

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2697	2008-018 BR	COOK	22	1
FED. ROAD DIST. NO. _____			ILLINOIS CONTRACT NO. 60E47	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

FAU 2697 / FAI 55 (WILLOW SPRINGS ROAD /I-55)
SECTION: 2008-018 BR

(1) WILLOW SPRINGS ROAD OVER DES PLAINES RIVER AND I & M CANAL
(2) I-55 TO IL 171 NB RAMP OVER DES PLAINES RIVER
BRIDGE REPAIRS
COOK COUNTY
C-91-391-08

FOR INDEX OF SHEETS SEE SHEET NUMBER 2

THIS IMPROVEMENT IS LOCATED IN
THE VILLAGE OF WILLOW SPRINGS
AND THE CITY OF SUMMIT

TRAFFIC DATA

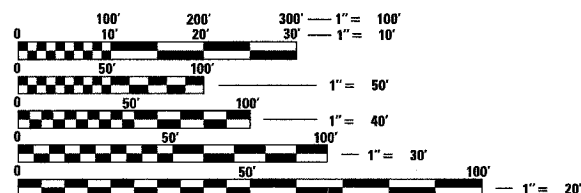
2005 ADT - 17,700
POSTED SPEED LIMIT - 40 MPH

WILLOW SPRINGS ROAD

SN: 016-0540 (STA. 114+54.50 TO 129+84.00)
9 - SPAN STEEL CONTINUOUS MULTIBEAM
WITH REINFORCED CONCRETE DECK
ON PIERS AND CLOSED ABUTMENTS

SB I-55 RAMP TO NB FIRST AVENUE

SN: 016-0987
STEEL CONTINUOUS MULTIBEAM
WITH REINFORCED CONCRETE DECK
ON PIERS AND CLOSED ABUTMENTS

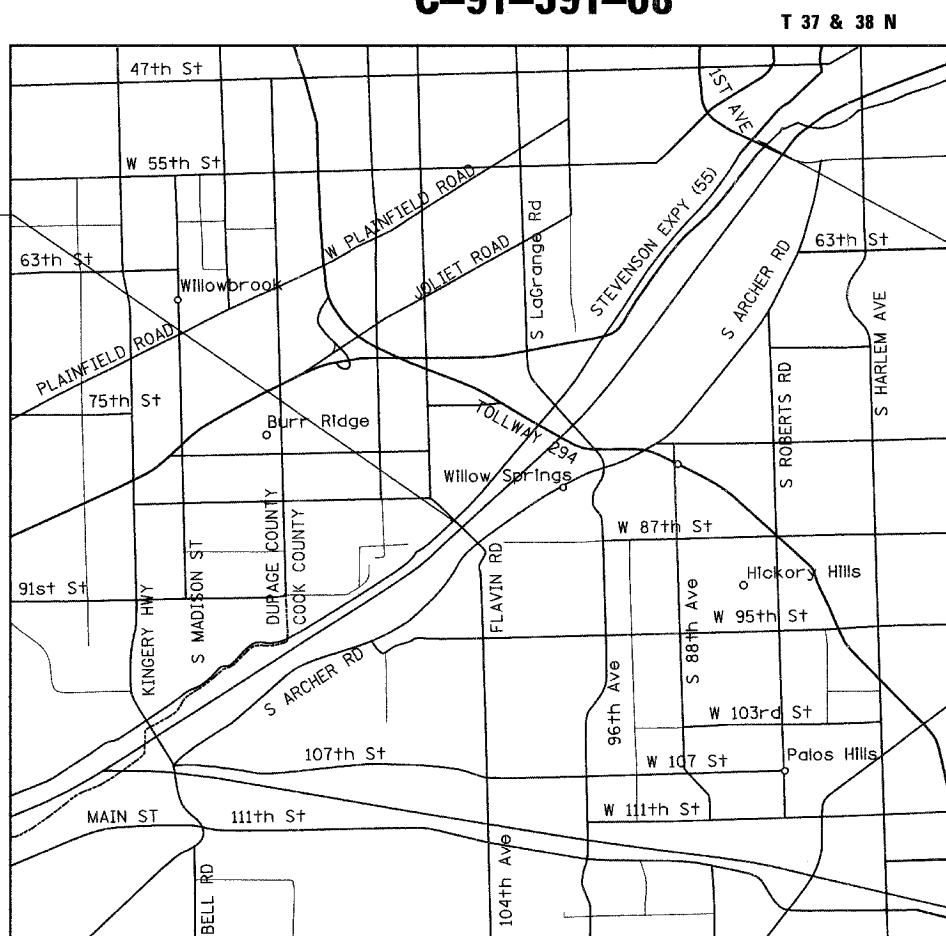


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

IMPROVEMENT LOCATION (1)
SN: 016-0540

IMPROVEMENT LOCATION (2)
SN: 016-0987



LYONS TOWNSHIP

LOCATION MAP
1" = 5000'

Ciorba Group, Inc.

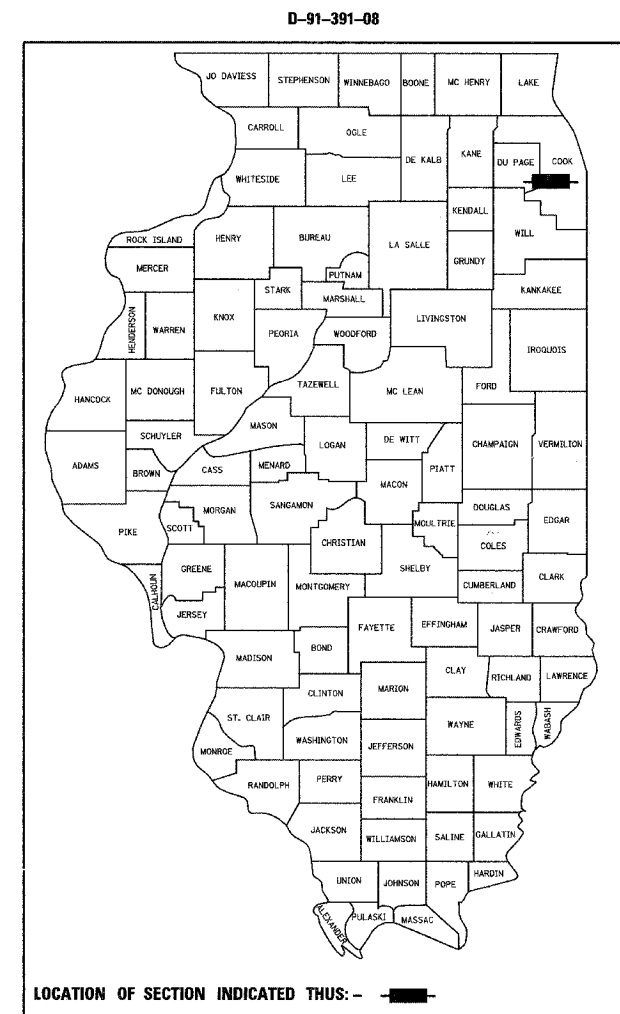
DESIGN FIRM
REGISTRATION NUMBER

184-001016

CONSULTING ENGINEERS
SUITE 402, 5507 NORTH CUMBERLAND AVE
CHICAGO, ILLINOIS 60656 :: (773) 775-4009



DATE: 4/11/2008
SEAL EXPIRES: 11/30/2008



LOCATION OF SECTION INDICATED THUS: - [black rectangle] -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED APRIL 11, 2008

Devin M. O'Keefe DE
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 9, 2008

Eric E. Haral DE
ENGINEER OF DESIGN AND ENVIRONMENT

May 9, 2008

Christine M. Reed DE
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

CONTRACT NO. 60E47

DISTRICT 1 DESIGN PLAN PREPARATION ENGINEER: K. ENG (847) 705-4247

INDEX OF SHEETS

SHEET NO	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES
3	SUMMARY OF QUANTITIES
4-19	STRUCTURAL REPAIR DETAILS
20	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)
21	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES PARTIAL RAMP CLOSURES (TC-17)
22	ARTERIAL ROAD INFORMATION SIGN (TC-22)

STATE STANDARDS

000001-05	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
701606-05	URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701901	TRAFFIC CONTROL DEVICES

GENERAL NOTES

- BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE, AND GAS FACILITIES. (48 HOUR NOTIFICATIONS IS REQUIRED)
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES.
- WHEN ARTIFICIAL LIGHTING IS USED IN NIGHT OPERATIONS THE CONTRACTOR SHALL EXERCISE THE UTMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJOINING RESIDENTIAL AREAS.
- THE ENGINEER SHALL CONTACT THE TRAFFIC CONTROL SUPERVISORS AT (847) 705-4470 A MINIMUM OF 72 HOURS PRIOR TO THE START OF WORK.

COMMITMENTS

NONE

FILE NAME = N:\PROJ\3329\3329_28\Design\Structural\CAD\SHA\Steel_Repairs\3329_36-02-index.dwt



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Tel. 773.775.4008 Fax 773.775.4014

USER NAME = rdenley	DESIGNED - JCC	REVISED -
	DRAWN - JCC	REVISED -
PLOT SCALE = 1:8000' / IN.	CHECKED - MJL	REVISED -
PLOT DATE = 4/16/2008	DATE - 02/25/08	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FAU 2697 / FAI 55 (WILLOW SPRINGS ROAD / I-55)
INDEX OF SHEETS, STATE STANDARDS & GENERAL NOTES**

F.A.I.L. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2697	2008-018 BR	COOK	22	2
				CONTRACT NO. 60E47
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.

SUMMARY OF QUANTITIES			URBAN	CONSTRUCTION CODE	
CODE NO.	DESCRIPTION	UNIT	100% STATE TOTAL QUANTITY	FAU 2697	FAI 55
				WILLOW SPRINGS BRIDGE X041-2A	I-55 BRIDGE X041-2A
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	16,000	16,000	
50501110	STRUCTURAL STEEL REMOVAL	POUND	15,020	14,890	130
50606400	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	L SUM	1	1	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	3	3
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	1	
X0322256	TEMPORARY INFORMATION SIGNING	SO FT	52	52	
X0322556	STIFFENER INTERSECTION MODIFICATION	EACH	1,420	1,420	
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1		1
Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	12	12	
67100100	MOBILIZATION	L SUM	1	0.5	0.5
50501110	STRUCTURAL STEEL REMOVAL	POUND	130		130

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	DRAWN - JCC	REVISED -
PLOT SCALE = 1:8000' / IN.	CHECKED - MJL	REVISED -
PLOT DATE = 4/17/2008	DATE - 02/25/08	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FAU 2697 / FAI 55 (WILLOW SPRINGS ROAD / I-55)
 SUMMARY OF QUANTITIES**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.I.L. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2697	2008-018 BR	COOK	22	3
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			CONTRACT NO. 60E47	

Benchmark: Survey Monument (Bronze Disk) located on the concrete sidewalk NE side of bridge for the commuter parking lot on Old Willow Road. Sta. 125+91 offset 46 Rt Elev. 598.39

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 2697	2008-018 BR	COOK	22	4
FED. ROAD CONST. NO. 7		ILLINOIS	FED. AID PROJECT-	

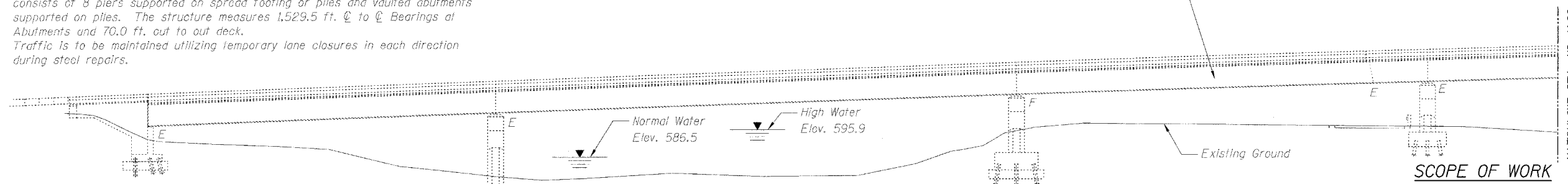
SHEET NO. S-1
S-16 SHEETS

Existing Structure: S.N. 099-0169 built in 1976, nine span steel continuous girders and stringers with 8" reinforced concrete deck and 1/2" bituminous overlay. The substructure consists of 8 piers supported on spread footing or piles and vaulted abutments supported on piles. The structure measures 1,529.5 ft. @ to @ Bearings at Abutments and 70.0 ft. out to out deck. Traffic is to be maintained utilizing temporary lane closures in each direction during steel repairs.

Salvage: None

Exist welded plate girders and W21 stringers composite in (+) moment areas

Contract # 60E47



DESIGN STRESSES

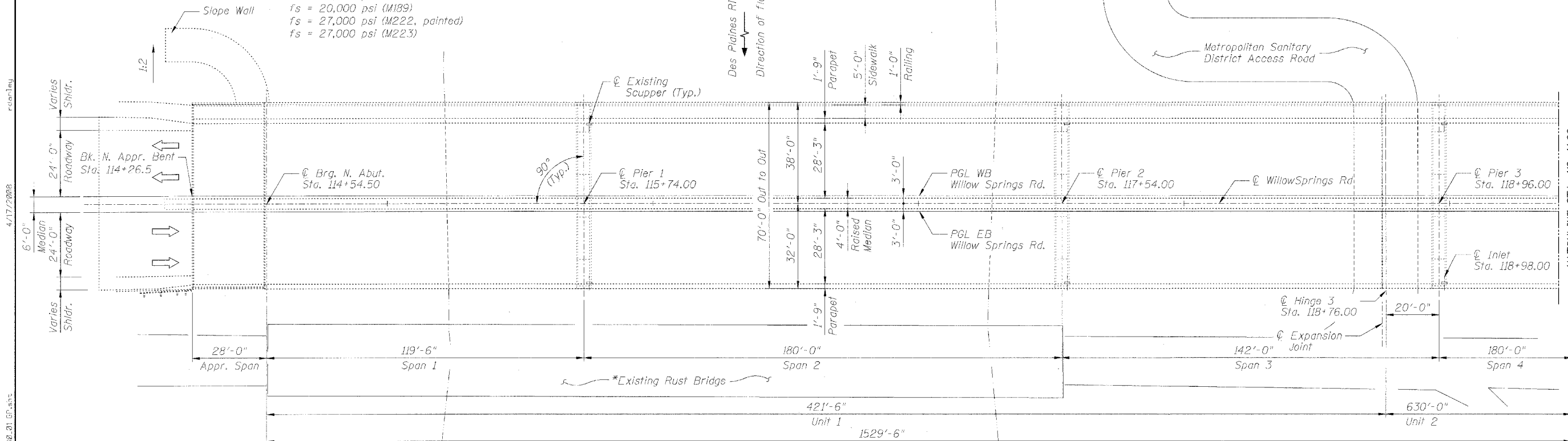
EXISTING CONSTRUCTION

- fc = 1,000 psi (abutment)
- fc = 1,200 psi (deck)
- fc = 1,400 psi (curb, parapet & appr. slab)
- fs = 20,000 psi (reinforcement)
- fs = 20,000 psi (M189)
- fs = 27,000 psi (M222, painted)
- fs = 27,000 psi (M223)

ELEVATION

SCOPE OF WORK

- 1. Repairs to Existing Structural Steel.
 - Cross Frames
 - Lateral Bracing
 - Stiffener Intersections



PLAN

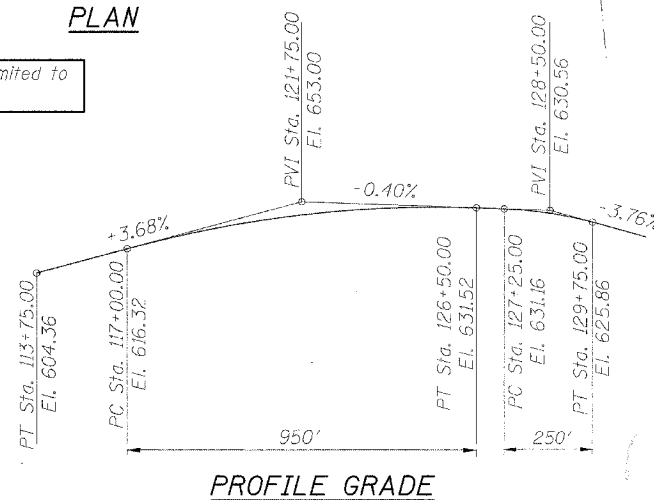
LOADING HS-20-44

No future wearing surface allowance

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications

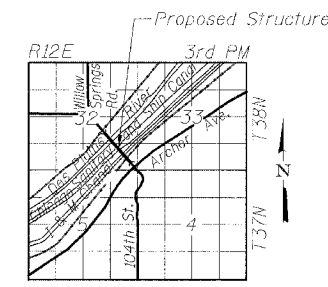
*Existing Bridge is limited to 10 ton weight limit



PROFILE GRADE



DATE: 4/17/2008
SEAL EXPIRES: 11/30/2008



LOCATION SKETCH

GENERAL PLAN AND ELEVATION I
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter



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4/17/2008

4/17/2008

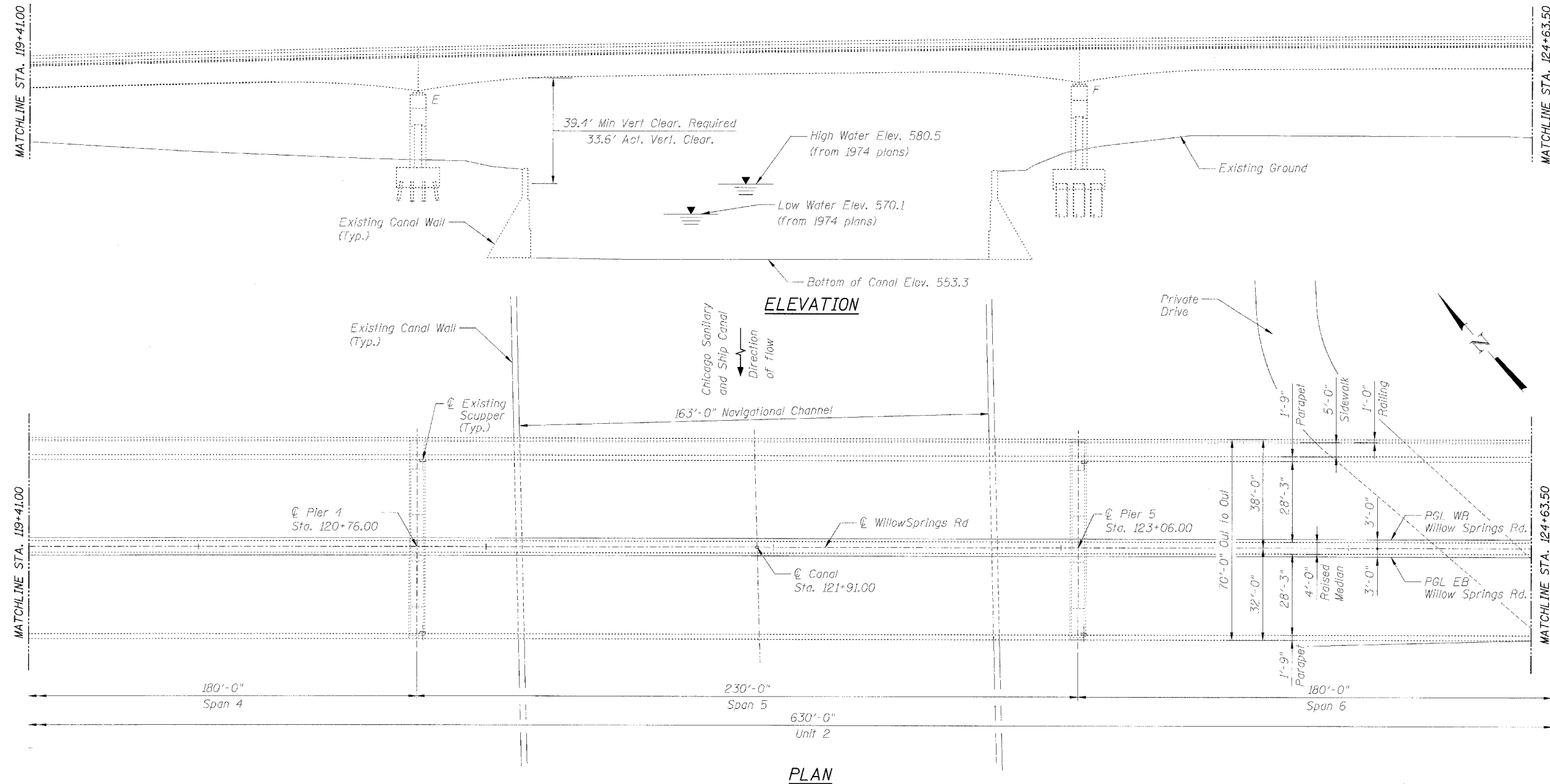
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	DISTRICT	COUNTY	SHEET NO.	SHEET TOTAL	SHEET NO.
FAU 2697	2008-018 BR	COOK	22	5	S-16 SHEETS

