Illinois Department of Transportation

Informal Transmittal

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 016-0694 17th Ave over I-290

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 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 four 12' wide lanes 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.

Completed By

Copies to			
	Sarah Wilson, Maintenance	Ken Eng, Design	

Response

Response By

ABRIDGED BRIDGE CONDITION REPORT

Illinois Department of Transportation

I. Administrative Data

REGION:	1
DISTRICT:	1
COUNTY:	Cook
ROUTE:	17th Avenue
JOB NUMBER:	P-91-597-10
STRUCTURE NUMBER:	016-0694
LOCATION:	17th Ave. over FAI 290 (I-290)

II. Roadway/Structure Data

Roadway Classification:	Major Collector
ADT (current):	10,100 (yr. 2010)
ADTT (current):	2% of ADT
Inventory Rating:	1.030
Operating Rating:	1.720
Sufficiency Rating:	65.0

Construction / Reconstruction / Repair History:

17th Avenue over I-290 in Cook County, Illinois (Structure No. 016-0694) was constructed in 1952 under Section No. 062-3535.1-MFT for Route FA-131. In 1984 improvements included raising the bridge profile, placement of a reinforced 3¾ in. reinforced concrete overlay, and partial and full depth deck slab repair. There was a partial fascia beam replacement, structural steel painting, and removal and replacement of the existing concrete median including a new median steel diaphragm. Bearing replacement, abutment and pier repairs, reconstruction of the parapets, approach slabs and expansion joints, and the replacement of a chain link fence were also included.

III. Physical Description of Structure

17th 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'-9¾", 57'-3", 57'-3" and 45'-9¾" on a crest vertical curve. The 9 in. deck including a 3¾ in. reinforced 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, signals, and underdeck utilities are presently attached to the bridge. See Attachment D for photos.

IV. Discussion and Recommended Scope of Work

The 17th 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 187', a 51' curb to curb width, and an out to out deck width of 79', which includes four 12' wide lanes 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 and proposed trunk sewers, 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 replace the expansion joints with silicone seal joints, scale the concrete underdeck, and perform beam straightening.

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 $5,910,000 based on a proposed deck area of 14,773 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

