

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAP 332	0101.1 I-3	COOK	11	1

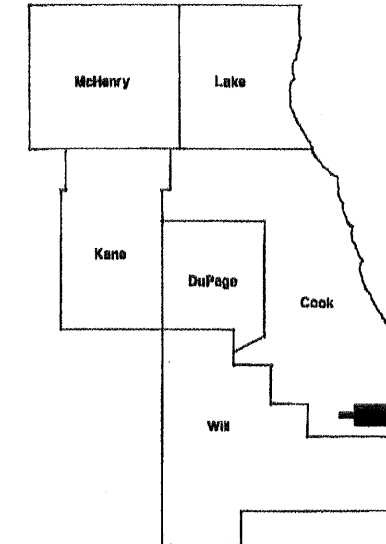
FOR INDEX OF SHEETS SEE SHEET 2

CONTRACT NO. 60G33

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
DISTRICT ONE  
PROPOSED HIGHWAY PLANS**

FAP ROUTE 332: IL 394 (BISHOP FORD EXPY)  
AT JOE ORR RD  
SECTION 0101.1 I-3  
BRIDGE REPAIR  
COOK COUNTY  
C-91-369-09

**D-91-369-09**



LOCATION OF IMPROVEMENT INDICATED THUS:

**IMPROVEMENT IS LOCATED IN  
THE VILLAGE OF LYNWOOD**

**LOCATION OF  
IMPROVEMENT  
SN 016-2121**

**TRAFFIC DATA:**

**IL 394**

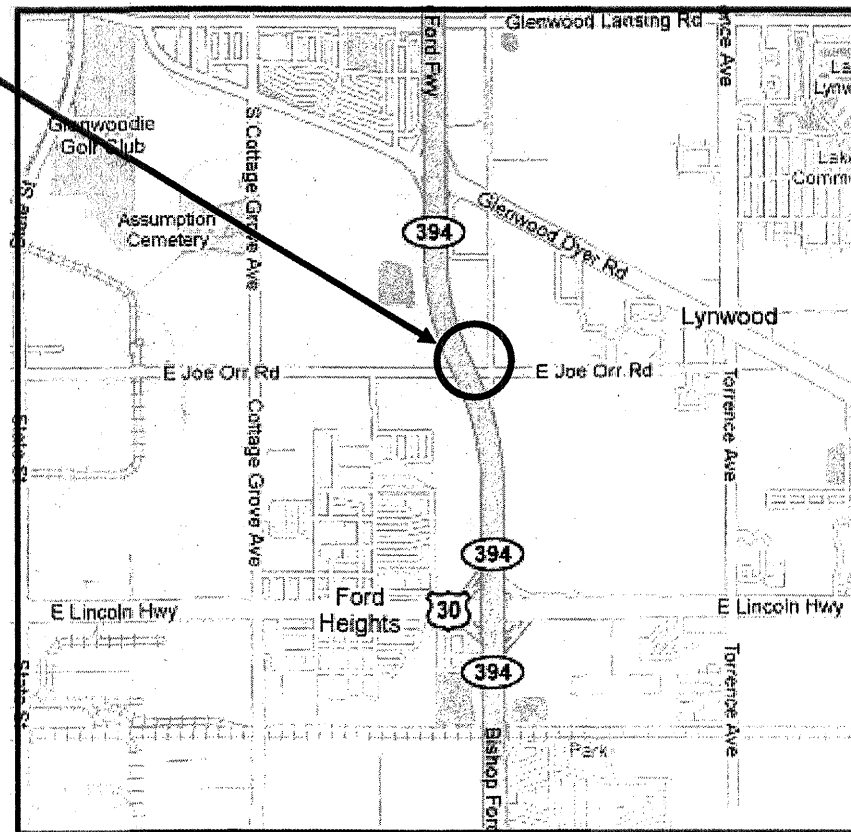
POSTED SPEED LIMIT = 55 MPH  
2007 ADT = 56000

**JOE ORR RD**

POSTED SPEED LIMIT = 45 MPH  
2006 ADT = 3700

R 14E

T 35 N



**BLOOM TOWNSHIP**



**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

SUBMITTED: APRIL 10, 2009  
*Diane M. O'Keefe*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 8, 2009  
*Charles J. Ingersoll*  
ENGINEER OF DESIGN AND ENVIRONMENT

May 8, 2009  
*Christine M. Reed*  
DIRECTOR, DIVISION OF HIGHWAYS

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

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

**PROJECT ENGINEER    ROBERT BORO (847) 705-4178**  
**PROJECT MANAGER    KEN ENG**

**CONTRACT NO. 60G33**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAP 332	0101.1 I-3	COOK	11	2

CONTRACT NO: 60G33

**INDEX OF SHEETS**

1	TITLE SHEET
2	INDEX OF SHEETS, STATE STANDARDS
3	GENERAL NOTES
4	SUMMARY OF QUANTITIES
5	BRIDGE TRAFFIC STAGING DETAILS
6 - 10	BRIDGE REPAIR PLAN SHEETS
11	ARTERIAL ROAD INFORMATION SIGN (TC-22)

**STATE STANDARDS**

STANDARD NO	DESCRIPTION
701206	TRAFFIC CONTROL AND PROTECTION, 2L, 2W, NIGHT ONLY
701301	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701400	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401	LANE CLOSURE, FREEWAY/EXPRESSWAY
701801	TRAFFIC CONTROL AND PROTECTION, SIDEWALK CLOSURE
701901	TRAFFIC CONTROL DEVICES

ILLINOIS DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS  
STATE STANDARDS

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAP 332	0101.1 I-3	COOK	11	3

CONTRACT NO: 60G33

### GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL J.U.L.I.E. AT (800)892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES (48 HOURS NOTIFICATION IS REQUIRED).

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4151 FOR EXPRESSWAYS AND (847) 705-4470 FOR ARTERIALS A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

WHEN ARTIFICIAL LIGHTING IS USED IN NIGHT OPERATIONS, THE CONTRACTOR SHALL EXERCISE THE UPMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJOINING RESIDENTIAL AREAS.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECTION.

THE "ARTERIAL ROAD INFORMATION SIGN" (TC-22) DETAIL IS APPLICABLE ONLY TO ARTERIAL ROADS AND SHALL NOT BE APPLIED TO EXPRESSWAYS.

THESE PLANS HAVE BEEN PREPARED FROM NOTES RECEIVED FROM BRIDGE INSPECTORS.

THE CONTRACTOR SHALL SALVAGE AND RETURN THE EXISTING STEEL CARRIER BEAM (W33 X 130, ±71 FT LONG) TO:

DISTRICT BRIDGE OFFICE  
1101 BIESTERFIELD RD.  
ELK GROVE VILLAGE, IL 60007

CONTACT SHAKER ASFOUR AT (847) 956-1501. IF CARRIER BEAMS NEED TO BE DISASSEMBLED FOR TRANSPORT, THE BEAMS SHALL BE UNBOLTED AND SPLICE PLATES SALVAGED; FLAME CUTTING OF BEAM IS NOT ALLOWED. THIS WORK SHALL INCLUDE REMOVING, TRANSPORTING, AND UNLOADING THE EXISTING CARRIER BEAM TO THE ABOVE YARD WHICH COST IS INCLUDED IN THE COST OF "STRUCTURAL STEEL REMOVAL".

