

64857

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	201-1BR	WINNEBAGO	40	1

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

D-92-009-03



LOCATION OF SECTION INDICATED THIS: - ■ -

STANDARDS

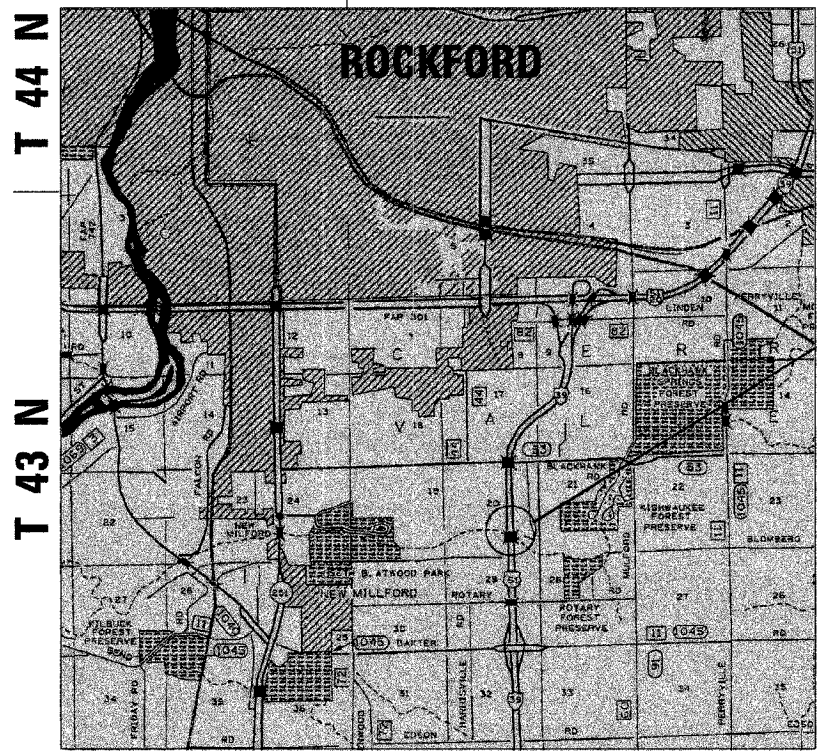
- 630001-07
- 642001
- 701400-02
- 701411-03
- 701406-04
- 701416-05
- 701426-02
- 702001-06
- 704001-03
- 720011
- 728001
- 729001
- 780001-01

DETAILS

- 25.4 - DELINEATION OF CENTER BARRIER OF TWO-LANE TWO WAY OPERATION
- 87.4 - TYPICAL MEDIAN CROSSOVER (WITH EMERGENCY OPENING)

FAI ROUTE 39 (I-39)
SECTION 201-1BR
WINNEBAGO COUNTY
C-92-124-06
PROJECT IM-039-1(015)116

R 1 E R 2 E



PROJECT LOCATION
STA. 2425 + 55.00 (SB) SN 101-0133
STA. 2424 + 56.00 (NB) SN 101-0134

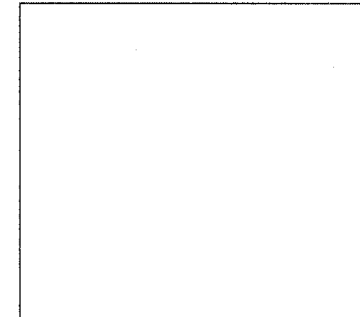
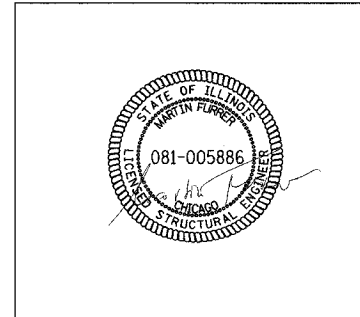
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED FEB 5 2007

Joseph E. Gowen
DISTRICT ENGINEER

March 23, 2007
Eric E. Hernandez
ENGINEER OF DESIGN AND ENVIRONMENT

March 23, 2007
Milton R. See, P.E.
DIRECTOR, DIVISION OF HIGHWAYS



PREPARED BY: PROJECT ENGINEER: MARTIN FURRER, P.E., S.E.
FOR SHEETS 1 THRU 27 AND 35 THRU 40

RALPH E. ANDERSON, P.E., S.E.
FOR SHEETS 28 THRU 34



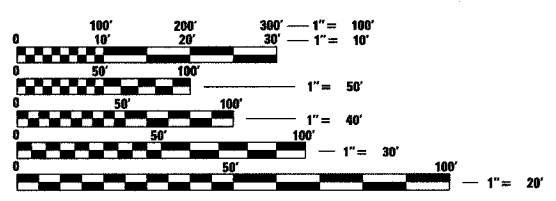
10 S. RIVERSIDE PLAZA SUITE 400
CHICAGO, IL 60606

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

LOCATION MAP

MAP SCALE 1:4000'

PROJECT LENGTH: 1163' (NB)
1170' (SB)



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. 1-800-892-0123
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION

CONTRACT NO. 64857

Filename: P:\6265-KISHWAUKEE-IBR\CADD\Final\Sheet\Ks1116.sht

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-IBR	WINNEBAGO	2	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 64857

SUMMARY OF QUANTITIES

90% FEDERAL
10% STATE

CODE NUMBER	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODES			
				ROADWAY 1 1000	ROADWAY 2 1000	BRIDGE 1 X081-2A	BRIDGE 2 X081-2A
40200500	Aggregate Surface Course, Type A 6"	Sq Yd	422			422	0
40603345	Hot-Mix Asphalt Surface Course, Mix "D", N90	Ton	1,165	1,165	0		
40603575	Polymerized Hot-Mix Asphalt Surface Course, Mix "E", N105	Ton	1,204			604	600
44000155	Hot-Mix Asphalt Surface Removal, 1 1/2"	Sq Yd	13,387	13,387	0		
50102400	Concrete Removal	Cu Yd	21.1				21.1
50300255	Concrete Superstructure	Cu Yd	653.3			316.1	337.2
50300540	Floor Drains (Special)	Each	256			128	128
50800205	Reinforcement Bars, Epoxy Coated	Pound	82,410			39,020	43,390
52000224	Finger Plate Expansion Joint, 7"	Foot	77				77
52000600	Fabric Reinforced Elastomeric Trough	Foot	78				78
59000200	Epoxy Crack Injection	Foot	8			4	4
* 63000000	Steel Plate Beam Guardrail, Type A	Foot	150	50	100		
* 63004013	Weathering Steel Traffic Barrier Terminal, Type 1 Special (Flared)	Each	2	1	1		
* 63004045	Weathering Steel Traffic Barrier Terminal, Type 5A	Each	1	0	1		
64200105	Shoulder Rumble Strip	Foot	13,680	0	13,680		
67000400	Engineer's Field Office, Type A	Cal Mo	12	6	6		
67100100	Mobilization	L Sum	1	1	0		
70100410	Traffic Control and Protection, Standard 701416	Each	1	0.5	0.5		
70100420	Traffic Control and Protection, 701411 STANDARD	Each	1	0	1		
70100700	Traffic Control and Protection, Standard 701406	L Sum	1	0.5	0.5		
70300220	Temporary Pavement Marking - Line 4"	Foot	51,800	25,950	25,850		
70301000	Work Zone Pavement Marking Removal	Sq Ft	17,267	8,650	8,617		
70400100	Temporary Concrete Barrier	Foot	4,420	4,360	60		
70400200	Relocate Temporary Concrete Barrier	Foot	4,360	0	4,360		
* 78005110	Epoxy Pavement Marking - Line 4"	Foot	31,610	0	31,610		
78300100	Pavement Marking Removal	Sq Ft	3,850	3,850	0		
X0322121	Sheet Waterproofing Membrane System	Sq Yd	9,984			5,007	4,977
X0325303	Structural Repair of Concrete (Depth Greater Than 5")	Sq Ft	16			14	2
X0325305	Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	295			180	115
44000086	Hot-Mix Asphalt Surface Removal Complete	Sq Yd	9,984			5,007	4,977
63801204	Modular Glare Screen System (Special)	Foot	600	600	0		
X0325707	Furnishing and Installing Post-Tensioning System	L Sum	1			0.5	0.5
X0325708	Furnishing and Installing Anti-icing System	L Sum	1			0.5	0.5
X0325709	Screen Wall Connection Repair	L Sum	1			0.5	0.5
* X0325712	Relocate Existing Electrical System	L Sum	1			0.5	0.5
X0325710	Anti-Icing System Maintenance and Warranty - 5 Years	L Sum	1			0.5	0.5

* Specialty ITEM

COMMITMENTS

No Commitments on this Project

GENERAL NOTES

The Contractor shall verify all dimensions and conditions in the field prior to construction and ordering of materials.

The contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123. The following listed utilities located within the project limits or immediately adjacent to the project construction limits are members of JULIE:

Mr. Dave Schacht Electric
Commonwealth Edison Company
123 Energy Avenue
Rockford, IL 61109
630-437-2129

Mr. Kalin Hinshaw Telephone
Verizon
112 West Elm Street
Sycamore, IL 60178
815-895-1515

Mr. Mike Owens, Mrs. Donna Zies, CATV
Mr. Tom Yuccas
Insight Communications
4450 Kishwaukee St.
Rockford, IL 61109
815-395-8977

Mr. Steven Jones Telephone
SBC/Ameritech Telephone Co.
2404 Eighth Avenue
Rockford, IL 61108
815-394-7276

Mrs. Connie Lane Gas
NICOR Gas Co.
1844 Ferry Road
Naperville, IL 60563
630-983-8676

The following are the known utilities located within the project limits or immediately adjacent to the project limits that are not members of JULIE and should be notified individually by the Contractor:

Mr. Kyle Lorenz GOVT
IDOT - District 2
819 Depot Avenue
Dixon, IL 61021
815-284-5469

The review of structural component shop drawings shall be as outlined in the IDOT Memo for all District Engineers dated May 30, 2001 titled, "Shop Drawing Procedures".

Traffic Control and Protection Standard 701400 will not be paid for separately.

The Limits of "Shoulder Rumble Strip" to be constructed in Stage 2 shall be identical to those indicated for Hot-Mix Asphalt Surface Removal, 1 1/2".

Mixture	HMA Surface Course, Mix "D", N90	Polymerized HMA Surface Course, Mix "E", N105
Mixture Use	Surface Roadway	Surface Bridge
PG:	PG 64-22	SBS PG 70-22
RAP%: (Max.)	0	N/A
Design Air Voids	4.2 @ N90	4.0 @ N105
Mixture Composition (Gradation Mixture)	IL 9.5 or 12.5	IL 9.5 or 12.5
Friction Aggregate	D	E
20 Year ESAL	N/A	46.2

INDEX OF SHEETS


DRAWING NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS, GENERAL NOTES, SUMMARY OF QUANTITIES, COMMITMENTS
3	TRAFFIC CONTROL PLAN - TYPICAL SECTIONS
4	TRAFFIC CONTROL PLAN - STAGE 1 STA 2350+00 TO STA 2380+00
5	TRAFFIC CONTROL PLAN - STAGE 1 STA 2380+00 TO STA 2410+00
6	TRAFFIC CONTROL PLAN - STAGE 1 STA 2410+00 TO STA 2440+00
7	TRAFFIC CONTROL PLAN - STAGE 1 STA 2440+00 TO STA 2470+00
8	TRAFFIC CONTROL PLAN - STAGE 2 STA 2350+00 TO STA 2380+00
9	TRAFFIC CONTROL PLAN - STAGE 2 STA 2380+00 TO STA 2410+00
10	TRAFFIC CONTROL PLAN - STAGE 2 STA 2410+00 TO STA 2440+00
11	TRAFFIC CONTROL PLAN - STAGE 2 STA 2440+00 TO STA 2470+00
12	GENERAL PLAN AND ELEVATION
13	GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
14	POST-TENSIONING LAYOUT AND SCHEDULES
15	BOTTOM SLAB DEVIATOR GEOMETRY I
16	BOTTOM SLAB DEVIATOR GEOMETRY II
17	BOTTOM SLAB DEVIATOR REINFORCEMENT
18	ABUTMENT ANCHORAGE GEOMETRY
19	ABUTMENT ANCHORAGE REINFORCEMENT
20	PIER DEVIATOR GEOMETRY I
21	PIER DEVIATOR GEOMETRY II
22	PIER DEVIATOR REINFORCEMENT
23	DECK OVERLAY REPLACEMENT
24	FLOOR DRAIN DETAILS
25	SEGMENT REPAIRS
26	ABUTMENT REPAIRS
27	SCREEN WALL CONNECTION REPAIRS
28	FINGER JOINT REPLACEMENT I
29	FINGER JOINT REPLACEMENT II
30	FINGER JOINT REPLACEMENT III
31	FINGER JOINT REPLACEMENT IV
32	FINGER JOINT REPLACEMENT V
33	FINGER JOINT REPLACEMENT VI
34	FINGER JOINT REPLACEMENT VII
35	FAST SITE PLAN DISK SPRAY SYSTEM
36	FAST SITE PLAN MICRO SPRAY DESIGN
37	FAST DETAILS
38	FAST DETAILS DISK SPRAY DESIGN
39	FAST DETAILS MICRO SPRAY DESIGN
40	RELOCATION ELECTRICAL CONDUITS

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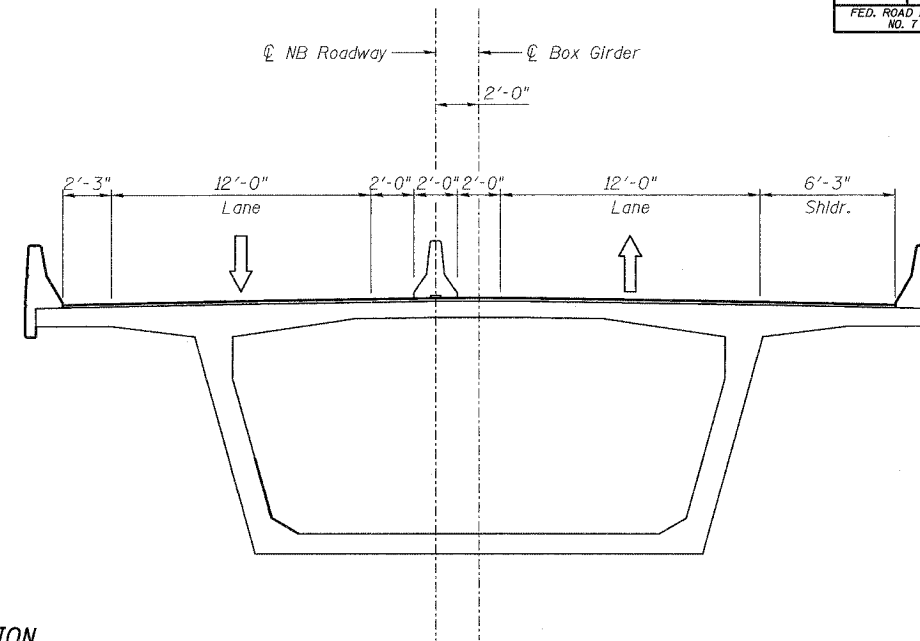
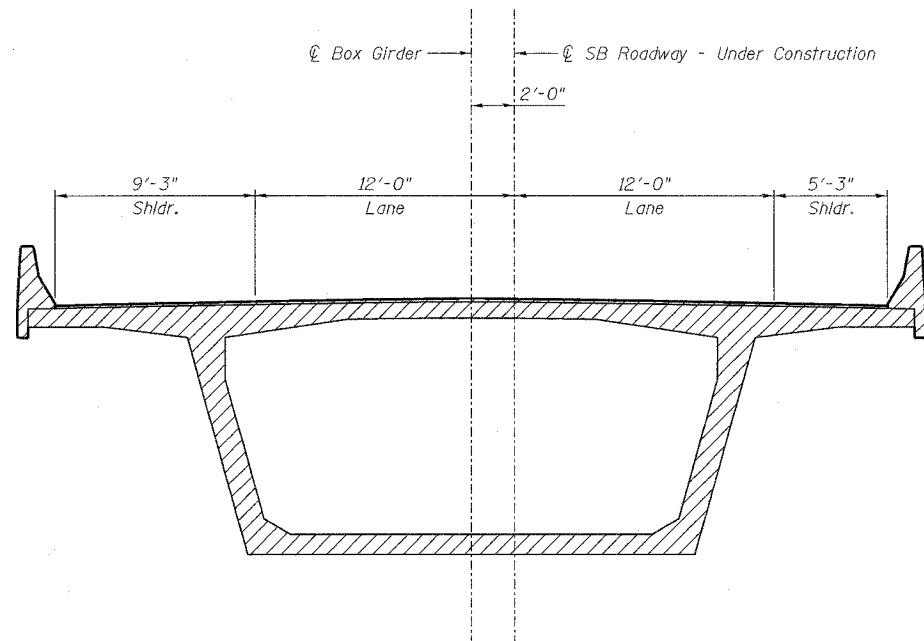
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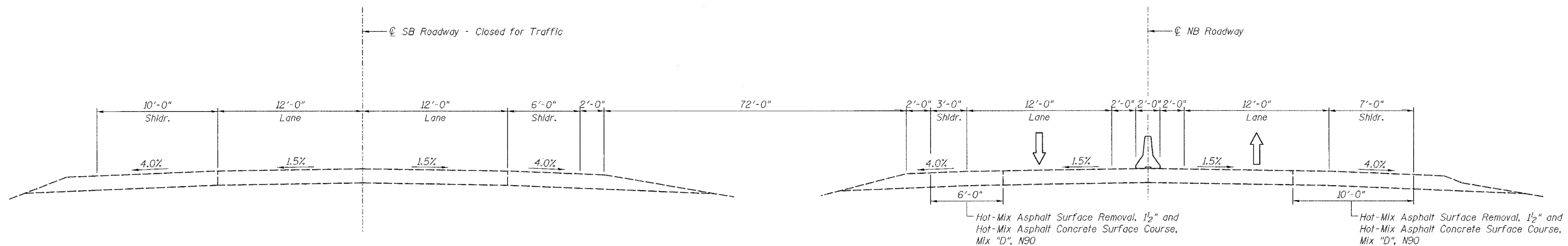
Designed by: WEE
Checked by: DL
Drafted by: RKS
Checked by: WEE

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION INDEX OF SHEETS, GENERAL NOTES, SUMMARY OF QUANTITIES, COMMITMENTS I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-IBR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
 PARSONS CHICAGO, ILLINOIS		
DRAWING NO. 2	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. R-1

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	3	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 64857	



STAGE 1 - BRIDGE TYPICAL SECTION



STAGE 1 - ROADWAY TYPICAL SECTION

NOTES:

During Stage 2 the traffic will be shifted on the SB roadway (Bridge). All cross-section dimensions shall be opposite hand as those in Stage 1.

LEGEND:

Construction in this Stage

Designed by: EVI
 Checked by: GCV
 Drafted by: HH
 Checked by: GLV

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL PLAN - TYPICAL SECTIONS I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
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		SHEET NO. R-2

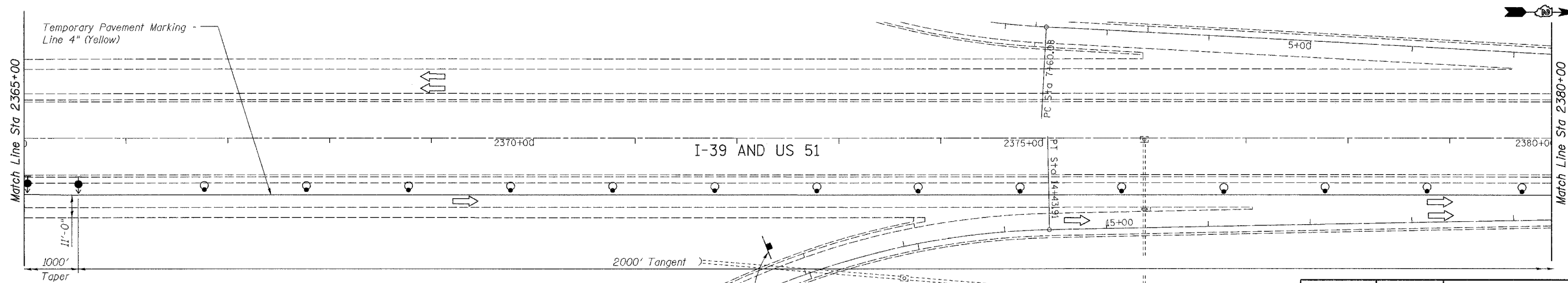
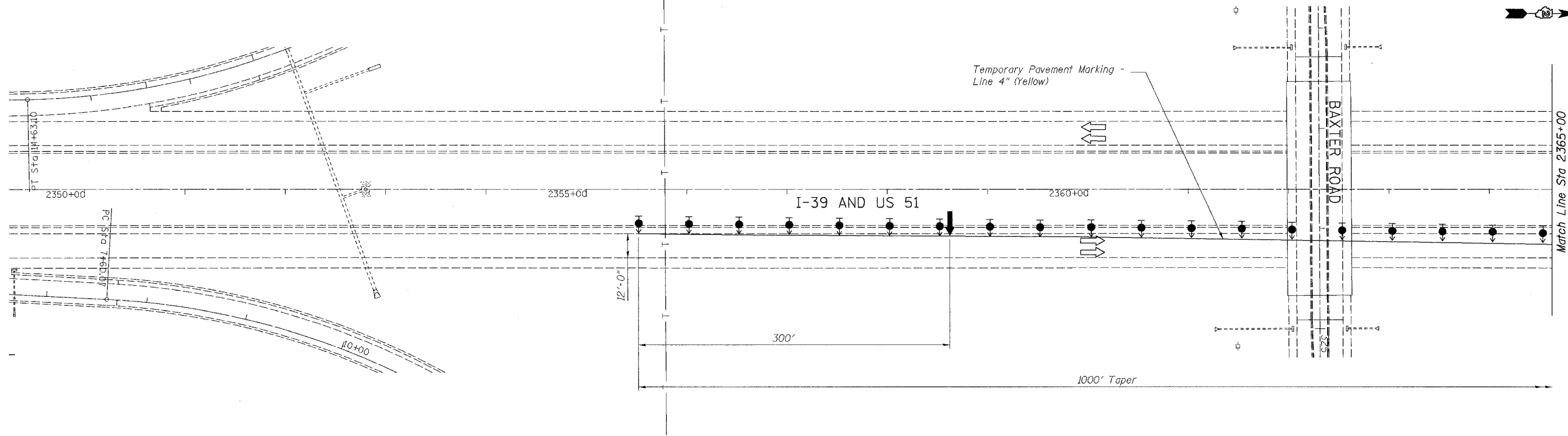
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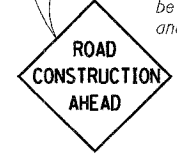
ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	4	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 64857	

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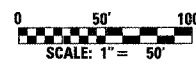
- Direction of Traffic Flow
- Arrow Board
- Direction Indicator Barricade with Steady Burn Monodirectional Light
- Sign
- Drum with Steady Burn Monodirectional Light
- Vertical Panel (Back to Back)
- Type III Barricade with Flashing Lights
- Temporary Concrete Barrier
- Exist Steel Plate Beam Guardrail
- Proposed Steel Plate Beam Guardrail, Type A
- Construction in this Stage



Note: Signing on the Ramp shall be included with "Traffic Control and Protection, Standard 7014.16."

NOTES:

Refer to Standard 701400 and 701416 for additional signing and marking requirements.



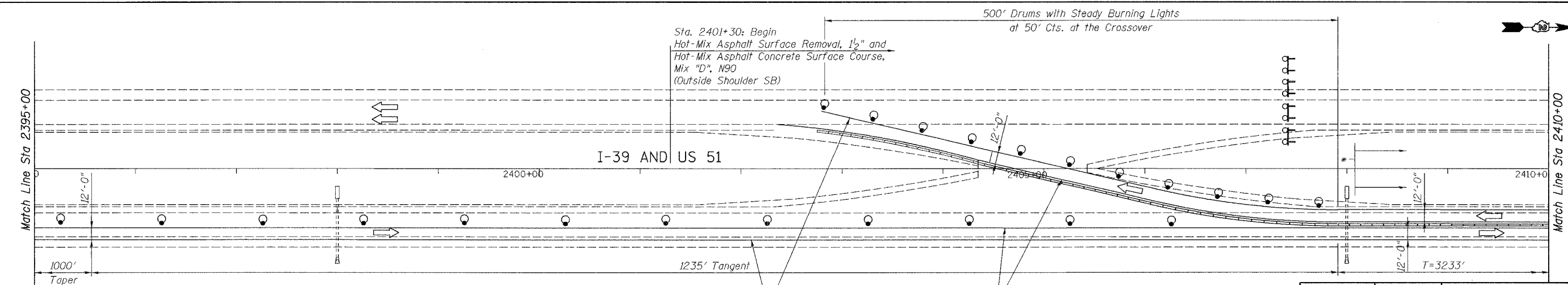
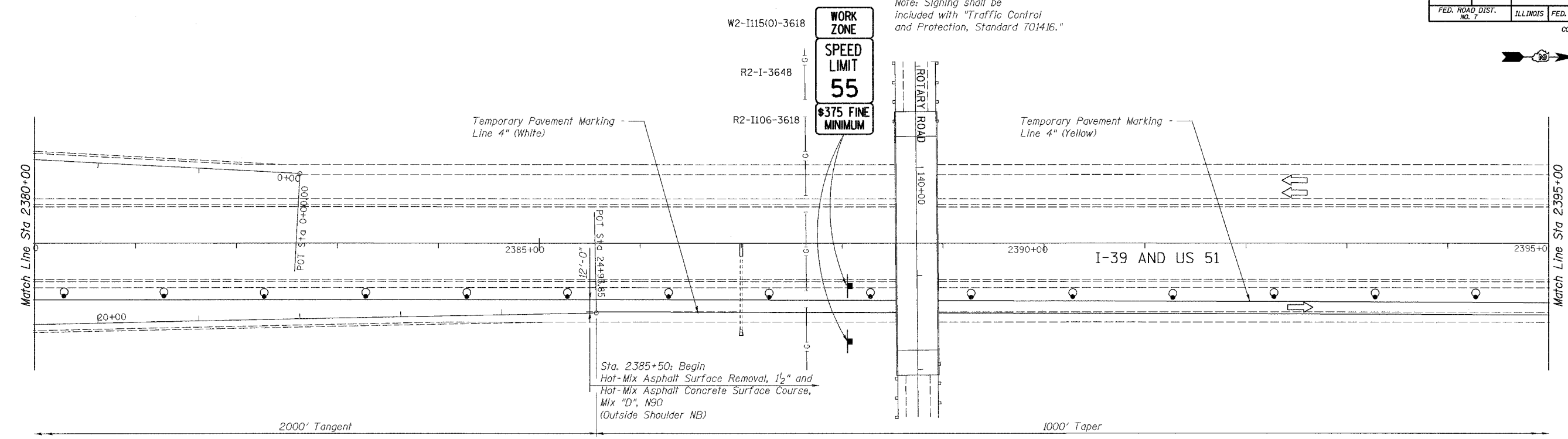
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		CHICAGO, ILLINOIS
DRAWING NO. 4	SCALE 1"=50'-0"	DATE FEB 2007
		SHEET NO. R-3

Filename: p:\646265-Kishwaukee-rr-f\cadd\final\sheet\mages01.sht

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 Checked by: GCV
 Drafted by: HH
 Checked by: GLV

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-IBR	WINNEBAGO	5	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 64857	

Note: Signing shall be included with "Traffic Control and Protection, Standard 7014.16."

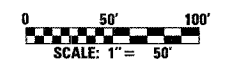


LEGEND:

- Direction of Traffic Flow
- Arrow Board
- Direction Indicator Barricade with Steady Burn Monodirectional Light
- Drum with Steady Burn Monodirectional Light
- Vertical Panel (Back to Back)
- Type III Barricade with Flashing Lights
- Temporary Concrete Barrier
- Exist Steel Plate Beam Guardrail
- Proposed Steel Plate Beam Guardrail, Type A
- Construction in this Stage
- Sign

* Sta. 2408+00: Begin Hot-Mix Asphalt Surface Removal, 1 1/2" and Hot-Mix Asphalt Concrete Surface Course, Mix "D", N90 (Inside Shoulder NB and Outside Shoulder SB)

NOTES:
Refer to Standard 701400 and 701416 for additional signing and marking requirements.



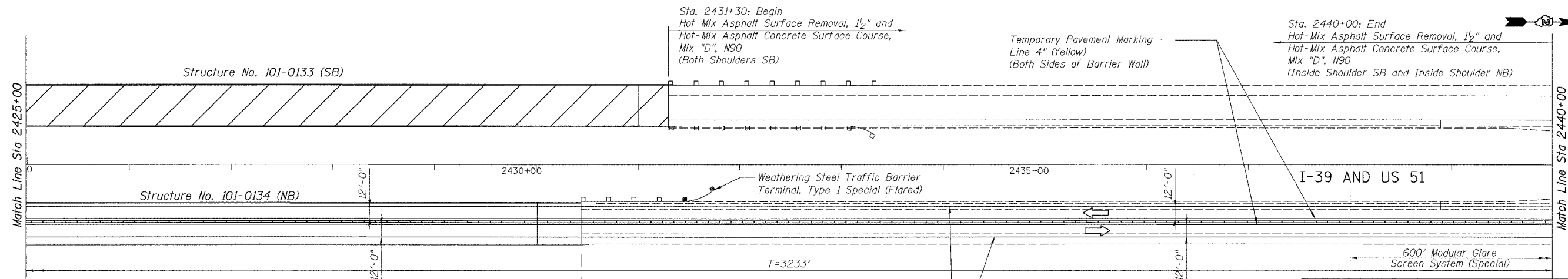
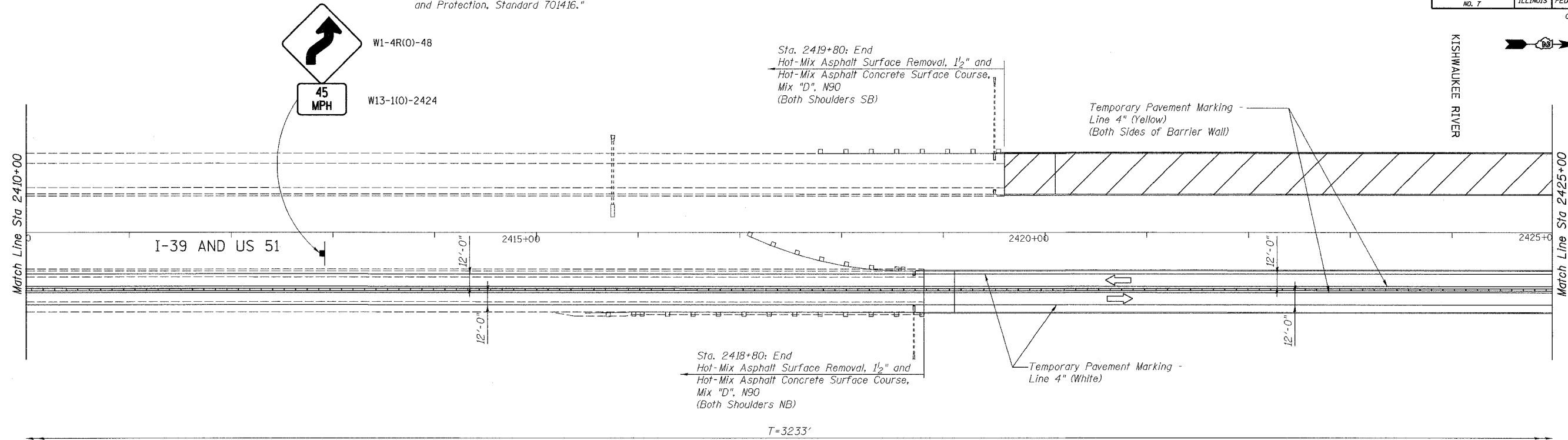
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Designed by: EVI
Checked by: GCV
Drafted by: HH
Checked by: GLY

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL PLAN - STAGE 1 STA 2380+00 TO STA 2410+00 I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-IBR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 5	SCALE 1"=50'-0"	DATE FEB 2007
		SHEET NO. R-4

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	6	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 64657				

Note: Signing shall be included with "Traffic Control and Protection, Standard 701416."



LEGEND:

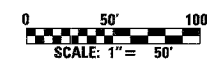
- Direction of Traffic Flow
- Arrow Board
- Direction Indicator Barricade with Steady Burn Monodirectional Light
- Drum with Steady Burn Monodirectional Light
- Vertical Panel (Back to Back)
- Type III Barricade with Flashing Lights
- Temporary Concrete Barrier
- Exist Steel Plate Beam Guardrail
- Proposed Steel Plate Beam Guardrail, Type A
- Construction in this Stage

Sta. 2430+50: Begin Hot-Mix Asphalt Surface Removal, 1 1/2" and Hot-Mix Asphalt Concrete Surface Course, Mix "D", N90 (Both Shoulders NB)

Temporary Pavement Marking - Line 4" (White)

NOTES:

Refer to Standard 701400 and 701416 for additional signing and marking requirements.



REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
TRAFFIC CONTROL PLAN - STAGE 1 STA 2410+00 TO STA 2440+00		
I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 6	SCALE 1"=50'-0"	DATE FEB 2007
		SHEET NO. R-5

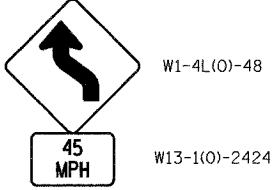
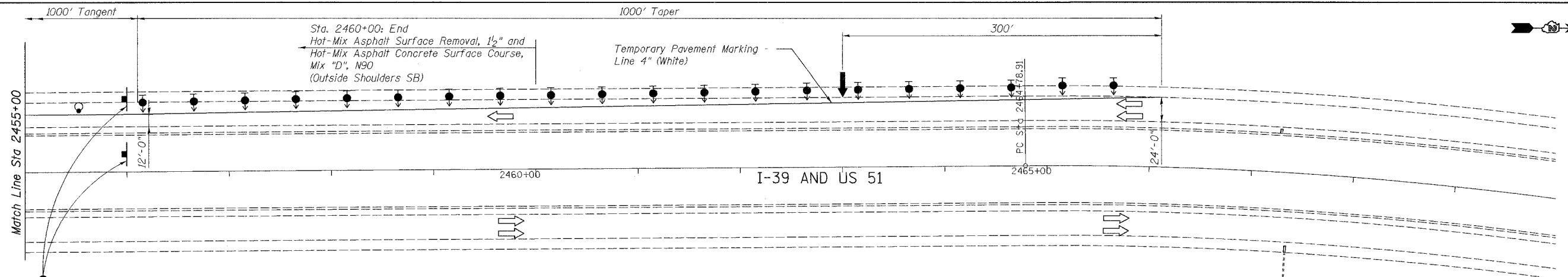
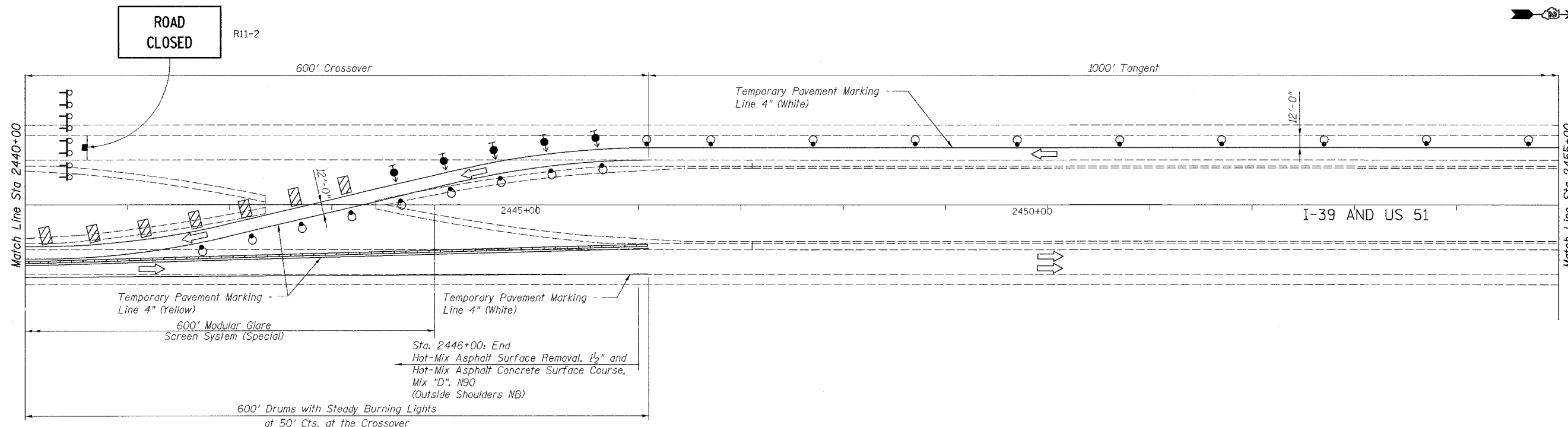
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Designed by: EVI
Checked by: GCY
Drafted by: HH
Checked by: GLV

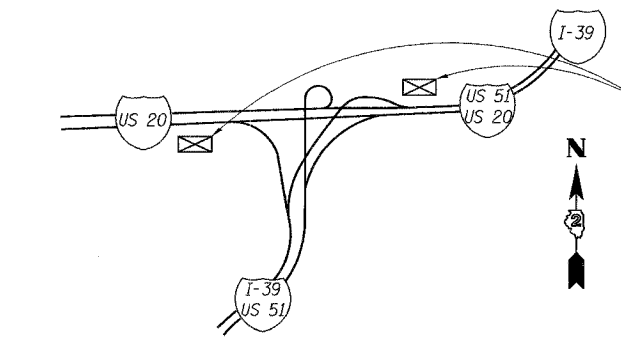
ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	7	40
FED. ROAD DIST. NO. 7	ILLINOIS		FED. AID PROJECT	

CONTRACT NO. 64857

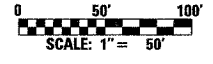


- LEGEND:**
- Direction of Traffic Flow
 - Direction Indicator Barricade with Steady Burn Monodirectional Light
 - Drum with Steady Burn Monodirectional Light
 - Vertical Panel (Back to Back)
 - Type III Barricade with Flashing Lights
 - Temporary Concrete Barrier
 - Exist Steel Plate Beam Guardrail
 - Proposed Steel Plate Beam Guardrail, Type A
 - Construction in this Stage

- Arrow Board
- Sign



Road Construction Ahead Signage per Standard 701400. Modify "Road Construction Ahead" Sign by adding I-39 Shield.



NOTES:
Refer to Standard 701400 and 701416 for additional signing and marking requirements.

