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 016-0706 Des Plaines 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 replacement under staged construction. The proposed roadway geometry for the I-290 reconstruction requires a replacement two span bridge with two 11’ wide lanes, two 10’ wide lanes, a 10' wide center turn lane, two 5' wide bike lanes, and two 10’ sidewalks. The proposed bridge will be constructed as part of an advanced contract, while existing I-290 remains open. To facilitate this, the proposed abutment will be placed behind the existing abutment. The location of the pier has also changed due to the proposed I-290 alignment. The existing retaining wall at the southwest corner of the bridge will be rebuilt to align with the new south abutment. New retaining walls will be constructed along the proposed edge of I-290 at the three remaining corners of the bridge and will align with the new abutments. The bridge horizontal alignment and vertical profile are not anticipated to change.

Vehicular and pedestrian access to this structure will be maintained during removal, requiring the need for staged demolition and construction to maintain traffic. Half bridge width staging will allow one through lane in each direction to be maintained during construction. The staging would require cutting through the deck at the centerline and the removal of the diaphragm between the center beams. The existing central open joint in the piers and abutments will allow for the existing substructure to be easily utilized during the staging.

Completed By

Copies to	Sarah Wilson, Maintenance	Ken Eng, Design	

Response

Response By

ABBREVIATED BRIDGE CONDITION REPORT

Illinois Department of Transportation

I. Administrative Data

REGION:	1
DISTRICT:	1
COUNTY:	Cook
ROUTE:	Des Plaines Avenue
JOB NUMBER:	P-91-597-10
STRUCTURE NUMBER:	016-0706
LOCATION:	Des Plaines Ave. over FAI 290 (I-290)

II. Roadway/Structure Data

Roadway Classification:	Major Collector
ADT (current):	12,800 (yr. 2010)
ADTT (current):	4% of ADT
Inventory Rating:	0.985
Operating Rating:	1.640
Sufficiency Rating:	76.7

Construction / Reconstruction / Repair History:

Des Plaines Avenue over I-290 in Cook County, Illinois (Structure No. 016-0706) was constructed in 1957 under Section No. 062-3333.5-MFT for Route FA-1. In 1984 improvements included raising the bridge profile, replacement of the deck slab, and addition of steel diaphragms. Also included were structural steel painting, bearing replacement, abutment and pier repairs, reconstruction of the parapets, approach slabs and expansion joints, and the replacement of a chain link fence. In 1998, improvements included replacing, straightening, and strengthening several steel beams.

III. Physical Description of Structure

General:

Des Plaines Avenue over I-290 consists of a two span continuous non-composite steel bridge carrying two lanes of traffic and sidewalk in both the northbound and southbound directions. The structure has a total length of approximately 140.3 ft (back to back of abutments), a roadway width of approximately 54 ft (face to face of raised sidewalk), and a total deck width of 66 ft. The total deck area is approximately 9,260 sq. ft. Each span length is 69’-1” along the centerline of the bridge. The average length of the north approach slab is 87’-4” while the average length of the south approach slab is 100 ft. The deck is skewed 32°36’20” right ahead. See Attachment D for photos.

Des Plaines Avenue is on a straight horizontal alignment across the bridge. The profile grade on the structure consists of a crest vertical curve. The minimum vertical clearance is 14’-3”. Two light poles and underdeck utilities are attached to the bridge.

To the northwest of the bridge are the entrance to the Forest Park CTA station and the westbound access ramp to I-290.

Superstructure:

Deck: The roadway is comprised of two 13.5 ft wide lanes and a 5 ft wide sidewalk in each direction. The existing deck is made-up of a 7½ in. reinforced concrete slab. The deck reinforcement is epoxy coated.

Girders: The deck is supported by 12 longitudinal continuous non-composite steel wide flange beams (W30).

Joints: Expansion joints with preformed joint seals are located at each abutment.

Bearings: Elastomeric Type I expansion bearings are used at the abutments. The pier is fixed. All bearings sit on steel pedestals.

Substructure:

Abutments: At the north and south ends of the bridge, reinforced concrete closed abutments are supported on footings. The abutment backwalls are 12" thick with bearing seats that extend the abutment thickness another 2.25 ft. Wingwalls run parallel to the roadway with varying lengths. The outside wingwalls are 1 ft wide with spread footings.

Piers: The spans are supported by a reinforced concrete wall pier with large openings that is founded on a strip footing. The pier wall width is 2.5 ft with a length of approximately 81 ft. The footing size is approximately 84 ft in length and 7.5 ft in width. Cast-in-place concrete pedestals support the bearings.

IV. Structure Condition Data

Inspection History (NBIS Ratings)
Year: 2014 **Deck:** 7 **Super:** 6 **Sub:** 6

Based on the NBIS Bridge Inspection conducted on 09/05/14 by IDOT and field inspections in Spring/Summer 2010 by Benesch, the deck has minor cracking and the steel framing has significant paint loss and rusting. Concrete pier walls, columns, and caps show various spalls with exposed rebar, cracking, and delaminations. Due to significant skew, abutment backwalls have widespread spalling and exposed rebar. There is also visible bearing pad rotation and displacement. The abutments show various spalls and delaminations and the preformed joint seals are torn. Approach pavements have measurable cracking. The vertical underclearance requires correction per the IDOT Master Structure Report. See Attachment B (IDOT Master Structure Report) and Attachment C (Bridge Inspection Report).

