

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
549	117BR-M	OGLE	12	1

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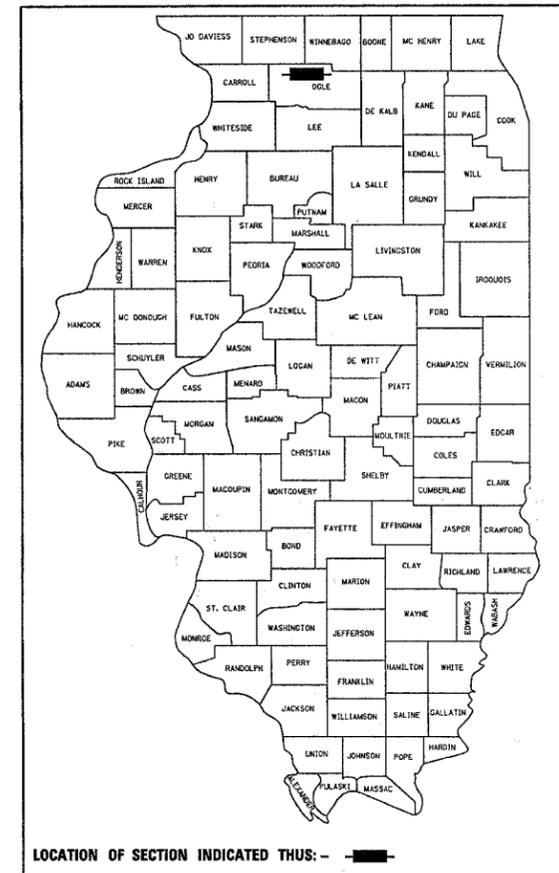
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 549 (IL 72)

SECTION 117BR-M

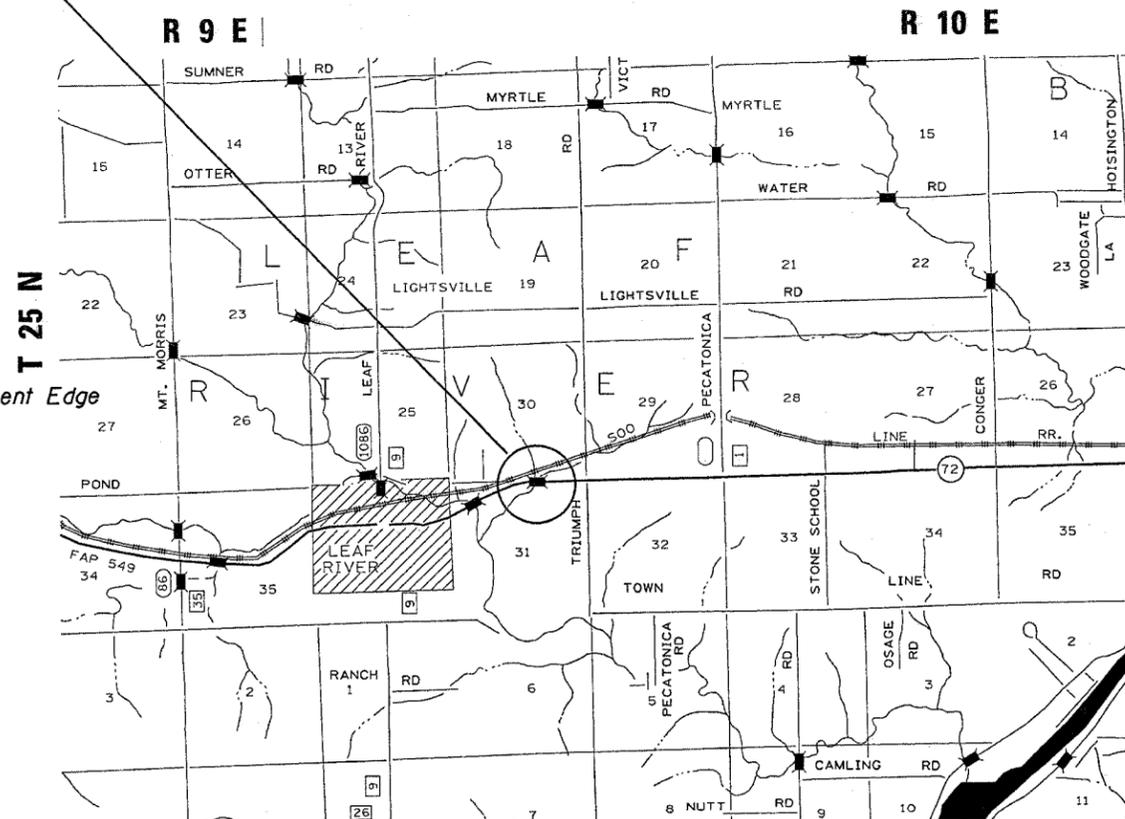
OGLE COUNTY

D-92-025-06



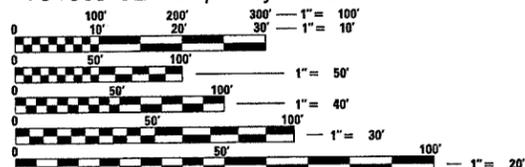
Project Location  
Structure No. 071-0068

C-92-133-06



STANDARDS

- District Standard 99.4 Stop Line Sign for Temporary Signals
- 630001-06 Steel Plate Beam Guardrail
- 630301-03 Shoulder Widening for Type 1 (Special) Guardrail Terminals
- 631032-02 Traffic Barrier Terminal, Type 6A
- 635001 Delineators
- 635006-02 Reflector and Terminal Marker Placement
- 635011-01 Reflector Marker and Mounting Details
- 701006-02 Off-Road Operations, 2L, 2W, 4.5 m (15') to 600 mm (24") From Pavement Edge
- 701201-02 Lane Closure, 2L, 2W, Day Only, for Speeds > 45 MPH
- 701316-03 Lane Closure, 2L, 2W, Bridge Repair, for Speeds > 45 MPH
- 701321-08 Lane Closure, 2L, 2W, Bridge Repair with Barrier
- 702001-06 Traffic Control Devices
- 704001-02 Temporary Concrete Barrier



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

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED March 27, 2006  
Gregory D. Mountain  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER  
May 12, 2006  
Mike Hine  
ENGINEER OF DESIGN AND ENVIRONMENT  
May 12, 2006  
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DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

# SUMMARY OF QUANTITIES

CONTRACT NO. 64C02

F.A.E. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
549	117BR-M	Ogle	12	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

100 % State  
SFTY-2A

Pay Code	Item Description	Units	Quantity
20400800	FURNISHED EXCAVATION	CU YD	75
40300200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.2
40600300	AGGREGATE (PRIME COAT)	TON	1
<b>40600990</b>	<b>TEMPORARY RAMP</b>	SQ YD	<b>300</b>
42001300	PROTECTIVE COAT	SQ YD	199
<b>40600980</b>	<b>BITUMINOUS SURFACE REMOVAL BUTT JOINT</b>	SQ YD	<b>160</b>
44001205	BITUMINOUS CONCRETE SURFACE REMOVAL COMPLETE	SQ YD	203
48101200	AGGREGATE SHOULDERS, TYPE B	TON	50
50102400	CONCRETE REMOVAL	CU YD	3.1
50300255	CONCRETE SUPERSTRUCTURE	CU YD	3.6
50300260	BRIDGE DECK GROOVING	SQ YD	<b>186</b>
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	450
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3010
* 50901005	STEEL BRIDGE RAIL, TYPE SM	FOOT	107
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	375
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4
63200310	GUARDRAIL REMOVAL	FOOT	260
63500105	DELINEATORS	EACH	4
67100100	MOBILIZATION	L SUM	1
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	2
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1