CONSTRUCTION AHEAD SIGNAGE PLAN
Not to Scale

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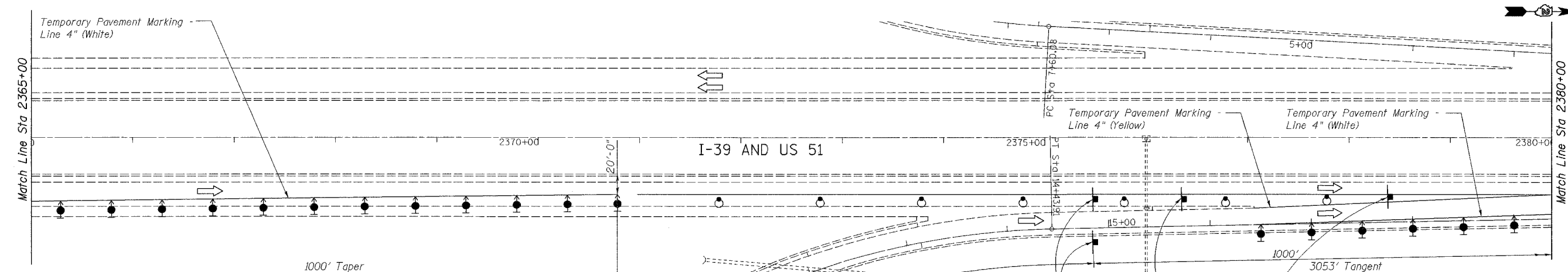
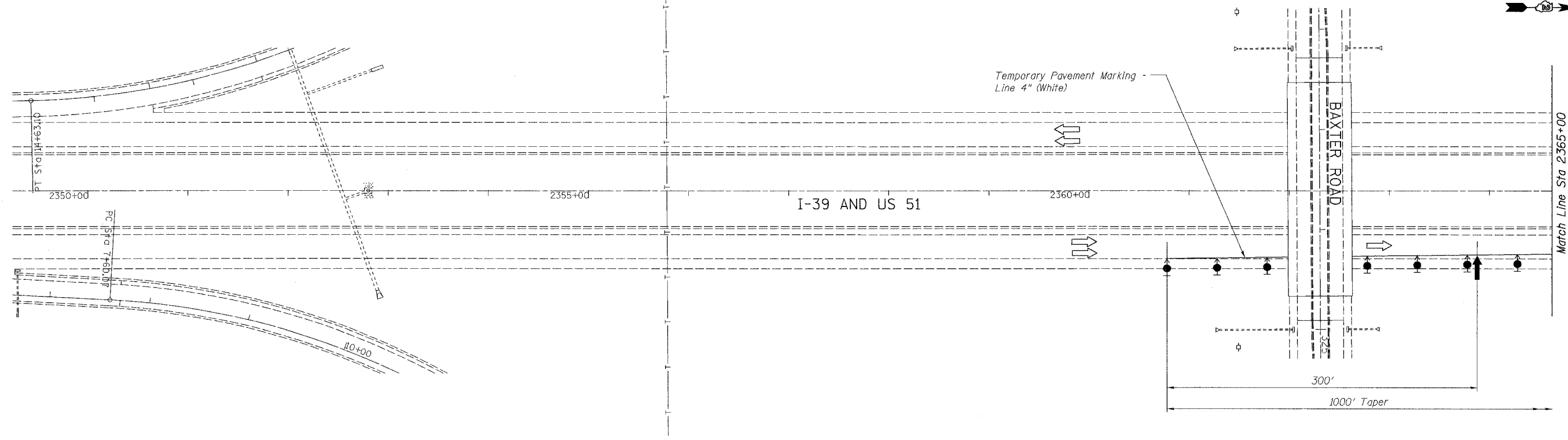
Designed by: EVI
Checked by: GCV
Drafted by: HF
Checked by: GLV

Note: Signage shall be included with "Traffic Control and Protection, Standard 701416."

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL PLAN - STAGE 1 STA 2440+00 TO STA 2470+00 I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
		CHICAGO, ILLINOIS
DRAWING NO. 7	SCALE 1"=50'-0"	DATE FEB 2007
		SHEET NO. R-6

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	8	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 64857	

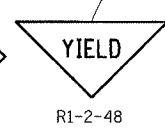
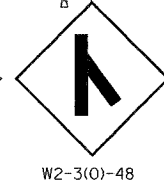
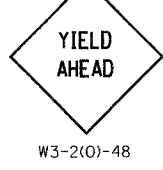
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LEGEND:

- Direction of Traffic Flow
- Arrow Board
- Direction Indicator Barricade with Steady Burn Monodirectional Light
- Drum with Steady Burn Monodirectional Light
- Vertical Panel (Back to Back)
- Type III Barricade with Flashing Lights
- Temporary Concrete Barrier
- Exist Steel Plate Beam Guardrail
- Proposed Steel Plate Beam Guardrail, Type A
- Construction in this Stage

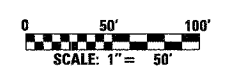
Designed by: EVI
 Checked by: GCV
 Drafted by: HH
 Checked by: GLV



Note: Signing on the Ramp shall be included with "Traffic Control and Protection, Standard 701416."

NOTES:

Refer to Standard 701400 and 701416 for additional signing and marking requirements.

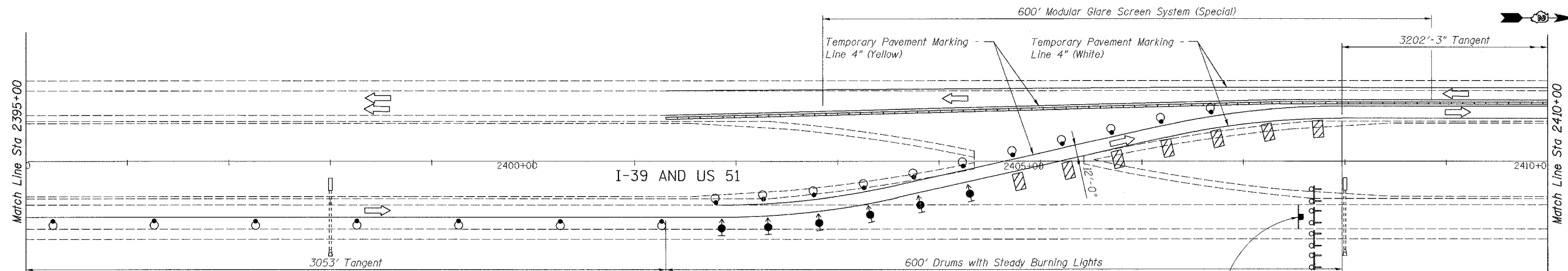
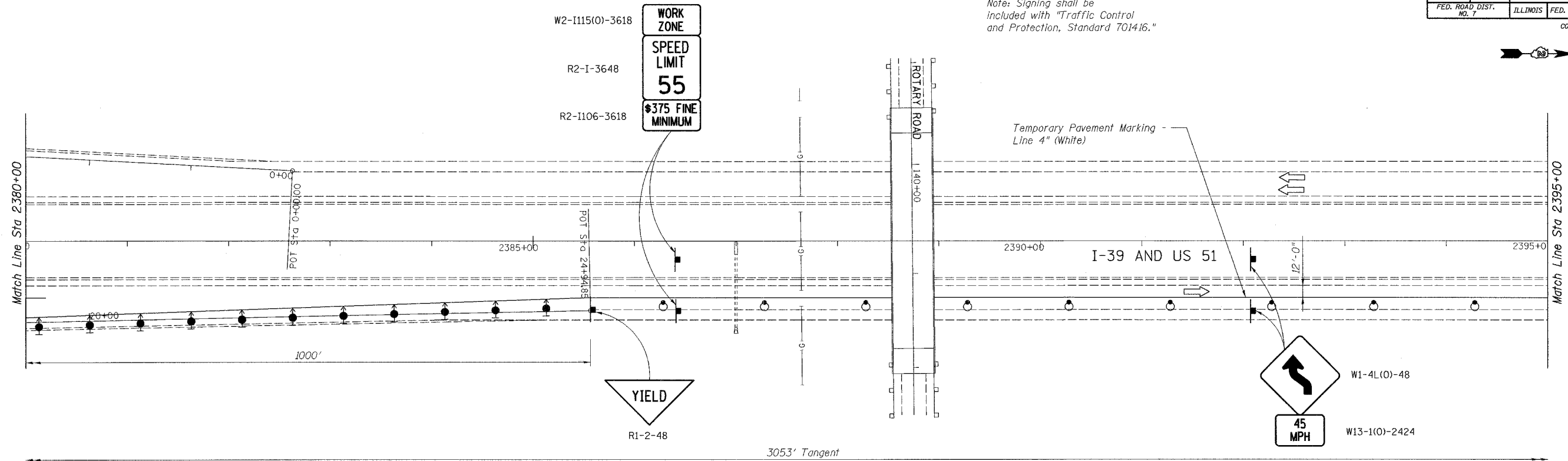


REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL PLAN - STAGE 2 STA 2350+00 TO STA 2380+00 I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 8	SCALE 1"=50'-0"	DATE FEB 2007
		SHEET NO. R-7

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-IBR	WINNEBAGO	9	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 64857	

Note: Signing shall be included with "Traffic Control and Protection, Standard 701416."

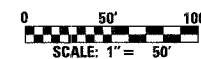
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LEGEND:

- Direction of Traffic Flow
- Arrow Board
- Direction Indicator Barricade with Steady Burn Monodirectional Light
- Drum with Steady Burn Monodirectional Light
- Vertical Panel (Back to Back)
- Type III Barricade with Flashing Lights
- Temporary Concrete Barrier
- Exist Steel Plate Beam Guardrail
- Proposed Steel Plate Beam Guardrail, Type A
- Construction in this Stage

Designed by: EVI
 Checked by: GCY
 Drafted by: HH
 Checked by: GLV



NOTES:

Refer to Standard 701400 and 701416 for additional signing and marking requirements.

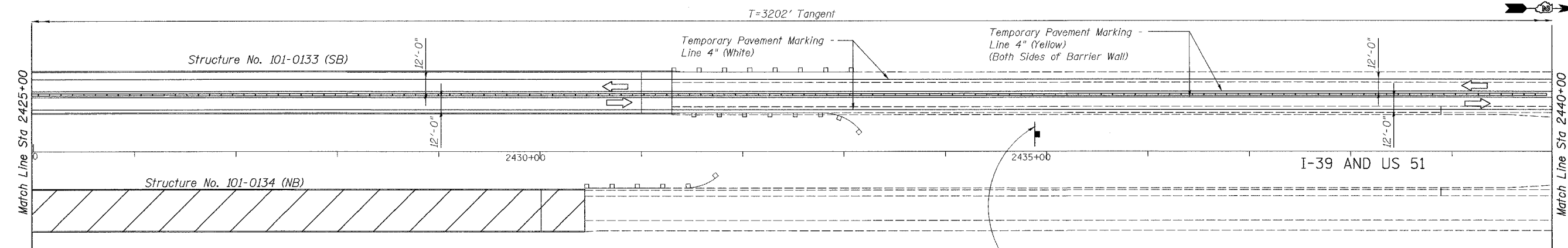
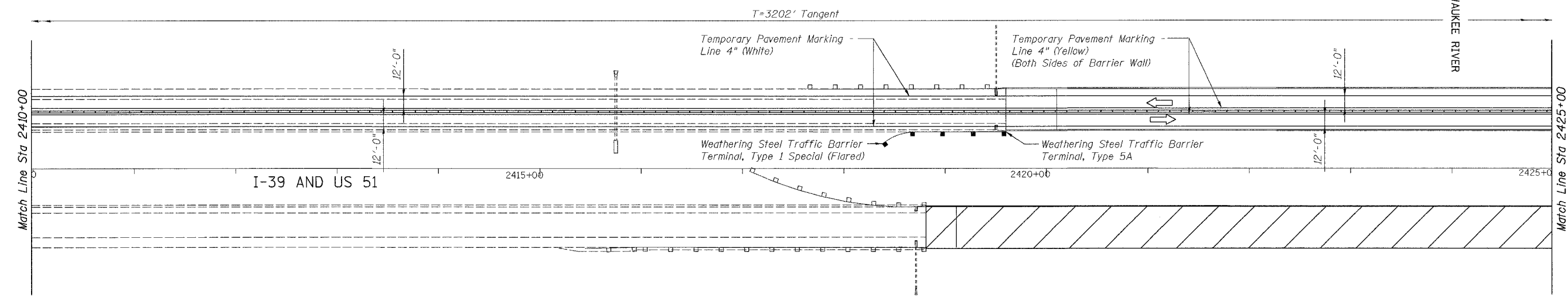
REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL PLAN - STAGE 2 STA 2380+00 TO STA 2410+00 I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-IBR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
		CHICAGO, ILLINOIS
DRAWING NO. 9	SCALE 1"=50'-0"	DATE FEB 2007
		SHEET NO. R-8

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-IBR	WINNEBAGO	10	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 64857

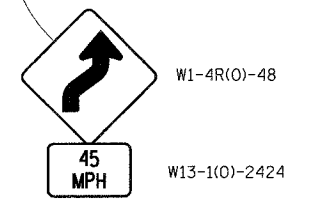
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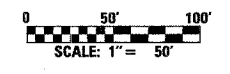


LEGEND:

- Direction of Traffic Flow
- Arrow Board
- Direction Indicator Barricade with Steady Burn Monodirectional Light
- Drum with Steady Burn Monodirectional Light
- Vertical Panel (Back to Back)
- Type III Barricade with Flashing Lights
- Temporary Concrete Barrier
- Exist Steel Plate Beam Guardrail
- Proposed Steel Plate Beam Guardrail, Type A
- Construction in this Stage



NOTES:
Refer to Standard 701400 and 701416 for additional signing and marking requirements.



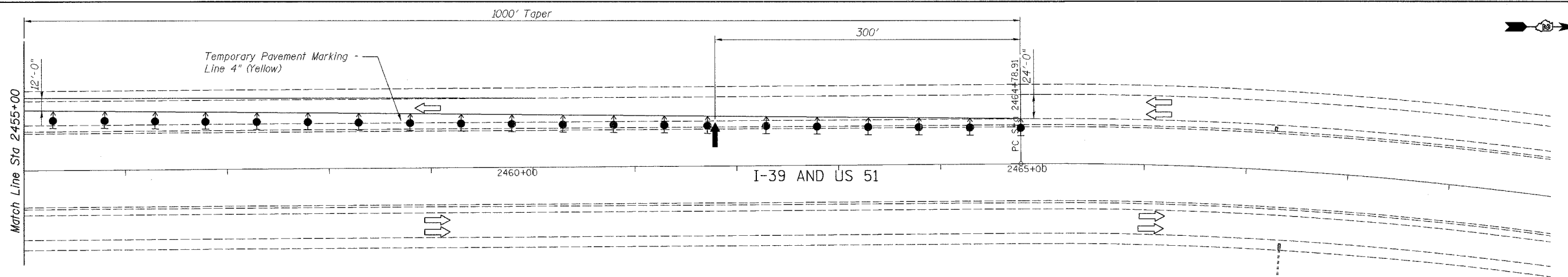
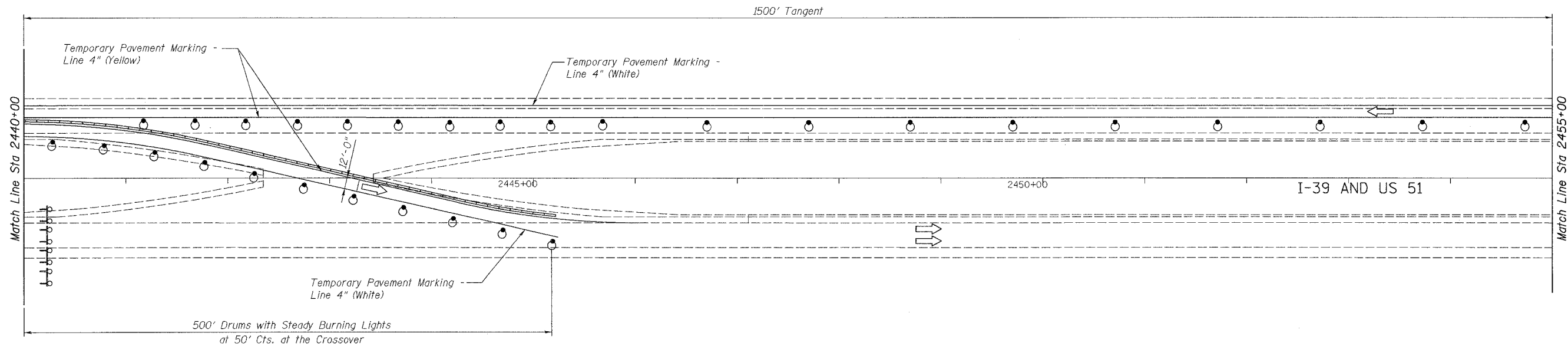
REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL PLAN - STAGE 2 STA 2410+00 TO STA 2440+00 I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-IBR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
		CHICAGO, ILLINOIS
DRAWING NO. 10	SCALE 1"=50'-0"	DATE FEB 2007
		SHEET NO. R-9

Designed by: EVI
Checked by: GCV
Drafted by: HH
Checked by: GLV

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	11	40
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 64657				

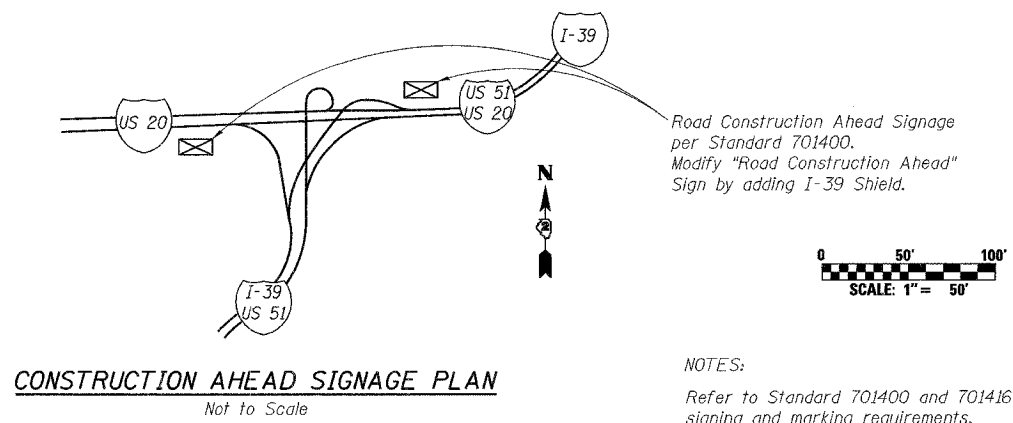
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LEGEND:

- Direction of Traffic Flow
- Arrow Board
- Direction Indicator Barricade with Steady Burn Monodirectional Light
- Drum with Steady Burn Monodirectional Light
- Vertical Panel (Back to Back)
- Type III Barricade with Flashing Lights
- Temporary Concrete Barrier
- Exist Steel Plate Beam Guardrail
- Proposed Steel Plate Beam Guardrail, Type A
- Construction in this Stage



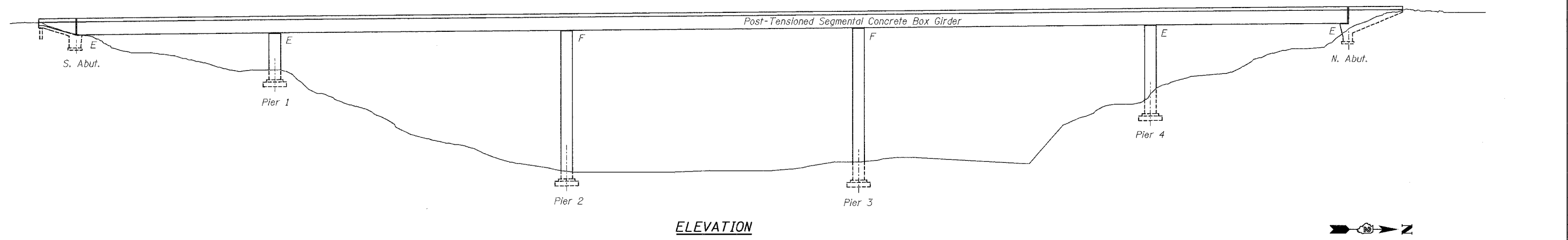
NOTES:
Refer to Standard 701400 and 701416 for additional signing and marking requirements.

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL PLAN - STAGE 2 STA 2440+00 TO STA 2470+00 I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
		CHICAGO, ILLINOIS
DRAWING NO. 11	SCALE 1"=50'-0"	DATE FEB 2007
		SHEET NO. R-10

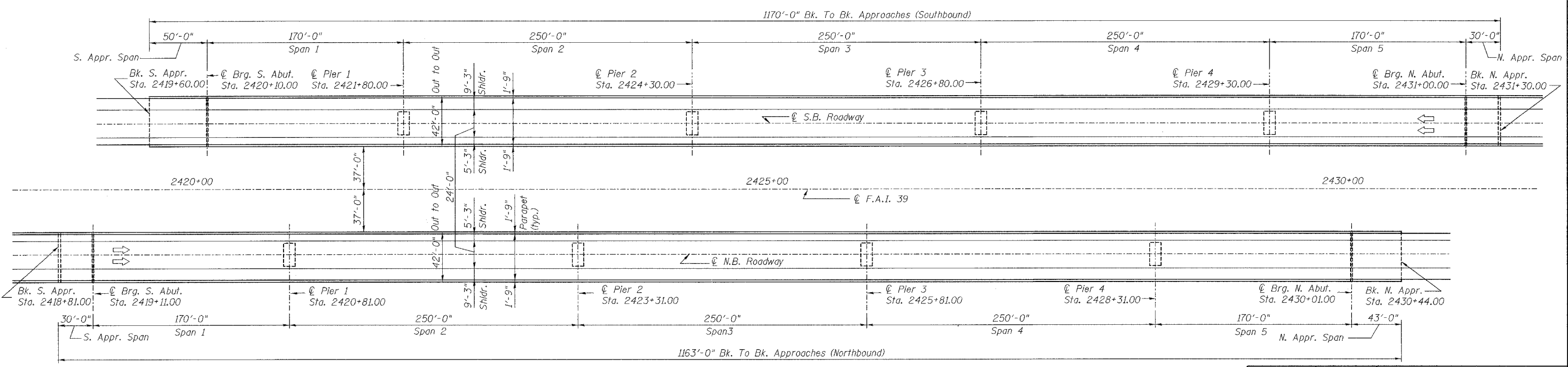
Designed by: EVI
Checked by: GCV
Drafted by: HH
Checked by: GLV

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	12	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 64857	

Existing Structure
 S.N. 101-0133 (S.B.) and S.N. 101-0134 (N.B.)
 Built as F.A. Route 412, Section 201-1B in 1980. The Southbound and Northbound superstructures each consist of a 1090'-0" post-tensioned segmental concrete box girder. Traffic shall be maintained on existing S.N. 101-0133 during construction on S.N. 101-0134 and on S.N. 101-0134 during construction on S.N. 101-0133 by use of crossovers.



ELEVATION



PLAN

PROPOSED SCOPE OF WORK

1. Replace existing deck overlay and water proofing membrane
2. Install Fixed Anti-icing Spray Technology (FAST) system
3. Install external post-tensioning system
4. Extend deck drains
5. Repair concrete cracks, spalls, and screen wall connections.

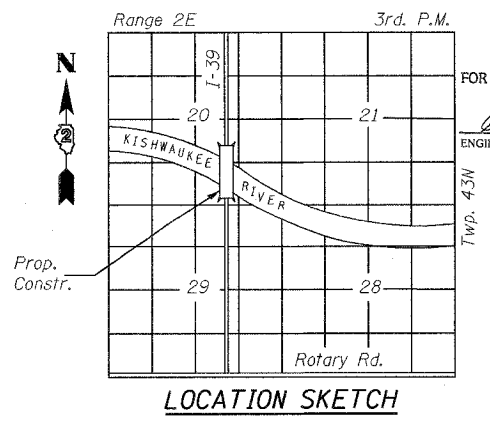
DESIGN SPECIFICATIONS

1. AASHTO 17th Edition, 2002
2. AASHTO Guide Specifications for Design and Construction of Segmental Concrete Bridges, 2nd Edition, 1999 with 2003 Interim.
3. AASHTO LRFD Bridge Design Specification, 3rd Edition, 2004 with 2005 Interim.
4. AASHTO LRFD Bridge Construction Specification, 2nd Edition, 2004.

DESIGN STRESSES

$f'_c = 4,000$ psi (Structural Repair of Concrete)
 $f'_c = f'_{ci} = 5,500$ psi (Superstructure)
 $f_y = 60,000$ psi (Reinf)
 PT Strand ($f'_s = 270,000$ psi, 0.6" ϕ low relax. strands)
 Max. jacking stress, 0.81 $f'_s = 218,700$ psi
 Max. stress @ anchorage after anchor set, 0.70 $f'_s = 189,000$ psi
 Max. stress elsewhere after anchor set, 0.74 $f'_s = 199,800$ psi
 PT Bars ($f'_s = 150,000$ psi)
 Max. jacking stress, 0.72 $f'_s = 108,000$ psi
 Max. stress after anchor set, 0.70 $f'_s = 105,000$ psi

LOADING HS 20-44



LOCATION SKETCH

APPROVED
 FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
 ENGINEER OF BRIDGES AND STRUCTURES

REVISION	DATE	DESCRIPTION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION

I-39 (FAI 39) OVER KISHWAUKEE RIVER
 SECTION 201-1BR
 WINNEBAGO COUNTY
 STATION 2425+00
 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)

PARSONS CHICAGO, ILLINOIS

DRAWING NO.	SCALE	DATE	SHEET NO.
12	N.T.S.	FEB 2007	S-1

Date: 2/2/2007 Time: 4:04:11 PM
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Designed by: DL
 Checked by: WEE
 Drafted by: HH
 Checked by: GTH

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	13	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 64857	

GENERAL NOTES

All materials and construction methods used on this contract shall conform to Standard Specification for Road and Bridge Construction adopted January 1, 2007 and Supplemental Specifications and Recurring Special Provisions, adopted January 1, 2007. All materials testing shall conform to IDOT requirements, except as modified by the special provisions.

All steel shall be hot dipped galvanized in accordance with AASHTO M 111 or M 232 unless otherwise noted.

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

Epoxy coated rebar that has been cut or the coating damaged shall be recoated in accordance with article 508.05 of the Standard Specifications.

Post-tensioning strand shall conform to the requirements of AASHTO M203 Grade 270, low-relaxation.

Strand size 0.6"
 Modulus of elasticity 28,500 ksi
 Friction coefficient 0.25
 Wobble coefficient 0.0002/ft
 Anchor set 3/8"

Field testing in accordance with the Special Provisions shall be performed to establish the actual friction and wobble coefficients.

Post-tensioning bars shall conform to the requirements of AASHTO M 275, Grade 150, Type 2.

Modulus of elasticity 29,000 ksi
 Anchor set 1/6"

Access to the box girder interiors is provided by a 3'x3' access opening in the bottom slab of the box girder near each abutment.

All construction joints shall be bonded in accordance with Section 503.09(b)(2), the surface of existing concrete that has been partially removed shall be free of loose material. Loose material and cement paste shall be removed by washing with water under pressure or by sandblasting. All box girder faces where deviator concrete is cast against, shall be roughened to a full amplitude of 1/4". Roughening shall be performed by sandblasting or waterblasting. The use of impact hammers shall not be allowed.

Deviator and Abutment Anchorage concrete shall be self-consolidating and shall be poured through a cored hole of 4" maximum diameter located as shown in these plans. Maximum coarse aggregate size shall be 3/8". Cored web holes and 1/2" grout vents shall be completely filled with concrete. Any necessary repairs shall be carried out as directed by the Engineer using an approved epoxy grout.

Plan dimensions and details relative to existing structures 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 work, however, the contractor will be paid for the quantity actually furnished at the unit price for work.

It shall be the contractor's responsibility to verify all dimensions and conditions existing in the field, which may affect the details and clearances of all components parts, prior to construction, fabrication and ordering of materials. The contractor shall be responsible for the proper fitting and assembly of all parts of this work and shall indicate on all shop drawings which dimensions were obtained by actual field measurements.

The Contractor shall miss existing post-tensioning components and reinforcement when drilling holes in the existing structure.

All exposed concrete corners shall be chamfered 3/4" unless otherwise noted.

INDEX OF SHEETS

DRAWING NO.	TITLE
S-1	GENERAL PLAN AND ELEVATION
S-2	GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
S-3	POST-TENSIONING LAYOUT AND SCHEDULES
S-4	BOTTOM SLAB DEVIATOR GEOMETRY I
S-5	BOTTOM SLAB DEVIATOR GEOMETRY II
S-6	BOTTOM SLAB DEVIATOR REINFORCEMENT
S-7	ABUTMENT ANCHORAGE GEOMETRY
S-8	ABUTMENT ANCHORAGE REINFORCEMENT
S-9	PIER DEVIATOR GEOMETRY I
S-10	PIER DEVIATOR GEOMETRY II
S-11	PIER DEVIATOR REINFORCEMENT
S-12	DECK OVERLAY REPLACEMENT
S-13	FLOOR DRAIN DETAILS
S-14	SEGMENT REPAIRS
S-15	ABUTMENT REPAIRS
S-16	SCREEN WALL CONNECTION REPAIRS

TOTAL BILL OF MATERIAL

PAY ITEM	UNIT	STAGE 1	STAGE 2	TOTAL
		S.N. 101-0133 SOUTHBOUND	S.N. 101-0134 NORTHBOUND	
Concrete Superstructure	Cu. Yd.	316.1	316.1	632.2
Polymerized Hot-Mix Asphalt Surface Course, Mix "E" N105	Ton	604	600	1,204
Floor Drains (Special)	Each	128	128	256
Reinforcement Bars, Epoxy Coated	Pound	39,020	39,020	78,040
Epoxy Crack Injection	Lin. Ft.	4	4	8
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	14	2	16
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	180	115	295
Sheet Waterproofing Membrane System	Sq. Yd.	5,007	4,977	9,984
Hot-Mix Asphalt Surface Removal Complete	Sq. Yd.	5,007	4,977	9,984
Furnishing and Installing Post-Tensioning System	L. Sum	0.5	0.5	1
Screen Wall Connection Repair	L. Sum	0.5	0.5	1

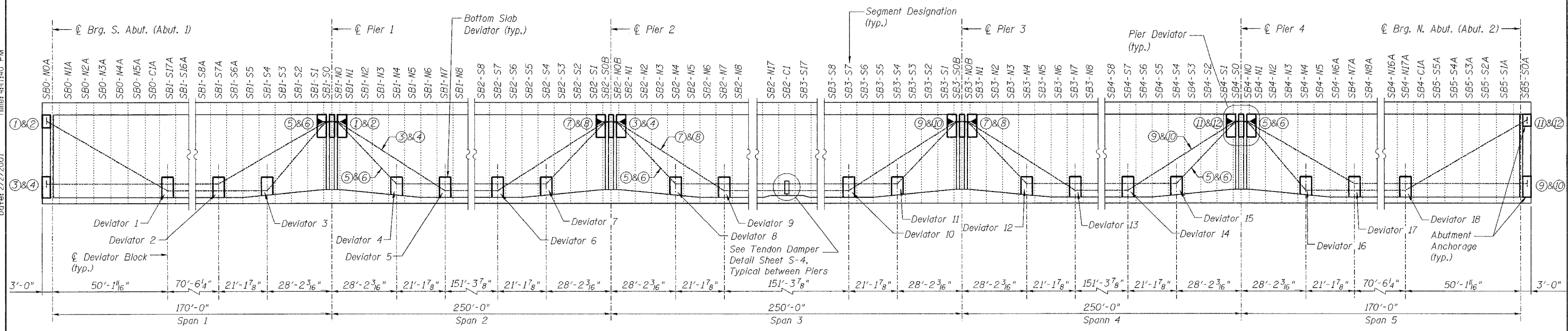
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Designed by: MRF
 Checked by: WEE
 Drafted by: HH
 Checked by: WEE

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 13	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-2

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	14	40
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 64857	

Date: 2/22/2007 Time: 4:41:40 PM



LONGITUDINAL SECTION THRU BOX GIRDER
 (Steps at deviators not shown for clarity)
 (Southbound Segment Designations Shown, Northbound Similar)

STRESSING SEQUENCE

Stress Sequence	Tendon**	Stress End	Elongation***
1	7-L	Downstation	1'-5 7/8"
2	8-R	Downstation	1'-5 1/16"
3	3-L	Upstation	2'-2 3/16"
4	4-R	Upstation	2'-2 3/4"
5	3-R	Upstation	2'-2 3/16"
6	4-L	Upstation	2'-2 3/4"
7	9-L	Downstation	2'-2 3/16"
8	10-R	Downstation	2'-2 1/16"
9	9-R	Downstation	2'-2 3/16"
10	10-L	Downstation	2'-2 1/16"
11	8-L	Upstation	1'-5 1/16"
12	7-R	Upstation	1'-5 7/8"
13	5-L	Downstation	3'-1 5/8"
14	6-R	Downstation	2'-11 5/16"
15	1-L	Upstation	0'-11 5/8"
16	2-R	Upstation	0'-11 3/8"
17	5-R	Downstation	3'-1 5/8"
18	6-L	Downstation	2'-11 5/16"
19	1-R	Upstation	0'-11 5/8"
20	2-L	Upstation	0'-11 3/8"
21	11-L	Downstation	0'-11 5/8"
22	12-R	Downstation	0'-11 3/8"
23	5-L	Upstation	0'-8 1/4"
24	6-R	Upstation	0'-8 3/16"
25	11-R	Downstation	0'-11 3/8"
26	12-L	Downstation	0'-11 3/8"
27	5-R	Upstation	0'-8 1/4"
28	6-L	Upstation	0'-8 5/16"

LEGEND:

- 12-0.6" ϕ Strand Tendon
- ① External Draped Tendon No.
- ▶ Stressing End
- └ Dead End
- D4-C Path Deviator No.
- D: Bottom Slab Deviator
- P: Pier Deviator
- A: Abutment Anchorage

BILL OF MATERIAL

Item	Unit	Stage 1 S.B.	Stage 2 S.B.	Total Quantity
Furnishing and Installing Post-Tensioning System	L. Sum	0.5	0.5	1.0

NOTES:

All external tendons shall be 12-0.6" ϕ strands.
 Tendon paths near west web are shown in Tendon Schedule. Tendon paths near east web are opposite hand, indicated as A', B', etc.
 The total estimated quantity of post-tensioning steel is 182,900 lbs. This quantity is provided for information only.

TENDON SCHEDULE

TENDON NO (Per Web)	1	2	3	4	5	6	7	8	9	10	11	12
JACKING FORCE (kips)	569.5	569.5	569.5	569.5	569.5	569.5	562.5	569.5	569.5	569.5	569.5	569.5
LENGTH*	182'-4"	182'-4"	432'-7"	432'-9"	771'-8"	773'-0"	267'-10"	268'-6"	432'-7"	432'-9"	182'-4"	182'-4"
TENDON STARTS AT	S. Abut.	S. Abut.	S. Abut.	S. Abut.	Pier 1	Pier 1	Pier 2	Pier 2	Pier 3	Pier 3	Pier 4	Pier 4
TENDON ENDS AT	Pier 1	Pier 1	Pier 2	Pier 2	Pier 4	Pier 4	Pier 3	Pier 3	N. Abut.	N. Abut.	N. Abut.	N. Abut.
TENDON RUNS THROUGH	A1-A	A1-B	A1-C	A1-D	P1-A	P1-B	P2-A	P2-B	P3-D	P3-F	P4-D	P4-F
	D1-A	D1-C	D1-B	D1-D	D4-A	D4-C	D9-B	D9-D	D13-B	D13-D	D16-A	D16-C
	D2-A	D2-C	D2-B	D2-D	D5-A	D5-C	D10-B	D10-D	D14-B	D14-D	D17-A	D17-C
	D3-A	D3-C	P1-C	P1-E	D6-A	D6-C	P3-A	P3-B	P4-C	P4-E	D18-A	D18-C
	P1-D	P1-F	D5-B	D5-D	D7-A	D7-C			D17-B	D17-D	A2-A	A2-B
			D6-B	D6-D	P2-C	P2-E			D18-B	D18-D		
			P2-D	P2-F	D8-A	D8-C			A2-C	A2-D		
					D9-A	D9-C						
					D10-A	D10-C						
					D11-A	D11-C						
					P3-C	P3-E						
					D12-A	D12-C						
					D13-A	D13-C						
					D14-A	D14-C						
					D15-A	D15-C						
					P4-A	P4-B						

* Values are calculated from face of anchorage to face of anchorage.

** L = West Web (left looking upstation)
 R = East Web (right looking upstation)

*** Elongations shown are 80% of calculated elongation (prior to anchor set). Elongation is calculated from face of anchorage to face of anchorage. See Special Provisions for details of post-tensioning operations.

