

1	COVER SHEET
2	GENERAL NOTES, SUMMARY OF QUANTITIES AND RATE OF APPLICATION
3-4	SCHEDULE OF QUANTITIES
5	ROADWAY TYPICAL SECTIONS
6	ALIGNMENT AND TIES
7	PLAN AND PROFILE
8	EROSION CONTROL AND RESTORATION PLAN
9-31	SN 010-4584 STRUCTURE PLANS
32-35	CROSS SECTIONS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
**PLANS FOR PROPOSED
SURFACE TRANSPORTATION
BRIDGE PROGRAM**
COUNTY HIGHWAY 17 OVER KASKASKIA RIVER
CHAMPAIGN COUNTY
SECTION 18-00061-00-BR
FUNDING TYPE: STP-BR & LOCAL FUNDS
C-95-010-21 PROJECT NO. 8L3CL120

F.A.J.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CN 17	18-00061-00-BR	CHAMPAIGN	35	1
		ILLINOIS	CONTRACT NO. 91601	

Contract 91601

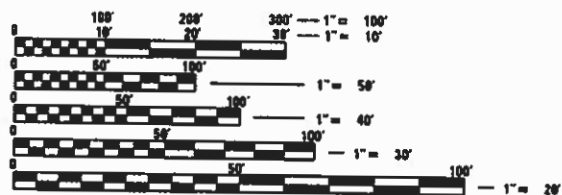


LOCATION OF SECTION INDICATED THUS: - [Symbol] -

FUNCTIONAL CLASSIFICATION - RURAL MAJOR COLLECTOR
CURRENT ADT = 650
FUTURE ADT = 800
DESIGN SPEED = 50 MPH

HIGHWAY STANDARDS

- 000001-08 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND A FOOT
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-04 NAME PLATE FOR BRIDGES
- 542401-04 METAL FLARED END SECTION FOR PIPE CULVERTS
- 630001-12 STEEL PLATE BEAM GUARDRAIL
- 630301-09 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 631031-17 TRAFFIC BARRIER TERMINAL TYPE 6
- 701001-02 OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
- 701006-05 OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
- 701201-05 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEED ≥ 45 MPH
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701311-03 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS-DAY ONLY
- 701901-08 TRAFFIC CONTROL DEVICES
- 780001-05 TYPICAL PAVEMENT MARKINGS
- BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS



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



PROPOSED SECTION 18-00016-00-BR BEGINS STATION 16+50 ENDS STATION 20+50 EXISTING SN 010-0122 PROPOSED SN 010-4584

LOCATION MAP
TOTAL LENGTH = 400 FT. = 0.076 MILE
NET LENGTH = 400 FT. = 0.076 MILE

THE PROPOSED IMPROVEMENT CONSISTS OF REMOVAL OF EXISTING STRUCTURE AND REPLACEMENT WITH A THREE SPAN W-BEAM (21" DEPTH) BRIDGE, ENCASED PILE SUPPORTED PIERS AND INTEGRAL ABUTMENTS, STEEL H-PILES, 32'-0" CLEAR ROADWAY AND 123'-10 1/4" BACK TO BACK ABUTMENTS, 30 DEGREE SKEW, AND OTHER MINOR COLLATERAL WORK.



Keith E. Brandau
KEITH E BRANDAU, P.E., S.E.
LICENSE EXPIRES 11/30/21
DATE 1/20/2021

HLC PROJECT NO. 7314
HLC FIELD BOOK NO.

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
DECATUR, IL SCHAMBURG, IL
ROCKFORD, IL CHAMPAIGN, IL
BENTON, IL LAFAYETTE, IN
PADUCAH, KY
(833) 424-2782 184-001397

APPROVED	<i>1/25/21</i>	20 21
	<i>J. Blue</i>	
	CHAMPAIGN COUNTY ENGINEER	
PASSED	<i>February 3 2021</i>	20 21
	<i>[Signature]</i>	
	DISTRICT FIVE ENGINEER OF LOCAL ROADS AND STREETS	
Releasing For Bid Based on Limited Review		20
PASSED	<i>February 3</i>	20 21
	<i>[Signature]</i>	
	REGION 3 ENGINEER	
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		

PLAN	DATE	BY
SURVEYED		
ALIGNED		
NOTED		
FILED		
NO.		

PROFILE	DATE	BY
SURVEYED		
PLOTTED		
NOTED		
FILED		
NO.		

40600290 BITUMINOUS MATERIALS (TACK COAT)	
ON THIS BASE	POUND
MILLED SURFACE	1,842.0
LEVELING BINDER	1,842.0
TOTAL	3,684.0
NOTE: CALCULATED @ 0.25 GAL/SY	

48203021 HOT-MIX ASPHALT SHOULDERS, 6"			
LOCATION TO LOCATION		SQ YD	
LT	16+50 18+47.32	88.0	
RT	16+50 18+31.16	81.0	
RT	19+82.68 20+60	34.0	
LT	19+98.85 21+50	67.0	
TOTAL		270.0	

40604050 HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50					
STATION TO STATION		LENGTH FOOT	WIDTH FOOT	THICK INCHES	TON
16+50	18+39.23	189.23	24	1 1/2	31.8
19+90.77	20+50	59.23	24	1 1/2	10.0
CONTINGENCY					1.2
TOTAL					43.0
NOTE: CALCULATIONS USED 115 LB/SY/INCH					

48101500 AGGREGATE SHOULDERS, TYPE B 6"			
LOCATION TO LOCATION		SQ YD	
LT	16+50 18+48.47	44.0	
RT	16+50 18+30	40.0	
RT	19+81.53 20+60	17.0	
LT	20+00.01 21+50	33.0	
TOTAL		134.0	

78200005 GUARDRAIL REFLECTORS, TYPE A		
LOCATION		EACH
RT	17+41.85	1
RT	19+69.80	1
LT	18+30.20	1
LT	20+58.15	1
TOTAL		4

63100070 TRAFFIC BARRIER TERMINAL, TYPE 5			
STATION TO STATION		EACH	
LT	18+37.70 18+50.97	1	
RT	19+49.03 19+62.30	1	
TOTAL		2	

63100085 TRAFFIC BARRIER TERMINAL, TYPE 6			
STATION TO STATION		EACH	
RT	17+86.85 18+32.50	1	
LT	19+67.50 20+13.15	1	
TOTAL		2	

40602965 HOT-MIX ASPHALT BINDER COURSE, IL9.5 FG, N50					
STATION TO STATION		LENGTH FOOT	WIDTH FOOT	THICK INCHES	TON
16+50	18+39.23	189.23	24	1 1/4	26.5
19+90.77	20+50	59.23	24	1 1/4	8.3
CONTINGENCY					1.2
TOTAL					36.0
NOTE: CALCULATIONS USED 112 LB/SY/INCH					

63100167 TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT			
STATION TO STATION		EACH	
RT	16+61.85 16+99.35	1	
LT	17+50.20 17+87.70	1	
RT	20+12.30 20+49.80	1	
LT	21+00.65 21+38.15	1	
TOTAL		4	

63000003 STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS				
STATION TO STATION			FOOT	
RT	16+99.35	17+86.85	87.5	
LT	17+87.70	18+37.70	50.0	
RT	19+62.30	20+12.30	50.0	
LT	20+13.15	21+00.65	87.5	
TOTAL			275.0	

72501000 TERMINAL MARKER DIRECT APPLIED		
LOCATION		EACH
RT	16+61.85	1
LT	17+50.20	1
RT	20+49.80	1
LT	21+38.15	1
TOTAL		4

I:\Municipal\18\Champaign County\7204 CH 17 BN 218-4584 for posting 2018-02-22\18-00061-00-01\Sheets\7204_sht_50.dwg

USER NAME =	DESIGNED - KEB	REVISED -
	DRAWN - JDM	REVISED -
PLOT SCALE =	CHECKED - KEB	REVISED -
PLOT DATE =	DATE - 09/22/20	REVISED -

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS

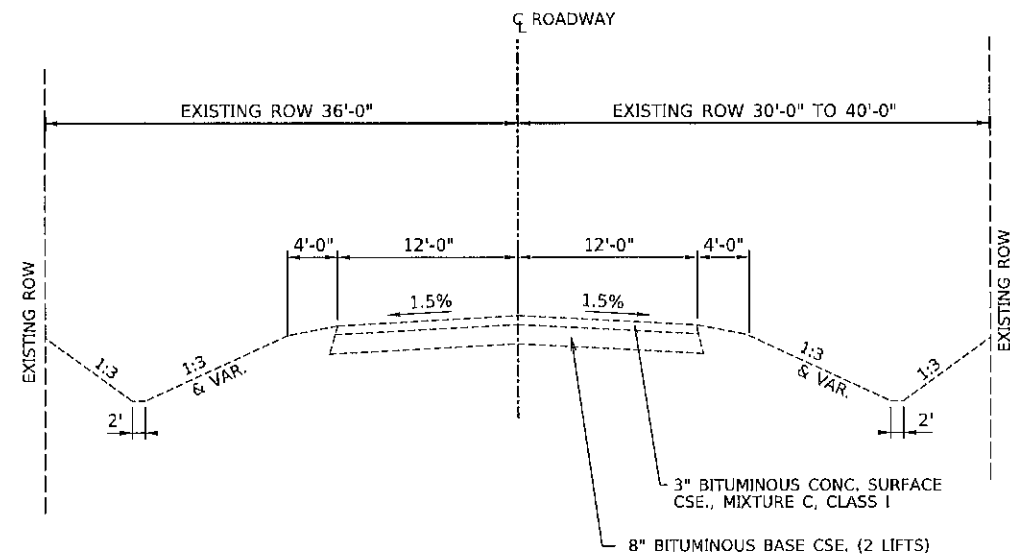
DECATUR, IL SCHAUMBURG, IL
ROCKFORD, IL CHAMPAIGN, IL
BENTON, IL LAFAYETTE, IN
PADUCAH, KY

**COUNTY HIGHWAY 17
SCHEDULE OF QUANTITIES**

SCALE: SHEET NO. 2 OF 2 SHEETS STA. TO STA.

F.A.U.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	4
CONTRACT NO. 91601				
ILLINOIS FED. AID PROJECT				

EXISTING TYPICAL PAVEMENT SECTION



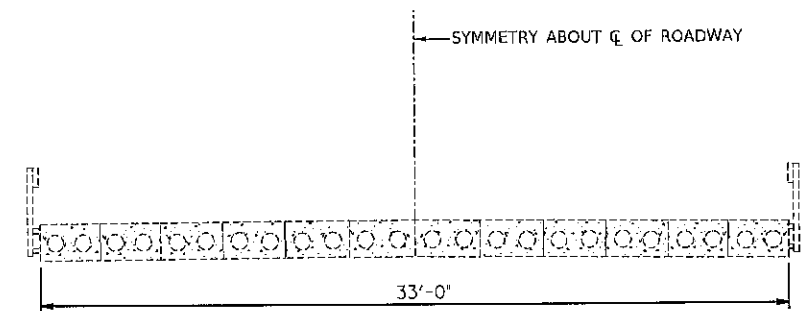
EXISTING TYPICAL PAVEMENT
EXISTING TYPICAL PAVEMENT

NOTES:
FUNCTIONAL CLASS - MAJOR COLLECTOR
CURRENT ADT = 650
SEE PLAN AND PROFILE SHEETS FOR TAPERS.

STA. 16+50 TO STA. 18+08.08

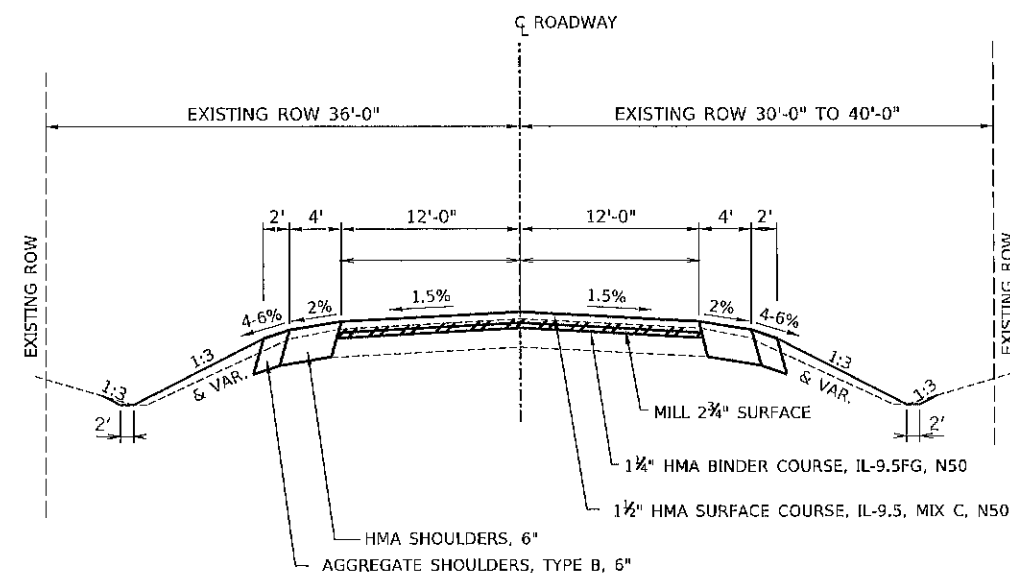
STA. 19+91.92 TO STA. 20+50

EXISTING BRIDGE SECTION (010-0122)



EXISTING BRIDGE SECTION
(LOOKING NORTH)

PROPOSED TYPICAL PAVEMENT SECTION

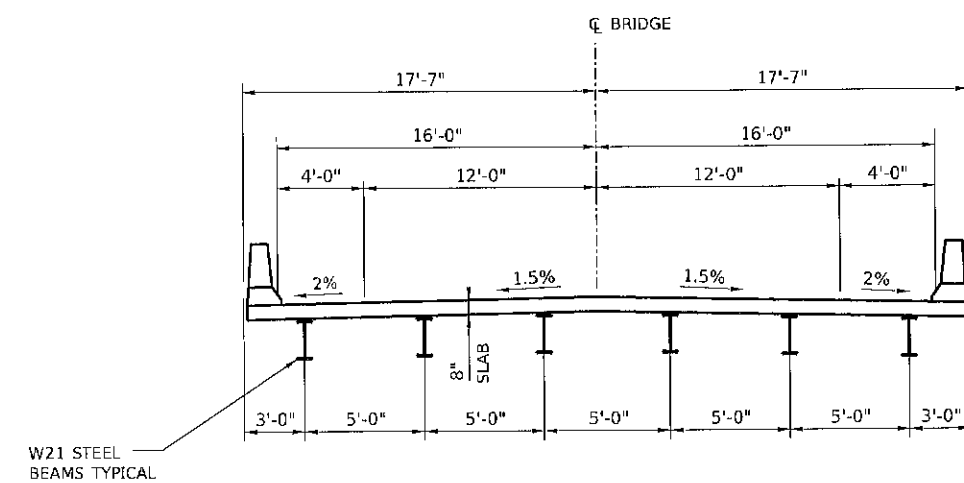


PROPOSED TYPICAL PAVEMENT

STA. 16+50 TO STA. 18+08.08

STA. 19+91.92 TO STA. 20+50

PROPOSED BRIDGE SECTION



PROPOSED BRIDGE SECTION
(LOOKING EAST)

794 Typical Section.dgn

USER NAME =	DESIGNED - KEB	REVISED -
PLOT SCALE =	DRAWN - JDM	REVISED -
PLOT DATE =	CHECKED - KEB	REVISED -
	DATE - 09/22/20	REVISED -

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS

DECATUR, IL SCHAUMBURG, IL
ROCKFORD, IL CHAMPAIGN, IL
BENTON, IL LA SALLE, IL
PADUCAH, KY
(833) 424-2782 184-001397

**COUNTY HIGHWAY 17
ROADWAY TYPICAL SECTIONS**

SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	5
CONTRACT NO. 91601				
ILLINOIS FED. AID PROJECT				

The existing structure (SN 010-0122) is a two-span precast pre-stressed concrete beam superstructure on closed concrete abutments and solid pier in the center of the river. The original structure was constructed in the year 1924, and reconstructed with new superstructure in 1972. The CONTRACTOR shall remove the existing structure as required. Road to be closed during construction.

Benchmark:
Railroad spike in power pole Station 23+54, 53' right, elev. 677.68

DESIGN SPECIFICATIONS
2018 AASHTO LRFD Bridge Design Specifications, 8th Edition with 2018 Interims

DESIGN STRESSES

FIELD UNITS

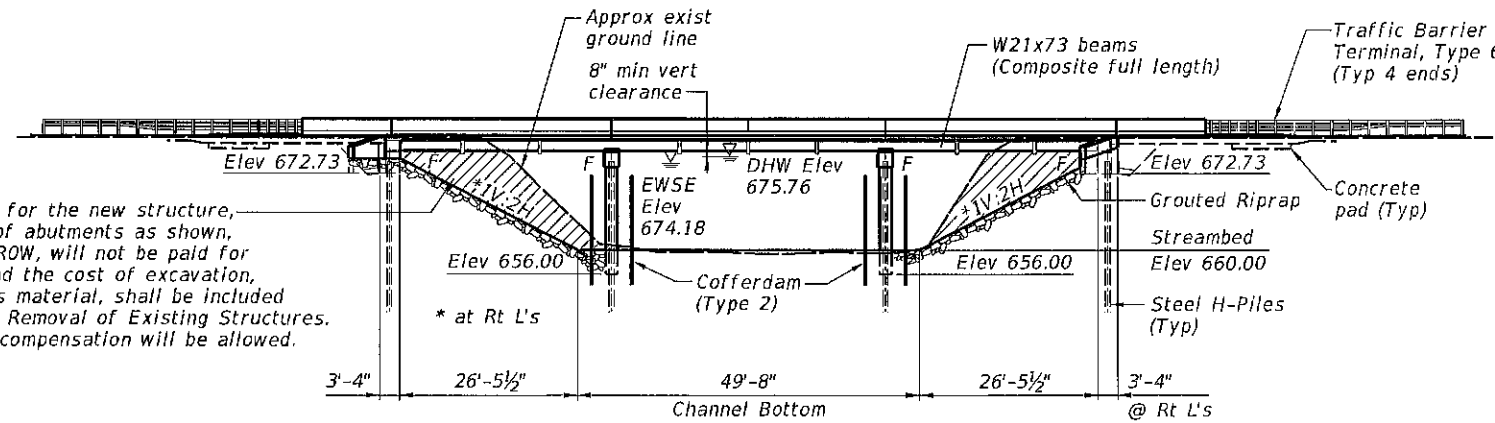
$f'_c = 3,500$ psi
 $f'_c = 4,000$ psi (Superstructure)
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50W)

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

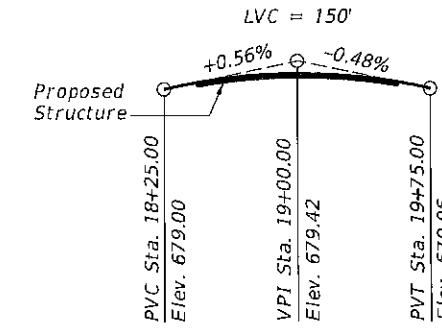
SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.152g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.274g
Soil Site Class = D

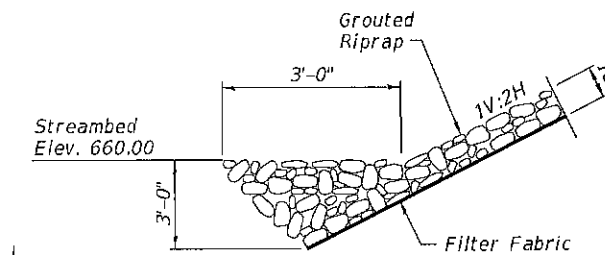


ELEVATION

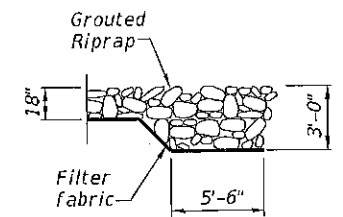
All excavation for the new structure, back to back of abutments as shown, from ROW to ROW, will not be paid for separately, and the cost of excavation, hauling excess material, shall be included in the cost of Removal of Existing Structures. No additional compensation will be allowed.



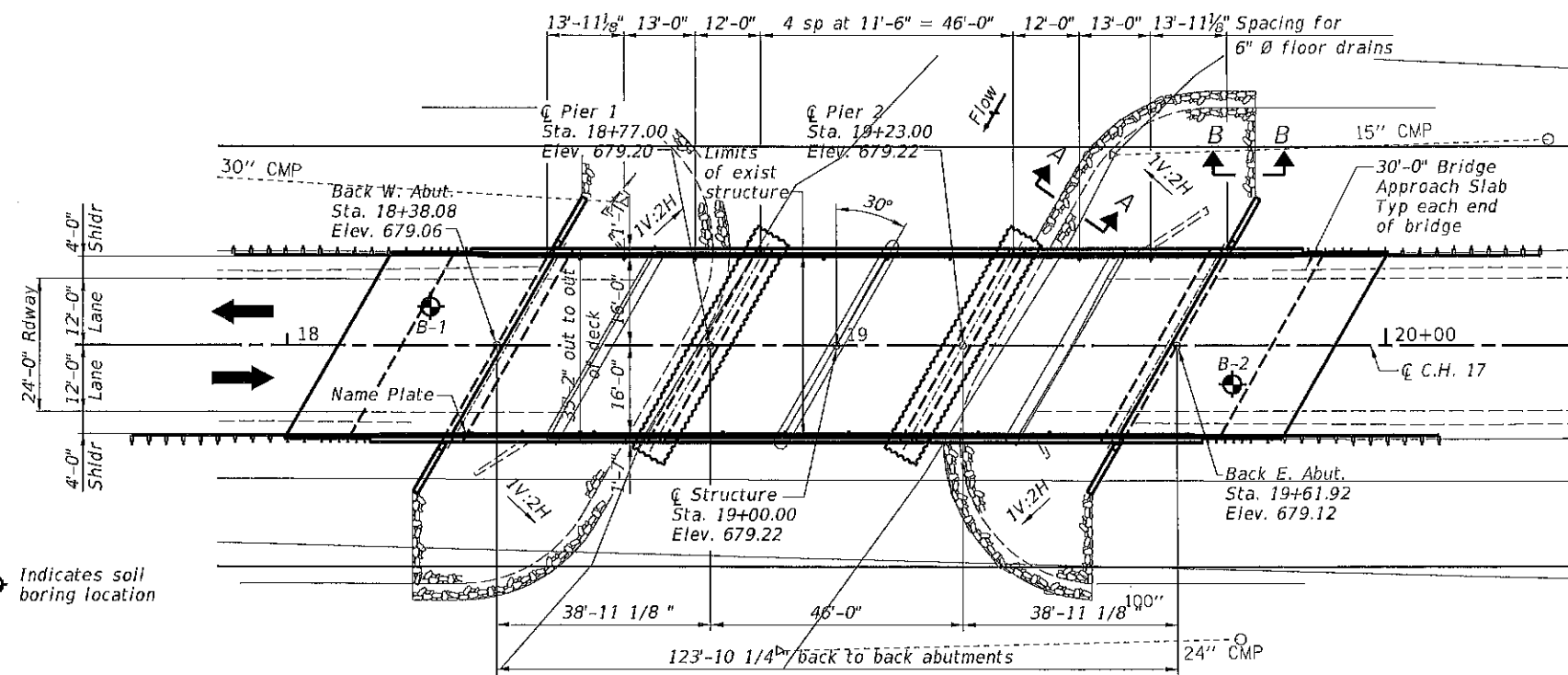
PROFILE GRADE
(Along \bar{C} Roadway)



SECTION A-A



SECTION B-B



PLAN

Indicates soil boring location

C.H. 17 OVER
KASKASKIA RIVER
BUILT 20 BY
CHAMPAIGN COUNTY
SECTION 18-00061-00-BR
STA 19+00.00
STR. NO. 010-4584 LOADING HL-93

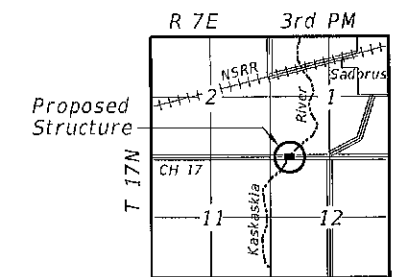
NAME PLATE
See Std. 515001

WATERWAY INFORMATION

Drainage Area = 61.45 sq. mi.		Low Grade Elev. @ Sta.							
Flood	Freq. Yr.	Q C.F.S.	Opening Ft ²		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	20	4241	730.0	776.0	674.46	0.42	0.45	674.88	674.91
Base	100	6190	807.0	888.0	675.76	0.80	0.80	676.56	676.56
Max. Calc.	500	8140	849.0	953.0	676.63	1.25	1.19	677.88	677.82

DESIGN SCOUR ELEVATION TABLE

Event / Limit	Design Scour Elevations (ft.)			
	W. Abut.	Piers	E. Abut.	Item 113
Q100	672.7	656.0	672.7	5
Q200	672.7	656.0	672.7	
Design	672.7	656.0	672.7	
Check	672.7	656.0	672.7	



LOCATION SKETCH



Keith E. Brandau

Keith E. Brandau, S.E.
License Expires 11/30/22

1/20/2021

Date

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

FILE NAME = sgrkandgn

USER NAME = .USER.	DESIGNED KEB	REVISED -
PLOT TIME = 3:20:10 PM	DRAWN RLK	REVISED -
PLOT SCALE = 32.0000' / 1"	CHECKED BCG	REVISED -
PLOT DATE = 1/20/2021	DATE 8/12/20	REVISED -

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS

DECATUR, IL SCHAUMBURG, IL
ROCKFORD, IL CHAMPAIGN, IL
BENTON, IL LAFAYETTE, IN
PADUCAH, KY
(833) 424-2782 184-001397

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 010-4584
SHEET NO. 1 OF 23 SHEETS

FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	9
STRUCTURE NO. 010-4584		CONTRACT NO. 91601		
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts in painted areas and ASTM A325 Type 3 in unpainted areas. Bolts 1/2" dia., holes 1 1/16" dia., unless otherwise noted.

