

68585

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155		TAZEWELL	9	1

D4 HOAN RETROFITS 2006

DESIGNER: CLARK JONES
PHONE: (309)671-3452

PROJECT ENGINEER: JIM MILLER
PHONE: (309)671-3451

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

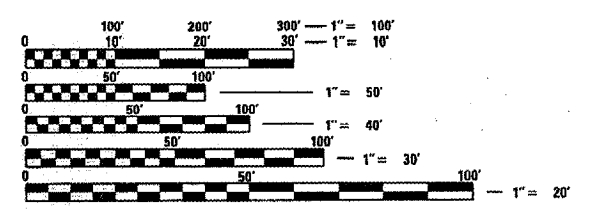
FAI 155 (I-155)
SECTION D4 HOAN RETROFITS 2006
PROJECT S.N. 090-0092 / 0100
TAZEWELL COUNTY
C-94-061-06

INDEX OF SHEETS:

- 1. COVER SHEET
- 2. SUMMARY OF QUANTITIES
- 3. SCHEDULE OF QUANTITIES
- 4-5. TRAFFIC CONTROL PLAN
- 6-7. PLAN & ELEVATION
- 8-9. REPAIR DETAILS

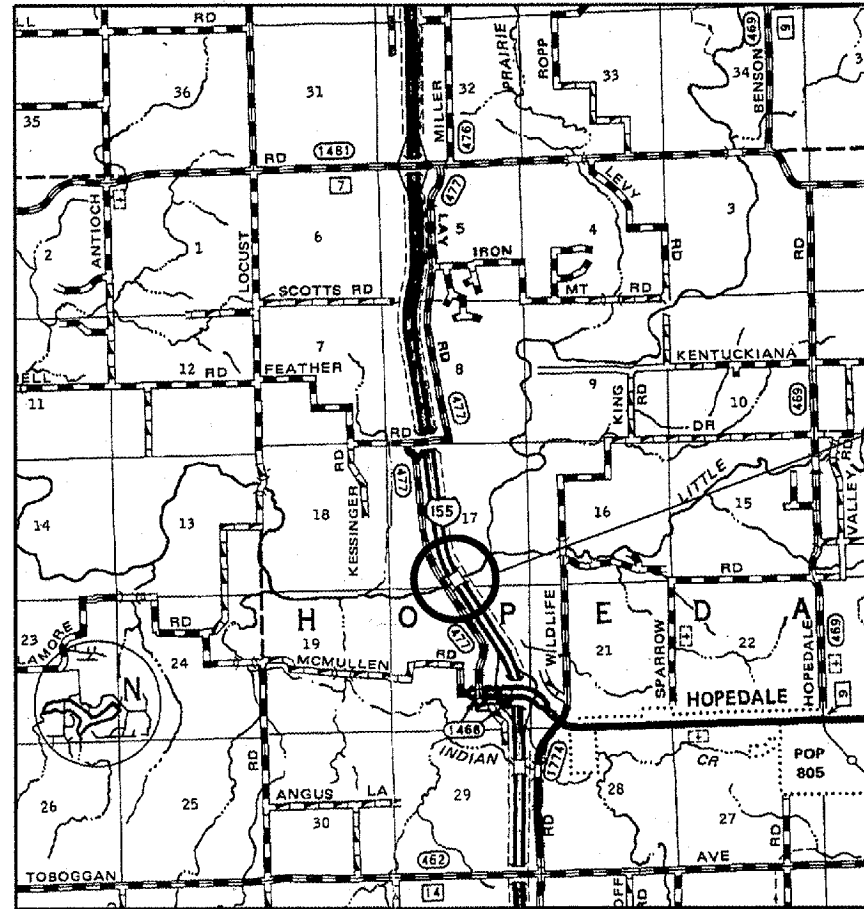
STANDARDS:

- 701001-01 701406-04
- 701006-02 702001-06
- 701400-02 704001-02



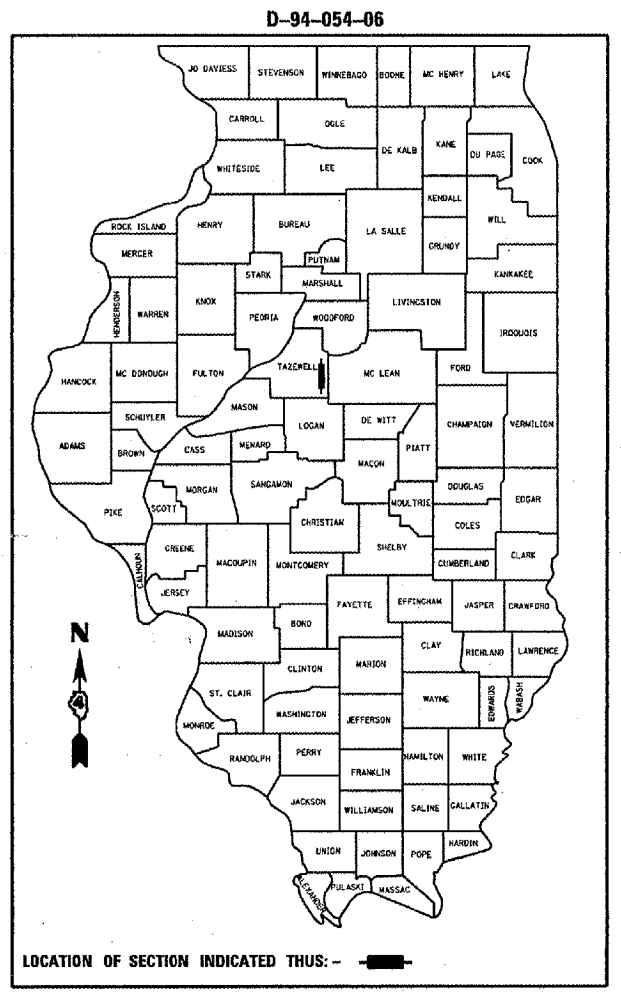
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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



