

64407

15-2016 LETTING ITEM 092

WINNEBAGO

STATE OF ILLINOIS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	D2 DECK REPAIR 2016-3	WINNEBAGO	25	1

#92

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

FAI 39 ROUTE (I-39)
SECTION D2 DECK REPAIR 2016-3
TYPE of IMPROVEMENT: BRIDGE REPAIR
WINNEBAGO

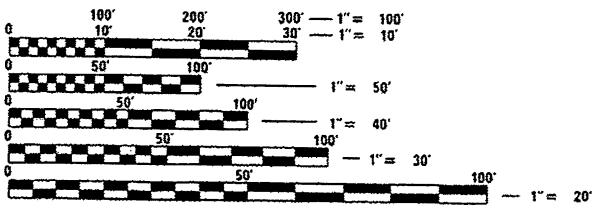
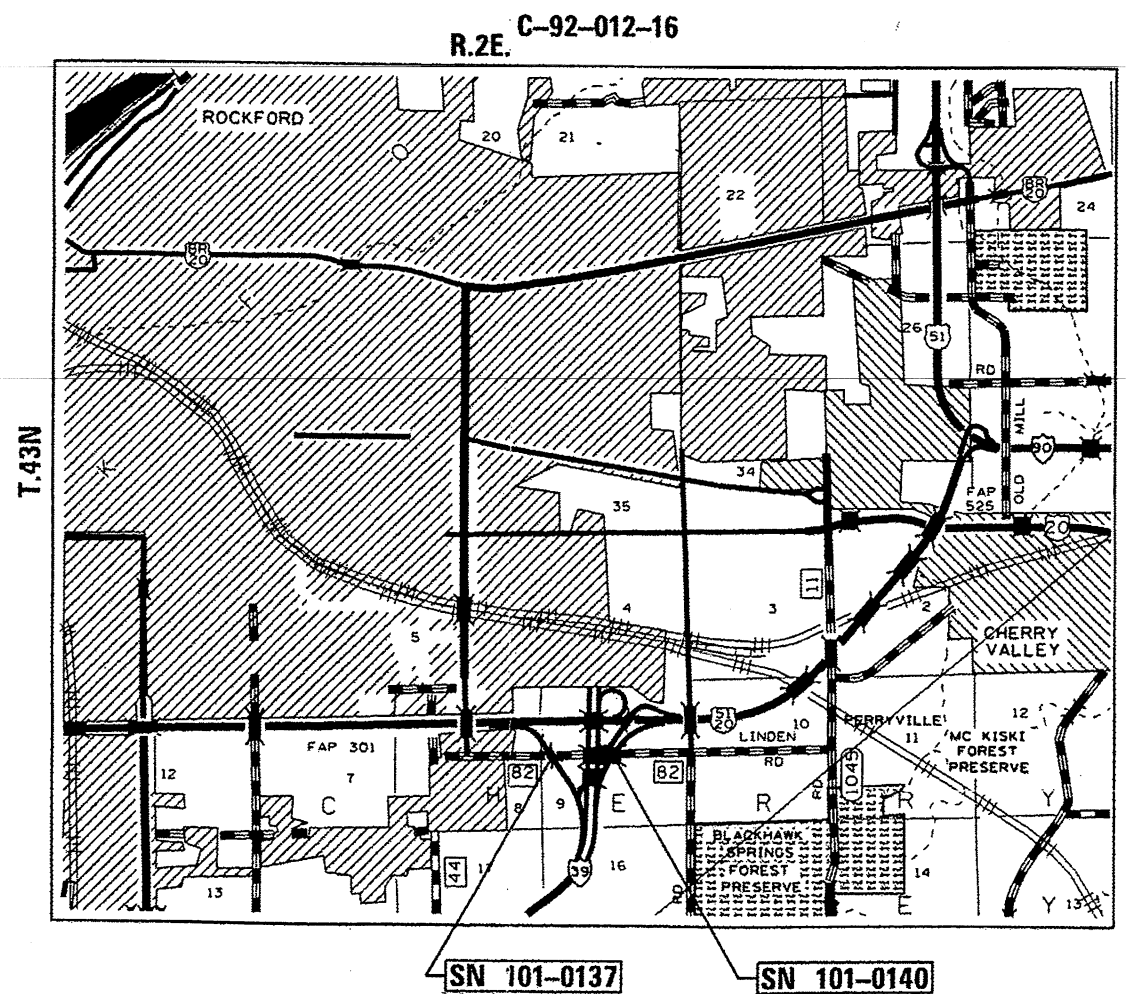
FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR STATE STANDARDS, SEE SHEET NO. 2

100%
6-29-2016

D-92-020-16



CHERRY VALLEY TOWNSHIP, SECTION 9



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

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

PROJECT ENGINEER: DAVID DOSS (815) 284-5416
PROJECT MANAGER: MAHMOUD ETEMADI (815) 284-5393

CONTRACT NO. 64L07 101-0140

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Nov. 9th 2015
Paul C. [Signature]
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Dec 4 2015
John D. Baranzoli, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

Dec 4 2015
Ormer Osman, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

GENERAL NOTES

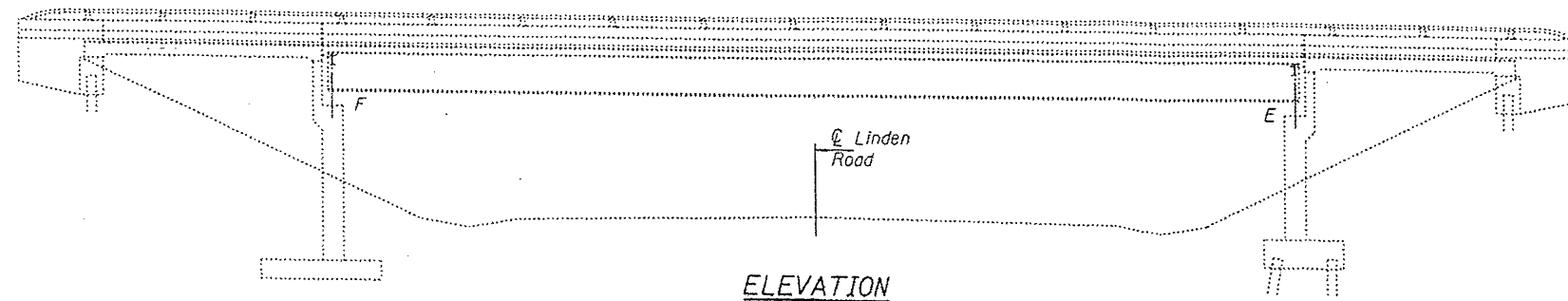
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall 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 at the unit price bid for the work.

Reinforcement bars designated (E) shall be epoxy coated. 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.

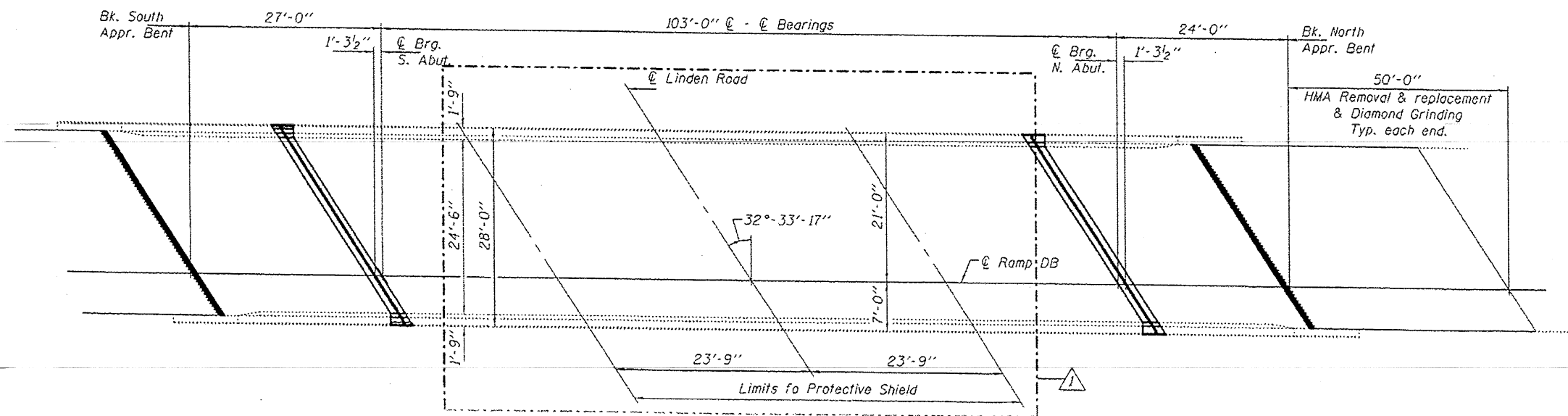
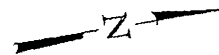
Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

The new deck surface area shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F. Work to be completed under road closure.



ELEVATION

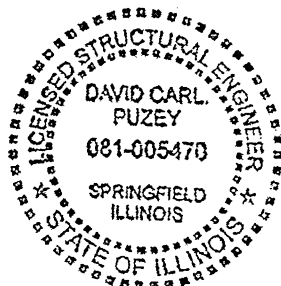


PLAN

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	4.0
Concrete Superstructure	Cu. Yd.	4.0
Reinforcement Bars, Epoxy Coated	Pound	240
Preformed Joint Strip Seal	Foot	61
Polymerized Hot-Mix Asphalt Surface Course, Mix "D", N90	Tons	53
Deck Slab Repair (Partial)	Sq. Yd.	60
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	20
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	20
Profile Diamond Grinding of Concrete Pavement	Sq. Yd.	267
Bituminous Concrete Removal (Deck)	Sq. Yd.	1670.01
Waterproofing Membrane System, Special	Sq. Yd.	403.4
Silicone Joint Sealer	Foot	61
Polymer Concrete	Cu. Ft.	6.0
Protective Shield	Sq. Yd.	116

Quantities are estimated. Actual locations and sizes to be determined in the field, by the Engineer.



EXPIRES 11-30-2016

DESIGNED: *[Signature]*
 CHECKED: *[Signature]*
 DRAWN: *[Signature]*
 CHECKED: *[Signature]*

PASSED

[Signature]
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE NOVEMBER 19, 2015

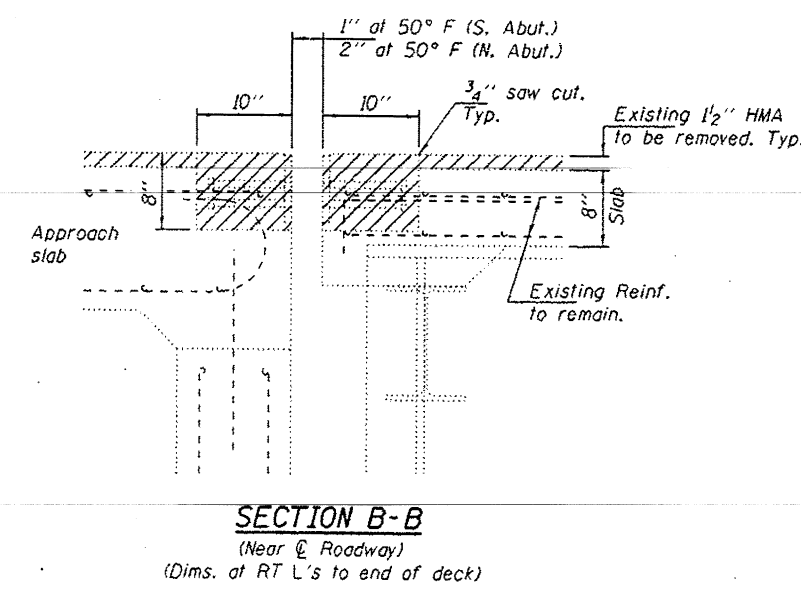
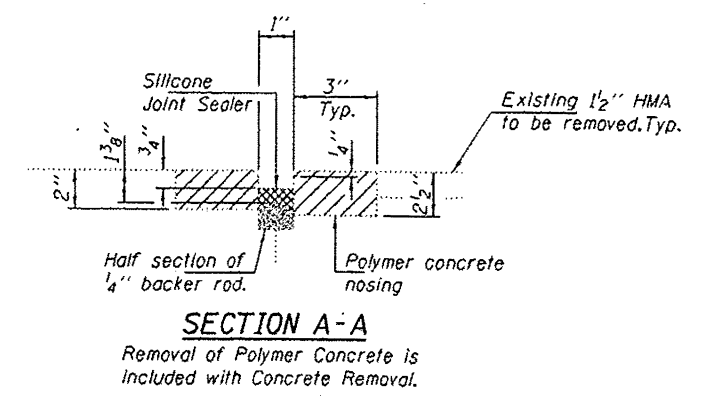
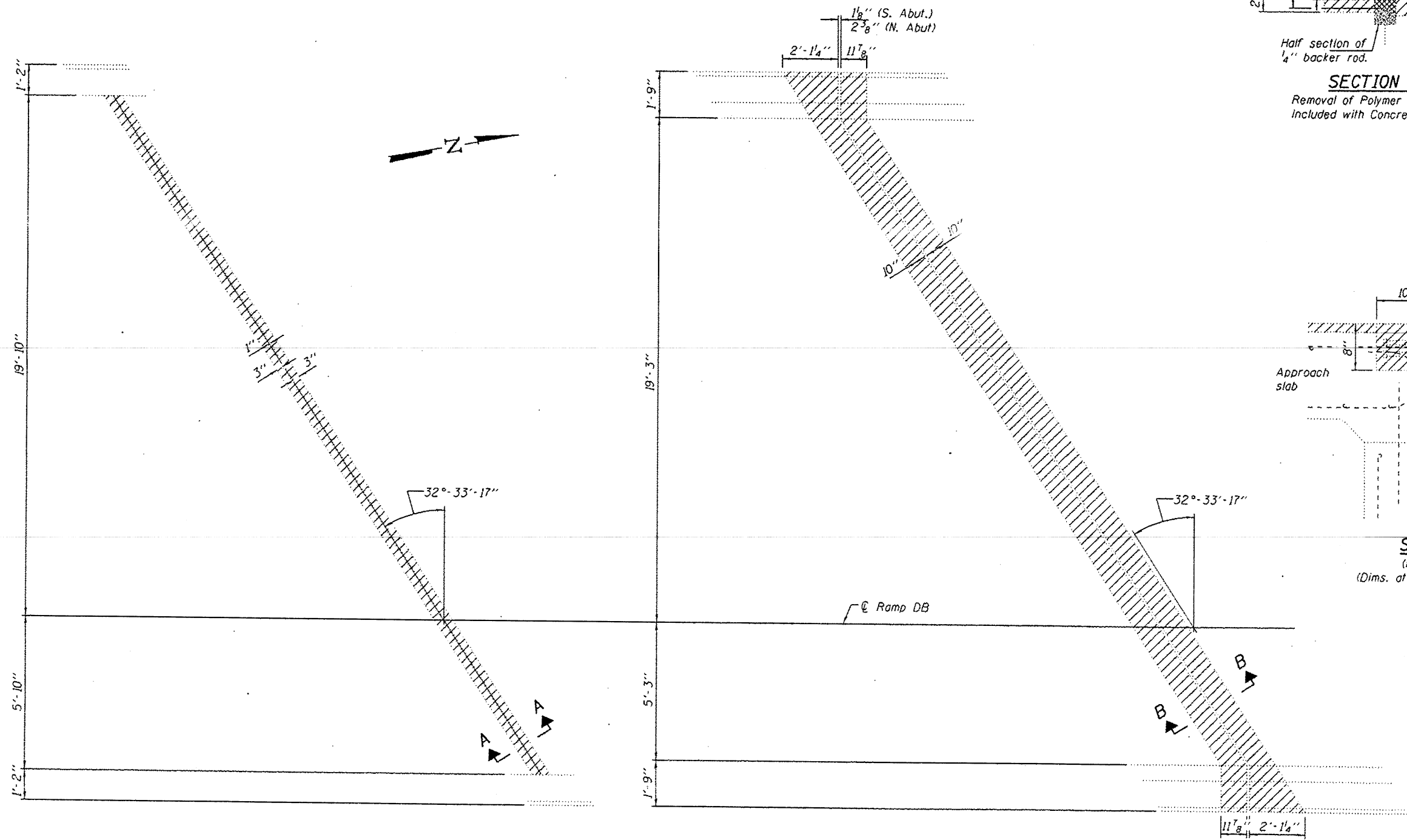
REVISED 12/23/2015 VHV
 REVISED 1/6/2016 VHV

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
 FAI 39 (RAMP DB) OVER LINDEN ROAD
 SN 101-0140

SHEET NO. 1 OF 4 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	02 BRIDGE REPAIR 2016-3	WINNEBAGO	25	17
CONTRACT NO. 64L07			ILLINOIS FED. AID PROJECT	



APPROACH JOINT REMOVAL DETAILS
 (S. Abut. shown, N. Abut. similar)

BRIDGE JOINT REMOVAL DETAILS
 (S. Abut. shown, N. Abut. similar except as noted.)

Notes:
 Hatched areas indicate removal.
 For Bill of Material, see sheet 3 of 4.

DESIGNED *DAB*
 CHECKED *VHV*
 DRAWN *baliva*
 CHECKED *DAB VHV*

PASSED
Carl Perry
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

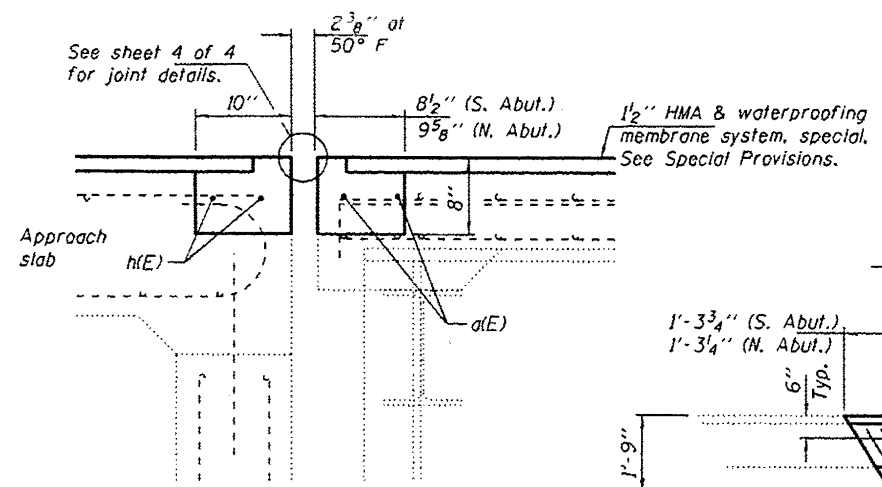
DATE NOVEMBER 19, 2015
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

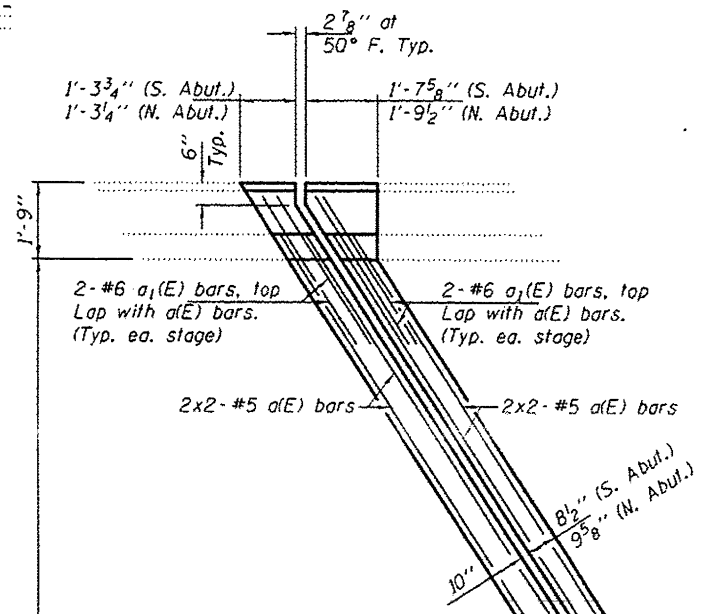
REMOVAL DETAILS
 SN 101-0140

SHEET NO. 2 OF 4 SHEETS

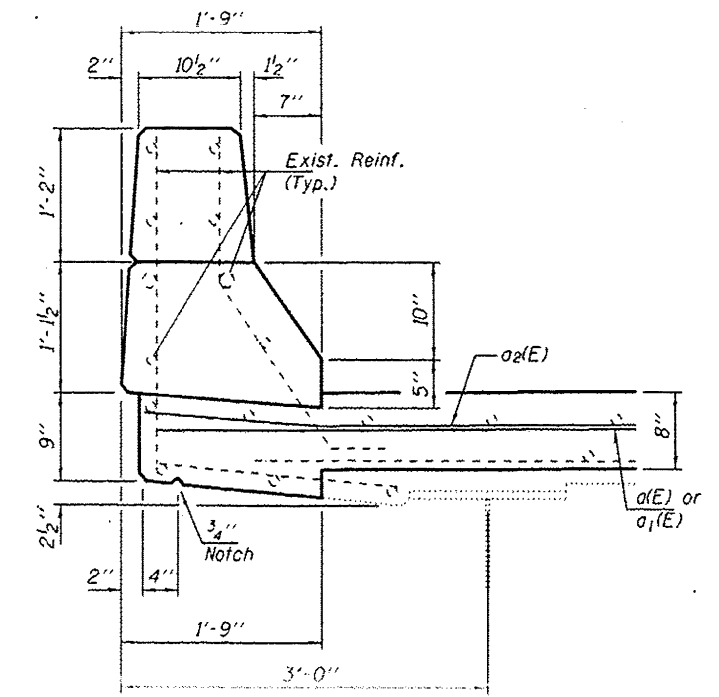
F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	D2 BRIDGE REPAIR 2015-3	WINNEBAGO	25	18
CONTRACT NO. 64L07			ILLINOIS FED. AID PROJECT	



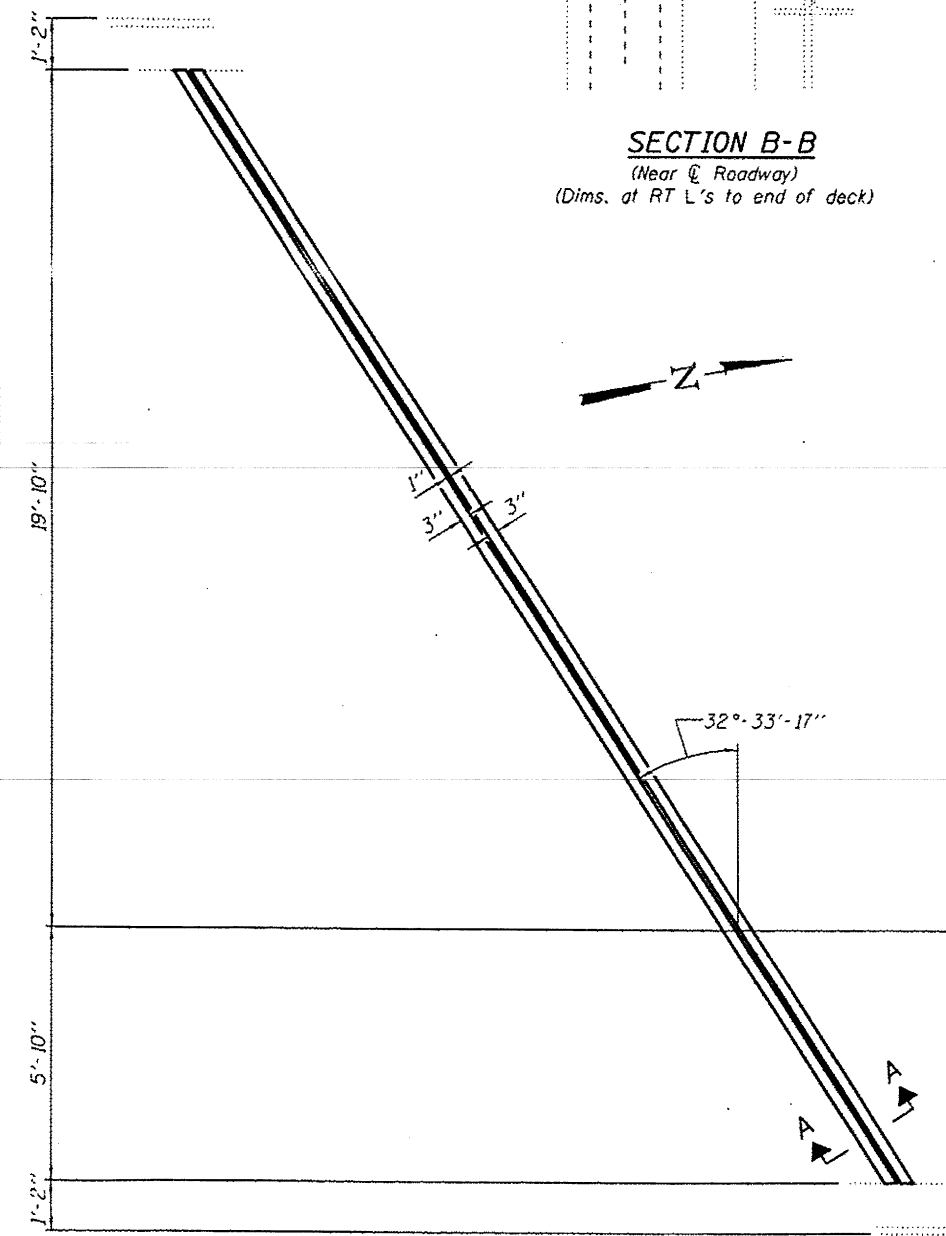
SECTION B-B
(Near Center Roadway)
(Dims. at RT L's to end of deck)



**SECTION THRU
APPROACH PARAPETS**

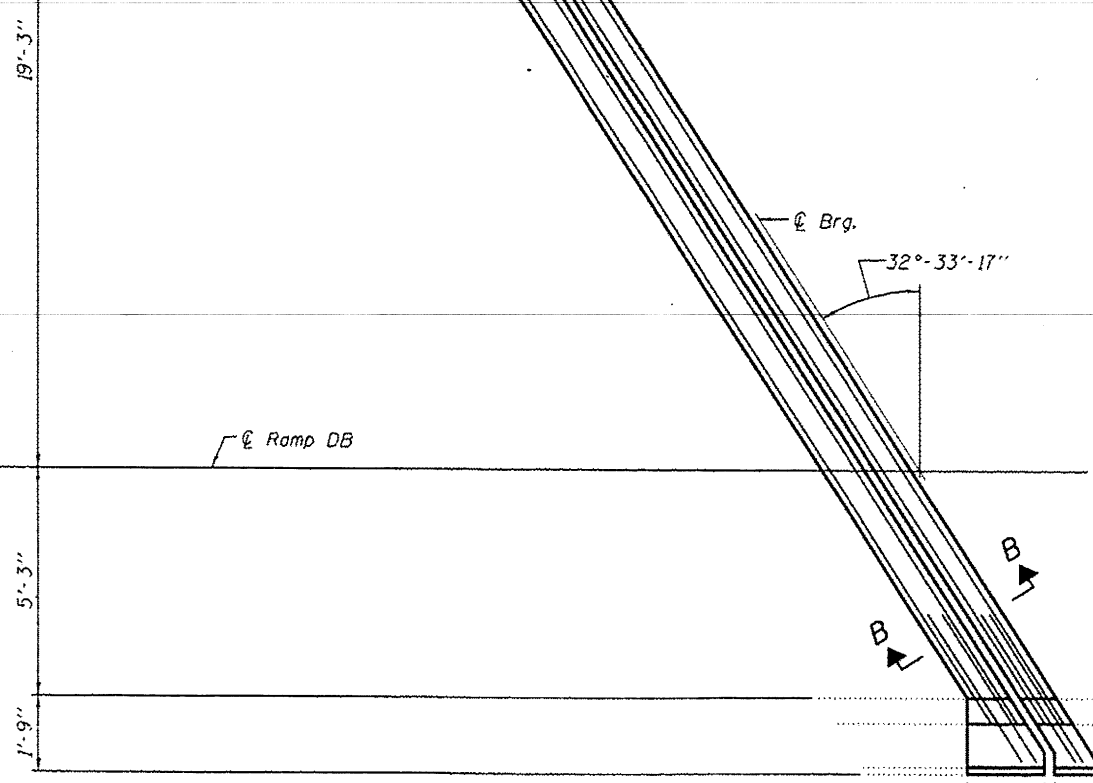


**SECTION THRU
BRIDGE PARAPETS**



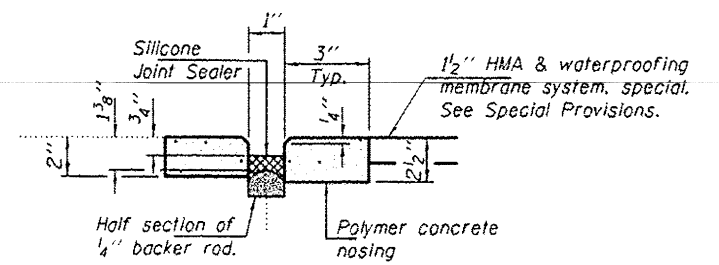
APPROACH JOINT REPLACEMENT DETAILS

(S. Abut. shown
N. Abut. similar)



BRIDGE JOINT REPLACEMENT DETAILS

(S. Abut. shown N. Abut. similar
except as noted.)