Calculated weight of Structural Steel = 66,298 pounds.

All structural steel shall be AASHTO M270 Grade 50W.

All structural steel shall be cleaned as specified in section 506 of the Standard Specifications.

No field welding is permitted except as specified in the contract documents.

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

Reinforcement bars designated (E) shall be epoxy coated.

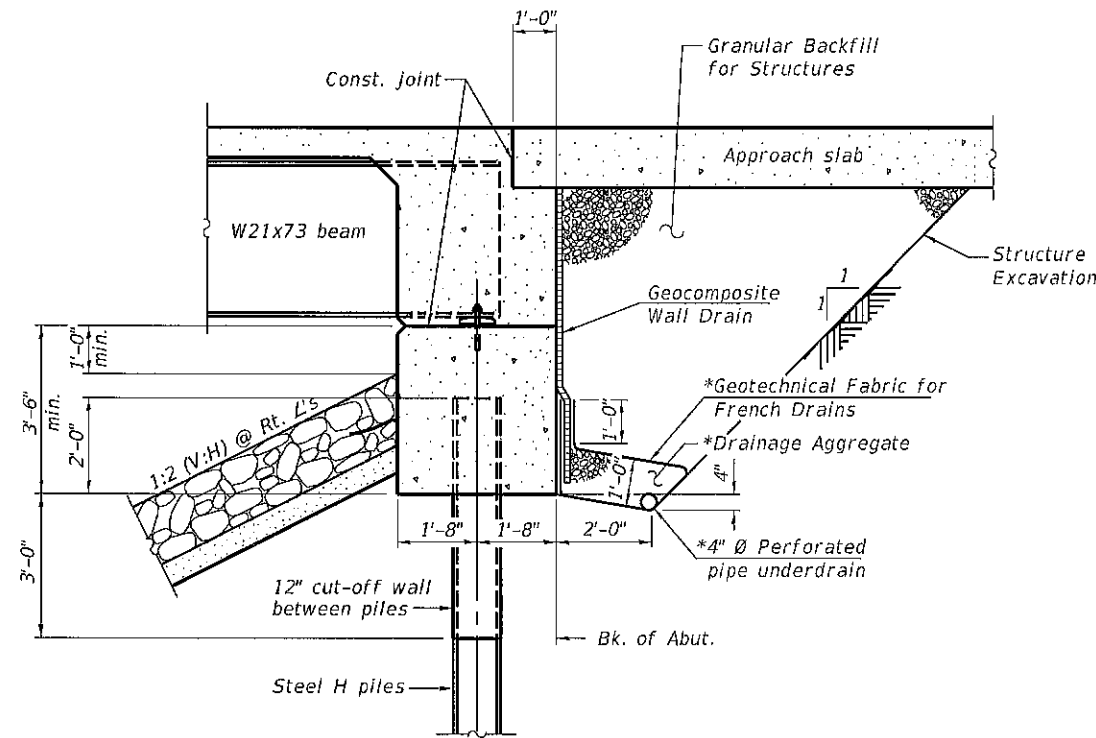
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 18 in. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.

Layout of slope protection system may be varied to suit ground conditions in the field as directed by the ENGINEER.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

If the CONTRACTOR elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.



SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

*Included in the cost of Pipe Underdrains for Structures.
(See Special Provisions)

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	1	--	1
Bridge Deck Grooving	Sq. Yd.	605	--	605
Concrete Superstructures	Cu. Yd.	265.6	--	265.6
Concrete Structures	Cu. Yd.	--	191.7	191.7
Reinforcement Bars, Epoxy Coated	Pound	76,960	19,700	96,660
Protective Coat	Sq. Yd.	780	--	780
Name Plates	Each	1	--	1
Structure Excavation	Cu. Yd.	--	289.8	289.8
Granular Backfill for Structures	Cu. Yd.	--	94	94
Stud Shear Connectors	Each	2880	--	2880
Furnishing and Erecting Structural Steel (No. 1)	L. Sum	1	--	1
Furnishing Steel Piles HP 12X74	Foot	--	1160	1160
Driving Steel Piles HP 12X74	Foot	--	1160	1160
Pile Shoes	Each	--	32	32
Test Pile Steel HP 12x74	Each	--	4	4
Grouted Riprap	Sq. Yd.	--	709	709
Concrete Cut-Off Wall	Cu. Yd.	--	9.0	9.0
Floor Drains	Each	14	--	14
Cofferdam (Type 2) (Location 1)	Each	--	1	1
Cofferdam (Type 2) (Location 2)	Each	--	1	1
Anchor Bolts, 1"	Each	--	48	48
Geocomposite Wall Drain	Sq. Yd.	--	58	58
Pipe Underdrains for Structures 4"	Foot	--	124	124
Diamond Grinding (Bridge Section)	Sq. Yd.	637	--	637

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 General Structural Data
- 3 Top of Slab Elevations
- 4 Top of Slab Elevations
- 5 Top of West Approach Slab Elevations
- 6 Top of East Approach Slab Elevations
- 7 Superstructure
- 8 Superstructure Details
- 9 Diaphragm Details
- 10 Bridge Approach Slab Details
- 11 Bridge Approach Slab Details
- 12 Framing Plan and Details
- 13 Framing Details
- 14 Moment Tables
- 15 Bearing Details
- 16 West Abutment Details
- 17 East Abutment Details
- 18 Pier 1 Details
- 19 Pier 2 Details
- 20 HP Pile Details
- 21 Cantilever Forming Brackets
- 22 Concrete Parapet Slipforming Option
- 23 Soil Boring Logs

FILE NAME: E:\Munroe\Itrass\Champaign_Count\2314_C17_S1_B18-4884_Existing_B18-0122\COOD\CADD_Structural\Structure.dwg

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PLOT TIME = 2:57:15 PM	DRAWN <i>RLK</i>	REVISED -
PLOT SCALE = 2:8" = 1"	CHECKED <i>BCG</i>	REVISED -
PLOT DATE = 2/10/2021	DATE <i>8/12/20</i>	REVISED -

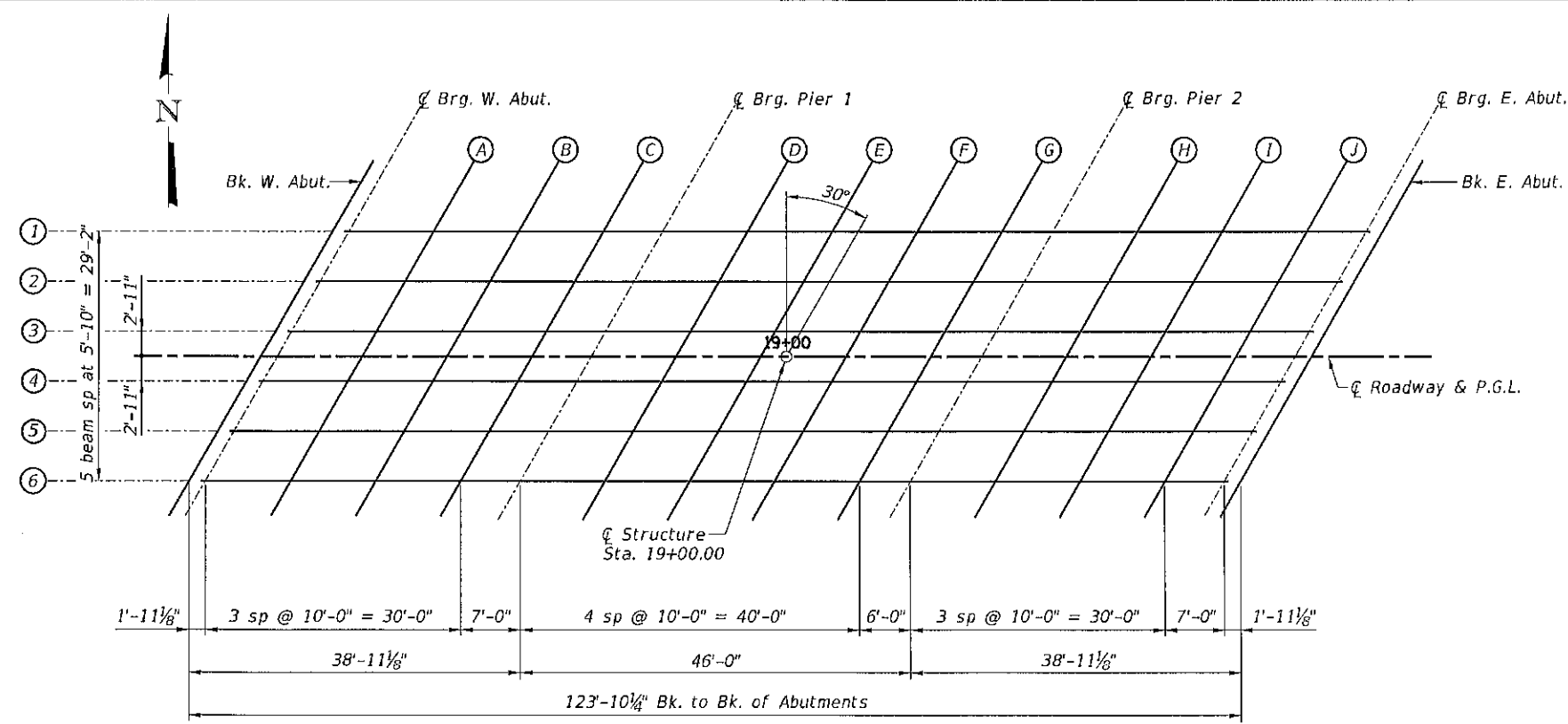
CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS

DECATUR, IL SCHAUMBURG, IL
ROCKFORD, IL CHAMPAIGN, IL
BENTON, IL LARAYETTE, IN
 PADUCAH, KY
(833) 424-2782 184-001397

GENERAL STRUCTURAL DATA
STRUCTURE NO. 010-4584

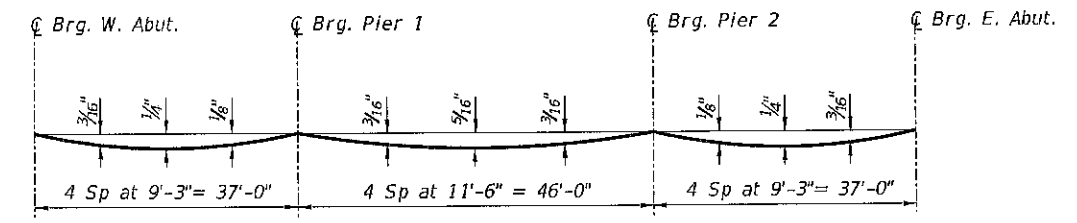
SHEET NO. 2 OF 25 SHEETS

FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	10
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
ILLINOIS FED. AID PROJECT				



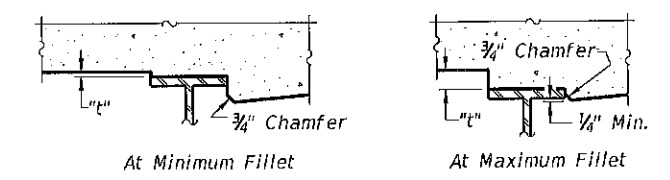
DECK ELEVATION LAYOUT

Note:
The elevations shown on the Top of Slab Elevation sheets are for an 8" slab thickness after 1/4" Diamond Grinding. Add 0.02' to the Theoretical Grade Elevations for top of slab elevations prior to Diamond Grinding.



DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete, excluding beams).

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 and grinding as shown below.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.
The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown below. For grinding the deck, see Special Provisions.

FILLET HEIGHTS

BEAM 1

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	18+46.50	14'-7" Lt.	678.86	678.86
Cl. W. Abut	18+48.42	14'-7" Lt.	678.87	678.87
A	18+58.42	14'-7" Lt.	678.91	678.93
B	18+68.42	14'-7" Lt.	678.94	678.96
C	18+78.42	14'-7" Lt.	678.96	678.96
Cl. Pier 1	18+85.42	14'-7" Lt.	678.97	678.97
D	18+95.42	14'-7" Lt.	678.98	678.99
E	19+05.42	14'-7" Lt.	678.98	679.01
F	19+15.42	14'-7" Lt.	678.98	679.00
G	19+25.42	14'-7" Lt.	678.97	678.98
Cl. Pier 2	19+31.42	14'-7" Lt.	678.96	678.96
H	19+41.42	14'-7" Lt.	678.94	678.95
I	19+51.42	14'-7" Lt.	678.91	678.94
J	19+61.42	14'-7" Lt.	678.88	678.89
Cl. E. Abut	19+68.42	14'-7" Lt.	678.85	678.85
Bk. Of E. Abut	19+70.34	14'-7" Lt.	678.84	678.84

BEAM 2

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	18+43.13	8'-9" Lt.	678.95	678.95
Cl. W. Abut	18+45.06	8'-9" Lt.	678.96	678.96
A	18+55.06	8'-9" Lt.	679.00	679.02
B	18+65.06	8'-9" Lt.	679.03	679.05
C	18+75.06	8'-9" Lt.	679.06	679.06
Cl. Pier 1	18+82.05	8'-9" Lt.	679.07	679.07
D	18+92.05	8'-9" Lt.	679.08	679.10
E	19+02.05	8'-9" Lt.	679.09	679.12
F	19+12.05	8'-9" Lt.	679.09	679.11
G	19+22.05	8'-9" Lt.	679.08	679.09
Cl. Pier 2	19+28.05	8'-9" Lt.	679.07	679.07
H	19+38.05	8'-9" Lt.	679.05	679.06
I	19+48.05	8'-9" Lt.	679.03	679.05
J	19+58.05	8'-9" Lt.	678.99	679.01
Cl. E. Abut	19+65.05	8'-9" Lt.	678.97	678.97
Bk. Of E. Abut	19+66.98	8'-9" Lt.	678.96	678.96

BEAM 3

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	18+39.76	2'-11" Lt.	679.03	679.03
Cl. W. Abut	18+41.69	2'-11" Lt.	679.04	679.04
A	18+51.69	2'-11" Lt.	679.08	679.10
B	18+61.69	2'-11" Lt.	679.11	679.13
C	18+71.69	2'-11" Lt.	679.14	679.15
Cl. Pier 1	18+78.68	2'-11" Lt.	679.16	679.16
D	18+88.68	2'-11" Lt.	679.17	679.18
E	18+98.68	2'-11" Lt.	679.18	679.21
F	19+08.68	2'-11" Lt.	679.18	679.20
G	19+18.68	2'-11" Lt.	679.17	679.18
Cl. Pier 2	19+24.68	2'-11" Lt.	679.17	679.17
H	19+34.68	2'-11" Lt.	679.15	679.16
I	19+44.68	2'-11" Lt.	679.13	679.15
J	19+54.68	2'-11" Lt.	679.10	679.11
Cl. E. Abut	19+61.68	2'-11" Lt.	679.07	679.07
Bk. Of E. Abut	19+63.61	2'-11" Lt.	679.06	679.06

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TOP OF SLAB ELEVATIONS
STRUCTURE NO. 010-4584
SHEET NO. 3 OF 23 SHEETS

FAU RATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	11
STRUCTURE NO. 010-4584		CONTRACT NO. 91601		
ILLINOIS FED. AID PROJECT				

ROADWAY AND PGL

BEAM 4

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	18+38.08	0	679.07	679.07
Cl. W. Abut	18+40.00	0	679.08	679.08
A	18+50.00	0	679.12	679.14
B	18+60.00	0	679.15	679.17
C	18+70.00	0	679.18	679.19
Cl. Pier 1	18+77.00	0	679.20	679.20
D	18+87.00	0	679.21	679.23
E	18+97.00	0	679.22	679.25
F	19+07.00	0	679.23	679.25
G	19+17.00	0	679.22	679.23
Cl. Pier 2	19+23.00	0	679.22	679.22
H	19+33.00	0	679.20	679.21
I	19+43.00	0	679.18	679.20
J	19+53.00	0	679.15	679.16
Cl. E. Abut	19+60.00	0	679.12	679.12
Bk. Of E. Abut	19+61.92	0	679.12	679.12

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	18+36.40	2'-11" Rt.	679.01	679.01
Cl. W. Abut	18+38.32	2'-11" Rt.	679.02	679.02
A	18+48.32	2'-11" Rt.	679.07	679.08
B	18+58.32	2'-11" Rt.	679.10	679.12
C	18+68.32	2'-11" Rt.	679.13	679.14
Cl. Pier 1	18+75.32	2'-11" Rt.	679.15	679.15
D	18+85.32	2'-11" Rt.	679.17	679.18
E	18+95.32	2'-11" Rt.	679.18	679.20
F	19+05.32	2'-11" Rt.	679.18	679.20
G	19+15.32	2'-11" Rt.	679.18	679.18
Cl. Pier 2	19+21.32	2'-11" Rt.	679.17	679.17
H	19+31.32	2'-11" Rt.	679.16	679.17
I	19+41.32	2'-11" Rt.	679.14	679.16
J	19+51.32	2'-11" Rt.	679.11	679.12
Cl. E. Abut	19+58.32	2'-11" Rt.	679.08	679.08
Bk. Of E. Abut	19+60.24	2'-11" Rt.	679.08	679.08

Note:
The elevations shown on the Top of Slab Elevation sheets are for an 8" slab thickness after 1/4" Diamond Grinding. Add 0.02' to the Theoretical Grade Elevations for top of slab elevations prior to Diamond Grinding.

BEAM 5

BEAM 6

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	18+33.03	8'-9" Rt.	678.91	678.91
Cl. W. Abut	18+34.95	8'-9" Rt.	678.92	678.92
A	18+44.95	8'-9" Rt.	678.96	678.98
B	18+54.95	8'-9" Rt.	679.00	679.02
C	18+64.95	8'-9" Rt.	679.03	679.04
Cl. Pier 1	18+71.95	8'-9" Rt.	679.05	679.05
D	18+81.95	8'-9" Rt.	679.07	679.08
E	18+91.95	8'-9" Rt.	679.08	679.11
F	19+01.95	8'-9" Rt.	679.09	679.11
G	19+11.95	8'-9" Rt.	679.09	679.09
Cl. Pier 2	19+17.95	8'-9" Rt.	679.08	679.08
H	19+27.95	8'-9" Rt.	679.07	679.08
I	19+37.95	8'-9" Rt.	679.05	679.08
J	19+47.95	8'-9" Rt.	679.03	679.04
Cl. E. Abut	19+54.95	8'-9" Rt.	679.01	679.01
Bk. Of E. Abut	19+56.87	8'-9" Rt.	679.00	679.00

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	18+29.66	14'-7" Rt.	678.78	678.78
Cl. W. Abut	18+31.58	14'-7" Rt.	678.79	678.79
A	18+41.58	14'-7" Rt.	678.84	678.86
B	18+51.58	14'-7" Rt.	678.88	678.90
C	18+61.58	14'-7" Rt.	678.92	678.92
Cl. Pier 1	18+68.58	14'-7" Rt.	678.94	678.94
D	18+78.58	14'-7" Rt.	678.96	678.97
E	18+88.58	14'-7" Rt.	678.97	679.00
F	18+98.58	14'-7" Rt.	678.98	679.01
G	19+08.58	14'-7" Rt.	678.98	678.99
Cl. Pier 2	19+14.58	14'-7" Rt.	678.98	678.98
H	19+24.58	14'-7" Rt.	678.97	678.98
I	19+34.58	14'-7" Rt.	678.96	678.98
J	19+44.58	14'-7" Rt.	678.93	678.95
Cl. E. Abut	19+51.58	14'-7" Rt.	678.91	678.91
Bk. Of E. Abut	19+53.50	14'-7" Rt.	678.91	678.91

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TOP OF SLAB ELEVATIONS
STRUCTURE NO. 010-4584
SHEET NO. 4 OF 23 SHEETS

FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	12
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
ILLINOIS FED. AID PROJECT				

NORTH CURB LINE

LOCATION	STATION	OFFSET		THEORETICAL GRADE ELEVATIONS
End W. Appr. Pav't.	18+16.16	12'-0"	Lt.	678.76
A	18+26.16	12'-0"	Lt.	678.82
B	18+36.16	12'-0"	Lt.	678.87
End W. Appr. Pav't.	18+46.16	12'-0"	Lt.	678.92

NORTH EDGE OF PAVEMENT

LOCATION	STATION	OFFSET		THEORETICAL GRADE ELEVATIONS
End W. Appr. Pav't.	18+18.47	16'-0"	Lt.	678.69
A	18+28.47	16'-0"	Lt.	678.75
B	18+38.47	16'-0"	Lt.	678.80
End W. Appr. Pav't.	18+48.47	16'-0"	Lt.	678.84

☉ ROADWAY AND PGL

LOCATION	STATION	OFFSET		THEORETICAL GRADE ELEVATIONS
End W. Appr. Pav't.	18+09.23	0		678.91
A	18+19.23	0		678.97
B	18+29.23	0		679.02
End W. Appr. Pav't.	18+39.23	0		679.07