LOCATION MAP

PROJECT CONSISTS OF HOAN DETAIL RETROFITTING OF STRUCTURES SN 090-0092 AND 090-0100 CARRYING I-155 OVER THE MACKINAW RIVER.



LOCATION OF SECTION INDICATED THUS: - - -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 2/23 20 06 *wsl*

J. E. Crave
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 24, 2006
Mike Stone
ENGINEER OF DESIGN AND ENVIRONMENT

March 24, 2006
Milton R. Sees, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	*	TAZEWELL	9	3
STA. 665+58.42		TO STA. 671+40.20		
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT	

* D4 HOAN RETROFITS 2006

SCHEDULE OF QUANTITIES

MOBILIZATION

LSUM = 1.0 EACH

TRAFFIC CONTROL & PROTECTION, STD. 701 406

STA. 664+00 TO STA. 672+00 = 1.0 EACH

STRUCTURAL STEEL REPAIR

TOTAL (BOTH STRUCTURES) = 3430 POUND

PLOT DATE * DATE
 FILE NAME * FILE
 PLOT SCALE * SCALE
 REFERENCE * REF

REVISIONS	
NAME	DATE

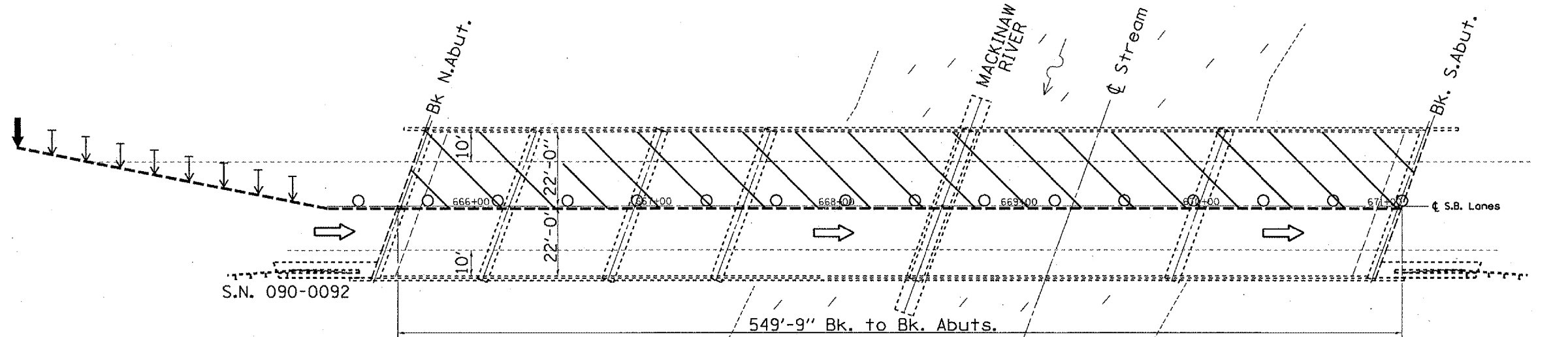
ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

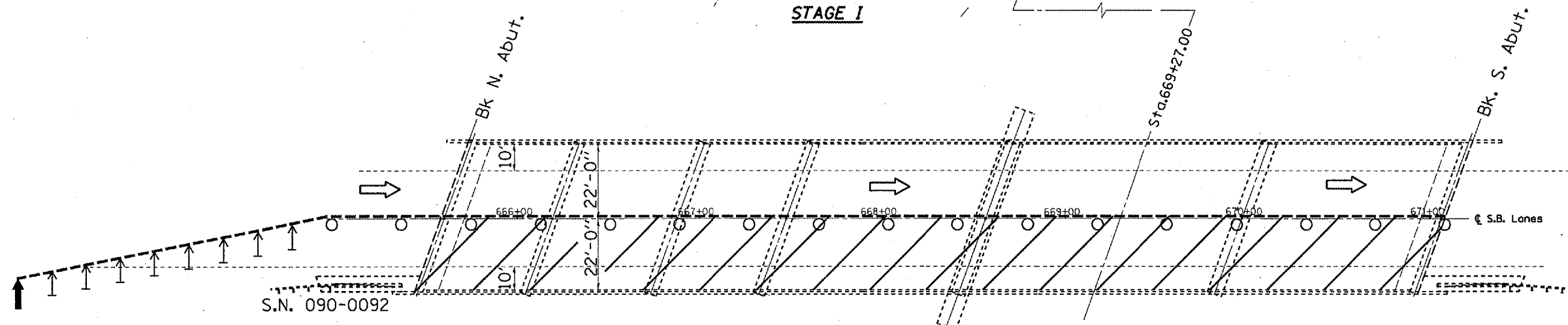
SCALE: VERT.
 HORIZ.
 DATE 01-03-2006

DRAWN BY CEJ
 CHECKED BY

F.A.I. RYE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	*	TAZEWELL	9	4
STA. 665+58.42		TO STA. 671+08.17		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				
• D4 HOAN RETROFITS 2006				



