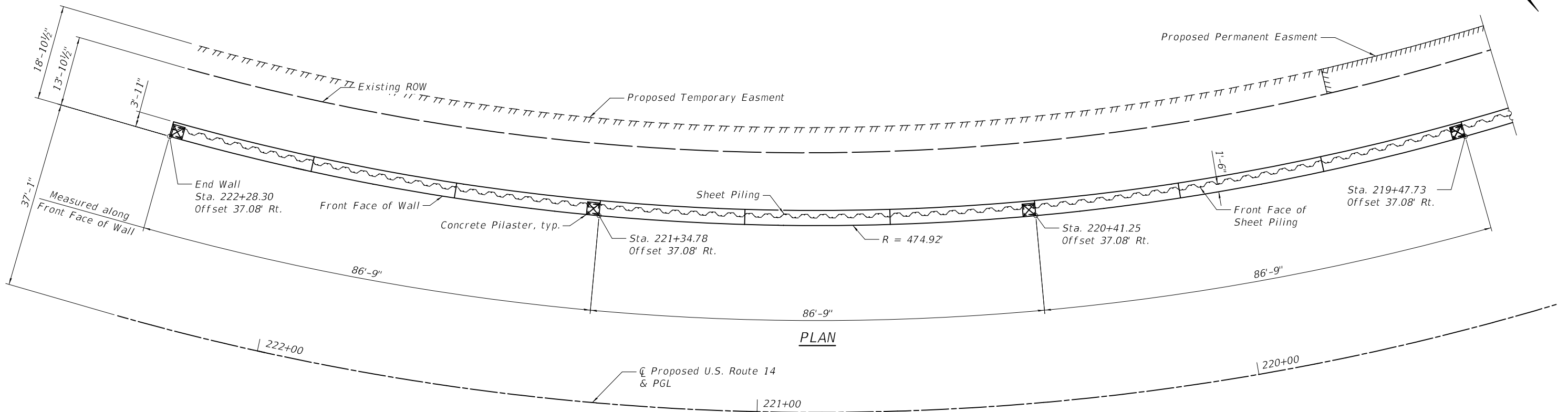


ELEVATION
Dimensions measured along Front Face of Wall



PLAN

- Notes:
1. See Sheets SF-7, SF-8, and SF-9 for concrete facing details.
 2. See Sheet SF-3 for general notes and ground anchor designations.
 3. See Special Provisions for Permanent Ground Anchor information and testing requirements.
 4. See Sheets SF-12 and SF-13 for Ornamental Railing details.
 5. Wall stations and offsets measured from Proposed \hat{C} U.S. Route 14 to front face of C.I.P. concrete facing.

MODEL: Default
FILE NAME: ...049W1002-61J87-006-Wall Plan and Elevation 3.dgn

TRANSYSTEMS

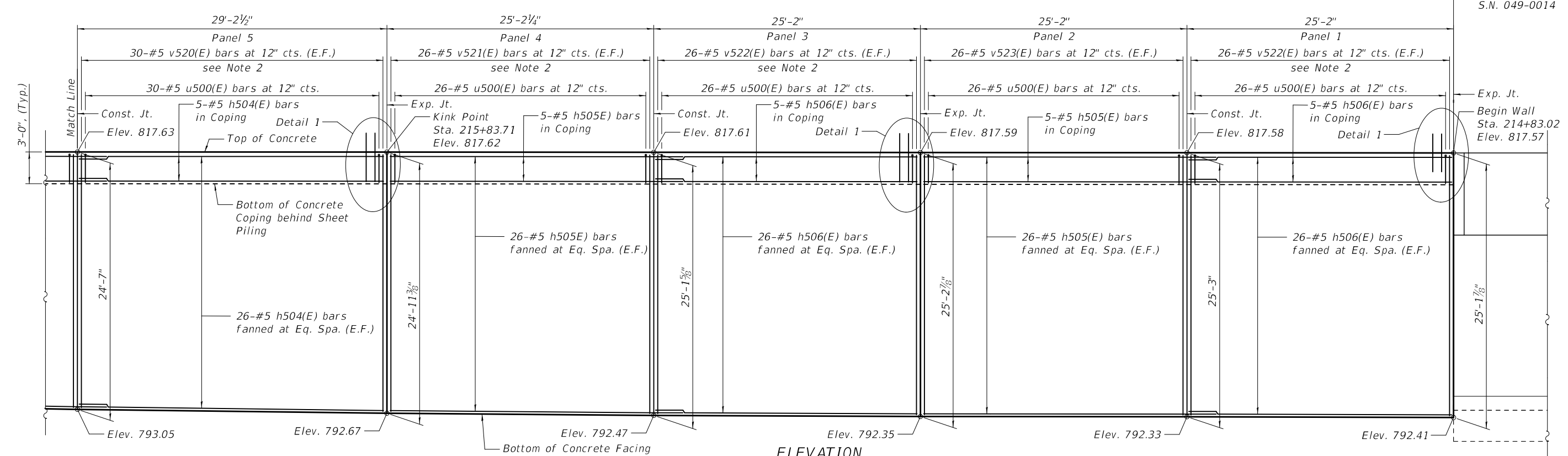
USER NAME = mc	DESIGNED - MD	REVISED -
DRAWN - CMD	REVISIONS -	
PLOT SCALE = N/A	CHECKED - JRM	REVISED -
PLOT DATE = 9/10/2024	DATE - 9/10/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WALL PLAN AND ELEVATION 3
STRUCTURE NO. 049-W1002**

SHEET SF-6 OF SF-16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	501
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

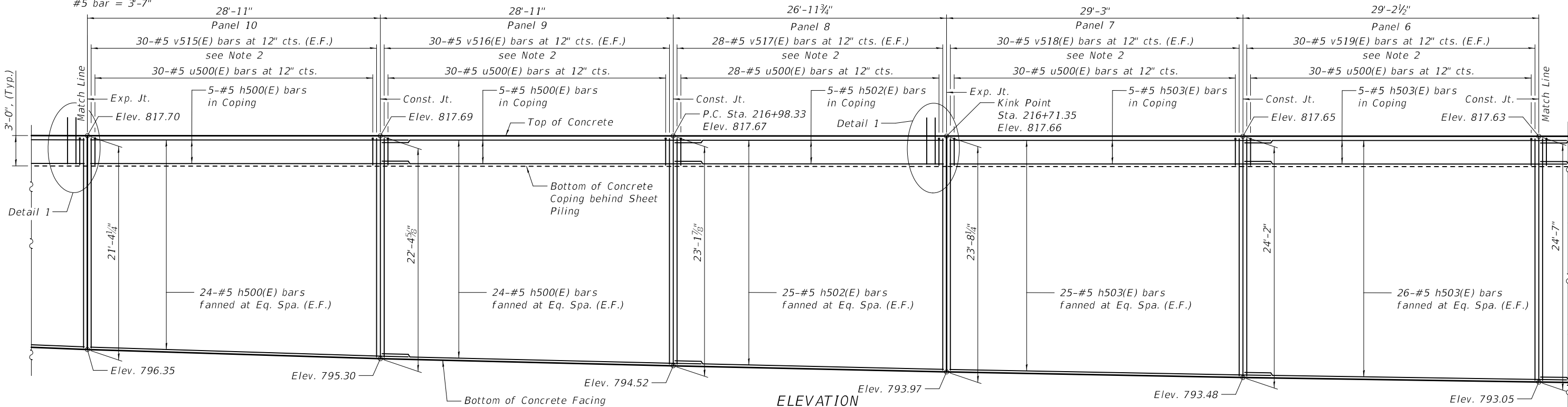


ELEVATION

Looking at Front Face of Wall
Horizontal Dimensions measured along Front Face of Wall

MINIMUM BAR LAP

#5 bar = 3'-7"



ELEVATION

Looking at Front Face of Wall
Horizontal Dimensions measured along Front Face of Wall

- Notes:
1. For Typical Cantilevered Wall Section, Bill of Material, and Reinforcement Details, see sheet SF-10. For Anchored Wall Sections, see sheet SF-11.
 2. See Field Cutting Diagram on sheet SF-10 of SF-16.
 3. For Concrete Pilaster, Ornamental Railing, and architectural details, see sheets SF-12 and SF-13.
 4. For Detail 1, see Sheet SF-9 of SF-16.

MODEL: Default
FILE NAME: ...049W1002-6187-007-Wall Facing Elevation 1.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

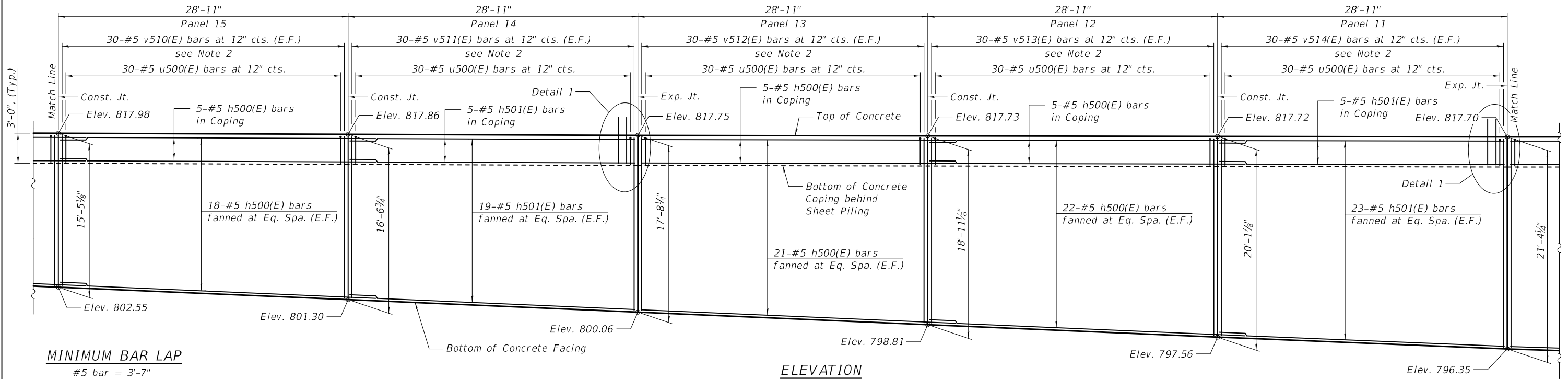
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WALL FACING ELEVATION 1
STRUCTURE NO. 049-W1002**

SHEET SF-7 OF SF-16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	502
CONTRACT NO. 61J87				

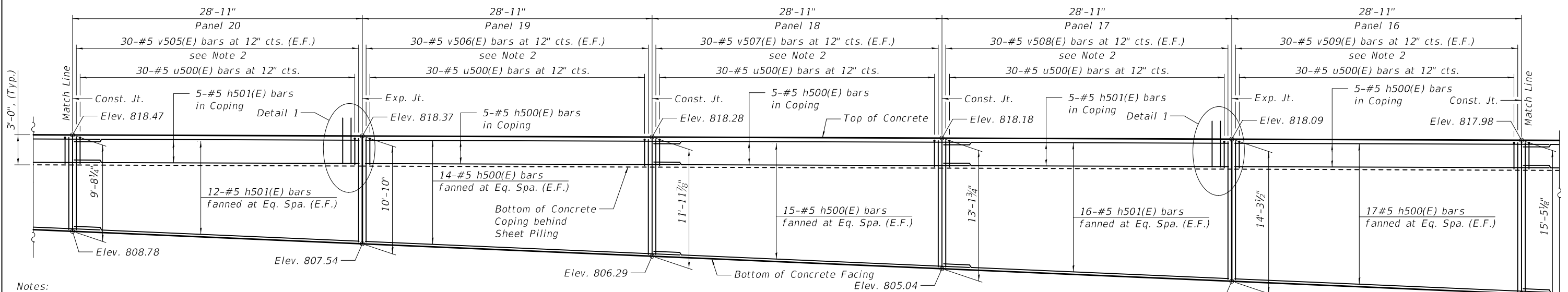
ILLINOIS FED. AID PROJECT



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

ELEVATION

Looking at Front Face of Wall
Horizontal Dimensions measured along Front Face of Wall



- Notes:
1. For Typical Cantilevered Wall Section, Bill of Material, and Reinforcement Details, see sheet SF-10. For Anchored Wall Sections, see sheet SF-11.
 2. See Field Cutting Diagram on sheet SF-10 of SF-16.
 3. For Concrete Pilaster, Ornamental Railing, and architectural details, see sheets SF-12 and SF-13.
 4. For Detail 1, see Sheet SF-9 of SF-16.

ELEVATION

Looking at Front Face of Wall
Horizontal Dimensions measured along Front Face of Wall

MODEL: Default
FILE NAME: ...049W1002-61187-008-Wall Facing Elevation 2.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

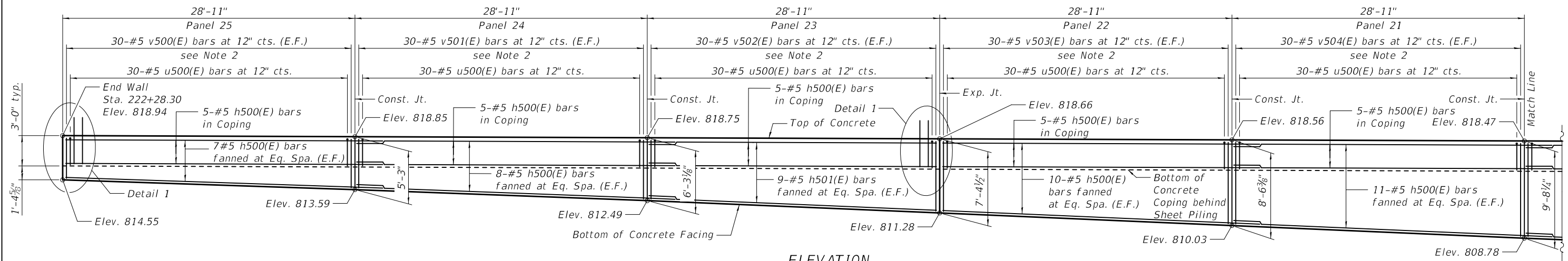
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WALL FACING ELEVATION 2
STRUCTURE NO. 049-W1002**

SHEET SF-8 OF SF-16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	503
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT

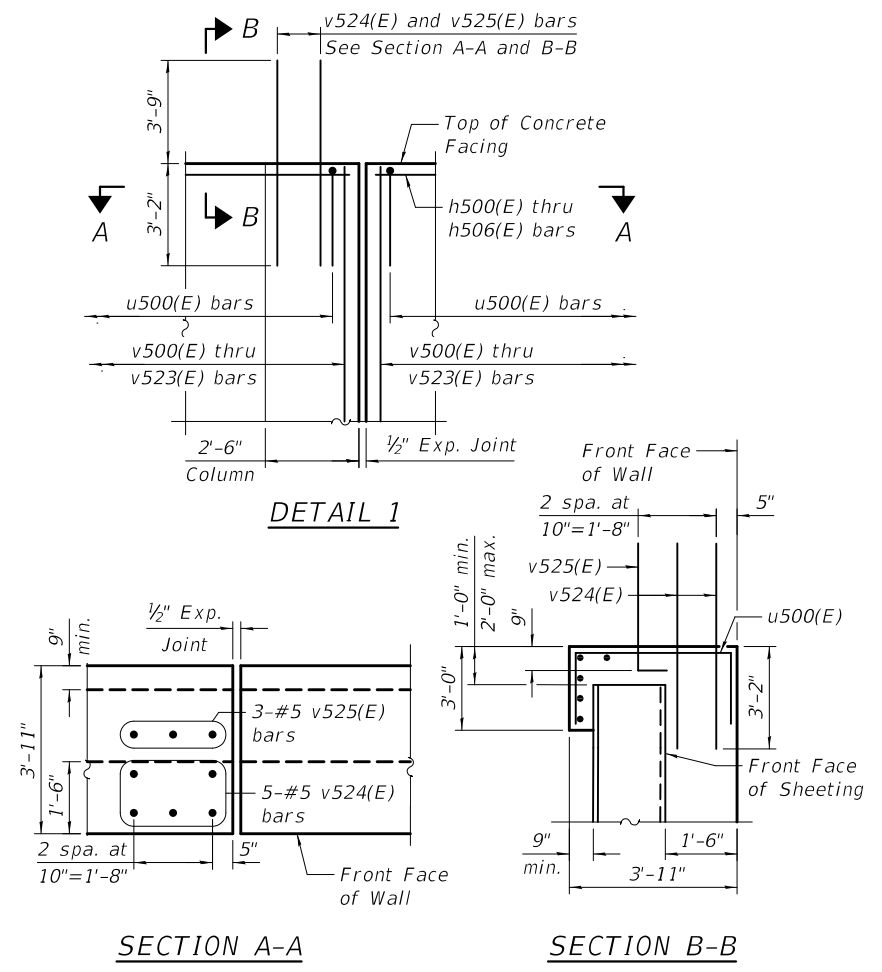


ELEVATION

Looking at Front Face of Wall
Horizontal Dimensions measured along Front Face of Wall

MINIMUM BAR LAP

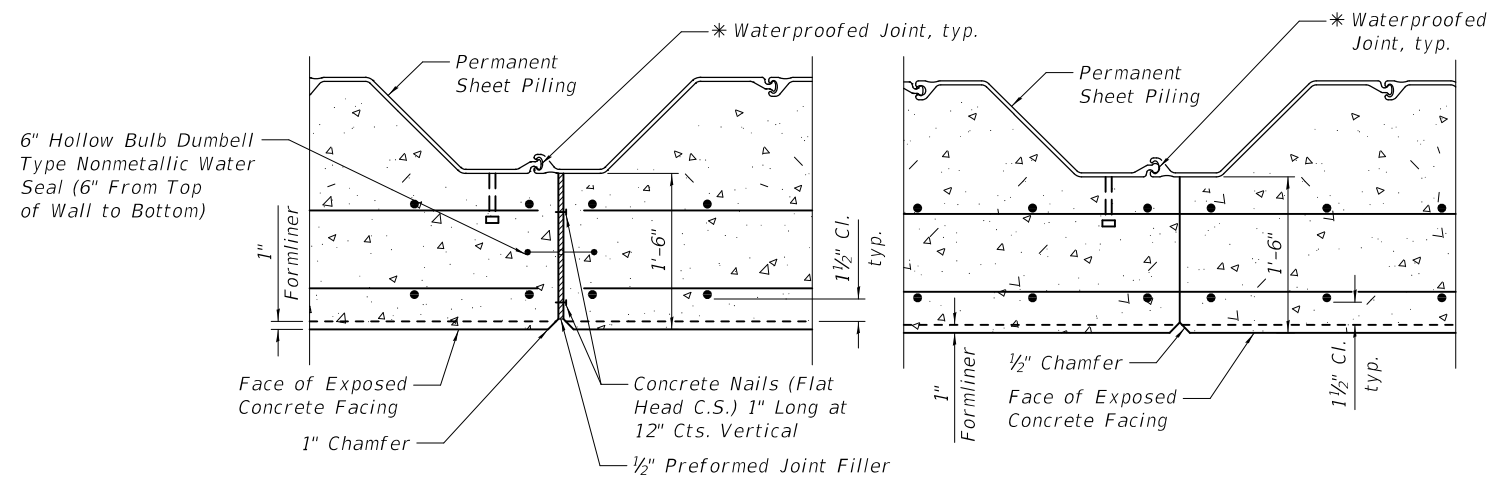
#5 bar = 3'-7"



DETAIL 1

SECTION A-A

SECTION B-B



EXPANSION JOINT DETAIL

CONSTRUCTION JOINT DETAIL

* Waterproofing material/sealant shall be placed within each interlocking, and shall be according to the sheet piling manufacturer's recommendations. Cost included with Permanent Sheet Piling.

Notes:

1. For Typical Cantilevered Wall Section, Bill of Material, and Reinforcement Details, see sheet SF-10. For Anchored Wall Sections, see sheet SF-11.
2. See Field Cutting Diagram on sheet SF-10 of SF-16.
3. For Concrete Pilaster, Ornamental Railing, and architectural details, see sheets SF-12 and SF-13.

MODEL: Default
FILE NAME: ...049W1002-6187-009-Wall Facing Elevation 3.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

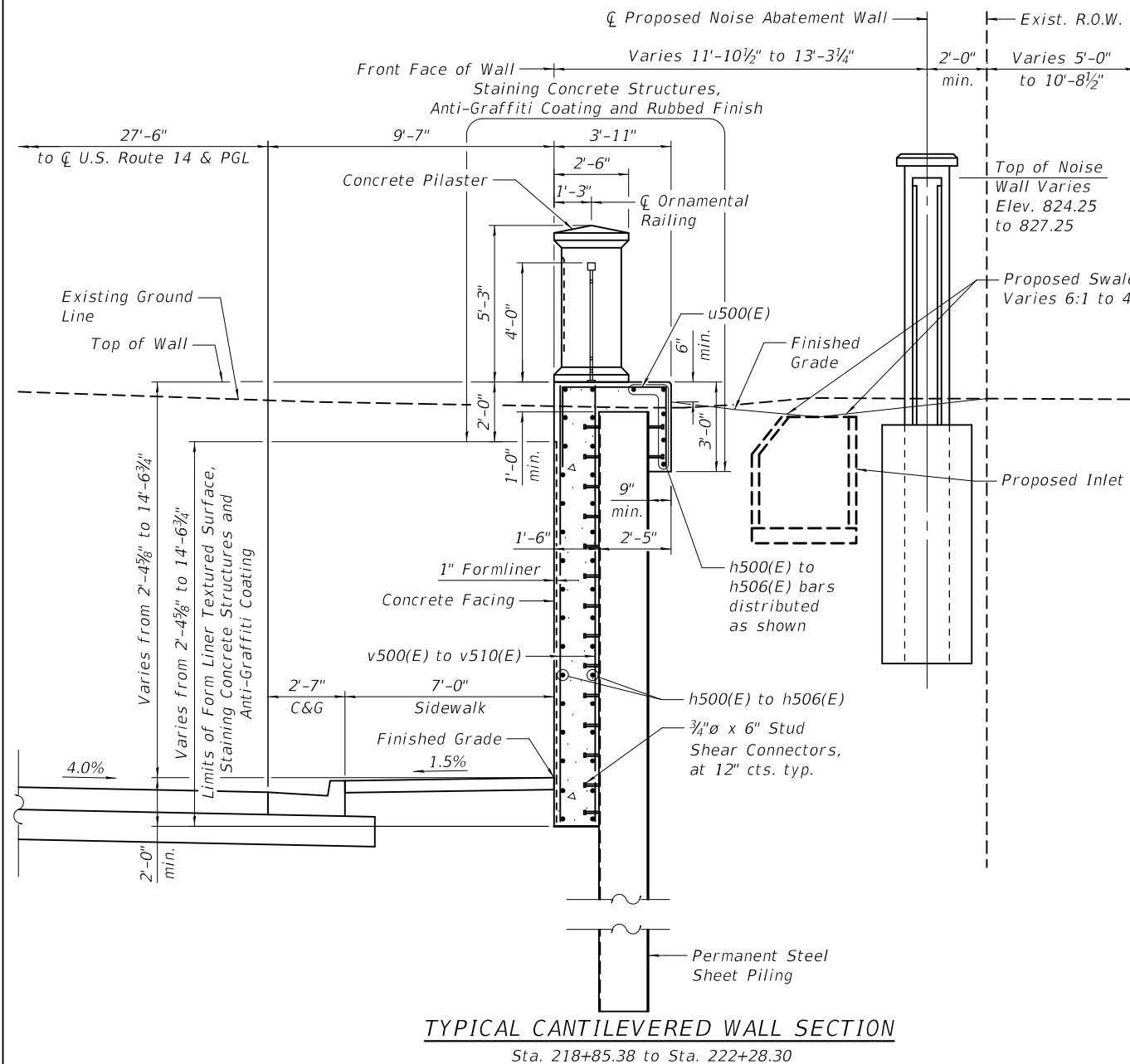
**WALL FACING ELEVATION 3
STRUCTURE NO. 049-W1002**

SHEET SF-9 OF SF-16 SHEETS

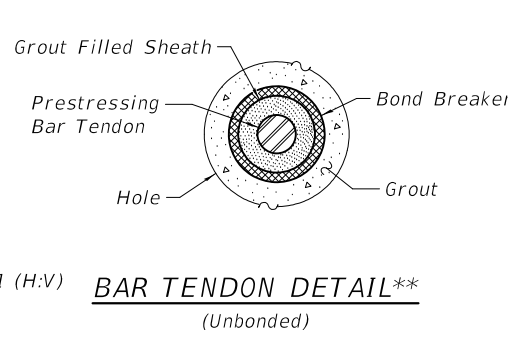
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	504
CONTRACT NO. 61187				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

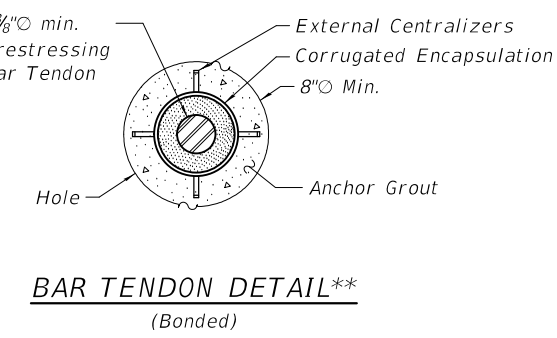
Bar	No.	Size	Length	Shape
h500(E)	442	#5	32'-6"	▬
h501(E)	183	#5	28'-7"	▬
h502(E)	55	#5	26'-8"	▬
h503(E)	112	#5	32'-10"	▬
h504(E)	57	#5	28'-10"	▬
h505(E)	114	#5	28'-9"	▬
h506(E)	114	#5	24'-10"	▬
u500(E)	732	#5	8'-11"	└┘
v500(E)	30	#5	8'-11"	▬
v501(E)	30	#5	10'-10"	▬
v502(E)	30	#5	12'-11"	▬
v503(E)	30	#5	15'-2"	▬
v504(E)	30	#5	17'-6"	▬
v505(E)	30	#5	19'-10"	▬
v506(E)	30	#5	22'-2"	▬
v507(E)	30	#5	24'-5"	▬
v508(E)	30	#5	26'-8"	▬
v509(E)	30	#5	29'-0"	▬
v510(E)	30	#5	31'-3"	▬
v511(E)	30	#5	33'-6"	▬
v512(E)	30	#5	35'-11"	▬
v513(E)	30	#5	38'-5"	▬
v514(E)	30	#5	40'-10"	▬
v515(E)	30	#5	43'-1"	▬
v516(E)	30	#5	44'-11"	▬
v517(E)	28	#5	46'-2"	▬
v518(E)	30	#5	47'-2"	▬
v519(E)	30	#5	48'-1"	▬
v520(E)	30	#5	48'-10"	▬
v521(E)	26	#5	49'-5"	▬
v522(E)	52	#5	49'-9"	▬
v523(E)	52	#5	24'-11"	▬
v524(E)	50	#5	6'-11"	▬
v525(E)	30	#5	5'-4"	└┘
Structure Excavation		Cu. Yd.	1,865	
Stud Shear Connectors		Each	3,085	
Reinforcement Bars, Epoxy Coated		Pound	66,720	
Permanent Sheet Piling		Sq. Ft.	28,399	
Concrete Structures (Retaining Wall)		Cu. Yd.	1,127.5	



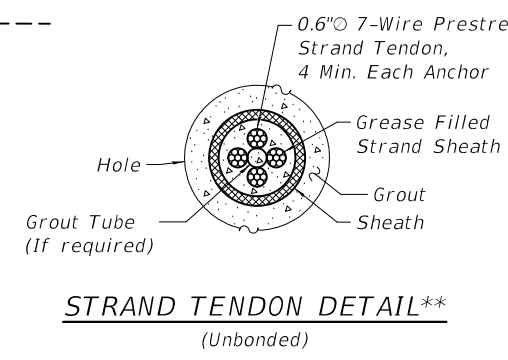
TYPICAL CANTILEVERED WALL SECTION
Sta. 218+85.38 to Sta. 222+28.30



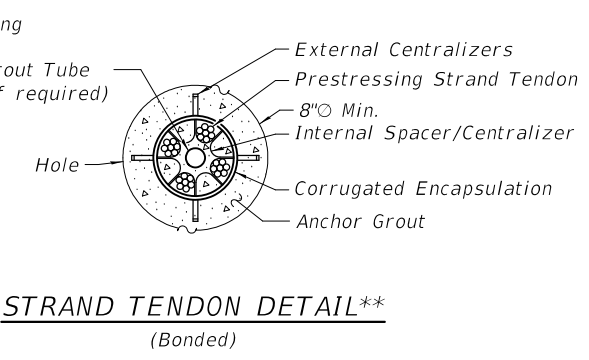
BAR TENDON DETAIL**
(Unbonded)



BAR TENDON DETAIL**
(Bonded)

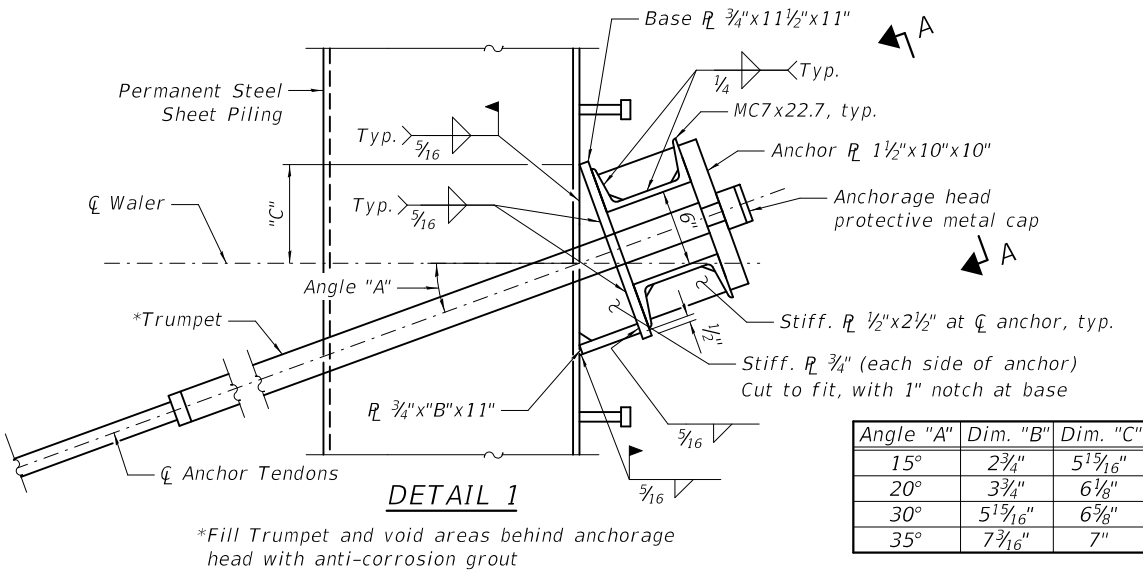
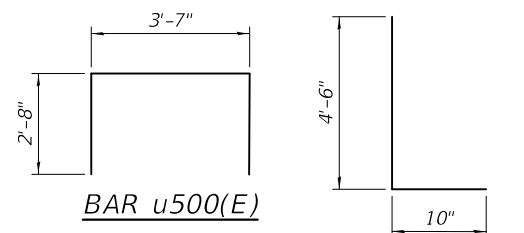


STRAND TENDON DETAIL**
(Unbonded)



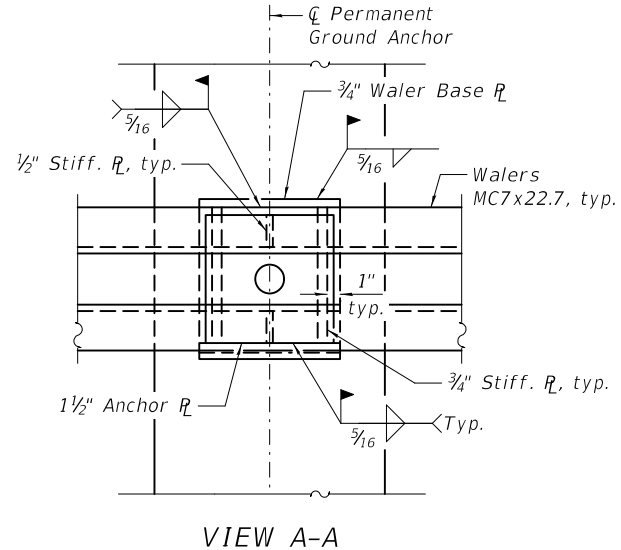
STRAND TENDON DETAIL**
(Bonded)

** The Contractor shall furnish and install Permanent Ground Anchors meeting the requirements for design load and unbonded length as shown on the plans, and fitting within the R.O.W. limits of the site. All elements (drilled hole, sheath bondbreaker, encapsulation, tendons, bonded length, etc.) shall be selected and designed by the Contractor. All materials and work shall be in compliance with the special provision.



*Fill Trumpet and void areas behind anchorage head with anti-corrosion grout

Angle "A"	Dim. "B"	Dim. "C"
15°	2 3/4"	5 1 5/16"
20°	3 3/4"	6 1/8"
30°	5 1 5/16"	6 5/8"
35°	7 3/16"	7"



VIEW A-A

(Waler support plates, except anchor plate, to be installed at each point of contact between waler and front face of sheet piling)

FIELD CUTTING DIAGRAM

Order bars in table to the right full length. Cut as shown and use remainder of bars in opposite face of panel. Note that additional cuts may be required to avoid waler interference.

Bar	"A"	"B"	"C"	"N"
v500(E)	4'-0"	4'-11"	8'-11"	30
v501(E)	4'-11"	5'-11"	10'-10"	30
v502(E)	5'-11"	7'-0"	12'-11"	30
v503(E)	7'-0"	8'-2"	15'-2"	30
v504(E)	8'-2"	9'-4"	17'-6"	30
v505(E)	9'-4"	10'-6"	19'-10"	30
v506(E)	10'-6"	11'-8"	22'-2"	30
v507(E)	11'-8"	12'-9"	24'-5"	30
v508(E)	12'-9"	13'-11"	26'-8"	30
v509(E)	13'-11"	15'-1"	29'-0"	30
v510(E)	15'-1"	16'-2"	31'-3"	30
v511(E)	16'-2"	17'-4"	33'-6"	30
v512(E)	17'-4"	18'-7"	35'-11"	30
v513(E)	18'-7"	19'-10"	38'-5"	30
v514(E)	19'-10"	21'-0"	40'-10"	30
v515(E)	21'-0"	22'-1"	43'-1"	30
v516(E)	22'-1"	22'-10"	44'-11"	30
v517(E)	22'-10"	23'-4"	46'-2"	28
v518(E)	23'-4"	23'-10"	47'-2"	30
v519(E)	23'-10"	24'-3"	48'-1"	30
v520(E)	24'-3"	24'-7"	48'-10"	30
v521(E)	24'-7"	24'-10"	49'-5"	26
v522(E)	24'-10"	24'-11"	49'-9"	52

MODEL: Default
FILE NAME: ...049W1002-61187-010-Retaining Wall Details 1.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

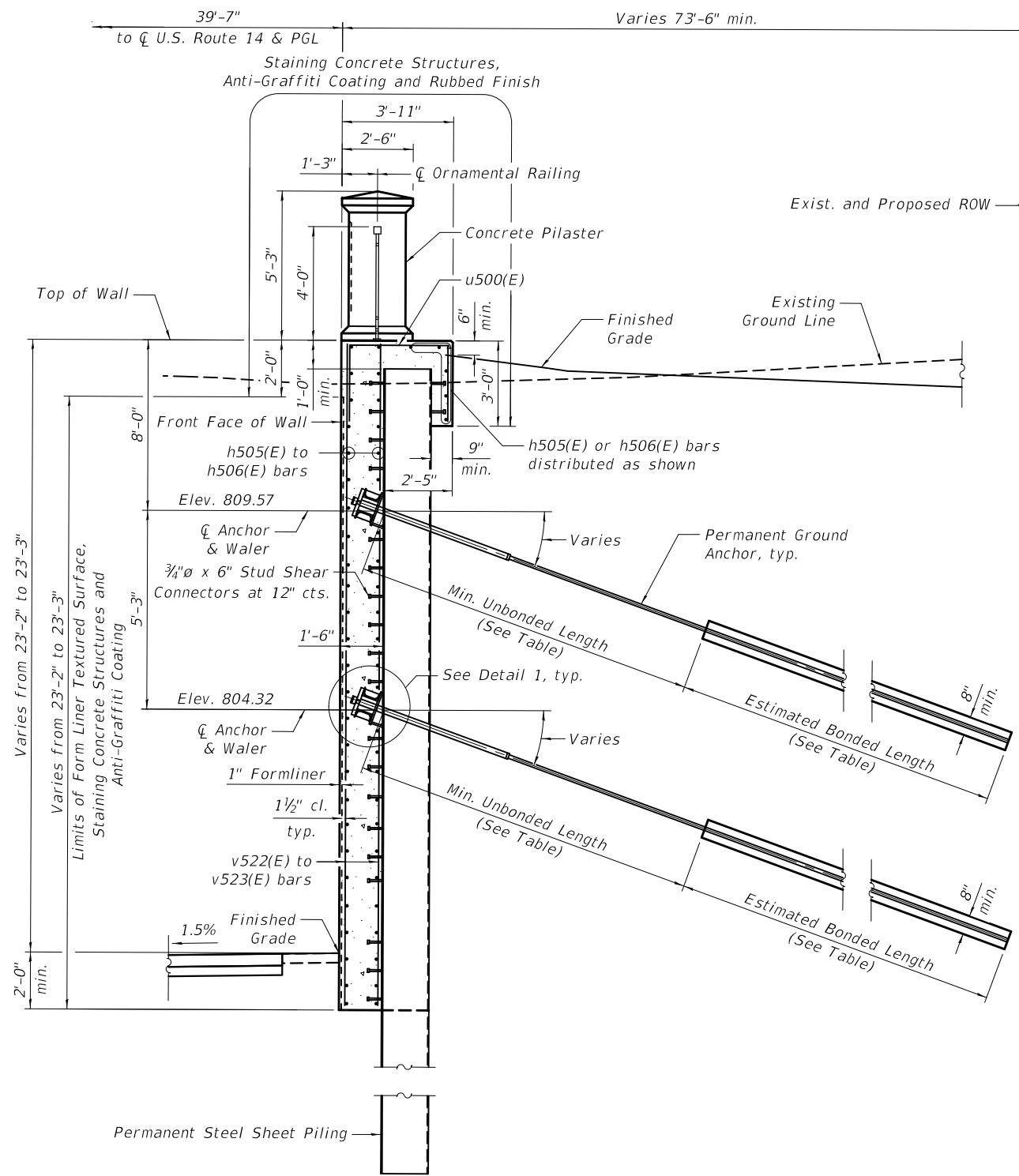
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**RETAINING WALL DETAILS 1
STRUCTURE NO. 049-W1002**

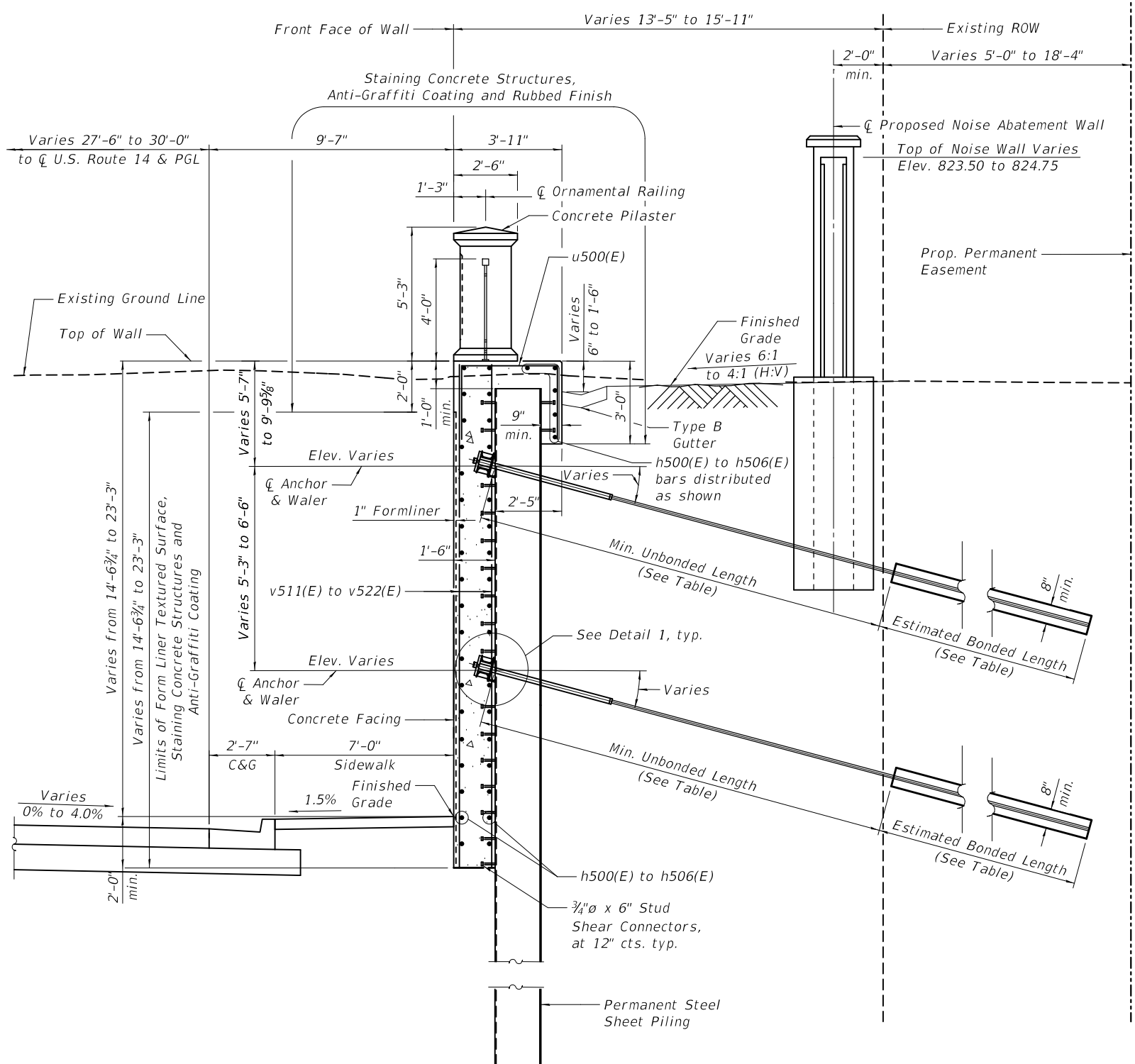
SHEET SF-10 OF SF-16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	505
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT



TYPICAL ANCHORED WALL SECTION
Sta. 214+83.02 to Sta. 215+40.00



TYPICAL ANCHORED WALL SECTION
Sta. 215+40.00 to Sta. 218+85.38

- Notes:
 1. For Ground Anchor Schedule, see Sheet SF-3 of SF-16.
 2. For Detail 1, see Sheet SF-10 of SF-16.

MODEL: Default
 FILE NAME: ...049W1002-61187-011-Retaining Wall Details 2.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - AWT	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**RETAINING WALL DETAILS 2
 STRUCTURE NO. 049-W1002**

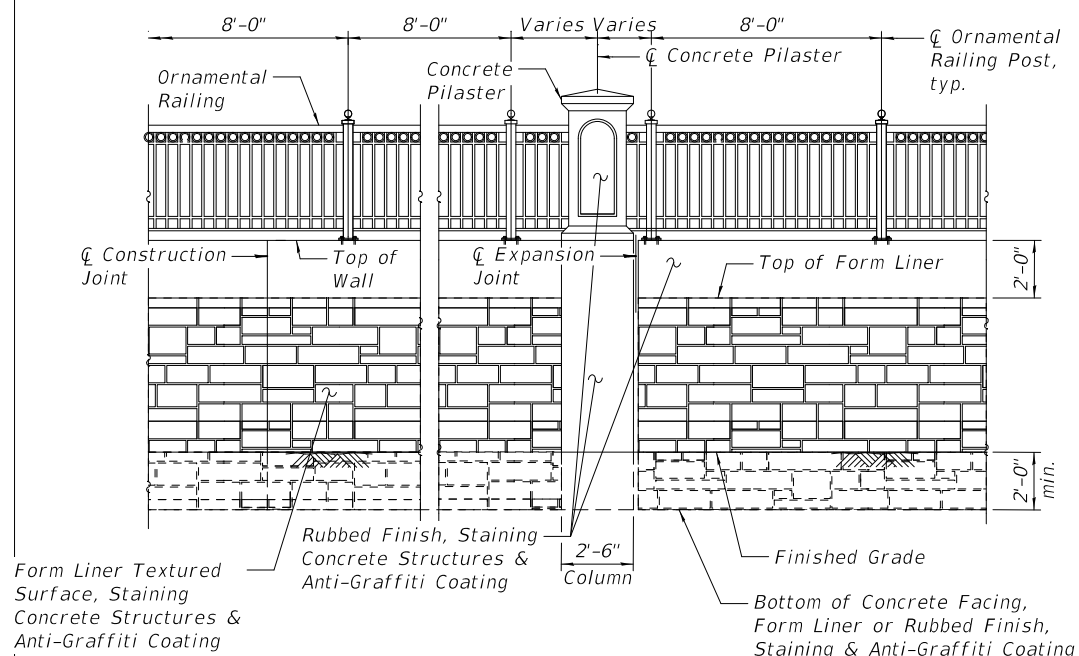
SHEET SF-11 OF SF-16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	506
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT

BILL OF MATERIAL

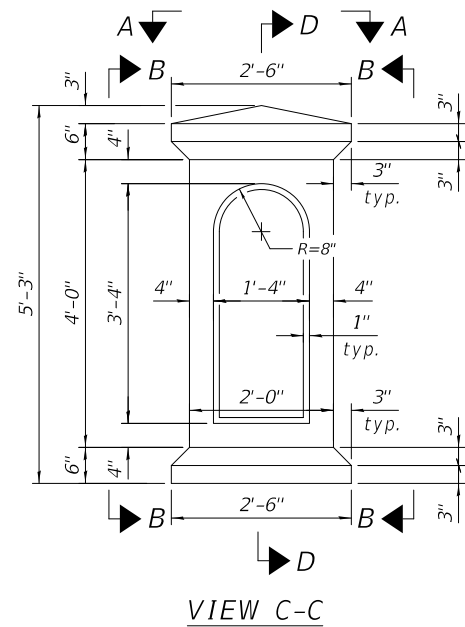
Bar	No.	Size	Length	Shape
s500(E)	50	#4	7'-1"	□
s501(E)	20	#4	8'-9"	□
s502(E)	20	#4	9'-9"	□
v526(E)	80	#4	4'-9"	—
Rubbed Finish			Sq. Ft.	7,171
Form Liner Textured Surface			Sq. Ft.	10,258
Reinforcement Bars, Epoxy Coated			Pound	740
Concrete Structures (Retaining Wall)			Cu. Yd.	8.0
Anti-Graffiti Coating			Sq. Ft.	17,429
Staining Concrete Structures			Sq. Ft.	17,429



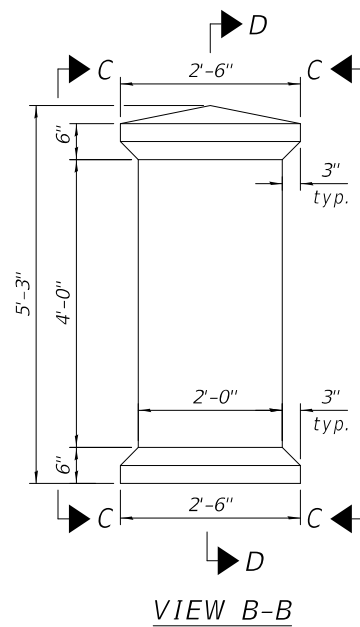
LEGEND

Pattern shall be similar to Pattern #12005 "Bearpath Coursed Stone" manufactured by Custom Rock.

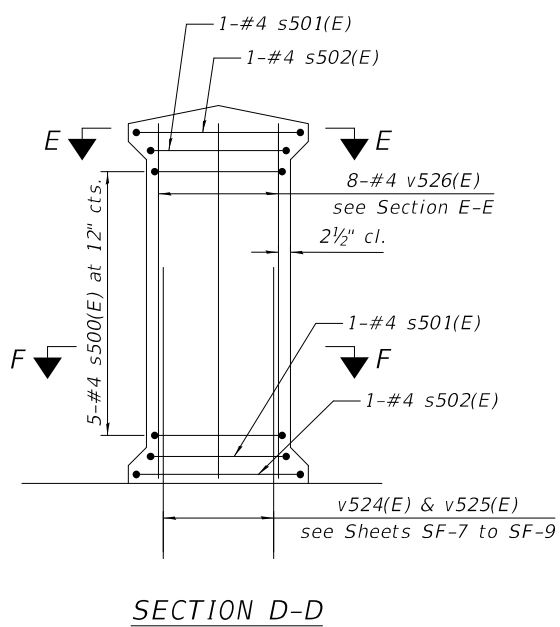
FORM LINER TEXTURED SURFACE DETAIL



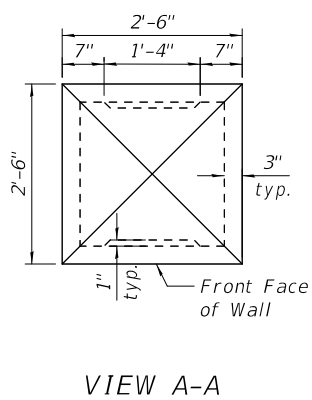
VIEW C-C



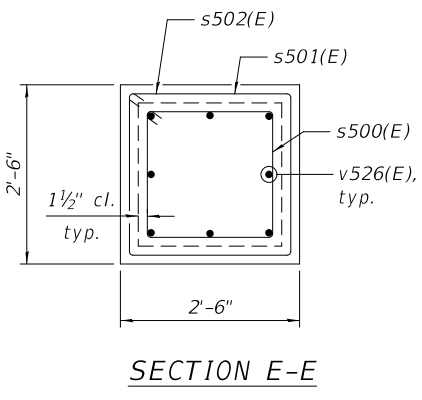
VIEW B-B



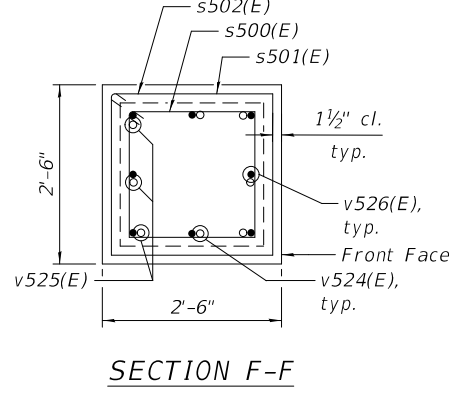
SECTION D-D



VIEW A-A

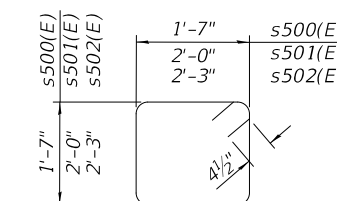


SECTION E-E



SECTION F-F

CONCRETE PILASTER DETAILS



BARS s500(E), s501(E) & s502(E)

Notes:

1. Rubbed Finish shall be applied to all non-form liner textured surfaces of concrete, including the pilasters, bandings, "columns", top of wall, and back of coping.
2. Staining Concrete Structures and Anti-Graffiti Coating shall be applied to all exposed surfaces of concrete, 2 feet min. below grade, and back of coping.

