

FOR INDEX OF SHEETS, SEE SHEET NO. 2.

PROJECT LOCATED IN THE  
VILLAGE OF NORTHFIELD

**TRAFFIC DATA**

ADT = 24,700 VEHICLES  
POSTED SPEED LIMIT = 35 MPH

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

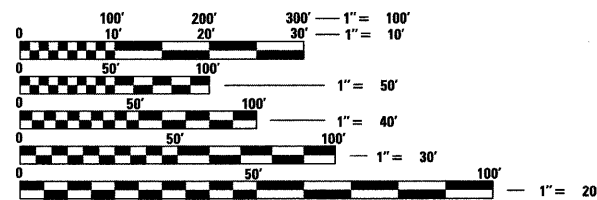
**FAI-94 (I-94 / EDENS EXPRESSWAY)  
SECTION 1010.1-I-2  
AT WILLOW ROAD  
BRIDGE DECK OVERLAY AND JOINT REPAIRS  
COOK COUNTY  
C-91-220-10**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-I-2	COOK	37	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO.	60J30	

D-91-220-10



LOCATION OF SECTION INDICATED THUS: - ■ -



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

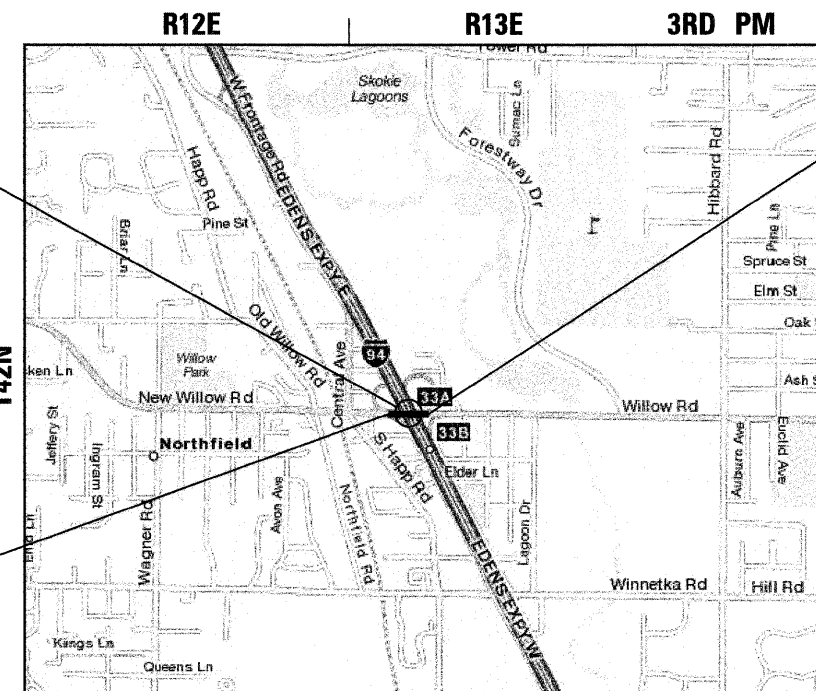
J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER: CRAIG BAUER (847) 705-4265  
PROJECT MANAGER: LONG TRAN (847) 705-4232

CONTRACT NO. 60J30

SN 016-0536  
WILLOW ROAD OVER I-94  
STA. 10 + 00.00

PROJECT BEGINS  
STA. 8 + 43.83

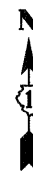


PROJECT ENDS  
STA. 11 + 50.43

NEW TRIER TOWNSHIP

LAYOUT MAP  
SCALE: 1 IN = 0.25 MI

GROSS LENGTH OF PROJECT = 306.60 LIN FT = 0.058 MILES  
NET LENGTH OF PROJECT = 306.60 LIN FT = 0.058 MILES



KURT J. NAUS  
062-050837  
REGISTERED PROFESSIONAL ENGINEER  
ILLINOIS  
EXPIRATION DATE 11-30-11  
DATE 3-18-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED MARCH 18, 2010  
Diane M. O'Keefe  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

April 9, 2010  
Scott E. Stitt, P.E.  
ENGINEER OF DESIGN AND ENVIRONMENT

April 9, 2010  
Christine M. Reed  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

alfred benesch & company  
Engineers • Surveyors • Planners  
205 North Michigan Avenue, Suite 2400  
Chicago, Illinois 60601  
312-565-0450

**INDEX OF SHEETS**

SHEET-NO.	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS, IDOT STANDARDS, DISTRICT 1 DETAILS, GENERAL NOTES & HMA REQUIREMENTS
3	SUMMARY OF QUANTITIES
4-5	DETOUR PLANS
6-7	MAINTENANCE OF TRAFFIC PLANS
8	ROADWAY & PAVEMENT MARKING PLAN
9-12	EXISTING LIGHTING PLANS
13-29	STRUCTURAL PLANS
30-37	DISTRICT 1 DETAILS

**IDOT STANDARDS**

STD. NO.	DESCRIPTION
000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
420001-07	PAVEMENT JOINTS
420701-02	PAVEMENT FABRIC
442101-07	CLASS B PATCHES
606301-04	PC CONCRETE ISLANDS AND MEDIANS
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
701400-04	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-05	LANE CLOSURE, FREEWAY/EXPRESSWAY
701901-01	TRAFFIC CONTROL DEVICES
704001-06	TEMPORARY CONCRETE BARRIER

**DISTRICT 1 DETAILS**

DETAIL	DESCRIPTION
BD600-06 (BD-24)	CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT
TC-8	FREEWAY ENTRANCE AND EXIT RAMP CLOSURE DETAILS
TC-9	TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE
TC-11	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)
TC-13	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
TC-16	PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING
TC-17	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES PARTIAL RAMP CLOSURES
TC-22	ARTERIAL ROAD INFORMATION SIGN

**HOT-MIX ASPHALT REQUIREMENTS**

(BASE COURSE IN MEDIAN FOR MOT)

MIXTURE TYPE	THICKNESS	VOIDS
HMA BASE COURSE (HMA BINDER IL-19 mm)	8 1/4"	4% @ 50 GYR

THE "AC TYPE" FOR NON-POLYMERIZED HMA MIXES SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS.

FOR "PERCENT OF RAP", SEE DISTRICT ONE SPECIAL PROVISIONS.

**GENERAL NOTES**

- BEFORE STARTING WORK, THE CONTRACTOR SHALL CALL JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION (J.U.L.I.E.) AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED UTILITIES. 72 HOUR ADVANCE NOTIFICATION IS REQUIRED.
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AS REQUIRED.
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
- THE CONTRACTOR SHALL SWEEP AND CLEAN THE PAVEMENT SURFACE PER ARTICLE 107.15 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.
- DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. STATIONS ARE SHOWN FOR REFERENCE ONLY AND ARE APPROXIMATE.
- BEFORE BEGINNING WORK, THE CONTRACTOR SHALL RETAIN AND RECORD (FOR FUTURE REFERENCES), ALL EXISTING PAVEMENT MARKING LINES IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL STRIPING SHALL BE AS DIRECTED BY THE ENGINEER.
- ALL PAVEMENT MARKINGS SHALL BE PLACED THROUGHOUT THE PROJECT ACCORDING TO DISTRICT ONE TYPICAL PAVEMENT MARKINGS.
- ALL MEDIAN AND CURB & GUTTER REPLACEMENT LIMITS WILL BE VERIFIED IN THE FIELD BY THE ENGINEER.
- \*6 EPOXY COATED TIE BARS @ 24" CENTERS, 2'-0" LONG, DRILLED AND GROUTED WILL BE INCLUDED IN THE COST OF "CONCRETE MEDIAN, TYPE SB-6.06".
- WITH THE EXCEPTION OF CLASS B PAVEMENT PATCHING AND CONCRETE MEDIAN REMOVAL, SAW CUTTING PRIOR TO ANY REMOVAL ITEMS NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER SHALL BE CONSIDERED INCLUDED IN THE COST OF THE ITEMS BEING REMOVED.
- THE CONTRACTOR SHALL USE CARE IN REMOVING OR EXCAVATING NEAR ALL EXISTING ITEMS WHICH WILL REMAIN. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- TRAFFIC CONTROL AND PROTECTION ALONG EB AND WB I-94 REQUIRED FOR PROTECTIVE SHIELD INSTALLATION AND PROTECTION AND MAINTENANCE OF EXISTING UNDERPASS LIGHTING IS INCLUDED IN "TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)".
- IDOT HIGHWAY STANDARDS 701400 AND 701401 AND DISTRICT ONE DETAILS TC-9 AND TC-17 SHALL BE USED FOR TRAFFIC CONTROL AND PROTECTION ALONG EB AND WB I-94 DURING STAGE 2 FOR THE REMOVAL AND REPLACEMENT OF THE JUNCTION BOX, CONDUIT AND WIRE AT PIER 2, THE BEARING REPLACEMENTS AT PIERS 1 AND 3, AND THE SUBSTRUCTURE CONCRETE REPAIRS AT PIERS 1, 2 AND 3. COST IS INCLUDED IN "TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)".
- THE REMOVAL AND REPLACEMENT OF THE JUNCTION BOX, CONDUIT AND WIRE AND THE SUBSTRUCTURE CONCRETE REPAIRS AT PIER 2 SHALL BE COMPLETED WITHIN 7 WORKING DAYS OF THE START OF STAGE 2 AND SHALL NOT BE PERFORMED CONCURRENTLY WITH THE WORK AT PIERS 1 AND 3. PIERS 1 AND 3 WORK SHALL BE COMPLETED IN STAGE 2 AFTER COMPLETION OF THE PIER 2 WORK. SEE SPECIAL PROVISION "COMPLETION DATE FOR PIER 2 WORK".

**SUMMARY OF QUANTITIES**

SPECIALTY ITEM	CODE NUMBER	ITEM	UNIT	URBAN TOTAL QUANTITY	ROADWAY		BRIDGE	
					CONSTRUCTION TYPE CODE		CONSTRUCTION TYPE CODE	
					100% STATE 1000-2A	100% STATE X231-2A	100% STATE 1000-2A	100% STATE X231-2A
	35501317	HOT-MIX ASPHALT BASE COURSE, 8 1/4"	SQ YD	187	187			
	40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	19	19			
	44000100	PAVEMENT REMOVAL	SQ YD	187	187			
	44001700	COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	80	80			
	44002010	CONCRETE MEDIAN REMOVAL	FOOT	422	422			
	44200944	CLASS B PATCHES, TYPE IV, 8 INCH	SQ YD	60	60			
	44201000	CLASS B PATCHES, TYPE IV, 12 INCH	SQ YD	47	47			
	44213100	PAVEMENT FABRIC	SQ YD	107	107			
	44213200	SAW CUTS	FOOT	1022	1022			
	50102400	CONCRETE REMOVAL	CU YD	21.2			21.2	
	50157300	PROTECTIVE SHIELD	SQ YD	1,284			1,284	
	50300255	CONCRETE SUPERSTRUCTURE	CU YD	23.4			23.4	
	50300260	BRIDGE DECK GROOVING	SQ YD	1,832			1,832	
	50300300	PROTECTIVE COAT	SQ YD	2,655			2,655	
	50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	5,430			5,430	
	50500715	JACK AND REMOVE EXISTING BEARINGS	EACH	28			28	
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3,350			3,350	
	50800515	BAR SPLICERS	EACH	30			30	
	52000110	PREFORMED JOINT STRIP SEAL	FOOT	182.0			182.0	
	52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	28			28	
	52100520	ANCHOR BOLTS, 1"	EACH	52			52	
	58700300	CONCRETE SEALER	SQ FT	5,695			5,695	
	60619200	CONCRETE MEDIAN, TYPE SB-6.06	SQ FT	1,687		1,687		
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4		4		
	67100100	MOBILIZATION	L SUM	1		1		
	70101700	TRAFFIC CONTROL AND PROTECTION	L SUM	1		1		
	70102550	TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR	EACH	1		1		
	70106800	CHANGEABLE MESSAGE SIGN	CAL MO	6		6		
	70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	1996		1996		
	70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1590		1590		
	70400100	TEMPORARY CONCRETE BARRIER	FOOT	1140		1140		
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1092		1092		
*	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	3,520		3,520		

SPECIALTY ITEM	CODE NUMBER	ITEM	UNIT	URBAN TOTAL QUANTITY	ROADWAY		BRIDGE	
					CONSTRUCTION TYPE CODE		CONSTRUCTION TYPE CODE	
					100% STATE 1000-2A	100% STATE X231-2A	100% STATE 1000-2A	100% STATE X231-2A
*	78000300	THERMOPLASTIC PAVEMENT MARKING - LINE 5"	FOOT	860		860		
*	78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	2,327		2,327		
*	78008240	POLYUREA PAVEMENT MARKING TYPE I - LINE 8"	FOOT	1,086		1,086		
*	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	20		20		
*	78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	12		12		
*	78200530	BARRIER WALL MARKERS, TYPE C	EACH	92		92		
	78300100	PAVEMENT MARKING REMOVAL	SQ FT	2,951		2,951		
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	32		32		
*	81100300	CONDUIT ATTACHED TO STRUCTURE, 1" DIA., GALVANIZED STEEL	FOOT	30		30		
*	81300730	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 16" X 14" X 6"	EACH	1		1		
*	81702110	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	240		240		
	X0322185	BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/4"	SQ YD	1,911			1,911	
	X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	103		103		
*	X0323574	MAINTENANCE OF LIGHTING SYSTEM	CAL MO	3		3		
	X0325303	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	18			18	
	X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	1,101			1,101	
	X0325775	WET REFLECTIVE TEMPORARY TAPE, TYPE III, 4 INCH	FOOT	9,000		9,000		
	X0326765	CLEANING AND PAINTING EXPOSED REBAR (SPECIAL)	SQ FT	50			50	
	X0326766	CLEAN AND RESEAL RELIEF JOINT	FOOT	129			129	
	X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1		1		
	X7013820	TRAFFIC CONTROL SURVEILLANCE, EXPRESSWAYS	CAL DA	30		30		
	X8210305	PROTECTION AND MAINTENANCE OF EXISTING UNDERPASS LIGHTING	L SUM	1		1		
	Z0001700	APPROACH SLAB REPAIR (FULL DEPTH)	SQ YD	33.2			33.2	
	Z0006204	BRIDGE DECK HYDRO-SCARIFICATION, 1/2"	SQ YD	1,911			1,911	
	Z0013798	CONSTRUCTION LAYOUT	L SUM	1		1		
	Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	5.0			5.0	
	Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	5.5			5.5	
	Z0017100	DOWEL BARS	EACH	70		70		
	Z0030255	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW) TEST LEVEL 2	EACH	2		2		
	Z0030260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW) TEST LEVEL 3	EACH	2		2		
	Z0030320	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 2	EACH	2		2		
	Z0030330	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE) TEST LEVEL 3	EACH	2		2		

\*Specialty Items

Rev.

FILE NAME =	DESIGNED - EJA	REVISED -	<b>benesch</b>	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES</b>			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
USER NAME =	DRAWN - EJA	REVISED -						94	1010.1-1-2	COOK	37	3
PLOT DATE = 03/22/2010	CHECKED - AJP	REVISED -						SCALE: N.T.S. SHEET NO. 1 OF 1 SHEETS STA. TO STA.			CONTRACT NO. 60J30	
	DATE - 3/19/10	REVISED -				FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT						




WESTBOUND WILLOW ROAD TO  
EASTBOUND I-94 DETOUR  
FOR MOT STAGE 2

**NOTES**






1. CHANGEABLE MESSAGE SIGNS ARE TO BE PLACED TWO (2) WEEKS PRIOR TO THE START OF THE DETOUR. CHANGEABLE MESSAGE SIGNS TO BE PAID FOR SEPARATELY - NOT COVERED UNDER THE COST OF THE DETOUR.
2. ANY EXISTING SIGNS THAT CONTRADICT THE DETOUR SIGNAGE AS SHOWN ON THE PLANS SHALL BE COVERED PRIOR TO THE OPENING OF THE DETOUR ROUTE, INCIDENTAL TO THE PAY ITEM, "TRAFFIC CONTROL AND PROTECTION". COVERS SHALL BE REMOVED AT THE TIME THE DETOUR SIGNS ARE REMOVED.
3. ALL SIGNAGE SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2007". "THE QUALITY STANDARD FOR WORK ZONE TRAFFIC CONTROL DEVICES REVISED 6/8/05", THE DETAILS OF THESE PLANS, THE "2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" AND THE SPECIAL PROVISIONS FOR "TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR".
4. IF DEEMED NECESSARY BY THE ENGINEER, A PRE-CONSTRUCTION MEETING WITH THE CONTRACTOR SHALL BE HELD AT LEAST TWO WEEKS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT. THE ROAD SHALL NOT BE CLOSED UNTIL ALL DETOUR SIGNAGE IS IN PLACE.
5. THE SIGNAGE AS SHOWN ON THE PLANS IS DEEMED TO BE THE MINIMUM REQUIRED. THE CONTRACTOR SHALL MAKE ALL CHANGES DEEMED NECESSARY BY THE ENGINEER. ADDITIONS AND DELETIONS OF TRAFFIC CONTROL FOR THIS DETOUR SHALL BE CONSIDERED INCLUDED IN "TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR".
6. ALL DETOUR SIGNS SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND AREA IS REOPENED TO THRU TRAFFIC.
7. ALL SIGNS SHOWN SHALL BE FURNISHED, ERECTED, AND MAINTAINED BY THE CONTRACTOR.

**LEGEND**






**ROUTE MARKERS**

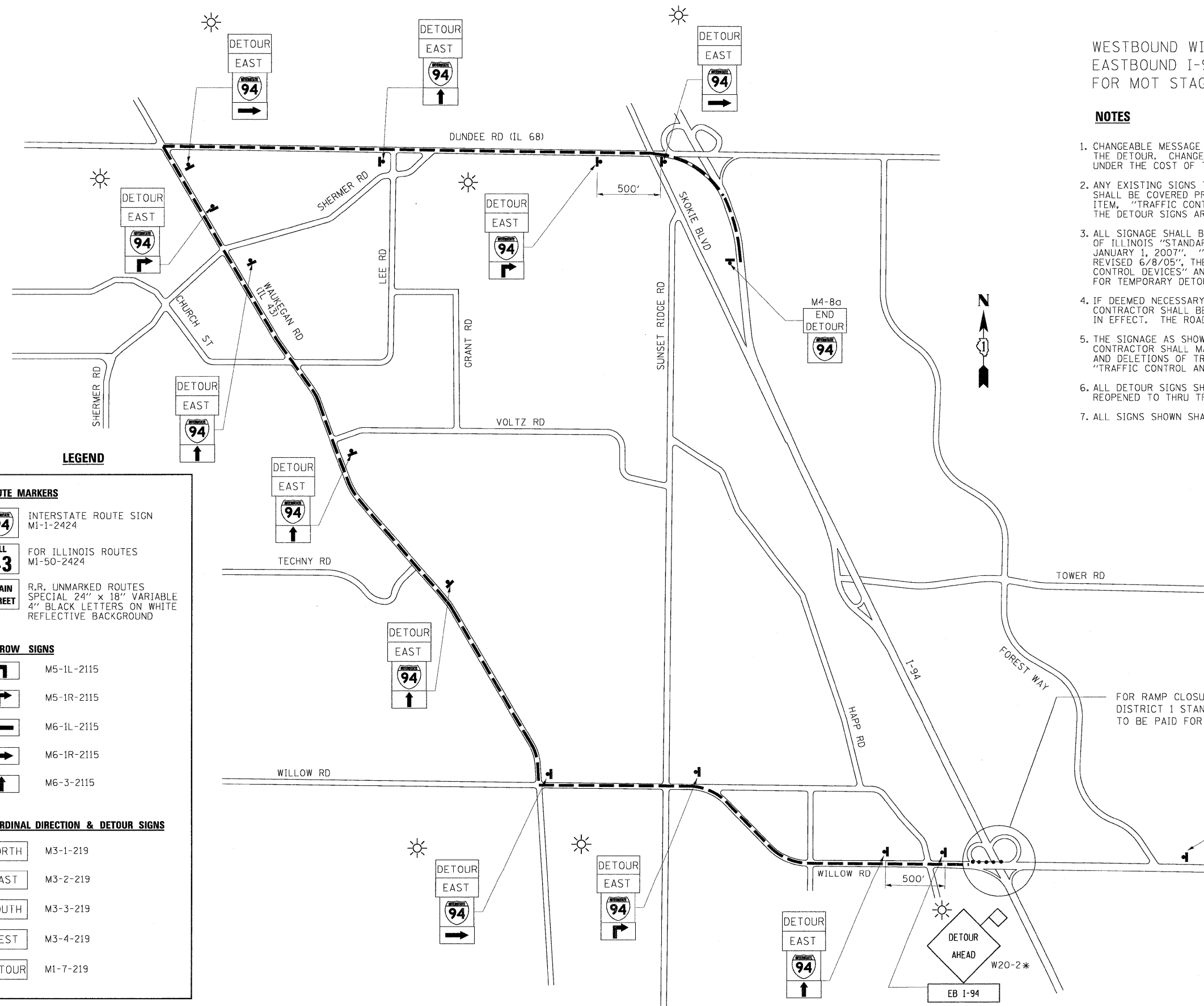
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MI-1-2424
-  FOR ILLINOIS ROUTES  
MI-50-2424
-  R.R. UNMARKED ROUTES  
SPECIAL 24" x 18" VARIABLE  
4" BLACK LETTERS ON WHITE  
REFLECTIVE BACKGROUND

**ARROW SIGNS**

-  M5-1L-2115
-  M5-1R-2115
-  M6-1L-2115
-  M6-1R-2115
-  M6-3-2115


**CARDINAL DIRECTION & DETOUR SIGNS**

-  NORTH M3-1-219
-  EAST M3-2-219
-  SOUTH M3-3-219
-  WEST M3-4-219
-  DETOUR M1-7-219



FOR RAMP CLOSURE DETAILS SEE  
DISTRICT 1 STANDARD TC-8.  
TO BE PAID FOR AS "TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)".

EB I-94 ON RAMP  
CLOSED  
DETOUR AHEAD \*\*

 DENOTES WITH AMBER FLASHING LIGHT  
\*\* CHANGEABLE MESSAGE SIGN  
SEE NOTE 1.

FILE NAME =	DESIGNED - EJA	REVISED -
	DRAWN - EJA	REVISED -
USER NAME =	CHECKED - AJP	REVISED -
PLOT DATE = 03/22/2010	DATE - 3/19/10	REVISED -

**benesch**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

WILLOW ROAD  
DETOUR PLAN  
STAGE 2  
SCALE: N.T.S. SHEET NO. 1 OF 2 SHEETS STA. TO STA.

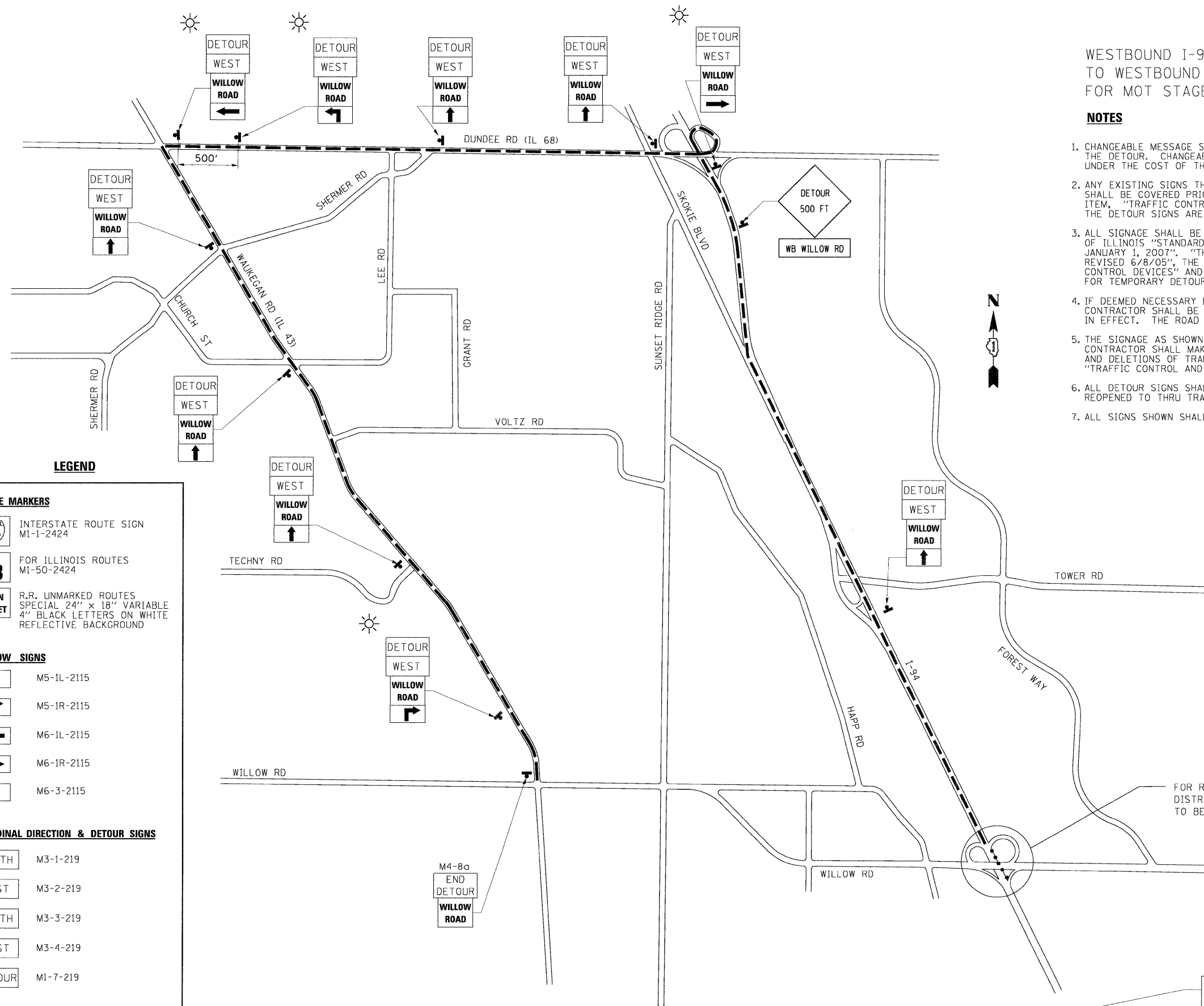
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-I-2	COOK	37	4
CONTRACT NO. 60J30			ILLINOIS FED. AID PROJECT	



WESTBOUND I-94 EXIT  
TO WESTBOUND WILLOW ROAD DETOUR  
FOR MOT STAGE 2

**NOTES**

1. CHANGEABLE MESSAGE SIGNS ARE TO BE PLACED TWO (2) WEEKS PRIOR TO THE START OF THE DETOUR. CHANGEABLE MESSAGE SIGNS TO BE PAID FOR SEPARATELY - NOT COVERED UNDER THE COST OF THE DETOUR.
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7. ALL SIGNS SHOWN SHALL BE FURNISHED, ERECTED, AND MAINTAINED BY THE CONTRACTOR.



**LEGEND**

**ROUTE MARKERS**

INTERSTATE ROUTE SIGN  
M1-1-2424

FOR ILLINOIS ROUTES  
M1-50-2424

**MAIN STREET** R.R. UNMARKED ROUTES  
SPECIAL 24" x 18" VARIABLE  
4" BLACK LETTERS ON WHITE  
REFLECTIVE BACKGROUND

**ARROW SIGNS**

M5-1L-2115

M5-1R-2115

M6-1L-2115

M6-1R-2115

M6-3-2115

**CARDINAL DIRECTION & DETOUR SIGNS**

NORTH M3-1-219

EAST M3-2-219

SOUTH M3-3-219

WEST M3-4-219







DETOUR M1-7-219

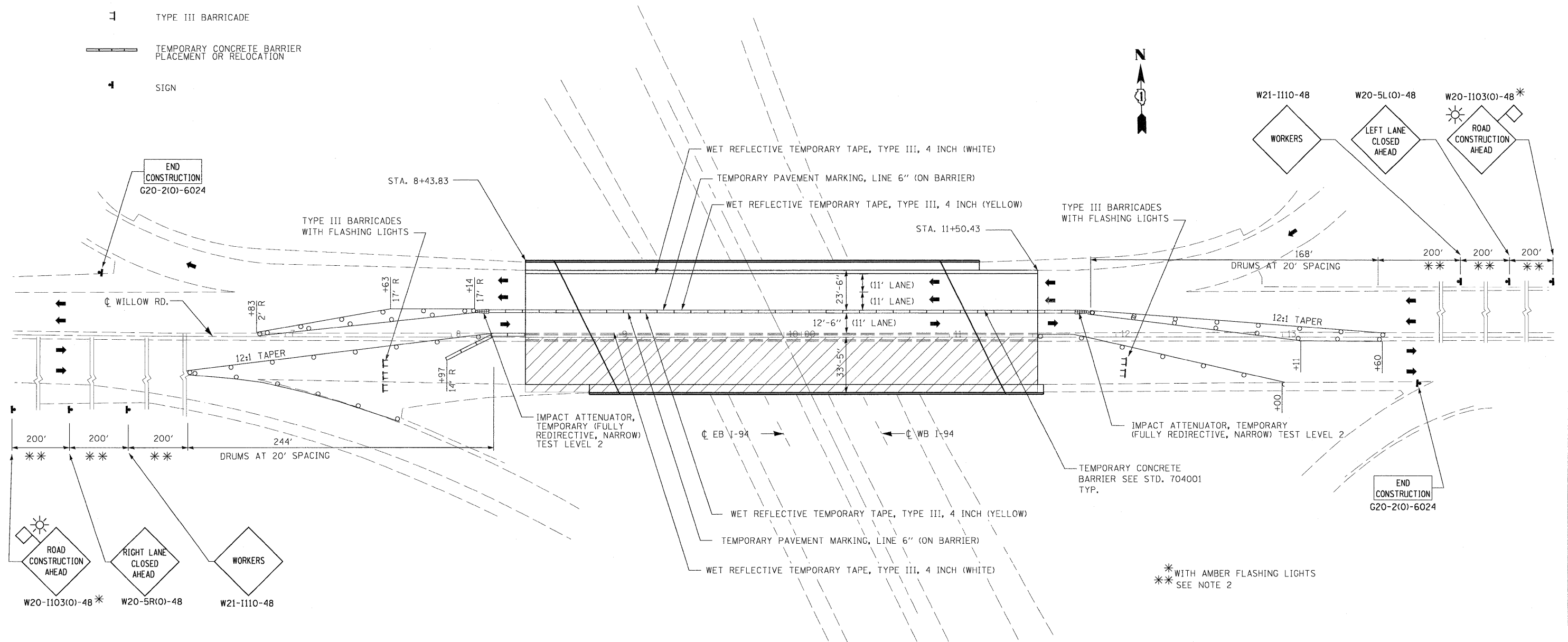
FOR RAMP CLOSURE DETAILS SEE  
DISTRICT 1 STANDARD TC-8.  
TO BE PAID FOR AS "TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)".