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

<b>ROUTE</b>	<b>SECTION</b>	<b>COUNTY</b>	<b>TOTAL SHEETS</b>	<b>SHEET NUMBER</b>
FAP 332	0101.11-3	COOK	11	4

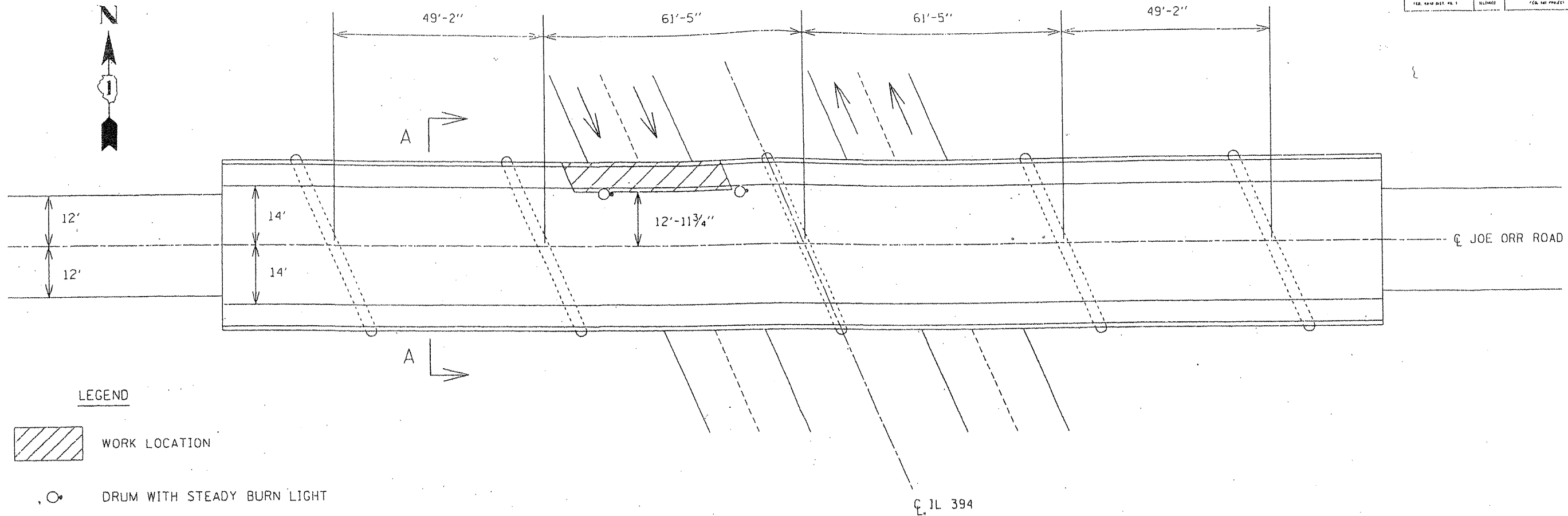
CONTRACT NO.: 60G33

MCHD CLAIM # 732093		CONSTRUCTION TYPE CODE: SFTY - 2A			
CODE NO.	ITEMS	UNITS	URBAN TOTAL QUANTITIES	MCHD	CONTRACT MAINTENANCE
50102400	CONCRETE REMOVAL	CU YD	1.4	1.4	0
50300255	CONCRETE SUPERSTRUCTURE	CU YD	1.4	1.4	0
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	6220	5370	850
50501110	STRUCTURAL STEEL REMOVAL	POUND	13,930	13,930	0
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	70	70	0
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3	1.5	1.5
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70100455	TRAFFIC CONTROL AND PROTECTION, STANDARD 701206	L SUM	1	1	0
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	1	0
X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	51.4	51.4	0
X0325702	NIGHTTIME WORKZONE LIGHTING	LSUM	1	1	0
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	0.5	0.5
Z0003600	BEAM STRAIGHTENING	L SUM	1	0	1
Z0073300	TEMPORARY SHORING AND CRIBBING	L SUM	1	1	0

Rev.

ILLINOIS DEPARTMENT OF  
TRANSPORTATION  
  
SUMMARY OF QUANTITIES

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0101.1 J-3	COOK	11	5
STA.	TO STA.	FED. PROJ. NO.	



LEGEND

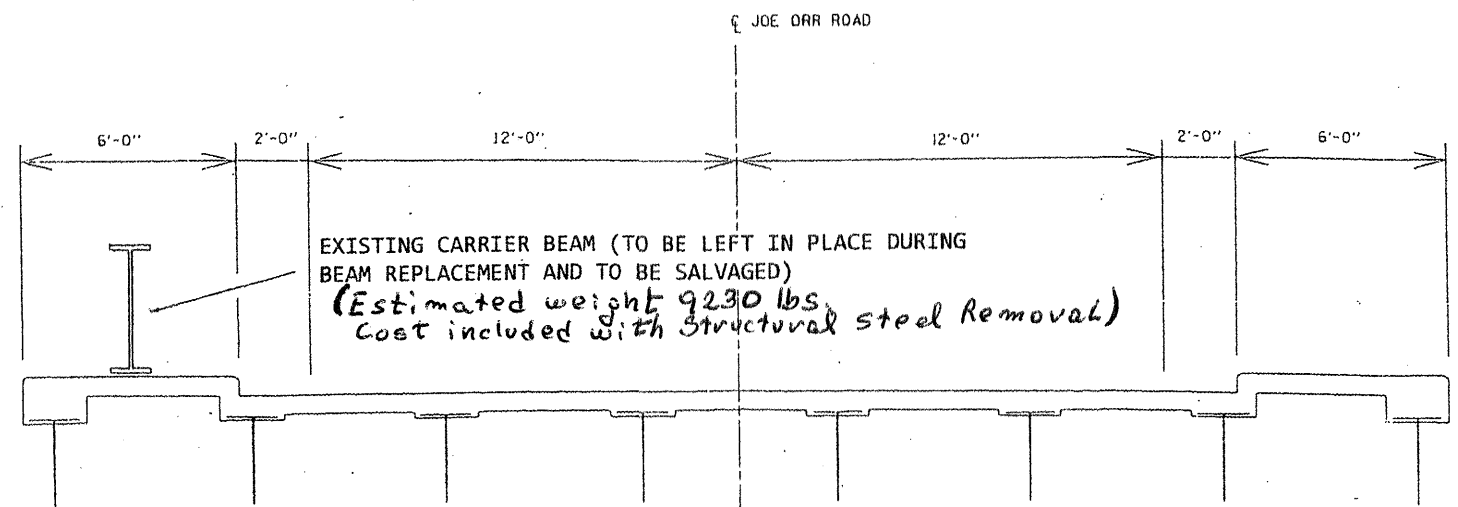
- WORK LOCATION
- DRUM WITH STEADY BURN LIGHT

PLAN VIEW

NOTES

- USE STANDARD 701206 FOR LANE CLOSURES WHEN WORKERS ARE PRESENT.
- USE STANDARD 701801 FOR SIDEWALK CLOSURE.
- NO OPEN HOLES ALLOWED OVERNIGHT

THE COST OF PROVIDING NIGHT AND WEEKEND TRAFFIC CONTROL, WHEN NO WORKERS ARE PRESENT, AS OUTLINED IN THIS DETAIL, IS INCLUDED IN THE COST FOR STANDARD 701206.