MODEL: Default
FILE NAME: ...049W1002-61187-012-Aesthetic_Details.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

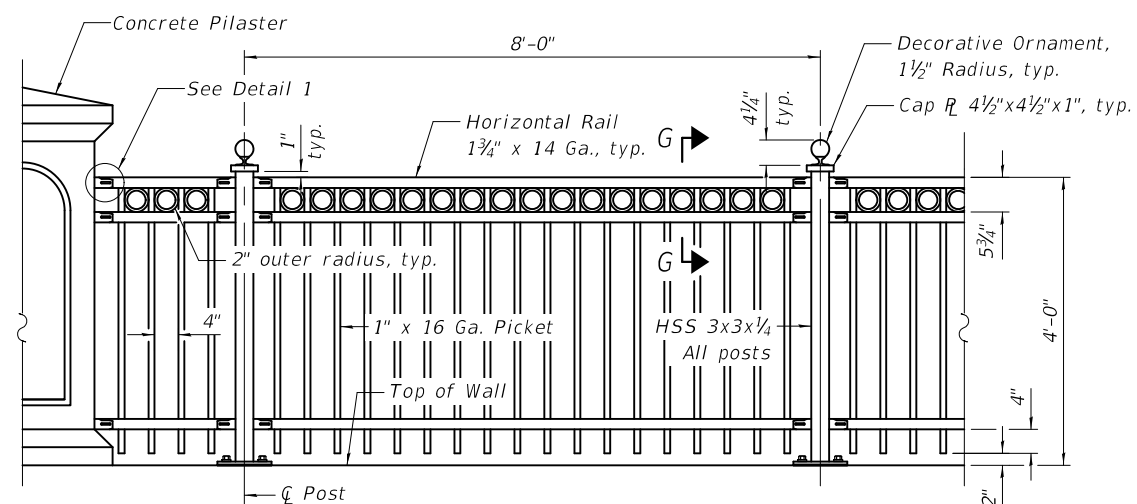
**AESTHETIC DETAILS
STRUCTURE NO. 049-W1002**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	507
CONTRACT NO. 61187				
ILLINOIS FED. AID PROJECT				

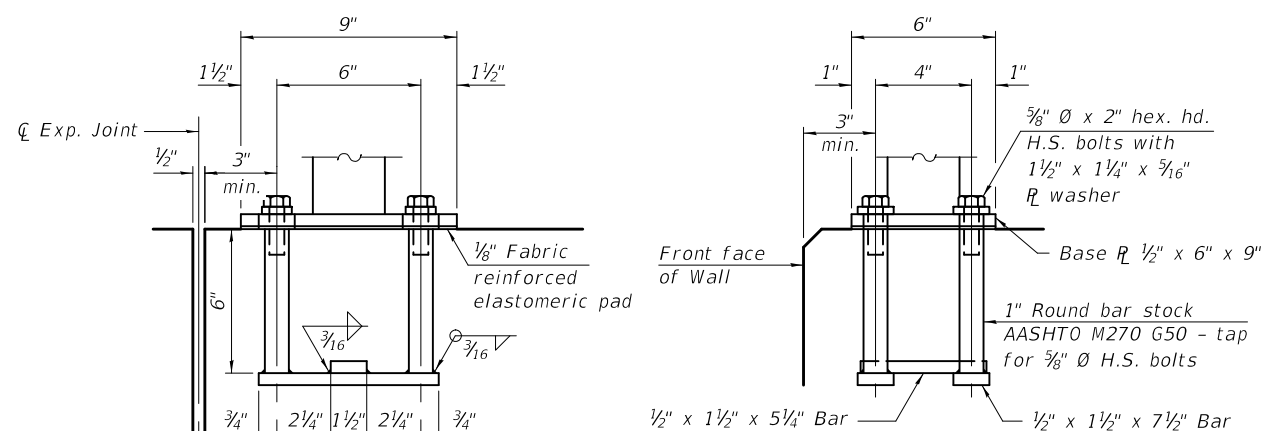
SHEET SF-12 OF SF-16 SHEETS

BILL OF MATERIAL

Item	Unit	Quantity
Ornamental Railing	Foot	687

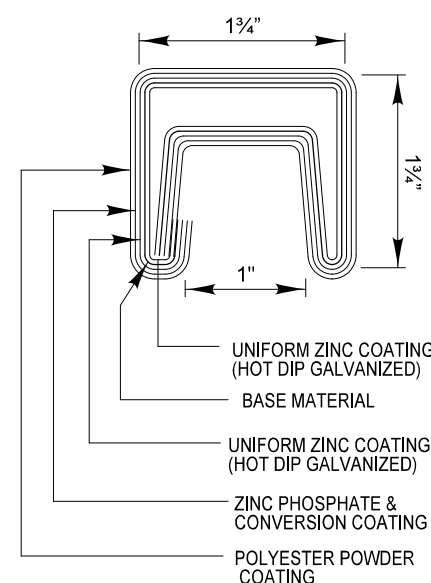


ORNAMENTAL RAILING ELEVATION

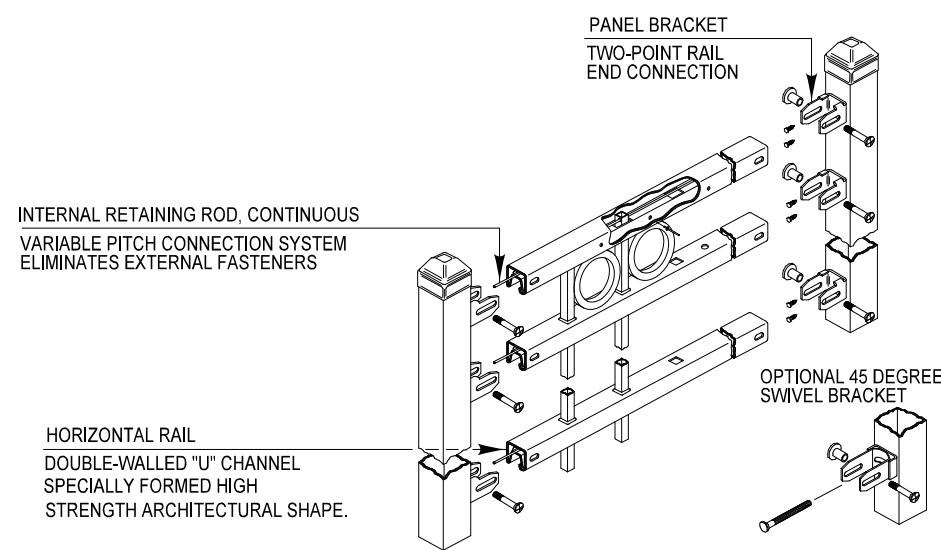


ANCHORAGE ASSEMBLY

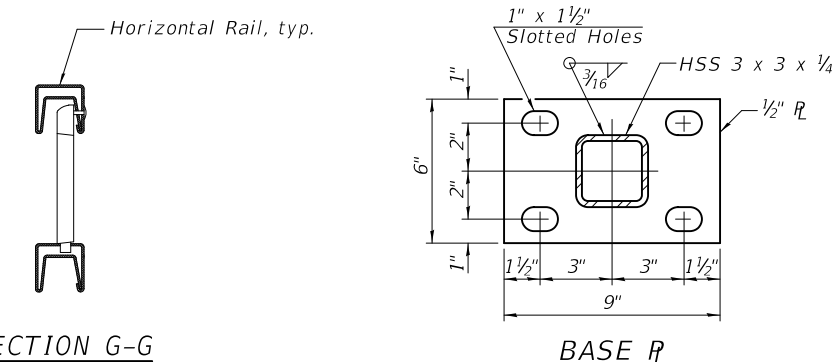
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" Ø fully threaded anchor rods with the same plate washers as specified above and heavy hex lock nuts according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



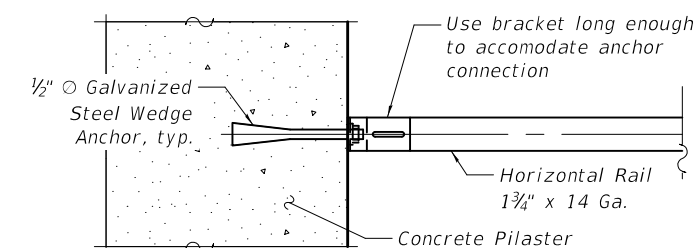
HORIZONTAL RAIL CROSS SECTION



ISOMETRIC VIEW



**SECTION G-G
RING ATTACHMENT**



DETAIL 1

Notes:

- All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
- All posts, railings, splices, anchor devices, and plates shall be coated with 2 coats of electrostatic polyester, TGIC powder coating. The color of the final finish coat for all railing steel shall be Black. See Special Provisions.
- Space reinforcement in the sides of the pilasters to miss anchor bolts.
- All heavy hex nuts shall be according to ASTM A 563 grade DH.
- All fully threaded anchor rods shall be ASTM F1554 grade 105.

MODEL: Default
FILE NAME: ...049W1002-61J87-013-Ornamental Railing_Details

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - AWT	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ORNAMENTAL RAILING
STRUCTURE NO. 049-W1002**

SHEET SF-13 OF SF-16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	508
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 2
STRUCTURE FOUNDATION BORING LOG Date 3/22/13

ROUTE US 14 DESCRIPTION US Route 14 and WCLRR LOGGED BY MHP
SECTION 11-00087-00-GS LOCATION US Route 14 @
COUNTY Lake STRUCTURE NO. (Exist) 049-0134 (Prop.)
BORING NO. SB-4 DRILLING METHOD HSA HAMMER TYPE Manual

SOIL DESCRIPTION					SOIL DESCRIPTION				
(ft.)	(ft.)	/ft*	(tsf)	(%)	(ft.)	(ft.)	/ft*	(tsf)	(%)
Pavement: 4" Bituminous Concrete over 8" PC Concrete					Grey CLAY, trace Sand and Gravel, A-6, very stiff				
816.3	9				35	5	2.17		17
Brown SAND and GRAVEL, mixed with Concrete: FILL, dense									
	15-16			9		10	2.95		19
	20			8		8	1.71		17
811.8	5	14-19			40	25-20	BS		17
Brown SAND and GRAVEL, little Clay, A-1, medium dense									
	10	8-10		13		11	2.52		20
809.3	7	14-13		12	775.3				
Grey SAND and GRAVEL, A-1-b, wet, medium dense to dense					Grey Silt LOAM, A-4 to A-6, very stiff				
	10	14-13		12		8			13
	9	12-11		10		6	1.94		16
	12	17-16		11		7	2.02		13
	15	17-16		11	50	13-15	B		13
	10	4-13		8		10	4.66		16
	10	11-16		14	765.3				
796.3	1	2-6	1.94	19	Grey CLAY, trace Sand and Gravel, A-6, stiff to hard				
Grey Gravelly CLAY, A-6 to A-4, stiff						6	1.94		16
	7	23-12	2.0	19		10	4.66		16
791.8	4	6-11	1.78	22	End of Boring at 75'				
Grey CLAY, trace Sand and Gravel, A-6, stiff to very stiff						14	2.95		18
	5	7-12	2.79	19		14	2.95		18
	30					14	2.95		18

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 2 of 2
STRUCTURE FOUNDATION BORING LOG Date 3/22/13

ROUTE US 14 DESCRIPTION US Route 14 and WCLRR LOGGED BY MHP
SECTION 11-00087-00-GS LOCATION US Route 14 @
COUNTY Lake STRUCTURE NO. (Exist) 049-0134 (Prop.)
BORING NO. SB-4 DRILLING METHOD HSA HAMMER TYPE Manual

SOIL DESCRIPTION					SOIL DESCRIPTION				
(ft.)	(ft.)	/ft*	(tsf)	(%)	(ft.)	(ft.)	/ft*	(tsf)	(%)
Grey CLAY, trace Sand and Gravel, A-6, very stiff									
	10	21-19		19	End of Boring at 75'				
	70					11	2.52		20
	742.3					11	2.52		20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG Date 10/8/13

ROUTE US 14 DESCRIPTION US Route 14 and LOCATION South East Retaining Wall LOGGED BY MP
SECTION 11-00087-00-GS LOCATION South East Retaining Wall
COUNTY Lake STRUCTURE NO. (Exist) (Prop.)
BORING NO. SB-25 DRILLING METHOD HSA HAMMER TYPE Safety

SOIL DESCRIPTION					SOIL DESCRIPTION				
(ft.)	(ft.)	/ft*	(tsf)	(%)	(ft.)	(ft.)	/ft*	(tsf)	(%)
Pavement: 4" Bit. Concrete, 4" PCC					Grey CLAY, trace Sand & Gravel, A-6 stiff				
817.2	4	4-3	0.78	30	35	8	1.90		20
Brown CLAY, A-6 firm									
	4	4-3	0.78	30		7	2.59		19
814.8	3	6-9		16	777.8				
Brown Sandy Clay LOAM, A-2-4 with Gravel, medium dense					End of Boring at 40 Feet				
	8	8-8		10		4			9
809.8	4	19-11		9		12			11
to SAND AND GRAVEL, A-1-b som clay						11			10
	11	9-10		10		12			11
802.3	22	12-12		20		15			10
Grey SAND and GRAVEL, A-1-a medium dense						3			20
	3	50/4"		20		4			15
796.3	4	7-16	1.75	22	Grey CLAY, trace Sand & Gravel, A-6 Stiff				
Cobble at 19' to SAND, A-3						6			18
	6	7-9		18		5	1.75		20
	5	8-14		20		10	2.24		20
	10	12-15		20		30			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MSET PROJECT NO.: 20618		LOG OF BORING NO. SB-107		Page 1 of 2						
PROJECT: Route 14 Underpass Phase 2		SITE LOCATION: Barrington, Illinois								
BORING LOCATION: Station 217+35, 18' R		CLIENT: Civiltech Engineering, Inc.								
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS			REMARKS	
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf		Unconfined Compressive Strength, tsf
0		Pavement: 3" Bit. Concrete over 10" PCC over 23" Granular Base	818.0	SS	1	54/9"				
		Black CLAY, A-7-6, stiff	815.0	SS	2	5	23		1.5 Qp	
5		Brown & Grey Sandy Clay LOAM, A-2-4, loose to medium dense	812.5	SS	3	2	19			
				SS	4	11	9			
10		Brown & Grey SAND, with Gravel, A-1-b, medium dense	807.5	SS	5	14	17			
				SS	6A	28	24			
		Grey SAND and GRAVEL, A-1, medium dense	804.0	SS	6B	26	9			
		Grey SAND, with Gravel, A-1-b, medium dense	802.5	SS	7	25	20			
20		Grey CLAY, A-6, very stiff to hard	800.0	SS	8	13	13		2.0 Qp	
				SS	9	10	25	100	2.17	
				SS	10	23	16	114	4.85	
				SS	11	24	14	119	3.34	
				SS	12	30	21		2.0 Qp	
				SS	13	24	18	110	3.92	

WATER LEVEL OBSERVATIONS, ft.
 DURING DRILLING: 11.0'
 IMMEDIATELY AFTER DRILLING: 9.6'
 DELAYED READING AFTER



BORING STARTED: 4/9/21
 BORING COMPLETED: 4/9/21
 LOGGED BY: MF
 BORING METHOD: HSA

Midland Standard Engineering & Testing, Inc. 410 Nolen Drive, South Elgin, Illinois 60177 (847) 844-1895 (847) 844-3875

MSET PROJECT NO.: 20618		LOG OF BORING NO. SB-107		Page 2 of 2						
PROJECT: Route 14 Underpass Phase 2		SITE LOCATION: Barrington, Illinois								
BORING LOCATION: Station 217+35, 18' R		CLIENT: Civiltech Engineering, Inc.								
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS			REMARKS	
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf		Unconfined Compressive Strength, tsf
40		Grey CLAY, A-6, very stiff to hard	779.0	SS	14	16	18	109	2.33	
				SS	15	15	16	113	1.75	
45				SS	16	14	14		1.39	
50				SS	17	26				No Recovery Cobble
55				SS	18A	23	13	124	3.88	
		Grey Sandy CLAY with Gravel, A-6, medium dense	758.5	SS	18B		9			
60				SS	19	19	18		2.95	
65		Grey CLAY, A-6, very stiff	755.0	SS	20	29	18	111	2.75	
70				SS	21	40	16			
75		Grey Clayey SILT, A-4, very dense	745.0	SS	21	40	16			
		End of Boring at 75 Feet	743.0							

WATER LEVEL OBSERVATIONS, ft.
 DURING DRILLING: 11.0'
 IMMEDIATELY AFTER DRILLING: 9.6'
 DELAYED READING AFTER



BORING STARTED: 4/9/21
 BORING COMPLETED: 4/9/21
 LOGGED BY: MF
 BORING METHOD: HSA

Midland Standard Engineering & Testing, Inc. 410 Nolen Drive, South Elgin, Illinois 60177 (847) 844-1895 (847) 844-3875

MIDLAND STANDARD ENGINEERING & TESTING, INC.										Page 1 of 1	
STRUCTURE FOUNDATION BORING LOG										Date 2/11/13	
ROUTE US 14		DESCRIPTION US Route 14 and WCLRR		LOGGED BY MHP							
SECTION 11-00087-00-GS		LOCATION US 14: Retaining Wall									
COUNTY Lake		STRUCTURE NO. (Exist) 049-0134(Prop.)									
BORING NO. SB-5		DRILLING METHOD HSA		HAMMER TYPE Manual							
Station 218+00		Offset 30' R of CL		Ground Surface Elev. 818.0 (ft.)		Groundwater Depth: First Encounter 22.0' (ft.)		Upon Completion -- (ft.)		After -- (ft.)	
SOIL DESCRIPTION		ELEVATION (ft.)		DEPTH (ft.)		BULGE (ft.)		SHEAR (ft.)		MOISTURE (%)	
Pavement: 4" Bituminous Concrete over 12" PCC		816.7		11		1.09		25		5 1.78	
Black CLAY, A-7-6, stiff		815		6-9		BS				35 10-15 B	
Brown Sandy Clay LOAM, A-7-6(9), slightly dense to medium dense		812.5		5		2-3		0.97 BS		25	
				6		6-7		--		17	
		809		7		--		14			
Grey SAND (f-m), A-1-b		804.0		10		7-11		--		11	
moist, little silt				11		9-11		--		16	
				15		14-11		--		15	
		801.5		2		--		15			
Grey Fractured GRAVEL, A-1		800		20-38		--		8			
Grey SAND (f-m), A-1-b				34		31-32		--		20	
				6		6-12		--		12	
		794		22		--		15			
Grey Clayey GRAVEL, A-2-4, dense		792		25		14-18		--		12	
Grey CLAY, trace Sand and Gravel, A-6, stiff				6		12-20		1.67 B		20	
				5		7-13		1.71 B		20	
				30							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
 The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MODEL: Default
 FILE NAME: ...049W1002-61187-015-Boring_Logs_2.dgn



USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
 STRUCTURE NO. 049-W1002

SHEET SF-15 OF SF-16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	510
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT

MIDLAND STANDARD ENGINEERING & TESTING, INC.
STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

ROUTE US 14 DESCRIPTION US Route 14 and WCLRR LOGGED BY MF Date 10/9/13

SECTION 11-00087-00-GS LOCATION South East Retaining Wall

COUNTY Lake STRUCTURE NO. (Exist) 049-0134 (Prop.)

BORING NO. SB-26 DRILLING METHOD HSA HAMMER TYPE Safety

Station 219+50
Offset 20' R
Ground Surface Elev. 818.2 (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/ft	(tsf)	(%)	ELEV	DEPTH	B	U	M
Pavement: 3" Bit. Concrete, 8" PCC	817.3									
Grey CLAY, trace Sand & Gravel, A-6, FILL Stiff		5	4-3	-	20					
		3	3-5	2.0	23					
	812.7	5	3-5	Qp						
Brown and Grey SAND, little Gravel, A-1-b slightly dense		3	4-4	-	17					
		4	4-4	-	16					
	807.7	10	4-4	-	16					
Grey CLAY, trace Sand & Gravel, A-6 very stiff		4	4-4	1.78	16					
		4	8-12	-	18					
		6	8-14	4.27	18					
		6	7-9	1.74	16					
		5	8-13	2.64	18					
		8	12-14	3.30	17					
		4	6-9	2.95	19					
		5	7-11	3.14	18					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.
STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

ROUTE US 14 DESCRIPTION US Route 14 and WCLRR LOGGED BY MHP Date 2/11/13

SECTION 11-00087-00-GS LOCATION US 14: Retaining Wall

COUNTY Lake STRUCTURE NO. (Exist) 049-0134 (Prop.)

BORING NO. SB-6 DRILLING METHOD HSA HAMMER TYPE Manual

Station 221+00
Offset 30' R of CL
Ground Surface Elev. 818.7 (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/ft	(tsf)	(%)	ELEV	DEPTH	B	U	M
Pavement: 4" Bituminous Concrete over 8" PCC over 4" Granular BC	817.4									
Black CLAY to Clay LOAM, A-7-6, stiff		7	5-7	1.32	22					
wet gravel seam at 3.5'		11	7-10	--	18					
	813.2	5	7-10	--	18					
Brown Clay LOAM, A-6(6), very stiff		6	9-15	3.61	17					
		4	6-10	3.38	21					
	809.2	10	6-10	1.44	19					
Grey CLAY, trace Sand and Gravel, A-6, hard to stiff		3	7-12	5.04	17					
		6	12-19	5.16	18					
		4	9-15	--	--					
		3	6-9	2.37	23					
		4	7-12	1.82	15					
		4	10-13	3.22	18					
		7	12-18	--	25					
		5	7-12	2.25	20					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.
STRUCTURE FOUNDATION BORING LOG

Page 1 of 1

ROUTE US 14 DESCRIPTION US Route 14 and WCLRR LOGGED BY MP Date 10/9/13

SECTION 11-00087-00-GS LOCATION South East Retaining Wall

COUNTY Lake STRUCTURE NO. (Exist) 049-0134 (Prop.)

BORING NO. SB-27 DRILLING METHOD HSA HAMMER TYPE Safety

Station 222+70
Offset 20' R
Ground Surface Elev. 819.1 (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/ft	(tsf)	(%)	ELEV	DEPTH	B	U	M
Pavement: 4" Bit. Concrete, 8" PCC	818.1									
Base		4	5-9	4.0	14					
Brown Clay LOAM, A-6(4) hard		10	12-24	4.5	18					
		5	12-24	Qp						
		8	11-17	4.33	18					
	811.1	11	11-17	BS						
Grey CLAY, trace Sand & Gravel, A-6 very stiff		8	10-18	3.61	16					
		3	6-9	2.33	17					
		5	6-10	2.79	18					
		5	8-12	2.91	17					
		5	8-11	2.64	21					
		6	8-12	3.03	21					
		6	8-11	2.95	22					
		8	13-21	5.20	15					
		11	18-23	5.43	16					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MODEL: Default
FILE NAME: ...049W1002-61187-016-Boring_Logs_3.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 3
STRUCTURE NO. 049-W1002

SHEET SF-16 OF SF-16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	511
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

Benchmark: East bolt on fire hydrant at the East corner of North Avenue and Park Lane,
Sta. 215+68.79, Offset 80.93' Rt. (U.S. Route 14), Elevation 818.39.

Existing Structure: None.

Maintenance of Traffic: Traffic will be detoured to a temporary roadway during construction.
Railroad traffic will be detoured to a shoofly track.

Notes:
Wall offsets are measured from
U.S. Route 14 to Front Face of Wall.

DESIGN STRESSES
FIELD UNITS

f'c = 3,500 psi (Wall Facing)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (ASTM A572 Grade 50)

DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition
2023 AREMA Manual for Railway Engineering

LOADING

Cooper E-90 Surcharge

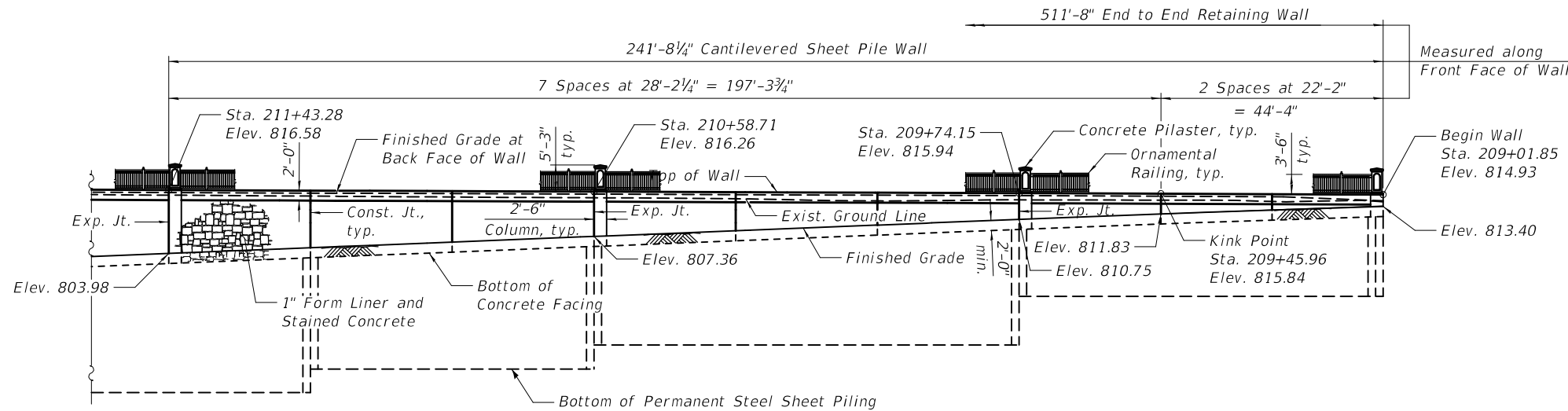


Joseph Mickow

JOSEPH R. MICKOW, P.E., S.E.
NO. 081-007816
EXP. DATE 11/30/2024

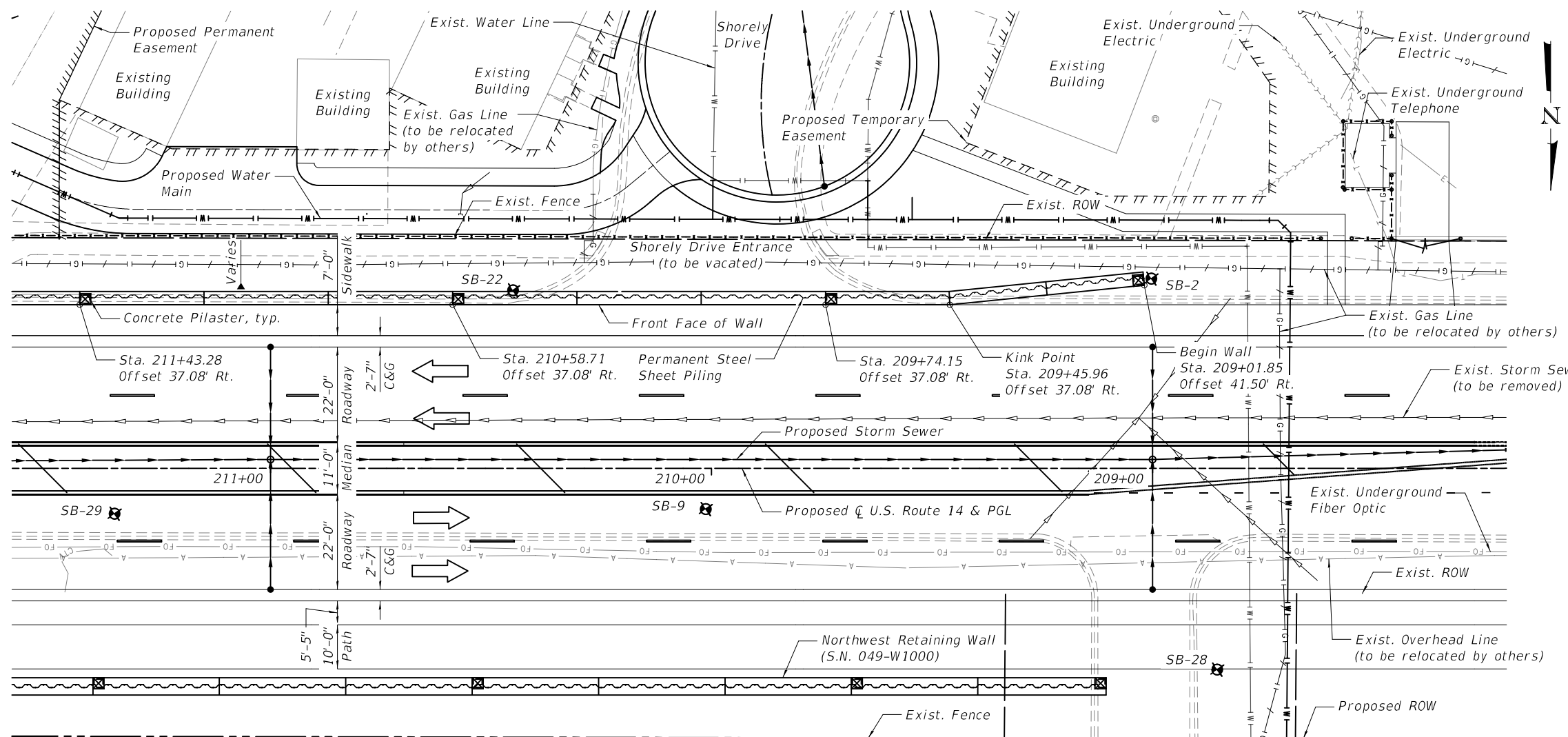
LEGEND

- A — Existing Aerial Lines
- G — Existing Gas Line
- W — Existing Water Main
- S — Existing Storm Sewer
- SS — Existing Sanitary Sewer
- E — Existing Underground Electric
- PS — Proposed Storm Sewer
- PM — Proposed Water Main
- T — Existing Underground Telephone
- FO — Existing Underground Fiber Optic
- F — Existing Fence
- ⊕ Soil Boring

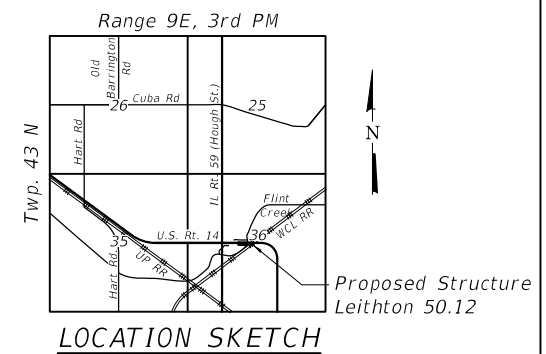


ELEVATION

Looking at Front Face of Wall



PLAN



LOCATION SKETCH

GENERAL PLAN AND ELEVATION 1
SOUTHWEST RETAINING WALL
F.A.P. RTE. 305 - U.S. ROUTE 14
SECTION 11-00087-00-GS
LAKE COUNTY
STA. 209+01.85 TO STA. 214+13.27
STRUCTURE NO. 049-W1003

MODEL: Default
FILE NAME: ...049W1003-6187-001-GPE1.dgn

TRANSYSTEMS

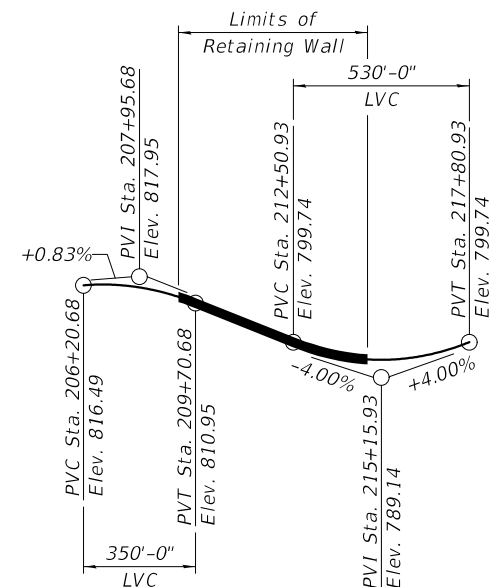
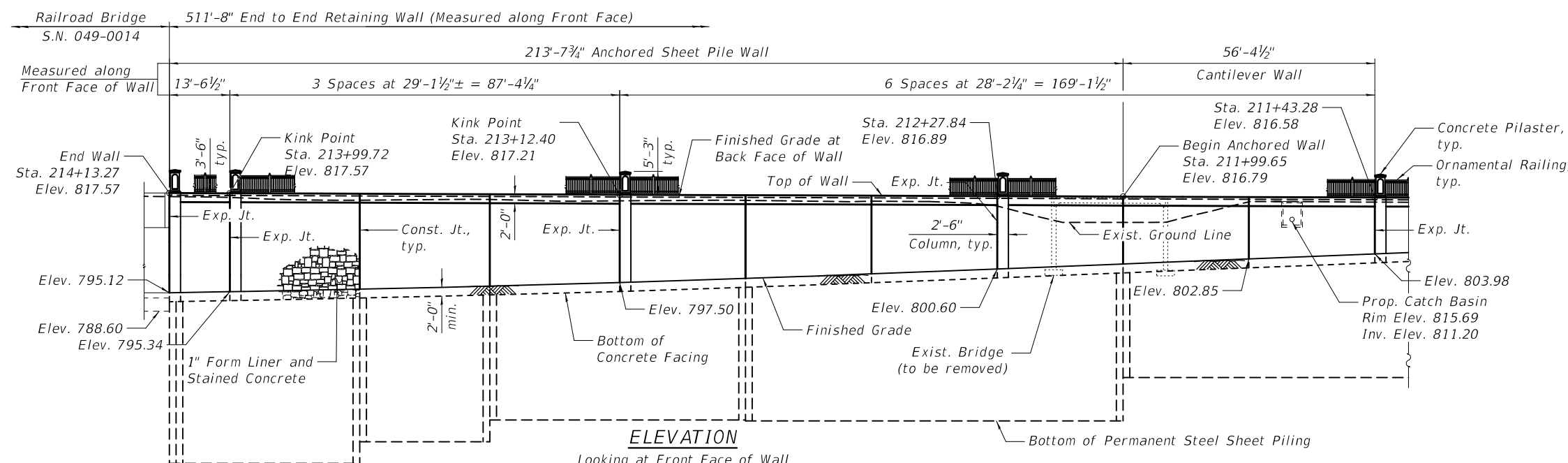
USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION 1
STRUCTURE NO. 049-W1003

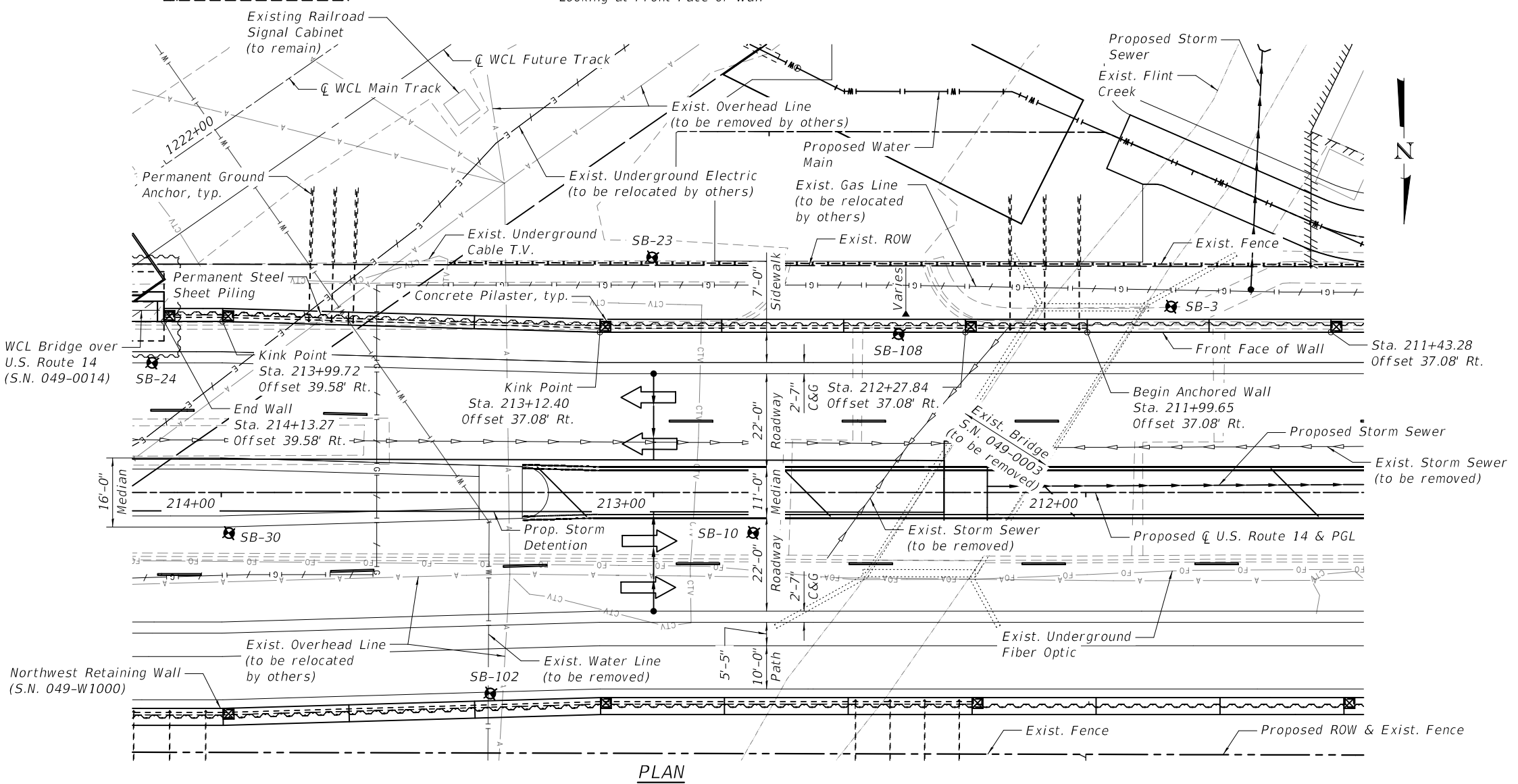
SHEET SG-1 OF SG-15 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	512
CONTRACT NO. 61187				
ILLINOIS FED. AID PROJECT				



PROFILE GRADE
(Along Proposed \bar{C} U.S. Route 14)

Notes:
Wall offsets are measured from \bar{C} U.S. Route 14 to Front Face of Wall.



LEGEND

- A — Existing Aerial Lines
- G — Existing Gas Line
- W — Existing Water Main
- S — Existing Storm Sewer
- SS — Existing Sanitary Sewer
- E — Existing Underground Electric
- FO — Existing Underground Fiber Optic
- CTV — Existing Underground Cable T.V.
- WM — Proposed Water Main
- S — Existing Fence
- SB — Soil Boring

GENERAL PLAN AND ELEVATION 2
SOUTHWEST RETAINING WALL
F.A.P. RTE. 305 - U.S. ROUTE 14
SECTION 11-00087-00-GS
LAKE COUNTY
STA. 209+01.85 TO STA. 214+13.27
STRUCTURE NO. 049-W1003

MODEL: Default
FILE NAME: ...049W1003-61187-002-GPE2.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION 2
STRUCTURE NO. 049-W1003

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 513
CONTRACT NO. 61187				
ILLINOIS FED. AID PROJECT				

SHEET SG-2 OF SG-15 SHEETS

GENERAL NOTES

- The Contractor shall be responsible for confirming or establishing the existence of all utility facilities relevant to their exact locations, and schedule all necessary utility relocations.
- All elevations and dimensions must be verified in the field.
- The centerline of a ground anchor shall not be within 12" of a vertical wall joint. Contractor may shift horizontal position of ground anchors and/or joints to avoid interference. Any horizontal shift, and all subsequent modifications required, will be the responsibility of the Contractor and submit to the Engineer for approval.
- All structural steel shall be AASHTO M 270 Grade 50.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Sheet piling dimensions, alcove dimensions and anchor spacing for the retaining wall are based on NZ sheet piling. These may be adjusted in the field based on actual sheet piling section selected by the Contractor.
- Anti-Graffiti Coating shall be applied to the exposed surfaces of the facing, coping, and pilasters. See Sheet SG-10 of SG-15.
- Stiff soils are present, pre-drilling may be required for sheet piling installation. Cost included with "Permanent Sheet Piling".

PROPOSED CONSTRUCTION SEQUENCE:

- Construction of Southeast Retaining Wall will occur in Stage 2.
- Install sheet piles to tip elevations shown. Anchored portion of wall will be buried until all sheet piles are installed.
- Excavation for proposed U.S. Route 14 roadway will be ongoing during Stage 2. All excavation in front of wall shall be coordinated with proposed ground anchor elevations. When excavation reaches 1'-0" below elevation of ground anchors, drill and install anchors and waler. Do not further excavate below anchor elevations until all anchors are stressed and load locked in. Anchor installation requirements are specified in the Special Provisions.
- Repeat operation 3 for lower rows of ground anchors, where applicable.
- Excavate to bottom of concrete facing.
- Install studs and pour concrete facing and pilasters with form liners.
- Stain exposed surfaces of concrete as specified and apply Anti-Graffiti Coating.
- Install railings.

INDEX OF SHEETS

- SG-1 General Plan and Elevation 1
- SG-2 General Plan and Elevation 2
- SG-3 General Data
- SG-4 Wall Plan and Elevation 1
- SG-5 Wall Plan and Elevation 2
- SG-6 Wall Facing Elevation 1
- SG-7 Wall Facing Elevation 2
- SG-8 Retaining Wall Details 1
- SG-9 Retaining Wall Details 2
- SG-10 Aesthetic Details
- SG-11 Ornamental Railing Details
- SG-12 Boring Logs 1
- SG-13 Boring Logs 2
- SG-14 Boring Logs 3
- SG-15 Boring Logs 4

TOTAL BILL OF MATERIAL

Item	Unit	Total
Structure Excavation	Cu. Yd.	1,090
Rubbed Finish	Sq. Ft.	5,219
Form Liner Textured Surface	Sq. Ft.	6,375
Stud Shear Connectors	Each	2,002
Reinforcement Bars, Epoxy Coated	Pound	44,310
Permanent Sheet Piling	Sq. Ft.	20,447
Concrete Structures (Retaining Wall)	Cu. Yd.	735.8
Permanent Ground Anchor	Each	51
Anti-Graffiti Coating	Sq. Ft.	11,594
Staining Concrete Structures	Sq. Ft.	11,594
Ornamental Railing	Foot	496

GROUND ANCHOR SCHEDULE

Anchor Type	Design Load (Kip)	Minimum Unbonded Length (Foot)	Estimated Bonded Length (Feet)	*Estimated Total Length (Feet)	Angle (Degree)	Grout Diameter (Inch)
A	48.8	21.4	40.0	61.4	14	8
B	57.0	16.7	40.0	56.7	14	9 ³ / ₈
C	22.0	40.0	40.0	80.0	14	9 ³ / ₈
D	34.4	22.0	40.0	62.0	14	8
E	50.9	16.7	35.0	51.7	14	9 ³ / ₈
F	18.3	50.0	40.0	90.0	14	9 ³ / ₈
G	53.8	21.4	40.0	61.4	14	8
H	52.5	16.7	40.0	56.7	14	9 ³ / ₈
I	53.0	18.0	35.0	53.0	20	8
J	43.3	18.0	30.0	48.0	20	8

*Actual required anchor length to be determined by the Contractor, but shall not exceed easement/R.O.W. constraints.

MODEL: Default
FILE NAME: ...049W1003-61J87-003-General Data.dgn



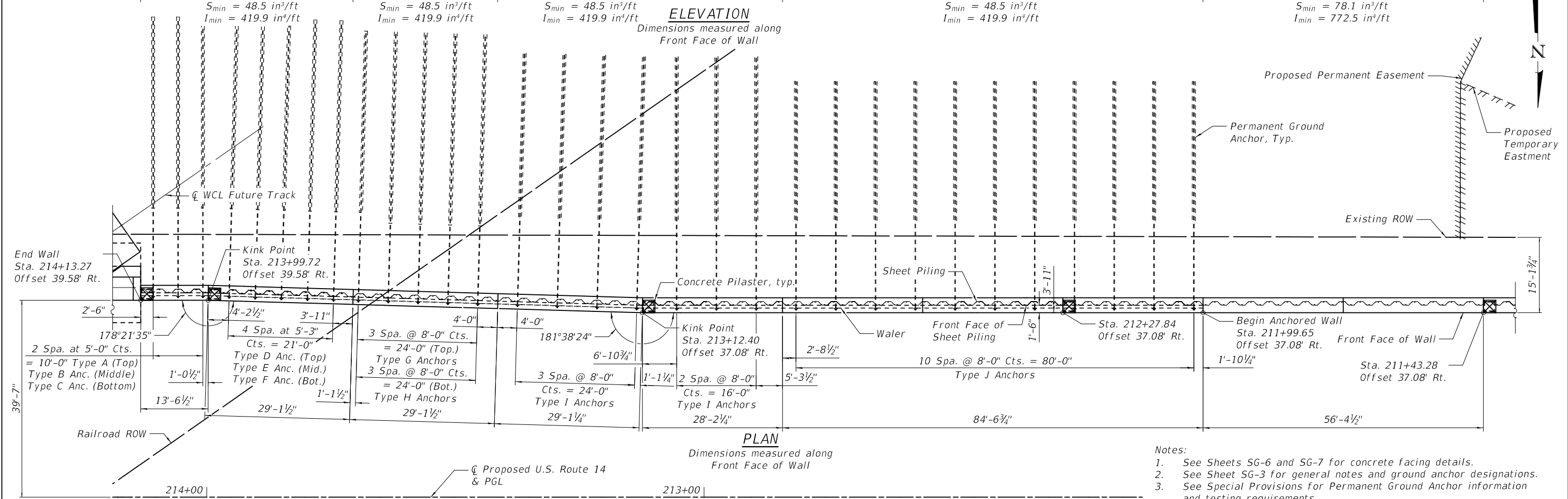
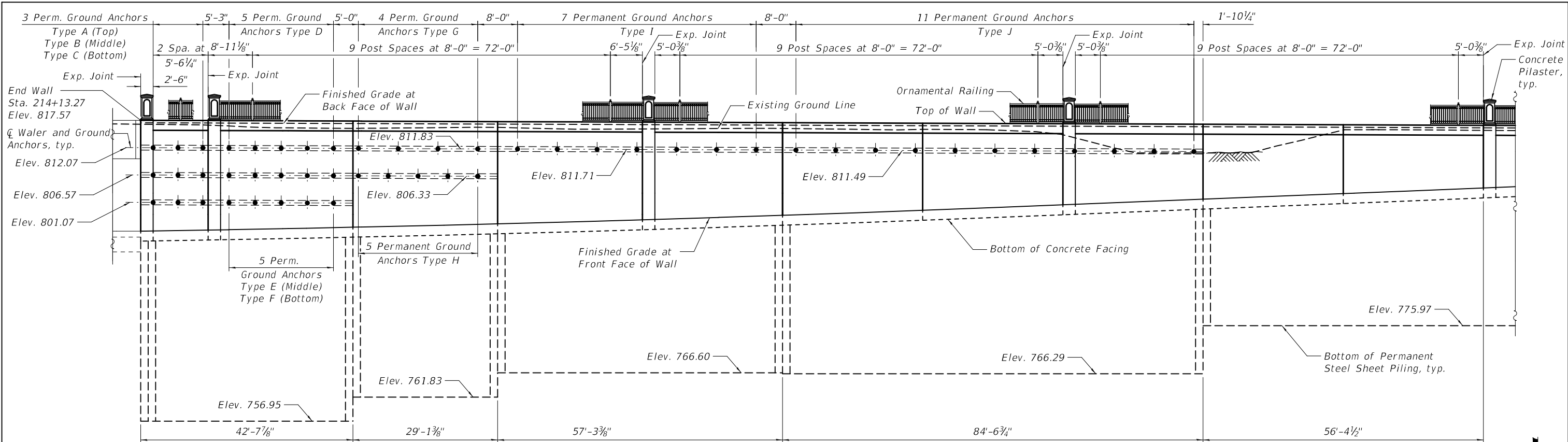
USER NAME = mc	DESIGNED - CMG	REVISED -
	DRAWN - CMD	REVISED -
PLOT SCALE = N/A	CHECKED - JRM	REVISED -
PLOT DATE = 9/10/2024	DATE - 9/10/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA
STRUCTURE NO. 049-W1003**

SHEET SG-3 OF SG-15 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	514
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		



- Notes:**
1. See Sheets SG-6 and SG-7 for concrete facing details.
 2. See Sheet SG-3 for general notes and ground anchor designations.
 3. See Special Provisions for Permanent Ground Anchor information and testing requirements.
 4. See Sheet SG-10 & SG-11 for Ornamental Railing details.
 5. Wall stations and offsets measured from Proposed \bar{C} U.S. Route 14 to front face of C.I.P. concrete facing.

MODEL: Default
FILE NAME: ...049W1003-61187-004-Wall Plan and Elevation 1.dgn
9/10/2024 2:51:53 PM

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - CG	REVISED -
	DATE - 9/10/2024	REVISED -

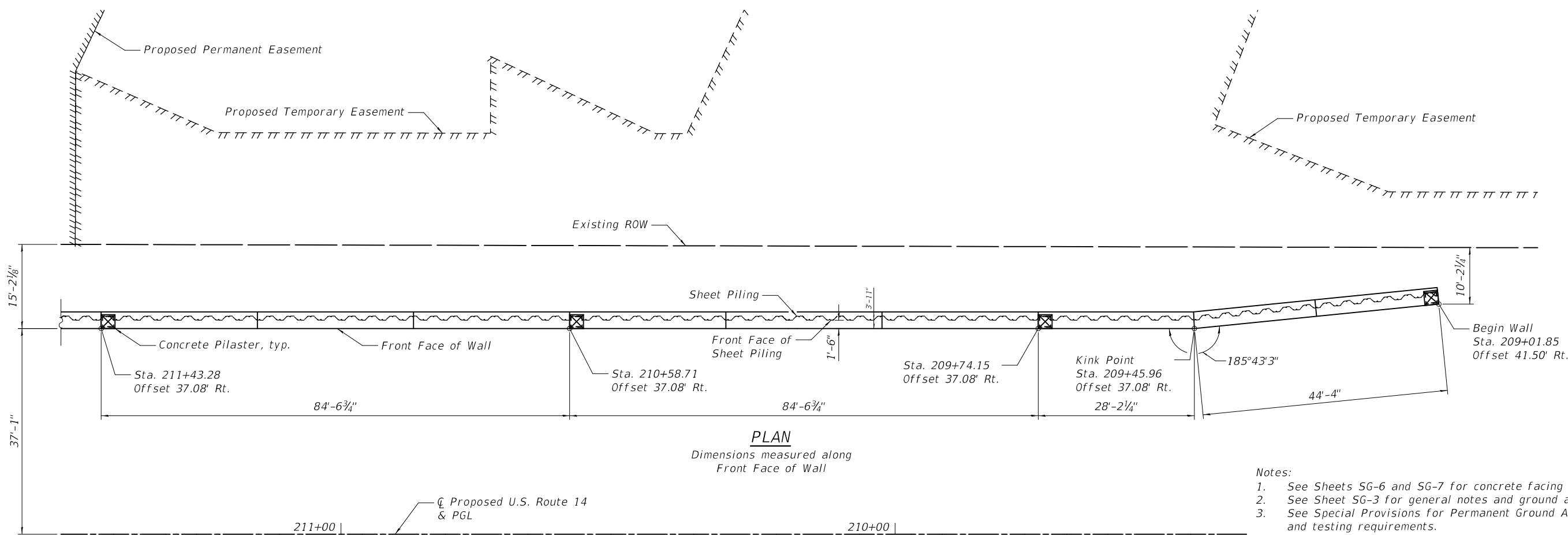
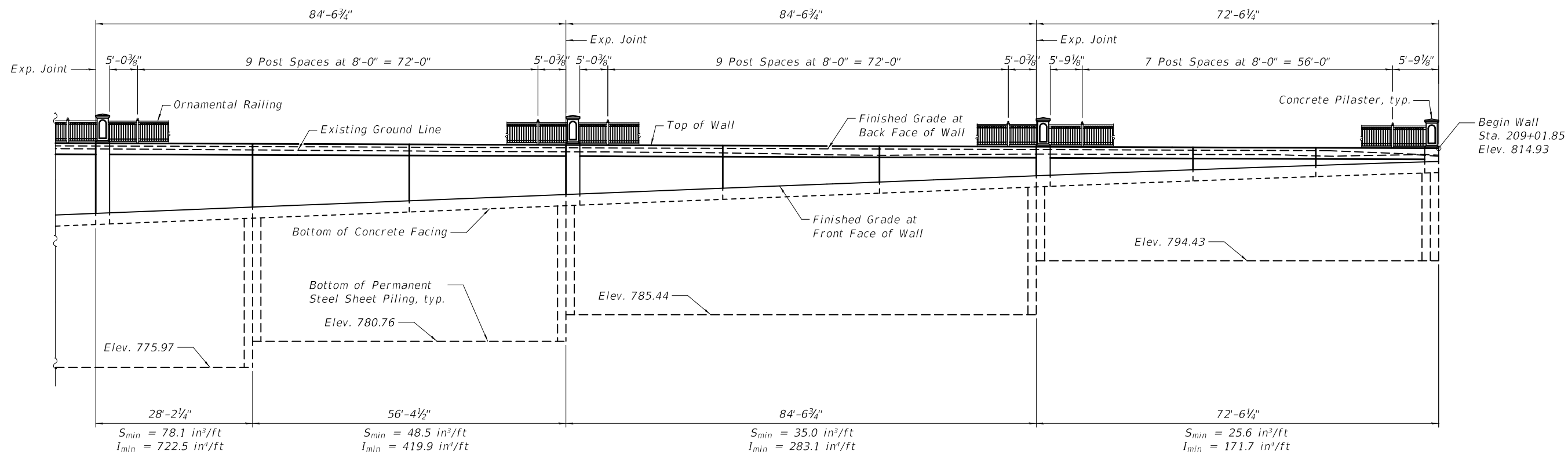
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WALL PLAN AND ELEVATION 1
STRUCTURE NO. 049-W1003**

SHEET SG-4 OF SG-15 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	516
CONTRACT NO. 61187				

ILLINOIS FED. AID PROJECT



- Notes:
1. See Sheets SG-6 and SG-7 for concrete facing details.
 2. See Sheet SG-3 for general notes and ground anchor designations.
 3. See Special Provisions for Permanent Ground Anchor information and testing requirements.
 4. See Sheet SG-10 & SG-12 for Ornamental Railing details.
 5. Wall stations and offsets measured from Proposed $\text{\textcircled{C}}$ U.S. Route 14 to front face of C.I.P. concrete facing.

