

073

03-08-2019 LETTING ITEM 073

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

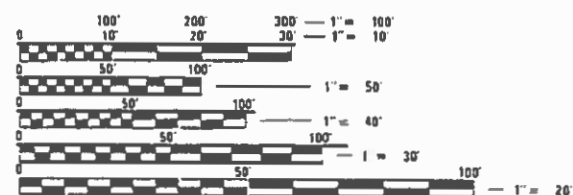
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	(102) BP	MONTGOMERY	6	1
ILLINOIS			CONTRACT NO. 72K79	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED BRIDGE PAINTING

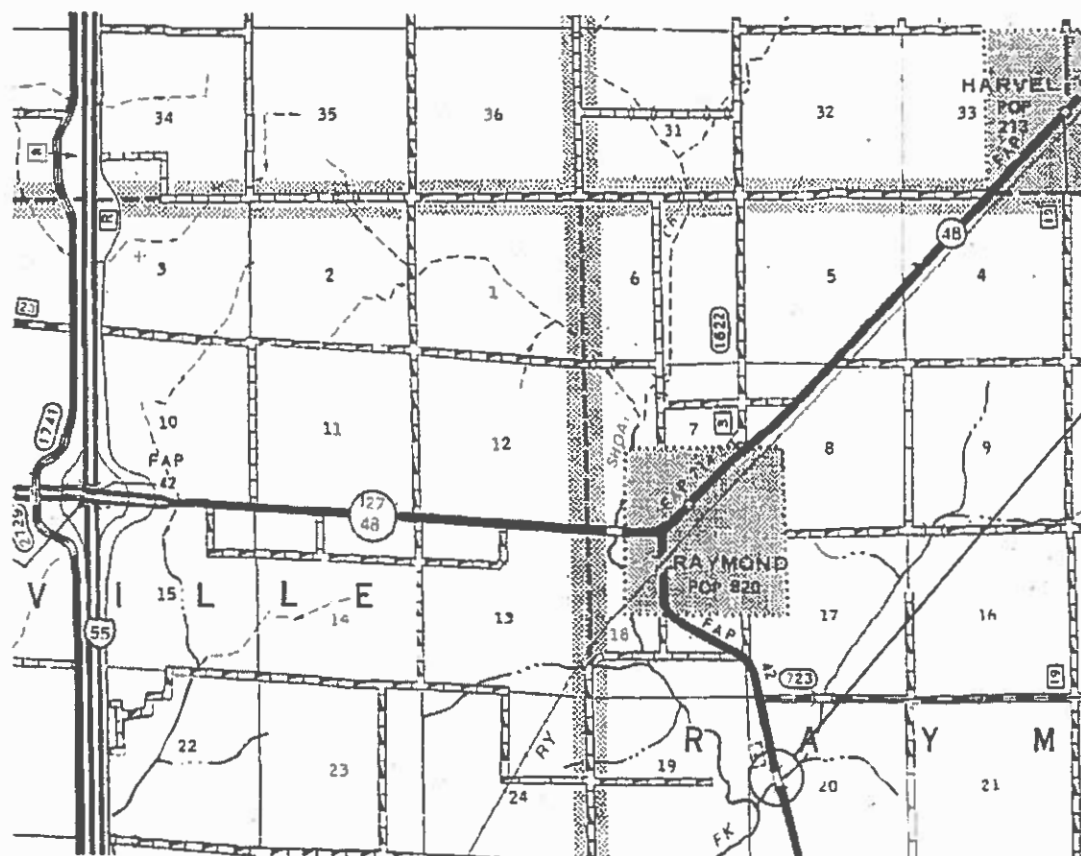
FAP 42 (IL 127)
SECTION (102) BP
PROJECT STP-RITD(611)
BRIDGE PAINTING
MONTGOMERY COUNTY

C-96-113-18



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 LOCATION
SN 068-0058
IL 127 OVER W FK SHOAL CR TRIB
1.6 MI S IL 48

BRIDGE MAINTENANCE ENGINEER: BRANDON DUDLEY (217) 785-9290

GROSS LENGTH = x.xx FT. = x.xxx MILE
NET LENGTH = x.xx FT. = x.xxx MILE

CONTRACT NO. 72K79

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 30 October 2018

[Signature] REGIONAL ENGINEER

[Signature] ENGINEER OF DESIGN AND ENVIRONMENT

[Signature] DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX, STANDARDS, GENERAL NOTES, & SIGNATURES
- 3 SUMMARY OF QUANTITIES
- 4-6 EXISTING BRIDGE PLANS (FOR INFORMATION ONLY)