SECTION A-A

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a(E)	8	#5	17'-9"	—	
a1(E)	16	#6	4'-0"	—	
Concrete Removal				Cu. Yd.	4.0
Concrete Superstructure				Cu. Yd.	4.0
Reinforcement Bars, Epoxy Coated				Pound	240

DESIGNED DAB
CHECKED VHV
DRAWN baliva
CHECKED DAB VHV

PASSED
Carl Perry
ACTING ENGINEER OF BRIDGES AND STRUCTURES

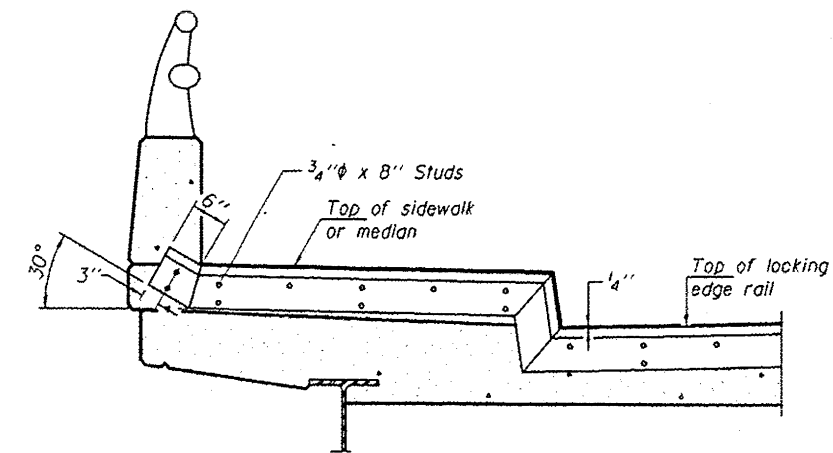
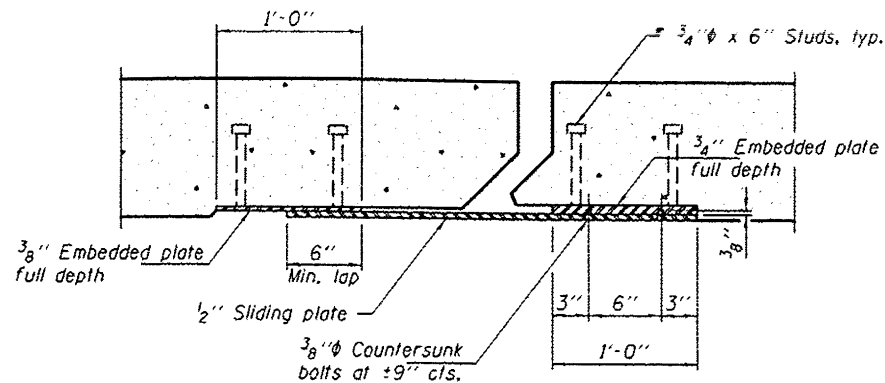
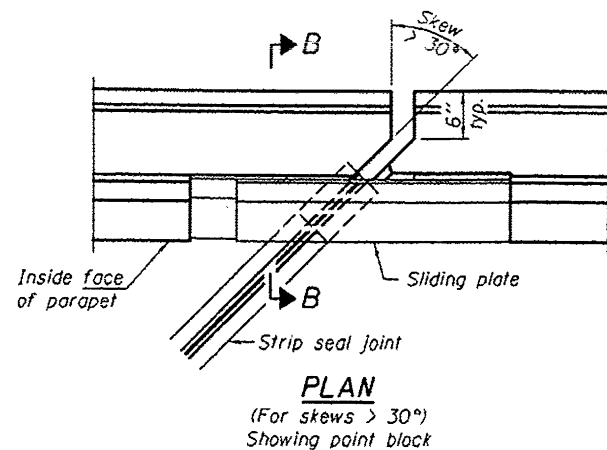
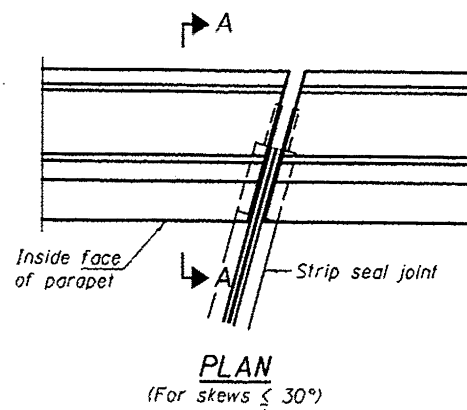
DATE NOVEMBER 19, 2015
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REPLACEMENT DETAILS
SN 101-0140
SHEET NO. 3 OF 4 SHEETS

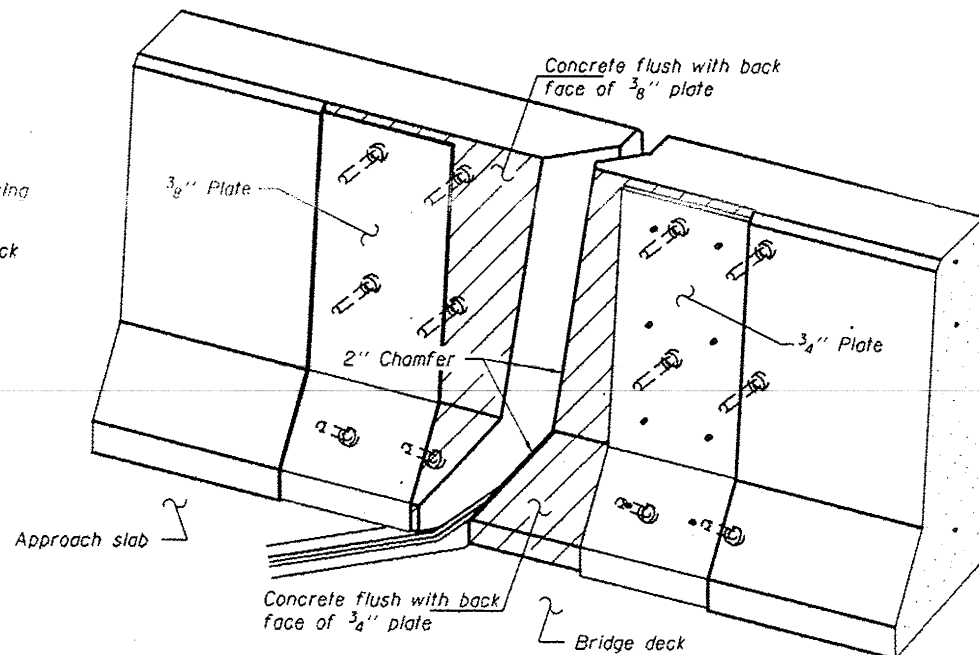
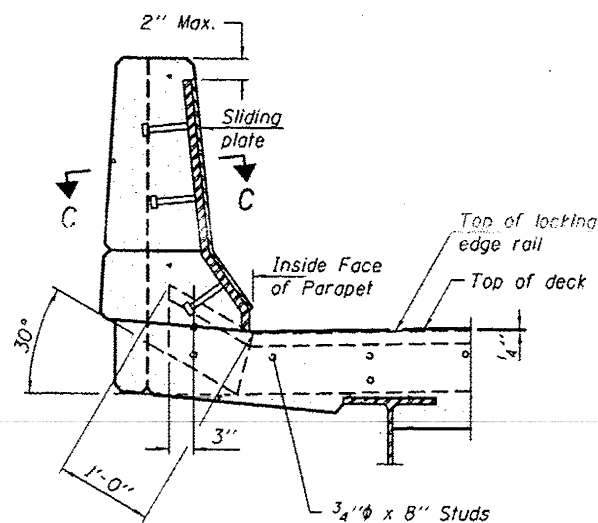
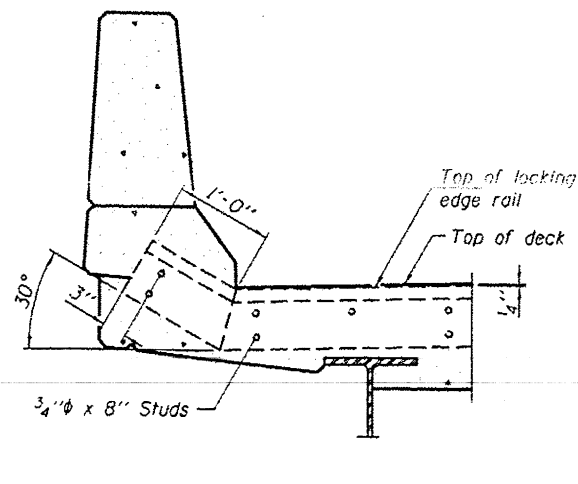
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
59	02 BRIDGE REPAIR 2016-5	WINNEBAGO	25	19

CONTRACT NO. 64L07
ILLINOIS FED. AID PROJECT



TYPICAL END TREATMENT 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.

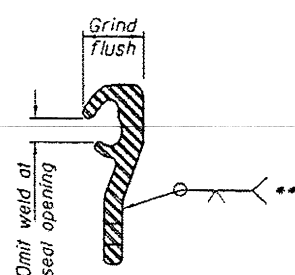
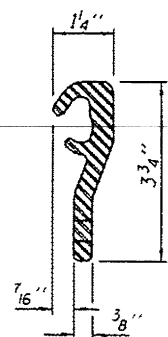


* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

SECTION A-A

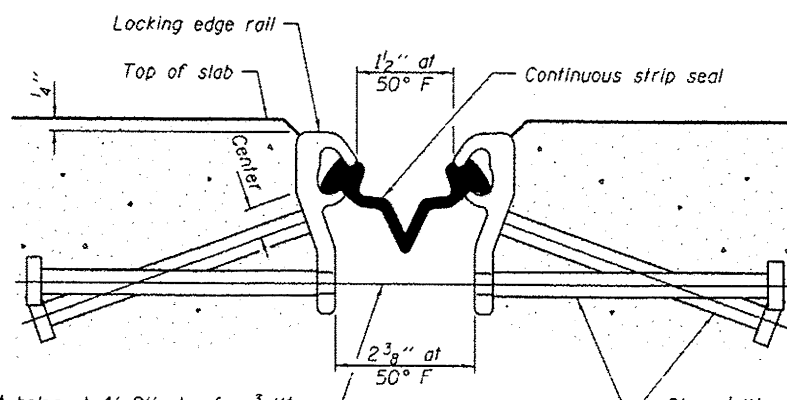
SECTION B-B

TRIMETRIC VIEW
(Showing back plates only)



LOCKING EDGE RAIL

LOCKING EDGE RAIL SPLICE



7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

Place 1/2" ϕ x 6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded at 1'-0" alt. cts.

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.

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.

The inside of the Locking Edge Rail groove shall be free of weld residue. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3#16", sealed with a suitable sealant.

Parapet plates and anchorage studs for skews $> 30^\circ$ included in the cost of Preformed Joint Strip Seal.

The manufacturer's recommended installation methods shall be followed.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	61

DESIGNED DAB
CHECKED VHV
DRAWN baliva
CHECKED DAB VHV

PASSED

D. Carl Perry
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE NOVEMBER 19, 2015

REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
SN 101-0140

SHEET NO. 4 OF 4 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	D2 BRIDGE REPAIR 2016-3	WINNEBAGO	25	20

CONTRACT NO. 64L07
ILLINOIS FED. AID PROJECT

54 99.9%
10-28-2001

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	201-34B-1	WINNEBAGO	114	1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED
BRIDGE WORK**

F.A.I. ROUTE 39 (I-39) (I-37)
SECTION 201-BR-DECK REPAIRS
PROJECT NHI-39-1(7)1
WINNEBAGO COUNTY
C-92-033-01

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S.N. 101-0135

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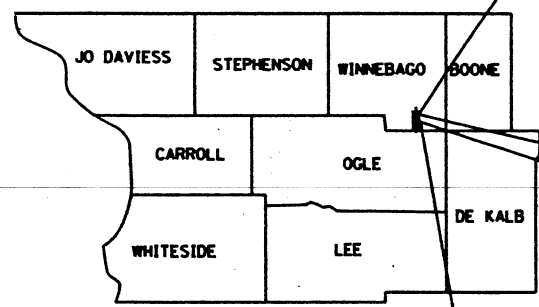
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S.N. 101-0145

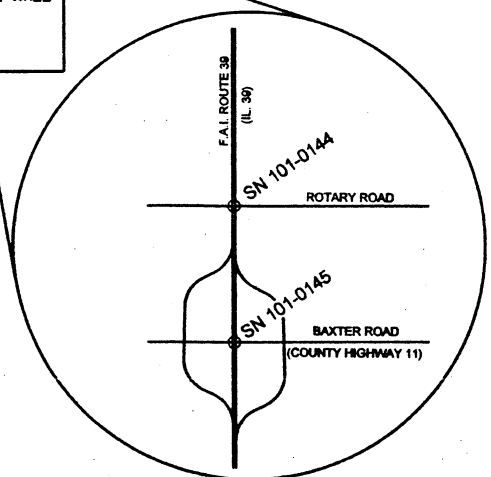
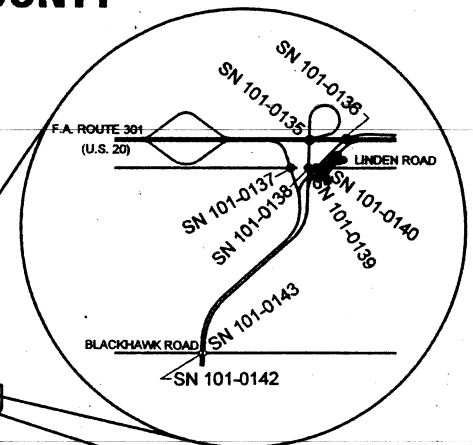
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114. TEMPORARY CONCRETE BARRIER

HIGHWAY STANDARDS

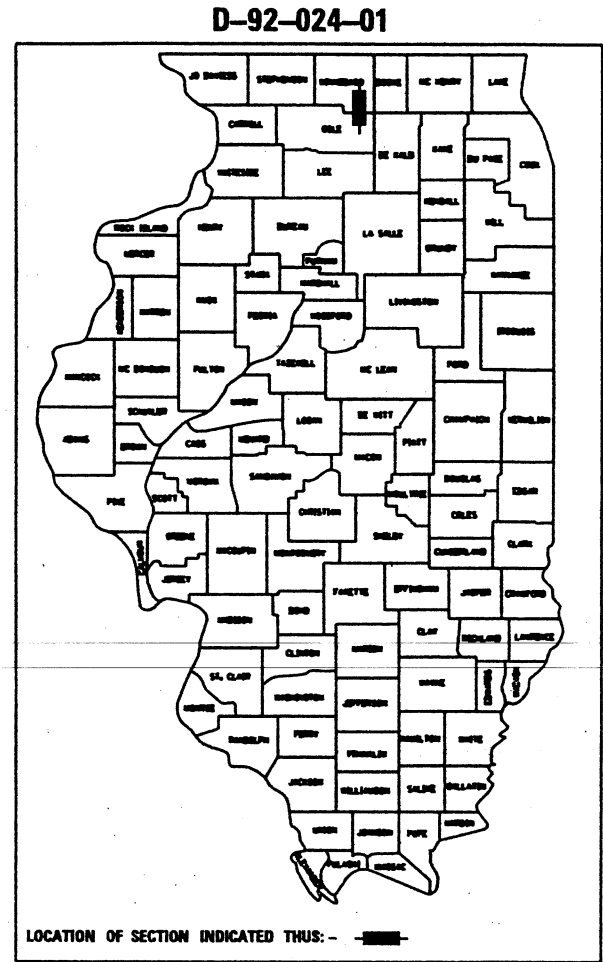
- 606001-01 CONCRETE CURB AND COMBINATION CONCRETE CURB & GUTTER
- 606501-01 PC CONCRETE ISLANDS AND MEDIANS
- 606301-02 PC CONCRETE ISLANDS AND MEDIANS
- 609001-01 BRIDGE APPROACH SHOULDER PAVEMENT AND DRAIN
- 630001-02 STEEL PLATE BEAM GUARD RAIL
- 70201-01 LANE CLOSURE, 2L 2W, DAY ONLY ON ROAD, FOR SPEEDS ≥ 45MPH
- 70321-04 LANE CLOSURE, 2L 2W, BRIDGE REPAIR WITH BARRIER
- 70401 LANE CLOSURE, MULTILANE, FOR SPEEDS > 45 MPH
- 70402-01 LANE CLOSURE, MULTILANE, WITH BARRIER
- 70410-02 LANE CLOSURE, MULTILANE, DIVIDED, WITH CROSSOVER, FOR SPEEDS > 45 MPH
- 70501-03 URBAN LANE CLOSURE MULTILANE, IN OR 2W WITH NONTRAVERSABLE MEDIAN
- 702001-02 TRAFFIC CONTROL DEVICES
- 704001 TEMPORARY CONCRETE BARRIER
- 780001 SIGN PANEL MOUNTING DETAILS
- 781001-02 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS



LOCATION MAP



PLANS PREPARED BY:
WENDLER ENGINEERING & SURVEYING
DIXON, ILLINOIS
DEKALB, ILLINOIS
PRINCETON, ILLINOIS
CLINTON, IOWA



LOCATION OF SECTION INDICATED THUS: -



SCOTT A. BROWN
DIXON, ILLINOIS
ILLINOIS LICENSED PROFESSIONAL
ENGINEER NO. 062-053649
EXPIRES 11-30-2001

2-242

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 8 February 2001

District Engineer

March 23, 2001

Engineer of Design and Environment

March 23, 2001

Director, Division of Highways

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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. 64676/101-0140

-0144
-0145
-0138
-0139
-0140

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO.
P.A.L. 39	201-3HB-1	Winnebago	114	72	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

General Notes

The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision "Cleaning and Painting New Metal Structures".

This structure will retain the same number 101-0140.

All new structural steel shall conform to AASHTO Classification M-270, Gr. 36 unless otherwise noted.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53, Grade 60.

Prior to pouring the new concrete deck, all loose rust, loose mill scale and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04 of the Standard Specifications.

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

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

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".

Existing longitudinal reinforcement extending into the removed area shall be cleaned, straightened and incorporated into the new construction. Existing transverse reinforcement may be cut as shown and removed.

Joint plates and attached bars shall be shop painted with the inorganic zinc rich primer. No field paint required.

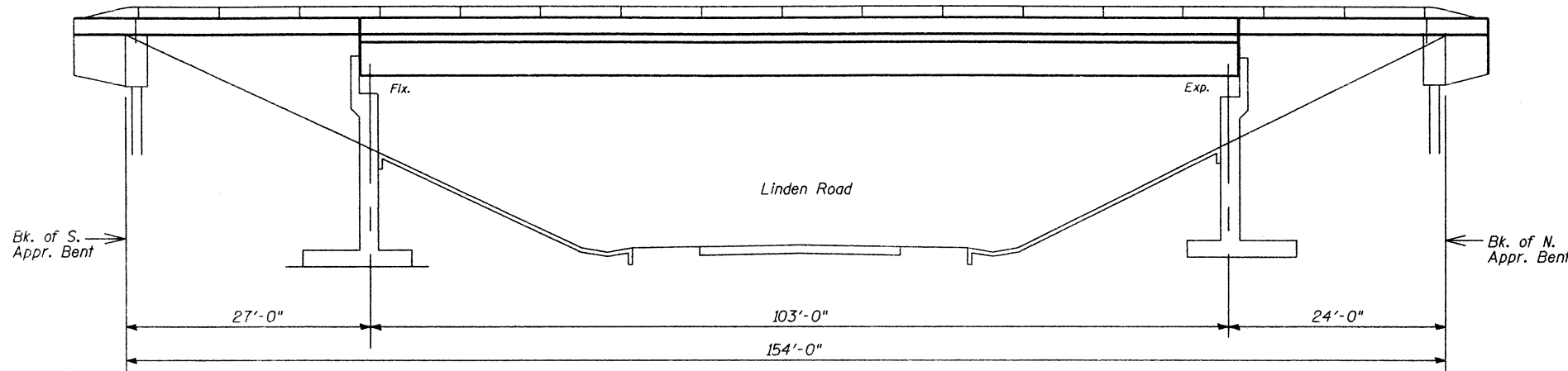
During construction operations, the Contractor shall provide temporary shielding from shoulder to shoulder of the roadway crossed. See Special Provisions.

Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50 degrees F.

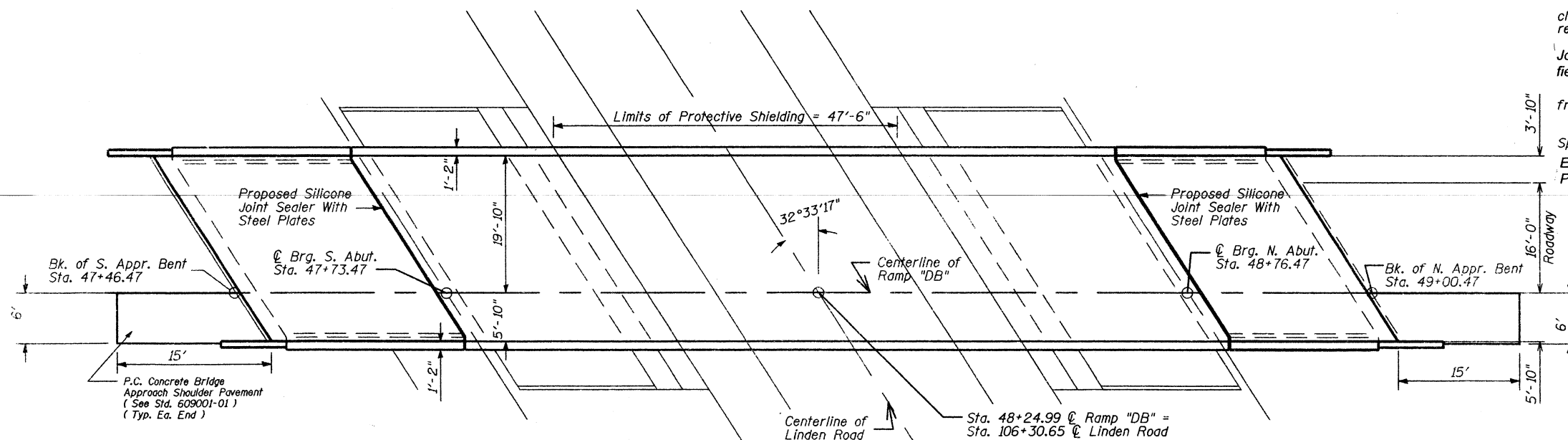
Existing structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting Adjacent Areas of Existing Steel Structures".

TOTAL BILL OF MATERIAL

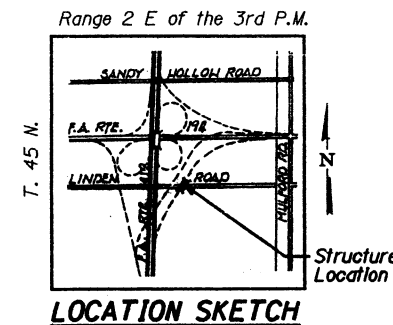
ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	7.4		7.4
Bituminous Concrete Removal (Deck)	Sq Yd	418		418
Concrete Superstructure	Cu Yd	7.1		7.1
Reinforcement Bars (Epoxy Coated)	Pound	1090		1090
Polymer Concrete	Cu Ft.	6.5		6.5
Silicone Joint Sealer	Foot	130		130
Deck Slab Repair (Full Depth - Type 1)	Sq Yd	3		3
Deck Slab Repair (Full Depth, Type 2)	Sq Yd	10		10
Deck Slab Repair (Partial Depth)	Sq Yd	52		52
Drainage Scupper	Each	2		2
Plug Existing Deck Drains	Each	6		6
Polymerized Bituminous Concrete Surface Course, Superpave, Mix "D", N70	Ton	36		36
Protective Shield	Sq. Yd.	116		116
Bar Splicers	Each	20		20
Furnishing & Erecting Structural Steel	Pound	3786		3786
Sheet Waterproofing Membrane System	Sq. Yd.	398		398
Jack & Remove Existing Bearings	Each	2		2



ELEVATION



PLAN



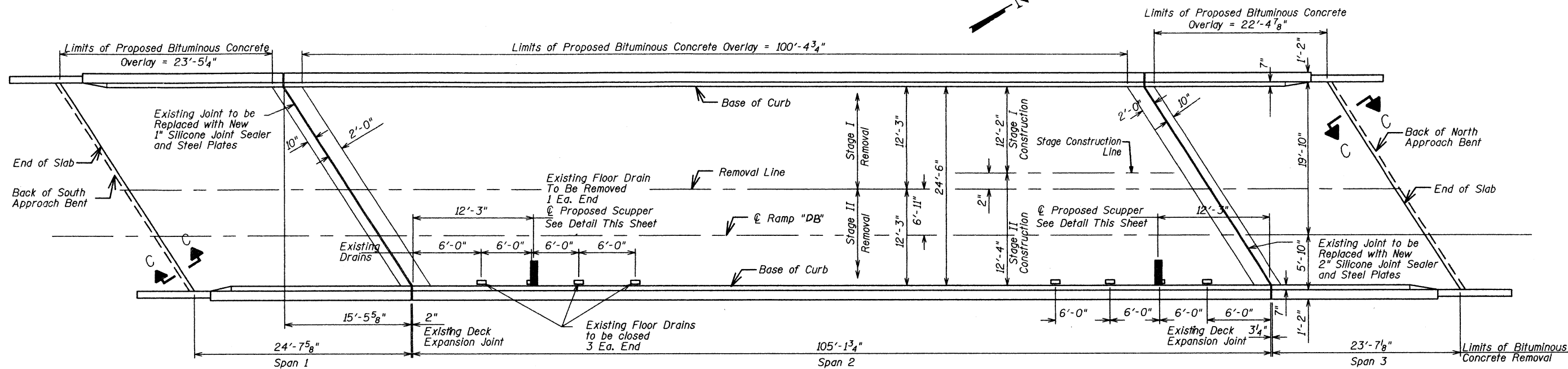
LOCATION SKETCH

DESIGNED
CHECKED
DRAWN
CHECKED

GENERAL PLAN AND ELEVATION
F.A.I. RTE. 39 (I-39 & US51 NB)
RAMP DB
SECTION 201-3HB-1
WINNEBAGO COUNTY
SN 101-0140

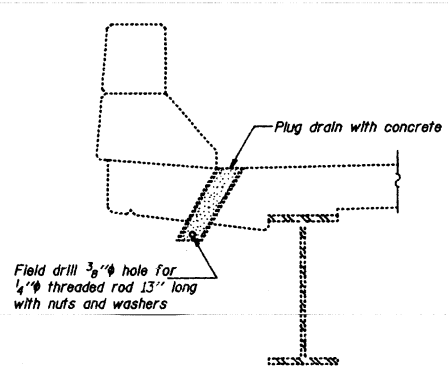
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
F.A.I. 39	201-3HB-1	Winnebago	114 73	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

