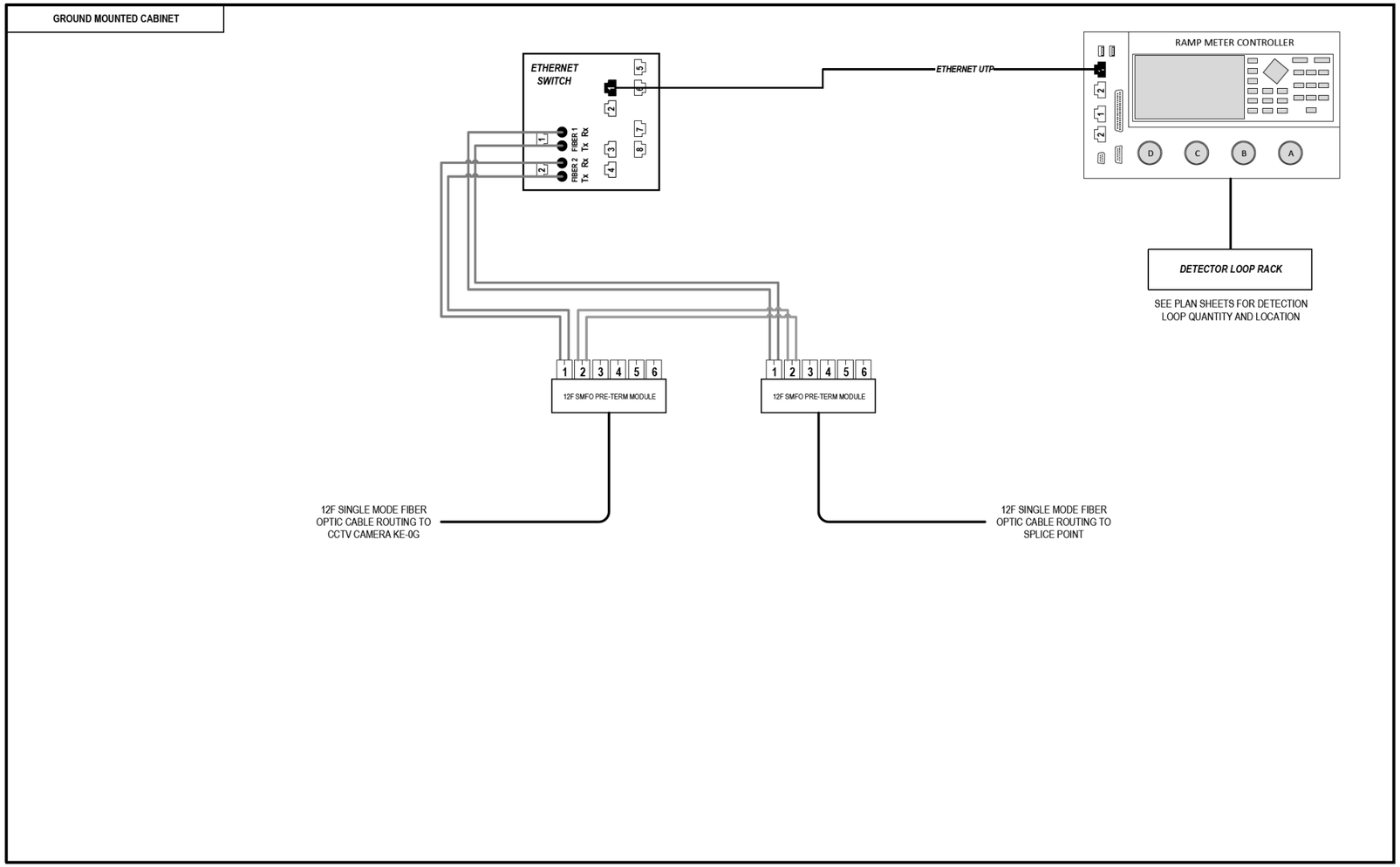


LEGEND

E238.2D	DEVICE IDENTIFIER
MVDS	WIRELESS VEHICLE DETECTION SYSTEM
MVDS	EXISTING WIRELESS VEHICLE DETECTION SYSTEM
CCTV	CCTV CAMERA
CCTV	EXISTING CCTV CAMERA
DMS	DYNAMIC MESSAGE SIGN
DMS	EXISTING DYNAMIC MESSAGE SIGN
	PATCH THROUGH FIBER OPTIC JUMPER
	FIBER OPTIC JUMPER, SINGLE MODE
	FIBER OPTIC PIGTAIL, SINGLE MODE
	BARE FIBER LEFT COILED IN SPLICE TRAY
	FIBER OPTIC FUSION SPLICE
	FIBER PATCH PANEL
	SURGE SUPPRESSION

NOTE: GRAYSCALE AND DASHED LINE WEIGHT DENOTE EXISTING CABLES, DEVICES, OR ENCLOSURES.

STAGING OF WORK:

CONTRACT 60X94

INSTALL ITS CABINET, CABINET EQUIPMENT, AND RELATED CABLING. INSTALL 12 SMF LATERAL TO TRUNKLINE, CABLE TO BE SPLICED TO TRUNKLINE BY OTHERS IN CONTRACT 60Y00.

CONTRACT 60Y00

ITS CABINET, CABINET EQUIPMENT, AND RELATED CABLING INSTALLED BY OTHERS IN CONTRACT 60X94. CONTRACT 60Y00 TO SPLICE 12 SMF LATERAL TO TRUNKLINE AND TO INSTALL 12 SMF LATERAL FROM CAMERA KE-0G.

ITS CABINET Z8 (JACKSON BOULEVARD)

AECOM
303 EAST WACKER DRIVE, SUITE 1400
CHICAGO, IL 60601-5276
PHONE: (312) 373-7700 FAX: (312) 373-6800

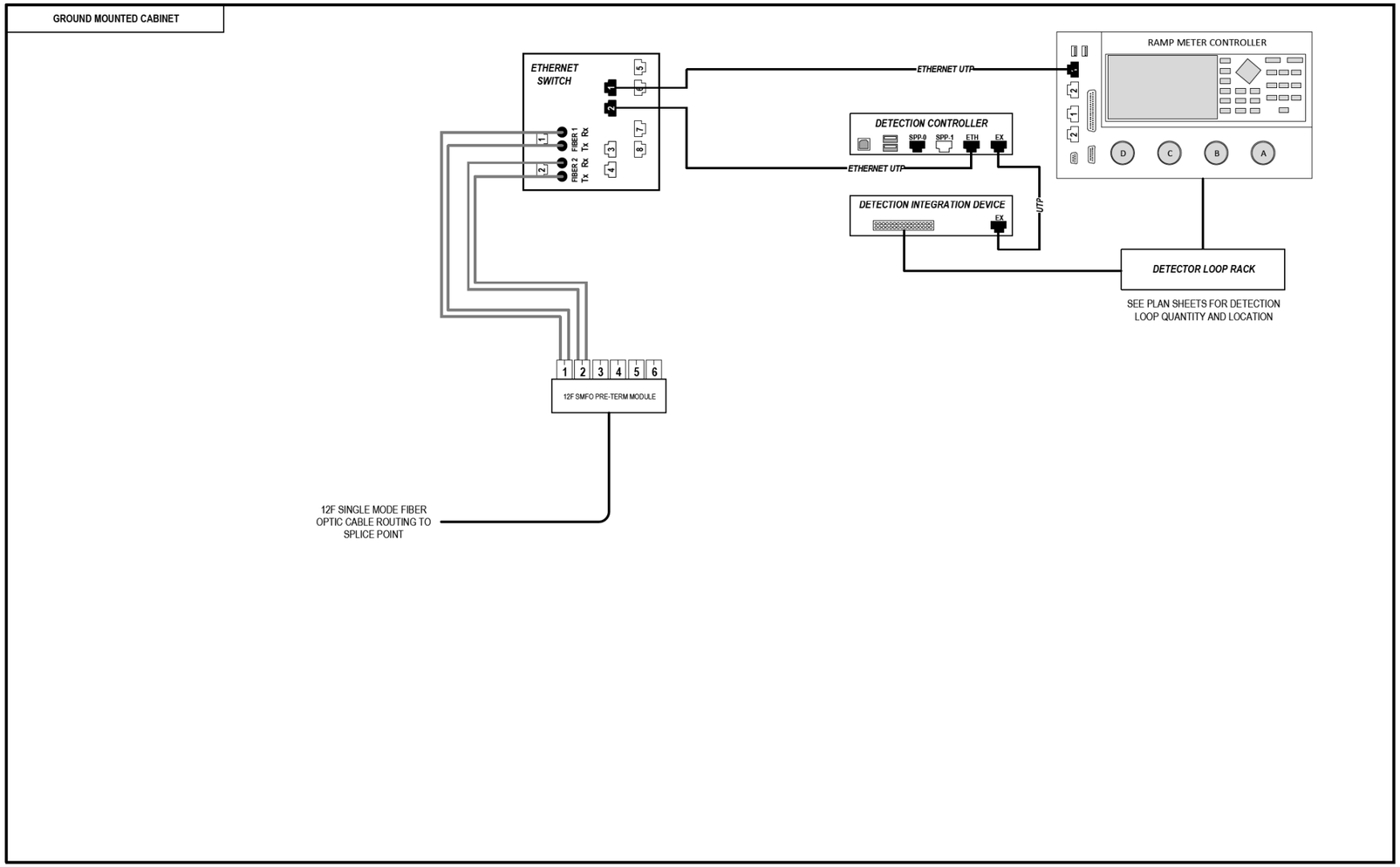
D160X94-sht-ITS-13	DESIGNED - PTJ	REVISED -
USER NAME = mgersc	DRAWN - CAM	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED - MJL	REVISED -
PLOT DATE = 3/6/2020	DATE - 3-13-2020	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

COMMUNICATIONS EQUIPMENT SCHEMATIC:
ITS CABINET Z8 (JACKSON BLVD)

SCALE: N.T.S. | SHEET 13 OF 14 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-015R&B-R	COOK	825	301
		CONTRACT NO. 60X94		
		ILLINOIS FED. AID PROJECT		



LEGEND

E238.2D	DEVICE IDENTIFIER
MVDS	WIRELESS VEHICLE DETECTION SYSTEM
MVDS	EXISTING WIRELESS VEHICLE DETECTION SYSTEM
CCTV	CCTV CAMERA
CCTV	EXISTING CCTV CAMERA
DMS	DYNAMIC MESSAGE SIGN
DMS	EXISTING DYNAMIC MESSAGE SIGN
	PATCH THROUGH FIBER OPTIC JUMPER
	FIBER OPTIC JUMPER, SINGLE MODE
	FIBER OPTIC PIGTAIL, SINGLE MODE
	BARE FIBER LEFT COILED IN SPLICE TRAY
×	FIBER OPTIC FUSION SPLICE
	FIBER PATCH PANEL
	SURGE SUPPRESSION

NOTE: GRAYSCALE AND DASHED LINE WEIGHT DENOTE EXISTING CABLES, DEVICES, OR ENCLOSURES.

STAGING OF WORK:

CONTRACT 60X94

INSTALL ITS CABINET, CABINET EQUIPMENT, AND RELATED CABLING. INSTALL 12 SMF LATERAL TO TRUNKLINE, CABLE TO BE SPLICED TO TRUNKLINE BY OTHERS IN CONTRACT 60Y00.

CONTRACT 60Y00

ITS CABINET, CABINET EQUIPMENT, AND CABLING INSTALLED BY OTHERS IN CONTRACT 60X94. CONTRACT 60Y00 TO SPLICE 12 SMF LATERAL TO TRUNKLINE.

ITS CABINET Z11 (ADAMS STREET)

ITS-14

AECOM
303 EAST WACKER DRIVE, SUITE 1400
CHICAGO, IL 60601-5276
PHONE: (312) 373-7700 FAX: (312) 373-6800

D160X94-sht-ITS-14	DESIGNED - PTJ	REVISED -
USER NAME = mgersc	DRAWN - CAM	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED - MJL	REVISED -
PLOT DATE = 3/6/2020	DATE - 3-13-2020	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

COMMUNICATIONS EQUIPMENT SCHEMATIC:
ITS CABINET Z11 (ADAMS ST)

SCALE: N.T.S. | SHEET 14 OF 14 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-015R&B-R	COOK	825	302
		CONTRACT NO. 60X94		
	ILLINOIS	FED. AID PROJECT		

Bench Mark: Set "X" on east barrier wall of I-90 at ℄ of Adams Street. Elev. 581.17.

Existing Structure: SN 016-0589. Constructed in 1955 under F.A.I. Route 173, Section 0101.2-3B. The outbound ramp from Adams to northbound I-90/94 was constructed in 1957. The bridge underwent repairs in 1999 under Section 0101-2-3B-R. Four span bridge measures 282'-4" from back to back of abutments. Out-to-out width of 73'-11". The spans are supported by 36" wide flange beams. Substructure is reinforced concrete closed abutments and multi-column piers founded on timber piles with concrete footing bracing. The Existing Adams Entrance Ramp is offset 90° from the centerline of Adams Street. Three span bridge that measures 169'-10" from back of north abutment to the centerline of the north fascia beam on Adams Street. Out-to-out width is 22'-6". The spans are supported by 24" wide flange beams. Substructure is reinforced concrete closed north abutment and single hammerhead piers founded on caissons. A concrete cantilever retaining wall extends north of the north abutment for 167'-7". The existing bridge is to be removed and replaced.

The bridge will be closed to traffic and detoured during construction.

No Salvage.

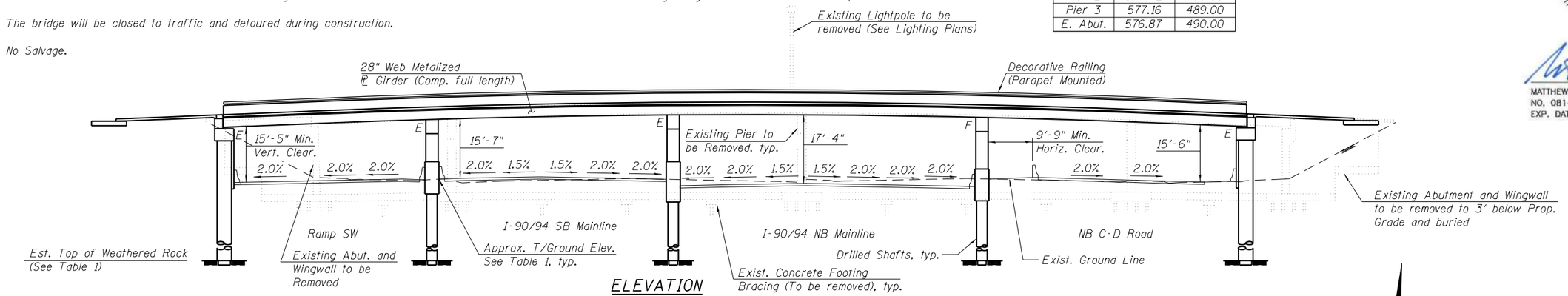
TABLE 1

Location	Approx. T/Ground Elev.	Approx. T/Weather. Rock Elev.
W. Abut.	576.15	501.10
Pier 1	575.93	489.00
Pier 2	577.42	489.00
Pier 3	577.16	489.00
E. Abut.	576.87	490.00

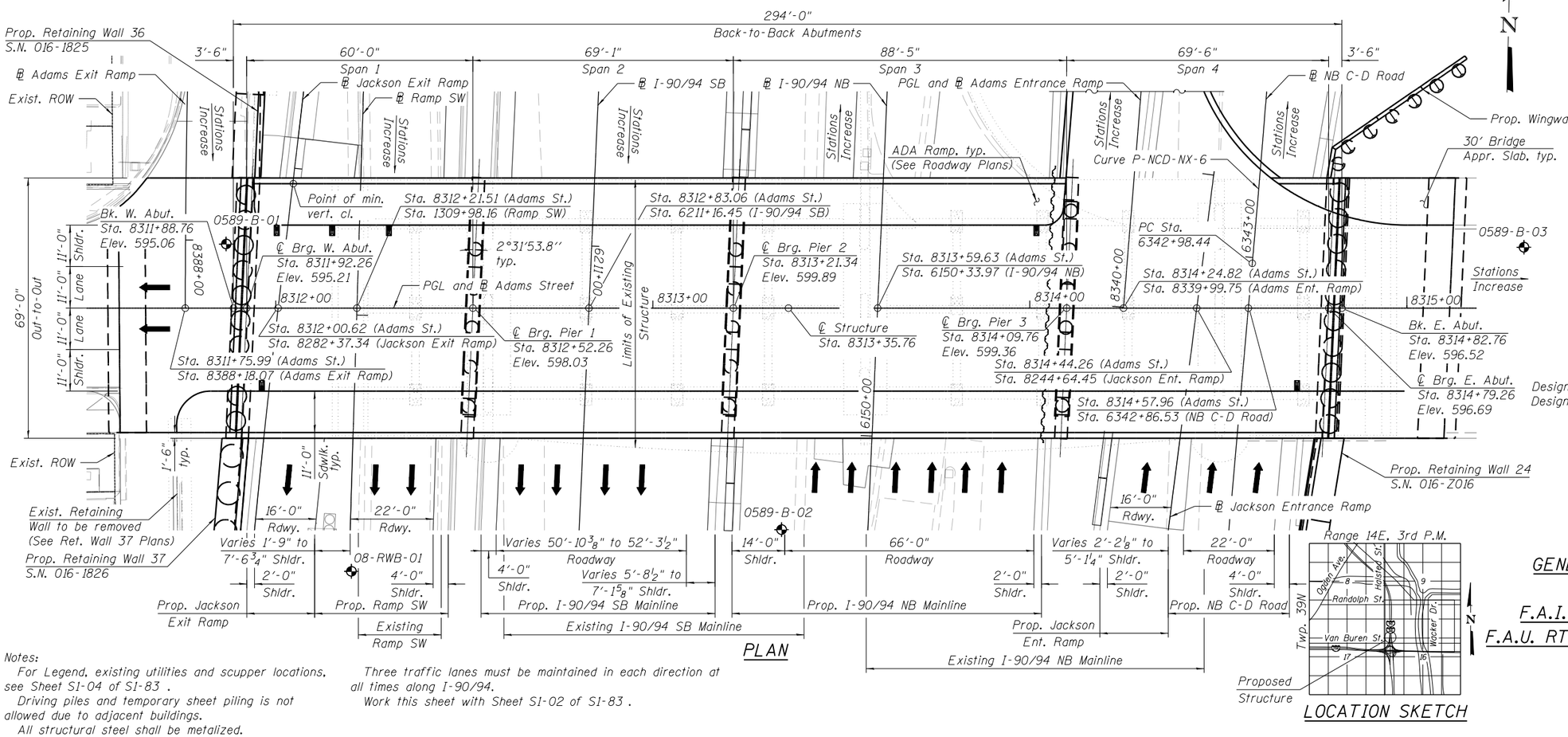
MATTHEW D. SANTEFORD 081-007244 LICENSED STRUCTURAL ENGINEER OF STATE OF ILLINOIS

03-06-2020

MATTHEW D. SANTEFORD, P.E., S.E.
NO. 081-007244
EXP. DATE 11/30/2020



ELEVATION



PLAN

LOCATION SKETCH

LOADING HL-93

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

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications 8th Edition

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
f'c = 4,000 psi (Superstructure Concrete)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

PRECAST UNITS

f'c = 4,500 psi

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.085g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.144g
Soil Site Class = D

Notes:
For Legend, existing utilities and scupper locations, see Sheet S1-04 of S1-83 .
Driving piles and temporary sheet piling is not allowed due to adjacent buildings.
All structural steel shall be metalized.

Three traffic lanes must be maintained in each direction at all times along I-90/94.
Work this sheet with Sheet S1-02 of S1-83 .

GENERAL PLAN AND ELEVATION 1
ADAMS STREET OVER
F.A.I. 90/94 (KENNEDY EXPRESSWAY)
F.A.U. RTE. 1421 - SECTION 2014-015R&B-R
COOK COUNTY
STATION 8313+35.76
STRUCTURE NO. 016-1701

TranSystems

USER NAME = wjcolletti	DESIGNED	WJC	REVISED
	CHECKED	MDS/TLR	REVISED
PLOT SCALE = NTS	DRAWN	WJC	REVISED
PLOT DATE = 3/5/2020	CHECKED	MDS/TLR	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S1-01 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	303
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

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Notes:
Work this sheet with Sheet S1-01 of S1-83 .
For Legend, see Sheet S1-04 of S1-83 .
For existing utilities and scupper locations, see Sheet S1-05 of S1-83 .
Offsets are measured from the ℄ Adams Entrance Ramp to the front face of the precast panel. Elevations are shown at the top of the barrier.
Span lengths are measured along the ℄ Adams Entrance Ramp.

TABLE 2

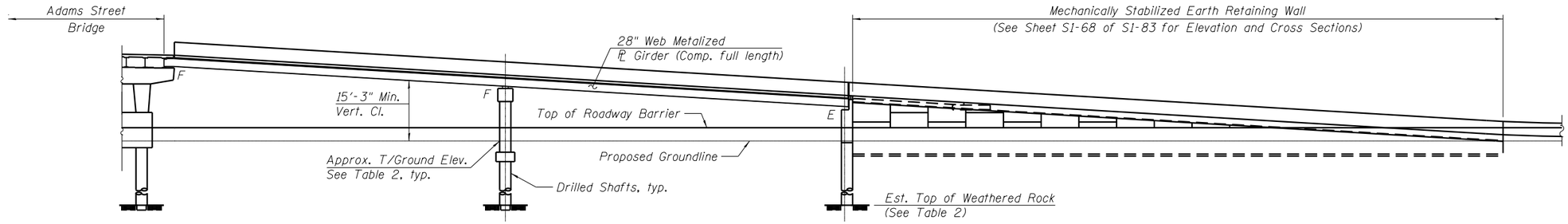
Location	Approx. T/Ground Elev.	Approx. T/Weather. Rock Elev.
R1	577.68	483.00
N. Abut.	577.47	479.40

CURVE DATA
(℄ NB C-D Road)

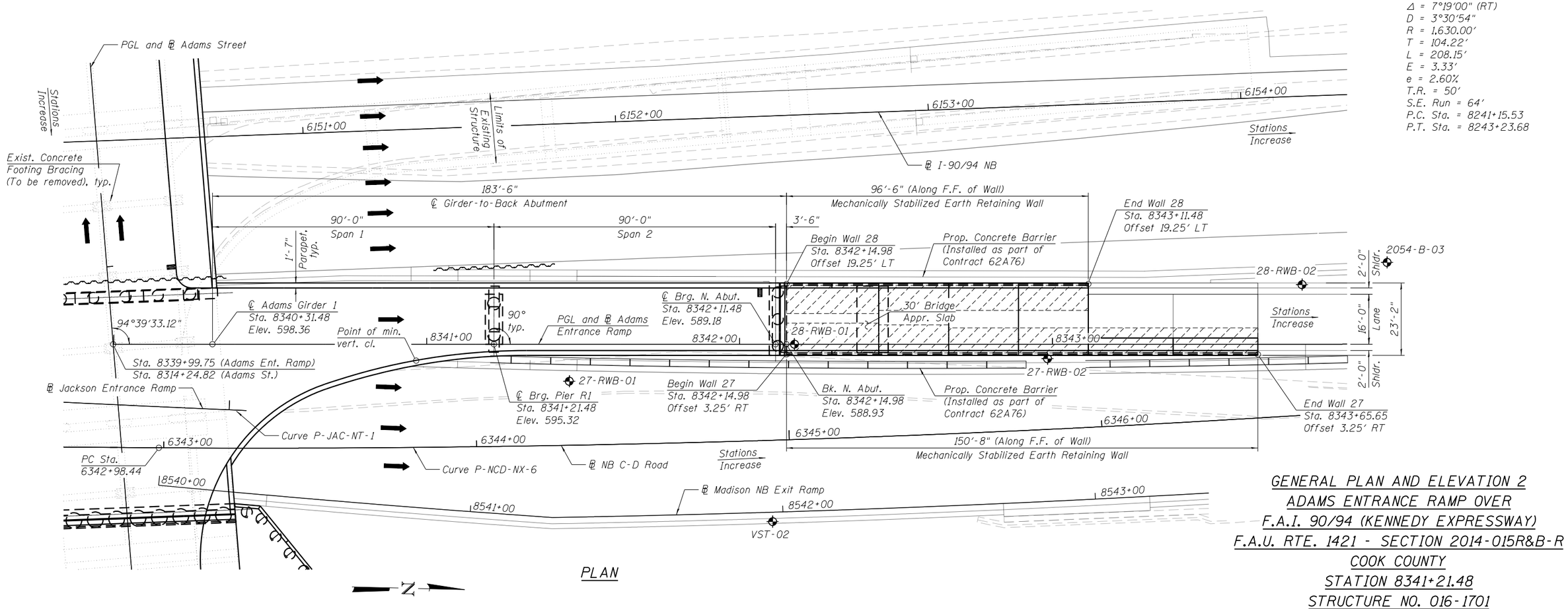
P-NCD-NX-6
P.I. Sta. = 6345+36.95
Δ = 5°12'37" (LT)
D = 1°05'35"
R = 5,242.00'
T = 238.51'
L = 476.70'
E = 5.42'
e = NC
T.R. = NA
S.E. Run = NA
P.C. Sta. = 6342+98.44
P.T. Sta. = 6347+75.14

CURVE DATA
(℄ Jackson Entrance Ramp)

P-JAC-NT-1
P.I. Sta. = 8242+19.75
Δ = 7°19'00" (RT)
D = 3°30'54"
R = 1,630.00'
T = 104.22'
L = 208.15'
E = 3.33'
e = 2.60%
T.R. = 50'
S.E. Run = 64'
P.C. Sta. = 8241+15.53
P.T. Sta. = 8243+23.68



ELEVATION



PLAN

GENERAL PLAN AND ELEVATION 2
ADAMS ENTRANCE RAMP OVER
F.A.I. 90/94 (KENNEDY EXPRESSWAY)
F.A.U. RTE. 1421 - SECTION 2014-015R&B-R
COOK COUNTY
STATION 8341+21.48
STRUCTURE NO. 016-1701

USER NAME = wjcolletti	DESIGNED	WJC	REVISED	
	CHECKED	MDS/TLR	REVISED	
PLOT SCALE = NTS	DRAWN	WJC	REVISED	
PLOT DATE = 3/5/2020	CHECKED	MDS/TLR	REVISED	

TranSystems

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S1-02 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	304
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

136159 PW
016170I-60X94-S002-GPE2.dgn

GENERAL NOTES:

1. Fasteners shall be ASTM A325 Type 1, hot dip galvanized bolts. Bolts $^{7}/_{8}$ in. ϕ, holes $^{15}/_{16}$ in. ϕ, unless otherwise noted.
2. Calculated weight of Structural Steel = 873,400 pounds (AASHTO M270 Grade 50).
3. All structural steel shall be metalized (see Special Provision).
4. Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.
5. No field welding is permitted except as specified in the contract documents.
6. Reinforcement bars designated (E) shall be epoxy coated.
7. Plan dimension and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
8. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $^{1}/_{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
9. Concrete Sealer shall be applied to the designated areas of the Piers, Abutments, Wingwall and Retaining Walls.
10. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
11. For Conduit Attached to Structure quantities and details, see Electrical Plans.
12. The contractor shall exercise extreme caution during construction to make certain that construction activities, live load surcharge and other loads applied to the structures will not have detrimental effects on the adjacent building foundations. Any damage during construction shall be repaired by the contractor at his expense and no charge to the department. Driving piles and temporary sheet piling is not allowed.
13. Slipforming of parapets is not allowed.
14. For drilled shaft locations where permanent casing is required as shown on the plans, the casing will be paid for under the Permanent Casing pay item. If contractor elects to use permanent casing for ease of construction in locations where permanent casing is not required on the plans, the casing will not be paid for separately and is included in the Drilled Shaft in Soil pay item.
15. Limited groundwater elevation data is available in the boring logs. In addition, groundwater may also be present in deeper granular layers. The groundwater may rise in the shafts to an elevation above the top of granular layers. The Contractor shall consider this information when choosing construction methods. The Contractor will not be compensated for issues related to the groundwater elevation.
16. The Contractor shall take all necessary precautions not to contaminate groundwater during the drilled shaft construction operation. Contractor is responsible for the proper containment and disposal of the contaminated groundwater and spoils resulting from Contractor's means and methods. No additional cost will be paid for this effort.
17. The Contractor shall field verify location of existing utilities prior to construction. The Contractor shall take precautions not to damage existing utilities. Any such damage shall be repaired by the Contractor at no additional cost.
18. Structural steel erection shall be accomplished by a steel erection contractor or subcontractor certified as an Advanced Certified Steel Erector (ACSE) by the American Institute of Steel Construction (AISC). See special provision for Erection of Complex Steel Structures.
19. The Drilled Shaft quantities and reinforcement detailing are based on the estimated elevations shown on the plans. The actual elevations may differ at each shaft locations and corresponding adjustments shall be made to the drilled shaft and reinforcement quantities and payment limits.
20. Based on the squeeze potential of the clay soils, the use of temporary casing will be required to Elevation 540.00 in order to properly construct the drilled shafts. Casing may be pulled or left in place, as determined by the Contractor at no cost to the Department.
21. The Contractor shall coordinate the construction of the proposed structure with the construction of the proposed Retaining Wall 24, Retaining Wall 36, Retaining Wall 37, Retaining Wall 8 and the proposed Jackson Blvd. Bridge. See MOT plan sheets and special provisions, including the Available Work Areas and Sequencing Requirements special provision, for additional construction and coordination requirements.
22. The Contractor shall provide vibration and displacement monitoring at the locations specified in the Special Provision for Construction Vibration Monitoring and Monitoring Adjacent Structures, to ensure that removal/construction activities in the vicinity of the structures do not have detrimental effects on building foundations. No additional compensation shall be provided to the Contractor for alternative means and methods, or additional precautionary measures, required during removal/construction activities to satisfy these requirements. See Contract Special Provisions for details.
23. The quality of bedrock at entrance Ramp Pier R1 and North Abutment shall be checked by the Contractor during construction to verify the design bedrock conditions. An RQD of 75% or more should be verified.
24. MSE Wall supplier shall design the MSE Wall assuming granular reinforced mass with an effective internal friction angle of 34 degrees and unit weight of 120 lbs./cu. ft. For embankment behind granular reinforced mass, an embankment unit weight of 120 lbs./cu. ft and an effective friction angle of 30 degrees shall be used in the wall system design.
25. All Lightweight Cellular Concrete Fill for the abutments and wingwall shall be Class I. All Lightweight Cellular Concrete Fill for the MSE retaining wall shall be Class III. See Special Provisions.
26. Bridge Deck Grooving shall be applied to the Adams Bridge deck and the west and east approach slabs. Bridge Deck Grooving (Longitudinal) shall be applied to the Adams Ramp deck, north approach slab, and entrance ramp concrete and anchorage slabs.
27. If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
28. The Contractor shall provide a method to assure the soldier piles achieve at least the plan tip elevations. The soldier pile locations and elevations shall meet the tolerances provided in the Special Provisions. Any additional measures required to satisfy the construction tolerances will not be paid for separately but shall be included in Drilling and Setting Soldier Piles (In Soil).
29. Soldier piles shall be cleaned and given one shop coat of Inorganic Zinc Rich Primer. Cost included with Furnishing Soldier Piles (W Section).

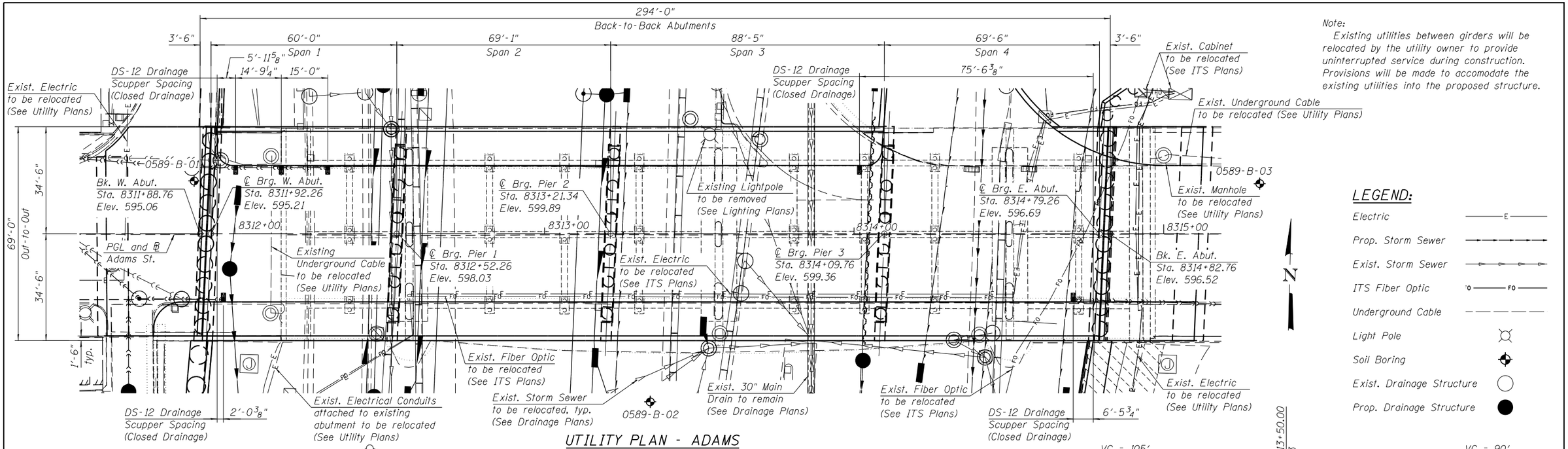
STATION 8313+35.76
BUILT 20-- BY
STATE OF ILLINOIS
F.A.U. RT. 1421 SEC. 2014-015R&B-R
LOADING HL-93
STR. NO. 016-1701

NAME PLATE
See Std. 515001

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total Quantity
Removal Of Existing Structures No. 1	Each	1		1
Protective Shield	Sq. Yd.	2,661		2,661
Structure Excavation	Cu. Yd.		1,956	1,956
Concrete Structures	Cu. Yd.		684.4	684.4
Rubbed Finish	Sq. Ft.		5,008	5,008
Concrete Superstructure	Cu. Yd.	1,143.4		1,143.4
Bridge Deck Grooving	Sq. Yd.	1,885		1,885
Form Liner Textured Surface	Sq. Ft.		1,914	1,914
Protective Coat	Sq. Yd.	3,828		3,828
Concrete Superstructure (Approach Slab)	Cu. Yd.	220.5		220.5
Furnishing And Erecting Structural Steel	L. Sum	0.5		0.5
Stud Shear Connectors	Each	19,521	239	19,760
Reinforcement Bars	Pound		532,520	532,520
Reinforcement Bars, Epoxy Coated	Pound	356,310	178,780	535,090
Bar Splicers	Each		164	164
Name Plates	Each		1	1
Permanent Casing	Foot		2,413	2,413
Drilled Shaft in Soil	Cu. Yd.		2,090.7	2,090.7
Drilled Shaft in Rock	Cu. Yd.		196.4	196.4
Preformed Joint Strip Seal	Foot	156		156
Elastomeric Bearing Assembly, Type I	Each	52		52
Anchor Bolts, 5/8"	Each	100		100
Anchor Bolts, 3/4"	Each	64		64
Anchor Bolts, 1 1/4"	Each	4		4
Temporary Soil Retention System	Sq. Ft.		326	326
Furnishing Soldier Piles (W Section)	Foot		395	395
Drilling And Setting Soldier Piles (In Soil)	Cu. Ft.		3,063	3,063
Concrete Sealer	Sq. Ft.		15,493	15,493
Geocomposite Wall Drain	Sq. Yd.		195	195
Crosshole Sonic Logging Access Ducts	Foot		2,129	2,129
Crosshole Sonic Logging Testing	Each		5	5
Class SI Concrete (Miscellaneous)	Cu. Yd.		46.1	46.1
Lightweight Cellular Concrete Fill	Cu. Yd.		1,913	1,913
Decorative Railing (Parapet Mounted)	Foot	507		507
Slope Inclinometer	Each		2	2
Detectable Warnings (Special)	Sq. Ft.	89		89
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	742		742
High Load Multi-Rotational Bearings, Fixed - 250K	Each	11		11
High Load Multi-Rotational Bearings, Fixed - 350K	Each	4		4
High Load Multi-Rotational Bearings, Fixed - 500K	Each	1		1
Drainage Scuppers, DS-11	Each	1		1
Drainage Scuppers, DS-12	Each	6		6
Drainage System	L. Sum	0.5		0.5
Mechanically Stabilized Earth Retaining Wall, Special	Sq. Ft.		2,012	2,012
Pipe Underdrains For Structures 4"	Foot		213	213

INDEX OF SHEETS

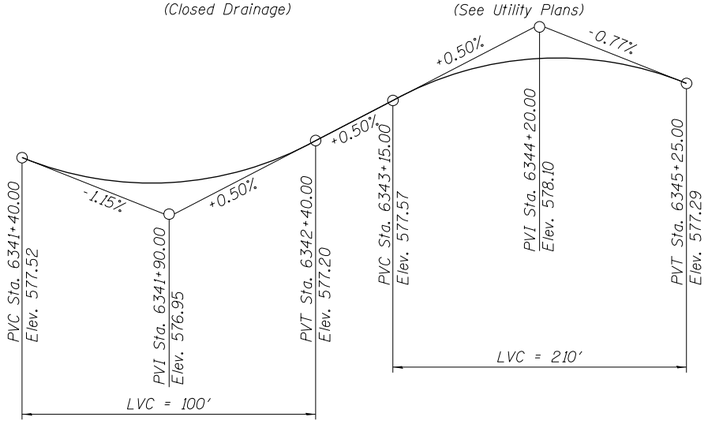


UTILITY PLAN - ADAMS

Note:
Existing utilities between girders will be relocated by the utility owner to provide uninterrupted service during construction. Provisions will be made to accomodate the existing utilities into the proposed structure.

LEGEND:

- Electric
- Prop. Storm Sewer
- Exist. Storm Sewer
- ITS Fiber Optic
- Underground Cable
- Light Pole
- Soil Boring
- Exist. Drainage Structure
- Prop. Drainage Structure



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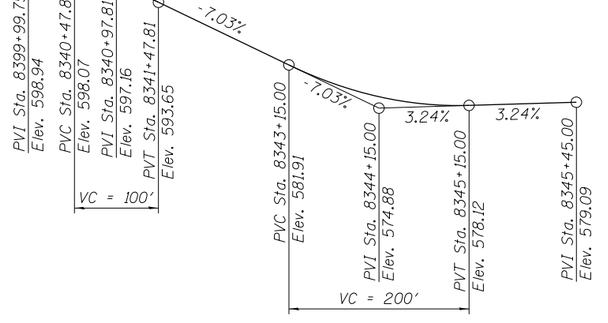

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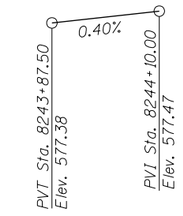
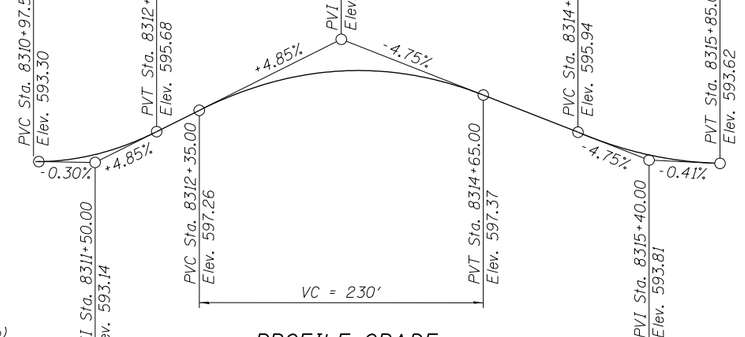


PROFILE GRADE
(℄ Jackson Entrance Ramp)



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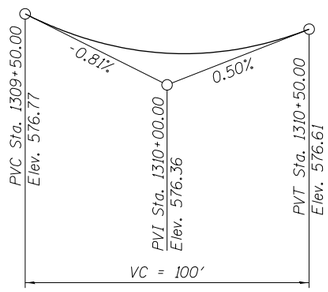
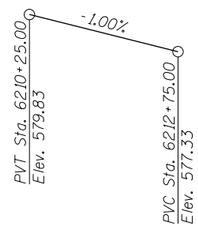
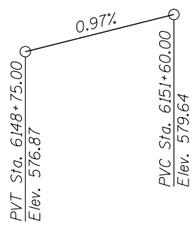
(℄ Adams Street)



PROFILE GRADE
(℄ Ramp SW)



PROFILE GRADE
(℄ I-90/94 SB)



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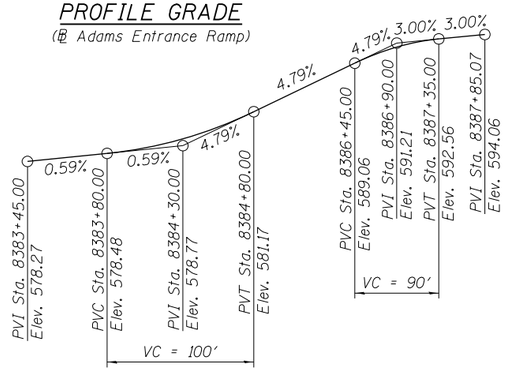

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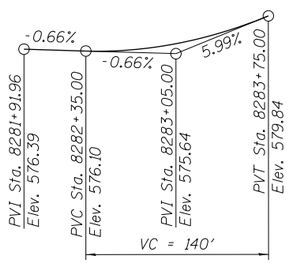
(℄ Adams Exit Ramp)



PROFILE GRADE
(℄ Jackson Exit Ramp)

USER NAME = wjcolletti	DESIGNED WJC	REVISED	
	CHECKED MDS	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

TranSystems

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA 2
STRUCTURE NO. 016-1701
SHEET NO. S1-04 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	306
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

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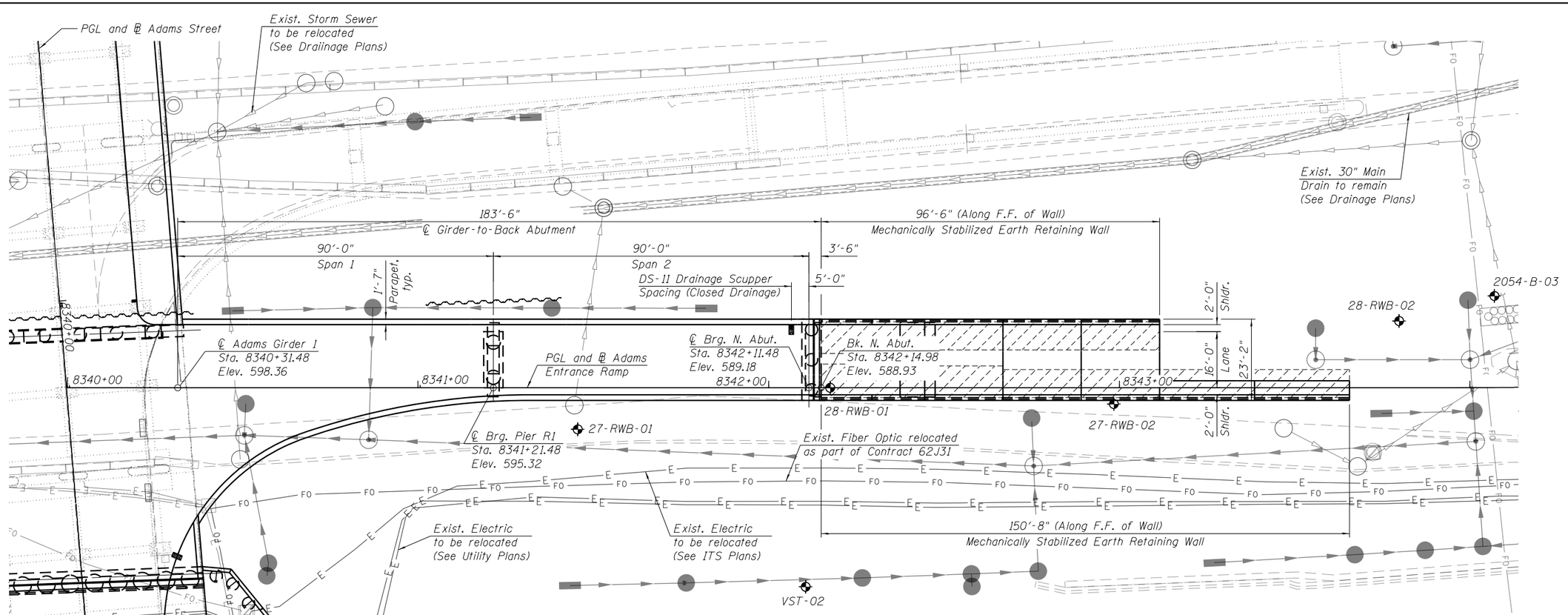
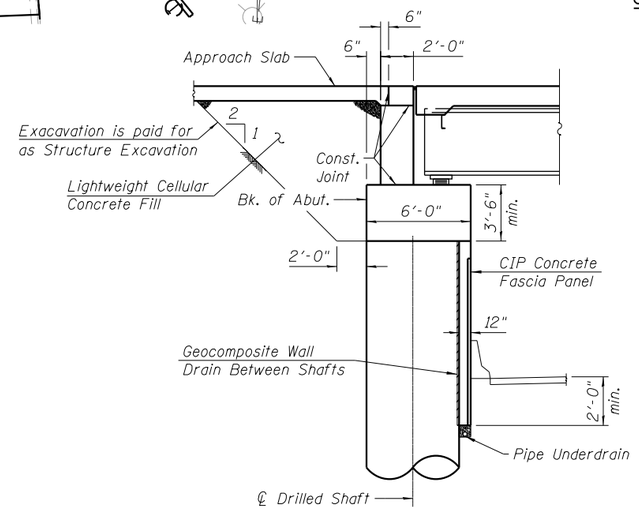
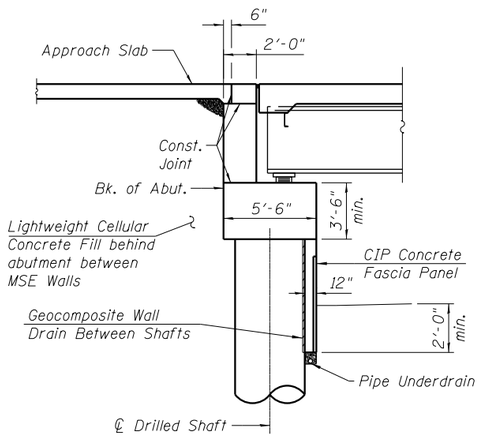


UTILITY PLAN - RAMP



SECTION THRU WEST AND EAST ABUTMENTS

(Horiz. dim. at Rt. L's)



SECTION THRU NORTH ABUTMENT

(Horiz. dim. at Rt. L's)

TranSystems	USER NAME = wjcolletti	DESIGNED WJC	REVISED	
		CHECKED MDS	REVISED	
	PLOT SCALE = NTS	DRAWN JTF	REVISED	
	PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA 3
STRUCTURE NO. 016-1701
SHEET NO. S1-05 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	307
		CONTRACT NO. 60X94		
	ILLINOIS	FED. AID PROJECT		

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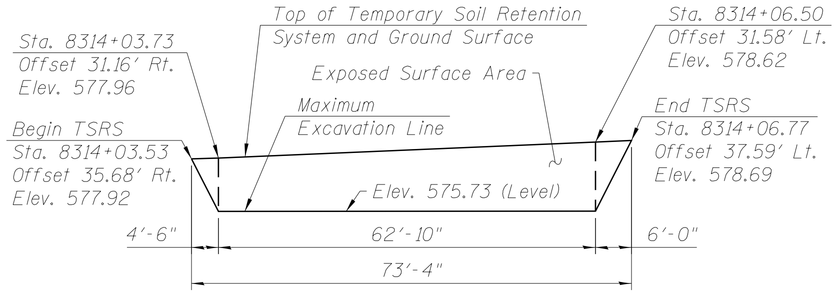


TEMPORARY SOIL RETENTION SYSTEM 1 - ELEVATION

(Looking West. Measured along F.F. of TSRS. Stations and offsets from ℄ Adams St.)

Notes:

See Utility Plan on Sheets S1-04 and S1-05 of S1-83 for existing utilities.

Driving piles and temporary sheet piling is not allowed.

The maximum allowable excavation is 1:2(V:H).

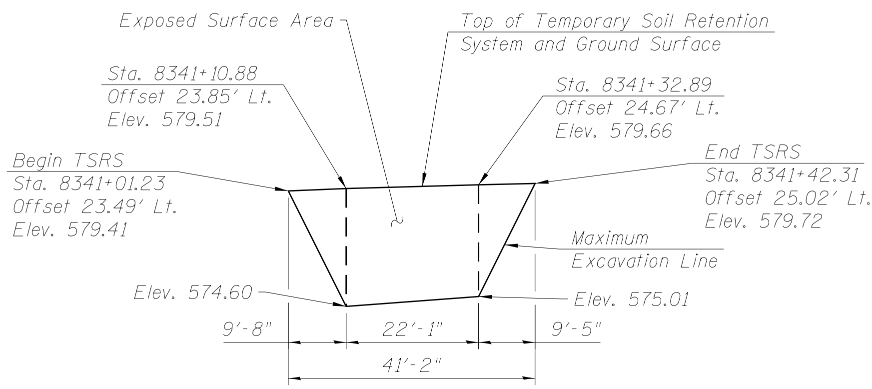
In addition to vibration and displacement monitoring, the Contractor shall monitor movements with Slope Inclinometers. All inclinometers shall be installed prior to drilling. See special provision for Slope Inclinometer.

Impact driving of piles and sheet piles is not allowed.

A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a soil retention system design including plan details and calculations for review and acceptance by the Engineer. See Special Provision for Temporary Soil Retention System.

BILL OF MATERIAL

Item	Unit	Quantity
Temporary Soil Retention System	Sq. Ft.	326

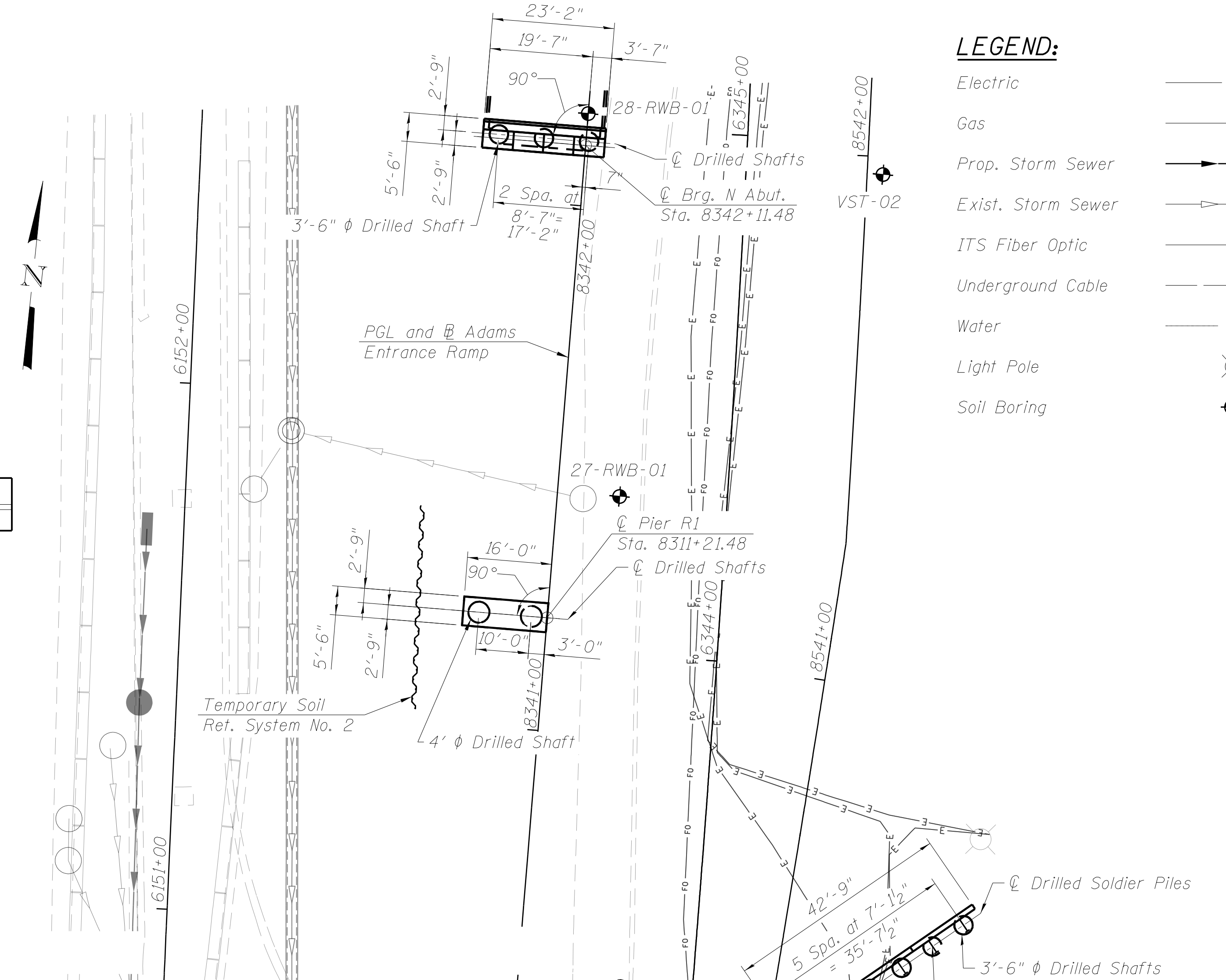


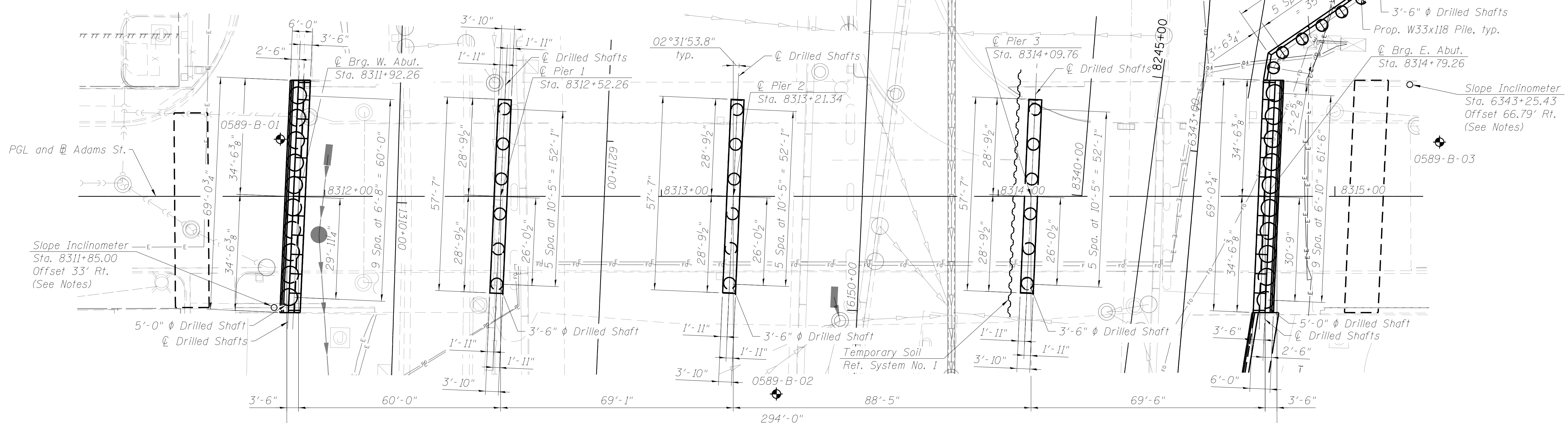
TEMPORARY SOIL RETENTION SYSTEM 2 - ELEVATION

(Looking West. Measured along F.F. of TSRS. Stations and offsets from ℄ Adams St. Entrance Ramp)

LEGEND:

Symbol	Line
Electric	—E—
Gas	—G—
Prop. Storm Sewer	
Exist. Storm Sewer	
ITS Fiber Optic	
Underground Cable	
Water	—W—
Light Pole	
Soil Boring	





FOUNDATION LAYOUT

TranSystems	USER NAME = wjcolletti	DESIGNED TLR	REVISED	
	PLOT SCALE = NTS	CHECKED WJC	REVISED	
	PLOT DATE = 3/5/2020	DRAWN JTF	REVISED	
		CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION LAYOUT
STRUCTURE NO. 016-1701

SHEET NO. S1-06 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	308

CONTRACT NO. 60X94

ILLINOIS FED. AID PROJECT

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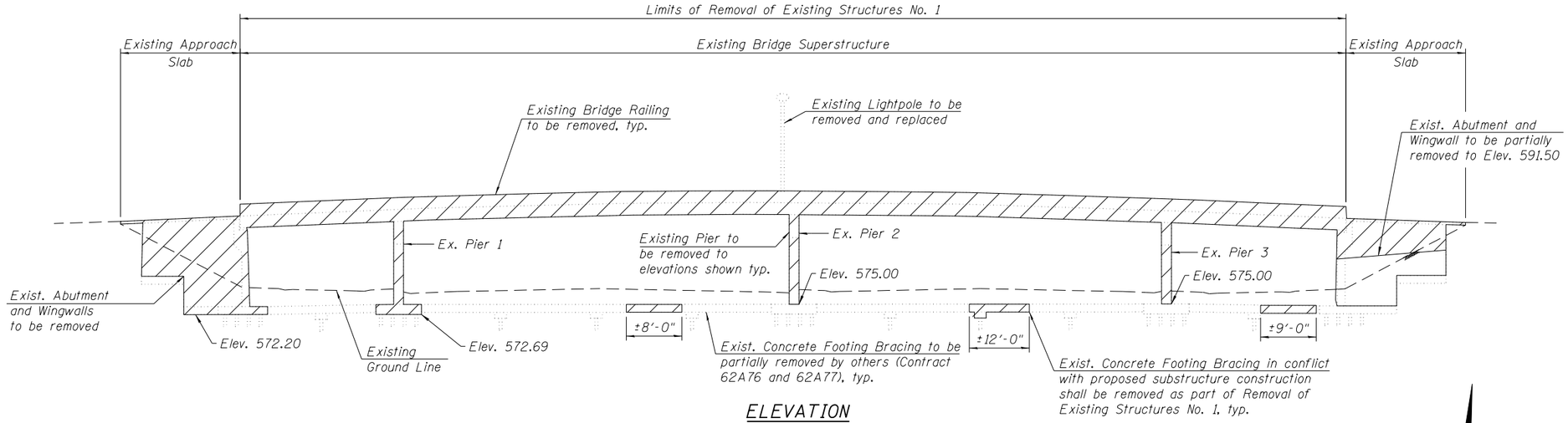
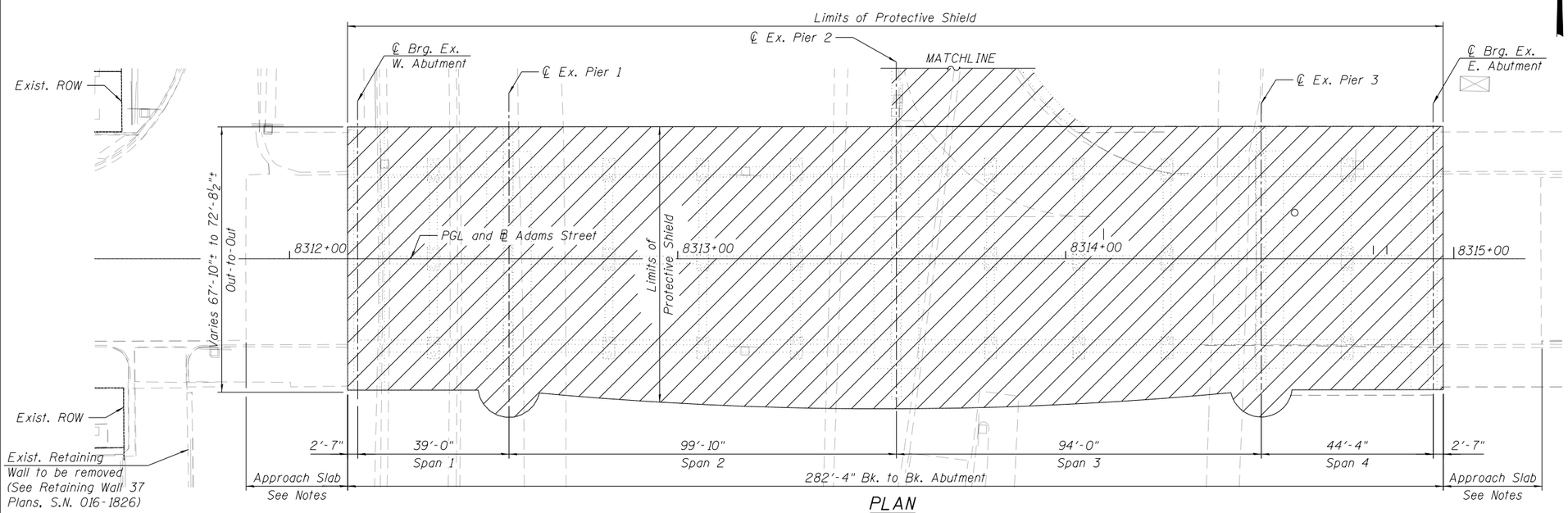


ELEVATION



PLAN

N

Notes:

Existing utilities between girders will be relocated to provide uninterrupted service during construction (by others).

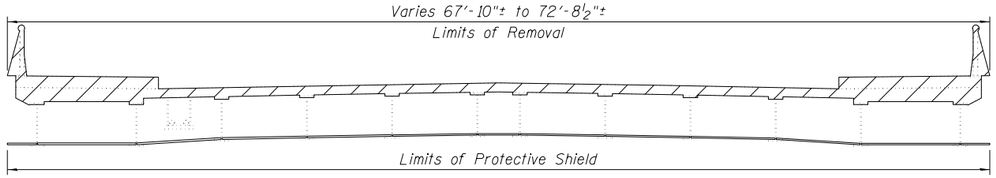
The Contractor is responsible to protect the roadway below from falling objects and debris during removal of the existing structure.

Removal of existing structures shall be in accordance with Section 501 of the Standard Specifications. This item shall include complete removal of the concrete bridge rails, concrete deck and superstructure. This item also includes partial removal of the piers down to a minimum elevation as noted in plans.

The existing structural steel coating contains lead. The Contractor shall take appropriate cautions to deal with the presence of lead on this project.

Work this sheet with Sheet S1-08 of S1-83 .

For existing approach slab removal quantities, see Roadway plans.



CROSS SECTION OF EXISTING SUPERSTRUCTURE

(Looking East)

LEGEND

Removal of Existing Structures No. 1

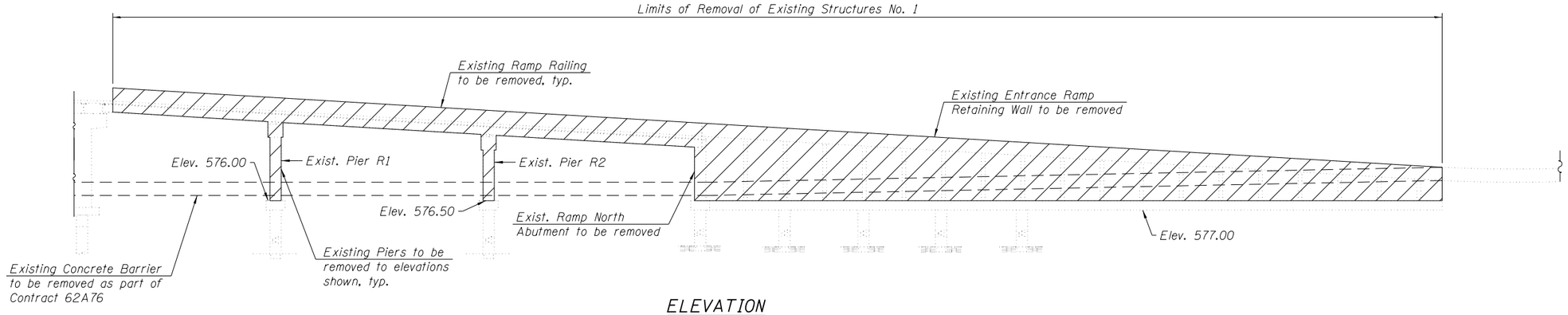
BILL OF MATERIAL

Item	Unit	Quantity
Removal of Existing Structures No. 1	Each	1
Protective Shield	Sq Yd	2,661

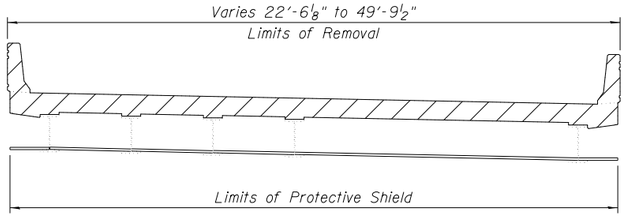
TranSystems	USER NAME = wjcollett	DESIGNED WJC	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		CHECKED MDS	REVISED	
	PLOT SCALE = NTS	DRAWN JTF	REVISED	
	PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

EXISTING STRUCTURE REMOVAL DETAILS 1
STRUCTURE NO. 016-1701
SHEET NO. S1-07 OF S1-83 SHEETS

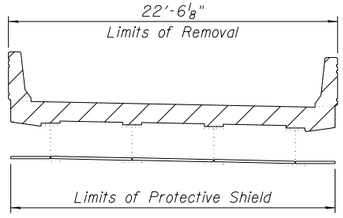
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	309
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			



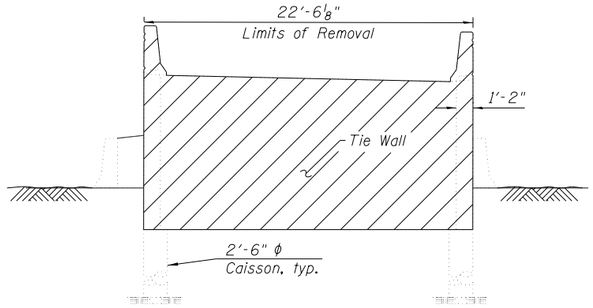
ELEVATION



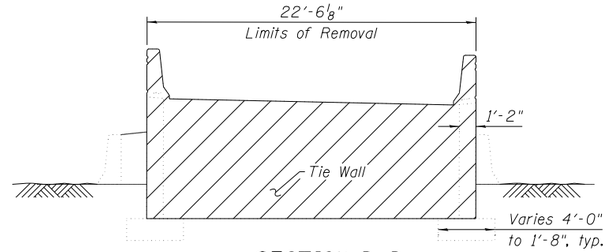
SECTION A-A
(Looking North)



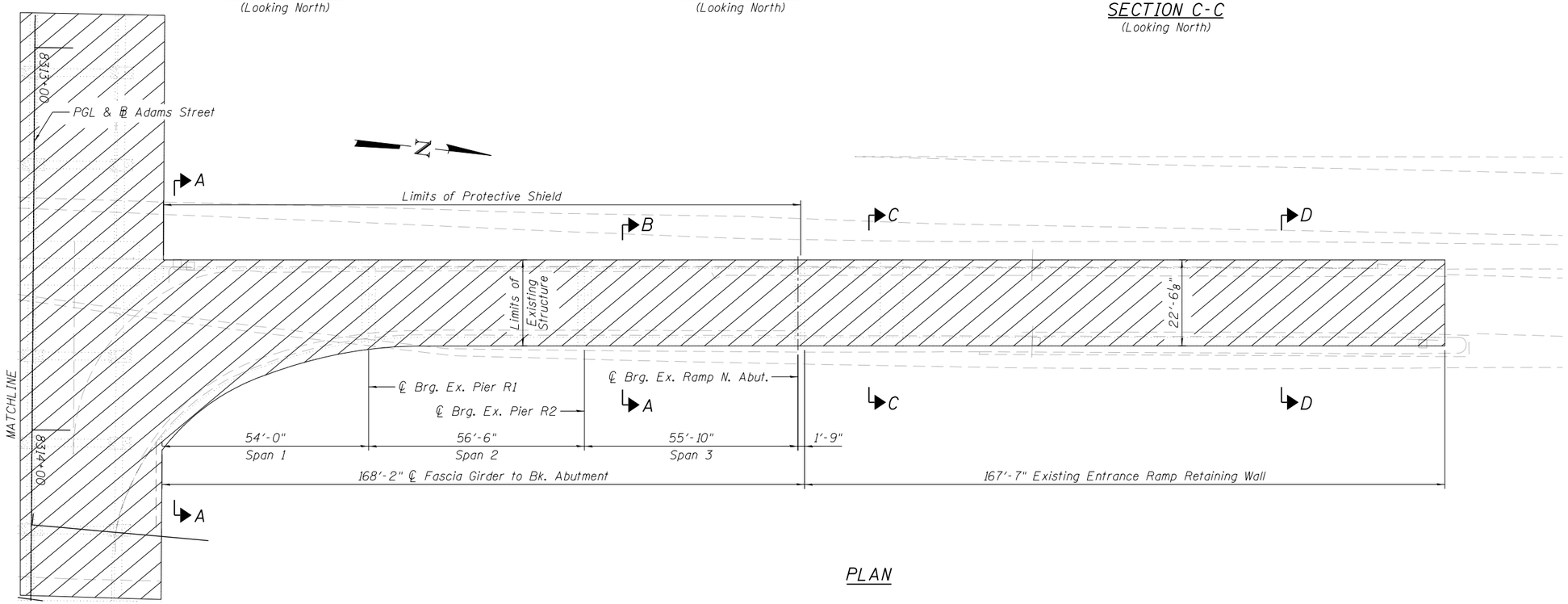
SECTION B-B
(Looking North)



SECTION C-C
(Looking North)



SECTION D-D
(Looking North)



PLAN

LEGEND

Removal of Existing Structures No. 1

Notes:
See Sheet S1-07 of S1-83 for notes.

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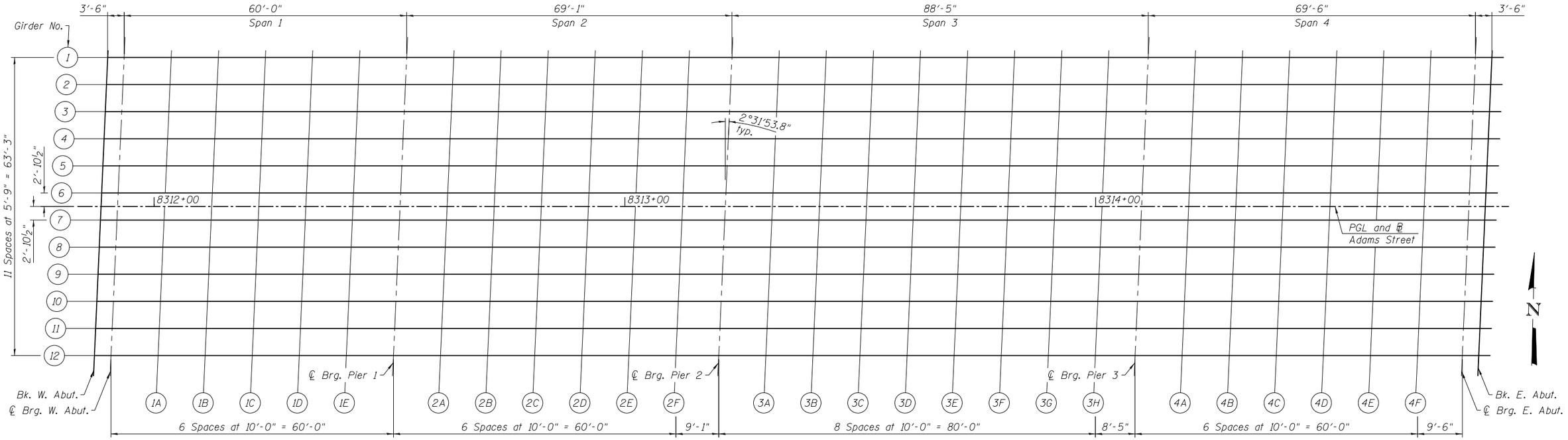
TranSystems

USER NAME = wjcolletti	DESIGNED WJC	REVISED	
	CHECKED MDS	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

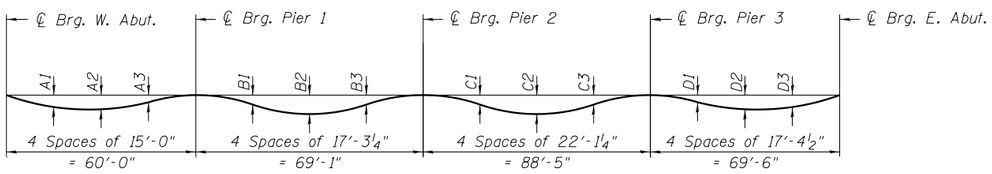
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE REMOVAL DETAILS 2
STRUCTURE NO. 016-1701
SHEET NO. S1-08 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	310
		CONTRACT NO. 60X94		
ILLINOIS	FED. AID PROJECT			



PLAN

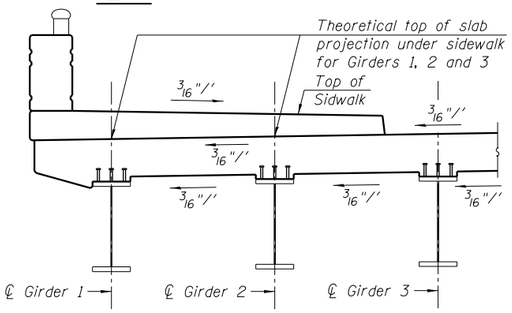


DEAD LOAD DEFLECTION DIAGRAM

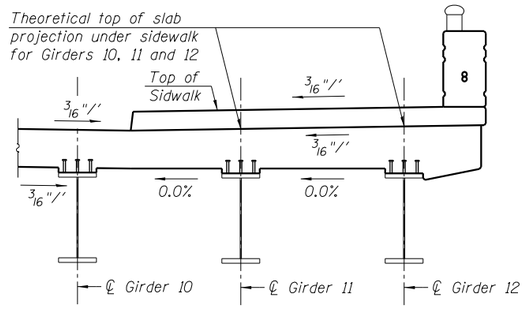
(Includes weight of concrete only.)

Note:

The deflections below are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets S1-10 thru S1-14 of S1-83 .

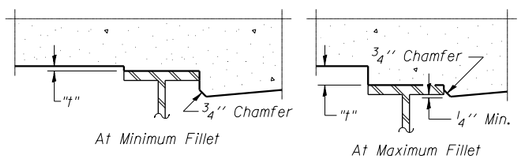


LOCATION OF ELEVATION UNDER NORTH SIDEWALK



LOCATION OF ELEVATION UNDER SOUTH SIDEWALK

	DEAD LOAD DEFLECTIONS											
	Span 1			Span 2			Span 3			Span 4		
Girder No.	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3
1	5/8"	3/4"	3/8"	1/8"	3/8"	1/8"	1/2"	5/8"	0"	1"	1 3/4"	1 3/8"
2	5/8"	3/4"	3/8"	1/8"	1/4"	1/8"	5/8"	7/8"	1/4"	5/8"	1 1/8"	7/8"
3	5/8"	3/4"	3/8"	1/8"	1/4"	1/8"	3/4"	1"	1/2"	1/4"	5/8"	5/8"
4	5/8"	3/4"	3/8"	1/8"	1/4"	0"	3/4"	1 1/4"	5/8"	1/8"	3/8"	3/8"
5	5/8"	3/4"	3/8"	1/8"	1/4"	0"	7/8"	1 3/8"	3/4"	0"	1/4"	1/4"
6	5/8"	3/4"	3/8"	1/8"	1/4"	0"	7/8"	1 3/8"	3/4"	0"	1/4"	1/4"
7	5/8"	3/4"	3/8"	1/8"	1/4"	0"	7/8"	1 3/8"	3/4"	0"	3/8"	3/8"
8	5/8"	3/4"	3/8"	1/8"	1/4"	0"	7/8"	1 3/8"	3/4"	1/8"	3/8"	3/8"
9	5/8"	3/4"	3/8"	1/8"	1/4"	0"	7/8"	1 3/8"	3/4"	1/8"	3/8"	3/8"
10	5/8"	3/4"	3/8"	1/8"	1/4"	0"	7/8"	1 1/4"	3/4"	1/8"	1/2"	3/8"
11	5/8"	3/4"	3/8"	1/8"	1/4"	0"	7/8"	1 1/4"	3/4"	1/8"	1/2"	3/8"
12	5/8"	3/4"	3/8"	1/8"	1/4"	0"	7/8"	1 1/4"	5/8"	1/8"	1/2"	1/2"



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets S1-10 thru S1-14 of S1-83, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

TranSystems

USER NAME = wjcollett	DESIGNED JM	REVISED	
	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN JM	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS 1 – ADAMS
STRUCTURE NO. 016-1701
SHEET NO. S1-09 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	311
		CONTRACT NO. 60X94		
ILLINOIS FED. AID PROJECT				

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GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+90.15	-31.63	594.63	594.63
CL Brg. W. Abut.	8311+93.66	-31.63	594.78	594.78
1A	8312+03.66	-31.63	595.25	595.28
1B	8312+13.66	-31.63	595.73	595.79
1C	8312+23.66	-31.63	596.21	596.27
1D	8312+33.66	-31.63	596.70	596.74
1E	8312+43.66	-31.63	597.17	597.19
CL Brg. Pier 1	8312+53.66	-31.63	597.60	597.60
2A	8312+63.66	-31.63	597.98	597.99
2B	8312+73.66	-31.63	598.33	598.34
2C	8312+83.66	-31.63	598.63	598.65
2D	8312+93.66	-31.63	598.89	598.91
2E	8313+03.66	-31.63	599.11	599.12
2F	8313+13.66	-31.63	599.29	599.29
CL Brg. Pier 2	8313+22.74	-31.63	599.41	599.41
3A	8313+32.74	-31.63	599.51	599.52
3B	8313+42.74	-31.63	599.56	599.60
3C	8313+52.74	-31.63	599.58	599.63
3D	8313+62.74	-31.63	599.55	599.60
3E	8313+72.74	-31.63	599.48	599.52
3F	8313+82.74	-31.63	599.37	599.38
3G	8313+92.74	-31.63	599.22	599.21
3H	8314+02.74	-31.63	599.02	599.01
CL Brg. Pier 3	8314+11.16	-31.63	598.83	598.83
4A	8314+21.16	-31.63	598.56	598.60
4B	8314+31.16	-31.63	598.24	598.34
4C	8314+41.16	-31.63	597.89	598.02
4D	8314+51.16	-31.63	597.49	597.64
4E	8314+61.16	-31.63	597.05	597.17
4F	8314+71.16	-31.63	596.58	596.65
CL Brg. E. Abut.	8314+80.66	-31.63	596.13	596.13
Bk. E. Abut.	8314+84.16	-31.63	595.96	595.96

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+89.90	-25.88	594.71	594.71
CL Brg. W. Abut.	8311+93.40	-25.88	594.86	594.86
1A	8312+03.40	-25.88	595.32	595.36
1B	8312+13.40	-25.88	595.81	595.86
1C	8312+23.40	-25.88	596.29	596.35
1D	8312+33.40	-25.88	596.78	596.82
1E	8312+43.40	-25.88	597.25	597.27
CL Brg. Pier 1	8312+53.40	-25.88	597.68	597.68
2A	8312+63.40	-25.88	598.06	598.07
2B	8312+73.40	-25.88	598.41	598.42
2C	8312+83.40	-25.88	598.71	598.73
2D	8312+93.40	-25.88	598.97	598.99
2E	8313+03.40	-25.88	599.19	599.20
2F	8313+13.40	-25.88	599.37	599.37
CL Brg. Pier 2	8313+22.49	-25.88	599.50	599.50
3A	8313+32.49	-25.88	599.60	599.61
3B	8313+42.49	-25.88	599.65	599.70
3C	8313+52.49	-25.88	599.67	599.73
3D	8313+62.49	-25.88	599.64	599.71
3E	8313+72.49	-25.88	599.57	599.63
3F	8313+82.49	-25.88	599.46	599.50
3G	8313+92.49	-25.88	599.31	599.33
3H	8314+02.49	-25.88	599.12	599.12
CL Brg. Pier 3	8314+10.90	-25.88	598.92	598.92
4A	8314+20.90	-25.88	598.65	598.68
4B	8314+30.90	-25.88	598.34	598.40
4C	8314+40.90	-25.88	597.99	598.07
4D	8314+50.90	-25.88	597.59	597.69
4E	8314+60.90	-25.88	597.16	597.24
4F	8314+70.90	-25.88	596.68	596.73
CL Brg. E. Abut.	8314+80.40	-25.88	596.23	596.23
Bk. E. Abut.	8314+83.91	-25.88	596.07	596.07

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+89.65	-20.13	594.79	594.79
CL Brg. W. Abut.	8311+93.15	-20.13	594.94	594.94
1A	8312+03.15	-20.13	595.40	595.44
1B	8312+13.15	-20.13	595.89	595.94
1C	8312+23.15	-20.13	596.37	596.43
1D	8312+33.15	-20.13	596.85	596.90
1E	8312+43.15	-20.13	597.32	597.34
CL Brg. Pier 1	8312+53.15	-20.13	597.75	597.75
2A	8312+63.15	-20.13	598.14	598.15
2B	8312+73.15	-20.13	598.49	598.50
2C	8312+83.15	-20.13	598.79	598.81
2D	8312+93.15	-20.13	599.06	599.07
2E	8313+03.15	-20.13	599.28	599.29
2F	8313+13.15	-20.13	599.46	599.46
CL Brg. Pier 2	8313+22.23	-20.13	599.58	599.58
3A	8313+32.23	-20.13	599.68	599.71
3B	8313+42.23	-20.13	599.74	599.79
3C	8313+52.23	-20.13	599.76	599.84
3D	8313+62.23	-20.13	599.73	599.82
3E	8313+72.23	-20.13	599.67	599.75
3F	8313+82.23	-20.13	599.56	599.62
3G	8313+92.23	-20.13	599.41	599.44
3H	8314+02.23	-20.13	599.21	599.22
CL Brg. Pier 3	8314+10.65	-20.13	599.02	599.02
4A	8314+20.65	-20.13	598.75	598.76
4B	8314+30.65	-20.13	598.44	598.47
4C	8314+40.65	-20.13	598.09	598.13
4D	8314+50.65	-20.13	597.69	597.75
4E	8314+60.65	-20.13	597.26	597.31
4F	8314+70.65	-20.13	596.79	596.81
CL Brg. E. Abut.	8314+80.15	-20.13	596.33	596.33
Bk. E. Abut.	8314+83.65	-20.13	596.17	596.17

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+89.39	-14.38	594.87	594.87
CL Brg. W. Abut.	8311+92.90	-14.38	595.02	595.02
1A	8312+02.90	-14.38	595.48	595.51
1B	8312+12.90	-14.38	595.96	596.02
1C	8312+22.90	-14.38	596.45	596.51
1D	8312+32.90	-14.38	596.93	596.98
1E	8312+42.90	-14.38	597.40	597.42
CL Brg. Pier 1	8312+52.90	-14.38	597.83	597.83
2A	8312+62.90	-14.38	598.22	598.23
2B	8312+72.90	-14.38	598.57	598.58
2C	8312+82.90	-14.38	598.88	598.89
2D	8312+92.90	-14.38	599.14	599.15
2E	8313+02.90	-14.38	599.36	599.37
2F	8313+12.90	-14.38	599.54	599.54
CL Brg. Pier 2	8313+21.98	-14.38	599.67	599.67
3A	8313+31.98	-14.38	599.77	599.80
3B	8313+41.98	-14.38	599.83	599.89
3C	8313+51.98	-14.38	599.85	599.94
3D	8313+61.98	-14.38	599.82	599.92
3E	8313+71.98	-14.38	599.76	599.85
3F	8313+81.98	-14.38	599.65	599.72
3G	8313+91.98	-14.38	599.50	599.54
3H	8314+01.98	-14.38	599.31	599.32
CL Brg. Pier 3	8314+10.40	-14.38	599.12	599.12
4A	8314+20.40	-14.38	598.85	598.85
4B	8314+30.40	-14.38	598.54	598.55
4C	8314+40.40	-14.38	598.19	598.21
4D	8314+50.40	-14.38	597.79	597.83
4E	8314+60.40	-14.38	597.36	597.39
4F	8314+70.40	-14.38	596.89	596.91
CL Brg. E. Abut.	8314+79.90	-14.38	596.44	596.44
Bk. E. Abut.	8314+83.40	-14.38	596.27	596.27

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+89.14	-8.63	594.95	594.95
CL Brg. W. Abut.	8311+92.64	-8.63	595.09	595.09
1A	8312+02.64	-8.63	595.56	595.59
1B	8312+12.64	-8.63	596.04	596.10
1C	8312+22.64	-8.63	596.52	596.59
1D	8312+32.64	-8.63	597.01	597.05
1E	8312+42.64	-8.63	597.48	597.50
CL Brg. Pier 1	8312+52.64	-8.63	597.91	597.91
2A	8312+62.64	-8.63	598.30	598.30
2B	8312+72.64	-8.63	598.65	598.66
2C	8312+82.64	-8.63	598.96	598.97
2D	8312+92.64	-8.63	599.22	599.24
2E	8313+02.64	-8.63	599.45	599.45
2F	8313+12.64	-8.63	599.63	599.63
CL Brg. Pier 2	8313+21.72	-8.63	599.76	599.76
3A	8313+31.72	-8.63	599.86	599.89
3B	8313+41.72	-8.63	599.92	599.98
3C	8313+51.72	-8.63	599.94	600.03
3D	8313+61.72	-8.63	599.91	600.02
3E	8313+71.72	-8.63	599.85	599.95
3F	8313+81.72	-8.63	599.74	599.83
3G	8313+91.72	-8.63	599.59	599.64
3H	8314+01.72	-8.63	599.40	599.42
CL Brg. Pier 3	8314+10.14	-8.63	599.21	599.21
4A	8314+20.14	-8.63	598.94	598.94
4B	8314+30.14	-8.63	598.64	598.64
4C	8314+40.14	-8.63	598.29	598.30
4D	8314+50.14	-8.63	597.89	597.92
4E	8314+60.14	-8.63	597.46	597.48
4F	8314+70.14	-8.63	596.99	597.00
CL Brg. E. Abut.	8314+79.64	-8.63	596.54	596.54
Bk. E. Abut.	8314+83.14	-8.63	596.37	596.37

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+88.88	-2.88	595.02	595.02
CL Brg. W. Abut.	8311+92.39	-2.88	595.17	595.17
1A	8312+02.39	-2.88	595.63	595.67
1B	8312+12.39	-2.88	596.12	596.18
1C	8312+22.39	-2.88	596.60	596.66
1D	8312+32.39	-2.88	597.09	597.13
1E	8312+42.39	-2.88	597.56	597.58
CL Brg. Pier 1	8312+52.39	-2.88	597.99	597.99
2A	8312+62.39	-2.88	598.38	598.38
2B	8312+72.39	-2.88	598.73	598.74
2C	8312+82.39	-2.88	599.04	599.06
2D	8312+92.39	-2.88	599.31	599.32
2E	8313+02.39	-2.88	599.53	599.53
2F	8313+12.39	-2.88	599.71	599.71
CL Brg. Pier 2	8313+21.47	-2.88	599.84	599.84
3A	8313+31.47	-2.88	599.95	599.98
3B	8313+41.47	-2.88	600.01	600.07
3C	8313+51.47	-2.88	600.03	600.12
3D	8313+61.47	-2.88	600.01	600.12
3E	8313+71.47	-2.88	599.94	600.05
3F	8313+81.47	-2.88	599.84	599.92
3G	8313+91.47	-2.88	599.69	599.74
3H	8314+01.47	-2.88	599.50	599.52
CL Brg. Pier 3	8314+09.89	-2.88	599.31	599.31
4A	8314+19.89	-2.88	599.04	599.04
4B	8314+29.89	-2.88	598.73	598.74
4C	8314+39.89	-2.88	598.38	598.40
4D	8314+49.89	-2.88	597.99	598.02
4E	8314+59.89	-2.88	597.56	597.59
4F	8314+69.89	-2.88	597.09	597.11
CL Brg. E. Abut.	8314+79.39	-2.88	596.64	596.64
Bk. E. Abut.	8314+82.89	-2.88	596.47	596.47

PGL & ℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+88.76	0.00	595.06	595.06
CL Brg. W. Abut.	8311+92.26	0.00	595.21	595.21
1A	8312+02.26	0.00	595.67	595.71
1B	8312+12.26	0.00	596.16	596.22
1C	8312+22.26	0.00	596.64	596.70
1D	8312+32.26	0.00	597.13	597.17
1E	8312+42.26	0.00	597.60	597.62
CL Brg. Pier 1	8312+52.26	0.00	598.03	598.03
2A	8312+62.26	0.00	598.42	598.43
2B	8312+72.26	0.00	598.77	598.78
2C	8312+82.26	0.00	599.08	599.10
2D	8312+92.26	0.00	599.35	599.36
2E	8313+02.26	0.00	599.57	599.58
2F	8313+12.26	0.00	599.76	599.75
CL Brg. Pier 2	8313+21.34	0.00	599.89	599.89
2A	8313+31.34	0.00	599.99	600.02
2B	8313+41.34	0.00	600.05	600.12
2C	8313+51.34	0.00	600.07	600.17
2D	8313+61.34	0.00	600.05	600.16
2E	8313+71.34	0.00	599.99	600.10
2F	8313+81.34	0.00	599.88	599.97
2G	8313+91.34	0.00	599.74	599.79
2H	8314+01.34	0.00	599.55	599.57
CL Brg. Pier 3	8314+09.76	0.00	599.36	599.36
4A	8314+19.76	0.00	599.09	599.09
4B	8314+29.76	0.00	598.78	598.79
4C	8314+39.76	0.00	598.43	598.45
4D	8314+49.76	0.00	598.04	598.07
4E	8314+59.76	0.00	597.61	597.64
4F	8314+69.76	0.00	597.14	597.16
CL Brg. E. Abut.	8314+79.26	0.00	596.69	596.69
Bk. E. Abut.	8314+82.76	0.00	596.52	596.52

GIRDER 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+88.63	2.88	595.01	595.01
CL Brg. W. Abut.	8311+92.13	2.88	595.16	595.16
1A	8312+02.13	2.88	595.62	595.66
1B	8312+12.13	2.88	596.11	596.17
1C	8312+22.13	2.88	596.59	596.65
1D	8312+32.13	2.88	597.07	597.12
1E	8312+42.13	2.88	597.55	597.57
CL Brg. Pier 1	8312+52.13	2.88	597.98	597.98
2A	8312+62.13	2.88	598.37	598.38
2B	8312+72.13	2.88	598.73	598.73
2C	8312+82.13	2.88	599.03	599.05
2D	8312+92.13	2.88	599.30	599.31
2E	8313+02.13	2.88	599.53	599.53
2F	8313+12.13	2.88	599.71	599.71
CL Brg. Pier 2	8313+21.22	2.88	599.84	599.84
3A	8313+31.22	2.88	599.94	599.97
3B	8313+41.22	2.88	600.01	600.07
3C	8313+51.22	2.88	600.03	600.13
3D	8313+61.22	2.88	600.01	600.12
3E	8313+71.22	2.88	599.94	600.05
3F	8313+81.22	2.88	599.84	599.92
3G	8313+91.22	2.88	599.69	599.74
3H	8314+01.22	2.88	599.50	599.52
CL Brg. Pier 3	8314+09.63	2.88	599.31	599.31
4A	8314+19.63	2.88	599.05	599.05
4B	8314+29.63	2.88	598.74	598.75
4C	8314+39.63	2.88	598.39	598.42
4D	8314+49.63	2.88	598.00	598.03
4E	8314+59.63	2.88	597.57	597.60
4F	8314+69.63	2.88	597.10	597.12
CL Brg. E. Abut.	8314+79.13	2.88	596.65	596.65
Bk. E. Abut.	8314+82.64	2.88	596.49	596.49

GIRDER 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+88.37	8.63	594.91	594.91
CL Brg. W. Abut.	8311+91.88	8.63	595.06	595.06
1A	8312+01.88	8.63	595.52	595.56
1B	8312+11.88	8.63	596.00	596.06
1C	8312+21.88	8.63	596.49	596.55
1D	8312+31.88	8.63	596.97	597.02
1E	8312+41.88	8.63	597.45	597.47
CL Brg. Pier 1	8312+51.88	8.63	597.88	597.88
2A	8312+61.88	8.63	598.28	598.28
2B	8312+71.88	8.63	598.63	598.64
2C	8312+81.88	8.63	598.94	598.95
2D	8312+91.88	8.63	599.20	599.22
2E	8313+01.88	8.63	599.43	599.43
2F	8313+11.88	8.63	599.62	599.61
CL Brg. Pier 2	8313+20.96	8.63	599.75	599.75
3A	8313+30.96	8.63	599.85	599.88
3B	8313+40.96	8.63	599.92	599.98
3C	8313+50.96	8.63	599.94	600.03
3D	8313+60.96	8.63	599.92	600.03
3E	8313+70.96	8.63	599.86	599.96
3F	8313+80.96	8.63	599.75	599.83
3G	8313+90.96	8.63	599.61	599.66
3H	8314+00.96	8.63	599.42	599.44
CL Brg. Pier 3	8314+09.38	8.63	599.23	599.23
4A	8314+19.38	8.63	598.97	598.97
4B	8314+29.38	8.63	598.66	598.67
4C	8314+39.38	8.63	598.31	598.34
4D	8314+49.38	8.63	597.92	597.96
4E	8314+59.38	8.63	597.49	597.53
4F	8314+69.38	8.63	597.03	597.05
CL Brg. E. Abut.	8314+78.88	8.63	596.57	596.57
Bk. E. Abut.	8314+82.38	8.63	596.41	596.41

GIRDER 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+88.12	14.38	594.81	594.81
CL Brg. W. Abut.	8311+91.62	14.38	594.96	594.96
1A	8312+01.62	14.38	595.42	595.45
1B	8312+11.62	14.38	595.90	595.96
1C	8312+21.62	14.38	596.39	596.45
1D	8312+31.62	14.38	596.87	596.92
1E	8312+41.62	14.38	597.35	597.37
CL Brg. Pier 1	8312+51.62	14.38	597.78	597.78
2A	8312+61.62	14.38	598.18	598.18
2B	8312+71.62	14.38	598.53	598.54
2C	8312+81.62	14.38	598.84	598.85
2D	8312+91.62	14.38	599.11	599.12
2E	8313+01.62	14.38	599.34	599.34
2F	8313+11.62	14.38	599.52	599.52
CL Brg. Pier 2	8313+20.71	14.38	599.65	599.65
3A	8313+30.71	14.38	599.76	599.79
3B	8313+40.71	14.38	599.83	599.89
3C	8313+50.71	14.38	599.85	599.94
3D	8313+60.71	14.38	599.83	599.94
3E	8313+70.71	14.38	599.77	599.87
3F	8313+80.71	14.38	599.67	599.75
3G	8313+90.71	14.38	599.52	599.57
3H	8314+00.71	14.38	599.34	599.35
CL Brg. Pier 3	8314+09.12	14.38	599.15	599.15
4A	8314+19.12	14.38	598.88	598.89
4B	8314+29.12	14.38	598.58	598.59
4C	8314+39.12	14.38	598.23	598.26
4D	8314+49.12	14.38	597.85	597.88
4E	8314+59.12	14.38	597.42	597.45
4F	8314+69.12	14.38	596.95	596.97
CL Brg. E. Abut.	8314+78.62	14.38	596.50	596.50
Bk. E. Abut.	8314+82.13	14.38	596.33	596.33

GIRDER 10

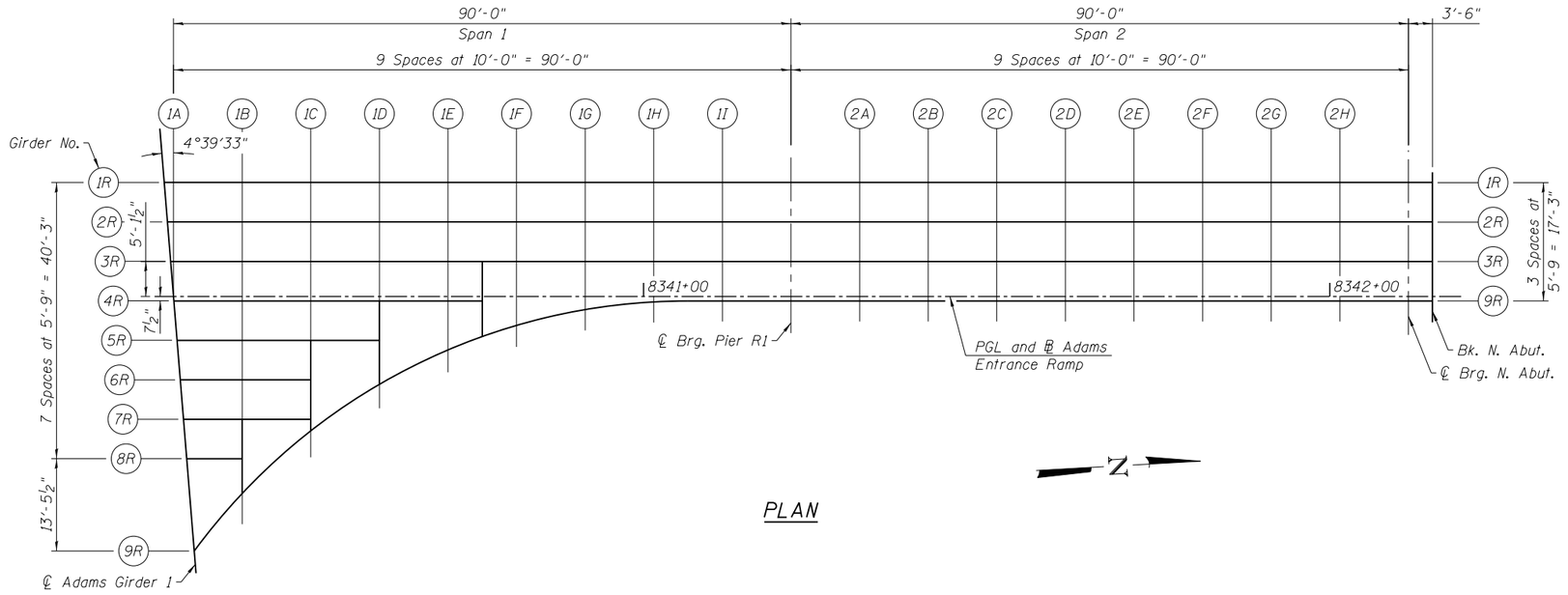
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+87.87	20.13	594.71	594.71
CL Brg. W. Abut.	8311+91.37	20.13	594.86	594.86
1A	8312+01.37	20.13	595.31	595.35
1B	8312+11.37	20.13	595.80	595.86
1C	8312+21.37	20.13	596.28	596.35
1D	8312+31.37	20.13	596.77	596.81
1E	8312+41.37	20.13	597.24	597.26
CL Brg. Pier 1	8312+51.37	20.13	597.68	597.68
2A	8312+61.37	20.13	598.08	598.08
2B	8312+71.37	20.13	598.43	598.44
2C	8312+81.37	20.13	598.74	598.76
2D	8312+91.37	20.13	599.01	599.02
2E	8313+01.37	20.13	599.24	599.24
2F	8313+11.37	20.13	599.43	599.42
CL Brg. Pier 2	8313+20.45	20.13	599.56	599.56
3A	8313+30.45	20.13	599.67	599.70
3B	8313+40.45	20.13	599.73	599.80
3C	8313+50.45	20.13	599.76	599.85
3D	8313+60.45	20.13	599.74	599.85
3E	8313+70.45	20.13	599.68	599.78
3F	8313+80.45	20.13	599.58	599.66
3G	8313+90.45	20.13	599.44	599.48
3H	8314+00.45	20.13	599.25	599.27
CL Brg. Pier 3	8314+08.87	20.13	599.06	599.06
4A	8314+18.87	20.13	598.80	598.80
4B	8314+28.87	20.13	598.50	598.51
4C	8314+38.87	20.13	598.15	598.18
4D	8314+48.87	20.13	597.77	597.81
4E	8314+58.87	20.13	597.34	597.37
4F	8314+68.87	20.13	596.87	596.89
CL Brg. E. Abut.	8314+78.37	20.13	596.42	596.42
Bk. E. Abut.	8314+81.87	20.13	596.25	596.25

GIRDER 11

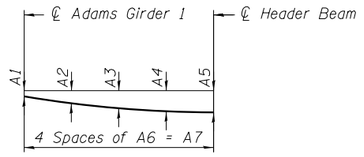
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+87.61	25.88	594.67	594.67
CL Brg. W. Abut.	8311+91.12	25.88	594.82	594.82
1A	8312+01.12	25.88	595.27	595.31
1B	8312+11.12	25.88	595.76	595.82
1C	8312+21.12	25.88	596.24	596.30
1D	8312+31.12	25.88	596.73	596.77
1E	8312+41.12	25.88	597.20	597.22
CL Brg. Pier 1	8312+51.12	25.88	597.64	597.64
2A	8312+61.12	25.88	598.04	598.04
2B	8312+71.12	25.88	598.39	598.40
2C	8312+81.12	25.88	598.71	598.72
2D	8312+91.12	25.88	598.98	598.99
2E	8313+01.12	25.88	599.21	599.21
2F	8313+11.12	25.88	599.39	599.39
CL Brg. Pier 2	8313+20.20	25.88	599.53	599.53
3A	8313+30.20	25.88	599.64	599.66
3B	8313+40.20	25.88	599.70	599.77
3C	8313+50.20	25.88	599.73	599.82
3D	8313+60.20	25.88	599.71	599.82
3E	8313+70.20	25.88	599.65	599.75
3F	8313+80.20	25.88	599.55	599.63
3G	8313+90.20	25.88	599.41	599.45
3H	8314+00.20	25.88	599.23	599.24
CL Brg. Pier 3	8314+08.62	25.88	599.04	599.04
4A	8314+18.62	25.88	598.78	598.78
4B	8314+28.62	25.88	598.48	598.49
4C	8314+38.62	25.88	598.13	598.17
4D	8314+48.62	25.88	597.75	597.79
4E	8314+58.62	25.88	597.32	597.36
4F	8314+68.62	25.88	596.85	596.88
CL Brg. E. Abut.	8314+78.12	25.88	596.40	596.40
Bk. E. Abut.	8314+81.62	25.88	596.24	596.24

GIRDER 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8311+87.36	31.63	594.66	594.66
CL Brg. W. Abut.	8311+90.86	31.63	594.81	594.81
1A	8312+00.86	31.63	595.26	595.30
1B	8312+10.86	31.63	595.74	595.80
1C	8312+20.86	31.63	596.23	596.29
1D	8312+30.86	31.63	596.71	596.76
1E	8312+40.86	31.63	597.19	597.21
CL Brg. Pier 1	8312+50.86	31.63	597.63	597.63
2A	8312+60.86	31.63	598.03	598.03
2B	8312+70.86	31.63	598.38	598.39
2C	8312+80.86	31.63	598.70	598.71
2D	8312+90.86	31.63	598.97	598.98
2E	8313+00.86	31.63	599.20	599.21
2F	8313+10.86	31.63	599.39	599.39
CL Brg. Pier 2	8313+19.95	31.63	599.53	599.53
3A	8313+29.95	31.63	599.63	599.66
3B	8313+39.95	31.63	599.70	599.76
3C	8313+49.95	31.63	599.73	599.82
3D	8313+59.95	31.63	599.71	599.82
3E	8313+69.95	31.63	599.65	599.75
3F	8313+79.95	31.63	599.56	599.63
3G	8313+89.95	31.63	599.41	599.46
3H	8313+99.95	31.63	599.23	599.25
CL Brg. Pier 3	8314+08.36	31.63	599.05	599.05
4A	8314+18.36	31.63	598.79	598.79
4B	8314+28.36	31.63	598.48	598.50
4C	8314+38.36	31.63	598.14	598.18
4D	8314+48.36	31.63	597.76	597.80
4E	8314+58.36	31.63	597.33	597.37
4F	8314+68.36	31.63	596.86	596.89
CL Brg. E. Abut.	8314+77.86	31.63	596.41	596.41
Bk. E. Abut.	8314+81.37	31.63	596.25	596.25



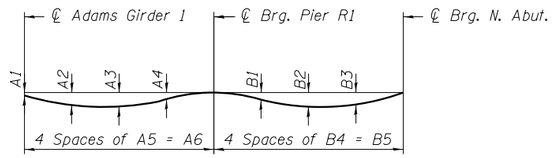
PLAN



DEAD LOAD DEFLECTION DIAGRAM (GIRDERS 4R-8R)

(Includes weight of concrete only.)