V. Discussion and Recommended Scope of Work

The Des Plaines 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 170', a 65' curb to curb width, and an out to out deck width of 89', which includes two 11' wide lanes, two 10' wide lanes, a 10' center turn lane, two 5' bike lanes, and two 10' sidewalks. The proposed bridge will be constructed as part of an advanced contract, while existing I-290 remains open. To facilitate this, the proposed abutment will be placed behind the existing abutment. The location of the

pier has also changed due to the proposed I-290 alignment. The existing retaining wall at the southwest corner of the bridge will be rebuilt to align with the new south abutment. New retaining walls will be constructed along the proposed edge of I-290 at the three remaining corners of the bridge and will align with the new abutments. The bridge horizontal alignment and vertical profile are not anticipated to change. Vehicular and pedestrian access to this structure will be maintained during removal, requiring the need for staged demolition and construction to maintain traffic. Half bridge width staging will allow one through lane in each direction to be maintained during construction. Similar to the method used during the 1984 reconstruction, the staging would require cutting through the deck at the centerline and the removal of the diaphragm between the center beams. The existing central open joint in the piers and abutments will allow for the existing substructure to be easily utilized during the staging. Access to the expressway ramp in the northwest quadrant of the bridge must be coordinated with the staged construction schedule. It is expected that the large tapered area in this quadrant will require additional framing connected directly to the fascia girder. The fascia girder would therefore be defined as a fracture critical member (FCM) and would necessitate a more critical design. Additional coordination is anticipated with the various utility companies associated with this structure. Temporary relocation of signs, utilities, and light poles will be required during staging. Due to the proximity of the existing trunk sewer, the pier foundations 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 repair substructure concrete.

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 $6,300,000 based on a proposed deck area of 15,730 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

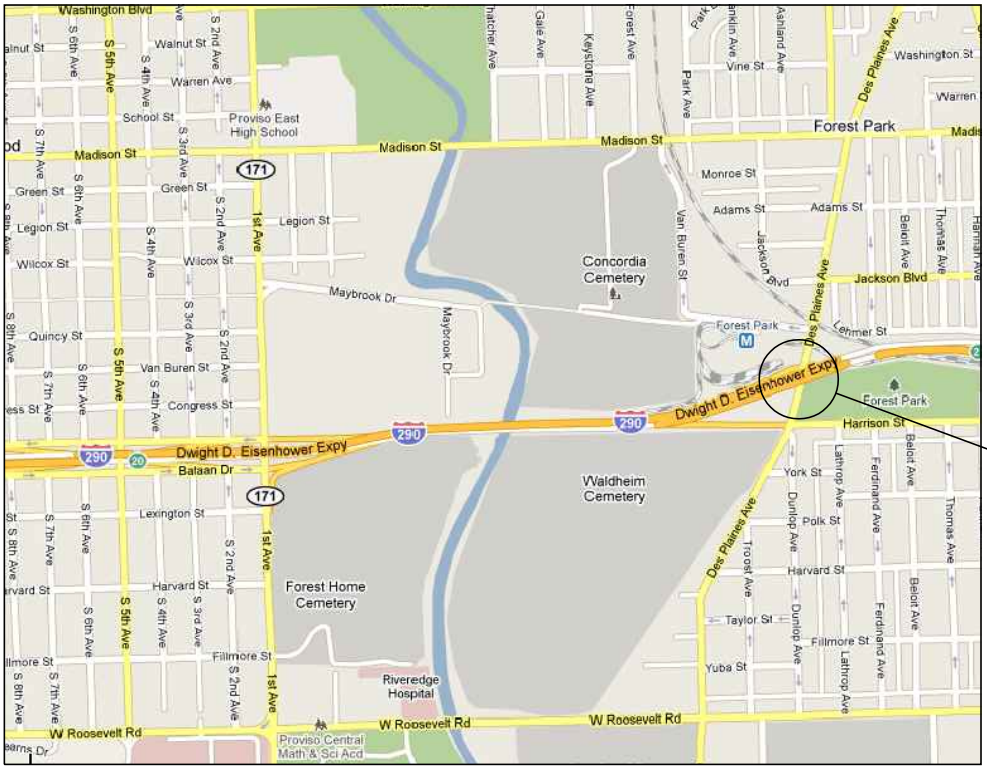
Attachment D. Structure Photographs

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: 016-0706 **District:** 1

Inventory Data

Facility Carried:	DES PLAINES AVE	**Bridge Name:**		**Sufficiency Rating:**	76.7	**Structure Length:**	140.2
Feature Crossed:	I-290 IKE	**Location:**	0.5 M W IL 43	**HBP Eligible:**	Yes	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**	-	**Length of Long Span:**	83.0
Bridge Status:	1 OPEN - NO RESTRICT	**Status Date:**	04/1988	**Replaces:**	-	**Bridge Roadway Width:**	54.0
Status Remarks:				**Last Update Date:**	08/20/2014	**Appr Roadway Width:**	54.0
Maint County:	016 COOK	**Maint Township:**	27 PROVISO	**Parallel Structure:**	None	**Deck Width:**	66.0
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:**	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:	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**	392000	**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:**	0.985(35)	**Load Rating Date:**	10/03/2008
Toll Facility Indicator:	0 No Toll			**Operating Rating:**	1.640(59)	**Railroad Crossing Info**	
Latitude:	41.87323810 **S**	**Longitude:**	87.81541004 **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 2759	**Station:**	0.4400
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	016 COOK	**Linked:**	Y
Township/Road Dist	27 PROVISO	**Natl. Hwy System:**	Not on NHS
Municipality	2005 FOREST PARK	**Inventory Direction:**	
Urban Area:	1051 1051	**Curr AADT Yr/Count:**	2014 / 10400
Functional Class:	5 MAJOR COLLECTOR	**Est Truck Percentage:**	11
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	5
Max Rdwy Width:	54.0	**One Or Two Way:**	2 Two-Way
Horizontal:	64.0 0.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 13184
		Designated Truck Rte:	NONE
Lateral:		**Special Systems:**	No

