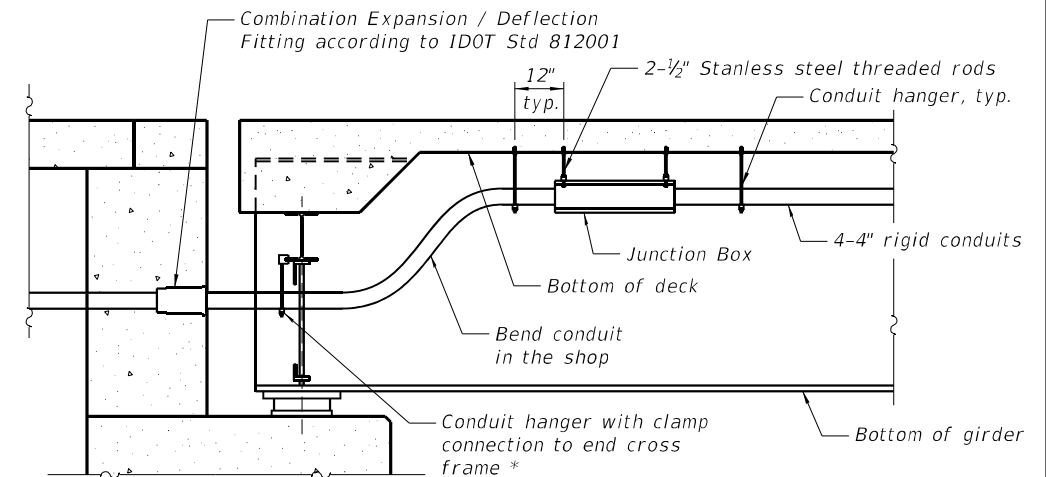


GENERAL NOTES

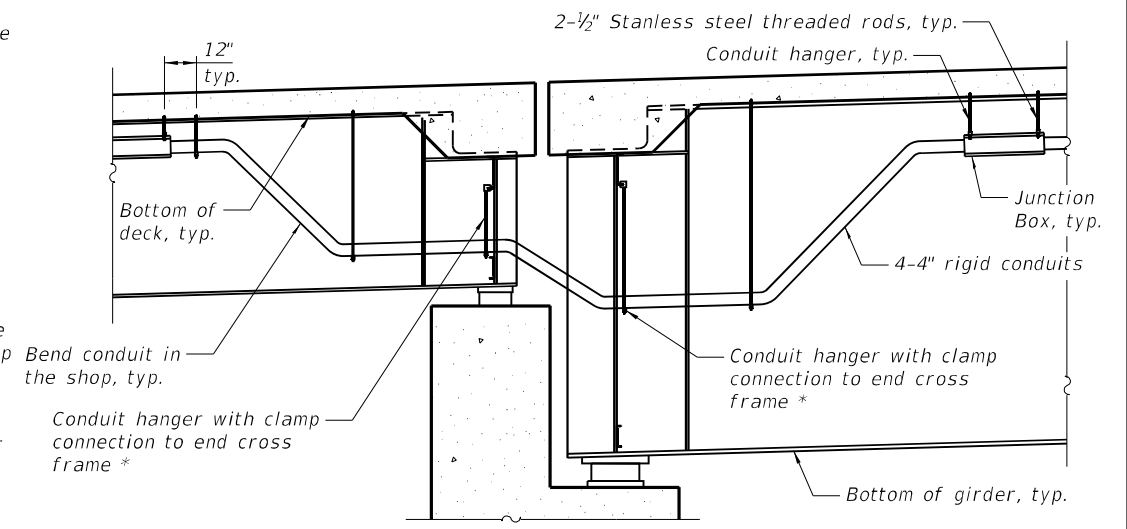
- Except as otherwise specified, fasteners shall be ASTM F3125 Grade A325 Type 1, hot dip galvanized bolts in painted, metallized, and galvanized areas. Fasteners shall be ASTM F3125 Grade A325 Type 3, weathering steel bolts in uncoated weathering steel areas. Bolts 7/8 in. diameter, holes 1 1/16 in. diameter, unless otherwise noted.
- Calculated weight of Structural Steel:
M270 Grade 50W = 11,592,810 lbs
M270 Grade HPS 70W = 663,110 lbs
- All structural steel shall be AASHTO M270 Grade 50W or Grade HPS 70W as indicated (except expansion joints which shall be AASHTO M270 Grade 50).
- The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting the full length of the exterior and bottom of bottom flange of the exterior (fascia) girders. The color of the final finish coat for the fascia girders shall be Interstate Green, Munsell No. 7.5G 4/8.
- All structural steel within a distance of 10 ft. from the expansion joints shall be metallized. See Special Provision for "Metallizing of Structural Steel". The metallized areas shall be painted with System 1.
- All structural steel components of cross frames and lateral bracing within a distance of 10 ft. from the expansion joints shall be hot dip galvanized. Bearings at the expansion joints shall be hot dip galvanized. Galvanizing shall be according to the Special Provision for "Hot Dip Galvanizing for Structural Steel".
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Reinforcement bars designated (S) shall be stainless steel.
- If the Contractor elects to use cantilever forming brackets on the exterior 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 girder at each of these additional bracket locations.
- 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.
- A film forming Concrete Sealer shall be applied to the horizontal surfaces of the bridge seats of both abutments and piers 3, 6, and 11. A penetrating Concrete Sealer shall be applied to the exposed vertical surfaces of both abutments, including the backwall and front faces of abutments, and the vertical faces of pier caps at piers 3, 6, and 11. Concrete Sealers shall be applied prior to setting bearings and girders.
- The existing structural steel coating contains lead. The Contractor shall take the appropriate precautions to deal with the presence of lead on this project.
- Layout of the 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.
- The Contractor shall obtain a construction permit from the Illinois Department of Natural Resources (IDNR), Office of Water Resources for any temporary construction activity placed in the water except cofferdams. This shall include the placement of material for run-arounds, causeways, etc. Any permit application by the Contractor shall refer to the IDNR 3704 Floodway Construction permit number allowing permanent construction as shown in the contract plans.
- Construction and demolition activities shall be coordinated and approved by the United States Coast Guard (USCG) and the United States Army Corps of Engineers (USACE). No additional compensation or time will be allowed for USCG and USACE restrictions.
- Maintain existing navigation lights on the existing structure until the existing structure is removed. Proposed navigation lights shall be operational before the existing navigational lights are removed. The navigation light installations and removals shall be coordinated with and approved by USCG.
- The erection of the structural steel shall be accomplished by a steel erection contractor or sub-contractor certified as an Advanced Certified Steel Erector (ACSE) by AISC. See Special Provision for "Erection of Complex Steel Structures".

- The Contractor shall retain the services of an engineering firm, prequalified in the IDOT consultant selection category of Structures - Highway; Advanced Typical, for the preparation of Structural Assessment Report(s). Contractor's pre-approval shall not be applicable for this project. See Special Provisions.
- Current Ratings on File for Existing Structure:
Inventory: HS15.4
Operating: HS25.6
Live Load Restrictions: No

Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois legal loads and configurations. The Ratings and Live Load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.
- The Contractor is advised that the existing structure contains members that are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the existing structure when developing construction procedures for the complete or partial removal of the structure. An Existing Structure Information Package is available upon request as noted in the Special Provisions.
- No construction joints except those shown on the plans will be allowed unless approved by the Engineer.
- The Contractor is alerted that Unit 2 girder cambers, dead load deflection values, and theoretical grade elevations adjusted for deflections shown in the Contract plans were developed based on the deck pouring sequence shown in the Contract plans. Any deviation from this pouring sequence will result in changes to camber and elevations that reflect dead load deflections. If the Contractor wishes to change the deck pouring sequence, then the proposed plan revisions and design calculations, prepared and sealed by an Illinois Licensed Structural Engineer, shall be submitted to the Engineer for review and approval prior to submitting girder fabrication shop drawings.
- Due to the large volumes of concrete placed in the substructure units of this Contract, excessive heats of hydration may be present. The Contractor is alerted that the provisions of Article 1020.15 of the Standard Specifications will apply in these cases.
- It shall be the Contractor's responsibility to verify the location of utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.



BRIDGE MOUNTED CONDUIT DETAIL AT ABUTMENT

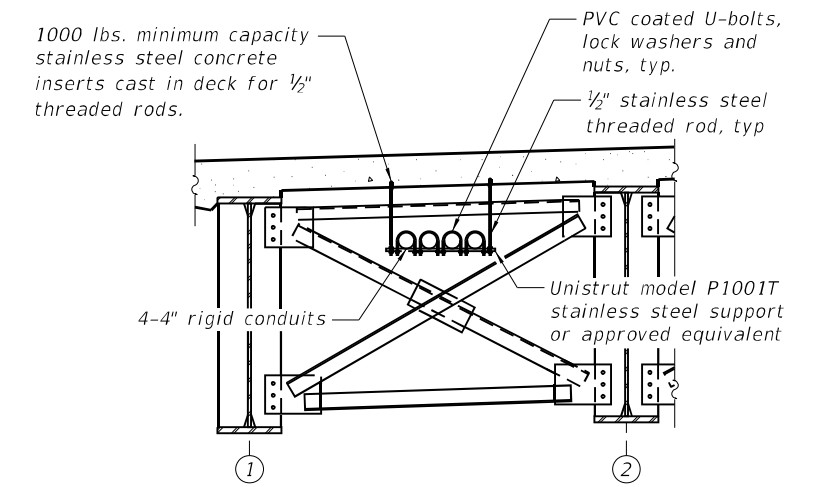


BRIDGE MOUNTED CONDUIT DETAIL AT PIER

* End cross frames:
S. Abut. = CF1
Pier 3 - Unit 1 = CF3
Pier 3 & 6 - Unit 2 = CF4
Pier 6 & 11 - Unit 3 & 4 = CF6
N. Abut. = CF6

BRIDGE MOUNTED CONDUIT NOTES

- Conduit shall be supported at a maximum interval per the Standard Specifications, except as noted. Support shall be located a maximum of 3' away from any connection.
- All hardware shall be stainless steel unless noted otherwise.
- The electrical contractor shall coordinate the location of the concrete inserts with the bridge contractor.
- Conduits shall be centered between the girders.
- Conduits shall not come into contact with any cross bracing or other structural members except at end cross frames as shown.
- Provide 1" minimum clearance to all structural members.
- The contractor shall furnish & install a pull tape from junction box to junction box.
- Do not drill deck. Use installed hanger inserts.
- All hardware shall be stainless steel in accordance with article 1006.31 of the Standard Specifications.
- The contractor shall submit shop drawings showing details of the exposed raceway system, including junction boxes, to the Engineer and obtain the Engineer's approval before ordering any material. Cost included in the Conduit Attached to Structure items.



CONDUIT HANGER ASSEMBLY DETAIL
(Section view)

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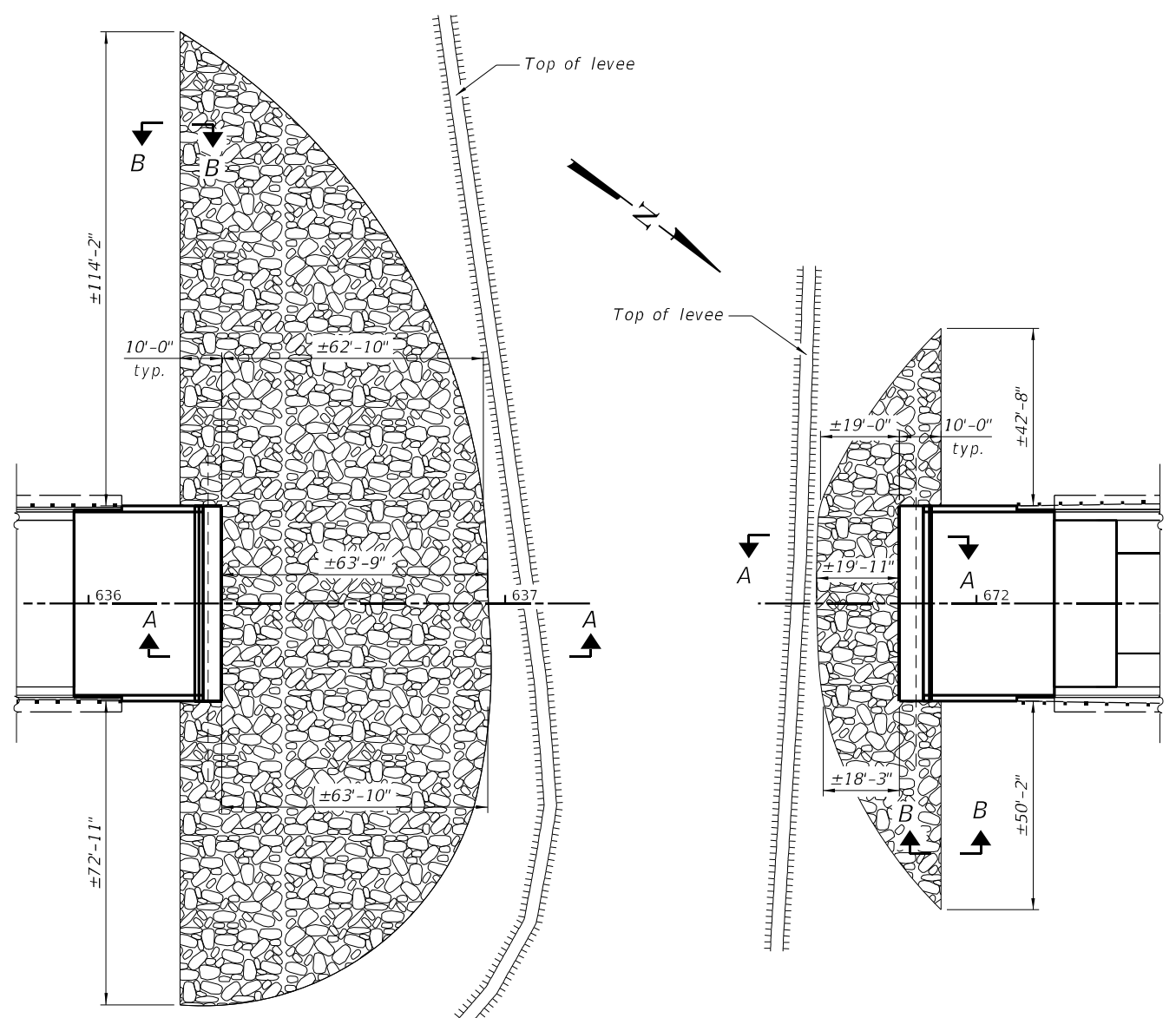
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA - II
SN 009-0504**

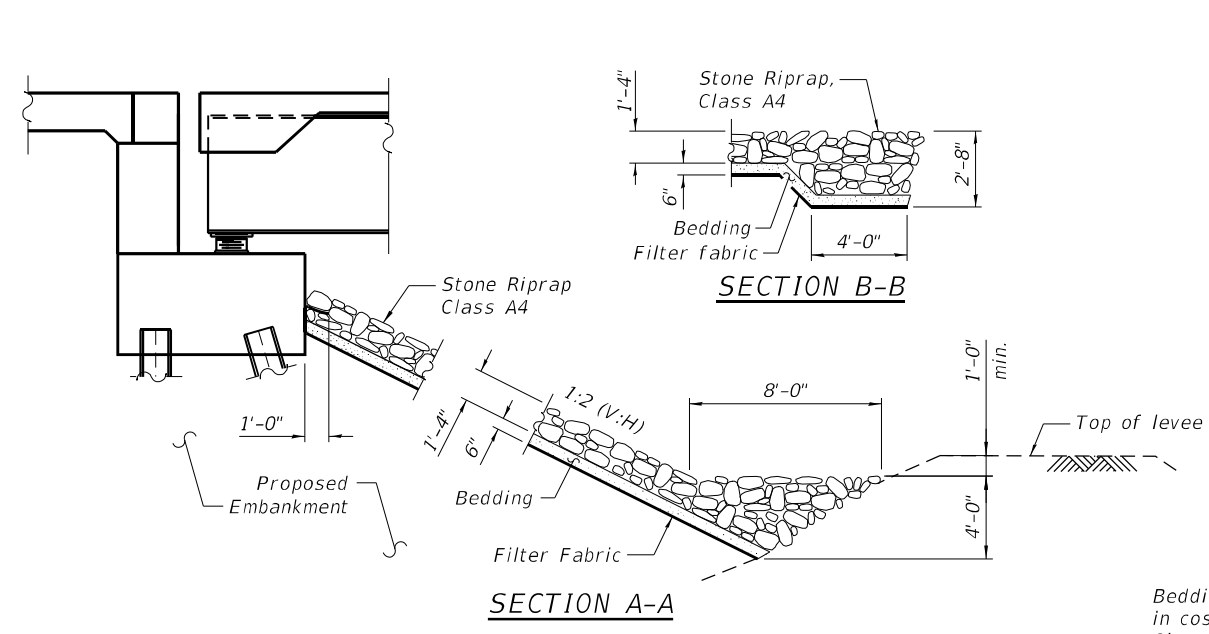
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	201
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



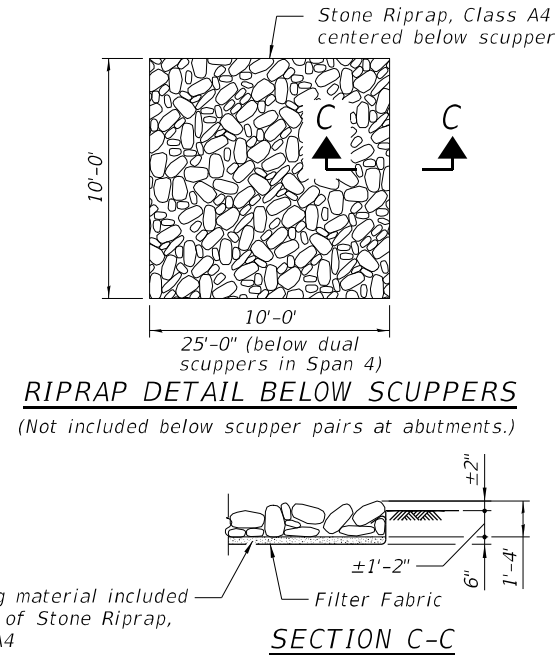
SLOPE PROTECTION AT SOUTH ABUTMENT

SLOPE PROTECTION AT NORTH ABUTMENT



SECTION A-A

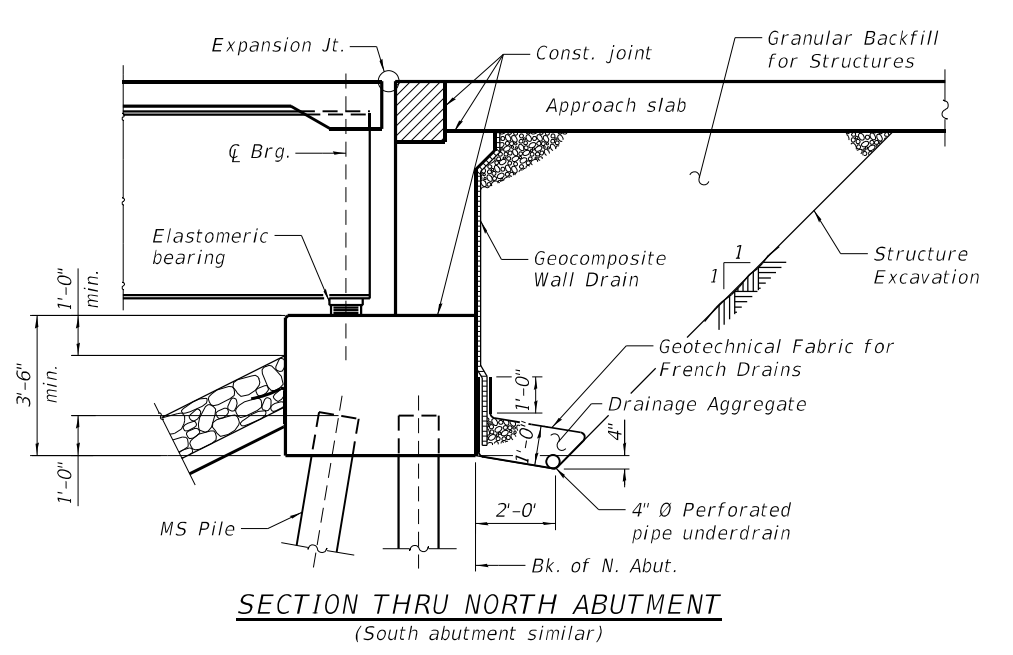
SECTION B-B



RIPRAP DETAIL BELOW SCUPPERS
(Not included below scupper pairs at abutments.)

SECTION C-C

TOTAL BILL OF MATERIAL				
ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq Yd		2,074	2,074
Filter Fabric	Sq Yd		2,074	2,074
Removal of Existing Structures No. 1	Each		1	1
Structure Excavation	Cu Yd		650	650
Concrete Structures	Cu Yd		4,838.8	4,838.8
Concrete Superstructure	Cu Yd	5,254.3		5,254.3
Protective Coat	Sq Yd	21,245		21,245
Concrete Superstructure (Approach Slab)	Cu Yd	125.4		125.4
Furnishing And Erecting Structural Steel	L Sum	1		1
Stud Shear Connectors	Each	53,532		53,532
Reinforcement Bars	Pound		1,609,600	1,609,600
Reinforcement Bars, Epoxy Coated	Pound	49,020	1,009,540	1,058,560
Bar Splicers	Each	672		672
Mechanical Splicers	Each		2,924	2,924
Furnishing Metal Shell Piles 12" X 0.250"	Foot		1,972	1,972
Driving Piles	Foot		1,972	1,972
Test Pile Metal Shells	Each		2	2
Pile Shoes	Each		17	17
Name Plates	Each	1		1
Permanent Casing	Foot		4,308	4,308
Drilled Shaft in Soil	Cu Yd		4,896.7	4,896.7
Drilled Shaft in Rock	Cu Yd		504.5	504.5
Preformed Joint Strip Seal	Foot	47		47
Elastomeric Bearing Assembly, Type I	Each	12		12
Elastomeric Bearing Assembly, Type II	Each	36		36
Anchor Bolts, 1"	Each	24		24
Anchor Bolts, 1 1/4"	Each	240		240
Anchor Bolts, 1 1/2"	Each	144		144
Drainage System for Structures	L Sum	1		1
Granular Backfill for Structures	Cu Yd		245	245
Concrete Sealer	Sq Ft		6,070	6,070
Geocomposite Wall Drain	Sq Yd		99	99
Pipe Underdrains for Structures 4"	Foot		120	120
Conduit Attached to Structure, 4" Dia., Galvanized Steel	Foot	14,227		14,227
Crosshole Sonic Logging Access Ducts	Foot		21,240	21,240
Crosshole Sonic Logging Testing	Each		52	52
Bridge Deck Grooving (Longitudinal)	Sq Yd		9,643	9,643
Reinforcement Bars, Stainless Steel	Pound	1,531,830		1,531,830
High Load Multi-Rotational Bearing, Disc, Fixed-700k	Each	24		24
High Load Multi-Rotational Bearing, Disc, Fixed-1250k	Each	12		12
High Load Multi-Rotational Bearings, Disc, Guided Expansion-700k	Each	24		24
Vertical Clearance Gauge	Each		2	2
Drainage Scuppers, DS-11	Each	12		12
Drainage Scuppers, DS-12	Each	30		30
Diamond Grinding (Bridge Section)	Sq Yd		16,081	16,081
Modular Expansion Joint 6"	Foot		94	94
Modular Expansion Joint 9"	Foot		94	94



SECTION THRU NORTH ABUTMENT
(South abutment similar)

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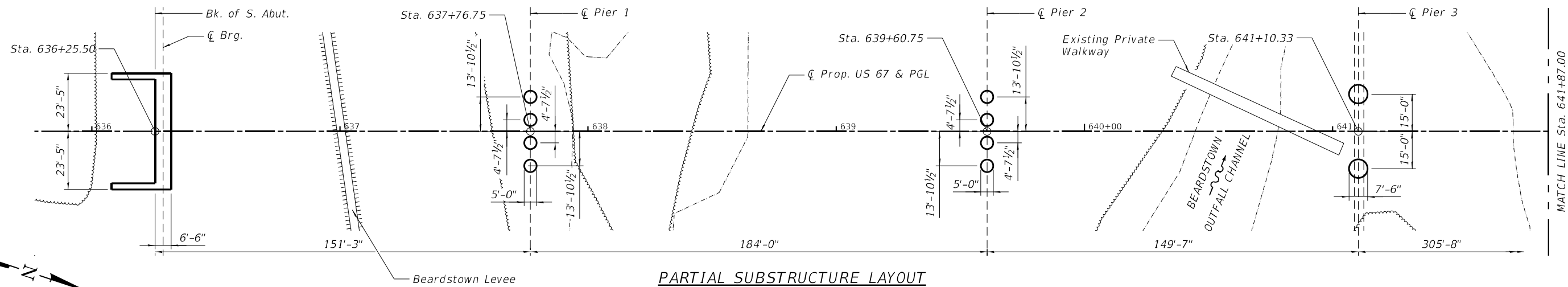
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DEPARTMENT OF TRANSPORTATION

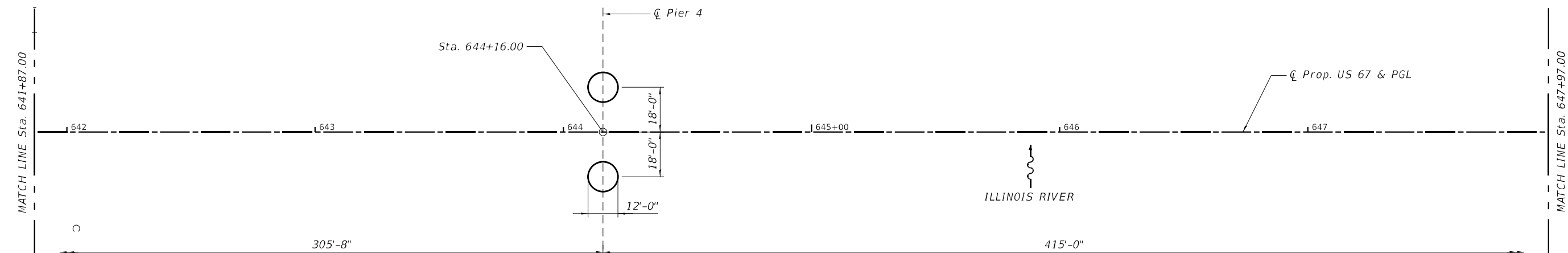
GENERAL DATA - III
SN 009-0504

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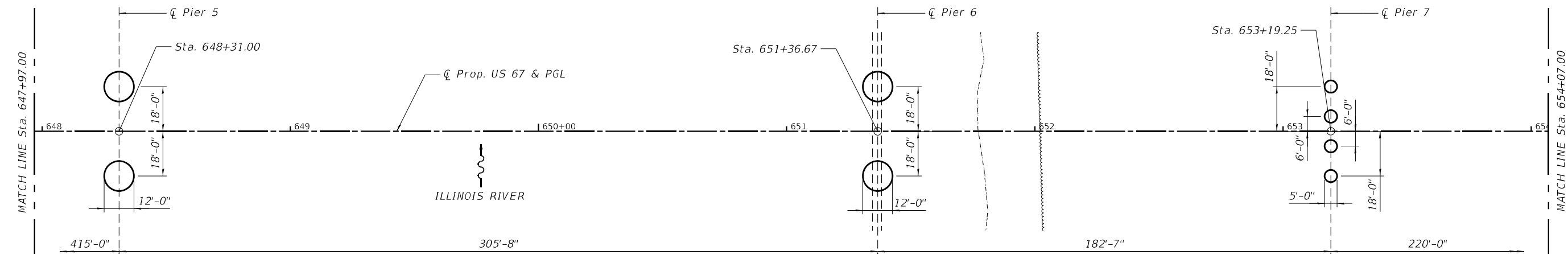
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CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



PARTIAL SUBSTRUCTURE LAYOUT



PARTIAL SUBSTRUCTURE LAYOUT



PARTIAL SUBSTRUCTURE LAYOUT

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-007-Substructure Layout.dgn



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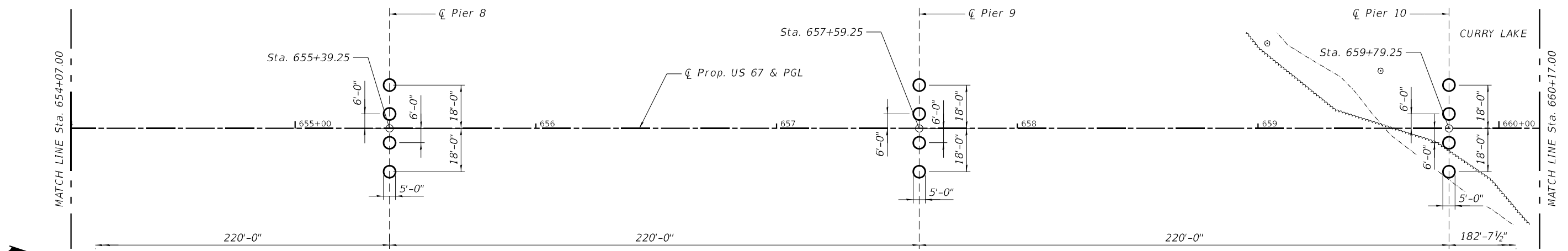
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE LAYOUT - I
 SN 009-0504

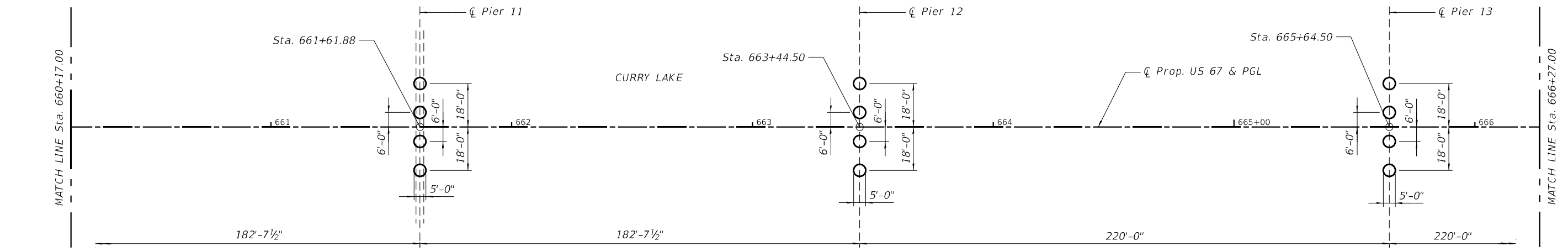
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

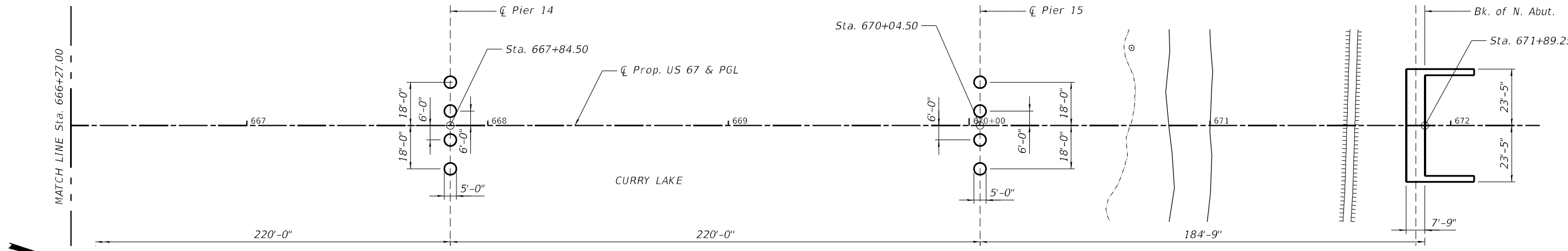
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PARTIAL SUBSTRUCTURE LAYOUT



PARTIAL SUBSTRUCTURE LAYOUT



PARTIAL SUBSTRUCTURE LAYOUT



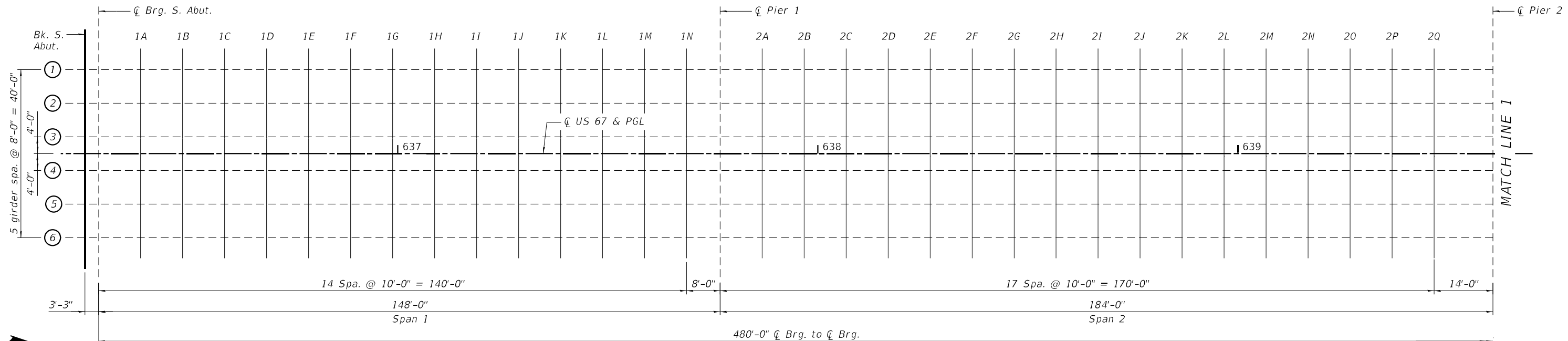
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

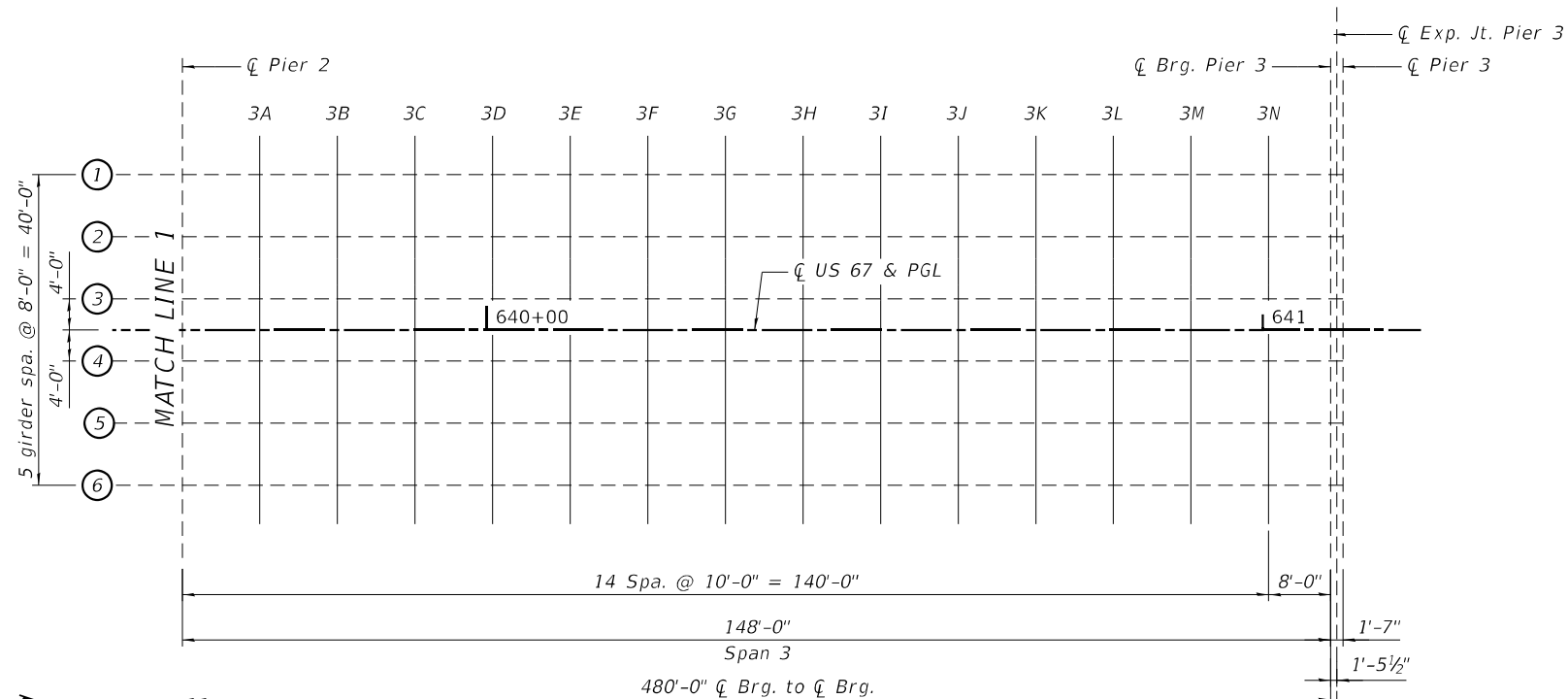
SUBSTRUCTURE LAYOUT - II
SN 009-0504

SCALE: SHEET 8 OF 162 SHEETS STA. TO STA.

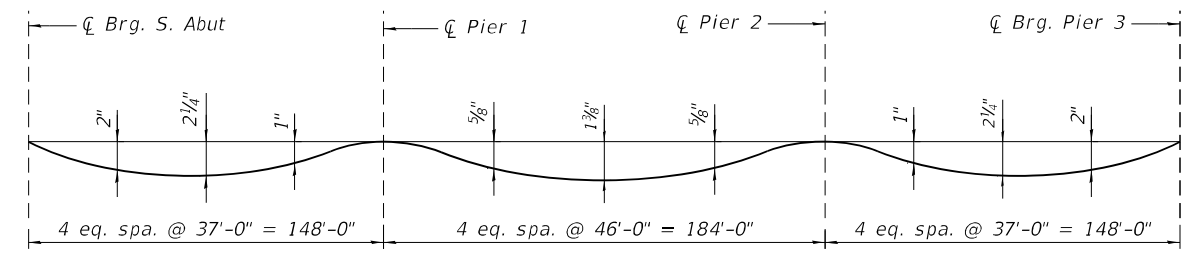
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CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



PARTIAL DECK ELEVATION LAYOUT - UNIT 1



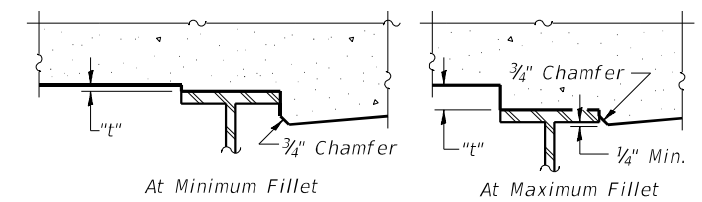
PARTIAL DECK ELEVATION LAYOUT - UNIT 1



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown on sheets 10 thru 12 of 162.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown on this sheet. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown on sheets 10 thru 12 of 162, minus 8 1/4" deck thickness, equals the fillet heights "t" above top flange of girders.

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 on sheets 10 thru 12 of 162. For grinding the deck, see Special Provisions.

FILLET HEIGHTS

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	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF DECK ELEVATIONS - UNIT 1 - I
SN 009-0504**

SCALE: SHEET 9 OF 162 SHEETS STA. TO STA.

F.A.P. RTE. 310	SECTION (86B-1, 87CR)	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 205
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

GIRDER 1 - UNIT 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	636+25.50	-20.00	489.26	489.28
CL Brg. S. Abut.	636+28.75	-20.00	489.35	489.37
1A	636+38.75	-20.00	489.64	489.71
1B	636+48.75	-20.00	489.92	490.04
1C	636+58.75	-20.00	490.21	490.36
1D	636+68.75	-20.00	490.49	490.67
1E	636+78.75	-20.00	490.78	490.98
1F	636+88.75	-20.00	491.06	491.27
1G	636+98.75	-20.00	491.35	491.55
1H	637+08.75	-20.00	491.63	491.82
1I	637+18.75	-20.00	491.92	492.08
1J	637+28.75	-20.00	492.20	492.33
1K	637+38.75	-20.00	492.49	492.59
1L	637+48.75	-20.00	492.77	492.84
1M	637+58.75	-20.00	493.06	493.11
1N	637+68.75	-20.00	493.34	493.37
CL Pier 1	637+76.75	-20.00	493.57	493.59
2A	637+86.75	-20.00	493.86	493.88
2B	637+96.75	-20.00	494.14	494.17
2C	638+06.75	-20.00	494.43	494.47
2D	638+16.75	-20.00	494.71	494.77
2E	638+26.75	-20.00	495.00	495.08
2F	638+36.75	-20.00	495.28	495.38
2G	638+46.75	-20.00	495.57	495.69
2H	638+56.75	-20.00	495.85	495.98
2I	638+66.75	-20.00	496.14	496.27
2J	638+76.75	-20.00	496.43	496.56
2K	638+86.75	-20.00	496.71	496.83
2L	638+96.75	-20.00	497.00	497.11
2M	639+06.75	-20.00	497.28	497.37
2N	639+16.75	-20.00	497.57	497.64
2O	639+26.75	-20.00	497.85	497.90
2P	639+36.75	-20.00	498.14	498.17
2Q	639+46.75	-20.00	498.42	498.44
CL Pier 2	639+60.75	-20.00	498.82	498.84
3A	639+70.75	-20.00	499.11	499.14
3B	639+80.75	-20.00	499.39	499.44
3C	639+90.75	-20.00	499.68	499.76
3D	640+00.75	-20.00	499.96	500.07
3E	640+10.75	-20.00	500.25	500.39
3F	640+20.75	-20.00	500.53	500.70
3G	640+30.75	-20.00	500.82	501.01
3H	640+40.75	-20.00	501.10	501.31
3I	640+50.75	-20.00	501.39	501.60
3J	640+60.75	-20.00	501.67	501.87
3K	640+70.75	-20.00	501.96	502.14
3L	640+80.75	-20.00	502.24	502.39
3M	640+90.75	-20.00	502.53	502.64
3N	641+00.75	-20.00	502.82	502.88
CL Brg. Pier 3	641+08.75	-20.00	503.04	503.06
CL Exp. Jt. Pier 3	641+10.21	-20.00	503.08	503.10
CL Pier 3	641+10.33	-20.00	503.09	503.11

GIRDER 2 - UNIT 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	636+25.50	-12.00	489.42	489.44
CL Brg. S. Abut.	636+28.75	-12.00	489.51	489.53
1A	636+38.75	-12.00	489.80	489.87
1B	636+48.75	-12.00	490.08	490.20
1C	636+58.75	-12.00	490.37	490.53
1D	636+68.75	-12.00	490.65	490.84
1E	636+78.75	-12.00	490.94	491.15
1F	636+88.75	-12.00	491.22	491.44
1G	636+98.75	-12.00	491.51	491.72
1H	637+08.75	-12.00	491.79	491.99
1I	637+18.75	-12.00	492.08	492.25
1J	637+28.75	-12.00	492.36	492.50
1K	637+38.75	-12.00	492.65	492.76
1L	637+48.75	-12.00	492.93	493.01
1M	637+58.75	-12.00	493.22	493.27
1N	637+68.75	-12.00	493.50	493.53
CL Pier 1	637+76.75	-12.00	493.73	493.75
2A	637+86.75	-12.00	494.02	494.04
2B	637+96.75	-12.00	494.30	494.33
2C	638+06.75	-12.00	494.59	494.63
2D	638+16.75	-12.00	494.87	494.93
2E	638+26.75	-12.00	495.16	495.25
2F	638+36.75	-12.00	495.44	495.55
2G	638+46.75	-12.00	495.73	495.85
2H	638+56.75	-12.00	496.01	496.14
2I	638+66.75	-12.00	496.30	496.44
2J	638+76.75	-12.00	496.59	496.73
2K	638+86.75	-12.00	496.87	497.00
2L	638+96.75	-12.00	497.16	497.27
2M	639+06.75	-12.00	497.44	497.53
2N	639+16.75	-12.00	497.73	497.80
2O	639+26.75	-12.00	498.01	498.06
2P	639+36.75	-12.00	498.30	498.33
2Q	639+46.75	-12.00	498.58	498.60
CL Pier 2	639+60.75	-12.00	498.98	499.00
3A	639+70.75	-12.00	499.27	499.30
3B	639+80.75	-12.00	499.55	499.61
3C	639+90.75	-12.00	499.84	499.92
3D	640+00.75	-12.00	500.12	500.24
3E	640+10.75	-12.00	500.41	500.56
3F	640+20.75	-12.00	500.69	500.87
3G	640+30.75	-12.00	500.98	501.18
3H	640+40.75	-12.00	501.26	501.48
3I	640+50.75	-12.00	501.55	501.77
3J	640+60.75	-12.00	501.83	502.04
3K	640+70.75	-12.00	502.12	502.31
3L	640+80.75	-12.00	502.40	502.56
3M	640+90.75	-12.00	502.69	502.80
3N	641+00.75	-12.00	502.98	503.04
CL Brg. Pier 3	641+08.75	-12.00	503.20	503.22
CL Exp. Jt. Pier 3	641+10.21	-12.00	503.24	503.26
CL Pier 3	641+10.33	-12.00	503.25	503.27

GIRDER 3 - UNIT 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	636+25.50	-4.00	489.54	489.56
CL Brg. S. Abut.	636+28.75	-4.00	489.63	489.65
1A	636+38.75	-4.00	489.92	489.99
1B	636+48.75	-4.00	490.20	490.32
1C	636+58.75	-4.00	490.49	490.65
1D	636+68.75	-4.00	490.77	490.96
1E	636+78.75	-4.00	491.06	491.27
1F	636+88.75	-4.00	491.34	491.56
1G	636+98.75	-4.00	491.63	491.84
1H	637+08.75	-4.00	491.91	492.11
1I	637+18.75	-4.00	492.20	492.37
1J	637+28.75	-4.00	492.48	492.62
1K	637+38.75	-4.00	492.77	492.88
1L	637+48.75	-4.00	493.05	493.13
1M	637+58.75	-4.00	493.34	493.39
1N	637+68.75	-4.00	493.62	493.65
CL Pier 1	637+76.75	-4.00	493.85	493.87
2A	637+86.75	-4.00	494.14	494.16
2B	637+96.75	-4.00	494.42	494.45
2C	638+06.75	-4.00	494.71	494.75
2D	638+16.75	-4.00	494.99	495.05
2E	638+26.75	-4.00	495.28	495.37
2F	638+36.75	-4.00	495.56	495.67
2G	638+46.75	-4.00	495.85	495.97
2H	638+56.75	-4.00	496.13	496.26
2I	638+66.75	-4.00	496.42	496.56
2J	638+76.75	-4.00	496.71	496.85
2K	638+86.75	-4.00	496.99	497.12
2L	638+96.75	-4.00	497.28	497.39
2M	639+06.75	-4.00	497.56	497.65
2N	639+16.75	-4.00	497.85	497.92
2O	639+26.75	-4.00	498.13	498.18
2P	639+36.75	-4.00	498.42	498.45
2Q	639+46.75	-4.00	498.70	498.72
CL Pier 2	639+60.75	-4.00	499.10	499.12
3A	639+70.75	-4.00	499.39	499.42
3B	639+80.75	-4.00	499.67	499.73
3C	639+90.75	-4.00	499.96	500.04
3D	640+00.75	-4.00	500.24	500.36
3E	640+10.75	-4.00	500.53	500.68
3F	640+20.75	-4.00	500.81	500.99
3G	640+30.75	-4.00	501.10	501.30
3H	640+40.75	-4.00	501.38	501.60
3I	640+50.75	-4.00	501.67	501.89
3J	640+60.75	-4.00	501.95	502.16
3K	640+70.75	-4.00	502.24	502.43
3L	640+80.75	-4.00	502.52	502.68
3M	640+90.75	-4.00	502.81	502.92
3N	641+00.75	-4.00	503.10	503.16
CL Brg. Pier 3	641+08.75	-4.00	503.32	503.34
CL Exp. Jt. Pier 3	641+10.21	-4.00	503.36	503.38
CL Pier 3	641+10.33	-4.00	503.37	503.39

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USER NAME = Ben Holland	DESIGNED - MAC	REVISED -
PLOT SCALE = N/A	DRAWN - MAC	REVISED -
PLOT DATE = 5/23/2023 (12:18:23 PM)	CHECKED - DH/JTH	REVISED -
	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF DECK ELEVATIONS - UNIT 1 - II
SN 009-0504**

SCALE: SHEET 10 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	206
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

P.G.L. - UNIT 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	636+25.50	0.00	489.60	489.62
CL Brg. S. Abut.	636+28.75	0.00	489.69	489.71
1A	636+38.75	0.00	489.98	490.05
1B	636+48.75	0.00	490.26	490.38
1C	636+58.75	0.00	490.55	490.71
1D	636+68.75	0.00	490.83	491.02
1E	636+78.75	0.00	491.12	491.33
1F	636+88.75	0.00	491.40	491.62
1G	636+98.75	0.00	491.69	491.90
1H	637+08.75	0.00	491.97	492.17
1I	637+18.75	0.00	492.26	492.43
1J	637+28.75	0.00	492.54	492.68
1K	637+38.75	0.00	492.83	492.94
1L	637+48.75	0.00	493.11	493.19
1M	637+58.75	0.00	493.40	493.45
1N	637+68.75	0.00	493.68	493.71
CL Pier 1	637+76.75	0.00	493.91	493.93
2A	637+86.75	0.00	494.20	494.22
2B	637+96.75	0.00	494.48	494.51
2C	638+06.75	0.00	494.77	494.81
2D	638+16.75	0.00	495.05	495.11
2E	638+26.75	0.00	495.34	495.43
2F	638+36.75	0.00	495.62	495.73
2G	638+46.75	0.00	495.91	496.03
2H	638+56.75	0.00	496.19	496.32
2I	638+66.75	0.00	496.48	496.62
2J	638+76.75	0.00	496.77	496.91
2K	638+86.75	0.00	497.05	497.18
2L	638+96.75	0.00	497.34	497.45
2M	639+06.75	0.00	497.62	497.71
2N	639+16.75	0.00	497.91	497.98
2O	639+26.75	0.00	498.19	498.24
2P	639+36.75	0.00	498.48	498.51
2Q	639+46.75	0.00	498.76	498.78
CL Pier 2	639+60.75	0.00	499.16	499.18
3A	639+70.75	0.00	499.45	499.48
3B	639+80.75	0.00	499.73	499.79
3C	639+90.75	0.00	500.02	500.10
3D	640+00.75	0.00	500.30	500.42
3E	640+10.75	0.00	500.59	500.74
3F	640+20.75	0.00	500.87	501.05
3G	640+30.75	0.00	501.16	501.36
3H	640+40.75	0.00	501.44	501.66
3I	640+50.75	0.00	501.73	501.95
3J	640+60.75	0.00	502.01	502.22
3K	640+70.75	0.00	502.30	502.49
3L	640+80.75	0.00	502.58	502.74
3M	640+90.75	0.00	502.87	502.98
3N	641+00.75	0.00	503.16	503.22
CL Brg. Pier 3	641+08.75	0.00	503.38	503.40
CL Exp. Jt. Pier 3	641+10.21	0.00	503.42	503.44
CL Pier 3	641+10.33	0.00	503.43	503.45

GIRDER 4 - UNIT 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	636+25.50	4.00	489.54	489.56
CL Brg. S. Abut.	636+28.75	4.00	489.63	489.65
1A	636+38.75	4.00	489.92	489.99
1B	636+48.75	4.00	490.20	490.32
1C	636+58.75	4.00	490.49	490.65
1D	636+68.75	4.00	490.77	490.96
1E	636+78.75	4.00	491.06	491.27
1F	636+88.75	4.00	491.34	491.56
1G	636+98.75	4.00	491.63	491.84
1H	637+08.75	4.00	491.91	492.11
1I	637+18.75	4.00	492.20	492.37
1J	637+28.75	4.00	492.48	492.62
1K	637+38.75	4.00	492.77	492.88
1L	637+48.75	4.00	493.05	493.13
1M	637+58.75	4.00	493.34	493.39
1N	637+68.75	4.00	493.62	493.65
CL Pier 1	637+76.75	4.00	493.85	493.87
2A	637+86.75	4.00	494.14	494.16
2B	637+96.75	4.00	494.42	494.45
2C	638+06.75	4.00	494.71	494.75
2D	638+16.75	4.00	494.99	495.05
2E	638+26.75	4.00	495.28	495.37
2F	638+36.75	4.00	495.56	495.67
2G	638+46.75	4.00	495.85	495.97
2H	638+56.75	4.00	496.13	496.26
2I	638+66.75	4.00	496.42	496.56
2J	638+76.75	4.00	496.71	496.85
2K	638+86.75	4.00	496.99	497.12
2L	638+96.75	4.00	497.28	497.39
2M	639+06.75	4.00	497.56	497.65
2N	639+16.75	4.00	497.85	497.92
2O	639+26.75	4.00	498.13	498.18
2P	639+36.75	4.00	498.42	498.45
2Q	639+46.75	4.00	498.70	498.72
CL Pier 2	639+60.75	4.00	499.10	499.12
3A	639+70.75	4.00	499.39	499.42
3B	639+80.75	4.00	499.67	499.73
3C	639+90.75	4.00	499.96	500.04
3D	640+00.75	4.00	500.24	500.36
3E	640+10.75	4.00	500.53	500.68
3F	640+20.75	4.00	500.81	500.99
3G	640+30.75	4.00	501.10	501.30
3H	640+40.75	4.00	501.38	501.60
3I	640+50.75	4.00	501.67	501.89
3J	640+60.75	4.00	501.95	502.16
3K	640+70.75	4.00	502.24	502.43
3L	640+80.75	4.00	502.52	502.68
3M	640+90.75	4.00	502.81	502.92
3N	641+00.75	4.00	503.10	503.16
CL Brg. Pier 3	641+08.75	4.00	503.32	503.34
CL Exp. Jt. Pier 3	641+10.21	4.00	503.36	503.38
CL Pier 3	641+10.33	4.00	503.37	503.39

GIRDER 5 - UNIT 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	636+25.50	12.00	489.42	489.44
CL Brg. S. Abut.	636+28.75	12.00	489.51	489.53
1A	636+38.75	12.00	489.80	489.87
1B	636+48.75	12.00	490.08	490.20
1C	636+58.75	12.00	490.37	490.53
1D	636+68.75	12.00	490.65	490.84
1E	636+78.75	12.00	490.94	491.15
1F	636+88.75	12.00	491.22	491.44
1G	636+98.75	12.00	491.51	491.72
1H	637+08.75	12.00	491.79	491.99
1I	637+18.75	12.00	492.08	492.25
1J	637+28.75	12.00	492.36	492.50
1K	637+38.75	12.00	492.65	492.76
1L	637+48.75	12.00	492.93	493.01
1M	637+58.75	12.00	493.22	493.27
1N	637+68.75	12.00	493.50	493.53
CL Pier 1	637+76.75	12.00	493.73	493.75
2A	637+86.75	12.00	494.02	494.04
2B	637+96.75	12.00	494.30	494.33
2C	638+06.75	12.00	494.59	494.63
2D	638+16.75	12.00	494.87	494.93
2E	638+26.75	12.00	495.16	495.25
2F	638+36.75	12.00	495.44	495.55
2G	638+46.75	12.00	495.73	495.85
2H	638+56.75	12.00	496.01	496.14
2I	638+66.75	12.00	496.30	496.44
2J	638+76.75	12.00	496.59	496.73
2K	638+86.75	12.00	496.87	497.00
2L	638+96.75	12.00	497.16	497.27
2M	639+06.75	12.00	497.44	497.53
2N	639+16.75	12.00	497.73	497.80
2O	639+26.75	12.00	498.01	498.06
2P	639+36.75	12.00	498.30	498.33
2Q	639+46.75	12.00	498.58	498.60
CL Pier 2	639+60.75	12.00	498.98	499.00
3A	639+70.75	12.00	499.27	499.30
3B	639+80.75	12.00	499.55	499.61
3C	639+90.75	12.00	499.84	499.92
3D	640+00.75	12.00	500.12	500.24
3E	640+10.75	12.00	500.41	500.56
3F	640+20.75	12.00	500.69	500.87
3G	640+30.75	12.00	500.98	501.18
3H	640+40.75	12.00	501.26	501.48
3I	640+50.75	12.00	501.55	501.77
3J	640+60.75	12.00	501.83	502.04
3K	640+70.75	12.00	502.12	502.31
3L	640+80.75	12.00	502.40	502.56
3M	640+90.75	12.00	502.69	502.80
3N	641+00.75	12.00	502.98	503.04
CL Brg. Pier 3	641+08.75	12.00	503.20	503.22
CL Exp. Jt. Pier 3	641+10.21	12.00	503.24	503.26
CL Pier 3	641+10.33	12.00	503.25	503.27

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USER NAME = Ben Holland	DESIGNED - MAC	REVISED -
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PLOT DATE = 5/23/2023 (12:18:24 PM)	CHECKED - DH/JTH	REVISED -
	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS - UNIT 1 - III
SN 009-0504

SCALE: SHEET 11 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	207
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

GIRDER 6 - UNIT 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	636+25.50	20.00	489.26	489.28
CL Brg. S. Abut.	636+28.75	20.00	489.35	489.37
1A	636+38.75	20.00	489.64	489.71
1B	636+48.75	20.00	489.92	490.04
1C	636+58.75	20.00	490.21	490.36
1D	636+68.75	20.00	490.49	490.67
1E	636+78.75	20.00	490.78	490.98
1F	636+88.75	20.00	491.06	491.27
1G	636+98.75	20.00	491.35	491.55
1H	637+08.75	20.00	491.63	491.82
1I	637+18.75	20.00	491.92	492.08
1J	637+28.75	20.00	492.20	492.33
1K	637+38.75	20.00	492.49	492.59
1L	637+48.75	20.00	492.77	492.84
1M	637+58.75	20.00	493.06	493.11
1N	637+68.75	20.00	493.34	493.37
CL Pier 1	637+76.75	20.00	493.57	493.59
2A	637+86.75	20.00	493.86	493.88
2B	637+96.75	20.00	494.14	494.17
2C	638+06.75	20.00	494.43	494.47
2D	638+16.75	20.00	494.71	494.77
2E	638+26.75	20.00	495.00	495.08
2F	638+36.75	20.00	495.28	495.38
2G	638+46.75	20.00	495.57	495.69
2H	638+56.75	20.00	495.85	495.98
2I	638+66.75	20.00	496.14	496.27
2J	638+76.75	20.00	496.43	496.56
2K	638+86.75	20.00	496.71	496.83
2L	638+96.75	20.00	497.00	497.11
2M	639+06.75	20.00	497.28	497.37
2N	639+16.75	20.00	497.57	497.64
2O	639+26.75	20.00	497.85	497.90
2P	639+36.75	20.00	498.14	498.17
2Q	639+46.75	20.00	498.42	498.44
CL Pier 2	639+60.75	20.00	498.82	498.84
3A	639+70.75	20.00	499.11	499.14
3B	639+80.75	20.00	499.39	499.44
3C	639+90.75	20.00	499.68	499.76
3D	640+00.75	20.00	499.96	500.07
3E	640+10.75	20.00	500.25	500.39
3F	640+20.75	20.00	500.53	500.70
3G	640+30.75	20.00	500.82	501.01
3H	640+40.75	20.00	501.10	501.31
3I	640+50.75	20.00	501.39	501.60
3J	640+60.75	20.00	501.67	501.87
3K	640+70.75	20.00	501.96	502.14
3L	640+80.75	20.00	502.24	502.39
3M	640+90.75	20.00	502.53	502.64
3N	641+00.75	20.00	502.82	502.88
CL Brg. Pier 3	641+08.75	20.00	503.04	503.06
CL Exp. Jt. Pier 3	641+10.21	20.00	503.08	503.10
CL Pier 3	641+10.33	20.00	503.09	503.11

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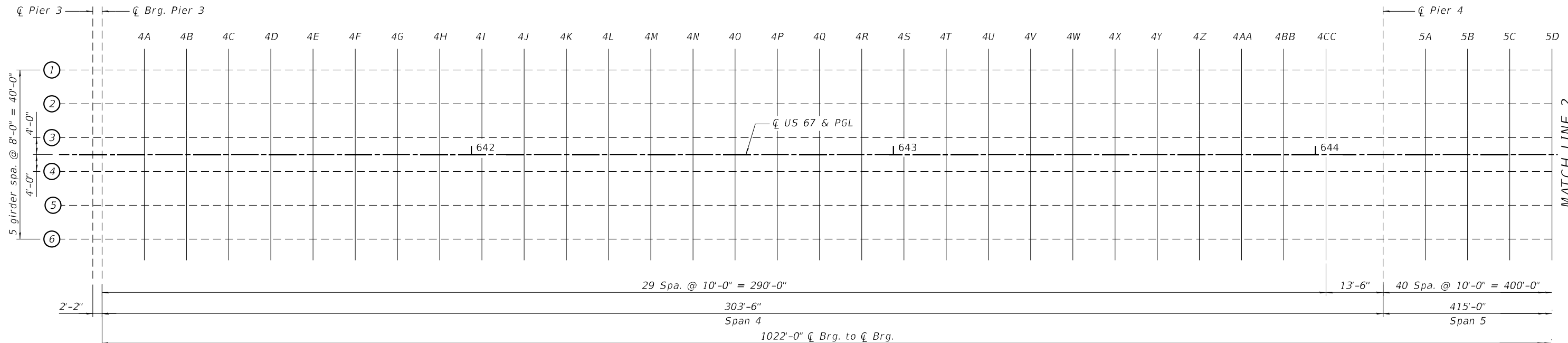
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	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

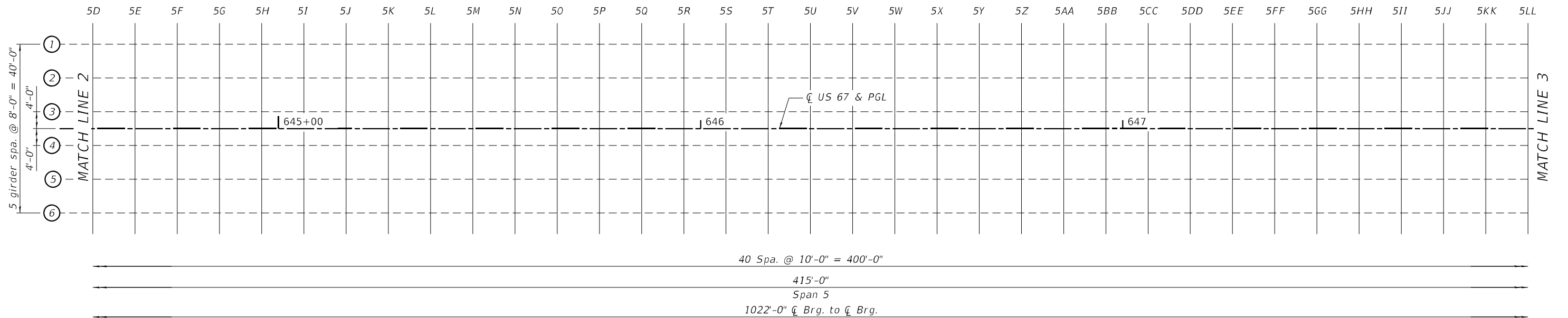
**TOP OF DECK ELEVATIONS - UNIT 1 - IV
SN 009-0504**

SCALE: SHEET 12 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	208
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



PARTIAL DECK ELEVATION LAYOUT - UNIT 2



PARTIAL DECK ELEVATION LAYOUT - UNIT 2

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-013-Top of Deck Elevations_Unit 2.dgn



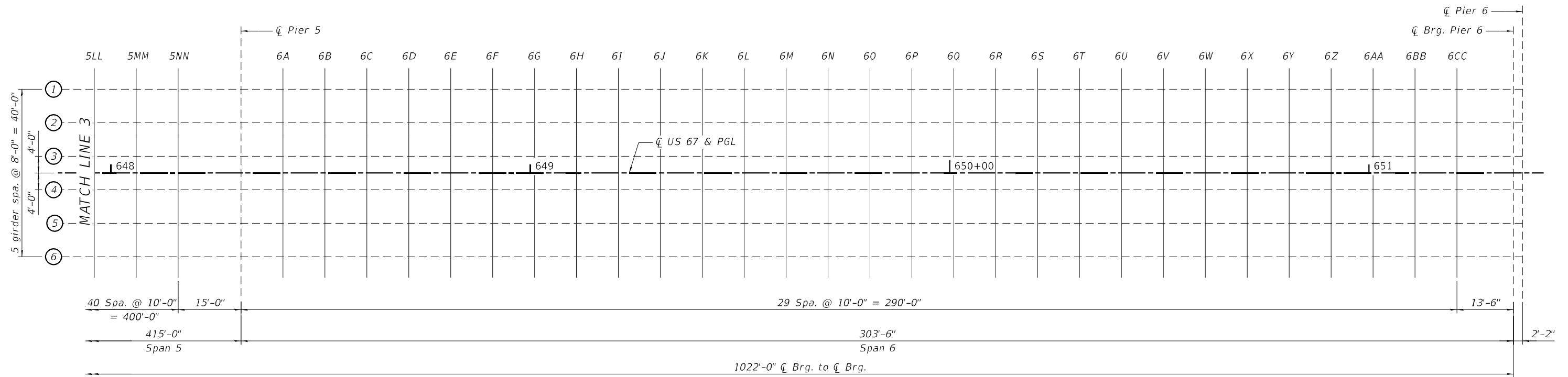
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PLOT DATE = 5/23/2023 (12:18:26 PM)	CHECKED - DH/JTH	REVISED -
	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

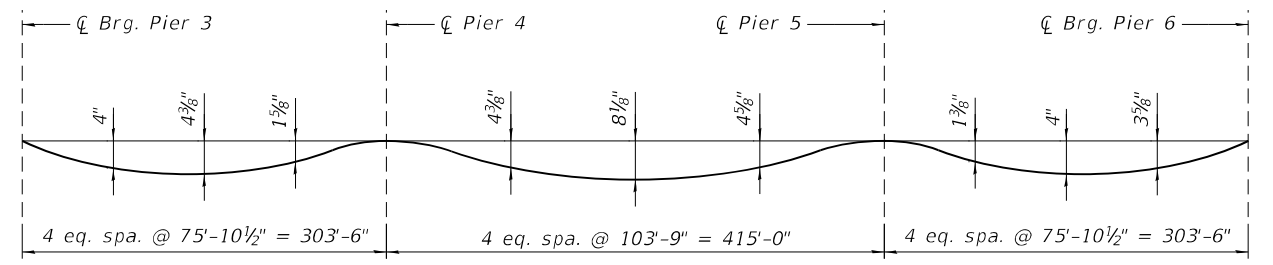
**TOP OF DECK ELEVATIONS - UNIT 2 - I
SN 009-0504**

SCALE: SHEET 13 OF 162 SHEETS STA. TO STA.

F.A.P. RTE. 310	SECTION (86B-1, 87C)R	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 209
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



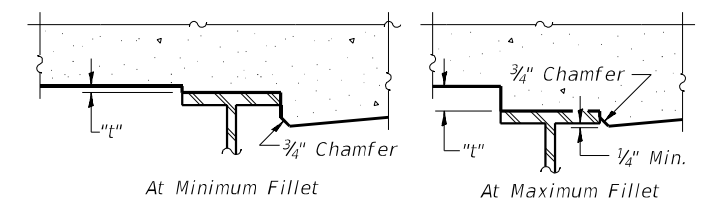
PARTIAL DECK ELEVATION LAYOUT - UNIT 2



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown on sheets 10 thru 12 of 162.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown on this sheet and sheet 13 of 162. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown on sheets 15 thru 18 of 162, minus 8 1/4" deck thickness, equals the fillet heights "t" above top flange of girders.
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 on sheets 15 thru 18 of 162. For grinding the deck, see Special Provisions.

FILLET HEIGHTS

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PLOT DATE = 5/23/2023 (12:18:26 PM)	CHECKED - DH/JTH	REVISED -
	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF DECK ELEVATIONS - UNIT 2 - II
SN 009-0504**

SCALE: SHEET 14 OF 162 SHEETS STA. TO STA.

F.A.P. RTE. 310	SECTION (86B-1, 87C)R	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 210
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

GIRDER 1 - UNIT 2

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 3, CL Brg. Pier 3, 4A-4Z, 4AA-4CC, CL Pier 4, 5A-5N, 5NN, and CL Pier 5.

GIRDER 1 - UNIT 2 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include 6A-6CC, CL Brg. Pier 6, and CL Pier 6.

GIRDER 2 - UNIT 2 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 4, 5A-5NN, CL Pier 5, 6A-6CC, CL Brg. Pier 6, and CL Pier 6.

GIRDER 2 - UNIT 2

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 3, CL Brg. Pier 3, 4A-4CC.

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USER NAME = Ben Holland
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DRAWN - MAC
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REVISION -
CHECKED - DH/JTH
DATE - May 2023

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS - UNIT 2 - III
SN 009-0504

SCALE: SHEET 15 OF 162 SHEETS STA. TO STA.

Table with 4 columns: F.A.P. RTE., SECTION, COUNTY, TOTAL SHEETS. Values: 310, (86B-1, 87CR), CASS/SCHUYLER, 455, 211. CONTRACT NO. 72K47

ILLINOIS FED. AID PROJECT

GIRDER 6 - UNIT 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
CL Pier 3	641+10.33	20.00	503.09	503.11
CL Brg. Pier 3	641+12.50	20.00	503.15	503.17
4A	641+22.50	20.00	503.44	503.51
4B	641+32.50	20.00	503.72	503.85
4C	641+42.50	20.00	504.01	504.18
4D	641+52.50	20.00	504.29	504.51
4E	641+62.50	20.00	504.57	504.83
4F	641+72.50	20.00	504.85	505.15
4G	641+82.50	20.00	505.12	505.45
4H	641+92.50	20.00	505.39	505.75
4I	642+02.50	20.00	505.65	506.03
4J	642+12.50	20.00	505.90	506.30
4K	642+22.50	20.00	506.15	506.56
4L	642+32.50	20.00	506.39	506.80
4M	642+42.50	20.00	506.63	507.04
4N	642+52.50	20.00	506.86	507.26
4O	642+62.50	20.00	507.08	507.47
4P	642+72.50	20.00	507.30	507.67
4Q	642+82.50	20.00	507.51	507.86
4R	642+92.50	20.00	507.71	508.03
4S	643+02.50	20.00	507.91	508.20
4T	643+12.50	20.00	508.10	508.36
4U	643+22.50	20.00	508.29	508.51
4V	643+32.50	20.00	508.47	508.66
4W	643+42.50	20.00	508.64	508.79
4X	643+52.50	20.00	508.81	508.93
4Y	643+62.50	20.00	508.97	509.06
4Z	643+72.50	20.00	509.13	509.20
4AA	643+82.50	20.00	509.28	509.33
4BB	643+92.50	20.00	509.42	509.45
4CC	644+02.50	20.00	509.56	509.58
CL Pier 4	644+16.00	20.00	509.74	509.76
5A	644+26.00	20.00	509.86	509.89
5B	644+36.00	20.00	509.98	510.03
5C	644+46.00	20.00	510.09	510.16
5D	644+56.00	20.00	510.20	510.30
5E	644+66.00	20.00	510.30	510.44
5F	644+76.00	20.00	510.39	510.57
5G	644+86.00	20.00	510.48	510.70
5H	644+96.00	20.00	510.56	510.83
5I	645+06.00	20.00	510.63	510.94
5J	645+16.00	20.00	510.70	511.06
5K	645+26.00	20.00	510.77	511.18
5L	645+36.00	20.00	510.82	511.28
5M	645+46.00	20.00	510.87	511.38
5N	645+56.00	20.00	510.92	511.47
5O	645+66.00	20.00	510.96	511.55
5P	645+76.00	20.00	510.99	511.61
5Q	645+86.00	20.00	511.02	511.67
5R	645+96.00	20.00	511.04	511.71
5S	646+06.00	20.00	511.05	511.74
5T	646+16.00	20.00	511.06	511.76
5U	646+26.00	20.00	511.06	511.76
5V	646+36.00	20.00	511.06	511.76
5W	646+46.00	20.00	511.05	511.74
5X	646+56.00	20.00	511.03	511.70
5Y	646+66.00	20.00	511.01	511.66
5Z	646+76.00	20.00	510.98	511.60
5AA	646+86.00	20.00	510.95	511.54
5BB	646+96.00	20.00	510.91	511.46
5CC	647+06.00	20.00	510.86	511.36
5DD	647+16.00	20.00	510.81	511.27
5EE	647+26.00	20.00	510.75	511.16
5FF	647+36.00	20.00	510.69	511.05
5GG	647+46.00	20.00	510.62	510.93
5HH	647+56.00	20.00	510.54	510.80
5II	647+66.00	20.00	510.46	510.67
5JJ	647+76.00	20.00	510.37	510.54
5KK	647+86.00	20.00	510.27	510.40
5LL	647+96.00	20.00	510.17	510.27
5MM	648+06.00	20.00	510.06	510.13
5NN	648+16.00	20.00	509.95	509.99
CL Pier 5	648+31.00	20.00	509.77	509.79

GIRDER 6 - UNIT 2 CONTINUED

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
6A	648+41.00	20.00	509.64	509.66
6B	648+51.00	20.00	509.51	509.53
6C	648+61.00	20.00	509.37	509.41
6D	648+71.00	20.00	509.22	509.27
6E	648+81.00	20.00	509.07	509.14
6F	648+91.00	20.00	508.91	509.00
6G	649+01.00	20.00	508.74	508.86
6H	649+11.00	20.00	508.57	508.72
6I	649+21.00	20.00	508.40	508.58
6J	649+31.00	20.00	508.23	508.44
6K	649+41.00	20.00	508.06	508.31
6L	649+51.00	20.00	507.89	508.17
6M	649+61.00	20.00	507.72	508.02
6N	649+71.00	20.00	507.55	507.88
6O	649+81.00	20.00	507.38	507.73
6P	649+91.00	20.00	507.21	507.57
6Q	650+01.00	20.00	507.04	507.41
6R	650+11.00	20.00	506.87	507.25
6S	650+21.00	20.00	506.70	507.08
6T	650+31.00	20.00	506.53	506.90
6U	650+41.00	20.00	506.36	506.72
6V	650+51.00	20.00	506.19	506.53
6W	650+61.00	20.00	506.02	506.34
6X	650+71.00	20.00	505.85	506.14
6Y	650+81.00	20.00	505.68	505.94
6Z	650+91.00	20.00	505.51	505.73
6AA	651+01.00	20.00	505.34	505.52
6BB	651+11.00	20.00	505.17	505.30
6CC	651+21.00	20.00	505.00	505.09
CL Brg. Pier 6	651+34.50	20.00	504.77	504.79
CL Pier 6	651+36.67	20.00	504.73	504.75

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 DRAWN - MAC
 CHECKED - DH/JTH
 DATE - May 2023

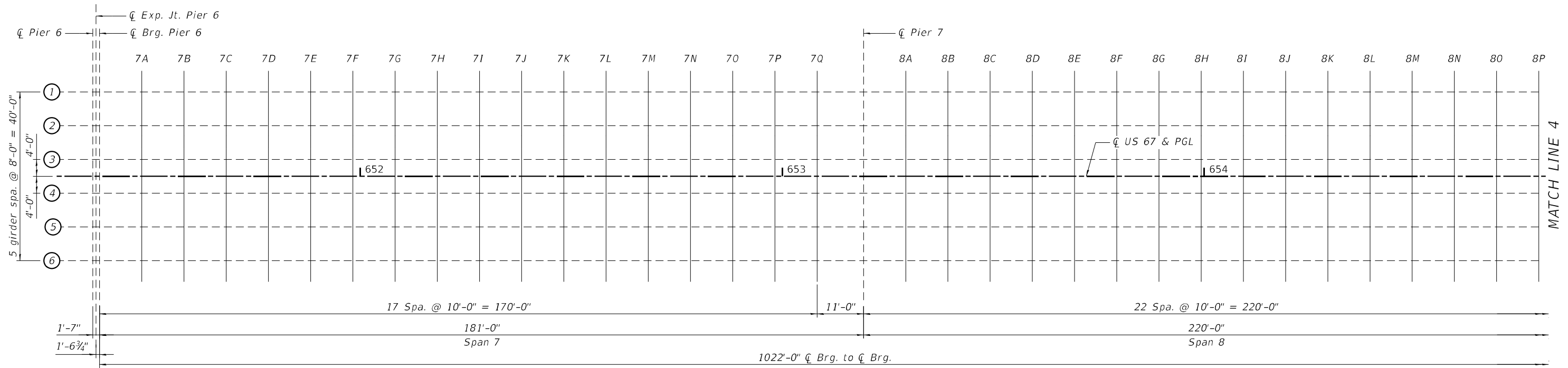
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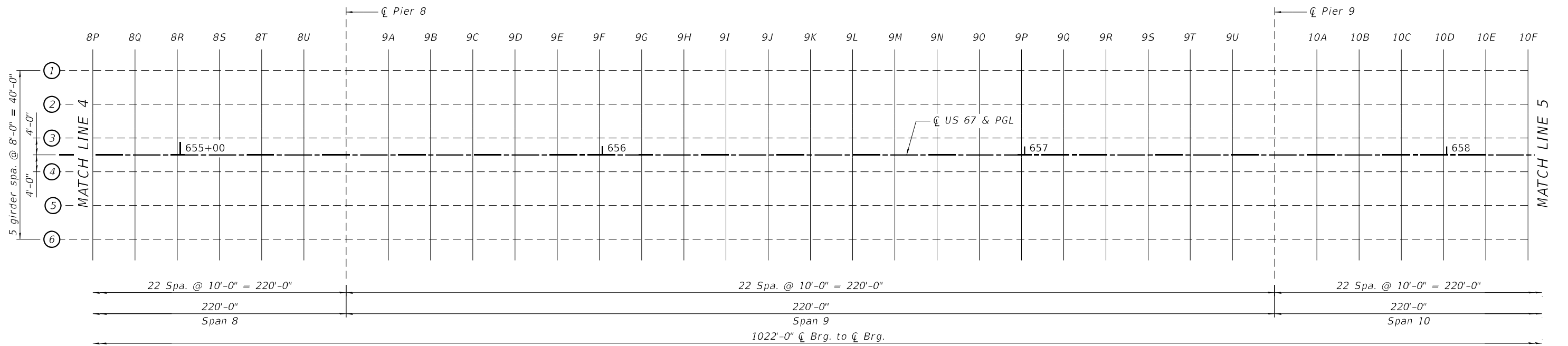
TOP OF DECK ELEVATIONS - UNIT 2 - VI
 SN 009-0504

SCALE: SHEET 18 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	214
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



PARTIAL DECK ELEVATION LAYOUT - UNIT 3



PARTIAL DECK ELEVATION LAYOUT - UNIT 3

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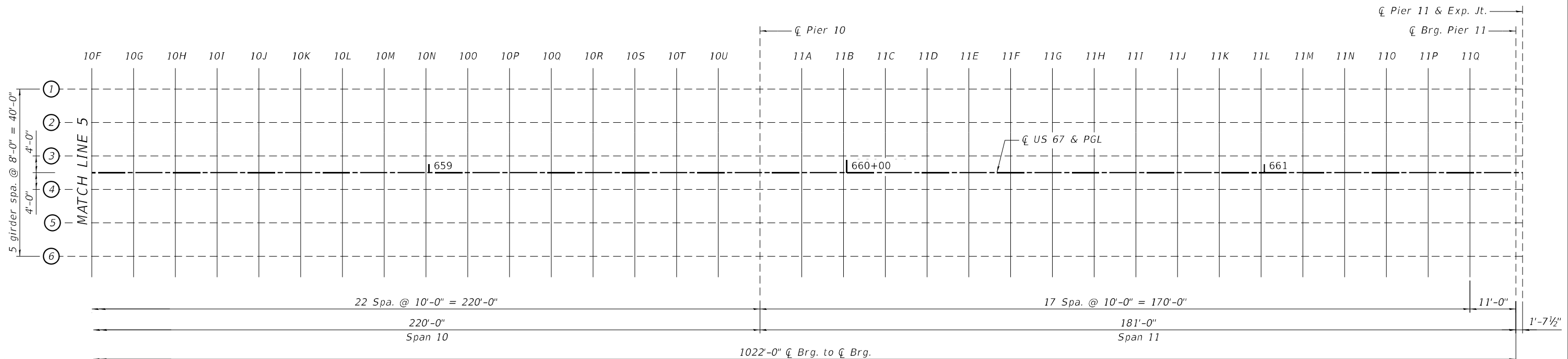
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	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

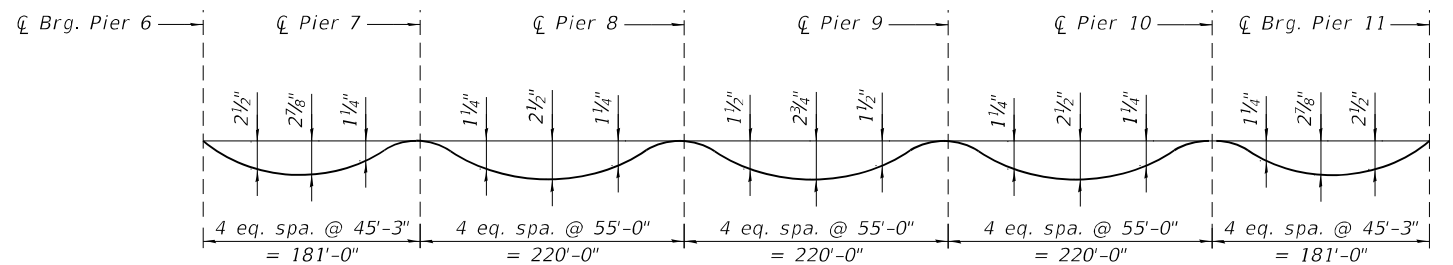
**TOP OF DECK ELEVATIONS - UNIT 3 - I
SN 009-0504**

SCALE: SHEET 19 OF 162 SHEETS STA. TO STA.

F.A.P. RTE. 310	SECTION (86B-1, 87C)R	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 215
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



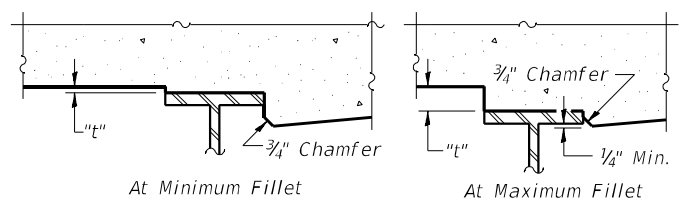
PARTIAL DECK ELEVATION LAYOUT - UNIT 3



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown on sheets 21 thru 24 of 162.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown on this sheet and sheet 19 of 162. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown on sheets 21 thru 24 of 162, minus 8 1/4" deck thickness, equals the fillet heights "t" above top flange of girders.
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 on sheets 21 thru 24 of 162. For grinding the deck, see Special Provisions.

FILLET HEIGHTS

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	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF DECK ELEVATIONS - UNIT 3 - II
SN 009-0504**

SCALE: SHEET 20 OF 162 SHEETS STA. TO STA.

F.A.P. RTE. 310	SECTION (86B-1, 87C)R	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 216
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

GIRDER 1 - UNIT 3

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 6, CL Exp. Jt. Pier 6, CL Brg. Pier 6, and various pier locations (7A-7I, 8A-8I, 9A-9I, 10A-10I).

GIRDER 1 - UNIT 3 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include locations 10J-11Q and CL Pier 10 & Exp. Jt.

GIRDER 2 - UNIT 3 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include locations 8L-11Q and CL Pier 8 & Exp. Jt.

GIRDER 2 - UNIT 3

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 6, CL Exp. Jt. Pier 6, CL Brg. Pier 6, and various pier locations (7A-7I, 8A-8I, 9A-9I, 10A-10I).

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS - UNIT 3 - III SN 009-0504

Table with 4 columns: SCALE, SHEET, OF, TO STA. Values include 21 OF 162 SHEETS.

Table with 6 columns: F.A.P. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO. Values include 310, (86B-1, 87CR), CASS/SCHUYLER, 455, 217, 72K47.

GIRDER 3 - UNIT 3

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Lists data for piers 6, 7, 8, and 9.

GIRDER 3 - UNIT 3 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Lists data for piers 10 and 11.

P.G.L. - UNIT 3 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Lists data for piers 8 through 11.

P.G.L. - UNIT 3

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Lists data for piers 6 through 11.

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Table with 4 columns: USER NAME, DESIGNED, DRAWN, PLOT SCALE, PLOT DATE, and their respective values and dates.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS - UNIT 3 - IV SN 009-0504

SCALE: SHEET 22 OF 162 SHEETS STA. TO STA.

Table with 4 columns: F.A.P. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., and their respective values.

GIRDER 4 - UNIT 3

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 6, CL Exp. Jt. Pier 6, CL Brg. Pier 6, and various pier locations (7A-10I).

GIRDER 4 - UNIT 3 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include locations 10J-11Q and CL Brg. Pier 11.

GIRDER 5 - UNIT 3 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include various pier locations (8L-11Q) and CL Brg. Pier 11.

GIRDER 5 - UNIT 3

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 6, CL Exp. Jt. Pier 6, CL Brg. Pier 6, and various pier locations (7A-8K).

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS - UNIT 3 - V SN 009-0504

SCALE: SHEET 23 OF 162 SHEETS STA. TO STA.

Project information table with columns: F.A.P. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO., and ILLINOIS FED. AID PROJECT.

