000$  p.s.i. A-7 Exist. Structural Steel  
\*\*  $f'_c = 3,500$  p.s.i. Class X Concrete  
\*\*  $f_y = 60,000$  p.s.i. Reinforcement Bars
- DESIGN SPECIFICATIONS (New Construction)  
AASHTO 1977 and Interim 1978, 1979, 1980, 1981 and 1982

**SCOPE OF WORK AND SEQUENCE OF CONSTRUCTION**

- STAGE I**  
JACK UP WEST HALF OF BRIDGE. REMOVE AND REPLACE ABUTMENT BEARINGS AND INSTALL PEDESTALS UNDER PIER BEARINGS.
- STAGE II**  
JACK UP EAST HALF OF BRIDGE. REMOVE AND REPLACE ABUTMENT BEARINGS AND INSTALL PEDESTALS UNDER PIER BEARINGS. REHABILITATE EAST SIDE DECK.
- STAGE III**  
REHABILITATE WEST SIDE DECK. REPAIR PIERS AND ABUTMENTS. PAINT STRUCTURAL STEEL.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DISTRICT ONE

EISENHOWER EXPRESSWAY  
F.A.I. ROUTE 290  
REHABILITATION PROJECT

**GENERAL PLAN & ELEVATION  
NINTH AVENUE  
GRADE SEPARATION**

COOK COUNTY 3435.1 BR(80)

MCDONOUGH ENGINEERING INC.  
ENGINEERING CONSULTANTS

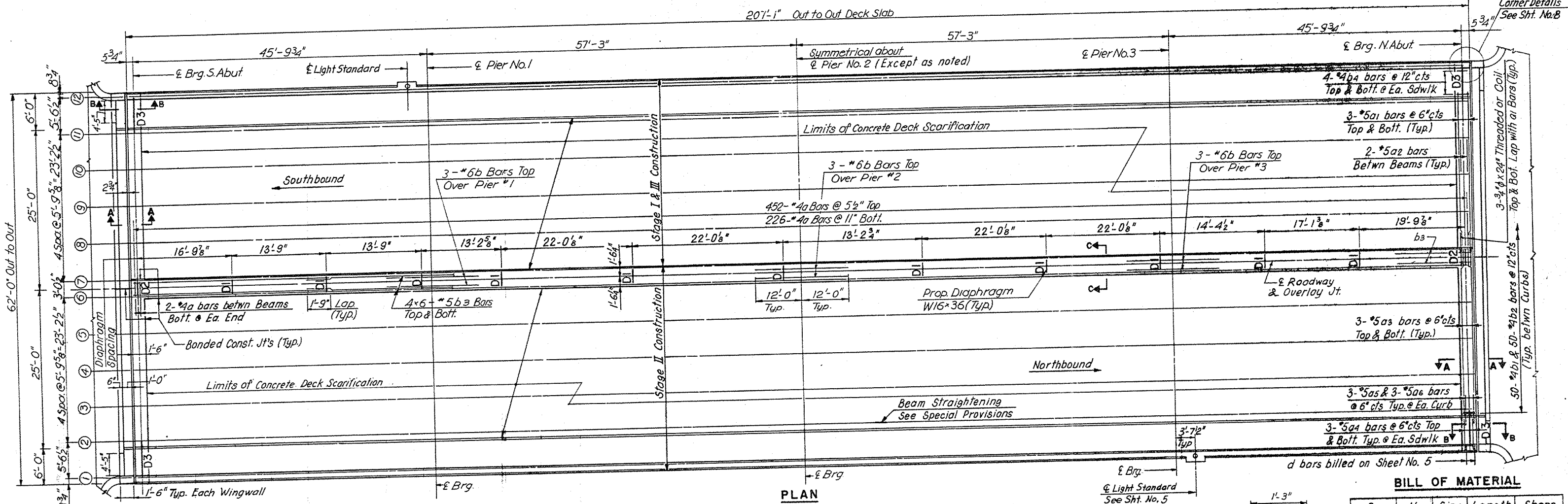
DESIGNED BY: B.S.  
CHECKED BY: B.S.  
DRAWN BY: B.S.