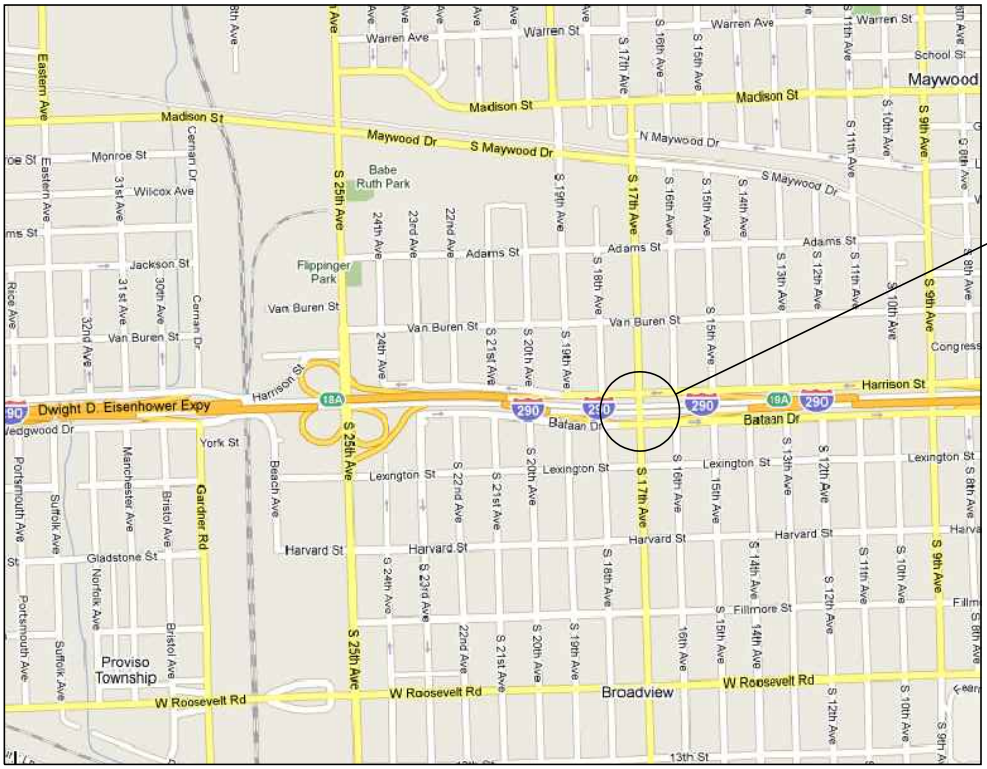
Attachment D. Structure Photos

Attachment E. Abbreviated Existing Plans

Attachment F. Proposed Plan and Profile

ATTACHMENT A

LOCATION MAP



LOCATION MAP

ATTACHMENT B

IDOT MASTER STRUCTURE REPORT

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 016-0694 **District:** 1

Inventory Data

Facility Carried:	17TH AVE	**Bridge Name:**		**Sufficiency Rating:**	65.0
Feature Crossed:	I-290 IKE	**Location:**	2.5 M W IL 43	**HBP Eligible:**	Yes
Bridge Remarks:				**Replaced By:**	-
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-
Status Remarks:				**Last Update Date:**	07/05/2012
Maint County:	016 COOK	**Maint Township:**	27 PROVISO	**Parallel Structure:**	None
Maint Responsibility:	01 I.D.O.T.			**Multi-Level Structure Nbr:**	
Service On/Under:	5 SECOND LEVEL INTERCHANGE	1 /	HIGHWAY	**Skew Direction:** N	None
Reporting Agency:	1 I.D.O.T. - BUREAU OF MAINTENANCE			**Skew Angle:** 0 **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**	360000
Far #2 Matl/Type:		/		**Substructure Material:**	
Median Width/Type:	0 Ft. / 0 None			**Rated By:** 2 IDOT	**Rate Method:** 7
Guardrail Type L/R:	0None / 0 None			**Inventory Rating:**	1.030(37)
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	1.720(61)
Latitude:	41.87088028 **S**	**Longitude:**	87.85331151 **S**	**Design Load:** 02	HS20
Deck Structure Type:	A CIP CON NRMLLY FORM			**Deck Structure Thickness:**	7 **SD:** N **FO:** Y
Sidewalks Under Structure:	0 None				

Load Rating Date:	08/03/1999
Railroad Crossing Info	
Crossing 1 Nbr:	
Crossing 1 Nbr:	
RR Lateral Underclear:	0.0
RR Vertical Underclear:	0 **Ft** 0 **In**

Structure Length:	210.0	**Navigation Control:**	N N/A
AASHTO Bridge Length:	99.9	**Navigation Horiz Clear:**	0
Length of Long Span:	57.0	**Navigation Vert Clear:**	0
Bridge Roadway Width:	50.0	**Culvert Fill Depth:**	0.0
Appr Roadway Width:	50.0	**Number Culvert Cells:**	0
Deck Width:	62.0	**Culvert Opening Area:**	0.0
Sidewalk Width Right:	5.0	**Culvert Cell Height:**	0.00
Sidewalk Width Left:	5.0	**Culvert Cell Width:**	0.00

Key Route On Data

Key Route Nbr:	FEDERAL-AID URBAN 2722	**Station:**	0.7600
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	27 PROVISO	**Natl. Hwy System:**	Not on NHS
Municipality	0640 BROADVIEW	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 10600
Functional Class:	5 MAJOR COLLECTOR	**Est Truck Percentage:**	1
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	50.0	**One Or Two Way:**	2 Two-Way
Horizontal:	60.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 10403
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0290		**Station:**	5.1700
Main Route 00000		**Segment:**	
016		**Linked:**	Y
27 PROVISO		**Natl. Hwy System:**	On NHS
0640 BROADVIEW		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 171000
1 INTERSTATE		**Est Truck Percentage:**	5
South/East	**North/West**	**Number Of Lanes:**	6
0.0		**One Or Two Way:**	2 Two-Way
54.8	54.8	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 177057
		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	290
	1 Mainline	3 State Highway	110
	1 Mainline		

Structure Number: 016-0694 **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: 09/03/2015 **Inspection Temperature:** 88Deg. 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:	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:**	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:**	9.0				
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							

**** Actual Posted Limits ****

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:	1951	Original		1984	Reconstructed		
Route:	FA-131		**Sta:** 190+70.84	FAI290		**Sta:** 190+70.84	
Section Nbr:		062-3535.1-MFT			3535.1BR(80)		
Contract Nbr:					36901		
Fed Aid Pr#:		UI 2610014000			EACI-IR-290-4		
Built By:	0	UNKNOWN		1	I.D.O.T.		

ATTACHMENT C

BRIDGE INSPECTION REPORT

Illinois Department of Transportation

Routine Inspection Report

SN: 016-0694	District: 1	Spans: 4	Appr. Spans: 0	Skew: 0.	ADT: 10100	Truck Pct: 2
ADT Un: 171400	Maint. Co: COOK		Twsp: PROVISO		Status: OPEN, NO RESTRICTIONS	
Facility Carried: 17TH AVE			Feature Crossed: I-290 IKE			
Location: 2.5 M W IL 43	Municipality:				Team/Sub Section: 022/A88	
Bridge Name:			Material & Type: STEEL CONTINUOUS/MULTI-BEAM			
Insp. Intervals (Mo) Routine NBIS: 24			Fracture Critical: 0		Underwater: 0	Special Feature: N/A

90 - Inspection Date:	9/20/13	90C - Temp. (°F):	74	90B1 - In-Depth	[X] Beam ends
Is Delinquent:		Reason:			
90A - Agency Program Manager:	J. landers		90A3 - Consultant Program Manager:		
90A1 - Team Leader:	J. Khalil		90A2 - Inspector:		

90B - Inspection Remarks:

Previous Inspection: ITEM 58 RATED 5 DUE TO LEACHING CRACKS SPACED LESS THAN 5' AND SPALLS WITH EXPOOSED REBAR IN SOFFITS. ITEM 59 RATED 5 DUE TO WIDESPREAD PAINT FAILURE AND INITIAL SECTION LOSS AT BEAM ENDS AND BOTTOM FLANGES.