100 % State  
SFTY-2A

Pay Code	Item Description	Units	Quantity
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	64
70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	2580
70300570	PAVEMENT MARKING TAPE, TYPE III 24"	FOOT	24
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	535
70400100	TEMPORARY CONCRETE BARRIER	FOOT	275
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	550
78200400	GUARDRAIL REFLECTORS	EACH	4
78200410	GUARDRAIL MARKERS, TYPE A	EACH	16
78300100	PAVEMENT MARKING REMOVAL	SQ FT	150
X0301424	SILICONE JOINT SEALER	FOOT	33
X0320887	POLYMER CONCRETE	CU FT	2.4
X4066414	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N50	TON	86
X5030305	CONCRETE WEARING SURFACE, 5"	SQ YD	199
Z0002600	BAR SPLICERS	EACH	64
Z0003700	BEARING PAD ADJUSTMENT	EACH	22
Z0017300	DOWEL REPAIR	EACH	22
• Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2
• Z0030350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2
Z0032700	KEYWAY REPAIR	FOOT	524

• SFTY-3M

Summary of Quantities  
 Illinois Route 72 over Tributary to Mud Creek  
 FAP Route 549  
 Section 117BR-M  
 Ogle County  
 Structure No. 071-0068

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
549	117BR-M	Ogle	12	3
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS		FED. AID PROJECT

# GENERAL NOTES

The following Mixture Requirements are applicable for this project:

Mixture Uses(s):	Surface
PG:	PG 64-22
RAP%: (Max)	15%
Design Air Voids	4.2 @ N50
Mixture Composition (Gradation Mixture)	IL 9.5 or 12.5
Friction Aggregate	C
20 Year ESAL	0.4

A contingency item of 75 Cubic Yards of Furnish Excavation is included to build up the shoulders when required by the Resident Engineer.

A contingency item of 50 Tons of Aggregate Shoulders, Type B is included to build up the shoulders when required by the Resident Engineer.

This structure will retain the same number 071-0068.

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.

Culvert & bridge flows must be maintained throughout the project. Normal flow shall be allowed to pass at the rate it enters the jobsite. High flows shall be allowed to pass without causing damage to upstream properties.

The millings from Bituminous Surface Removal shall be used to build up the existing shoulders, as shown on the typical sections and/or as directed by the Engineer. The shoulder shall be rolled and compacted as directed by the Engineer. Excess grindings or large chunks shall be disposed of by the Contractor. No grindings will be allowed on the foreslopes. The cost shall be included in the contract unit price for the BITUMINOUS SURFACE REMOVAL specified.

Embankment quantities for the construction of the Traffic Barrier Terminals as shown in the plans are included in quantities for Furnished Excavation.

The Contractor shall supply the Resident Engineer with the manufacturer's installation requirements for the type of Steel Plate Beam Guardrail Terminal Type I Special (Tangent) or Steel Plate Beam Guardrail Terminal Type I Special (Flared).

One 16d galvanized nail shall be used to toe nail the wood block out to the wood post on all Traffic Barrier Terminal Type I Specials.

Delineators shall be placed at the ends of approach guardrail terminal sections, and at each headwall or end section of AR Culverts. This work will be paid for at the contract unit price each for DELINEATORS.

The Resident Engineer shall mark out No Passing zones and contact the Bureau of Operations one or two days before the finish of each resurfacing location so that locations can be painted within the guidelines of Section 703 Work Zone Pavement Marking.

Install a "TO ACTUATE 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.

The final top 100 mm (four inches) of soil in any right-of-way area disturbed by the Contractor must be capable of supporting vegetation. The soil must be from the A horizon (zero to 2<sup>5</sup>/<sub>32</sub> deep) of soil profiles of local soils.

The Contractor shall seed all disturbed areas within the project limits. Seeding Class 4 or 6 (modified) shall be used, except in front of properties where the grass will be mowed, then use Seeding, Class 1 (modified). Class 6 (modified) 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 fill sections without ditches. This work will be included in the contract unit price per Cubic Meter (Cubic Yard) for FURNISH EXCAVATION.

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 FURNISH EXCAVATION.

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

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

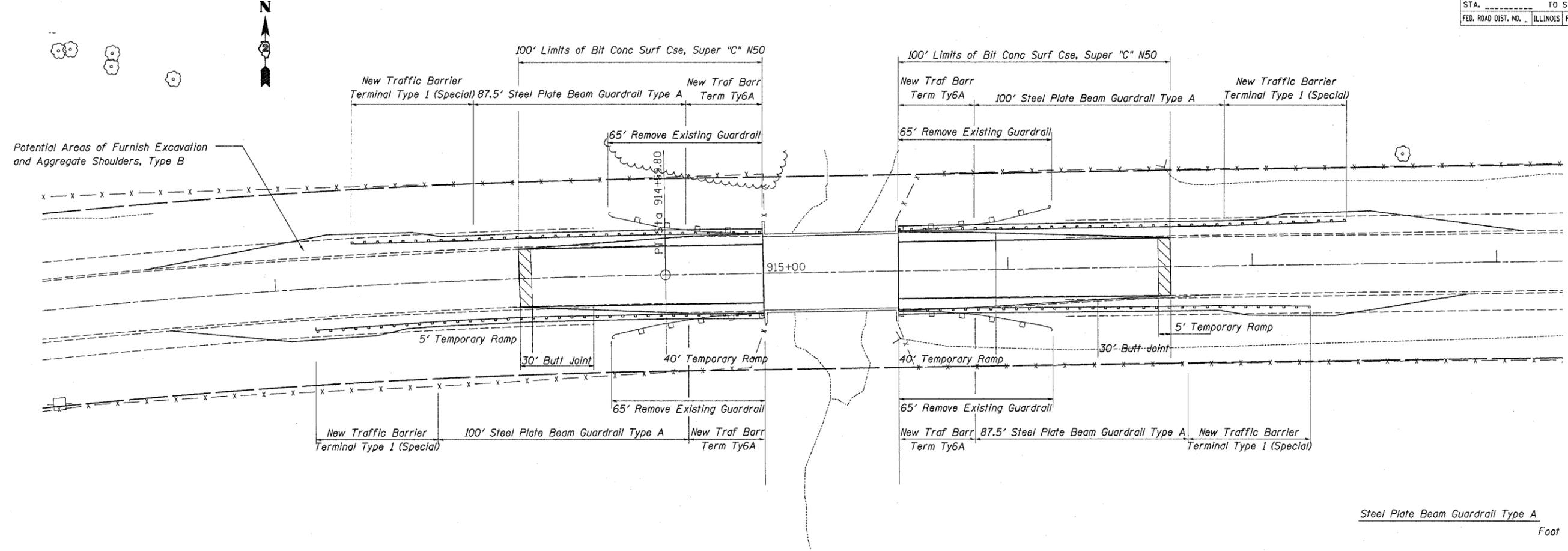
ComEd 630/ 437-2129

Leaf River Telephone Co. 815/738-2213

General Notes  
Illinois Route 72 over Tributary to Mud Creek  
FAP Route 549  
Section 117BR-M  
Ogle County  
Structure No. 071-0068

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
549	117BR-M	Ogle	12	4
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT		

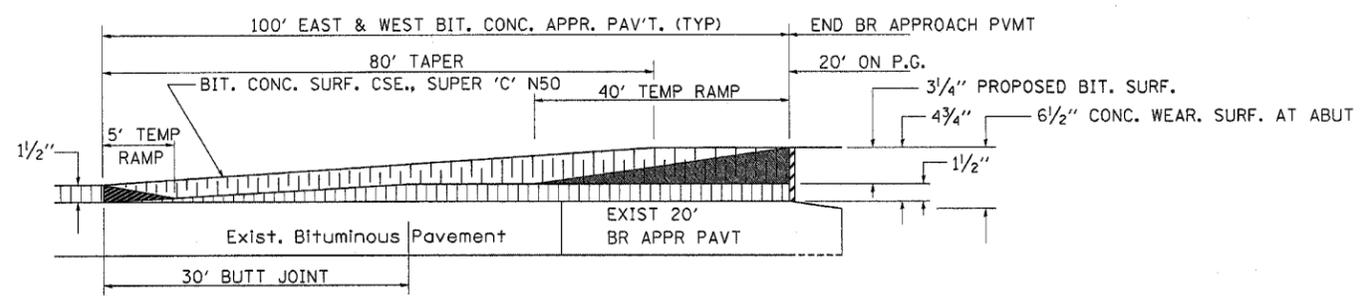
Station Equation 914+59.80 BK(Roadway Plan) = 547+15.80 AH(Bridge Plans)