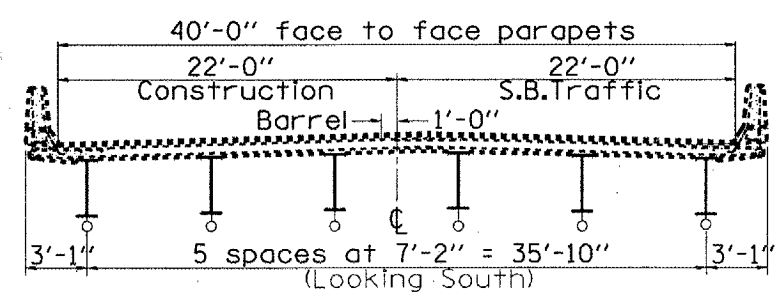
STAGE I



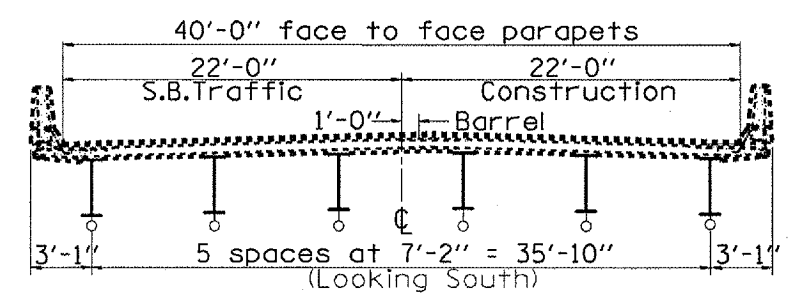
STAGE II

SYMBOLS

- Work Area
- Cone, Drum, or Barricade
- Arrow Board
- Type II Barricade or Drum
- Direction Indicator Barricade
- Sign
- Flagger w/Traffic Control Sign
- Temporary Pavement Marking Tape



STAGE I



STAGE II

NOTE

Refer to Highway Standard 701406-04 and for exact placement of traffic management devices and other clarifications as construction staging symbols and dimensioning were duplicated off of those standards.

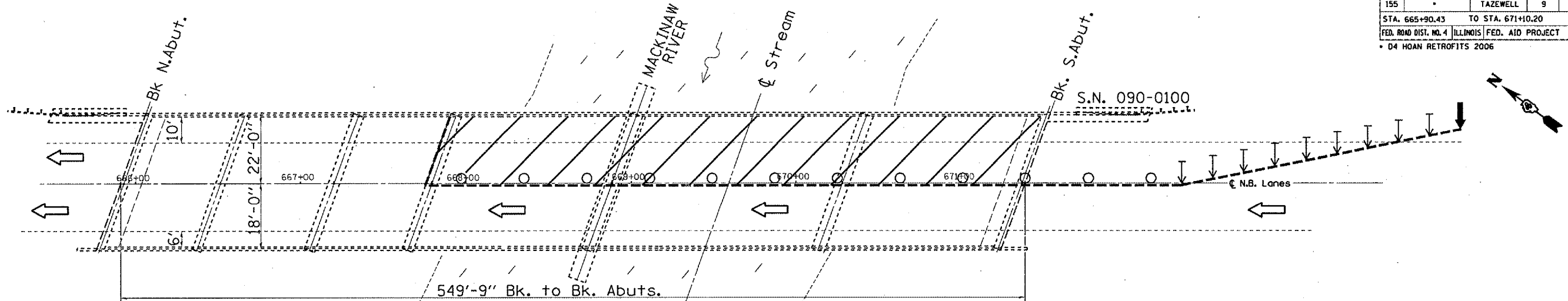
S.N. 090-0092
I-155 S.B. over
Mackinaw River

REVISIONS	
NAME	DATE

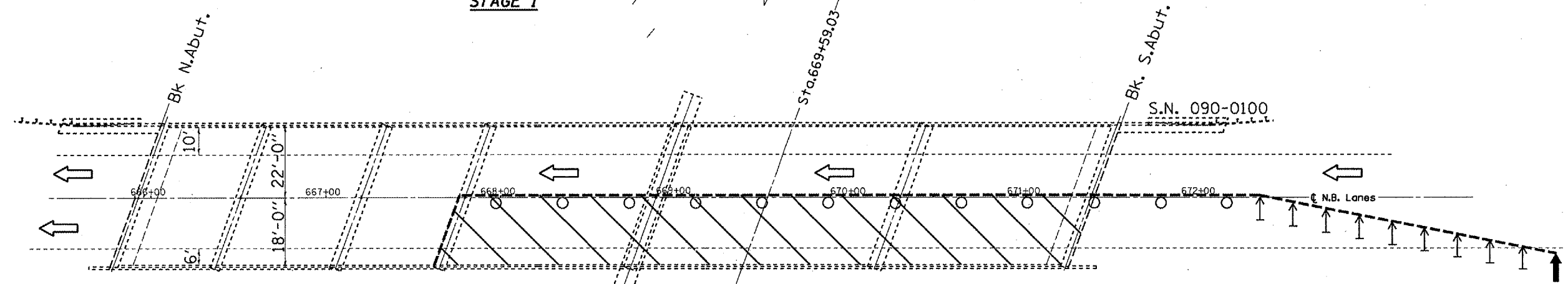
ILLINOIS DEPARTMENT OF TRANSPORTATION
STAGE CONSTRUCTION SEQUENCE
SCALE: VERT. DRAWN BY CEJ
 HORIZ. CHECKED BY
DATE 01-06-2006