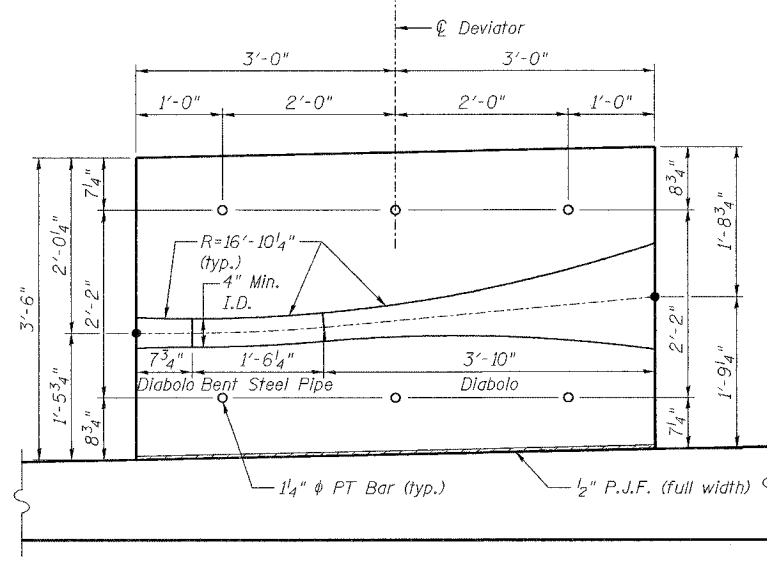
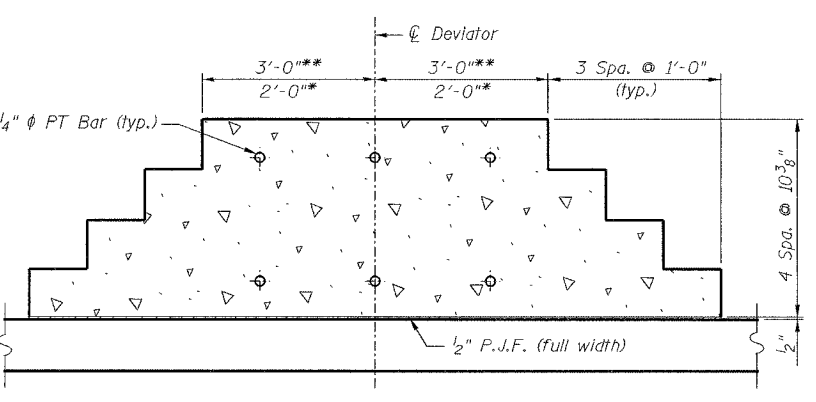
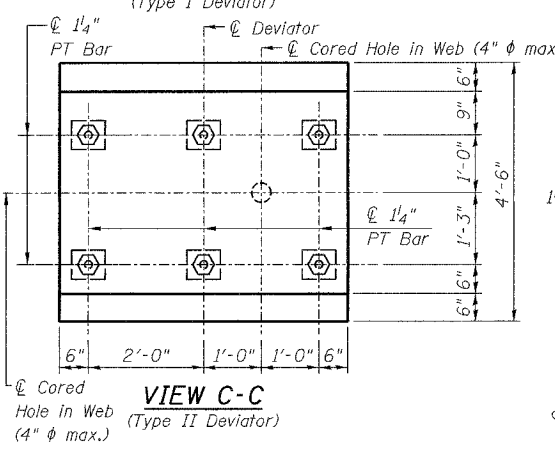
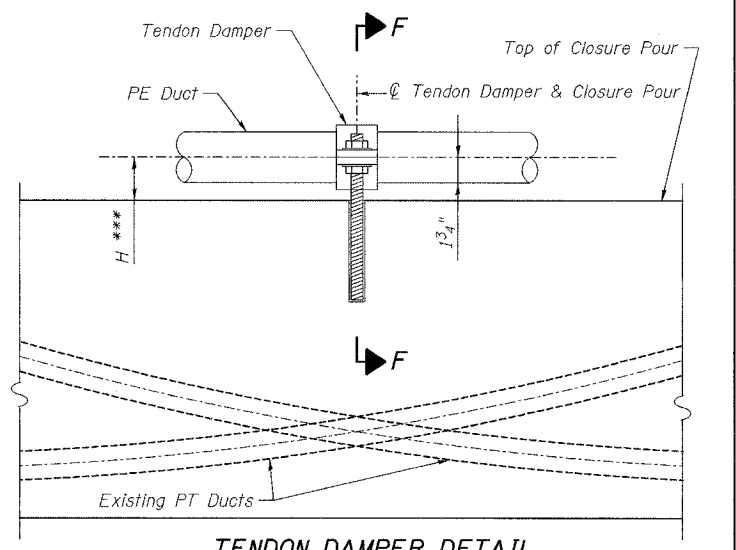
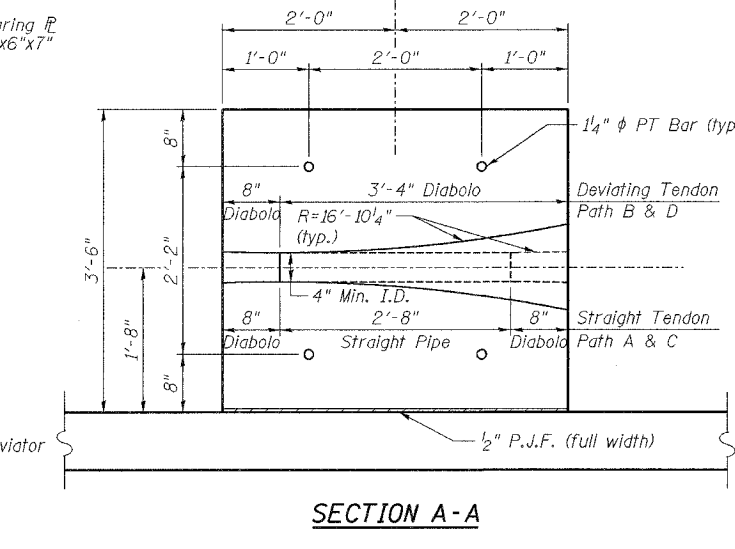
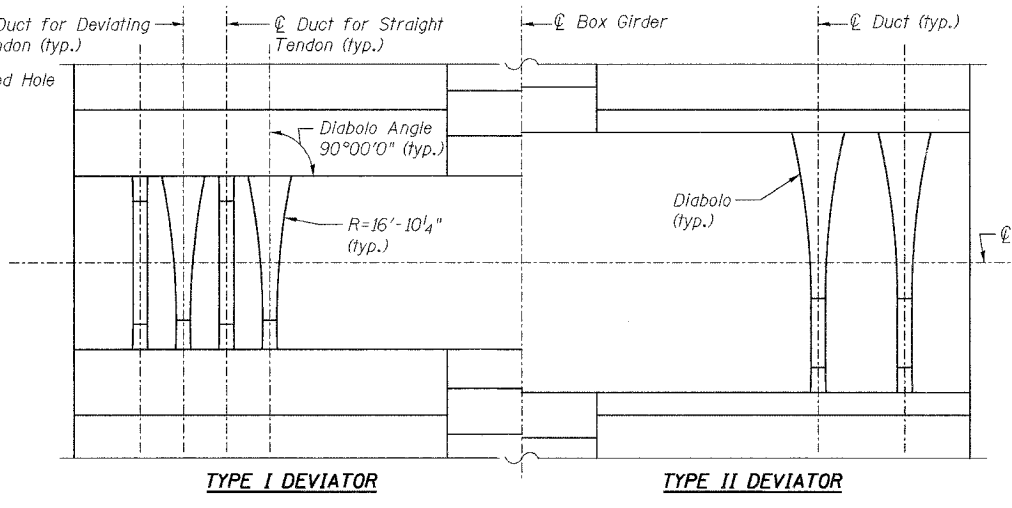
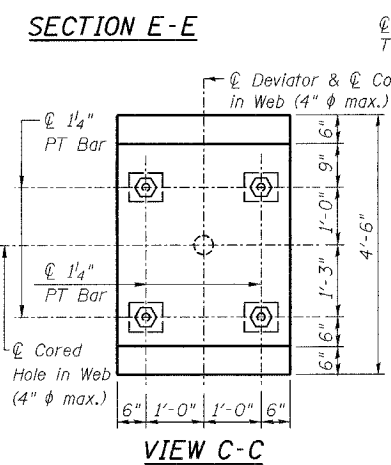
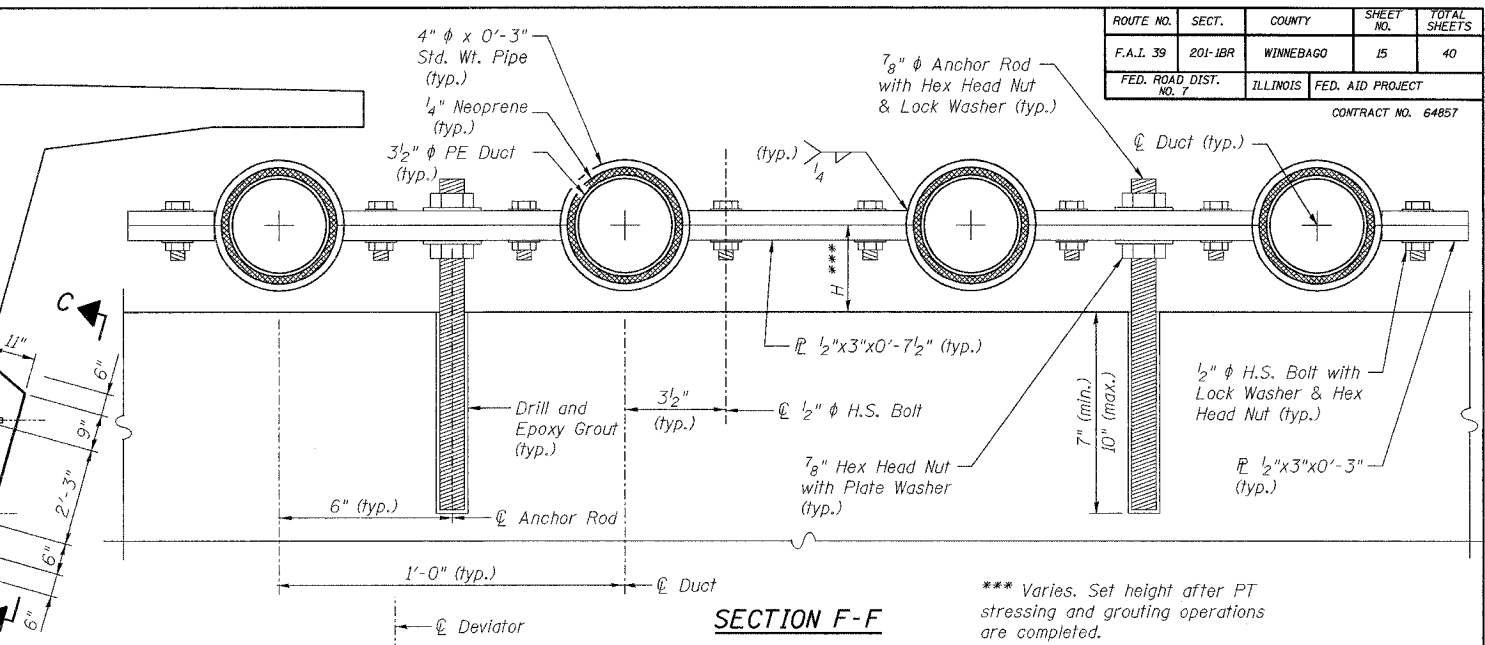
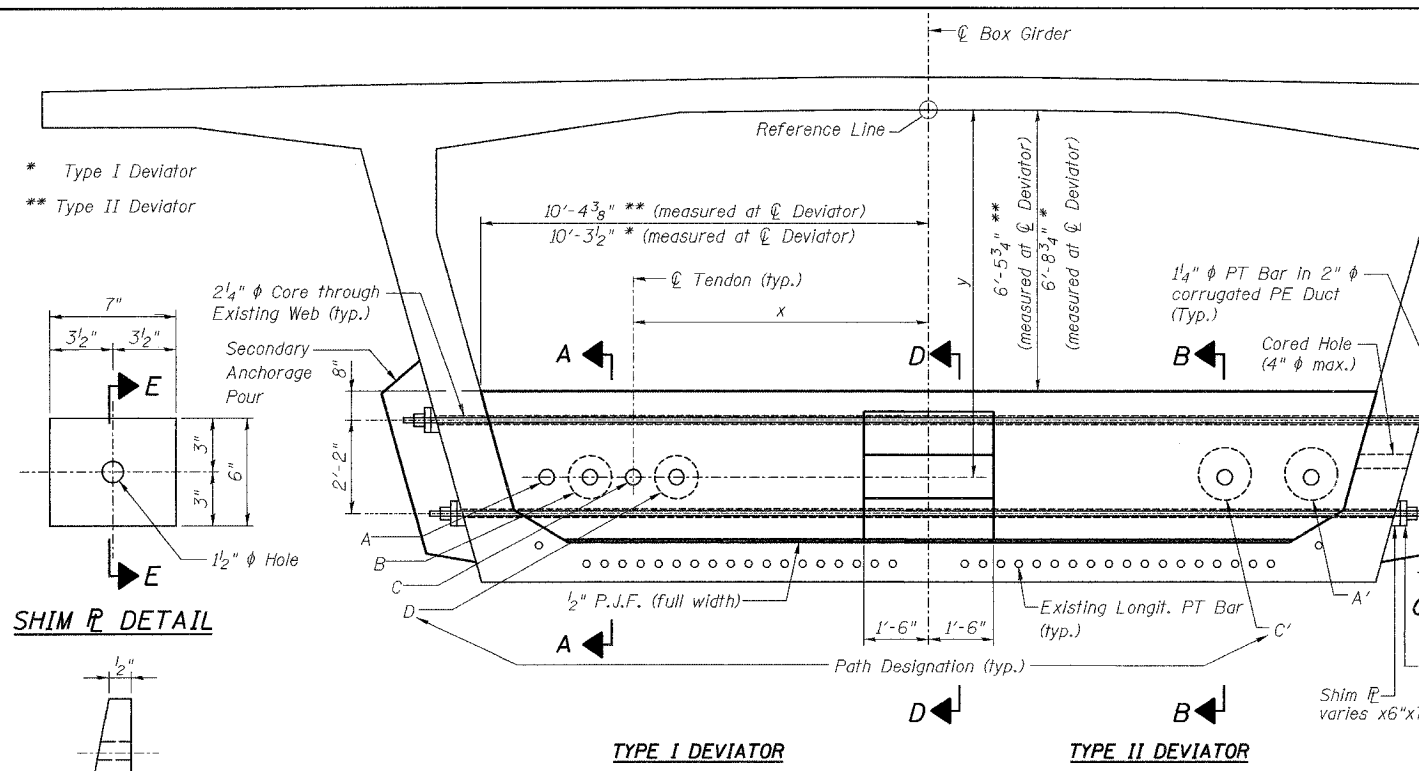
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Designed by: WEE
 Checked by: DL
 Drafted by: HH
 Checked by: DL

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
POST-TENSIONING LAYOUT AND SCHEDULES		
I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 14	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-3

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	15	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 64857				

Date: 2/2/2007 Time: 4:29:53 PM



NOTES:

For deviator type locations and variable dimensions, see Sheet S-5.

Cost of tendon damper shall be included with "Furnishing and Installing Post-Tensioning System."

Cost for Preformed Joint Filler (P.J.F.), coring holes in web, and 1/2" grout vents shall be included with "Concrete Superstructure."

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION BOTTOM SLAB DEVIATOR GEOMETRY I I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 15	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-4

Designed by: WEE
 Checked by: DL
 Drafted by: HH
 Checked by: DL

PATH SCHEDULE

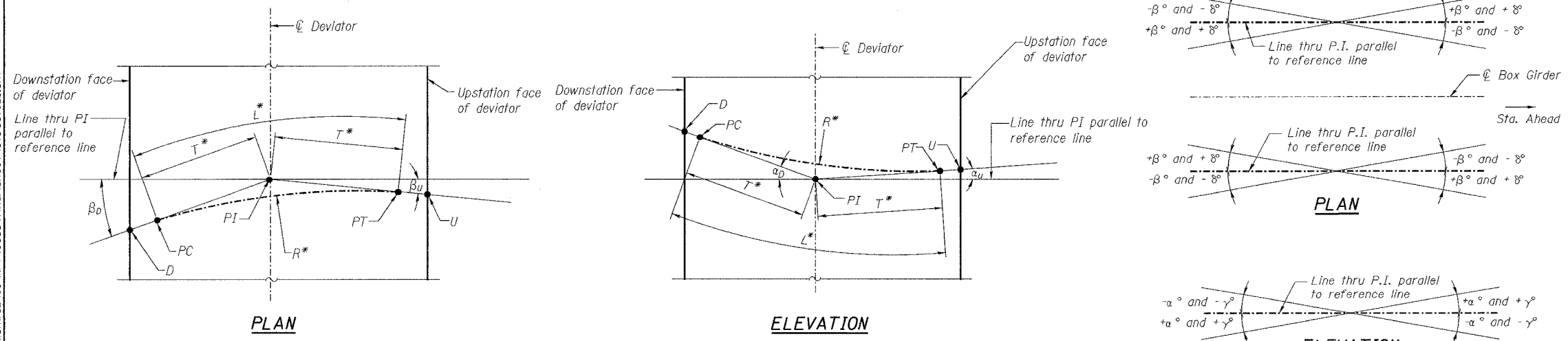
ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	16	40
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 64857

DEVIATOR	TYPE	PI		D		U		α_D xx°-xx'-xx"	α_U xx°-xx'-xx"	β_D xx°-xx'-xx"	β_U xx°-xx'-xx"	T*	L*	R*	TYPE	PI		D		U		α_D xx°-xx'-xx"	α_U xx°-xx'-xx"	β_D xx°-xx'-xx"	β_U xx°-xx'-xx"	T*	L*	R*	
		x	y	x	y	x	y									x	y	x	y	x	y								
1	I	8'-10"	8'-6 3/4"	8'-10 5/8"	8'-3 7/8"	8'-10"	8'-6 3/4"	-6°-53'-39"	0°-0'-0"	-1°-31'-24"	0°-0'-0"	1'-0 5/8"	2'-1 1/8"	17'-0"	I	7'-10"	8'-6 3/4"	7'-10 1/8"	8'-6 3/4"	7'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	-0°-22'-51"	0°-0'-0"	0'-0 5/8"	0'-1 3/8"	17'-0"	
2	I	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	7'-10"	8'-6 3/4"	7'-10"	8'-6 3/4"	7'-10 5/8"	8'-3 3/8"	0°-0'-0"	7°-53'-13"	0°-0'-0"	3°-56'-13"	1'-3 3/4"	2'-7 3/8"	17'-0"	
3	II	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	9'-0 3/8"	7'-9"	0°-0'-0"	15°-9'-22"	0°-0'-0"	3°-47'-36"	2'-4"	4'-7 5/8"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	II	8'-10"	8'-6 3/4"	8'-10 1/8"	7'-11 1/8"	8'-10"	8'-6 3/4"	-12°-0'-19"	0°-0'-0"	-1°-17'-49"	0°-0'-0"	1'-9 5/8"	3'-7"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	I	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	7'-10"	8'-6 3/4"	7'-11 5/8"	8'-3 3/8"	7'-10"	8'-6 3/4"	-7°-53'-13"	0°-0'-0"	-3°-56'-13"	0°-0'-0"	1'-3 3/4"	2'-7 3/8"	17'-0"	
6	I	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	7'-10"	8'-6 3/4"	7'-10"	8'-6 3/4"	7'-10 5/8"	8'-3 3/8"	0°-0'-0"	7°-53'-13"	0°-0'-0"	3°-56'-13"	1'-3 3/4"	2'-7 3/8"	17'-0"	
7	II	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	9'-1 1/8"	7'-9 5/8"	0°-0'-0"	14°-9'-32"	0°-0'-0"	4°-56'-41"	2'-2 1/8"	4'-5 3/8"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	II	8'-10"	8'-6 3/4"	9'-1 1/8"	7'-9 5/8"	8'-10"	8'-6 3/4"	-14°-9'-32"	0°-0'-0"	-4°-56'-41"	0°-0'-0"	2'-2 1/8"	4'-5 3/8"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	I	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	7'-10"	8'-6 3/4"	7'-10 3/4"	8'-4"	7'-10"	8'-6 3/4"	-6°-39'-37"	0°-0'-0"	-1°-55'-58"	0°-0'-0"	1'-0 3/8"	2'-0 3/4"	17'-0"	
10	I	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	7'-10"	8'-6 3/4"	7'-10"	8'-6 3/4"	7'-10 3/4"	8'-4"	0°-0'-0"	6°-39'-37"	0°-0'-0"	1°-55'-58"	1'-0 3/8"	2'-0 3/4"	17'-0"	
11	II	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	9'-1 1/8"	7'-9 5/8"	0°-0'-0"	14°-9'-32"	0°-0'-0"	4°-56'-41"	2'-2 1/8"	4'-5 3/8"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	II	8'-10"	8'-6 3/4"	9'-1 1/8"	7'-9 5/8"	8'-10"	8'-6 3/4"	-14°-9'-32"	0°-0'-0"	-4°-56'-41"	0°-0'-0"	2'-2 1/8"	4'-5 3/8"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13	I	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	7'-10"	8'-6 3/4"	7'-10 3/4"	8'-3 3/8"	7'-10"	8'-6 3/4"	-8°-27'-37"	0°-0'-0"	-3°-39'-30"	0°-0'-0"	1'-4 1/2"	2'-8 7/8"	17'-0"	
14	I	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	7'-10"	8'-6 3/4"	7'-10"	8'-6 3/4"	7'-10 5/8"	8'-3 3/8"	0°-0'-0"	7°-53'-13"	0°-0'-0"	3°-56'-13"	1'-3 3/4"	2'-7 3/8"	17'-0"	
15	II	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	8'-10 1/8"	7'-11 1/8"	0°-0'-0"	12°-0'-19"	0°-0'-0"	1°-17'-49"	1'-9 5/8"	3'-7"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16	II	8'-10"	8'-6 3/4"	9'-0 3/8"	7'-9"	8'-10"	8'-6 3/4"	-15°-9'-22"	0°-0'-0"	-3°-47'-36"	0°-0'-0"	2'-4"	4'-7 5/8"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17	I	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	7'-10"	8'-6 3/4"	7'-11 5/8"	8'-3 3/8"	7'-10"	8'-6 3/4"	-7°-53'-13"	0°-0'-0"	-3°-56'-13"	0°-0'-0"	1'-3 3/4"	2'-7 3/8"	17'-0"	
18	I	8'-10"	8'-6 3/4"	8'-10"	8'-6 3/4"	8'-10 5/8"	8'-3 7/8"	0°-0'-0"	6°-53'-37"	0°-0'-0"	1°-31'-23"	1'-0 5/8"	2'-1 1/8"	17'-0"	I	7'-10"	8'-6 3/4"	7'-10"	8'-6 3/4"	7'-10 1/8"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-22'-51"	0°-0 5/8"	0'-1 3/8"	17'-0"	

DEVIATOR	TYPE	PI		D		U		α_D xx°-xx'-xx"	α_U xx°-xx'-xx"	β_D xx°-xx'-xx"	β_U xx°-xx'-xx"	T*	L*	R*	TYPE	PI		D		U		α_D xx°-xx'-xx"	α_U xx°-xx'-xx"	β_D xx°-xx'-xx"	β_U xx°-xx'-xx"	T*	L*	R*	
		x	y	x	y	x	y									x	y	x	y	x	y								
1	I	6'-10"	8'-6 3/4"	6'-10 3/8"	8'-3 1/8"	6'-10"	8'-6 3/4"	-6°-53'-39"	0°-0'-0"	-1°-31'-24"	0°-0'-0"	1'-0 5/8"	2'-1 1/8"	17'-0"	I	5'-10"	8'-6 3/4"	5'-10 3/8"	8'-6 3/4"	5'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	-0°-22'-51"	0°-0'-0"	0'-0 5/8"	0'-1 3/8"	17'-0"	
2	I	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	5'-10"	8'-6 3/4"	5'-10"	8'-6 3/4"	5'-11 1/2"	8'-3 3/8"	0°-0'-0"	8°-27'-37"	0°-0'-0"	3°-39'-30"	1'-4 1/2"	2'-8 7/8"	17'-0"	
3	II	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	7'-0"	7'-8 1/2"	0°-0'-0"	15°-50'-40"	0°-0'-0"	3°-14'-22"	2'-5"	4'-9 5/8"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	II	6'-10"	8'-6 3/4"	7'-1 5/8"	7'-8 3/4"	6'-10"	8'-6 3/4"	-15°-30'-3"	0°-0'-0"	-5°-43'-32"	0°-0'-0"	2'-5 5/8"	4'-10 1/8"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	I	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	5'-10"	8'-6 3/4"	5'-11 1/2"	8'-3 3/8"	5'-10"	8'-6 3/4"	-8°-27'-37"	0°-0'-0"	-3°-39'-30"	0°-0'-0"	1'-4 1/2"	2'-8 7/8"	17'-0"	
6	I	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	5'-10"	8'-6 3/4"	5'-10"	8'-6 3/4"	5'-11 1/4"	8'-3"	0°-0'-0"	8°-51'-29"	0°-0'-0"	2°-59'-57"	1'-4 5/8"	2'-9 1/4"	17'-0"	
7	II	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	7'-0 3/4"	7'-9"	0°-0'-0"	15°-9'-22"	0°-0'-0"	4°-26'-19"	2'-4 1/4"	4'-8 1/4"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	II	6'-10"	8'-6 3/4"	7'-0 3/4"	7'-9"	6'-10"	8'-6 3/4"	-15°-9'-22"	0°-0'-0"	-4°-26'-19"	0°-0'-0"	2'-4 1/4"	4'-8 1/4"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	I	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	5'-10"	8'-6 3/4"	5'-11 1/8"	8'-3 3/8"	5'-10"	8'-6 3/4"	-8°-39'-33"	0°-0'-0"	-4°-22'-2"	0°-0'-0"	1'-5 1/4"	2'-10 1/2"	17'-0"	
10	I	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	5'-10"	8'-6 3/4"	5'-10"	8'-6 3/4"	5'-11 1/8"	8'-3 3/8"	0°-0'-0"	8°-39'-33"	0°-0'-0"	4°-22'-2"	1'-5 1/4"	2'-10 1/2"	17'-0"	
11	II	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	7'-0 3/4"	7'-9"	0°-0'-0"	15°-9'-22"	0°-0'-0"	4°-26'-19"	2'-4 1/4"	4'-8 1/4"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	II	6'-10"	8'-6 3/4"	7'-0 3/4"	7'-9"	6'-10"	8'-6 3/4"	-15°-9'-22"	0°-0'-0"	-4°-26'-19"	0°-0'-0"	2'-4 1/4"	4'-8 1/4"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13	I	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	5'-10"	8'-6 3/4"	5'-11 1/4"	8'-3"	5'-10"	8'-6 3/4"	-8°-51'-29"	0°-0'-0"	-2°-59'-57"	0°-0'-0"	1'-4 5/8"	2'-9 1/4"	17'-0"	
14	I	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	5'-10"	8'-6 3/4"	5'-10"	8'-6 3/4"	5'-11 1/2"	8'-3 3/8"	0°-0'-0"	8°-27'-37"	0°-0'-0"	3°-39'-30"	1'-4 1/2"	2'-8 7/8"	17'-0"	
15	II	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	7'-1 5/8"	7'-8 3/4"	0°-0'-0"	15°-30'-3"	0°-0'-0"	5°-43'-32"	2'-5 5/8"	4'-10 1/8"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16	II	6'-10"	8'-6 3/4"	7'-0"	7'-8 1/2"	6'-10"	8'-6 3/4"	-15°-30'-3"	0°-0'-0"	-5°-43'-32"	0°-0'-0"	2'-5 5/8"	4'-10 1/8"	17'-0"	II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17	I	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0'-0"	0'-0"	0'-0"	I	5'-10"	8'-6 3/4"	5'-11 1/2"	8'-3 3/8"	5'-10"	8'-6 3/4"	-8°-27'-37"	0°-0'-0"	-3°-39'-30"	0°-0'-0"	1'-4 1/2"	2'-8 7/8"	17'-0"	
18	I	6'-10"	8'-6 3/4"	6'-10"	8'-6 3/4"	6'-10 3/8"	8'-3 1/8"	0°-0'-0"	6°-53'-37"	0°-0'-0"	1°-31'-23"	1'-0 5/8"	2'-1 1/8"	17'-0"	I	5'-10"	8'-6 3/4"	5'-10"	8'-6 3/4"	5'-10 3/8"	8'-6 3/4"	0°-0'-0"	0°-0'-0"	0°-0'-0"	0°-22'-51"	0°-0 5/8"	0'-1 3/8"	17'-0"	

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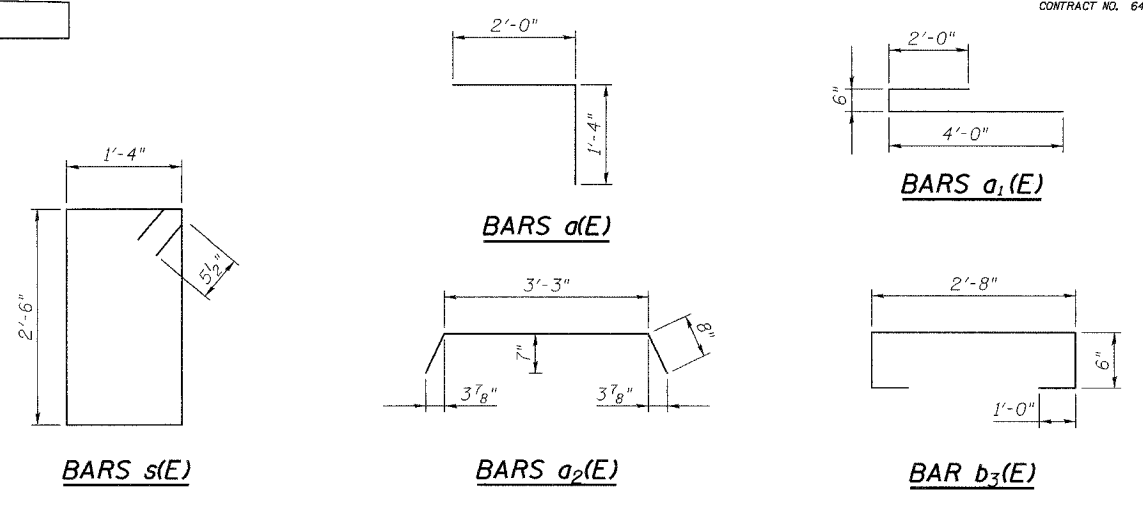
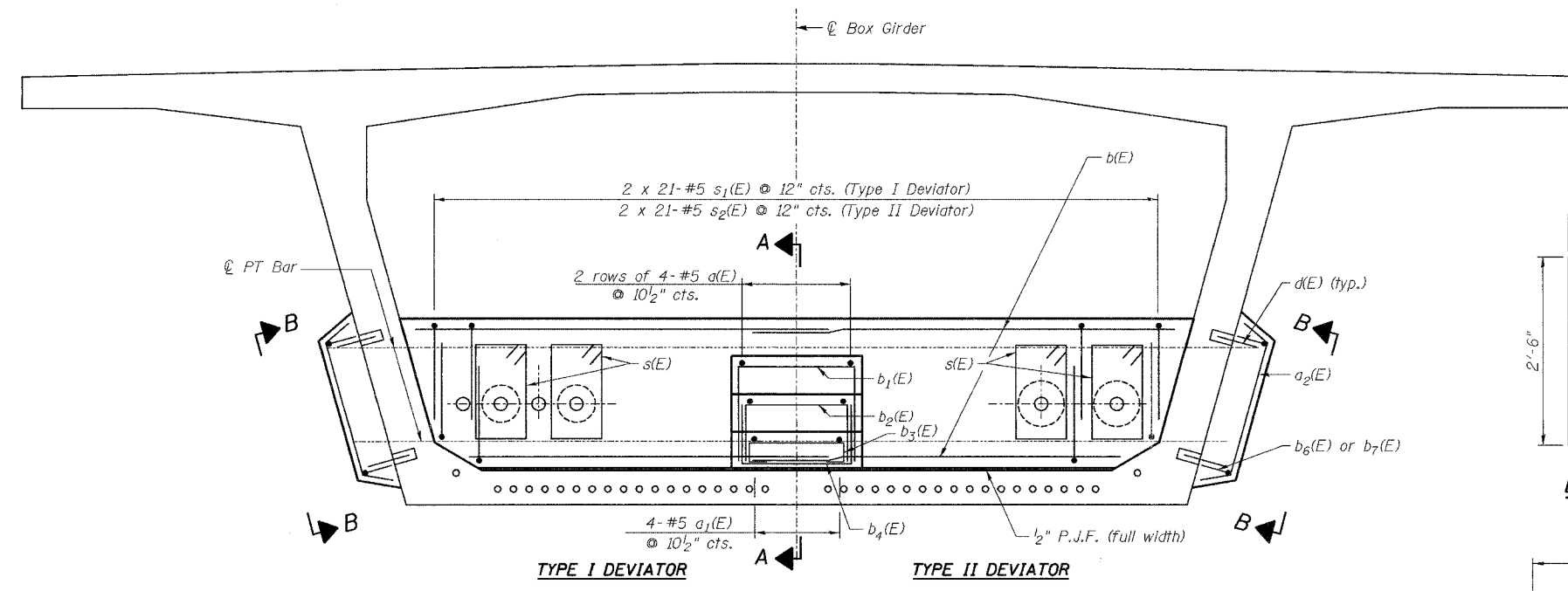


LEGEND:
 Reference Line : Line at soffit of segment top slab along centerline of box girder.
 L* : Actual length of bent pipe
 R* : Actual bending radius at pipe centerline
 T* : Actual tangent length

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION BOTTOM SLAB DEVIATOR GEOMETRY II I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
		CHICAGO, ILLINOIS
DRAWING NO. 16	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-5

Designed by: WEE
 Checked by: DL
 Drafted by: HH
 Checked by: DL

Date: 2/2/2007 Time: 4:29:58 PM



BILL OF MATERIAL FOR ONE TYPE I DEVIATOR
(S.B. or N.B.)

BILL OF MATERIAL FOR ONE TYPE II DEVIATOR
(S.B. or N.B.)

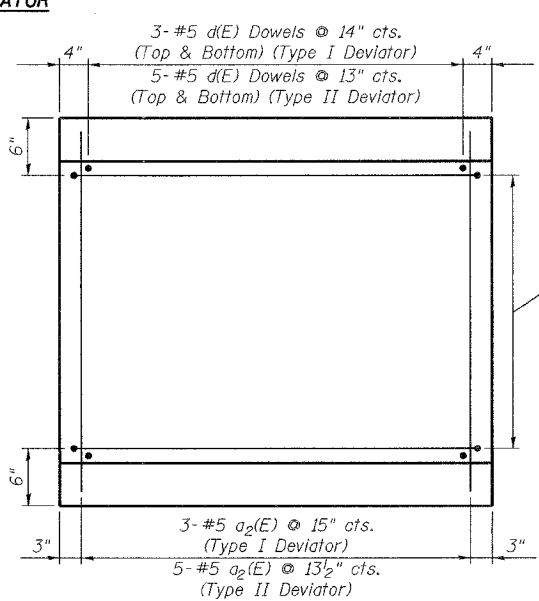
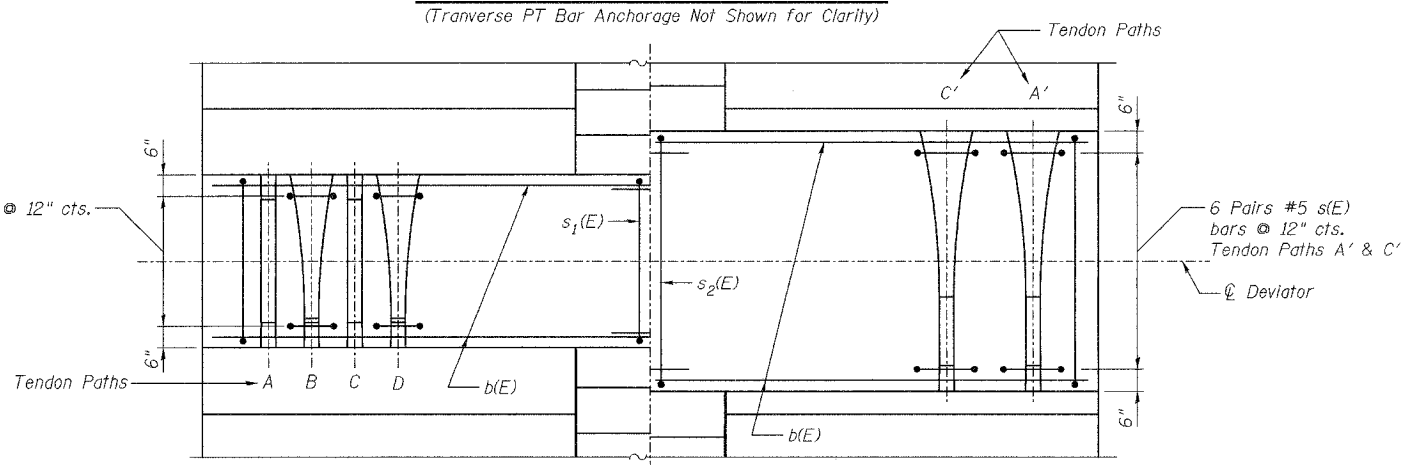
Bar	No.	Size	Length	Shape
a(E)	16	#5	3'-4"	└
a ₁ (E)	8	#5	6'-6"	└
a ₂ (E)	6	#5	4'-7"	└
b(E)	28	#5	11'-2"	—
b ₁ (E)	4	#5	7'-0"	└
b ₂ (E)	4	#5	5'-4"	└
b ₃ (E)	4	#5	5'-8"	└
b ₄ (E)	4	#5	4'-8"	└
b ₅ (E)	2	#5	2'-8"	—
b ₆ (E)	8	#5	3'-8"	└
d(E)	12	#5	1'-2"	—
s(E)	16	#5	8'-7"	└
s ₁ (E)	42	#5	8'-8"	└
Concrete Superstructure	Cu. Yd.		11.9	
Reinforcement Bars, Epoxy Coated	Pound		1133	

Bar	No.	Size	Length	Shape
a(E)	16	#5	3'-4"	└
a ₁ (E)	8	#5	6'-6"	└
a ₂ (E)	10	#5	4'-7"	└
b(E)	36	#5	11'-2"	—
b ₁ (E)	4	#5	7'-0"	└
b ₂ (E)	4	#5	5'-4"	└
b ₃ (E)	4	#5	5'-8"	└
b ₄ (E)	4	#5	4'-8"	└
b ₅ (E)	2	#5	2'-8"	—
b ₇ (E)	8	#5	5'-8"	└
d(E)	20	#5	1'-2"	—
s(E)	24	#5	8'-7"	└
s ₂ (E)	42	#5	10'-8"	└
Concrete Superstructure	Cu. Yd.		17.7	
Reinforcement Bars, Epoxy Coated	Pound		1431	

BARS b₁(E), b₂(E), b₄(E), b₆(E), b₇(E), s₁(E), s₂(E)

A & B DIMENSIONS

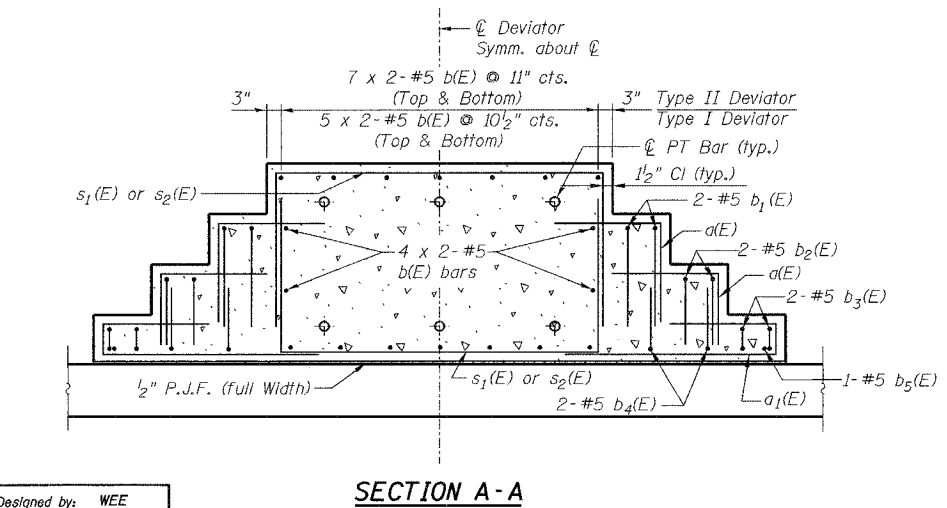
Bar	A	B
b ₁ (E)	2'-8"	2'-2"
b ₂ (E)	2'-8"	1'-4"
b ₄ (E)	2'-8"	1'-0"
b ₆ (E)	2'-8"	0'-6"
b ₇ (E)	4'-8"	0'-6"
s ₁ (E)	3'-8"	2'-6"
s ₂ (E)	5'-8"	2'-6"



MIN. BAR LAP
#5 bar = 2'-0"

NOTES:

- Place s(E) bars at deviating ducts only.
- The cost of drilling and epoxy grouting dowel bars is included with "Concrete Superstructure". Installation as per Sec. 584 of the Standard Specifications. Depth of embedment: 6" to 8".
- Reinforcement bars designated (E) shall be epoxy coated.
- Bars indicated thus 4 x 2-#5 etc. indicates 4 lines of bars with 2 lengths per line.