Key Route Under Data

FEDERAL-AID INTERSTATE 0290		**Station:**	7.1300
Main Route 00000		**Segment:**	
016		**Linked:**	Y
27 PROVISO		**Natl. Hwy System:**	On NHS
2005 FOREST PARK		**Inventory Direction:**	
1051 1051		**Curr AADT Yr/Count:**	2014 / 176600
1 INTERSTATE		**Est Truck Percentage:**	4
South/East	**North/West**	**Number Of Lanes:**	6
0.0		**One Or Two Way:**	2 Two-Way
56.0	56.0	**Bypass Length:**	0
		Future AADT Yr/Cnt:	2032 / 192816
		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: 016-0706 **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: 09/05/2014 **Inspection Temperature:** 82Deg. F

Deck:	7	GOOD CONDITION - SOME MINOR PROBLEMS						**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:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	C
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA		**Deck Membrane:**	F	NONE		LD SHP GRN&AL FNL	
Deck Geometry:	2	INTOLERABLE - HIGH PRIORITY FOR REPLACEMENT		**Deck Protection:**	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	2	INTOLERABLE - HIGH PRIORITY FOR REPLACEMENT		**Total Deck Thick:**	7.5				
Waterway Adequacy:	N	NOT APPLICABLE		**Last Paint Date:**	06/1985				
Approach Roadway Align:	6	EQUAL TO 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:

Temperature: **Inspection Method:**

Appraisal Rating:

Scour Critical Information

Rating: **Evaluation Method:**

Analysis Date:

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1957	Original		1984	Reconstructed		
Route:	FAI-1		**Sta:** 50+43.24	FAI-290		**Sta:** 4+14.84	
Section Nbr:		062-3333.5-MFT			1983-154BR		
Contract Nbr:					36915		
Fed Aid Pr#:		I 0014012000			IR-290-4(37)		
Built By:	0	UNKNOWN		1	I.D.O.T.		

ATTACHMENT C

BRIDGE INSPECTION REPORT

Illinois Department of Transportation

Routine Inspection Report

SN: 016-0706	District: 1	Spans: 2	Appr. Spans: 0	Skew: 0	ADT: 12900	Truck Pct: 4
ADT Un: 179200	Maint. Co: COOK		Twsp: PROVISO		Status: OPEN, NO RESTRICTIONS	
Facility Carried: DES PLAINES AVE			Feature Crossed: I-290 IKE			
Location: 0.5 M W IL 43	Municipality: FOREST PARK				Team/Sub Section: 022/A91	Insp/Rte: 022
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:	9/5/14	90C - Temp. (°F):	82	90B1 - In-Depth	☐
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					

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:	7	7	
59 - Superstructure Cond:	6	6	moderate to heavy rust covers most of the steel surface
60 - Substructure Cond:	6	6	spalls with exposed rebars at abutments and pier
62 - Culvert Condition:	N	N	
61 - Channel Condition:	N	N	
71 - Waterway Adequacy:	N	N	
72 - Approach Rdwy Align:	6	6	
111 - Pier Navig Protection:	N	N	

90B - Inspection Remarks:

Illinois Department of Transportation

Structure Number: 016-0706

Routine Inspection Report

Additional Inspection Data

	Prev	New
36A - 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:	A	
108B - Type of Membrane:	F	
108C - Deck Protection:	A	
108D - Total Deck Thickness (In.):	7.5	

If 'L-Other' Describe:

If 'E-Other' Describe:

If 'I-Other' Describe:

59A - Paint Date(Mo/Yr):	06/1985	
59B - Paint Type:	C	
59C - Utilities Attached:	9	

Color: Fascia - _____; Inter. - _____; Railing - _____.

If 'B-Other' Describe:

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 Chaudhry	9/5/14
Consultant Program Manager:		/ /
Agency Program Manager:	[signature]	10/8/14

Historical Remarks

Inspection Date	Remarks
09/26/12	Substructure Condition: spalls with exposed rebars at abutments and pier
09/26/12	Superstructure Condition: moderate to heavy rust covers most of the steel surface
09/27/10	58) DECK IS IN GOOD CONDITION, BUT HAS A FILLET PROBLEM. ITEM 59 RATING (BOTTOOOM FLAGES, WEBS, AND DIAPHRAGMS SHOWING SIGNS OF PAINT PEELLING & HEAVY RUST). SPALL W/EXP BARS IN VARIOUS SUB STRUCT ELEMENTS.
09/26/08	58) DECK IS IN GOOD CONDITION, BUT HAS A FILLET PROBLEM. ITEM 59 RATING (BOTTOOM FLAGES, WEBS, AND DIAPHRAGMS SHOWING SIGNS OF PAINT PEELLING & HEAVY RUST).
09/27/06	ITEM 59 RATING (BOTTOM FLAGES, WEBS, AND DIAPHRAGMS SHOWING SIGNS OF PAINT PEELLING & HEAVY RUST).