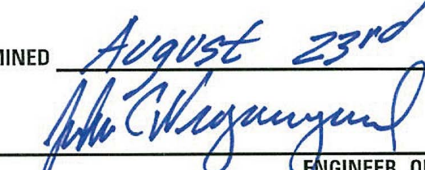
HIGHWAY STANDARDS

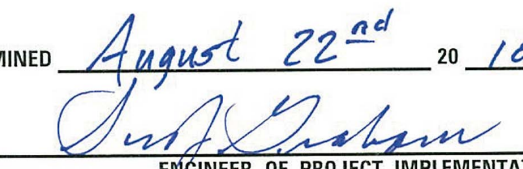
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- 001006
- 701001-02
- 701006-05
- 701201-05
- 701901-08

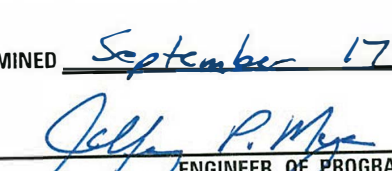
GENERAL NOTES:

1. WORK SHALL CONSIST OF BLASTING AND PAINTING STRUCTURAL STEEL AT LOCATIONS DESCRIBED IN THE SPECIAL PROVISIONS. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL AREAS TO BE PAINTED SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP 10. ALL EXISTING STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COATS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISIONS.
2. THE USE OF AIR MONITORS WILL NOT BE REQUIRED.
3. THE SSPC-OP-1 AND SSPC-OP2 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED.
4. UPON COMPLETION OF PAINTING OPERATIONS, THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM PIER OR ABUTMENT CAPS UPON WHICH PAINTING OPERATIONS TOOK PLACE. FINAL CLEANUP SHALL BE CONSIDERED INCIDENTAL TO THE PAINT PAY ITEM FOR THE RESPECTIVE LOCATION. THE ENGINEER SHALL HAVE THE RIGHT TO WITHHOLD PAYMENT UNTIL SATISFACTORY CLEANUP IS ACHIEVED.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6**

EXAMINED August 23rd 20 18

 ENGINEER OF OPERATIONS

EXAMINED August 22nd 20 18

 ENGINEER OF PROJECT IMPLEMENTATION

EXAMINED September 17 20 18

 ENGINEER OF PROGRAM DEVELOPMENT

MODEL: D:\dwg\...
 PLOT DATE: 10/26/2018

	USLR NAME = dualeym PLOT SCALE = 100.0000' in. PLOT DATE = 10/26/2018	DESIGNED - DRAWN - CHECKED - DATE -	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STANDARDS, GENERAL NOTES, & SIGNATURES	F.A.P. RTE. 42 SECTION (102) 3P COUNTY MONTGOMERY TOTAL SHEETS 6 SHEET NO. 2 CONTRACT NO. 72K79
				SCALE:	SHEET OF SHEETS	STA. TO STA.

REV. - MS

Bench Mark: #6-Chiseled 'Q' on N.W. wingwall 13.5' Rt. Sta. 1083+47.10 Elev. 611.20

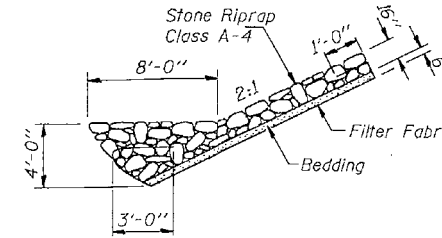
Existing Structure: S.N. #068-0020, Built as SBI Route 127, Section 102B at Station 1083+67.00 in 1932, is a one span R.C.D.G. (T-beam) bridge on closed abutments. Length of 43'-0" Bk. to Bk. of Abut. and a width of 24'-4". The contractor shall remove the entire existing structure and replace it with a one span R.C. Deck 7/2" slab on W33x118 Bms support on Integral Abutments utilizing stage construction so as to maintain one lane traffic during reconstruction. No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

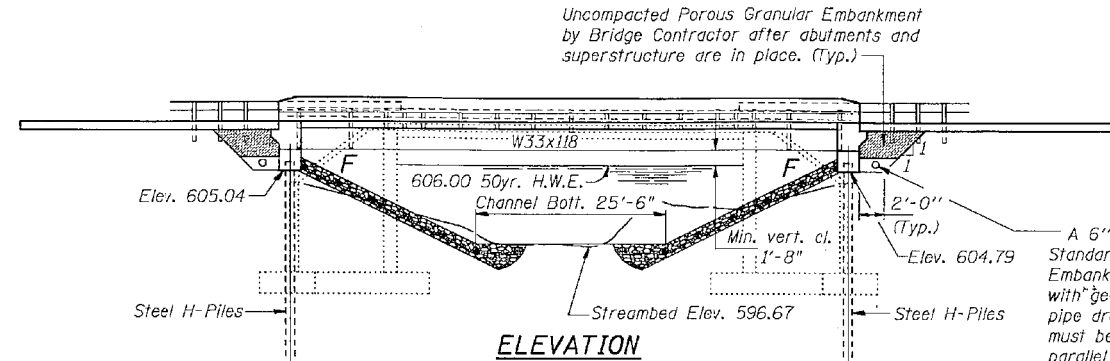
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A. 42	102B-1	MONTGOMERY	13	29
F.I.L. NO. DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