PLOT DATE * DATES
 FILE NAME * FILE#
 PLOT SCALE * SCALES
 REFERENCE * SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155		TAZEWELL	9	5
STA. 665+90.43		TO STA. 671+10.20		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				
• D4 HOAN RETROFITS 2006				



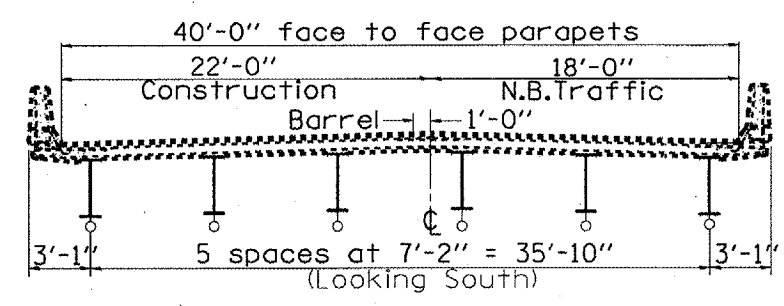
STAGE I



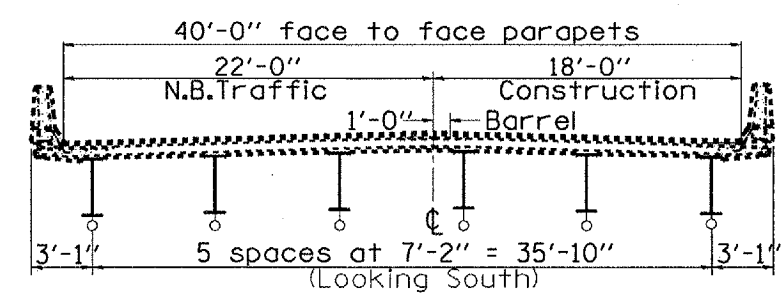
STAGE II

SYMBOLS

- Work Area
- Cone, Drum, or Barricade
- Arrow Board
- Type II Barricade or Drum
- Direction Indicator Barricade
- Sign
- Flagger w/Traffic Control Sign
- Temporary Pavement Marking Tape



STAGE I



STAGE II

NOTE

Refer to Highway Standard 701406-04 and for exact placement of traffic management devices and other clarifications as construction staging symbols and dimensioning were duplicated off of those standards.

S. N. 090-0100
I-155 N. B. over
Mackinaw River

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION SEQUENCE

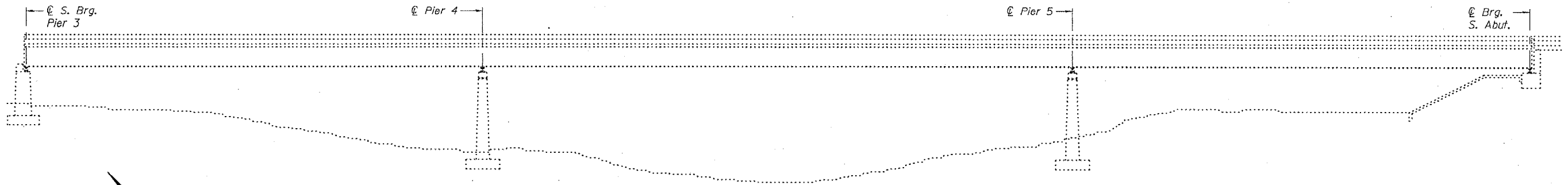
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DRAWN BY CEJ CHECKED BY

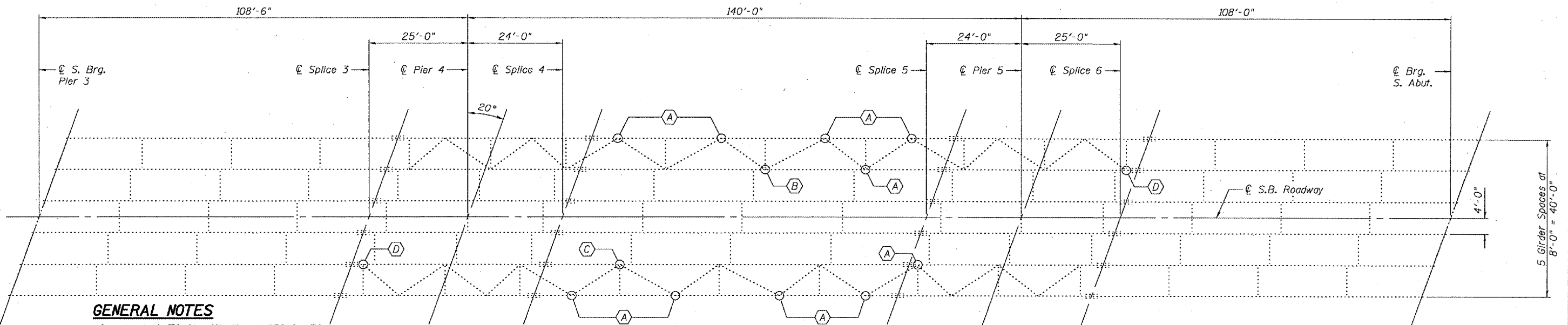
PLOT DATE: 01-03-2006
FILE NAME: I-155 N.B. over Mackinaw River.dwg
PLOT SCALE: AS SHOWN
REFERENCE: SHEET 5 OF 9

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1 2 SHEETS
		Tazewell	9	6	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	Contract Number: 68585		



ELEVATION



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.
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
Cost of removal and/or 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 in the cost of Structural Steel Repair. Cost of temporarily supported lateral bracing is included with Structural Steel Repair.
The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.
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".
All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Structural Steel Repair.