MODEL: Default
FILE NAME: ...049W1003-6187-005-Wall Plan and Elevation 2.dgn
9/10/2024 2:52:02 PM

TRANSYSTEMS

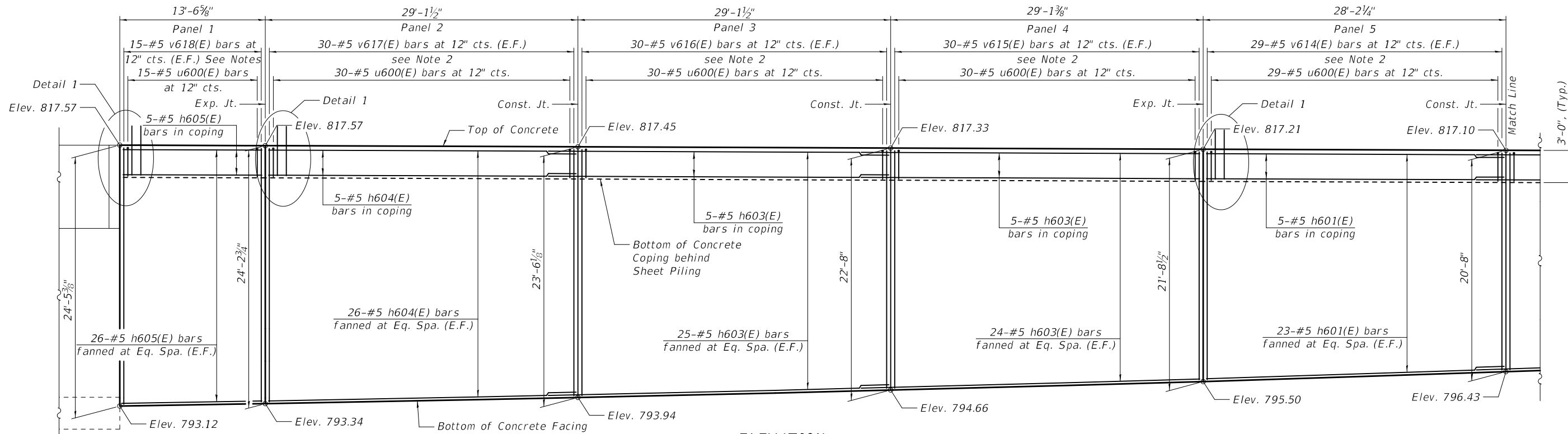
USER NAME = mc	DESIGNED - MD	REVISED -
DRAWN - CMD	REVISED -	
PLOT SCALE = N/A	CHECKED - JRM	REVISED -
PLOT DATE = 9/10/2024	DATE - 9/10/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WALL PLAN AND ELEVATION 2
STRUCTURE NO. 049-W1003**

SHEET SG-5 OF SG-15 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	516
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

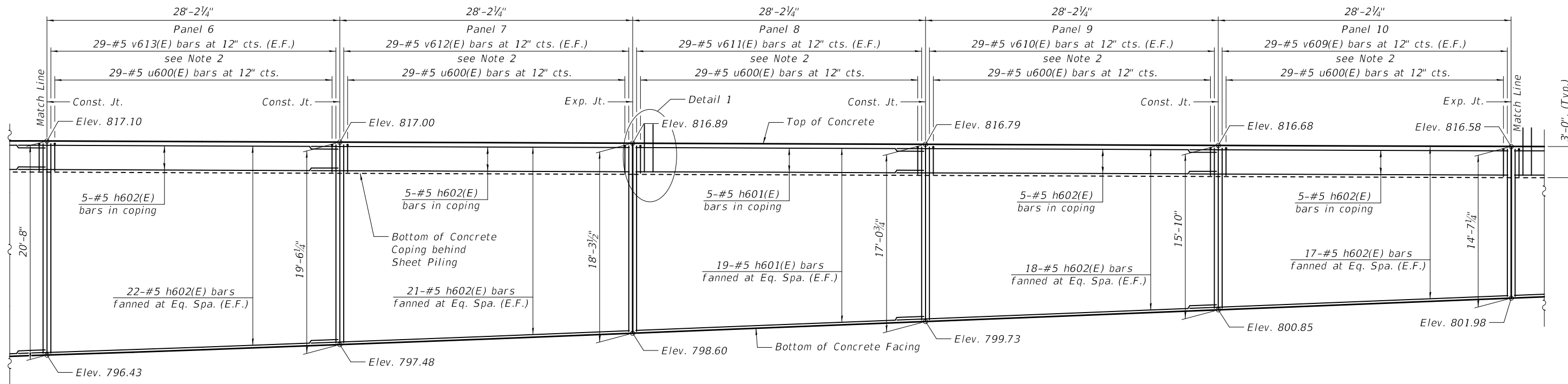


ELEVATION

Looking at Front Face of Wall
Horizontal Dimensions measured along Front Face of Wall

MINIMUM BAR LAP

#5 bar = 3'-7"



ELEVATION

Looking at Front Face of Wall
Horizontal Dimensions measured along Front Face of Wall

Notes:

- For Typical Cantilevered Wall Section, Bill of Material, Expansion and Construction Joint Details, and Reinforcement Details, see sheet SG-8. For Anchored Wall Sections, see sheet SG-9.
- See Field Cutting Diagram on sheet SG-8 of SG-15.
- For Concrete Pilaster, Ornamental Railing, and architectural details, see sheets SG-10 and SG-11.
- For Detail 1, see sheet SG-7 of SG-15.

MODEL: Default
FILE NAME: ...049W1003-61187-006-Wall Facing Elevation 1.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

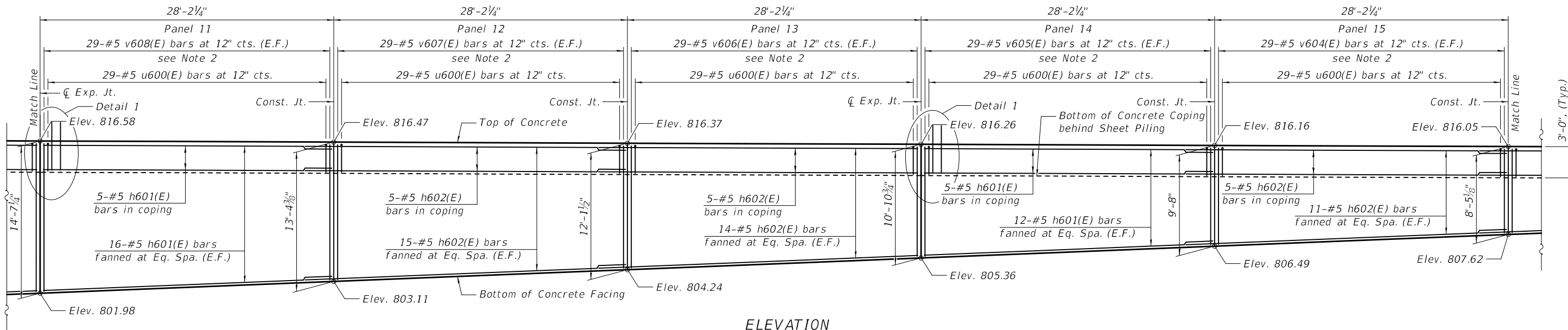
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WALL FACING ELEVATION 1
STRUCTURE NO. 049-W1003**

SHEET SG-6 OF SG-15 SHEETS

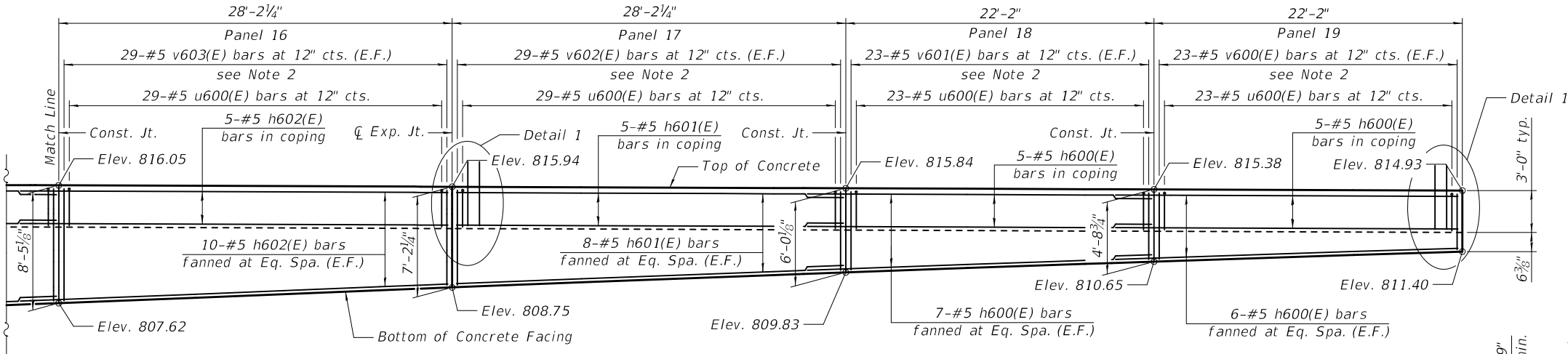
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	517
CONTRACT NO. 61187				

ILLINOIS FED. AID PROJECT

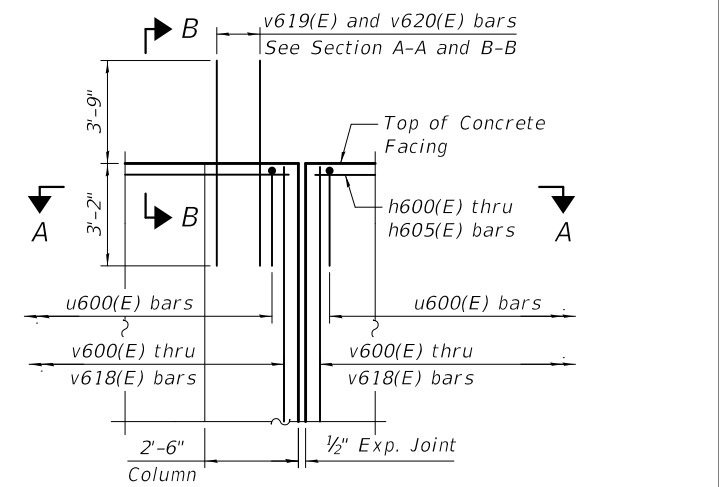


ELEVATION
Looking at Front Face of Wall
Horizontal Dimensions measured along Front Face of Wall

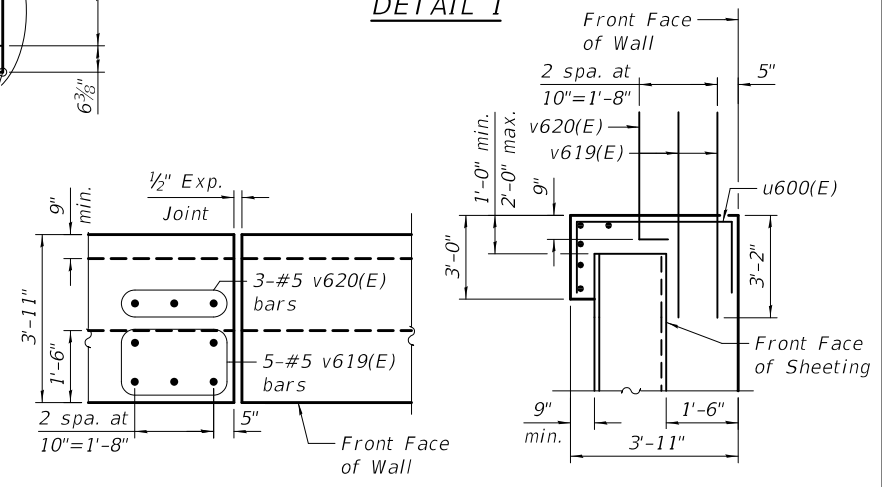
MINIMUM BAR LAP
#5 bar = 3'-7"



ELEVATION
Looking at Front Face of Wall
Horizontal Dimensions measured along Front Face of Wall



DETAIL 1



SECTION A-A

SECTION B-B

- Notes:
1. For Typical Cantilevered Wall Section, Bill of Material, Expansion and Construction Joint Details, and Reinforcement Details, see sheet SG-8. For Anchored Wall Sections, see sheet SG-9.
 2. See Field Cutting Diagram on sheet SG-8 of SG-15.
 3. For Concrete Pilaster, Ornamental Railing, and architectural details, see sheets SG-10 and SG-11.

MODEL: Default
FILE NAME: ...049W1003-61187-007-Wall Facing Elevation 2.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WALL FACING ELEVATION 2
STRUCTURE NO. 049-W1003**

SHEET SG-7 OF SG-15 SHEETS

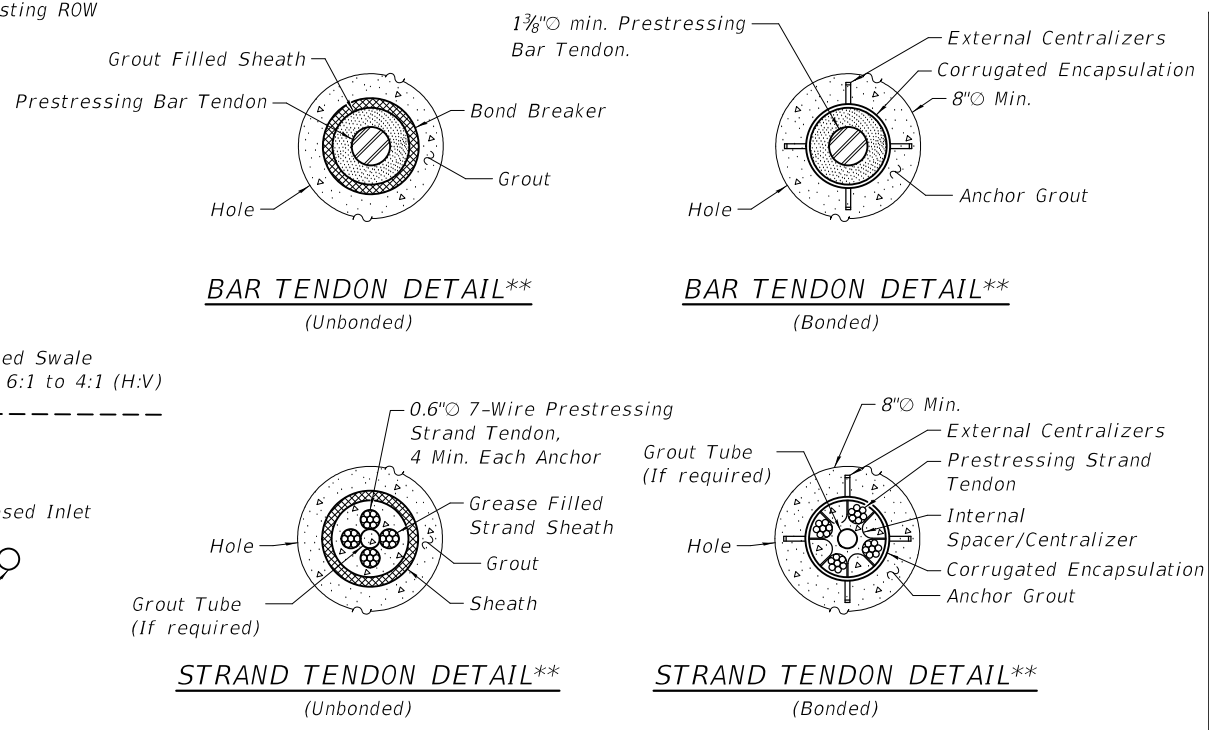
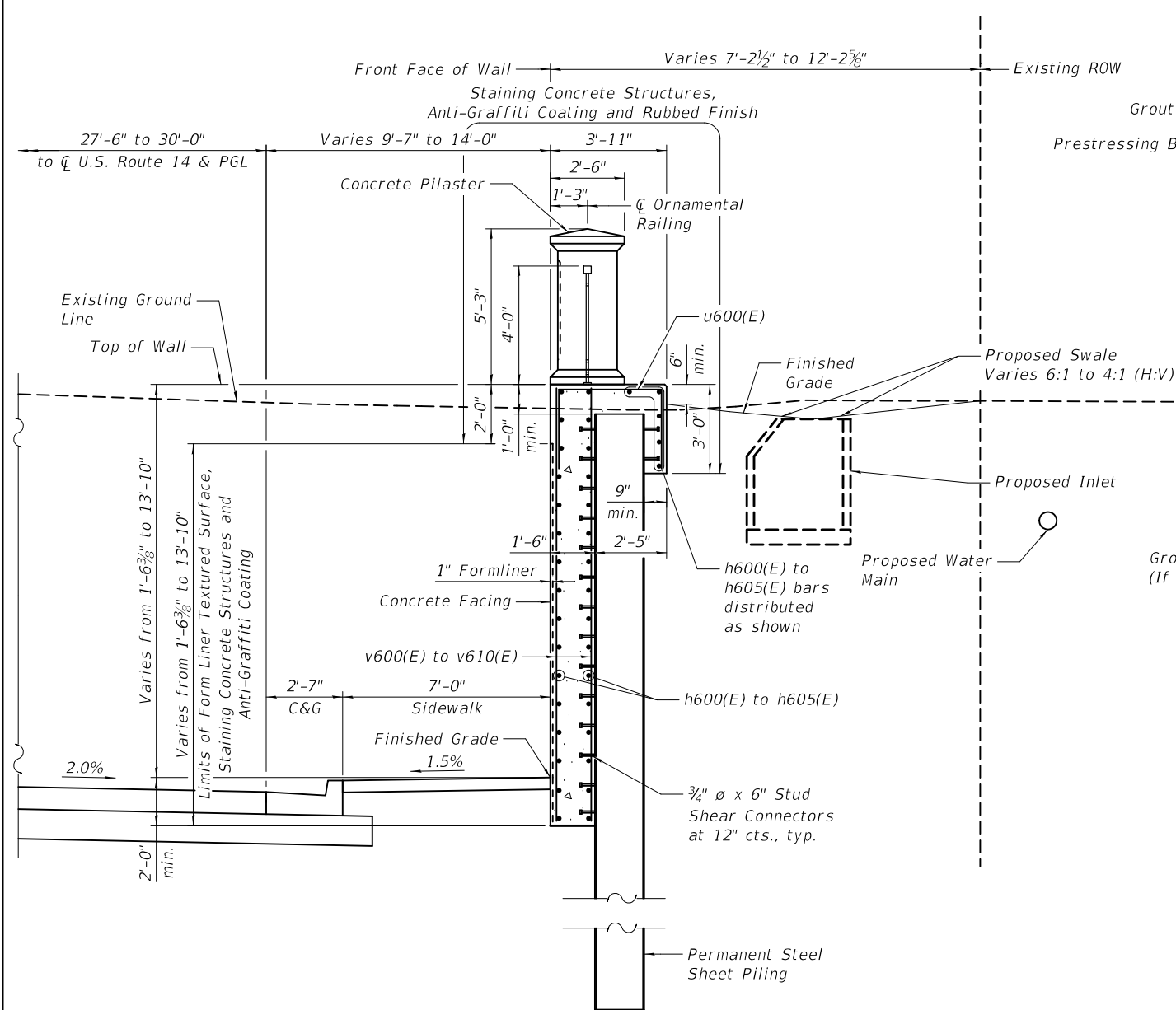
F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 518
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT

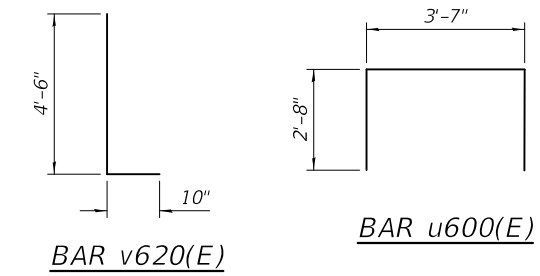
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h600(E)	36	#5	25'-7"	
h601(E)	181	#5	27'-10"	
h602(E)	296	#5	31'-10"	
h603(E)	108	#5	32'-9"	
h604(E)	57	#5	28'-9"	
h605(E)	57	#5	13'-2"	
u600(E)	528	#5	8'-11"	
v600(E)	23	#5	7'-7"	
v601(E)	23	#5	10'-1"	
v602(E)	29	#5	12'-6"	
v603(E)	29	#5	14'-11"	
v604(E)	29	#5	17'-5"	
v605(E)	29	#5	19'-11"	
v606(E)	29	#5	22'-4"	
v607(E)	29	#5	24'-9"	
v608(E)	29	#5	27'-3"	
v609(E)	29	#5	29'-9"	
v610(E)	29	#5	32'-3"	
v611(E)	29	#5	34'-8"	
v612(E)	29	#5	37'-1"	
v613(E)	29	#5	39'-6"	
v614(E)	29	#5	41'-8"	
v615(E)	30	#5	43'-8"	
v616(E)	30	#5	45'-6"	
v617(E)	30	#5	47'-1"	
v618(E)	15	#5	48'-0"	
v619(E)	40	#5	6'-11"	
v620(E)	24	#5	5'-4"	

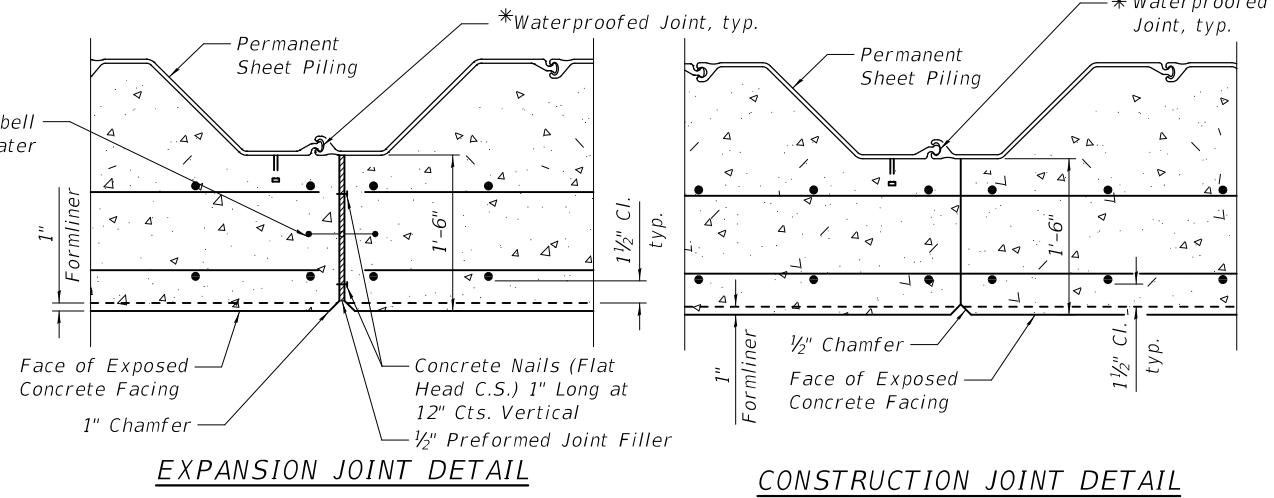
Structure Excavation	Cu. Yd.	1,090
Stud Shear Connectors	Each	2,002
Reinforcement Bars, Epoxy Coated	Pound	43,710
Permanent Sheet Piling	Sq. Ft.	20,447
Concrete Structures (Retaining Wall)	Cu. Yd.	729.4



**The Contractor shall furnish and install Permanent Ground Anchors meeting the requirements for design load and unbonded length as shown on the plans, and fitting within the R.O.W. limits of the site. All elements (drilled hole, sheath bondbreaker, encapsulation, tendons, bonded length, etc.) shall be selected and designed by the Contractor. All materials and work shall be in compliance with the special provision.



Bar	"A"	"B"	"C"	"N"
v600(E)	3'-2"	4'-5"	7'-7"	23
v601(E)	4'-5"	5'-8"	10'-1"	23
v602(E)	5'-8"	6'-10"	12'-6"	29
v603(E)	6'-10"	8'-1"	14'-11"	29
v604(E)	8'-1"	9'-4"	17'-5"	29
v605(E)	9'-4"	10'-7"	19'-11"	29
v606(E)	10'-7"	11'-9"	22'-4"	29
v607(E)	11'-9"	13'-0"	24'-9"	29
v608(E)	13'-0"	14'-3"	27'-3"	29
v609(E)	14'-3"	15'-6"	29'-9"	29
v610(E)	15'-6"	16'-9"	32'-3"	29
v611(E)	16'-9"	17'-11"	34'-8"	29
v612(E)	17'-11"	19'-2"	37'-1"	29
v613(E)	19'-2"	20'-4"	39'-6"	29
v614(E)	20'-4"	21'-4"	41'-8"	29
v615(E)	21'-4"	22'-4"	43'-8"	30
v616(E)	22'-4"	23'-2"	45'-6"	30
v617(E)	23'-2"	23'-11"	47'-1"	30
v618(E)	23'-11"	24'-1"	48'-0"	15



*Waterproofing material/sealant shall be placed within each interlocking, and shall be according to the sheet piling manufacturer's recommendations. Cost included with Permanent Sheet Piling.

MODEL: Default
FILE NAME: ...049W1003-61J87-008-Retaining Wall Details 1.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

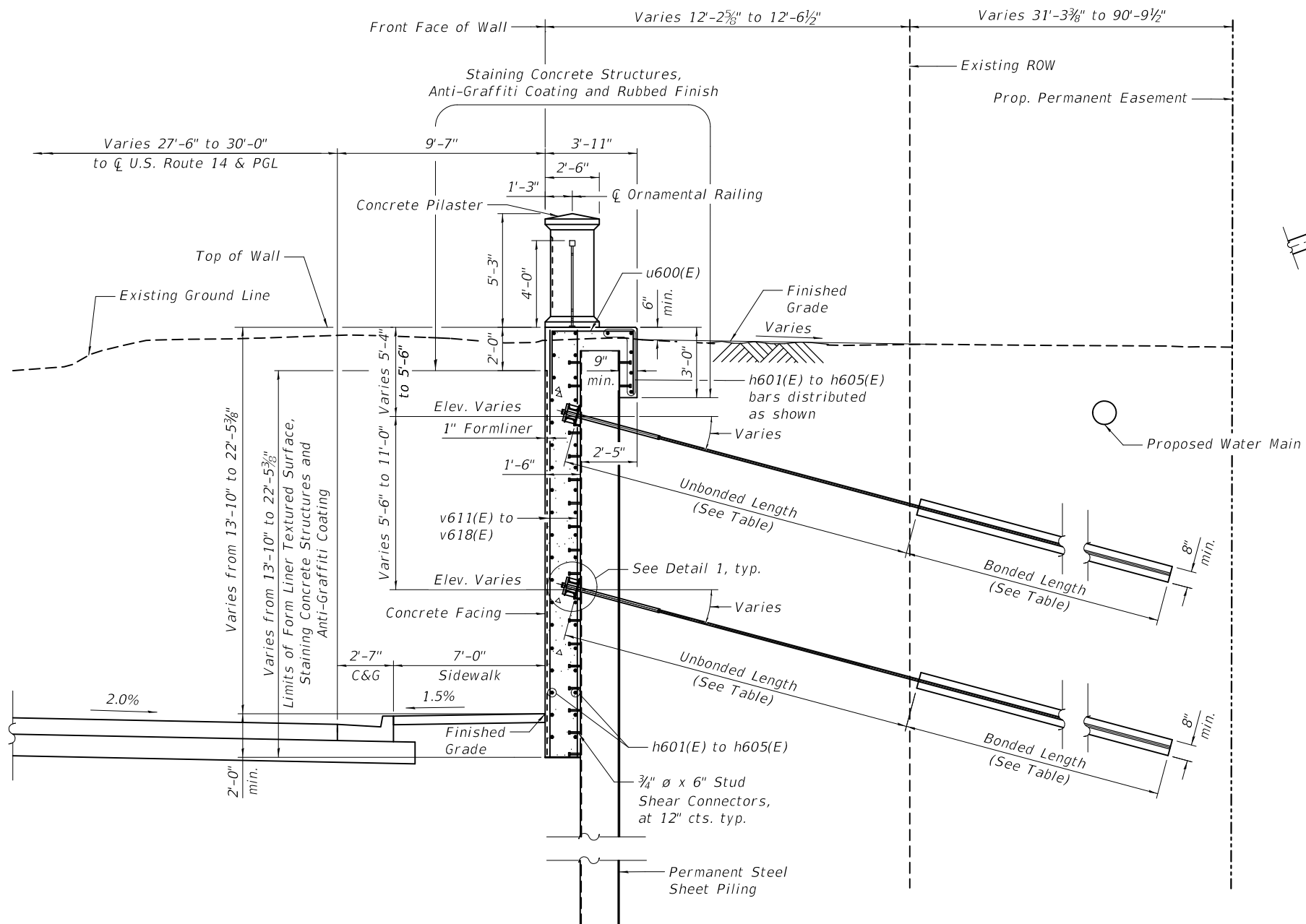
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**RETAINING WALL DETAILS 1
STRUCTURE NO. 049-W1003**

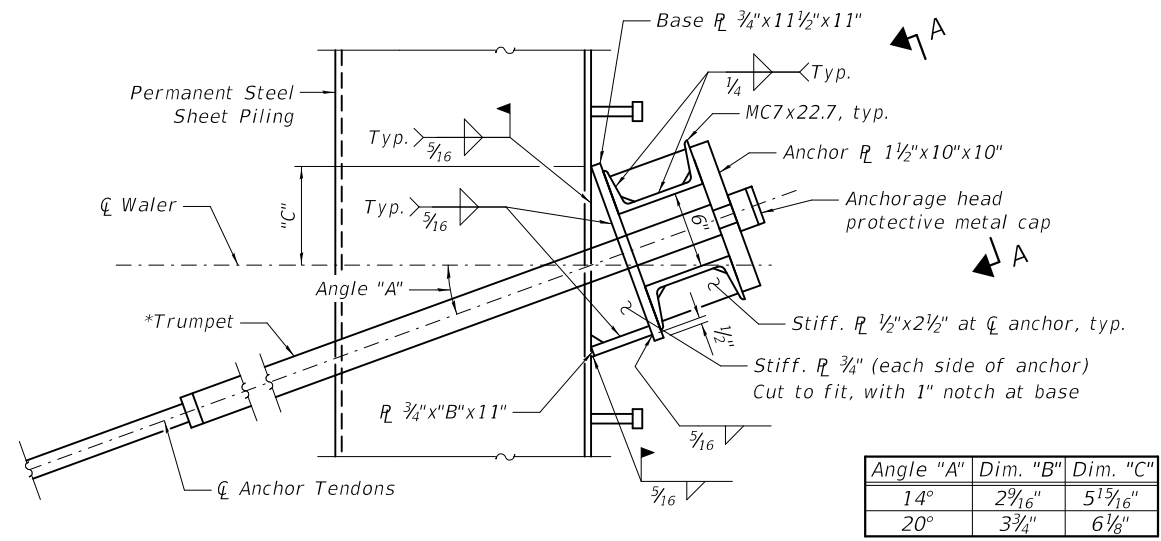
SHEET SG-8 OF SG-15 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	519
CONTRACT NO. 61J87				

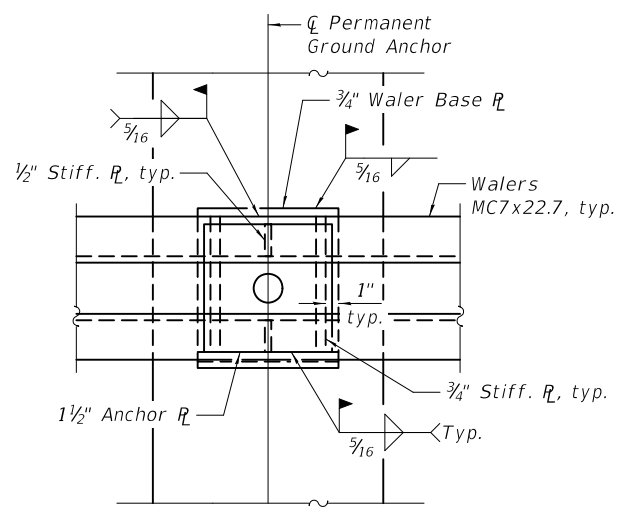
ILLINOIS FED. AID PROJECT



TYPICAL ANCHORED WALL SECTION
Sta. 211+99.65 to Sta. 214+13.27



DETAIL 1
*Fill Trumpet and void areas behind anchorage head with anti-corrosion grout



VIEW A-A
(Waler support plates, except anchor plate, to be installed at each point of contact between waler and front face of sheet piling)

Notes:
1. For Ground Anchor Schedule, see Sheet SG-3 of SG-15.

MODEL: Default
FILE NAME: ...049W1003-61J87-009-Retaining Wall Details 2.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - AWT	REVISED -
PLOT DATE = 9/10/2024	CHECKED - CMD	REVISED -
	DATE - 9/10/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

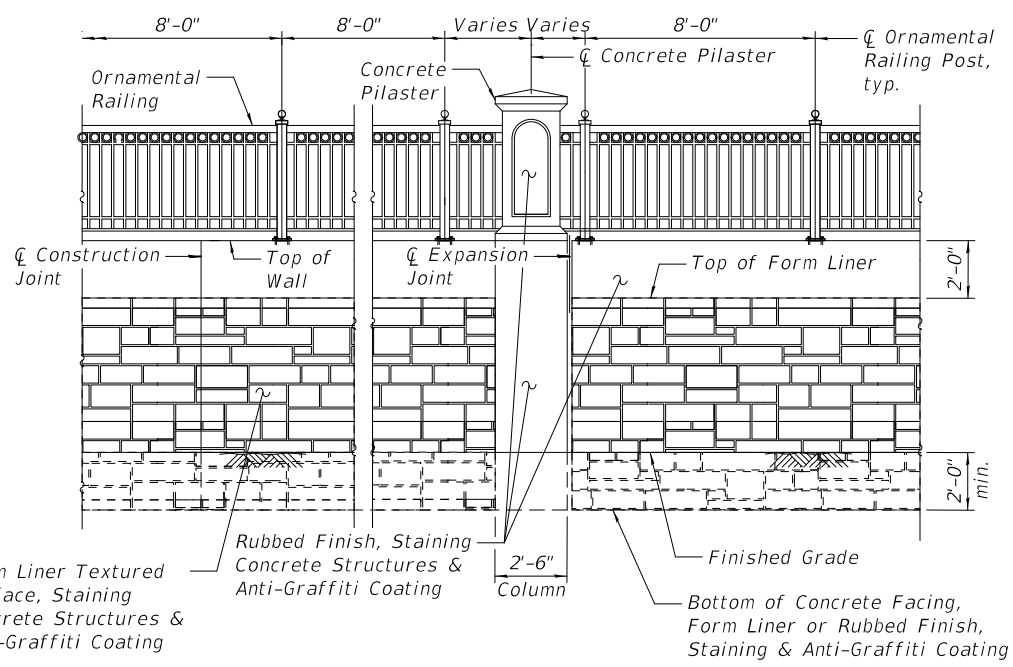
**RETAINING WALL DETAILS 2
STRUCTURE NO. 049-W1003**

SHEET SG-9 OF SG-15 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	520
ILLINOIS FED. AID PROJECT			CONTRACT NO. 61J87	

BILL OF MATERIAL

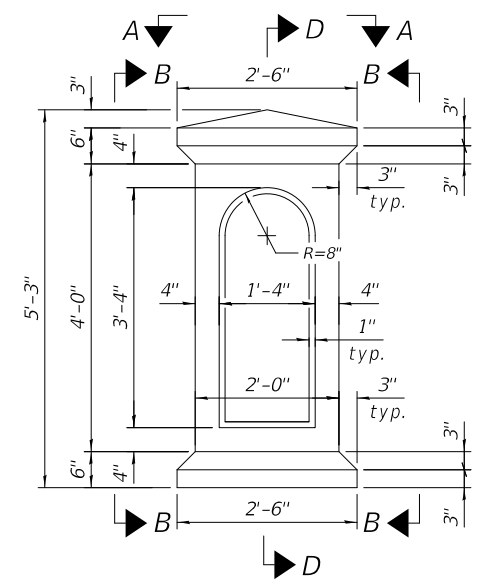
Bar	No.	Size	Length	Shape
s600(E)	40	#4	7'-1"	□
s601(E)	16	#4	8'-9"	□
s602(E)	16	#4	9'-9"	□
v621(E)	64	#4	4'-9"	—
Rubbed Finish			Sq. Ft.	5,219
Form Liner Textured Surface			Sq. Ft.	6,375
Reinforcement Bars, Epoxy Coated			Pound	600
Concrete Structures (Retaining Wall)			Cu. Yd.	6.4
Anti-Graffiti Coating			Sq. Ft.	11,594
Staining Concrete Structures			Sq. Ft.	11,594



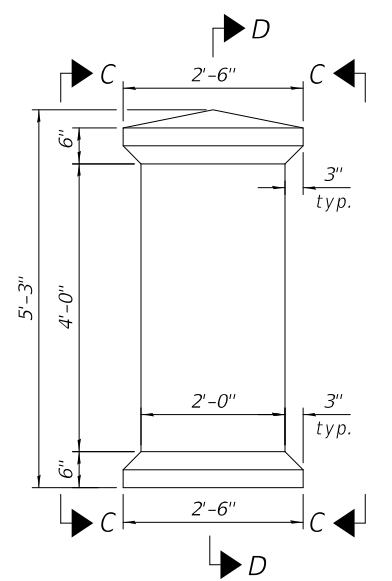
FORM LINER TEXTURED SURFACE DETAIL

LEGEND

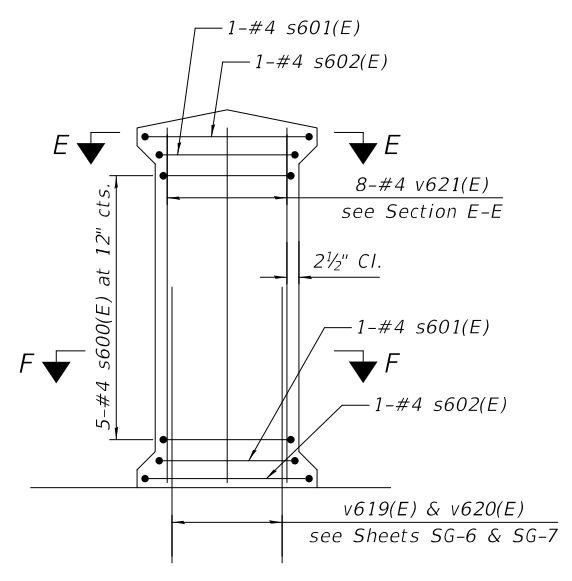
Pattern shall be similar to Pattern #12005 "Bearpath Coursed Stone" manufactured by Custom Rock.



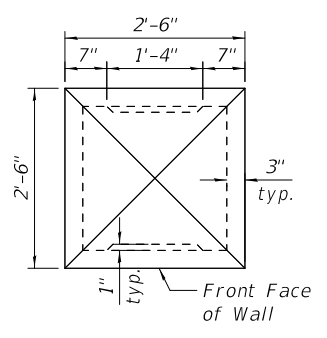
VIEW C-C



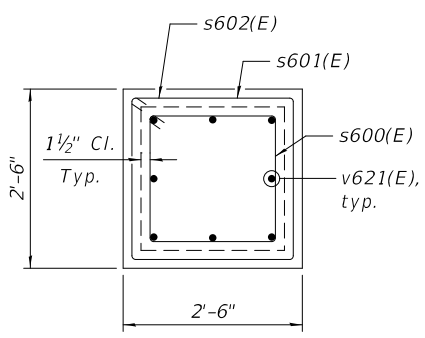
VIEW B-B



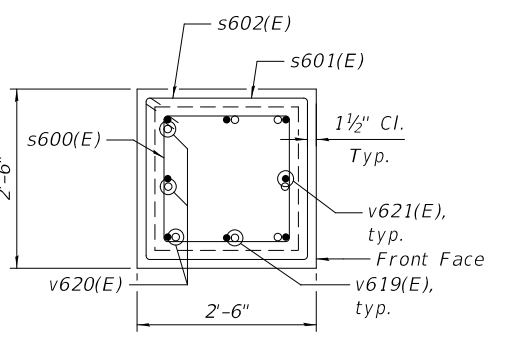
SECTION D-D



VIEW A-A

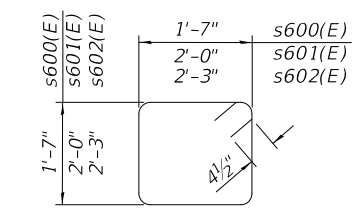


SECTION E-E



SECTION F-F

CONCRETE PILASTER DETAILS



BARS s600(E), s601(E) & s602(E)

- Notes:
- Rubbed Finish shall be applied to all non-form liner textured surfaces of concrete, including the pilasters, bandings, "columns", top of wall, and back of coping.
 - Staining Concrete Structures and Anti-Graffiti Coating shall be applied to all exposed surfaces of concrete, 2 feet min. below grade, and back of coping.

MODEL: Default
FILE NAME: ...049W1003-61187-010-Aesthetic Details.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**AESTHETIC DETAILS
STRUCTURE NO. 049-W1003**

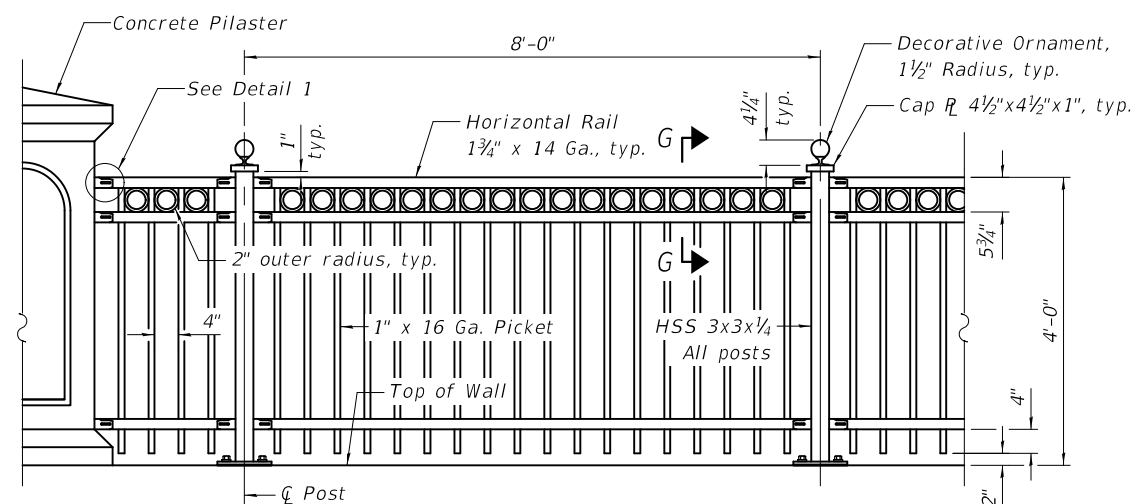
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	521
CONTRACT NO. 61J87				

SHEET SG-10 OF SG-15 SHEETS

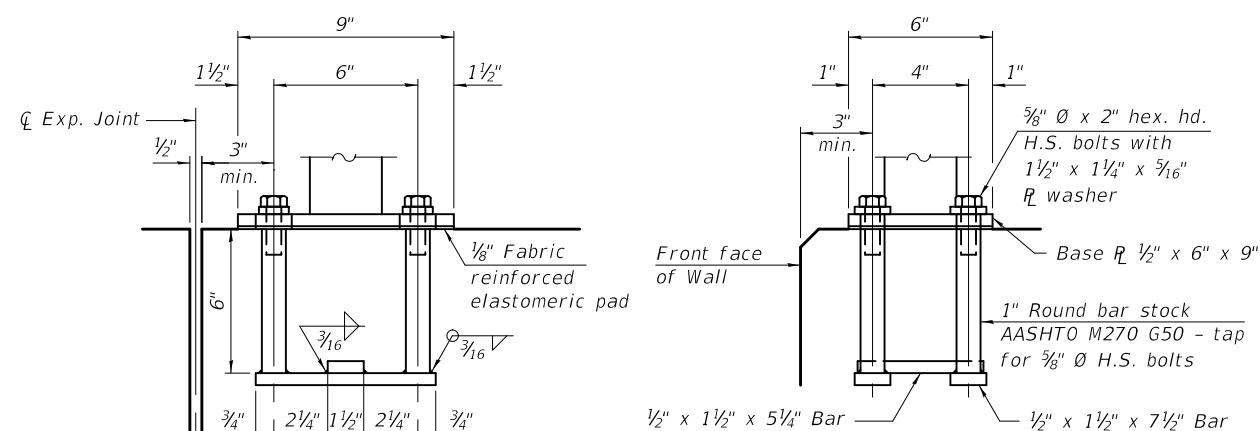
ILLINOIS FED. AID PROJECT

BILL OF MATERIAL

Item	Unit	Quantity
Ornamental Railing	Foot	496

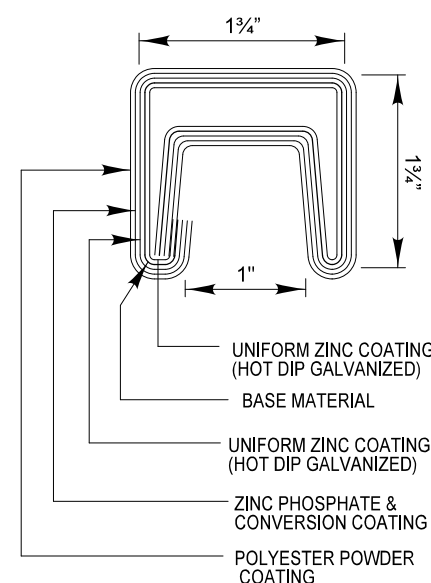


ORNAMENTAL RAILING ELEVATION

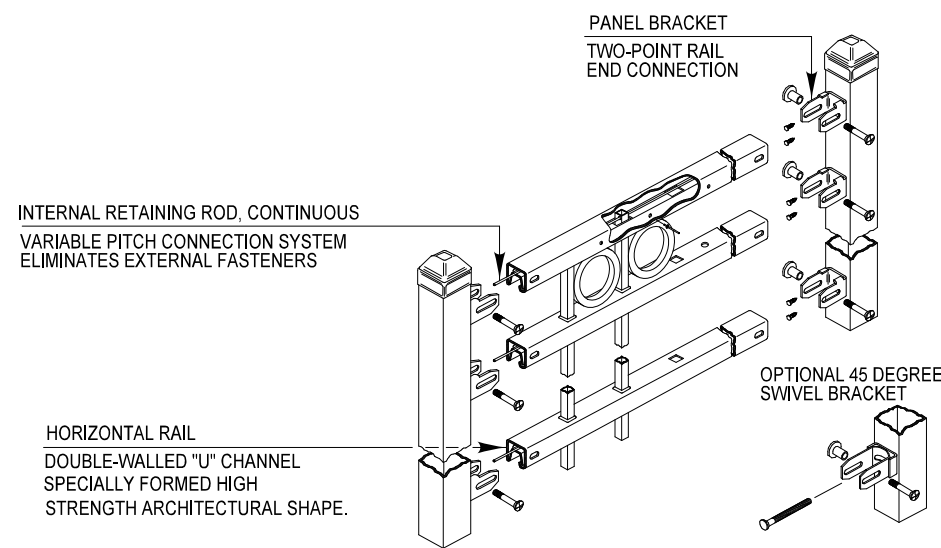


ANCHORAGE ASSEMBLY

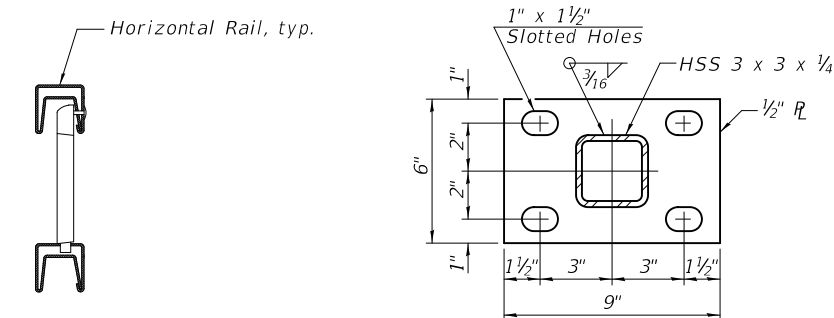
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" Ø fully threaded anchor rods with the same plate washers as specified above and heavy hex lock nuts according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



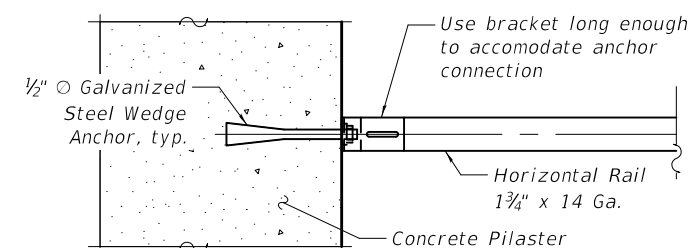
HORIZONTAL RAIL CROSS SECTION



ISOMETRIC VIEW



**SECTION G-G
RING ATTACHMENT**



DETAIL 1

Notes:

- All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
- All posts, railings, splices, anchor devices, and plates shall be coated with 2 coats of electrostatic polyester, TGIC powder coating. The color of the final finish coat for all railing steel shall be Black. See Special Provisions.
- Space reinforcement in the sides of the pilasters to miss anchor bolts.
- All heavy hex nuts shall be according to ASTM A 563 grade DH.
- All fully threaded anchor rods shall be ASTM F1554 grade 105.

MODEL: Default
FILE NAME: ...049W1003-61J87-011-Ornamental Railing_Details

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - AWT	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ORNAMENTAL RAILING DETAILS
STRUCTURE NO. 049-W1003**

SHEET SG-11 OF SG-15 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	522
				CONTRACT NO. 61J87
ILLINOIS FED. AID PROJECT				

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG

ROUTE US 14 DESCRIPTION US Route 14 at WCLRR LOGGED BY MP Date 10/4/13

SECTION 11-00087-00-GS LOCATION US Route 14: Retaining Wall

COUNTY Lake STRUCTURE NO. (Exist) 049-0135 (Prop.)

BORING NO. SB-21 DRILLING METHOD HSA HAMMER TYPE Safety

Station 207+50
Offset 26' R
Ground Surface Elev. 814.8 (ft.)

Groundwater Depth:
First Encounter 18.0' (ft.)
Upon Completion 12.0' (ft.)
After Hrs. (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)
Black CLAY, A-7-6 Topsoil stiff TOM=5.9%		6	3-4	-	16	Grey CLAY, trace Sand & Gravel, A-6 very stiff	35	6	16-20	2.33	19
		2	5-7	1.16	32						
	808.6	2	4-4	1.40	22	End of Boring at 40 Feet	774.8	6	17-20	2.72	18
Brown and Grey to Brown CLAY, trace Sand and Gravel, A-6 stiff to hard		5	10-17	5.82	19						
		6	5-10	5.10	17						
Grey CLAY, trace Sand & Gravel, A-6 very stiff	801.8	5	15-18	3.41	17						
		4	8-10	2.14	17						
Grey SAND and GRAVEL, A-1, dense, saturated	796.8	13	25-31		10						
Grey CLAY, trace Sand & Gravel, A-6 very stiff to stiff	794.3	8	15-19	3.18	21						
		6	20-25	1.24	12						
		4	12-18	2.52	18						
		6	15-20	2.17	19						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG

ROUTE US 14 DESCRIPTION US Route 14 and WCLRR LOGGED BY MHP Date 2/26/13

SECTION 11-00087-00-GS LOCATION US Route 14: Retaining Wall

COUNTY Lake STRUCTURE NO. (Exist) 049-0135 (Prop.)

BORING NO. SB-2 DRILLING METHOD HSA HAMMER TYPE Manual

Station 209+00
Offset 30' R of CL
Ground Surface Elev. 814.7 (ft.)

Groundwater Depth:
First Encounter 15.5 (ft.)
Upon Completion 12.0 (ft.)
After Hrs. (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)
Black CLAY TOPSOIL	813.2	11	7-10	1.5	18	Grey CLAY, trace Sand and Gravel, A-6, stiff	35	11	15-30	--	--
Dark Brown and Grey CLAY, little Sand and Gravel: FILL, firm to stiff		3	4-7	1.0	24						
		4	6-6	0.85	27	End of Boring at 40'	774.7	7	11-28	1.24	16
Brown Sandy LOAM, A-4, medium dense	806.7	6	7-8	--	24						
Grey CLAY, trace Sand and Gravel, A-6, hard to stiff	803.7	8	9-16	5.64	20						
		8	11-13	3.61	19						
		5	5-9	1.36	22						
		6	5-9	0.75	22						
possible cobbles at 24'		56	62-66	--	9						
		16	18-29	2.0	19						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG

ROUTE US 14 DESCRIPTION US Route 14 and WCLRR LOGGED BY MP Date 10/4/13

SECTION 11-00087-00-GS LOCATION South West Retaining Wall

COUNTY Lake STRUCTURE NO. (Exist) 049-0135 (Prop.)

BORING NO. SB-22 DRILLING METHOD HSA HAMMER TYPE Safety

Station 210+40
Offset 26' R
Ground Surface Elev. 815.0 (ft.)

Groundwater Depth:
First Encounter 10.0' (ft.)
Upon Completion 10.0' (ft.)
After Hrs. (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)
Black CLAY, A-7-6 Topsoil	814					Grey CLAY, trace Sand & Gravel, A-6 stiff	35	4	11-14	2.13	20
Brown CLAY, trace Sand & Gravel, A-6	812	2	2-6	-	14						
Yellow Brown Sandy LOAM, with Gravel, A 2-4 medium dense	809.5	8	9-10	-	13						
Brown and Grey CLAY, trace Sand & Gravel, A-6 hard	807	6	12-15	4.5+	18	End of Boring at 40 Feet	775	4	9-12	1.47	18
Grey CLAY, trace Sand & Gravel, A-6 very stiff	804.5	7	12-22	4.30	13						
Grey SAND and GRAVEL, A-1-b dense		12	15-18	-	11						
		14	19-25	-	9						
Grey CLAY, trace Sand & Gravel, A-6 very stiff to stiff	798.8	7	24-36	4.88	13						
		10	15-19	-	23						
		10	20-27	2.78	12						
		8	19-27	3.53	18						
		5	10-16	1.94	20						
		5	9-16	1.59	20						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MODEL: Default
FILE NAME: ...049W1003-61187-012-Boring_Logs_1.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 1
STRUCTURE NO. 049-W1003

SHEET SG-12 OF SG-15 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	523
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
 STRUCTURE FOUNDATION BORING LOG Date 3/1/13

ROUTE US 14 DESCRIPTION US Route 14 and WCLRR LOGGED BY MHP
 SECTION 11-00087-00-GS LOCATION US Route 14: Retaining Wall
 COUNTY Lake STRUCTURE NO. (Exist) 049-0135 (Prop.)
 BORING NO. SB-3 DRILLING METHOD HSA HAMMER TYPE Manual

Station 211+80
 Offset 30' R of CL
 Ground Surface Elev. 815.8 (ft.)

Groundwater Depth:
 First Encounter 15.5' (ft.)
 Upon Completion -- (ft.)
 After 72 Hrs. 11.5' (ft.)