GENERAL NOTES

See Proposal for Boring Data.
Calculated weight of Structural Steel = 48,150 lbs. (AASHTO M223 Gr. 50)
Calculated weight of Structural Steel = 2,900 lbs. (AASHTO M183)
Field welding of construction accessories will not be permitted to the bottom flange of beams. Field welding in other areas will be permitted only when approved by the Engineer.
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These Components are the wide flange beams.
Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.
The contractor shall drive one HP10 x 42 Steel test pile in a permanent location at the South Abutment as directed by the Engineer before ordering the remainder of piles.
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
Fasteners shall be high strength bolts. Bolts 3/4", open holes 15/16", unless otherwise noted.
For Excavation behind the existing abutments and pavement removal see Roadway Plans.
All Structural Steel shall be shop painted experimentally with IC Zinc Silicate primer (formerly K-Zinc 531). See Special Provisions.



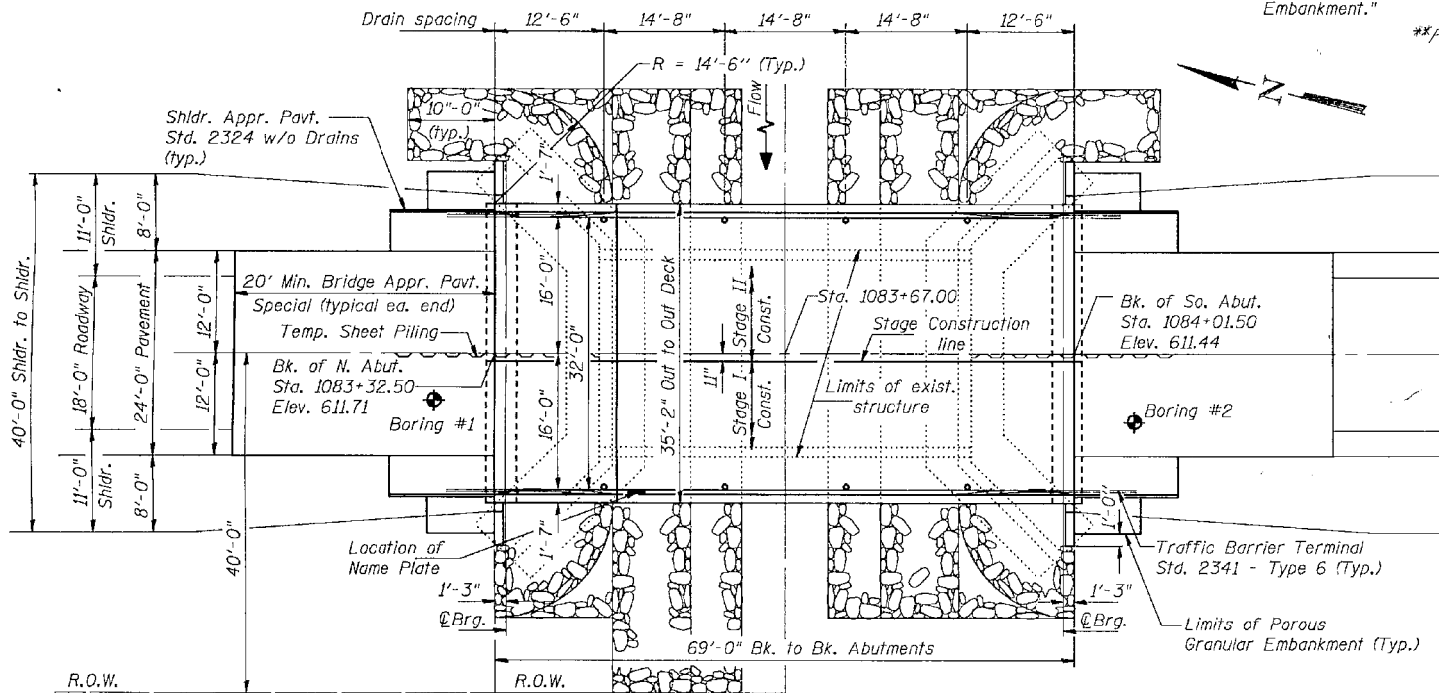
STONE RIPRAP ANCHOR DETAIL



ELEVATION

A 6" perforated pipe drain in accordance with Section 607 of the Standard Specifications shall be encased with Porous Granular Embankment with gradation of CA-5 or CA-7 and shall be wrapped with geotechnical filter fabric. See Roadway Plans for quantity of pipe drain. An 18" minimum lap shall be used where the fabric must be lapped. The pipe drain and the aggregate shall extend parallel with the cap until intersecting with the downstream sideslope. Cost of filter fabric is incidental to "Porous Granular Embankment."