	DEAD LOAD DEFLECTIONS						
	Span 1						
Girder No.	A1	A2	A3	A4	A5	A6	A7
4R	1"	1½"	1⅞"	2"	2"	11'-2⅞"	44'-11⅜"
5R	1¼"	1½"	1¾"	2"	2⅛"	7'-4 7/16"	29'-5¾"
6R	1½"	1⅝"	1¾"	1⅞"	2"	4'-9 1/16"	19'-0⅛"
7R	1⅝"	1¾"	1⅞"	2"	2⅛"	4'-7⅝"	18'-6½"
8R	1⅝"	1¾"	1¾"	1¾"	1¾"	2'-0¼"	8'-0⅞"



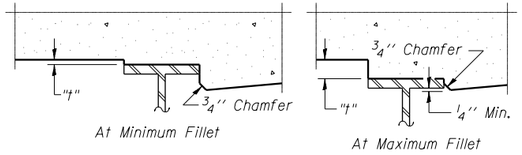
DEAD LOAD DEFLECTION DIAGRAM (GIRDERS 1R, 2R, 3R & 9R)

(Includes weight of concrete only.)

	DEAD LOAD DEFLECTIONS										
	Span 1						Span 2				
Girder No.	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5
1R	0"	1¼"	1⅜"	⅝"	22'-10 1/16"	91'-4¼"	⅝"	1¼"	1⅛"	22'-6"	90'-0"
2R	¼"	1½"	1⅝"	¾"	22'-8 11/16"	90'-10⅝"	½"	1⅛"	1"	22'-6"	90'-0"
3R	⅝"	1⅝"	1⅞"	⅞"	22'-7¼"	90'-5"	½"	1⅛"	1"	22'-6"	90'-0"
9R	1¼"	2⅛"	2⅛"	1⅛"	24'-7 15/16"	98'-7 11/16"	⅜"	1"	⅞"	22'-6"	90'-0"

Note:

The deflections above are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets S1-16 thru S1-17 of S1-83.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets S1-16 thru S1-17 of S1-83, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

TranSystems

USER NAME = wjcollett1	DESIGNED	JM	REVISED
	CHECKED	WJC	REVISED
PLOT SCALE = NTS	DRAWN	JM	REVISED
PLOT DATE = 3/5/2020	CHECKED	WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS 1 – RAMP
STRUCTURE NO. 016-1701
SHEET NO. S1-15 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	317
		CONTRACT NO. 60X94		
ILLINOIS FED. AID PROJECT				

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GIRDER 1R

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Adams G1	8340+30.12	-16.63	598.84	598.84
1A	8340+31.48	-16.63	598.81	598.81
1B	8340+41.48	-16.63	598.59	598.64
1C	8340+51.48	-16.63	598.33	598.43
1D	8340+61.48	-16.63	598.04	598.16
1E	8340+71.48	-16.63	597.69	597.82
1F	8340+81.48	-16.63	597.30	597.40
1G	8340+91.48	-16.63	596.85	596.92
1H	8341+01.48	-16.63	596.34	596.39
1I	8341+11.48	-16.63	595.79	595.81
CL Brg. Pier R1	8341+21.48	-16.63	595.19	595.19
2A	8341+31.48	-16.63	594.53	594.55
2B	8341+41.48	-16.63	593.82	593.86
2C	8341+51.48	-16.63	593.06	593.14
2D	8341+61.48	-16.63	592.36	592.46
2E	8341+71.48	-16.63	591.66	591.77
2F	8341+81.48	-16.63	590.95	591.06
2G	8341+91.48	-16.63	590.25	590.33
2H	8342+01.48	-16.63	589.55	589.59
CL Brg. N. Abut.	8342+11.48	-16.63	588.85	588.85
Bk. N. Abut.	8342+14.98	-16.63	588.60	588.60

GIRDER 2R

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Adams G1	8340+30.59	-10.88	598.69	598.71
1A	8340+31.48	-10.88	598.67	598.70
1B	8340+41.48	-10.88	598.45	598.52
1C	8340+51.48	-10.88	598.22	598.33
1D	8340+61.48	-10.88	597.95	598.08
1E	8340+71.48	-10.88	597.62	597.76
1F	8340+81.48	-10.88	597.25	597.37
1G	8340+91.48	-10.88	596.82	596.91
1H	8341+01.48	-10.88	596.34	596.40
1I	8341+11.48	-10.88	595.81	595.83
CL Brg. Pier R1	8341+21.48	-10.88	595.23	595.23
2A	8341+31.48	-10.88	594.60	594.61
2B	8341+41.48	-10.88	593.91	593.95
2C	8341+51.48	-10.88	593.18	593.24
2D	8341+61.48	-10.88	592.47	592.56
2E	8341+71.48	-10.88	591.77	591.87
2F	8341+81.48	-10.88	591.07	591.17
2G	8341+91.48	-10.88	590.37	590.44
2H	8342+01.48	-10.88	589.66	589.70
CL Brg. N. Abut.	8342+11.48	-10.88	588.96	588.96
Bk. N. Abut.	8342+14.98	-10.88	588.71	588.71

GIRDER 3R

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Adams G1	8340+31.06	-5.13	598.52	598.58
1A	8340+31.48	-5.13	598.51	598.57
1B	8340+41.48	-5.13	598.31	598.40
1C	8340+51.48	-5.13	598.10	598.23
1D	8340+61.48	-5.13	597.85	598.01
1E	8340+71.48	-5.13	597.56	597.71
1F	8340+81.48	-5.13	597.20	597.34
1G	8340+91.48	-5.13	596.80	596.90
1H	8341+01.48	-5.13	596.34	596.40
1I	8341+11.48	-5.13	595.84	595.86
CL Brg. Pier R1	8341+21.48	-5.13	595.28	595.28
2A	8341+31.48	-5.13	594.67	594.68
2B	8341+41.48	-5.13	594.00	594.03
2C	8341+51.48	-5.13	593.29	593.35
2D	8341+61.48	-5.13	592.59	592.67
2E	8341+71.48	-5.13	591.89	591.98
2F	8341+81.48	-5.13	591.18	591.28
2G	8341+91.48	-5.13	590.48	590.55
2H	8342+01.48	-5.13	589.78	589.82
CL Brg. N. Abut.	8342+11.48	-5.13	589.08	589.08
Bk. N. Abut.	8342+14.98	-5.13	588.83	588.83

PGL & ℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Adams G1	8340+31.48	0.00	598.37	598.44
1A	8340+31.48	0.00	598.37	598.44
1B	8340+41.48	0.00	598.18	598.30
1C	8340+51.48	0.00	598.00	598.14
1D	8340+61.48	0.00	597.77	597.94
1E	8340+71.48	0.00	597.49	597.66
1F	8340+81.48	0.00	597.16	597.33
1G	8340+91.48	0.00	596.78	596.93
1H	8341+01.48	0.00	596.35	596.46
1I	8341+11.48	0.00	595.86	595.93
CL Brg. Pier R1	8341+21.48	0.00	595.32	595.32
2A	8341+31.48	0.00	594.73	594.73
2B	8341+41.48	0.00	594.09	594.09
2C	8341+51.48	0.00	593.39	593.42
2D	8341+61.48	0.00	592.69	592.74
2E	8341+71.48	0.00	591.99	592.06
2F	8341+81.48	0.00	591.29	591.37
2G	8341+91.48	0.00	590.58	590.67
2H	8342+01.48	0.00	589.88	589.95
CL Brg. N. Abut.	8342+11.48	0.00	589.18	589.18
Bk. N. Abut.	8342+14.98	0.00	588.93	588.93

GIRDER 4R

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Adams G1	8340+31.53	0.63	598.35	598.43
1B	8340+41.48	0.63	598.17	598.29
1C	8340+51.48	0.63	597.99	598.13
1D	8340+61.48	0.63	597.76	597.93
1E	8340+71.48	0.63	597.49	597.65
CL Header 4	8340+76.48	0.63	597.33	597.49

GIRDER 5R

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Adams G1	8340+32.00	6.38	598.15	598.26
1B	8340+41.48	6.38	598.03	598.16
1C	8340+51.48	6.38	597.87	598.03
1D	8340+61.48	6.38	597.67	597.85
CL Header 3	8340+61.48	6.38	597.67	597.85

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TranSystems

USER NAME = wjcolletti	DESIGNED JM	REVISED
	CHECKED WJC	REVISED
PLOT SCALE = NTS	DRAWN JM	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS 2 – RAMP
STRUCTURE NO. 016–1701
SHEET NO. S1-16 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	318
		CONTRACT NO. 60X94		
		ILLINOIS FED. AID PROJECT		

GIRDER 6R

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Adams G1	8340+32.47	12.13	597.95	598.08
1B	8340+41.48	12.13	597.89	598.04
1C	8340+51.48	12.13	597.75	597.92
CL Header 2	8340+51.48	12.13	597.75	597.92

GIRDER 7R

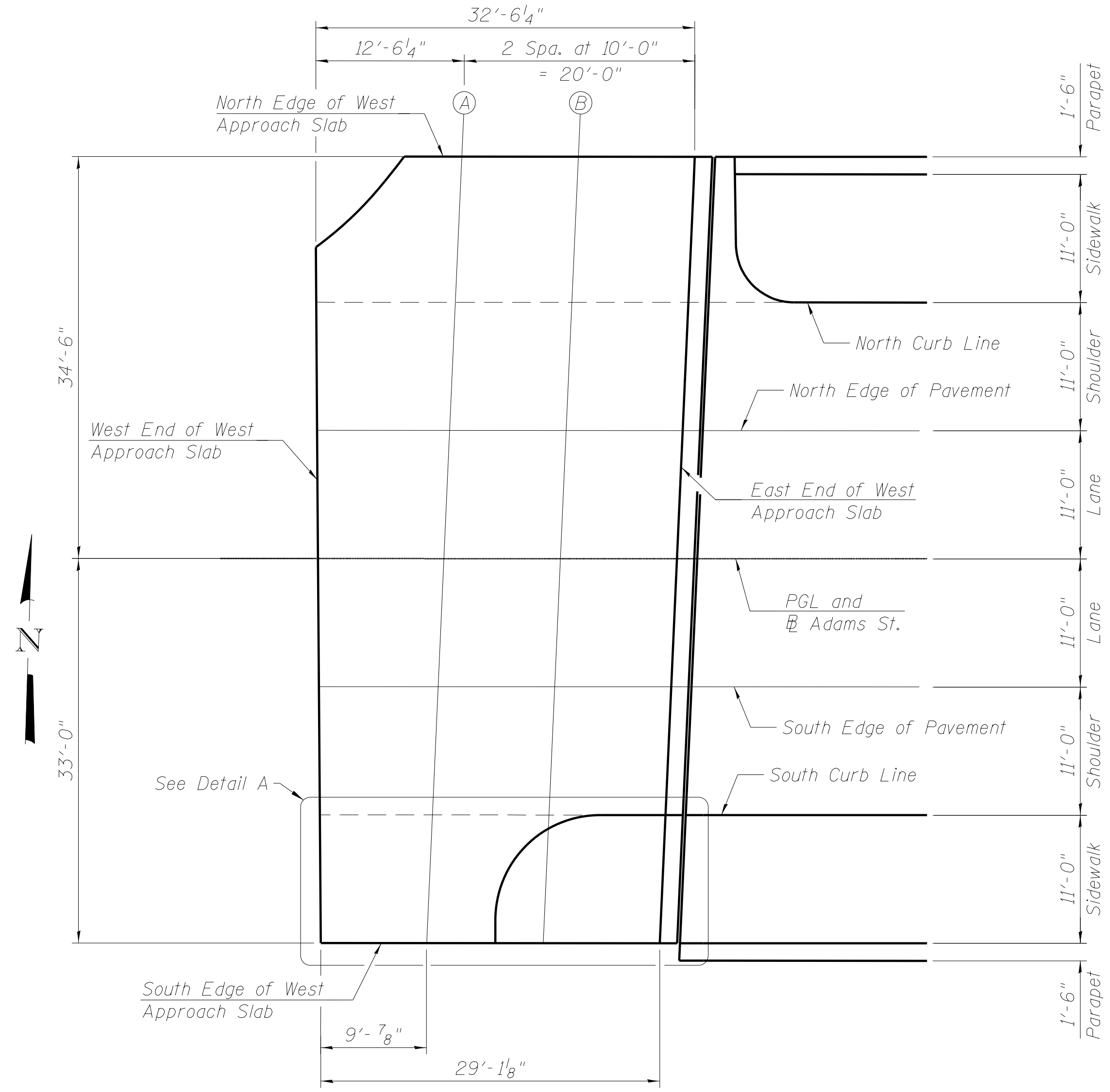
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Adams G1	8340+32.94	17.88	597.73	597.87
1B	8340+41.48	17.88	597.75	597.90
1C	8340+51.48	17.88	597.64	597.81
CL Header 2	8340+51.48	17.88	597.64	597.81

GIRDER 8R

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Adams G1	8340+33.40	23.63	597.49	597.63
1B	8340+41.48	23.63	597.61	597.76
CL Header 1	8340+41.48	23.63	597.61	597.76

GIRDER 9R

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Adams G1	8340+34.50	37.08	596.89	596.99
1B	8340+41.48	28.70	597.49	597.61
1C	8340+51.48	19.58	597.60	597.76
1D	8340+61.48	12.79	597.57	597.74
1E	8340+71.48	7.77	597.40	597.59
1F	8340+81.48	4.20	597.13	597.31
1G	8340+91.48	1.89	596.77	596.93
1H	8341+01.48	0.77	596.35	596.47
1I	8341+11.48	0.63	595.86	595.94
CL Brg. Pier R1	8341+21.48	0.63	595.32	595.32
2A	8341+31.48	0.63	594.74	594.74
2B	8341+41.48	0.63	594.09	594.10
2C	8341+51.48	0.63	593.41	593.43
2D	8341+61.48	0.63	592.70	592.75
2E	8341+71.48	0.63	592.00	592.07
2F	8341+81.48	0.63	591.30	591.39
2G	8341+91.48	0.63	590.60	590.68
2H	8342+01.48	0.63	589.89	589.97
CL Brg. N. Abut.	8342+11.48	0.63	589.19	589.19
Bk. N. Abut.	8342+14.98	0.63	588.94	588.94



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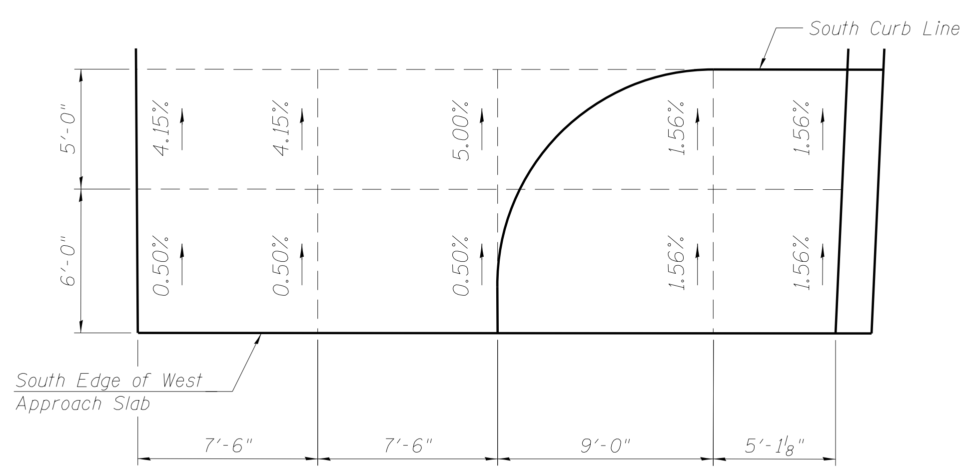

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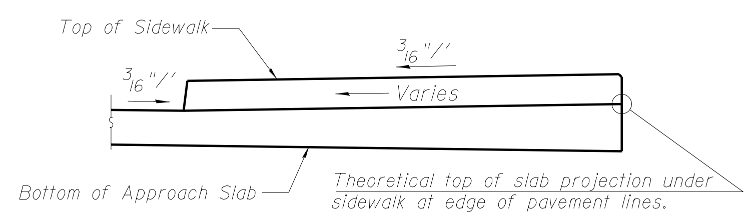

LOCATION OF ELEVATION UNDER SOUTH SIDEWALK

NORTH EDGE OF WEST APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
A	8311+70.78	-34.50	593.85
B	8311+80.78	-34.50	594.21
E. End West Appr. Slab	8311+90.78	-34.50	594.61

PGL & ℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8311+58.46	0.00	594.02
A	8311+69.26	0.00	594.34
B	8311+79.26	0.00	594.69
E. End West Appr. Slab	8311+89.26	0.00	595.08

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8311+58.30	-22.00	593.68
A	8311+70.23	-22.00	594.03
B	8311+80.23	-22.00	594.38
E. End West Appr. Slab	8311+90.23	-22.00	594.78

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8311+58.54	11.00	593.73
A	8311+68.77	11.00	594.08
B	8311+78.77	11.00	594.46
E. End West Appr. Slab	8311+88.77	11.00	594.89

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8311+58.38	-11.00	593.85
A	8311+69.74	-11.00	594.19
B	8311+79.74	-11.00	594.54
E. End West Appr. Slab	8311+89.74	-11.00	594.93

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8311+58.62	22.00	593.44
A	8311+68.28	22.00	593.80
B	8311+78.28	22.00	594.23
E. End West Appr. Slab	8311+88.28	22.00	594.70

SOUTH EDGE OF WEST APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8311+58.71	33.00	593.68
A	8311+67.80	33.00	594.03
B	8311+77.80	33.00	594.45
E. End West Appr. Slab	8311+87.80	33.00	594.85

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TranSystems

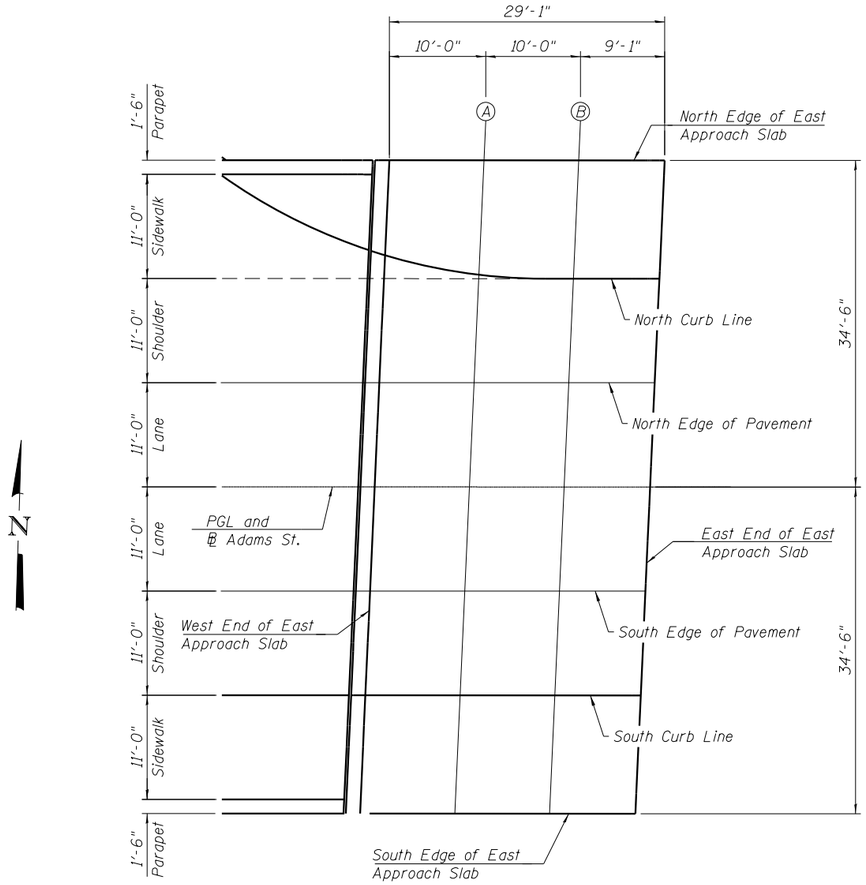
USER NAME = wjcolletti	DESIGNED JM	REVISED
	CHECKED WJC	REVISED
PLOT SCALE = NTS	DRAWN JM	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-1701

SHEET NO. S1-18 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	320
		CONTRACT NO. 60X94		
		ILLINOIS FED. AID PROJECT		



PLAN

NORTH EDGE OF EAST APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8314+83.79	-34.50	595.94
A	8314+93.79	-34.50	595.46
B	8315+03.79	-34.50	595.01
E. End East Appr. Slab	8315+12.87	-34.50	594.63

PGL & ℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8314+82.26	0.00	596.55
A	8314+92.26	0.00	596.07
B	8315+02.26	0.00	595.61
E. End East Appr. Slab	8315+11.35	0.00	595.23

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8314+83.24	-22.00	596.16
A	8314+93.24	-22.00	595.68
B	8315+03.24	-22.00	595.22
E. End East Appr. Slab	8315+12.32	-22.00	594.85

SOUTH EDGE OF PAVEMENT

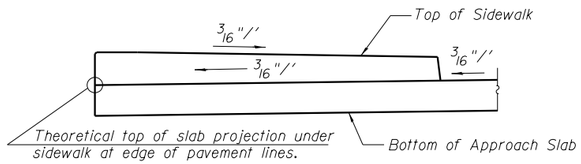
Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8314+81.78	11.00	596.40
A	8314+91.78	11.00	595.92
B	8315+01.78	11.00	595.46
E. End East Appr. Slab	8315+10.86	11.00	595.08

NORTH EDGE OF PAVEMENT

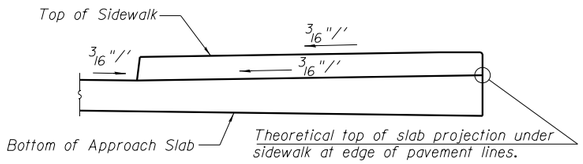
Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8314+82.75	-11.00	596.35
A	8314+92.75	-11.00	595.88
B	8315+02.75	-11.00	595.42
E. End East Appr. Slab	8315+11.83	-11.00	595.04

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8314+81.29	22.00	596.25
A	8314+91.29	22.00	595.78
B	8315+01.29	22.00	595.31
E. End East Appr. Slab	8315+10.37	22.00	594.93



LOCATION OF ELEVATION UNDER NORTH SIDEWALK



LOCATION OF ELEVATION UNDER SOUTH SIDEWALK

SOUTH EDGE OF EAST APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8314+80.74	34.50	596.47
A	8314+90.74	34.50	596.00
B	8315+00.74	34.50	595.53
E. End East Appr. Slab	8315+09.82	34.50	595.14

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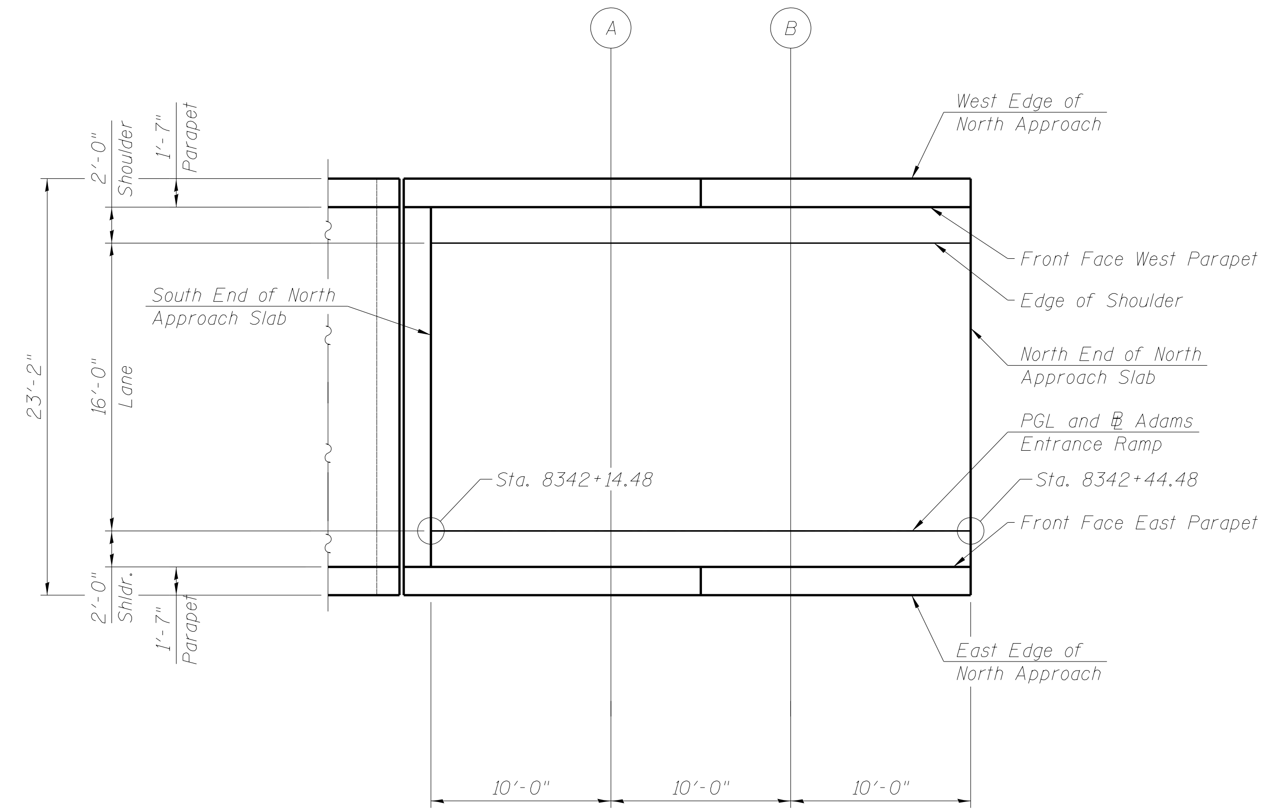
TranSystems

USER NAME = wjcollett	DESIGNED	JM	REVISED
	CHECKED	WJC	REVISED
PLOT SCALE = NTS	DRAWN	JM	REVISED
PLOT DATE = 3/5/2020	CHECKED	WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-1701
SHEET NO. S1-19 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	321
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			



PLAN

WEST EDGE OF NORTH APPROACH

Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8342+14.48	-19.58	588.58
A	8342+24.48	-19.58	587.87
B	8342+34.48	-19.58	587.17
N. End North Appr. Slab	8342+44.48	-19.58	586.47

FRONT FACE WEST PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8342+14.48	-18.00	588.61
A	8342+24.48	-18.00	587.90
B	8342+34.48	-18.00	587.20
N. End North Appr. Slab	8342+44.48	-18.00	586.50

EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8342+14.48	-16.00	588.65
A	8342+24.48	-16.00	587.94
B	8342+34.48	-16.00	587.24
N. End North Appr. Slab	8342+44.48	-16.00	586.54

PGL & ℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8342+14.48	0.00	588.97
A	8342+24.48	0.00	588.26
B	8342+34.48	0.00	587.56
N. End North Appr. Slab	8342+44.48	0.00	586.86

FRONT FACE EAST PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8342+14.48	2.00	589.01
A	8342+24.48	2.00	588.30
B	8342+34.48	2.00	587.60
N. End North Appr. Slab	8342+44.48	2.00	586.90

EAST EDGE OF NORTH APPROACH

Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8342+14.48	3.58	589.04
A	8342+24.48	3.58	588.34
B	8342+34.48	3.58	587.63
N. End North Appr. Slab	8342+44.48	3.58	586.93

1:42:00 PM 016170I-60X94-S020-TopSlab_NorthApproach.dgn

TranSystems

USER NAME = wjcolletti	DESIGNED JM	REVISED
	CHECKED WJC	REVISED
PLOT SCALE = NTS	DRAWN JM	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

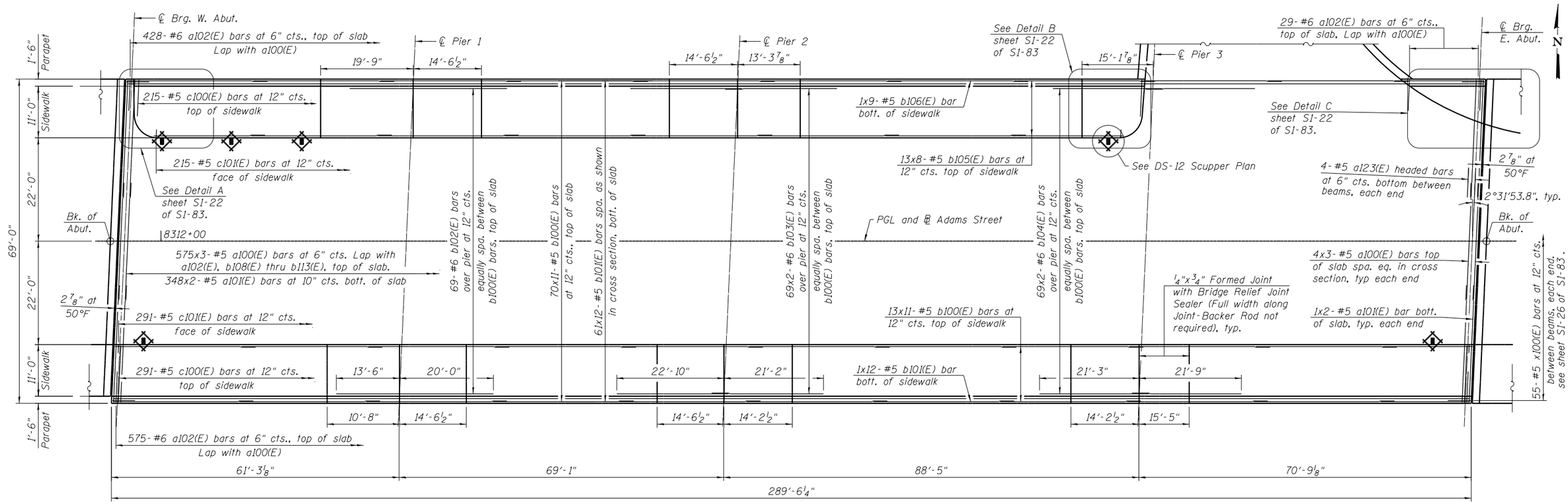
TOP OF NORTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-1701

SHEET NO. S1-20 OF S1-83 SHEETS

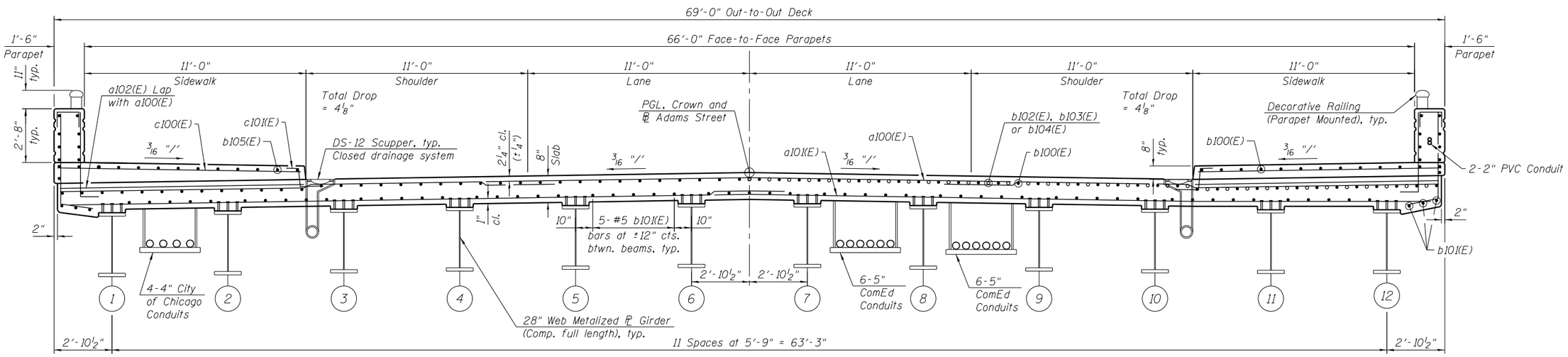
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	322

CONTRACT NO. 60X94

ILLINOIS FED. AID PROJECT



DECK PLAN - ADAMS



CROSS SECTION - ADAMS

(Looking East)

Notes:

Bars indicated thus 13x8-#5 etc. indicates 13 lines of bars with 8 lengths per line.

Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet S1-31 of S1-83.

See Sheet S1-26 of S1-83 for Bill of Material.

See Sheet S1-24 and S1-25 of S1-83 for parapet reinforcement.

For Scupper locations see Sheet S1-04 of S1-83 .

For Scupper Plan, see Sheet S1-22 of S1-83 .

NEAR MIDSPAN

Details for the proposed City of Chicago conduit support system are shown on the CDOT Lighting Plans. The concrete inserts will be provided by the contractor. The installation location of the concrete inserts will be determined in the field by the contractor. There is no separate payment for the placement of the inserts. Cost of the work involved in installing the inserts included with Concrete Superstructure.

NEAR PIER

Proposed conduit support systems for the utilities are shown for information only. The concrete inserts will be provided to the Contractor by the utility companies. The Contractor is responsible for placing inserts per layout details and direction from the utility companies. The utility companies may elect to provide support to Contractor for final insert placement in advance of pouring concrete. There is no separate payment for the placement of inserts. The work involved in placing inserts is included in the cost of Concrete Superstructure.

Minimum Bar Laps	
Bar	Lap
#5	3'-6"
#6	4'-10"

TranSystems

USER NAME = wjcolletti	DESIGNED	JM	REVISED
	CHECKED	WJC	REVISED
PLOT SCALE = NTS	DRAWN	JM	REVISED
PLOT DATE = 3/5/2020	CHECKED	WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN AND CROSS SECTION – ADAMS
STRUCTURE NO. 016-1701
SHEET NO. S1-21 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	323
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

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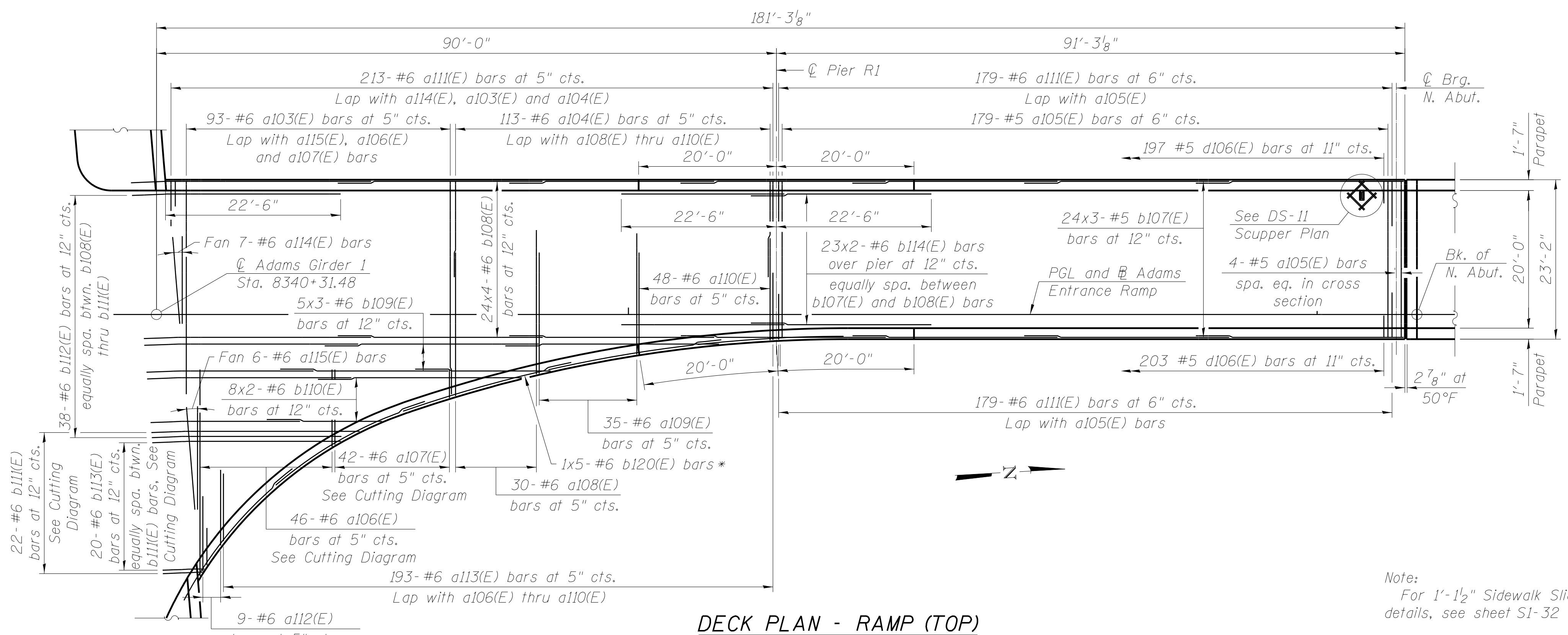
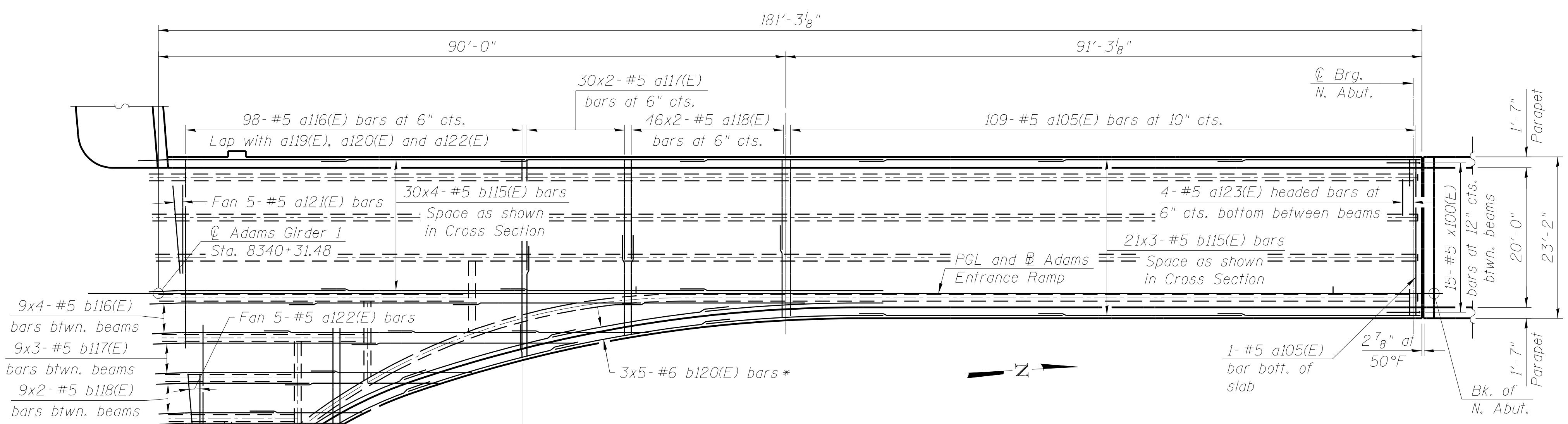
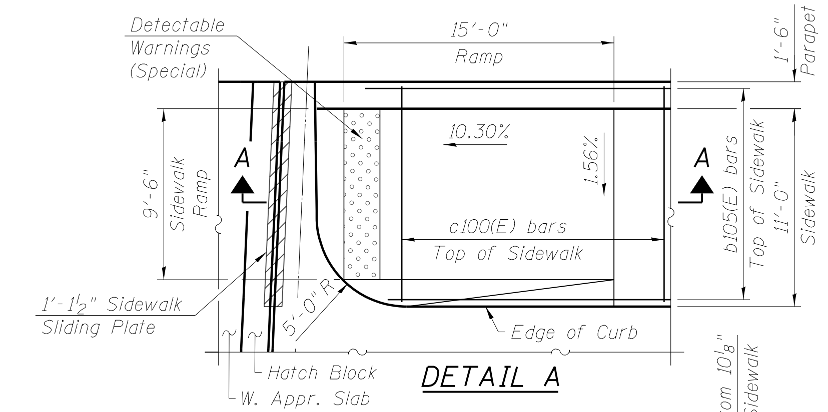


DECK PLAN - RAMP (TOP)

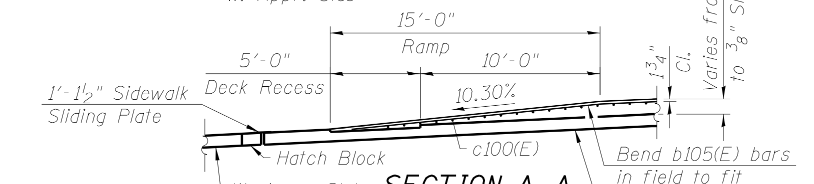
Note:
For 1'-1½" Sidewalk Sliding Plate details, see sheet S1-32 of S1-83 .



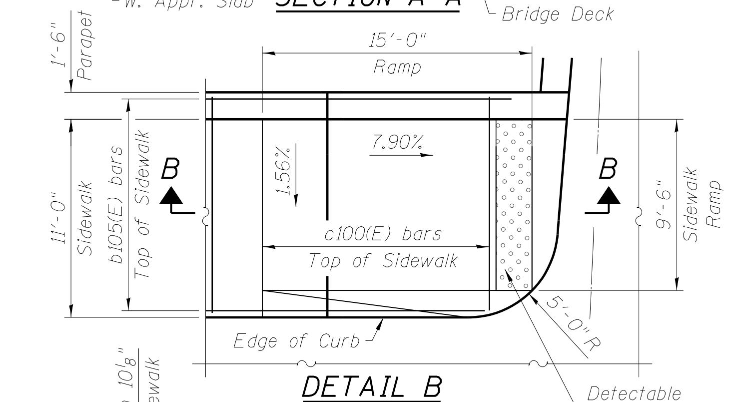
DECK PLAN - RAMP (BOTTOM)



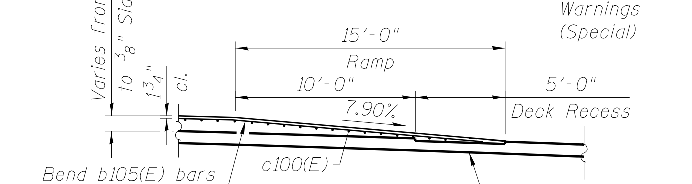
DETAIL A



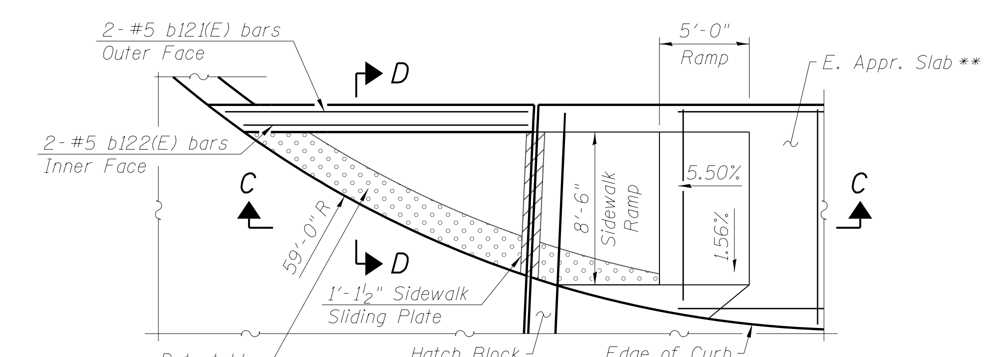
SECTION A-A



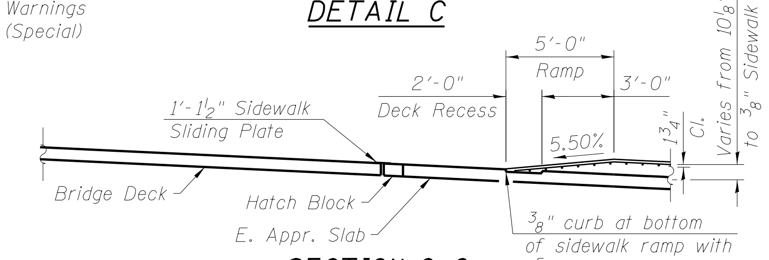
DETAIL B



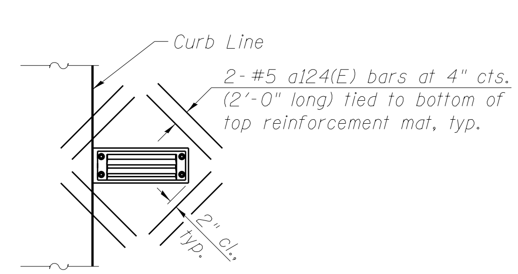
SECTION B-B



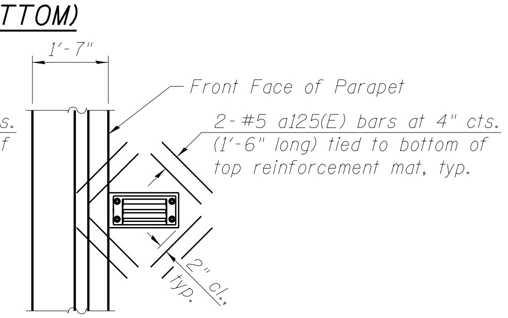
DETAIL C



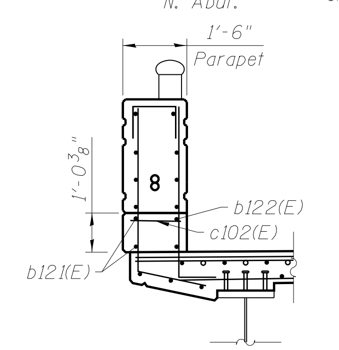
SECTION C-C



DS-12 SCUPPER PLAN



DS-11 SCUPPER PLAN



SECTION D-D

For more details, see Section Through North Parapet at Pier on sheet S1-23 of S1-83 .

Minimum Bar Laps	
Bar	Lap
#5	3'-6"
#6	4'-10"

* Bars are to be provided straight and are to be sprung and tied at required radius in field.

** See sheet S1-27 of S1-83 for details of approach slab reinforcement.

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

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0161701-60X94-S022-Deck_Plan_Ramp.dgn

TranSystems

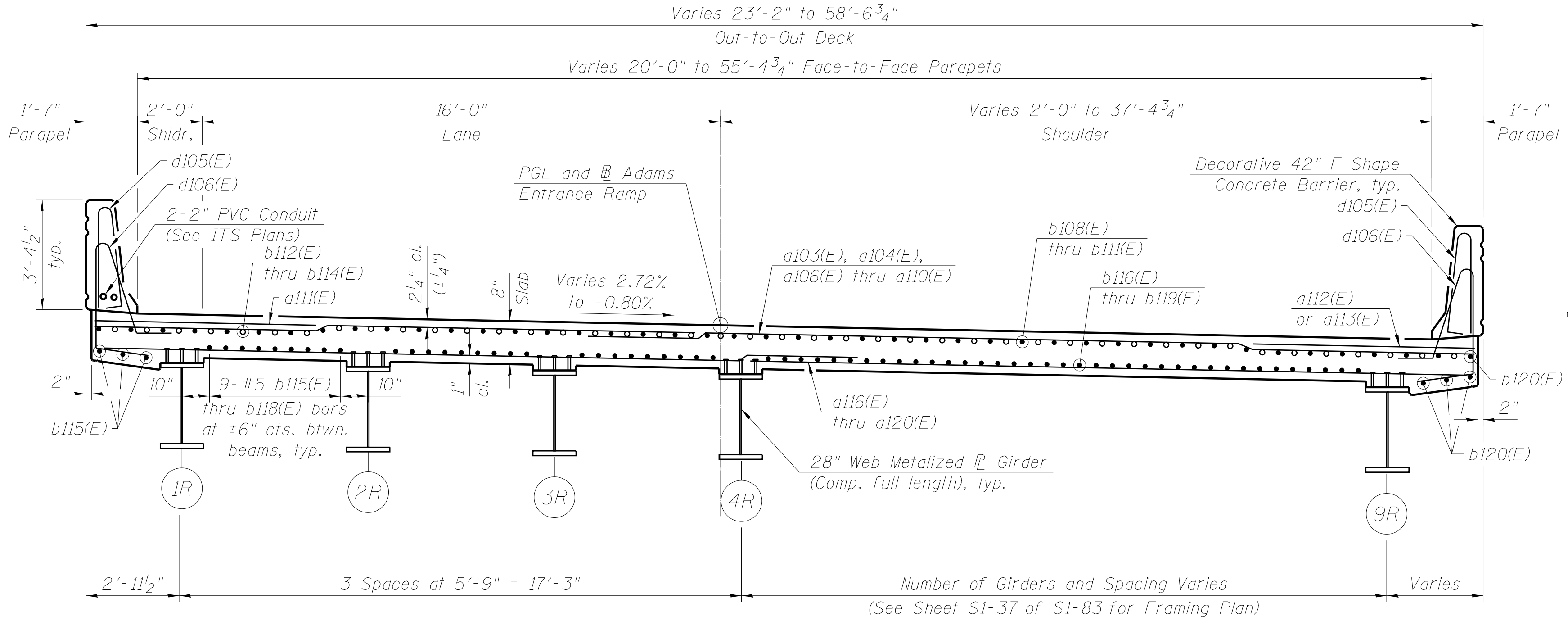
USER NAME = wjcolletti	DESIGNED JM	REVISED
	CHECKED WJC	REVISED
PLOT SCALE = NTS	DRAWN JM	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN – RAMP
STRUCTURE NO. 016-1701
SHEET NO. S1-22 OF S1-83 SHEETS

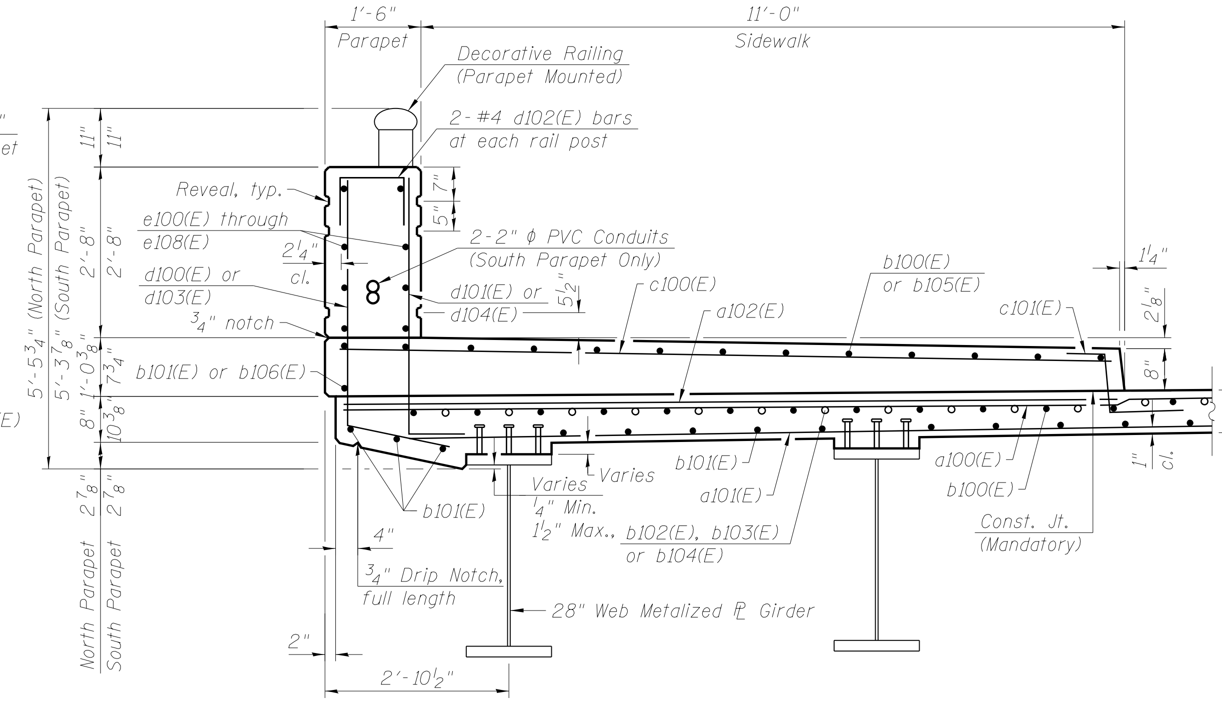
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	324

CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT



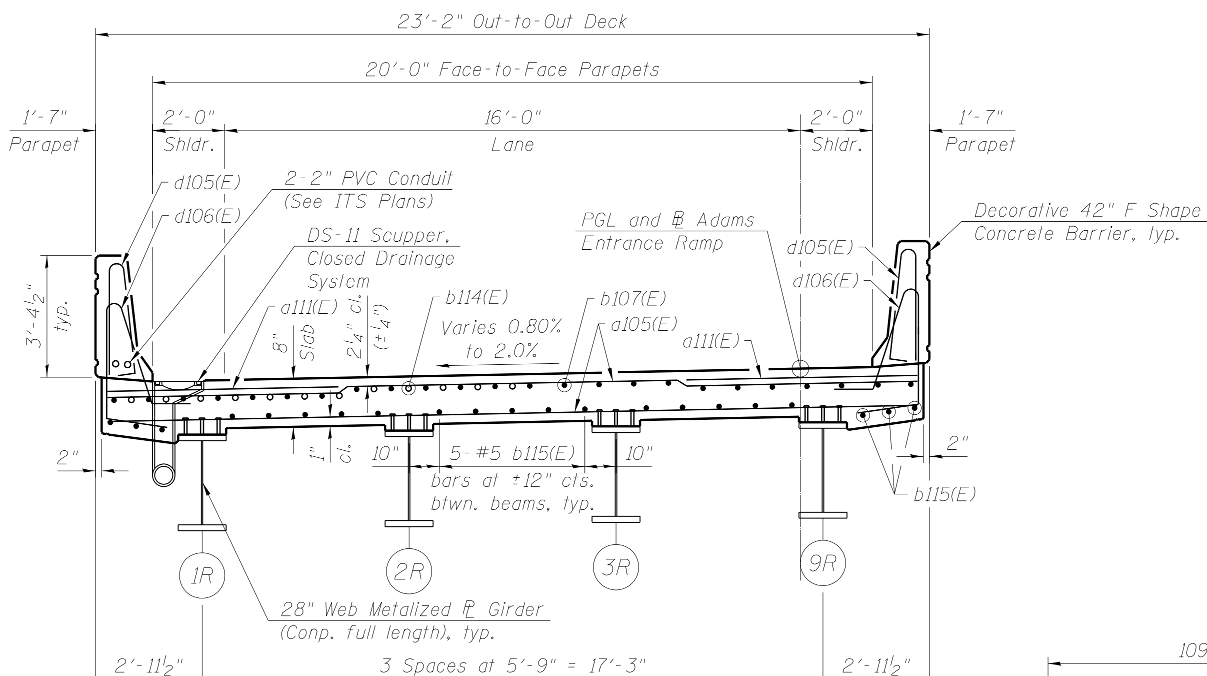
CROSS SECTION - RAMP

(Looking North, Sta. 8340+31.48 to Sta. 8341+21.48)
(Dimensions are measured perpendicular to ℄ Adams Entrance Ramp)



SECTION THROUGH NORTH PARAPET AT PIER

(Looking Up-Station at Pier, South Parapet similar, opposite hand)



CROSS SECTION - RAMP

(Looking North, Sta. 8341+21.48 to Sta. 8342+11.48)
(Dimensions are measured perpendicular to ℄ Adams Entrance Ramp)

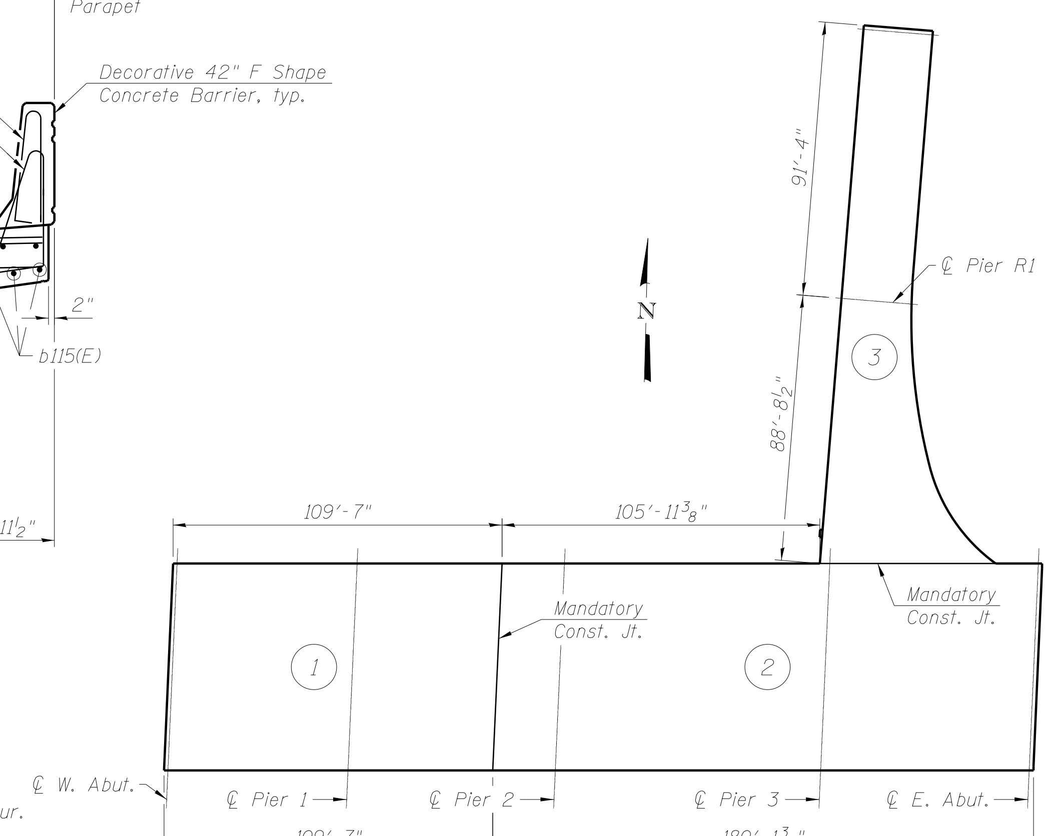
DECK POURING SEQUENCE

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:

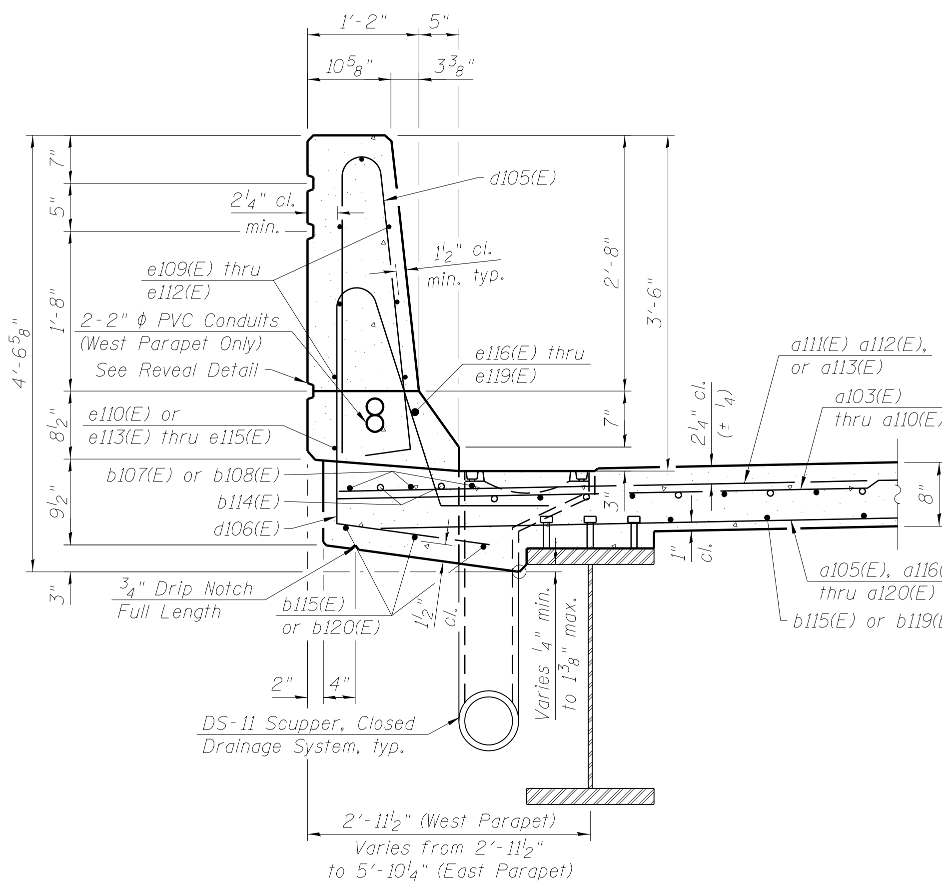
1. At least 72 hours shall have elapsed from the end of the previous pour.

2. The concrete strength shall have attained a minimum flexural strength of 675 psi or a minimum compressive strength of 4000 psi.

Concrete pours shall follow the numerical order shown in the pouring sequence. Deviation from this pour sequence requires approval from the Engineer.



POURING SEQUENCE



SECTION THRU WEST RAMP PARAPET AT PIER

(Looking Up-Station at Pier, East Parapet similar, opposite hand)

Notes:
See Sheet S1-26 of S1-83 for Bill of Material.
See Sheet S1-24 and S1-25 of S1-83 for parapet reinforcement.
For Scupper locations see Sheet S1-04 and S1-05 of S1-83.

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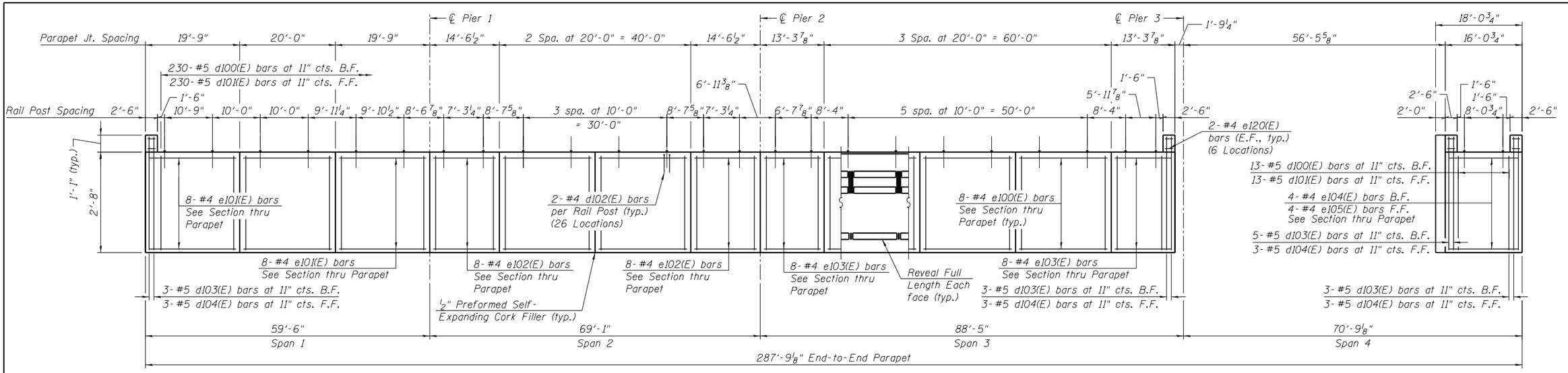
TranSystems	USER NAME = wjcolletti	DESIGNED JM	REVISED	
		CHECKED WJC	REVISED	
	PLOT SCALE = NTS	DRAWN JM	REVISED	
	PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS - RAMP
STRUCTURE NO. 016-1701

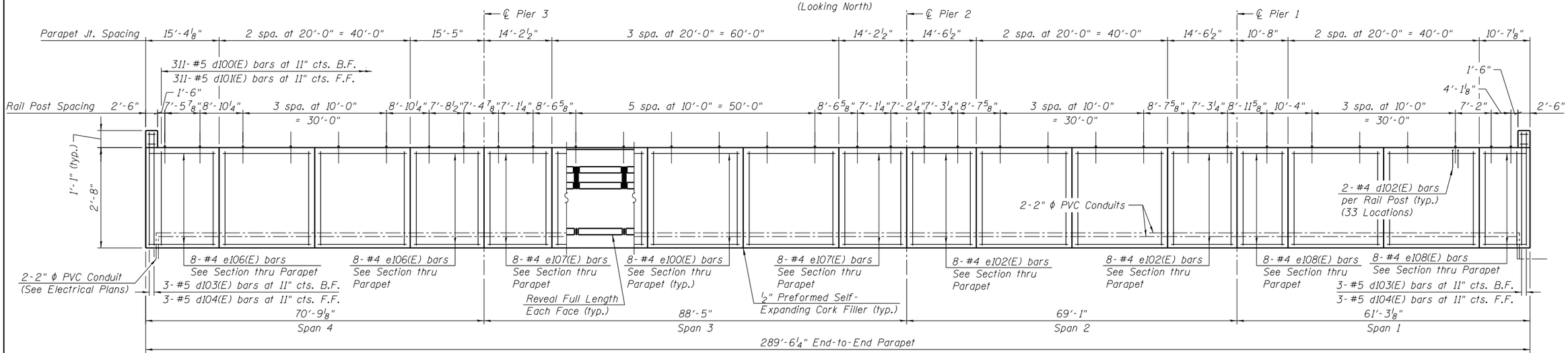
SHEET NO. S1-23 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	325
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			



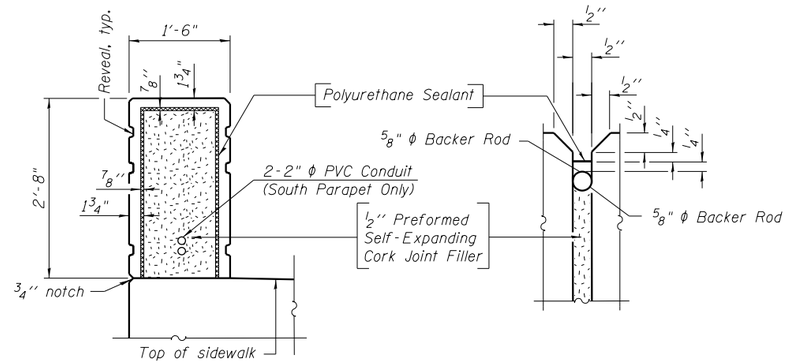
INSIDE ELEVATION OF NORTH PARAPET - ADAMS

(Looking North)



INSIDE ELEVATION OF SOUTH PARAPET - ADAMS

(Looking South)



PARAPET JOINT DETAILS

Notes:

For Section Through Parapet, see Sheet S1-23 of S1-83 .

For notes, bar diagrams, and Bill of Material, see Sheet S1-26 of S1-83 .

All edges shall be chamfered ¾".

For architectural details on the parapets and Decorative Railing (Parapet Mounted) details, see Sheet S1-31 of S1-83 .

The cost of reveal is included in cost of Concrete Superstructure.

The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be Gray.

½" PJF Included in cost of Concrete Superstructure.

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TranSystems

USER NAME = wjcollett	DESIGNED JM	REVISED	
	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN JM	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET ELEVATIONS – ADAMS
STRUCTURE NO. 016-1701
SHEET NO. S1-24 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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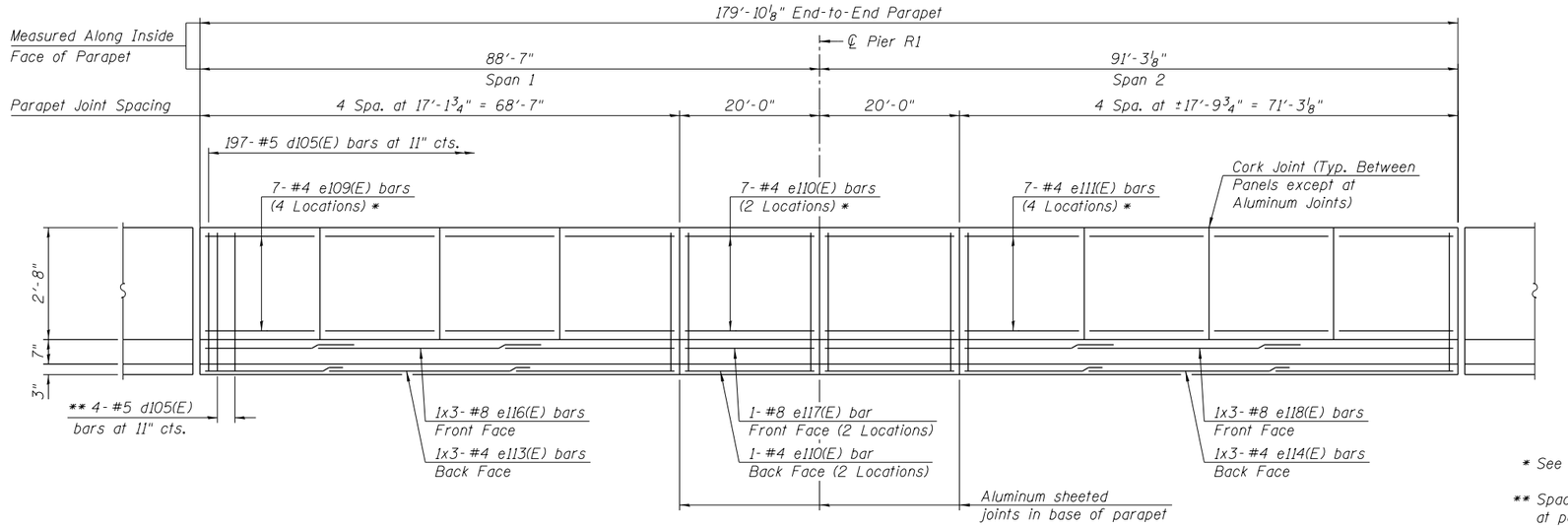
		CONTRACT NO. 60X94		
ILLINOIS	FED. AID PROJECT			

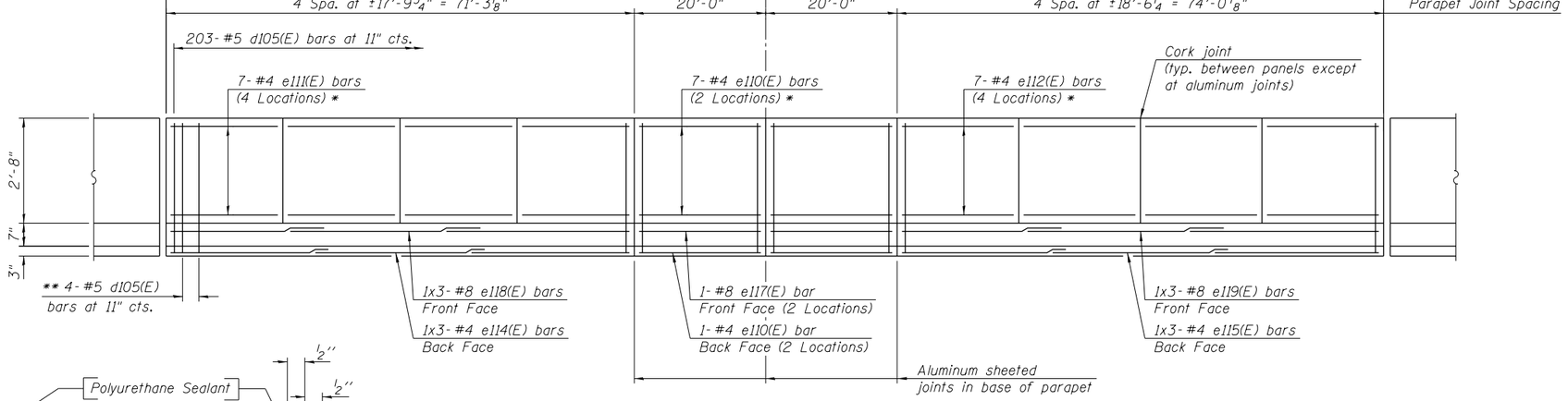


INSIDE ELEVATION OF WEST PARAPET - RAMP

(Looking West)

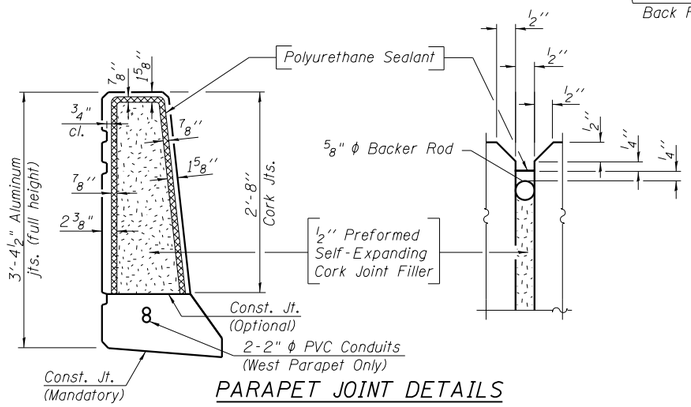
* See section thru parapet on Sheet S1-23 of S1-83.

** Space between already specified d105(E) bars. Typical at parapet ends and each side of aluminum shield joints.
(8 Locations West Parapet)
(8 Locations East Parapet)



INSIDE ELEVATION OF EAST PARAPET - RAMP

(Looking East)



PARAPET JOINT DETAILS

Minimum Bar Laps	
Bar	Lap
#4	2'-5"
#8	6'-9"

Notes:
Bars indicated Locations: 1x4-#8 etc. indicates one line of bars with 4 lengths per line.
For section through parapet, see Sheet S1-23 of S1-83.
The 1/8" Aluminum Sheet shall be ASTM B209 Alloy 3003-H14 and coated to minimize reaction with concrete. Cost included with Concrete Superstructure.
The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

TranSystems

USER NAME = wjcolletti	DESIGNED JM	REVISED	
	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN JM	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET ELEVATIONS – RAMP
STRUCTURE NO. 016-1701
SHEET NO. S1-25 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	327
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

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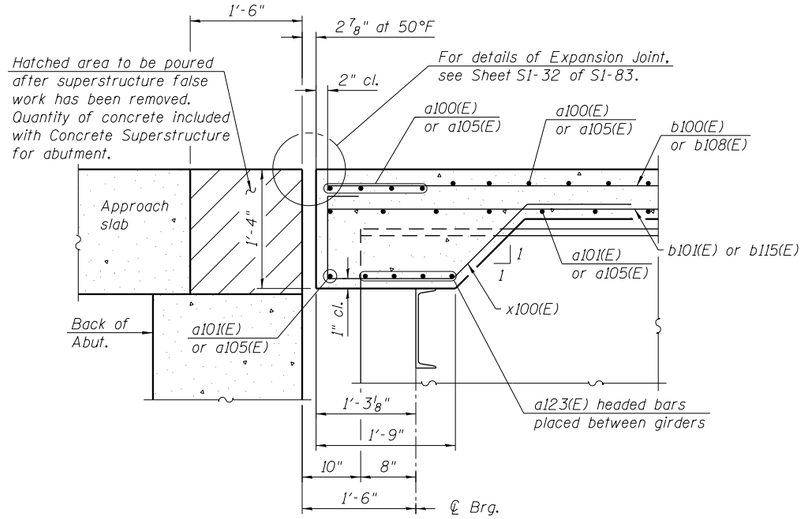
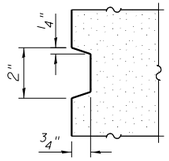


SECTION THROUGH EXPANSION JOINT AT RIGHT ANGLE

(Looking North, West joint shown, East and North joints similar)

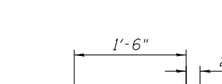


REVEAL DETAIL

BILL OF MATERIAL

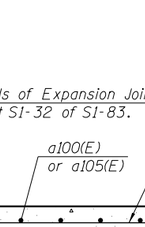
Bar	No.	Size	Length	Shape
a100(E)	1749	#5	25'-2"	———
a101(E)	700	#5	36'-0"	———
a102(E)	1032	#6	6'-8"	———
a103(E)	93	#6	31'-0"	———
a104(E)	113	#6	14'-0"	———
a105(E)	293	#5	22'-6"	———
a106(E)	23	#6	44'-0"	———
a107(E)	21	#6	17'-10"	———
a108(E)	30	#6	22'-3"	———
a109(E)	35	#6	18'-10"	———
a110(E)	48	#6	16'-0"	———
a111(E)	571	#6	6'-6"	———
a112(E)	9	#6	11'-3"	———
a113(E)	193	#6	9'-10"	———
a114(E)	7	#6	29'-5"	———
a115(E)	6	#6	31'-2"	———
a116(E)	98	#5	27'-3"	———
a117(E)	60	#5	16'-0"	———
a118(E)	92	#5	14'-5"	———
a119(E)	19	#5	47'-0"	———
a120(E)	27	#5	19'-1"	———
a121(E)	5	#5	24'-8"	———
a122(E)	5	#5	30'-6"	———
a123(E)	100	#5	5'-5"	———
a124(E)	48	#5	2'-0"	———
a125(E)	8	#5	1'-6"	———

Bar	No.	Size	Length	Shape
b100(E)	913	#5	29'-6"	———
b101(E)	744	#5	27'-4"	———
b102(E)	69	#6	33'-6"	———
b103(E)	138	#6	24'-5"	———
b104(E)	138	#6	23'-11"	———
b105(E)	104	#5	30'-0"	———
b106(E)	9	#5	27'-0"	———
b107(E)	72	#5	30'-10"	———
b108(E)	96	#6	30'-10"	———
b109(E)	15	#6	31'-1"	———
b110(E)	16	#6	29'-8"	———
b111(E)	11	#6	36'-1"	———
b112(E)	38	#6	30'-5"	———
b113(E)	10	#6	33'-6"	———
b114(E)	46	#6	24'-11"	———
b115(E)	183	#5	29'-4"	———
b116(E)	36	#5	27'-0"	———
b117(E)	27	#5	30'-0"	———
b118(E)	18	#5	22'-0"	———
b119(E)	13	#5	35'-0"	———
b120(E)	20	#6	25'-8"	———
b121(E)	2	#5	16'-10"	———
b122(E)	2	#5	15'-10"	———
c100(E)	506	#5	12'-2"	———
c101(E)	506	#5	2'-4"	
d100(E)	554	#5	5'-3"	
d101(E)	554	#5	4'-8"	
d102(E)	118	#4	2'-7"	
d103(E)	20	#5	6'-4"	
d104(E)	18	#5	5'-9"	
d105(E)	464	#5	6'-11"	
d106(E)	400	#5	7'-5"	
e100(E)	120	#4	19'-8"	———
e101(E)	16	#4	19'-5"	———
e102(E)	32	#4	14'-3"	———
e103(E)	16	#4	13'-0"	———
e104(E)	4	#4	17'-10"	———
e105(E)	4	#4	15'-10"	———
e106(E)	16	#4	15'-1"	———
e107(E)	16	#4	13'-11"	———
e108(E)	16	#4	10'-4"	———
e109(E)	28	#4	16'-10"	———
e110(E)	32	#4	19'-8"	———
e111(E)	56	#4	17'-6"	———
e112(E)	28	#4	18'-3"	———
e113(E)	3	#4	24'-5"	———
e114(E)	6	#4	25'-4"	———
e115(E)	3	#4	26'-3"	———
e116(E)	3	#8	27'-3"	———
e117(E)	4	#8	19'-8"	———
e118(E)	6	#8	28'-2"	———
e119(E)	3	#8	29'-1"	———
e120(E)	24	#4	2'-2"	———
x100(E)	125	#5	6'-5"	
Reinforcement Bars, Epoxy Coated		Pound	233,250	
Concrete Superstructure		Cu. Yd.	977.8	
Protective Coat		Sq. Yd.	3,078	
Bridge Deck Grooving		Sq. Yd.	1,511	
Detectable Warnings (Special)		Sq. Ft.	74	
Bridge Deck Grooving (Longitudinal)		Sq. Yd.	499	



BAR a123(E)

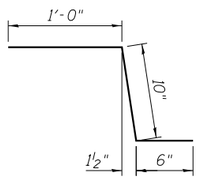
(Headed)



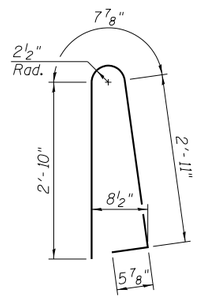
BAR d100(E) and d103(E)

BAR d101(E) and d104(E)

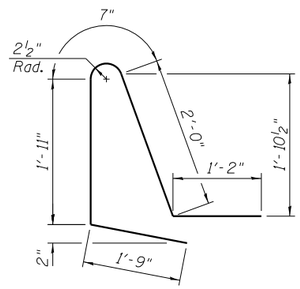
Bar	A	B
d101(E)	3'-10"	10"
d104(E)	4'-11"	10"



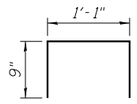
BAR c101(E)



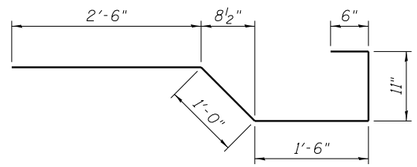
BAR d105(E)



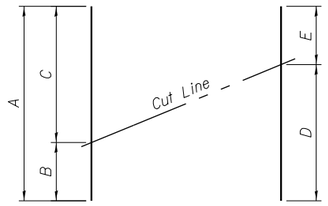
BAR d106(E)



BAR d102(E)



BAR x100(E)



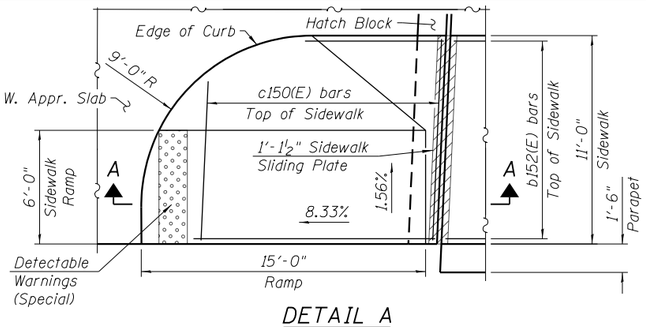
BAR CUTTING DIAGRAM

Order bars full length.