SOIL DESCRIPTION					SOIL DESCRIPTION				
(ft.)	(ft.)	/ft.	(tsf)	(%)	(ft.)	(ft.)	/ft.	(tsf)	(%)
Black CLAY TOPSOIL (12")	814.8				Grey CLAY, trace Sand and Gravel, A-6, stiff	35	11	1.36	19
Black to Dark Brown CLAY, trace Sand and Gravel: FILL, very stiff to hard		13	4.5	18					
		13-11	P						
	811.3								
Brown and Grey CLAY, little Sand and Gravel, A-6, stiff		7	4.5	20					
		5	12-8	1.0					
	808.8								
Orangeish Brown and Grey CLAY, little Sand and Gravel, A-6, veyr stiff	807.3								
		6-14	3.0	15					
Grey Silty CLAY, trace Sand and Gravel, A-6(20), hard to stiff		8	4.73	17					
		10	10-16	B					
		22							
		17-25							
		18	5.04	19					
		15	8-13	B					
		7	1.86	23					
		6-8	B						
		6	1.24	26					
		7	7-7	B					
	795.3								
Grey Clayey SILT, A-6, very stiff to stiff		9	3.30	14					
		14-14	BS						
		9	1.68	16					
		14-20	BS						
		9	1.55	16					
		8-8	BS						
	787.8								
Grey CLAY, trace Sand and Gravel, A-6, stiff		9	1.51	20					
		30	10-16	B					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
 The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MSET PROJECT NO.: 20618 LOG OF BORING NO. SB-108 Page 1 of 2

PROJECT: Route 14 Underpass Phase 2 SITE LOCATION: Barrington, Illinois
 BORING LOCATION: Station 212+43, 37' R CLIENT: Civiltech Engineering, Inc.

DEPTH (feet)	SOIL TYPE	Material Description	Elevation	TESTS					REMARKS	
				TYPE/ INTERVAL	NO.	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf		Unconfined Compressive Strength, tsf
0		PAVEMENT: BIT(6.5") over GBC(8.5")	815.8							
		Black CLAY, A-7-6, stiff	814.4	SS	1	11	18		1.75	Qp
				SS	2A	4	21		1.0	Qp
		Reddish-Brown Sandy LOAM with Gravel, A-2-4, medium dense	811.8	SS	2B	19	6			
				SS	3A	15	9		--	
		Brown Sandy CLAY, A-6, stiff	808.6	SS	3B	16	15		2.0	Qp
		Grey Sandy CLAY with intermittent Sand seams, A-6, stiff to firm, moist to wet	807.6							
				SS	4	7	14		1.0	Qp
				SS	5	6	15	120	0.78	
		Grey Silty CLAY, A-4 to A-6, hard	802.6	SS	6	14	19		4.0	Qp
				SS	7	22	15	115	2.06	
		probable cobble at 19.0'	800.1	SS	8	24	17	105	3.53	
				SS	9	20	18	107	5.24	
				SS	10	14	18	104	4.42	
				SS	11	11	19	100	2.41	
				SS	12	11	20	104	1.98	
				SS	13	10	20	105	1.63	

WATER LEVEL OBSERVATIONS, ft.
 DURING DRILLING: 11.0'
 IMMEDIATELY AFTER DRILLING: 12.5'
 DELAYED READING AFTER

BORING STARTED: 1/7/21
 BORING COMPLETED: 1/7/21
 LOGGED BY: GPF
 BORING METHOD: HSA

Midland Standard Engineering & Testing, Inc. 410 Nolen Drive, South Elgin, Illinois 60177 (847) 844-1895 (847) 844-3875

MSET PROJECT NO.: 20618 LOG OF BORING NO. SB-108 Page 2 of 2

PROJECT: Route 14 Underpass Phase 2 SITE LOCATION: Barrington, Illinois
 BORING LOCATION: Station 212+43, 37' R CLIENT: Civiltech Engineering, Inc.

DEPTH (feet)	SOIL TYPE	Material Description	Elevation	TESTS					REMARKS	
				TYPE/ INTERVAL	NO.	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf		Unconfined Compressive Strength, tsf
40		Grey CLAY, A-6, stiff to very stiff	776.6	SS	14	10	16	132	1.06	
				SS	15	9	13	118	1.40	
				SS	16	14	13	126	3.07	
				SS	17	14	16	110	2.79	
				SS	18	26	15	112	5.82	
				SS	19	16	18	118	3.57	
				SS	20	17	18	110	3.07	
				SS	21	18	18	113	2.87	

WATER LEVEL OBSERVATIONS, ft.
 DURING DRILLING: 11.0'
 IMMEDIATELY AFTER DRILLING: 12.5'
 DELAYED READING AFTER

BORING STARTED: 1/7/21
 BORING COMPLETED: 1/7/21
 LOGGED BY: GPF
 BORING METHOD: HSA

Midland Standard Engineering & Testing, Inc. 410 Nolen Drive, South Elgin, Illinois 60177 (847) 844-1895 (847) 844-3875

MODEL: Default
 FILE NAME: ...049W1003-61187-013-Boring_Logs_2.dgn



USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
 STRUCTURE NO. 049-W1003

SHEET SG-13 OF SG-15 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	524
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT

MSET PROJECT NO.: 20618		LOG OF BORING NO. SB-23		Page 1 of 2						
PROJECT: Route 14 Underpass Phase 2			SITE LOCATION: Barrington, Illinois							
BORING LOCATION: Station 213+00, 54' R			CLIENT: Civiltech Engineering, Inc.							
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE			TESTS			REMARKS
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc% Dry Unit Weight, pcf	Unconfined Compressive Strength, tsf		
0		Black Sandy Clay LOAM, A-6, Topsoil, very stiff	816.1	SS	1	13	24	2.75	Qp	
5		Brown Sandy LOAM to Sandy Clay LOAM, A-2-4, with Gravel, medium dense	812.6	SS	2	16	7			
				SS	3	19	8			
10		Grey CLAY with Sand & Gravel, A-6, stiff	808.1	SS	4	7	20	1.09		
15		Grey LOAM, A-4(1), medium dense	803.6	SS	5	19	16			
20		Grey CLAY, with Sand & Gravel, A-6, very stiff to stiff	800.1	SS	6	31	15	2.95		
25				SS	7	27				No Recovery
30				SS	8	13	17	2.55		
35				SS	9	15	19	1.75		
				SS	10	21	20	1.78		
				SS	11	18	20	1.75		
				SS	12	21	16	1.94		

MSET PROJECT NO.: 20618		LOG OF BORING NO. SB-23		Page 2 of 2						
PROJECT: Route 14 Underpass Phase 2			SITE LOCATION: Barrington, Illinois							
BORING LOCATION: Station 213+00, 54' R			CLIENT: Civiltech Engineering, Inc.							
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE			TESTS			REMARKS
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc% Dry Unit Weight, pcf	Unconfined Compressive Strength, tsf		
40		Grey CLAY, with Sand & Gravel, A-6, very stiff to stiff	777.1	SS	13	25	14	2.72		
45				SS	14	13	18	1.98		
50				SS	15	17	14	0.74		
55				SS	16	16	14	1.28		
60				SS	17	10	21	3.14		
65		to hard	752.1	SS	18	19	19	3.34		
70				SS	19	18	20	2.06		
75		End of Boring at 75 Feet	741.1	SS	20	17	21			

MIDLAND STANDARD ENGINEERING & TESTING, INC.												Page 1 of 2											
STRUCTURE FOUNDATION BORING LOG												Date 10/15/13											
ROUTE US 14			DESCRIPTION US Route 14 and WGLRR			LOGGED BY MP			SECTION 11-00087-00-GS			LOCATION Railroad Bridge, South Abutment											
COUNTY Lake			STRUCTURE NO. (Exist) 049-0135(Prop.)			BORING NO. SB-24			DRILLING METHOD HSA			HAMMER TYPE Safety											
Station 214+16			Offset 30' R			Ground Surface Elev. 817.0 (ft.)			Groundwater Depth:			First Encounter 37.0' (ft.)			Upon Completion 11.0' (ft.)			After Hrs. (ft.)					
SOIL DESCRIPTION						SOIL DESCRIPTION						DEPTH (ft.)			B L O C S			U C S			M O I S T		
(ft.)						(ft.)						(ft.)			(ft.)			(ft.)			(ft.)		
Black CLAY, A-6 Topsoil												35			3-7			B					
Brown SAND and GRAVEL, A-1-a medium dense						813.5						780			Grey CLAY, trace Sand & Gravel, A-6 stiff								
Grey Silty LOAM, A-4 very stiff						807.5						775			Grey CLAY, trace Sand & Gravel, A-6 stiff to hard								
Grey CLAY, trace Sand & Gravel, A-6 hard to very stiff						804						780			Grey CLAY, trace Sand & Gravel, A-6 stiff to hard								
to very stiff to stiff															hard								
															very stiff			(continued)					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MODEL: Default
FILE NAME: ...049W1003-61187-014-Boring_Logs_3.dgn



USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 3
STRUCTURE NO. 049-W1003

SHEET SG-14 OF SG-15 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	525
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

MIDLAND STANDARD ENGINEERING & TESTING, INC.
STRUCTURE FOUNDATION BORING LOG

Page 2 of 2

Date 10/15/13

ROUTE US 14 DESCRIPTION US Route 14 and WCLRR LOGGED BY MP

SECTION 11-00087-00-GS LOCATION Railroad Bridge, South Abutment

COUNTY Lake STRUCTURE NO. (Exist) 049-0135 (Prop.)

BORING NO. SB-24 DRILLING METHOD HSA HAMMER TYPE Safety

Station 214+16
Offset 30' R
Ground Surface Elev. 617.0 (ft.)

Groundwater Depth:
First Encounter 37.0' (ft.)
Upon Completion 11.0' (ft.)
After Hrs. (ft.)

SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOW COUNT (/6")	UCS (tsf)	MOIST (%)	SOIL DESCRIPTION	ELEV (ft.)	DEPTH (ft.)	BLOW COUNT (/6")	UCS (tsf)	MOIST (%)
Grey CLAY, trace Sand & Gravel, A-6 very stiff	70	10-12	6	3.33 B	18						
	75	9-10	5	3.5 Qp	17						
	80	14-16	8	2.06 B	17						
	85	8-11	6	2.55 B	16						
Grey SILT, A-4 dense	90	14-19	8	2.76 B	17						
	725.5										
	95	23-14	17	-	17						
End of Boring at 100 Feet	717	100	6	2.72 B	13						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MODEL: Default
FILE NAME: ...049W1003-61187-015-Boring_Logs_4.dgn

TRANSYSTEMS

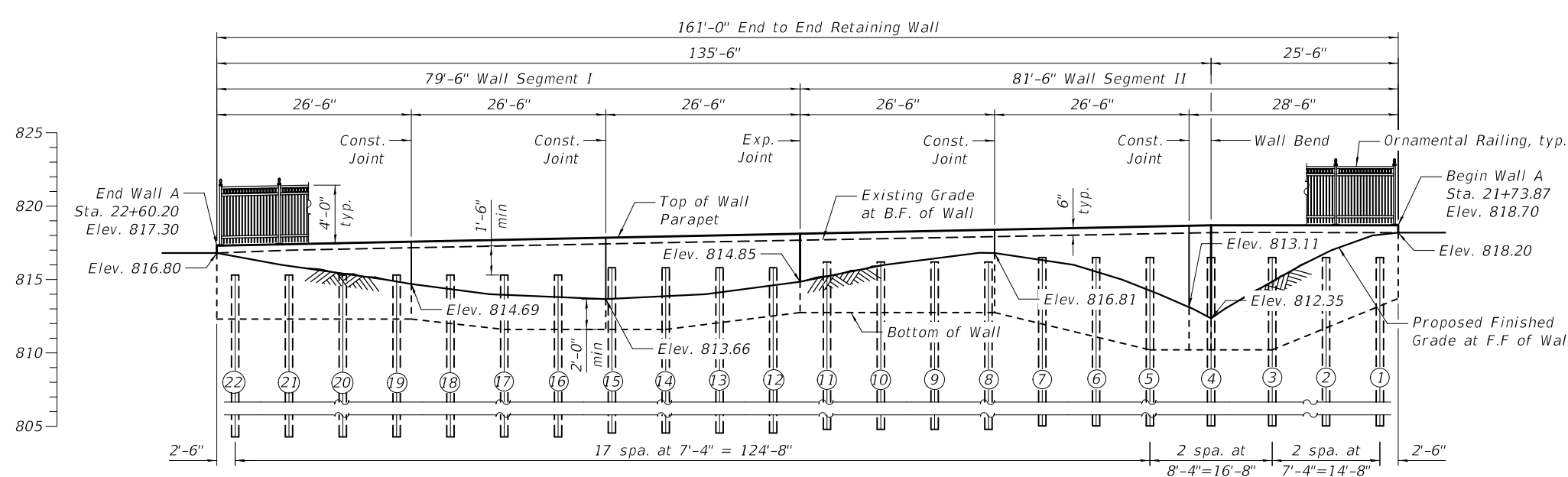
USER NAME = mc	DESIGNED - CMG	REVISED -
PLOT SCALE = N/A	DRAWN - CMD	REVISED -
PLOT DATE = 9/10/2024	CHECKED - JRM	REVISED -
	DATE - 9/10/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 4
STRUCTURE NO. 049-W1003

SHEET SG-15 OF SG-15 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	526
ILLINOIS FED. AID PROJECT			CONTRACT NO. 61187	



ELEVATION - WALL A
 (Horizontal Dimensions Measured Along Front of Wall - Unfolded Elevation)
 (Looking at Front Face of Wall)

CURVE DATA
 (Proposed Flint Creek Curve C3)
 $\Delta = 88^\circ 41' 23''$ (RT)
 $D = 67^\circ 24' 24''$
 $T = 83.08'$
 $L = 131.57'$
 $E = 33.86'$
 $R = 85.00'$
 P.C. STA = 20+68.40
 P.T. STA = 21+99.98
 P.I. STA = 21+51.48

(Proposed Flint Creek Curve C4)
 $\Delta = 61^\circ 37' 07''$ (LT)
 $D = 67^\circ 24' 24''$
 $T = 50.69'$
 $L = 91.41'$
 $E = 13.97'$
 $R = 85.00'$
 P.C. STA = 21+99.98
 P.T. STA = 22+91.39
 P.I. STA = 22+50.67

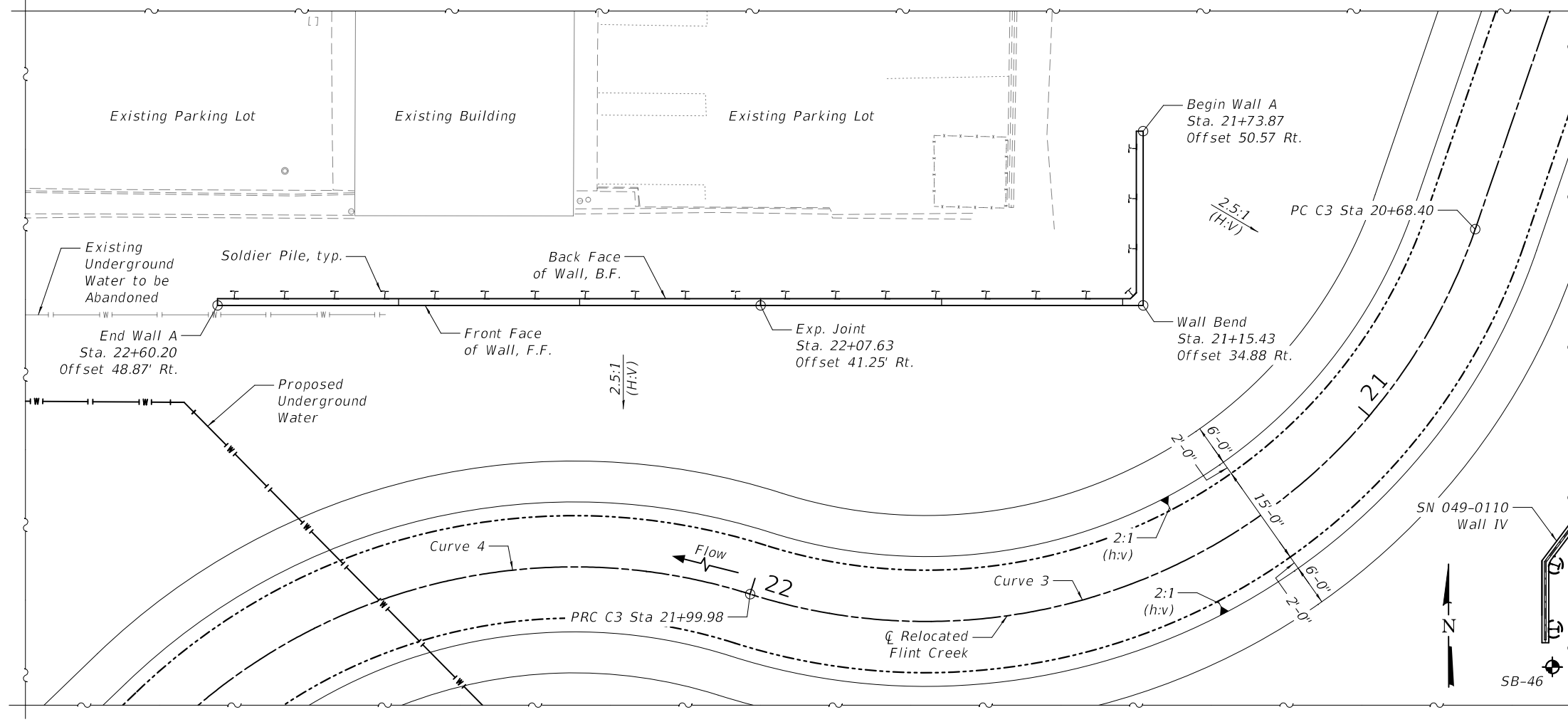
INDEX OF SHEETS
 SH-1 General Plan and Elevation
 SH-2 General Data
 SH-3 Wall Facing Elevation
 SH-4 Ornamental Railing
 SH-5 Soldier Pile Data Table
 SH-6 Soil Boring Logs

DESIGN SPECIFICATIONS
 2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

WALL DEFLECTION CRITERIA
 At any location, maximum total lateral deflection at the top of the wall shall not exceed 1.0 inch or 1% exposed height of the wall, whichever is minimum.

DESIGN STRESSES
FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50)

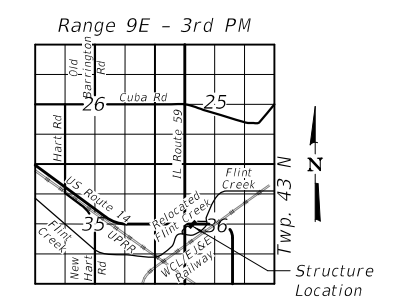
- Notes:**
1. Wall stations and offset are to the proposed \hat{C} Relocated Flint Creek.
 2. See roadway plans for the profile grade of the Relocated Flint Creek.
 3. Offsets and stations are given at the front face of the walls.
 4. F.F. - Front Face
B.F. - Back Face



PLAN - WALL A



Greg Hatlestad
 Gregory J. Hatlestad, S.E.
 # 081-005562
 Exp 11-30-2024
 Date 7-25-2024



GENERAL PLAN & ELEVATION
RETAINING WALL A
 F.A.P. RTE. 305 - U.S. ROUTE 14
 SECTION 11-00087-00-GS
 LAKE COUNTY
 STA. 21+73.87 TO STA. 20+60.20
 STRUCTURE NO. 049-W1004

MODEL: Default
 FILE NAME: ...049W1004-61187-001-GPE.dgn

CIVILTECH
 Two Plerce Place, Suite 1400
 Itasca, Illinois 60143
 Tel: 630.773.3900
 Fax: 630.773.3975
 www.civiltechinc.com

USER NAME = mc	DESIGNED - JAL	REVISED -
PLOT SCALE = N/A	DRAWN - JAL	REVISED -
PLOT DATE = 9/10/2024	CHECKED - GJH	REVISED -
	DATE - 7/26/2024	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

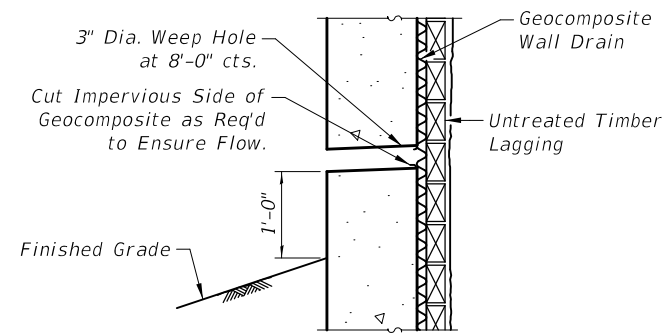
GENERAL PLAN AND ELEVATION
 STRUCTURE NO. 049-W1004

SHEET SH-1 OF SH-6 SHEETS

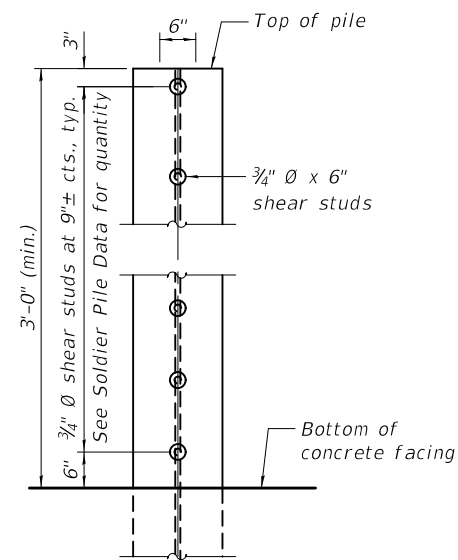
F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 527
CONTRACT NO. 61187				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

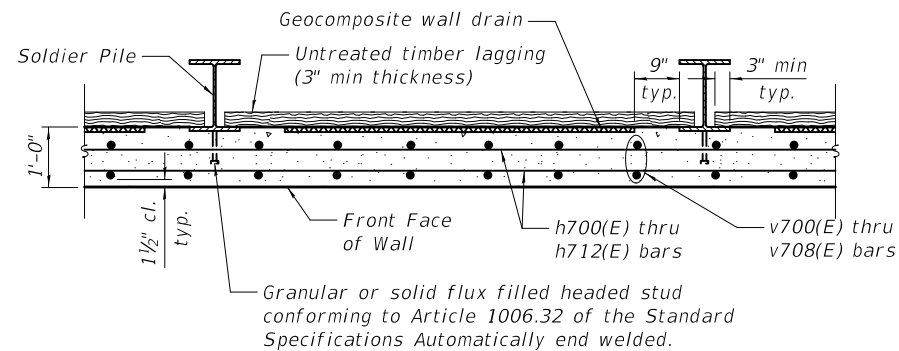
1. All exposed edges shall have 3/4" chamfer.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. All structural steel shall be AASHTO M270 Grade 50.
4. The Contractor is responsible for the design and performance of the lagging using no less than a 3" nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi.



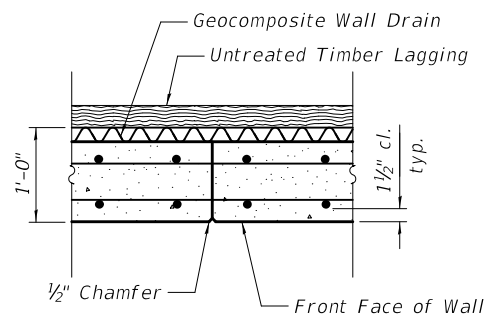
WEEP HOLE DRAIN DETAIL



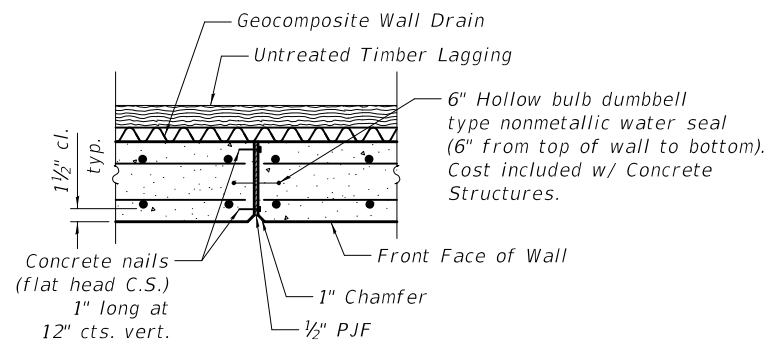
SHEAR STUD DETAIL
(Elevation of pile shown)



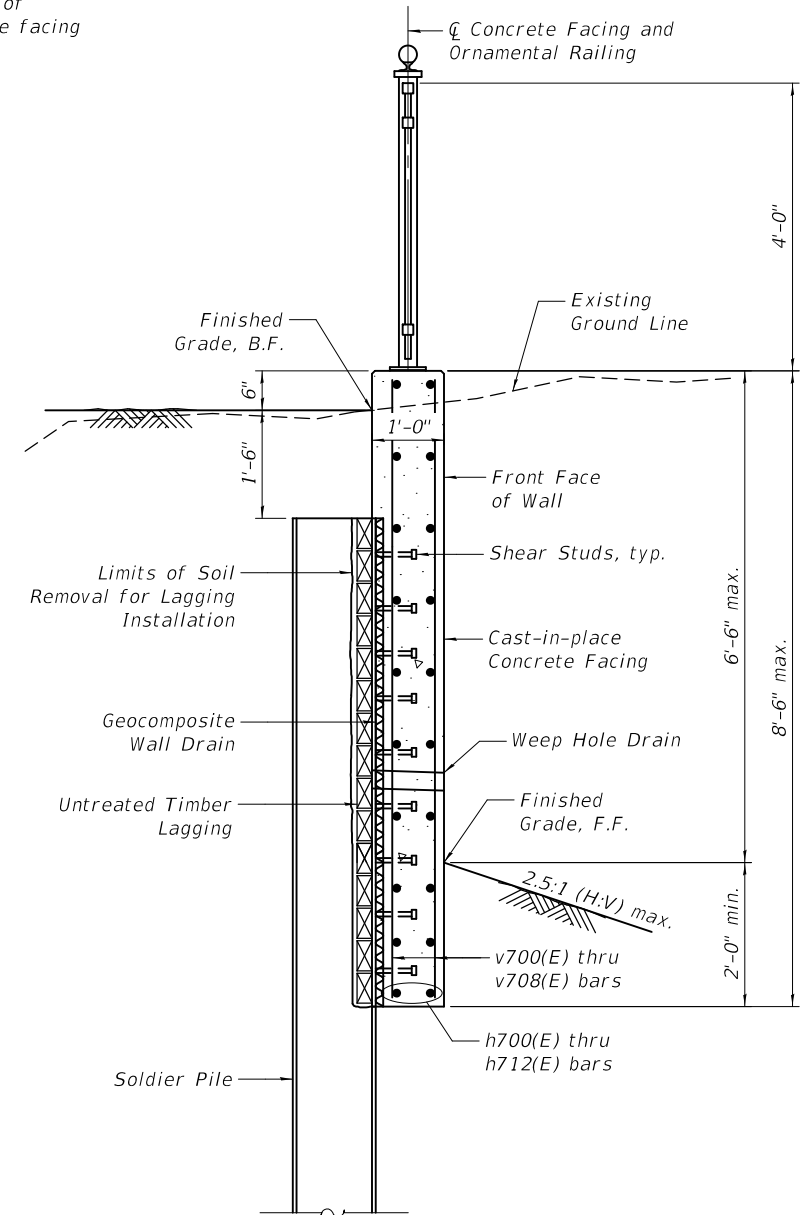
SECTION THRU SOLDIER PILE WALL



CONSTRUCTION JOINT DETAIL



TYPICAL EXPANSION JOINT DETAIL



TYPICAL WALL SECTION

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	103
Stud Shear Connectors	Each	127
Reinforcement Bars, Epoxy Coated	Pound	5,730
Furnishing Soldier Piles (HP Section)	Foot	539
Driving Soldier Piles	Foot	539
Untreated Timber Lagging	Sq. Ft.	593
Concrete Structures (Retaining Wall)	Cu. Yd.	37.2
Geocomposite Wall Drain	Sq. Yd.	45
Ornamental Railing	Foot	161

MODEL: Default
FILE NAME: ...049W1004-61187-002-General Data.dgn

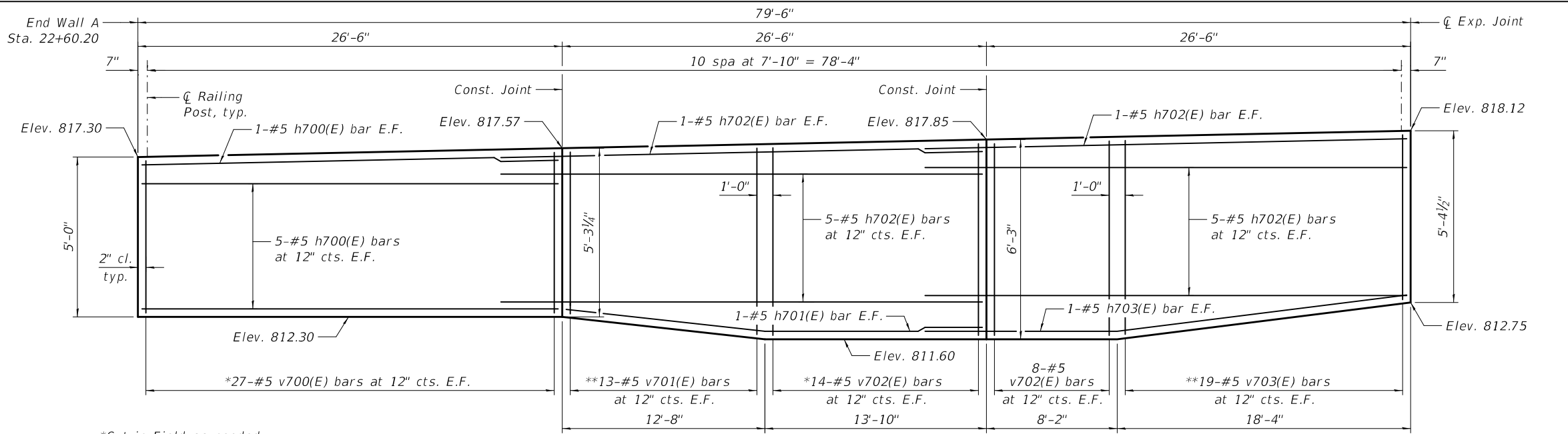
CIVILTECH
Two Plerce Place, Suite 1400
Itasca, Illinois 60143
Tel: 630.773.3900
Fax: 630.773.3975
www.civiltechinc.com

USER NAME = mc	DESIGNED - JAL	REVISED -
PLOT SCALE = N/A	DRAWN - JAL	REVISED -
PLOT DATE = 9/10/2024	CHECKED - GJH	REVISED -
	DATE - 7/26/2024	REVISED -

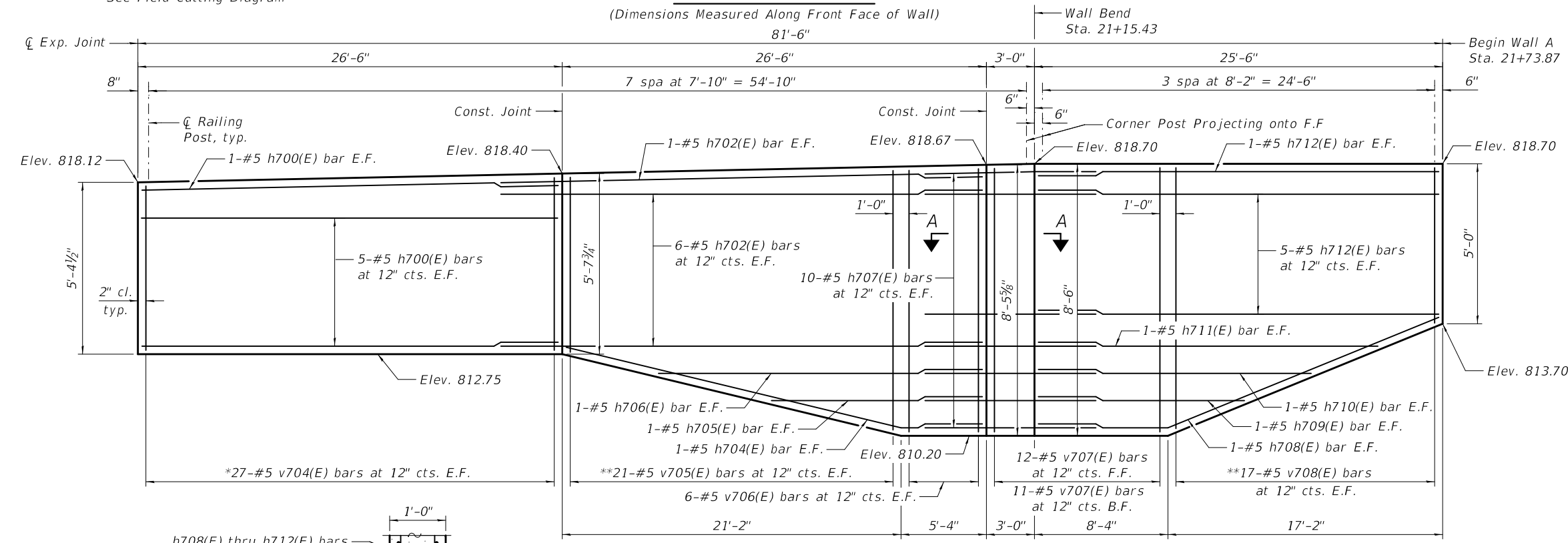
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 049-W1004
SHEET SH-2 OF SH-6 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 528
CONTRACT NO. 61187				
ILLINOIS FED. AID PROJECT				



WALL A - SEGMENT I
(Dimensions Measured Along Front Face of Wall)

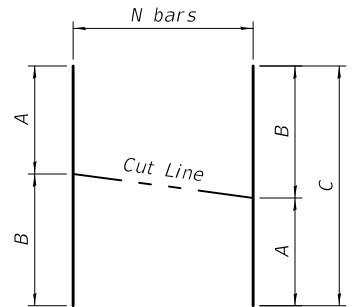


WALL A - SEGMENT II
(Dimensions Measured Along Front Face of Wall)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h700(E)	24	#5	26'-2"	
h701(E)	2	#5	26'-2"	
h702(E)	38	#5	30'-2"	
h703(E)	2	#5	30'-2"	
h704(E)	2	#5	26'-4"	
h705(E)	2	#5	13'-6"	
h706(E)	2	#5	20'-1"	
h707(E)	20	#5	10'-2"	
h708(E)	2	#5	25'-5"	
h709(E)	2	#5	12'-11"	
h710(E)	2	#5	17'-0"	
h711(E)	2	#5	21'-1"	
h712(E)	12	#5	25'-2"	
v700(E)	54	#5	4'-11"	
v701(E)	13	#5	10'-8"	
v702(E)	44	#5	5'-11"	
v703(E)	19	#5	11'-1"	
v704(E)	54	#5	5'-4"	
v705(E)	21	#5	13'-3"	
v706(E)	12	#5	8'-1"	
v707(E)	23	#5	8'-2"	
v708(E)	17	#5	12'-8"	
Concrete Structures (Retaining Wall)		Cu. Yd.	37.2	
Reinforcement Bars, Epoxy Coated		Pound	5,730	

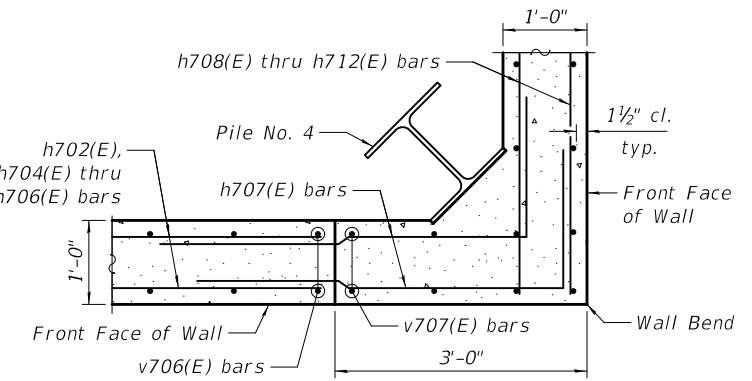
MINIMUM BAR LAP
#5 bar = 3'-7"



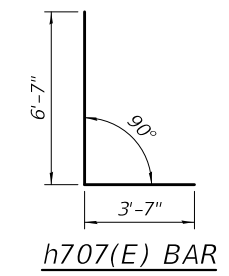
FIELD CUTTING DIAGRAM

Order bars full length. Cut as shown on Field cutting diagram and use the remainder of the bars at the other face of the wall.

Bar	A	B	C	N
v701(E)	4'-11"	5'-9"	10'-8"	13
v703(E)	6'-0"	5'-1"	11'-1"	19
v705(E)	5'-4"	7'-11"	13'-3"	21
v708(E)	8'-0"	4'-8"	12'-8"	17



SECTION A-A
(Lagging not shown for clarity)



h701(E), h703(E), h704(E), AND h708(E) BARS

Bar	A	B	C
h701(E)	12'-6"	13'-8"	8 1/2"
h703(E)	18'-2"	12'-0"	1'-2"
h704(E)	21'-2"	5'-2"	2'-6 1/2"
h708(E)	17'-4"	8'-1"	3'-5 1/2"

MODEL: Default
FILE NAME: ...049W1004-6187-003-Facing Elevation.dgn

CIVILTECH
Two Pierce Place, Suite 1400
Itasca, Illinois 60143
Tel: 630.773.3900
Fax: 630.773.3975
www.civiltechinc.com

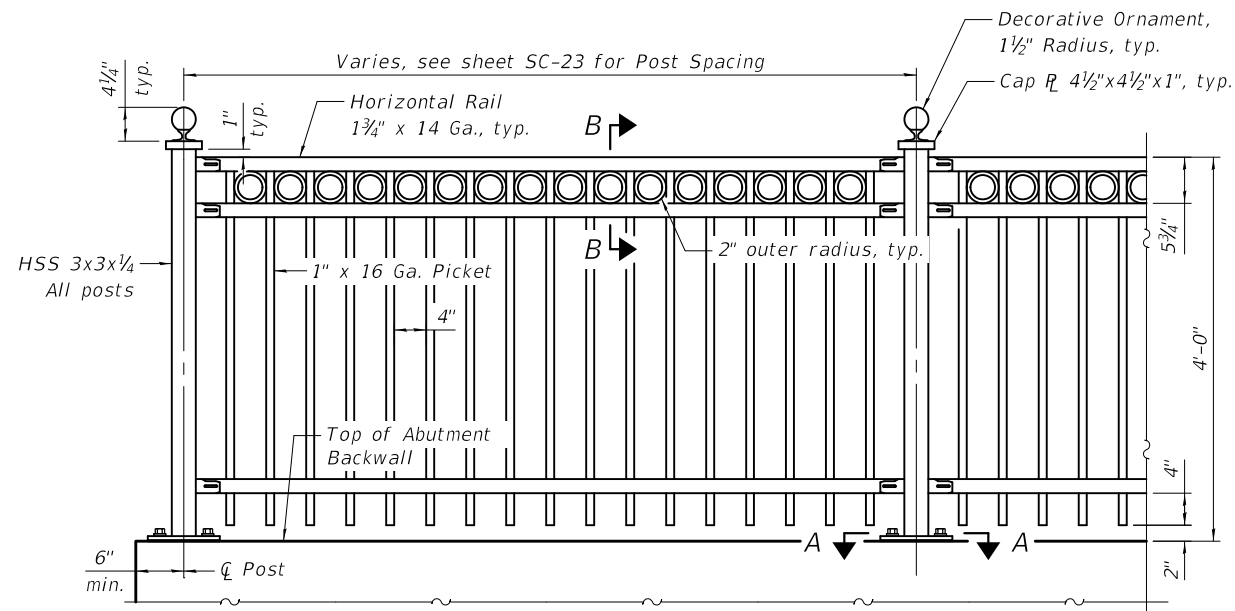
USER NAME = mc	DESIGNED - JAL	REVISED -
PLOT SCALE = N/A	DRAWN - JAL	REVISED -
PLOT DATE = 9/10/2024	CHECKED - GJH	REVISED -
	DATE - 7/26/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

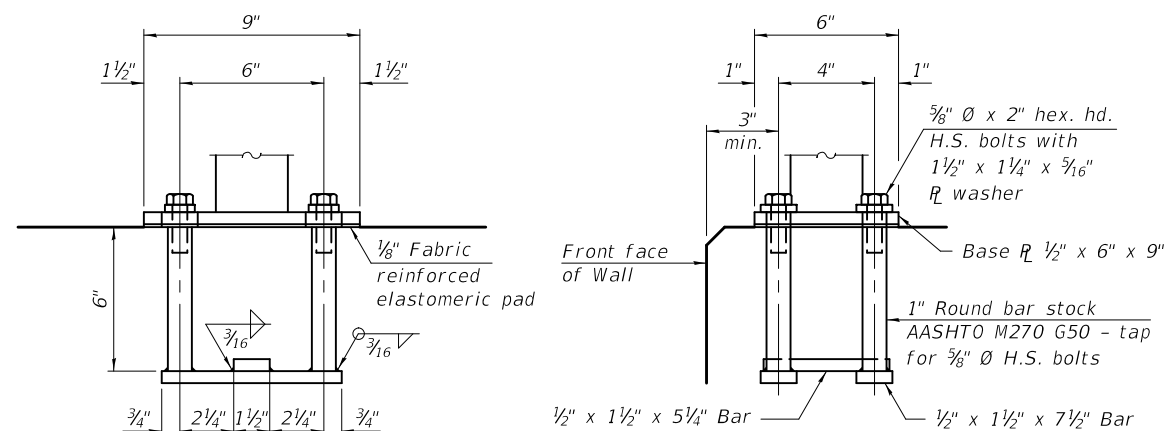
WALL FACING ELEVATION
STRUCTURE NO. 049-W1004

SHEET SH-3 OF SH-6 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 529
ILLINOIS FED. AID PROJECT			CONTRACT NO. 61187	

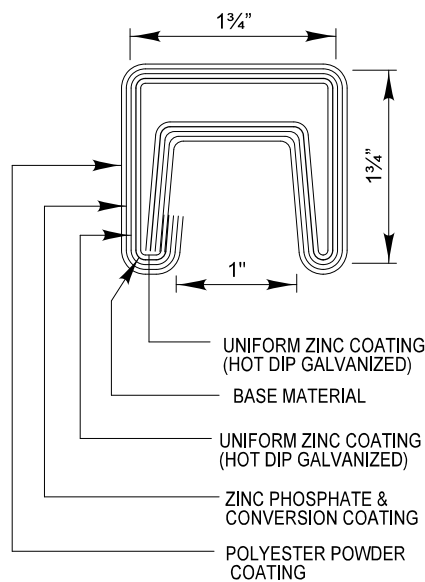


ORNAMENTAL RAILING ELEVATION

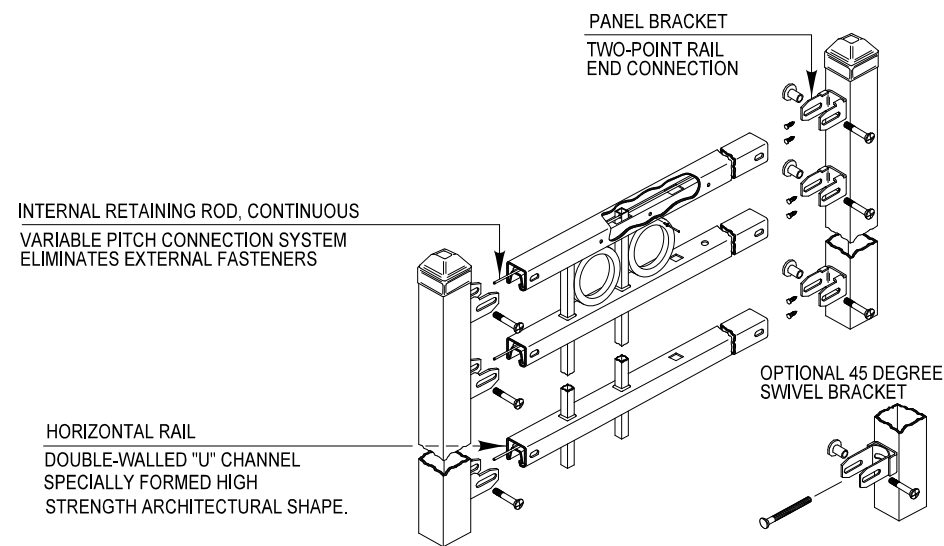


ANCHORAGE ASSEMBLY

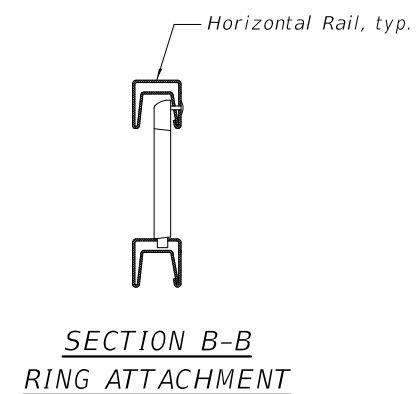
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" Ø fully threaded anchor rods with the same plate washers as specified above and heavy hex lock nuts according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



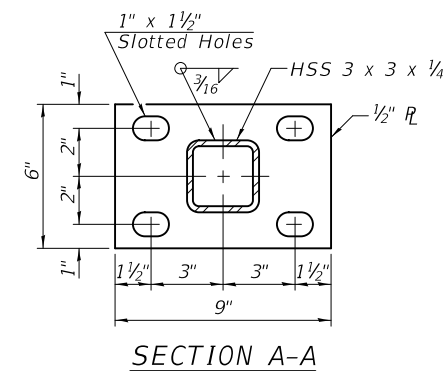
HORIZONTAL RAIL CROSS SECTION



ISOMETRIC VIEW



**SECTION B-B
RING ATTACHMENT**



SECTION A-A

Notes:

1. All steel rail elements shall be galvanized according to According 509.05 of the Standard Specification.
2. All post, railing, splices, anchor devices, and plates shall be coated with 2 coats of electrostatic polyester, TGIC powder coating. The color of the final finish coat for all railing steel shall be Black. See Special Provisions.

BILL OF MATERIAL

Item	Unit	Quantity
Ornamental Railing	Foot	161

MODEL: Default
FILE NAME: ...049W1004-61187-004-Railing.dgn

CIVILTECH
Two Pierce Place, Suite 1400
Itasca, Illinois 60143
Tel: 630.773.3900
Fax: 630.773.3975
www.civiltechinc.com

USER NAME = mc	DESIGNED - JAL	REVISED -
PLOT SCALE = N/A	DRAWN - JAL	REVISED -
PLOT DATE = 9/10/2024	CHECKED - GJH	REVISED -
	DATE - 7/26/2024	REVISED -

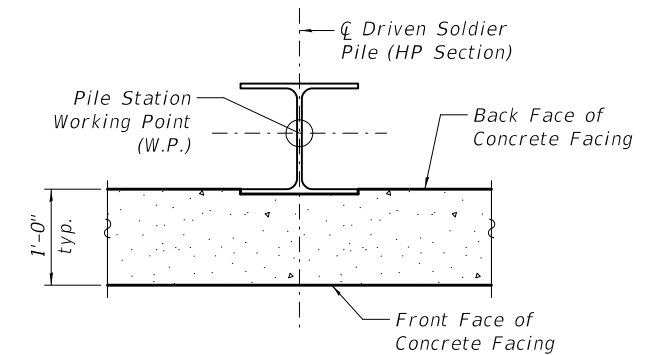
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ORNAMENTAL RAILING
STRUCTURE NO. 049-W1004**
SHEET SH-4 OF SH-6 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 530
			CONTRACT NO. 61187	
ILLINOIS FED. AID PROJECT				

SOLDIER PILE DATA TABLE - WALL A

Pile Number	Pile Size	Station at Pile W.P.	Offset at Pile W.P.	Top of Pile Elevation	Bott. of Pile Elevation	Length of Pile	Number of Shear Studs
1	HP 14x89	20+81.09	50.89' Rt.	816.50	792.00	24.50	5
2	HP 14x89	20+95.69	46.94' Rt.	816.50	792.00	24.50	7
3	HP 14x89	21+07.29	42.10' Rt.	816.50	792.00	24.50	9
4	HP 14x89	21+15.88	37.42' Rt.	816.50	792.00	24.50	9
5	HP 14x89	21+26.04	41.01' Rt.	816.50	792.00	24.50	9
6	HP 14x89	21+39.09	44.43' Rt.	816.50	792.00	24.50	8
7	HP 14x89	21+54.13	46.75' Rt.	816.50	792.00	24.50	7
8	HP 14x89	21+70.52	47.75' Rt.	816.20	791.70	24.50	5
9	HP 14x89	21+87.15	47.31' Rt.	816.20	791.70	24.50	5
10	HP 14x89	22+00.84	45.53' Rt.	816.20	791.70	24.50	5
11	HP 14x89	22+05.48	43.57' Rt.	816.20	791.70	24.50	5
12	HP 14x89	22+10.24	42.00' Rt.	815.80	791.30	24.50	5
13	HP 14x89	22+15.11	40.85' Rt.	815.80	791.30	24.50	5
14	HP 14x89	22+20.06	40.11' Rt.	815.80	791.30	24.50	6
15	HP 14x89	22+25.04	39.80' Rt.	815.80	791.30	24.50	6
16	HP 14x89	22+30.03	39.92' Rt.	815.30	790.80	24.50	5
17	HP 14x89	22+35.00	40.47' Rt.	815.30	790.80	24.50	5
18	HP 14x89	22+39.90	41.46' Rt.	815.30	790.80	24.50	5
19	HP 14x89	22+44.72	42.83' Rt.	815.30	790.80	24.50	4
20	HP 14x89	22+49.42	44.62' Rt.	815.30	790.80	24.50	4
21	HP 14x89	22+53.97	46.79' Rt.	815.30	790.80	24.50	4
22	HP 14x89	29+58.37	49.33' Rt.	815.30	790.80	24.50	4



SOLDIER PILE WORKING POINT
(Timber Lagging not shown for clarity)

MODEL: Default
FILE NAME: ...049W1004-61J87-005-Pile_Data.dgn

Two Pierce Place, Suite 1400 Moline, IL 61401 Tel: 630.773.3900 Fax: 630.773.3975 www.civiltechinc.com	USER NAME = mc	DESIGNED - JAL	REVISED -
	PLOT SCALE = N/A	CHECKED - GJH	REVISED -
	PLOT DATE = 9/10/2024	DATE - 7/26/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOLDIER PILE DATA TABLE
STRUCTURE NO. 049-W1004**

SHEET SH-5 OF SH-6 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-G5	LAKE	816	531
ILLINOIS FED. AID PROJECT			CONTRACT NO. 61J87	

MIDLAND STANDARD ENGINEERING & TESTING, INC.
STRUCTURE FOUNDATION BORING LOG

Page 1 of 1
Date 2/12/13

ROUTE US 14 DESCRIPTION US Route 14 and WCL RR LOGGED BY MHP
SECTION 11-00087-00-GS LOCATION IL Rt 59: Creek Realignment
COUNTY Lake STRUCTURE NO. 049-0008 (Exist) (Prop.)
BORING NO. SB-17 DRILLING METHOD HSA HAMMER TYPE Manual

SOIL DESCRIPTION					SOIL DESCRIPTION				
(ft.)	(ft.)	/6"	(tsf)	(%)	(ft.)	(ft.)	/6"	(tsf)	(%)
Pavement: 4" Bituminous Concrete over 14" PCC over Granular BC					Grey CLAY, trace Sand and Gravel, A-6, stiff to very stiff				
811.8	6	10-6	--	5	35	4	6-10	1.09 B	20
Brown and Grey Sandy Clay LOAM: FILL									
	9	7-9	--	--		5	5-5	1.24 B	22
808.3	7	11-14	4.85	19	40	6	10-14	1.55 B	15
Brown and Grey CLAY, trace Sand and Gravel, A-6, hard					sand seam at 44'				
806.3	5	12-14	6.21 BS	18	45	4	6-9	2.60 BS	21
Grey CLAY, trace Sand and Gravel, A-6, hard to very stiff									
	4	6-9	2.60 BS	21		15	ST	2.0 P	19
798.8	10	17-17	--	10	764.8	4	8-14	2.25 B	18
Grey SAND and GRAVEL, A-1, dense to medium dense					End of Boring at 50'				
	7	14-14	--	11					
791.8	10	12-12	--	11					
Grey CLAY, trace Sand and Gravel, A-6, very stiff to stiff									
	5	12-30	2.17 BS	16					
	2	6-7	1.09 B	20					
	7	7-8	0.89 B	20					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC.
STRUCTURE FOUNDATION BORING LOG

Page 1 of 1
Date 5/27/2014

ROUTE US 14 DESCRIPTION US Route 14 at WCL RR LOGGED BY GF
SECTION 11-00087-00-GS LOCATION US Route 14
COUNTY Lake STRUCTURE NO. (Exist) (Prop.)
BORING NO. SB-46 DRILLING METHOD CFA HAMMER TYPE Automatic

SOIL DESCRIPTION					SOIL DESCRIPTION				
(ft.)	(ft.)	/6"	(tsf)	(%)	(ft.)	(ft.)	/6"	(tsf)	(%)
Pavement Materials: 4.5" Bituminous Concrete over 6.5" Sand and Gravel					Dark Grey CLAY, trace Sand, A-6: FILL, very stiff				
817.1	3	4-5	3.10 BS	17	814	4	6-8	8.54 BS	19
Brown and Grey CLAY, trace Sand, A-6, hard to very hard									
	8	9-13	7.53 B	19		9	13-17	10.55 BS	18
814	4	6-8	8.54 BS	19		6	8-11	5.66 BS	19
Grey CLAY, A-6, very stiff									
	5	7-9	3.88 B	19	805	3	5-7	2.72 B	19
800	25	13-12	-	17		10	10-13	-	8
Grey SAND and GRAVEL, A-1, medium dense									
	4	4-7	3.88 B	14	794	6	7-27	2.52 B	21
Grey CLAY, A-6, very stiff									
	6	7-27	2.52 B	21	788	6	7-10	3.30 B	13
794	4	4-7	3.88 B	14	End of Boring @ 30'				
End of Boring @ 30'									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

MODEL: Default
FILE NAME: ...049W1004-61187-006-Soil Borings.dgn

CIVILTECH
Two Pierce Place, Suite 1400
Itasca, IL 60143
Tel: 630.773.3900
Fax: 630.773.3975
www.civiltechinc.com

USER NAME =	mc	DESIGNED -	JAL	REVISED -	
DRAWN	JAL	REVISIONS			
PLOT SCALE =	N/A	CHECKED -	GJH	REVISED -	
PLOT DATE =	9/10/2024	DATE	7/26/2024	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 049-W1004

SHEET SH-6 OF SH-6 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	532
			CONTRACT NO. 61J87	
		ILLINOIS FED. AID PROJECT		

DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

DESIGN STRESSES

FIELD UNITS

$f'_c = 4,000$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (Struct. Steel, M270 Grade 50, posts)
 $f_y = 36,000$ psi (Struct. Steel, M270 Grade 36, all other structural steel)

PRECAST UNITS

$f'_c = 4,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 65,000$ psi (Welded Wire Reinforcement)

DESIGN LOADS

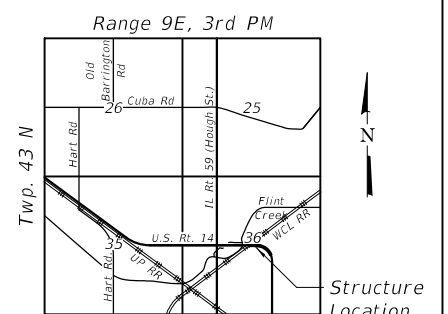
Strength III or V Wind: 35 psf
 Service I Wind: 15 psf

Notes:

- Stations and offsets shown are measured from \bar{C} U.S. Route 14 to the \bar{C} Noise Abatement Wall.
- Wall to be constructed along chords to fit the indicated curves.