SECTION A-A

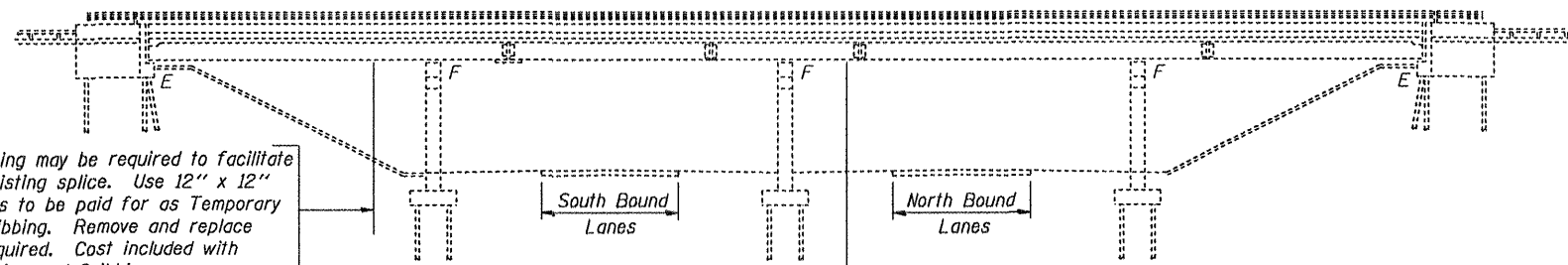
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL PLAN**  
 JOE ORR ROAD OVER IL 394  
 NIGHT/WEEKEND TRAFFIC CONTROL -  
 NO WORKERS PRESENT

SCALE: N.T.S.      DRAWN BY: CAUD  
 DATE: 1/30/02      CHECKED BY:

9-MAR-91 11:25:33  
 P61110044JUDT69148.DGN1  
 LEVELS = 2,3,9,16,27,28,29,35,36,48,55

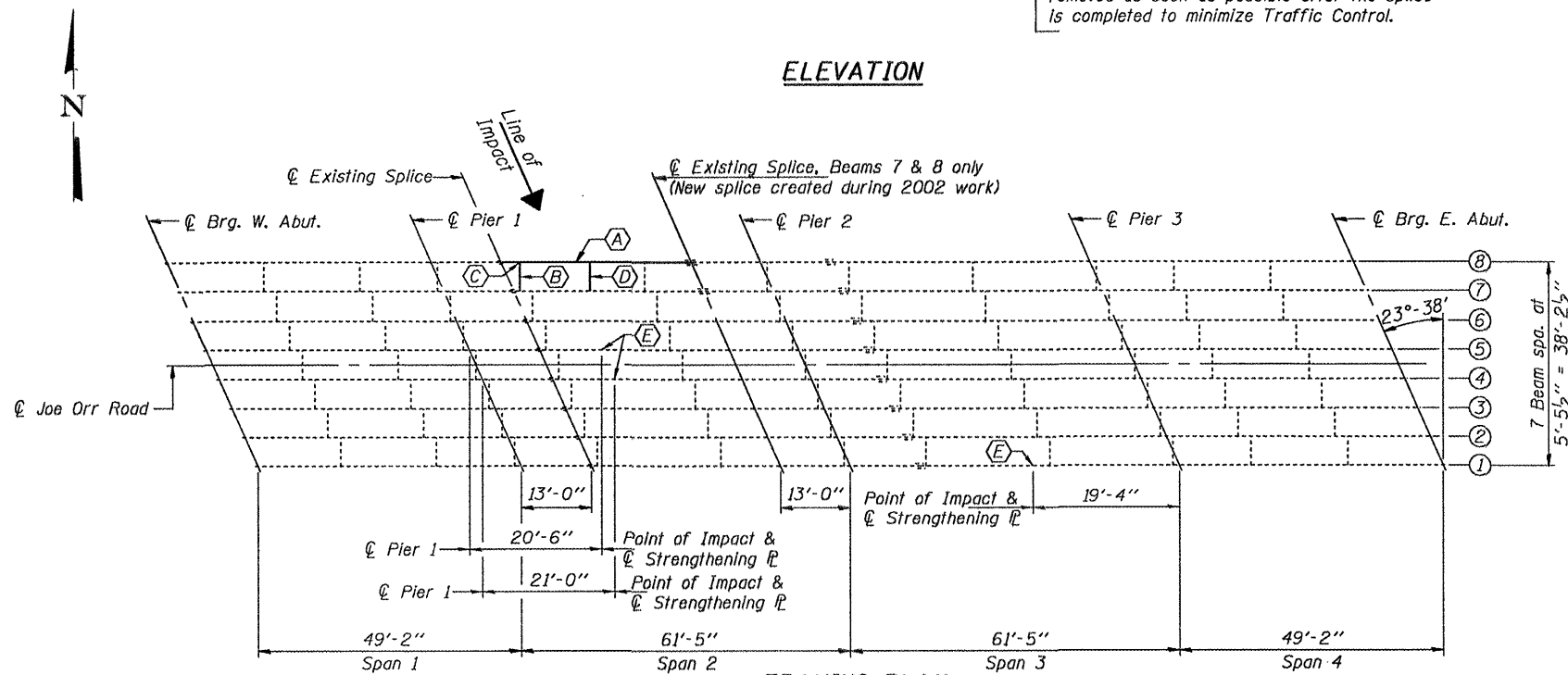
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



Temporary shoring may be required to facilitate alignment of existing splice. Use 12" x 12" Timbers or HP's to be paid for as Temporary Shoring and Cribbing. Remove and replace slopewall, if required. Cost included with Temporary Shoring and Cribbing.

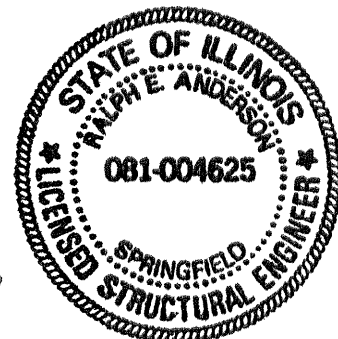
Temporary shoring may be required to facilitate alignment of new splice. Use 12" x 12" Timbers or HP's to be paid for as Temporary Shoring and Cribbing. The shoring shall be removed as soon as possible after the splice is completed to minimize Traffic Control.

ELEVATION



FRAMING PLAN

- (A) - Existing Beam to be replaced.
- (B) - Existing Diaphragm to be replaced.
- (C) - Existing Clip Angles to be replaced.
- (D) - Add New Diaphragm and Clip Angles.
- (E) - Existing Beam to be Straightened and Strengthened



Expires: November 30, 2010

DESIGNED	Adrian T. Holloway	APRIL 27, 2009
CHECKED	[Signature]	EXAMINED
DRAWN	Kyle M. Steffen	PASSED
CHECKED	ASH	[Signature]

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.  
Fasteners shall be high strength bolts. Bolts 7/8"φ, open holes 15/16"φ, unless otherwise noted.  
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.  
Reinforcement bars designated (E) shall be epoxy coated.  
Plan dimensions and details relative to existing plans are subject to routine 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 based upon the unit price bid for the work.  
Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Furnishing and Erecting Structural Steel.  
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.  
The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, Munsell No. 2.5YR 3/4. See Special Provision "Cleaning and Painting New Metal Structures".  
After the new beam is in its final position and/or beam straightening operations have been completed, the Engineer in the field shall check to see that the top flange is tight against the slab. If not, the Contractor shall inject epoxy between the existing concrete deck and the top flange of the beam. See Special Provision "Epoxy Injection".  
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".  
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