Resources

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

Inspector's Appraisals

	Prev	New	
58 - Deck Condition:	5	5	cracks, spalls w/exposed rebars at underside
59 - Superstructure Cond:	5	5	Heavy rust at entire steel structure
60 - Substructure Cond:	7	7	
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:

* Bridge shielded over traffic Lanes. Should be done every cycle

Additional Inspection Data

	Prev	New
26A - Bridge Railing Adequacy:	3	

	Prev	New		Prev	New		Prev	New
Approach Guardrail Adequacy: 36B - Transitions:	1		36C - Guardrail:	1		36CD - Ends:	1	

	Prev	New	
108A - Wearing Surface Type:	E		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.):	9.0		

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

Joint Openings (In.): _____

90B - Inspection Remarks:

	Signature	Date
Inspection Team Leader:	Jawad Chehadi	9 / 20 / 13
Consultant Program Manager:		/ /
Agency Program Manager:		10 / 10 / 13

Historical Remarks

Inspection Date	Remarks
09/20/11	ITEM 58 RATED 5 DUE TO LEACHING CRACKS SPACED LESS THAN 5' AND SPALLS WITH EXPOOSED REBAR IN SOFFITS. ITEM 59 RATED 5 DUE TO WIDESPREAD PAINT FAILURE AND INITIAL SECTION LOSS AT BEAM ENDS AND BOTTOM FLANGES.
01/20/10	ITEM 58 RATED 5 DUE TO LEACHING CRACKS SPACED LESS THAN 5' AND SPALLS WITH EXPOOOOSED REBAR IN SOFFITS. ITEM 59 RATED 5 DUE TO WIDESPREAD PAINT FAILURE AND INITIAL SECTION LOSS AT BEAM ENDS AND BOTTOM FLANGES.
01/22/08	ITEM 58 RATED 5 DUE TO LEACHING CRACKS SPACED LESS THAN 5' AND SPALLS WITH EXPOOOSED REBAR IN SOFFITS. ITEM 59 RATED 5 DUE TO WIDESPREAD PAINT FAILURE AND INITIAL SECTION LOSS AT BEAM ENDS AND BOTTOM FLANGES.
02/08/06	ITEM 58 RATED 5 DUE TO LEACHING CRACKS SPACED LESS THAN 5' AND SPALLS WITH EXPOOSED REBAR IN SOFFITS. ITEM 59 RATED 5 DUE TO WIDESPREAD PAINT FAILURE AND INITIAL SECTION LOSS AT BEAM ENDS AND BOTTOM FLANGES.
10/30/02	BRIDGE MAY BE REPLACED DUE TO GEOMETRIC CHANGES FOR PROPOSED HOV LANE ADDITION TO I-290 (NOT YET PROGRAMMED).
03/14/01	BRIDGE MAY BE REPLACED DUE TO GEOMETRIC CHANGES FOR PROPOSED HOV LANE ADDITION TO I-290 (NOT YET PROGRAMMED).

Illinois Department of Transportation

Element Level Inspection Report

SN: 016-0694	District: 1	Spans: 4	Appr. Spans: 0	Skew: 0.	ADT: 10100	Truck Pct: 2
ADT Un: 171400	Maint. Co: COOK		Twsp: PROVISO		Status: OPEN, NO RESTRICTIONS	
Facility Carried: 17TH AVE			Feature Crossed: I-290 IKE			
Location: 2.5 M W IL 43	Municipality:				Team/Sub Section: 022/A88	
Bridge Name:			Material & Type: STEEL CONTINUOUS/MULTI-BEAM			
Insp. Intervals (Mo) Routine NBIS: 24			Fracture Critical: 0		Underwater: 0	Special Feature: N/A

93C - Inspection Date:	9-20-13	93C6 - Temp. (°F):	74°
Inspector 1:	J. Khalil	Inspector 2:	

Resources

Time to Inspect(H:M):	1:26	:	Traffic Control:	3		Boat:			Waders			Snooper:		
Ladder:			Manlift:			Bucket Truck:			Other:					