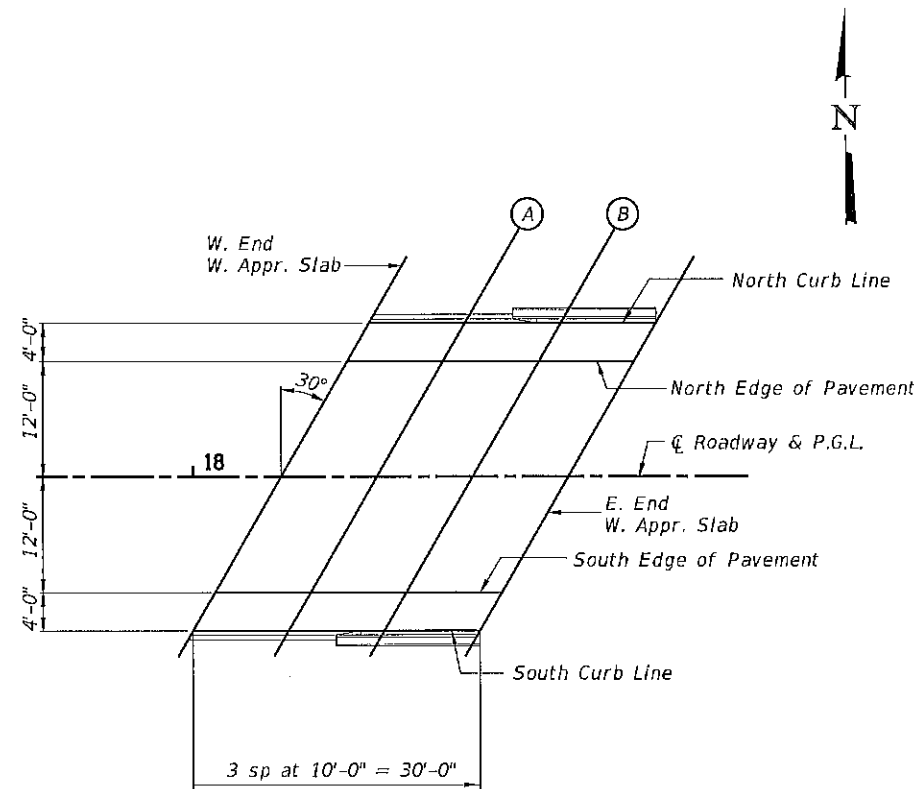
Note:
Add 0.02' to the theoretical grade elevations prior to diamond grinding

SOUTH EDGE OF PAVEMENT

LOCATION	STATION	OFFSET		THEORETICAL GRADE ELEVATIONS
End W. Appr. Pav't.	18+02.31	12'-0"	Rt.	678.69
A	18+12.31	12'-0"	Rt.	678.74
B	18+22.31	12'-0"	Rt.	678.80
End W. Appr. Pav't.	18+32.31	12'-0"	Rt.	678.85

SOUTH CURB LINE

LOCATION	STATION	OFFSET		THEORETICAL GRADE ELEVATIONS
End W. Appr. Pav't.	18+00.00	16'-0"	Rt.	678.59
A	18+10.00	16'-0"	Rt.	678.65
B	18+20.00	16'-0"	Rt.	678.70
End W. Appr. Pav't.	18+30.00	16'-0"	Rt.	678.76



PLAN

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TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 010-4584

SHEET NO. 5 OF 23 SHEETS

FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	13
STRUCTURE NO. 010-4584		CONTRACT NO. 91601		
[ILLINOIS] FED. AID PROJECT				

NORTH CURB LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS
End E. Appr. Pav't.	19+67.70	12'-0" Lt.	678.91
A	19+77.70	12'-0" Lt.	678.86
B	19+87.70	12'-0" Lt.	678.81
End E. Appr. Pav't.	19+97.70	12'-0" Lt.	678.76

NORTH EDGE OF PAVEMENT

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS
End E. Appr. Pav't.	19+70.01	16'-0" Lt.	678.81
A	19+80.01	16'-0" Lt.	678.77
B	19+90.01	16'-0" Lt.	678.72
End E. Appr. Pav't.	20+00.01	16'-0" Lt.	678.67

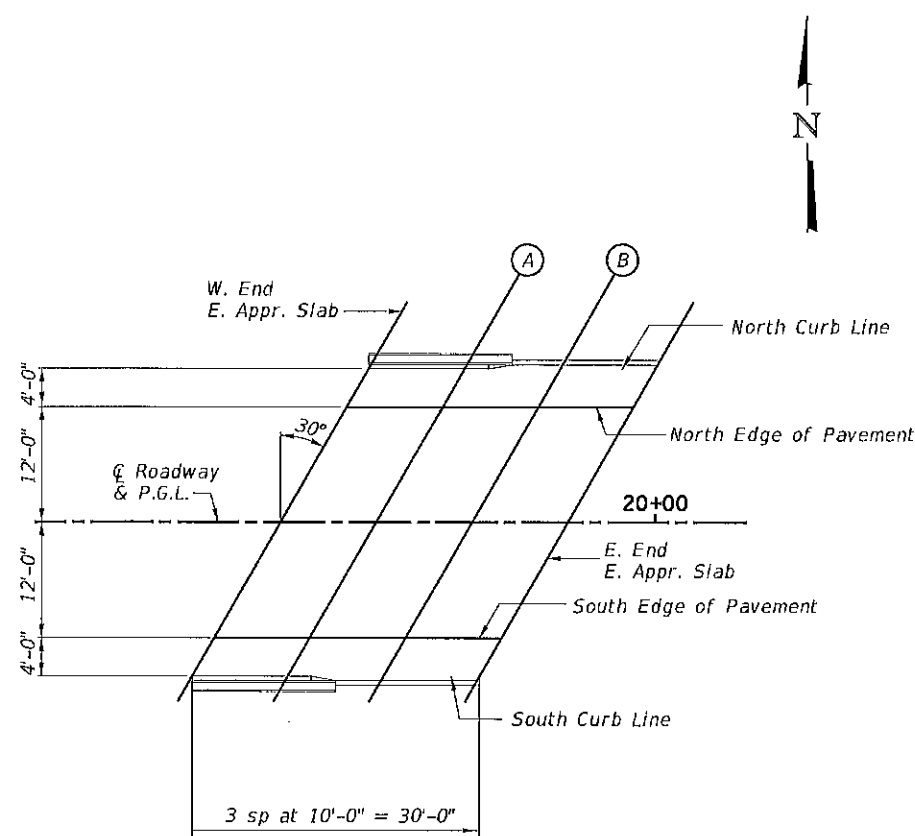
☉ ROADWAY AND PGL

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS
End E. Appr. Pav't.	19+60.77	0	679.12
A	19+70.77	0	679.08
B	19+80.77	0	679.03
End E. Appr. Pav't.	19+90.77	0	678.98

SOUTH EDGE OF PAVEMENT

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS
End E. Appr. Pav't.	19+53.84	12'-0" Rt.	678.96
A	19+63.84	12'-0" Rt.	678.92
B	19+73.84	12'-0" Rt.	678.88
End E. Appr. Pav't.	19+83.84	12'-0" Rt.	678.83

Note:
Add 0.02' to the theoretical grade elevations prior to diamond grinding



SOUTH CURB LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS
End E. Appr. Pav't.	19+51.53	16'-0" Rt.	678.88
A	19+61.53	16'-0" Rt.	678.85
B	19+71.53	16'-0" Rt.	678.81
End E. Appr. Pav't.	19+81.53	16'-0" Rt.	678.76

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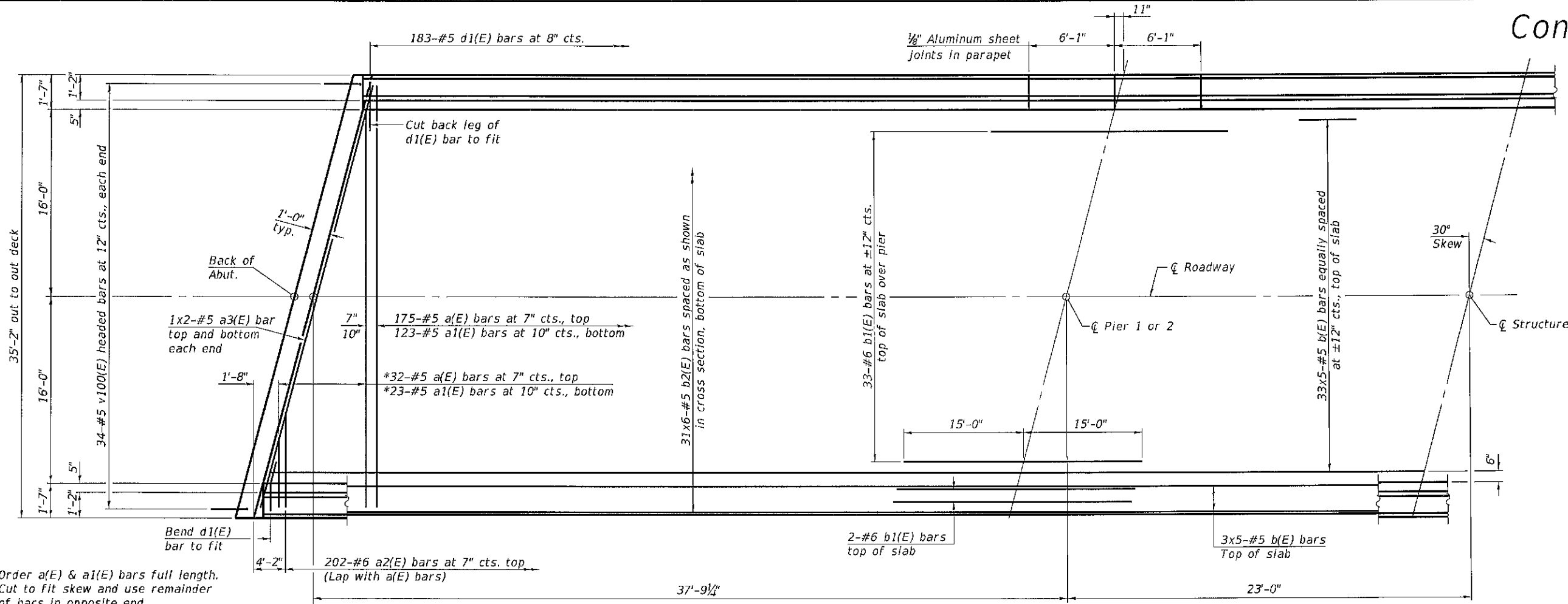
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TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 010-4584
SHEET NO. 6 OF 23 SHEETS

FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	14
STRUCTURE NO. 010-4584		CONTRACT NO. 91601		
ILLINOIS FED. AID PROJECT				

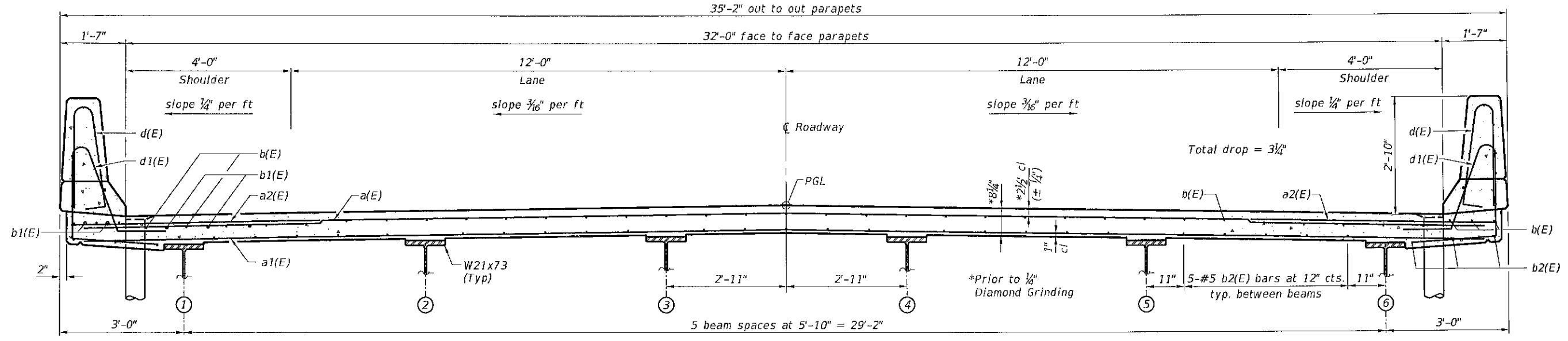


PARTIAL PLAN

* Order a(E) & a1(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

Notes:
See sheet 8 of 23 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

MINIMUM BAR LAP
#5 bar = 3'-6"



CROSS SECTION
(Looking East)

SI-SB-2-L(≤30°) 6-15-2019

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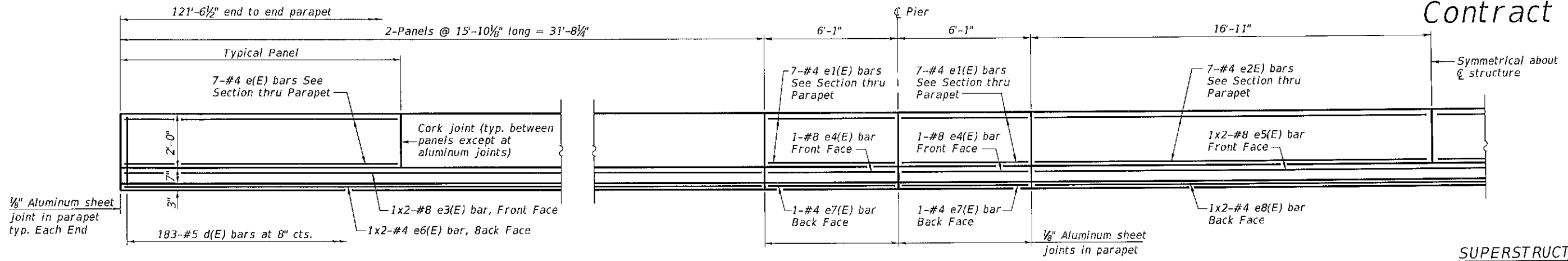
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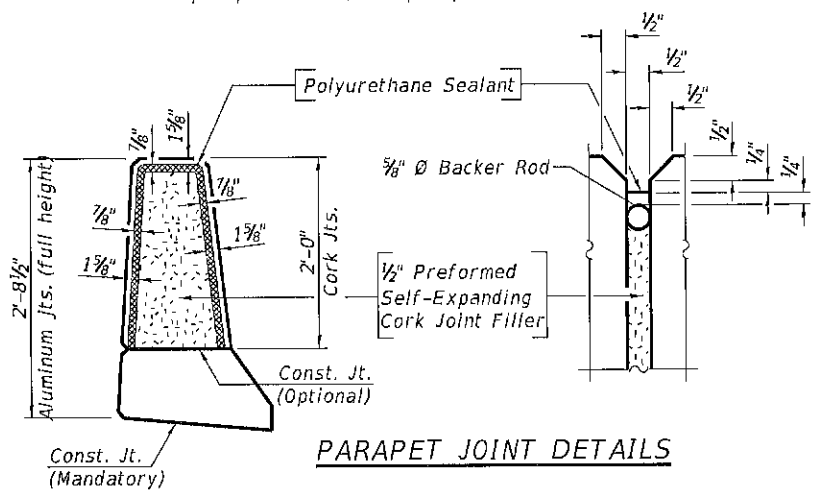
SUPERSTRUCTURE
STRUCTURE NO. 010-4584
SHEET NO. 7 OF 23 SHEETS

FAU RYE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	15
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
ILLINOIS FED. AID PROJECT				

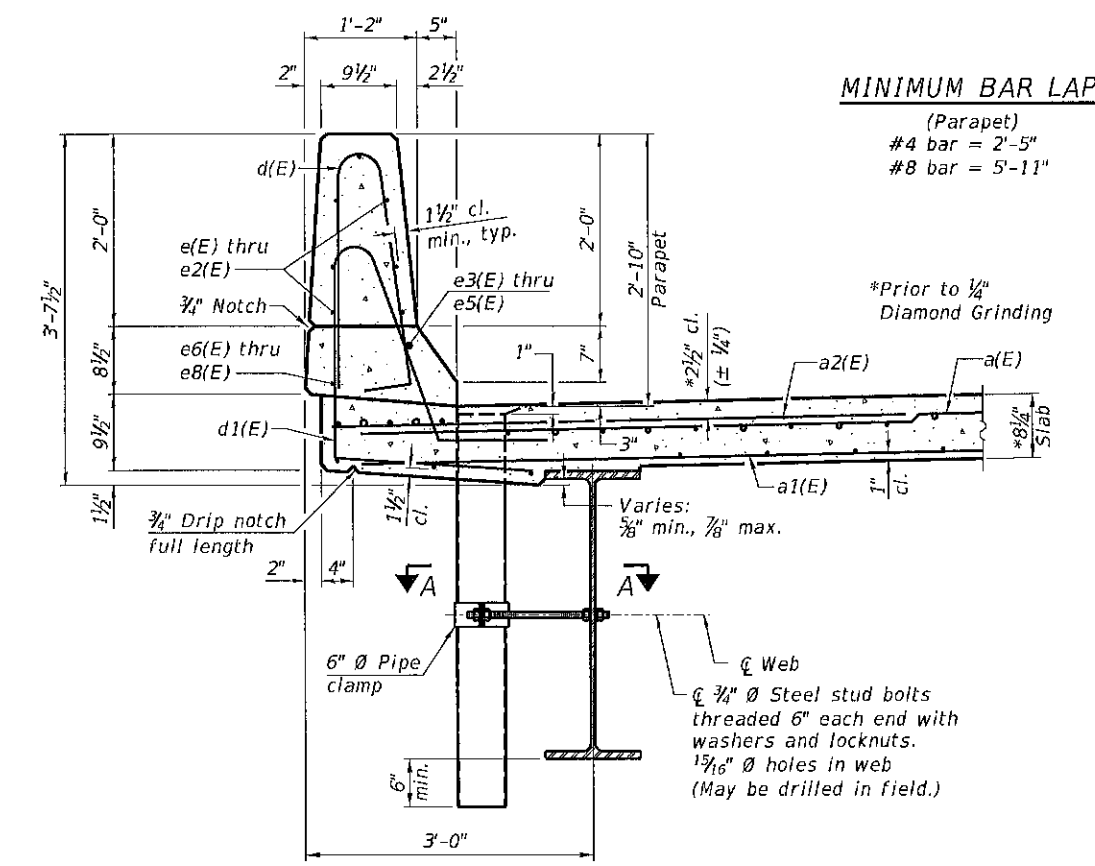
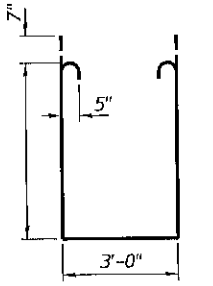
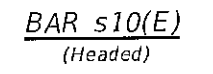
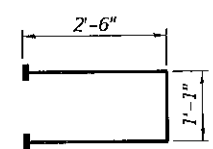
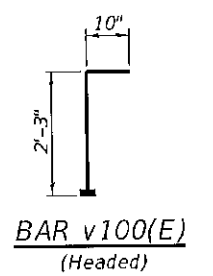
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INSIDE ELEVATION OF PARAPET
West parapet shown (East parapet similar)



PARAPET JOINT DETAILS



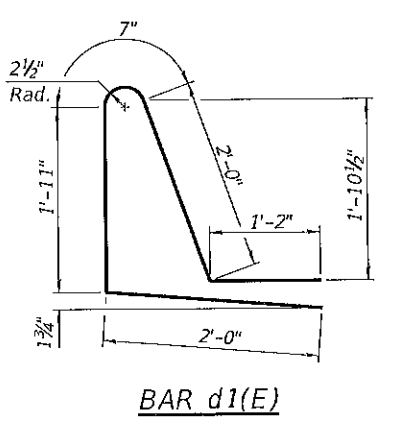
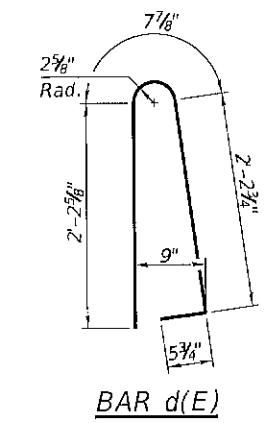
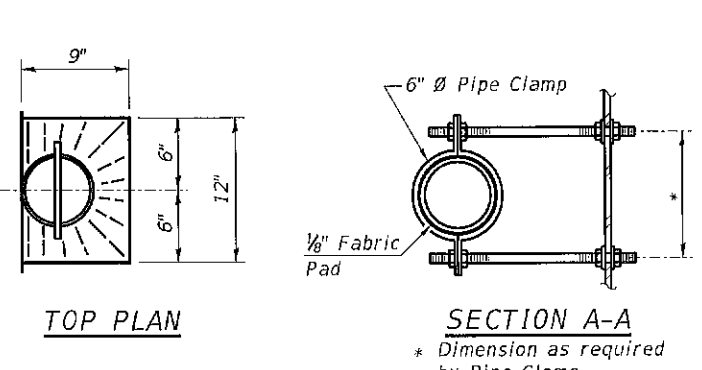
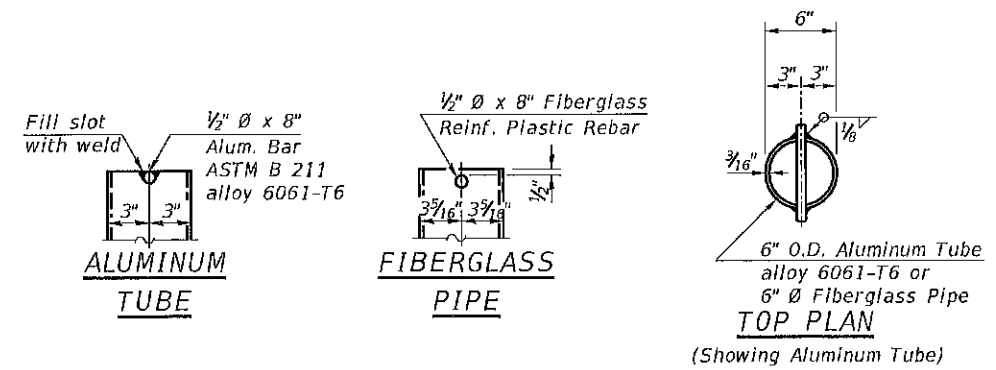
SECTION THRU PARAPET

Notes:
Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
The exterior surfaces of the floor drains shall be painted according to Article 506 with the finish coat as specified. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coatings Spec. SSPC-SP1 prior to painting.
The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete. The clamping device shall be galvanized according to AASHTO M 232. Cost of clamping device included with Floor Drains.
The 1/8" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.
The Polyurethane Sealant shall be non-staining gray one component non-sag elastomeric gun grade meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T with a 3/8" backer rod.
The 1/2" Preformed Self-Expanding Cork Joint Filler shall be according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	207	#5	34'-6"	—
a1(E)	146	#5	34'-6"	—
a2(E)	404	#6	6'-6"	—
a3(E)	8	#5	21'-9"	—
b(E)	195	#5	27'-2"	—
b1(E)	66	#6	30'-0"	—
b2(E)	186	#5	23'-3"	—
d(E)	266	#5	5'-7"	—
d1(E)	266	#5	7'-8"	—
e(E)	56	#4	15'-6"	—
e1(E)	56	#4	5'-9"	—
e2(E)	20	#4	16'-7"	—
e3(E)	8	#8	19'-7"	—
e4(E)	8	#8	5'-9"	—
e5(E)	4	#8	20'-9"	—
e6(E)	8	#4	17'-6"	—
e7(E)	8	#4	5'-9"	—
e8(E)	4	#4	18'-3"	—
m10(E)	12	#6	22'-9"	—
m11(E)	20	#6	6'-6"	—
m12(E)	8	#6	3'-0"	—
m13(E)	24	#5	6'-0"	—
s10(E)	72	#5	6'-1"	—
s11(E)	72	#5	9'-2"	—
v100(E)	68	#5	3'-1"	—
Reinforcement Bars, Epoxy Coated		Lbs.		35,360
Concrete Superstructure		Cu. Yds.		157.9

Bars indicated thus 1x2-#8 etc. indicates 1 line of bars with 2 lengths per line.