Potential Areas of Furnish Excavation and Aggregate Shoulders, Type B

Bit Surf Rem - Butt Jt	Sq. Yd.
Sta. 914+00 to 914+30	80
Sta. 916+36 to 916+66	80
<b>Total</b>	<b>160</b>

Steel Plate Beam Guardrail Type A	Foot
Lt. Sta 913+81 to 914+68.5	87.5
Rt. Sta. 913+68 to 914+68	100
Lt. Sta. 915+86.5 to 916+86.5	100
Rt. Sta. 915+86 to 916+73.5	87.5
<b>Total</b>	<b>375</b>



**APPROACH PAVEMENT PROFILE**

Temporary Ramp	Sq. Yd.
Sta. 914+00 to Sta. 914+05	14
Sta. 914+60 to Sta. 915+00	116
Sta. 915+55 to Sta. 915+95	116
Sta. 916+50 to Sta. 916+55	14
<b>Total</b>	<b>300</b>

Bituminous Materials Prime Coat	Ton
East and West Approaches	0.2
<b>Total</b>	<b>0.2</b>

Aggregate Prime Coat	Ton
East and West Approaches	1
<b>Total</b>	<b>1</b>

Bit Conc Surf Cse, Super 'D' N50	Ton
Sta. 914+00 to Sta. 915+00	43
Sta. 915+55 to Sta. 916+55	43
<b>Total</b>	<b>86</b>

Remove SPBGR	Foot
Lt. Sta 914+37 to 914+99	65
Rt. Sta. 914+37 to 914+69.5	65
Lt. Sta. 915+55 to 916+18	65
Rt. Sta. 915+55 to 916+18	65
<b>Total</b>	<b>260</b>

**Roadway Plan**  
**Illinois Route 72 over Tributary to Mud Creek**  
**FAP Route 549**  
**Section 117BR-M**  
**Ogle County**  
**Structure No. 071-0068**

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549	117BR-M	Ogle	12	5
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

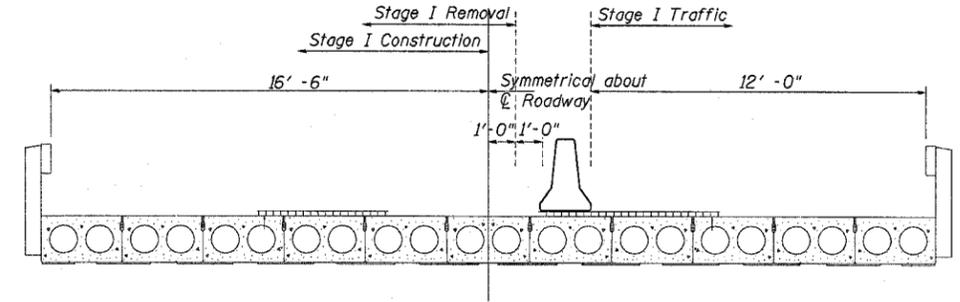
# Traffic Control Plan

## Stage I

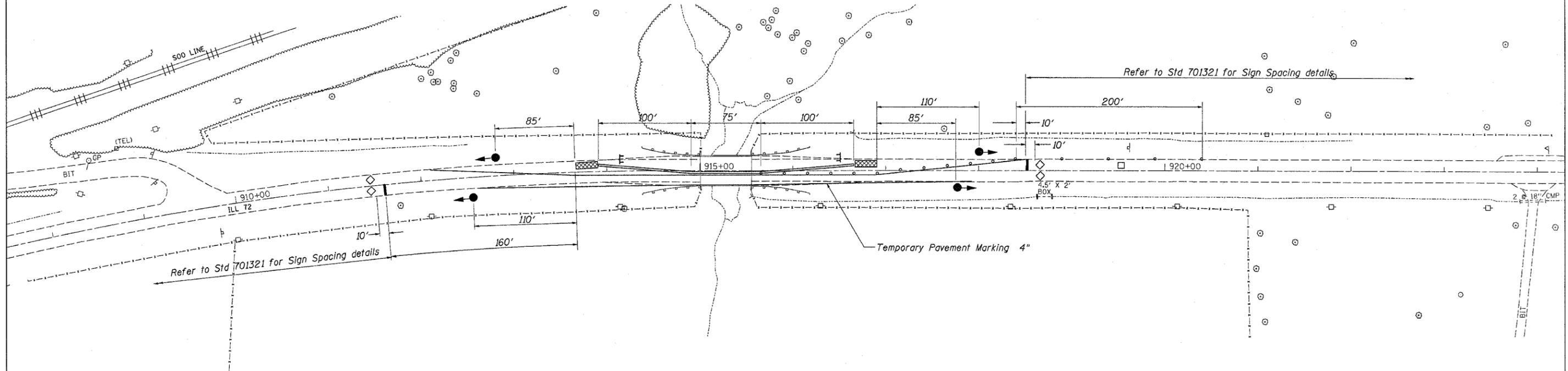
Refer to Traffic Control & Protection Std 701321 for additional requirements.

Proposed Sequence of Operations

1. Install Stage I Std 701321
2. Build Stage I Deck Overlay and Bridge Rail
3. Remove Barrier Wall and Install Stage I Std 701316
4. Construct Furnished Excavation, Guardrail, and Temporary Ramps
5. Remove Std 701316 and Install Std 701321 for Stage II
6. Build Stage II Deck Overlay and Guardrail
7. Remove Barrier Wall and Install Stage II Std 701316
8. Construct Furnished Excavation, Guardrail, and Temporary Ramps
9. Remove Standard 701316
10. Complete Project using Standard 701201



**CROSS SECTION**  
(Looking East)



Temporary Bridge Traffic Signals	
Standard 701321	Each
1	1
<b>Total</b>	<b>1</b>

Temporary Concrete Barrier	
Standard 701321	Foot
275	275
<b>Total</b>	<b>275</b>

Pavement Marking Tape, Type III 24"	
Stop Bars	Foot
24	24
<b>Total</b>	<b>24</b>

Short Term Pavement Marking	
Post Stage II	Foot
64	64
<b>Total</b>	<b>64</b>

Traffic Control & Protection Std 701321	
Entire Project	Each
1	1
<b>Total</b>	<b>1</b>

Temporary Impact Attenuators	
Standard 701321	Each
2	2
<b>Total</b>	<b>2</b>

Temporary Pavement Marking 4"	
	Foot
Sta 912+05 to 918+50 Stage I	1290
Sta 912+05 to 918+50 Stage II	1290
<b>Total</b>	<b>2580</b>

Pavement Marking Removal	
	Sq Ft
Stage I	100
Stage II	50
<b>Total</b>	<b>150</b>

**Traffic Control Plan**  
**Illinois Route 72 over Tributary to Mud Creek**  
**FAP Route 549**  
**Section 117BR-M**  
**Ogle County**  
**Structure No. 071-0068**

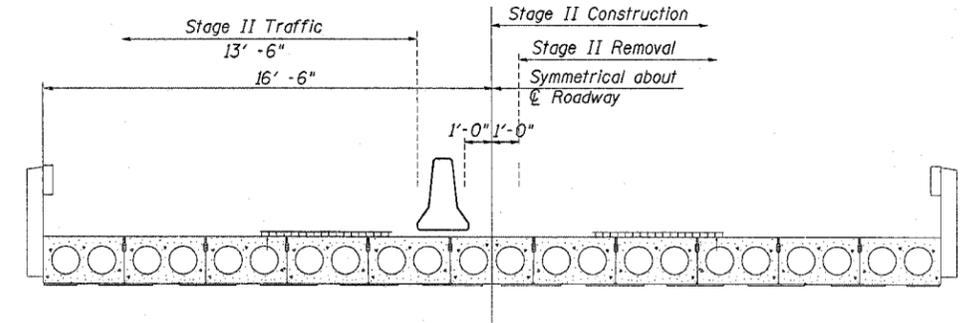
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
549	117BR-M	OGLE	12	6
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