Inspector's Appraisals

Element	Element Description	Env	Quantity	Unit	CS1	CS2	CS3	CS4	CS5
22	Concrete Deck Protected w/ Rigid Overlay	4	12989	SF	11111	0	1500	378	0
	Remarks Spalling with exposed rebar, leaching cracks.								
107	Lead Painted Steel Open Girder	4	20747	SF	0	0	20747	0	0
	Remarks Widespread paint failure.								
172	Lead Painted Steel Closed Web/Box Girder and Open	4	24	EA	0	0	20	4	0
	Remarks Surface rust typical with initial section loss at first interior beam ends.								
205	Reinforced Conc Column or Pile Extension	4	1827	SF	1748	30	49	0	0
	Remarks Scattered cracks and delams.								
210	Reinforced Conc Pier Wall	4	2250	SF	2190	40	20	0	0
	Remarks Scattered cracks and delams.								
215	Reinforced Conc Abutment	4	1644	SF	1644	0	0	0	0
	Remarks Over Lane 3								
234	Reinforced Conc Pier or Abutment Cap	4	327	LF	258	10	59	0	0
	Remarks Cracks, delams and spalls.								
302	Preformed Joint Seal	4	124	LF	0	112	12	0	0
	Remarks Ripped and torn and is over compressed.								
310	Elastomeric Bearing	4	24	EA	14	10	0	0	0
	Remarks								
313	Fixed Bearing	4	12	EA	12	0	0	0	0
	Remarks								
316	Moveable Steel Bearings below continuous decks	4	24	EA	24	0	0	0	0
	Remarks								

Illinois Department of Transportation

Structure Number: 016-0694

Element Level Inspection Report

Element	Element Description	Env	Quantity	Unit	CS1	CS2	CS3	CS4	CS5
323	Approach Pavement	4	2	EA	0	2	0	0	0
	Remarks Cracks & settlement in both approaches.								
331	Concrete Bridge Railing	4	419	LF	405	14	0	0	0
	Remarks								
406	Steel Open Girder	4	400	LF	400	0	0	0	0
	Remarks Impact damage, beam 12 over EB. Initial section loss on flanges. Over Lane 3 65 W. Fascia								

	Signature	Date
Inspection Team Leader:	Jawad Khalid	9/20/13
Inspection Program Manager:		10/10/13

1 of 1 100% Find | Next

Illinois Department of Transportation

Bridge Repairs Report

Structure Number: 0160694

Location & Inventory Information

Facility Carried: 17TH AVE Feature Crossed: I-290 IKE

Location: 2.5 M W IL 43 Team Section: 022

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**	**Prty. Code**	**Qty.**	**Unit**	**Inspector**
Status	**Comments**	9/20/13					
455	BRIDGE SEALING	~~09/20/2011~~	CM	M	1443	SQ. YD.	Khalil
AP	Seal bridge deck.	9/20/13					
557	EXPANSION JOINT REPAIR	~~09/20/2011~~	CM	M	124	LIN. FT.	Khalil
AP	Replace PJS with Silicone						
558	ROADWAY JOINT MAINTENANCE	~~09/20/2011~~ 9/20/13	TS	H	124	LIN. FT.	Khalil
AP	Reseal relief joints.						
655	STRUCTURAL STEEL REPAIR	~~09/20/2011~~ 9/20/13	CM	L	10015	LBS.	Khalil
AP	Beam straightening - W fascia and beam 8.						
656	CLEANING AND PAINTING	~~09/20/2011~~ 9-20-13	CM	L	20747	SQ. FT.	Khalil
AP	Full method 1 cleaning and painting of structural steel.						

8/21/2013 11:38:41 AM Page 1 of 1 **Priority Codes:** H-High, M-Medium, L-Low

SN 0160694 BBS-BRR (Rev. 01/2002)

10/10/13

ATTACHMENT D

STRUCTURE PHOTOGRAPHS

Photo 1 - Overall Looking West

Photo 2 – Top of Bridge Looking North

Photo 3 – Typical Pier and Underdeck Layout (Note Gravel Slopewall in Background)