GIRDER 6 - UNIT 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
CL Pier 6	651+36.67	20.00	504.73	504.75
CL Exp. Jt. Pier 6	651+36.69	20.00	504.73	504.75
CL Brg. Pier 6	651+38.25	20.00	504.71	504.73
7A	651+48.25	20.00	504.54	504.62
7B	651+58.25	20.00	504.37	504.50
7C	651+68.25	20.00	504.20	504.38
7D	651+78.25	20.00	504.03	504.25
7E	651+88.25	20.00	503.86	504.11
7F	651+98.25	20.00	503.69	503.96
7G	652+08.25	20.00	503.52	503.80
7H	652+18.25	20.00	503.34	503.62
7I	652+28.25	20.00	503.17	503.44
7J	652+38.25	20.00	503.00	503.25
7K	652+48.25	20.00	502.83	503.05
7L	652+58.25	20.00	502.66	502.85
7M	652+68.25	20.00	502.49	502.64
7N	652+78.25	20.00	502.32	502.43
7O	652+88.25	20.00	502.15	502.23
7P	652+98.25	20.00	501.98	502.03
7Q	653+08.25	20.00	501.81	501.84
CL Pier 7	653+19.25	20.00	501.63	501.65
8A	653+29.25	20.00	501.46	501.48
8B	653+39.25	20.00	501.29	501.32
8C	653+49.25	20.00	501.11	501.16
8D	653+59.25	20.00	500.94	501.02
8E	653+69.25	20.00	500.77	500.88
8F	653+79.25	20.00	500.60	500.74
8G	653+89.25	20.00	500.43	500.59
8H	653+99.25	20.00	500.26	500.45
8I	654+09.25	20.00	500.09	500.30
8J	654+19.25	20.00	499.92	500.14
8K	654+29.25	20.00	499.75	499.98
8L	654+39.25	20.00	499.58	499.80
8M	654+49.25	20.00	499.41	499.62
8N	654+59.25	20.00	499.24	499.43
8O	654+69.25	20.00	499.07	499.24
8P	654+79.25	20.00	498.90	499.04
8Q	654+89.25	20.00	498.73	498.84
8R	654+99.25	20.00	498.56	498.64
8S	655+09.25	20.00	498.39	498.45
8T	655+19.25	20.00	498.22	498.26
8U	655+29.25	20.00	498.05	498.08
CL Pier 8	655+39.25	20.00	497.88	497.90
9A	655+49.25	20.00	497.71	497.74
9B	655+59.25	20.00	497.54	497.58
9C	655+69.25	20.00	497.37	497.44
9D	655+79.25	20.00	497.20	497.30
9E	655+89.25	20.00	497.03	497.16
9F	655+99.25	20.00	496.86	497.02
9G	656+09.25	20.00	496.69	496.88
9H	656+19.25	20.00	496.52	496.74
9I	656+29.25	20.00	496.35	496.59
9J	656+39.25	20.00	496.18	496.43
9K	656+49.25	20.00	496.01	496.26
9L	656+59.25	20.00	495.84	496.09
9M	656+69.25	20.00	495.67	495.91
9N	656+79.25	20.00	495.50	495.72
9O	656+89.25	20.00	495.33	495.52
9P	656+99.25	20.00	495.16	495.32
9Q	657+09.25	20.00	494.99	495.12
9R	657+19.25	20.00	494.82	494.92
9S	657+29.25	20.00	494.65	494.72
9T	657+39.25	20.00	494.48	494.52
9U	657+49.25	20.00	494.31	494.34
CL Pier 9	657+59.25	20.00	494.14	494.16
10A	657+69.25	20.00	493.97	494.00
10B	657+79.25	20.00	493.80	493.84
10C	657+89.25	20.00	493.63	493.69
10D	657+99.25	20.00	493.46	493.54
10E	658+09.25	20.00	493.28	493.39
10F	658+19.25	20.00	493.11	493.25
10G	658+29.25	20.00	492.94	493.11
10H	658+39.25	20.00	492.77	492.96
10I	658+49.25	20.00	492.60	492.81

GIRDER 6 - UNIT 3 CONTINUED

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
10J	658+59.25	20.00	492.43	492.65
10K	658+69.25	20.00	492.26	492.49
10L	658+79.25	20.00	492.09	492.31
10M	658+89.25	20.00	491.92	492.13
10N	658+99.25	20.00	491.75	491.94
10O	659+09.25	20.00	491.58	491.74
10P	659+19.25	20.00	491.41	491.55
10Q	659+29.25	20.00	491.24	491.35
10R	659+39.25	20.00	491.07	491.15
10S	659+49.25	20.00	490.90	490.95
10T	659+59.25	20.00	490.73	490.76
10U	659+69.25	20.00	490.56	490.58
CL Pier 10	659+79.25	20.00	490.39	490.41
11A	659+89.25	20.00	490.22	490.25
11B	659+99.25	20.00	490.05	490.10
11C	660+09.25	20.00	489.88	489.96
11D	660+19.25	20.00	489.71	489.82
11E	660+29.25	20.00	489.54	489.69
11F	660+39.25	20.00	489.37	489.55
11G	660+49.25	20.00	489.20	489.42
11H	660+59.25	20.00	489.03	489.27
11I	660+69.25	20.00	488.86	489.12
11J	660+79.25	20.00	488.69	488.97
11K	660+89.25	20.00	488.52	488.80
11L	660+99.25	20.00	488.35	488.62
11M	661+09.25	20.00	488.18	488.43
11N	661+19.25	20.00	488.01	488.23
11O	661+29.25	20.00	487.84	488.02
11P	661+39.25	20.00	487.67	487.80
11Q	661+49.25	20.00	487.50	487.58
CL Brg. Pier 11	661+60.25	20.00	487.31	487.33
CL Pier 11 & Exp. Jt.	661+61.88	20.00	487.28	487.30

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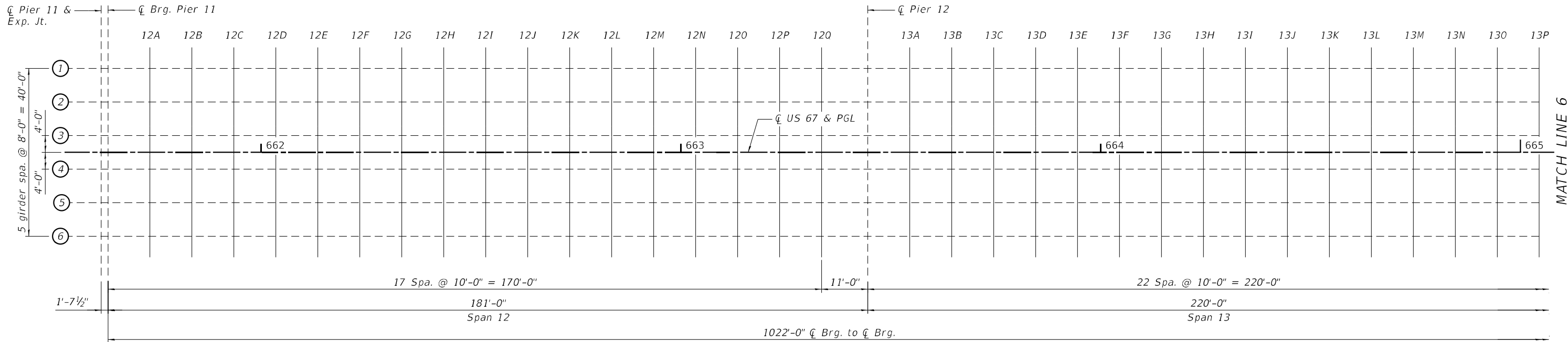
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	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

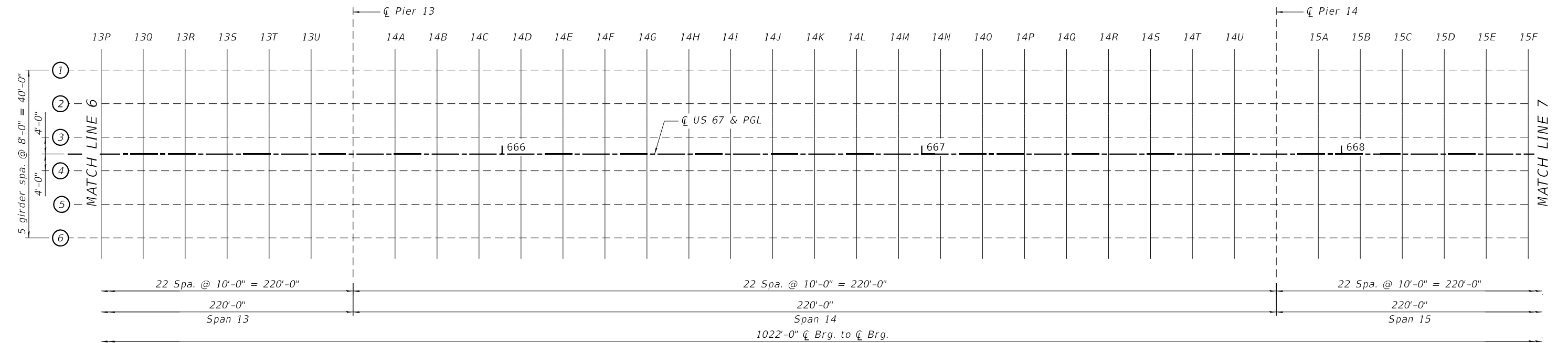
TOP OF DECK ELEVATIONS - UNIT 3 - VI
SN 009-0504

SCALE: SHEET 24 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	220
CONTRACT NO. 72K47				
ILLINOIS FED. AID PROJECT				



PARTIAL DECK ELEVATION LAYOUT - UNIT 4



PARTIAL DECK ELEVATION LAYOUT - UNIT 4

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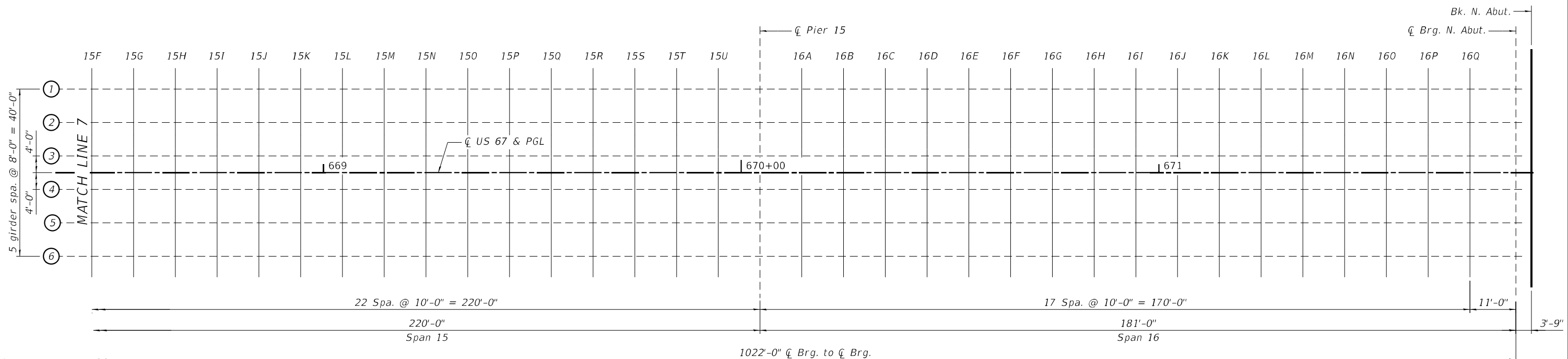
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	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

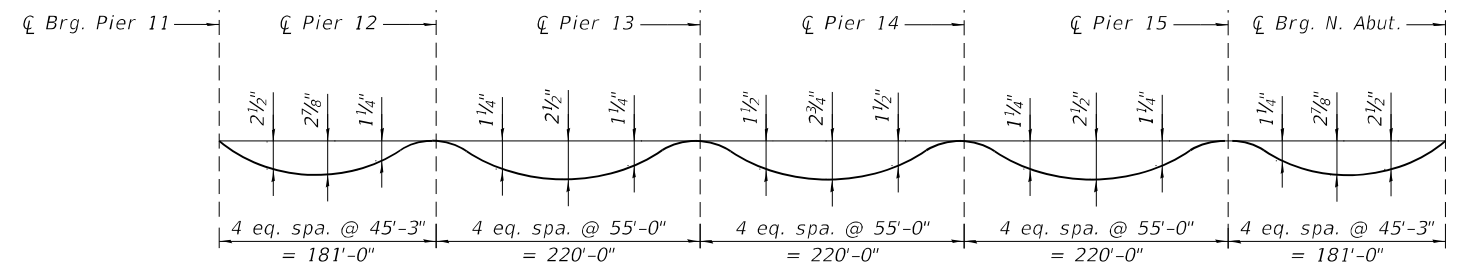
**TOP OF DECK ELEVATIONS - UNIT 4 - I
SN 009-0504**

SCALE: SHEET 25 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	221
CONTRACT NO. 72K47				
ILLINOIS FED. AID PROJECT				



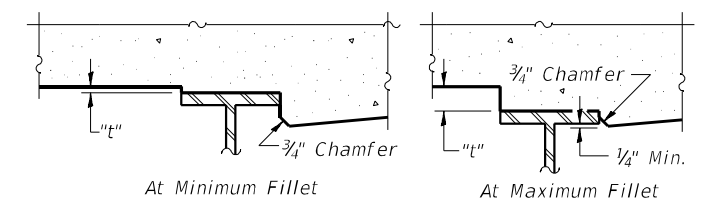
PARTIAL DECK ELEVATION LAYOUT - UNIT 4



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown on sheets 27 thru 30 of 162.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown on this sheet and sheet 25 of 162. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown on sheets 27 thru 30 of 162, minus 8 1/4" deck thickness, equals the fillet heights "t" above top flange of girders.
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 on sheets 27 thru 30 of 162. For grinding the deck, see Special Provisions.

FILLET HEIGHTS

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	USER NAME = Ben Holland	DESIGNED - MAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF DECK ELEVATIONS - UNIT 4 - II SN 009-0504		F.A.P. RTE. = 310	SECTION = (86B-1, 87C)R	COUNTY = CASS/SCHUYLER	TOTAL SHEETS = 455	SHEET NO. = 222
	PLOT SCALE = N/A	CHECKED - DH/JTH	REVISED -				SCALE:	SHEET 26 OF 162 SHEETS	STA. TO STA.	CONTRACT NO. 72K47	
License No. 184-000613	PLOT DATE = 5/23/2023 (12:18:55 PM)	DATE = May 2023	REVISED -								

GIRDER 1 - UNIT 4

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 11 & Exp. Jt., CL Brg. Pier 11, and CL Pier 12.

GIRDER 1 - UNIT 4 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 15 and CL Brg. N. Abut.

GIRDER 2 - UNIT 4 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 13, CL Pier 14, and CL Pier 15.

GIRDER 2 - UNIT 4

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 11 & Exp. Jt., CL Brg. Pier 11, and CL Pier 12.

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Table with 4 columns: USER NAME, DESIGNED, DRAWN, PLOT SCALE, PLOT DATE. Values include Ben Holland, MAC, N/A, 5/23/2023 (12:18:56 PM).

Table with 4 columns: REVISIONS. Values include MAC, DH/JTH, May 2023.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS - UNIT 4 - III SN 009-0504

SCALE: SHEET 27 OF 162 SHEETS STA. TO STA.

Table with 6 columns: F.A.P. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO. Values include 310, (86B-1, 87CR), CASS/SCHUYLER, 455, 223, 72K47.

ILLINOIS FED. AID PROJECT

GIRDER 3 - UNIT 4

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 11 & Exp. Jt., CL Brg. Pier 11, CL Pier 12, CL Pier 13, and CL Pier 14.

GIRDER 3 - UNIT 4 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 15 and CL Brg. N. Abut.

P.G.L. - UNIT 4 CONTINUED

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 13, CL Pier 14, and CL Pier 15.

P.G.L. - UNIT 4

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding. Rows include CL Pier 11 & Exp. Jt., CL Brg. Pier 11, and CL Pier 12.

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Table with 4 columns: USER NAME, DESIGNED, DRAWN, PLOT SCALE, PLOT DATE, and their corresponding values.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS - UNIT 4 - IV SN 009-0504

SCALE: SHEET 28 OF 162 SHEETS STA. TO STA.

Table with 4 columns: F.A.P. R.T.E., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., and their corresponding values.

GIRDER 6 - UNIT 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
CL Pier 11 & Exp. Jt.	661+61.88	20.00	487.28	487.30
CL Brg. Pier 11	661+63.50	20.00	487.26	487.28
12A	661+73.50	20.00	487.08	487.16
12B	661+83.50	20.00	486.91	487.04
12C	661+93.50	20.00	486.74	486.92
12D	662+03.50	20.00	486.57	486.79
12E	662+13.50	20.00	486.40	486.65
12F	662+23.50	20.00	486.23	486.50
12G	662+33.50	20.00	486.06	486.34
12H	662+43.50	20.00	485.89	486.17
12I	662+53.50	20.00	485.72	485.99
12J	662+63.50	20.00	485.55	485.80
12K	662+73.50	20.00	485.38	485.60
12L	662+83.50	20.00	485.21	485.40
12M	662+93.50	20.00	485.04	485.19
12N	663+03.50	20.00	484.87	484.98
12O	663+13.50	20.00	484.70	484.78
12P	663+23.50	20.00	484.53	484.58
12Q	663+33.50	20.00	484.36	484.39
CL Pier 12	663+44.50	20.00	484.17	484.19
13A	663+54.50	20.00	484.00	484.02
13B	663+64.50	20.00	483.83	483.86
13C	663+74.50	20.00	483.66	483.71
13D	663+84.50	20.00	483.49	483.57
13E	663+94.50	20.00	483.32	483.43
13F	664+04.50	20.00	483.15	483.29
13G	664+14.50	20.00	482.98	483.14
13H	664+24.50	20.00	482.81	483.00
13I	664+34.50	20.00	482.64	482.85
13J	664+44.50	20.00	482.47	482.69
13K	664+54.50	20.00	482.30	482.53
13L	664+64.50	20.00	482.13	482.35
13M	664+74.50	20.00	481.96	482.17
13N	664+84.50	20.00	481.79	481.98
13O	664+94.50	20.00	481.62	481.79
13P	665+04.50	20.00	481.45	481.59
13Q	665+14.50	20.00	481.28	481.39
13R	665+24.50	20.00	481.11	481.19
13S	665+34.50	20.00	480.94	481.00
13T	665+44.50	20.00	480.77	480.81
13U	665+54.50	20.00	480.60	480.63
CL Pier 13	665+64.50	20.00	480.43	480.45
14A	665+74.50	20.00	480.26	480.29
14B	665+84.50	20.00	480.09	480.13
14C	665+94.50	20.00	479.92	479.99
14D	666+04.50	20.00	479.75	479.85
14E	666+14.50	20.00	479.58	479.71
14F	666+24.50	20.00	479.41	479.57
14G	666+34.50	20.00	479.24	479.43
14H	666+44.50	20.00	479.07	479.29
14I	666+54.50	20.00	478.90	479.14
14J	666+64.50	20.00	478.73	478.98
14K	666+74.50	20.00	478.56	478.81
14L	666+84.50	20.00	478.39	478.64
14M	666+94.50	20.00	478.22	478.46
14N	667+04.50	20.00	478.05	478.27
14O	667+14.50	20.00	477.88	478.07
14P	667+24.50	20.00	477.71	477.87
14Q	667+34.50	20.00	477.54	477.67
14R	667+44.50	20.00	477.37	477.47
14S	667+54.50	20.00	477.20	477.27
14T	667+64.50	20.00	477.02	477.06
14U	667+74.50	20.00	476.85	476.88
CL Pier 14	667+84.50	20.00	476.68	476.70
15A	667+94.50	20.00	476.51	476.54
15B	668+04.50	20.00	476.34	476.38
15C	668+14.50	20.00	476.17	476.23
15D	668+24.50	20.00	476.00	476.08
15E	668+34.50	20.00	475.83	475.94
15F	668+44.50	20.00	475.66	475.80
15G	668+54.50	20.00	475.49	475.66
15H	668+64.50	20.00	475.32	475.51
15I	668+74.50	20.00	475.15	475.36
15J	668+84.50	20.00	474.98	475.20

GIRDER 6 - UNIT 3 CONTINUED

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
15K	668+94.50	20.00	474.81	475.04
15L	669+04.50	20.00	474.64	474.86
15M	669+14.50	20.00	474.47	474.68
15N	669+24.50	20.00	474.30	474.49
15O	669+34.50	20.00	474.13	474.29
15P	669+44.50	20.00	473.96	474.10
15Q	669+54.50	20.00	473.79	473.90
15R	669+64.50	20.00	473.62	473.70
15S	669+74.50	20.00	473.45	473.50
15T	669+84.50	20.00	473.28	473.31
15U	669+94.50	20.00	473.11	473.13
CL Pier 15	670+04.50	20.00	472.94	472.96
16A	670+14.50	20.00	472.77	472.80
16B	670+24.50	20.00	472.60	472.65
16C	670+34.50	20.00	472.43	472.51
16D	670+44.50	20.00	472.26	472.37
16E	670+54.50	20.00	472.09	472.24
16F	670+64.50	20.00	471.92	472.10
16G	670+74.50	20.00	471.75	471.97
16H	670+84.50	20.00	471.58	471.82
16I	670+94.50	20.00	471.41	471.67
16J	671+04.50	20.00	471.24	471.52
16K	671+14.50	20.00	471.07	471.35
16L	671+24.50	20.00	470.90	471.17
16M	671+34.50	20.00	470.73	470.98
16N	671+44.50	20.00	470.56	470.78
16O	671+54.50	20.00	470.39	470.57
16P	671+64.50	20.00	470.22	470.35
16Q	671+74.50	20.00	470.05	470.13
CL Brg. N. Abut.	671+85.50	20.00	469.86	469.88
CL Exp. Jt. N. Abut.	671+87.10	20.00	469.83	469.85
Bk. N. Abut.	671+89.25	20.00	469.79	469.81

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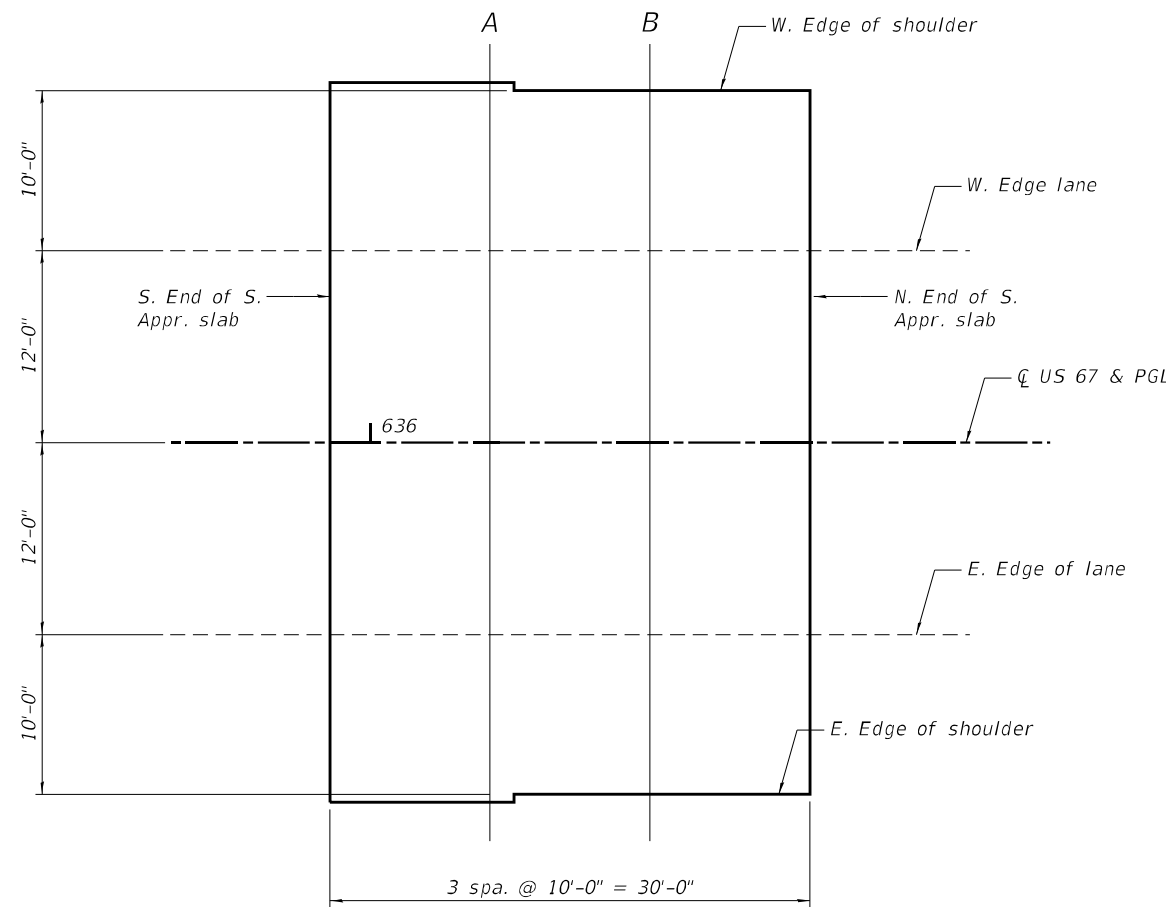
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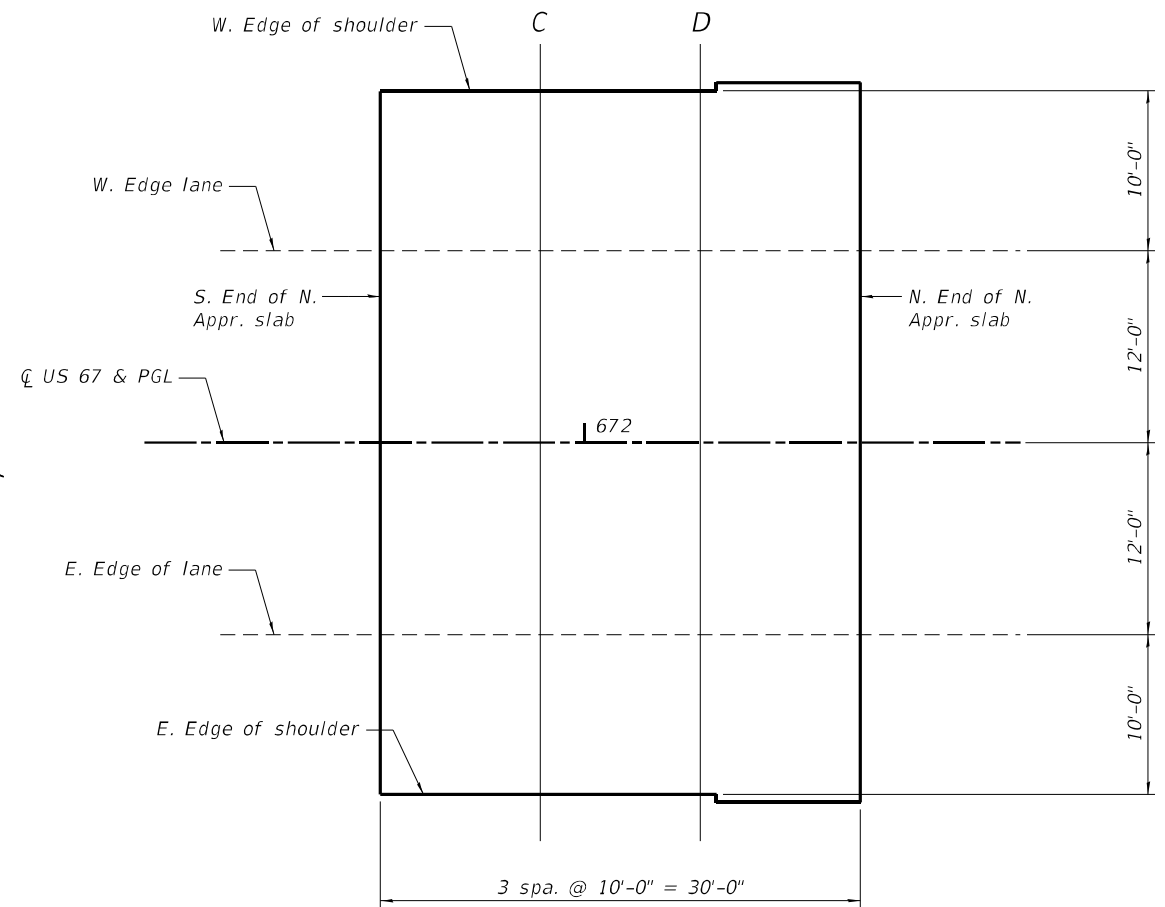
TOP OF DECK ELEVATIONS - UNIT 4 - VI
 SN 009-0504

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	226
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

SCALE: SHEET 30 OF 162 SHEETS STA. TO STA.



SOUTH APPROACH SLAB PLAN



NORTH APPROACH SLAB PLAN

W. EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Grinding
S. End S. Appr. Slab	635+96.50	-22.00	488.39	488.41
A	636+06.50	-22.00	488.68	488.70
B	636+16.50	-22.00	488.96	488.98
N. End S. Appr. Slab	636+26.50	-22.00	489.25	489.27

E. EDGE OF LANE

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Grinding
S. End S. Appr. Slab	635+96.50	12.00	488.59	488.61
A	636+06.50	12.00	488.88	488.90
B	636+16.50	12.00	489.16	489.18
N. End S. Appr. Slab	636+26.50	12.00	489.45	489.47

W. EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Grinding
S. End N. Appr. Slab	671+88.25	-22.00	469.77	469.79
C	671+98.25	-22.00	469.60	469.62
D	672+08.25	-22.00	469.42	469.44
N. End N. Appr. Slab	672+18.25	-22.00	469.24	469.26

E. EDGE OF LANE

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Grinding
S. End N. Appr. Slab	671+88.25	12.00	469.97	469.99
C	671+98.25	12.00	469.80	469.82
D	672+08.25	12.00	469.62	469.64
N. End N. Appr. Slab	672+18.25	12.00	469.44	469.46

W. EDGE OF LANE

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Grinding
S. End S. Appr. Slab	635+96.50	-12.00	488.59	488.61
A	636+06.50	-12.00	488.88	488.90
B	636+16.50	-12.00	489.16	489.18
N. End S. Appr. Slab	636+26.50	-12.00	489.45	489.47

E. EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Grinding
S. End S. Appr. Slab	635+96.50	22.00	488.39	488.41
A	636+06.50	22.00	488.68	488.70
B	636+16.50	22.00	488.96	488.98
N. End S. Appr. Slab	636+26.50	22.00	489.25	489.27

W. EDGE OF LANE

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Grinding
S. End N. Appr. Slab	671+88.25	-12.00	469.97	469.99
C	671+98.25	-12.00	469.80	469.82
D	672+08.25	-12.00	469.62	469.64
N. End N. Appr. Slab	672+18.25	-12.00	469.44	469.46

E. EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Grinding
S. End N. Appr. Slab	671+88.25	22.00	469.77	469.79
C	671+98.25	22.00	469.60	469.62
D	672+08.25	22.00	469.42	469.44
N. End N. Appr. Slab	672+18.25	22.00	469.24	469.26

US 67 & PGL

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Grinding
S. End S. Appr. Slab	635+96.50	0.00	488.77	488.79
A	636+06.50	0.00	489.06	489.08
B	636+16.50	0.00	489.34	489.36
N. End S. Appr. Slab	636+26.50	0.00	489.63	489.65

US 67 & PGL

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Grinding
S. End N. Appr. Slab	671+88.25	0.00	470.15	470.17
C	671+98.25	0.00	469.98	470.00
D	672+08.25	0.00	469.80	469.82
N. End N. Appr. Slab	672+18.25	0.00	469.62	469.64

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 DATE - May 2023

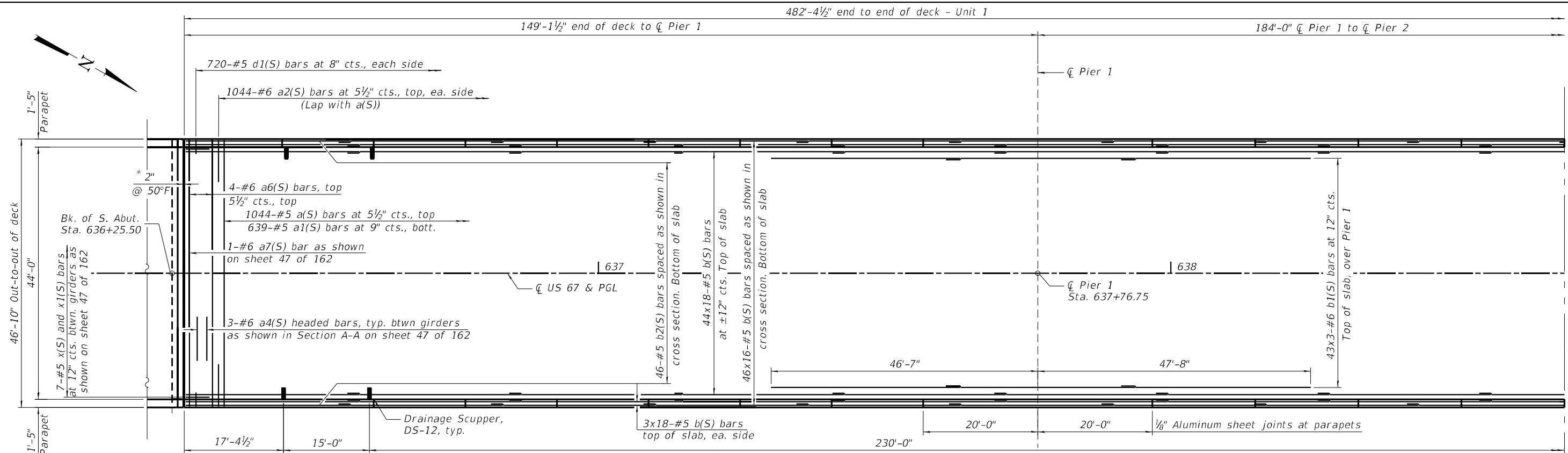
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS
 SN 009-0504

SCALE: SHEET 31 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	227
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

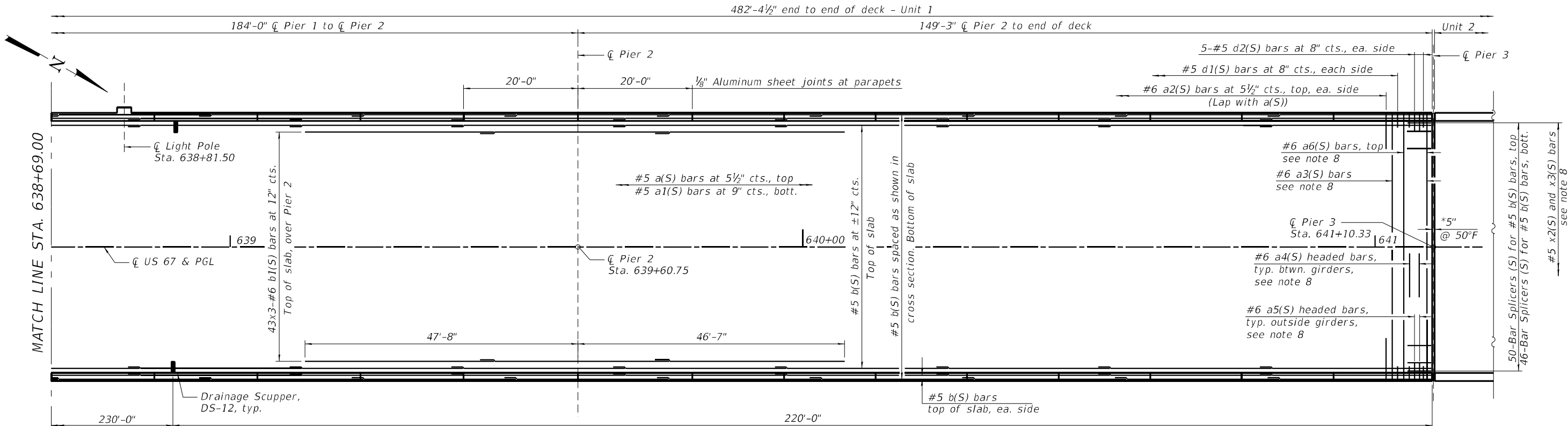


- Notes:
1. See sheets 45 and 47 of 162 for Superstructure Details.
 2. See sheet 47 of 162 for Bill of Material.
 3. Bars indicated 44x18-#6 etc. indicates 44 lines of bars with 18 lengths per line.
 4. Space bars to miss parapet joints. See sheets 37 and 38 of 162 for Parapet Elevations.
 5. See sheet 52 of 162 for Drainage Scupper Details.
 6. See sheets 49 thru 51 of 162 for sliding plate details at parapets.
 7. See sheet 46 of 162 for Deck Pouring Sequence.
 8. See sheets 50 and 51 of 162 for billing and location of bars a3(S) thru a6(S) and x(S) thru x3(S) at modular joints.

PARTIAL PLAN

* Dimension shown for concrete opening. For joint opening see sheets 49 and 51 of 162.

MIN. BAR LAP
 #5 Bar = 2'-0"
 #6 Bar = 2'-5"



PARTIAL PLAN

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-032-Superstructure_Unit 1.dgn



USER NAME = Ben Holland	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	DRAWN - DAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:03 PM)	CHECKED - DH/JTH	REVISED -
	DATE - May 2023	REVISED -

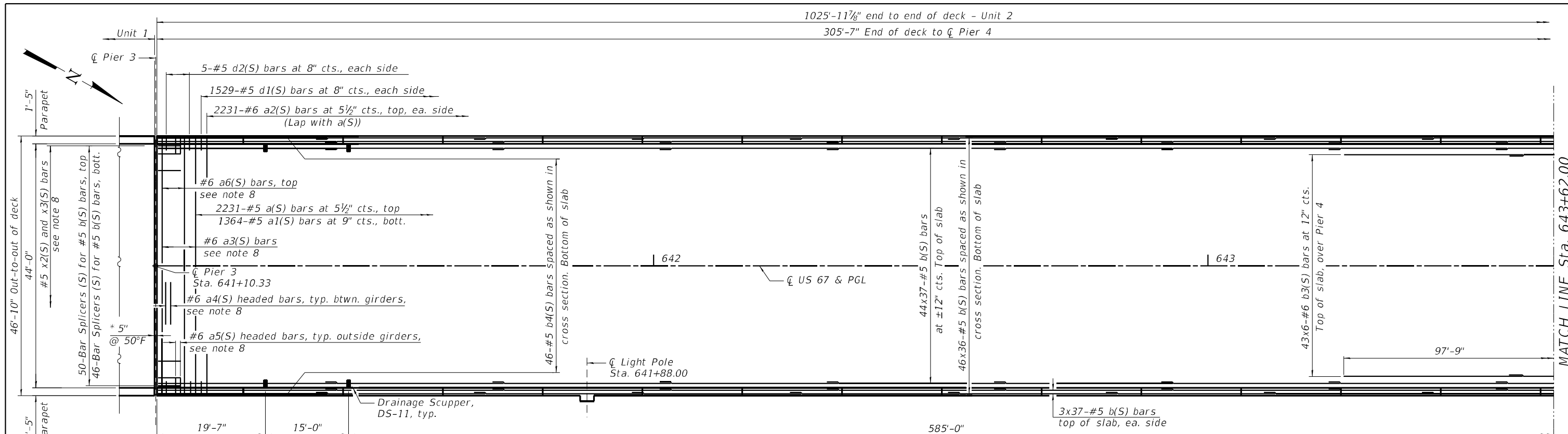
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE - UNIT 1 - I
 SN 009-0504

SCALE: SHEET 32 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	228
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

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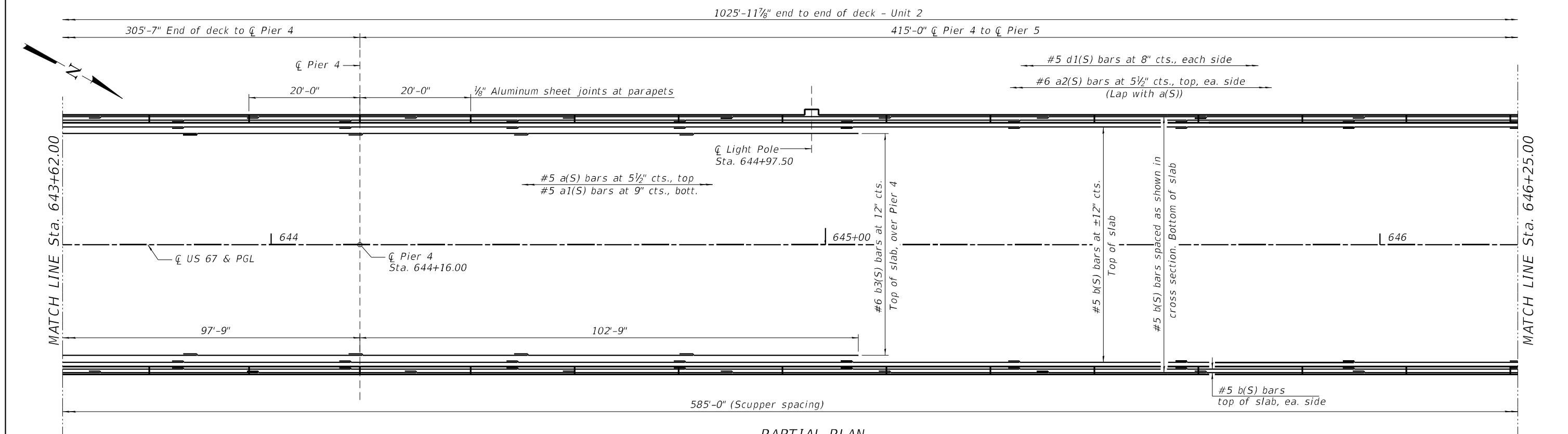
PARTIAL PLAN

- Notes:
1. See sheets 45 and 47 of 162 for Superstructure Details
 2. See sheet 47 of 162 for Bill of Material.
 3. Bars indicated 44x37-#6 etc. indicates 44 lines of bars with 37 lengths per line.
 4. Space bars to miss parapet joints. See sheets 39 thru 41 of 162 for Parapet Elevations.
 5. See sheet 53 of 162 for Drainage Scupper Details.
 6. See sheets 50 and 51 of 162 for sliding plate details at Parapets.
 7. See sheet 46 of 162 for Deck Pouring Sequence.
 8. See sheets 50 and 51 of 162 for billing and location of a3(S) thru a6(S) and x2(S) thru x3(S) at modular joints.

* Dimension shown for concrete opening. For joint opening see sheet 51 of 162.

MIN. BAR LAP

- #5 Bar = 2'-0"
- #6 Bar = 2'-5"



PARTIAL PLAN



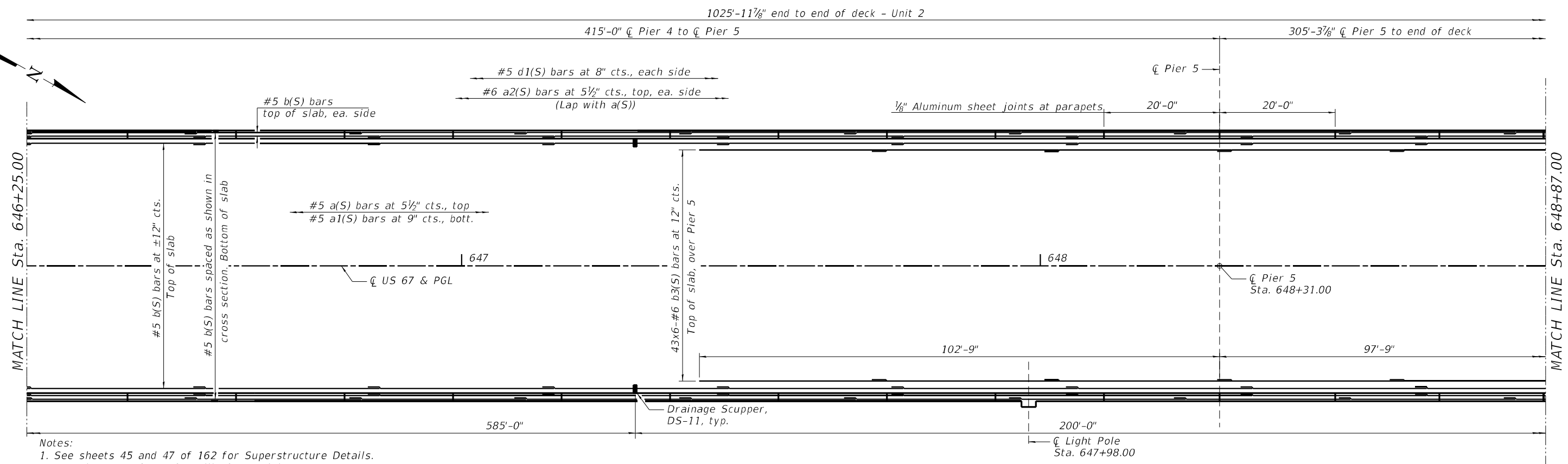
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DRAWN - DAC	REVISIONS -	
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE - UNIT 2 - I
SN 009-0504

SCALE: SHEET 33 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	229
CONTRACT NO. 72K47				
ILLINOIS FED. AID PROJECT				

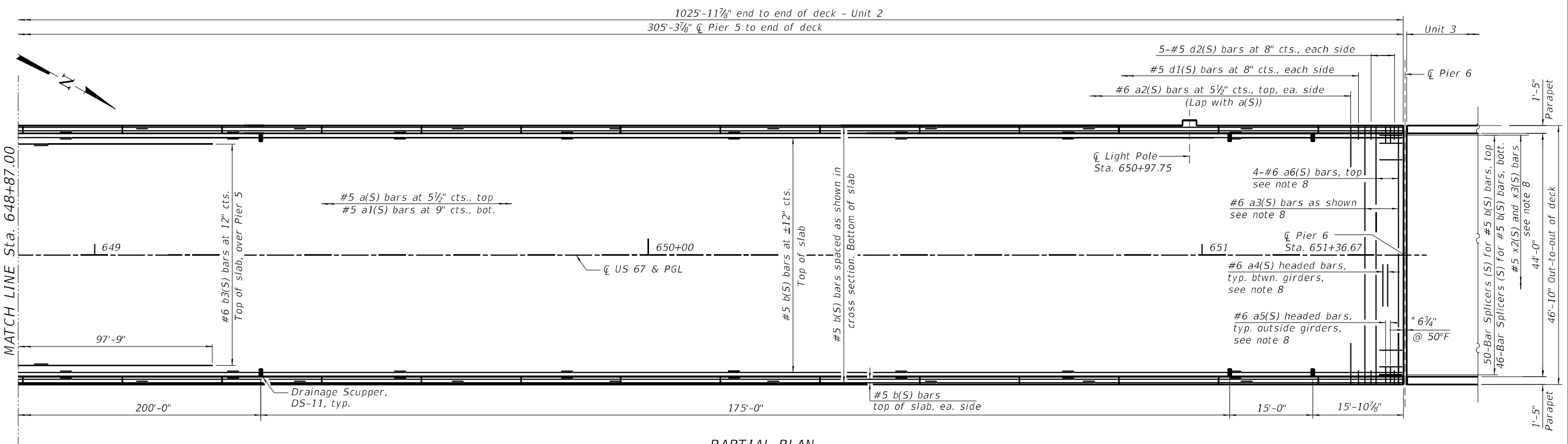


- Notes:
1. See sheets 45 and 47 of 162 for Superstructure Details.
 2. See sheet 47 of 162 for Bill of Material.
 3. Bars indicated 43x6-#6 etc. indicates 43 lines of bars with 6 lengths per line.
 4. Space bars to miss parapet joints. See sheets 39 thru 41 of 162 for Parapet Elevations.
 5. See sheet 53 of 162 for Drainage Scupper Details.
 6. See sheets 50 and 51 of 162 for sliding plate details at Parapets.
 7. See sheet 46 of 162 for Deck Pouring Sequence.
 8. See sheets 50 and 51 of 162 for billing and location of a3(S) thru a6(S) and x2(S) thru x3(S) at modular joints.

PARTIAL PLAN

* Dimension shown for concrete opening.
For joint opening see sheet 51 of 162.

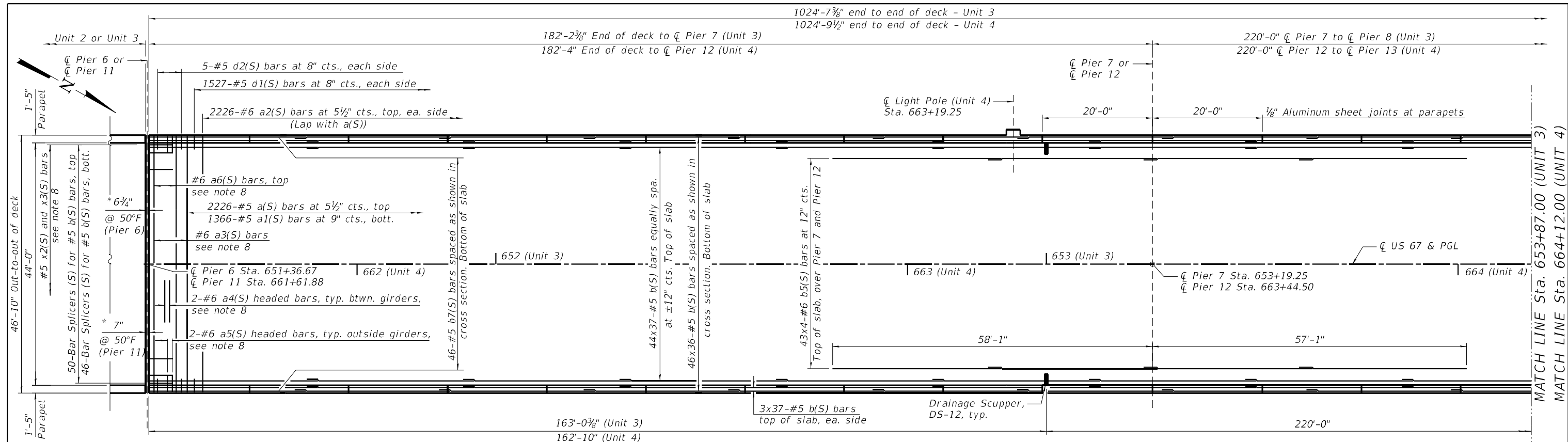
MIN. BAR LAP
#5 Bar = 2'-0"
#6 Bar = 2'-5"



PARTIAL PLAN

FILE NAME = L:\DOT\11006601\Draw\Structures\CADD_Sheets\0090504-72K47-034-Superstructure_Unit 2_II.dgn

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	PLOT SCALE = N/A	CHECKED - DH/JTH	REVISED -				SCALE: SHEET 34 OF 162 SHEETS STA. TO STA.	CONTRACT NO. 72K47		ILLINOIS FED. AID PROJECT	
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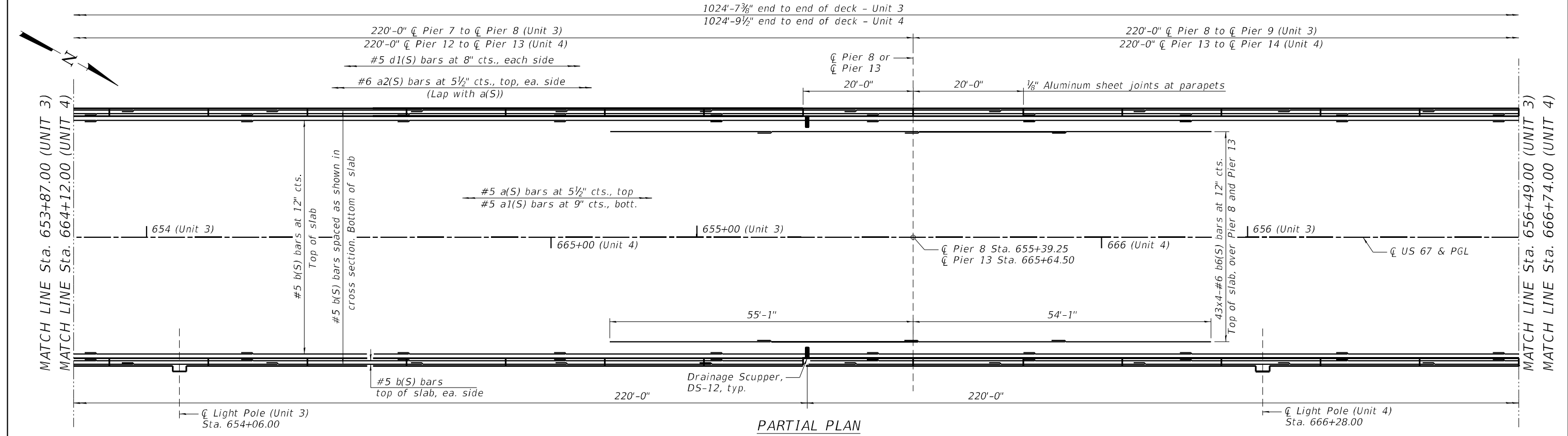


- Notes:
1. See sheets 45 and 47 of 162 for Superstructure Details.
 2. See sheet 47 of 162 for Bill of Material.
 3. Bars indicated 44x37-#6 etc. indicates 44 lines of bars with 37 lengths per line.
 4. Space bars to miss parapet joints. See sheets 42 thru 44 of 162 for Parapet Elevations.
 5. See sheet 52 of 162 for Drainage Scupper Details.
 6. See sheets 50 and 51 of 162 for sliding plate details at Parapets.
 7. See sheet 46 of 162 for Deck Pouring Sequence.
 8. See sheets 50 and 51 of 162 for billing and location of a3(S) thru a6(S) and x2(S) thru x3(S) at modular joints.

PARTIAL PLAN

* Dimension shown for concrete opening.
For joint opening see sheet 51 of 162.

MIN. BAR LAP
#5 Bar = 2'-0"
#6 Bar = 2'-5"



PARTIAL PLAN

FILE NAME = L:\DOT\1606601\Draw\Structures\CADD_Sheets\0090504-72K47-035-Superstructure_Unit 3 & 4_1.dgn



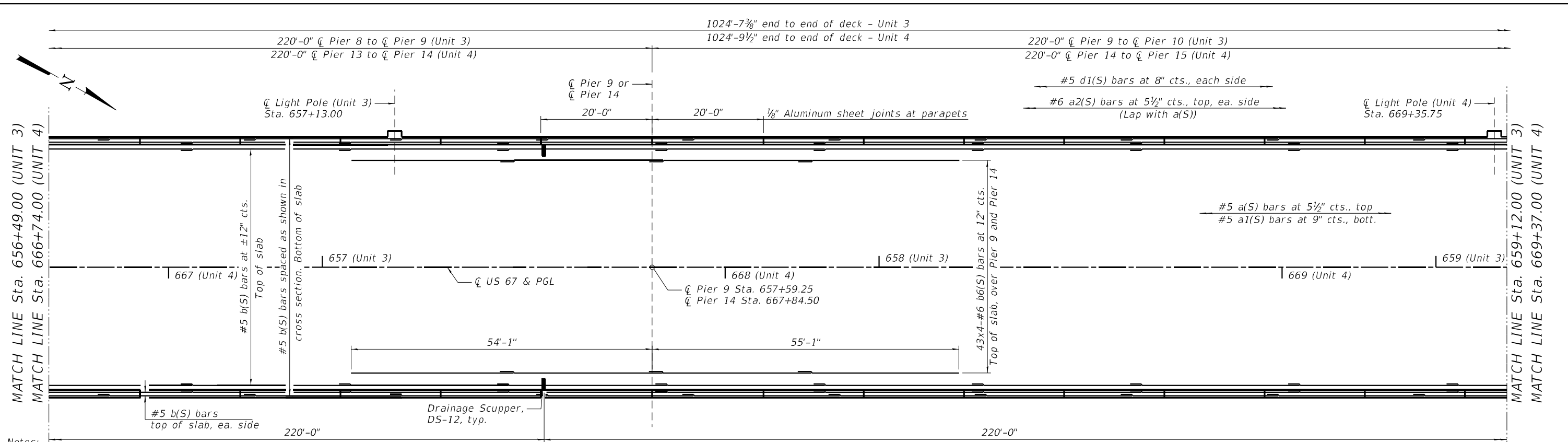
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PLOT DATE = 5/23/2023 (12:19:06 PM)	CHECKED - DH/JTH	REVISED -
	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE - UNITS 3 & 4 - I
SN 009-0504

SCALE: SHEET 35 OF 162 SHEETS STA. TO STA.

F.A.P. RTE. 310	SECTION (86B-1, 87C)R	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 231
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

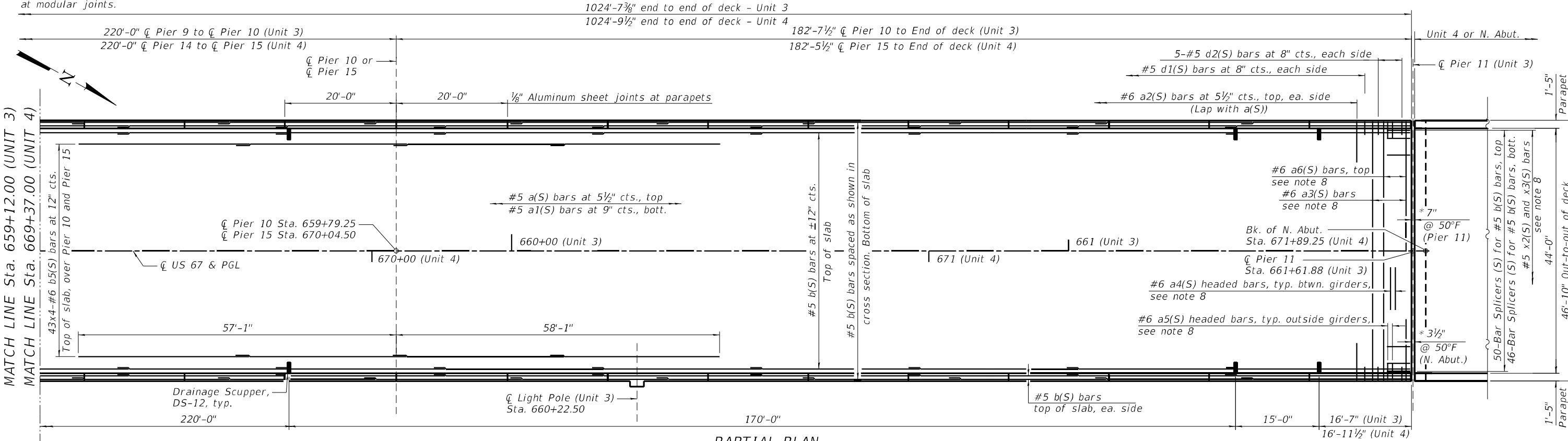


- Notes:
1. See sheets 45 and 47 of 162 for Superstructure Details.
 2. See sheet 47 of 162 for Bill of Material.
 3. Bars indicated 44x37-#6 etc. indicates 44 lines of bars with 37 lengths per line.
 4. Space bars to miss parapet joints. See sheets 42 thru 44 of 162 for Parapet Elevations.
 5. See sheet 52 of 162 for Drainage Scupper Details.
 6. See sheets 50 and 51 of 162 for sliding plate details at Parapets.
 7. See sheet 46 of 162 for Deck Pouring Sequence.
 8. See sheets 50 and 51 of 162 for billing and location of a3(S) thru a6(S) and x2(S) thru x3(S) at modular joints.

PARTIAL PLAN

* Dimension shown for concrete opening. For joint opening see sheet 51 of 162.

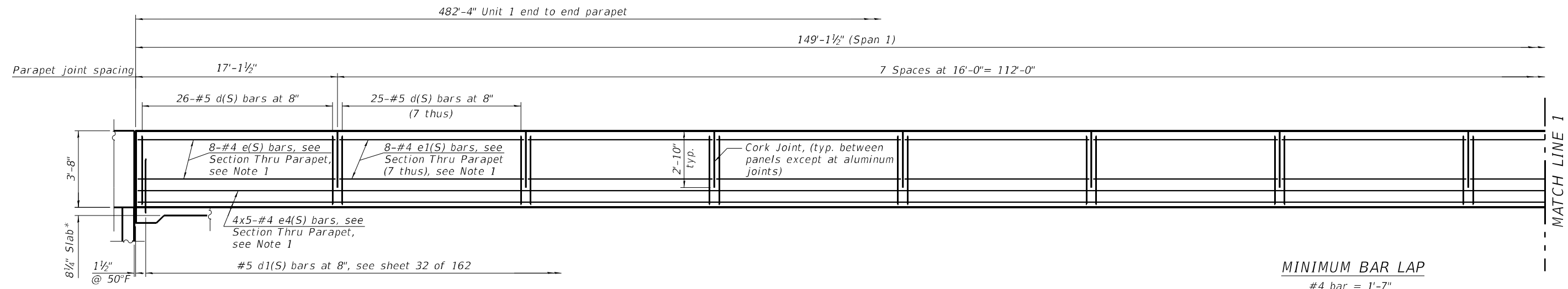
MIN. BAR LAP
#5 Bar = 2'-0"
#6 Bar = 2'-5"



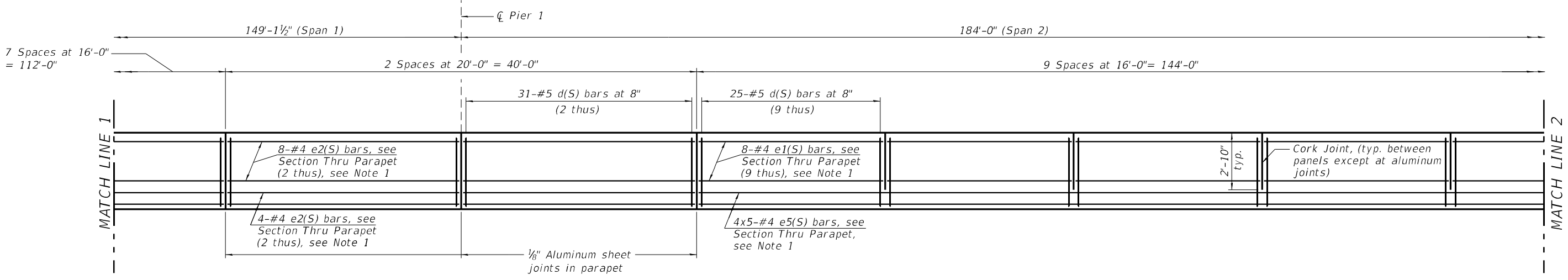
PARTIAL PLAN

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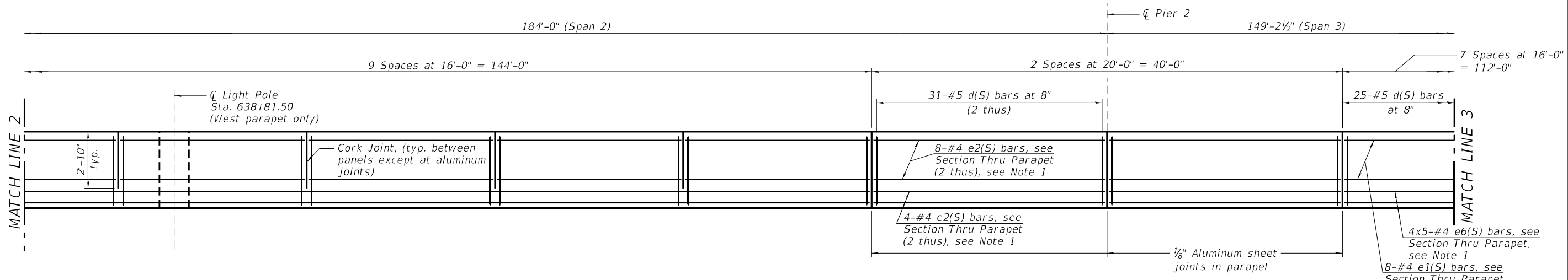
	USER NAME = Ben Holland	DESIGNED - DAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE - UNITS 3 & 4 - II SN 009-0504		F.A.P. RTE. 310	SECTION (86B-1, 87CR)	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 232
	PLOT SCALE = N/A	CHECKED - DH/JTH	REVISED -		SCALE:	SHEET 36 OF 162 SHEETS	STA. TO STA.	CONTRACT NO. 72K47 ILLINOIS FED. AID PROJECT			
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INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)



INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)



INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)

- Notes:
1. See sheet 45 of 162 for Section Thru Parapet.
 2. Bars indicated thus 4x5-#4, etc. indicates 4 lines of bars with 5 lengths per line.
 3. See sheets 50 and 51 of 162 for modular joint details.
 4. See sheet 45 of 162 for bars at light pole bump outs.

FILE NAME = L:\DOT\11808601\Draw\Structures\CADD_Sheets\0050504-72K47-037-Superstructure Details_Unit 1_1.dgn



USER NAME = Ben Holland	DESIGNED - DAC	REVISED -
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PLOT DATE = 5/23/2023 (12:19:09 PM)	CHECKED - DH/JTH	REVISED -
	DATE - May 2023	REVISED -

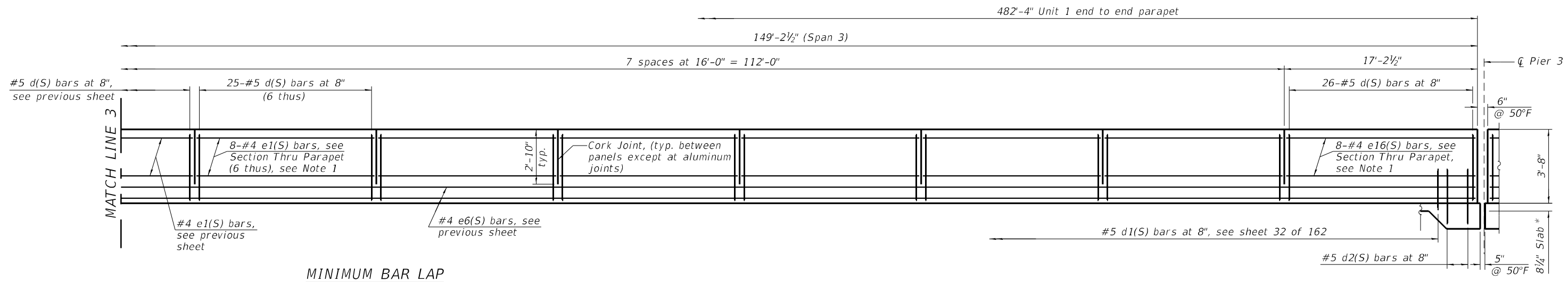
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS - UNIT 1 - I
SN 009-0504**

SCALE: SHEET 37 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	233
CONTRACT NO. 72K47				

ILLINOIS FED. AID PROJECT



MINIMUM BAR LAP
#4 bar = 1'-7"

INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)

*Prior to grinding

- Notes:
 1. See sheet 45 of 162 for Section Thru Parapet.
 2. See sheets 50 and 51 of 162 for modular joint details.

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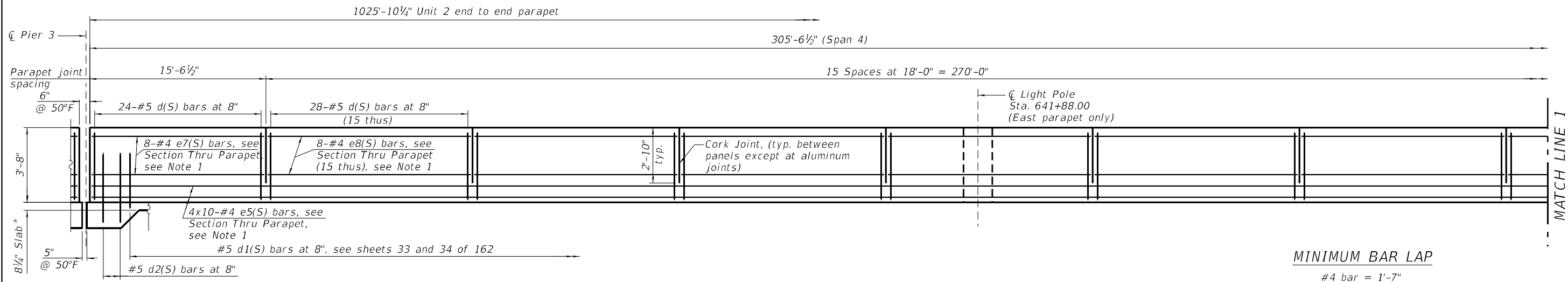
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PLOT SCALE = N/A	DRAWN - DAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:09 PM)	CHECKED - DH/JTH	REVISED -
	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS - UNIT 1 - II
SN 009-0504

SCALE: SHEET 38 OF 162 SHEETS STA. TO STA.

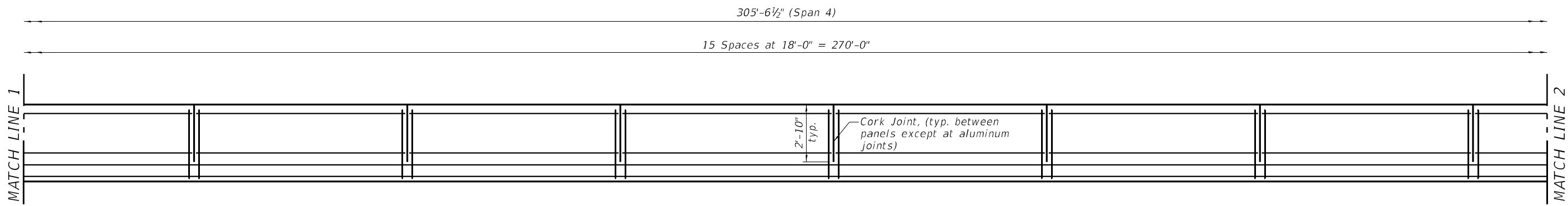
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	234
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



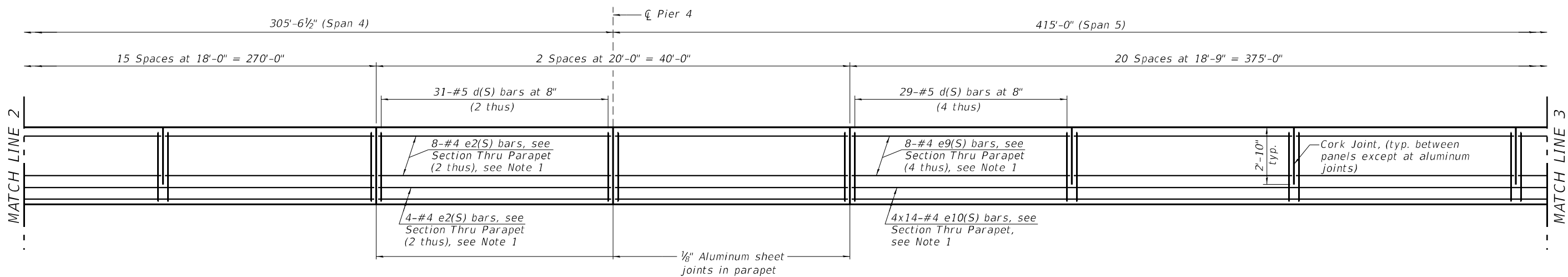
INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)

MINIMUM BAR LAP
#4 bar = 1'-7"

*Prior to grinding



INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)



INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)

- Notes:
- See sheet 45 of 162 for Section Thru Parapet.
 - Bars indicated thus 4x10-#4, etc. indicates 4 lines of bars with 10 lengths per line.
 - See sheets 50 and 51 of 162 for modular joint details.
 - See sheet 45 of 162 for bars at light pole bump outs.

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USER NAME = Ben Holland	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	DRAWN - DAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:10 PM)	CHECKED - DH/JTH	REVISED -
	DATE - May 2023	REVISED -

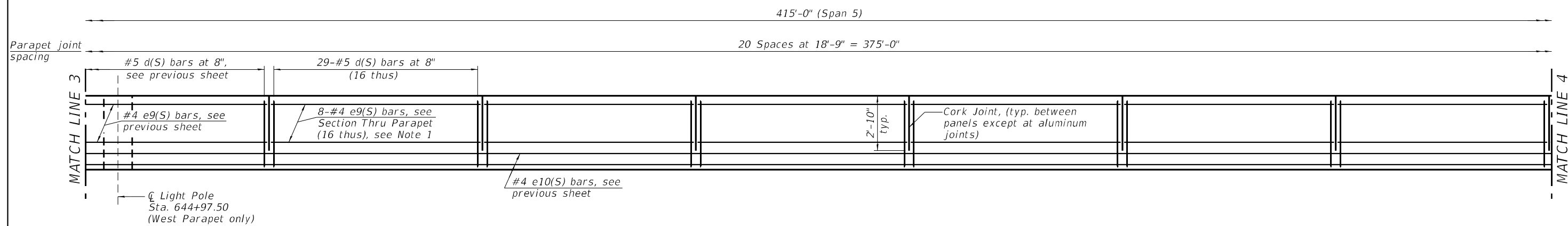
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS - UNIT 2 - I
SN 009-0504

SCALE: SHEET 39 OF 162 SHEETS STA. TO STA.

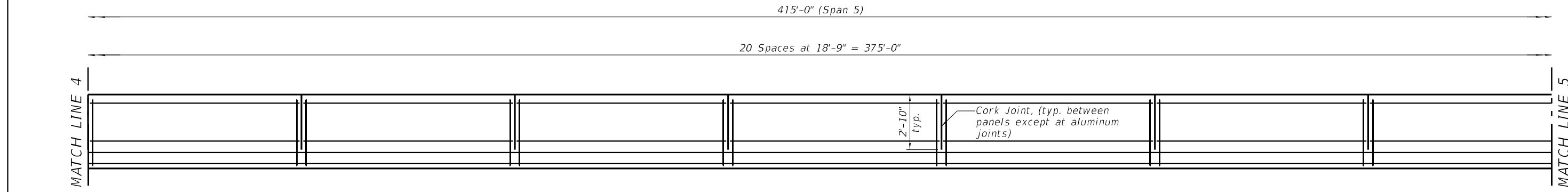
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	235
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

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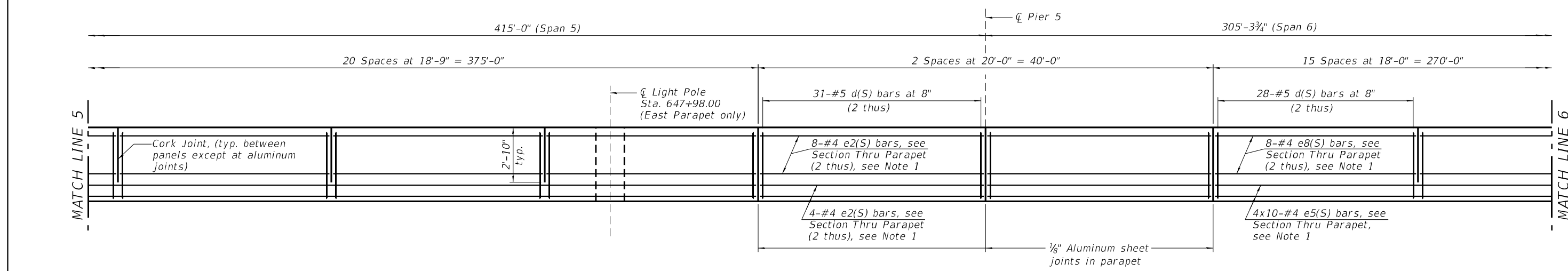


INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)

MINIMUM BAR LAP
#4 bar = 1'-7"



INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)



INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)

- Notes:
1. See sheet 45 of 162 for Section Thru Parapet.
 2. Bars indicated thus 4x10-#4, etc. indicates 4 lines of bars with 10 lengths per line.
 3. See sheet 45 of 162 for bars at light pole bump outs.

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	PLOT SCALE = N/A	DRAWN - DAC	REVISED -
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		DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS - UNIT 2 - II
SN 009-0504

SCALE: SHEET 40 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	236
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

305'-3 3/4" (Span 6)

15 Spaces at 18'-0" = 270'-0"

#5 d(S) bars at 8", see previous sheet

28-#5 d(S) bars at 8" (13 thus)

8-#4 e8(S) bars, see Section Thru Parapet (13 thus), see Note 1

#4 e8(S) bars, see previous sheet

#4 e5(S) bars, see previous sheet

2'-10" typ. Cork Joint, (typ. between panels except at aluminum joints)

MINIMUM BAR LAP #4 bar = 1'-7"

INSIDE ELEVATION OF PARAPET (West parapet shown, east parapet similar)

1025'-10 1/4" Unit 2 end to end parapet

305'-3 3/4" (Span 6)

15 Spaces at 18'-0" = 270'-0"

Centerline Pier 6

9" @ 50°F

15'-3 3/4"

24-#5 d(S) bars at 8"

8-#4 e11(S) bars, see Section Thru Parapet, see Note 1

3'-8"

2'-10" typ. Cork Joint, (typ. between panels except at aluminum joints)

#5 d1(S) bars at 8", see sheets 33 and 34 of 162

#5 d2(S) bars at 8"

6 3/4" @ 50°F 8 1/4" Slab *

*Prior to grinding

INSIDE ELEVATION OF PARAPET (West parapet shown, east parapet similar)

- Notes: 1. See sheet 45 of 162 for Section Thru Parapet. 2. See sheets 50 and 51 of 162 for modular joint details. 3. See sheet 45 of 162 for bars at light pole bump outs.

FILE NAME = L:\DOT\11060601\Draw\Structures\CADD_Sheets\000504-72K47-041-Superstructure Details_Unit 2_III.dgn



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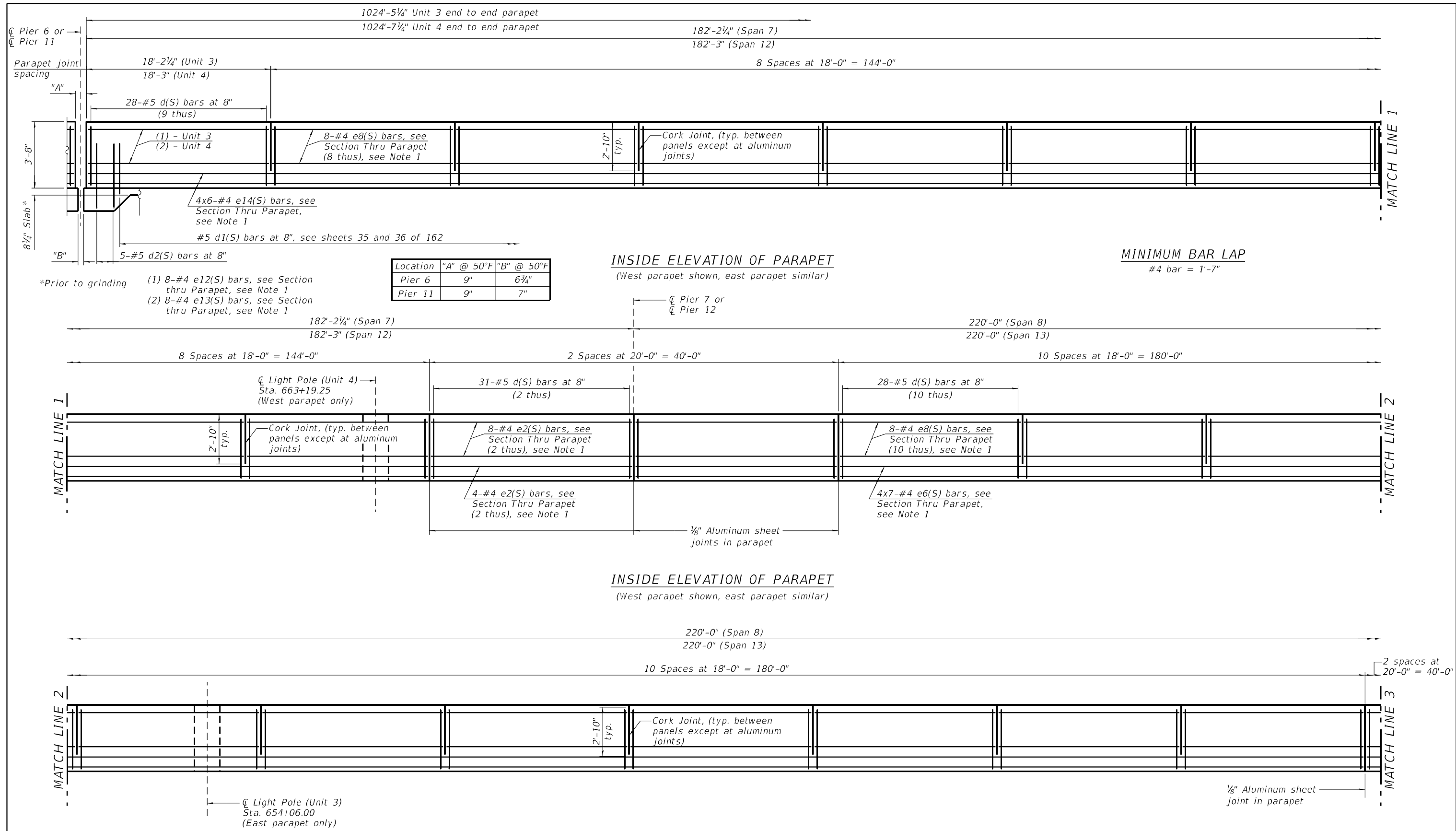
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	DATE - May 2023	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS - UNIT 2 - III SN 009-0504

SCALE: SHEET 41 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	237
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



Location	"A" @ 50°F	"B" @ 50°F
Pier 6	9"	6¾"
Pier 11	9"	7"

*Prior to grinding
 (1) 8-#4 e12(S) bars, see Section thru Parapet, see Note 1
 (2) 8-#4 e13(S) bars, see Section thru Parapet, see Note 1

MINIMUM BAR LAP
 #4 bar = 1'-7"

INSIDE ELEVATION OF PARAPET
 (West parapet shown, east parapet similar)

INSIDE ELEVATION OF PARAPET
 (West parapet shown, east parapet similar)

INSIDE ELEVATION OF PARAPET
 (West parapet shown, east parapet similar)

- Notes:
1. See sheet 45 of 162 for Section Thru Parapet.
 2. Bars indicated thus 4x6-#4, etc. indicates 4 lines of bars with 6 lengths per line.
 3. See sheets 50 and 51 of 162 for modular joint details.
 4. See sheet 45 of 162 for bars at light pole bump outs.

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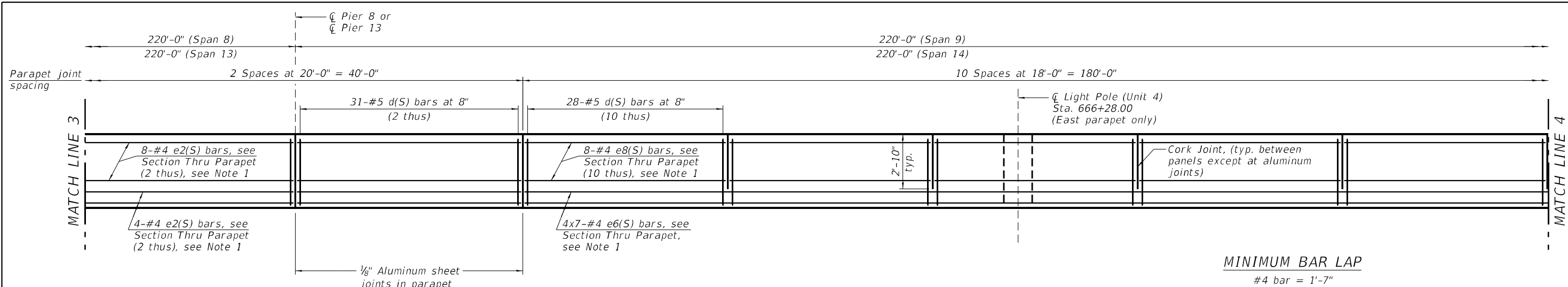
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	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS - UNITS 3 & 4 - I
SN 009-0504

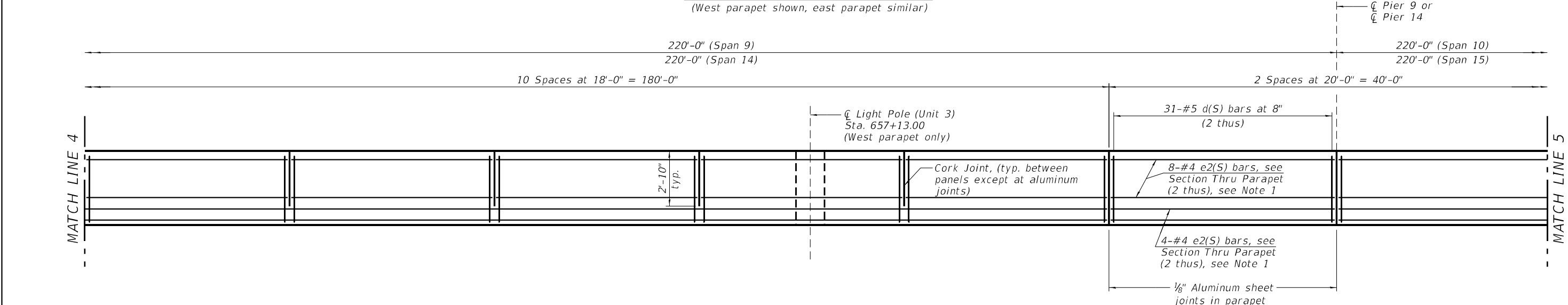
SCALE: SHEET 42 OF 162 SHEETS STA. TO STA.