SCALE:  
Not to Scale



Huney... Jan 25, 84

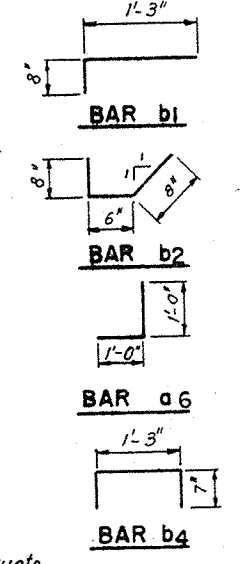




PLAN

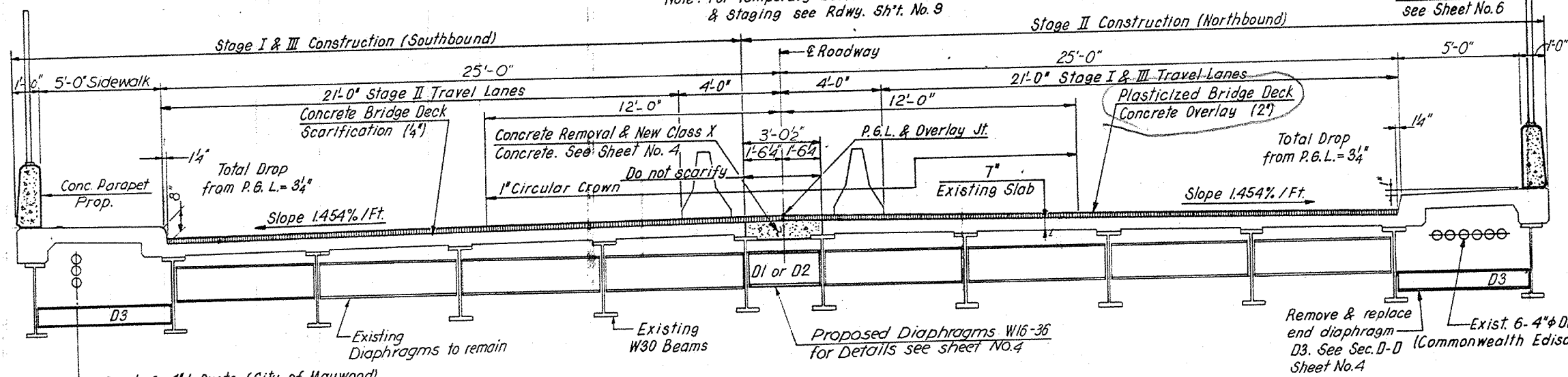
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a	682	#4	2'-9"	—
a1	12	#5	24'-4"	—
a2	32	#5	5'-6"	—
a3	12	#5	27'-5"	—
a4	24	#5	5'-9"	—
a5	12	#5	3'-7"	—
a6	12	#5	2'-0"	—
b	9	#6	24'-0"	—
b1	100	#4	1'-11"	—
b2	100	#4	1'-10"	—
b3	48	#5	36'-3"	—
b4	32	#4	2'-5"	—
Reinforcement Bars				Lbs 4,740
Class X Concrete				Cu. Yds 32.1
Concrete Removal				Cu. Yds 23