Contract # 60E47



4/16/2026
 4/16/2026
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DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter

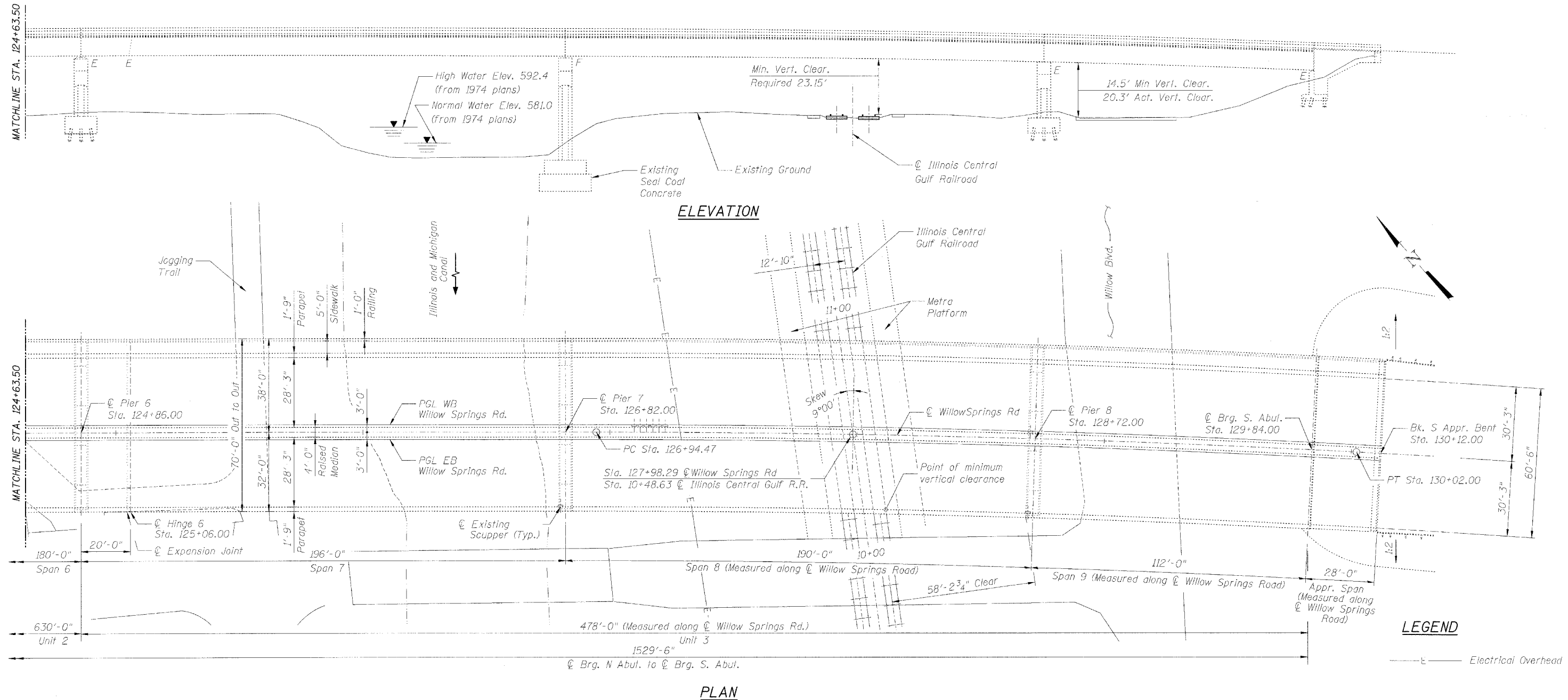
GG Giorba Group, Inc.
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GENERAL PLAN AND ELEVATION II
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. S-3 S 16 SHEETS
FAU 2697	2008-018 BR	COOK	22	6	
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ. NO. PROJECT-			

Contract # 60E47



rdanley

4/16/2008

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DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter



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HORIZONTAL CURVE

PC = Sta. 126+94.47
PT = Sta. 130+02.00
PI = Sta. 128+48.23
 $\Delta = 3^{\circ}04'31.0''$
 $\Delta = 1^{\circ}00'00''$
T = 153.80
L = 307.53'
B = 2.06'
R = 5,729.58'

GENERAL PLAN AND ELEVATION III
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 2697	2008-018 BR	COOK	22	7
FED. ROAD DIST. NO. 7	SUBNO. 6	FED. AID PROJECT-		

SHEET NO. S-4
S-16 SHEETS

Contract # 60E47

GENERAL NOTES

Fasteners shall be AASHTO M164 Type I, mechanically galvanized bolts.

Holes shall be subpunched or subdrilled $\frac{1}{16}$ " dia. and reamed in the field to $\frac{3}{16}$ " dia. for $\frac{3}{4}$ " dia. bolts. Holes shall be subpunched or subdrilled $\frac{13}{16}$ " dia. and reamed in the field to $\frac{15}{16}$ " dia. for $\frac{7}{8}$ " dia. bolts, unless otherwise noted.

All structural steel shall be AASHTO M270 Grade 50.

No field welding is permitted except as specified in the contract documents.

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.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

Existing structural steel shall only be cleaned and painted as required by Special Provision "Cleaning and Painting Contact Areas of Existing Steel Structures".

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 Acrylic finish coat shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision for "Cleaning and Painting New Metal Structures".

The Contractor shall provide support and/or shoring system for the stringers in the area of existing cross-frames removal and replacement and at other locations as required in order to maintain the structure's strength and stability.

INDEX OF SHEETS

- S-1. General Plan and Elevation I
- S-2. General Plan and Elevation II
- S-3. General plan and Elevation III
- S-4. General Notes and Bill of Material
- S-5. Framing Plan I
- S-6. Framing Plan II
- S-7. Steel Repairs I
- S-8. Steel Repairs II
- S-9. Steel Repairs III
- S-10. Steel Repairs IV
- S-11. Steel Repairs V
- S-12. Steel Repairs VI
- S-13. Existing Structural Steel Details
- S-14. Girder Elevation
- S-15. Stiffener Modification Details
- S-16. Lateral Bracing Repair for S.N. 016-0987

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	16,000
* Structural Steel Removal	Pound	14,890
* Containment and Disposal of Lead Paint Cleaning Residues	L. Sum	1
* Temporary Shoring and Cribbing	Each	12
Stiffener Intersection Modification	Each	1,420

* Special Provision

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter



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**GENERAL NOTES
AND BILL OF MATERIAL
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540**

rdanley

4/16/2008

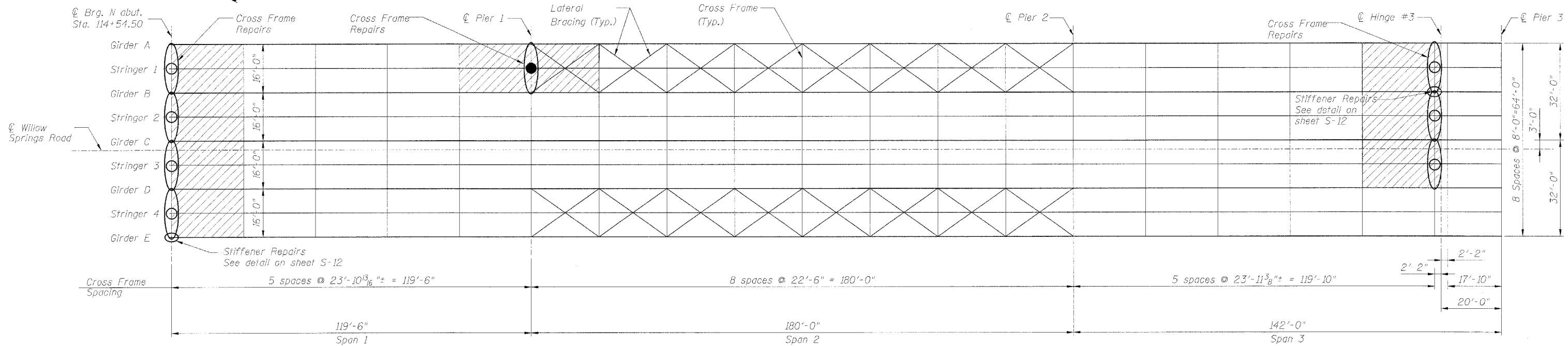
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 2697	2008-018 BR	COOK	22	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-5
S-16 SHEETS

Contract # 60E47



FRAMING PLAN

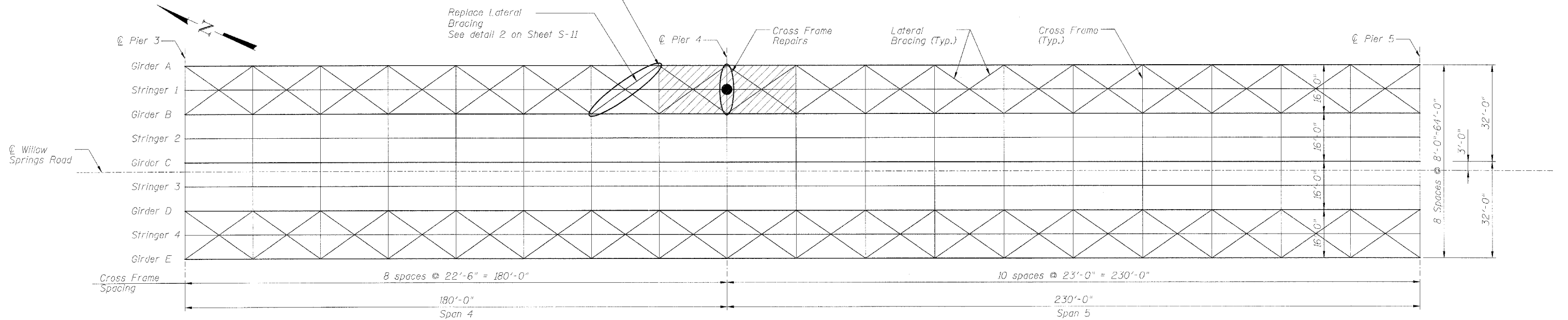
- Temporary Shoring and Cribbing of Stringer - 50 Kips. (See note 2)
- Temporary Shoring and Cribbing of Stringer - 100 Kips. (See note 2)

Replace bottom Gusset Plate
See detail 2 on Sheet S-11



Area not to be loaded with construction equipment during repair. (See note 2)

Replace Lateral Bracing
See detail 2 on Sheet S-11



FRAMING PLAN

NOTES:

1. Work this sheet with Sheets S-7 thru S-12.
2. Indicated loads for temporary shoring at stringers are for dead load only and do not include construction equipment load in the area indicated in the plans. Lane closures shall be set-up as specified in sheet S-7.
3. All wind shear device plates to be replaced at Hinge #3. See details on sheet S-12.

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CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter

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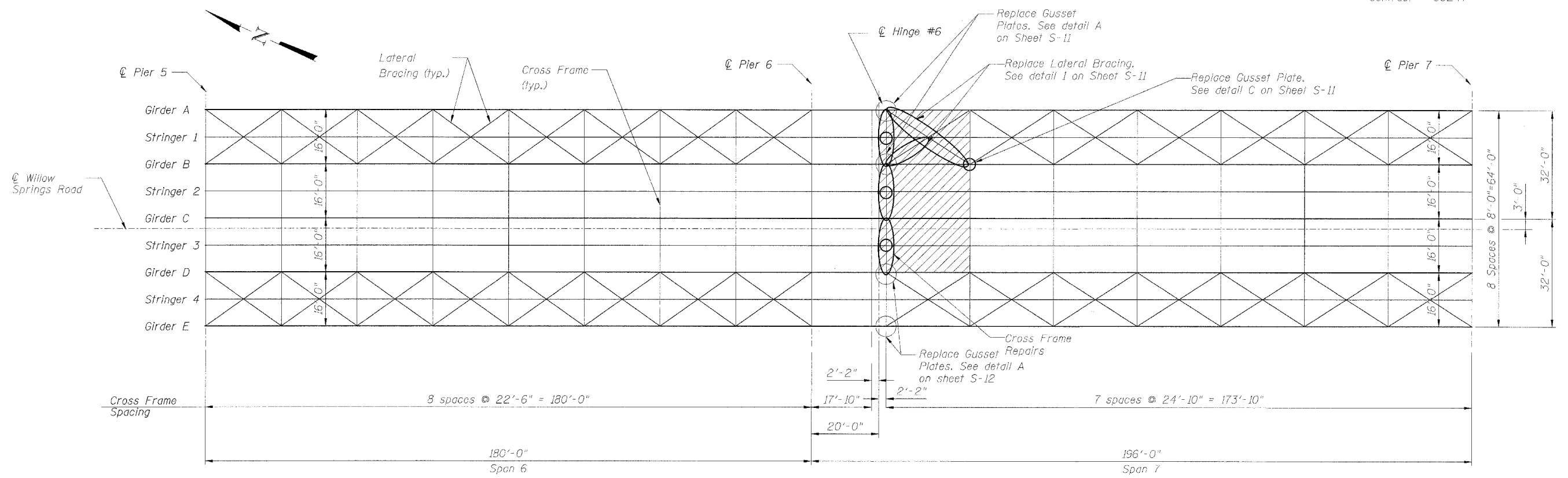
FRAMING PLAN I
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 2697	2008-018 BR	COOK	22	9
FED. ROAD DIST. NO. 7	ELLINGBO	FED. AID PROJECT-		

SHEET NO. S-6
S-16 SHEETS

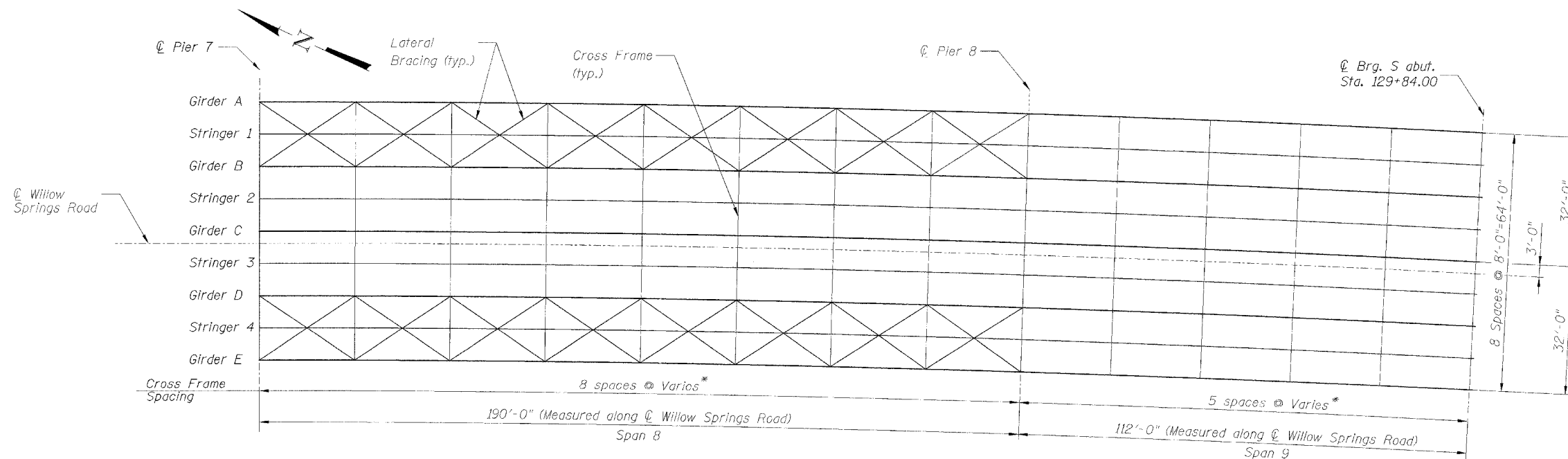
Contract # 60E47



- Temporary Shoring and Cribbing of Stringer - 50 Kips. (See note 2)
- Temporary Shoring and Cribbing of Stringer - 100 Kips. (See note 2)

FRAMING PLAN

Area not to be loaded with construction equipment during repair. (See note 2)



FRAMING PLAN

* Cross Frame Spacing varies from 23'-7⁵/₈" to 23'-10⁵/₈" in Span 8 from 22'-3⁷/₁₆" to 22'-6⁷/₁₆" in Span 9

NOTES:

1. Work this sheet with Sheets S-7 thru S-12.
2. Indicated loads for temporary shoring at stringers are for dead load only and do not include construction equipment load in the area indicated in the plans. Lane closures shall be set-up as specified in sheet S-7.
3. All windshear device plates to be replaced at Hinge #6. See detail on sheet S-12.

