

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	(2HB)M	WINNEBAGO	13	1

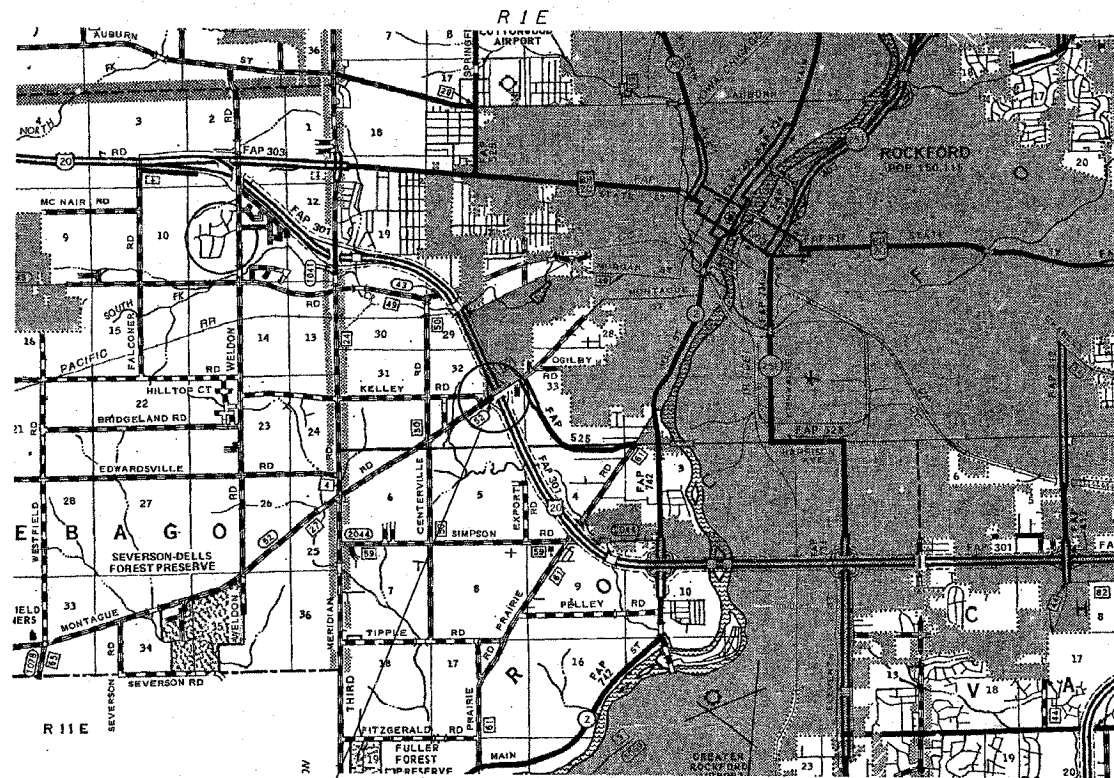
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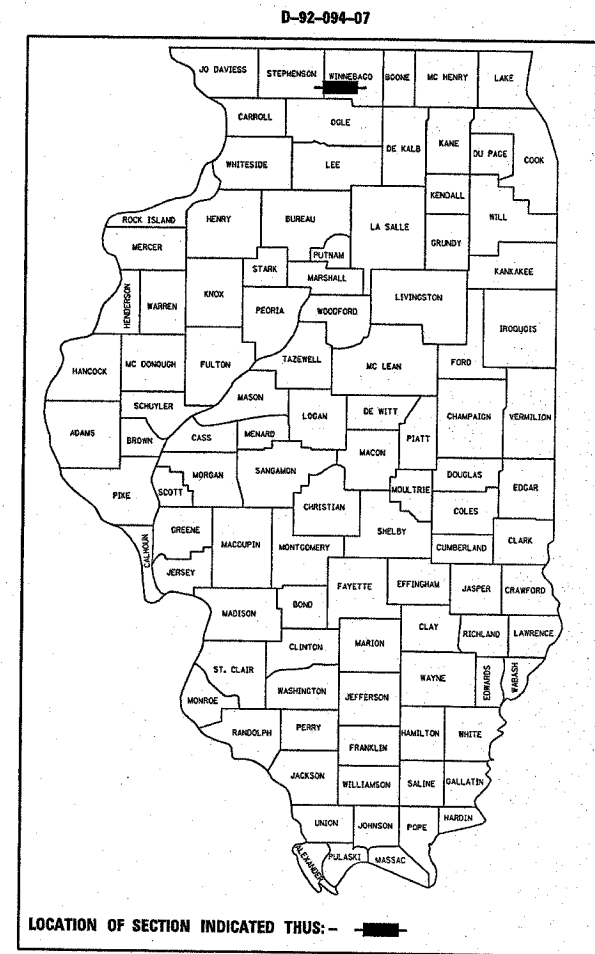
STANDARDS

- 701201-02 Lane Closure, 2L, 2W, Day Only, for Speeds > 45 MPH
- 701321-08 Lane Closure, 2L, 2W, Bridge Repair with Barrier
- 701400-02 Approach to Lane Closure, Freeway/Expressway
- 701402-05 Lane Closure, Freeway/Expressway, with Barrier
- 701406-04 Lane Closure, Freeway/Expressway, Day Operations Only
- 701411-03 Lane Closure, Multilane, at Entrance or Exit Ramp, for Speeds > 45 MPH
- 702001-06 Traffic Control Devices
- 704001-03 Temporary Concrete Barrier
- 720011 Metal Posts for Signs, Markers and Delineators
- 728001 Telescoping Steel Sign Support
- 729001 Applications of Types A and B Metal Posts (For Signs & Markers)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROPOSED
HIGHWAY PLANS
 PROJECT NHF-0301(042)
 FAP ROUTE 301 (U.S. 20)
 SECTION (2HB)M
 WINNEBAGO COUNTY
 C-92-116-07



Project Location
Structure Number 101-0094



STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED 5/18 2007
George E. [Signature]
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
June 29, 2007
Eric E. Horn [Signature]
 INTERIM ENGINEER OF DESIGN AND ENVIRONMENT
June 29, 2007
Milton R. Sees, P.E. [Signature]
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

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

CONTRACT NO. 64D49

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	(2HB)M	WINNEBAGO	13	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES

Paycode	Description	Unit	90% FED 20% STATE
			Quantity
			SFTY-2A
44000915	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ YD	652
20700220	POROUS GRANULAR EMBANKMENT	CU YD	25
40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	94
50102400	CONCRETE REMOVAL	CU YD	13
50300100	FLOOR DRAINS	EACH	12
50300255	CONCRETE SUPERSTRUCTURE	CU YD	12.6
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	4800
50600300	CLEANING AND PAINTING STEEL BRIDGE	L SUM	1
50501110	STRUCTURAL STEEL REMOVAL	POUND	4,430
50606400	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	L SUM	1
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1610
50800515	BAR SPLICERS	EACH	26
51100100	SLOPE WALL 4 INCH	SQ YD	440
52000110	PREFORMED JOINT STRIP SEAL	FOOT	72
67100100	MOBILIZATION	L SUM	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	2
70100805	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	L SUM	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	50
70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	7000
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	2350
70400100	TEMPORARY CONCRETE BARRIER	FOOT	700
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1400
78300100	PAVEMENT MARKING REMOVAL	SQ FT	270
X0322121	SHEET WATERPROOFING MEMBRANE SYSTEM	SQ YD	655
X5067501	BRIDGE CLEANING AND PAINTING WARRANTY #1	L SUM	1
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	77
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	20
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	112
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	3
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	5
Z0073300	TEMPORARY SHORING AND CRIBBING	L SUM	1
Z0073351	TEMPORARY SLAB SUPPORT SYSTEM	L SUM	1

Summary of Quantities
 Montague Road over US 20
 FAP 301 (US 20)
 Section (2HB)M
 Winnebago County
 Structure Number 101-0094

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	(2HB)M	WINNEBAGO	13	3
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

The Contractor shall seed all disturbed areas within the project limits. Seeding Class 4 or 2A shall be used, except in front of properties where the grass will be mowed, then use Seeding, Class 1. Class 2A shall be used on front slopes and ditch bottoms. Class 4 shall be used behind Type A gutter, on all backslopes and areas behind the backslope, and beyond the toe of front slope on till sections without ditches. This work will be included in the contract unit price per Lump Sum for MOBILIZATION.

Fertilizer shall be applied to all disturbed areas and incorporated into the seedbed prior to seeding or placement of sod at the rate specified in Sections 250 and 252 of the Standard Specifications. This work shall be included in the cost of MOBILIZATION.

Mulch Method II shall be applied over all seeded areas. This shall be included in the cost of the MOBILIZATION.

The following Mixture Requirements are applicable for this project:

Mixture Uses(s):	Surface
PG:	PG 64-22
Design Air Voids	4.0 @ N50
Mixture Composition (Gradation Mixture)	IL 9.5 or 12.5
Friction Aggregate	D
20 Year ESAL	2.1
Mix Unit Weight	112 lbs/cy/in

Install a "TO ACTIVATE SIGNAL" sign for the traffic signal detector loops. The detail of this sign is included in the plans. This work will be included in the cost of TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

This structure will retain the same number 101-0094.

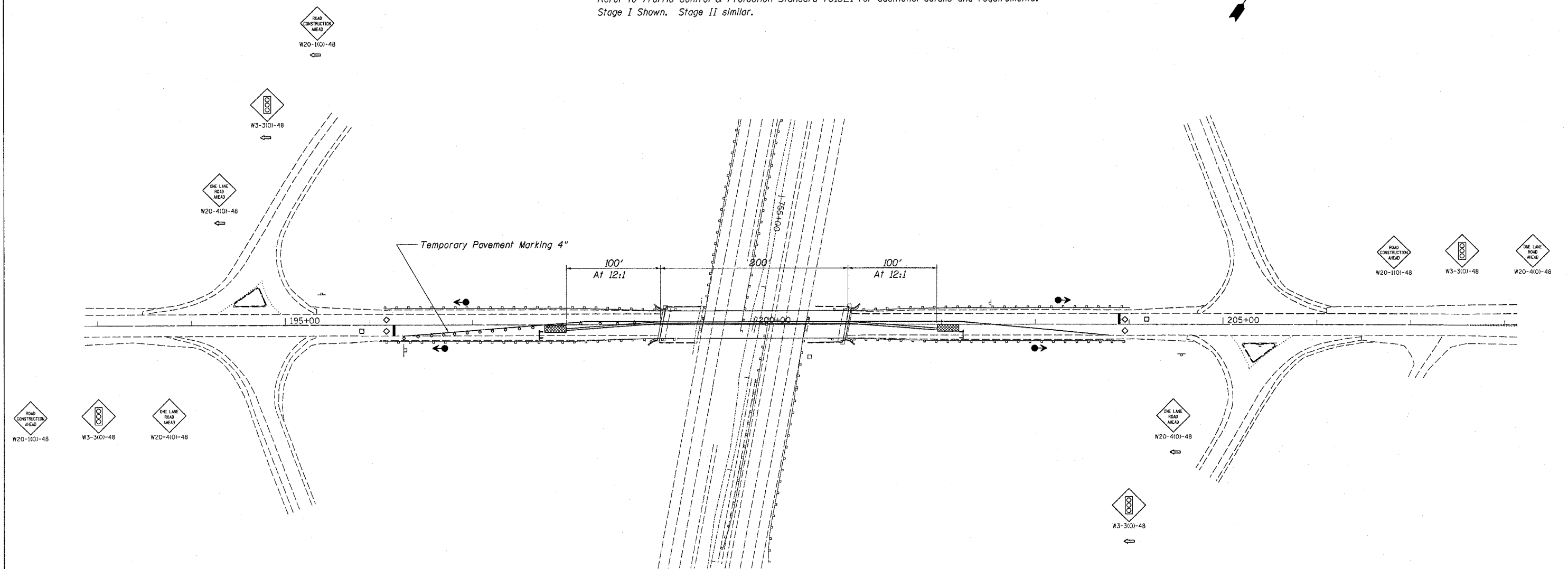
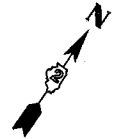
At bridge expansion joints, if temporary expansion joint bulkheads are attached to adjacent deck slabs or abutments for support, the Contractor shall cut the attachments as soon as the concrete has set to prevent joint damage due to horizontal contraction or expansion.