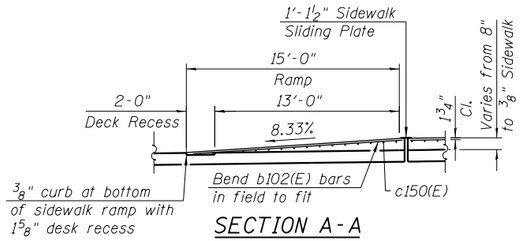
Bar	A	B	C	D	E
a106(E)	44'-0"	12'-9"	31'-3"	21'-10"	22'-2"
a107(E)	17'-10"	5'-4"	12'-6"	8'-10"	9'-0"
a119(E)	47'-0"	14'-8"	32'-4"	23'-3"	23'-9"
a120(E)	19'-1"	4'-9"	14'-4"	9'-6"	9'-7"
b111(E)	36'-1"	30'-4"	5'-9"	18'-7"	17'-6"
b113(E)	33'-6"	27'-5"	6'-1"	17'-4"	16'-2"
b119(E)	35'-0"	26'-4"	8'-8"	18'-4"	16'-8"

Note:

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.



DETAIL A



SECTION A-A

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

	West Approach	
Point	Top	Bottom
A	592.30	591.47
B	592.70	591.87
C	591.92	591.09
D	592.58	591.75
E	592.97	592.14
F	592.28	591.45

	East Approach	
Point	Top	Bottom
A	593.67	592.84
B	594.27	593.44
C	593.80	592.97
D	593.27	592.44
E	593.86	593.03
F	593.37	592.54

Notes:

See sheet S1-28 of S1-83 for Sections B-B, C-C, and Detail B.

See sheet S1-22 of S1-83 for additional ramp details.

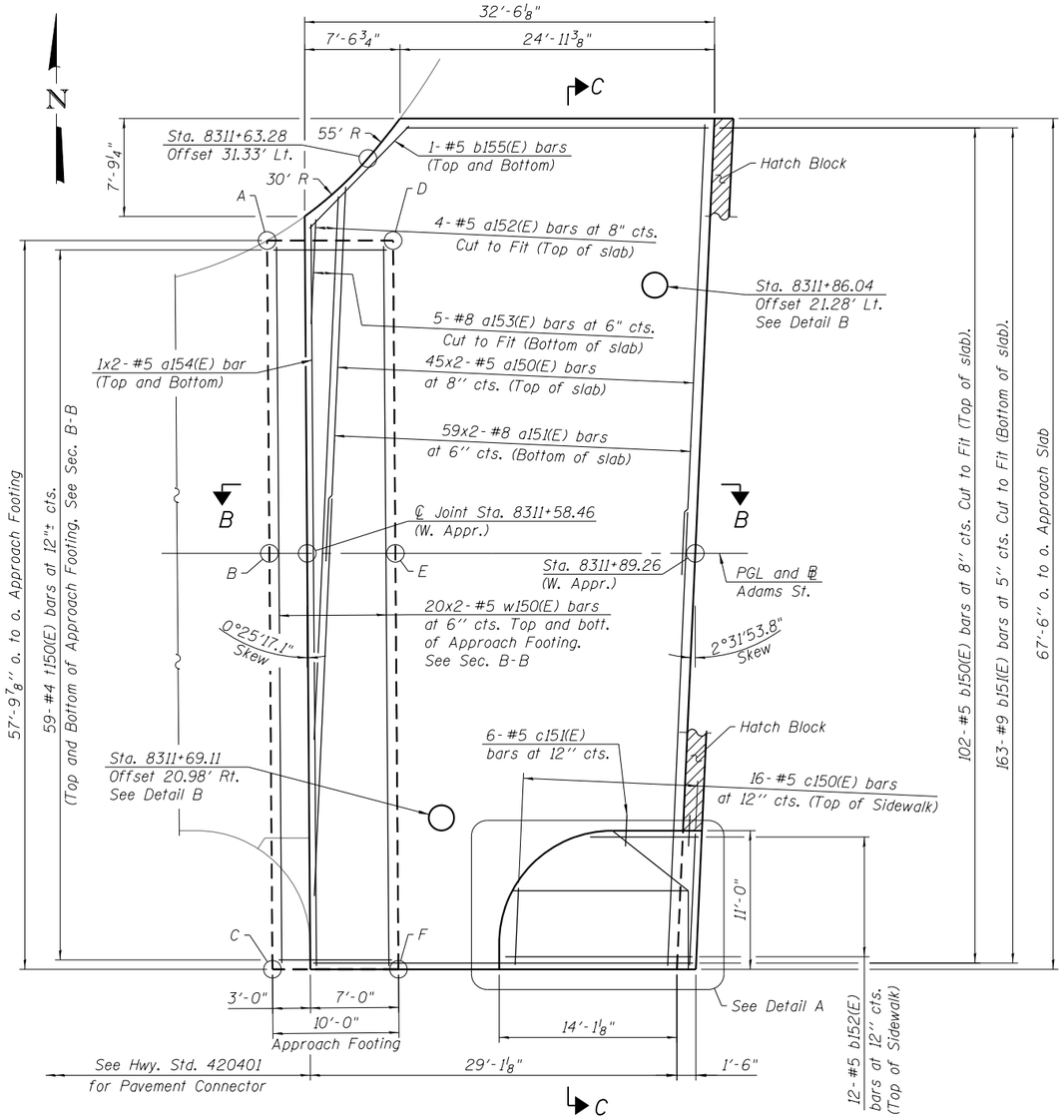
See sheet S1-32 of S1-83 for sidewalk cover plate details.

a150(E) through a156(E) and c150(E) through c152(E) bar spacings measured along ℄ Rdwy.

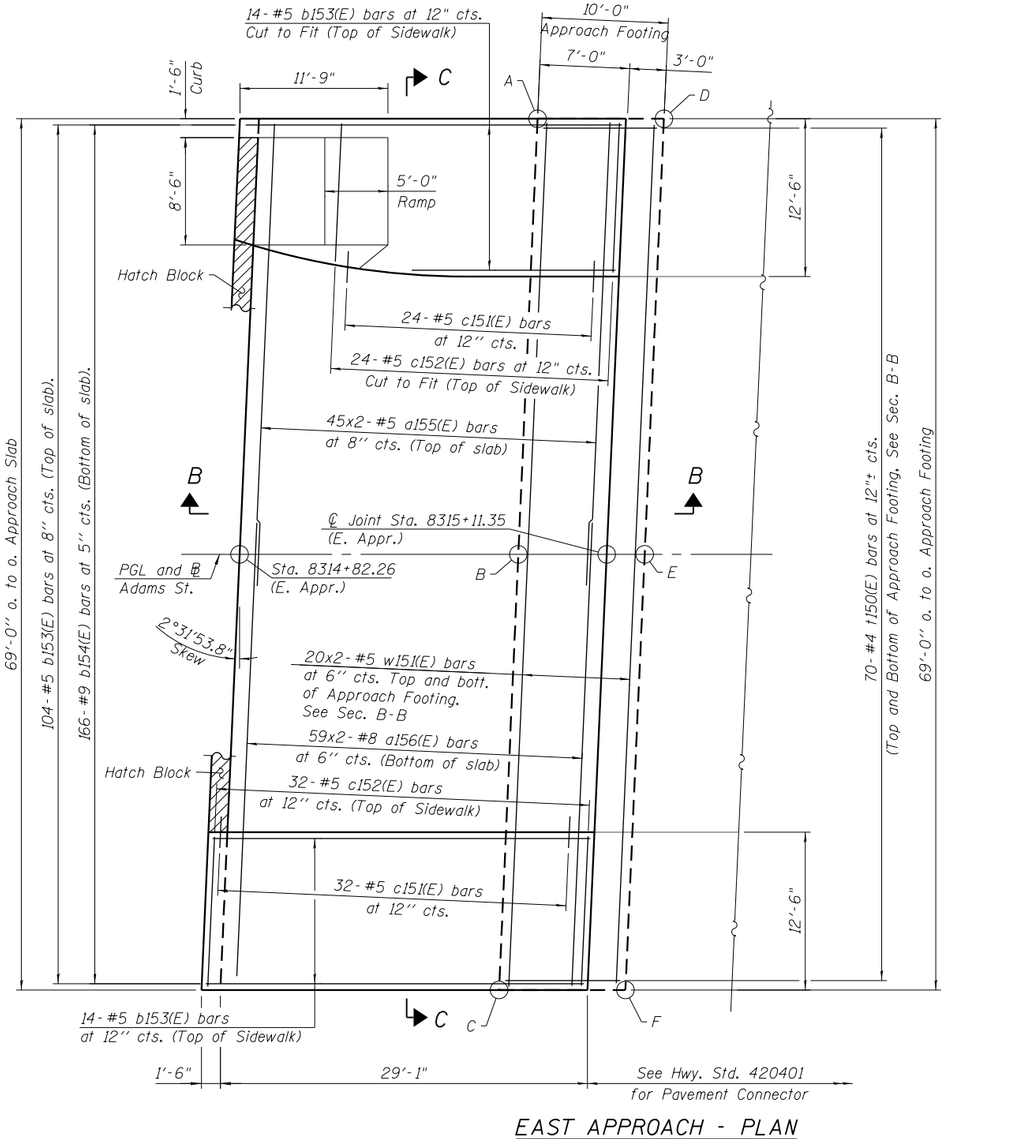
The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1½" for installation purposes.

Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

For 1'-1½" Sidewalk Sliding Plate details, see sheet S1-32 of S1-83.



WEST APPROACH - PLAN



EAST APPROACH - PLAN

USER NAME = wjcolletti	DESIGNED	TJA	REVISED
	CHECKED	WJC	REVISED
PLOT SCALE = NTS	DRAWN	TJA	REVISED
PLOT DATE = 3/5/2020	CHECKED	WJC	REVISED

TranSystems

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS 1 – ADAMS
STRUCTURE NO. 016-1701
SHEET NO. S1-27 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	329
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

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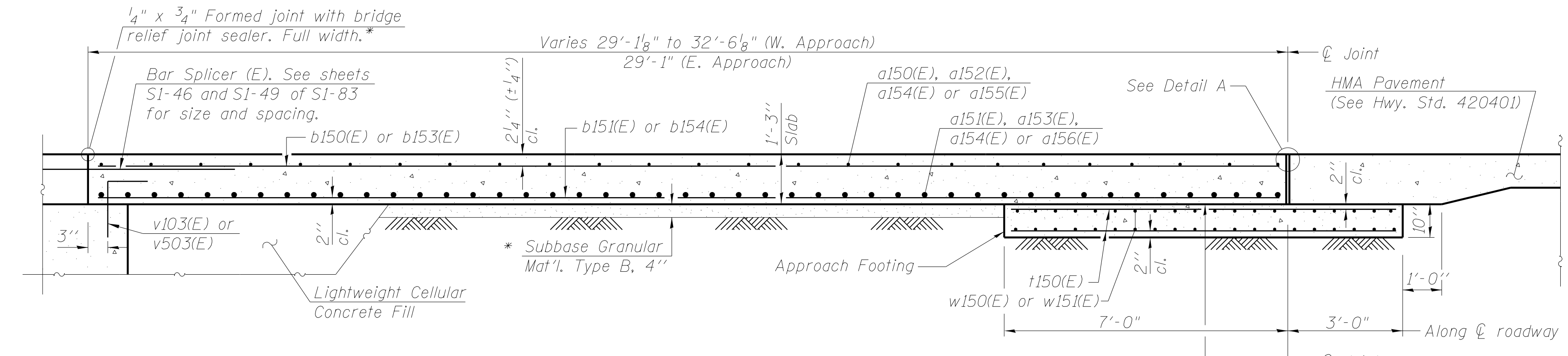
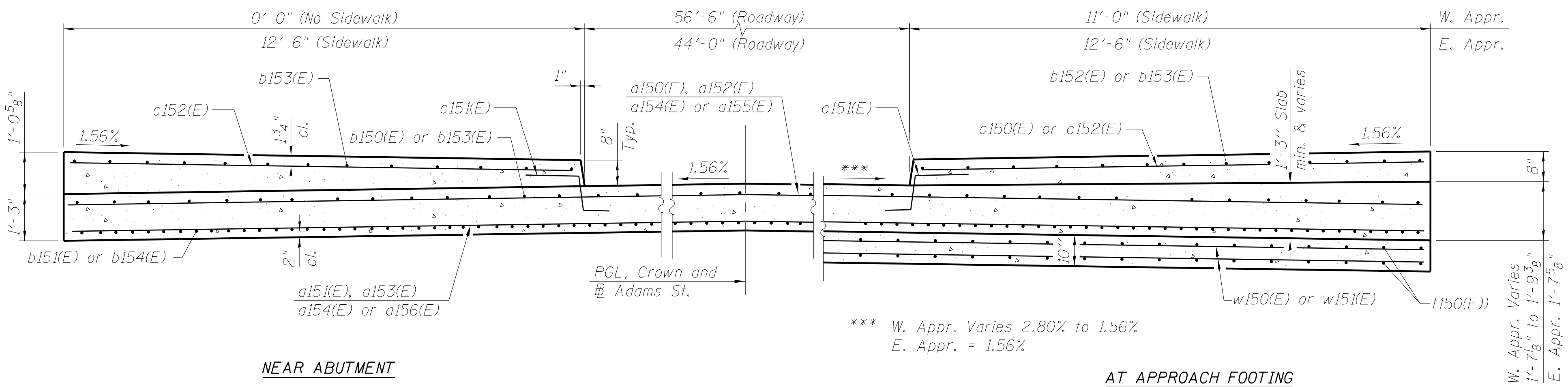
Notes:
Approach slab concrete shall be paid for as Concrete Superstructure (Approach Slab).
Sidewalk concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v103(E) and v503(E) bar details and for Lightweight Cellular Concrete Fill, see Sheets S1-46 and S1-49 of S1-83.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.



SECTION B-B



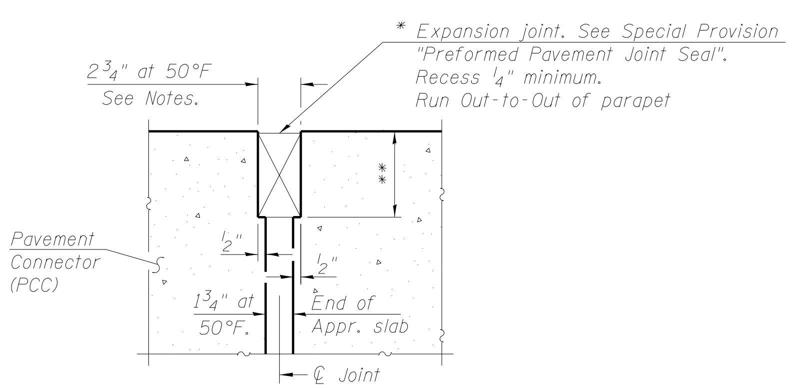
SECTION C-C
(See Plan for dimensions not shown)

WEST APPROACH BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a150(E)	90	#5	35'-3"	
a151(E)	118	#8	36'-11"	
a152(E)	4	#5	45'-0"	
a153(E)	5	#8	45'-0"	
a154(E)	4	#5	31'-4"	
a157(E)	32	#5	3'-6"	
b150(E)	102	#5	32'-4"	
b151(E)	163	#9	32'-4"	
b152(E)	12	#5	10'-0"	
b155(E)	2	#5	11'-7"	
c150(E)	16	#5	10'-8"	
c151(E)	6	#5	2'-4"	
t150(E)	118	#4	9'-8"	
w150(E)	80	#5	30'-5"	
Concrete Superstructure		Cu. Yd.	3.9	
Concrete Superstructure (Approach Slab)		Cu. Yd.	94.8	
Concrete Structures		Cu. Yd.	17.9	
Reinforcement Bars, Epoxy Coated		Pound	40,980	
Bridge Deck Grooving		Sq. Yd.	222	
Protective Coat		Sq. Yd.	223	

MIN. BAR LAPS

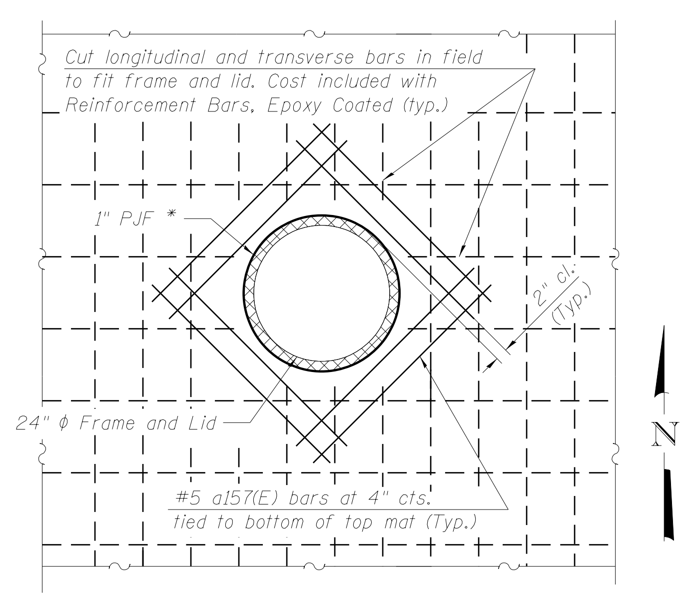
#5 = 3'-4"
#8 = 6'-8"



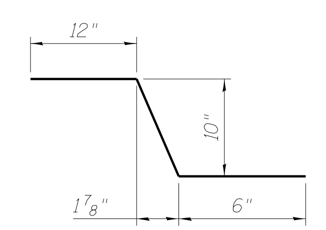
DETAIL A

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations



DETAIL B



BAR c151(E)

EAST APPROACH BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a155(E)	90	#5	36'-0"	
a156(E)	118	#8	37'-8"	
b153(E)	132	#5	28'-9"	
b154(E)	166	#9	28'-9"	
c151(E)	56	#5	2'-4"	
c152(E)	56	#5	12'-2"	
t150(E)	140	#4	9'-8"	
w151(E)	80	#5	36'-0"	
Concrete Superstructure		Cu. Yd.	18.5	
Concrete Superstructure (Approach Slab)		Cu. Yd.	93.0	
Concrete Structures		Cu. Yd.	21.4	
Reinforcement Bars, Epoxy Coated		Pound	40,190	
Bridge Deck Grooving		Sq. Yd.	152	
Protective Coat		Sq. Yd.	157	
Detectable Warnings (Special)		Sq. Ft.	15	

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TranSystems

USER NAME = wjcollett	DESIGNED TJA	REVISED
	CHECKED WJC	REVISED
PLOT SCALE = NTS	DRAWN TJA	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

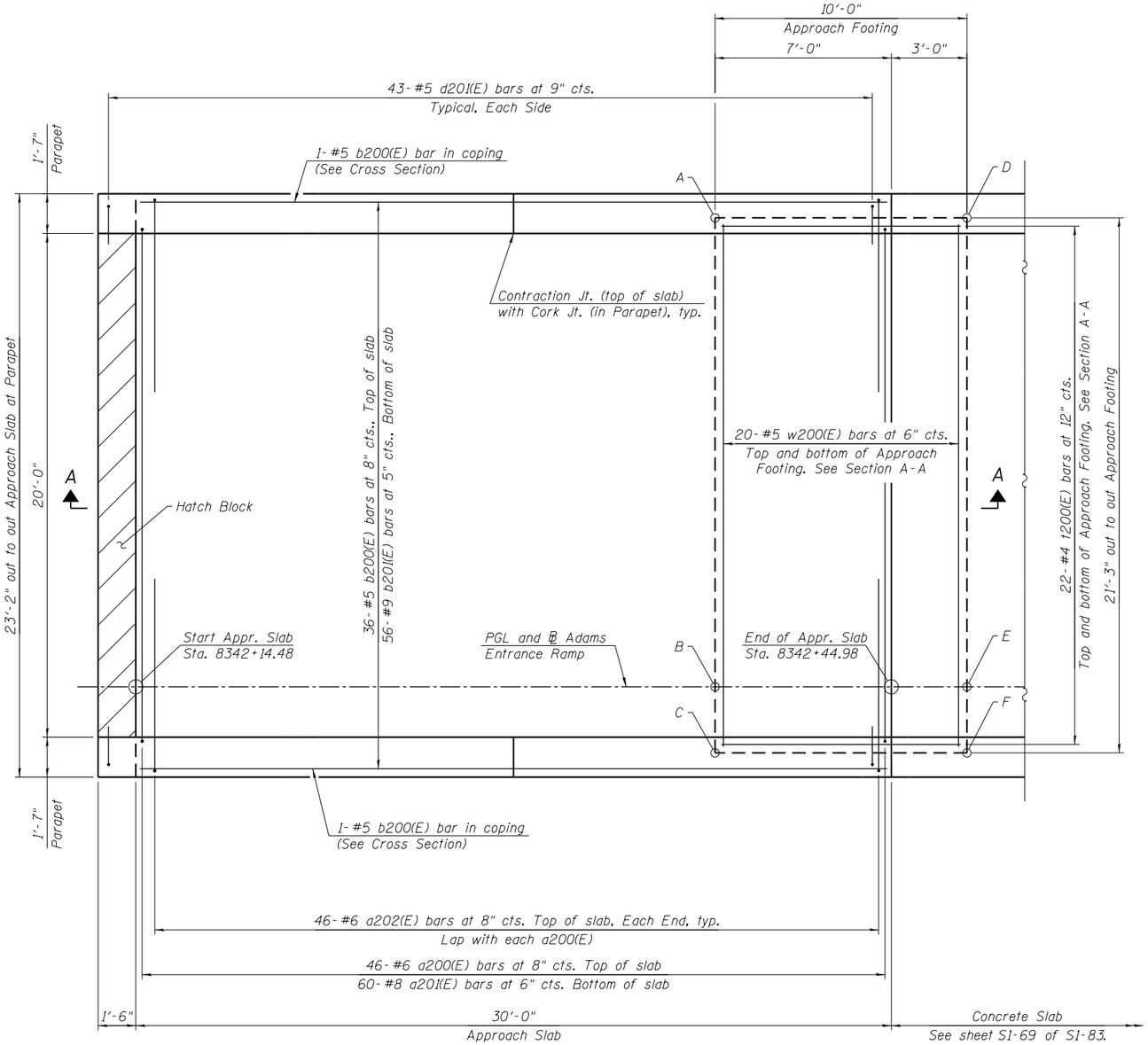
APPROACH SLAB DETAILS 2 - ADAMS
STRUCTURE NO. 016-1701

SHEET NO. S1-28 OF S1-83 SHEETS

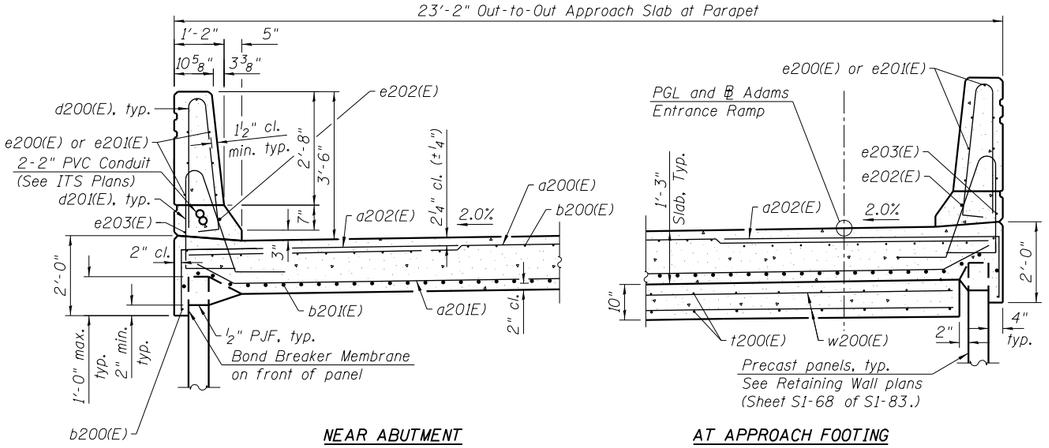
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	330

CONTRACT NO. 60X94

ILLINOIS FED. AID PROJECT



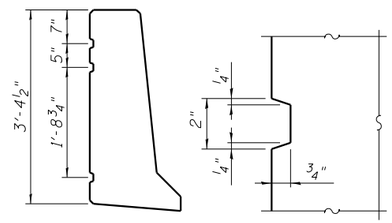
PLAN



CROSS SECTION
(Looking Upstation)

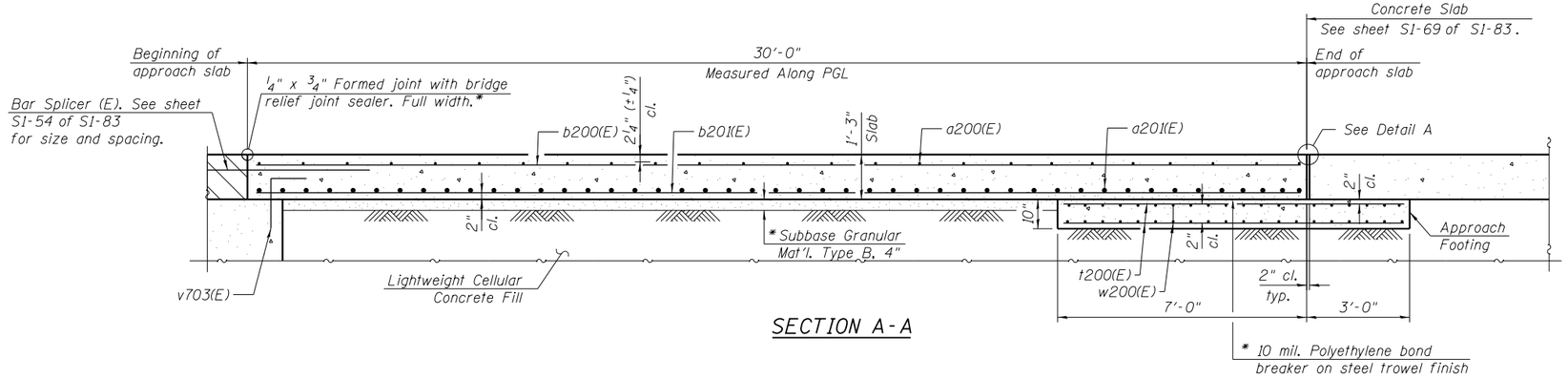
TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

	North Approach	
Point	Top	Bottom
A	585.48	584.65
B	585.85	585.02
C	585.90	585.07
D	584.78	583.95
E	585.15	584.32
F	585.20	584.37



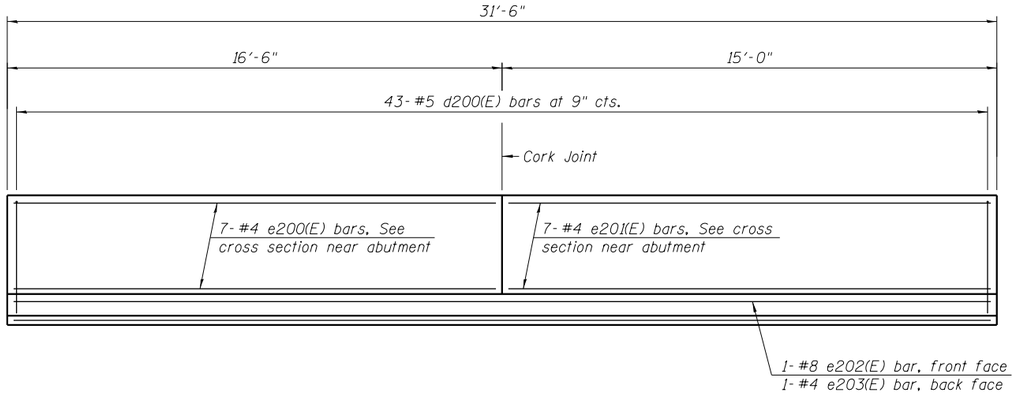
REVEAL DETAIL

Note:
See Sheet S1-30 of S1-83 for Section A-A and notes.



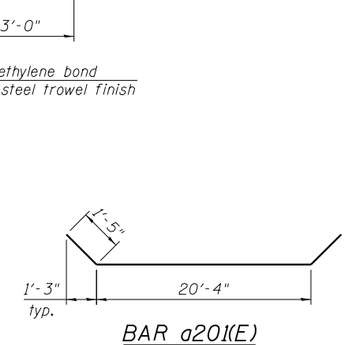
SECTION A-A

Notes:
Parapet concrete shall be paid for as Concrete Superstructure.
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
Approach footing concrete shall be paid for as Concrete Structures.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For v703(E) bar details, see Sheet S1-55 of S1-83.
See Sheet S1-68 of S1-83 for MSE retaining wall details.

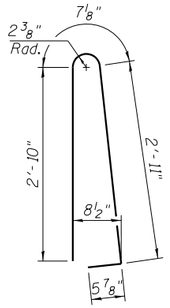


INSIDE ELEVATION OF WEST PARAPET (EAST PARAPET SIMILAR AND MIRRORED)

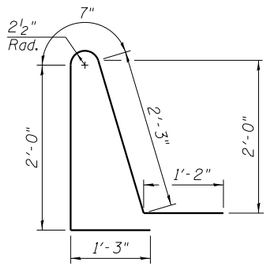
(Parapet length includes the 1'-6" length above the abutment backwall)



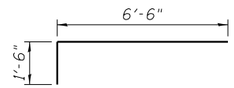
BAR a201(E)



BAR d200(E)



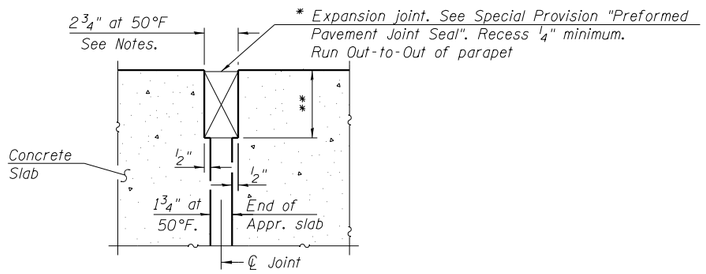
BAR d201(E)



BAR a202(E)

NORTH APPROACH BILL OF MATERIAL

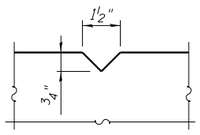
Bar	No.	Size	Length	Shape
a200(E)	46	#6	22'-10"	
a201(E)	60	#8	23'-2"	
a202(E)	92	#6	8'-0"	
b200(E)	38	#5	29'-8"	
b201(E)	56	#9	29'-8"	
d200(E)	86	#5	6'-10"	
d201(E)	86	#5	7'-3"	
e200(E)	14	#4	16'-2"	
e201(E)	14	#4	14'-8"	
e202(E)	2	#8	31'-2"	
e203(E)	2	#4	31'-2"	
t200(E)	44	#4	9'-8"	
w200(E)	40	#5	20'-11"	
Bridge Deck Grooving (Longitudinal)			Sq. Yd.	70
Concrete Superstructure			Cu. Yd.	9.1
Concrete Superstructures (Approach Slab)			Cu. Yd.	32.7
Concrete Structures			Cu. Yd.	6.6
Protective Coat			Sq. Yd.	102
Reinforcement Bars, Epoxy Coated			Pound	16,140



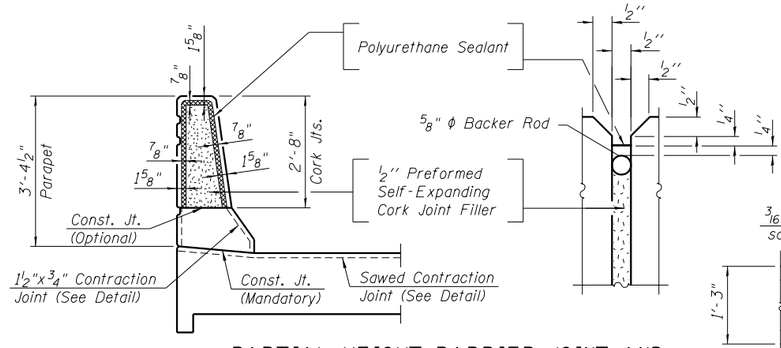
DETAIL A

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations



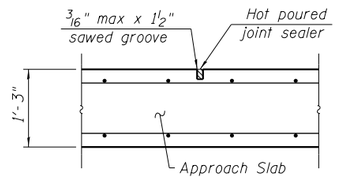
PARAPET TRANSVERSE CONTRACTION JOINT



PARTIAL HEIGHT BARRIER JOINT AND CONTRACTION JOINT SECTION

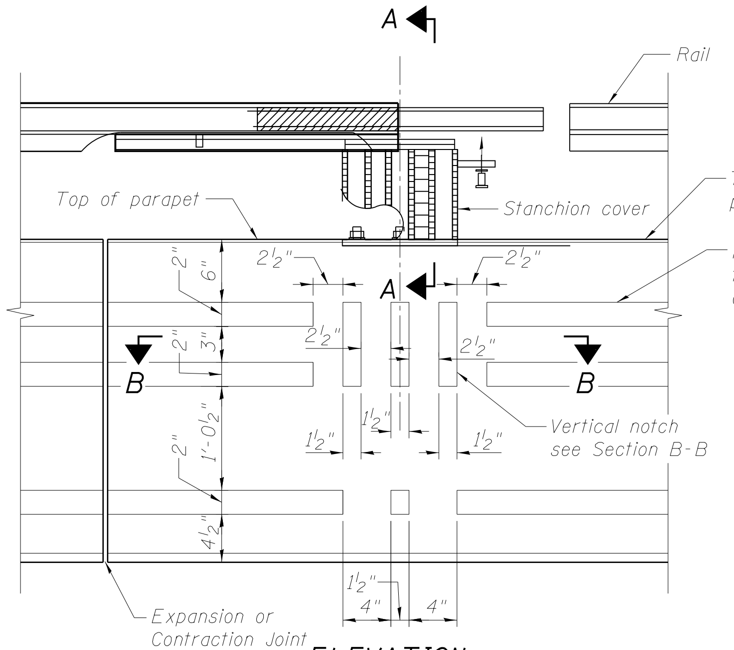
Notes:
The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

1/2" PJF is included in the cost of Concrete Superstructure

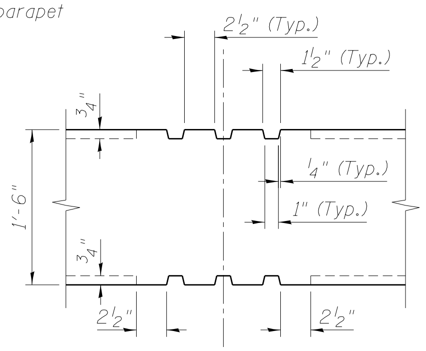


CONCRETE SLAB TRANSVERSE CONTRACTION JOINT

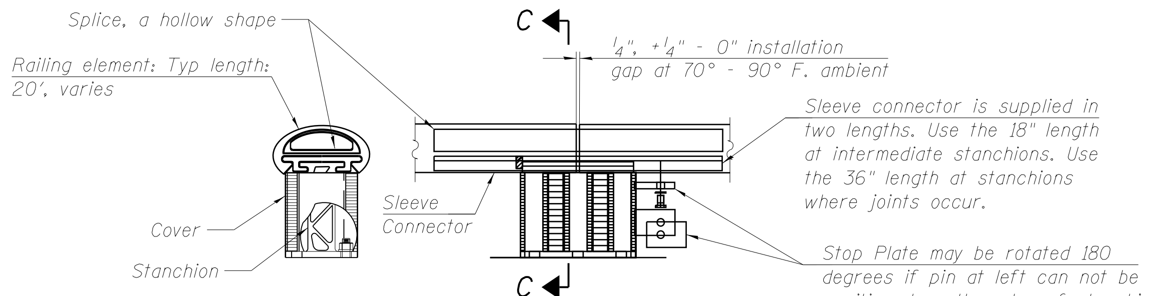
See Article 420.05 & 420.12 of the Standard Specifications



ELEVATION



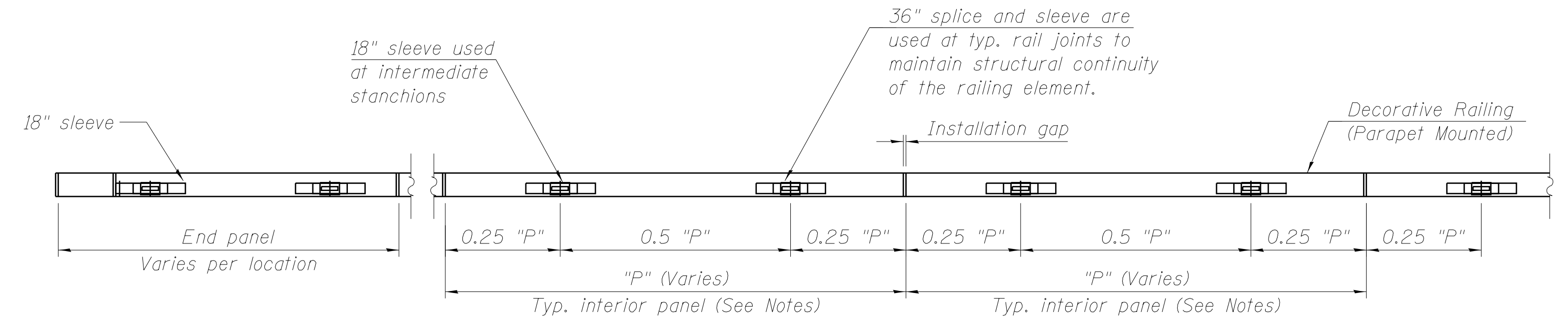
SECTION B-B



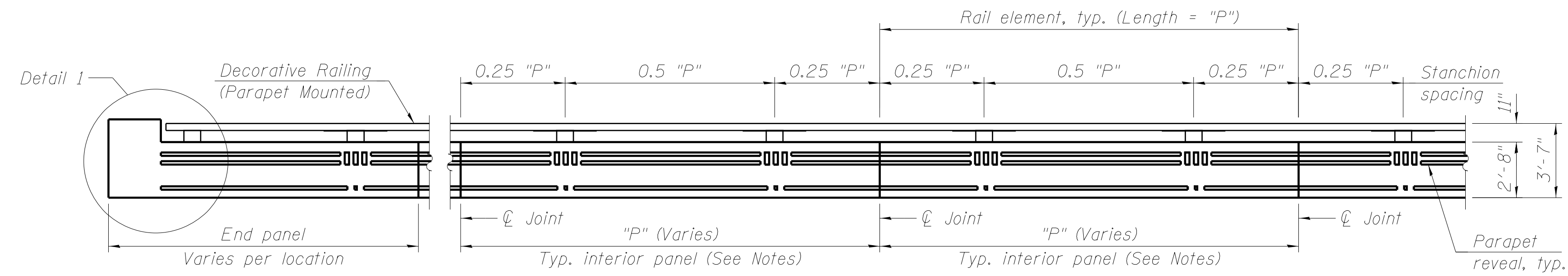
SECTION C-C ELEVATION

STANCHION

TYPICAL CHICAGO PARAPET DETAIL

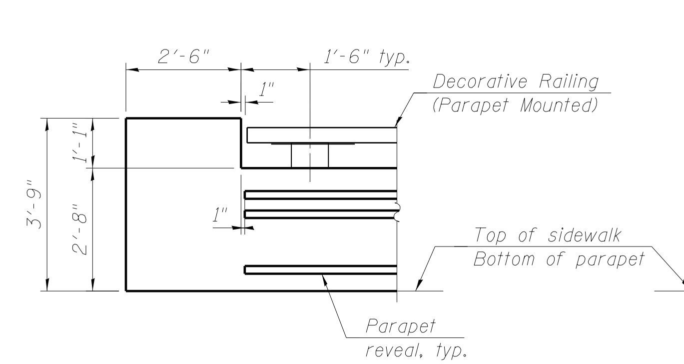


PLAN

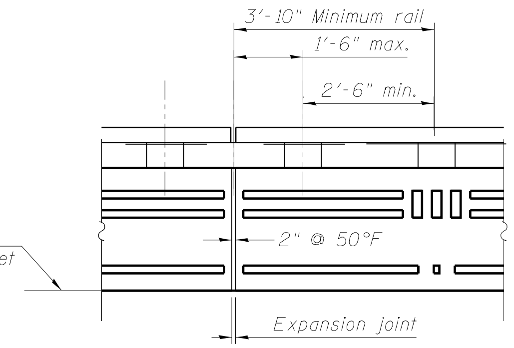


ELEVATION

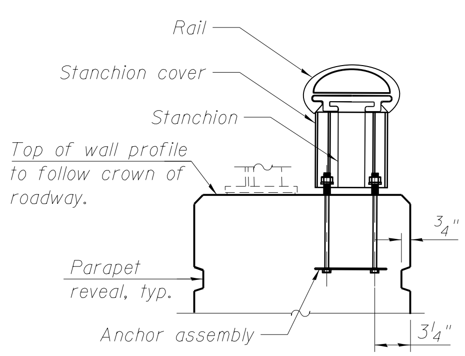
RAIL DETAIL - STANCHION LOCATION AND SPACING



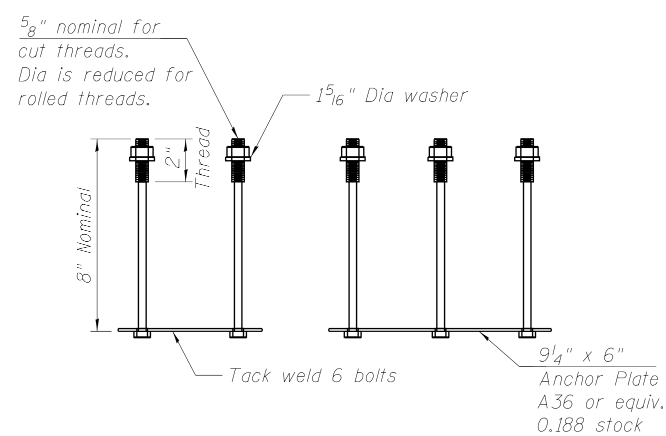
RAIL DETAIL 1 - AT END OF PARAPET



RAIL DETAIL 2 - AT EXPANSION JOINT



SECTION A-A



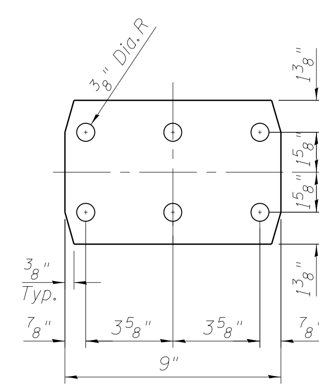
ANCHOR ASSEMBLY

NOTES:

1. All fasteners to meet, or exceed, ASTM A307 Grade C strength requirements.

2. Galvanize per Article 509.05 of the Standard Specifications after fabrication.

3. The size and position of parapet reinforcing must be consistent with capture of the anchor assembly. See Sheet S1-24 of S1-83 for rebar details.

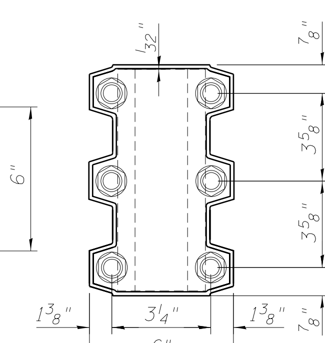


ELASTOMERIC PAD

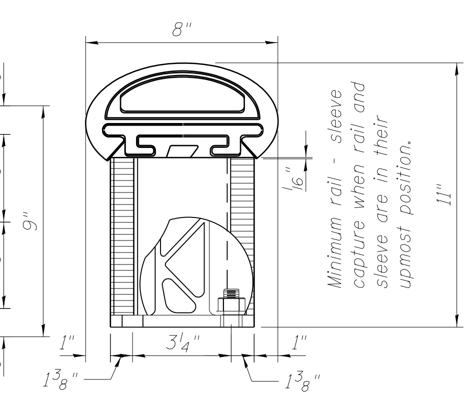
NOTES:

1. Elastomeric pad for stanchion made from 1/16" thick stock.

2. One required per stanchion.



PLAN VIEW



ELEVATION

STANCHION COVER

NOTES:

1. Cover is shown superimposed over stanchion with anchors in place.

2. The stanchion cover is a non-structural element, serving an aesthetic function. It rests on the flange of the stanchion, without fasteners and is captured in place by the rail and stanchion.

Notes:

When walls without rail are adjacent to Chicago wall with rail, their traffic face, or the terminus of their traffic face, must be in the same plane as Chicago wall with rail.

Rustication may vary at terminal ends and is subject to site conditions and site approval. In all other situations, the middle 2.5" x 1.5" rustication is aligned with the center of the stanchion.

Wall details above show that portion of the wall above the gutter break, the substructure is not shown. Note that substructure(s) depth variations could significantly alter the required top of wall profile.

Field cutting of rail elements is acceptable. The cut edge will no longer be anodized. Saw cut only, flame cut not allowed.

End caps shall be used at all rail terminals.

Railing system to be produced using extruded aluminum that can be clear anodized.

Alloy selection is based upon the above color requirement and the engineering sufficiency analysis which must be supplied by the Contractor.

Physical appearance to be equal to "Valentine Urban Systems - Chicago wall with rail".

For panel layout, overall stanchion location, spacing and details, see Sheet S1-24 of S1-83 .

BILL OF MATERIAL

Item	Unit	Total
Decorative Railing (Parapet Mounted)	Foot	507

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0161701-60X94-S031-DecorativeRailing.dgn

TranSystems

USER NAME = wjcolletti	DESIGNED WJC	REVISED
	CHECKED MDS	REVISED
PLOT SCALE = NTS	DRAWN JTF	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

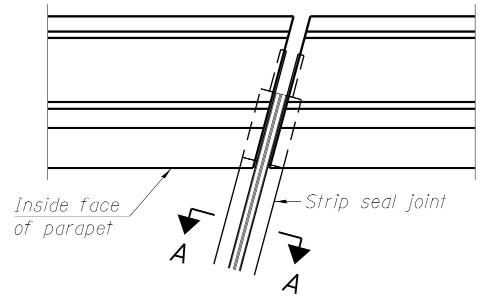
DECORATIVE RAILING PARAPET MOUNTED
STRUCTURE NO. 016-1701

SHEET NO. S1-31 OF S1-83 SHEETS

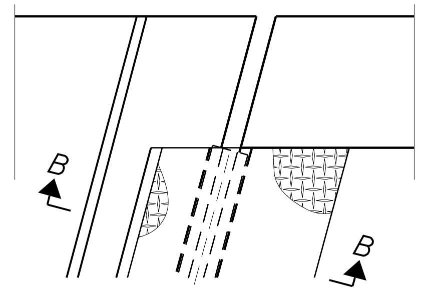
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	333

CONTRACT NO. 60X94

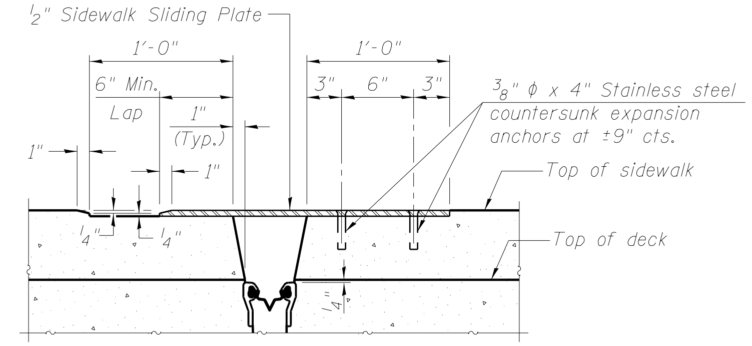
ILLINOIS FED. AID PROJECT



PLAN AT PARAPET

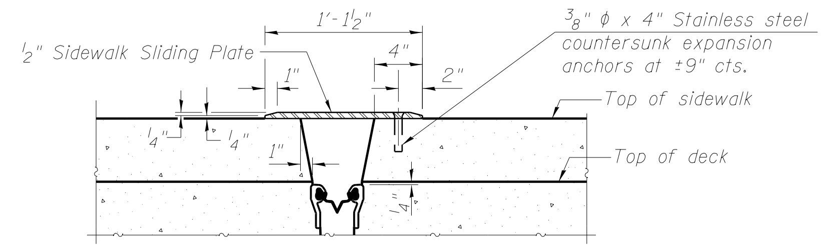


PLAN AT RAISED SIDEWALK



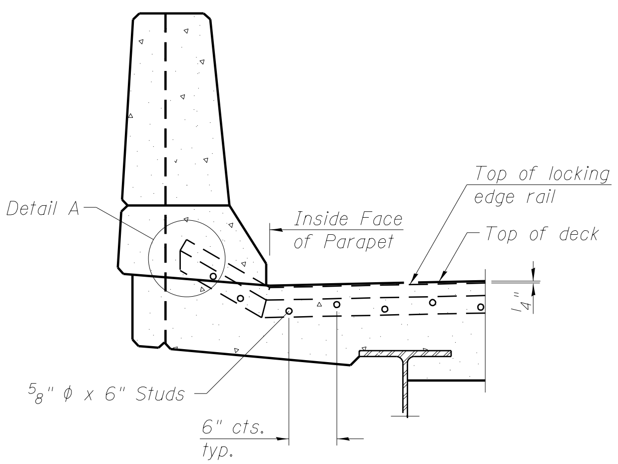
SECTION B-B

(At southeast corner of bridge)

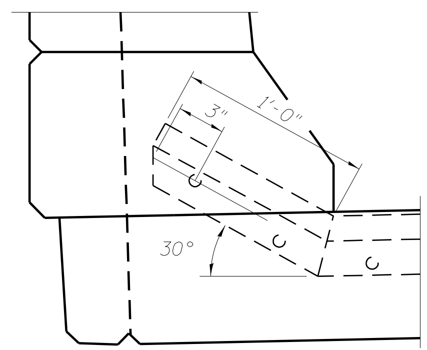


SECTION B-B

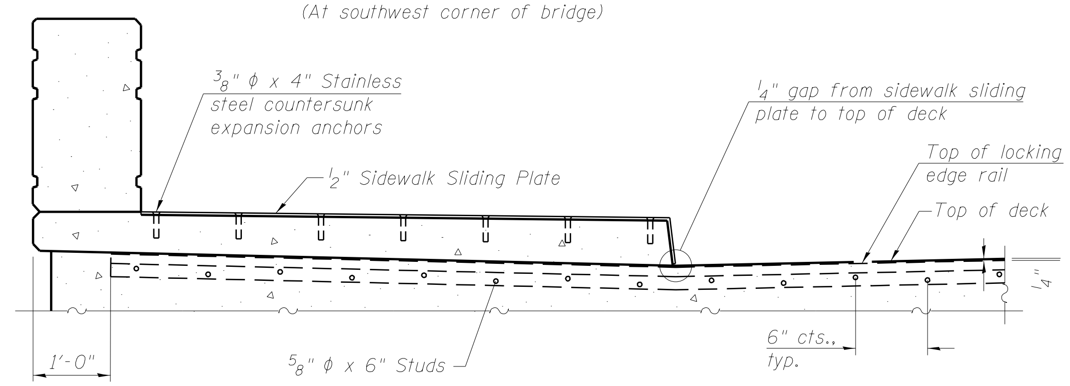
(At southwest corner of bridge)



ELEVATION AT PARAPET



DETAIL A



ELEVATION AT RAISED SIDEWALK

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.

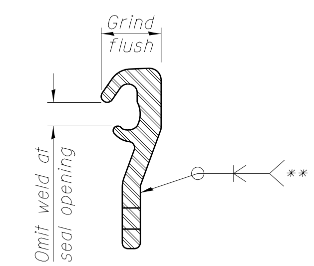
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

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.

The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.

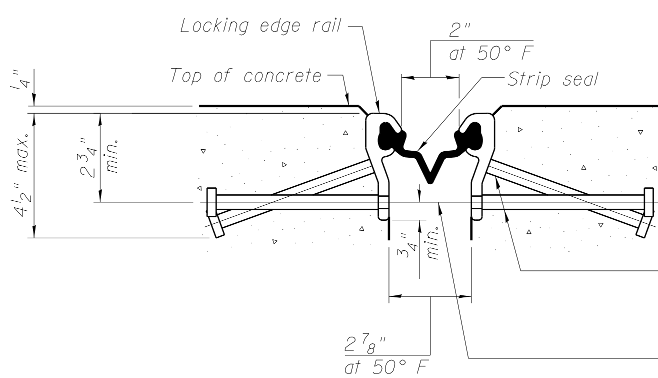
Cost of sidewalk sliding plates and anchorage studs included with Preformed Joint Strip Seal.

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.



LOCKING EDGE RAIL SPLICE

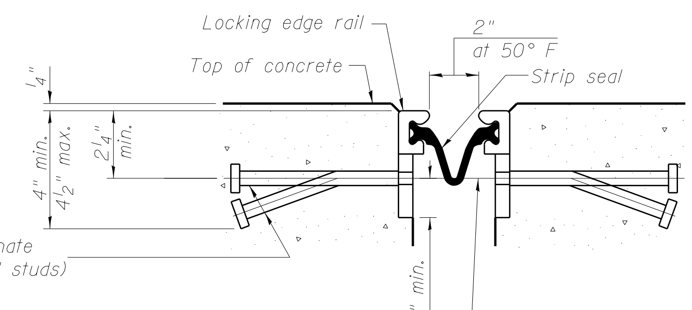
The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.



SHOWING ROLLED RAIL JOINT

*5/8" ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

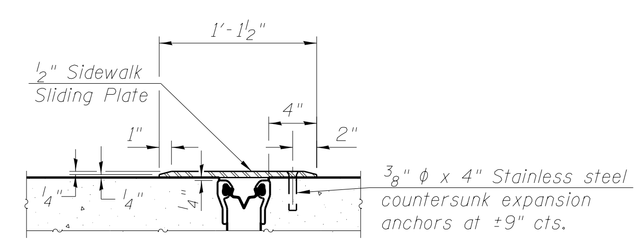
3/8" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.



SHOWING WELDED RAIL JOINT

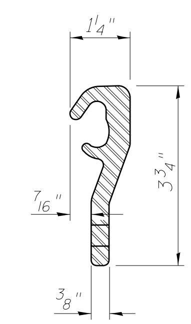
SECTION A-A

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

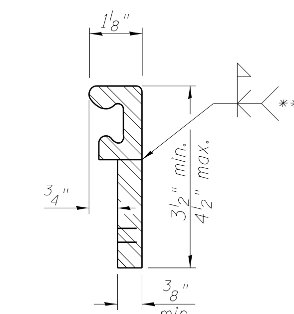


SECTION THRU SIDEWALK SLIDING PLATE

(At northeast and northwest corner of bridge)



ROLLED EXTRUDED RAIL



WELDED RAIL

LOCKING EDGE RAILS

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	156

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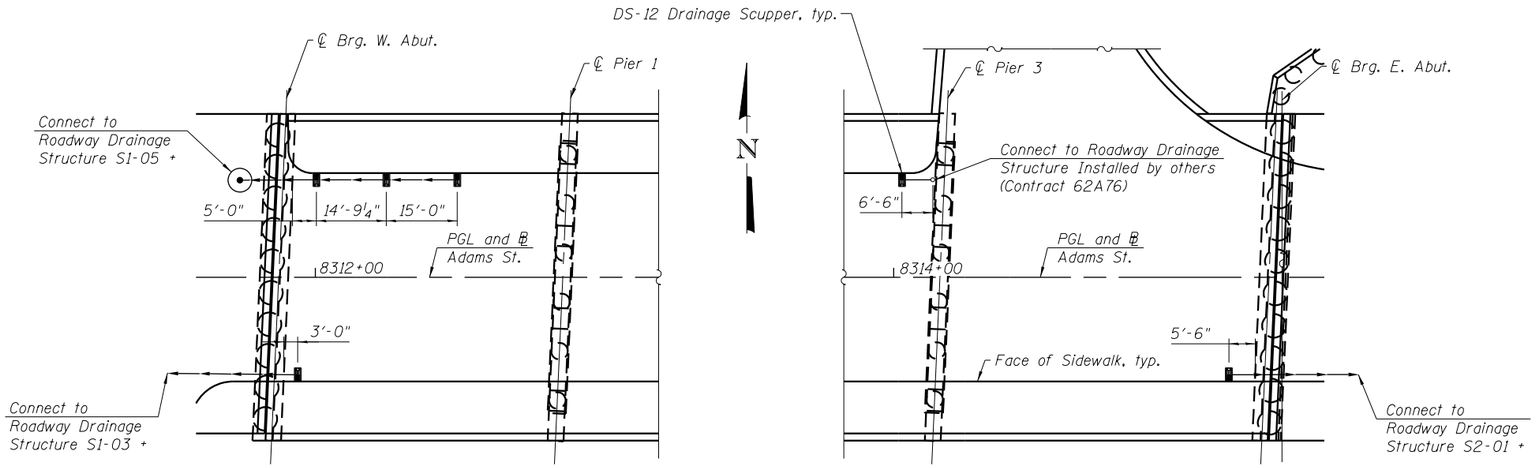
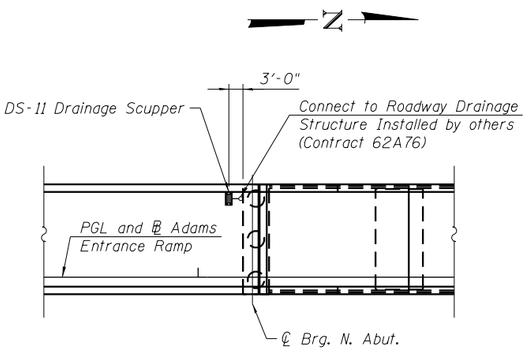
0161701-60X94-S032-ExpJoint_Details.dgn

TranSystems	USER NAME = wjcolletti	DESIGNED WJC	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXPANSION JOINT DETAILS STRUCTURE NO. 016-1701
		CHECKED TLR	REVISED		
	PLOT SCALE = NTS	DRAWN WJC	REVISED		
	PLOT DATE = 3/5/2020	CHECKED TLR	REVISED		SHEET NO. S1-32 OF S1-83 SHEETS

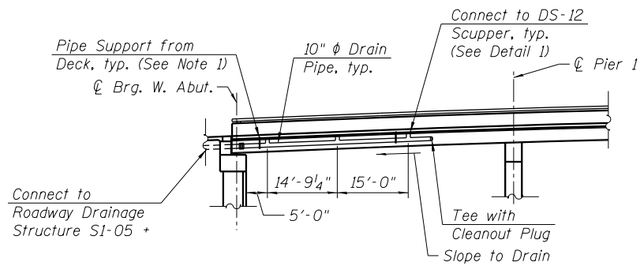
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	334
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

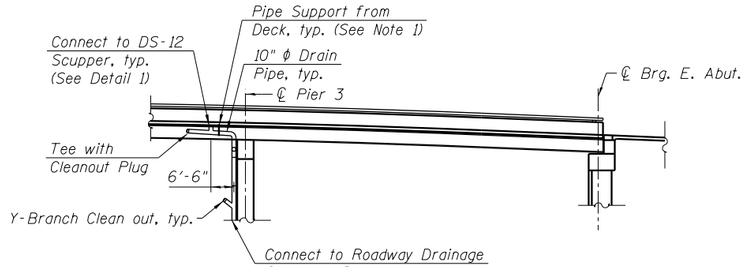


PLAN - ADAMS



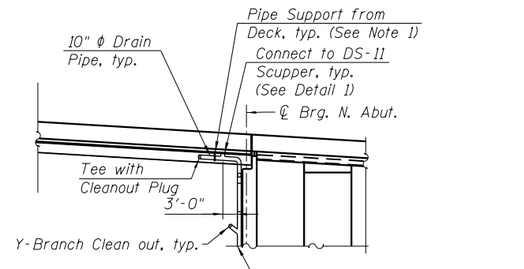
PLAN - RAMP





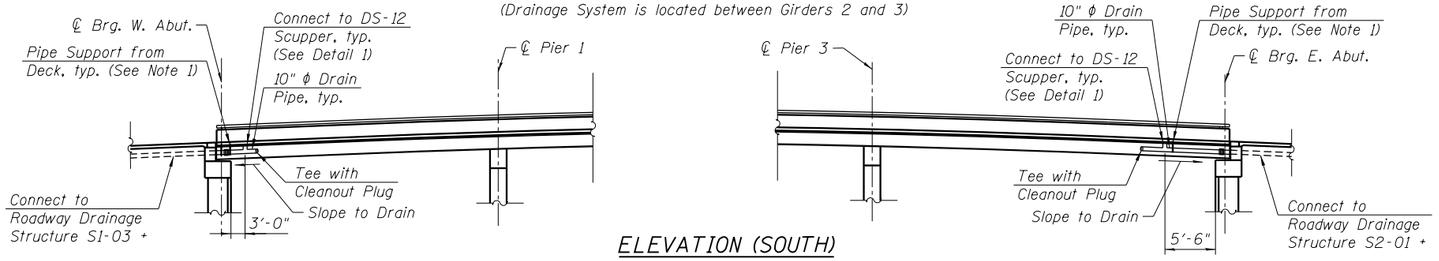
ELEVATION (NORTH)

(Drainage System is located between Girders 2 and 3)



ELEVATION (EAST)

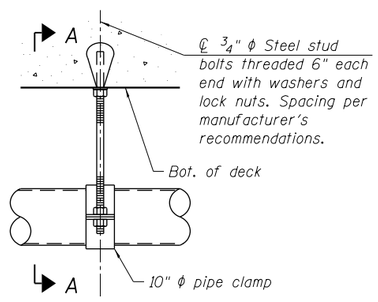
(Drainage System is located between Girders 3R and 9R)



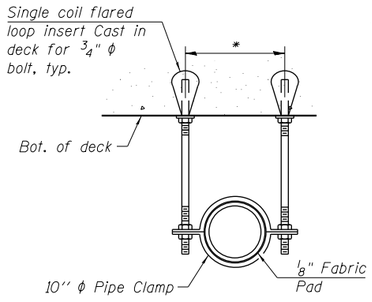
ELEVATION (SOUTH)

(Drainage System is located between Girders 10 and 11)

\+ 10" ϕ Ductile Iron Pipe. Cost included with Drainage System. See Drainage Plans for locations of drailage structure.

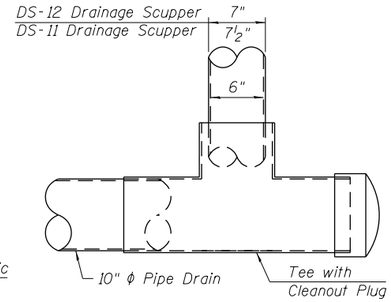


PIPE BRACKET DETAIL

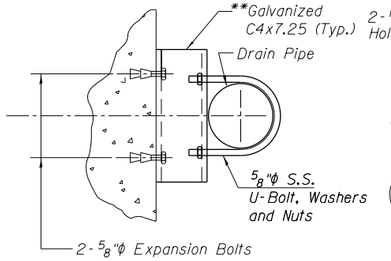


SECTION A-A

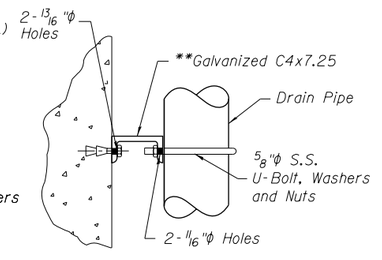
* Dimension as required by Pipe Clamp



DETAIL 1



PLAN



ELEVATION

PIPE SUPPORT DETAIL

** Provide curved C6x8.2 to fit Round Pier Columns where needed

LEGEND

Indicates direction of flow

Notes:

Provide structural support from proposed deck slab for drain pipe per manufacturer's recommendation, not to exceed 6' cts. Cost included with Drainage System.

All pipes, pipe fittings and brackets needed shall be included with cost of Drainage System.

See abutment details for block outs in backwalls of west and east abutments.

The drainage system shall be painted with a finish coat of gray, Munsell No. 5B 7/1. Cost included with Drainage System.

All pipes shall be reinforced fiberglass, unless noted otherwise.

Item	Unit	Quantity
Drainage System	L. Sum	0.5

USER NAME = wjcolletti	DESIGNED WJC	REVISED	
	CHECKED MDS	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

TranSystems

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DRAINAGE SYSTEM
STRUCTURE NO. 016-1701
SHEET NO. S1-33 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	335
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

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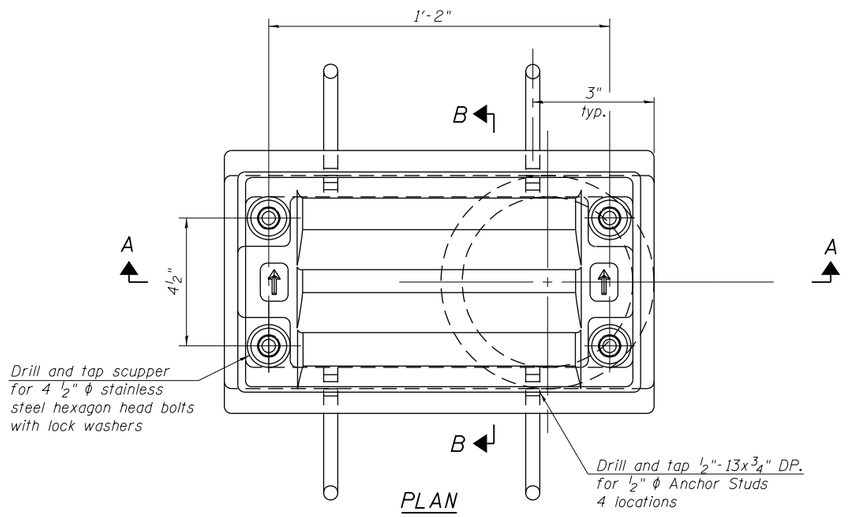
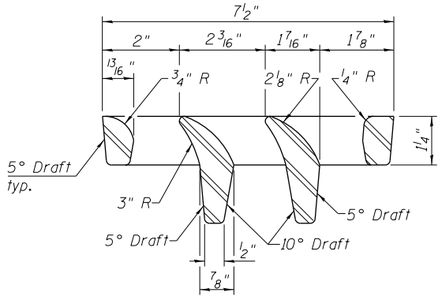
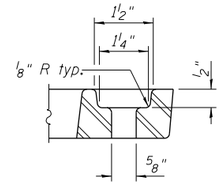


PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat of gray, Munsell No. 5B 7/1. Cost included with Drainage System.

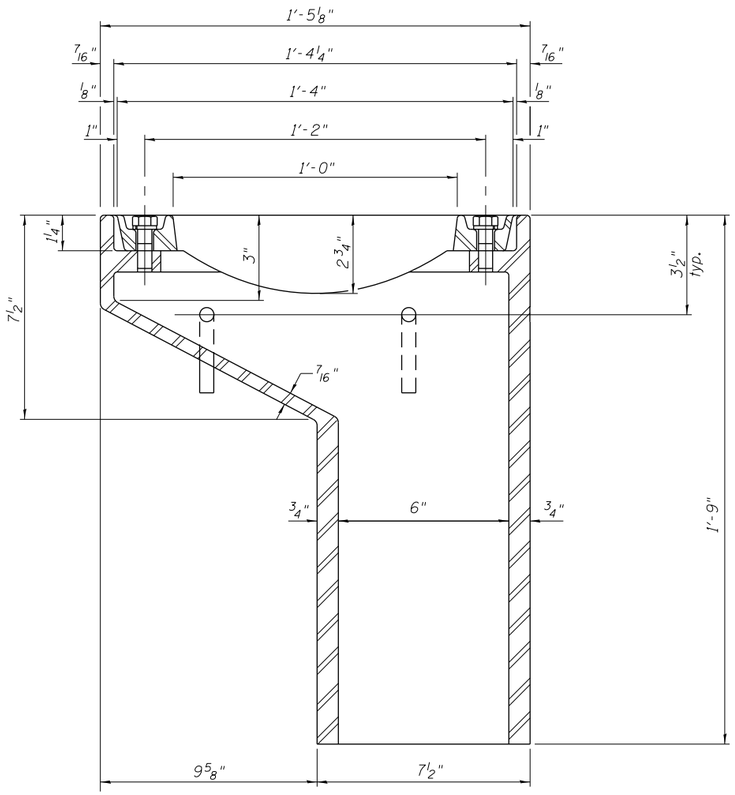
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

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

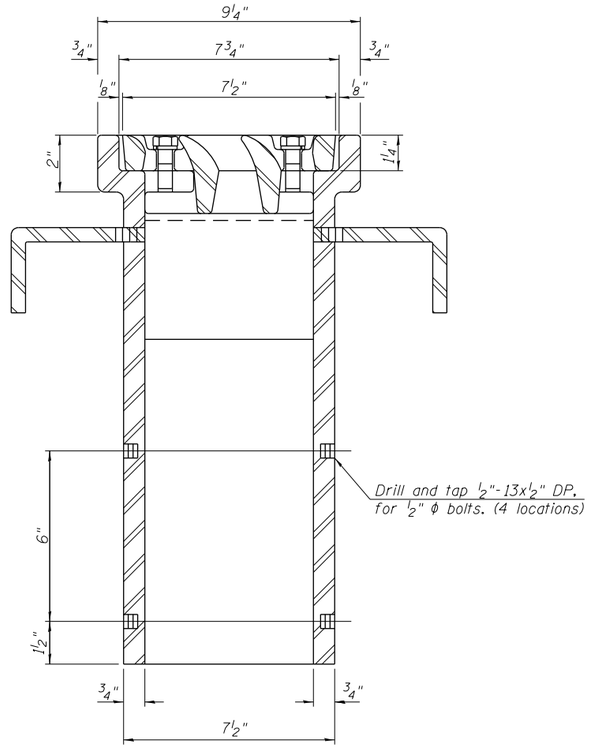
Cost of the Grate, Frame, Downspout, Anchor Studs, Field Welding, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

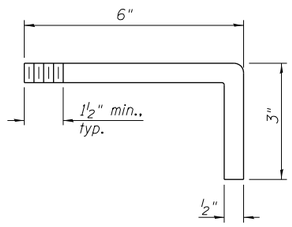


SECTION A-A

See sheet S1-33 of S1-83 for scupper location relative to sidewalk.



SECTION B-B



ANCHOR STUD DETAIL

BILL OF MATERIAL

Item	Unit	Quantity
Drainage Scuppers, DS-11	Each	1

USER NAME = wjcollett1	DESIGNED	WJC	REVISED	
	CHECKED	MDS	REVISED	
PLOT SCALE = NTS	DRAWN	JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED	WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11
STRUCTURE NO. 016-1701
SHEET NO. S1-34 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	336
		CONTRACT NO. 60X94		
	ILLINOIS	FED. AID PROJECT		

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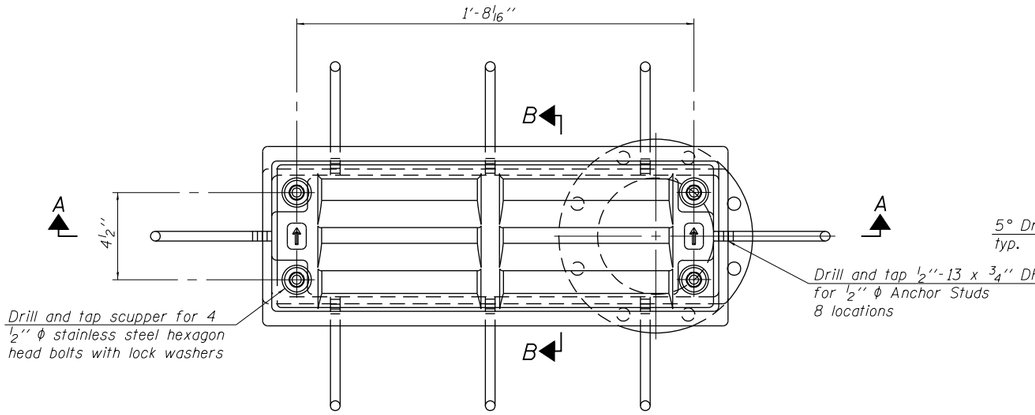
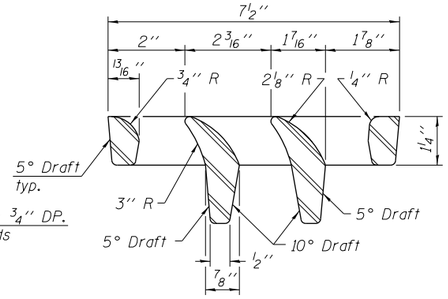
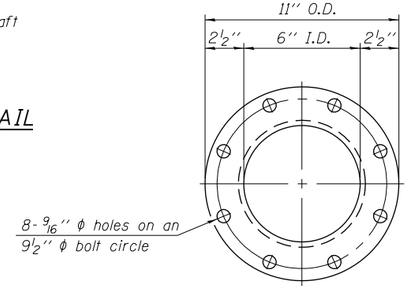
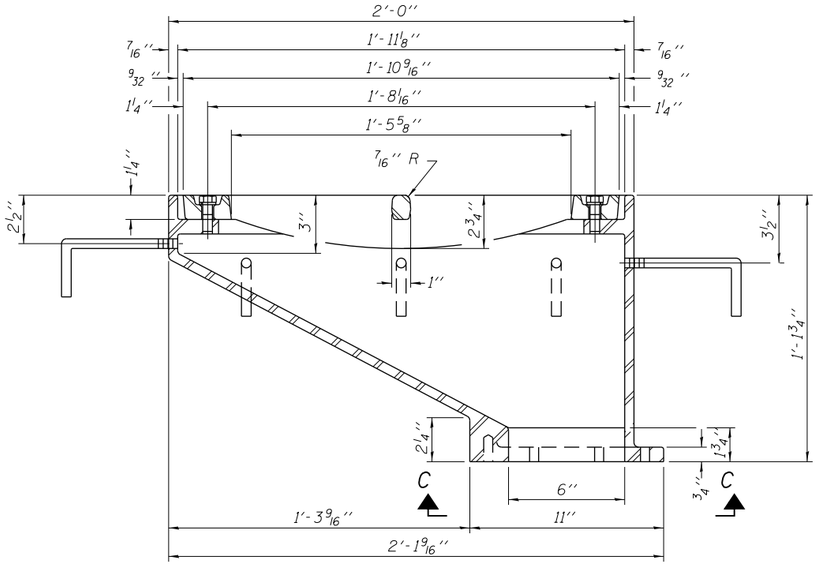


PLAN



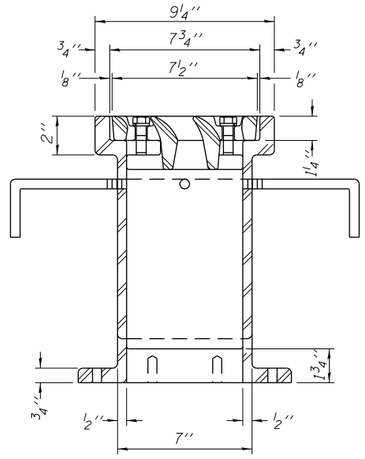
VANE GRATE DETAIL



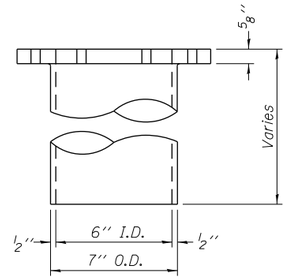


SECTION A-A

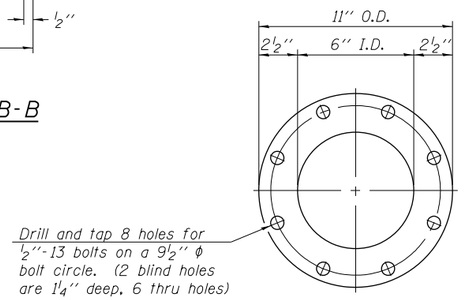
See Sheet S1-33 of S1-83 for
scupper location relative to parapet.



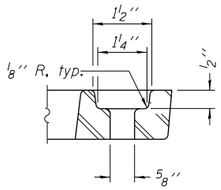
SECTION B-B



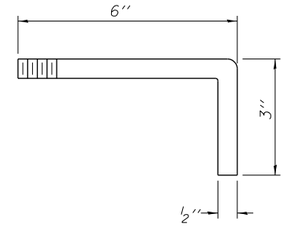
DOWNSPOUT



VIEW C-C



BOLT HOLE DETAIL



ANCHOR STUD DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

As an alternate, bolts, anchor studs, washers and nuts may be stainless steel 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 frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

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

Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-12.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

BILL OF MATERIAL

Item	Unit	Quantity
Drainage Scuppers, DS-12	Each	6

TranSystems

USER NAME = wjcollett	DESIGNED WJC	REVISED	
	CHECKED MDS	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-12
STRUCTURE NO. 016-1701
SHEET NO. S1-35 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	337
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

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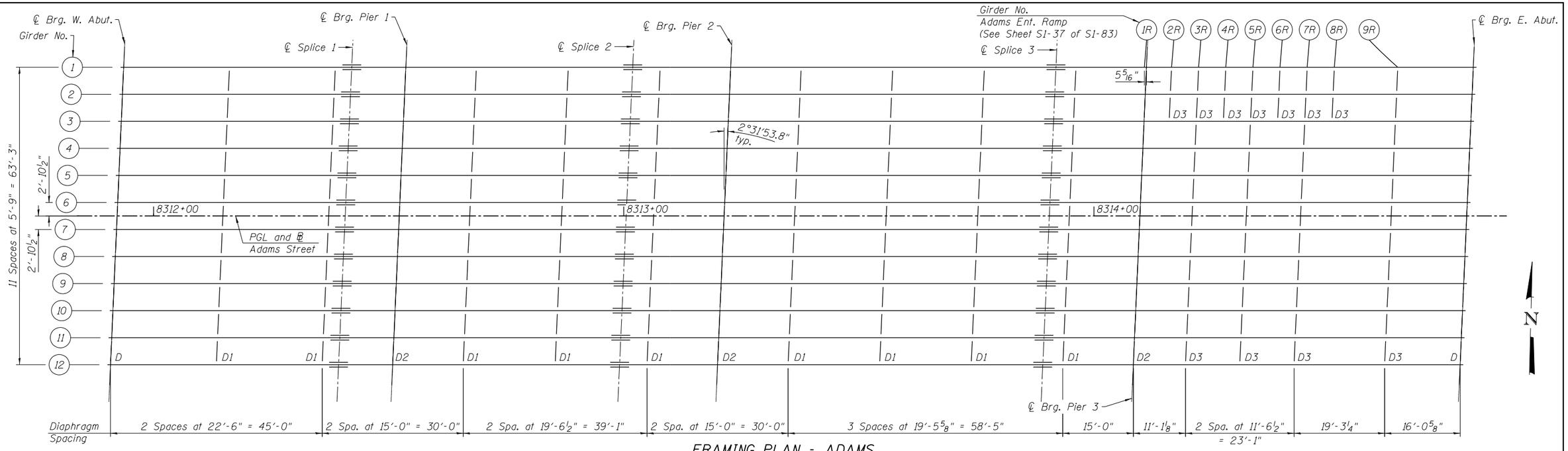
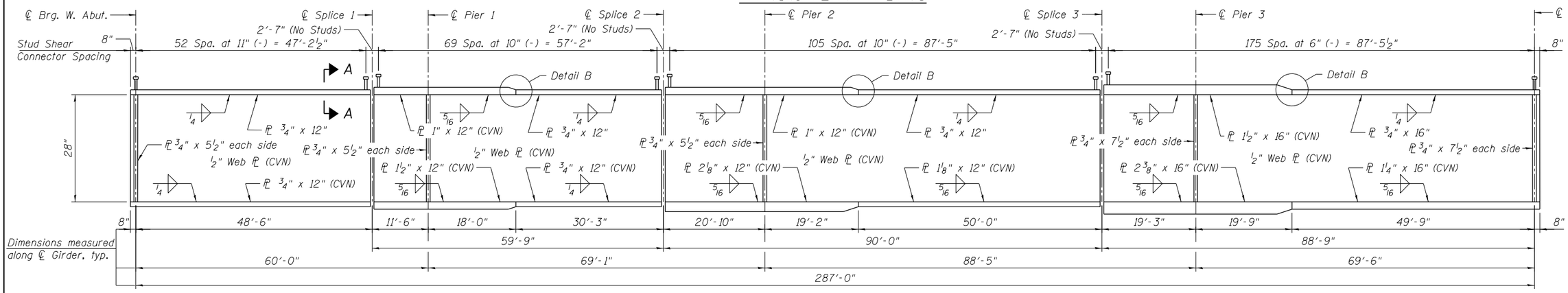
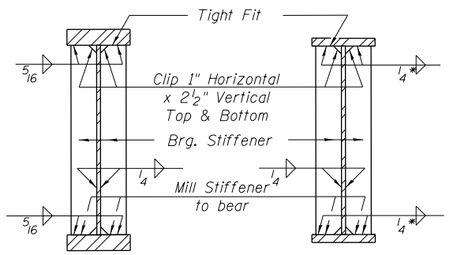


FRAMING PLAN - ADAMS



GIRDER ELEVATION - ADAMS

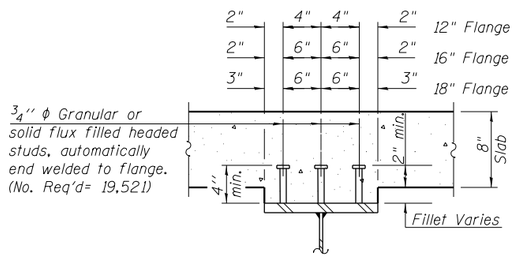


SECTION AT PIER

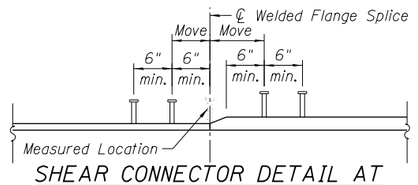
SECTION AT ABUTMENT

BEARING STIFFENER DETAILS

* Use ⅝ Weld for N. Abut.



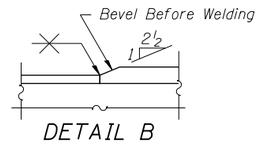
SECTION A-A



SHEAR CONNECTOR DETAIL AT WELDED FLANGE SPLICE TRANSITIONS

Do not place shear connectors on welded splice.

Move row of studs to 6" beyond nearest edge of flange transition from measured location.



DETAIL B

Notes:

All structural steel shall be AASHTO M 270, Grade 50.

CVN denotes Charpy V-Notch impact energy requirements, Zone 2.

All diaphragms between beams or girders shall be installed with erection pins and bolts in accordance with the erection plan approved by the Engineer. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

For diaphragm details, see Sheet S1-41 of S1-83.

For Bridge Mounted Sign Structure locations and details, see contracts 62A76 and 62A77.

Work this sheet with Sheet S1-37 of S1-83.

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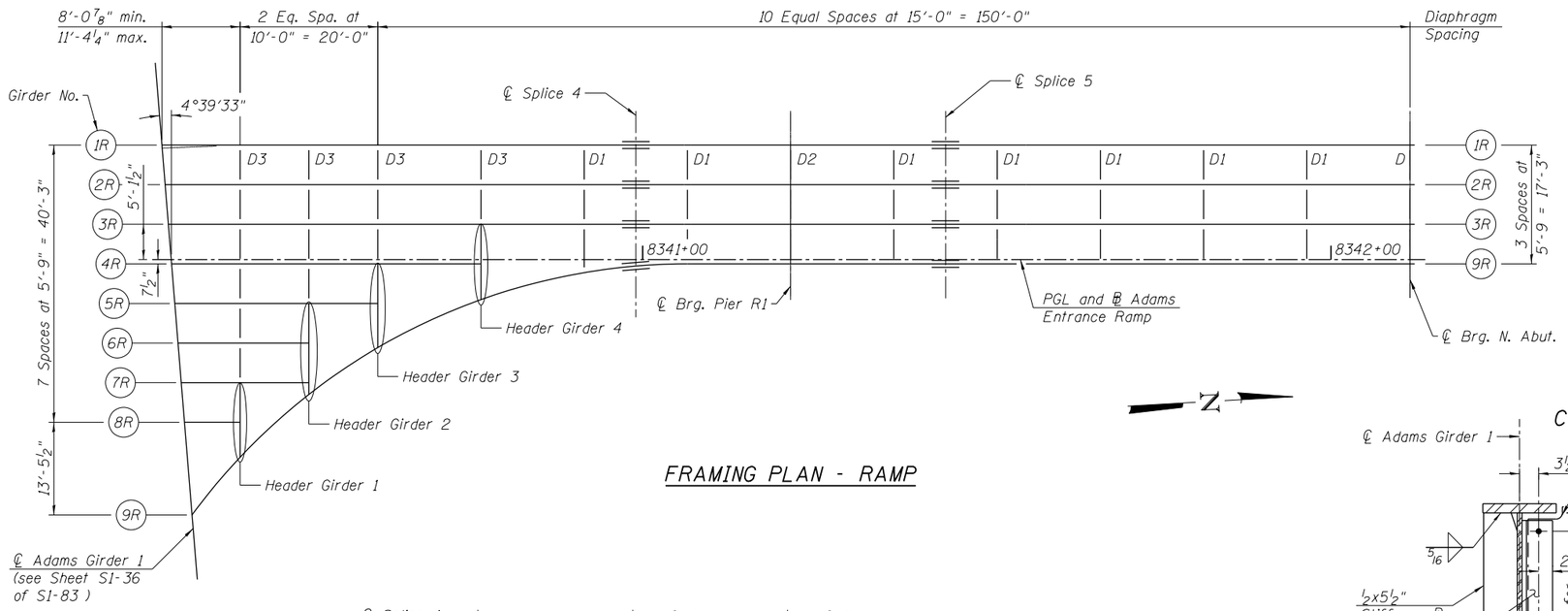
TranSystems

USER NAME = wjcolletti	DESIGNED JM	REVISED	
	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

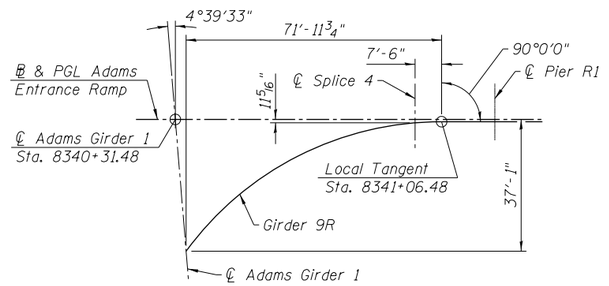
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN – ADAMS
STRUCTURE NO. 016–1701
SHEET NO. S1-36 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	338
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

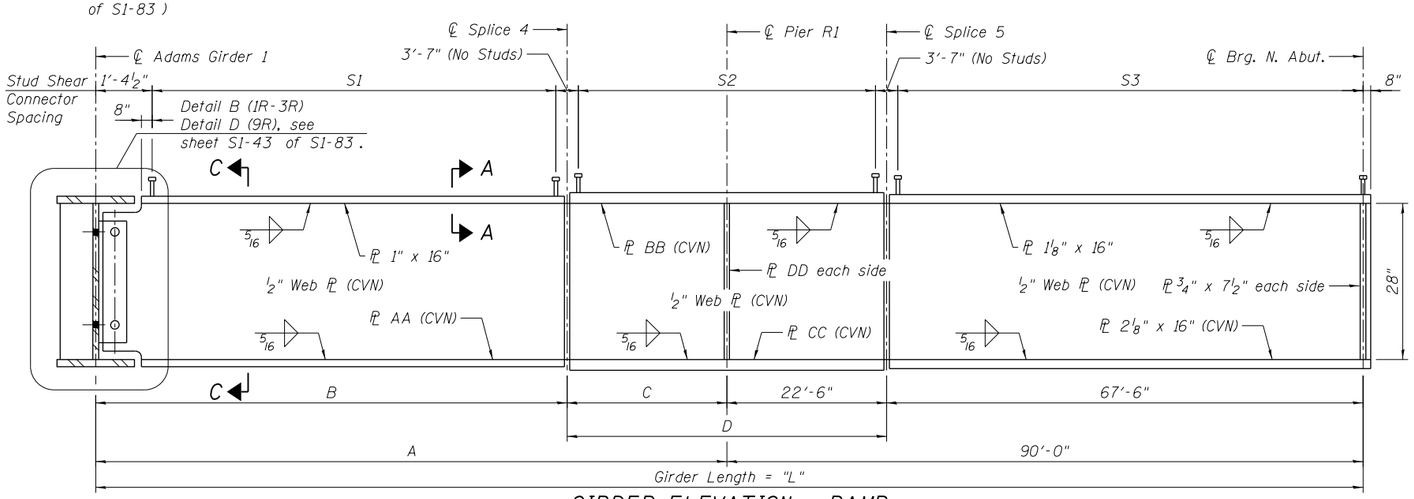


FRAMING PLAN - RAMP



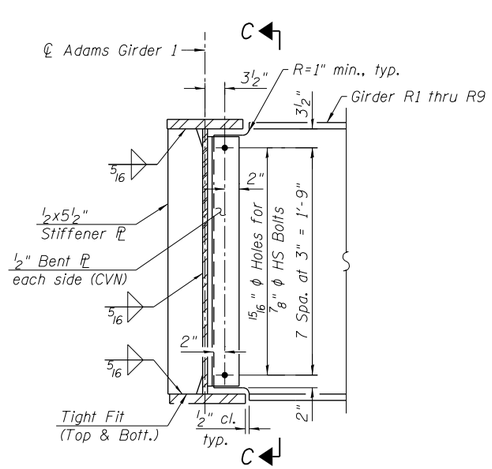
CURVED GIRDER LAYOUT

(X Measured along Local Tangent)

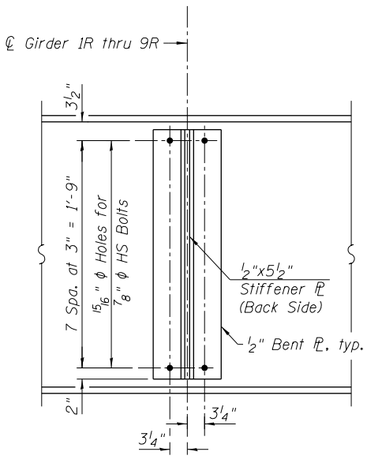


GIRDER ELEVATION - RAMP

(Girders 1R-3R & 9R)



DETAIL B

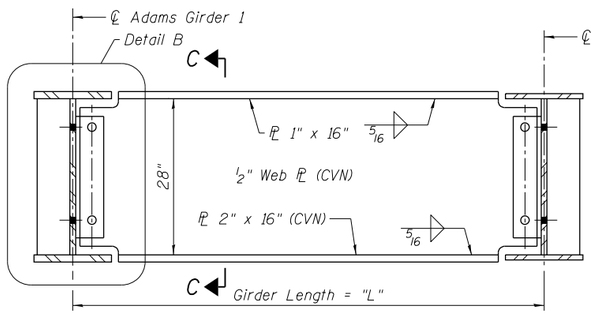


SECTION C-C

PLATE GIRDER DIMENSIONS -RAMP

(Girders 1R-3R & 9R)

Girder	AA	BB	CC	DD
1R	2"x16"	1 3/4"x16"	2 1/2"x16"	3/4"x7 1/2"
2R	2"x16"	1 3/4"x16"	2 1/2"x16"	3/4"x7 1/2"
3R	2"x16"	1 3/4"x16"	2 1/2"x16"	3/4"x7 1/2"
9R	2 1/8"x18"	1 3/4"x18"	2 1/2"x18"	3/4"x8 1/2"



GIRDER ELEVATION - RAMP

(Girders 4R-8R)

GIRDER DIMENSIONS - RAMP

(Girders 4R-8R)
(All dimensions in feet)

Girder	L
4R	44.9491
5R	29.4805
6R	19.0118
7R	18.5432
8R	8.0746

GIRDER DIMENSIONS - RAMP

(Girders 1R-3R & 9R)
(All dimensions in feet)

Girder	Radius	L	A	B	C	D	S1	S2	S3
1R	-	181.3549	91.3549	68.8549	22.5000	45.0000	132 Spa. at 6" (-) = 65'-8 1/4"	125 Spa. at 4" (-) = 41'-5"	131 Spa. at 6" (-) = 65'-0 1/2"
2R	-	180.8863	90.8863	68.3863	22.5000	45.0000	98 Spa. at 8" (-) = 65'-2 5/8"	125 Spa. at 4" (-) = 41'-5"	157 Spa. at 5" (-) = 65'-0 1/2"
3R	-	180.4177	90.4177	67.9177	22.5000	45.0000	130 Spa. at 6" (-) = 64'-9"	100 Spa. at 5" (-) = 41'-5"	98 Spa. at 8" (-) = 65'-0 1/2"
9R	89.284	188.7171	98.7171	76.2083	22.5088	45.0088	218 Spa. at 4" (-) = 72'-7 1/4"	125 Spa. at 4" (-) = 41'-5 1/8"	196 Spa. at 4" (-) = 65'-0 1/2"

Notes:
Work this sheet with Sheet S1-36 of S1-83 .
For diaphragm details, see Sheet S1-41 of S1-83.
For Section A-A, see Sheet S1-36 of S1-83 .