Photo 4 – Signage Supports and Fascia Beam Damage

ATTACHMENT E

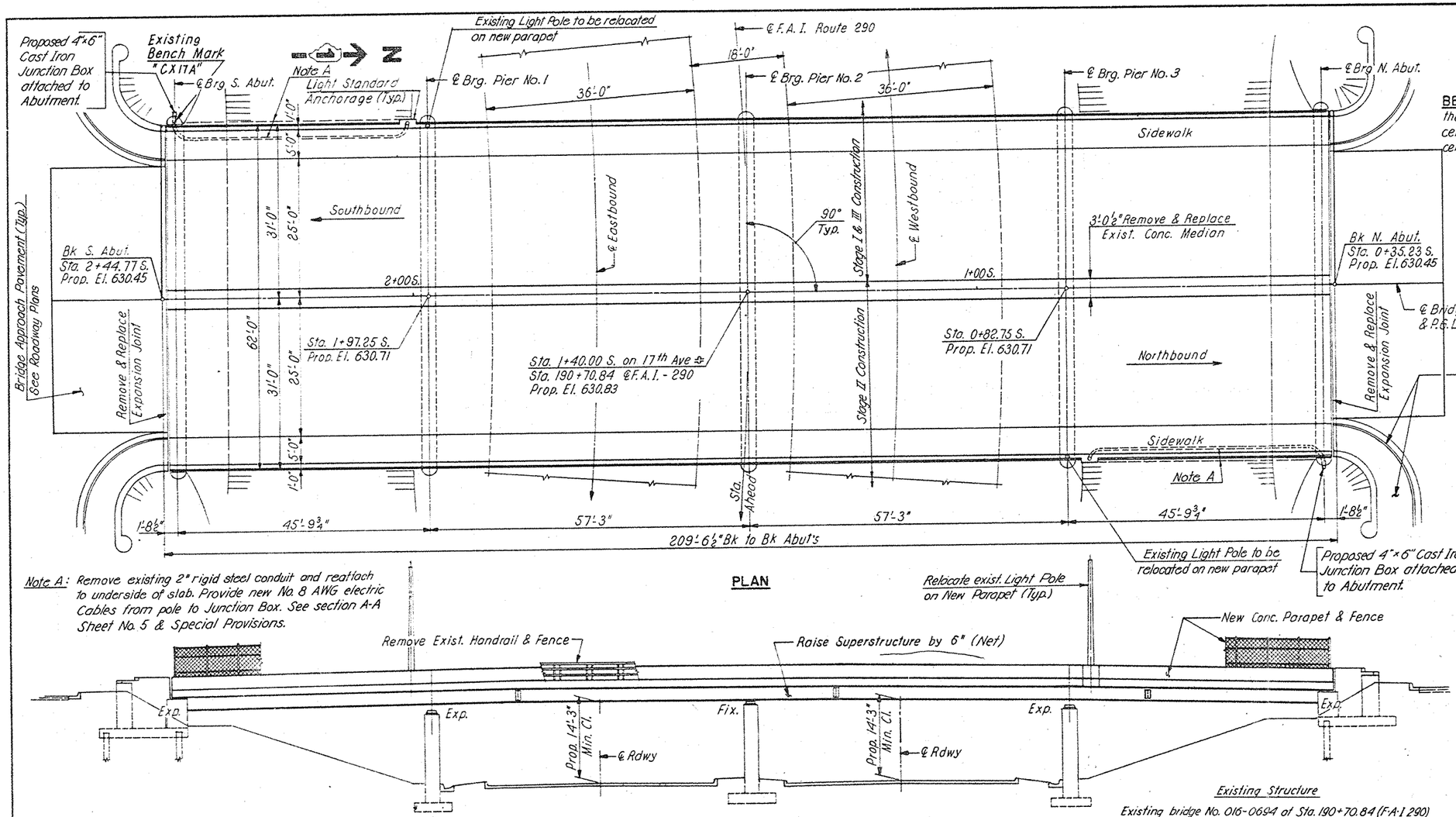
ABBREVIATED EXISTING PLANS

016-0694

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 290	*	COOK	36	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 1
SHEETS 13

* 3535.1 BR (80)



PLAN

ELEVATION

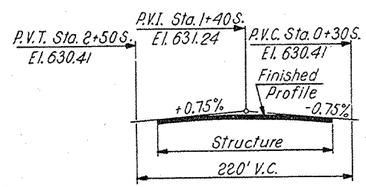
Note A: Remove existing 2" rigid steel conduit and reattach to underside of slab. Provide new No. 8 AWG electric Cables from pole to Junction Box. See section A-A Sheet No. 5 & Special Provisions.

TOTAL BILL OF MATERIAL

Item	Unit	Supstr.	Substr.	Total
Protective Coat	Sq. Yds	157	-	157
Class X Concrete	Cu. Yds	65.8	16.0	81.8
Reinforcement Bars	Lbs	6290	4040	10,330
Expansion Bolts (Special)	Each	820	-	820
Concrete Removal	Cu. Yds	24	13	37
Expansion Bolts ¾ inch ϕ	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 Ctd)	Lbs	11,140	-	11,140
Preformed Joint Seal 4"	Lin. Ft	126	-	126
Elast. Bearing Assy, Type II	Each	24	-	24
Jacking Existing Structure	L. Sum	1	-	1

Item	Unit	Supstr.	Substr.	Total
Bridge Deck Concrete Overlay	Sq. Yds	1,130	-	1,130
Concrete Bridge Deck Scarification(1/3")	Sq. Yds	1,060	-	1,060
Deck Slab Repair (Full Depth)	Sq. Yds	170	-	170
Deck Slab Repair (Partial)	Sq. Yds	137	-	137
Protective Shield	Sq. Yds.	300	-	300
Repair Concrete Structures	Sq. Ft	-	87	87
Epoxy Crack Sealing	Lin. Ft	44	130	174
Beam Straightening	L. Sum	1	-	1
Cleaning & Painting Steel Bridge	L. Sum	1	-	1
Removing & Replacing Damaged Beam	L. Sum	1	-	1
Temporary Slab Support System	L. Sum	1	-	1
Structure Excavation	Cu. Yds.	-	26	26
Relocation of Exist. Lighting Unit	Each	2	-	2

BENCH MARK A standard Cook County bronze disk set on the Southwest Pier of the overpass. 31.70 feet West of the centerline of the 17th Ave.; and 30.50 feet North of the centerline of Bataan Drive. El. 630.305



PROPOSED PROFILE ALONG PGL 17TH 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, PARAPETS & NEW SECTIONS OF SLAB.