F.A.P. RTE. 310	SECTION (86B-1, 87CR)	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 238
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

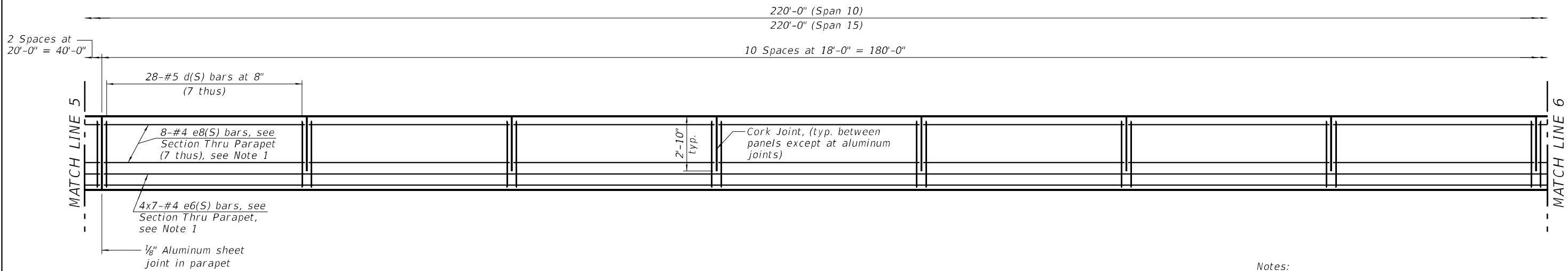


INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)

MINIMUM BAR LAP
#4 bar = 1'-7"



INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)

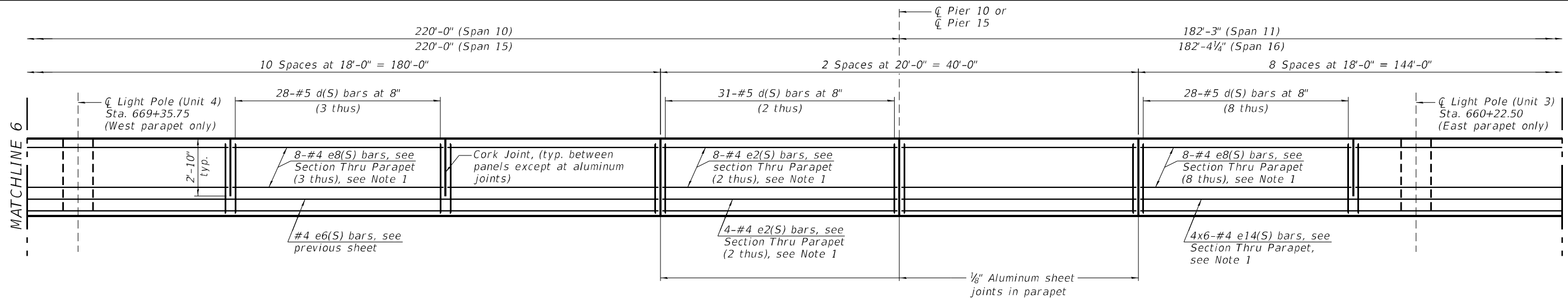


INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)

- Notes:
1. See sheet 45 of 162 for Section Thru Parapet.
 2. Bars indicated thus 4x7-#4 indicates 4 lines of bars with 7 lengths per line.
 3. See sheet 45 of 162 for bars at light pole bump outs.

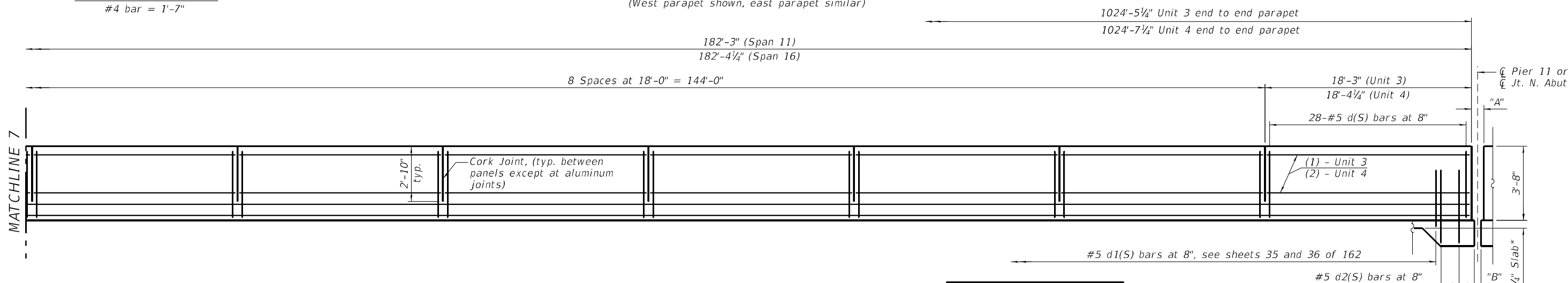
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	SCALE:	SHEET 43 OF 162 SHEETS	STA.			TO STA.			



MINIMUM BAR LAP:
#4 bar = 1'-7"

INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)



INSIDE ELEVATION OF PARAPET
(West parapet shown, east parapet similar)

Location	"A" @ 50°F	"B" @ 50°F
Pier 11	9"	7"
N. Abut.	6"	3 1/2"

- (1) 8-#4 e13(S) bars, see Section Thru Parapet, see Note 1
 - (2) 8-#4 e15(S) bars, see Section Thru Parapet, see Note 1
- *Prior to grinding

- Notes:
1. See sheet 45 of 162 for Section Thru Parapet.
 2. Bars indicated thus 4x6-#4 etc. indicates 4 lines of bars with 6 lengths per line.
 3. See sheet 50 and 51 of 162 for modular joint details.
 4. See sheet 45 of 162 for bars at light pole bump outs.

FILE NAME = L:\DOT\1506601\Draw\Structures\CADD_Sheets\0090504-72K47-044-Superstructure Details_Unit 3 & 4_Jll.dgn



USER NAME = Ben Holland	DESIGNED - DAC	REVISED -
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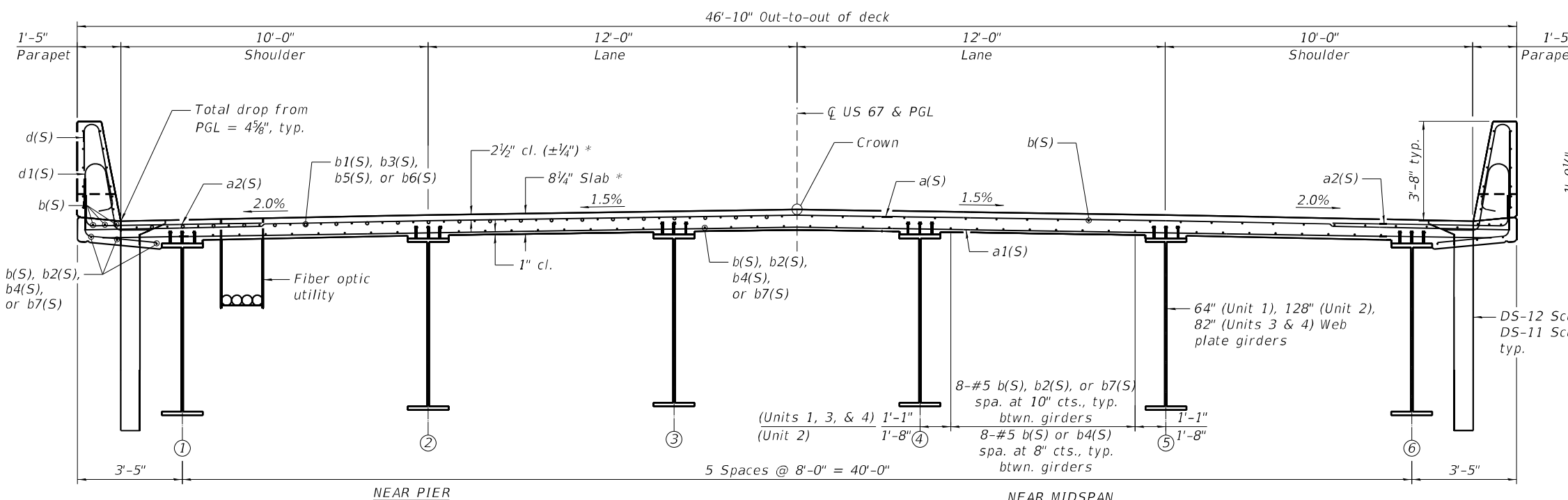
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SUPERSTRUCTURE DETAILS - UNITS 3 & 4 - III
SN 009-0504

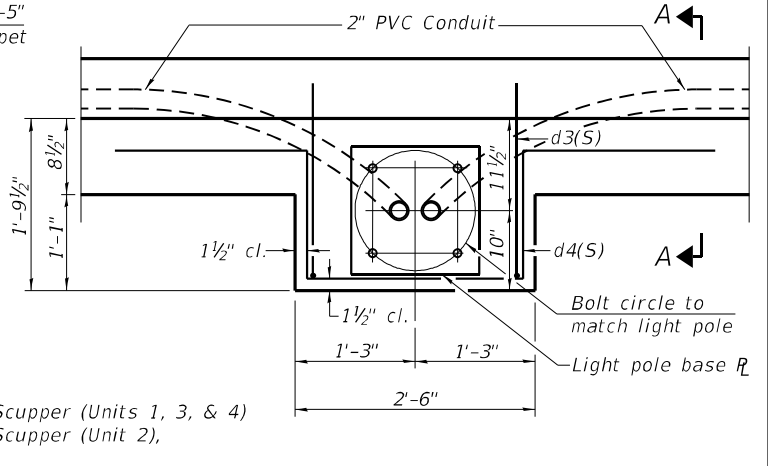
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	240
CONTRACT NO. 72K47				

SCALE: SHEET 44 OF 162 SHEETS STA. TO STA.

ILLINOIS FED. AID PROJECT



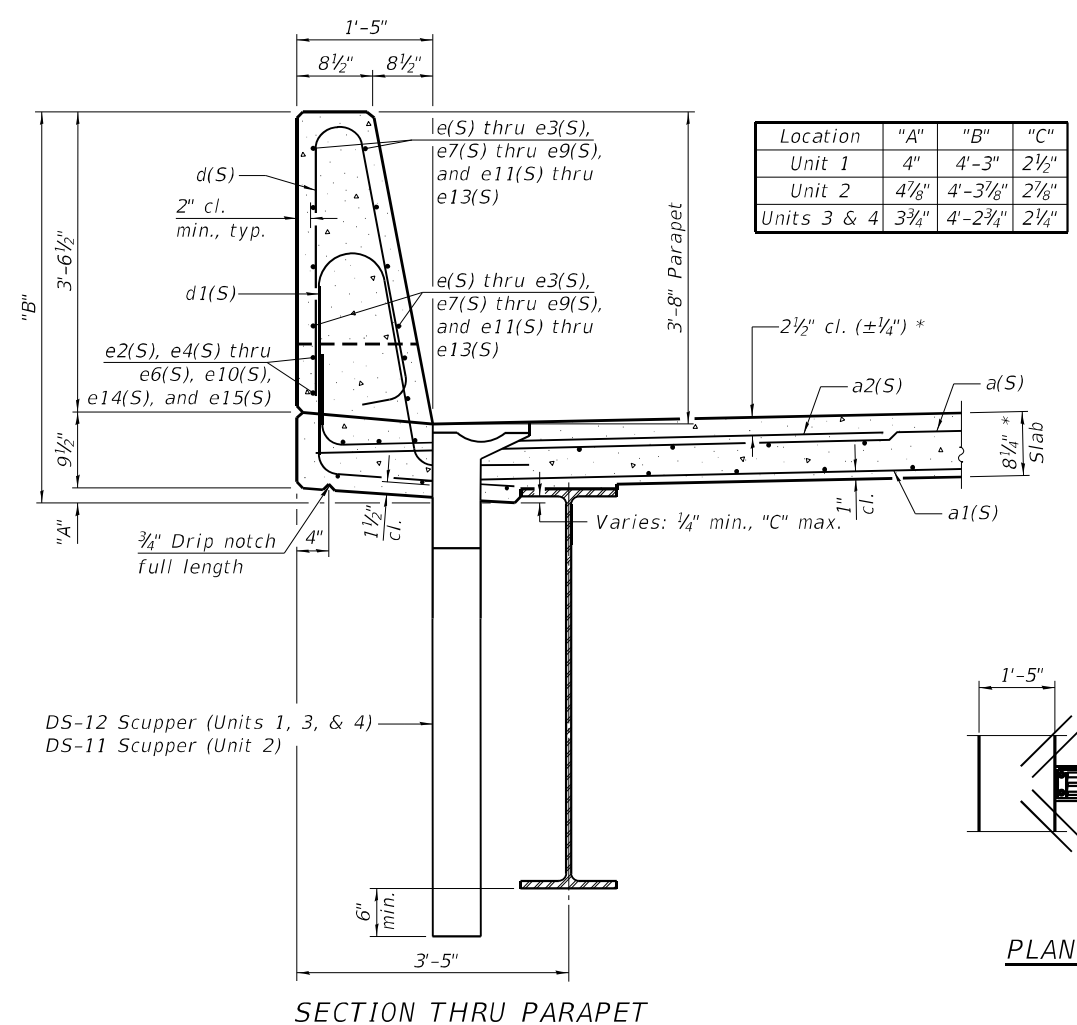
CROSS SECTION
(Looking North)



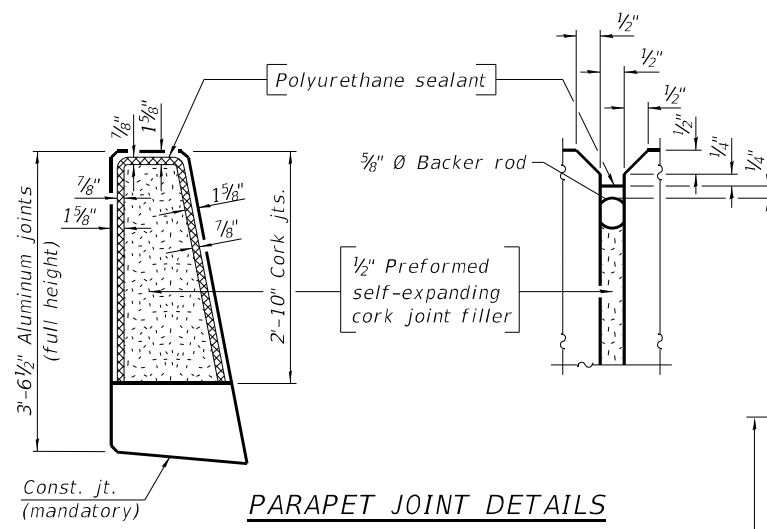
LIGHT POLE MOUNTED ON PARAPET PLAN
(11 thus)

Notes:
Cost of anchor rods and conduit is included with Concrete Superstructure.
Pole height is 40 ft. with a 15 ft. mast arm. Bolt circle diameter is 15 in.

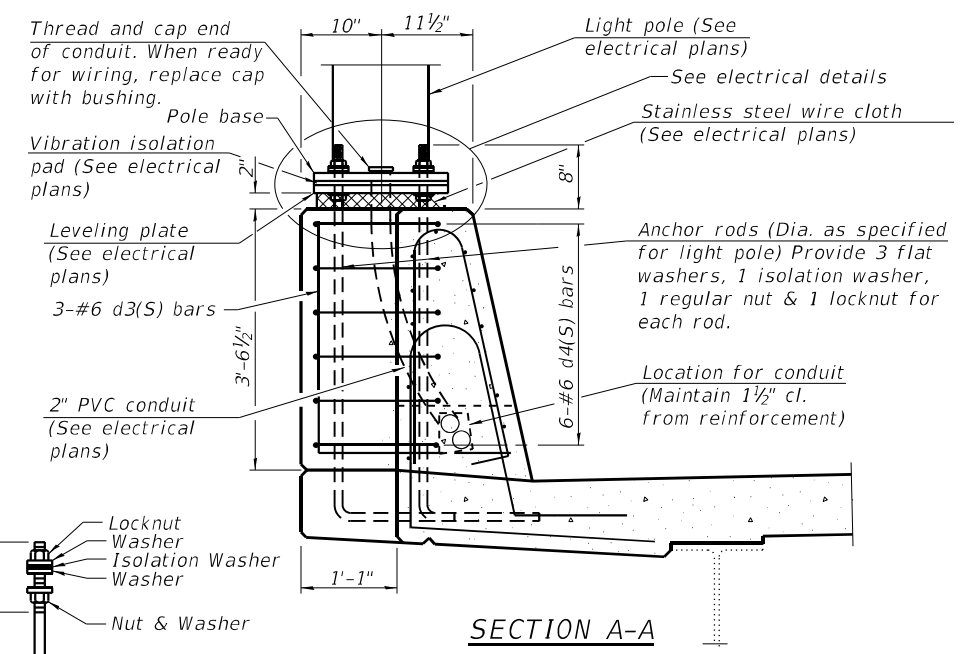
* Prior to grinding



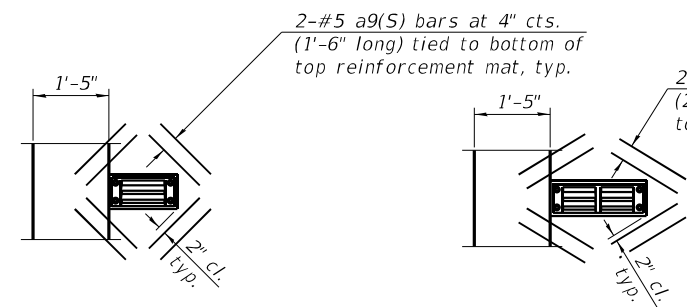
SECTION THRU PARAPET



PARAPET JOINT DETAILS



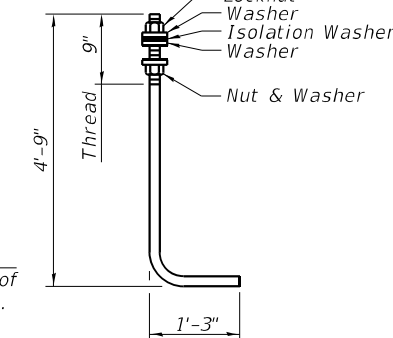
SECTION A-A



PLAN (DS-11)

PLAN (DS-12)

Note:
Cut longitudinal reinforcement to clear drainage scuppers.



ANCHOR ROD

Diameter as specified for light poles.
(ASTM F 1554 Grade 105) Full length hot dipped galvanized

Notes:
1. See sheets 52 and 53 of 162 for Drainage Scupper Details.
2. 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 Superstructures.
3. The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-045-Superstructure Details_1.dgn



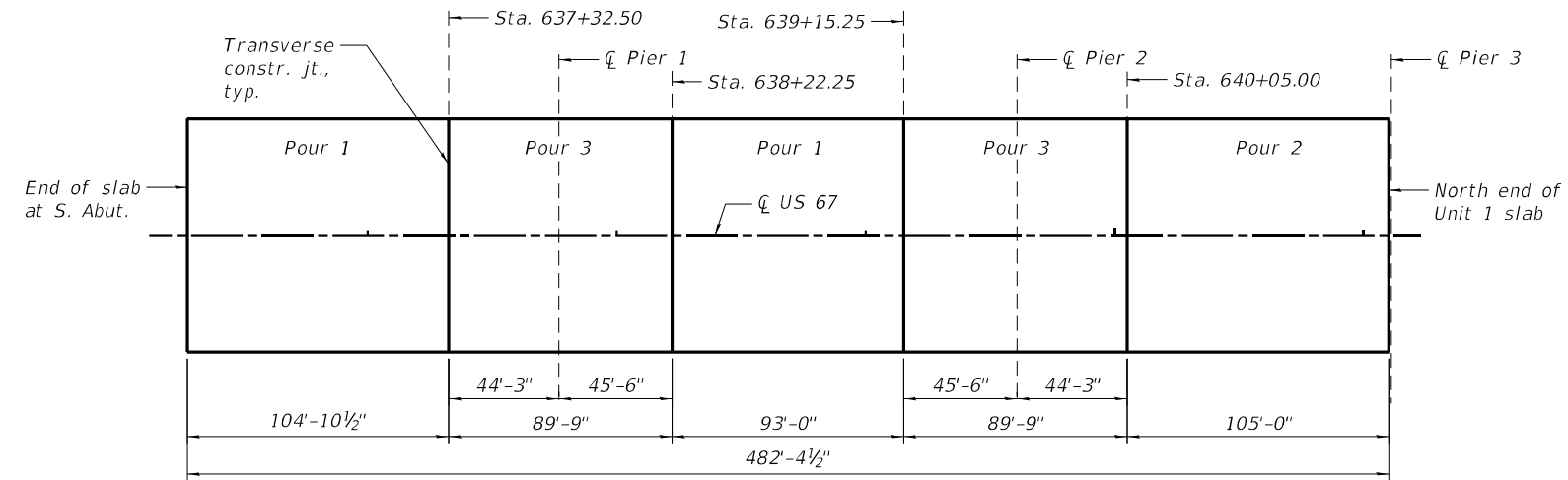
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PLOT SCALE = N/A	DRAWN - DAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:16 PM)	CHECKED - DH/JTH	REVISED -
	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

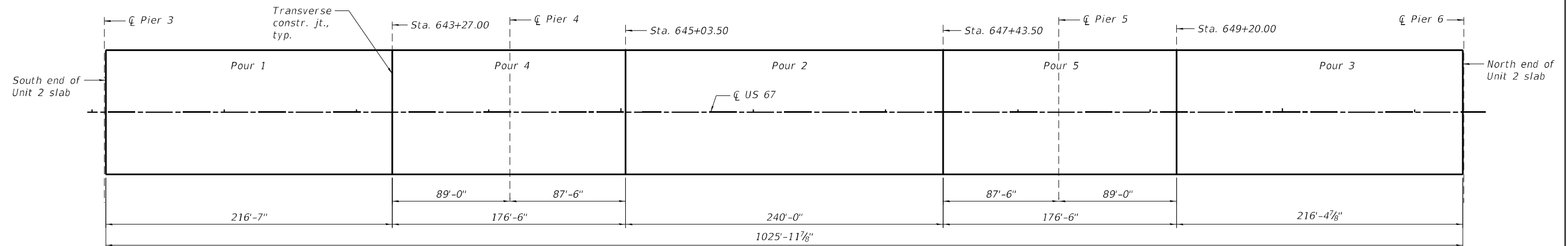
SUPERSTRUCTURE DETAILS - I
SN 009-0504

SCALE: SHEET 45 OF 162 SHEETS STA. TO STA.

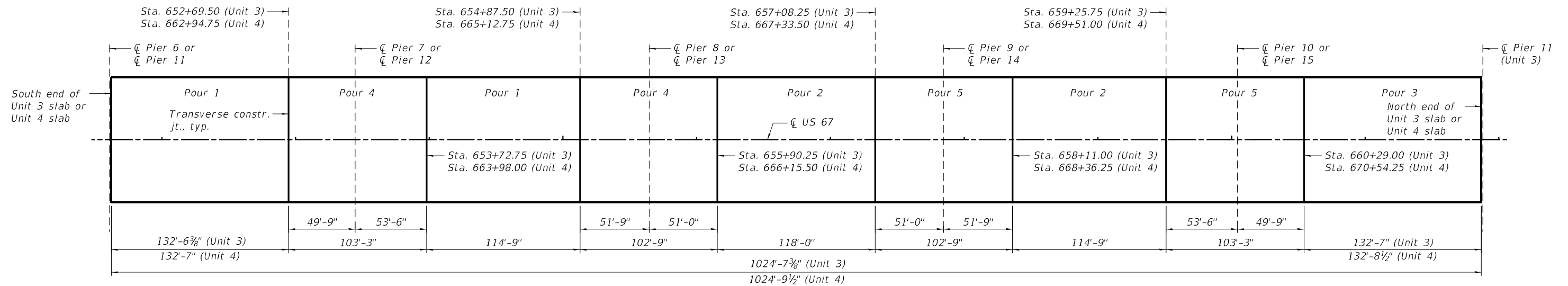
F.A.P. RTE. 310	SECTION (86B-1, 87CR)	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 241
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



DECK POURING SEQUENCE - UNIT 1



DECK POURING SEQUENCE - UNIT 2



DECK POURING SEQUENCE - UNITS 3 AND 4

Note:
 When the deck pour is stopped for the day at one or more of the transverse bonded construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:
 1) At least 72 hours shall have elapsed from the end of the previous pour.
 2) The concrete strength shall have attained a minimum flexural strength of 675 psi or a minimum compressive strength of 4000 psi.

FILE NAME = L:\DOT\1100601\Draw\Structures\CADD_Sheets\0090504-72K47-046-Superstructure Details_II.dgn



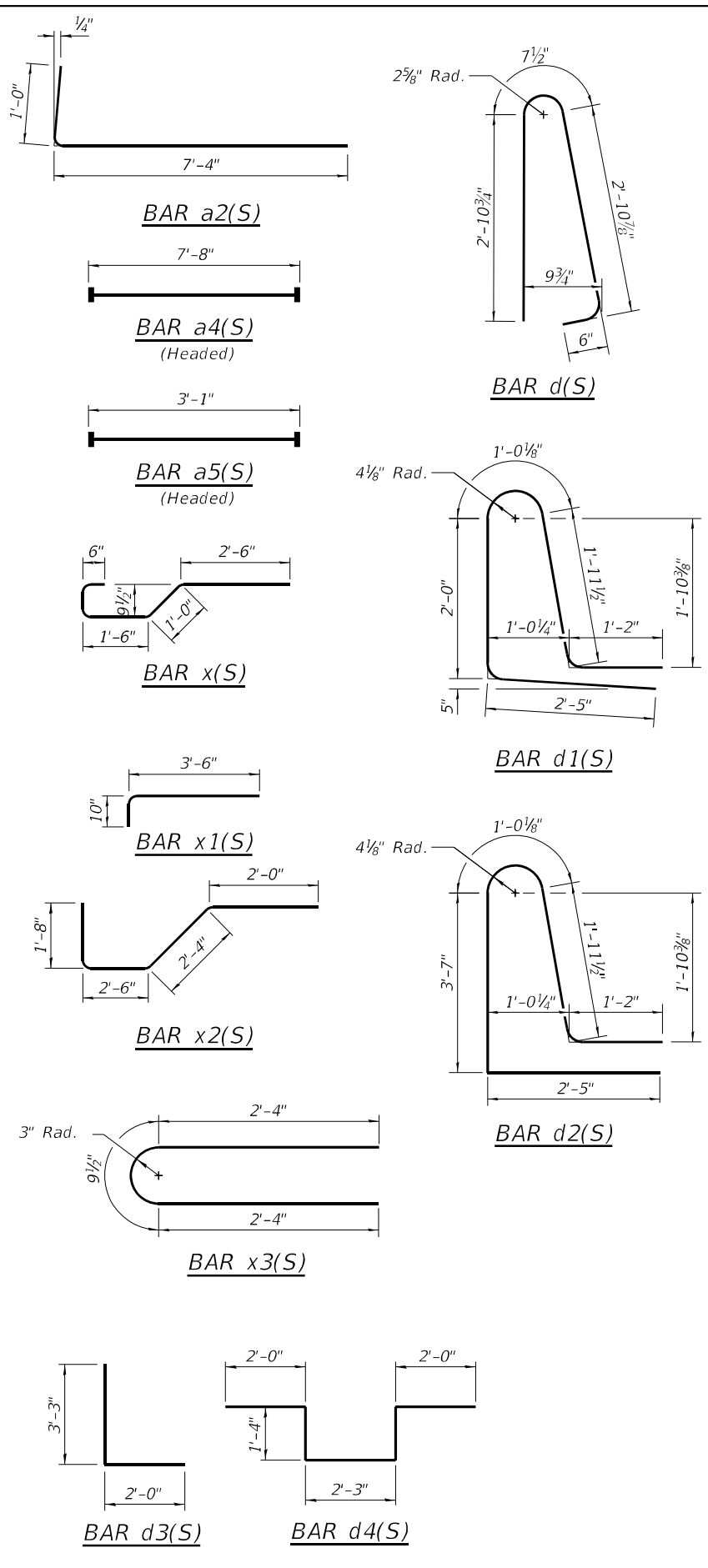
USER NAME = Ben Holland	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	DRAWN - DAC	REVISED -
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	DATE - May 2023	REVISED -

STATE OF ILLINOIS
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SUPERSTRUCTURE DETAILS - II
 SN 009-0504

SCALE: SHEET 46 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	242
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



UNIT 1 SUPERSTRUCTURE

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(S)	1044	#5	46'-6"	—
a1(S)	639	#5	45'-0"	—
a2(S)	2088	#6	8'-4"	—
a3(S)	14	#6	46'-6"	—
a4(S)	25	#6	7'-8"	—
a5(S)	4	#6	3'-1"	—
a6(S)	8	#6	46'-6"	—
a7(S)	1	#6	38'-8"	—
a8(S)	48	#5	2'-0"	—
b(S)	1636	#5	30'-0"	—
b1(S)	258	#6	33'-1"	—
b2(S)	46	#5	32'-6"	—
d(S)	1502	#5	6'-11"	—
d1(S)	1440	#5	8'-7"	—
d2(S)	10	#5	10'-2"	—
d3(S)	3	#5	5'-3"	—
d4(S)	6	#5	8'-11"	—
e(S)	16	#4	16'-9"	—
e1(S)	368	#4	15'-8"	—
e2(S)	96	#4	19'-8"	—
e3(S)	16	#4	16'-8"	—
e4(S)	40	#4	27'-0"	—
e5(S)	40	#4	30'-0"	—
e6(S)	40	#4	27'-1"	—
e16(S)	16	#4	16'-10"	—
x(S)	35	#5	6'-4"	—
x1(S)	35	#5	4'-4"	—
x2(S)	43	#5	8'-6"	—
x3(S)	43	#5	5'-6"	—
Concrete Superstructure			Cu. Yd.	720.3
Bridge Deck Grooving (Longitudinal)			Sq. Yd.	1286
Protective Coat			Sq. Yd.	2857
Reinforcement Bars, Stainless Steel			Lbs.	209890
Diamond Grinding (Bridge Section)			Sq. Yd.	2144

UNIT 2 SUPERSTRUCTURE

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(S)	2231	#5	46'-6"	—
a1(S)	1364	#5	45'-0"	—
a2(S)	4462	#6	8'-4"	—
a3(S)	28	#6	46'-6"	—
a4(S)	20	#6	7'-8"	—
a5(S)	8	#6	3'-1"	—
a6(S)	8	#6	46'-6"	—
a9(S)	96	#5	1'-6"	—
b(S)	3506	#5	30'-0"	—
b3(S)	258	#6	35'-6"	—
b4(S)	46	#5	14'-0"	—
d(S)	3184	#5	6'-11"	—
d1(S)	3058	#5	8'-7"	—
d2(S)	20	#5	10'-2"	—
d3(S)	12	#5	5'-3"	—
d4(S)	24	#5	8'-11"	—
e2(S)	96	#4	19'-8"	—
e5(S)	160	#4	30'-0"	—
e7(S)	16	#4	15'-2"	—
e8(S)	480	#4	17'-8"	—
e9(S)	320	#4	18'-5"	—
e10(S)	112	#4	28'-3"	—
e11(S)	16	#4	15'-0"	—
x2(S)	86	#5	8'-6"	—
x3(S)	86	#5	5'-6"	—
Concrete Superstructure			Cu. Yd.	1516.1
Bridge Deck Grooving (Longitudinal)			Sq. Yd.	2736
Protective Coat			Sq. Yd.	6029
Reinforcement Bars, Stainless Steel			Lbs.	429440
Diamond Grinding (Bridge Section)			Sq. Yd.	4560

UNIT 3 SUPERSTRUCTURE

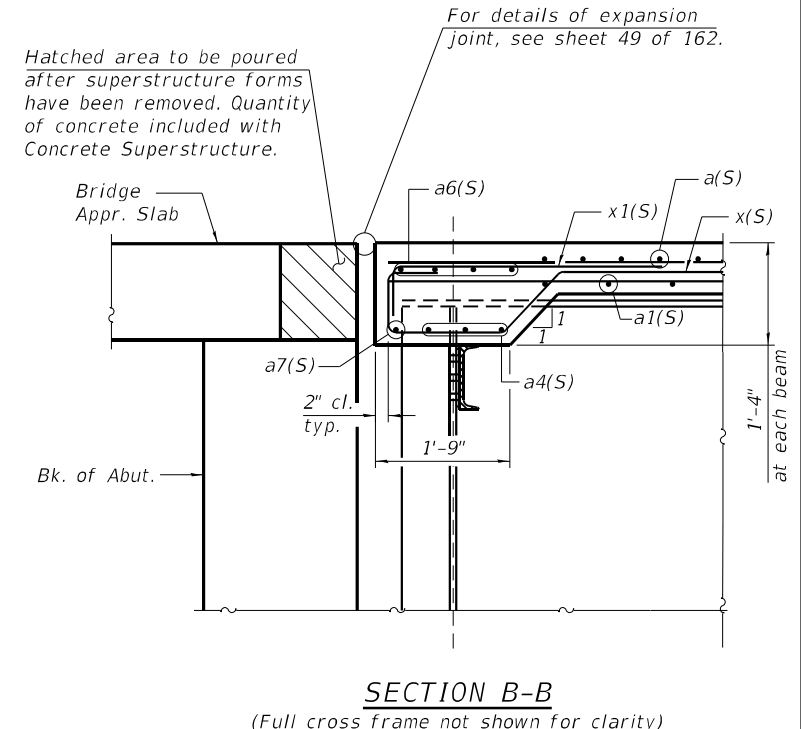
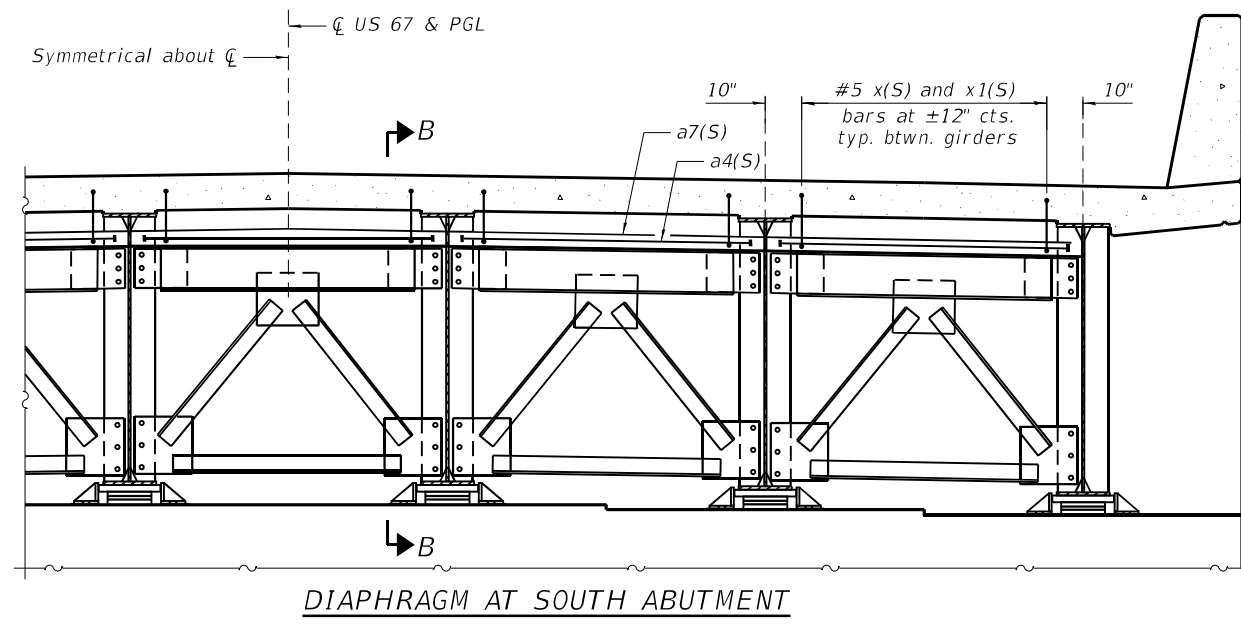
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(S)	2226	#5	46'-6"	—
a1(S)	1366	#5	45'-0"	—
a2(S)	4452	#6	8'-4"	—
a3(S)	28	#6	46'-6"	—
a4(S)	20	#6	7'-8"	—
a5(S)	8	#6	3'-1"	—
a6(S)	8	#6	46'-6"	—
a8(S)	96	#5	2'-0"	—
b(S)	3506	#5	30'-0"	—
b5(S)	344	#6	30'-8"	—
b6(S)	344	#6	29'-2"	—
b7(S)	46	#5	12'-9"	—
d(S)	3184	#5	6'-11"	—
d1(S)	3054	#5	8'-7"	—
d2(S)	20	#5	10'-2"	—
d3(S)	9	#5	5'-3"	—
d4(S)	18	#5	8'-11"	—
e2(S)	192	#4	19'-8"	—
e6(S)	168	#4	27'-1"	—
e8(S)	736	#4	17'-8"	—
e12(S)	16	#4	17'-10"	—
e13(S)	16	#4	17'-11"	—
e14(S)	96	#4	28'-4"	—
e15(S)	16	#4	18'-0"	—
x2(S)	86	#5	8'-6"	—
x3(S)	86	#5	5'-6"	—
Concrete Superstructure			Cu. Yd.	1504.2
Bridge Deck Grooving (Longitudinal)			Sq. Yd.	2732
Protective Coat			Sq. Yd.	6021
Reinforcement Bars, Stainless Steel			Lbs.	446250
Diamond Grinding (Bridge Section)			Sq. Yd.	4554

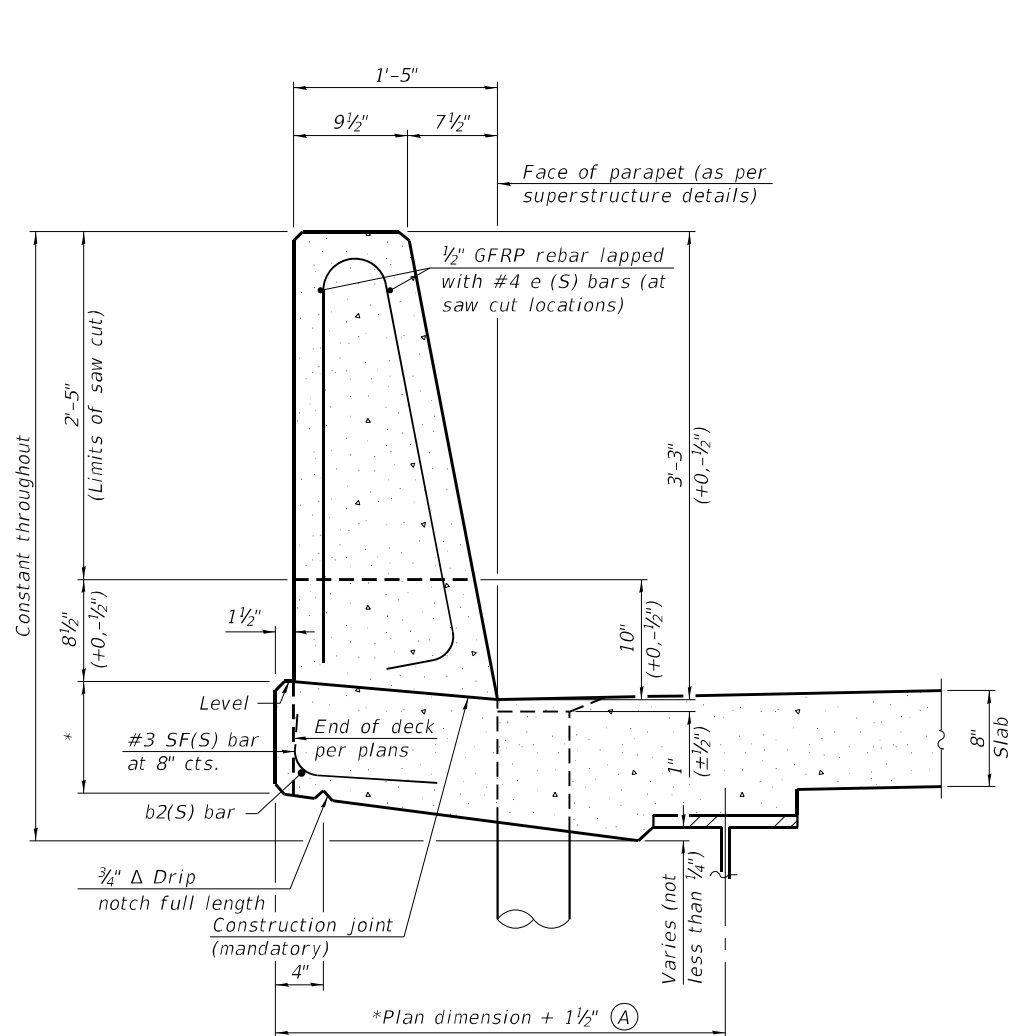
UNIT 4 SUPERSTRUCTURE

BILL OF MATERIAL

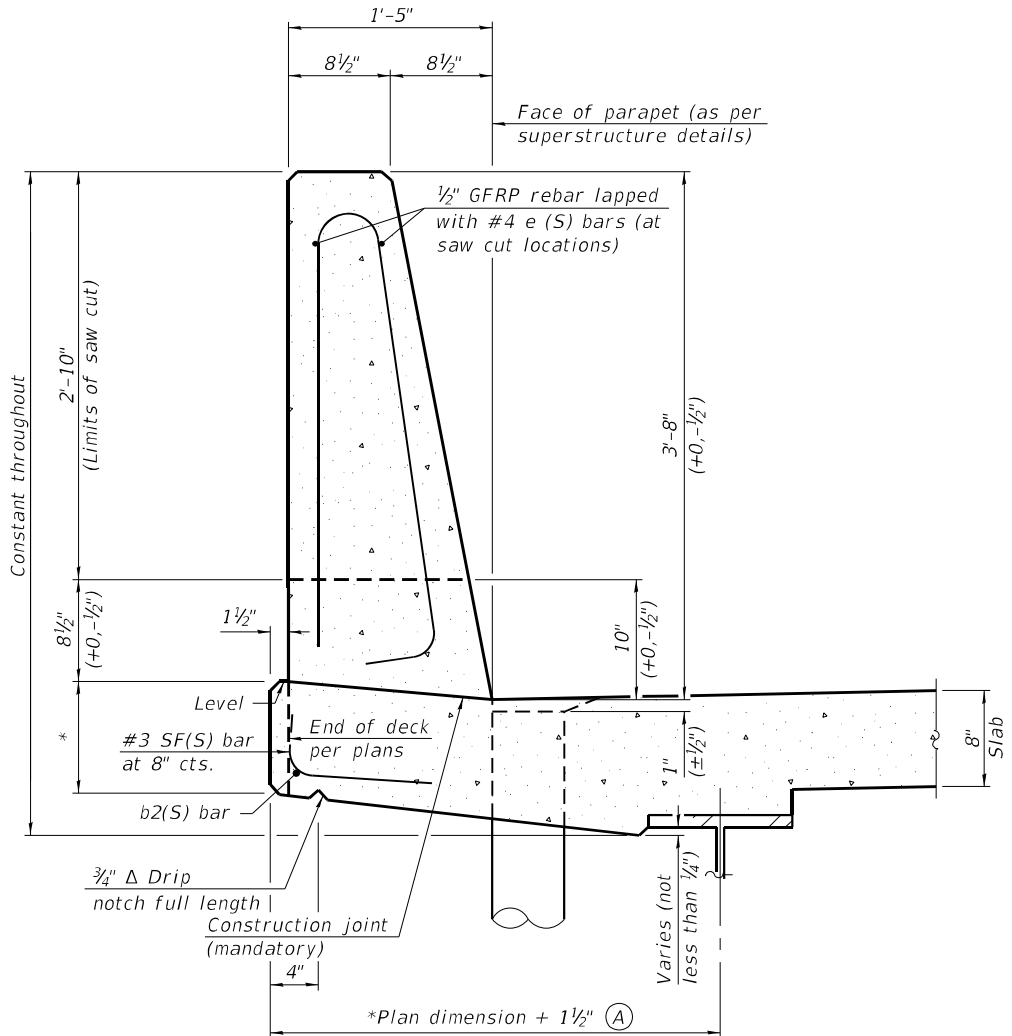
Bar	No.	Size	Length	Shape
a(S)	2226	#5	46'-6"	—
a1(S)	1366	#5	45'-0"	—
a2(S)	4452	#6	8'-4"	—
a3(S)	28	#6	46'-6"	—
a4(S)	20	#6	7'-8"	—
a5(S)	8	#6	3'-1"	—
a6(S)	8	#6	46'-6"	—
a8(S)	96	#5	2'-0"	—
b(S)	3506	#5	30'-0"	—
b5(S)	344	#6	30'-8"	—
b6(S)	344	#6	29'-2"	—
b7(S)	46	#5	12'-9"	—
d(S)	3184	#5	6'-11"	—
d1(S)	3054	#5	8'-7"	—
d2(S)	20	#5	10'-2"	—
d3(S)	9	#5	5'-3"	—
d4(S)	18	#5	8'-11"	—
e2(S)	192	#4	19'-8"	—
e6(S)	168	#4	27'-1"	—
e8(S)	736	#4	17'-8"	—
e13(S)	16	#4	17'-11"	—
e14(S)	96	#4	28'-4"	—
e15(S)	16	#4	18'-0"	—
x2(S)	86	#5	8'-6"	—
x3(S)	86	#5	5'-6"	—
Concrete Superstructure			Cu. Yd.	1513.7
Bridge Deck Grooving (Longitudinal)			Sq. Yd.	2733
Protective Coat			Sq. Yd.	6041
Reinforcement Bars, Stainless Steel			Lbs.	446250
Diamond Grinding (Bridge Section)			Sq. Yd.	4555



FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-047-Superstructure Details_III.dgn



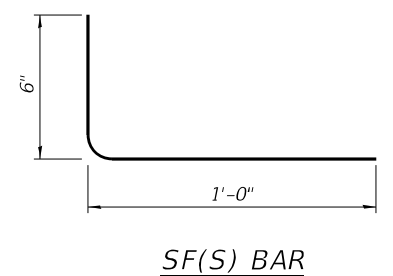
**39" CONSTANT-SLOPE
PARAPET SECTION**
(Showing dimensions, d(S), and 1/2" Ø GFRP rebar)



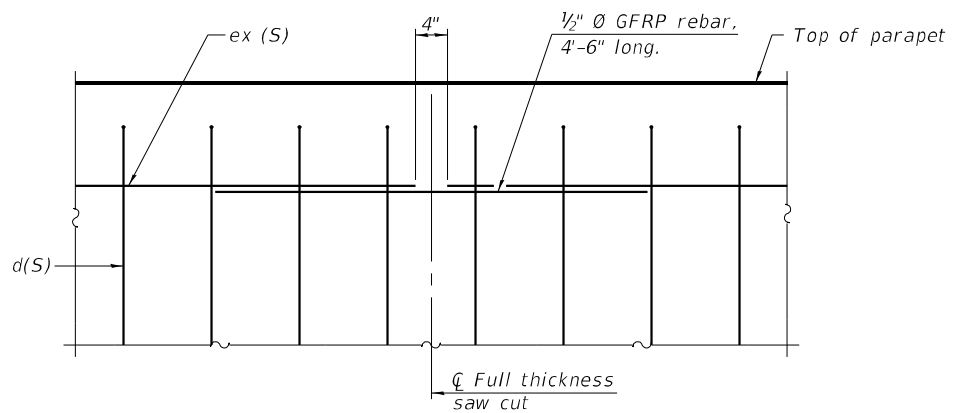
**44" CONSTANT-SLOPE
PARAPET SECTION**
(Showing dimensions, d(S), and 1/2" Ø GFRP rebar)

Notes:
 All dimensions shall remain the same as shown on superstructure details, except dimension A which is to be revised as shown. Additional concrete needed to revise dimension A = 0.00348 cu. yds./ft. for 39" and 44" parapets.
 Place full depth aluminum sheets as shown on superstructure details.
 Replace all cork joint filler locations with a full thickness saw cut.
 Steel superstructure shown. Other superstructure types similar.

*See Superstructure Details.



SF(S) BAR



GFRP REBAR STIFFENING DETAIL

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

FILE NAME = L:\DOT\1806601\Draw\Structures\CADD_Sheets\0090504-72K47-048-Concrete Parapet Slipforming Option.dgn



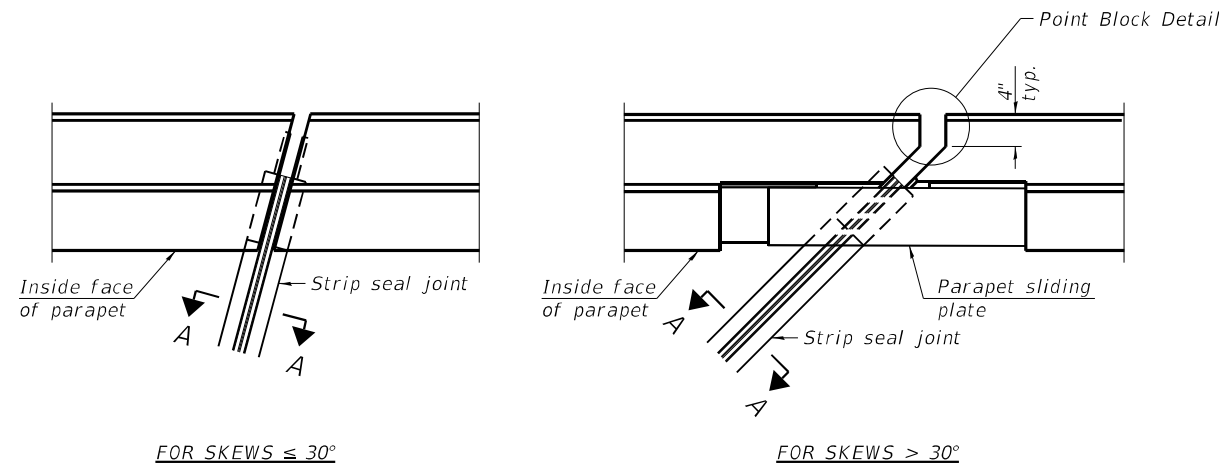
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PLOT SCALE = N/A	DRAWN - BLH	REVISED -
PLOT DATE = 5/23/2023 (12:19:20 PM)	CHECKED - DH	REVISED -
	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

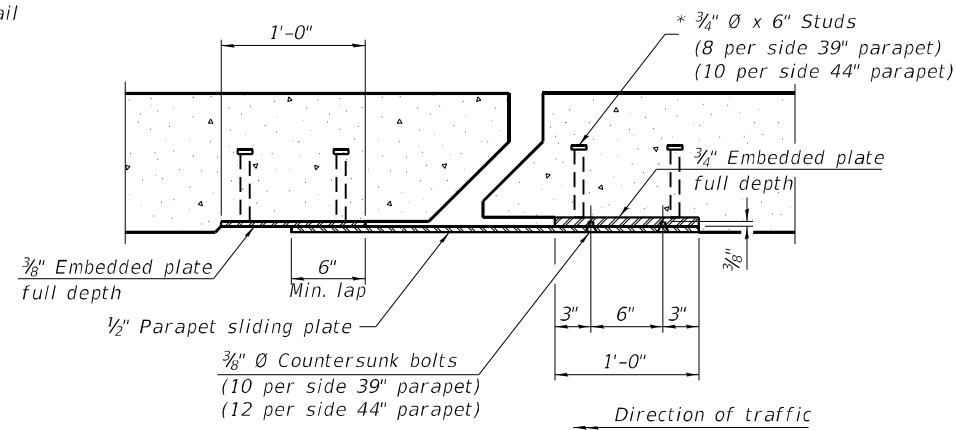
**CONCRETE PARAPET SLIPFORMING OPTION
SN 009-0504**

SCALE: SHEET 48 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	244
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



PLAN AT PARAPET



SECTION B-B

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

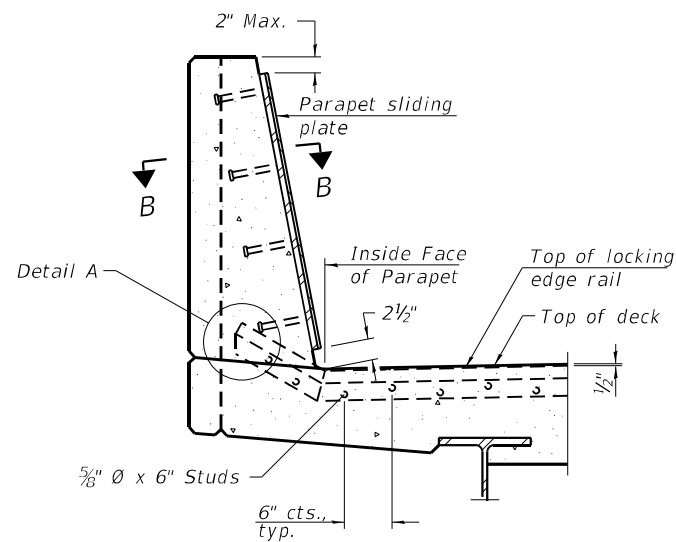
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

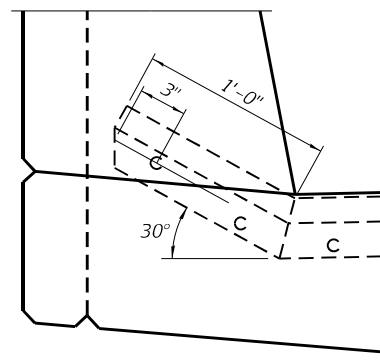
39" constant slope barrier shown, 44" constant slope barrier similar as noted.

The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

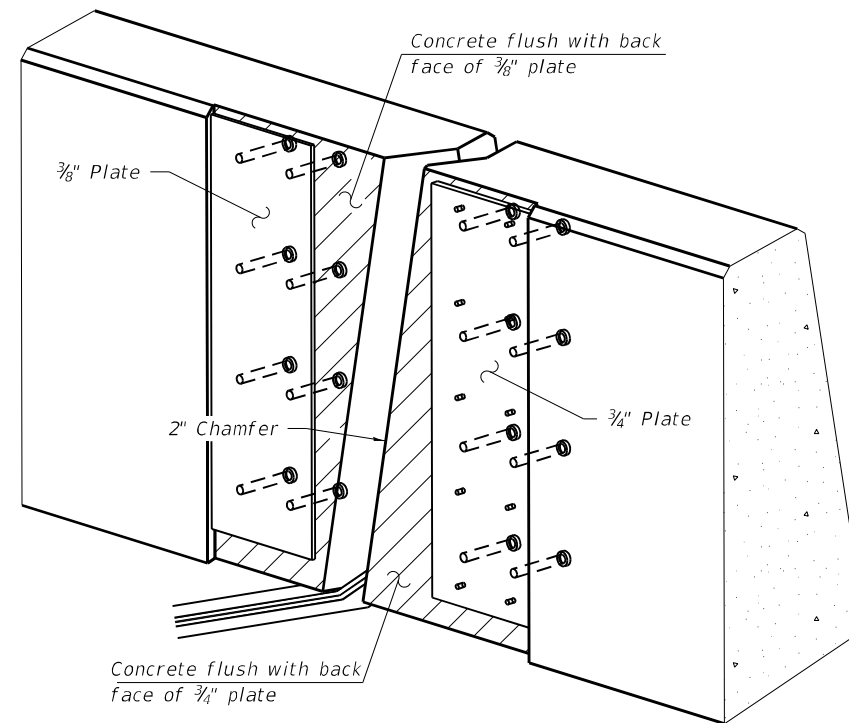


SECTION AT PARAPET

(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)

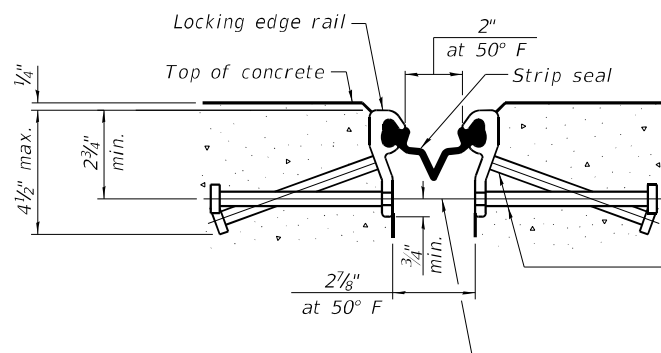


DETAIL A



TRIMETRIC VIEW

(Showing embedded plates only)



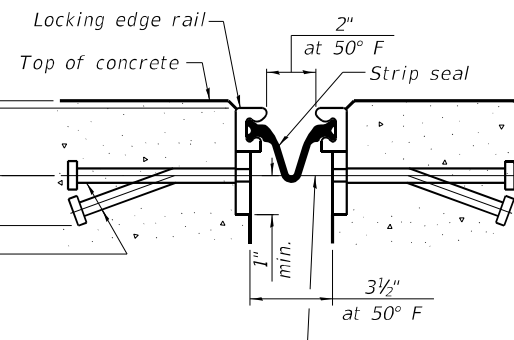
SHOWING ROLLED RAIL JOINT

* 3/8" \emptyset x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

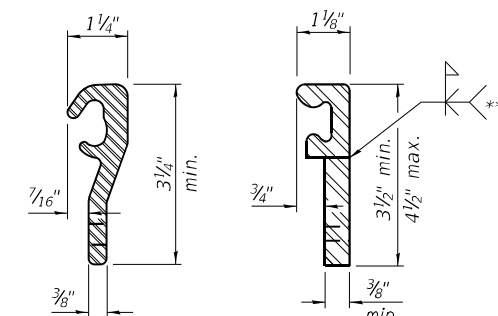
3/8" ϕ threaded rods in 1/16" ϕ holes at $\pm 4'-0"$ cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

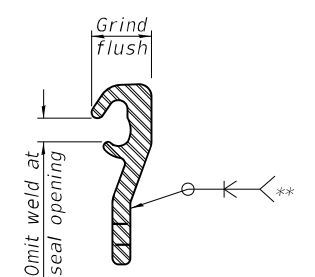


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	47

FILE NAME = L:\DOT\11808601\Draw\Structures\CADD_Sheets\0090504-72K47-049-Preformed Joint Strip Seal.dgn

EJ-SS

1-1-2020



USER NAME = Ben Holland
 PLOT SCALE = N/A
 PLOT DATE = 5/23/2023 (12:19:21 PM)

DESIGNED - DAC
 DRAWN - DAC
 CHECKED - JTH
 DATE - May 2023

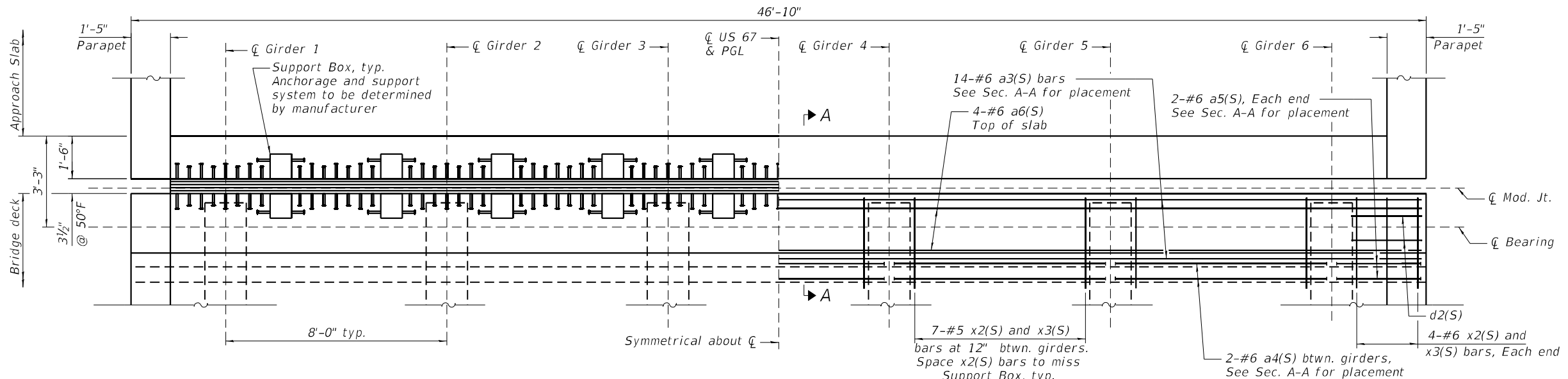
REVISED -
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 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
 SN 009-0504

SCALE: SHEET 49 OF 162 SHEETS STA. TO STA.

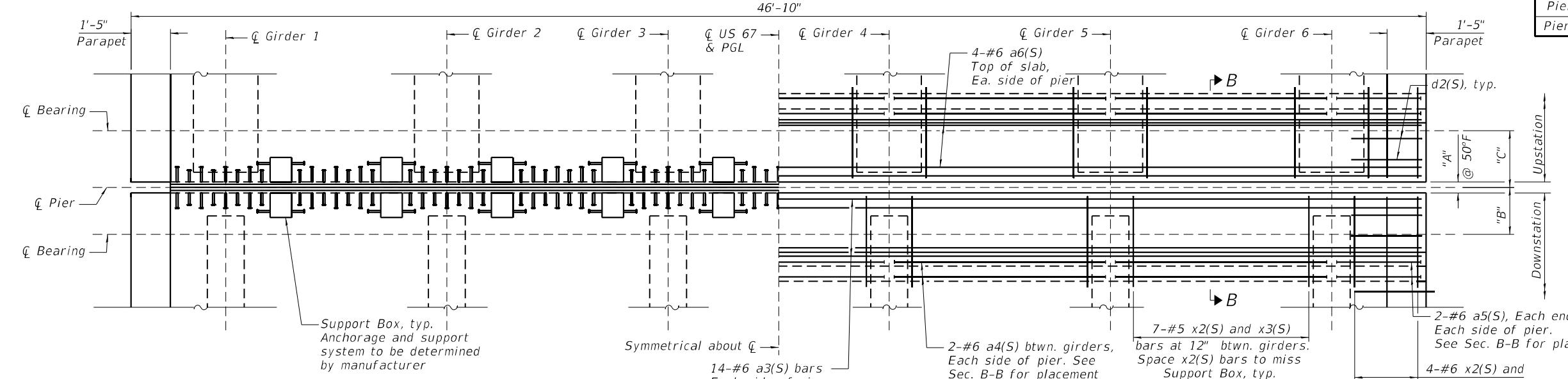
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	245
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



NORTH ABUTMENT JOINT - PLAN
(Showing modular joint)

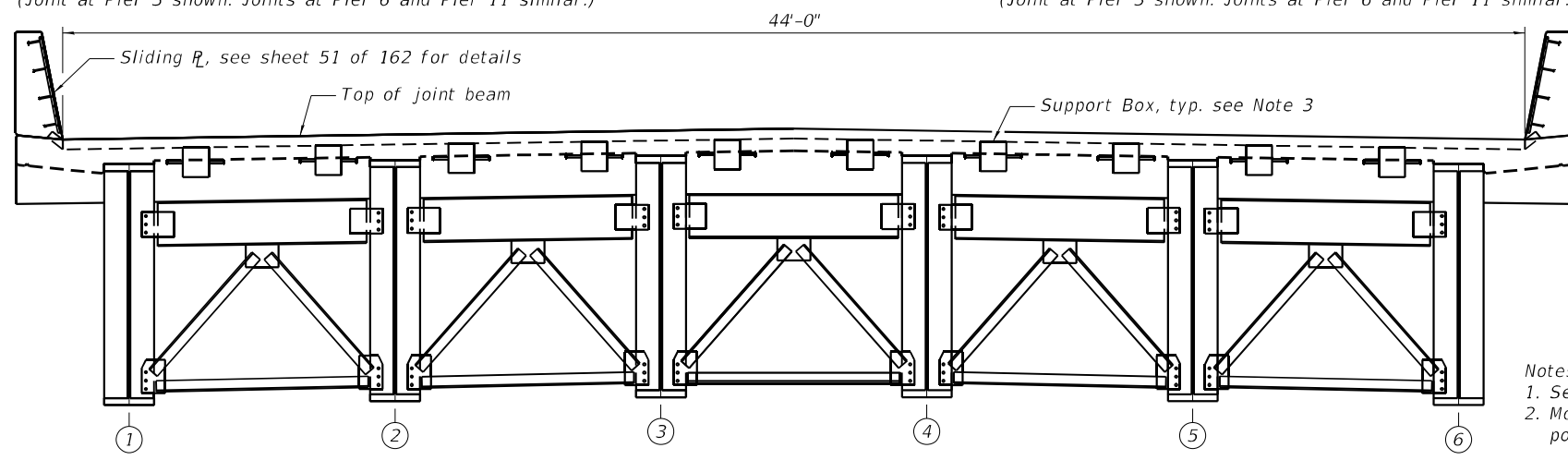
NORTH ABUTMENT JOINT - PLAN
(Showing reinforcement)

Location	"A"	"B"	"C"
Pier 3	5"	1'-7"	2'-2"
Pier 6	6¾"	2'-2"	1'-7"
Pier 11	7"	1'-7½"	1'-7½"



PIERS 3, 6, & 11 JOINT - PLAN
(Showing modular joint)

PIERS 3, 6, & 11 JOINT - PLAN
(Showing reinforcement)



TYPICAL ELEVATION THRU MODULAR JOINT

- Notes:
- See sheet 51 of 162 for Section A-A and B-B.
 - Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-050-Modular Expansion Joint Details_1.dgn



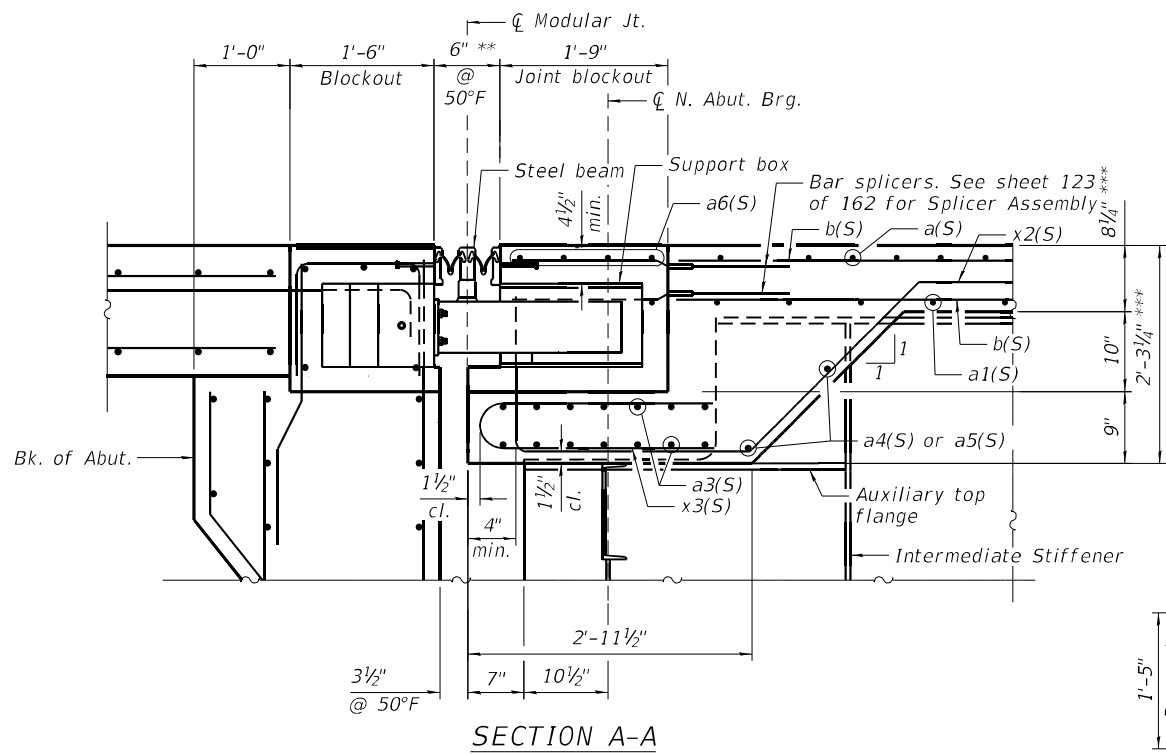
USER NAME = Ben Holland	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	DRAWN - DAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:22 PM)	CHECKED - JTH/DH	REVISED -
	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MODULAR EXPANSION JOINT DETAILS - I
SN 009-0504**

SCALE: SHEET 50 OF 162 SHEETS STA. TO STA.

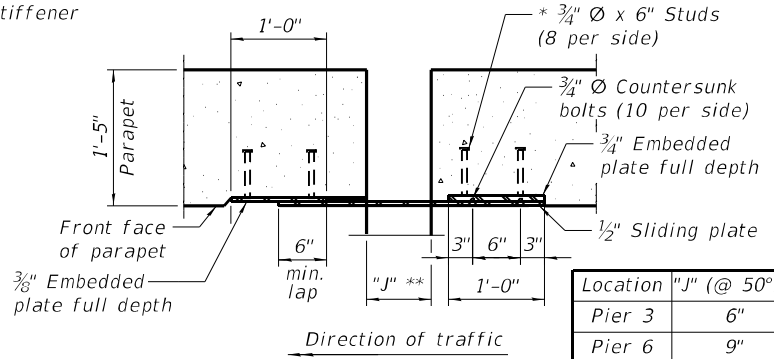
F.A.P. RTE. 310	SECTION (86B-1, 87C)R	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 246
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



SECTION A-A

** Actual joint width per manufacturer. Dimension shown for detailing purposes.

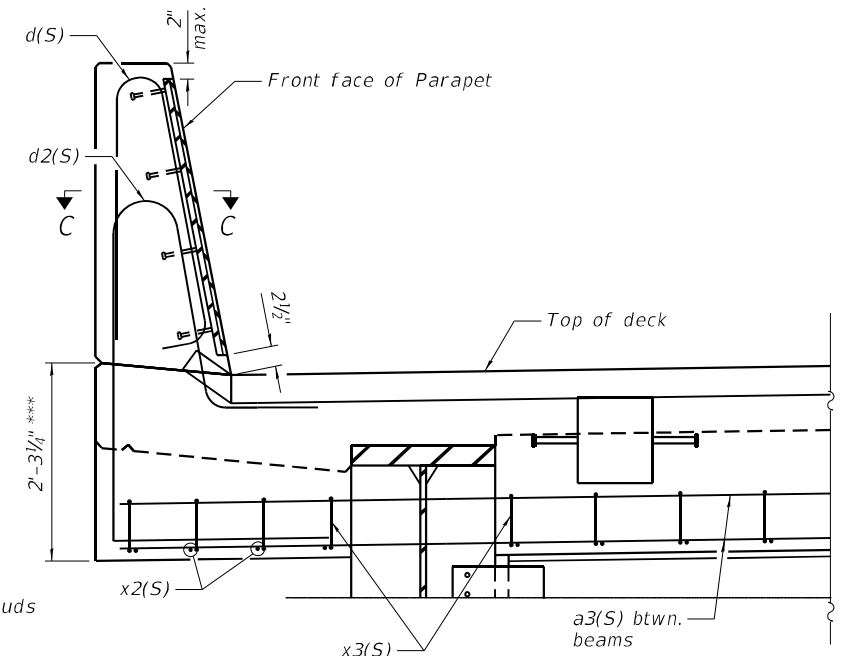
*** Prior to grinding.



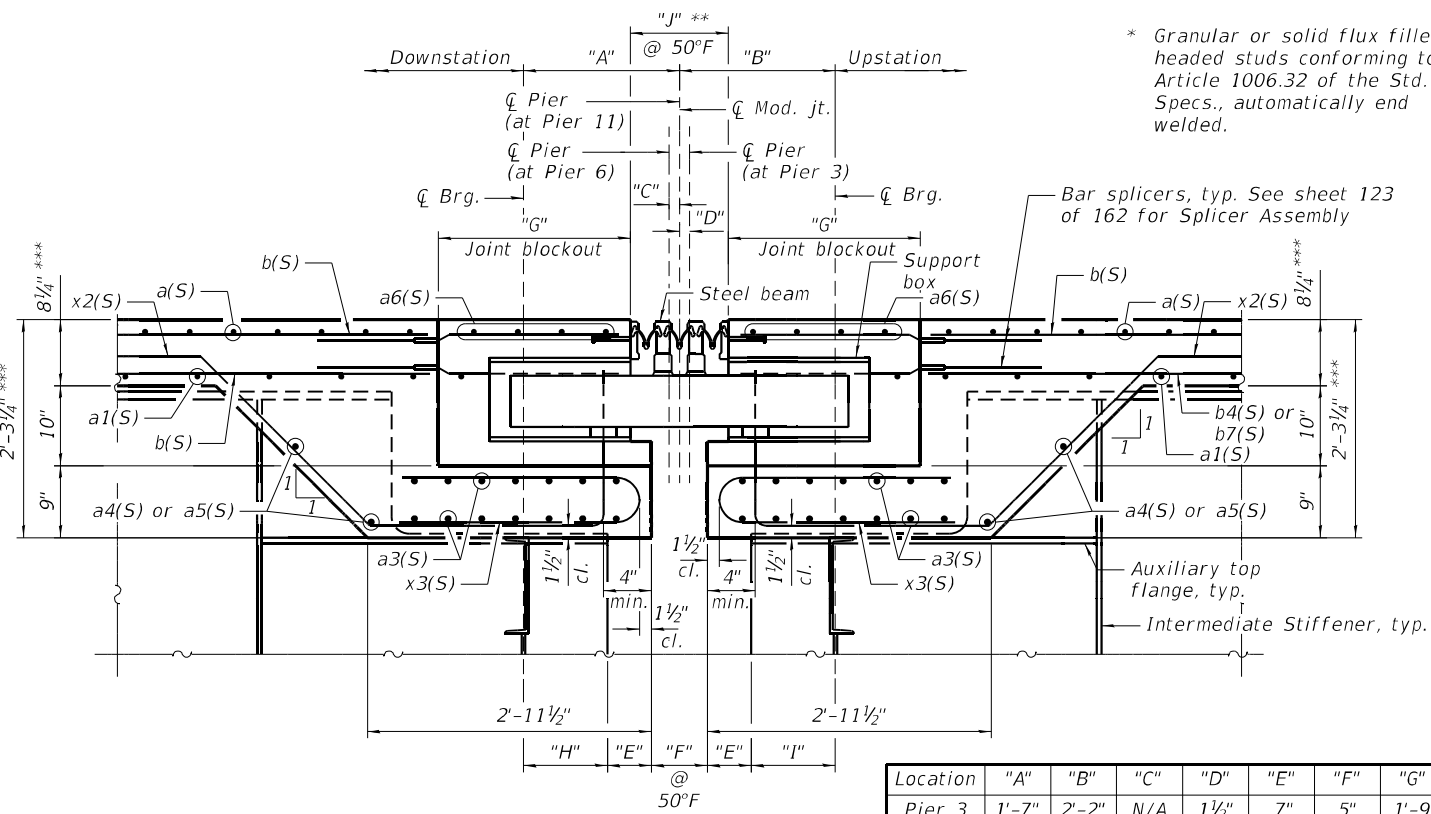
SECTION C-C

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

Location	"J" (@ 50°F)
Pier 3	6"
Pier 6	9"
Pier 11	9"
N. Abut.	6"

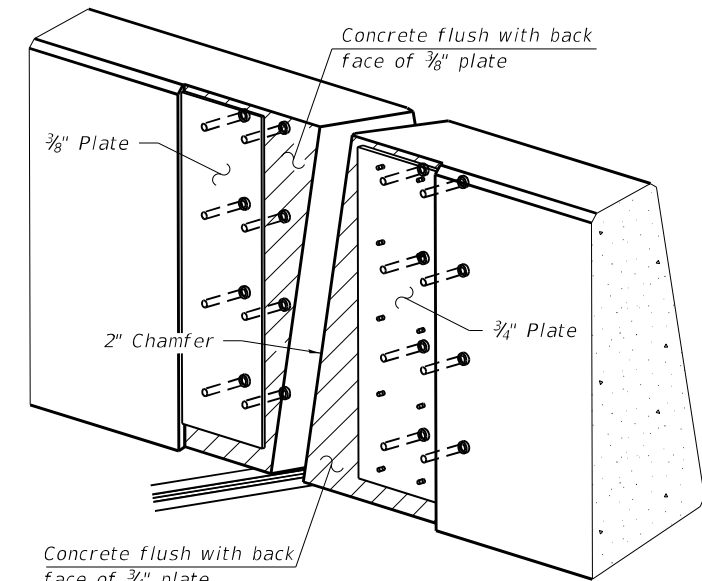


TYPICAL SECTION THRU PARAPET



SECTION B-B

Location	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"
Pier 3	1'-7"	2'-2"	N/A	1 1/2"	7"	5"	1'-9"	8"	1'-6"	6"
Pier 6	2'-2"	1'-7"	1/4"	N/A	4 7/8"	6 3/4"	2'-0"	1'-6"	10 1/2"	9"
Pier 11	1'-7 1/2"	1'-7 1/2"	N/A	N/A	5 1/2"	7"	2'-0"	10 1/2"	10 1/2"	9"



TRIMETRIC VIEW

(Showing embedded plates only, North Parapet similar)

BILL OF MATERIAL

Item	Unit	Total
Modular Expansion Joint, 6"	Foot	94
Modular Expansion Joint, 9"	Foot	94

Notes:

- See sheets 37 thru 44 of 162 for parapet dimensions.
- For bar details, bar list, and the associated Bills of Material, see sheet 47 of 162.
- Cost of sliding plates, embedded plates, and anchorage studs included with Modular Expansion Joint, 6" and Modular Expansion Joint, 9".
- The manufacturer's recommended installation methods shall be followed.
- Prior to placement of the joint blockouts, the Contractor shall coordinate with the Modular Joint Manufacturer to ensure that the joint will be properly supported and reinforcement bars will not interfere with the joint components. Any necessary adjustments to the reinforcement layout shall be submitted to the Engineer for approval.

FILE NAME = L:\DOT\11060601\Draw\Structures\CADD_Sheets\0090504-72K47-05-Modular Expansion Joint Details_11.dgn



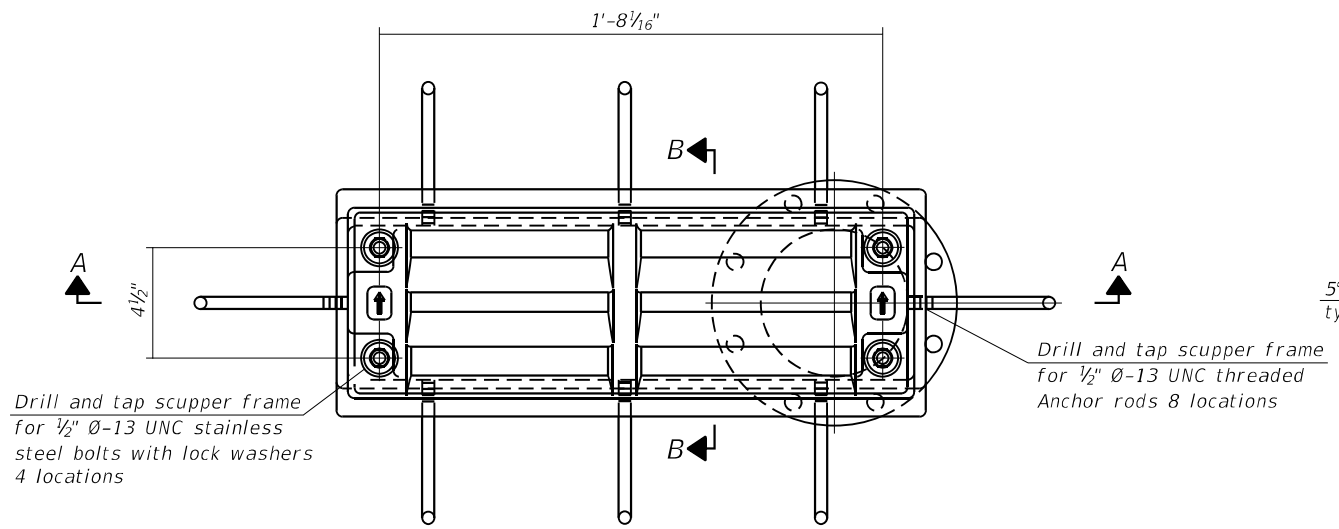
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PLOT SCALE = N/A	DRAWN - DAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:24 PM)	CHECKED - JTH/DH	REVISED -
	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

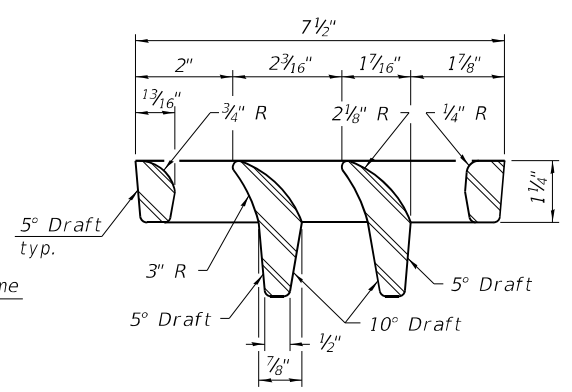
MODULAR EXPANSION JOINT DETAILS - II
SN 009-0504

SCALE: SHEET 51 OF 162 SHEETS STA. TO STA.

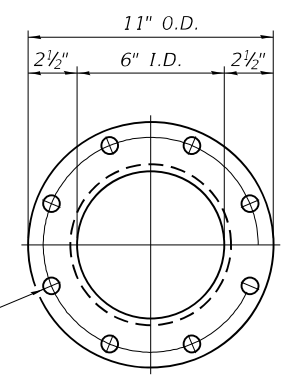
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	247
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



PLAN



VANE GRATE DETAIL



VIEW C-C

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 35B and AASHTO M306.

Bolts, anchor rods, nuts and washers shall be according to ASTM A307 and shall be galvanized according to AASHTO M232. As an alternate stainless steel may be used.

Stainless steel hardware shall be according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frames and downspouts; however, the scupper grates shall remain cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.

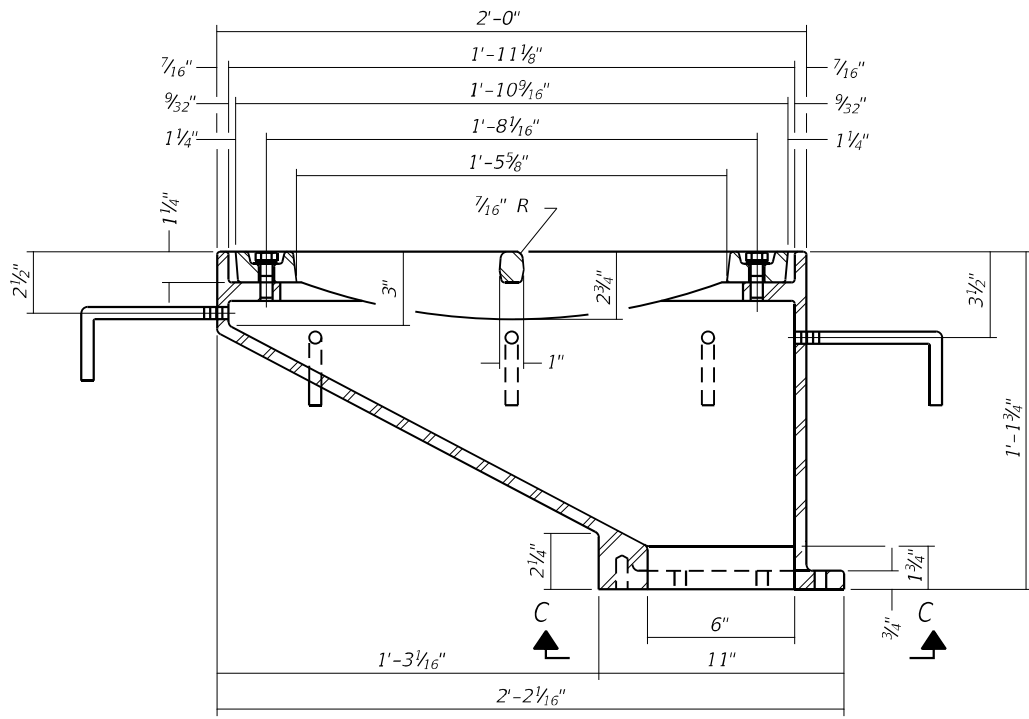
Structural steel scupper frames and downspouts, when utilized, shall be galvanized according to AASHTO M111.

As an alternate, fiberglass may be used for downspouts according to ASTM D2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. in lieu of the cast iron or structural steel.

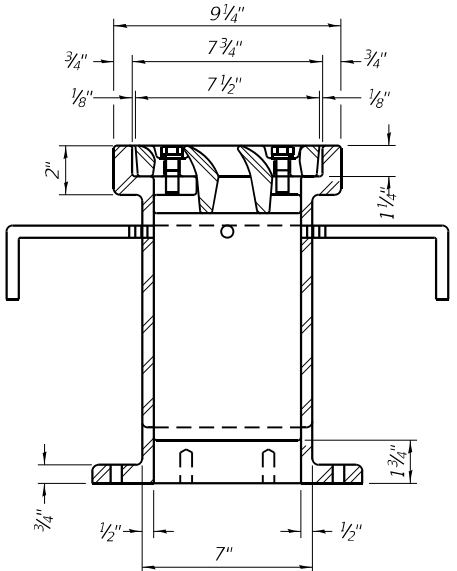
Exterior surfaces of downspouts and exterior exposed surfaces of the scupper frame below deck shall be pigmented or painted to match the color of the adjacent girder.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

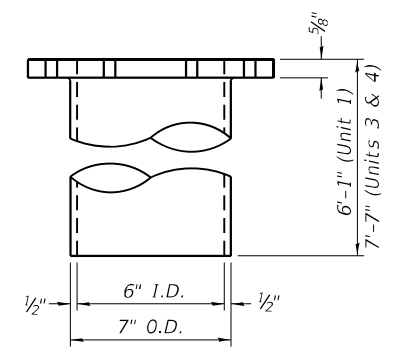
Cost of the grate, frame, downspout, anchor rods, nuts and washers including complete installation of the scupper shall be paid for at the contract unit price for Drainage Scupper, DS-12.



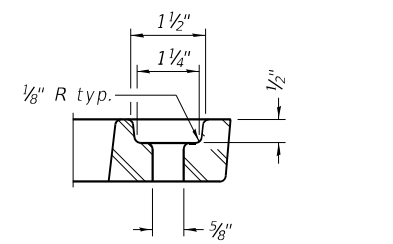
SECTION A-A
See sheet 45 of 162 for scupper location relative to parapet.