**Filter Fabric for use with Riprap



PLAN

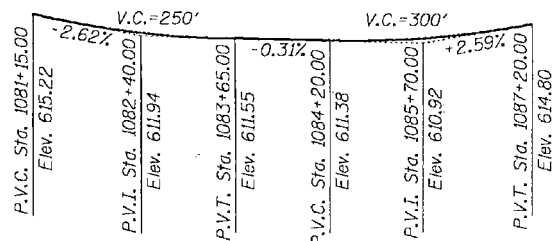
STATION 1083+67.00
BUILT 19 BY
STATE OF ILLINOIS
F.A. RTE. 42 SECTION 102B-1
LOADING HS20
STR. NO 068-0058

NAME PLATE
(See Std. 2113)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu. Yd.		82	82
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		151	151
Floor Drains	Each	8		8
Class X Concrete Superstructure	Cu. Yd.	98.0		98.0
Protective Coat	Sq. Yd.	57		57
Class X Concrete	Cu. Yd.		23.6	23.6
Structural Steel	L.S.	1		1
Stud Shear Connectors	Each	1,020		1,020
Temporary Bridge Rail	Lin. Ft.	40		40
Reinforcement Bars, Epoxy Coated	Pound	18,520	3,300	21,820
Steel Piles (HP10 x 42)	Lin. Ft.		400	400
Test Pile Steel (HP10 x 42)	Each		1	1
Name Plates	Each	1		1
Stone Riprap Class A-4	Sq. Yd.		560	560
Filter Fabric for use with Riprap	Sq. Yd.		560	560
Temporary Sheet Piling	Sq. Ft.		779	779

*Quantity includes Parapet only.



PROFILE GRADE F.A. RTE. 42
(Along Q Roadway)

WATERWAY INFORMATION

Drainage Area = 7.6 Sq. Mi. Low Grade Elev. 611.2 @ Sta. 1083+75

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	1850	270	340	606.0	1.8	1.0	607.8	607.0
Base	100	2115	280	360	606.3	2.1	1.2	608.4	607.5
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	2730	300	380	606.7	3.1	1.8	609.8	608.5

DESIGN SPECIFICATIONS

AASHTO (1989)

LOADING HS 20-44

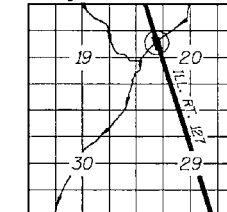
Allow 25# 7 sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS

$f_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)
 $f_y = 50,000$ psi (M223 Grade 50) $f_y = 36,000$ psi (M183)

Range 4 W. 3rd. P.M.



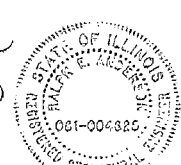
LOCATION SKETCH

GENERAL PLAN
ILL. ROUTE 127 OVER
WEST FORK SHOAL CREEK
F.A. 42 SECTION 102B-1
MONTGOMERY COUNTY
STATION 1083+67.00
STRUCTURE NUMBER 068-0058

MODEL: Defaul
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March 8, 1990

DESIGNED	Christopher J. McKeown	EXAMINED	David J. Kasper
CHECKED	Stanley J. Lee	PASSED	Ralph E. Anderson
DRAWN	FW	APPROVED	
CHECKED	CHM, Sg.		



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS, SN 068-0058
(FOR INFORMATION ONLY)