Illinois Department of Transportation

Element Level Inspection Report

SN: 016-0706	District: 1	Spans: 2	Appr. Spans: 0	Skew: 0	ADT: 12900	Truck Pct: 4
ADT Un: 179200	Maint. Co: COOK		Twsp: PROVISO		Status: OPEN, NO RESTRICTIONS	
Facility Carried: DES PLAINES AVE			Feature Crossed: I-290 IKE			
Location: 0.5 M W IL 43	Municipality: FOREST PARK				Team/Sub Section: 022/A91	Insp/Rte: 022
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:	9/5/14	93C6 - Temp. (°F):	82
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
~~12~~ 26	Concrete Deck Bare	4	9257	SF	8457	800	0	0
	Remarks: Many areas of fillets removed in the soffit. Some minor transv. cracks in the soffit.							
107	Lead Painted Steel Open Girder	4	16190	SF	0	16190	0	0
	Remarks: Heavy rust on bottom flanges & paint peeling on the web with rust present.							
8172	Lead Painted Steel Closed Web/Box Girder and Open	4	24	EA	0	24	0	0
	Remarks: Heavy rust on bottom flanges & paint peeling on the web with rust present.							
205	Reinforced Conc Column or Pile Extension	4	840	SF	806	12	22	0
	Remarks: Spall with exposed bars @ col. #2 (11 SF). Cracking @ col. # 3 & 4 (12 SF).							
210	Reinforced Conc Pier Wall	4	1557	SF	1519	18	20	0
	Remarks: Delaminations, spalls and cracking present on the south and north face wall (10SF & 8SF).							
215	Reinforced Conc Abutment	4	4847	SF	4694	88	65	0
	Remarks: Vert. delamins in S. abut approx. (60 SF) & N. abut approx. (28 SF) Spall @ SE Corner (1 SF). Backwall @ N. abut spall 5 SF near W. corner							
234	Reinforced Conc Pier or Abutment Cap	4	238	LF	190	23	25	0
	Remarks: Delamin and spalls @ S. & N. Cap							
302	Preformed Joint Seal	4	160	LF	0	0	160	0
	Remarks: N. & S. joint seal show signs of abrasion and tearing and evidence of leakage from below.							
310	Elastomeric Bearing	4	24	EA	0	0	24	0
	Remarks: Bearings @ abut showing signs of med. to heavy rust.							
313	Fixed Bearing	4	12	EA	0	12	0	0
	Remarks: Bearings showing signs of rust.							
8323	Approach Pavement	4	2	EA	0	2	0	0
	Remarks: Meas vert and transv cracks in north & south approach pavements. Some pothole patching in south approach in the northbound lanes.							
331	Concrete Bridge Railing	4	280	LF	0	230	50	0
	Remarks: spalls on outside face							

8058 Sidewalk 4 1400

Illinois Department of Transportation

Structure Number: 016-0706

Element Level Inspection Report

	Signature	Date
Inspection Team Leader:	Jawad Chaudhry	10/15/14
Consultant Program Manager:		/ /
Agency Program Manager:	JCJ	10/8/14

Illinois Department of Transportation

Bridge Repairs Report

Structure Number: 0160706

Location & Inventory Information

Facility Carried: DES PLAINES AVE
Feature Crossed: I-290 IKE
Location: 0.5 M W IL 43
Team Section: 022
Mat/Type/#Spans: Steel continuous/Multi-beam/2

***** *PROPOSED MAINTENANCE REPAIRS* *****

(Only Active IWC's are Shown)

Repair Code	Repair Description	IWC Date	Completed By	Prty. Code	Qty.	Unit	Inspector
Status	**Comments** 9/5/14						
411	PARTIAL DEPTH PATCHES	~~09/26/2012~~	TS	M	4	SQ. YD.	KHALILJS
AP	approach slab paothole patching in lane 1 northbound @ south approach						
619	OVERHEAD CONCRETE REMOVAL	~~09/26/2012~~ 9/5/14	BC	H	0	HRS.	KHALILJS
AP	scaling at backwall, abutment wall and abutment caps 9/5/14						
656	CLEANING AND PAINTING	~~09/26/2012~~	CM	M	16000	SQ. FT.	KHALILJS
AP	Fascia beams, interior, and below deck joints						
750	BRIDGE CONCRETE REPAIR	~~09/26/2012~~ 9/5/14	CM	M	128	SQ. FT.	KHALILJS
AP	Form concrete repair @ N. backwall and @ South & North abut caps. Pier caps and wall						