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"ϕ X 12" HOOKED BOLTS.

FASTENERS SHALL BE HIGH STRENGTH BOLTS, BOLTS TO BE 3/4"ϕ, OPEN HOLES TO BE 15/16"ϕ 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 AND OTHER EXISTING UTILITIES SHALL BE EXTENDED (DUE TO RAISING OF THE BRIDGE) BY OTHERS.

CALCULATED WEIGHT OF STRUCTURAL STEEL = 29,800 POUNDS.

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.

Existing Structure

Existing bridge No. 016-0694 of Sta. 190+70.84 (F.A.I 290) was built in 1952 as F.A. Route 131-Project U.I 261(14), Section 062-3535-1-MFT. It is a 4-Spans Continuous W Beam Bridge with 7" Concrete Deck, 62'-0" out to out Structure, 209'-6½" Bk. to Bk. Abutments.

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 as applicable.

STATE OF ILLINOIS 2242 REGISTERED STRUCTURAL ENGINEER

016-0694

Jerry Moorhead, Dec 15, 83

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE	EISENHOWER EXPRESSWAY F.A.I. ROUTE 290 REHABILITATION PROJECT

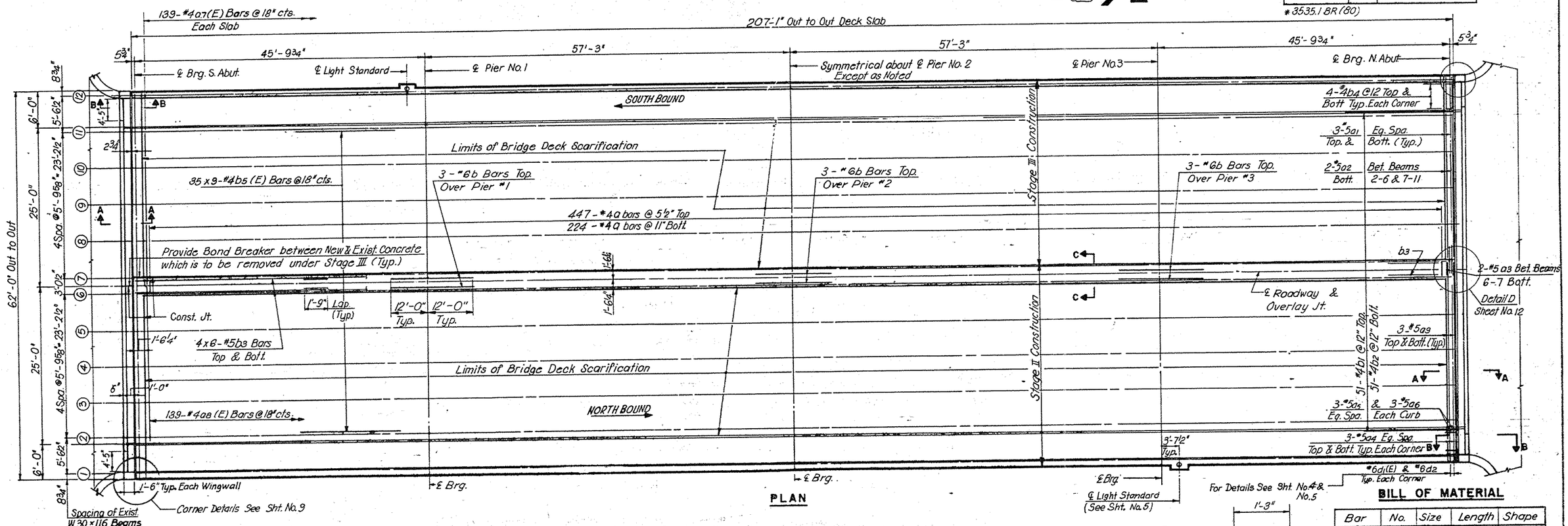
GENERAL PLAN & ELEVATION
17TH AVENUE
GRADE SEPARATION
COOK COUNTY SEC. 3535.1 BR (80)

MCDONOUGH ENGINEERING INC. ENGINEERING CONSULTANTS	DESIGNED BY: B. S. CHECKED BY: L. B. DRAWN BY: B. S.	SCALE: No Scale

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 290	*	COOK	36	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