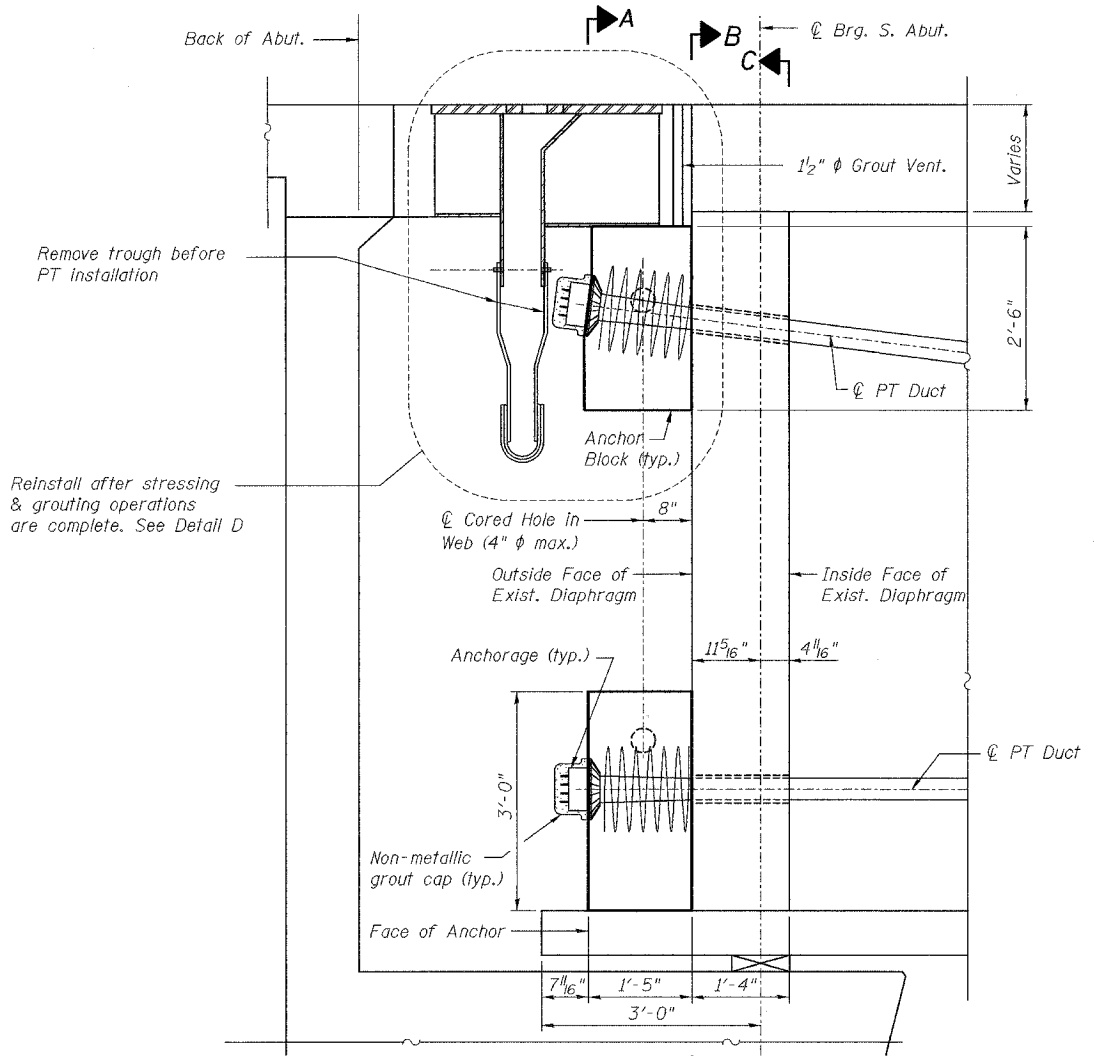
Designed by: WEE
Checked by: DL
Drafted by: HH
Checked by: DL

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
BOTTOM SLAB DEVIATOR REINFORCEMENT		
I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-IBR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 17	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-6

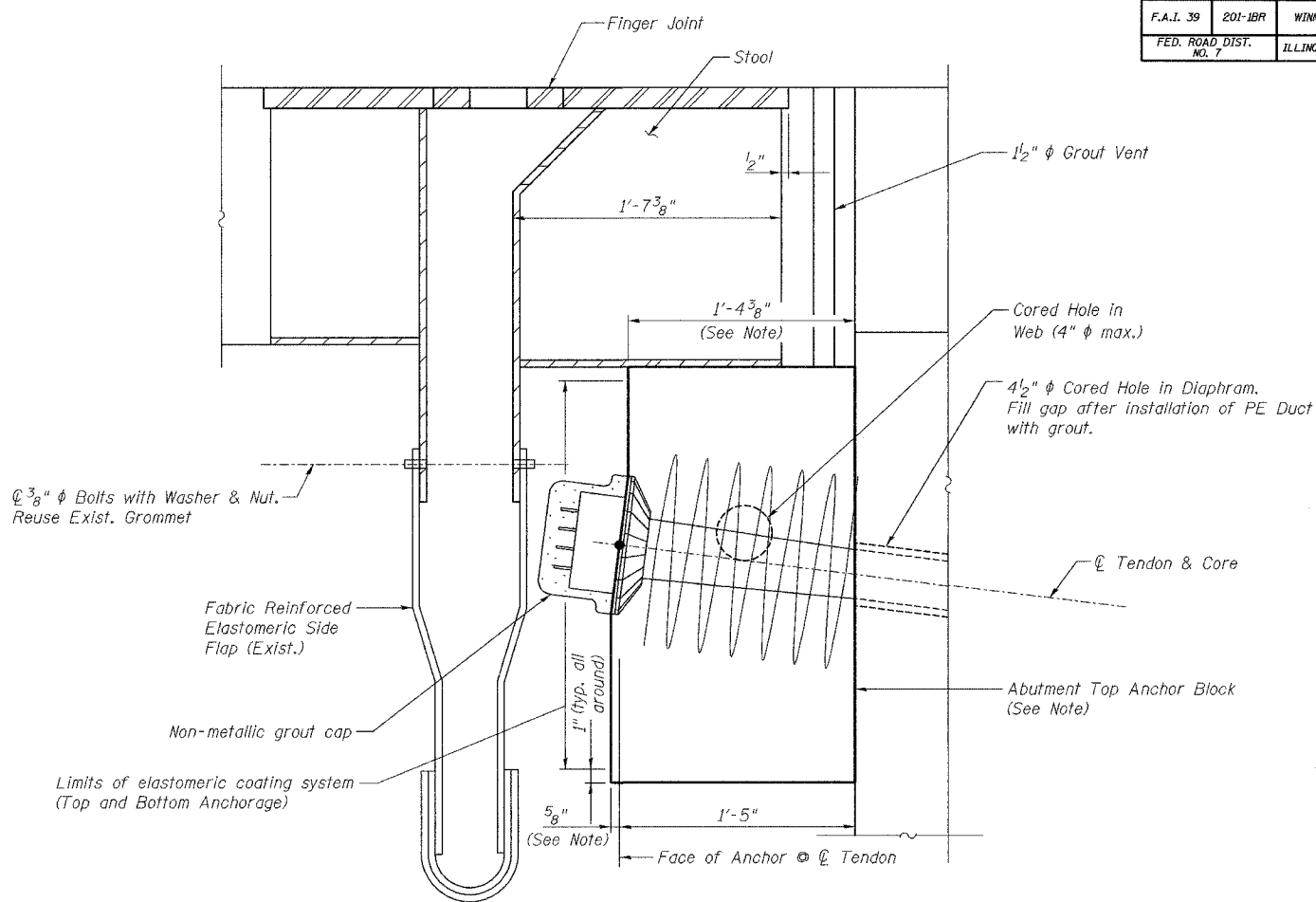
ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	18	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 64857	

Date: 3/16/2007 Time: 3:23:12 PM

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LONGITUDINAL SECTION AT ABUTMENT
(South Abutment Shown, North Abutment opposite hand)



DETAIL D

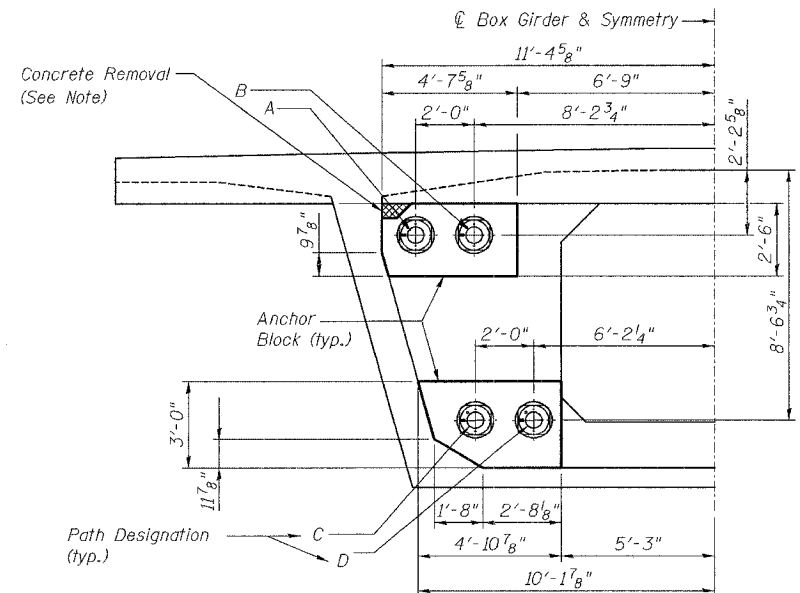
NOTES:

Abutment Top Anchor Block for the Northbound Bridge shall not be poured until the Finger Joint Replacement work has been completed and the concrete of the joint pour reached its 28-day compressive strength.

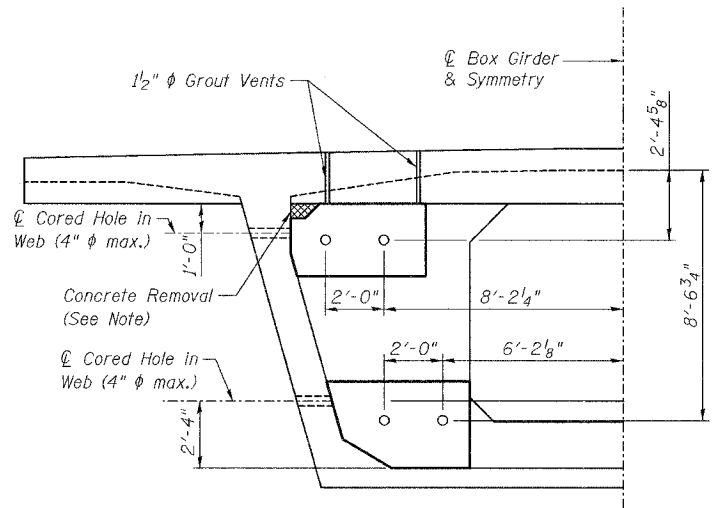
Dimensions may vary with selected anchorage type.

Concrete removal shall be performed to the limits indicated. Cost included in "Furnishing and Installing Post-Tensioning System".

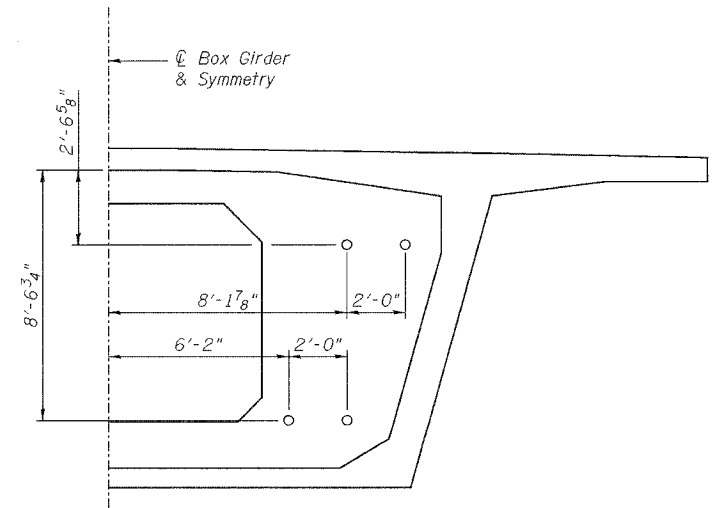
Cost for coring holes in web and 1/2" grout vents shall be included with "Concrete Superstructure".



SECTION A-A
(At Face of Anchor)



SECTION B-B
(At Outside Face of Diaphragm)



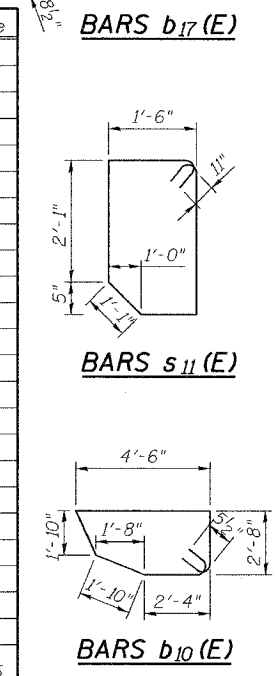
SECTION C-C
(At Inside Face of Diaphragm)

Designed by:	WEE
Checked by:	DL
Drafted by:	HH
Checked by:	DL

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
ABUTMENT ANCHORAGE GEOMETRY		
I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 18	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-7

BILL OF MATERIAL FOR ONE ABUTMENT
(S.B. or N.B.)

Bar	No.	Size	Length	Shape
a ₁₀ (E)	14	#6	8'-10"	□
a ₁₁ (E)	2	#6	8'-0"	□
a ₁₂ (E)	2	#6	7'-8"	□
a ₁₃ (E)	2	#6	7'-4"	□
a ₁₄ (E)	22	#6	7'-8"	□
b ₁₀ (E)	6	#5	14'-1"	□
b ₁₁ (E)	2	#5	6'-8"	□
b ₁₂ (E)	2	#5	6'-5"	□
b ₁₃ (E)	2	#5	6'-2"	□
b ₁₄ (E)	2	#5	4'-8"	□
b ₁₅ (E)	6	#6	6'-4"	□
b ₁₆ (E)	2	#6	6'-1"	□
b ₁₇ (E)	6	#5	13'-9"	□
d ₁₀ (E)	120	#6	2'-1"	—
d ₁₁ (E)	36	#5	1'-9"	—
s ₁₀ (E)	10	#7	9'-10"	□
s ₁₁ (E)	10	#7	9'-6"	□
s ₁₂ (E)	20	#7	8'-10"	□
Concrete Superstructure	Cu. Yd.	2.6		
Reinforcement Bars, Epoxy Coated	Pound	2005		



NOTES:

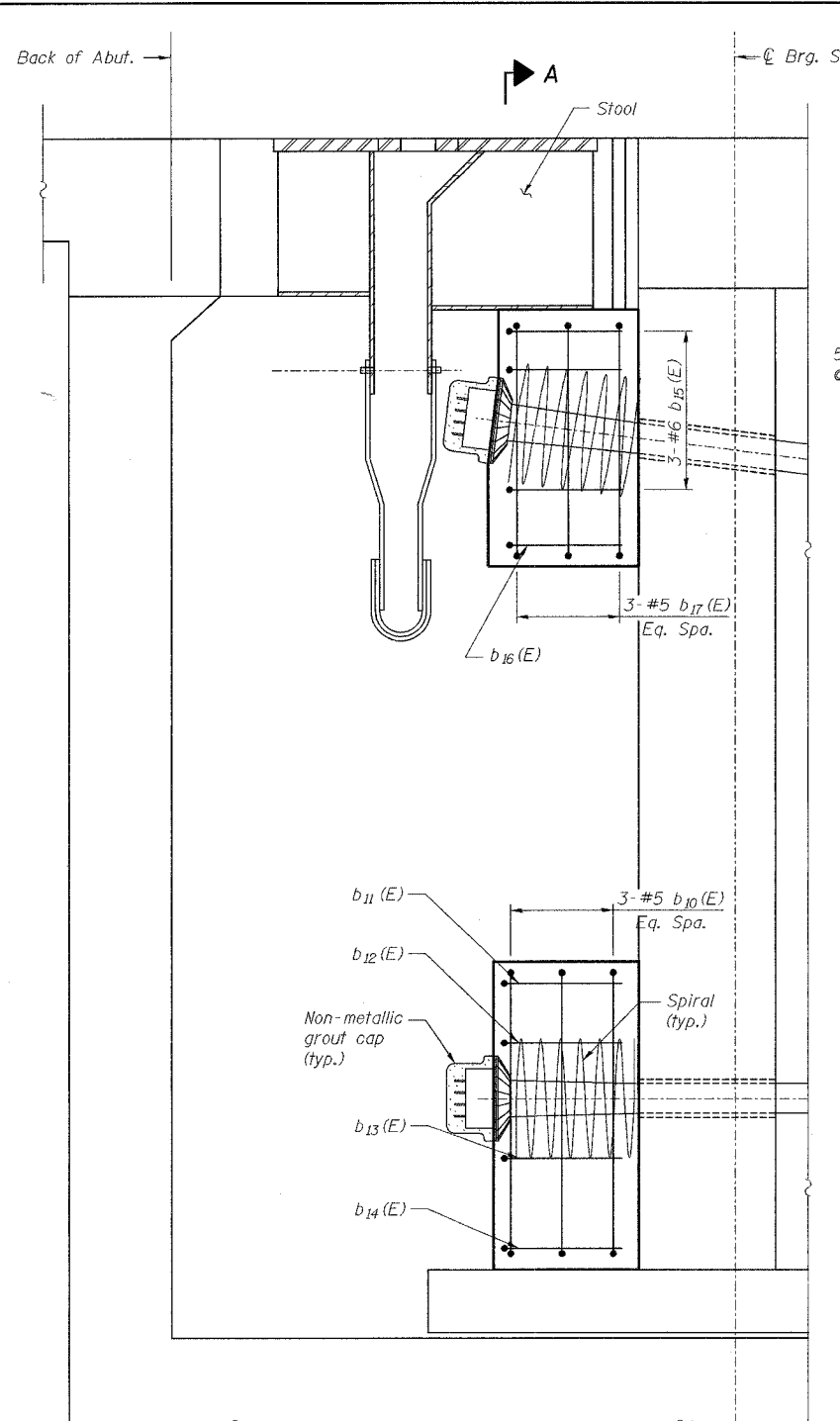
Location of existing PT Bars to be determined by Contractor using non-destructive methods for approval by the Engineer. No drilling is permitted without approval by the Engineer.

The cost of drilling and epoxy grouting dowel bars is included with "Concrete Superstructure". Installation as per Sec. 584 of the Standard Specifications. Min. depth of embedment shall be per manufacturer's specifications but not less than 5^s/₈" (#5 bar) and 7" (#6 bar), respectively. The epoxy grout shall develop no less than 125% of the yield strength of the dowel bar.

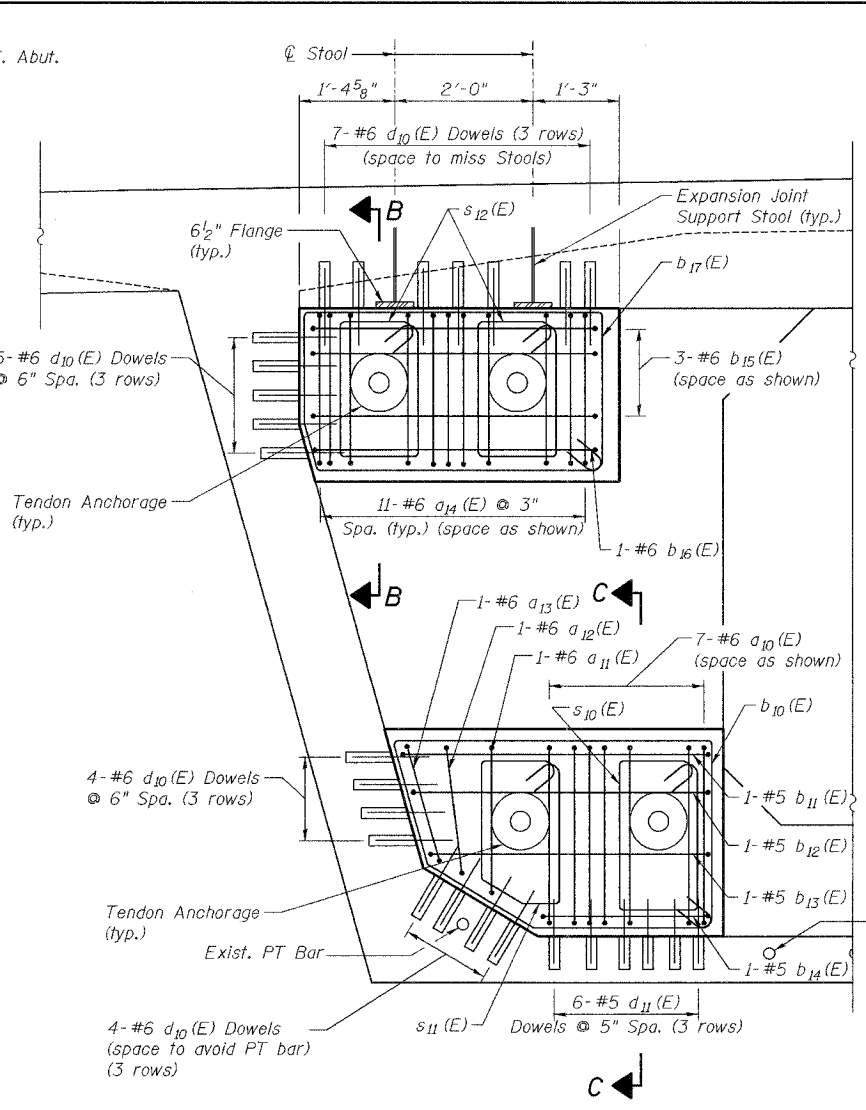
Contractor shall space Dowel Bars to miss transverse joint reinforcing steel placed in holes in Stool Web as shown on Contract Plan Sheet No.31 of 40. Contractor must ensure that no damage is done to transverse joint reinforcing steel during drilling operations.

Reinforcement bars designated (E) shall be epoxy coated.

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
ABUTMENT ANCHORAGE REINFORCEMENT		
I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-IBR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 19	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-8



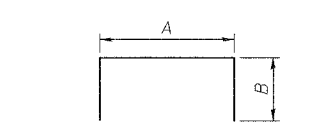
LONGITUDINAL SECTION ALONG C BOX GIRDER
(S. Abut. shown, N. Abut. opposite hand)



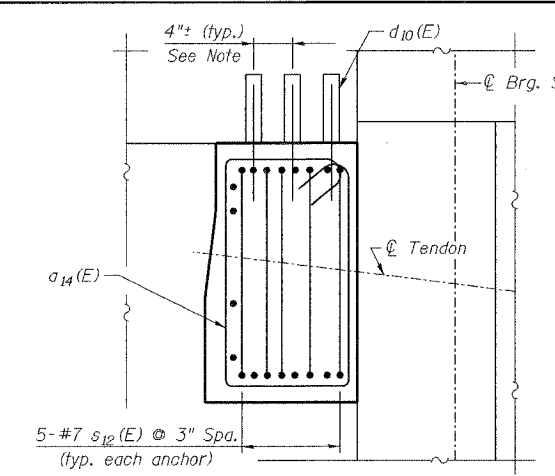
SECTION A-A
(Half section shown, other section similar in opposite hand)

A & B DIMENSIONS

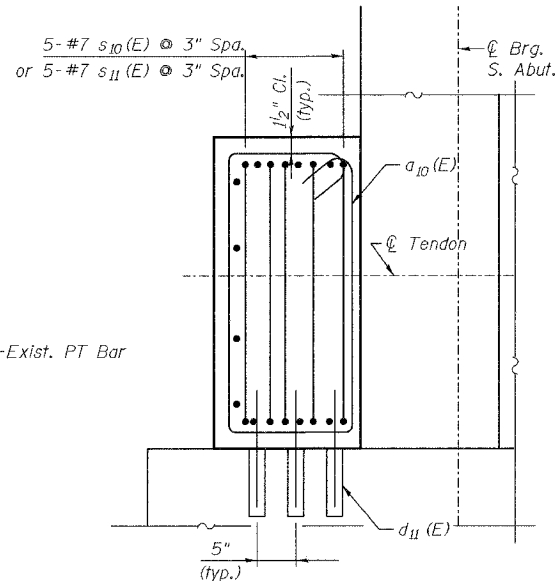
Bar	A	B
b ₁₁ (E)	4'-6"	1'-1"
b ₁₂ (E)	4'-3"	1'-1"
b ₁₃ (E)	4'-0"	1'-1"
b ₁₄ (E)	2'-6"	1'-1"
b ₁₅ (E)	4'-4"	1'-0"
b ₁₆ (E)	4'-1"	1'-0"



BARS b₁₁(E) thru b₁₆(E)



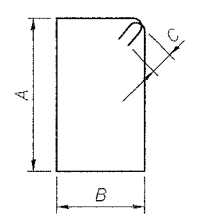
SECTION B-B
(Anchorage assembly not shown for clarity)



SECTION C-C
(Anchorage assembly not shown for clarity)

A, B & C DIMENSIONS

Bar	A	B	C
a ₁₀ (E)	2'-8"	1'-1"	0'-8"
a ₁₁ (E)	2'-3"	1'-1"	0'-8"
a ₁₂ (E)	2'-1"	1'-1"	0'-8"
a ₁₃ (E)	1'-11"	1'-1"	0'-8"
a ₁₄ (E)	2'-2"	1'-0"	0'-8"
s ₁₀ (E)	2'-6"	1'-6"	0'-11"
s ₁₂ (E)	2'-0"	1'-6"	0'-11"



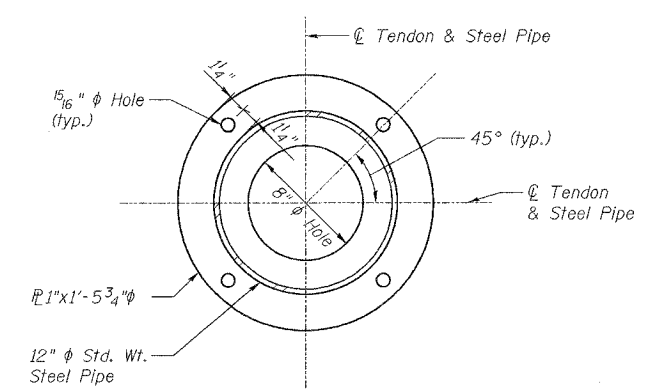
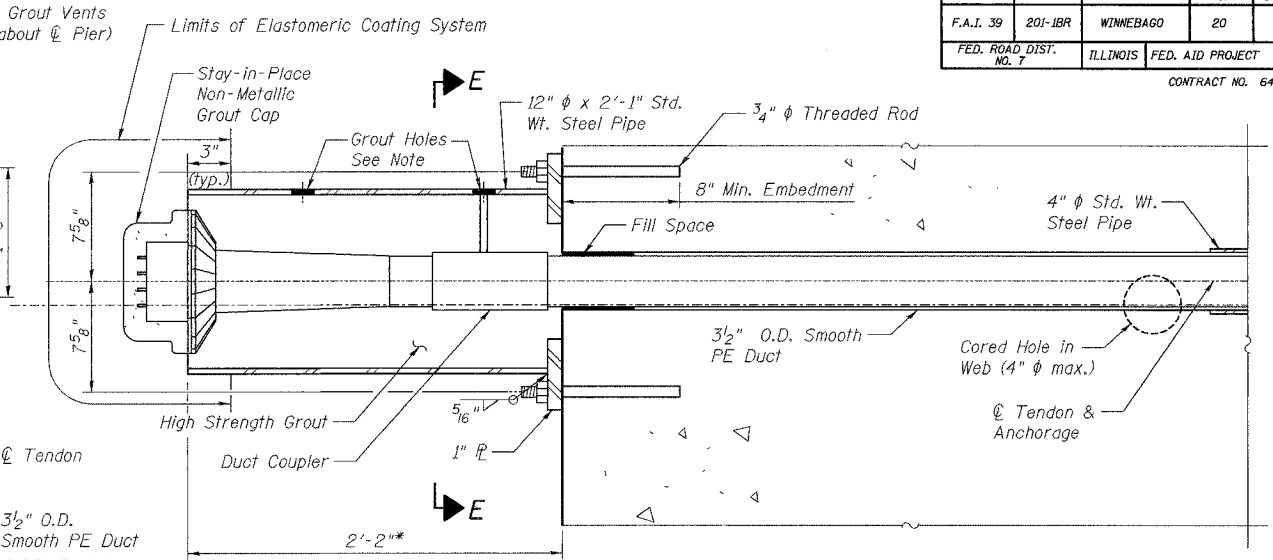
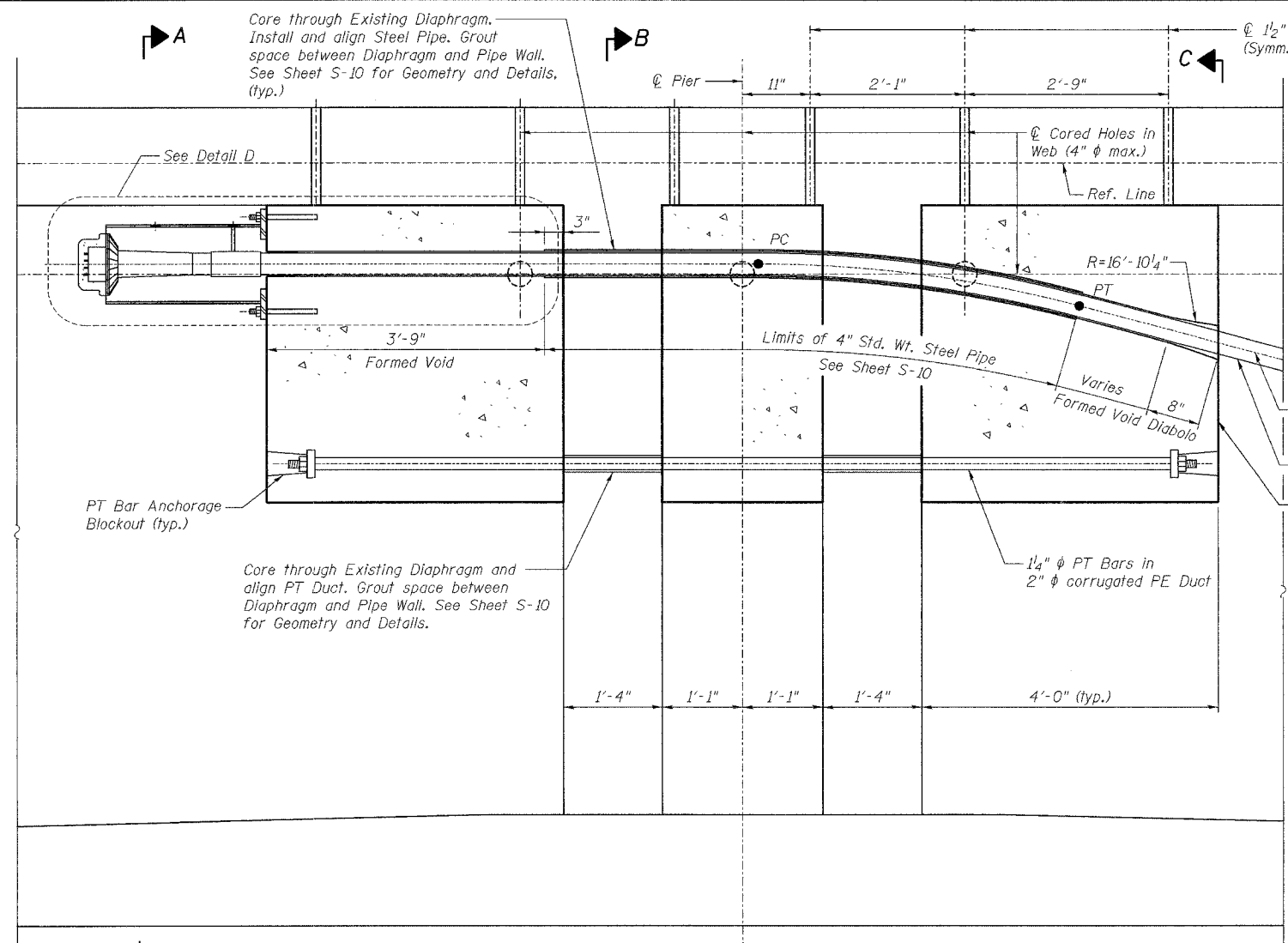
**BARS a₁₀(E) thru a₁₄(E)
s₁₀(E) & s₁₂(E)**

Date: 3/16/2007
 Time: 3:23:43 PM
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Designed by: WEE
 Checked by: DL
 Drafted by: HH
 Checked by: DL

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-IBR	WINNEBAGO	20	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 64857	

Date: 2/2/2007 Time: 4:38:07 PM



DETAIL D
PIER DEVIATOR CONSTRUCTION SEQUENCE

- 1 Core holes in existing pier diaphragms
- 2 Install and align bent steel pipes & PT bar ducts
- 3 Grout space between pipes/ducts and cored holes
- 4 Cast pier deviator blocks
- 5 Install and stress PT bars
- 6 Install smooth PE ducts
- 7 Install anchorage assembly in steel pipe, splice to duct and grout in place
- 8 Install and stress tendons
- 9 Install stay-in-place non-metallic grout caps
- 10 Grout tendons and anchor caps

NOTES:
Location of existing PT Bars to be determined by Contractor using non-destructive methods for approval by the Engineer. No drilling or coring is permitted without approval by the Engineer.

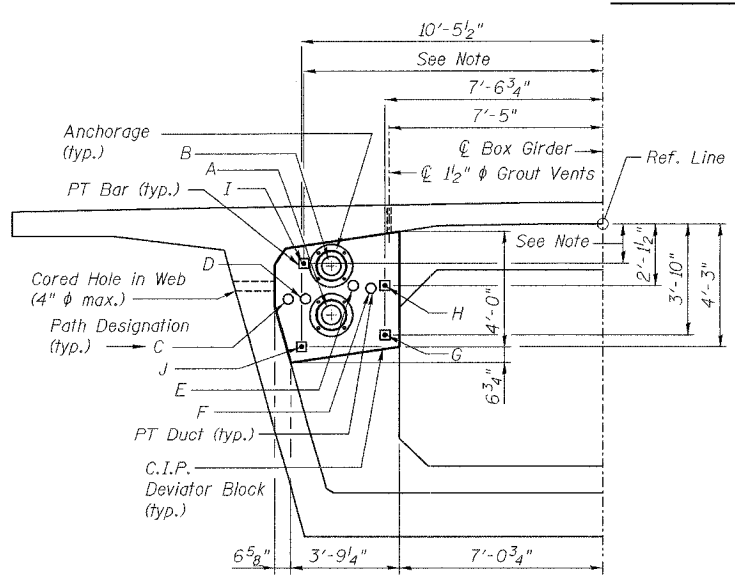
Sections at Piers 1 and 2 are shown. Sections at Piers 3 and 4 are similar but in opposite hand.

For tendon paths and PT bar path 'I', see Sheet S-10.

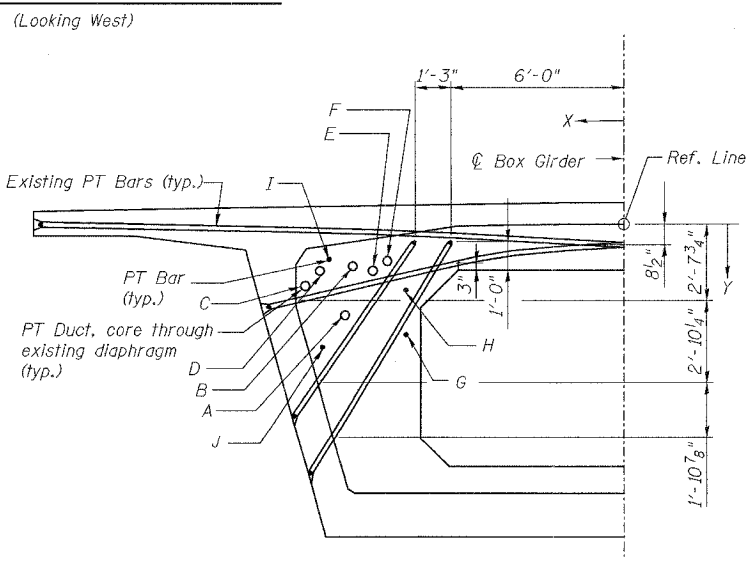
Cost for coring holes in web and 1/2" grout vents shall be included with "Concrete Superstructure".

Smooth PE Duct shall run continuous through the deviator.

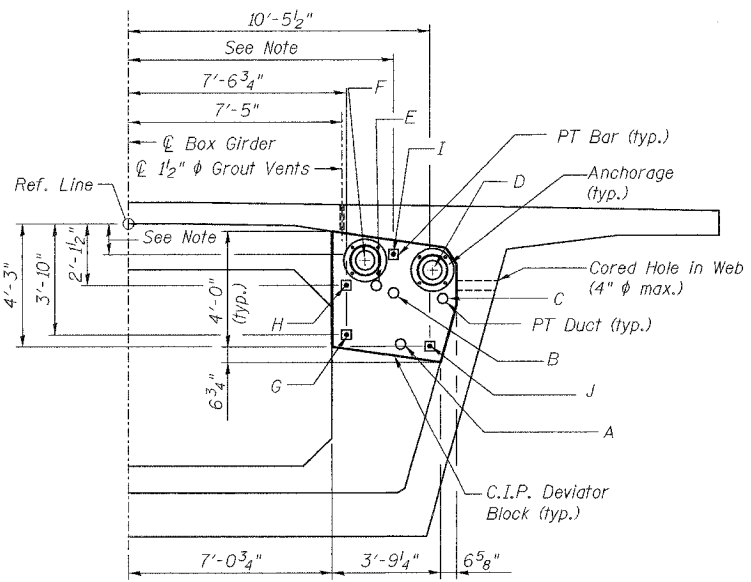
Contractor to coordinate with PT Supplier for size and location of grout holes.