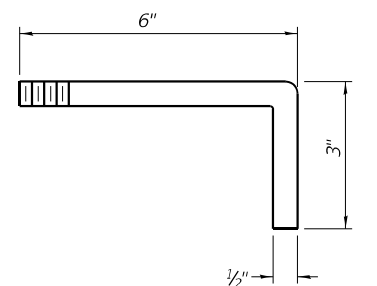
SECTION B-B



DOWNSPOUT



GRATE BOLT HOLE DETAIL



ANCHOR ROD DETAIL

Drill and tap 8 holes for 3/4" Ø-13 UNC bolts on 9 1/2" Ø bolt circle. (2 blind holes are 1 1/4" deep, 6 thru holes)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-12	Each	30

L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-052-Drainage Scupper_DS_12.dgn



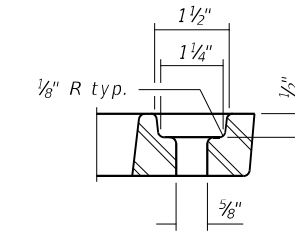
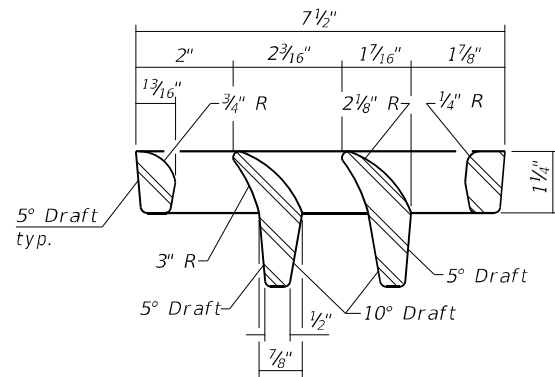
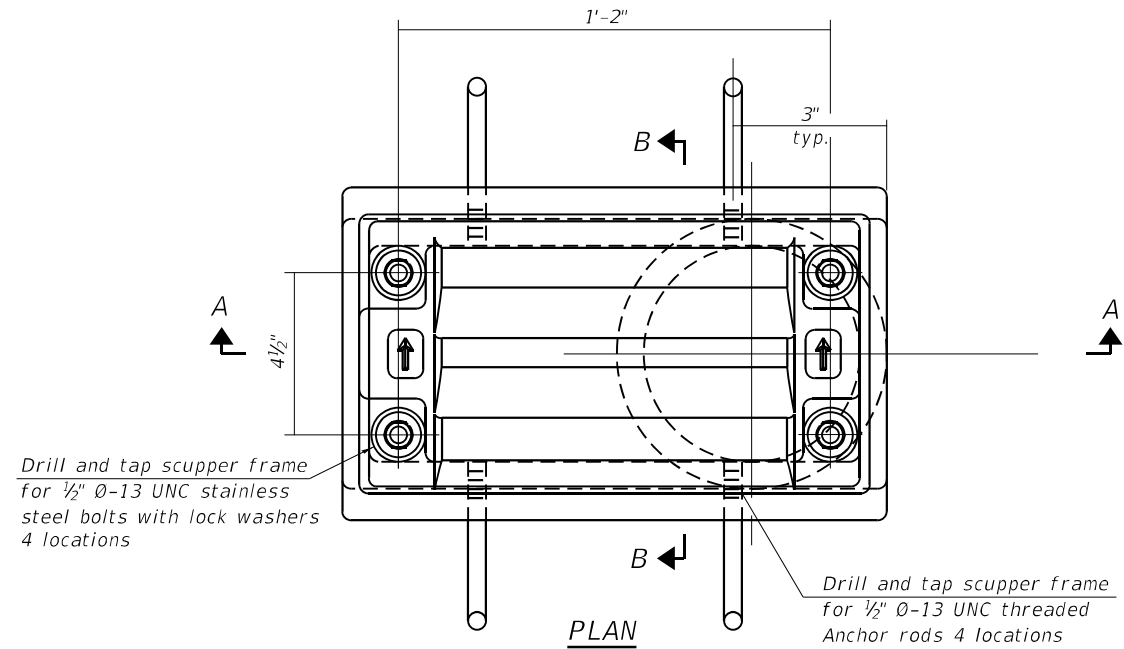
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PLOT SCALE = N/A	DRAWN - DAC	REVISED -
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	DATE - May 2023	REVISED -

STATE OF ILLINOIS
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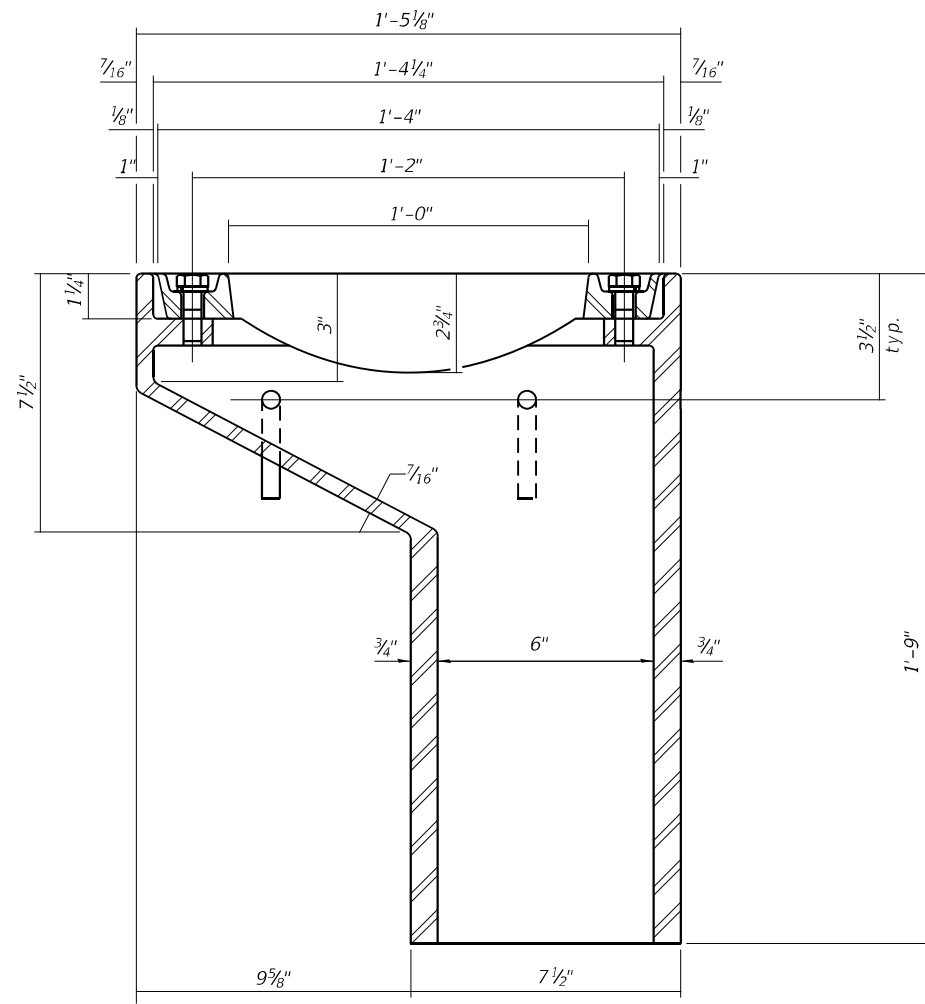
DRAINAGE SCUPPER, DS-12
SN 009-0504

SCALE: SHEET 52 OF 162 SHEETS STA. TO STA.

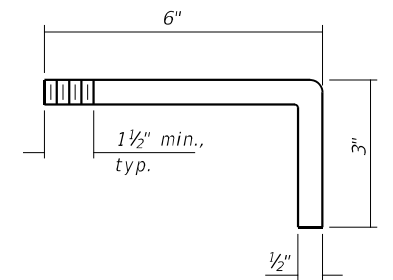
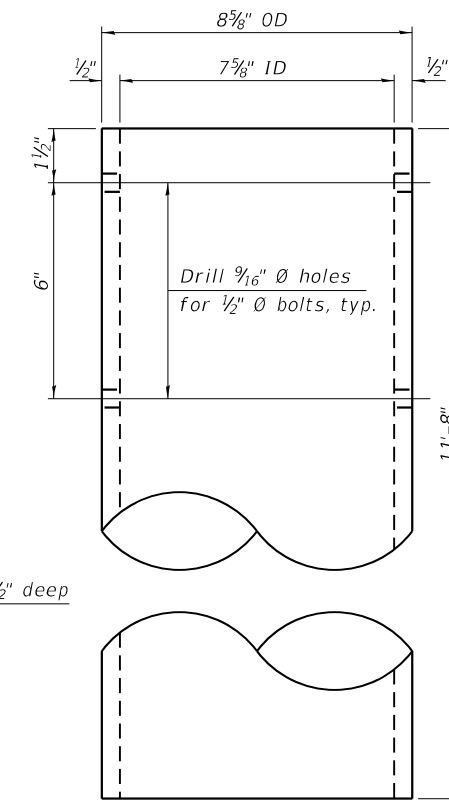
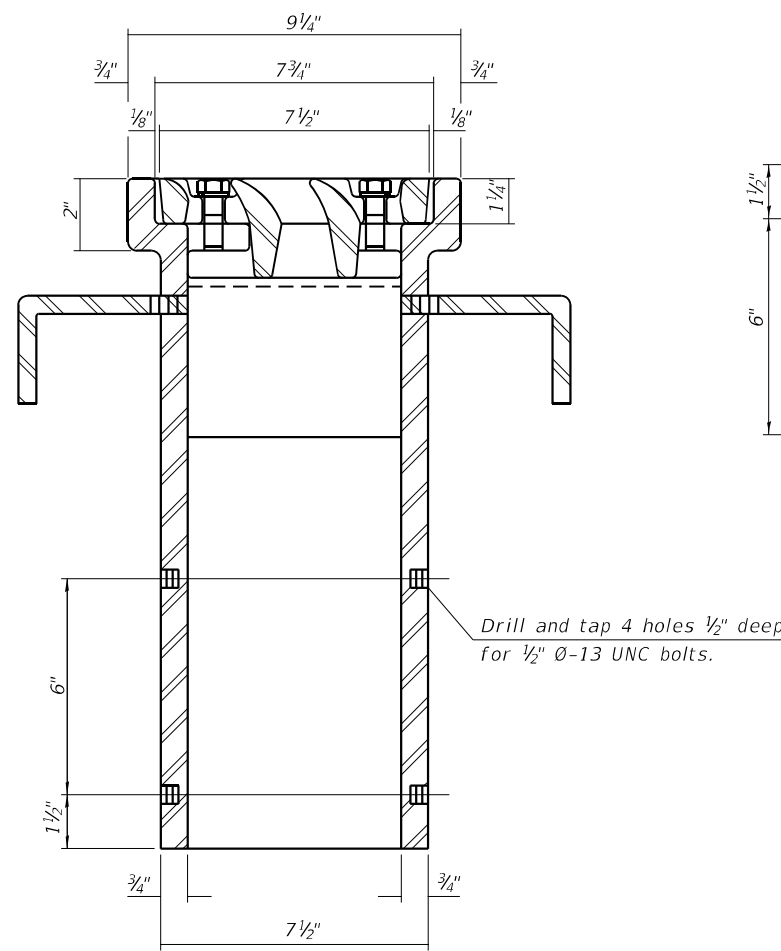
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	248
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



Notes:
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 35B and AASHTO M306.
 Bolts, anchor rods, nuts and washers shall be according to ASTM A307 and shall be galvanized according to AASHTO M232. As an alternate stainless steel may be used.
 Stainless steel hardware shall be according to Article 1006.29(d) of the Standard Specifications.
 Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frames and downspouts; however, the scupper grates shall remain cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.
 Structural steel scupper frames and downspouts, when utilized, shall be galvanized according to AASHTO M111.
 As an alternate, fiberglass may be used for downspouts according to ASTM D2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. in lieu of the cast iron or structural steel.
 Exterior surfaces of downspouts and exterior exposed surfaces of the scupper frame below deck shall be pigmented or painted to match the color of the adjacent girder.
 The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
 Cost of the grate, frame, downspout, anchor rods, nuts and washers including complete installation of the scupper shall be paid for at the contract unit price for Drainage Scupper, DS-11.



See sheet 45 of 162 for scupper location relative to parapet.



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	12

FILE NAME = L:\DOT11808601\Draw\Structures\CADD_Sheets\0090504-72K47-053-Drainage Scupper_DS_11.dgn



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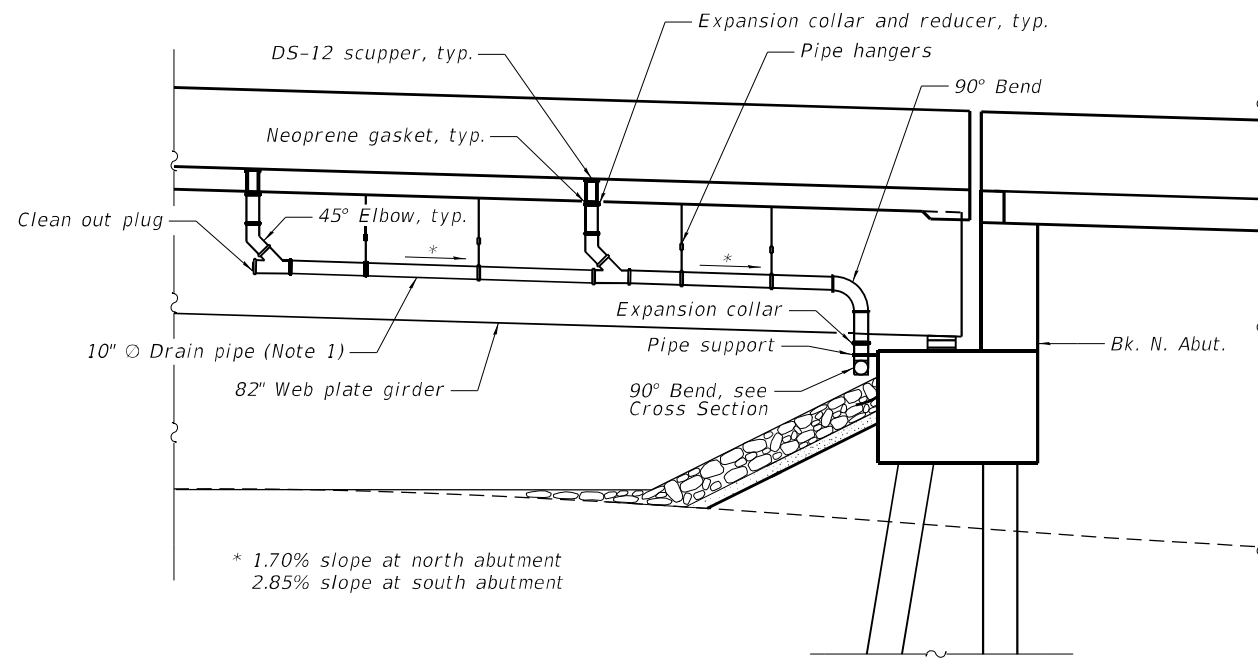
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11
SN 009-0504

SCALE: SHEET 53 OF 162 SHEETS STA. TO STA.

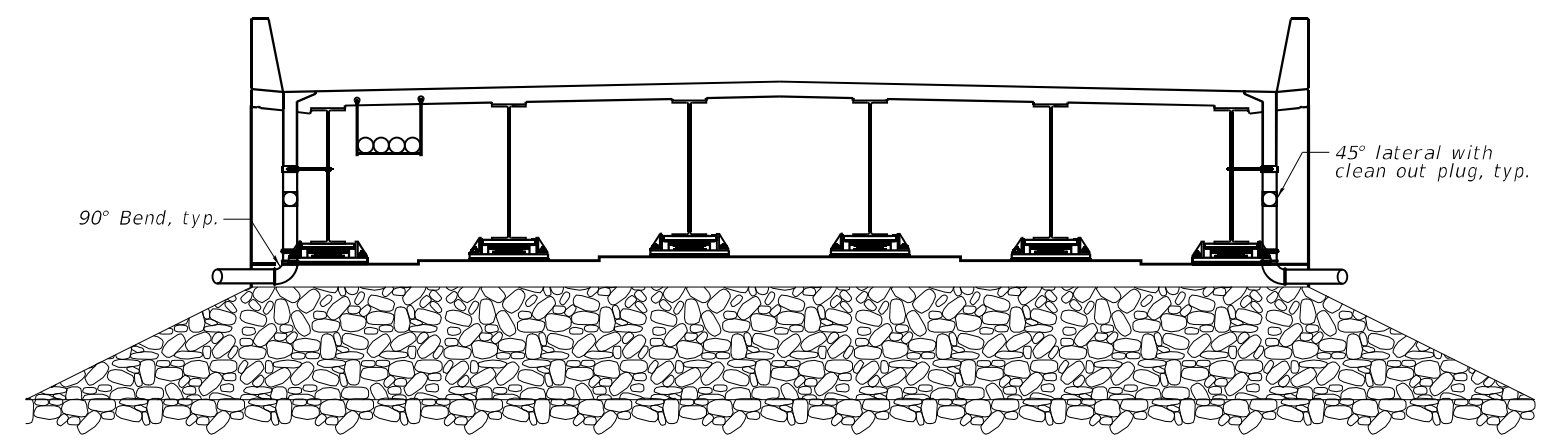
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	249
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



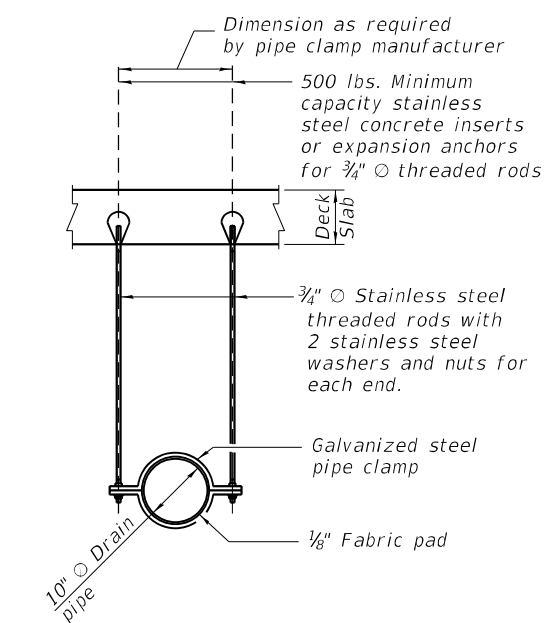
* 1.70% slope at north abutment
2.85% slope at south abutment

ELEVATION

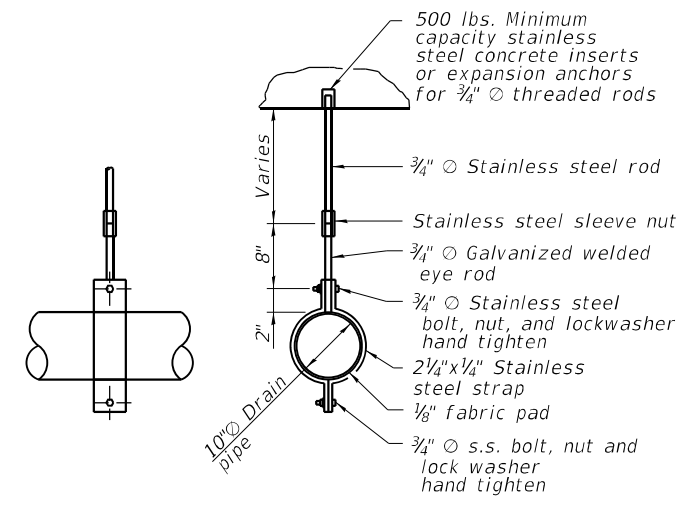
(North abutment shown looking west, south abutment similar)



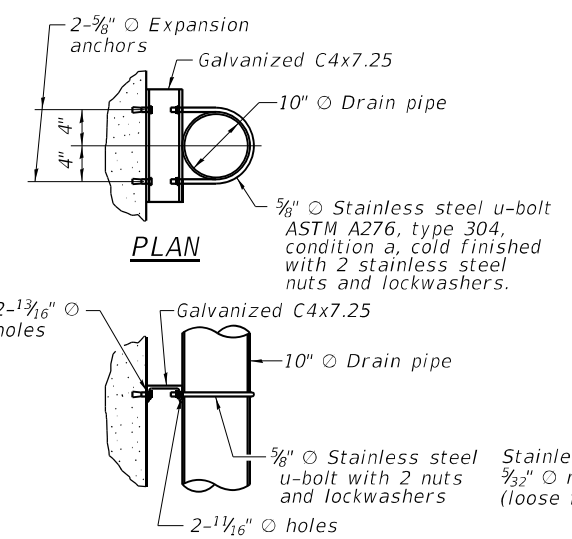
CROSS SECTION



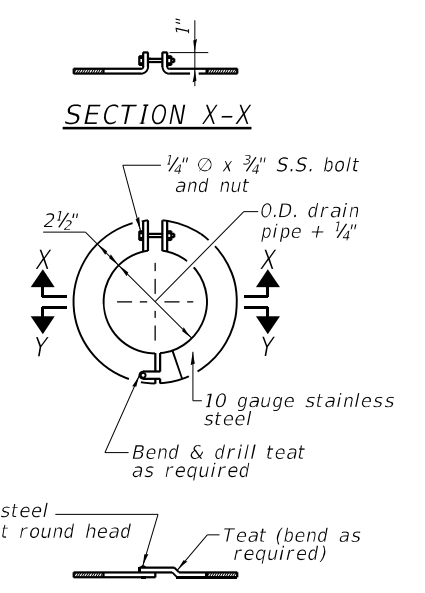
PIPE HANGER DETAILS



**ELEVATION TYPICAL SECTION
ALTERNATE PIPE HANGER DETAIL**



**ELEVATION
PIPE SUPPORT DETAIL**



**SECTION X-X
SECTION Y-Y
DETAIL OF EXPANSION COLLAR**

NOTES:

1. Maintain 10" drain pipe above bottom flanges.
2. Bolt pattern and size in drain pipe flange to match scupper flange.
3. Approximate lengths from scupper to abutment or between downspouts shown on plans. Contractor to determine actual quantities of pipe and fitting required. Paid for as Drainage System for Structures.
4. DS-12 Scupper Drainage system shown.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage System for Structures	L. Sum	1

FILE NAME = L:\DOT\11806601\Draw\Structures\CADD_Sheets\0090504-72K47-054-Drainage System Details.dgn



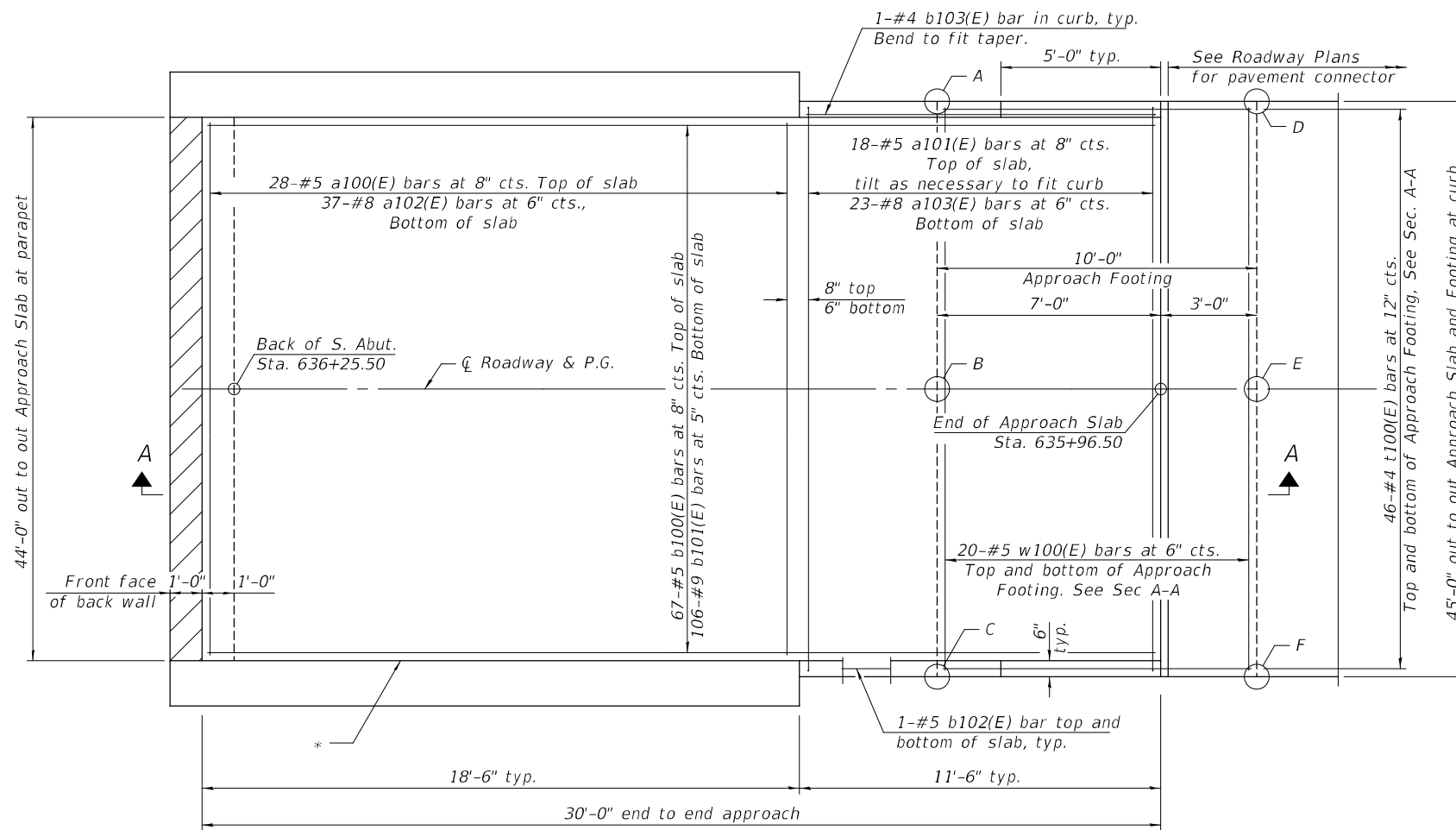
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	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRAINAGE SYSTEM DETAILS
SN 009-0504**

SCALE: SHEET 54 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	250
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

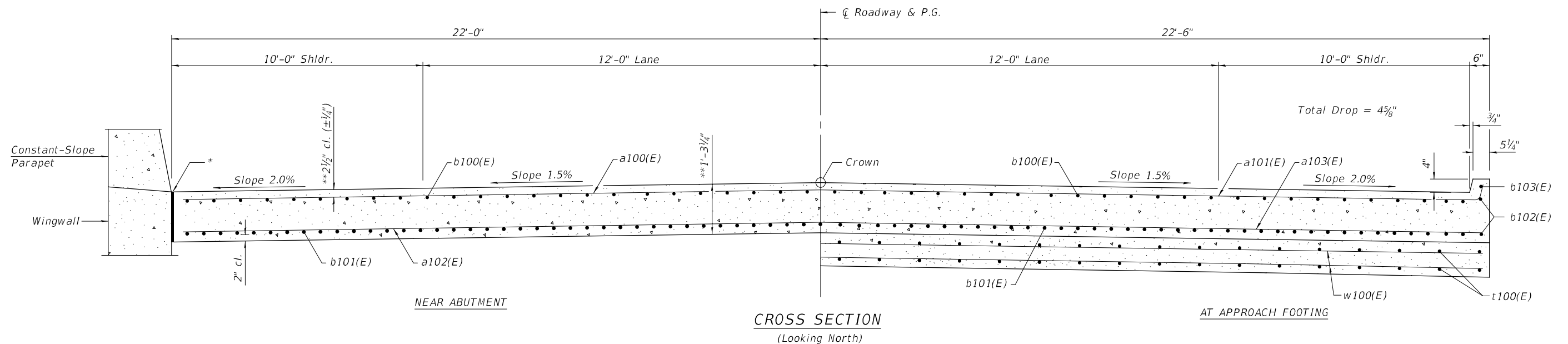


PLAN

TOP AND BOTTOM ELEVATIONS

South Approach		
Point/Location	Top	Bottom
A	487.33	486.50
B	487.72	486.89
C	487.33	486.50
D	487.05	486.21
E	487.44	486.60
F	487.05	486.21

* 1/2" Preformed Expansion Joint Filler according to Article 1051.09 of the Standard Specifications; full depth of slab, full length of parapet. Typ. each parapet.
 ** Prior to grinding.



FILE NAME = 0090504-72K47-055-South Approach Slab.dgn

(Sheet 1 of 2)

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 Illinois Professional Design Firm No. 184-000825

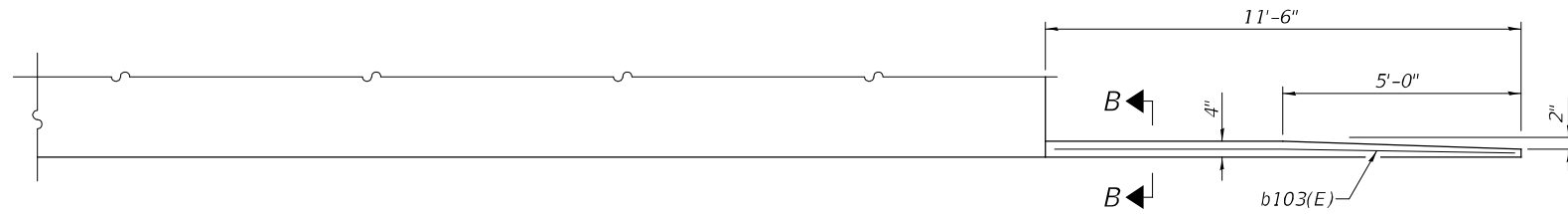
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PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SOUTH APPROACH SLAB PLAN
 SN 009-0504**

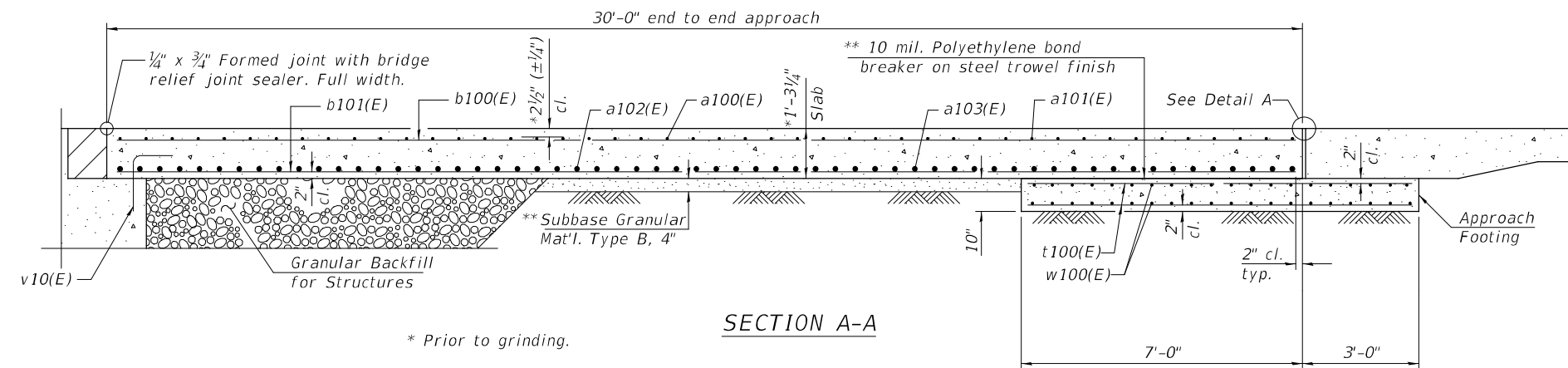
SCALE: SHEET 55 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	251
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



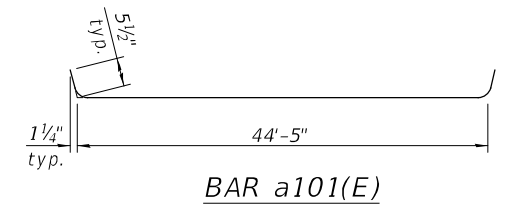
Notes:
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 6 of 162.
 For hatched block details, see sheet 83 of 162.

INSIDE ELEVATION OF PARAPET AND CURB



* Prior to grinding.

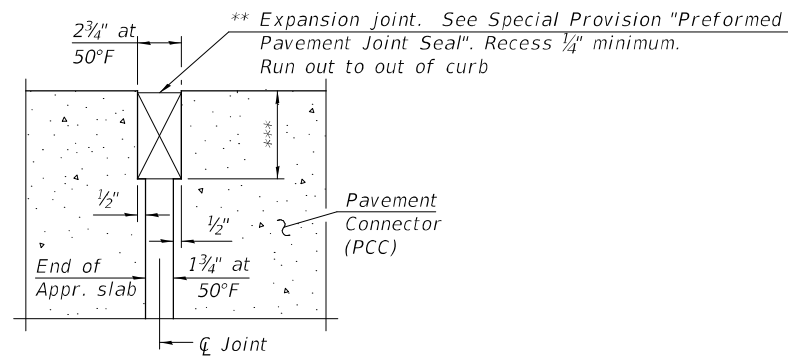
SECTION A-A



BAR a101(E)

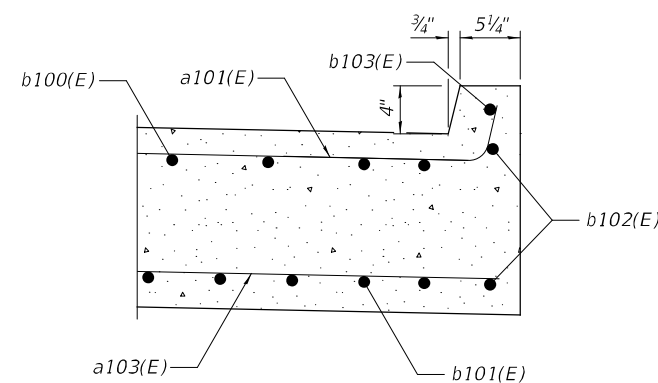
**SOUTH APPROACH
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a100(E)	28	#5	43'-8"	—
a101(E)	18	#5	45'-4"	—
a102(E)	37	#8	43'-8"	—
a103(E)	23	#8	44'-8"	—
b100(E)	67	#5	29'-8"	—
b101(E)	106	#9	29'-8"	—
b102(E)	4	#5	11'-2"	—
b103(E)	2	#4	11'-2"	—
t100(E)	92	#4	9'-8"	—
w100(E)	40	#5	44'-8"	—
Concrete Superstructure (Approach Slab)			Cu. Yd.	62.8
Concrete Structures			Cu. Yd.	13.9
Reinforcement Bars, Epoxy Coated			Pound	24,470
Bridge Deck Grooving (Longitudinal)			Sq. Yd.	78
Diamond Grinding (Bridge Section)			Sq. Yd.	134
Protective Coat			Sq. Yd.	149



DETAIL A

(Detail A shown, applies to Highway Standard 420401 only.
 Detail A for pavement connector (HMA) may be found on
 Highway Standard 420406.)



SECTION B-B

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

*** Per manufacturer recommendations

(Sheet 2 of 2)

FILE NAME = 0090504-72K47-056-South Approach Slab Details.dgn

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 Illinois Professional Design Firm No. 184-000825
 2023 JOB# 4527

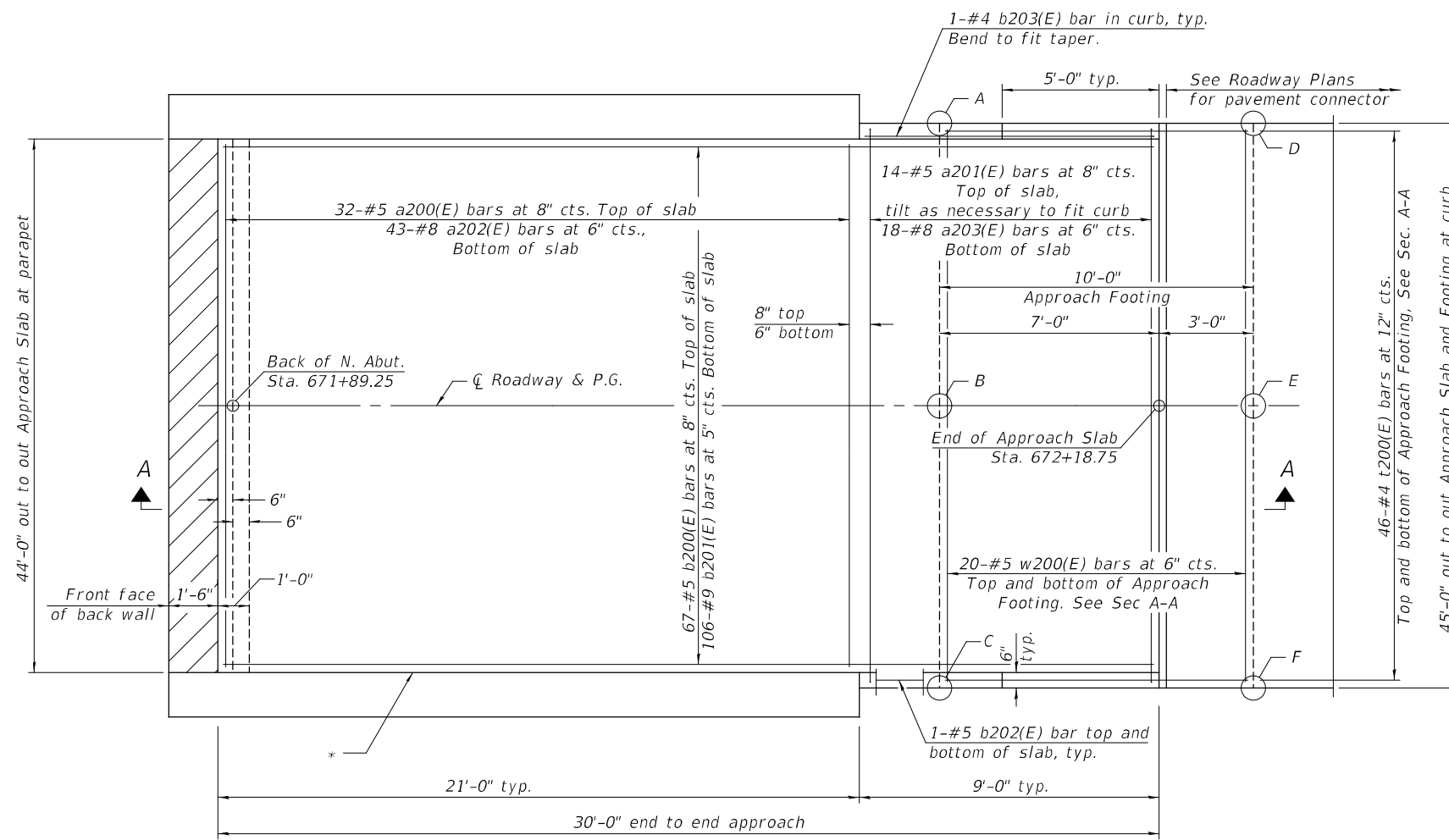
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PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH APPROACH SLAB DETAILS
SN 009-0504**

SCALE: SHEET 56 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	252
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

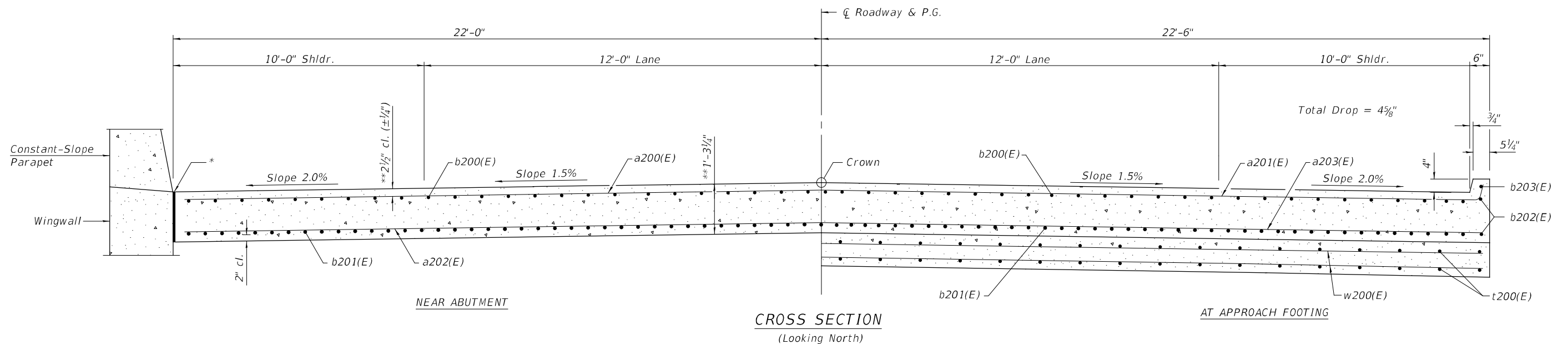


PLAN

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

North Approach		
Point/Location	Top	Bottom
A	468.10	467.27
B	468.49	467.66
C	468.10	467.27
D	467.91	467.08
E	468.30	467.47
F	467.91	467.08

* 1/2" Preformed Expansion Joint Filler according to Article 1051.09 of the Standard Specifications; full depth of slab, full length of parapet. Typ. each parapet.
 ** Prior to grinding.



CROSS SECTION
(Looking North)

(Sheet 1 of 2)

FILE NAME = 0090504-72K47-057-North Approach Slab.dgn

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 CARBONDALE • MOLINE
 Illinois Professional Design Firm No. 184-000825

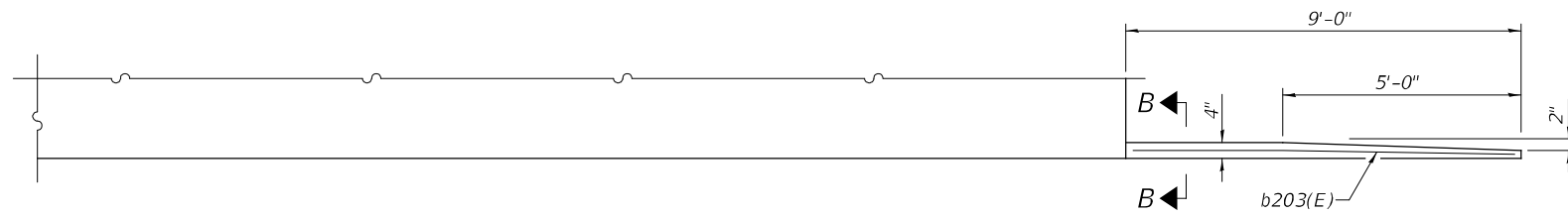
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PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

NORTH APPROACH SLAB PLAN
 SN 009-0504

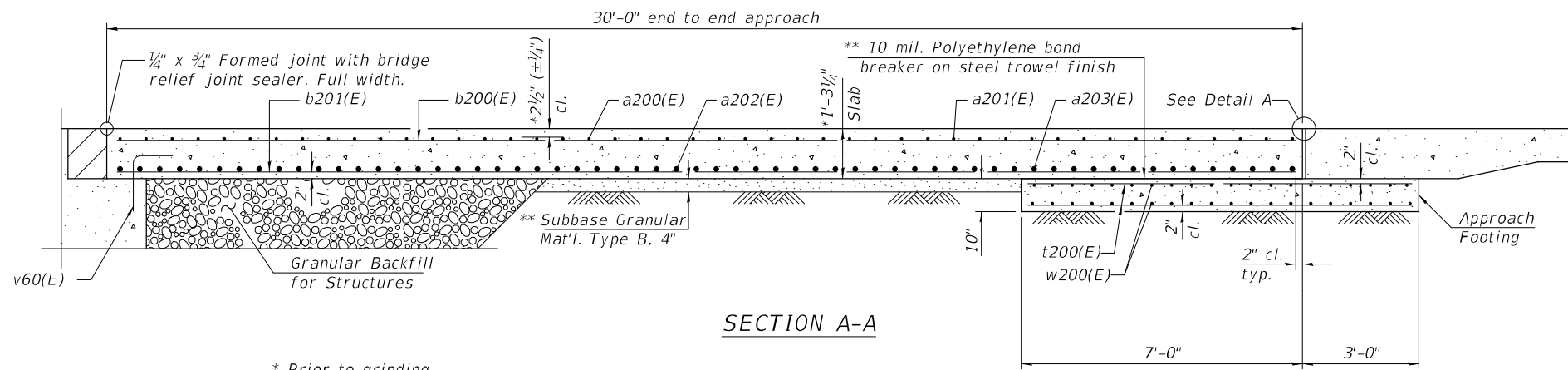
SCALE: SHEET 57 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



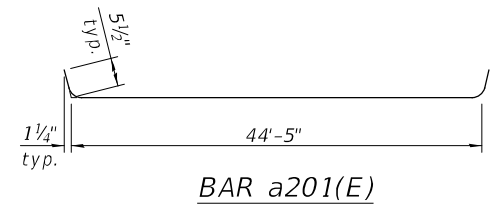
Notes:
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 6 of 162.
 For hatched block details, see sheet 86 of 162.

INSIDE ELEVATION OF PARAPET AND CURB



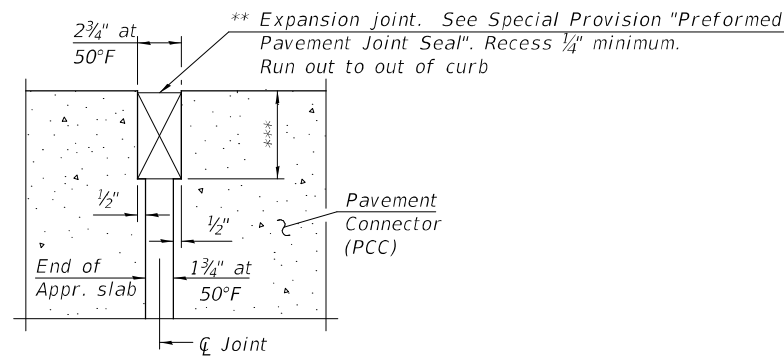
SECTION A-A

* Prior to grinding.



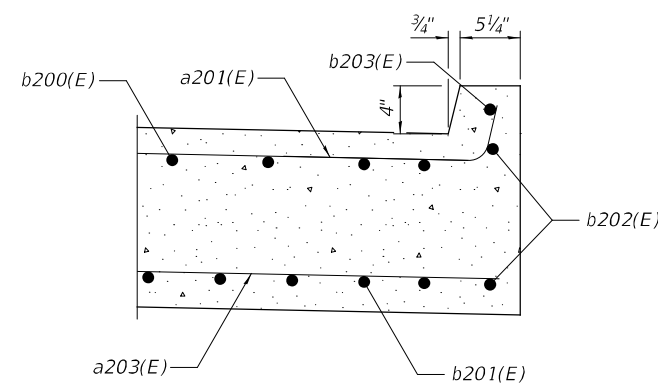
NORTH APPROACH
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a200(E)	32	#5	43'-8"	—
a201(E)	14	#5	45'-4"	—
a202(E)	43	#8	43'-8"	—
a203(E)	18	#8	44'-8"	—
b200(E)	67	#5	29'-8"	—
b201(E)	106	#9	29'-8"	—
b202(E)	4	#5	8'-8"	—
b203(E)	2	#4	8'-8"	—
t200(E)	92	#4	9'-8"	—
w200(E)	40	#5	44'-8"	—
Concrete Superstructure (Approach Slab)			Cu. Yd.	62.6
Concrete Structures			Cu. Yd.	13.9
Reinforcement Bars, Epoxy Coated			Pound	24,550
Bridge Deck Grooving (Longitudinal)			Sq. Yd.	78
Diamond Grinding (Bridge Section)			Sq. Yd.	134
Protective Coat			Sq. Yd.	148



DETAIL A

(Detail A shown, applies to Highway Standard 420401 only.
 Detail A for pavement connector (HMA) may be found on
 Highway Standard 420406.)



SECTION B-B

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

*** Per manufacturer recommendations

(Sheet 2 of 2)

FILE NAME = 0090504-72K47-058-North Approach Slab Details.dgn

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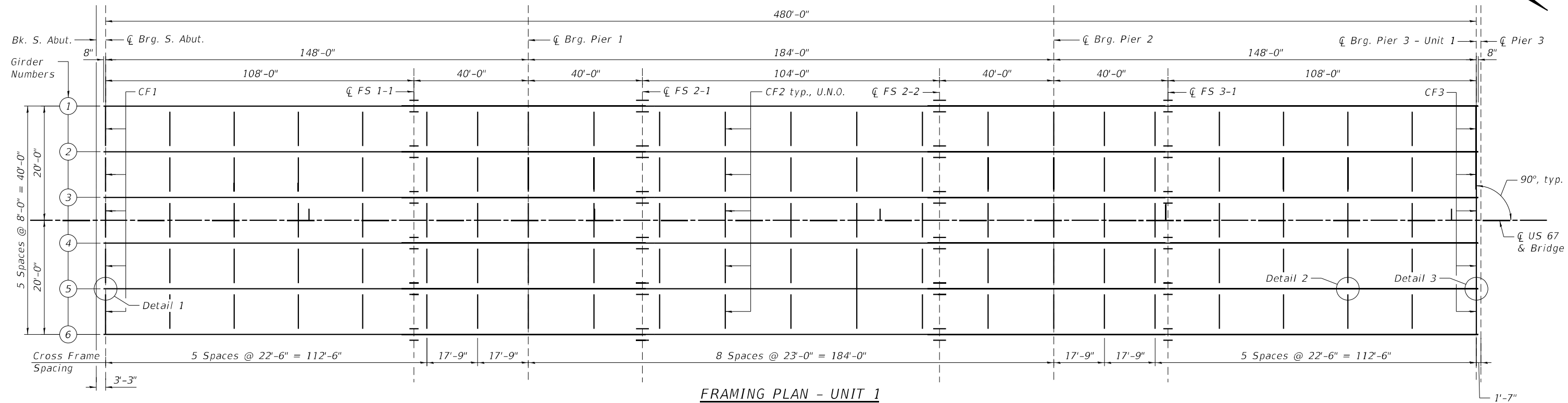
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	DATE - MAY 2023	REVISED -

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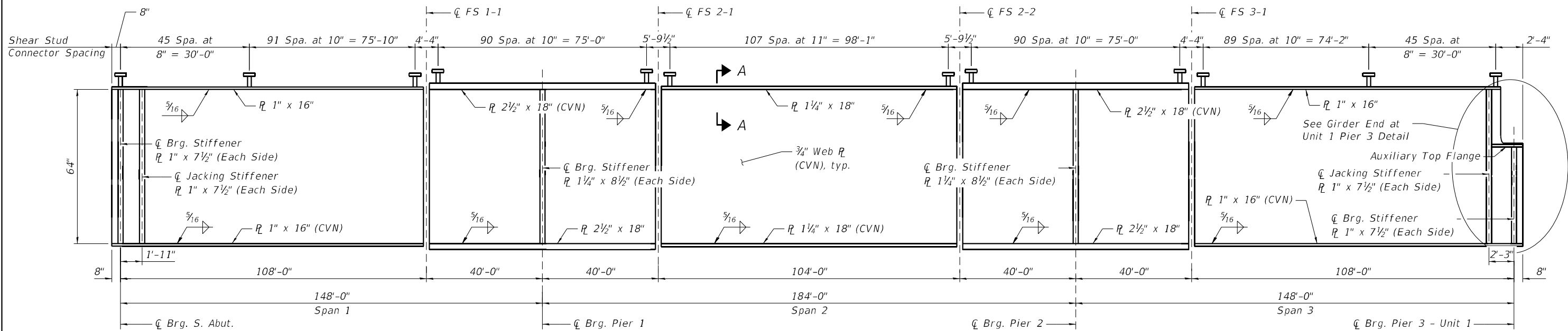
**NORTH APPROACH SLAB DETAILS
SN 009-0504**

SCALE: SHEET 58 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	254
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



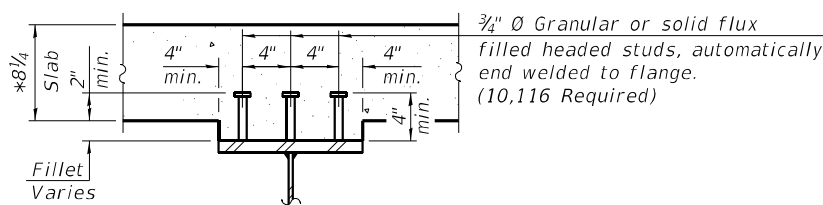
FRAMING PLAN - UNIT 1



GIRDER ELEVATION - UNIT 1

TOP OF WEB ELEVATIONS - UNIT 1
(For Fabrication Only)

Girder	☐ Brg. S. Abut.	☐ FS 1-1	☐ Brg. Pier 1	☐ FS 2-1	☐ FS 2-2	☐ Brg. Pier 2	☐ FS 3-1	☐ Brg. Pier 3 - Unit 1
1	488.53	491.52	492.58	493.76	496.73	497.83	499.05	502.22
2	488.69	491.69	492.74	493.92	496.89	497.99	499.22	502.38
3	488.82	491.82	492.87	494.05	497.02	498.12	499.35	502.51
4	488.82	491.82	492.87	494.05	497.02	498.12	499.35	502.51
5	488.69	491.69	492.74	493.92	496.89	497.99	499.22	502.38
6	488.53	491.52	492.58	493.76	496.73	497.83	499.05	502.22



* Prior to Grinding

SECTION A-A

Notes:

1. CF denotes "Cross Frame."
2. FS denotes "Field Splice."
3. See sheet 60 of 162 for Detail 1, Detail 2, Detail 3, and additional details.
4. See sheet 61 of 162 for Girder End at Unit 1 Pier 3 Detail and additional details.
5. All girders, bearing stiffeners, and splice plates, including filler plates, shall be AASHTO M270 Grade 50W.
6. "CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.

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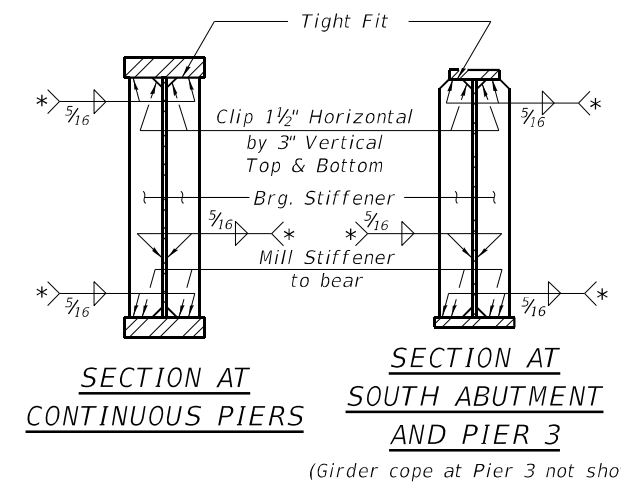
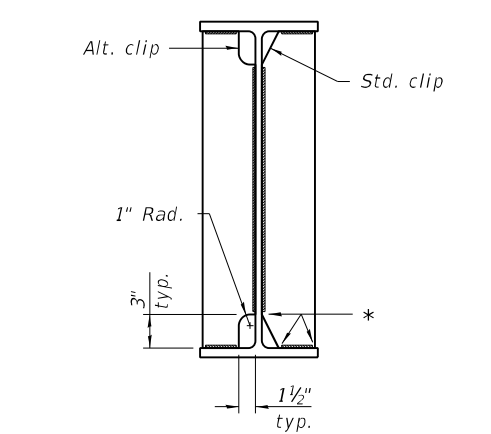
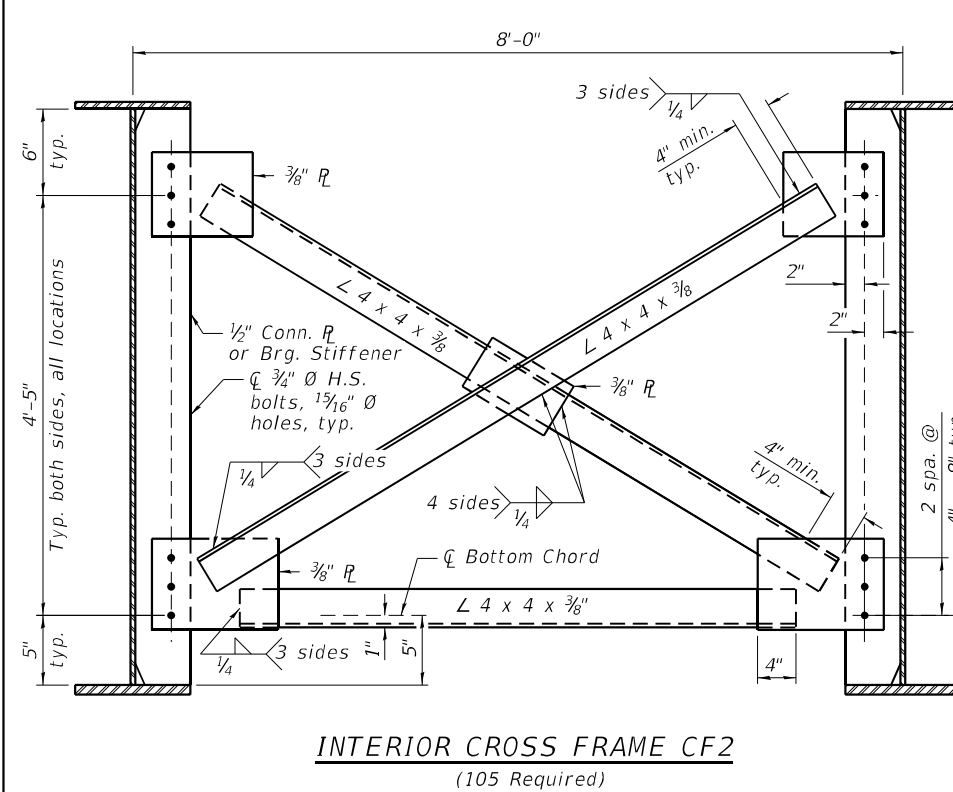
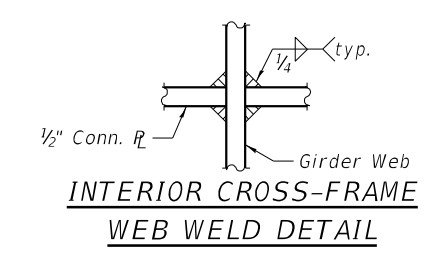
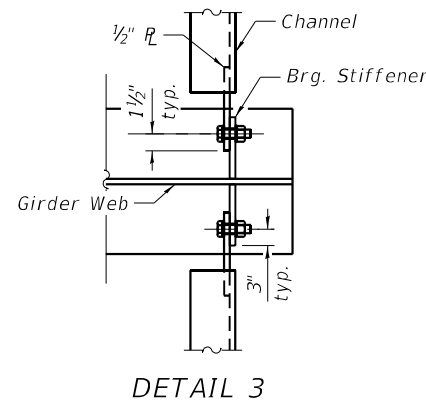
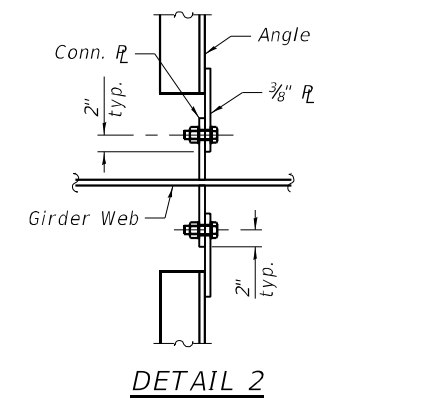
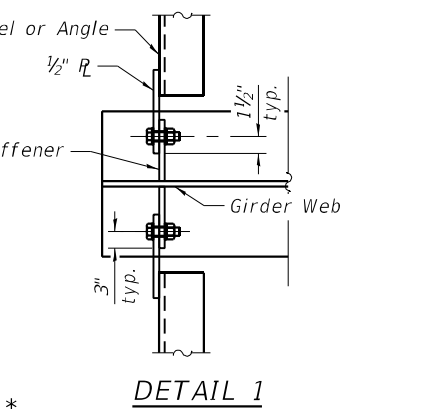
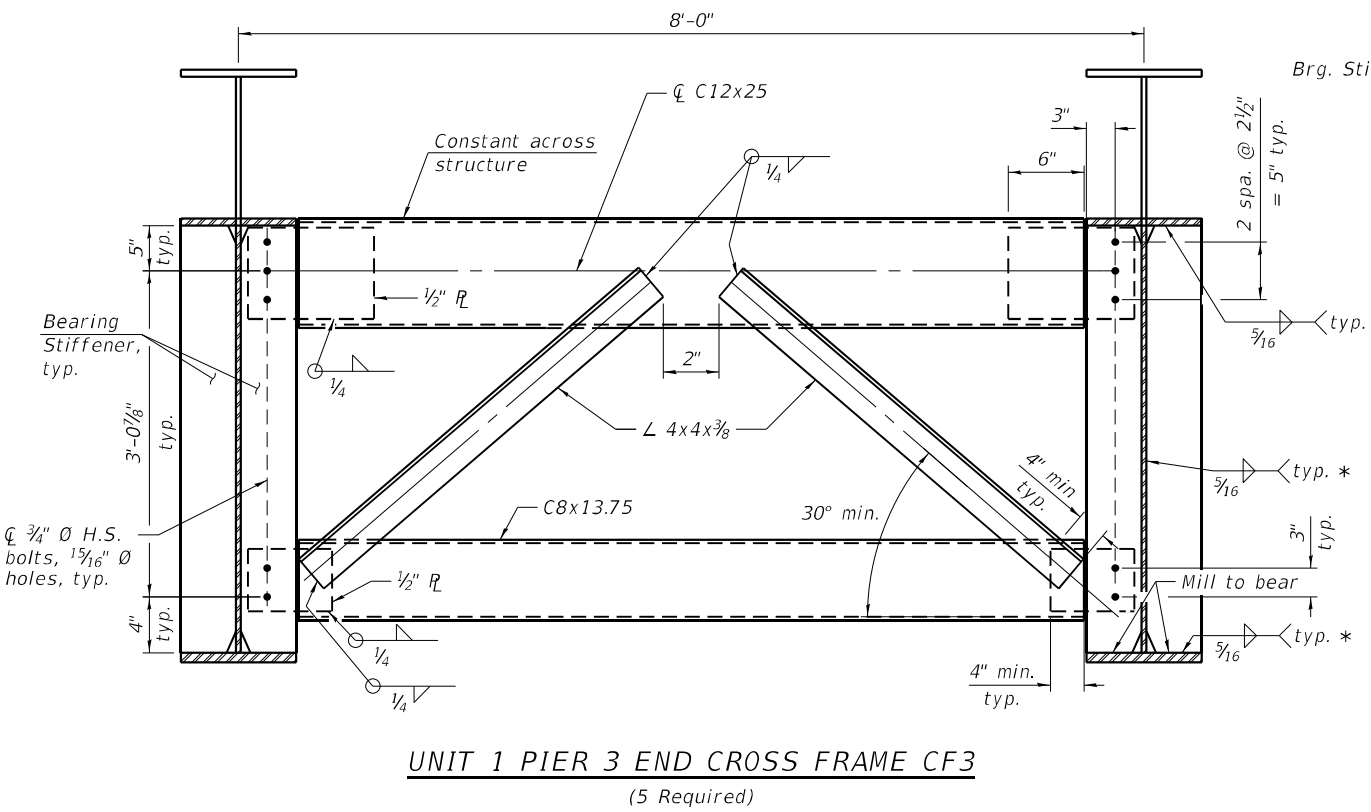
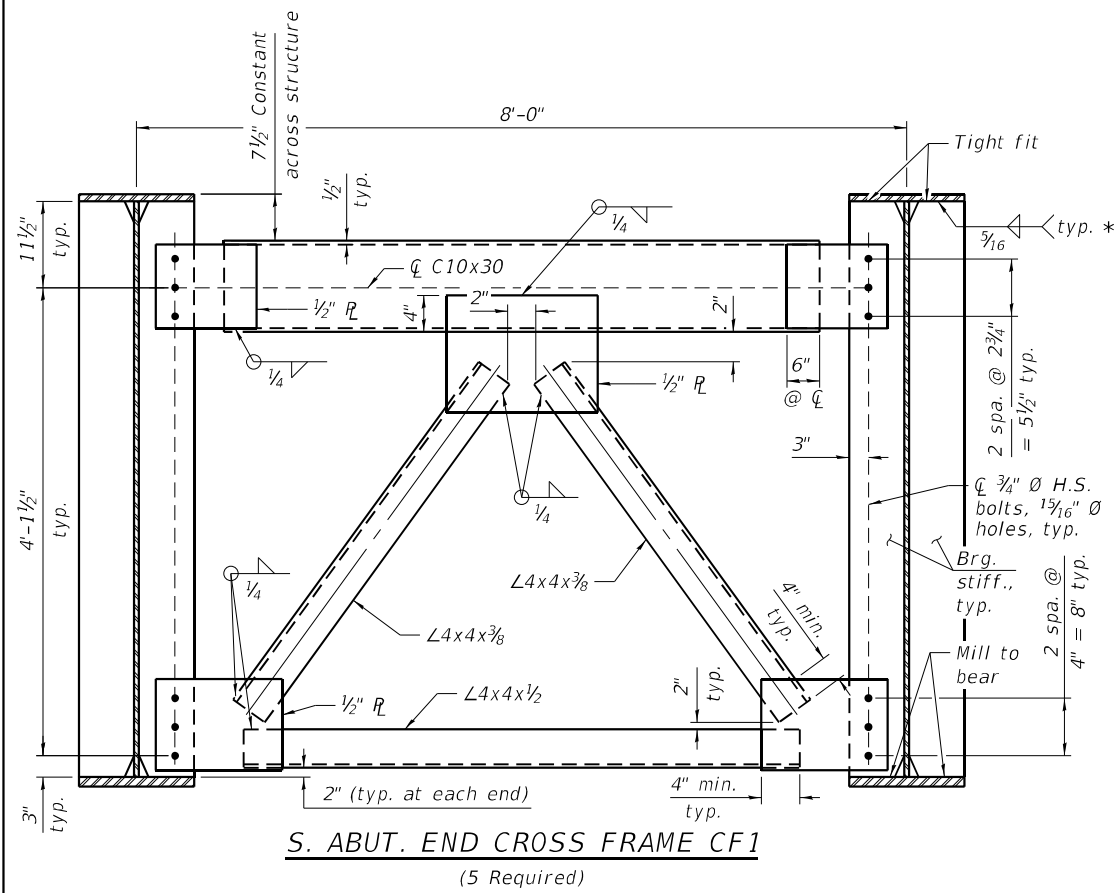
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FRAMING PLAN - UNIT 1
SN 009-0504

SCALE: SHEET 59 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	255
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

FILE NAME: S:\2018\181020 PH-2 Beardstown IDOT DE CMT PTB 188-2\1CADD\Structures\CADD Sheets\090504-72K47-002-Steel Details_Unit 1.dgn



- * Stop welds 1/4" (±1/8") from edges.
- Notes:**
- Two hardened washers required for each set of oversized holes.
 - See sheet 59 of 162 for Detail 1, Detail 2, and Detail 3 location and additional details.
 - All girders, bearing stiffeners, and splice plates, including filler plates, shall be AASHTO M270 Grade 50W.
 - All cross frames between girders shall be installed with erection pins and bolts in accordance with the erection plan approved by the Engineer. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
 - All cross frame elements shall be AASHTO M270 Grade 50W.
 - The end cross frames shall be hot dip galvanized. See General Notes.



USER NAME = z davidson	DESIGNED - RPW	REVISED -
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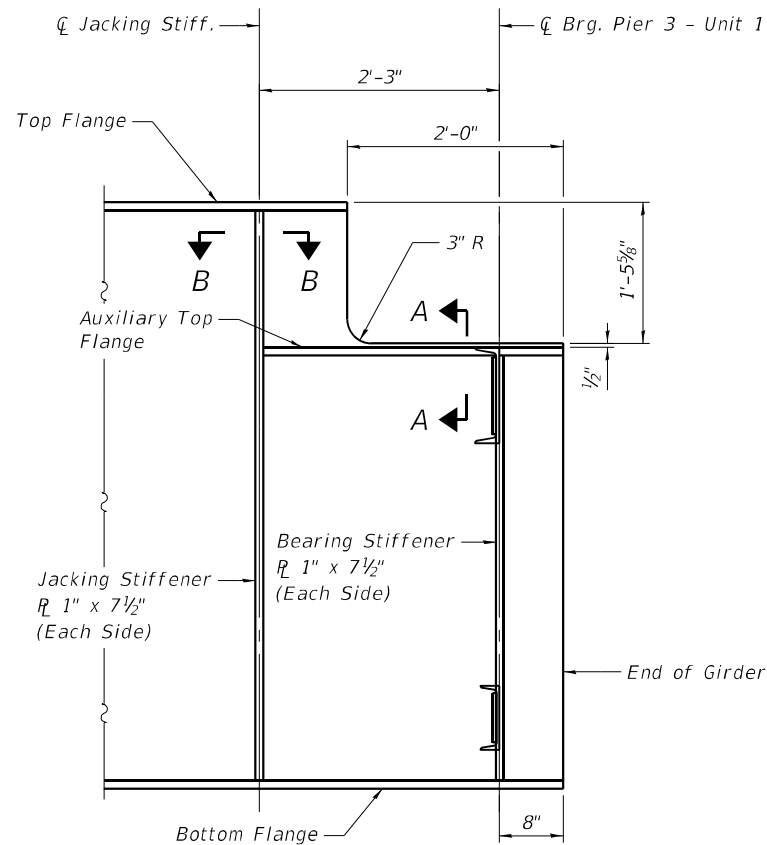
**STATE OF ILLINOIS
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**STRUCTURAL STEEL DETAILS - UNIT 1 - I
SN 009-0504**

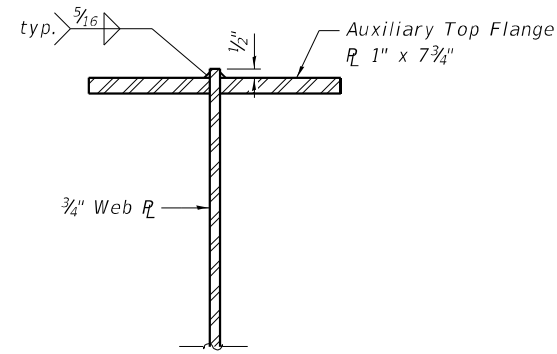
SCALE: SHEET 60 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	256
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

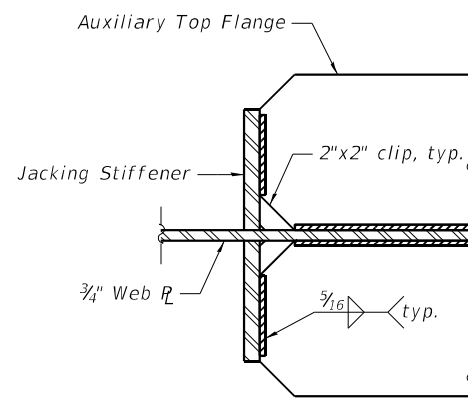
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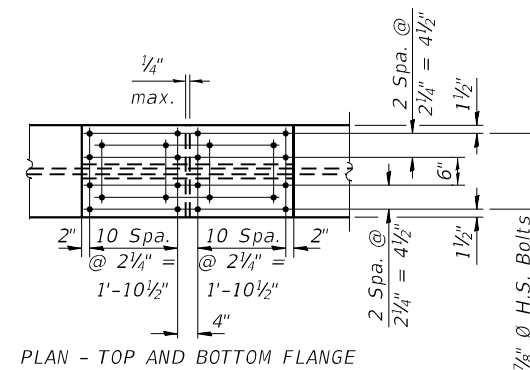
GIRDER END AT UNIT 1 PIER 3 DETAIL



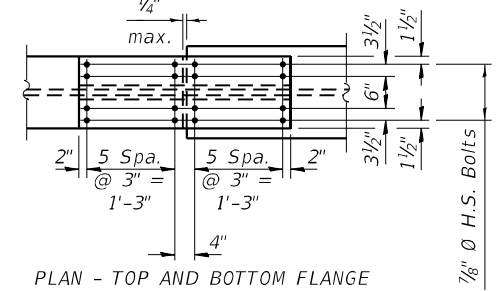
SECTION A-A



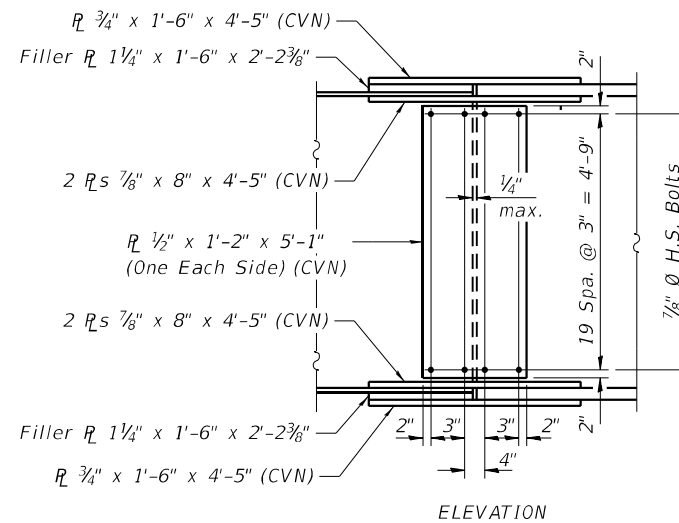
SECTION B-B



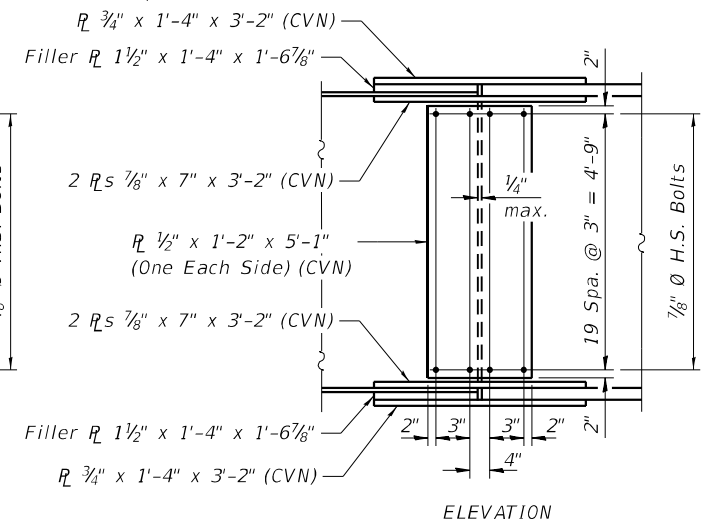
PLAN - TOP AND BOTTOM FLANGE



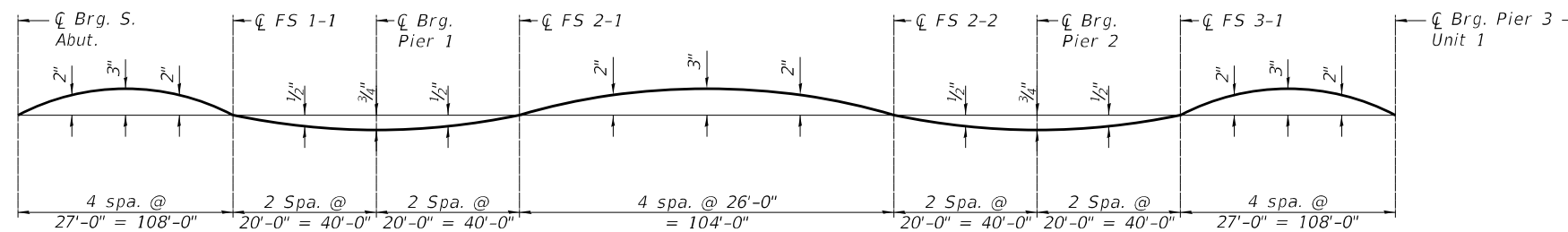
PLAN - TOP AND BOTTOM FLANGE



ELEVATION
FIELD SPLICE DETAIL
SPAN 2



ELEVATION
FIELD SPLICE DETAIL
SPANS 1 & 3



CAMBER DIAGRAM

- Notes:
1. All splice bolts shall be 7/8" Ø and bolt holes shall be 1 5/16" Ø.
 2. All girders, bearing stiffeners, and splice plates, including filler plates, shall be AASHTO M270 Grade 50W.
 3. "CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.
 4. FS denotes "Field Splice."

FILE NAME = S:\2018\181020 PH-2 Beardstown IDOT D6 CMT PTB 188-2\1\CADD\Structures\CADD Sheets\090504-72K47-004a-Steel Details_Unit 1.dgn

INTERIOR GIRDER MOMENT TABLE - UNIT 1				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
Is	(in ⁴)	50,187	115,932	64,287
Ic(n)	(in ⁴)	118,229	212,232	139,116
Ic(3n)	(in ⁴)	86,617	161,007	102,828
Ic(cr)	(in ⁴)	-	128,010	-
Ss	(in ³)	1,521	3,360	1,933
Sc(n)	(in ³)	2,164	4,111	2,596
Sc(3n)	(in ³)	1,941	3,786	2,350
Sc(cr)	(in ³)	-	3,487	-
DC1	(k/')	1.192	1.393	1.240
MDC1	(k)	1,569	-4,054	1,358
DC2	(k/')	0.190	0.190	0.190
MDC2	(k)	266	-598	209
DW	(k/')	0.400	0.400	0.400
MDW	(k)	553	-1,257	441
LLDF		0.594	0.612	0.570
M _± + IM	(k)	2,282	-3,053	2,277
Mu (Strength I)	(k)	7,117	-13,043	6,605
Øf Mn	(k)	10,372	16,251	13,083
fs DC1	(ksi)	12.38	-14.48	8.43
fs DC2	(ksi)	1.64	-2.06	1.07
fs DW	(ksi)	3.42	-4.33	2.25
fs (±+IM)	(ksi)	12.65	-10.51	10.53
fs (Service II)	(ksi)	33.89	-34.52	25.43
0.95RhFyf	(ksi)	47.50	47.50	47.50
fs (Total)(Strength I)	(ksi)	-	-	-
Øf Fn	(ksi)	-	-	-
Vf	(k)	50.67	82.39	56.29

GIRDER REACTION TABLE - UNIT 1					
		S. Abut. & Pier 3 - Unit 1		Piers 1 & 2	
		Interior	Exterior	Interior	Exterior
LLDF		0.814	0.750	0.814	0.750
OCF		-	1.000	-	-
RDC1	(k)	62.9	59.7	243.2	232.2
RDC2	(k)	10.1	10.1	35.8	35.8
RDW	(k)	21.2	15.9	75.0	56.2
R _±	(k)	88.3	81.3	191.2	176.1
R _{IM}	(k)	17.8	16.4	31.9	29.4
RTotal	(k)	200.3	183.4	577.1	529.7

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs(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.⁴ and in.³).

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

MDC1: 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.).

MDC2: 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.).

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

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

Mu (Strength I): Factored design moment (kip-ft.).
1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_± + IM

Øf Mn: 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.).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1/ Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2/ Sc(3n) or MDC2/ Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW/ Sc(3n) or MDW/ Sc(cr) as applicable.

fs (±+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_± + IM / Sc(n) or M_± + IM / Sc(cr) as applicable.

fs (Service II): Sum of stresses as computed below (ksi).
fsDC1 + fsDC2 + fsDW + 1.3 fs(± + IM)

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs(± + IM)

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

Vf: Maximum factored shear range in span computed according to Article 6.10.10 (kip).

LLDF: Live load distribution factor.

OCF: Obtuse correction factor.

Note:
M_± and R_± include the effects of centrifugal force and superelevation.



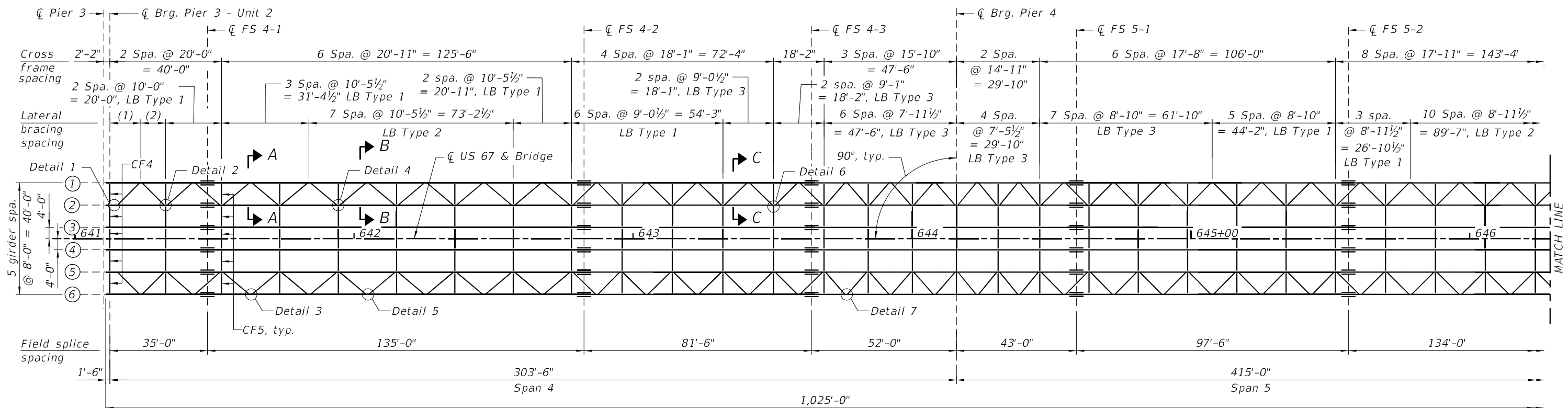
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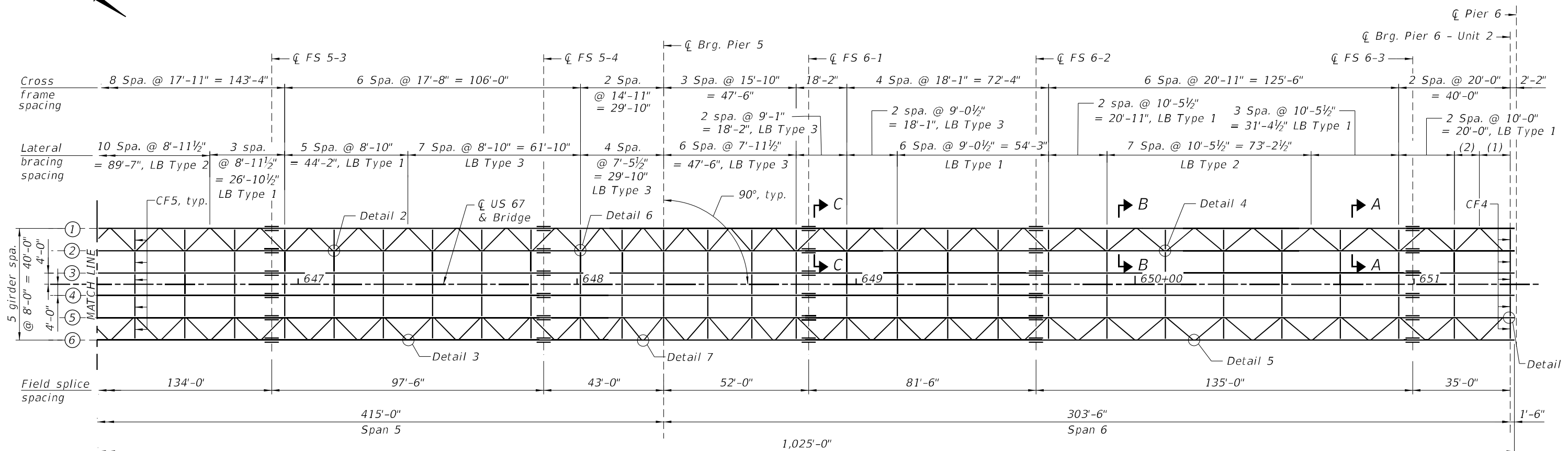
**STRUCTURAL STEEL DETAILS - UNIT 1 - III
SN 009-0504**

SCALE: SHEET 62 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	258
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72K47	



PARTIAL FRAMING PLAN - UNIT 2



PARTIAL FRAMING PLAN - UNIT 2

- Notes:
1. CF denotes "Cross Frame".
 2. FS denotes "Field Splice".
 3. LB denotes "Lateral Bracing."
 4. See sheet 67 of 162 for Details 1 thru 7, Section A-A, Section B-B, and Section C-C.