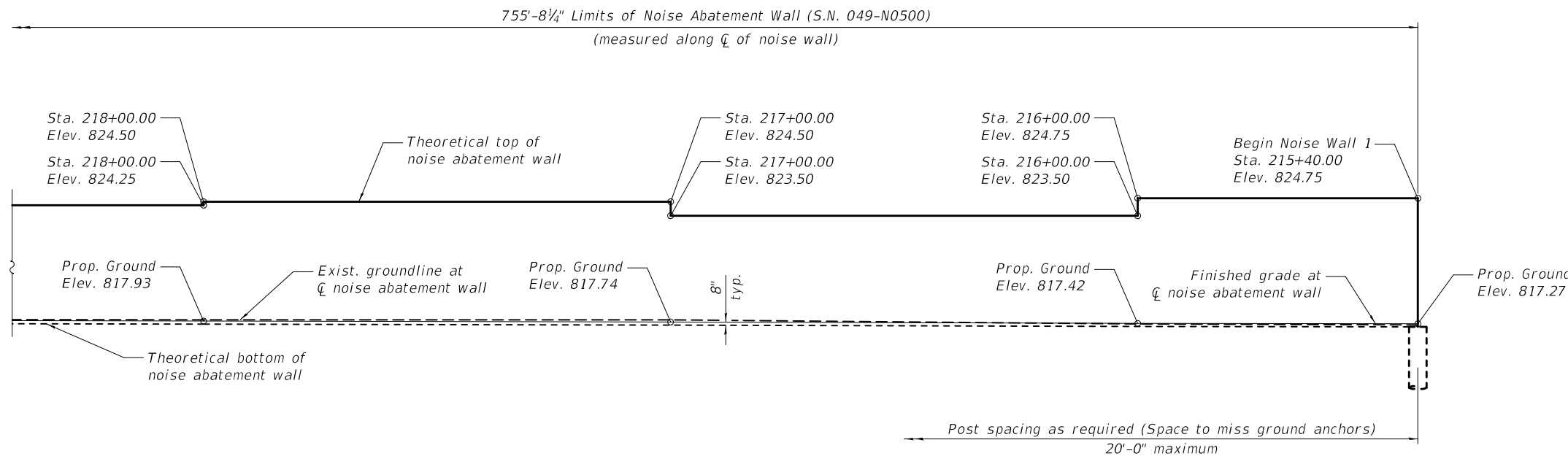
LEGEND

- Existing Storm Sewer
- Existing Aerial Lines
- Existing Gas Line
- Existing Water Main
- Existing Sanitary Sewer
- Existing Underground Electric
- Proposed Storm Sewer
- Proposed Sanitary Sewer
- Existing Underground Telephone
- Existing Underground Fiber Optic
- Soil Boring

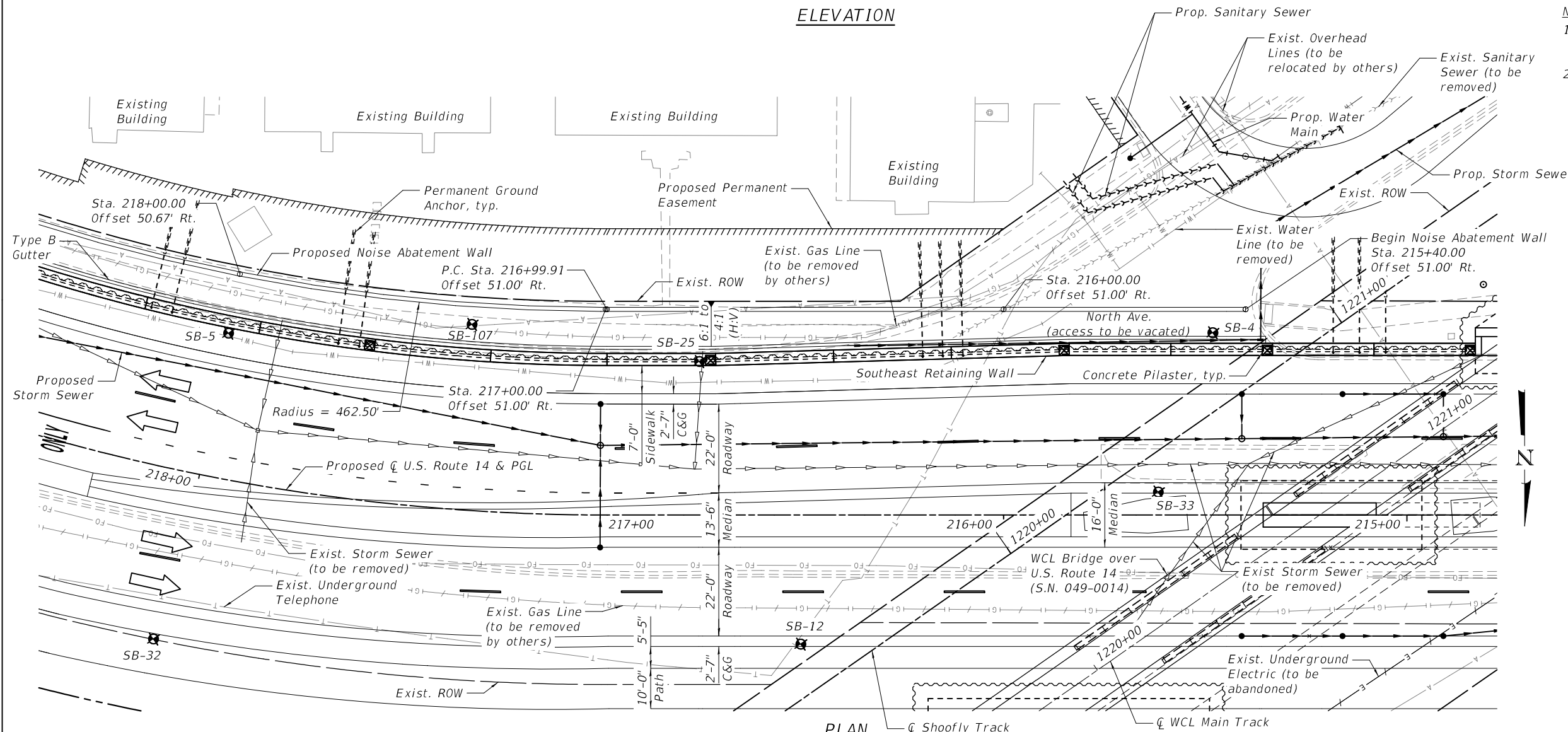


LOCATION SKETCH

GENERAL PLAN AND ELEVATION 1
NOISE ABATEMENT WALL
 F.A.P. RTE. 305 - U.S. ROUTE 14
 SECTION 11-00087-00-GS
 LAKE COUNTY
 STA. 215+40.00 TO STA. 226+40.00
 STRUCTURE NO. 049-N0500



ELEVATION



PLAN

MODEL: Default
 FILE NAME: ...049N0500-6187-001-Noise Wall 1.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - AH	REVISED -
PLOT SCALE = N/A	DRAWN - MDG	REVISED -
PLOT DATE = 9/9/2024	CHECKED - JRM	REVISED -
	DATE - 9/9/2024	REVISED -

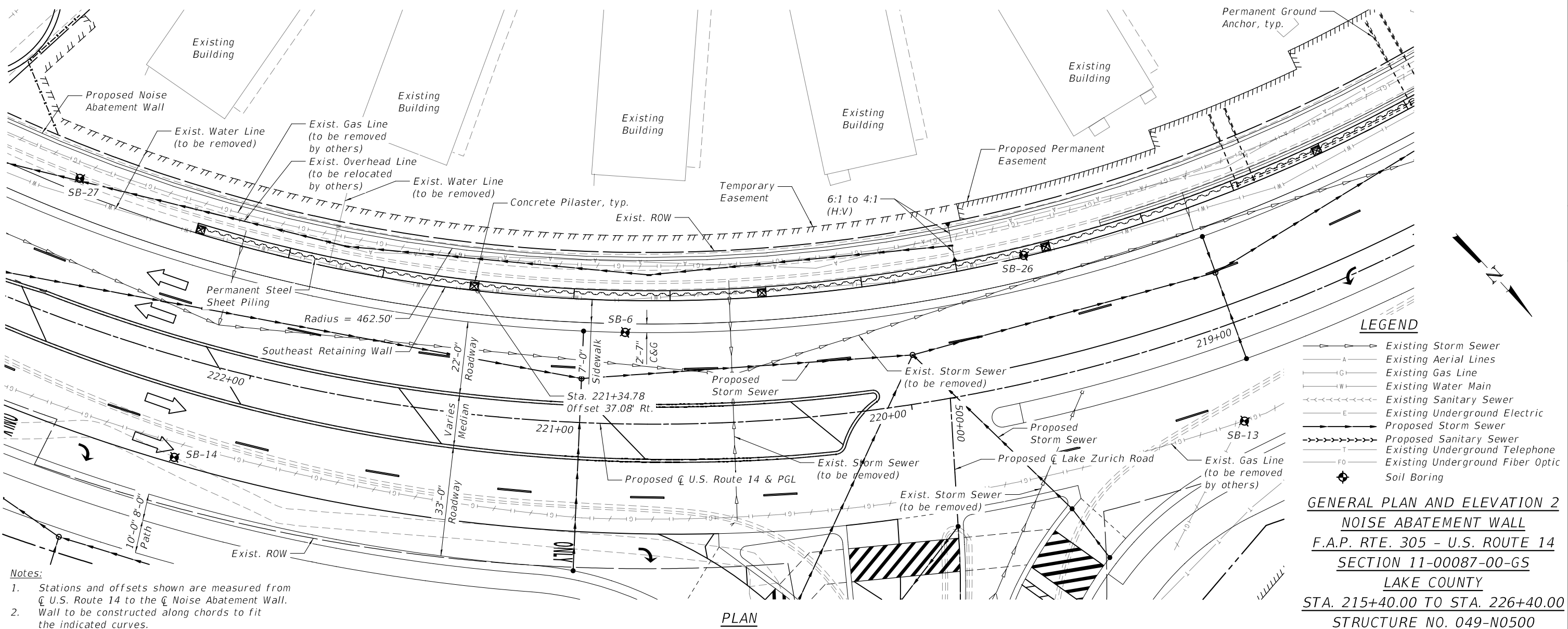
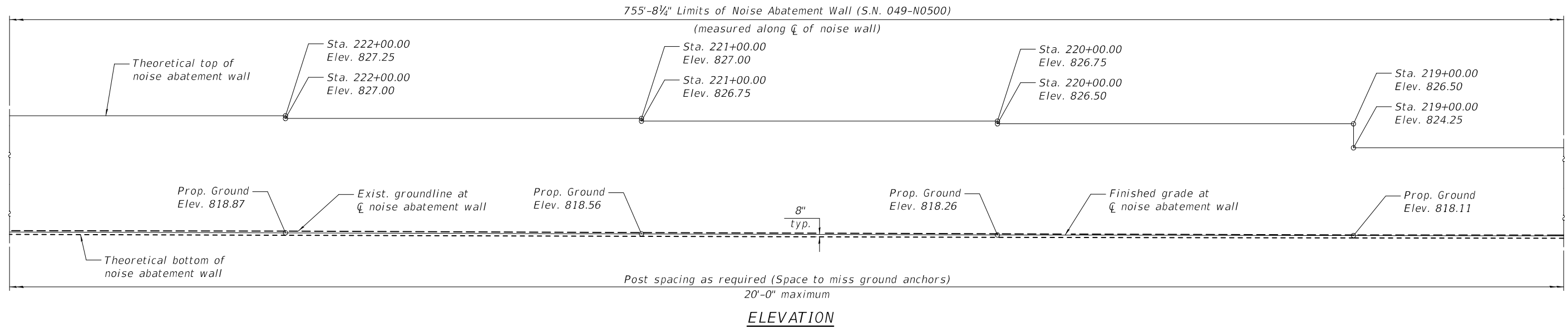
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOISE ABATEMENT WALL GENERAL PLAN AND ELEVATION 1
STRUCTURE NO. 049-N0500

SHEET NW-1 OF NW-5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	533
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT



- Notes:**
- Stations and offsets shown are measured from CL U.S. Route 14 to the CL Noise Abatement Wall.
 - Wall to be constructed along chords to fit the indicated curves.

LEGEND

- Existing Storm Sewer
- Existing Aerial Lines
- Existing Gas Line
- Existing Water Main
- Existing Sanitary Sewer
- Existing Underground Electric
- Proposed Storm Sewer
- Proposed Sanitary Sewer
- Existing Underground Telephone
- Existing Underground Fiber Optic
- Soil Boring

GENERAL PLAN AND ELEVATION 2
NOISE ABATEMENT WALL
F.A.P. RTE. 305 - U.S. ROUTE 14
SECTION 11-00087-00-GS
LAKE COUNTY
STA. 215+40.00 TO STA. 226+40.00
STRUCTURE NO. 049-N0500

MODEL: Default
FILE NAME: ...049N0500-61187-002-Noise Wall 2.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - AH	REVISED -
PLOT SCALE = N/A	DRAWN - MDG	REVISED -
PLOT DATE = 9/9/2024	CHECKED - JRM	REVISED -
	DATE - 9/9/2024	REVISED -

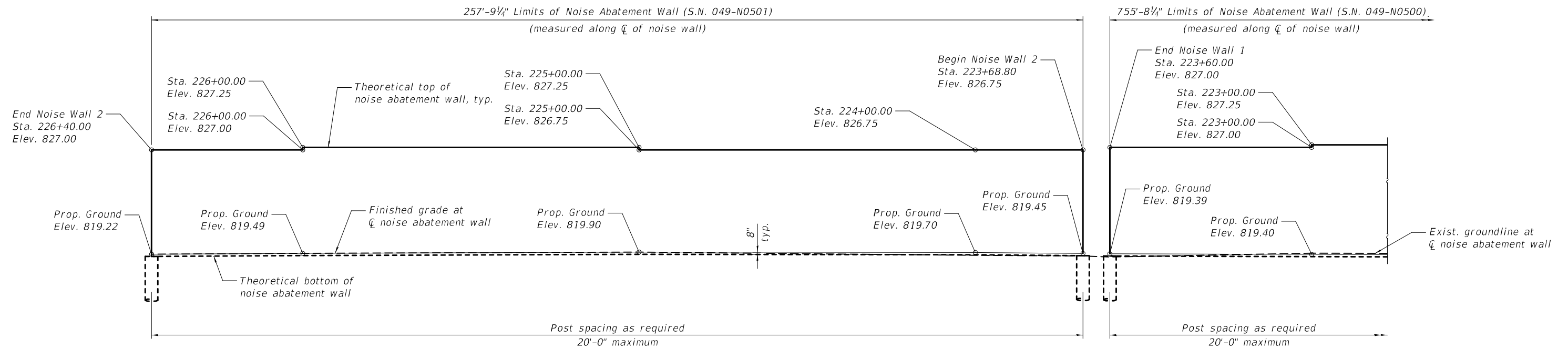
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOISE ABATEMENT WALL GENERAL PLAN AND ELEVATION 2
STRUCTURE NO. 049-N0500

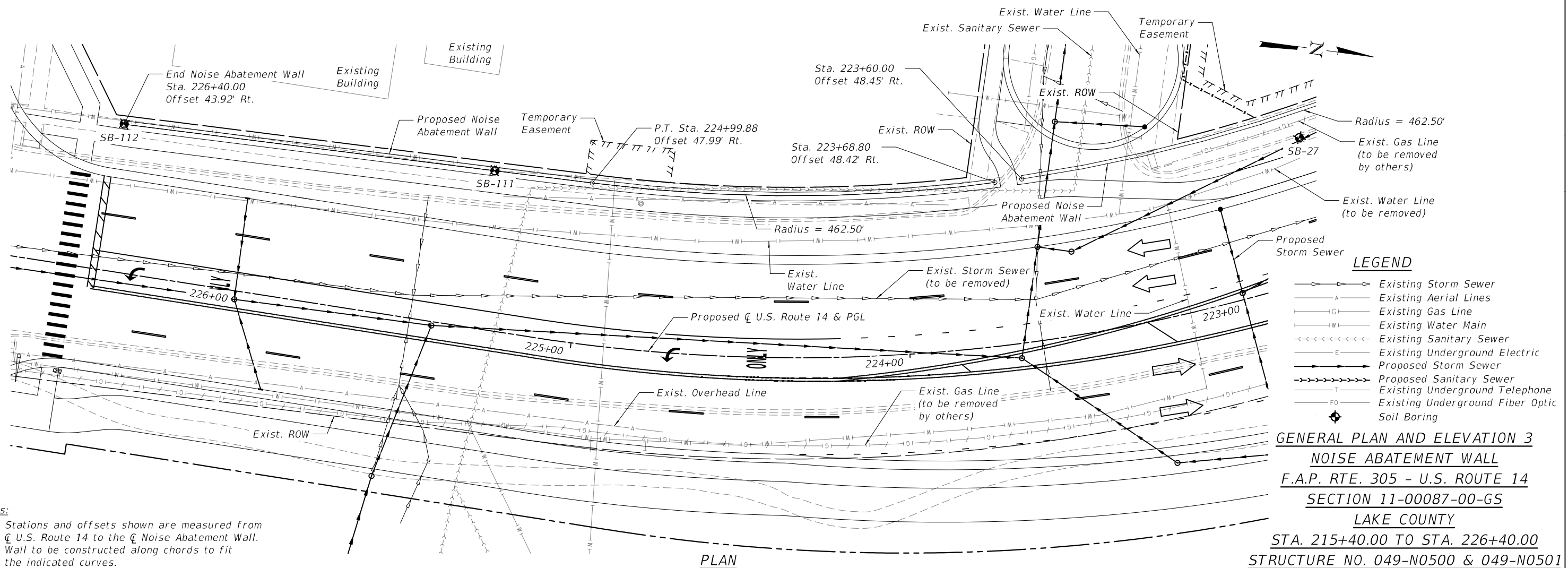
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	534
CONTRACT NO. 61187				

SHEET NW-2 OF NW-5 SHEETS

ILLINOIS FED. AID PROJECT



ELEVATION



LEGEND

- Existing Storm Sewer
- Existing Aerial Lines
- Existing Gas Line
- Existing Water Main
- Existing Sanitary Sewer
- Existing Underground Electric
- Proposed Storm Sewer
- Proposed Sanitary Sewer
- Existing Underground Telephone
- Existing Underground Fiber Optic
- Soil Boring

- Notes:**
- Stations and offsets shown are measured from \bar{C} U.S. Route 14 to the \bar{C} Noise Abatement Wall.
 - Wall to be constructed along chords to fit the indicated curves.

GENERAL PLAN AND ELEVATION 3
NOISE ABATEMENT WALL
F.A.P. RTE. 305 - U.S. ROUTE 14
SECTION 11-00087-00-GS
LAKE COUNTY
STA. 215+40.00 TO STA. 226+40.00
STRUCTURE NO. 049-N0500 & 049-N0501

MODEL: Default
FILE NAME: ...049N0501-61187-003-Noise Wall 3.dgn

TRANSYSTEMS

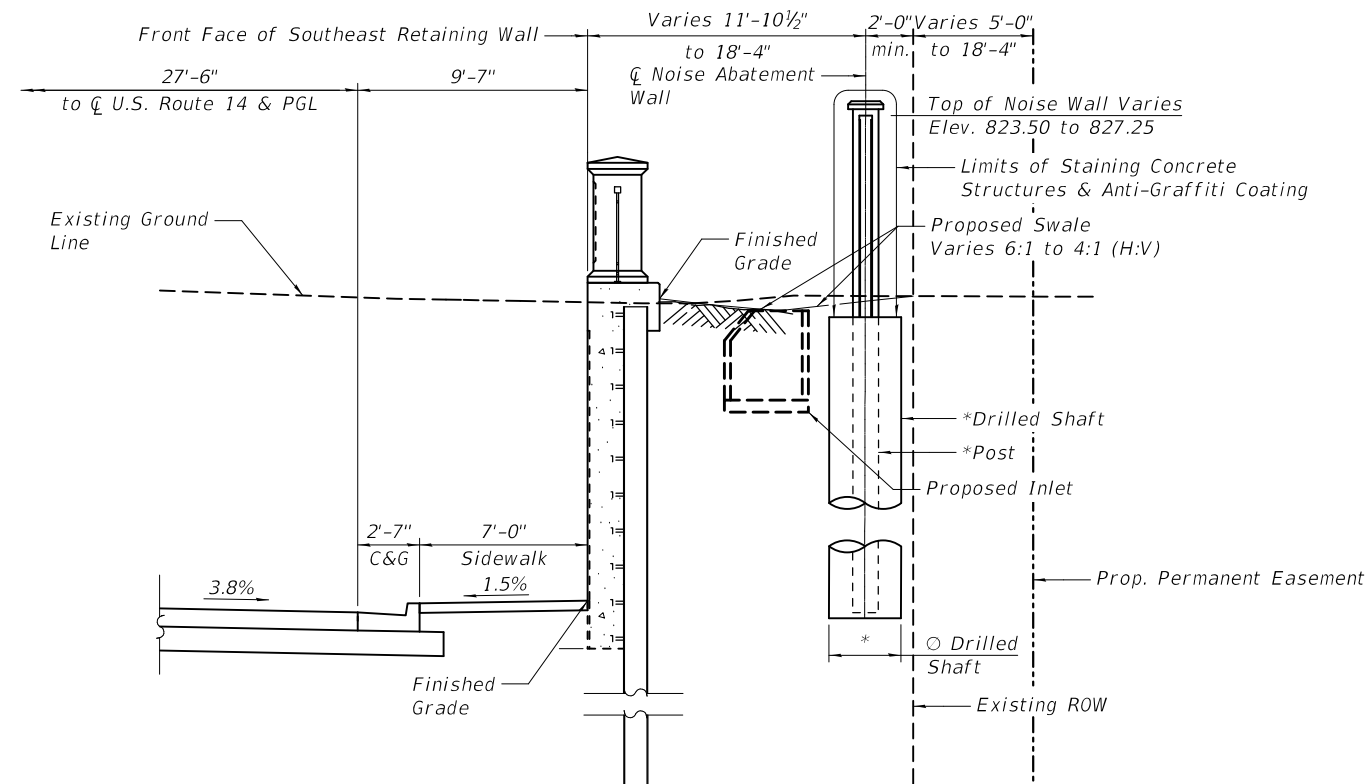
USER NAME = mc	DESIGNED - AH	REVISED -
PLOT SCALE = N/A	DRAWN - MDG	REVISED -
PLOT DATE = 9/9/2024	CHECKED - JRM	REVISED -
	DATE - 9/9/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOISE ABATEMENT WALL GENERAL PLAN AND ELEVATION 3
STRUCTURE NO. 049-N0500 & 049-N0501

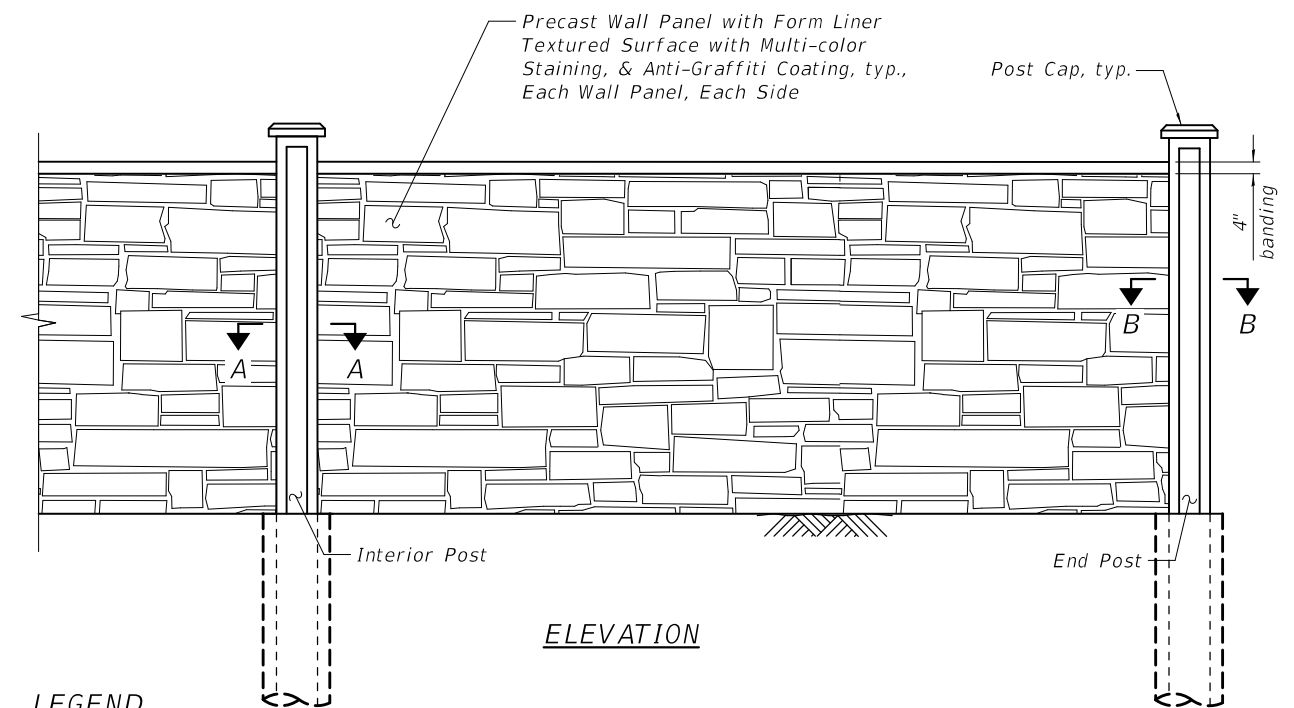
SHEET NW-3 OF NW-5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	535
CONTRACT NO. 61187				
ILLINOIS FED. AID PROJECT				



TYPICAL SECTION THRU NOISE ABATEMENT WALL

Sta. 215+40.00 to Sta. 223+60.00 and
Sta. 223+68.80 to Sta. 226+40.00

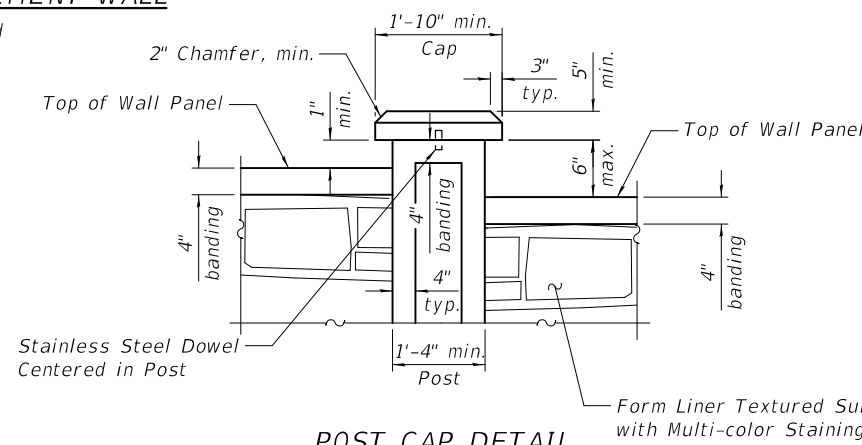


ELEVATION

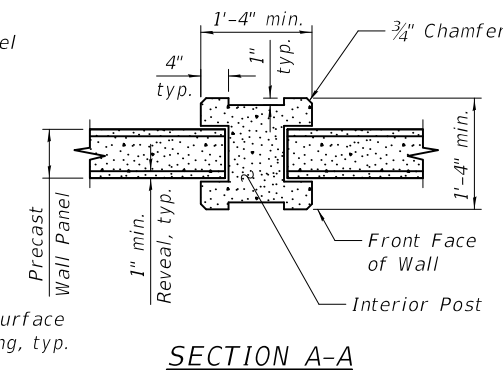
LEGEND



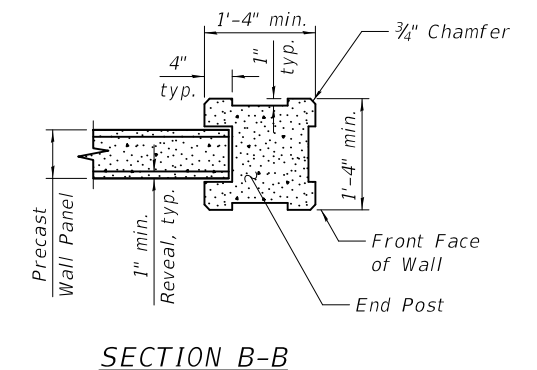
Pattern shall be similar to PAttern #12005 "Bearpath" Coursed Stone" manufactured by Custom Rock.



POST CAP DETAIL



SECTION A-A



SECTION B-B

GENERAL NOTES:

- The foundation is to be designed by the Contractor. The foundation is not to be placed within 1'-0" of any pipes, utilities, or Permanent Ground Anchors.
- The Contractor shall verify any obstruction to pipes, utilities, or Permanent Ground Anchors prior to construction of the foundation.

* Type, size & spacing of posts, noise wall panels, drilled shaft size & embedment depth, reinforcement details, and wall limits including top & bottom of wall to be determined by the Noise Wall Supplier during construction.

NOISE REDUCTION DATA TABLE

Noise Wall	Face	From Sta.	To Sta.	Noise Reduction Coefficient
049-N0500	Roadway Face	215+40.00	223+60.00	Reflective
	Residential Face	215+40.00	223+60.00	Reflective
049-N0501	Roadway Face	223+68.80	226+40.00	Reflective
	Residential Face	223+68.80	226+40.00	Reflective

BILL OF MATERIAL

Item	Unit	Total
Noise Abatement Wall, Ground Mounted	Sq. Ft.	7,482
Staining Concrete Structures	Sq. Ft.	14,963
Anti-Graffiti Coating	Sq. Ft.	14,963

MODEL: Default
FILE NAME: ...049N0501-61187-004-Noise Wall Details.dgn

TRANSYSTEMS

USER NAME = mc	DESIGNED - AH	REVISED -
PLOT SCALE = N/A	DRAWN - MDG	REVISED -
PLOT DATE = 9/9/2024	CHECKED - JRM	REVISED -
	DATE - 9/9/2024	REVISED -




**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NOISE ABATEMENT WALL DETAILS
STRUCTURE NO. 049-N0500 & 049-N0501**

SHEET NW-4 OF NW-5 SHEETS




F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	536
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

MSET PROJECT NO.: 20618		LOG OF BORING NO. SB-111		Page 1 of 1					
PROJECT: Route 14 Underpass Phase 2			SITE LOCATION: Barrington, Illinois						
BORING LOCATION: Station 225+30, 47' R			CLIENT: Civiltech Engineering, Inc.						
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS			REMARKS
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf	
0		PAVEMENT - Bituminous Concrete (3 1/4") over Concrete (9 3/4") over Granular Base Course (7")	818.9						
		Black Grey CLAY with Gravel	817.2	SS	1	8	19		
4		Brown and Grey CLAY, trace Sand, A-6, very stiff	815.9	SS	2	7	24	99	2.48
		Brown CLAY, trace Sand, A-6, hard	813.4	SS	3	15	17	112	5.47
8		Grey CLAY with Sand, A-6, hard to very stiff	810.9	SS	4	18	16	111	4.85
				SS	5	10	15	115	2.52
12				SS	6	10	18	104	3.45
		End of Boring at 15.0'	803.9						

WATER LEVEL OBSERVATIONS, ft.		BORING STARTED: 4/12/21
DURING DRILLING:  None		BORING COMPLETED: 4/12/21
IMMEDIATELY AFTER DRILLING:  Dry		LOGGED BY: MF/wg
DELAYED READING AFTER		BORING METHOD: HSA

Midland Standard Engineering & Testing, Inc. 410 Nolen Drive, South Elgin, Illinois 60177 (847) 844-1895 (847) 844-3875

MSET PROJECT NO.: 20618		LOG OF BORING NO. SB-112		Page 1 of 1					
PROJECT: Route 14 Underpass Phase 2			SITE LOCATION: Barrington, Illinois						
BORING LOCATION: Station 226+40, 44' R			CLIENT: Civiltech Engineering, Inc.						
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS			REMARKS
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf	
0		TOPSOIL - CLAY (3")	818.9	AU			21		
		Black CLAY, trace Sand, A-7-6, stiff	818.7	SS	1	4	31	78	1.44
4		Brown and Grey CLAY, trace Sand, A-6, stiff	815.9	SS	2	4	25	94	1.13
		Brown CLAY, trace Sand, A-6, hard	813.4	SS	3	13	15	107	5.47
8		Grey CLAY, trace Sand, A-6, very stiff	810.8	SS	4	10	15	115	3.22
				SS	5	11	17	109	3.03
12		to firm		SS	6	10	19	106	0.85
		End of Boring at 15.0'	803.9						Hole Caved at 13.0' Upon Completion

WATER LEVEL OBSERVATIONS, ft.		BORING STARTED: 4/12/21
DURING DRILLING:  None		BORING COMPLETED: 4/12/21
IMMEDIATELY AFTER DRILLING:  Moist		LOGGED BY: MF/wg
DELAYED READING AFTER		BORING METHOD: HSA

Midland Standard Engineering & Testing, Inc. 410 Nolen Drive, South Elgin, Illinois 60177 (847) 844-1895 (847) 844-3875

MODEL: Default
FILE NAME: ...049N0501-61187-005-Boring_Logs.dgn
9/9/2024 1:11:23 PM

TRANSYSTEMS

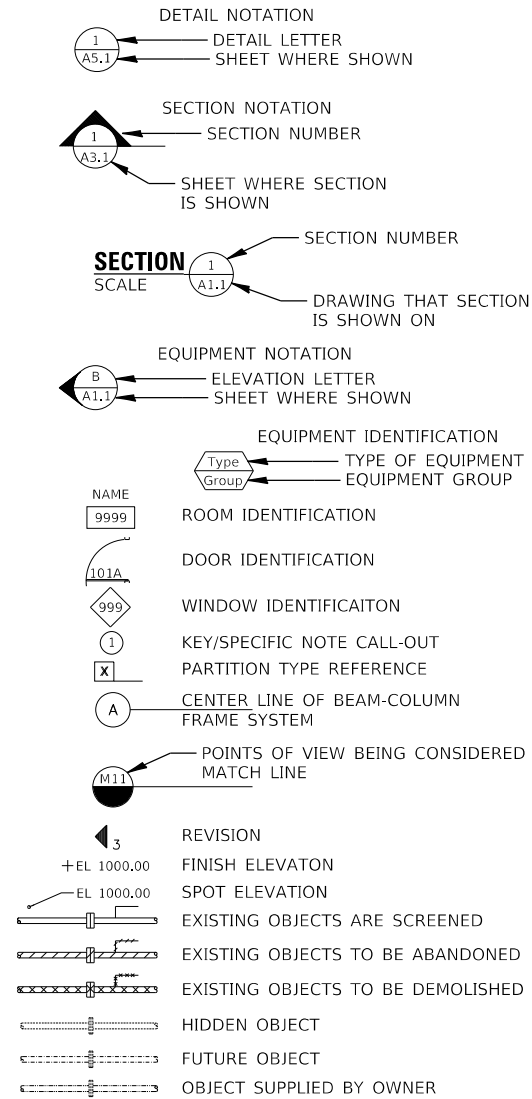
USER NAME = mc	DESIGNED - AH	REVISED -
PLOT SCALE = N/A	DRAWN - MDG	REVISED -
PLOT DATE = 9/9/2024	CHECKED - JRM	REVISED -
	DATE - 9/9/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

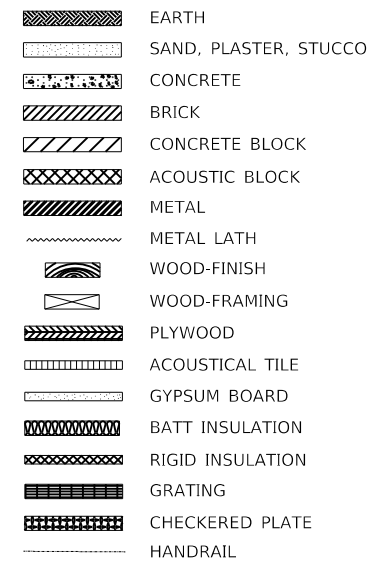
NOISE ABATEMENT WALL BORING LOGS
STRUCTURE NO. 049-N0501
SHEET NW-5 OF NW-5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	537
CONTRACT NO. 61187				
ILLINOIS FED. AID PROJECT				

DRAFTING SYMBOLS



ARCHITECTURAL SYMBOLS



GENERAL ARCHITECTURAL NOTES:

1. ALL MATERIAL CALLOUTS AND NOTES ARE TYPICAL, UNLESS NOTED OTHERWISE.
2. THE USE OF THE WORD "PROVIDE" MEANS FURNISH AND INSTALL.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF ALL APPLICABLE CODES. THE REQUIREMENTS OF THESE CODES SHALL TAKE PRECEDENCE OVER ANY DESIGN SHOWN WITHIN THESE DRAWINGS AND DESCRIBED WITHIN THE SPECIFICATIONS.
4. THE GENERAL CONTRACTOR SHALL COORDINATE THE WORK OF ALL TRADES INVOLVED IN COMPLETION OF THE SCOPE IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS.
5. EACH SUB-CONTRACTOR IS RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF ALL OTHER TRADES AND MAKING ANY NECESSARY MODIFICATIONS TO THIS WORK AS REQUIRED FOR A COMPLETE AND OPERATIONAL ASSEMBLY OR SYSTEM AT NO ADDITIONAL COST, INCLUDING ALL OFFSETS.
6. FOR LINTELS AT DOORS, SEE DOOR SCHEDULE ON SHEET A12.
7. FOR LINTELS AT OPENINGS OTHER THAN DOORS, SEE NOTES ON GROUND FLOOR PLAN.
8. WHERE VERTICAL REINFORCING BARS ARE NOTED IN MASONRY WALLS, BARS SHALL RUN FULL HEIGHT OF WALL IN FULLY GROUTED CORES. PROVIDE MASONRY DOWEL ADHESIVE ANCHORS EMBED 6" IN FOUNDATION. RUN 6" INTO BOND BEAM AT TOP OF WALL. LAP IN ACCORDANCE WITH MASONRY BAR LAP SCHEDULE ON SHEET SA36.
9. WHERE PIPING PASSES THROUGH MASONRY WALLS, PROVIDE SLEEVE PER DETAILS 7/A10.

DRAWING NO.	TITLE
ARCHITECTURAL	
A0	GENERAL NOTES AND INDEX OF SHEETS
A1	LIFE SAFETY PLANS
A2	GROUND & INTERMEDIATE FLOOR PLANS
A3	INTERMEDIATE & WELL FLOOR PLANS
A4	ROOF, ATTIC, & CLERESTORY PLANS
A5	EXTERIOR ELEVATIONS
A6	BUILDING SECTIONS
A7	BUILDING SECTIONS
A8	BUILDING SECTIONS
A9	ARCHITECTURAL TYPICAL WALL SECTIONS
A10	ARCHITECTURAL DETAILS
A11	ARCHITECTURAL DETAILS
A12	DOOR AND ROOM FINISH SCHEDULE & DETAILS
HEATING, VENTILATION, AND COOLING	
HV1	HV ABBREVIATIONS, SYMBOLS AND NOTES
HV2	HV GROUND & INTERMEDIATE FLOOR PLANS
HV3	HV INTERMEDIATE & WET WELL FLOOR PLANS
HV4	HV BUILDING SECTIONS
HV5	HV DETAILS
HV6	HV SCHEDULES - 1
HV7	HV SCHEDULES - 2
ELECTRICAL	
E1	ELECTRICAL SYMBOLS LIST
E2	ELECTRICAL GROUND AND UNDERGROUND UTILITIES PLAN
E3	ELECTRICAL ROOF LIGHTNING PROTECTION PLAN
E4	ELECTRICAL GROUND & INTERMEDIATE FLOOR - 1 POWER PLANS
E5	ELECTRICAL INTERMEDIATE - 2 & WET WELL FLOOR POWER PLANS
E6	ELECTRICAL PUMP STATION POWER SECTIONS - NORTH & SOUTH
E7	ELECTRICAL PUMP STATION POWER SECTIONS - EAST & WEST
E8	ELECTRICAL GROUND & INTERMEDIATE - 1 FLOOR LIGHTING & RECEPTACLE PLANS
E9	ELECTRICAL INTERMEDIATE - 2 & WET WELL FLOOR LIGHTING & RECEPTACLE PLANS
E10	ELECTRICAL PUMP STATION LIGHTING SECTIONS - NORTH & SOUTH
E11	ELECTRICAL PUMP STATION LIGHTING SECTIONS - EAST & WEST
E12	ELECTRICAL GROUND & INTERMEDIATE - 1 FLOOR FIRE DETECTION, GAS DETECTION, AND SECURITY PLANS
E13	ELECTRICAL INTERMEDIATE - 2 & WET WELL FLOOR FIRE DETECTION AND GAS DETECTION PLANS
E14	ELECTRICAL ROOM EQUIPMENT LAYOUT, DETAILS, & ELEVATIONS
E15	ELECTRICAL MOTOR CONTROL CENTER
E16	ELECTRICAL ONE-LINE DIAGRAM - 1
E17	ELECTRICAL ONE-LINE DIAGRAM - 2
E18	ELECTRICAL - MAIN PUMP NO. 1 SCHEMATICS
E19	ELECTRICAL - MAIN PUMP NO. 2 SCHEMATICS
E20	ELECTRICAL - MAIN PUMP NO. 3 SCHEMATICS
E21	ELECTRICAL - LOW FLOW PUMP NO. 4 SCHEMATICS
E22	ELECTRICAL SCHEMATIC DIAGRAMS AND DETAILS - 1
E23	ELECTRICAL SCHEMATIC DIAGRAMS AND DETAILS - 2
E24	ELECTRICAL SCHEMATIC DIAGRAMS AND DETAILS - 3
E25	ELECTRICAL DETAILS - 1
E26	ELECTRICAL DETAILS - 2
E27	ELECTRICAL SCHEDULES
E28	ELECTRICAL CONDUIT AND CABLE SCHEDULE
INSTRUMENTATION AND CONTROL	
IC1	I&C SYMBOLS LIST, ABBREVIATIONS & GENERAL NOTES - 1
IC2	I&C SYMBOLS LIST, ABBREVIATIONS & GENERAL NOTES - 2
IC3	I&C GROUND & INTERMEDIATE FLOOR - 1 PLANS
IC4	I&C INTERMEDIATE FLOOR - 2 & WET WELL FLOOR PLANS
IC5	I&C PUMP STATION INSTRUMENTATION SECTION - WEST
IC6	I&C SCADA SYSTEM ARCHITECTURE
IC7	I&C SCADA PANEL SP49 DETAIL
IC8	I&C CONTROL PANEL SP49 INTERIOR DETAIL
IC9	I&C CONTROL PANEL SP49 SCHEMATIC - 1
IC10	I&C CONTROL PANEL SP49 SCHEMATIC - 2
IC11	I&C CONTROL PANEL SP49 SCHEMATIC - 3
IC12	I&C CONTROL PANEL SP49 SCHEMATIC - 4
IC13	I&C CONTROL PANEL SP49 SCHEMATIC - 5
IC14	I&C CONTROL PANEL SP49 SCHEMATIC - 6
IC15	I&C CONTROL PANEL SP49 SCHEMATIC - 7
IC16	I&C CONTROL PANEL SP49 SCHEMATIC - 8
IC17	I&C CONTROL PANEL SP49 SCHEMATIC - 9
IC18	I&C CONTROL PANEL SP49 SCHEMATIC - 10
IC19	I&C PROCESS AND INSTRUMENTATION DIAGRAM
IC20	I&C P&ID DRAWING - 1
IC21	I&C P&ID DRAWING - 2
IC22	I&C P&ID DRAWING - 3
IC23	I&C P&ID DRAWING - 4
IC24	I&C P&ID DRAWING - 5
IC25	I&C GROUNDING & MISCELLANEOUS DETAILS
IC26	I&C CONDUIT AND WIRING SCHEDULE
STRUCTURAL	
SA1	GENERAL NOTES
SA2	STRUCTURAL PLAN - ELEV. 777.50
SA3	STRUCTURAL PLAN - ELEV. 805.33
SA4	STRUCTURAL PLAN - ELEV. 811.50
SA5	STRUCTURAL PLAN - ELEV. 817.00
SA6	STRUCTURAL SECTIONS - SECTION A-A
SA7	STRUCTURAL SECTIONS - SECTION B-B
SA8	STRUCTURAL SECTIONS - SECTION C-C
SA9	STRUCTURAL SECTIONS - SECTION D-D
SA10	STRUCTURAL SECTIONS - SECTION E-E
SA11	STRUCTURAL SECTIONS - SECTION F-F
SA12	STRUCTURAL SECTIONS - SECTION G-G & H-H
SA13	REINFORCEMENT DETAILS - KEY PLAN
SA14	REINFORCEMENT DETAILS - ELEV. 777.50
SA15	REINFORCEMENT DETAILS - ELEV. 777.50
SA16	REINFORCEMENT DETAILS - ELEV. 782.50
SA17	REINFORCEMENT DETAILS - ELEV. 793.67
SA18	REINFORCEMENT DETAILS - ELEV. 805.33
SA19	REINFORCEMENT DETAILS - ELEV. 817.00
SA20	REINFORCEMENT DETAILS - ELEV. 817.00
SA21	REINFORCEMENT DETAILS - SECTION A-A
SA22	REINFORCEMENT DETAILS - SECTION B-B
SA23	REINFORCEMENT DETAILS - SECTION C-C
SA24	REINFORCEMENT DETAILS - SECTION D-D
SA25	REINFORCEMENT DETAILS - SECTION E-E
SA26	REINFORCEMENT DETAILS - SECTION F-F
SA27	REINFORCEMENT DETAILS - SECTION G-G & H-H
SA28	REINFORCEMENT DETAILS - ELEVATION 1
SA29	REINFORCEMENT DETAILS - ELEVATION 2
SA30	REINFORCEMENT DETAILS - ELEVATION 3
SA31	REINFORCEMENT DETAILS - ELEVATION 4
SA32	REINFORCEMENT DETAILS - ELEVATION 5
SA33	REINFORCEMENT DETAILS - ELEVATION 6 & 7
SA34	REINFORCEMENT DETAILS - ELEVATION 8 & 9
SA35	BAR SPLICER ASSEMBLY DETAILS
SA36	STRUCTURAL DETAILS
SA37	SOIL BORING LOG - 1
PROCESS MECHANICAL	
M1	MECHANICAL ABBREVIATIONS, SYMBOLS AND NOTES
M2	MECHANICAL GROUND & INTERMEDIATE FLOOR PLANS
M3	MECHANICAL INTERMEDIATE & WELL FLOOR PLANS
M4	MECHANICAL BUILDING SECTIONS
M5	MECHANICAL BUILDING SECTIONS
M6	MECHANICAL BUILDING SECTIONS
M7	MECHANICAL DETAILS
M8	MECHANICAL DETAILS
M9	MECHANICAL SCHEDULES

MODEL: Default
FILE NAME: S:\MAD1\1800-1899-1899\1843\002\Drawings\CAD\Micros-554\CAD_Sheets\PS49-xxxx-A0-GenNotes.dgn

1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME =	brianf
PLOT SCALE =	8:0.0000 "/ in.
PLOT DATE =	8/27/2024

DESIGNED -	SGH
DRAWN -	BJF
CHECKED -	SAI
DATE -	8/28/2024

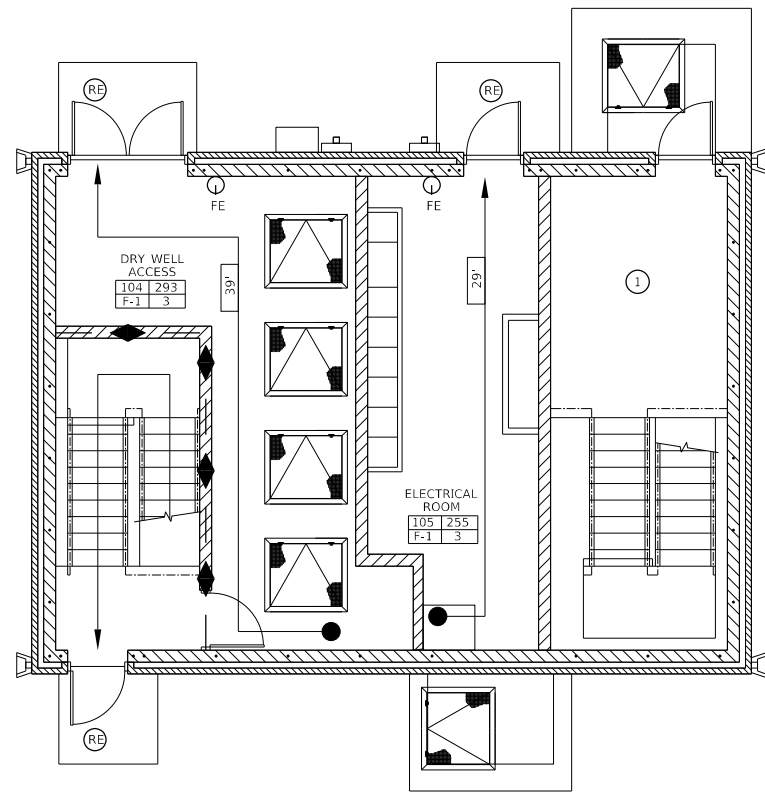
REVISED -	
REVISED -	
REVISED -	
REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

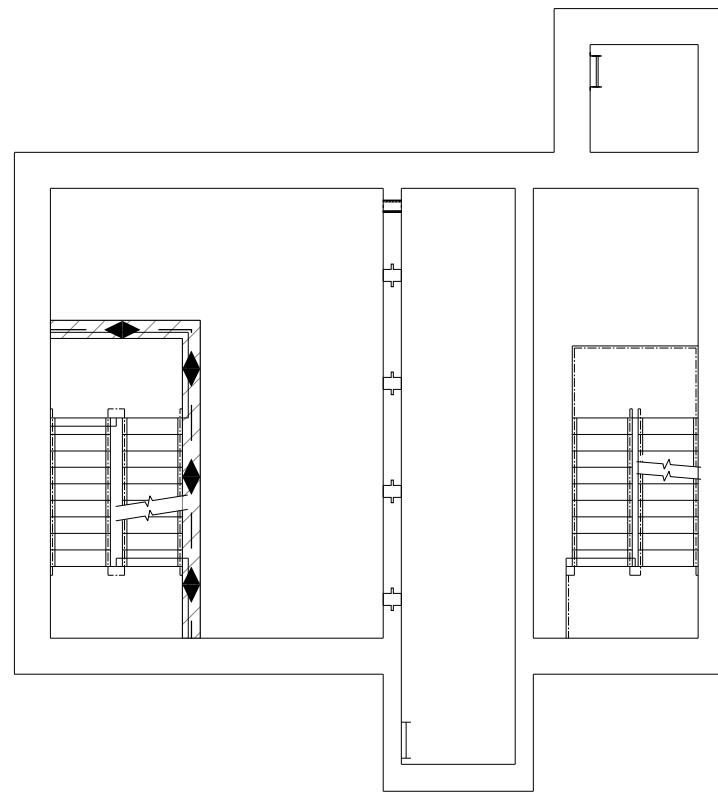
**GENERAL NOTES AND INDEX OF SHEETS
PUMP STATION 49**

SHEET A0 OF 12 SHEETS

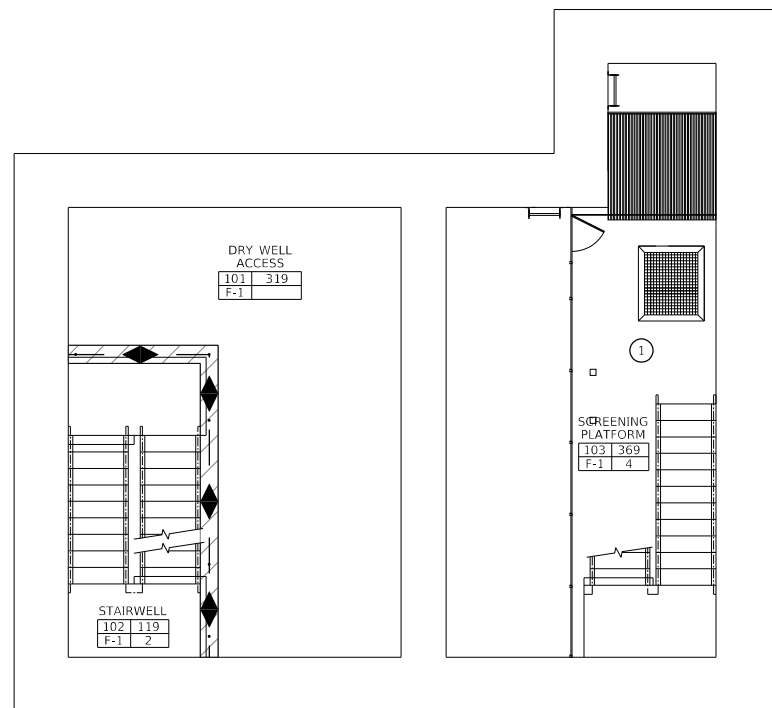
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	538
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				



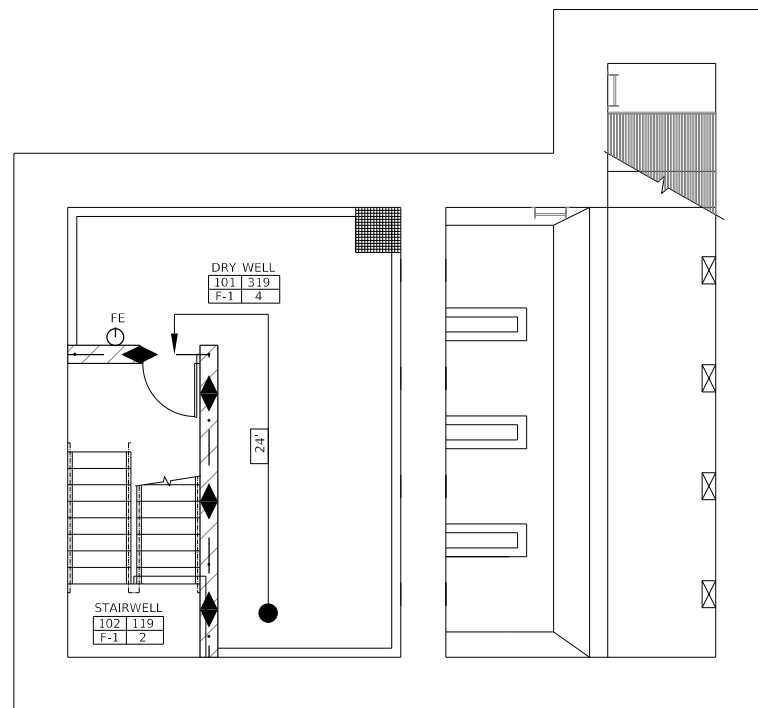
GROUND FLOOR PLAN



INTERMEDIATE FLOOR PLAN



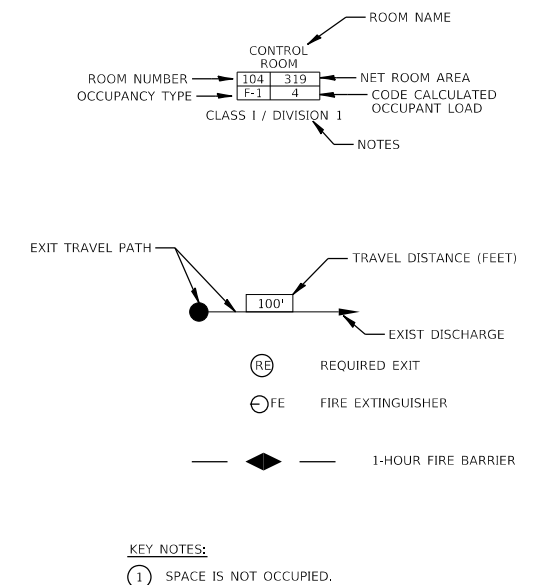
INTERMEDIATE FLOOR PLAN



WELL LEVEL FLOOR PLAN

PUMPING STATION BUILDING CODE INFORMATION	
BUILDING CODE	2018 INTERNATIONAL BUILDING CODE (W/AMENDMENTS) 2018 INTERNATIONAL MECHANICAL CODE (W/AMENDMENTS) 2018 INTERNATIONAL MECHANICAL CODE 2018 INTERNATIONAL FIRE CODE (W/AMENDMENTS) 2017 NATIONAL ELECTRIC CODE (W/AMENDMENTS) 2018 INTERNATIONAL FUEL GAS CODE (W/AMENDMENTS) ILLINOIS ENERGY CONSERVATION CODE (2018 IECC) ILLINOIS STATE PLUMBING CODE ILLINOIS ACCESSIBILITY CODE
SCOPE OF WORK:	CONSTRUCTION OF NEW 1-STORY, MASONRY PUMPING STATION.
OCCUPANCY TYPE	NON-SEPARATED USE
USE GROUPS	GROUP F-1: FACTORY INDUSTRIAL MODERATE-HAZARD
HAZARDOUS MATERIALS - NONE PRESENT	
CONSTRUCTION TYPE	TYPE II-B
OCCUPANCY SEPARATION - NONE REQUIRED	
GENERAL BUILDING INFORMATION	
NO. OF STORIES	ALLOWABLE: 2 STORIES ACTUAL: 1 STORY ¹
HEIGHT	ALLOWABLE: 55'-0" FEET ACTUAL: 18'-0" (TOP OF PRECAST PLANK)
PROJECT AREA	
F-1: UPPER LEVEL	1,160 SF
F-1: LOWER LEVEL	463 SF
TOTAL ALLOWABLE AREA PER FLOOR LEVEL	15,500 SF
TOTAL ACTUAL AREA (GROSS SF)	1,160 SF
PUBLIC WAYS OR YARDS	ACCESSIBLE FROM 4 SIDES, MIN. 30-FOOT ACCESS WIDTH
FIRE SUPPRESSION SYSTEM	
AUTOMATIC FIRE SUPPRESSION SYSTEM - NONE PROVIDED	
PORTABLE FIRE EXTINGUISHERS, RATED CLASS A, B, C; 10-POUND CAPACITY.	
NUMBER OF OCCUPANTS	
OCCUPANT LOAD FACTOR	INDUSTRIAL AREAS: 100 GROSS
OCCUPANT CALCULATION - SEE PLANS	
ACTUAL NUMBER OF OCCUPANTS	ZERO PERMANENT OCCUPANTS, ONLY PRESENT FOR MAINTENANCE AND OPERATION
TRAVEL DISTANCE	EXIT ACCESS: 200 FEET COMMON PATH: 75 FEET
EXITS: ALL SPACES/OCCUPANCIES REQUIRE 1 EXIT.	
NOTES: 1. BASEMENT DOES NOT CONTRIBUTE TO NUMBER OF STORIES ABOVE GRADE PLANE. 2. ALL AREAS ARE CLASSIFIED AS CLASS I, DIVISION 2, GROUP D BY NEC.	