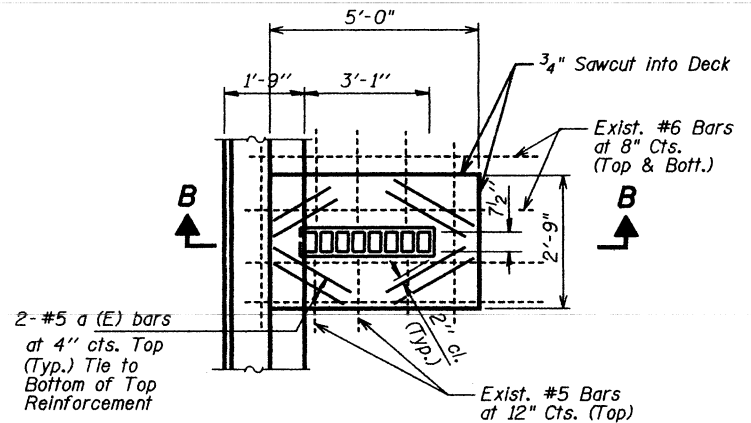


For Section C-C
See Sheet 5 of 12

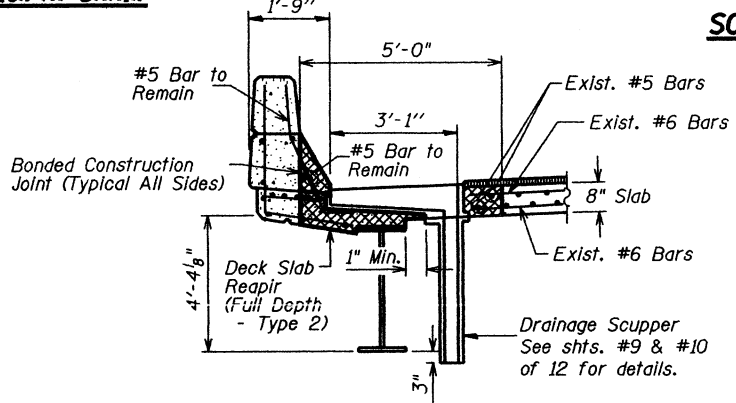
PLAN



SECTION AT DRAIN



SCUPPER PLAN



SECTION B-B

BILL OF MATERIAL

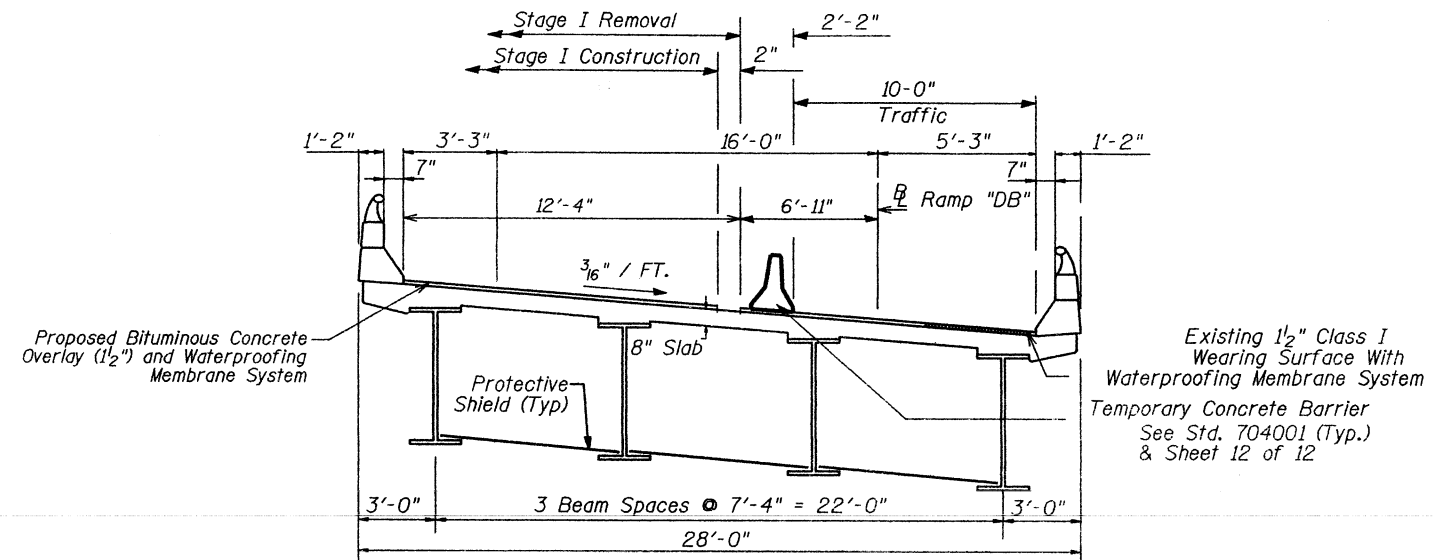
ITEM	UNIT	TOTAL
Bituminous Concrete Removal (Deck)	Sq. Yd.	418
Polymerized Bituminous Concrete Surface Course, Superpave, Mix "D", N70	Ton	36
Deck Slab Repair (Full Depth, Type 2)	Sq. Yd.	3
Drainage Scuppers	Each	2
Sheet Waterproofing Membrane System	Sq. Yd.	398
Plug Existing Deck Drains	Each	6
Protective Shield	Sq. Yd.	116

DECK PLAN
F.A.I. RTE. 39 (I-39 & US51 NB)
RAMP DB
SECTION 201-3HB-1
WINNEBAGO COUNTY
SN 101-0140

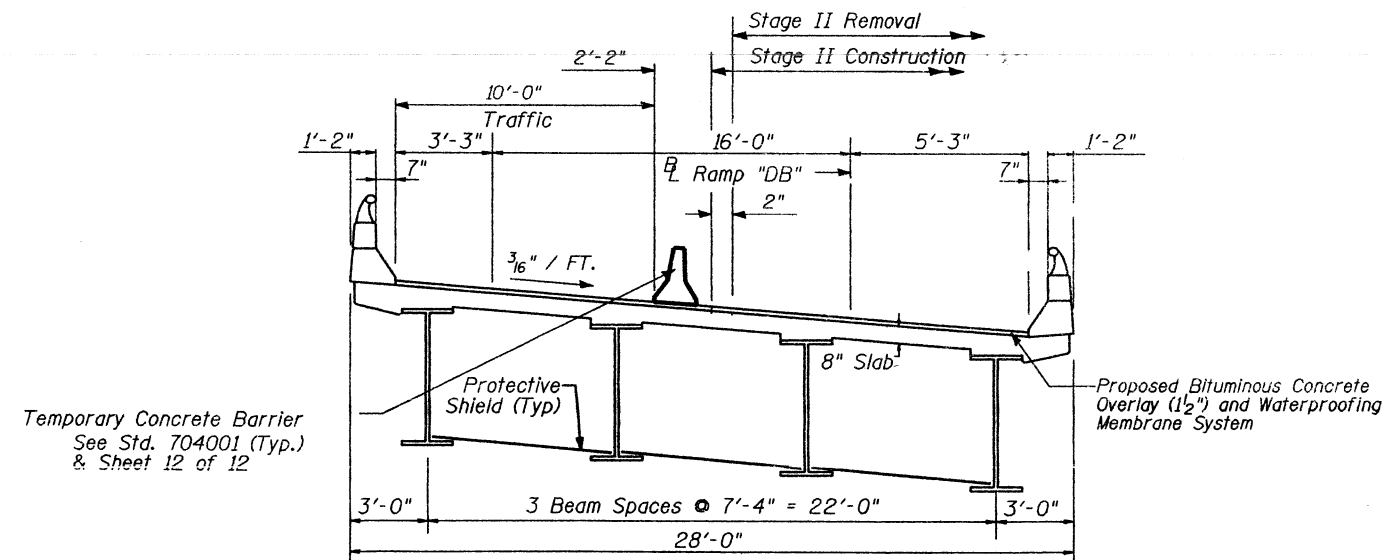
DESIGNED
CHECKED
DRAWN
CHECKED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
F.A.I. 39	201-3HB-1	Winnebago	114	74	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			



DECK CROSS SECTION - STAGE I
(Looking East)



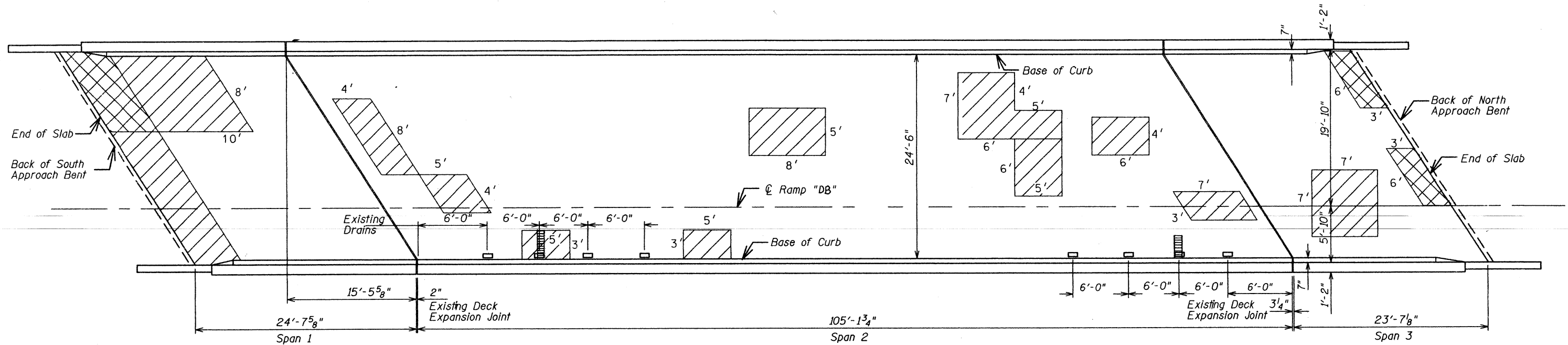
DECK CROSS SECTION - STAGE II
(Looking East)

DESIGNED
CHECKED
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CHECKED

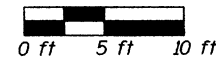
DECK CROSS SECTIONS
F.A.I. RTE. 39 (I-39 & US51 NB)
RAMP DB
SECTION 201-3HB-1
WINNEBAGO COUNTY
SN 101-0140

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	"SET"	SHEET NO.
S.A.I. F.A.I. 39	201- 3HB-1	Winnebago	114	75	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



PLAN



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

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Deck Slab Repair (Partial)	Sq. Yd.	52
Deck Slab Repair (Full Depth, Type 1)	Sq. Yd.	3
Deck Slab Repair (Full Depth, Type 2)	Sq. Yd.	7

The plan quantities shown for Deck Slab Repair (Partial and Full Depth) are estimated quantities. The actual locations and quantity of Deck Slab Repair 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.

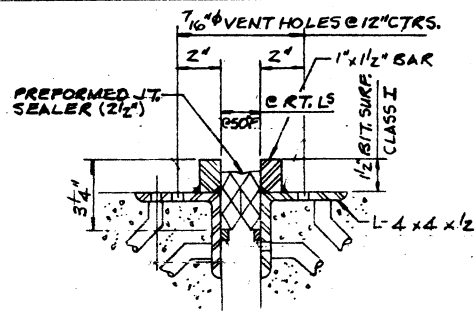
DESIGNED
CHECKED
DRAWN
CHECKED

Deck Survey : 01/10/00

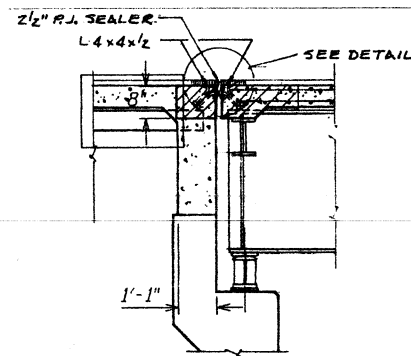
DECK REPAIR PLAN
F.A.I. RTE. 39 (I-39 & US51 NB)
RAMP DB
SECTION 201-3HB-1
WINNEBAGO COUNTY
SN 101-0140

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

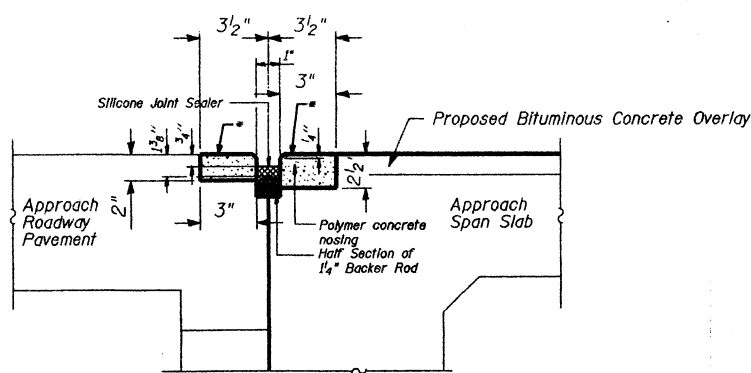
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F.A.I. 39	201-3HB-1	Winnebago	114 76	5
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	



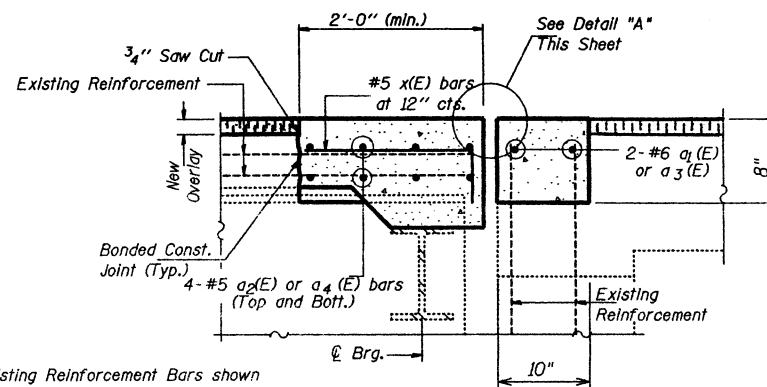
SECTION THRU
EXISTING JOINT



SECTION THRU
EXISTING ABUT.

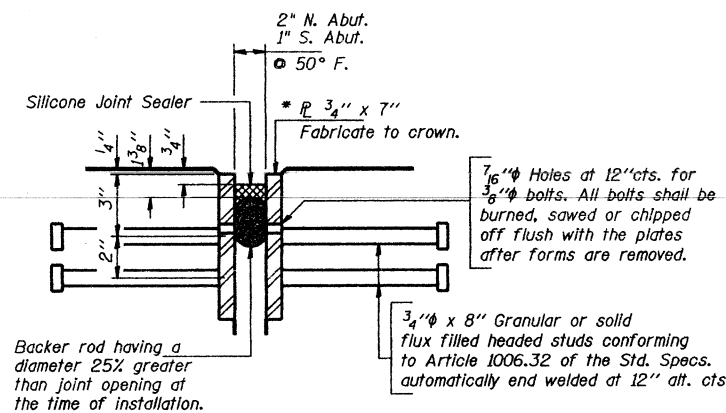


SECTION "C-C"
Concrete Removal For Polymer
nosing Included In Concrete
Removal Quantities.



Note: Existing Reinforcement Bars shown
are to be cleaned and incorporated
into new construction.

JOINT RECONSTRUCTION



DETAIL "A"

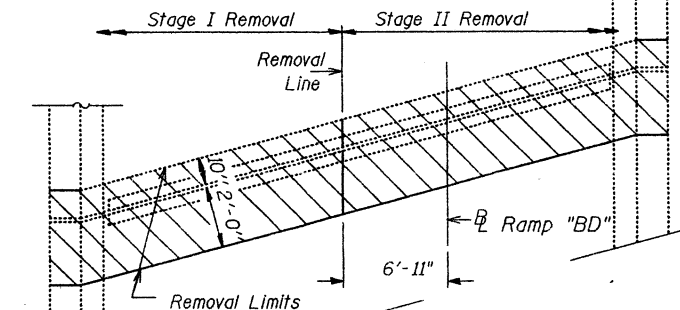
* Furnish in segments of 20 ft. maximum
length. Maximum space between installed
segments shall be 3/16". Seal space with
Silicone Sealant suitable for Structural
Steel.

Note: After fabrication all surfaces of the
steel plates shall be given one shop
coat of paint specified for Structural
Steel. No field painting required.

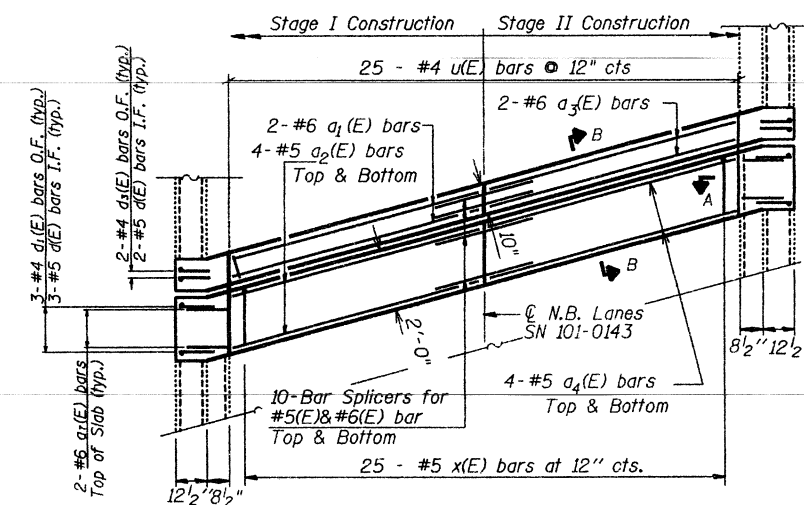
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	16	#5	2'-9"	—
a1(E)	4	#6	14'-2"	—
a2(E)	16	#5	14'-2"	—
a3(E)	4	#6	14'-5"	—
a4(E)	16	#5	14'-5"	—
a7(E)	8	#6	4'-0"	—
d(E)	20	#5	4'-3"	—
d1(E)	12	#4	4'-6"	—
d3(E)	8	#4	6'-0"	—
u(E)	50	#4	1'-7"	—
x(E)	50	#5	2'-5"	—
Item	Unit	Quantity		
Reinforcement Bars, Epoxy Coated	Pound	1090		
Concrete Superstructure	Cu. Yd.	7.1		
Concrete Removal	Cu. Yd.	7.4		
Furnishing and Erecting Structural Steel	Pound	3026		
Silicone Joint Sealer	Foot	130		
Bar Splicers	Each	20		
Polymer Concrete	Cu. Ft.	6.5		

Reinforcement bars designated (E) shall
be epoxy coated.

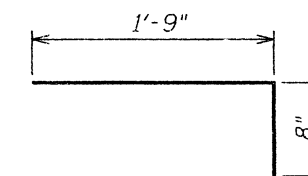


EXISTING PARTIAL PLAN



PROPOSED PARTIAL PLAN

For Section A-A
and Section B-B
See Next Sheet



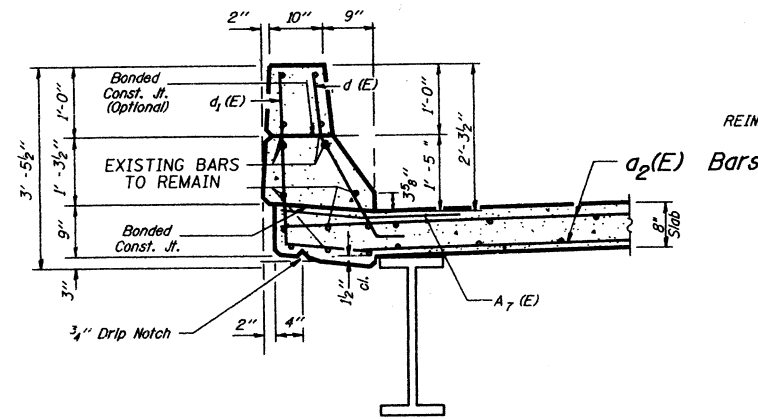
BAR x(E)

JOINT REPLACEMENT DETAILS
F.A.I. RTE. 39 (I-39 & US51 NB)
RAMP DB
SECTION 201-3HB-1
WINNEBAGO COUNTY
SN 101-0140

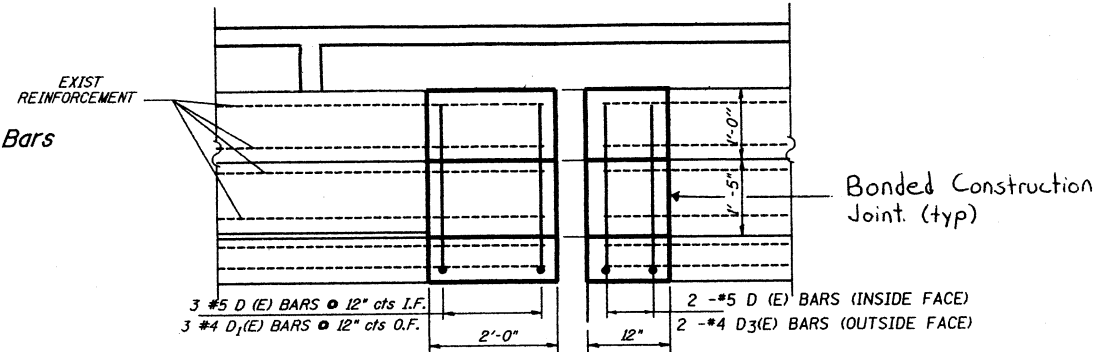
DESIGNED
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DRAWN
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

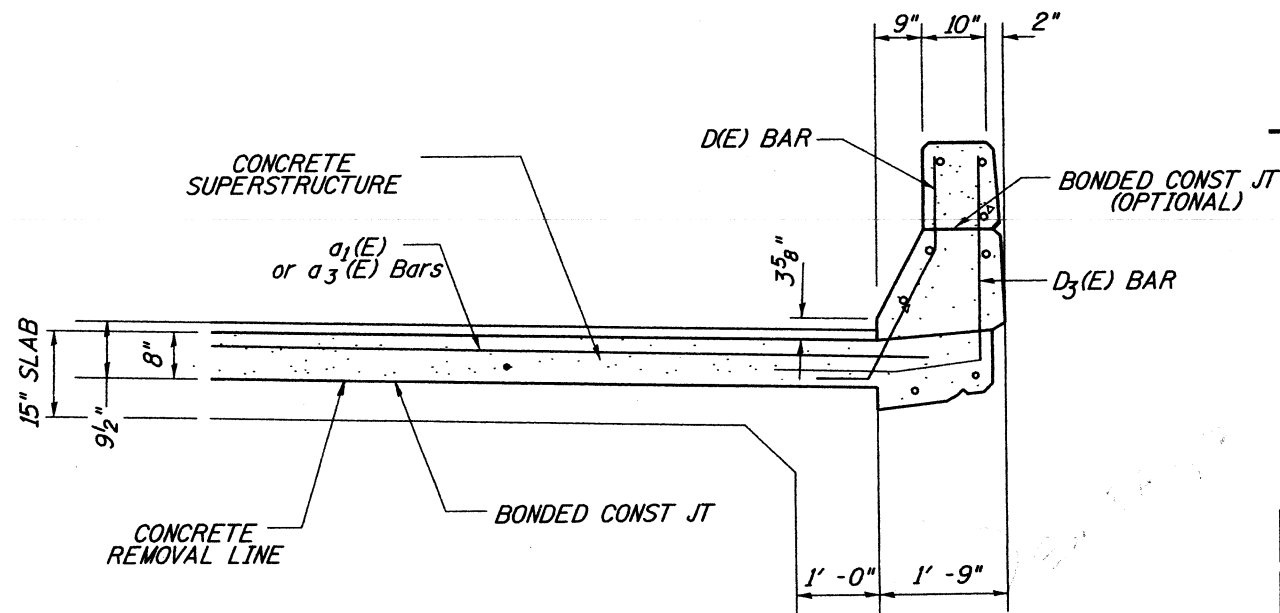
ROUTE NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO. <u>6</u>
F.A.I. 39	201-3HB-1	Winnebago	114	77	<u>12</u> SHEETS
FED. ROAD DIST. NO. 7	ALL MOOS FED. AID PROJECT				



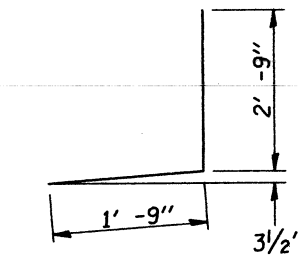
SECTION A-A
(deck span)



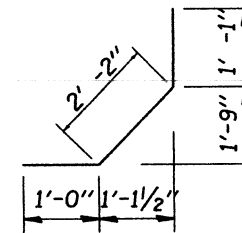
SECTION B-B



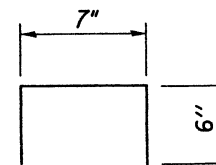
TYP SECTION THRU SLAB PARAPET
(at ends of approach span)



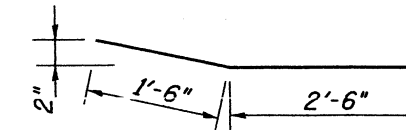
#4 D₁(E) BAR



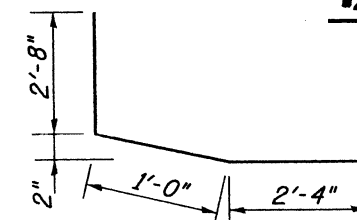
#5 D (E) BAR



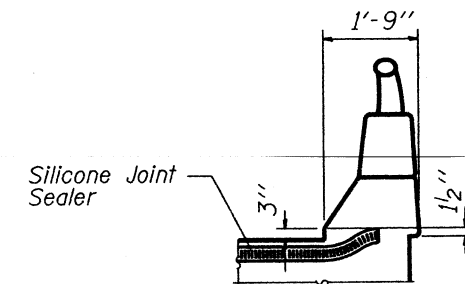
#4 U(E) BAR



#4 A₇(E) BAR



#4 D₃(E) BAR



END OF SEALER TREATMENT

DESIGNED
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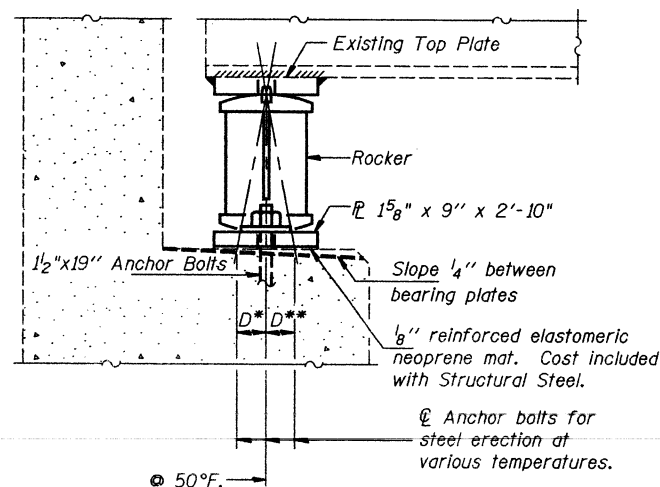
PARAPET DETAILS
F.A.I. RTE. 39 (I-39 & US51 NB)
RAMP DB
SECTION 201-3HB-1
WINNEBAGO COUNTY
SN 101-0140

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	"SET"	SHEET NO. 7
P.A.L. 39	201-3HB-1	Winnebago	114	78	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

GIRDER REACTIONS

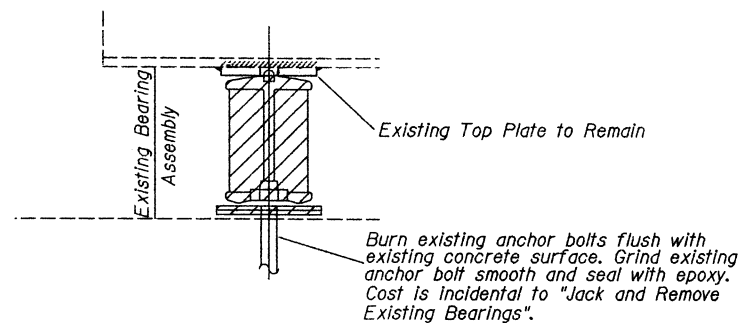
R Q	(k)	79.6
R L	(k)	53.6
IMP.	(k)	11.8
R (Total)	(k)	145.0



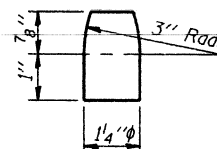
SECTION AT North ABUTMENT

*D = 1/8\"/>

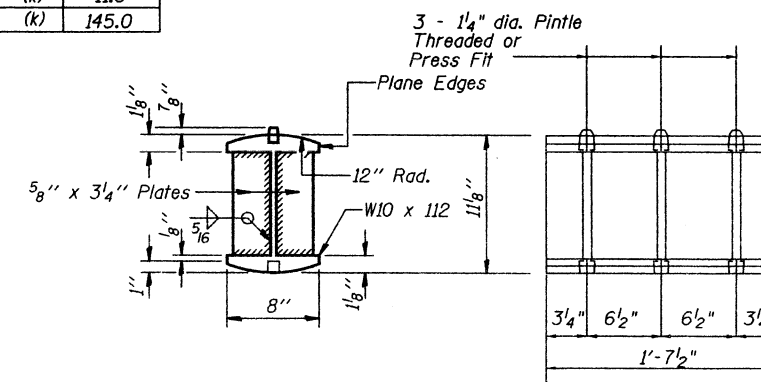
**D = 1/8\"/>



BEARING REMOVAL



DETAIL OF PINTLE



DETAIL OF ROCKER

BEARING REPLACEMENT NOTES

Bearing Removal and Replacement Schedule:
SN 101-0140: East and West fascia beams.

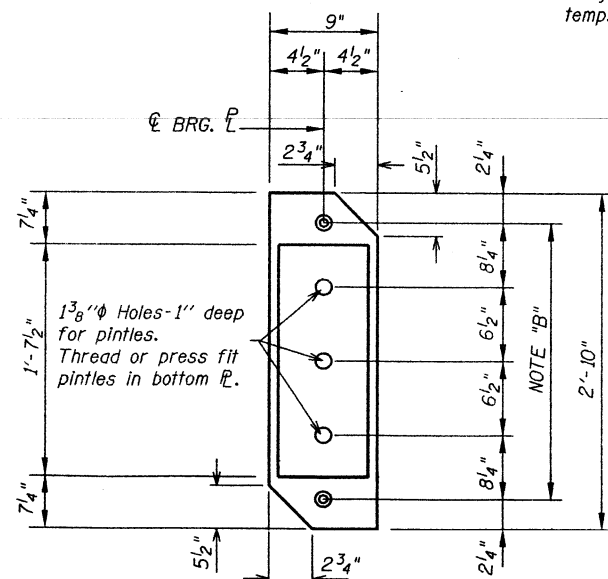
Note "B": 2" Dia. Holes for 1/2" Dia. x 19" Anchor Rods (See Sheet 8 of 11 for Anchor Bolt Details). Anchor bolt assemblies shall be hot dipped galvanized and no field painting is required.