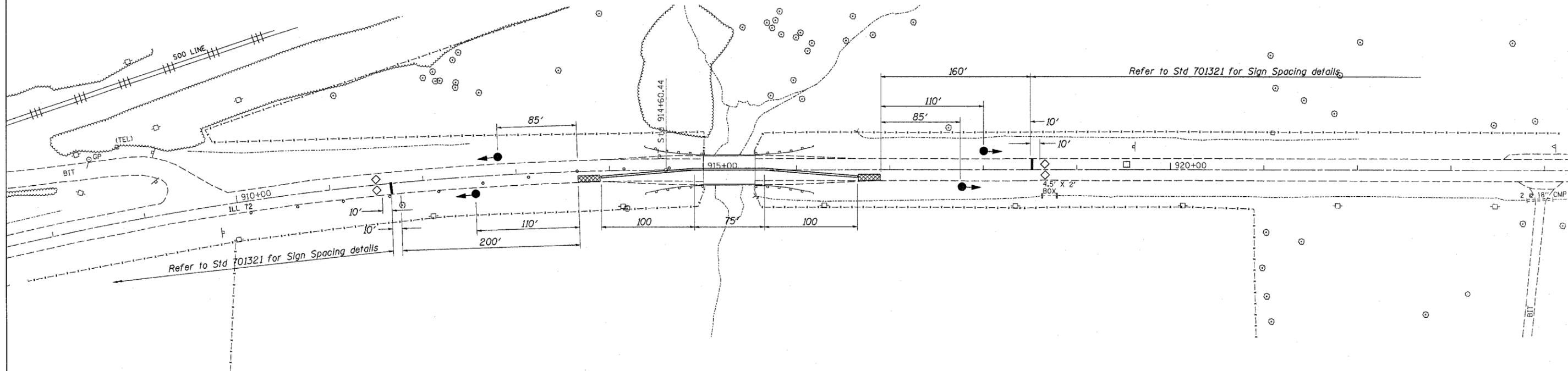
# Traffic Control Plan

## Stage II

Refer to Traffic Control & Protection Std 701321 for additional requirements.



**CROSS SECTION**  
(Looking East)



Relocate Temporary Concrete Barrier	
	Foot
Temporary Storage between Stages	275
Stage II	275
<b>Total</b>	<b>550</b>

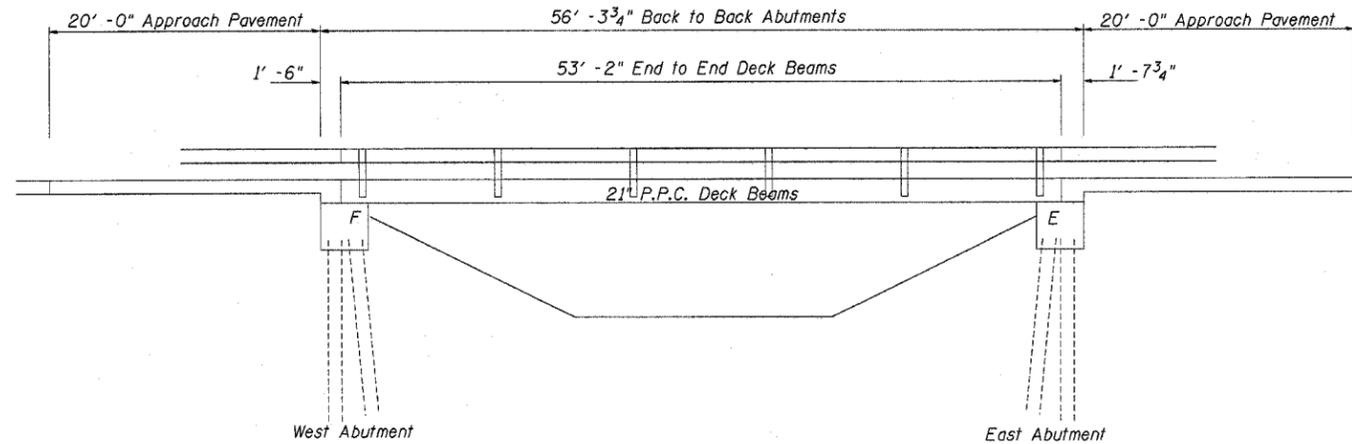
Workzone Pavement Marking Removal	
	Sq Ft
Stage II	35
Post Stage II	452
Stop Bars	48
<b>Total</b>	<b>150</b>

Relocate Temporary Impact Attenuators	
	Each
Stage II	2
<b>Total</b>	<b>2</b>

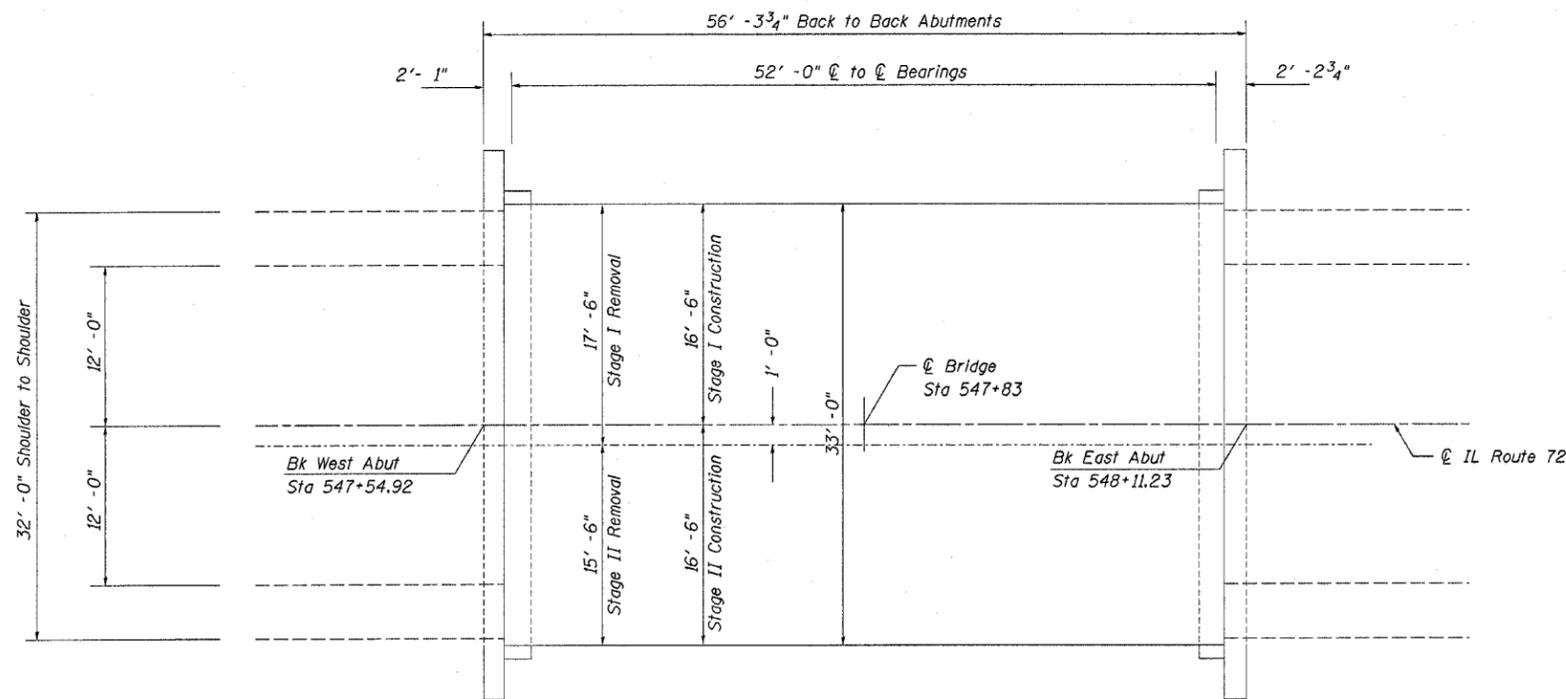
Traffic Control Plan  
Illinois Route 72 over Tributary to Mud Creek  
FAP Route 549  
Section 117BR-M  
Ogle County  
Structure No. 071-0068

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
549	117BR-M	Ogle	12	7
STA. _____ TO STA. _____				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Station Equation 914+59.80 BK(Roadway Plan) = 547+15.80 AH(Bridge Plans)



Elevation



Plan

General Notes

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

All structural steel shall be AASHTO M 270 Grade 36, unless otherwise noted.

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.

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° F.

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M 300, Type 1. Cost included with Furnishing and Erecting Structural Steel.