SECTION A-A



SECTION B-B



SECTION C-C

Designed by: WEE
Checked by: DL
Drafted by: HH
Checked by: DL

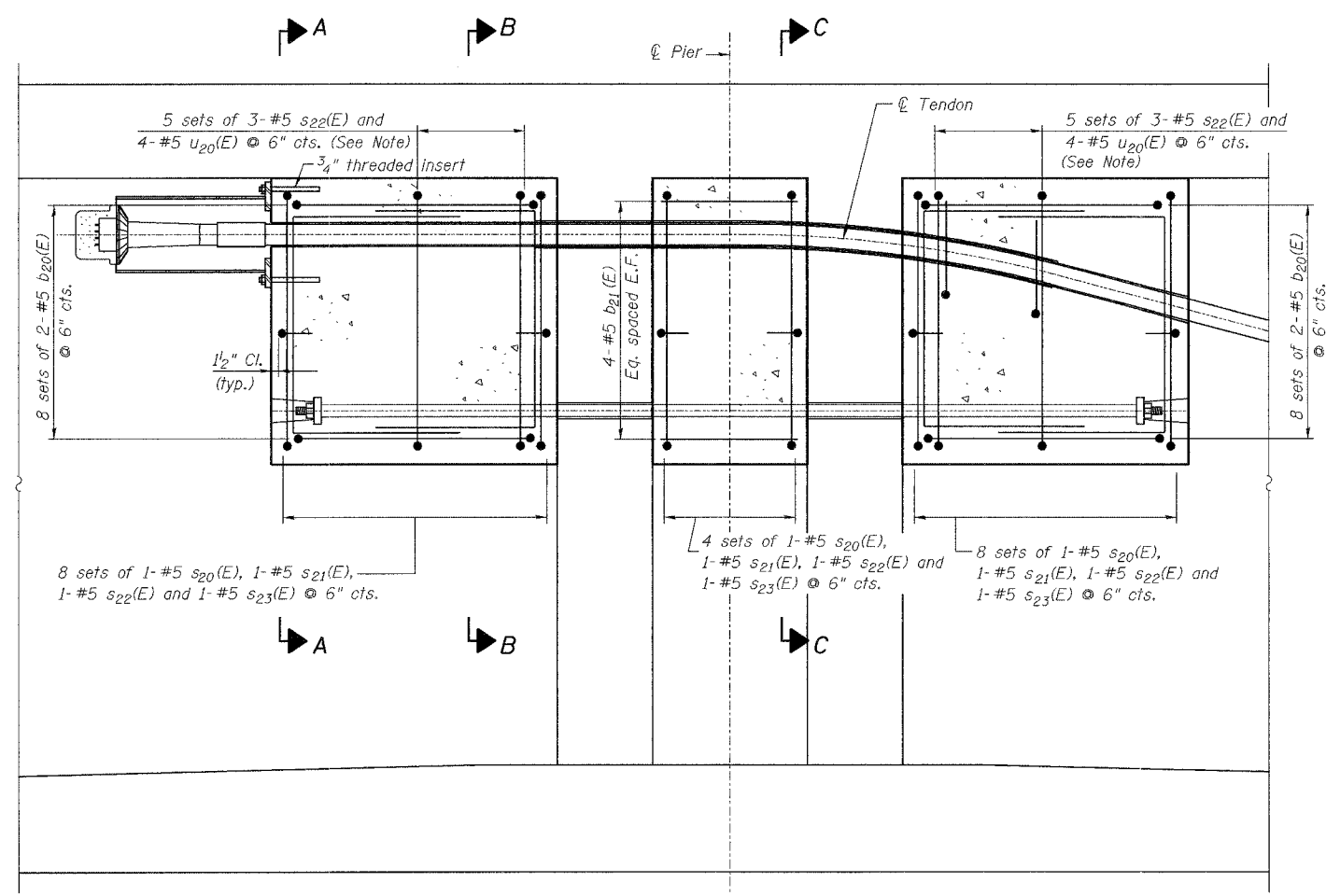
REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
PIER DEVIATOR GEOMETRY I		
I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-IBR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 20	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-9

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-IBR	WINNEBAGO	22	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 64857

Date: 2/2/2007 Time: 4:47:39 PM

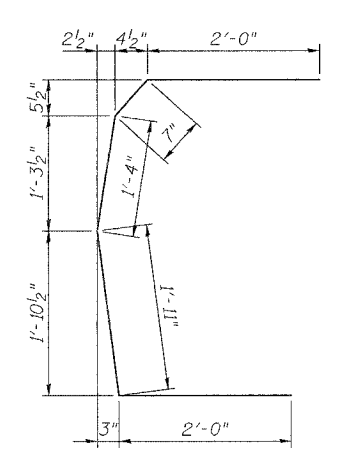
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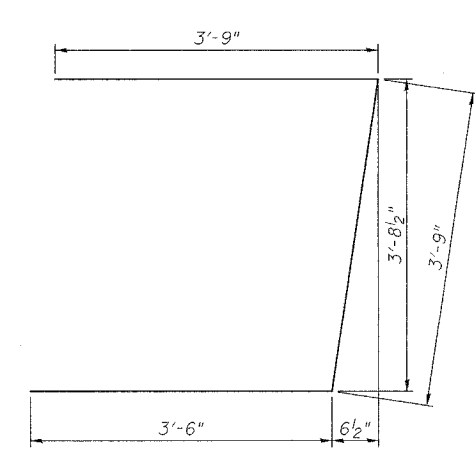
LONGITUDINAL SECTION AT PIER

A & B DIMENSIONS

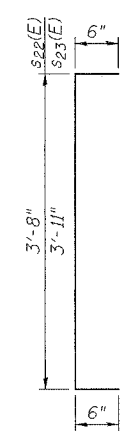
Bar	A	B
a ₂₀ (E)	3'-6"	2'-10"
b ₂₀ (E)	3'-7"	2'-10"



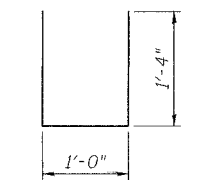
BARS s₂₀(E)



BARS s₂₁(E)



BARS s₂₂(E) & s₂₃(E)



BARS u₂₀(E)

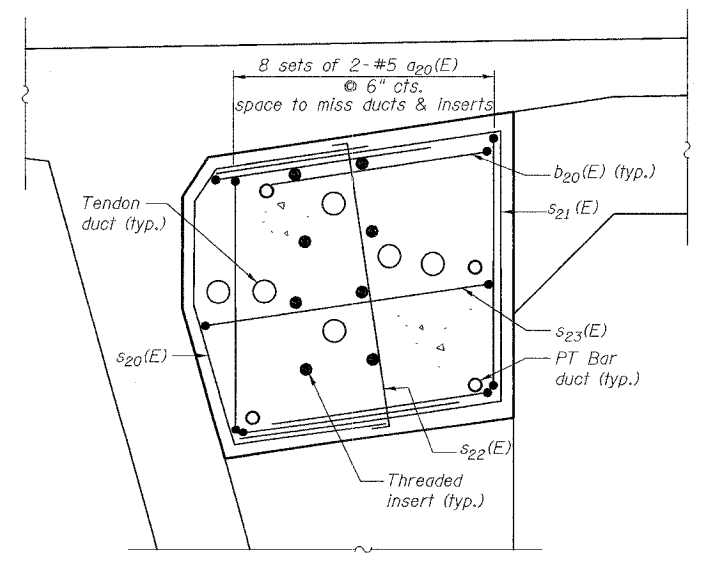
MIN. BAR LAP
#5 Bar 1'-4"

BILL OF MATERIAL FOR ONE PIER
(S.B. or N.B.)

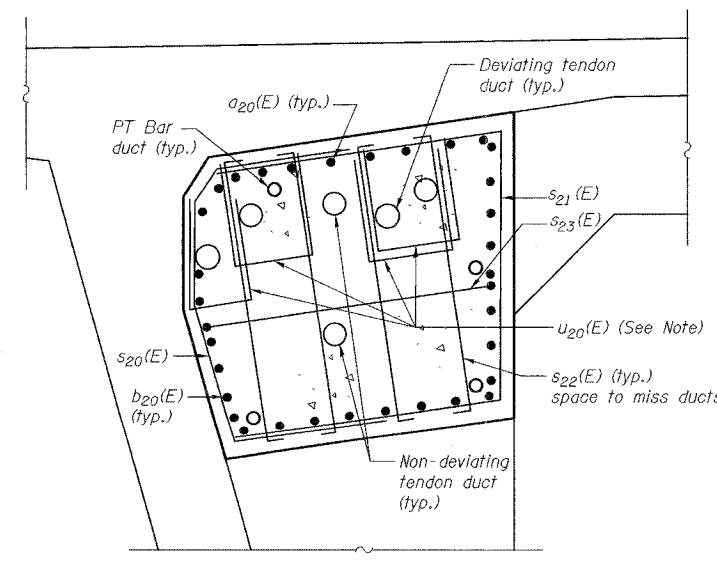
Bar	No.	Size	Length	Shape
a ₂₀ (E)	64	#5	9'-2"	□
b ₂₀ (E)	64	#5	9'-3"	□
b ₂₁ (E)	24	#5	1'-10"	—
s ₂₀ (E)	40	#5	7'-10"	⊏
s ₂₁ (E)	40	#5	11'-0"	⊏
s ₂₂ (E)	100	#5	4'-8"	⊏
s ₂₃ (E)	40	#5	4'-11"	⊏
u ₂₀ (E)	80	#5	3'-8"	□
Concrete Superstructure		Cu. Yd.	12.6	
Reinforcement Bars, Epoxy Coated		Pound	3059	

NOTES:

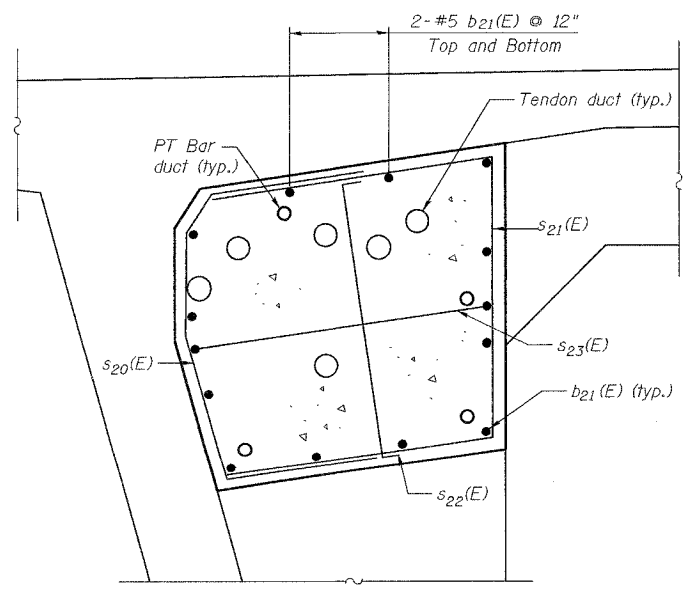
u₂₀(E) bars to be positioned under deviating ducts only. Bend in field as necessary.
Reinforcement bars designated (E) shall be epoxy coated.



SECTION A-A
(Half section shown, other half opposite hand)



SECTION B-B
(Half section shown, other half opposite hand)



SECTION C-C
(Half section shown, other half opposite hand)

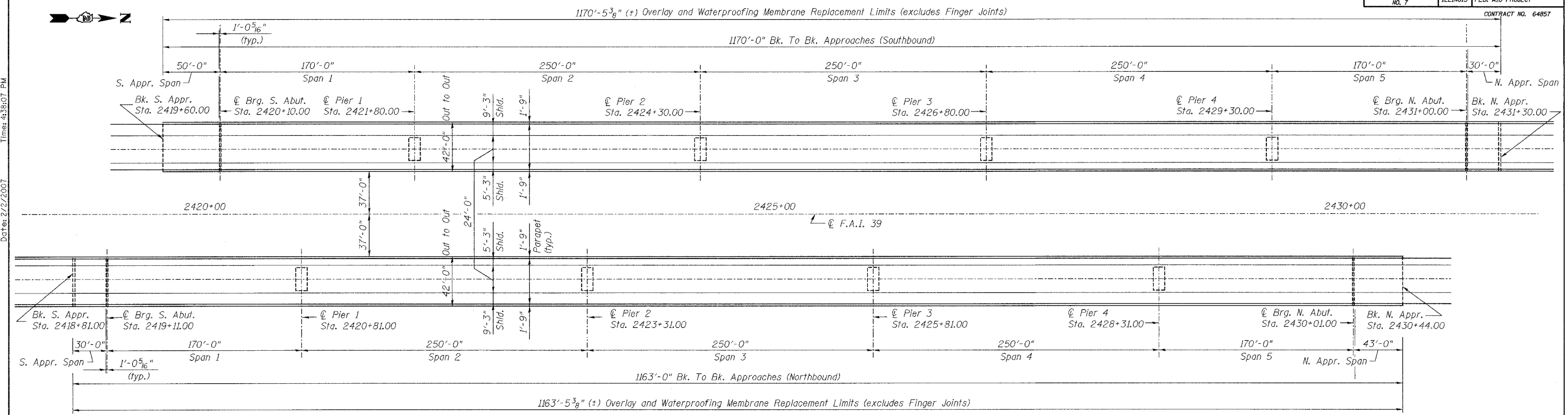
Designed by: DL
Checked by: WEE
Drafted by: HH
Checked by: MRF

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION PIER DEVIATOR REINFORCEMENT I-39 (FAI 39) OVER KISHAWAUKEE RIVER SECTION 201-IBR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 22	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-11

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-IBR	WINNEBAGO	23	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 64857

Date: 2/2/2007 Time: 4:38:07 PM

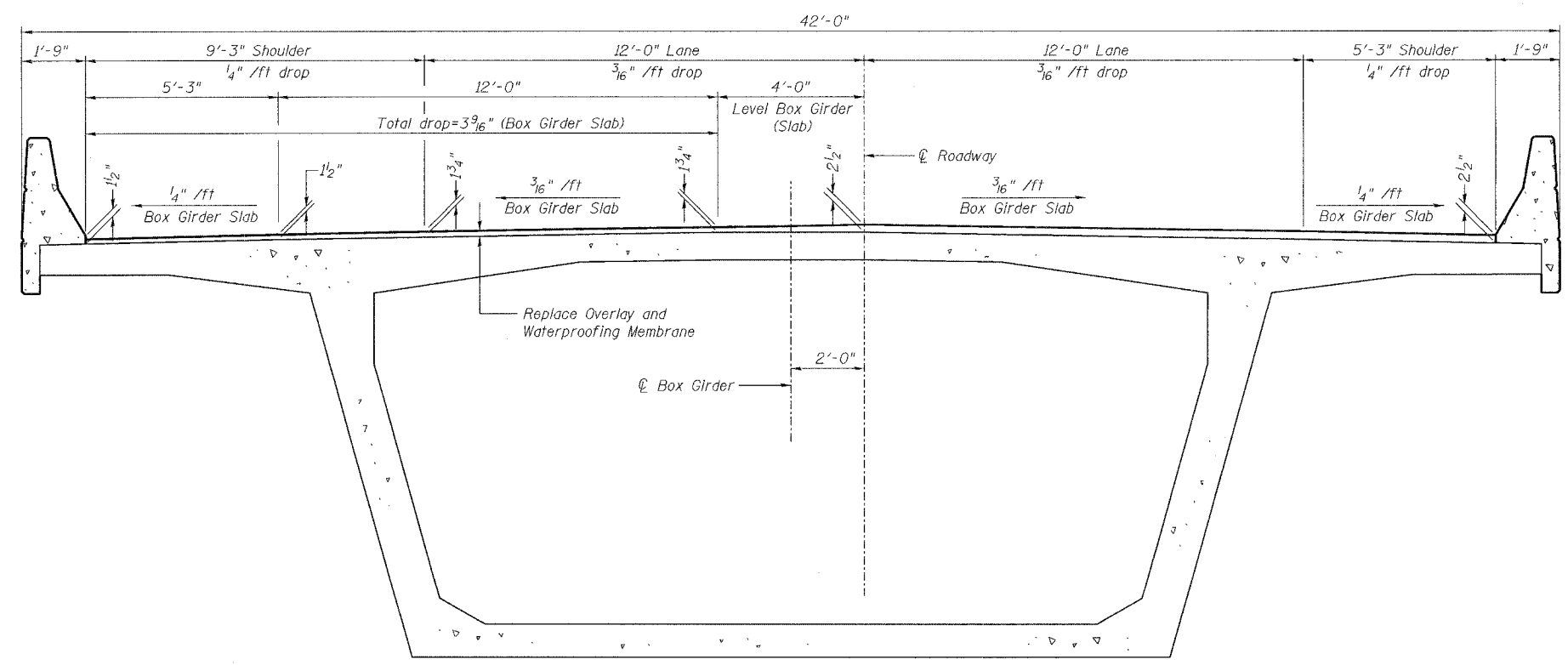


BILL OF MATERIAL

Item	Unit	Stage 1 S.B.	Stage 2 N.B.	Total Quantity
Hot-Mix Asphalt Surface Removal Complete (Special)	Sq. Yd.	5,007	4,977	9,984
Polymerized Hot-Mix Asphalt Surface Course, Mix "E" NI05	Ton	604	600	1,204
Sheet Waterproofing Membrane System	Sq. Yd.	5,007	4,977	9,984

NOTES:

The Contractor shall complete all work affecting the top of the box girder slab including but not limited to construction of the top slab deviators, the top abutment anchorages, the floor drains and the finger joint replacement work prior to installation of the waterproofing membrane and overlay.



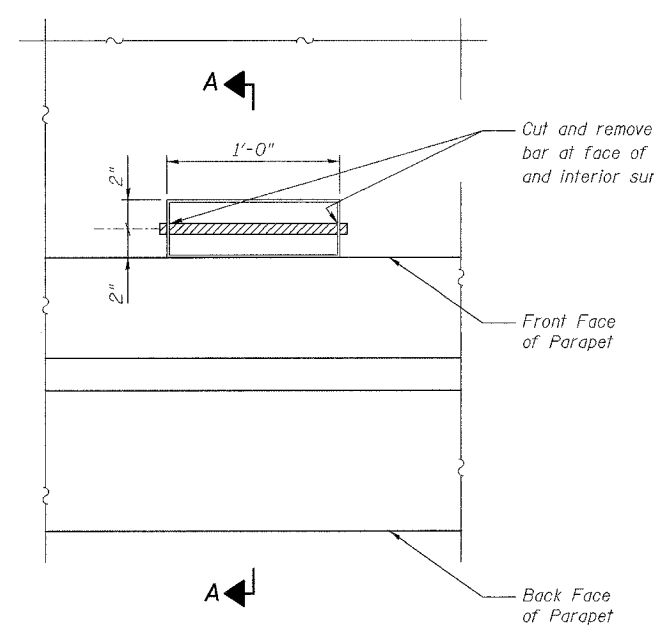
REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
DECK OVERLAY REPLACEMENT		
I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-IBR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 23	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-12

Designed by: DL
 Checked by: WEE
 Drafted by: HH
 Checked by: WEE

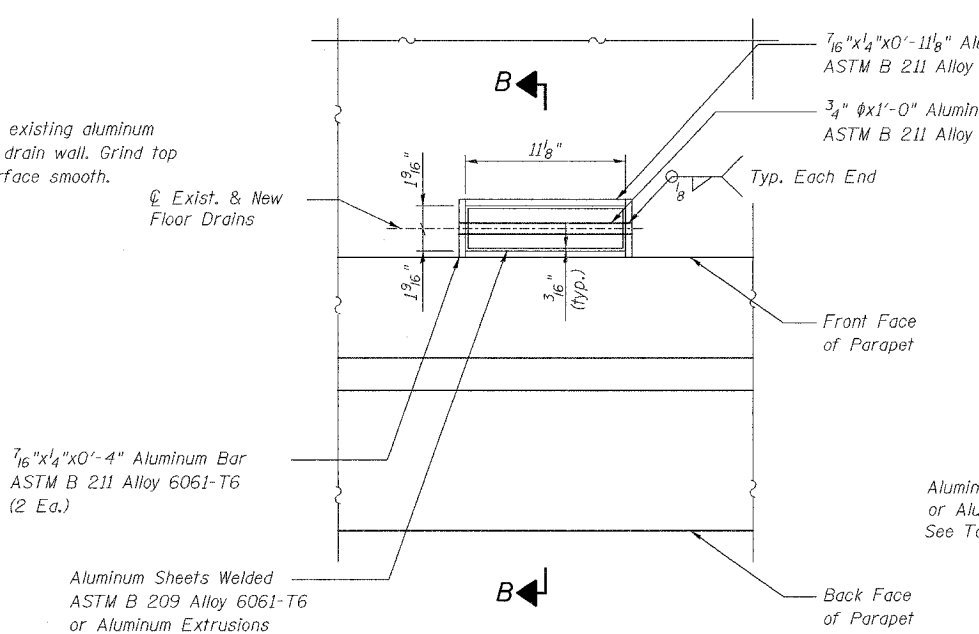
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ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	24	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

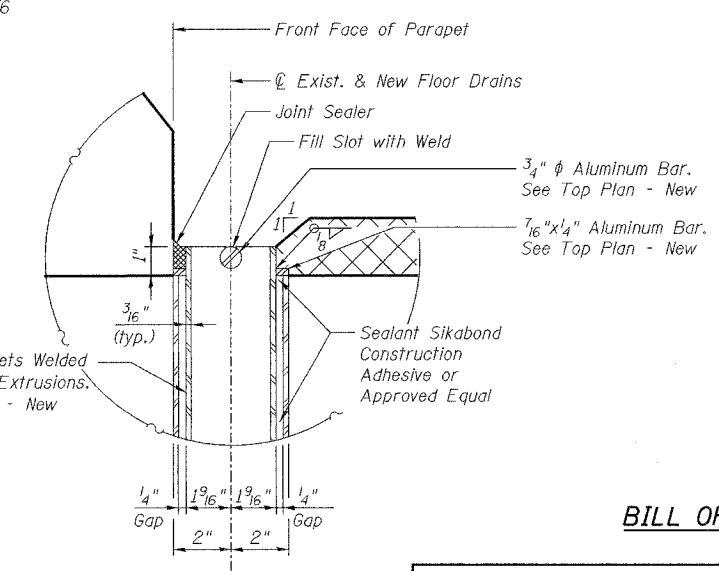
CONTRACT NO. 64857



TOP PLAN - EXISTING



TOP PLAN - NEW



DETAIL C

BILL OF MATERIAL

Item	Unit	Stage 1 S.B.	Stage 2 N.B.	Total Quantity
Floor Drains (Special)	Each	128	128	256
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	100	100	200

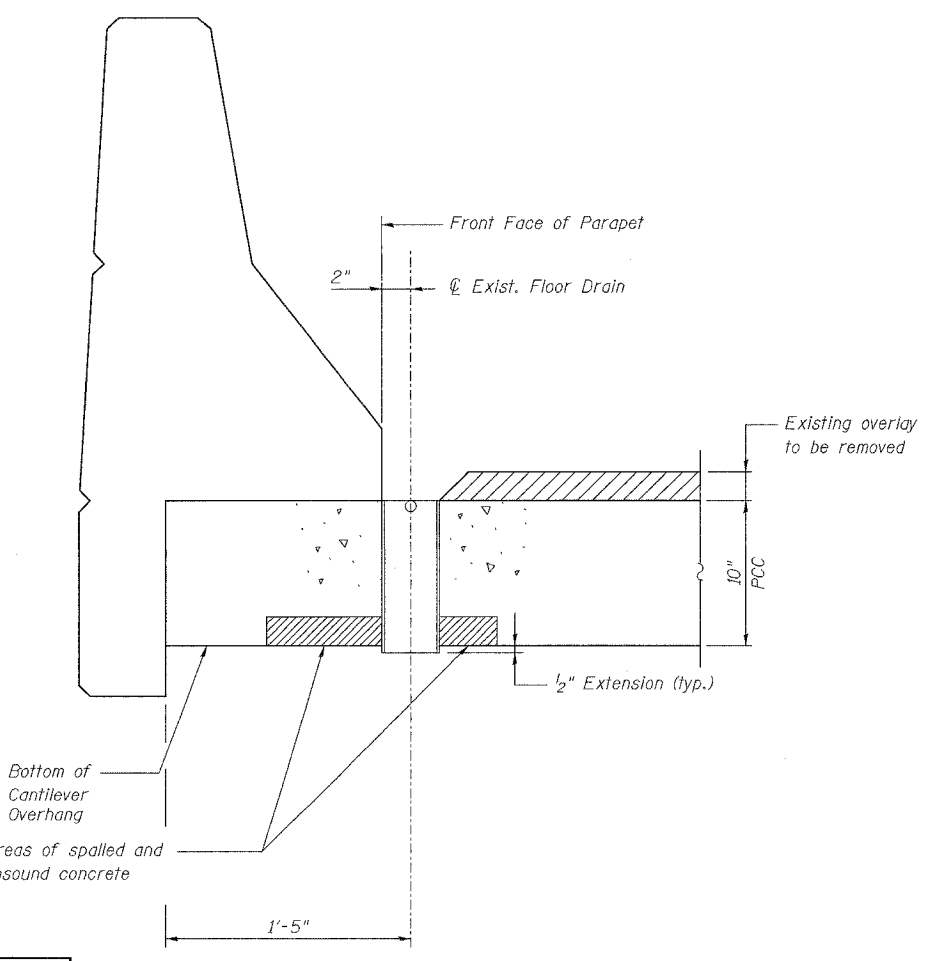
NOTES:

The quantity for Structural Repair of Concrete is an estimated quantity. Limits of concrete repair shall be measured by the Contractor, approved by the Engineer and paid for at the Contract unit price for "Structural Repair of Concrete (Depth Equal to or Less Than 5)".

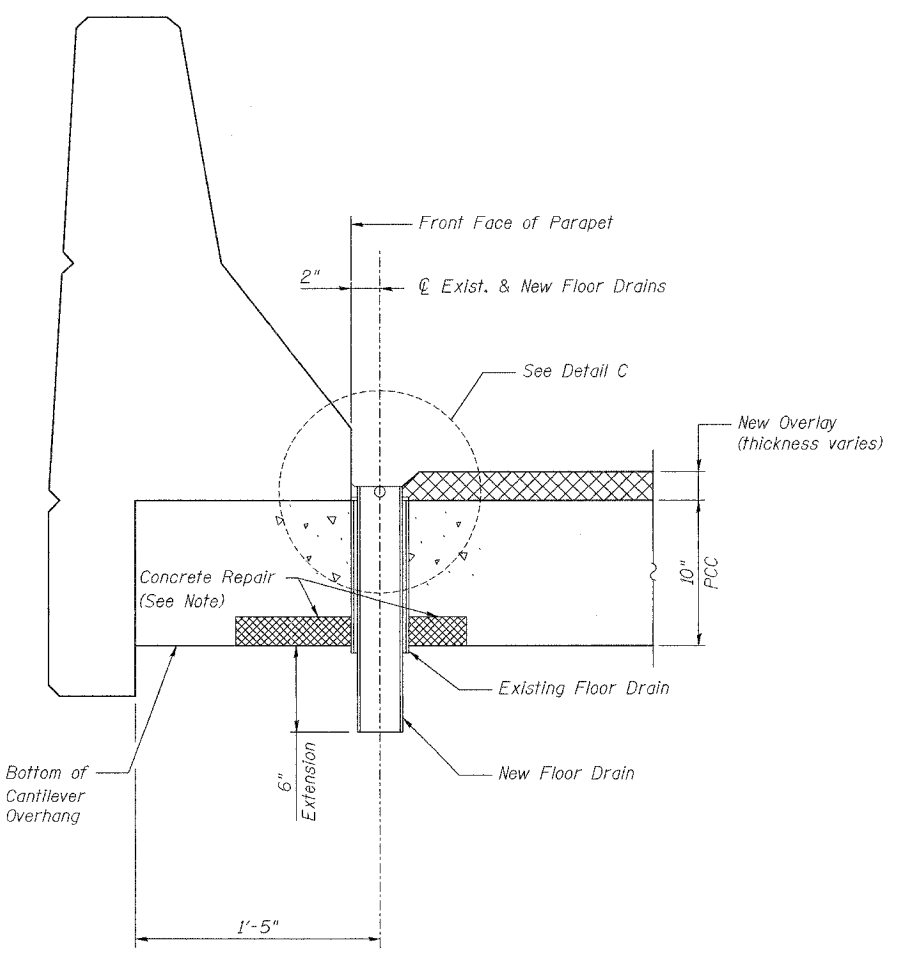
The cost of preparation, materials, clean up, labor and equipment necessary for installation of the described floor drain assembly shall be paid for at the contract unit price for "Floor Drains (Special)".

Dimensions of existing floor drains are from existing plans. The Contractor shall verify the dimensions in the field prior to fabrication of the new floor drain assembly.

Areas of reinforcement to be replaced as described in "Structural Repair of Concrete" shall be determined by the Contractor and approved by the Engineer.



SECTION A-A



SECTION B-B

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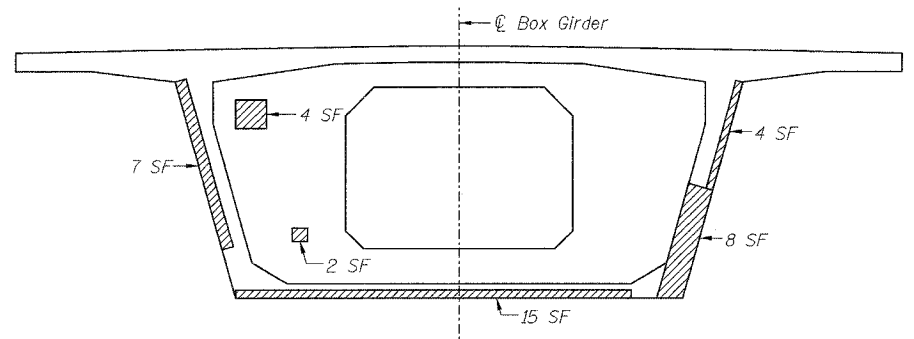
Designed by: WEE
 Checked by: DL
 Drafted by: HH
 Checked by: DL

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION FLOOR DRAIN DETAILS I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
		CHICAGO, ILLINOIS
DRAWING NO. 24	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-13

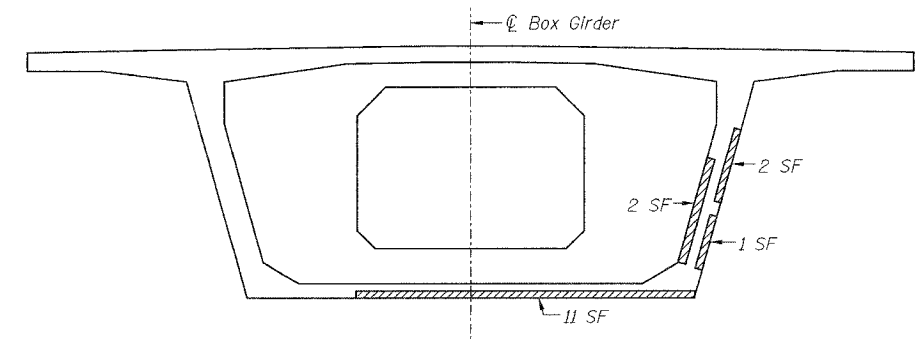
ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-IBR	WINNEBAGO	25	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 64857

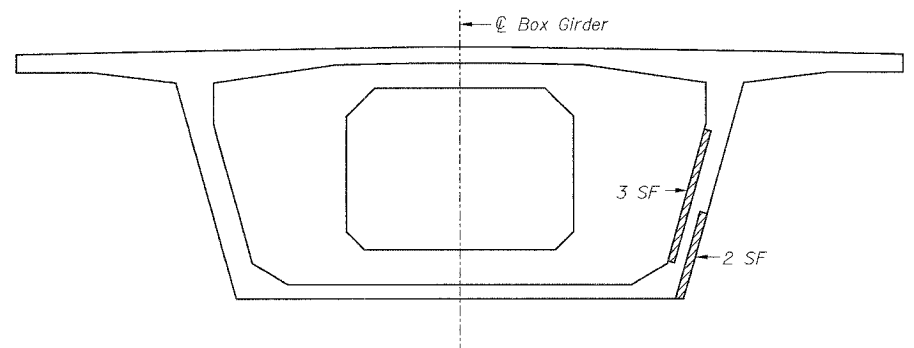
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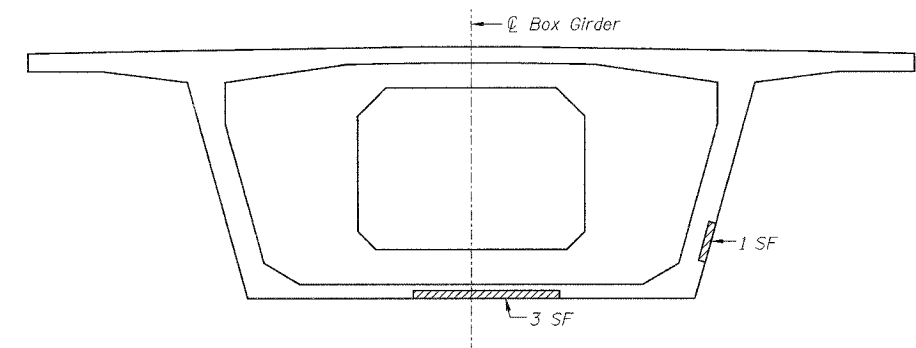
**SOUTHBOUND BRIDGE
NORTH ABUTMENT SEGMENT CROSS SECTION**



**SOUTHBOUND BRIDGE
SOUTH ABUTMENT SEGMENT CROSS SECTION**



**NORTHBOUND BRIDGE
NORTH ABUTMENT SEGMENT CROSS SECTION**



**NORTHBOUND BRIDGE
SOUTH ABUTMENT SEGMENT CROSS SECTION**

- LEGEND**
- Structural Repair of Concrete (Depth Equal to or Less Than 5")
 - Structural Repair of Concrete (Depth Greater Than 5")
 - Epoxy Crack Injection

BILL OF MATERIAL

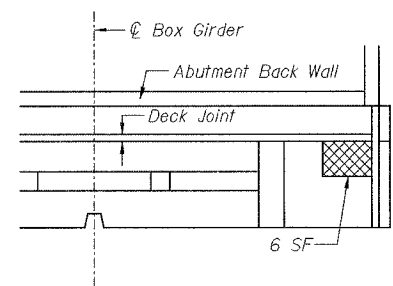
Description	Unit	Stage 1 SB	Stage 2 NB	Total Quantity
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq.Ft.	57	14	71
Structural Repair of Concrete (Depth Greater Than 5")	Sq.Ft.	6	0	6
Epoxy Crack Injection	Lin.Ft.	4	0	4

NOTES:

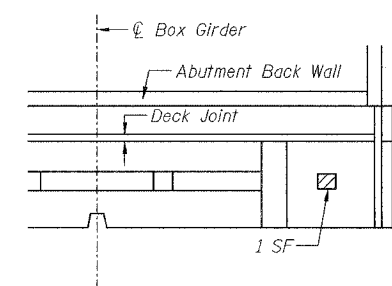
The upper portion of the shear key at the following Bridge Segment locations shall be repaired with Epoxy Crack Injection, estimated 2' length of repair at each location:

- Southbound Bridge, Pier 3 South Cantilever, between SB3-S1 & SB3-S2, East Web
- Southbound Bridge, Pier 2 South Cantilever, between SB2-S5 & SB2-S6, East Web

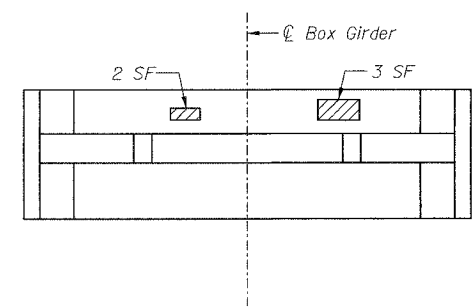
Areas of reinforcement to be replaced as described in "Structural Repair of Concrete" shall be determined by the Contractor and approved by the Engineer.



**SOUTHBOUND BRIDGE SOUTH ABUTMENT SEGMENT
UNDERSIDE OF TOP SLAB**



**SOUTHBOUND BRIDGE NORTH ABUTMENT SEGMENT
UNDERSIDE OF TOP SLAB**



**NORTHBOUND BRIDGE SOUTH ABUTMENT SEGMENT
TOP VIEW OF BOTTOM SLAB**

File name: p:\646265-Kishwaukee-mr-f.cadd\final\sheet\stbrp01.sht

Designed by: HT
 Checked by: DAZ
 Drafted by: SAW
 Checked by: HT

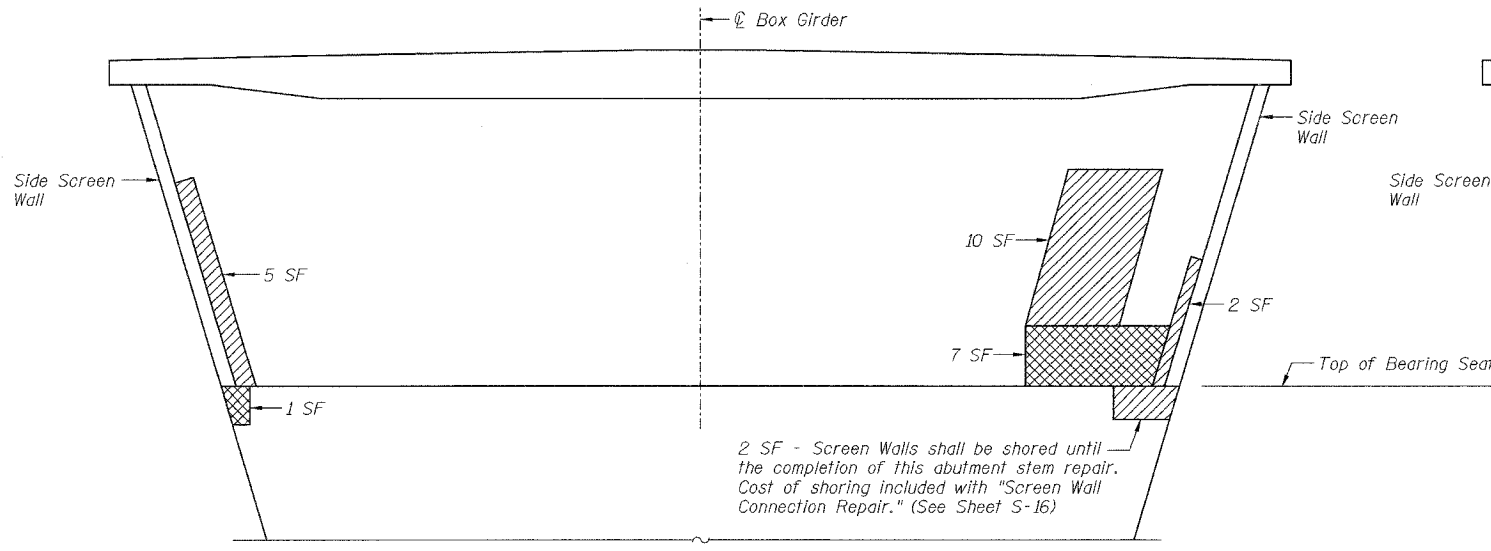
REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
SEGMENT REPAIRS		
I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-IBR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 25	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-14

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	26	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

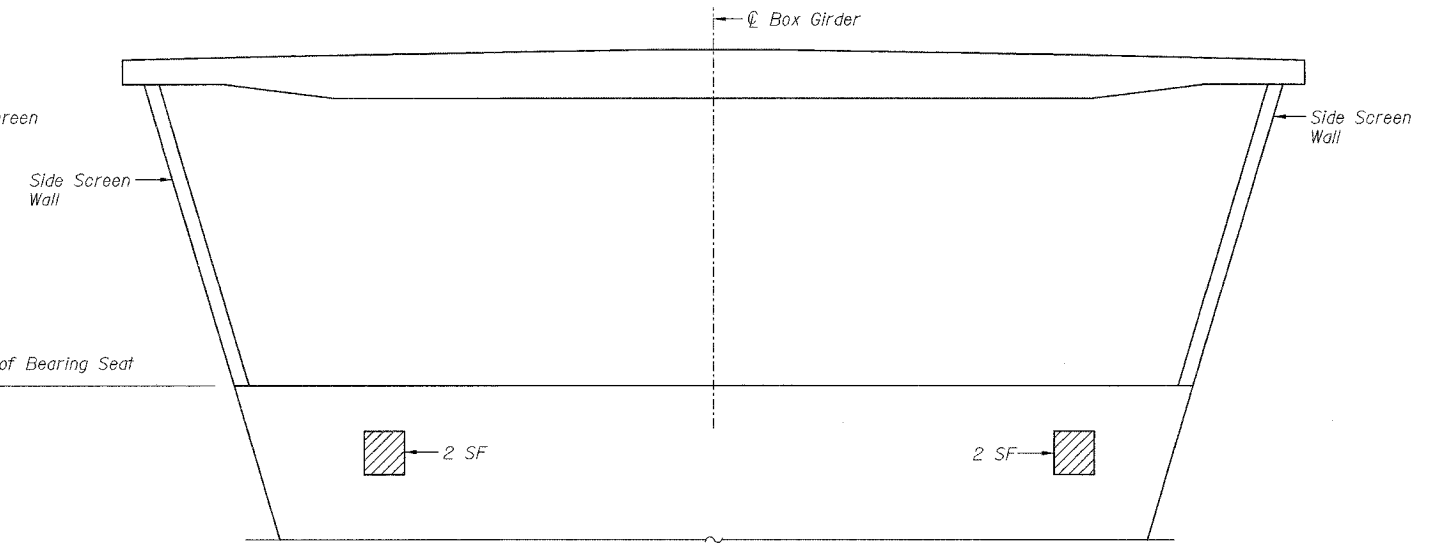
CONTRACT NO. 64857

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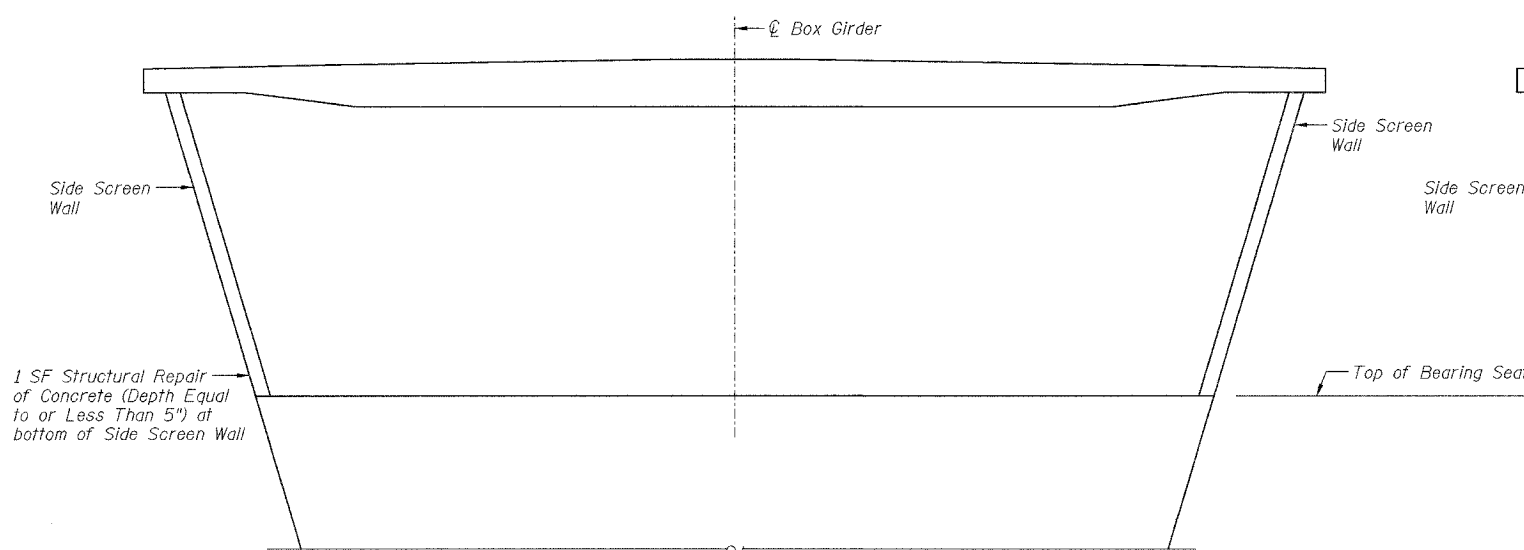
Filename: p:\648265-Kishwaukee-mr-f.cadd\final\sheet\stbrp02a.sht