LIFE SAFETY LEGEND



MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-A1-Life_Safety_Plans.dgn
8/27/2024 9:30:10 AM



USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
DRAWN -	BJF	REVISIONS -			
PLOT SCALE =	10:8.0000 " = 1/8" IN.	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**LIFE SAFETY PLANS
PUMP STATION 49**

SHEET A1 OF 12 SHEETS

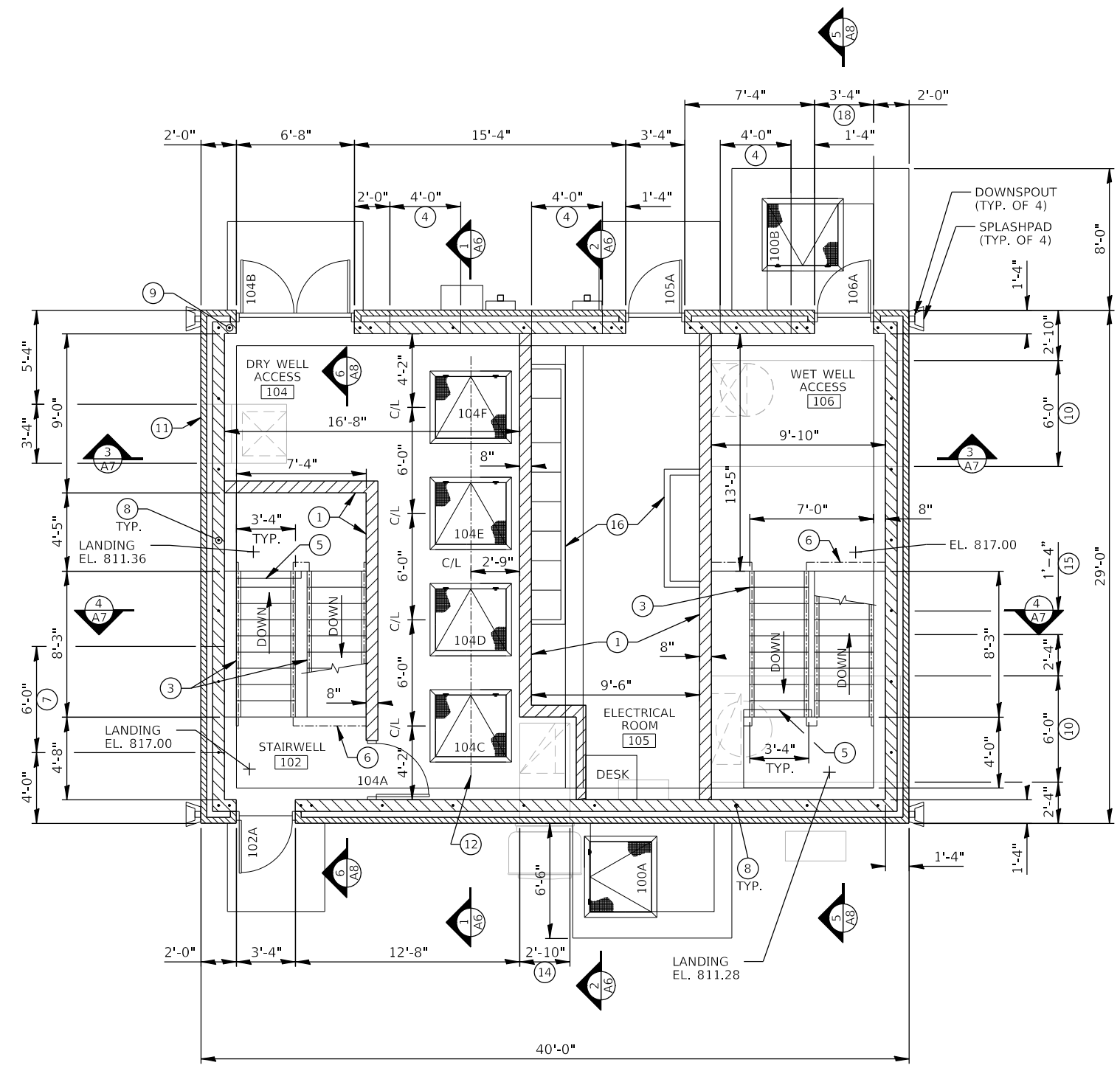
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	539
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

KEYNOTES

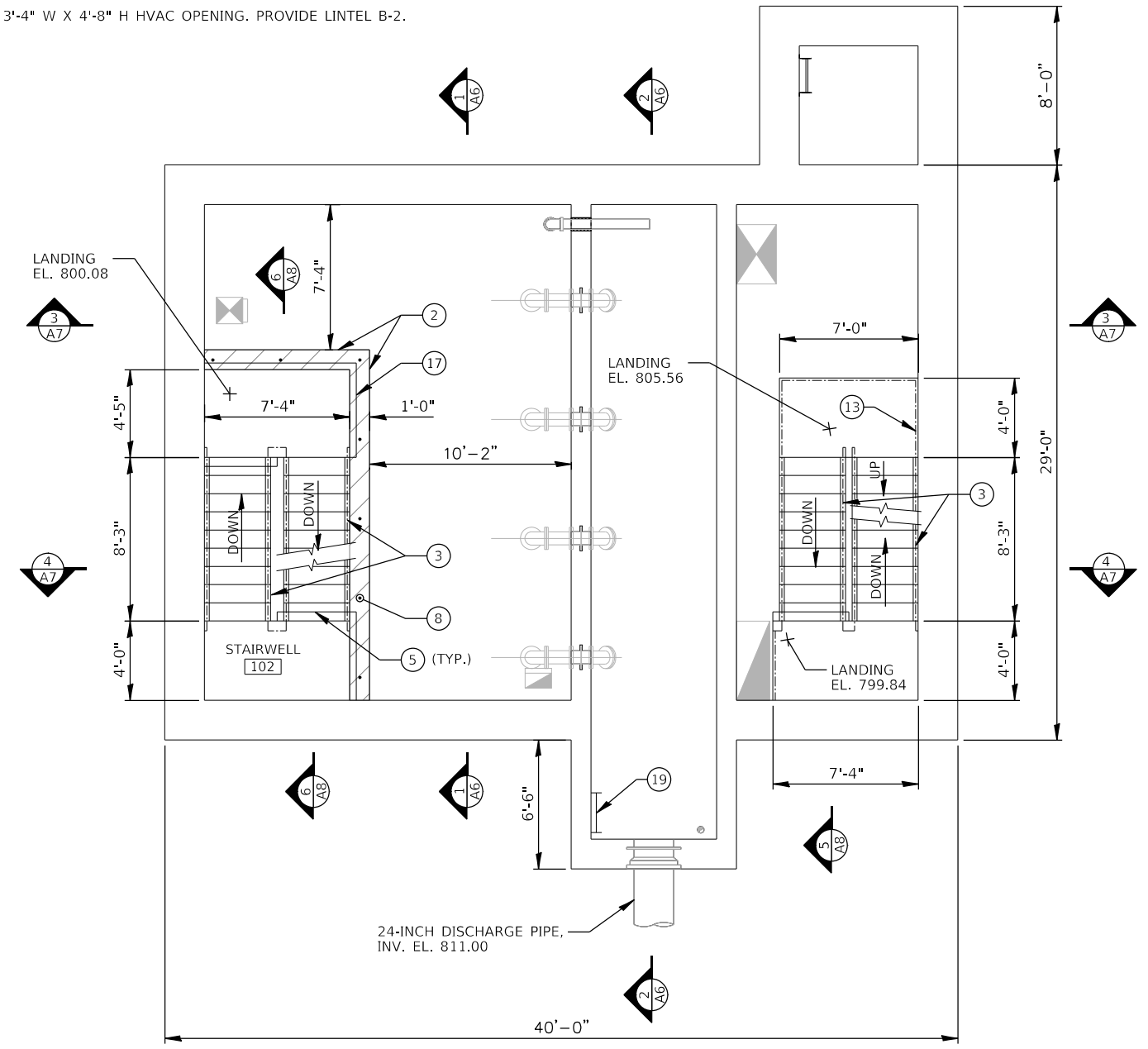
- 1 8" GLAZED CONCRETE BLOCK NON-BRG. WALL.
- 2 12" GLAZED CONCRETE BLOCK NON-BRG. WALL. PROVIDE MASONRY TIES TO CONCRETE WALL AT 16" O.C. AT EACH END.
- 3 FIBERGLASS STAIRS AND HANDRAIL/RAILING PER.
- 4 4'-0"x2'-0" GLASS BLOCK WINDOW ABOVE, TOP ELEVATION 827.67 (SEE ELEVATION VIEW AND DETAIL). PROVIDE LINTEL B-2.
- 5 3'-8" WIDE BY 6" LANDING PROJECTION FOR STAIR TO LAND ON.
- 6 FIBERGLASS RAILING WITH TOE BOARD.
- 7 6'-0"x2'-0" GLASS BLOCK WINDOW ABOVE, TOP ELEVATION 827.67 (SEE ELEVATION VIEW AND DETAIL). PROVIDE LINTEL B-2.
- 8 #4@48" VERTICAL MASONRY REINFORCING.
- 9 2-#4 VERTICAL MASONRY REINFORCING, PLACE ONE AT EACH CORE. TYP. AT EACH SIDE OF ALL DOORS, WINDOWS, AND HVAC OPENINGS.
- 10 6'-0" W X 3'-4" H HVAC OPENING. PROVIDE LINTEL B-2.
- 11 3'-4" W X 4'-8" H HVAC OPENING. PROVIDE LINTEL B-2.

KEYNOTES

- 12 S8x18.4 1.0 TON RATED MONORAIL AND HOIST. SEE SHEET A4 FOR MORE INFORMATION.
- 13 SUPPORT LANDING FROM WALL.
- 14 2'-10"W X 2'-10" H HVAC OPENING. PROVIDE LINTEL B-2.
- 15 1'-4" W X 1'-4" H HVAC OPENING. PROVIDE LINTEL B-1.
- 16 PROVIDE MCC PAD FOR ELECTRICAL EQUIPMENT.
- 17 CONCRETE STAIR LANDING TO BEAR 4" ONTO CONCRETE BLOCK WALL (TYP.).
- 18 3'-4" W X 1'-4" H HVAC OPENING. PROVIDE LINTEL B-2.
- 19 PROVIDE FIBERGLASS LADDER.



GROUND FLOOR PLAN ELEV. 817.00



INTERMEDIATE FLOOR PLAN ELEV. 811.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GROUND & INTERMEDIATE FLOOR PLANS
PUMP STATION 49

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	540
CONTRACT NO. 61J87				

SHEET A2 OF 12 SHEETS

ILLINOIS FED. AID PROJECT

MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-A2-FloorPlan.dgn
8/27/2024 9:30:11 AM

SA
STRAND ASSOCIATES

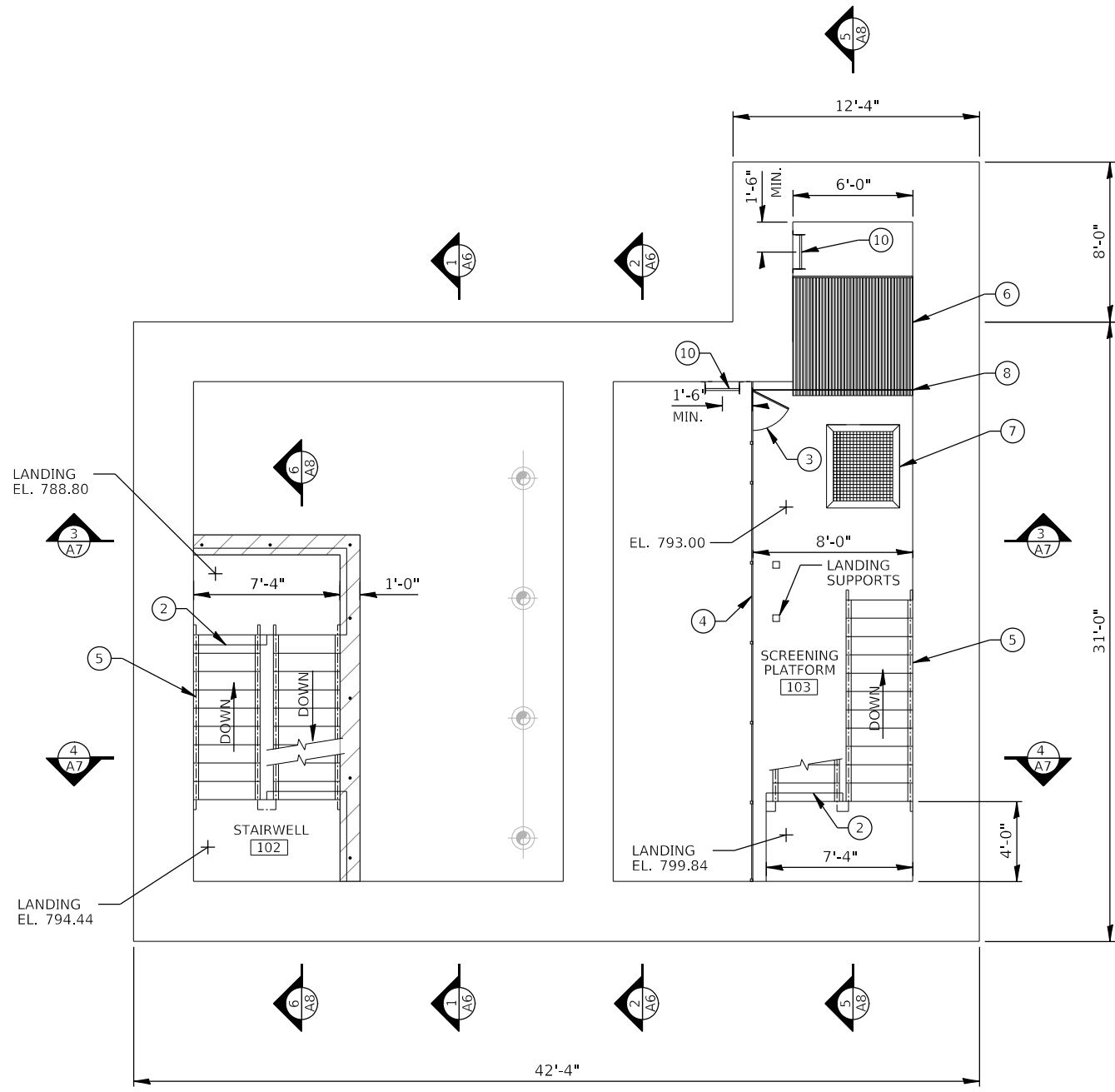
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf
DESIGNED - SGH
DRAWN - BJF
CHECKED - SAI
DATE - 8/28/2024

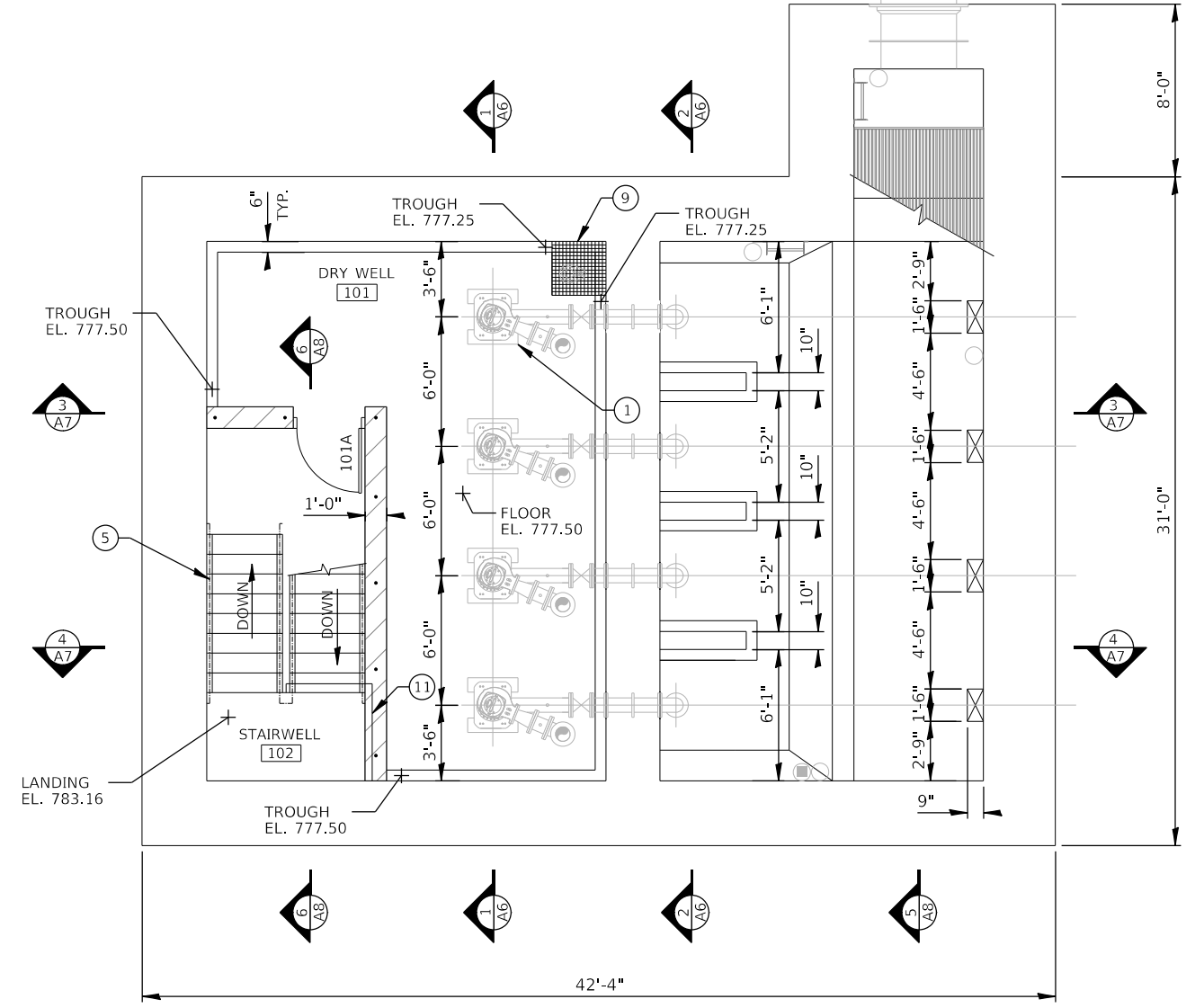
REVISIONS
REVISOR
DATE

KEY NOTES

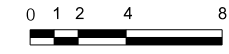
- ① CONCRETE PUMP PAD (A3)
- ② 3'-8" WIDE x 6" LANDING PROJECTION FOR STAIR TO LAND ON.
- ③ FIBERGLASS SWING GATE (A11)
- ④ RAILING TOP MOUNT WITH TOE BOARD (A11)
- ⑤ FIBERGLASS STAIRS (A11) AND RAILING (A11)
- ⑥ STAINLESS STEEL BAR SCREEN (A11)
- ⑦ FIBERGLASS GRATED OPENING (A11)
- ⑧ REMOVABLE FIBERGLASS RAILING. WALL MOUNT ONE SIDE.
- ⑨ FIBERGLASS GRATING (A11) ABOVE SUMP.
- ⑩ FIBERGLASS LADDER (A11). PROVIDE FALL ARREST DEVICE ON LADDER AS SPECIFIED.
- ⑪ CONCRETE STAIR LANDING TO BEAR 4" ONTO CONCRETE BLOCK WALL (TYP.).



INTERMEDIATE FLOOR PLAN ELEV. 793.00



WELL LEVEL FLOOR PLAN 777.50



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERMEDIATE & WELL FLOOR PLANS
PUMP STATION 49

SHEET A3 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	541
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT

MODEL: Default
FILE NAME: S:\MAD\1800--1899-1843\02\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-A3-FloorPlan.dgn
8/27/2024 9:30:12 AM

STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

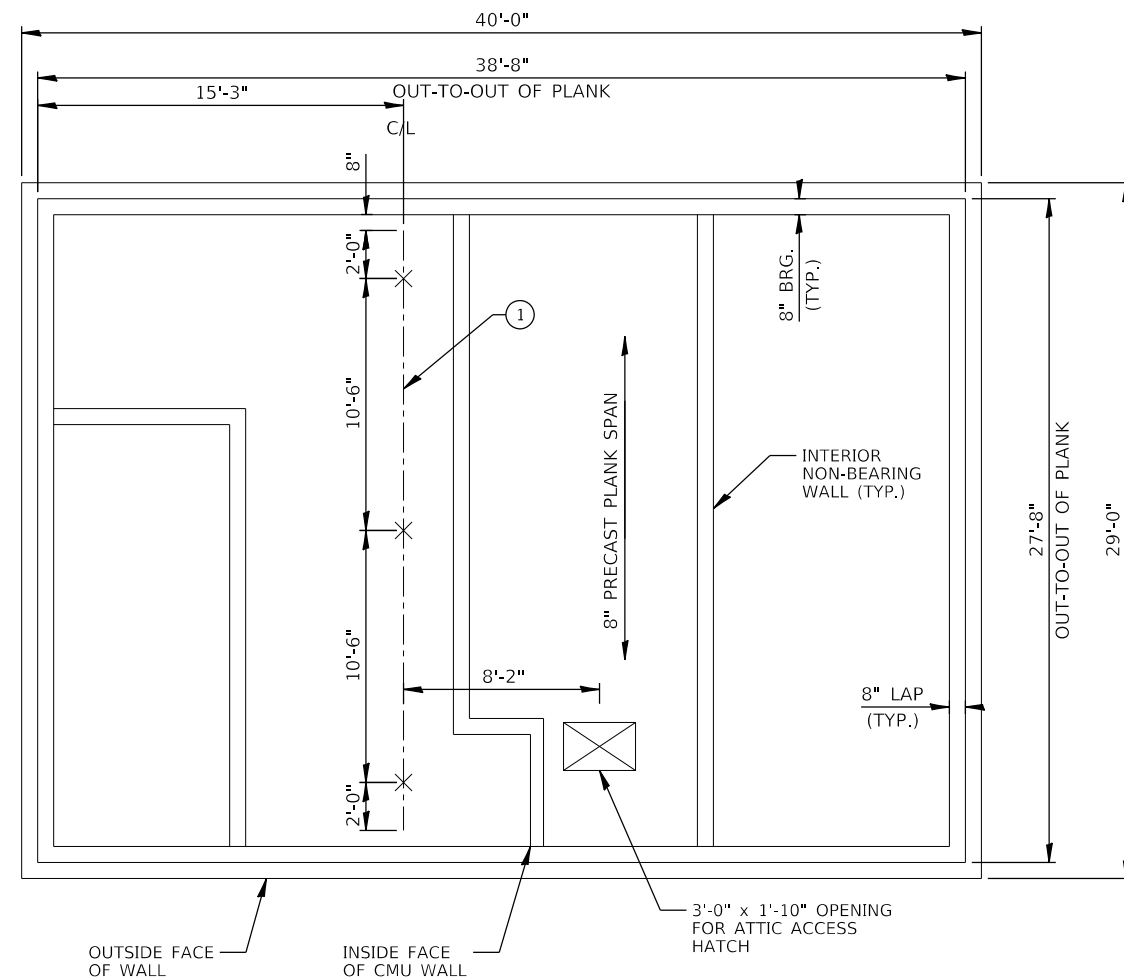
USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 8:0.0000 "/>	DRAWN - BJF	REVISED -
PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
	DATE - 8/28/2024	REVISED -

GENERAL NOTES

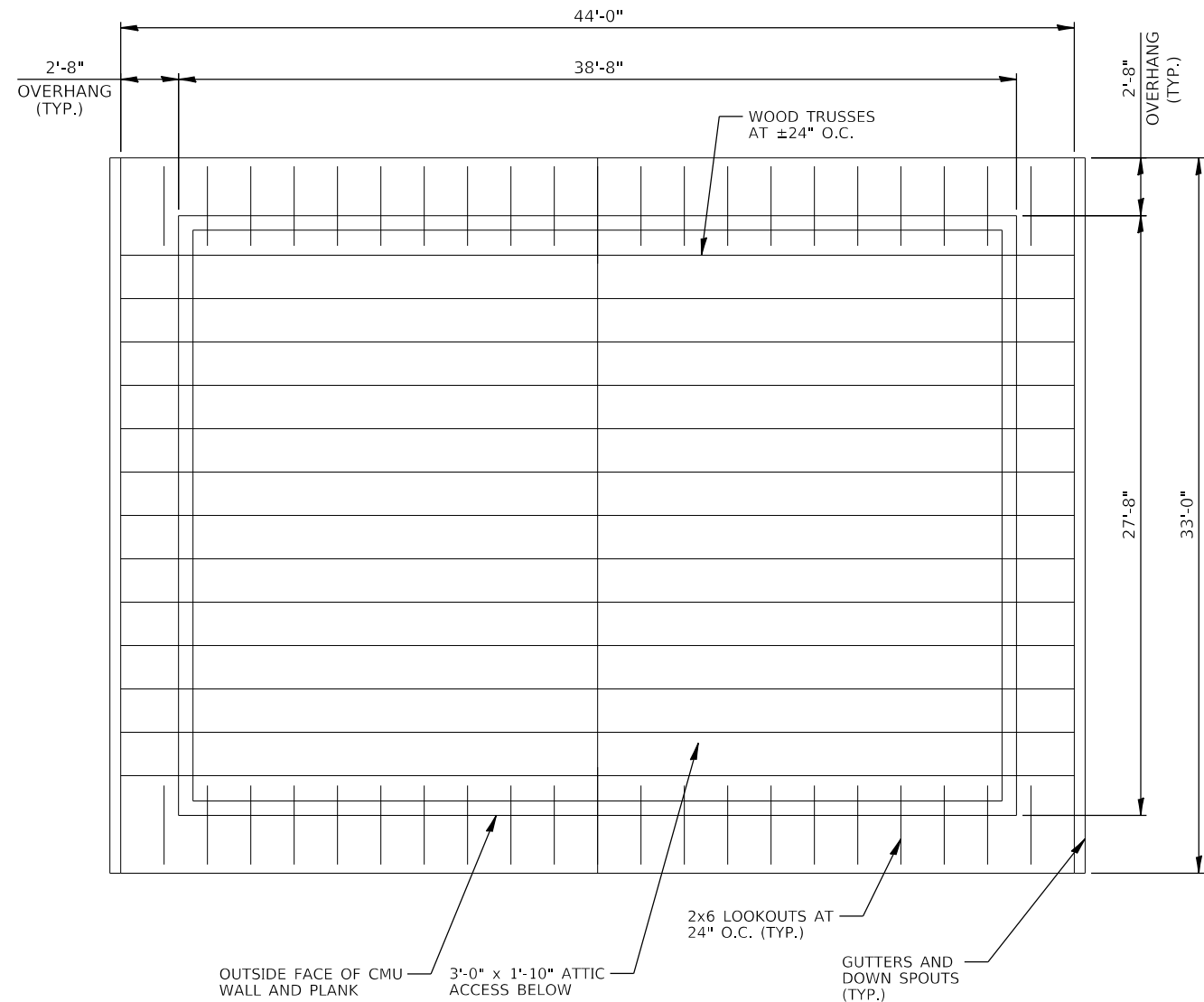
- DESIGN PRECAST PLANK FOR MIN. 20 PSF SUPERIMPOSED LIVE LOAD, 10 PSF SUPERIMPOSED COLLATERAL LOAD, AND CONCENTRATED LOADS AS NOTED.
- DESIGN WOOD TRUSSES FOR 20 PSF LIVE LOAD, 10 PSF TOP CHORD DEAD LOAD, SNOW LOAD AND DRIFT LOAD.
- COORDINATE ALL PENETRATIONS THROUGH PRECAST PLANK WITH TRUSS LAYOUT.

KEY NOTES

- 58x18.4 X 25'-0" LONG 1.0 TON RATED MONORAIL AND HOIST CENTERED ABOVE FLOOR DOORS. PROVIDE A PAIR OF 3"x3"x1/4" STOP ANGLES EACH END. MOUNT AT LOCATIONS SHOWN FOR 2.5 KIP CONCENTRATED LOAD (LIVE LOAD PLUS 15% IMPACT) AT EACH LOCATION (NON-CONCURRENT) 4/10



PRECAST PLANK PLAN ELEV. 829.67



ROOF FRAMING PLAN ELEV. 829.67



MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-A4-Sections.dgn

STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
	DRAWN - BJF	REVISED -
PLOT SCALE = 8:0.0000 "/ in.	CHECKED - SAI	REVISED -
PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

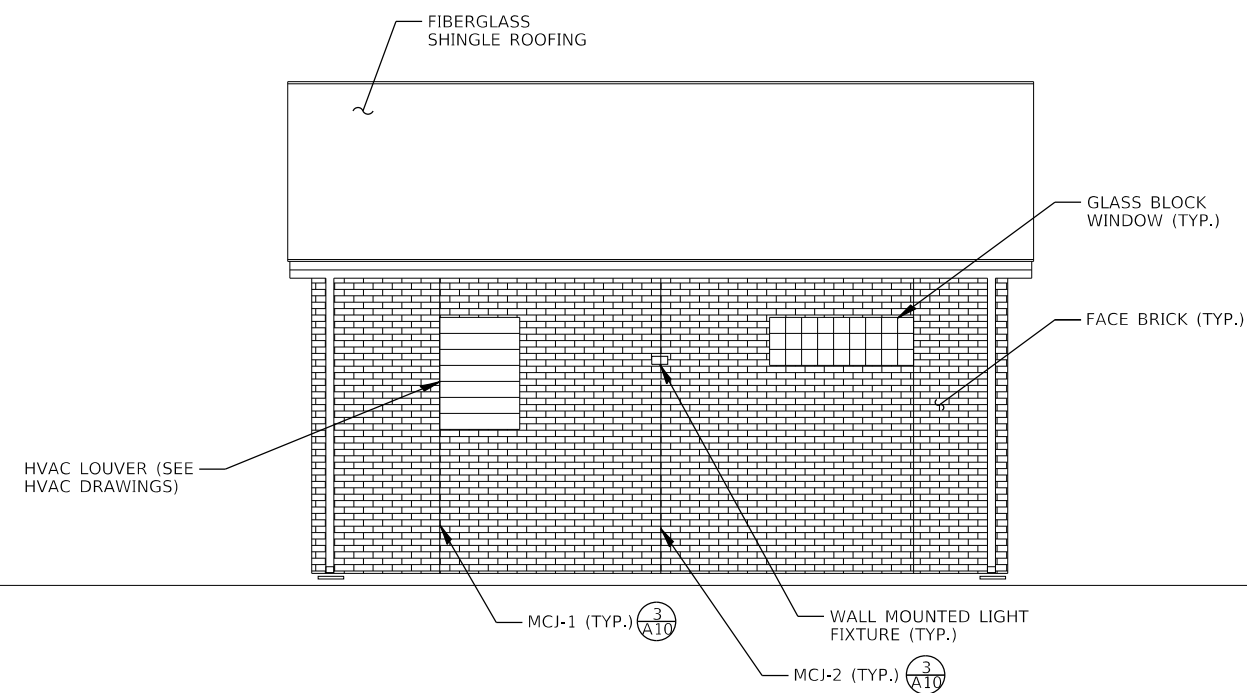
**ROOF, ATTIC, & CLERESTORY PLANS
PUMP STATION 49**

SHEET A4 OF 12 SHEETS

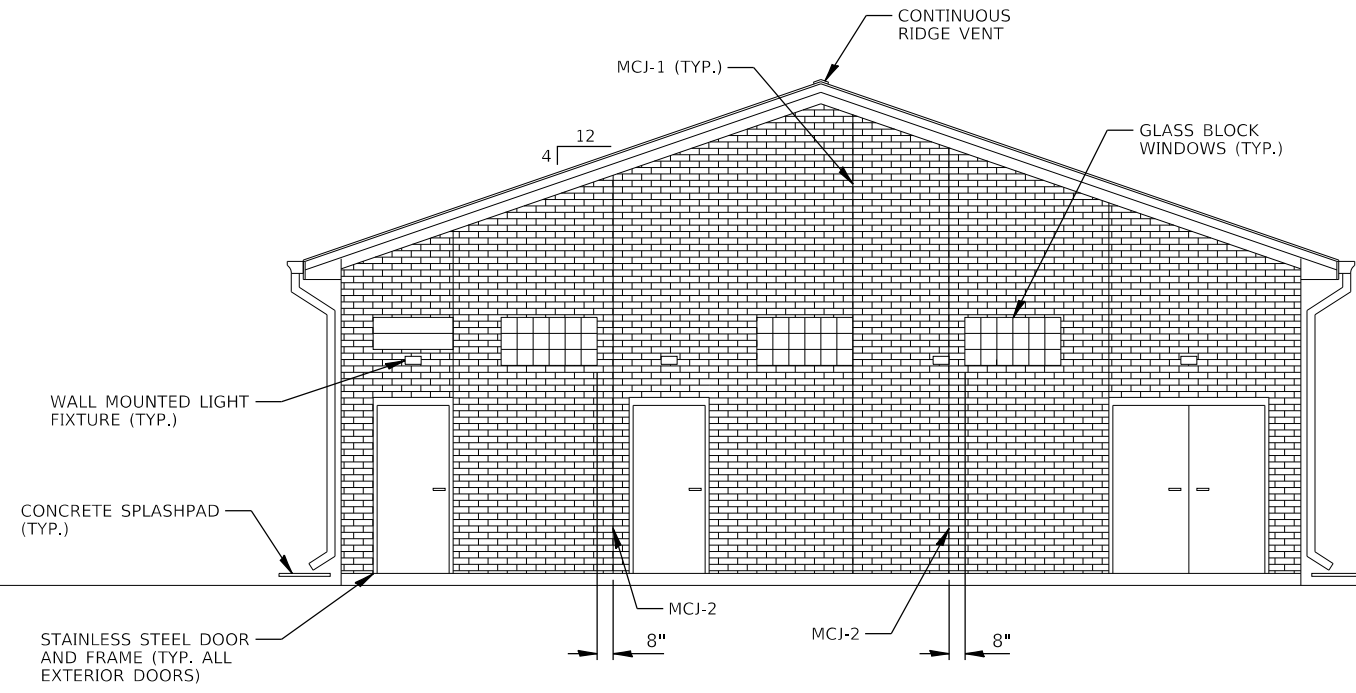
F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 542
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		

GENERAL NOTES

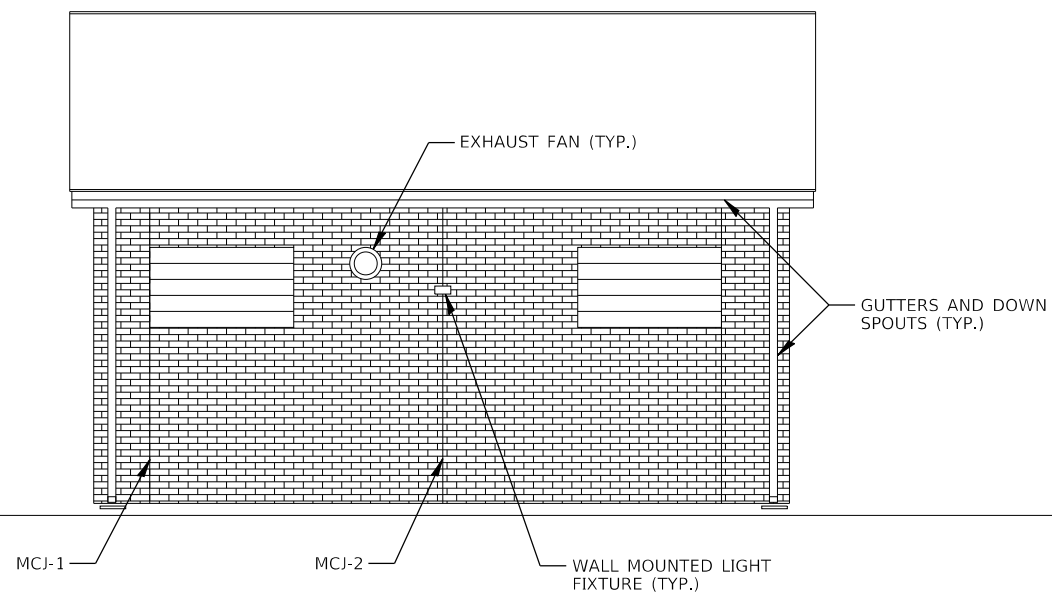
1. ALL WALLS TO RECEIVE ANTI-GRAFFITI COATING AS SPECIFIED.



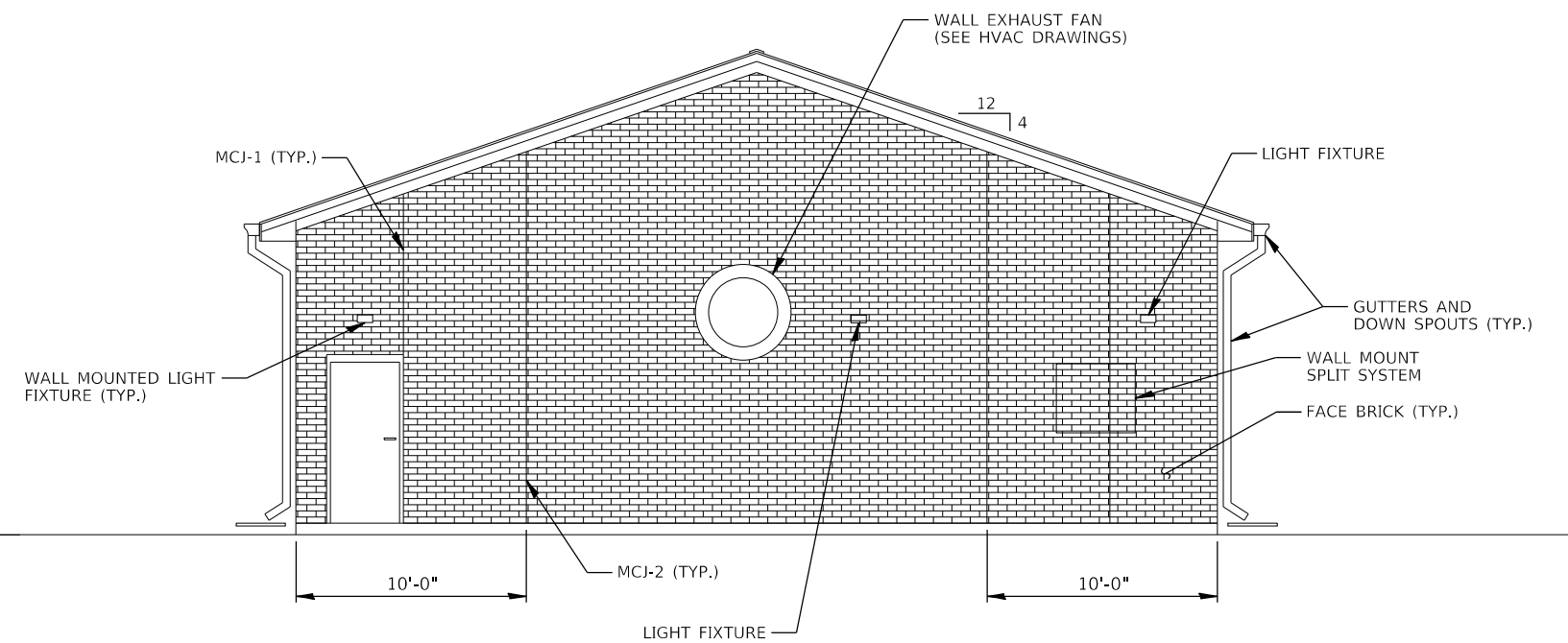
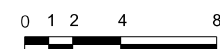
WEST ELEVATION



NORTH ELEVATION



EAST ELEVATION



SOUTH ELEVATION



MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-A5-ExtElev.dgn

STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
DRAWN -	BJF	REVISIONS -			
PLOT SCALE =	8:0.0000 " = 1/8"	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	

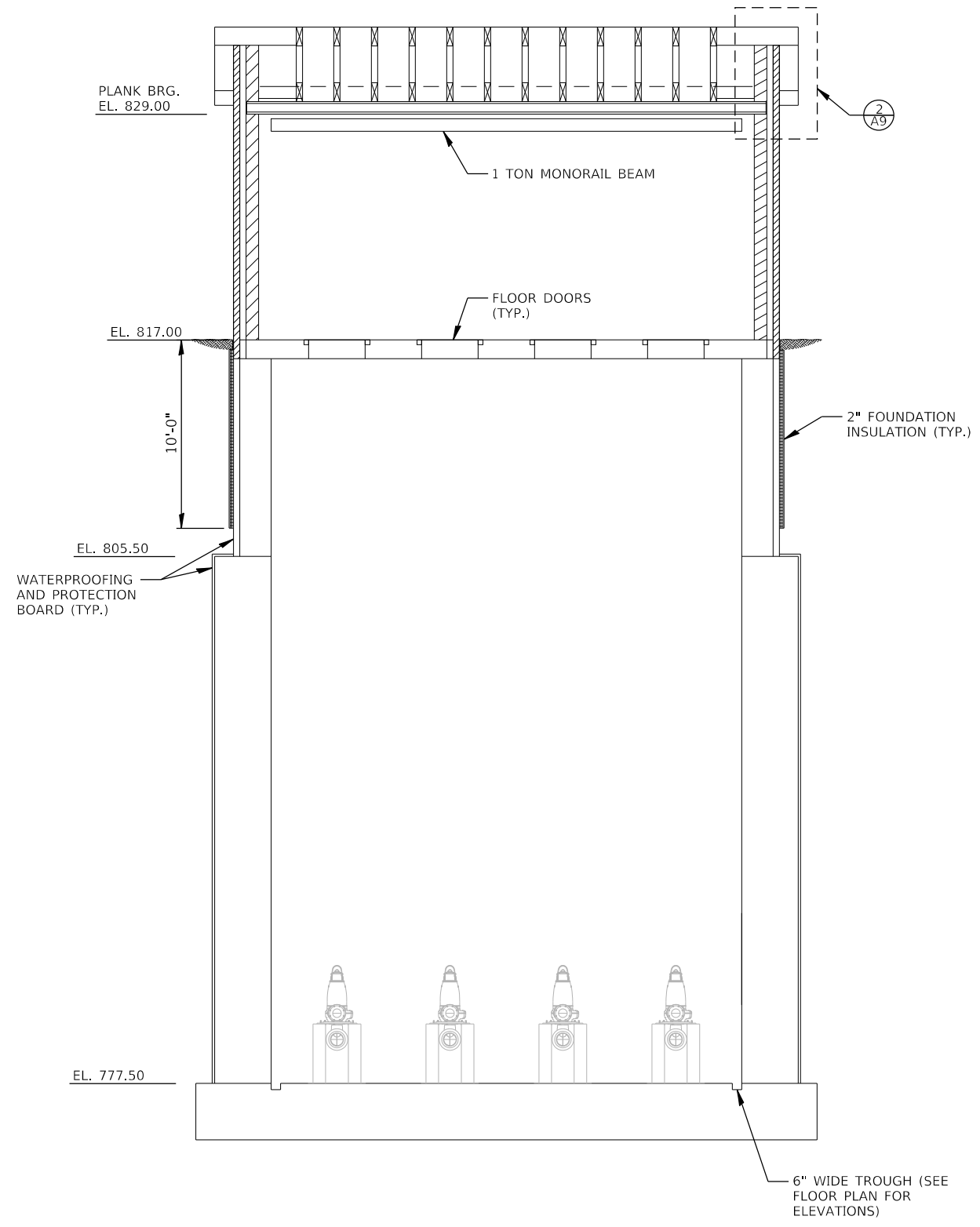
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXTERIOR ELEVATIONS
PUMP STATION 49**

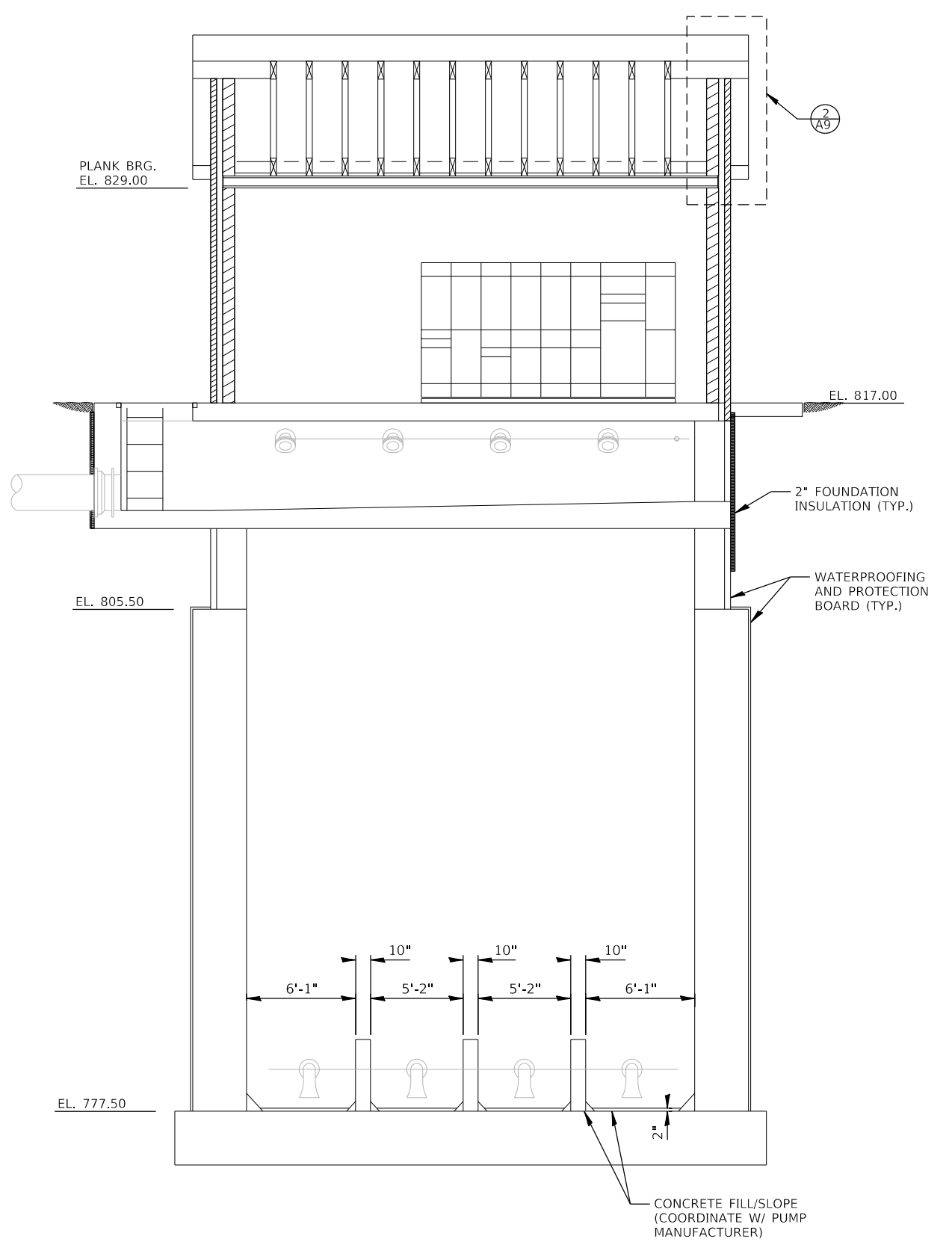
SHEET A5 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	543
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

A5



BUILDING SECTION 1
 0 1 2 4 8
 A6



BUILDING SECTION 2
 0 1 2 4 8
 A6

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BUILDING SECTIONS
 PUMP STATION 49**