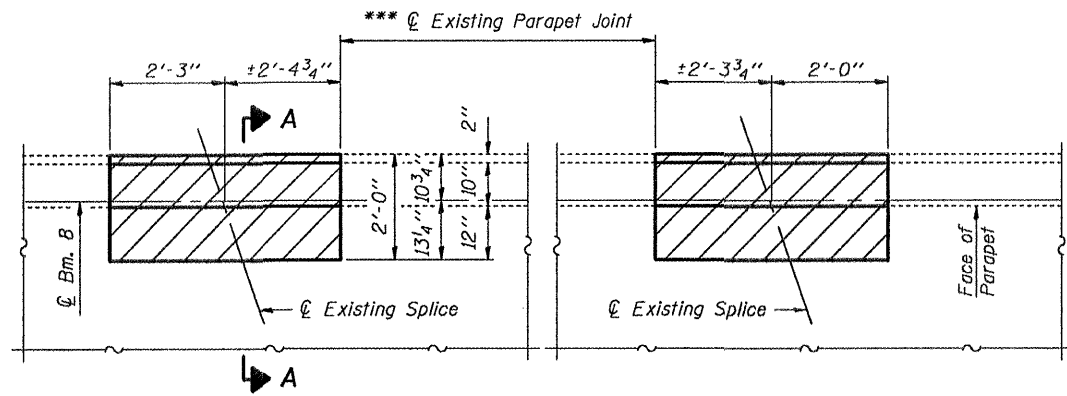
TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	1.4
Concrete Superstructure	Cu. Yd.	1.4
Furnishing and Erecting Structural Steel	Pound	6220
Temporary Shoring and Cribbing	L.S.	1
Structural Steel Removal	Pound	4700
Reinforcement Bars, Epoxy Coated	Pound	70
Beam Straightening	L.S.	1

PLAN & ELEVATION  
SN 016-2121

SHEET NO. 1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	0101.1 I-3	COOK	11	6
5 SHEETS	CONTRACT NO. 60G33				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

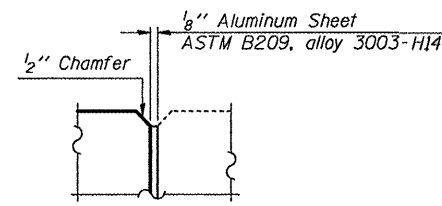


**CONCRETE REMOVAL & REPLACEMENT**

Hatched areas indicate concrete sections to be removed and replaced. Perimeters of concrete removal areas shall be saw cut 3/4" prior to the removal of concrete.

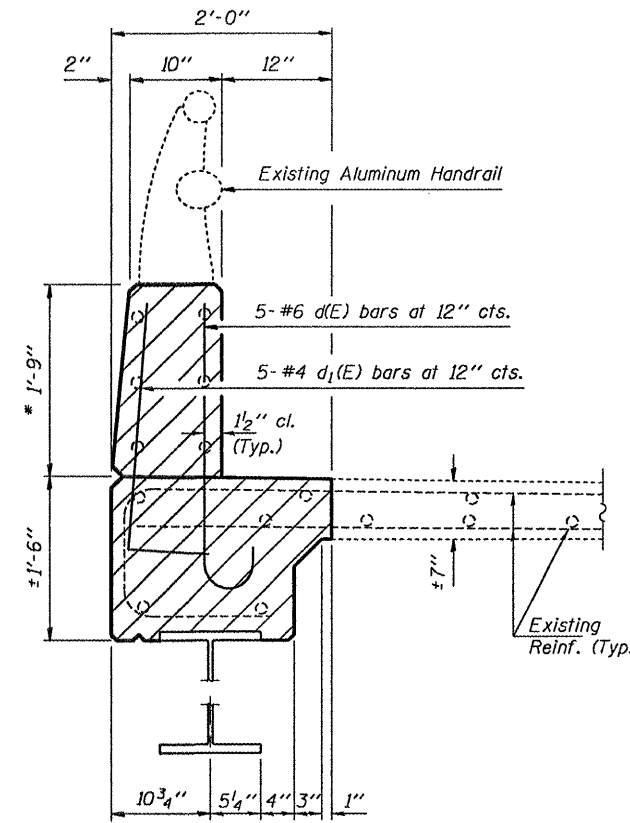
Reinforcement shall be cut only if required for fitting bolts. Cut reinforcement shall be spliced as directed by the Engineer. Cost included with Concrete Removal.

Existing aluminum railing and posts over removal areas shall be measured in the field before removal and re-erected in the same location. Cost included with Concrete Removal.

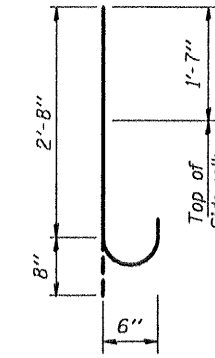


**PARAPET JOINT NOTCH DETAIL**

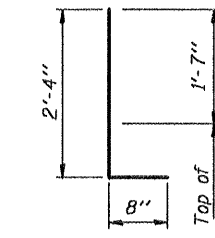
\* Bonded construction joints required at all new-to-existing concrete interfaces except at existing parapet joints. At these 2 locations, new parapet joint shall consist of a 1/8" aluminum sheet; see notch detail. Cost included with Concrete Superstructure.