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DESIGNED - DH
 DRAWN - DH
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 DATE - May 2023

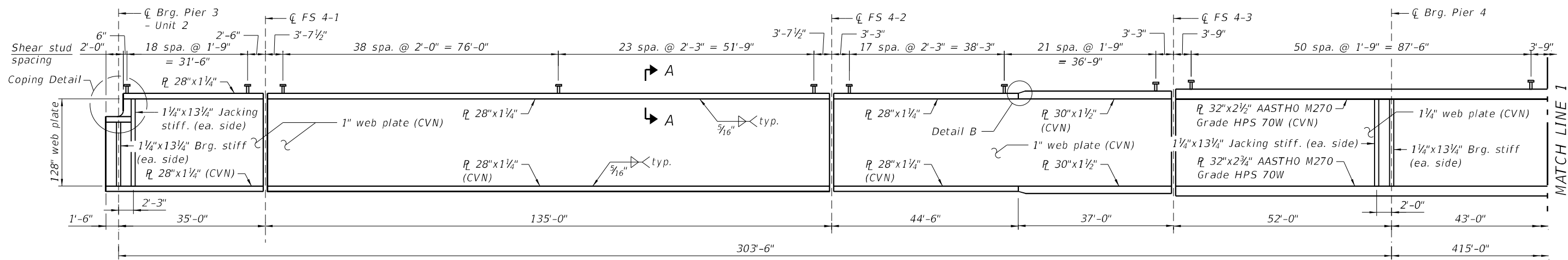
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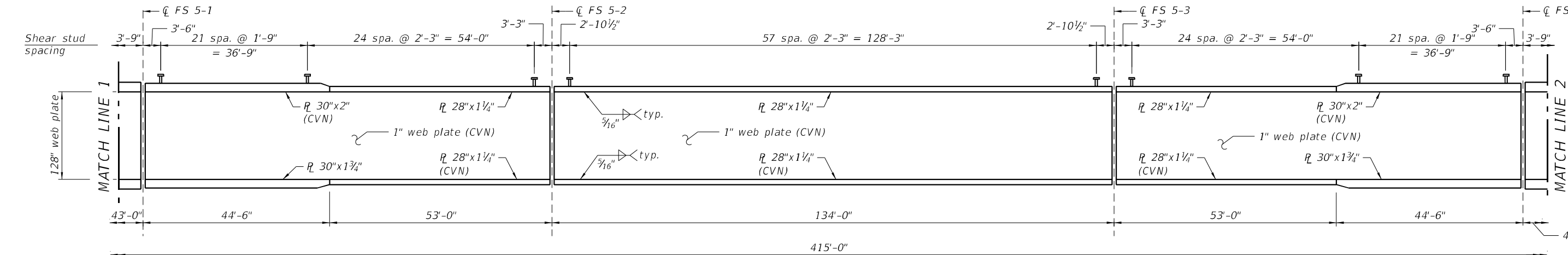
**FRAMING PLAN - UNIT 2
 SN 009-0504**

SCALE: SHEET 63 OF 162 SHEETS STA. TO STA.

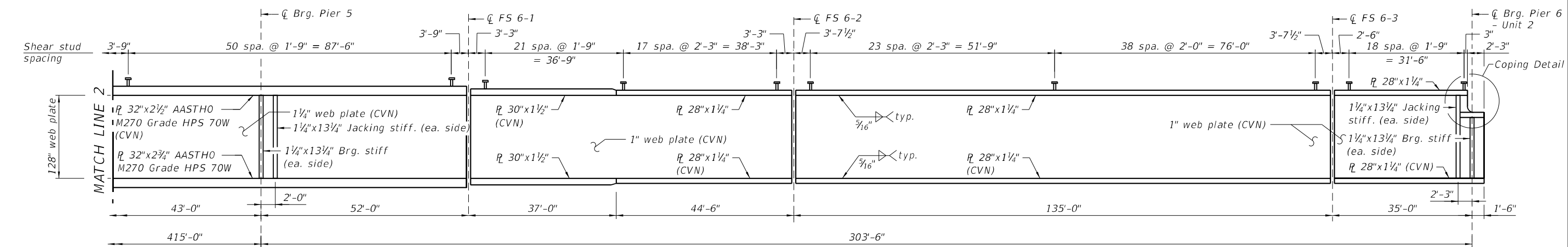
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	259
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



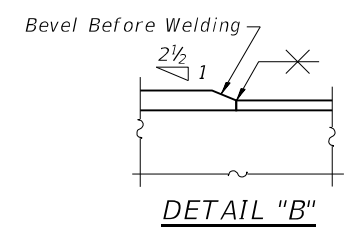
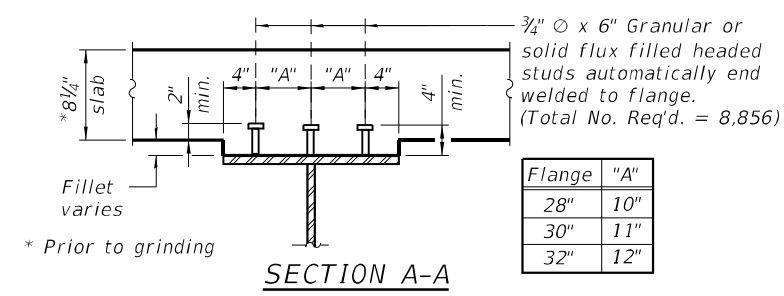
PARTIAL GIRDER ELEVATION - UNIT 2



PARTIAL GIRDER ELEVATION - UNIT 2

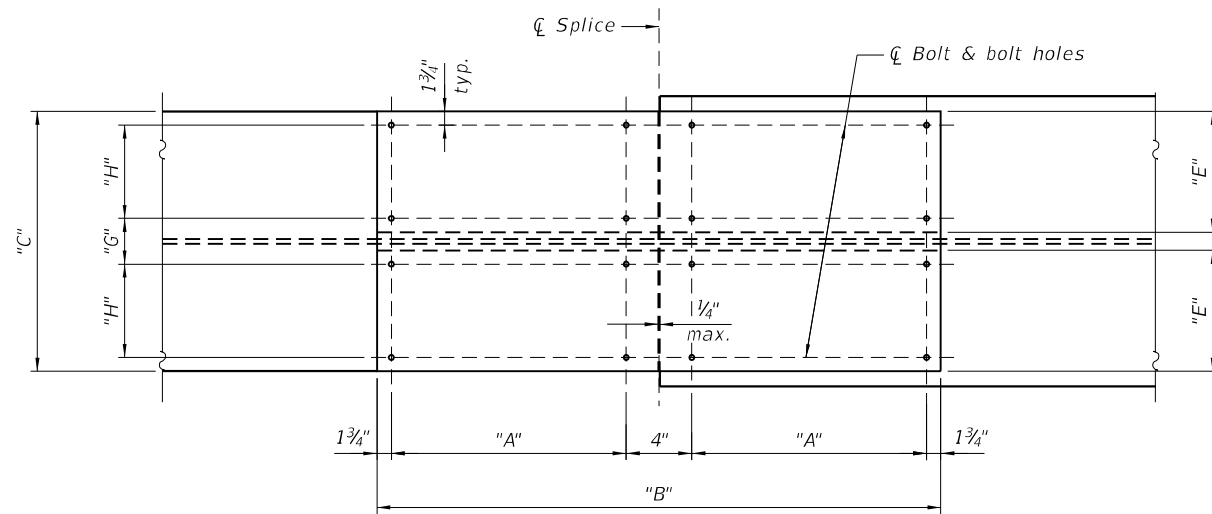


PARTIAL GIRDER ELEVATION - UNIT 2

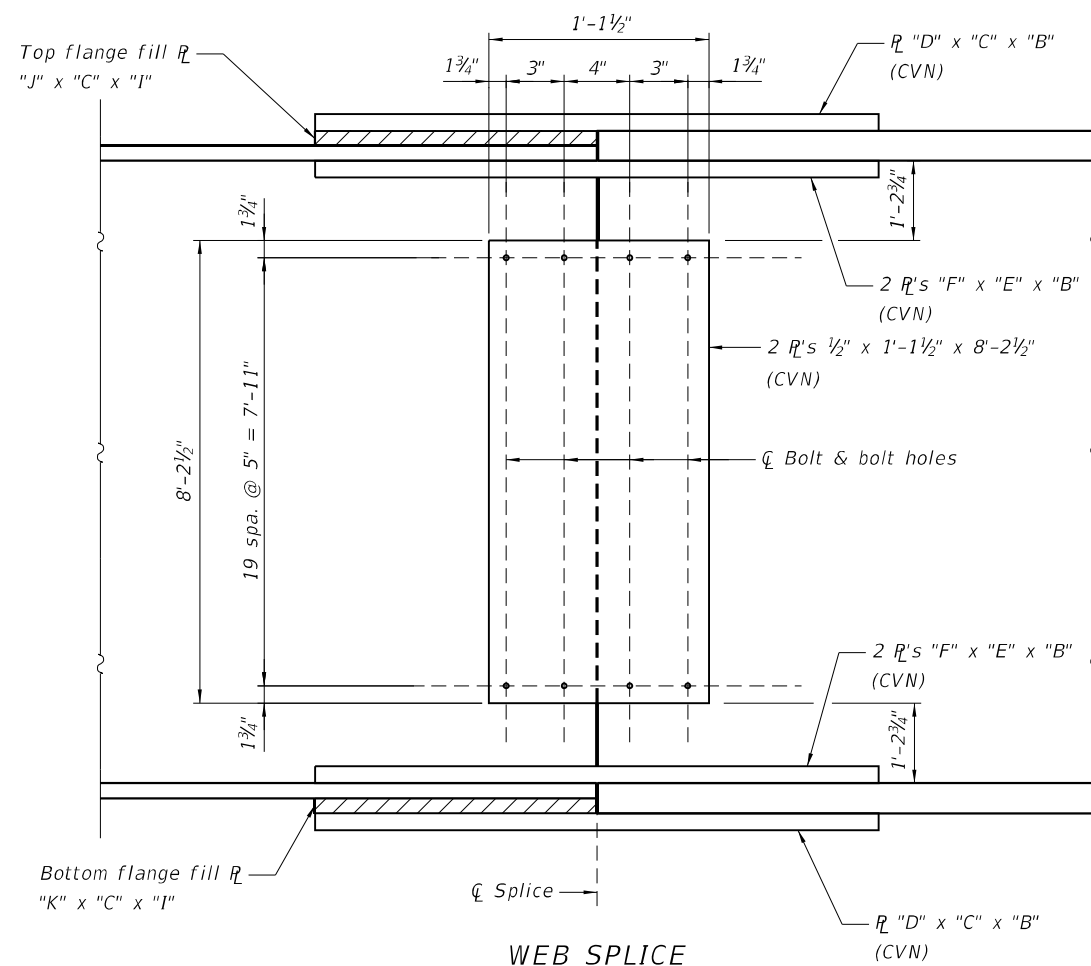


- Notes:
1. All girder webs, bearing stiffeners, and splice plates shall be AASTHO M270 Grade 50W.
 2. All flanges shall be M270 Grade 50W unless noted otherwise.
 3. "CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.
 4. See sheet 65 of 162 for Coping Detail, and splice details.
 5. FS denotes "Field Splice".

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-084-Girder Elevation_Unit 2.dgn



TOP & BOTTOM FLANGE SPLICE



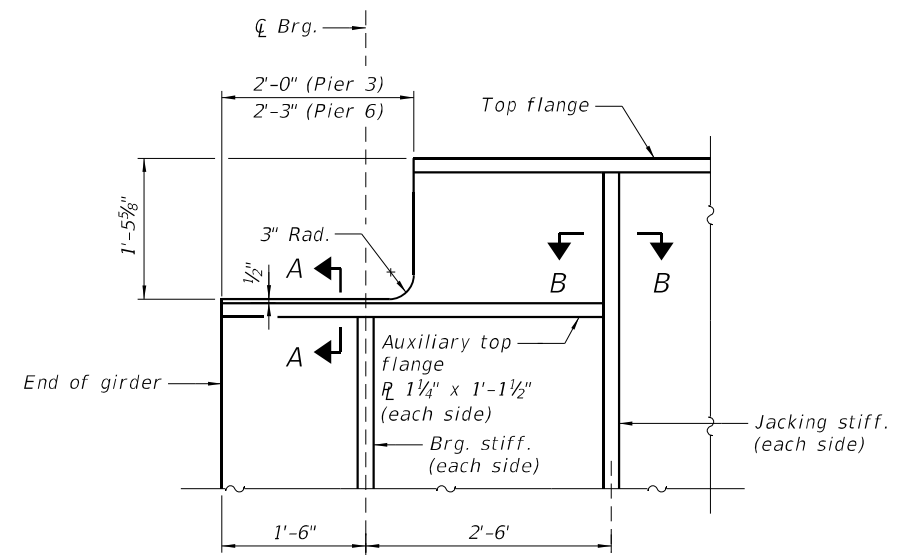
WEB SPLICE

SPLICE TYPE DESIGNATION

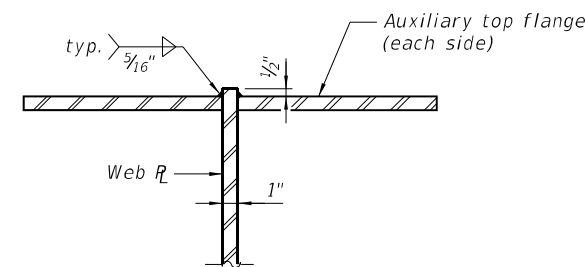
Splice	Type
FS 4-1	1
FS 4-2	1
FS 4-3	2
FS 5-1	3
FS 5-2	1
FS 5-3	1
FS 5-4	3
FS 6-1	2
FS 6-2	1
FS 6-3	1

SPLICE DIMENSIONS

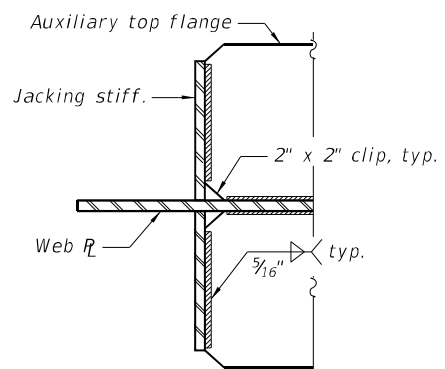
Splice Type	Longitudinal Bolt Spacing	Plate Length	Outside Plate Width	Outside Plate Thickness	Inside Plate Width	Inside Plate Thickness	Center Bolt Space	Transverse Bolt Spacing	Fill Plate Length	Top Flange Fill Plate Thickness	Bottom Flange Fill Plate Thickness
	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"
1	7 spa. @ 3"	4'-1 1/2"	2'-4"	3/4"	1'-0 1/2"	7/8"	6 1/2"	3 spa. @ 3"	2'-0 3/8"	0"	0"
2	8 spa. @ 3"	4'-7 1/2"	2'-6"	7/8"	1'-2"	1"	5 1/2"	3 spa. @ 3 1/2"	2'-3 3/8"	1"	1 1/4"
3	9 spa. @ 2 3/8"	4'-6 3/4"	2'-6"	1 1/4"	1'-2"	1 1/4"	5 1/2"	4 spa. @ 2 3/8"	2'-3 1/2"	1/2"	1"



COPING DETAIL



SECTION A-A



SECTION B-B

Notes:

- All steel splice plates, including fill plates, shall be AASHTO M270 Grade 50W.
- "CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.
- All splice bolts shall be 7/8" \odot and bolt holes shall be 1 3/16" \odot .

FILE NAME = L:\DOT11808601\Draw\Structures\CADD_Sheets\0090504-72K47-085-Structural Steel Details_Unit 2_Ldgn



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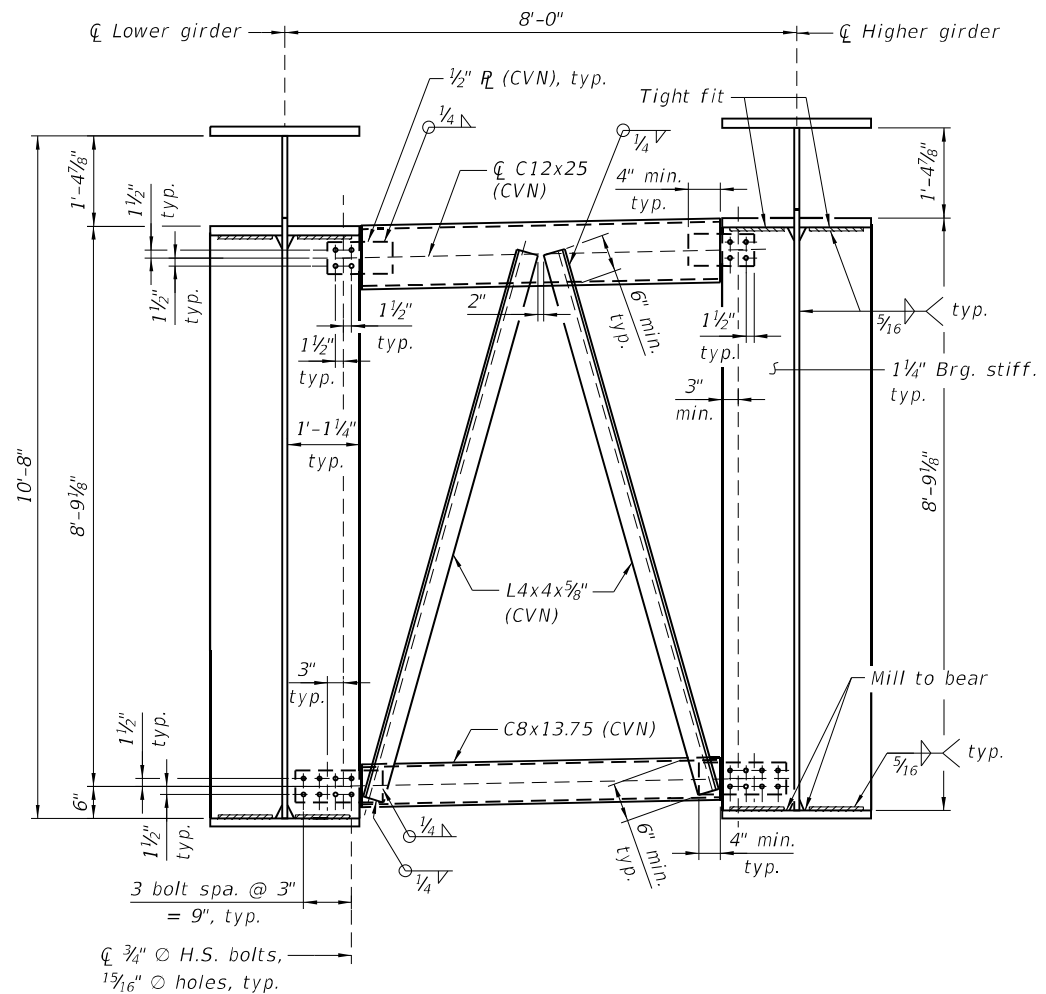
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	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

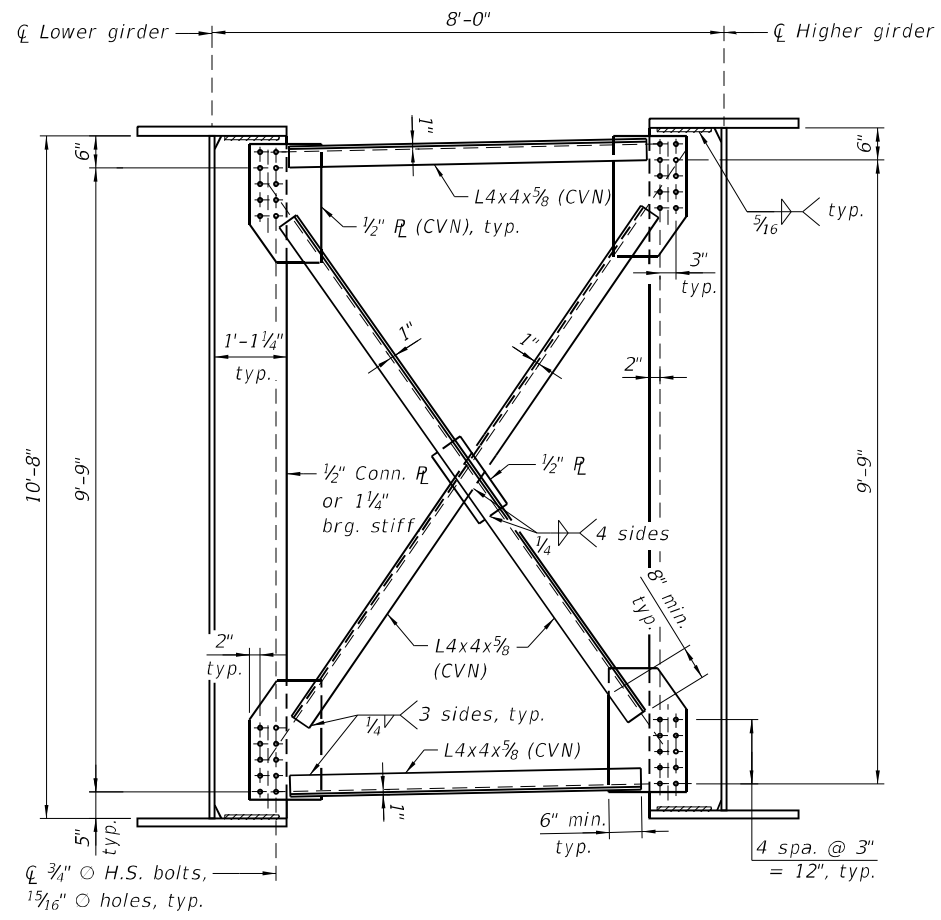
STRUCTURAL STEEL DETAILS - UNIT 2 - I
SN 009-0504

SCALE: SHEET 65 OF 162 SHEETS STA. TO STA.

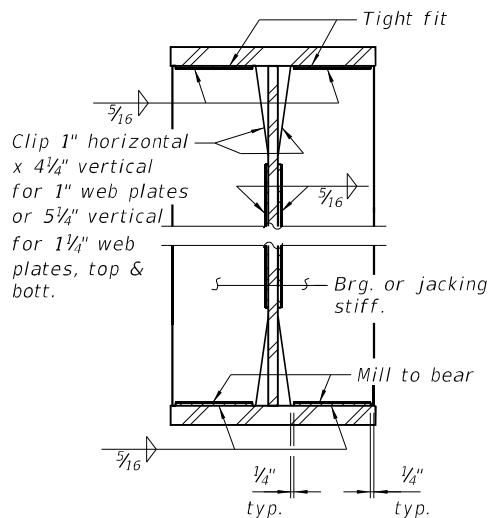
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310	(86B-1, 87CR)	CASS/SCHUYLER	455	261
CONTRACT NO. 72K47				
ILLINOIS FED. AID PROJECT				



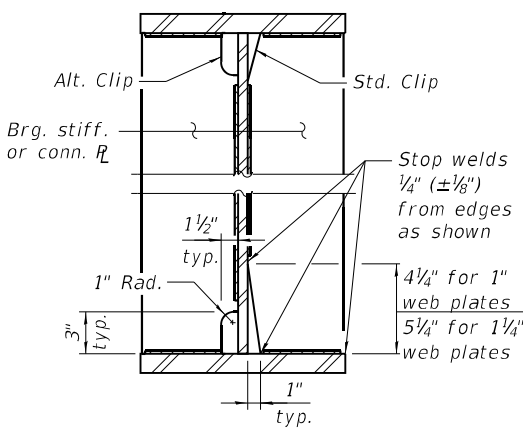
END CROSS FRAME CF4
(10 required)



INTERIOR CROSS FRAME CF5
(275 required)



BEARING AND JACKING STIFFENER DETAILS



WELD LIMITS AND CLIP DETAIL

- Notes:
1. All cross frames between girders shall be installed with erection pins and bolts in accordance with the erection plan approved by the Engineer. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
 2. All cross frame elements shall be AASHTO M270 Grade 50W.
 3. Two hardened washers required for each set of oversized holes.
 4. Bolt minimum edge distances shall be 1 1/2" unless noted otherwise.
 5. "CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.
 6. The end cross frames shall be hot dip galvanized. See General Notes.

FILE NAME = L:\DOT\1509601\Draw\Structures\CADD_Sheets\0090504-72K47-086-Structural Steel Details_Unit 2_II.dgn



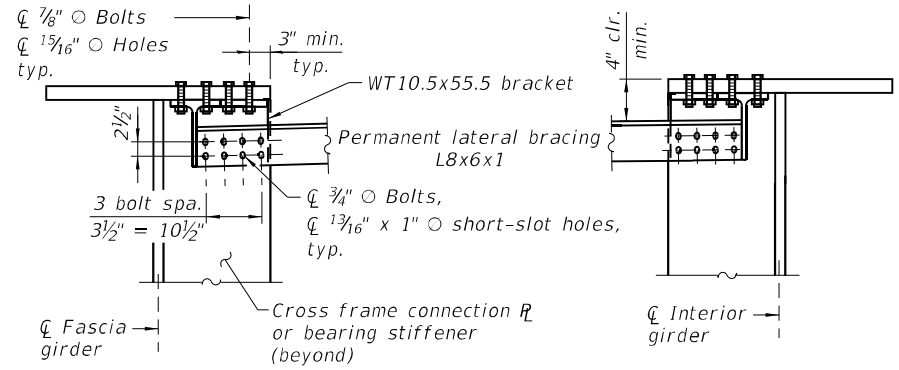
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PLOT SCALE = N/A	DRAWN - DH	REVISED -
PLOT DATE = 5/23/2023 (12:19:36 PM)	CHECKED - FAS/JTH	REVISED -
	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

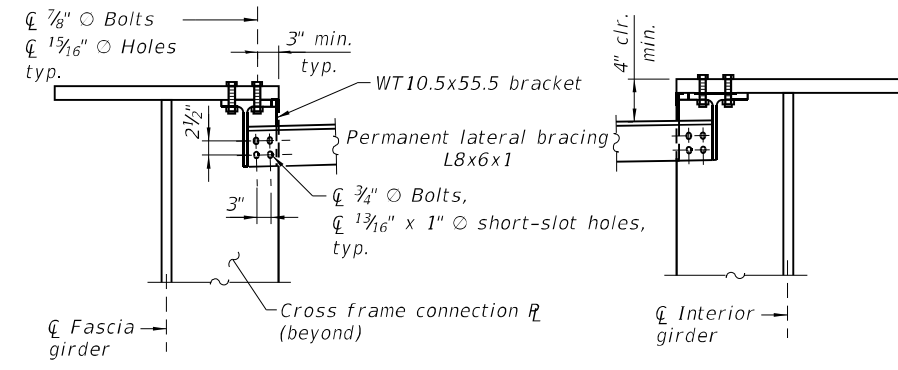
**STRUCTURAL STEEL DETAILS - UNIT 2 - II
SN 009-0504**

SCALE: SHEET 66 OF 162 SHEETS STA. TO STA.

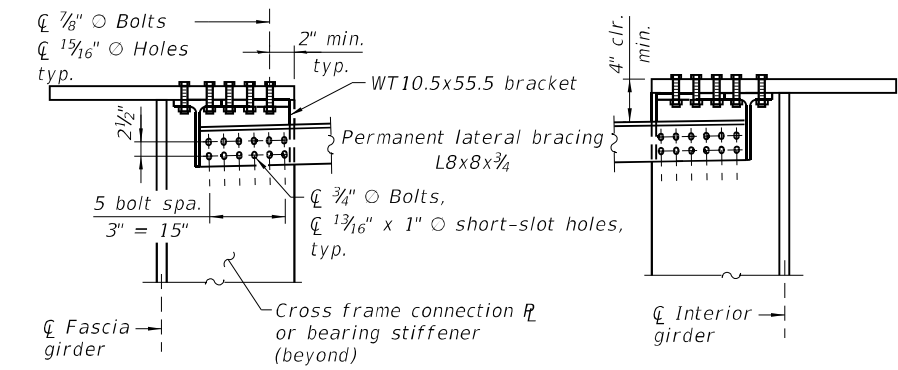
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CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



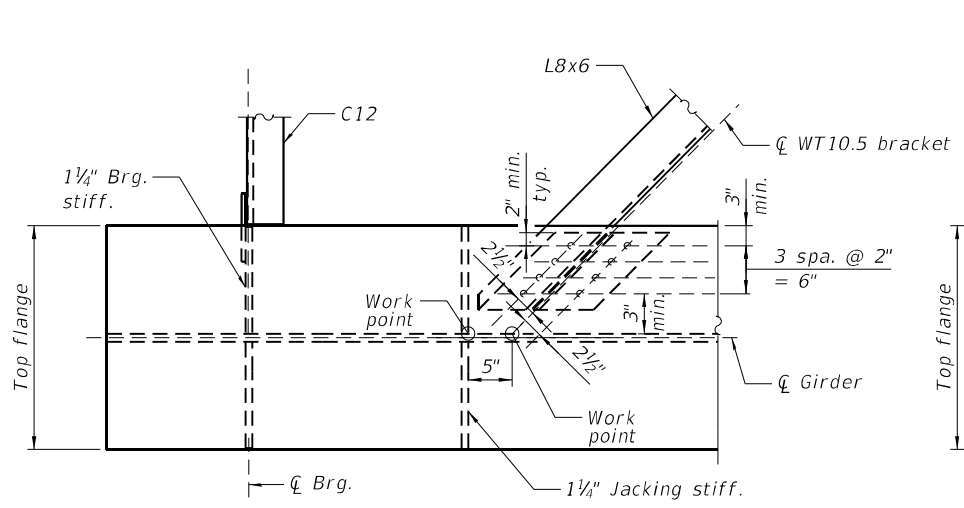
SECTION A-A
(LB Type 1 bracing)



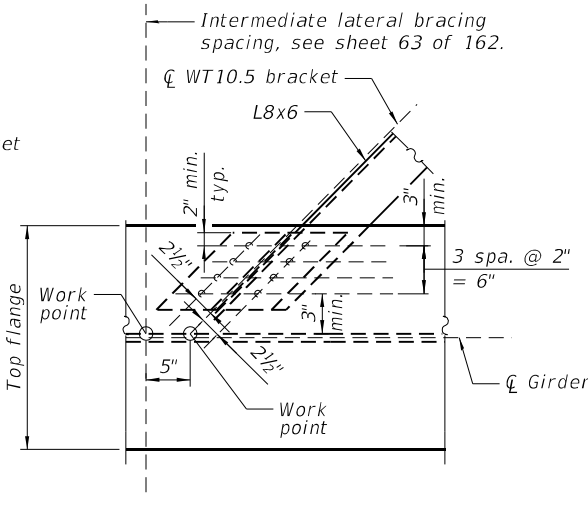
SECTION B-B
(LB Type 2 bracing)



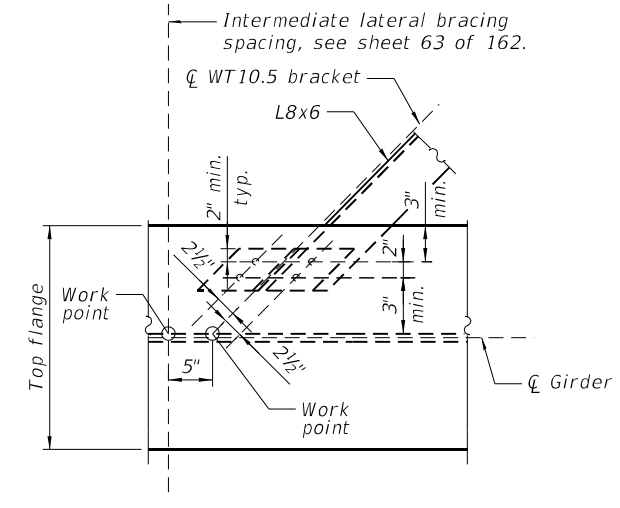
SECTION C-C
(LB Type 3 bracing)



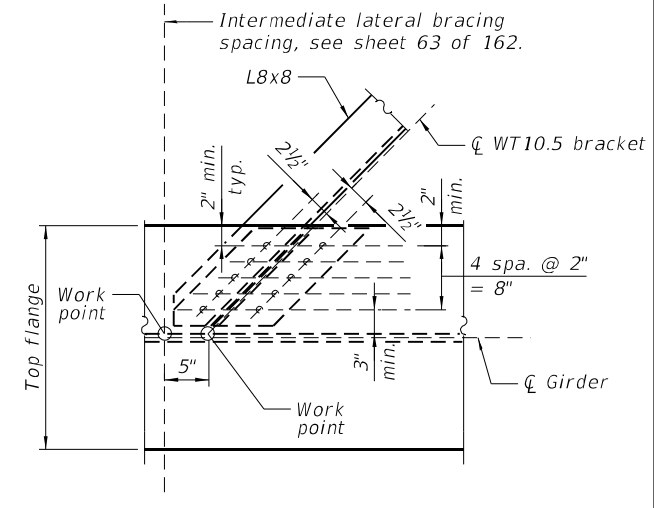
DETAIL 1
(LB Type 1 bracket flange connection at end cross frame)



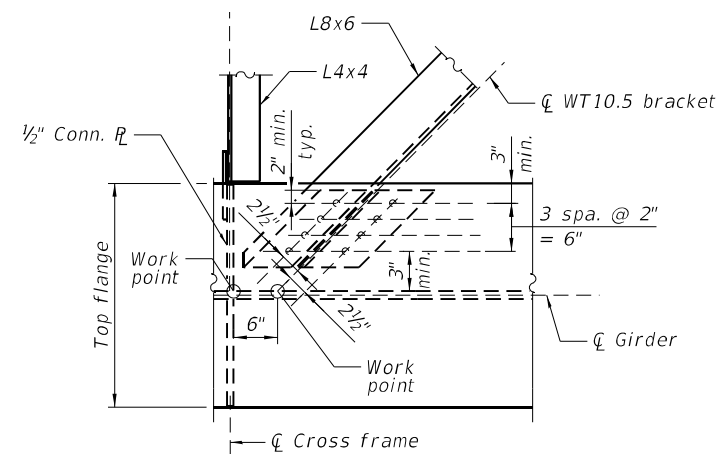
DETAIL 3
(LB Type 1 bracket flange connection at intermediate lateral bracing spacing)



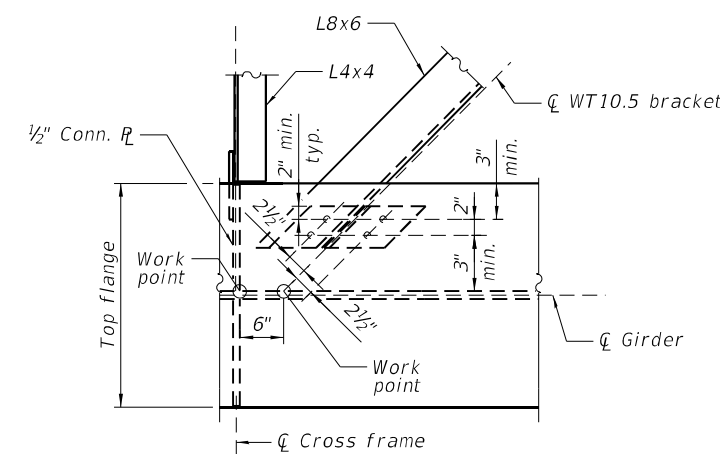
DETAIL 5
(LB Type 2 bracket flange connection at intermediate lateral bracing spacing)



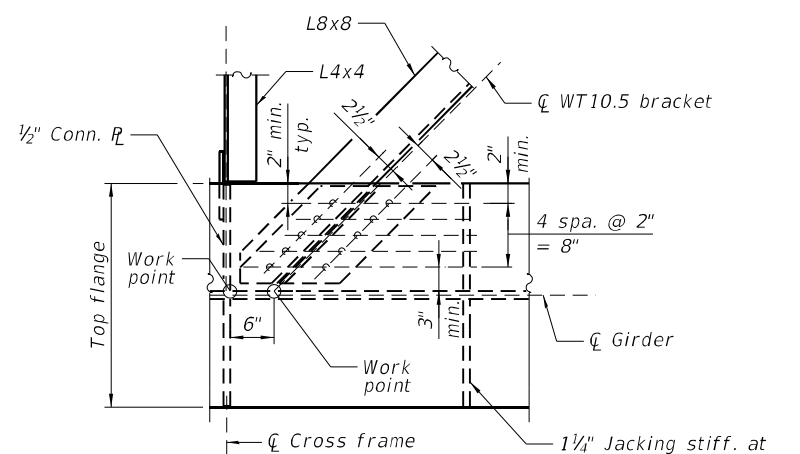
DETAIL 7
(LB Type 3 bracket flange connection at intermediate lateral bracing spacing)



DETAIL 2
(LB Type 1 bracket flange connection at interior cross frame)



DETAIL 4
(LB Type 2 bracket flange connection at interior cross frame)



DETAIL 6
(LB Type 3 bracket flange connection at interior cross frame)

- Notes:
- See sheet 63 of 162 for locations of Details 1 thru 7, Section A-A, Section B-B, Section C-C, and the lateral brace type locations.
 - All 3/4 inch bolts in lateral bracing connections shall be F3125 Grade A325 bolts. See General Notes.
 - All 7/8 inch bolts in lateral bracing connections shall be F3125 Grade 490 Type 3 bolts. See General Notes.
 - Grade 490 bolts within the metallized portions of the structure shall be coated with prime coat only prior to installation.

FILE NAME = L:\DOT11808601\Draw\Structures\CADD_Sheets\0090504-72K47-087-Structural Steel Details_Unit 2_III.dgn



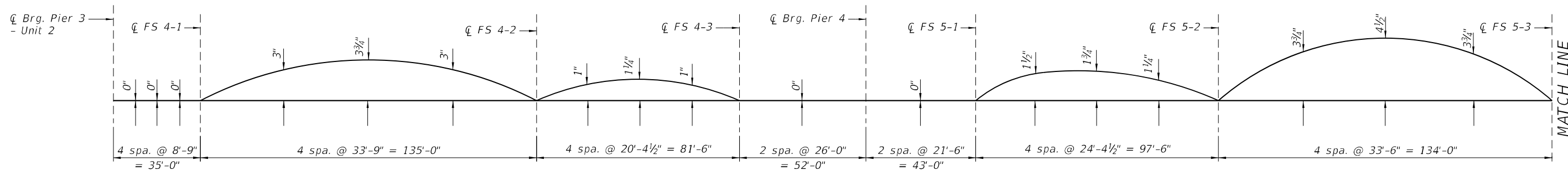
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	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

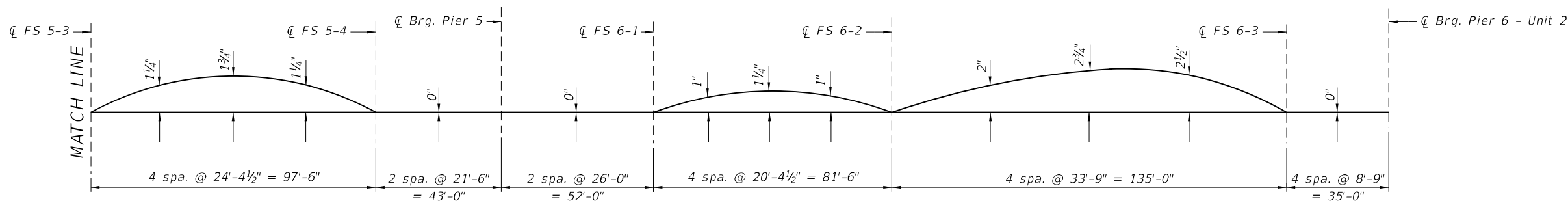
**STRUCTURAL STEEL DETAILS - UNIT 2 - III
SN 009-0504**

SCALE: SHEET 67 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	263
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



PARTIAL CAMBER DIAGRAM - UNIT 2

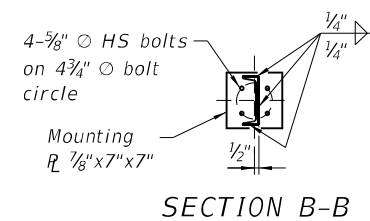
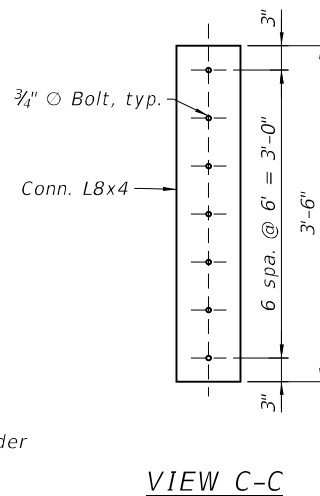
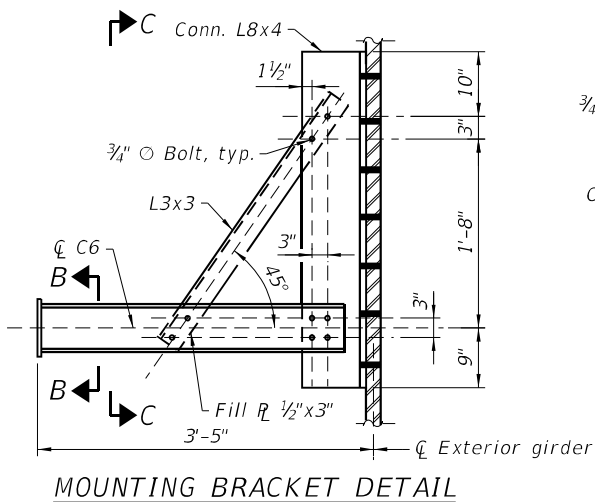
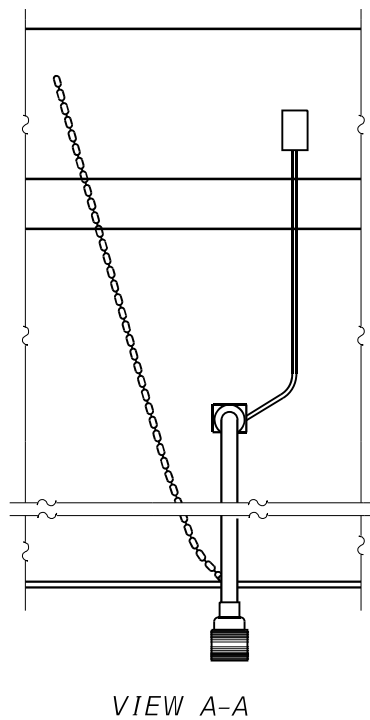
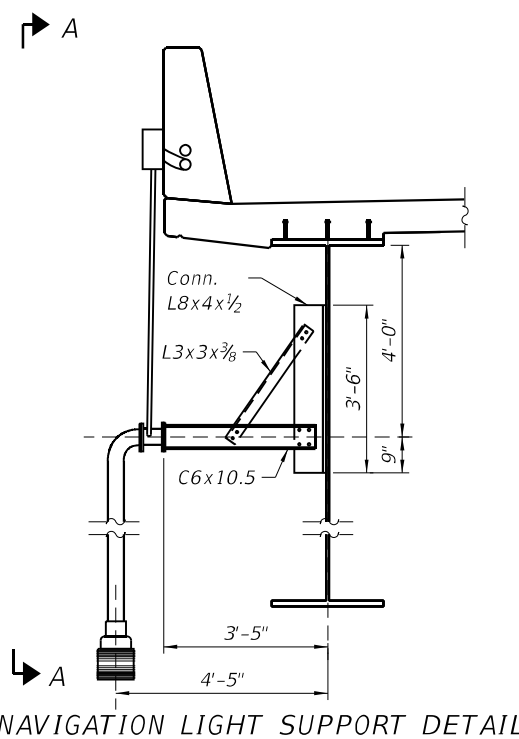


PARTIAL CAMBER DIAGRAM - UNIT 2

TOP OF WEB ELEVATIONS

(For fabrication only)

Girder	☐ Brg. Pier 3 - Unit 2	☐ FS 4-1	☐ FS 4-2	☐ FS 4-3	☐ Brg. Pier 4	☐ FS 5-1	☐ FS 5-2	☐ FS 5-3	☐ FS 5-4	☐ Brg. Pier 5	☐ FS 6-1	☐ FS 6-2	☐ FS 6-3	☐ Brg. Pier 6 - Unit 2
1	502.27	503.48	507.07	508.05	508.73	509.29	510.81	510.83	509.32	508.75	508.07	507.18	504.69	503.89
2	502.43	503.64	507.23	508.21	508.89	509.45	510.97	510.99	509.48	508.91	508.23	507.34	504.85	504.05
3	502.56	503.77	507.36	508.33	509.01	509.57	511.09	511.12	509.60	509.04	508.36	507.47	504.98	504.18
4	502.56	503.77	507.36	508.33	509.01	509.57	511.09	511.12	509.60	509.04	508.36	507.47	504.98	504.18
5	502.43	503.64	507.23	508.21	508.89	509.45	510.97	510.99	509.48	508.91	508.23	507.34	504.85	504.05
6	502.27	503.48	507.07	508.05	508.73	509.29	510.81	510.83	509.32	508.75	508.07	507.18	504.69	503.89



- Notes:
1. Final proposed navigation light support to be coordinated with and approved by light manufacturer.
 2. Cost of all navigation light support elements and coordination included in the cost of Erecting Structural Steel.
 3. All mounting plates and shapes for mounting bracket shall be AASHTO M270 Grade 50W.
 4. For navigational light details, see electrical plans.
 5. FS denotes "Field Splice".

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-086-Structural Steel Details_Unit 2_IV.dgn



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	DATE - May 2023	REVISED -

STATE OF ILLINOIS
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STRUCTURAL STEEL DETAILS - UNIT 2 - IV
SN 009-0504

SCALE: SHEET 68 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	264
CONTRACT NO. 72K47				
ILLINOIS FED. AID PROJECT				

FILE NAME = L:\DOT\1809601\Draw\Structures\CADD_Sheets\0090504-72K47-089-Structural Steel Details_Unit 2_V.dgn

INTERIOR GIRDER MOMENT TABLE			
	0.4 Sp. 4 or 0.6 Sp. 6	Pier 4 or Pier 5	0.5 Sp. 5
Is	(in ⁴) 467,119	912,502	467,119
Ic(n)	(in ⁴) 802,375	1,309,800	802,375
Ic(3n)	(in ⁴) 608,941	1,068,700	608,941
Ic(cr)	(in ⁴) --	958,251	--
Ss	(in ³) 7,159	14,030	7,159
Sc(n)	(in ³) 9,071	15,955	9,071
Sc(3n)	(in ³) 8,112	14,895	8,112
Sc(cr)	(in ³) --	14,300	--
DC1	(k') *	*	*
MDC1	(k) 8,873	25,739	9,910
DC2	(k') *	*	*
MDC2	(k) 1,047	2,822	1,159
DW	(k') *	*	*
MDW	(k) 2,024	5,549	2,229
LLDF	*	*	*
M _± + IM	(k) 5,635	9,257	5,569
Mu (Strength I)	(k) 25,298	60,225	26,925
Øf Mn	(k) 41,332	**	41,332
fs DC1	(ksi) 14.9	22.0	16.6
fs DC2	(ksi) 1.5	2.4	1.7
fs DW	(ksi) 3.0	4.7	3.3
fs (±+IM)	(ksi) 7.5	7.8	7.4
fs (Service II)	(ksi) 29.1	39.1	31.2
0.95RhFyf	(ksi) 47.5	64.9	47.5
fs (Total)(Strength I)(ksi)	38.1	51.1	40.7
Øf Fn	(ksi) 50.0	67.5	50.0
Vf	(k) 77.8	140.7	89.2

EXTERIOR GIRDER MOMENT TABLE			
	0.4 Sp. 4 or 0.6 Sp. 6	Pier 4 or Pier 5	0.5 Sp. 5
Is	(in ⁴) 467,119	912,502	467,119
Ic(n)	(in ⁴) 785,306	1,287,100	785,306
Ic(3n)	(in ⁴) 599,903	1,058,300	599,903
Ic(cr)	(in ⁴) --	954,258	--
Ss	(in ³) 7,159	14,030	7,159
Sc(n)	(in ³) 8,998	15,866	8,998
Sc(3n)	(in ³) 8,059	14,843	8,059
Sc(cr)	(in ³) --	14,277	--
DC1	(k') *	*	*
MDC1	(k) 8,877	25,650	9,913
DC2	(k') *	*	*
MDC2	(k) 1,029	3,047	1,126
DW	(k') *	*	*
MDW	(k) 2,004	5,426	2,208
LLDF	*	*	*
M _± + IM	(k) 6,813	11,345	6,821
Mu (Strength I)	(k) 27,312	63,864	29,049
Øf Mn	(k) 40,135	**	40,135
fs DC1	(ksi) 14.9	21.9	16.6
fs DC2	(ksi) 1.5	2.6	1.7
fs DW	(ksi) 3.0	4.6	3.3
fs (±+IM)	(ksi) 9.1	9.5	9.1
fs (Service II)	(ksi) 31.2	41.5	33.4
0.95RhFyf	(ksi) 47.5	64.9	47.5
fs (Total)(Strength I)(ksi)	40.9	54.2	43.7
Øf Fn	(ksi) 50.0	67.5	50.0
Vf	(k) 78.9	168.2	86.6

GIRDER REACTION TABLE				
	Pier 3 or Pier 6		Pier 4 or Pier 5	
	Interior	Exterior	Interior	Exterior
LLDF	*	*	*	*
OCF	1.00	1.00	--	--
RDC1	(k) 168.7	168.4	715.4	701.4
RDC2	(k) 16.4	28.6	69.3	100.8
RDW	(k) 39.6	37.9	152.0	139.3
R _±	(k) 100.7	108.3	238.7	277.0
R _{IM}	(k) 17.7	17.5	19.1	21.7
RTotal	(k) 343.1	360.7	1,194.5	1,240.2

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs(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.⁴ and in.³).

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

MDC1: 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.).

MDC2: 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.).

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

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

Mu (Strength I): Factored design moment (kip-ft.).
1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_± + IM

Øf Mn: 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.).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1/ Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2/ Sc(3n) or MDC2/ Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW/ Sc(3n) or MDW/ Sc(cr) as applicable.

fs (±+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_± + IM / Sc(n) or M_± + IM / Sc(cr) as applicable.

fs (Service II): Sum of stresses as computed below (ksi).
fsDC1 + fsDC2 + fsDW + 1.3 fs(± + IM)

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs(± + IM)

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

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

LLDF: Live load distribution factor.

OCF: Obtuse correction factor.

Note:
M_± and R_± include the effects of centrifugal force and superelevation.

* Finite element analysis was performed to design the girders for this bridge. Explicitly defined loads were not applied to individual girders. The total DC1, DC2, and DW loads were generated within the design software. The unit weights of steel and reinforced concrete utilized are 490 pcf and 150 pcf, respectively.

** Per Article A6.1, Appendix A6 requirements are not satisfied. The negative flexure girder sections are evaluated as non-compact sections per Article 6.10.8.



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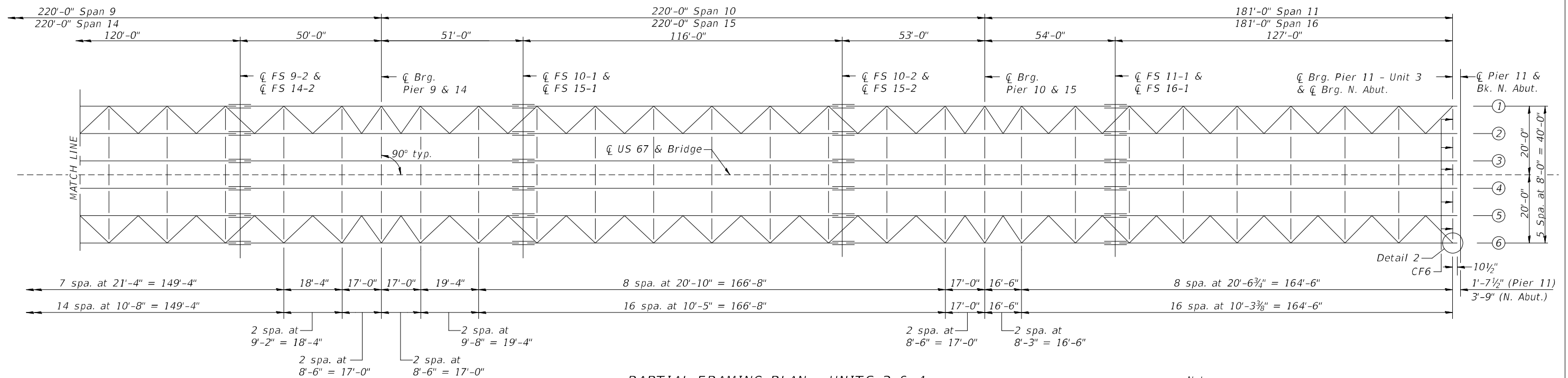
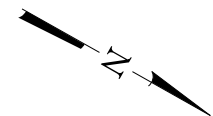
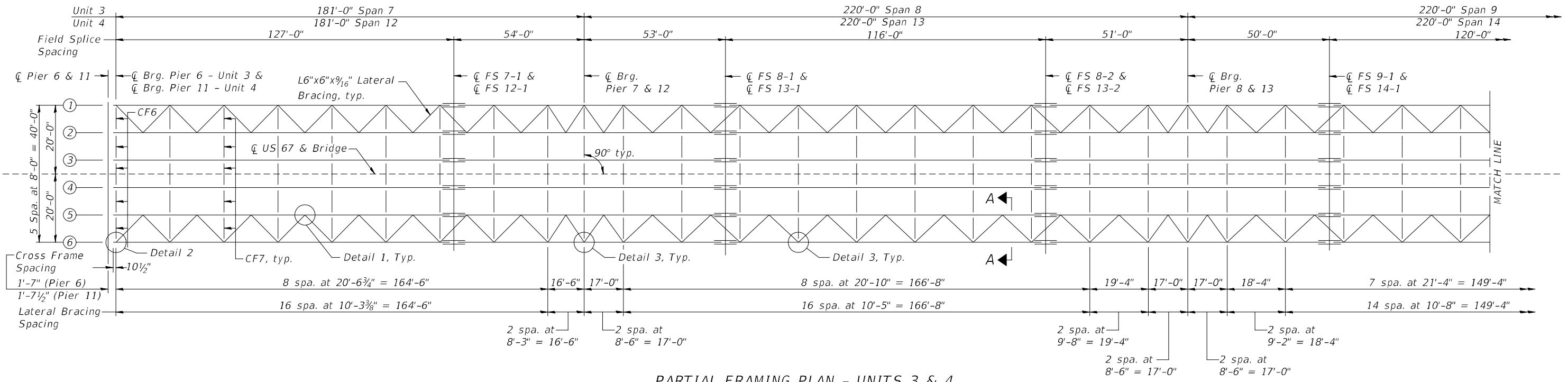
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PLOT DATE = 5/23/2023 (12:19:40 PM)	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL DETAILS - UNIT 2 - V
SN 009-0504**

SCALE: SHEET 69 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	265
CONTRACT NO. 72K47				
ILLINOIS FED. AID PROJECT				



- Notes:**
1. For Details 1 thru 3 and Section A-A, see sheet 74 of 162.
 2. CF denotes "Cross Frame."
 3. FS denotes "Field Splice."

FILE NAME = 0090504-72K47-070-Framing-Units 3 & 4.dgn

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 Illinois Professional Design Firm No. 184-000825
 2023 JOB# 4527

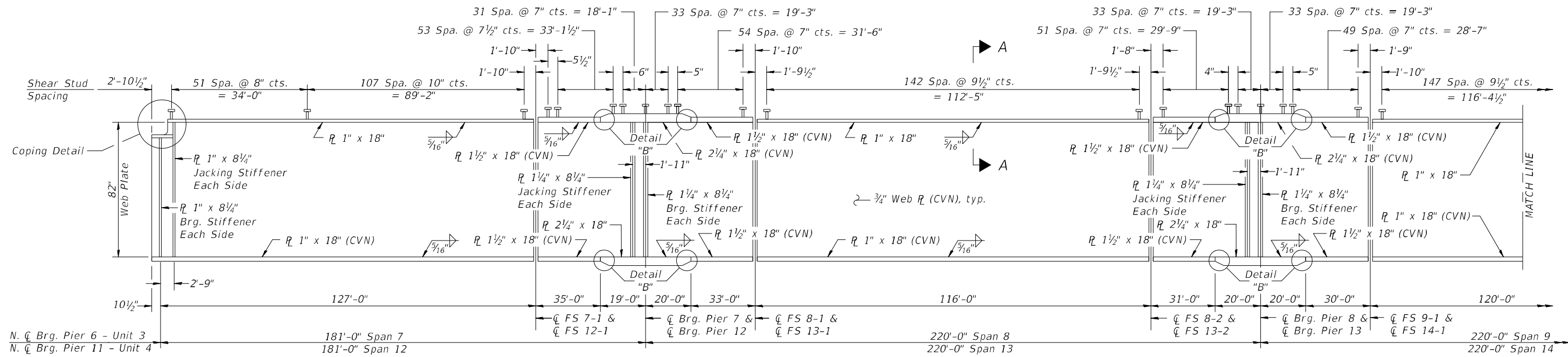
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PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

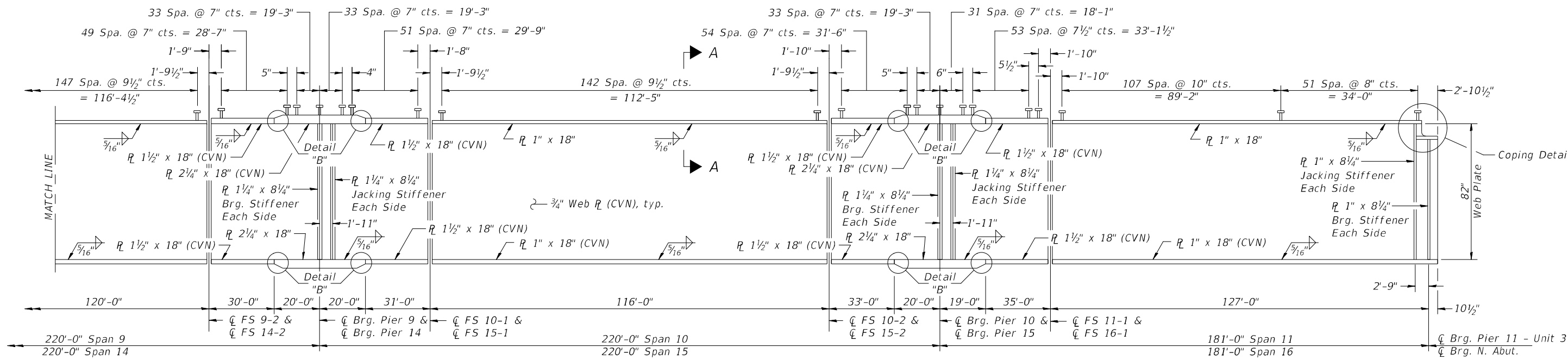
**FRAMING PLAN - UNITS 3 & 4
 SN 009-0504**

SCALE: SHEET 70 OF 162 SHEETS STA. TO STA.

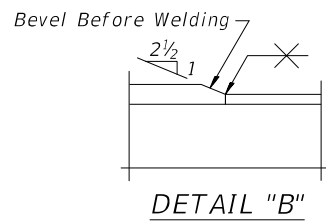
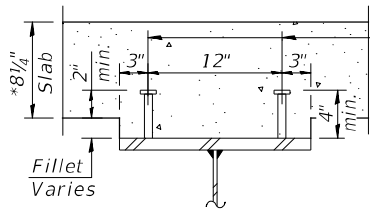
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	266
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



PARTIAL GIRDER ELEVATION - UNITS 3 & 4



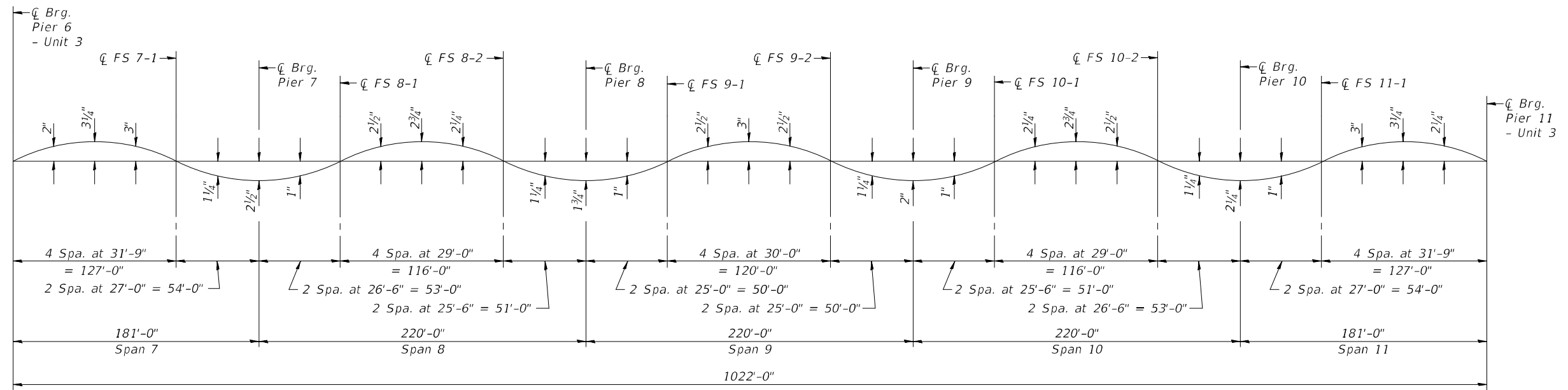
PARTIAL GIRDER ELEVATION - UNITS 3 & 4



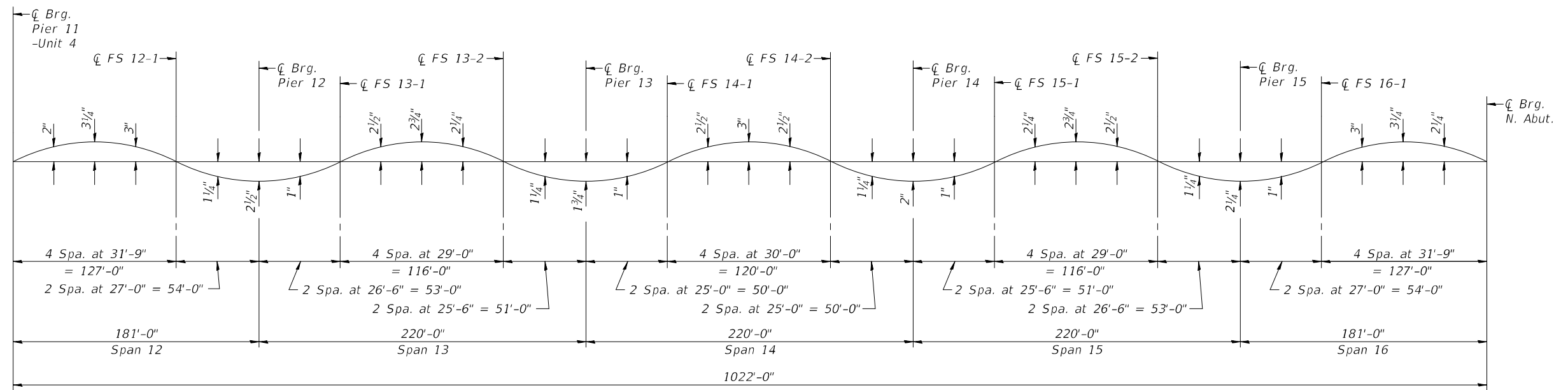
- Notes:
1. All structural steel shall be AASHTO M270 Grade 50W.
 2. "CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.
 3. For Coping Detail, see sheet 73 of 162.
 4. FS denotes "Field Splice."

FILE NAME = 0090504-72K47-071-Girder Elev-Units 3 & 4.dgn

Hutchison Engineering, Inc. <small>JACKSONVILLE • PEORIA • SHOREWOOD CARBONDALE • MOLINE Illinois Professional Design Firm No. 184-000825</small>		USER NAME = JWhite DESIGNED - JPS/MMO DRAWN - TAC CHECKED - ZL/BAN DATE - MAY 2023		REVISED - REVISED - REVISED - REVISED -		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		GIRDER ELEVATION - UNITS 3 & 4 SN 009-0504		F.A.P. R.T.E. = 310	SECTION (86B-1, 87CR)	COUNTY CASS/SCHUYLER	TOTAL SHEETS = 455	SHEET NO. = 267
PLOT SCALE = N/A PLOT DATE = 5/25/2023				SCALE:				SHEET 71 OF 162 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			



CAMBER DIAGRAM - UNIT 3



CAMBER DIAGRAM - UNIT 4

TOP OF WEB ELEVATIONS - UNIT 3
(For Fabrication Only)

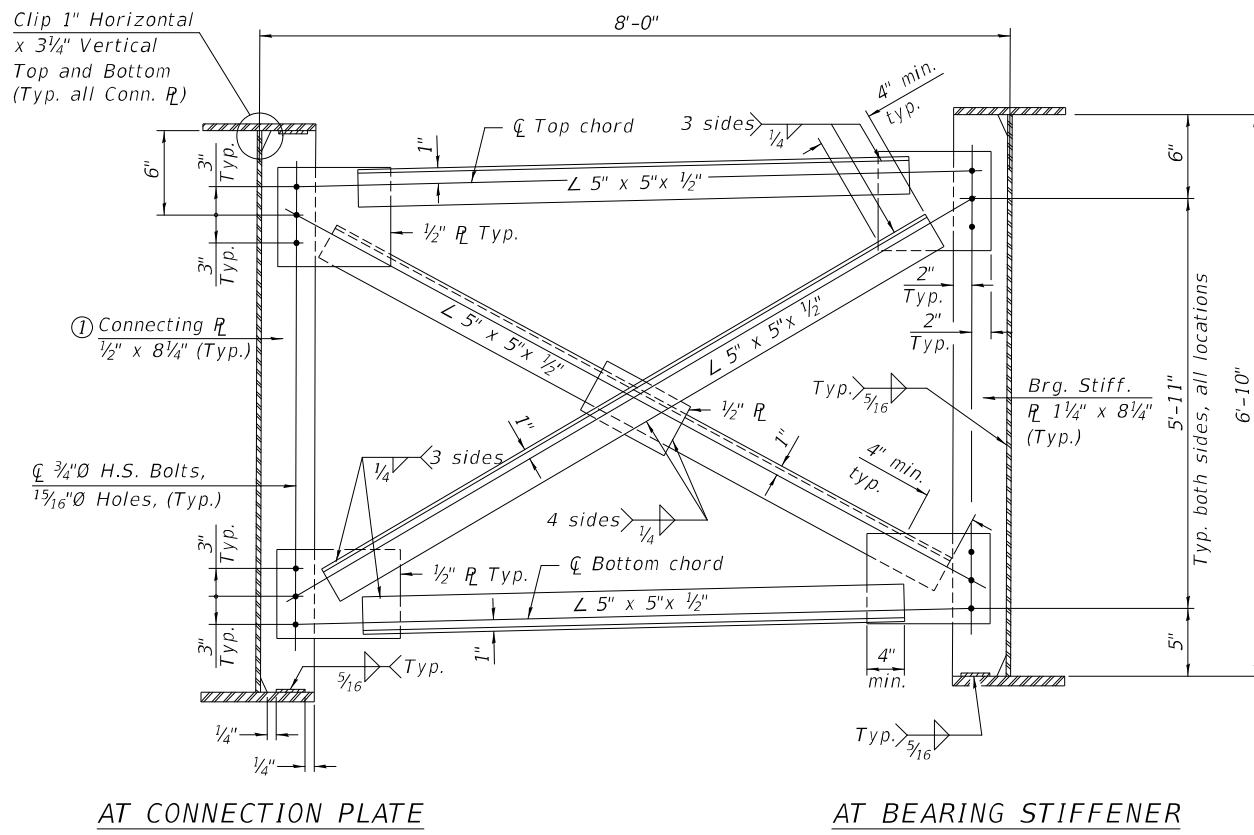
TOP OF WEB ELEVATIONS - UNIT 4
(For Fabrication Only)

Girder No.	☐ Brg. Pier 6 - Unit 3	☐ FS 7-1	☐ Brg. Pier 7	☐ FS 8-1	☐ FS 8-2	☐ Brg. Pier 8	☐ FS 9-1	☐ FS 9-2	☐ Brg. Pier 9	☐ FS 10-1	☐ FS 10-2	☐ Brg. Pier 10	☐ FS 11-1	☐ Brg. Pier 11 - Unit 3
1	503.87	501.79	500.63	499.91	497.94	496.93	496.24	494.19	493.16	492.45	490.48	489.42	488.72	486.48
2	504.03	501.95	500.79	500.07	498.10	497.09	496.40	494.35	493.32	492.61	490.64	489.58	488.88	486.64
3	504.15	502.07	500.91	500.19	498.22	497.21	496.52	494.47	493.44	492.73	490.76	489.70	489.00	486.76
4	504.15	502.07	500.91	500.19	498.22	497.21	496.52	494.47	493.44	492.73	490.76	489.70	489.00	486.76
5	504.03	501.95	500.79	500.07	498.10	497.09	496.40	494.35	493.32	492.61	490.64	489.58	488.88	486.64
6	503.87	501.79	500.63	499.91	497.94	496.93	496.24	494.19	493.16	492.45	490.48	489.42	488.72	486.48

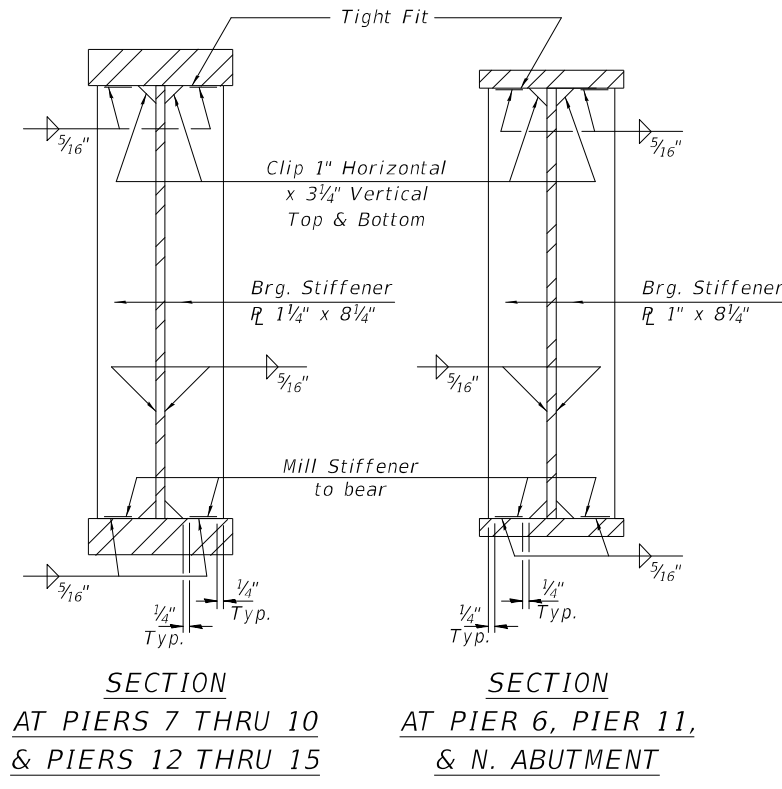
Girder No.	☐ Brg. Pier 11 - Unit 4	☐ FS 12-1	☐ Brg. Pier 12	☐ FS 13-1	☐ FS 13-2	☐ Brg. Pier 13	☐ FS 14-1	☐ FS 14-2	☐ Brg. Pier 14	☐ FS 15-1	☐ FS 15-2	☐ Brg. Pier 15	☐ FS 16-1	☐ Brg. N. Abut.
1	486.42	484.34	483.18	482.46	480.49	479.48	478.79	476.74	475.71	475.00	473.03	471.97	471.27	469.03
2	486.58	484.50	483.34	482.62	480.65	479.64	478.95	476.90	475.87	475.16	473.19	472.13	471.43	469.19
3	486.70	484.62	483.46	482.74	480.77	479.76	479.07	477.02	475.99	475.28	473.31	472.25	471.55	469.31
4	486.70	484.62	483.46	482.74	480.77	479.76	479.07	477.02	475.99	475.28	473.31	472.25	471.55	469.31
5	486.58	484.50	483.34	482.62	480.65	479.64	478.95	476.90	475.87	475.16	473.19	472.13	471.43	469.19
6	486.42	484.34	483.18	482.46	480.49	479.48	478.79	476.74	475.71	475.00	473.03	471.97	471.27	469.03

Notes:
1. FS denotes "Field Splice."

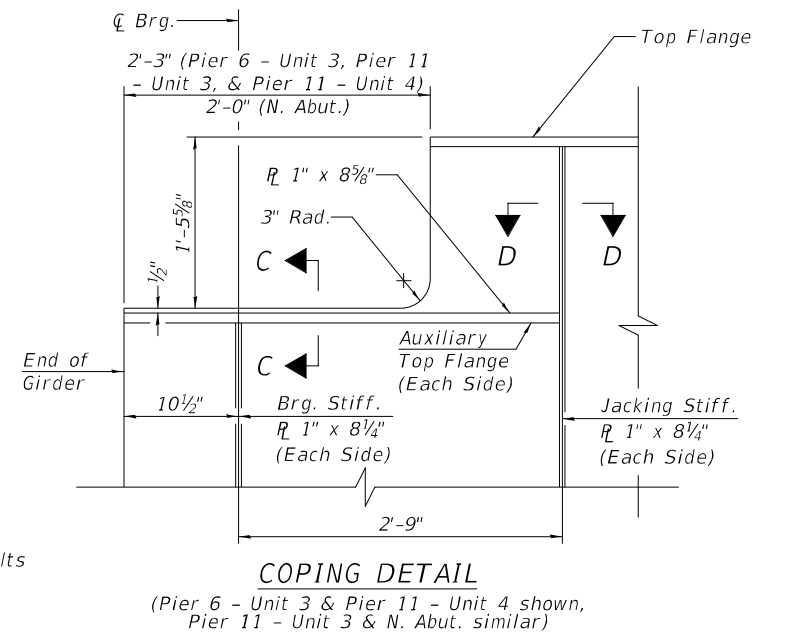
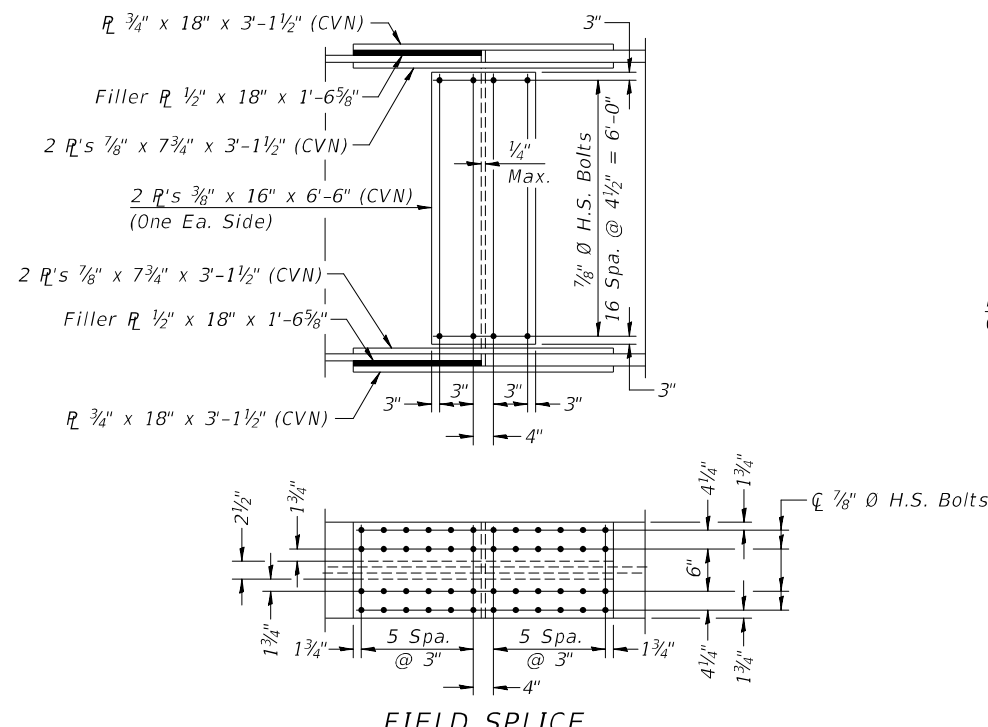
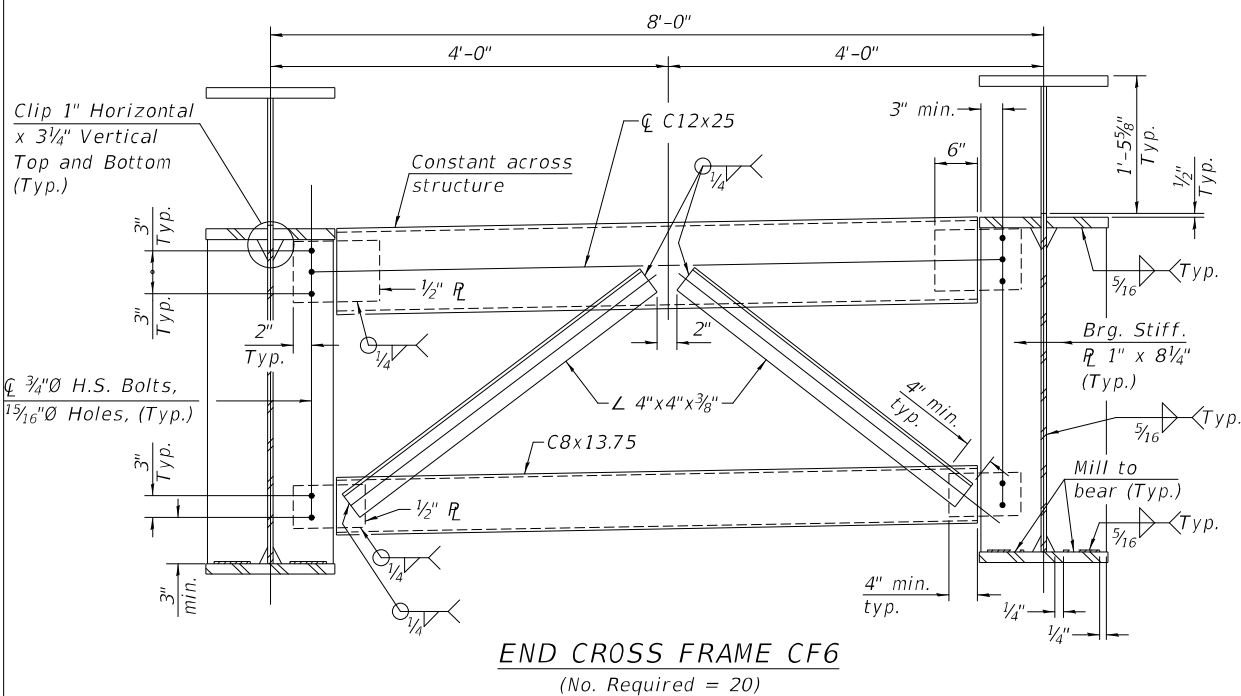
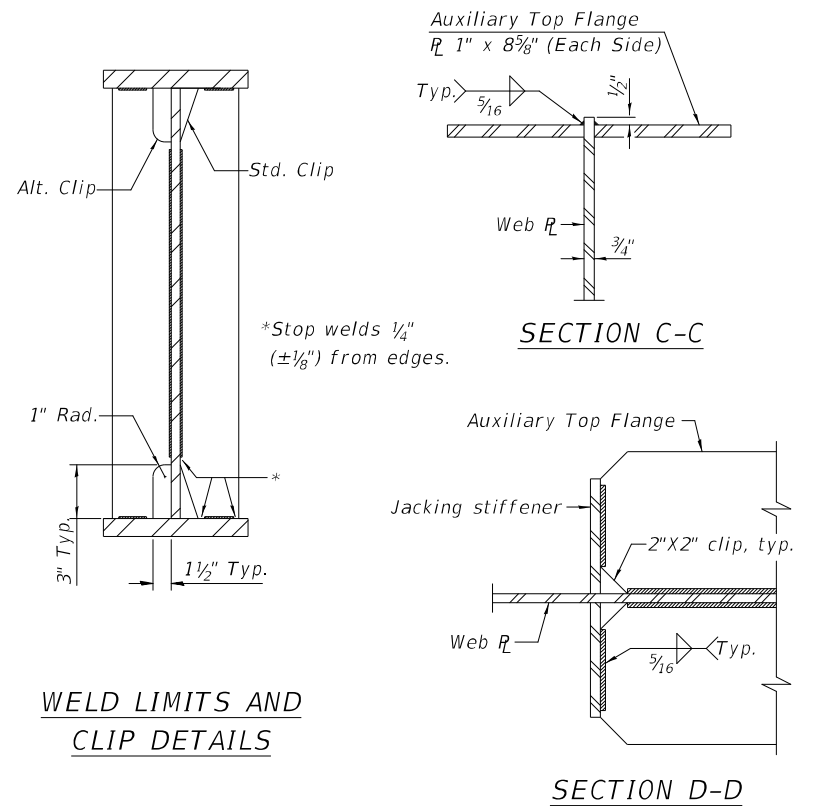
FILE NAME = 0090504-72K47-072-Struct SI Details-Units 3 & 4.dgn



INTERIOR CROSS FRAME CF7
 (No. Required = 500)



BEARING AND JACKING STIFFENER DETAILS
 (Girder Cope not shown)

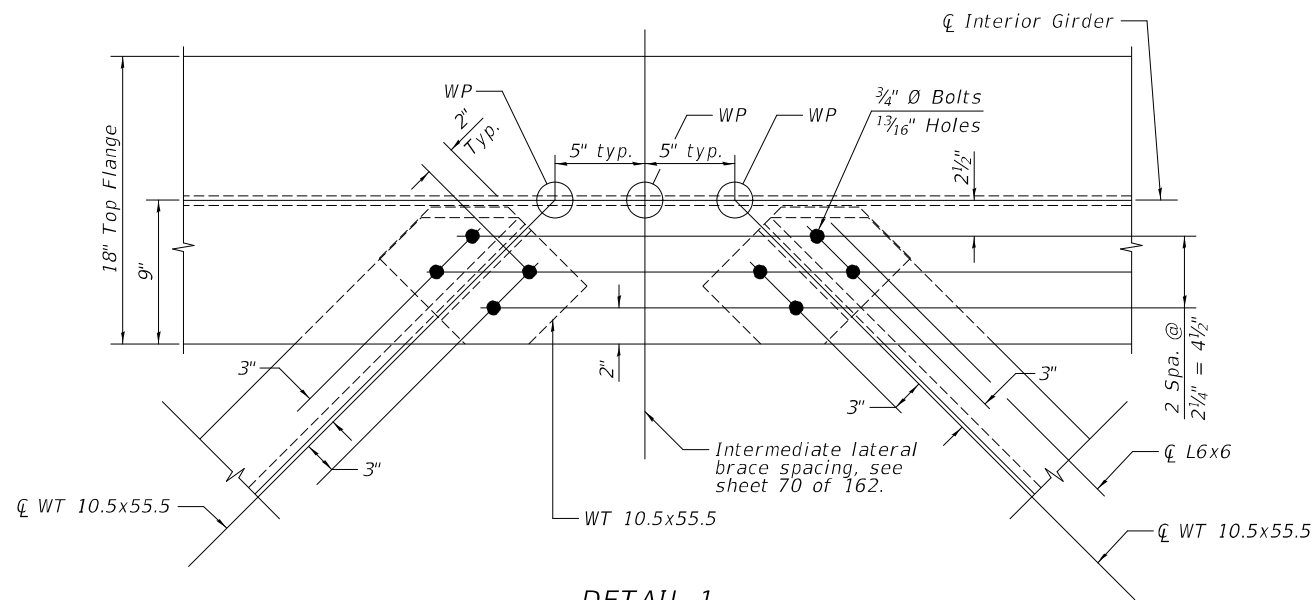


- Notes:**
- Two hardened washers required for each set of oversized holes.
 - All cross frames shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
 - All structural steel shall be AASHTO M270 Grade 50W.
 - "CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.
 - The end cross-frames shall be hot-dip galvanized. See General Notes.