SHEET A6 OF 12 SHEETS

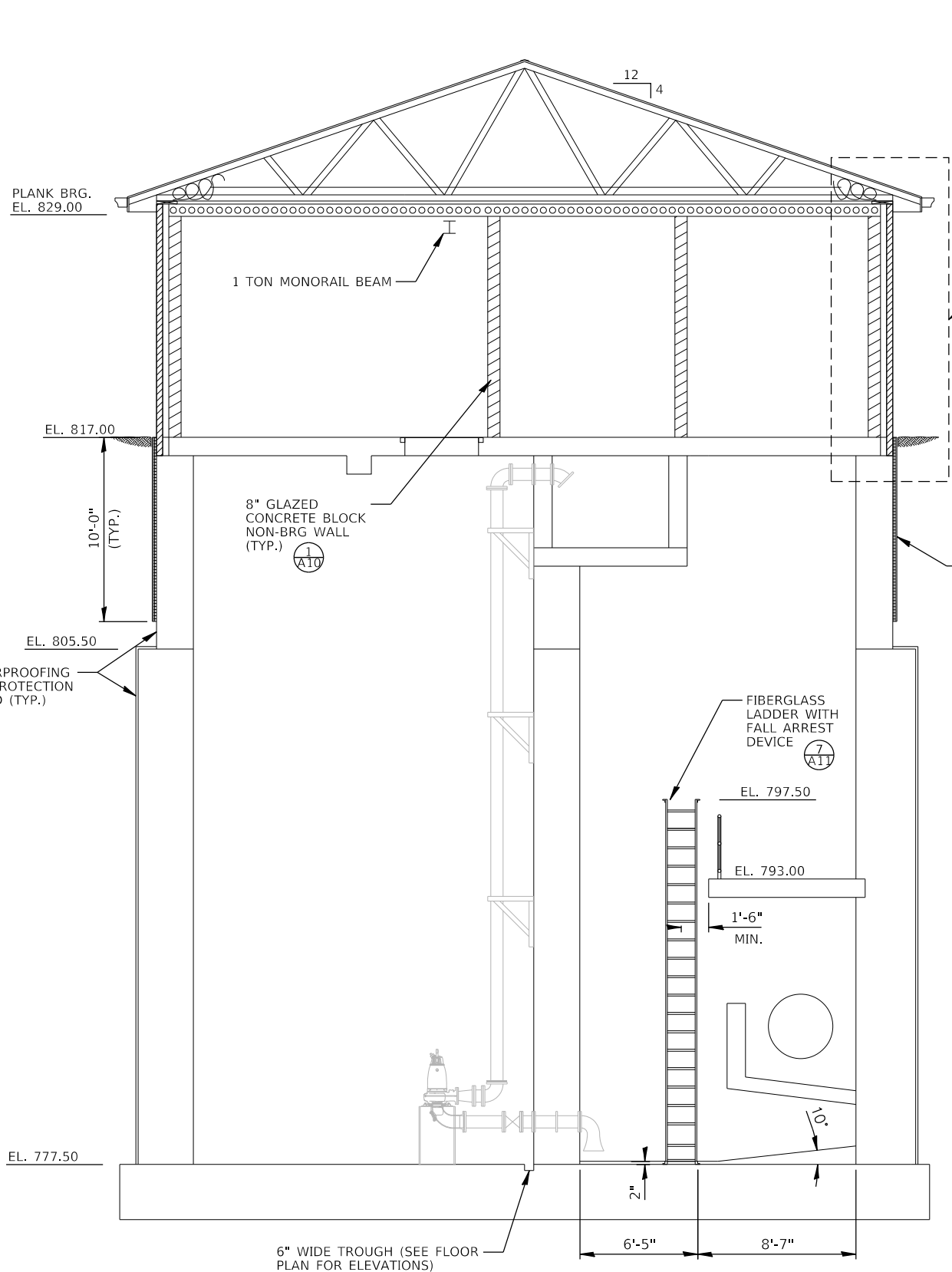
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	544
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-A6-BuildSec.dgn
 8/27/2024 9:38:03 AM

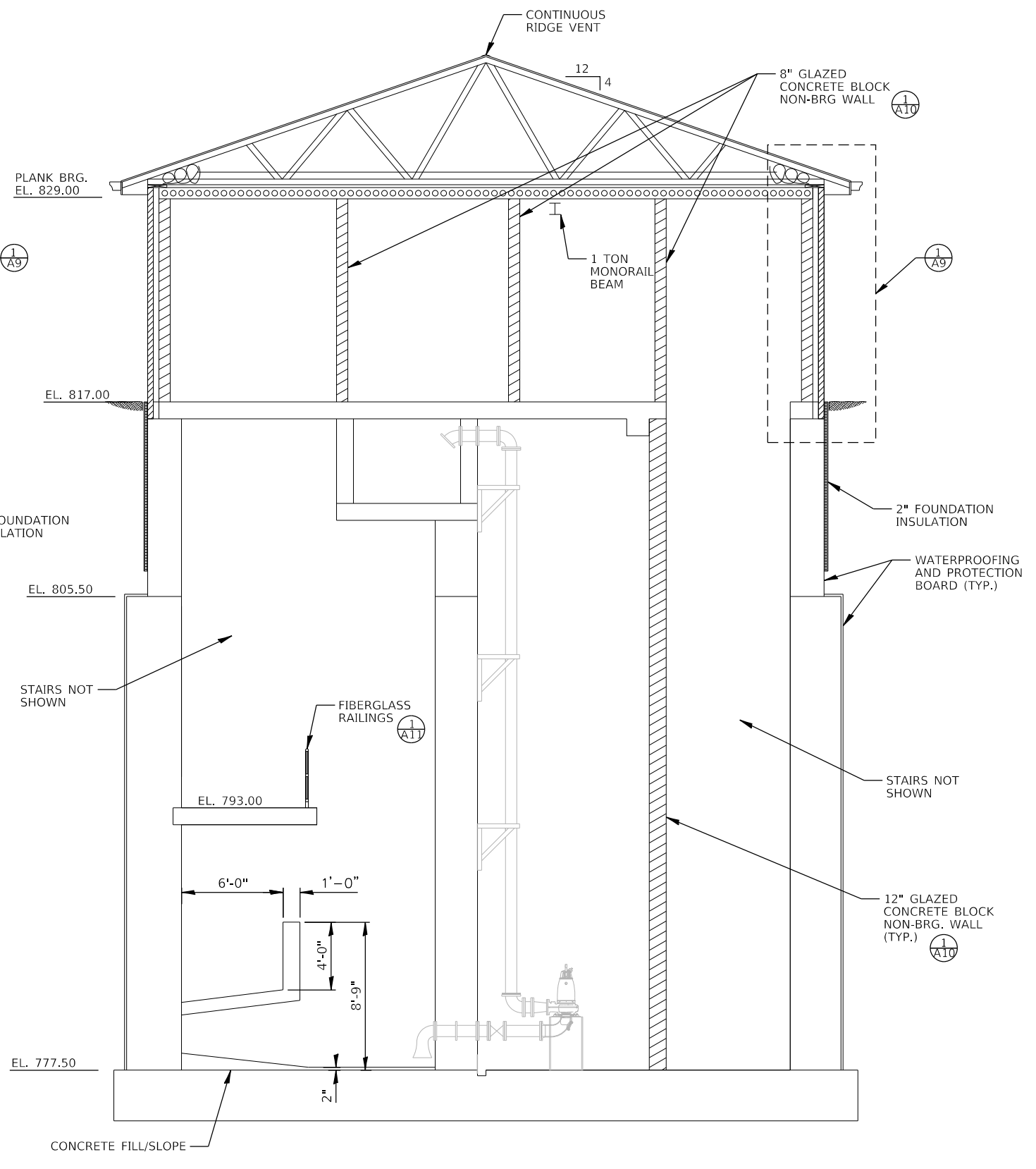
1170 SOUTH HOUBOLT ROAD
 JOLIET, ILLINOIS 60431
 (815) 744-4200
 IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
DRAWN - BJF	CHECKED - SAI	REVISED -
PLOT SCALE = 8:0.0000 " = 1/8"	DATE - 8/28/2024	REVISED -
PLOT DATE = 8/27/2024		

MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-A7-Build\Sec.dgn
 8/27/2024 9:30:14 AM



BUILDING SECTION 3
 0 1 2 4 8
 A7



BUILDING SECTION 4
 0 1 2 4 8
 A7

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BUILDING SECTIONS
 PUMP STATION 49**

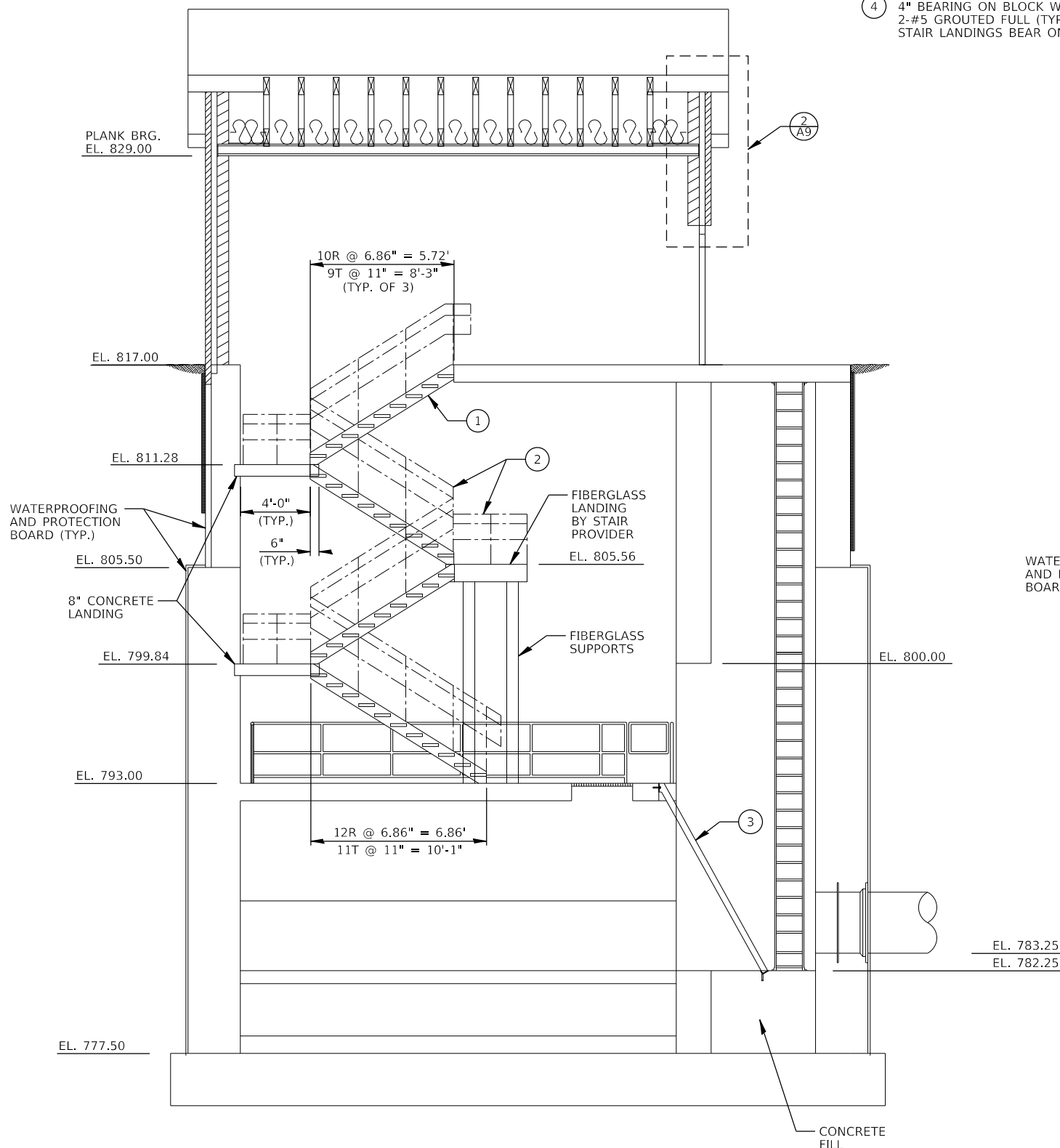
SHEET A7 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	545
CONTRACT NO. 61J87				

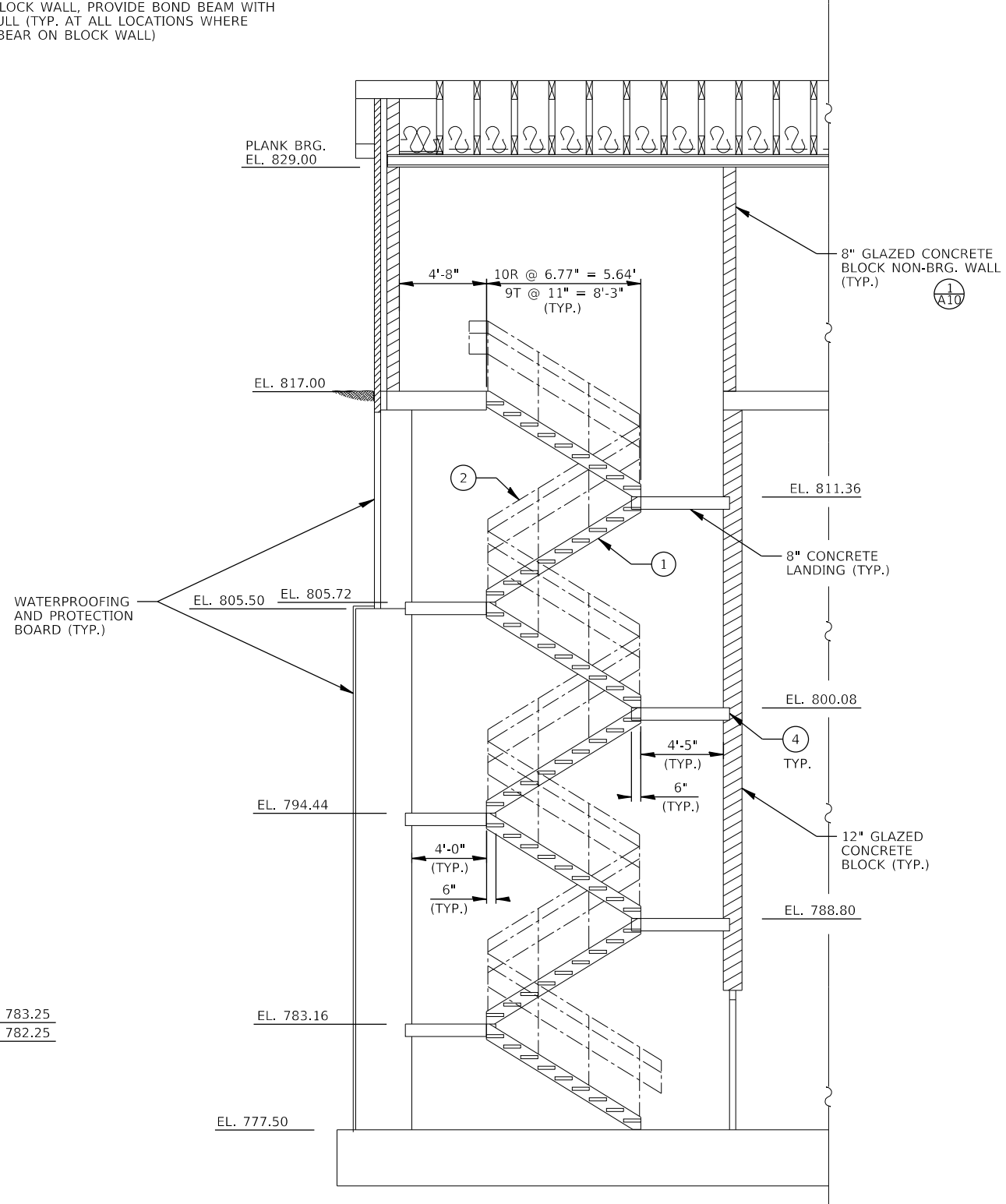
ILLINOIS FED. AID PROJECT

KEY NOTES:

- ① FIBERGLASS STAIRS $\frac{10}{ATT}$
- ② FIBERGLASS RAILING $\frac{1}{ATT}$
- ③ SCREEN RACK $\frac{8}{ATT}$
- ④ 4" BEARING ON BLOCK WALL, PROVIDE BOND BEAM WITH 2-#5 GROUTED FULL (TYP. AT ALL LOCATIONS WHERE STAIR LANDINGS BEAR ON BLOCK WALL)



BUILDING SECTION $\frac{5}{A8}$
 0 1 2 4 8



BUILDING SECTION $\frac{6}{A8}$
 0 1 2 4 8

MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-A8-Build\Sec.dgn
 8/27/2024 9:30:14 AM



USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 8:0.0000 "/>		

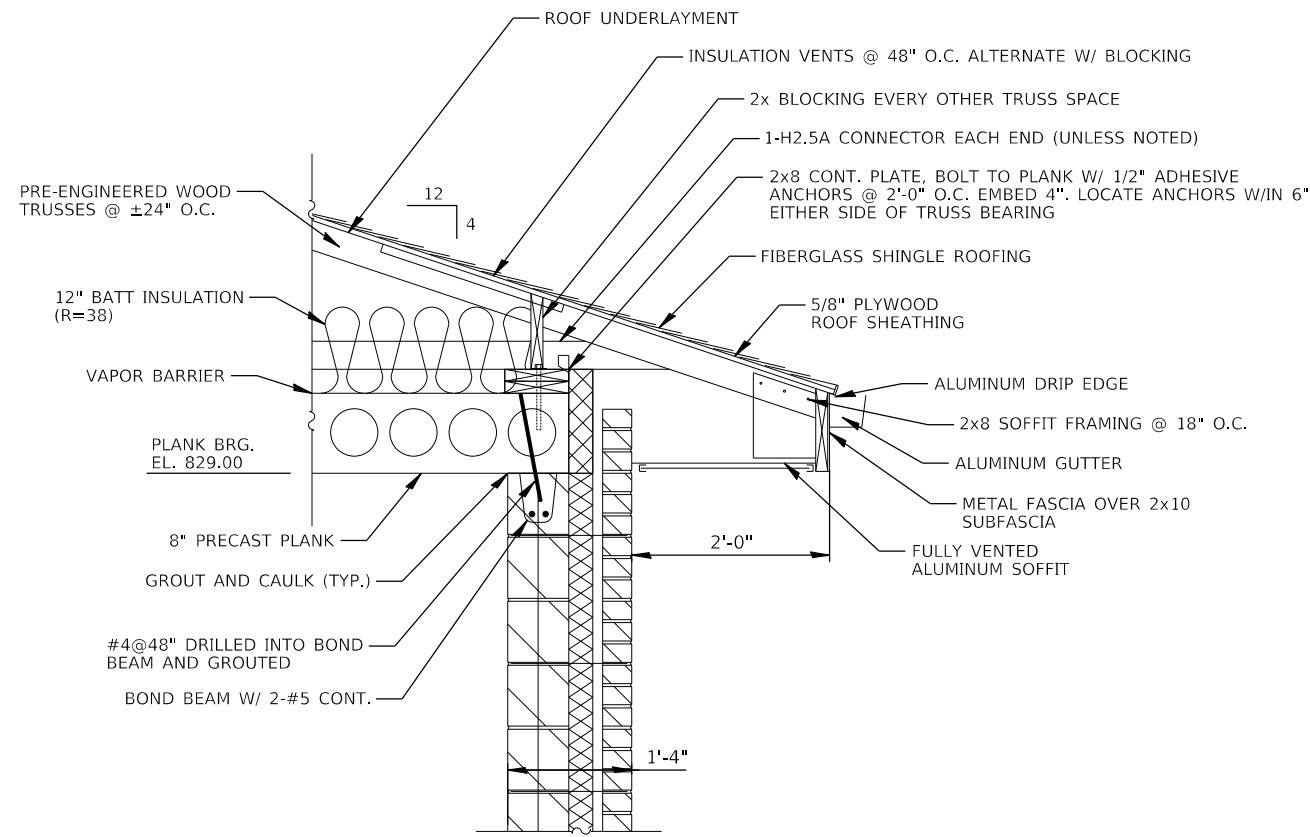
DRAWN - BJF	REVISED -
CHECKED - SAI	REVISED -
DATE - 8/28/2024	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

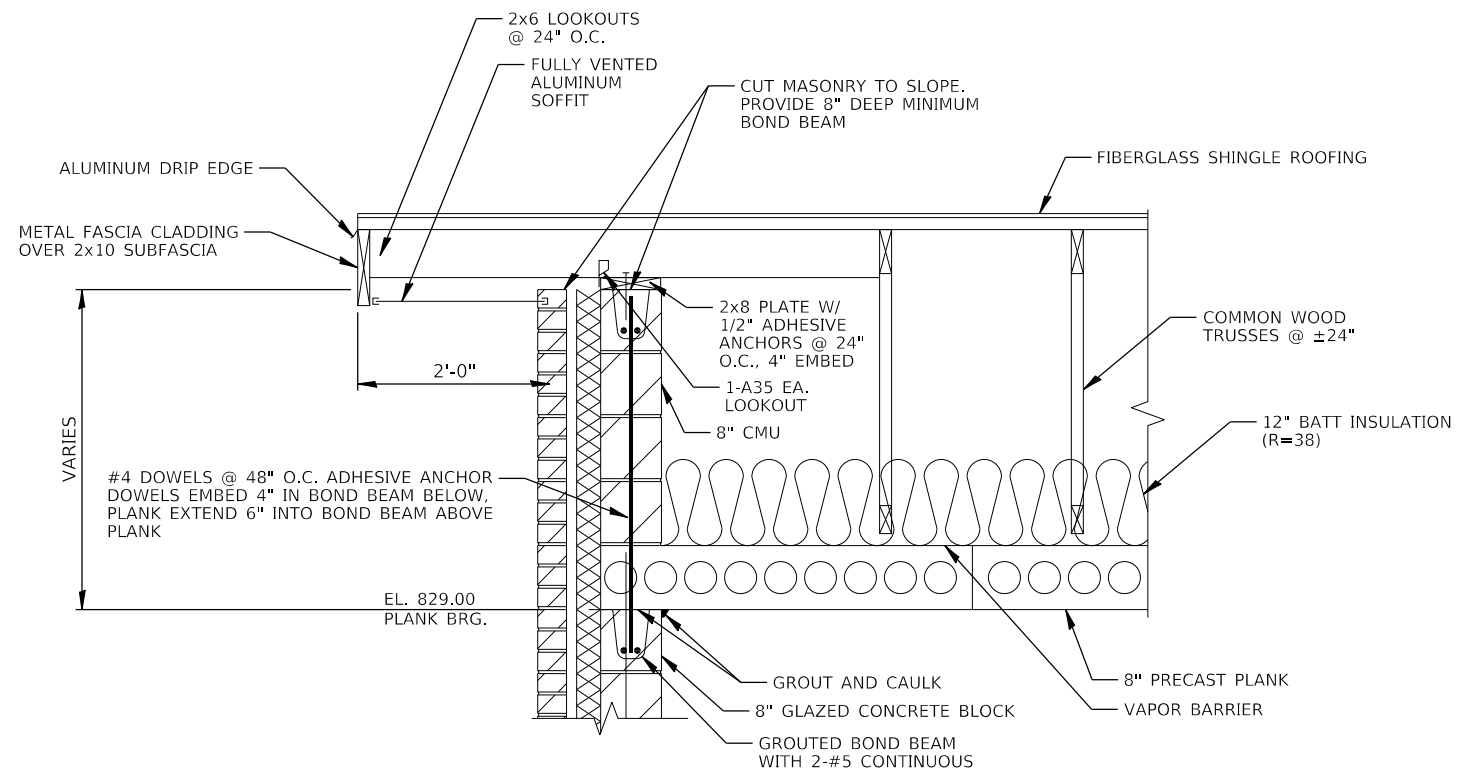
**BUILDING SECTIONS
 PUMP STATION 49**

SHEET A8 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	546
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				



1 WALL SECTION
A9



2 WALL SECTION
A9

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARCHITECTURAL TYPICAL WALL SECTIONS
PUMP STATION 49

SHEET A9 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	547
CONTRACT NO. 61J87				

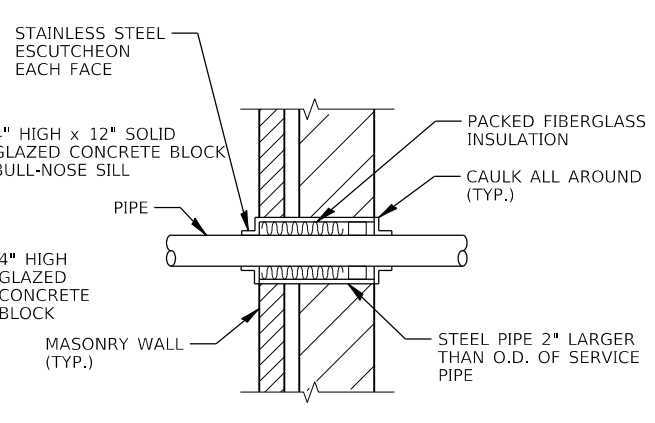
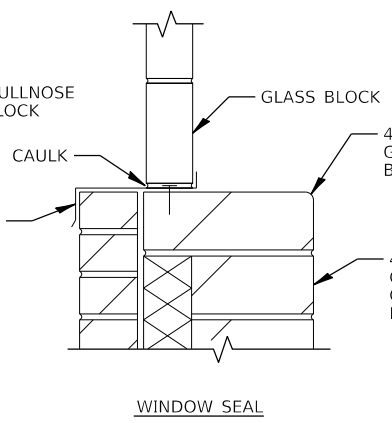
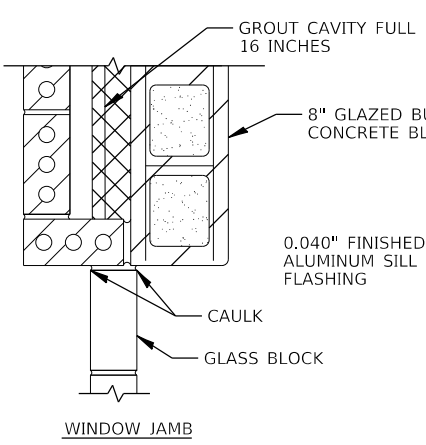
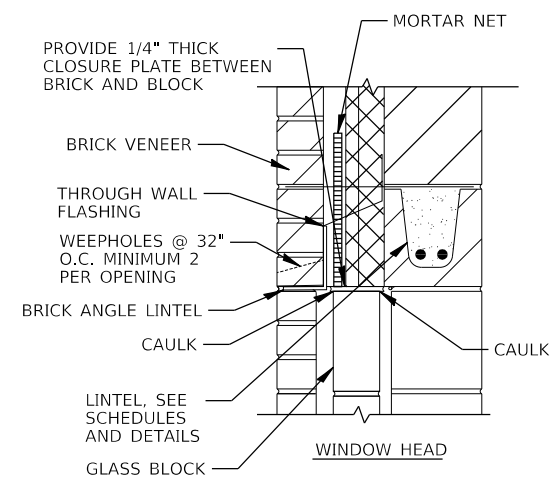
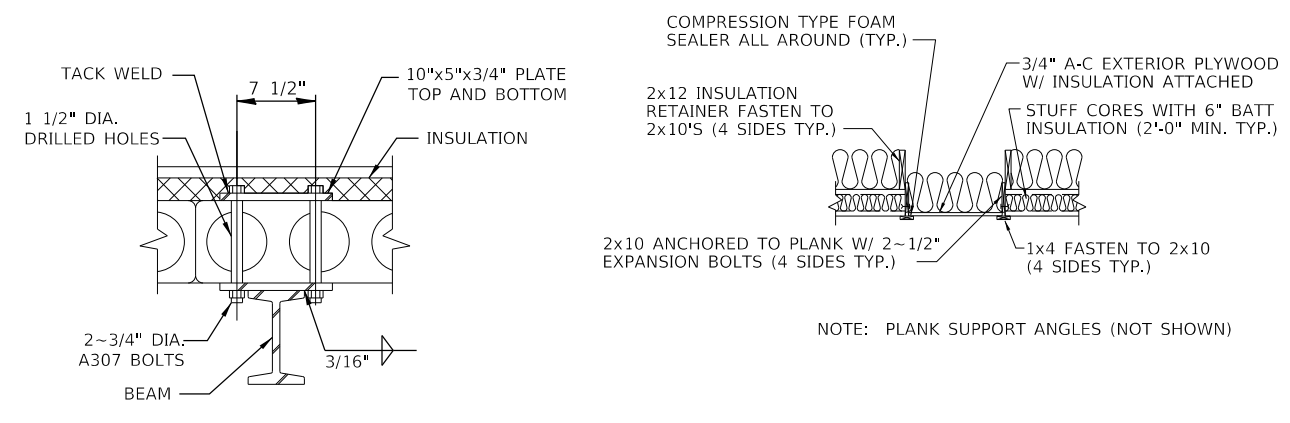
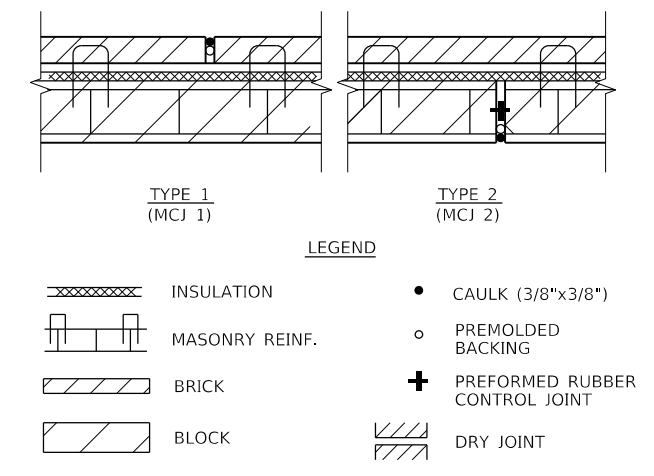
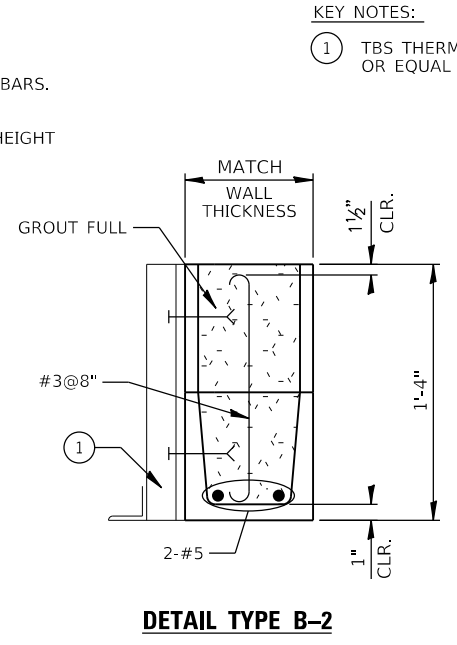
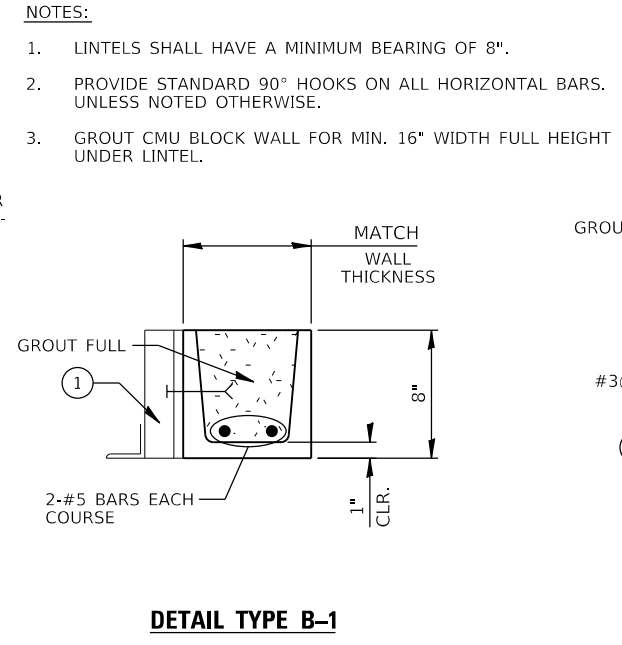
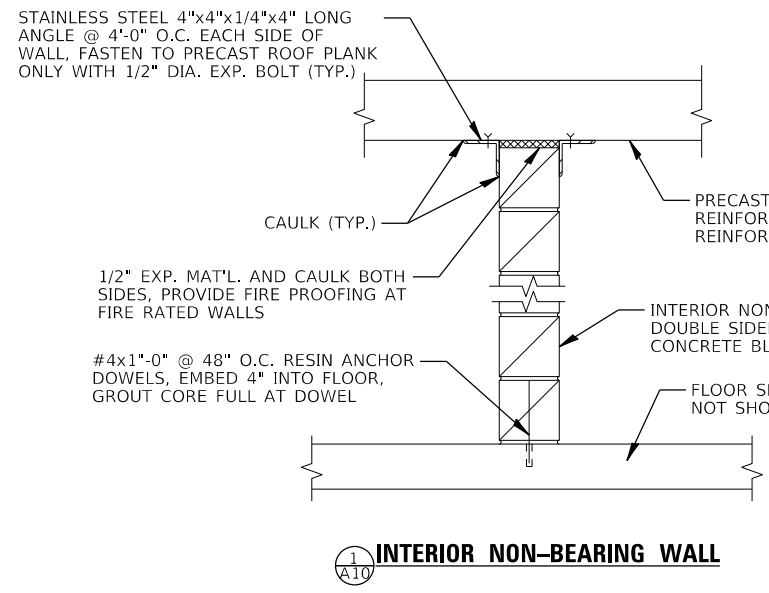
ILLINOIS FED. AID PROJECT

MODEL: Default
FILE NAME: S:\MAD\1899-1899\1843\002\Drawings\CAD\Micros-554\CAD_Sheets\PS49-xxxx-A9-ArchTypWall.dgn
8/27/2024 9:30:15 AM

SA
STRAND ASSOCIATES

1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
		DRAWN -	BJF	REVISED -	
PLOT SCALE =	8:0.0000 "/ in.	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	



MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-A10-ArchDet.dgn
 8/27/2024 9:30:15 AM



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - SGH	REVISED -
	PLOT SCALE = 8:0.0000 "/> <td>DRAWN - BJF</td> <td>REVISED -</td>	DRAWN - BJF	REVISED -
	PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
		DATE - 8/28/2024	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**ARCHITECTURAL DETAILS
 PUMP STATION 49**

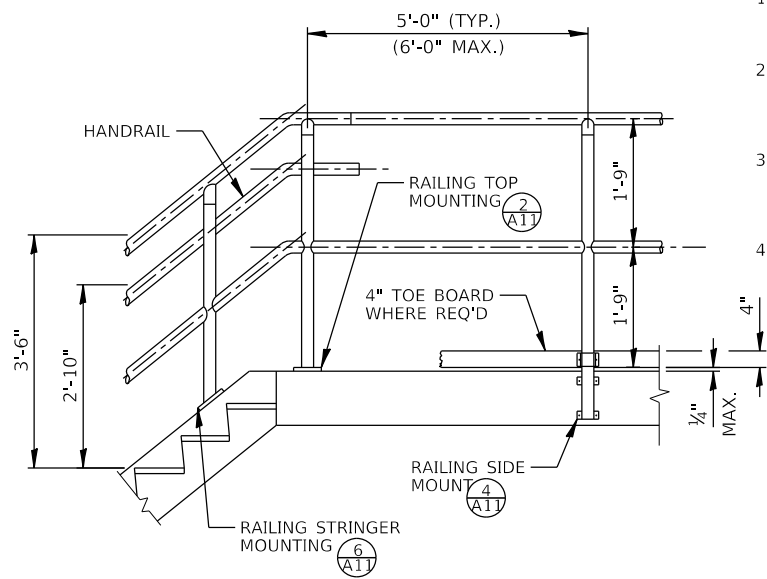
SHEET A10 OF 12 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 548
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

A10

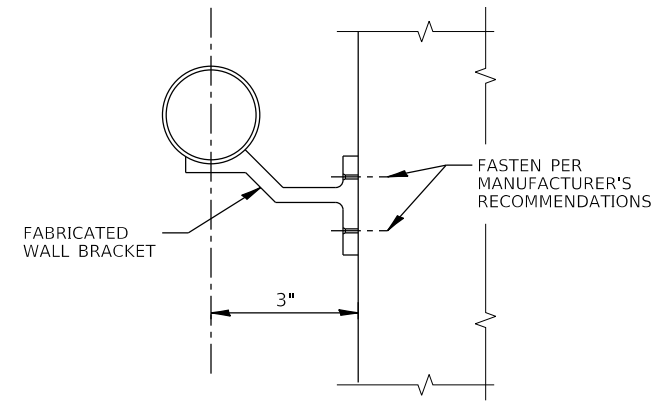
NOTES:

1. ALL RAILS & POSTS SHALL BE FIBERGLASS. ALL ACCESSORIES SHALL BE FIBERGLASS OR STAINLESS STEEL.
2. ALL RAIL SYSTEMS SHALL MEET OSHA PERFORMANCE STANDARDS FOR PUBLIC AND INDUSTRIAL APPLICATIONS AND 2018 INTERNATIONAL BUILDING CODE.
3. EXTEND HANDRAILS HORIZONTALLY A MIN. 1'-0" BEYOND TOP RISER. HANDRAILS SHALL CONTINUE TO SLOPE FOR THE DEPTH OF ONE TREAD BEYOND THE BOTTOM RISER.
4. MOUNT RAILING TO WALLS OR GUARDRAIL POST PER **3** ATT

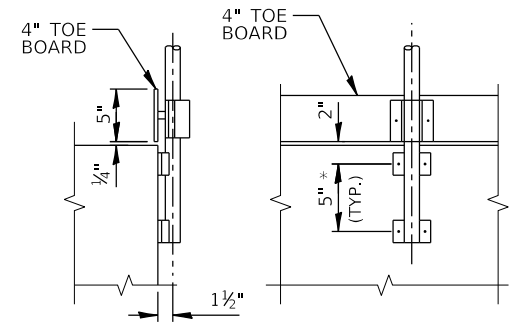


1 RAILING
ATT

2 RAILING TOP MOUNTING
ATT

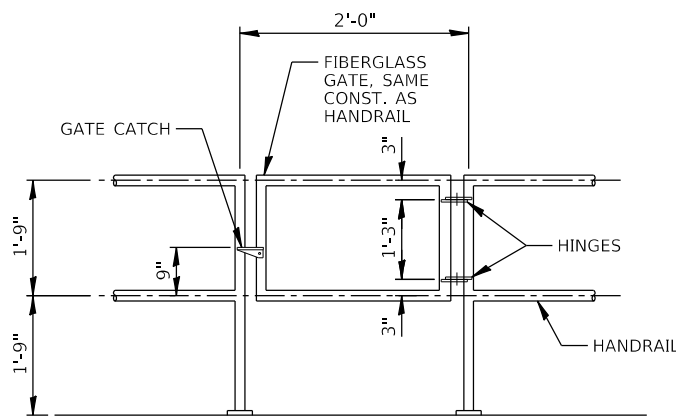


3 HANDRAIL WALL MOUNTING
ATT

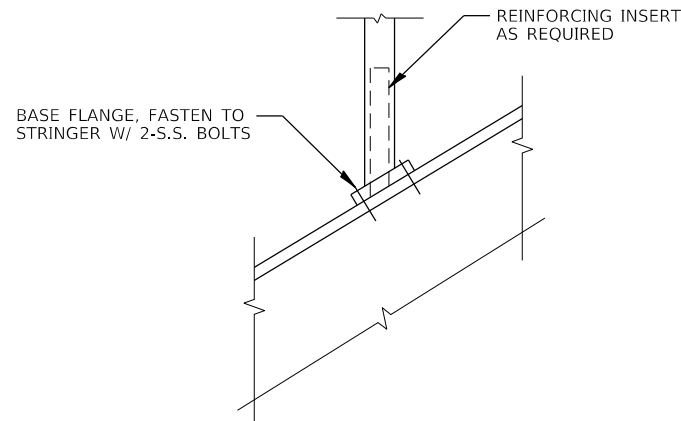


4 RAILING SIDE MOUNTING
ATT

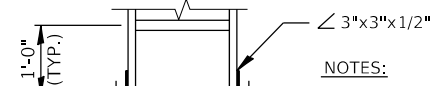
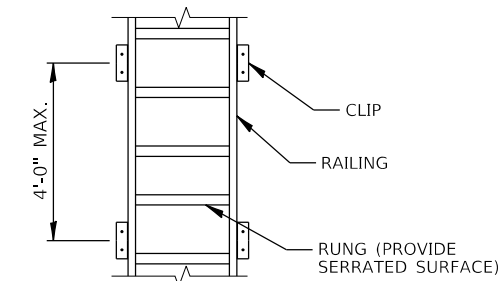
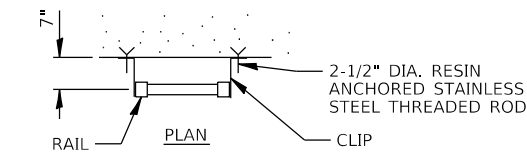
* 5" DIMENSION MAY BE REDUCED IF BEARING FACE IS LESS THAN 9" DEEP.



5 SWING GATE
ATT



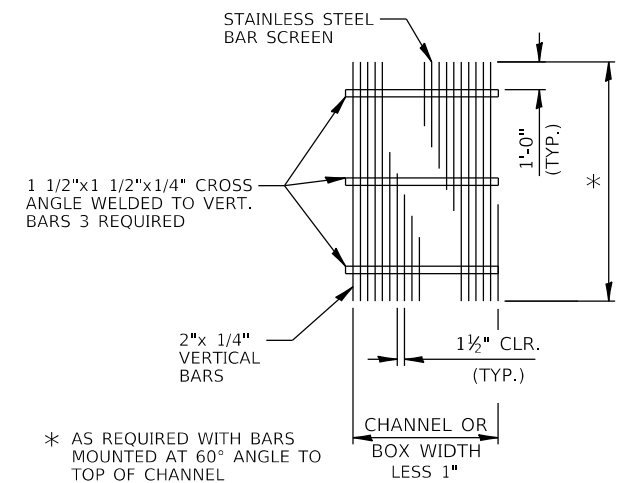
6 RAILING STRINGER MOUNTING
ATT



NOTES:

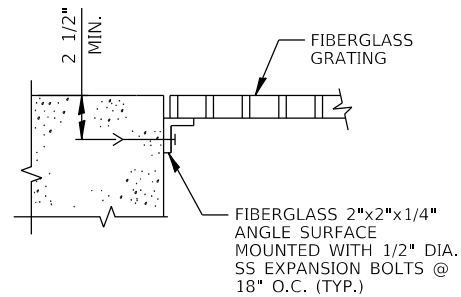
1. LADDERS SHALL BE FABRICATED OF FIBERGLASS MEMBERS.
2. ANCHOR LADDERS TO WALLS AND FLOOR PER MFR. REQUIREMENTS SUBJECT TO ENGINEER REVIEW.

7 LADDER
ATT

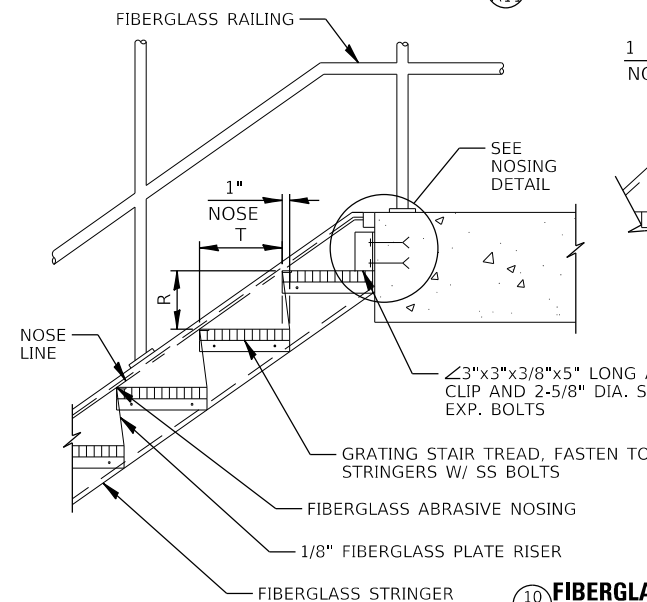
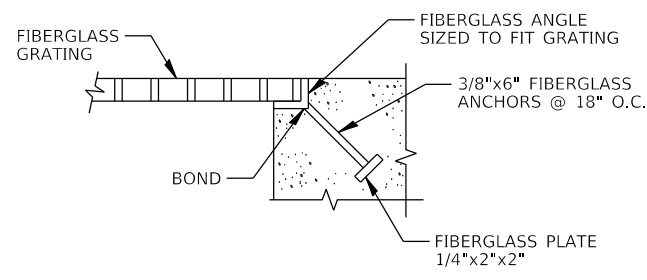


* AS REQUIRED WITH BARS MOUNTED AT 60° ANGLE TO TOP OF CHANNEL

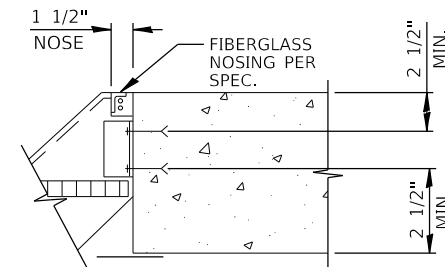
8 BAR SCREEN
ATT



9 FIBERGLASS GRATING
ATT



10 FIBERGLASS STAIR
ATT



NOTES:

1. T=TREAD, R=RISE. SEE PLAN OR SECTION VIEWS(S) FOR DIMENSIONS AND NUMBER OF TREADS AND RISES.
2. PROVIDE CLIP ANGLES AND EXPANSION BOLTS AT BOTTOM OF STAIR SIMILAR TO TOP OF STAIR.
3. STAIR WIDTH = 3'-4" OUT-TO-OUT OF STRINGERS, UNLESS NOTED OTHERWISE.
4. FIBERGLASS STAIR AND LANDINGS TO BE DESIGNED AND DETAILED BY MANUFACTURER/SUPPLIER.

MODEL: Default
FILE NAME: S:\MAD\1800-1899-1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-A11-ArchDet.dgn
8/27/2024 9:30:16 AM



USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 8:0.0000 "/>		

DRAWN - BJF	REVISED -
CHECKED - SAI	REVISED -
DATE - 8/28/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARCHITECTURAL DETAILS
PUMP STATION 49

SHEET A11 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	549
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

A11

DOOR SCHEDULE																	
DOOR NUMBER	SIZE	MATERIAL	DOOR				FRAME		LABEL	HARDWARE GROUP		LINTEL	DETAILS			NOTES	
			TYPE		SWING		TYPE	MATERIAL		ACTIVE	INACTIVE		TYPE	HEAD	JAMB		SILL
			ACTIVE	INACTIVE	ACTIVE	INACTIVE											
100A	3'-0"x4'-0"	AL	FD	--	SL	--	J	AL	--	--	--	--	--	--	1,2		
100B	3'-0"x4'-0"	AL	FD	--	SL	--	J	AL	--	--	--	--	--	--	1,2		
101A	3'-0"x7'-0"	SST	F	--	LH	--	1	SST	C	1	--	B-1	5/A12	5/A12	3		
102A	3'-0"x7'-0"	SST	F	--	LHR	--	1	SST	--	2	--	B-1	1/A12	1/A12	3		
104A	3'-0"x7'-0"	SST	F	--	LHR	--	1	SST	C	1	--	B-1	5/A12	5/A12	3		
104B	(2)3'-2"x7'-0"	SST	F	F	RHR	LHR	1	SST	--	2	3	B-2	1/A12	1/A12	3		
104C	3'-0"x4'-0"	AL	FD	--	SL	--	J	AL	--	--	--	--	--	--	1,2		
104D	3'-0"x4'-0"	AL	FD	--	SL	--	J	AL	--	--	--	--	--	--	1,2		
104E	3'-0"x4'-0"	AL	FD	--	SL	--	J	AL	--	--	--	--	--	--	1,2		
104F	3'-0"x4'-0"	AL	FD	--	SL	--	J	AL	--	--	--	--	--	--	1,2		
105A	3'-0"x7'-0"	SST	F	--	LHR	--	1	SST	--	2	--	B-1	1/A12	1/A12	3		
106A	3'-0"x7'-0"	SST	F	--	LHR	--	1	SST	--	2	--	B-1	1/A12	1/A12	3		

LEGEND:

MATERIAL	TYPE	SWING
AL = ALUMINUM	F = FLUSH (NO GLASS)	LH = LEFT HAND
SST = STAINLESS STEEL	FD = FLOOR DOOR	RH = RIGHT HAND
		LHR = LEFT HAND REVERSE
		RHR = RIGHT HAND REVERSE
		SL = SINGLE LEAF

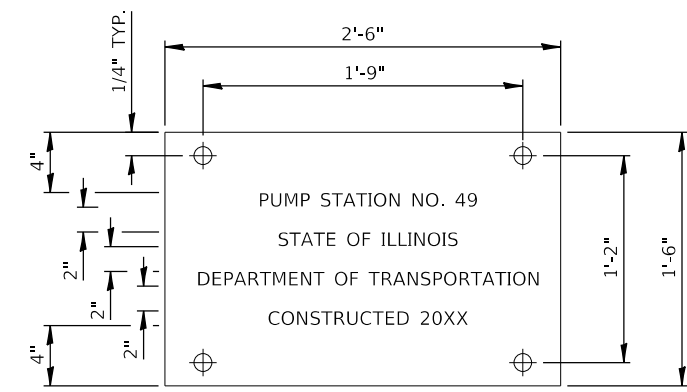
NOTES:
1. SIZE DIMENSIONS FOR FLOOR DOORS ARE FOR THE CLEAR OPENING.
2. FLOOR DOORS SHALL HAVE SAFETY GRATING. SEE SPECIFICATIONS FOR ADDITIONAL DETAILS.
3. FOR LINTEL DETAILS SEE DETAIL 2/A10

ROOM FINISH SCHEDULE										
ROOM NO.	ROOM NAME	FLOOR	BASE	N. WALL	E. WALL	S. WALL	W. WALL	CEILING		NOTES
								TYPE	HGT.	
101	DRY WELL	F2		W3	W3	W3	W3	C3		
102	STAIRWELL	F2		W1	W1	W3	W3	C3	VARIES	
103	SCREENING PLATFORM	F2		W2	W2	W2	W2	C2		
104	DRY WELL ACCESS	F1		W1	W1	W1	W1	C1	12'-0"	
105	ELECTRICAL ROOM	F1		W1	W1	W1	W1	C1	12'-0"	
106	WET WELL ACCESS	F1		W1	W3	W1	W1	C1	12'-0"	

LEGEND:

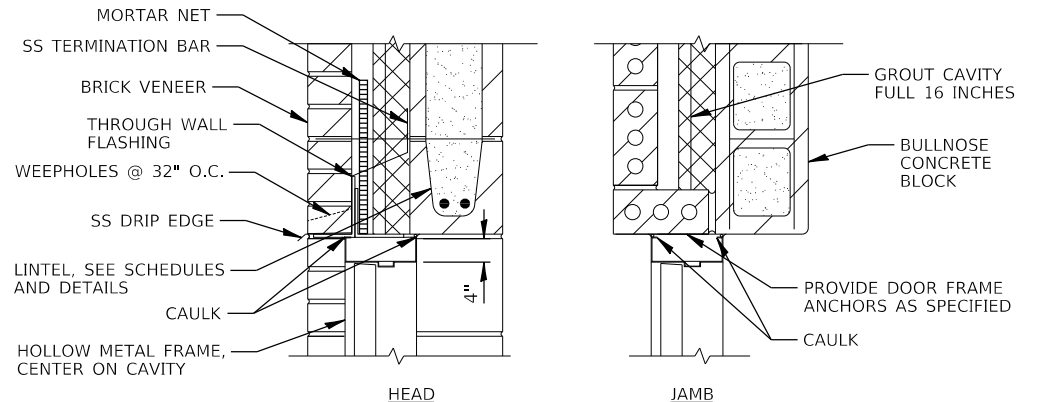
FLOOR		BASE		WALL		CEILING	
CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
F1	EPOXY SEALED CONCRETE			W1	GLAZED CONCRETE BLOCK	C1	PAINT PRECAST PLANK
F2	SEALED CONCRETE			W2	CONCRETE	C2	CONCRETE
				W3	PAINTED CONCRETE	C3	PAINTED CONCRETE

NOTES:

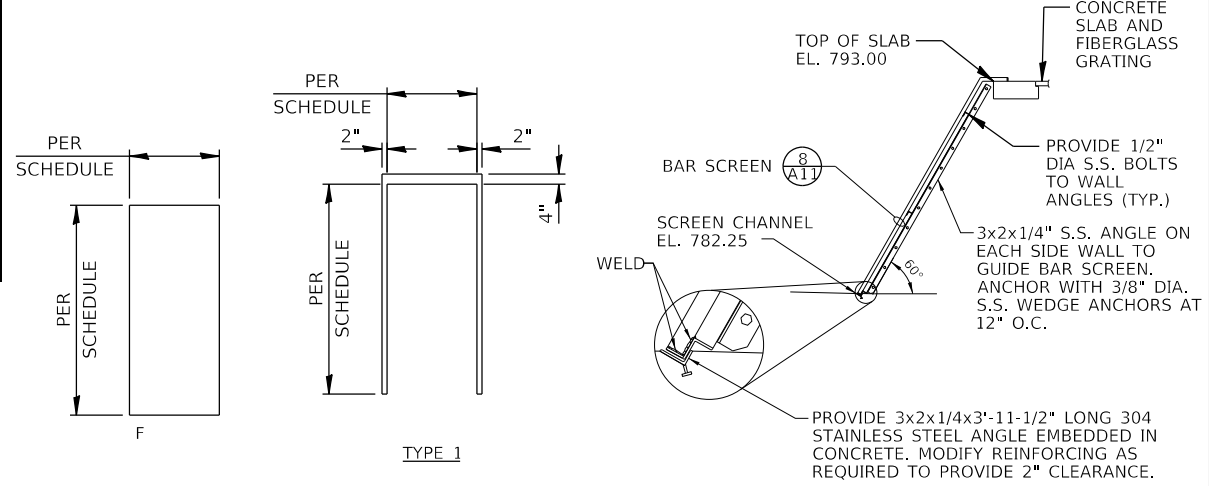


NAME PLATE

NOTE:
SEE DRAWINGS FOR MOUNTING LOCATION. VERIFY WITH OWNER PRIOR TO MOUNTING.