DENOTES WITH AMBER FLASHING LIGHT  
\* \* CHANGEABLE MESSAGE SIGN  
SEE NOTE 1.

\* \*

**LEGEND:**

-  WORK ZONE
-  TRAFFIC ARROW
-  TYPE II BARRICADES, DRUMS, OR VERTICAL PANEL W/ STEADY BURNING MONODIRECTIONAL LIGHT
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER PLACEMENT OR RELOCATION
-  SIGN



\* WITH AMBER FLASHING LIGHTS  
 \*\* SEE NOTE 2

**NOTES:**

1. MAINTENANCE OF TRAFFIC TO BE PAID FOR AS "TRAFFIC CONTROL AND PROTECTION".
2. CONTRACTOR TO PLACE SIGNS AS DIRECTED BY ENGINEER.
3. WORK ZONE ENTRANCES AND EXITS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
4. SEE STAGE CONSTRUCTION DETAILS IN STRUCTURAL PLANS FOR ADDITIONAL INFORMATION.

**PLAN - STAGE 1**

FILE NAME *	DESIGNED - EJA	REVISED -
	DRAWN - EJA	REVISED -
USER NAME *	CHECKED - AJP	REVISED -
PLOT DATE = 03/22/2010	DATE - 3/19/10	REVISED -







**benesch**

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>WILLOW ROAD        MAINTENANCE OF TRAFFIC PLAN        STAGE 1</b>	
SCALE: 1"=30'	SHEET NO. 1 OF 2 SHEETS
STA. _____	TO STA. _____

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-1-2	COOK	37	6
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
CONTRACT NO. 60J30				

**LEGEND:**

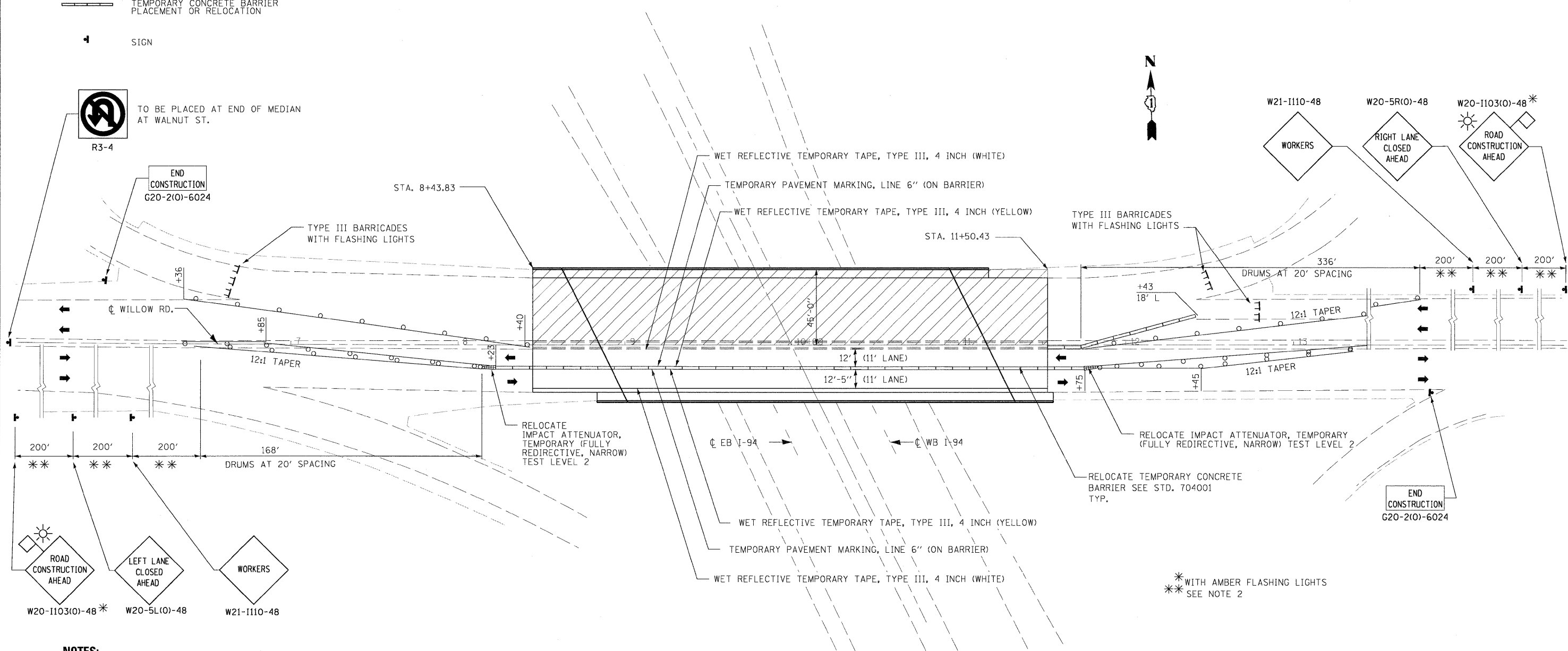
-  WORK ZONE
-  TRAFFIC ARROW
-  TYPE II BARRICADES, DRUMS, OR VERTICAL PANEL W/ STEADY BURNING MONODIRECTIONAL LIGHT
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER PLACEMENT OR RELOCATION
-  SIGN



TO BE PLACED AT END OF MEDIAN AT WALNUT ST.

R3-4

END CONSTRUCTION  
G20-2(0)-6024



- W21-1110-48 WORKERS
- W20-5R(0)-48 RIGHT LANE CLOSED AHEAD
- W20-1103(0)-48\* ROAD CONSTRUCTION AHEAD

200' 200' 200' 168'  
DRUMS AT 20' SPACING

- W20-1103(0)-48\* ROAD CONSTRUCTION AHEAD
- W20-5L(0)-48 LEFT LANE CLOSED AHEAD
- W21-1110-48 WORKERS

\* WITH AMBER FLASHING LIGHTS  
\*\* SEE NOTE 2

**NOTES:**

1. MAINTENANCE OF TRAFFIC TO BE PAID FOR AS "TRAFFIC CONTROL AND PROTECTION".
2. CONTRACTOR TO PLACE SIGNS AS DIRECTED BY ENGINEER.
3. WORK ZONE ENTRANCES AND EXITS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
4. SEE STAGE CONSTRUCTION DETAILS IN STRUCTURAL PLANS FOR ADDITIONAL INFORMATION.
5. SEE SHEETS 2, 4, AND 5 FOR STAGE 2 WORK RESTRICTIONS AND DETOUR INFORMATION.

**PLAN - STAGE 2**

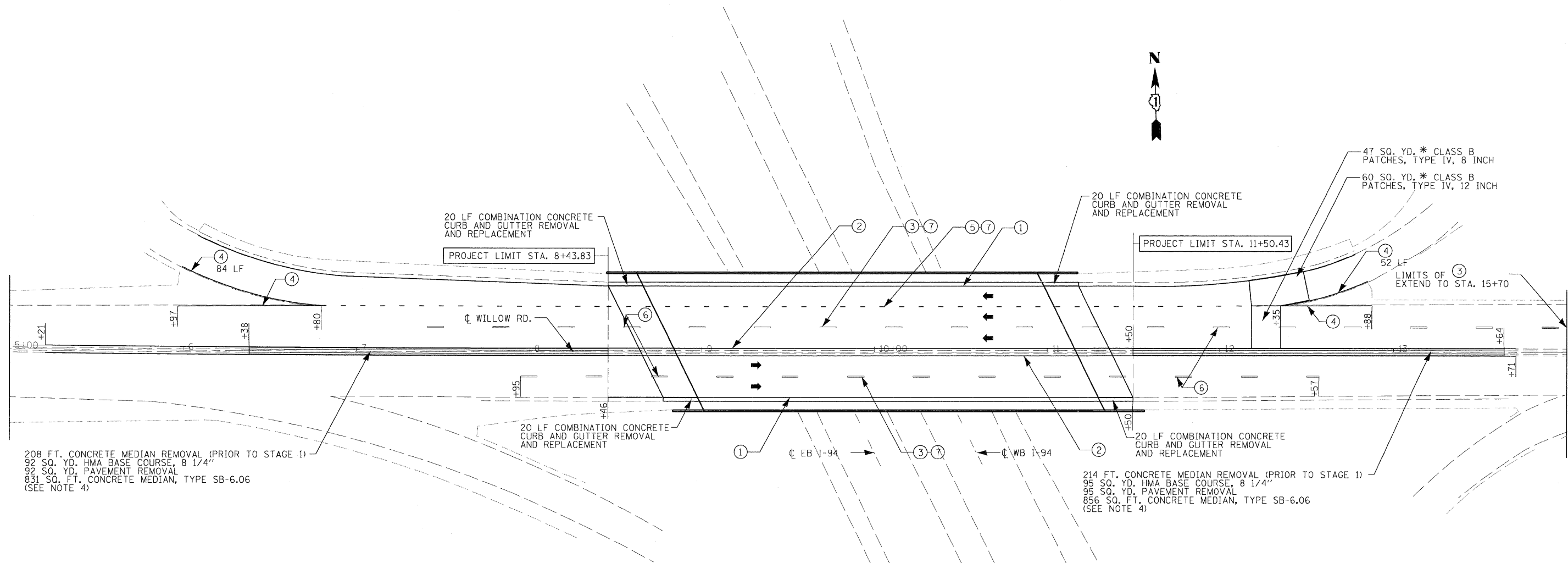
FILE NAME #	DESIGNED - EJA	REVISED -
	DRAWN - EJA	REVISED -
USER NAME #	CHECKED - AJP	REVISED -
PLOT DATE # 03\22\2010	DATE - 3/19/10	REVISED -

**benesch**

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>WILLOW ROAD MAINTENANCE OF TRAFFIC PLAN STAGE 2</b>	
SCALE: 1"=30'	SHEET NO. 2 OF 2 SHEETS STA. TO STA.

F.A.I. RTE. # 94	SECTION 1010.1-1-2	COUNTY COOK	TOTAL SHEETS 37	SHEET NO. 7
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
		CONTRACT NO. 60J30		



208 FT. CONCRETE MEDIAN REMOVAL (PRIOR TO STAGE 1)  
 92 SQ. YD. HMA BASE COURSE, 8 1/4"  
 92 SQ. YD. PAVEMENT REMOVAL  
 831 SQ. FT. CONCRETE MEDIAN, TYPE SB-6.06  
 (SEE NOTE 4)

214 FT. CONCRETE MEDIAN REMOVAL (PRIOR TO STAGE 1)  
 95 SQ. YD. HMA BASE COURSE, 8 1/4"  
 95 SQ. YD. PAVEMENT REMOVAL  
 856 SQ. FT. CONCRETE MEDIAN, TYPE SB-6.06  
 (SEE NOTE 4)

**LEGEND:**

- ① POLYUREA PAVEMENT MARKING TYPE 1 - LINE 4" (WHITE EDGE LINE)
- ② POLYUREA PAVEMENT MARKING TYPE 1 - LINE 4" (YELLOW EDGE LINE)
- ③ POLYUREA PAVEMENT MARKING TYPE 1 - LINE 4" (WHITE, 10' DASH, 30' SKIP)
- ④ POLYUREA PAVEMENT MARKING TYPE 1 - LINE 8" (WHITE GORE LINE)
- ⑤ POLYUREA PAVEMENT MARKING TYPE 1 - LINE 8" (WHITE, 3' DASH, 9' SKIP)
- ⑥ RAISED REFLECTIVE MARKERS
- ⑦ RAISED REFLECTIVE MARKERS (BRIDGE)

**NOTES:**

1. SEE IDOT DISTRICT 1 STANDARD TC-11 "RAISED REFLECTIVE PAVEMENT MARKERS (SNOW PLOW RESISTANT)" FOR PLACEMENT AND TYPE OF RAISED REFLECTIVE PAVEMENT MARKERS.
  2. SEE IDOT DISTRICT 1 STANDARD TC-13 "DISTRICT ONE TYPICAL PAVEMENT MARKINGS" FOR ADDITIONAL PAVEMENT MARKING INFORMATION.
  3. COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT SHOULD BE CONSTRUCTED SO GUTTER ELEVATION MATCHES PROPOSED OVERLAY PAVEMENT ELEVATION AND TOP OF CURB ELEVATION MATCHES ADJACENT SIDEWALK ELEVATION.
  4. #6 EPOXY COATED TIE BARS @ 24" C-C, 24" LONG, DRILLED AND GROUTED (INCLUDED IN THE COST OF "CONCRETE MEDIAN, TYPE SB-6.06").
- \* EXACT AREA FOR PATCHES TO BE DETERMINED IN THE FIELD BY THE ENGINEER. ACTUAL DEPTH OF PATCHES ARE 8 1/4" FOR WILLOW ROAD LANES AND 12 1/4" FOR RAMP, TO BE PAID FOR AS CLASS B PATCHES, TYPE IV, 8 INCH AND 12 INCH, RESPECTIVELY.

FILE NAME =	DESIGNED - EJA	REVISED -
	DRAWN - EJA	REVISED -
USER NAME =	CHECKED - AJP	REVISED -
PLOT DATE = 03/22/2010	DATE - 3/19/10	REVISED -

**benesch**

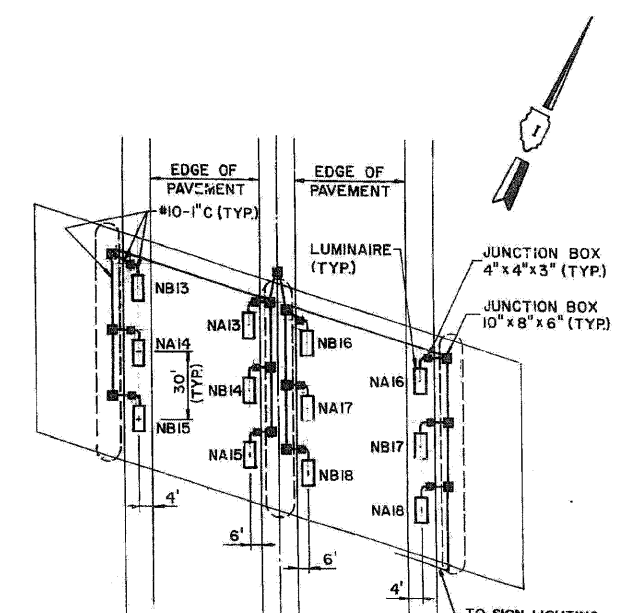
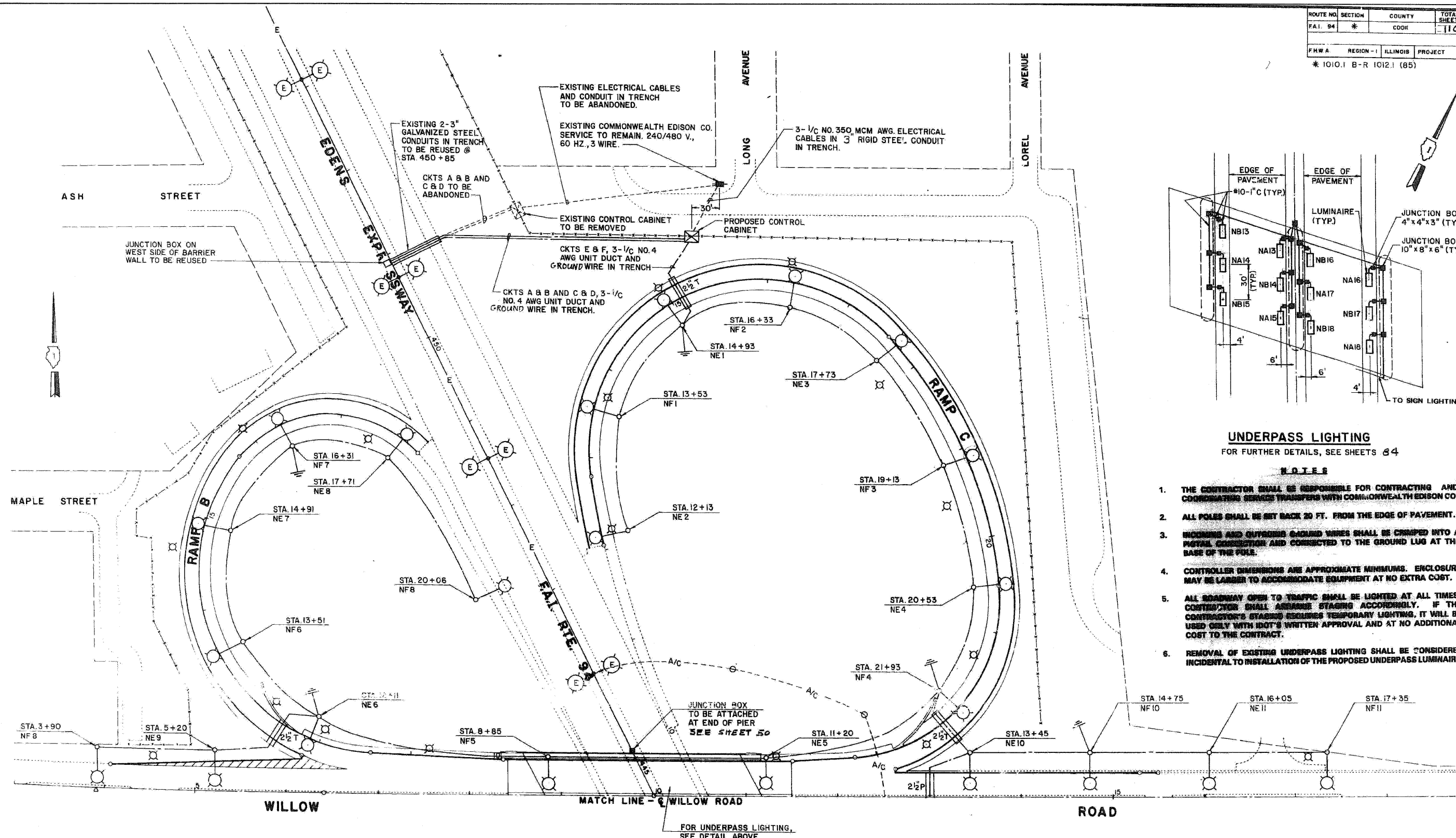
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**WILLOW ROAD  
 ROADWAY & PAVEMENT MARKING PLANS**

SCALE: 1" = 30" SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE. 94	SECTION 1010.1-1-2	COUNTY COOK	TOTAL SHEETS 37	SHEET NO. 8
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60J30				

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	*	COOK	110	75
F.H.W.A. REGION-1		ILLINOIS	PROJECT	
* 1010.1 B-R 1012.1 (85)				



**UNDERPASS LIGHTING**  
FOR FURTHER DETAILS, SEE SHEETS 84

**NOTES**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTRACTING AND COORDINATING SERVICE TRANSFERS WITH COMMONWEALTH EDISON CO.
2. ALL POLES SHALL BE SET BACK 20 FT. FROM THE EDGE OF PAVEMENT.
3. INCOMING AND OUTGOING CABLES SHALL BE CRAMPED INTO A METAL CONNECTION AND CONNECTED TO THE GROUND LUG AT THE BASE OF THE POLE.
4. CONTROLLER DIMENSIONS ARE APPROXIMATE MINIMUMS. ENCLOSURE MAY BE LARGER TO ACCOMMODATE EQUIPMENT AT NO EXTRA COST.
5. ALL ROADWAY OPEN TO TRAFFIC SHALL BE LIGHTED AT ALL TIMES. CONTRACTOR SHALL ARRANGE STAGING ACCORDINGLY. IF THE CONTRACTOR'S STAGING REQUIRES TEMPORARY LIGHTING, IT WILL BE USED ONLY WITH IDOT'S WRITTEN APPROVAL AND AT NO ADDITIONAL COST TO THE CONTRACT.
6. REMOVAL OF EXISTING UNDERPASS LIGHTING SHALL BE CONSIDERED INCIDENTAL TO INSTALLATION OF THE PROPOSED UNDERPASS LUMINAIRE.

FOR INFORMATION ONLY

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**EDENS EXPRESSWAY  
WILLOW ROAD INTERCHANGE  
- ROADWAY LIGHTING -  
NORTH HALF**

SCALE: 1"=50' DRAWN BY: T.R.L.  
DATE: CHECKED BY: J.R.G.

FILE NAME *	DESIGNED - RMG	REVISED -
USER NAME *	DRAWN - RMG	REVISED -
PLOT DATE = 03/22/2010	CHECKED - KJN	REVISED -
	DATE - 3/19/10	REVISED -

**benesch**

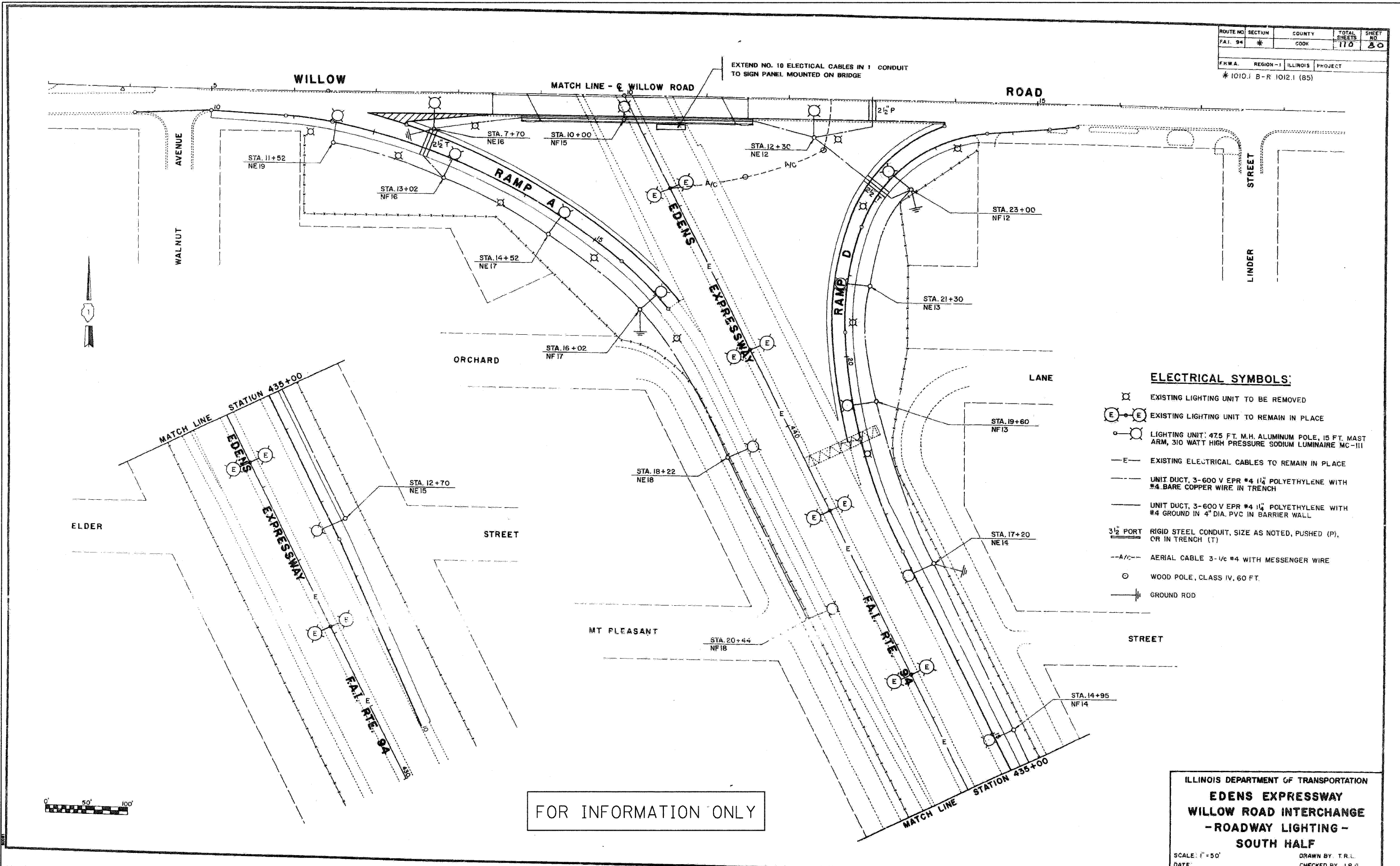
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING LIGHTING PLANS

SCALE: N.T.S. SHEET NO. 1 OF 4 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-1-2	COOK	37	9
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 60J30	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	*	COOK	110	80
F.H.W.A.	REGION	ILLINOIS	PROJECT	
	-1		* 1010.1 B-R 1012.1 (85)	



- ELECTRICAL SYMBOLS:**
- ⊗ EXISTING LIGHTING UNIT TO BE REMOVED
  - ⊕ EXISTING LIGHTING UNIT TO REMAIN IN PLACE
  - LIGHTING UNIT: 47.5 FT. M.H. ALUMINUM POLE, 15 FT. MAST ARM, 310 WATT HIGH PRESSURE SODIUM LUMINAIRE MC-III
  - E— EXISTING ELECTRICAL CABLES TO REMAIN IN PLACE
  - — — UNIT DUCT, 3-600 V EPR #4 1 1/2" POLYETHYLENE WITH #4 BARE COPPER WIRE IN TRENCH
  - — — UNIT DUCT, 3-600 V EPR #4 1 1/2" POLYETHYLENE WITH #4 GROUND IN 4" DIA. PVC IN BARRIER WALL
  - 3/2" PORT RIGID STEEL CONDUIT, SIZE AS NOTED, PUSHED (P), OR IN TRENCH (T)
  - A/c- AERIAL CABLE 3-1/2" #4 WITH MESSENGER WIRE
  - WOOD POLE, CLASS IV, 60 FT.
  - ⊥ GROUND ROD

FOR INFORMATION ONLY

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**EDENS EXPRESSWAY  
 WILLOW ROAD INTERCHANGE  
 -ROADWAY LIGHTING -  
 SOUTH HALF**  
 SCALE: 1" = 50'  
 DATE: DRAWN BY: T.R.L.  
 CHECKED BY: J.R.G.

FILE NAME =	DESIGNED - RMC	REVISED -
USER NAME =	DRAWN - RMC	REVISED -
PLOT DATE = 8/3/22/2018	CHECKED - KJN	REVISED -
	DATE - 3/19/10	REVISED -

**benesch**

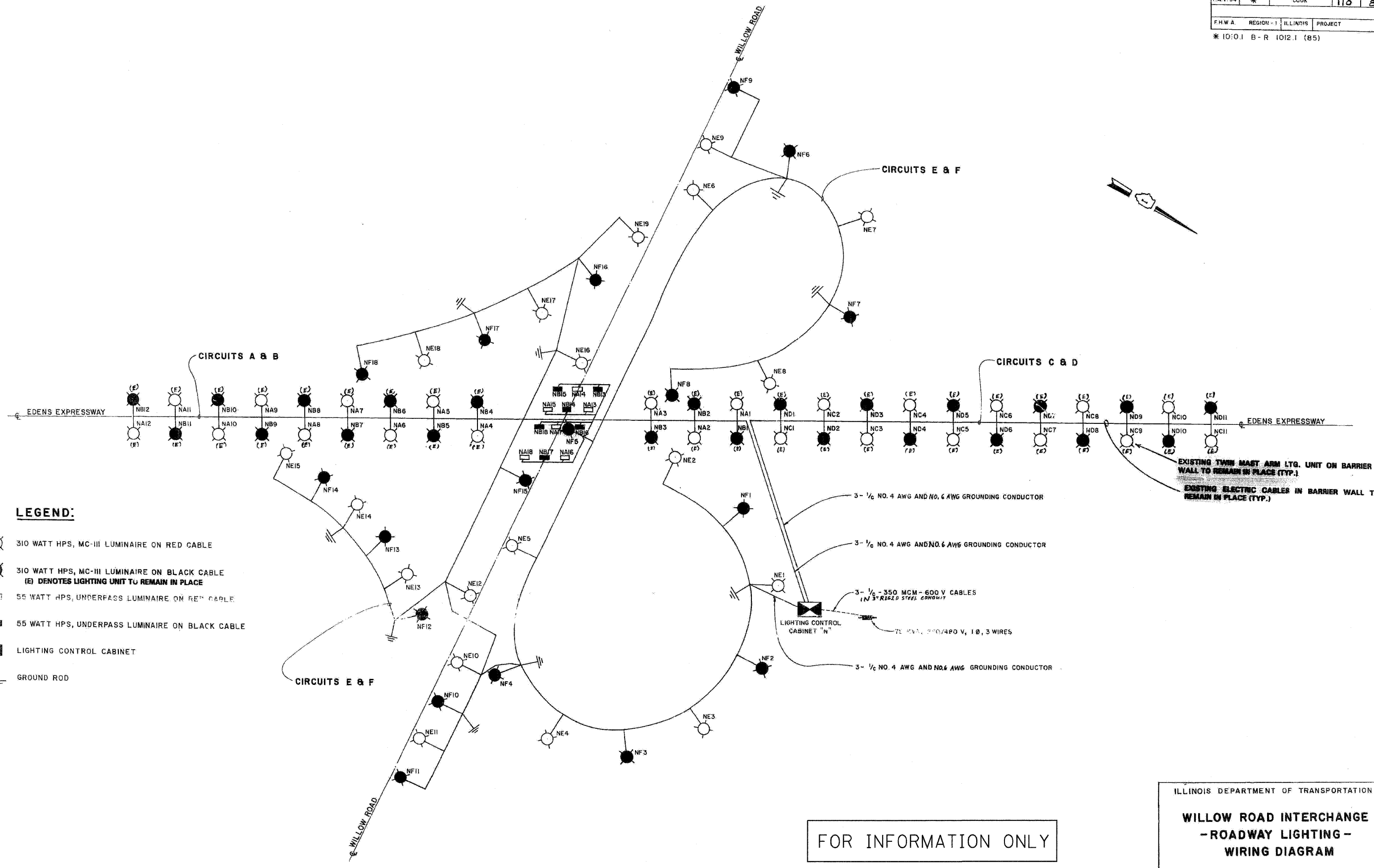
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

EXISTING LIGHTING PLANS

SCALE: N.T.S. SHEET NO. 2 OF 4 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-1-2	COOK	37	10
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60J30	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 94	*	COOK	110	81
F.H.W.A. REGION - 1 ILLINOIS PROJECT				
* 10:0.1 B-R 1012.1 (85)				



**LEGEND:**

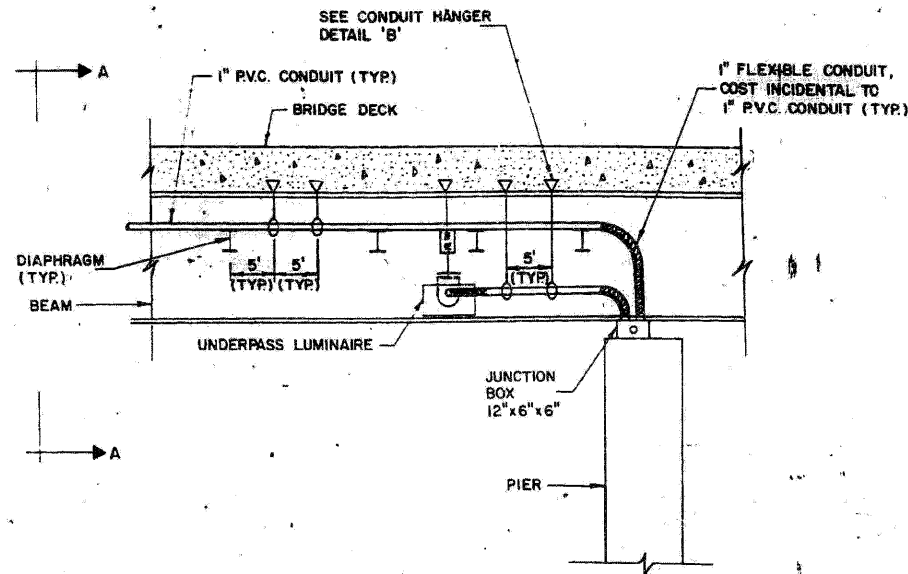
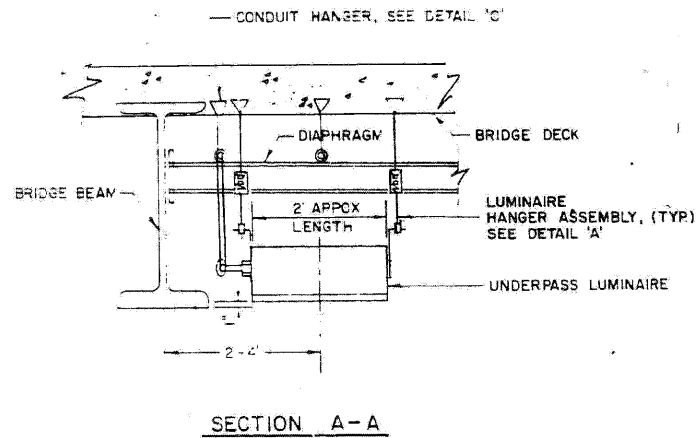
- 310 WATT HPS, MC-III LUMINAIRE ON RED CABLE
- 310 WATT HPS, MC-III LUMINAIRE ON BLACK CABLE  
(E) DENOTES LIGHTING UNIT TO REMAIN IN PLACE
- 55 WATT HPS, UNDERPASS LUMINAIRE ON RED CABLE
- 55 WATT HPS, UNDERPASS LUMINAIRE ON BLACK CABLE
- LIGHTING CONTROL CABINET
- GROUND ROD

FOR INFORMATION ONLY

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**WILLOW ROAD INTERCHANGE**  
**-ROADWAY LIGHTING-**  
**WIRING DIAGRAM**  
 SCALE: NONE  
 DATE: \_\_\_\_\_  
 DRAWN BY: M.M.  
 CHECKED BY: E.K.