TranSystems	USER NAME = wjcollett1	DESIGNED JM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		CHECKED WJC	REVISED	
	PLOT SCALE = NTS	DRAWN JTF	REVISED	
	PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

FRAMING PLAN – RAMP
STRUCTURE NO. 016–1701
SHEET NO. S1-37 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	339
		CONTRACT NO. 60X94		
		ILLINOIS	FED. AID PROJECT	

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INTERIOR GIRDER 7 MOMENT TABLE - ADAMS (HL-93 LOADING)								
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.5 Sp. 3	Pier 3	0.6 Sp. 4
I_s	(in^4)	4,635	7,168	4,635	8,377	5,515	14,269	7,362
$I_c(n)$	(in^4)	13,598	-	13,598	-	17,145	-	21,766
$I_c(3n)$	(in^4)	10,142	-	10,142	-	12,455	-	15,474
$I_c(cr)$	(in^4)	-	9,795	-	11,553	-	17,384	-
S_s	(in^3)	314	534	314	439	415	774	582
$S_c(n)$	(in^3)	478	-	478	-	619	-	824
$S_c(3n)$	(in^3)	434	-	434	-	566	-	755
$S_c(cr)$	(in^3)	-	608	-	699	-	1,041	-
DC1	(k/')	0.72	0.76	0.72	0.79	0.74	0.88	0.78
M_{DC1}	('k)	190	316	77	431	224	647	181
DC2 *	(k/')	0.34	0.34	0.34	0.34	0.34	0.34	0.34
M_{DC2}	('k)	87	132	31	190	114	210	31
DW	(k/')	0.18	0.18	0.18	0.18	0.18	0.18	0.18
M_{DW}	('k)	48	76	21	97	53	139	52
LLDF		0.35	0.47	0.35	0.44	0.30	0.43	0.35
M_{L+IM}	('k)	388	516	371	626	426	726	473
M_u (Strength I)	('k)	1096	1579	815	2018	1249	2551	1172
$\phi_f M_n$	('k)	2,568	-	2,568	-	3,130	-	3,771
f_s DC1	(ksi)	7.24	7.11	2.94	11.78	6.48	10.03	3.73
f_s DC2	(ksi)	2.41	2.61	0.85	3.27	2.42	2.42	0.50
f_s DW	(ksi)	1.32	1.50	0.58	1.66	1.13	1.61	0.83
f_s (L+IM)	(ksi)	9.74	10.19	9.31	10.75	8.26	8.37	6.89
f_s (Service II)	(ksi)	23.64	24.47	16.48	30.70	20.77	24.94	14.01
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50	47.50	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	-	32.24	-	40.13	-	32.62	-
$\phi_f F_n$	(ksi)	-	43.29	-	50.00	-	50.00	-
V_f	(k)	24.71	-	26.20	-	30.44	-	37.90

INTERIOR GIRDER 7 REACTION TABLE - ADAMS (HL-93 LOADING)						
		W. Abut.	Pier 1	Pier 2	Pier 3	N. Abut.
LLDF		0.46	0.49	0.56	0.55	0.51
OCF **		1.01	-	-	-	1.01
R_{DC1}	(k)	17.0	52.6	61.0	76.4	17.5
R_{DC2}	(k)	7.7	22.9	26.9	25.8	4.9
R_{DW}	(k)	4.2	12.8	14.2	16.2	4.2
R_{L+IM}	(k)	39.0	79.2	81.1	85.7	51.1
R_{Total}	(k)	67.8	167.5	183.2	204.2	77.6

EXTERIOR GIRDER 1 MOMENT TABLE - ADAMS (HL-93 LOADING)								
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.5 Sp. 3	Pier 3	0.6 Sp. 4
I_s	(in^4)	4,635	7,168	4,635	8,377	5,515	14,269	7,362
$I_c(n)$	(in^4)	13,598	-	13,598	-	17,145	-	21,766
$I_c(3n)$	(in^4)	10,142	-	10,142	-	12,455	-	15,474
$I_c(cr)$	(in^4)	-	9,795	-	11,553	-	17,384	-
S_s	(in^3)	314	534	314	439	415	1,062	582
$S_c(n)$	(in^3)	478	-	478	-	619	-	824
$S_c(3n)$	(in^3)	434	-	434	-	566	-	755
$S_c(cr)$	(in^3)	-	608	-	699	-	1,145	-
S_{xc}	(in^3)	449	609	449	793	468	1148	558
DC1	(k/')	0.72	0.76	0.72	0.79	0.74	0.88	0.78
M_{DC1}	('k)	176	346	117	303	145	1,175	656
DC2 *	(k/')	0.34	0.34	0.34	0.34	0.34	0.34	0.34
M_{DC2}	('k)	90	131	27	198	112	250	45
DW	(k/')	0.18	0.18	0.18	0.18	0.18	0.18	0.18
M_{DW}	('k)	46	79	26	75	40	271	163
LLDF		0.22	0.27	0.18	0.31	0.22	0.34	0.37
M_{L+IM}	('k)	242	305	189	435	297	571	500
f_f (Strength I)	(ksi)	0.46	0.18	0.34	0.05	0.25	23.76	6.29
$M_u + \frac{1}{3} f_f S_{xc}$	('k)	832	1251	555	1502	905	3943	2092
$\phi_f M_n$	('k)	2,568	-	2,568	-	3,130	-	3,771
f_s DC1	(ksi)	6.74	7.78	4.46	8.29	4.18	13.28	13.51
f_s DC2	(ksi)	2.50	2.59	0.75	3.40	2.38	2.62	0.72
f_s DW	(ksi)	1.26	1.56	0.72	1.30	0.85	2.84	2.58
f_s (L+IM)	(ksi)	6.09	6.01	4.76	7.47	5.77	5.98	7.27
f_f (Service II)	(ksi)	0.08	0.07	0.19	0.07	0.13	8.12	4.18
$f_s + \frac{f_f}{2}$ (Service II)	(ksi)	18.45	19.77	12.21	22.73	14.97	30.57	28.36
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50	47.50	47.50	47.50	47.50
$f_s + \frac{f_f}{3}$ (Total)(Strength I)	(ksi)	-	25.88	-	29.65	-	42.51	-
$\phi_f F_n$	(ksi)	-	43.30	-	50.00	-	46.71	-
V_f	(k)	6.33	-	7.41	-	10.23	-	58.23

EXTERIOR GIRDER 1 REACTION TABLE - ADAMS (HL-93 LOADING)						
		W. Abut.	Pier 1	Pier 2	Pier 3	N. Abut.
LLDF		0.17	0.30	0.34	0.90	0.47
OCF **		1.01	-	-	-	1.01
R_{DC1}	(k)	16.2	54.7	52.5	212.7	44.1
R_{DC2}	(k)	8.1	23.1	27.5	57.2	9.2
R_{DW}	(k)	4.2	13.1	12.7	74.7	15.2
R_{L+IM}	(k)	16.0	43.7	51.8	155.9	45.3
R_{Total}	(k)	44.6	134.6	144.5	500.6	113.8

* Load allowance includes 0.025 k/' for duct banks.

** Obtuse Correction Factor is included with Live Load Distribution Factors shown in Table

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

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

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

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (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 $in.^3$).

S_{xc}: Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange ($in.^3$).

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

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

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

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

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

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

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

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

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

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

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

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

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

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

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

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM)$

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

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

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

LLDF : Live Load Distribution Factor

OCF : Obtuse Correction Factor

EXTERIOR GIRDER 1R MOMENT TABLE - RAMP				
		0.4 Sp. 1	Pier R1	0.6 Sp. 2
I_s	(in^4)	10,499	15,984	11,513
$I_c(n)$	(in^4)	30,280	-	31,821
$I_c(3n)$	(in^4)	20,873	-	21,996
$I_c(cr)$	(in^4)	-	19,022	-
S_s	(in^3)	875	883	933
$S_c(n)$	(in^3)	1,204	-	1,269
$S_c(3n)$	(in^3)	1,101	-	1,160
$S_c(cr)$	(in^3)	-	1,153	-
DC1	(k/')	0.85	0.91	0.86
M_{DC1}	('k)	489	1,002	445
DC2	(k/')	0.24	0.29	0.29
M_{DC2}	('k)	107	318	185
DW	(k/')	0.30	0.25	0.25
M_{DW}	('k)	138	263	132
LLDF		0.30	0.45	0.51
M_{L+IM}	('k)	604	891	974
M_u (Strength I)	('k)	2009	3604	2691
$\phi_f M_n$	('k)	5175	-	5421
f_s DC1	(ksi)	6.70	13.62	5.72
f_s DC2	(ksi)	1.17	3.31	1.92
f_s DW	(ksi)	1.51	2.74	1.37
f_s (L+IM)	(ksi)	6.02	9.28	9.21
f_s (Service II)	(ksi)	17.20	31.73	20.98
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	-	41.51	-
$\phi_f F_n$	(ksi)	-	50.00	-
V_f	(k)	21.22	-	30.31

EXTERIOR GIRDER 1R REACTION TABLE - RAMP			
		Pier R1	N. Abut
LLDF		0.55	0.59
OCF		-	1.00 **
R_{DC1}	(k)	103.1	28.2
R_{DC2}	(k)	43.4	14.7
R_{DW}	(k)	22.1	8.0
R_{L+IM}	(k)	103.0	67.6
R_{Total}	(k)	271.6	118.4

INTERIOR GIRDER 3R MOMENT TABLE - RAMP				
		0.4 Sp. 1	Pier R1	0.6 Sp. 2
I_s	(in^4)	10,499	15,984	11,513
$I_c(n)$	(in^4)	30,150	-	31,683
$I_c(3n)$	(in^4)	20,767	-	21,887
$I_c(cr)$	(in^4)	-	18,982	-
S_s	(in^3)	875	883	933
$S_c(n)$	(in^3)	1,203	-	1,268
$S_c(3n)$	(in^3)	1,100	-	1,158
$S_c(cr)$	(in^3)	-	1,149	-
DC1	(k/')	0.84	0.90	0.85
M_{DC1}	('k)	629	1,098	393
DC2	(k/')	0.24	0.29	0.29
M_{DC2}	('k)	111	241	156
DW	(k/')	0.28	0.25	0.25
M_{DW}	('k)	185	309	116
LLDF		0.25	0.30	0.35
M_{L+IM}	('k)	490	603	668
M_u (Strength I)	('k)	2060	3193	2031
$\phi_f M_n$	('k)	5161	-	5407
f_s DC1	(ksi)	8.62	14.93	5.06
f_s DC2	(ksi)	1.21	2.51	1.62
f_s DW	(ksi)	2.02	3.23	1.20
f_s (L+IM)	(ksi)	4.89	6.30	6.33
f_s (Service II)	(ksi)	18.21	28.86	16.10
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	-	37.68	-
$\phi_f F_n$	(ksi)	-	50.00	-
V_f	(k)	21.39	-	20.22

INTERIOR GIRDER 3R REACTION TABLE - RAMP			
		Pier R1	N. Abut
LLDF		0.38	0.35
OCF		-	1.00 **
R_{DC1}	(k)	106.7	26.8
R_{DC2}	(k)	18.5	5.5
R_{DW}	(k)	34.3	8.1
R_{L+IM}	(k)	70.8	40.2
R_{Total}	(k)	230.3	80.6

EXTERIOR GIRDER 9R MOMENT TABLE - RAMP				
		0.5 Sp. 1	Pier R1	0.5 Sp. 2 *
I_s	(in^4)	11,237	17,858	11,513
$I_c(n)$	(in^4)	33,884	-	31,821
$I_c(3n)$	(in^4)	22,837	-	21,996
$I_c(cr)$	(in^4)	-	19,022	-
S_s	(in^3)	1,014	1,267	933
$S_c(n)$	(in^3)	1,399	-	1,269
$S_c(3n)$	(in^3)	1,279	-	1,160
$S_c(cr)$	(in^3)	-	1,153	-
S_{xc}	(in^3)	692	1,207	750
DC1	(k/')	0.87	0.95	0.86
M_{DC1}	('k)	520	1,226	368
DC2	(k/')	0.24	0.29	0.29
M_{DC2}	('k)	167	367	171
DW	(k/')	0.29	0.25	0.25
M_{DW}	('k)	264	356	108
LLDF		0.51	0.43	0.50
M_{L+IM}	('k)	1,067	975	960
f_f (Strength I)	(ksi)	31.92	0.82	0.91
$M_u + \frac{1}{3} f_f S_{xc}$	('k)	3734	4258	2534
$\phi_f M_n$	('k)	5853	-	5421
f_s DC1	(ksi)	6.15	11.61	4.73
f_s DC2	(ksi)	1.57	3.82	1.77
f_s DW	(ksi)	2.48	3.70	1.12
f_s (L+IM)	(ksi)	9.15	10.15	9.07
f_f (Service II)	(ksi)	10.07	0.03	0.02
$f_s + \frac{11}{2}$ (Service II)	(ksi)	38.05	32.74	19.87
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
$f_s + \frac{11}{3}$ (Total)(Strength I)	(ksi)	-	42.87	-
$\phi_f F_n$	(ksi)	-	50.00	-
V_f	(k)	30.90	36.15	30.93

EXTERIOR GIRDER 9R REACTION TABLE - RAMP			
		Pier R1	N. Abut
LLDF		0.59	0.60
OCF		-	1.00 **
R_{DC1}	(k)	118.8	26.0
R_{DC2}	(k)	49.5	14.1
R_{DW}	(k)	40.2	7.1
R_{L+IM}	(k)	114.2	67.7
R_{Total}	(k)	322.7	114.8

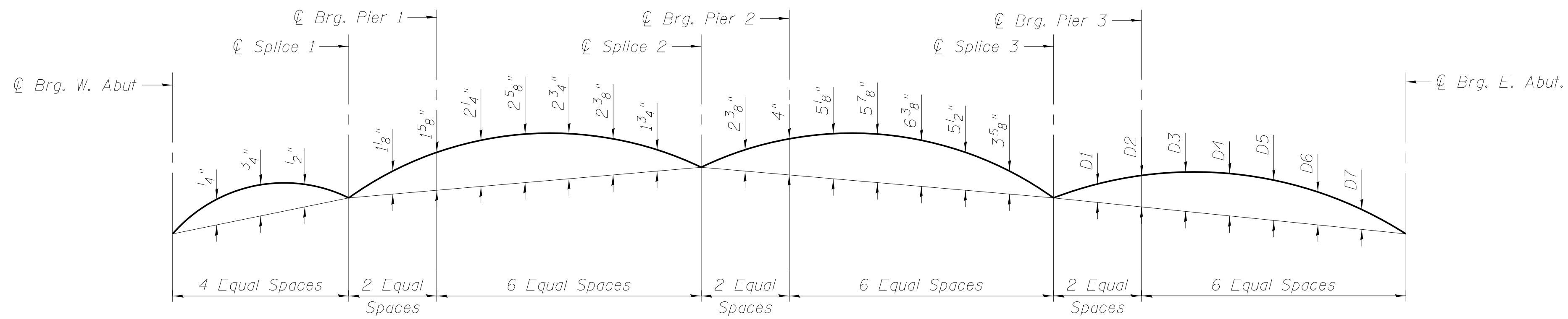
INT. GIRDER 4R MOMENT TABLE - RAMP		
		0.6 Span 1 *
I_s	(in^4)	10.499
S_s	(in^3)	875
DC1	(k/')	0.84
M_{DC1}	('k)	418
DC2	(k/')	0.20
M_{DC2}	('k)	56
DW	(k/')	0.29
M_{DW}	('k)	135
LLDF		0.38
M_{L+IM}	('k)	325
M_u (Strength I)	('k)	1363
$\phi_f M_n$	('k)	2852
f_s DC1	(ksi)	5.73
f_s DC2	(ksi)	0.77
f_s DW	(ksi)	1.85
f_s (L+IM)	(ksi)	4.45
f_s (Service II)	(ksi)	14.14
$0.95R_hF_{yf}$	(ksi)	47.50
f_s (Total)(Strength I)	(ksi)	-
$\phi_f F_n$	(ksi)	-
V_f	(k)	21.29

INT. GIRDER 5R MOMENT TABLE - RAMP		
		0.6 Span 1 *
I_s	(in^4)	10.499
S_s	(in^3)	875
DC1	(k/')	0.84
M_{DC1}	('k)	161
DC2	(k/')	0.20
M_{DC2}	('k)	21
DW	(k/')	0.32
M_{DW}	('k)	77
LLDF		0.55
M_{L+IM}	('k)	234
M_u (Strength I)	('k)	753
$\phi_f M_n$	('k)	2852
f_s DC1	(ksi)	2.21
f_s DC2	(ksi)	0.29
f_s DW	(ksi)	1.05
f_s (L+IM)	(ksi)	3.22
f_s (Service II)	(ksi)	7.74
$0.95R_hF_{yf}$	(ksi)	47.50
f_s (Total)(Strength I)	(ksi)	-
$\phi_f F_n$	(ksi)	-
V_f	(k)	16.52

INT. GIRDER 7R MOMENT TABLE - RAMP		
		0.5 Span 1
I_s	(in^4)	10,499
S_s	(in^3)	875
DC1	(k/')	0.84
M_{DC1}	('k)	65
DC2	(k/')	0.15
M_{DC2}	('k)	10
DW	(k/')	0.30
M_{DW}	('k)	18
LLDF		0.48
M_{L+IM}	('k)	129
M_u (Strength I)	('k)	346
$\phi_f M_n$	('k)	2852
f_s DC1	(ksi)	0.89
f_s DC2	(ksi)	0.13
f_s DW	(ksi)	0.25
f_s (L+IM)	(ksi)	1.77
f_s (Service II)	(ksi)	3.57
$0.95R_hF_{yf}$	(ksi)	47.50
f_s (Total)(Strength I)	(ksi)	-
$\phi_f F_n$	(ksi)	-
V_f	(k)	11.51

* Points shown indicate location of maximum moment within each beam segment

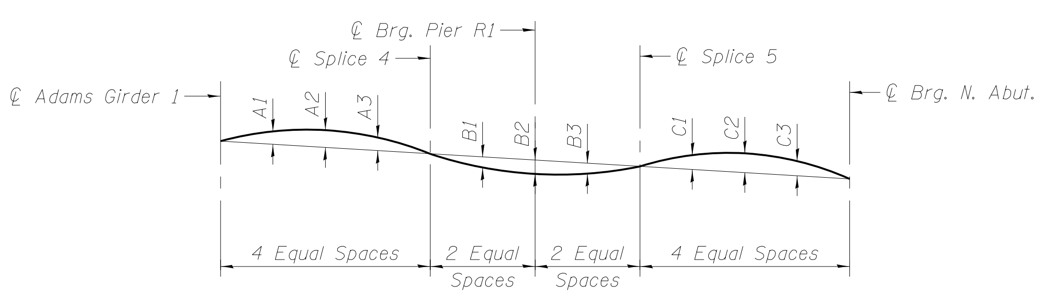
** Obtuse Correction Factor is included in Live Load Distribution Factors shown in tables.



CAMBER DIAGRAM - ADAMS

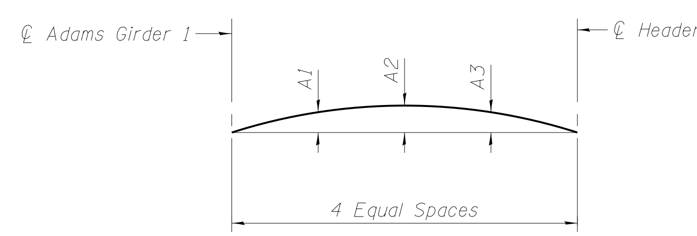
CAMBER TABLE - ADAMS

Girder	D1	D2	D3	D4	D5	D6	D7
1	2 1/4"	3 3/4"	5 3/8"	6 5/8"	7 5/8"	6 3/8"	3 5/8"
2	2 1/8"	3 1/2"	4 3/4"	5 5/8"	6 5/8"	5 1/2"	3"
3	2"	3 1/4"	4 1/4"	5"	5 7/8"	4 7/8"	2 5/8"
4-12	1 7/8"	3"	3 7/8"	4 3/8"	5 1/8"	4 1/4"	2 1/4"



CAMBER DIAGRAM - RAMP

(Girders 1R-3R & 9R)



CAMBER DIAGRAM - RAMP

(Girders 4R-8R)

CAMBER TABLE - RAMP

(Girders 1R-3R & 9R)

Girder	A1	A2	A3	B1	B2	B3	C1	C2	C3
1R	3 5/8"	5 3/8"	4 1/2"	1 1/4"	1 3/8"	1 1/4"	1 1/4"	1 3/8"	7/8"
2R	3 1/2"	5 3/8"	4 1/2"	1 1/8"	1 3/8"	1 1/4"	1 1/4"	1 3/8"	7/8"
3R	3 3/8"	5 3/8"	4 1/2"	1 1/8"	1 1/4"	1 1/4"	1 3/8"	1 1/2"	1"
9R	7 1/4"	10 1/4"	8 1/8"	1 1/8"	1 1/4"	1 1/8"	1 1/2"	1 1/2"	1"

CAMBER TABLE - RAMP

(Girders 4R-8R)

Girder	A1	A2	A3
4R	7/8"	1 5/8"	1 1/4"
5R	-	-	-
6R	-	-	-
7R	-	-	-
8R	-	-	-

TOP OF WEB ELEVATIONS - RAMP

(Girders 1R-3R & 9R)

Girder	℄ Adams G1	℄ Splice 4	℄ Pier	℄ Splice 5	℄ N. Abut.
1R	598.01	595.63	594.30	592.75	588.01
2R	597.88	595.64	594.35	592.83	588.12
3R	597.76	595.65	594.39	592.92	588.24
9R	596.63	595.66	594.44	593.01	588.35

TOP OF WEB ELEVATIONS - RAMP

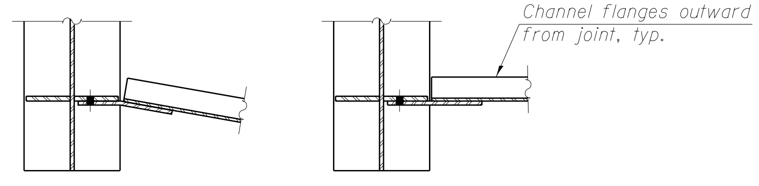
(Girders 4R-8R)

Girder	℄ Adams G1	℄ Header Beam
4R	597.65	596.75
5R	597.52	597.11
6R	597.39	597.18
7R	597.24	597.07
8R	597.07	597.01

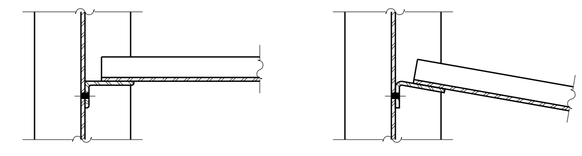
TOP OF WEB ELEVATIONS - ADAMS

(For fabrication use only)

Girder	℄ Brg. W. Abut.	℄ Splice 1	℄ Brg. Pier 1	℄ Splice 2	℄ Brg. Pier 2	℄ Splice 3	℄ Brg. Pier 3	℄ Brg. E. Abut.
1	593.98	596.26	596.77	598.24	598.58	598.28	597.95	595.33
2	594.06	596.34	596.85	598.32	598.67	598.41	598.06	595.43
3	594.14	596.42	596.93	598.40	598.76	598.53	598.15	595.53
4	594.22	596.49	597.01	598.48	598.85	598.64	598.24	595.63
5	594.30	596.57	597.09	598.56	598.93	598.75	598.34	595.74
6	594.37	596.65	597.17	598.64	599.02	598.85	598.44	595.84
7	594.36	596.64	597.16	598.63	599.02	598.85	598.45	595.85
8	594.26	596.54	597.06	598.54	598.92	598.76	598.36	595.77
9	594.16	596.44	596.96	598.44	598.83	598.68	598.28	595.69
10	594.06	596.34	596.86	598.35	598.74	598.59	598.19	595.62
11	594.02	596.29	596.82	598.31	598.70	598.56	598.17	595.60
12	594.01	596.28	596.81	598.31	598.70	598.56	598.17	595.61



SECTION A-A



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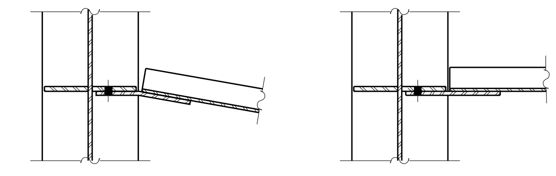

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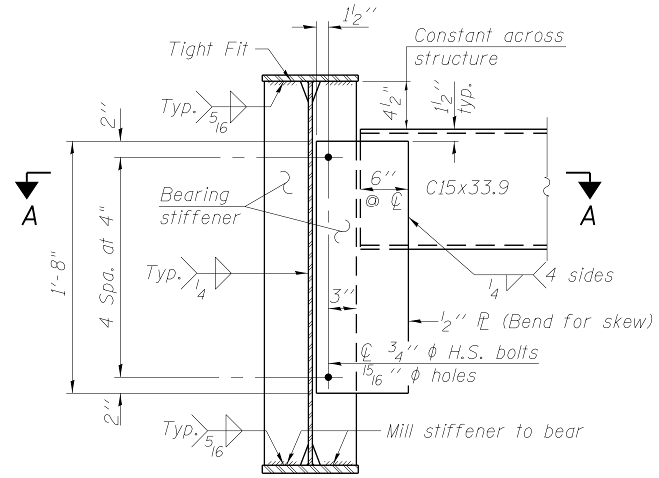
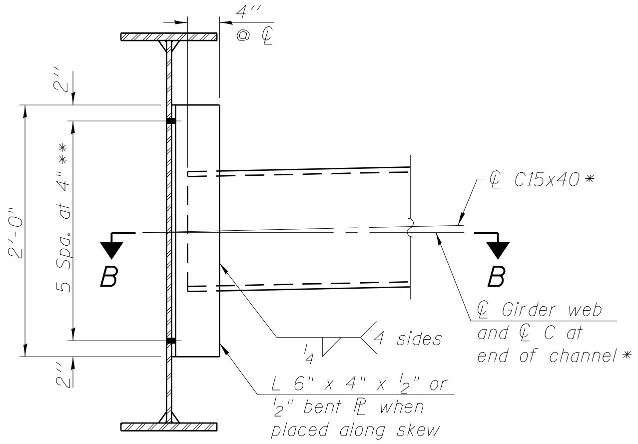


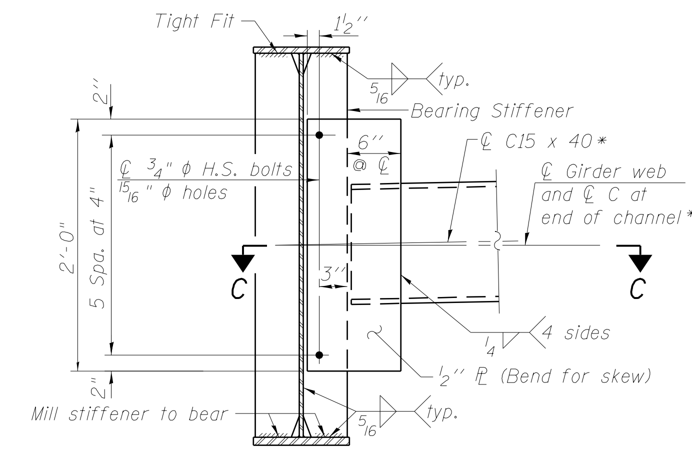
END DIAPHRAGM D

(25 Required)



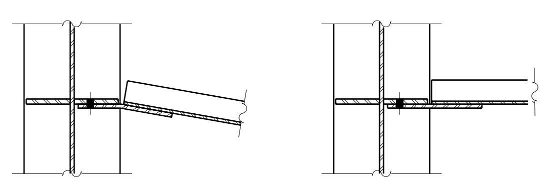
INTERIOR DIAPHRAGM D1

(120 Required)

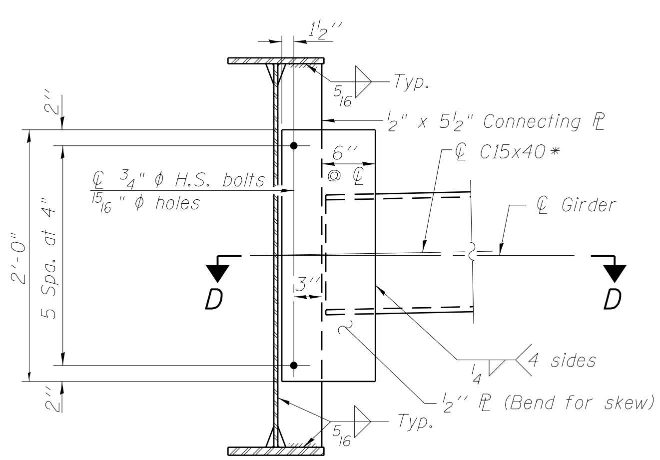


INTERIOR DIAPHRAGM D2

(36 Required)



SECTION D-D



INTERIOR DIAPHRAGM D3

(67 Required)

Note:
All structural steel shall be AASHTO M 270, Grade 50.
Two hardened washers required for each set of oversized holes.
* Alternate channels C15x50 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.
** ¾" φ HS bolts, 15/16" φ holes

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TranSystems

USER NAME = wjcolletti	DESIGNED JM	REVISED		
	CHECKED WJC	REVISED		
PLOT SCALE = NTS	DRAWN JTF	REVISED		
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

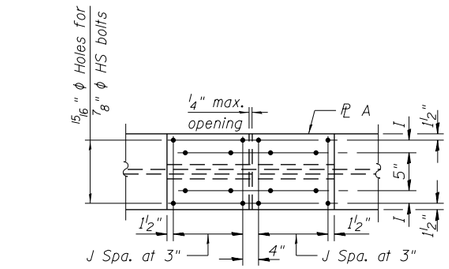
STRUCTURAL STEEL DETAILS 4
STRUCTURE NO. 016-1701

SHEET NO. S1-41 OF S1-83 SHEETS

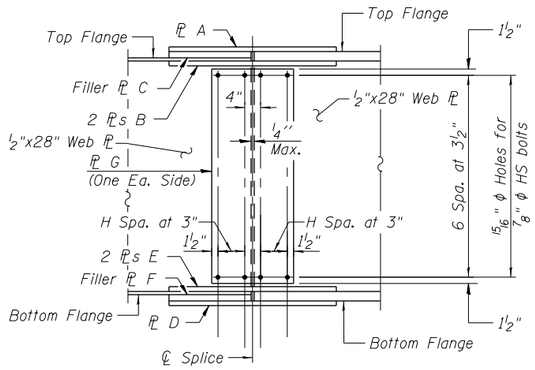
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	343

CONTRACT NO. 60X94

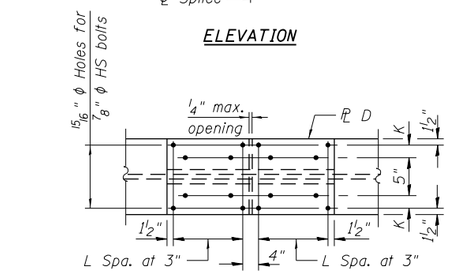
ILLINOIS FED. AID PROJECT



PLAN - TOP FLANGE



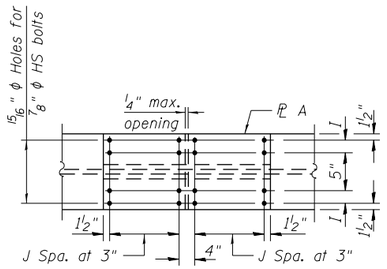
ELEVATION



PLAN - BOTTOM FLANGE

FIELD SPLICE DETAIL (SPLICE 1 THROUGH 3)

(36 Required)



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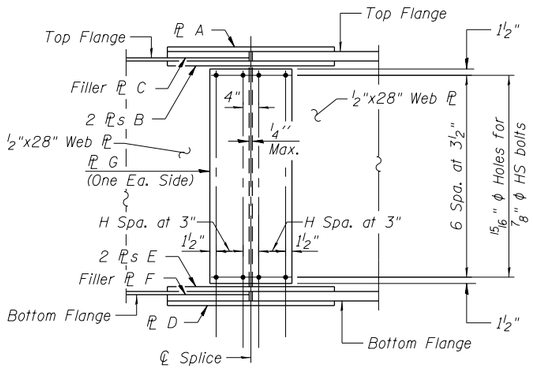

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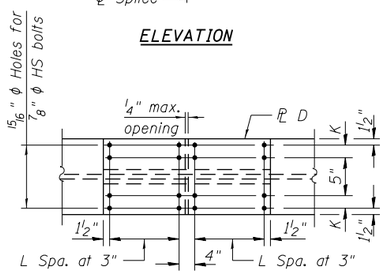
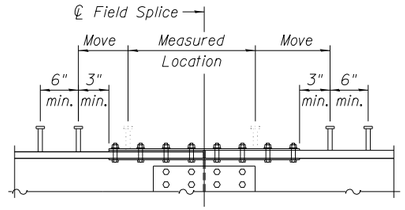


PLAN - BOTTOM FLANGE

FIELD SPLICE DETAIL (SPLICE 4 THROUGH 5)

(8 Required)



SHEAR CONNECTOR DETAIL AT SPLICE AND FLANGE TRANSITIONS

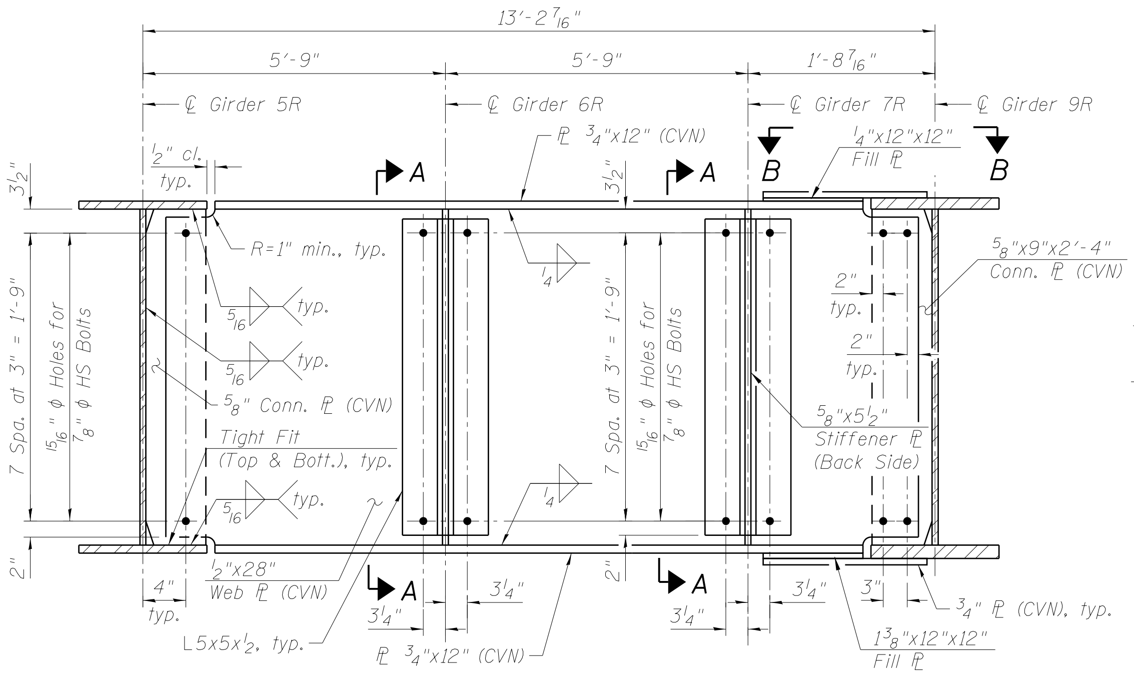
DO NOT place shear connectors on splice plates.

Move row of studs to 3" beyond nearest edge of splice plate from measured location.

TABLE OF FIELD SPLICE DATA

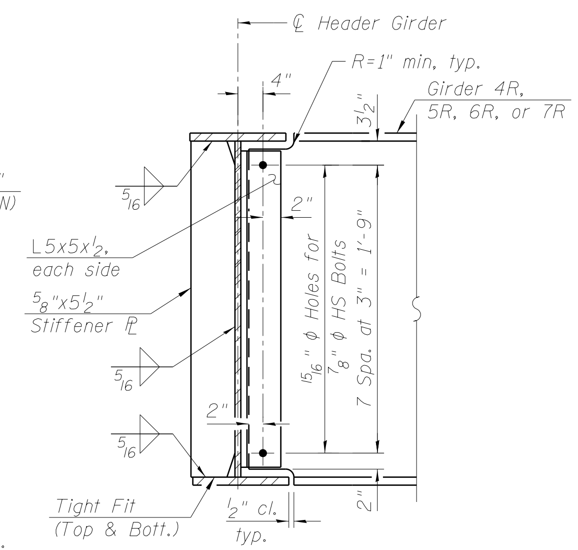
Splice	Girder	℄ A	℄ B	Filler ℄ C	℄ D	℄ E	Filler ℄ F	℄ G	H	I	J	K	L
1	All	1/2" x 1'-0" x 2'-1"	5/8" x 5" x 2'-1"	1/4" x 1'-0" x 1'-0 3/8"	1/2" x 1'-0" x 2'-1"	5/8" x 5" x 2'-1"	3/4" x 1'-0" x 1'-0 3/8"	1/2" x 2'-0" x 1'-1"	1	2"	3	2"	3
2	All	1/2" x 1'-0" x 2'-1"	5/8" x 5" x 2'-1"	1/4" x 1'-0" x 1'-0 3/8"	1/2" x 1'-0" x 2'-1"	5/8" x 5" x 2'-1"	1 3/8" x 1'-0" x 1'-0 3/8"	1/2" x 2'-0" x 1'-1"	1	2"	3	2"	3
3	All	1/2" x 1'-0" x 2'-1"	5/8" x 5" x 2'-1"	3/4" x 1'-0" x 1'-0 3/8"	3/4" x 1'-0" x 2'-7"	7/8" x 5" x 2'-7"	1 1/4" x 1'-0" x 1'-3 3/8"	1/2" x 2'-0" x 1'-1"	1	2"	3	2"	4
4	1R-3R	5/8" x 1'-4" x 3'-1"	3/4" x 7" x 3'-1"	3/4" x 1'-4" x 1'-6 3/8"	1 1/8" x 1'-4" x 5'-1"	1 1/4" x 7" x 5'-1"	1/2" x 1'-4" x 2'-6 3/8"	1/2" x 2'-0" x 1'-1"	2	4"	5	4"	9
	9R	5/8" x 1'-4" x 3'-1"	3/4" x 7" x 3'-1"	3/4" x 1'-4" x 1'-6 3/8"	1 1/4" x 1'-6" x 5'-7"	1 3/8" x 8" x 5'-7"	3/8" x 1'-6" x 2'-9 3/8"	1/2" x 2'-0" x 1'-7"	2	4"	5	5"	10
5	1R-3R	5/8" x 1'-4" x 3'-1"	3/4" x 7" x 3'-1"	5/8" x 1'-4" x 1'-6 3/8"	1 1/4" x 1'-4" x 5'-1"	1 3/8" x 7" x 5'-1"	3/8" x 1'-4" x 2'-6 3/8"	1/2" x 2'-0" x 1'-7"	2	4"	5	4"	9
	9R	5/8" x 1'-4" x 3'-1"	3/4" x 7" x 3'-1"	5/8" x 1'-4" x 1'-6 3/8"	1 1/4" x 1'-4" x 5'-1"	1 3/8" x 7" x 5'-1"	3/8" x 1'-4" x 2'-6 3/8"	1/2" x 2'-0" x 1'-7"	2	4"	5	4"	9

Notes:
All splice plates, except filler plates, shall meet CVN.
CVN denotes Charpy V-Notch impact energy requirements, Zone 2.
All structural steel, except filler plates, shall be AASHTO M 270 Grade 50. Filler Plates may be AASHTO M 270 Grade 36.

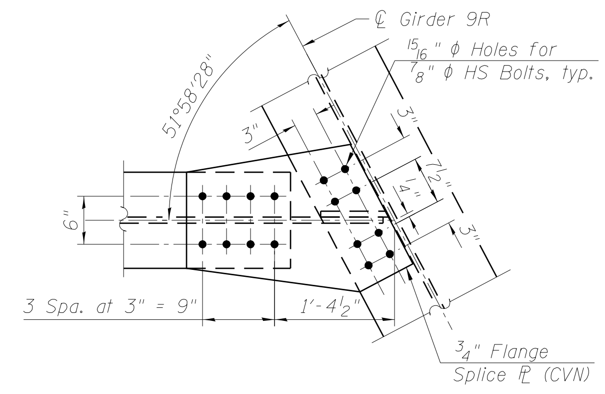


HEADER GIRDER ELEVATION

(Header Girder 2)
(Looking upstation)



SECTION A-A



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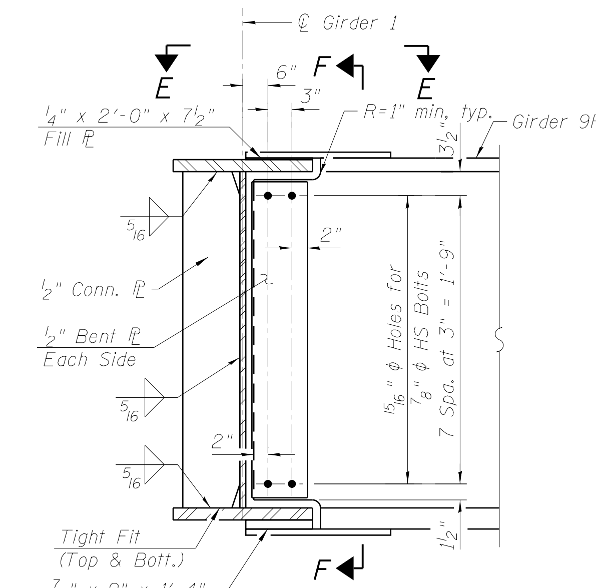
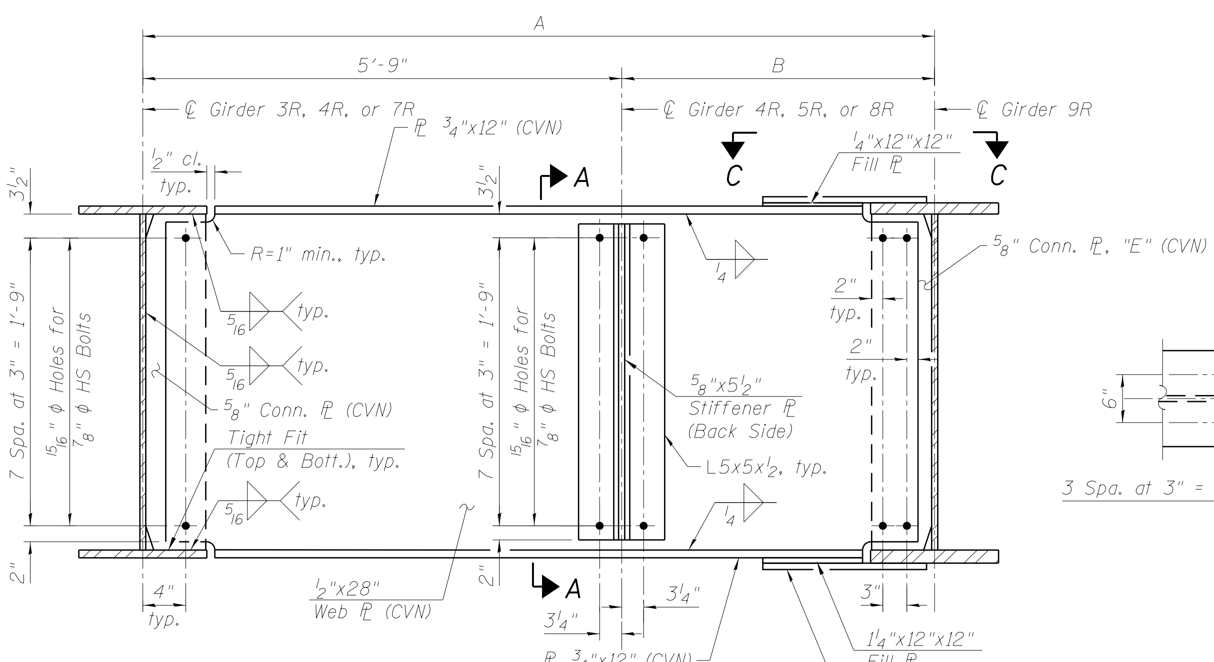
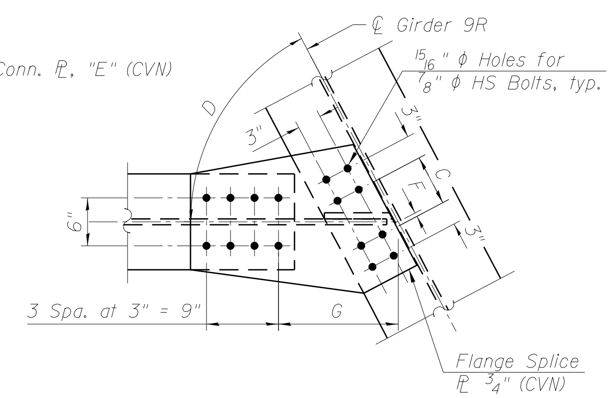


DETAIL D

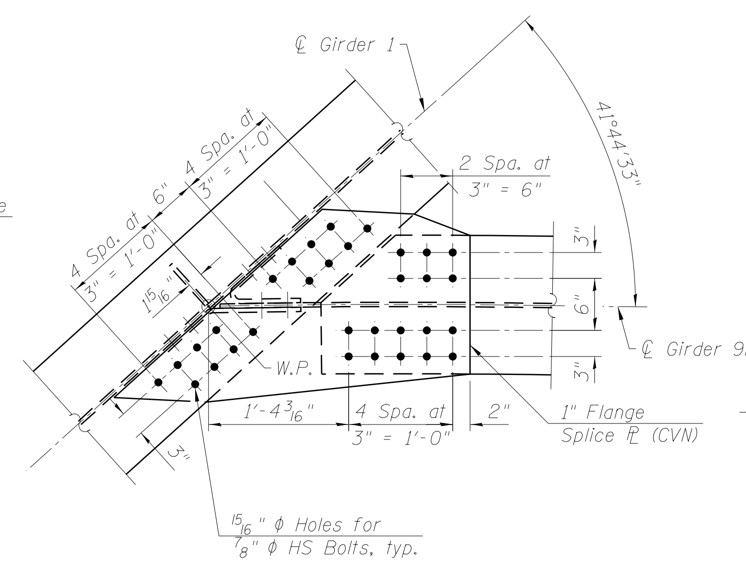


HEADER GIRDER ELEVATION

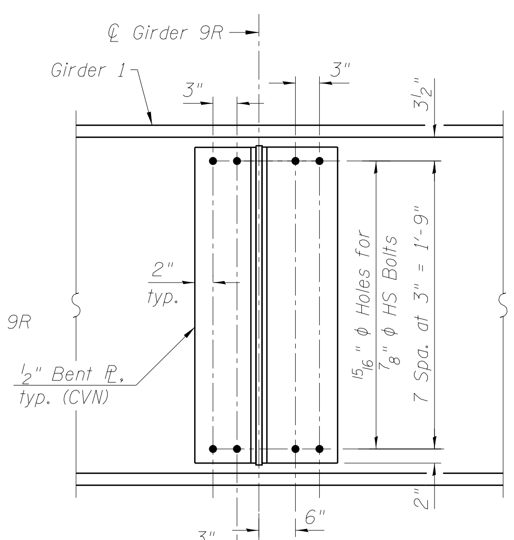
(Header Girders 1, 3, and 4)
(Looking upstation)



SECTION C-C



SECTION E-E



SECTION F-F

HEADER GIRDER TABLE

Header Girder	Longitudinal Girders			Girder Spacing		Angle, D	C	Connection Plate, E	F	G	Top & Bott. Flange Splice Plate
	Left	Center	Right	A	B						
1	7R	8R	9R	10'-9 7/8"	5'-0 7/8"	43°16'47"	9"	5/8" X 10 1/2" X 2'-4"	0"	1'-7 9/16"	3/4" X 1'-6" X 2'-9"
3	4R	5R	9R	12'-2"	6'-5"	59°44'03"	6 1/2"	5/8" X 8 1/2" X 2'-4"	5/8"	1'-2 7/16"	3/4" X 1'-5" X 2'-3"
4	3R	4R	9R	10'-11 1/4"	5'-2 1/4"	70°21'58"	5 1/2"	5/8" X 8" X 2'-4"	1"	1'-0 5/16"	3/4" X 1'-4" X 2'-0"

Notes:
All structural steel shall be AASHTO M 270 Grade 50.
CVN denotes Charpy V-Notch impact energy requirements, Zone 2.

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USER NAME = wjcolletti	DESIGNED JM	REVISED
	CHECKED WJC	REVISED
PLOT SCALE = NTS	DRAWN JTF	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

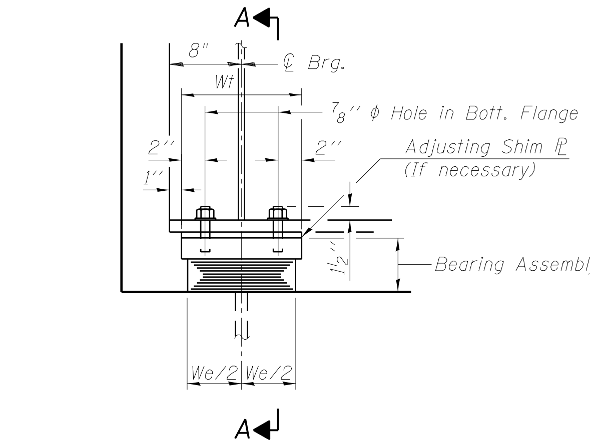
STRUCTURAL STEEL DETAILS 6
STRUCTURE NO. 016-1701

SHEET NO. S1-43 OF S1-83 SHEETS

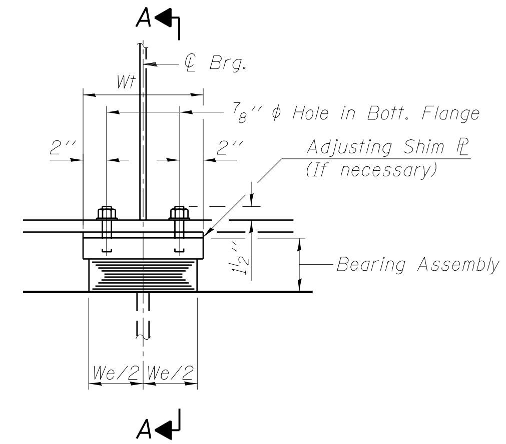
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	345

CONTRACT NO. 60X94

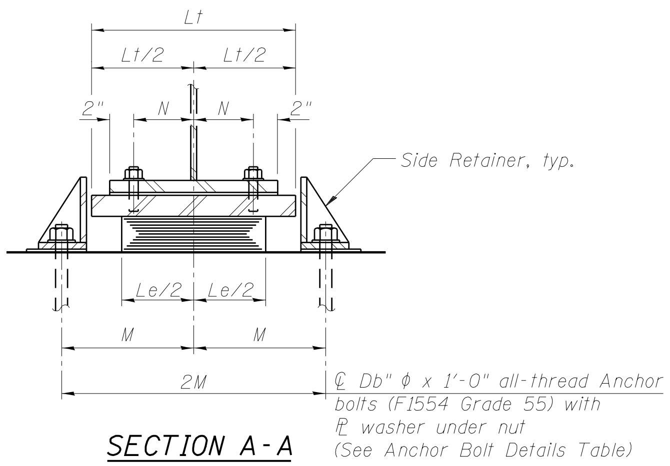
ILLINOIS FED. AID PROJECT



ELEVATION AT ABUT.



ELEVATION AT PIER



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

Notes:

Anchor bolts shall be ASTM F1554, Grade 55, all-thread (or an Engineer-approved alternate material) of the diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

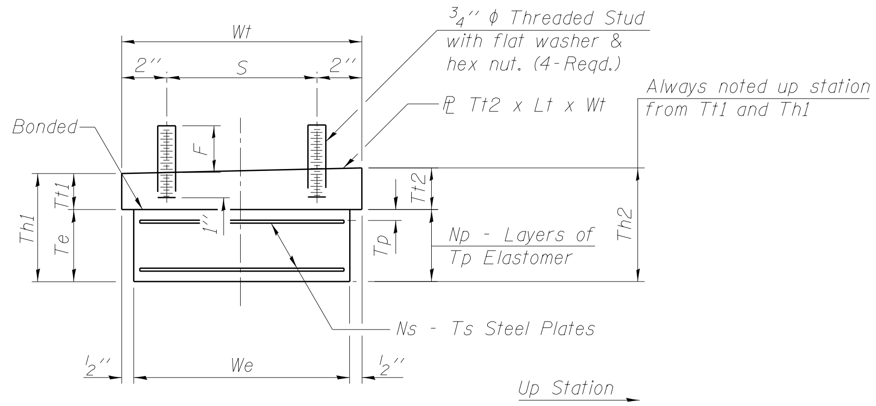
Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

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.

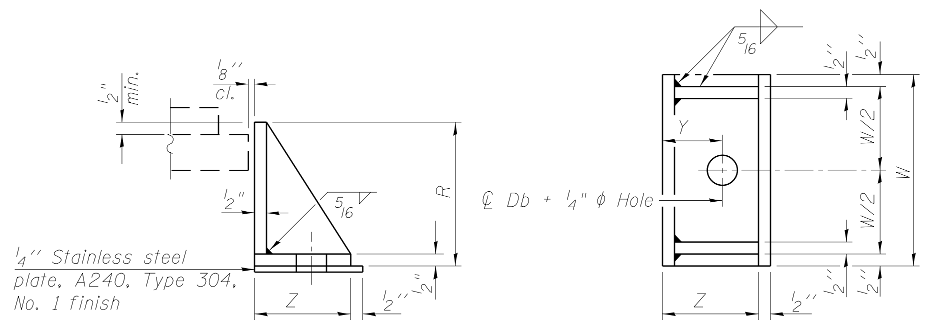
All bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

The structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M270 Gr.50.



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.

ANCHOR BOLT DETAILS

Bolt Dia. x Length**	Plate Washer
5/8" x 12"	1 3/4"x1 3/4"x5/16"
3/4" x 12"	2"x2"x5/16"

**Length shown is minimum required embedment length.

FILL PLATE THICKNESS TABLE

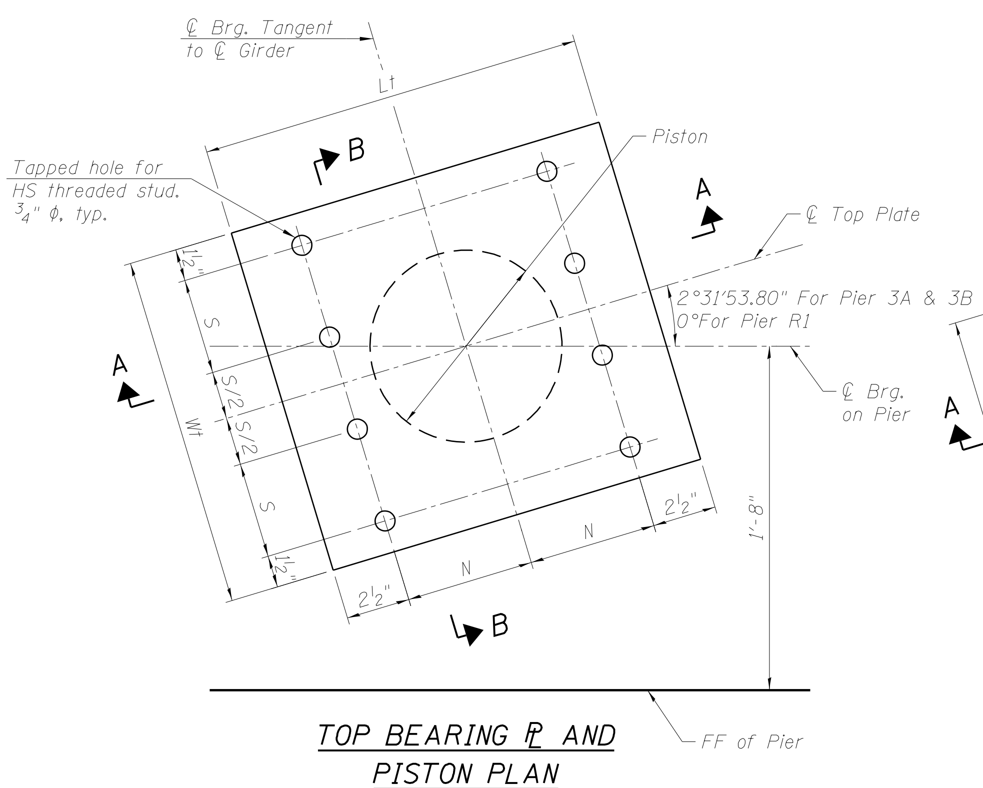
Location	G1R	G2R	G3R	G9R	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
W. Abut	-	-	-	-	-	-	-	-	-	1/8"	-	-	-	-	3/8"	1/8"
Pier 1	-	-	-	-	-	-	-	-	-	1/8"	-	-	-	1/2"	1/8"	-
Pier 2	-	-	-	-	-	-	-	-	-	-	-	-	-	3/8"	-	-
E. Abut	-	-	-	-	-	-	-	-	-	-	1/8"	-	-	1/4"	-	1/8"
N. Abut	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

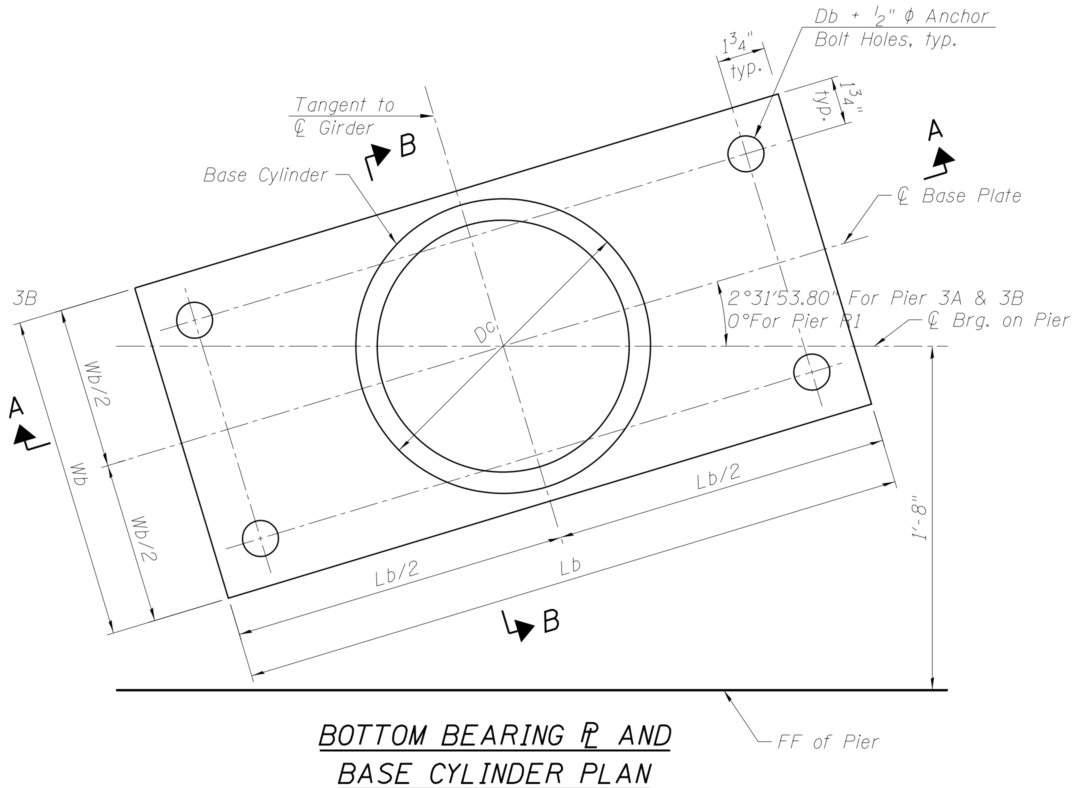
EXPANSION BEARING DIMENSIONS TABLE

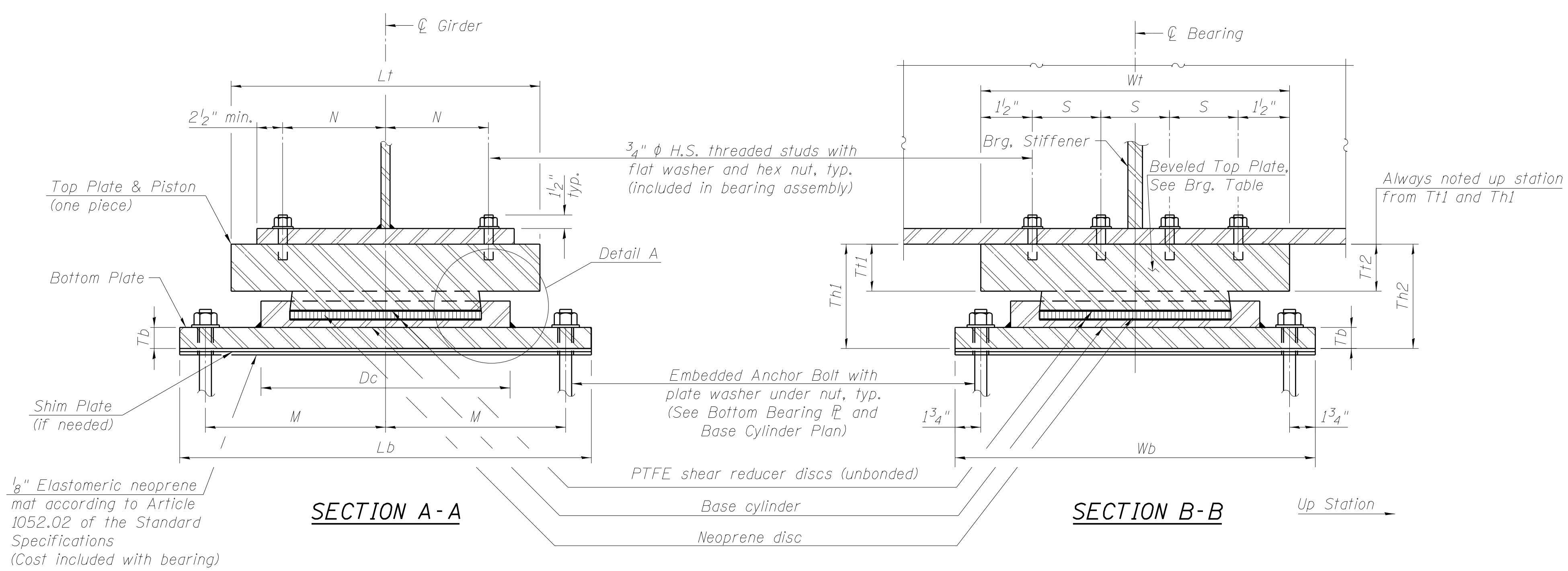
Brg. Location	Elastomer							Top Bearing Plate								Th1 (in)	Th2 (in)	Anchor Bolt Dia. Db (in)	Side Retainer				
	We (in)	Le (in)	Te (in)	Np	Tp (in)	Ns	Ts (in)	Tt1 (in)	Tt2 (in)	Wt (in)	Lt (in)	N (in)	S (in)	F (in)					M (in)	R (in)	Y (in)	W (in)	Z (in)
W. Abut	12"	18"	5 1/16"	7	9/16"	6	3/16"	1 1/2"	2 1/8"	13"	20"	4"	9"	2 3/8"		6 9/16"	7 3/16"	5/8"	11 7/8"	7 1/2"	1 3/4"	10"	7 1/4"
Pier 1	13"	20"	3 7/8"	5	5/8"	4	3/16"	1 7/8"	2 1/2"	14"	22"	4"	10"	3 1/8"		5 3/4"	6 3/8"	3/4"	13"	6 3/4"	1 7/8"	12"	7 7/8"
Pier 2	13"	20"	2 1/4"	3	5/8"	2	3/16"	2"	2 3/16"	14"	22"	4"	10"	3 3/4"		4 1/4"	4 7/16"	3/4"	13"	4 3/4"	1 7/8"	12"	7 7/8"
E. Abut	10"	14"	2 11/16"	5	7/16"	4	1/8"	2 1/16"	1 1/2"	11"	16"	6"	7"	2 7/8"		4 3/4"	4 3/16"	5/8"	9 7/8"	5"	1 3/4"	8"	5 1/2"
N. Abut	10"	14"	2 11/16"	5	7/16"	4	1/8"	2 5/16"	1 1/2"	11"	16"	6"	7"	3 3/4"		5"	4 3/16"	5/8"	9 7/8"	5 1/4"	1 3/4"	8"	5 1/2"

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	52
Anchor Bolts, 5/8"	Each	56
Anchor Bolts, 3/4"	Each	48





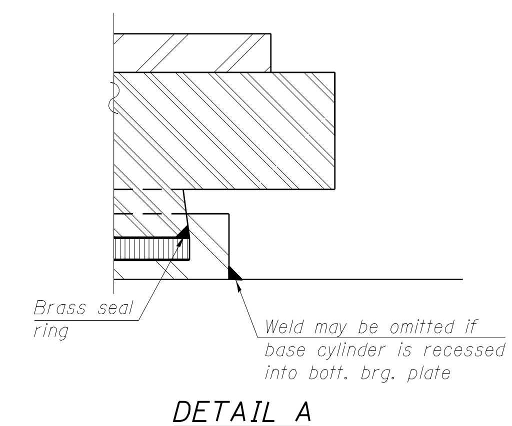


Notes:
The Structural Steel for the top & bottom bearing plates shall be AASHTO M270 Grade 50.
Top & bottom plates, threaded studs, washers & shim plates are included in the cost of the Bearings.
Anchor bolts for bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
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 (embedded and separate) bearing plates, anchor bolts, nuts, washers, pintles, and threaded studs shall be galvanized according to AASHTO M111 or M232 as applicable.
If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be Tb plus the depth of the recess.
All HLMR bearings shall be designed to carry minimum Factored Ultimate (Strength) Design Rotation of 0.02 radians. See Special Provision.
Anchor bolts shall be ASTM F1554, Grade 55 all-thread (or an Engineer-approved alternate material) of the diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

ANCHOR BOLT DETAILS

Bolt Dia. x Length**	Plate Washer
5/8" x 12"	1 3/4"x1 3/4"x5/16"
3/4" x 12"	2"x2"x5/16"
1 1/4" x 15"	2 3/4"x2 3/4"x5/16"

**Length shown is minimum required embedment length.



FILL PLATE THICKNESS TABLE

Location	G1R	G2R	G3R	G9R	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
Pier 3	-	-	-	-	-	-	-	-	-	-	-	-	-	1/4"	-	-
Pier R1	-	5/8"	-	1/2"	-	-	-	-	-	-	-	-	-	-	-	-

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Fixed-250K	Each	11
High Load Multi-Rotational Bearings, Fixed-350K	Each	4
High Load Multi-Rotational Bearings, Fixed-500K	Each	1
Anchor Bolts, 5/8"	Each	44
Anchor Bolts, 3/4"	Each	16
Anchor Bolts, 1 1/4"	Each	4

FIXED BEARING DIMENSIONS TABLE

Brg. Location	Vertical Design Load (kips)	Lateral Design Load (kips)	HLMR Size (kips)	Dc (in)	Bottom Bearing Plate			Top Bearing Plate						Th1 (in)	Th2 (in)	Anchor Bolt Dia. Db (in)	M* (in)
					Tb (in)	Lb** (in)	Wb (in)	Tt1 (in)	Tt2 (in)	Lt (in)	Wt (in)	N (in)	S (in)				
Pier 3-Girder 2-12	202.0	111.0	250	12 1/2"	1"	20 3/4"	12 1/2"	1 13/16"	1 1/2"	12 1/2"	12 1/2"	3 3/4"	3 1/8"	6 13/16"	6 1/2"	5/8"	8 5/8"
Pier 3-Girder 1	475.0	426.0	500	17 1/2"	1 1/8"	25 3/4"	17 1/2"	2 5/8"	2 1/4"	17 1/2"	17 1/2"	6 1/4"	4 13/16"	9 1/8"	8 3/4"	1 1/4"	10 11/16"
Pier R1	307.0	116.0	350	14 3/4"	1"	23 1/4"	14 3/4"	2 3/4"	1 7/8"	14 3/4"	14 3/4"	4 7/8"	3 7/8"	8 1/2"	7 5/8"	3/4"	9 7/8"

*Dimension M for Pier R1 at Girder R1, R2 & R3 = 8 7/8".
**Dimension Lb for Pier R1 at Girder R1, R2 & R3 = 21 1/4".

USER NAME = wjcolletti	DESIGNED TLR	REVISED	
	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN TLR	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

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FIXED BEARING DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-45 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	347

CONTRACT NO. 60X94
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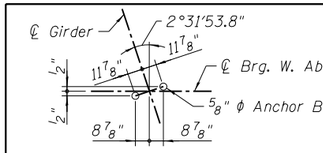
ANCHOR BOLT LAYOUT

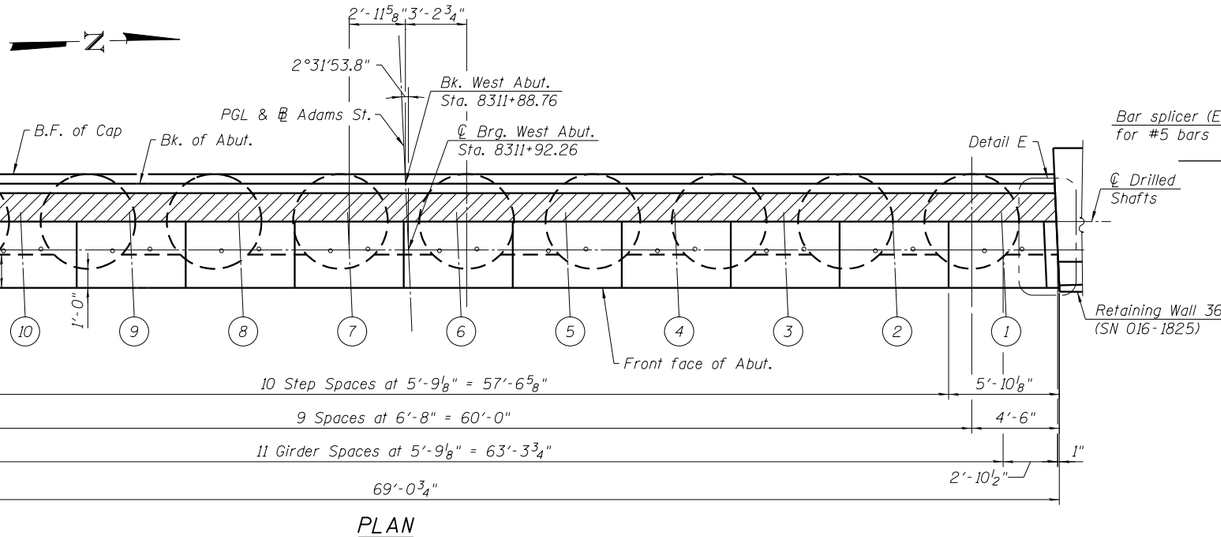


TOP OF SEAT ELEVATIONS

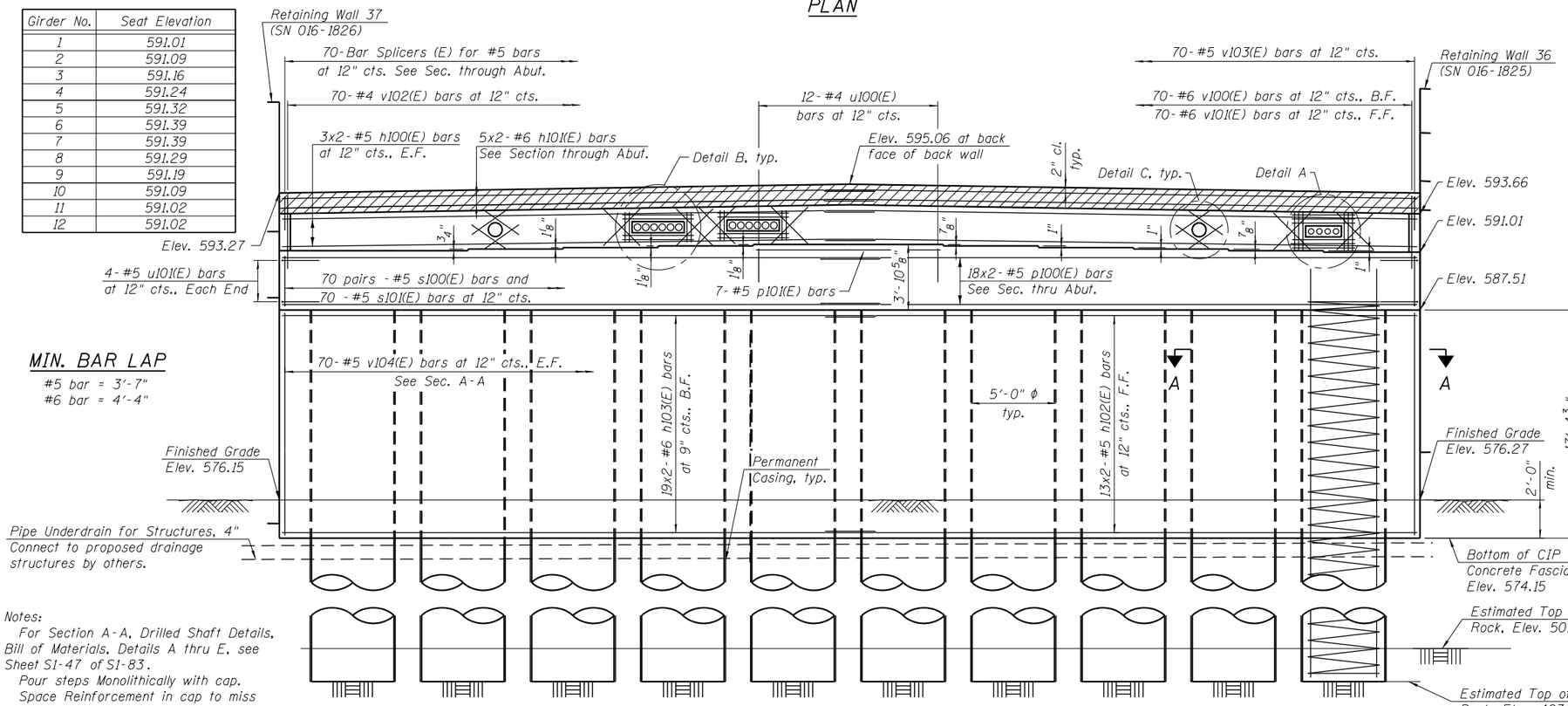
Girder No.	Seat Elevation
1	591.01
2	591.09
3	591.16
4	591.24
5	591.32
6	591.39
7	591.39
8	591.29
9	591.19
10	591.09
11	591.02
12	591.02

MIN. BAR LAP

#5 bar = 3'-7"
#6 bar = 4'-4"

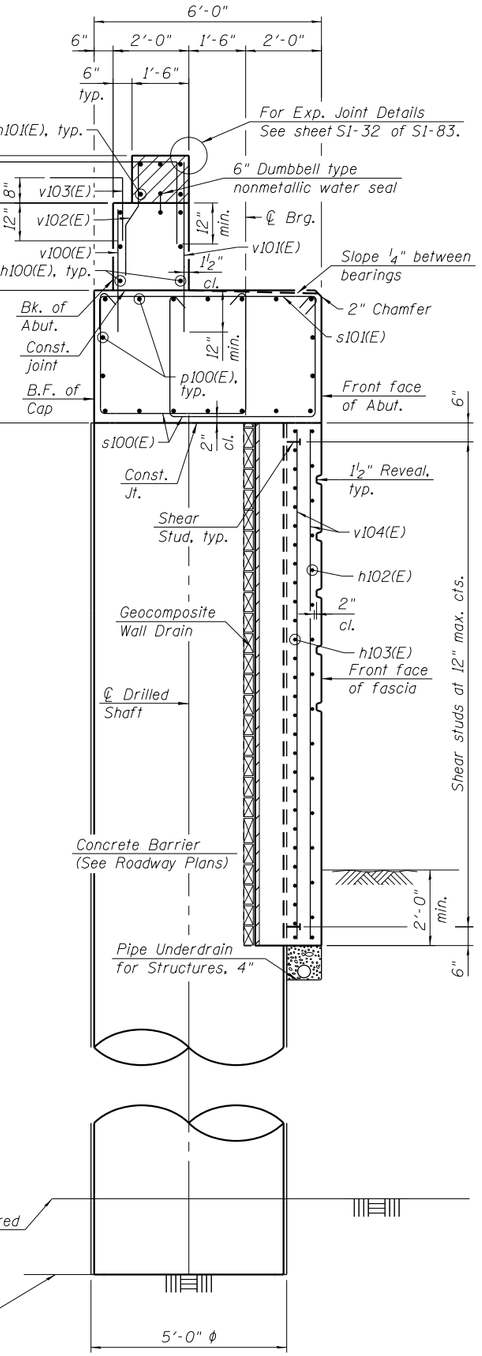


PLAN



ELEVATION

(Looking West)



SECTION THROUGH ABUTMENT

Notes:

For Section A-A, Drilled Shaft Details, Bill of Materials, Details A thru E, see Sheet S1-47 of S1-83.

Pour steps Monolithically with cap.

Space Reinforcement in cap to miss anchor bolts.

For Bearing Details, See Sheet S1-44 of S1-83.

Permanent casing shall be installed by twisting and/or pushing the casing in conjunction with drilled excavation inside of the permanent casing. The bottom of the permanent casing shall maintain minimum 2 ft. embedment into underlying soil below the bottom of shaft excavation elevation. Neither the Wet Method of construction nor the use of Temporary Casing will be permitted. See Special Provisions for Foundation Drilling Procedures.

Notes cont.:

Hatched area to be poured after superstructure falsework has been removed. Quantity of concrete included in Concrete Superstructure.

Concrete sealer shall be applied to all exposed faces of the abutment cap and fascia.

Concrete fascia panels shall be paid as Class SI Concrete (Miscellaneous).

Conduit provided by others. Contractor to coordinate with utility owner for location and size of utility blockouts. Cost of utility blockouts included in Concrete Structures. See Utility Plans.

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USER NAME = wjcolletti	DESIGNED TLR	REVISED	
	CHECKED MDS	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED MDS	REVISED	

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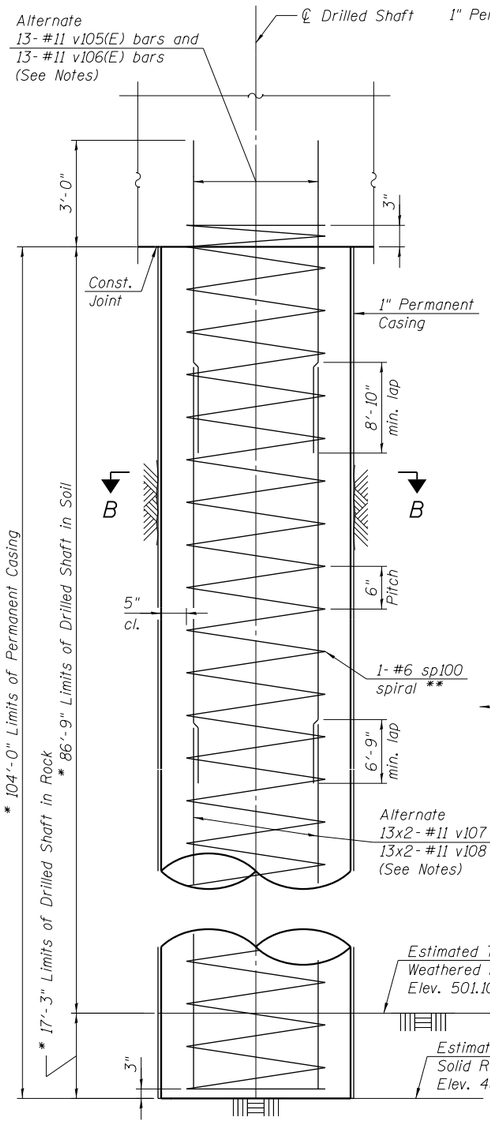
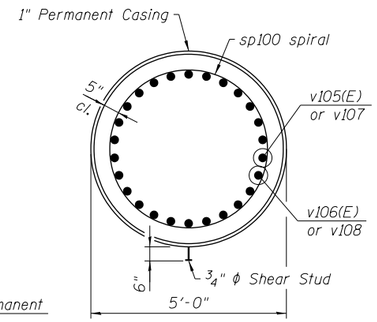
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT PLAN AND ELEVATION
STRUCTURE NO. 016-1701
SHEET NO. S1-46 OF S1-83 SHEETS

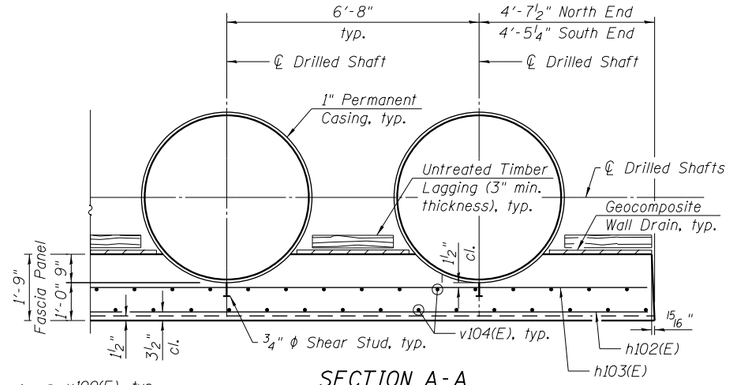
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	348
		CONTRACT NO. 60X94		
		ILLINOIS	FED. AID PROJECT	



DRILLED SHAFT ELEVATION

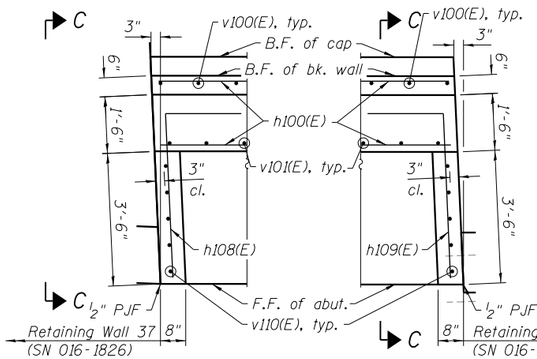


SECTION B-B



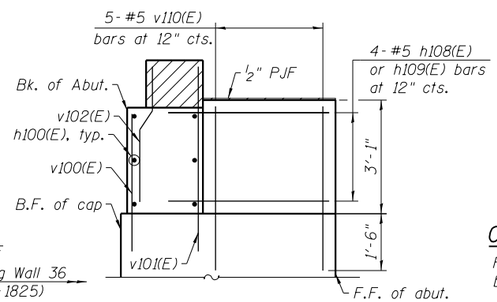
SECTION A-A

(Shaft reinforcement not shown for clarity)



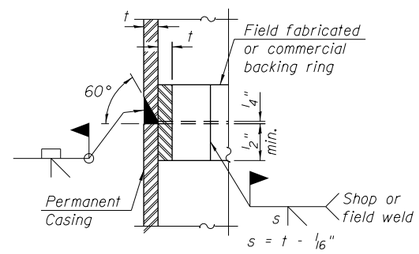
DETAIL D

DETAIL E



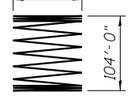
SECTION C-C

(Cap reinforcement not shown for clarity)

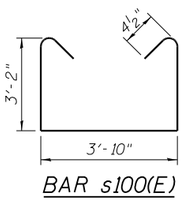


COMPLETE PENETRATION WELD SPLICE

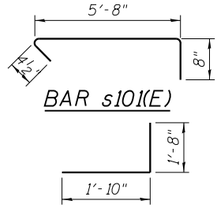
Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



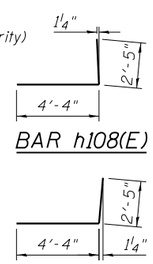
BAR sp100



BAR s100(E)



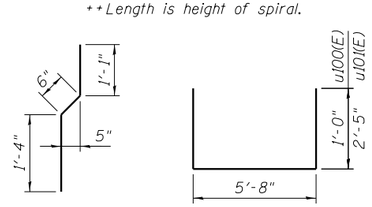
BAR s101(E)



BAR h108(E)

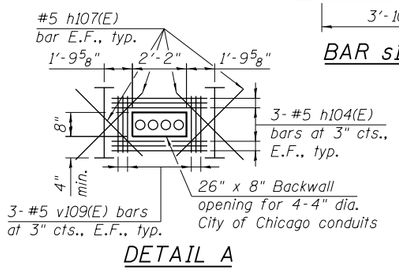
BAR v103(E)

BAR h109(E)

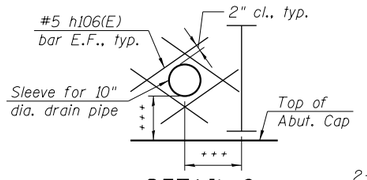


BAR v102(E)

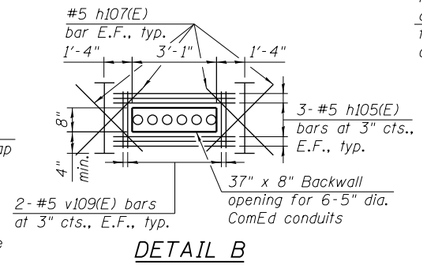
BARS u100(E) and u101(E)



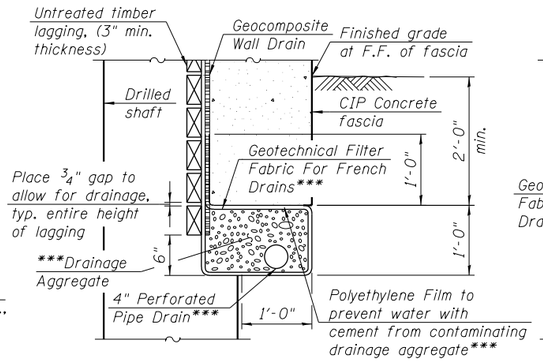
DETAIL A



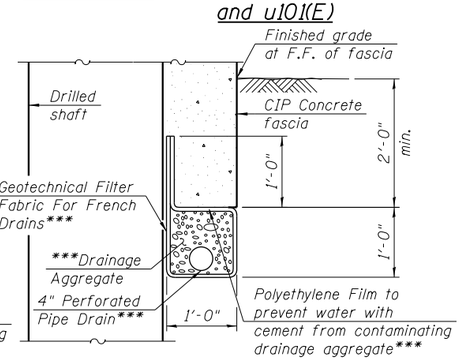
DETAIL C



DETAIL B



PIPE UNDERDRAIN DETAIL BETWEEN DRILLED SHAFTS



PIPE UNDERDRAIN DETAIL THRU DRILLED SHAFT

*** Included in the cost of Pipe Underdrains for Structures, 4"

Notes:

3/4"x6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Standard Specifications automatically end welded to casing. Cost of shear studs included in Class SI Concrete (Miscellaneous).

Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bar per line.

When splicing 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 in 135° standard hook.

Drilled Shaft quantity from top of existing ground elevation to bottom of abutment cap elevation shall be included with Drilled Shaft in Soil.

Lap v105(E) bars with v107 bars or v106(E) bars with v108 bars.

Install lagging and Geocomposite Wall Drain from top down as excavation proceeds. Minimize over-excavation and backfill voids with dry loose sand. Cost included with Class SI Concrete (Miscellaneous).

The Contractor is responsible for the design and performance of the lagging system, the deflection of the lagging shall be limited to 1" maximum using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi, until the concrete facing is installed. The Contractor shall submit design calculations and details prepared by an Illinois Licensed Structural Engineer for the attachment of the lagging to the shaft for approval by the Engineer. Alternative equivalent systems may be submitted for approval by the Engineer. Cost included with Class SI Concrete (Miscellaneous).

Cost of PJF and drain pipe sleeve included in Concrete Structures.

WEST ABUTMENT BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h100(E)	12	#5	36'-2"	
	h101(E)	10	#6	36'-5"	
+	h102(E)	26	#5	36'-2"	
+	h103(E)	38	#6	36'-6"	
	h104(E)	12	#5	3'-10"	
	h105(E)	24	#5	4'-6"	
	h106(E)	16	#5	2'-6"	
	h107(E)	24	#5	3'-2"	
	h108(E)	4	#5	6'-9"	
	h109(E)	4	#5	6'-9"	
	p100(E)	36	#5	36'-2"	
	p101(E)	7	#5	11'-2"	
	s100(E)	140	#5	10'-11"	
	s101(E)	70	#5	6'-9"	
++	sp100	10	#6	104'-0"	
	u100(E)	12	#4	7'-8"	
	u101(E)	8	#5	10'-6"	
	v100(E)	70	#6	3'-8"	
	v101(E)	70	#6	4'-11"	
	v102(E)	70	#4	2'-11"	
	v103(E)	70	#5	3'-6"	
+	v104(E)	140	#5	13'-0"	
	v105(E)	130	#11	22'-5"	
	v106(E)	130	#11	24'-5"	
	v107	260	#11	50'-1"	
	v108	260	#11	48'-7"	
	v109(E)	28	#5	2'-4"	
	v110(E)	10	#5	4'-5"	

Structure Excavation	Cu. Yd.	1,066
Concrete Structures	Cu. Yd.	69.5
Concrete Superstructure	Cu. Yd.	4.7
+ Stud Shear Connectors	Each	140
Reinforcement Bars	Pound	177,820
Reinforcement Bars, Epoxy Coated	Pound	38,760
Permanent Casing	Foot	1,040
Drilled Shaft in Soil	Cu. Yd.	628.4
Drilled Shaft in Rock	Cu. Yd.	125.1
Concrete Sealer	Sq. Ft.	1,486
Class SI Concrete (Miscellaneous)	Cu. Yd.	46.1
Lightweight Cellular Concrete Fill	Cu. Yd.	134
Slope Inclinometer	Each	1
Pipe Underdrains for Structures, 4"	Foot	69

\+ Shown for information only. Cost included with Class SI Concrete (Miscellaneous)

++ Length is height of spiral.

* The quantities and detailing are based on the estimated elevations shown on the plans. The actual elevations may differ at each shaft and corresponding adjustments shall be made to the drilled shaft and reinforcement quantities and payment limits.

** Provide 1 1/2 extra turns top and bottom of each drilled shaft. Extend spiral 2" into the abutment cap. Provide 4-#4 spacers or equivalent.

+++ Coordinate sleeve for 10" dia. drain pipe location with Bridge Drainage System.