JJ+ 10/8/14

ATTACHMENT D

STRUCTURE PHOTOGRAPHS

Photo 1 - Overall Looking West

Photo 2 – Top of Bridge Looking South

Photo 3 – Center Pier

Photo 4 – North Abutment

Photo 5 – Typical Underdeck Layout

Photo 6 – South Abutment and SW Wingwall

Photo 7 – Abutment Backwall Spalling and Utilities

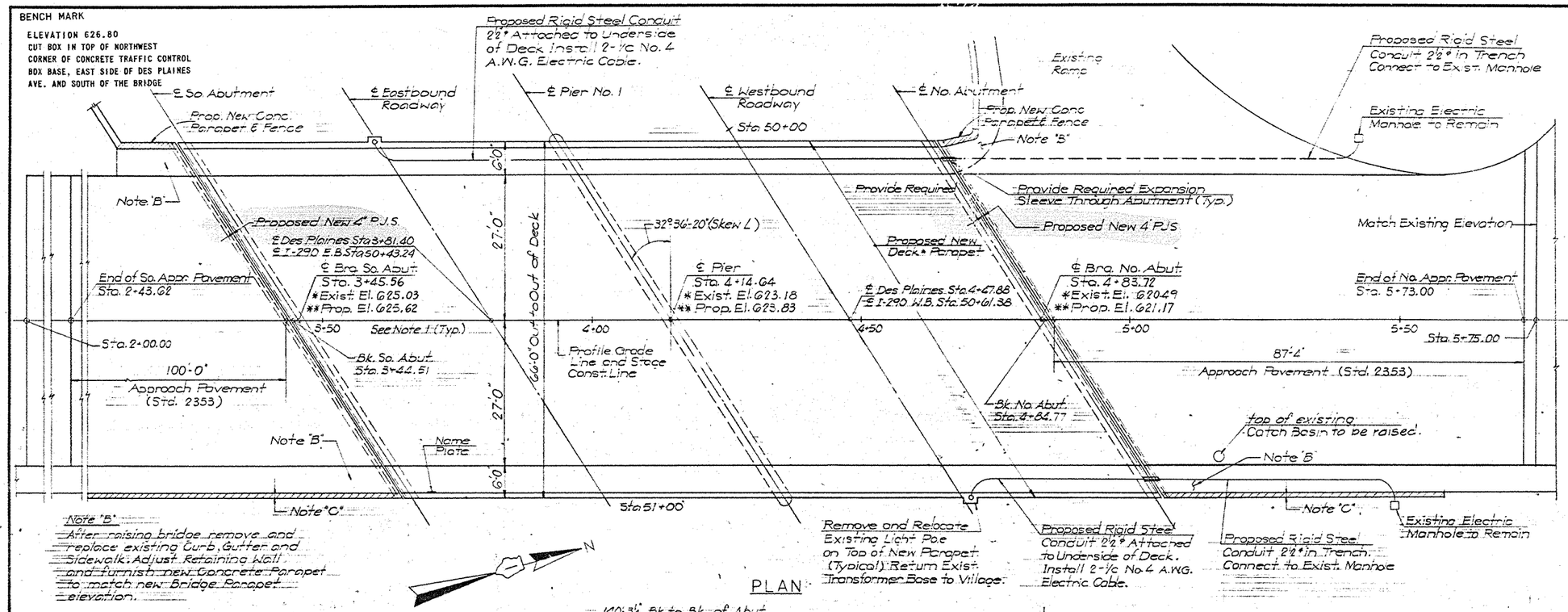
Photo 8 – Bearing Condtion with Utilities

ATTACHMENT E

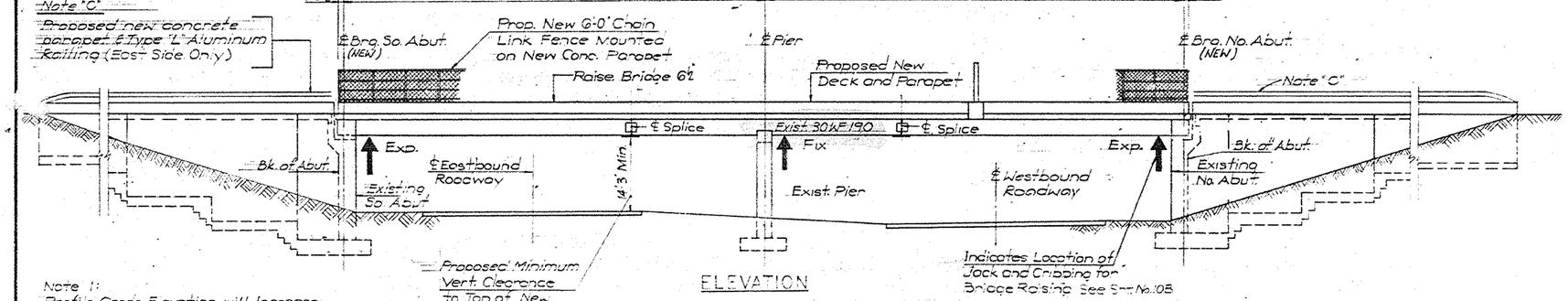
ABBREVIATED EXISTING PLANS

BENCH MARK

ELEVATION 626.80
CUT BOX IN TOP OF NORTHWEST CORNER OF CONCRETE TRAFFIC CONTROL BOX BASE, EAST SIDE OF DES PLAINES AVE. AND SOUTH OF THE BRIDGE



PLAN

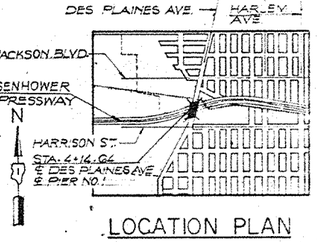


ELEVATION

Note 1:
Profile Grade Elevation will Increase by the Following Amount.

1. Bridge Raising to Attain Vertical Clearance	= 6"
2. Change in Cross Slope	= 2½"
3. Change Deck Thickness (7" to 7½")	= ½"
4. Minimum Positive Fillet	= ½"
Total	= 9¾"
Less Existing Bituminous Surface Thickness	= 1¾"
The Net Grade Raised	= 8" @ P.G.L.

DESIGNED	AS
CHECKED	EMM
DRAWN	KC
CHECKED	EMM



LOCATION PLAN

GENERAL NOTES

SEE SPECIAL PROVISION FOR PAINTING OF EXISTING STRUCTURAL STEEL.

PAINTING OF NEW STRUCTURAL STEEL SHALL BE BY THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM.

FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS TO BE 7/8" DIAMETER. OPEN HOLES TO BE 1-1/16" DIAMETER UNLESS OTHERWISE NOTED. 2 HARDENED WASHERS SHALL BE USED PER BOLT.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING NEW DIAPHRAGMS OVER SUPPORT.