General Notes
 Montague Road over US 20
 FAP 301 (US 20)
 Section (2HB)M
 Winnebago County
 Structure Number 101-0094

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	(2HB)M	WINNEBAGO	13	4
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT		

Traffic Control Plan – Deck

Refer to Traffic Control & Protection Standard 701321 for additional details and requirements.
Stage I Shown. Stage II similar.



Temporary Bridge Traffic Signals	
	Each
Standard 701321	1
Total	1

Temporary Impact Attenuators	
	Each
Stage I	2
Total	2

Workzone Pavement Marking Removal	
	Sq Ft
Stage II	200
Post Stage II	200
Stop Bars	48
Total	448

Traffic Control & Protection Std 701321	
	Each
Entire Project	1
Total	1

Pavement Marking Tape, Type III 24"	
	Foot
Stop Bars	24
Total	24

Temporary Pavement Marking 4"	
	Foot
±Sta 196+26 to 203+78 Stage I	800
±Sta 196+26 to 203+78 Stage II	800
Total	1600

Relocate Temporary Concrete Barrier	
	Foot
Temporary Storage between Stages	400
Stage II	400
Total	800

Temporary Concrete Barrier	
	Foot
Standard 701321	400
Total	400

Short Term Pavement Marking	
	Foot
Post Stage II	50
Total	50

Pavement Marking Removal	
	Sq Ft
Stage I	270
Total	270

Relocate Temporary Impact Attenuators	
	Each
Stage II	2
Total	2

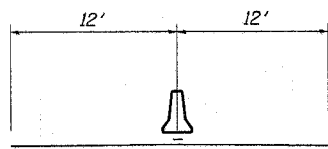
Traffic Control Plan - Deck
Montague Road over US 20
FAP 301 (US 20)
Section (2HB)M
Winnebago County
Structure Number 101-0094

PLT DATE = Mon Jun 04 14:42:12 2007
PLT USER = jmk
PLT SCALE = 500000
PLT SHEET = 7
USER NAME = jmk

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	(2HB)M	WINNEBAGO	13	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



Traffic Control Plan – Painting



Cross Section

Traffic Control & Protection Std 701402

	L	Sum
Entire Project	1	
Total	1	

Temporary Concrete Barrier

	Foot
Standard 701321	300
Total	300

Relocate Temporary Concrete Barrier

	Foot
Taper (Closure 1 to Closure 2)	150
Closure 2 to Closure 3	300
Taper (Closure 3 to Closure 4)	150
Total	600

Temporary Impact Attenuators

	Each
Stage I	1
Total	1

Relocate Temporary Impact Attenuators

	Each
Stage II	1
Stage III	1
Stage IV	1
Total	3

Traffic Control & Protection Std 701411

	Each
Entire Project	2
Total	2

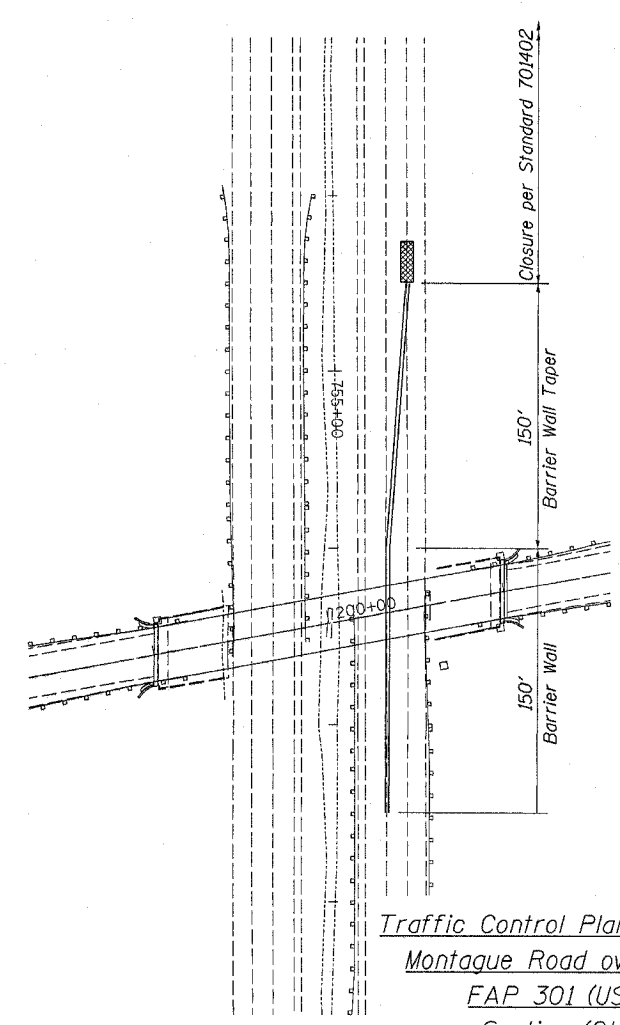
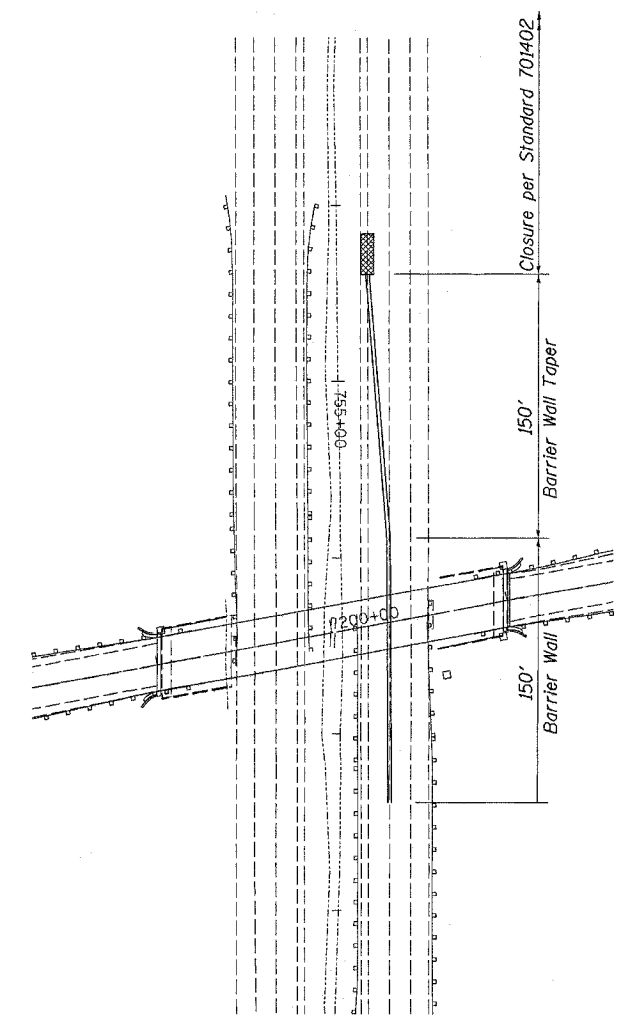
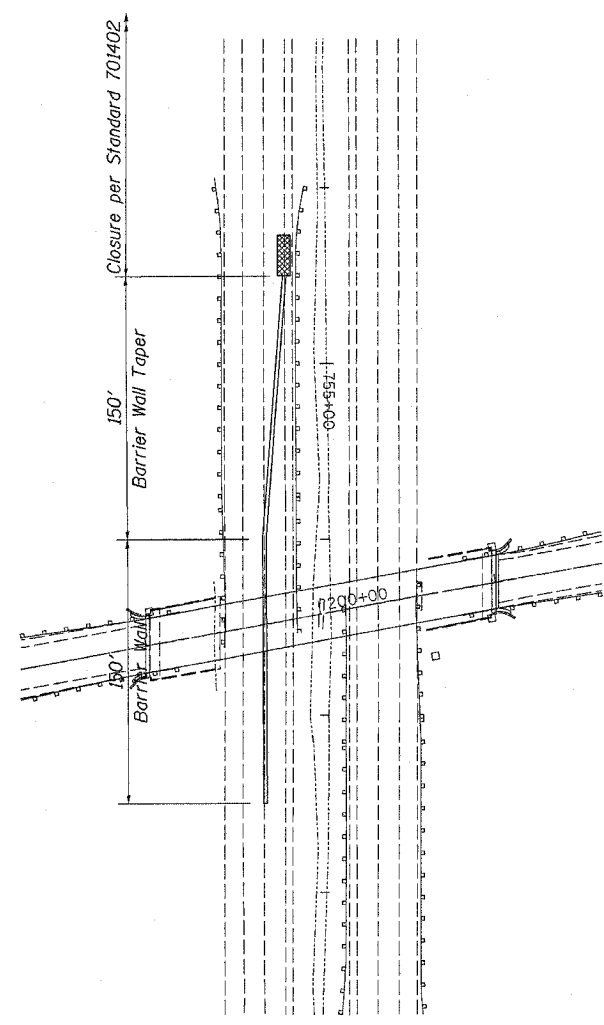
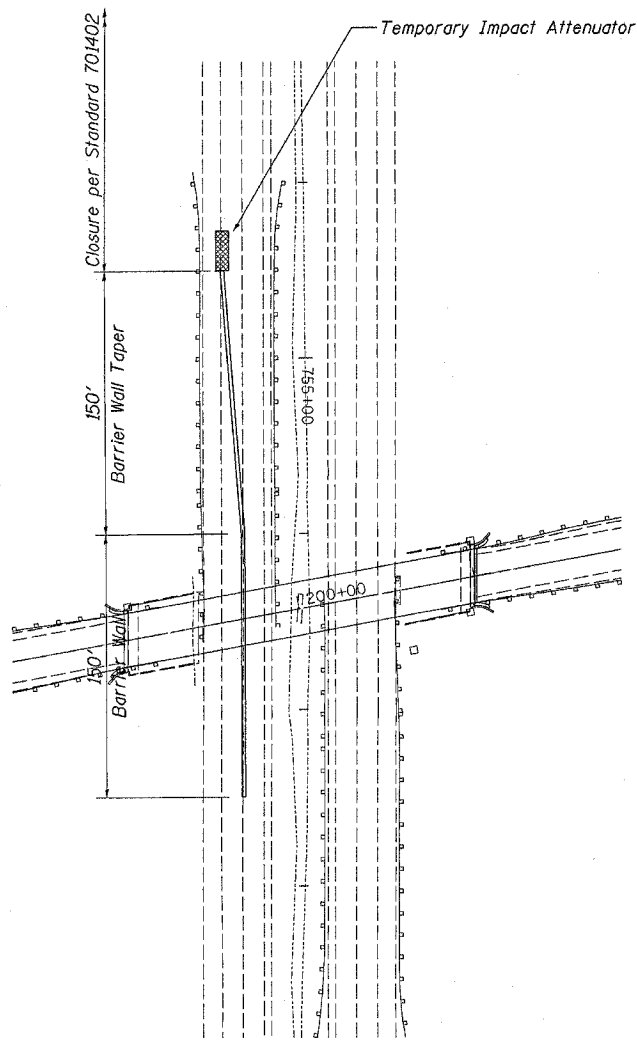
Lane Closure 1