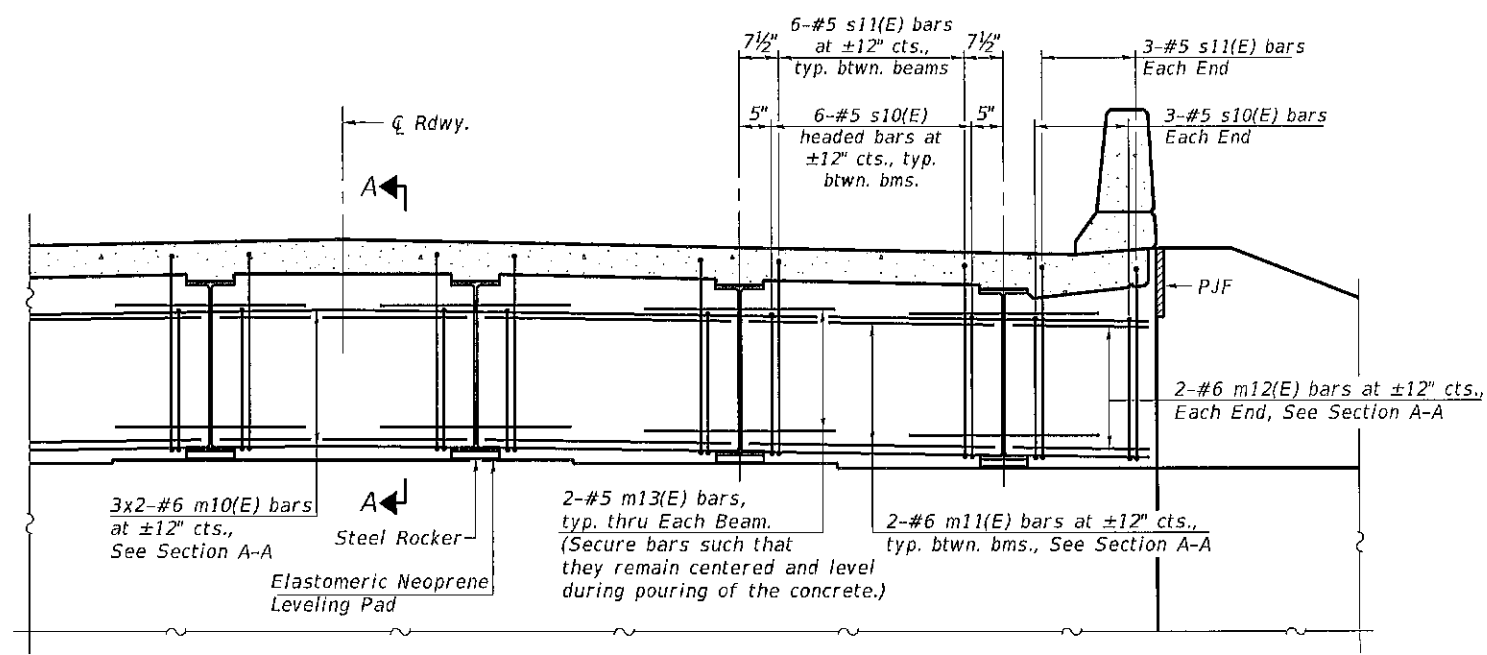
SDI-SB-2 6-15-2019

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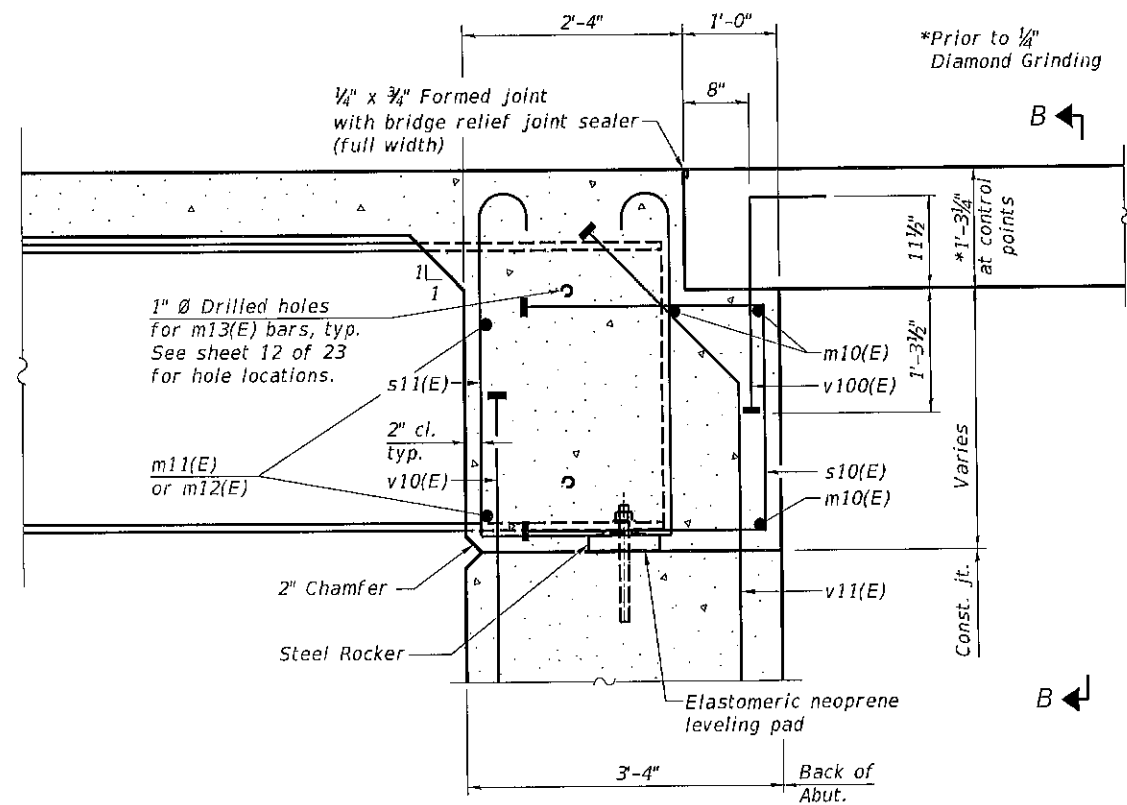
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SUPERSTRUCTURE DETAILS
STRUCTURE NO. 010-4584
SHEET NO. 8 OF 23 SHEETS

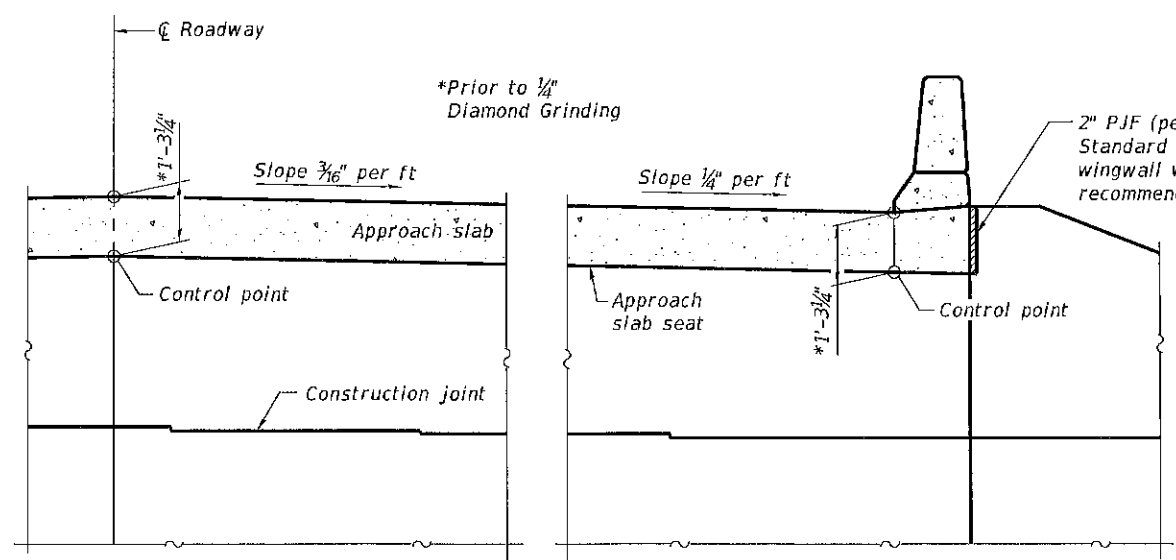
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CH 17	18-00061-00-BR	CHAMPAIGN	35	16
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
[ILLINOIS] FED. AID PROJECT				



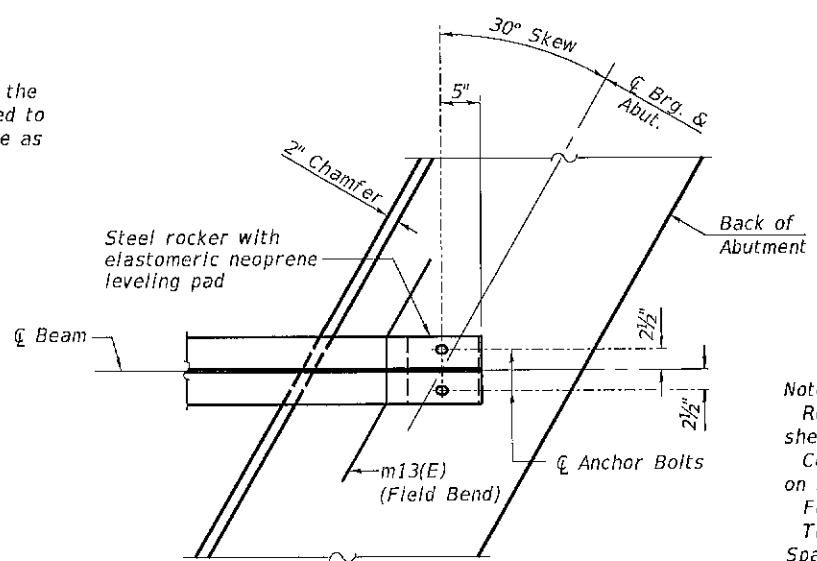
DIAPHRAGM AT ABUTMENT



SECTION A-A
(at Rt. L's)



SECTION B-B



PLAN AT ABUTMENT
(Showing bottom flange of beam)

Notes:
 Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 23.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 23.
 For details of bars s10(E), s11(E) and v100(E) see sheet 8 of 23.
 The s10(E) and s11(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.
 The approach slab seat shall have a constant slope determined from the control points shown.
 For bearing details see sheet 15 of 23.
 Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

FILE NAME = dia-phr-grndgn

DIA-SB2448-L 2-17-2017

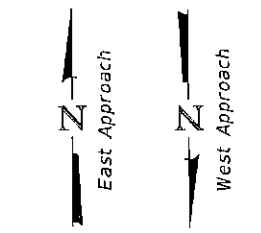
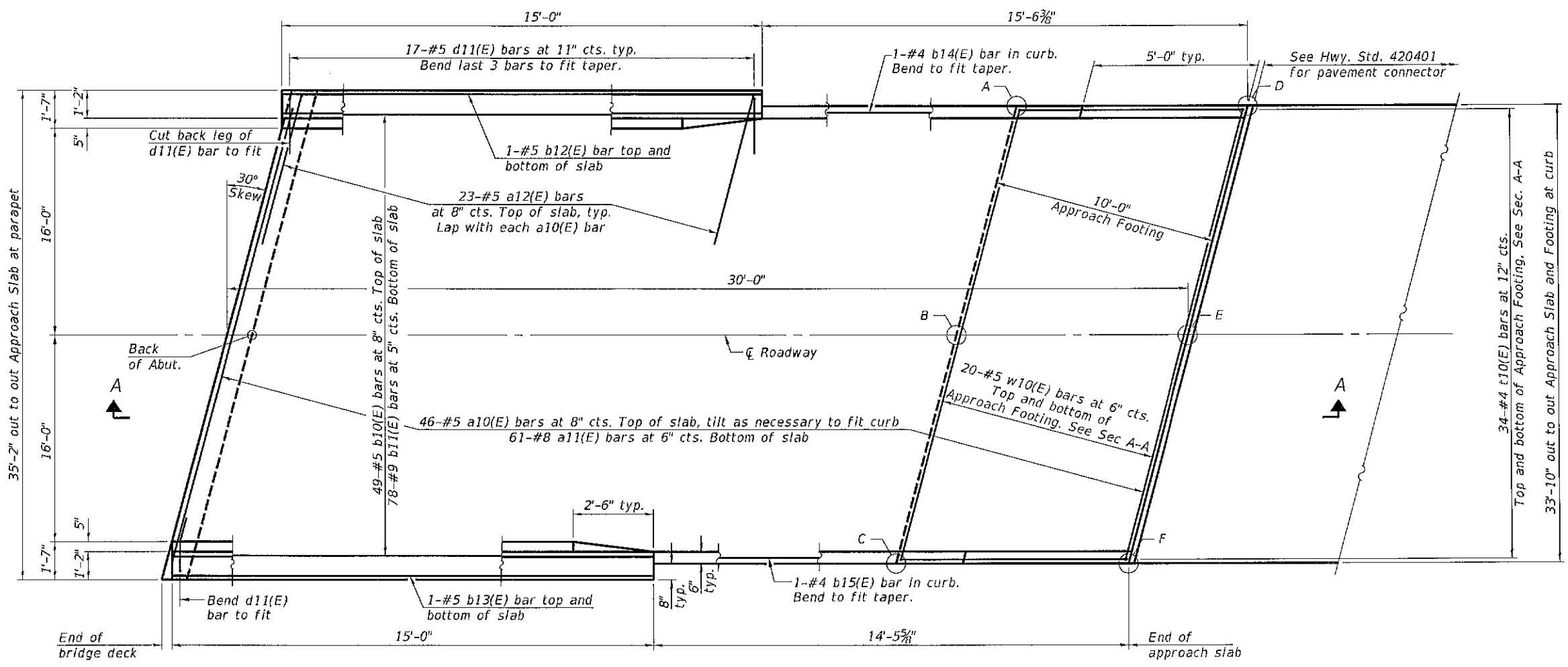
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DIAPHRAGM DETAILS
STRUCTURE NO. 010-4584
 SHEET NO. 9 OF 23 SHEETS

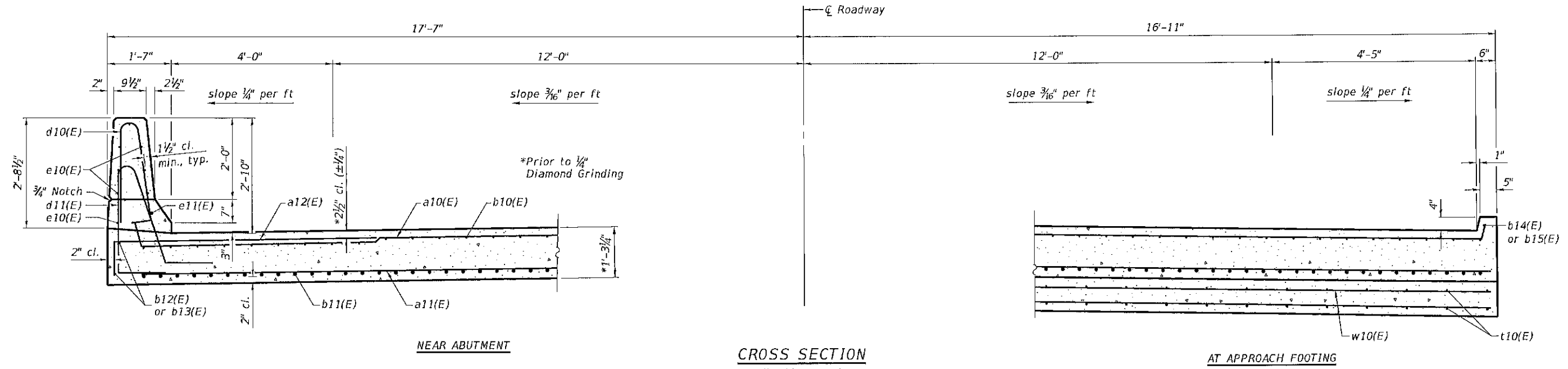
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CH 17	18-00061-00-BR	CHAMPAIGN	35	17
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
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TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

Point	West Approach		East Approach	
	Top	Bottom	Top	Bottom
A	677.38	676.55	677.45	676.62
B	677.73	676.90	677.79	676.96
C	677.49	676.66	677.54	676.71
D	677.32	675.49	677.11	676.28
E	677.66	676.83	677.73	678.90
F	677.43	676.60	677.49	676.66

PLAN
(East approach shown West approach similar)



CROSS SECTION
(Looking East)

BAIA-CIP-34FS-L(≤30°) 8-11-2017

(Sheet 1 of 2)

FILE NAME = appraledbgn

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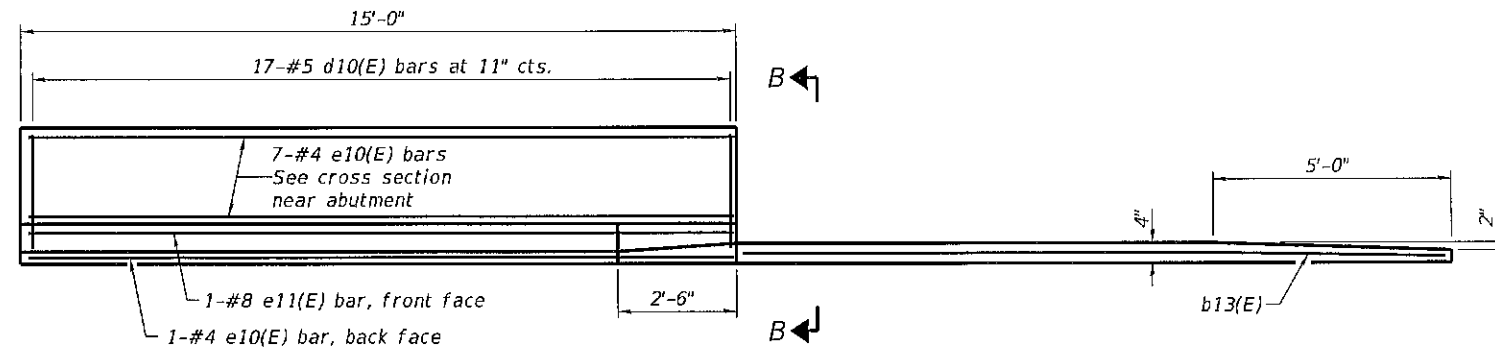
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BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-4584
SHEET NO. 10 OF 23 SHEETS

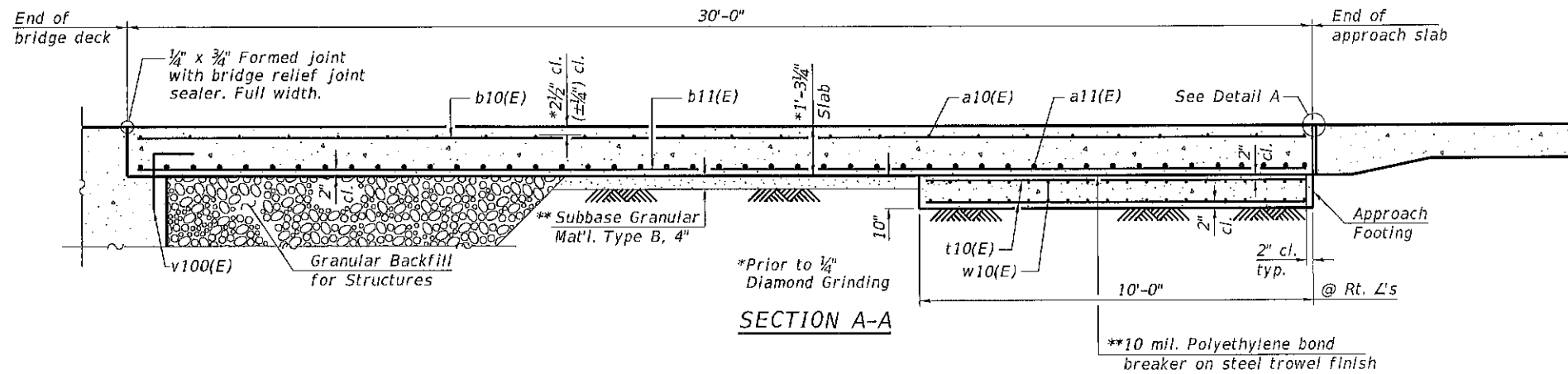
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STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
ILLINOIS FED. AID PROJECT				

Notes:

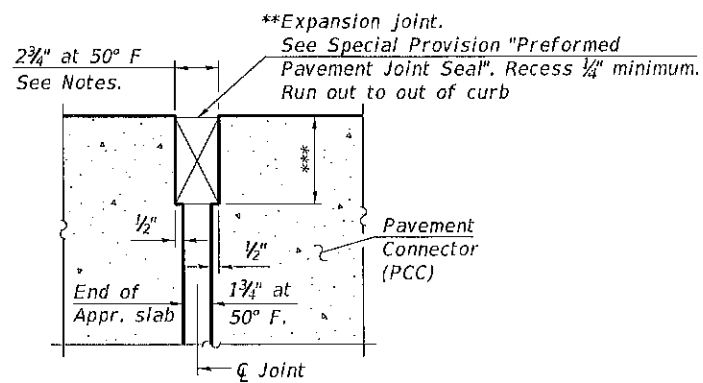
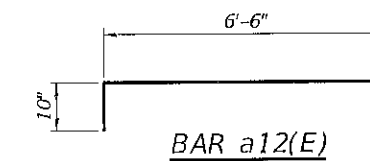
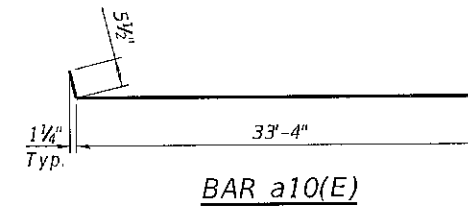
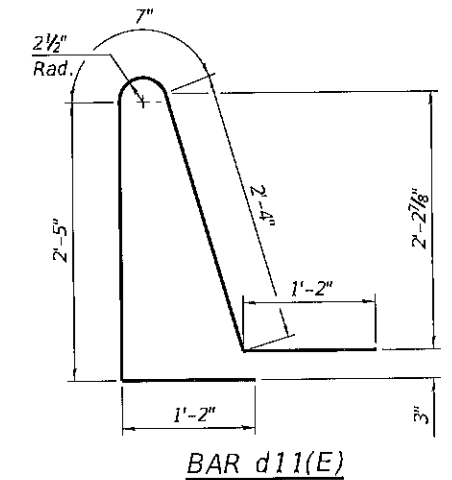
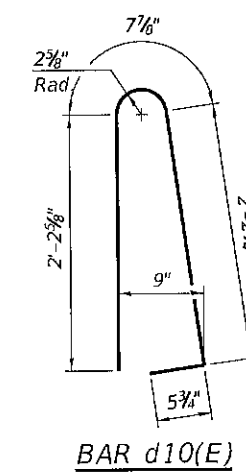
The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.
 Parapet concrete shall be paid for as Concrete Superstructure.
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet of



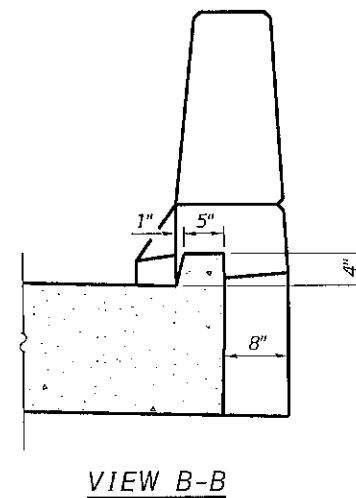
INSIDE ELEVATION OF PARAPET AND CURB



SECTION A-A



DETAIL A
(@ Rt. L's)