Note: For Temporary Barrier wall location & staging see Rdwy. Sh't. No.9

For Fence Details see Sheet No.6



TYPICAL DECK SECTION  
Looking North

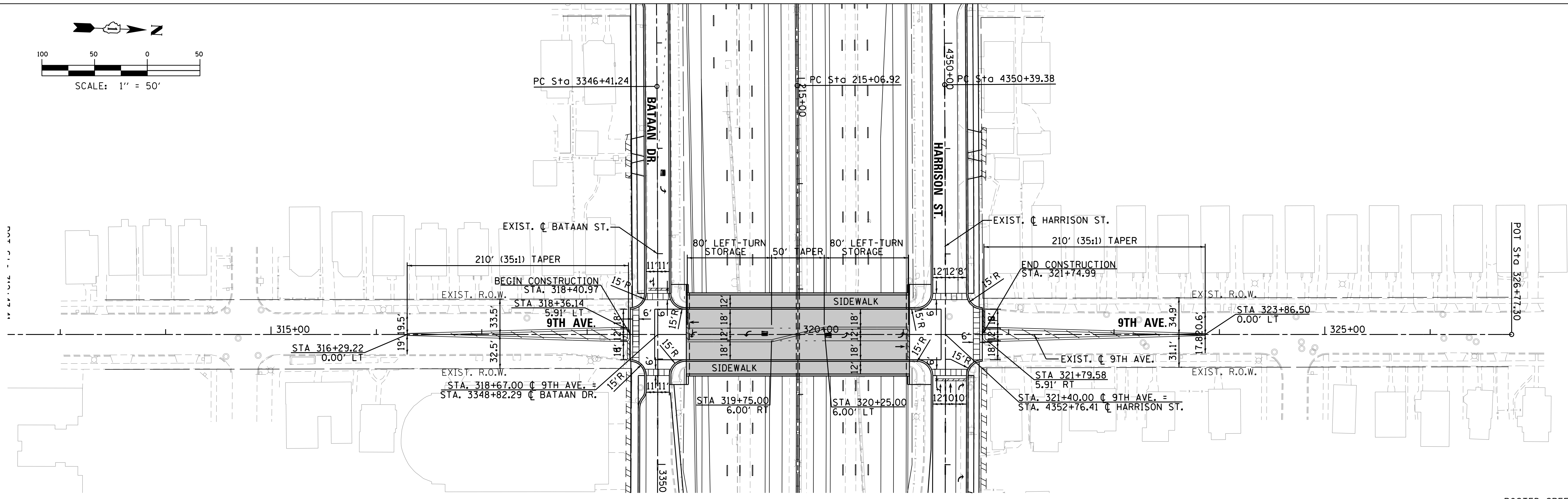
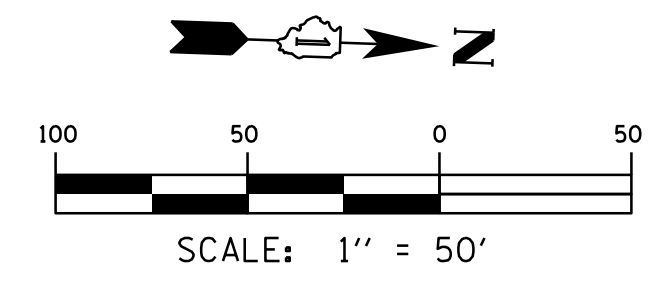
3/4" φ x 24" Threaded or Coil Rods No. Req'd - 24  
Threaded or Coil Loop Splicers No. Req'd - 12

- Notes:
1. For Sections See Sheet No. 4
  2. For Parapet Details See Sheet No. 5
  3. For Location of Bars a5 & a6 See Sheet No. 4 (Section D-D)
  4. For Detail of Bar a5 See Sheet No. 8
  5. Cast of 3/4" φ Rods & Splicers incidental to Class X Concrete.
  6. For Bar Splicer Details See Sheet
  7. Bars indicated thus 4x6-#5 etc indicates 4 lines of bars with 6 lengths per line.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE	EISENHOWER EXPRESSWAY F.A.I. ROUTE 290 REHABILITATION PROJECT
<b>SUPERSTRUCTURE PLAN &amp; CROSS SECTION NINTH AVENUE GRADE SEPARATION</b>	
COOK COUNTY	3435.1 BR(80)
MCDONOUGH ENGINEERING INC. ENGINEERING CONSULTANTS	DESIGNED BY: B.S. CHECKED BY: L.B. DRAWN BY: M.Z.
	SCALE: No scale