Lane Closure 2

Lane Closure 3

Lane Closure 4

Note: Place the taper for Standard 701402 before the ramp begins and extend the tangent section through the ramp in conjunction with standard 701411.



PLOT DATE = Mon Jun 04 14:52:23 2007
 PLOT SCALE = 5/8" = 1' / IN.
 USER NAME = jmkdj

Traffic Control Plan - Painting
 Montague Road over US 20
 FAP 301 (US 20)
 Section (2HB)M
 Winnebago County
 Structure Number 101-0094

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	2HBIM	WINNEBAGO	13	6
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT		

General Notes

Prior to pouring the new concrete deck all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel. Cost to be included in Concrete Removal.

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.

Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

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

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included in the cost of "Concrete Removal".

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures." All existing steel shall be cleaned per Near White Blast Cleaning - SSPC-SP10. All existing steel shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Blue, Munsell No 10B 3/6. The SSPC QP-1 and QP-2 painting contractor certifications will not be required for this bridge.

Total Bill of Material

ITEM	UNIT	QUANTITY
HOT-MIX ASPHALT SURFACE REMOVAL, DECK	SQ YD	652
DECK SLAB REPAIR (PARTIAL)	SQ YD	112
DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	77
DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	20
CONCRETE REMOVAL	CU YD	13.0
CONCRETE SUPERSTRUCTURE	CU YD	12.6
REINFORCEMENT BARS, EPOXY COATED	POUND	1610
BAR SPLICERS	EACH	26
SHEET WATERPROOFING MEMBRANE SYSTEM	SQ YD	655
PREFORMED JOINT STRIP SEAL	FOOT	72
FLOOR DRAINS	EACH	12
HOT-MIX ASPHALT SURFACE COURSE, MIX "D" N50	TON	94
SLOPE WALL 4 INCH	SQ YD	440
CLEANING AND PAINTING STEEL BRIDGE	L SUM	1
CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	L SUM	1
POROUS GRANULAR EMBANKMENT	CU YD	25
PROTECTIVE SHIELD	SQ YD	112
FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	4860
TEMPORARY SLAB SUPPORT SYSTEM	L SUM	1
STRUCTURAL STEEL REMOVAL	POUND	4430
TEMPORARY SHORING AND CRIBBING	L SUM	1
BRIDGE CLEANING AND PAINTING WARRANTY	L SUM	1

Plan and Elevation, Bill of Material

and General Notes

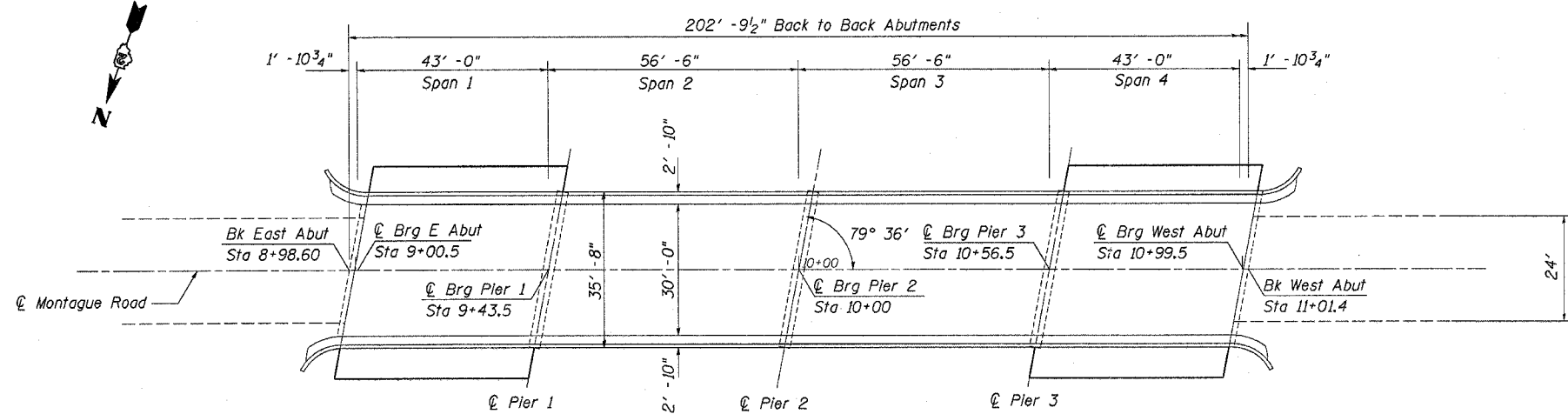
Montague Road over US 20

FAP 301 (US 20)

Section (2HB)M

Winnebago County

Structure Number 101-0094

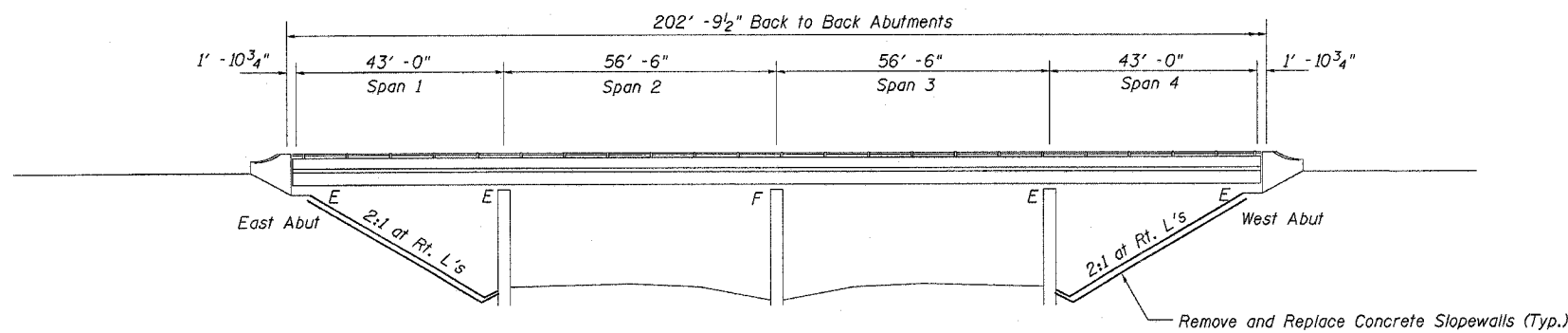


Plan

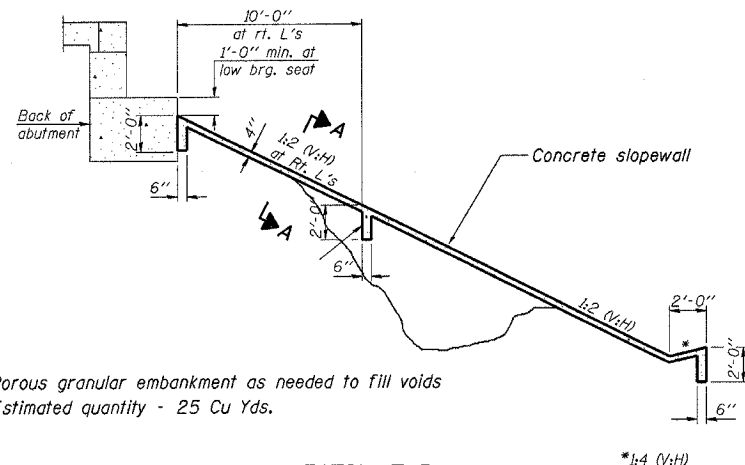
Design Stresses

FIELD UNITS
(New Construction)

f'c = 3,500 psi
fy = 60,000 psi

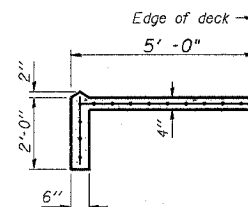


Elevation

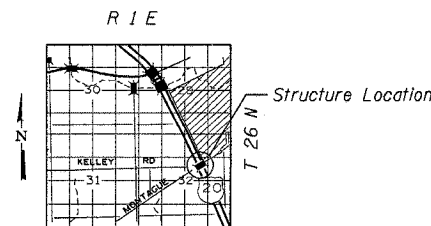


SECTION THRU CONCRETE SLOPEWALL

Removal of existing slope wall is included in the cost of "Concrete Slopewall 4".