VIEW B-B

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	92	#5	38'-10"	U
a11(E)	122	#8	38'-8"	U
a12(E)	92	#5	7'-4"	U
b10(E)	98	#5	29'-8"	—
b11(E)	156	#9	29'-8"	—
b12(E)	4	#5	14'-8"	—
b13(E)	4	#5	14'-8"	—
b14(E)	2	#4	15'-2"	—
b15(E)	2	#4	14'-1"	—
d10(E)	68	#5	5'-7"	U
d11(E)	68	#5	7'-8"	U
e10(E)	32	#4	14'-8"	—
e11(E)	4	#8	14'-8"	—
t10(E)	136	#4	11'-2"	—
w10(E)	80	#5	38'-8"	—
Concrete Superstructure		Cu. Yd.	6.7	
Concrete Superstructure (Approach Slab)		Cu. Yd.	101.0	
Concrete Structures		Cu. Yd.	24.1	
Reinforcement Bars, Epoxy Coated		Pound	41,600	

** Cost included with Concrete Superstructure (Approach Slab).

*** Per manufacturer recommendations

BAIA-CIP-34FS-L(≤30°) 8-11-2017

(Sheet 2 of 2)

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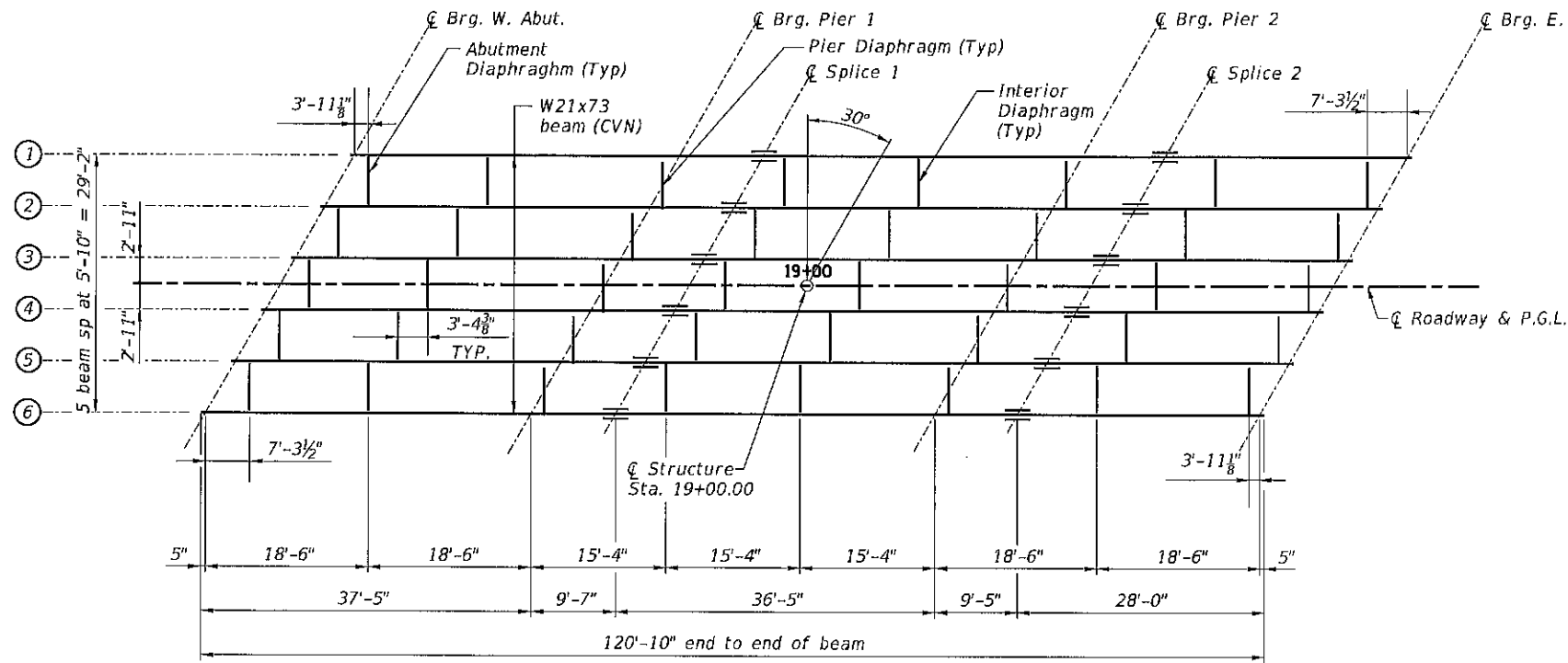
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BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-4584

SHEET NO. 11 OF 23 SHEETS

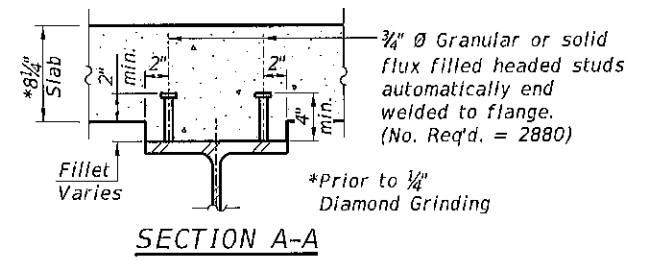
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STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
ILLINOIS FED. AID PROJECT				



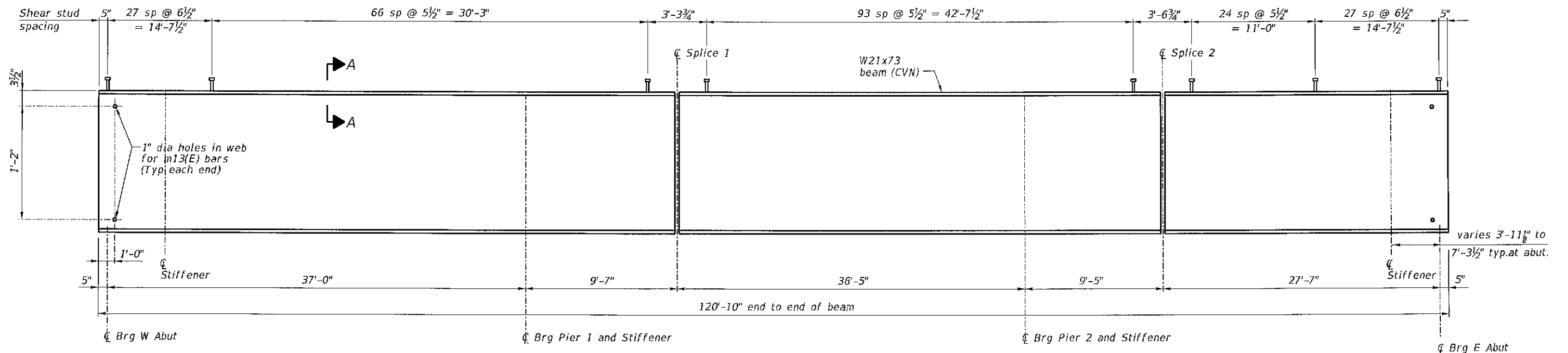
FRAMING PLAN

TOP OF BEAM ELEVATIONS
For Fabrication Only

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
☉ Brg. West Abut.	678.16	678.25	678.33	678.31	678.21	678.09
☉ Brg. Pier 1	678.26	678.36	678.45	678.44	678.34	678.23
☉ Splice 1	678.26	678.37	678.46	678.46	678.36	678.25
☉ Brg. Pier 2	678.25	678.36	678.46	678.46	678.38	678.27
☉ Splice 2	678.23	678.34	678.44	678.45	678.36	678.26
☉ Brg. East Abut.	678.14	678.26	678.36	678.38	678.30	678.20



SECTION A-A



BEAM ELEVATION

NOTES:

All girders, splice plates, diaphragms and bearing stiffeners shall be AASHTO M270 Grade 50W.
Load carrying components designated "CVN" shall conform to the Impact Testing Requirement, Zone 2.
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

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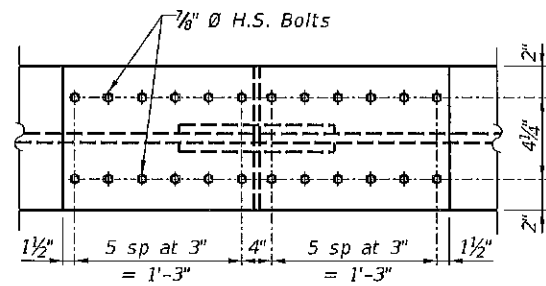
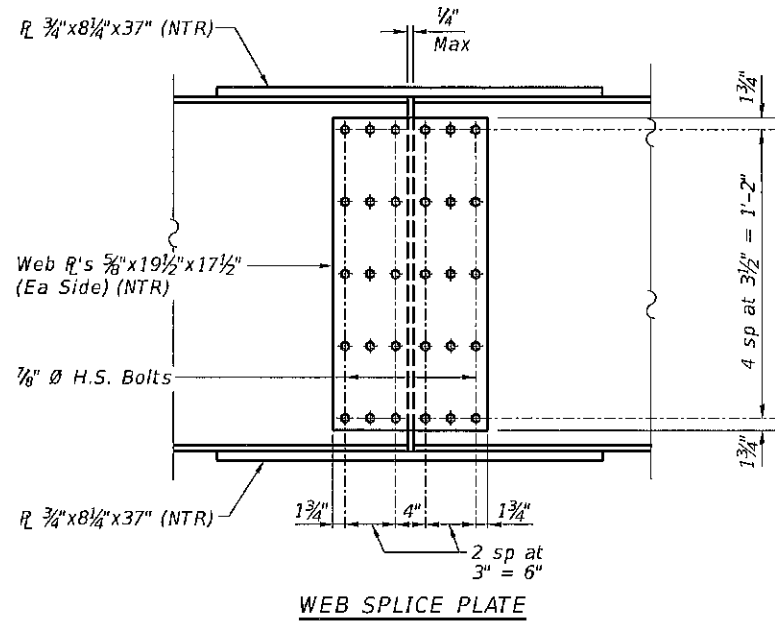
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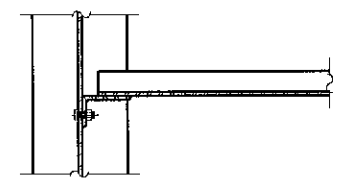
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FRAMING PLAN AND DETAILS
STRUCTURE NO. 010-4584
SHEET NO. 12 OF 23 SHEETS

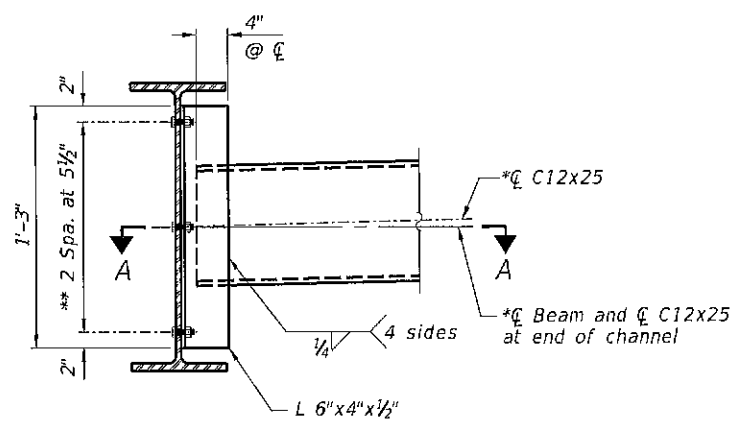
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CH 17	18-00061-00-BR	CHAMPAIGN	35	20
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
ILLINOIS FED. AID PROJECT				



TOP & BOTTOM FLANGE SPLICE PLATE
FIELD SPLICE DETAILS



SECTION A-A



INTERIOR DIAPHRAGM

Note:
Two hardened washers required for each set of oversized holes.
*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.
**3/4" } HS bolts, 1 1/8" } holes

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FRAMING DETAILS
STRUCTURE NO. 010-4584
SHEET NO. 13 OF 23 SHEETS

FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	21
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
ILLINOIS FED. AID PROJECT				

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	(in ⁴)	1600	1600	1600
$I_c(n)$	(in ⁴)	5585	5585	5585
$I_c(3n)$	(in ⁴)	4126	4126	4126
$I_c(cr)$	(in ⁴)	--	2673	--
S_s	(in ³)	151	151	151
$S_c(n)$	(in ³)	255.5	255.5	255.5
$S_c(3n)$	(in ³)	228.5	228.5	228.5
$S_c(cr)$	(in ³)	--	212.1	--
DC1	(k/')	0.675	0.675	0.675
M _{DC1}	(k)	64.14	117.84	60.76
DC2	(k/')	0.150	0.150	0.150
M _{DC2}	(k)	14.25	26.18	13.50
DW	(k/')	0.292	0.292	0.292
M _{DW}	(k)	27.71	50.90	26.25
LLDF		0.601	0.601	0.601
M _{ℓ + IM}	(k)	291.56	263.00	304.03
M _u (Strength I)	(k)	649.79	716.62	664.25
φ _r M _n	(k)	1393.09	1393.09	1393.09
f _s DC1	(ksi)	5.10	9.36	4.83
f _s DC2	(ksi)	0.75	1.48	0.71
f _s DW	(ksi)	1.46	2.67	1.38
f _s (ℓ+IM)	(ksi)	13.69	14.88	14.28
f _s (Service II)	(ksi)	25.10	32.86	25.48
0.95R _h F _{yf}	(ksi)	47.50	47.50	47.50
f _s (Total)(Strength I)	(ksi)	33.45	43.60	33.45
φ _r F _n	(ksi)	50.00	50.00	50.00
V _r	(k)			

INTERIOR GIRDER REACTION TABLE		
	Abutment	Pier 1 or Pier 2
LLDF	0.601	0.601
OCF	1.12	1.12
R _{DC1}	(k) 9.31	31.21
R _{DC2}	(k) 2.07	6.93
R _{DW}	(k) 4.03	13.50
R _ℓ	(k) 35.78	57.53
R _{IM}	(k) 10.05	7.20
R _{Total}	(k) 61.24	116.37

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f (Total-Strength I, and Service II) due to non-composite dead loads (in. and³in.).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in. and³in.).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in⁴ and in³).

$I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in. and³in.).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{ℓ + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{ℓ + IM}

φ_r M_n: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
M_{DC2} / S_{d(3n)} or M_{DC2} / S_(cr) as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
M_{DW} / S_{d(3n)} or M_{DW} / S_(cr) as applicable.

f_s (ℓ+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
M_{ℓ + IM} / S_(n) or M_{DW} / S_(cr) as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (ℓ + IM)

0.95R_hF_{yf}: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (f_s DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s (ℓ + IM)

φ_r F_n: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_r: Maximum factored shear range in span computed according to Article 6.10.10.

LLDF: Live Load Distribution Factor

OCF: Obtuse Correction Factor

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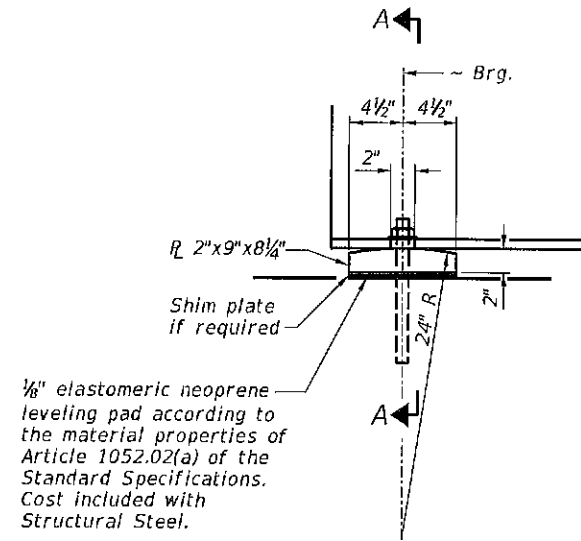
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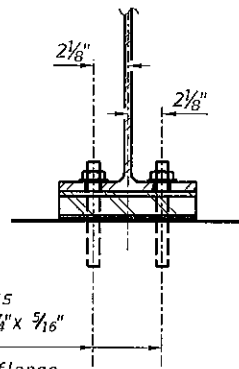
MOMENT TABLES
STRUCTURE NO. 010-4584
 SHEET NO. 14 OF 23 SHEETS

FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	22
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
ILLINOIS FED. AID PROJECT				



1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.

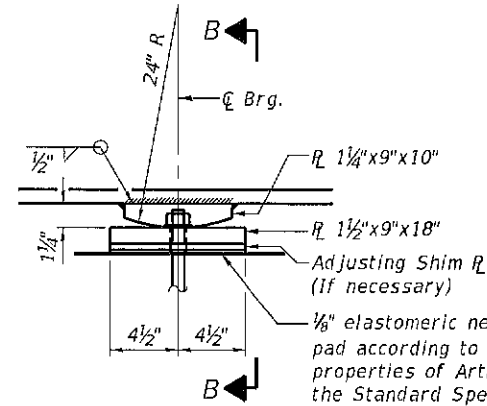
ELEVATION AT ABUTMENT



1" \varnothing x 14" anchor bolts (Grade 36) with 2 1/4" x 2 1/4" x 5/16" R washer under nut. 1 3/8" x 2" slotted hole in flange. 1 1/2" \varnothing holes in bearing plate.

SECTION A-A

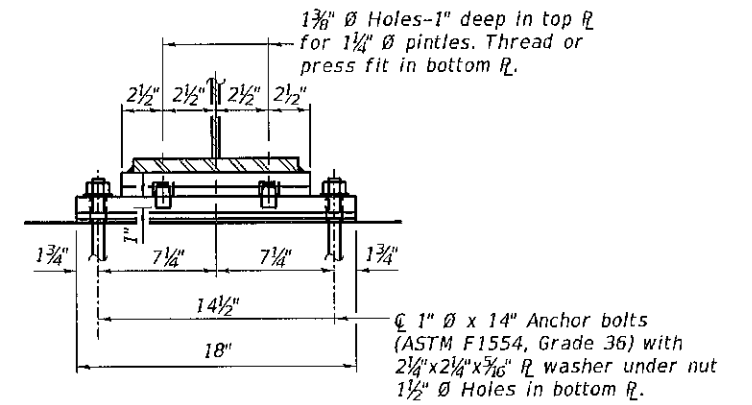
FIXED BEARING
(12 Required)



1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.

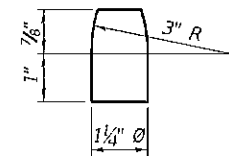
ELEVATION AT PIER

FIXED BEARING
(12 Required)



1" \varnothing x 14" Anchor bolts (ASTM F1554, Grade 36) with 2 1/4" x 2 1/4" x 5/16" R washer under nut. 1 1/2" \varnothing Holes in bottom R.

SECTION B-B



PINTLE

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

Anchor bolts shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50W.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	48

FILE NAME = bearing.dgn

USER NAME = USER	DESIGNED <i>KEB</i>	REVISED -
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PLOT SCALE = 2 1/2" = 1' / in.	CHECKED <i>BCG</i>	REVISED -
PLOT DATE = 1/28/2021	DATE <i>8/12/20</i>	REVISED -

CHASTAIN & ASSOCIATES LLC
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BEARING DETAILS
STRUCTURE NO. 010-4584

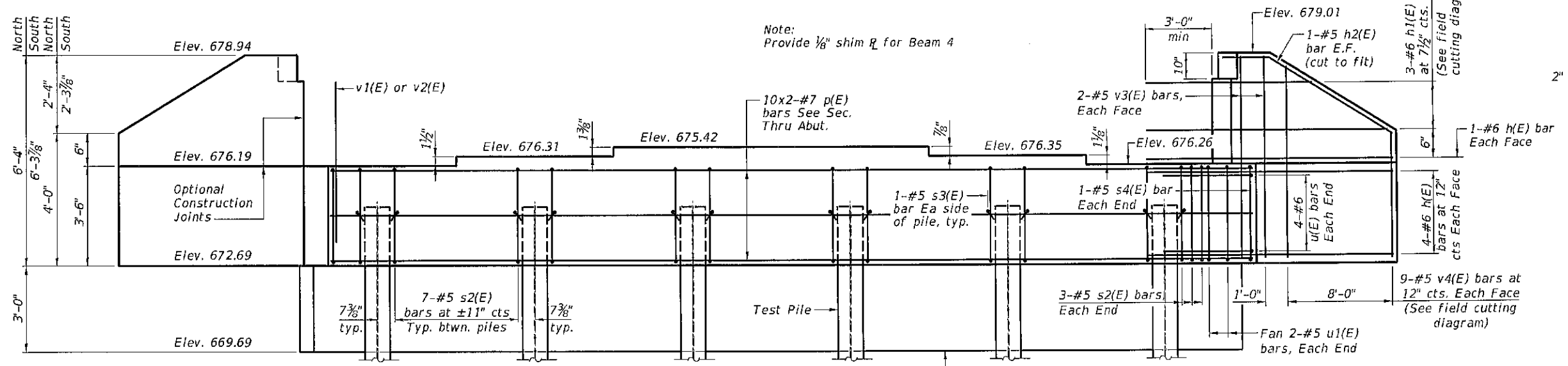
SHEET NO. 15 OF 23 SHEETS

FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	23
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	

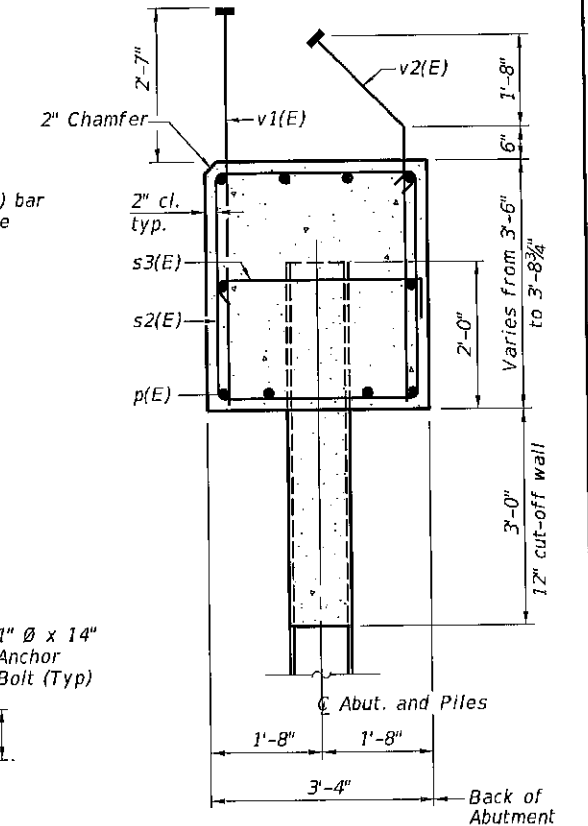
ILLINOIS FED. AID PROJECT

Notes:
Pour steps monolithically with cap.