THE CONTRACTOR MUST USE EXTREME CARE WHEN DOING CONCRETE REMOVAL AS NOT TO NICK, CUT, OR DAMAGE ANY OF THE STRUCTURAL STEEL.

CLEAN TOP OF ALL PIERS AND ABUTMENTS BETWEEN BEARINGS. (COST INCIDENTAL)

ALL NEW REINFORCEMENT BARS SHALL CONFORM TO AASHTO M31 GRADE 60 OR AASHTO M53 GRADE 60 UNLESS OTHERWISE NOTED.

CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT AND MAINTAIN ALL SERVICE FOR UTILITY LINES AT THE BRIDGE DURING ALL STAGES OF CONSTRUCTION.

EXISTING LIGHT POLES SHALL BE RELOCATED ON TOP OF NEW PARAPET.

EXISTING ELECTRICAL JUNCTION BOXES AND ATTACHED CONDUITS SHALL BE REMOVED AND DISCARDED.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD 4080 LBS., AND 3/4" DIAMETER X 12" HOOKED BOLTS.

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 ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

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.

APPROVED

Engineer of Bridges

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I 290	83-154 BR.	COOK	44	20
FED. ROAD DIST NO.	ILLINOIS	PROJ. IR-290-4		

SHEET NO. 2B OF 17B SHEETS

STATION 4+14.64
BUILT 198_ BY
STATE OF ILLINOIS
F.A.I. RT. 290 SEC. 1983-154 BR
F.A. PROJ. IR-290-4(37)
LOADING HS20
① STR. NO. _____

① Structure No. to be Supplied by District

NAME PLATE
(Std. 2118)

* Elevation Shown Are Actual Survey Elevation on Top of Existing Wearing Surface.

** Proposed Elevation Are to the Top of the Proposed Concrete Deck.

DESIGN STRESSES (EXIST. PORTION)

fc = 1200 PSI (CONCRETE)
fs = 20000 PSI (REINFORCEMENT)
fs = 18000 PSI (EXISTING STRUCTURAL STEEL)

DESIGN STRESSES (NEW PORTION)

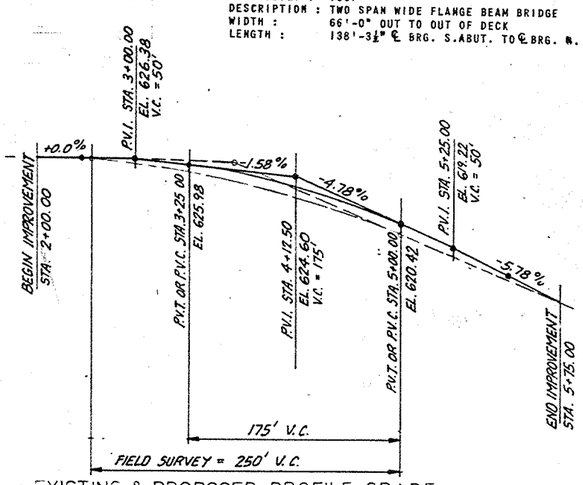
f'c = 3500 PSI
fy = 60000 PSI (REINF.)
fy = 36000 PSI (STR. STEEL) (AASHTO M183)

LOADING HS 20-44
FUTURE WEARING SURFACE 25 PSF

DESIGN SPECIFICATIONS (NEW CONSTRUCTION)
1977 AASHTO AND 1978, 1979, 1980, 1981 AND 1982 INTERIM SPECIFICATION

EXISTING STRUCTURE DATA

STRUCTURE NO.: 016-0706
YEAR BUILT : 1957
DESCRIPTION : TWO SPAN WIDE FLANGE BEAM BRIDGE
WIDTH : 66'-0" OUT TO OUT OF DECK
LENGTH : 138'-3½" ℄ BRG. S. ABUT. TO ℄ BRG. N. ABUT.