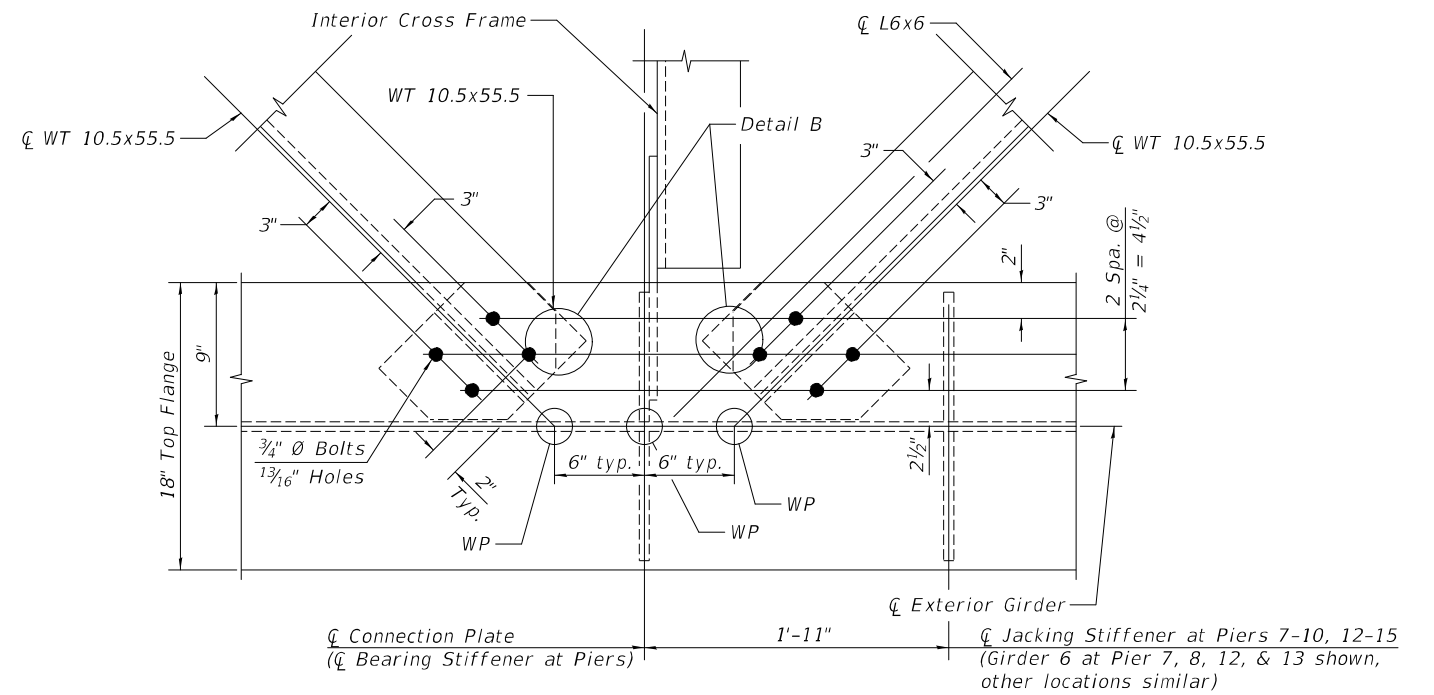
0090504-72K47-073-Struct Steel Details-Units 3 & 4-I.dgn

USER NAME = JWhite	DESIGNED - MMO	REVISED -
PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

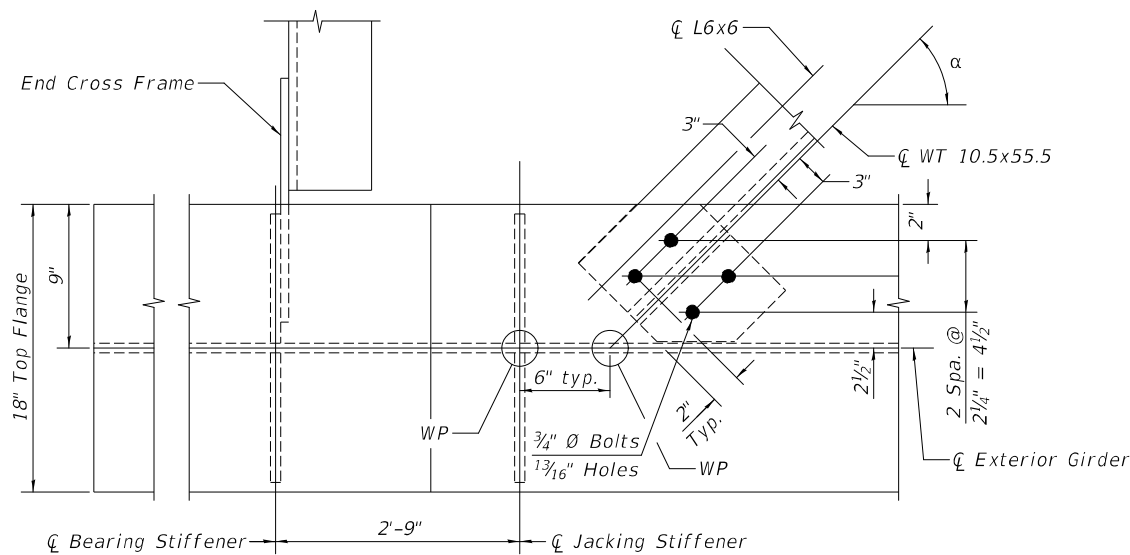
F.A.P. RT.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	269
ILLINOIS FED. AID PROJECT			CONTRACT NO.	72K47



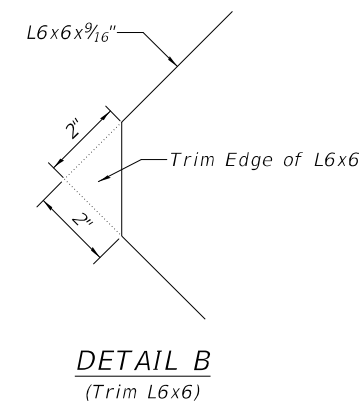
DETAIL 1
(Connection at Interior Girder,
Girder 5 shown, Girder 2 mirrored)



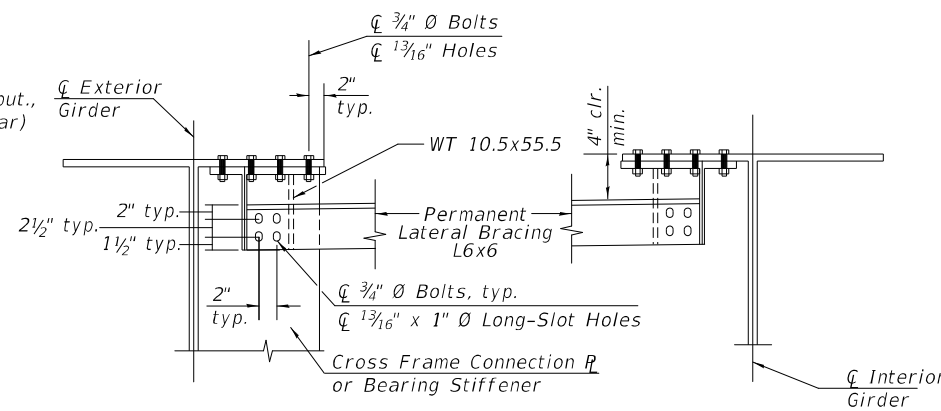
DETAIL 3
(Connection at Standard Cross Frame)



DETAIL 2
(Connection at Pier 6 - Unit 3, Pier 11 - Unit 3, Pier 11 - Unit 4, & N. Abut.,
Girder 6 at Pier 6 - Unit 3 and 11 - Unit 3 shown, other locations similar)



DETAIL B
(Trim L6x6)



SECTION A-A

- Notes:
 1. W.P. denotes Work Point.
 2. All structural steel shall be AASHTO M270 Grade 50W.
 3. Two hardened washers required for each set of oversized holes.

FILE NAME = 0090504-72K47-074-Struct SII Details-Units 3 & 4-III.dgn

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PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL DETAILS - UNITS 3 & 4 - III
 SN 009-0504**

SCALE: SHEET 74 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	270
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

INTERIOR GIRDER MOMENT TABLE - UNITS 3 & 4					
	0.4 Sp 7, 0.6 Sp 11 0.4 Sp 12, 0.6 Sp 16	Piers 7, 10, 12 & 15	0.5 Spans 8, 10, 13 & 15	Piers 8, 9, 13 & 14	0.5 Spans 9 & 14
Is	(in ⁴)	96,465	178,230	96,465	178,230
Ic(n)	(in ⁴)	204,284	314,186	204,284	314,186
Ic(3n)	(in ⁴)	151,368	241,425	151,368	241,425
Ic(cr)	(in ⁴)	-	196,072	-	196,072
Ss	(in ³)	2,297	4,121	2,297	4,121
Sc(n)	(in ³)	3,099	4,959	3,099	4,959
Sc(3n)	(in ³)	2,793	4,589	2,793	4,589
Sc(cr)	(in ³)	-	4,272	-	4,272
DC1	(k/ft)	1.235	1.411	1.235	1.411
MDC1	(k)	2,666	5,652	2,040	5,441
DC2	(k/ft)	0.190	0.190	0.190	0.190
MDC2	(k)	413	844	320	815
DW	(k/ft)	0.400	0.400	0.400	0.400
MDW	(k)	871	1,774	676	1,714
LLDF	-	0.5681	0.5681	0.5492	0.5492
M _l + IM	(k)	3,079	3,644	2,928	3,701
fl (Strength I)	(ksi)	0	0	0	0
Mu + 1/2 fl Sxc	(k)	10,544	17,158	9,088	16,868
Øf Mn	(k)	14,789	18,773	15,219	18,934
fs DC1	(ksi)	13.93	16.46	10.65	15.84
fs DC2	(ksi)	1.77	2.37	1.37	2.29
fs DW	(ksi)	3.74	4.98	2.90	4.81
fs (l+IM)	(ksi)	11.92	10.24	11.34	10.40
fl (Service II)	(ksi)	0	0	0	0
fs + 1/2 (Service II)	(ksi)	34.94	37.12	29.66	36.46
0.95Rh Fyf	(ksi)	47.50	47.50	47.50	47.50
Øf Fn	(ksi)	-	-	-	-
Vf	(k)	35.4	39.1	30.9	39.0

GIRDER REACTION TABLE - UNITS 3 & 4						
	P 6 - Unit 3, P 11 - Unit 3, P 11 - Unit 4, N. Abut.		P 7, P 10, P 12, P 15		P 8, P 9, P 13, P 14	
	Interior	Exterior	Interior	Exterior	Interior	Exterior
LLDF	0.814	0.651	0.814	0.651	0.814	0.651
OCF	-	1.00	-	1.00	-	1.00
RDC1 (k)	82.3	82.9	290.2	292.6	280.8	283.1
RDC2 (k)	12.5	12.5	42.9	42.9	41.7	41.7
RDW (k)	26.4	19.8	90.3	67.7	87.7	65.8
R _l (k)	98.3	78.6	215.4	172.2	218.2	174.4
R _{IM} (k)	18.1	14.5	32.7	26.2	32.3	25.8
RTotal (k)	237.6	208.3	671.5	601.6	660.7	590.8

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short term composite live loads (in.⁴ and in.³).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs(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.⁴ and in.³).

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

MDC1: 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.).

MDC2: 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.).

MDW: 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.).

Mu (Strength I): Factored design moment (kip-ft.).
1.25 (MDC1+ MDC2) + 1.5 MDW + 1.75 M_l + IM

fl: Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending, Strength I or Service II as applicable (kip-ft.).

Øf Mn: 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.).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1 / Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2 / Sc(3n) or MDC2 / Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW / Sc(3n) or MDW / Sc(cr) as applicable.

fs (l+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
M_l + IM / Sc(n) or M_l + IM / Sc(cr) as applicable.

fs + 1/2 (Service II): Sum of stresses as computed below (ksi).
fsDC1 + fsDC2 + fsDW + 1.3 fs(l+IM) + fl/2

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs + 1/3 (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs(l+IM) + fl/3

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

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

LLDF: Live load distribution factor.

OCF: Obtuse correction factor.

Note:
1. M_l and R_l include the effects of centrifugal force and superelevation.

FILE NAME = 0090504-72K47-075-Struct SII Details-Units 3 & 4-IV.dgn

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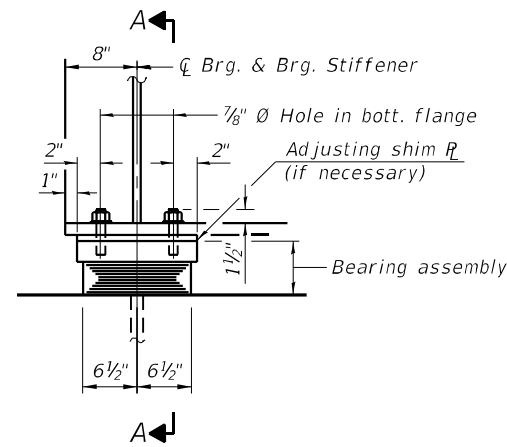
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	DRAWN - TAC	REVISED -
PLOT SCALE = N/A	CHECKED - ZL/BAN	REVISED -
PLOT DATE = 5/25/2023	DATE - MAY 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

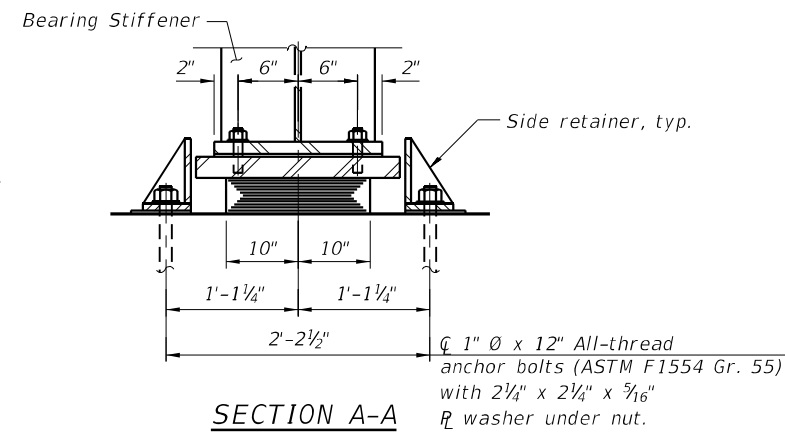
STRUCTURAL STEEL DETAILS - UNITS 3 & 4 - IV
SN 009-0504

SCALE: SHEET 75 OF 162 SHEETS STA. TO STA.

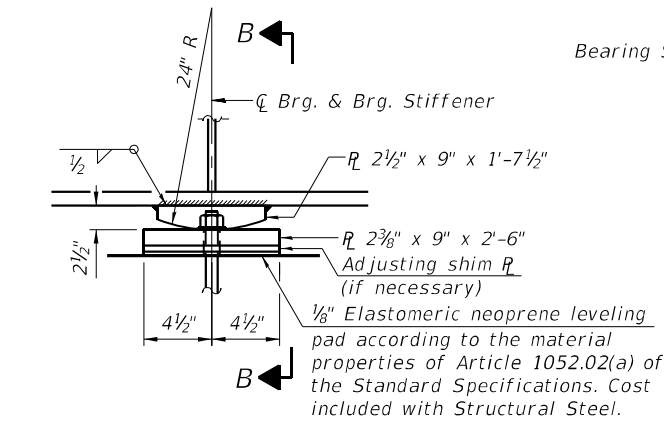
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310	(86B-1, 87CR)	CASS/SCHUYLER	455	271
ILLINOIS FED. AID PROJECT			CONTRACT NO.	72K47



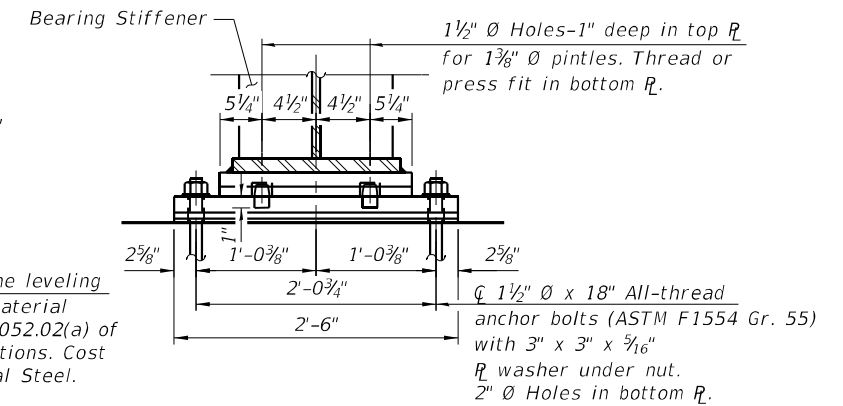
ELEVATION AT S. ABUT. & PIER 3 - UNIT 1



SECTION A-A

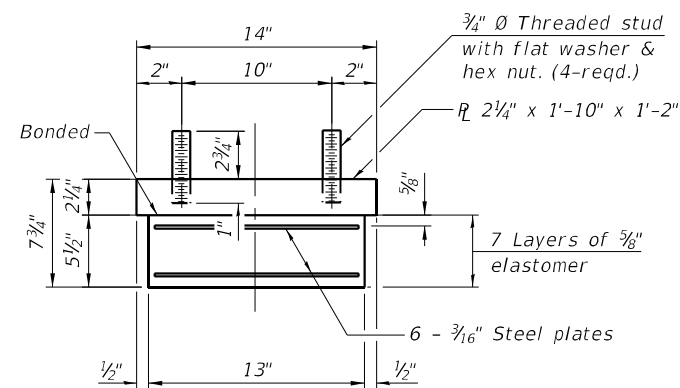


ELEVATION AT PIERS 1 & 2



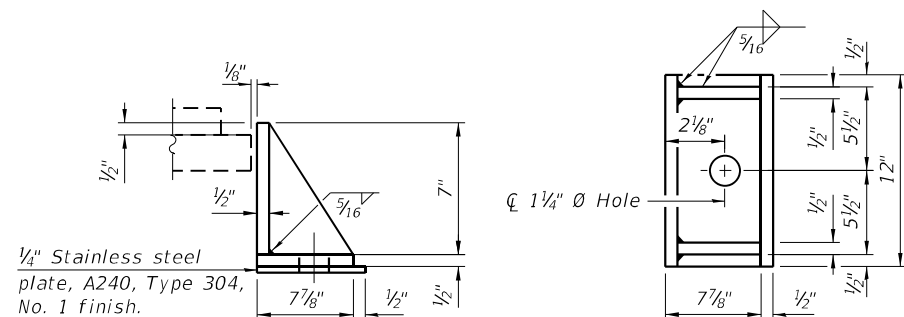
SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.
(12 Required)



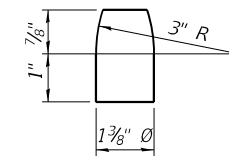
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under bearing assembly.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



PINTLE

FIXED BEARING
(12 Required)

Notes:

- Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.
- Anchor bolts and side retainers at all supports 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 M270 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.
- All steel parts of elastomeric bearings shall be galvanized according to AASHTO M111 or M232 as applicable.
- H.S. bolts in elastomeric bearing assembly shall be galvanized according to AASHTO M298 Class 50.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	12
Anchor Bolts, 1"	Each	24
Anchor Bolts, 1 1/2"	Each	24

S:\2018\181020 PH-2 Bearings\DOT D6 CMT PTB 188-2\1CADD\Structures\CADD Sheets\0090504-72K47-004b-Bearings_Unit 1.dgn



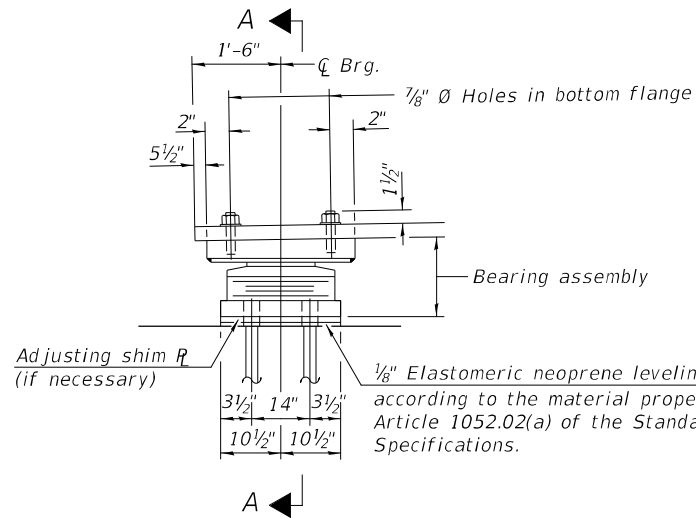
USER NAME = z davidson	DESIGNED - RPW	REVISED -
0090504-72K47-004b-Bearings_Unit 1.dgn	DRAWN - JDC	REVISED -
PLOT SCALE = N/A	CHECKED - MDC	REVISED -
PLOT DATE = 5/22/2023 9:39:48 AM	DATE - May 2023	REVISED -

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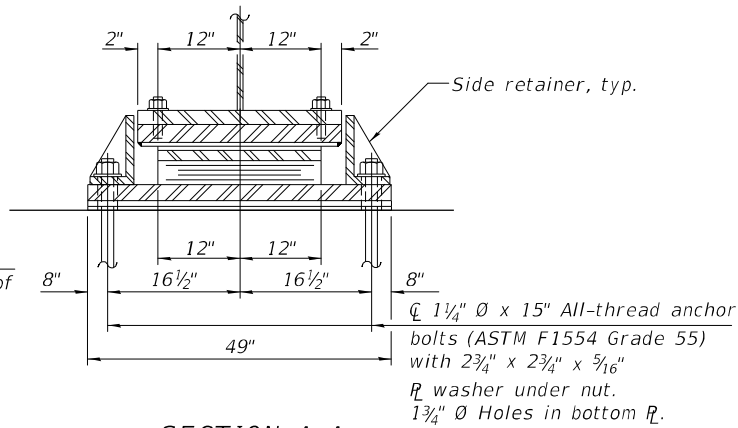
BEARING DETAILS - UNIT 1
SN 009-0504

SCALE: SHEET 76 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	272
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

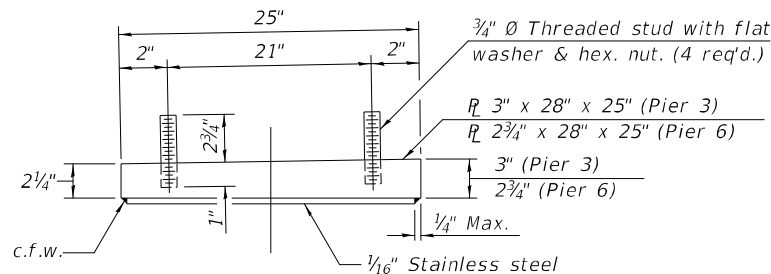


ELEVATION AT PIER 3 & PIER 6
(Pier 3 looking west, Pier 6 looking east)

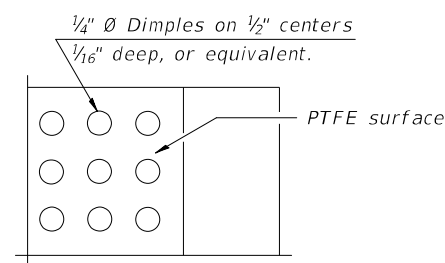


SECTION A-A

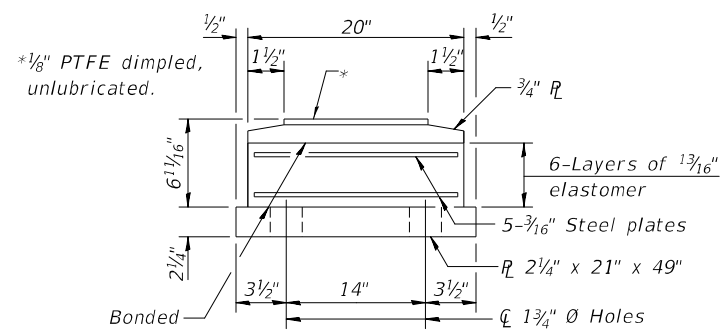
TYPE II ELASTOMERIC EXP. BRG.
(Pier 3 & Pier 6)



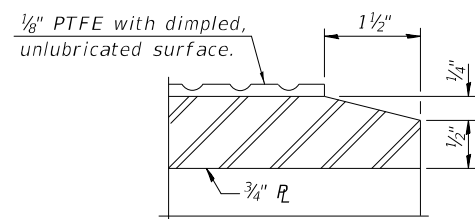
TOP BEARING ASSEMBLY
(Pier 3 looking west, Pier 6 looking east)



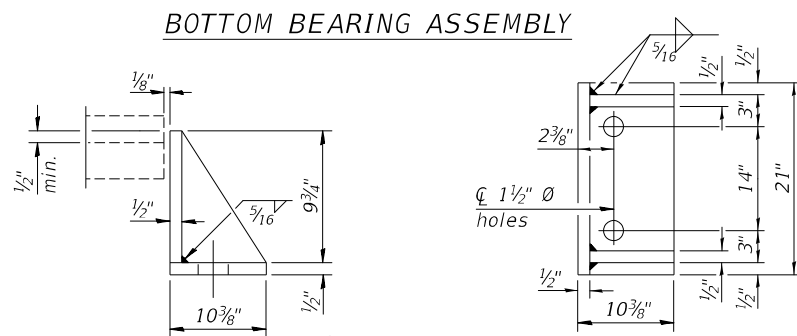
PLAN-PTFE SURFACE



BOTTOM BEARING ASSEMBLY

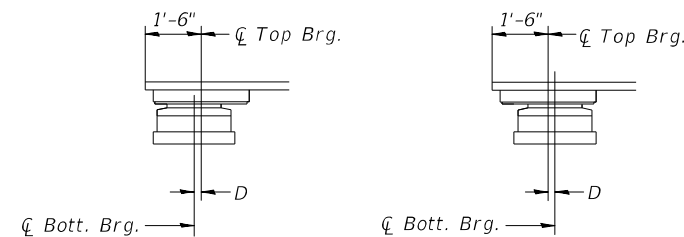


SECTION THRU PTFE



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



EXPANSION BEARING ORIENTATION
BELOW 50°F. ABOVE 50°F.
D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

The above diagrams are for informational purposes only to show the amount of expected offset "D" for the current temperature in the field.

Notes:

- Side retainers and leveling pad required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
- The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
- Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
- Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.
- 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.
- The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.
- All bearing plates, side retainers, anchor bolts, studs, nuts, washers, pintles, fill plates, and shim plates shall be galvanized according to AASHTO M111 or M232 as applicable.
- H.S. bolts in bearing assembly shall be galvanized according to AASHTO M298 Class 50.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	12
Anchor Bolts, 1 1/4"	Each	48

FILE NAME = 0090504-72K47-077-Elastomeric Bearing Type II Unit 2.dgn

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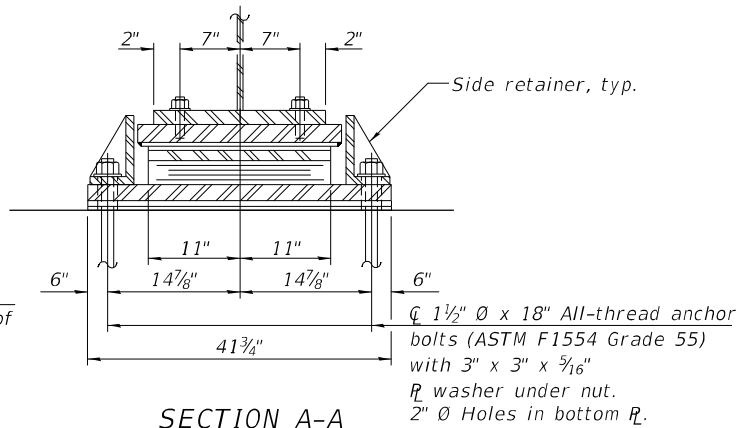
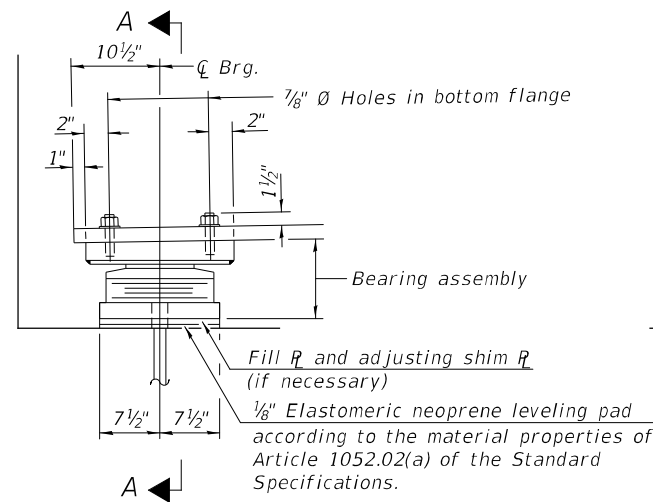
USER NAME = JWhite	DESIGNED - MMO	REVISED -
PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS - ELASTOMERIC TYPE II - UNIT 2
SN 009-0504

SCALE: SHEET 77 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	273
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

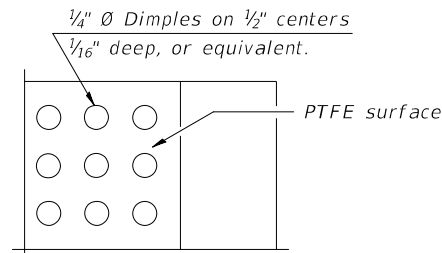
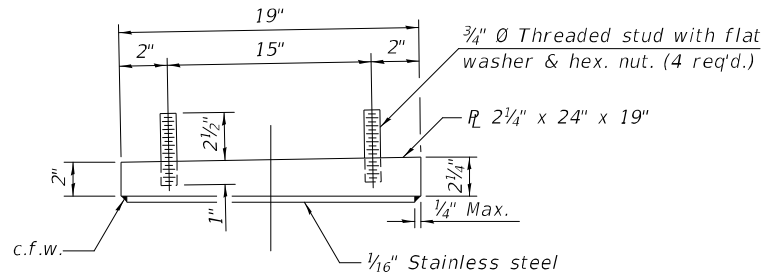


ELEVATION AT PIER 6 - UNIT 3,
PIER 11 - UNIT 3, PIER 11 - UNIT 4, & N. ABUT.
 (Pier 6 - Unit 3 looking west, Pier 11 - Unit 3 looking east,
 Pier 11 - Unit 4 looking west, N. Abut. looking east)

SECTION A-A

TYPE II ELASTOMERIC EXP. BRG.

(Pier 6 - Unit 3, Pier 11 - Units 3 & 4, & North Abutment)



TOP BEARING ASSEMBLY

(Pier 6 - Unit 3 looking west, Pier 11 - Unit 3 looking east,
 Pier 11 - Unit 4 looking west, N. Abut. looking east)

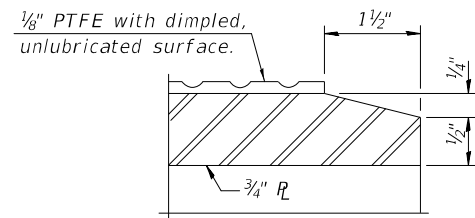
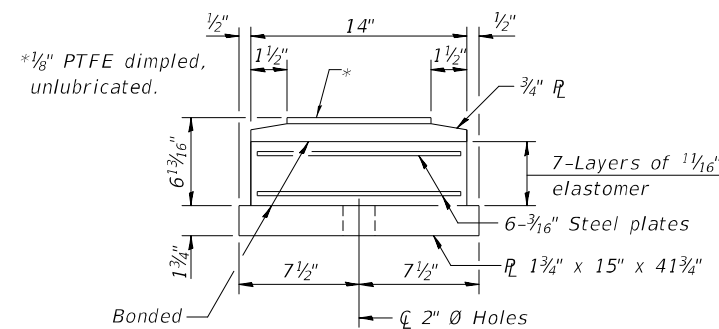
PLAN-PTFE SURFACE

FILL PLATES

Location	Thickness
Pier 6 - Unit 3	0"
Pier 11 - Unit 3	5/8"
Pier 11 - Unit 4	0"
N. Abut.	0"

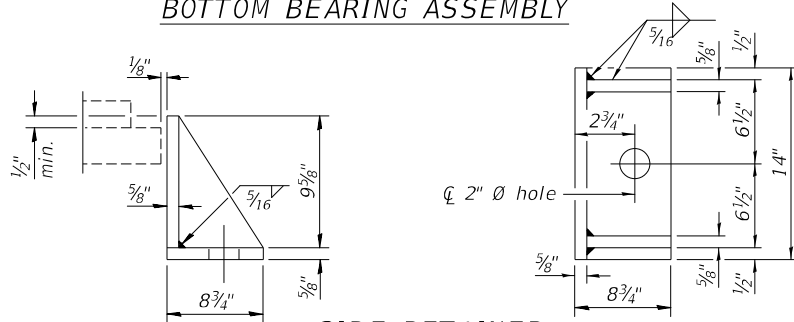
Notes:

- Side retainers and leveling pad required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
- The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
- Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
- Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.
- 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.
- The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.
- All bearing plates, side retainers, anchor bolts, studs, nuts, washers, pintles, fill plates, and shim plates shall be galvanized according to AASHTO M111 or M232 as applicable.
- H.S. bolts in bearing assembly shall be galvanized according to AASHTO M298 Class 50.



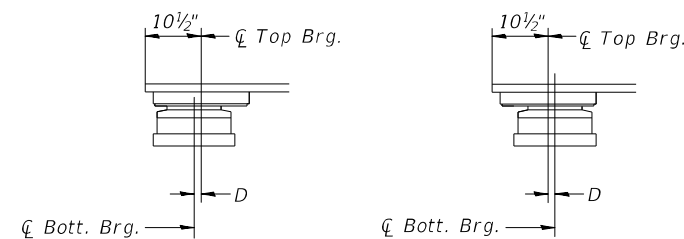
SECTION THRU PTFE

BOTTOM BEARING ASSEMBLY



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50°F.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

ABOVE 50°F.

EXPANSION BEARING ORIENTATION

The above diagrams are for informational purposes only to show the amount of expected offset "D" for the current temperature in the field.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	24
Anchor Bolts, 1 1/2"	Each	48

FILE NAME = 0090504-72K47-078-Elastomeric Bearing Type II Units 3 & 4.dgn

Since 1945
Hutchison Engineering, Inc.
 JACKSONVILLE • PEORIA • SHREVEPORT
 CARBONDALE • MOLINE
 Illinois Professional Design Firm No. 184-000825

USER NAME = JWhite
 DESIGNED - MMO
 DRAWN - TAC
 PLOT SCALE = N/A
 PLOT DATE = 5/25/2023

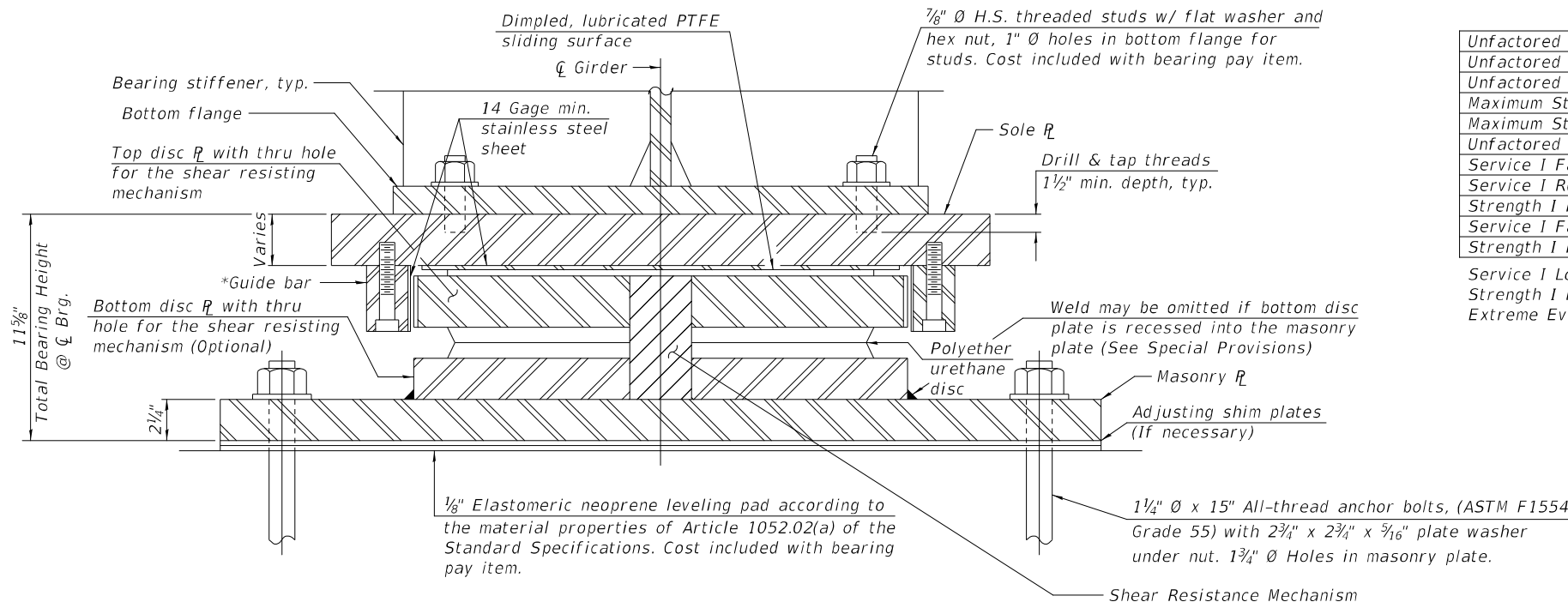
DATE - MAY 2023
 CHECKED - ZL/BAN
 REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS - ELASTOMERIC TYPE II - UNITS 3 & 4
SN 009-0504

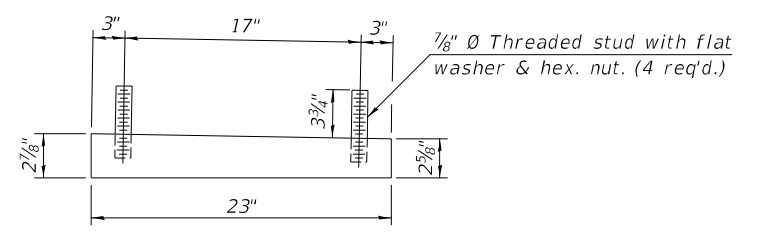
SCALE: SHEET 78 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	274
ILLINOIS FED. AID PROJECT			CONTRACT NO.	72K47

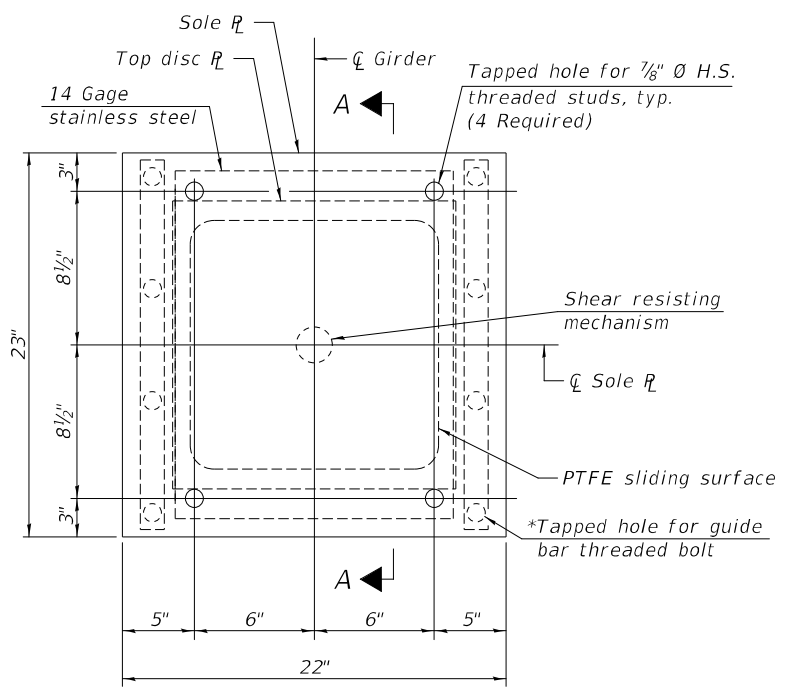


SECTION THRU BEARING
(Piers 7, 10, 12, and 15)

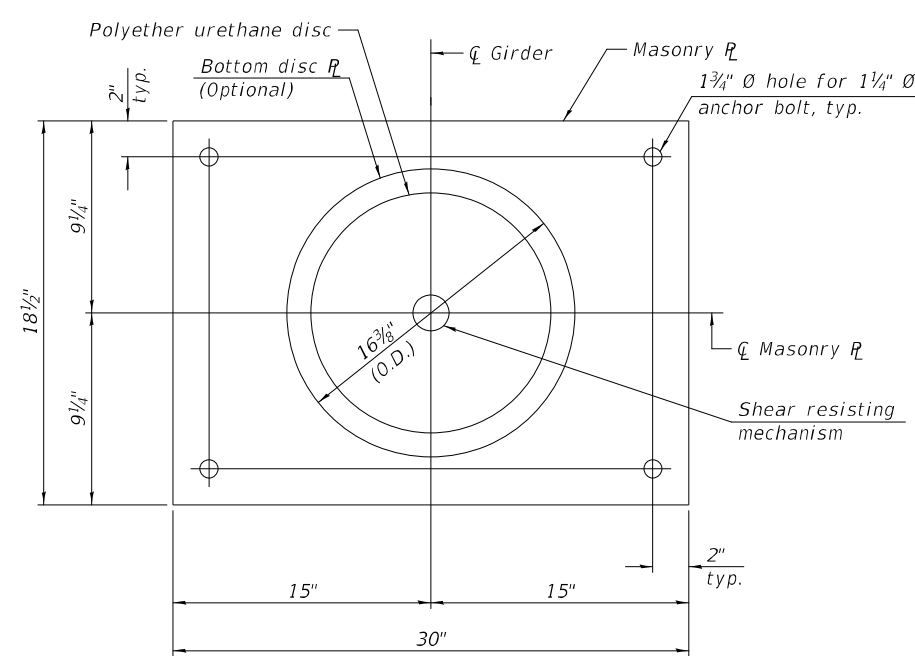
*As alternates to the bolted connection shown, the guide bars may be connected to the sole plate by groove welds or the guide bars and sole plate may be fabricated as a single piece.



SECTION A-A



SOLE PLATE AND TOP DISC PLATE PLAN

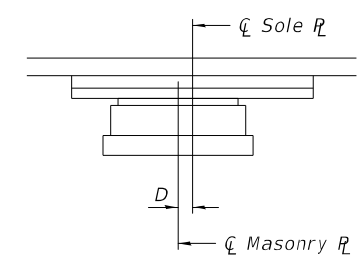


MASONRY PLATE AND BOTTOM DISC PLATE PLAN

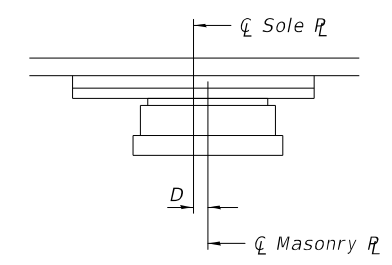
DESIGN DATA

Unfactored Vertical Dead Load Reaction (R_{DC})	329.7 kips
Unfactored Vertical Wearing Surface Reaction (R_{DW})	90.3 kips
Unfactored Vertical Live Load without Impact Reaction (R_{LL})	215.4 kips
Maximum Strength or Extreme Event Lateral Reaction (H_U)	79.4 kips
Maximum Strength Limit State Rotation (Θ_U according to Article 14.4.2.2)	0.010 rad
Unfactored Design Thermal Movement from 50° F (ΔT)	1.80 in.
Service I Factored Lateral Reaction	25.1 kips
Service I Rotation	0.008 rad
Strength I Factored Longitudinal Movement	2.16 in.
Service I Factored Vertical Reaction	635.4 kips
Strength I Factored Vertical Reaction	924.5 kips

Service I Load Factors = 1.0DC + 1.0DW + 1.0LL
 Strength I Load Factors = 1.25DC + 1.5DW + 1.75LL + 1.2TU
 Extreme Event Load Factors = 1.0EQ



BELOW 50°F.
(Move masonry R away from fixed bearing)



ABOVE 50°F.
(Move masonry R toward fixed bearing)

SETTING ANCHOR BOLTS AT EXPANSION BEARING

$D = \frac{1}{8}$ " per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.

Notes:

- Two $\frac{1}{8}$ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. Shim plates not included in total bearing height. Cost included with bearing pay item.
- Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pier or abutment concrete.
- All structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.
- If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be T_b plus the depth of the recess.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternative material) of the grade and diameter specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

BILL OF MATERIAL

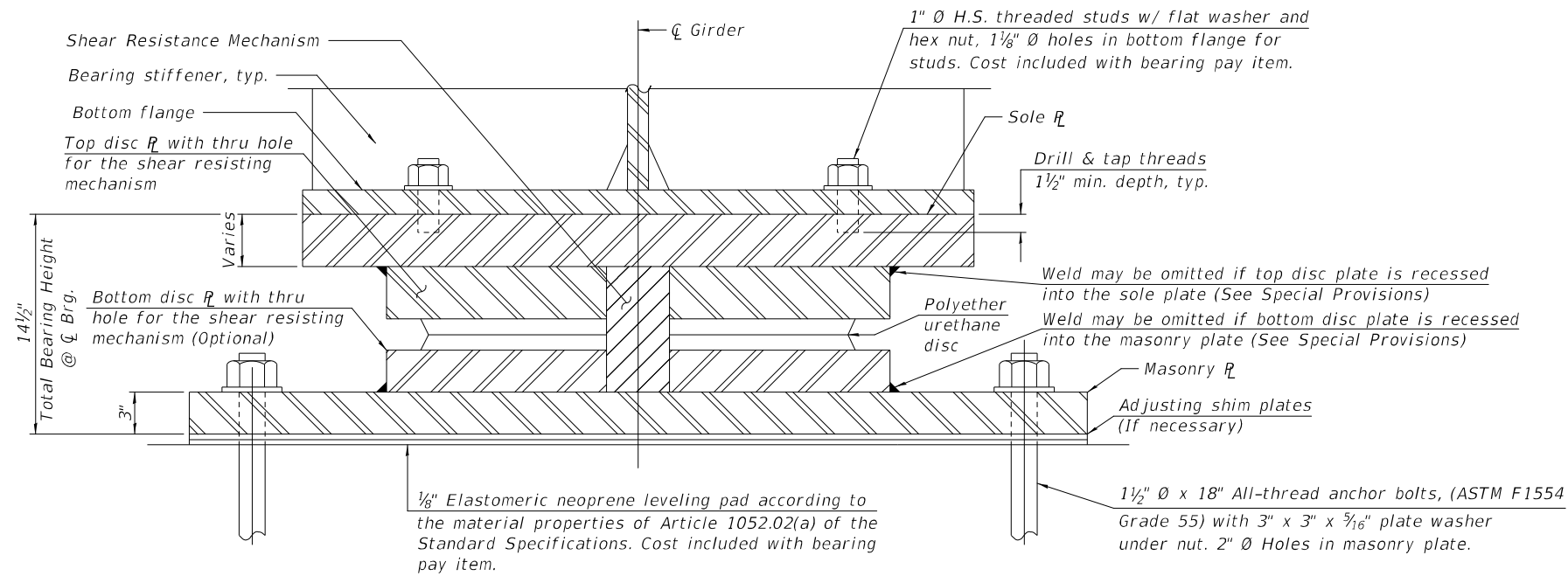
Item	Unit	Total
** High Load Multi-Rotational Bearings, Disc, Guided Expansion, 700K	Each	24
Anchor Bolts, 1 1/4"	Each	96

** The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

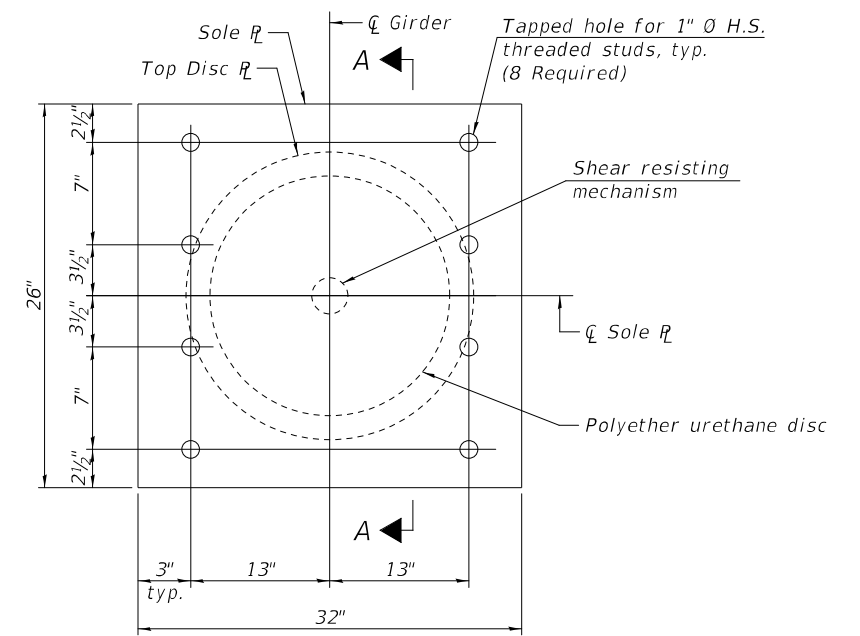
FILE NAME = 0090504-72K47-079-Guided Expansion HLMR-Units 3 & 4.dgn

USER NAME = JWhite	DESIGNED - MMO	REVISED -
PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	275
ILLINOIS FED. AID PROJECT			CONTRACT NO.	72K47



SECTION THRU BEARING
(Piers 4 and 5)

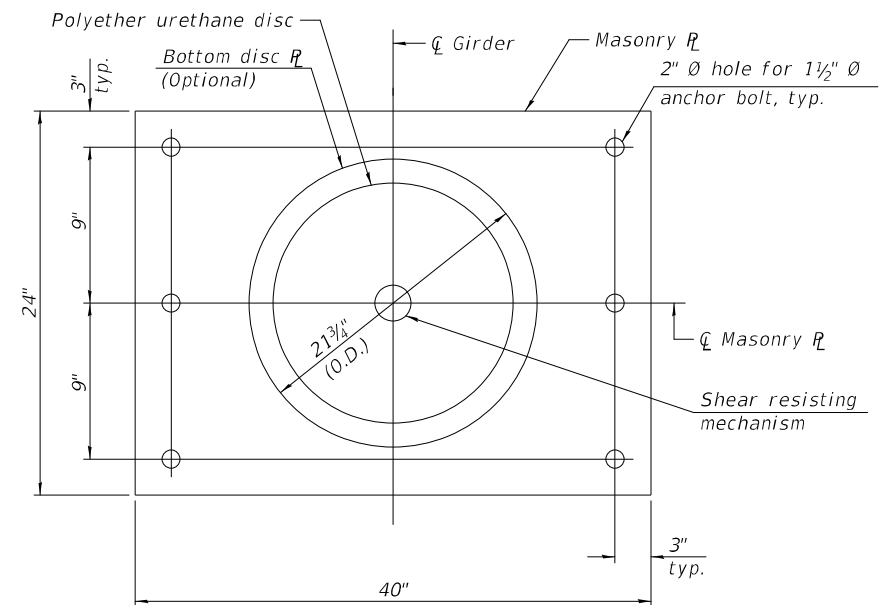


SOLE PLATE AND TOP DISC PLATE PLAN

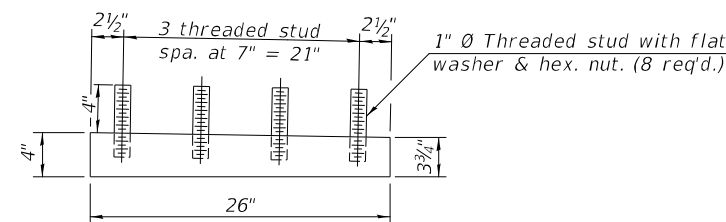
DESIGN DATA

Unfactored Vertical Dead Load Reaction (R_{DC})	790.0 kips
Unfactored Vertical Wearing Surface Reaction (R_{DW})	139.0 kips
Unfactored Vertical Live Load without Impact Reaction (R_{LL})	277.2 kips
Maximum Strength or Extreme Event Lateral Reaction (H_U)	185.8 kips
Maximum Strength Limit State Rotation (Θ_U according to Article 14.4.2.2)	0.010 rad
Service I Factored Lateral Reaction	242.7 kips
Service I Rotation	0.006 rad
Strength I Factored Longitudinal Movement	Fixed
Service I Factored Vertical Reaction	1227.9 kips
Strength I Factored Vertical Reaction	1719.0 kips

Service I Load Factors = 1.0DC + 1.0DW + 1.00LL
 Strength I Load Factors = 1.25DC + 1.5DW + 1.75LL + 1.2TU
 Extreme Event Load Factors = 1.0EQ



**MASONRY PLATE AND
BOTTOM DISC PLATE PLAN**



SECTION A-A

BILL OF MATERIAL

Item	Unit	Total
* High Load Multi-Rotational Bearings, Disc, Fixed, 1250K	Each	12
Anchor Bolts, 1 1/2"	Each	72

* The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

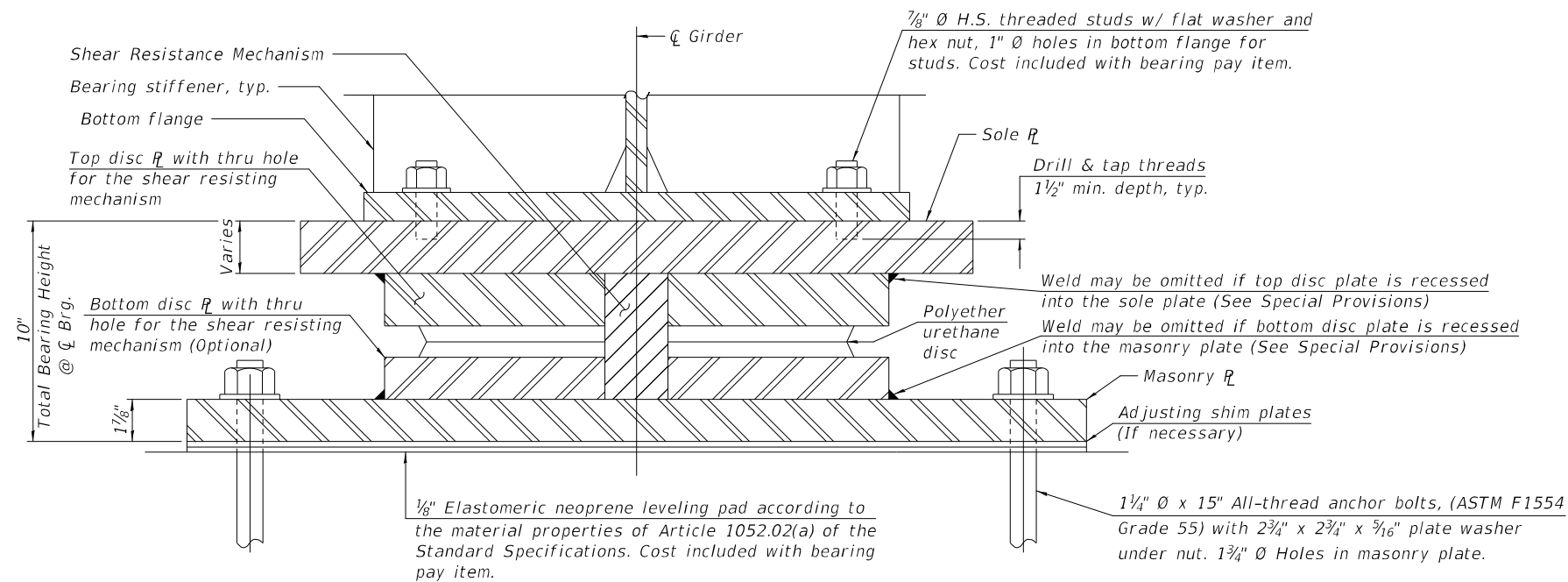
Notes:

- 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. Shim plates not included in total bearing height. Cost included with bearing pay item.
- Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pier or abutment concrete.
- All structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.
- If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be T_b plus the depth of the recess.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternative material) of the grade and diameter specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

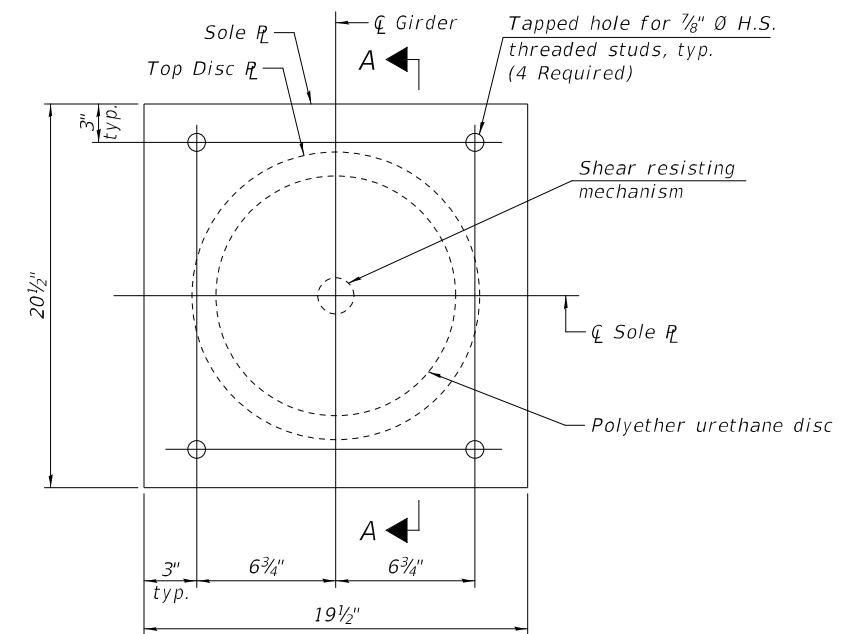
FILE NAME = 0090504-72K47-080-Fixed HLMR-Unit 2.dgn

USER NAME = JWhite	DESIGNED - MMO	REVISED -
PLOT SCALE = N/A	DRAWN - MMO	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	276
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



SECTION THRU BEARING
(Piers 8, 9, 13, and 14)

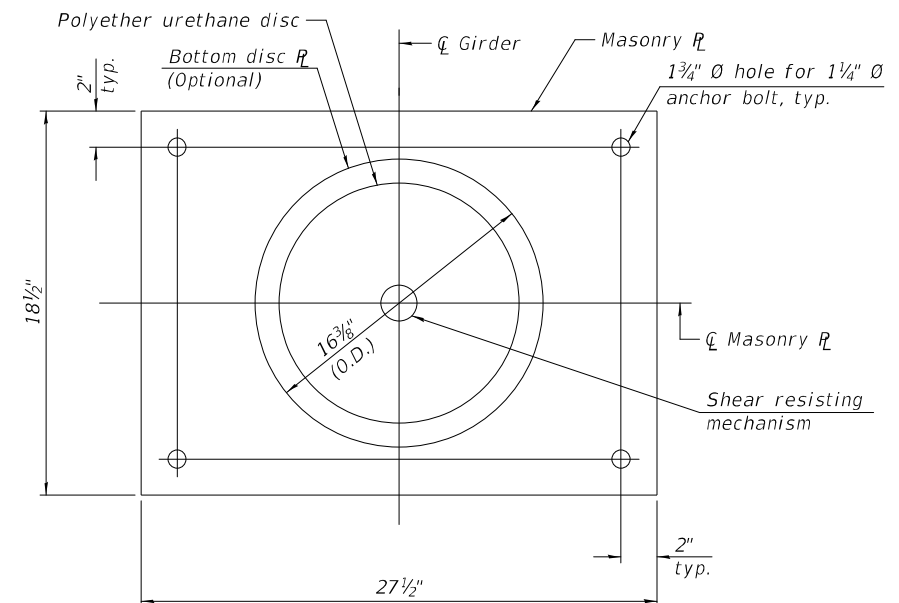


SOLE PLATE AND TOP DISC PLATE PLAN

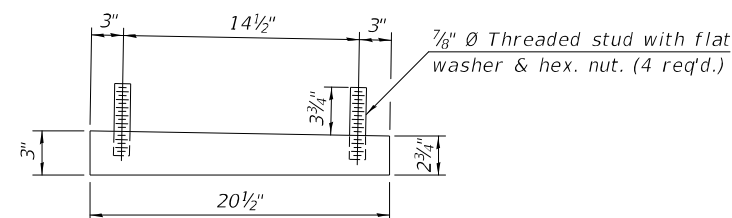
DESIGN DATA

Unfactored Vertical Dead Load Reaction (R_{DC})	319.2 kips
Unfactored Vertical Wearing Surface Reaction (R_{DW})	87.7 kips
Unfactored Vertical Live Load without Impact Reaction (R_{LL})	218.2 kips
Maximum Strength or Extreme Event Lateral Reaction (H_U)	85.1 kips
Maximum Strength Limit State Rotation (Θ_U according to Article 14.4.2.2)	0.010 rad
Service I Factored Lateral Reaction	30.5 kips
Service I Rotation	0.008 rad
Strength I Factored Longitudinal Movement	Fixed
Service I Factored Vertical Reaction	625.1 kips
Strength I Factored Vertical Reaction	912.4 kips

Service I Load Factors = 1.0DC + 1.0DW + 1.00LL
 Strength I Load Factors = 1.25DC + 1.5DW + 1.75LL + 1.2TU
 Extreme Event Load Factors = 1.0EQ



**MASONRY PLATE AND
BOTTOM DISC PLATE PLAN**



SECTION A-A

Notes:

- 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. Shim plates not included in total bearing height. Cost included with bearing pay item.
- Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pier or abutment concrete.
- All structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.
- If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be T_b plus the depth of the recess.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternative material) of the grade and diameter specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

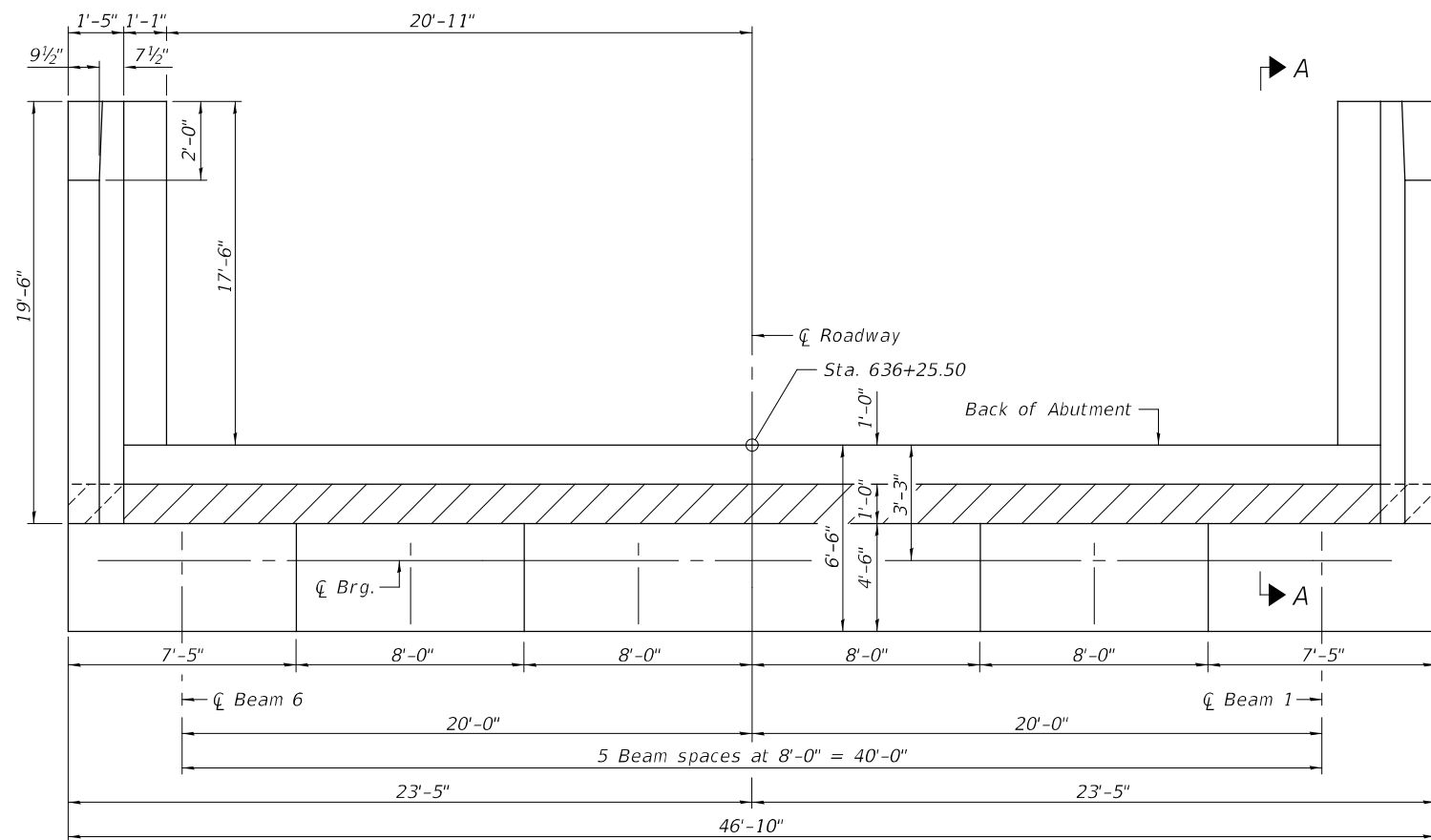
BILL OF MATERIAL

Item	Unit	Total
* High Load Multi-Rotational Bearings, Disc, Fixed, 700K	Each	24
Anchor Bolts, 1 1/4"	Each	96

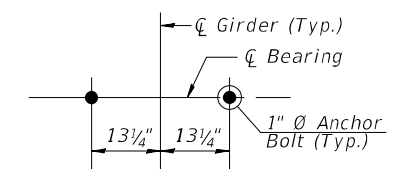
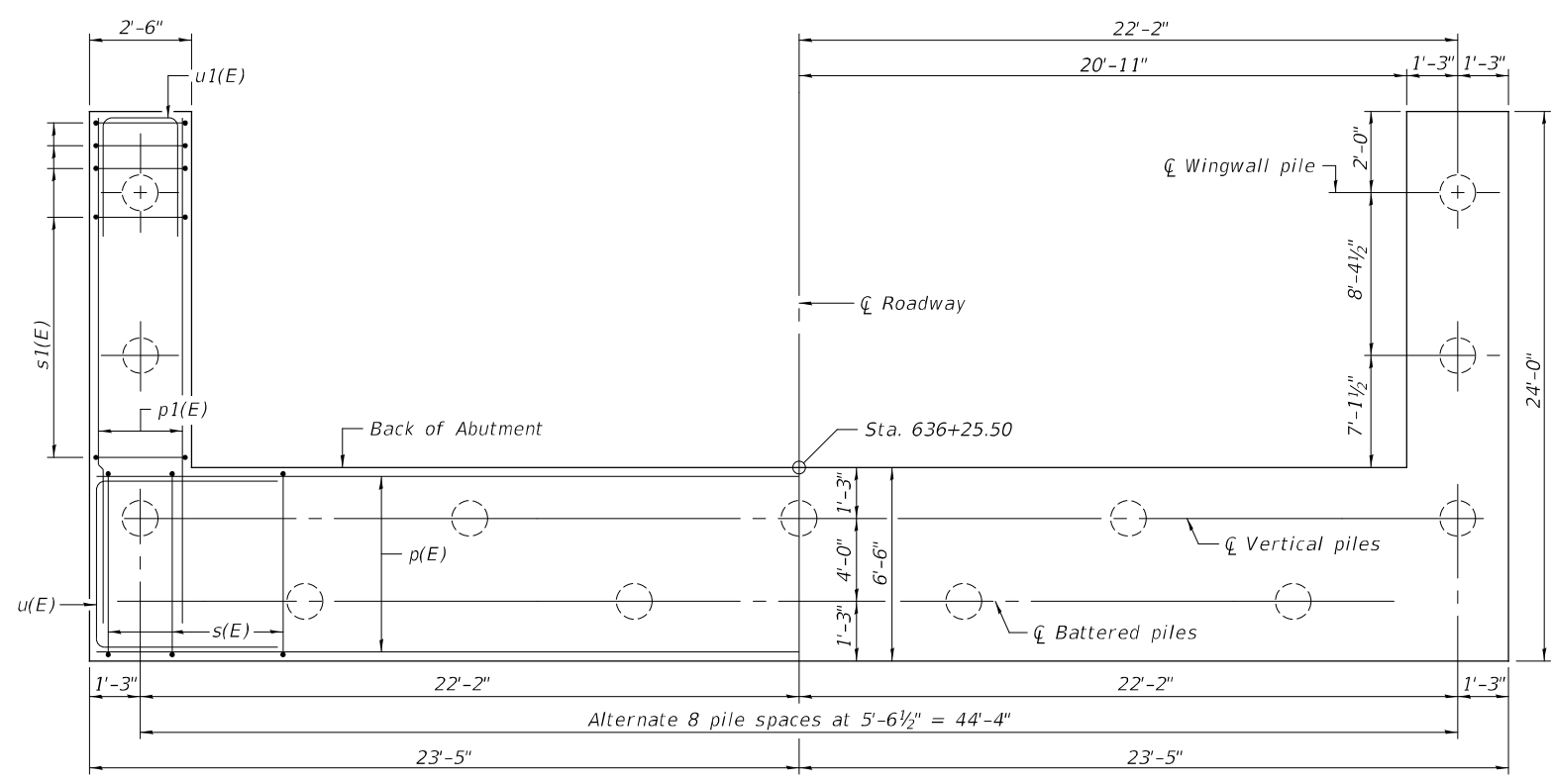
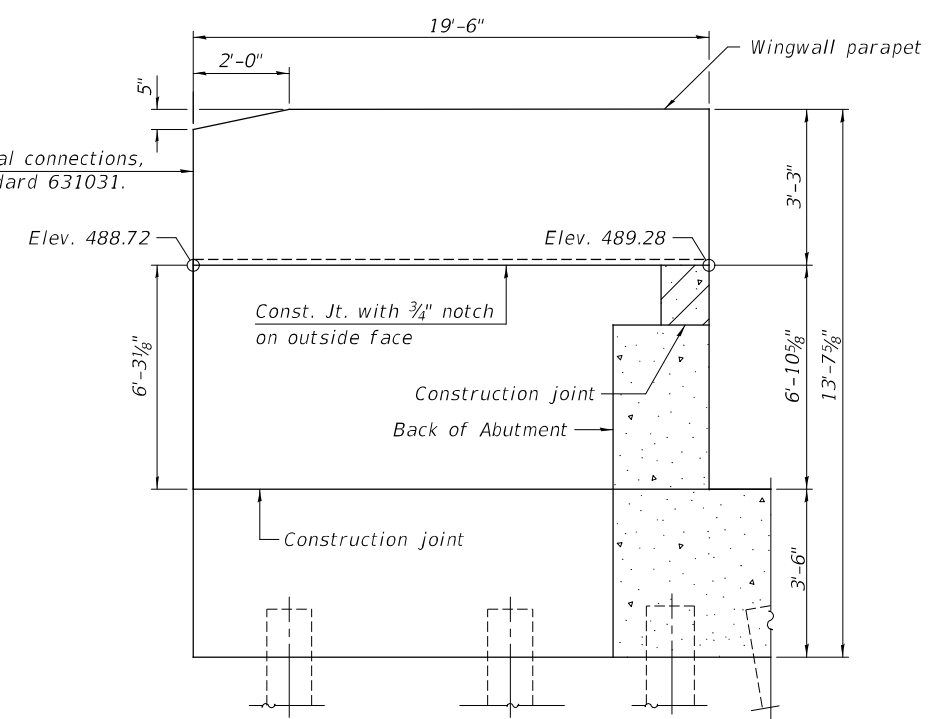
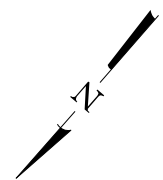
* The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

FILE NAME = 0090504-72K47-001-Fixed HLMR-Units 3 & 4.dgn

USER NAME = JWhite	DESIGNED - MMO	REVISED -
PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -



For Type 6 terminal connections, see Highway Standard 631031.



(Sheet 1 of 3)

FILE NAME = 0090504-72K47-082-South Abutment1.dgn

Since 1945
Hutchison Engineering, Inc.
JACKSONVILLE • PEORIA • SHREVEWOOD
CARRONDALE • MOLINE
Illinois Professional Design Firm No. 184-000825
2023 JOB# 4527

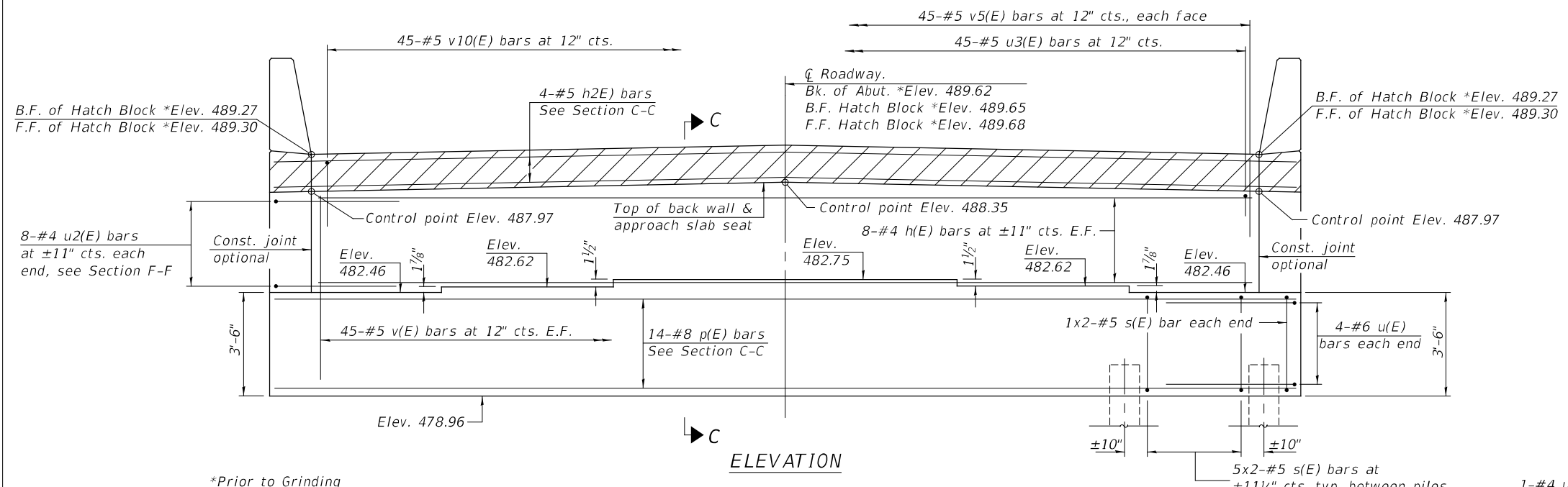
USER NAME = JWhite	DESIGNED - JPS	REVISED -
PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT - I
SN 009-0504

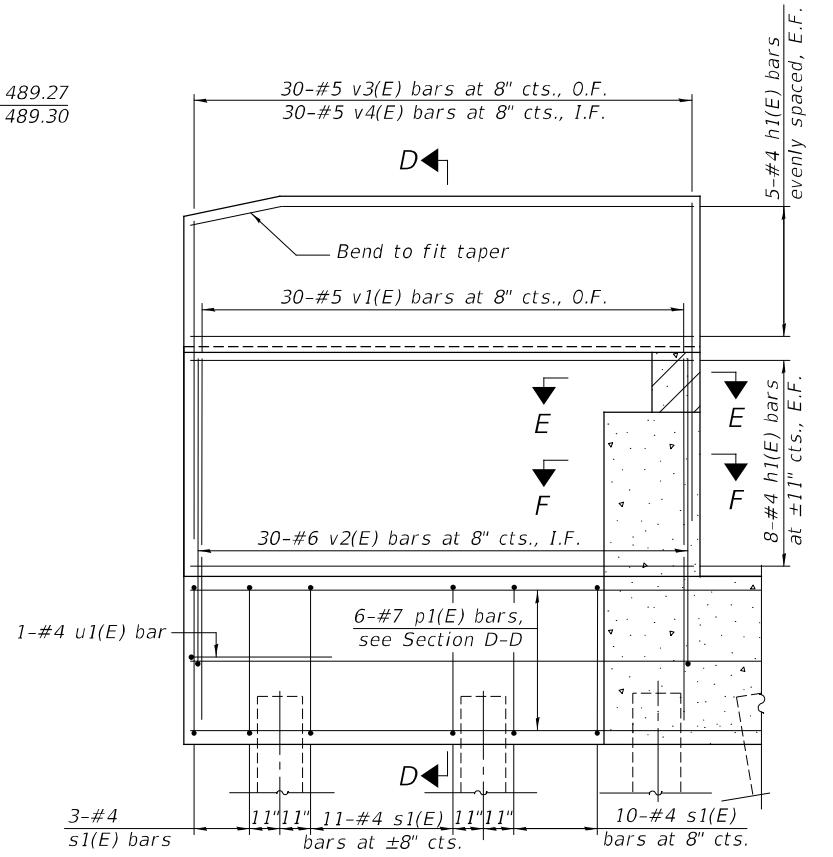
SCALE: SHEET 82 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	278
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

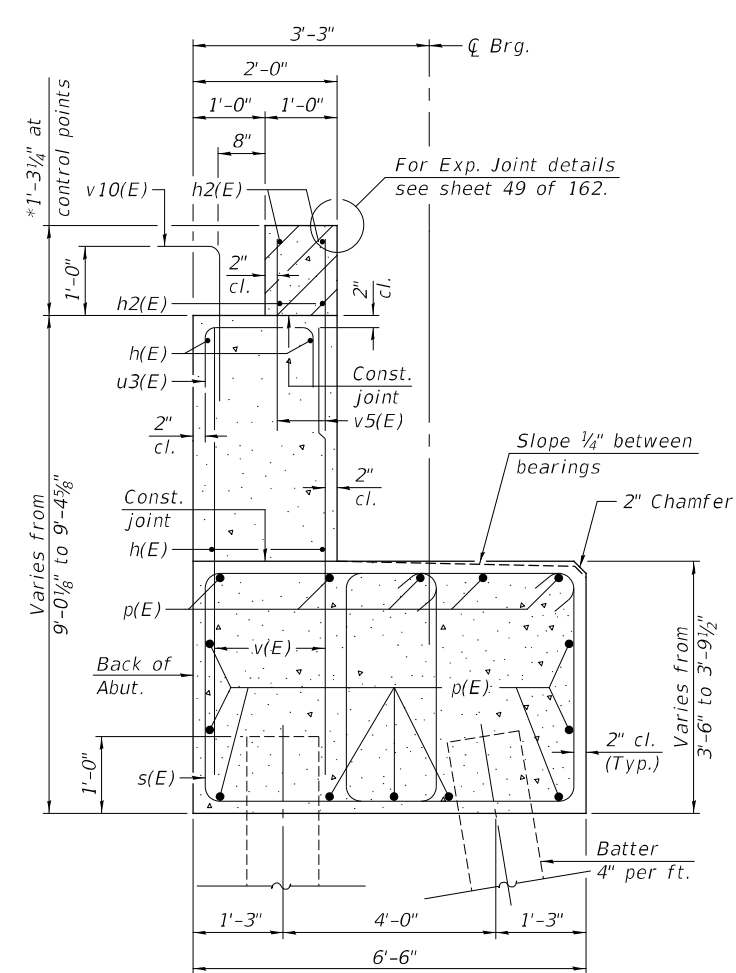


*Prior to Grinding

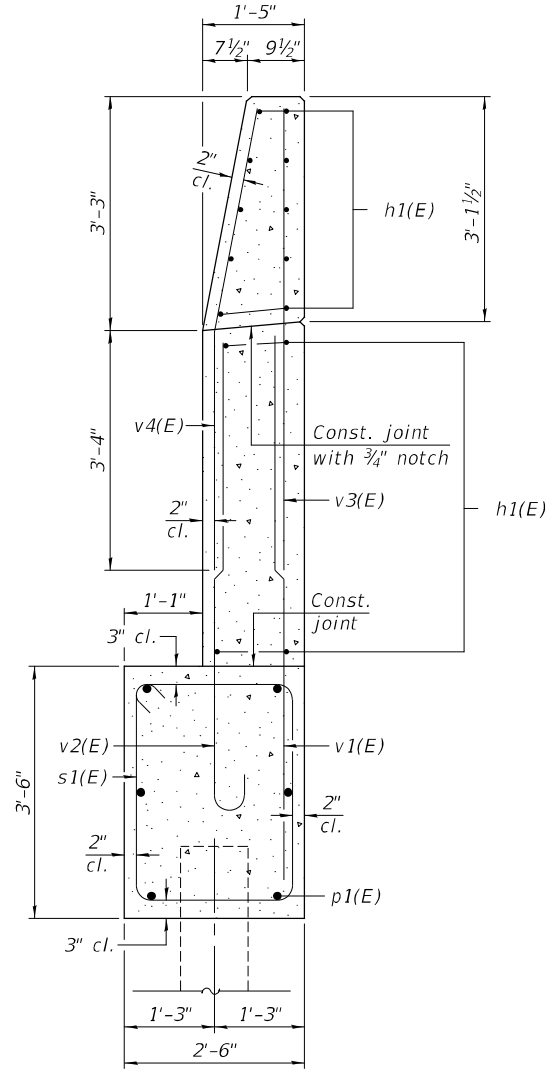
ELEVATION



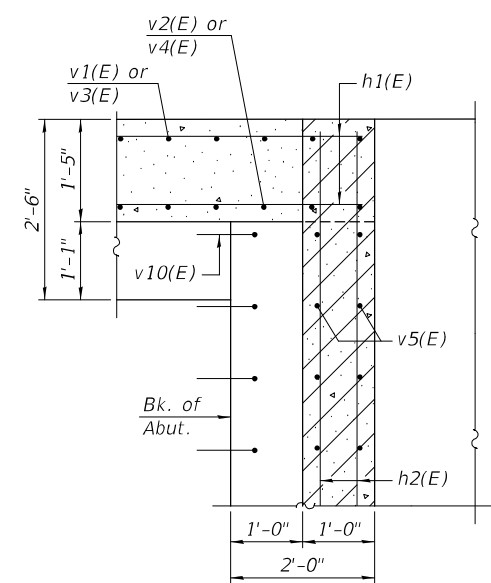
SECTION A-A
(Showing reinforcement)
(Opposite wing similar)



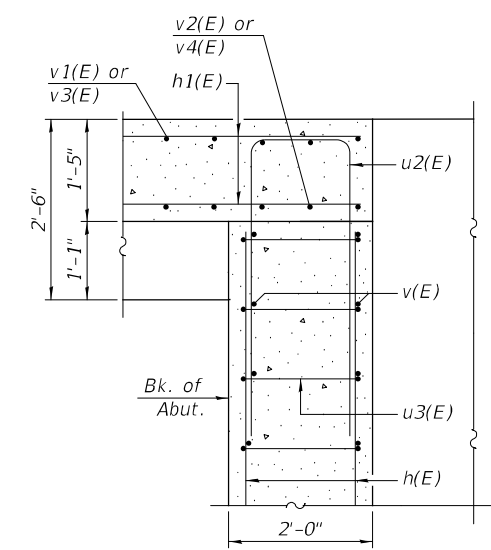
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

FILE NAME = 0090504-72K47-083-South Abutment.rvt

(Sheet 2 of 3)

Since 1945
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JACKSONVILLE • PEORIA • SHOREWOOD
CARBONDALE • MOLINE
Illinois Professional Design Firm No. 184-000825

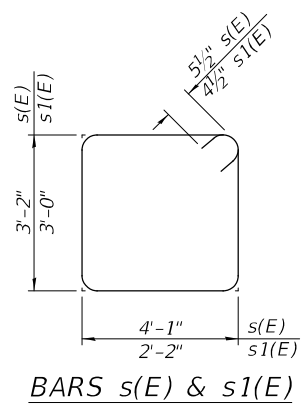
USER NAME = JWhite	DESIGNED - JPS	REVISED -
PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

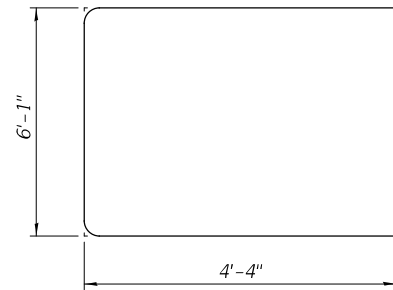
**SOUTH ABUTMENT - II
SN 009-0504**

SCALE: SHEET 83 OF 162 SHEETS STA. TO STA.

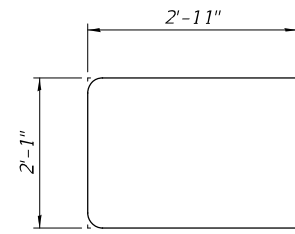
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	279
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



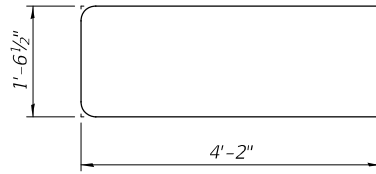
BARS s(E) & s1(E)



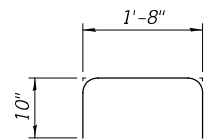
BAR u(E)



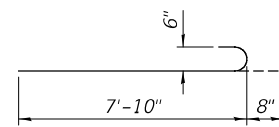
BAR u1(E)



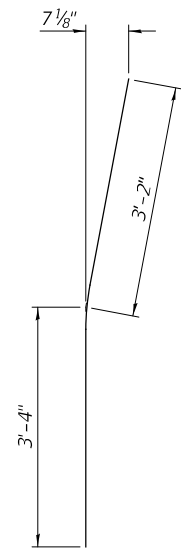
BAR u2(E)



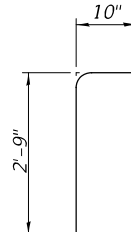
BAR u3(E)



BAR v2(E)



BAR v4(E)



BAR v10(E)

**SOUTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	16	#4	43'-8"	—
h1(E)	52	#4	19'-2"	—
h2(E)	4	#5	46'-6"	—
p(E)	14	#8	46'-6"	—
p1(E)	12	#7	23'-8"	—
s(E)	84	#5	15'-5"	□
s1(E)	48	#4	11'-1"	□
u(E)	8	#6	14'-9"	U
u1(E)	2	#4	7'-11"	C
u2(E)	16	#4	9'-11"	U
u3(E)	45	#5	3'-4"	n
v(E)	90	#5	8'-8"	—
v1(E)	60	#5	9'-9"	—
v2(E)	60	#6	8'-6"	—
v3(E)	60	#5	6'-4"	—
v4(E)	60	#5	6'-6"	—
v5(E)	90	#5	3'-0"	—
v10(E)	45	#5	3'-7"	—
Structure Excavation			Cu. Yd.	290
Concrete Structures			Cu. Yd.	91.8
Reinforcement Bars, Epoxy Coated			Pound	9,250
Furnishing Metal Shell Piles, 12" x 0.250"			Foot	708
Driving Piles			Foot	708
Test Pile, Metal Shell			Each	1
Concrete Sealer			Sq. Ft.	536

PILE DATA

Type: Metal Shell 12" x 0.250" walls
 Nominal Required Bearing: 354 kips
 Factored Resistance Available: 195 kips
 Est. Length: 59'
 No. Production Piles: 12
 No. Test Piles: 1

Notes:

- Hatched area to be poured separately after superstructure falsework has been removed and after approach slab side formwork has been removed.
- Quantity of concrete in wingwall parapet and hatched area included with Concrete Superstructure on sheet 47 of 162.
- Space reinforcement in cap to miss anchor bolts.
- Pour steps monolithically with cap.
- For details of piles, see sheet 122 of 162.
- The top of back wall and approach slab seat shall have a constant slope determined from the control points shown.
- Concrete Sealer shall be applied to the bearing seats and front faces of the hatched block, back wall, and abutment cap.