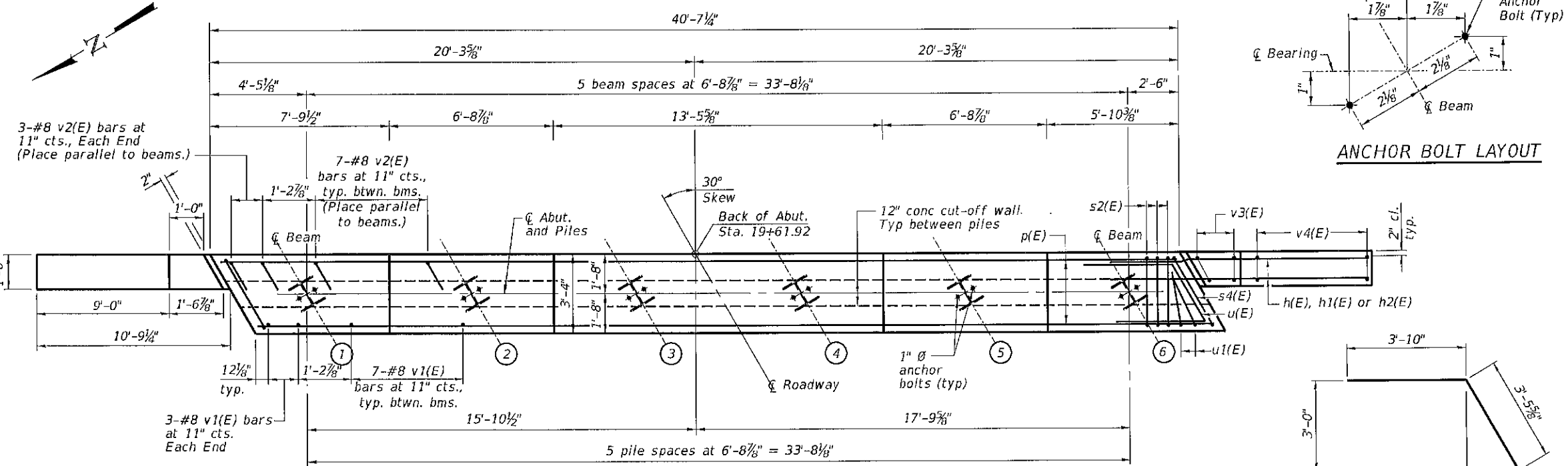
Note:
Provide 1/8" shim R for Beam 4



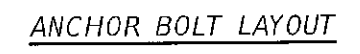
ELEVATION
(Looking East)



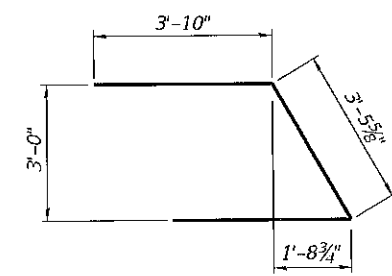
SEC. THRU ABUT.



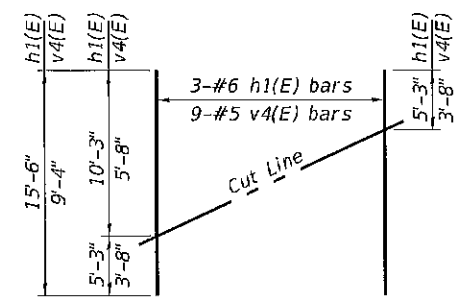
PLAN



ANCHOR BOLT LAYOUT

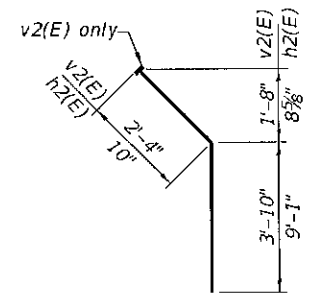


BAR u(E)

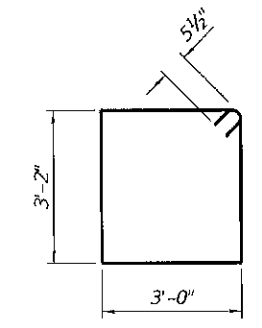


FIELD CUTTING DIAGRAM

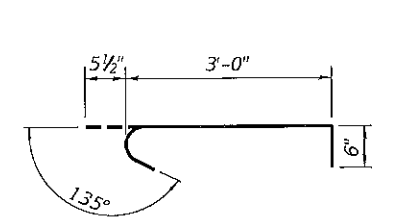
Order h1(E) and v4(E) full length. Cut as shown and use remainder of bars in opposite face.



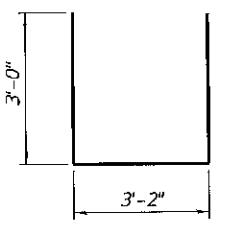
BAR v2(E) & h2(E)



BAR s2(E)



BAR s3(E)



BAR u1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	20	#6	13'-7"	—
h1(E)	6	#6	15'-6"	—
h2(E)	4	#5	9'-11"	—
p(E)	20	#7	23'-3"	—
s2(E)	41	#5	13'-3"	□
s3(E)	12	#5	4'-0"	□
s4(E)	2	#5	14'-1"	□
u(E)	8	#6	11'-2"	—
u1(E)	4	#5	9'-2"	—
v1(E)	41	#8	5'-11"	—
v2(E)	41	#8	6'-2"	—
v3(E)	8	#5	5'-11"	—
v4(E)	18	#5	9'-4"	—
Structure Excavation		Cu. Yd.	106	
Concrete Structures		Cu. Yd.	22.3	
Reinforcement Bars, Epoxy Coated		Pound	3,900	
Furnishing Steel Piles HP12x74		Foot	175	
Driving Piles		Foot	175	
Test Pile Steel HP12x74		Each	1	
Pile Shoes		Each	6	
Concrete Cut-off Wall		Cu. Yd.	4.5	

For details of piles see sheet 20 of 23.

PILE DATA
Type: Steel HP12x74
Nominal Required Bearing: 177k
Factored Resistance Available: 98k
Est. Length: 35'
No. Production Piles: 5
No. Test Piles: 1

AI-2440-L

2-17-2017

USER NAME = .USER.	DESIGNED KEB	REVISED -
PLDT TIME = 3:20:33 PM	DRAWN RLK	REVISED -
PLDT SCALE = 2.0000 ' / 1"	CHECKED BCG	REVISED -
PLDT DATE = 1/26/2021	DATE 8/12/20	REVISED -

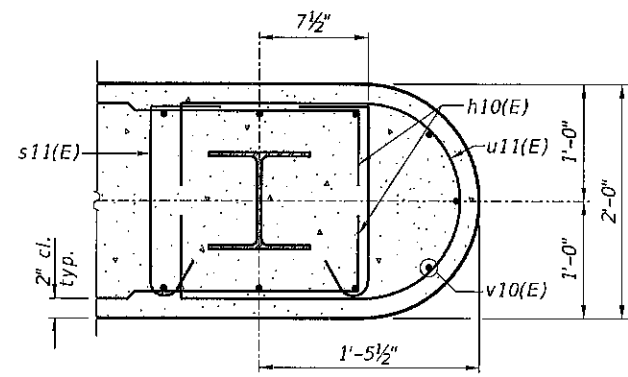
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DRAWN RLK	REVISED -
CHECKED BCG	REVISED -
DATE 8/12/20	REVISED -

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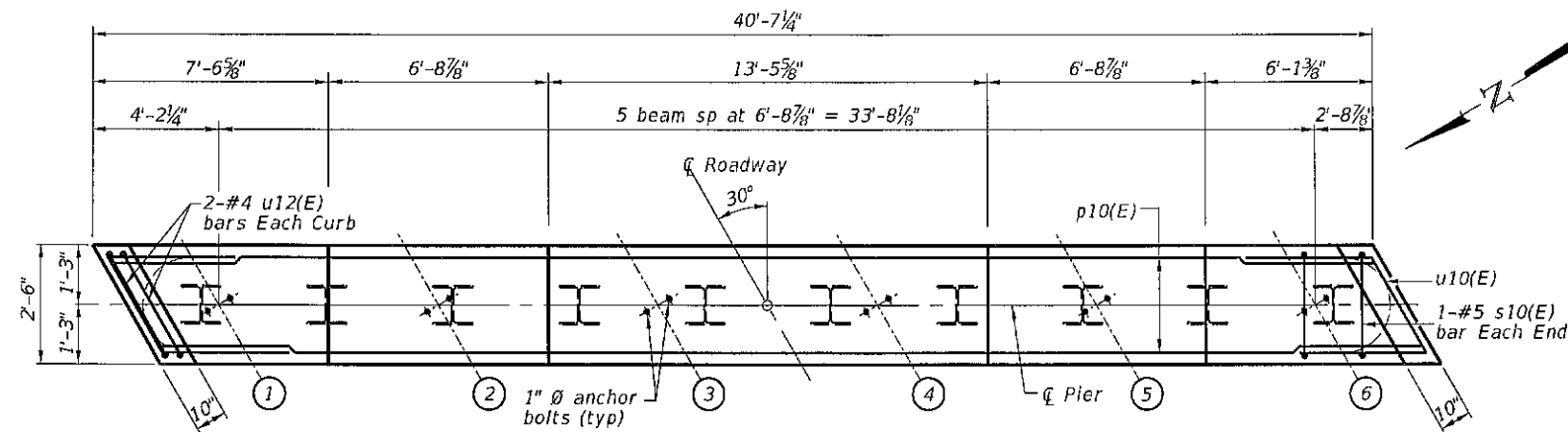
DECATUR, IL SCHAUMBURG, IL
ROCKFORD, IL CHAMPAIGN, IL
BENTON, IL LAFAYETTE, IN
PADUCAH, KY
(833) 424-2782 184-001397

EAST ABUTMENT DETAILS
STRUCTURE NO. 010-4584
SHEET NO. 17 OF 23 SHEETS

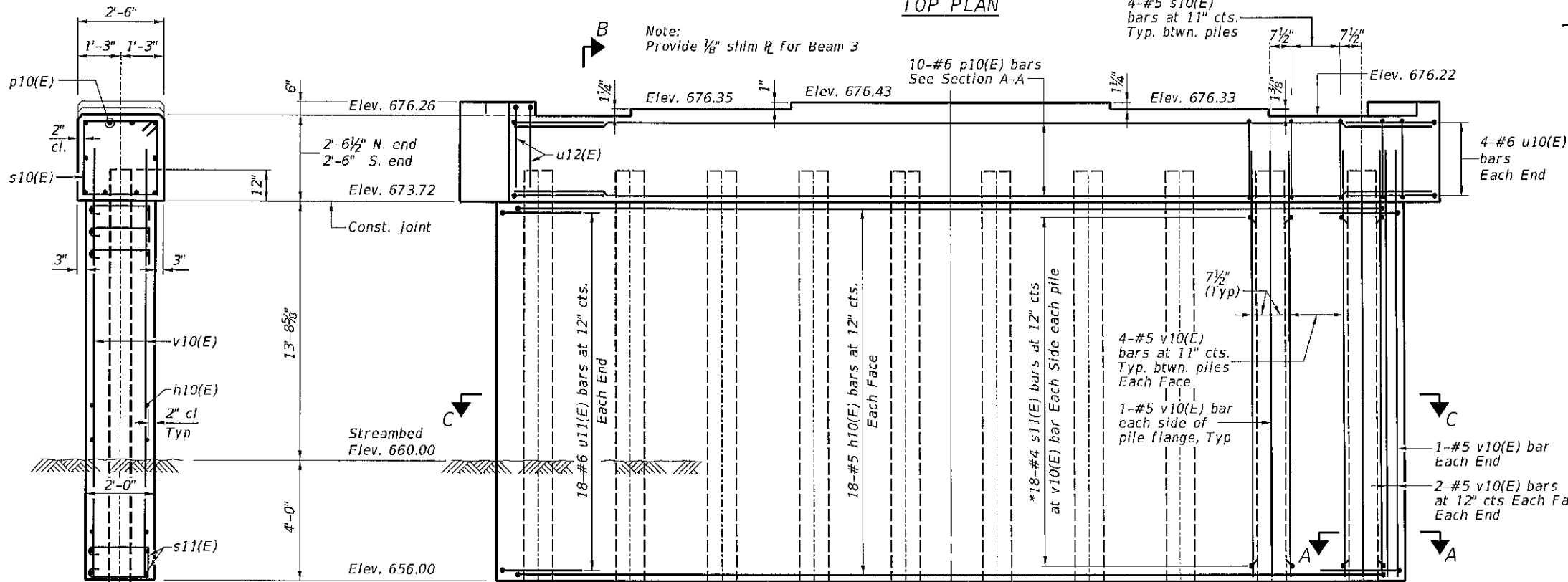
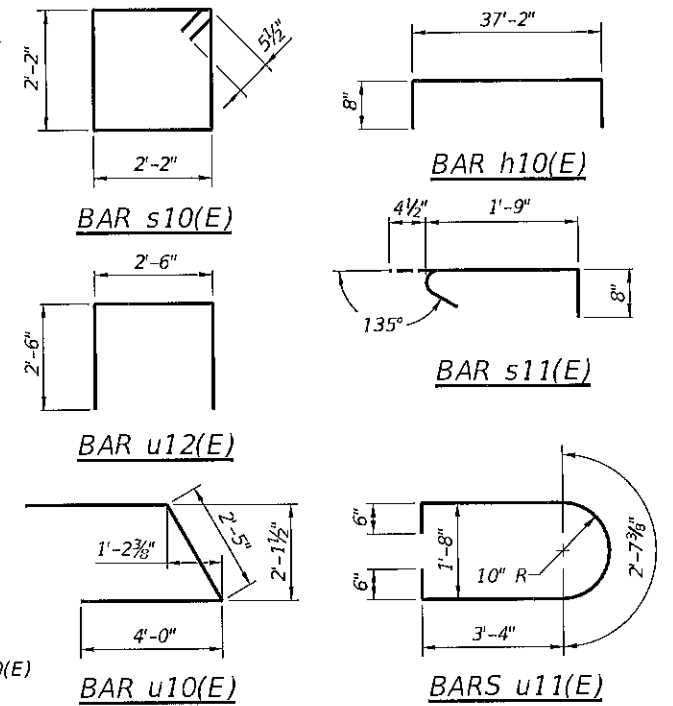
FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	25
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
ILLINOIS FED. AID PROJECT				



SECTION A-A



TOP PLAN

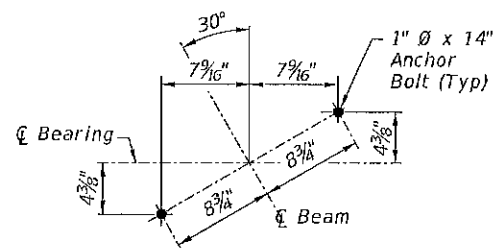


ELEVATION
(Looking East)

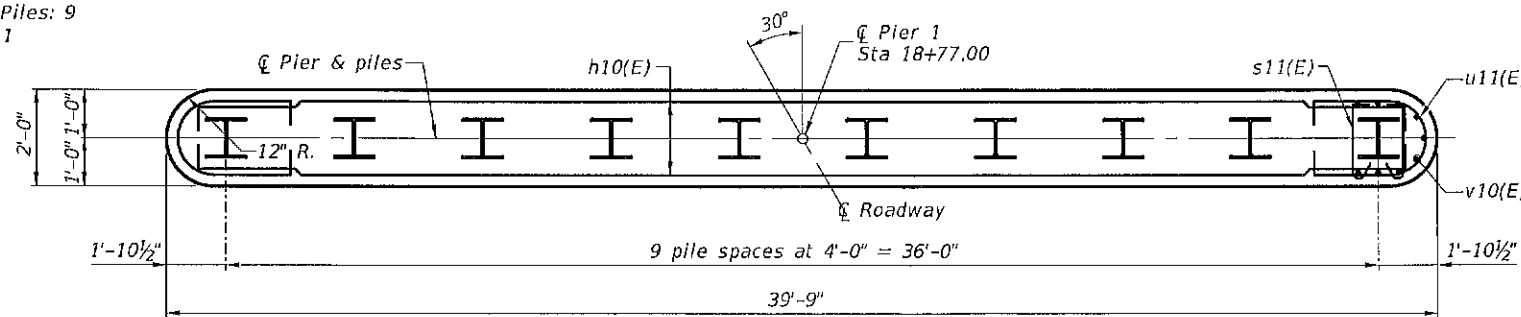
PILE DATA

Type: Steel HP12x74
 Nominal Required Bearing: 212 kips
 Factored Resistance Available: 117 kips
 Est. Length: 45'
 No. Production Piles: 9
 No. Test Piles: 1

SECTION B-B



ANCHOR BOLT LAYOUT



SECTION C-C

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h10(E)	36	#5	38'-6"	□
p10(E)	20	#6	22'-0"	—
s10(E)	38	#5	9'-7"	□
s11(E)	360	#4	2'-10"	□
u10(E)	8	#6	10'-5"	□
u11(E)	36	#6	10'-4"	□
u12(E)	4	#4	7'-2"	□
v10(E)	102	#5	19'-6"	—
Structure Excavation	Cu. Yd.		38.9	
Concrete Structures	Cu. Yd.		61.5	
Reinforcement Bars, Epoxy Coated	Pound		5,950	
Furnishing Steel Piles, HP12x74	Foot		405	
Driving Piles	Foot		405	
Test Pile, Steel HP12x74	Each		1	
Pile Shoes	Each		10	
Cofferdam (Type 2) (Location 1)	Each		1	

Notes:

If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed underwater in forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.

Pour steps monolithically with cap.

For details of piles see sheet 20 of 23.

All edges shall have standard 3/4" chamfer.

Space reinforcement in cap to miss anchor bolts.

FILE NAME = pier1.dgn

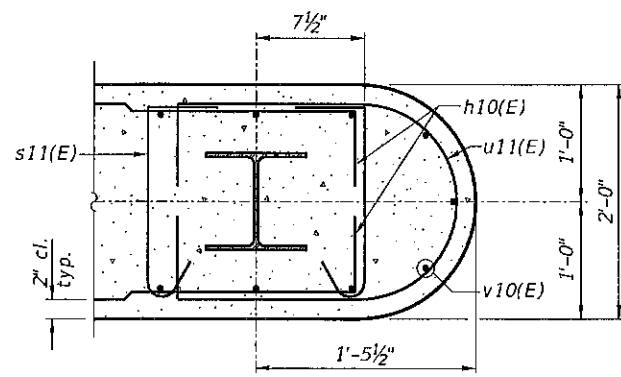
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PLOT SCALE = 2.0000 1/16"	CHECKED <i>BCG</i>	REVISED -
PLOT DATE = 1/26/2021	DATE <i>8/12/20</i>	REVISED -

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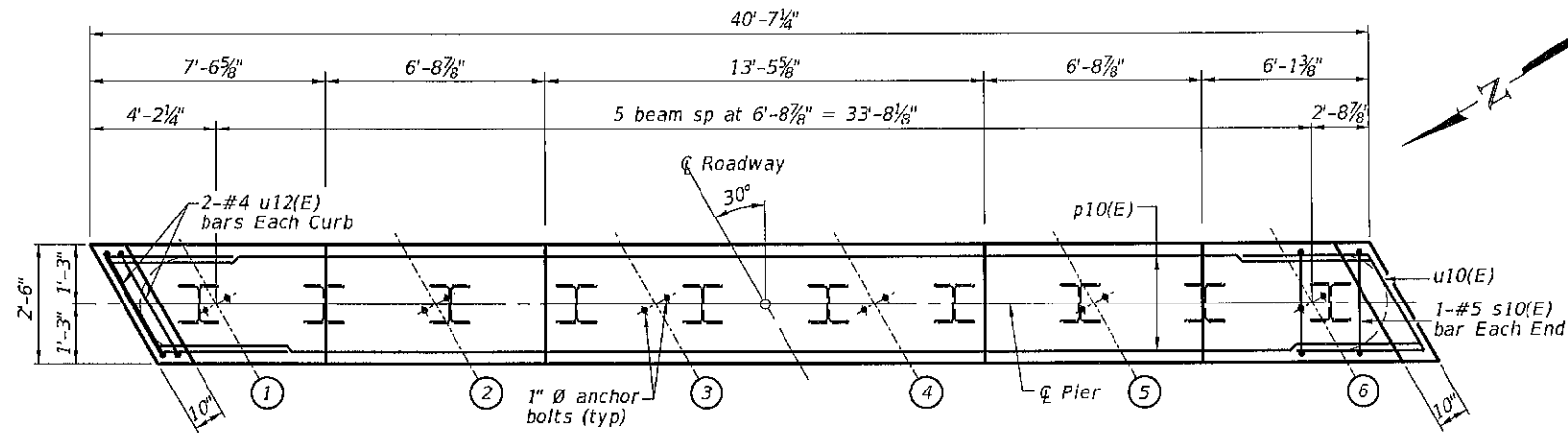
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 BENTON, IL LAFAYETTE, IL
 PADUCAH, KY
 (833) 424-2782 184-001397

PIER 1 DETAILS
 STRUCTURE NO. 010-4584
 SHEET NO. 18 OF 23 SHEETS

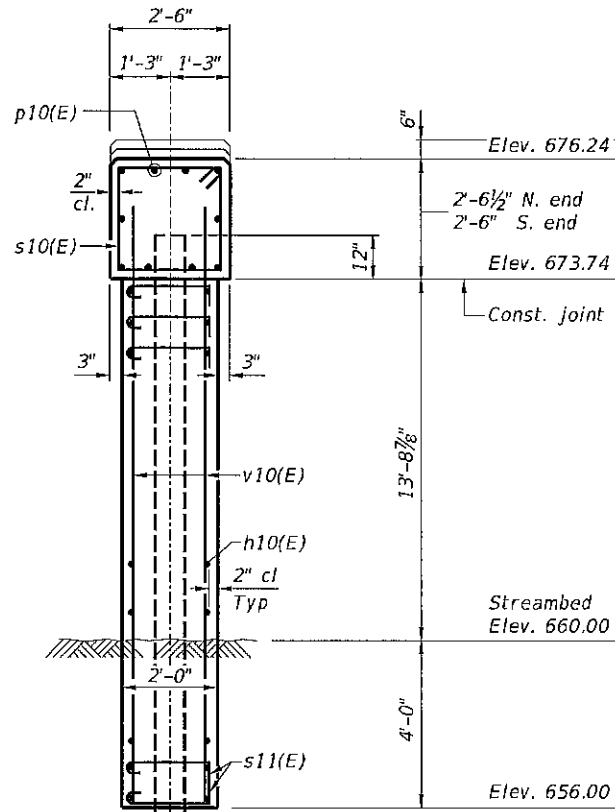
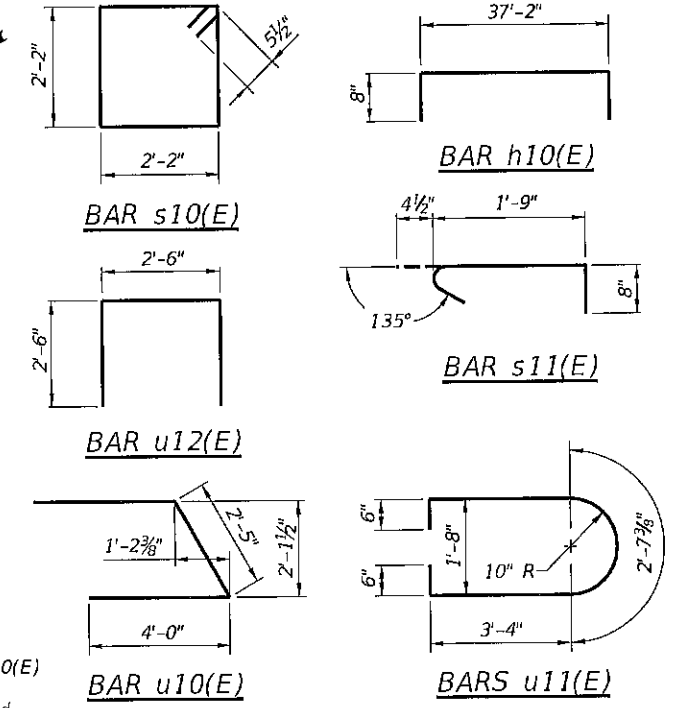
FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	26
STRUCTURE NO. 010-4584		CONTRACT NO. 91601		
ILLINOIS FED. AID PROJECT				