PLAN

- (A) Repair Detail A See Sheet 2 of 2.
- (B) Repair Detail B See Sheet 2 of 2.
- (C) Repair Detail C See Sheet 2 of 2.
- (D) Repair Detail D See Sheet 2 of 2.

Procedure for Hoan Repair Detail
1. Remove existing $1/2"$ connecting ϕ . The minimum distance from cut to face of web shall be the larger of $1/4"$ or web to ϕ 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 point 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.

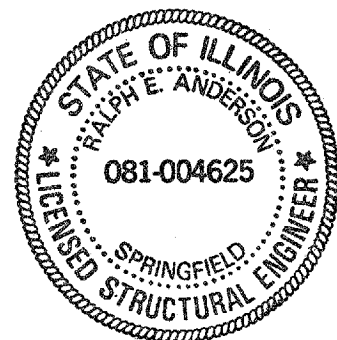
2. Remove material between cut and web by grinding and grind smooth at web surface. Web ϕ surfaces shall have a roughness average (Ra) of $250 \mu\text{in.}$ or less. Grinding equipment shall be approved by the Engineer. The grinding operation should not gouge the girder web ϕ .

3. The web surface at the modification shall be inspected using dye penetrant or magnetic particle methods. Any cracks found shall be identified and reported to the Bureau of Bridges and Structures for further disposition

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Steel Repair	Pound	1,890

PLAN AND ELEVATION
I-155 (S.B.) / MACKINAW RIVER
TAZEWELL COUNTY
SN 090-0092



Expires: November 30, 2006

DESIGNED: *Adam T. Holloway*
CHECKED: *Paul H. G...*
DRAWN: *[Signature]*
CHECKED: A.T.H. P.S.J.

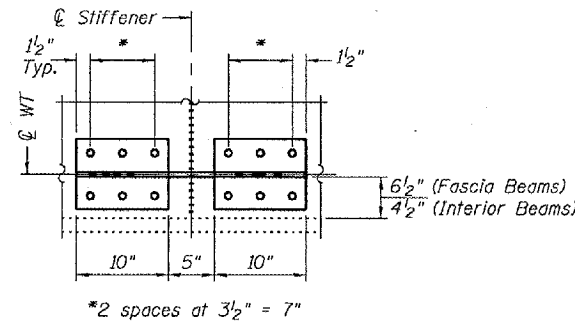
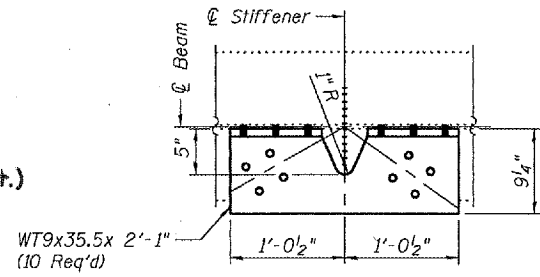
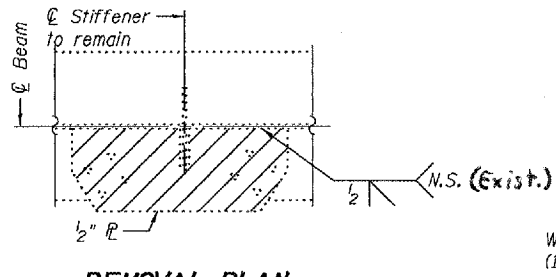
March 1, 2006
EXAMINED: *John A. Morrison*
PASSED: *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

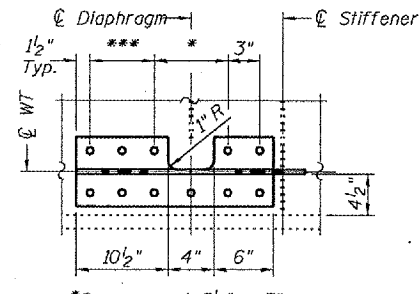
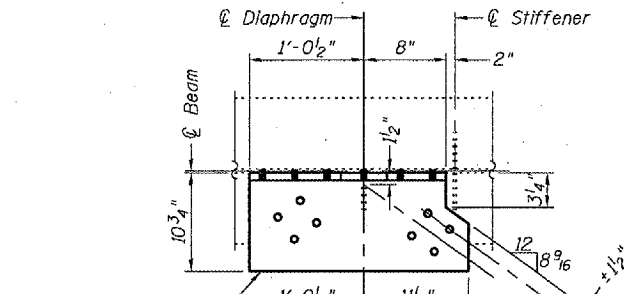
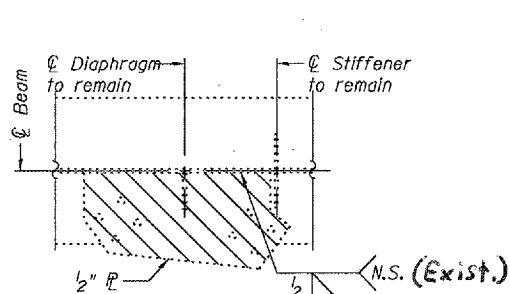
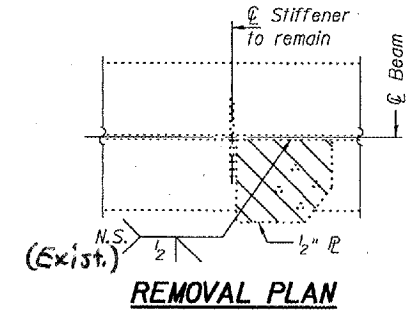
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Tazewell	9	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract Number: 68585