Total Bill of Material

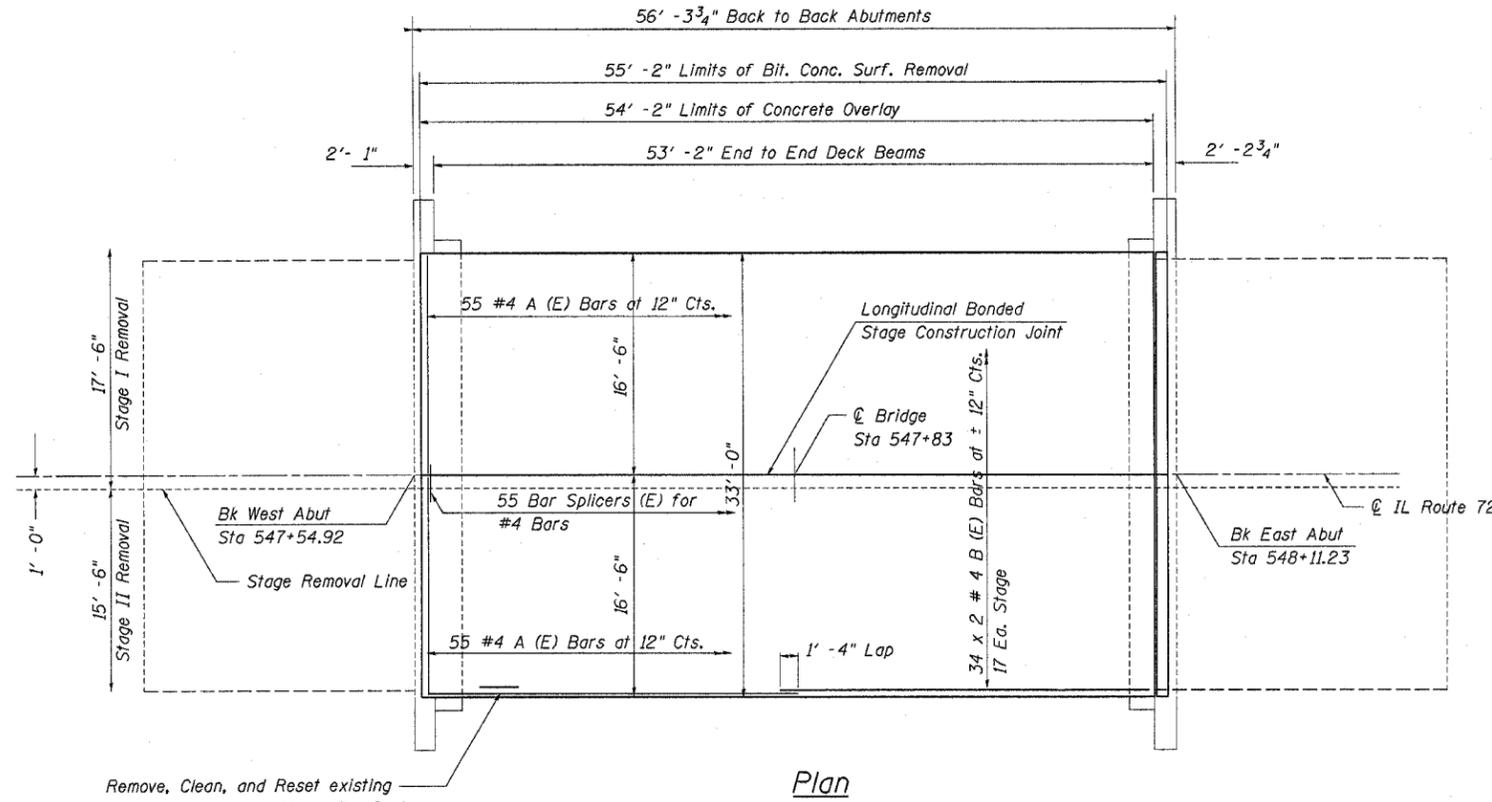
ITEM	UNIT	QUANTITY
BIT CONC SUR REM COMPLETE	SQ YD	203
CONC WEARING SURF 5"	SQ YD	199
BR DECK GROOVING	SQ YD	186
CONC SUPERSTRUCTURE	CU YD	3.6
CONC REM	CU YD	3.1
F & E STRUCT STEEL	POUND	450
REINF BARS, EPOXY CTD	POUND	3010
KEYWAY REPAIR	FT	524
DOWEL REPAIR	EA	22
BEARING PAD ADJUSTMENT	EA	22
SILICONE JOINT SEALER	FT	33
PROTECTIVE COAT	SQ YD	199
BAR SPLICERS	EA	64
STEEL BRIDGE RAIL, TYPE SM	FOOT	107
POLYMER CONCRETE	CU FT	2.4

General Plan and Elevation  
 Illinois Route 72 over Tributary to Mud Creek  
 FAP Route 549  
 Section 117BR-M  
 Ogle County  
 Structure No. 071-0068

DESIGN STRESSES

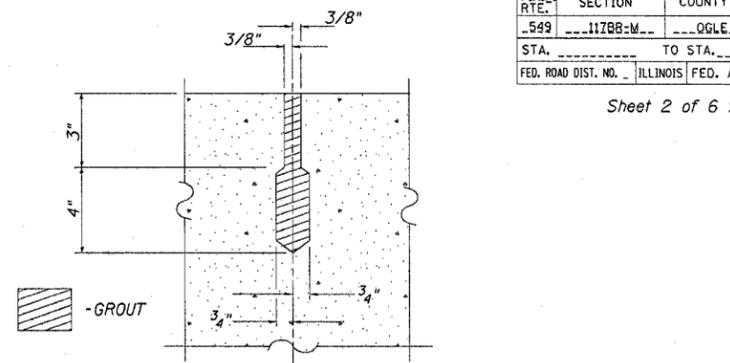
FIELD UNITS  
 f'c = 5,000 psi (Conc. Wearing Surface)  
 f'c = 3500 psi  
 fy = 60,000 psi (Reinforcement Bars)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
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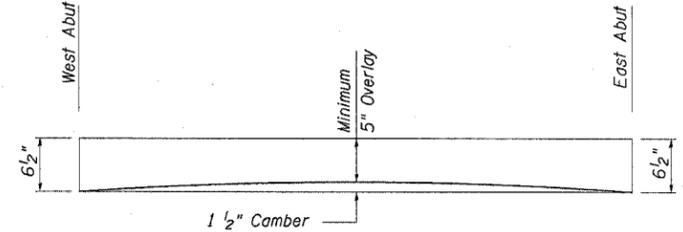


Plan

Remove, Clean, and Reset existing nameplate on new bridge rail. Cost Included with Steel Bridge Rail, Type SM (Modified)