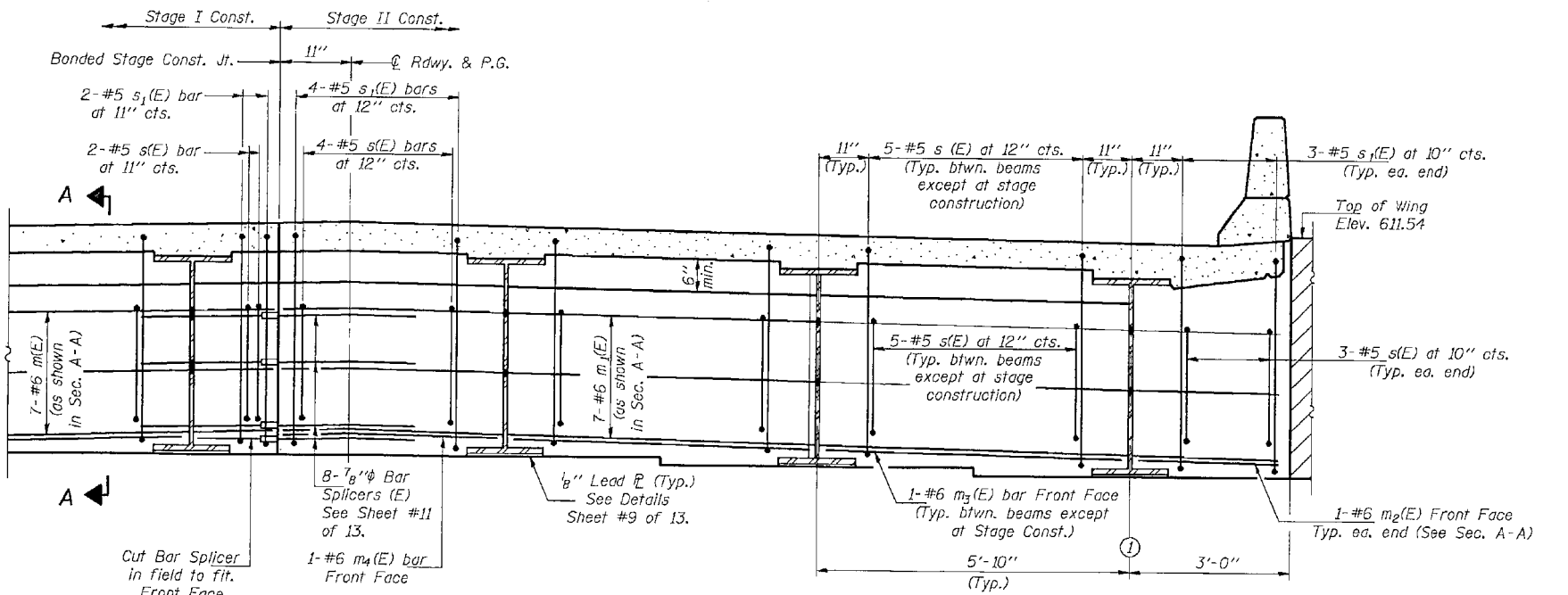
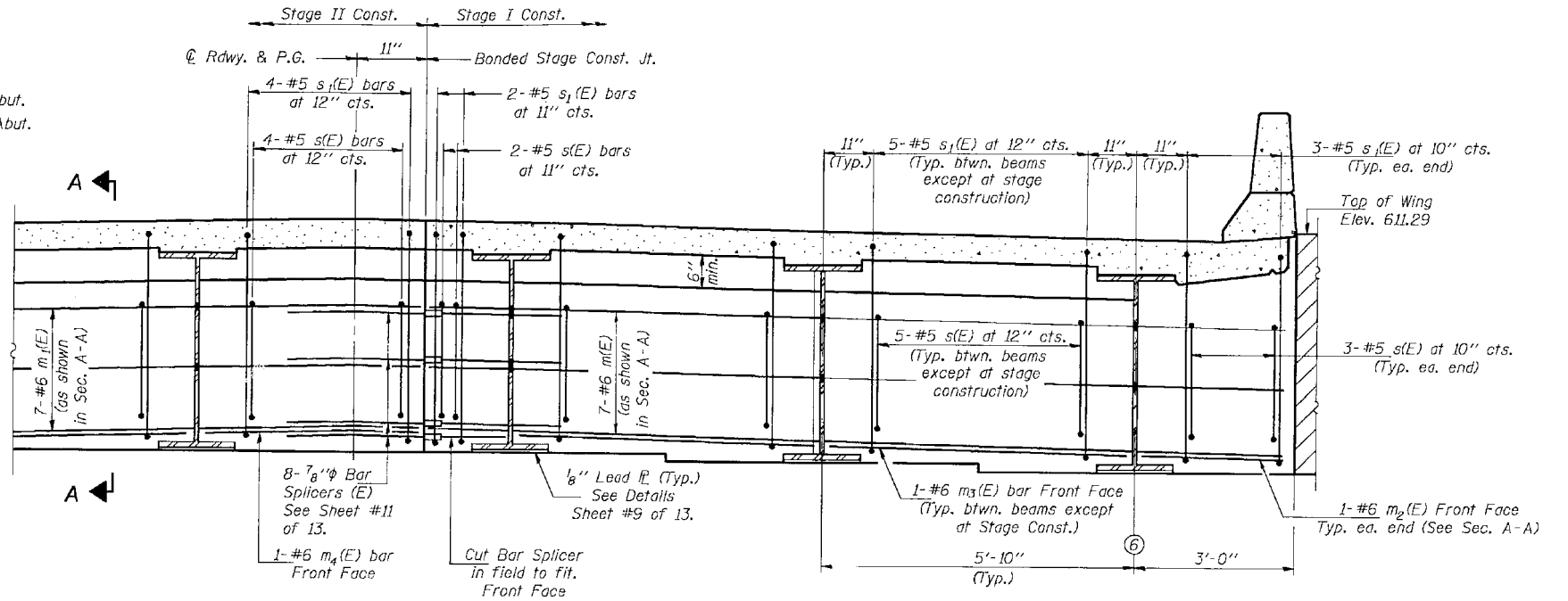
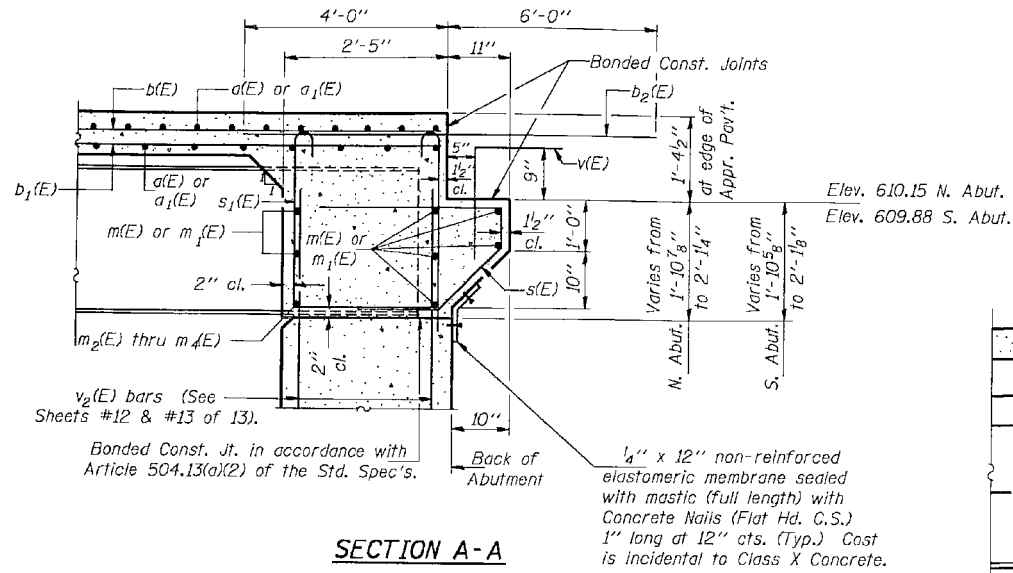
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PLOT DATE = 10/26/2018	CHECKED -	REVISED -
	DATE -	REVISED -