DESIGNED	B. Sauter
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DRAWN	R. Danloy
CHECKED	B. Sauter



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FRAMING PLAN II
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
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COOK COUNTY
S.N. 016-0540

rcanley

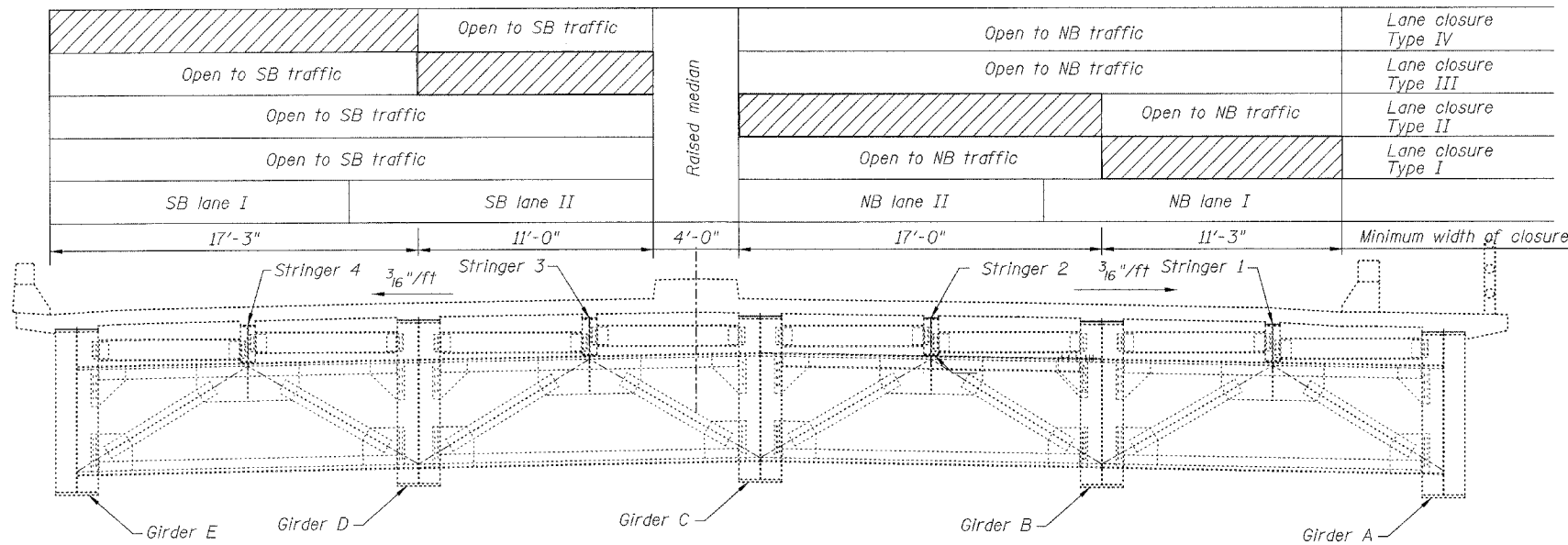
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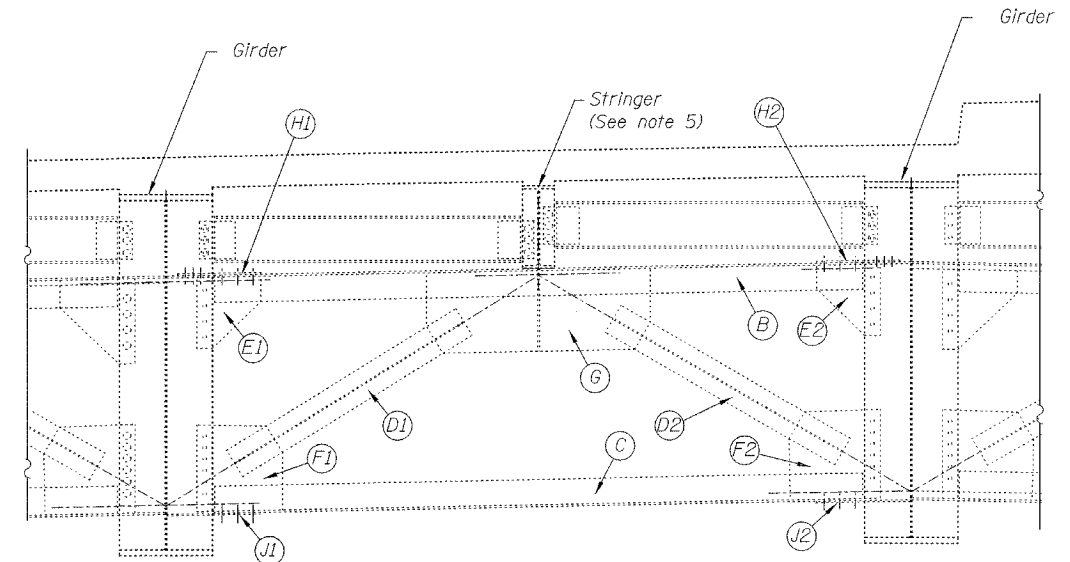
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAU 2697	SECTION 2008-018 BR	COUNTY COOK	TOTAL SHEETS 22	SHEET NO. 10	SHEET NO. S-7 S-16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract # 60E47



TYPICAL SECTION AND LANE CLOSURES
At N. Abutment, Pier 1, Pier 4, Hinge 3 and Hinge 6
(Looking North)



TYPICAL CROSS FRAME BAY

Lane closed to traffic during the entire duration of the repair

CROSS FRAME REPAIRS

LOCATION		MEMBER (See typical cross frame bay)												DETAIL SHOWN	LANE CLOSURE				
		B	C	D1	D2	E1	E2	F1	F2	G	H1	H2	J1		J2	TYPE	EXTENSION		
		Existing Replace with	WT7x19 WT7x19	WT6x20 WT6x20	3/8" PL 3/8" PL	3/8" PL 3/8" PL	3/8" PL 3/8" PL	3/8" PL 3/8" PL	3/8" PL 3/8" PL	3/8" PL w/ 2-1/2" stiff PL 3/8" PL w/ 2-1/2" stiff PL	1/2" CONN. PL's 1/2" CONN. PL's	1/2" CONN. PL's 1/2" CONN. PL's	3/8" GUSSET PL 3/8" GUSSET PL		3/8" GUSSET PL 3/8" GUSSET PL				
NORTH ABUTMENT	Girder A - Girder B	—	✓	—	—	—	—	—	—	—	—	—	—	—	—	—	Detail 5	I	SPAN 1
	Girder B - Girder C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Detail 3	II	SPAN 1
	Girder C - Girder D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Detail 3	III	SPAN 1
	Girder D - Girder E	—	✓	—	—	✓	—	✓	—	—	—	—	—	—	—	—	Detail 4	IV	SPAN 1
AT PIER 1	Girder A - Girder B	✓	—	—	✓	✓	—	—	—	—	—	—	—	—	✓	—	Detail 2	I	SPAN 1 & 2
NORTH SIDE OF HINGE #3	Girder A - Girder B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Detail 3	I	SPAN 3 & 4
	Girder B - Girder C	✓	✓	—	✓	✓	—	—	—	—	—	—	—	—	—	—	Detail 6	II	SPAN 3 & 4
	Girder C - Girder D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Detail 8	III	SPAN 3 & 4
AT PIER 4	Girder A - Girder B	✓	—	—	—	✓	✓	—	—	—	—	—	—	—	—	—	Detail 1	I	SPAN 4 & 5
SOUTH SIDE OF HINGE #6	Girder A - Girder B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Detail 7	I	SPAN 6 & 7
	Girder B - Girder C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Detail 9	II	SPAN 6 & 7
	Girder C - Girder D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Detail 8	III	SPAN 6 & 7
	Girder D - Girder E	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Sheet S-12	IV	SPAN 6 & 7

NOTES:

- Work this sheet with Sheets S-8 through S-12.
- Existing welded connections to be removed using the air-arc method and grind smooth all weld material remaining. Cost included with Structural Steel Removal.
- Repairs shall include but not be limited to the members shown. The actual repairs to be determined by the Engineer at the time of construction.
- The Contractor is responsible for means and methods to ensure the complete stability of the structural members during construction.
- Stringers shall be supported by Temporary Shoring and Cribbing as indicated on Sheets S-5 and S-6.
- Lane closures per standard 701606-5.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing & Erecting Structural Steel	Pound	16,000
Temporary Shoring and Cribbing	Each	12
Structural Steel Removal	Pound	14,890

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter

CG **Giorba Group, Inc.**
CONSULTING ENGINEERS
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@giorba.com

STEEL REPAIRS I
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540

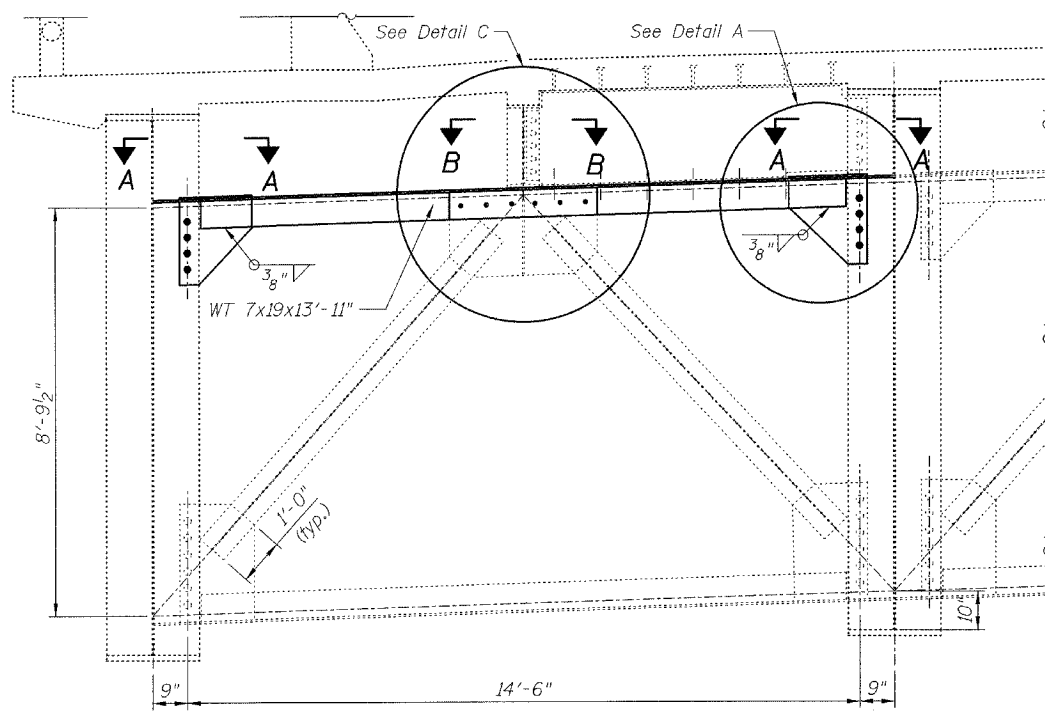
rdent:lely

4/17/2008

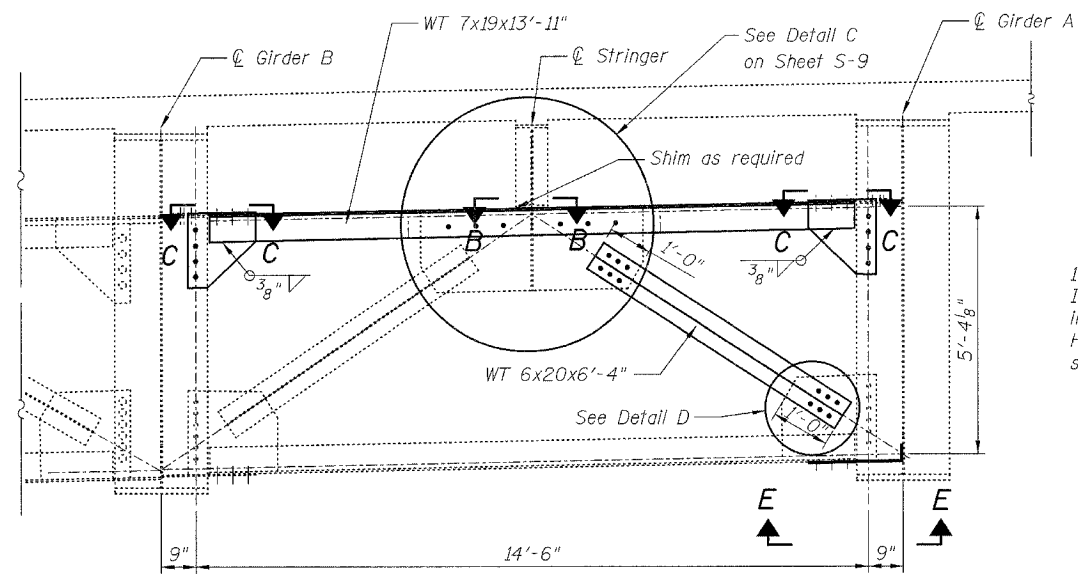
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. S-8 S-16 SHEETS
FAU 2697	2008-018 BR	COOK	22	11	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	Contract # 60E47		

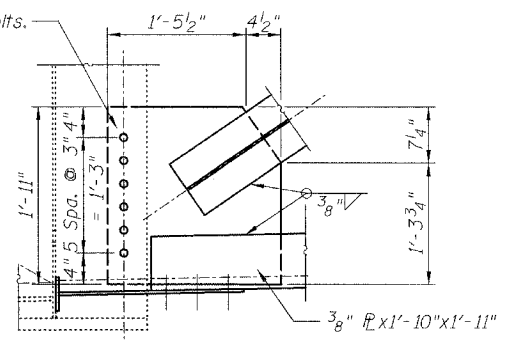


DETAIL 1
PIER 4 CROSS FRAME REPAIRS
Looking South

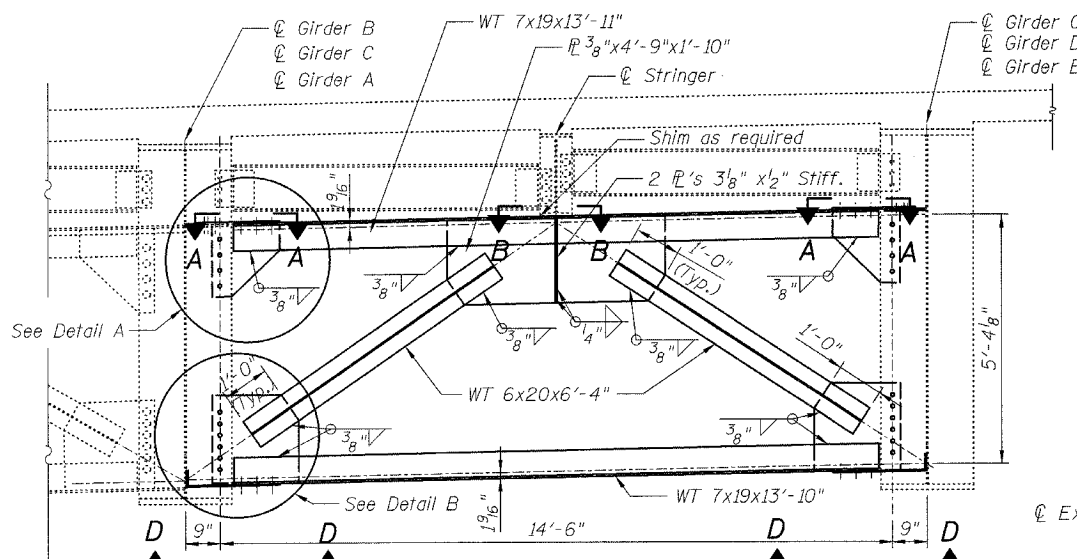


DETAIL 2
PIER 1 CROSS FRAME REPAIRS
Looking North

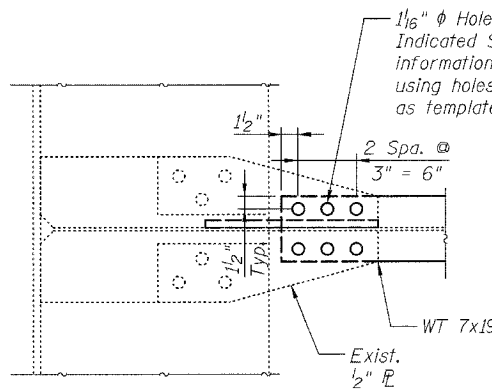
1/16" ϕ Holes for 7/8" ϕ H.S. Bolts. Indicated Spacings are for information only. Field Drill Holes using holes in existing stiffener as template.



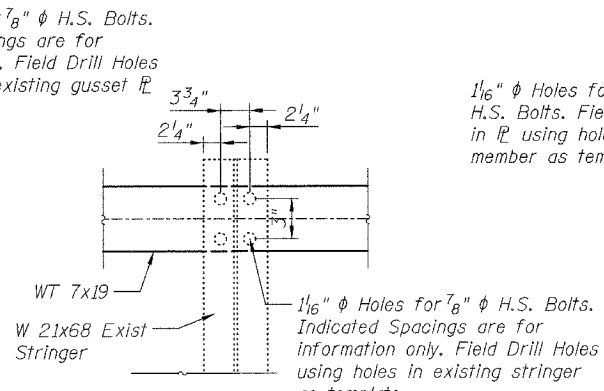
DETAIL B



DETAIL 3
CROSS FRAME REPAIRS
Typical for: Girder B-C, N. Abutment
Girder C-D, N. Abutment
Girder A-B, N. Side Hinge #3

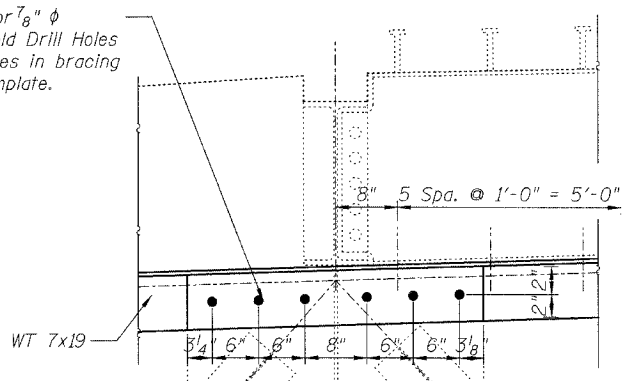


SECTION C-C

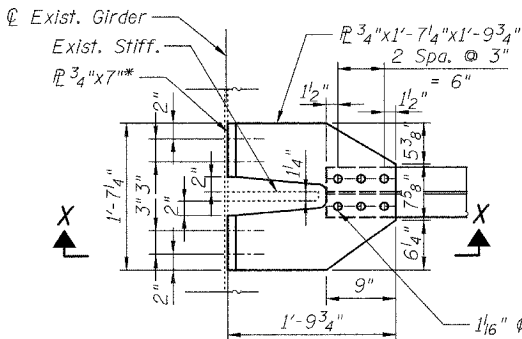


SECTION B-B

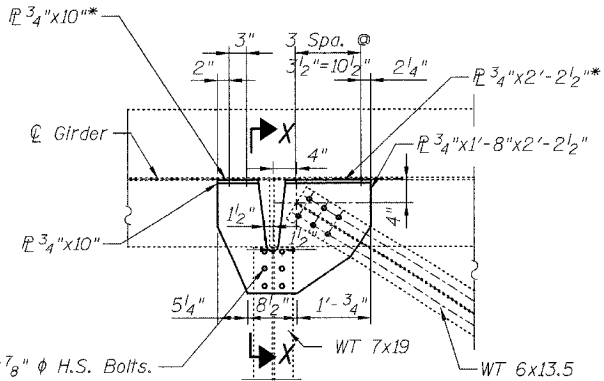
1/16" ϕ Holes for 7/8" ϕ H.S. Bolts. Field Drill Holes in PL using holes in bracing member as template.



DETAIL C

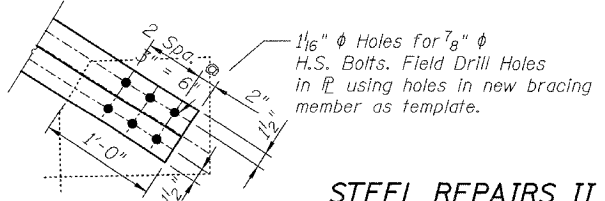


VIEW D-D



VIEW E-E

1/16" ϕ Holes for 7/8" ϕ H.S. Bolts. Indicated Spacings are for information only. Field Drill Holes using holes in existing stringer as template.



DETAIL D

- NOTES:**
- Quantity for steel shown on sheet S-7
 - See sheet S-10 for Section A-A and Detail A.
 - See sheet S-12 for Section X-X.