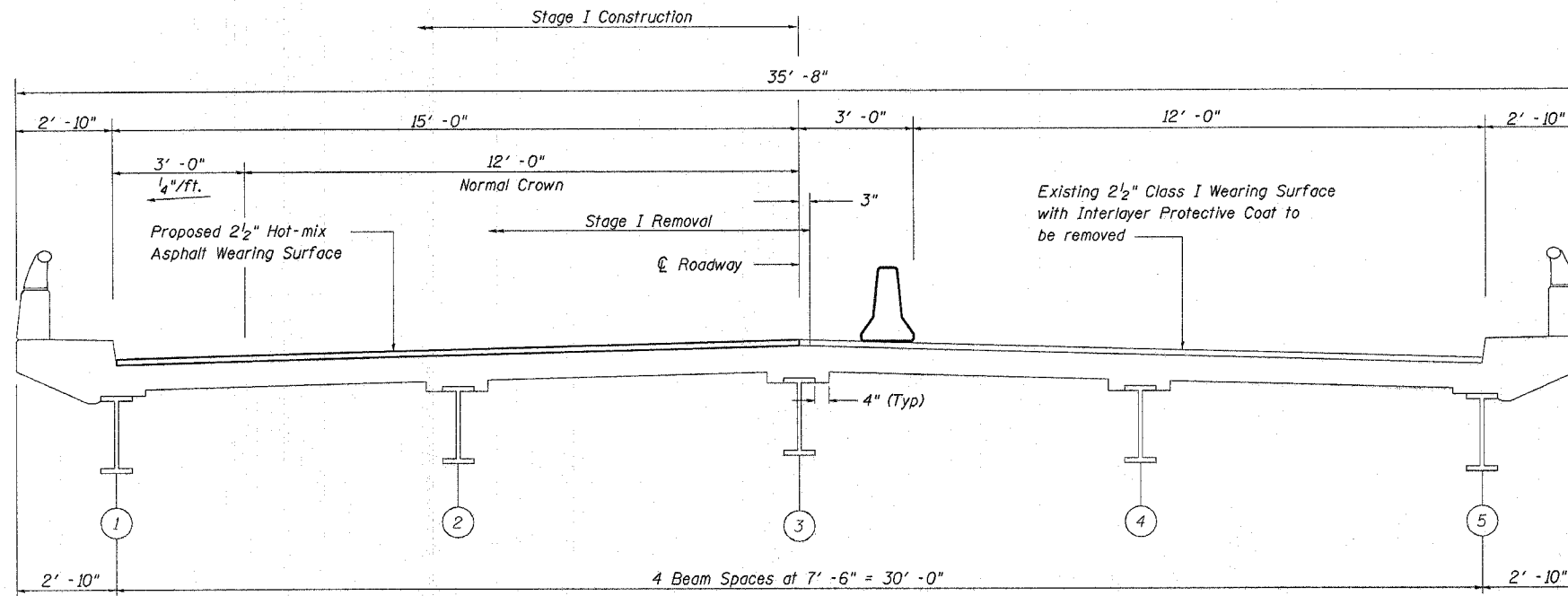


SECTION A-A

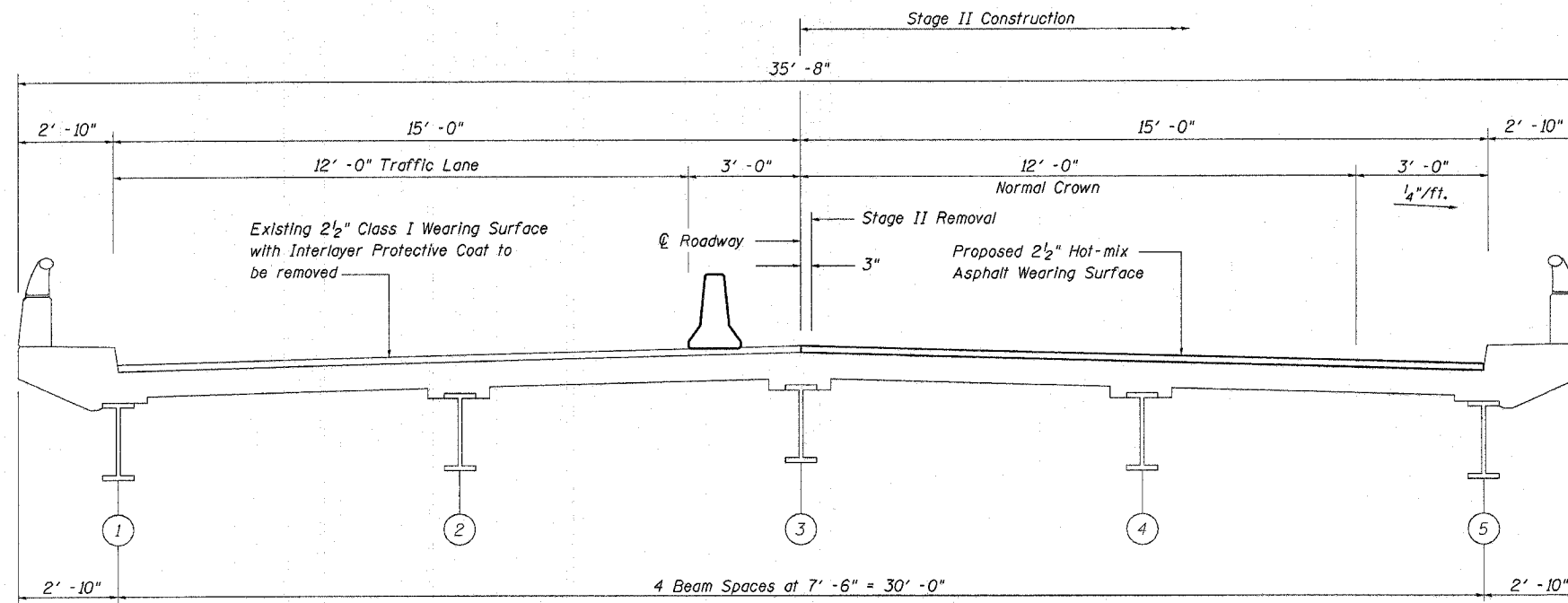


Location Sketch

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	(2HB)M	WINNEBAGO	13	7
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT		



Deck Cross Section - Stage I
(Looking North)

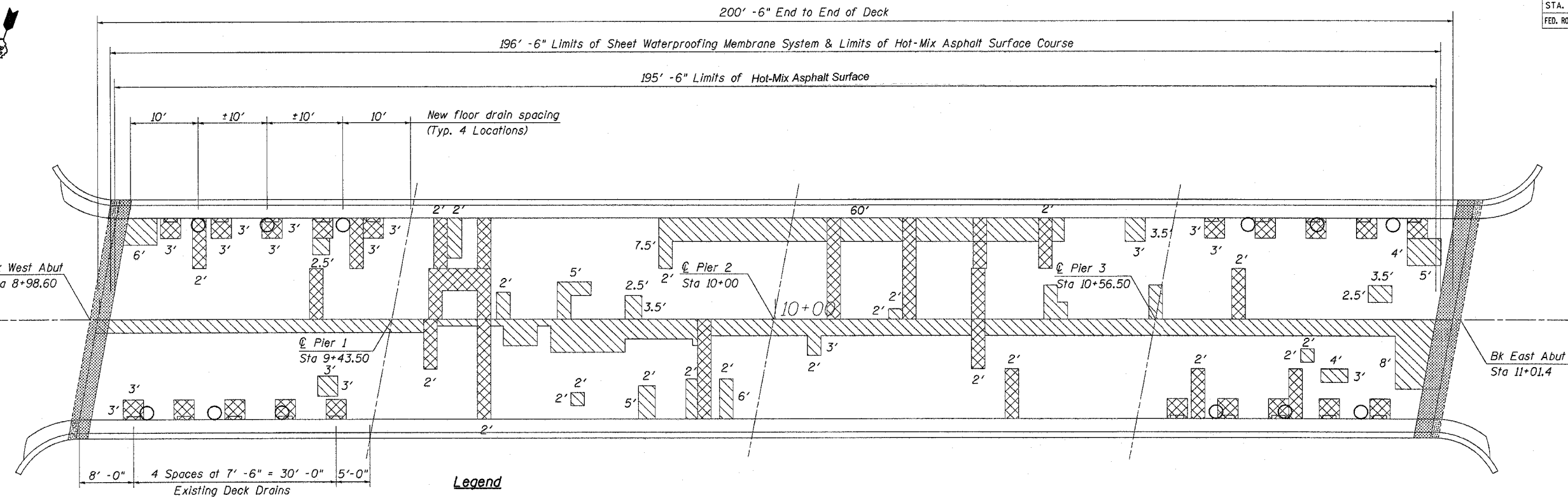


Deck Cross Section - Stage II
(Looking North)

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 USER NAME = jtmcd

Stage Construction
 Montague Road over US 20
 FAP 301 (US 20)
 Section (2HB)M
 Winnebago County
 Structure Number 101-0094

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	(2HB)M	WINNEBAGO	13	8
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT		



Legend

- Concrete Removal
- Deck Slab Repair (Partial Depth)
- Deck Slab Repair (Full Depth)

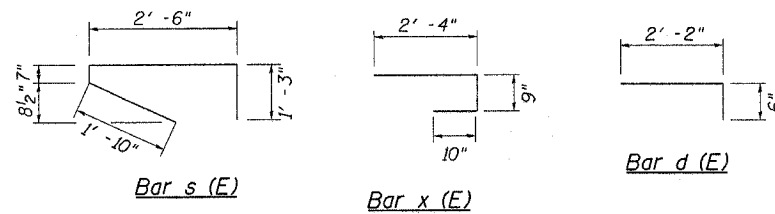
Note: Limits of Protect Shield shall include all areas of Deck Slab Repair (Full Depth) in Spans 2 and 3 or as directed by the Engineer.

Deck Plan

Bill of Material

Bar	No.	Size	Length	Shape
a (E)	20	#6	16' - 8"	—
a ₁ (E)	20	#6	15' - 8"	—
d (E)	12	#5	2' - 8"	—
h (E)	12	#6	14' - 10"	—
s (E)	20	#4	5' - 10"	—
x (E)	64	#5	3' - 11"	—

ITEM	UNIT	QUANTITY
HOT-MIX ASPHALT SURFACE COURSE, MIX D N50	TON	94
HOT-MIX ASPHALT SURFACE REMOVAL, DECK	SQ YD	652
DECK SLAB REPAIR (PARTIAL)	SQ YD	112
DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	77
DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	20
CONCRETE REMOVAL	CU YD	12.2
CONCRETE SUPERSTRUCTURE	CU YD	11.8
REINFORCEMENT BARS, EPOXY COATED	POUND	1610
BAR SPLICERS	EACH	26
SHEET WATERPROOFING MEMBRANE SYSTEM	SQ YD	655
PREFORMED JOINT STRIP SEAL	FOOT	72
FLOOR DRAINS	EACH	12