FILE NAME =	DESIGNED - RMG	REVISED -	<b>benesch</b>	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING LIGHTING PLANS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
USER NAME =	DRAWN - RMG	REVISED -				94	1010.1-1-2	COOK	37	11
PLOT DATE = 03/22/2010	CHECKED - KJN	REVISED -				CONTRACT NO. 60J30				
DATE - 3/19/10	DATE -	REVISED -	SCALE: N.T.S. SHEET NO. 3 OF 4 SHEETS STA. TO STA.			FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

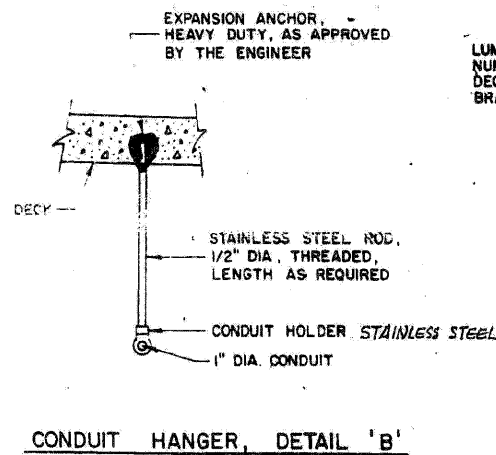
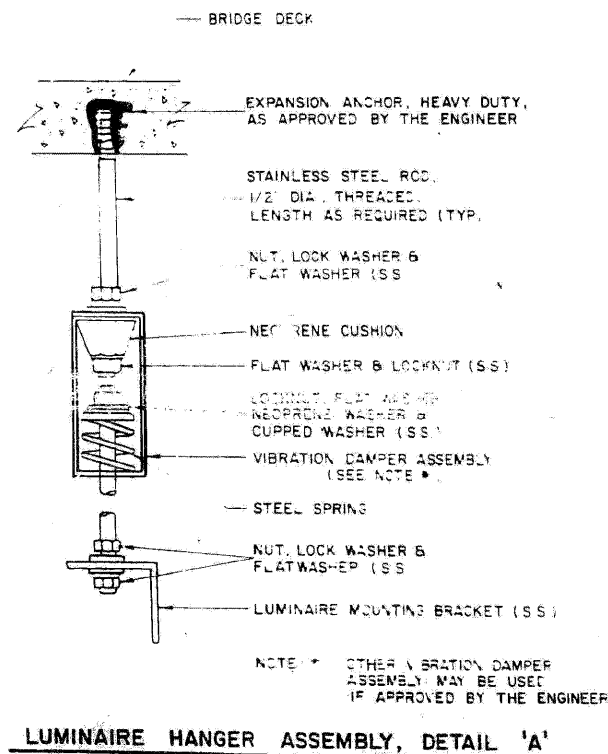




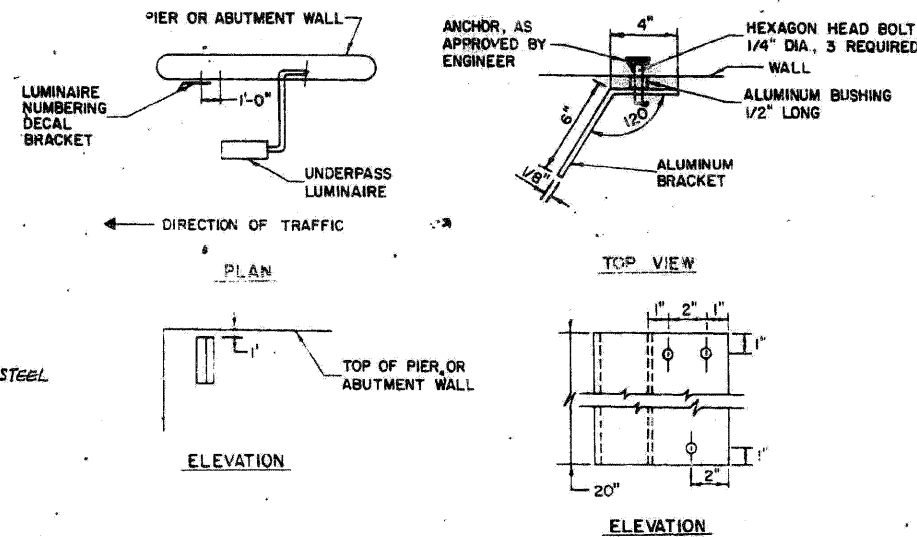
**NOTES**

1. ALL UNDERPASS LUMINAIRE SHALL BE SPACED 30 FT. APART, UNLESS SHOWN DIFFERENT ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
2. ALL UNDERPASS LUMINAIRE SHALL BE POSITIONED TO HAVE THE LONGITUDINAL CENTERLINE OF THE FIXTURE PARALLEL TO EDGE OF PAVEMENT.

**ELEVATION OF UNDERPASS LUMINAIRE INSTALLATION**  
TYPICAL FOR ALL BRIDGES. SEE PLAN SHEETS FOR PLAN VIEW



**LUMINAIRE NUMBERING DECAL BRACKET**



FOR INFORMATION ONLY

FILE NAME =	DESIGNED - RMG	REVISED -
USER NAME =	DRAWN - RMG	REVISED -
PLOT DATE = 03/22/2010	CHECKED - KJN	REVISED -
	DATE - 3/19/10	REVISED -

**benesch**

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EXISTING LIGHTING PLANS**

SCALE: N.T.S. SHEET NO. 4 OF 4 SHEETS STA. TO STA.

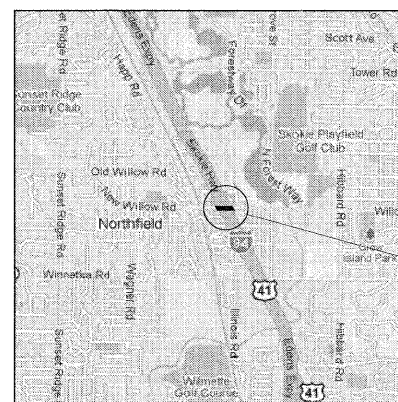
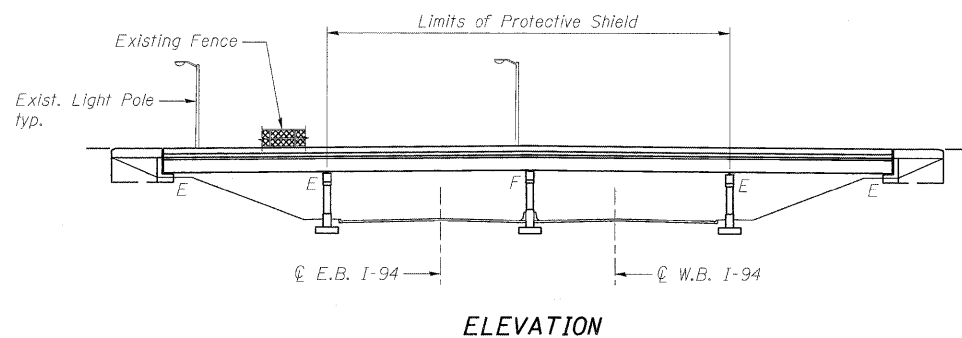
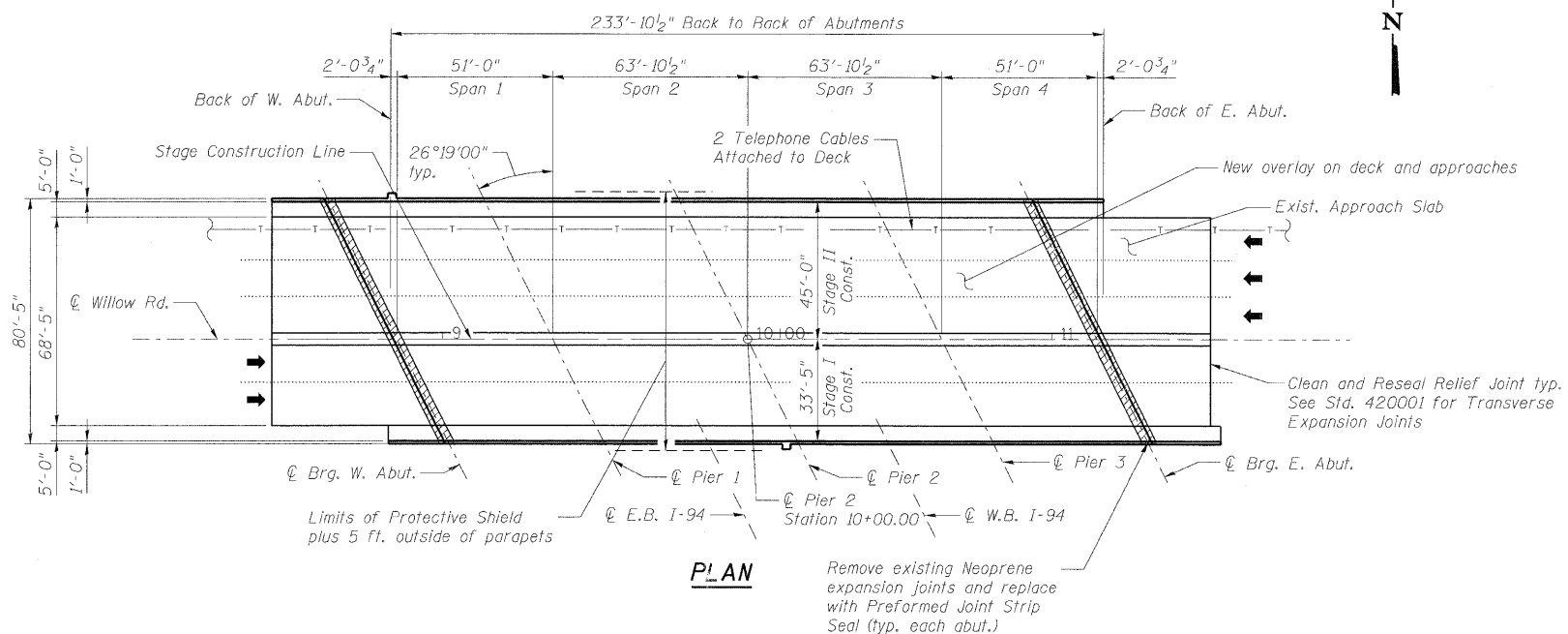
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-1-2	COOK	37	12
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
		CONTRACT NO. 60J30		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**Existing Structure:**  
The bridge is a four-span continuous, non-composite wide flange beam bridge with a 7 1/2" reinforced concrete deck. The original structure was built in 1949. In 1991, the structure was widened, the bridge deck was replaced, the abutment bearings were replaced, and structural repairs were made to the substructure.

Stage construction shall be utilized to maintain traffic during construction.

No salvage.



**DESIGN SPECIFICATIONS**

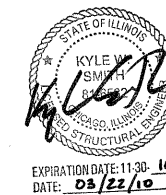
2002 AASHTO Standard Specifications  
for Highway Bridges, 17th Edition

**DESIGN STRESSES**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)

**SCOPE OF WORK**

1. Bridge deck hydro-scarification.
2. Repair bridge deck.
3. Repair approach slabs.
4. Reconstruct deck joints at each abutment with preformed joint strip seal.
5. Pour new overlay on deck and approaches.
6. Remove bearings at Piers 1 and 3 and replace with elastomeric bearings.
7. Repair substructure.
8. Clean and reseal relief joints at the end of approach slabs.
9. Apply protective coat to parapets, approach slabs, and deck.
10. Apply concrete sealer to substructure.



**GENERAL PLAN AND ELEVATION  
WILLOW ROAD OVER I-94  
COOK COUNTY  
STATION 10+00  
STRUCTURE NO. 016-0536**

DESIGNED	JLS
CHECKED	KWS
DRAWN	RMG
CHECKED	KWS

**benesch**

alfred benesch & company  
Engineers • Surveyors • Planners  
205 North Michigan Avenue, Suite 2400  
Chicago, Illinois 60601  
312-965-0450 Job No. 10032.13

SHEET NO. 1 17 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	94	1010.1-1-2	COOK	37	13
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60J30					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

1. All new fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts (in painted areas and M164 Type 3 in unpainted areas). Holes shall be subpunched or subdrilled  $\frac{3}{4}$ " diameter and reamed in the field to  $\frac{7}{8}$ " diameter for  $\frac{3}{4}$ " diameter bolts, unless otherwise noted.
2. Calculated weight of Structural Steel = 5,430 lbs.
3. No field welding is permitted except as specified in the contract documents.
4. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
5. Reinforcement bars designated (E) shall be epoxy coated.
6. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.  
As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding  $\frac{1}{4}$  inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
7. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
8. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
9. All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost for painting included with Furnishing and Erecting Structural Steel.
10. Existing Structural Steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
11. Stage construction shall be utilized to maintain traffic during construction.
12. The Contractor shall exercise care during removal of existing joints to ensure that the slab, beams and diaphragms' integrity will not be detrimentally impacted. The Contractor shall repair any damage(s) to the slab, beams and diaphragms caused by his operation as directed by the Engineer at no additional cost to the Department.
13. Protective Coat shall be applied to the new Latex Concrete Overlay on the deck and approach slabs. Protective Coat shall also be applied to the existing bridge deck median, sidewalks, parapets and wingwall parapets.
14. Concrete sealer shall be applied to the abutment seats, abutment backwalls and all vertical and horizontal faces of the piers that are adjacent to traffic. All surfaces to be sealed shall be cleaned thoroughly prior to sealer application. Cost included with Concrete Sealer.
15. Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other than 50°F.
16. In the event that Structural Repair of Concrete takes place at a light pole foundation, the Contractor may be required to temporarily shore or remove and reinstall the light pole if deemed necessary by the Engineer. If necessary, this work shall be performed according to Article 109.04 of the Standard Specifications.
17. There is a potential for interference from existing telephone cables attached to the deck during deck repairs. The Contractor shall coordinate construction activities with the telephone company prior to beginning work.
18. For Maintenance of Lighting System and Protection and Maintenance of Existing Underpass Lighting, see Special Provisions. See Existing Lighting Plans for locations and details of existing underpass lighting.
19. The final grades and cross-slopes for the Latex Concrete Overlay and expansion joint reconstruction shall conform to the existing grades plus the net increase in deck thickness specified in the plans. Any preliminary survey required for the Contractor to conform to these grades and to fabricate the preformed joint strip seal expansion joints shall not be paid for separately but shall be included in the cost of the major items of work involved.

**INDEX OF SHEETS**

- 1 General Plan and Elevation
- 2 General Notes, Bill of Material and Index of Sheets
- 3 Stage Construction Details
- 4 Bridge Deck and Approach Slab Repairs
- 5 Expansion Joint Repairs
- 6 Expansion Joint Details
- 7 Preformed Joint Strip Seal
- 8 Bearing Details
- 9 Substructure Repairs - Abutments
- 10 Substructure Repairs - Piers
- 11 Bar Splicer Assembly and Mechanical Splicer Details
- 12-17 Existing Plan Information

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	21.2		21.2
Protective Shield	Sq Yd	1,284		1,284
Concrete Superstructure	Cu Yd	23.4		23.4
Bridge Deck Grooving	Sq Yd	1,832		1,832
Protective Coat	Sq Yd	2,655		2,655
Furnishing and Erecting Structural Steel	Pound	5,430		5,430
Jack and Remove Existing Bearings	Each	28		28
Reinforcement Bars, Epoxy Coated	Pound	3,350		3,350
Bar Splicers	Each	30		30
Preformed Joint Strip Seal	Foot	182.0		182.0
Elastomeric Bearing Assembly, Type I	Each	28		28
Anchor Bolts, 1"	Each	52		52
Concrete Sealer	Sq Ft		5,695	5,695
Bridge Deck Latex Concrete Overlay, 2 1/4"	Sq Yd	1,911		1,911
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft		18	18
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	14	1,087	1,101
Cleaning and Painting Exposed Rebar (Special)	Sq Ft	50		50
Clean and Reseal Relief Joint	Foot	129		129
Approach Slab Repair (Full Depth)	Sq Yd	33.2		33.2
Bridge Deck Hydro-Scarification, 1/2"	Sq Yd	1,911		1,911
Deck Slab Repair (Full Depth, Type I)	Sq Yd	5.0		5.0
Deck Slab Repair (Full Depth, Type II)	Sq Yd	5.5		5.5

DESIGNED -	JLS
CHECKED -	KWS
DRAWN -	RMG
CHECKED -	KWS

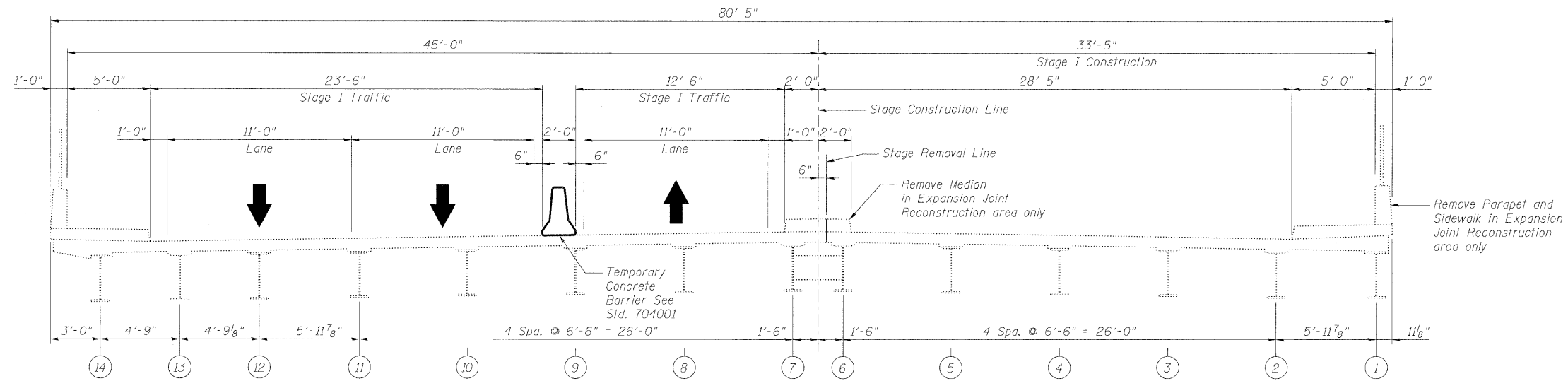
**benesch**

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312-565-0450 Job No. 10032.13

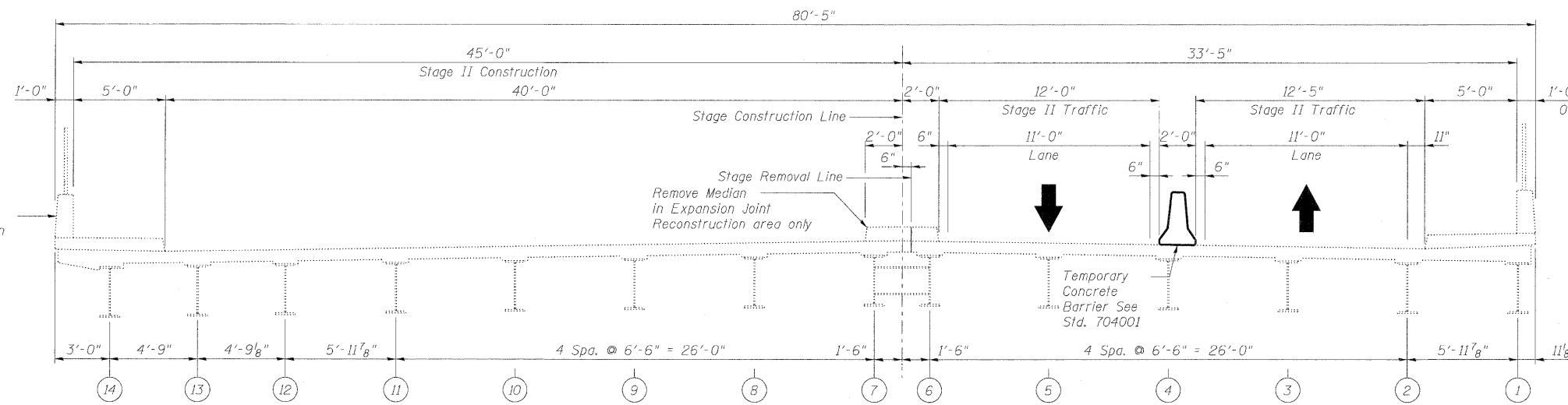
SHEET NO. 2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	94	1010.1-I-2	COOK	37	14
17 SHEETS	CONTRACT NO. 60J30				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

**GENERAL NOTES, BILL OF MATERIAL  
AND INDEX OF SHEETS  
STRUCTURE NO. 016-0536**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**STAGE I CROSS SECTION**  
(Looking East)



**STAGE II CROSS SECTION**  
(Looking East)

**Note:**

For quantity of Temporary Concrete Barrier, see Roadway Plans.

DESIGNED -	JLS
CHECKED -	KWS
DRAWN -	RMG
CHECKED -	KWS

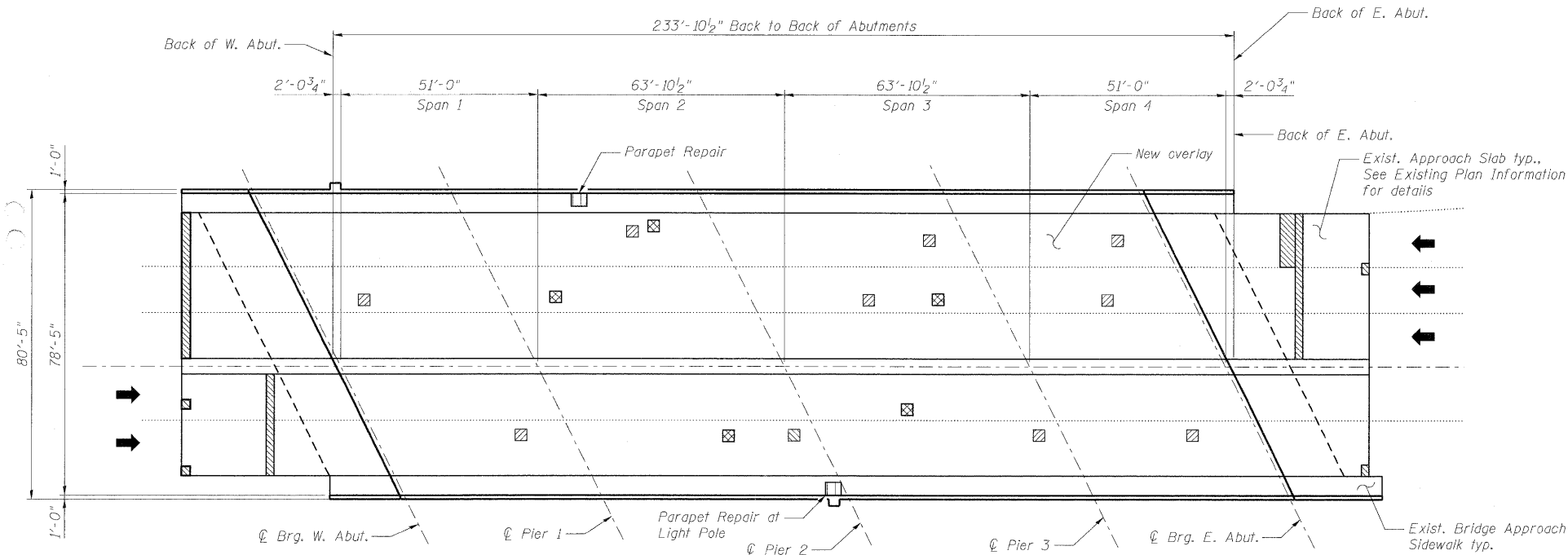
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Chicago, Illinois 60601  
312-955-0450 Job No. 10032.13

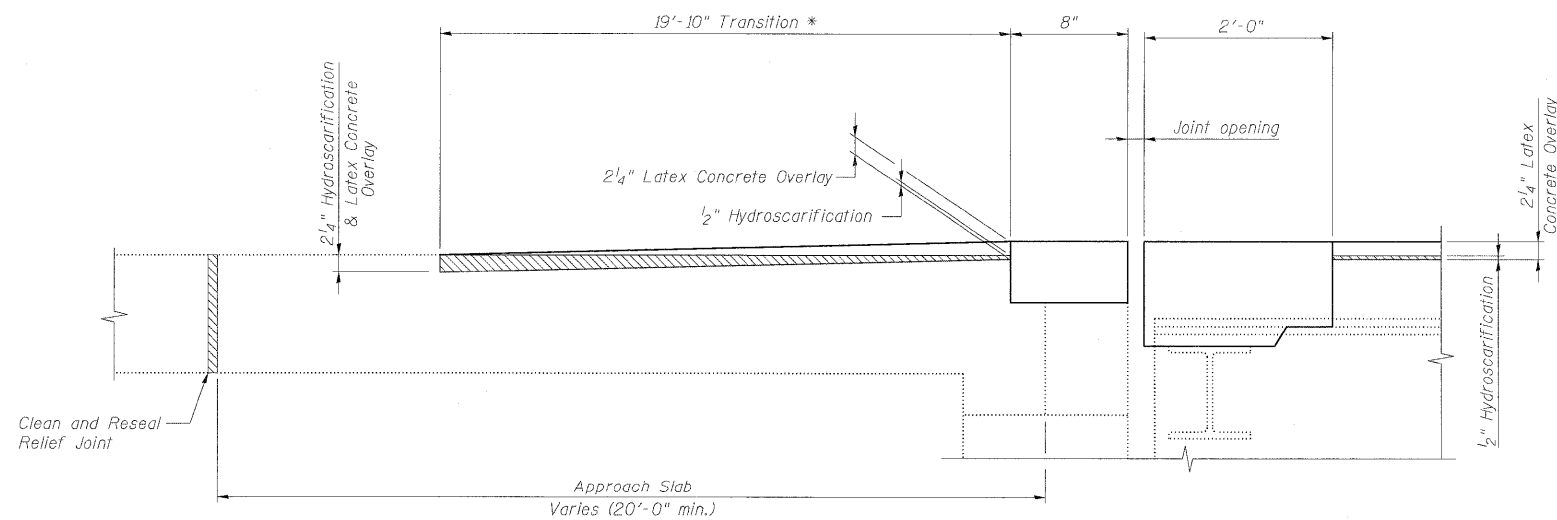
SHEET NO. 3 17 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	94	1010.1-I-2	COOK	37	15
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60J30					

**STAGE CONSTRUCTION DETAILS**  
**STRUCTURE NO. 016-0536**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



PLAN



SCARIFICATION & OVERLAY TRANSITION DETAIL

\*Cost of increased hydroscarification depth over length of transition shall be included with "Bridge Deck Hydro-Scarification, 1/2".

DESIGNED	JLS
CHECKED	KWS
DRAWN	RMG
CHECKED	KWS

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Deck Slab Repair (Partial)	Sq. Yd.	11.0 ▲
	Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	5.0
	Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	5.5
	Cleaning and Painting Exposed Rebar (Special)	Sq. Ft.	50
	Approach Slab Repair (Partial Depth)	Sq. Yd.	5.0 ▲
	Approach Slab Repair (Full Depth)	Sq. Yd.	33.2
	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	14
	Protective Shield	Sq. Yd.	1,284
	Bridge Deck Grooving	Sq. Yd.	1,832
	Protective Coat	Sq. Yd.	2,655
	Bridge Deck Latex Concrete Overlay, 2 1/4"	Sq. Yd.	1,911
	Bridge Deck Hydro-Scarification, 1/2"	Sq. Yd.	1,911
	Clean and Reseal Relief Joint	Foot	129

▲ For information only to assist the Contractor in bidding. See Special Provisions for "Bridge Deck Latex Concrete Overlay" and "Approach Slab Repair".

Notes:

- Deck, parapet, and approach slab repair areas are estimated based on an IDOT inspection in October of 2009. Actual repair areas and locations shall be determined by the Engineer and shown on As-Built plans.
- Protective Shield required for scarification operations and deck slab and/or parapet repairs, shall be installed according to Article 501.03 of the Standard Specifications. For limits of Protective Shield, see General Plan and Elevation sheet.