STEEL REPAIRS II
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter

CG **Clorba Group, Inc.**
CONSULTING ENGINEERS
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@clorba.com

4/17/2008 rdanley n:\proj\3329\3329_30\design\structural\steel_repairs\3329_30_08 Steel Repairs 2.sht

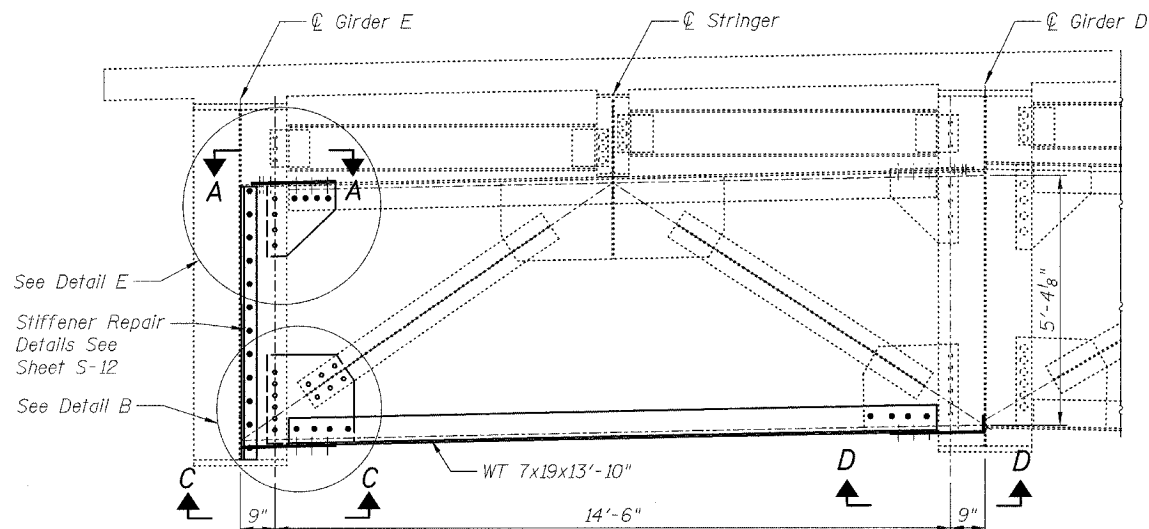
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 2697	2008-018 BR	COOK	22	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-9

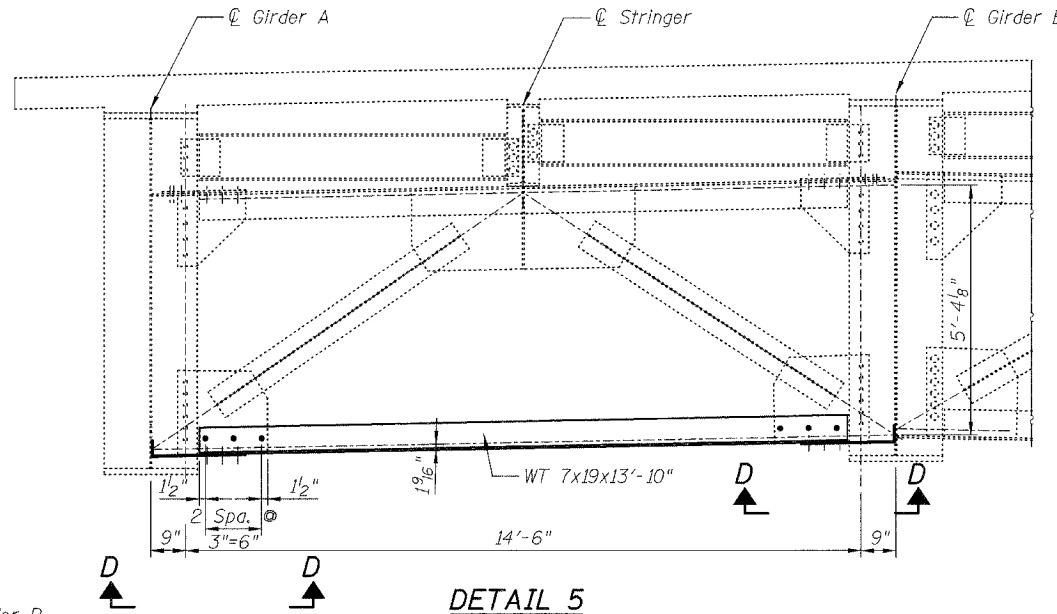
S-16 SHEETS

Contract # 60E47

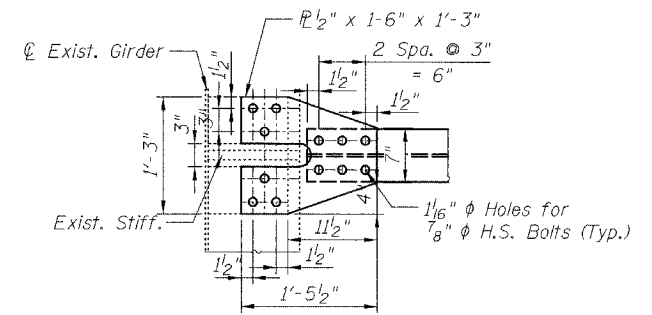


DETAIL 4
CROSS FRAME REPAIRS
Typical for: Girder D-E, N. Abutment
Looking North

See Detail E
Stiffener Repair
Details See
Sheet S-12
See Detail B

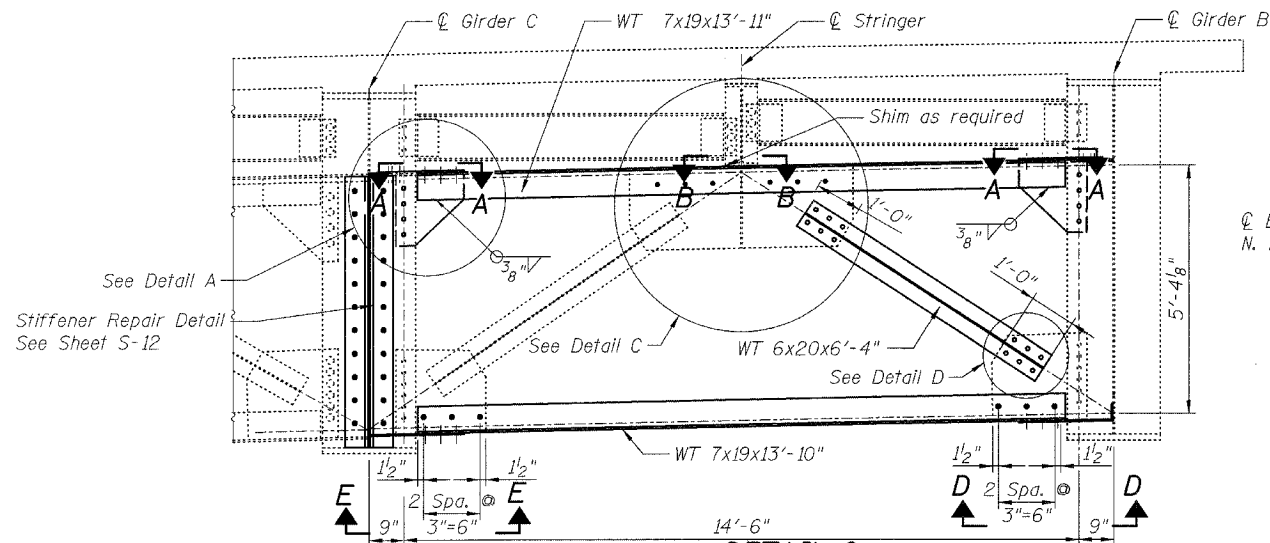


DETAIL 5
CROSS FRAME REPAIRS
Typical for: Girder A-B, N. Abutment
Looking South



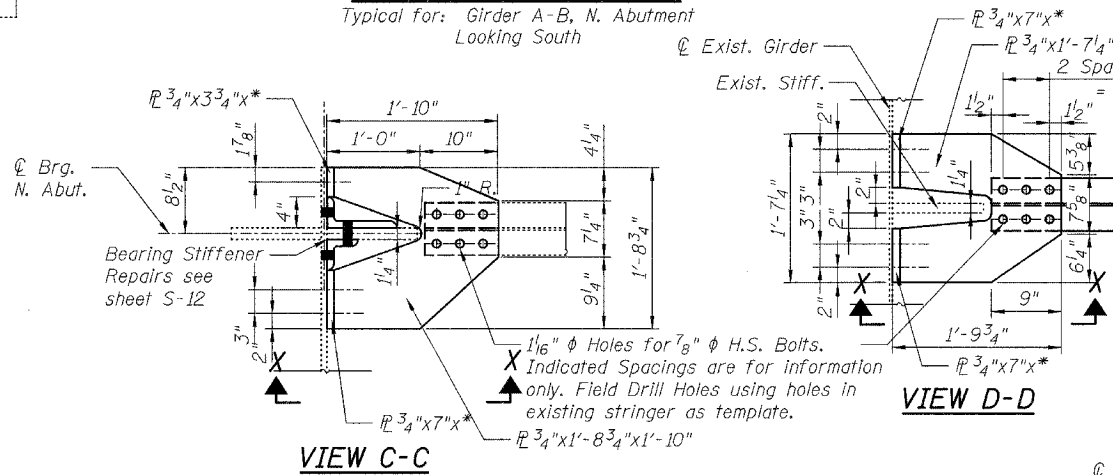
SECTION A-A

$\frac{1}{16}$ " ϕ Holes for $\frac{7}{8}$ " ϕ H.S. Bolts.
Indicated Spacings are for
information only. Field Drill Holes
using holes in existing stringer as
template.



DETAIL 6
CROSS FRAME REPAIRS
Typical for: Girder B-C, N. Side Hinge #3
Looking North

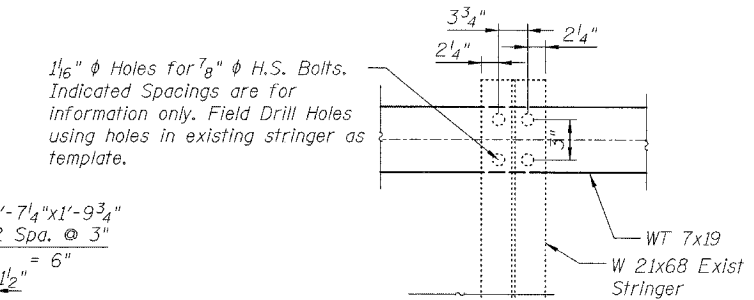
See Detail A
Stiffener Repair Detail
See Sheet S-12



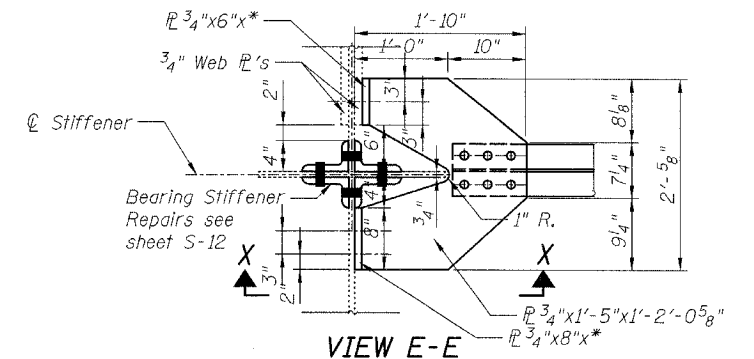
VIEW C-C

VIEW D-D

* See Section X-X on Sheet S-12 for the third dimension.

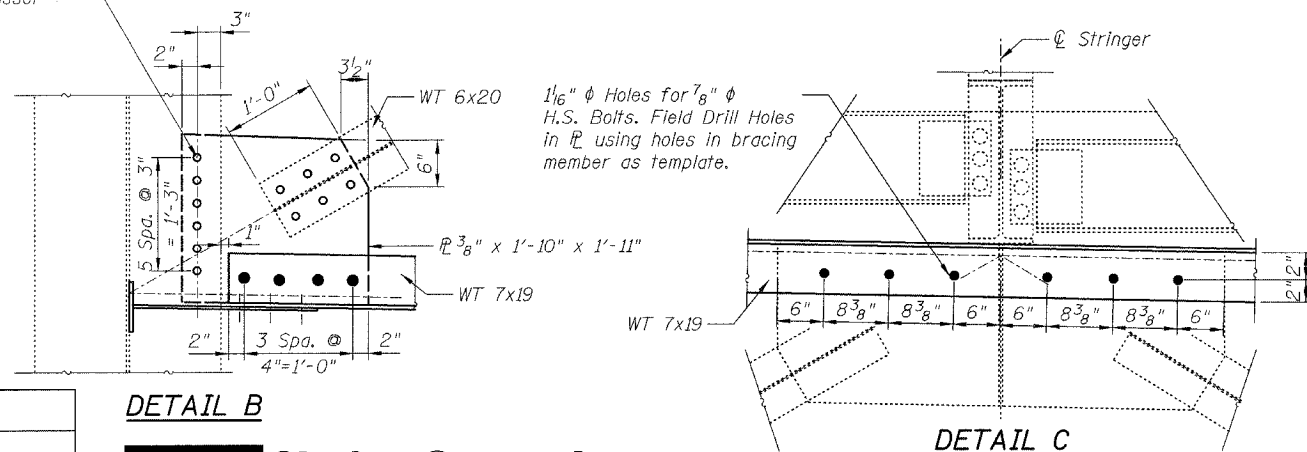


SECTION B-B



VIEW E-E

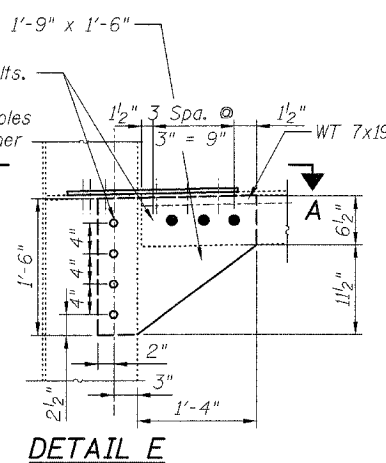
$\frac{1}{16}$ " ϕ Holes for $\frac{7}{8}$ " ϕ H.S. Bolts. Field Drill Holes in \mathbb{R} using holes in gusset in \mathbb{R} as template.



DETAIL B

DETAIL C

$\frac{1}{16}$ " ϕ Holes for $\frac{7}{8}$ " ϕ H.S. Bolts.
Indicated Spacings are for
information only. Field Drill Holes
using holes in existing stiffener
as template



DETAIL E

NOTES:

- Quantity for steel shown on sheet S-7.
- See Sheet S-10 for Detail A and Detail D.
- See Sheet S-12 for Section X-X.

STEEL REPAIRS III
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540

DESIGNED B. Sauter
CHECKED E. Mroczek
DRAWN R. Danley
CHECKED B. Sauter



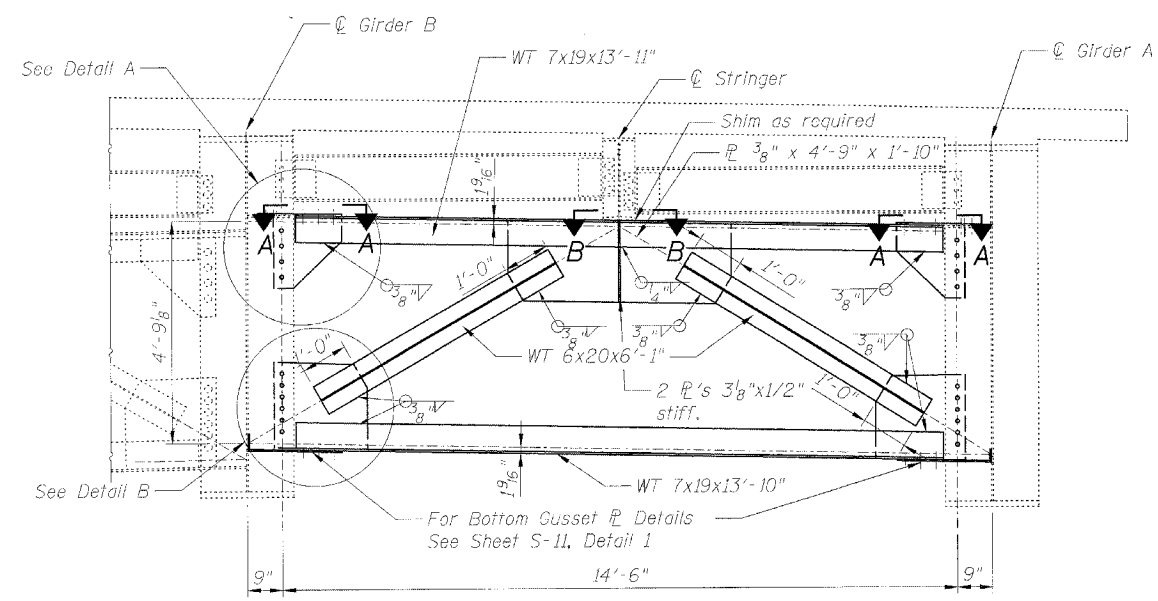
Ciorba Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@ciorba.com

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

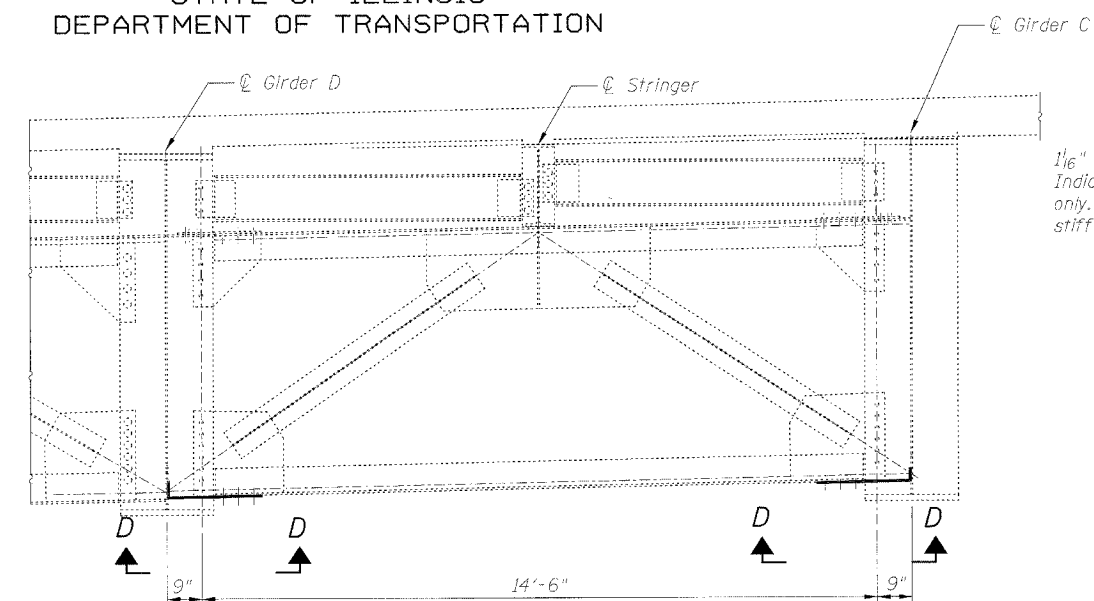
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 2697	2008-018 BR	COOK	22	13
FED. ROAD DIST. NO. 7		ALIGNMENT	FED. AID PROJECT	

SHEET NO. S-10
S-16 SHEETS

Contract # 60E47

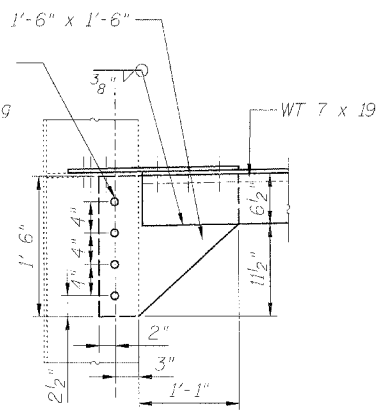


DETAIL 7
CROSS FRAME REPAIRS
Typical for: Girder A-B, S. Side Hinge #6

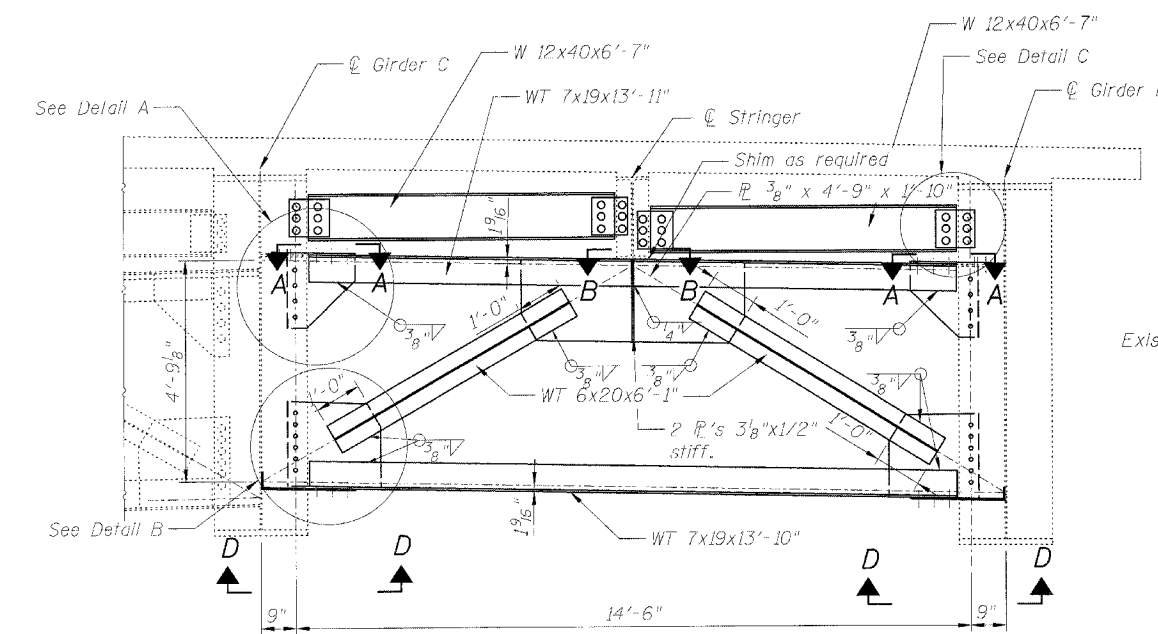


DETAIL 8
CROSS FRAME REPAIRS
Typical for: Girder C-D, N. Side Hinge #3
Girder C-D, S. Side Hinge #6