Notes

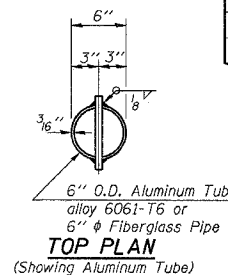
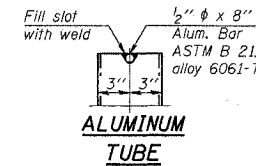
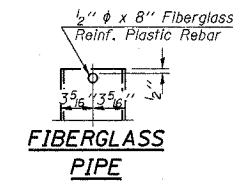
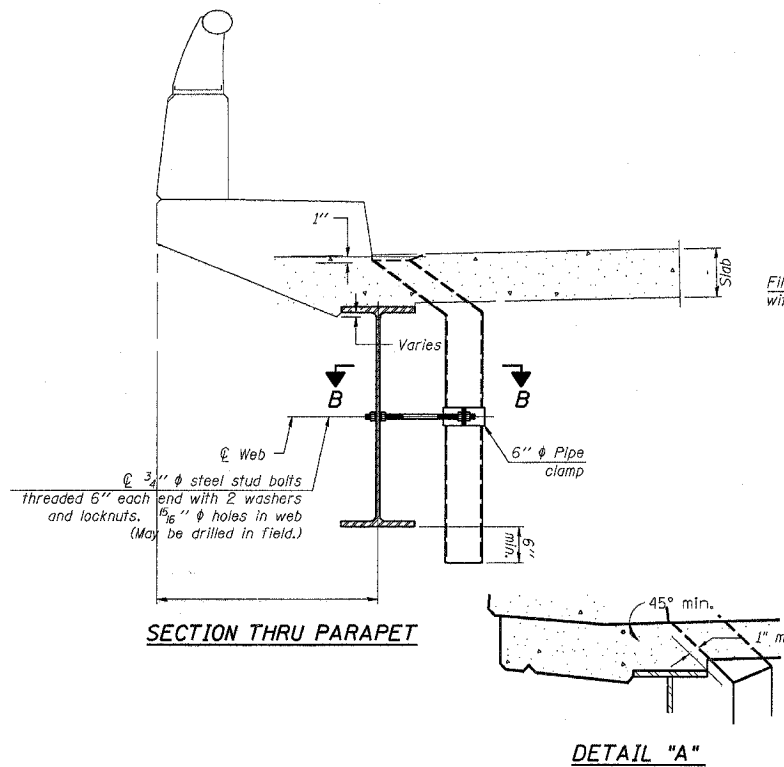
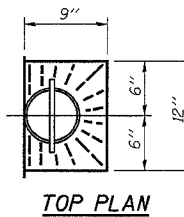
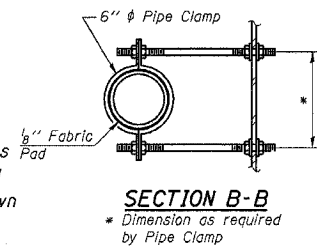
Date of survey: 6/13/05

The plan quantities for Deck Slab Repair (Partial and Full Depth) are estimated quantities from a deck survey by others. The areas shown on the deck repair plans are potential areas of Deck Slab Repair. The Deck Slab Repair quantities in Bills of Material are included as contingencies to be used as directed by the Engineer during construction. The actual locations and quantity of Deck Slab Repair on all structures shall be determined by the resident engineer in the field after removal of the existing wearing surface. Actual repair locations shall be shown on the as-built plans.

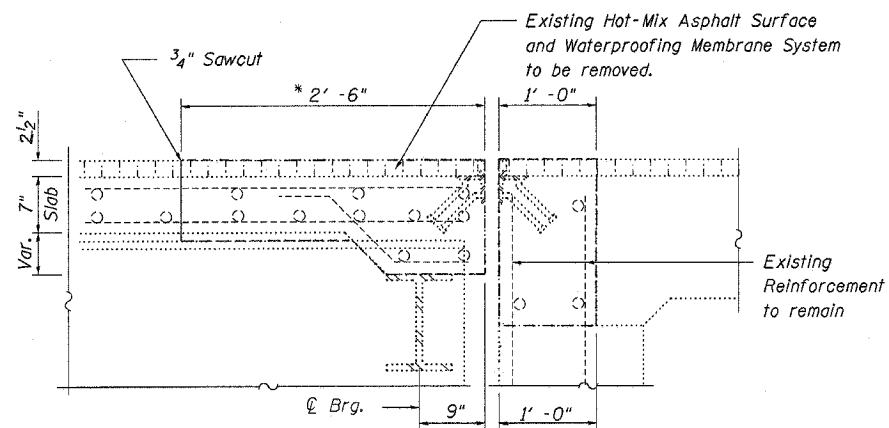
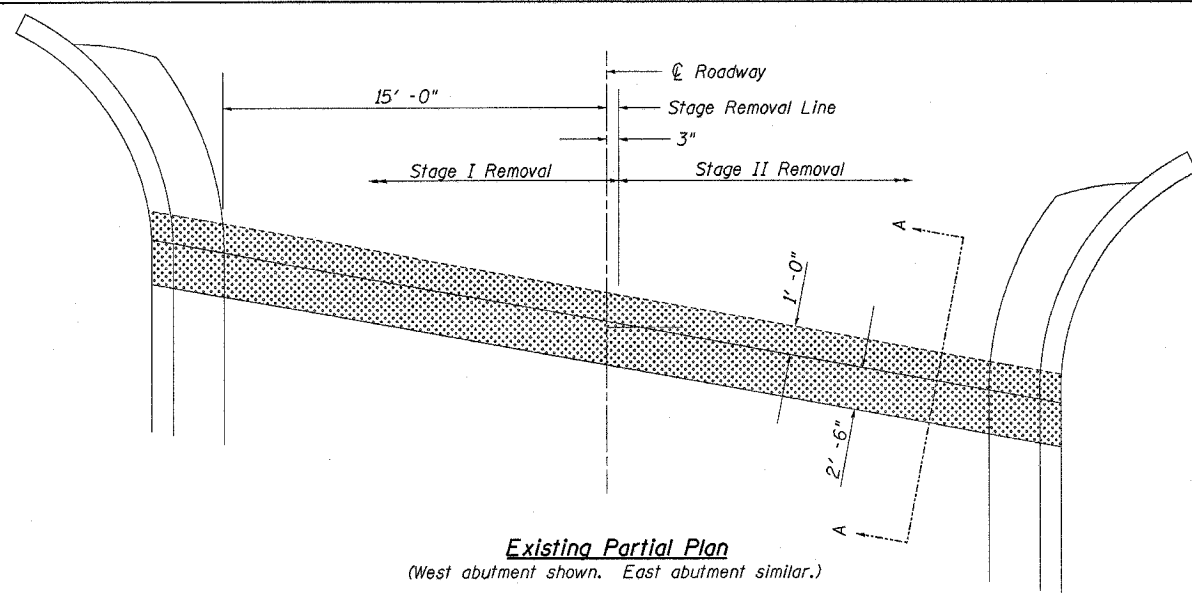
Existing deck drains to be removed with full depth patching operations. Cost included with Deck Slab Repair (Full Depth).

The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Steel Structures Painting Council's Spec. SSPC-SP1 prior to painting.

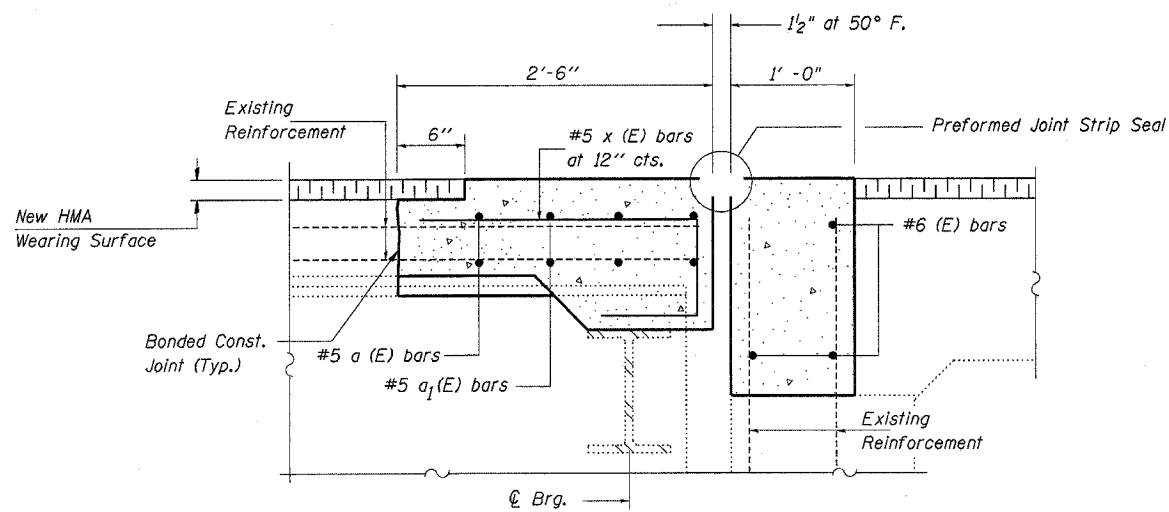
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	(2HB)M	WINNEBAGO	13	9
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____ ILLINOIS FED. AID PROJECT				