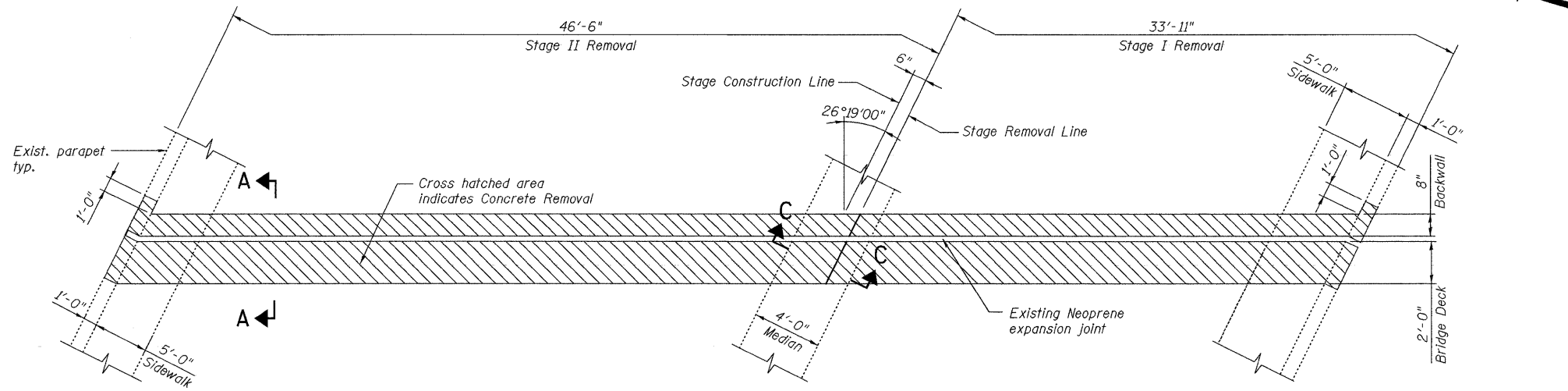
BRIDGE DECK AND APPROACH  
SLAB REPAIRS  
STRUCTURE NO. 016-0536

**benesch**

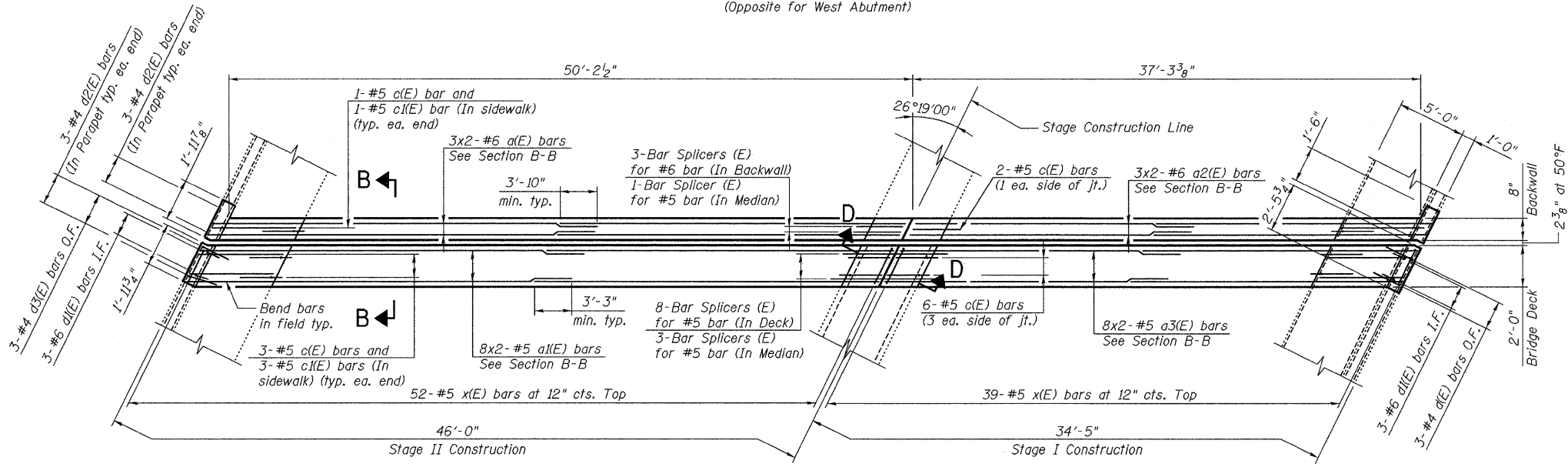
alfred benesch & company  
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205 North Michigan Avenue, Suite 2400  
Chicago, Illinois 60601  
312-566-0450 Job No. 10032.13

SHEET NO. 4 17 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60J30					

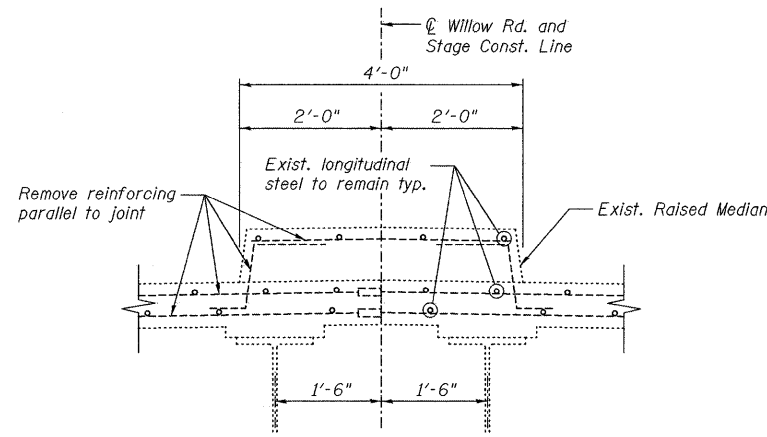
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



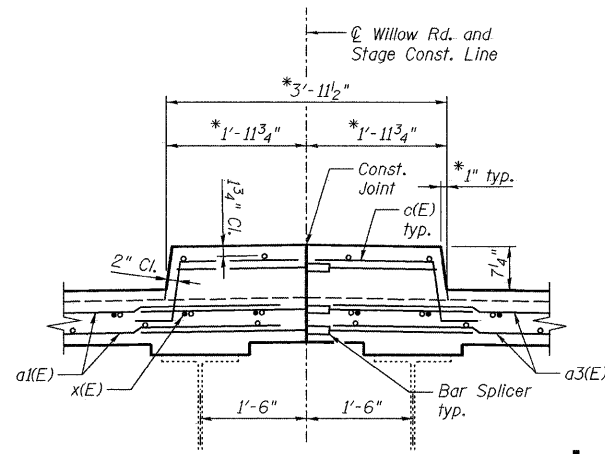
**EXISTING PARTIAL PLAN AT EAST ABUTMENT**  
(Opposite for West Abutment)



**PROPOSED PARTIAL PLAN AT EAST ABUTMENT**  
(Opposite for West Abutment)



**SECTION C-C**

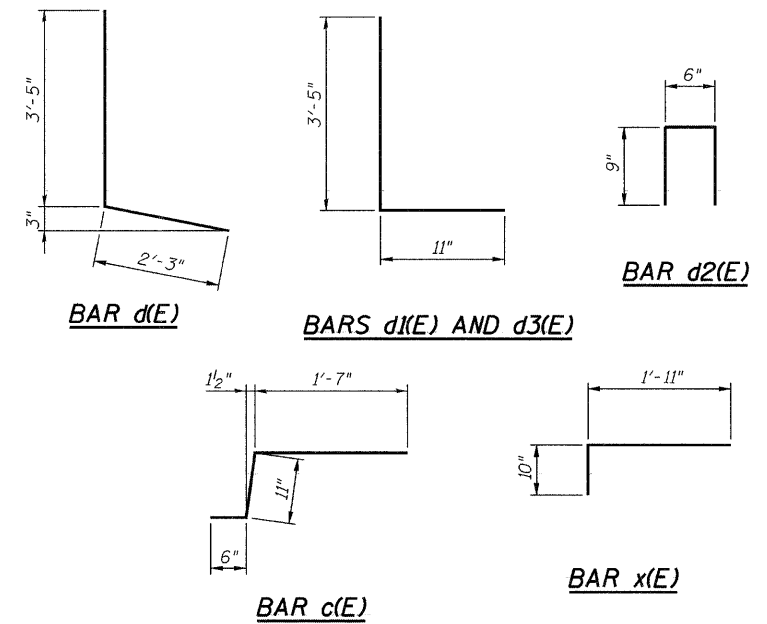


**SECTION D-D**

\* Dimensions shown are taken at top of new overlay. Contractor to match profile of existing raised median.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	12	#6	27'-7"	—
a1(E)	32	#5	27'-3"	—
a2(E)	12	#6	21'-1"	—
a3(E)	32	#5	20'-10"	—
c(E)	32	#5	3'-0"	┌
c1(E)	16	#5	5'-6"	—
d(E)	6	#4	5'-8"	┌
d1(E)	12	#6	4'-4"	┌
d2(E)	24	#4	2'-0"	┌
d3(E)	6	#4	4'-4"	┌
x(E)	182	#5	2'-9"	┌
Item		Unit	Total	
Concrete Removal		Cu. Yd.	21.2	
Concrete Superstructure		Cu. Yd.	23.4	
Reinforcement Bars, Epoxy Coated		Pound	3,350	



**Notes:**

- I.F. denotes Inside Face.  
O.F. denotes Outside Face.
- x(E) bar spacing measured along skew.
- Cut Bar Splicers in field to fit in median, as req'd.
- Bars indicated thus 3x2-#6 etc. indicates 3 lines of bars with 2 lengths per line.
- Work this sheet with Expansion Joint Details sheet and Bar Splicer Assembly Details sheet.

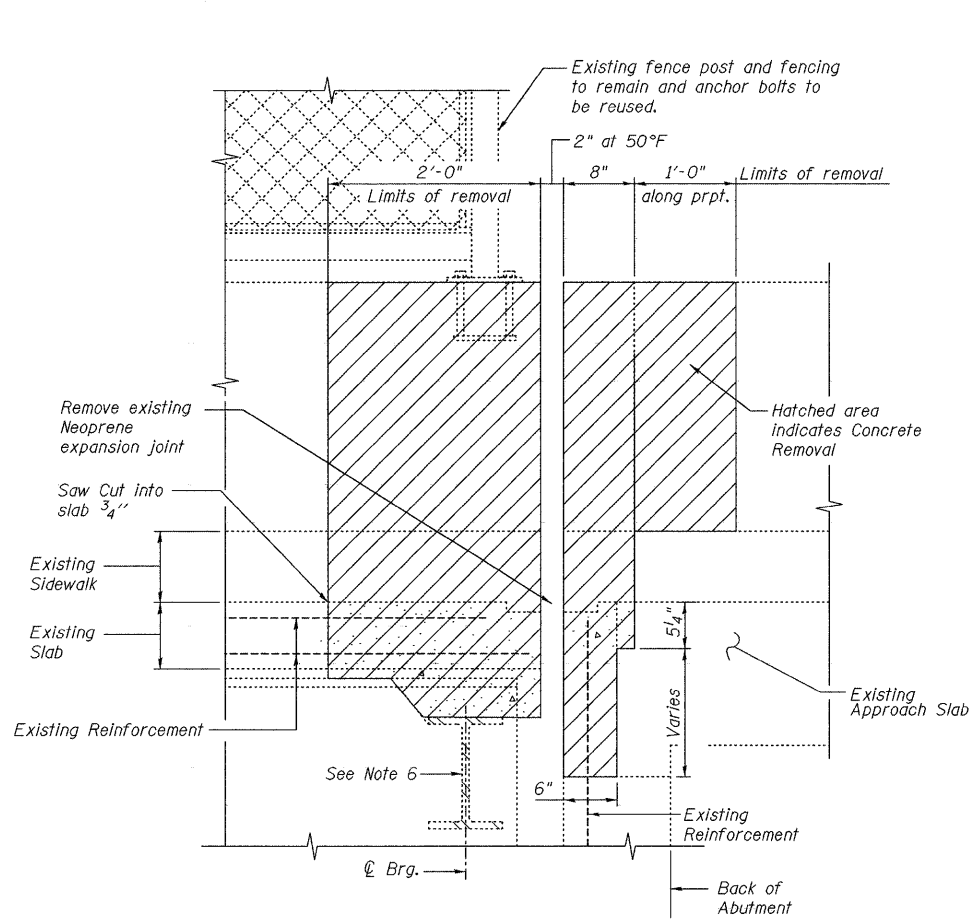
DESIGNED -	JLS
CHECKED -	KWS
DRAWN -	RMG
CHECKED -	KWS

SHEET NO. 5 17 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60J30			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

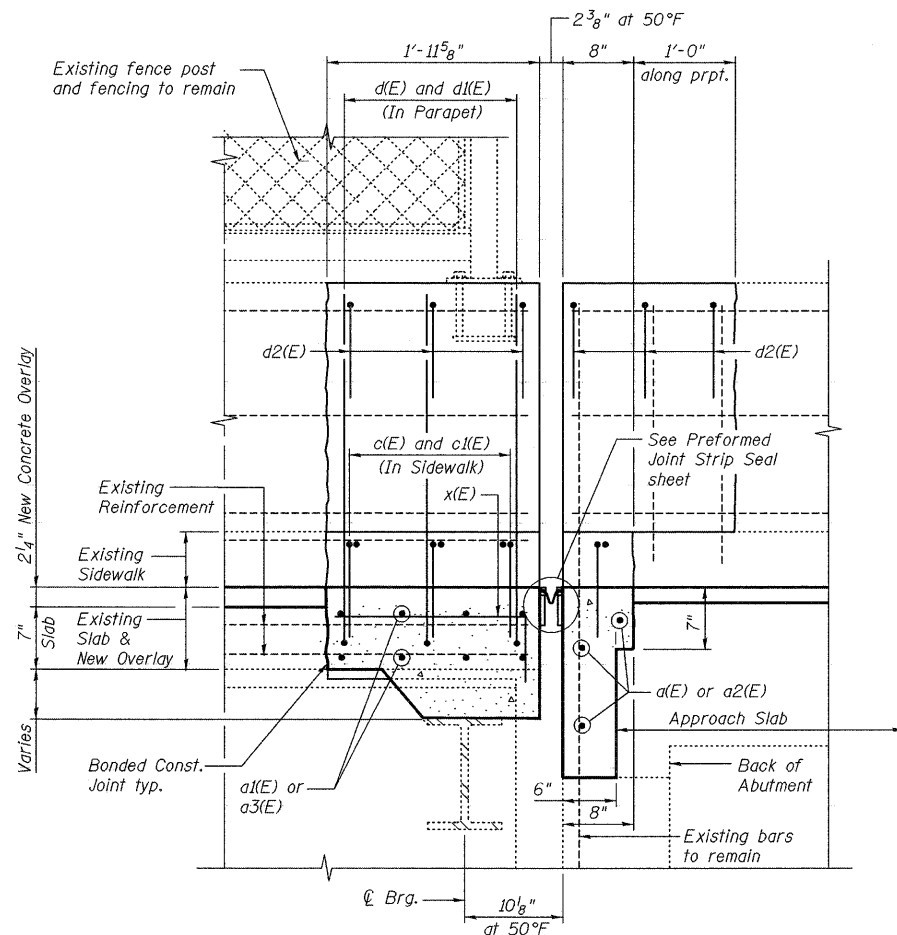
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DEPARTMENT OF TRANSPORTATION



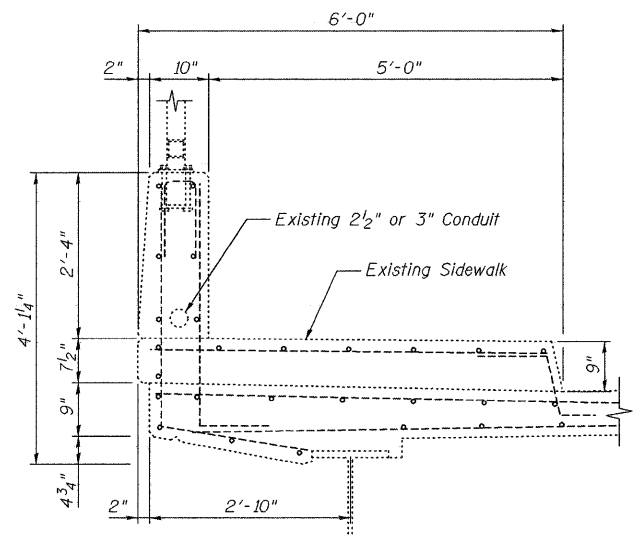
**SECTION A-A**  
(South Parapet shown,  
North Parapet opposite hand)



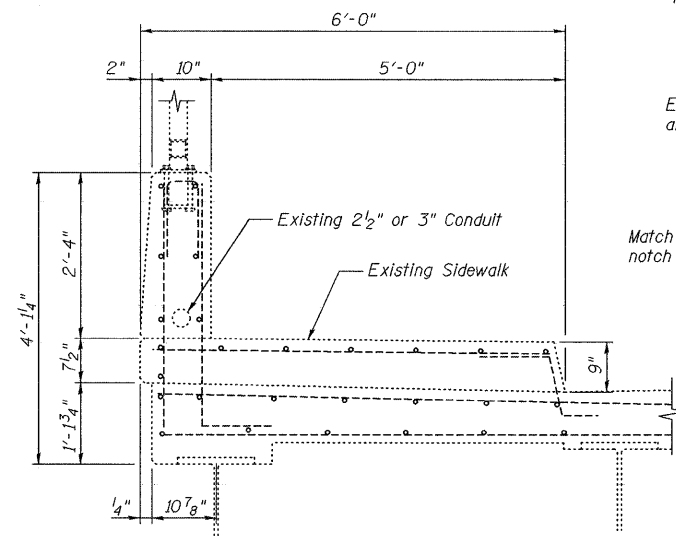
**SECTION B-B**  
(South Parapet shown,  
North Parapet opposite hand)

**Notes:**

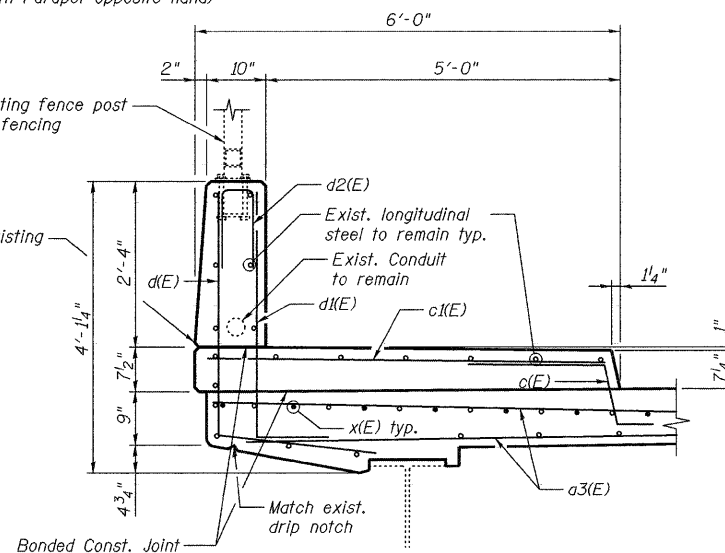
- Existing reinforcement bars extending into the concrete removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- Existing reinforcement bars in the concrete removal area parallel to the expansion joints shall be removed.
- Removal and disposal of the existing expansion joints will not be paid for separately, but shall be included with the cost of Concrete Removal.
- The Contractor shall exercise extreme care with the existing conduits in sections of the parapet to be removed and to protect and support the conduit. The Contractor will be required to repair any damage done to the conduit to the satisfaction of the Engineer. No splicing will be allowed to any cable damage resulting from this work, instead the Contractor will be required to repair the entire span of any damaged cable at no additional cost to the Department.
- Existing fencing and posts in areas of parapet reconstruction shall be supported and reattached to the new parapet concrete. Anchors, nuts and washers shall be reused. Cost included with Concrete Superstructure.
- Contractor may remove and reinstall the existing diaphragm members as necessary to complete the required concrete removal and reconstruction. Cost included with Concrete Removal.
- Work this sheet with Expansion Joint Repairs and Preformed Joint Strip Seal sheets.



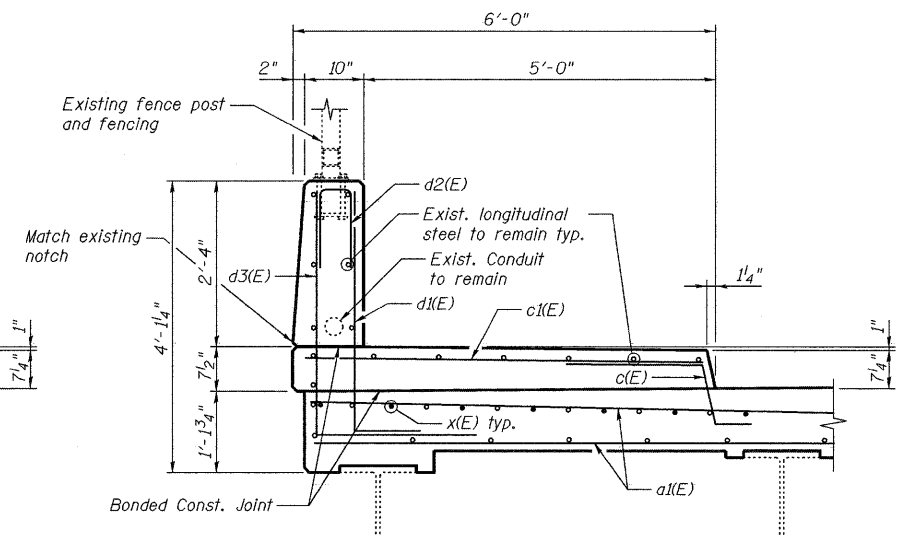
**EXISTING NORTH PARAPET & SIDEWALK SECTION**  
(Looking East)



**EXISTING SOUTH PARAPET & SIDEWALK SECTION**  
(Looking West)



**PROPOSED NORTH PARAPET & SIDEWALK SECTION**  
(Looking East)



**PROPOSED SOUTH PARAPET & SIDEWALK SECTION**  
(Looking West)

DESIGNED -	JLS
CHECKED -	KWS
DRAWN -	RMG
CHECKED -	KWS

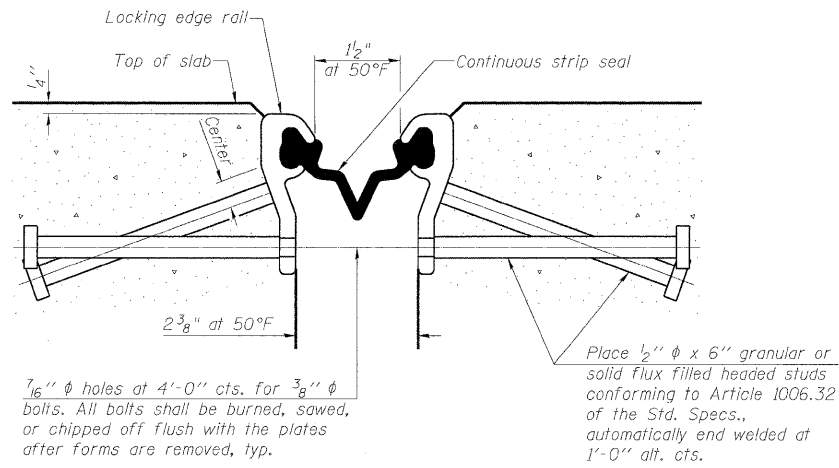
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SHEET NO. 6 17 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60J30					

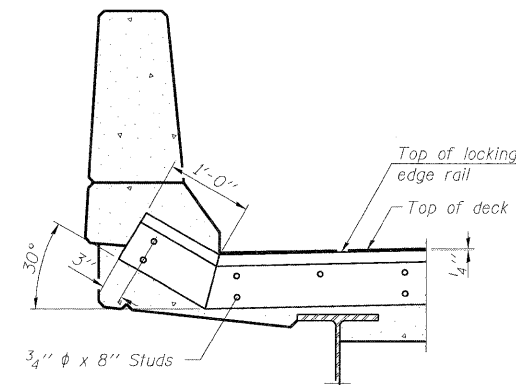


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

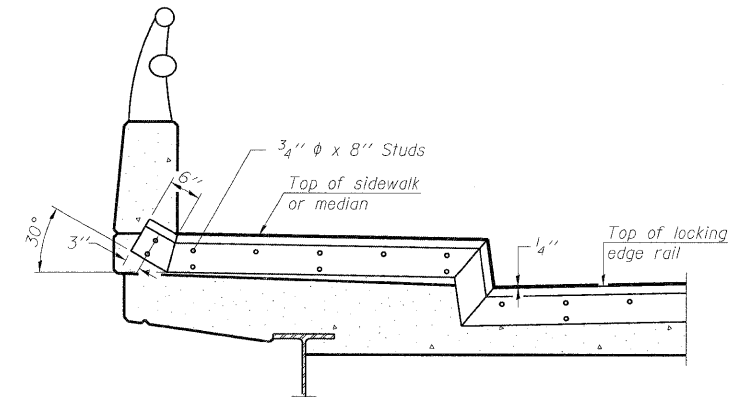


**SECTION THRU  
RAIL JOINT**

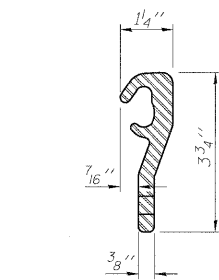
\*Omit weld at seal opening.



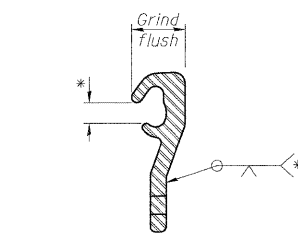
**AT PARAPET**  
See Section A-A for end treatment of skews > 30°.



**AT SIDEWALK OR MEDIAN**  
Shorter plates with a single row of studs at 12\"/>



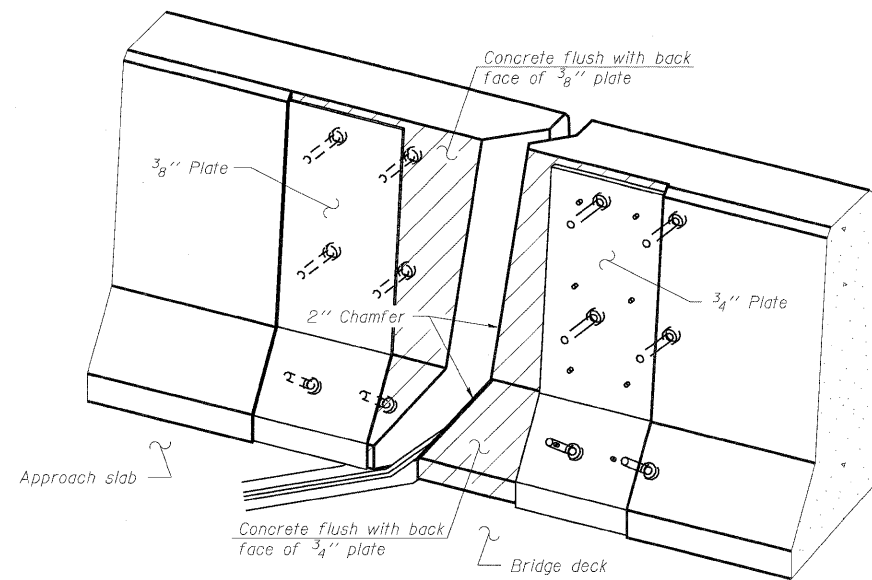
**LOCKING EDGE RAIL**



**LOCKING EDGE RAIL SPLICE**

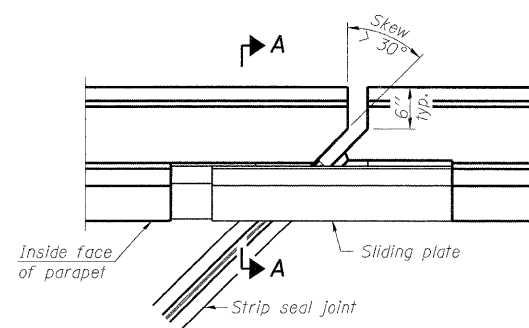
**Notes:**  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.  
The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.  
The inside of the Locking Edge Rail groove shall be free of weld residue. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.  
The manufacturer's recommended installation methods shall be followed.

**LOCKING EDGE RAILS**

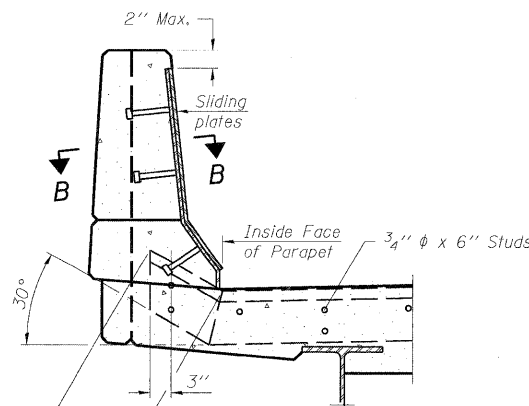


**TYPICAL END TREATMENTS**

**Notes:**  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.  
The manufacturer's recommended installation methods shall be followed. The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.  
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.  
Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

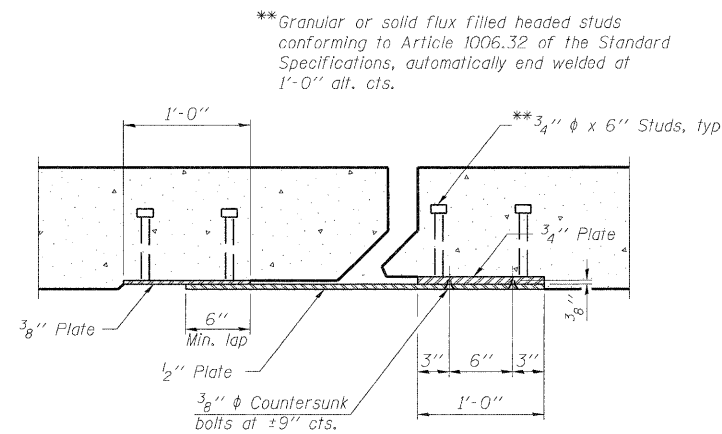


**PLAN**



**SECTION A-A**

**POINT BLOCK DETAILS**  
(for skews > 30°)



**SECTION B-B**

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	182.0

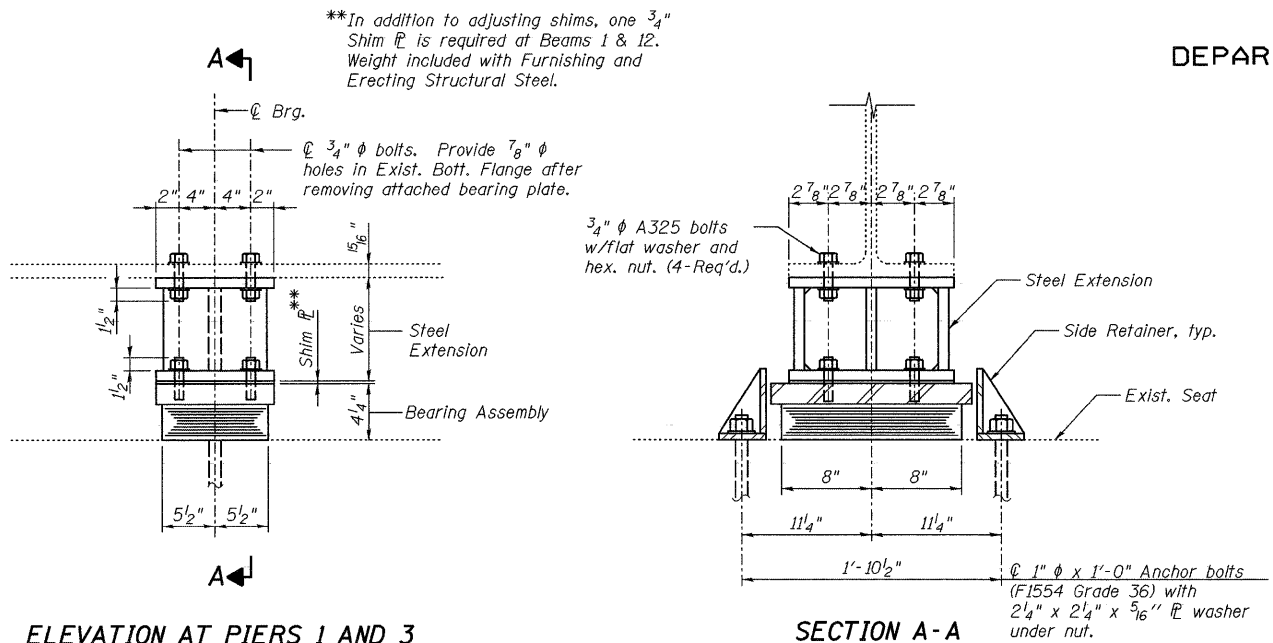
**PREFORMED JOINT STRIP SEAL  
STRUCTURE NO. 016-0536**

DESIGNED -	MFB
CHECKED -	KWS
DRAWN -	RMG
CHECKED -	KWS

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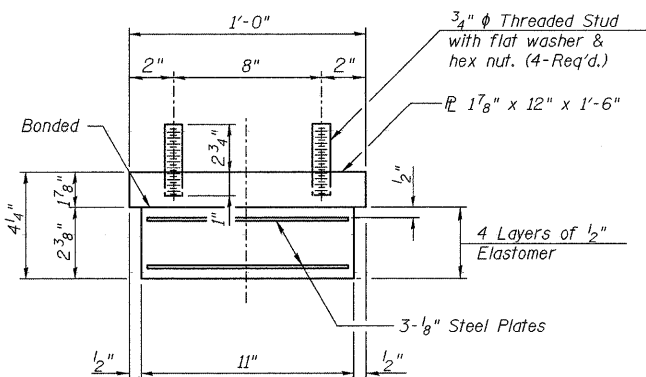
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	94	1010.1-I-2	COOK	37	19
FED. ROAD DIST. NO.			ILLINOIS	CONTRACT NO. 60J30	
FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



ELEVATION AT PIERS 1 AND 3

TYPE I ELASTOMERIC EXP. BRG.