Note:
-Diaphragm removal and replacement may be required to facilitate drilling holes. Cost shall be included with furnishing and erecting structural steel

-New bearings and anchor bolts are included with furnishing and erecting structural steel.

-Min. Jack Capacity = 110 Tons

-Prior to ordering any material, the contractor shall verify in the field all bearing heights and shim thickness dimensions.



BEARING - PLAN AT North ABUTMENT

BILL OF MATERIAL - 1 BRIDGE

ITEM	UNIT	TOTAL
Jack and Remove Existing Bearings	Each	2
Furnishing and Erecting Structural Steel	Pound	760

DESIGNED
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DRAWN
CHECKED

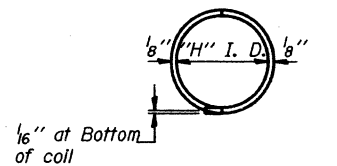
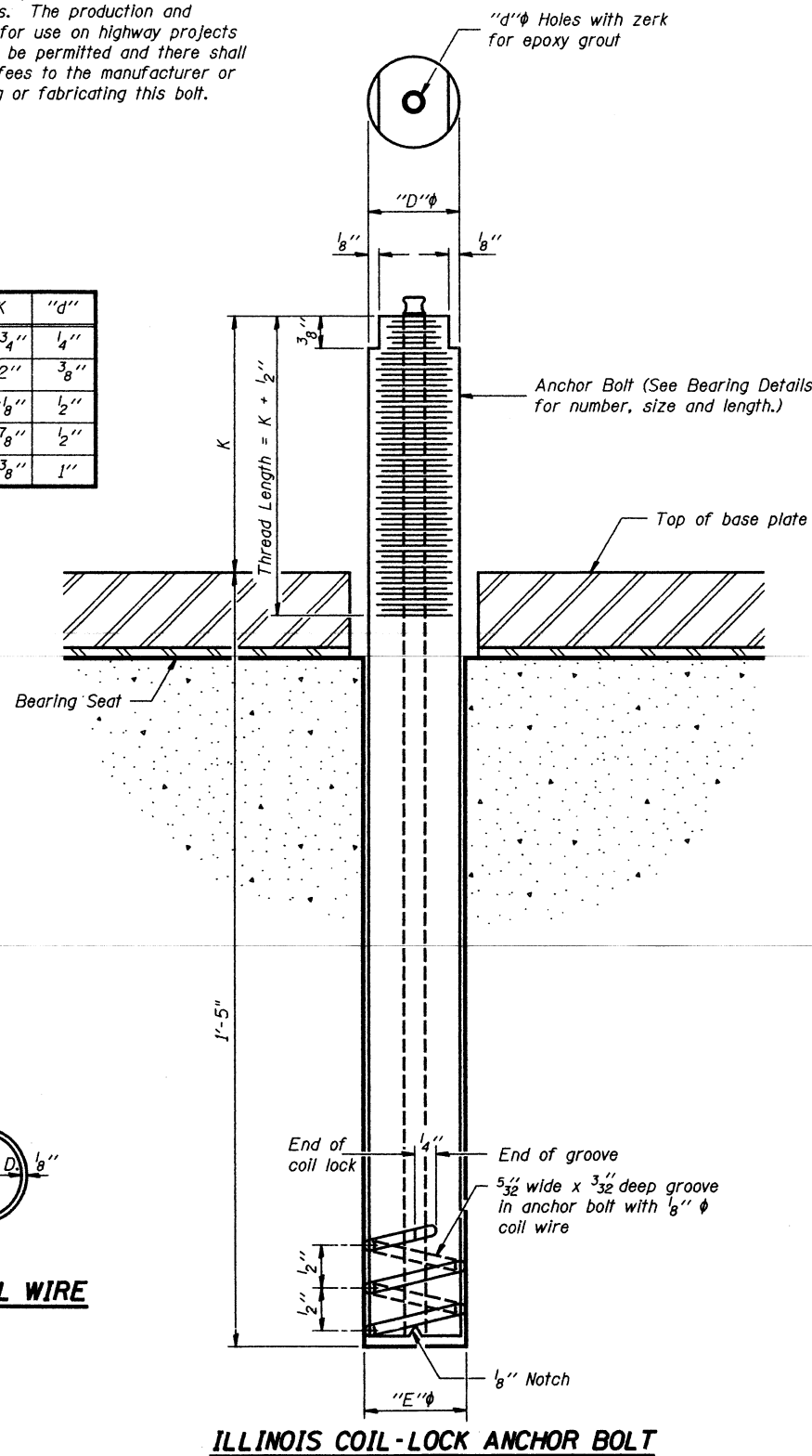
ABUTMENT REPAIR PLAN
F.A.I. RTE. 39 (I-39 & US51 NB)
RAMP DB
SECTION 201-3HB-1
WINNEBAGO COUNTY
SN 101-0140

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEETS
P.A.L. 39	201-3HB-1	Winnebago	114	79	12
FED. ROAD DIST. NO. 7	ALIGNER	FED. AID PROJECT			

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 9/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



PLAN-COIL WIRE

ILLINOIS COIL-LOCK ANCHOR BOLT

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
N. ABUT.	A 307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

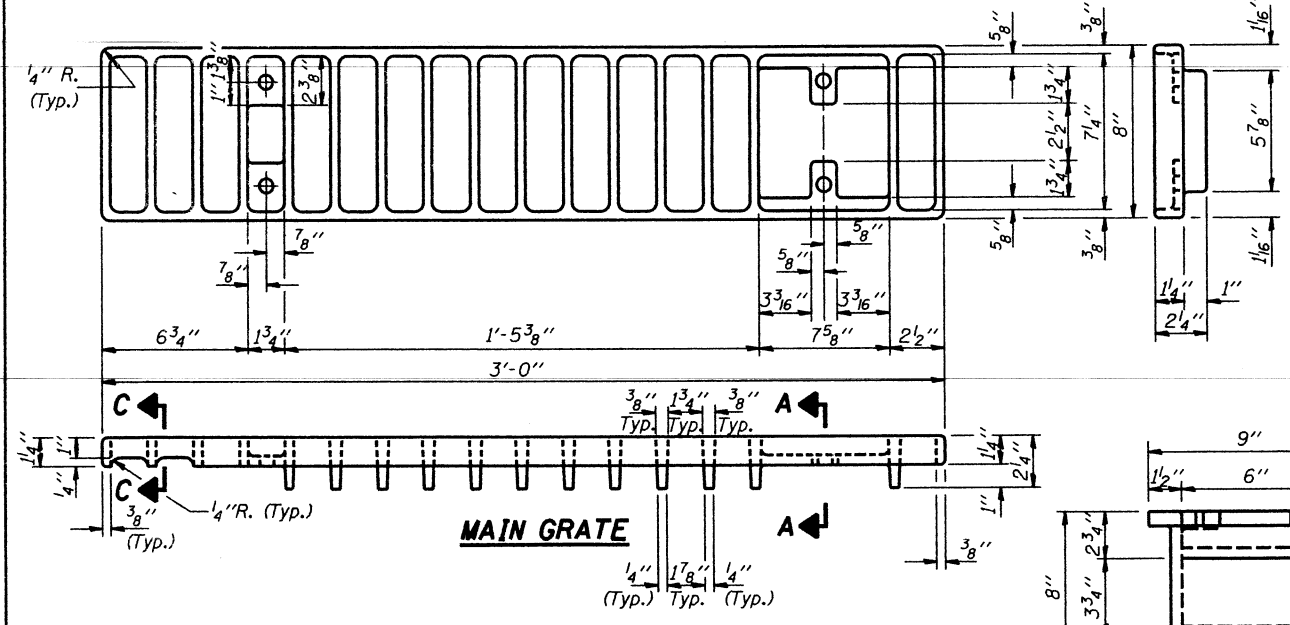
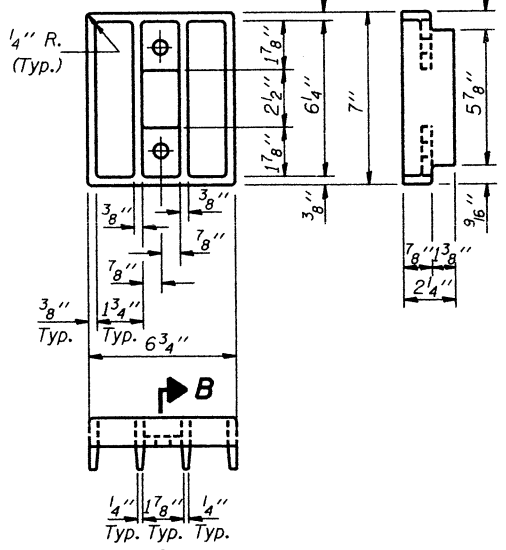
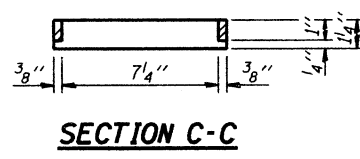
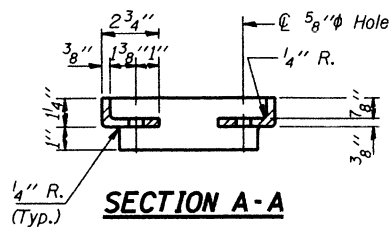
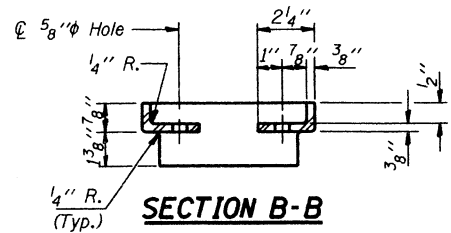
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ABB-1 4-30-99

ANCHOR BOLT DETAILS FOR BEARINGS
F.A.I. RTE. 39 (I-39 & US51 NB)
RAMP DB
SECTION 201-3HB-1
WINNEBAGO COUNTY
SN 101-0140

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

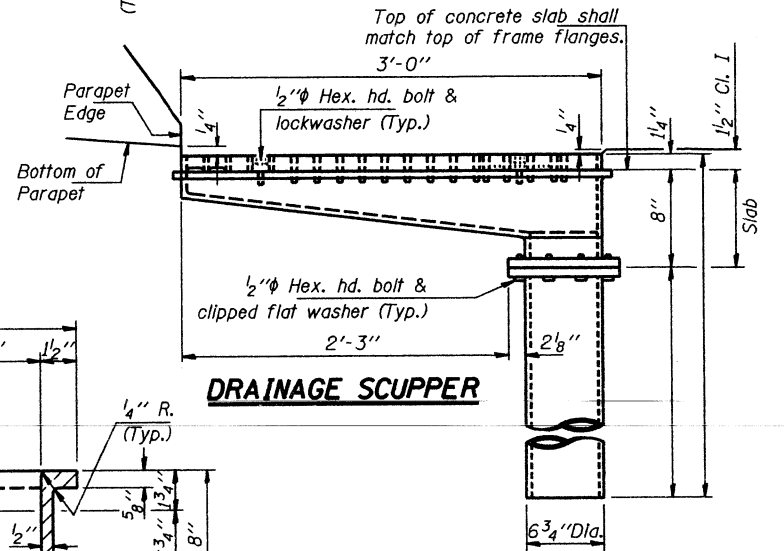
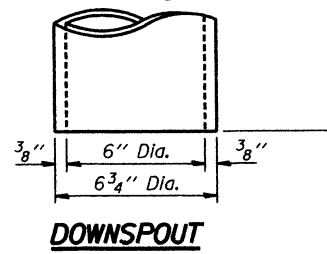
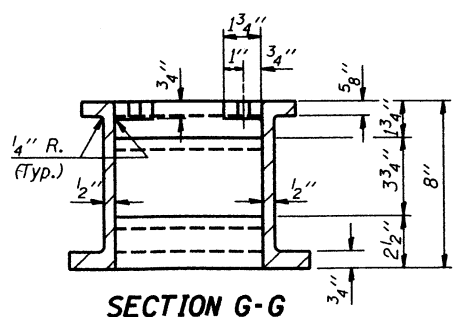
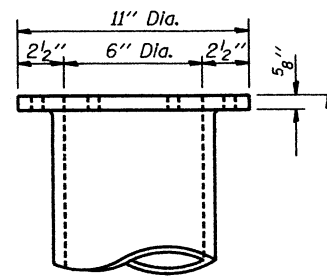
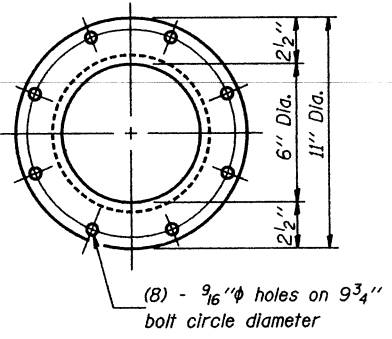
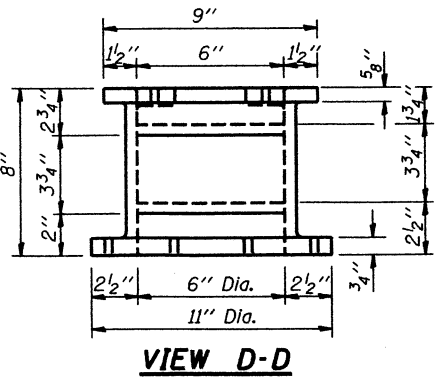
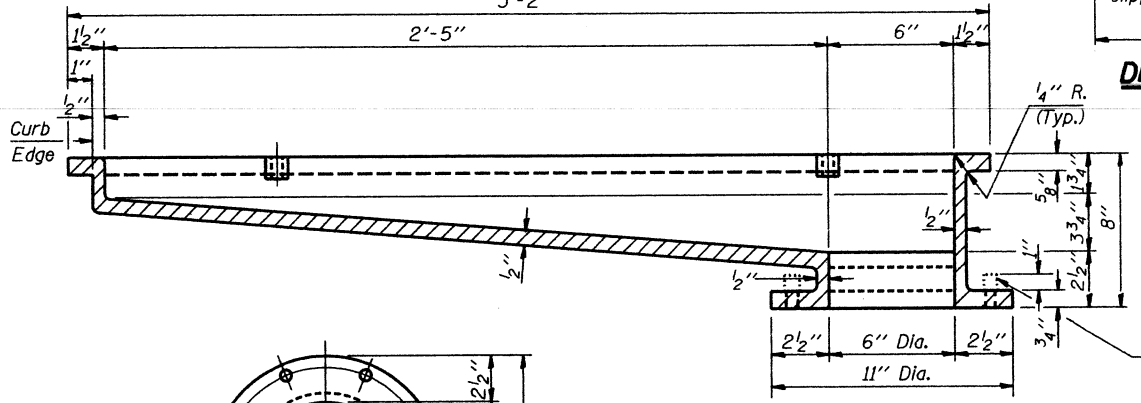
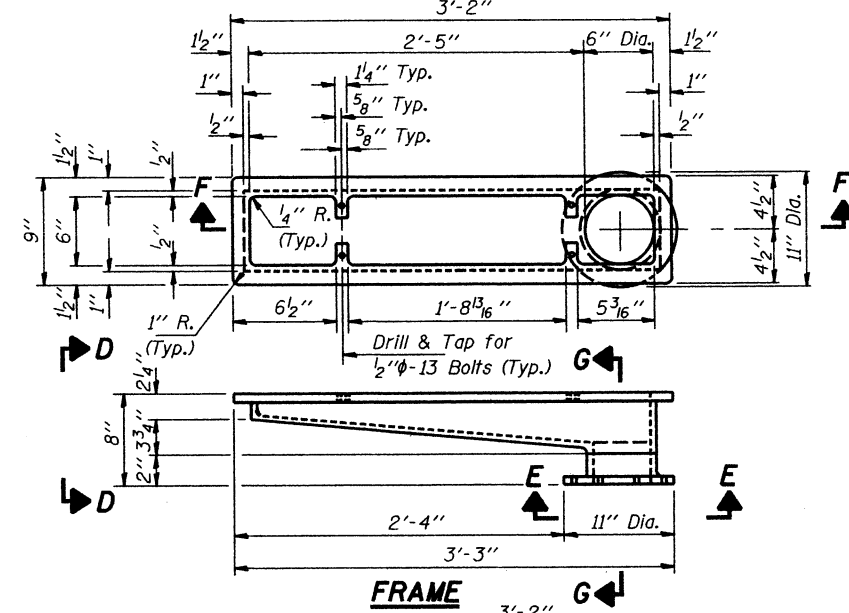
ROUTE NO.	SECTION	COUNTY	ITEM	SHEET	SHEET NO.
F.A.I. 39	201-3HB-1	Winnebago	114	81	12 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	



Notes: All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 30. Bolts, washers and nuts shall conform to the requirements of ASTM A 307. All bolts, washers and nuts shall be galvanized according to AASHTO M 232. The waterproofing membrane system shall be installed such that the membrane covers the frame flanges and extends down into the frame with the grates placed on top of the membrane. Cost of the Main Grate, Cleanout Grate, Frame, Downspout, Bolts, Washers and Nuts including complete installation of Scupper shall be paid for at the unit bid price each for "DRAINAGE SCUPPERS". The Contractor may use at his option steel frames and steel grates or cast frames and cast grates, but will not be allowed to use steel grates with cast frames nor cast grates with steel frames.

DESIGNED
CHECKED
DRAWN
CHECKED

DS-2 4-30-99 (W.T. to inside of exterior stringer flange shall not be >3'-11")



SECTION F-F

VIEW E-E

(Sheet 2 of 2)
**ALTERNATE - CAST IRON
DRAINAGE SCUPPER**

F.A.I. RTE. 39 (I-39 & US51 NB)
RAMP DB
SECTION 201-3HB-1
WINNEBAGO COUNTY
SN 101-0140

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEETS
201-39	3HB-1	Winnebago	114	82
SHEET NO. 11				
12 SHEETS				

NOTES

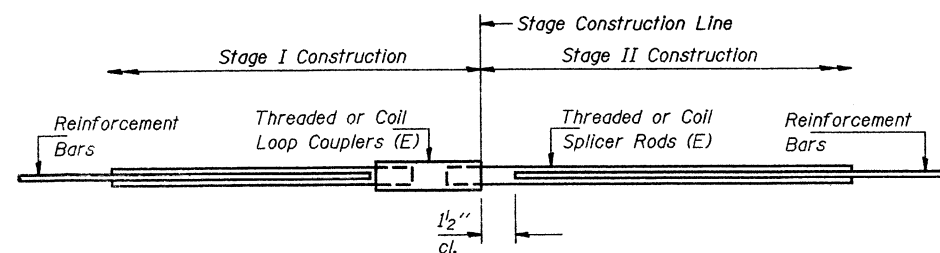
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the 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 (Tension in kips) = $1.25 \times f_y \times A_t$
- ② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times f_{s_{allow}} \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s_{allow}}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_t = 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
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



SPLICER DETAIL

Bar Size	No. Assemblies Required	Location
#6	2	SO. ABUT.
#5	8	SO. ABUT.
#6	2	NO. ABUT.
#5	8	NO. ABUT.

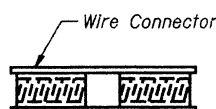
(E) : Indicates epoxy coating.

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

ROLLED THREAD DOWEL BAR



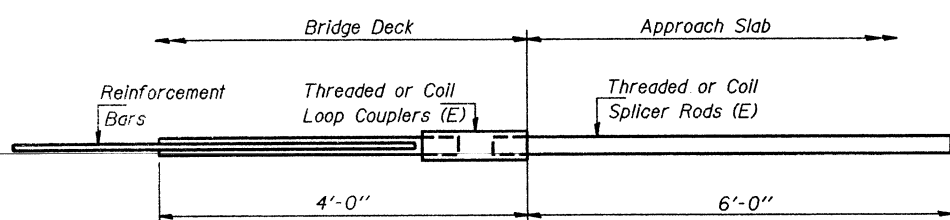
** ONE PIECE



WELDED SECTIONS

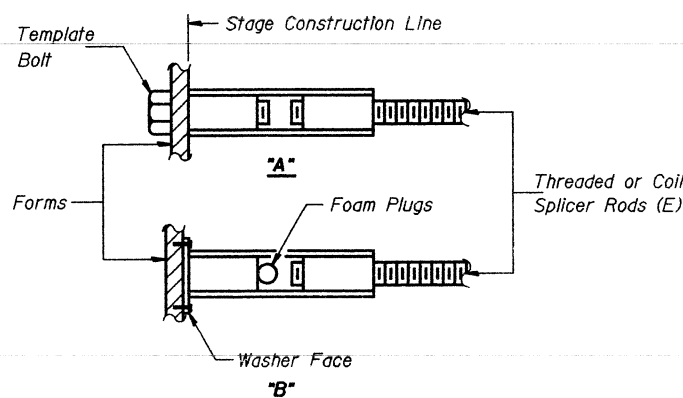
BAR SPLICER ASSEMBLY ALTERNATIVES

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



**INTEGRAL ABUTMENT
BAR SPLICER ASSEMBLY DETAIL
FOR #5 BAR**

Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



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.

DESIGNED
CHECKED
DRAWN
CHECKED

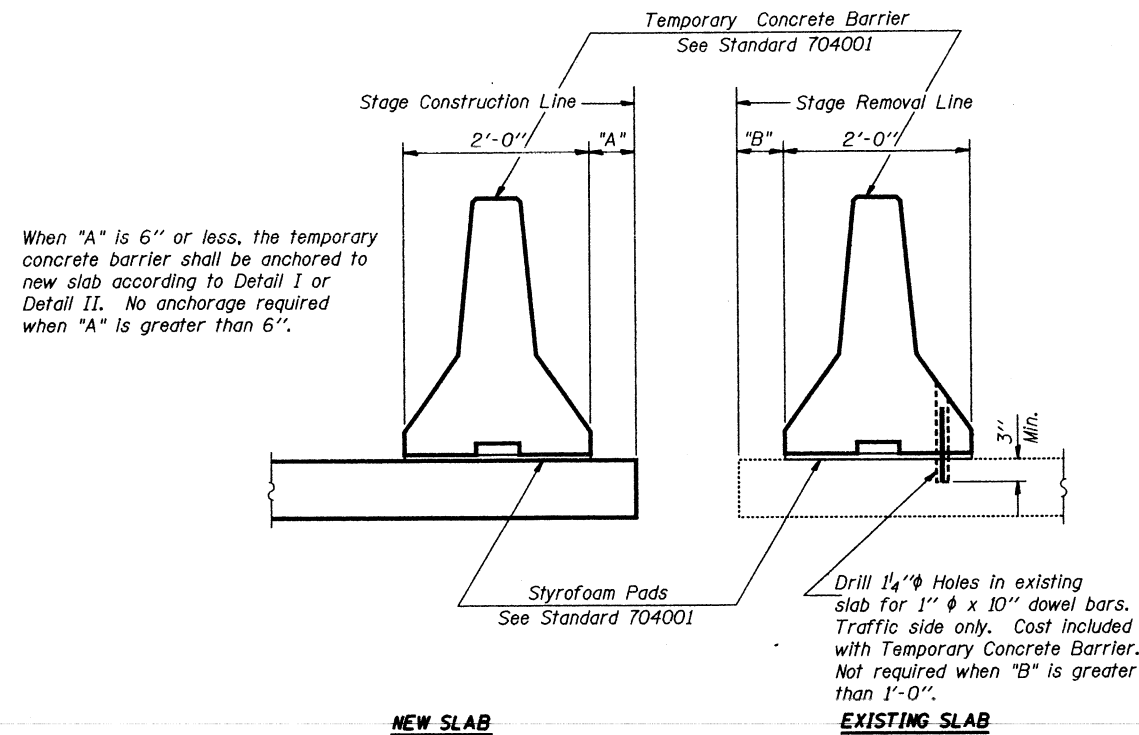
BSD-1 4-30-99

BAR SPLICER ASSEMBLY DETAILS
F.A.I. RTE. 39 (I-39 & US51 NB)
RAMP DB
SECTION 201-3HB-1
WINNEBAGO COUNTY
SN 101-0140

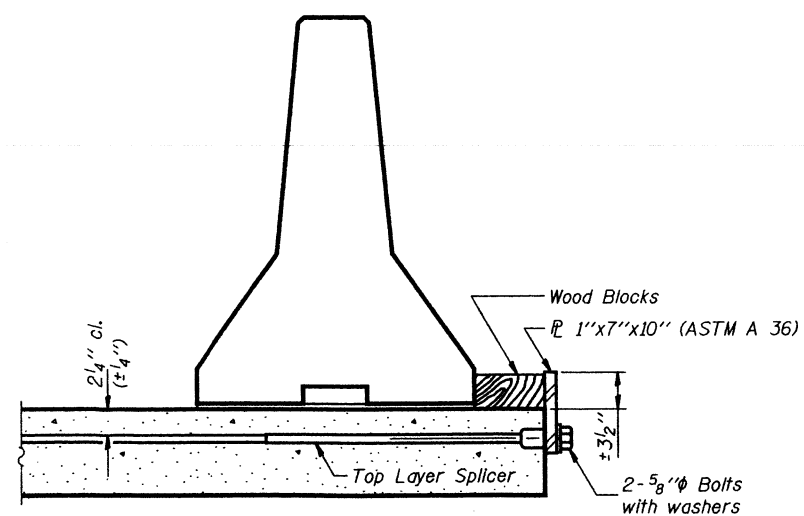
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.L. 39	201-3HB-1	Winnebago	114	83
FED. ROAD DIST. NO. 7			ILLINOIS	FED. AID PROJECT

SHEET NO. 12
12 SHEETS

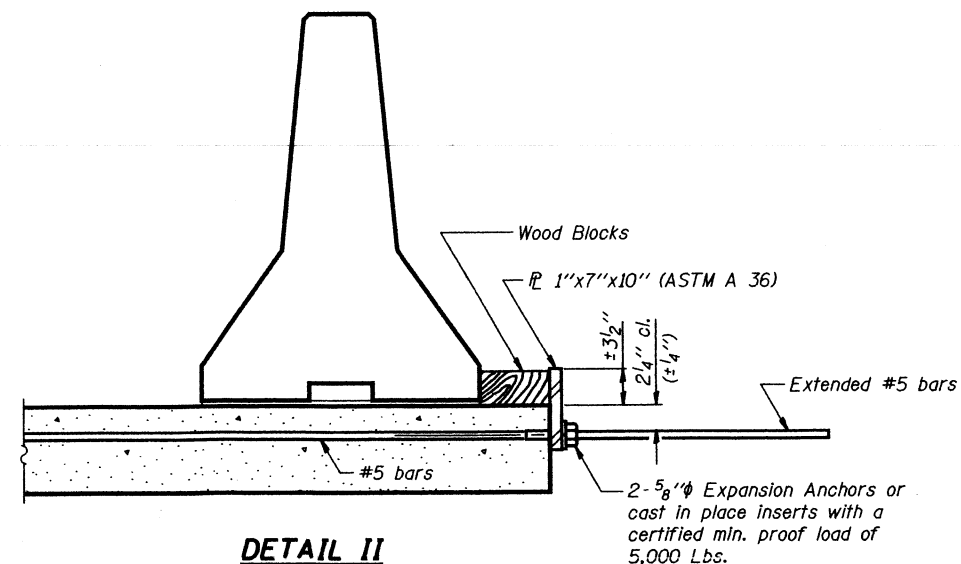


SECTIONS THRU SLAB



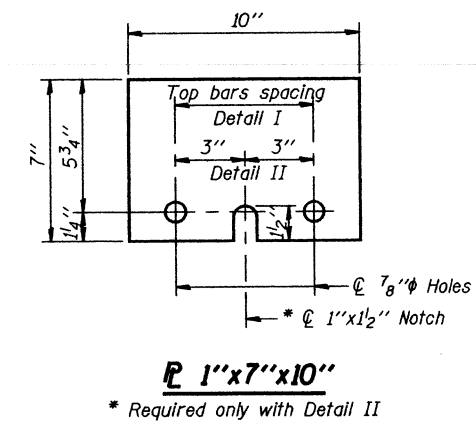
DETAIL I

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



**TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION**

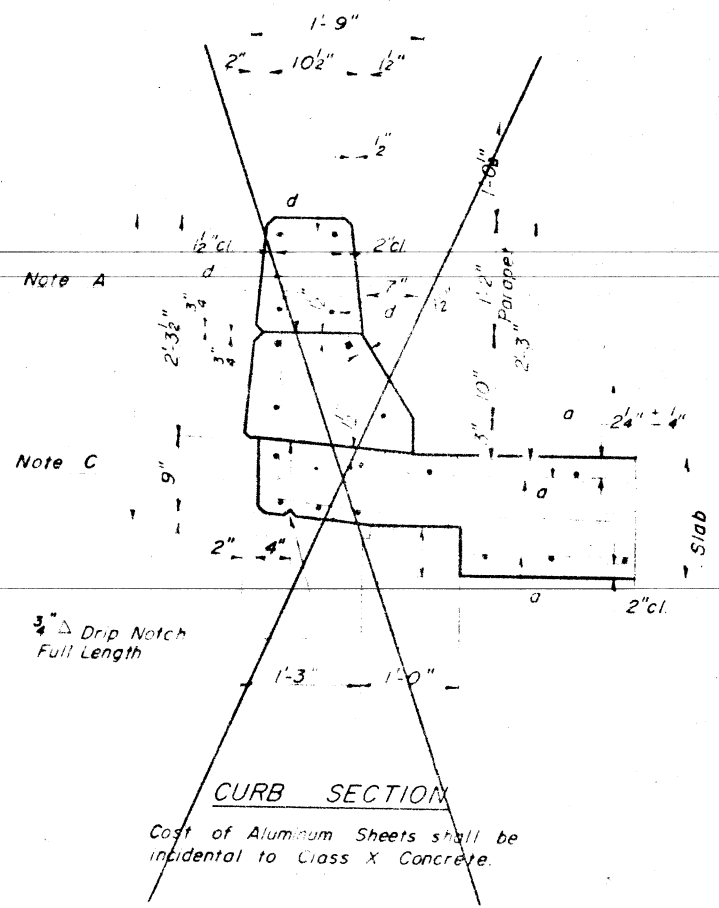
F.A.I. RTE. 39 (I-39 & US51 NB)
RAMP DB
SECTION 201-3HB-1
WINNEBAGO COUNTY
SN 101-0140

DESIGNED
CHECKED
DRAWN
CHECKED

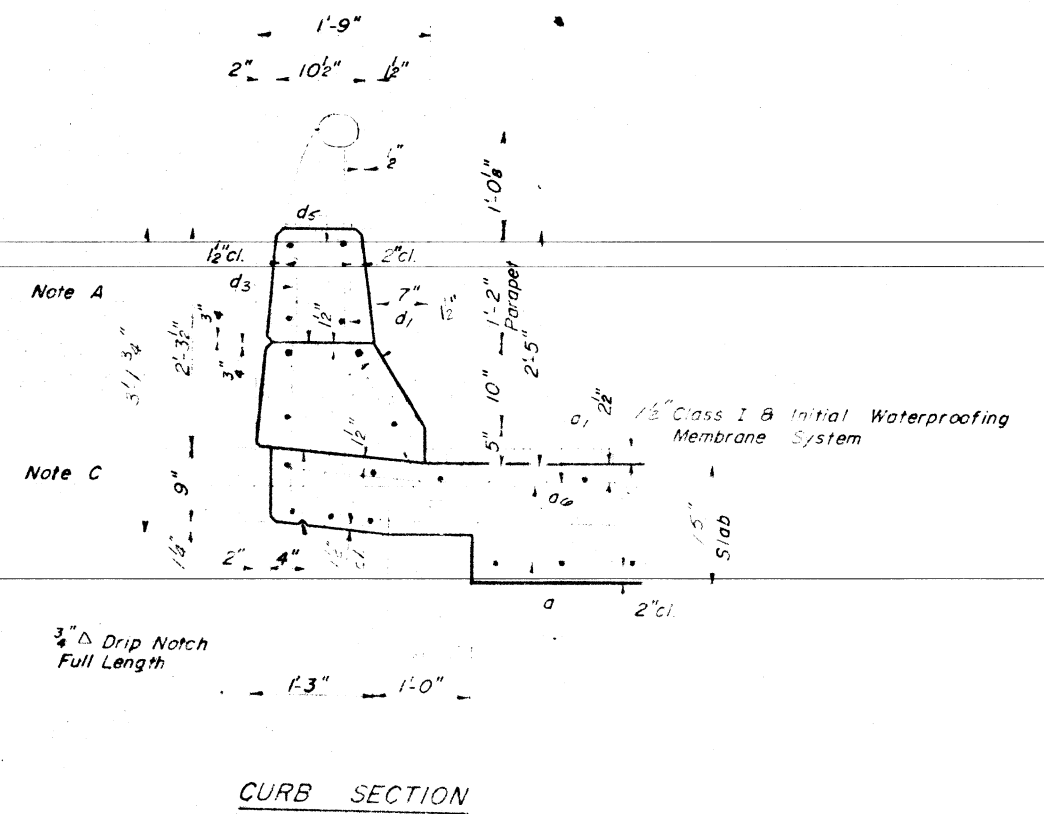
R-27 4-30-99

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
REFERENCE ONLY FOR BITUMINOUS SURFACE

31-B			
...	*	Wausau	155 101
* 201-(1-2,2,3) + 201-(1-2,2,3) SG			



Note: All edges shall have $\frac{3}{4}$ " chamfer.