DETAIL "A"  
Showing Cross Section of Keyway



Grade Profile

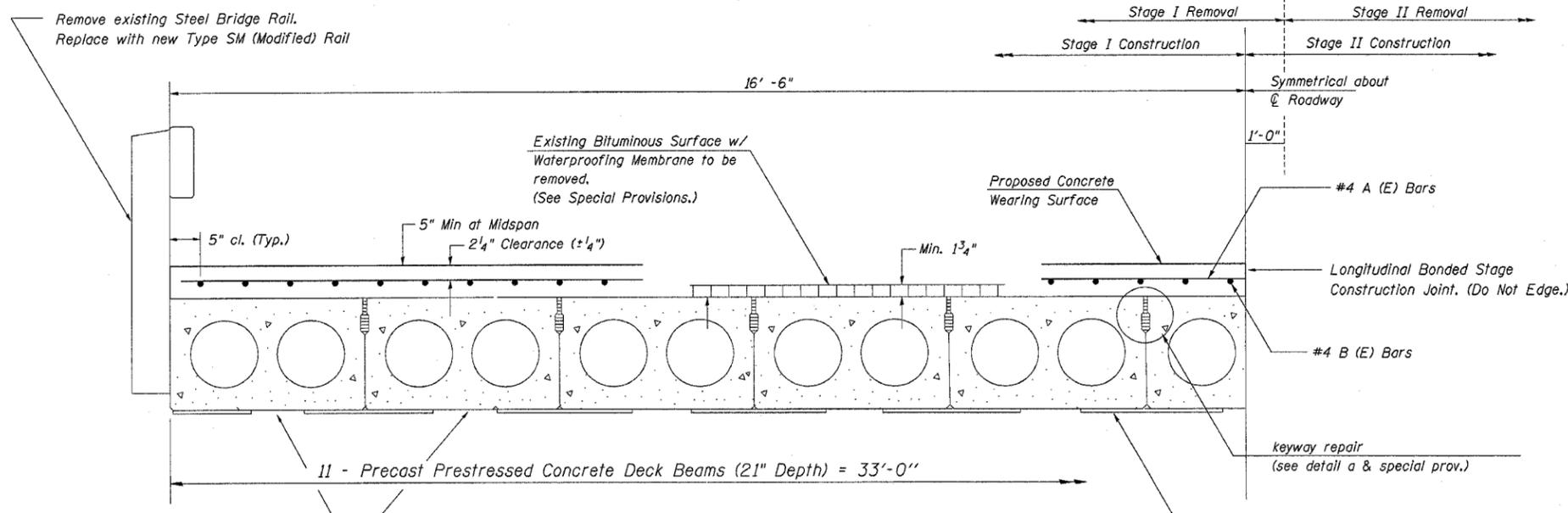
Bill of Material

BAR	NO.	SIZE	LENGTH	SHAPE
A (E)	110	4	16' - 2"	—
A <sub>1</sub> (E)	6	5	16' - 2"	—
B (E)	68	4	27' - 9"	—
H (E)	12	6	16' - 2"	—
U (E)	34	5	4' - 8"	—

BIT CONC SUR REM COMPLETE	SQ YD	203
CONC WEARING SURF 5"	SQ YD	199
BR DECK GROOVING	SQ YD	186
CONC SUPERSTRUCTURE	CU YD	3.6
CONC REM	CU YD	3.1
F & E STRUCT STEEL	POUND	450
REINF BARS, EPOXY CTD	POUND	3010
KEYWAY REPAIR	FT	524
DOWEL REPAIR	EA	22
BEARING PAD ADJUSTMENT	EA	22
SILICONE JOINT SEALER	FT	33
PROTECTIVE COAT	SQ YD	199
BAR SPLICERS	EA	64
POLYMER CONCRETE	CU FT	2.4

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED. BARS INDICATED THUS 34X3-#4 BARS INDICATES 34 LINES OF BARS WITH 3 LENGTHS PER LINE.

Deck Plan and Cross Section  
 Illinois Route 72 over Tributary to Mud Creek  
 FAP Route 549  
 Section 117BR-M  
 Ogle County  
 Structure No. 071-0068



HALF CROSS SECTION  
(Looking East)

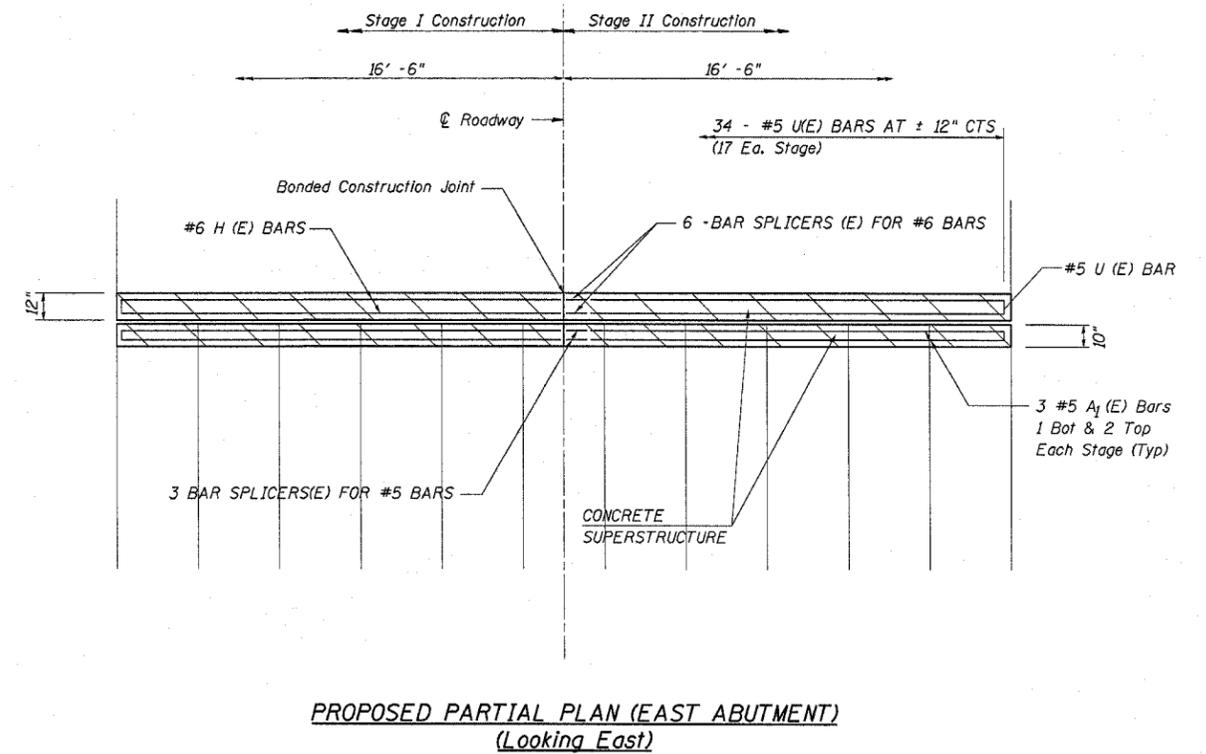
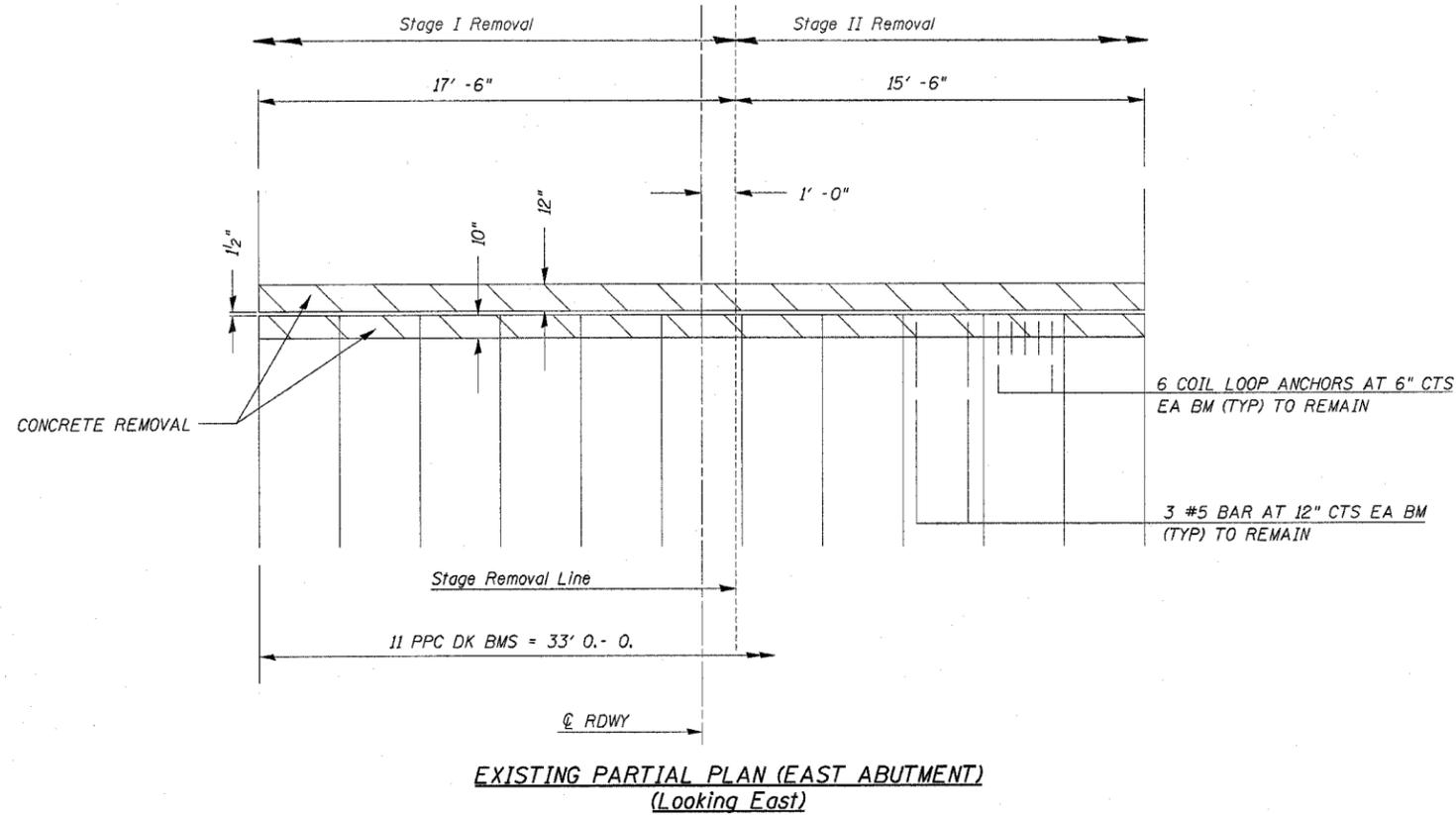
Fill openings surrounding fabric bearing pads west abutment with epoxy grout. To be paid for as bearing pad adjustment. (See special provisions)