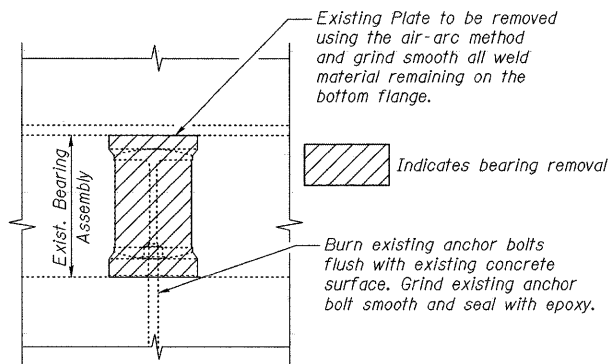


BEARING ASSEMBLY

BEAM REACTIONS (KIPS)

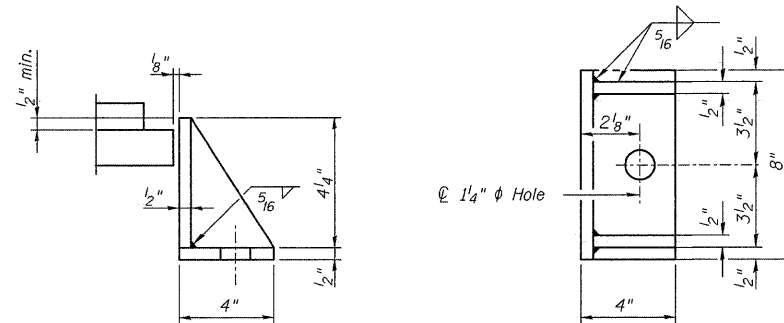
LOCATION	DEAD LOAD	*NET OVERLAY	LIVE LOAD	IMPACT LOAD	TOTAL LOAD
Piers 1 & 3	61.5	8.2	47.6	10.0	127.3

\*Existing plans do not indicate a design specification for future wearing surface.



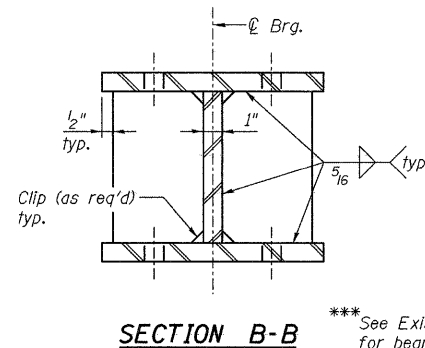
EXISTING BEARING REMOVAL DETAILS

(Existing Expansion Bearings at Piers 1 & 3)  
Cost Included with Jack and Remove Existing Bearings.

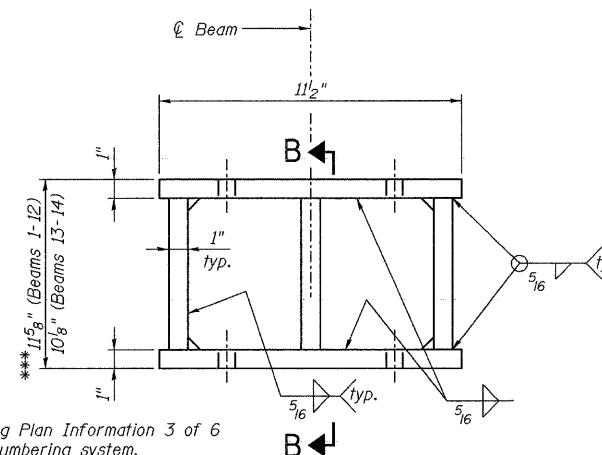


SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

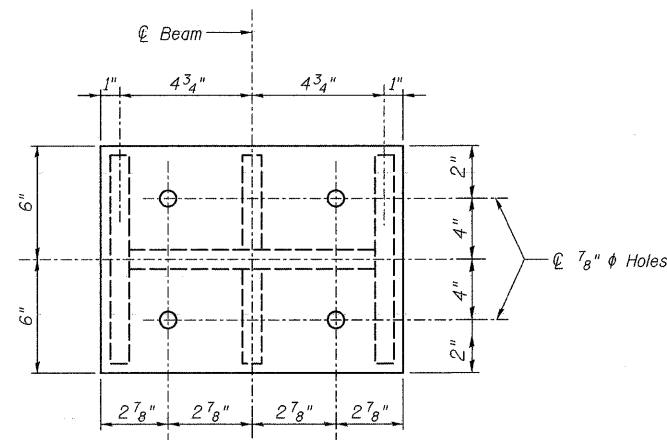


SECTION B-B



ELEVATION STEEL EXTENSION

(Weight included with Furnishing and Erecting Structural Steel.)



PLAN STEEL EXTENSION

BILL OF MATERIAL

Item	Unit	Total
Jack and Remove Existing Bearings	Each	28
Elastomeric Bearing Assembly, Type I	Each	28
Anchor Bolts, 1"	Each	52
Furnishing and Erecting Structural Steel	Pound	5,430

Notes:

- For Jacking and Cribbing see special provision for "Jack and Remove Existing Bearings".
- Jacking and cribbing for beams at Piers 1 & 3 shall be performed such that they can remain supported while the specified structural repairs are performed. Cost included with Jack and Remove Existing Bearings.
- The tabulated beam reactions were taken from the existing construction plans. The Contractor shall verify that the equipment used to support the beams is sufficient to carry these loads in addition to any temporary construction loads.
- The minimum Jack capacity for lifting the beams, at each bearing location, shall be 140 kips at Piers 1 & 3.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Anchor bolts for side retainers shall be installed in holes drilled in the concrete after bearings are in place. Side retainers shall be placed after bolts are installed.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
- The structural steel plates of the Bearing Assembly and Steel Extension shall conform to the requirements of AASHTO M 270 Grade 36.
- Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- The anchor bolt size and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.
- Omit one side retainer at Beams 1 and 12 due to interference with existing concrete bollards. Remove concrete bollards as necessary to allow for installation of Elastomeric Bearings. Cost included with Elastomeric Bearing Assembly, Type I. See Substructure Repairs - Piers sheet for locations of existing concrete bollards.
- Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
- Prior to ordering any material, the Contractor shall verify in the field all existing bearing heights and required Steel Extension dimensions.

BEARING DETAILS  
STRUCTURE NO. 016-0536

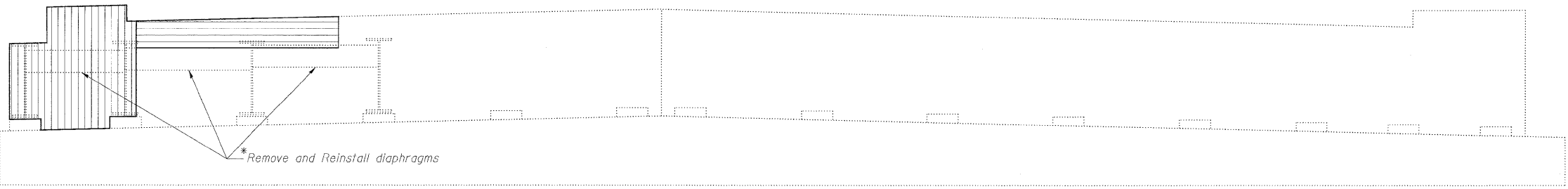
DESIGNED -	JLS
CHECKED -	KWS
DRAWN -	RMG
CHECKED -	KWS

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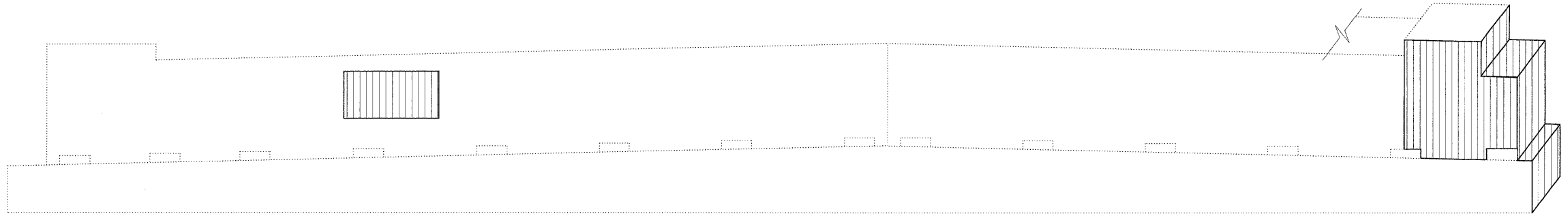
SHEET NO. 8 17 SHEETS	F.A.I. RTE. 94	SECTION 1010.1-1-2	COUNTY COOK	TOTAL SHEETS 37	SHEET NO. 20
	CONTRACT NO. 60J30			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

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\*Contractor shall remove and reinstall the existing diaphragm members as necessary to complete the required concrete repairs. Cost included with Structural Repair of Concrete (Depth Greater Than 5 Inches).

WEST ABUTMENT REPAIRS



EAST ABUTMENT REPAIRS

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	96
	Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq. Ft.	18
	Concrete Sealer	Sq. Ft.	947

Notes:

1. Substructure repair areas are estimated based on IDOT field notes from October of 2009. Actual repair areas and locations shall be determined by the Engineer and shown on As-Built plans.
2. Apply Concrete Sealer to abutment seats and backwalls.
3. Wingwalls not shown for clarity.

DESIGNED -	JLS
CHECKED -	KWS
DRAWN -	RMG
CHECKED -	KWS

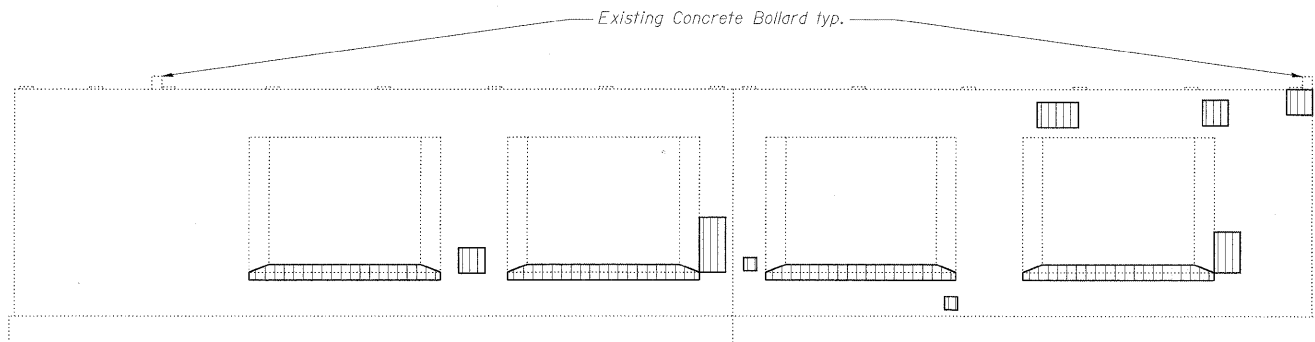
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312-565-0450 Job No. 10032.13

SHEET NO. 9 17 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	94	1010.1-I-2	COOK	37	21
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60J30					

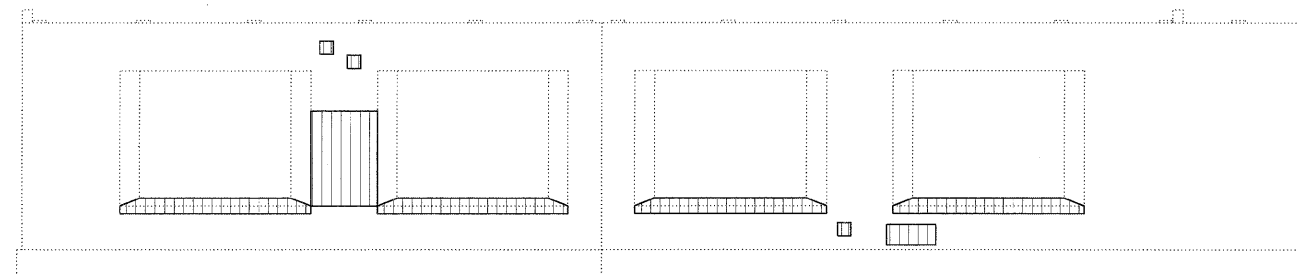
SUBSTRUCTURE REPAIRS - ABUTMENTS  
STRUCTURE NO. 016-0536

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 03\22\2010

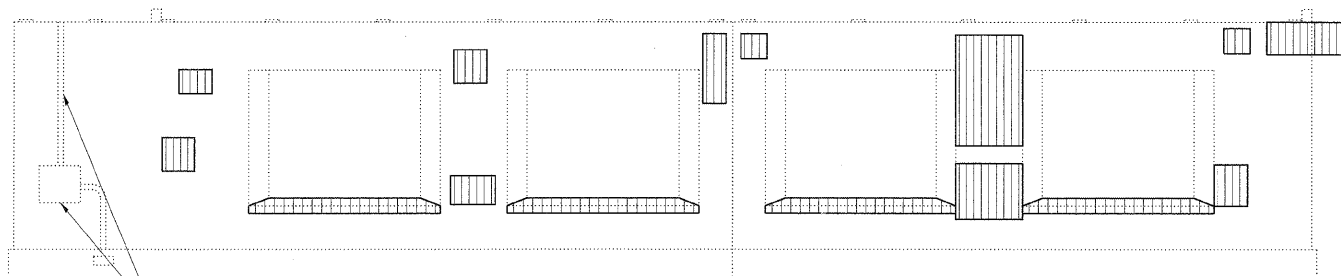
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



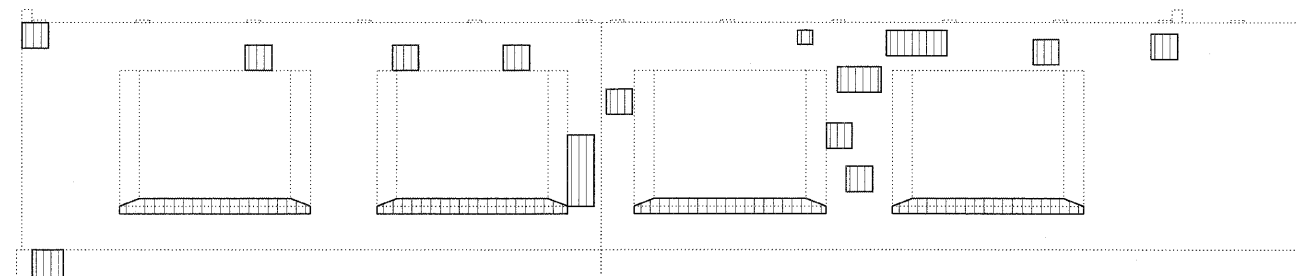
**PIER 1 REPAIRS - WEST FACE**



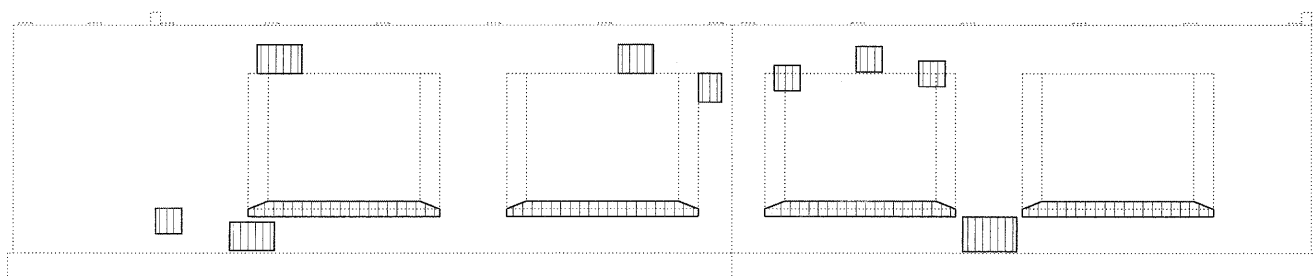
**PIER 1 REPAIRS - EAST FACE**



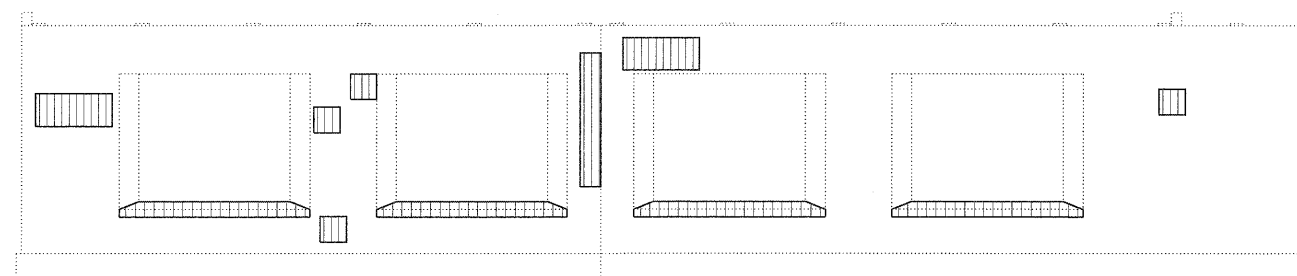
**PIER 2 REPAIRS - WEST FACE**



**PIER 2 REPAIRS - EAST FACE**



**PIER 3 REPAIRS - WEST FACE**



**PIER 3 REPAIRS - EAST FACE**

**Notes:**

- Substructure repair areas are estimated based on IDOT field notes from October of 2009. Actual repair areas and locations shall be determined by the Engineer and shown on As-Built plans.
- There is a potential for interference from existing conduits. If necessary, the Contractor shall remove and reerect or temporarily support the existing conduits to complete the work as detailed. When the work is completed the conduits shall be reconnected to the reconstructed piers utilizing new mounting brackets. All labor, equipment, and materials necessary for removing and reinstalling or temporarily supporting the existing conduits shall be included in the cost for Protection and Maintenance of Existing Underpass Lighting.
- Apply Concrete Sealer to all exposed faces of piers except the Pier 1 West Face and Pier 3 East Face.
- Remove existing Junction Box and 1" GRS Conduit attached to the pier. Install 1" GRS Conduit Attached to Structure and the proposed Stainless Steel Junction Box at the existing locations. Pull new cable from existing embedded junction box to the first luminaire (Billed in Summary of Quantities).
- The Contractor shall assume control and maintenance of controller 'N' located off Ramp C (I-94 W.B. to W.B. Willow Road). Cost for maintenance of the controller shall be included in "Maintenance of Lighting System". For Maintenance of Lighting System and Protection and Maintenance of Existing Underpass Lighting, see Special Provisions.
- See Existing Lighting Plans sheets for lighting information.

**BILL OF MATERIAL**

SYMBOL	ITEM	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	991
	Concrete Sealer	Sq. Ft.	4,748

DESIGNED	JLS
CHECKED	KWS
DRAWN	RMG
CHECKED	KWS

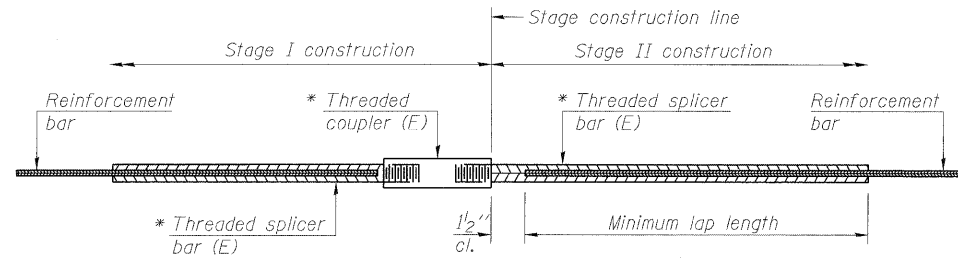
**SUBSTRUCTURE REPAIRS - PIERS  
STRUCTURE NO. 016-0536**

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205 North Michigan Avenue, Suite 2400  
Chicago, Illinois 60601  
312-565-0450 Job No. 10032.13

SHEET NO. 10 17 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	94	1010.1-I-2	COOK	37	22
CONTRACT NO. 60J30					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**STANDARD BAR SPLICER ASSEMBLY**

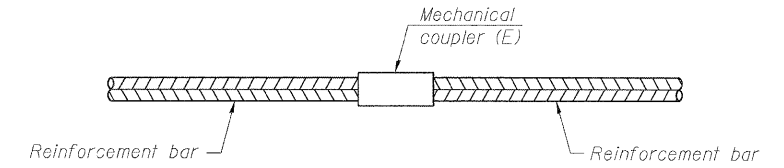
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C  
Table 2: Black bar, Top bar lap, 0.8 Class C  
Table 3: Epoxy bar, 0.8 Class C  
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

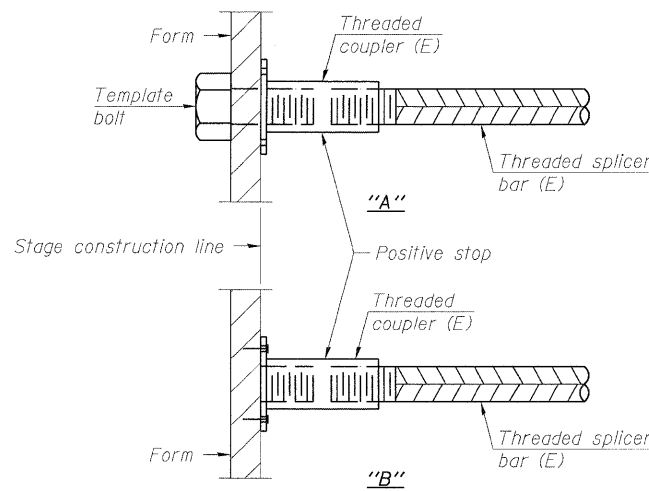
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	24	Table 3
Deck	#6	6	Table 3



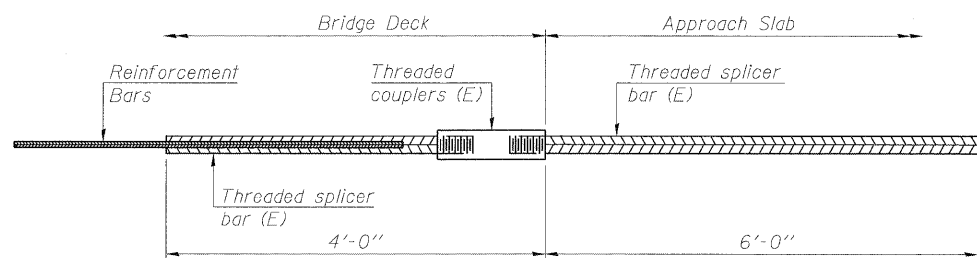
**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



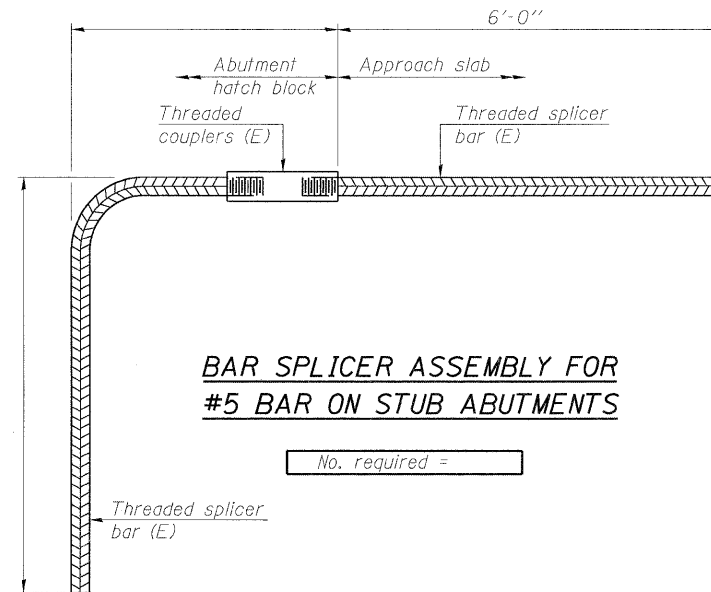
**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.



**BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

No. required =



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required =

**NOTES**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
All reinforcement shall be lapped and tied to the splicer bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
See special provision for Mechanical Splicers.  
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

DESIGNED -	JLS
CHECKED -	KWS
DRAWN -	RMG
CHECKED -	KWS

BSD-1

11-1-09

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SHEET NO. 11	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	94	1010.1-I-2	COOK	37	23
17 SHEETS	CONTRACT NO. 60J30				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
STRUCTURE NO. 016-0536**

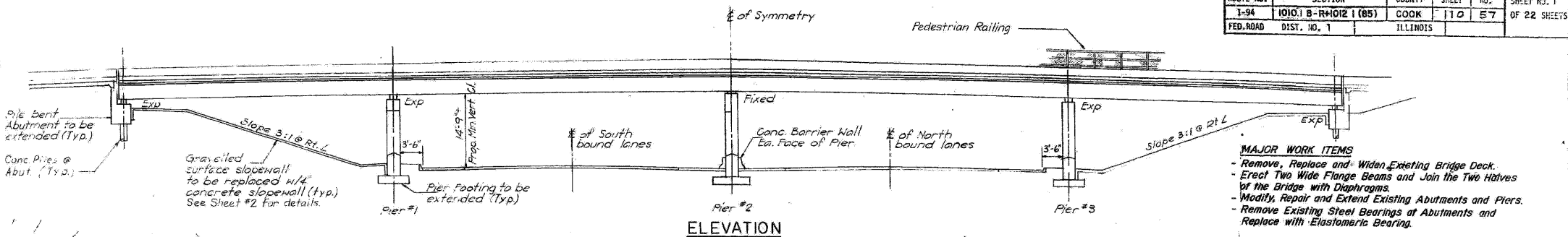
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEET	SHEET NO.	SHEET NO. 1
1-94	1010.1 B-R+1012 I (85)	COOK	110	57	OF 22 SHEETS
FED. ROAD	DIST. NO. 1	ILLINOIS			

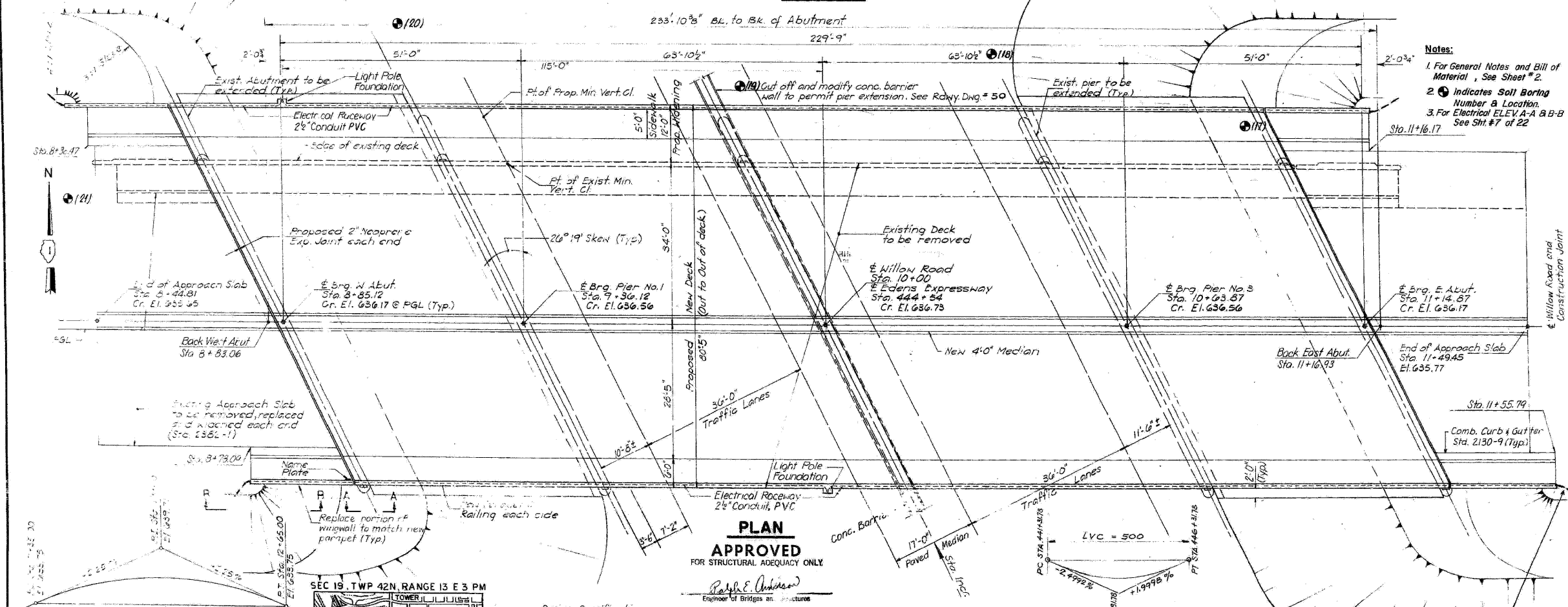
Bench Mark:  
El. 624.92  
SW corner of north end  
of east truss foundation,  
Sta. 439+80 (Edens Expy.)