CURB SECTION
 Cost of Aluminum Sheets shall be incidental to Class X Concrete.

Note A - Bonded Construction Joint (Optional)

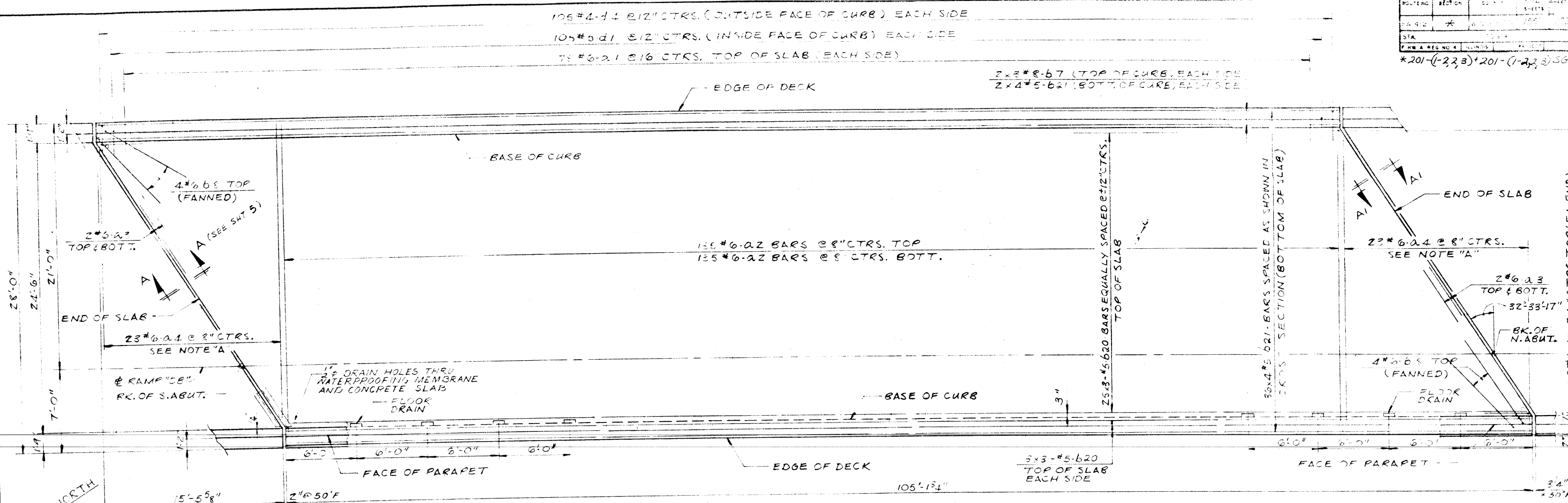
Note C - Bonded Construction Joint (Mandatory)

CURB SECTION

APPROACH SLABS
 REVISED PARAPET CONFIGURATION
 RAMP TO
 SPANS 153
 SECTION 201-315-4
 (11/10/00) (11/02)

ROUTING	SECTION	DATE	SHEETS
PA 412	*		1/25
STA			
FORM A REG NO 4			

*201-(1-2,3)+201-(1-2,3)56

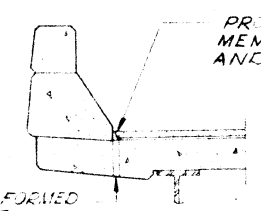
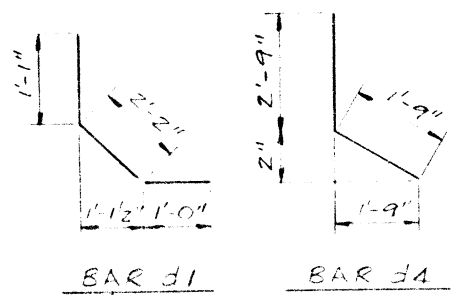
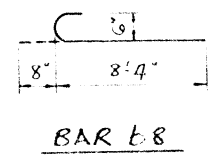
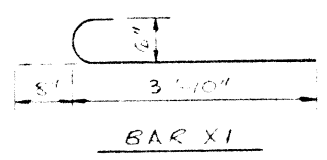
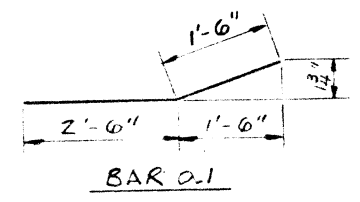


DECK REINFORCEMENT PLAN-SPAN 2

NOTE "A"
 ORDER BARS FULL LENGTH, CUT IN FIELD TO FIT SKEW FOR TOP BARS, USE THE REMAINDER FOR BOTTOM BARS.
NOTE:
 BARS INDICATED THUS 20-3-#5 ETC INDICATES 20 LINES OF BARS WITH 3 LENGTHS PER LINE.

BILL OF MATERIAL

BAR	NO	SIZE	LENGTH	DATE
A1	150	#6	2'-0"	
A2	270	#6	20'-0"	
A3	8	#6	28'-9"	
A4	46	#6	20'-6"	
B7	12	#8	36'-8"	
B8	8	#6	9'-0"	
B20	98	#5	36'-0"	
B21	160	#5	27'-3"	
B1	210	#5	4'-3"	
B2	210	#4	4'-6"	
B3	15	#5	4'-0"	
CLASS X CONCRETE 20,000 PSI				45'
REINFORCEMENT BARS				20,780



1/2\"/>

SECTION AT CURB

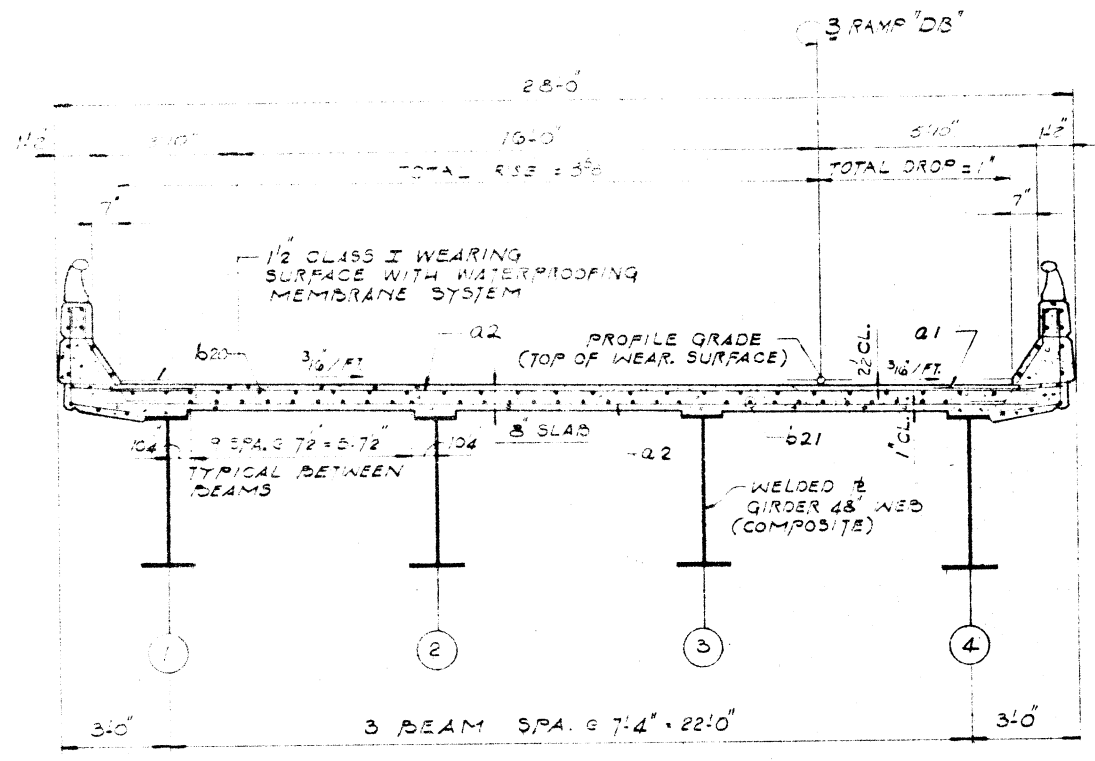
REFERENCE ONLY FOR BITUMINOUS SURFACE

NOTE:
 ALL BAR DIMENSIONS ARE OUT TO OUT.

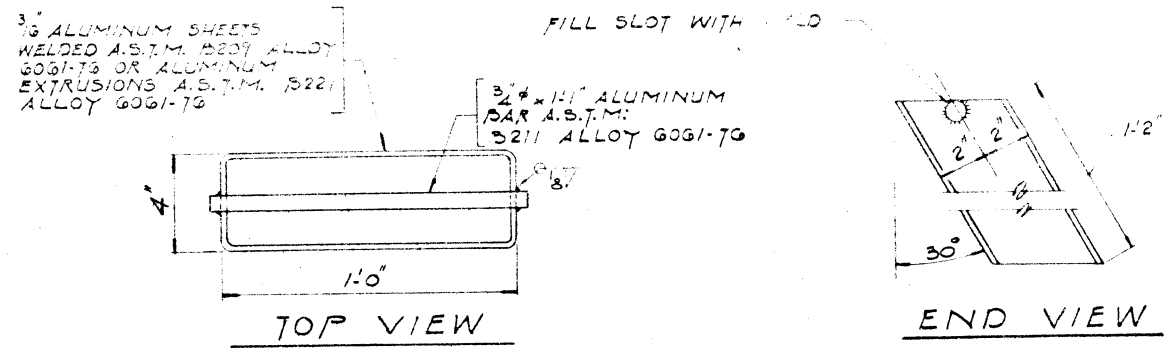
DECK REINFORCEMENT PLAN - SPAN 2
 RAMP 03
 OVER LINDEN ROAD
 PROJECT
 SECTION 201 388-4
 WINNEBAGO COUNTY
 STATION 41124 07

ALLIANCE ENGINEERING COMPANY
 CONSULTING ENGINEERS
 200 N. WISCONSIN ST.
 WINNEBAGO, IL 60093

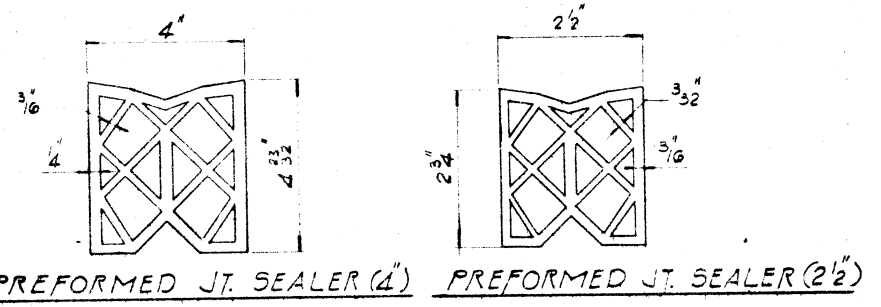
REFERENCE ONLY FOR BITUMINOUS SURFACE



DECK CROSS SECTION
 (SPAN 2)

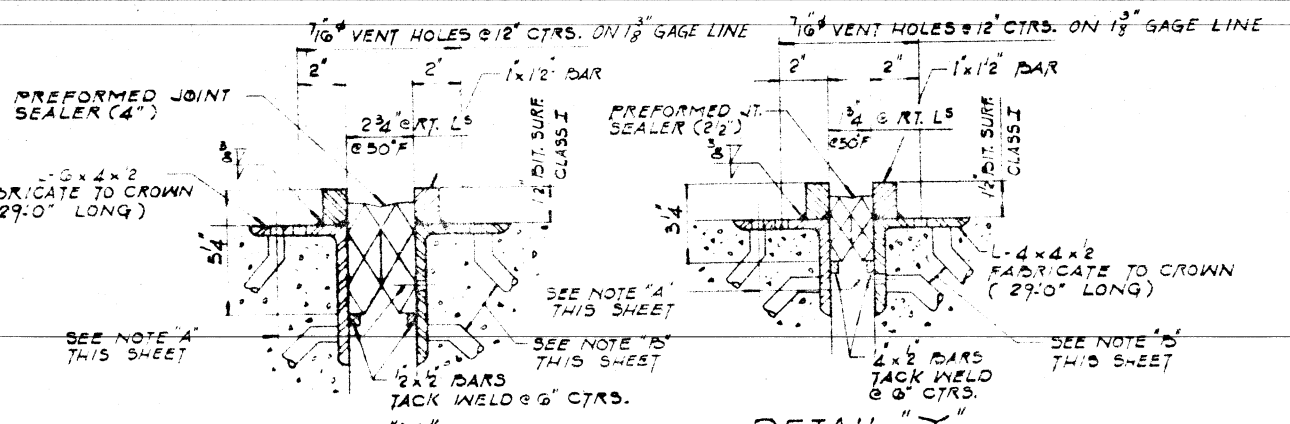


FLOOR DRAIN DETAILS
 COST TO BE INCIDENTAL TO CLASS X CONCRETE



PREFORMED JT. SEALER (4") PREFORMED JT. SEALER (2 1/2")

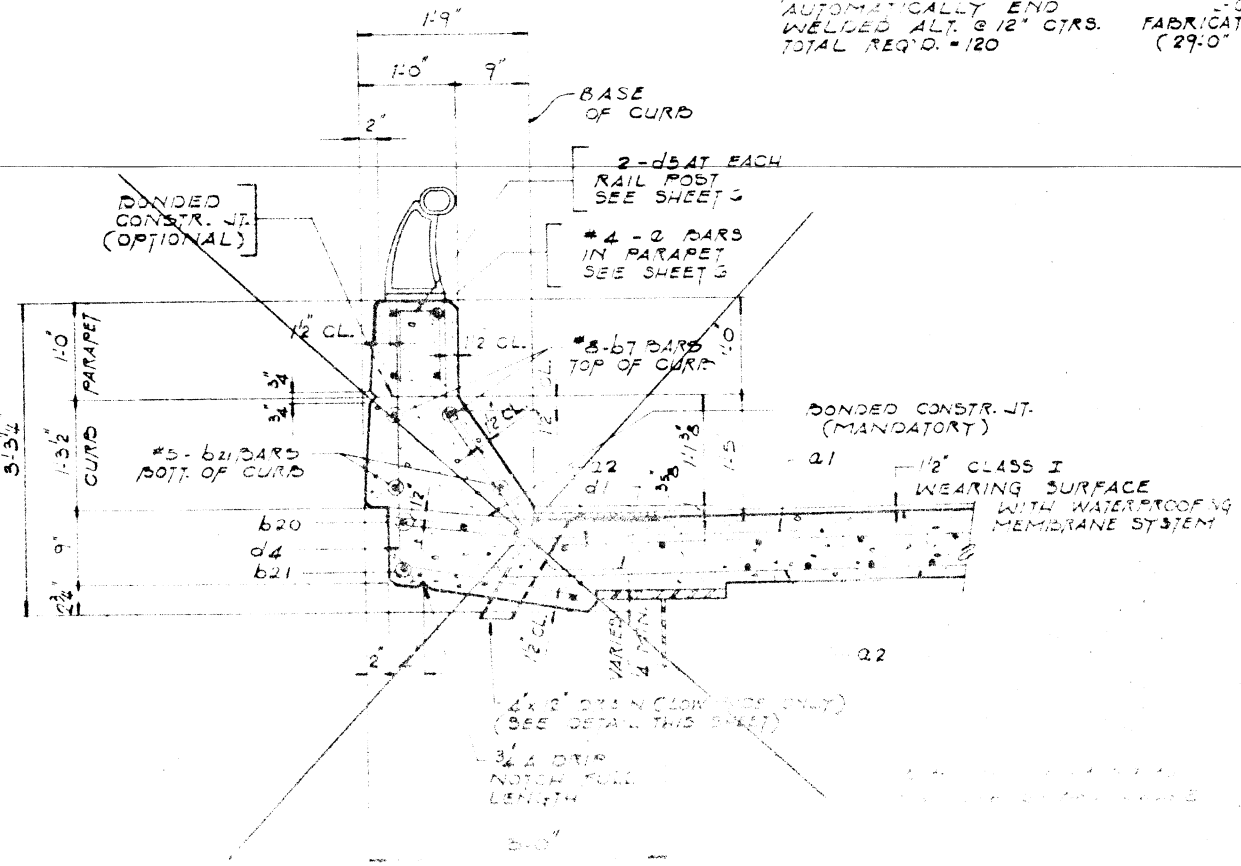
NOTE "B"
 3/4" x 3" CR 1020 STL.
 GRANULAR OR SOLID FLUX
 FILLED HEADED STUDS
 AUTOMATICALLY END
 WELDED ALT. @ 12" CTRS.
 TOTAL REQ'D. = 120



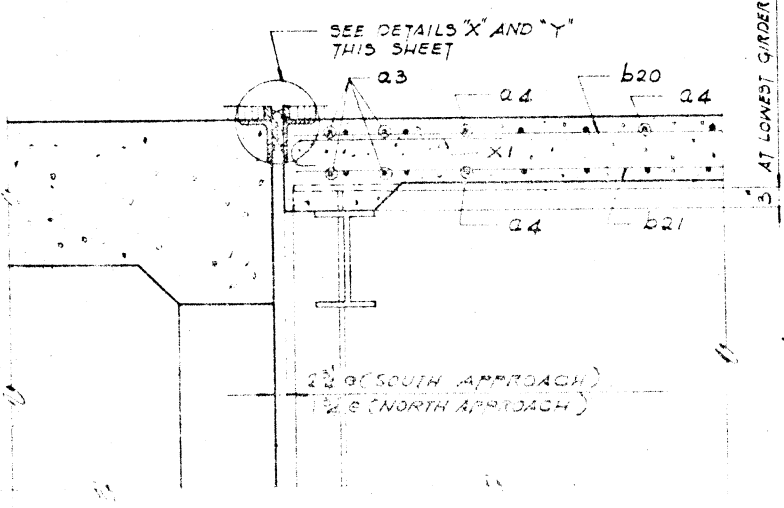
DETAIL "X"
 (AT NORTH APPROACH)

DETAIL "Y"
 (AT SOUTH APPROACH)

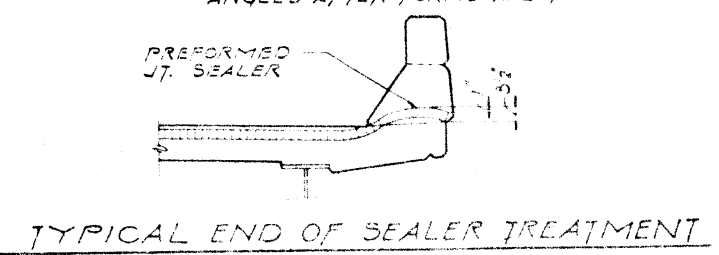
NOTE "A"
 7/16" HOLES AT 12" CTRS. FOR
 3/8" BOLTS SET ON 2 1/2" GAGE
 LINE. ALL BOLTS SHALL BE
 BURNED, SAINED OR CHIPPED
 OFF FLUSH WITH THE BACK OF
 ANGLES AFTER FORMS ARE REMOVED.



FASCIA CURB DETAIL



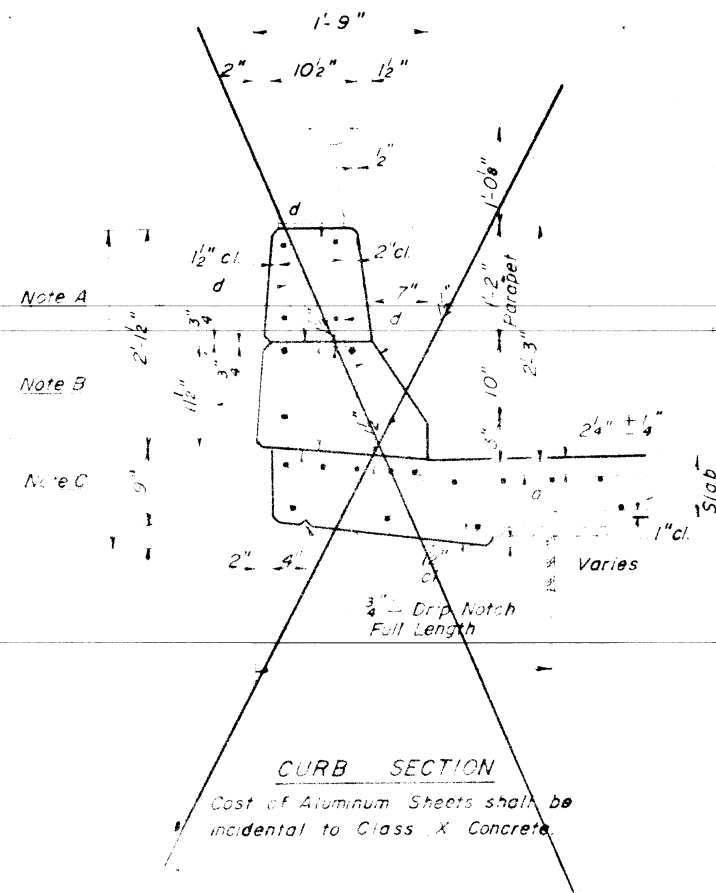
SECTION "D-D"



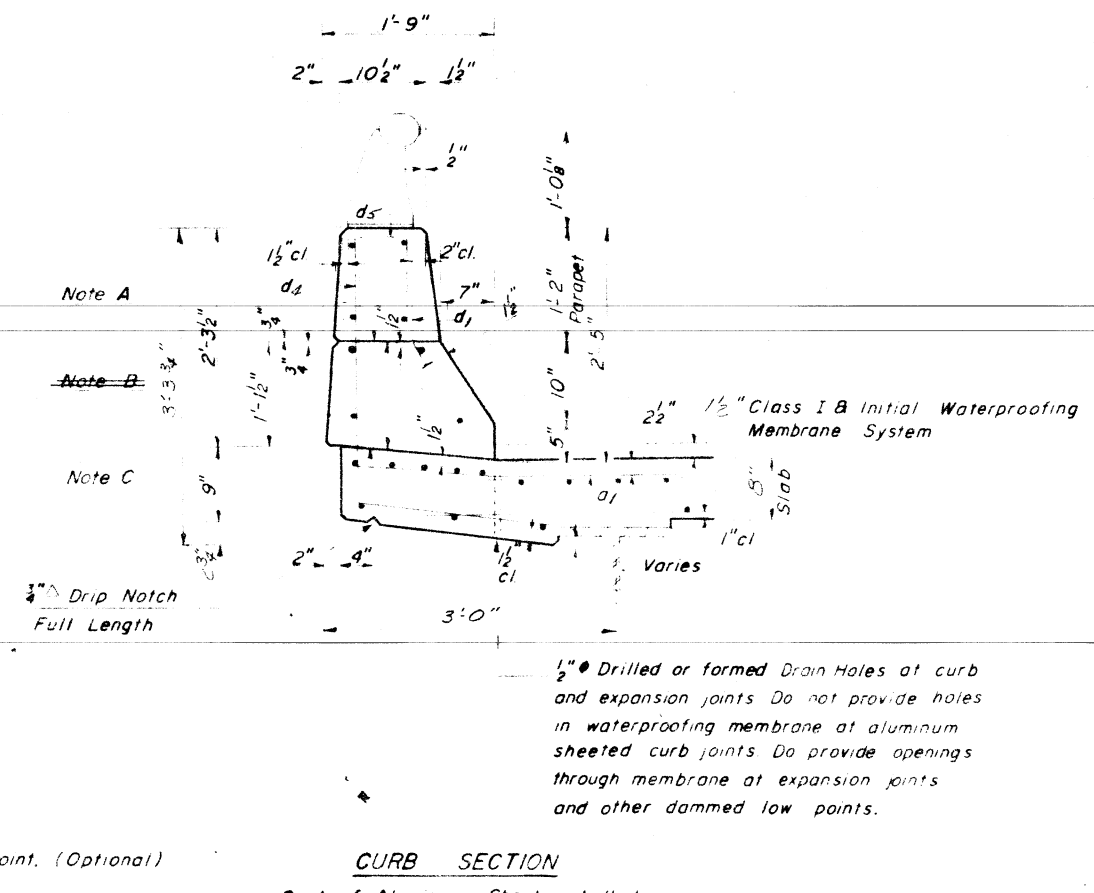
TYPICAL END OF SEALER TREATMENT

DECK DETAILS - SPAN 2
 RAMP DB
 OVER LINDEN ROAD
 PROJECT
 SECTION 201-389-4
 WINNEBAGO COUNTY
 STATION 48+24.97

REFERENCE ONLY FOR BITUMINOUS SURFACE



Note: All edges shall have 3/4" chamfer.



Note A - Bonded Construction Joint. (Optional)

~~Note B - 1/2" Aluminum Sheets - ASTM - 8209 - Alloy 3003 - H14~~

Note C - Bonded Construction Joint (Mandatory)

CURB SECTION

~~Cost of Aluminum Sheets shall be incidental to Class X Concrete.~~

1/2" Drilled or formed Drain Holes at curb and expansion joints. Do not provide holes in waterproofing membrane at aluminum sheeted curb joints. Do provide openings through membrane at expansion joints and other dammed low points.