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE. 42	SECTION (102) BP	COUNTY MONTGOMERY	TOTAL SHEETS 6	SHEET NO. 4
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72K79	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A. 42	102B-1	MONTGOMERY	73	35
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		13 SHEETS



Notes: Reinforcement bars and Class X Concrete in diaphragms are billed with Superstructure on Sht. #8 of 13. See Sht. #6 of 13 for notes.

DESIGNED <i>Christy Williams</i>	EXAMINED <i>Raj J. Kaspar</i>	REVISIONS
CHECKED <i>Stanley S. Linn</i>	PASSED <i>Ralph E. Anderson</i>	
DRAWN <i>Rita Williams</i>	APPROVED	
CHECKED <i>CHM, S. R.</i>		

MARCH 8 1990

SUPERSTRUCTURE DETAILS
F.A. 42 SEC. 102B-1
MONTGOMERY COUNTY
STA. 1083+67.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS, SN 068-0058
(FOR INFORMATION ONLY)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	(102) BP	MONTGOMERY	6	5
			CONTRACT NO. 72K79	

SCALE: SHEET OF SHEETS STA. TO STA.

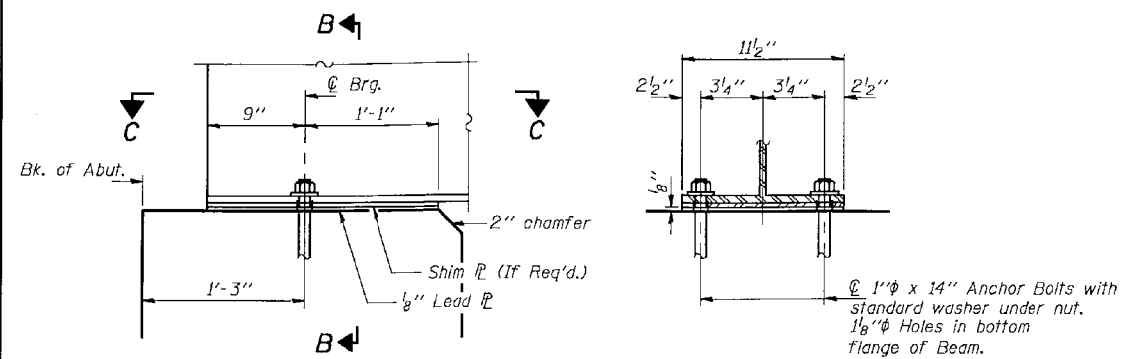
ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9
F.A. 42	102B-1	MONTGOMERY	73	37	13 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