**EXISTING STRUCTURE DATA**

Structure No.: 016-0536  
Year Built: 1949  
Description: 4 span continuous  
wide flange beam structure  
Width: 65'-0" Out to Out of Deck  
Length: 229'-9" E. Brg. W. Abut. to  
E. Brg. E. Abut.



- MAJOR WORK ITEMS**
- Remove, Replace and Widen Existing Bridge Deck.
  - Erect Two Wide Flange Beams and Join the Two Halves of the Bridge with Diaphragms.
  - Modify, Repair and Extend Existing Abutments and Piers.
  - Remove Existing Steel Bearings at Abutments and Replace with Elastomeric Bearing.



- Notes:**
1. For General Notes and Bill of Material, See Sheet # 2.
  2. (2) indicates Soil Boring Number & Location.
  3. For Electrical ELEV. A-A & B-B See Sht. # 7 of 22.

**PLAN APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

*Paul E. Anderson*  
Engineer of Bridges and Structures

**Design Specifications:**  
1983 AASHTO and 1984 HPV  
1966 Interim Specifications.

**Design Stresses (Exist. Portion)**  
f<sub>c</sub> = 1200 psi (Concrete)  
f<sub>s</sub> = 20000 psi (Reinforcement)  
f<sub>s</sub> = 18000 psi (Structural Steel)

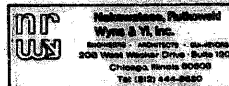
**Design Stresses (New Portion)**  
f<sub>c</sub> = 3500 psi (Concrete)  
f<sub>s</sub> = 40000 psi (Reinforcement)  
f<sub>s</sub> = 20000 psi (Structural Steel AASHTO M163)

Loading: HS 20-44  
No provision for future wearing surface.

STATION 444+54  
REBUILT 199 BY  
STATE OF ILLINOIS  
F.A. RTE. 99 SECTION 1010.1 B-R 1012 I (85)  
F.A. PROJECT  
LOADING HS20  
STRUCTURE NUMBER 016-0536

**NAME PLATE**  
STD. 2113

Note:  
Existing Name Plate to be cleaned  
and relocated. Cost Incidental



DESIGNED	E.M.M.
CHECKED	J.M.N.
DRAWN	J.N.
CHECKED	E.M.M.



PROPOSED PROFILE GRADE

**GENERAL PLAN & ELEVATION**

**WILLOW ROAD OVER EDENS EXPRESSWAY**  
F.A. RTE. 99 SECTION 1010.1 B-R+1012 I (85)  
STA. 10+00 WILLOW ROAD (F.A. RTE. 99)  
STA. 444+54 EDENS EXPRESSWAY (FAI-94)  
COOK COUNTY  
STRUCTURE NUMBER 016-0536

FOR INFORMATION ONLY

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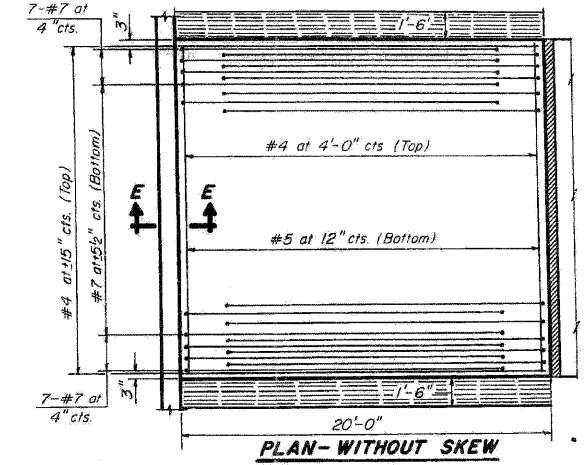
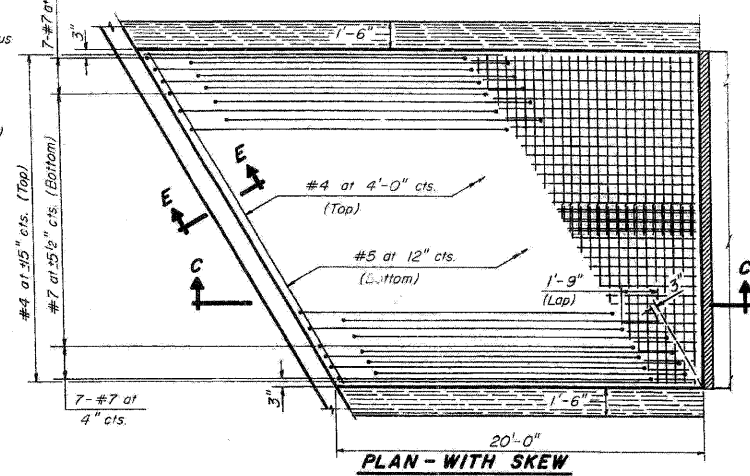
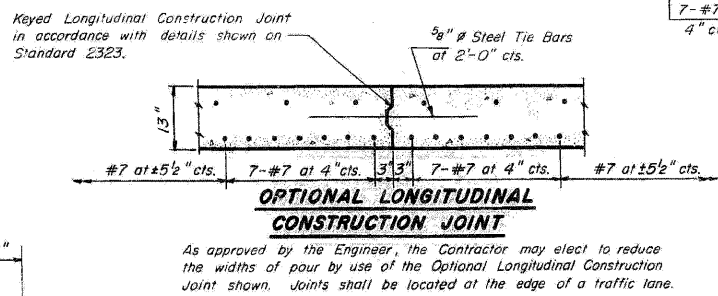
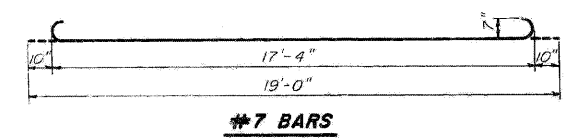
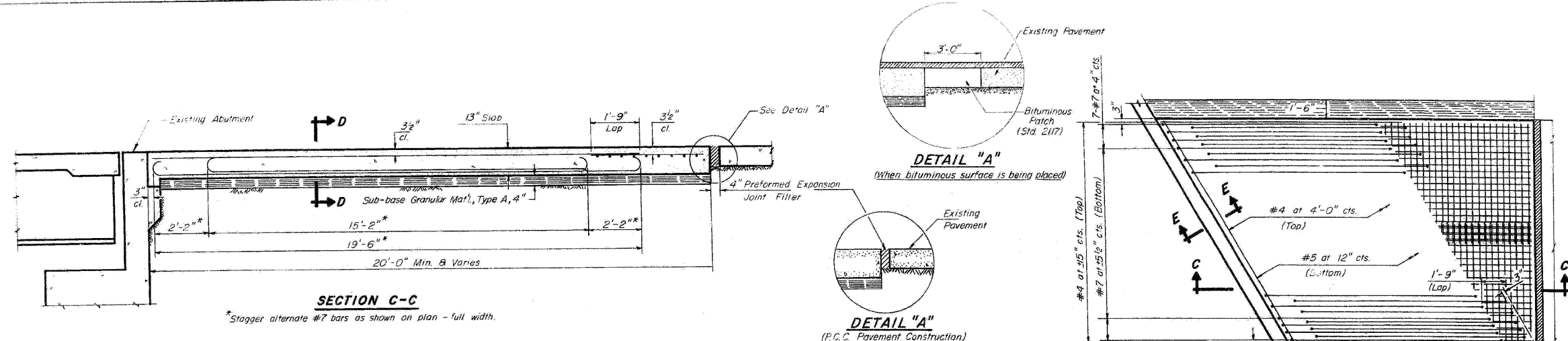
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Chicago, Illinois 60601  
312-565-0450 Job No. 10032.13

SHEET NO. 12	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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17 SHEETS	CONTRACT NO. 60J30				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

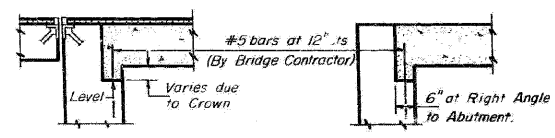
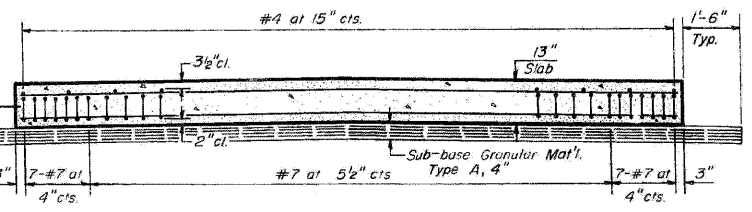
EXISTING PLAN INFORMATION 1 OF 6  
STRUCTURE NO. 016-0536

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



When the road plans show curb and gutter, gutter, or bridge approach shoulder pavement adjacent to approach slabs, place 1/2" diameter steel tie bars at 2'-6" centers in accordance with the detail for Bulkhead Longitudinal Construction Joint shown on Standard 2323. Cost of the tie bars will be included in the contract unit price for the adjacent item. Transitions for curb and gutter or gutter shall be as shown on the plans.



**Notes:**  
For skews of less than 10° omit wire fabric. For skews of 10° or more use Welded Wire Fabric, 6"x6"-W5.5 x W5.5, placed 3/8" below top of slab. Expanded Metal weighing not less than 78 Pounds per 100 Sq. Ft. or a welded bar mat weighing not less than 78 Pounds per 100 Sq. Ft. having members of equal size in both directions and spaced not over 8" apart may be used instead of the Welded Wire Fabric, 6"x6"-W5.5 x W5.5, provided the expanded metal or bar mat is furnished at no additional cost to the State. Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M.31 or M.53, Grade 60.

**DESIGN STRESSES**  
fy = 60,000 p.s.i.  
fc = 3500 p.s.i.  
n = 8.5

**GENERAL NOTES**

The cost of tie bars, expansion joint filler, sub-base, welded wire fabric and bituminous prime when required shall be considered as included in the unit cost of the Bridge Approach Pavement.

Preformed Expansion Joint Filler shall conform to Section 715 of the Standard Specifications.

Width of Bridge Approach Slab shall be determined before the reinforcement bars are fabricated.

The bituminous patch, when required, will be paid for in accordance with Section 620 of the Standard Specifications.

**BRIDGE APPROACH PAVEMENT**

Sheet 1 of 2

**STANDARD 2382 - I**

Illinois Department of Transportation

PASSED *Carl E. Hummer* Sept 4, 1979  
Engineer of Bridge and Traffic Structures

APPROVED *Thomas A. Boyett* Sept 4, 1979  
Engineer of Design

FOR INFORMATION ONLY

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Chicago, Illinois 60601  
312-568-0450 Job No. 10032.13

SHEET NO. 13	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	94	1010.1-I-2	COOK	37	25
17 SHEETS	CONTRACT NO. 60J30				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

EXISTING PLAN INFORMATION 2 OF 6  
STRUCTURE NO. 016-0536

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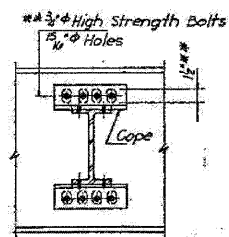
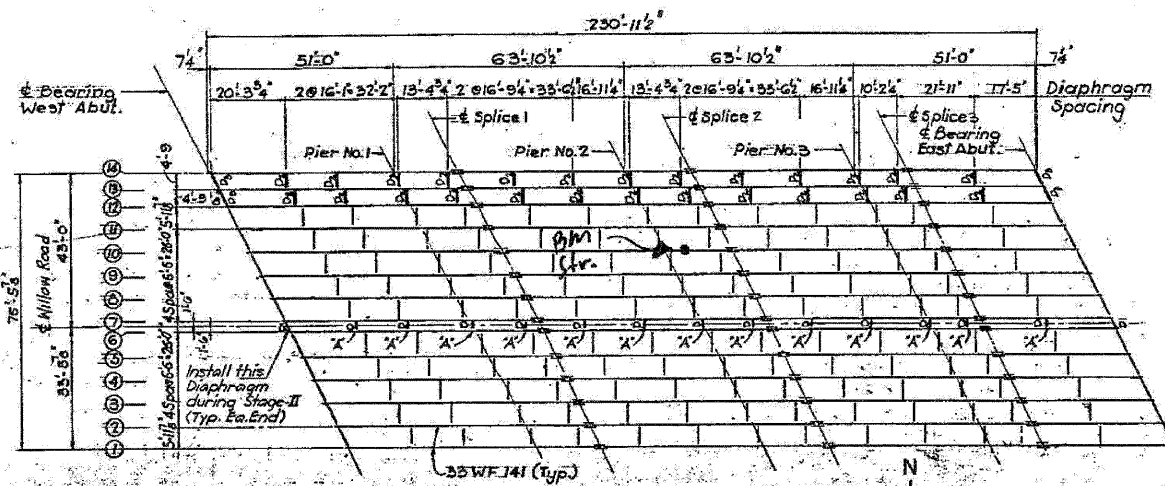


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

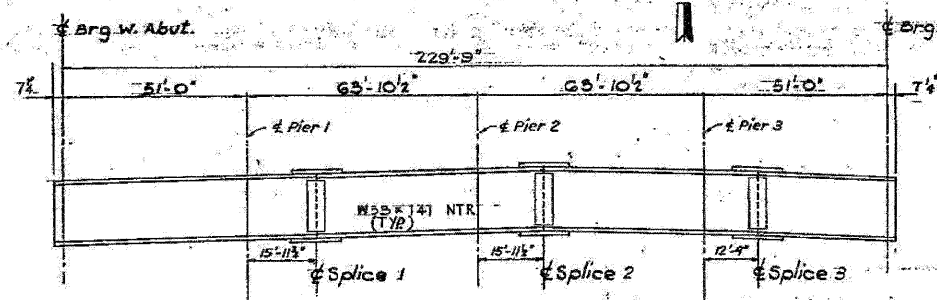
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I-94	1010.1 B-R+1012 I (B5)	COOK	115	66	
FED. ROAD DIST. NO. 1		ILLINOIS			

\*\* Use  $\frac{1}{16}$ " x  $\frac{1}{4}$ " slotted holes in Bm. #6 Location "A" only. Provide  $\frac{3}{16}$ " structural plate washers for slotted holes. Bolts shall be finger-tightened prior to the deck pour for Stage II construction and then be fully tightened after the deck pour for Stage II construction.

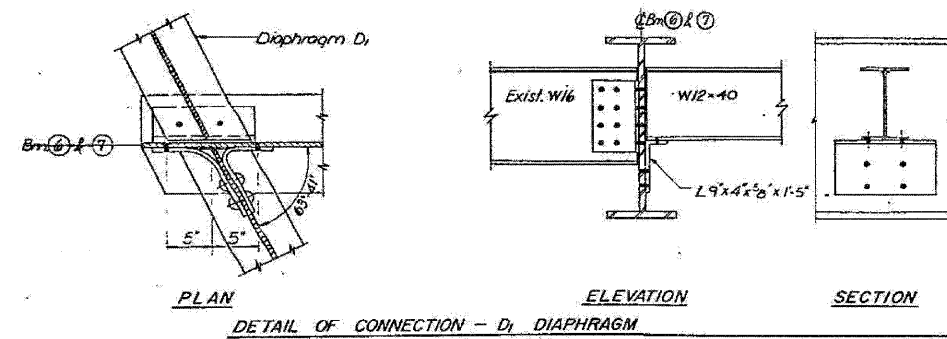
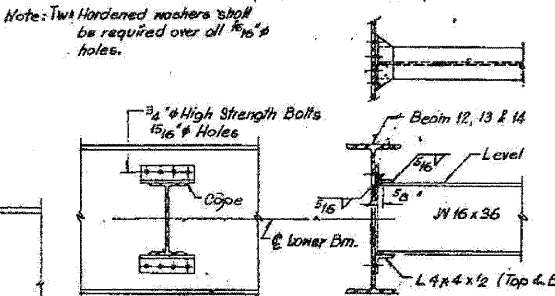
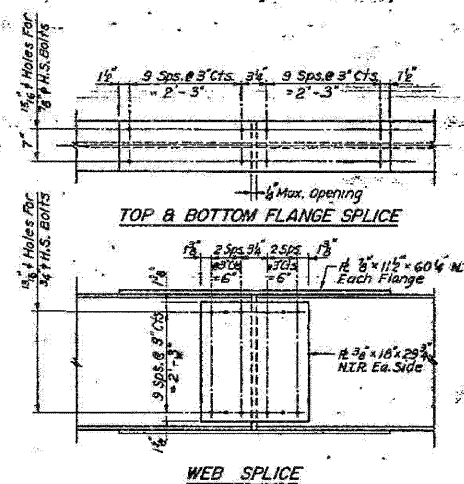
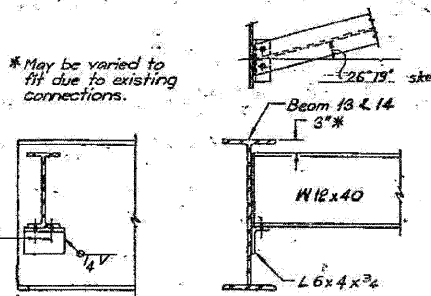
	0.4 Sp. 1 or 4	Pier 1 or 3	0.5 Sp. 2 or 3	Pier 2
I (in <sup>4</sup> )	7442.2	7442.2	7442.2	7442.2
S (in <sup>3</sup> )	446.8	446.8	446.8	446.8
Q (k/ft)	0.97	0.97	0.97	0.97
M <sub>DL</sub> (k)	173.4	320.0	166.9	331.3
M <sub>LL</sub> (k)	308.0	258.0	319.8	276.7
Imp (k)	86.0	70.0	83.2	71.9
M <sub>TOTAL</sub> (k)	567.4	648.0	569.9	679.9
f <sub>s</sub> (ksi)	15.24	17.40	15.31	18.26



	Abut.	Pier 1 or 3	Pier 2
R <sub>P</sub> (k)	19.0	61.5	62.0
R <sub>LL</sub> (k)	37.7	47.6	48.8
Imp (k)	10.5	10.0	9.8
R <sub>TOTAL</sub> (k)	67.2	119.1	120.6



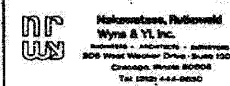
Location	Brig.	W. Abut.	Pier 1	Splice 1	Pier 2	Splice 2	Pier 3	Splice 3	E. Abut.
13	634.731	635.078	635.187	635.329	635.376	635.257	635.218	635.101	
14	634.614	634.969	635.081	635.232	635.283	635.169	635.139	635.029	



WT OF STRUCTURAL STEEL THIS SHEET = 75730 Lbs.

DESIGNED	E.M.M.
CHECKED	J.M.N.
DRAWN	J.N.
CHECKED	E.M.M.

FRAMING PLAN  
WILLOW ROAD OVER EDENS EXPRESSWAY  
F.A. RTE. 99 SECTION 1010.1 B-R+1012 I (B5)  
STA. 10+00 WILLOW ROAD (F.A. RTE. 99)  
STA. 444+54 EDENS EXPRESSWAY (FAI-94)  
COOK COUNTY  
STRUCTURE NUMBER 016-0536



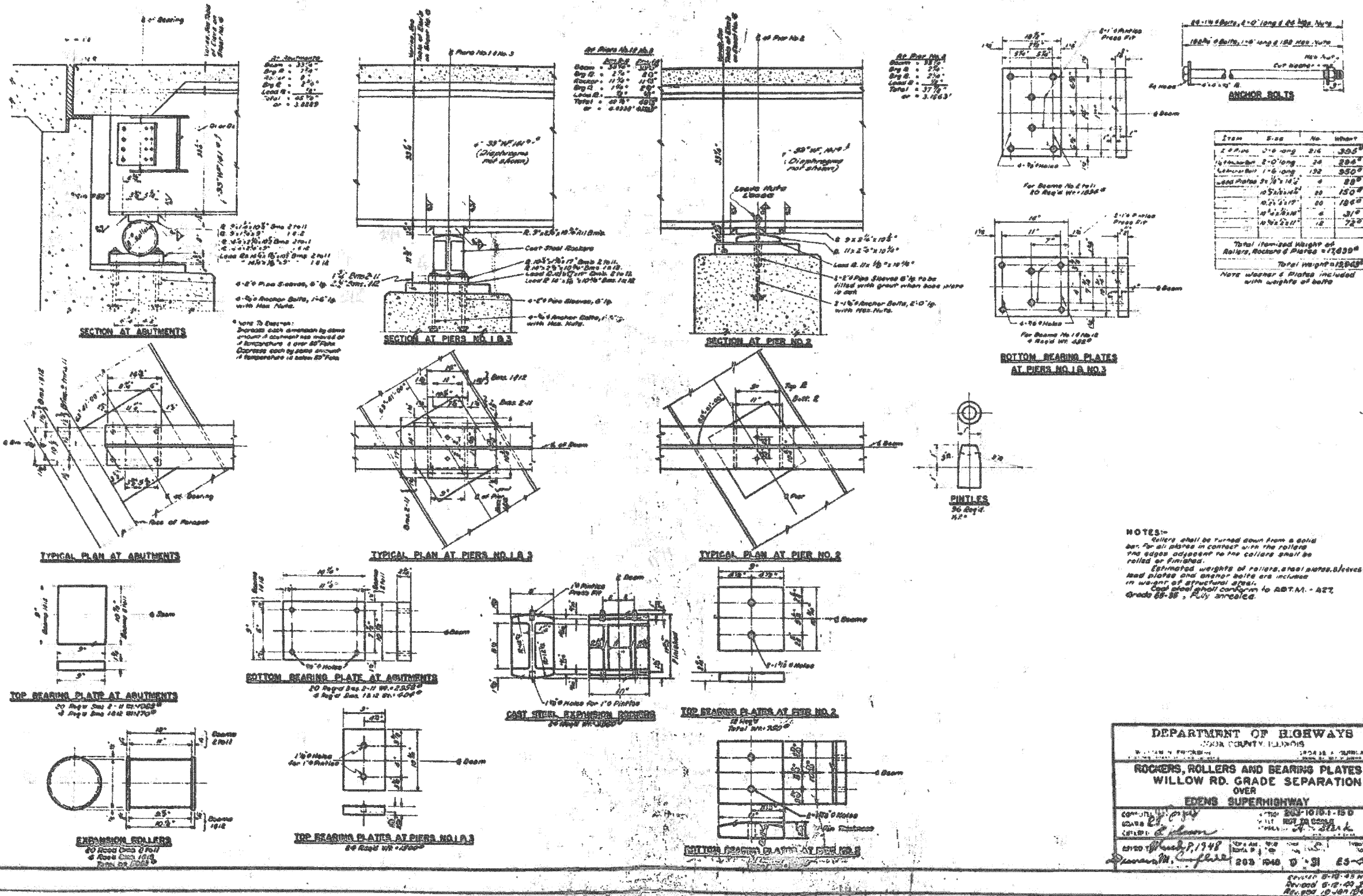
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Chicago, Illinois 60601  
312-565-0450 Job No. 10032.13

SHEET NO. 14	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	94	1010.1-1-2	COOK	37	26
17 SHEETS	CONTRACT NO. 60J30		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

EXISTING PLAN INFORMATION 3 OF 6  
STRUCTURE NO. 016-0536

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



DEPARTMENT OF HIGHWAYS  
COOK COUNTY, ILLINOIS

ROCKERS, ROLLERS AND BEARING PLATES  
WILLOW RD. GRADE SEPARATION  
OVER  
EDENS SUPERHIGHWAY

CONTRACT NO. 60J30  
SHEET NO. 15 OF 17

DATE: 10/15/50  
BY: [Signature]  
CHECKED: [Signature]  
APPROVED: [Signature]

REVISED 6-12-55  
REVISED 10-18-55 M.A.B.

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 205 North Michigan Avenue, Suite 2400  
 Chicago, Illinois 60601  
 312-565-0450 Job No. 10032.13

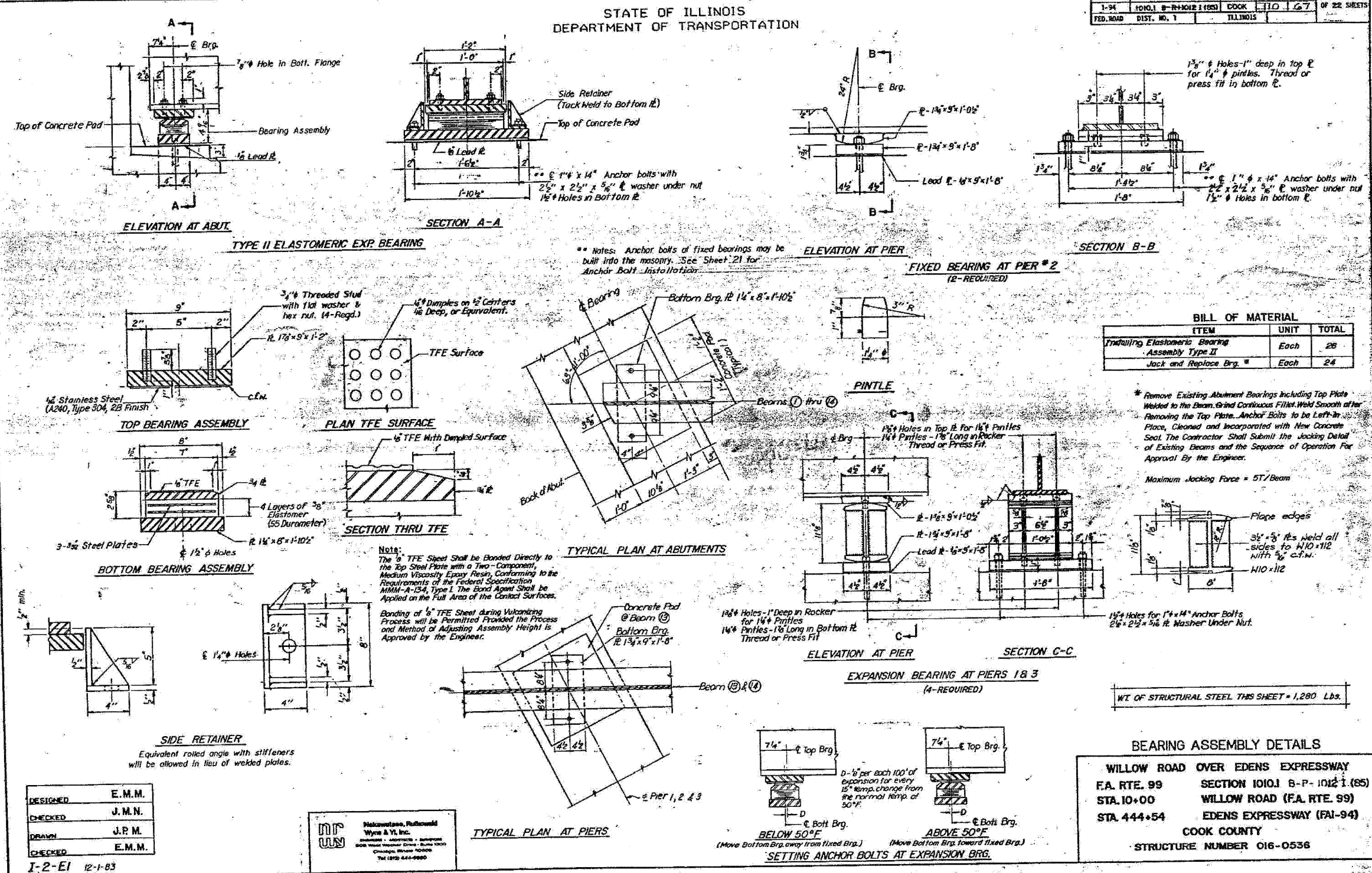
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	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60J30	

EXISTING PLAN INFORMATION 4 OF 6  
STRUCTURE NO. 016-0536

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEET NO.	SHEET NO.
1-94	1010.1 B-P-1012 I (85)	COOK	37	28
FED. ROAD DIST. NO. 1	ILLINOIS		OF 28 SHEETS	



**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Trailing Elastomeric Bearing Assembly Type II	Each	28
Jack and Replace Brg. #	Each	24

\* Remove Existing Abutment Bearings including Top Plate Welded to the Beam. Grind Continuous Fillet Weld Smooth after Removing the Top Plate. Anchor Bolts to be Left in Place, Cleaned and Incorporated with New Concrete Soil. The Contractor Shall Submit the Jacking Detail of Existing Beams and the Sequence of Operation For Approval By the Engineer.