The contractor shall install 1/8" x 9" x 9" stainless steel shims at bearing pads, where required on east abutment. To be paid for as bearing pad adjustment. (See special provisions.)

note: The quantity given for keyway repair includes the full length of all keyways. The actual keyway repair locations shall be determined by the engineer after removal of the existing wearing surface.

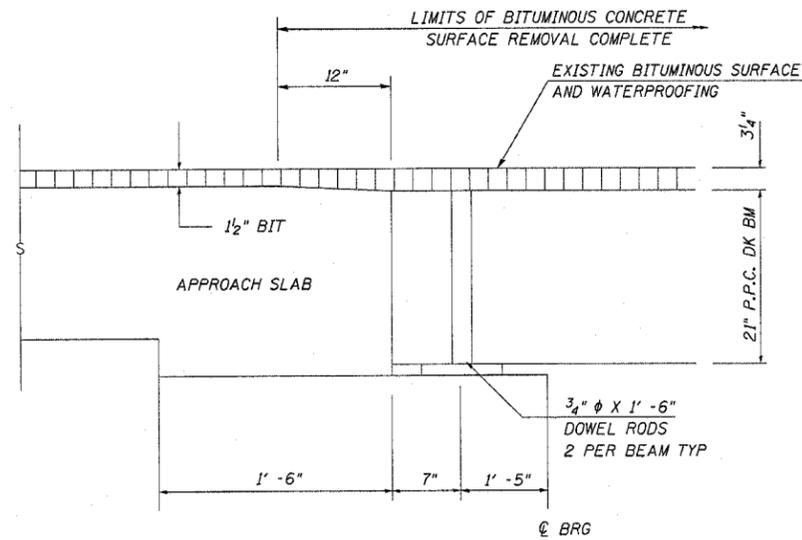
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
549	117BR-M	OGLE	12	9
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT		

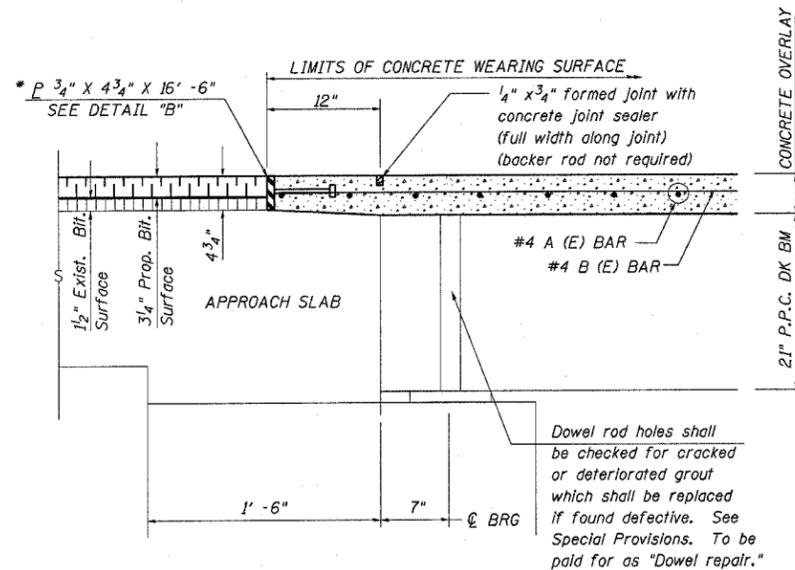


Partial Joint Plan  
Illinois Route 72 over Tributary to Mud Creek  
FAP Route 549  
Section 117BR-M  
Ogle County  
Structure No. 071-0068

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
549	117BR-M	Ogle	12	10
STA. _____ TO STA. _____		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

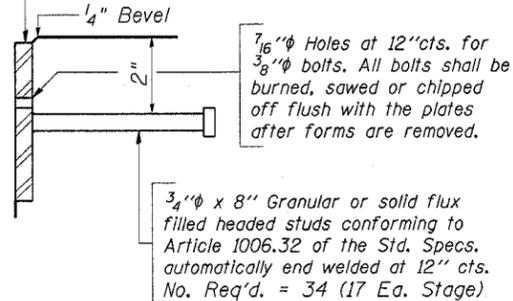


EXISTING SECTION THRU WEST ABUTMENT

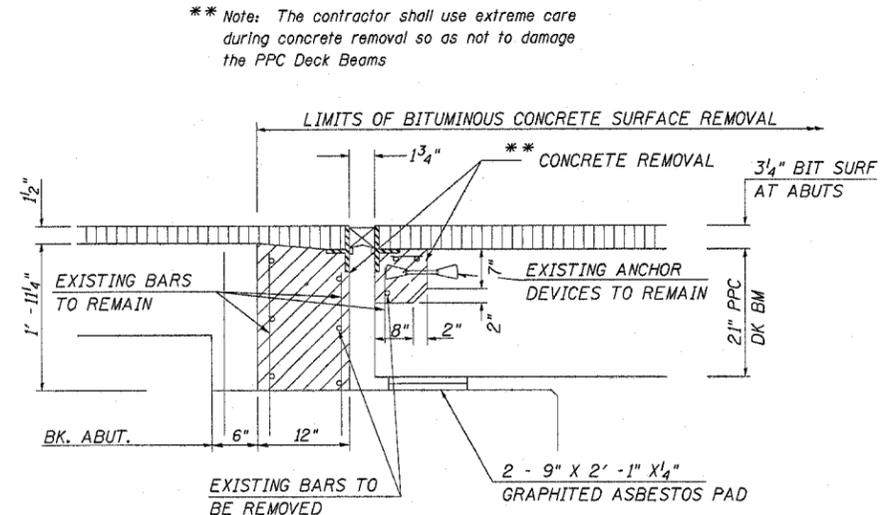


PROPOSED SECTION THRU WEST ABUTMENT

\* R 3/4" x 4 3/4"  
Fabricate to crown for stage construction. Max. space between segments shall be 3/16". Seal space with Silicone Sealant suitable for structural steel.