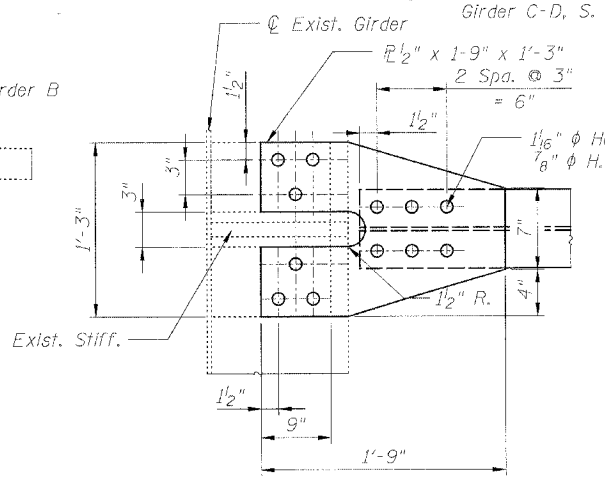
1/16" ϕ Holes for 7/8" ϕ H.S. Bolts.
Indicated Spacings are for information only. Field Drill Holes using holes in existing stiffener as template



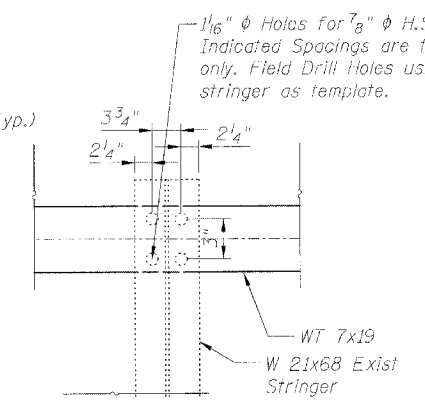
DETAIL A



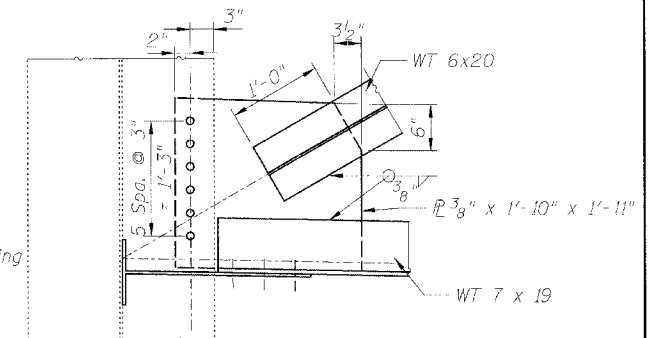
DETAIL 9
CROSS FRAME REPAIRS
Typical for: Girder B-C, S. Side Hinge #6



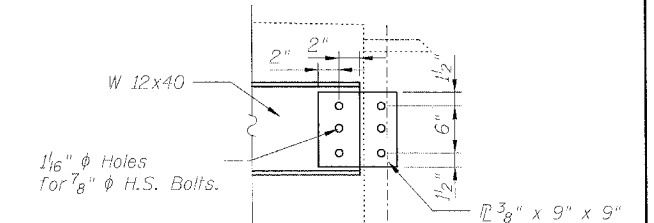
SECTION A-A



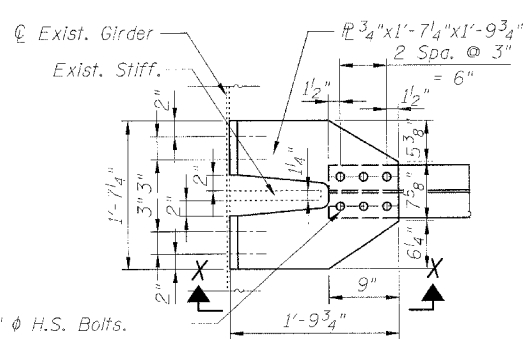
SECTION B-B



DETAIL B



DETAIL C



VIEW D-D

1/16" ϕ Holes for 7/8" ϕ H.S. Bolts.
Indicated Spacings are for information only. Field Drill Holes using holes in existing stringer as template.

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter

Ciorba Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@ciorba.com

NOTES:

- Quantity for steel shown on sheet S-7.
- See Sheet S-12 for Section X-X.

STEEL REPAIRS IV
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540

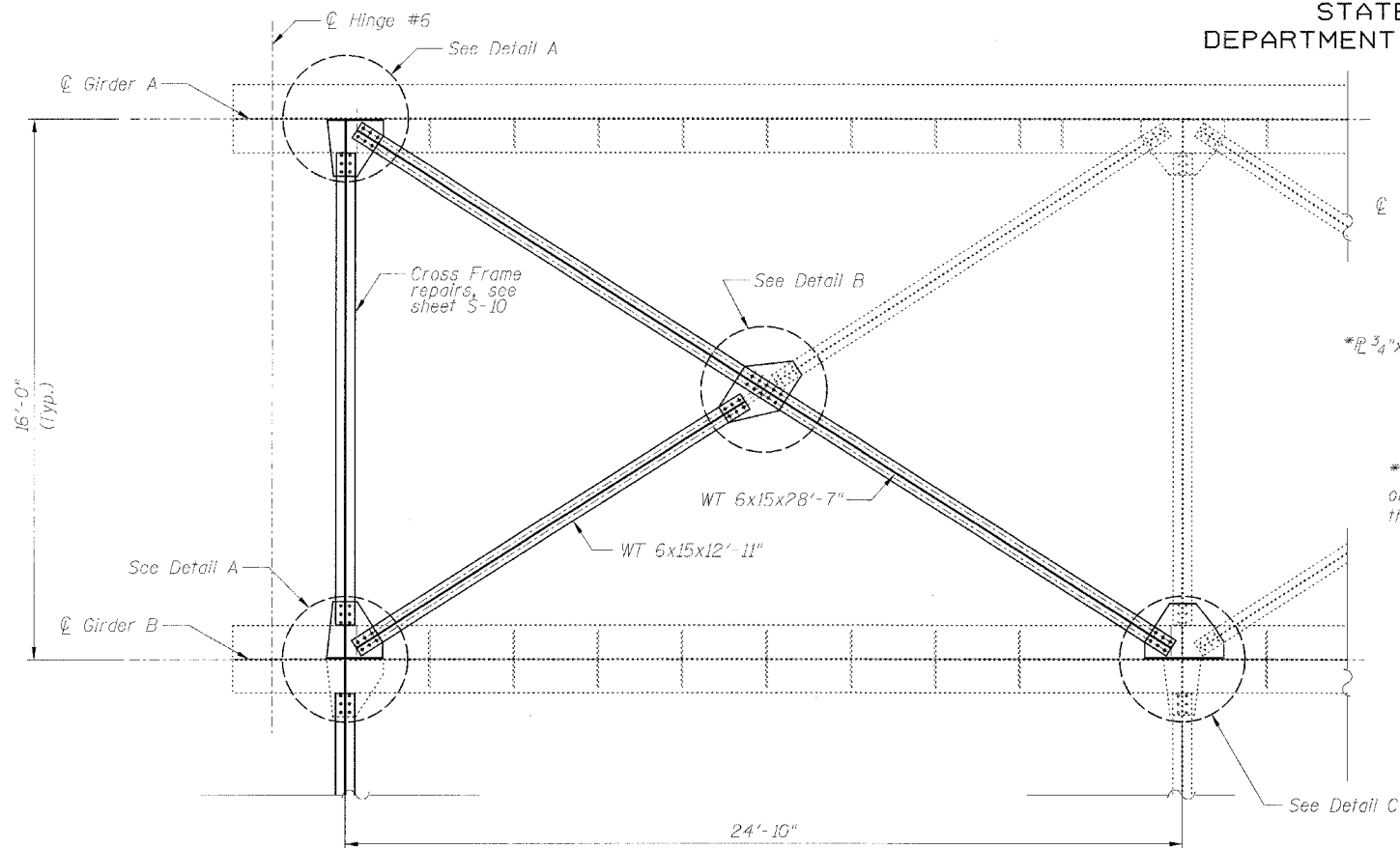
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 2697	2008-018 BR	COOK	22	14

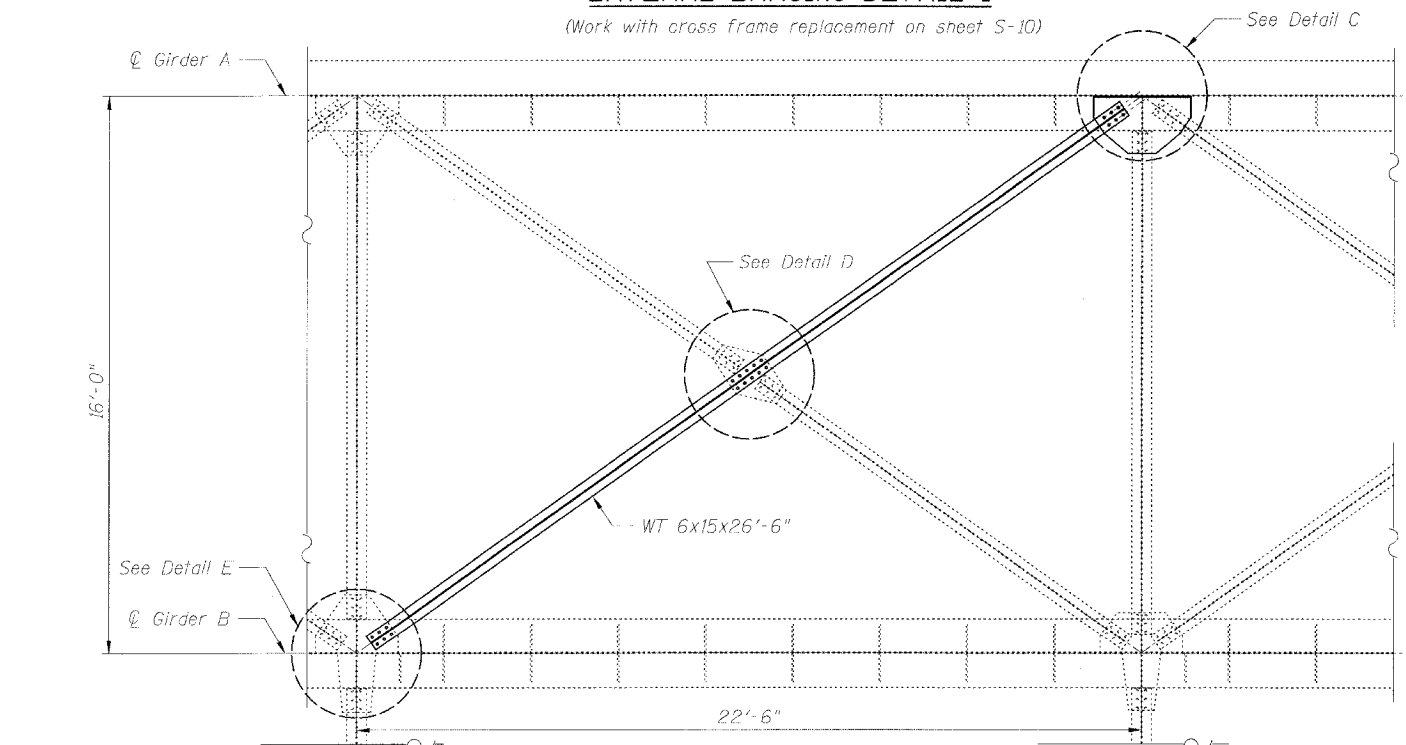
SHEET NO. S-11
S-16 SHEETS

Contract # 60E47



LATERAL BRACING DETAIL 1

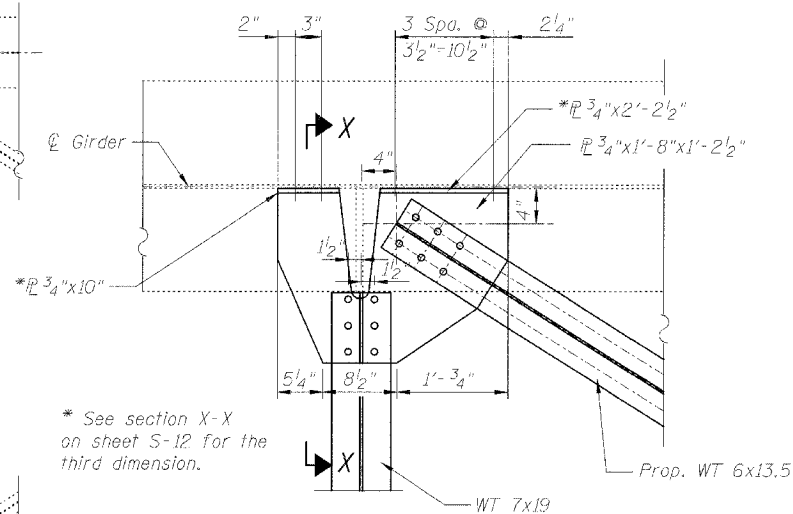
(Work with cross frame replacement on sheet S-10)



LATERAL BRACING DETAIL 2

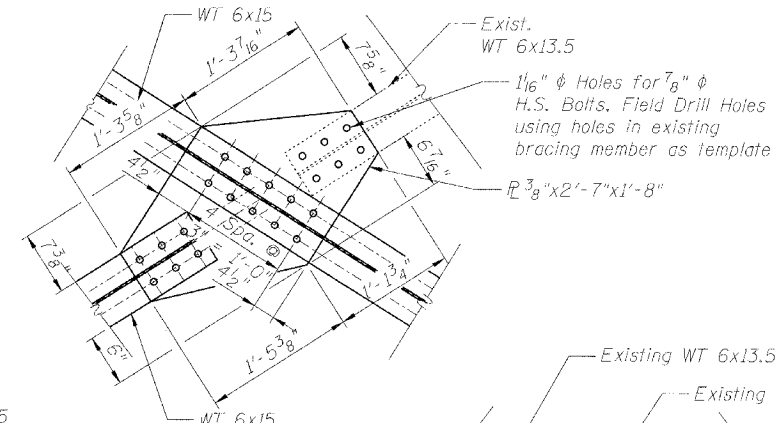
NOTES:

- Contractor to verify dimensions of existing members to be replaced in field before ordering steel.
- Quantity for steel shown on sheet S-7.
- Existing welded connections to be removed using the air-arc method and grind smooth all weld material remaining. Cost included with Structural Steel Removal.

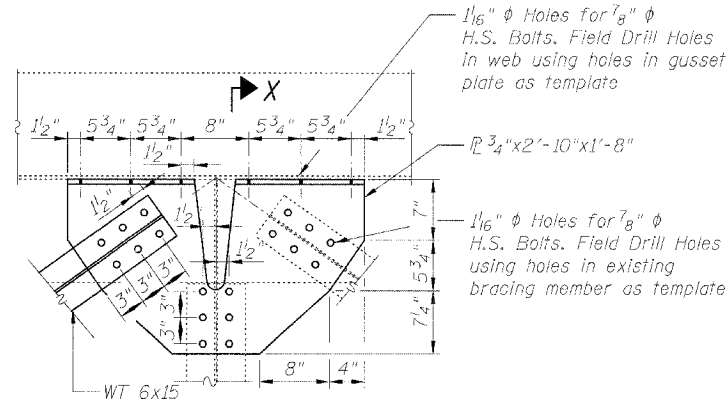


DETAIL A

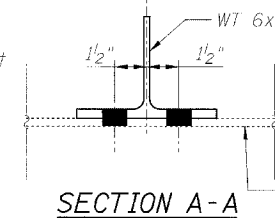
* See section X-X on sheet S-12 for the third dimension.



DETAIL B

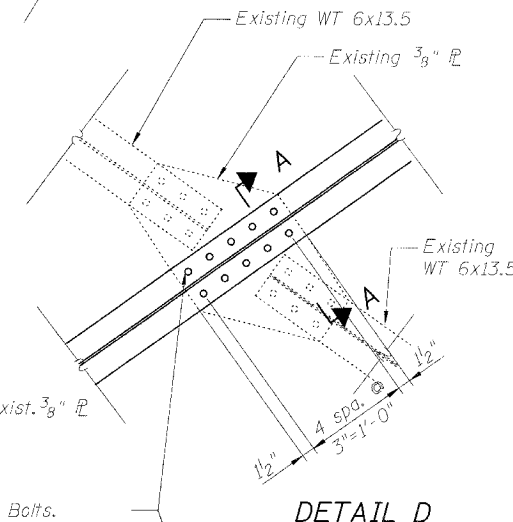


DETAIL C

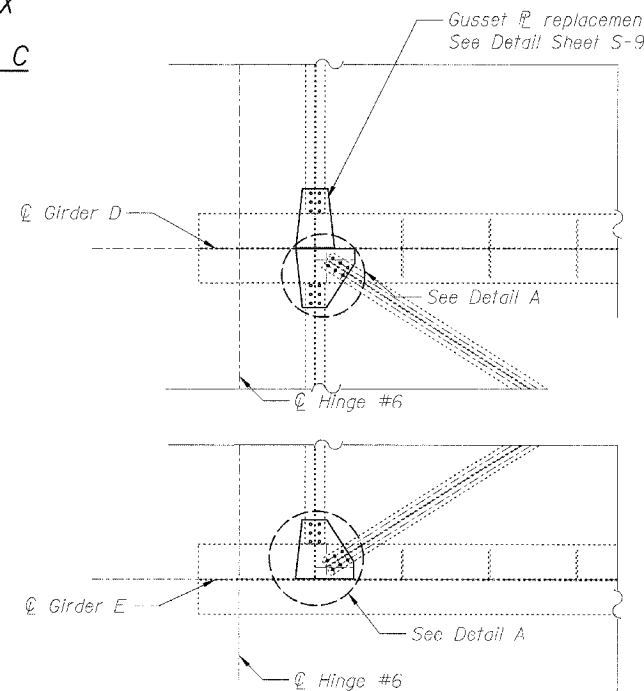


SECTION A-A

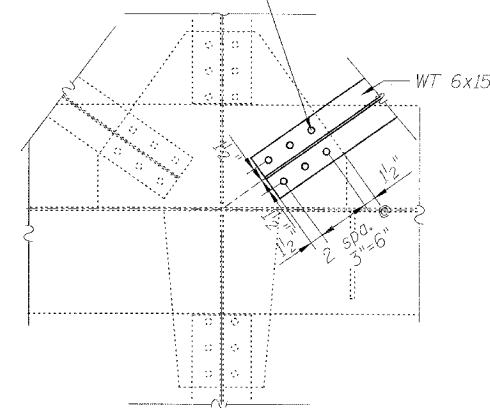
1 1/8" Holes for 7/8" H.S. Bolts. Indicated Spacings are for information only. Field Drill Holes using holes in existing gusset R as template



DETAIL D



GUSSET PLATE REPLACEMENT DETAILS



DETAIL E

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter



Ciorba Group, Inc.