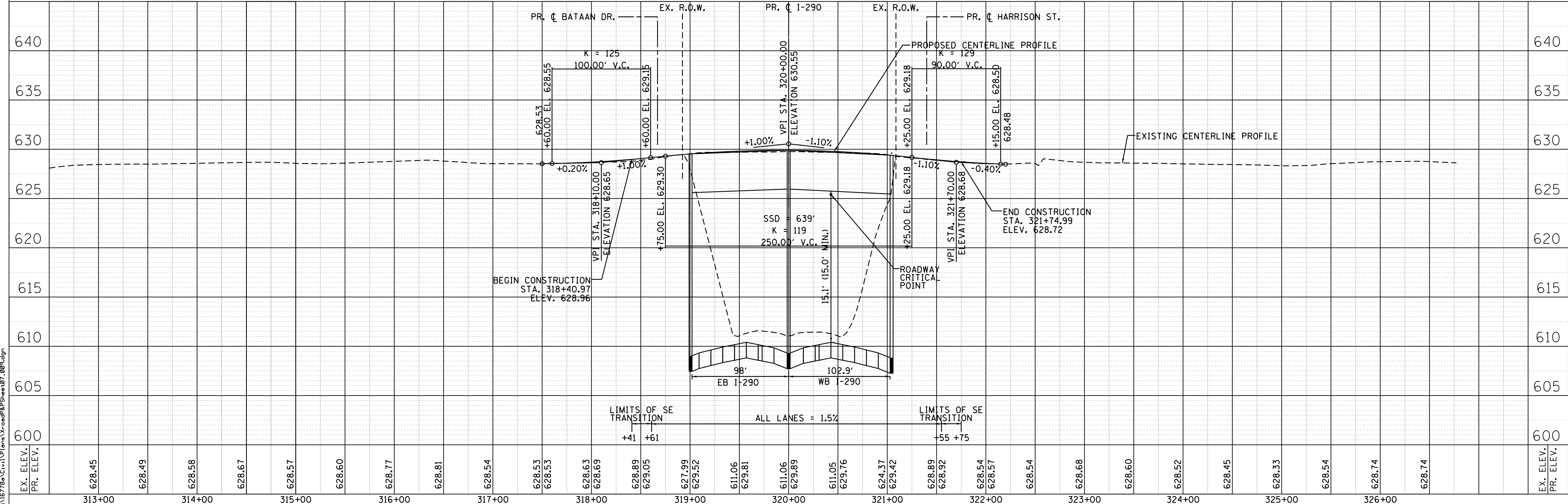
**ATTACHMENT F**

**PROPOSED PLAN AND PROFILE**



NOTE: ALL CROSSWALKS SHALL BE ADA COMPLIANT

POSTED SPEED = 25 MPH  
DESIGN SPEED = 30 MPH



EX. ELEV. PR. ELEV.	628.45	628.49	628.58	628.67	628.57	628.60	628.77	628.81	628.54	628.53	628.63	628.69	628.89	629.05	627.99	629.52	611.06	629.81	611.06	629.89	611.05	629.76	624.37	629.42	628.89	628.92	628.54	628.57	628.54	628.68	628.60	628.52	628.45	628.33	628.54	628.74	628.74	EX. ELEV. PR. ELEV.
	313+00	314+00	315+00	316+00	317+00	318+00	319+00	320+00	321+00	322+00	323+00	324+00	325+00	326+00																								

PLAN	SURVEYED	DATE
	PLOTTED	
	NOTE BOOK	
	NO.	
	ALIGNED	
	CHECKED	
	FILE NAME	

PROFILE	SURVEYED	DATE
	PLOTTED	
	NOTE BOOK	
	NO.	
	GRADES CHECKED	
	STRUCTURE	
	NOTATMS CHKD	

FILE NAME = T:\16778a\Civil\Plans\Road\9th\9th.dgn

**PARSONS BRINCKERHOFF**  
30 North LaSalle Street, Suite 4200  
Chicago, IL 60602  
(312) 782-8150 FAX# (312) 782-1684

DESIGNED - ADR  
DRAWN - ADR  
CHECKED - RPH  
DATE - 06/23/17

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**I-290 PHASE 1 STUDY  
PLAN AND PROFILE - 9TH AVENUE**  
SCALE: 1"=50' SHEET 172 OF 522 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	522	172
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				