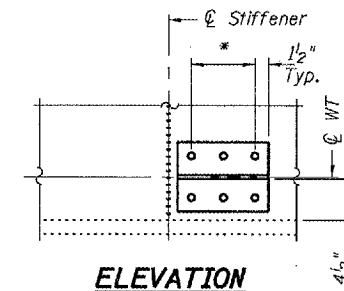
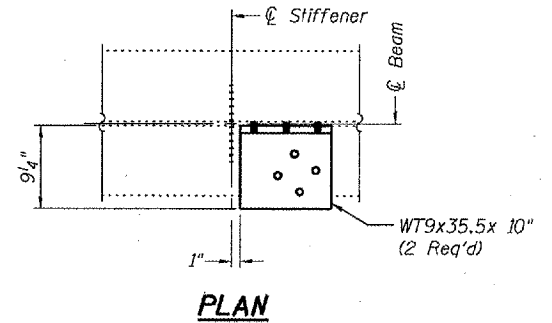
SHEET NO. 2
2 SHEETS



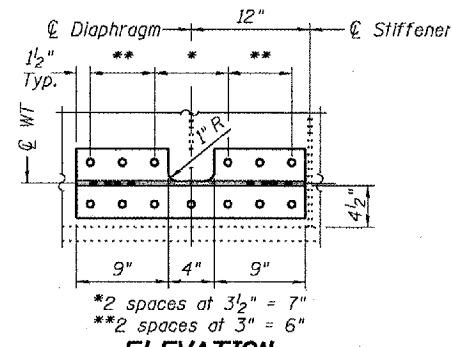
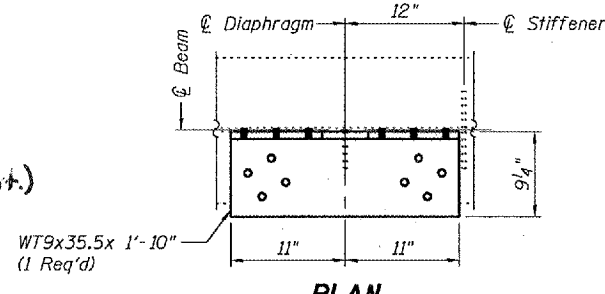
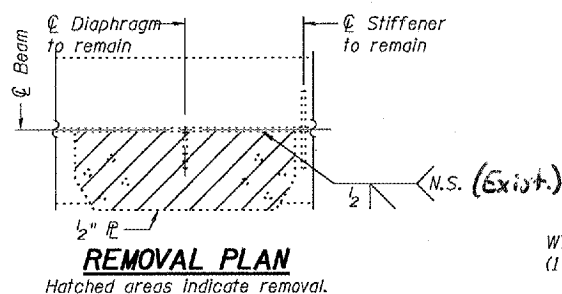
REPAIR A



REPAIR B



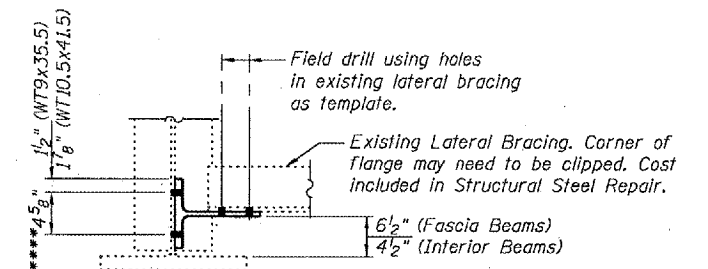
REPAIR D



REPAIR C

****Field drill holes in existing girder web using holes in WT gusset P's as a template.

See Procedure for Hoan Repair Details on Sheet 1 of 2.



REPAIR DETAILS
I-155 (S.B.) / MACKINAW RIVER
TAEWELL COUNTY
SN 090-0092

DESIGNED	A.T.H.
CHECKED	P.S.J.
DRAWN	Drew Christopher
CHECKED	A.T.H. P.S.J.