(Sheet 3 of 3)

FILE NAME = 0090504-72K47-084-South Abutment-III.dgn

Hutchison Engineering, Inc.
 Since 1945
 JACKSONVILLE • PEORIA • SHOREWOOD
 CARBONDALE • MOLINE
 Illinois Professional Design Firm No. 184-000825
 2023 JOB# 4527

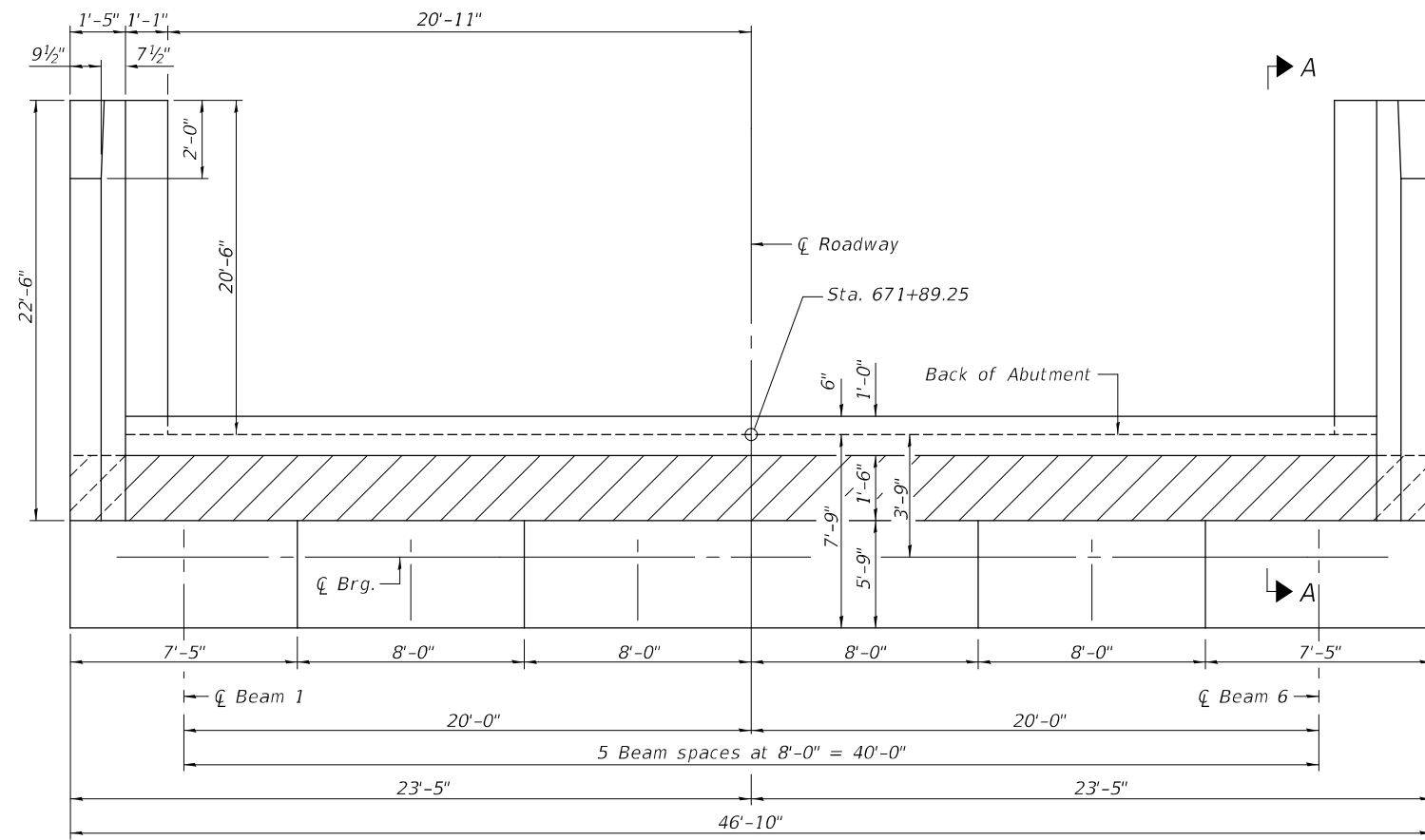
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PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

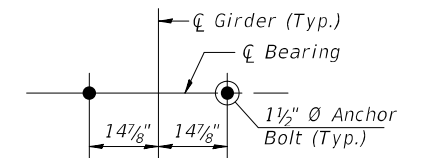
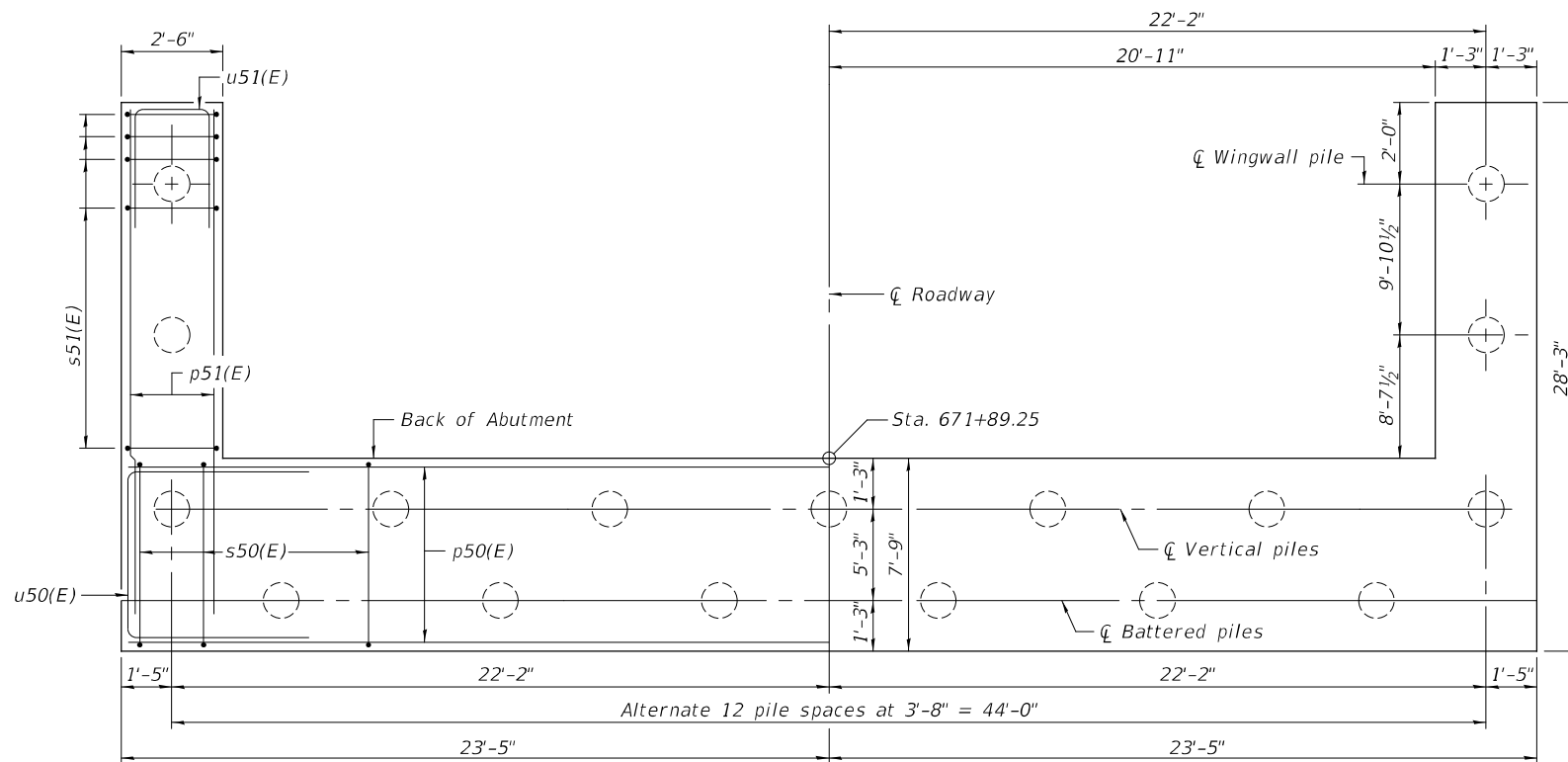
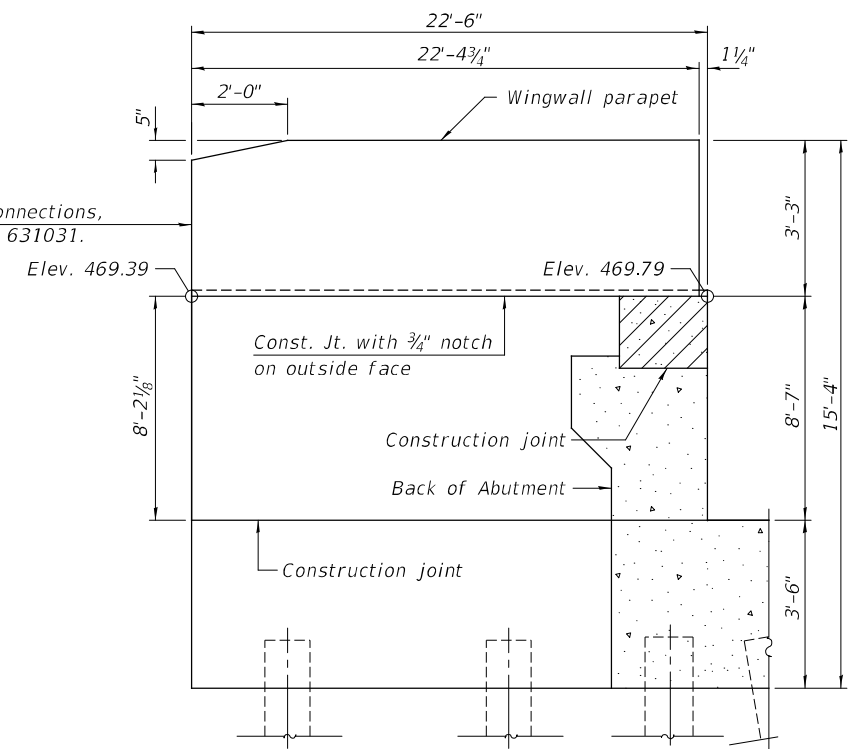
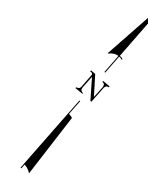
**SOUTH ABUTMENT - III
SN 009-0504**

SCALE: SHEET 84 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	280
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



For Type 6 terminal connections,
see Highway Standard 631031.



(Sheet 1 of 3)

FILE NAME = 0090504-72K47-085-North Abutment.dgn

Since 1945
Hutchison Engineering, Inc.
JACKSONVILLE • PEORIA • SHREVEWOOD
CARBONDALE • MOLINE
Illinois Professional Design Firm No. 184-000825
2023 JOB# 4527

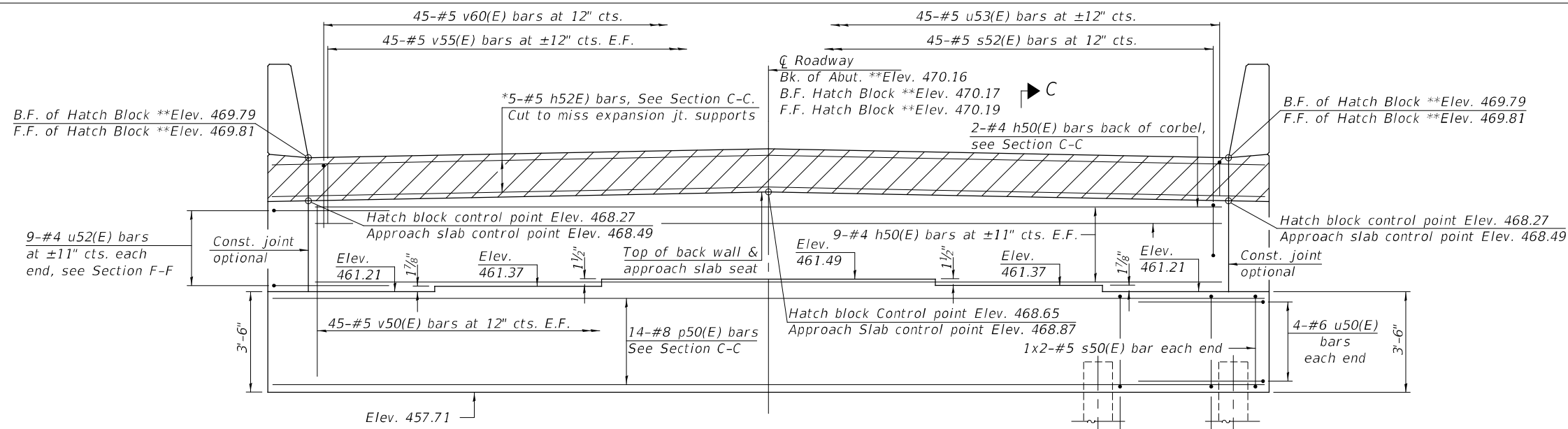
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	DATE - MAY 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

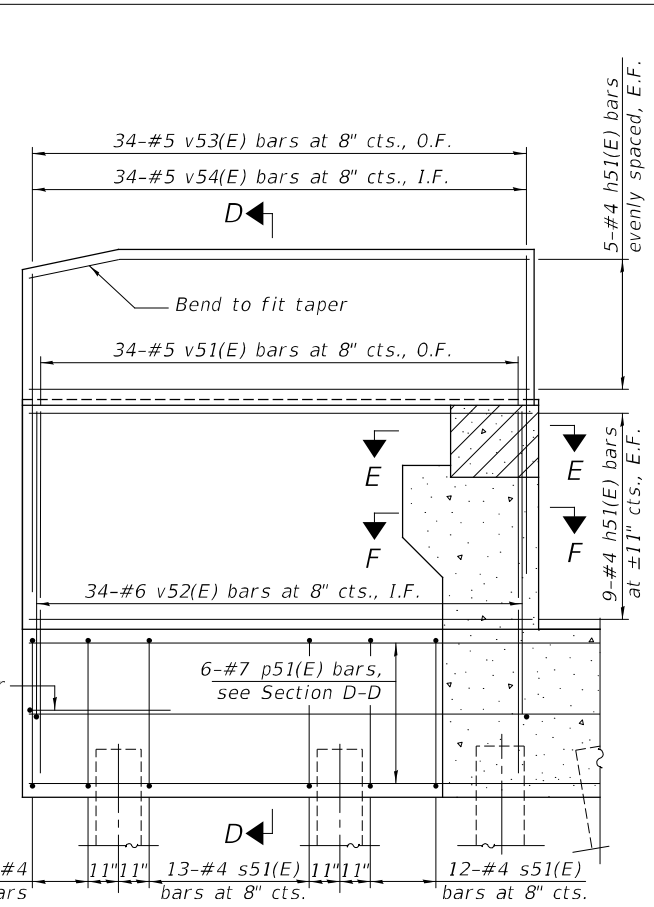
NORTH ABUTMENT - I
SN 009-0504

SCALE: SHEET 85 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	281
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



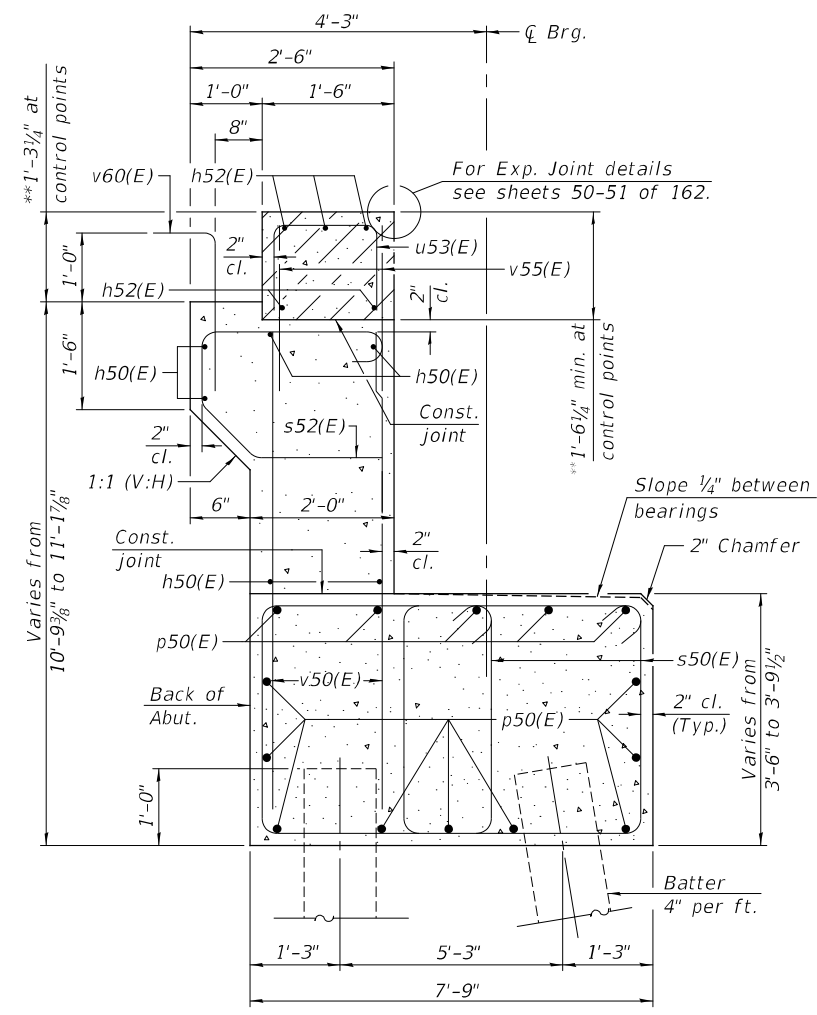
ELEVATION



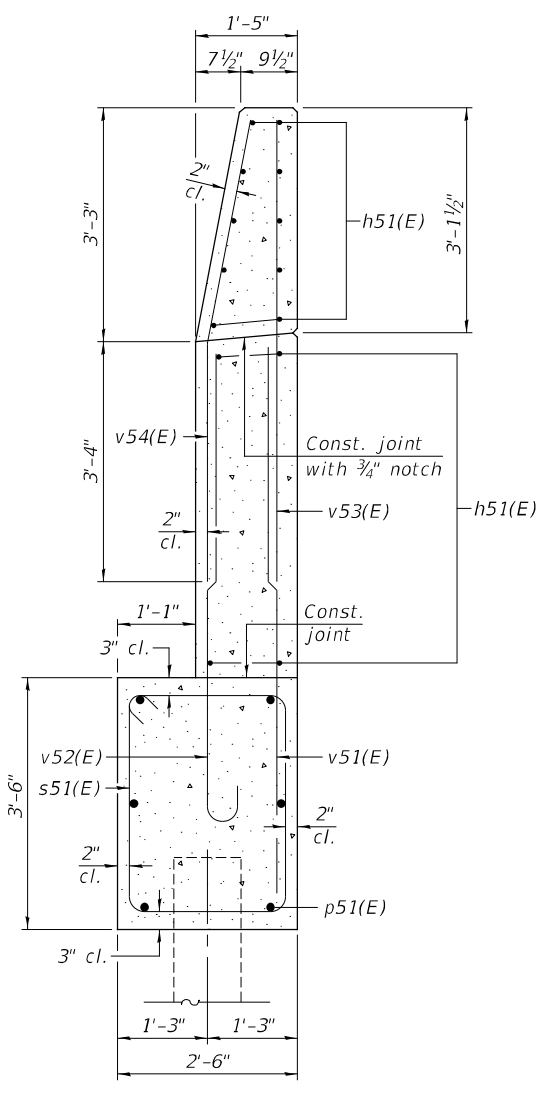
SECTION A-A
(Showing reinforcement)
(Opposite wing similar)

* Spaced to miss expansion joint supports or members according to the approved shop drawings and as approved by the Engineer.

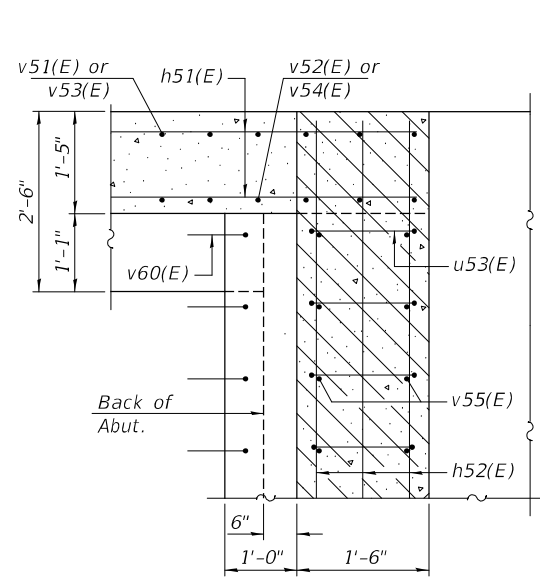
**Prior to grinding



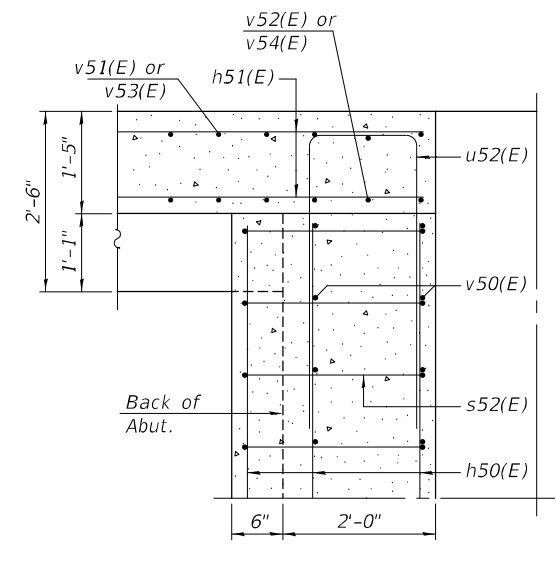
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

(Sheet 2 of 3)

FILE NAME = 0090504-72K47-086-North Abutment.dgn

Since 1945
Hutchison Engineering, Inc.
JACKSONVILLE • PEORIA • SHOREWOOD
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Illinois Professional Design Firm No. 184-000825

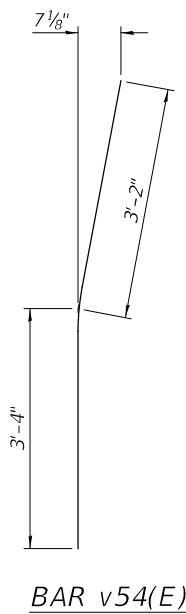
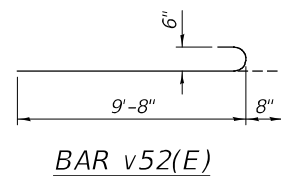
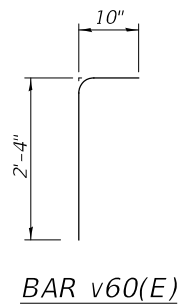
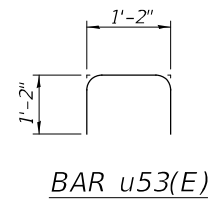
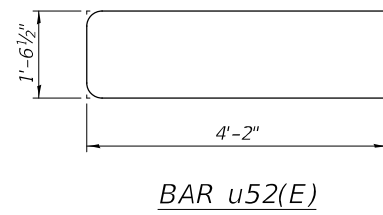
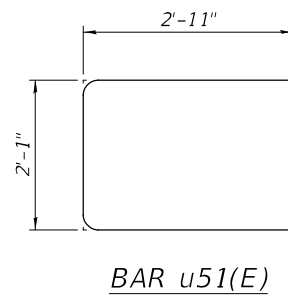
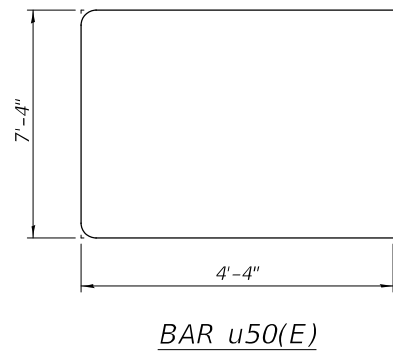
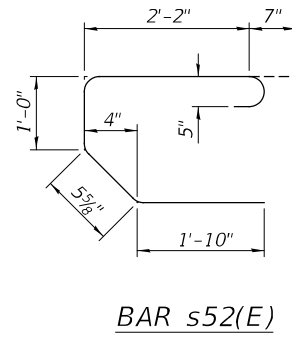
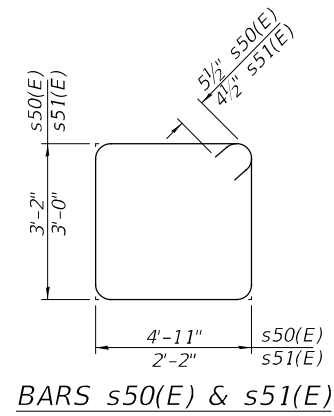
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PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT - II
SN 009-0504

SCALE: SHEET 86 OF 162 SHEETS STA. TO STA.

F.A.P. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87C)R	CASS/SCHUYLER	455	282
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72K47	



**NORTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h50(E)	18	#4	43'-8"	—
h51(E)	56	#4	22'-2"	—
h52(E)	5	#5	46'-6"	—
p50(E)	14	#8	46'-6"	—
p51(E)	12	#7	27'-11"	—
s50(E)	76	#5	17'-1"	□
s51(E)	56	#4	11'-1"	□
s52(E)	45	#5	6'-1"	⌋
u50(E)	8	#6	16'-0"	⌋
u51(E)	2	#4	7'-11"	⌋
u52(E)	18	#4	9'-11"	⌋
u53(E)	45	#5	3'-6"	⌋
v50(E)	90	#5	10'-3"	—
v51(E)	68	#5	11'-4"	—
v52(E)	68	#6	10'-4"	—
v53(E)	68	#5	6'-4"	—
v54(E)	68	#5	6'-6"	—
v55(E)	90	#5	3'-3"	—
v60(E)	45	#5	3'-2"	—
Structure Excavation			Cu. Yd.	360
Concrete Structures			Cu. Yd.	118.3
Reinforcement Bars, Epoxy Coated			Pound	10,760
Furnishing Metal Shell Piles, 12" x 0.250"			Foot	1,264
Driving Piles			Foot	1,264
Test Pile Metal Shell			Each	1
Pile Shoes			Each	17
Concrete Sealer			Sq. Ft.	687

PILE DATA

*Type: Metal Shell 12" x 0.250" walls w/ pile shoes
 Nominal Required Bearing: 387 kip
 Factored Resistance Available: 213 kip
 Est. Length: 79'
 No. Production Piles: 16
 No. Test Piles: 1
 Precore Length: 48'

*Piles shall be driven through 24" diameter precored holes extending to elevation 410.0 according to Article 512.09(c) of the Standard Specifications

Notes:

- Hatched area to be poured separately after superstructure falsework has been removed and after approach slab side formwork has been removed.
- Quantity of concrete in wingwall parapet and hatched area included with Concrete Superstructure on sheet 47 of 162.
- Space reinforcement in cap to miss anchor bolts.
- Pour steps monolithically with cap.
- For details of piles, see sheet 123 of 162.
- The top of back wall and approach slab seat shall have a constant slope determined from the control points shown.
- Concrete Sealer shall be applied to the bearing seats and front faces of the hatched block, back wall, and abutment cap.

(Sheet 3 of 3)

FILE NAME = 0090504-72K47-087-North Abutment-III.dgn

Since 1945
Hutchison Engineering, Inc.
 JACKSONVILLE • PEORIA • SHOREWOOD
 CARBONDALE • MOLINE
 Illinois Professional Design Firm No. 184-000825

USER NAME = JWWhite	DESIGNED - JPS	REVISED -
PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
JOB# 4527	DATE - MAY 2023	REVISED -

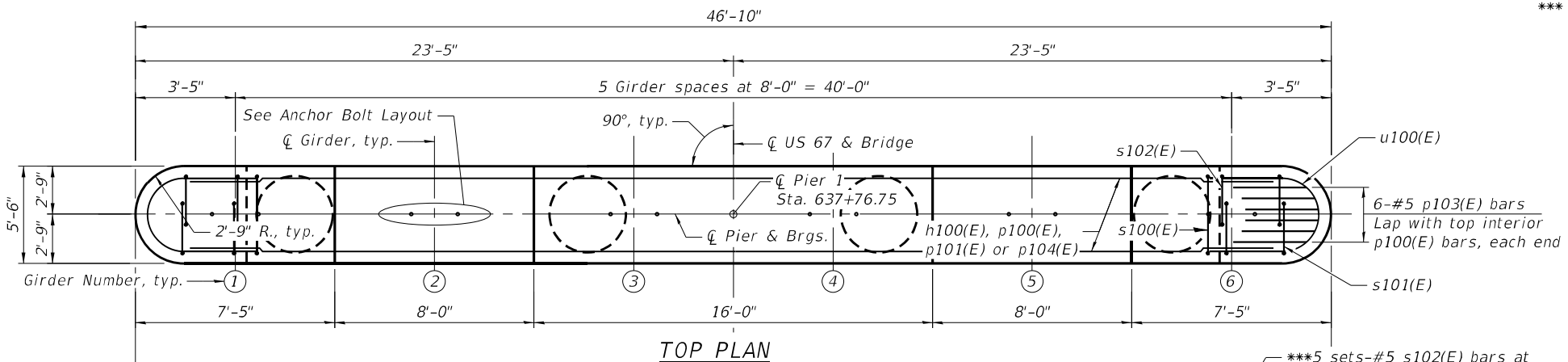
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT - III
SN 009-0504**

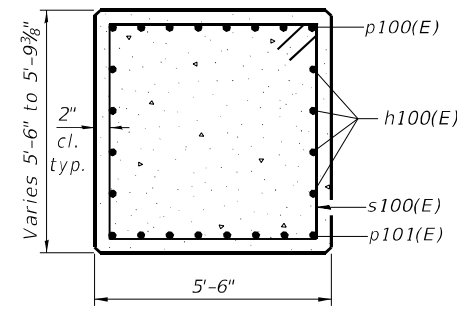
SCALE: SHEET 87 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	283
ILLINOIS FED. AID PROJECT			CONTRACT NO.	72K47

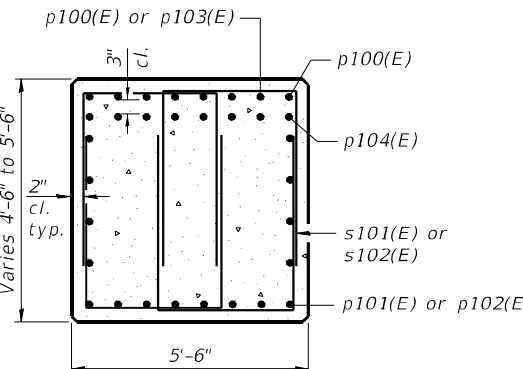
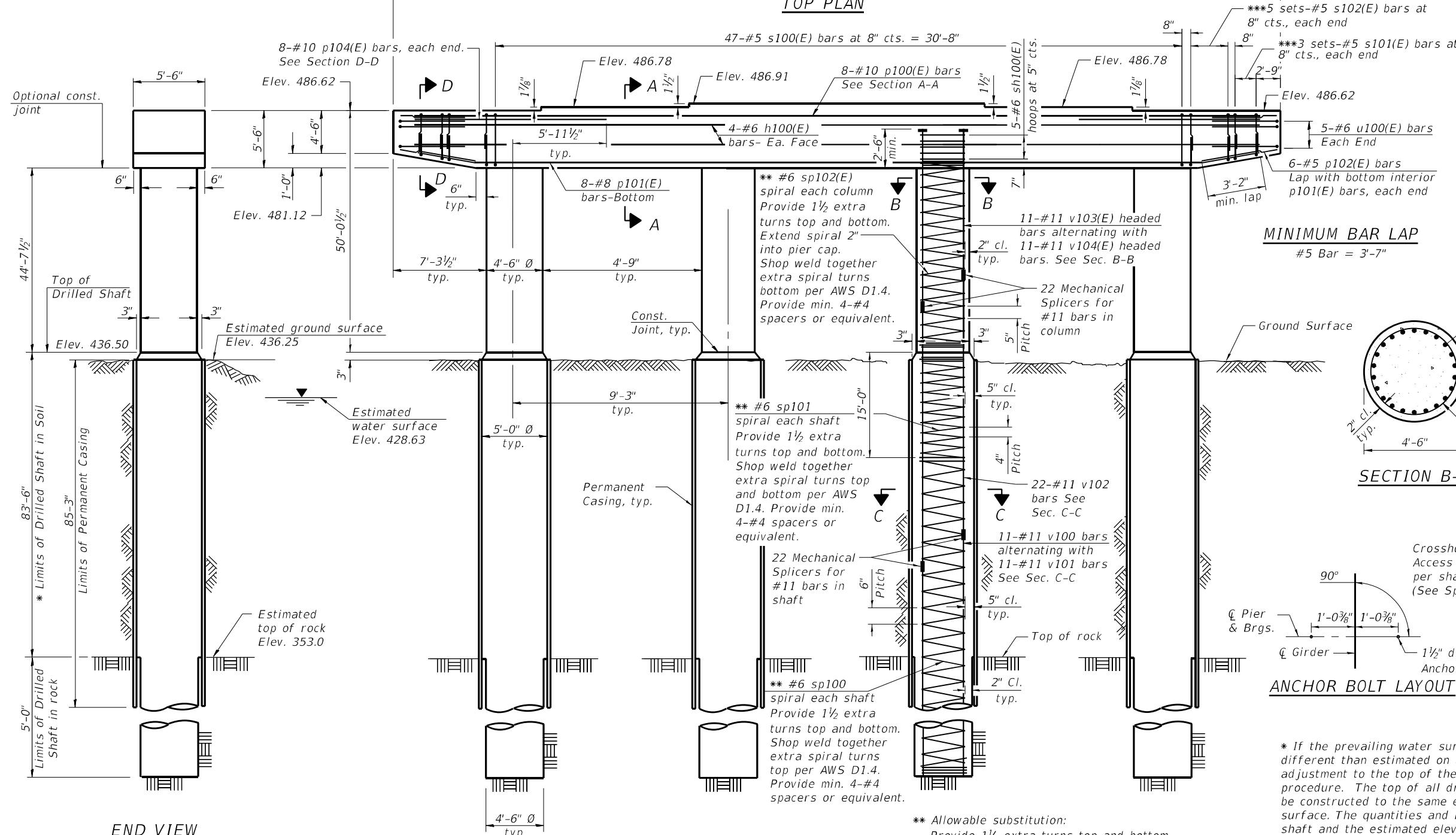
Note:
1. For additional notes, additional details,
and Bill of Materials see Sheet 89 of 162.



*** Each set of s101(E) and s102(E) bars has
4 bars total (2 top and 2 bottom). See section D-D.

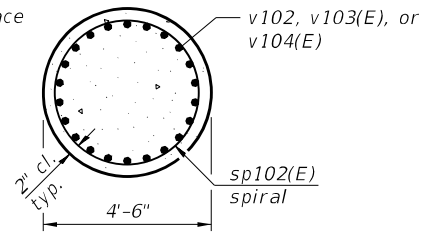


SECTION A-A

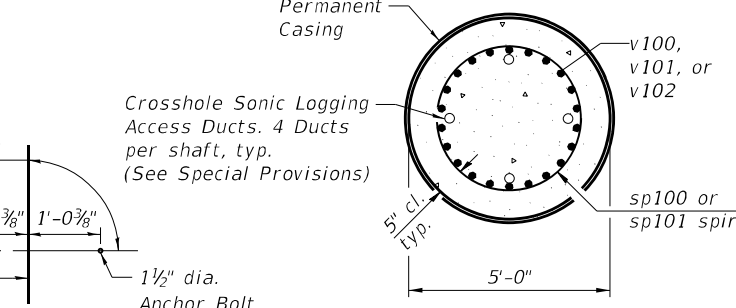


SECTION D-D

MINIMUM BAR LAP
#5 Bar = 3'-7"



SECTION B-B



SECTION C-C

ANCHOR BOLT LAYOUT

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

** Allowable substitution:
Provide 1 1/2 extra turns top and bottom
with 135° standard hook into core at ends
of spiral

S:\2018\181020 PH-2 Beardstown IDOT D6 CMT PTB 188-2\181020\Structures\CADD Sheets\0090504-72K47-005-Pier 1.dgn



USER NAME = z davidson	DESIGNED - KFO	REVISED -
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PLOT DATE = 5/22/2023 9:41:02 AM	DATE - May 2023	REVISED -

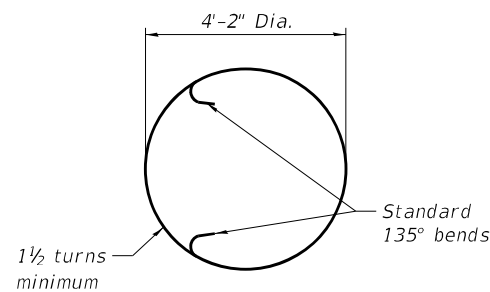
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 - PLAN AND ELEVATION
SN 009-0504

SCALE: SHEET 88 OF 162 SHEETS STA. TO STA.

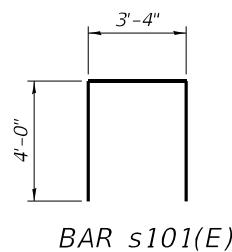
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CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

FILE NAME = S:\2018\181020 PH-2 Beardslow DOT D6 CMT PTB 188-2\1\CADD\Structures\CADD Sheets\0090504-72K47-006-Pier 1 Details.dgn

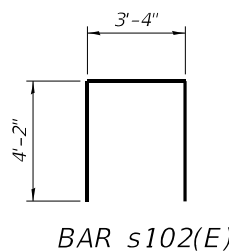


BAR sh100(E)
(Seismic Hoop)

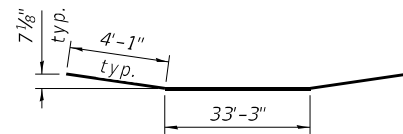
Mechanically spliced or shop welded (per AWS D1.4) seismic hoop alternates will be allowed at no additional cost to the Department.



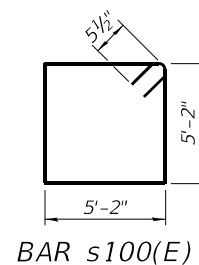
BAR s101(E)



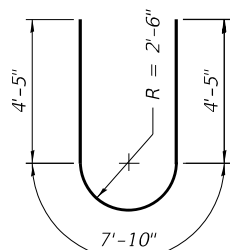
BAR s102(E)



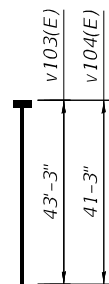
BAR p101(E)



BAR s100(E)



BAR u100(E)



BARS v103(E) & v104(E)
(Headed)

BILL OF MATERIAL - PIER 1

Bar	No.	Size	Length	Shape
h100(E)	6	#6	41'-4"	—
p100(E)	8	#10	41'-4"	—
p101(E)	8	#8	41'-5"	—
p102(E)	12	#5	5'-9"	—
p103(E)	12	#5	6'-2"	—
p104(E)	8	#10	12'-9"	—
s100(E)	47	#5	21'-7"	□
s101(E)	24	#5	11'-4"	U
s102(E)	40	#5	11'-8"	U
sh100(E)	20	#6	21'-0"	○
**sp100	4	#6	73'-6"	~
**sp101	4	#6	15'-0"	~
**sp102(E)	4	#6	44'-9"	~
u100(E)	10	#6	16'-8"	U
v100	44	#11	44'-3"	—
v101	44	#11	46'-3"	—
v102	88	#11	48'-3"	—
v103(E)	44	#11	43'-3"	—
v104(E)	44	#11	41'-3"	—
Concrete Structures	Cu. Yd.		156.4	
Reinforcement Bars	Pound		59,300	
Reinforcement Bars, Epoxy Coated	Pound		34,420	
Mechanical Splicers	Each		176	
Permanent Casing	Foot		341	
Drilled Shaft in Soil	Cu. Yd.		242.9	
Drilled Shaft in Rock	Cu. Yd.		11.8	
Crosshole Sonic Logging Access Ducts	Foot		1,416	
Crosshole Sonic Logging Testing	Each		4	

**Length is height of spiral.

Notes:

1. Cast steps monolithically with cap.
2. Space cap reinforcement to miss anchor bolts.
3. 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.
4. The Permanent Casing is shown embedded 2 ft. into rock for estimate of quantities. The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.
5. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° hook.
6. For Mechanical Splicer Details, see sheet 123 of 162.



QUIGG ENGINEERING INC

USER NAME = z davidson	DESIGNED - KFO	REVISED -
0090504-72K47-006-Pier 1 Details.dgn	DRAWN - JDC	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

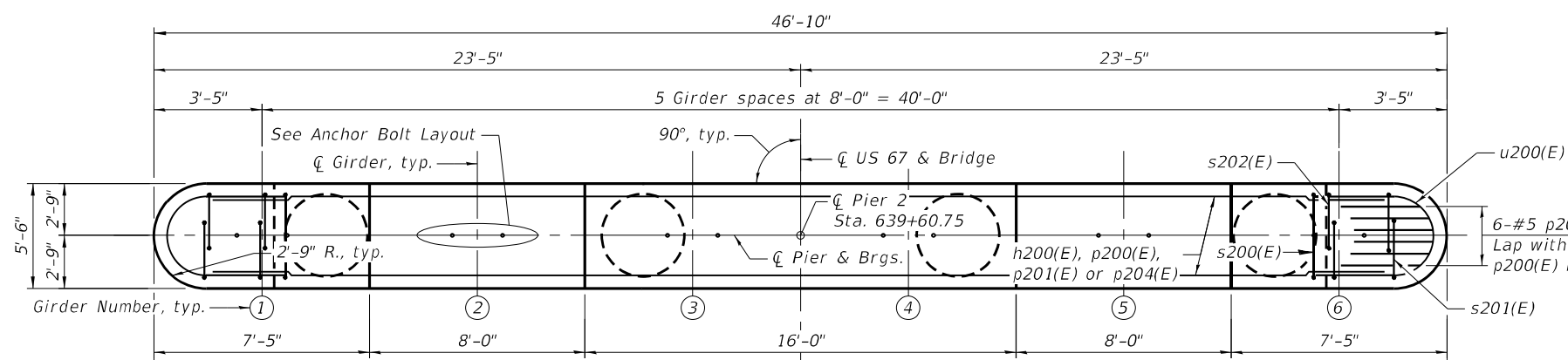
**PIER 1 - DETAILS
SN 009-0504**

SCALE: SHEET 89 OF 162 SHEETS STA. TO STA.

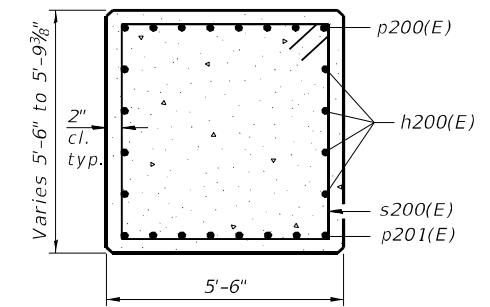
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	285
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

*** Each set of s201(E) and s202(E) bars has 4 bars total (2 top and 2 bottom). See Section D-D.

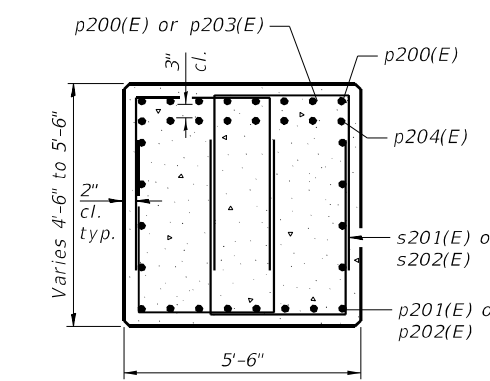
Note:
1. For additional notes, additional details, and Bill of Material see Sheet 91 of 162.



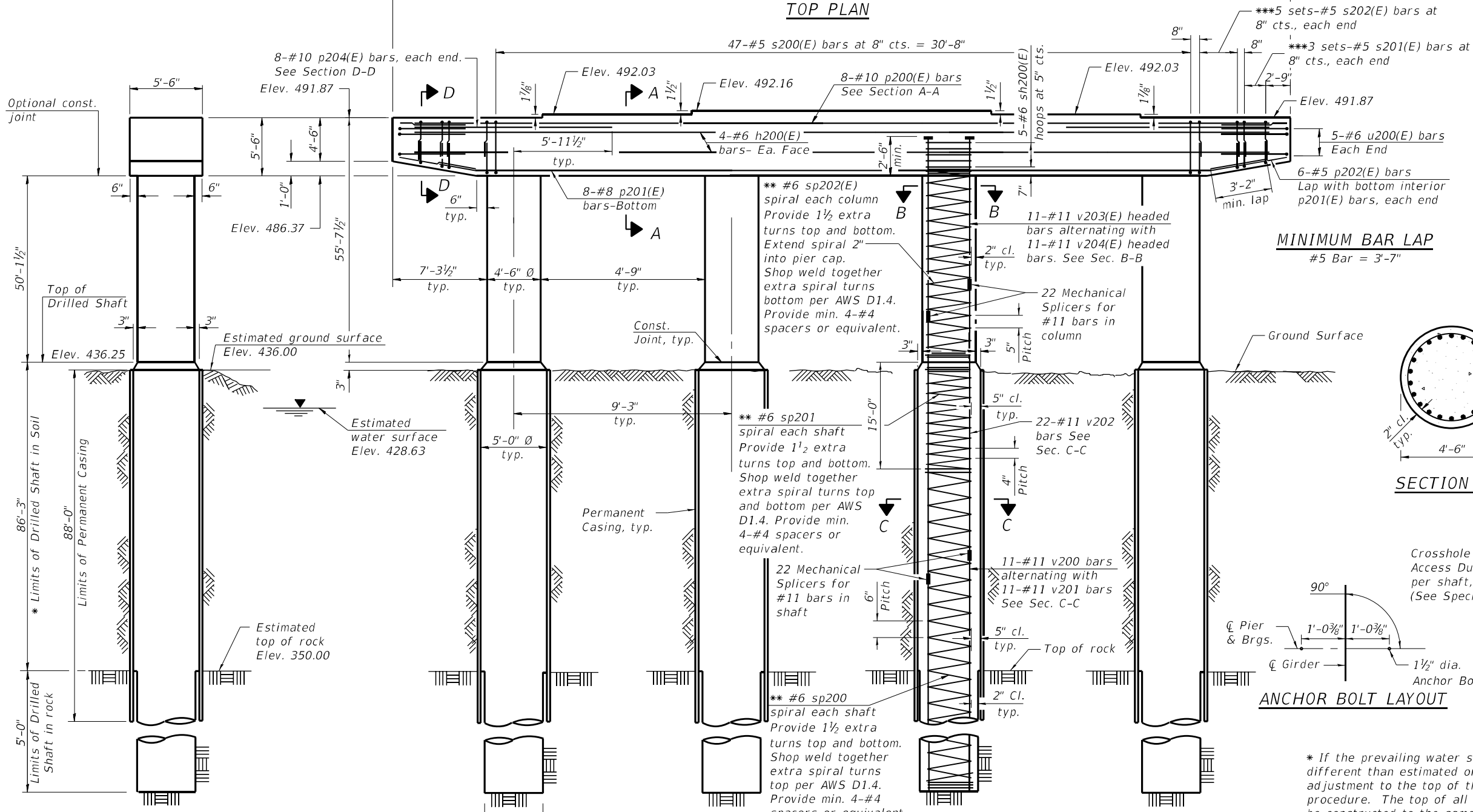
TOP PLAN



SECTION A-A



SECTION D-D



ELEVATION
(Looking North)

ANCHOR BOLT LAYOUT

SECTION B-B

SECTION C-C

END VIEW

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

** Allowable substitution:
Provide 1 1/2 extra turns top and bottom with 135° standard hook into core at ends of spiral

FILE NAME = S:\2018\181020 PH-2 Bearisdown IDOT D6 CMT PTB 188-2\181020\Structures\CADD Sheets\090504-72K47-007-Pier 2.dgn



USER NAME = zdavidsn	DESIGNED - KFO	REVISED -
0090504-72K47-007-Pier 2.dgn	DRAWN - JDC	REVISED -
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PLOT DATE = 5/22/2023 9:41:05 AM	DATE - May 2023	REVISED -

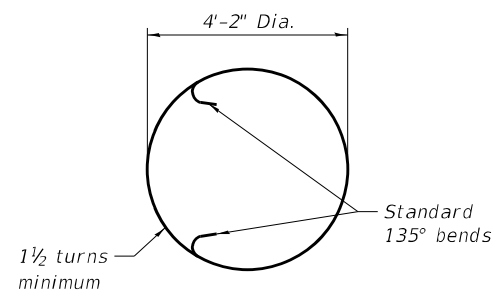
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 - PLAN AND ELEVATION
SN 009-0504

SCALE: SHEET 90 OF 162 SHEETS STA. TO STA.

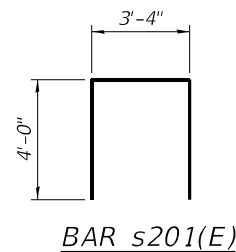
F.A.P. RTE. 310	SECTION (86B-1, 87CR)	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 286
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

FILE NAME = S:\2018\181020 PH-2 Beardstown IDOT D6 CMT PTB 188-2\1\CADD\Structures\CADD Sheets\0090504-72K47-008-Pier 2 Details.dgn

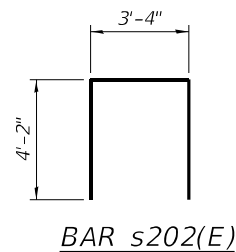


BAR sh200(E)
(Seismic Hoop)

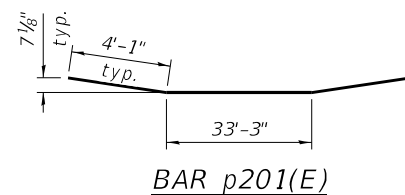
Mechanically spliced or shop welded (per AWS D1.4) seismic hoop alternates will be allowed at no additional cost to the Department.



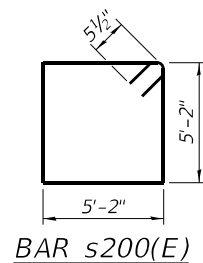
BAR s201(E)



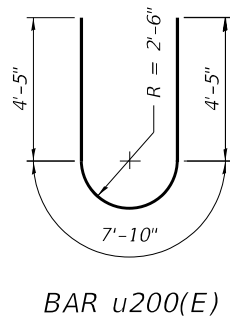
BAR s202(E)



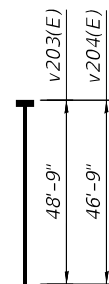
BAR p201(E)



BAR s200(E)



BAR u200(E)



BARS v203(E) & v204(E)
(Headed)

BILL OF MATERIAL - PIER 2

Bar	No.	Size	Length	Shape
h200(E)	6	#6	41'-4"	—
p200(E)	8	#10	41'-4"	—
p201(E)	8	#8	41'-5"	—
p202(E)	12	#5	5'-9"	—
p203(E)	12	#5	6'-2"	—
p204(E)	8	#10	12'-9"	—
s200(E)	47	#5	21'-7"	□
s201(E)	24	#5	11'-4"	U
s202(E)	40	#5	11'-8"	U
sh200(E)	20	#6	21'-0"	○
** sp200	4	#6	76'-3"	~
** sp201	4	#6	15'-0"	~
** sp202(E)	4	#6	50'-3"	~
u200(E)	10	#6	16'-8"	U
v200	44	#11	47'-0"	—
v201	44	#11	49'-0"	—
v202	88	#11	48'-3"	—
v203(E)	44	#11	48'-9"	—
v204(E)	44	#11	46'-9"	—
Concrete Structures		Cu. Yd.	169.3	
Reinforcement Bars		Pounds	61,020	
Reinforcement Bars, Epoxy Coated		Pound	38,030	
Mechanical Splicers		Each	176	
Permanent Casing		Foot	352	
Drilled Shaft in Soil		Cu. Yd.	250.9	
Drilled Shaft in Rock		Cu. Yd.	11.8	
Crosshole Sonic Logging Access Ducts		Foot	1,460	
Crosshole Sonic Logging Testing		Each	4	

** Length is height of spiral.

Notes:

1. Cast steps monolithically with cap.
2. Space cap reinforcement to miss anchor bolts.
3. 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.
4. The Permanent Casing is shown embedded 2 ft. into rock for estimate of quantities. The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.
5. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° hook.
6. For Mechanical Splicer Details, see sheet 123 of 162.



USER NAME =	z davidson	DESIGNED -	KFO	REVISED -	
	0090504-72K47-008-Pier 2 Details.dgn	DRAWN -	JDC	REVISED -	
PLOT SCALE =	N/A	CHECKED -	MDC	REVISED -	
PLOT DATE =	5/22/2023 9:41:06 AM	DATE -	May 2023	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 2 - DETAILS
SN 009-0504**

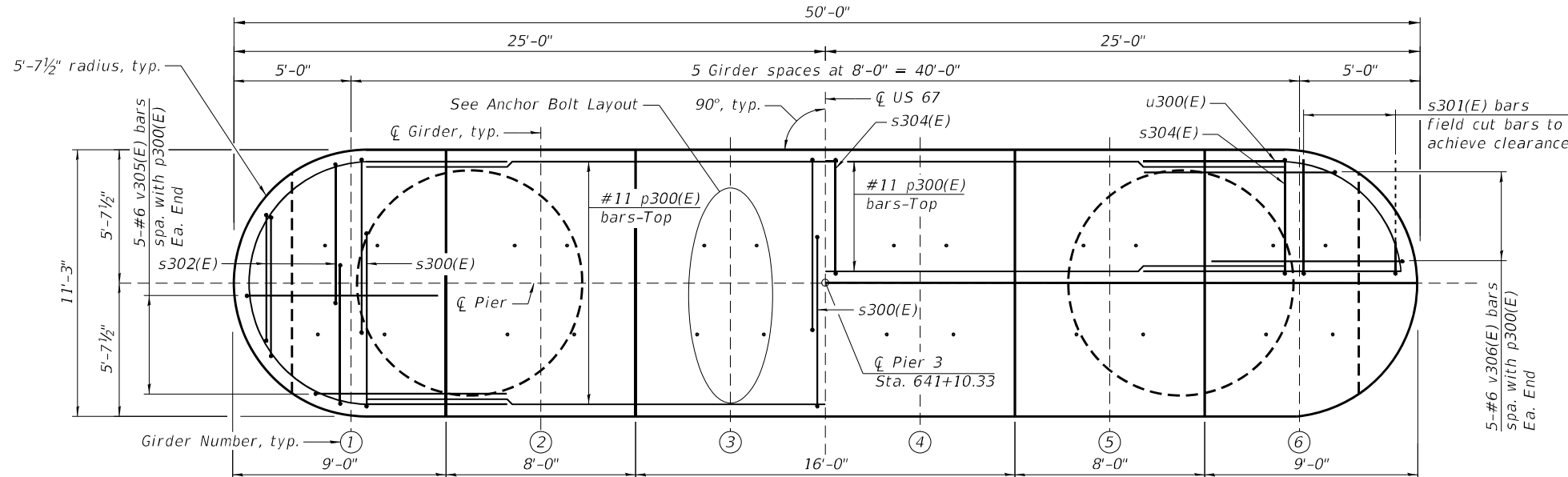
SCALE: SHEET 91 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	287
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



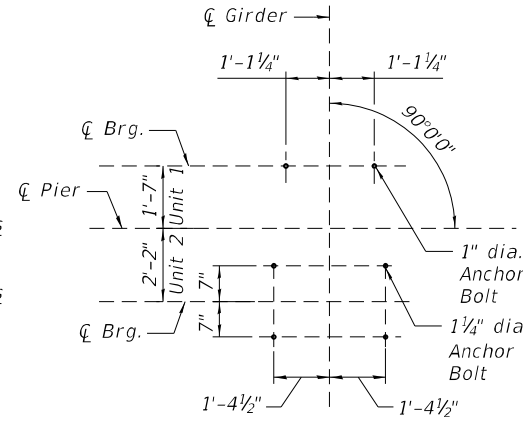
VESSEL COLLISION FORCE
(Extreme Event 2 load combination)

	Case 1	Case 2
Load (k)	618	309
Elevation	461.3	461.3
Direction	Centerline of pier	Centerline of US 67



- * Each set of s300(E) and s302(E) bars has 4 bars total (2 top and 2 bottom). See Section B-B and C-C.
- ** Dimension shows diameter of Drilled Shaft in Soil.
- *** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.
- **** A full penetration weld is required for splicing Permanent Casing sections.
- ***** Field trim ends of p303(E) bars to achieve 2" clearance at ends of cap.

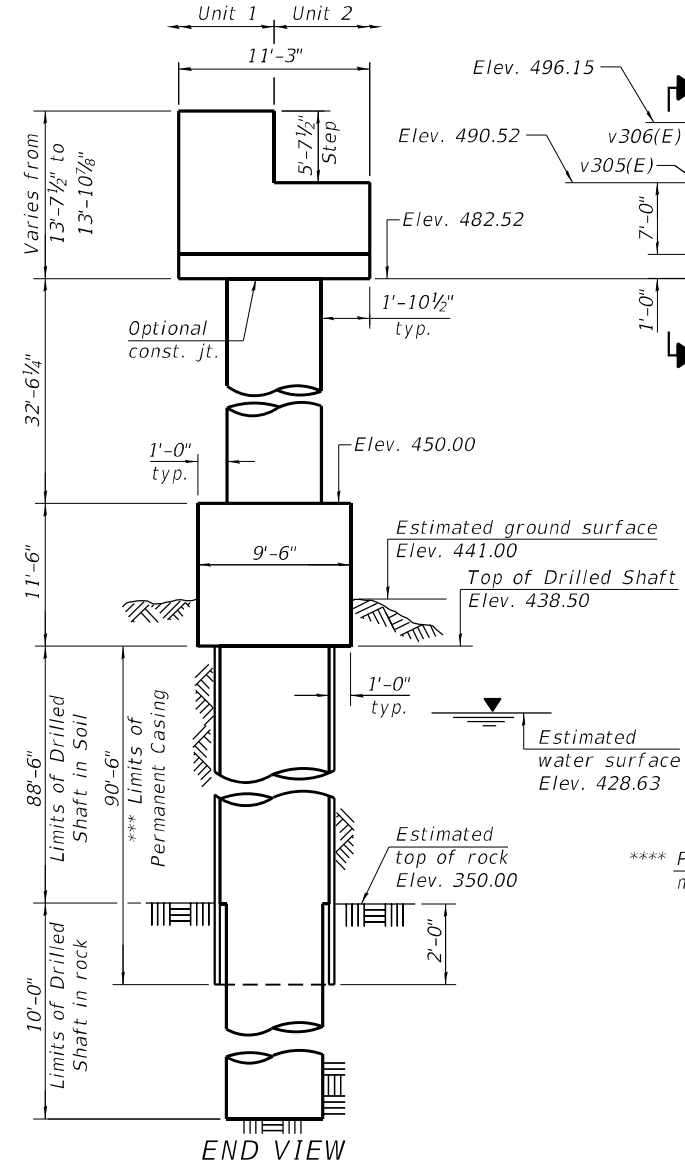
* 6 sets-#6 s302(E) bars at 8" cts., Ea. End
 (Showing reinforcement below step) **TOP PLAN** (Showing reinforcement in step)
 58-#6 s304(E) bars at 8" cts. = 38'-0"
 * 65 sets-#6 s300(E) bars at 8" cts. = 42'-8"
 9-#6 s301(E) bars at 8" cts., Ea. End



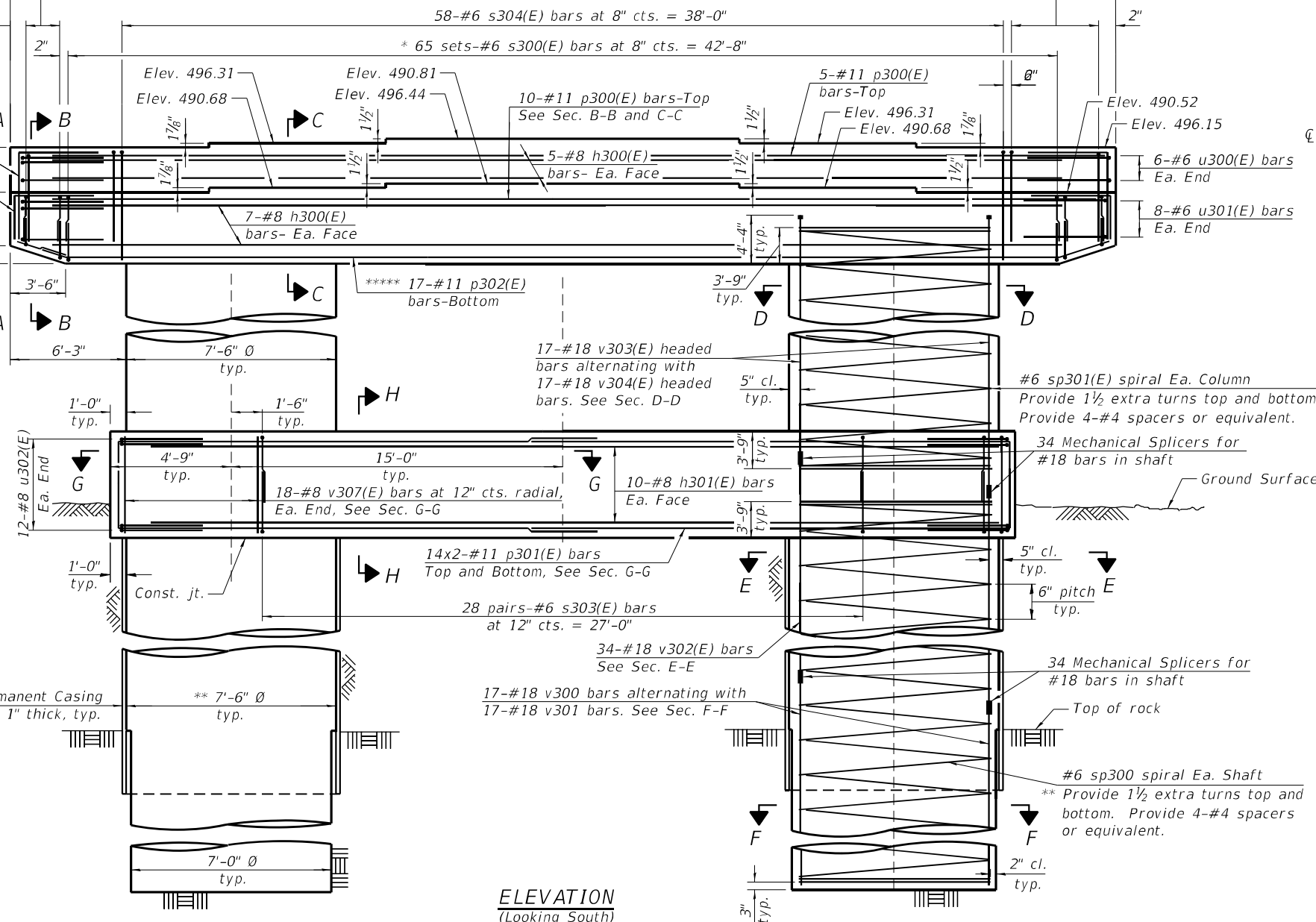
ANCHOR BOLT LAYOUT

MINIMUM BAR LAP

- #6 Bar = 4'-4"
- #8 Bar = 5'-9"
- #11 Bar = 10'-6"



END VIEW



ELEVATION
(Looking South)

- Notes:
- For additional notes, additional details, and Bill of Material see Sheet 93 and 94 of 162.
 - Concrete Sealer shall be applied to the bearing seats and each face of the pier cap.
 - Minimum Permanent Casing f_y is 36,000 psi.
 - When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook

FILE NAME = L:\DOT1180601\Draw\Structures\CADD_Sheets\0090504-72K47-092-Pier 3 Plan and Elevation.dgn



USER NAME = Ben Holland	DESIGNED - AS	REVISED -
PLOT SCALE = N/A	DRAWN - RH/MAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:42 PM)	CHECKED - AS	REVISED -
	DATE - May 2023	REVISED -

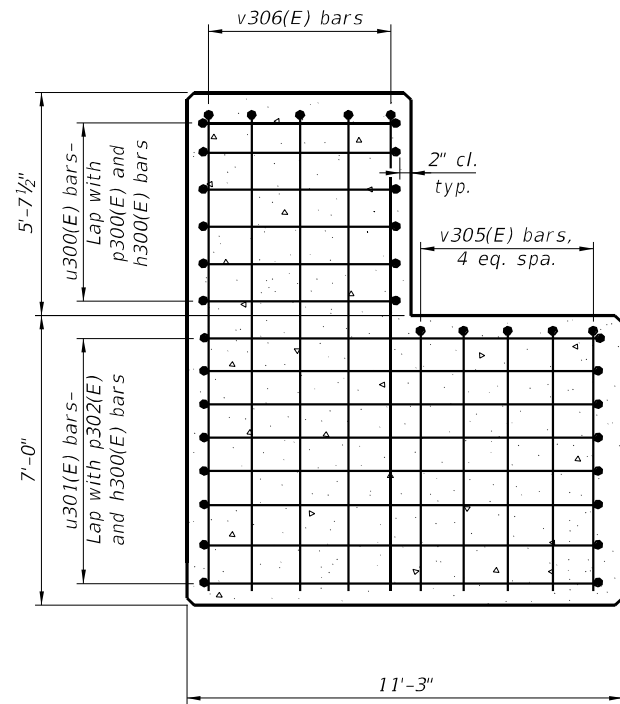
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 3 - PLAN AND ELEVATION
SN 009-0504

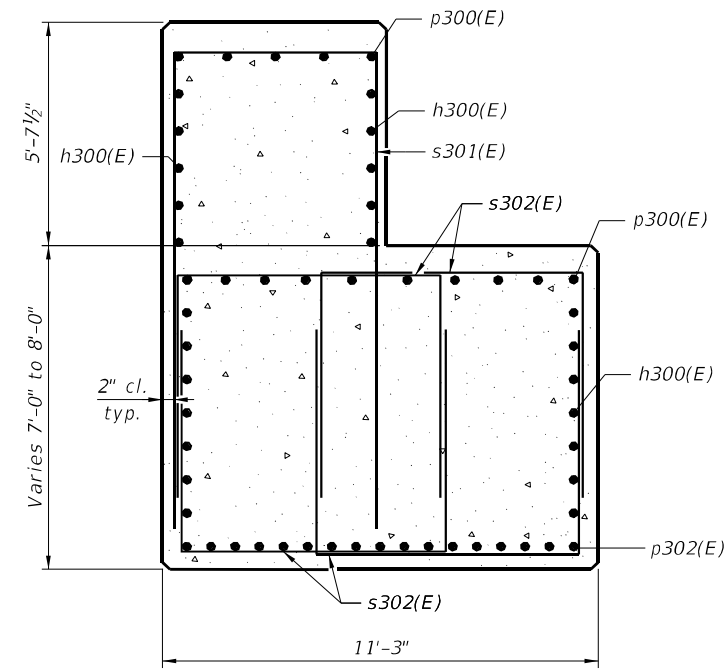
SCALE: SHEET 92 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	288
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

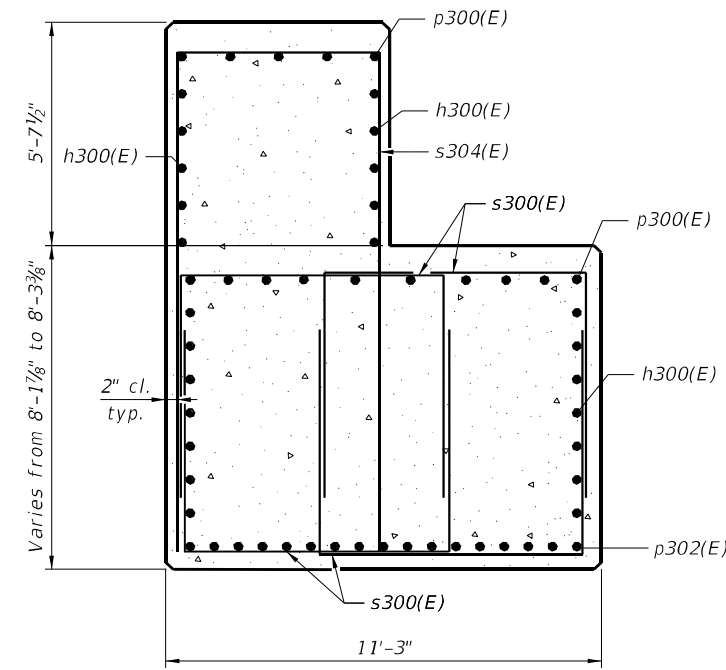
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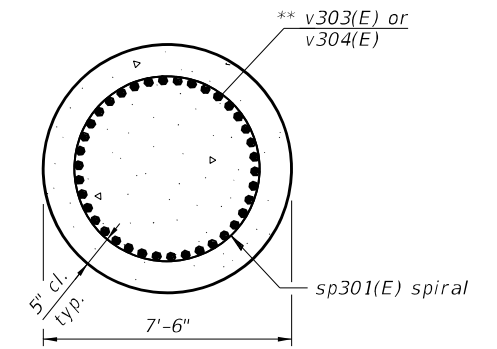
SECTION A-A



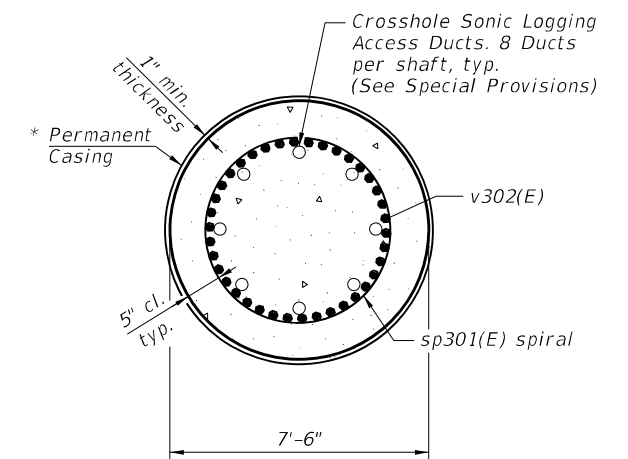
SECTION B-B



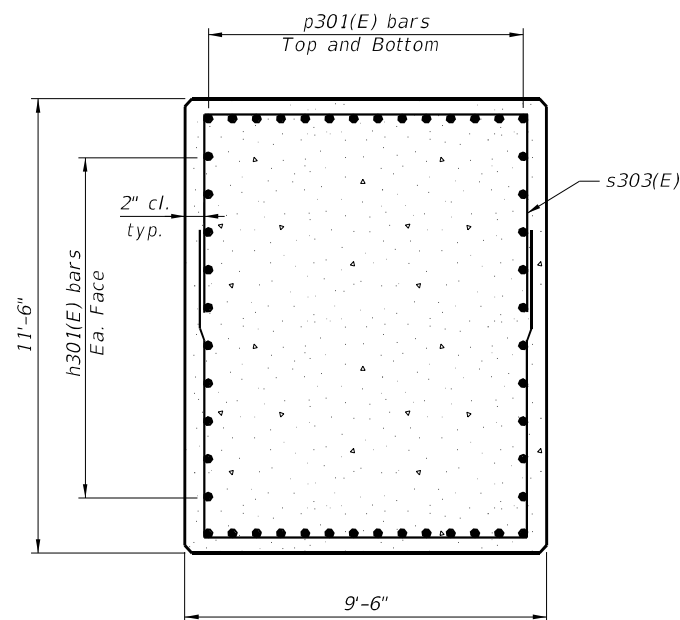
SECTION C-C



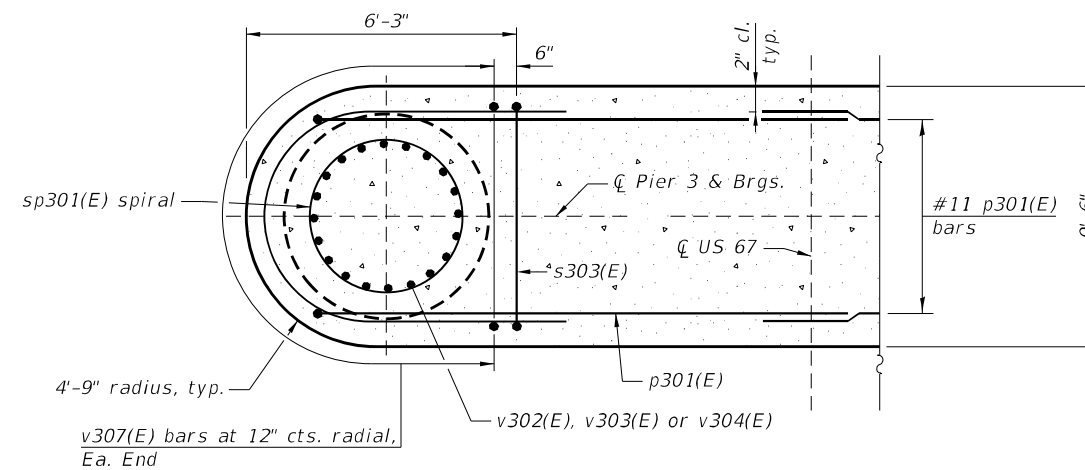
SECTION D-D



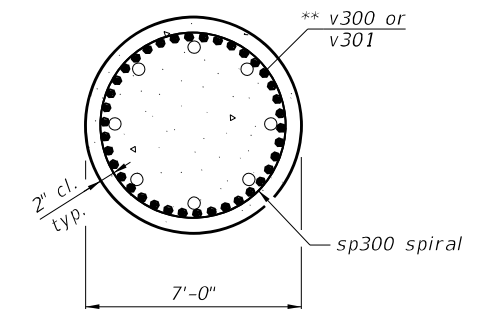
SECTION E-E



SECTION H-H



SECTION G-G
(Transfer beam symmetrical about ϕ US 67)



SECTION F-F

* A full penetration weld is required for splicing Permanent Casing sections.
 ** v300, v302(E) and v304(E) shall be spliced together. v301, v302(E) and v303(E) shall be spliced together. These sets of bars will then alternate in the column and shaft.



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USER NAME = Ben Holland	DESIGNED - AS	REVISED -
PLOT SCALE = N/A	DRAWN - RH/MAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:43 PM)	CHECKED - AS	REVISED -
	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 3 - DETAILS - I
SN 009-0504

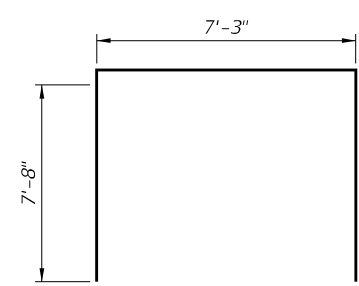
SCALE: SHEET 93 OF 162 SHEETS STA. TO STA.

F.A.P. RTE. 310	SECTION (86B-1, 87CR)	COUNTY CASS/SCHUYLER	TOTAL SHEETS 455	SHEET NO. 289
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	

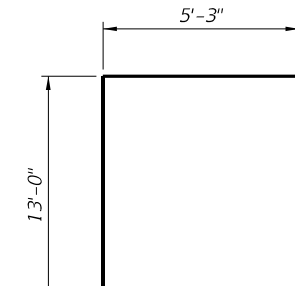
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300(E)	24	#8	38'-9"	—
h301(E)	20	#8	30'-0"	—
p300(E)	15	#11	38'-9"	—
p301(E)	56	#11	30'-1"	┌
p302(E)	17	#11	49'-10"	└
s300(E)	260	#6	22'-7"	┌
s301(E)	18	#6	18'-3"	┌
s302(E)	48	#6	20'-7"	┌
s303(E)	56	#6	31'-2"	┌
s304(E)	58	#6	31'-11"	┌
sp300	2	#6	102'-0"	⋈
sp301(E)	2	#6	40'-0"	⋈
u300(E)	12	#6	25'-4"	U
u301(E)	16	#6	28'-5"	U
u302(E)	24	#8	25'-8"	U
v300	34	#18	55'-0"	—
v301	34	#18	52'-0"	—
v302(E)	68	#18	50'-9"	—
v303(E)	34	#18	43'-10"	—
v304(E)	34	#18	40'-10"	—
v305(E)	10	#6	22'-10"	┌
v306(E)	10	#6	28'-6"	┌
v307(E)	36	#8	11'-2"	—
Concrete Structures		Cu. Yd.	474.1	
Reinforcement Bars		Pounds	63,480	
Reinforcement Bars, Epoxy Coated		Pounds	133,160	
Mechanical Splicers		Each	136	
Permanent Casing		Foot	181	
Drilled Shaft in Soil		Cu. Yd.	289.6	
Drilled Shaft in Rock		Cu. Yd.	28.5	
Crosshole Sonic Logging Access Ducts		Foot	1,572	
Crosshole Sonic Logging Testing		Each	2	
Concrete Sealer		Sq. Ft.	2,095.0	

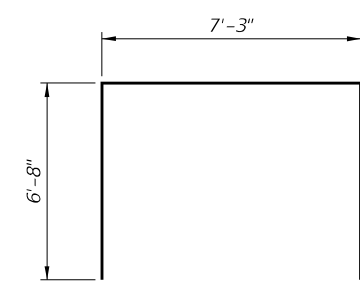
** Length is height of spiral.



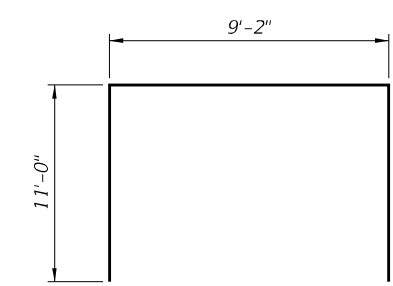
BAR s300(E)



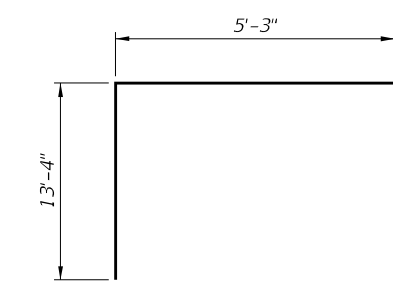
BAR s301(E)



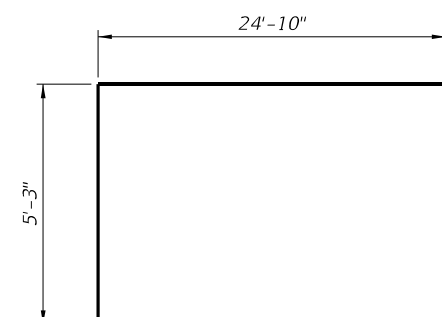
BAR s302(E)



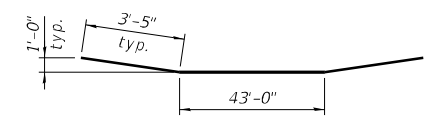
BAR s303(E)



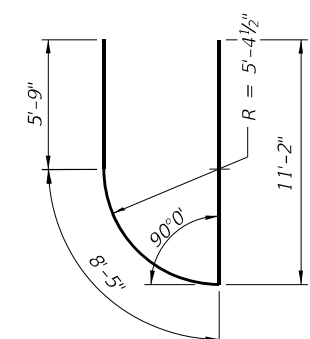
BAR s304(E)



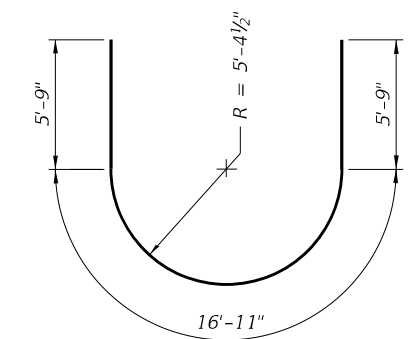
BAR p301(E)



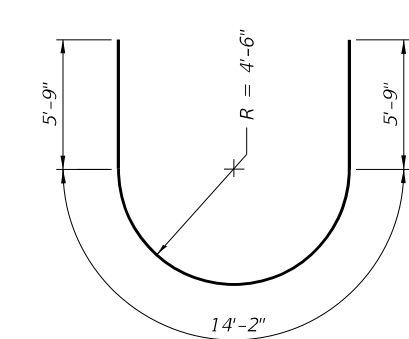
BAR p302(E)



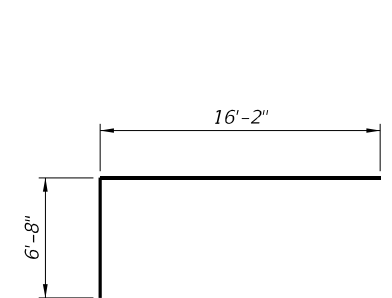
BAR u300(E)



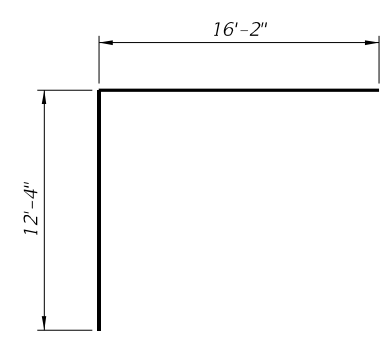
BAR u301(E)



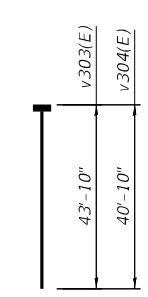
BAR u302(E)



BAR v305(E)



BAR v306(E)



BARS v303(E) & v304(E)
(Headed)

Notes:

1. Cast steps monolithically with cap.
2. Space cap reinforcement to miss anchor bolts.
3. 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.
4. The Permanent Casing is shown embedded 2 ft. into rock for estimate of quantities. The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.
5. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° hook.
6. For Mechanical Splicer Details, see sheet 123 of 162.
7. Concrete Sealer for Substructures shall be applied to the bearing seats and each face of the pier cap.

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-094-Pier 3 Details_II.dgn



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USER NAME = Ben Holland	DESIGNED - AS	REVISED -
PLOT SCALE = N/A	DRAWN - RH/MAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:44 PM)	CHECKED - AS	REVISED -
	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 3 - DETAILS - II
SN 009-0504**

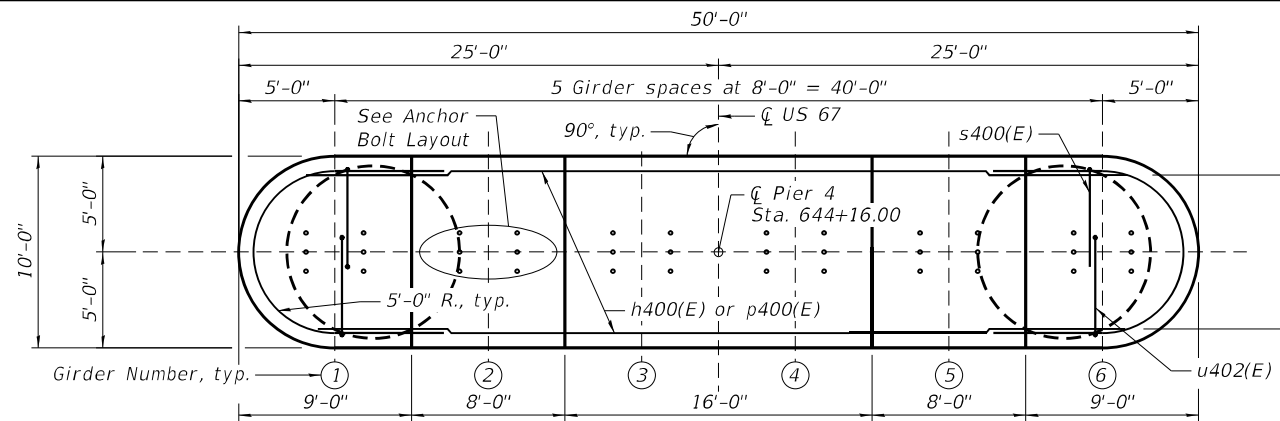
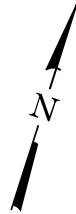
SCALE: SHEET 94 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	290
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

VESSEL COLLISION FORCE

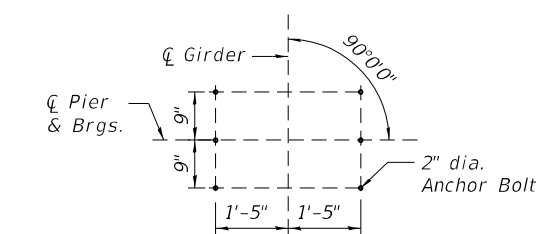
(Extreme Event 2 load combination)

	Case 1	Case 2
Load (k)	3620	1810
Elevation	441.78	441.78
Direction	Centerline of pier	Centerline of US 67



TOP PLAN

A = 7 sets of 4-#7 s400(E) bars at ±1'-0" cts. = 5'-6"
 B = 10 sets of 4-#7 s400(E) bars at 3" cts. = 2'-6"
 C = 16 sets of 4-#7 s400(E) bars at 6" cts. = 8'-0"
 D = 7 sets of 4-#7 s400(E) bars at 1'-0" cts. = 8'-0"
 * Adjust s400(E) bars vertically to maintain 2" minimum cover on top and bottom of cap. Each set of 4500(E) bars has 4 bars total (2 top and 2 bottom). See Section D-D.