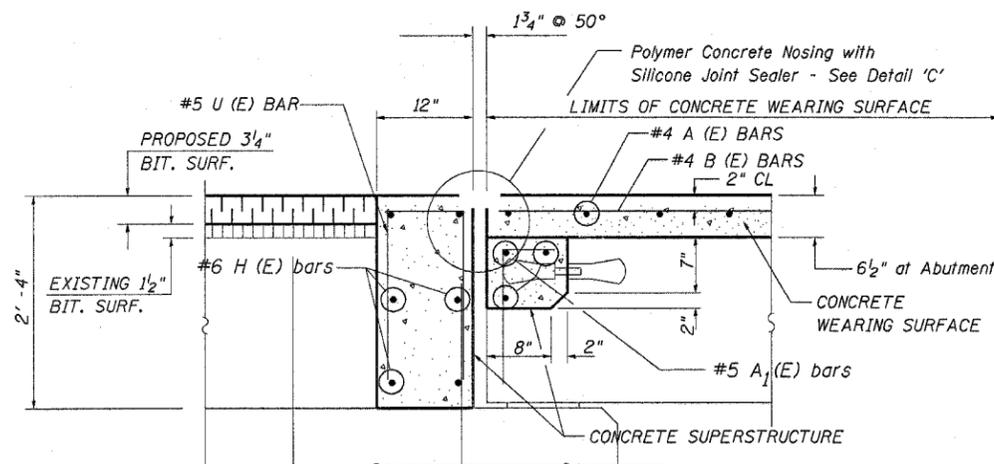


DETAIL "B"

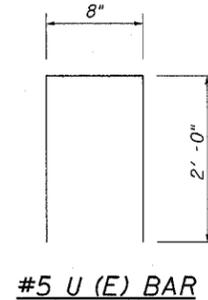


EXISTING SECTION THRU EAST ABUTMENT (EXPANSION)

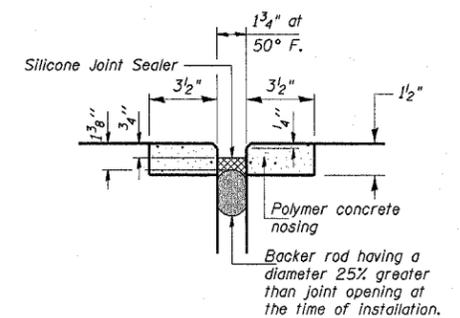
Note: Existing reinforcement bars & coil loop anchor devices extending into the removal areas shall be cleaned, straightened and incorporated into the new construction. any reinforcement bars or coil loops that are damaged during concrete removal shall be replaced with approved bar splicer or anchorage system. Cost included with concrete removal.



PROPOSED SECTION THRU EAST ABUTMENT (EXPANSION)



#5 U (E) BAR



DETAIL "C"

Joint Details  
 Illinois Route 72 over Tributary to Mud Creek  
 FAP Route 549  
 Section 117BR-M  
 Ogle County  
 Structure No. 071-0068



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 549	117BR-M	Ogle	12	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract #64C02

SHEET NO. 6  
6 SHEETS

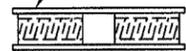
The diameter of this part is the same as the diameter of the bar spliced.

**ROLLED THREAD DOWEL BAR**



\*\* ONE PIECE

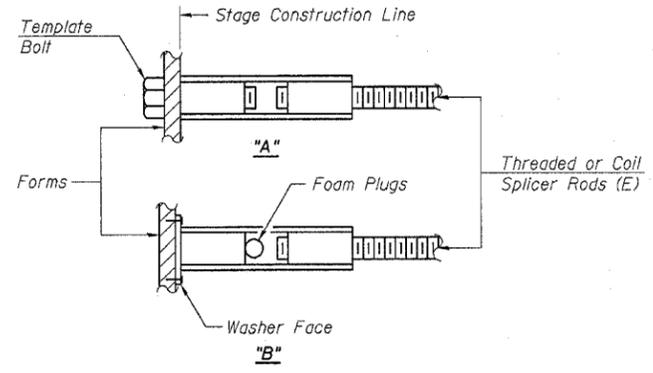
Wire Connector



**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**

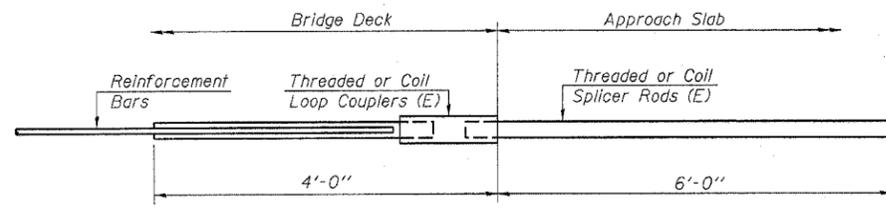
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to 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 =  $1.25 \times f_y \times A_1$   
(Tension in kips)
- ② Minimum \*Pull-out Strength =  $1.25 \times f_{s_{allow}} \times A_1$   
(Tension in kips)

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)  
 $A_1$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

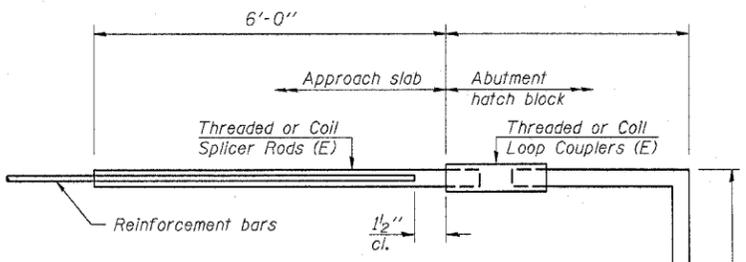
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

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."



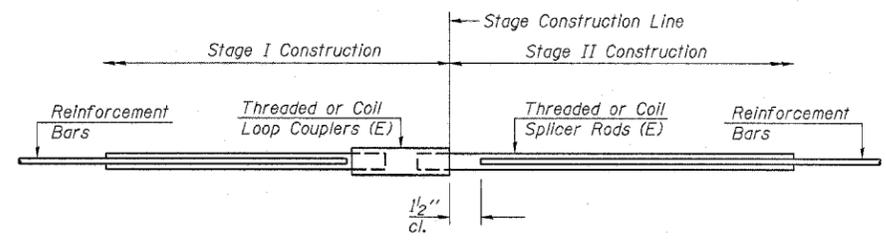
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



**FOR PILE BENT ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



**STANDARD**

Bar Size	No. Assemblies Required	Location
#4	55	Deck
#5	3	Deck
#6	6	Ea. Abutment

**BAR SPLICER ASSEMBLY DETAILS**  
Illinois Route 72 over Tributary to Mud Creek  
FAP Route 549  
Section 117BR-M  
Ogle County  
Structure No. 071-0068

DESIGNED -	200
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF STRUCTURAL SERVICES
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

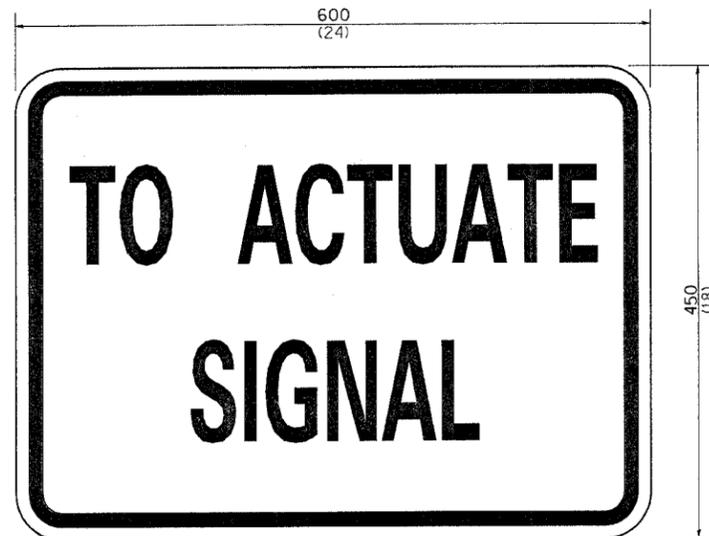
BSD-1

10-22-04

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
549	117BR-M	OGLE	12A	12A

STA. _____	TO STA. _____
FED. ROAD DIST. NO. _____	ILLINOIS FED. AID PROJECT _____

# STOP LINE SIGN FOR TEMPORARY SIGNALS



SIZE: 600(24) x 450(18)  
 100(4) CAPITAL LETTERS - BLACK  
 13 (1/2) BORDER - BLACK  
 WHITE REFLECTIVE - TYPE B  
 ENGINEERING GRADE SHEETING

**GENERAL NOTE:**

THIS SIGN SHALL BE INSTALLED AT THE  
 STOP LINE AS DIRECTED BY ENGINEER.

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

PLOT DATE = Wed, Mar 22 09:15:10 2006  
 FILE NAME = C:\p1\117BR-M\117BR-M.dgn  
 PLOT SCALE = 50.2973 / IN.  
 REFERENCE = \*REF\*