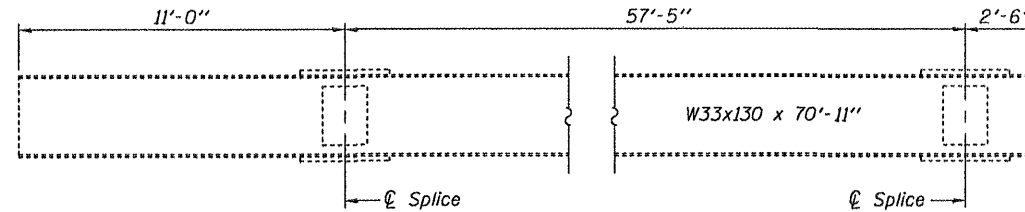
**SECTION A-A**



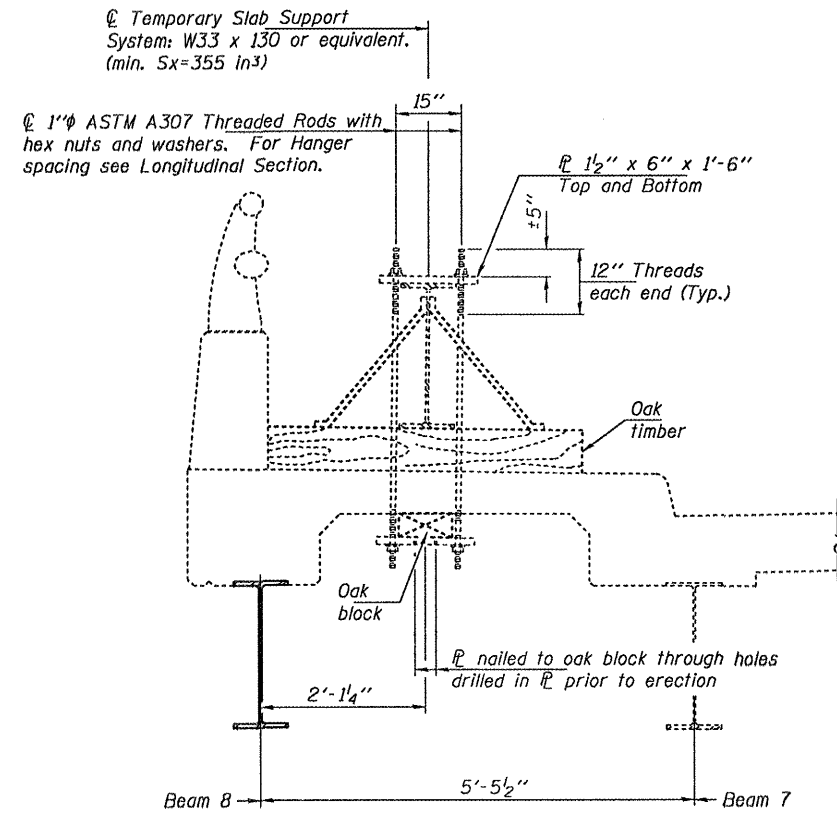
**BAR d(E)**



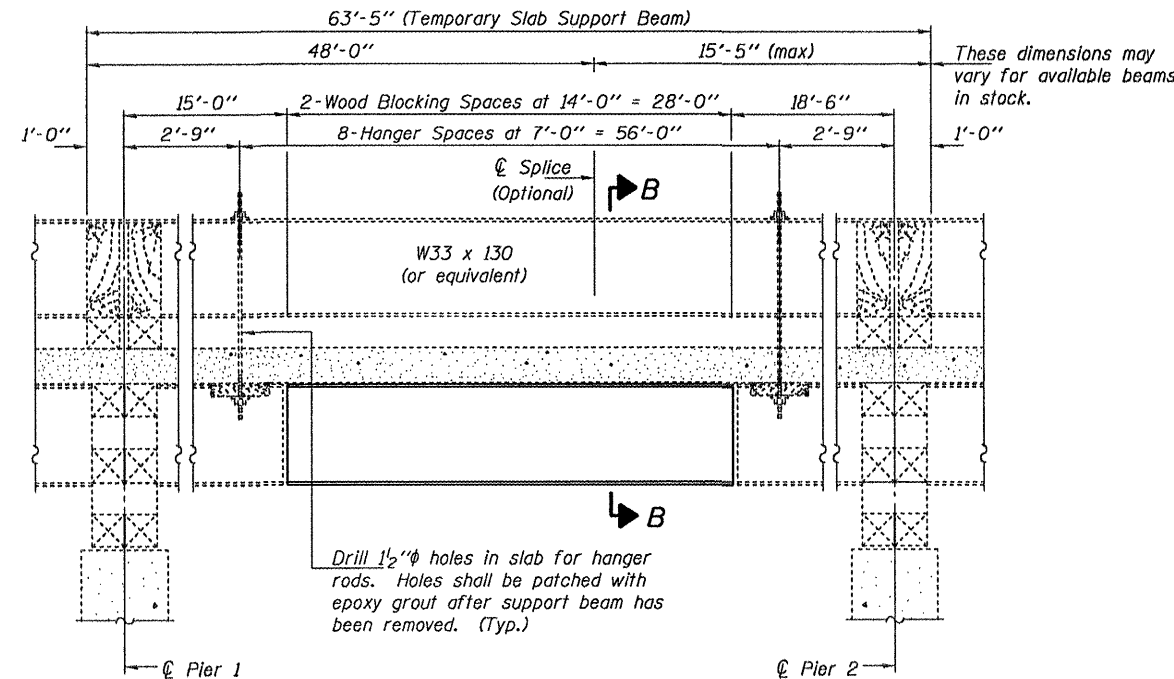
**BAR d1(E)**



**EXISTING TEMPORARY SLAB SUPPORT BEAM**



**SECTION B-B**



**LONGITUDINAL SECTION  
EXISTING TEMPORARY SLAB SUPPORT SYSTEM**

(Looking North)  
(For Information Only)

Notes:  
Existing reinforcement extending into the 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 shall be included with Concrete Removal.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	10	#6	3'-4"	
d1(E)	10	#4	3'-0"	
Concrete Removal			Cu. Yd.	1.4
Concrete Superstructure			Cu. Yd.	1.4
Reinforcement Bars, Epoxy Coated			Pound	70

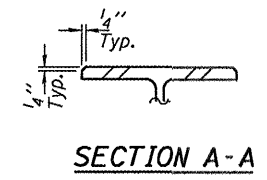
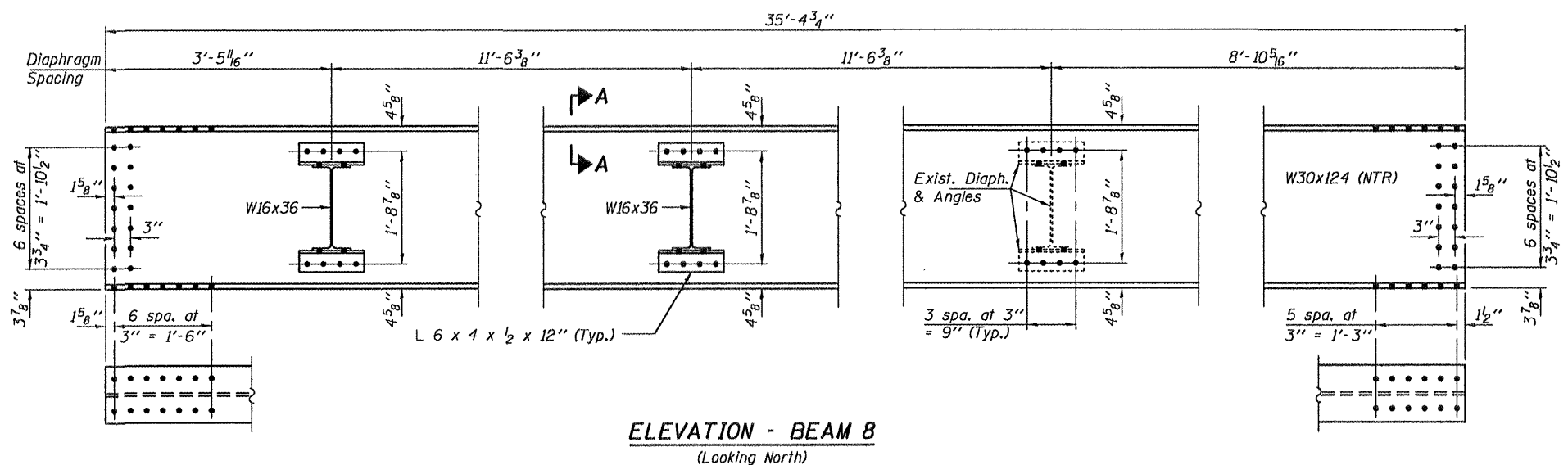
**SUPERSTRUCTURE DETAILS  
SN 016-2121**

DESIGNED	ATH
CHECKED	GGE
DRAWN	Kyle M. Steffen
CHECKED	ATH GGE

APRIL 27, 2009  
EXAMINED *A. Carl Hoyer*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

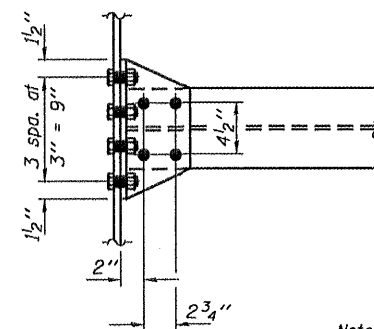
SHEET NO. 2 5 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	0101.1 I-3	COOK	11	7
CONTRACT NO. 60G33					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