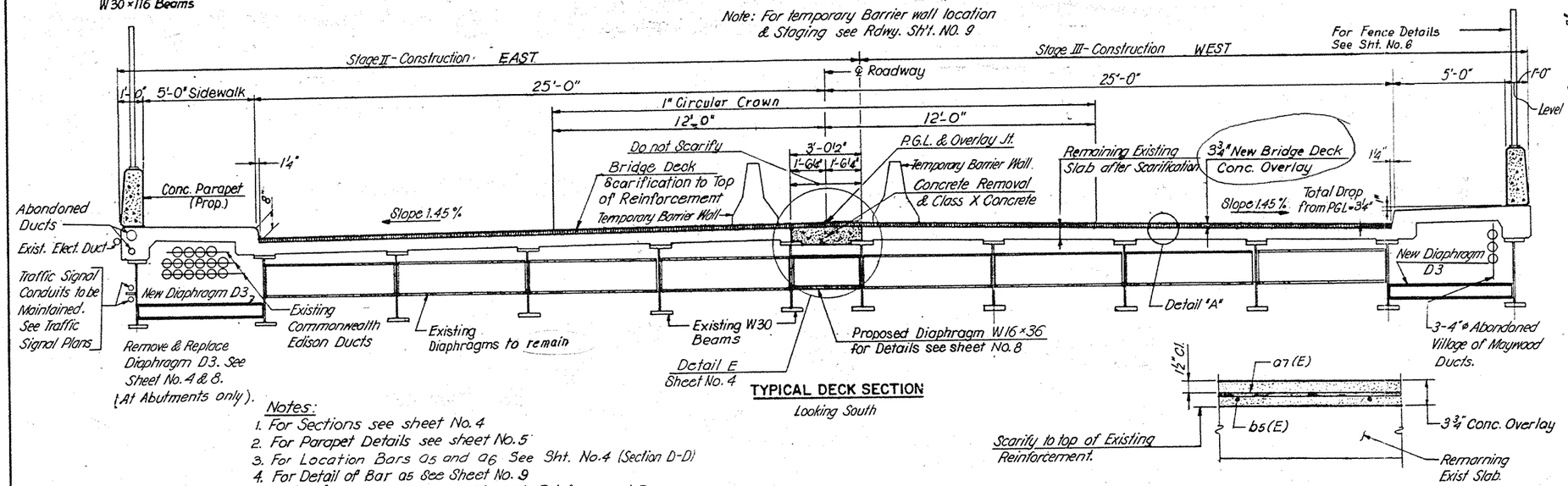
SHEET NO. 3
SHEETS 13

* 3535.1 BR (80)



PLAN

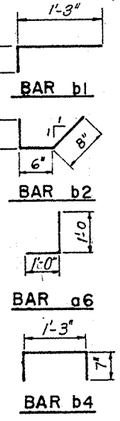
Note: For temporary Barrier wall location & Staging see Rdwy. Sht. NO. 9



TYPICAL DECK SECTION
Looking South

DETAIL "A"

Notes:
1. For Sections see sheet No. 4
2. For Parapet Details see sheet No. 5
3. For Location Bars a5 and a6 See Sht. No. 4 (Section D-D)
4. For Detail of Bar a5 See Sheet No. 9
5. Cost of ¾" Rods & Splicers incidental to Reinforcement Bars.
6. For Bar Splicer Details See Sheet No. 12
7. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
8. For Barrier wall location see Roadway. Sheet No. 9



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	671	#4	2'-9"	—
a1	12	#5	24'-0"	—
a2	32	#5	5'-6"	—
a3	4	#5	2'-8"	—
a4	24	#5	5'-8"	—
a5	12	#5	3'-7"	◢
a6	12	#5	2'-0"	⌟
a7(E)	139	#4	24'-8"	—
a8(E)	139	#4	26'-2"	—
a9	12	#5	27'-2"	—
b	9	#6	24'-0"	—
b1	102	#4	1'-11"	⌐
b2	102	#4	1'-10"	⌐⌐
b3	48	#5	36'-0"	—
b4	32	#4	2'-5"	⌐
b5(E)	315	#4	24'-0"	—
Class X Concrete			Cu. Yds.	30.1
Reinforcement Bars (Epoxy Coated)			Lbs.	9,770
Concrete Removal			Cu. Yds.	23
Reinforcement Bars			Lbs.	4,720

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT ONE

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

SUPERSTRUCTURE PLAN & CROSS SECTION
17 TH AVENUE
GRADE SEPARATION

COOK COUNTY — SEC. 3535.1 BR(80)

MEDONOUGH ENGINEERING INC.
ENGINEERING CONSULTANTS

DESIGNED BY: B.S.
CHECKED BY: L.B
DRAWN BY: MZ RD

SCALE: No scale

ATTACHMENT F

PROPOSED PLAN AND PROFILE

PRELIMINARY

SCALE: 1'' = 50'

EXIST. ℄ BATAAN ST.