SECTION A-A



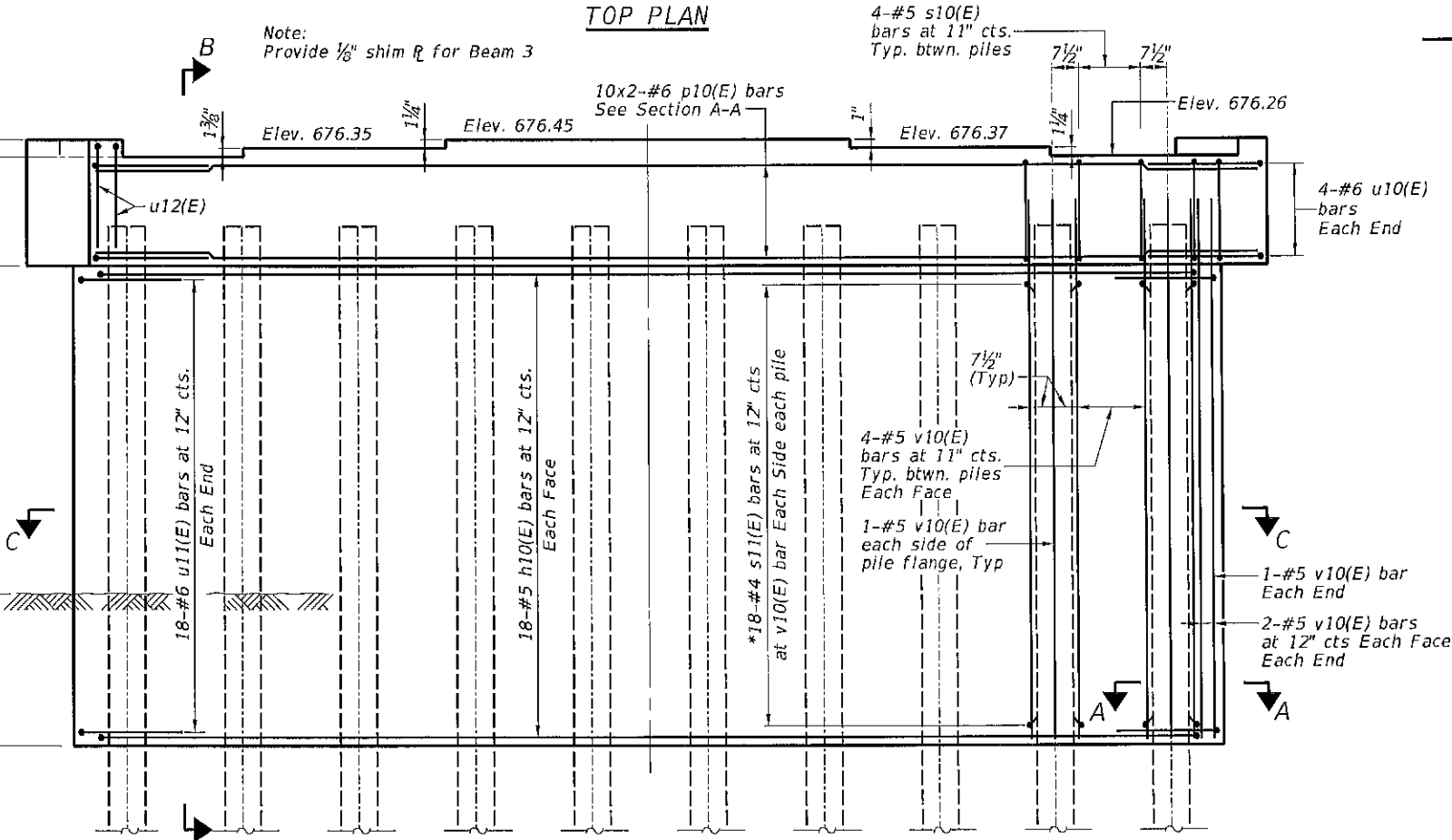
TOP PLAN



SECTION B-B

PILE DATA

Type: Steel HP12x74
 Nominal Required Bearing: 212 kips
 Factored Resistance Available: 117 kips
 Est. Length: 45'
 No. Production Piles: 9
 No. Test Piles: 1

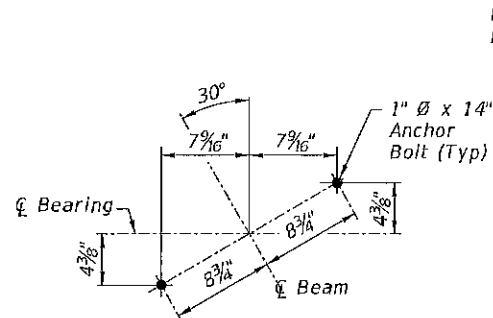


ELEVATION
(Looking East)

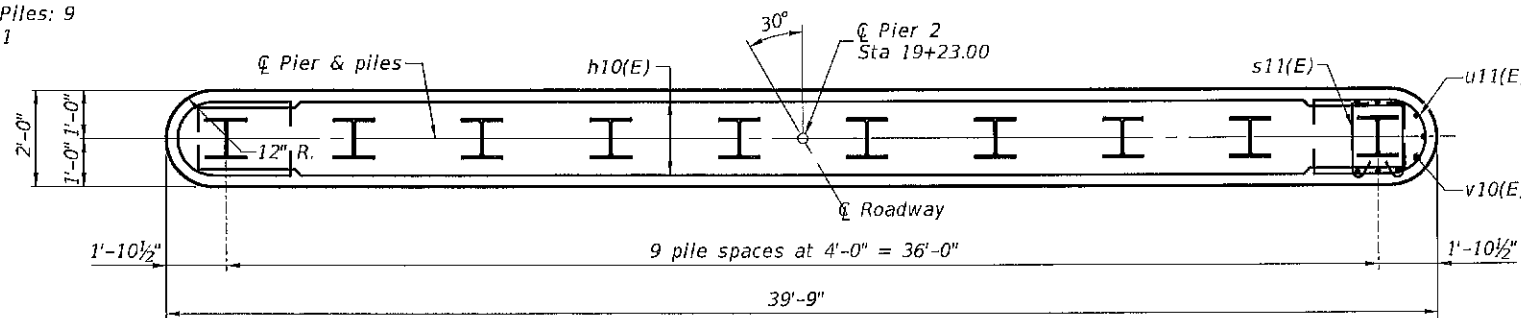
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h10(E)	36	#5	38'-6"	U
p10(E)	20	#6	22'-0"	—
s10(E)	38	#5	9'-7"	□
s11(E)	360	#4	2'-10"	U
u10(E)	8	#6	10'-5"	U
u11(E)	36	#6	10'-4"	U
u12(E)	4	#4	7'-2"	U
v10(E)	102	#5	19'-6"	—
Structure Excavation		Cu. Yd.	38.9	
Concrete Structures		Cu. Yd.	61.5	
Reinforcement Bars, Epoxy Coated		Pound	5,950	
Furnishing Steel Piles, HP12x74		Foot	405	
Driving Piles		Foot	405	
Test Pile, Steel HP12x74		Each	1	
Pile Shoes		Each	10	
Cofferdam (Type 2) (Location 2)		Each	1	

Notes:
 If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed underwater in forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.
 Pour steps monolithically with cap.
 For details of piles see sheet 20 of 23.
 All edges shall have standard 3/4" chamfer.
 Space reinforcement in cap to miss anchor bolts.



ANCHOR BOLT LAYOUT



SECTION C-C

FILE NAME = pier2.dgn

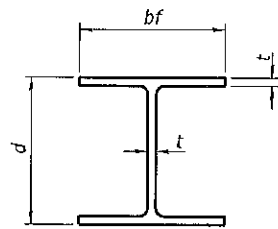
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PLOT DATE = 1/20/2021	DATE 8/12/20	REVISED -

CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS

DECATUR, IL SCHAUMBURG, IL
 ROCKFORD, IL CHICAGO, IL
 BENTON, IL LA SALLE, IL
 PADUCAH, KY

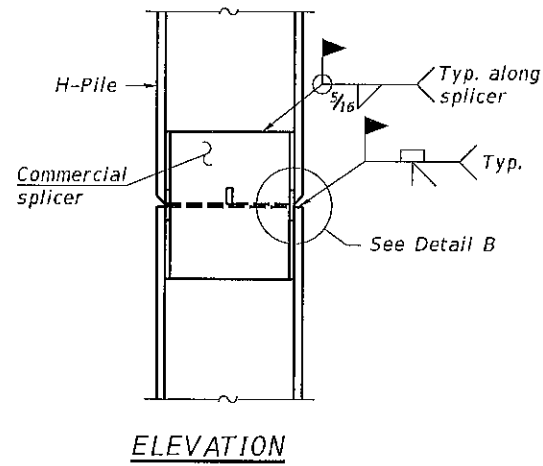
PIER 2 DETAILS
 STRUCTURE NO. 010-4584
 SHEET NO. 19 OF 23 SHEETS

FAU RYE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	10-00061-00-BR	CHAMPAIGN	35	27
STRUCTURE NO. 010-4584		CONTRACT NO. 91601		
ILLINOIS FED. AID PROJECT				

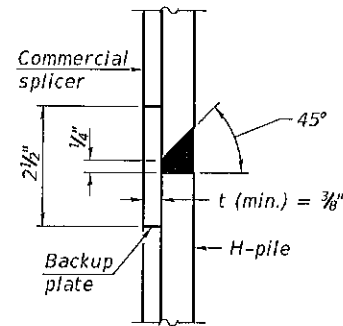


STEEL PILE TABLE

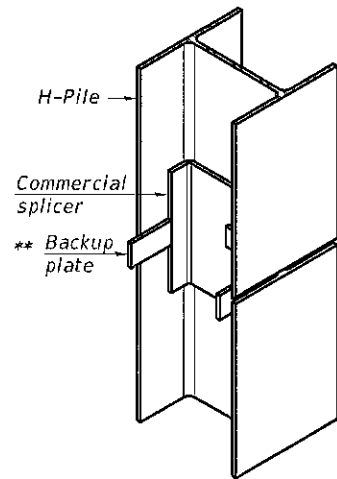
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 3/4"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 3/4"	1/2"	30"
HP 12x84	12 1/4"	12 1/2"	1 1/16"	24"
x74	12 1/8"	12 1/2"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

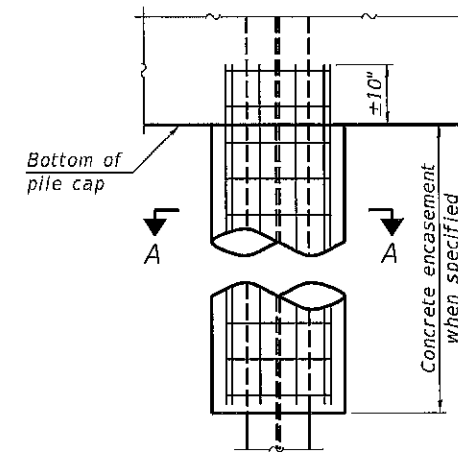


DETAIL "B"

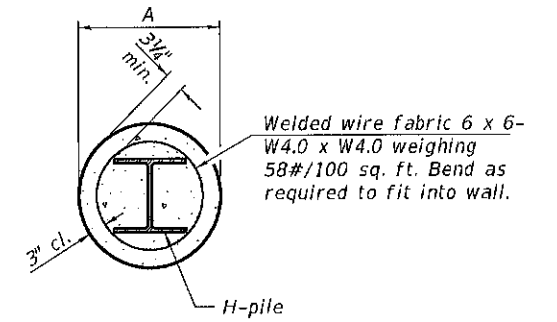


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

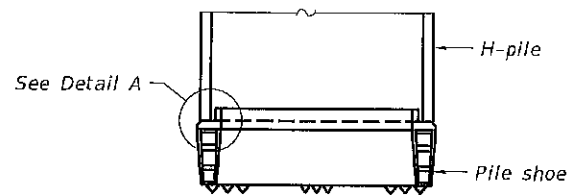


ELEVATION

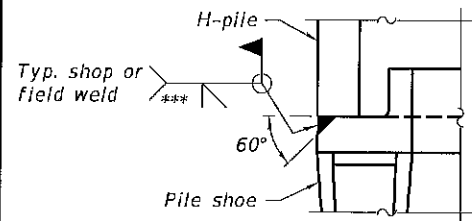


SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT
(Forms for encasement may be omitted when soil conditions permit).

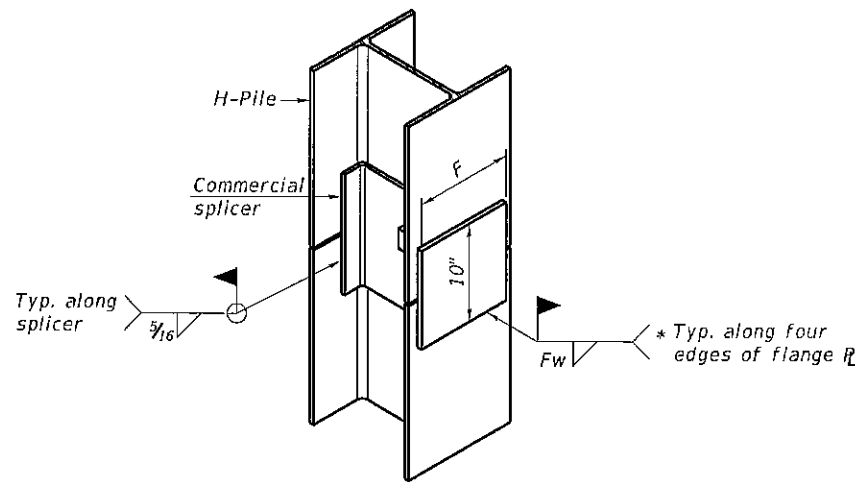


ELEVATION



DETAIL A

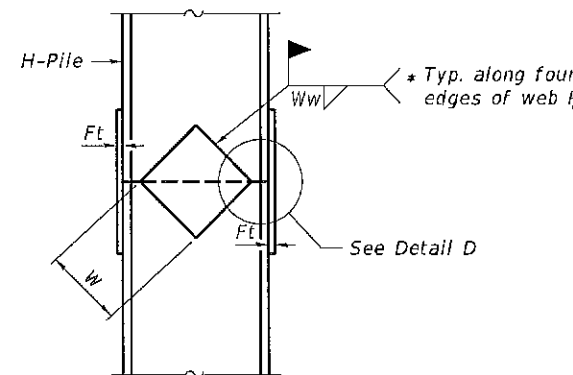
SHOE ATTACHMENT



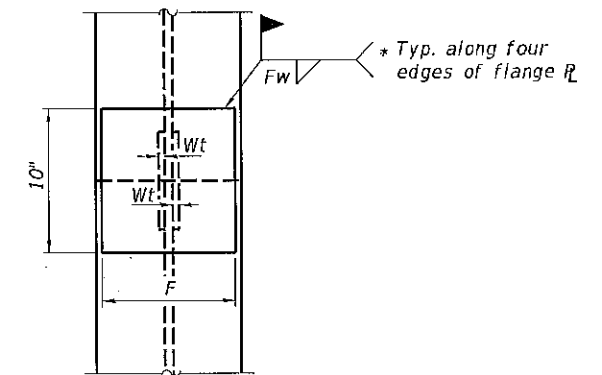
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

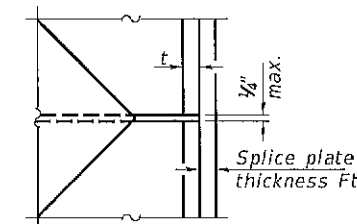
- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).



ELEVATION



END VIEW



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	3/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	3/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	3/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

FILE NAME *
piles.dgn

F-HP

2-17-2017

USER NAME = USER	DESIGNED KEB	REVISED -
PLOT TIME = 3:28:37 PM	DRAWN RLK	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED BCG	REVISED -
PLOT DATE = 1/20/2021	DATE 8/12/20	REVISED -

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS

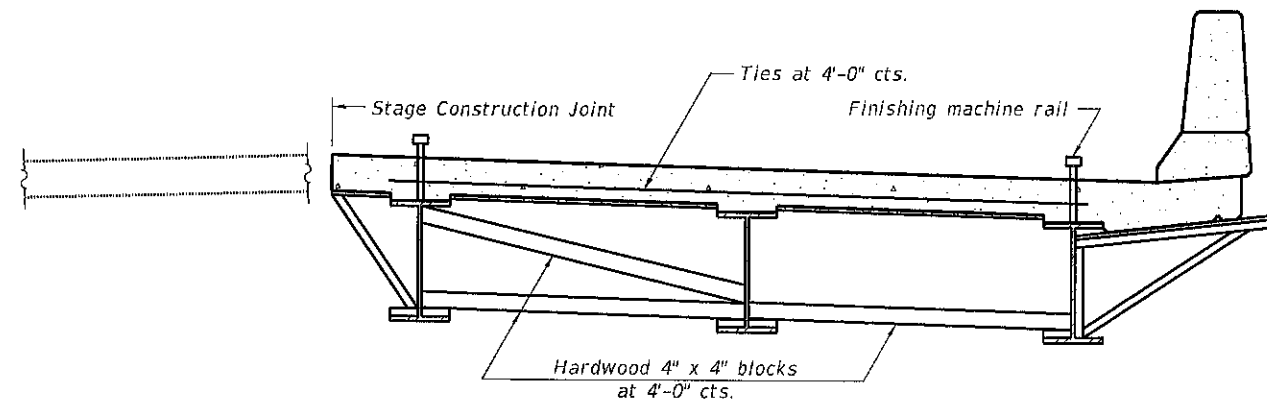
DECATUR, IL SCHAMBURG, IL
ROCKFORD, IL CHAMPAIGN, IL
BENTON, IL LAFAYETTE, IN
PADUCAH, KY
(833) 424-2782 184-001397

HP PILE DETAILS
STRUCTURE NO. 010-4584

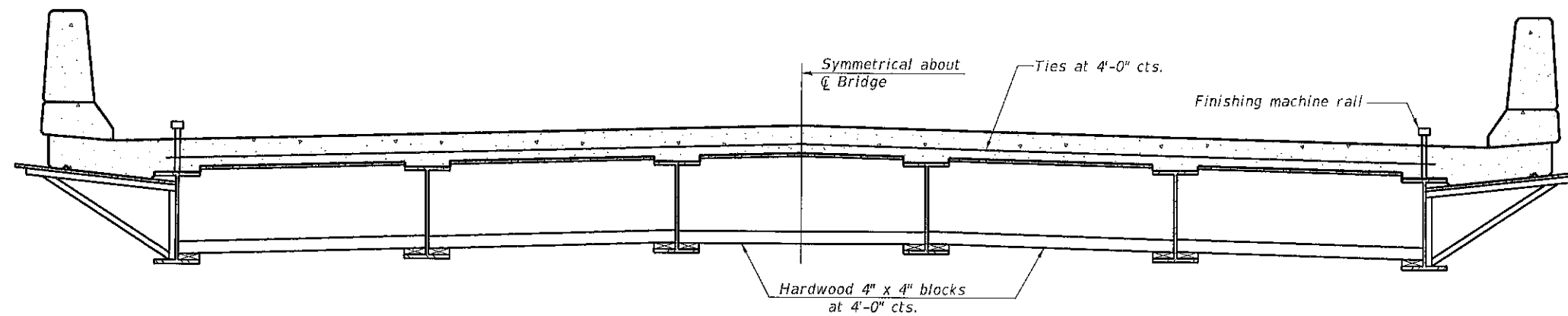
SHEET NO. 20 OF 23 SHEETS

FBI RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	28
STRUCTURE NO. 010-4584		CONTRACT NO. 91601		
ILLINOIS FED. AID PROJECT				

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.
 The finishing machine rails shall be placed on the top flange of the exterior beams.
 The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.
 For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



FORM BRACES FOR
STAGE CONSTRUCTION



FORM BRACES FOR
STANDARD CONSTRUCTION

FILE NAME = cantilever.dgn

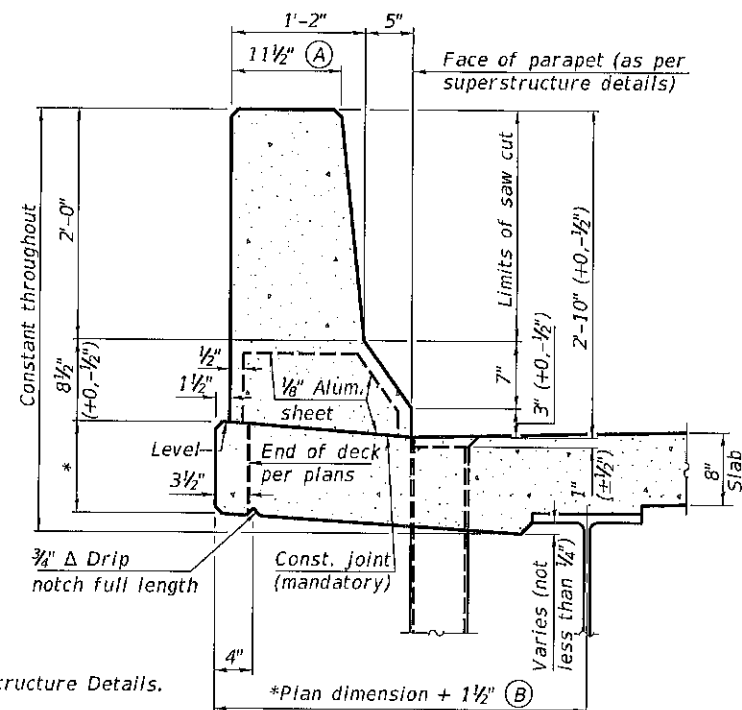
SB-1

2-17-2017

USER NAME = .USER.	DESIGNED <i>KEB</i>	REVISED -		DECATUR, IL	SCHAUMBURG, IL	CANTILEVER FORMING BRACKETS FOR SUPERSTRUCTURES WITH W27 BEAMS AND SMALLER	FAU	SECTION	COUNTY	TOTAL	SHEET	
PLOT TIME = 3:20:38 PM	DRAWN <i>RLK</i>	REVISED -		ROCKFORD, IL	CHAMPAIGN, IL		CH 17	18-00061-00-BR	CHAMPAIGN	35	29	
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PLOT DATE = 1/20/2021	DATE <i>8/12/20</i>	REVISED -		PADUCAH, KY			STRUCTURE NO. 010-4584		CONTRACT NO. 91601		SHEET NO. 21 OF 23 SHEETS	

GENERAL NOTES

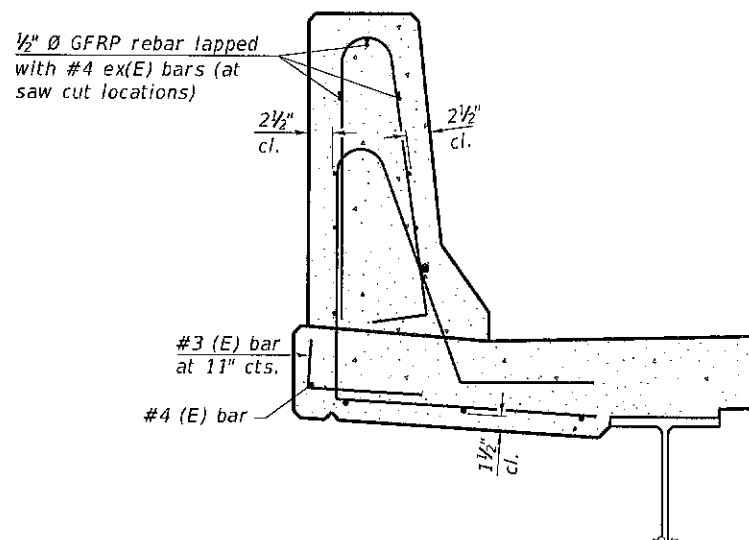
All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.



34" F SHAPE PARAPET SECTION
(Showing dimensions)

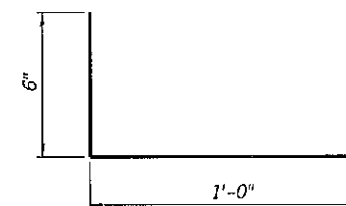
*See Superstructure Details.