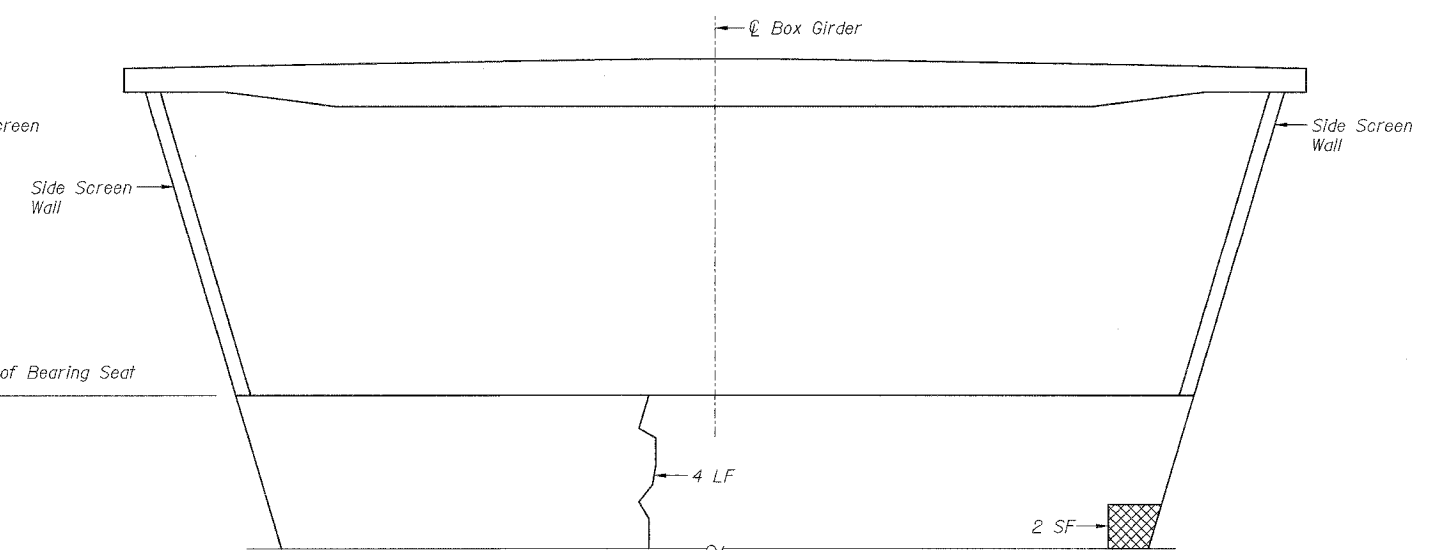
**SOUTHBOUND BRIDGE
NORTH ABUTMENT BACKWALL AND STEM**



**SOUTHBOUND BRIDGE
SOUTH ABUTMENT BACKWALL AND STEM**



**NORTHBOUND BRIDGE
NORTH ABUTMENT BACKWALL AND STEM**



**NORTHBOUND BRIDGE
SOUTH ABUTMENT BACKWALL AND STEM**

LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5")
- Structural Repair of Concrete (Depth Greater Than 5")
- Epoxy Crack Injection

BILL OF MATERIAL

Description	Unit	Stage 1 SB	Stage 2 NB	Total Quantity
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq.Ft.	23	1	24
Structural Repair of Concrete (Depth Greater Than 5")	Sq.Ft.	8	2	10
Epoxy Crack Injection	Lin.Ft.	0	4	4

NOTE:

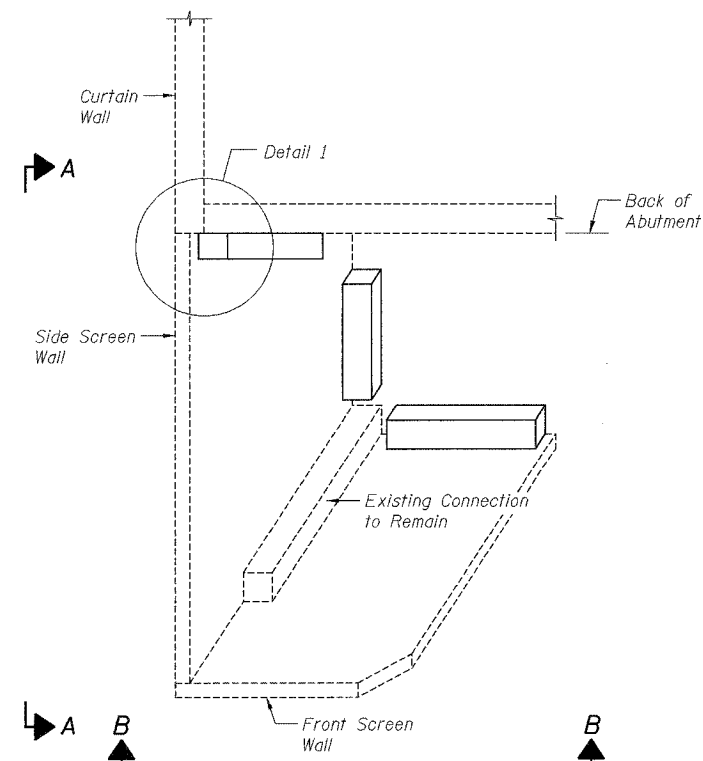
Areas of reinforcement to be replaced as described in "Structural Repair of Concrete" shall be determined by the Contractor and approved by the Engineer.

Designed by: HT
Checked by: DAZ
Drafted by: SAW
Checked by: HT

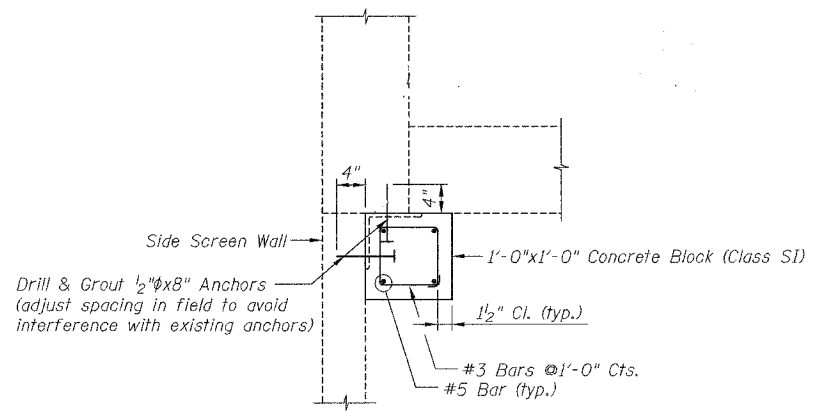
REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
ABUTMENT REPAIRS		
I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 26	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-15

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	27	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 64857



PARTIAL PLAN
SCREEN WALL CONNECTION REPAIR DETAIL



DETAIL 1
(Similar at bottom of Side and Front Screen Walls)

NOTES:

Screen Wall Connection Repair shall be performed at all connections between the screen walls and the abutments and curtain walls. The existing connections between the screen walls shall remain in place.

At the Southbound Bridge, North Abutment, the top of the east and west screen walls are rotated approximately 6" and 3", respectively, away from the abutment segment. Contractor shall reposition the screen walls at these locations to their original positions. All costs associated with this work shall be included with "Screen Wall Connection Repair."

At the Southbound Bridge, North Abutment, the screen walls at the west end shall be shored during the repair of the concrete spall in the abutment stem. The cost of shoring these screen walls until the completion of this abutment stem repair shall be included with "Screen Wall Connection Repair."

Remove and replace in kind all sealants around the screen walls, cost to be included with "Screen Wall Connection Repair."

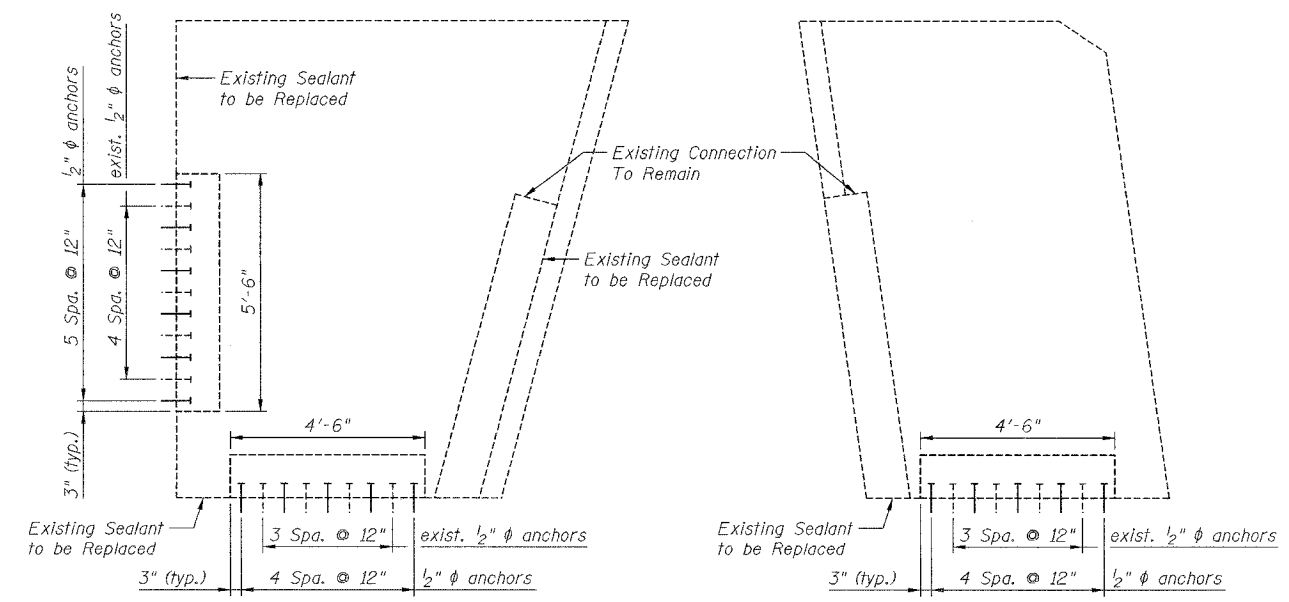
Cut and grind wire lifting loops in screen walls to be flush with the face of the concrete, cost to be included with "Screen Wall Connection Repair."

The cost of drilling and grouting anchors, Class SI concrete and reinforcement bars shall be included with "Screen Wall Connection Repair."

Reinforcing bars shall be epoxy coated.

BILL OF MATERIAL

Description	Unit	Stage 1 SB	Stage 2 NB	Total Quantity
Screen Wall Connection Repairs	L. Sum	0.5	0.5	1



VIEW A-A

VIEW B-B

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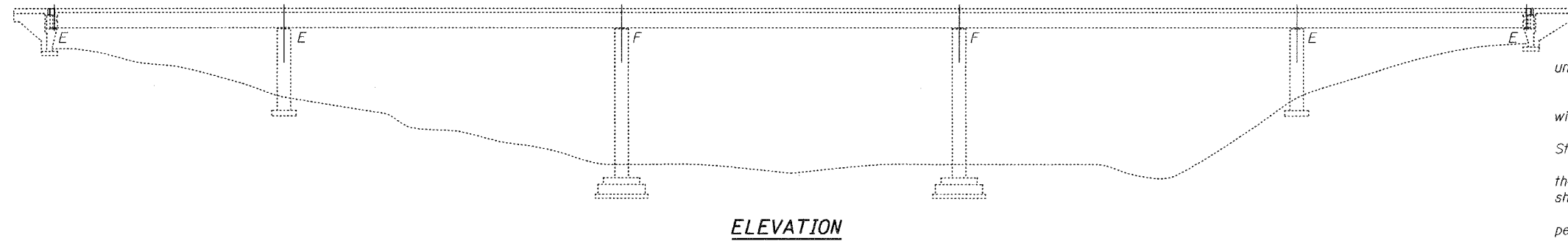
Designed by: HT
Checked by: DAZ
Drafted by: SAW
Checked by: HT

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
SCREEN WALL CONNECTION REPAIRS		
I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 27	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. S-16

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 1
1-39		WINNEBAGO	40	28	7 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

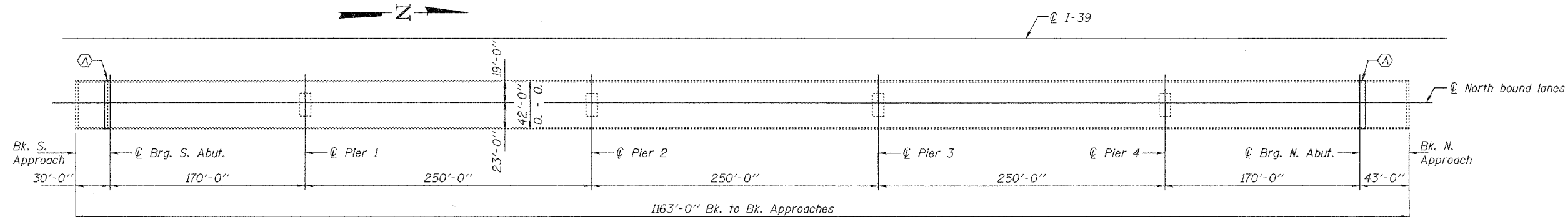
Contract #64857



ELEVATION

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 50, unless otherwise noted.
 Calculated weight of Structural Steel = 38,400 lbs.
 Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
 The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.
 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 Finger Plate Expansion Joint.
 All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type I. Cost included with Finger Plate Expansion Joint.
 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.
 Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions
 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.
 Joint openings shall be adjusted according to Article 503.10(c) of the Std. Specs. when the deck is poured at an ambient temperature other than 50° F.
 The Contractor shall use extreme care during concrete removal so as not to damage the box girder.
 Reinforcement bars designated (E) shall be epoxy coated.
 Joint replacement work to be completed prior to installation of upper PT block at abutments.



PLAN

(A) Existing finger plate joints at each abutment to be removed and replaced.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	21.1
Concrete Superstructure	Cu. Yd.	21.1
Reinforcement Bars, Epoxy Coated	Pound	4370
Finger Plate Expansion Joint 7"	Foot	77
Fabric Reinforced Elastomeric Trough	Foot	78

DESIGNED	Alan T. Hallaway
CHECKED	[Signature]
DRAWN	ballva
CHECKED	ATH AJB

EXAMINED	[Signature]	MARCH 16, 2007
PASSED	Ralph E. Anderson	REPAIR PLANS UNIT CHIEF
		ENGINEER OF BRIDGES AND STRUCTURES



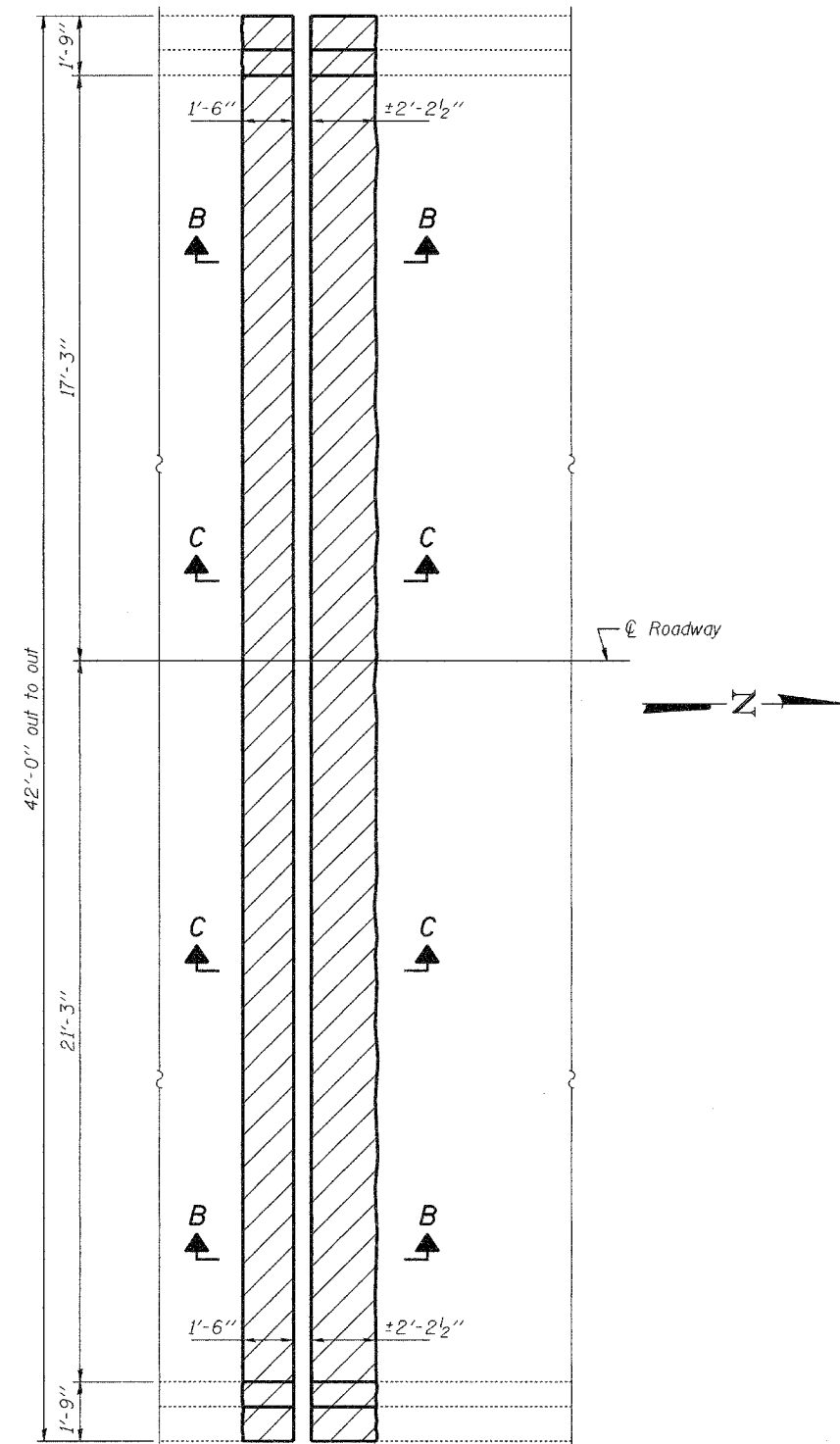
EXPIRES 11-30-2008

BRIDGE REPAIRS
1-39 OVER KISHWAUKEE RIVER
WINNEBAGO COUNTY
STA. 2425+00
SN 101-0134(NB)

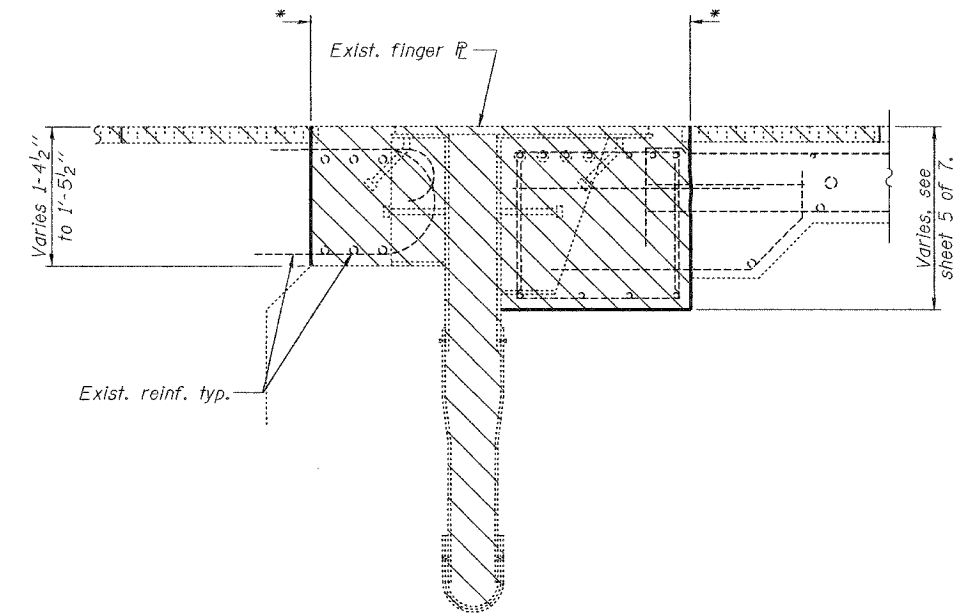
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2 7 SHEETS
1-39		WINNEBAGO	40	29	
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT			

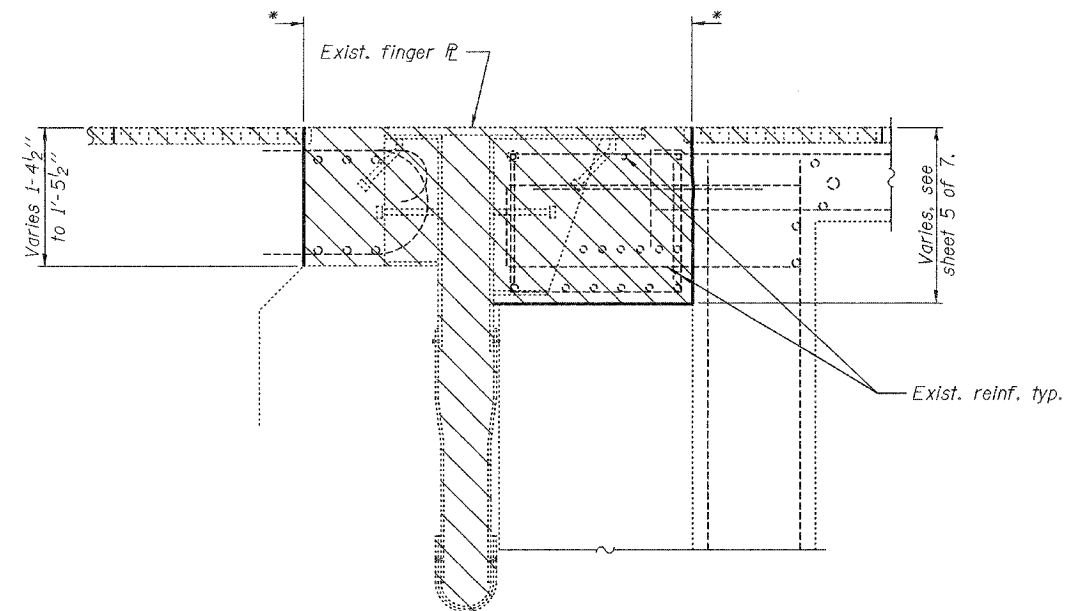
Contract #64857



PLAN AT SOUTH ABUTMENT



SECTION B-B



SECTION C-C

Notes:
 Hatched areas indicate removal.
 Longitudinal reinforcement extending into removed area shall be cleaned, straightened and incorporated into the new construction.
 * Perimeters of concrete removal shall be saw cut 3/4" prior to the removal of the concrete.
 The cost of removing the existing finger plate assembly, trough and associated hardware is included with Concrete Removal.

DESIGNED	ATH
CHECKED	AJB
DRAWN	baliva
CHECKED	ATH AJB

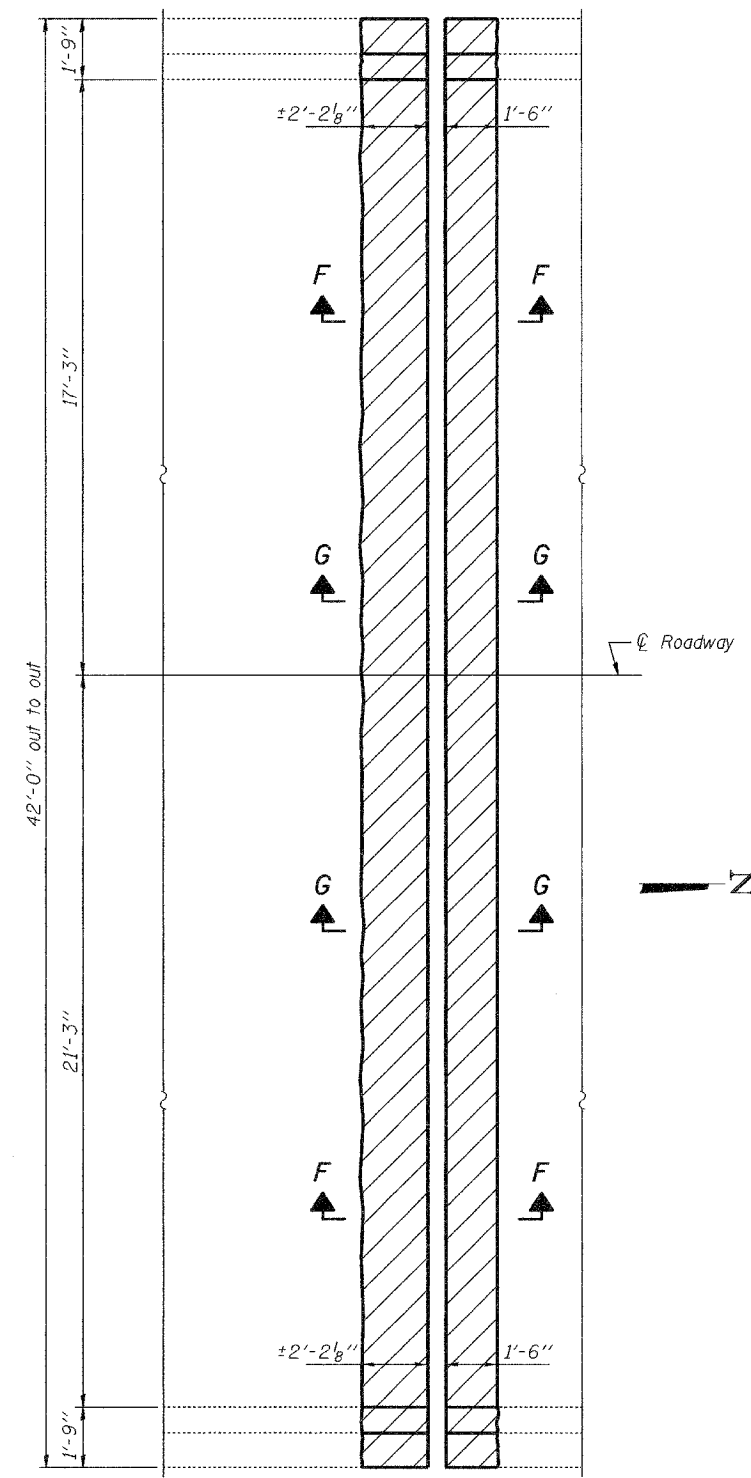
MARCH 16, 2007
 EXAMINED *Carl Proyer*
 REPAIR PLANS UNIT CHIEF
 PASSED *Ralph E. Anderson*
 ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
 I-39 OVER KISHWAUKEE RIVER
 WINNEBAGO COUNTY
 STA. 2425+00
 SN 101-0134(NB)

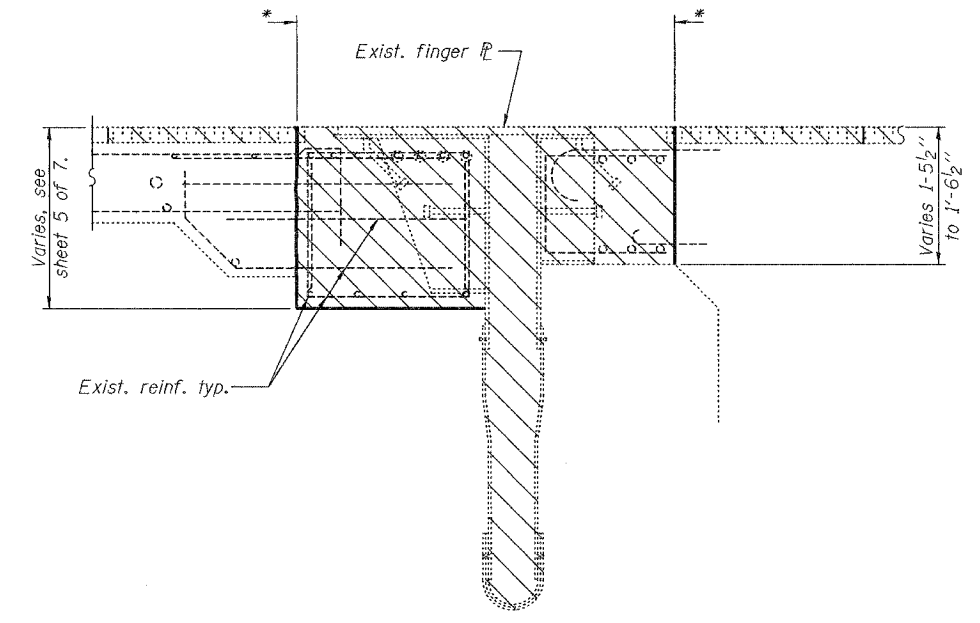
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
I-39		WINNEBAGO	40	30	7 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

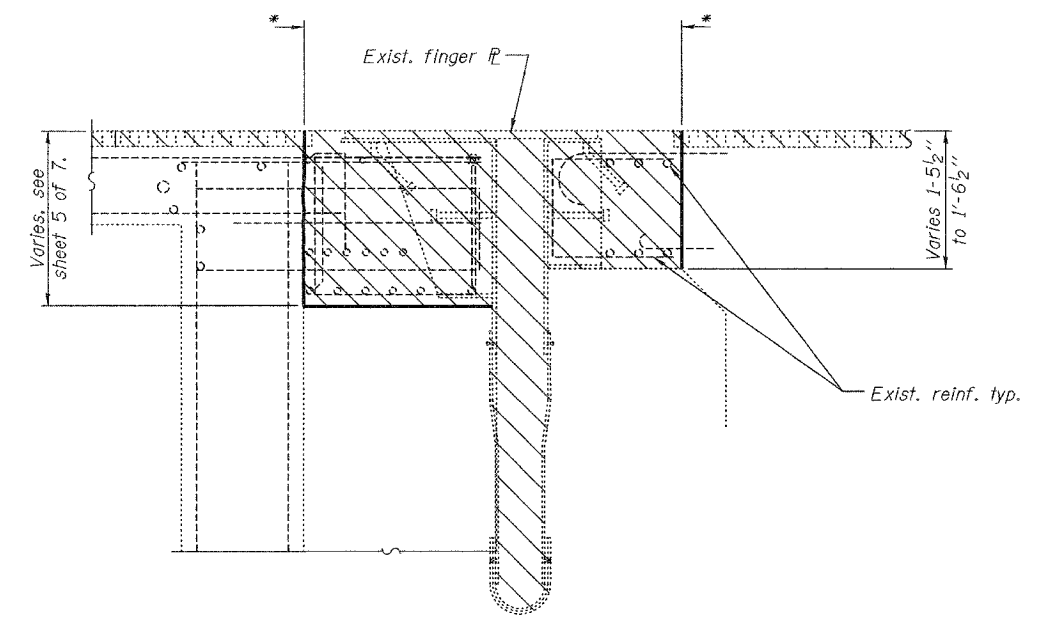
Contract #64857



PLAN AT NORTH ABUTMENT



SECTION F-F



SECTION G-G

Notes:
Hatched areas indicate removal.
Longitudinal reinforcement extending into removed area shall be cleaned, straightened and incorporated into the new construction.
* Perimeters of concrete removal shall be saw cut 3/4" prior to the removal of the concrete.
The cost of removing the existing finger plate assembly, trough and associated hardware is included with Concrete Removal.

DESIGNED	ATH
CHECKED	AJB
DRAWN	balva
CHECKED	ATH AJB

MARCH 16, 2007
EXAMINED *A. Carl Prosser*
REPAIR PLANS UNIT CHIEF
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

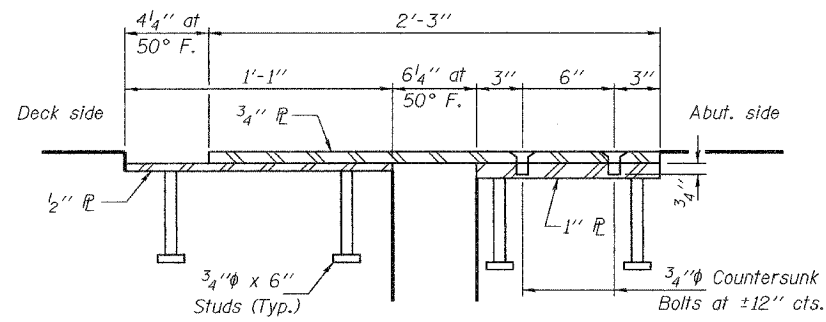
BRIDGE REPAIRS
I-39 OVER KISHWAUKEE RIVER
WINNEBAGO COUNTY
STA. 2425+00
SN 101-0134(NB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

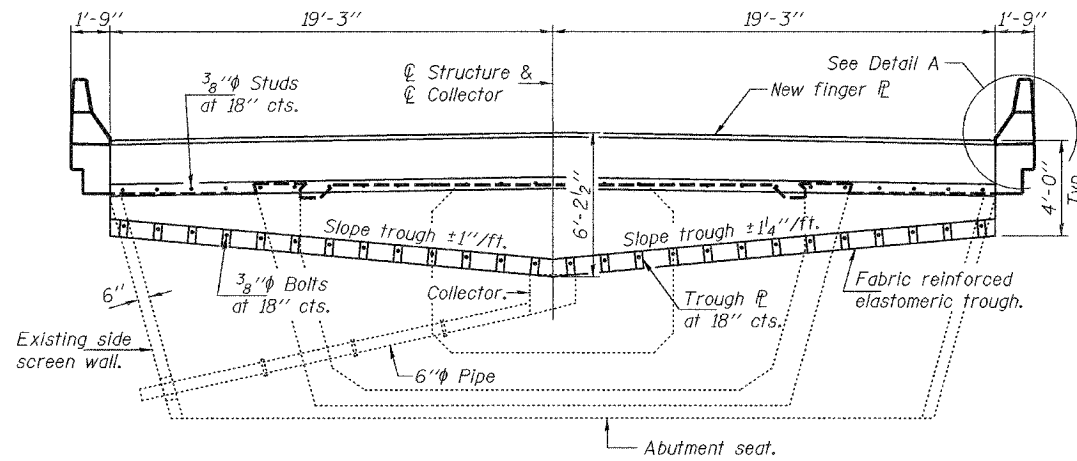
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
1-39		WINNEBAGO	40	31
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT-

7 SHEETS

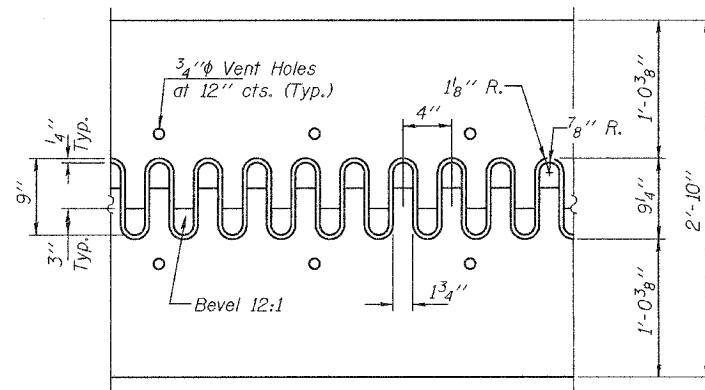
Contract #64857



SECTION B-B

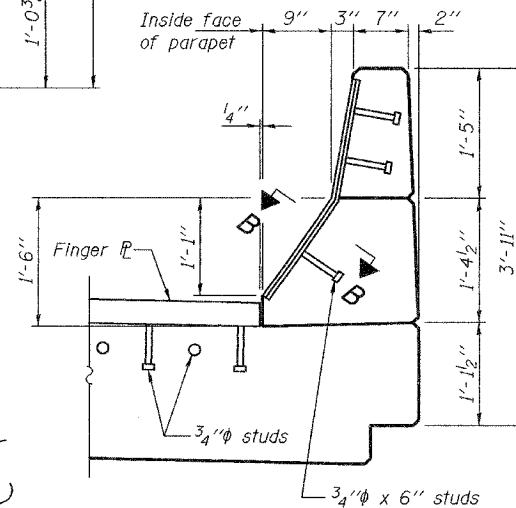


TYPICAL PROPOSED SECTION AT ABUTMENTS



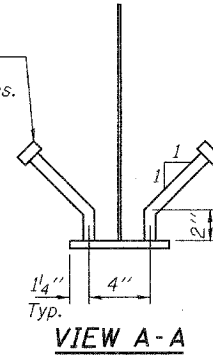
FLAME CUTTING DIAGRAM

Cut from
P 2 3/8" x 2'-10" x 38'-5 1/2" (M270, Gr. 50)

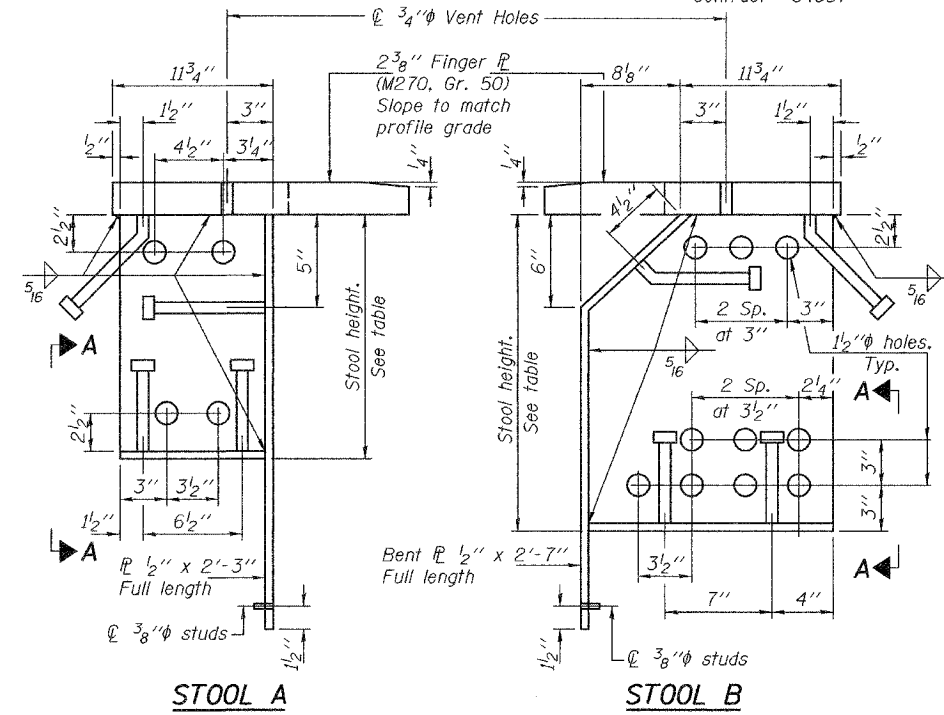


DETAIL A

3/4" x 8" granular or solid flux filled headed studs conforming to Art. 1006.32 of the Standard Specs. Automatically end welded. (Typ.)