EXISTING & PROPOSED PROFILE GRADE

PLAN AND ELEVATION

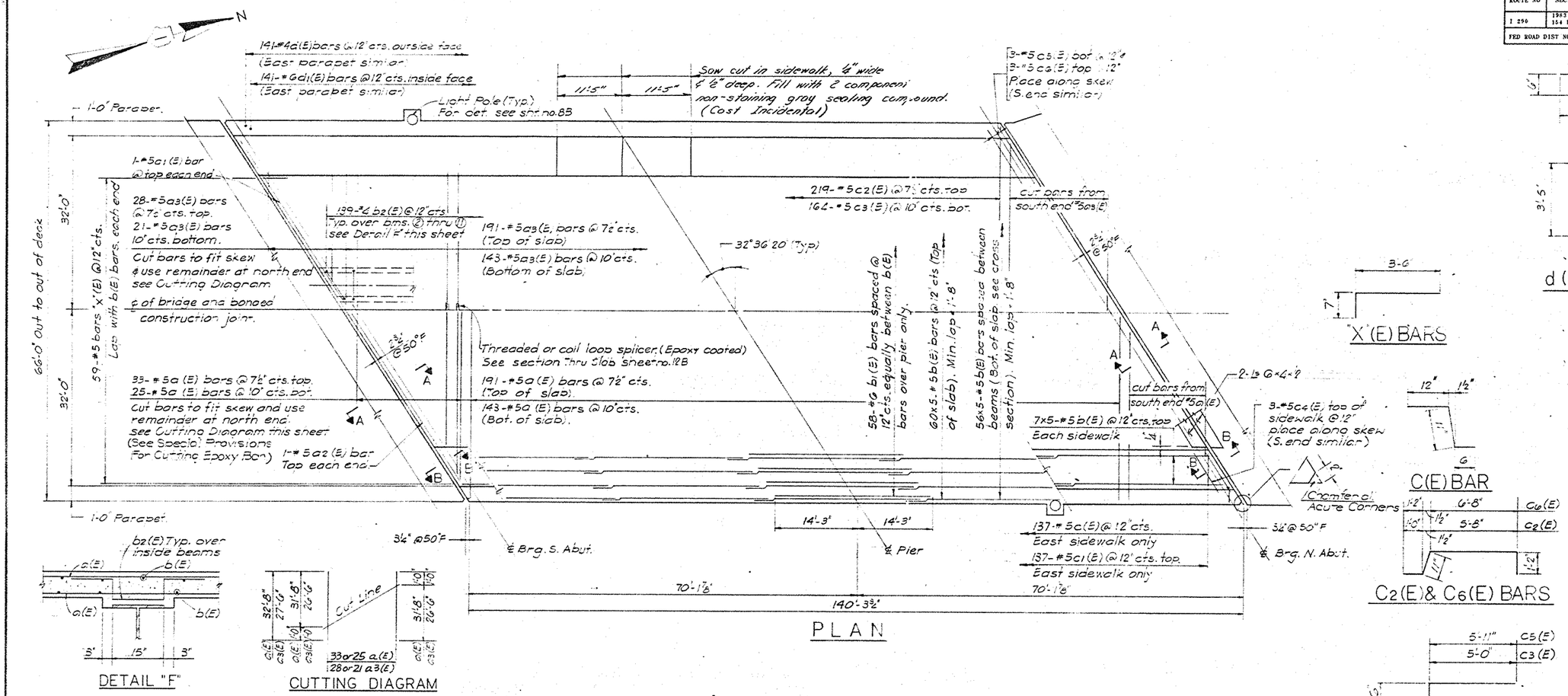
DES PLAINES AVE BRIDGE
STRUCTURE REHABILITATION
EISENHOWER EXPRESSWAY - I-290
SECTION 1983-154-BR.
COOK COUNTY
STATION 50+43.24

Nakawatase, Rutkowski, Wyns & Yi, Inc.
ENGINEERS • ARCHITECTS
205 WEST WACKER DRIVE
CHICAGO, ILLINOIS 60606

HUEY CO.

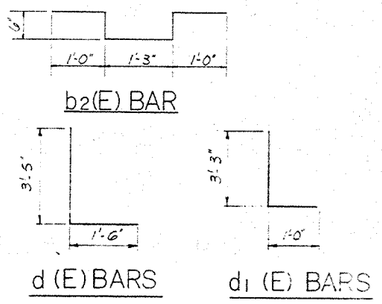
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I 290	1983 154 BR	COOK	44	24
FED ROAD DIST NO		ILLINOIS	PROJ. IR 290 4	

SHEET NO. 6B OF 17B SHEETS



DETAIL "F"

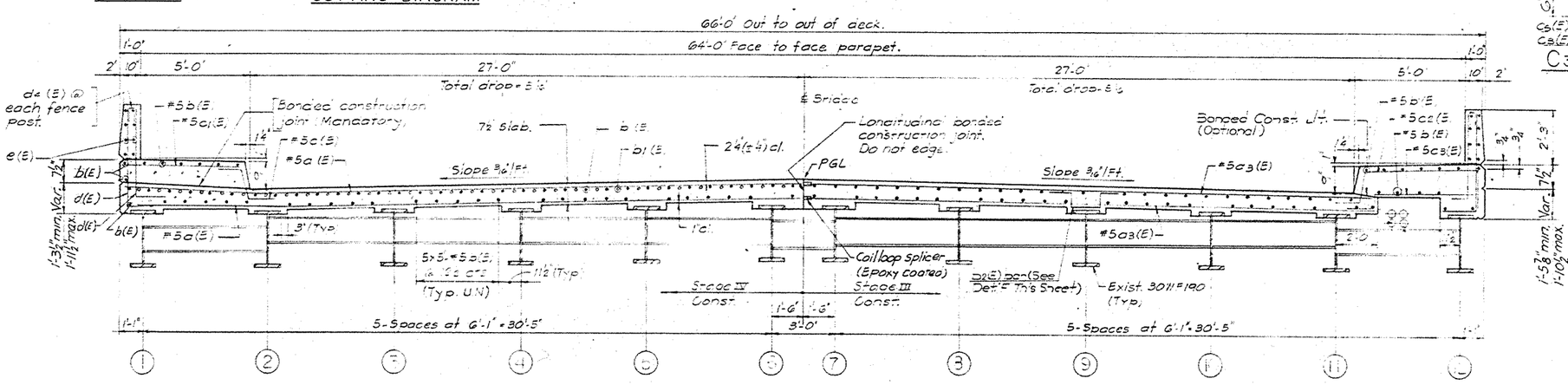
CUTTING DIAGRAM



BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a (E)	392	#5	32'-6	
a1(E)	2	#5	32'-0"	
a2(E)	2	#5	31'-9	
a3,E)	353	#5	28'-6	
b (E)	650	#5	29'-4	
b1(E)	58	#6	28'-6	
b2(E)	1390	#4	4'-3"	
c (E)	137	#5	2'-5"	
c1(E)	137	#5	5'-5"	
c2(E)	219	#5	8'-9	
c3(E)	164	#5	7'-6"	
c4(E)	6	#5	6'-0"	
c5(E)	6	#5	8'-9"	
c6(E)	6	#5	9'-11"	
d (E)	252	#6	4'-11"	
d1(E)	282	#6	4'-3"	
X (E)	118	#5	2'-1"	