STA. 218+67.00 ℄ 17TH AVE. =
STA. 3322+06.52 ℄ BATAAN DR.

PT Sta 189+43.90

PROP. ℄ HARRISON ST.

STA. 221+50.00 ℄ 17TH AVE. =
STA. 4325+95.45 ℄ HARRISON ST. WEST

160' (40:1) APPROACH TAPER

330' (30:1) TAPER

105' LEFT-TURN STORAGE

108' (9:1) TAPER

END CONSTRUCTION
STA. 214+88.46

SIDEWALK

STA 218+20.69
24.00' LT

STA 219+91.97
12.00' RT

STA 221+85.66
24.00' RT
POT Sta 4325+95.45

STA 223+45.83
20.00' RT

END CONSTRUCTION
STA. 223+45.81

EXIST. R.O.W.

17TH AVE.

BATAAN DR.

HARRISON ST.

STA 215+07.87
15.50' RT

STA 216+42.90
22.00' RT

STA 218+91.97
0.00' RT

135' TAPER

195' RIGHT-TURN STORAGE

STA 219+91.97
12.00' RT

108' (9:1) TAPER

105' LEFT-TURN STORAGE

STA 221+05.70
0.00' RT

POT Sta 4326+00.00

STA 221+85.49
12.00' RT

480' (40:1) TAPER

STA. 221+40.00 ℄ 17TH AVE. =
STA. 4326+00.00 ℄ HARRISON ST. EAST

EXIST. ℄ 17TH AVE.

STA 226+65.64
0.00' RT

NOTE: ALL CROSSWALKS SHALL BE ADA COMPLIANT

POSTED SPEED = 30 MPH
DESIGN SPEED = 35 MPH

PR. ℄ BATAAN DR. — EX. R.O.W. — PR. ℄ I-290 — EX. R.O.W. — PR. ℄ HARRISON ST. EAST — PR. ℄ HARRISON ST. WEST

EXISTING CENTERLINE PROFILE

PROPOSED CENTERLINE PROFILE

BEGIN CONSTRUCTION
STA. 214+88.46
ELEV. 628.58

END CONSTRUCTION
STA. 223+45.81
ELEV. 629.14

VPI STA. 216+70.00
ELEVATION 628.94

VPI STA. 217+80.00
ELEVATION 628.41

VPI STA. 220+00.00
ELEVATION 631.98

VPI STA. 222+25.00
ELEVATION 628.27

+17.50 EL. 628.83

+22.50 EL. 628.71

+30.00 EL. 628.67

+50.00 EL. 629.43

+60.00 EL. 629.60

+40.00 EL. 629.67

+45.00 EL. 629.59

+05.00 EL. 628.84

K = 56
120.00' V.C.

K = 67
160.00' V.C.

SSD = 1738'
K = 164
105.00' V.C.

SSD = 462'
K = 84
280.03' V.C.

+0.20%
-0.44%
-0.44%
+1.70%
+1.70%
-1.65%
-1.65%
+0.72%

628.56
629.14

ROADWAY CRITICAL POINT

15.5' (15.0' MIN.)

LIMITS OF SE TRANSITION
+80 +00

LIMITS OF SE TRANSITION
+00 +20

90.9'
EB I-290

90.9'
WB I-290

ALL LANES = 1.5%

EX. ELEV. / PR. ELEV.	628.13	628.36	628.52	628.55	628.61	628.59	628.60	628.66	628.70	628.82	628.80	628.86	628.87	628.83	628.79	628.50	628.62	628.78	628.80	629.13	629.43	625.95	630.18	611.90	630.65	611.84	630.81	612.06	630.67	625.60	630.23	629.35	629.51	628.85	628.90	628.69	628.67	629.05	628.81	629.14	629.10	629.10	629.04	629.10	629.14	629.20	629.07	628.73	EX. ELEV. / PR. ELEV.
STATION	213+00			214+00		215+00			216+00			217+00			218+00					219+00			220+00			221+00			222+00			223+00			224+00			225+00			226+00			227+00		22

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

	DESIGNED - ADR	REVISED -
	DRAWN - ADR	REVISED -
PLOT SCALE = 1'=50' (H) 1'=5' (V)	CHECKED - RPH	REVISED -
PLOT DATE = 26-JUN-2017	DATE - 06/23/17	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PHASE 1 STUDY
PLAN AND PROFILE - 17TH AVENUE

SCALE: 1"=50' | SHEET 171 OF 522 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	522	171
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

PLAN: SURVEYED / PLOTTED / ALIGNMENT CHECKED / RT. OF WAY CHECKED / CADD FILE NAME / NOTE BOOK / NO. / BY / DATE

PROFILE: SURVEYED / PLOTTED / PROFILE CHECKED / BM. NOTED / STRUCTURE NOTATNS CHKD / NOTE BOOK / NO. / BY / DATE

FILE NAME = T:\16778a\Civil\Plans\Vroad\P&PSheet06.017.dgn