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TranSystems

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		CHECKED	MDS	REVISED
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PLOT DATE = 3/5/2020		CHECKED	WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-47 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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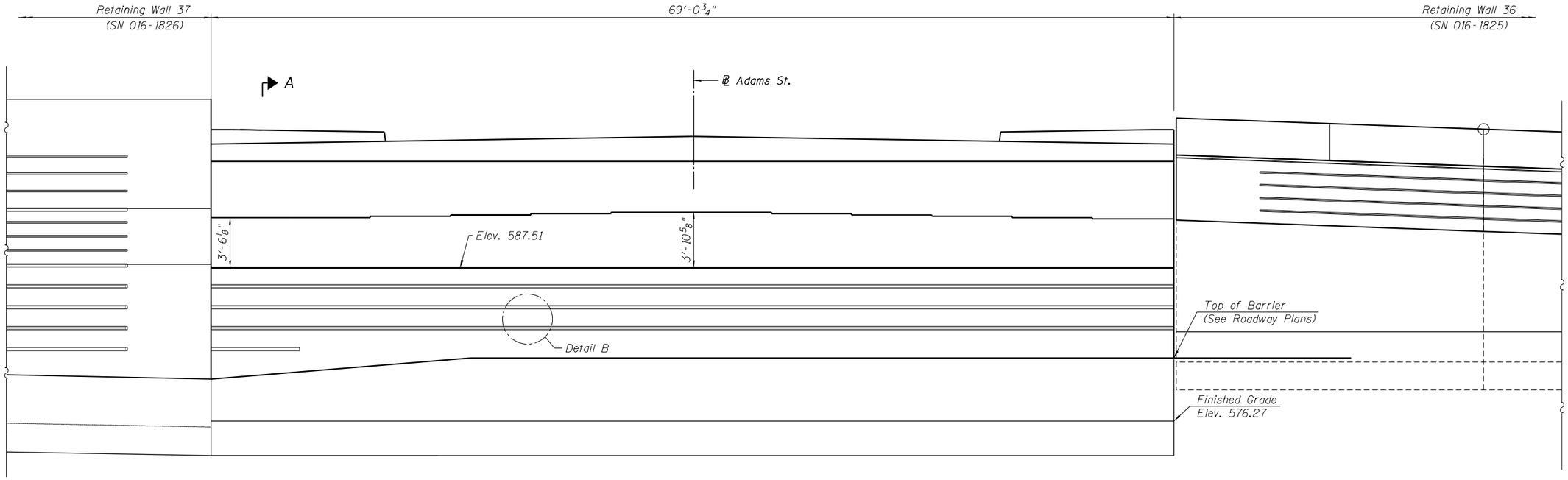
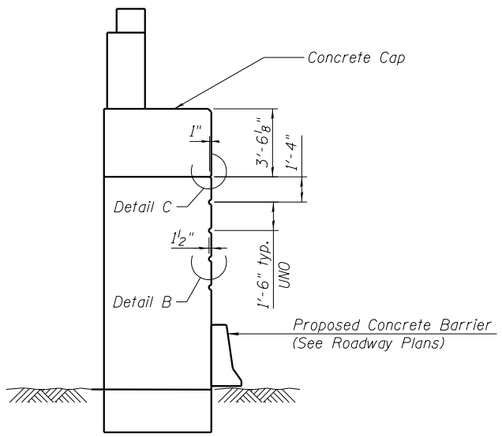
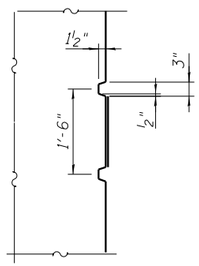
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			



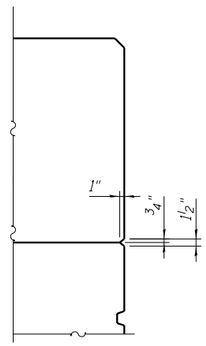
ELEVATION
(Looking West)



SECTION A-A



DETAIL B
Typical Reveal Detail



Note:
The 3"x1 1/2" reveal will not be paid separately and shall be included in the cost of the Concrete Structures.

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TranSystems

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-48 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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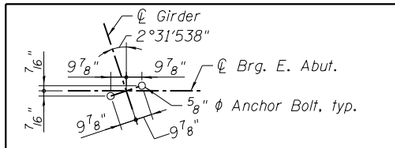
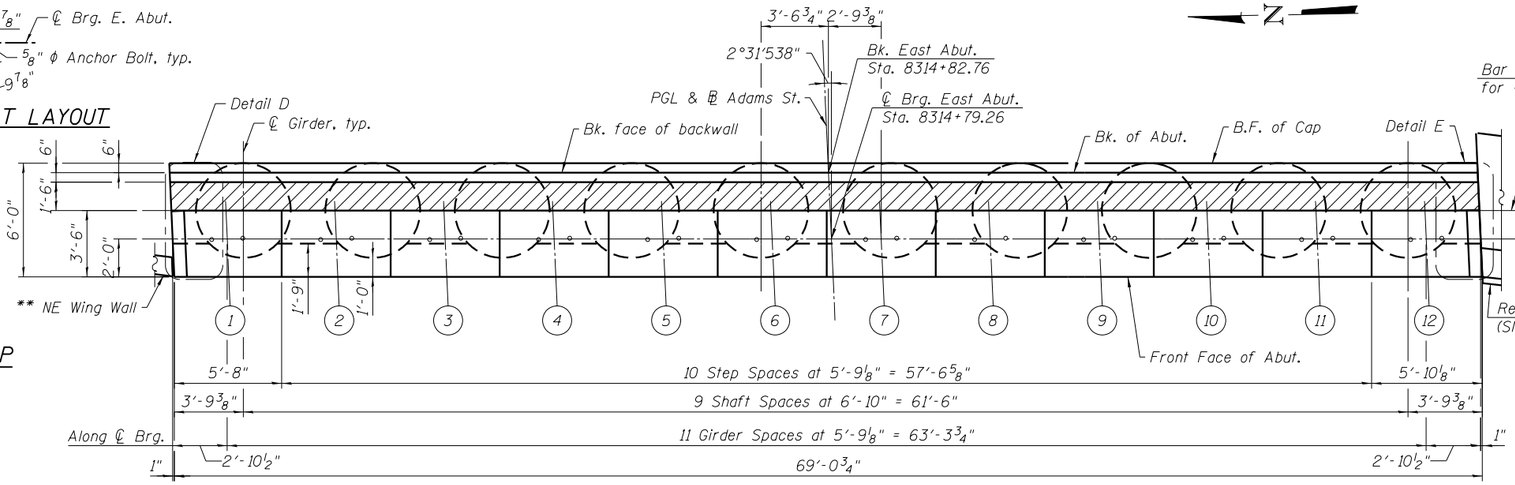
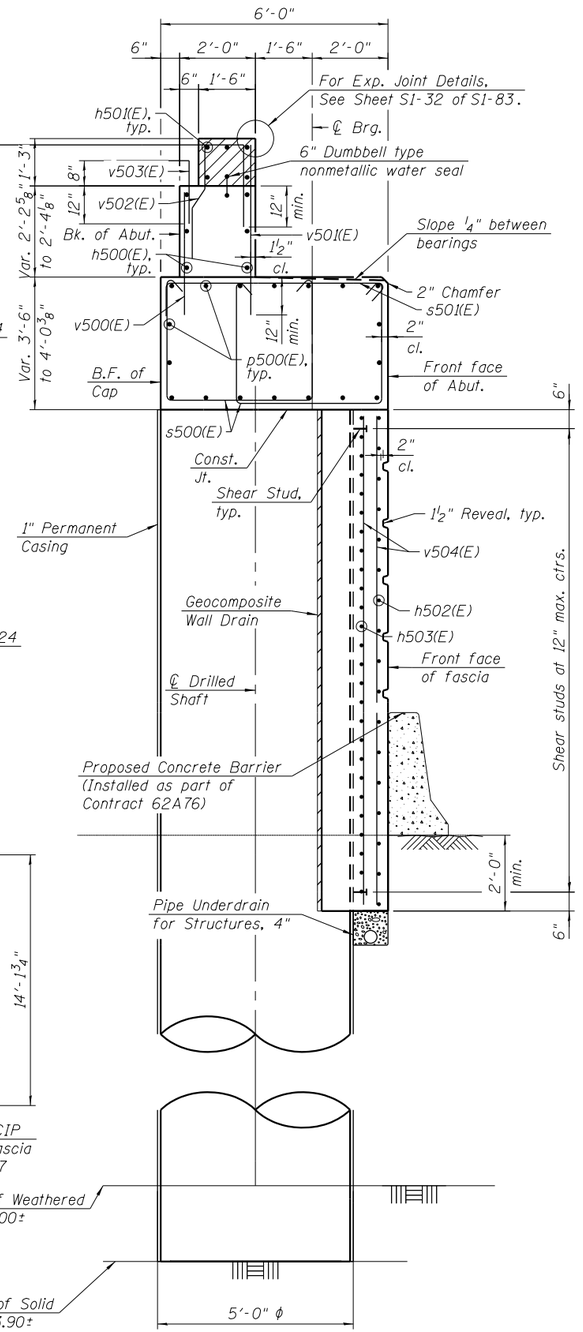


ANCHOR BOLT LAYOUT

MIN. BAR LAP

#5 bar = 3'-7"
#6 bar = 4'-4"

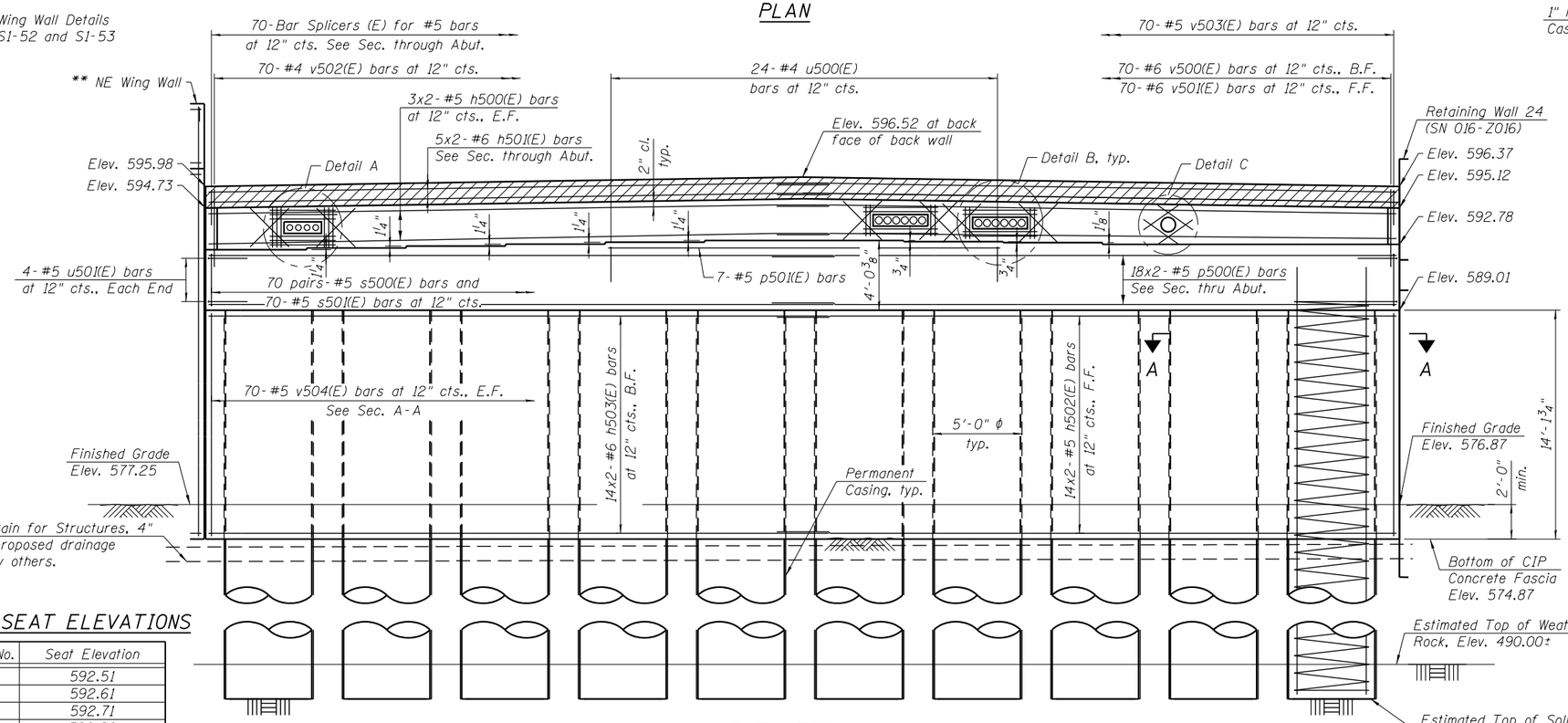




SECTION THROUGH ABUTMENT

PLAN

** For NE Wing Wall Details see Sheets S1-52 and S1-53 of S1-83 .



ELEVATION
(Looking East)

TOP OF SEAT ELEVATIONS

Girder No.	Seat Elevation
1	592.51
2	592.61
3	592.71
4	592.82
5	592.92
6	593.02
7	593.02
8	592.95
9	592.88
10	592.78
11	592.78
12	592.78

Notes:

For Section A-A, Drilled Shaft Details, Bill of Materials, Details A thru E, see Sheet S1-50 of S1-83.

Pour steps Monolithically with cap.

Space Reinforcement in cap to miss anchor bolts.

For Bearing Details, See Sheet S1-44 of S1-83.

Hatched area to be poured after superstructure falsework has been removed. Quantity of concrete included in Concrete Superstructure.

Notes cont.:

Concrete sealer shall be applied to all exposed faces of the abutment cap and fascia.

Permanent casing shall be installed by twisting and/or pushing the casing in conjunction with drilled excavation inside of the permanent casing. The bottom of the permanent casing shall maintain minimum 2 ft. embedment into underlying soil below the bottom of shaft excavation elevation. Neither the Wet Method of construction nor the use of Temporary Casing will be permitted. See Special Provisions for Foundation Drilling Procedures.

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PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT PLAN AND ELEVATION
STRUCTURE NO. 016-1701
SHEET NO. S1-49 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 60X94		
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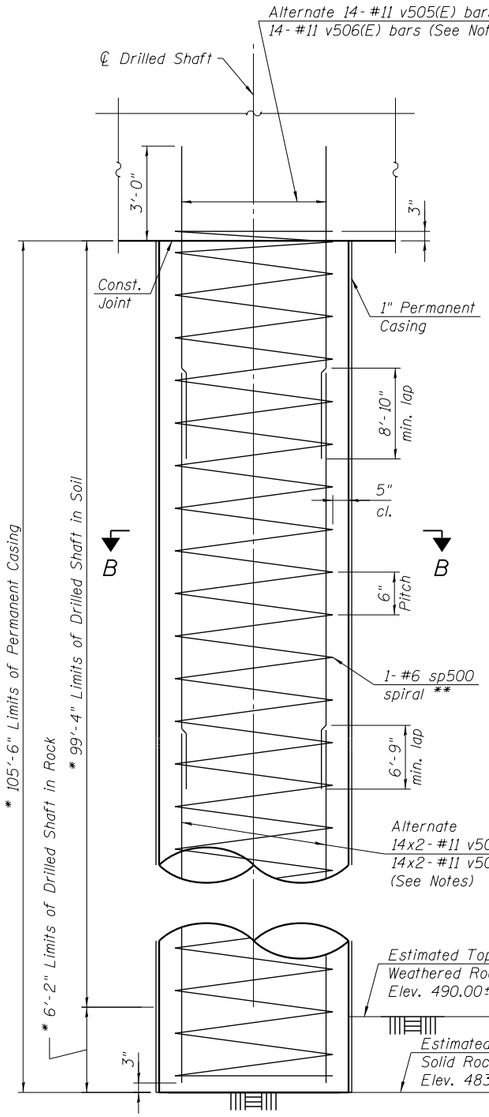
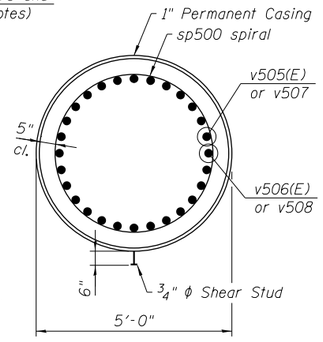
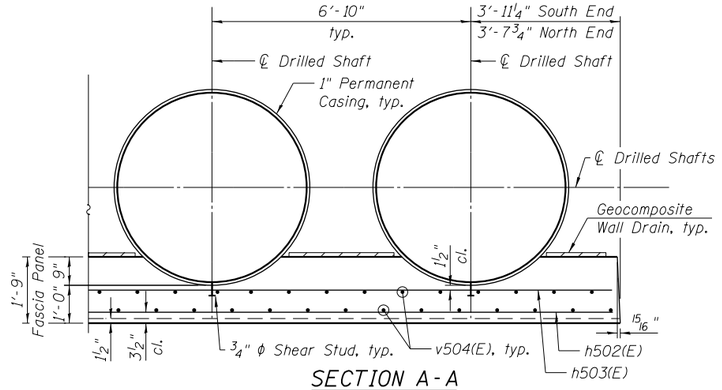


DRILLED SHAFT ELEVATION

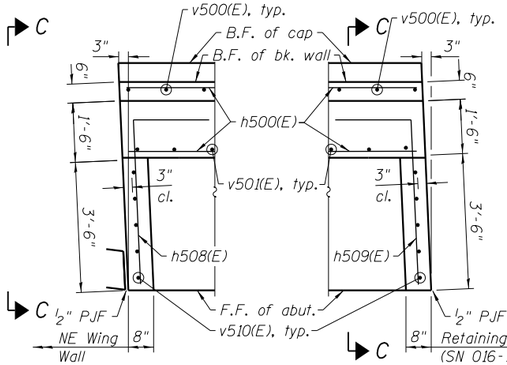


SECTION B-B

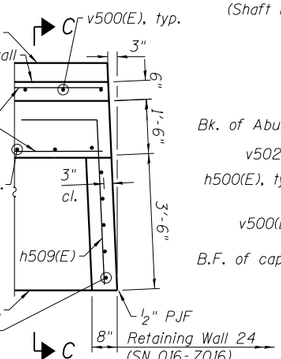


SECTION A-A

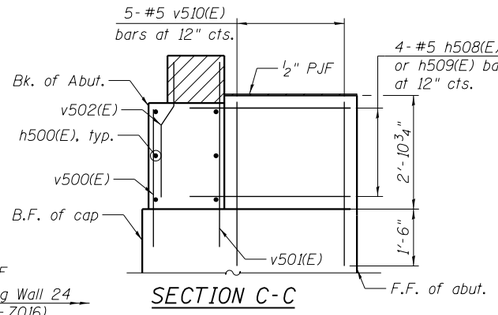
(Shaft reinforcement not shown for clarity)



DETAIL D

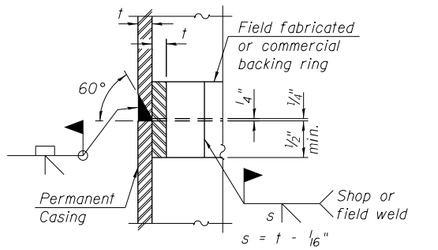


DETAIL E



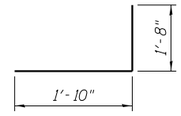
SECTION C-C

(Cap reinforcement not shown for clarity)

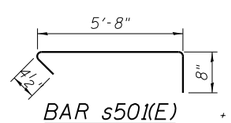


COMPLETE PENETRATION WELD SPLICE

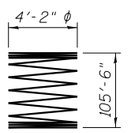
Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



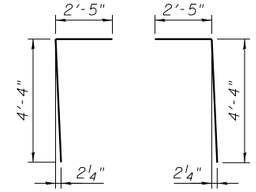
BAR v503(E)



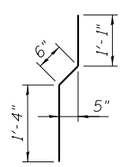
BAR s501(E)



BAR sp500



BAR h508(E) BAR h509(E)



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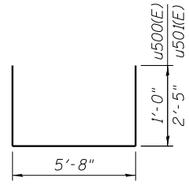
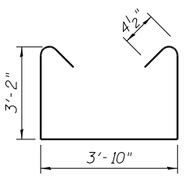
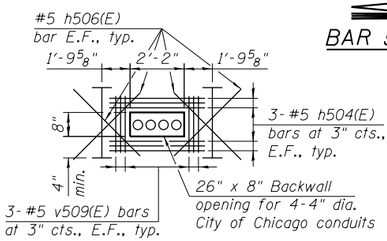


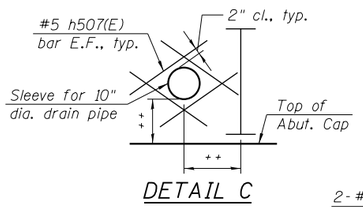
BARS u500(E) and u501(E)



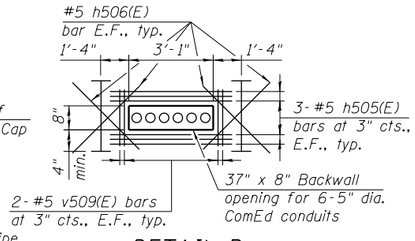
BAR s500(E)



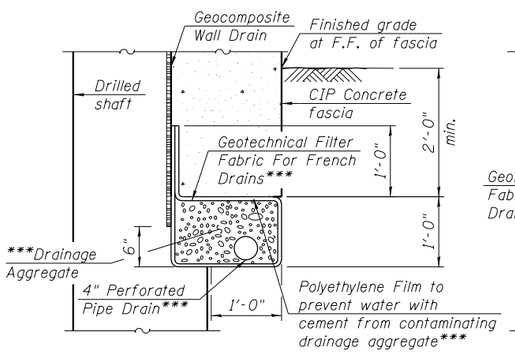
DETAIL A



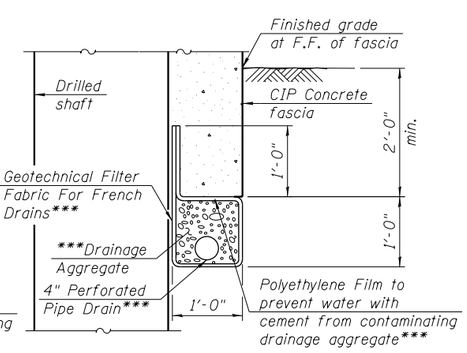
DETAIL C



DETAIL B



PIPE UNDERDRAIN DETAIL BETWEEN DRILLED SHAFTS



PIPE UNDERDRAIN DETAIL THRU DRILLED SHAFT

*** Included in the cost of Pipe Underdrains for Structures, 4"

Notes:

3/4"x6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Standard Specifications automatically end welded to casing.

Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bar per line.

When splicing 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 in 135° standard hook.

Drilled Shaft quantity from top of existing ground elevation to bottom of abutment cap elevation shall be included with Drilled Shaft in Soil.

Lap v505(E) bars with v507 bars or v506(E) bars with v508 bars.

Conduit provided by others. Contractor to coordinate with utility owner for location and size of utility blockouts. Cost of utility blockouts included in Concrete Structures. See Utility Plans.

Cost of PJF and drain pipe sleeve included in Concrete Structures.

EAST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h500(E)	12	#5	36'-2"	
h501(E)	10	#6	36'-5"	
h502(E)	28	#5	36'-2"	
h503(E)	28	#6	36'-6"	
h504(E)	12	#5	3'-10"	
h505(E)	12	#5	4'-4"	
h506(E)	16	#5	3'-2"	
h507(E)	8	#5	2'-6"	
h508(E)	4	#5	6'-9"	
h509(E)	4	#5	6'-9"	
p500(E)	36	#5	36'-2"	
p501(E)	7	#5	22'-8"	
s500(E)	140	#5	10'-11"	
s501(E)	70	#5	6'-9"	
sp500	10	#6	105'-6"	
u500(E)	24	#4	7'-8"	
u501(E)	8	#5	10'-6"	
v500(E)	70	#6	3'-4"	
v501(E)	70	#6	4'-7"	
v502(E)	70	#4	2'-11"	
v503(E)	70	#5	3'-6"	
v504(E)	140	#5	13'-9"	
v505(E)	140	#11	23'-5"	
v506(E)	140	#11	26'-5"	
v507	280	#11	50'-4"	
v508	280	#11	48'-10"	
v509(E)	20	#5	2'-4"	
v510(E)	10	#5	4'-3"	
Structure Excavation		Cu. Yd.	35	
Concrete Structures		Cu. Yd.	119.2	
Concrete Superstructure		Cu. Yd.	4.8	
Stud Shear Connectors		Each	150	
Reinforcement Bars		Pound	189,640	
Reinforcement Bars, Epoxy Coated		Pound	48,130	
Permanent Casing		Foot	1,060	
Drilled Shaft in Soil		Cu. Yd.	720.1	
Drilled Shaft in Rock		Cu. Yd.	44.4	
Concrete Sealer		Sq. Ft.	1,539	
Geocomposite Wall Drain		Sq. Yd.	109	
Lightweight Cellular Concrete Fill		Cu. Yd.	522	
Slope Inclinometer		Each	1	
Pipe Underdrains for Structures, 4"		Foot	69	

+ Length is height of spiral.

* The quantities and detailing are based on the estimated elevations shown on the plans. The actual elevations may differ at each shaft and corresponding adjustments shall be made to the drilled shaft and reinforcement quantities and payment limits.

** Provide 1 1/2 extra turns top and bottom of each drilled shaft. Extend spiral 2" into the abutment cap. Provide 4-#4 spacers or equivalent.

++ Coordinate sleeve for 10" dia. drain pipe location with Bridge Drainage System.

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Tran Systems

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	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-50 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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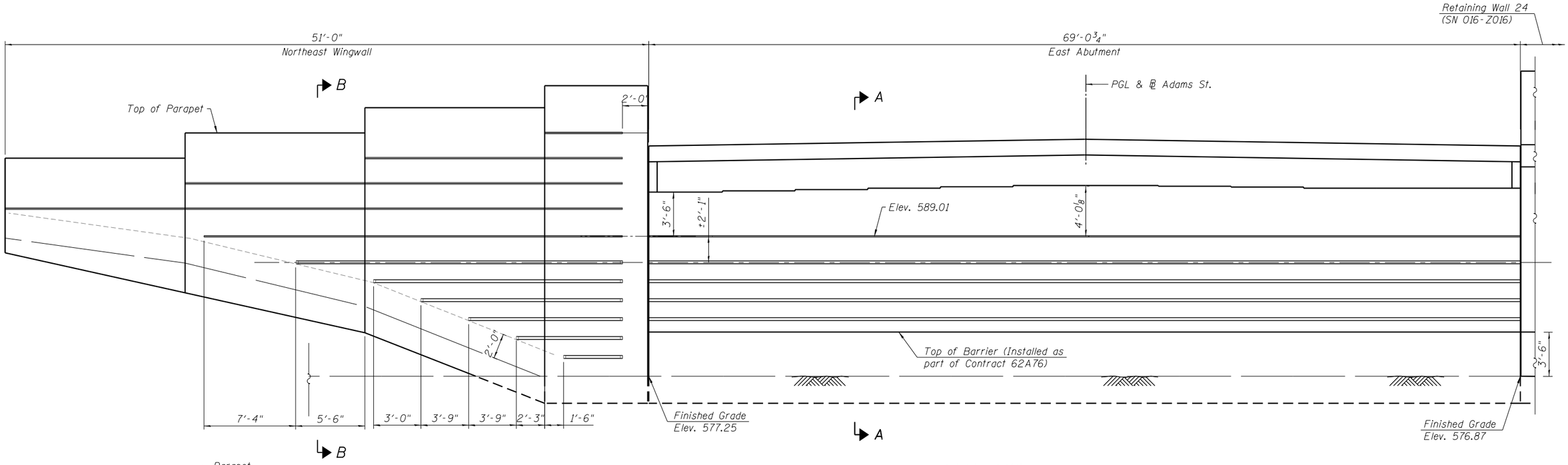
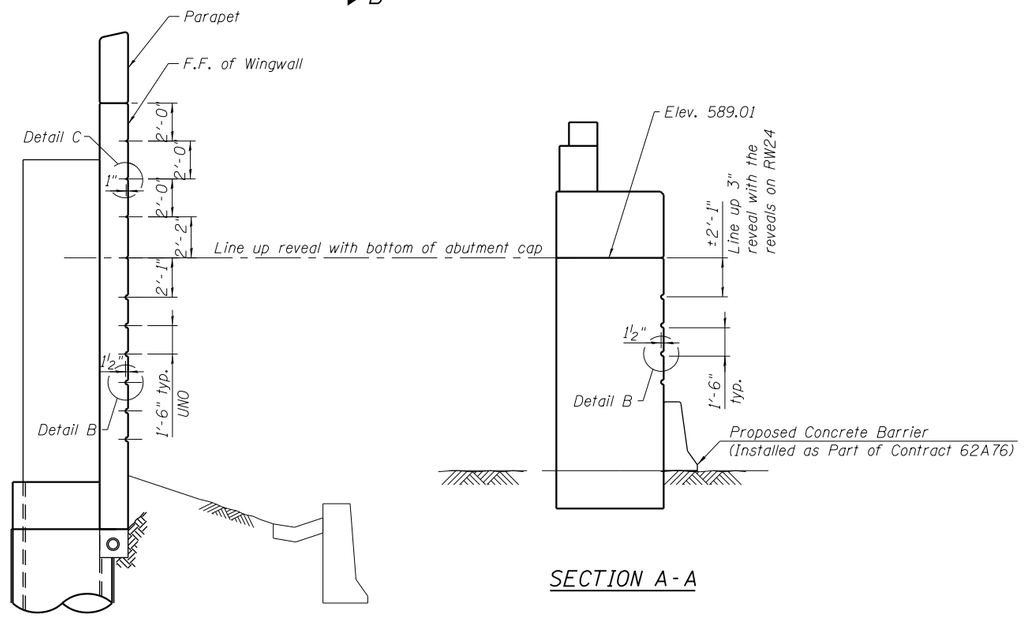
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

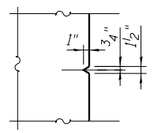




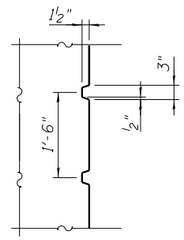
SECTION B-B

SECTION A-A

ELEVATION
(Looking East)



DETAIL C
Typical 1 1/2" Reveal Detail



DETAIL B
Typical 3" Reveal Detail

Notes:
The 3" x 1 1/2" reveal will not be paid seperately and shall be included in the cost of the Concrete Structures.
The 1 1/2" x 1" reveal will not be paid seperately and shall be included in the cost of the Concrete Structures.

7:38:48 AM
0161701 60X94-S051-Abutment_East+Details2.dgn

TranSystems

USER NAME = wjcolletti	DESIGNED TLR	REVISED	
	CHECKED MDS	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/6/2020	CHECKED MDS	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-51 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	353
		CONTRACT NO. 60X94		
ILLINOIS	FED. AID PROJECT			

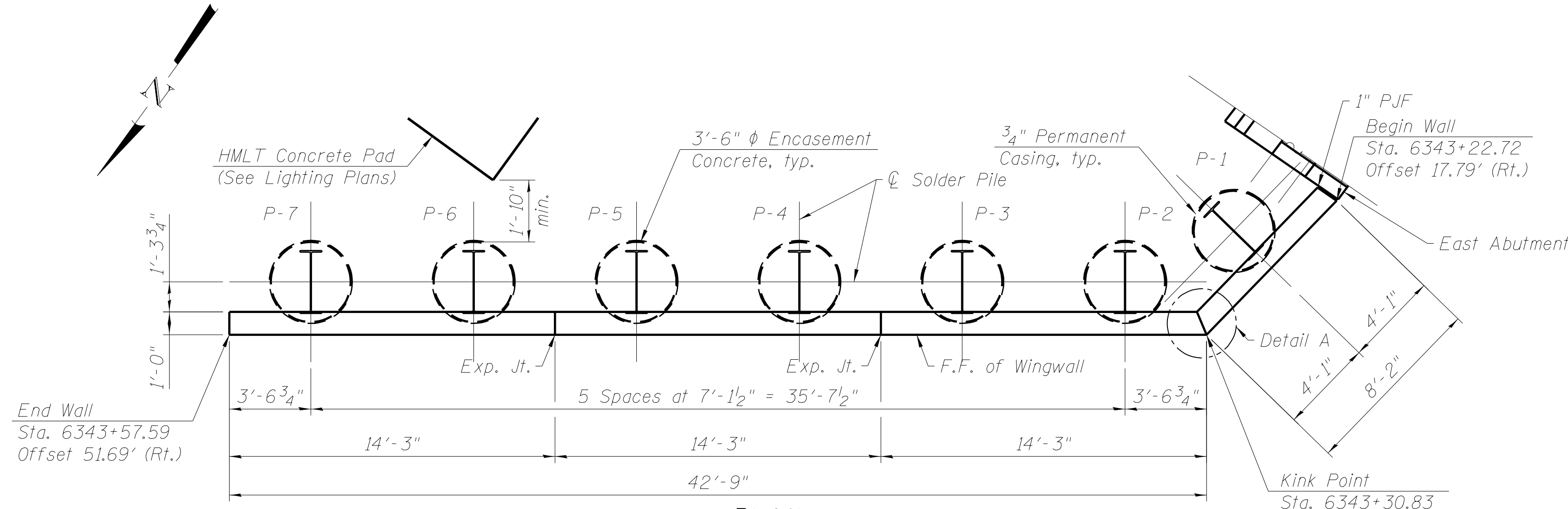
SUGGESTED SEQUENCE OF SOLDIER PILE WALL CONSTRUCTION

1. Drill hole for soldier pile to the tip elevation indicated on the plans.
2. Remove loose material and excess water from hole and set soldier pile in hole, using temporary bracing to maintain correct elevation, clearances, and position during and after placement of concrete.
3. Place encasement concrete around soldier pile to the level indicated on plans.
4. Place formwork and geocomposite wall drain.
5. Place the 4" ϕ perforated pipe drain, geotechnical filter fabric for french drains, and coarse aggregate.
6. Install stud shear connectors to soldier piles as shown on plan.
7. Construct wall panels.

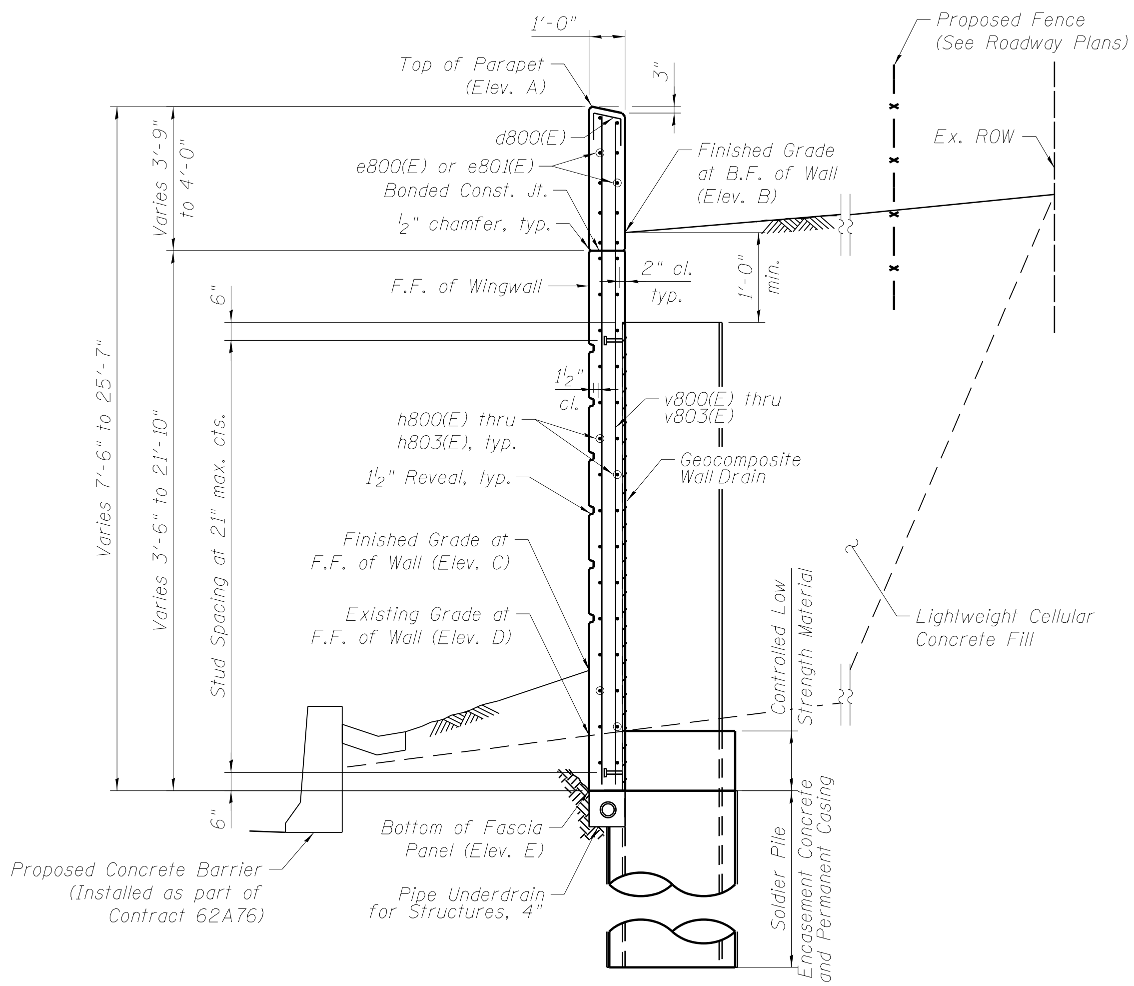
WALL ELEVATIONS

Station	Offset	Elev. A*	Elev. A**	Elev. B	Elev. C	Elev. D	Elev. E
6343+22.72	17.72' Rt.	-	600.75	597.00	580.73	578.75	575.17
6343+30.83	18.43' Rt.	600.75	599.00	595.11	580.77	579.02	575.25
6343+39.79	20.96' Rt.	599.00	597.00	592.75	582.98	579.73	580.92
6343+48.70	21.75' Rt.	597.00	595.00	591.15	586.27	581.54	584.25
6343+57.59	22.53' Rt.	595.00	-	589.56	589.56	583.31	587.50

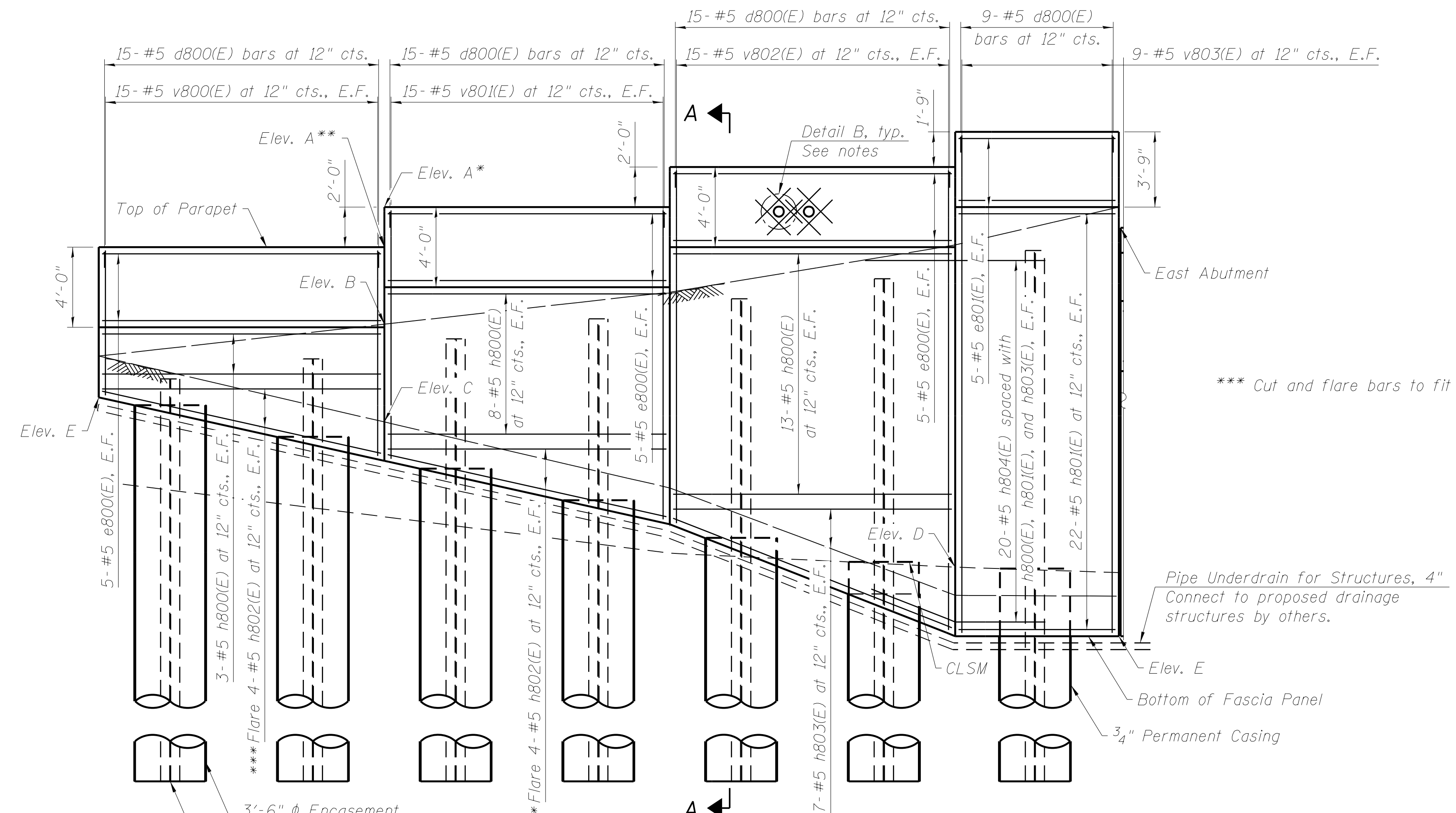
* Elevations are just to the right of the joint
** Elevations are just to the left of the joint



PLAN



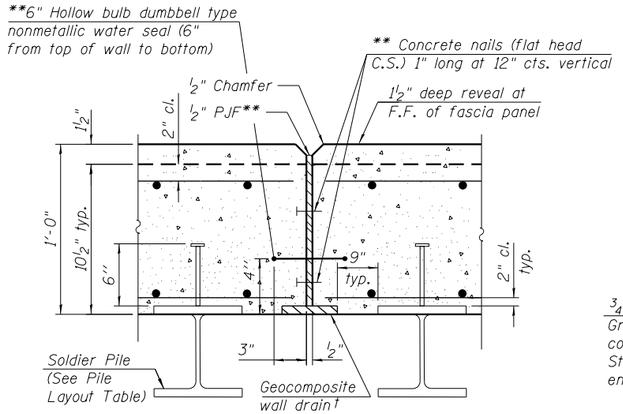
TYPICAL SECTION



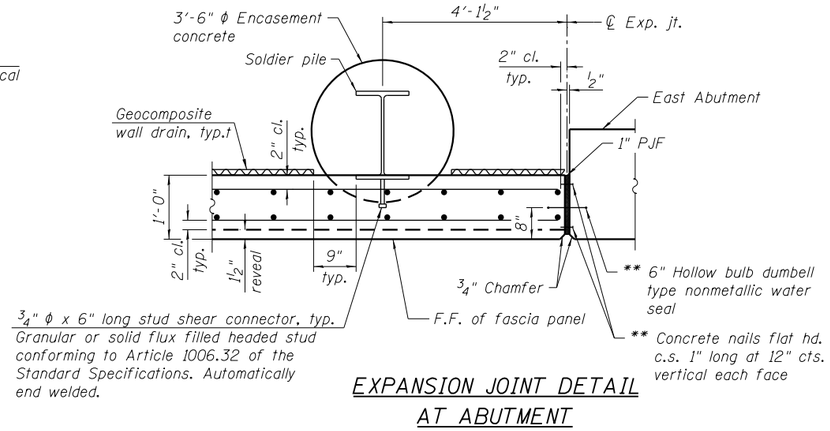
ELEVATION

(Unfolded View, Looking East)

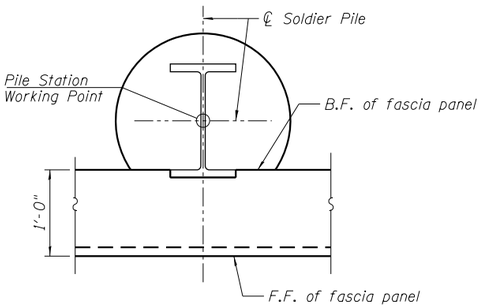
Notes:
For Details A and B, Expansion Joint Detail, Pile Layout Table, see Sheet S1-53.
See Sheets S1-49 to S1-50 for east abutment details.



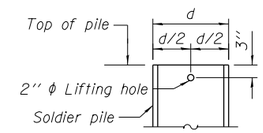
EXPANSION JOINT DETAILS



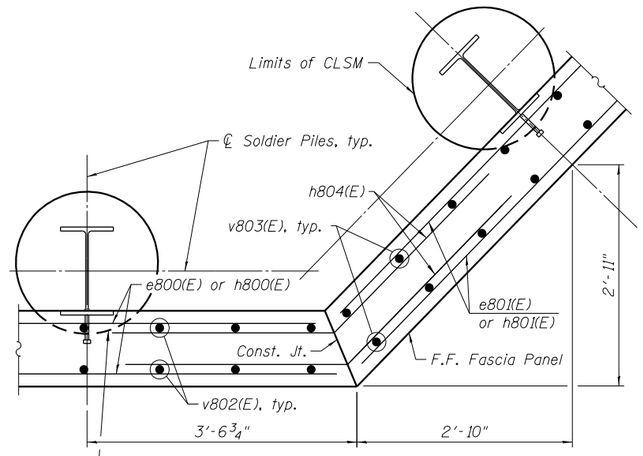
EXPANSION JOINT DETAIL AT ABUTMENT



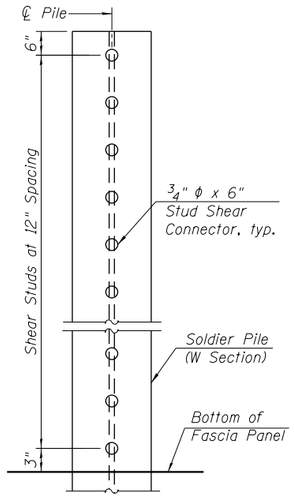
SOLDIER PILE WORKING POINT



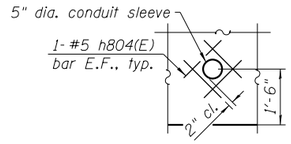
LIFTING HOLE DETAIL



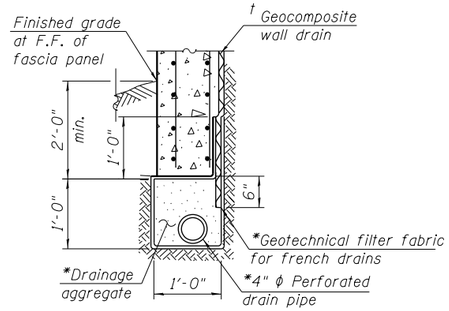
DETAIL A



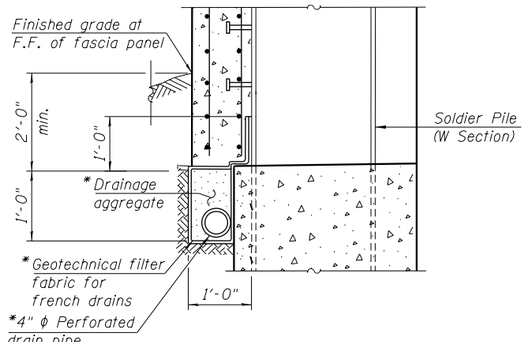
SHEAR STUD DETAIL



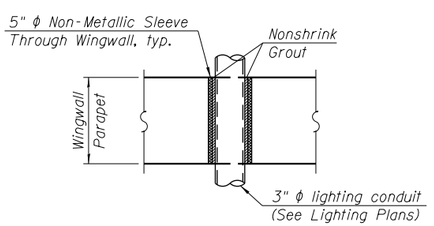
DETAIL B



PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES

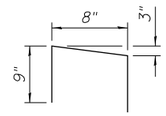


PIPE UNDERDRAIN DETAIL AT SOLDIER PILE

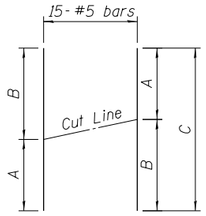


CONDUIT SLEEVE THRU WINGWALL

Furnishing and installing Non-Metallic Sleeve and Grout is included in the cost of Concrete Structures.



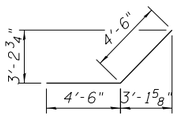
BAR d800(E)



CUTTING DIAGRAM

Order bars full length. Cut as shown. Use the remainder on other face.

Bar	A	B	C
v800(E)	7'-0"	10'-3"	17'-3"
v801(E)	12'-3"	15'-7"	27'-10"
v802(E)	17'-7"	23'-3"	40'-10"



BAR h804(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d800(E)	54	#5	2'-2"	⊓
e800(E)	30	#5	13'-11"	——
e801(E)	10	#5	7'-10"	——
h800(E)	48	#5	13'-11"	——
h801(E)	44	#5	7'-10"	——
h802(E)	16	#5	14'-3"	——
h803(E)	14	#5	14'-11"	——
h804(E)	20	#5	9'-0"	⌐
v800(E)	15	#5	17'-3"	——
v801(E)	15	#5	27'-10"	——
v802(E)	15	#5	40'-10"	——
v803(E)	18	#5	25'-2"	——
Structure Excavation			Cu. Yd.	9
Concrete Structures			Cu. Yd.	23.8
Concrete Superstructure			Cu. Yd.	7.5
Stud Shear Connectors			Each	89
Reinforcement Bars, Epoxy Coated			Pound	4,160
Permanent Casing			Foot	313
Furnishing Soldier Piles (W Section)			Foot	395
Drilling And Setting Soldier Piles (In Soil)			Cu. Ft.	3,063
Concrete Sealer			Sq. Ft.	1,142
Geocomposite Wall Drain			Sq. Yd.	76
Lightweight Cellular Concrete Fill			Cu. Yd.	253
Pipe Underdrain for Structures, 4"			Foot	51

* Cost included with Pipe Underdrains for Structures, 4".

** Cost included with Concrete Structures.

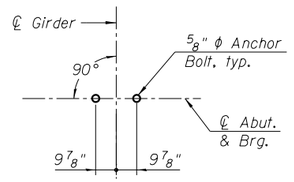
† Geocomposite wall drain thickness shall not exceed $^{15}/_{16}$".

Notes:
Coordinate location of sleeve for lighting conduit with Lighting Plans.

Minimum Bar Laps	
Bar	Lap
#5	3'-2"

PILE LAYOUT TABLE

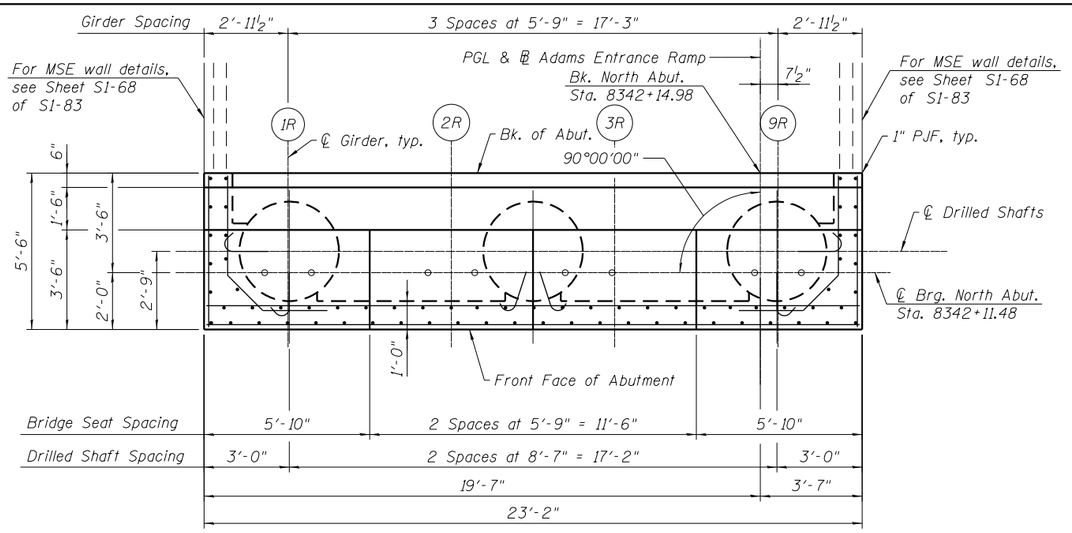
Pile	Station at Working Point	Offset	Top of Pile Elev.	Bot. of Panel Elev.	Section	Auger ϕ	Pile Tip Elev.	Pile Length
P-1	6343+26.58	20.44' Rt.	595.10	575.21	W33X118	3'-6"	535.10	60'-0"
P-2	6343+31.29	22.71' Rt.	593.99	575.54	W33X118	3'-6"	535.99	58'-0"
P-3	6343+35.77	28.23' Rt.	592.81	577.37	W33X118	3'-6"	535.81	57'-0"
P-4	6343+40.24	33.76' Rt.	591.67	580.09	W33X118	3'-6"	535.67	56'-0"
P-5	6343+44.70	39.29' Rt.	590.87	581.75	W33X118	3'-6"	535.87	55'-0"
P-6	6343+49.15	44.83' Rt.	590.07	583.41	W33X118	3'-6"	535.07	55'-0"
P-7	6343+53.59	50.37' Rt.	589.28	585.04	W33X118	3'-6"	535.28	54'-0"



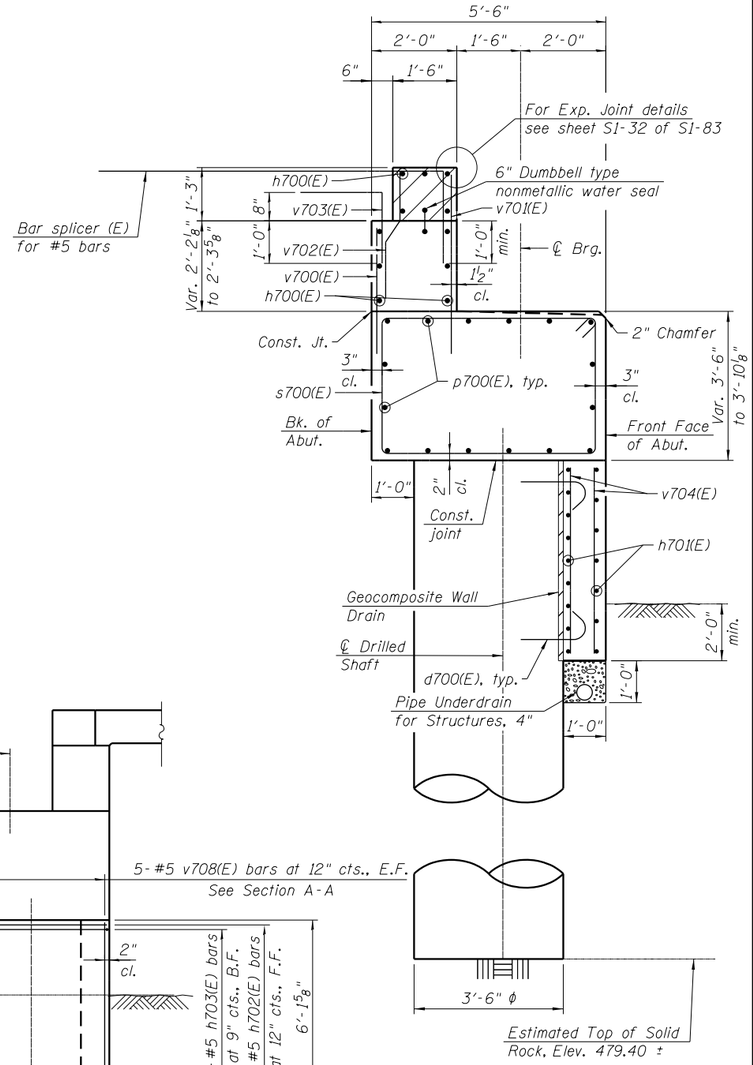
ANCHOR BOLT LAYOUT

TOP OF SEAT ELEVATION

Girder No.	Seat Elevation
1R	585.11
2R	585.22
3R	585.34
9R	585.45



PLAN



SECTION THROUGH ABUTMENT

Notes:

Pour steps monolithically with cap.

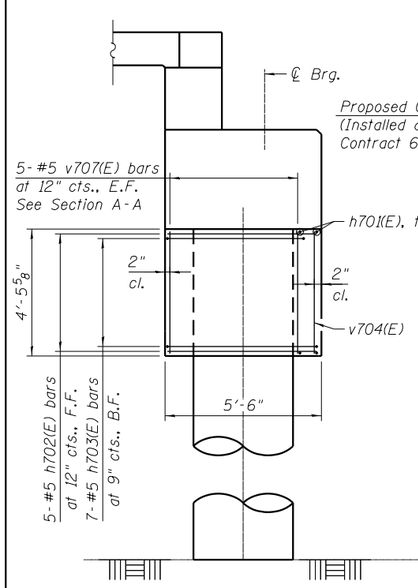
Space reinforcement in cap to miss anchor bolts.

For Section A-A and Bill of Materials, see sheet S1-55 of S1-83 .

For Anchor Bolt and Bearing Details, See Sheet S1-44 of S1-83 .

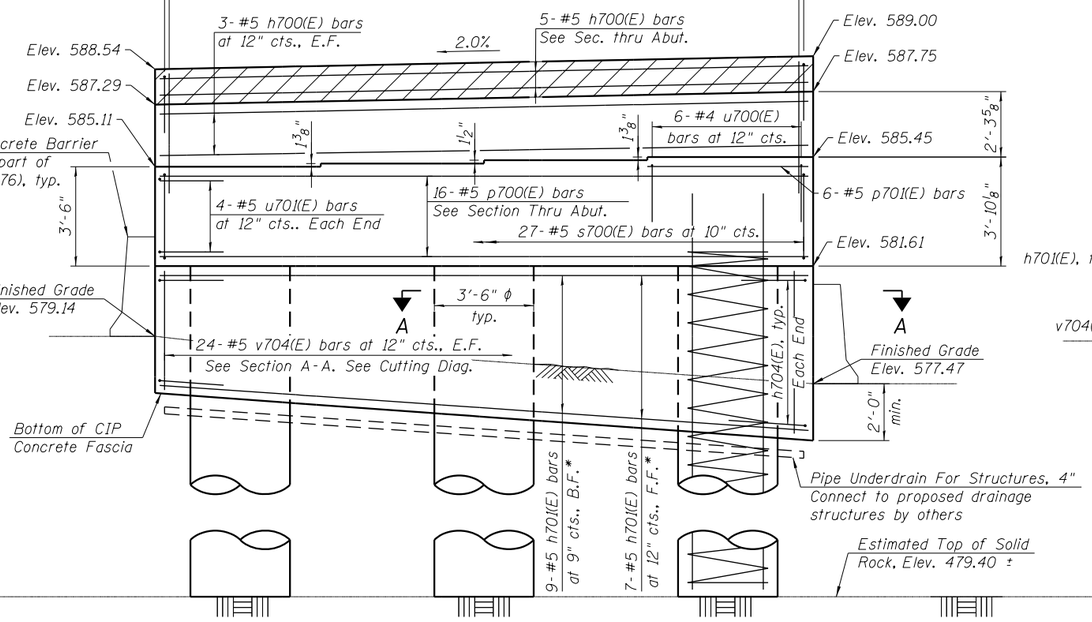
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included in concrete superstructure.

Concrete sealer shall be applied to all exposed faces of the abutment cap and fascia.



NORTHWEST WALL ELEVATION

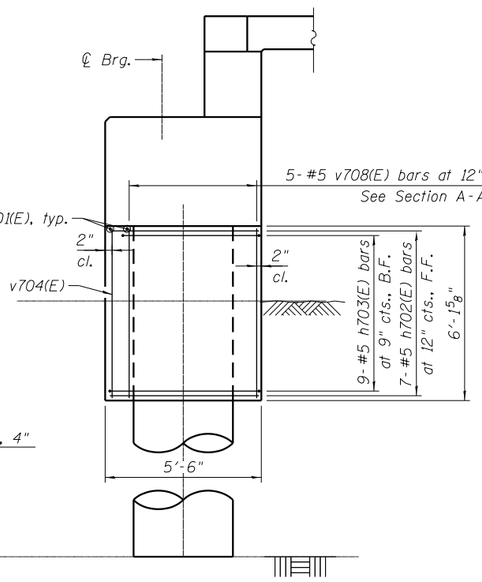
(Looking East)



ELEVATION

(Looking North)

* Flare and Cut to fit



NORTHEAST WALL ELEVATION

(Looking West)

USER NAME = wjcolletti	DESIGNED	TLR	REVISED	
	CHECKED	WJC	REVISED	
PLOT SCALE = NTS	DRAWN	JTF	REVISED	
PLOT DATE = 3/12/2020	CHECKED	WJC	REVISED	

TranSystems

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT PLAN AND ELEVATION
STRUCTURE NO. 016-1701
SHEET NO. S1-54 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	356
		CONTRACT NO. 60X94		
ILLINOIS	FED. AID PROJECT			

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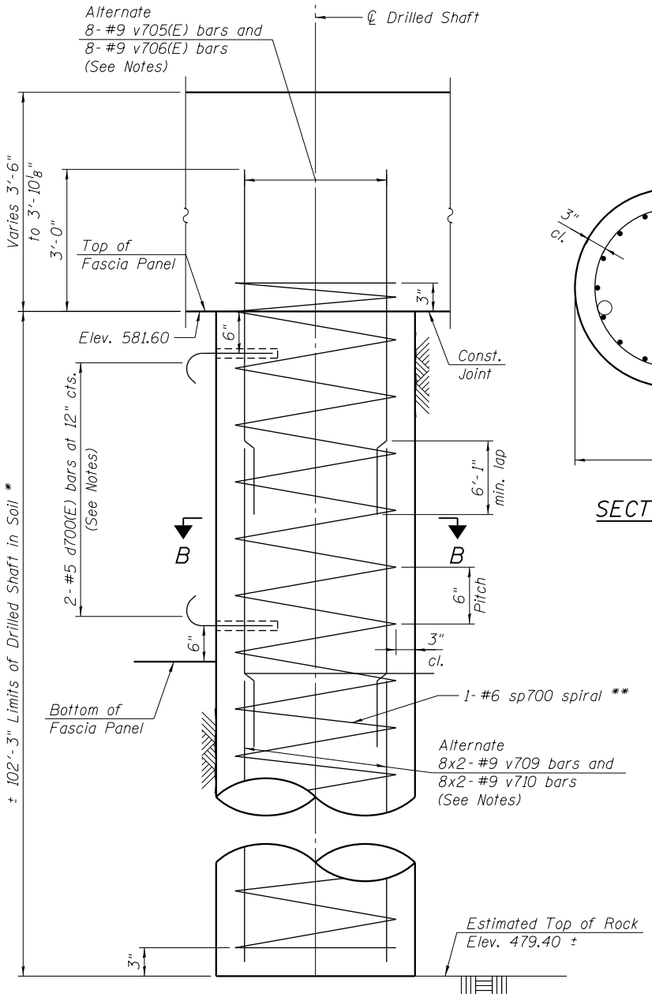
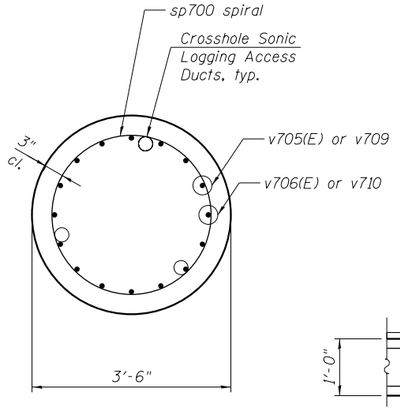
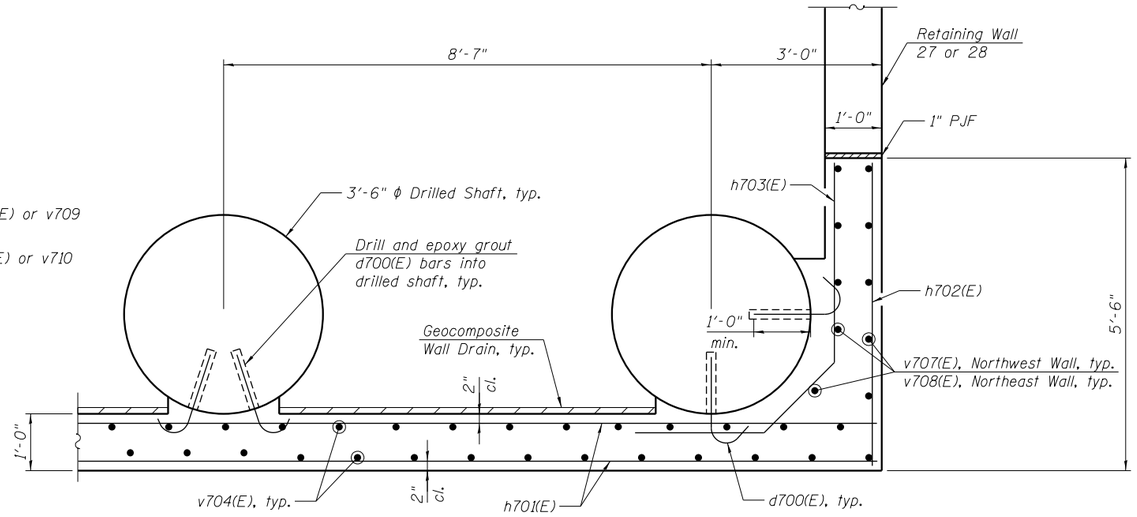
016-1701 60X94-S054-Abutment_NorthP&E.dgn



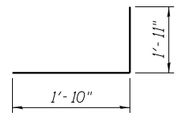
DRILLED SHAFT ELEVATION



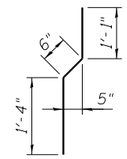
SECTION B-B



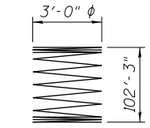
SECTION A-A



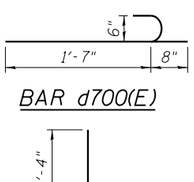
BAR v703(E)



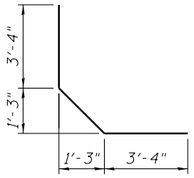
BAR v702(E)



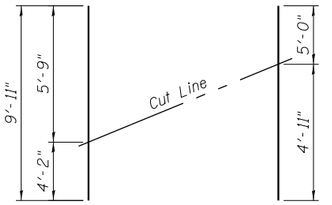
BAR sp700



BAR d700(E)

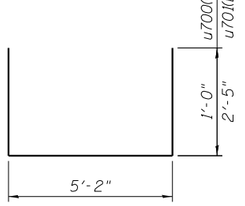


BAR h703(E)

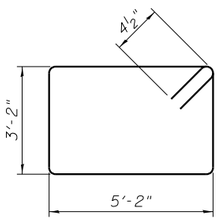


v704(E) BAR CUTTING DIAGRAM

Order bars full length.



BARS u700(E) and u701(E)



BAR s700(E)

Notes:

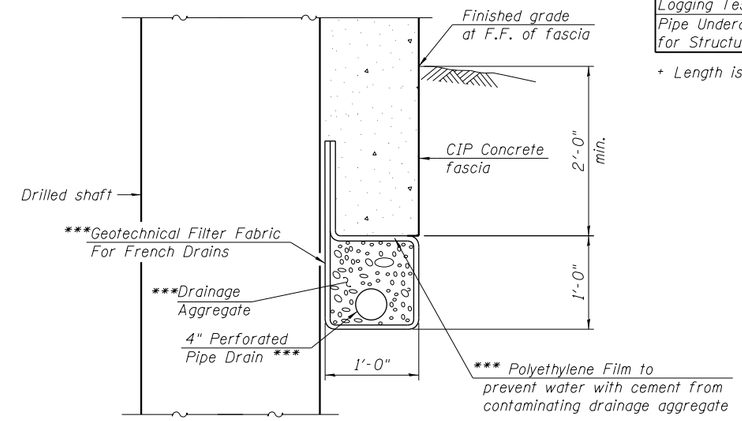
Drilling and grouting of d700(E) bars shall be as per Section 584 of the Standard Specifications. Depth of embedment = 12". Cost included in Concrete Structures.

Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bar per line.

When splicing 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 in 135° standard hook.

Drilled Shaft quantity from top of existing ground elevation to bottom of abutment cap elevation shall be included with Drilled Shaft in Soil.

Lap v705(E) bars with v709 bars or v706(E) bars with v710 bars.



PIPE UNDERDRAIN DETAIL THRU ABUTMENT

*** Included in the cost of Pipe Underdrains for Structures, 4"

NORTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d700(E)	30	#5	2'-9"	
h700(E)	11	#5	22'-10"	
h701(E)	16	#5	22'-11"	
h702(E)	12	#5	5'-2"	
h703(E)	16	#5	8'-5"	
p700(E)	16	#5	22'-10"	
p701(E)	6	#5	5'-6"	
s700(E)	27	#5	17'-5"	
sp700	3	#6	102'-3"	
u700(E)	6	#4	7'-2"	
u701(E)	8	#5	10'-0"	
v700(E)	24	#6	3'-3"	
v701(E)	24	#6	4'-6"	
v702(E)	24	#4	2'-11"	
v703(E)	24	#5	3'-9"	
v704(E)	24	#5	9'-11"	
v705(E)	24	#9	21'-3"	
v706(E)	24	#9	25'-3"	
v707(E)	10	#5	4'-1"	
v708(E)	10	#5	5'-9"	
v709	48	#9	48'-1"	
v710	48	#9	46'-1"	
Structure Excavation		Cu. Yd.	4	
Concrete Structures		Cu. Yd.	26.9	
Concrete Superstructure		Cu. Yd.	1.6	
Reinforcement Bars		Pound	24,200	
Reinforcement Bars, Epoxy Coated		Pound	6,520	
Drilled Shaft in Soil		Cu. Yd.	109.3	
Concrete Sealer		Sq. Ft.	443	
Geocomposite Wall Drain		Sq. Yd.	10	
Crosshole Sonic Logging Access Ducts		Foot	307	
Crosshole Sonic Logging Testing		Each	1	
Pipe Underdrains for Structures, 4"		Foot	24	

+ *Length is height of spiral.*

* *The quantities and detailing are based on the estimated elevations shown on the plans. The actual elevations may differ at each shaft and corresponding adjustments shall be made to the drilled shaft and reinforcement quantities and payment limits.*

** *Provide 1½ extra turns top and bottom of each drilled shaft. Extend spiral 2" into the abutment cap. Provide 4-#4 spacers or equivalent.*

Tran Systems

USER NAME = wjcolletti	DESIGNED TLR	REVISED	
	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-55 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	357
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

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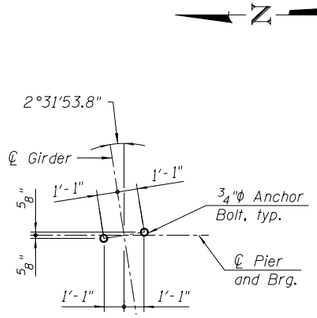
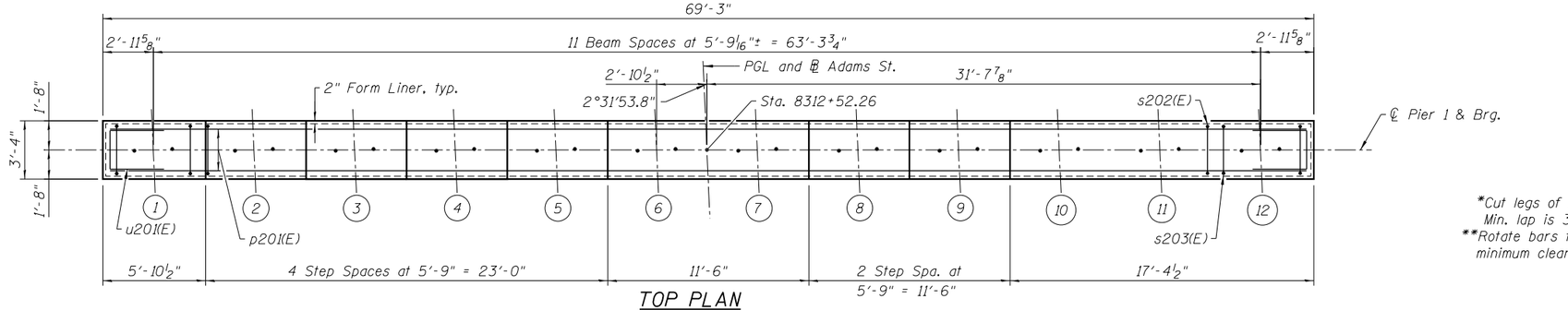
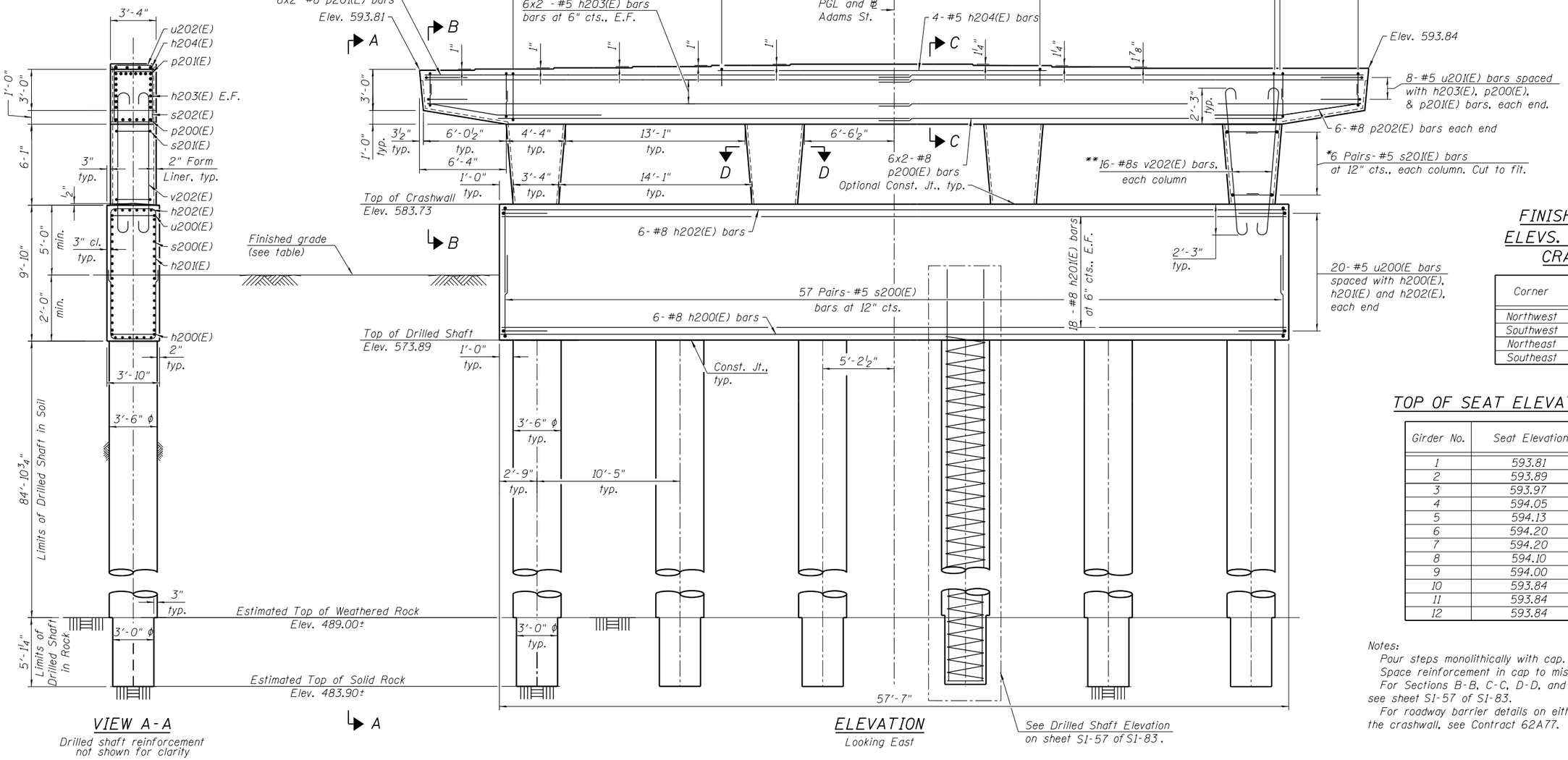


ANCHOR BOLT LAYOUT



TOP PLAN

*Cut legs of bars to fit. Min. lap is 3'-2".
**Rotate bars to maintain minimum clearance.



VIEW A-A

Drilled shaft reinforcement not shown for clarity

ELEVATION

Looking East

FINISHED GRADE ELEVS. AT FACE OF CRASHWALL

Corner	Finished Elevation
Northwest	576.04
Southwest	575.93
Northeast	578.65
Southeast	578.07

TOP OF SEAT ELEVATION

Girder No.	Seat Elevation
1	593.81
2	593.89
3	593.97
4	594.05
5	594.13
6	594.20
7	594.20
8	594.10
9	594.00
10	593.84
11	593.84
12	593.84

Notes:
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
For Sections B-B, C-C, D-D, and Bill of Materials, see sheet S1-57 of S1-83.
For roadway barrier details on either side of the crashwall, see Contract 62A77.

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0161701-60X94-S056-Pier1_P&E.dgn

Tran Systems

USER NAME = wjcolletti	DESIGNED	ZPM	REVISED
	CHECKED	NLR	REVISED
PLOT SCALE = NTS	DRAWN	ZPM	REVISED
PLOT DATE = 3/5/2020	CHECKED	NLR	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 PLAN AND ELEVATION
STRUCTURE NO. 016-1701
SHEET NO. S1-56 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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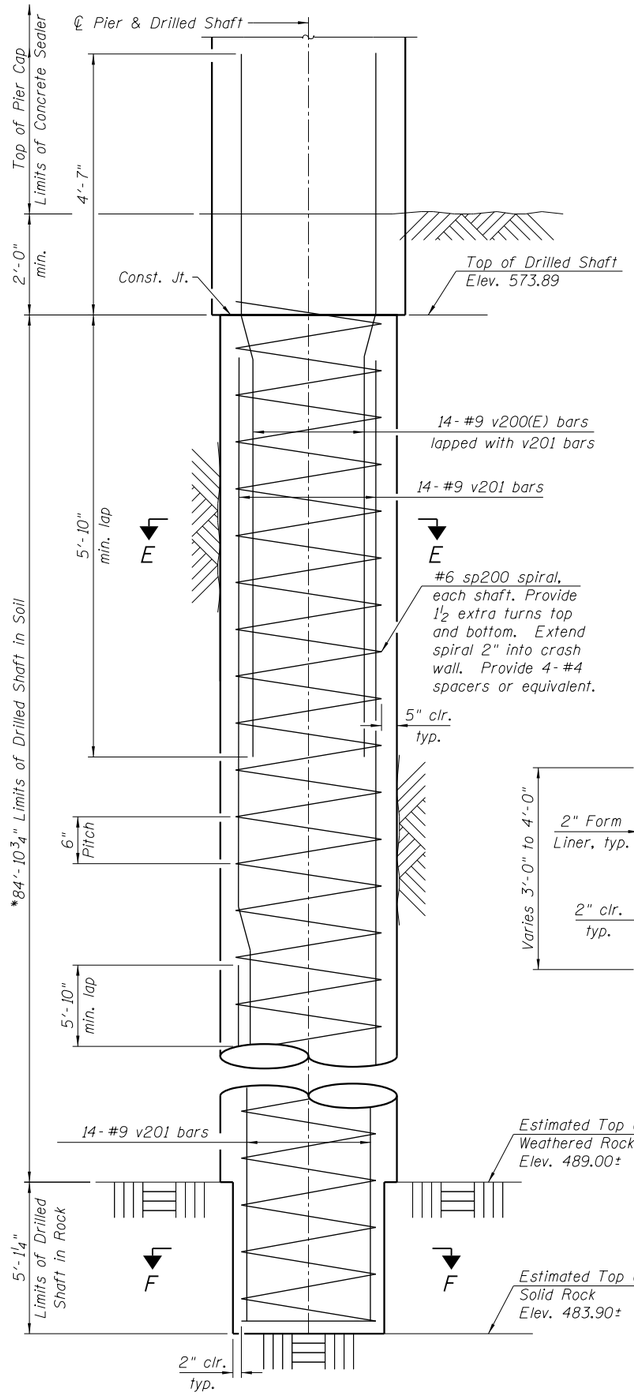
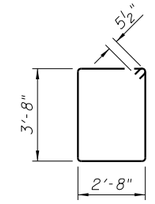
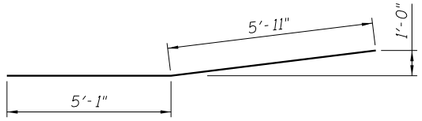
		CONTRACT NO. 60X94		
ILLINOIS FED. AID PROJECT				



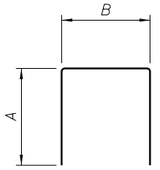
DRILLED SHAFT ELEVATION



BAR s202(E)

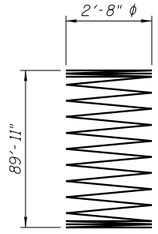


BAR p202(E)

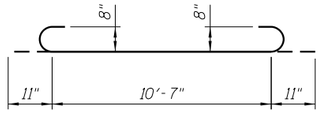


BARS s200(E), s201(E), s203(E) u200(E) through u202(E)

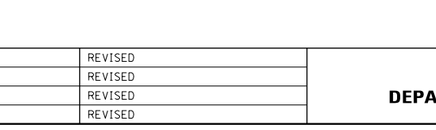
Bar	A	B
s200(E)	6'-3"	3'-4"
s201(E)	3'-5"	2'-8"
s203(E)	3'-6"	3'-0"
u200(E)	4'-0	3'-4"
u201(E)	3'-10"	3'-0"
u202(E)	10"	2'-8"



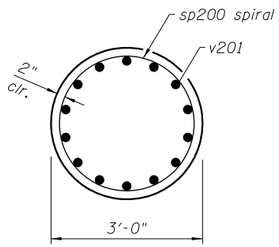
BAR sp200



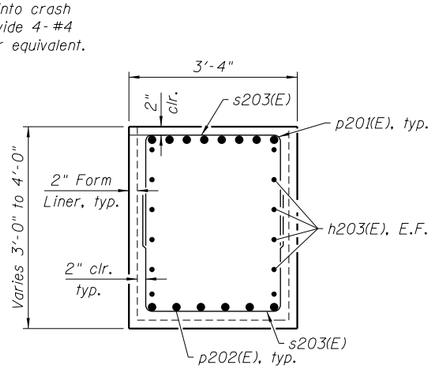
BAR v202(E)



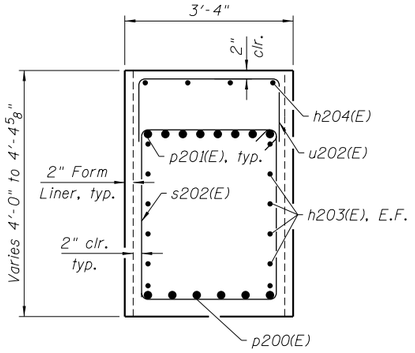
SECTION E-E



SECTION F-F



SECTION B-B



SECTION C-C

SECTION D-D

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h200(E)	6	#8	57'-1"	
	h201(E)	36	#8	57'-1"	
	h202(E)	6	#8	57'-1"	
	h203(E)	24	#5	35'-11"	
	h204(E)	4	#5	22'-8"	
	p200(E)	12	#8	30'-6"	
	p201(E)	16	#8	37'-4"	
	p202(E)	12	#8	11'-0"	
**	sp200	6	#6	89'-11"	
	s200(E)	114	#5	15'-10"	
	s201(E)	48	#5	9'-6"	
	s202(E)	56	#5	13'-7"	
	s203(E)	24	#5	10'-0"	
	u200(E)	40	#5	11'-4"	
	u201(E)	16	#5	10'-8"	
	u202(E)	24	#5	4'-4"	
	v200(E)	84	#9	10'-5"	
	v201	168	#9	47'-9"	
	v202(E)	64	#8	12'-5"	

Structure Excavation	Cu. Yd.	55
Concrete Structures	Cu. Yd.	126.4
Reinforcement Bars	Pound	40,880
Reinforcement Bars, Epoxy Coated	Pound	20,490
Drilled Shaft in Soil	Cu. Yd.	181.5
Drilled Shaft in Rock	Cu. Yd.	8.1
Concrete Sealer	Sq. Ft.	2,606
Crosshole Sonic Logging Access Ducts	Foot	540
Crosshole Sonic Logging Testing	Each	1

Bars indicated thus 1x15 etc., indicates 1 line of bars with 15 lengths per line.

Notes:

Apply concrete sealer to all exposed concrete surfaces of the pier.

* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

** Length is height of spiral.

When splicing 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 in 135° standard hook.

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TranSystems

USER NAME = wjcolletti	DESIGNED ZPM	REVISED	
	CHECKED NLR	REVISED	
PLOT SCALE = NTS	DRAWN ZPM	REVISED	
PLOT DATE = 3/5/2020	CHECKED NLR	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-57 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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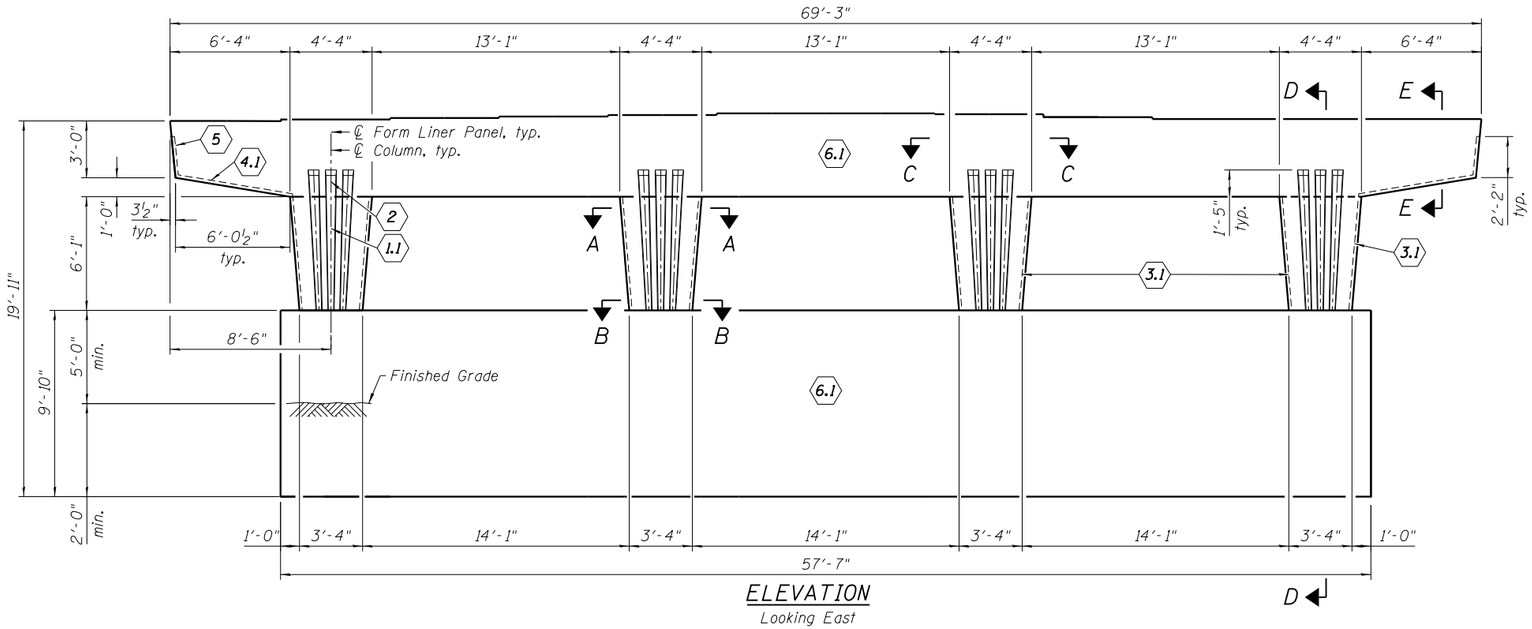
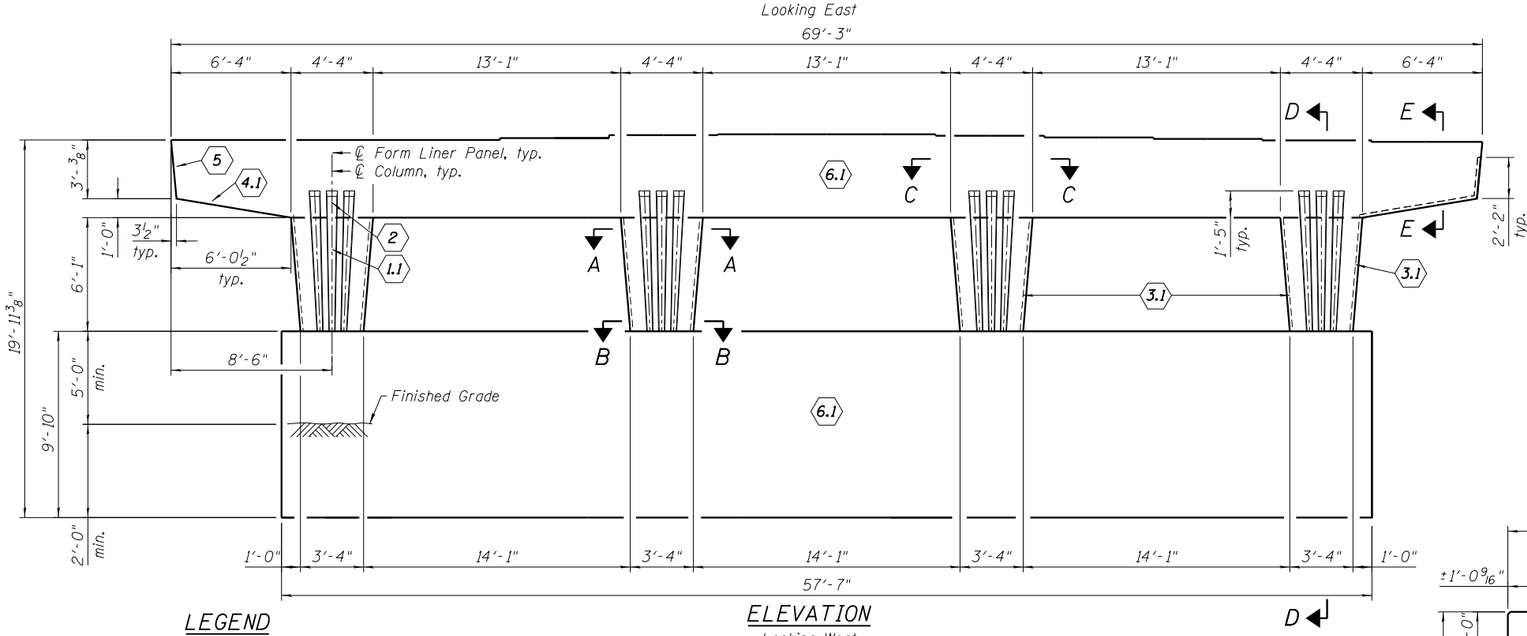
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			



ELEVATION
Looking East



ELEVATION
Looking West

LEGEND

1.1 2 3.1 4.1 5 6.1

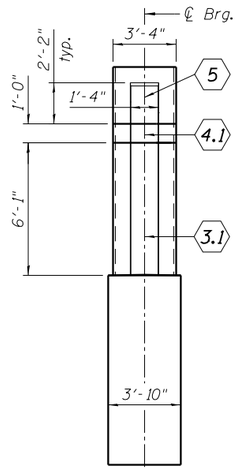
Textured Form Liner

BILL OF MATERIAL

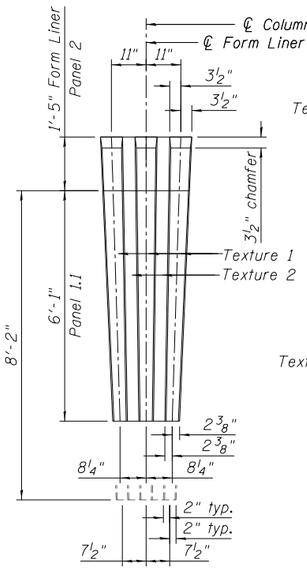
Item	Unit	Total
Rubbed Finish	Sq. Ft.	1,768
Form Liner Textured Surface	Sq. Ft.	457

Notes:

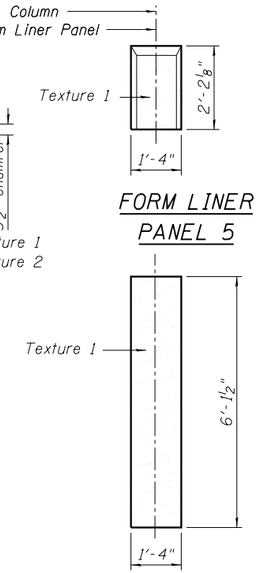
1. Form liner panel (6.1) shall have a smooth finish. Cost included with Rubbed Finish.
2. Tapered fluting - dimensions vary, see elevation profile.
3. Form liner panel (2) is continuation of panel (1.1). Keep adjacent form liners aligned.
4. Hand clean and smooth the surface of the construction joint between the pier and cap.
5. Texture 1: Light Sandblast as selected from manufacturer's standard pattern selection.
   Texture 2: Smooth



PIER END VIEW
(Looking North)
(Looking South - Sim.)