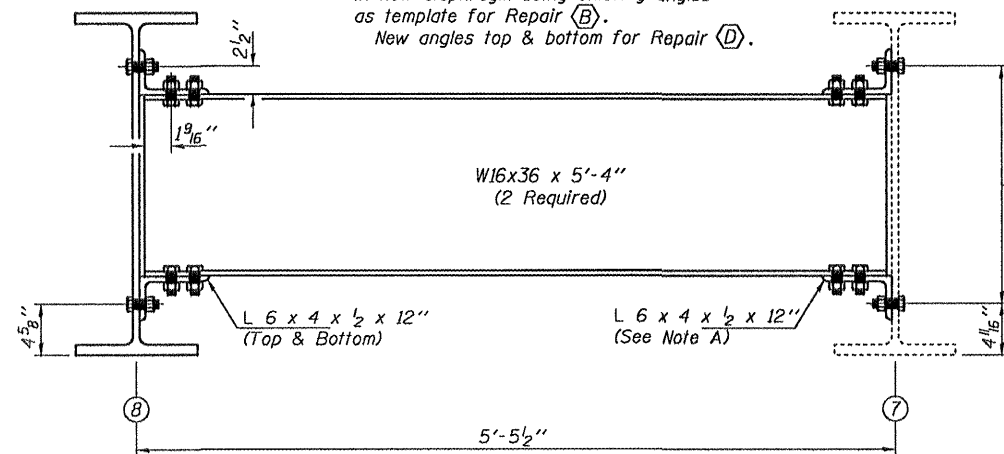


Notes:

Natural camber of new beam shall be placed upward for fabrication.  
Diaphragm connection holes shall be  $\frac{15}{16}$ "  $\phi$  for  $\frac{3}{4}$ "  $\phi$  bolts. Two hardened washers shall be required at diaphragm connections.  
Reuse existing  $\frac{3}{4}$ " flange and  $\frac{3}{8}$ " web splice  $\ell$ 's. All bolts to be removed and replaced.  
The cost of field drilling required for installation of the steel members is included with Furnishing and Erecting Structural Steel.



Note A:  
Use existing angles and field drill holes in new diaphragm using existing angles as template for Repair (B).  
New angles top & bottom for Repair (D).



Field drill holes in Beam 7 using angles as template. (Repair (D) only.)

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	5370

**STRUCTURAL STEEL DETAILS**  
SN 016-2121

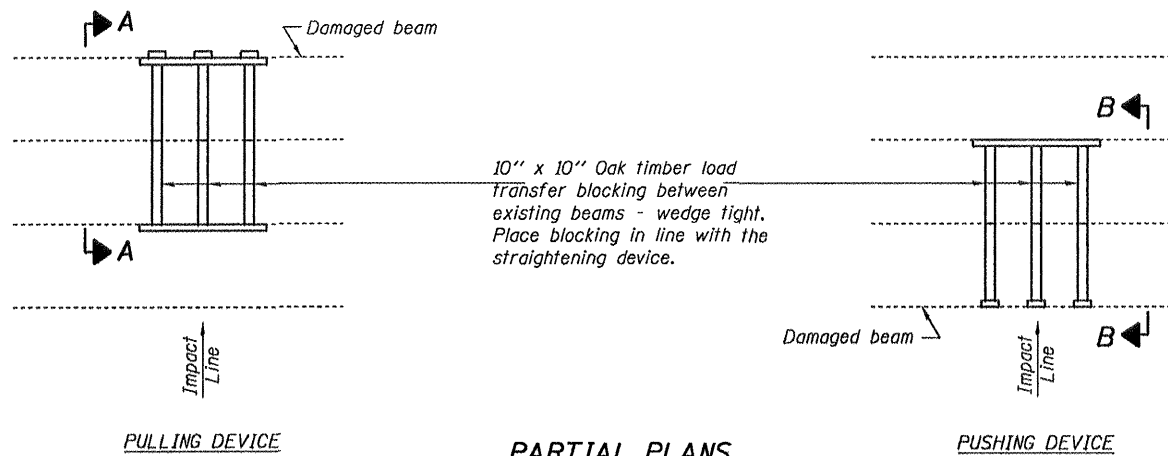
DESIGNED	ATH
CHECKED	GGE
DRAWN	Kyle M. Steffen
CHECKED	ATH GGE

APRIL 27, 2009  
EXAMINED *Carl Krueger*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 3 5 SHEETS	F.A.P. RTE. 332	SECTION 0101.1 I-3	COUNTY COOK	TOTAL SHEETS 11	SHEET NO. 8
	CONTRACT NO. 60G33				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

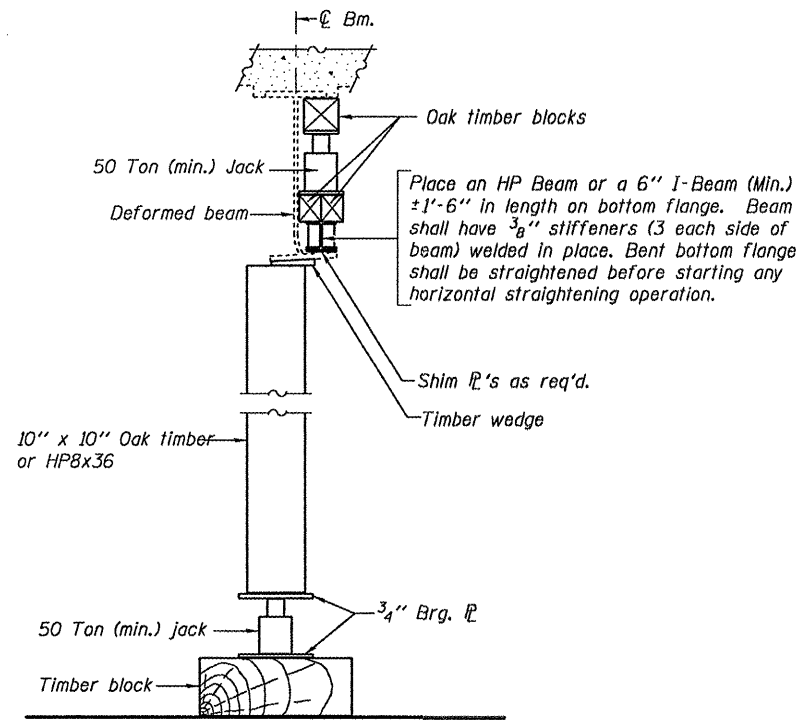


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

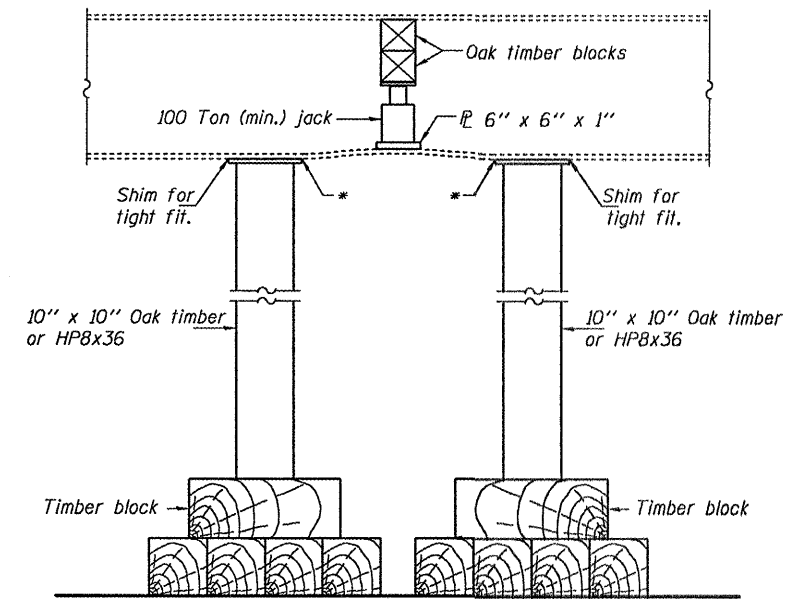


**PARTIAL PLANS**  
**SUGGESTED BEAM STRAIGHTENING METHODS**

Straightening force shall be maintained on all load transfer blocking during beam straightening.