CONSULTING ENGINEERS

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Tel. 773.775.4009 Fax 773.775.4014 Email chicago@ciorba.com

STEEL REPAIRS V
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540

rdslley

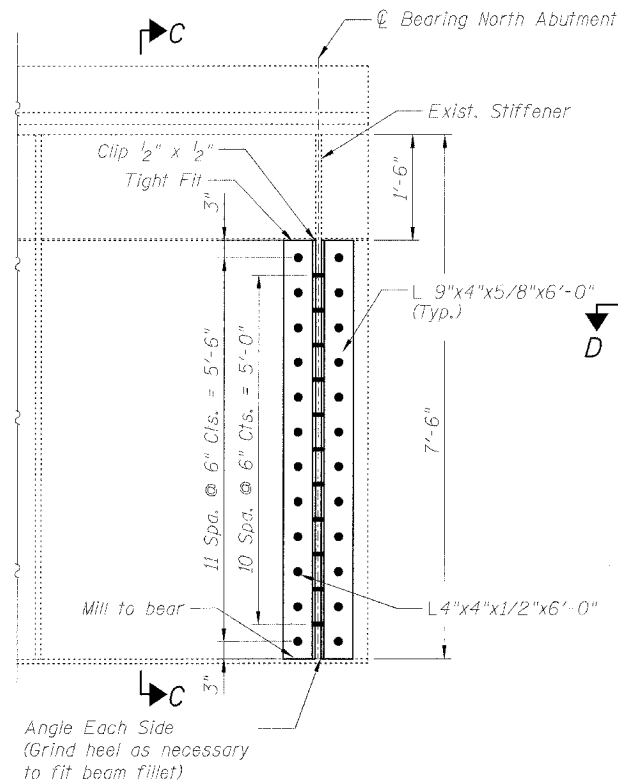
4/17/2008

\\p\proj\3229\3229_30\Des\gn\Structure\CAD\Sh\Steel_Repairs_V2229_30_11_Steel_Repairs_Saht

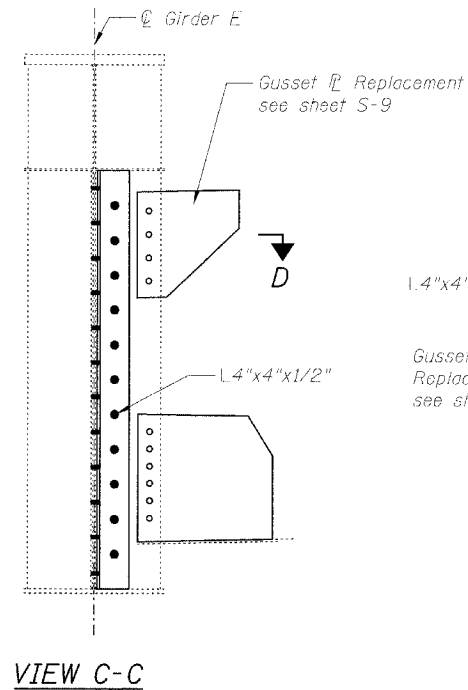
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAU 2697	SECTION 2008-018 BR	COUNTY COOK	TOTAL SHEETS 22	SHEET NO. 15	SHEET NO. S-12 S-16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	

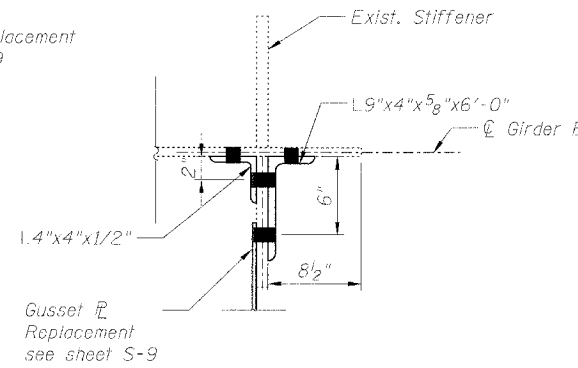
Contract # 60E41



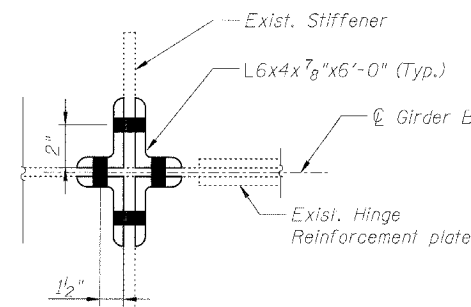
**NORTH ABUTMENT STIFFENER
REPAIR DETAIL**
(Work this repair with the cross frame replacement)



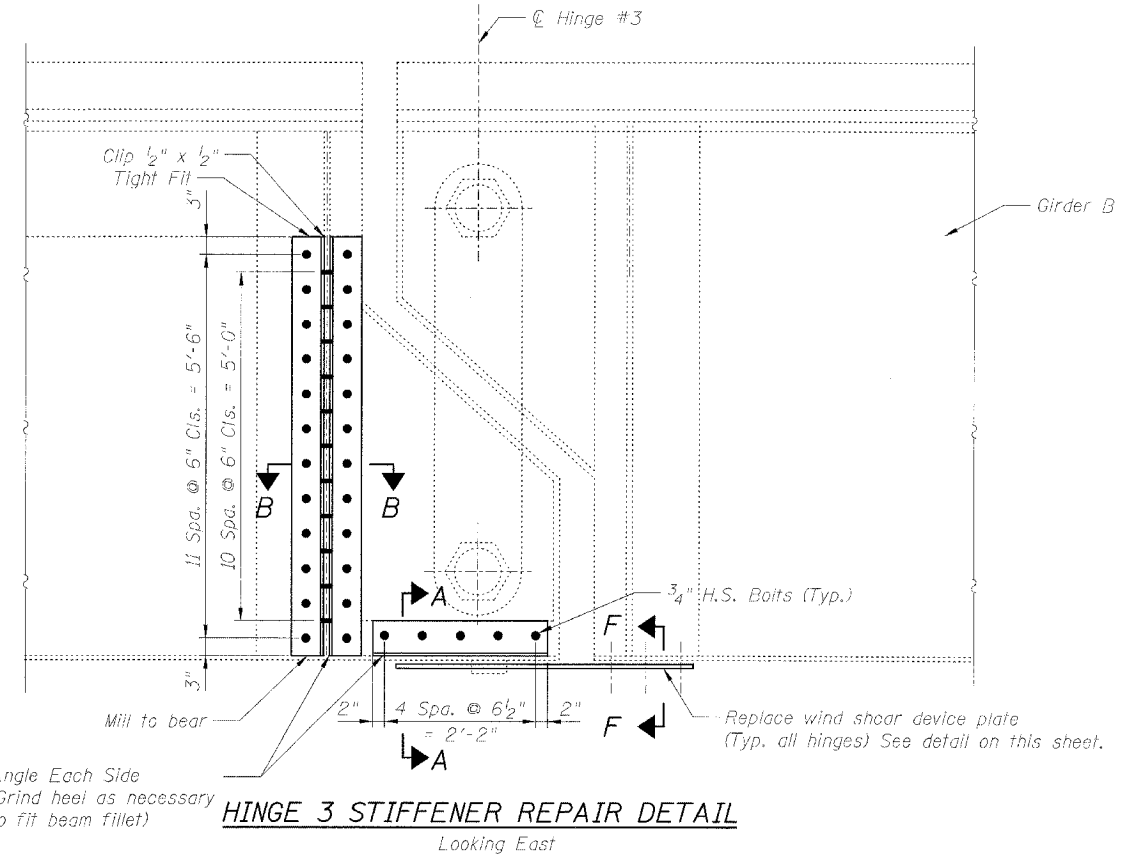
VIEW C-C



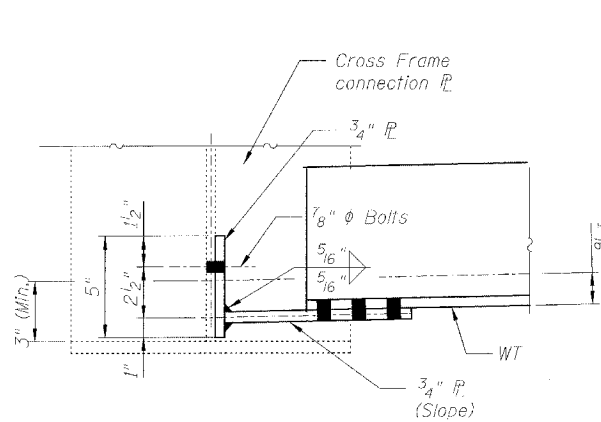
SECTION D-D



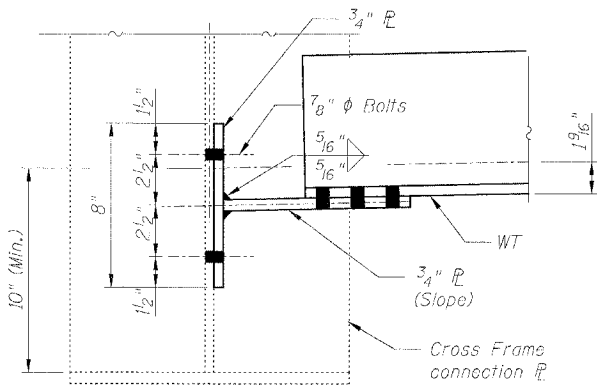
SECTION B-B



HINGE 3 STIFFENER REPAIR DETAIL
Looking East



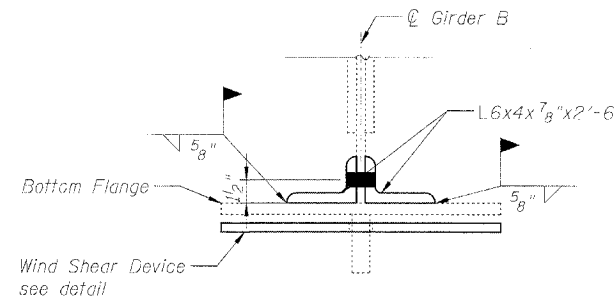
**AT N. ABUTMENT
AND AT PIER 1**



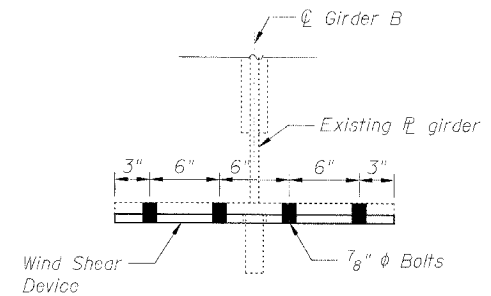
**AT HINGES #3 & #6
AND AT PIER 4**

SECTION X-X

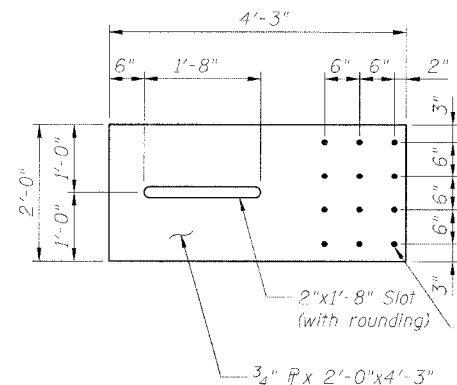
Holes in web to be drilled in the field



SECTION A-A



SECTION F-F



**WIND SHEAR DEVICE DETAIL
(10 TOTAL)**

NOTE:
1. Quantity for steel shown on sheet S-7.

**STEEL REPAIRS VI
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540**

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Dunley
CHECKED	B. Sauter



Giorba Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@giorba.com

4/17/2008

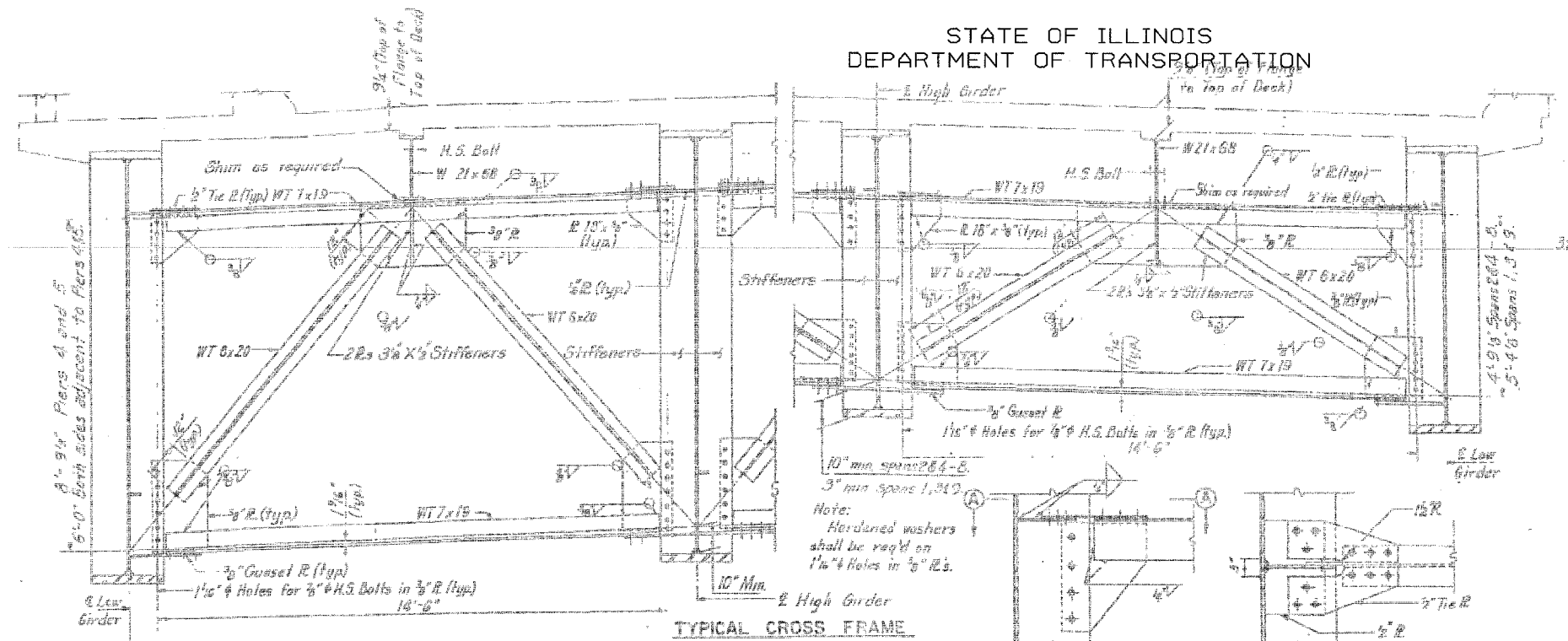
N:\P00\132291\32291_301\Design\Structural\040\Steel Repairs\32291_301\Steel Repairs.dwg

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 2697	2008-018 BR	COOK	22	16
FED. ROAD DIST. NO. 7	ALLIANCE	FED. AID PROJECT		

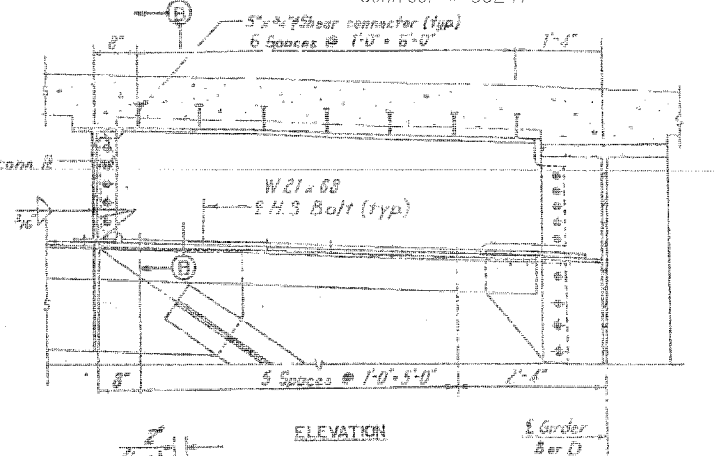
SHEET NO. S-13
S-16 SHEETS

Contract # 60E47



TYPICAL CROSS FRAME

Note:
Hardened washers shall be req'd on 1/4" holes in 3/8" R's.

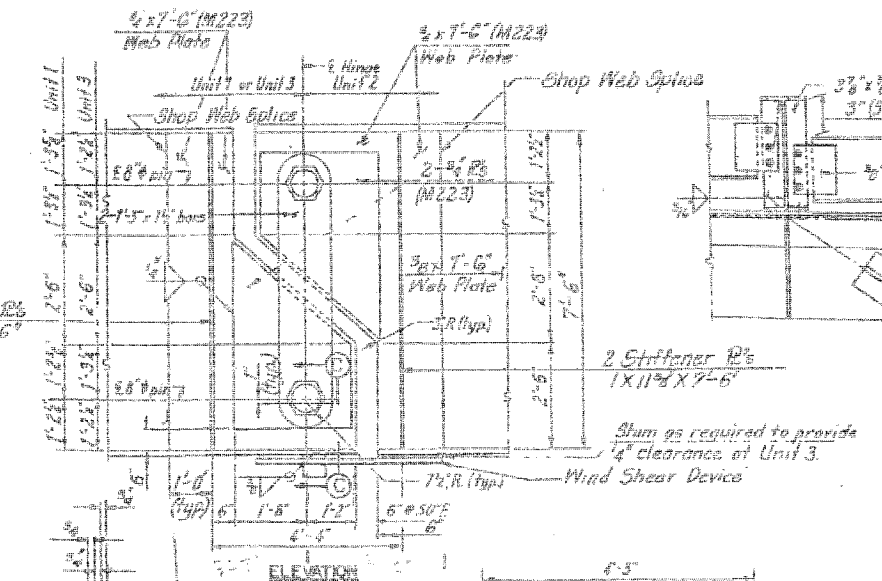


ELEVATION

SECTION B-B

Two shear beams shall be placed over each pier outside Girders B and Girder D.

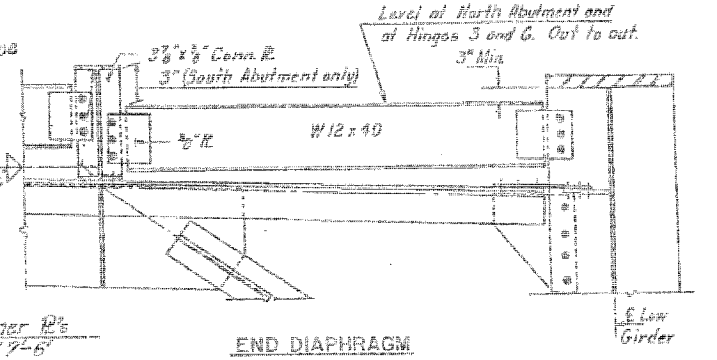
CROSS FRAME CONNECTION



ELEVATION

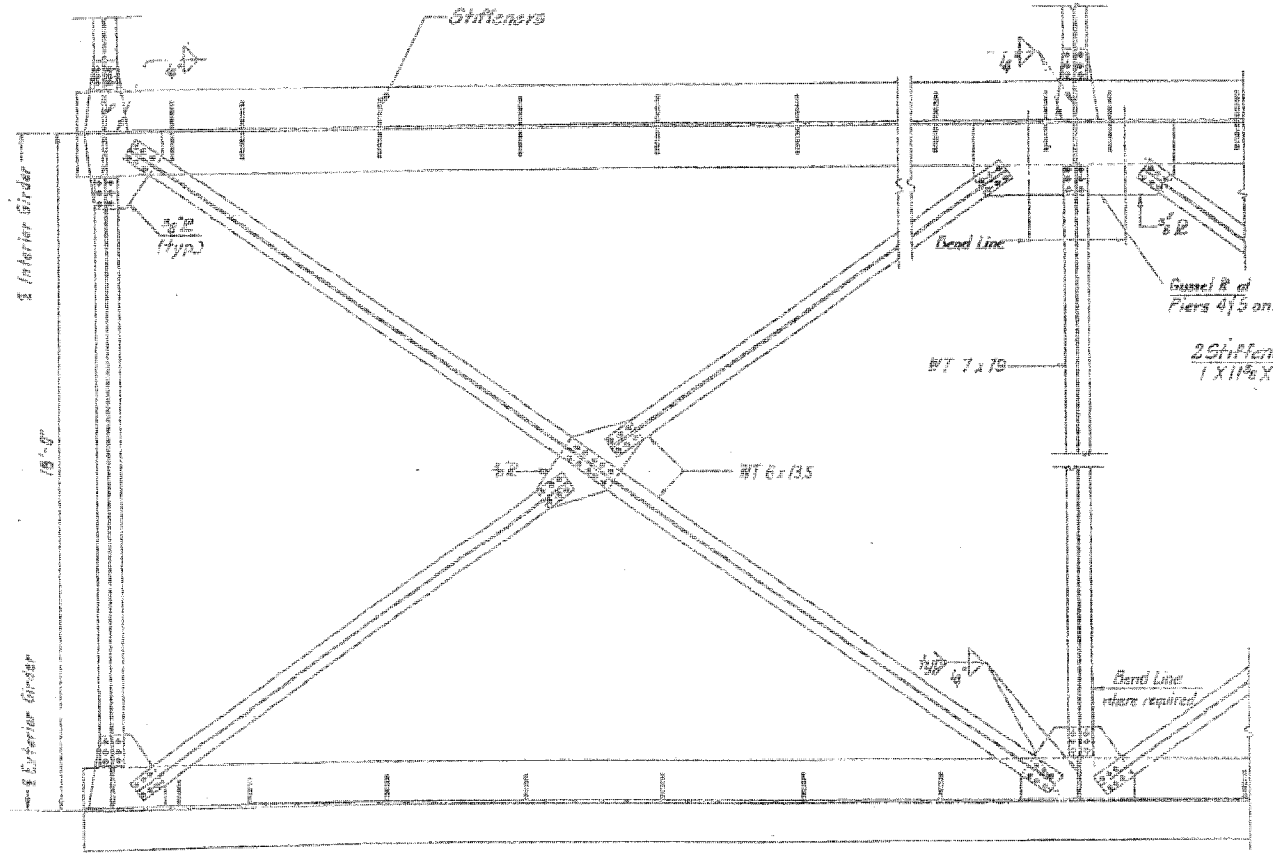
SECTION C-C

HINGE DETAILS



END DIAPHRAGM

Notes:
B" pin shall be Alloy Steel Forging ASTM A-237, Class C, normalized and tempered. Web plates and hanger bars shall be AASHTO M223 structural steel. Pin nuts shall be AASHTO M183 steel. The bronze washers shall be ASTM B22-61 alloy E.
The diameter of the pin hole shall not exceed that of the pin by more than 1/32" and the finish of the pin and pin hole contact surfaces shall conform to A.S.A. 125. The pin nuts shall be adjusted to allow free movement of the links before the set screws are placed.