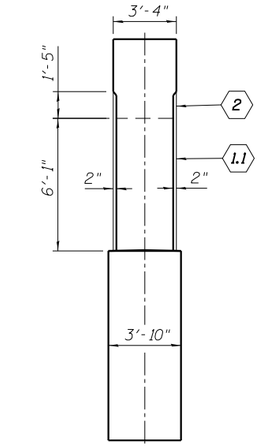


FORM LINER PANEL 1.1 & 2

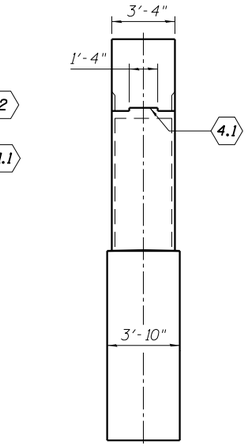


FORM LINER PANEL 5

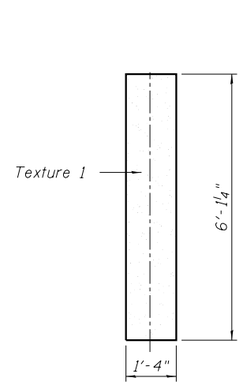
FORM LINER PANEL 4.1



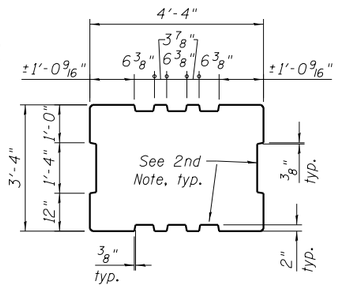
SECTION D-D



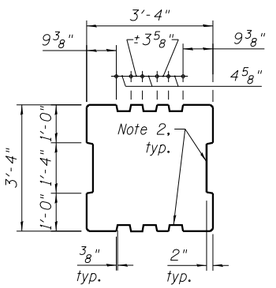
SECTION E-E



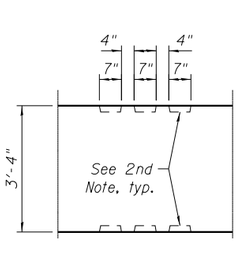
FORM LINER PANEL 3.1



SECTION A-A
At Top of Column



SECTION B-B
At Bottom of Column



SECTION C-C
In Cap

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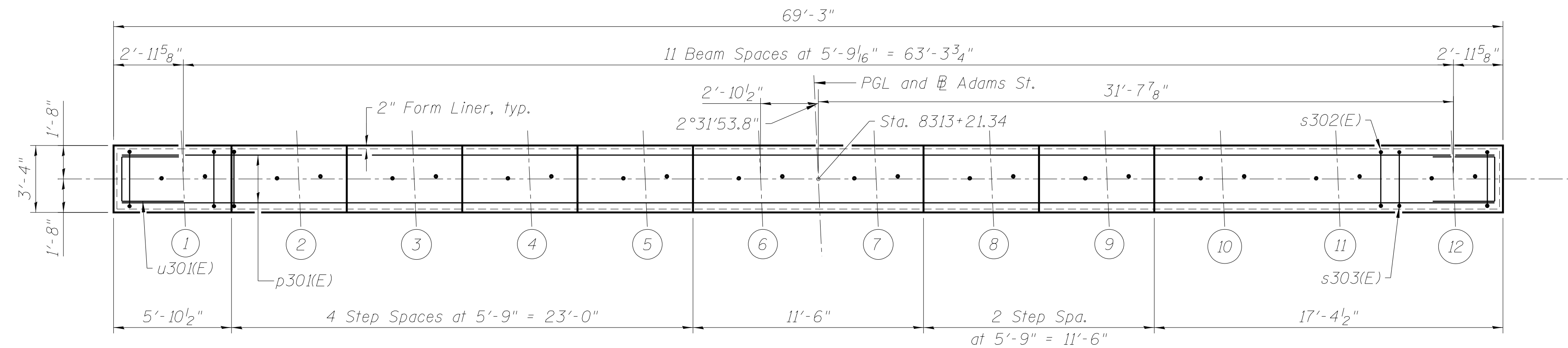
TranSystems

USER NAME = wjcolletti	DESIGNED ZPM	REVISED	
	CHECKED NLR	REVISED	
PLOT SCALE = NTS	DRAWN ZPM	REVISED	
PLOT DATE = 3/6/2020	CHECKED NLR	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

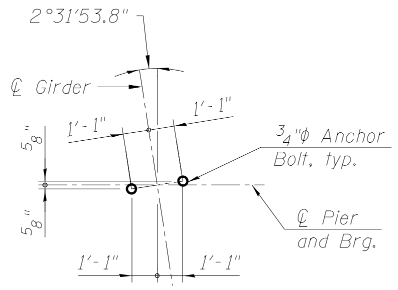
PIER 1 ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-58 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	360
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

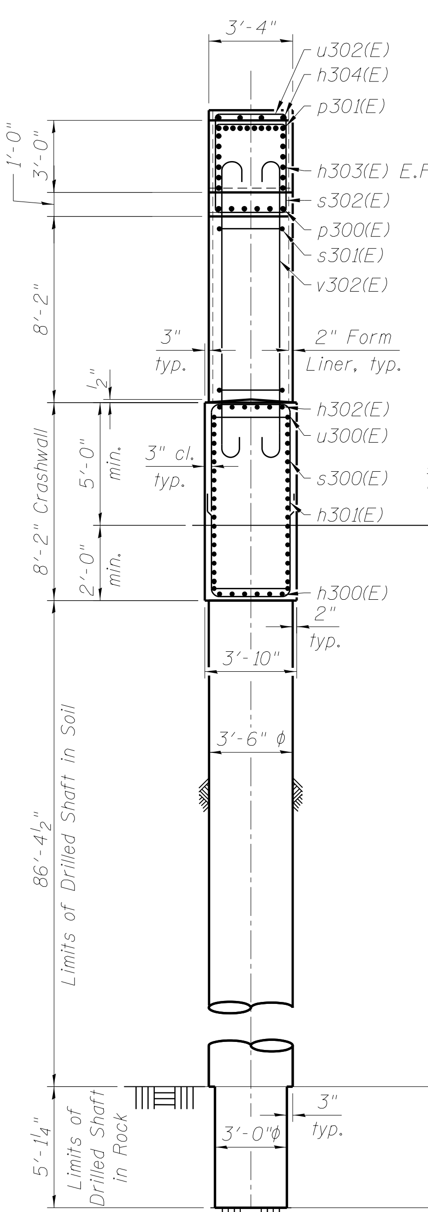


TOP PLAN

* Cut legs of bars to fit. Min. lap is 3'-4".
** Rotate bars to maintain minimum clearance.

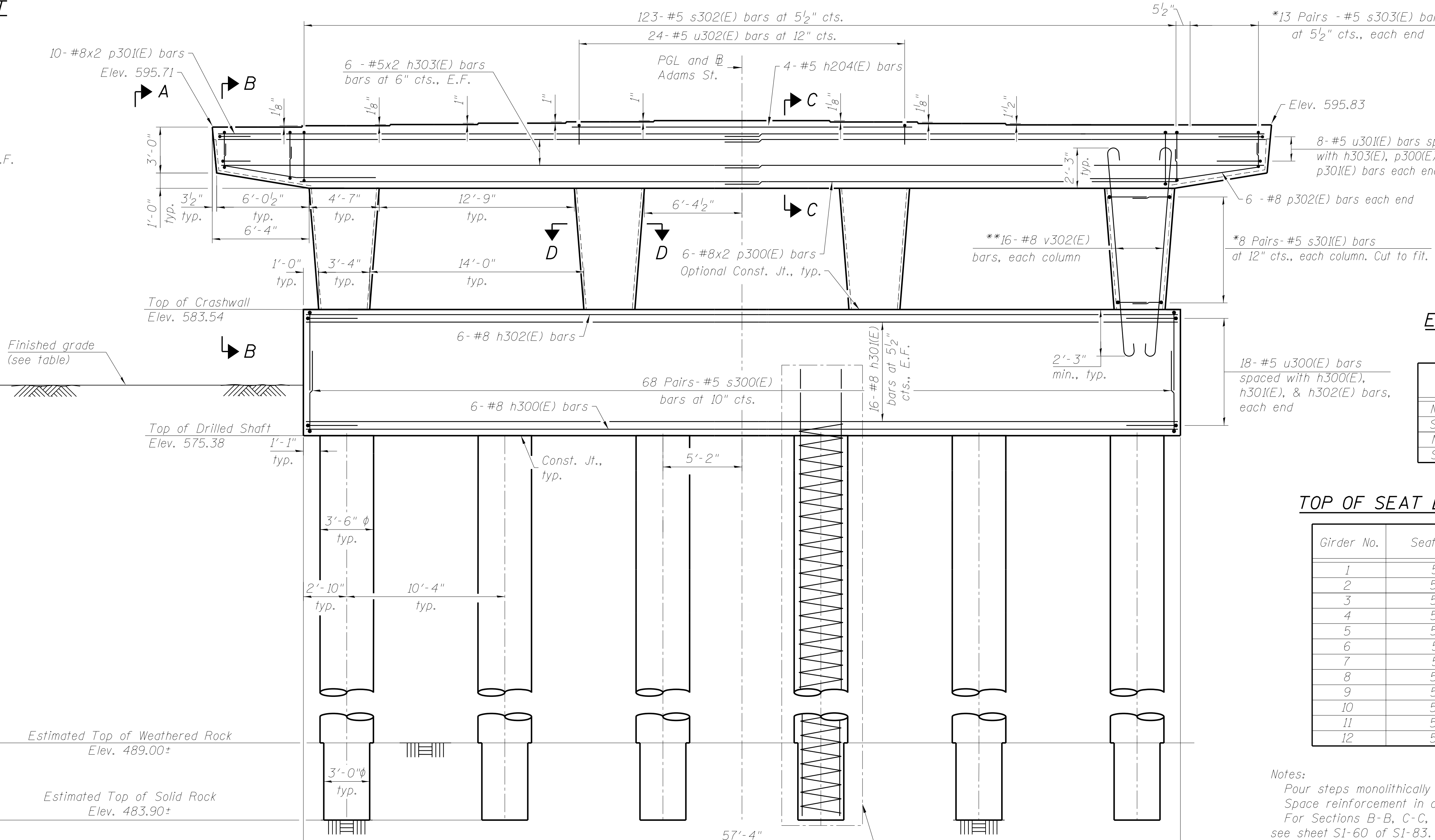


ANCHOR BOLT LAYOUT



VIEW A-A

Drilled shaft reinforcement not shown for clarity



ELEVATION

Looking East

See Drilled Shaft Elevation on sheet S1-60 of S1-83.

FINISHED GRADE ELEVS. AT FACE OF CRASHWALL

Corner	Finished Elevation
Northwest	578.52
Southwest	577.94
Northeast	577.97
Southeast	577.42

TOP OF SEAT ELEVATION

Girder No.	Seat Elevation
1	595.71
2	595.80
3	595.89
4	595.98
5	596.06
6	596.14
7	596.14
8	596.05
9	595.96
10	595.83
11	595.83
12	595.83

Notes:
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
For Sections B-B, C-C, D-D, and Bill of Materials, see sheet S1-60 of S1-83.

TranSystems	USER NAME = wjcolletti	DESIGNED ZPM	REVISED	
		CHECKED NLR	REVISED	
	PLOT SCALE = NTS	DRAWN ZPM	REVISED	
	PLOT DATE = 3/5/2020	CHECKED NLR	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 PLAN AND ELEVATION
STRUCTURE NO. 016-1701

SHEET NO. S1-59 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	361
		CONTRACT NO. 60X94		
		ILLINOIS FED. AID PROJECT		

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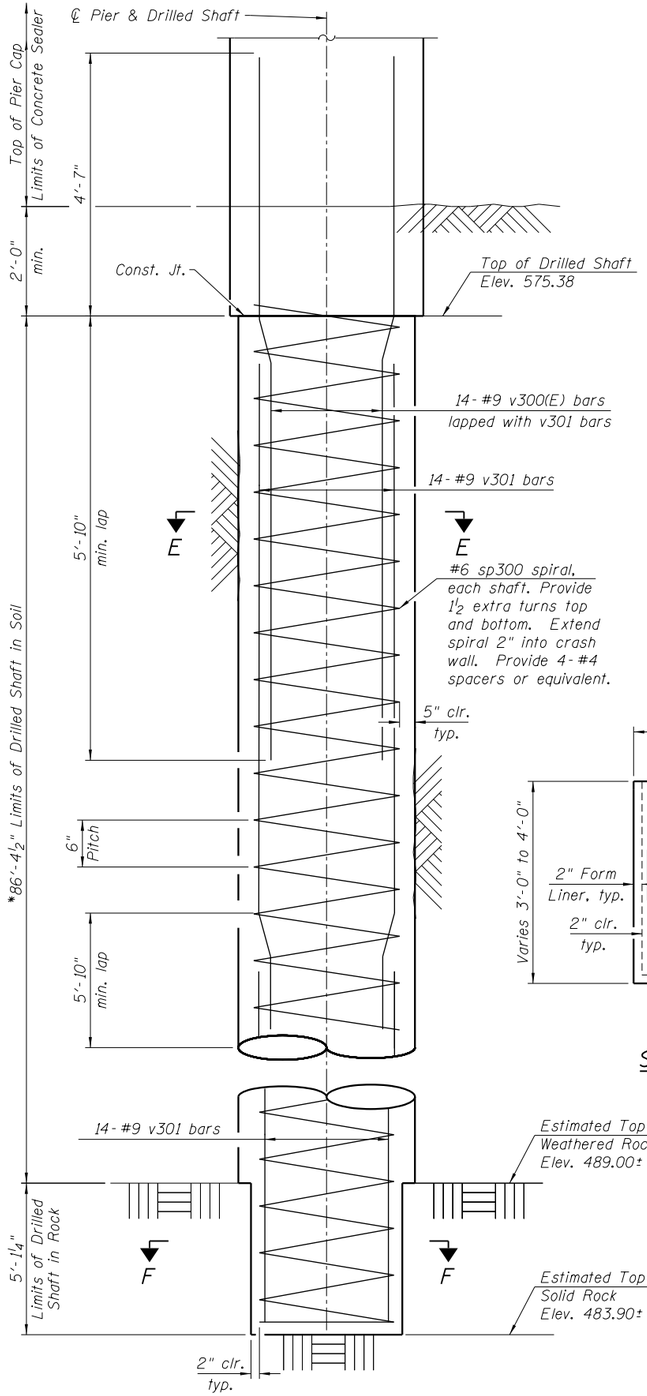
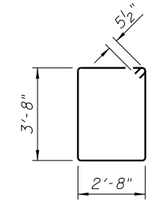
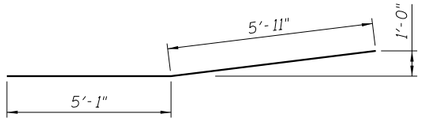


DRILLED SHAFT ELEVATION



BAR s302(E)



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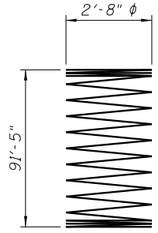
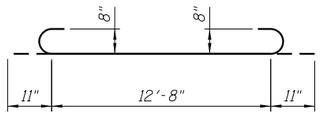
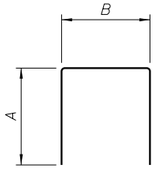


BAR sp300

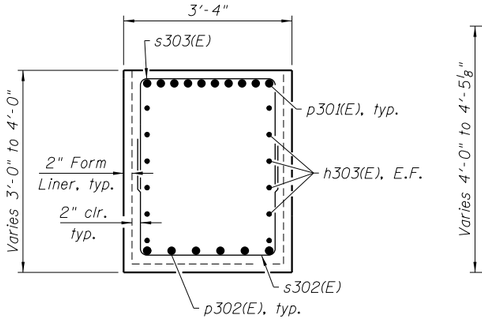


BAR v302(E)

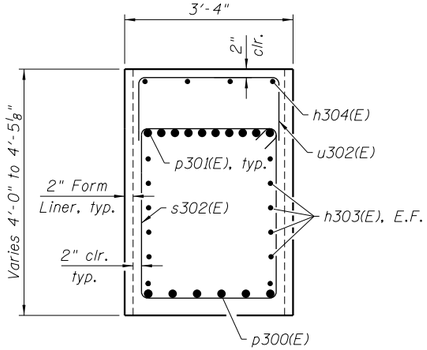


BARS s300(E), s301(E), s303(E) u300(E) through u302(E)

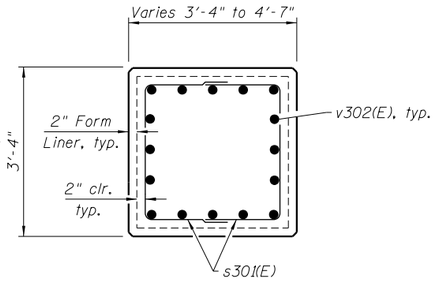
Bar	A	B
s300(E)	5'-5"	3'-4"
s301(E)	3'-6"	2'-8"
s303(E)	3'-6"	3'-0"
u300(E)	4'-0"	3'-4"
u301(E)	3'-10"	3'-0"
u302(E)	10"	2'-8"



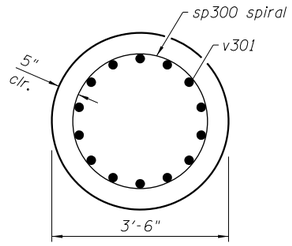
SECTION B-B



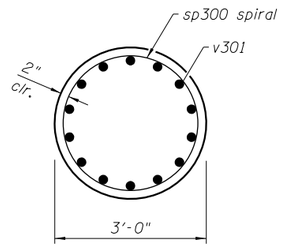
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h300(E)	6	#8	56'-10"	
	h301(E)	32	#8	56'-10"	
	h302(E)	6	#8	56'-10"	
	h303(E)	24	#5	35'-11"	
	h304(E)	4	#5	22'-8"	
	p300(E)	12	#8	30'-6"	
	p301(E)	20	#8	38'-7"	
	p302(E)	12	#8	11'-0"	
**	sp300	6	#6	91'-5"	
	s300(E)	136	#5	14'-2"	
	s301(E)	64	#5	9'-9"	
	s302(E)	123	#5	13'-7"	
	s303(E)	52	#5	10'-0"	
	u300(E)	36	#5	11'-4"	
	u301(E)	16	#5	10'-8"	
	u302(E)	24	#5	4'-4"	
	v300(E)	84	#9	10'-5"	
	v301	168	#9	48'-6"	
	v302(E)	64	#8	14'-6"	
	Structure Excavation		Cu. Yd.	43	
	Concrete Structures		Cu. Yd.	117.1	
	Reinforcement Bars		Pound	41,540	
	Reinforcement Bars, Epoxy Coated		Pound	22,170	
	Drilled Shaft in Soil		Cu. Yd.	184.7	
	Drilled Shaft in Rock		Cu. Yd.	8.1	
	Concrete Sealer		Sq. Ft.	2,527	
	Crosshole Sonic Logging Access Ducts		Foot	549	
	Crosshole Sonic Logging Testing		Each	1	

Bars indicated thus 1x15 etc., indicates 1 line of bars with 15 lengths per line.

Notes:

Apply concrete sealer to all exposed concrete surfaces of the pier.

* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

** Length is height of spiral.

When splicing 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 in 135° standard hook.

1:48:34 PM
016\1701-60X94-S060-Pier 2 Details.dgn

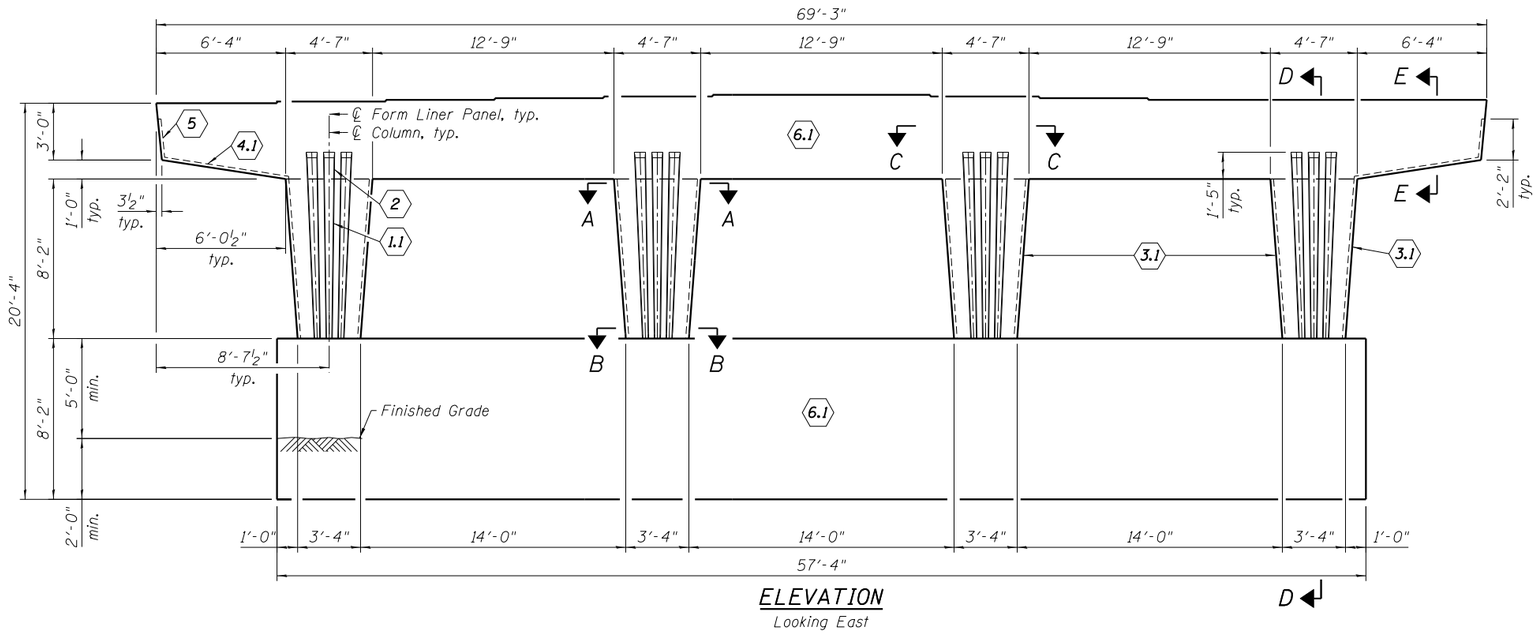
TranSystems

USER NAME = wjcolletti	DESIGNED ZPM	REVISED	
	CHECKED NLR	REVISED	
PLOT SCALE = NTS	DRAWN ZPM	REVISED	
PLOT DATE = 3/5/2020	CHECKED NLR	REVISED	

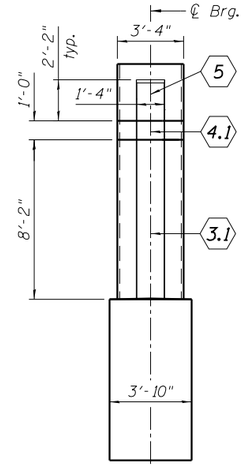
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-60 OF S1-83 SHEETS

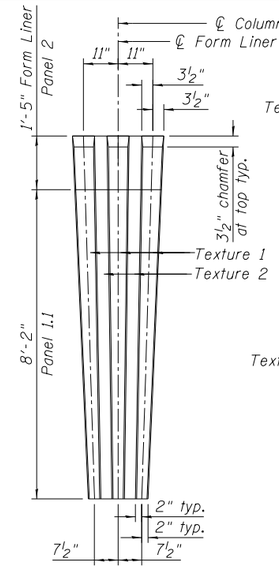
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	362
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			



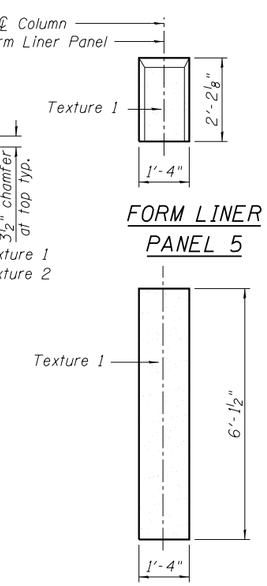
ELEVATION
Looking East



PIER END VIEW
(Looking North)
(Looking south - Sim.)

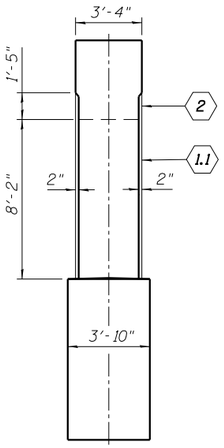


FORM LINER PANEL 1.1 & 2

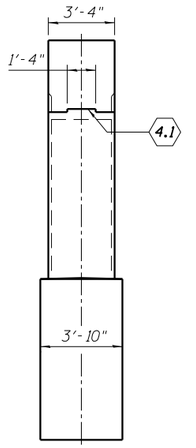


FORM LINER PANEL 5

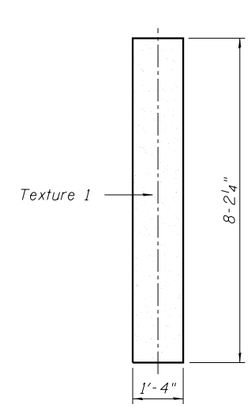
FORM LINER PANEL 4.1



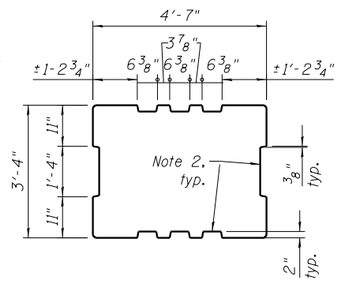
SECTION D-D



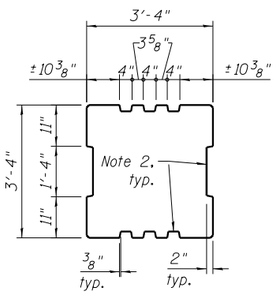
SECTION E-E



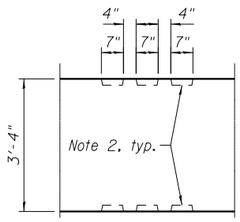
FORM LINER PANEL 3.1



SECTION A-A
At Top of Column



SECTION B-B
At Bottom of Column



SECTION C-C
In Cap

LEGEND

1.1 2 3.1 4.1 5 6.1

Textured Form Liner

BILL OF MATERIAL

Item	Unit	Total
Rubbed Finish	Sq. Ft.	1,561
Form Liner Textured Surface	Sq. Ft.	587

ELEVATION
Looking West

1. Form liner panel (6.1) shall have a smooth finish. Cost included with Rubbed Finish.
2. Tapered fluting - dimensions vary, see elevation profile.
3. Form liner panel (2) is continuation of panel (1.1). Keep adjacent form liners aligned.
4. Hand clean and smooth the surface of the construction joint between the pier and cap.
5.

Texture 1: Light Sandblast as selected from manufacturer's standard pattern selection.
Texture 2: Smooth

7:39:12 AM
0161701 60X94-S061-Pier2_Arch.dgn

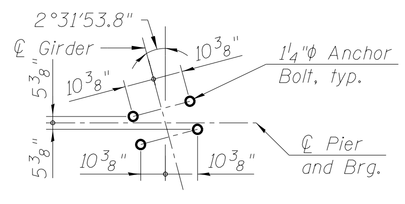
TranSystems

USER NAME = wjcoletti	DESIGNED	ZPM	REVISED
	CHECKED	NLR	REVISED
PLOT SCALE = NTS	DRAWN	ZPM	REVISED
PLOT DATE = 3/6/2020	CHECKED	NLR	REVISED

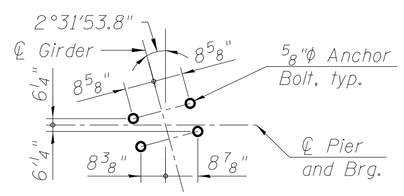
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-61 OF S1-83 SHEETS

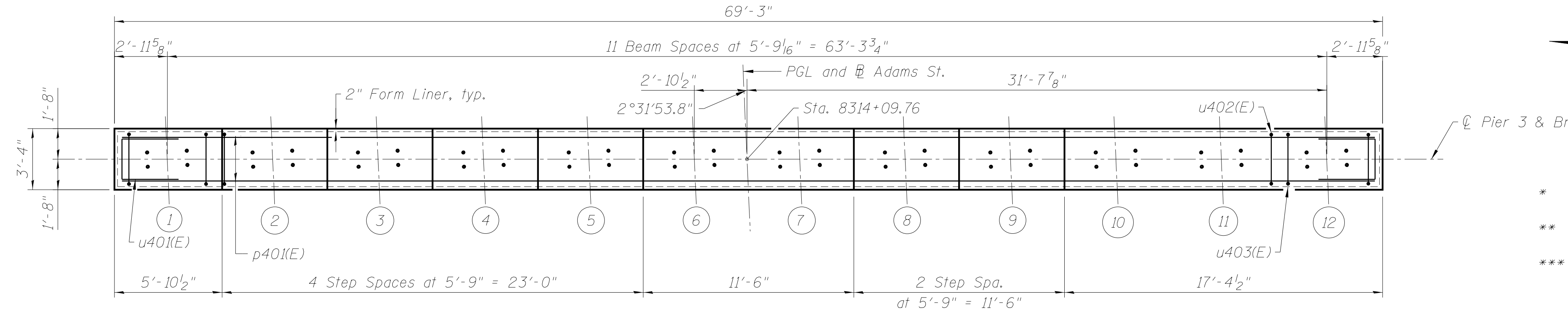
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	363
		CONTRACT NO. 60X94		
ILLINOIS FED. AID PROJECT				



ANCHOR BOLT LAYOUT GIRDER 1

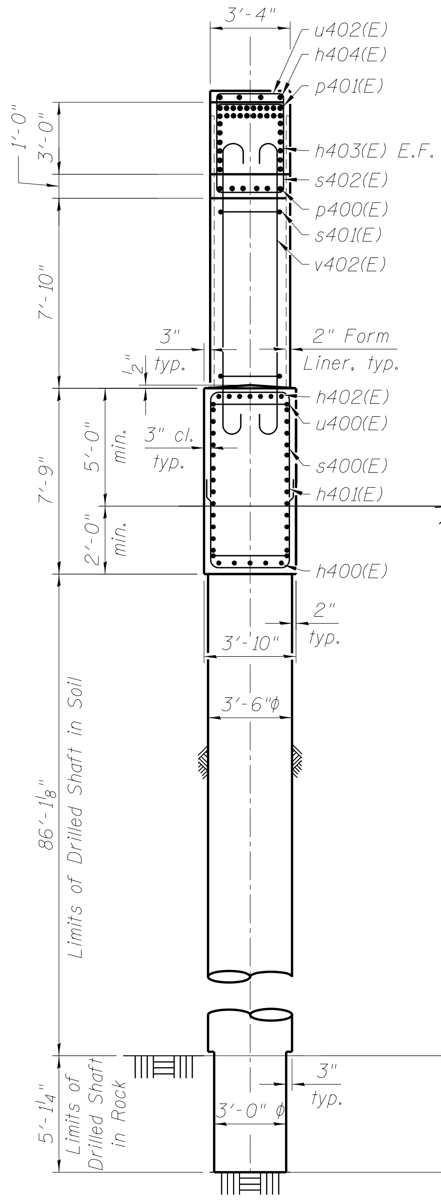


ANCHOR BOLT LAYOUT GIRDERS 2-12



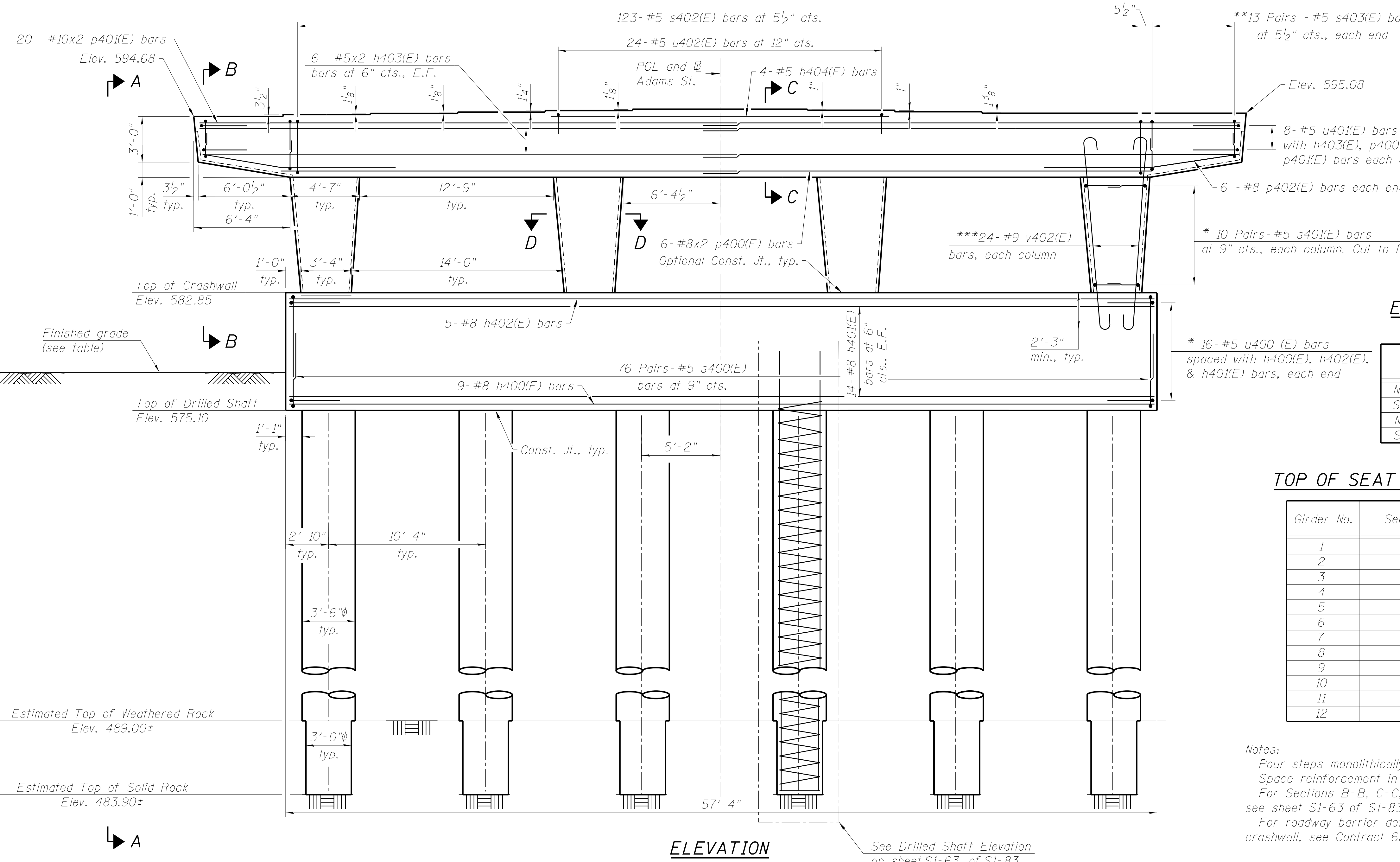
TOP PLAN

* Cut legs of bars to fit. Min. lap is 3'-2".
** Cut legs of bars to fit. Min. lap is 3'-4".
*** Rotate bars to maintain minimum clearance.



VIEW A-A

Drilled shaft reinforcement not shown for clarity



ELEVATION

Looking East

FINISHED GRADE ELEVS. AT FACE OF CRASHWALL

Corner	Finished Elevation
Northwest	577.81
Southwest	577.26
Northeast	577.38
Southeast	577.16

TOP OF SEAT ELEVATION

Girder No.	Seat Elevation
1	594.68
2	594.97
3	595.07
4	595.16
5	595.26
6	595.36
7	595.36
8	595.28
9	595.19
10	595.08
11	595.08
12	595.08

Notes:
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
For Sections B-B, C-C, D-D, and Bill of Materials, see sheet S1-63 of S1-83.
For roadway barrier details on either side of the crashwall, see Contract 62A76

1:48:50 PM
0161701-60X94-S062-Pier3_P&E.dgn

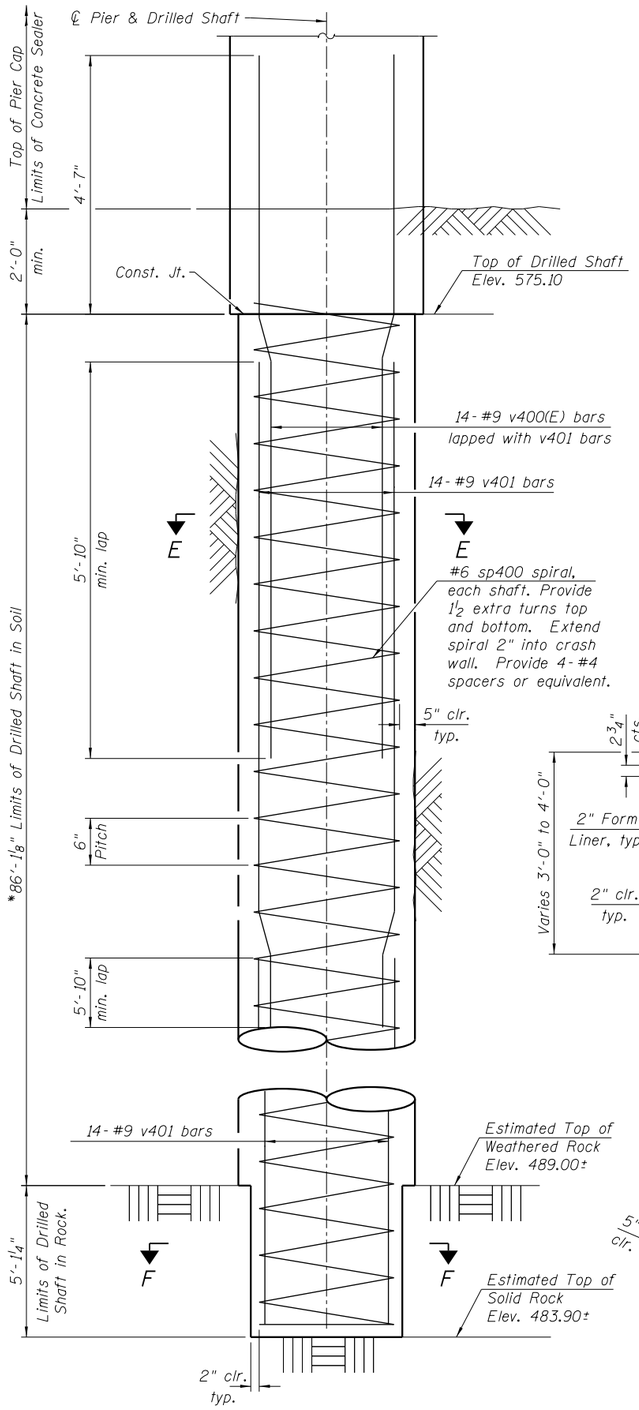
TranSystems

USER NAME = wjcolletti	DESIGNED	ZPM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 3 PLAN AND ELEVATION STRUCTURE NO. 016-1701
	CHECKED	NLR	REVISED		
PLOT SCALE = NTS	DRAWN	ZPM	REVISED		
PLOT DATE = 3/5/2020	CHECKED	NLR	REVISED		SHEET NO. S1-62 OF S1-83 SHEETS

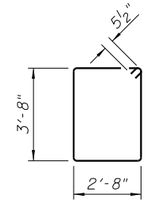
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	364

CONTRACT NO. 60X94

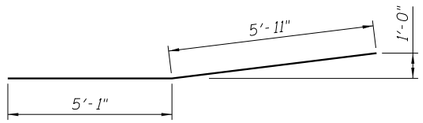
ILLINOIS FED. AID PROJECT



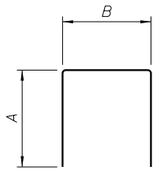
DRILLED SHAFT ELEVATION



BAR s402(E)

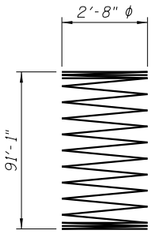


BAR p402(E)

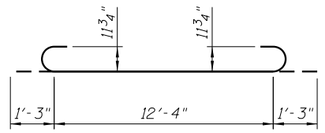


BARS s400(E), s401(E), s403(E) u400(E) through u402(E)

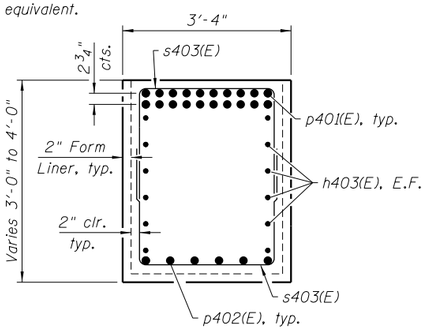
Bar	A	B
s400(E)	5'-2½"	3'-4"
s401(E)	3'-6½"	2'-8"
s403(E)	3'-6"	3'-0"
u400(E)	4'-0	3'-4"
u401(E)	3'-10"	3'-0"
u402(E)	10"	2'-8"



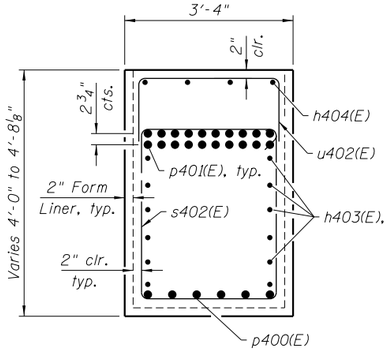
BAR sp400



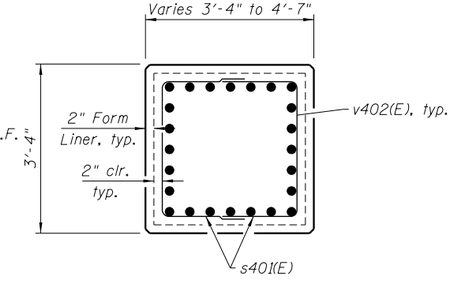
BAR v402(E)



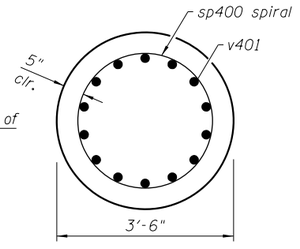
SECTION B-B



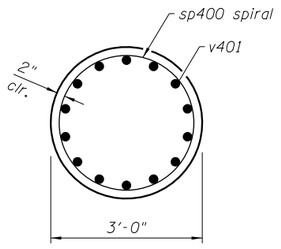
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h400(E)	9	#8	56'-10"	
	h401(E)	28	#8	56'-10"	
	h402(E)	5	#8	56'-10"	
	h403(E)	24	#5	35'-11"	
	h404(E)	4	#5	22'-8"	
	p400(E)	12	#8	30'-6"	
	p401(E)	40	#10	40'-3"	
	p402(E)	12	#8	11'-0"	
**	sp400	6	#6	91'-1"	
	s400(E)	152	#5	13'-9"	
	s401(E)	80	#5	9'-9"	
	s402(E)	123	#5	13'-7"	
	s403(E)	52	#5	10'-0"	
	u400(E)	32	#5	11'-4"	
	u401(E)	16	#5	10'-8"	
	u402(E)	24	#5	4'-4"	
	v400(E)	84	#9	10'-5"	
	v401	168	#9	48'-5"	
	v402(E)	96	#9	14'-10"	
	Structure Excavation		Cu. Yd.	39	
	Concrete Structures		Cu. Yd.	113.7	
	Reinforcement Bars		Pound	41,440	
	Reinforcement Bars, Epoxy Coated		Pound	29,380	
	Drilled Shaft in Soil		Cu. Yd.	184.1	
	Drilled Shaft in Rock		Cu. Yd.	8.1	
	Concrete Sealer		Sq. Ft.	2,467	
	Crosshole Sonic Logging Access Ducts		Foot	548	
	Crosshole Sonic Logging Testing		Each	1	

Bars indicated thus 1x15 etc., indicates 1 line of bars with 15 lengths per line.

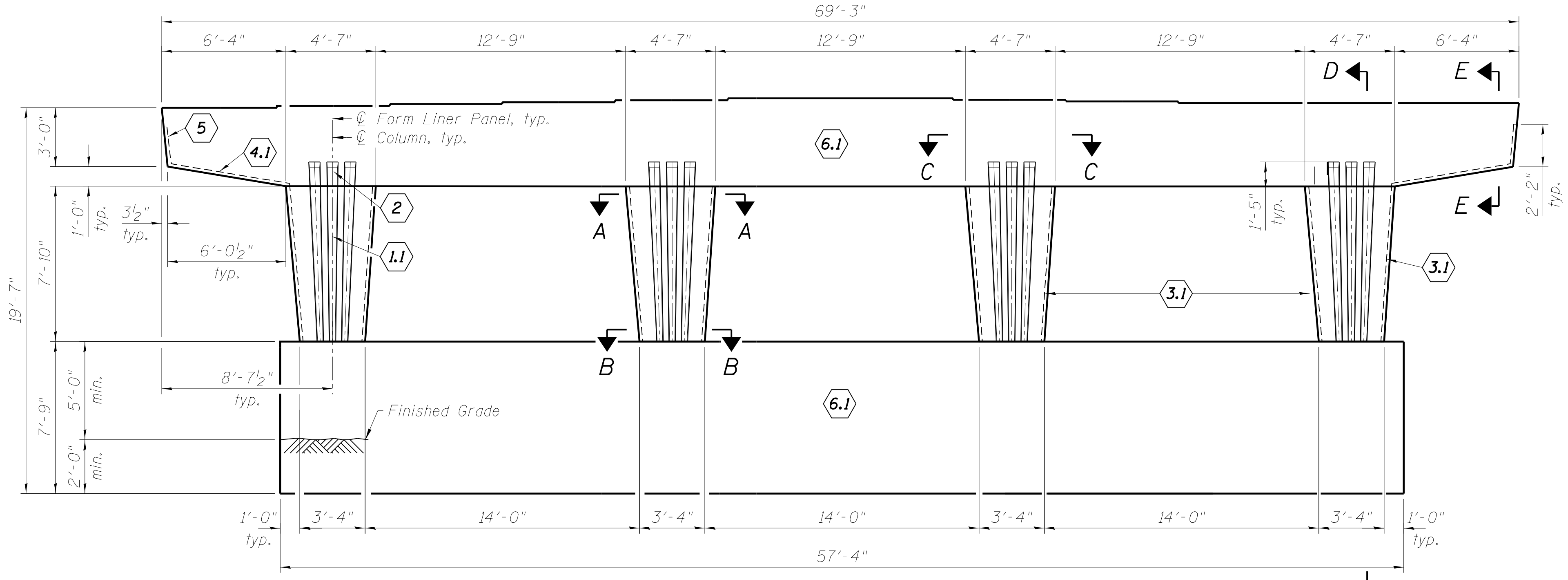
Notes:

Apply concrete sealer to all exposed concrete surfaces of the pier.

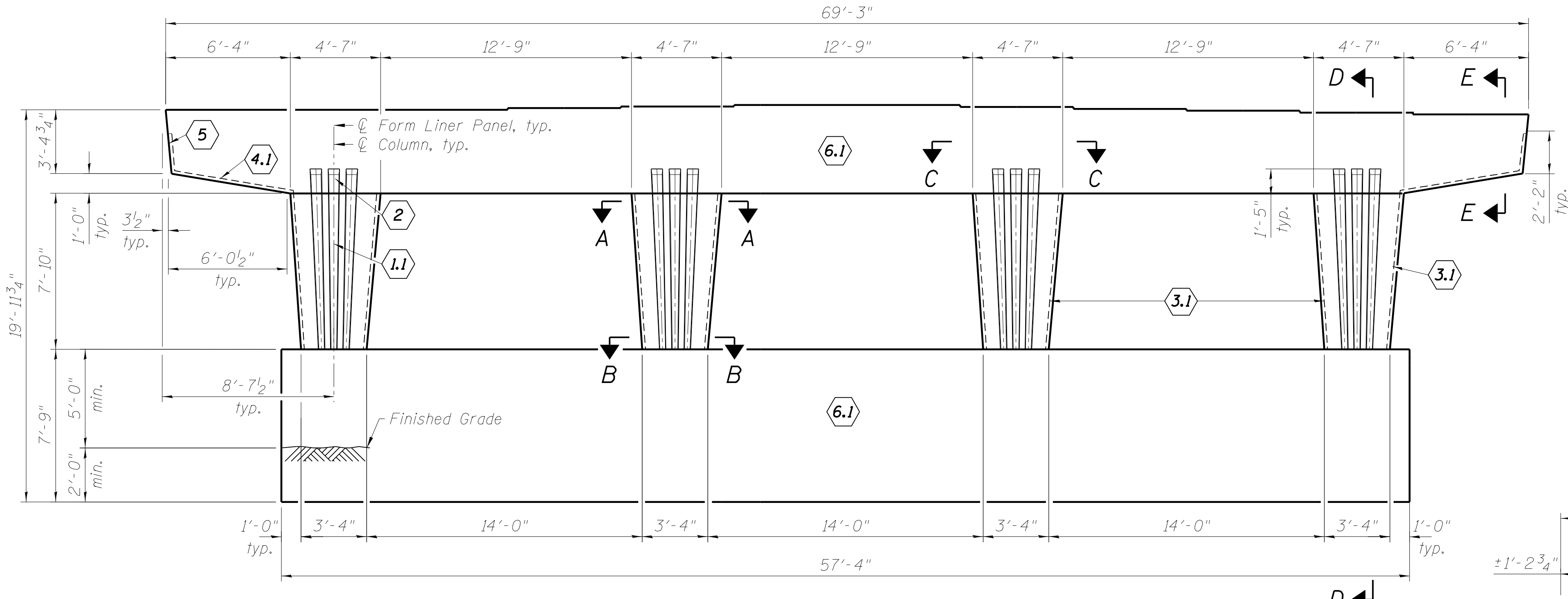
* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

** Length is height of spiral.

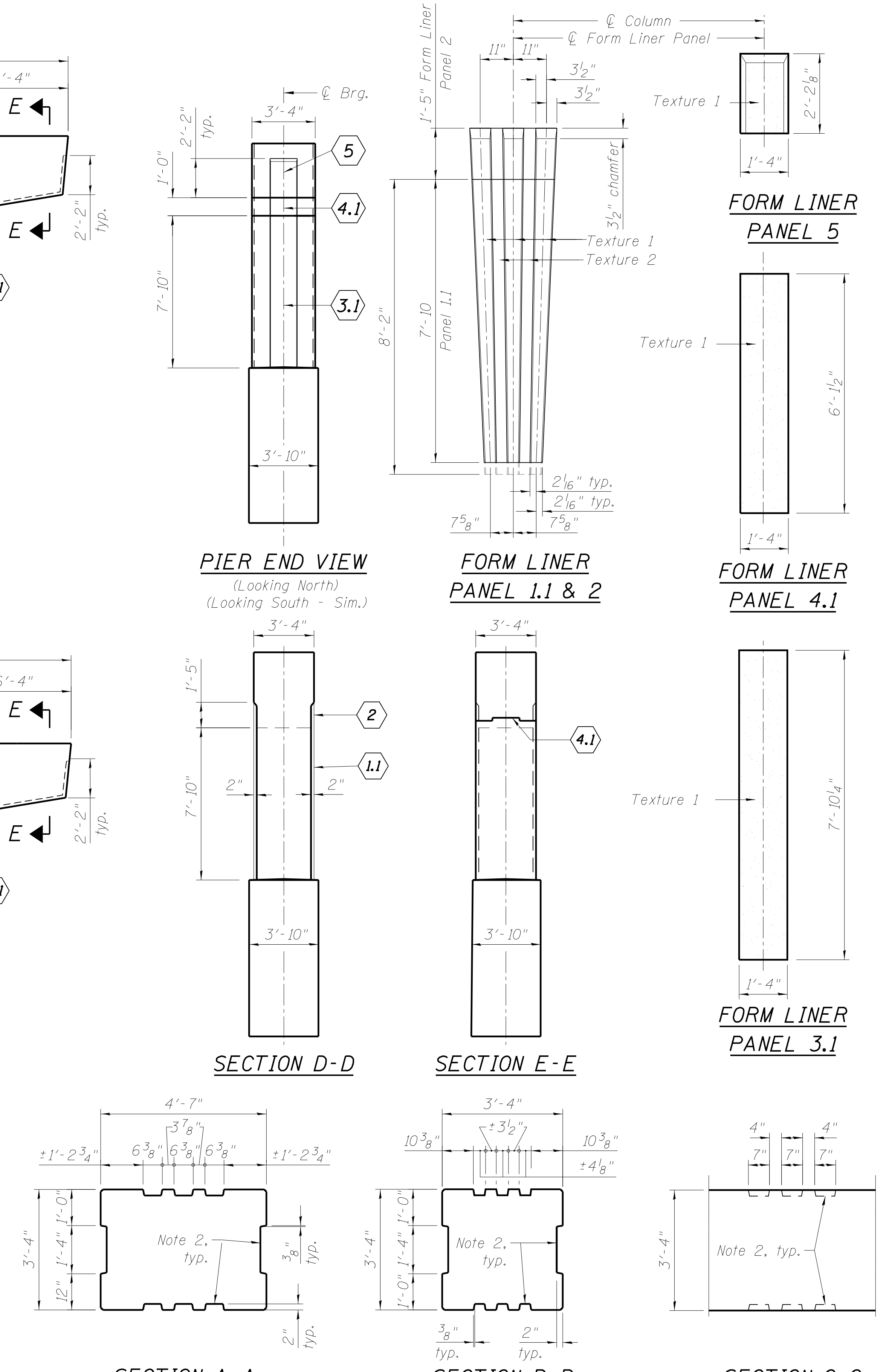
When splicing spiral reinforcement is necessary, the spirals shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate in 135° standard hook.



ELEVATION
Looking East



ELEVATION
Looking West



LEGEND

1.1 2 3.1 4.1 5 6.1
Textured Form Liner

BILL OF MATERIAL

Item	Unit	Total
Rubbed Finish	Sq. Ft.	1,521
Form Liner Textured Surface	Sq. Ft.	567

Notes:

1. Form liner panel (6.1) shall have a smooth finish. Cost included with Rubbed Finish.
2. Tapered fluting - dimensions vary, see elevation profile.
3. Form liner panel (2) is continuation of panel (1.1). Keep adjacent form liners aligned.
4. Hand clean and smooth the surface of the construction joint between the pier and cap.
5.

Texture 1: Light Sandblast as selected from manufacturer's standard pattern selection.
Texture 2: Smooth

7:39:21 AM
016170l-60X94-S064-Pier3_Arch.dgn

TranSystems

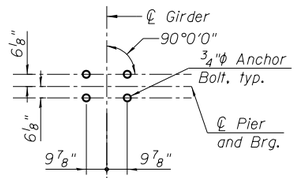
USER NAME = wjcolletti	DESIGNED ZPM	REVISED
	CHECKED NLR	REVISED
PLOT SCALE = NTS	DRAWN ZPM	REVISED
PLOT DATE = 3/6/2020	CHECKED NLR	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

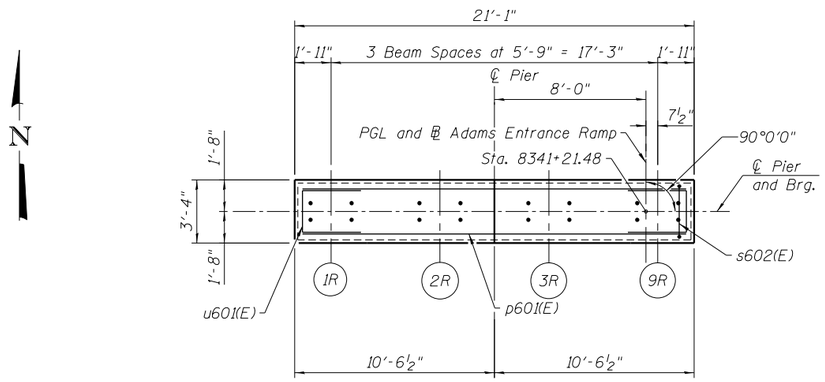
PIER 3 ARCHITECTURAL DETAILS
STRUCTURE NO. 016–1701
SHEET NO. S1-64 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	366

CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT



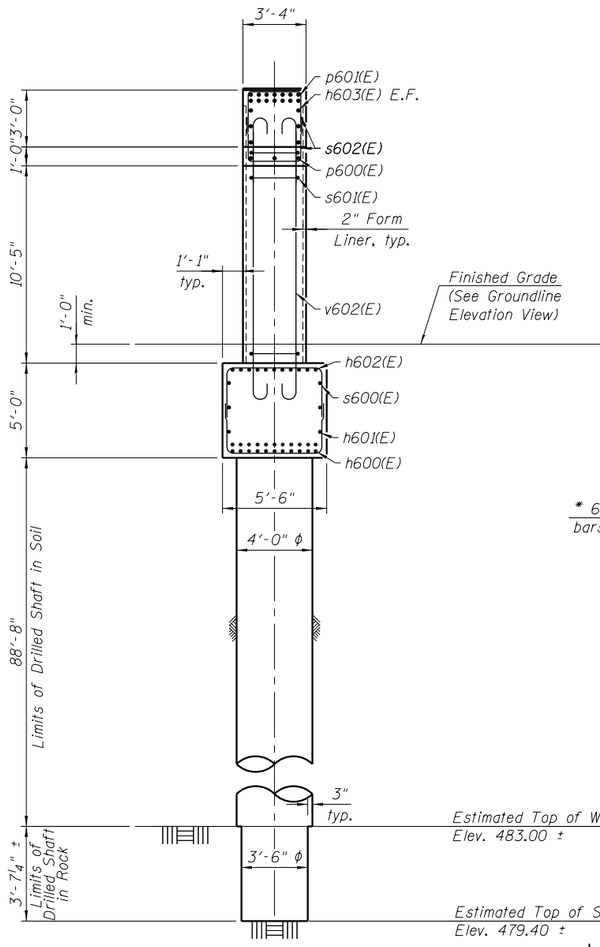
ANCHOR BOLT LAYOUT



*Cut vertical legs of bars to fit. Min. lap is 3'-4".

TOP OF SEAT ELEVATION

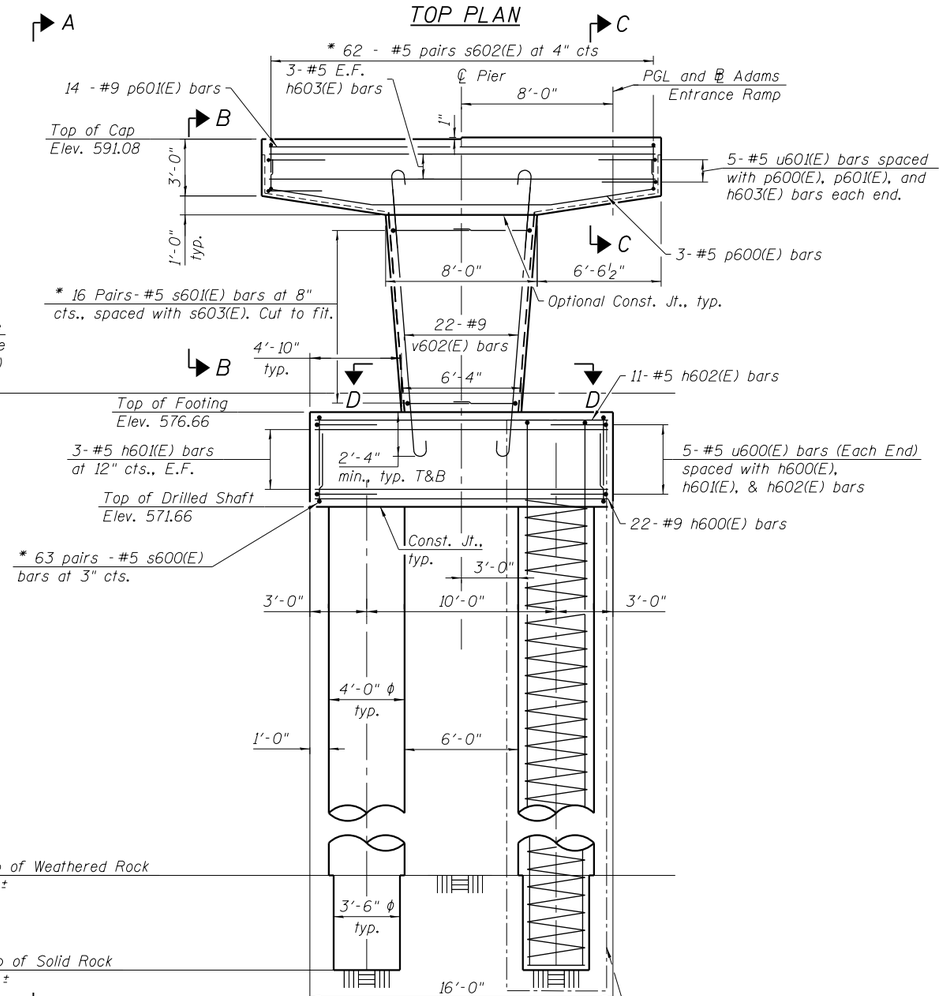
Girder No.	Seat Elevation
1R	591.08
2R	591.08
3R	591.17
9R	591.17



VIEW A-A

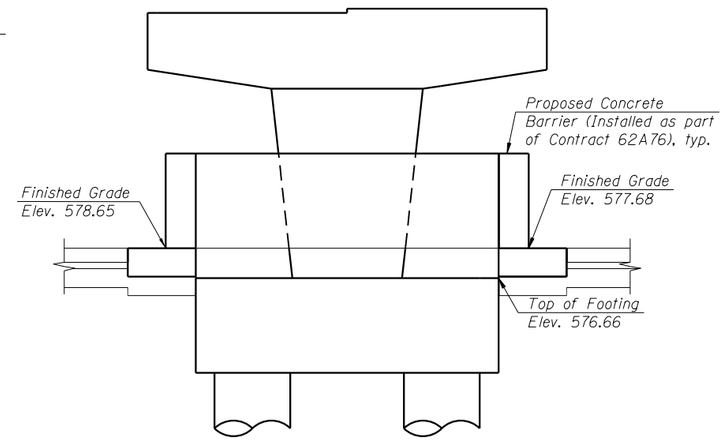
Drilled shaft reinforcement not shown for clarity

TOP PLAN



ELEVATION

Looking North



GROUNDLINE ELEVATION

Looking North

Notes:
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
For Sections B-B, C-C, D-D, and Bill of Materials, see sheet S1-66 of S1-83 .

1:49:15 PM
016170-60X94-S065-PierR1_P&E.dgn

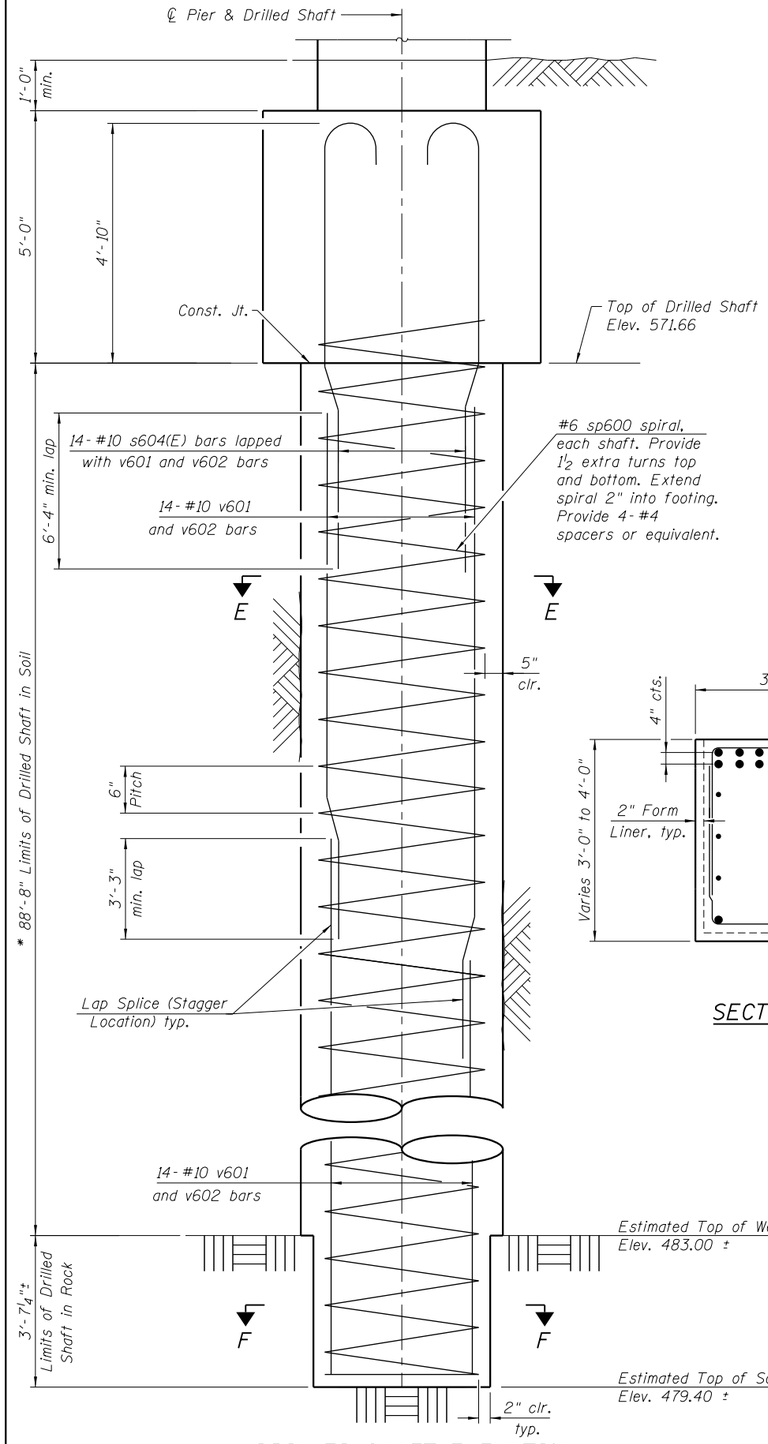
USER NAME = wjcolletti	DESIGNED	MSK	REVISED
	CHECKED	NLR	REVISED
PLOT SCALE = NTS	DRAWN	ZPM	REVISED
PLOT DATE = 3/5/2020	CHECKED	NLR	REVISED

TranSystems

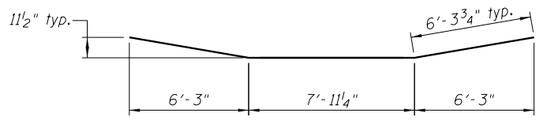
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER R1 PLAN AND ELEVATION
STRUCTURE NO. 016-1701
SHEET NO. S1-65 OF S1-83 SHEETS

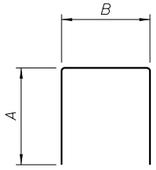
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	367
		CONTRACT NO. 60X94		
	ILLINOIS	FED. AID PROJECT		



DRILLED SHAFT ELEVATION

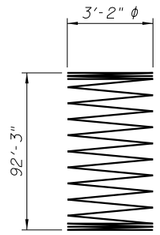


BAR p600(E)

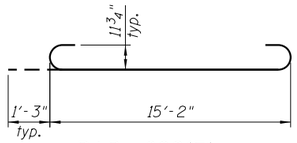


BARS s600(E), s601(E), s602(E), u600(E) through u601(E)

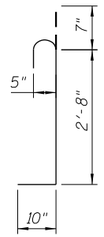
Bar	A	B
s600(E)	3'-11½"	5'-2"
s601(E)	5'-3"	2'-8"
s602(E)	3'-6"	2'-8"
u600(E)	3'-3"	5'-1"
u601(E)	3'-3"	2'-8"



BAR sp600



BAR v602(E)



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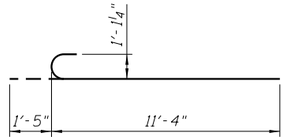

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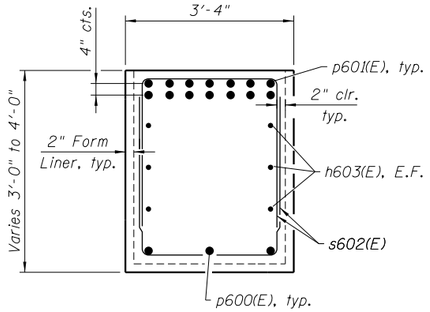
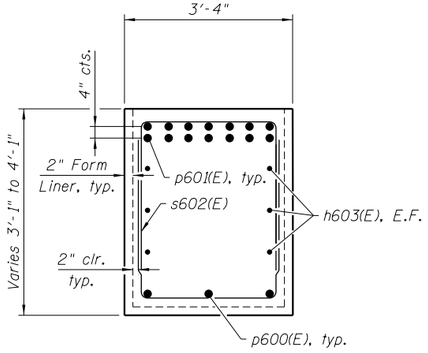
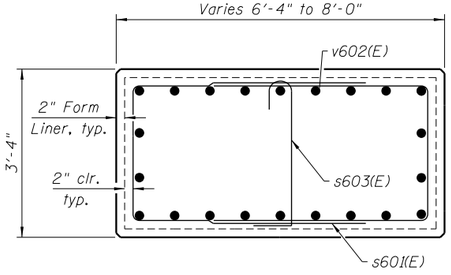


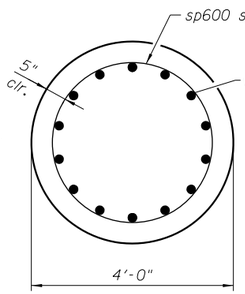
SECTION B-B



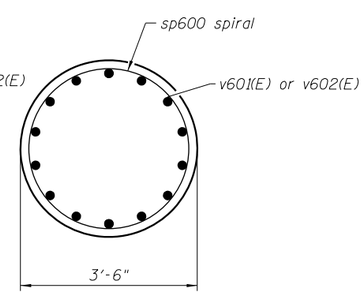
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h600(E)	22	#9	15'-8"	
	h601(E)	6	#5	15'-8"	
	h602(E)	11	#5	15'-8"	
	h603(E)	6	#5	20'-5"	
	p600(E)	3	#5	20'-6.75"	
	p601(E)	14	#9	20'-5"	
**	sp600	2	#6	92'-3"	
	s600(E)	126	#5	13'-1"	
	s601(E)	32	#5	13'-2"	
	s602(E)	124	#5	9'-8"	
	s603(E)	16	#5	4'-1"	
	s604(E)	28	#10	12'-9"	
	u600(E)	10	#5	11'-7"	
	u601(E)	10	#5	9'-2"	
	v601	28	#10	53'-0"	
	v602	28	#10	42'-3"	
	v602(E)	22	#9	17'-8"	
	Structure Excavation		Cu. Yd.	43	
	Concrete Structures		Cu. Yd.	35.3	
	Reinforcement Bars		Pound	17,000	
	Reinforcement Bars, Epoxy Coated		Pound	9,170	
	Drilled Shaft in Soil		Cu. Yd.	82.6	
	Drilled Shaft in Rock		Cu. Yd.	2.6	
	Concrete Sealer		Sq. Ft.	808	
	Crosshole Sonic Logging Access Ducts		Foot	185	
	Crosshole Sonic Logging Testing		Each	1	

Bars indicated thus 1x15 etc., indicates 1 line of bars with 15 lengths per line.

Notes:

Apply concrete sealer to all exposed concrete surfaces of the pier.

* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

** Length is height of spiral.

When splicing 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 in 135° standard hook.

TranSystems

USER NAME = wjcollett		DESIGNED	MSK	REVISED
		CHECKED	NLR	REVISED
PLOT SCALE = NTS		DRAWN	MSK	REVISED
PLOT DATE = 3/5/2020		CHECKED	NLR	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER R1 DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-66 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	368
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

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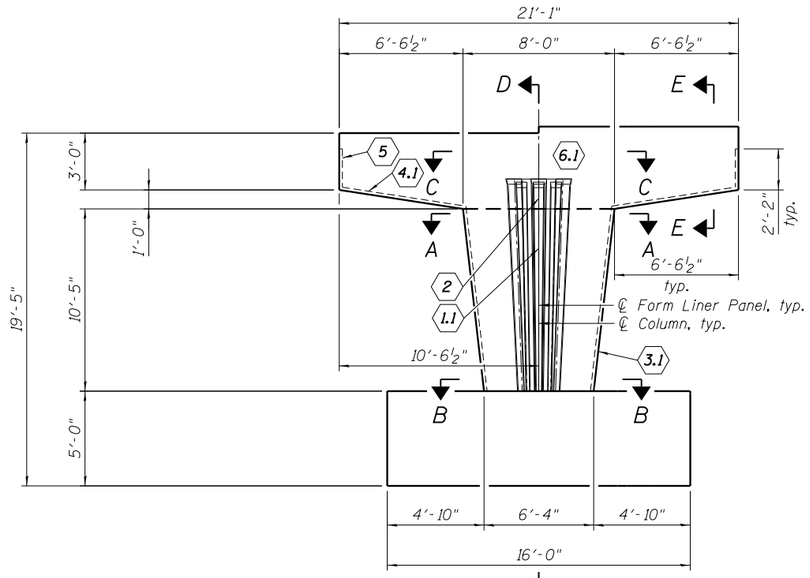
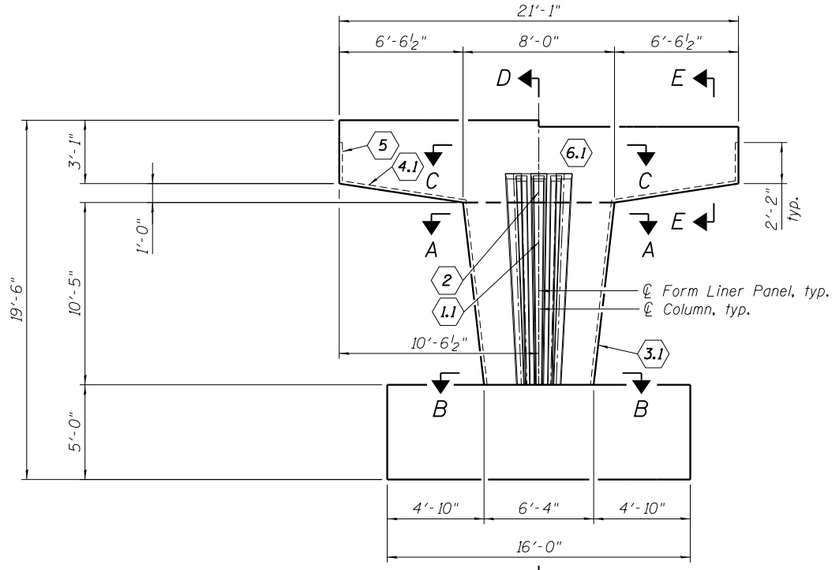


ELEVATION
Looking North



ELEVATION
Looking South

LEGEND

1.1 2 3.1 4.1 5 6.1

Textured Form Liner

BILL OF MATERIAL

Item	Unit	Total
Rubbed Finish	Sq. Ft.	158
Form Liner Textured Surface	Sq. Ft.	303

Notes:

Form liner panel 6.1 shall have a smooth finish. Cost included with Rubbed Finish.

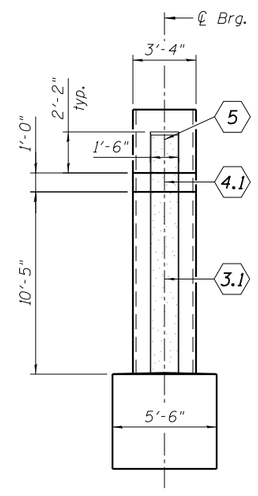
Tapered fluting - dimensions vary, see elevation profile.

Form liner panel 2 is continuation of panel 1.1. Keep adjacent form liners aligned.

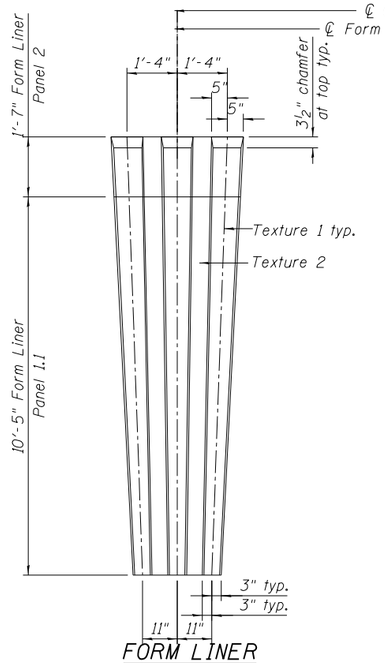
Hand clean and smooth the surface of the construction joint between the pier and cap.

Texture 1: Light Sandblast as selected from manufacturer's standard pattern selection.

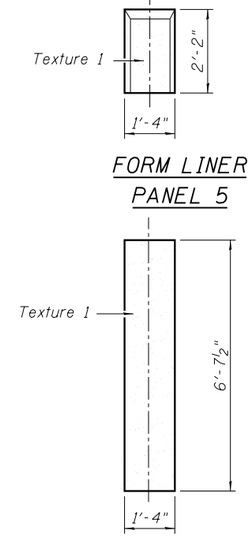
Texture 2: Smooth



PIER END VIEW
(Looking West)
(Looking East - Sim.)



FORM LINER PANEL 1.1 & 2



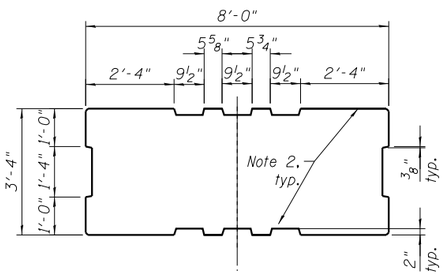
FORM LINER PANEL 5

FORM LINER PANEL 4.1

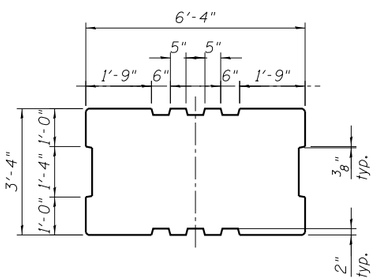
SECTION D-D

SECTION E-E

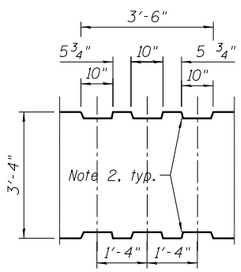
FORM LINER PANEL 3.1



SECTION A-A
At Top of Column



SECTION B-B
At Bottom of Column



SECTION C-C
In Cap

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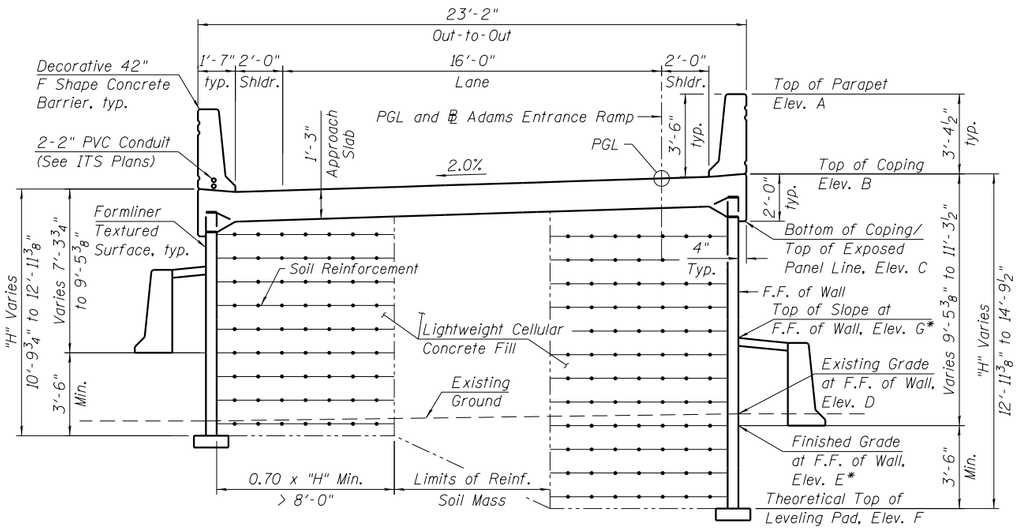
USER NAME = wjcolletti	DESIGNED MSK	REVISED
	CHECKED NLR	REVISED
PLOT SCALE = NTS	DRAWN ZPM	REVISED
PLOT DATE = 3/6/2020	CHECKED NLR	REVISED

TranSystems

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

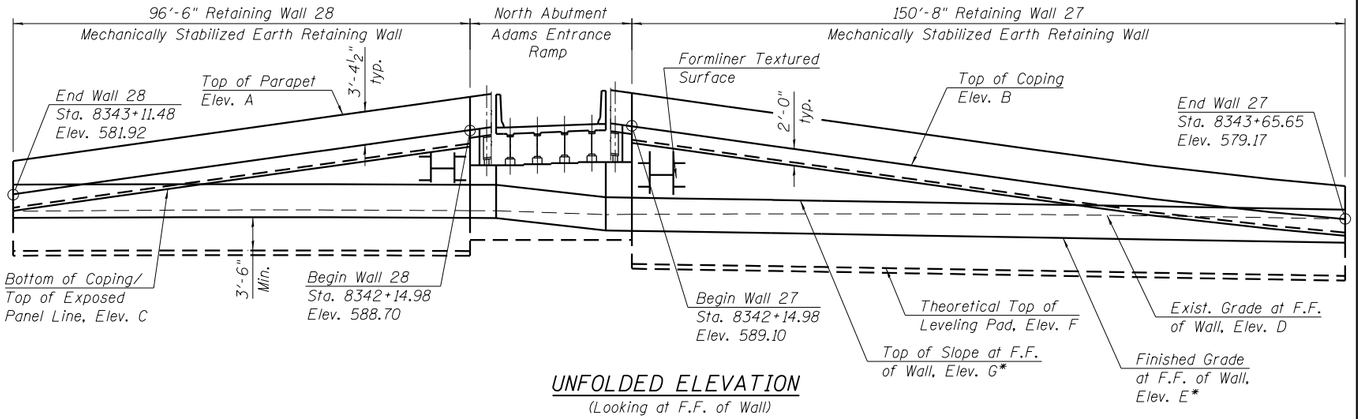
PIER R1 ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1701
SHEET NO. S1-67 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	369
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			



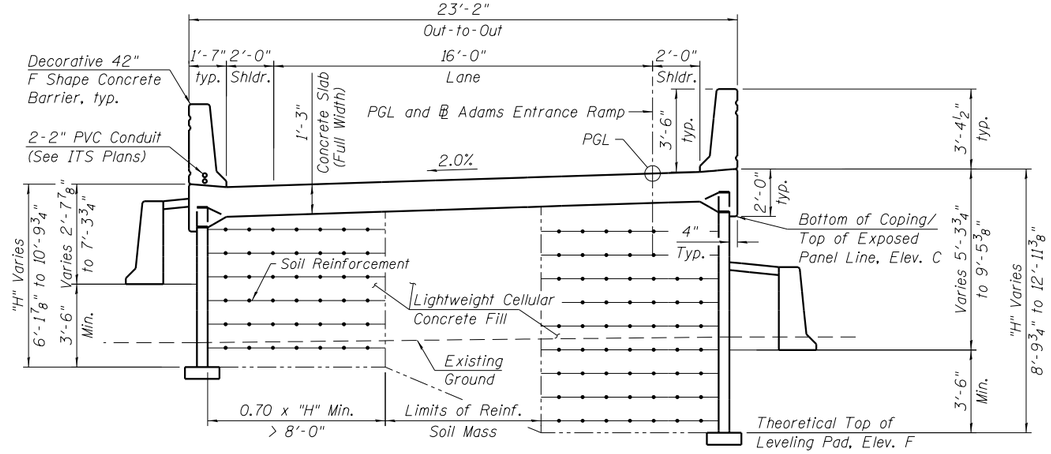
CROSS SECTION

(Looking Upstation, Sta. 8342+14.98 to 8342+44.48)



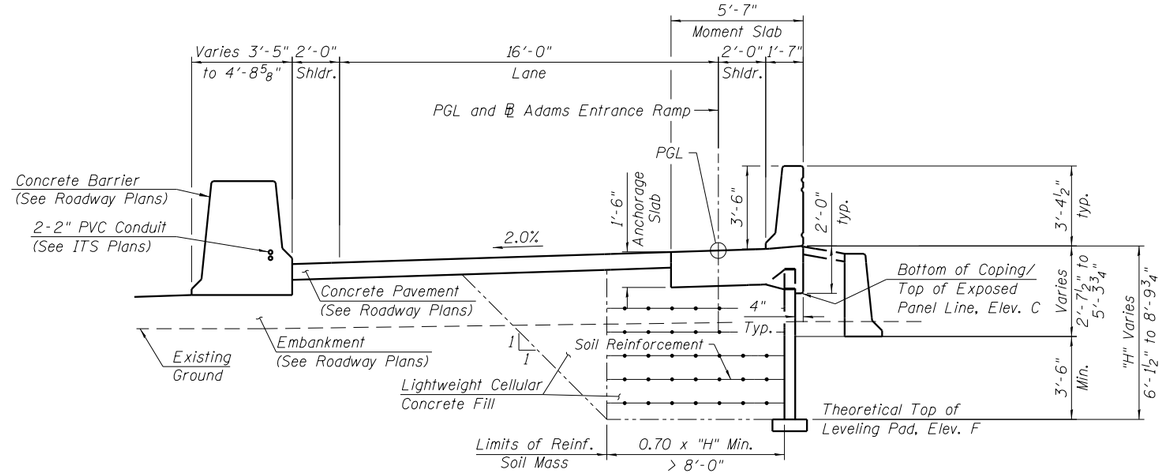
UNFOLDED ELEVATION

(Looking at F.F. of Wall)



CROSS SECTION

(Looking Upstation, Sta. 8342+44.48 to 8343+11.48)



CROSS SECTION

(Looking Upstation, Sta. 8343+11.48 to 8343+65.65)

* Installed as part of contract 62A76

RETAINING WALL 27 ELEVATIONS

Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F	Elevation G
8342+14.98	3.25' Rt.	592.47	589.10	587.10	579.67	577.44	573.94	581.21
8342+44.48	3.25' Rt.	590.40	587.02	585.02	579.72	577.26	573.76	581.04
8342+66.81	3.25' Rt.	588.83	585.46	583.46	579.73	577.11	573.61	580.88
8342+89.15	3.25' Rt.	587.26	583.89	581.89	579.73	576.95	573.45	580.72
8343+11.48	3.25' Rt.	585.69	582.32	580.32	579.65	576.80	573.30	580.55
8343+38.56	3.25' Rt.	583.93	580.56	578.56	579.52	576.61	573.11	580.33
8343+65.65	3.25' Rt.	582.54	579.17	577.17	579.17	576.42	572.92	580.09

RETAINING WALL 28 ELEVATIONS

Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F	Elevation G
8342+14.98	19.25' Lt.	592.07	588.70	586.70	580.06	579.14	575.64	582.64
8342+44.48	19.25' Lt.	590.00	586.62	584.62	580.13	579.18	575.68	582.68
8342+66.81	19.25' Lt.	588.43	585.06	583.06	580.15	579.18	575.68	582.68
8342+89.15	19.25' Lt.	586.86	583.49	581.49	580.12	579.14	575.64	582.64
8343+11.48	19.25' Lt.	585.29	581.92	579.92	580.00	579.07	575.57	582.57

Elevation A- Top of Parapet
Elevation B- Top of Coping
Elevation C- Bottom of Coping / Top of Exposed Panel Line
Elevation D- Existing Grade at F.F. of Wall
Elevation E- Finished Grade at F.F. of Wall*
Elevation F- Theoretical Top of Leveling Pad
Elevation G - Top of Slope at F.F. of Wall*

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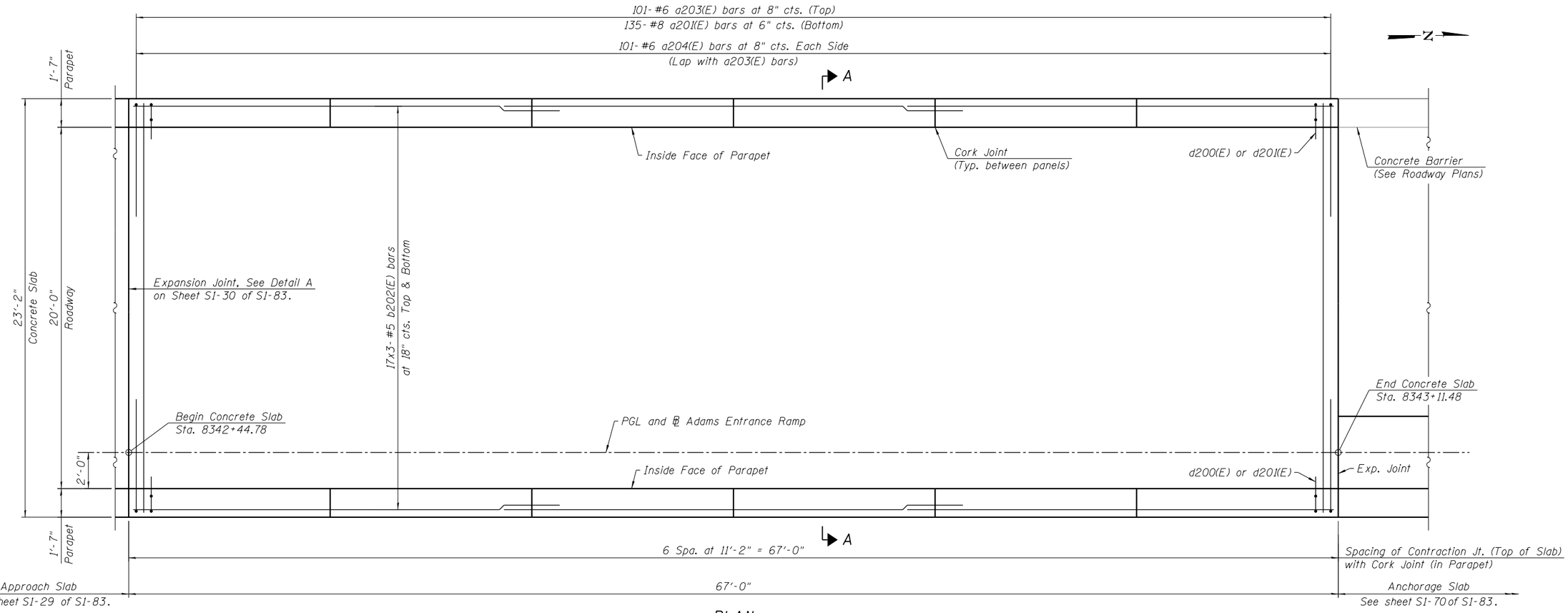
TranSystems

USER NAME = wjcolletti	DESIGNED WJC	REVISED	
	CHECKED MDS	REVISED	
PLOT SCALE = NTS	DRAWN TJA	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

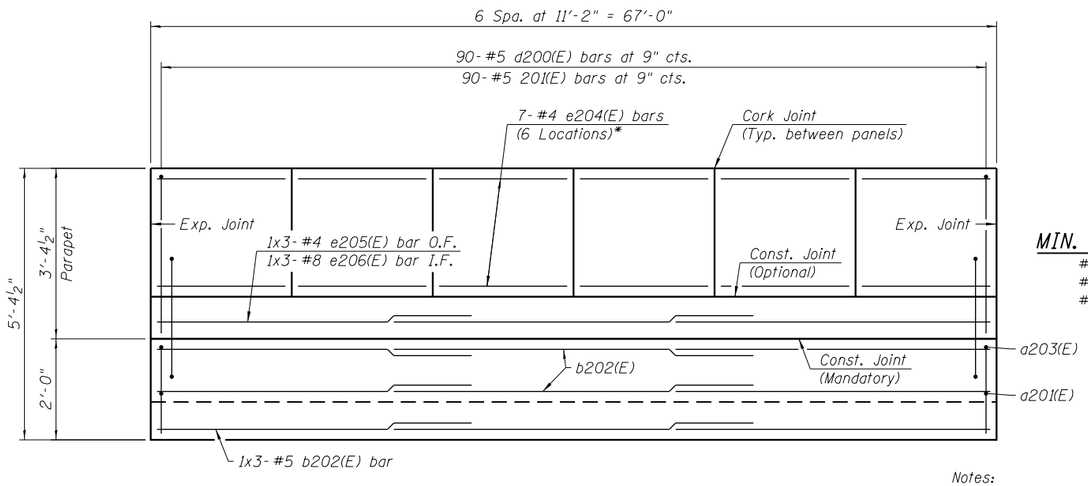
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL ELEVATION AND CROSS SECTIONS
STRUCTURE NO. 016-1701
SHEET NO. S1-68 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	370
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			



PLAN

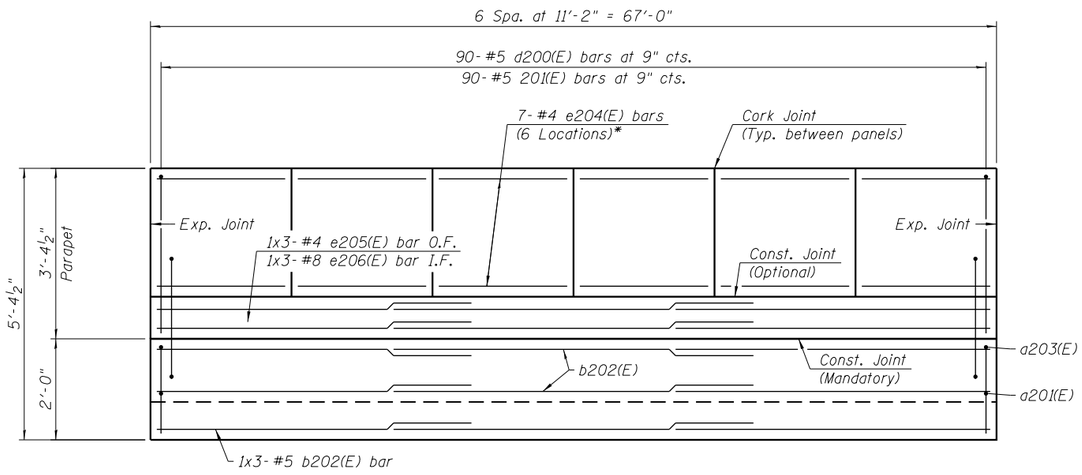


OUTSIDE ELEVATION OF EAST PARAPET

(Looking West)

MIN. BAR LAPS

#4 = 2'-8"
#5 = 3'-4"
#8 = 6'-8"



OUTSIDE ELEVATION OF WEST PARAPET

(Looking East)

Notes:
I.F. = Inside Face
O.F. = Outside Face
E.F. = Each Face
For Section A-A, Bar Diagram, Expansion and Contraction Joint Details and Bill of Material, see sheet S1-71 of S1-83.