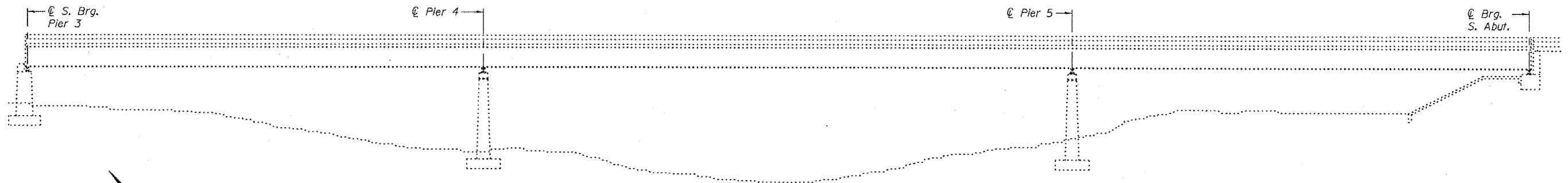
EXAMINED	John A. Morris ENGINEER OF STRUCTURAL SERVICES
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

March 1, 2006

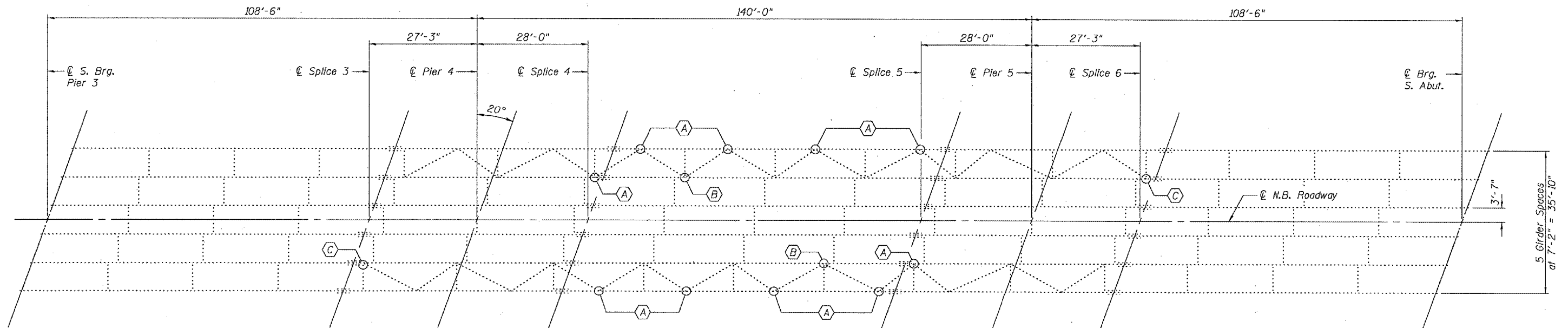
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1 2 SHEETS
		Tazewell	9	8	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract Number: 68585



ELEVATION



PLAN

- (A) Repair Detail A See Sheet 2 of 2.
- (B) Repair Detail B See Sheet 2 of 2.
- (C) Repair Detail C See Sheet 2 of 2.

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.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

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

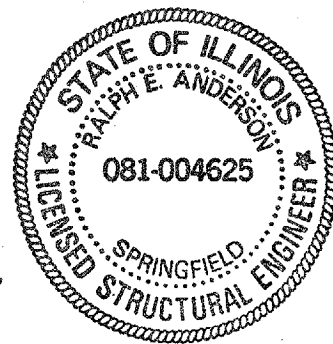
All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Structural Steel Repair.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Steel Repair	Pound	1,540

DESIGNED	A. Cianci Holloway
CHECKED	Paul J. [Signature]
DRAWN	[Signature]
CHECKED	A.J.H. P.S.J.

March 1, 2006
EXAMINED John A. Morrison
ENGINEER OF STRUCTURAL SERVICES
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



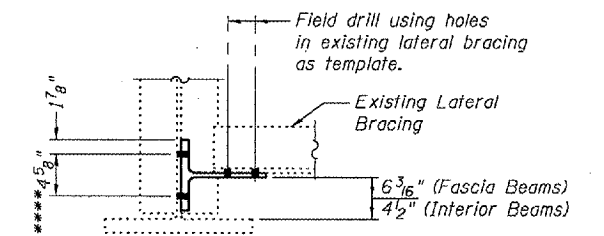
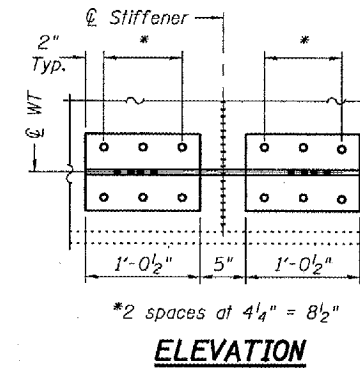
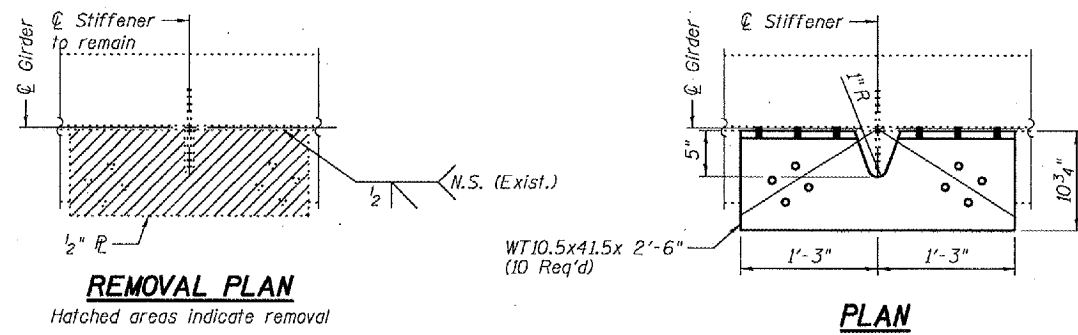
Expires: November 30, 2006