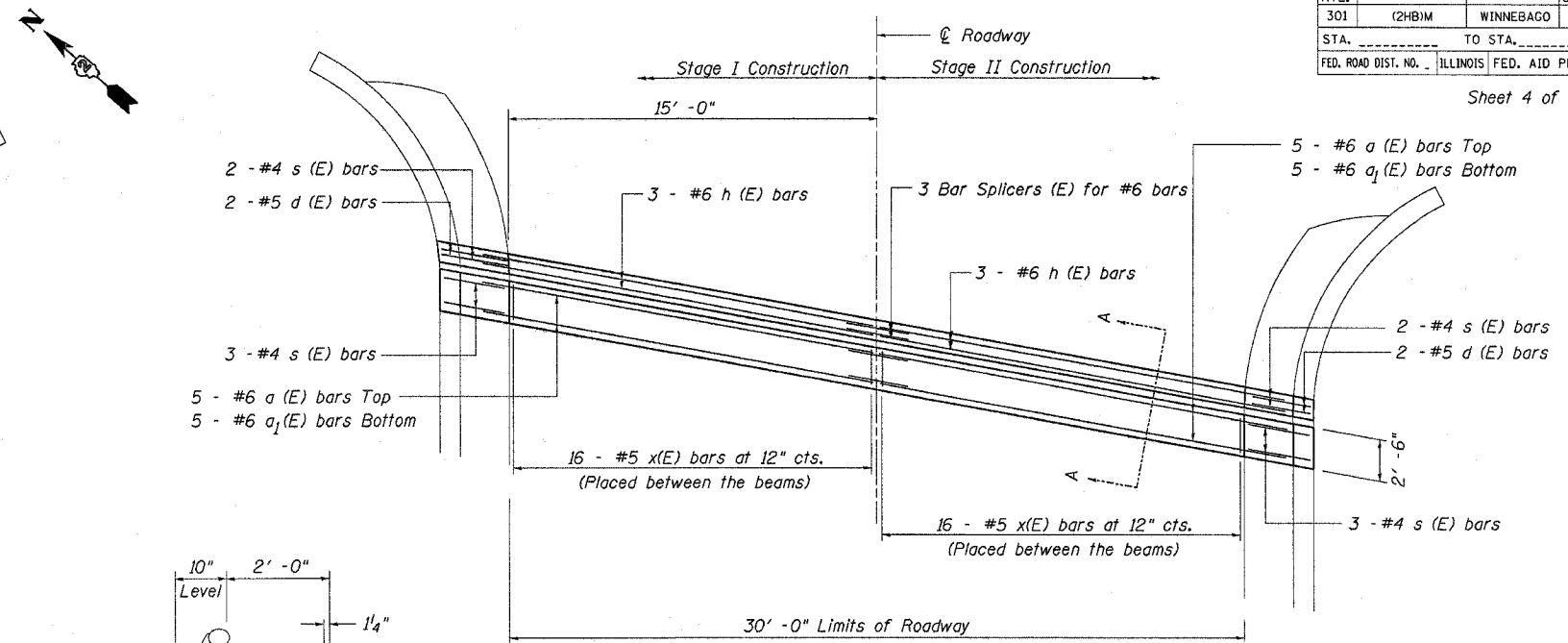


Existing Section A-A



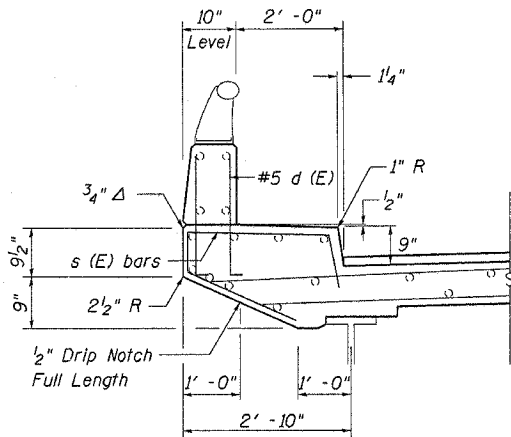
Proposed Section A-A

Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Base Sheet EJ-SSJ.

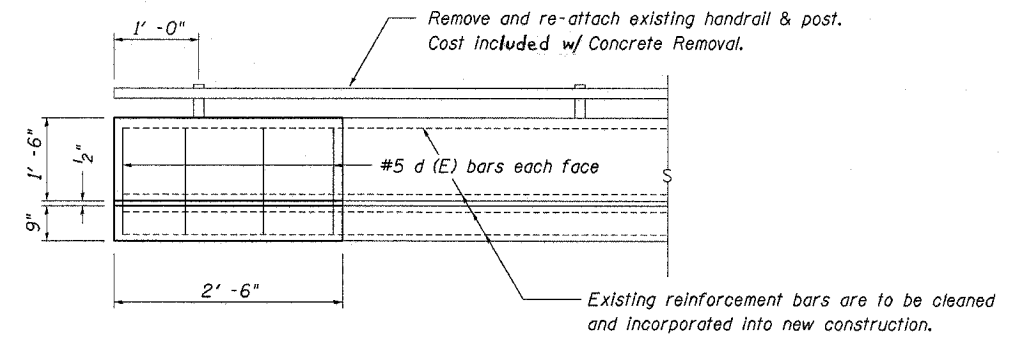


Proposed Partial Plan

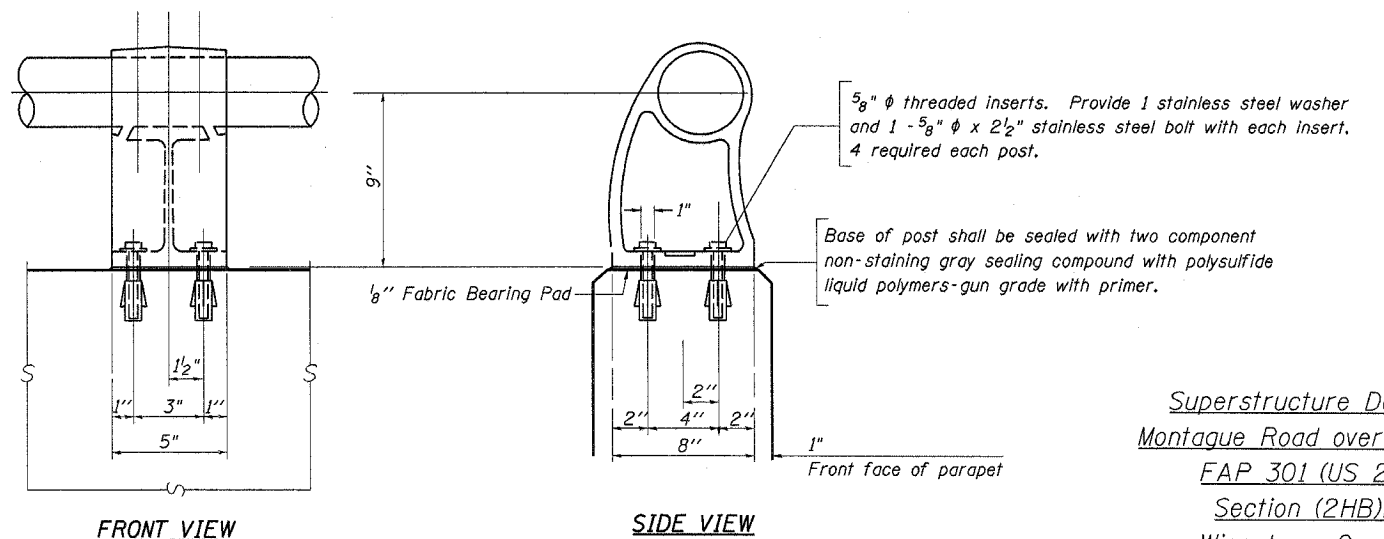
(West abutment shown. East abutment similar.)



Sidewalk Section



Partial Rail Elevation



FRONT VIEW

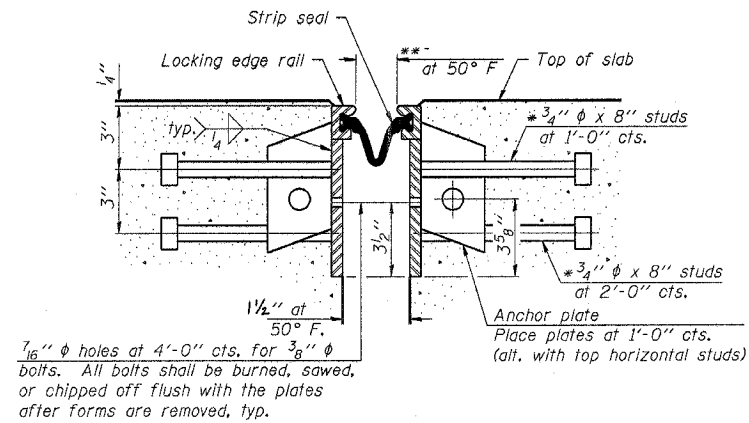
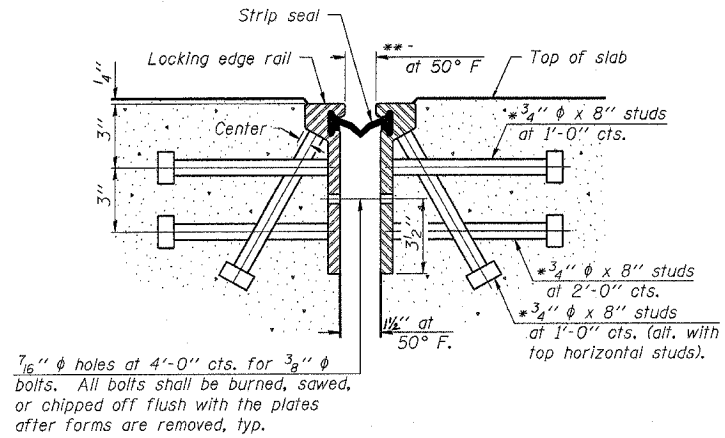
SIDE VIEW

Superstructure Details
Montague Road over US 20
FAP 301 (US 20)
Section (2HB)M
Winnebago County
Structure Number 101-0094

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	(2HB)M	WINNEBAGO	13	10
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

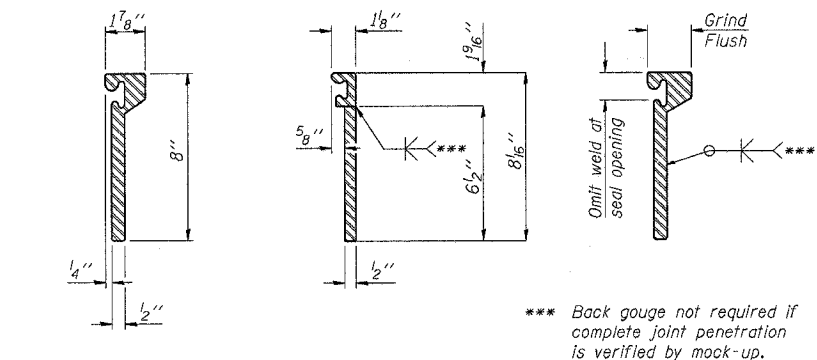
** When joint is fixed, dimension is set at 1 1/2".



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

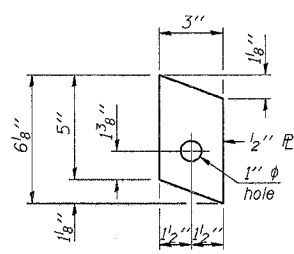
SECTION THRU ROLLED RAIL JOINT

SECTION THRU WELDED RAIL JOINT

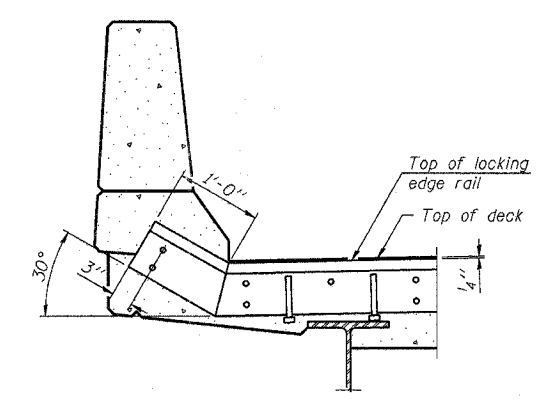


ROLLED (EXTRUDED) RAIL WELDED RAIL

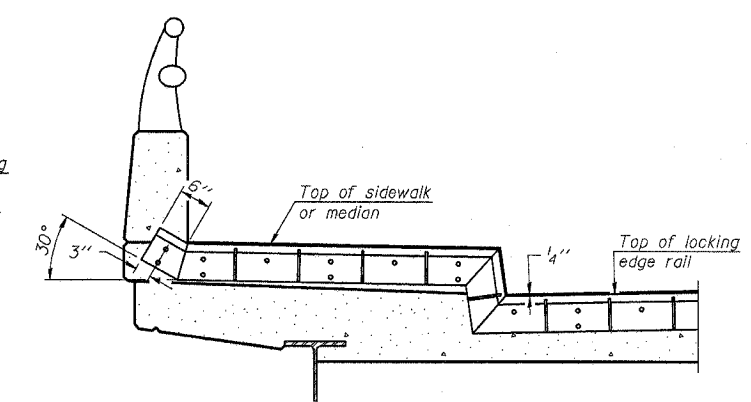
*** Back gouge not required if complete joint penetration is verified by mock-up.
LOCKING EDGE RAIL SPLICE
 The inside of the locking edge rail groove shall be free of weld residue.