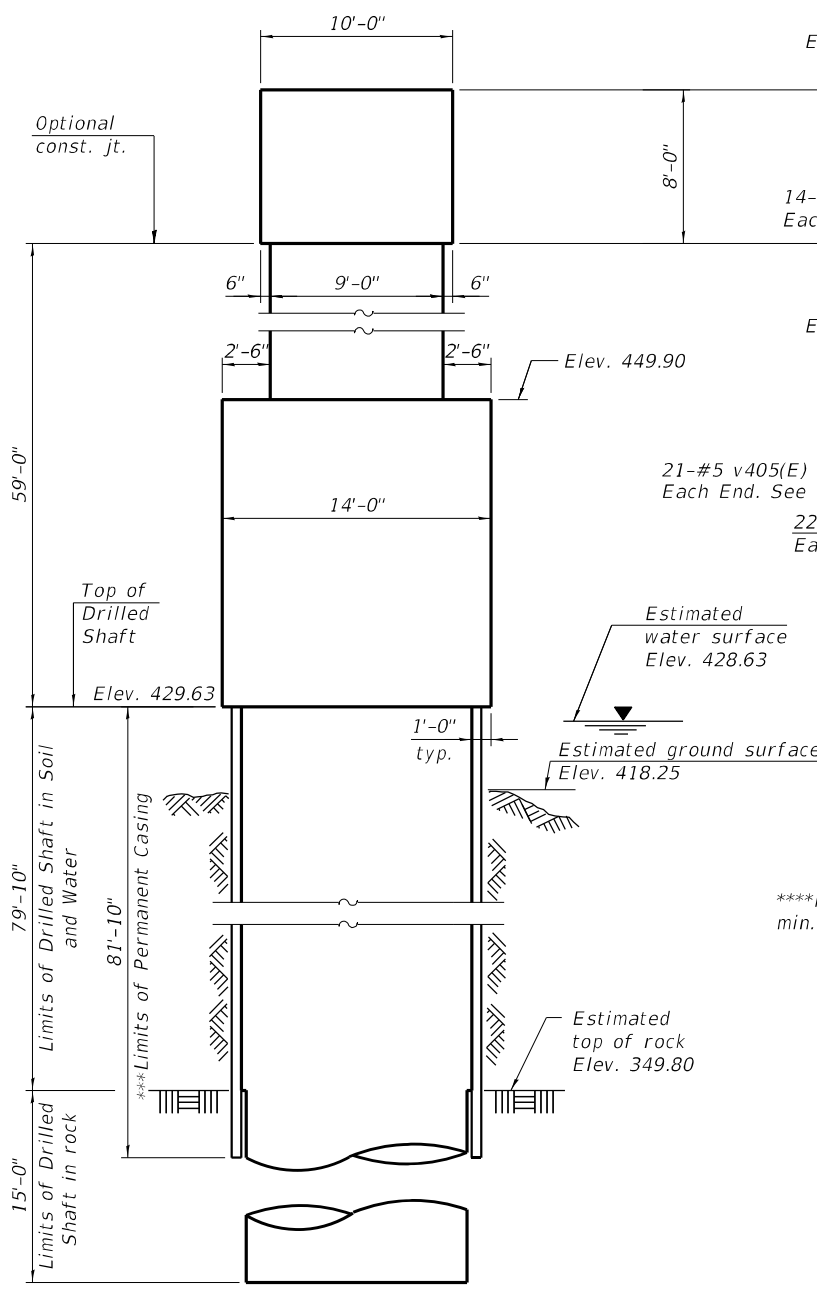
ANCHOR BOLT LAYOUT

MINIMUM BAR LAP

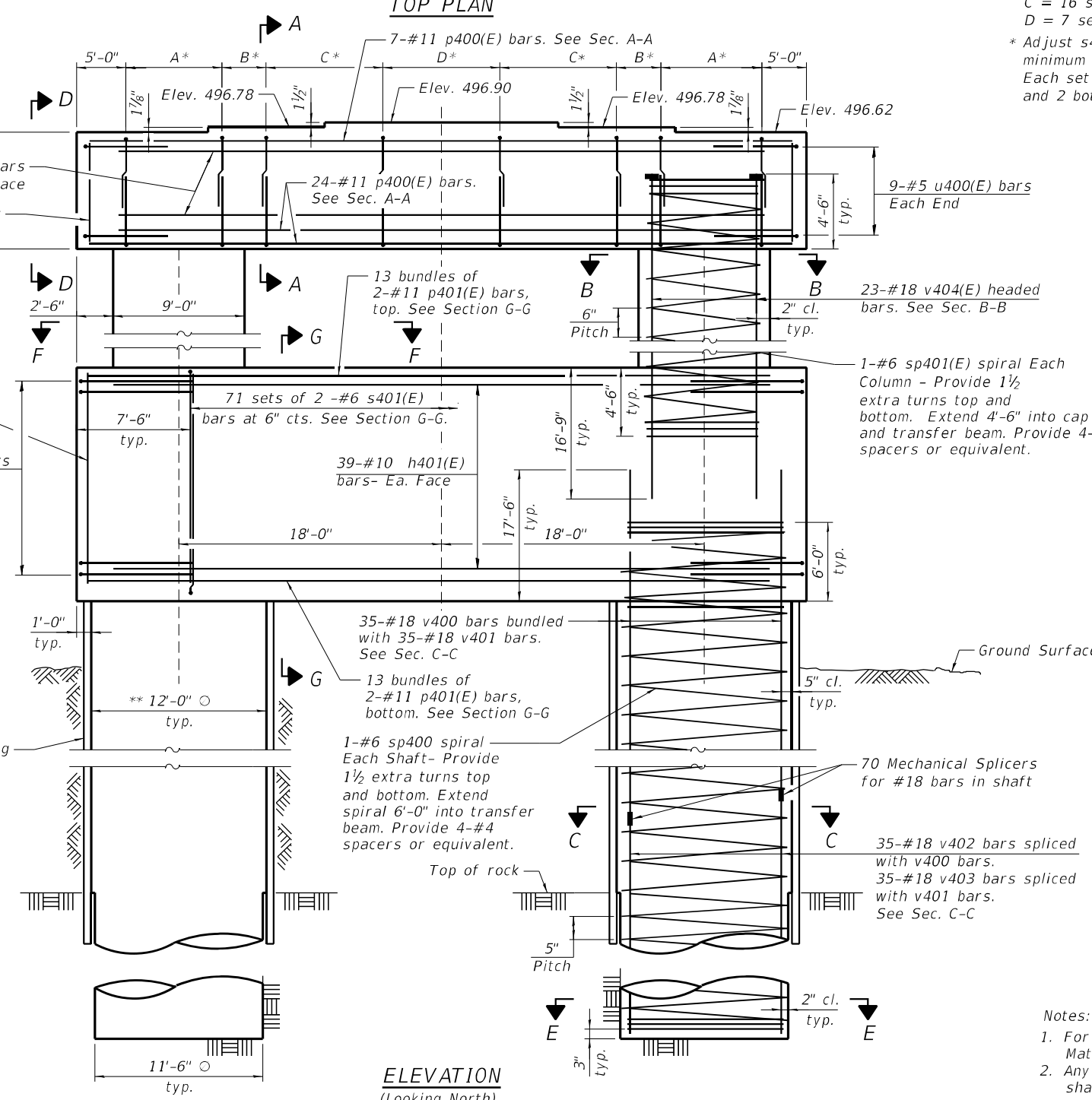
- #5 Bar = 3'-7"
- #6 Bar = 4'-4"
- #7 Bar = 5'-0"

** Dimension shows diameter of Drilled Shaft in Soil to inside of casing.
 *** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.
 **** A full penetration weld is required for splicing Permanent Casing sections. Minimum Permanent Casing steel yield strength is 36 ksi.

Notes:
 1. For additional notes, additional details, and Bill of Material see sheet 96 and 97 of 162.
 2. Any damaged to epoxy coating on reinforcing steel shall be repaired with an approved, field applied coating.



END VIEW



ELEVATION
(Looking North)

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-Pier 4 Plan and Elevation.dgn



USER NAME = Ben Holland	DESIGNED - JRW	REVISED -
PLOT SCALE = N/A	DRAWN - MAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:45 PM)	CHECKED - FAS	REVISED -
	DATE - May 2023	REVISED -

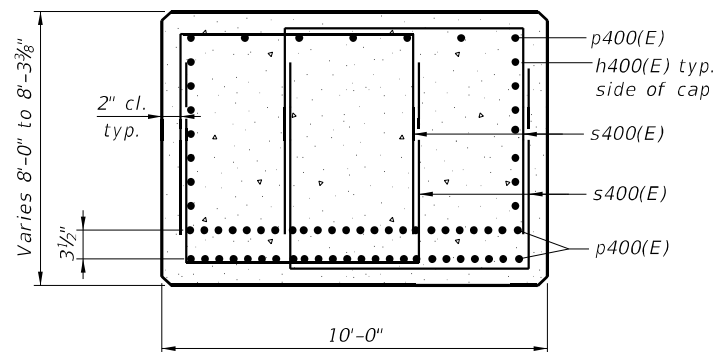
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 4 - PLAN AND ELEVATION
SN 009-0504

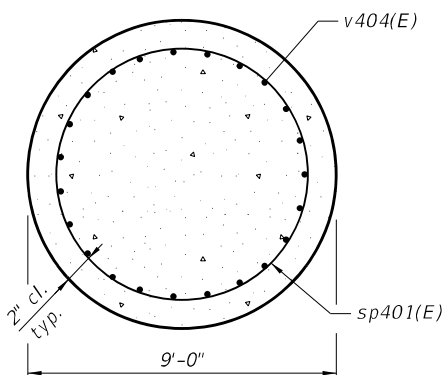
SCALE: SHEET 95 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	291
CONTRACT NO. 72K47				

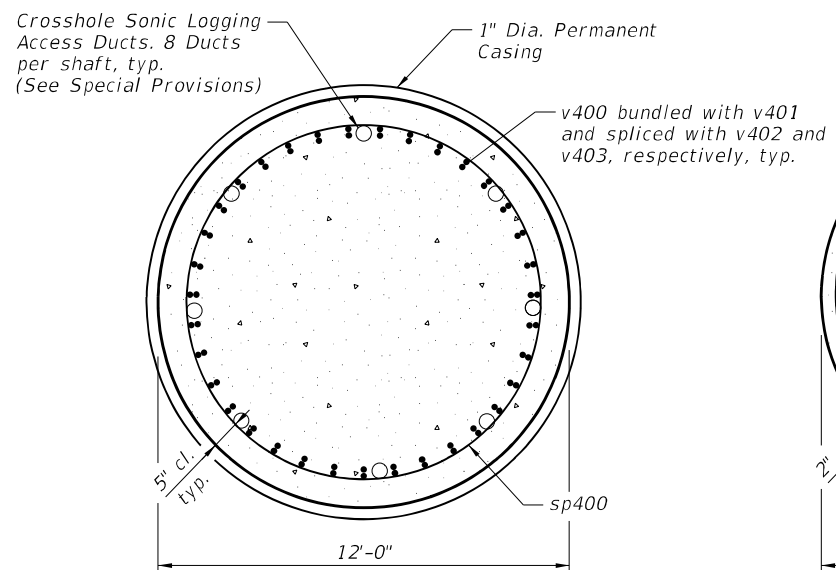
ILLINOIS FED. AID PROJECT



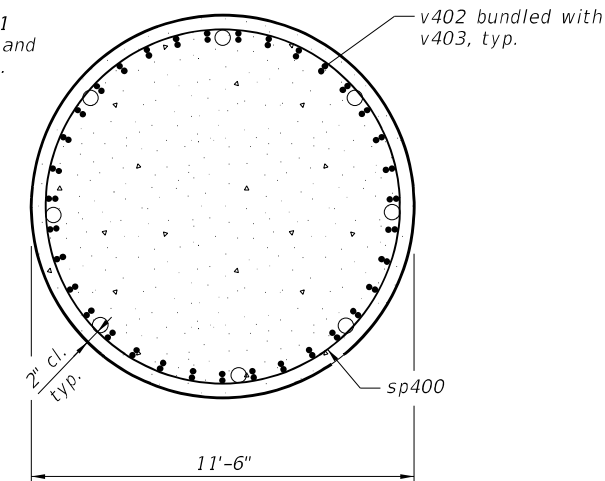
SECTION A-A



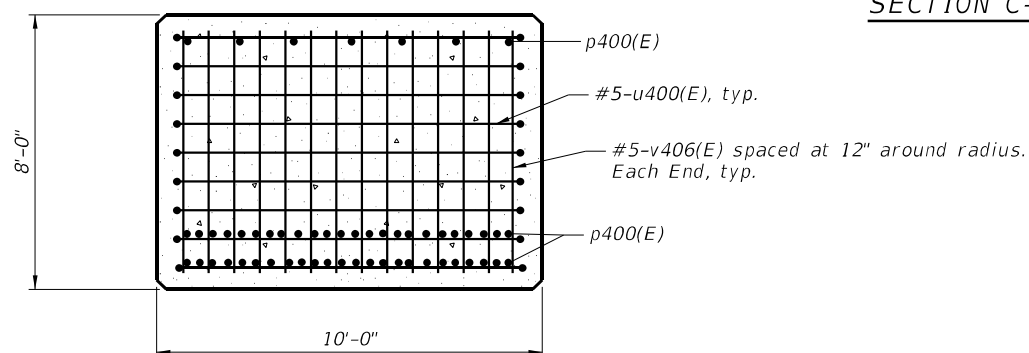
SECTION B-B



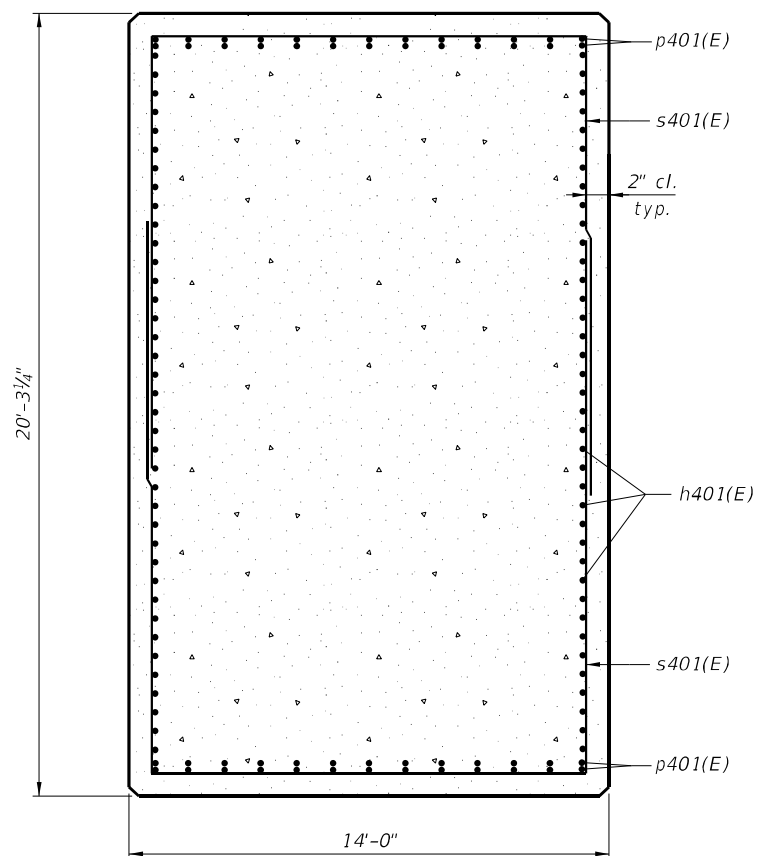
SECTION C-C



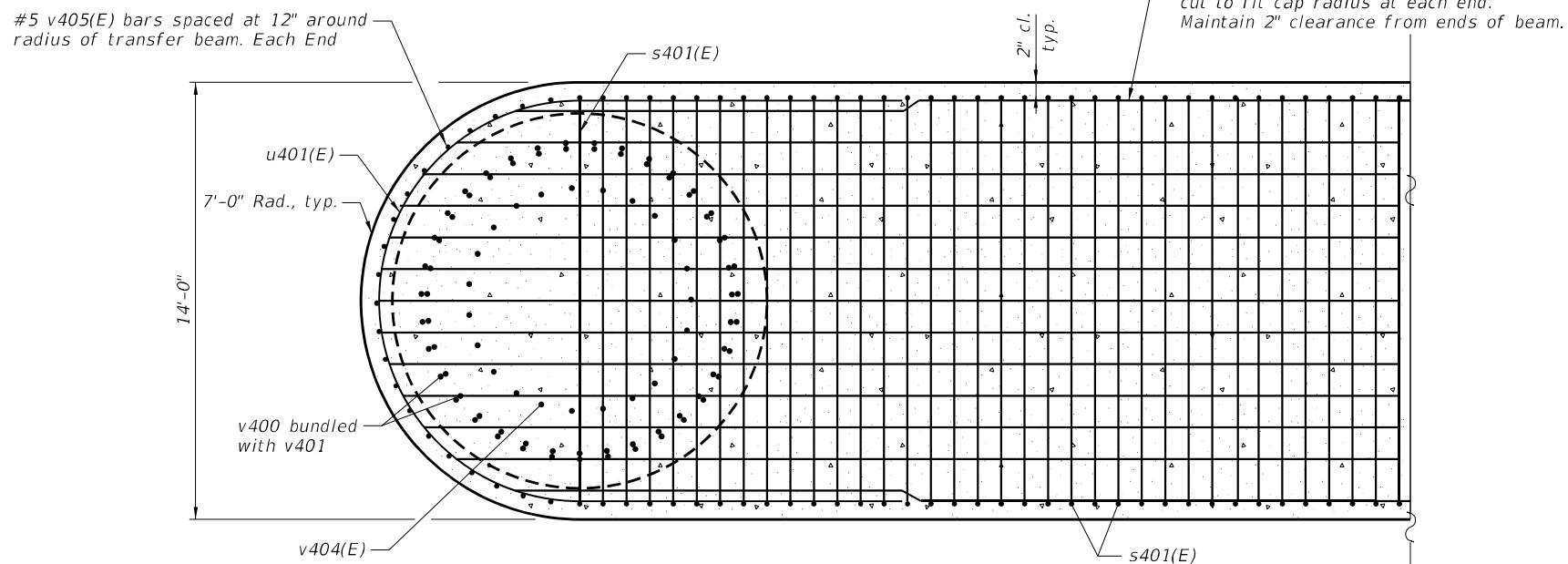
SECTION E-E



SECTION D-D



SECTION G-G



SECTION F-F

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-096-Pier 4-Details_1.dgn



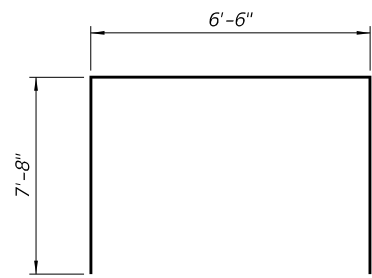
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PLOT SCALE = N/A	DRAWN - RH/MAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:46 PM)	CHECKED - FAS	REVISED -
	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

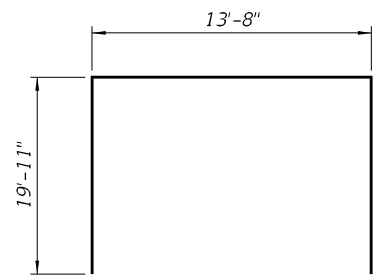
PIER 4 - DETAILS - I
SN 009-0504

SCALE: SHEET 96 OF 162 SHEETS STA. TO STA.

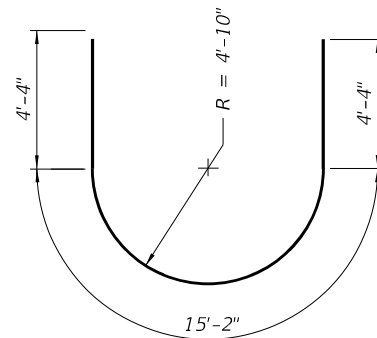
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	292
CONTRACT NO. 72K47				
ILLINOIS FED. AID PROJECT				



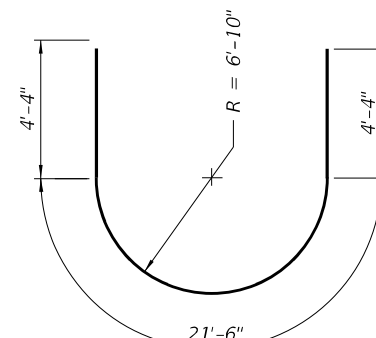
BAR s400(E)



BAR s401(E)



BAR u400(E)



BAR u401(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h400(E)	14	#5	40'-0"	—
h401(E)	78	#10	36'-0"	—
p400(E)	55	#11	49'-8"	—
p401(E)	52	#11	49'-8"	—
s400(E)	292	#7	21'-10"	U
s401(E)	142	#6	53'-6"	U
** sp400	2	#6	100'-7"	W
** sp401(E)	2	#6	47'-9"	W
u400(E)	18	#5	23'-10"	U
u401(E)	44	#5	30'-2"	U
v400	70	#18	57'-0"	—
v401	70	#18	60'-0"	—
v402	70	#18	55'-1"	—
v403	70	#18	52'-1"	—
v404(E)	46	#18	60'-0"	—
v405(E)	42	#5	19'-11"	—
v406(E)	28	#5	7'-8"	—
Concrete Structures		Cu. Yd.	820.6	
Reinforcement Bars		Pounds	239,170	
Reinforcement Bars, Epoxy Coated		Pound	113,870	
Mechanical Splicers		Each	140	
Permanent Casing		Foot	164	
Drilled Shaft in Soil		Cu. Yd.	668.8	
Drilled Shaft in Rock		Cu. Yd.	115.4	
Crosshole Sonic Logging Access Ducts		Foot	1513	
Crosshole Sonic Logging Testing		Each	2	

** Length is height of spiral.

Notes:

1. Cast steps monolithically with cap.
2. Space cap reinforcement to miss anchor bolts.
3. 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.
4. The Permanent Casing is shown embedded 2 ft. into rock for estimate of quantities. The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.
5. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° hook.
6. For Mechanical Splicer Details, see sheet 123 of 162.

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-097-Pier 4-Details_II.dgn



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USER NAME = Ben Holland	DESIGNED - JRW	REVISED -
	DRAWN - RH/MAC	REVISED -
PLOT SCALE = N/A	CHECKED - FAS	REVISED -
PLOT DATE = 5/23/2023 (12:19:48 PM)	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

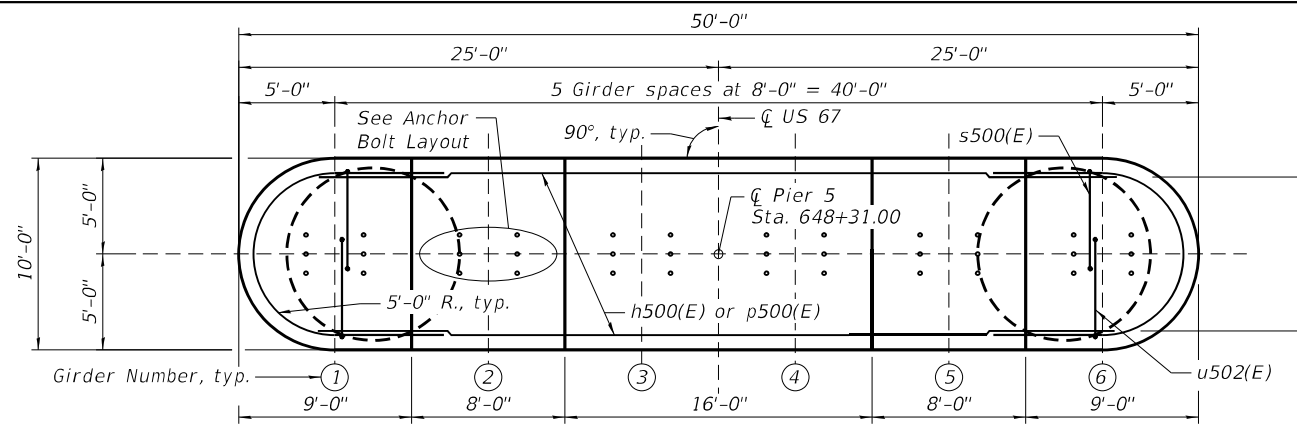
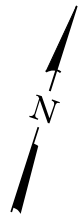
**PIER 4 - DETAILS - II
SN 009-0504**

SCALE: SHEET 97 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	293
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

VESSEL COLLISION FORCE
(Extreme Event 2 load combination)

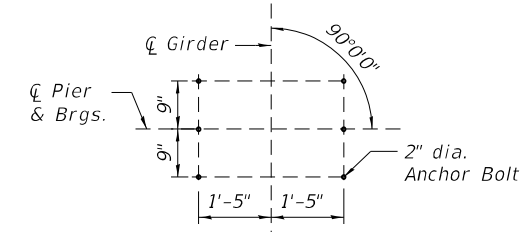
	Case 1	Case 2
Load (k)	3620	1810
Elevation	441.78	441.78
Direction	Centerline of pier	Centerline of US 67



#11 - p500(E) bars in top and bottom of cap, cut to fit cap radius at each end. Maintain 2" clearance from ends of cap.

TOP PLAN

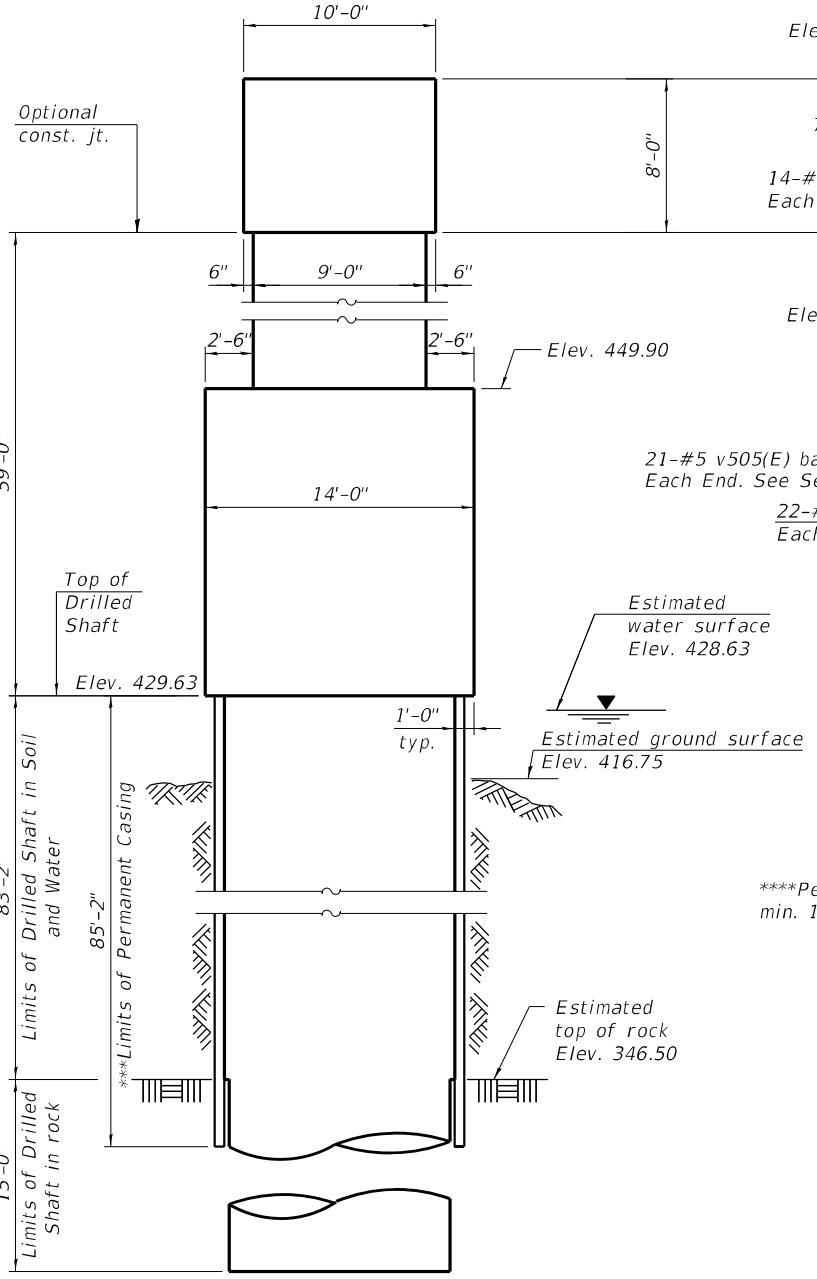
A = 7 sets of 4-#7 s500(E) bars at ±1'-0" cts. = 5'-6"
 B = 10 sets of 4-#7 s500(E) bars at 3" cts. = 2'-6"
 C = 16 sets of 4-#7 s500(E) bars at 6" cts. = 8'-0"
 D = 7 sets of 4-#7 s500(E) bars at 1'-0" cts. = 8'-0"
 * Adjust s500(E) bars vertically to maintain 2" minimum cover on top and bottom of cap. Each set of s500(E) bars has 4 bars total (2 top and 2 bottom). See Section D-D.



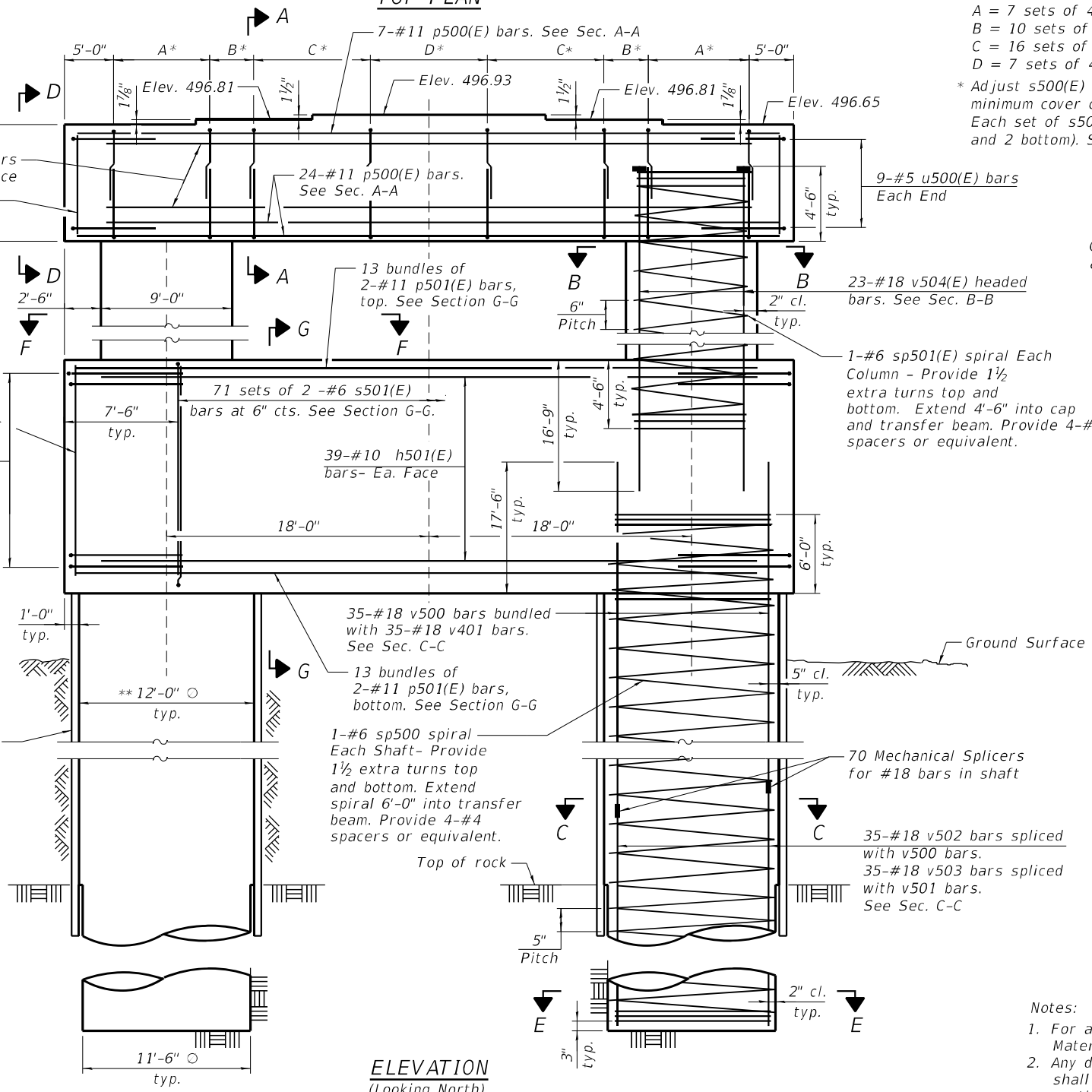
ANCHOR BOLT LAYOUT

MINIMUM BAR LAP

- #5 Bar = 3'-7"
- #6 Bar = 4'-4"
- #7 Bar = 5'-0"



END VIEW



ELEVATION
(Looking North)

** Dimension shows diameter of Drilled Shaft in Soil to inside of casing.
 *** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.
 **** A full penetration weld is required for splicing Permanent Casing sections. Minimum Permanent Casing steel yield strength is 36 ksi.

- Notes:
- For additional notes, additional details, and Bill of Material see Sheet 99 and 100 of 162.
 - Any damaged to epoxy coating on reinforcing steel shall be repaired with an approved, field applied coating.

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-098-Pier 5 Plan and Elevation.dgn



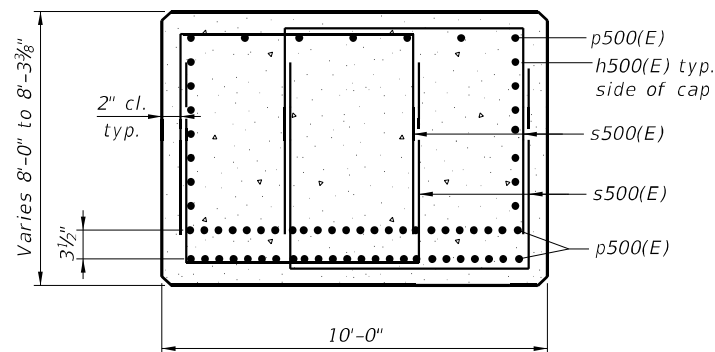
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	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

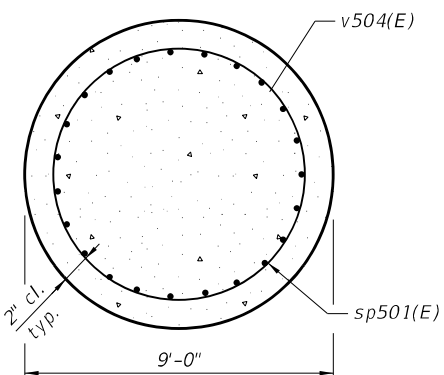
PIER 5 - PLAN AND ELEVATION
SN 009-0504

SCALE: SHEET 98 OF 162 SHEETS STA. TO STA.

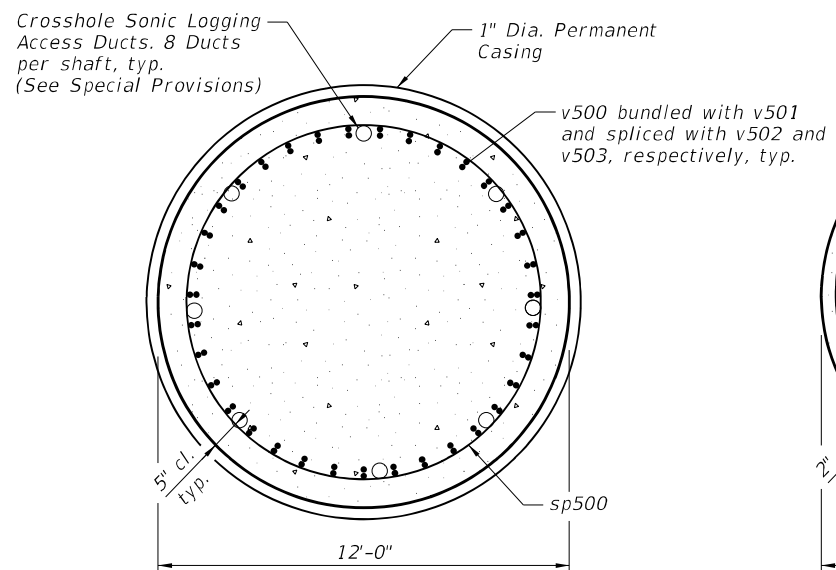
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CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



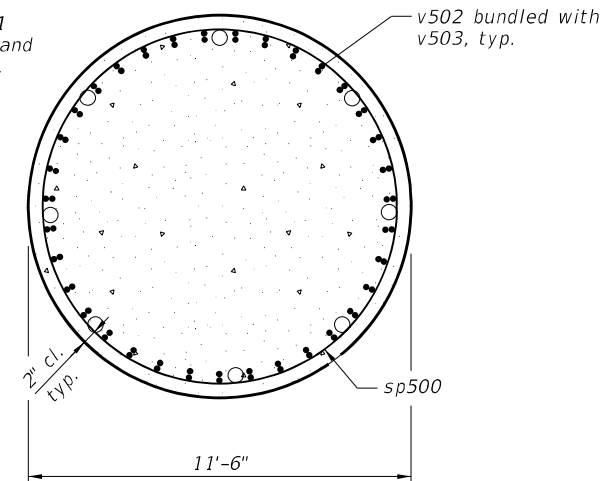
SECTION A-A



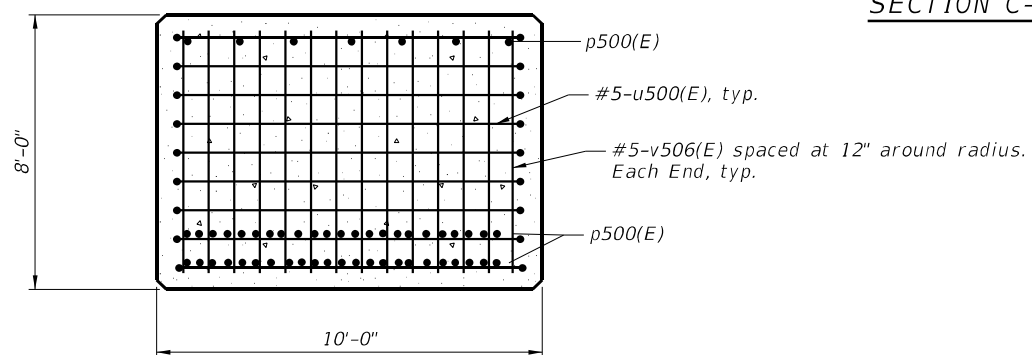
SECTION B-B



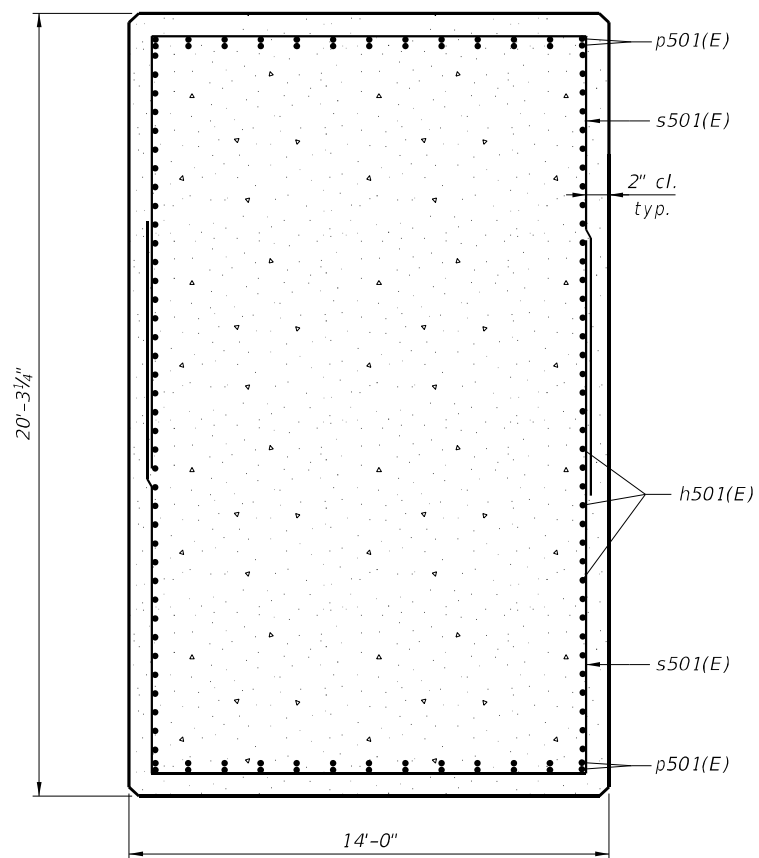
SECTION C-C



SECTION E-E

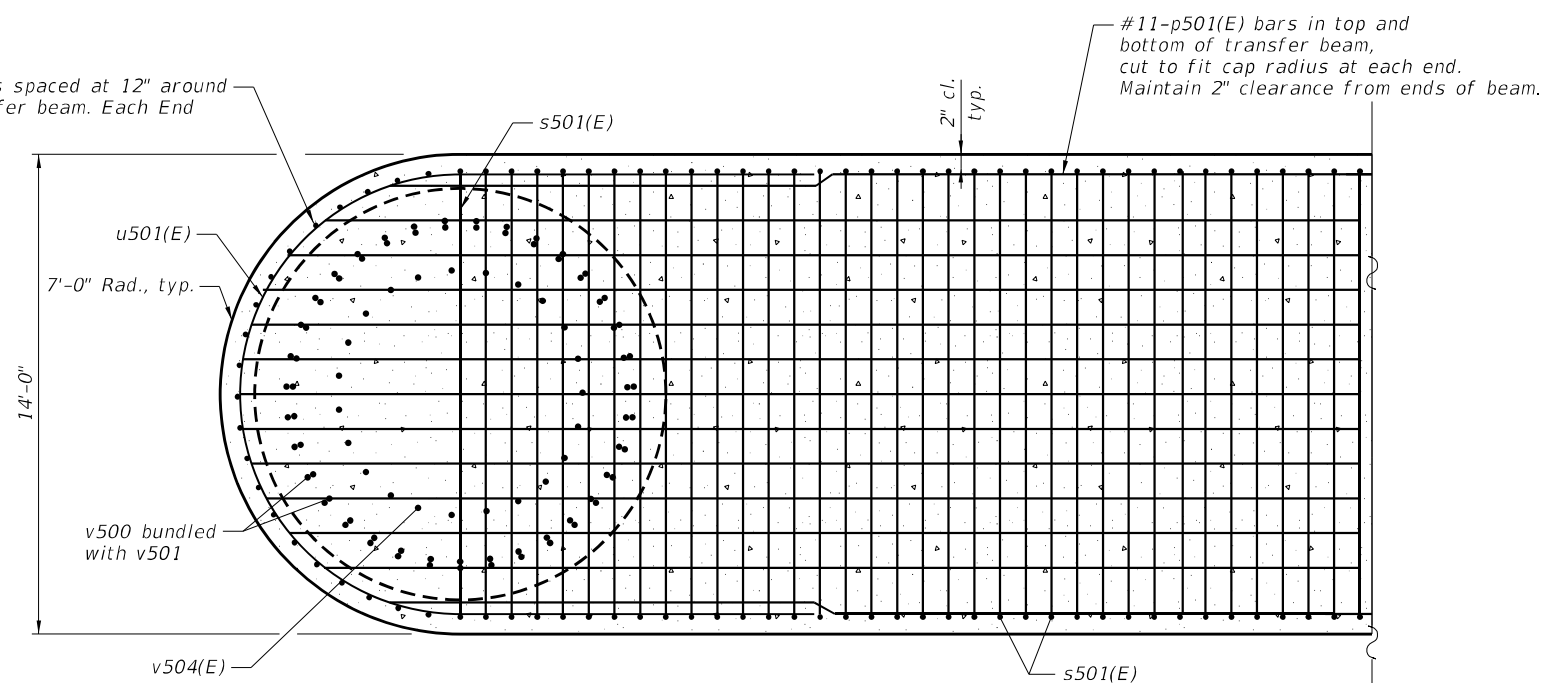


SECTION D-D



SECTION G-G

#5 v505(E) bars spaced at 12" around radius of transfer beam. Each End



SECTION F-F

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-099-Pier 5 Details_1.dgn



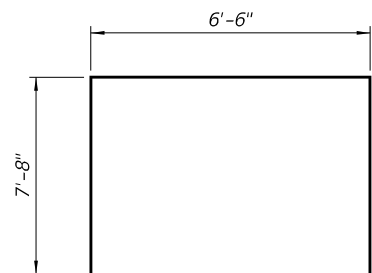
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	DATE - May 2023	REVISED -

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DEPARTMENT OF TRANSPORTATION

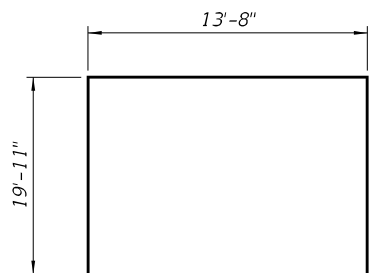
PIER 5 - DETAILS - I
SN 009-0504

SCALE: SHEET 99 OF 162 SHEETS STA. TO STA.

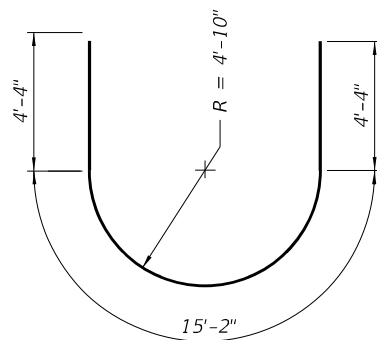
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	295
CONTRACT NO. 72K47				
ILLINOIS FED. AID PROJECT				



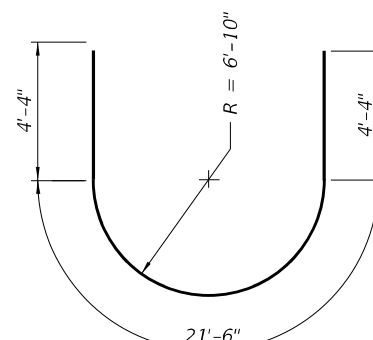
BAR s500(E)



BAR s501(E)



BAR u500(E)



BAR u501(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h500(E)	14	#5	40'-0"	—
h501(E)	78	#10	36'-0"	—
p500(E)	55	#11	49'-8"	—
p501(E)	52	#11	49'-8"	—
s500(E)	292	#7	21'-10"	U
s501(E)	142	#6	53'-6"	U
** sp500	2	#6	103'-11"	W
** sp501(E)	2	#6	47'-9"	W
u500(E)	18	#5	23'-10"	U
u501(E)	44	#5	30'-2"	U
v500	70	#18	57'-0"	—
v501	70	#18	60'-0"	—
v502	70	#18	58'-5"	—
v503	70	#18	55'-5"	—
v504(E)	46	#18	60'-0"	—
v505(E)	42	#5	19'-11"	—
v506(E)	28	#5	7'-8"	—
Concrete Structures		Cu. Yd.	820.6	
Reinforcement Bars		Pounds	246,350	
Reinforcement Bars, Epoxy Coated		Pound	113,870	
Mechanical Splicers		Each	140	
Permanent Casing		Foot	171	
Drilled Shaft in Soil		Cu. Yd.	696.7	
Drilled Shaft in Rock		Cu. Yd.	115.4	
Crosshole Sonic Logging Access Ducts		Foot	1567	
Crosshole Sonic Logging Testing		Each	2	

** Length is height of spiral.

Notes:

1. Cast steps monolithically with cap.
2. Space cap reinforcement to miss anchor bolts.
3. 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.
4. The Permanent Casing is shown embedded 2 ft. into rock for estimate of quantities. The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.
5. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° hook.
6. For Mechanical Splicer Details, see sheet 123 of 162.

FILE NAME = L:\DOT\1808601\Draw\Structures\CADD_Sheets\0090504-72K47-100-Pier 5 Details_II.dgn



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PLOT SCALE = N/A	CHECKED - FAS	REVISED -
PLOT DATE = 5/23/2023 (12:19:51 PM)	DATE - May 2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

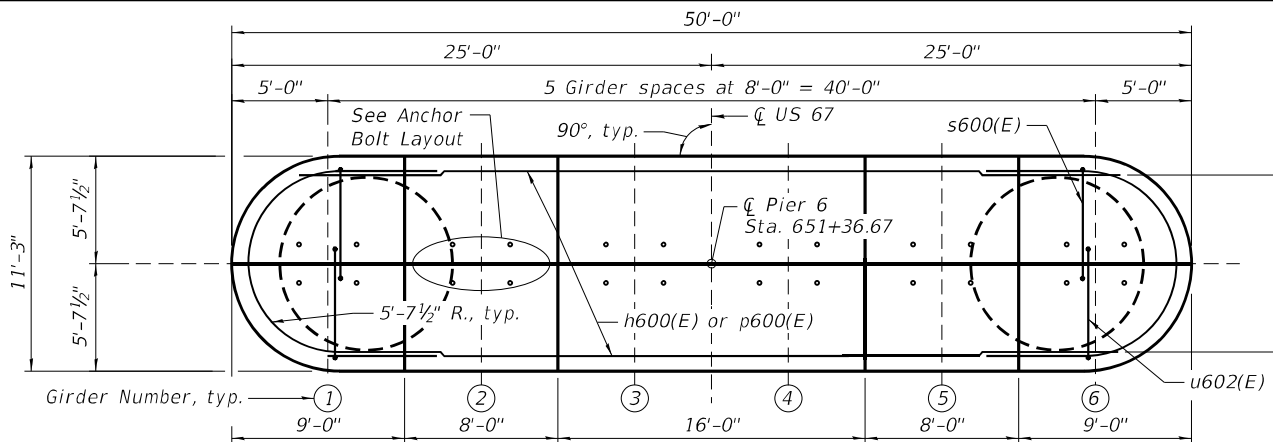
**PIER 5 - DETAILS - II
SN 009-0504**

SCALE: SHEET 100 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	296
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				

VESSEL COLLISION FORCE
(Extreme Event 2 load combination)

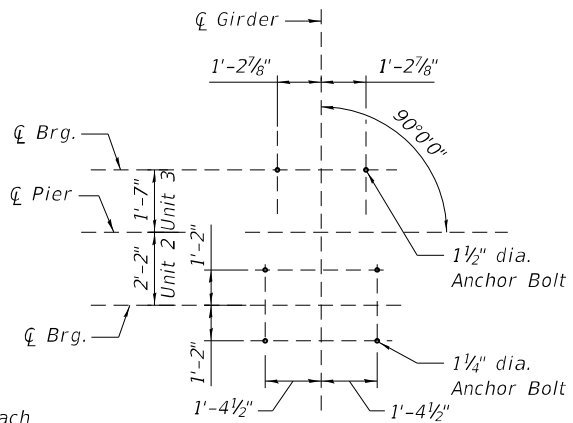
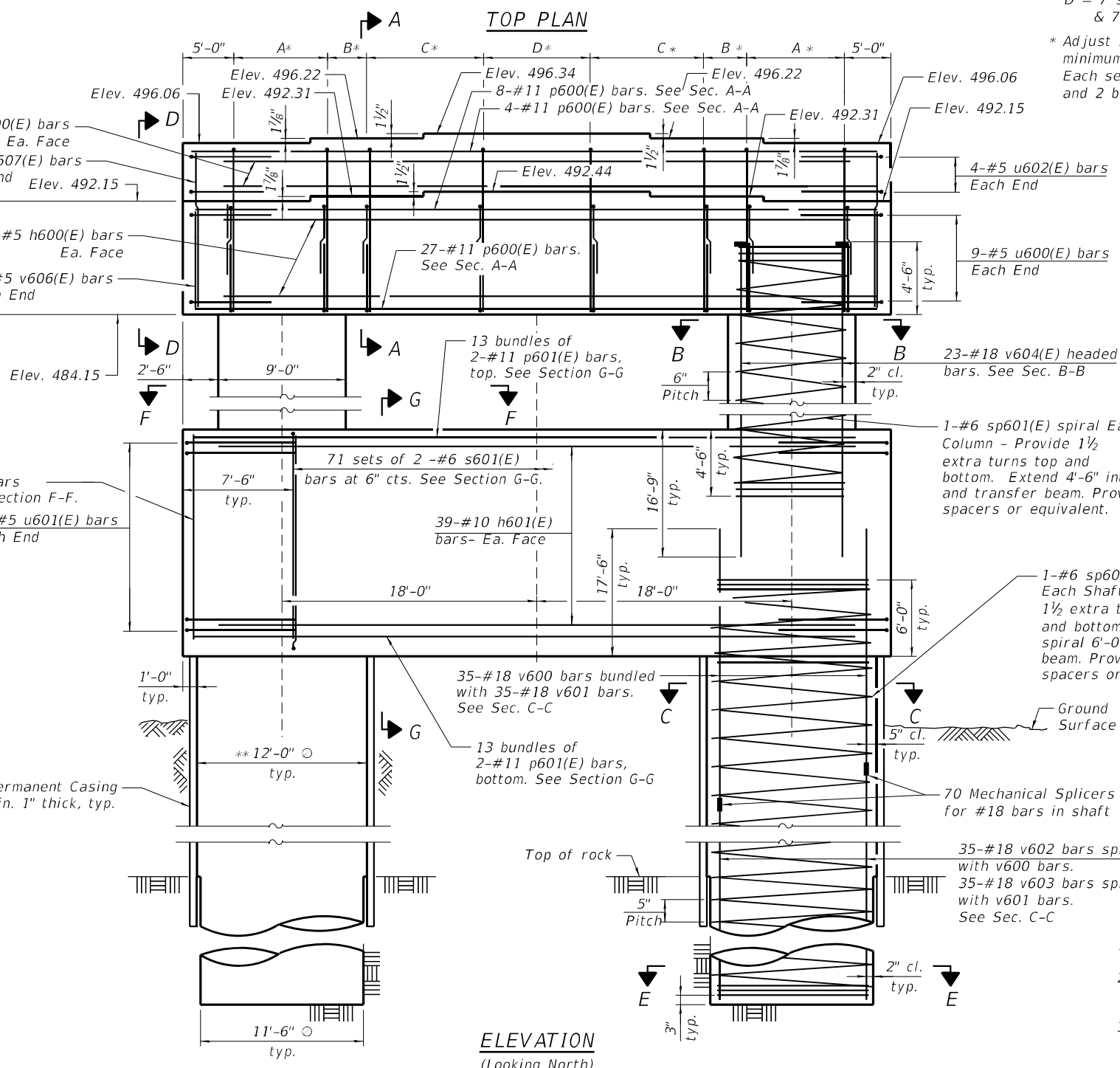
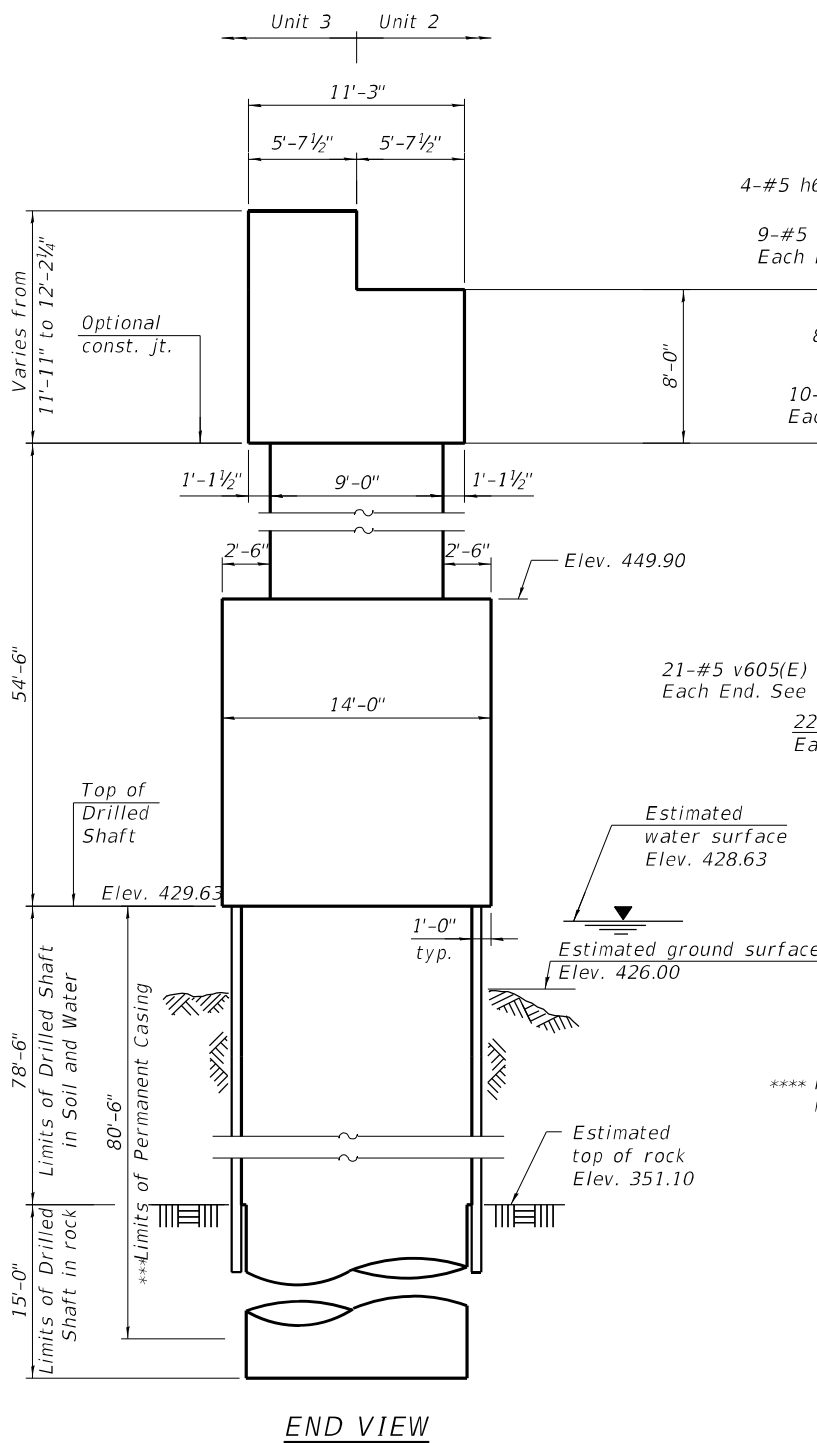
	Case 1	Case 2
Load (k)	3368	1684
Elevation	441.78	441.78
Direction	Centerline of pier	Centerline of US 67



#11 - p600(E) bars in top and bottom of cap and top of step, cut to fit cap radius at each end. Maintain 2" clearance from ends of cap.

- A = 7 sets of 4-#7 s600(E) bars at ±1'-0" cts. = 5'-6" & 7-#7 s602(E) bars at ±1'-0" cts. = 5'-6"
- B = 10 sets of 4-#7 s600(E) bars at 3" cts. = 2'-6" & 10-#7 s602(E) bars at 3" cts. = 2'-6"
- C = 16 sets of 4-#7 s600(E) bars at 6" cts. = 8'-0" & 16-#7 s602(E) bars at 6" cts. = 8'-0"
- D = 7 sets of 4-#7 s600(E) bars at 1'-0" cts. = 8'-0" & 7-#7 s602(E) bars at 1'-0" cts. = 8'-0"

* Adjust s600(E) bars vertically to maintain 2" minimum cover on top and bottom of cap. Each set of s600(E) bars has 4 bars total (2 top and 2 bottom). See Section D-D.



MINIMUM BAR LAP

- #5 Bar = 3'-7"
- #6 Bar = 4'-4"
- #7 Bar = 5'-0"

** Dimension shows diameter of Drilled Shaft in Soil to inside of casing.
 *** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.
 **** A full penetration weld is required for splicing Permanent Casing sections. Minimum Permanent Casing steel yield strength is 36 ksi.

- Notes:
- For additional notes, additional details, and Bill of Material see sheet 102 and 103 of 162.
 - Concrete Sealer shall be applied to the bearing seats and each face of the pier cap. Any damaged to epoxy coating on reinforcing steel shall be repaired with an approved, field applied coating.

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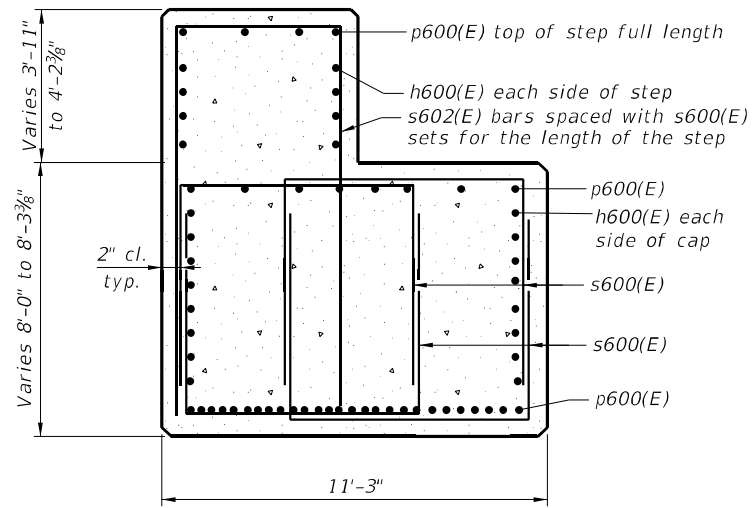
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	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

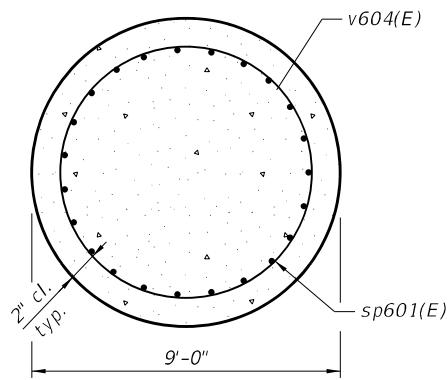
PIER 6 - PLAN AND ELEVATION
SN 009-0504

SCALE: SHEET 101 OF 162 SHEETS STA. TO STA.

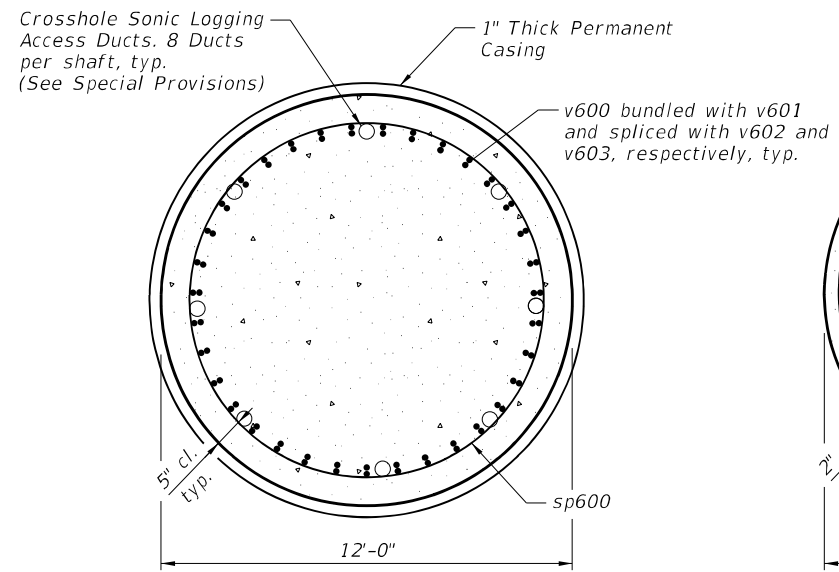
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310	(86B-1, 87CR)	CASS/SCHUYLER	455	297
CONTRACT NO. 72K47			ILLINOIS FED. AID PROJECT	



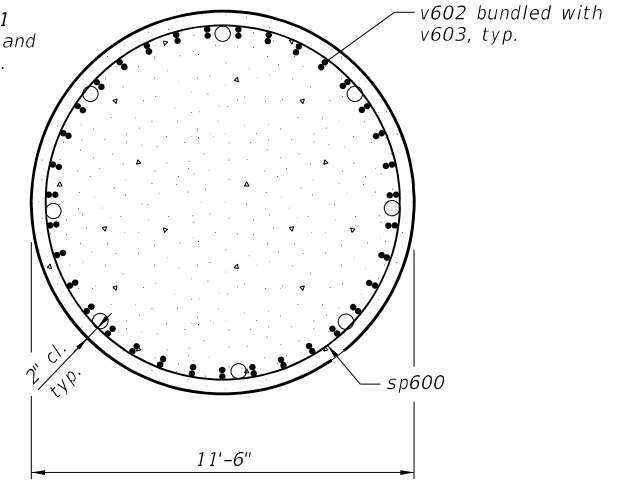
SECTION A-A



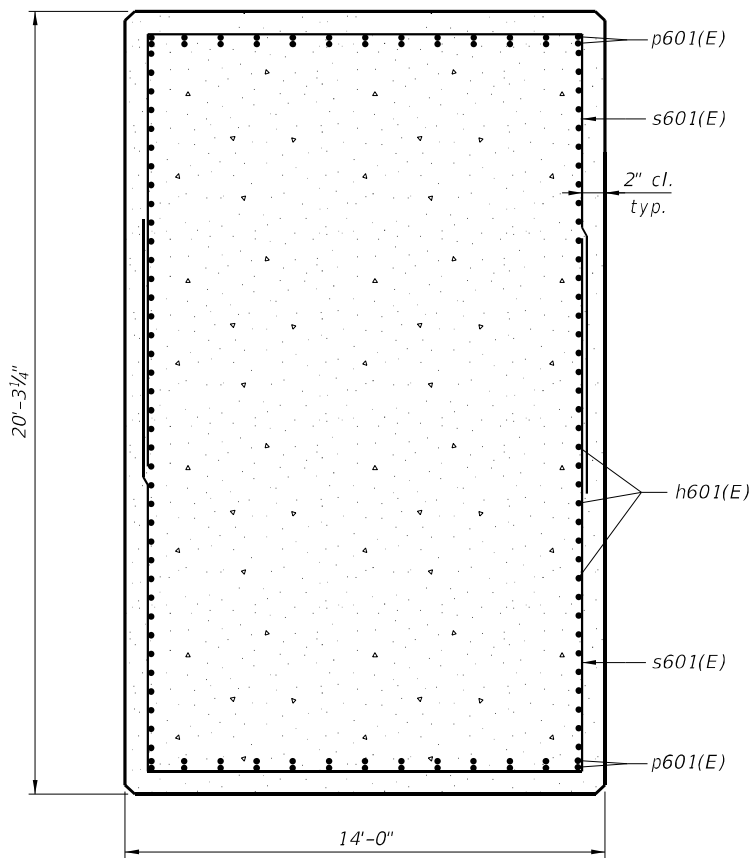
SECTION B-B



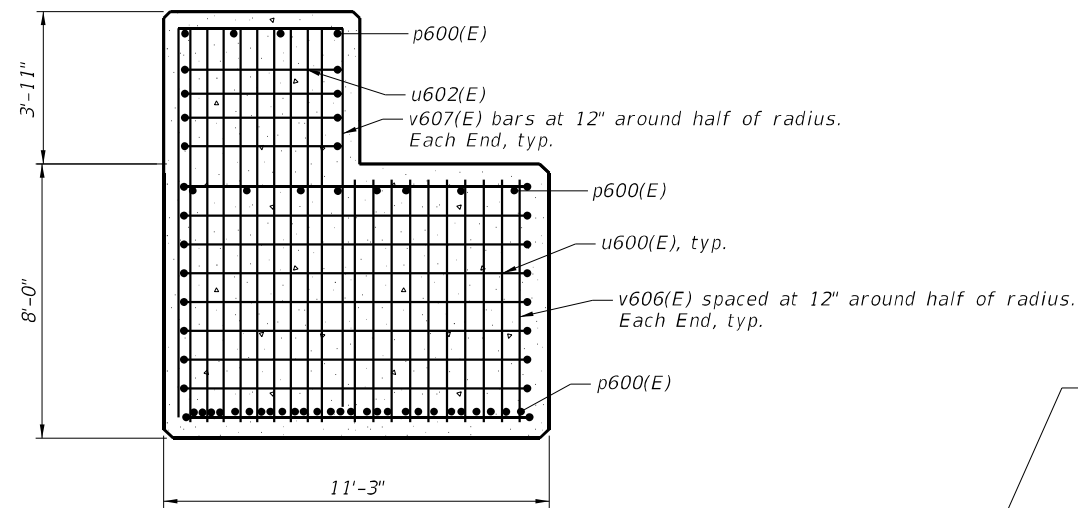
SECTION C-C



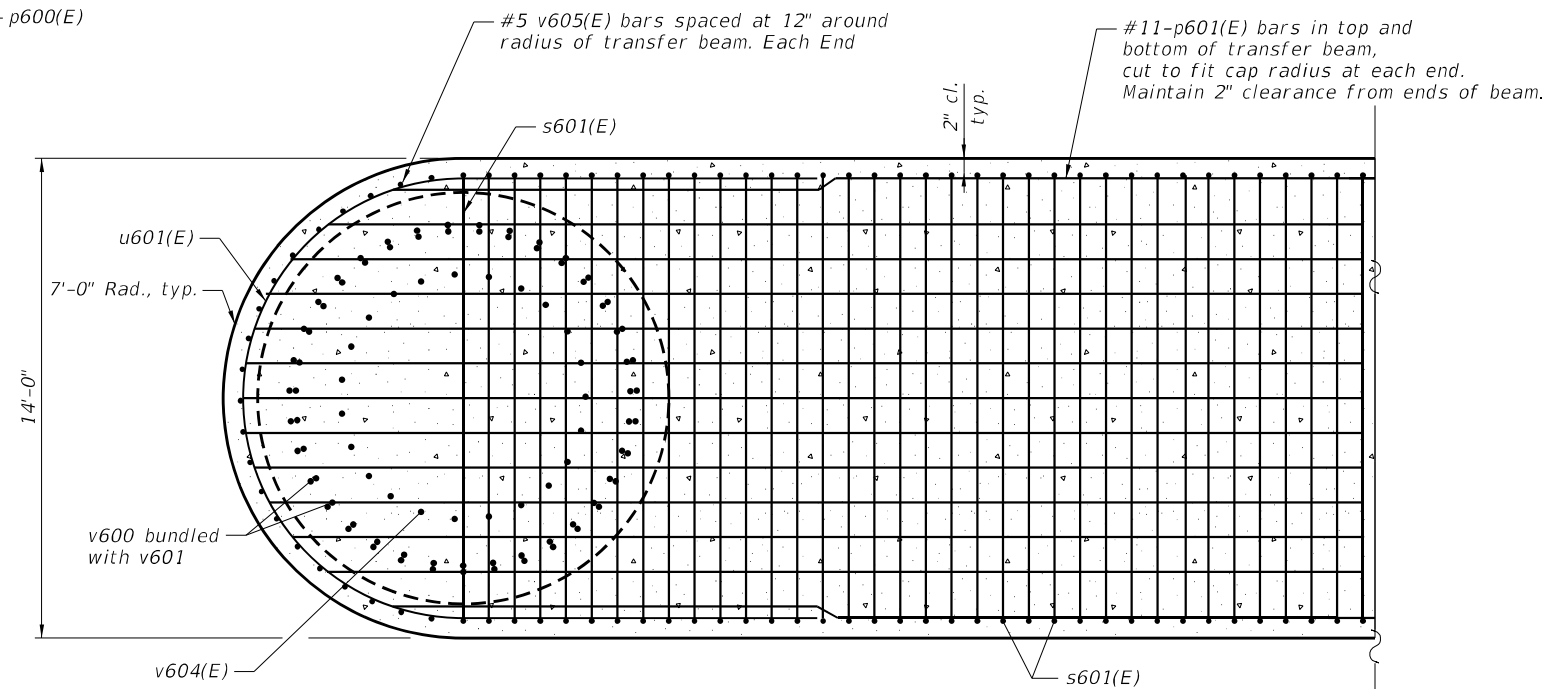
SECTION E-E



SECTION G-G



SECTION D-D



SECTION F-F

FILE NAME = L:\DOT\1806601\Draw\Structures\CADD_Sheets\0090504-72K47-102-Pier 6 Details_1.dgn



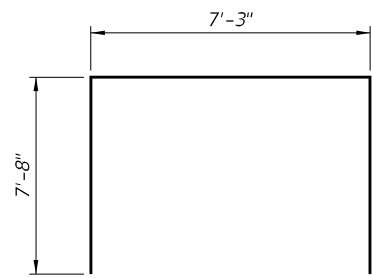
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	DATE - May 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

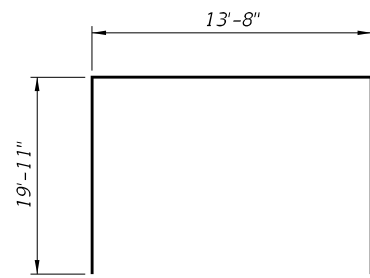
PIER 6 - DETAILS - I
SN 009-0504

SCALE: SHEET 102 OF 162 SHEETS STA. TO STA.

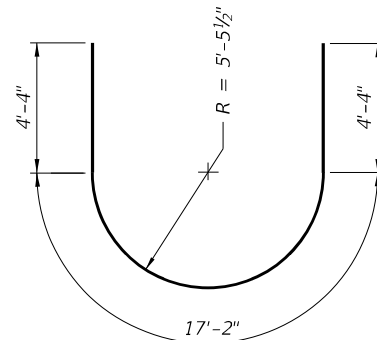
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CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



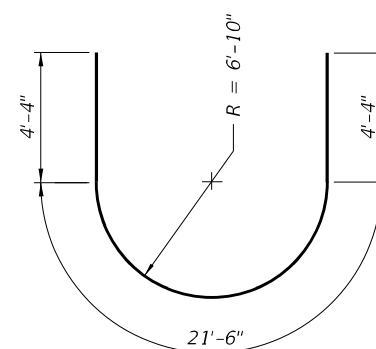
BAR s600(E)



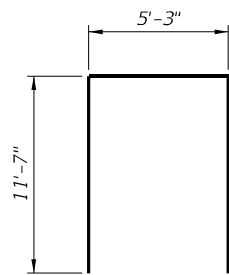
BAR s601(E)



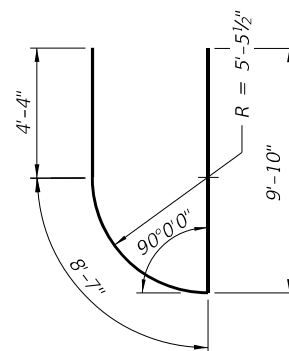
BAR u600(E)



BAR u601(E)



BAR s602(E)



BAR u602(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h600(E)	24	#5	38'-9"	—
h601(E)	78	#10	36'-0"	—
p600(E)	39	#11	49'-8"	—
p601(E)	52	#11	49'-8"	—
s600(E)	292	#7	22'-7"	U
s601(E)	142	#6	53'-6"	U
s602(E)	73	#7	28'-5"	U
** sp600	2	#6	99'-3"	W
** sp601(E)	2	#6	43'-3"	W
u600(E)	18	#5	25'-10"	U
u601(E)	44	#5	30'-2"	U
u602(E)	8	#5	22'-9"	U
v600	70	#18	57'-0"	—
v601	70	#18	60'-0"	—
v602	70	#18	53'-9"	—
v603	70	#18	50'-9"	—
v604(E)	46	#18	55'-6"	—
v605(E)	42	#5	19'-11"	—
v606(E)	20	#5	7'-8"	—
v607(E)	18	#5	11'-7"	—
Concrete Structures			Cu. Yd.	855.6
Reinforcement Bars			Pounds	236,290
Reinforcement Bars, Epoxy Coated			Pound	111,550
Mechanical Splicers			Each	140
Permanent Casing			Foot	161
Drilled Shaft in Soil			Cu. Yd.	657.6
Drilled Shaft in Rock			Cu. Yd.	115.4
Crosshole Sonic Logging Access Ducts			Foot	1,492
Crosshole Sonic Logging Testing			Each	2
Concrete Sealer			Sq. Ft.	1,870

** Length is height of spiral.

Notes:

1. Cast steps monolithically with cap.
2. Space cap reinforcement to miss anchor bolts.
3. 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.
4. The Permanent Casing is shown embedded 2 ft. into rock for estimate of quantities. The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.
5. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° hook.
6. For Mechanical Splicer Details, see sheet 123 of 162.
7. Concrete Sealer shall be applied to the bearing seats and each face of the pier cap.

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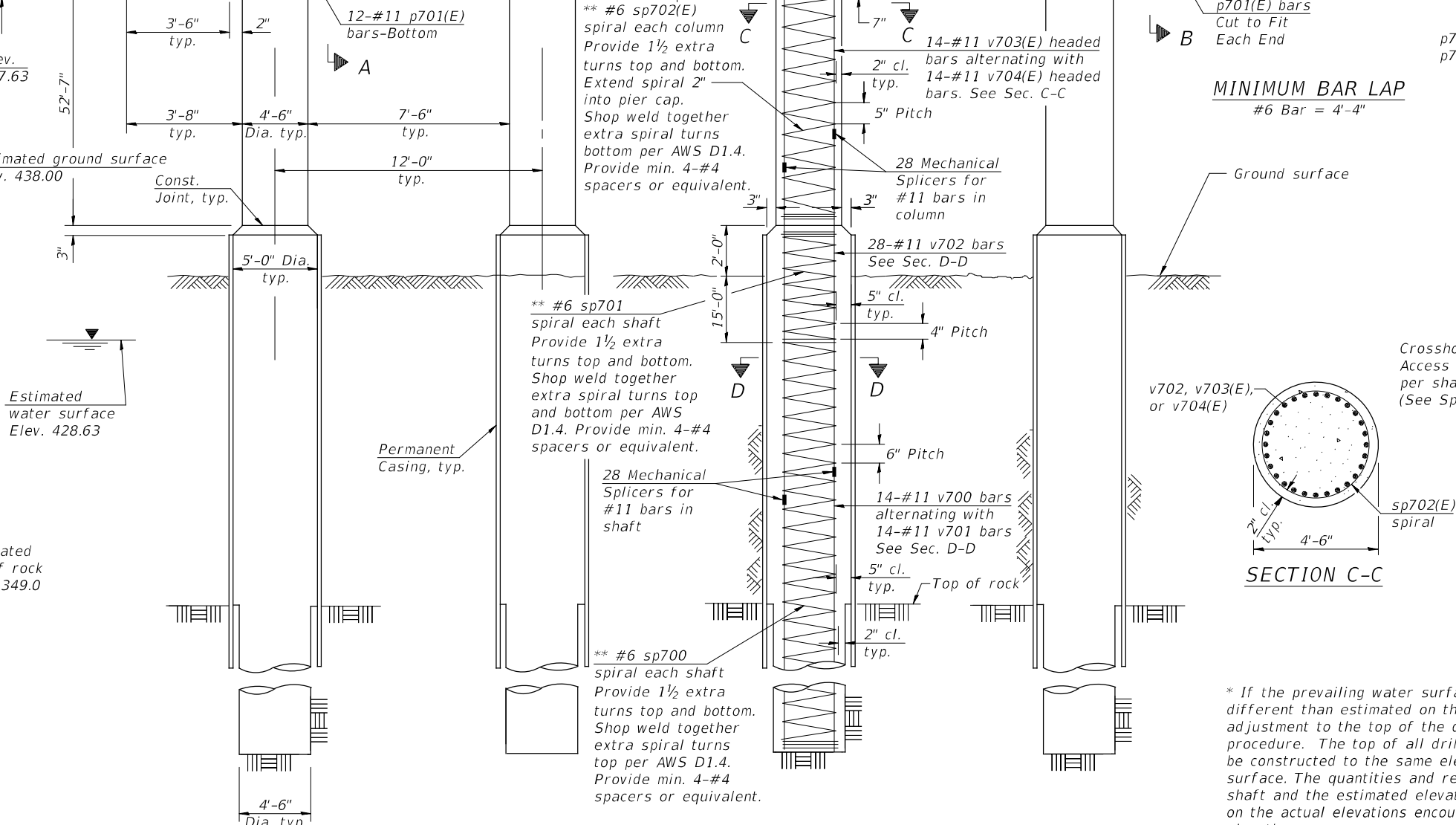
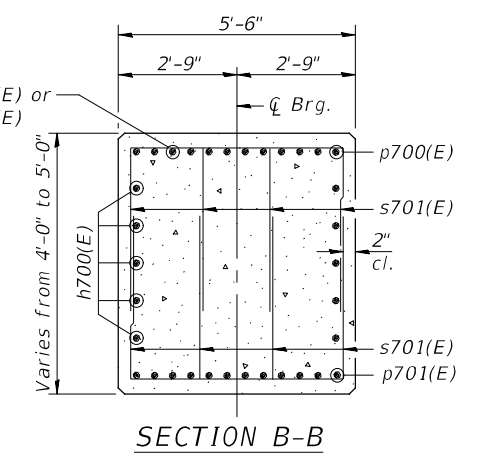
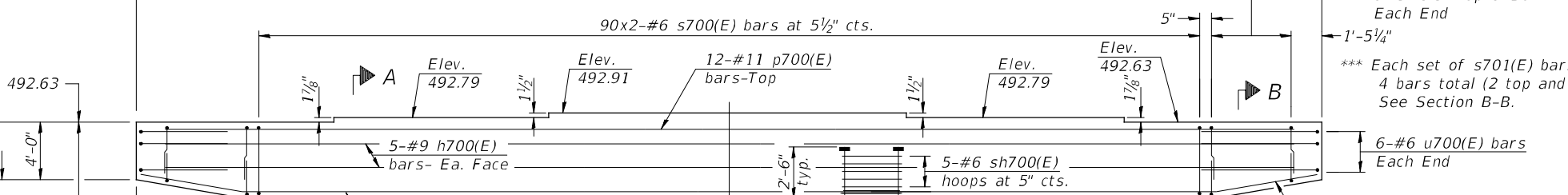
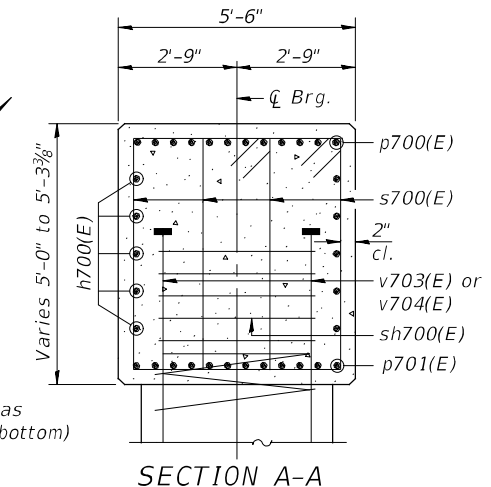
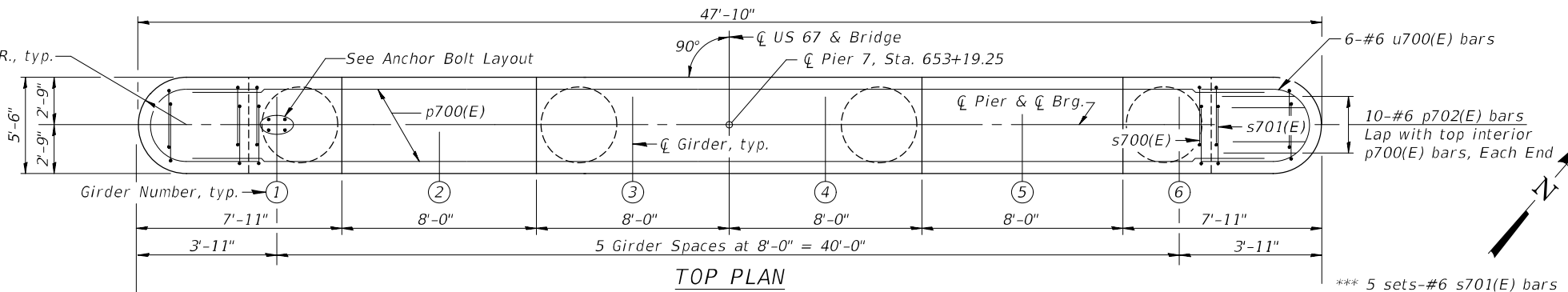
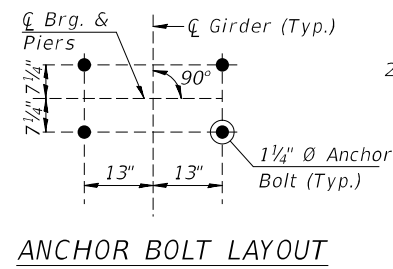
USER NAME = Ben Holland	DESIGNED - JRW	REVISED -
PLOT SCALE = N/A	DRAWN - RH/MAC	REVISED -
PLOT DATE = 5/23/2023 (12:19:55 PM)	CHECKED - FAS	REVISED -
	DATE - May 2023	REVISED -

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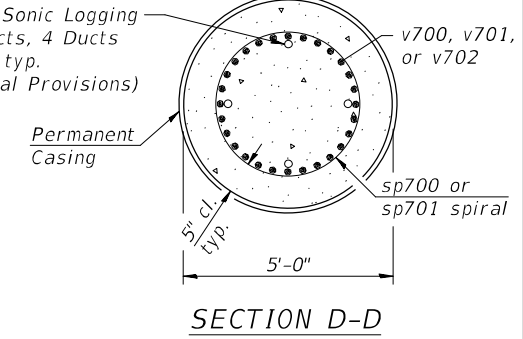
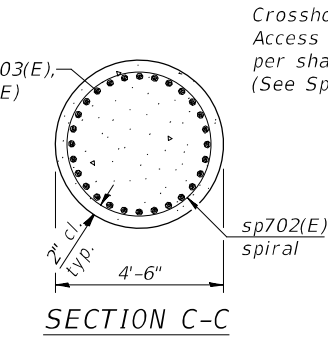
PIER 6 - DETAILS - II
SN 009-0504

SCALE: SHEET 103 OF 162 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86B-1, 87CR)	CASS/SCHUYLER	455	299
CONTRACT NO.			72K47	
ILLINOIS FED. AID PROJECT				



MINIMUM BAR LAP
#6 Bar = 4'-4"



* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

Notes:
1. For additional notes, additional details, and Bill of Material, see Sheet 105 of 162.

FILE NAME = 0090504-72K47-104-Pier 7-Plan & Elev.dgn

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Illinois Professional Design Firm No. 184-000825

USER NAME = JWhite	DESIGNED - MMO	REVISED -
PLOT SCALE = N/A	DRAWN - TAC	REVISED -
PLOT DATE = 5/25/2023	CHECKED - ZL/BAN	REVISED -
	DATE - MAY 2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 7 - PLAN AND ELEVATION
SN 009-0504

SCALE: SHEET 104 OF 162 SHEETS STA. TO STA.

F.A.P. R.E. = 310	SECTION = (86B-1, 87CR)	COUNTY = CASS/SCHUYLER	TOTAL SHEETS = 455	SHEET NO. = 300
CONTRACT NO. = 72K47			ILLINOIS FED. AID PROJECT	