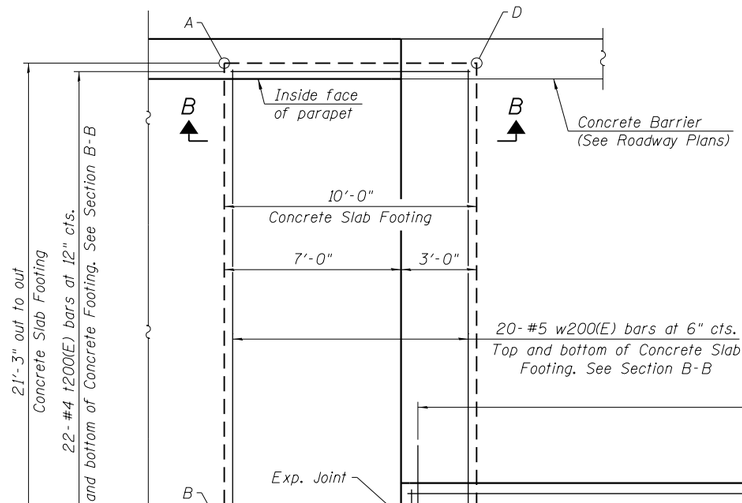
TranSystems	USER NAME = wjcollett	DESIGNED TJA	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		CHECKED WJC	REVISED	
	PLOT SCALE = NTS	DRAWN TJA	REVISED	
	PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

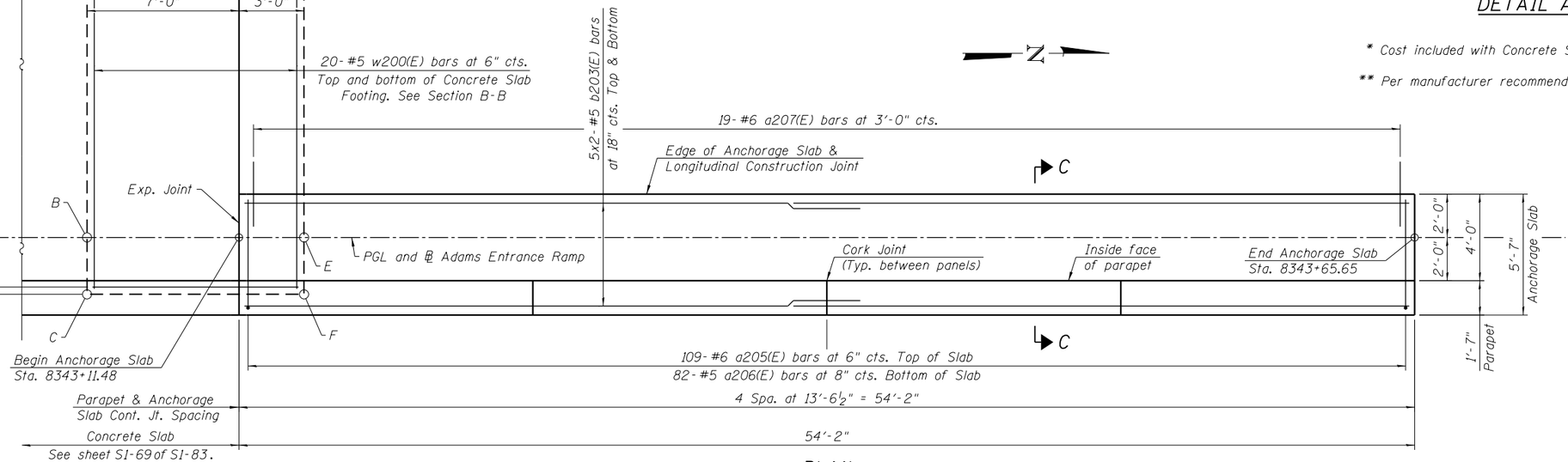
PARAPET AND CONCRETE SLAB PLAN AND ELEVATION
STRUCTURE NO. 016-1701
SHEET NO. S1-69 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	371
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

TOP AND BOTTOM ELEVATIONS FOR CONCRETE SLAB FOOTING

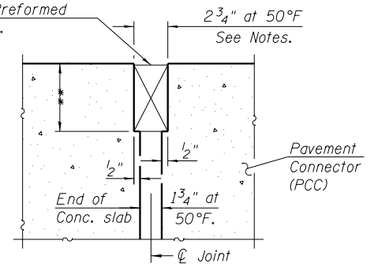
	North Approach	
Point	Top	Bottom
A	580.77	579.94
B	581.14	580.31
C	581.20	580.37
D	580.07	579.24
E	580.44	579.61
F	580.49	579.66





PLAN

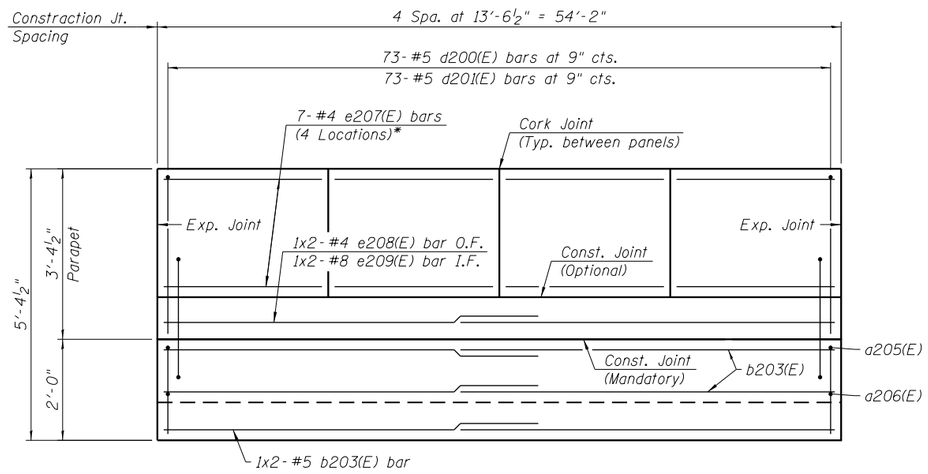
* Expansion joint. See Special Provision "Preformed Pavement Joint Seal". Recess ¼" minimum. Run Out-to-Out of parapet



DETAIL A

* Cost included with Concrete Superstructure.

** Per manufacturer recommendations



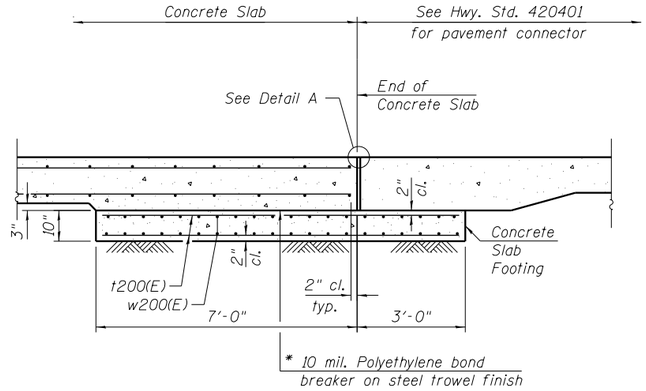
OUTSIDE ELEVATION OF EAST PARAPET

(Looking West)

MIN. BAR LAPS

#4 = 2'-8"
#5 = 3'-4"
#8 = 6'-8"

Notes:
I.F. = Inside Face
O.F. = Outside Face
E.F. = Each Face
For Section C-C, Bar Diagram, Expansion and Contraction Joint Details and Bill of Material, see sheet S1-71 of S1-83.



SECTION B-B

USER NAME = wjcolletti	DESIGNED	TJA	REVISED	
	CHECKED	WJC	REVISED	
PLOT SCALE = NTS	DRAWN	TJA	REVISED	
PLOT DATE = 3/5/2020	CHECKED	WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHORAGE SLAB PLAN AND ELEVATION
STRUCTURE NO. 016-1701
SHEET NO. S1-70 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	372
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

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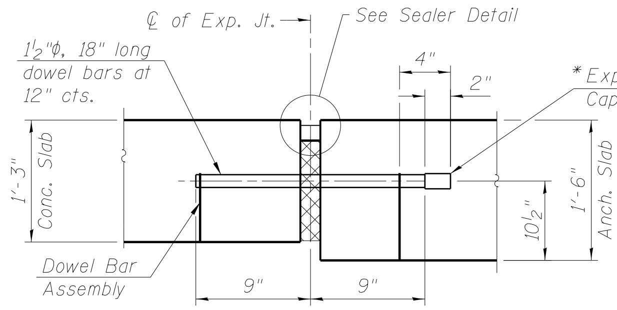
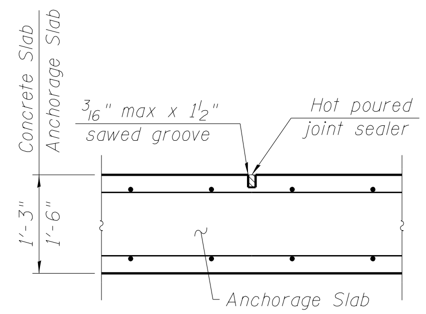


CONCRETE SLAB TO ANCHORAGE SLAB TRANSVERSE EXPANSION JOINT

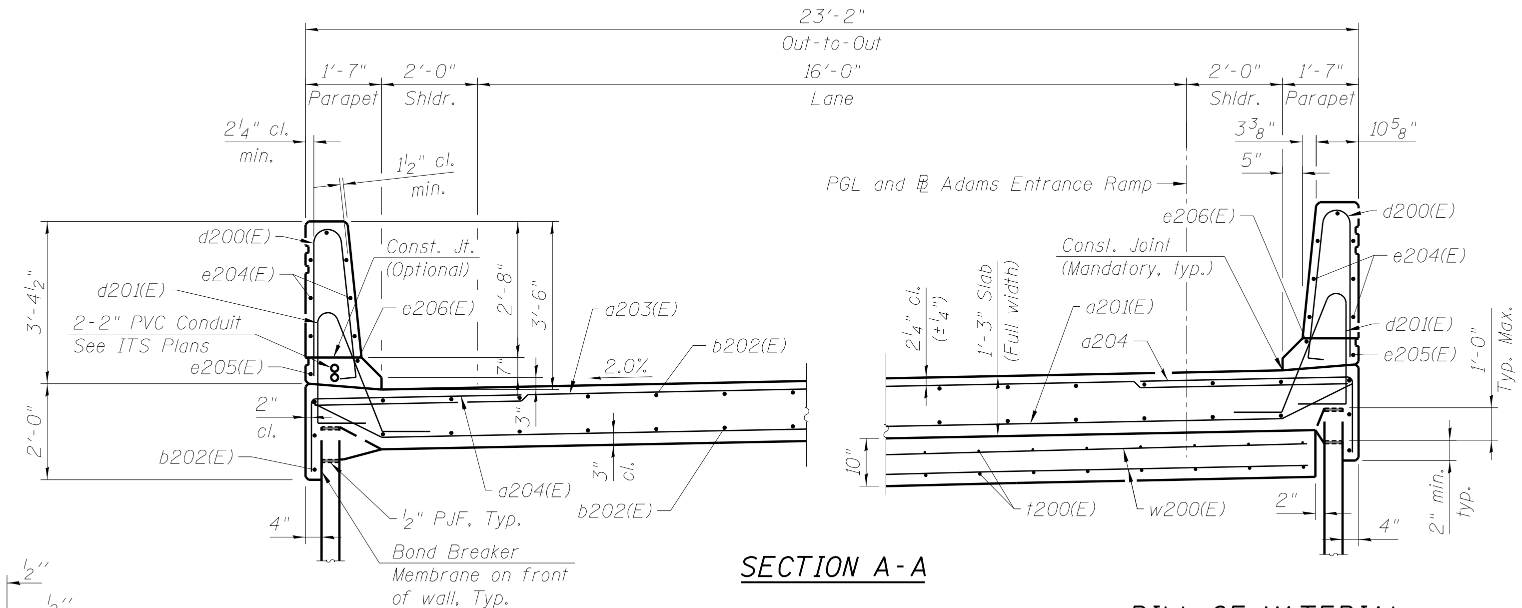
Expansion Joint Filler, Sealer and Dowel Bars included in cost of Concrete Superstructure.

*Expansion caps shall be installed on the exposed end of each dowel bar once header has been removed and the joint filler material has been installed.



CONCRETE AND ANCHORAGE SLAB TRANSVERSE CONTRACTION JOINT

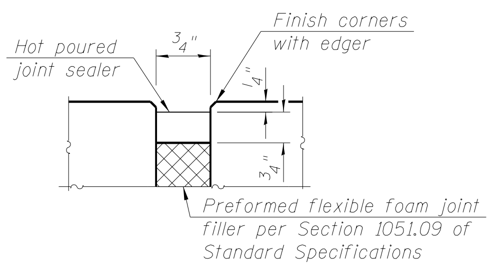
See Article 420.05 & 420.12 of the Standard Specifications



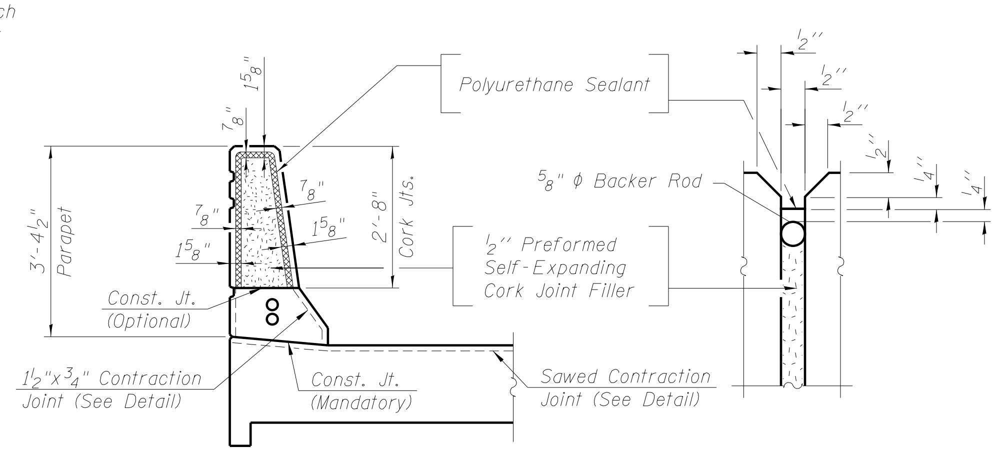
SECTION A-A

BILL OF MATERIAL

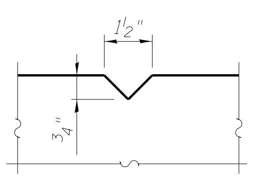
Bar	No.	Size	Length	Shape
a201(E)	135	#8	23'-2"	
a203(E)	101	#6	22'-10"	
a204(E)	202	#6	8'-0"	
a205(E)	109	#6	6'-9"	
a206(E)	82	#5	5'-5"	
a207(E)	19	#6	2'-6"	
b202(E)	108	#5	24'-6"	
b203(E)	22	#5	28'-7"	
d200(E)	253	#5	6'-10"	
d201(E)	253	#5	7'-3"	
e204(E)	84	#4	10'-10"	
e205(E)	6	#4	24'-0"	
e206(E)	6	#8	26'-8"	
e207(E)	28	#4	13'-2"	
e208(E)	2	#4	28'-3"	
e209(E)	2	#8	30'-3"	
t200(E)	44	#4	9'-8"	
w200(E)	40	#5	20'-11"	
Structure Excavation			Cu. Yd.	662
Concrete Structures			Cu. Yd.	6.6
Concrete Superstructure			Cu. Yd.	115.5
Protective Coat			Sq. Yd.	268
Reinforcement Bars, Epoxy Coated			Pound	25,750
Concrete Sealer			Sq. Ft.	2,475
Lightweight Cellular Concrete Fill			Cu. Yd.	1,004
Bridge Deck Grooving (Longitudinal)			Sq. Yd.	173
Mechanically Stabilized Earth Retaining Wall, Special			Sq. Ft.	2,012



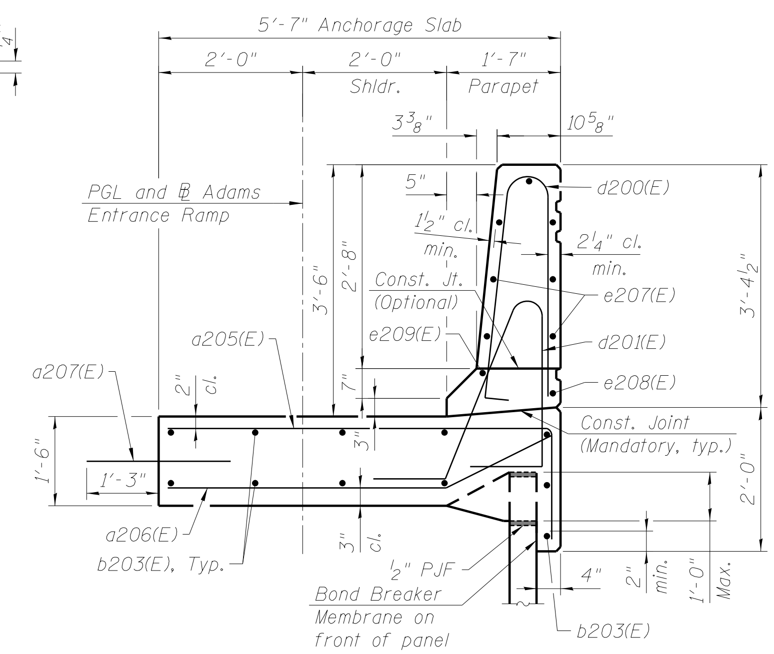
SEALER DETAIL



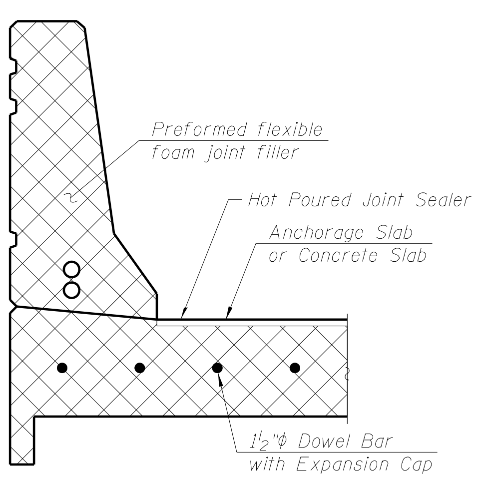
PARTIAL HEIGHT BARRIER JOINT AND CONTRACTION JOINT SECTION



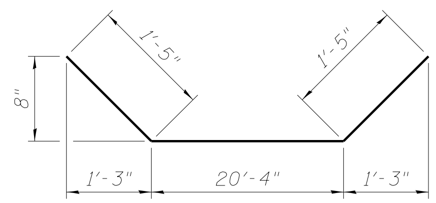
PARAPET TRANSVERSE CONTRACTION JOINT



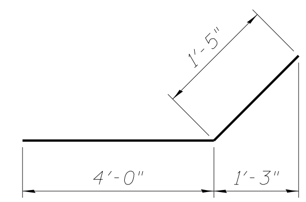
SECTION C-C



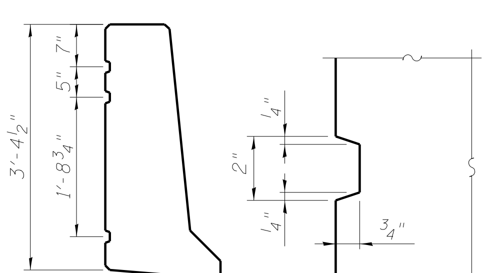
TRANSVERSE EXPANSION JOINT SECTION



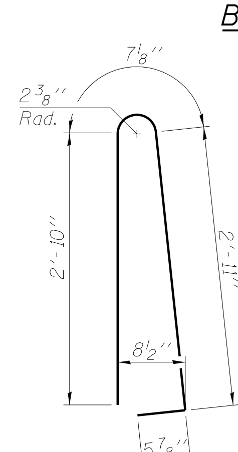
BAR a201(E)



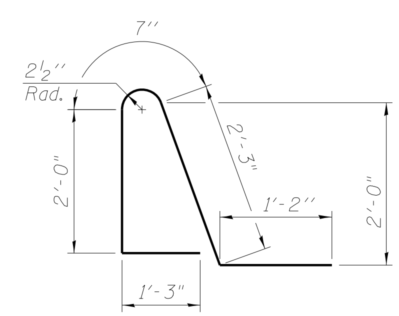
BAR a206(E)



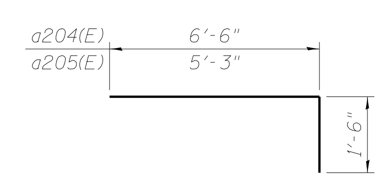
REVEAL DETAIL



BAR d200(E)



BAR d201(E)



BARS a204(E) and a205(E)

Notes:

All edges shall be chamfered ¾ inches.

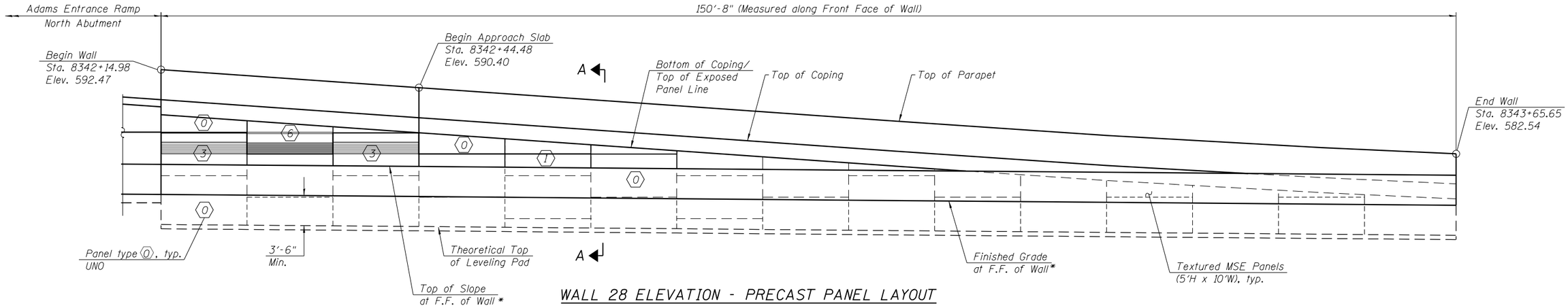
Protective coat shall be applied to the parapet top and interior vertical surface above ground line and top face of anchorage slab.

Bars indicated thus 3x4-#5 etc. indicates 3 lines of bars with 4 lengths per line.

See Sheet S1-03 of S1-83 for additional notes for MSE wall suppliers.

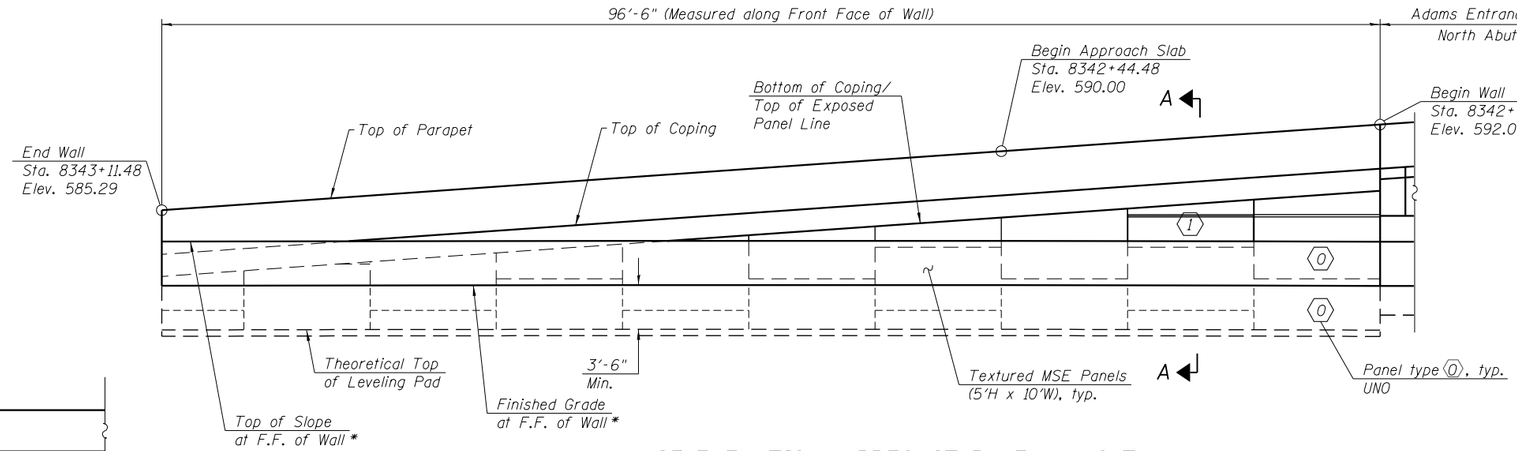
The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

½" PJF included in the cost of Concrete Superstructure.



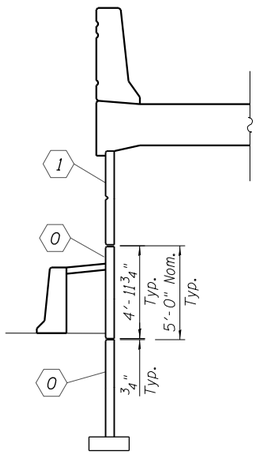
WALL 28 ELEVATION - PRECAST PANEL LAYOUT

(Looking West at F.F. of Wall)

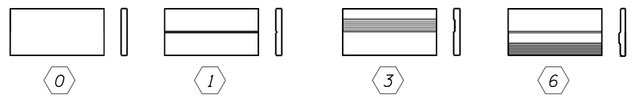


WALL 27 ELEVATION - PRECAST PANEL LAYOUT

(Looking East at F.F. of Wall)



SECTION A-A



PRECAST PANEL TYPES

* Installed as part of Contract 62A76

Notes:

For Precast Panel and Formliner pattern details, see Sheet S1-73 of S1-83 .

Textured formliner for precast panels will not be paid separately and will be included in the cost of Mechanical Stabilized Earth Retaining Wall, Special.

MSE Supplier to determine precast panel dimensions based on proprietary design. The suggested 10'-0" nominal width shown here may change depending on supplier. If this is the case, any needed changes to the Architectural Details will be coordinated with the engineer and the supplier during the shop drawing submittal and reviews.

1:50:28 PM
016701-60X94-S072-WallArchitecturall.dgn

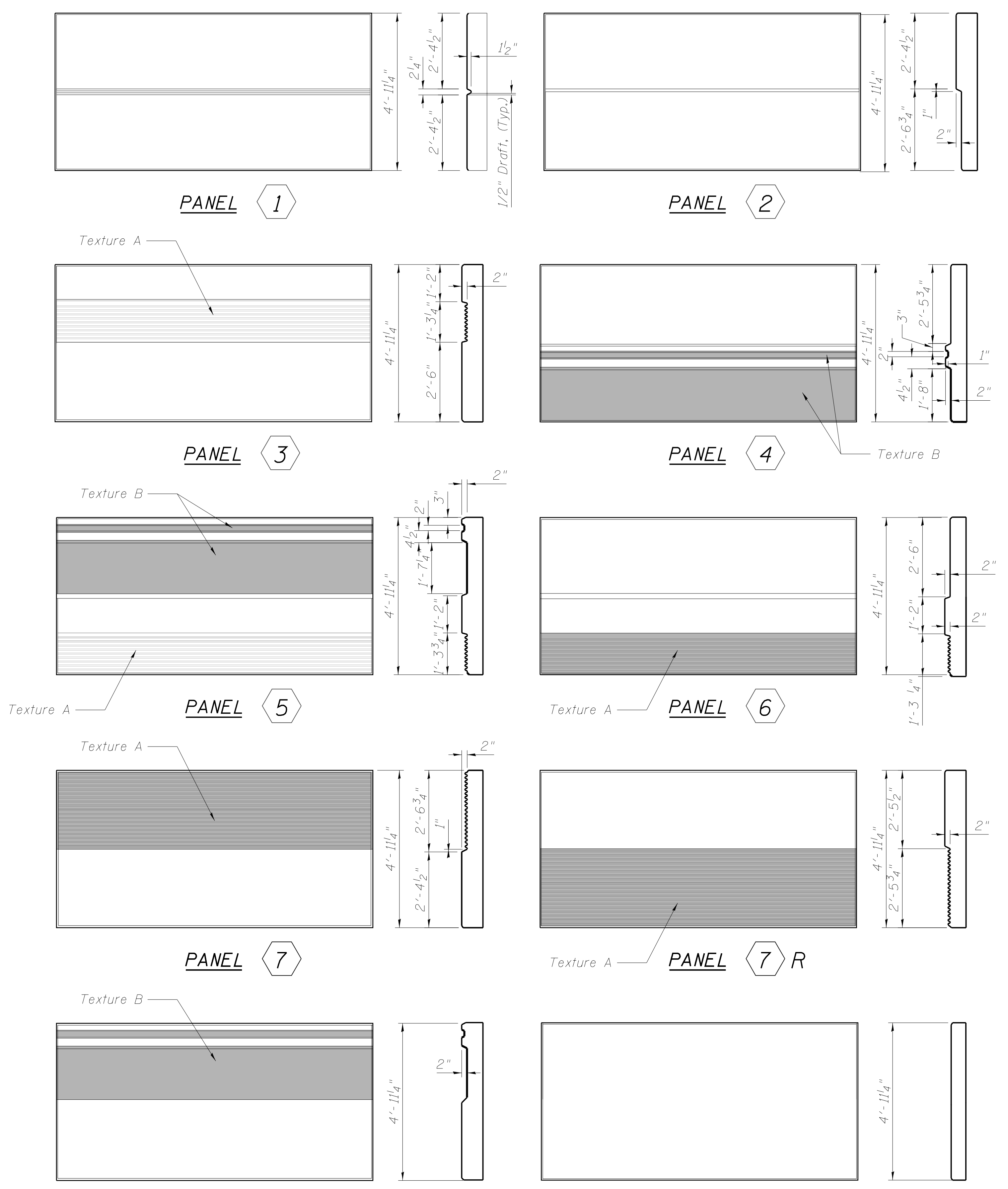
TranSystems

USER NAME = wjcolletti	DESIGNED TJA	REVISED	
	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN TJA	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

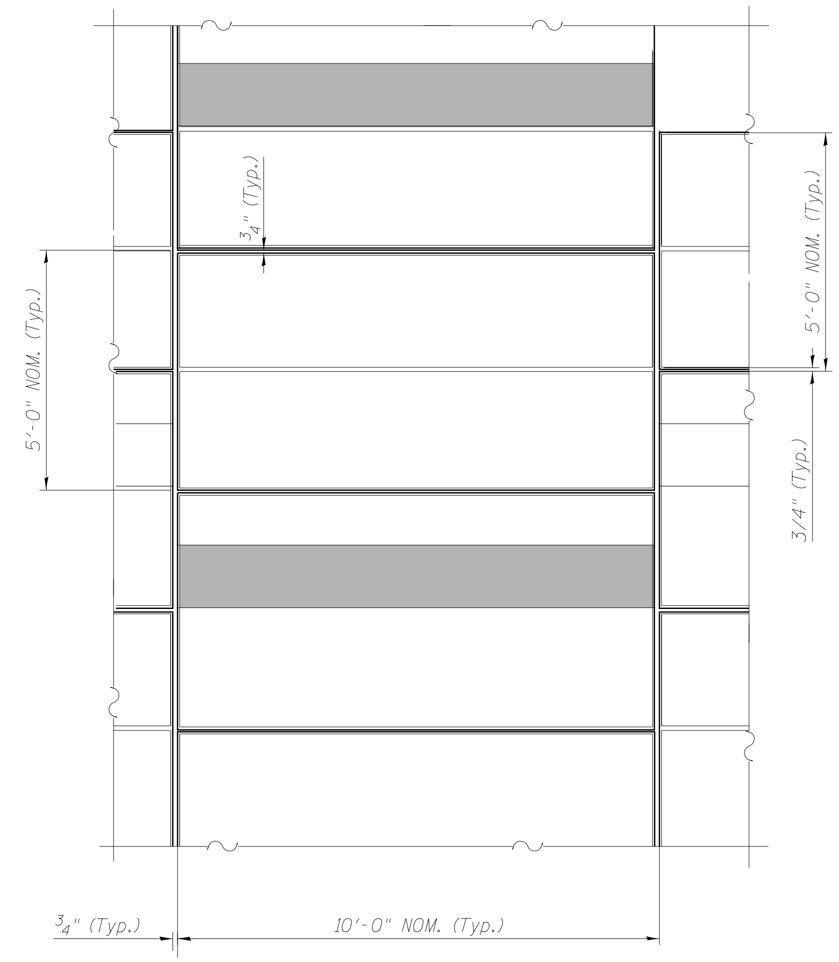
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL ARCHITECTURAL DETAILS 1
STRUCTURE NO. 016-1701
SHEET NO. S1-72 OF S1-83 SHEETS

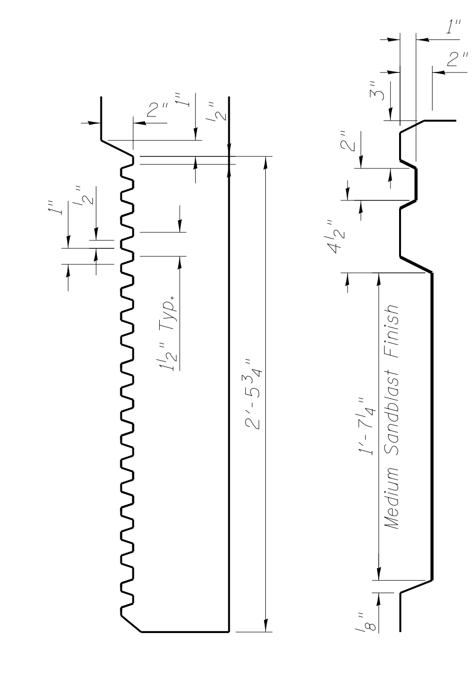
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	374
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			



TYPICAL CONCRETE PANELS DETAILS



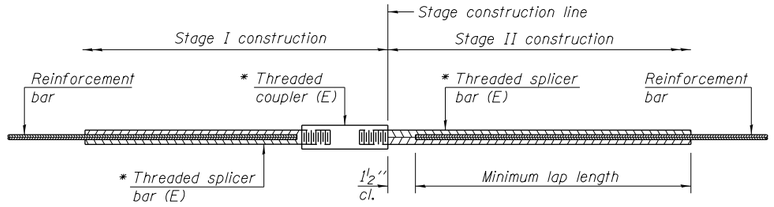
DETAIL



FORMLINER TEXTURE A

FORMLINER TEXTURE B

Notes:
Textured formliner for precast panels will not be paid separately and will be included in the cost of the pay item Mechanically Stabilized Earth Retaining Wall, Special.
Formliner layout numbering is typical for all MSE retaining walls in this Contract. Formliner details for precast panels are typ. for all panels shown in this Contract.
Verify / coordinate all dimensions with bridge plans.
MSE Supplier to determine precast panel dimensions based on proprietary design. The suggested 10'-0" Nom. width shown here may change depending on supplier. If this is the case, it will be addressed by the engineer and coordinated with the supplier during the Shop Drawing submittal and review.

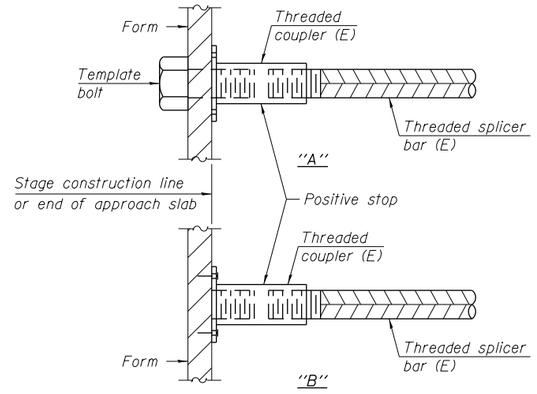


STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1½" + thread length

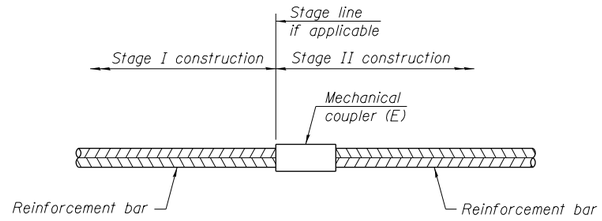
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length



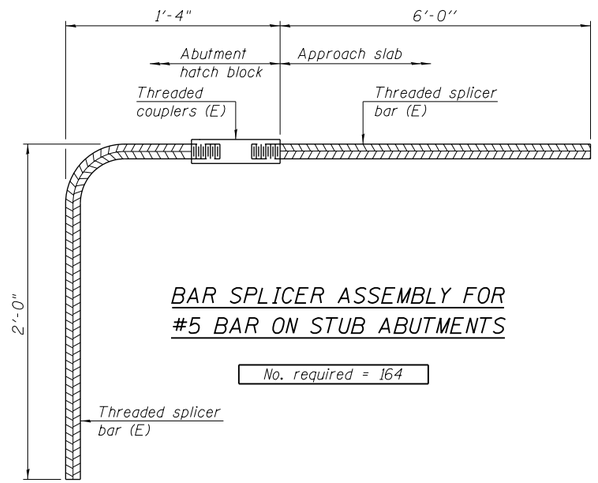
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

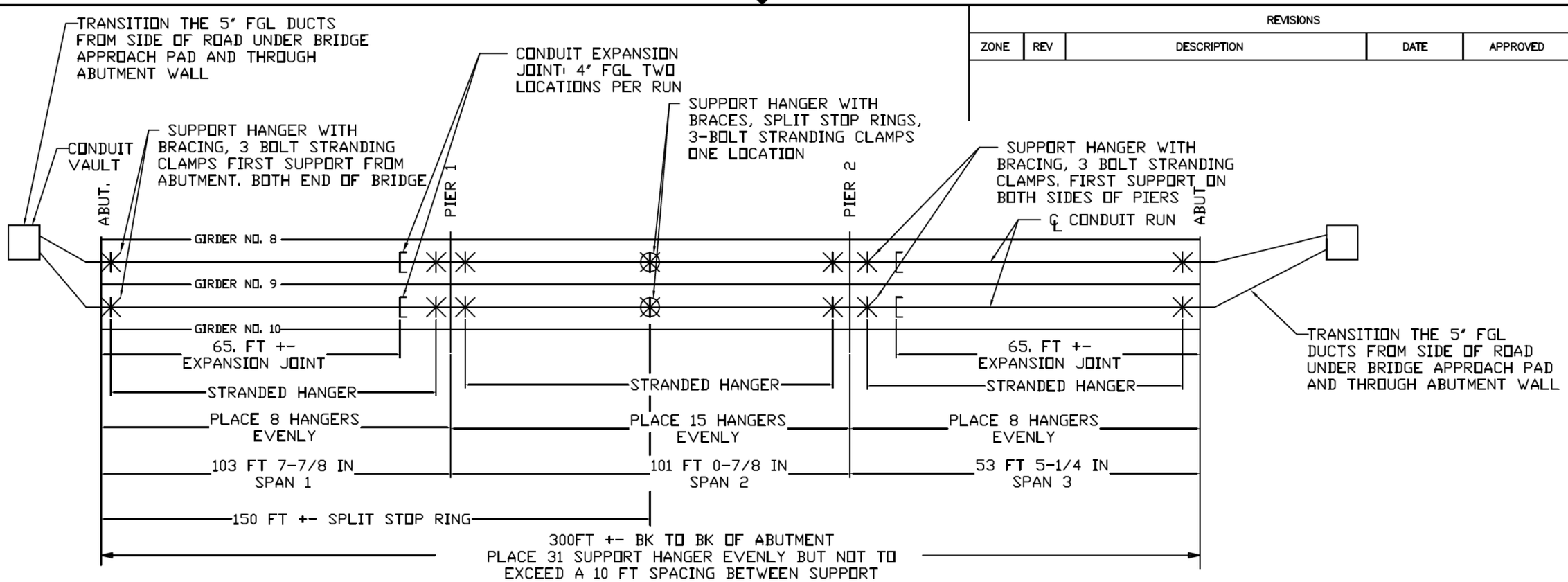
Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 164

Notes:
Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.



REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

NOTE
PLACE COM ED CONDUIT RUN BETWEEN BRIDGE GIRDERS 8 AND 9 AND 9 AND 10.
RUN CONDUITS THROUGH BRIDGE ABUTMENT BACK WALLS IN A 1 HIGH X 6 WIDE CONFIGURATION.
RUN GUY STRANDING FROM FIRST SUPPORT HANGER TO LAST HANGER IN EACH SPAN OF THE BRIDGE DECK. DO NOT CROSSING ANY BRIDGE DECK EXPANSION JOINTS.
THE CENTER MOST SUPPORT HANGER WILL HAVE BRACING AND FGL SPLIT STOP RINGS TO PREVENT CONDUIT FROM MOVING (SLIDING) THROUGH THAT SUPPORT.
EXPANSION JOINTS ARE REQUIRED IN TWO LOCATIONS ACROSS THE BRIDGE.

NOTES:
1. ALL MATERIALS REQUIRED FOR THE PLACEMENT OF THIS UNDER BRIDGE CONDUIT SYSTEM WILL BE PROVIDED BY COM ED.
2. FIBERGLASS CONDUIT 5" IPS (5.57 O.D. X .096 WALL) MEETING NEMA TC-14A.
3. ALL FIBERGLASS CONDUIT JOINTS ARE TO BE EPOXIED.
4. SPLIT STOP RINGS ARE TO BE EPOXIED TO EACH DUCT AT SPECIFIED SUPPORT HANGER LOCATIONS.
5. CONDUIT EXPANSION JOINTS ARE PLACED BETWEEN TWO SPECIFIED INTERMEDIATE HANGERS.
6. SUPPORT HANGERS AND INSERTS MANUFACTURED FROM CONDUX INTERNATIONAL, INC. OF MANKATO MN, PHONE: 1-800-533-2077 QUOTE NO. 3995256727
7. CONDUIT SUPPORT HANGER WEIGHT: 36.0 LBS EA
   FGL CONDUIT AND FITTINGS WEIGHT: 1.22 LBS PER FT
   CABLE 650 CU EXFSJ COMED ESP 5.3.8.2 WEIGHT: 8.4 LBS PER FT.
TOTAL WEIGHT ADDED 39,173.00 LBS

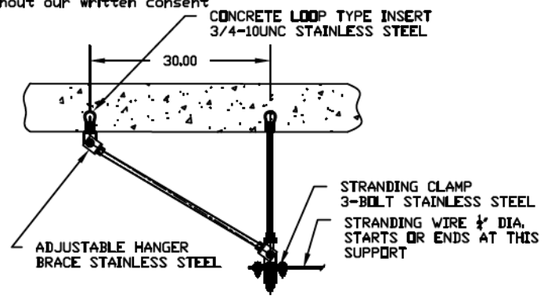
Note:
ALL MEASUREMENTS ARE IN INCHES UNLESS NOTED OTHERWISE

DRAWING APPROVAL
I _____
APPROVE THIS DRAWING FOR MANUFACTURING
DATE: _____

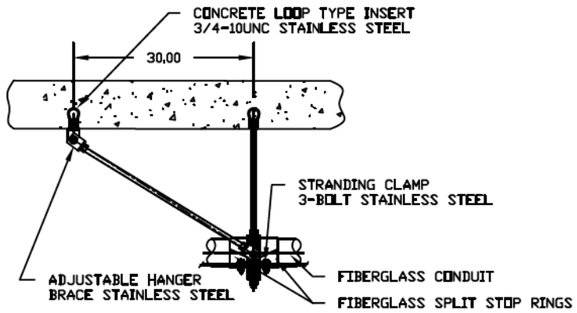
NOTE
THIS LAYOUT IS ONLY A CONCEPTUAL DESIGN
ALL DIMENSION NEED TO BE VERIFIED

Layout of support hangers and conduit and fittings	CONDUX INTERNATIONAL, INC. MANKATO MN PH. 800-533-2077			
	Project: COM ED ADAMS BLVD BRIDGE I-90/94			
WEIGHT: 0.0 LBS EA	SIZE	FSCM NO.	DWG NO. TBA	REV 2.0
QUOTE NO. 3995256727	SCALE NONE	DATE: 03-11-2020	SHEET S1-74A OF S1-83 (376A OF 825)	

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



STANDARD SUPPORT HANGER WITH BRACING, 3-BOLT STRANDING CLAMPS, LOCATIONS FIRST HANGER INSIDE EACH ABUTMENT AND FIRST HANGER ON BOTH SIDE OF PIERS

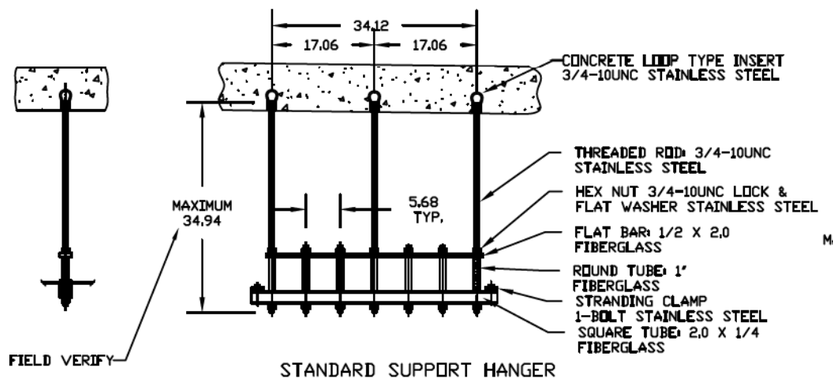


STANDARD SUPPORT HANGER WITH BRACING, FGL SPLIT STOP RINGS AND 3-BOLT CLAMPS 1 LOCATION

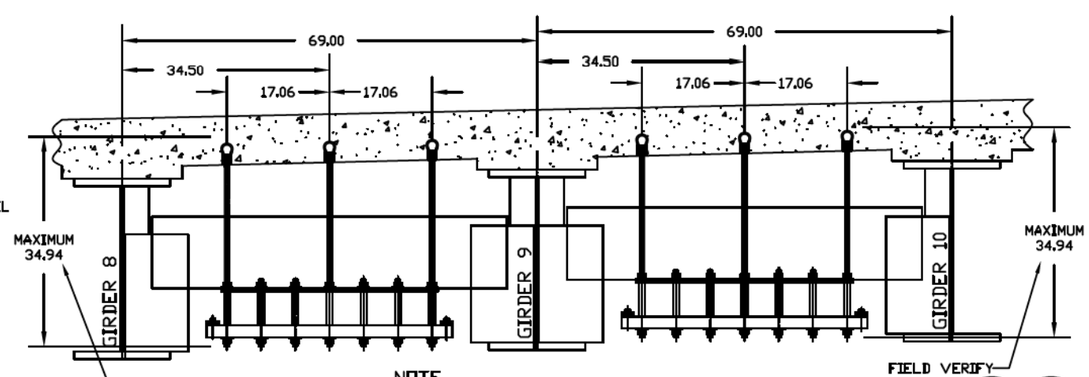
BILL OF MATERIAL

ITEM NO.	PART NO.	DESCRIPTION	QTY	UNIT
1	TBA	STANDARD CONDUIT SUPPORT HANGER: 1 HIGH X 6 WIDE FIBERGLASS AND STAINLESS STEEL, OPENING FOR TWELVE 5" FGL DUCTS THREADED RODS THREE @ 3/4-10UNC X 36.00 LONG	62	EA.
2	08610242	HANGER BRACE ADJUSTABLE 42 INCH STAINLESS STEEL	28	EA.
3	08409990	CONCRETE INSERT: 3/4-10 LOOP TYPE, STAINLESS STEEL	214	EA.
4	08558300	CONCRETE INSERT SETTING PLUG 3/4-10	214	EA.
5				
6	08408902	STRANDING WIRE: ¼ X 350 FT., STAINLESS STEEL	4	EA.
7	08409404	GUY STRAND CLAMP: 3-BOLT, STAINLESS STEEL	28	EA.
8	08409504	GUY STRAND CLAMP: 1-BOLT, STAINLESS STEEL	96	EA.
9	08460053	CONDUIT FIBERGLASS: 5" IPS, MW (5.57 O.D. X .096 WALL) MEETING NEMA TC-14A	3840	FT.
10	08460153	CONDUIT STOP COUPLING: 5" IPS MW	24	EA.
11	08460453	CONDUIT EXPANSION JOINT O-RING TYPE: 5" IPS MW	24	EA.
12	08460953	CONDUIT SPLIT STOP RING: 5" IPS MW	24	EA.
13	08461553	CONDUIT ADAPTER: 5" IPS MW TO 5" GRC	24	EA.
14	08463402	CONDUIT EPOXY ADHESIVE CARTRIDGE	38	EA.
15	02288990	CONDUIT EPOXY ADHESIVE GUN	1	EA.

General Construction, Hanger and Conduit Notes
1.0 Recommended spacing between Support is 10 foot.
2.0 Support Hanger Material shall be manufactured using 316 stainless steel and fiberglass components.
3.0 Conduit is 5 inch Fiberglass with minimum wall thickness of .096 inch meeting NEMA TC-14A Specs.
4.0 Conduit joints shall be positive locking adhesive bonded bell and spigot.
5.0 Conduit expansion joints shall be sliding sleeve with provision for 8 inch of travel.
6.0 Bridge abutments must have a block out or be sleeved to allow the fiberglass conduit to pass through. After conduit is placed through abutment seal up opening with state approved sealant.



STANDARD SUPPORT HANGER WITH 1-BOLT STRANDING CLAMPS



NOTE
NO PART OF THE CONDUIT SUPPORT HANGER CAN EXTEND BELOW THE BRIDGE GIRDER EXTENDED RODS MAY NEED TO BE ALTERED

NOTE
THIS LAYOUT IS ONLY A CONCEPTUAL DESIGN ALL DIMENSION NEED TO BE VERIFIED

Condux International, Inc. Support hanger meet the following specifications
Fiberglass Items
Flat Bar: ½ x 2.0
Round Tube: 1.0" O.D. .105 wall
Square Tube: 2 x 2 x 1/4
Fiberglass reinforced with polyester resin with surface veil for better weathering, resin shall contains u.v. inhibitor. Fiberglass is made with continuous strand mat and uni-directional roving. gray in color
Tensile Strength (ASTM D 638) 30,000 PSI
Tensile Modules (ASTM D 638) 2.3E6 PSI
Flexural Strength (ASTM D 790) 30,000 PSI
Flexural Modules (ASTM D 790) 2.3E6 PSI
Compressive Strength (ASTM D 695 20,000 PSI
Compressive Modules 1.4E6 PSI
Yield shear strength 2000 PSI
Barcol hardness 50
Dielectric strength (ASTM D 149) 200 VPM Min.

Stainless steel Hardware Items
Threaded Rod
Threaded rod meets (ASTM/ASME B1.1)
(ASTM A307 Grade A) (Tensile Strength 60,000 PSI)
Hexnut
Hexnut meets (ANSI/ASME B18.2.2)
Material: 316 Stainless steel (ASTM F594)
Flatwasher
Flatwasher meets (ANSI/ASME B18.22.1)
Material: 316 stainless steel (ASTM F436)
Lockwasher
Lockwasher meets (ANSI/ASME B18.21.1)
Material: 316 Stainless steel (ASTM F436)
Stranding Items
Stranding Clamps (1-Bolt & 3-Bolt)
Material: 1/4 x 1.5 (316 Stainless Steel)
Stranding Wire
Cable: ¼" Dia. (7 X 19 Steel Aircraft)
304 Stainless Steel
Bracing
Adjustable hanger attachment brackets
Material: angle 2.5 x 2.5 x .25 (316 Stainlss steel)

DRAWING APPROVAL
I _____
APPROVE THIS DRAWING FOR MANUFACTURING
DATE: _____

Note:
ALL MEASUREMENTS ARE IN INCHES UNLESS NOTED OTHERWISE

CONDUIT SUPPORT HANGER DETAIL AND BILL OF MATERIALS	CONDUX INTERNATIONAL, INC. MANKATO MN PH. 800-533-2077
	Project: Com Ed ADAMS BLVD BRIDGE I-90/94
WEIGHT: 0.0 LBS EA	SIZE: — FSCM NO.: — DWG NO.: TBA REV: 0
QUOTE NO. 3995256727	SCALE: 1/2 DATE: 03-11-2020 SHEET: S1-74B OF S1-83 (376B OF 825)

BORING LOG 0589-B-01

WEI Job No.: 1100-04-01

wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 594.82 ft
North: 1899347.34 ft
East: 1171345.80 ft
Station: 8311+86.85
Offset: 16.7442 LT

Elevation (ft)	Depth (ft)	SOIL AND ROCK DESCRIPTION	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
594.3	0	6-inch thick ASPHALT --PAVEMENT--					
593.3		12-inch thick CONCRETE --PAVEMENT--					
		Medium dense, brown and black GRAVELLY SAND; dry to moist --FILL--		1	5 5 6	NP	8
	5			2	1 8 5	NP	11
				3	4 6 6	NP	11
585.0	10	Very stiff to hard (4.0P), brown and gray SILTY CLAY LOAM, trace gravel		4	3 3 3	NP	13
				5	1 2 3	2.54 B	21
581.8	15	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel		6	1 2 2	0.41 B	23
				1	PUSH	0.50 P	22
		--In-Situ Vane Shear, 19.0 feet-- --$S_{u\,undis}$ = 958.3 psf-- --$S_{u\,remold}$ = 543.9 psf--		1			
	20						
		--Sensitivity = 1.76--					
	25			2	PUSH	0.25 P	22
	30			3	PUSH	0.25 P	24
		--In-Situ Vane Shear, 36.5 feet-- --$S_{u\,undis}$ = 802.9 psf-- --$S_{u\,remold}$ = 284.9 psf-- --Sensitivity = 2.82--		2			
	35						
	40						

GENERAL NOTES

Begin Drilling: 06-22-2014 Complete Drilling: 06-22-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: N&R Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 15', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100040.GPJ WANGENG.GDT 2/3/17

BORING LOG 0589-B-01

WEI Job No.: 1100-04-01

wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 594.82 ft
North: 1899347.34 ft
East: 1171345.80 ft
Station: 8311+86.85
Offset: 16.7442 LT

Elevation (ft)	Depth (ft)	SOIL AND ROCK DESCRIPTION	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	45			4	PUSH	< 0.25 P	24
		--In-Situ Vane Shear, 46.5 feet-- --$S_{u\,undis}$ = 1087.8 psf-- --$S_{u\,remold}$ = 647.5 psf-- --Sensitivity = 1.68--		3			
	50			5	PUSH	0.25 P	27
542.3		Very stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel					
	55			7	4 6 10	2.13 B	17
	60	--L_L(%)=28, P_L(%)=15-- --%Gravel=4.8-- --%Sand=16.4--		8	5 8 9	2.95 B	16
		--%Silt=55.6-- --%Clay=23.2-- --A-6 (8)--					
	65			9	8 9 12	3.94 B	15
	70			10	12 17 18	6.89 B	13
		--L_L(%)=37, P_L(%)=21-- --%Gravel=0.5-- --%Sand=1.9-- --%Silt=63.3-- --%Clay=34.3-- --A-6 (17)-		11	4 5 6	1.72 B	28
518.1	75	Gray GRAVELLY SANDY LOAM; moist					
515.8	80	Medium dense, gray LOAM; moist		12	12 10 10	NP	10

GENERAL NOTES

Begin Drilling: 06-22-2014 Complete Drilling: 06-22-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: N&R Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 15', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100040.GPJ WANGENG.GDT 2/3/17

BORING LOG 0589-B-01

WEI Job No.: 1100-04-01

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1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 594.82 ft
North: 1899347.34 ft
East: 1171345.80 ft
Station: 8311+86.85
Offset: 16.7442 LT

Elevation (ft)	Depth (ft)	SOIL AND ROCK DESCRIPTION	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
513.1	85	Dense, gray, fine to medium SAND; moist		13	12 16 17	NP	14
	90			14	13 17 20	NP	16
504.3		--DIFFICULT DRILLING at 90.5 -- Very dense, grayish DOLOSTONE fragments --WEATHERED BEDROCK--		15	50/1	NP	
		--AUGER REFUSAL--		16	50/2	NP	
501.1		Boring terminated at 93.50 ft					
	95						
	100						

GENERAL NOTES

Begin Drilling: 06-22-2014 Complete Drilling: 06-22-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: N&R Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 15', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100040.GPJ WANGENG.GDT 2/3/17

Notes:
Boring Log 0589-B-01 station and offset are measured along ℄ Adams St.

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BORING LOG 0589-B-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 577.91 ft
North: 1899272.85 ft
East: 1171495.74 ft
Station: 6149+79.82
Offset: 21.5012 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	578.3	4-inch thick ASPHALT						
	578.2	--PAVEMENT--						
		16-inch thick CONCRETE						
	577.9	--PAVEMENT--						
		Dense, white and gray CRUSHED STONE; dry			1	16 21 24	NP	4
	574.2	--BASE COURSE--						
		Very stiff, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel	5		2	3 5 5 5	2.79 S	14
	572.4	Very soft to soft, gray CLAY to SILTY CLAY, trace gravel			3	2 1 2 3	0.41 B	23
			10		4	1 1 1 2	0.41 B	24
					5	1 2 3	0.25 P	24
			15		6	0 1 2	0.66 B	23
					7	0 0 0	0.16 B	27
			20		8	0 0 0	0.33 B	26
	552.4	Stiff, gray SILTY CLAY LOAM, trace gravel	25		9	0 0 0	0.41 B	26
					10	0 0 1	0.41 B	24
	549.9	Soft to medium stiff, gray CLAY to SILTY CLAY LOAM, trace gravel			11	2 3 3	1.56 B	25
			30		12	0 0 2	0.66 B	25
	541.2	Very stiff to hard, gray SILTY CLAY LOAM, trace gravel			13	0 1 3	0.41 B	18
		--SAND seams; wet--	35		14	5 5 6	2.38 B	22
			40					

GENERAL NOTES

Begin Drilling: 07-13-2014 Complete Drilling: 07-17-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: A&K Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 64.50 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: 24 hours
Depth to Water: ▼ 77.00 ft

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 2/3/17

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BORING LOG 0589-B-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 577.91 ft
North: 1899272.85 ft
East: 1171495.74 ft
Station: 6149+79.82
Offset: 21.5012 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			45		15	4 5 7	5.25 B	13
			50		16	5 7 9	2.30 B	22
	521.2	Medium dense, gray SILTY LOAM, trace gravel; damp to moist			17	3 5 6	2.54 B	23
			60		18	3 5 5	NP	13
	513.4	Brown SANDY GRAVEL; saturated	65		19	4 4 5	NP	13
	511.2	Dense, gray SILTY LOAM, trace gravel; moist	70		20	12 14 22	NP	14
	506.2	Dense, gray SANDY LOAM, little gravel; wet	75		21	17 21 21	NP	13
	501.2	Brown and gray, SANDY GRAVEL; saturated			22	13 19 21	NP	21
	498.9	Dense, gray SILTY LOAM, trace gravel; wet	80					

GENERAL NOTES

Begin Drilling: 07-13-2014 Complete Drilling: 07-17-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: A&K Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 64.50 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: 24 hours
Depth to Water: ▼ 77.00 ft

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG 0589-B-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 577.91 ft
North: 1899272.85 ft
East: 1171495.74 ft
Station: 6149+79.82
Offset: 21.5012 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	496.2	Brown and gray, medium and coarse SAND, little gravel; wet						
	493.9	Dense, gray SILTY LOAM, trace gravel	85		23	11 13 19	NP	20
	489.4	--DIFFICULT DRILLING at 88.5 ft--						
		--WEATHERED BEDROCK--	90					
	483.9	Strong, light gray, excellent rock mass quality, bedded fresh DOLOSTONE, 1 to 3 feet beds, 1.4 feet joints spacing, horizontal joints with none to less than 0.2-inch infilling, hard joint wall, with stylolitic surfaces, and moderately vuggy porosity	95	CORE	1			
		--Run 1 - RECOVERY=100%-- --RQD=98%--	100					
	473.9	Boring terminated at 104.00 ft	105					
			110					
			115					
			120					

GENERAL NOTES

Begin Drilling: 07-13-2014 Complete Drilling: 07-17-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: A&K Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 64.50 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: 24 hours
Depth to Water: ▼ 77.00 ft

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 2/3/17

Notes:
Boring Log 0589-B-02 station and offset along ℄ Adams St. is: Sta. 8313+34.90, Offset 61.17' Rt.

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BORING LOG 0589-B-03

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 594.27 ft
North: 1899354.98 ft
East: 1171689.92 ft
Station: 8315+31.06
Offset: 15.8956 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	593.7	7-inch thick ASPHALT --PAVEMENT--							
	592.9	9-inch thick CONCRETE --PAVEMENT--							
		Loose to very dense, brown GRAVELLY SAND; dry to wet --FILL--				1	3 2 2	NP	5
			5			2	5 3 3	NP	5
						3	32 44 3	NP	11
	586.3	Very stiff, gray SILTY CLAY LOAM, trace gravel	10			4	4 6 7	2.62 B	20
	583.8	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel				5	1 2 2	0.66 B	25
			15			6	0 0 0	0.16 B	25
						7	1 2 1	< 0.25 P	29
			20			8	0 0 0	< 0.25 P	24
			25			9	0 0 0	0.25 B	26
						10	0 0 0	NR	
						11	0 0 0	< 0.25 P	26
		–L_L(%)=34, P_L(%)=16– –%Gravel=7.0– –%Sand=13.9– –%Silt=50.1– –%Clay=29.1– –A-6 (13)–	30			12	0 0 3	0.57 B	29
			35			13	1 2 2	< 0.25 P	28
			40			14	0 0 1	0.41 B	26

GENERAL NOTES

Begin Drilling: 06-19-2014 Complete Drilling: 06-22-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: P&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 5.50 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 2/3/17

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BORING LOG 0589-B-03

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 594.27 ft
North: 1899354.98 ft
East: 1171689.92 ft
Station: 8315+31.06
Offset: 15.8956 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			45			15	0 0 2	0.41 B	26
			50			16	1 2 4	0.66 B	25
			55			17	0 3 5	0.82 B	21
	537.5	Stiff to hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel	60			18	3 6 11	1.89 B	23
			65			19	3 6 8	2.71 B	19
			70			20	10 14 17	4.00 P	19
	522.5	Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	75			21	1 3 6	0.82 B	37
			80			22	7 7 11	< 0.25 P	26

GENERAL NOTES

Begin Drilling: 06-19-2014 Complete Drilling: 06-22-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: P&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 5.50 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 2/3/17

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BORING LOG 0589-B-03

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 594.27 ft
North: 1899354.98 ft
East: 1171689.92 ft
Station: 8315+31.06
Offset: 15.8956 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	512.5	Gray SILT; dry							
	510.3	Medium dense to dense, gray SAND, trace gravel; moist	85			23	8 10 12	NP	16
			90			24	14 18 26	NP	19
	502.5	Dense to very dense, gray GRAVELLY SAND; moist to saturated	95			25	13 13 20	NP	12
			100			26	19 27 35	NP	11
	490.4	Boring terminated at 103.82 ft	105			27	100/4"	NP	12
			110						
			115						
			120						

GENERAL NOTES

Begin Drilling: 06-19-2014 Complete Drilling: 06-22-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: P&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 5.50 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 2/3/17

Notes:
Boring Log 0589-B-03 station and offset are measured along ℄ Adams St.

151108 PM
016I701 60X94-S077-Boring_3.dgn

TranSystems

USER NAME = wjcollett	DESIGNED TLR	REVISED	
	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 3
STRUCTURE NO. 016-1701
SHEET NO. S1-77 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	379
		CONTRACT NO. 60X94		
ILLINOIS	FED. AID PROJECT			

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BORING LOG 08-RWB-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.35 ft
North: 1899261.44 ft
East: 1171382.28 ft
Station: 1310+67.92
Offset: 1.7942 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	579.0	4-inch thick, brown SILTY CLAY LOAM						
		Medium dense, gray SANDY GRAVEL; damp			1	8 10 6	NP	10
	576.3	Stiff, brown SILTY CLAY, trace gravel	5		2	2 2 2	1.07 B	25
	573.8	Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel			3	0 1 2	0.49 B	24
			10		4	0 2 2	1.15 B	17
					5	0 0 1	0.33 B	25
			15		6	0 0 2	0.41 B	28
					7	0 0 0	0.33 B	25
		--L_L(%)=36, P_I(%)=17-- --%Gravel=6.6-- --%Sand=13.3-- --%Silt=49.2--			8	0 0 1	0.33 B	27
		--%Clay=30.9-- --A-6 (14)--			9	0 0 0	0.33 B	26
			25		10	0 0 0	NR	
					11	0 0 0	0.33 B	25
			30		12	0 0 3	0.41 B	26
	542.8	Stiff to hard, gray SILTY CLAY, trace gravel						
			35		13	0 1 2	0.74 B	24
			40		14	3 3 4	1.89 B	21

WANGENGINC 1100040.GPJ WANGENG.GDT 2/9/17

GENERAL NOTES

Begin Drilling: 07-10-2014 Complete Drilling: 07-10-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: A&K Logger: A. Mohammed Checked by: C. Marin
Drilling Method: 3.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: Groundwater not observed
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG 08-RWB-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.35 ft
North: 1896261.44 ft
East: 1171382.28 ft
Station: 1310+67.92
Offset: 1.7942 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	617.6	Medium dense, gray SILT; damp						
			45		15	3 9 11	1.00 P	22
	614.3	Boring terminated at 65.00 ft	50		16	3 4 7	3.36 B	16
			55		17	4 9 9	4.51 B	24
			60		18	2 4 3	1.97 B	24
			65		19	29 12 6	NP	13
			70					
			75					
			80					

WANGENGINC 1100040.GPJ WANGENG.GDT 2/9/17

GENERAL NOTES

Begin Drilling: 07-10-2014 Complete Drilling: 07-10-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: A&K Logger: A. Mohammed Checked by: C. Marin
Drilling Method: 3.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: Groundwater not observed
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

Notes:
Boring Log 08-RWB-01 station and offset along Ⓔ Adams St. is: Sta. 8312+21.20, Offset 69.78' Rt.

BORING LOG 2054-B-03

WEI Job No.: 1100-04-01

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Telephone: 630 953-9928
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Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.44 ft
North: 1899739.53 ft
East: 1171580.53 ft
Station: 8414+35.27
Offset: 60.482 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		18-inch thick, ASPHALT --PAVEMENT--						
	577.9							
		Very dense, white and brown SANDY GRAVEL --AGGREGATE BASE--			1	16 33 18	NP	3
	575.7							
		Very stiff, gray SILTY CLAY LOAM, trace gravel	5		2	10 4 4	3.49 B	15
	573.9							
		Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel			3	2 2 2	0.41 B	19
			10		4	3 3 2	0.90 B	16
					5	0 0 2	0.25 B	22
			15		6	0 0 0	0.33 B	25
					7	0 0 0	0.16 B	26
			20		8	0 0 0	0.33 B	26
			25		9	0 0 2	0.16 B	26
					10	0 0 1	0.33 B	25
					11	0 1 2	0.41 B	26
			30		12	2 6 11	0.25 P	21
		–L_L(%)=37, P_L(%)=19– –%Gravel=1.8– –%Sand=13.8– –%Silt=48.4– –%Clay=35.9– –A-6 (15)–	35		13	0 1 3	0.66 B	26
			40		14	2 3 4	0.90 B	20

GENERAL NOTES

Begin Drilling: 09-13-2015 Complete Drilling: 09-14-2015
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&N Logger: A. Tomaras Checked by: C. Marin
Drilling Method: 3.25" HSA, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 66.75 ft
At Completion of Drilling: ▼ not observed
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

BORING LOG 2054-B-03

WEI Job No.: 1100-04-01

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Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.44 ft
North: 1899739.53 ft
East: 1171580.53 ft
Station: 8414+35.27
Offset: 60.482 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			45		15	4 4 9	0.75 P	21
	532.7							
		Stiff to very stiff, gray SILTY CLAY, trace gravel	50		16	4 7 10	3.36 B	16
			55		17	5 8 11	3.85 B	20
			60		18	5 7 8	2.50 N/6	
	515.6							
		Dense, gray SANDY LOAM; wet *interbedded SILT* --hard drilling--	65		19	6 14 25	NP	13
	512.7							
		Very dense, gray SILT; wet to saturated	70		20	38 50/5	NP	16
			75		21	30 50/5	NP	18
			80		22	26 36 44	NP	25

GENERAL NOTES

Begin Drilling: 09-13-2015 Complete Drilling: 09-14-2015
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&N Logger: A. Tomaras Checked by: C. Marin
Drilling Method: 3.25" HSA, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 66.75 ft
At Completion of Drilling: ▼ not observed
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

BORING LOG 2054-B-03

WEI Job No.: 1100-04-01

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.44 ft
North: 1899739.53 ft
East: 1171580.53 ft
Station: 8414+35.27
Offset: 60.482 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	492.7							
		Very dense, gray SANDY LOAM; saturated	85		23	31 37 36	NP	17
	487.7							
		Very dense, gray SILT; saturated	90		24	22 37 40	NP	17
			95		25	16 29 31	NP	16
	479.4		100		26	50/5	NP	17
		Strong, light gray, very poor rock quality, bedded, highly fragmented DOLOSTONE, 1-inch joint spacing, vertical and horizontal joints with more than 0.2 inch or no infilling, vuggy, with occasional stylolitic surfaces. --Run 1 -RECOVERY= 55%- --RQD= 0%- --poor rock RQD due to drilling issues--	105		1			
	469.4							
		Boring terminated at 110.00 ft	110					
			115					
			120					

GENERAL NOTES

Begin Drilling: 09-13-2015 Complete Drilling: 09-14-2015
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&N Logger: A. Tomaras Checked by: C. Marin
Drilling Method: 3.25" HSA, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 66.75 ft
At Completion of Drilling: ▼ not observed
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

Notes:
Boring Log 2054-B-03 station and offset along ℄ Adams St. Entrance Ramp is: Sta. 8344+02.36, Offset 26.37' Lt.

TranSystems

USER NAME = wjcollett	DESIGNED TLR	REVISED	
	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 5
STRUCTURE NO. 016-1701
SHEET NO. S1-79 OF S1-83 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1421	2014-015R&B-R	COOK	825	381
		CONTRACT NO. 60X94		
ILLINOIS FED. AID PROJECT				

BORING LOG 27-RWB-01

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.17 ft
North: 1899481.12 ft
East: 1171604.19 ft
Station: 6344+30.89
Offset: 14.5751 LT

Elevation (ft)	Soil and Rock Description
578.8	5-inch thick ASPHALT --PAVEMENT--
578.2	7-inch thick CONCRETE --PAVEMENT--
	Hard, brown SILTY CLAY LOAM, trace gravel --FILL--
576.2	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel

Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
1	4 2 5	4.10 B	15
2	1 1 1	0.16 B	27
3	0 1 1	0.16 B	25
4	1 1 1	< 0.25 P	23
5	0 1 1	0.41 B	25
6	0 0 2	0.49 B	25
7	1 1 2	0.57 B	25
8	1 2 4	0.57 B	26
9	0 2 1	0.33 B	27
10	1 1 2	< 0.25 P	30
11	0 1 1	0.57 B	26
12	0 2 2	0.57 B	25
13	2 3 3	< 0.25 P	29
14	2 4 6	0.98 B	24

GENERAL NOTES

Begin Drilling 06-23-2014 Complete Drilling 06-23-2014
Drilling Contractor Wang Testing Services Drill Rig D-50 TMR [78%]
Driller R&J Logger S. Woods Checked by C. Marin
Drilling Method 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling ▽ 72.00 ft
At Completion of Drilling ▼ mud in the borehole
Time After Drilling NA
Depth to Water ▼ NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100040 1.GPJ WANGENG.GDT 2/3/17

BORING LOG 27-RWB-01

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Telephone: 630 953-9928
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WEI Job No.: 1100-04-01
Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM
Datum: NAVD 88
Elevation: 579.17 ft
North: 1899481.12 ft
East: 1171604.19 ft
Station: 6344+30.89
Offset: 14.5751 LT

Elevation (ft)	Soil and Rock Description
537.4	Stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel
522.4	Stiff, gray CLAY to SILTY CLAY, trace gravel
517.4	Medium dense to very dense, gray SILTY LOAM, trace to little gravel; damp to moist
507.4	Dense, gray SAND, little gravel; wet to saturated
502.4	Very dense, gray SILT to SILTY LOAM; wet

Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
15	5 7 9	4.00 P	13
16	3 6 9	2.87 B	18
17	4 5 9	1.72 B	24
18	2 3 3	1.07 B	28
19	8 14 14	NP	13
20	24 29 50/4"	NP	19
21	21 19	NP	16
22	35 50/4"	NP	21

GENERAL NOTES
Begin Drilling 06-23-2014 Complete Drilling 06-23-2014
Drilling Contractor Wang Testing Services Drill Rig D-50 TMR [78%]
Driller R&J Logger S. Woods Checked by C. Marin
Drilling Method 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion
WATER LEVEL DATA
While Drilling ▽ 72.00 ft
At Completion of Drilling ▼ mud in the borehole
Time After Drilling NA
Depth to Water ▼ NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.
WANGENGINC 1100040 1.GPJ WANGENG.GDT 2/3/17

BORING LOG 27-RWB-01

Wang Engineering
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1145 N Main Street
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Telephone: 630 953-9928
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WEI Job No.: 1100-04-01
Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM
Datum: NAVD 88
Elevation: 579.17 ft
North: 1899481.12 ft
East: 1171604.19 ft
Station: 6344+30.89
Offset: 14.5751 LT

Elevation (ft)	Soil and Rock Description
483.2	--ROLLER BIT REFUSAL-- Boring terminated at 96.00 ft

Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
23	31 50/5"	NP	19
24	18 33 45	NP	26
25		NA	

GENERAL NOTES
Begin Drilling 06-23-2014 Complete Drilling 06-23-2014
Drilling Contractor Wang Testing Services Drill Rig D-50 TMR [78%]
Driller R&J Logger S. Woods Checked by C. Marin
Drilling Method 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion
WATER LEVEL DATA
While Drilling ▽ 72.00 ft
At Completion of Drilling ▼ mud in the borehole
Time After Drilling NA
Depth to Water ▼ NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.
WANGENGINC 1100040 1.GPJ WANGENG.GDT 2/3/17

Notes:
Boring Log 27-RWB-01 station and offset along ℄ Adams St. Entrance Ramp is: Sta. 8341+45.55, Offset 11.84' Rt.

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Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 27-RWB-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.64 ft
North: 1899634.17 ft
East: 1171605.63 ft
Station: 6345+83.90
Offset: 10.7197 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		Medium dense, gray GRAVELLY SAND; dry --FILL--			1	14 11 6	NP	5
	576.6	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	5		2	2 2 2	0.41 B	23
					3	1 1 1	0.41 B	26
			10		4	1 1 2	0.41 B	25
					5	1 1 2	0.25 B	25
			15		6	1 1 2	0.41 B	25
					7	1 1 1	0.41 B	17
			20		8	0 1 2	0.33 B	26
			25		9	1 1 2	0.33 B	26
					10	3 3 4	0.41 B	25
					11	1 2 2	0.41 B	26
			30		12	1 2 3	0.41 B	26
			35		13	2 2 2	0.16 B	26
			40		14	3 4 4	0.90 B	22

GENERAL NOTES

Begin Drilling: 06-24-2014 Complete Drilling: 06-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: N&K Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 62.00 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100X01.GPJ WANGENG.GDT 2/3/17

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BORING LOG 27-RWB-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.64 ft
North: 1899634.17 ft
East: 1171605.63 ft
Station: 6345+83.90
Offset: 10.7197 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	537.9	Stiff to very stiff, gray SILTY CLAY, trace gravel	45		15	3 4 6	2.87 B	17
			50		16	5 5 7	1.56 B	22
	522.9	Stiff, gray CLAY to SILTY CLAY, trace gravel --L_L(%)=41, P_L(%)=19-- --%Gravel=0.3-- --%Sand=1.6-- --%Silt=51.6--	55		17	6 8 11	3.53 B	21
			60		18	3 4 4	1.23 B	41
	617.9	--%Clay=46.5-- --A-7-6 (23)-- Dense, gray SANDY LOAM, trace gravel; moist	65		19	8 21 21	NP	13
	514.6	Boring terminated at 65.00 ft	70					
			75					
			80					

GENERAL NOTES

Begin Drilling: 06-24-2014 Complete Drilling: 06-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: N&K Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 62.00 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100X01.GPJ WANGENG.GDT 2/3/17

Notes:
Boring Log 27-RWB-02 station and offset along ℄ Adams St. Entrance Ramp is: Sta. 8342+98.44, Offset 4.61' Rt.

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1145 N Main Street
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BORING LOG 28-RWB-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.79 ft
North: 1899549.81 ft
East: 1171596.02 ft
Station: 8342+13.53
Offset: 5.5087 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	579.4	5-inch thick ASPHALT --PAVEMENT--						
	578.6	9-inch thick CONCRETE --PAVEMENT--						
		Dense, grayish white CRUSHED STONE; dry --BASE COURSE--			1	17 23 11	NP	4
	576.5	Stiff, gray SILTY CLAY LOAM --FILL--						
	575.8	Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	5		2	4 3 3	0.49 B	20
					3	1 2 2	0.25 B	22
			10		4	0 1 1	0.33 B	22
					5	0 1 2	0.33 B	21
			15		6	0 0 1	0.33 B	25
					7	0 0 0	0.33 B	24
			20		8	0 0 1	0.41 B	24
	543.0	Stiff to very stiff, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel						
			25		9	0 0 0	0.41 B	25
					10	0 0 0	0.41 B	26
					11	0 0 0	0.33 B	28
			30		12	0 0 0	0.25 B	26
					13	0 1 3	0.82 B	24
			35		14	2 4 6	1.64 B	20
			40					

GENERAL NOTES

Begin Drilling: 07-25-2014 Complete Drilling: 07-25-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 62.00 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100040.GPJ WANGENG.GDT 2/3/17

Wang Engineering
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Fax: 630 953-9938

BORING LOG 28-RWB-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.79 ft
North: 1899549.81 ft
East: 1171596.02 ft
Station: 8342+13.53
Offset: 5.5087 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--L_L(%)=30, P_L(%)=16-- --%Gravel=3.5-- --%Sand=15.0-- --%Silt=51.2-- --%Clay=30.4-- --A-6 (10)--	45		15	3 5 7	2.71 B	18
			50		16	4 7 10	2.79 B	19
	523.0	Very stiff, gray CLAY to SILTY CLAY, trace gravel						
			55		17	5 7 15	3.77 B	22
			60		18	3 5 7	2.21 B	25
	518.0	Medium dense, gray SILTY LOAM, trace gravel; moist						
			65		19	5 7 10	NP	22
	514.8	Boring terminated at 65.00 ft						
			70					
			75					
			80					

GENERAL NOTES

Begin Drilling: 07-25-2014 Complete Drilling: 07-25-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 62.00 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100040.GPJ WANGENG.GDT 2/3/17

Notes:
Boring Log 28-RWB-01 station and offset along ℄ Adams St. Entrance Ramp is: Sta. 8342+13.67, Offset 0.21' Lt.

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BORING LOG 28-RWB-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.73 ft
North: 1899716.72 ft
East: 1171586.62 ft
Station: 6154+17.38
Offset: 60.7088 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	579.4	4-inch thick, ASPHALT --PAVEMENT--						
	578.6	17-inch thick, CONCRETE with rebar --PAVEMENT--						
		Medium to very dense, white CRUSHED STONE; dry --BASE COURSE--			1	19 33 28	NP	4
	575.4	Hard, brown and gray SILTY CLAY LOAM, trace gravel	5		2	10 5 5	NP	5
	574.2	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel			3	1 2 2	0.41 B	21
			10		4	0 0 2	0.16 B	29
					5	0 0 0	0.25 B	32
			15		6	0 0 2	0.33 B	26
					7	0 0 1	0.33 B	23
			20		8	0 0 1	0.41 B	23
	543.0	Stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel	25		9	0 0 2	0.16 B	26
					10	0 0 2	0.33 B	26
			30		11	0 0 2	0.33 B	25
					12	0 0 2	0.33 B	25
			35		13	0 2 3	0.57 B	26
			40		14	2 3 4	1.07 B	22

GENERAL NOTES

Begin Drilling: 07-24-2014 Complete Drilling: 07-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: A&K Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 62.00 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100040.GPJ WANGENG.GDT 2/9/17

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BORING LOG 28-RWB-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.73 ft
North: 1899716.72 ft
East: 1171586.62 ft
Station: 6154+17.38
Offset: 60.7088 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	518.0	Dense, gray SANDY LOAM, trace gravel; moist						
			45		15	3 5 7	1.80 B	21
	514.7	Boring terminated at 65.00 ft	65		19	8 20 19	NP	15
			50		16	4 5 8	2.13 B	22
			55		17	6 9 15	4.26 B	22
			60		18	6 8 12	2.95 B	17
			70					
			75					
			80					

GENERAL NOTES

Begin Drilling: 07-24-2014 Complete Drilling: 07-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: A&K Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 62.00 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100040.GPJ WANGENG.GDT 2/9/17

Notes:
Boring Log 28-RWB-02 station and offset along ℄ Adams St. Entrance Ramp is: Sta. 8343+79.78, Offset 19.04' Lt.

Bench Mark: Cut "X" on southwest balcony of Jackson Blvd. Bridge. Elev. 597.26.

Existing Structure: SN 016-0588. Constructed in 1955 under F.A.I. Route 173, Section 0101.2-2B. Repairs were made to the bridge in 2002 under Section 0101-2-1B-R-1. Three span bridge that measures 199'-9" from back to back of abutments. Out-to-out width varies from 67'-11¾" to 72'-1". The spans are supported by 36" wide flange beams. Substructure is reinforced concrete closed abutments and multi-column piers founded on timber piles. The foundation of the west pier is founded on caissons. The Existing Jackson Entrance Ramp is offset 90° from the centerline of Jackson Boulevard. Three span bridge that measures 169'-10" from back of north abutment to the centerline of the north fascia beam on Jackson Boulevard. Out-to-out width is 22'-6". The spans are supported by 24" wide flange beams. Substructure is reinforced concrete closed north abutment and single hammerhead pier founded on caissons. A concrete cantilever retaining wall extends north of the north abutment for 215'-0". The existing bridge superstructure, piers, and ramp retaining wall were removed as part of Contract 62J31. The existing bridge abutments and wingwalls will be removed in this contract.

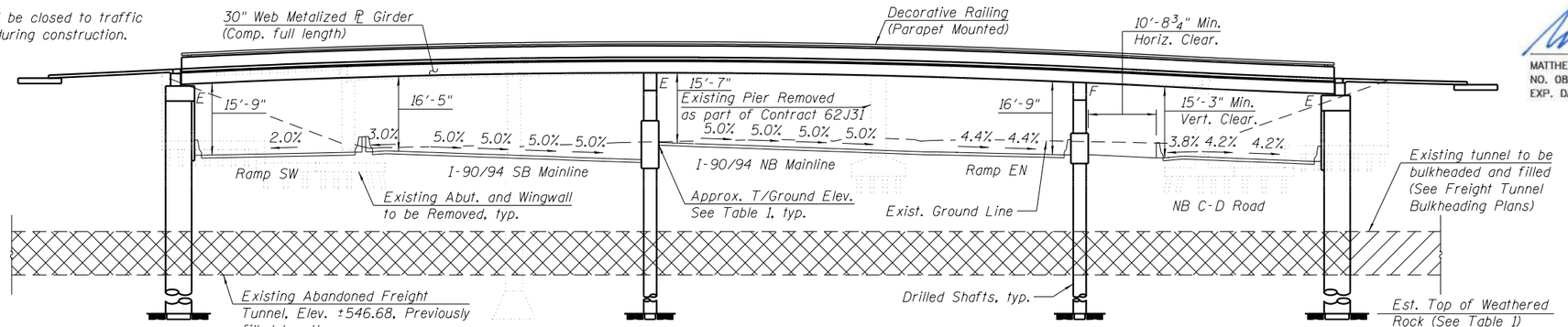
The bridge will be closed to traffic and detoured during construction.

No Salvage.

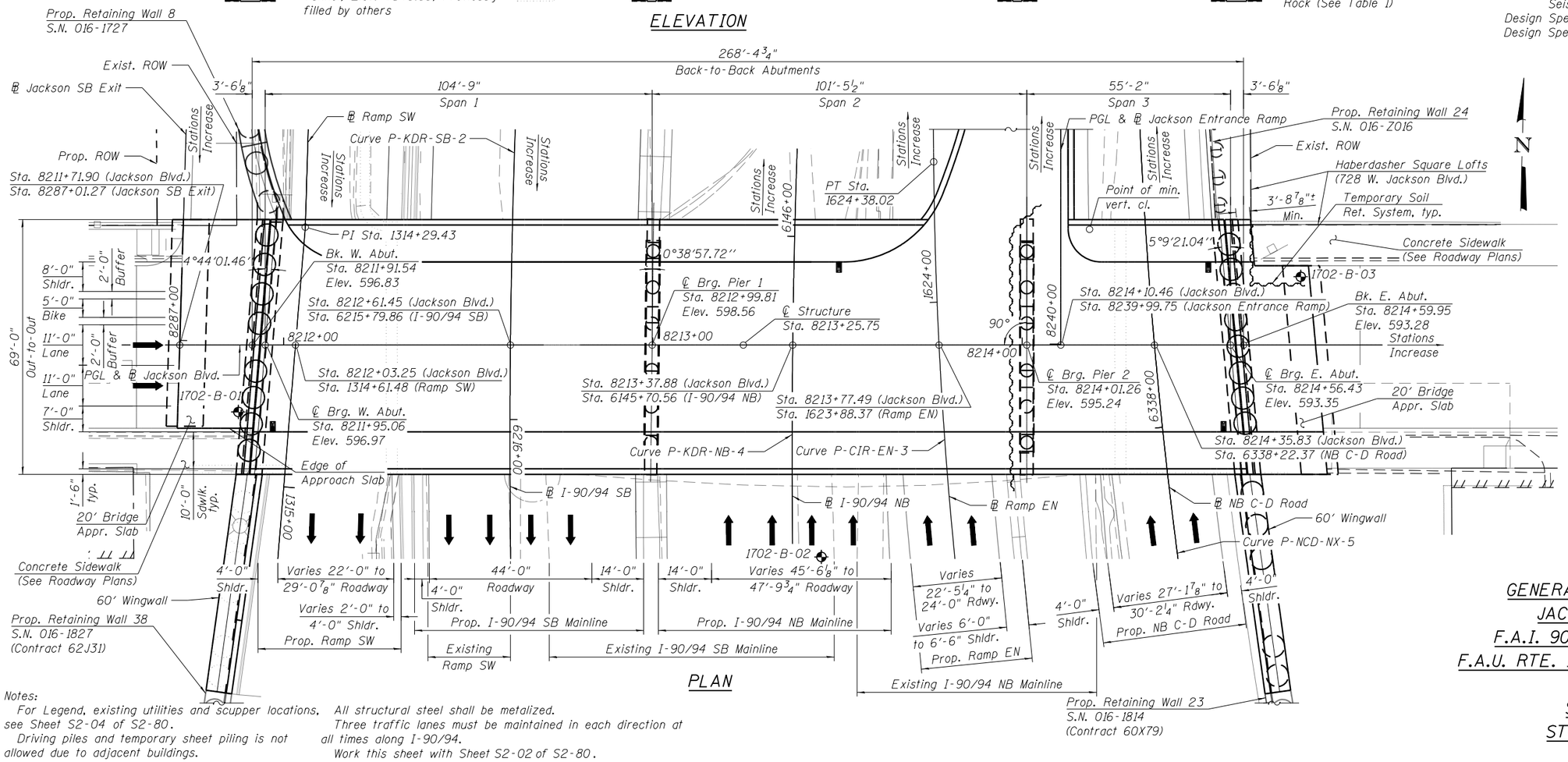
MATTHEW D. SANTEFORD
081-007244
LICENSED STRUCTURAL ENGINEER
OF
STATE OF ILLINOIS

03-06-2020

MATTHEW D. SANTEFORD, P.E., S.E.
NO. 081-007244
EXP. DATE 11/30/2020



ELEVATION



PLAN

Notes:

For Legend, existing utilities and scupper locations, see Sheet S2-04 of S2-80.

Driving piles and temporary sheet piling is not allowed due to adjacent buildings.

All structural steel shall be metalized.

Three traffic lanes must be maintained in each direction at all times along I-90/94.

Work this sheet with Sheet S2-02 of S2-80.

TABLE 1

Location	Approx. T/Ground Elev.	Approx. T/Weather. Rock Elev.
W. Abut.	576.74	487.80
Pier 1	575.35	489.40
Pier 2	574.36	489.40
E. Abut.	573.14	489.00

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.085g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.144g
Soil Site Class = D

LOADING HL-93

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

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications 8th Edition

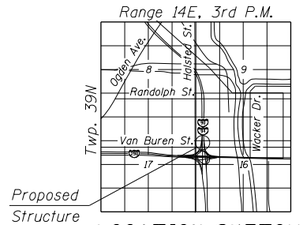
DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
f'c = 4,000 psi (Superstructure Concrete)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

PRECAST UNITS

f'c = 4,500 psi



LOCATION SKETCH

GENERAL PLAN AND ELEVATION 1
JACKSON BOULEVARD OVER
F.A.I. 90/94 (KENNEDY EXPRESSWAY)
F.A.U. RTE. 1422 - SECTION 2014-015R&B-R
COOK COUNTY
STATION 8213+25.75
STRUCTURE NO. 016-1702

USER NAME = wjcollett	DESIGNED WJC	REVISED	
	CHECKED MDS/TLR	REVISED	
PLOT SCALE = NTS	DRAWN WJC	REVISED	
PLOT DATE = 3/5/2020	CHECKED MDS/TLR	REVISED	

TranSystems

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S2-01 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	386
		CONTRACT NO. 60X94		
		ILLINOIS FED. AID PROJECT		

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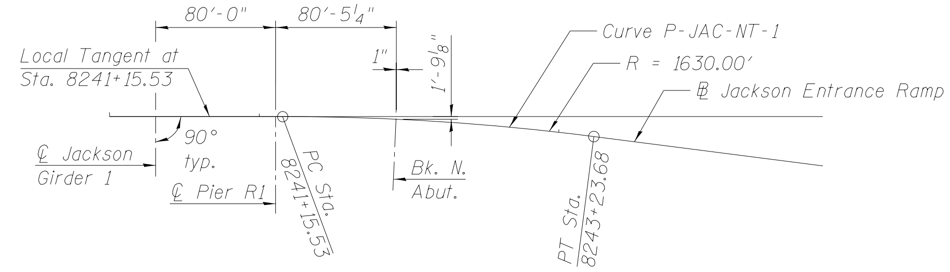
Notes:
Work this sheet with Sheet S2-01 of S2-80.
For Legend, see Sheet S2-04 of S2-80.
For existing utilities and scupper locations, see Sheet S2-05 of S2-80.
Offsets are measured from the ℙ Jackson Entrance Ramp to the front face of the precast panel. Elevations are shown at the top of the barrier.
Span lengths are measured along the ℙ Jackson Entrance Ramp.