LATERAL BRACING

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter

CG Ciorba Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@ciorba.com

FOR INFORMATION ONLY

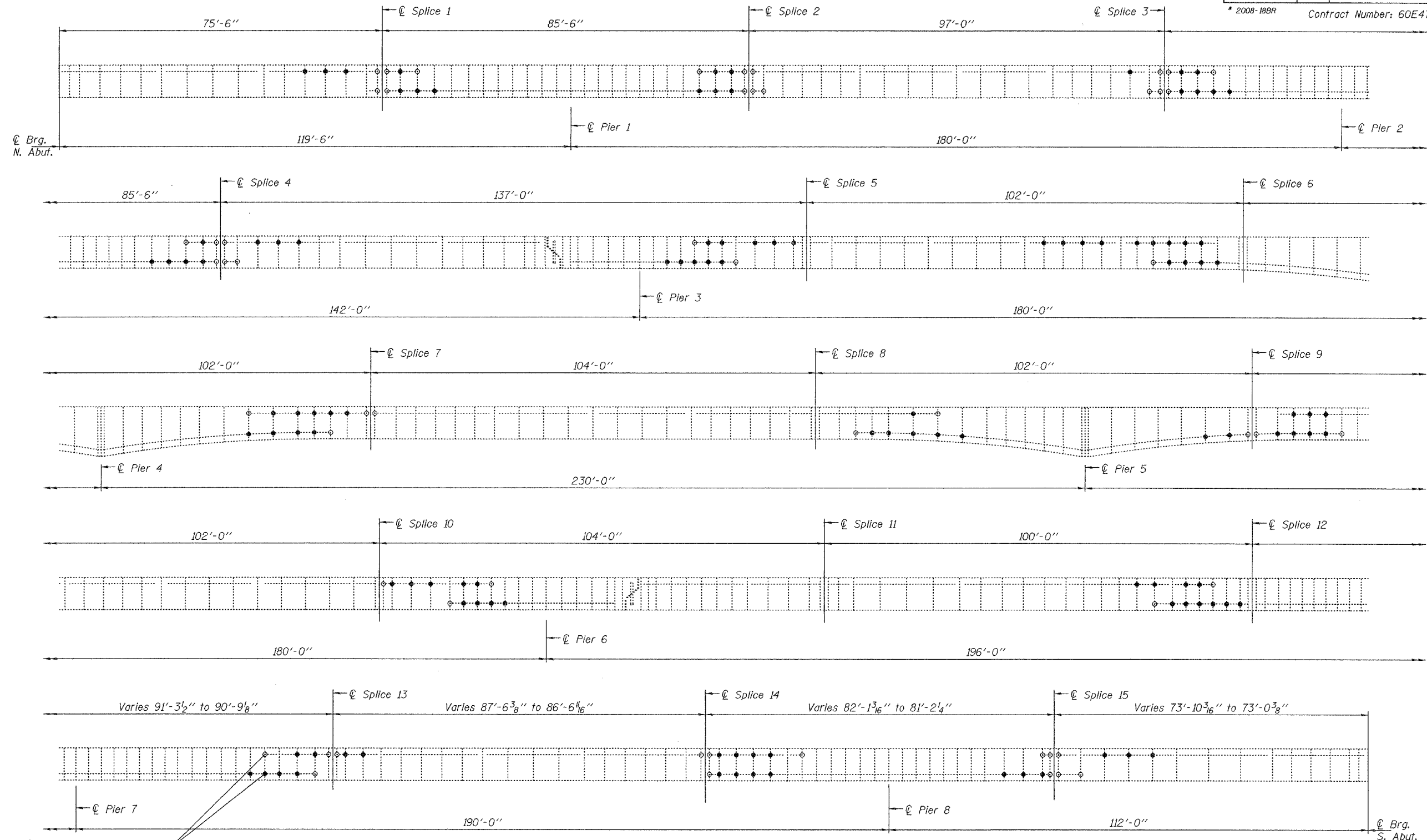
EXISTING STRUCTURAL STEEL DETAILS
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS AND MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
S.N. 016-0540

4/16/2009 4:16:20 PM R:\P000\3329\3329_30\Design\Structural\CAU\Shs\Steel\Reprints\3329_30_13_Existing Structural Steel Details.dwg

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAU 2697	SECTION *	COUNTY COOK	TOTAL SHEETS 22	SHEET NO. 17
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	
* 2008-188R		Contract Number: 60E47		

SHEET NO. 1
3 SHEETS



Modify stiffener intersection condition by increasing gap between stiffener welds. See details on sheet 2 of 3.

GIRDER ELEVATION SHOWING TYPICAL LOCATIONS OF FRACTURE CONTROL MODIFICATION

Work to be performed on the South side of girders 1 thru 3 and on the North side of girders 4 & 5. See sheet 2 of 3 for girder orientation.

DESIGNED	Adrian T. Holloway
CHECKED	Sital Bhakta VHV
DRAWN	balva
CHECKED	ATH SJB

MAY 7, 2008
EXAMINED *[Signature]*
ENGINEER OF STRUCTURAL SERVICES
PASSED *[Signature]*
ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2008

LEGEND
● 2 Locations
○ 1 Location

BILL OF MATERIAL

Item	Unit	Total
Stiffener Intersection Modification	Each	1420

PLAN AND ELEVATION
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS & MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
SN 016-0540

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

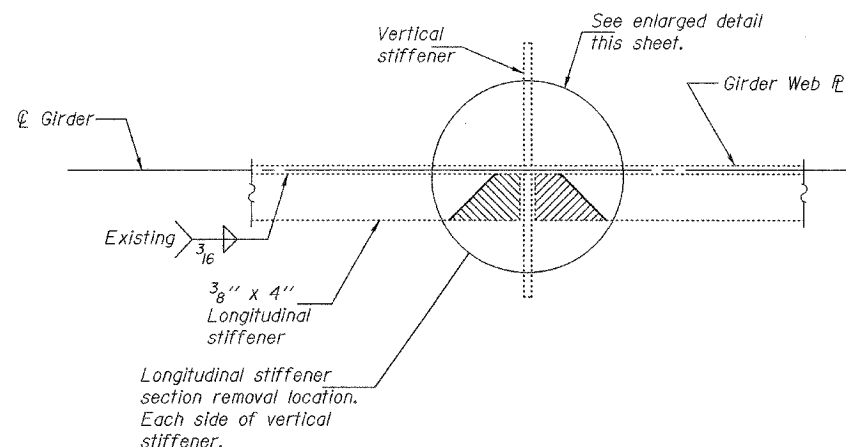
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAU 2697	#	COOK	22	18
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

* 2008-18BR Contract Number: 60E47

SHEET NO. 2
3 SHEETS

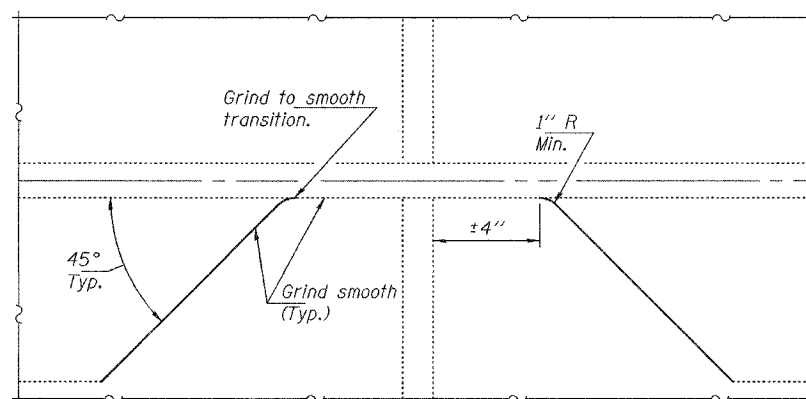
GIRDER #	SPLICE 1				SPLICE 2				SPLICE 3				SPLICE 4				SPLICE 5				SPLICE 6				SPLICE 7				SPLICE 8				SPLICE 9			
	TOP		BOTTOM		TOP		BOTTOM		TOP		BOTTOM		TOP		BOTTOM		TOP		BOTTOM		TOP		BOTTOM		TOP		BOTTOM		TOP		BOTTOM					
	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT						
1	7	4	1	7	6	1	7	2	3	6	2	9	4	7	9	2	11	0	11	0	18	0	9	0	12	1	9	0	0	3	0	11	0	6	5	10
2	7	4	1	7	6	1	7	2	3	6	2	9	4	7	9	2	11	0	11	0	18	0	9	0	12	1	9	0	0	3	0	11	0	6	5	10
3	7	4	1	7	6	1	7	2	3	6	2	9	4	7	9	2	11	0	11	0	18	0	9	0	12	1	9	0	0	3	0	11	0	6	5	10
4	7	4	1	7	6	1	7	2	3	6	2	9	4	7	9	2	11	0	11	0	18	0	9	0	12	1	9	0	0	3	0	11	0	6	5	10
5	7	4	1	7	6	1	7	2	3	6	2	9	4	7	9	2	11	0	11	0	18	0	9	0	12	1	9	0	0	3	0	11	0	6	5	10

GIRDER #	SPLICE 10				SPLICE 11				SPLICE 12				SPLICE 13				SPLICE 14				SPLICE 15			
	TOP		BOTTOM		TOP		BOTTOM		TOP		BOTTOM		TOP		BOTTOM		TOP		BOTTOM		TOP		BOTTOM	
	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT
1	0	12	0	9	0	0	0	0	9	0	13	0	6	5	9	0	1	10	0	9	2	7	7	2
2	0	12	0	9	0	0	0	0	9	0	13	0	6	5	9	0	1	10	0	9	2	7	7	2
3	0	12	0	9	0	0	0	0	9	0	13	0	6	5	9	0	1	10	0	9	2	7	7	2
4	0	12	0	9	0	0	0	0	9	0	13	0	6	5	9	0	1	10	0	9	2	7	7	2
5	0	12	0	9	0	0	0	0	9	0	13	0	6	5	9	0	1	10	0	9	2	7	7	2



REPAIR DETAIL

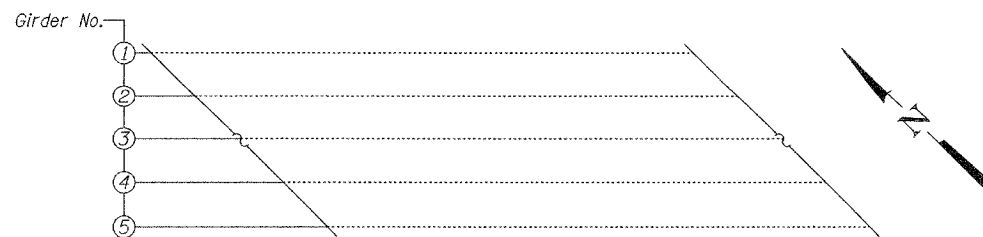
Hatched area indicates section removal.
(Showing 2 locations)



Procedure for Repair Detail:

1. Cut existing longitudinal stiffener $\pm 4''$ from face of vertical stiffener and along web as shown, with a 1" R (Min) at Web. The minimum distance from cut to face of web shall be the larger of $\frac{1}{4}''$ or web to plate weld size, with removal of remaining material by grinding as described below. The cut shall be made parallel to the web without angling the cut towards the web. Equipment and method of cutting shall be approved by the Engineer. Any method of removal to be used shall ensure that no damage is done to the existing web, vertical stiffener or welds connecting these elements. Cutting shall be done in a manner such that the paint on the opposite face of the web is not damaged. If damage occurs, the damaged area shall be repainted at the contractor's expense and procedures shall be modified to prevent damage at subsequent removal locations.
2. Remove material between cut and web by grinding and grind smooth at web surface and cut end of stiffener. Web ℓ surfaces and cut end of stiffener shall have a roughness average (Ra) of 250 μ in. or less. Grinding equipment shall be approved by the Engineer. The grinding operation should not gouge the girder web ℓ .
3. The web surface at the modification shall be inspected using dye penetrant or magnetic particle (MT) methods. Any cracks found shall be identified and reported to the Bureau of Bridges and Structures for further disposition.
4. The exposed steel surfaces shall be cleaned and painted using an aluminum epoxy mastic primer according to Article 506.05 of the Standard Specifications.

Each 4" stiffener removal area is to be considered as one retrofit. Accepted above referenced work will be paid for at the contract unit price each for Stiffener Intersection Modification, which price shall include all materials, equipment, labor, cleaning, testing and painting.



GIRDER ORIENTATION

DESIGNED	ATH
CHECKED	SJB
DRAWN	baliva
CHECKED	ATH SJB

MAY 7, 2008
EXAMINED *A. Carl Prosser*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

SIMD/REPS 03-02-2006

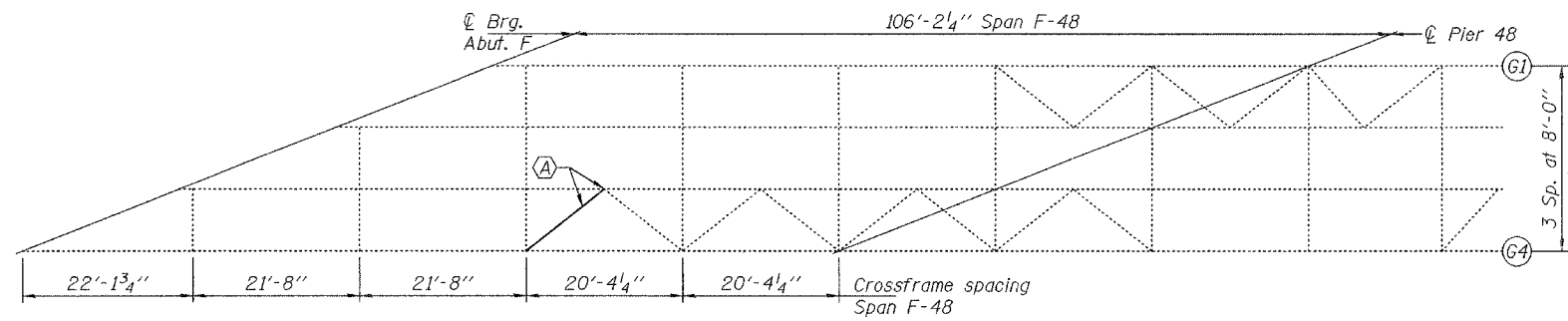
STIFFENER MODIFICATION DETAILS
FAU 2697 WILLOW SPRINGS ROAD
OVER DES PLAINES RIVER,
CHICAGO SANITARY & SHIP CANAL,
ILLINOIS & MICHIGAN CANAL,
AND ICG RAILROAD
COOK COUNTY
SN 016-0540

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILES	SHEET NO.	SHEET NO. 3 3 SHEETS
FAI 55	*	COOK	22	19	
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	
* 2008-188R		Contract Number: 60E47			

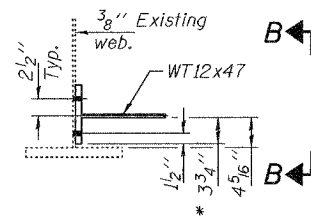
GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{1}{16}$ " ϕ , unless otherwise noted.
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 Structural Steel Repair.
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Structural Steel Repair.
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".
The Contractor shall grind all cracked welds parallel to the direction of the existing weld and not perpendicular to the weld.



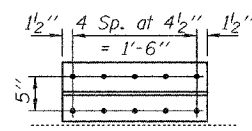
PARTIAL PLAN

(A) - Remove and replace gusset plate & crossframe



SECTION A-A

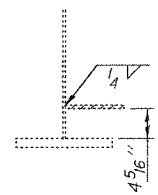
(Crossframe not shown for clarity)



VIEW B-B

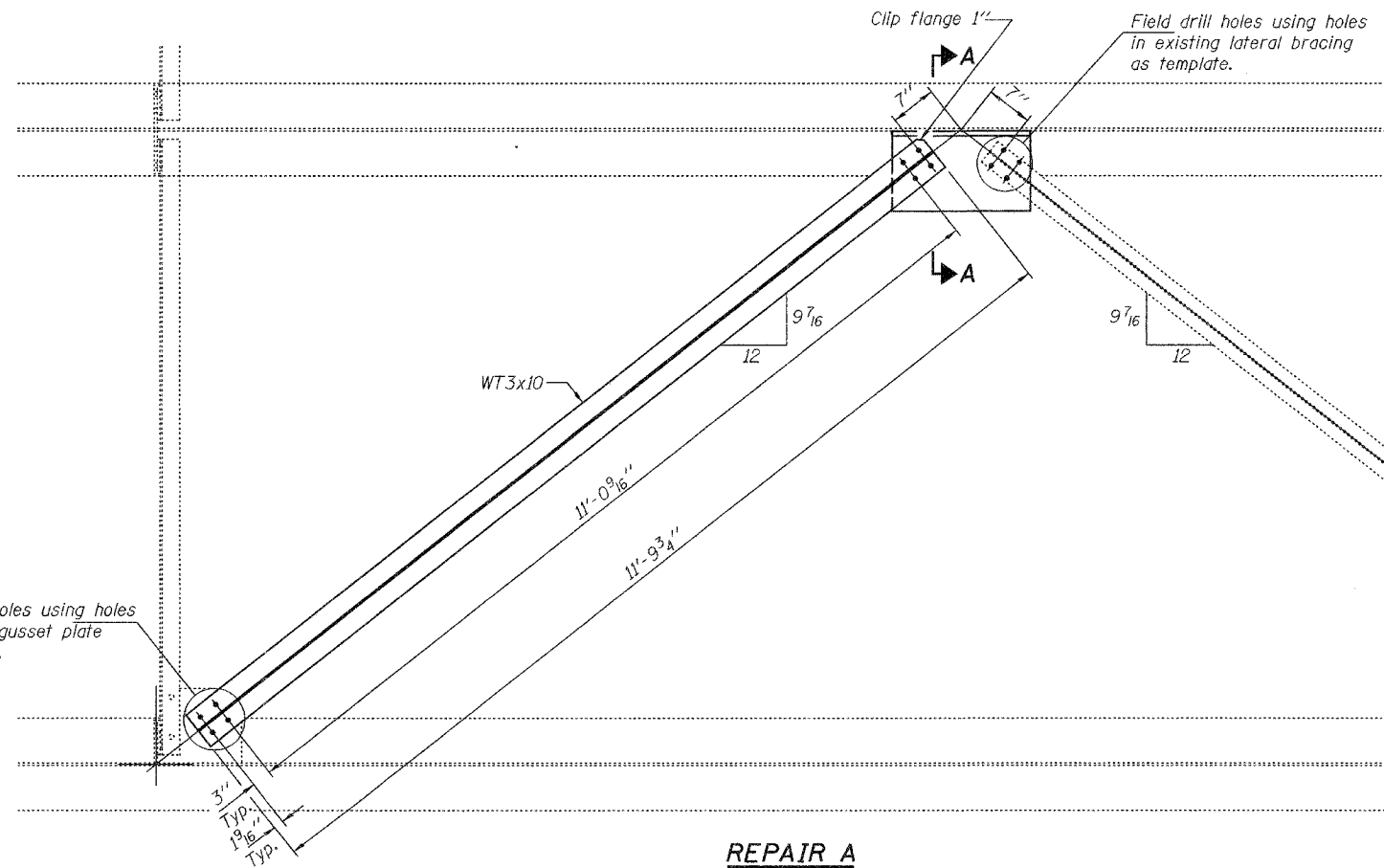
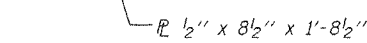
Field drill holes in web using holes in new WT bracket as template.