Maximum Jacking Force = 5T/Beam

FOR INFORMATION ONLY

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Chicago, Illinois 60601  
312-565-0450 Job No. 10032.13

SHEET NO. 16	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
17 SHEETS	94	1010.1-I-2	COOK	37	28
CONTRACT NO. 60J30			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

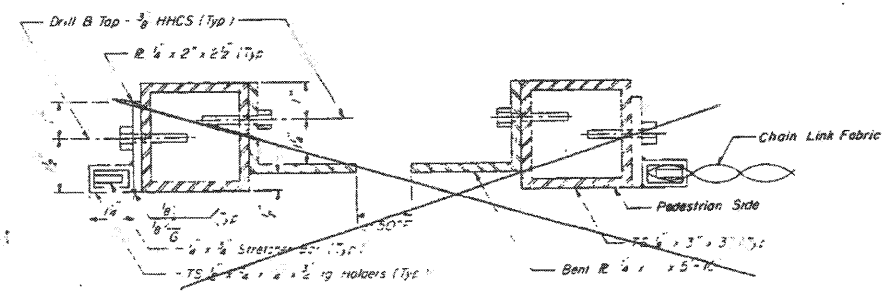
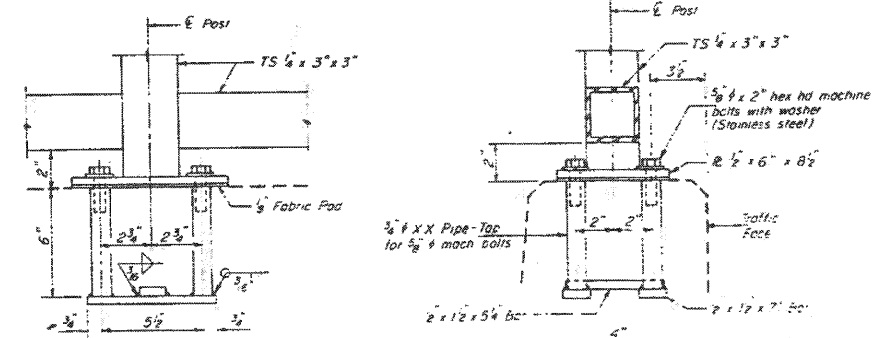
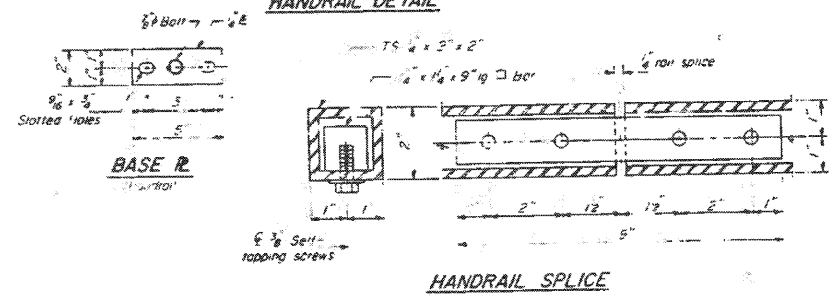
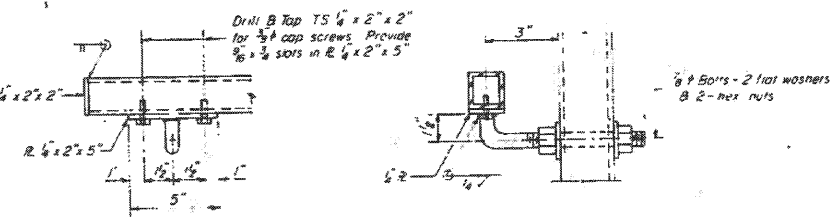
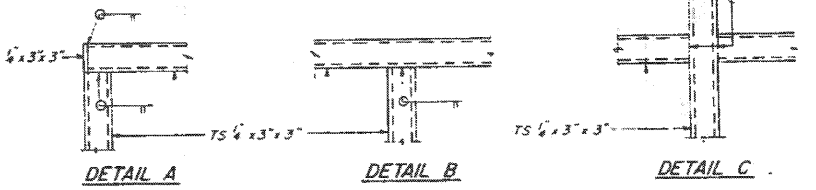
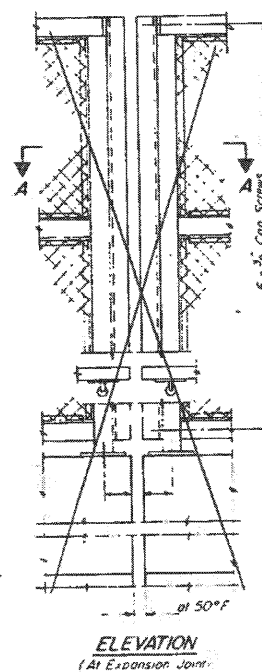
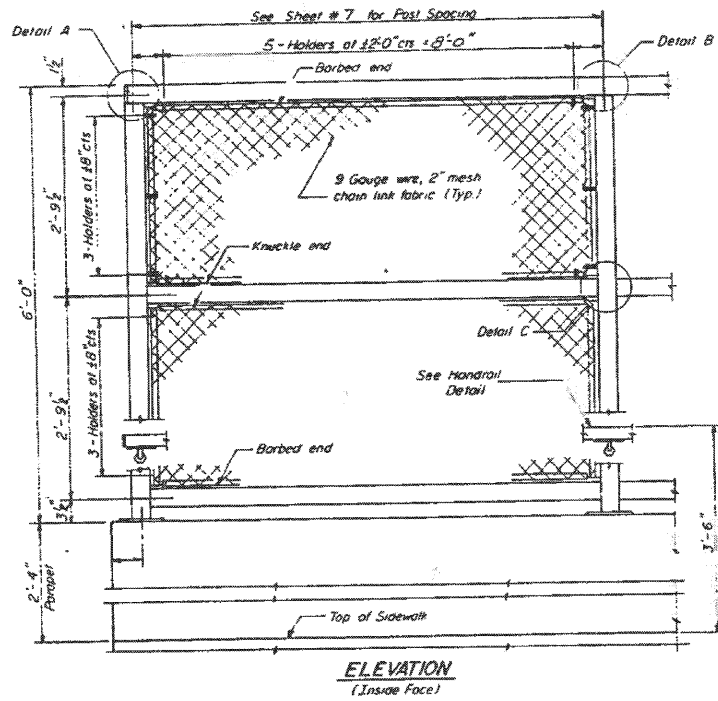
EXISTING PLAN INFORMATION 5 OF 6  
STRUCTURE NO. 016-0536

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

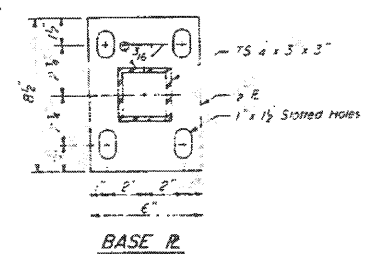
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	1010.1-I-2	SHEET NO.	22
DATE	11/01/85	SCALE	AS SHOWN
DESIGNED BY	COOK	CHECKED BY	COOK
1010.1-I-2 & 1012.1(85)			



DESIGNED	
CHECKED	
DRAWN	
CHECKED	

R-28 12-31-87 110'-0" Maximum Post Spacing



NOTES

Reinforcing shall be in accordance with Section 508 of the Standard Specifications except as noted, and will be as shown at the Contractor's office and meet foot for Pedestrian Railing. The 9 gauge fabric ties shall be in accordance with Article 710.33(1) of the Standard Specifications.

Installation of the chain link fabric shall be in accordance with Section 629 of the Standard Specifications. Allow structural steel tubing shall conform to the requirements of ASTM designation A 500, Grade B, structural steel tubing.

All other steel shapes and plates shall conform to the requirements of AASHTO M183.

The chain link fabric shall be placed along Pedestrian Side as shown on Section A-A.

Stretchers shall be used at all four sides of each panel.

All posts, railing, splices, anchor devices and bent plates shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. All bolts, nuts and washers shall be galvanized in accordance with AASHTO M-232.

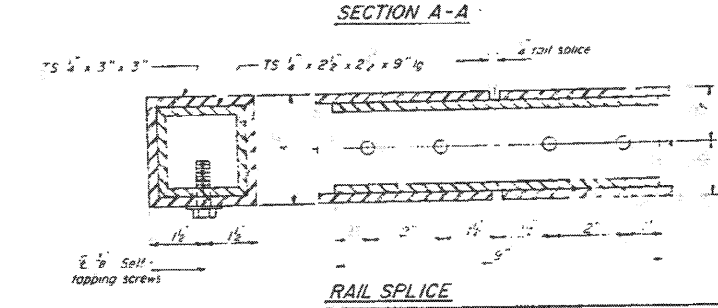
Vent holes for galvanizing shall be placed in the posts and rails at locations that will not allow the accumulation of moisture in the members.

The chain link fabric shall conform to the requirements of Article 710.33(a)(1)(2) or (3) of the Std. Specs.

BILL OF MATERIAL

Item	Unit	Quantity
Pedestrian Railing	Lin Ft	460

PEDESTRIAN RAILING  
FA. 99 SEC. 1010.1B-R+1012 (85)  
COOK COUNTY  
STR. NO. 016-0536



FOR INFORMATION ONLY

alfred benesch & company  
Engineers • Surveyors • Planners  
205 North Michigan Avenue, Suite 2400  
Chicago, Illinois 60601  
312-565-0450 Job No. 10032.13

SHEET NO. 17	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	94	1010.1-I-2	COOK	37	29
17 SHEETS	CONTRACT NO. 60J30				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

EXISTING PLAN INFORMATION 6 OF 6  
STRUCTURE NO. 016-0536

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 03/22/2010



VARIABLE - TO MEET EXISTING DIMENSIONS AND FIELD CONDITIONS (SEE NOTE ②)

PROP. CONC. CURB OR CURB AND GUTTER REPLACEMENT IN ACCORDANCE WITH STATE STANDARD 606001. (SEE NOTE ②)

SAW CUT FULL DEPTH - INCLUDED IN THE COST OF SIDEWALK, DRIVEWAY OR MEDIAN SURFACE REMOVAL PAY ITEM.

SEE STATE STANDARD 606001  
EXISTING OR PROPOSED HMA SURFACE (IF APPLICABLE)

18" (450) MAX.

1/4" (5) \*\*

EXISTING SIDEWALK, DRIVEWAY, MEDIAN SURFACE, SOD OR GROUND.

PROPOSED SIDEWALK, DRIVEWAY PAVEMENT, MEDIAN SURFACE OR SODDING SALT TOLERANT WITH TOP SOIL, 4" (100) SOD RESTORATION (SEE NOTE ①).

EXISTING CONCRETE PAVEMENT, CONCRETE BASE COURSE OR FLEXIBLE PAVEMENT

T/2 \*

SUITABLE BACKFILL MATERIAL (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT)

3" (75) MIN.

PROPOSED 3/4" (20) PREFORMED EXPANSION JOINT AT CONCRETE SIDEWALKS, DRIVEWAYS, AND MEDIANS. (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.)

\* 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.

\*\* IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

NOTE: ① SIDEWALK, DRIVEWAY PAVEMENT OR MEDIAN SURFACE SHALL BE SIMILAR TO THE MATERIAL BEING REMOVED AND WILL BE PAID FOR SEPARATELY.

SODDING, SALT TOLERANT AND TOP SOIL, FURNISH AND PLACE 4" WILL BE PAID FOR SEPARATELY,

② FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED

③ CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.

④ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

⑤ LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑥ THE COST OF HMA SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑦ THE REMOVAL AND REPLACEMENT OF THE EXISTING CURB OR CURB AND GUTTER SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 440 AND 606 OF THE STANDARD SPECIFICATIONS.

⑧ THE LOCATIONS OF REMOVAL AND REPLACEMENT OF EXISTING CURB OR CURB AND GUTTER SHALL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

UNSUITABLE SUB-BASE MATERIAL TO BE REMOVED, IF DIRECTED BY THE ENGINEER, SHALL BE REPLACED WITH EITHER SUB-BASE GRANULAR MATERIAL, TYPE B OR ADDITIONAL THICKNESS OF CONCRETE.

REMOVAL AND REPLACEMENT 4" (100) OR LESS IS INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

REMOVAL AND REPLACEMENT IN EXCESS OF 4" (100) WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

PROPOSED #6 (20) EPOXY COATED TIE BARS 24" (600) LONG AT 24" (600) CENTERS WILL NOT BE PAID FOR SEPARATELY. DELETE EPOXY COATED TIE BARS IF EXISTING TIE BARS ARE USUABLE AS DETERMINED BY THE ENGINEER. (SEE NOTE ③).

**BASIS OF PAYMENT:**

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT (METER) FOR "CURB REMOVAL AND REPLACEMENT" OR "COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT".

# CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

BD-24

FILE NAME =	DESIGNED - AJP	REVISED -
	DRAWN - AJP	REVISED -
USER NAME =	CHECKED - KJN	REVISED -
PLOT DATE = 03/22/2010	DATE - 3/19/10	REVISED -

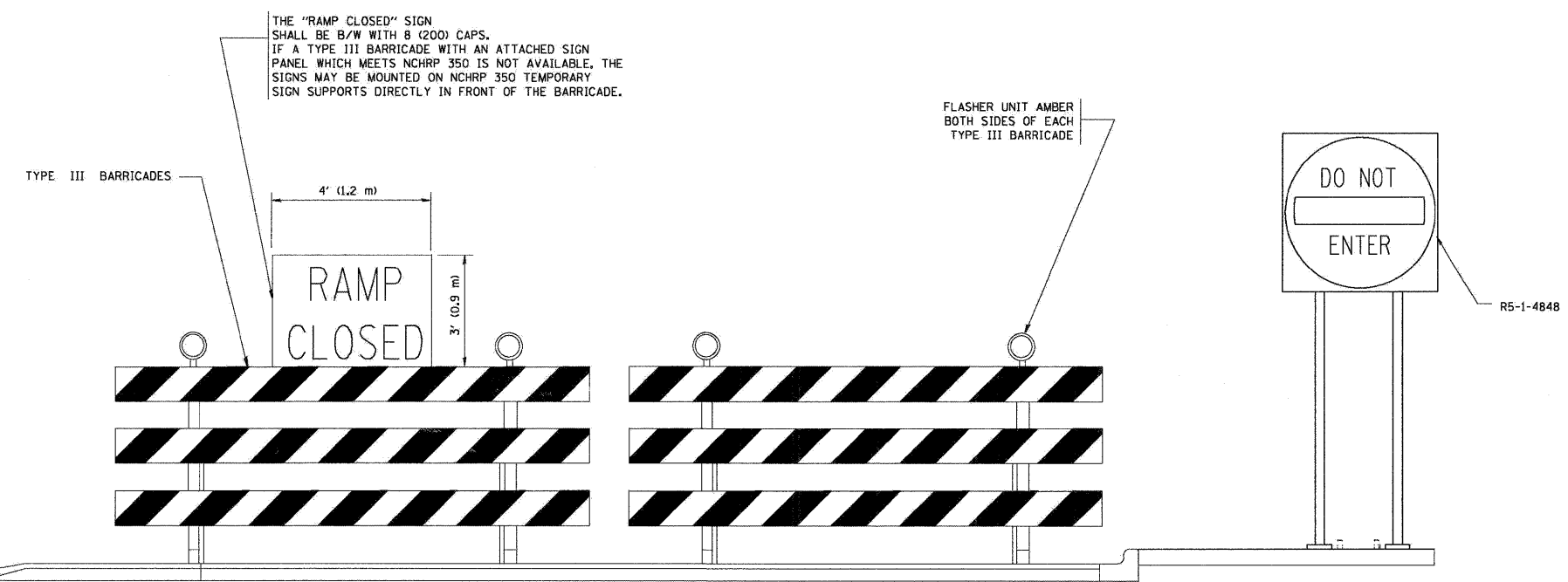
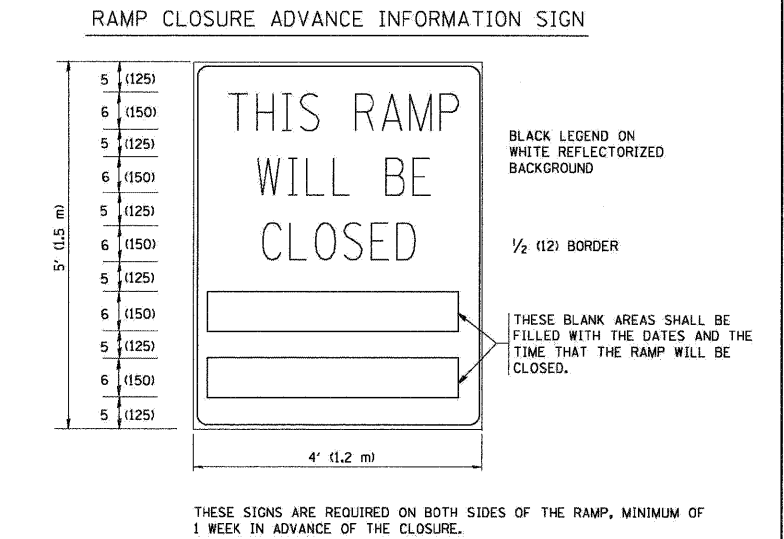
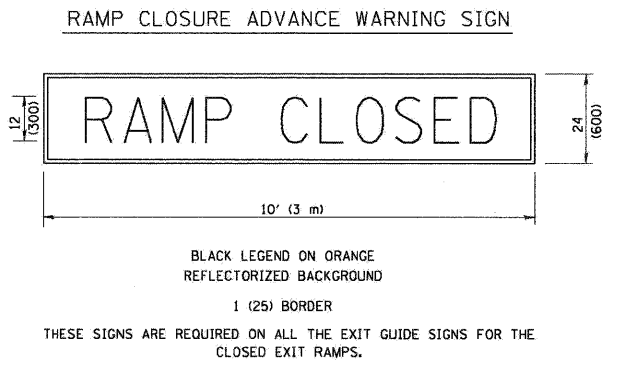
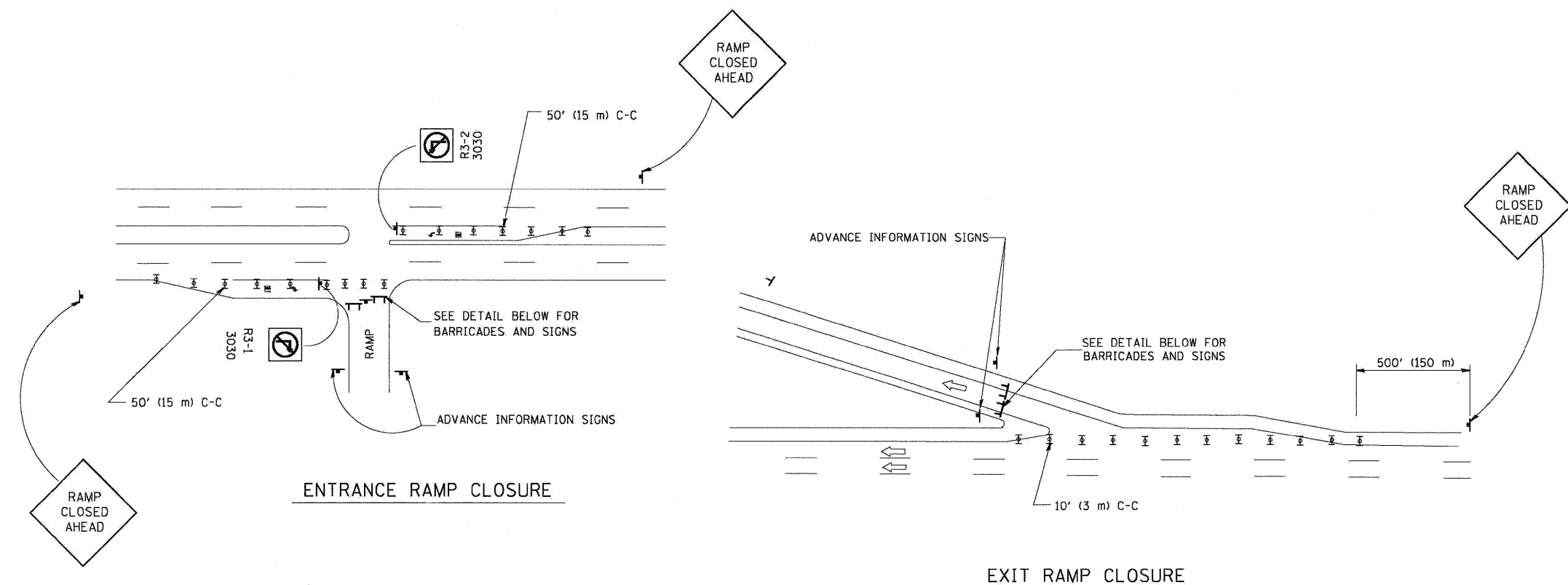
**benesch**

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT 1 DETAILS  
CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT**

SCALE: N.T.S. SHEET NO. 1 OF 8 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-1-2	COOK	37	30
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 60J30	



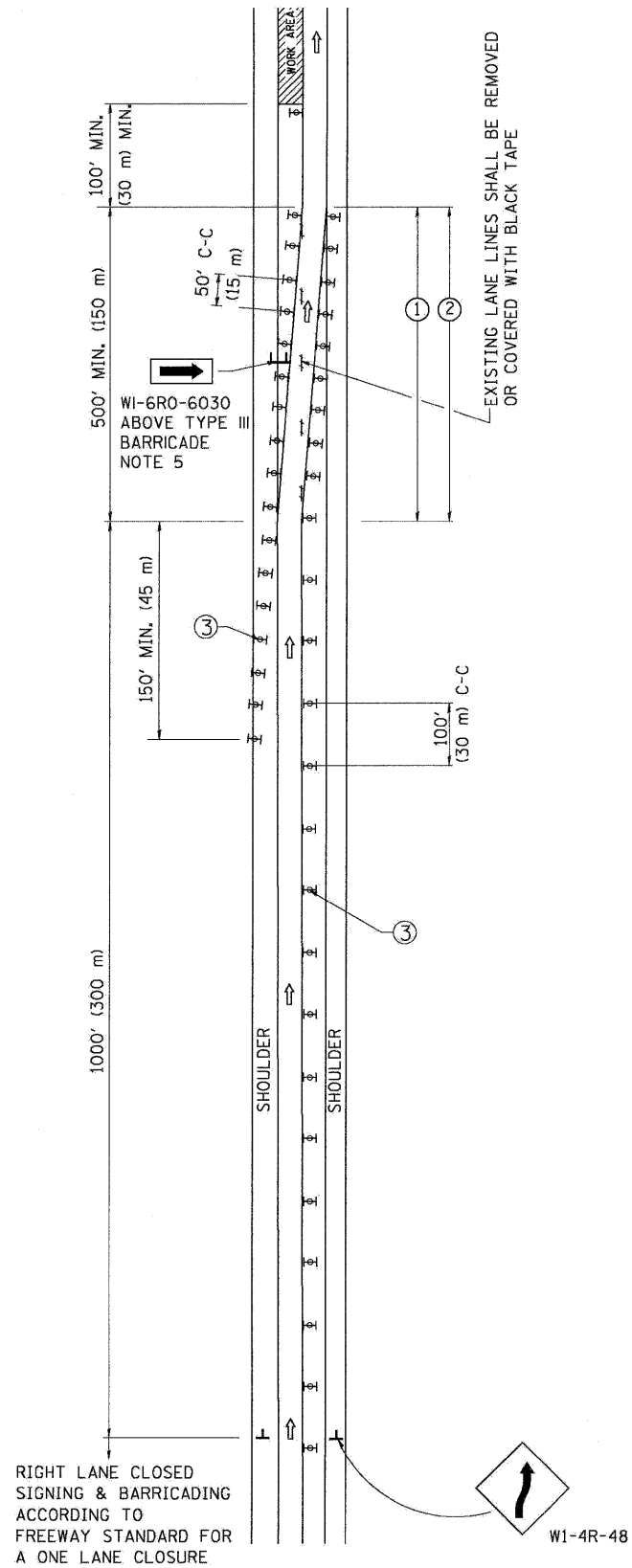
- SYMBOLS**
- ▬ TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
  - ▬ TYPE III BARRICADE WITH FLASHING LIGHT

- GENERAL NOTES:**
1. CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
  2. STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
  3. A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES.
  4. ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED.
  5. THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
  6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
  7. THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED TWENTY-FOUR (24) HOURS IN LENGTH.

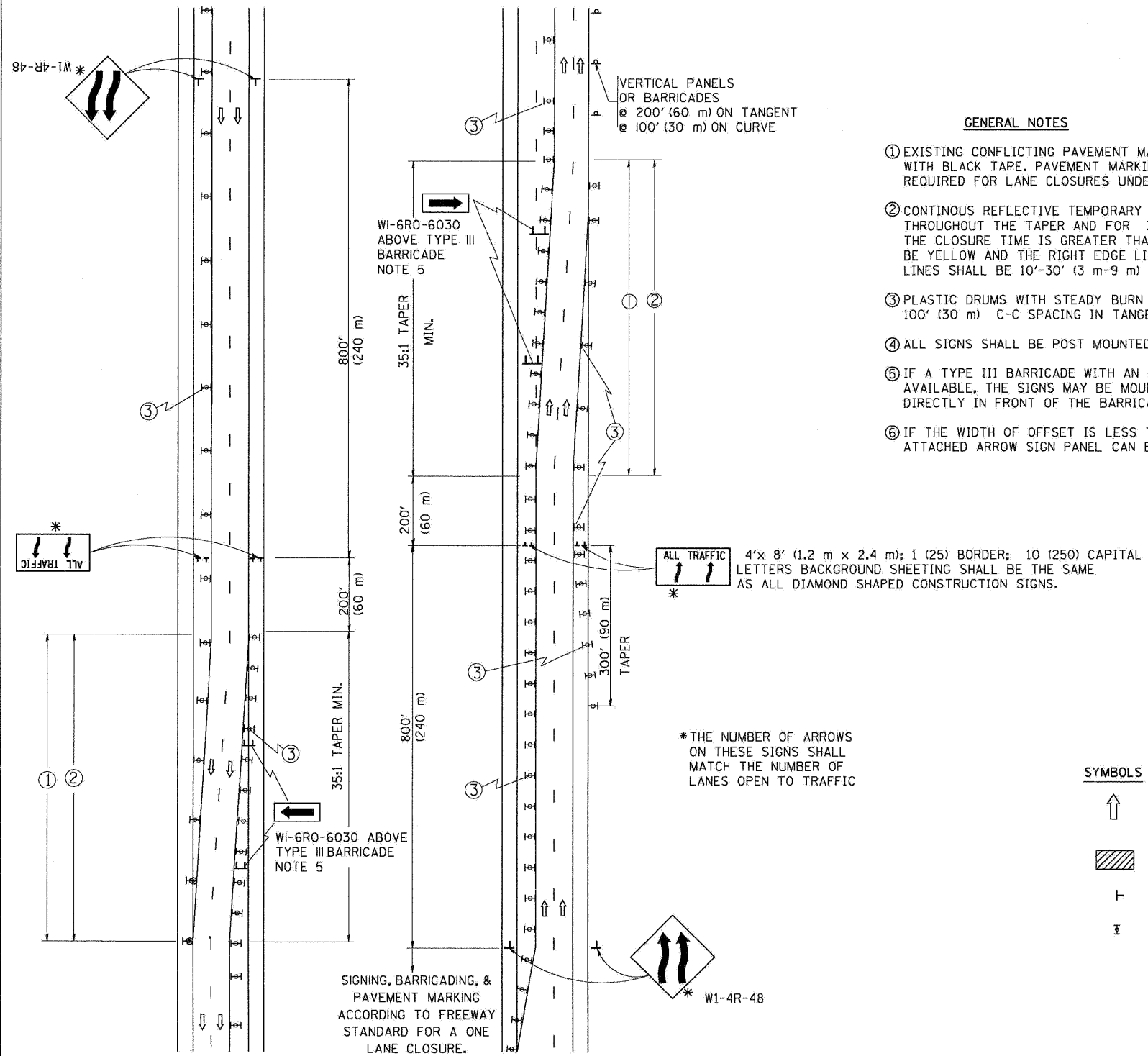
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN. **TC-8**

FILE NAME =	DESIGNED - AJP	REVISED -	<b>benesch</b>	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT 1 DETAILS FREEWAY ENTRANCE AND EXIT RAMP CLOSURE DETAILS</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
USER NAME =	DRAWN - AJP	REVISED -				94	1010.1-1-2	COOK	37	31
PLOT DATE = 03/22/2010	CHECKED - KJN	REVISED -				CONTRACT NO. 60J30				
	DATE - 3/19/10	REVISED -	SCALE: N.T.S. SHEET NO. 2 OF 8 SHEETS STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

# SINGLE LANE WEAVE



# MULTI-LANE WEAVE



### GENERAL NOTES

- EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED OR COVERED WITH BLACK TAPE. PAVEMENT MARKING REMOVAL OR BLACK TAPE SHALL NOT BE REQUIRED FOR LANE CLOSURES UNDER 24 HOURS IN DURATION.
- CONTINUOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVE LANE LINES SHALL BE 10'-30' (3 m-9 m) SKIP DASH, WHITE.
- PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON NCHRP 350 TEMPORARY SIGN SUPPORTS DIRECTLY IN FRONT OF THE BARRICADE.
- IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.

### SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH MONO-DIRECTIONAL STEADY BURNING LIGHT

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

TC-9

FILE NAME =	DESIGNED - AJP	REVISED -
USER NAME =	DRAWN - AJP	REVISED -
PLOT DATE = 8/22/2018	CHECKED - KJN	REVISED -
	DATE - 3/19/10	REVISED -

**benesch**

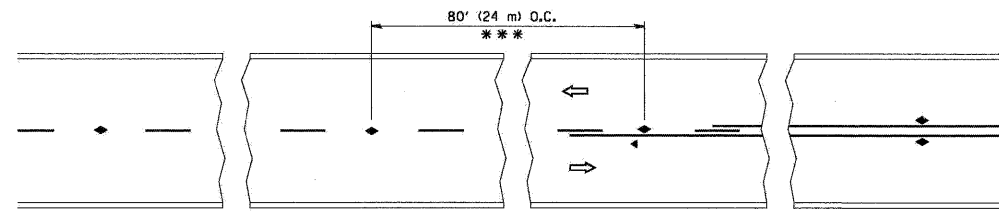
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT 1 DETAILS  
TRAFFIC CONTROL DEVICES FOR  
FREEWAY SINGLE & MULTI-LANE WEAVE**

SCALE: N.T.S. SHEET NO. 3 OF 8 SHEETS STA. TO STA.

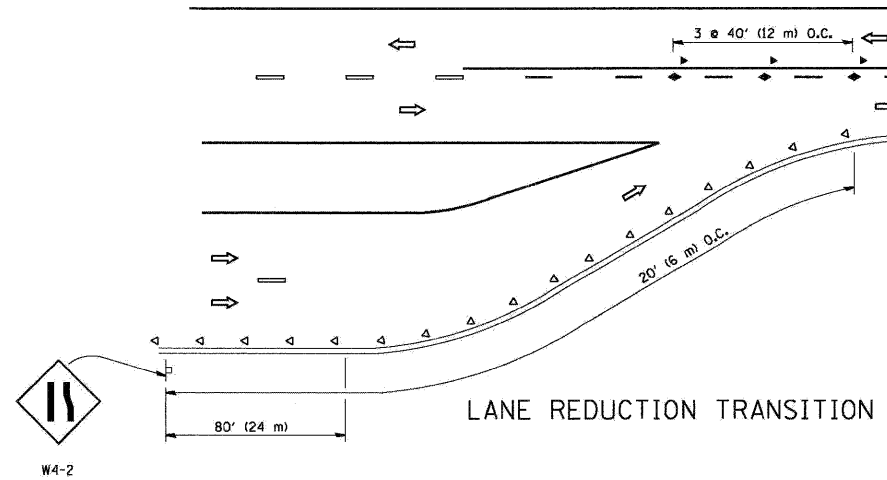
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-1-2	COOK	37	32
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60J30	



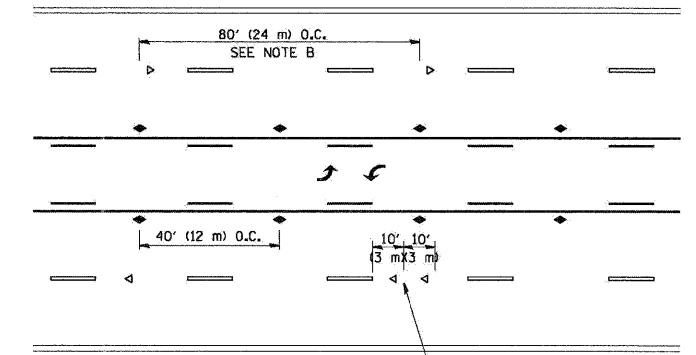


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

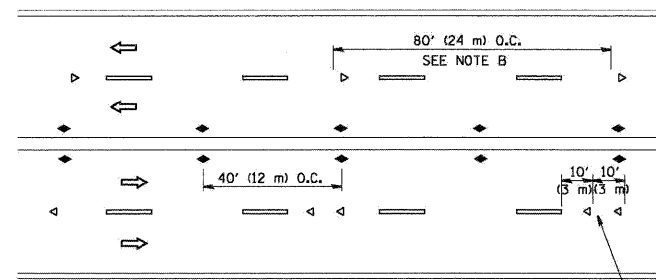
TWO-LANE/TWO-WAY



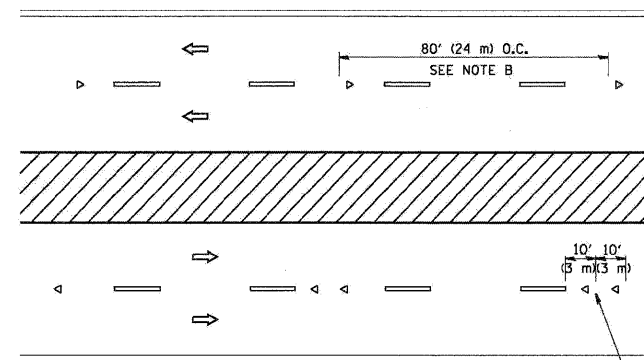
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

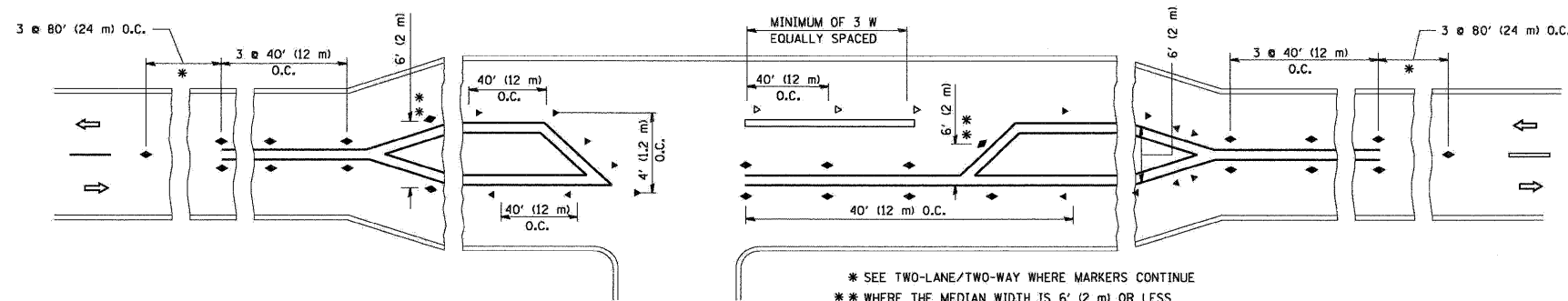
1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◄ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H. (20 km/h) LOWER THAN POSTED SPEEDS.



\* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE  
 \*\* WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

LEFT TURN

All dimensions are in inches (millimeters) unless otherwise shown.

TC-11

FILE NAME *	DESIGNED - AJP	REVISED -
USER NAME *	DRAWN - AJP	REVISED -
PLOT DATE * 03/22/2010	CHECKED - KJN	REVISED -
	DATE - 3/19/10	REVISED -

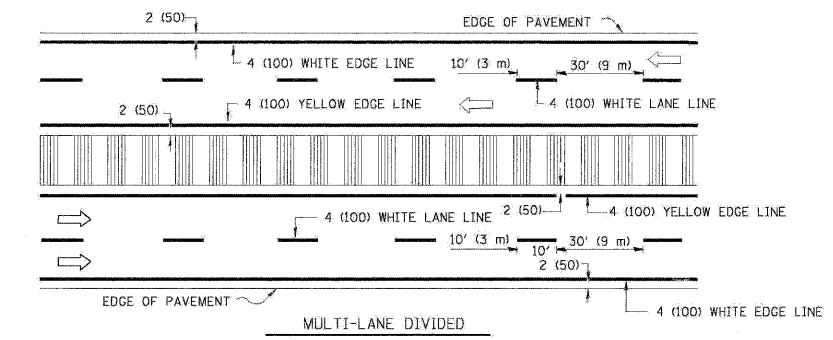
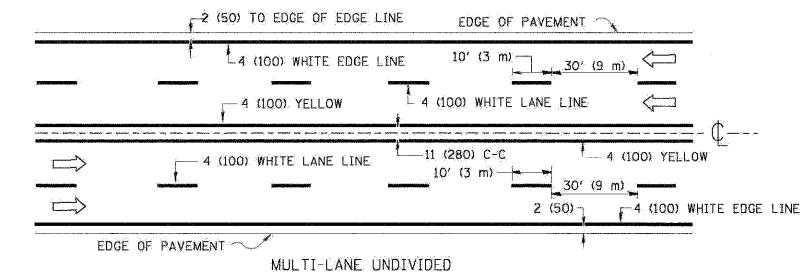
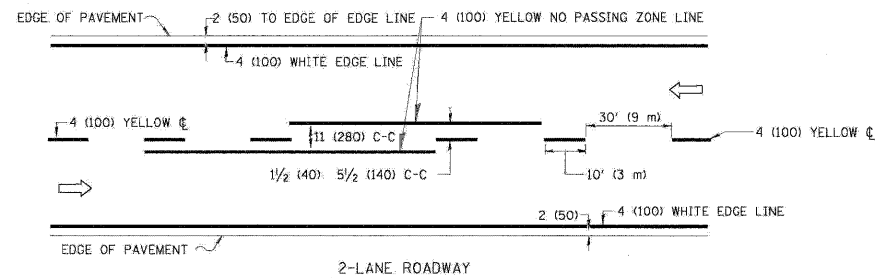
benesch

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT 1 DETAILS  
TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS  
(SNOW-PLOW RESISTANT)

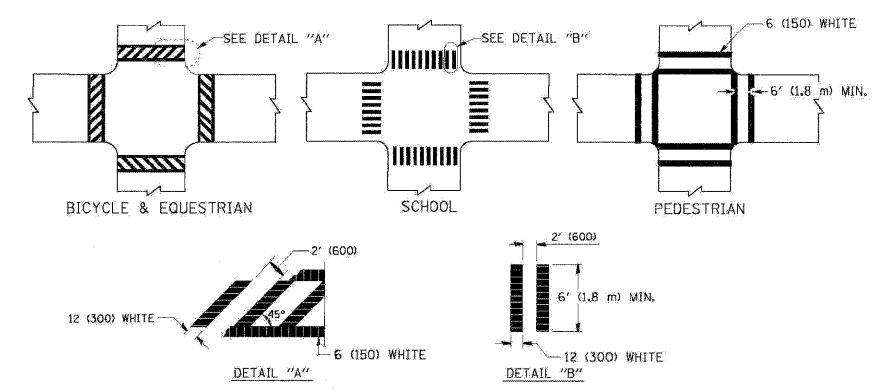
SCALE: N.T.S. SHEET NO. 4 OF 8 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-1-2	COOK	37	33
CONTRACT NO. 60J30			ILLINOIS FED. AID PROJECT	

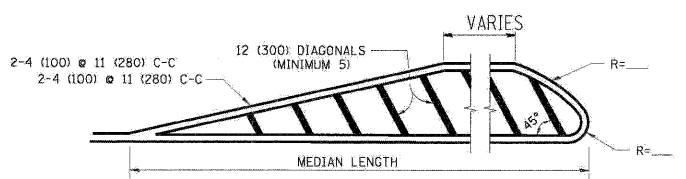
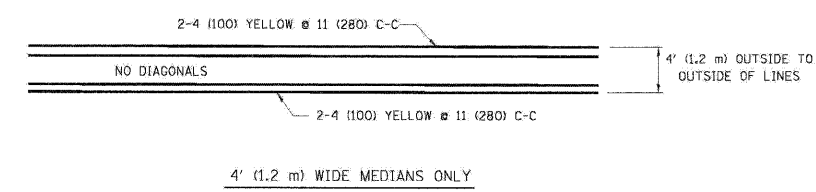


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

**TYPICAL LANE AND EDGE LINE MARKING**

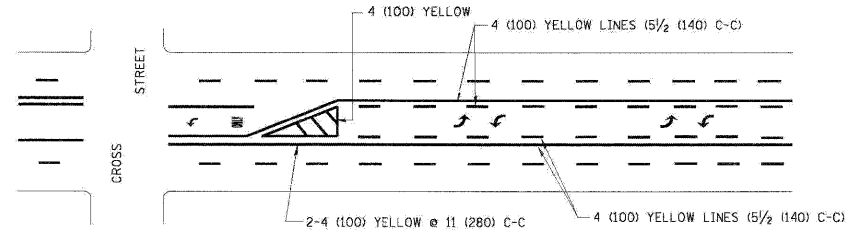


**TYPICAL CROSSWALK MARKING**

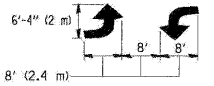


FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.  
 DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))  
 75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)  
 150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

**MEDIANS OVER 4' (1.2 m) WIDE**

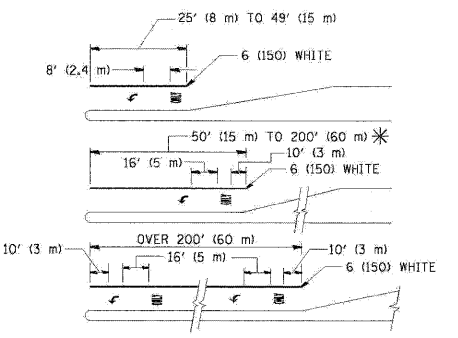


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



**TYPICAL LEFT (OR RIGHT) TURN LANE**

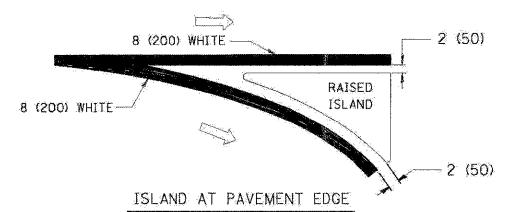
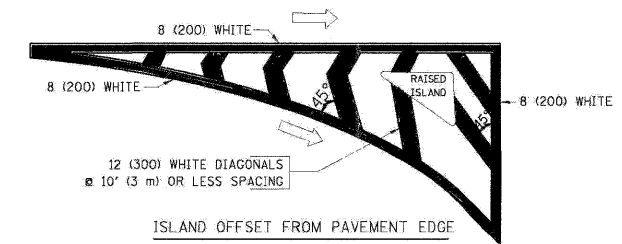
**TYPICAL PAINTED MEDIAN MARKING**



FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.  
 AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) ONLY AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)

\* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

**TYPICAL TURN LANE MARKING**



**TYPICAL ISLAND MARKING**

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION	4 (100)	SOLID	YELLOW	5 1/2 (140) C-C FROM SKIP-DASH CENTERLINE
NO PASSING ZONE LINES: FOR BOTH DIRECTIONS	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 6 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5 1/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m <sup>2</sup> ) EACH "X"=54.0 SQ. FT. (5.0 m <sup>2</sup> )
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

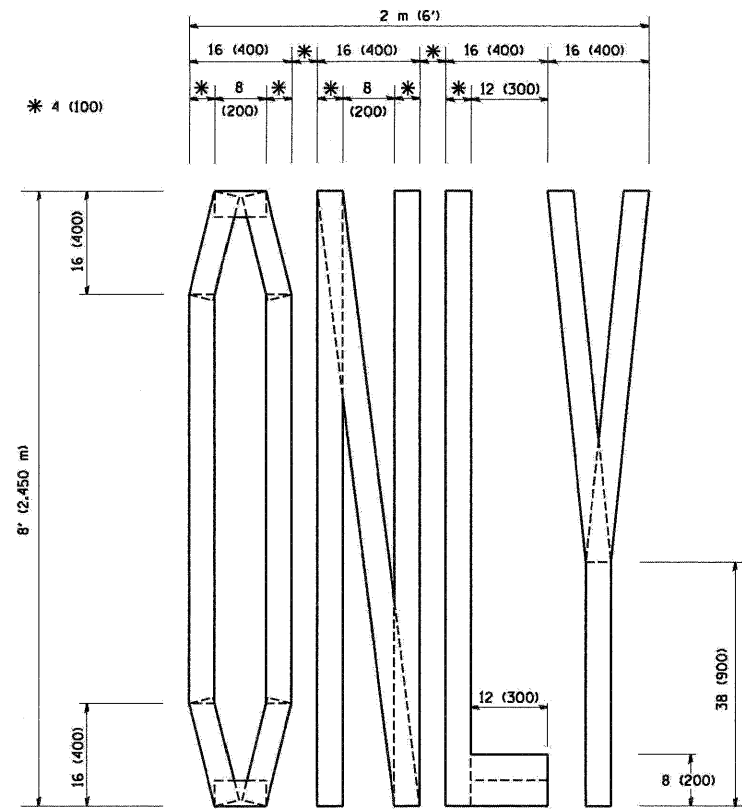
FILE NAME =	DESIGNED - AJP	REVISED -
USER NAME =	DRAWN - AJP	REVISED -
PLOT DATE = 03/22/2010	CHECKED - KJN	REVISED -
	DATE - 3/19/10	REVISED -

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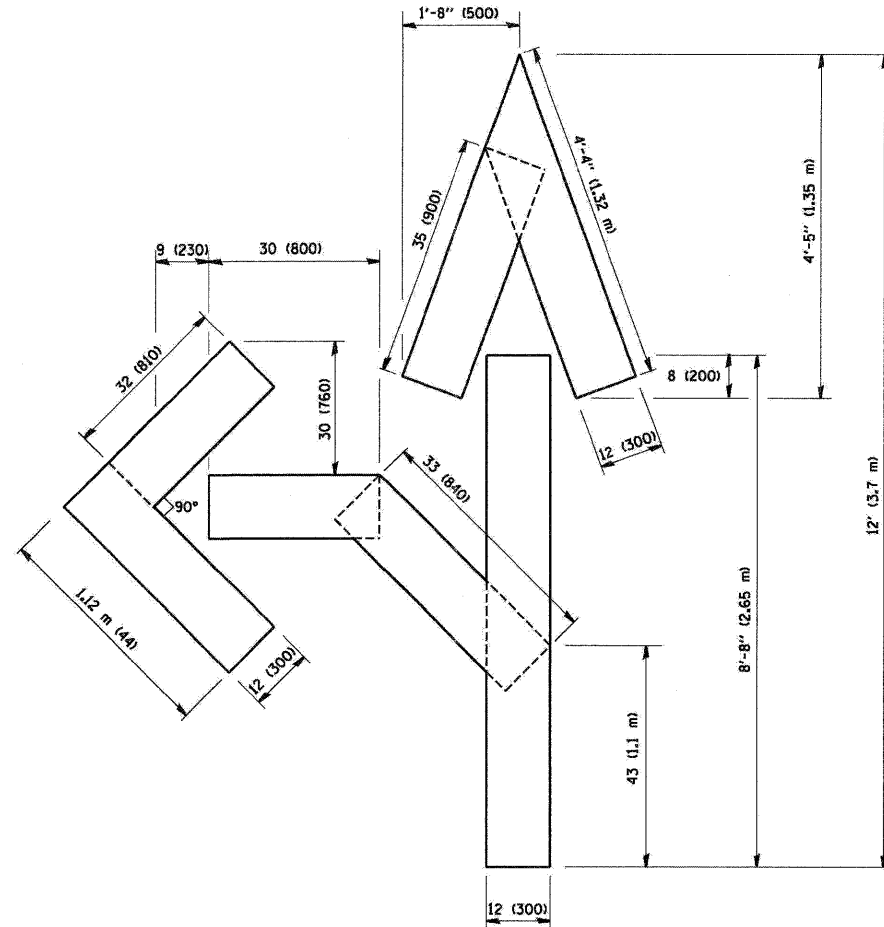
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>DISTRICT 1 DETAILS</b>			
<b>DISTRICT ONE TYPICAL PAVEMENT MARKINGS</b>			
SCALE: N.T.S.	SHEET NO. 5 OF 8 SHEETS	STA. TO STA.	

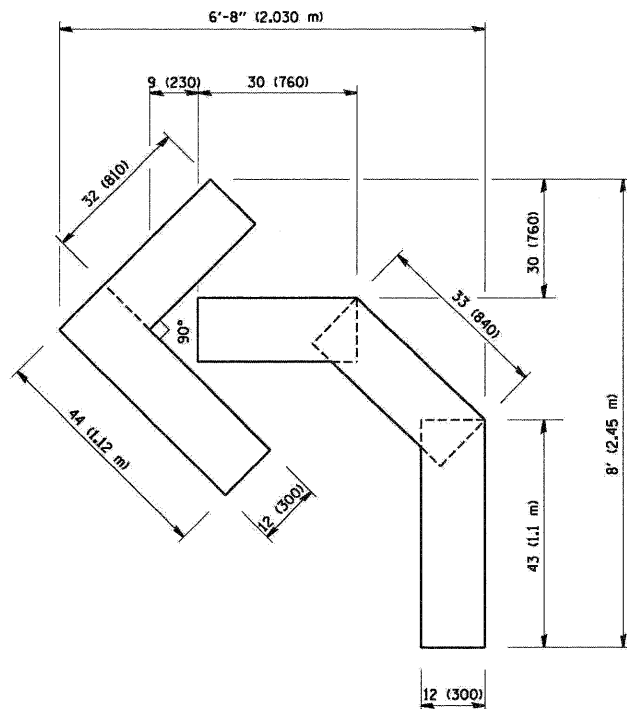
F.A.I. RTE. 94	SECTION 1010.1-1-2	COUNTY COOK	TOTAL SHEETS 37	SHEET NO. 34
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
		CONTRACT NO. 60J30		



QUANTITY  
 4 (100) LINE = 64.1 ft. (19.7 m)  
 21.1 sq. ft. (1.97 sq. m)



QUANTITY  
 4 (100) LINE = 82.5 ft. (25.3 m)  
 27.5 sq. ft. (2.53 sq. m)



QUANTITY  
 4 (100) LINE = 45.5 ft. (13.9 m)  
 15.2 sq. ft. (1.39 sq. m)

All dimensions are in inches (millimeters) unless otherwise shown.

TC-16

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

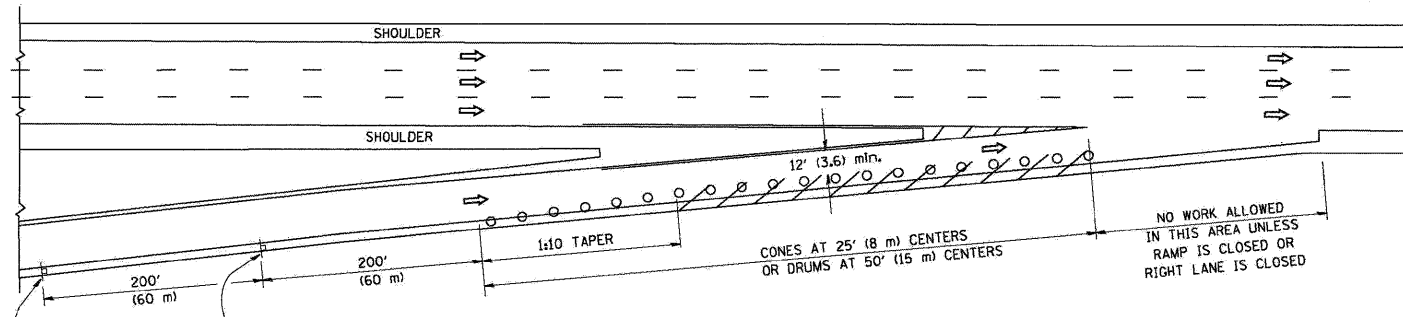
**DISTRICT 1 DETAILS  
 PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING**

SCALE: N.T.S. SHEET NO. 6 OF 8 SHEETS STA. TO STA.

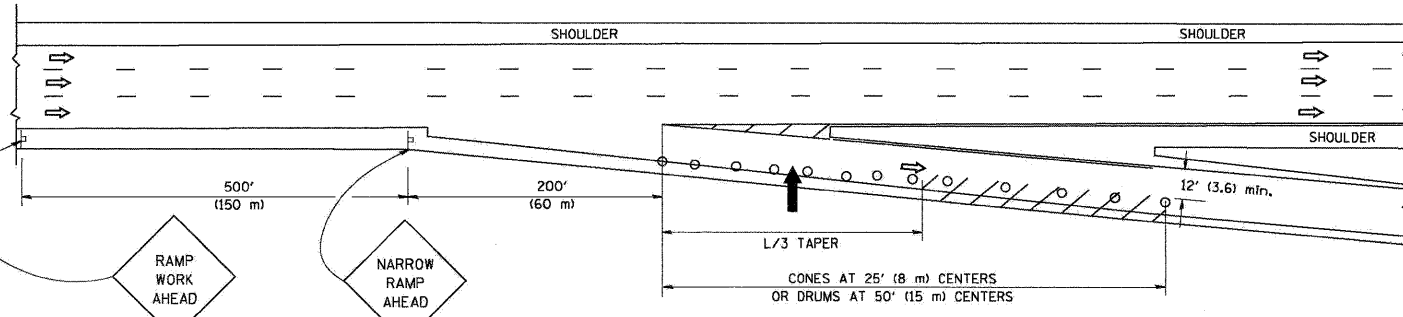
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-1-2	COOK	37	35
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60J30	

PARTIAL RAMP CLOSURE DETAILS

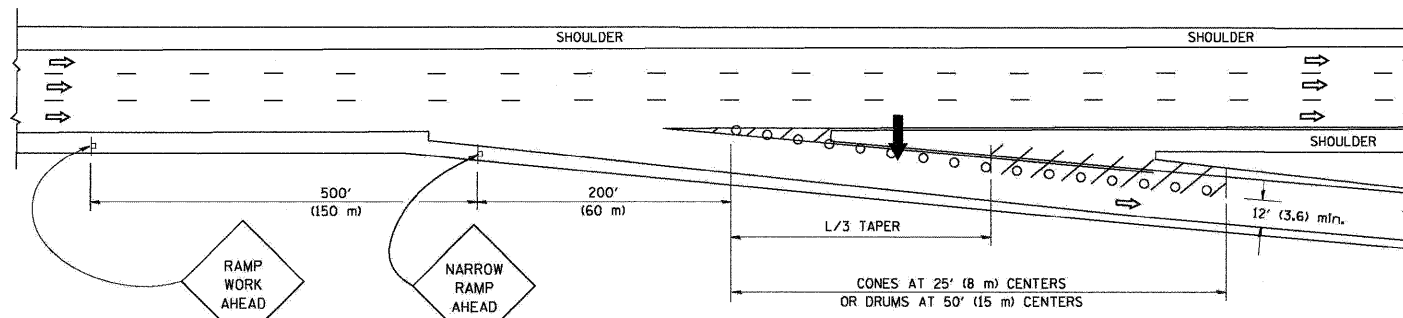
SHOULDER CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

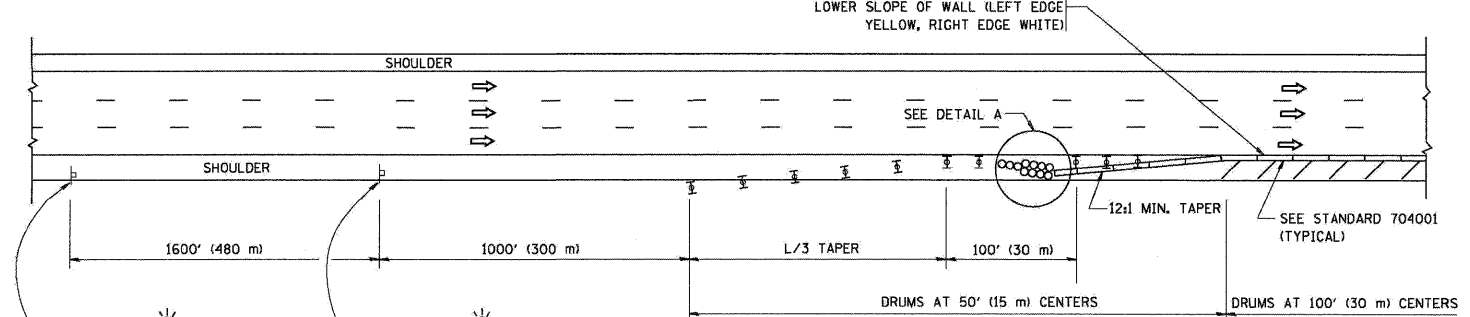
- ARROWBOARD
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

GENERAL NOTES

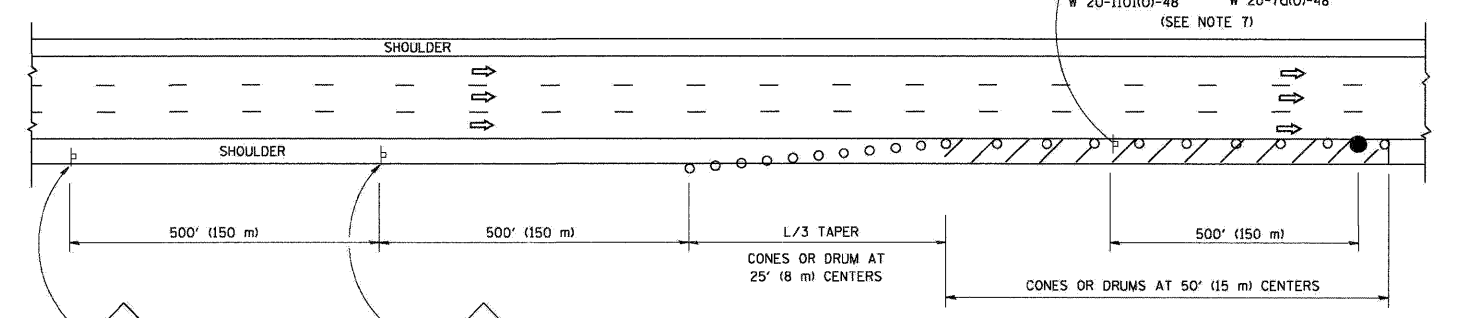
1. THE "L" DISTANCE EQUALS:
 

SPEED LIMIT	METRIC	ENGLISH
45 mph (80 km/h) OR GREATER	$L=0.65(W)(S)$	$L=(W)(S)$

W = WIDTH OF OFFSET IN FEET (METERS)  
S = NORMAL POSTED SPEED MPH (KM/H)
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

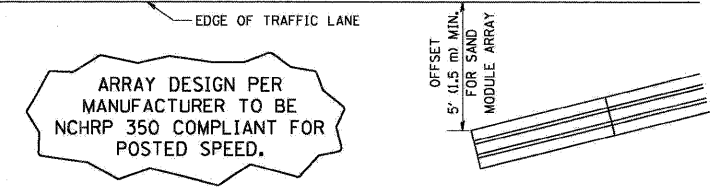


PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:  
1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCRGOACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



DETAIL "A"  
IMPACT ATTENUATOR, TEMPORARY  
(SEE NOTE 5)

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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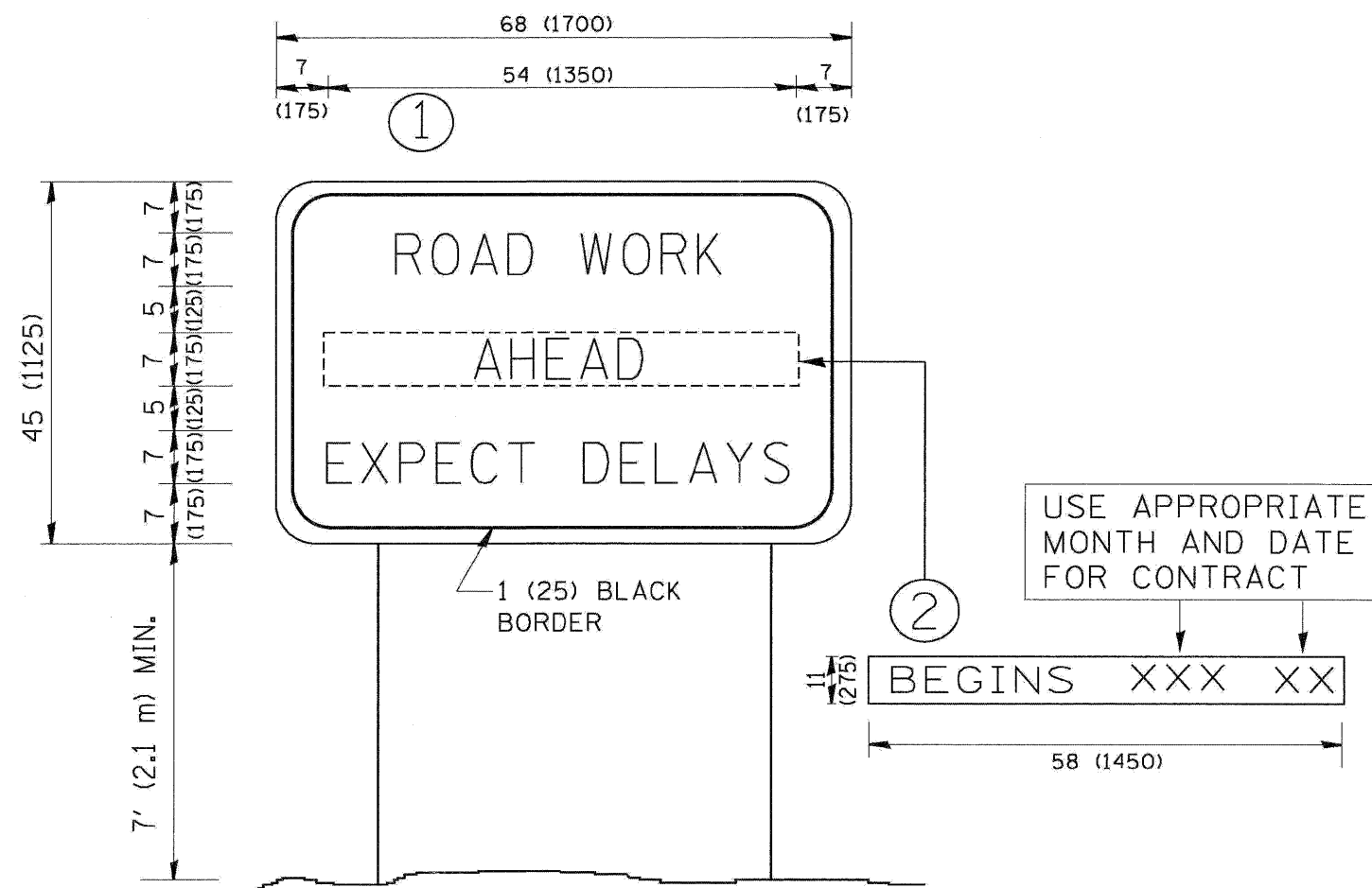
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT 1 DETAILS  
TRAFFIC CONTROL DETAILS FOR FREEWAY  
SHOULDER CLOSURES PARTIAL RAMP CLOSURES

SCALE: N.T.S. SHEET NO. 7 OF 8 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-1-2	COOK	37	36
CONTRACT NO. 60J30				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				



**NOTES:**

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

TC-22

FILE NAME =	DESIGNED - AJP	REVISED -
USER NAME =	DRAWN - AJP	REVISED -
PLOT DATE = 8/31/2010	CHECKED - KJN	REVISED -
	DATE - 3/19/10	REVISED -

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT 1 DETAILS  
ARTERIAL ROAD INFORMATION SIGN**

SCALE: N.T.S. SHEET NO. 8 OF 8 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	1010.1-1-2	COOK	37	37
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60J30	