PLAN AND ELEVATION
I-155 (N.B.) / MACKINAW RIVER
TAZEWELL COUNTY
SN 090-0100

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2
		Tazewell	9	9	2 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

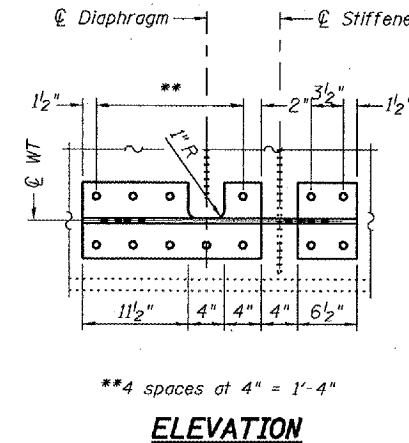
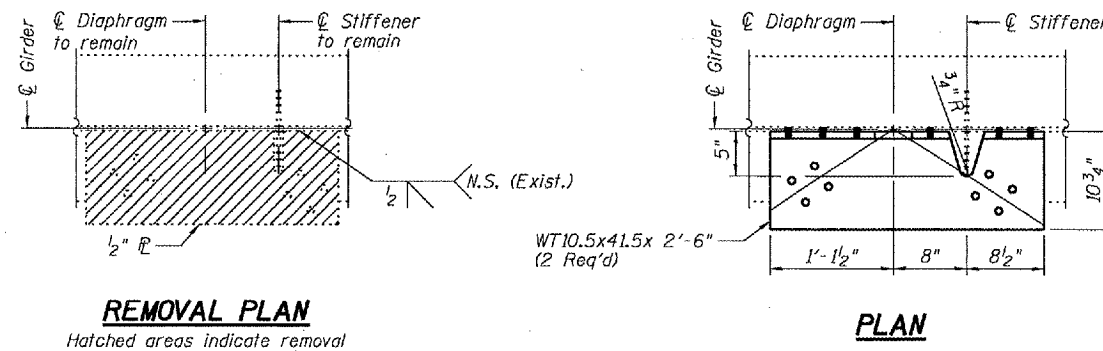
Contract Number: 68585



TYPICAL SECTION

****Field drill holes in existing girder web using holes in WT section as a template.

REPAIR A

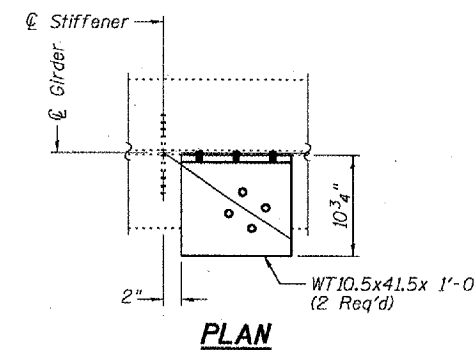
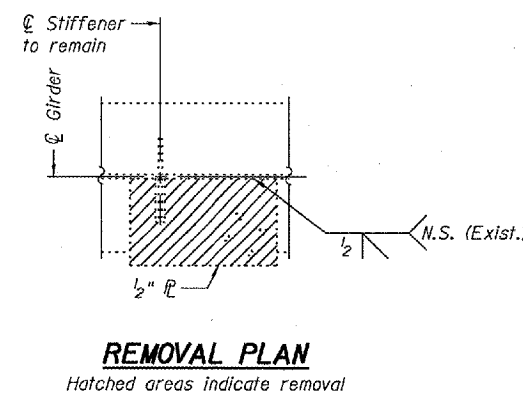


REPAIR B

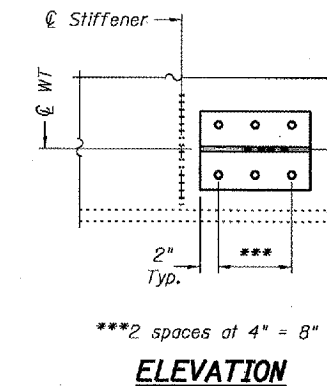
Procedure for Hoan Repair Detail
1. Remove existing 1/2" connecting fillet. The minimum distance from cut to face of web shall be the larger of 1/4" or web to fillet weld size, with removal of remaining material by grinding as described below. The cut shall be made parallel to the web without angling 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. Web fillet surfaces shall have a roughness average (Ra) of 250 μin. or less. Grinding equipment shall be approved by the Engineer. The grinding operation should not gouge the girder web fillet.

3. The web surface at the modification shall be inspected using dye penetrant or magnetic particle methods. Any cracks found shall be identified and reported to the Bureau of Bridges and Structures for further disposition.



REPAIR C



REPAIR DETAILS
I-155 (N.B.) / MACKINAW RIVER
TAZEWELL COUNTY
SN 090-0100

DESIGNED	A.T.H.
CHECKED	P.S.J.
DRAWN	Drew Christopher
CHECKED	A.T.H. P.S.J.

March 1, 2006	
EXAMINED	John A. Morris ENGINEER OF STRUCTURAL SERVICES
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

REMOVAL PLAN
Hatched areas indicate removal