* Trim bottom leg of WT flange



REMOVAL DETAILS

Hatched areas indicate removal



REPAIR A

TOTAL BILL OF MATERIAL

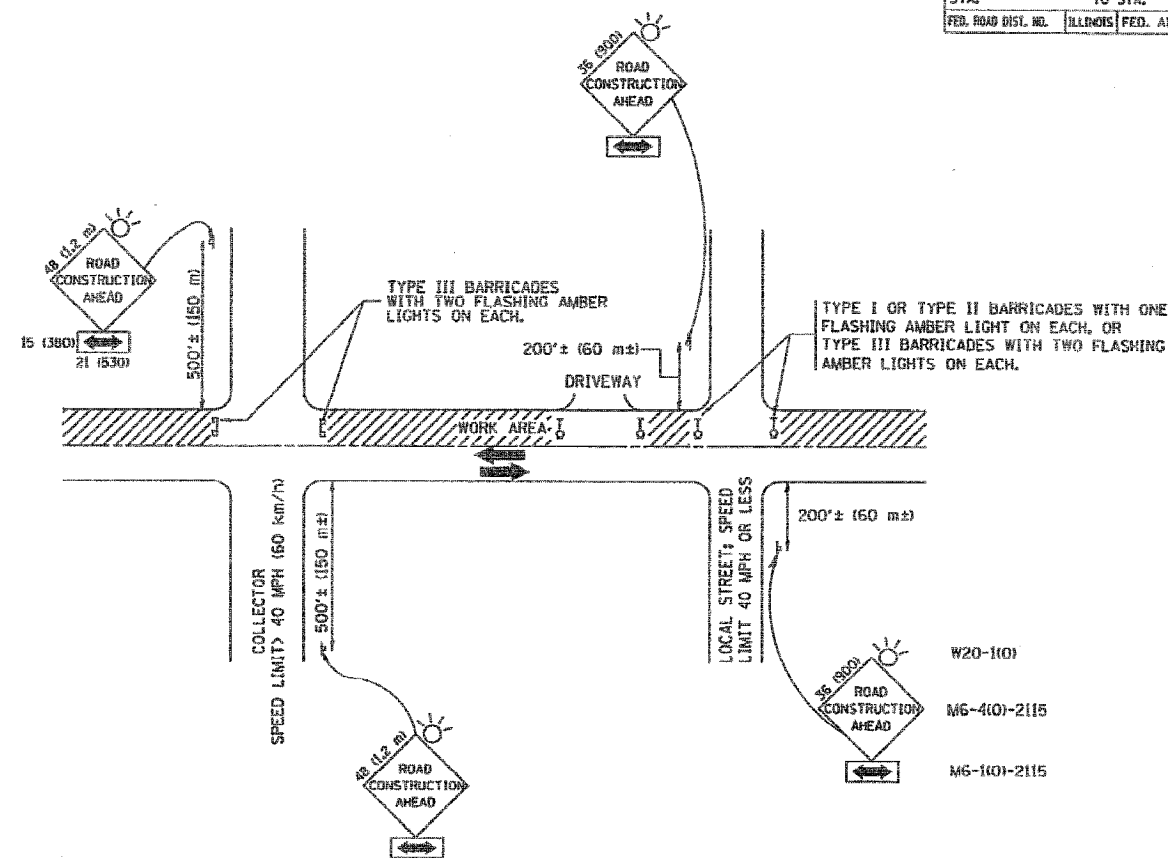
ITEM	UNIT	TOTAL
Structural Steel Repair	Pound	210

BRIDGE REPAIRS
FAI 55 OVER DES PLAINES RIVER
COOK COUNTY
SN 016-0987

DESIGNED	ATH
CHECKED	SJB
DRAWN	ballva
CHECKED	ATH SJB

MAY 7, 2008
EXAMINED *Carl Proyer*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

CONTRACT NO.			
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS
2697	2008-018 BR	COOK	22
STA.		TO STA.	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

- SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
 - THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
- SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
 - THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
- WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

REVISIONS	
NAME	DATE
LHA	6/89
T. RAMMACHER	09/08/94
J. GBERLE	10/18/95
A. HOUSEH	03/06/96
A. HOUSEH	10/15/96
T. RAMMACHER	01/06/00

ILLINOIS DEPARTMENT OF TRANSPORTATION
 TRAFFIC CONTROL AND PROTECTION
 FOR
 SIDE ROADS, INTERSECTIONS, AND
 DRIVEWAYS

SCALE: NONE

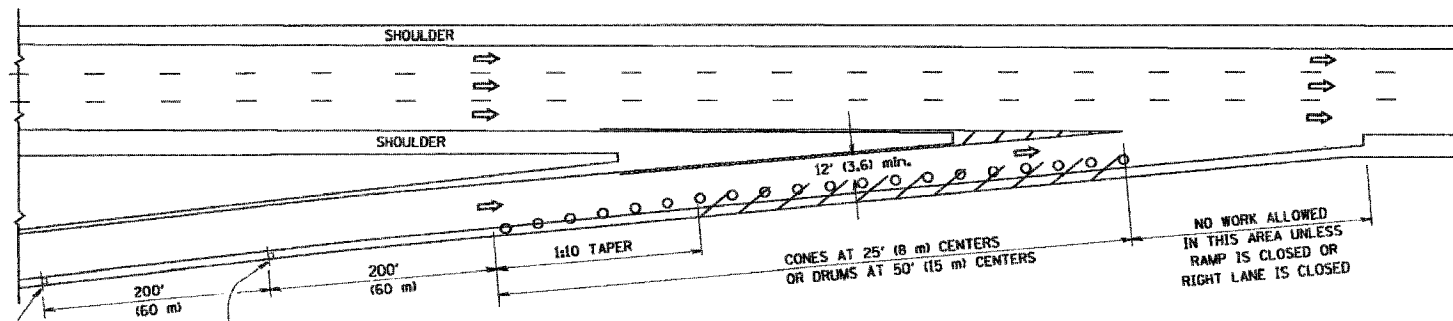
DRAWN BY
 CHECKED BY
 TC-10

PLOT DATE: 2/2/2007
 PLOT SCALE: 1/8" = 1'-0"
 USER NAME: bbasev

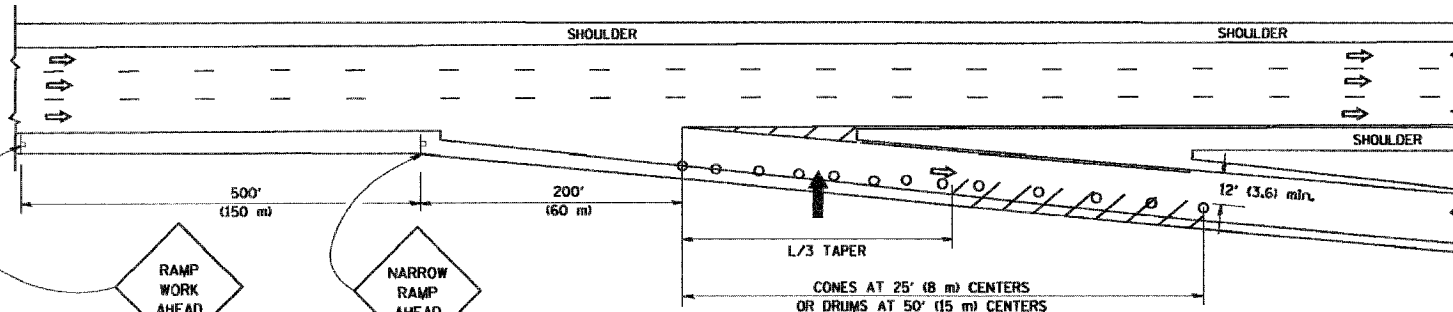
PARTIAL RAMP CLOSURE DETAILS

SHOULDER CLOSURE DETAILS

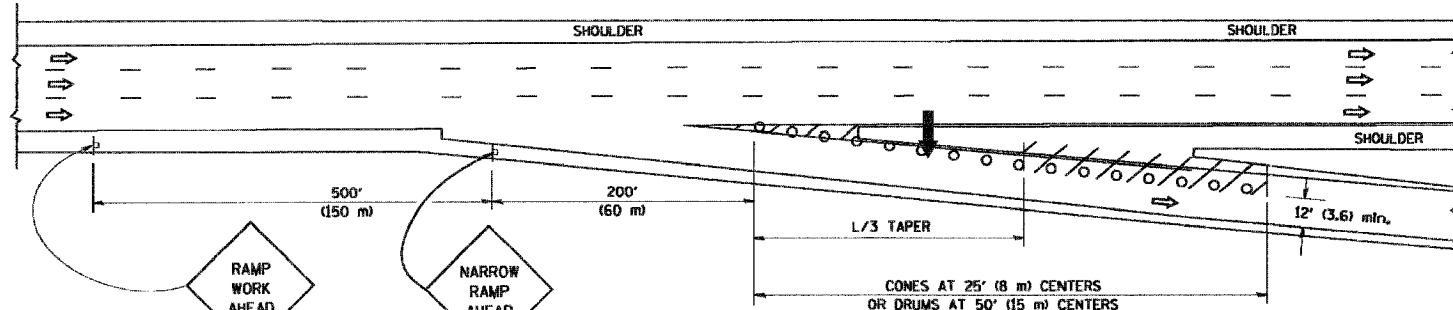
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2697	2008-018 BR	COOK	22	21
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

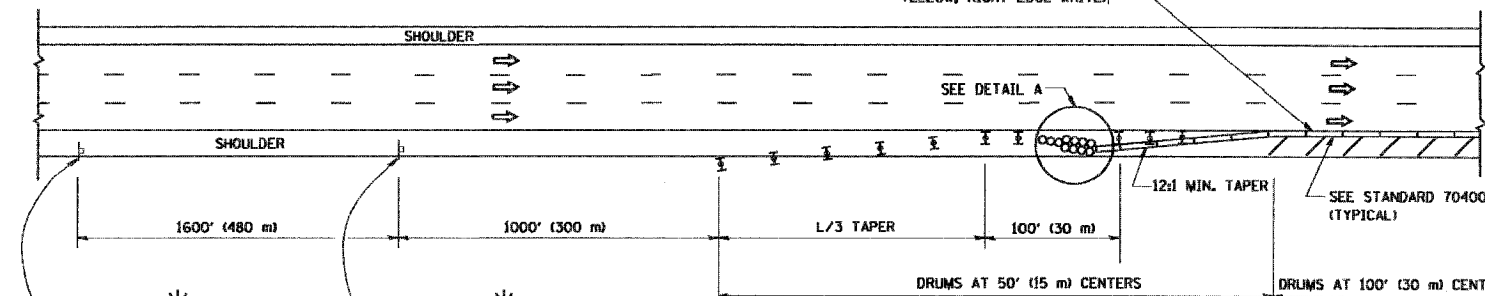
SYMBOLS

- 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

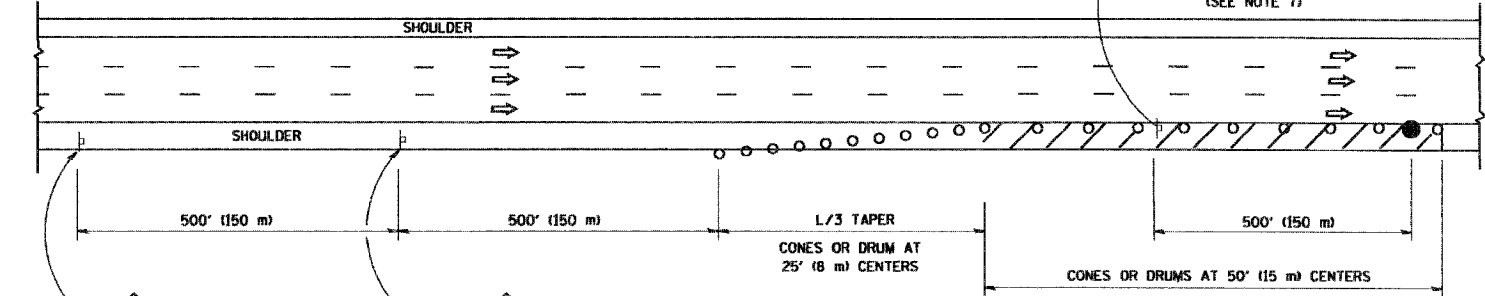
GENERAL NOTES

- THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER:	METRIC: $L=0.65(W)(S)$ ENGLISH: $L=(W)(S)$
W = WIDTH OF OFFSET IN FEET (METERS)	S = NORMAL POSTED SPEED MPH (KM/H)
- PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

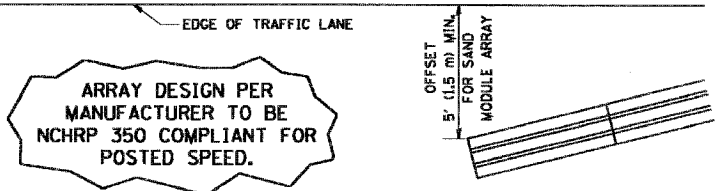


PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:
 1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH 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)

- THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE "TRAFFIC BARRIER TERMINAL, TYPE III, TEMPORARY" DEVICE TO MEET NCHRP350 FOR POSTED SPEED.
- AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
- THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
 - FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
 - THE WORK AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.

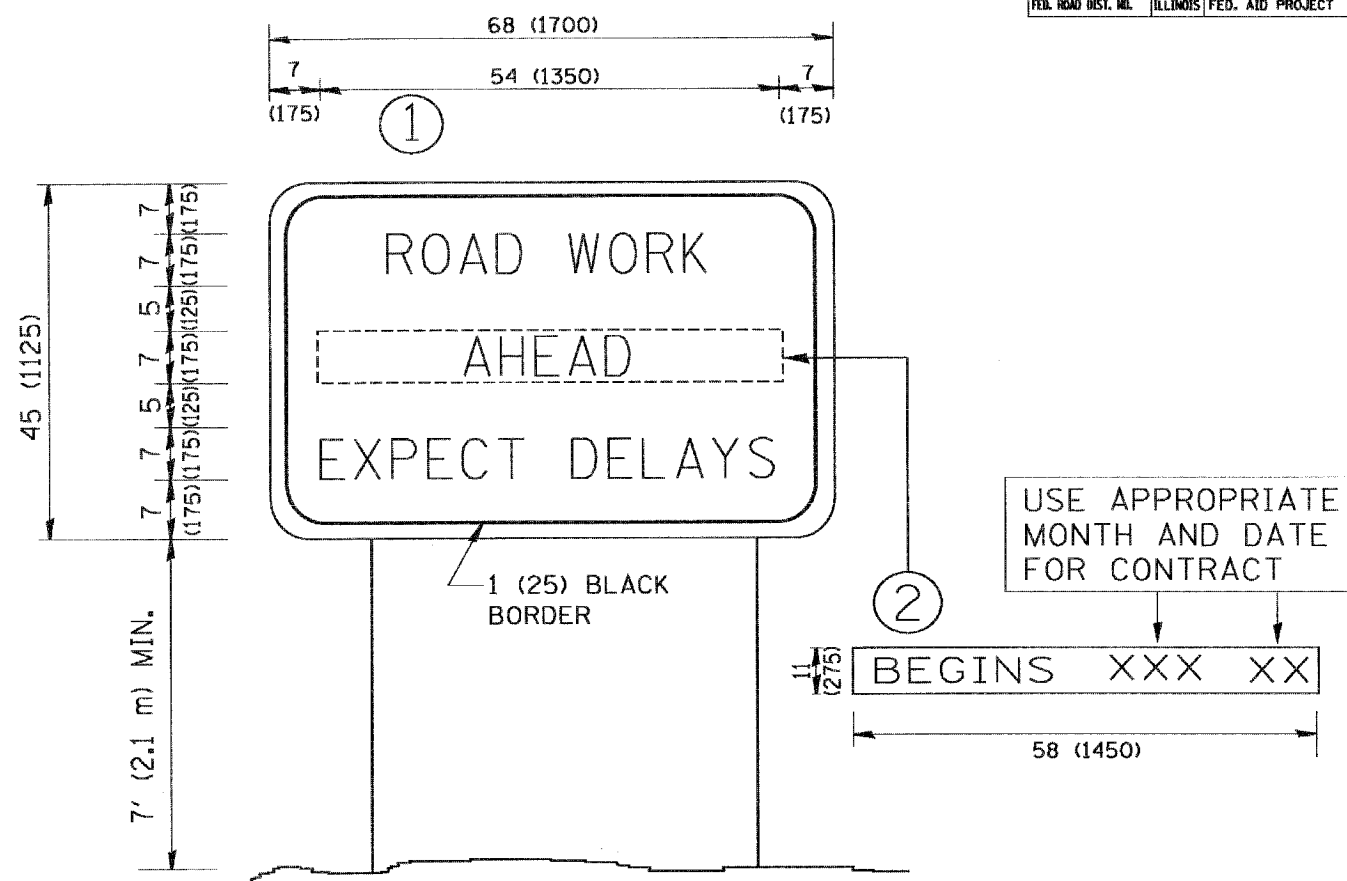
REVISIONS		
NAME	DATE	
DWS	11/96	
JAF	12/02	
NCHRP 350	04/03	
JAF	2/06	
SPB	1/07	

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

ILLINOIS DEPARTMENT OF TRANSPORTATION
 TRAFFIC CONTROL DETAILS
 FOR FREEWAY
 SHOULDER CLOSURES
 PARTIAL RAMP CLOSURES

SCALE: NONE
 DESIGNED BY: DWS
 DRAWN BY:
 CHECKED BY:

CONTRACT NO.				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2697	2008-018	COOK	22	22
STA.		TO STA.		
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.

REVISIONS	
NAME	DATE
R. MIRS	9-15-97
R. MIRS	12-11-97
T. RAMMACHER	2-2-99
C. JUCIUS	1-31-07

ILLINOIS DEPARTMENT OF TRANSPORTATION
ARTERIAL ROAD INFORMATION SIGN
 SCALE: NONE
 DRAWN BY DESIGN
 CHECKED BY
 TC22

PLOT DATE = 3/8/2007
 PLOT SCALE = 3/8" = 1'-0"
 USER NAME = bward