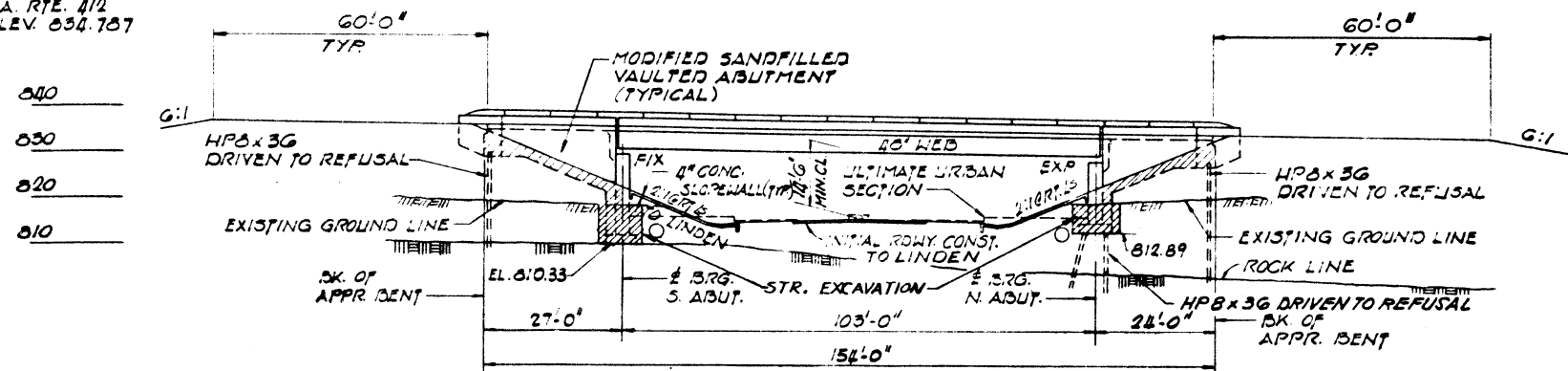
DESIGNED	EXAMINED	19
CHECKED	APPROVED	
DATE	DATE	

SUPERSTRUCTURE
REVISED PARAPET CONFIGURATION
FA 510-110 RAMP 2E
SPAN 2
SECTION 201-5HB-4
DAVENPORT COUNTY
10/15/10

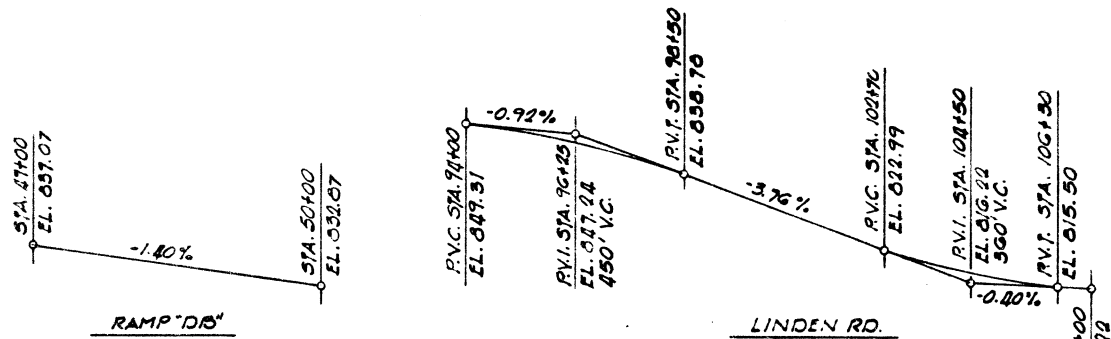
NO EXISTING STRUCTURE
 BENCHMARK #7: TOP CONC. ROW MARKER
 NORTH SIDE LINDEN RD, 170' EAST OF
 P.A. RTE. #12
 ELEV. 854.787

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PA 412	201-3HB-4	WINNEBAGO	3A1	
STA.	TO STA.			
FILE & REG. NO. 4	ILLINOIS	PROJECT		

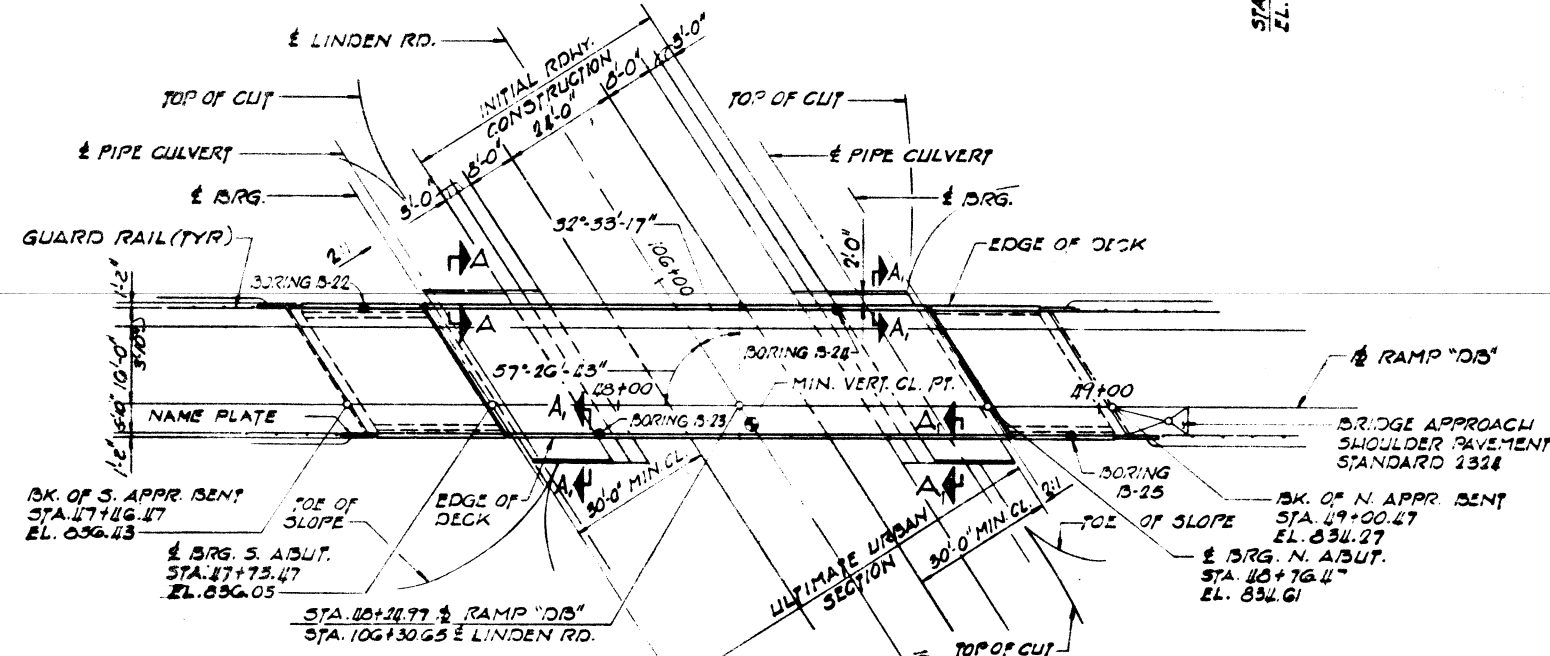
SHT. 1 OF 12



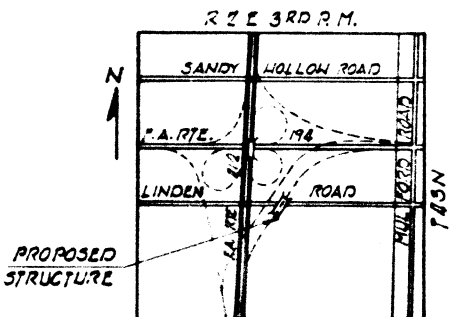
ELEVATION



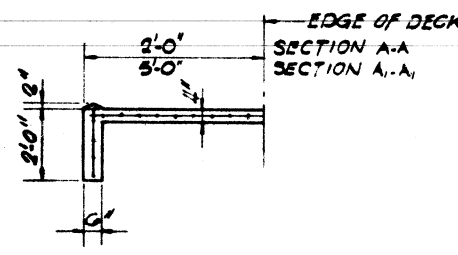
PROFILE GRADE



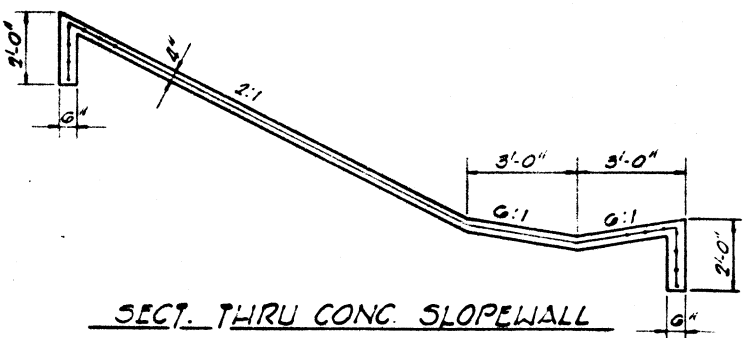
PLAN



LOCATION PLAN



SECTION A-A & A1-A1



SECT. THRU CONC. SLOEWALL

- INDEX OF SHEETS
- 1 GENERAL PLAN AND ELEVATION
 - 2 GENERAL NOTES, QUANTITIES AND NAME PLATE
 - 3 DECK REINFORCEMENT PLAN - SPANS 1 & 3
 - 4 DECK REINFORCEMENT PLAN - SPAN 2
 - 5 DECK DETAILS - SPAN 2
 - 6 ALUMINUM HANDRAIL DETAILS
 - 7 TOP OF SLAB ELEVATIONS
 - 8 FRAMING PLAN
 - 9 STEEL DETAILS
 - 10 NORTH ABUTMENT
 - 11 SOUTH ABUTMENT
 - 12 ABUTMENT DETAILS

DESIGN LOAD
 L.L. = HS20-44
 FUTURE D.L. = 25 P.S.F.
 DESIGN STRESSES
 CONCRETE (CAST IN PLACE)
 $f_c = 3,500$ P.S.I.
 $f_t = 1,400$ P.S.I. (SUBSTRUCTURE, APPR. DECKS SPANS 1 & 3)
 $f_t = 1,000$ P.S.I. (WITH EARTH PRESSURE)
 $v = 0.95$ (FOOTINGS)
 $n = 10$

DECK SLAB SPAN 2
 $f_y = 60,000$ psi
 $f_c = 3,500$ psi

REINFORCING STEEL
 $f_s = 20,000$ P.S.I. (SUBSTRUCTURE, APPR. DECKS SPAN 1 & 3)
 STRUCTURAL STEEL
 $f_s = 20,000$ P.S.I. (M183)
 MAX. L.L. DEFLECTION
 $L/1200$ (COMPOSITE)
 DESIGN SPECIFICATIONS
 AASHTO: 1973 AND IN TERMS AS APPLICABLE

GENERAL PLAN AND ELEVATION
 RAMP DB
 OVER LINDEN ROAD
 PROJECT
 SECTION 201-3HB-4
 WINNEBAGO COUNTY
 STATION 48+24.97

APPROVED
 [Signature]
 #1994

ALFRED BENESCH & COMPANY
 CONSULTING ENGINEERS
 JOB NO. 1605-1
 233 N. MICHIGAN AVE. CHICAGO, ILLINOIS

GENERAL NOTES

ALL REINFORCEMENT BARS SHALL BE LAPPED 24 DIAMETERS UNLESS OTHERWISE SHOWN.

FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" DIAMETER, OPEN HOLES 13/16" DIAMETER, UNLESS OTHERWISE NOTED.

CALCULATED WEIGHT OF STRUCTURAL STEEL = 127,400 LBS.

THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.

SLOPEWALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" X 6" MESH, WEIGHING 58 LBS. PER 100 SQ. FT.

THE CONTRACTOR SHALL DRIVE ONE STEEL TEST PILE IN A PERMANENT LOCATION AT EACH APPROACH BENT AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.

THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.

THE CONCRETE RAIL SECTION ABOVE THE MANDATORY CONSTRUCTION JOINT AT TOP OF THE SLAB SHALL BE CONSTRUCTED OF CLASS X CONCRETE, EXCEPT THE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF HANDRAIL CONCRETE.

PROTECTIVE COAT SHALL NOT BE APPLIED TO SURFACES TO WHICH WATERPROOFING MEMBRANE SYSTEM IS APPLIED.

BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF + 1/8 INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS.

All reinforcement bars in the Deck Slab Span 2 shall conform to AASHTO M31 or M53 grade 60.

FOR BORING DATA SEE SHEET NO. 196-206

The main load carrying member components subject to the tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the tension flanges, webs and all splice plate material of the steel girders or wide flange beams.

BILL OF MATERIAL

ITEM	UNIT	SUB	SUPER	TOTAL
STRUCTURE EXCAVATION	CU.YD.	3/3	-	3/3
ROCK EXCAVATION FOR STRUCTURES	CU.YD.	15	-	15
CLASS X CONCRETE	CU.YD.	226.7	164.8	391.5
STUD SHEAR CONNECTORS	EACH	-	1080	1080
FURNISHING & ERECTING STRUCTURAL STEEL	L.SUM	-	.10	.10
ALUMINUM RAILING	LIN.FT.	-	328	328
REINFORCEMENT BARS	LBS.	26,870	42,800	69,670
STEEL PILES, HP 8 X 36	LIN.FT.	414	-	414
DRIVING STEEL PILES	LIN. FT.	414	-	414
TEST PILE STEEL, HP 8X36	EACH	2	-	2
NAME PLATES	EACH	1	-	1
SLOPE WALL, 4 INCH	SQ.YD.	296	-	296
PERMANENT SURVEY MARKERS, TYPE I	EACH	-	1	1
PREFORMED JOINT SEALER 2 1/2"	LIN.FT.	-	33	33
PREFORMED JOINT SEALER 4"	LIN.FT.	-	33	33
SAND BACKFILL	CU.YD.	300	-	300

STATION 48+24.97
 BUILT 197 BY
 STATE OF ILLINOIS
 F.A. RT. 412 SEC.201-3HB-4
 F.A. PROJ. FFD-412-5(11)
 LOADING HS 20

1 REQ'D

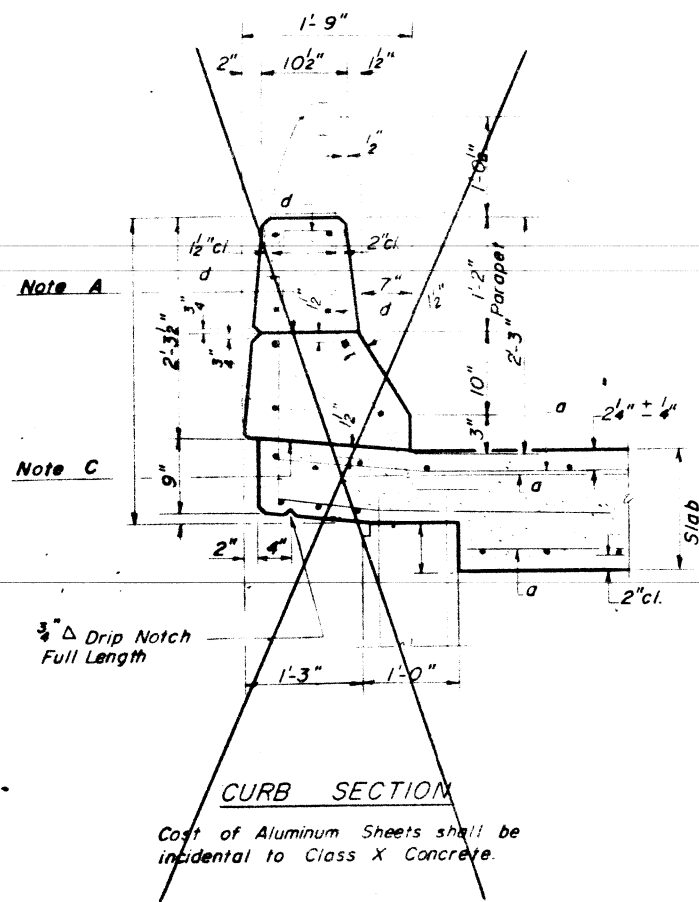
(SEE STATE OF ILLINOIS STD.2113)
LETTERING FOR NAME PLATE

GENERAL NOTES, QUANTITIES
 AND NAME PLATE
 RAMP OVER
 OVER LINDEN ROAD
 PROJECT FFD-412-5(11)
 SECTION 201-3HB-4
 WINNEBAGO COUNTY
 STATION 48+24.97

ALFRED BENESCH & COMPANY
 CONSULTING ENGINEERS
 JOB NO.
 233 N. MICHIGAN AVE. CHICAGO, ILLINOIS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

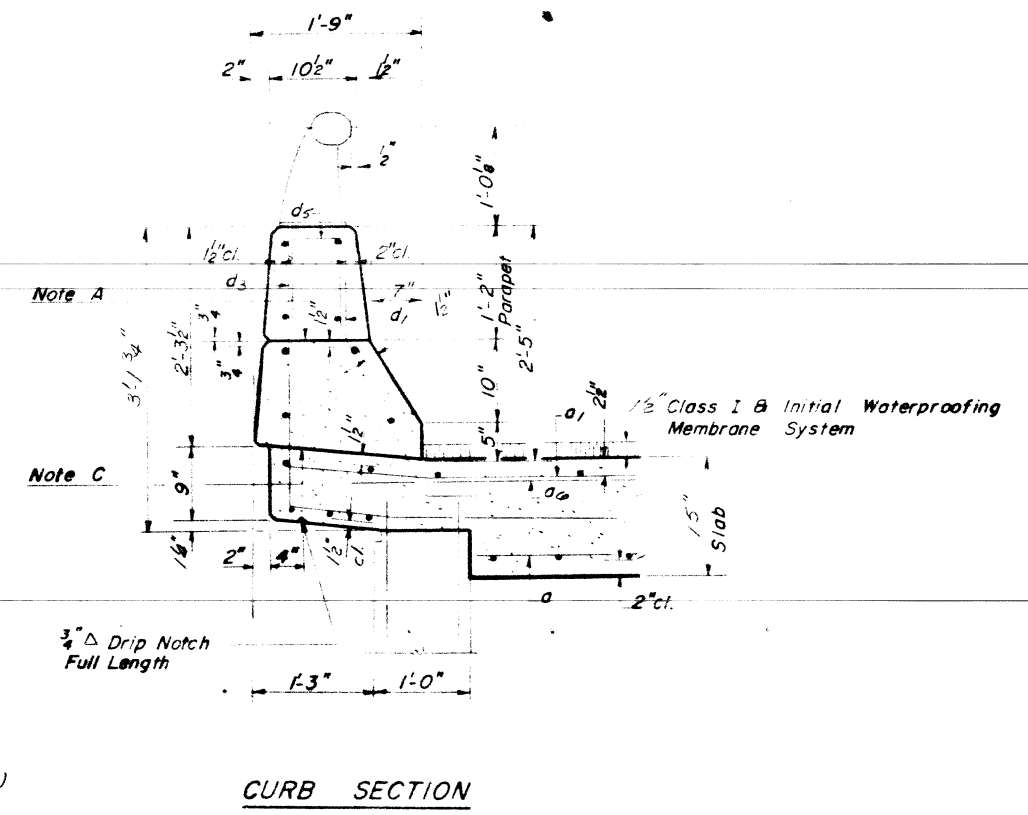
PROJECT NO.	201-3HB-4	WINNEBAGO	3A	12	SHEET NO. 3A
DATE	3/12/77				12 SHEETS



Note: All edges shall have 3/4" chamfer.

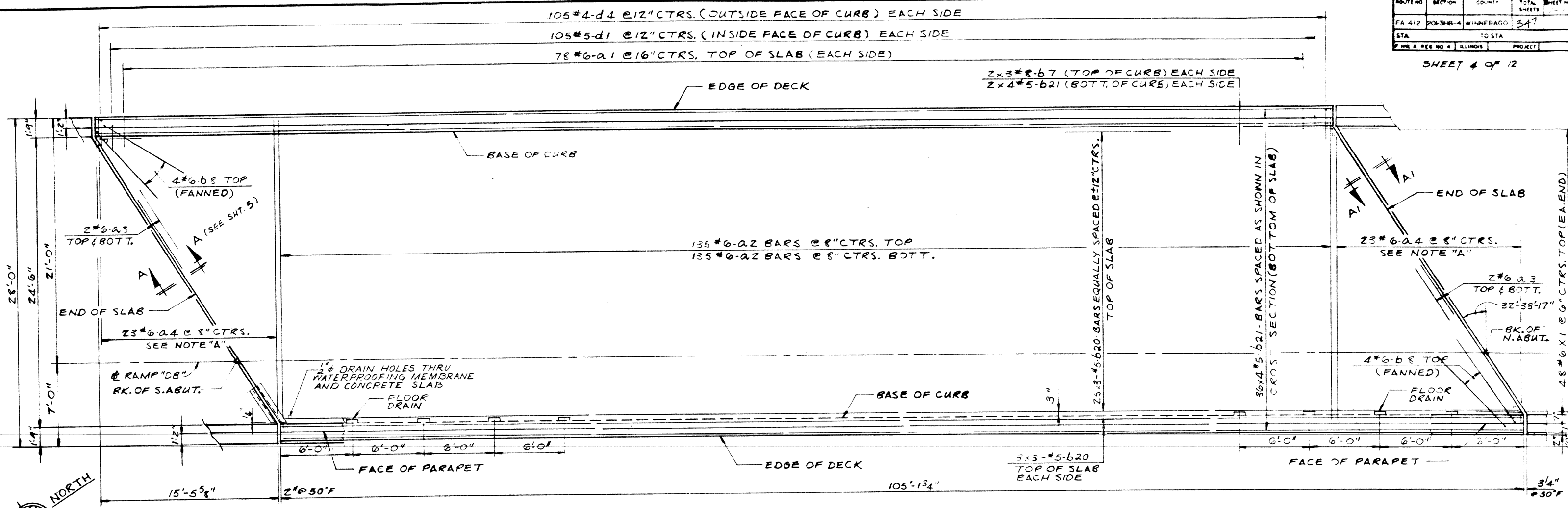
Note A - Bonded Construction Joint (Optional)

Note C - Bonded Construction Joint (Mandatory)



DESIGNED	EXAMINED	19
CHECKED	PASSED	
DRAWN D. DERRINGER	APPROVED	
INTEGRITY		

APPROACH SLABS
REVISED PARAPET CONFIGURATION
FA RTE 412 - RAMP DO
SPANS 1E3
SECTION 201-3HB-4
WINNEBAGO COUNTY
STA. 48+24.77

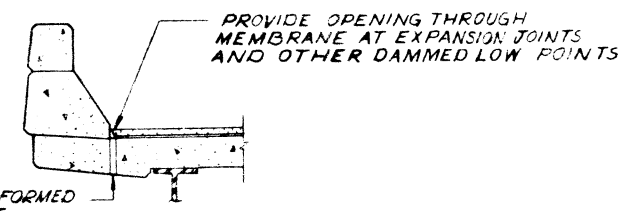
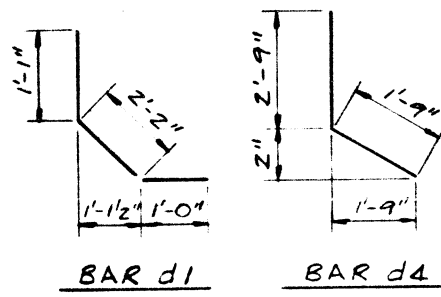
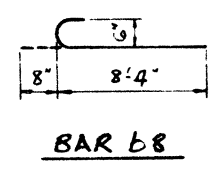
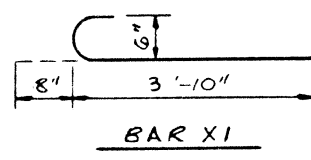
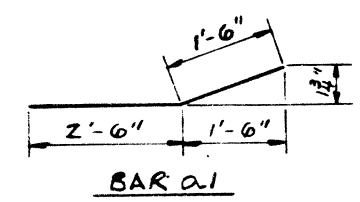


DECK REINFORCEMENT PLAN-SPAN 2

NOTE "A"
 ORDER BARS FULL LENGTH, CUT IN FIELD TO FIT SKEW FOR TOP BARS. USE THE REMAINDER FOR BOTTOM BARS.
NOTE:
 BARS INDICATED THUS 20-3-#5 ETC. INDICATES 20 LINES OF BARS WITH 3 LENGTHS PER. LINE.

BILL OF MATERIAL

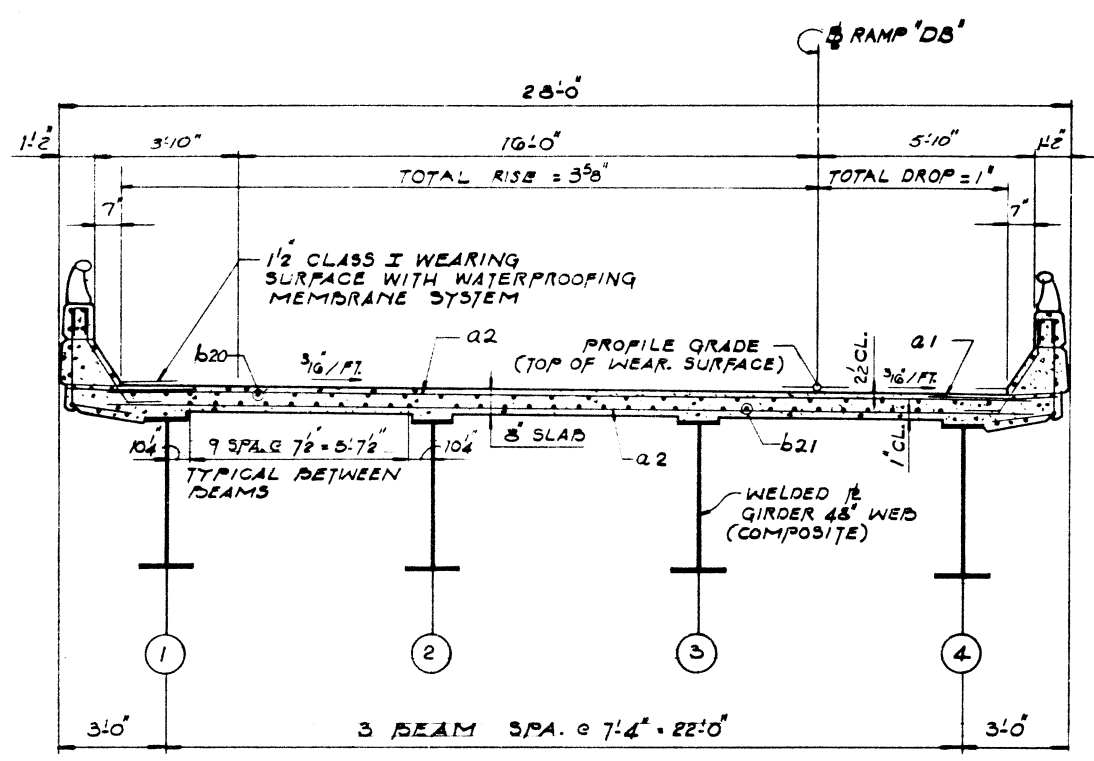
BAR	NO	SIZE	LENGTH	SHAPE
a1	156	#6	4'-0"	—
a2	270	#6	26'-0"	—
a3	8	#6	28'-9"	—
a4	46	#6	26'-6"	—
b7	12	#8	36'-6"	—
b8	8	#6	9'-0"	C
b20	93	#5	36'-0"	—
b21	160	#5	27'-3"	—
d1	210	#5	4'-3"	L
d4	210	#4	4'-6"	L
x1	96	#6	4'-6"	C
CLASS "X" CONCRETE		CU.YD.	907	
REINFORCEMENT BARS		LBS.	25,180	



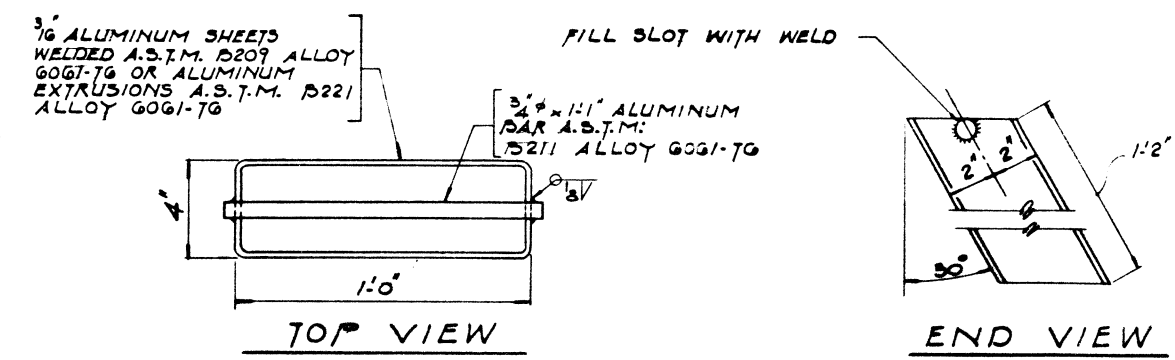
NOTE:
 ALL BAR DIMENSIONS ARE OUT TO OUT.