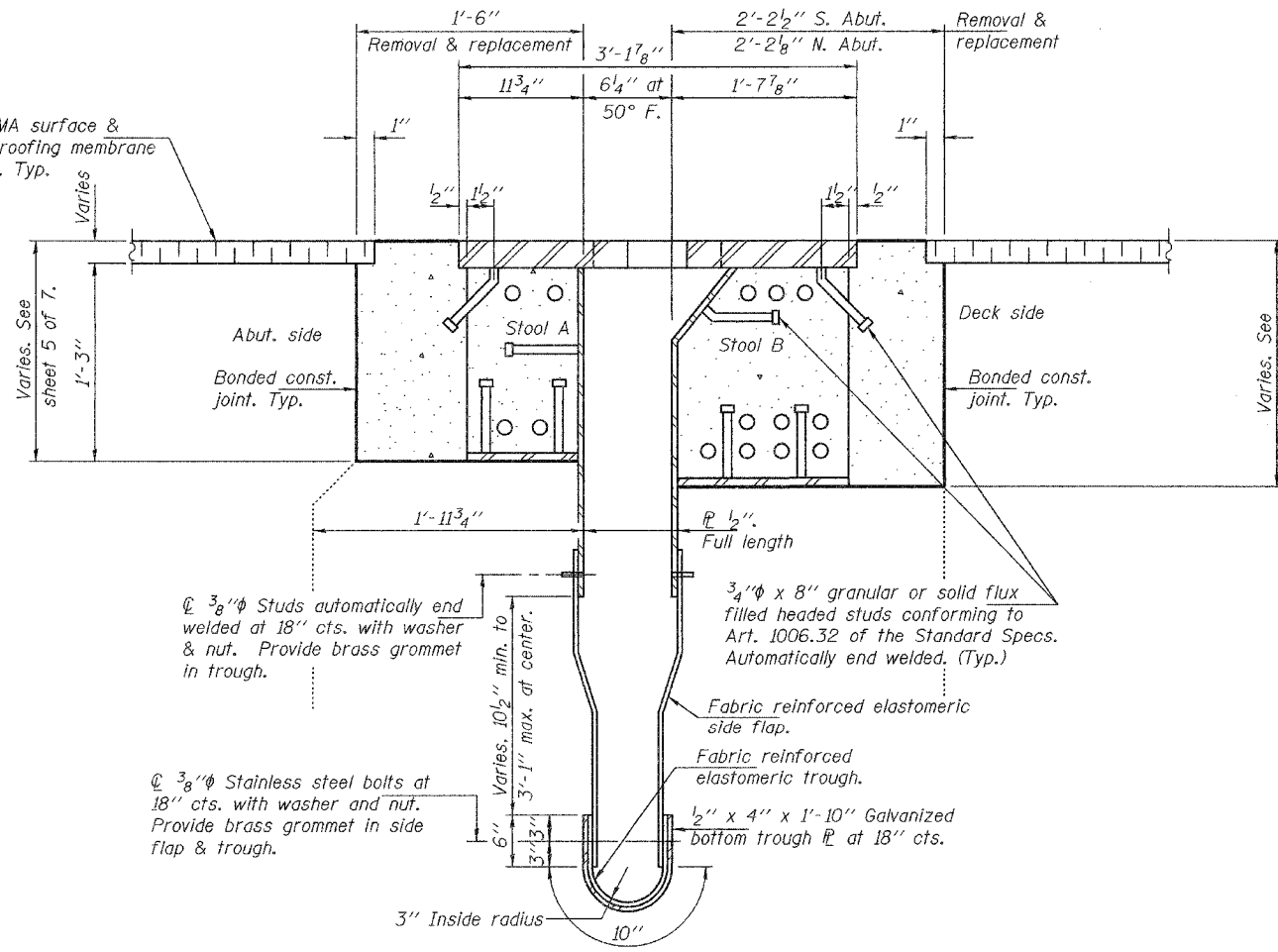
VIEW A-A



STOOL A

STOOL B

New HMA surface & waterproofing membrane system. Typ.



SECTION AT EXP. JOINT

STOOL HEIGHTS

Stool No.	Stool A Typ. Ea. Abut.	Stool B Typ. Ea. Abut.
1	15"	20 1/16"
2	15"	20 9/16"
3	15"	21 1/16"
4	15"	16 9/8"
5	15"	20 5/8"
6	15"	21"
7	15"	21 3/8"
8	15"	21 1/4"
9	15"	22 9/8"
10	15"	22 1/2"
11	16"	22 1/8"
12	16"	22 1/2"
13	16"	22 1/8"
14	16"	21 3/4"
15	16"	21 3/8"
16	16"	17 1/4"
17	16"	23 3/16"
18	16"	22 1/16"
19	16"	22 3/16"
20	16"	

Cut Stool A from W21x57.
Cut Stool B from W27x84.

DESIGNED	ATH
CHECKED	AJB
DRAWN	balva
CHECKED	ATH AJB

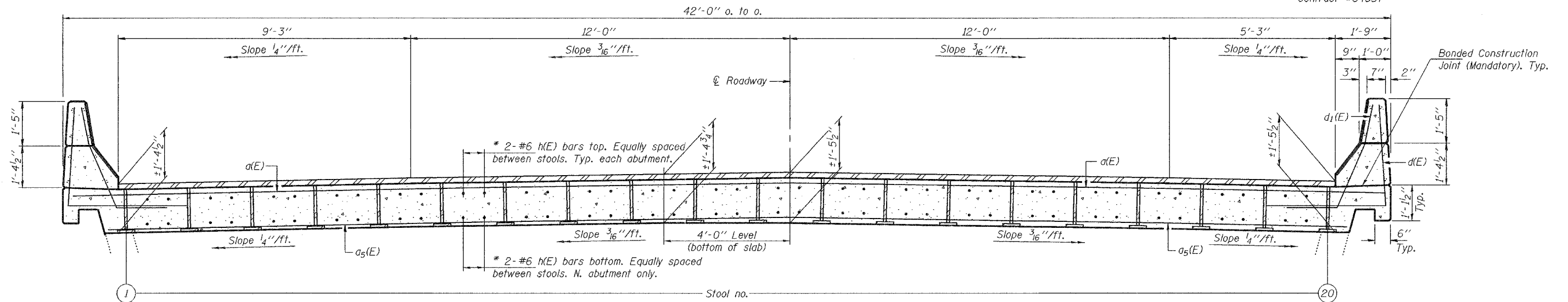
MARCH 16, 2007
EXAMINED *Carl Hoyer*
REPAIR PLANS UNIT CHIEF
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
I-39 OVER KISHWAUKEE RIVER
WINNEBAGO COUNTY
STA. 2425+00
SN 101-0134(NB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

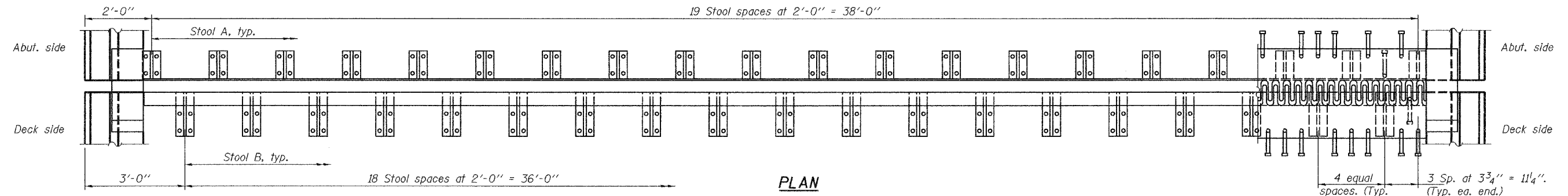
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 5 7 SHEETS
1-39		WINNEBAGO	40	32	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #64857

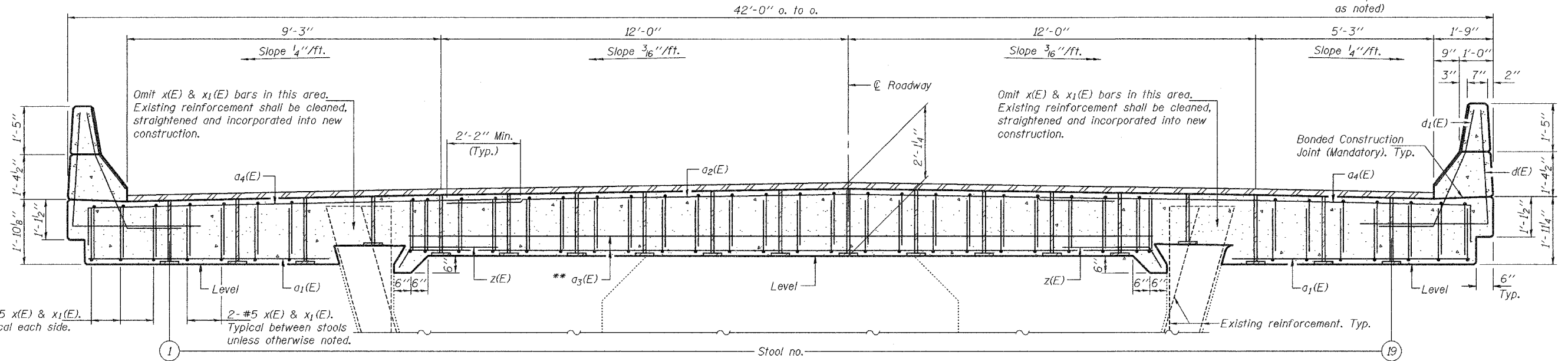


TYPICAL CROSS SECTION
(Approach side, looking south)

Note: Drill 1"φ access holes in stool for d(E) and d₁(E) bars if required.



PLAN



TYPICAL CROSS SECTION
(Deck side, looking south)

DESIGNED	ATH
CHECKED	AJB
DRAWN	baliva
CHECKED	ATH AJB

MARCH 16, 2007

EXAMINED *Carl Poyner*

PASSED *Ralph E. Anderson*

REPAIR PLANS UNIT CHIEF
ENGINEER OF BRIDGES AND STRUCTURES

** These bars may need to be placed in the fabrication shop, prior to the welding of stools 1 thru 4 or 16 thru 19 to the finger plate.

Note:
The support system for the finger plate assembly shall be sufficiently rigid so as to prevent any movement or rotation of the finger plate & stools during the placing of the concrete. Cost included with Furnishing and Erecting Structural Steel.

* Epoxy grout h(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.

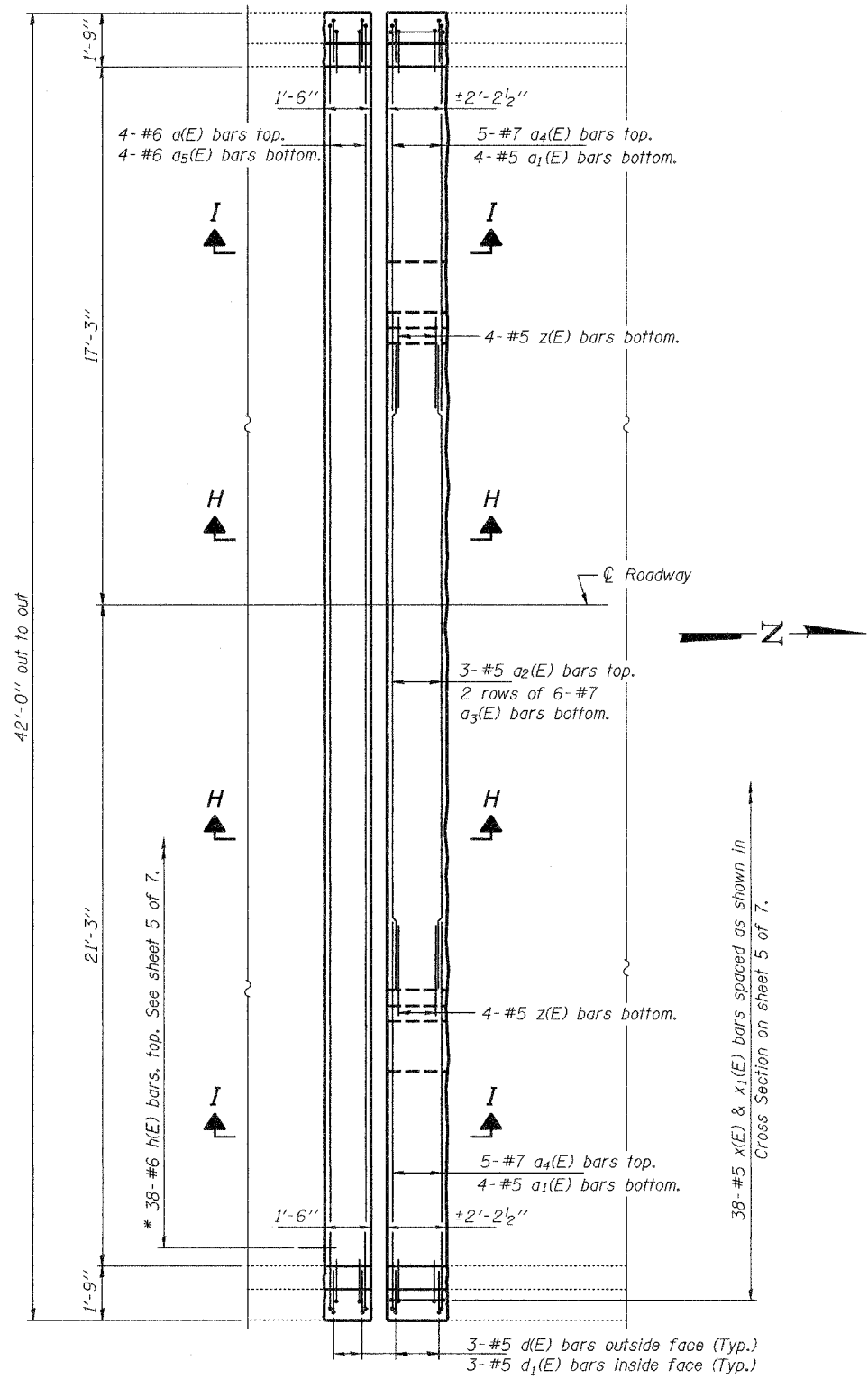
BRIDGE REPAIRS
I-39 OVER KISHWAUKEE RIVER
WINNEBAGO COUNTY
STA. 2425+00
SN 101-0134(NB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
I-39		WINNEBAGO	40	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

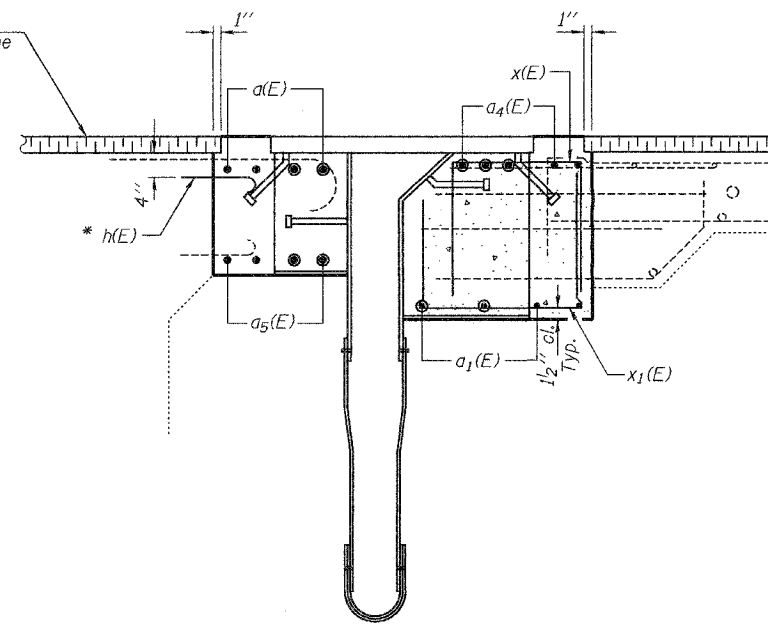
Contract #64857

7 SHEETS



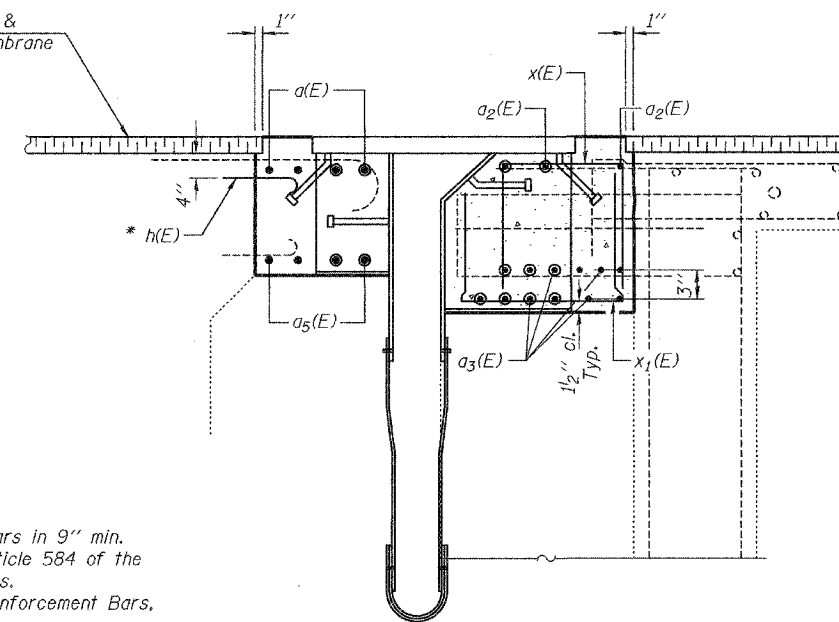
PLAN AT SOUTH ABUTMENT

New HMA surface & waterproofing membrane system. Typ.



SECTION I-I

New HMA surface & waterproofing membrane system. Typ.



SECTION H-H

* Epoxy grout h(E) bars in 9" min. holes according to Article 584 of the Standard Specifications. Cost Included with Reinforcement Bars. Epoxy Coated

DESIGNED	ATH
CHECKED	AJB
DRAWN	baliva
CHECKED	ATH AJB

MARCH 16, 2007

EXAMINED *Carl Henry*
REPAIR PLANS UNIT CHIEF

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

BRIDGE REPAIRS
I-39 OVER KISHWAUKEE RIVER
WINNEBAGO COUNTY
STA. 2425+00
SN 101-0134(NB)

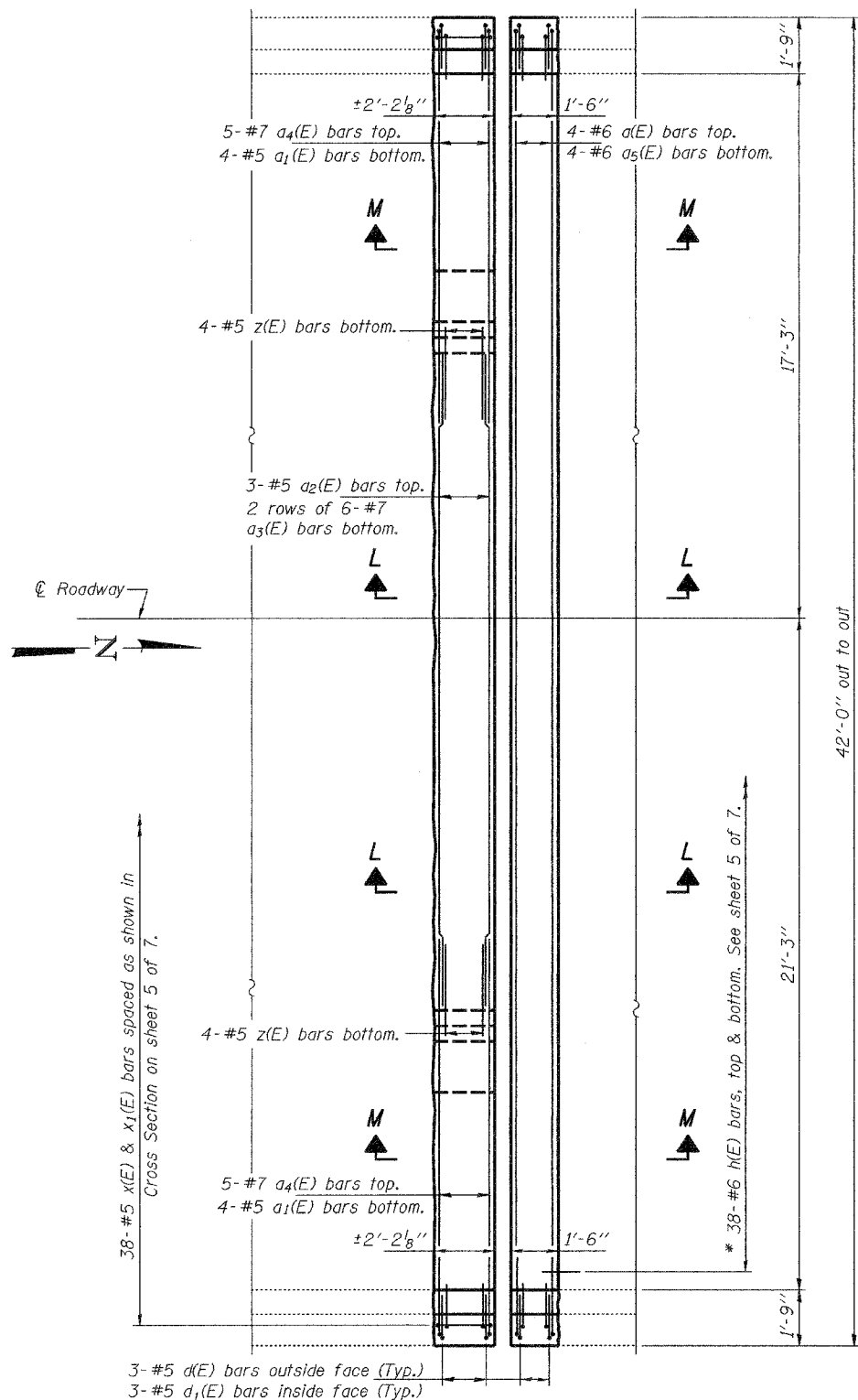
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

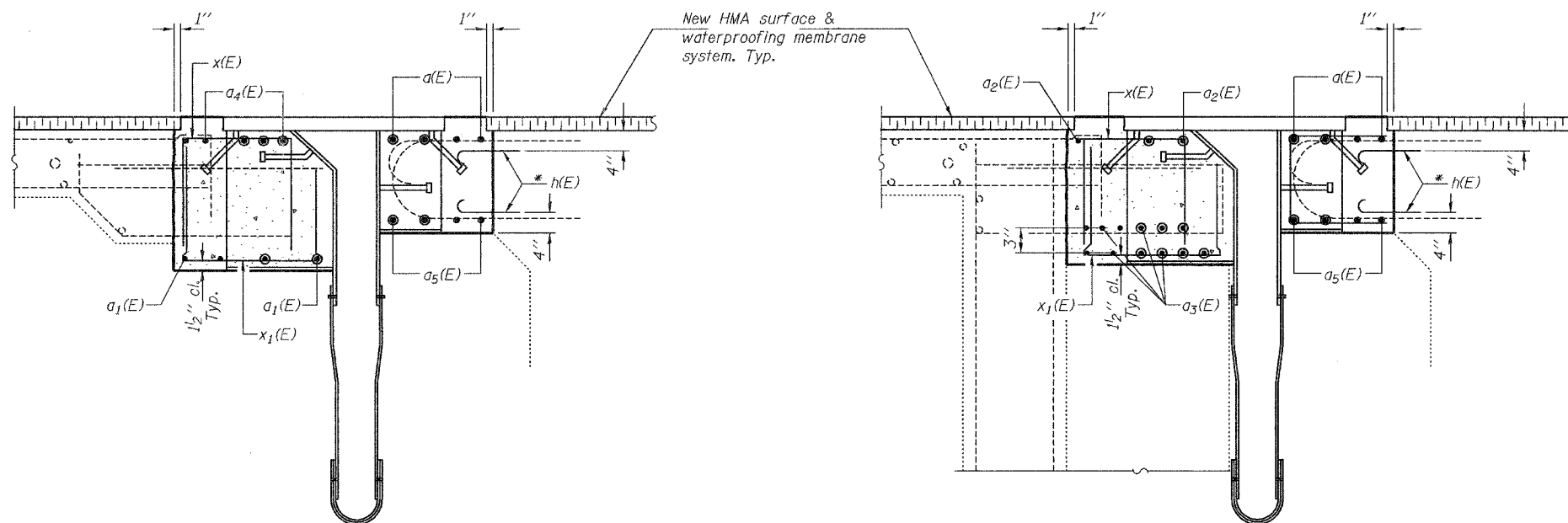
SHEET NO. 7

7 SHEETS

Contract #64857



PLAN AT NORTH ABUTMENT



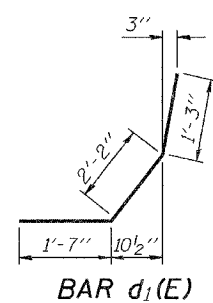
SECTION M-M

SECTION L-L

* Epoxy grout h(E) bars in 9" min. holes according to Article 584 of the Standard Specifications. Cost included with Reinforcement Bars. Epoxy Coated

BILL OF MATERIAL

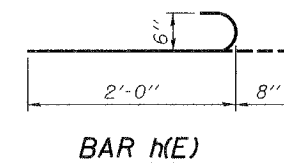
Bar	No.	Size	Length	Shape
a(E)	8	#6	41'-8"	—
a1(E)	16	#5	7'-0"	—
a2(E)	6	#5	19'-9"	—
a3(E)	24	#7	21'-0"	—
a4(E)	20	#7	13'-9"	┘
a5(E)	8	#6	38'-9"	—
d(E)	24	#5	7'-0"	┘
d1(E)	24	#5	5'-0"	┘
h(E)	114	#6	2'-8"	┘
x(E)	76	#5	4'-9"	┘
x1(E)	76	#5	5'-0"	┘
z(E)	16	#5	3'-0"	┘
Concrete Removal		Cu. Yd.	21.1	
Concrete Superstructure		Cu. Yd.	21.1	
Reinforcement Bars, Epoxy Coated		Pound	4370	



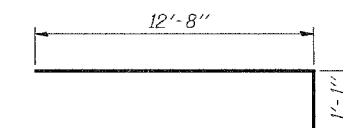
BAR d1(E)



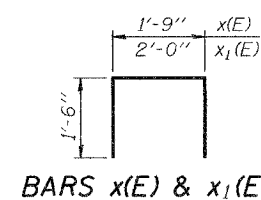
BAR d(E)



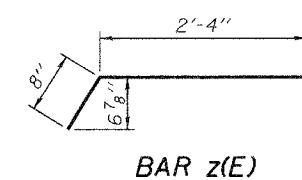
BAR h(E)



BAR a4(E)



BARS x(E) & x1(E)



BAR z(E)

DESIGNED	ATH
CHECKED	AJB
DRAWN	baliva
CHECKED	ATH AJB

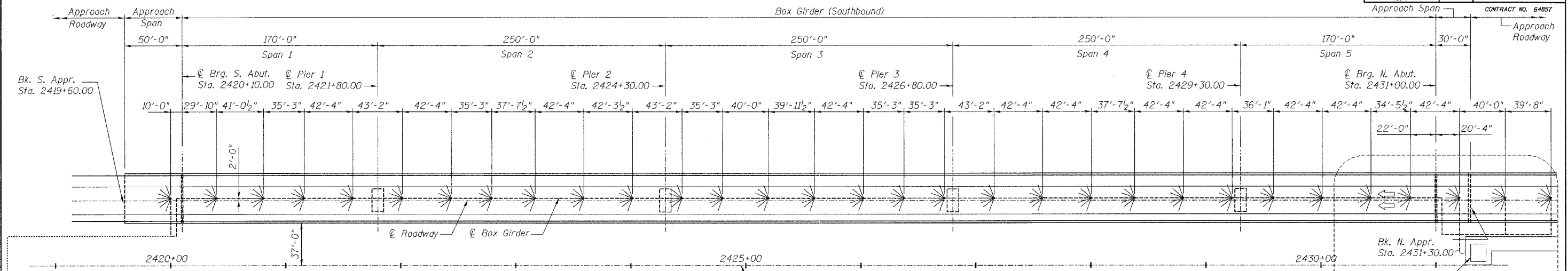
MARCH 16, 2007
EXAMINED *Carl Perry*
REPAIR PLANS UNIT CHIEF
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
I-39 OVER KISHWAUKEE RIVER
WINNEBAGO COUNTY
STA. 2425+00
SN 101-0134(NB)

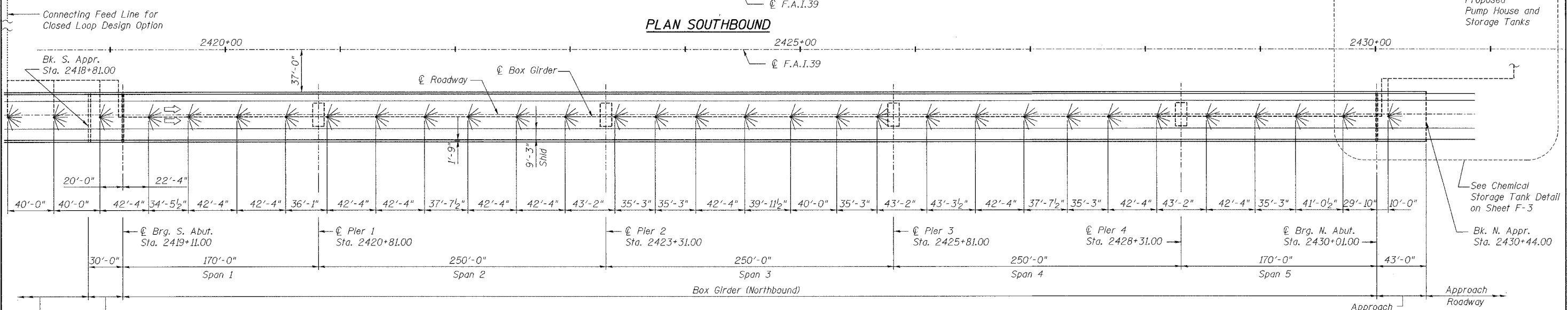
ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	35	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



Date: 2/2/2007 Time: 3:49:28 PM



PLAN SOUTHBOUND



PLAN NORTHBOUND

- LEGEND:**
- Spray Disk - For Location In Box Girder See Sheet F-4
 - Supply Line
 - Supply Line for Closed Loop Design Option

NOTES:

The location of adjacent PT bars shall be determined by the Contractor using non-destructive methods for approval by the Engineer.

No drilling is permitted without approval by the Engineer.

The spray disk locations and deck penetrations are designed to be centered between the existing longitudinal and transverse post-tensioning bars located in the top slab of the box girder per existing plans. These dimensions are provided for information only and do not relieve the Contractor from marking the proposed location of every spray disk, sensor and proposed core for vertical feed lines on the structure, following location and marking of the adjacent PT bars using non-destructive methods.

Designed by: GCV
 Checked by: JLP
 Drafted by: RKS
 Checked by: JLP

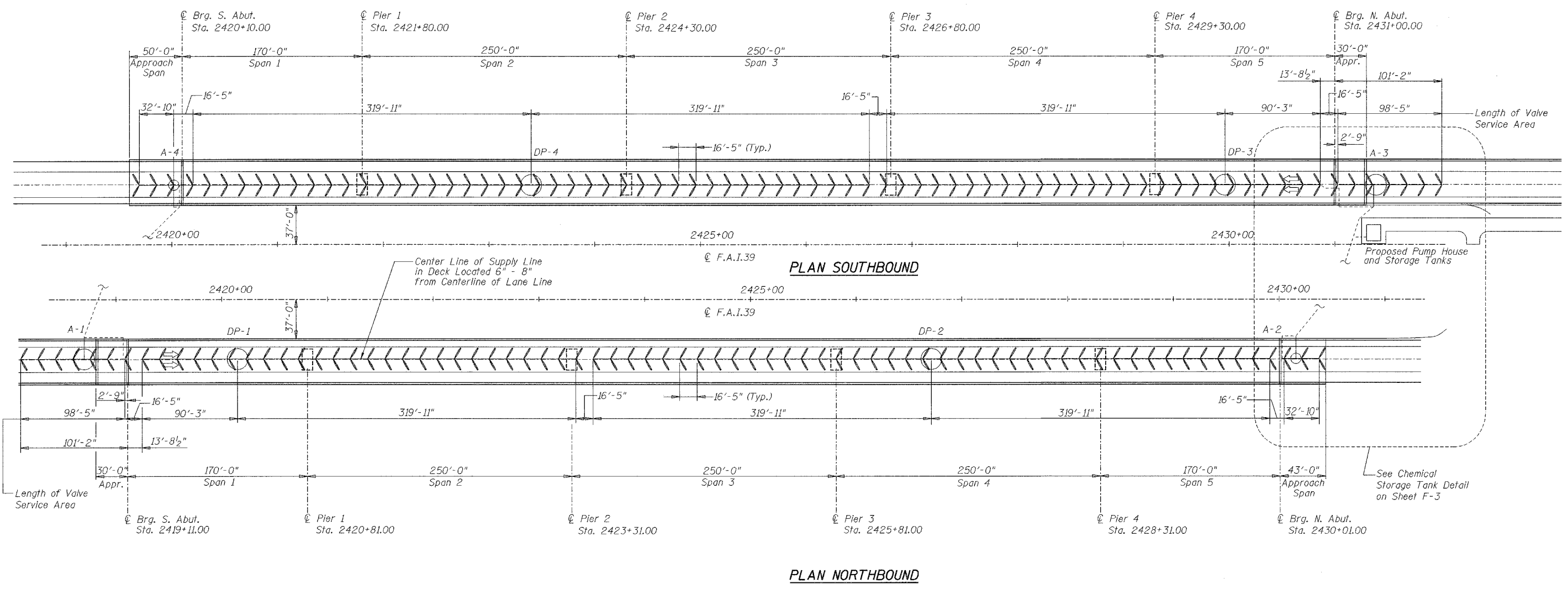
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION			
FAST SITE PLAN DISK SPRAY SYSTEM			
I-39 (FAI 39) OVER KISHAWKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)			
PARSONS		CHICAGO, ILLINOIS	
DRAWING NO. 35	SCALE N.T.S.	DATE FEB 2007	SHEET NO. F-1

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	36	40
FED. ROAD DIST. NO. 7	ILLINOIS		FED. AID PROJECT	
CONTRACT NO. 64857				



Date: 2/2/2007 Time: 3:49:28 PM

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- LEGEND:**
- Micro spray nozzle and surface feed line, saw cut in deck surface
 - DP-x Deck penetration feed line, served by 2 valves within box girder
 - A-y Approach feed line "T" or "L" in deck surface, served by valve at side of roadway
 - Supply line

NOTES:

The location of adjacent PT bars shall be determined by the Contractor using non-destructive methods for approval by the Engineer.

No drilling is permitted without the approval of the Engineer.

The deck penetrations (two per deck) to feed the Micro Spray nozzles are designed to be centered between existing longitudinal and transverse post-tensioning bars located in the top slab of the box girder per existing plans. These dimensions are provided for information only and do not relieve the Contractor from marking the proposed location of every core for vertical feed lines on the structure, following the location and marking of the adjacent PT bars using non-destructive methods. Sensor cables shall use one of the feed line deck penetrations.