ANCHOR PLATE (for welded rail)

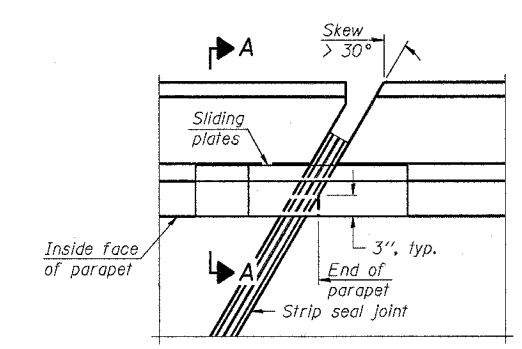


AT PARAPET

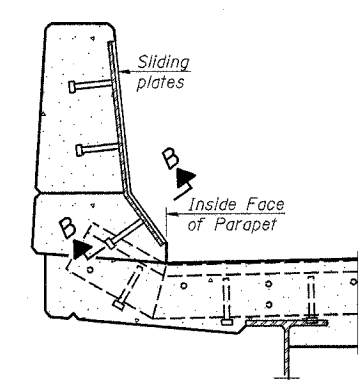


AT SIDEWALK OR MEDIAN
 Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

LOCKING EDGE RAILS



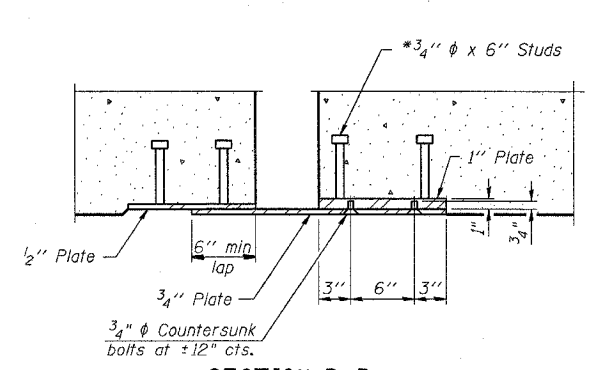
PLAN



SECTION A-A

POINT BLOCK DETAILS (for skews > 30°)

TYPICAL END TREATMENTS



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	72

PREFORMED JOINT STRIP SEAL
 Montague Road over US 20
 FAP 301 (US 20)
 Section (2HB)M
 Winnebago County
 Structure Number 101-0094

PLOT DATE = Mon Jun 04 14:43:05 2007
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 USER NAME = jtreed

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	(2HB)M	WINNEBAGO	13	11
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____ ILLINOIS FED. AID PROJECT				

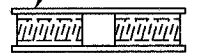
The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



**** ONE PIECE**

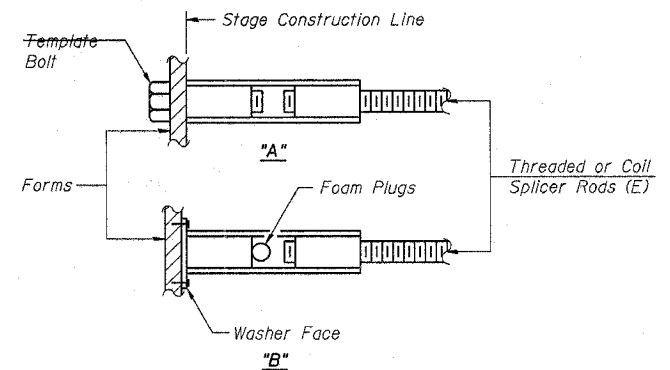
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

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

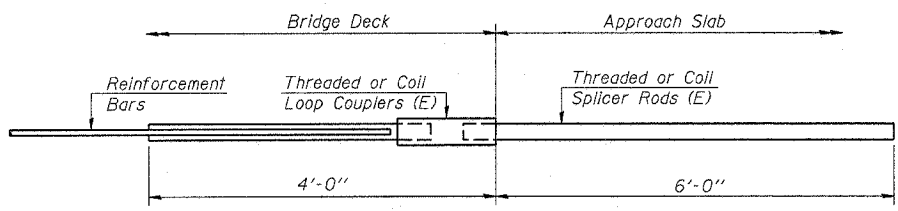
NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
 All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times f_y \times A_l$
 (Tension in kips)
- ② Minimum *Pull-out Strength = $0.66 \times f_y \times A_l$
 (Tension in kips)

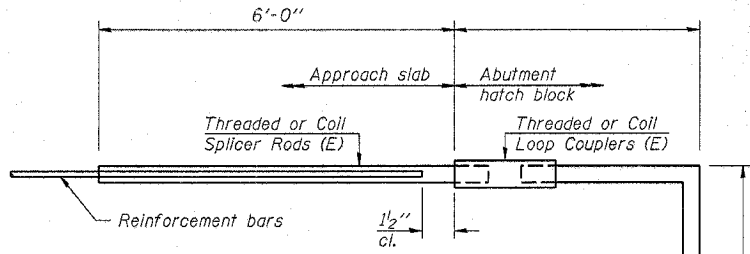
Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_l = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



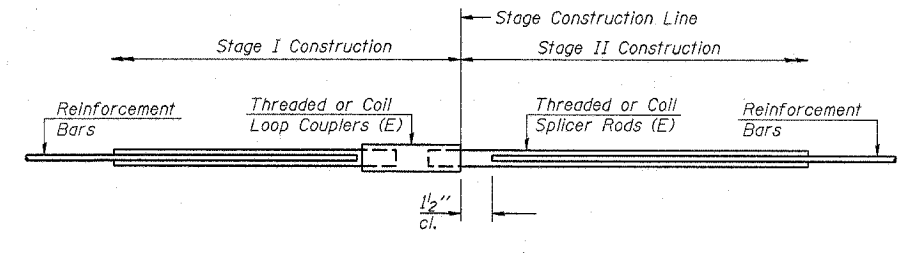
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#5	20	Deck
#6	6	Abutments

BAR SPLICER ASSEMBLY DETAILS

Montague Road over US 20
 FAP 301 (US 20)
 Section (2HB)M
 Winnebago County
 Structure Number 101-0094

PLOT DATE = Mon Jun 04 14:32:4 2007
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 USER NAME = lunkel

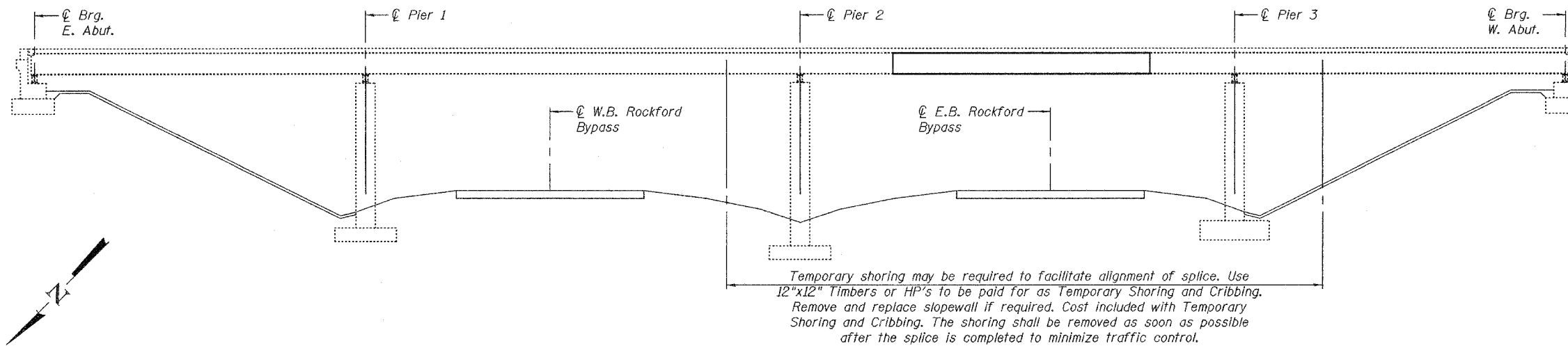
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO. 1 2 SHEETS
		Winnebago	13	12	
FED. ROAD DIST. NO. 7		S.L.LINES		FED. AID PROJECT	

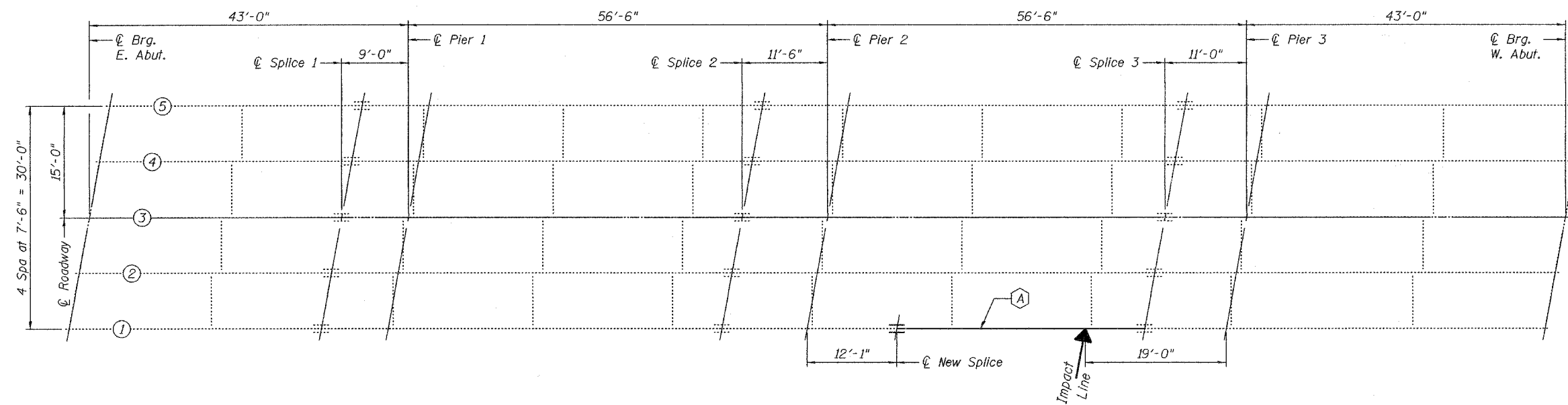
Contract Number: 64D49

NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
Fasteners shall be high strength bolts. Flange splice holes shall be $\frac{15}{16}$ " ϕ for $\frac{7}{8}$ " ϕ bolts. Web splice holes shall be $\frac{13}{16}$ " ϕ for $\frac{3}{4}$ " ϕ bolts.
The Contractor shall provide support and/or shoring systems for the slab and beam in the area of existing beam removal. See Special Provisions "Temporary Shoring and Cribbing" and "Temporary Slab Support System."
After the new beam is in its final position and/or beam straightening operations have been completed, the Engineer in the field shall check to see that the top flange is tight against the slab. If not, the Contractor shall inject epoxy between the existing concrete deck and the top flange of the beam. See Special Provision "Epoxy Injection".
Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Blue Munsell No. 10B 3/6. See Special Provision "Cleaning and Painting New Metal Structures".
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
Existing reinforcement bars 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 included with Concrete Removal.
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
Diaphragm connection holes shall be $\frac{15}{16}$ " ϕ for $\frac{3}{4}$ " ϕ bolts. Two hardened washers shall be required at diaphragm connections.
Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.
Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Furnishing and Erecting Structural Steel.
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
No field welding is permitted except as specified in the contract documents.