DECK REINFORCEMENT PLAN - SPAN 2
 RAMP DB
 OVER LINDEN ROAD
 PROJECT
 SECTION 201-3HB-4
 WINNEBAGO COUNTY
 STATION 48+24.97

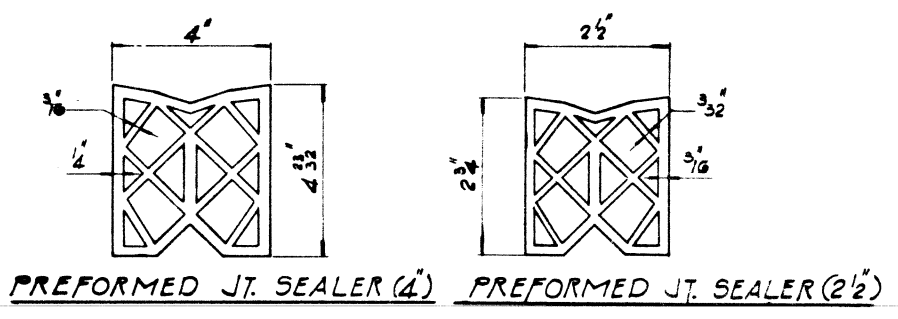
ALFRED BENESCH & COMPANY
 CONSULTING ENGINEERS
 JOB NO.
 233N. MICHIGAN AVE. CHICAGO, ILL. 60610



DECK CROSS SECTION
(SPAN 2)

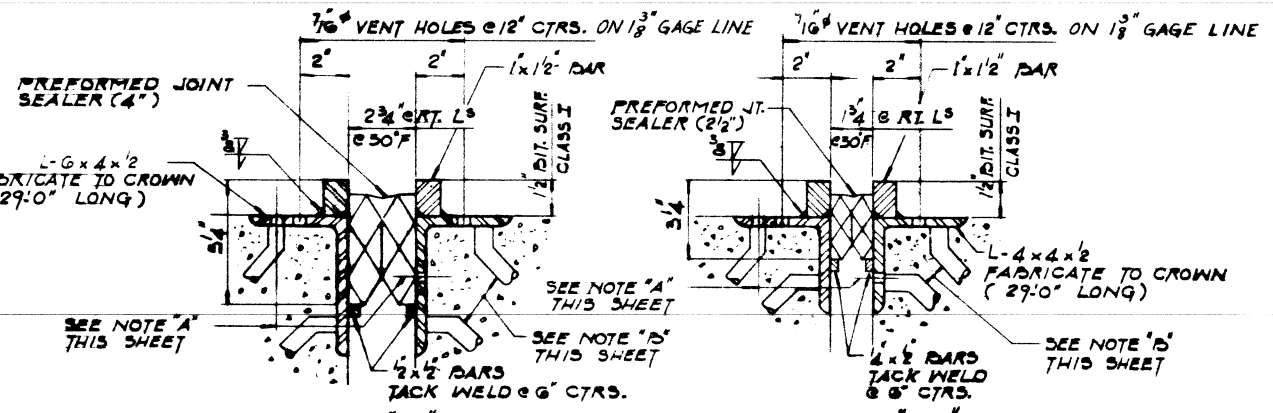


FLOOR DRAIN DETAILS
COST TO BE INCIDENTAL TO CLASS X CONCRETE



NOTE "B"

3/4" x 5" CR 1020 STL.
GRANULAR OR SOLID FLUX
FILLED HEADED STUDS
AUTOMATICALLY END
WELDED ALT. @ 12" CTRS.
TOTAL REQ'D. = 120

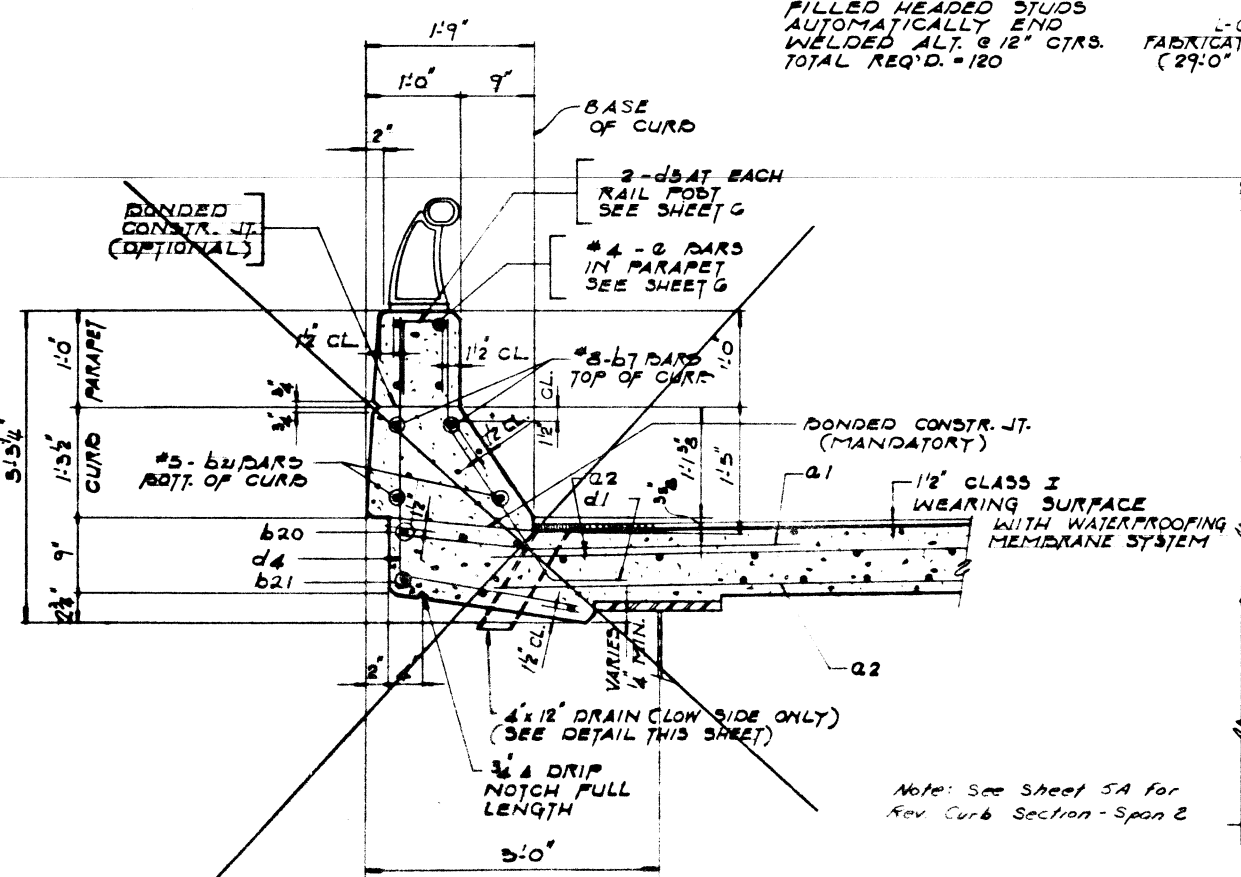


DETAIL "X"
(AT NORTH APPROACH)

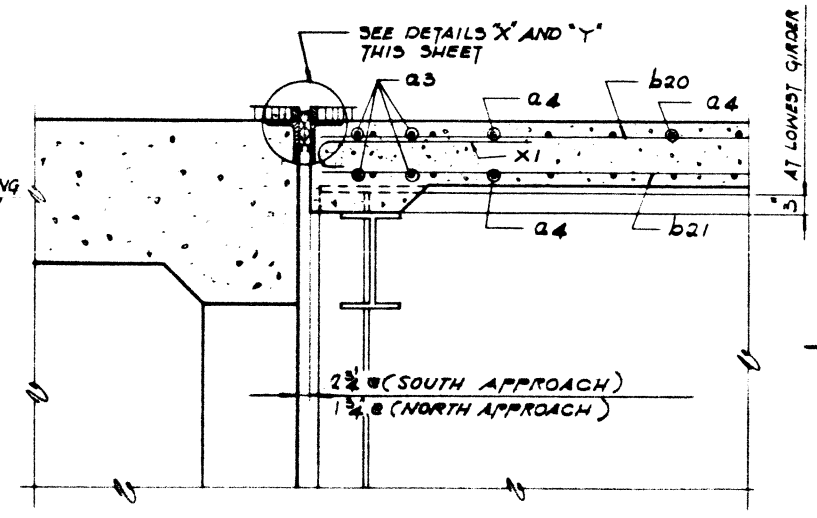
DETAIL "Y"
(AT SOUTH APPROACH)

NOTE "A"

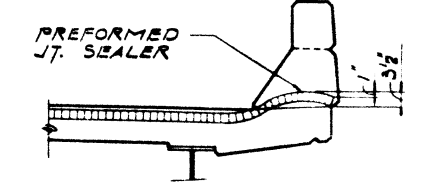
7/16" HOLES AT 12" CTRS. FOR
3/8" BOLTS SET ON 2 1/2" GAGE
LINE. ALL BOLTS SHALL BE
BURNED, SAILED OR CHIPPED
OFF FLUSH WITH THE BACK OF
ANGLES AFTER FORMS ARE REMOVED.



FASCIA CURB DETAIL



SECTION "D-D"



TYPICAL END OF SEALER TREATMENT

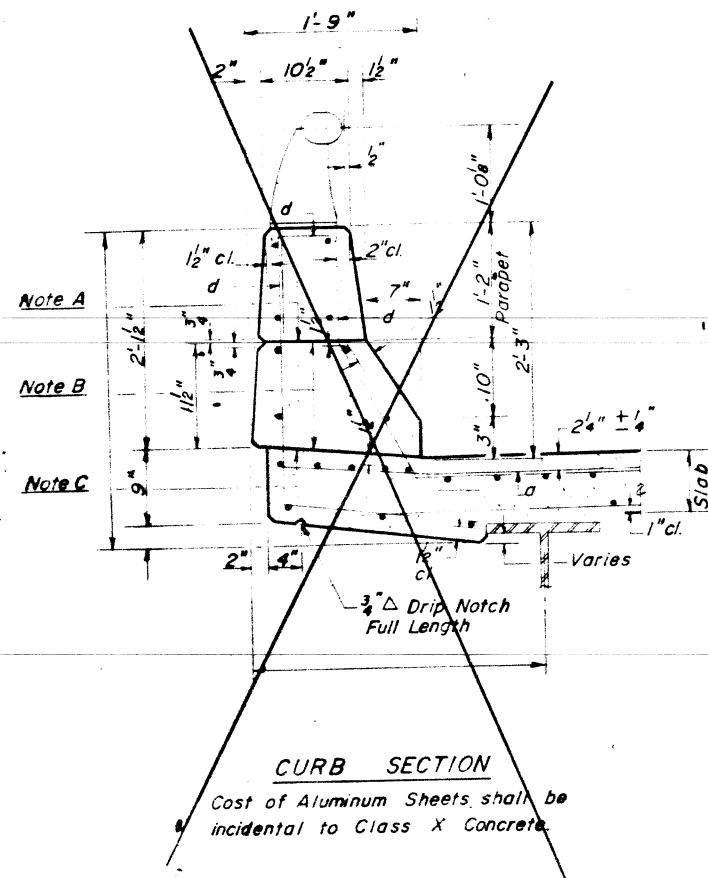
Note: See Sheet 5A for
Rev. Curb Section - Span 2

DECK DETAILS - SPAN 2
RAMP DB
OVER LINDEN ROAD
PROJECT
SECTION 201-3HD-4
WINNEBAGO COUNTY
STATION 48+24.97

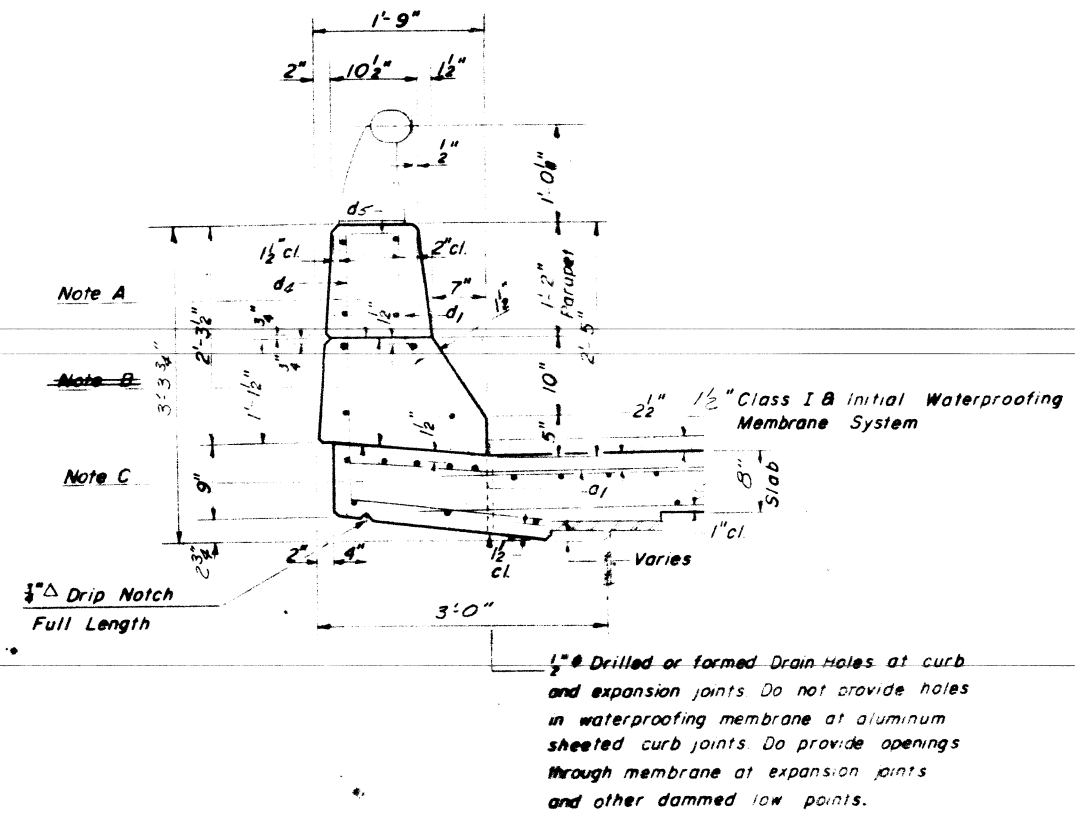
ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB NO.
233 N. WICHIGAN AVE. CHICAGO, ILLINOIS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	3A8-4	Winnebago	3A1	12
ILL. ROAD DIST. NO. 7 ILL. ROAD DIST. NO. 7 ILL. ROAD DIST. NO. 7				



Note: All edges shall have 3/4" chamfer.



Note A - Bonded Construction Joint, (Optional)

Note B - Aluminum Sheets ASTM B209
Type 3003-H14

Note C - Bonded Construction Joint
(Mandatory)

CURB SECTION

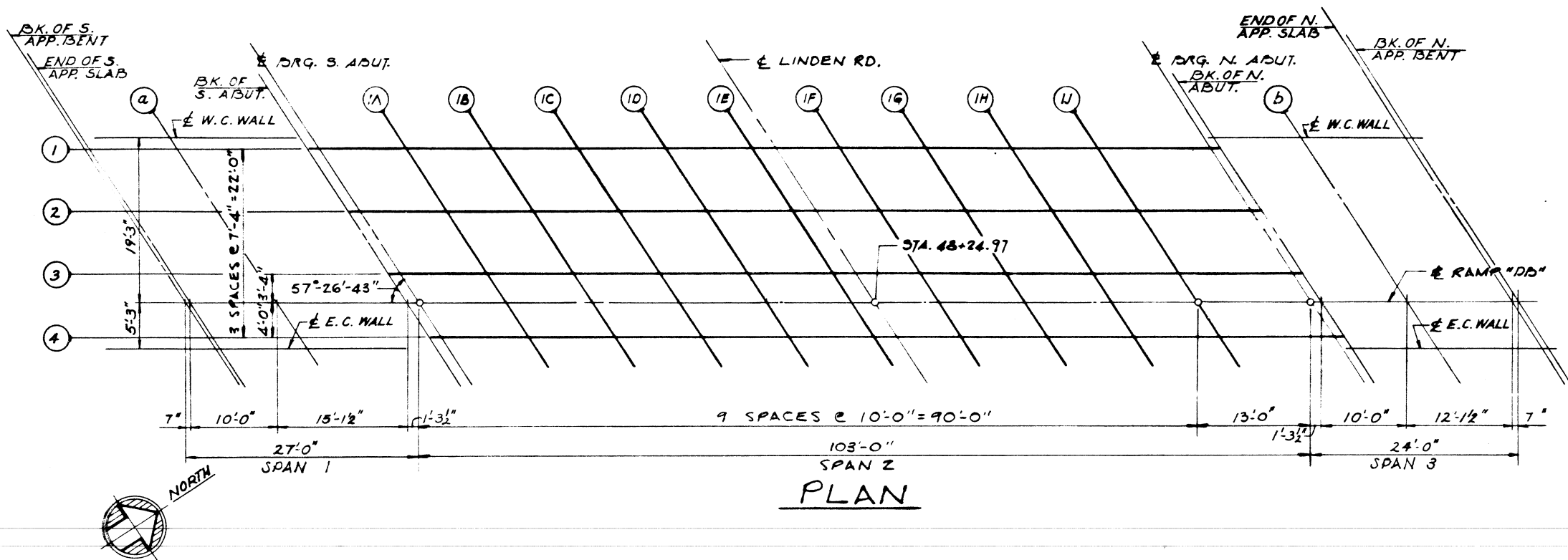
Cost of Aluminum Sheets shall be incidental to Class X Concrete.

1/2" Drilled or formed Drain Holes at curb and expansion joints. Do not provide holes in waterproofing membrane at aluminum sheeted curb joints. Do provide openings through membrane at expansion joints and other dammed low points.

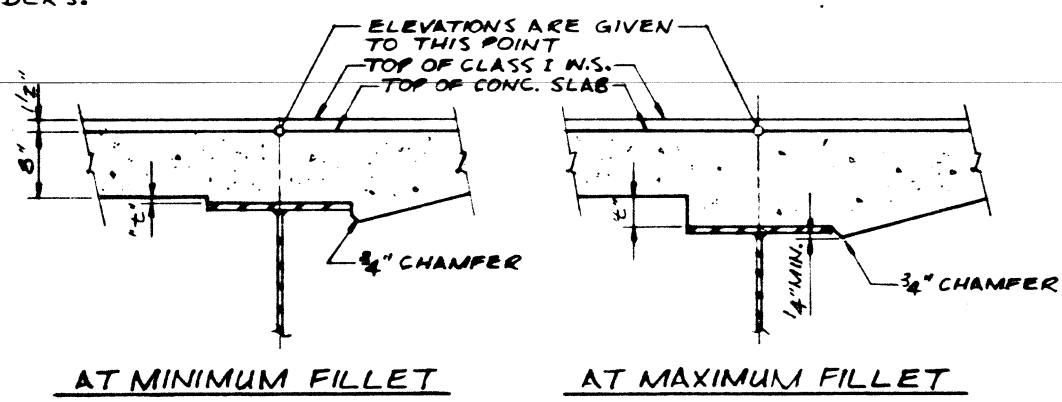
DESIGNED
CHECKED
DRAWN D DERRINGER
CHECKED

EXAMINED	19
PASSED	
APPROVED	

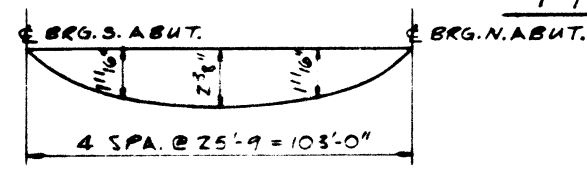
SUPERSTRUCTURE
REVISED PARAPET CONFIGURATION
FA. RTE. 412 - RAMP 2B
SPAN 2
SECTION 201-3HB-4
WINNEBAGO COUNTY
STA. 48+24.77



NOTE:
 TO DETERMINE "t": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE GIRDERS SHALL BE TAKEN AT INTERVALS SHOWN THESE ELEVATIONS SUBTRACTED FROM THE GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION SHOWN ON THIS SHEET MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "t" ABOVE TOP FLANGE OF THE GIRDERS.



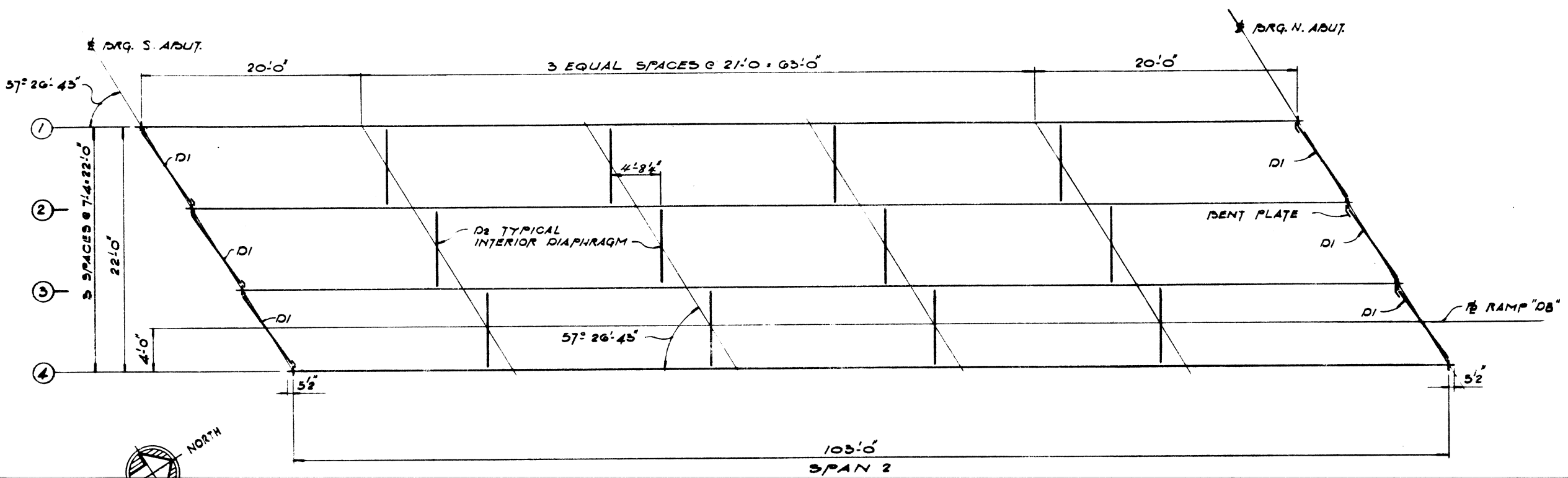
FILLET HEIGHTS



DEAD LOAD DEFLECTION DIAGRAM
 (INCLUDES WT. OF CONCRETE AND INITIAL SDL ONLY)

NOTE:
 THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS.

LINE	BEAM OR GIRDER	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
SPAN 2					
S. ABUT	GIR 1	4761.979	18.000	836.368	836.368
	GIR 2	4766.658	10.670	836.188	836.188
	GIR 3	4771.338	3.340	836.008	836.008
	GIR 4	4776.024	-4.000	835.828	835.828
1A	GIR 1	4771.979	18.000	836.228	836.288
	GIR 2	4776.658	10.670	836.048	836.108
	GIR 3	4781.338	3.340	835.868	835.928
	GIR 4	4786.024	-4.000	835.688	835.748
1B	GIR 1	4781.979	18.000	836.088	836.201
	GIR 2	4786.658	10.670	835.908	836.022
	GIR 3	4791.338	3.340	835.728	835.842
	GIR 4	4796.024	-4.000	835.548	835.662
1C	GIR 1	4791.979	18.000	835.948	836.104
	GIR 2	4796.658	10.670	835.768	835.924
	GIR 3	4801.338	3.340	835.588	835.744
	GIR 4	4806.024	-4.000	835.408	835.564
1D	GIR 1	4801.979	18.000	835.808	835.992
	GIR 2	4806.658	10.670	835.628	835.812
	GIR 3	4811.338	3.340	835.448	835.632
	GIR 4	4816.024	-4.000	835.268	835.452
1E	GIR 1	4811.979	18.000	835.668	835.863
	GIR 2	4816.658	10.670	835.488	835.683
	GIR 3	4821.338	3.340	835.308	835.503
	GIR 4	4826.024	-4.000	835.128	835.323
1F	GIR 1	4821.979	18.000	835.528	835.717
	GIR 2	4826.658	10.670	835.348	835.537
	GIR 3	4831.338	3.340	835.168	835.357
	GIR 4	4836.024	-4.000	834.988	835.177
1G	GIR 1	4831.979	18.000	835.388	835.553
	GIR 2	4836.658	10.670	835.208	835.373
	GIR 3	4841.338	3.340	835.028	835.194
	GIR 4	4846.024	-4.000	834.848	835.014
1H	GIR 1	4841.979	18.000	835.248	835.375
	GIR 2	4846.658	10.670	835.068	835.195
	GIR 3	4851.338	3.340	834.888	835.015
	GIR 4	4856.024	-4.000	834.708	834.835
1J	GIR 1	4851.979	18.000	835.108	835.184
	GIR 2	4856.658	10.670	834.928	835.004
	GIR 3	4861.338	3.340	834.748	834.824
	GIR 4	4866.024	-4.000	834.568	834.644
SPAN 1					
N. ABUT	GIR 1	4864.979	18.000	834.968	834.928
	GIR 2	4869.658	10.670	834.788	834.748
	GIR 3	4874.338	3.340	834.608	834.568
	GIR 4	4879.024	-4.000	834.428	834.388
SPAN 3					
BK. NA	W.C. WALL	4865.471	19.250	834.929	834.371
	RAMP DB	4877.760	0.000	834.456	834.456
	E.C. WALL	4881.112	-5.250	834.328	834.328
b	W.C. WALL	4875.471	19.250	834.789	834.789
	RAMP DB	4887.760	0.000	834.316	834.316
	E.C. WALL	4891.112	-5.250	834.187	834.187
END N APP. SLAB	W.C. WALL	4887.588	19.250	834.620	834.620
	RAMP DB	4899.877	0.000	834.147	834.147
	E.C. WALL	4903.229	-5.250	834.018	834.018
BK. N APP. BENT	W.C. WALL	4888.181	19.250	834.611	834.611
	RAMP DB	4900.470	0.000	834.139	834.139
	E.C. WALL	4903.822	-5.250	834.010	834.010



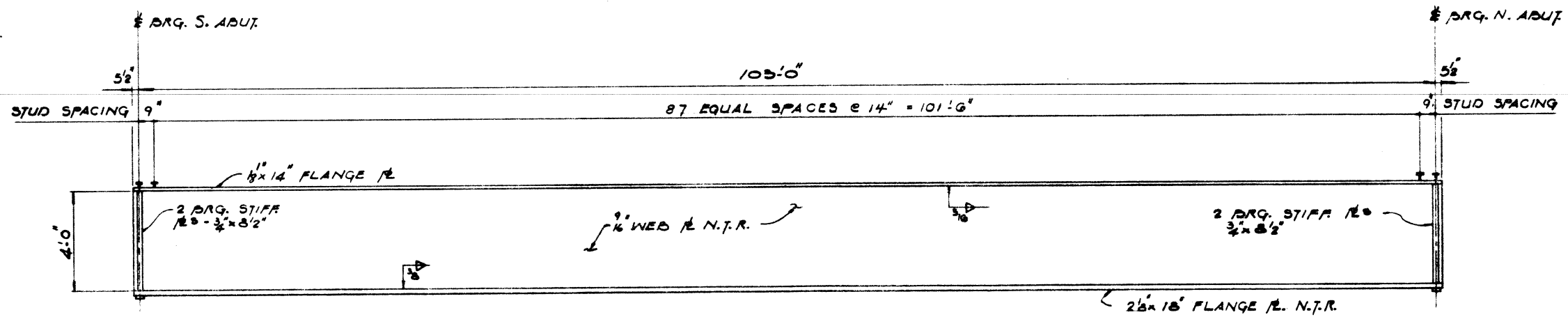
FRAMING PLAN

REACTION TABLE

INTERIOR GIRDER REACTION TABLE	
	ABUT.
RDL (K)	79.6
RLI (K)	53.6
IMP (K)	11.8
R TOTAL (K)	145.0

MOMENT TABLE
SYMMETRICAL COMPOSITE 1 SPAN

INTERIOR GIRDER MOMENT TABLE	
I_x (IN ⁴)	0.537MN
I_y (IN ⁴)	54692
I_c (IN ⁴)	86694
J_s (IN ⁴)	1078
J_c (IN ⁴)	5817
D.L. (K/IN)	1.009
MOL (K)	1338
f_b (K/IN)	14.9
SOL (K/IN)	0.536
M SOL (K)	711
MLL (K)	1049
MEMB (K)	231
M TOTAL (K)	1991
f_b (K/IN)	10.00
f_b TOTAL (K/IN)	19.01
VR (K)	53.3



GIRDER ELEVATION

NOTES:

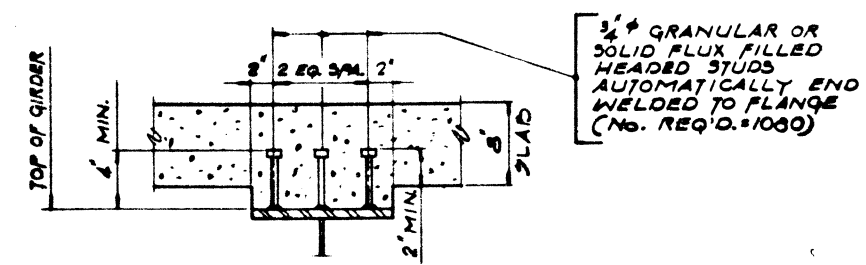
I_x AND J_s ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF STEEL SECTION.
 I_c AND J_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_b .
 VR IS THE MAXIMUM L.L. + IMPACT SHEAR RANGE IN SPAN.