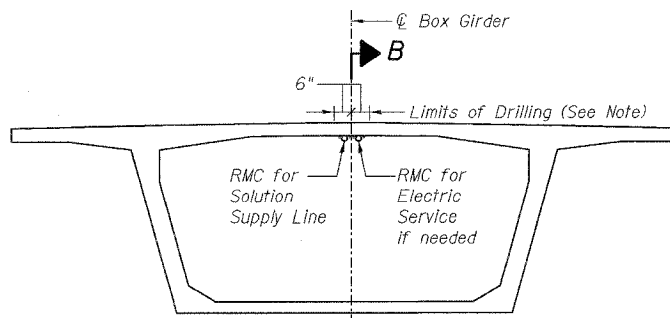
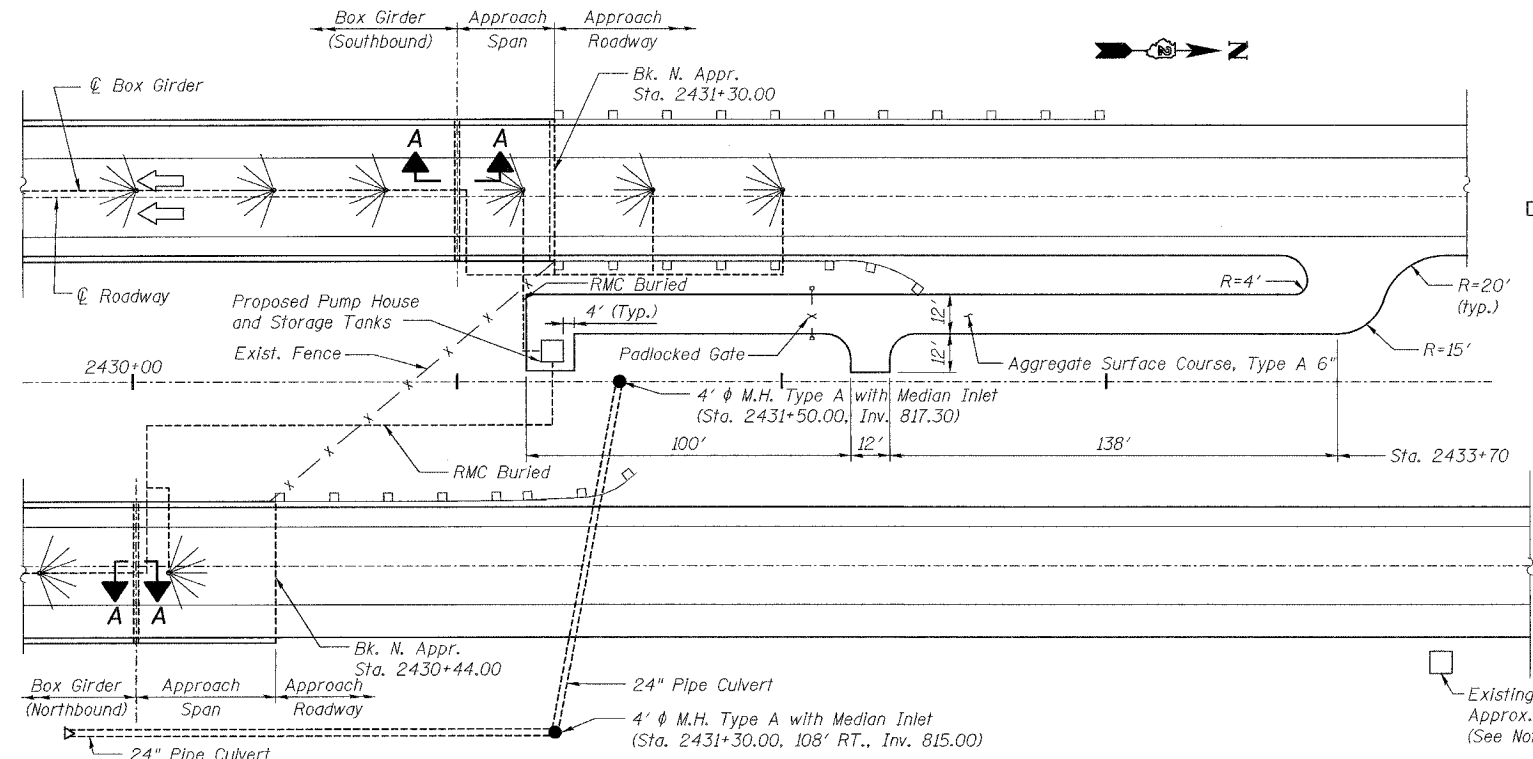
Designed by:	GCV
Checked by:	JLP
Drafted by:	JV
Checked by:	JLP

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION FAST SITE PLAN MICRO SPRAY DESIGN I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 36	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. F-2

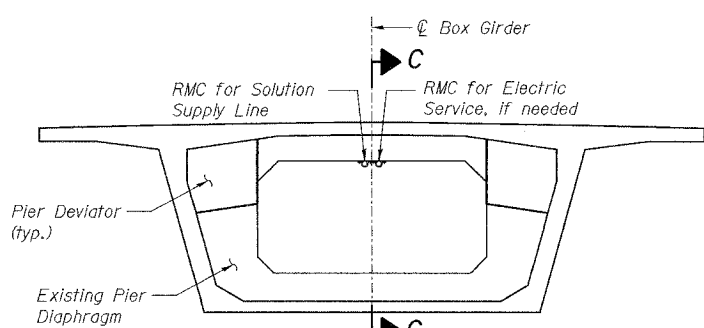
ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	37	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 64857

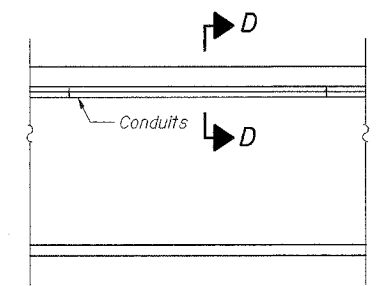
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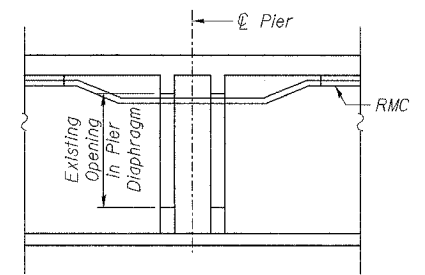
BOX GIRDER BETWEEN PIERS



BOX GIRDER AT PIERS



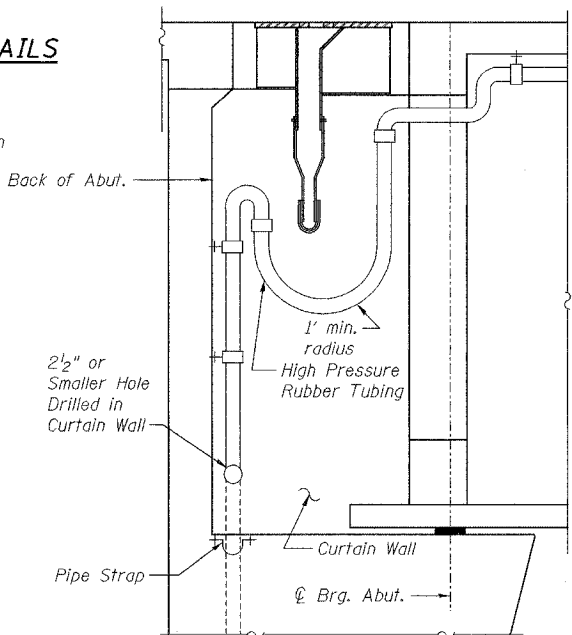
SECTION D-D



SECTION C-C

CHEMICAL STORAGE TANK DETAILS
SPRAY DISK SYSTEM

NOTE: Spray Disk Design Shown.
Similar Features for Micro Spray Design

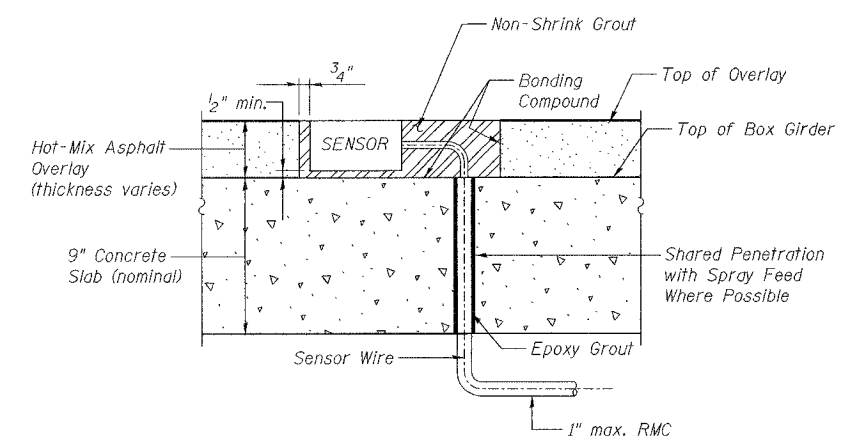


SECTION A-A

(North Abutments shown, South Abutments similar)
(Required due to Bridge Length Expansion)

LEGEND:

- Spray Disk
- Supply Line
- Steel Plate Beam Guardrail
- RMC Galvanized Rigid Steel Conduit



TYPICAL SENSOR SECTION

NOTES:

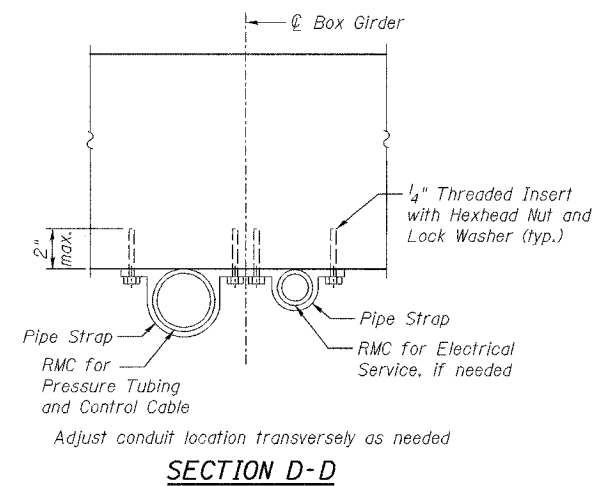
- Contractor to verify location of proposed pump house with Engineer.
- Location of Existing RWIS Tower, Conduit and Pavement Sensors to be Field Verified by Contractor.
- Mounting bolts for pipe straps shall be located offset from post-tensioning cables. Bolt and drilled hole shall penetrate bridge deck no more than 2 inches.
- No drilling outside the limits shown shall be performed for the installation of spray disks or sensors. All drilling locations shall be marked by the Contractor for approval by the Engineer.
- No drilling is permitted without approval by the Engineer.
- Sealant and Bonding Compound per Equipment Supplier subject to approval by the Engineer.

BILL OF MATERIAL

Item	Unit	Stage 1 S.B.	Stage 2 N.B.	Total Quantity
Furnishing and Installing Anti-Icing System	L. Sum	0.5	0.5	1.0
Aggregate Surface Course, Type A 6"	Sq. Yd.	422	0	422
Anti-Icing System Maintenance and Warranty - 5 Year	L. Sum	0.5	0.5	1.0

Designed by: GCY
Checked by: JLP
Drafted by: RKS
Checked by: JLP

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SECTION D-D

REVISION	DATE	DESCRIPTION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

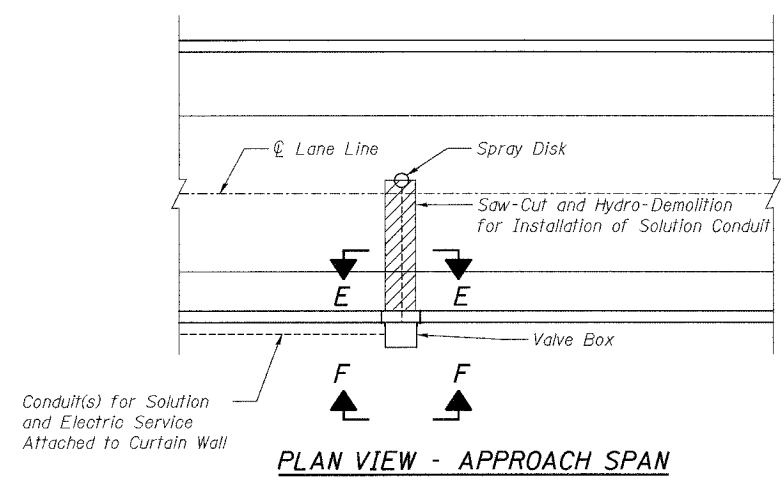
FAST DETAILS

I-39 (FAI 39) OVER KISHWAUKEE RIVER
SECTION 201-1BR
WINNEBAGO COUNTY
STATION 2425+00
STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)

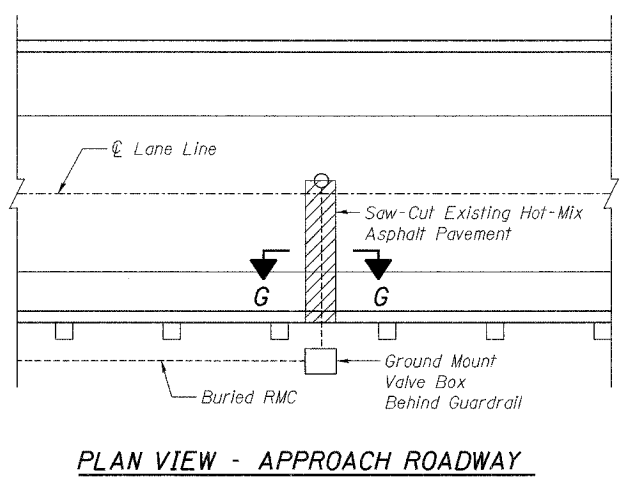
PARSONS	CHICAGO, ILLINOIS
DRAWING NO. 37	SCALE N.T.S.
DATE FEB 2007	SHEET NO. F-3

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
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FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

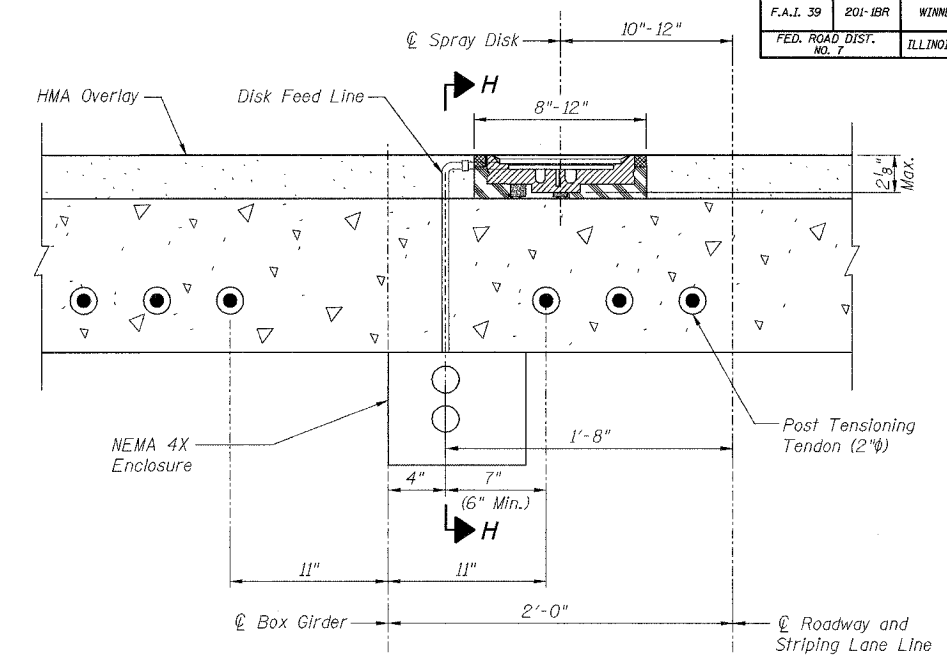
CONTRACT NO. 64857



PLAN VIEW - APPROACH SPAN

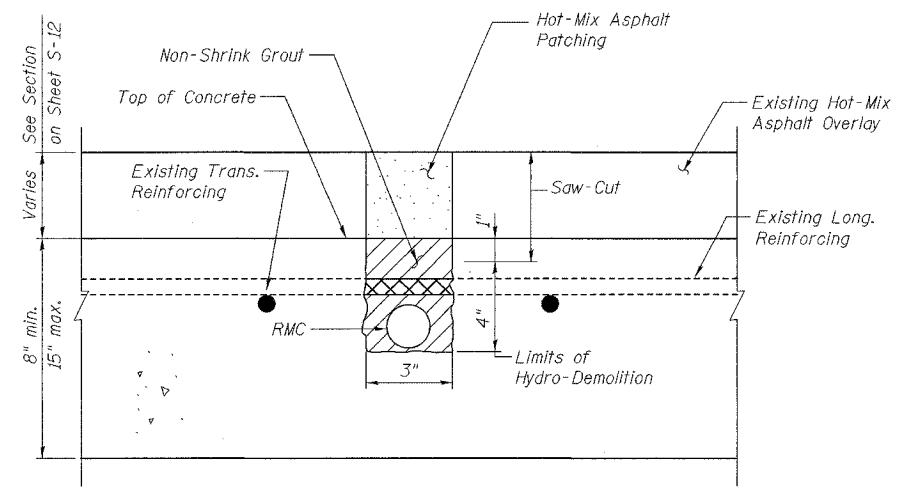


PLAN VIEW - APPROACH ROADWAY

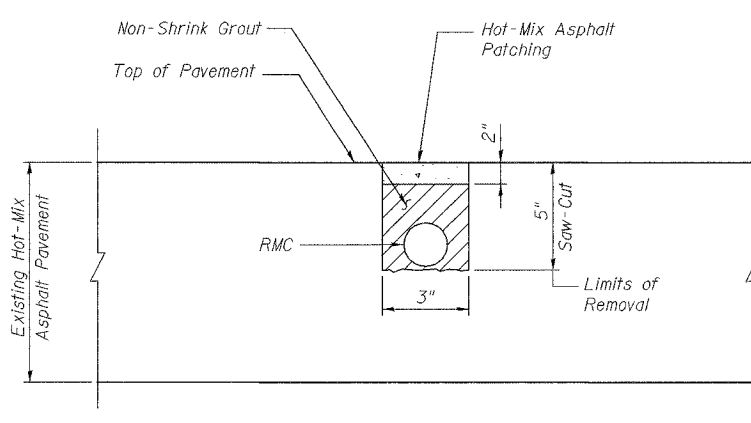


TRANSVERSE SECTION THRU BOX GIRDER AT SPRAY DISK

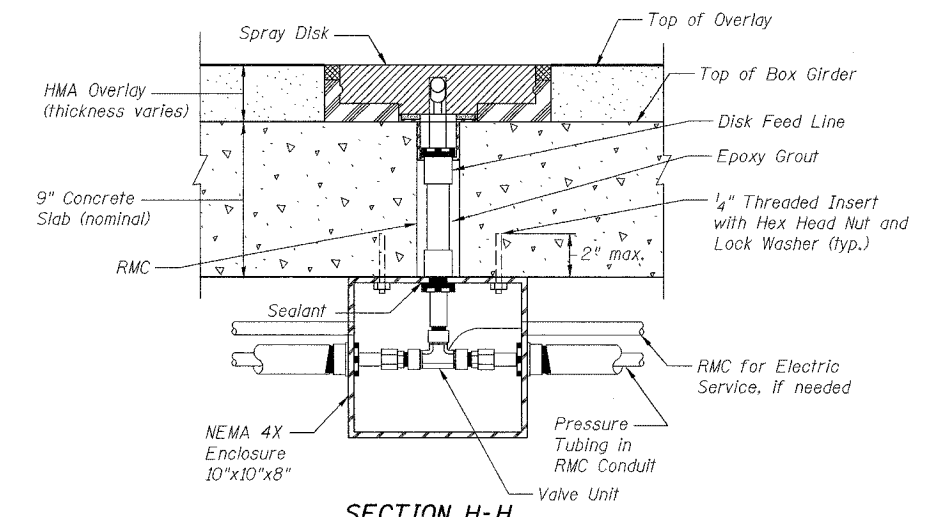
Note: Location of Deck Penetration May be Adjusted as Long as 6" Min. Spacing (C to C) from Post Tensioning Tendon is Maintained.



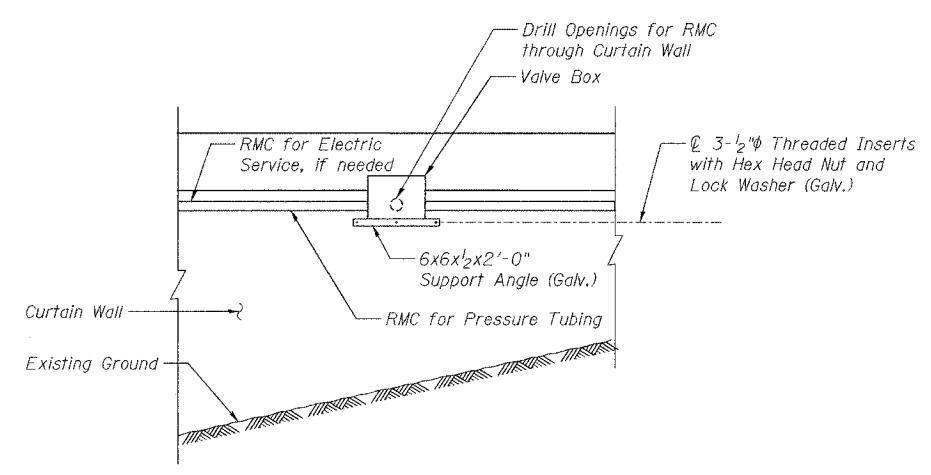
SECTION E-E



SECTION G-G



SECTION H-H
(Accumulator Tank and Control Card Not Shown)



SECTION F-F

NOTES:

Valve boxes shall meet NEMA 4X specifications. All boxes shall meet AISI 316 (ASTM A 240) stainless steel (14 gage min.) requirements with water tight gaskets in the box door.

Spray disks shall be able to be adjusted in the field to optimize spray pattern.

Spray disks and sensors shall be able to support HS 20-44 loadings.

Galvanized rigid steel conduit (RMC) shall be used to carry the chemical solution and electric supply lines.

Electric wire size and grounding requirements shall be in accordance with the National Electric Code 2005.

Maximum spacing for conduit supports is 20'.

Provide threaded couplers for all conduits that require splicing. Couplings shall be located approximately 0.25*L away from a support point, where L is the span length of the conduit between support points.

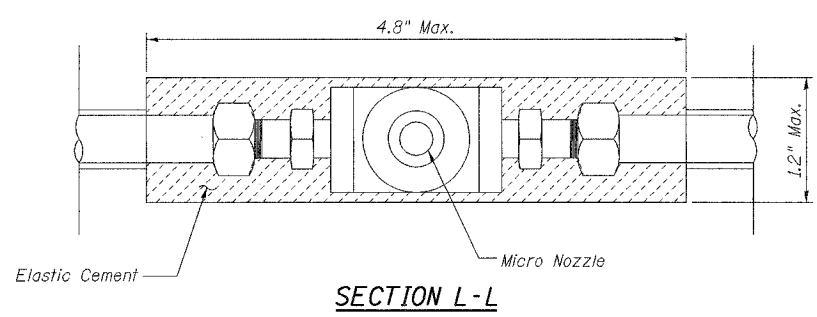
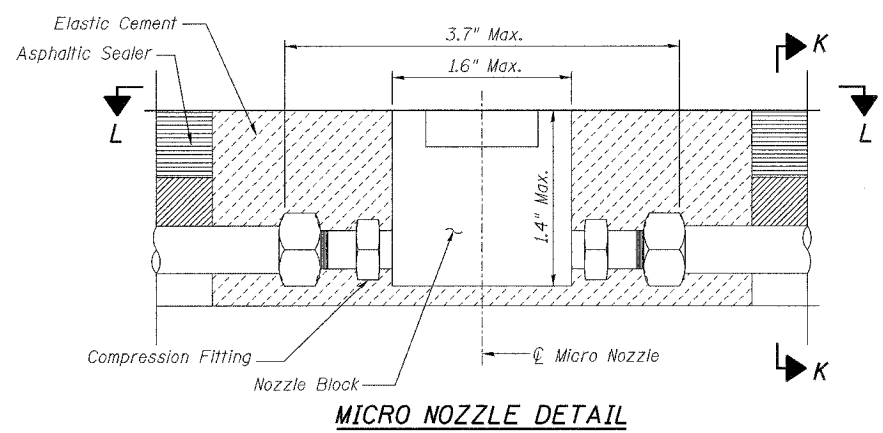
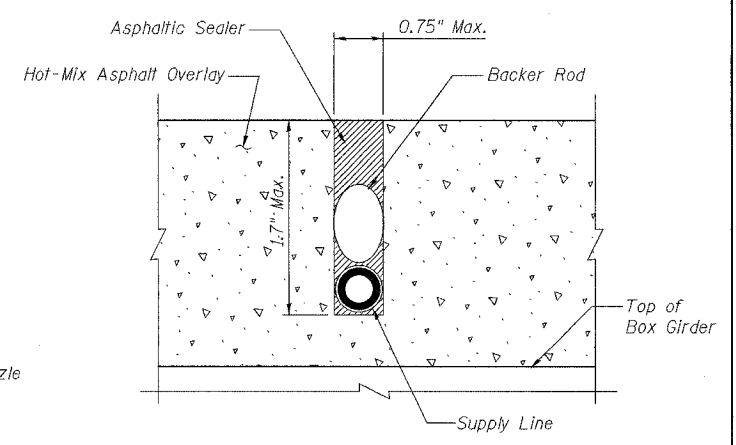
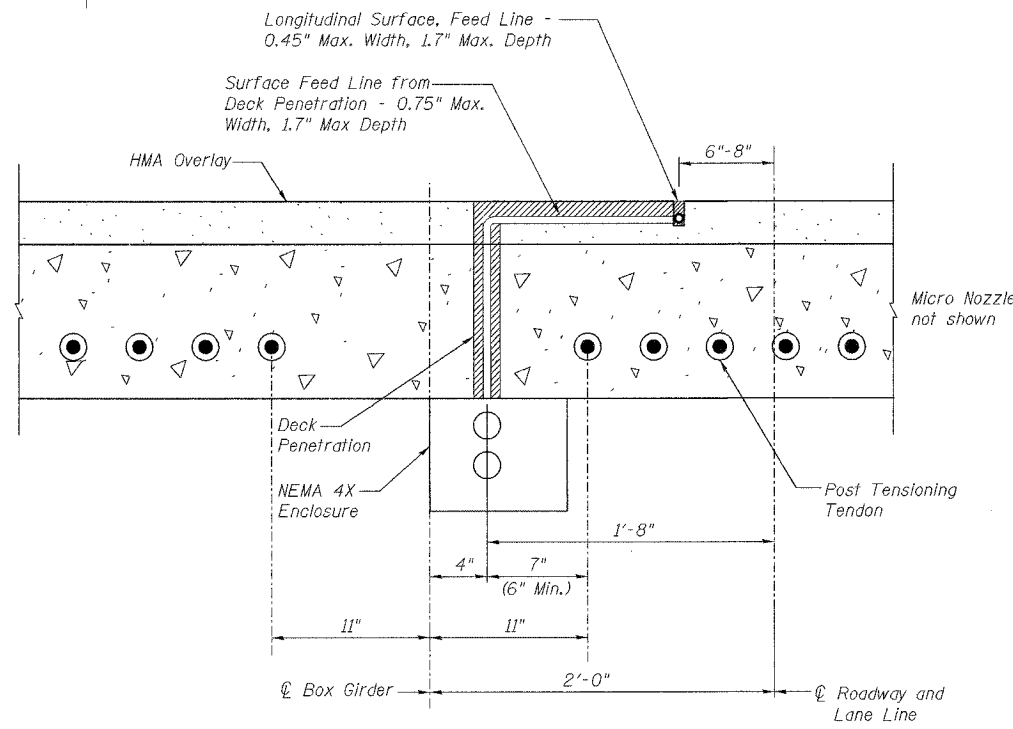
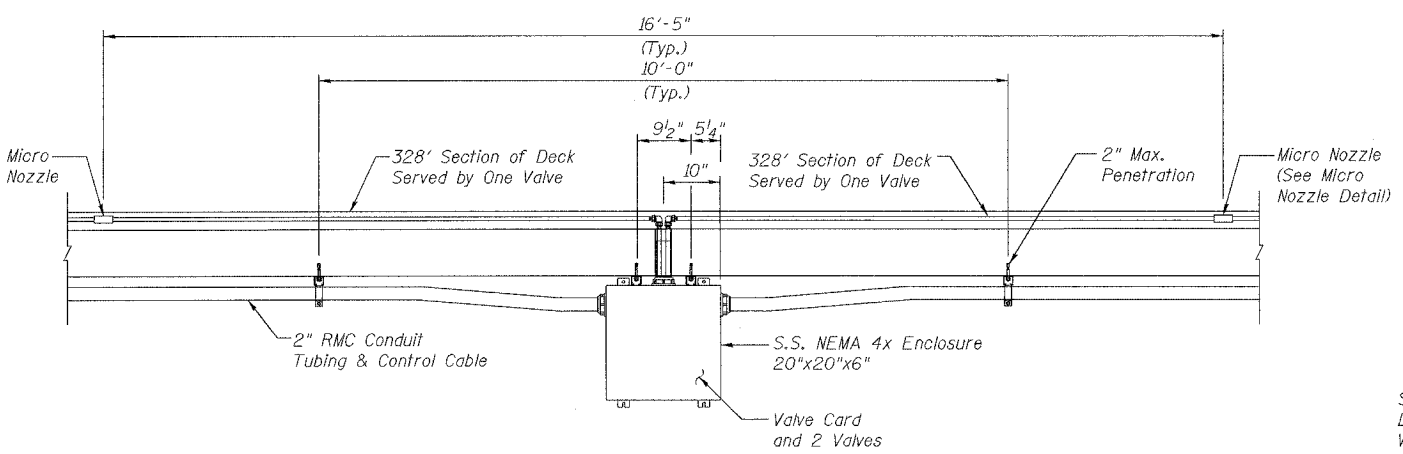
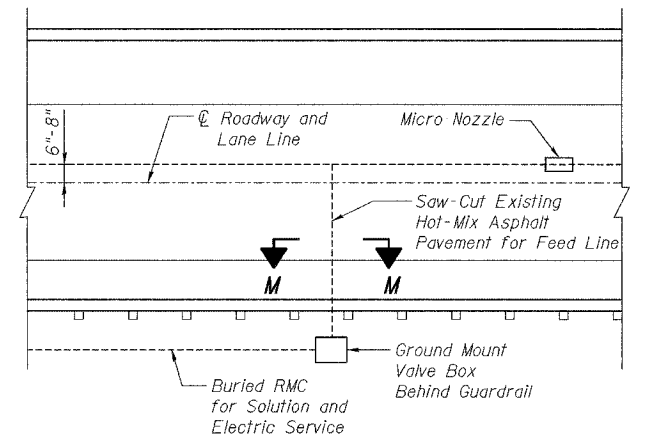
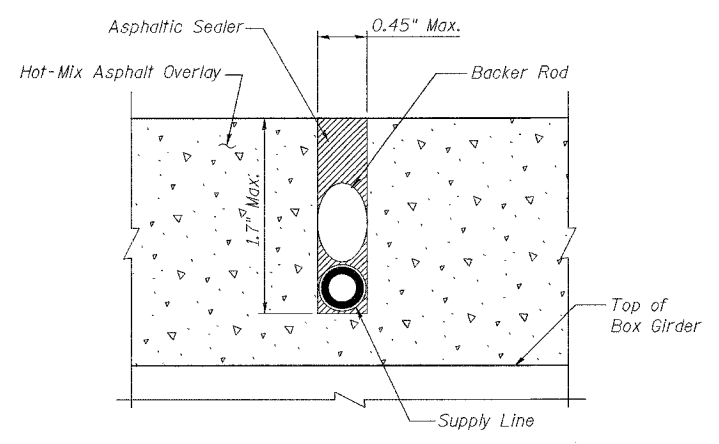
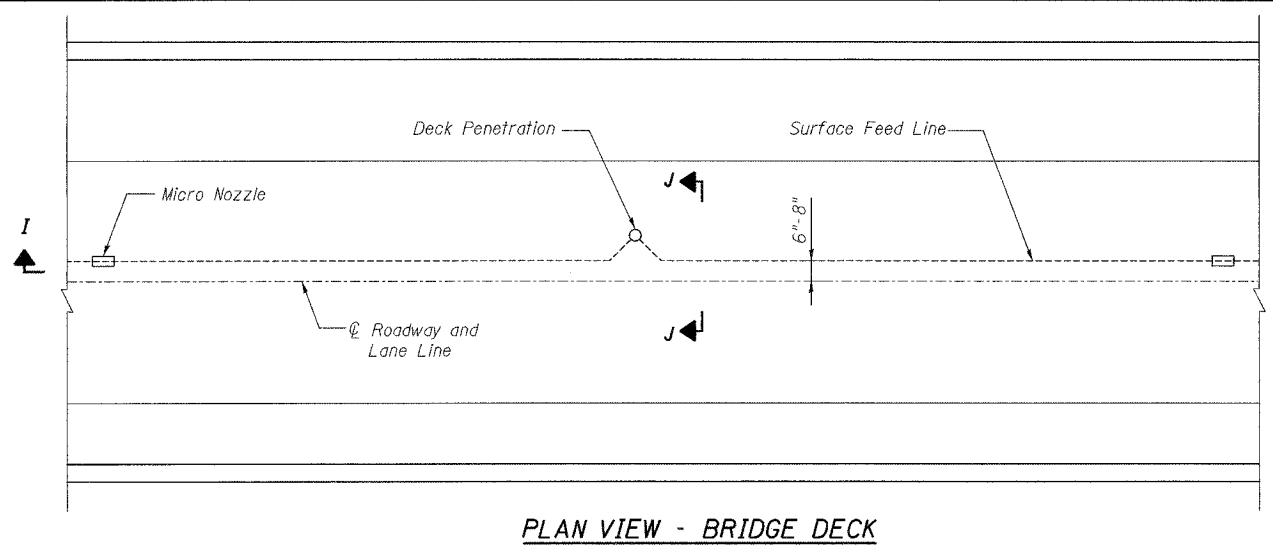
The cost of saw-cutting, hydro-demolition, hot-mix asphalt removal, hot-mix asphalt patching, and epoxy and non-shrink grout is included with "Furnishing and Installing Anti-Icing System."

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION FAST DETAILS DISK SPRAY DESIGN I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 38	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. F-4

Date: 2/2/2007 Time: 4:08:11 PM
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Designed by:	GCV
Checked by:	JLP
Drafted by:	RKS
Checked by:	JLP

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-1BR	WINNEBAGO	39	40
FED. ROAD DIST. NO. 7	ILLINOIS		FED. AID PROJECT	
CONTRACT NO. 64857				



Note: Location of Deck Penetration May be Adjusted as Long as 6" Min. Spacing (C to C) from Post Tensioning Tendon is Maintained.

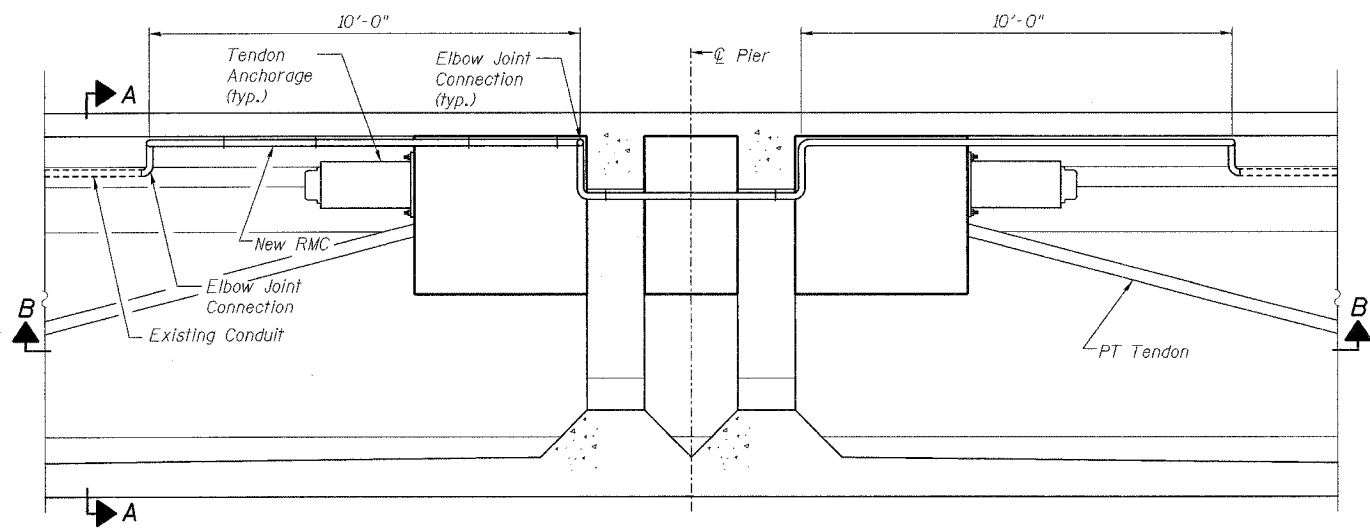
REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION FAST DETAILS FOR MICRO SPRAY DESIGN I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-1BR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)		
PARSONS		CHICAGO, ILLINOIS
DRAWING NO. 39	SCALE N.T.S.	DATE FEB 2007
		SHEET NO. F-5

Date: 2/2/2007 Time: 3:49:28 PM
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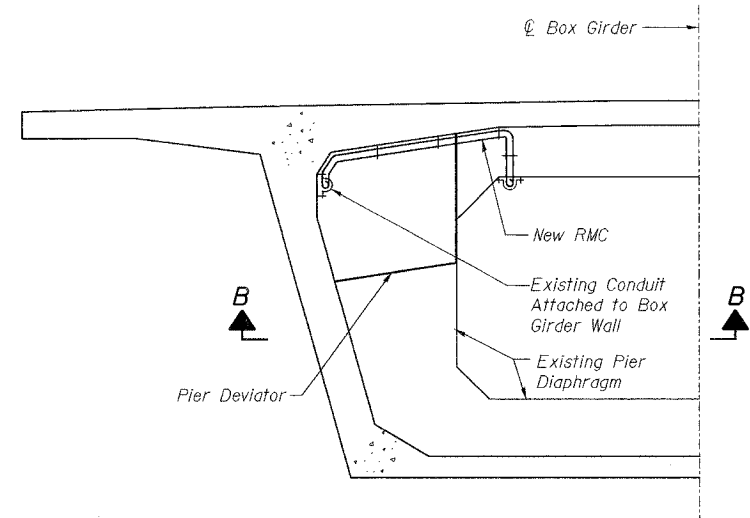
Designed by: GCV
 Checked by: JLP
 Drafted by: JV
 Checked by: JLP

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 39	201-IBR	WINNEBAGO	40	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

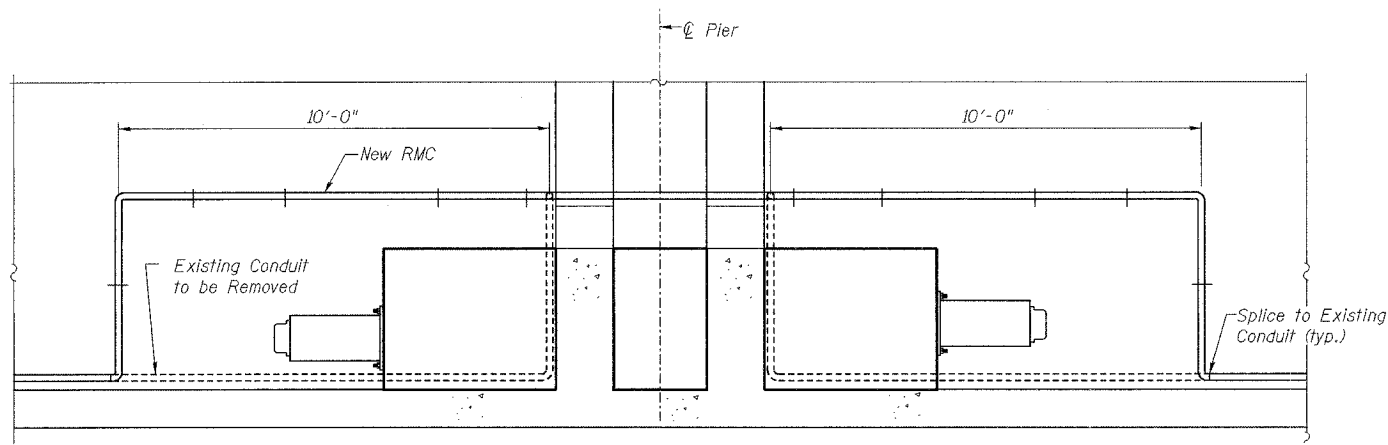
CONTRACT NO. 64857



LONGITUDINAL SECTION AT PIER



SECTION A-A



SECTION B-B

BILL OF MATERIAL

Item	Unit	Stage 1 SB	Stage 2 NB	Total Quantity
Relocate Existing Electrical System	L. Sum	0.5	0.5	1.0

NOTES:

The conduit rerouting plan shown is intended to provide general requirements for relocating the existing conduits to avoid work areas. The Contractor shall confirm the number and location of existing conduits in the field.

The Contractor shall get the approval of the Engineer prior to relocating conduit.

All new conduit provided in order to complete the relocating operations shall be galvanized rigid steel conduit (RMC) of equivalent size to the conduit it is replacing.

REVISION				DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION RELOCATION ELECTRICAL CONDUITS I-39 (FAI 39) OVER KISHWAUKEE RIVER SECTION 201-IBR WINNEBAGO COUNTY STATION 2425+00 STRUCTURE NOS. 101-0133 (S.B.) & 101-0134 (N.B.)					
			CHICAGO, ILLINOIS		
DRAWING NO.	SCALE	DATE	SHEET NO.		
40	N.T.S.	FEB 2007	E-1		

Date: 2/2/2007 Time: 3:46:57 PM
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Designed by:	GV
Checked by:	BM
Drafted by:	RKS
Checked by:	BM