*Plan dimension + 1 1/2" (B)

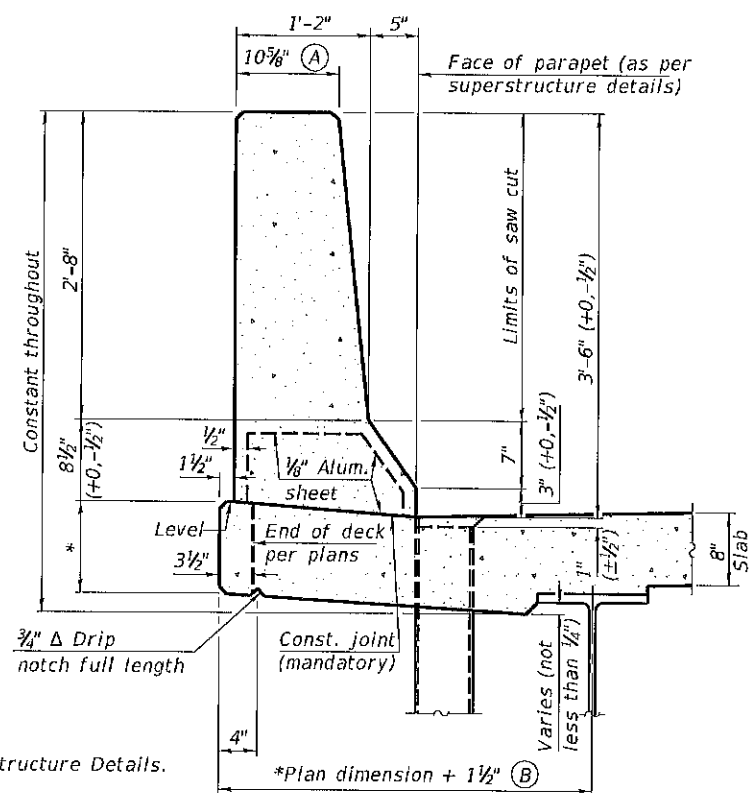


SECTION

(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



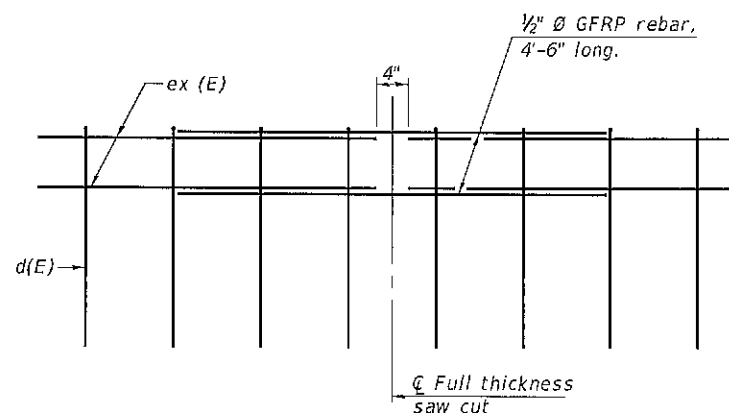
#3 (E) BAR



42" F SHAPE PARAPET SECTION
(Showing dimensions)

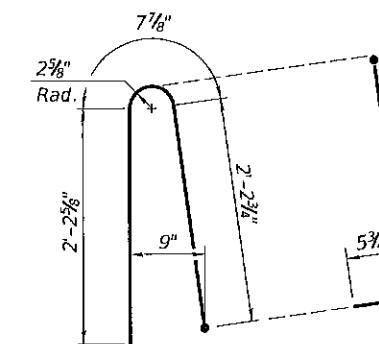
*See Superstructure Details.

*Plan dimension + 1 1/2" (B)

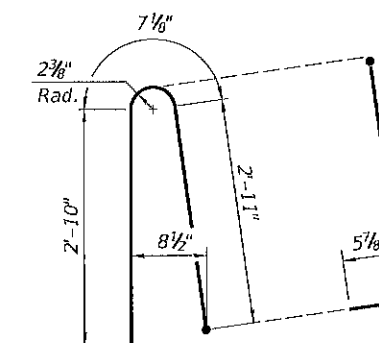


GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)



ALTERNATE BAR d(E)
(For 34" parapet when conduit is present)



ALTERNATE BAR d(E)
(For 42" parapet when conduit is present)

FILE NAME = slupform.dgn

SFP 34-42

2-17-2017

USER NAME = USER.	DESIGNED KEB	REVISED -
PLOT TIME = 3:20:40 PM	DRAWN RLK	REVISED -
PLOT SCALE = 2.0000 ' / 1in.	CHECKED BCG	REVISED -
PLOT DATE = 1/20/2021	DATE 8/12/20	REVISED -

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS

DECATUR, IL SCHAUMBURG, IL
ROCKFORD, IL CHAMPAIGN, IL
BENTON, IL LAFAYETTE, IN
PADUCAH, KY
(833) 424-2782 184-001397

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 010-4584

SHEET NO. 22 OF 23 SHEETS

FILE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	30
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
ILLINOIS FED. AID PROJECT				

BRIDGE FOUNDATION SOIL BORING LOG

Route: County Highway 17
 Section: 18-00061-00-BR
 County: Champaign
 Structure No.: 89+20
 Offset: 7 LT

MET Midwest Engineering and Testing, Inc.
 Boring: B-1
 Page: Page 1 of 1
 Date of Boring: May 19, 2020
 Drilled By: Zach W. Wacziarg
 Checked By: Nicholas D. Wendling, P.E.
 MET Project No.: 203040

Surface Water Elevation: 86.7 ft.
 Ground Water Elevation: when drilling: 84.8 ft. at completion:
 Ground Surface Elevation: 89.8 ft.

Center of Bridge @ Centerline: STA 100+00, Elev.: 100.0

DEPTH (ft.)	BLOW COUNT (blows)	QU (tsf)	MC (%)	DEPTH (ft.)	BLOW COUNT (blows)	QU (tsf)	MC (%)
0				0			
8				8	17	5.8B	12
10	7	4.5P	16	10	24		
12	10			12	17		
14	8			14	24	9.0B	11
16	2	1.4B	19	16	34		
18	2			18			
20	2	0.0B	24	20			
22	2			22			
24	2	0.0B	21	24			
26	2			26			
28	2	0.0B	26	28			
30	2			30			
32	2			32			
34	2			34			
36	2			36			
38	2			38			
40	2			40			
42	2			42			
44	7	4.0B	12	44			
46	11			46			
48	10			48			
50	7	5.1B	11	50			
52	12			52			
54	18			54			
56	11	7.5B	10	56			
58	20			58			
60	10			60			
62	23			62			
64	42	4.5P	11	64			
66				66			
68				68			
70				70			
72				72			
74				74			
76				76			
78				78			
80				80			
82				82			
84				84			
86				86			
88				88			
90				90			
92				92			
94				94			
96				96			
98				98			
100				100			

END OF BORING @ ELEV: 48.3 ft

N - Standard Penetration Test (SPT) = Sum of last two blow values in sample
 MC - Moisture Content - Percent of dry weight
 Qu - Unconfined Compressive Strength - tons per square foot (tsf)

Type Failure: B-Bulge, S-Shear, P-Penetrometer

BRIDGE FOUNDATION SOIL BORING LOG

Route: County Highway 17
 Section: 18-00061-00-BR
 County: Champaign
 Structure No.: 100+72
 Offset: 7 Rt

MET Midwest Engineering and Testing, Inc.
 Boring: B-2
 Page: Page 1 of 1
 Date of Boring: May 19, 2020
 Drilled By: Zach W. Wacziarg
 Checked By: Nicholas D. Wendling, P.E.
 MET Project No.: 203040

Surface Water Elevation: 86.7 ft.
 Ground Water Elevation: when drilling: 82.3 ft. at completion:
 Ground Surface Elevation: 80.8 ft.

Center of Bridge @ Centerline: STA 100+00, Elev.: 100.0

DEPTH (ft.)	BLOW COUNT (blows)	QU (tsf)	MC (%)	DEPTH (ft.)	BLOW COUNT (blows)	QU (tsf)	MC (%)
0				0			
10				10			
12				12			
14				14			
16				16			
18				18			
20				20			
22				22			
24				24			
26				26			
28				28			
30				30			
32				32			
34				34			
36				36			
38				38			
40				40			
42				42			
44				44			
46				46			
48				48			
50				50			
52				52			
54				54			
56				56			
58				58			
60				60			
62				62			
64				64			
66				66			
68				68			
70				70			
72				72			
74				74			
76				76			
78				78			
80				80			
82				82			
84				84			
86				86			
88				88			
90				90			
92				92			
94				94			
96				96			
98				98			
100				100			

END OF BORING @ ELEV: 48.3 ft

N - Standard Penetration Test (SPT) = Sum of last two blow values in sample
 MC - Moisture Content - Percent of dry weight
 Qu - Unconfined Compressive Strength - tons per square foot (tsf)

Type Failure: B-Bulge, S-Shear, P-Penetrometer

BORING DATA

- N - Standard Penetration Test - Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 lb. hammer falling 30"
- Qu - Unconfined Compression Strength - Tons/Sq.Ft.
- Mc - Water Content - Percentage of oven dry weight - %
- D - Depth
- P - Penetrometer
- B - Bulge Failure
- S - Shear Failure
- E - Estimated Value

GENERAL NOTES

Boring Data is shown only as a guide to bidders in estimating soil conditions which may be encountered during construction.

The CONTRACTOR shall drive 4 test piles in a permanent location, one at each abutment and one at each pier as directed by the ENGINEER before ordering the remainder of piles.

The CONTRACTOR shall drive test piles to 110% of the nominal required bearing specified in production locations at the substructures specified or approved by the ENGINEER before ordering the remainder of the piles.

FILE NAME = bor-log-01.dgn

USER NAME = JUSER	DESIGNED <i>KEB</i>	REVISED -
PLOT TIME = 3:20:41 PM	DRAWN <i>RLK</i>	REVISED -
PLOT SCALE = 20.0000' / 1" =	CHECKED <i>BCG</i>	REVISED -
PLOT DATE = 1/20/2021	DATE <i>8/12/20</i>	REVISED -

CHASTAIN & ASSOCIATES LLC
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 ROCKFORD, IL CHAMPAIGN, IL
 BENTON, IL LAFAYETTE, IN
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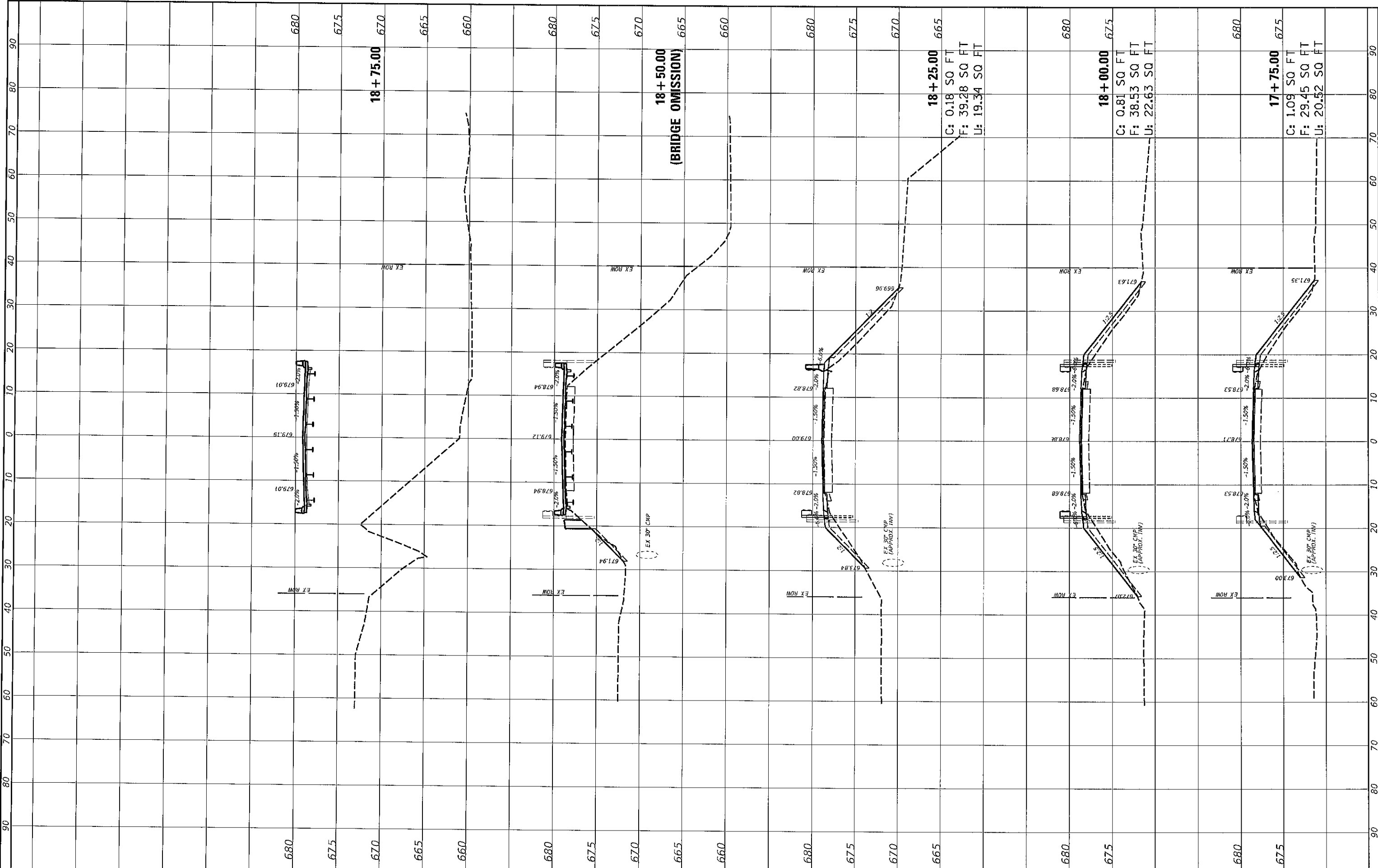
BORING LOGS
STRUCTURE NO. 010-4584
 SHEET NO. 23 OF 23 SHEETS

FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	31
STRUCTURE NO. 010-4584			CONTRACT NO. 91601	
ILLINOIS FED. AID PROJECT				

FINAL SURVEY NO.	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	

ORIGINAL SURVEY NO.	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	

MODEL: Default
FILE NAME: 7314-ht-sections.dgn



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PLOT SCALE = 20,0000 "/td> <td>DRAWN -</td> <td>REVISED -</td>	DRAWN -	REVISED -
PLOT DATE = 1/27/2021	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

COUNTY HIGHWAY 17
CROSS SECTIONS

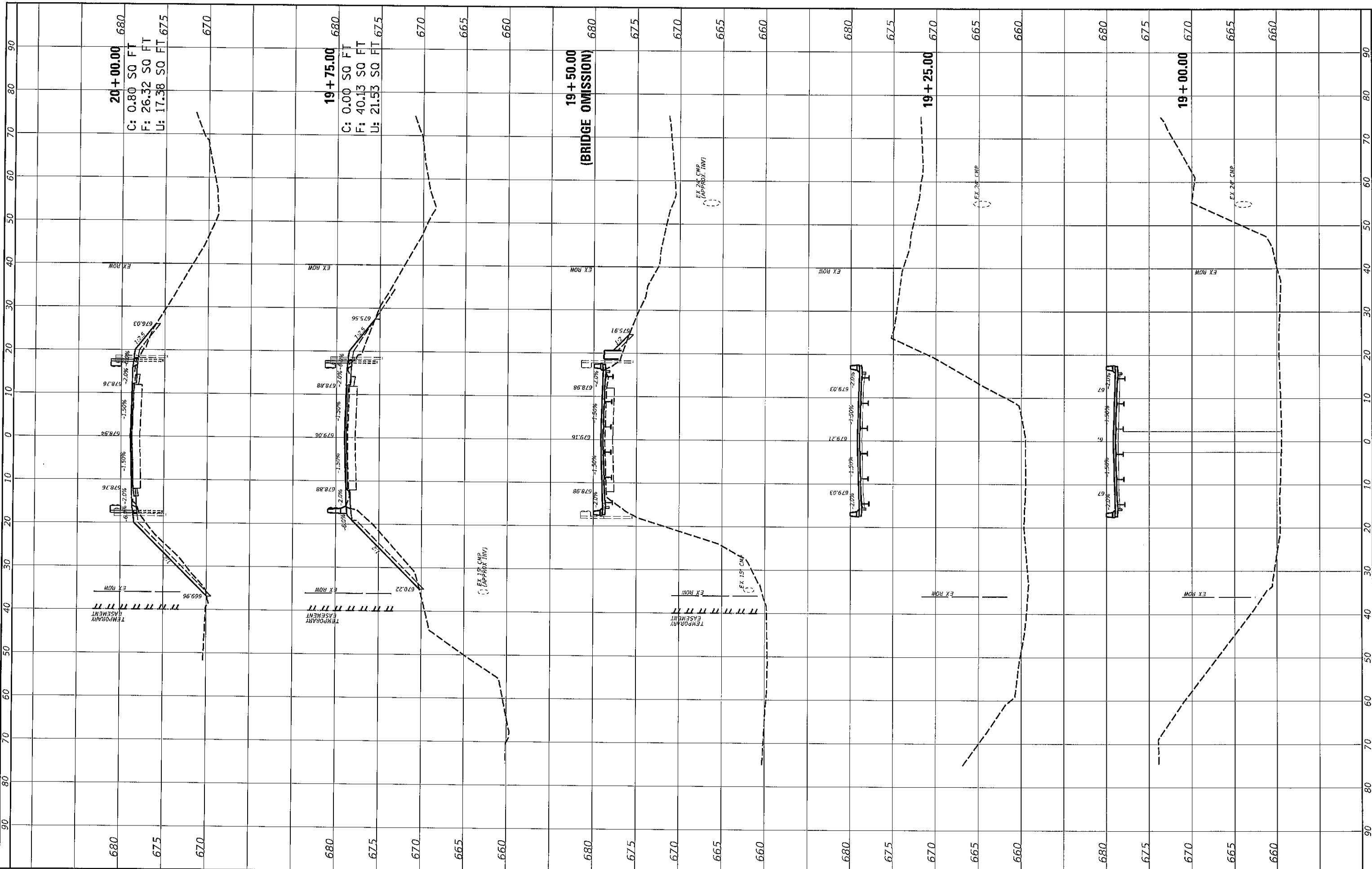
SCALE: SHEET 2 OF 4 SHEETS STA. 17+75.00 TO STA. 18+75.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	33
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK NO.	PLOTTED		
	TEMPERATURE		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK NO.	PLOTTED		
	TEMPERATURE		
	AREAS CHECKED		

NOTED: Default FILE NUMBER: 73124-12-17-sections.dgn



20+00.00
 C: 0.80 SQ FT
 F: 26.32 SQ FT
 U: 17.38 SQ FT

19+75.00
 C: 0.00 SQ FT
 F: 40.13 SQ FT
 U: 21.53 SQ FT

19+50.00
 (BRIDGE OMISSION)

19+25.00

19+00.00

USER NAME = _USER_
 PLOT SCALE = 20,0000 * 1/4"
 PLOT DATE = 1/20/2021

DESIGNED	-	REVISED	-
DRAWN	-	REVISED	-
CHECKED	-	REVISED	-
DATE	-	REVISED	-

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**COUNTY HIGHWAY 17
 CROSS SECTIONS**

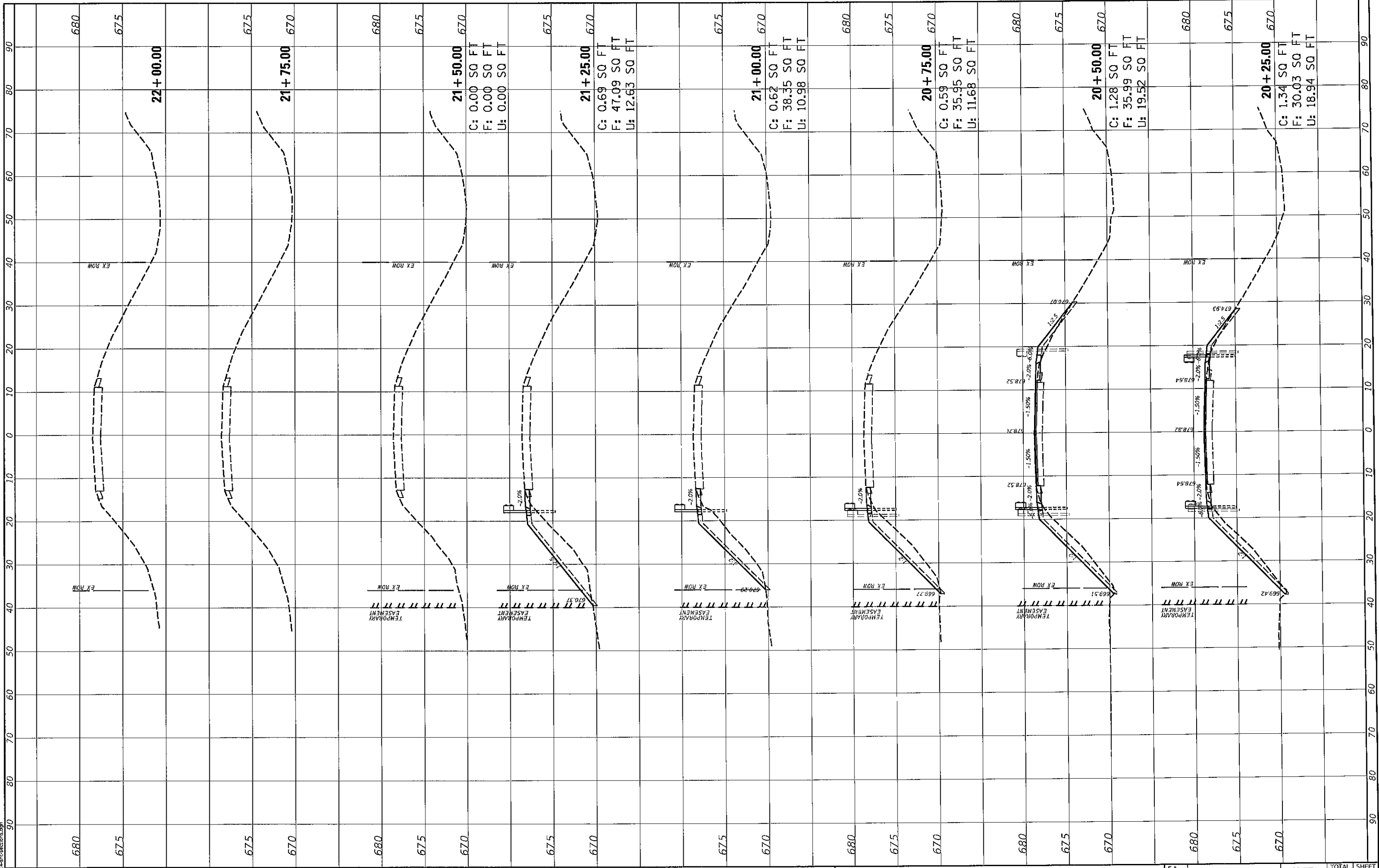
SCALE: SHEET 3 OF 4 SHEETS STA. 19+00.00 TO STA. 20+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	34
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	DATE		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	DATE		
	AREAS CHECKED		

MODEL: Default
FILE NAME: 7314-pts-sections.dgn



USER NAME = USER	DESIGNED -	REVISED -
PLOT SCALE = 20,0000' / 1"	DRAWN -	REVISED -
PLOT DATE = 1/20/2021	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**COUNTY HIGHWAY 17
CROSS SECTIONS**

SCALE: SHEET 4 OF 4 SHEETS STA. 20+25.00 TO STA. 22+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 17	18-00061-00-BR	CHAMPAIGN	35	35
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				