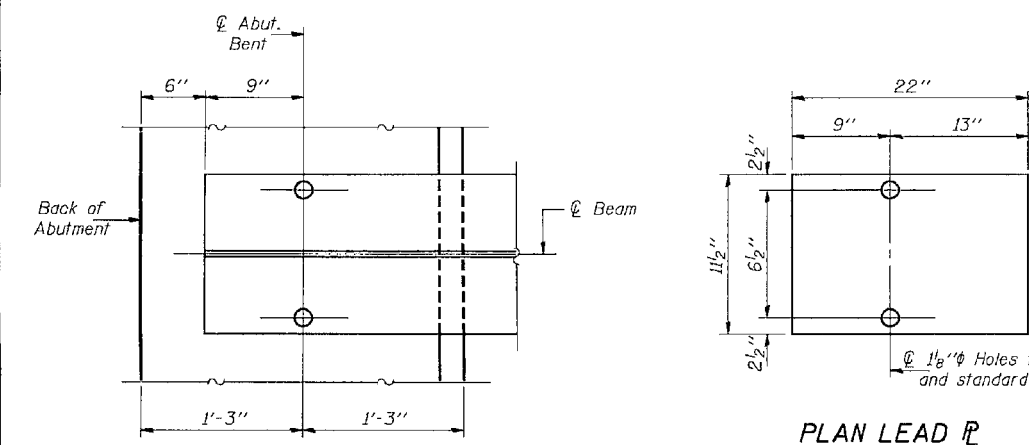
INTERIOR BEAM MOMENT TABLE	
0.5 Span	
I_s	(in ⁴) 5,900
I_c	(in ⁴) 15,480
S_s	(in ³) 359
S_c	(in ³) 527
I_p	(K/ft.) 0.693
M_D	(K) 383
s_D	(K/ft.) 0.290
M_{sD}	(K) 160
M_L	(K) 490
M (Imp)	(K) 127
$5_3(M_L + I)$	(K) 1,028
M_a	(K) 2,043
M_u	(K) 2,986
f_{sD} non-comp (k.s.i.)	12.8
f_{sD} (comp) (k.s.i.)	3.64
f_{sD_3} (k.s.i.)	23.4
f_s (Overload) (k.s.i.)	39.84
VR	(K) 41.4