NOTE:

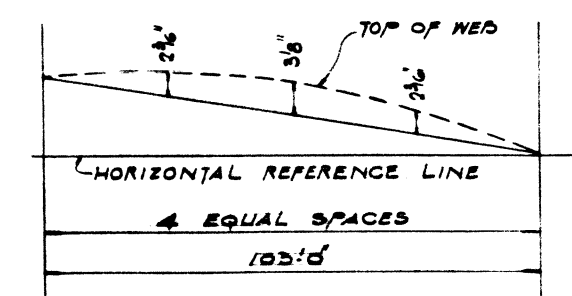
N.T.R. DESIGNATES MEMBERS SUBJECT TO THE SUPPLEMENTAL REQUIREMENTS FOR TOUGHNESS.

TOP OF WEB ELEVATIONS
(UNDEFLECTED GIRDERS - FOR FABRICATION ONLY)

GIRDER LOCATION	1	2	3	4
DRG. S.A.	835.546	835.366	835.186	835.006
DRG. N.A.	834.104	833.924	833.744	833.564



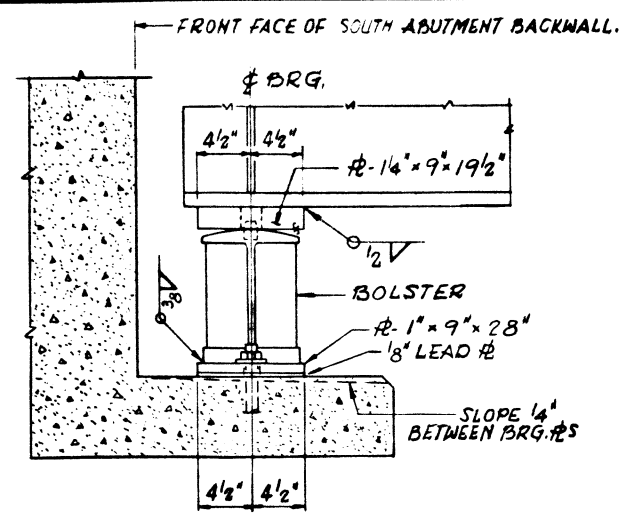
SHEAR CONNECTOR DETAIL



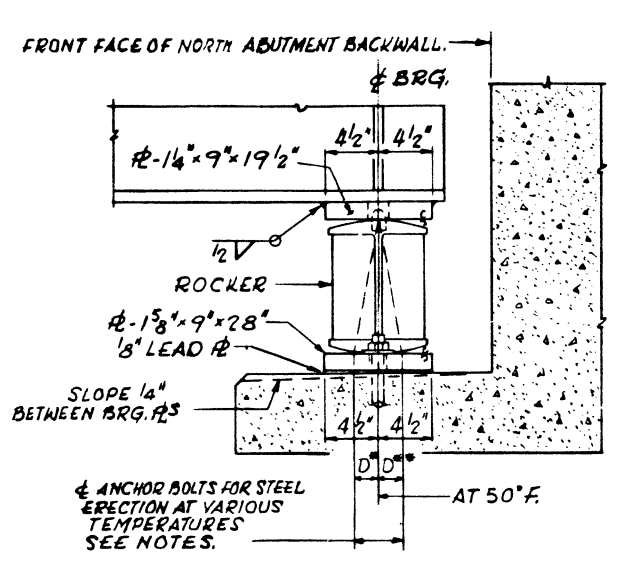
CAMBER DIAGRAM AND DIMENSIONS
(ALL GIRDERS)

ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB NO.
833 N. MICHIGAN AVE. CHICAGO, ILLINOIS

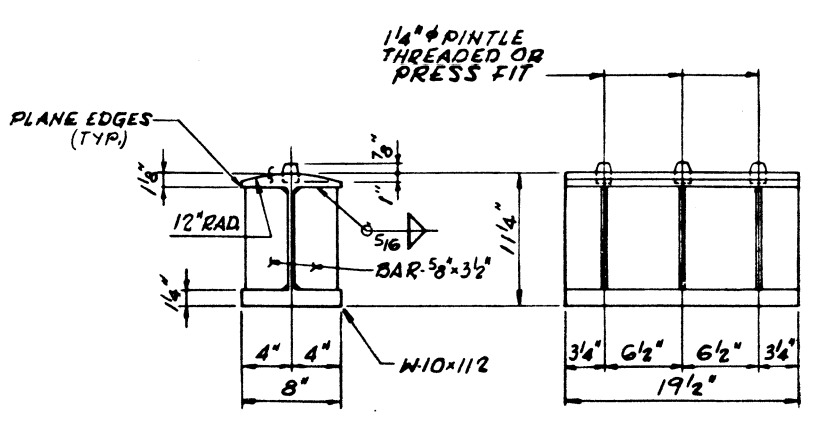
FRAMING PLAN
RAMP DB
OVER LINDEN ROAD
PROJECT
SECTION 201-3HB-4
WINNEBAGO COUNTY
STATION 48+24.97



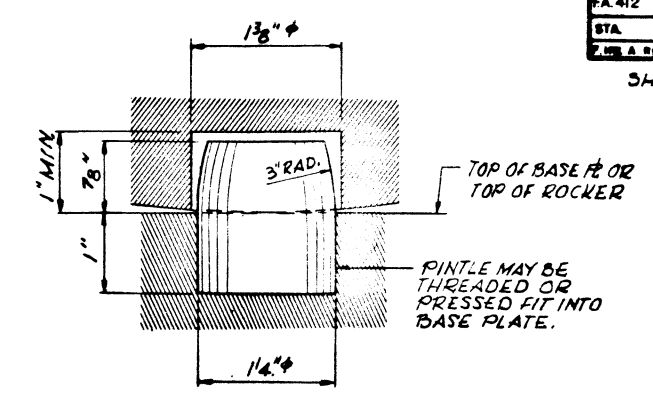
ELEVATION



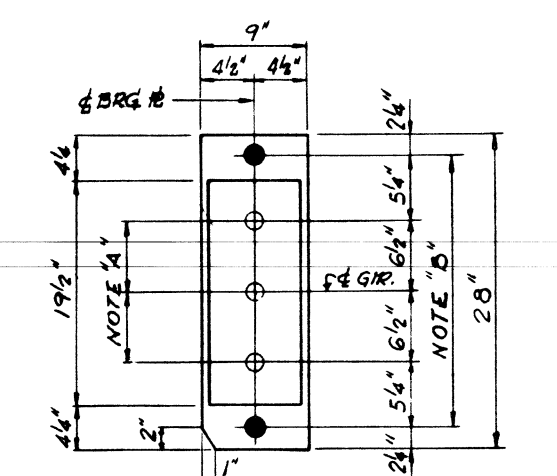
ELEVATION



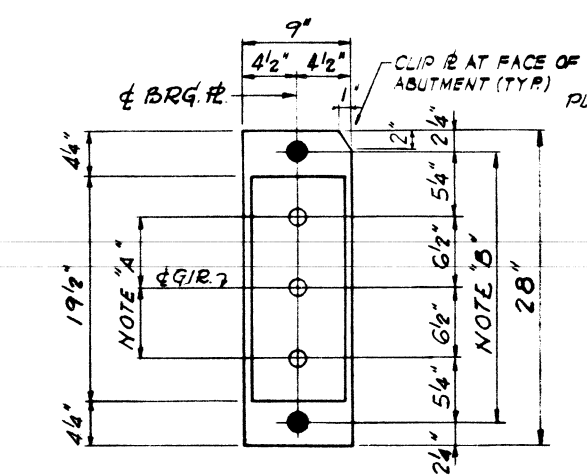
BOLSTER DETAIL



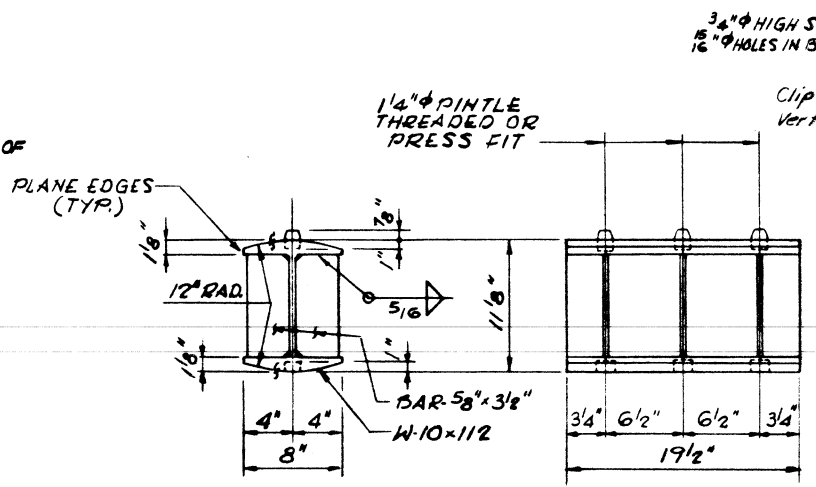
PINTLE



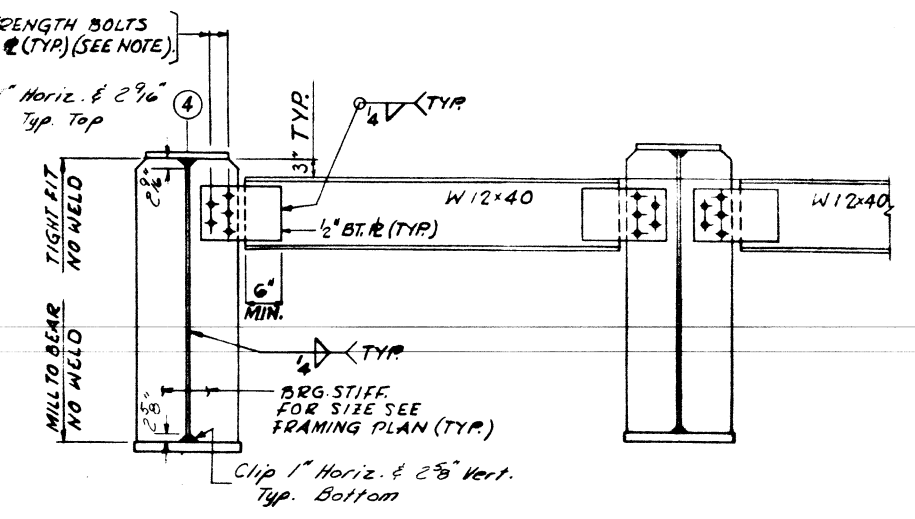
PLAN AT SOUTH ABUTMENT



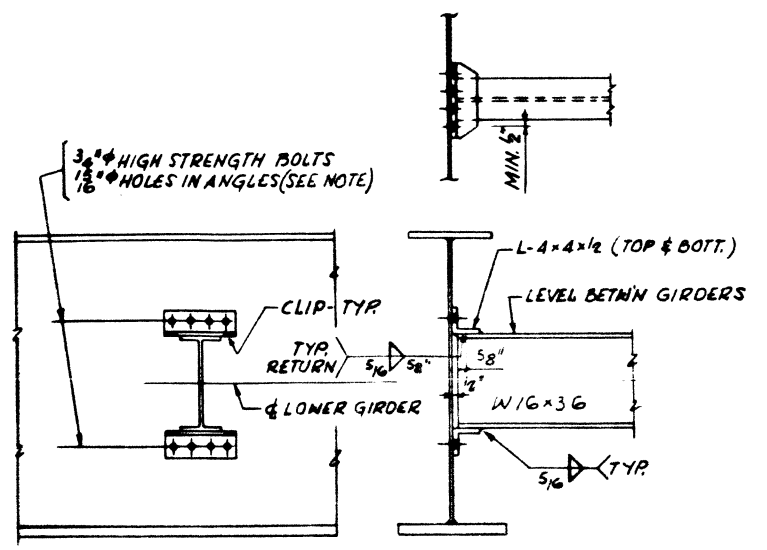
PLAN AT NORTH ABUTMENT



ROCKER DETAIL



DIAPHRAGM D1



DIAPHRAGM D2

NOTES:

NOTE "A"
1-3/8" DIAMETER HOLES - 1" DEEP IN TOP PLATE FOR PINTLES. THREAD OR PRESS FIT PINTLES INTO BOTTOM PLATE..

NOTE "B"
3" DIAMETER HOLES FOR 1 1/2" DIAMETER X 19" ANCHOR BOLTS. 3/8" X 3" X 3" PLATE WASHERS UNDER NUT.

NOTE:
HARDENED WASHERS SHALL BE USED OVER 15/16" DIAMETER HOLES IN BEAT PLATES AND ANGLES.

NOTES ON SETTING OF ANCHOR BOLTS AT EXPANSION BEARINGS

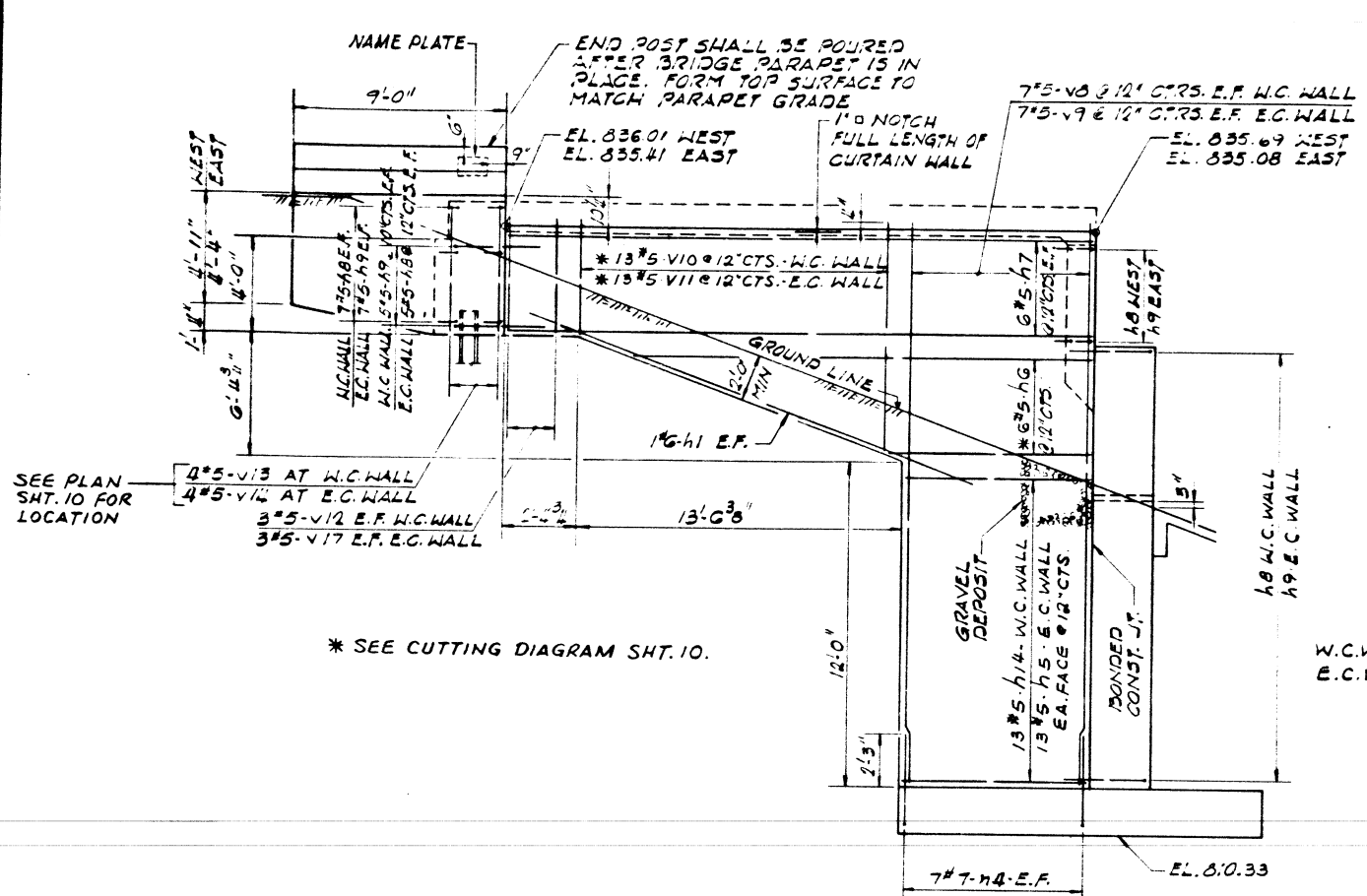
D° (SIDE OF BEARING AWAY FROM FIXED BEARING)
D° = 1/8" PER EACH 100' OF EXPANSION FOR EVERY 15° FALL BELOW THE NORMAL TEMP. OF 50° F.

D** (SIDE OF BEARING TOWARD FIXED BEARING)
D** = 1/8" PER EACH 100' OF EXPANSION FOR EVERY 15° RISE ABOVE THE NORMAL TEMP. OF 50° F.

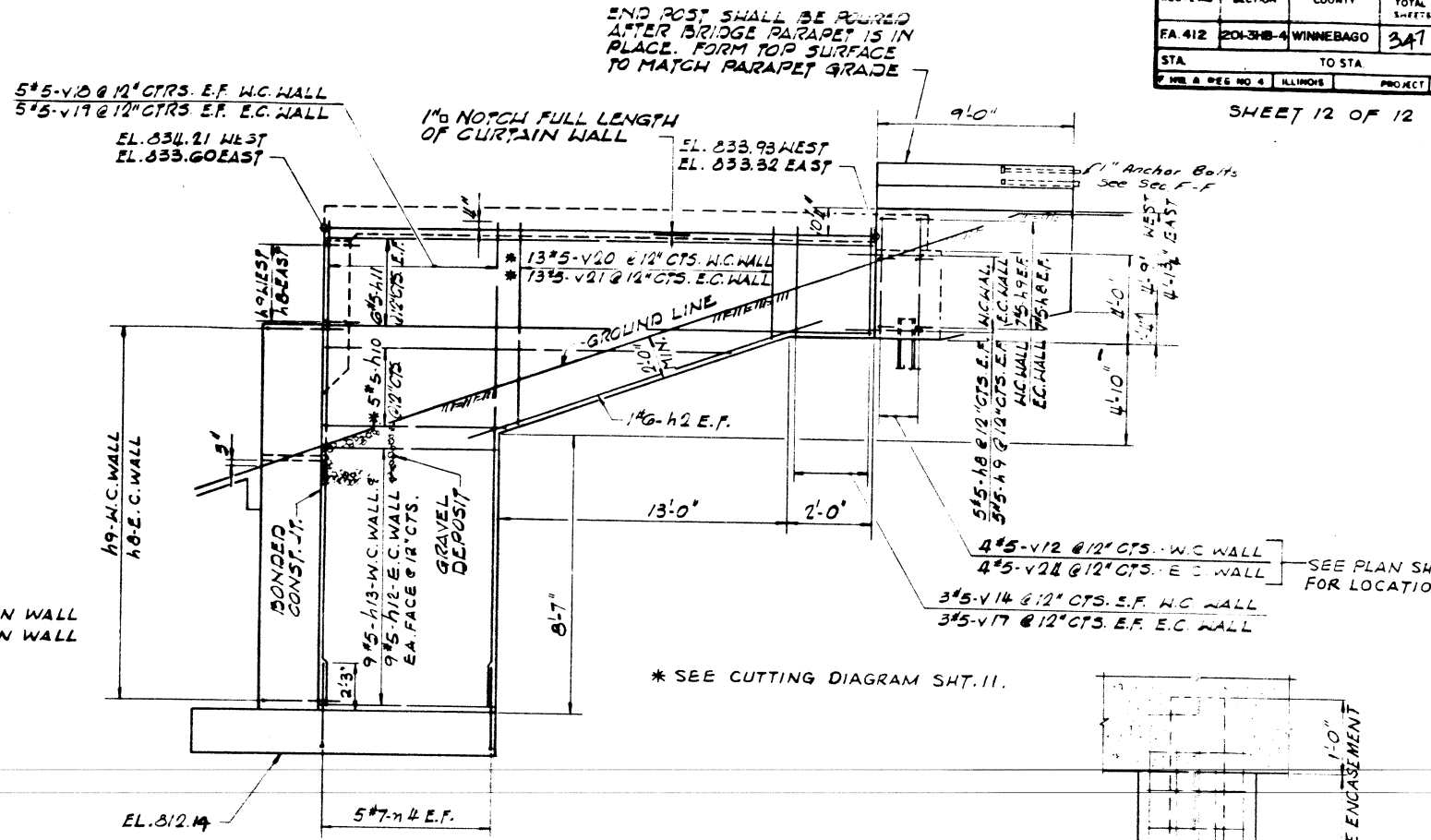
AFTER BEAMS HAVE BEEN ERECTED AND DIMENSIONS D° OR D** DETERMINED, HOLES SHALL BE DRILLED AND ANCHOR BOLTS SHALL BE GROUTED IN PLACE. ALL FIXED ANCHOR BOLTS MAY BE BUILT INTO THE MASONRY.

STEEL DETAILS
RAMPDB
OVER LINDEN ROAD
PROJECT
SECTION 201-3H-4
WINNEBAGO COUNTY
STATION 48+24.97

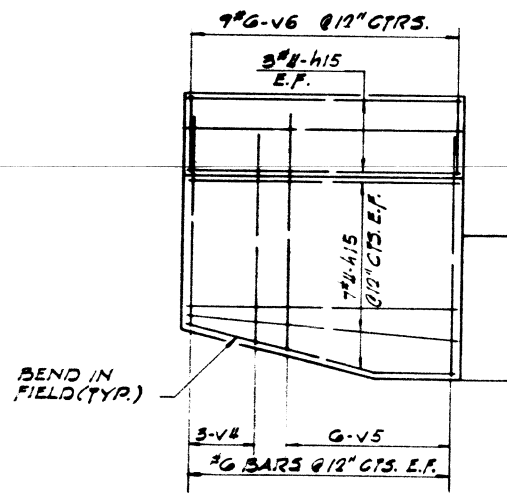
ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB NO.
233 N. MICHIGAN AVE. CHICAGO, ILLINOIS



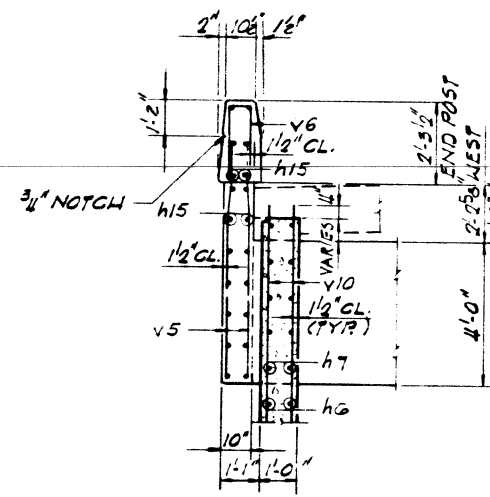
SIDE ELEVATION
SOUTH ABUTMENT



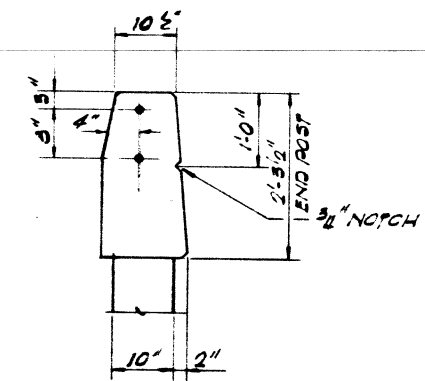
SIDE ELEVATION
NORTH ABUTMENT



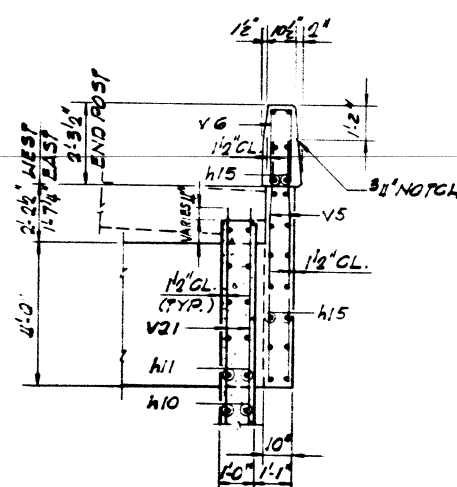
WING WALL REINFORCEMENT
SOUTH ABUTMENT



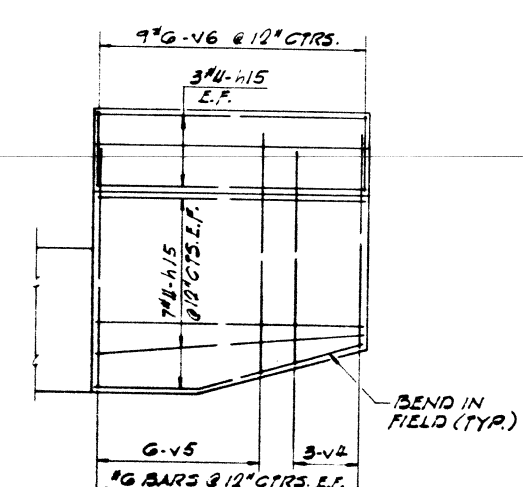
SECTION C-C



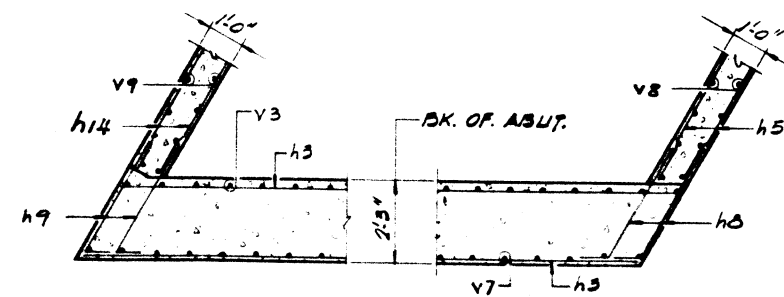
VIEW F-F
VIEW F, F, SIMILAR



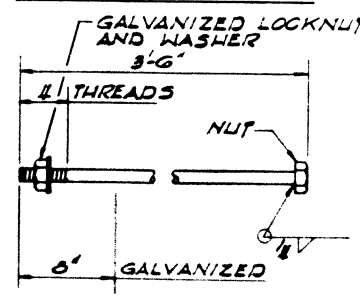
SECTION G-G



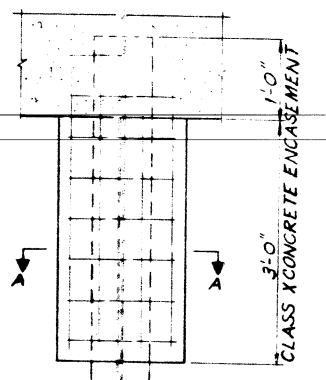
WING WALL REINFORCEMENT
NORTH ABUTMENT



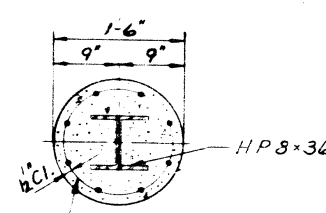
SECTION E-E
SECTION E, E, SIMILAR



1" ANCHOR BOLT
(COST INCIDENTAL TO BRIDGE STRUCTURE)
North Abut. Only



ELEVATION



WELDED WIRE FABRIC #6 MESH #4 WIRE - WEIGHING 55/100 SQ FT. THE COST OF CLASS X CONCRETE ENCASEMENT AND REINFORCEMENT IS INCIDENTAL TO THE COST OF FURISHING PILES FOR ENCASMENT MAY BE OMITTED WHEN SOIL CONDITIONS WILL PERMIT

SECTION A-A

TYPICAL H.P. PILE ENCASMENT

ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB NO.
233N. MICHIGAN AVE. CHICAGO, ILLINOIS

ABUTMENT DETAILS
RAMP DB
OVER LINDEN ROAD
PROJECT
SECTION 201-3HB-4
WINNEBAGO COUNTY
STATION 48+24.97