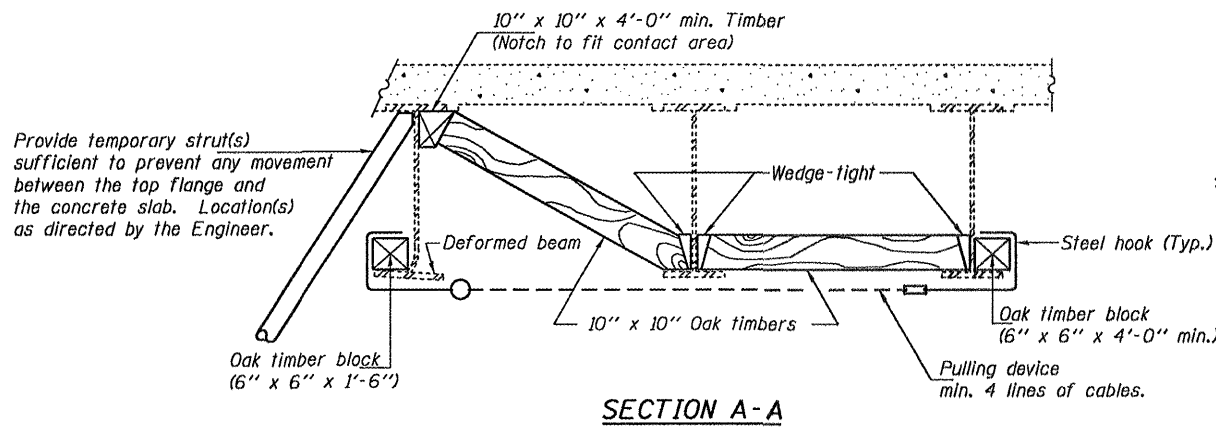
**SUGGESTED VERTICAL STRAIGHTENING DETAIL**  
(To correct localized vertical flange deformations.)



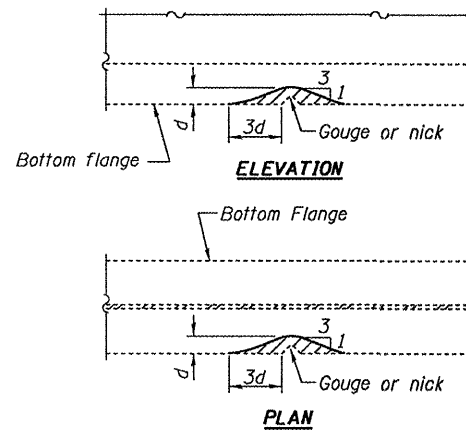
**SUGGESTED VERTICAL STRAIGHTENING DETAIL**  
(To correct localized vertical flange deformations.)

\* Edge of plate shall line up with edge of deformation.

Note:  
Braces and jack assembly shall be placed on same side of web.  
Bent bottom flange shall be straightened before starting any horizontal straightening operations.

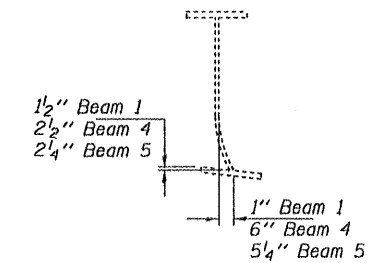


**SECTION A-A**



**GRINDING DETAIL**

Grind existing nicks, gouges and shallow cracks in the damaged beams as detailed. Ground surfaces shall be inspected for cracks using magnetic particle testing prior to initiating any beam straightening operations. Any cracks that cannot be removed by grinding approximately 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Ground surfaces shall be spot cleaned and painted with an aluminum epoxy mastic primer followed by a finish coat to match the color of the existing beam. Cost of grinding, testing and spot painting included with Beam Straightening.



**EXISTING DEFORMATION TO BE STRAIGHTENED**

(Looking East)  
(Approximate max. deflections)  
Deflected length of beam to be straightened is approximately 7'-0" (Beam 1), 11'-6" (Beam 4), and 9'-0" (Beam 5).

**BEAM STRAIGHTENING DETAILS**  
**SN 016-2121**

DESIGNED	ATH
CHECKED	GGE
DRAWN	Kyle M. Steffen
CHECKED	ATH GGE

APRIL 27, 2009

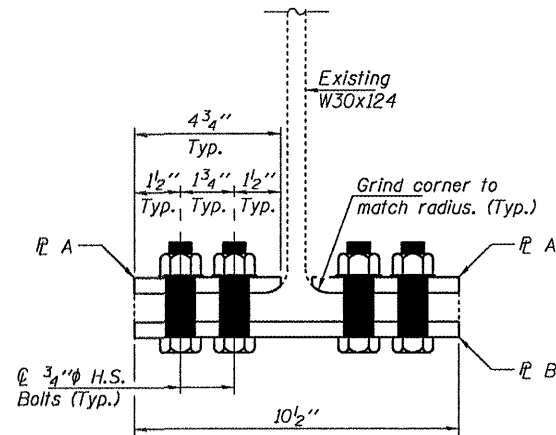
EXAMINED *A. Carl Poyner*  
ENGINEER OF STRUCTURAL SERVICES

PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

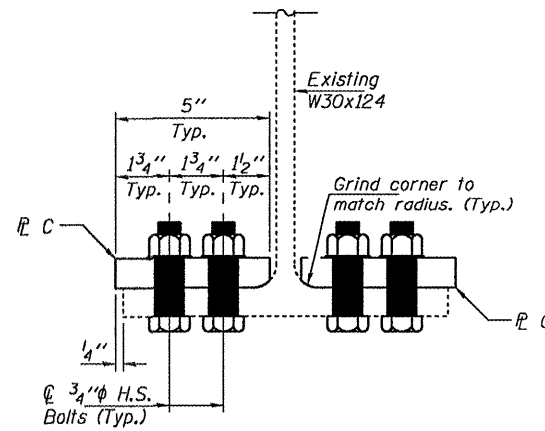
SHEET NO. 4	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	0101.1 I-3	COOK	11	9
5 SHEETS	CONTRACT NO. 60G33				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

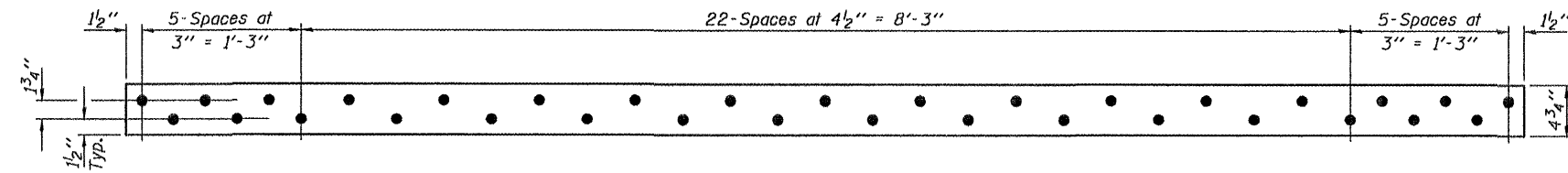
Note:  
Field drill holes in existing flange using  
holes in Strengthening PL's as template.