* INTERIOR BEAM REACTION TABLE	
R_D	(K) N.S. Abut.
R_L	(K) 32.7
Imp.	(K) 8.6
R (Total)	(K) 74.1



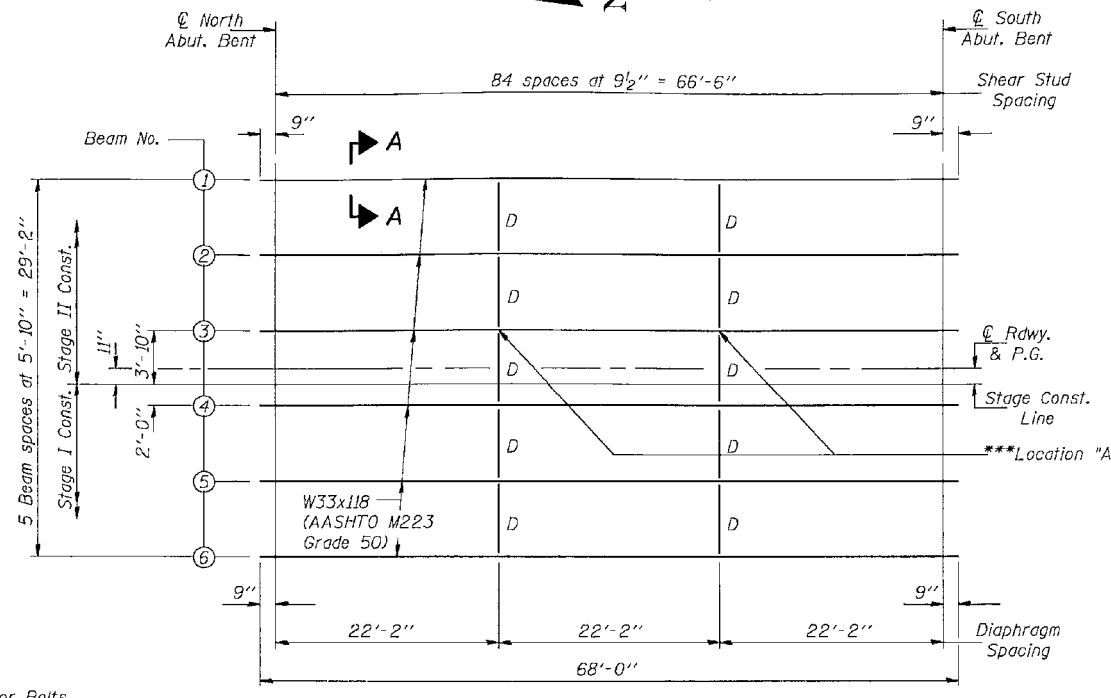
SECTION AT ABUTMENTS

SECTION B-B



SECTION C-C

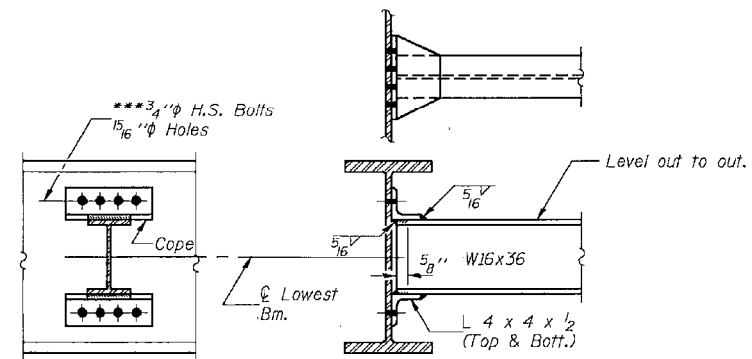
PLAN LEAD P



FRAMING PLAN

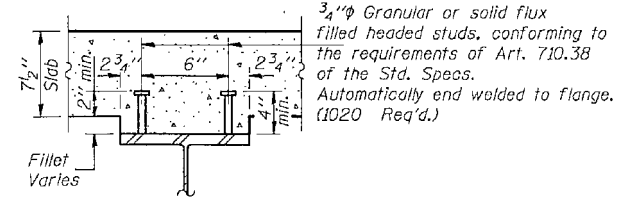
(Notch Toughness Requirements are required for all W33x118 Wide Flange Beams)

Removing and reinstalling of bolts for Diaphragm D at Beam #4 for Stage II Construction shall be cost incidental to "Structural Steel."

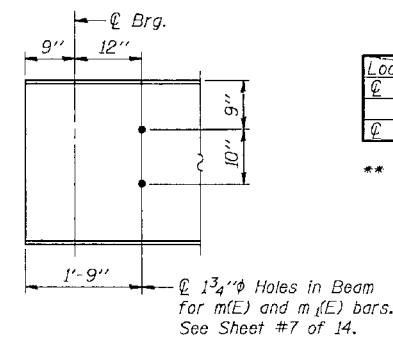


DIAPHRAGM D
15 Required

***Use 1 1/8" x 1 1/2" slotted holes in L 4 x 4 x 1/2 at Location "A" only. Provide 5/16" plate washers for slotted holes. Bolts shall be finger-tightened prior to the deck pour for Stage II Construction. Tighten bolts after deck is poured.



SECTION A-A



END OF BEAM ELEVATION

** TOP OF BEAM ELEVATIONS

Loc.	Bm.	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
Brq. N. Abut.		610.79	610.89	610.98	610.98	610.89	610.79
Brq. S. Abut.		610.54	610.64	610.73	610.73	610.64	610.54

** For Fabrication Only.

STRUCTURAL STEEL DETAILS
F.A. 42 SEC. 102B-1
MONTGOMERY COUNTY
STA. 1083+67.00

DESIGNED	March 8, 1970
CHECKED	Stanley S. Linn
DRAWN	Rita Williams
CHECKED	CHM, S L

EXAMINED	Greg J. Kaspar	ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson	ENGINEER OF BRIDGES AND STRUCTURES
APPROVED		DIRECTOR OF HIGHWAYS

Note: Two hardened washers shall be required over all 1 1/8" holes.

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USER NAME = dudleybm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS, SN 068-0058 (FOR INFORMATION ONLY)	F.A.P. RTE. 42	SECTION (102) BP	COUNTY MONTGOMERY	TOTAL SHEETS 6	SHEET NO. 6
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -							
PLOT DATE = 10/26/2018	CHECKED -	REVISED -			SCALE:	SHEET OF SHEETS	STA. TO STA.	CONTRACT NO. 72K79	ILLINOIS FED. AID PROJECT