ELEVATION



PLAN

(A) Remove and Replace W33x130 Section

All existing beams are W33x130
All interior diaphragms are W16x36
All end diaphragms are W12x40

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	0.8
Concrete Superstructure	Cu. Yd.	0.8
Furnishing and Erecting Structural Steel	Pound	4,860
Temporary Slab Support System	L.S.	1
Structural Steel Removal	Pound	4,430
Temporary Shoring and Cribbing	L.S.	1

PLAN AND ELEVATION
F.A. RT. 194
WINNEBAGO COUNTY
SN 101-0094

DESIGNED: [Signature]
CHECKED: [Signature]
DRAWN: [Signature]
CHECKED: 558 AIB

EXAMINED: [Signature]
PASSED: [Signature]

June 21, 2007
REPAIR DIVISION UNIT CHIEF
ENGINEER OF BRIDGES AND STRUCTURES



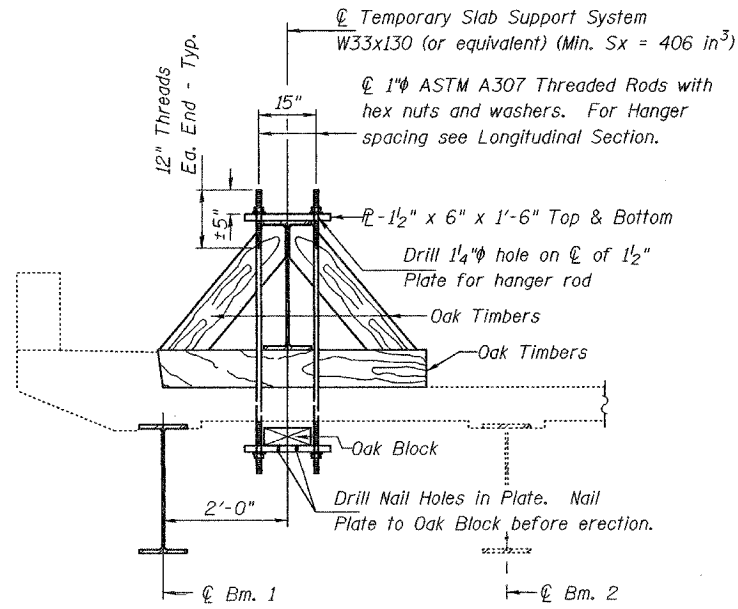
Expires: November 30, 2008

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

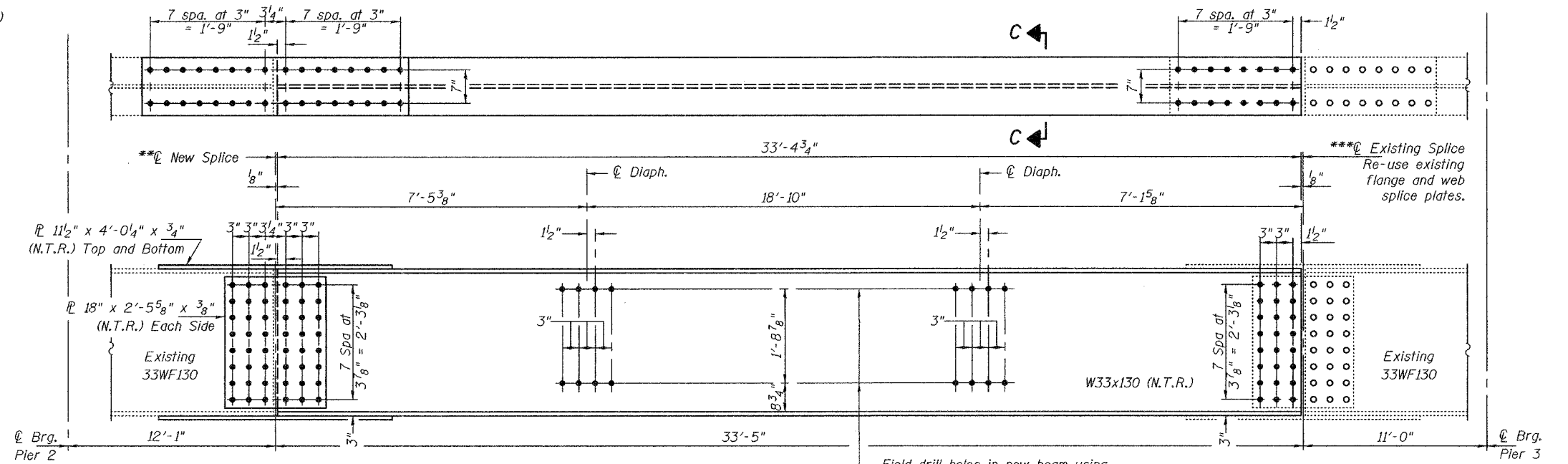
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Winnebago	13	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2
2 SHEETS

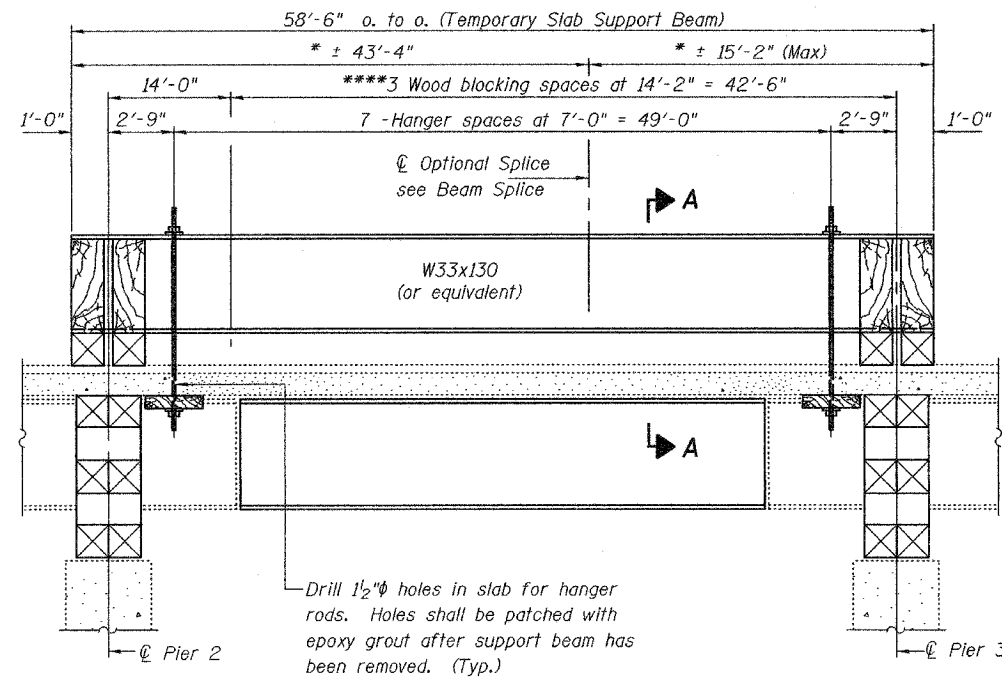
Contract Number: 64D49



SECTION A-A

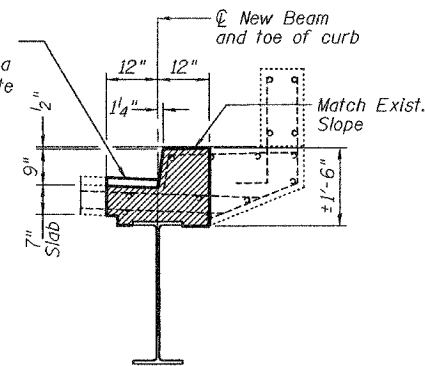


ELEVATION BEAM



LONGITUDINAL SECTION
SUGGESTED TEMPORARY SLAB SUPPORT SYSTEM

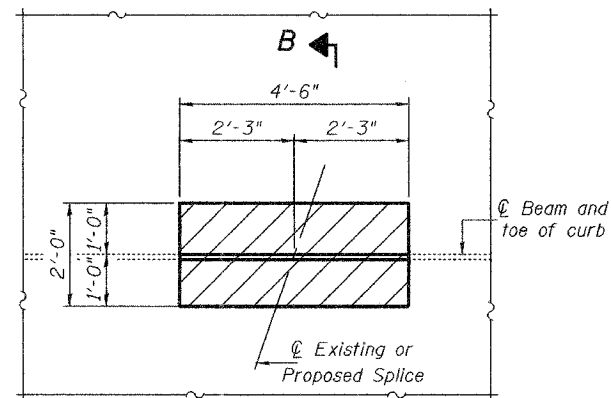
2 1/2" HMA. Cost of HMA surface removal in this area shall be included in Concrete Removal.



SECTION B-B

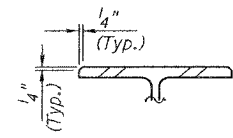
Note:
Natural camber of new beam shall be placed upward for fabrication.

* These dimensions may vary for available beams in stock.
** Use holes in new splice as a template for drilling holes in existing beam.
*** Use holes in existing splice as a template for drilling holes in new beam.
**** Wood blocking between supports to be placed after support beam deflects under its own weight.



TYPICAL CONCRETE SURFACE
REMOVAL AND REPLACEMENT

Hatched areas indicate concrete sections to be removed and replaced. Perimeters of concrete removal areas shall be saw cut 3/4 inch prior to the removal of concrete. Reinforcement shall be cut only if required for fitting bolts. Cut reinforcement shall be spliced as directed by the Engineer. Cost shall be included with Concrete Removal.



SECTION C-C

DESIGNED	S.J.B.
CHECKED	A.J.B.
DRAWN	Drew Christopher
CHECKED	S.J.B. A.J.B.

June 21, 2007
EXAMINED
PASSED
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

REP-2 1-27-2000

BEAM DETAILS
F.A. RT. 194
WINNEBAGO COUNTY
SN 101-0094