OFFSET SKETCH - JACKSON ENTRANCE RAMP

TABLE 2

Location	Approx. T/Ground Elev.	Approx. T/Weather. Rock Elev.
Pier R1	574.81	486.50
N. Abut.	575.30	486.50

CURVE DATA (ℙ Jackson Entrance Ramp)

P-JAC-NT-1
P.I. Sta. = 8242+19.75
Δ = 7°19'00" (RT)
D = 3°30'54"
R = 1,630.00'
T = 104.22'
L = 208.15'
E = 3.33'
e = 2.60%
T.R. = 50'
S.E. Run = 64'
P.C. Sta. = 8241+15.53
P.T. Sta. = 8243+23.68

CURVE DATA (ℙ I-90/94 SB)

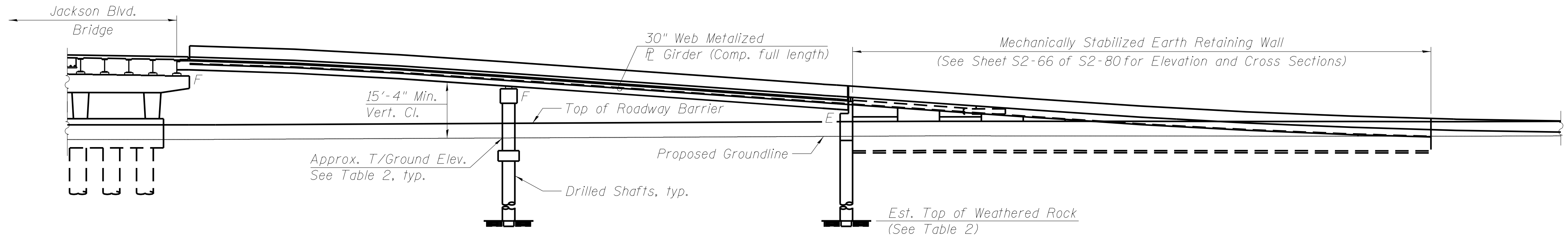
P-KDR-SB-2
P.I. Sta. = 6217+28.62
Δ = 10°41'00" (LT)
D = 2°17'50"
R = 2,494.00'
T = 233.19'
L = 465.03'
E = 10.88'
e = 5.00%
T.R. = 107'
S.E. Run = 268'
P.C. Sta. = 6214+95.43
P.T. Sta. = 6219+60.46

CURVE DATA (ℙ I-90/94 NB)

P-KDR-NB-4
P.I. Sta. = 6143+87.92
Δ = 12°26'15" (RT)
D = 2°22'10"
R = 2,418.00'
T = 263.48'
L = 524.89'
E = 14.31'
e = 5.00%
T.R. = 80'
S.E. Run = 268'
P.C. Sta. = 6141+24.44
P.T. Sta. = 6146+49.33

CURVE DATA (ℙ Ramp EN)

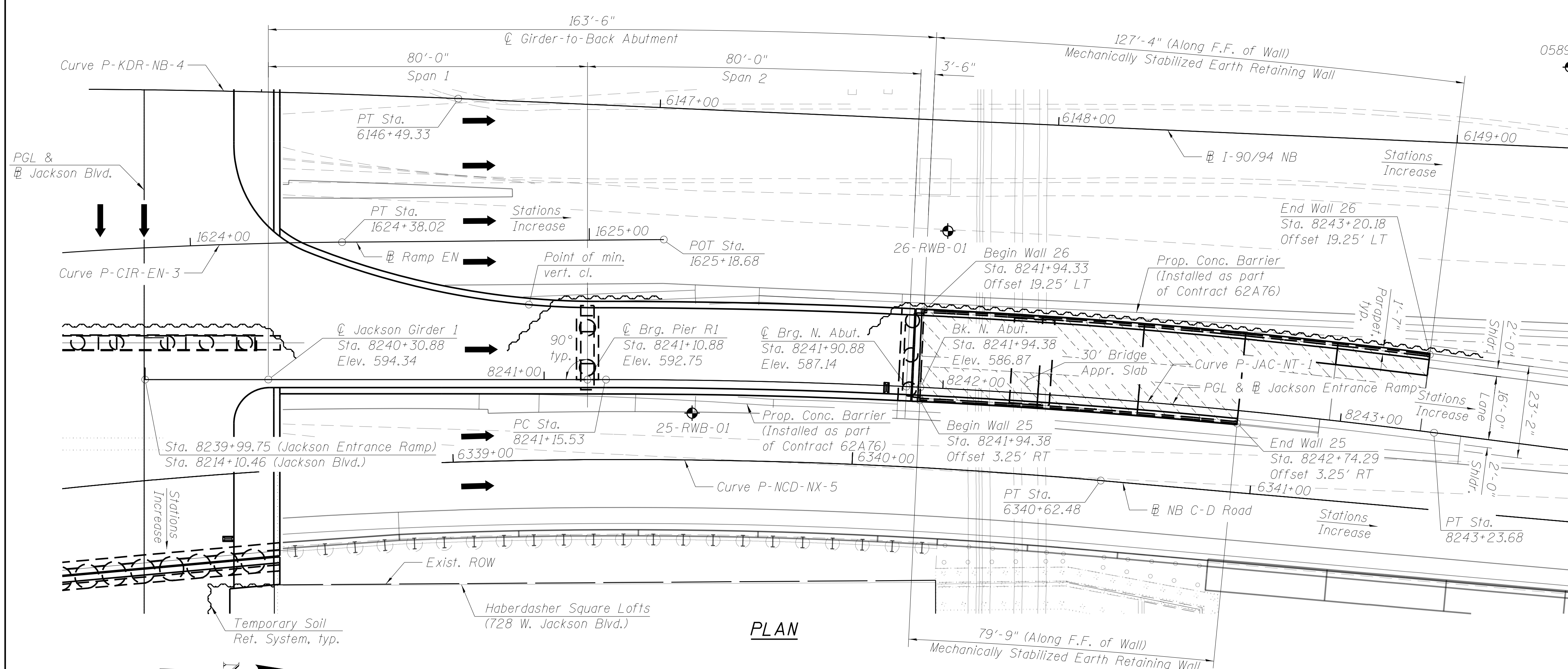
P-CIR-EN-3
P.I. Sta. = 1621+43.96
Δ = 28°56'55" (RT)
D = 4°48'53"
R = 1,190.00'
T = 307.19'
L = 601.25'
E = 39.01'
e = 4.40%
T.R. = 42'
S.E. Run = 91'
P.C. Sta. = 1618+36.77
P.T. Sta. = 1624+38.02



ELEVATION

CURVE DATA (ℙ NB C-D Road)

P-NCD-NX-5
P.I. Sta. = 6336+57.47
Δ = 35°13'41" (RT)
D = 4°12'24"
R = 1,362.00'
T = 432.42'
L = 837.42'
E = 67.00'
e = 4.20%
T.R. = 42'
S.E. Run = 87'
P.C. Sta. = 6332+25.05
P.T. Sta. = 6340+62.48



PLAN

GENERAL PLAN AND ELEVATION 2
JACKSON ENTRANCE RAMP OVER
F.A.I. 90/94 (KENNEDY EXPRESSWAY)
F.A.U. RTE. 1422 - SECTION 2014-015R&B-R
COOK COUNTY
STATION 8241+10.88
STRUCTURE NO. 016-1702

TranSystems				
USER NAME = wjcolletti	DESIGNED	WJC	REVISED	
	CHECKED	TLR	REVISED	
PLOT SCALE = NTS	DRAWN	WJC	REVISED	
PLOT DATE = 3/5/2020	CHECKED	TLR	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S2-02 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	387
		CONTRACT NO. 60X94		
		ILLINOIS FED. AID PROJECT		

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GENERAL NOTES:

1. Fasteners shall be ASTM A325 Type 1, hot dip galvanized bolts. Bolts $^{7}/_{8}$ in. ϕ, holes $^{15}/_{16}$ in. ϕ, unless otherwise noted.
2. Calculated weight of Structural Steel = 979,270 pounds (AASHTO M270 Grade 50).
3. All structural steel shall be metalized (see Special Provision).
4. Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.
5. No field welding is permitted except as specified in the contract documents.
6. Reinforcement bars designated (E) shall be epoxy coated.
7. Plan dimension and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
8. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $^{1}/_{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
9. Concrete Sealer shall be applied to the designated areas of the Piers, Abutments, Wingwalls and Retaining Walls.
10. For Conduit Attached to Structure quantities and details, see Electrical Plans.
11. The contractor shall exercise extreme caution during construction to make certain that construction activities, live load surcharge and other loads applied to the structures will not have detrimental effects on the adjacent building foundations. Any damage during construction shall be repaired by the contractor at his expense and no charge to the department. Driving piles and temporary sheet piling is not allowed.
12. Slipforming of parapets is not allowed.
13. For drilled shaft locations where permanent casing is required as shown on the plans, the casing will be paid for under the Permanent Casing pay item. If contractor elects to use permanent casing for ease of construction in locations where permanent casing is not required on the plans, the casing will not be paid for separately and is included in the Drilled Shaft in Soil pay item.
14. Limited groundwater elevation data is available in the boring logs. In addition, groundwater may also be present in deeper granular layers. The groundwater may rise in the shafts to an elevation above the top of granular layers. The Contractor shall consider this information when choosing construction methods. The Contractor will not be compensated for issues related to the groundwater elevation.
15. The Contractor shall take all necessary precautions not to contaminate groundwater during the drilled shaft construction operation. Contractor is responsible for the proper containment and disposal of the contaminated groundwater and spoils resulting from Contractor's means and methods. No additional cost will be paid for this effort.
16. The Contractor shall field verify location of existing utilities prior to construction. The Contractor shall take precautions not to damage existing utilities. Any such damage shall be repaired by the Contractor at no additional cost. The Contractor shall locate ComEd ductbanks prior to preparation of MSE shop drawings.
17. Structural steel erection shall be accomplished by a steel erection contractor or subcontractor certified as an Advanced Certified Steel Erector (ACSE) by the American Institute of Steel Construction (AISC). See special provision for Erection of Complex Steel Structures.
18. The Drilled Shaft quantities and reinforcement detailing are based on the estimated elevations shown on the plans. The actual elevations may differ at each shaft locations and corresponding adjustments shall be made to the drilled shaft and reinforcement quantities and payment limits.
19. Based on the squeeze potential of the clay soils, the use of temporary casing will be required to Elevation 540.00 in order to properly construct the drilled shafts. Casing may be pulled or left in place, as determined by the Contractor at no cost to the Department.
20. The Contractor shall coordinate the construction of the proposed structure with the construction of the proposed Retaining Wall 24, Retaining Wall 37, Retaining Wall 8 and the proposed Adams St. Bridge. See MOT plan sheets and special provisions, including the Available Work Areas and Sequencing Requirements special provision, for additional construction and coordination requirements.
21. The Contractor shall provide vibration and displacement monitoring at the locations specified in the Special Provision for Construction Vibration Monitoring and Monitoring Adjacent Structures, to ensure that removal/construction activities in the vicinity of the structures do not have detrimental effects on building foundations. No additional compensation shall be provided to the Contractor for alternative means and methods, or additional precautionary measures, required during removal/construction activities to satisfy these requirements. See Contract Special Provisions for details.
22. MSE Wall supplier shall design the MSE Wall assuming granular reinforced mass with an effective internal friction angle of 34 degrees and unit weight of 120 lbs./cu. ft. For embankment behind granular reinforced mass, an embankment unit weight of 120 lbs./cu. ft and an effective friction angle of 30 degrees shall be used in the wall system design.
23. All Lightweight Cellular Concrete Fill for the abutments and wingwalls shall be Class I. All Lightweight Cellular Concrete Fill for the MSE retaining wall shall be Class III. See Special Provisions.
24. Bridge Deck Grooving shall be applied to the Jackson Bridge deck and the west and east approach slabs. Bridge Deck Grooving (Longitudinal) shall be applied to the Jackson Ramp deck, north approach slab, and entrance ramp concrete and anchorage slabs.
25. If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

STATION 8213+25.75
BUILT 20-- BY
STATE OF ILLINOIS
F.A.U. RT. 1422 SEC. 2014-015R&B-R
LOADING HL-93
STR. NO. 016-1702

NAME PLATE
See Std. 515001

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total Quantity
Concrete Removal	Cu. Yd.		676	676
Structure Excavation	Cu. Yd.		4,720	4,720
Concrete Structures	Cu. Yd.		640.2	640.2
Rubbed Finish	Sq. Ft.		3,526	3,526
Concrete Superstructure	Cu. Yd.	1,022.3		1,022.3
Bridge Deck Grooving	Sq. Yd.	1,669		1,669
Form Liner Textured Surface	Sq. Ft.		1,263	1,263
Protective Coat	Sq. Yd.	3,346		3,346
Concrete Superstructure (Approach Slab)	Cu. Yd.	141.4		141.4
Furnishing And Erecting Structural Steel	L. Sum	0.5		0.5
Stud Shear Connectors	Each	22,791		22,791
Reinforcement Bars	Pound		549,800	549,800
Reinforcement Bars, Epoxy Coated	Pound	288,480	161,200	449,680
Bar Splicers	Each		152	152
Mechanical Splicers	Each		144	144
Name Plates	Each		1	1
Permanent Casing	Foot		2,244	2,244
Drilled Shaft in Soil	Cu. Yd.		2,826.5	2,826.5
Drilled Shaft in Rock	Cu. Yd.		77.5	77.5
Preformed Joint Strip Seal	Foot	156		156
Elastomeric Bearing Assembly, Type I	Each	40		40
Anchor Bolts, 5/8"	Each	100		100
Anchor Bolts, 3/4"	Each	16		16
Anchor Bolts, 1"	Each	28		28
Temporary Soil Retention System	Sq. Ft.		1,284	1,284
Concrete Sealer	Sq. Ft.		14,655	14,655
Geocomposite Wall Drain	Sq. Yd.		10	10
Crosshole Sonic Logging Access Ducts	Foot		1,847	1,847
Crosshole Sonic Logging Testing	Each		5	5
Class SI Concrete (Miscellaneous)	Cu. Yd.		211.7	211.7
Lightweight Cellular Concrete Fill	Cu. Yd.		1,447	1,447
Decorative Railing (Parapet Mounted)	Foot	470		470
Steel Railing Removal	Foot		137	137
Slope Inclinometer	Each		1	1
Detectable Warnings (Special)	Sq. Ft.		92	92
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	605		605
High Load Multi-Rotational Bearings, Fixed - 200K	Each	11		11
High Load Multi-Rotational Bearings, Fixed - 300K	Each	4		4
High Load Multi-Rotational Bearings, Fixed - 500K	Each	1		1
Bonded Preformed Joint Sealer, 2 Inch	Foot		55	55
Drainage Scuppers, DS-11	Each	1		1
Drainage Scuppers, DS-12	Each	5		5
Drainage System	L. Sum	0.5		0.5
Mechanically Stabilized Earth Retaining Wall, Special	Sq. Ft.		1,755	1,755
Pipe Underdrains For Structures 4"	Foot		284	284
Removal Of Ornamental Cladding	Foot		137	137

INDEX OF SHEETS

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TranSystems

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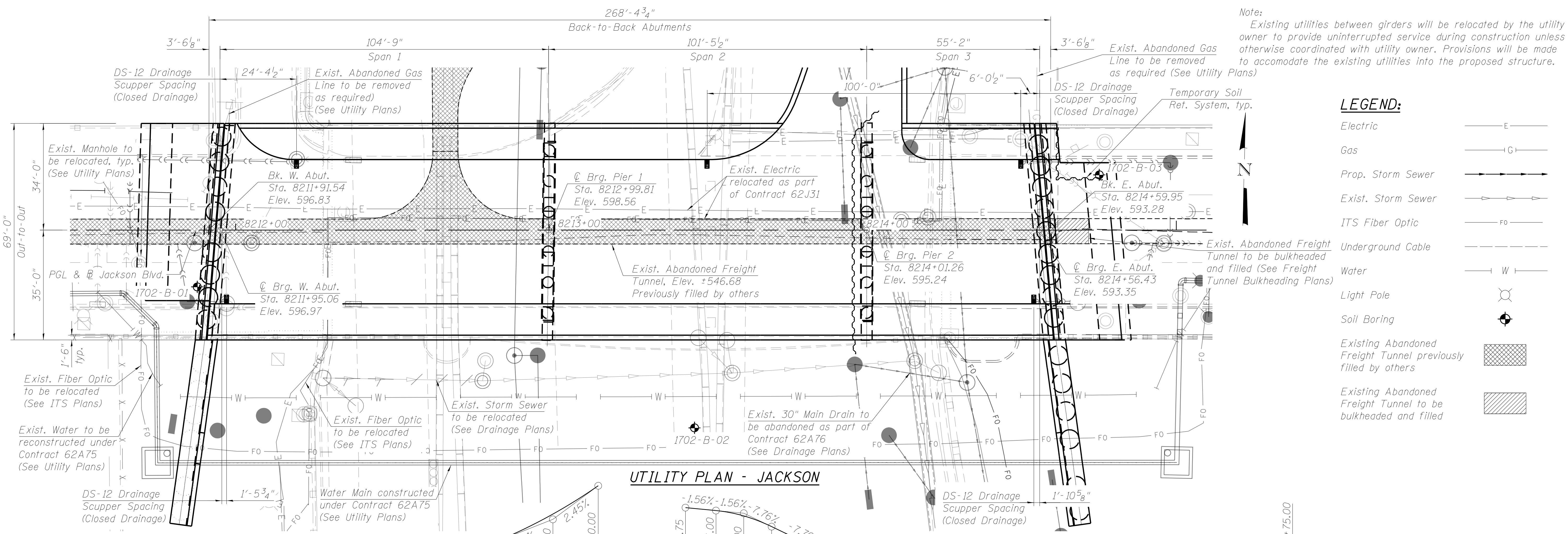
	CHECKED MDS	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/12/2020	CHECKED WJC	REVISED	

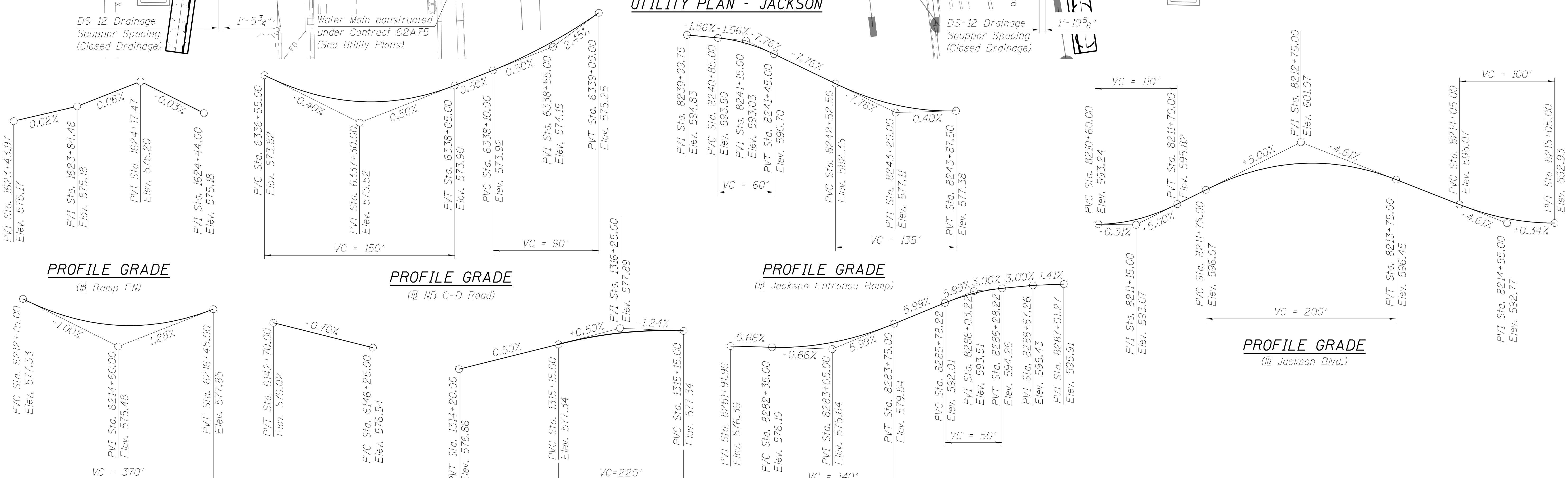
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA 1
STRUCTURE NO. 016-1702
SHEET NO. S2-03 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	388
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

Note:
Existing utilities between girders will be relocated by the utility owner to provide uninterrupted service during construction unless otherwise coordinated with utility owner. Provisions will be made to accomodate the existing utilities into the proposed structure.





PROFILE GRADE (℄ Ramp EN)

PROFILE GRADE (℄ NB C-D Road)

PROFILE GRADE (℄ Jackson Entrance Ramp)

PROFILE GRADE (℄ Jackson Blvd.)

PROFILE GRADE (℄ I-90/94 SB)

PROFILE GRADE (℄ I-90/94 NB)

PROFILE GRADE (℄ Ramp SW)

PROFILE GRADE (℄ Jackson Exit Ramp)

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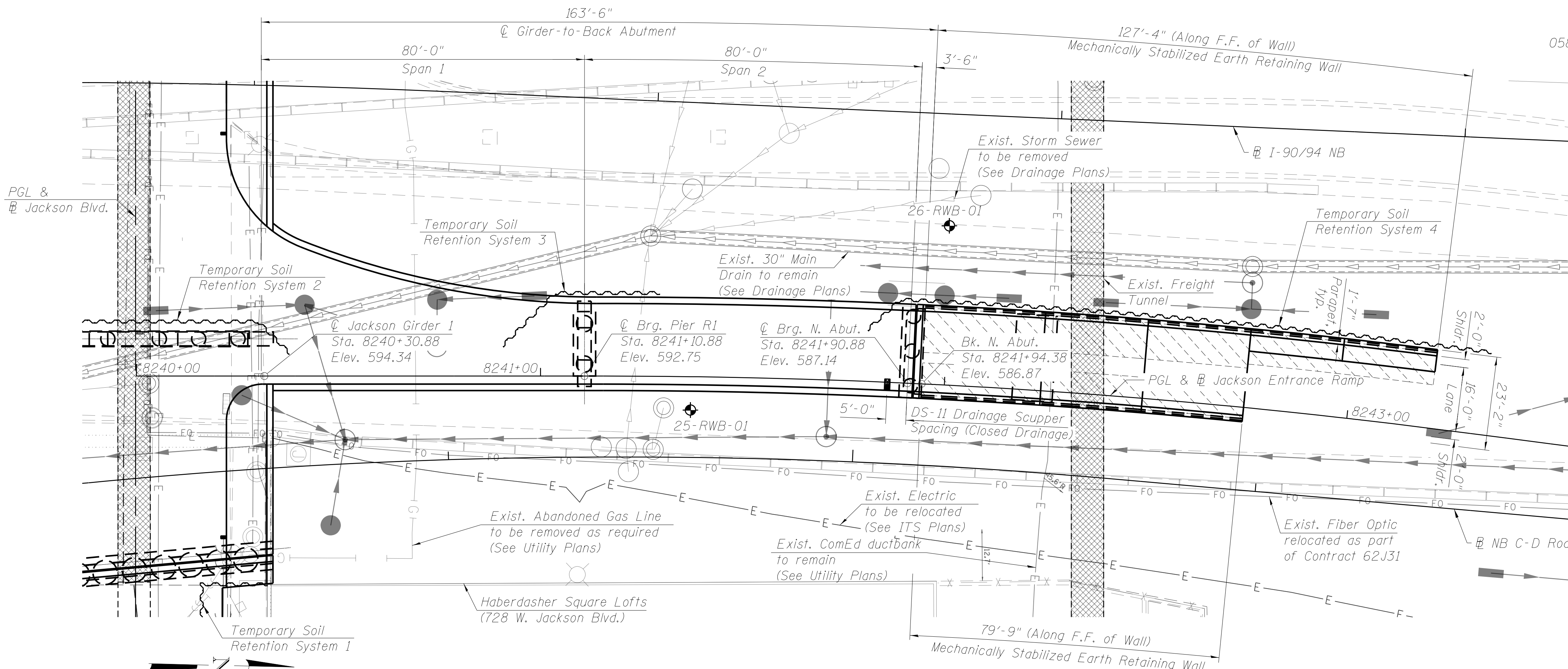
	CHECKED MDS	REVISED
PLOT SCALE = NTS	DRAWN JTF	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA 2
STRUCTURE NO. 016-1702
SHEET NO. S2-04 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	389

CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT



UTILITY PLAN - RAMP

Notes:

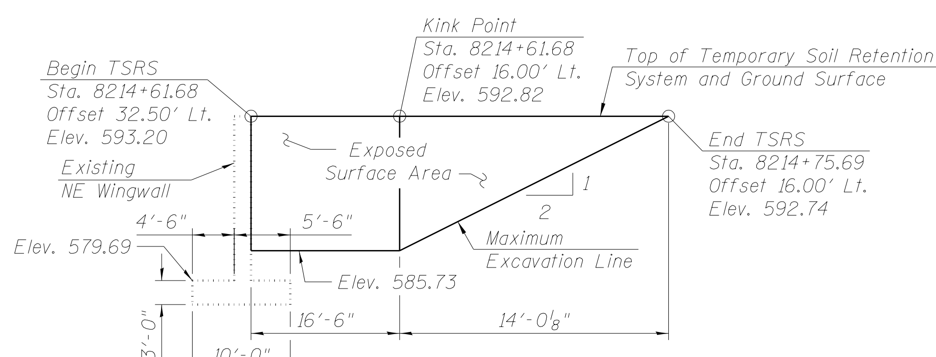
Impact driving of piles and sheet piles is not allowed.

A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a soil retention system design including plan details and calculations for review and acceptance by the Engineer. See Special Provision for Temporary Soil Retention System.

The maximum allowable excavation slope is 1:2 (V:H).

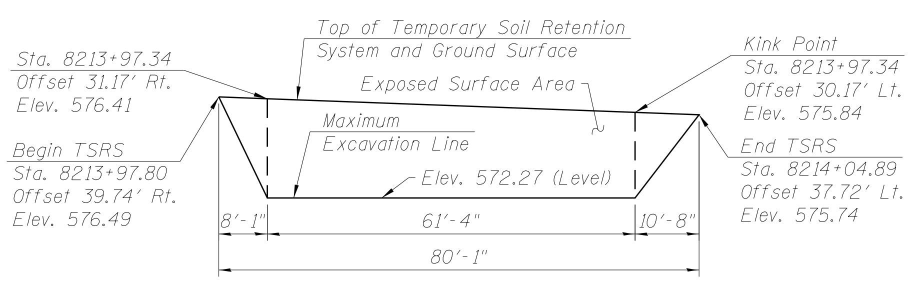
BILL OF MATERIAL

Item	Unit	Quantity
Temporary Soil Retention System	Sq. Ft.	442



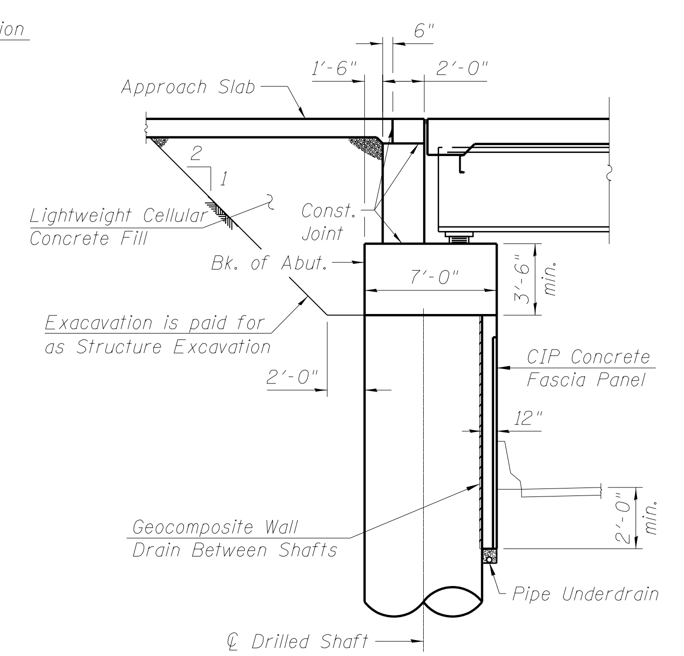
TEMPORARY SOIL RETENTION SYSTEM 1 - ELEVATION

(Unfolded View, Measured along F.F. of TSRS)



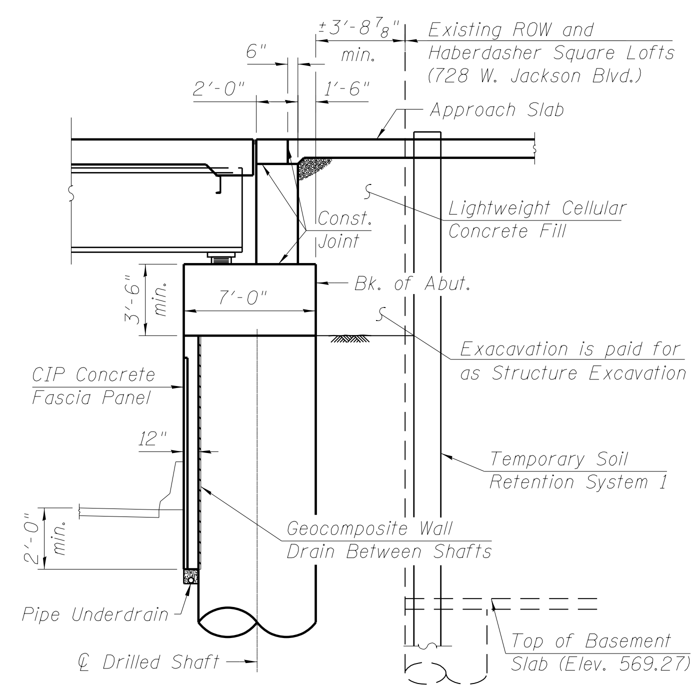
TEMPORARY SOIL RETENTION SYSTEM 2 - ELEVATION

(Looking West, Measured along F.F. of TSRS, Stations and offsets from ℄ Jackson Blvd.)



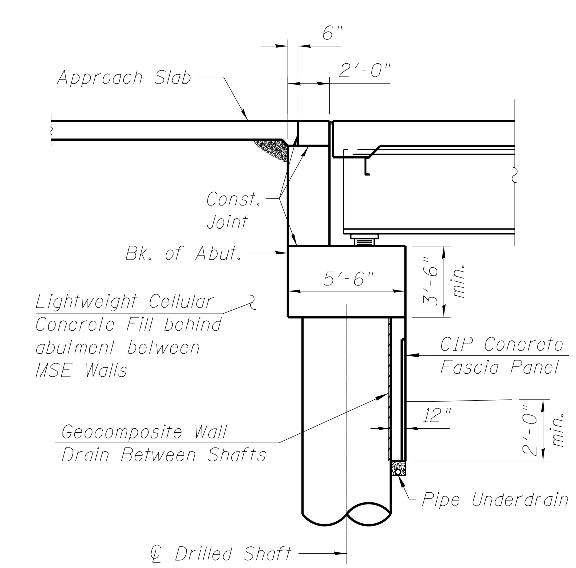
SECTION THRU WEST AND EAST ABUTMENTS

(Horiz. dim. at Rt. L's)



SECTION THRU EAST ABUTMENT AT NORTHEAST CORNER

(Horiz. dim. at Rt. L's)



SECTION THRU NORTH ABUTMENT

(Horiz. dim. at Rt. L's)

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	PLOT SCALE = NTS	DRAWN JTF	REVISED		
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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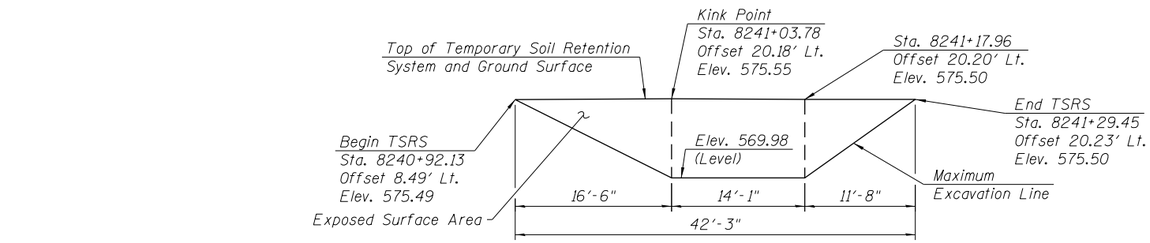
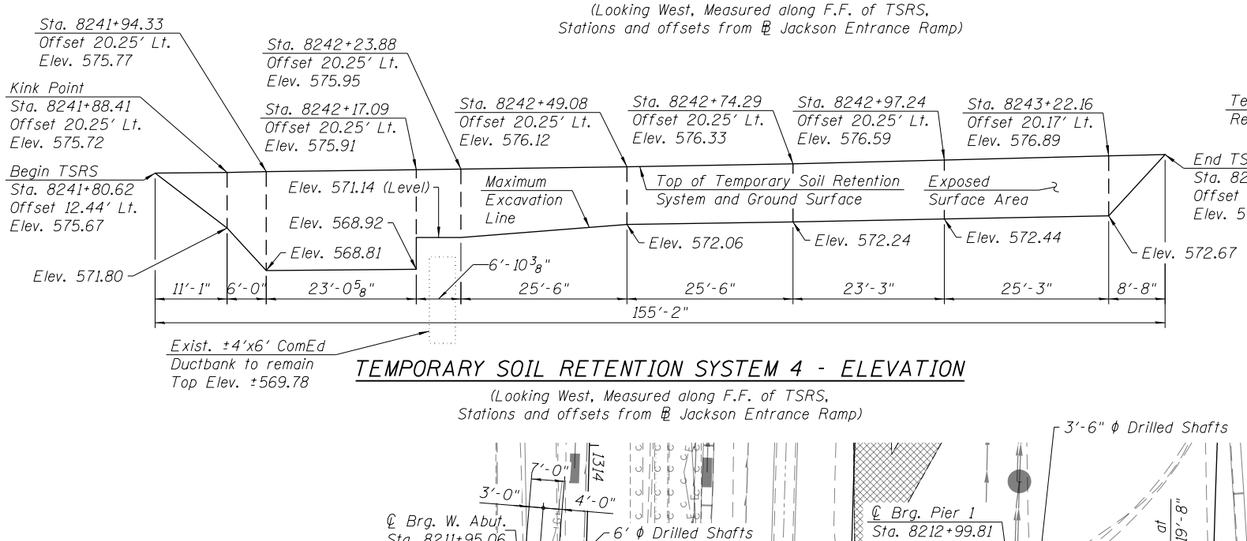
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			



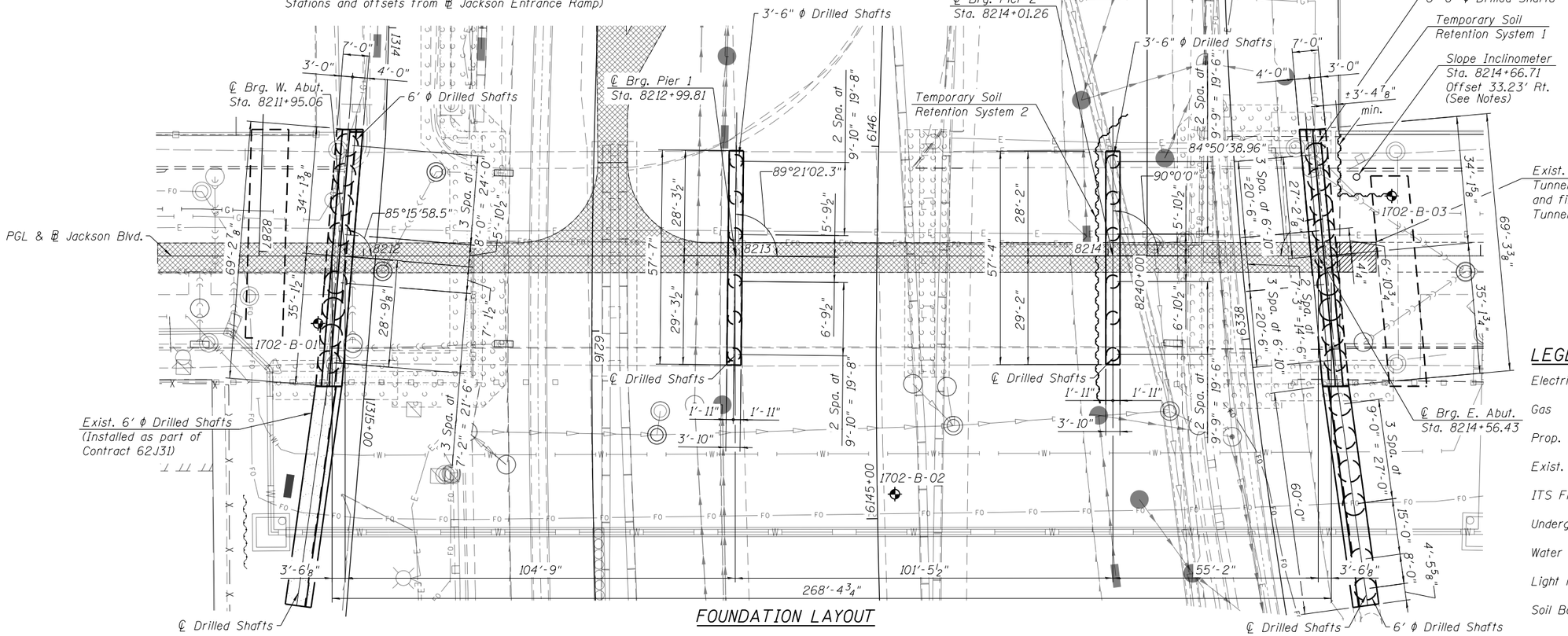
TEMPORARY SOIL RETENTION SYSTEM 3 - ELEVATION

(Looking West, Measured along F.F. of TSRS, Stations and offsets from ℄ Jackson Entrance Ramp)

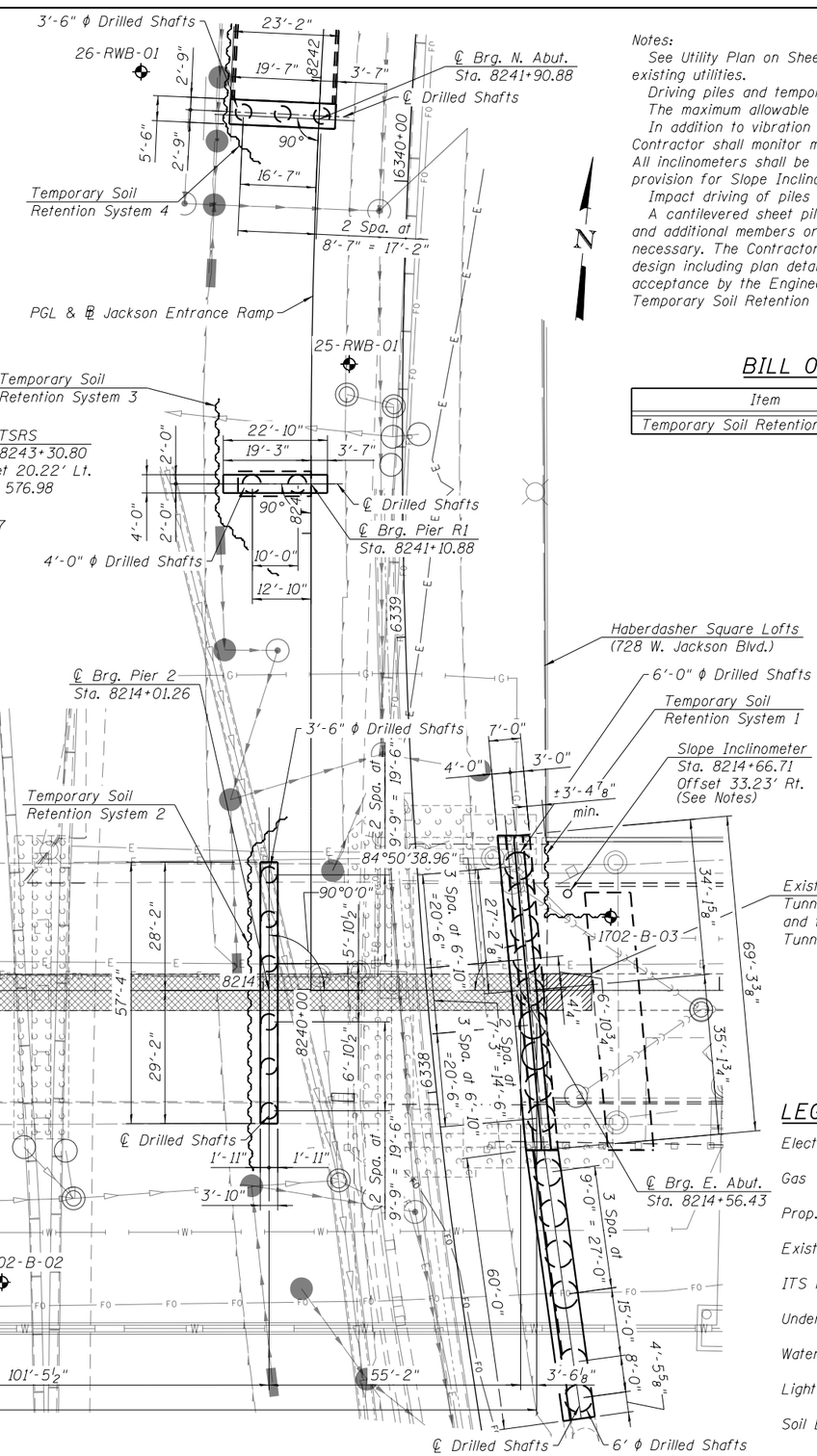


TEMPORARY SOIL RETENTION SYSTEM 4 - ELEVATION

(Looking West, Measured along F.F. of TSRS, Stations and offsets from ℄ Jackson Entrance Ramp)



FOUNDATION LAYOUT



Notes:

See Utility Plan on Sheets S2-04 and S2-05 of S2-80 for existing utilities.

Driving piles and temporary sheet piling is not allowed.

The maximum allowable excavation is 1:2 (V:H).

In addition to vibration and displacement monitoring, the Contractor shall monitor movements with Slope Inclinometers. All inclinometers shall be installed prior to drilling. See special provision for Slope Inclinometer.

Impact driving of piles and sheet piles is not allowed.

A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a soil retention system design including plan details and calculations for review and acceptance by the Engineer. See Special Provision for Temporary Soil Retention System.

BILL OF MATERIAL

Item	Unit	Quantity
Temporary Soil Retention System	Sq. Ft.	842

LEGEND:

- Electric
- Gas
- Prop. Storm Sewer
- Exist. Storm Sewer
- ITS Fiber Optic
- Underground Cable
- Water
- Light Pole
- Soil Boring

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TranSystems

USER NAME = wjcolletti	DESIGNED TLR	REVISED	
	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN JTF	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION LAYOUT
STRUCTURE NO. 016-1702
SHEET NO. S2-06 OF S2-80 SHEETS

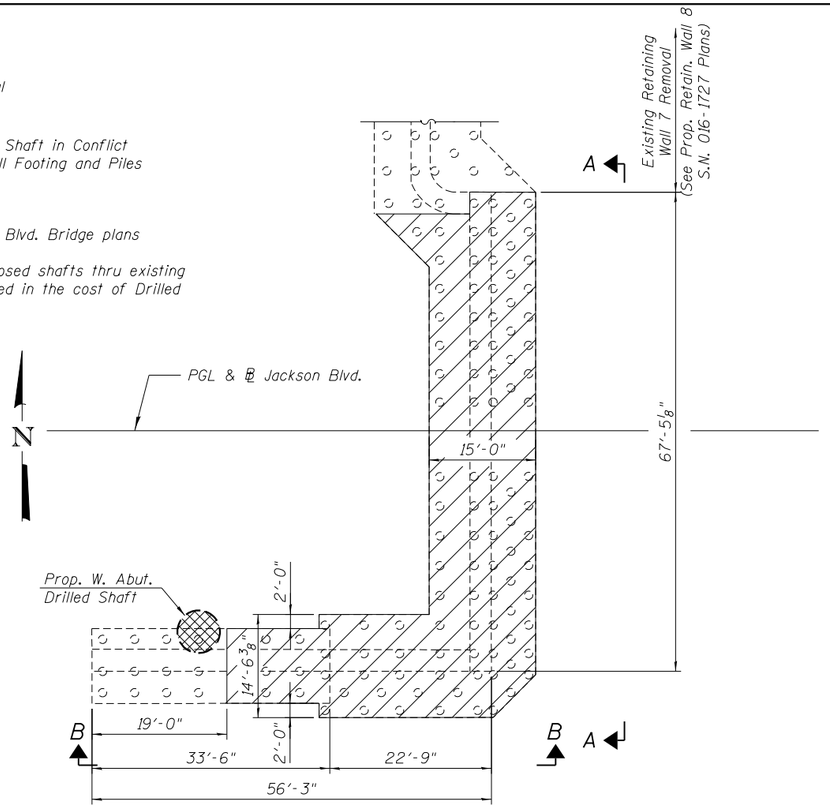
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	391
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

LEGEND

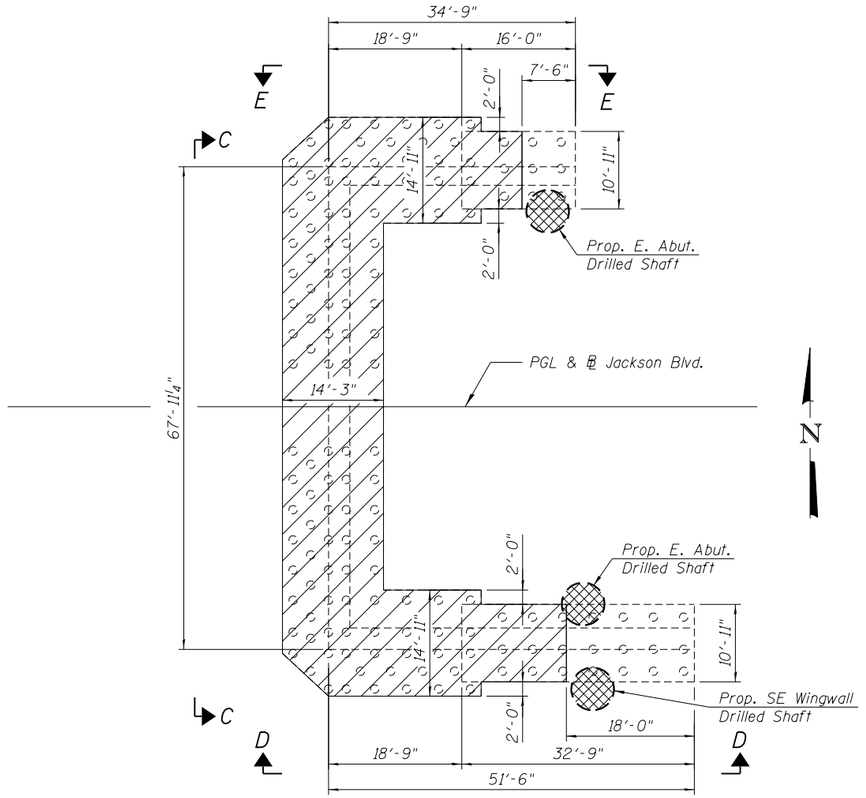
Concrete Removal

Proposed Drilled Shaft in Conflict with Existing Wall Footing and Piles

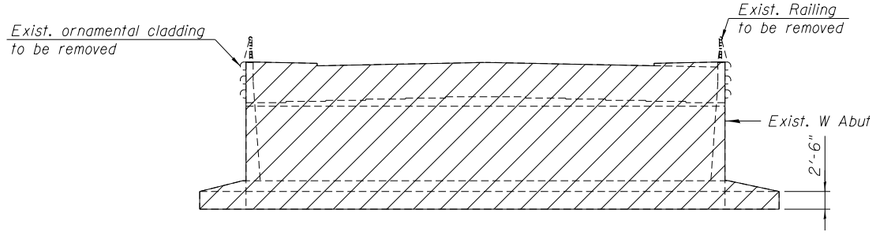
Notes:
See the existing Jackson Blvd. Bridge plans for additional information.
The cost of drilling proposed shafts thru existing footings and piles is included in the cost of Drilled Shaft in Soil.



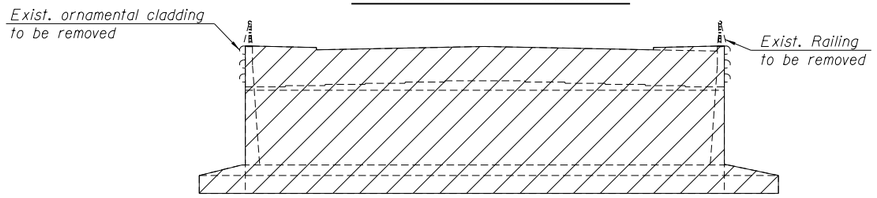
PLAN - WEST ABUTMENT



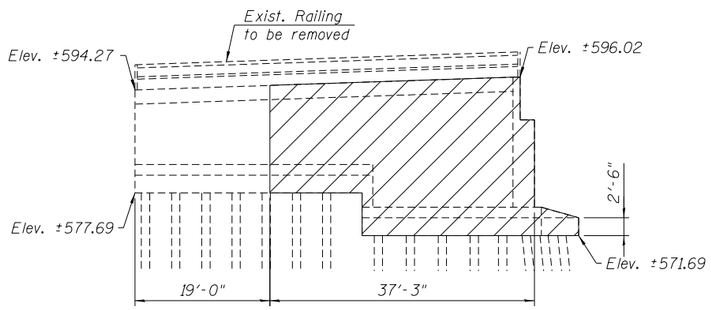
PLAN - EAST ABUTMENT



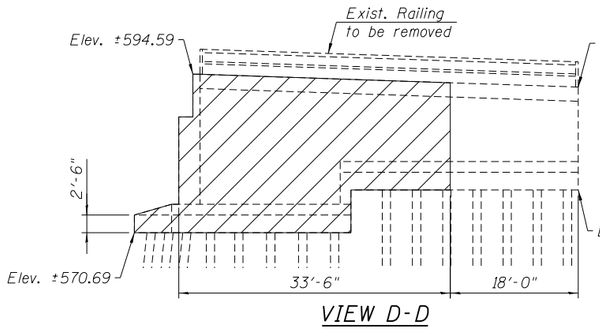
VIEW A-A



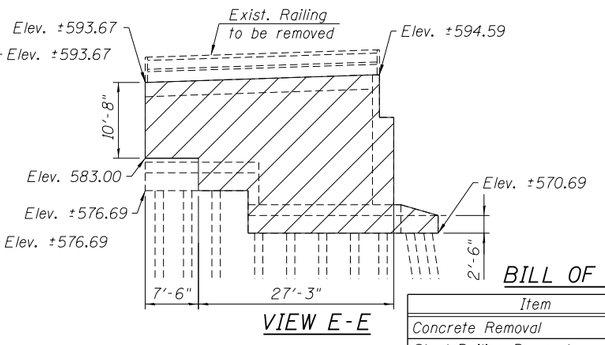
VIEW C-C



VIEW B-B



VIEW D-D



VIEW E-E

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	676
Steel Railing Removal	Foot	137
Removal of Ornamental Cladding	Foot	137

USER NAME = wjcolletti	DESIGNED	WJC	REVISED
	CHECKED	MDS	REVISED
PLOT SCALE = NTS	DRAWN	JTF	REVISED
PLOT DATE = 3/5/2020	CHECKED	WJC	REVISED

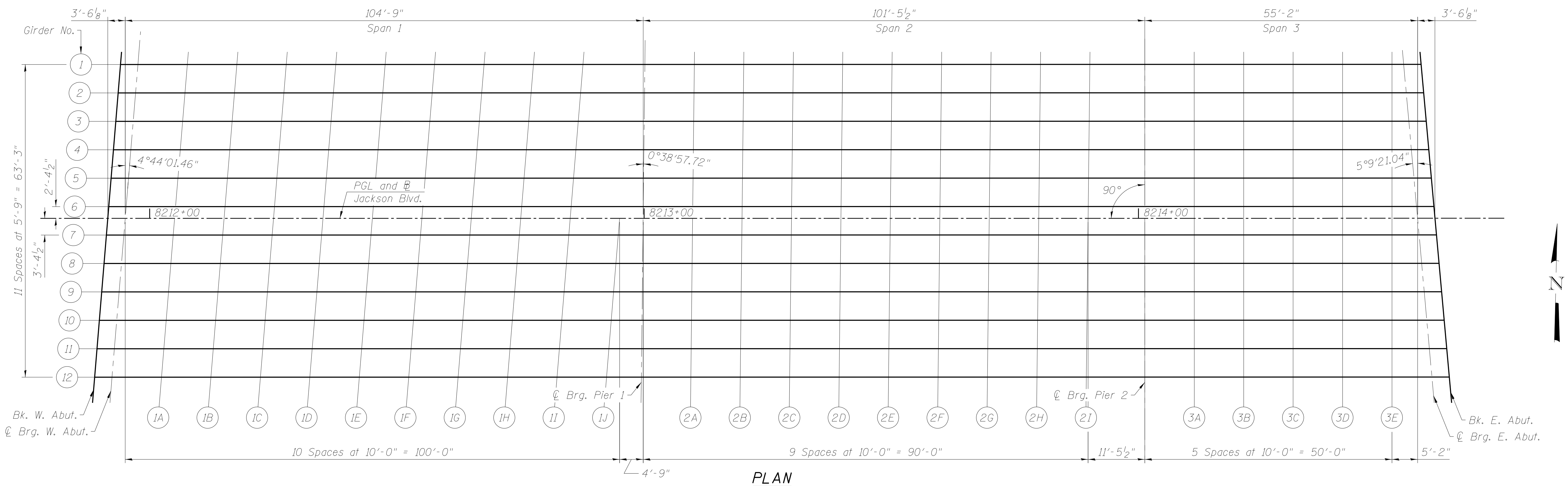
TranSystems

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

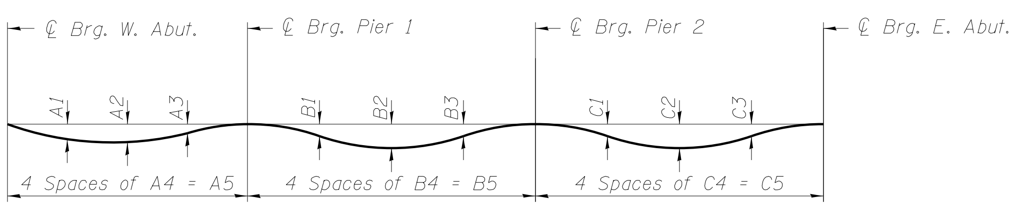
EXISTING STRUCTURE REMOVAL DETAILS
STRUCTURE NO. 016-1702
SHEET NO. S2-07 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	392
		CONTRACT NO. 60X94		
	ILLINOIS FED. AID PROJECT			

2100.33 PM
0161702-60X94-S007-Removal_Details.dgn



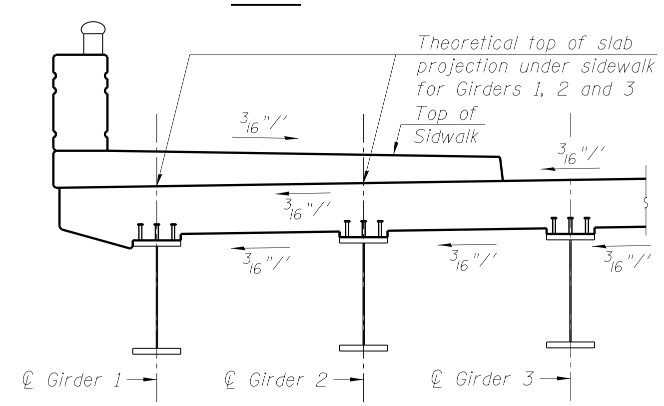
PLAN



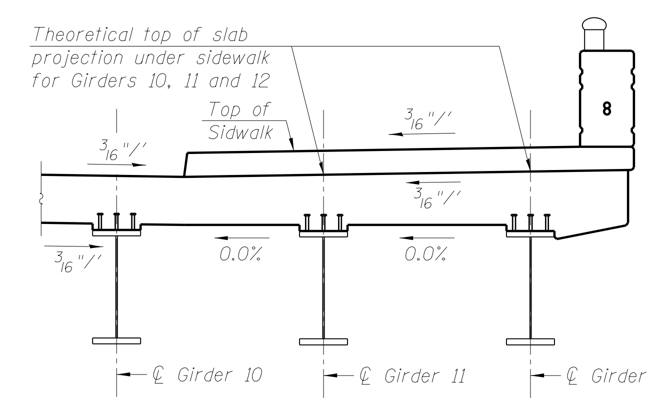
DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The deflections below are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets S2-09 thru S2-13 of S2-80.

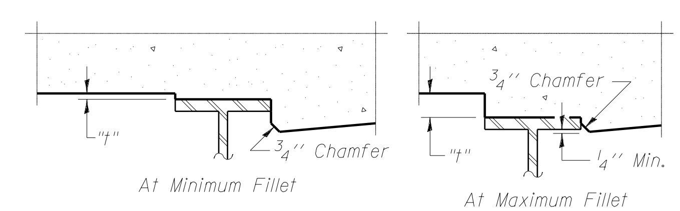


LOCATION OF ELEVATION UNDER NORTH SIDEWALK



LOCATION OF ELEVATION UNDER SOUTH SIDEWALK

	DEAD LOAD DEFLECTIONS														
	Span 1					Span 2					Span 3				
Girder No.	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5
1	1 7/8"	2 3/8"	1 1/4"	25'-7 9/16"	102'-6 5/16"	1/2"	1 1/4"	1"	25'-3 5/16"	101'-1 3/16"	0"	0"	0"	13'-1 1/16"	52'-4 3/8"
2	2"	2 3/8"	1 1/4"	25'-8 13/16"	102'-11 1/4"	3/8"	1 1/8"	3/4"	25'-3 1/2"	101'-2"	0"	0"	0"	13'-2 5/8"	52'-10 9/16"
3	2"	2 1/2"	1 3/8"	25'-10 1/16"	103'-4 3/16"	3/8"	1"	5/8"	25'-3 11/16"	101'-2 3/4"	0"	0"	1/8"	13'-4 3/16"	53'-4 13/16"
4	2"	2 1/2"	1 3/8"	25'-11 1/4"	103'-9 1/8"	3/8"	7/8"	5/8"	25'-3 7/8"	101'-3 9/16"	0"	1/8"	1/8"	13'-5 3/4"	53'-11 1/16"
5	2 1/8"	2 5/8"	1 3/8"	26'-0 1/2"	104'-2 1/16"	1/4"	7/8"	5/8"	25'-4 1/16"	101'-4 5/16"	0"	1/8"	1/8"	13'-7 5/16"	54'-5 1/4"
6	2 1/8"	2 5/8"	1 3/8"	26'-1 3/4"	104'-7"	1/4"	3/4"	5/8"	25'-4 1/4"	101'-5 1/8"	0"	1/8"	1/8"	13'-8 7/8"	54'-11 1/2"
7	2 1/8"	2 3/4"	1 1/2"	26'-3"	104'-11 15/16"	1/4"	3/4"	5/8"	25'-4 1/2"	101'-5 7/8"	0"	1/8"	1/8"	13'-10 7/16"	55'-5 11/16"
8	2 1/4"	2 3/4"	1 1/2"	26'-4 3/16"	105'-4 7/8"	1/4"	3/4"	5/8"	25'-4 11/16"	101'-6 11/16"	0"	1/8"	1/8"	14'-0"	55'-11 15/16"
9	2 1/4"	2 7/8"	1 1/2"	26'-5 7/16"	105'-9 13/16"	1/4"	3/4"	5/8"	25'-4 7/8"	101'-7 7/16"	0"	1/8"	1/8"	14'-1 9/16"	56'-6 3/16"
10	2 1/4"	2 7/8"	1 1/2"	26'-6 11/16"	106'-2 11/16"	1/4"	3/4"	5/8"	25'-5 1/16"	101'-8 1/4"	0"	1/8"	1/8"	14'-3 1/8"	57'-0 3/8"
11	2 3/8"	2 7/8"	1 5/8"	26'-7 15/16"	106'-7 5/8"	1/4"	3/4"	5/8"	25'-5 1/4"	101'-9"	0"	1/8"	1/8"	14'-4 5/8"	57'-6 5/8"
12	2 3/8"	3"	1 5/8"	26'-9 1/8"	107'-0 9/16"	1/4"	3/4"	5/8"	25'-5 7/16"	101'-9 13/16"	0"	1/8"	1/8"	14'-6 3/16"	58'-0 13/16"



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets S2-09 thru S2-13 of S2-80, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

2:00:46 PM
0161702-60X94-S008-TopSlab_Deck_Jackson1.dgn

TranSystems

USER NAME = wjcolletti	DESIGNED JM	REVISED	
	CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN JM	REVISED	
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS 1 - JACKSON
STRUCTURE NO. 016-1702
SHEET NO. S2-08 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	393

CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+94.12	-31.13	596.45	596.45
CL Brg. W. Abut.	8211+97.63	-31.13	596.59	596.59
1A	8212+07.63	-31.13	596.96	597.03
1B	8212+17.63	-31.13	597.27	597.41
1C	8212+27.63	-31.13	597.55	597.72
1D	8212+37.63	-31.13	597.77	597.97
1E	8212+47.63	-31.13	597.94	598.14
1F	8212+57.63	-31.13	598.07	598.24
1G	8212+67.63	-31.13	598.15	598.28
1H	8212+77.63	-31.13	598.18	598.27
1I	8212+87.63	-31.13	598.16	598.20
CL Brg. Pier 1	8213+00.16	-31.13	598.07	598.07
2A	8213+10.16	-31.13	597.95	597.95
2B	8213+20.16	-31.13	597.77	597.80
2C	8213+30.16	-31.13	597.55	597.61
2D	8213+40.16	-31.13	597.28	597.37
2E	8213+50.16	-31.13	596.97	597.07
2F	8213+60.16	-31.13	596.60	596.70
2G	8213+70.16	-31.13	596.19	596.28
2H	8213+80.16	-31.13	595.73	595.80
2I	8213+90.16	-31.13	595.27	595.30
CL Brg. Pier 2	8214+01.26	-31.13	594.76	594.76
3A	8214+11.26	-31.13	594.31	594.30
3B	8214+21.26	-31.13	593.90	593.90
3C	8214+31.26	-31.13	593.54	593.55
3D	8214+41.26	-31.13	593.24	593.24
CL Brg. E. Abut.	8214+53.62	-31.13	592.93	592.93
Bk. E. Abut.	8214+57.14	-31.13	592.85	592.85

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+93.64	-25.38	596.52	596.52
CL Brg. W. Abut.	8211+97.16	-25.38	596.66	596.66
1A	8212+07.16	-25.38	597.03	597.10
1B	8212+17.16	-25.38	597.35	597.49
1C	8212+27.16	-25.38	597.62	597.81
1D	8212+37.16	-25.38	597.85	598.05
1E	8212+47.16	-25.38	598.03	598.23
1F	8212+57.16	-25.38	598.16	598.34
1G	8212+67.16	-25.38	598.24	598.38
1H	8212+77.16	-25.38	598.27	598.36
1I	8212+87.16	-25.38	598.25	598.30
CL Brg. Pier 1	8213+00.10	-25.38	598.16	598.16
2A	8213+10.10	-25.38	598.04	598.04
2B	8213+20.10	-25.38	597.87	597.89
2C	8213+30.10	-25.38	597.64	597.69
2D	8213+40.10	-25.38	597.38	597.45
2E	8213+50.10	-25.38	597.06	597.15
2F	8213+60.10	-25.38	596.69	596.78
2G	8213+70.10	-25.38	596.28	596.36
2H	8213+80.10	-25.38	595.82	595.88
2I	8213+90.10	-25.38	595.36	595.39
CL Brg. Pier 2	8214+01.26	-25.38	594.85	594.85
3A	8214+11.26	-25.38	594.40	594.39
3B	8214+21.26	-25.38	593.99	593.99
3C	8214+31.26	-25.38	593.63	593.64
3D	8214+41.26	-25.38	593.33	593.33
CL Brg. E. Abut.	8214+54.14	-25.38	593.01	593.01
Bk. E. Abut.	8214+57.66	-25.38	592.93	592.93

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+93.17	-19.63	596.59	596.59
CL Brg. W. Abut.	8211+96.68	-19.63	596.73	596.73
1A	8212+06.68	-19.63	597.10	597.18
1B	8212+16.68	-19.63	597.43	597.57
1C	8212+26.68	-19.63	597.70	597.89
1D	8212+36.68	-19.63	597.93	598.14
1E	8212+46.68	-19.63	598.11	598.32
1F	8212+56.68	-19.63	598.24	598.43
1G	8212+66.68	-19.63	598.32	598.47
1H	8212+76.68	-19.63	598.36	598.46
1I	8212+86.68	-19.63	598.35	598.39
CL Brg. Pier 1	8213+00.03	-19.63	598.25	598.25
2A	8213+10.03	-19.63	598.13	598.13
2B	8213+20.03	-19.63	597.96	597.97
2C	8213+30.03	-19.63	597.74	597.78
2D	8213+40.03	-19.63	597.47	597.53
2E	8213+50.03	-19.63	597.15	597.23
2F	8213+60.03	-19.63	596.78	596.86
2G	8213+70.03	-19.63	596.37	596.44
2H	8213+80.03	-19.63	595.92	595.96
2I	8213+90.03	-19.63	595.45	595.48
CL Brg. Pier 2	8214+01.26	-19.63	594.94	594.94
3A	8214+11.26	-19.63	594.49	594.48
3B	8214+21.26	-19.63	594.08	594.08
3C	8214+31.26	-19.63	593.72	593.73
3D	8214+41.26	-19.63	593.42	593.42
CL Brg. E. Abut.	8214+54.66	-19.63	593.08	593.08
Bk. E. Abut.	8214+58.18	-19.63	593.01	593.01

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+92.69	-13.88	596.66	596.66
CL Brg. W. Abut.	8211+96.20	-13.88	596.80	596.80
1A	8212+06.20	-13.88	597.18	597.25
1B	8212+16.20	-13.88	597.50	597.64
1C	8212+26.20	-13.88	597.78	597.97
1D	8212+36.20	-13.88	598.01	598.22
1E	8212+46.20	-13.88	598.19	598.41
1F	8212+56.20	-13.88	598.33	598.52
1G	8212+66.20	-13.88	598.41	598.56
1H	8212+76.20	-13.88	598.45	598.55
1I	8212+86.20	-13.88	598.44	598.49
CL Brg. Pier 1	8212+99.96	-13.88	598.35	598.35
2A	8213+09.96	-13.88	598.22	598.22
2B	8213+19.96	-13.88	598.05	598.06
2C	8213+29.96	-13.88	597.83	597.86
2D	8213+39.96	-13.88	597.56	597.62
2E	8213+49.96	-13.88	597.24	597.31
2F	8213+59.96	-13.88	596.88	596.95
2G	8213+69.96	-13.88	596.46	596.53
2H	8213+79.96	-13.88	596.01	596.05
2I	8213+89.96	-13.88	595.55	595.57
CL Brg. Pier 2	8214+01.26	-13.88	595.03	595.03
3A	8214+11.26	-13.88	594.58	594.57
3B	8214+21.26	-13.88	594.17	594.17
3C	8214+31.26	-13.88	593.81	593.82
3D	8214+41.26	-13.88	593.51	593.52
CL Brg. E. Abut.	8214+55.18	-13.88	593.16	593.16
Bk. E. Abut.	8214+58.69	-13.88	593.09	593.09

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+92.22	-8.13	596.73	596.73
CL Brg. W. Abut.	8211+95.73	-8.13	596.87	596.87
1A	8212+05.73	-8.13	597.25	597.33
1B	8212+15.73	-8.13	597.58	597.72
1C	8212+25.73	-8.13	597.86	598.05
1D	8212+35.73	-8.13	598.09	598.31
1E	8212+45.73	-8.13	598.27	598.49
1F	8212+55.73	-8.13	598.41	598.61
1G	8212+65.73	-8.13	598.50	598.66
1H	8212+75.73	-8.13	598.54	598.64
1I	8212+85.73	-8.13	598.53	598.58
CL Brg. Pier 1	8212+99.90	-8.13	598.44	598.44
2A	8213+09.90	-8.13	598.31	598.31
2B	8213+19.90	-8.13	598.14	598.15
2C	8213+29.90	-8.13	597.92	597.95
2D	8213+39.90	-8.13	597.65	597.70
2E	8213+49.90	-8.13	597.33	597.40
2F	8213+59.90	-8.13	596.97	597.04
2G	8213+69.90	-8.13	596.56	596.62
2H	8213+79.90	-8.13	596.10	596.14
2I	8213+89.90	-8.13	595.64	595.66
CL Brg. Pier 2	8214+01.26	-8.13	595.12	595.12
3A	8214+11.26	-8.13	594.67	594.66
3B	8214+21.26	-8.13	594.26	594.26
3C	8214+31.26	-8.13	593.90	593.91
3D	8214+41.26	-8.13	593.60	593.61
CL Brg. E. Abut.	8214+55.70	-8.13	593.24	593.24
Bk. E. Abut.	8214+59.21	-8.13	593.17	593.17

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+91.74	-2.38	596.80	596.80
CL Brg. W. Abut.	8211+95.25	-2.38	596.94	596.94
1A	8212+05.25	-2.38	597.32	597.40
1B	8212+15.25	-2.38	597.65	597.80
1C	8212+25.25	-2.38	597.93	598.13
1D	8212+35.25	-2.38	598.17	598.39
1E	8212+45.25	-2.38	598.36	598.58
1F	8212+55.25	-2.38	598.49	598.70
1G	8212+65.25	-2.38	598.58	598.75
1H	8212+75.25	-2.38	598.63	598.74
1I	8212+85.25	-2.38	598.62	598.68
CL Brg. Pier 1	8212+99.83	-2.38	598.53	598.53
2A	8213+09.83	-2.38	598.40	598.40
2B	8213+19.83	-2.38	598.23	598.24
2C	8213+29.83	-2.38	598.01	598.04
2D	8213+39.83	-2.38	597.74	597.80
2E	8213+49.83	-2.38	597.43	597.49
2F	8213+59.83	-2.38	597.06	597.13
2G	8213+69.83	-2.38	596.65	596.71
2H	8213+79.83	-2.38	596.19	596.24
2I	8213+89.83	-2.38	595.73	595.75
CL Brg. Pier 2	8214+01.26	-2.38	595.21	595.21
3A	8214+11.26	-2.38	594.76	594.75
3B	8214+21.26	-2.38	594.35	594.35
3C	8214+31.26	-2.38	593.99	594.00
3D	8214+41.26	-2.38	593.69	593.70
CL Brg. E. Abut.	8214+56.22	-2.38	593.32	593.32
Bk. E. Abut.	8214+59.73	-2.38	593.25	593.25

PGL & ℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+91.54	0.00	596.83	596.83
CL Brg. W. Abut.	8211+95.06	0.00	596.97	596.97
1A	8212+05.06	0.00	597.35	597.43
1B	8212+15.06	0.00	597.68	597.83
1C	8212+25.06	0.00	597.97	598.17
1D	8212+35.06	0.00	598.20	598.43
1E	8212+45.06	0.00	598.39	598.62
1F	8212+55.06	0.00	598.53	598.73
1G	8212+65.06	0.00	598.62	598.79
1H	8212+75.06	0.00	598.66	598.78
1I	8212+85.06	0.00	598.66	598.72
1J	8212+95.06	0.00	598.61	598.62
CL Brg. Pier 1	8212+99.81	0.00	598.56	598.56
2A	8213+09.81	0.00	598.44	598.44
2B	8213+19.81	0.00	598.27	598.28
2C	8213+29.81	0.00	598.05	598.08
2D	8213+39.81	0.00	597.78	597.83
2E	8213+49.81	0.00	597.46	597.53
2F	8213+59.81	0.00	597.10	597.17
2G	8213+69.81	0.00	596.69	596.75
2H	8213+79.81	0.00	596.23	596.27
2I	8213+89.81	0.00	595.77	595.79
CL Brg. Pier 2	8214+01.26	0.00	595.24	595.24
3A	8214+11.26	0.00	594.79	594.79
3B	8214+21.26	0.00	594.39	594.39
3C	8214+31.26	0.00	594.03	594.04
3D	8214+41.26	0.00	593.72	593.74
3E	8214+51.26	0.00	593.47	593.47
CL Brg. E. Abut.	8214+56.43	0.00	593.35	593.35
Bk. E. Abut.	8214+59.95	0.00	593.28	593.28

GIRDER 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+91.26	3.38	596.76	596.76
CL Brg. W. Abut.	8211+94.78	3.38	596.91	596.91
1A	8212+04.78	3.38	597.29	597.37
1B	8212+14.78	3.38	597.62	597.77
1C	8212+24.78	3.38	597.91	598.11
1D	8212+34.78	3.38	598.14	598.37
1E	8212+44.78	3.38	598.33	598.56
1F	8212+54.78	3.38	598.47	598.68
1G	8212+64.78	3.38	598.57	598.73
1H	8212+74.78	3.38	598.61	598.73
1I	8212+84.78	3.38	598.61	598.67
1J	8212+94.78	3.38	598.55	598.57
CL Brg. Pier 1	8212+99.77	3.38	598.51	598.51
2A	8213+09.77	3.38	598.39	598.39
2B	8213+19.77	3.38	598.22	598.23
2C	8213+29.77	3.38	598.00	598.03
2D	8213+39.77	3.38	597.73	597.78
2E	8213+49.77	3.38	597.41	597.48
2F	8213+59.77	3.38	597.05	597.12
2G	8213+69.77	3.38	596.64	596.70
2H	8213+79.77	3.38	596.18	596.22
2I	8213+89.77	3.38	595.72	595.74
CL Brg. Pier 2	8214+01.26	3.38	595.19	595.19
3A	8214+11.26	3.38	594.74	594.74
3B	8214+21.26	3.38	594.33	594.34
3C	8214+31.26	3.38	593.98	593.99
3D	8214+41.26	3.38	593.67	593.68
3E	8214+51.26	3.38	593.41	593.42
CL Brg. E. Abut.	8214+56.74	3.38	593.29	593.29
Bk. E. Abut.	8214+60.25	3.38	593.23	593.23

GIRDER 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+90.79	9.13	596.65	596.65
CL Brg. W. Abut.	8211+94.30	9.13	596.80	596.80
1A	8212+04.30	9.13	597.18	597.26
1B	8212+14.30	9.13	597.52	597.67
1C	8212+24.30	9.13	597.80	598.01
1D	8212+34.30	9.13	598.04	598.28
1E	8212+44.30	9.13	598.23	598.47
1F	8212+54.30	9.13	598.38	598.59
1G	8212+64.30	9.13	598.47	598.64
1H	8212+74.30	9.13	598.52	598.64
1I	8212+84.30	9.13	598.52	598.58
1J	8212+94.30	9.13	598.47	598.49
CL Brg. Pier 1	8212+99.70	9.13	598.42	598.42
2A	8213+09.70	9.13	598.30	598.30
2B	8213+19.70	9.13	598.13	598.14
2C	8213+29.70	9.13	597.91	597.94
2D	8213+39.70	9.13	597.64	597.69
2E	8213+49.70	9.13	597.32	597.39
2F	8213+59.70	9.13	596.96	597.03
2G	8213+69.70	9.13	596.55	596.61
2H	8213+79.70	9.13	596.10	596.14
2I	8213+89.70	9.13	595.63	595.65
CL Brg. Pier 2	8214+01.26	9.13	595.10	595.10
3A	8214+11.26	9.13	594.65	594.65
3B	8214+21.26	9.13	594.24	594.25
3C	8214+31.26	9.13	593.89	593.90
3D	8214+41.26	9.13	593.58	593.59
3E	8214+51.26	9.13	593.32	593.33
CL Brg. E. Abut.	8214+57.25	9.13	593.19	593.19
Bk. E. Abut.	8214+60.77	9.13	593.13	593.13

GIRDER 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+90.31	14.88	596.54	596.54
CL Brg. W. Abut.	8211+93.82	14.88	596.69	596.69
1A	8212+03.82	14.88	597.08	597.16
1B	8212+13.82	14.88	597.41	597.57
1C	8212+23.82	14.88	597.70	597.91
1D	8212+33.82	14.88	597.94	598.18
1E	8212+43.82	14.88	598.14	598.38
1F	8212+53.82	14.88	598.28	598.50
1G	8212+63.82	14.88	598.38	598.56
1H	8212+73.82	14.88	598.43	598.55
1I	8212+83.82	14.88	598.43	598.50
1J	8212+93.82	14.88	598.38	598.40
CL Brg. Pier 1	8212+99.64	14.88	598.33	598.33
2A	8213+09.64	14.88	598.21	598.21
2B	8213+19.64	14.88	598.04	598.05
2C	8213+29.64	14.88	597.82	597.85
2D	8213+39.64	14.88	597.55	597.60
2E	8213+49.64	14.88	597.24	597.30
2F	8213+59.64	14.88	596.87	596.94
2G	8213+69.64	14.88	596.46	596.52
2H	8213+79.64	14.88	596.01	596.05
2I	8213+89.64	14.88	595.55	595.57
CL Brg. Pier 2	8214+01.26	14.88	595.01	595.01
3A	8214+11.26	14.88	594.56	594.56
3B	8214+21.26	14.88	594.15	594.16
3C	8214+31.26	14.88	593.80	593.81
3D	8214+41.26	14.88	593.49	593.51
3E	8214+51.26	14.88	593.24	593.24
CL Brg. E. Abut.	8214+57.77	14.88	593.09	593.09
Bk. E. Abut.	8214+61.29	14.88	593.03	593.03

GIRDER 10

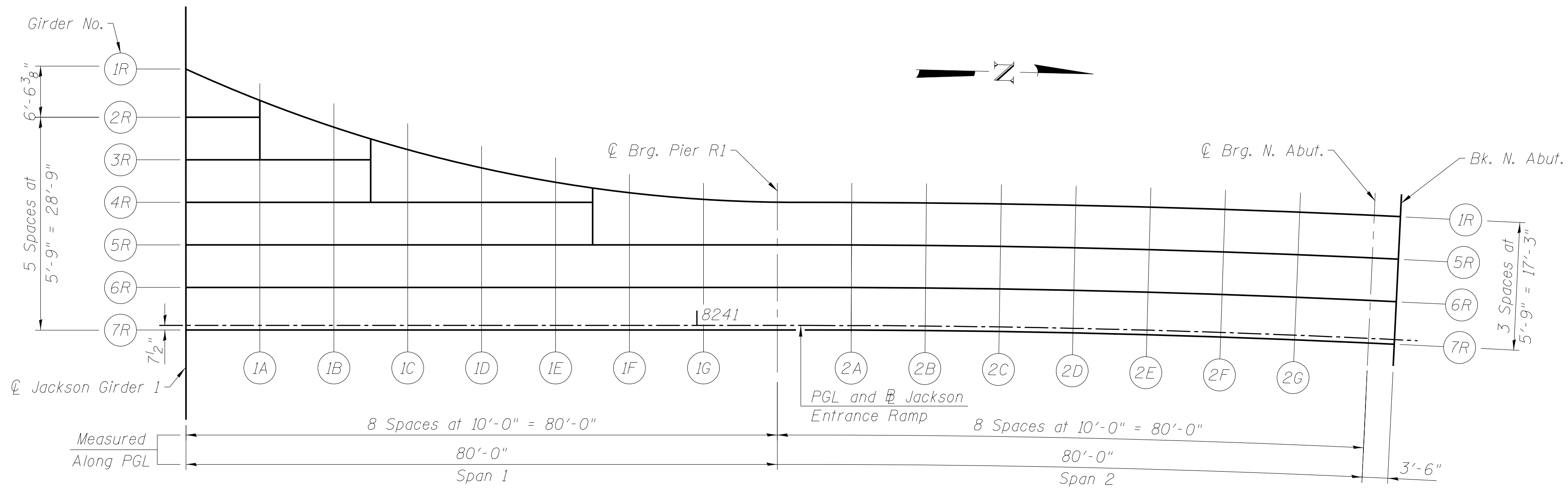
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+89.84	20.63	596.43	596.43
CL Brg. W. Abut.	8211+93.35	20.63	596.58	596.58
1A	8212+03.35	20.63	596.97	597.05
1B	8212+13.35	20.63	597.31	597.46
1C	8212+23.35	20.63	597.60	597.81
1D	8212+33.35	20.63	597.84	598.08
1E	8212+43.35	20.63	598.04	598.28
1F	8212+53.35	20.63	598.19	598.41
1G	8212+63.35	20.63	598.29	598.47
1H	8212+73.35	20.63	598.34	598.46
1I	8212+83.35	20.63	598.34	598.41
1J	8212+93.35	20.63	598.30	598.32
CL Brg. Pier 1	8212+99.57	20.63	598.24	598.24
2A	8213+09.57	20.63	598.12	598.12
2B	8213+19.57	20.63	597.95	597.96
2C	8213+29.57	20.63	597.73	597.76
2D	8213+39.57	20.63	597.46	597.52
2E	8213+49.57	20.63	597.15	597.22
2F	8213+59.57	20.63	596.79	596.85
2G	8213+69.57	20.63	596.38	596.43
2H	8213+79.57	20.63	595.92	595.96
2I	8213+89.57	20.63	595.46	595.48
CL Brg. Pier 2	8214+01.26	20.63	594.92	594.92
3A	8214+11.26	20.63	594.47	594.47
3B	8214+21.26	20.63	594.06	594.07
3C	8214+31.26	20.63	593.71	593.72
3D	8214+41.26	20.63	593.40	593.42
3E	8214+51.26	20.63	593.15	593.15
CL Brg. E. Abut.	8214+58.29	20.63	592.99	592.99
Bk. E. Abut.	8214+61.81	20.63	592.93	592.93

GIRDER 11

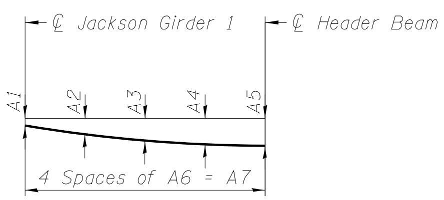
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+89.36	26.38	596.41	596.41
CL Brg. W. Abut.	8211+92.87	26.38	596.56	596.56
1A	8212+02.87	26.38	596.95	597.04
1B	8212+12.87	26.38	597.29	597.45
1C	8212+22.87	26.38	597.59	597.80
1D	8212+32.87	26.38	597.83	598.08
1E	8212+42.87	26.38	598.03	598.28
1F	8212+52.87	26.38	598.18	598.41
1G	8212+62.87	26.38	598.28	598.47
1H	8212+72.87	26.38	598.34	598.47
1I	8212+82.87	26.38	598.34	598.41
1J	8212+92.87	26.38	598.30	598.32
CL Brg. Pier 1	8212+99.51	26.38	598.24	598.24
2A	8213+09.51	26.38	598.12	598.12
2B	8213+19.51	26.38	597.95	597.96
2C	8213+29.51	26.38	597.73	597.76
2D	8213+39.51	26.38	597.47	597.52
2E	8213+49.51	26.38	597.15	597.22
2F	8213+59.51	26.38	596.79	596.86
2G	8213+69.51	26.38	596.38	596.44
2H	8213+79.51	26.38	595.92	595.97
2I	8213+89.51	26.38	595.46	595.48
CL Brg. Pier 2	8214+01.26	26.38	594.92	594.92
3A	8214+11.26	26.38	594.47	594.47
3B	8214+21.26	26.38	594.06	594.07
3C	8214+31.26	26.38	593.71	593.72
3D	8214+41.26	26.38	593.40	593.42
3E	8214+51.26	26.38	593.15	593.15
CL Brg. E. Abut.	8214+58.81	26.38	592.98	592.98
Bk. E. Abut.	8214+62.33	26.38	592.92	592.92

GIRDER 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	8211+88.88	32.13	596.48	596.48
CL Brg. W. Abut.	8211+92.40	32.13	596.63	596.63
1A	8212+02.40	32.13	597.02	597.11
1B	8212+12.40	32.13	597.37	597.53
1C	8212+22.40	32.13	597.66	597.88
1D	8212+32.40	32.13	597.91	598.16
1E	8212+42.40	32.13	598.11	598.36
1F	8212+52.40	32.13	598.26	598.50
1G	8212+62.40	32.13	598.37	598.56
1H	8212+72.40	32.13	598.42	598.56
1I	8212+82.40	32.13	598.43	598.51
1J	8212+92.40	32.13	598.39	598.42
CL Brg. Pier 1	8212+99.44	32.13	598.33	598.33
2A	8213+09.44	32.13	598.21	598.21
2B	8213+19.44	32.13	598.04	598.05
2C	8213+29.44	32.13	597.82	597.85
2D	8213+39.44	32.13	597.56	597.61
2E	8213+49.44	32.13	597.24	597.31
2F	8213+59.44	32.13	596.88	596.95
2G	8213+69.44	32.13	596.47	596.53
2H	8213+79.44	32.13	596.02	596.06
2I	8213+89.44	32.13	595.56	595.58
CL Brg. Pier 2	8214+01.26	32.13	595.01	595.01
3A	8214+11.26	32.13	594.56	594.56
3B	8214+21.26	32.13	594.15	594.16
3C	8214+31.26	32.13	593.80	593.81
3D	8214+41.26	32.13	593.49	593.51
3E	8214+51.26	32.13	593.24	593.25
CL Brg. E. Abut.	8214+59.33	32.13	593.06	593.06
Bk. E. Abut.	8214+62.84	32.13	593.00	593.00



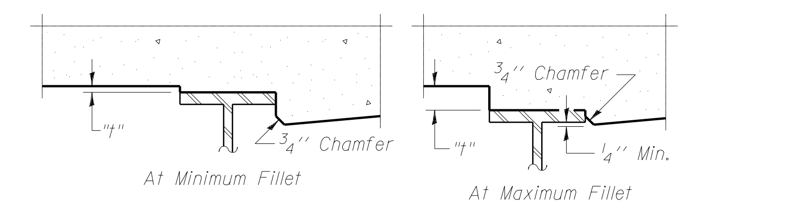
PLAN



DEAD LOAD DEFLECTION DIAGRAM
(GIRDERS 2R-4R)

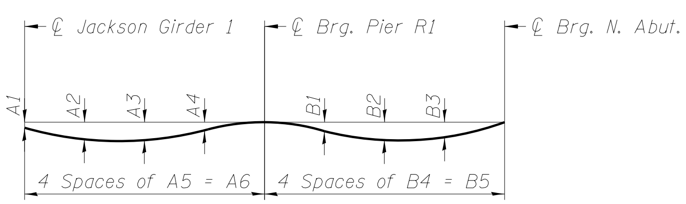
(Includes weight of concrete only.)

	DEAD LOAD DEFLECTIONS						
	Span 1						
Girder No.	A1	A2	A3	A4	A5	A6	A7
2R	3/4"	3/4"	7/8"	7/8"	1"	2'-6"	10'-0"
3R	1/2"	5/8"	7/8"	1"	1 1/8"	6'-3"	25'-0"
4R	1/4"	5/8"	7/8"	7/8"	5/8"	13'-9"	55'-0"



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets S2-15 thru S2-16 of S2-80, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



DEAD LOAD DEFLECTION DIAGRAM
(GIRDERS 1R, 5R, 6R & 7R)

(Includes weight of concrete only.)

	DEAD LOAD DEFLECTIONS										
	Span 1						Span 2				
Girder No.	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5
1R	1"	1 1/4"	1"	1/2"	20'-7 13/16"	82'-7 3/16"	3/8"	3/4"	5/8"	20'-2 5/16"	80'-9 1/4"
5R	0"	5/8"	7/8"	3/8"	20'-0"	80'-0"	1/4"	5/8"	5/8"	20'-1 1/2"	80'-5 15/16"
6R	0"	5/8"	3/4"	3/8"	20'-0"	80'-0"	3/8"	3/4"	5/8"	20'-0 11/16"	80'-2 7/8"
7R	0"	1/2"	3/4"	3/8"	20'-0"	80'-0"	3/8"	3/4"	5/8"	19'-11 15/16"	79'-11 11/16"

Note:
The deflections above are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets S2-15 thru S2-16 of S2-80.

USER NAME = wjcolletti	DESIGNED JM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS 1 – RAMP STRUCTURE NO. 016–1702
	CHECKED WJC	REVISED		
PLOT SCALE = NTS	DRAWN JM	REVISED		
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED		SHEET NO. S2-14 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	399
		CONTRACT NO. 60X94		
		ILLINOIS FED. AID PROJECT		

TranSystems

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GIRDER R1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Jackson G1	8240+30.88	-34.66	595.93	596.02
1A	8240+40.88	-29.31	595.41	595.52
1B	8240+50.88	-25.86	595.01	595.13
1C	8240+60.88	-22.99	594.66	594.78
1D	8240+70.88	-20.67	594.34	594.45
1E	8240+80.88	-18.89	594.06	594.14
1F	8240+90.88	-17.63	593.85	593.90
1G	8241+00.88	-16.87	593.56	593.58
CL Brg. Pier R1	8241+10.88	-16.64	593.18	593.18
2A	8241+20.88	-16.63	592.70	592.71
2B	8241+30.88	-16.63	592.13	592.16
2C	8241+40.88	-16.63	591.44	591.50
2D	8241+50.88	-16.63	590.68	590.74
2E	8241+60.88	-16.63	589.90	589.97
2F	8241+70.88	-16.63	589.12	589.18
2G	8241+80.88	-16.63	588.35	588.38
CL Brg. N. Abut.	8241+90.88	-16.63	587.57	587.57
Bk. N. Abut.	8241+94.38	-16.63	587.30	587.30

GIRDER R2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Jackson G1	8240+30.88	-28.13	595.63	595.70
1A	8240+40.88	-28.13	595.36	595.46
1B	8240+40.88	-28.13	595.36	595.46

GIRDER R3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Jackson G1	8240+30.88	-22.38	595.36	595.41
1A	8240+40.88	-22.38	595.12	595.20
1B	8240+50.88	-22.38	594.88	594.98
1C	8240+55.88	-22.38	594.76	594.87

GIRDER R4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Jackson G1	8240+30.88	-16.63	595.10	595.12
1A	8240+40.88	-16.63	594.88	594.94
1B	8240+50.88	-16.63	594.66	594.74
1C	8240+60.88	-16.63	594.44	594.53
1D	8240+70.88	-16.63	594.22	594.31
1E	8240+80.88	-16.63	594.00	594.07
1F	8240+85.88	-16.63	593.91	593.98

GIRDER R5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Jackson G1	8240+30.88	-10.88	594.83	594.84
1A	8240+40.88	-10.88	594.64	594.68
1B	8240+50.88	-10.88	594.44	594.50
1C	8240+60.88	-10.88	594.24	594.32
1D	8240+70.88	-10.88	594.05	594.12
1E	8240+80.88	-10.88	593.85	593.91
1F	8240+90.88	-10.88	593.67	593.71
1G	8241+00.88	-10.88	593.40	593.41
CL Brg. Pier R1	8241+10.88	-10.88	593.03	593.03
2A	8241+20.88	-10.88	592.55	592.56
2B	8241+30.88	-10.88	591.98	592.01
2C	8241+40.88	-10.88	591.29	591.35
2D	8241+50.88	-10.88	590.53	590.59
2E	8241+60.88	-10.88	589.75	589.82
2F	8241+70.88	-10.88	588.97	589.03
2G	8241+80.88	-10.88	588.20	588.23
CL Brg. N. Abut.	8241+90.88	-10.88	587.42	587.42
Bk. N. Abut.	8241+94.38	-10.88	587.15	587.15

GIRDER R6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Jackson G1	8240+30.88	-5.13	594.57	594.56
1A	8240+40.88	-5.13	594.40	594.42
1B	8240+50.88	-5.13	594.22	594.27
1C	8240+60.88	-5.13	594.05	594.11
1D	8240+70.88	-5.13	593.87	593.93
1E	8240+80.88	-5.13	593.70	593.74
1F	8240+90.88	-5.13	593.52	593.55
1G	8241+00.88	-5.13	593.25	593.26
CL Brg. Pier R1	8241+10.88	-5.13	592.88	592.88
2A	8241+20.88	-5.13	592.40	592.42
2B	8241+30.88	-5.13	591.83	591.86
2C	8241+40.88	-5.13	591.14	591.20
2D	8241+50.88	-5.13	590.38	590.45
2E	8241+60.88	-5.13	589.60	589.67
2F	8241+70.88	-5.13	588.82	588.88
2G	8241+80.88	-5.13	588.05	588.08
CL Brg. N. Abut.	8241+90.88	-5.13	587.27	587.27
Bk. N. Abut.	8241+94.38	-5.13	587.00	587.00