ITEM	UNIT	TOTAL
Class X Concrete	Cu Yd	345.5
Reinforcement Bars (Epoxy Coated)	LBS.	58,630
Protective Coat	SQ. YDS.	931.5
Preformed Joint Seal (2")	Lin. Ft.	160



NEAR PIER

CROSS SECTION (LOOKING SOUTH)

NEAR MID-SPAN

NOTE:

1. Reinforcement bars designated (E) shall be epoxy coated. See special provision
2. Parapet quantities are billed on sheet No. 8B
3. For balance of construction staging see sheet no. 3B and sheet 37.
4. For Sections A-A & B-B See Sht. no. 7B. (Proposed)
5. For Section A-A existing see sht. no. 13B.

DECK PLAN AND SECTION

DESIGNED	GSP
CHECKED	EM
DRAWN	MK
CHECKED	GSP

Nekaswatasa, Rutkowski, Wyns & Yi, Inc.
ENGINEERS • ARCHITECTS
205 WEST WACKER DRIVE
CHICAGO, ILLINOIS 60606

DES PLAINES AVE. BRIDGE
STRUCTURE REHABILITATION
EISENHOWER EXPRESSWAY I-290
SECTION 1983-154-BR
COOK COUNTY
STATION 50+43.24

ATTACHMENT F

PROPOSED PLAN AND PROFILE

PRELIMINARY

SCALE: 1" = 50'

STA. 620+78.00 ℄ DES PLAINES AVE =
STA. 10+00.00 ℄ DES PLAINE AVE
WESTBOUND ENTRANCE

275' RIGHT-TURN STORAGE

320' LEFT-TURN STORAGE

EXIST ℄ DES PLAINES AVE.

PC Sta 615+71.05

PT Sta 615+77.05

120' LEFT-TURN STORAGE

90' (9:1) TAPER

EXIST. R.O.W.

SIDEWALK

END CONSTRUCTION
STA. 21+78.71

STA. 615+40.69 ℄ DES PLAINES AVE. =
STA. 22+26.71 ℄ DES PLAINES AVE
EASTBOUND EXIT

STA. 615+53.03 ℄ DES PLAINES AVE. =
STA. 3400+00.00 ℄ HARRISON ST.

BEGIN CONSTRUCTION
STA. 615+66.89

DES PLAINES AVE.

STA 617+28.40
5.00' RT

STA 618+18.40
5.00' LT
90' (9:1) TAPER

200' LEFT-TURN STORAGE

STA. 294+71.80 ℄ I-290 =
STA. 620+06.44 ℄ DES PLAINES AVE.

FOREST PARK
PARK DISTRICT

EXIST ℄ HARRISON ST.

80' RIGHT-TURN
STORAGE

115' RIGHT-TURN
STORAGE

END CONSTRUCTION
STA. 624+80.00

EXIST ℄ DES PLAINES AVE.

PROP. R.O.W.

145' LEFT-TURN
STORAGE

90' LEFT-TURN
STORAGE

SHARED-USE PATH

C.T.A.

NOTE: ALL CROSSWALKS SHALL BE ADA COMPLIANT

POSTED SPEED = 30 MPH
DESIGN SPEED = 35 MPH

EX. ℄ HARRISON ST.

PR. ℄ I-290

EX. ℄ CTA

EXISTING CENTERLINE PROFILE

626.46

BEGIN CONSTRUCTION
STA. 615+66.89
ELEV. 626.44
(EX. ELEV. 626.44)

+40.00 EL. 626.10

VPI STA. 619+65.00
ELEVATION 625.95

-0.12%

-5.00%

PROPOSED CENTERLINE PROFILE

SSD = 346'
K = 51
250.00' V.C.

ROADWAY
CRITICAL
POINT

+90.00 EL. 619.70

15.7' (15.0' MIN.)

65.5'

67.5'

81.3'

83.7'

EB I-290

WB I-290

ALL LANES = 1.5%

LIMITS OF SE
TRANSITION

+70 +00

+00 +30

+30.00 EL. 612.70

EX. 14'-4" CLEARANCE

40'

40'

K = 34
320.00' V.C.

+50.00 EL. 611.90

618.65

VPI STA. 623+90.00
ELEVATION 604.70

-5.00%

+4.50%

END CONSTRUCTION
STA. 624+80.00
ELEV. 609.48
(EX. ELEV. 609.29)

EX. ELEV.	626.77	626.70	626.68	626.80	626.80	626.67	626.46	626.59	626.40	626.52	626.34	626.34	626.28	626.38	626.21	626.20	626.15	626.06	626.08	625.70	625.68	605.60	624.79	603.42	623.41	602.62	621.54	619.11	619.20	616.51	616.70	614.02	614.20	611.85	611.76	609.97	609.93	608.88	608.84	608.33	608.49	608.73	608.88	610.30	612.02	614.24	616.40	618.65	620.87
PR. ELEV.																																																		

613+00 614+00 615+00 616+00 617+00 618+00 619+00 620+00 621+00 622+00 623+00 624+00 625+00 626+00 627+00

635 630 625 620 615 610 605 600 595

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 NO(S)/STN'S CHKD
NOTE BOOK
NO.
BY
DATE

FILE NAME = T:\16778a\Civil\Plans\Roadway\P&PSheet11.DES.dgn

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 – DES PLAINES AVENUE

SCALE: 1"=50' | SHEET 176 OF 522 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	522	176
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	