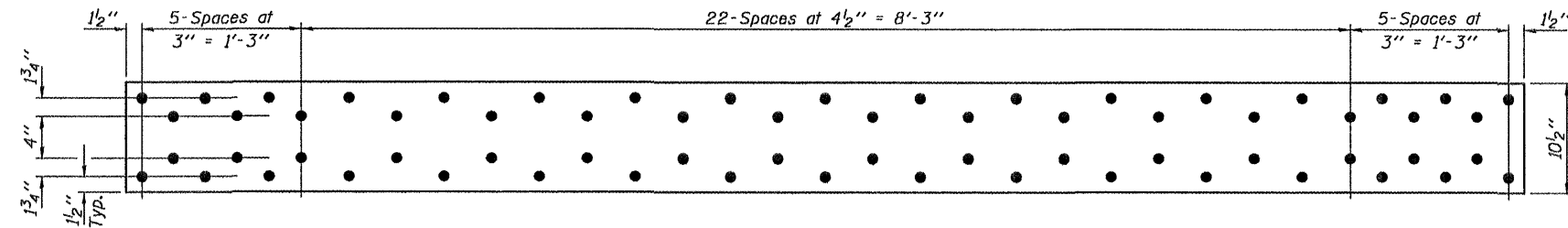
**SPAN 2 - BEAMS 4 & 5  
STRENGTHENING DETAIL**



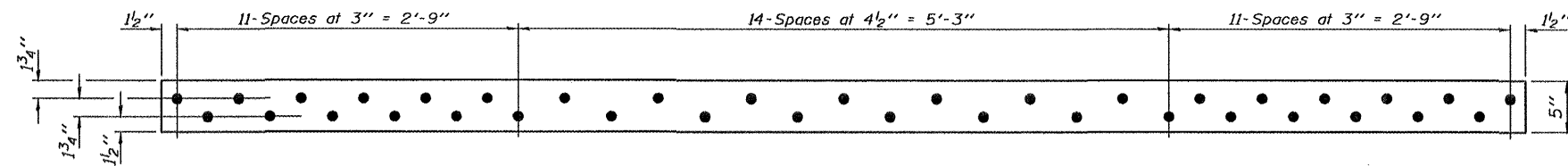
**SPAN 3 - BEAM 1  
STRENGTHENING DETAIL**



**STRENGTHENING PL A**  
PL 1/2" x 4 3/4" x 11'-0" (NTR)  
(4 Required)



**STRENGTHENING PL B**  
PL 1/2" x 10 1/2" x 11'-0" (NTR)  
(2 Required)



**STRENGTHENING PL C**  
PL 1" x 5" x 11'-0" (NTR)  
(2 Required)

**BILL OF MATERIAL**

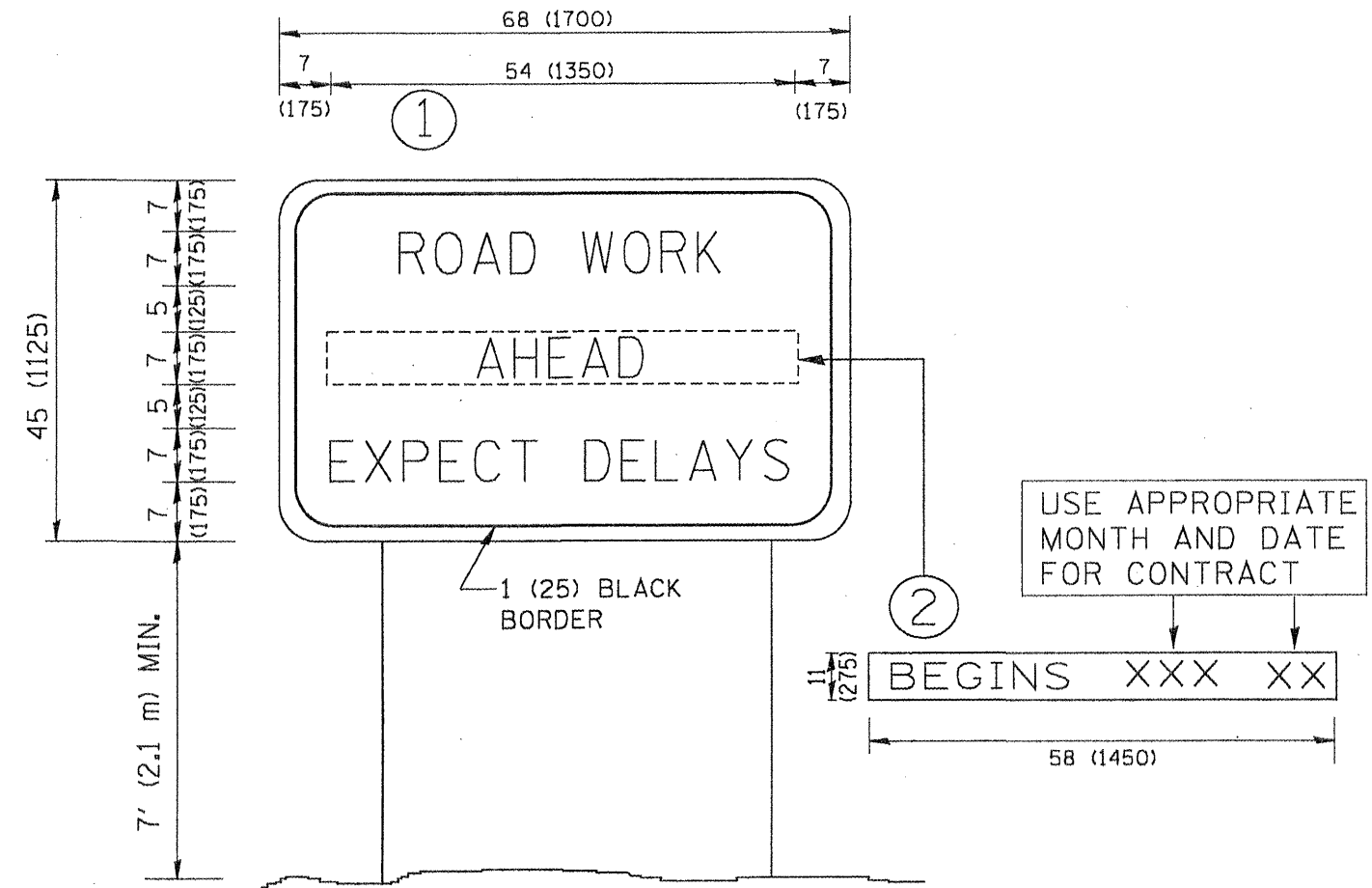
ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	850

**BEAM STRENGTHENING DETAILS  
SN 016-2121**

DESIGNED	ATH
CHECKED	GGE
DRAWN	Kyle M. Steffen
CHECKED	ATH GGE

APRIL 27, 2009  
EXAMINED *A. Carl Perry*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 5 5 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	0101.1 I-3	COOK	11	10
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60G33					



**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.

FILE NAME =	USER NAME = geglionob	DESIGNED -	REVISED - R. MIRS 09-15-97
W:\distsd\22x34\to22.dgn		DRAWN -	REVISED - R. MIRS 12-11-97
		CHECKED -	REVISED - T. RAMMACHER 02-02-99
		DATE -	REVISED - C. JUCIUS 01-31-07

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ARTERIAL ROAD  
INFORMATION SIGN

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1-3	COOK	11	11
TC-22			CONTRACT NO.	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				