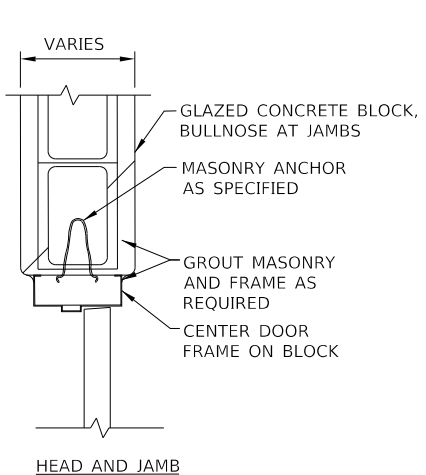
EXTERIOR DOOR DETAILS



DOOR TYPES

FRAME TYPES

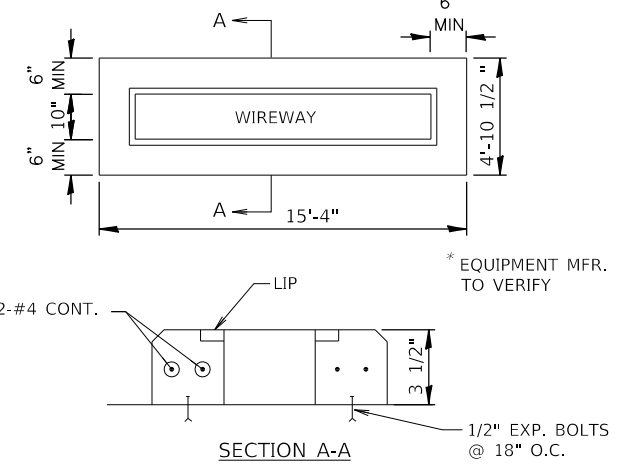
MANUAL BAR SCREEN



HEAD AND JAMB

NOTE:
1. LINTEL NOT SHOWN, SEE SCHEDULE AND DETAILS

INTERIOR DOOR DETAILS



SCC /MCC PAD

NOTE: PROVIDE FLUSH METAL COVER FOR EXPOSED WIREWAY

MODEL: Default FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-A12-SchedDet.dgn

1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 8:0.0000 "/> <td>DRAWN - BJF</td> <td>REVISED -</td>	DRAWN - BJF	REVISED -
PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
	DATE - 8/28/2024	REVISED -




STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DOOR AND ROOM FINISH SCHEDULE & DETAILS
PUMP STATION 49

SHEET A12 OF 12 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 550
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

GENERAL STRUCTURAL NOTES

- Backfill with granular fill per Section 31 23 00 of the Pump Station special provision.
- At all slab boxouts in concrete walls, vertical reinforcing is to continue through slab as shown in .
- Provide minimum clear cover to reinforcing in accordance with table on drawing SA36.
- Horizontal bars in walls shall be placed outside of vertical bars unless shown otherwise.
- Structure shall not be backfilled until the top slab is installed and reaches specified 28-day strength.
- Below-grade walls with earth on one side and occupiable spaces on the other shall receive fluid-applied waterproofing on exterior face and have construction joint with pvc water stop.
- Provide Reinforcing at T-Intersections in tank walls per .
- For Typical Construction Joint details, see .
- Where adhesive anchors are shown, drill and clean hole install adhesive and reinforcing dowel or threaded rod in strict accordance with manufacturer's instructions.
- Provide 1/4" per ft slope on exterior slabs unless noted otherwise.
- Contractor shall maintain the dewatering system and the structure shall not be backfilled or water tested until top slab has been installed and concrete has reached 28 day compressive strength.

FOUNDATIONS

- The soils and foundation engineering report is for informational purposes only and shall not be considered part of the contract documents, furthermore, no warranty is made by the owner with regard to the completeness and accuracy of the subsurface investigation data, soil test data or statements and interpretations given in the geotechnical report prepared by Midland Standard Engineering & Testing, Inc. on October 5, 2022.
- Water levels indicated on the boring logs may be subject to seasonal and/or annual variations. a dewatering system of sufficient capacity shall be installed and operated to maintain the construction area free of water at all times.
- The bearing value of the soil was determined by field exploration and laboratory analysis. the foundation design is based on a net allowable bearing pressure of 4,000 psf.
- All foundation excavations shall be inspected prior to concrete placement by a soils engineer to verify suitable bearing material of capacity as specified.
- Notify the engineer when additional excavation is required to reach suitable bearing material.
- The soils engineer shall certify in writing that all foundations were placed on soil with the bearing value as specified.
- Within the excavation area of the foundations, all vegetation, topsoil, previously placed fill and unsuitable soils shall be removed. All footings shall bear on virgin soil or properly placed and compacted engineered fill.
- Provide Temporary Soil Retention System for Structure Excavation as required to protect existing construction or keep limits on property.

CONCRETE

- Concrete work shall be in accordance with the Illinois Department of Transportation Standard Specifications Section 503.
- All cast-in-place concrete shall be $f'c = 4,000$ psi at 28 days as shown in the drawings and in accordance with the Illinois Department of Transportation Standard Specifications, unless noted otherwise.
- Concrete mix design shall be in accordance with the "Code Requirements for Environmental Engineering Concrete Structures and Commentary" ACI 350-06.
- Reinforcement bars shall be $f_y = 60,000$ psi unless noted otherwise.
- Reinforcement bars designated (e) shall be epoxy coated.
- Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths per line.
- Reinforcement bar bending dimensions are out to out. reinforcement bending details shall be in accordance with the "Manual of Standard Practice for Detailing Reinforced Concrete Structures" ACI 315, latest edition.
- Reinforcement bar splices shall be in accordance with the following table unless shown otherwise on the drawings. see "Class "B" Splice" table this sheet.

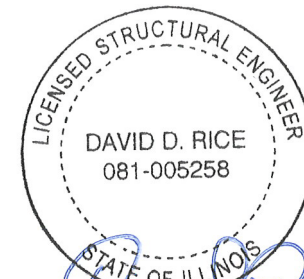
CLASS "B" SPLICE		
$f'c = 4000$ PSI		
SIZE	TOP BARS	OTHER BARS
#4	2'-8"	2'-5"
#5	3'-4"	3'-0"
#6	4'-0"	3'-7"
#7	4'-8"	4'-2"
#8	5'-4"	4'-9"
#9	6'-7"	5'-10"
#10	8'-2"	7'-2"

Note:
Top bars are horizontal bars with more than 12" of concrete cast below the bar.

- All exposed concrete edges shall have a 3/4" x 45° chamfer, except where shown otherwise. chamfer on vertical edges shall be continued a minimum of one foot below finished ground level.
- All bends in reinforcement bars are either 45 or 90 degrees unless noted otherwise.

STRUCTURAL DESIGN CRITERIA

STRUCTURAL DESIGN CRITERIA		
DESIGN CODES	BUILDING CODE	IBC 2018
	CONCRETE DESIGN CODE	ACI 318-14
	MASONRY DESIGN CODE	ACI 530-13
FLOOR LIVE LOAD	ENVIRONMENTAL STRUCTURE BUILDING CODE	ACI 350-06
	OCCUPANCY CATEGORY	III
	UNIFORMLY DISTRIBUTED (PSF)	100
	CONCENTRATED (LBS)	EQUIPMENT OPERATING WEIGHTS VARY
ROOF LIVE LOAD	IMPACT REDUCTION	FROM EQUIP. MFR. PER IBC CODE
	MINIMUM ROOF LIVE LOAD (PSF)	20
ROOF SNOW LOAD	REDUCTION	PER IBC CODE
	GROUND SNOW LOAD (P_g) (PSF)	25
	SNOW EXPOSURE FACTOR (C_e)	1.1
	SNOW LOAD IMPORTANCE FACTOR (I_s)	1.1
	THERMAL FACTOR (C_t) -	1
	SLOPED ROOF SNOW LOAD (P_s) (PSF)	21.2
WIND LOAD	DRIFT LOADS	PER IBC CODE
	BASIC 3-SECOND GUST WIND SPEED (MPH)	114
	WIND EXPOSURE	C
	INTERNAL PRESSURE COEFFICIENT (G_{CPI})	0.18
EARTHQUAKE DESIGN DATA	COMPONENTS AND CLADDING DESIGN WIND PRESSURE (PSF)	PER IBC CODE
	SEISMIC IMPORTANCE FACTOR (I_e)	1.25
	SITE CLASS	D
	SPECTRAL RESPONSE COEFFICIENTS	S_{DS} 0.124 S_{D1} 0.096
	SEISMIC DESIGN CATEGORY	B
	BASIC SEISMIC FORCE RESISTING SYSTEM	ORDINARY REINFORCED MASONRY SHEAR WALLS
	RESPONSE MODIFICATION COEFFICIENT (R)	R
	DESIGN BASE SHEAR	0.077W
OTHER LOADS	ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
	LATERAL EARTH PRESSURE (PCF EQUIV. FLUID)	DRY - AT-REST PRESSURE 69 BELOW WATER TABLE 98
	LATERAL FLUID PRESSURE (PCF)	62.4
	BUOYANCY (PCF x DEPTH BELOW GROUNDWATER LEVEL)	62.4
GEOTECHNICAL	NET ALLOWABLE SOIL BEARING PRESSURE	4,000 PSF



8/27/24
Exp. 11/30/24

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
STRUCTURE EXCAVATION	CU. YD.	5,228
CONCRETE STRUCTURES	CU. YD.	932
REINFORCEMENT BARS, EPOXY COATED	POUND	143,900
BAR SPLICERS	EACH	246
TEMPORARY SOIL RETENTION SYSTEM	SQ. FT.	9,860
SHEET WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	217
DEWATERING	L SUM	1

MODEL: Default
FILE NAME: S:\MAD1\1800--1899\1843\002\Drawings\CAD\Micros-554\CAD_Sheets\PS19-xxxx-SA01-GenNotes.dgn

SA STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 2:0.0000 "/in.	DRAWN - BJF	REVISED -
PLOT DATE = 8/29/2024	CHECKED - SAI	REVISED -
	DATE - 8/28/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES
PUMP STATION 49**

SHEET SA1 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	551
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

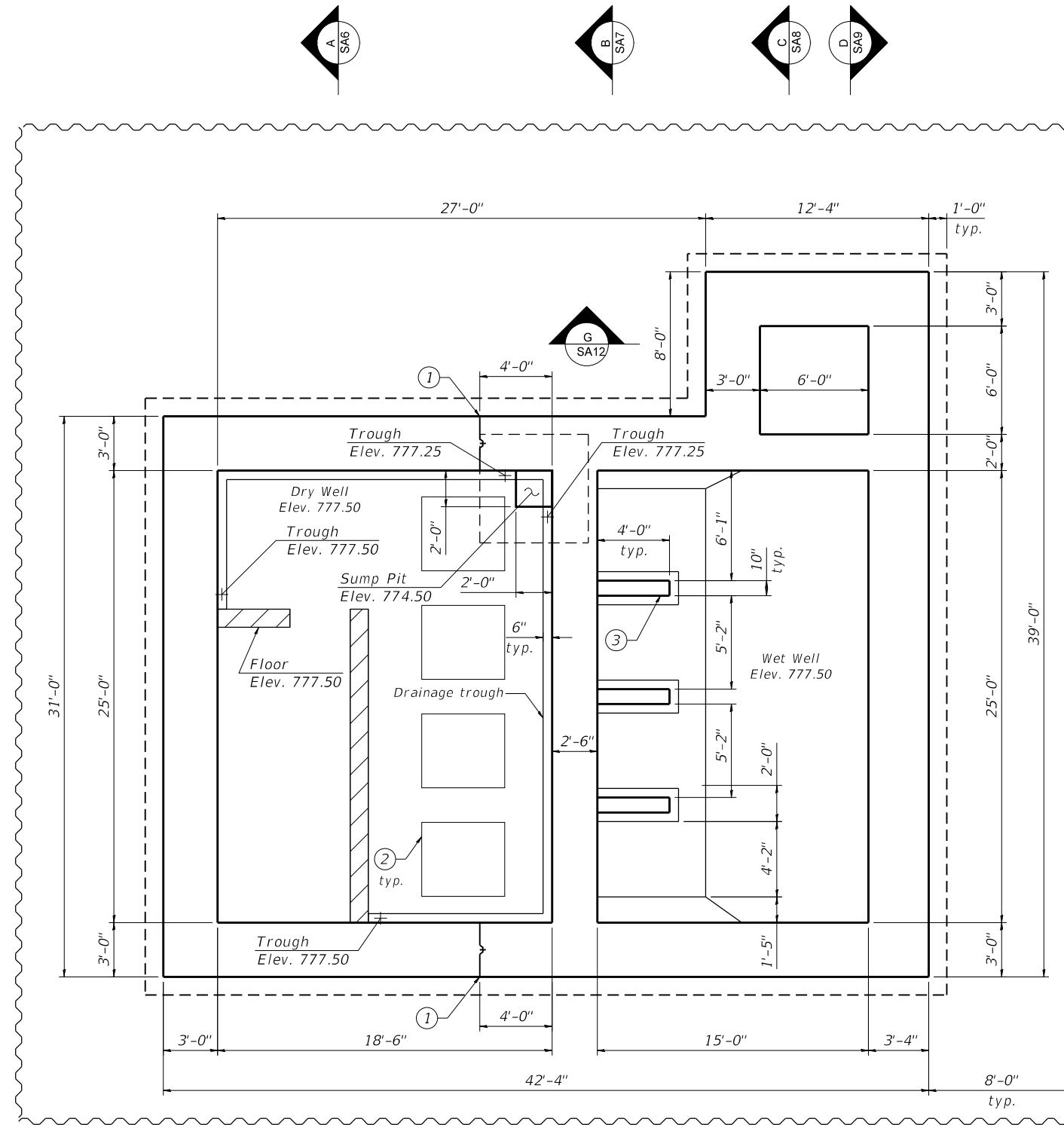
SA1

GENERAL NOTES

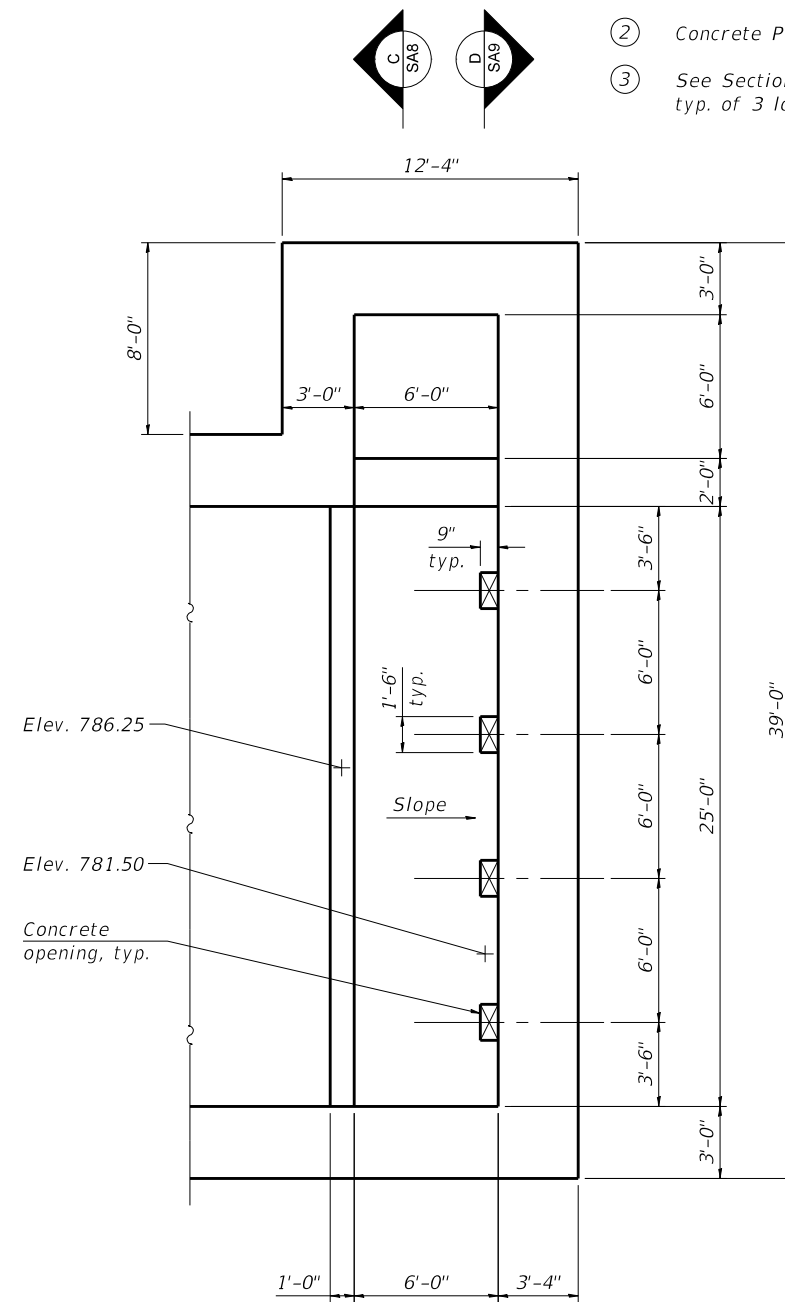
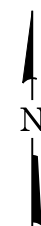
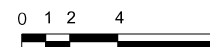
1. For general structural notes see sheet SA1.

KEY NOTES

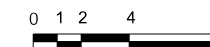
- ① Construction joint with 6" PVC Waterstop 3
SA36
- ② Concrete Pump Pad 2
SA36
- ③ See Section A-A on SA16 for rebar detailing of walls, typ. of 3 locations.



PLAN - ELEV. 777.50



PARTIAL PLAN - INFLOW BAFFLE



MODEL: Default
FILE NAME: S:\MAD1\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA02-StrPlan1.dgn

STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 8:0.0000 "/>		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL PLAN - ELEV. 777.50
PUMP STATION 49**

SHEET SA2 OF 37 SHEETS

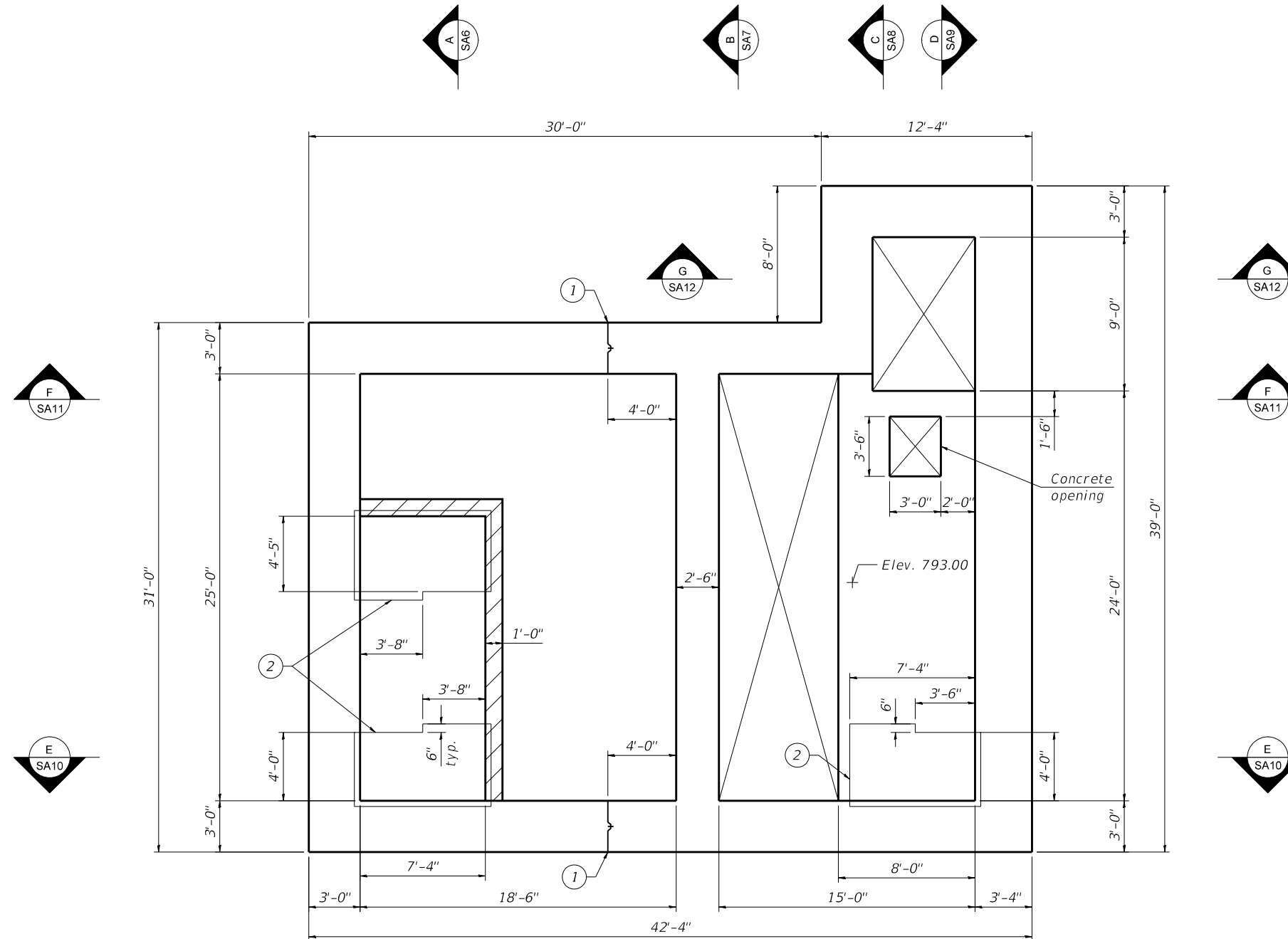
F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 552
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

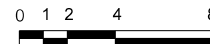
1. For general structural notes see Sheet SA1.

KEY NOTES

- ① Construction Joint with 6" PVC Waterstop 3
SA36
- ② Stair landings 6
SA36



PLAN - ELEV. 793.00



MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-SA03-StrPlan2.dgn



USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
DRAWN -	BJF	REVISIONS -			
PLOT SCALE =	8:0.0000 " / in.	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL PLAN - ELEV. 805.33
PUMP STATION 49**

SHEET SA3 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	553
CONTRACT NO. 61J87				
		ILLINOIS	FED. AID PROJECT	

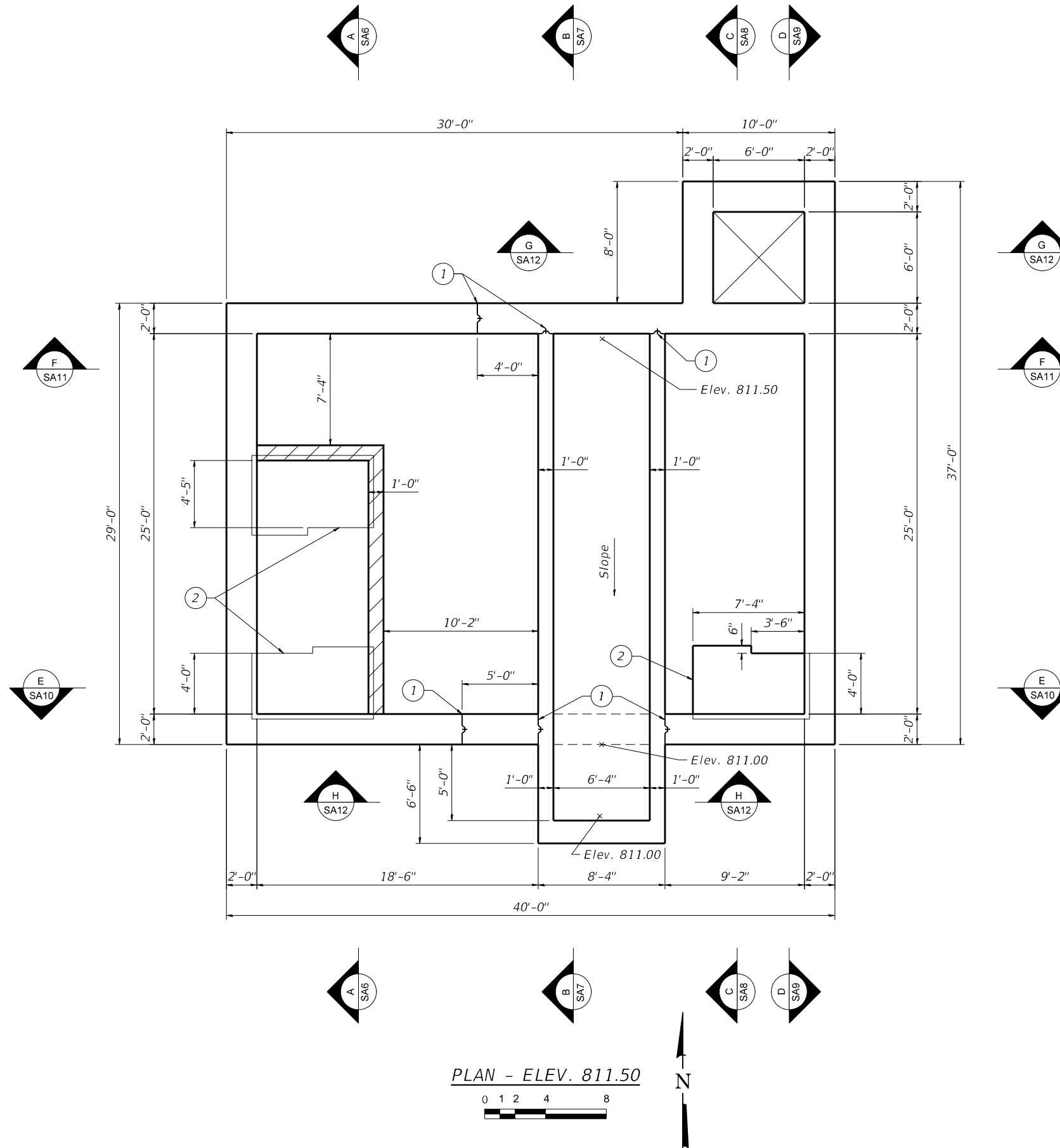
SA3

GENERAL NOTES

1. For general structural notes see Sheet SA1.

KEY NOTES

- ① Construction Joint with 6" PVC Waterstop 3
SA36
- ② Stair landings 6
SA36



PLAN - ELEV. 811.50



MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA04-StrPlan3.dgn

STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
	DRAWN - BJF	REVISED -
PLOT SCALE = 8:0.0000 "/ in.	CHECKED - SAI	REVISED -
PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL PLAN - ELEV. 811.50
PUMP STATION 49**

SHEET SA4 OF 37 SHEETS

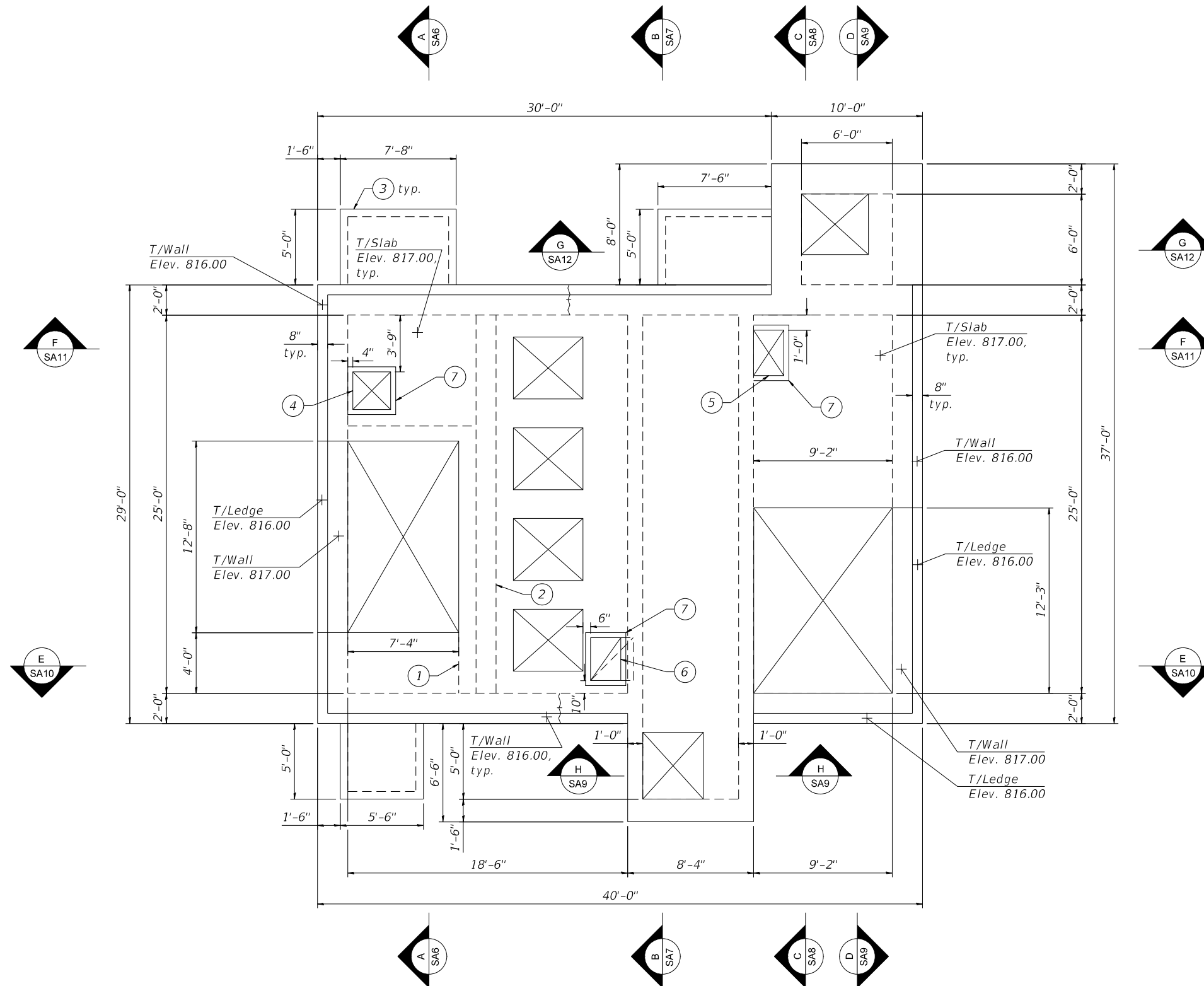
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	554
CONTRACT NO. 61J87				
		ILLINOIS	FED. AID PROJECT	

GENERAL NOTES

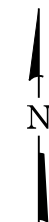
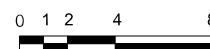
1. For general structural notes see Sheet SA1.

KEY NOTES

- ① 1'-0" CMU wall below.
- ② 1'-4"Wx2'-0"H (including slab) beam below.
- ③ Concrete Stoop $\frac{1}{SA36}$.
- ④ 2'-6" x 2'-6" opening in slab.
- ⑤ 2'-0" x 3'-0" opening in slab.
- ⑥ 2'-0" x 2'-10" opening in slab.
- ⑦ Provide 4" wide by 4" high concrete curb around HVAC opening. Provide $\frac{1}{2}$ " dia. threaded rods anchored at 12" o.c. into slab w/ 3" embed extended into curb.



PLAN - ELEV. 817.00



SA5

MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA05-StrPlan4.dgn



USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 8:0.0000 "/in.	DRAWN - BJF	REVISED -
PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
	DATE - 8/28/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL PLAN - ELEV. 817.00
PUMP STATION 49

SHEET SA5 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	555
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		

8/27/2024 9:30:19 AM

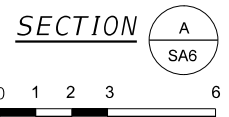
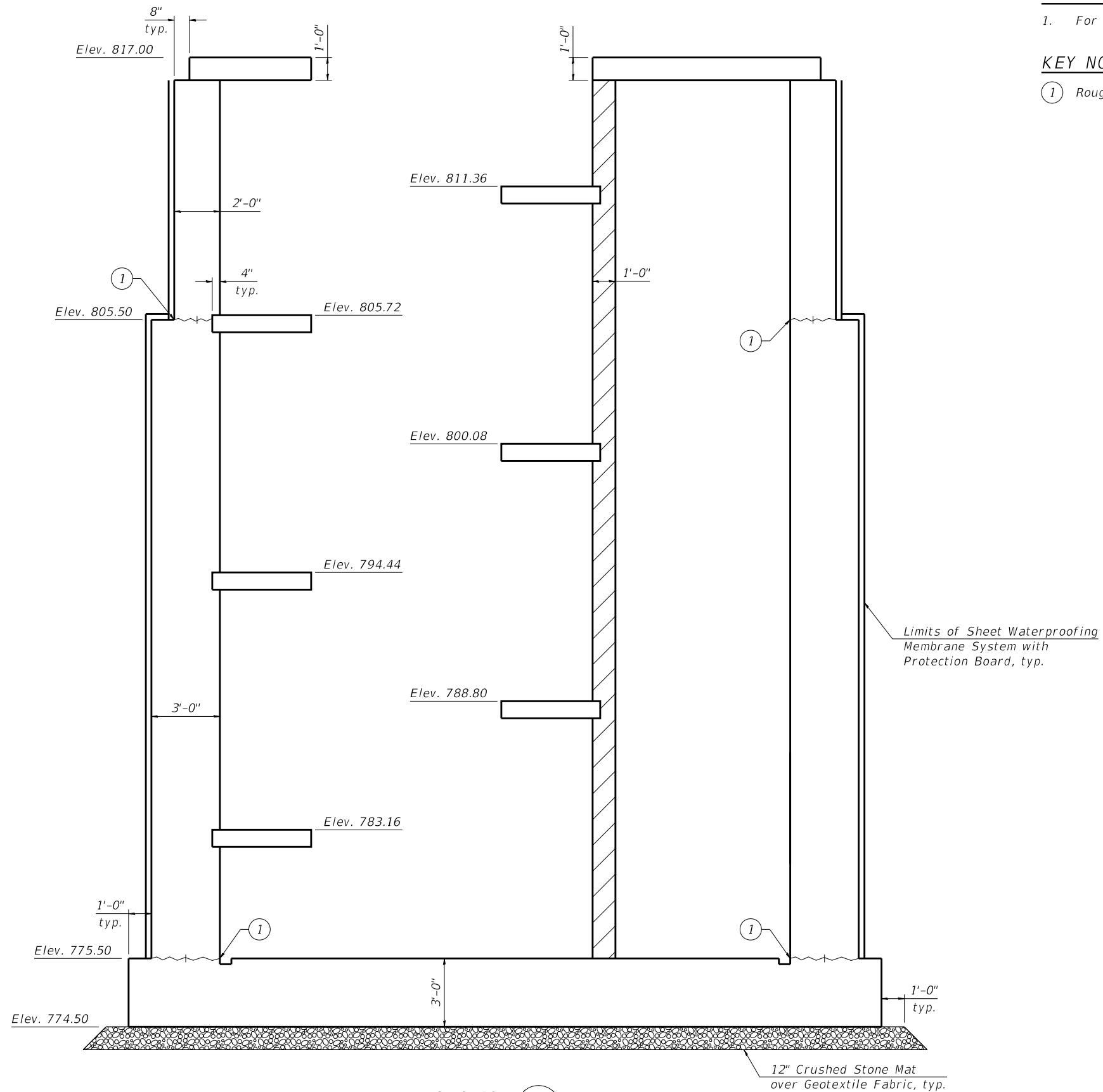
GENERAL NOTES

1. For General Structural Notes See Sheet SA1.

KEY NOTES

① Roughened Construction Joint with 6" PVC Waterstop

3
SA36



MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-SA06-StSecAA.dgn



USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
DRAWN -	BJF	CHECKED -	SAI	REVISED -	
PLOT SCALE =	5:4.0000 "/ in.	DATE -	8/28/2024	REVISED -	
PLOT DATE =	8/27/2024				

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL SECTIONS - SECTION A-A
PUMP STATION 49**

SHEET SA6 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	556
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT

SA6

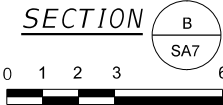
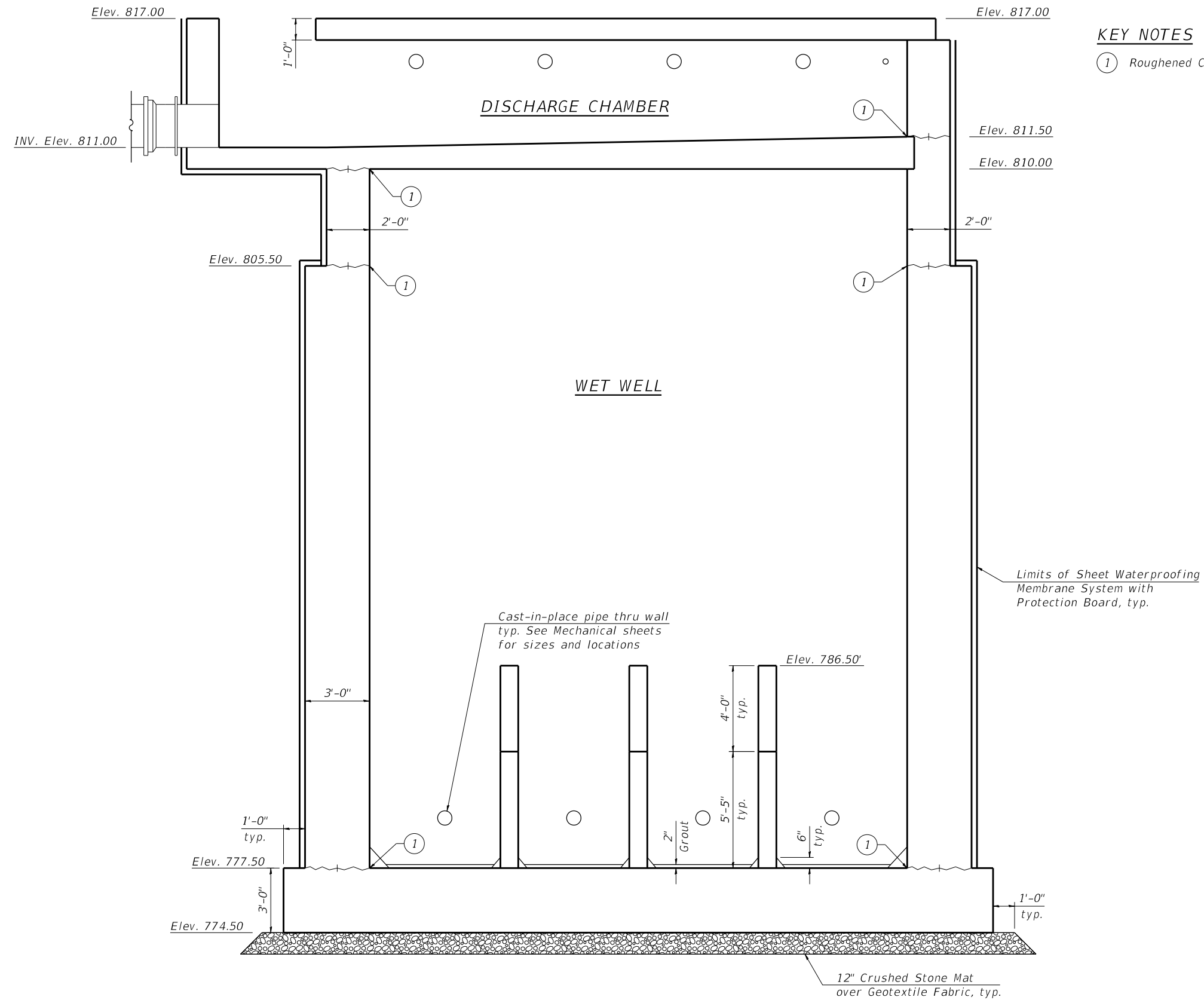
8/27/2024 9:30:20 AM

GENERAL NOTES

1. For General Structural Notes See Sheet SA1.

KEY NOTES

① Roughened Construction Joint with 6" PVC Waterstop 3
SA36



MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA07-StrSecBB.dgn



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - SGH	REVISED -
		DRAWN - BJF	REVISED -
	PLOT SCALE = 5:4.0000 "/> <td>CHECKED - SAI</td> <td>REVISED -</td>	CHECKED - SAI	REVISED -
	PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL SECTIONS - SECTION B-B
PUMP STATION 49**

SHEET SA7 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	557
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT

SA7

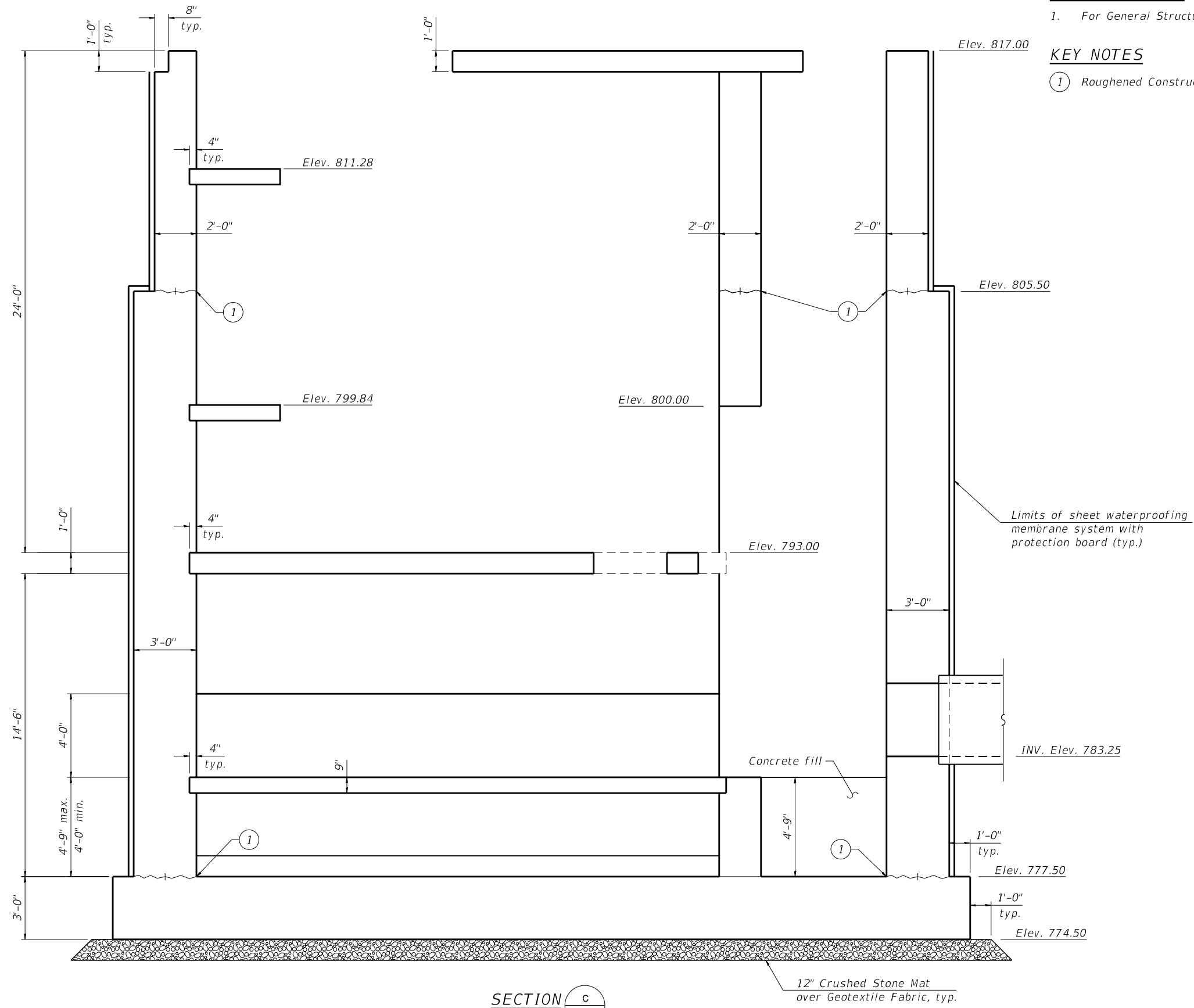
GENERAL NOTES

1. For General Structural Notes See Sheet SA1.

KEY NOTES

① Roughened Construction Joint with 6" PVC Waterstop

3
SA36



SECTION C



**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL SECTIONS - SECTION C-C
PUMP STATION 49**

SHEET SA8 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	558
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT

SA8

MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA08-StrSecC.dgn

SA STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
	DRAWN - BJF	REVISED -
PLOT SCALE = 5:4.0000 "/ in.	CHECKED - SAI	REVISED -
PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

8/27/2024 9:30:20 AM

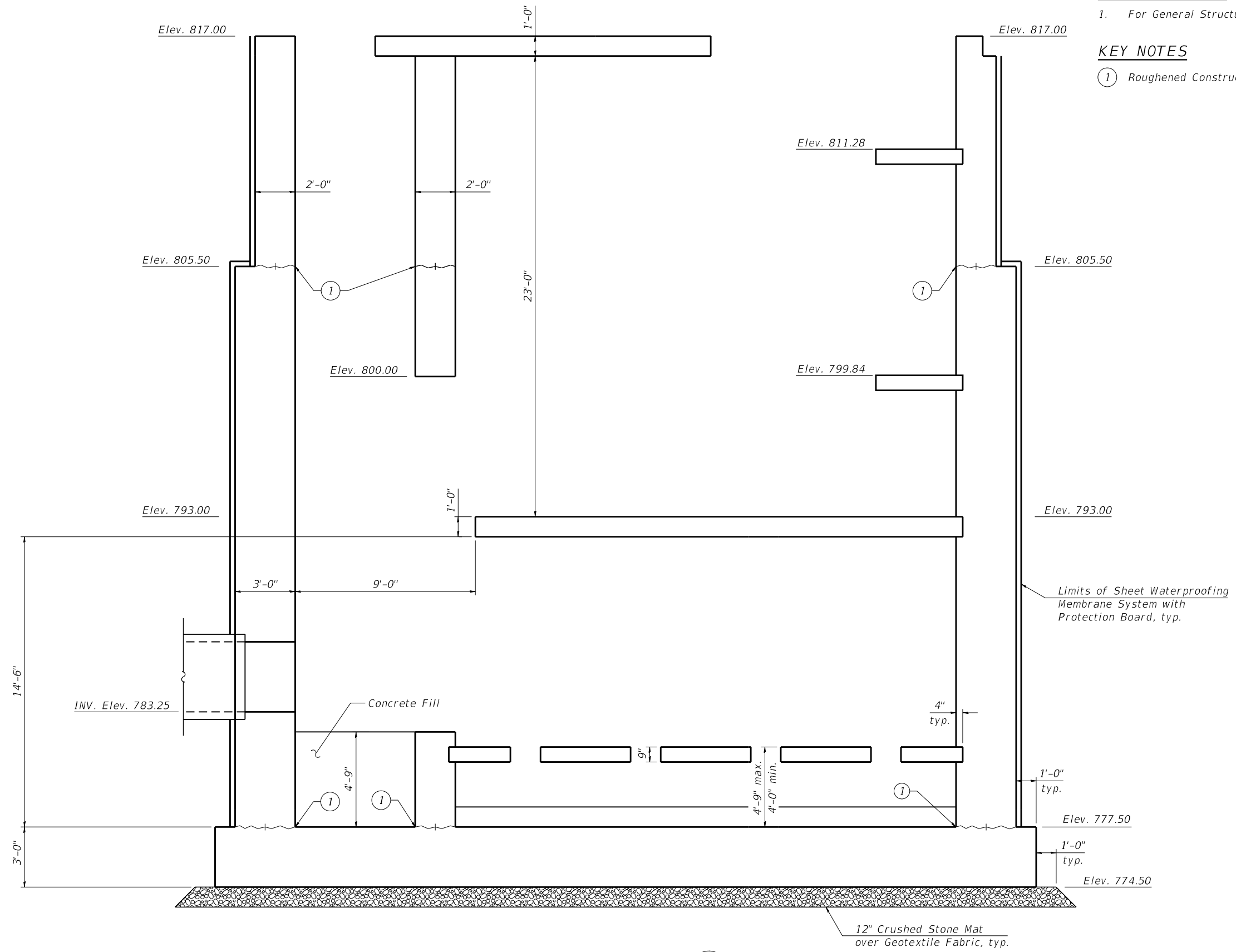
GENERAL NOTES

1. For General Structural Notes See Sheet SA1.

KEY NOTES

① Roughened Construction Joint with 6" PVC Waterstop

3
SA36



SECTION D
SA9

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL SECTIONS - SECTION D-D
PUMP STATION 49

SHEET SA9 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	559
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT

SA9

MODEL: Default
FILE NAME: SA\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA09-StrSecDD.dgn

SA
STRAND
ASSOCIATES

1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
DRAWN -	BJF	REVISIONS -			
PLOT SCALE =	5:4.0000 "/ in.	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	

8/27/2024 9:30:21 AM

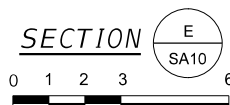
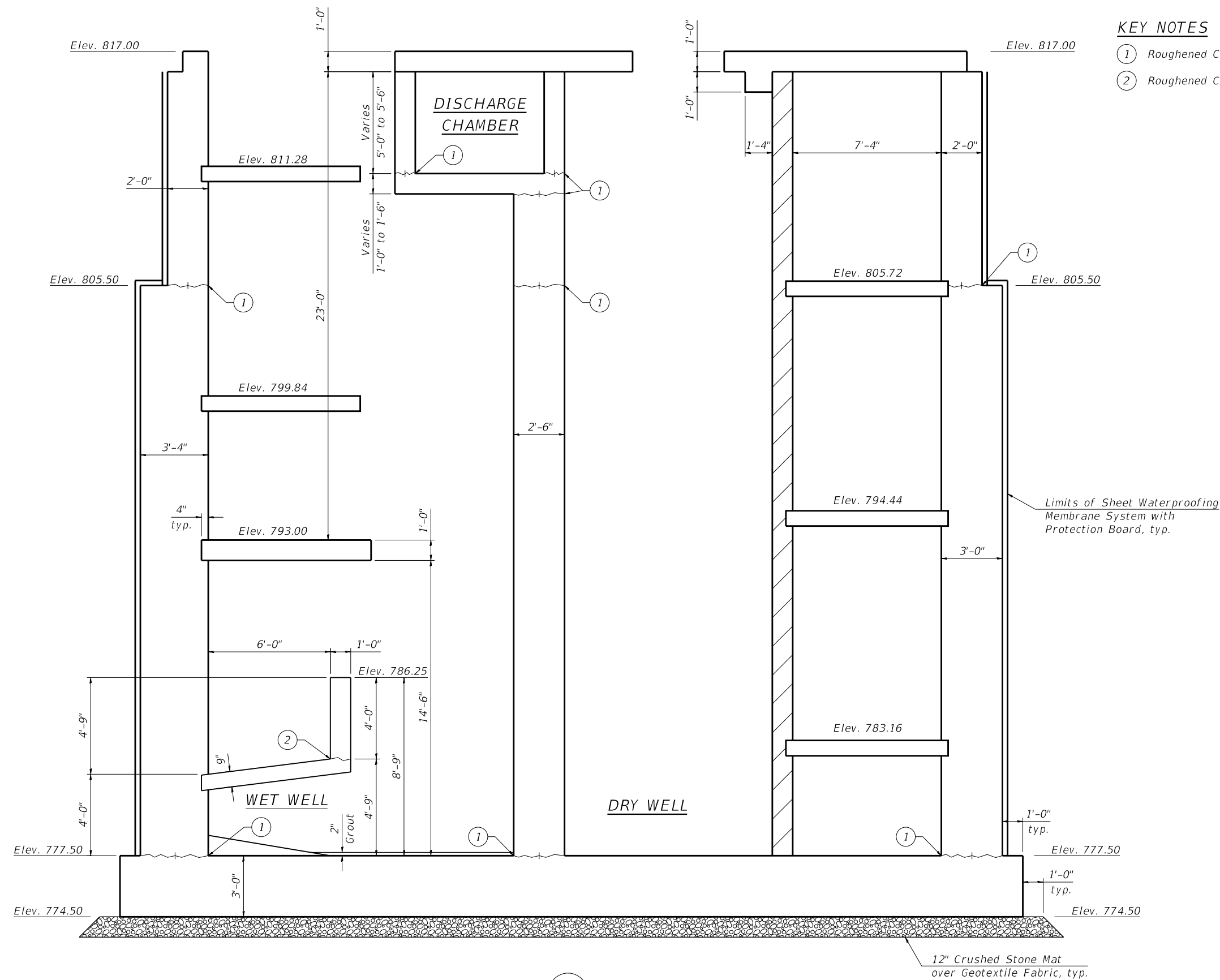
GENERAL NOTES

1. For General Structural Notes, see sheet SA1.

KEY NOTES

- ① Roughened Construction Joint with 6" PVC Waterstop
- ② Roughened Construction Joint with no PVC Waterstop

3
SA36



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL SECTIONS - SECTION E-E
PUMP STATION 49

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	560
CONTRACT NO. 61J87				

SHEET SA10 OF 37 SHEETS

ILLINOIS FED. AID PROJECT

SA10

MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA10-StrSecE.dgn

SA STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
	DRAWN - BJF	REVISED -
PLOT SCALE = 5:4.0000 "/>		
PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

8/27/2024 9:30:21 AM

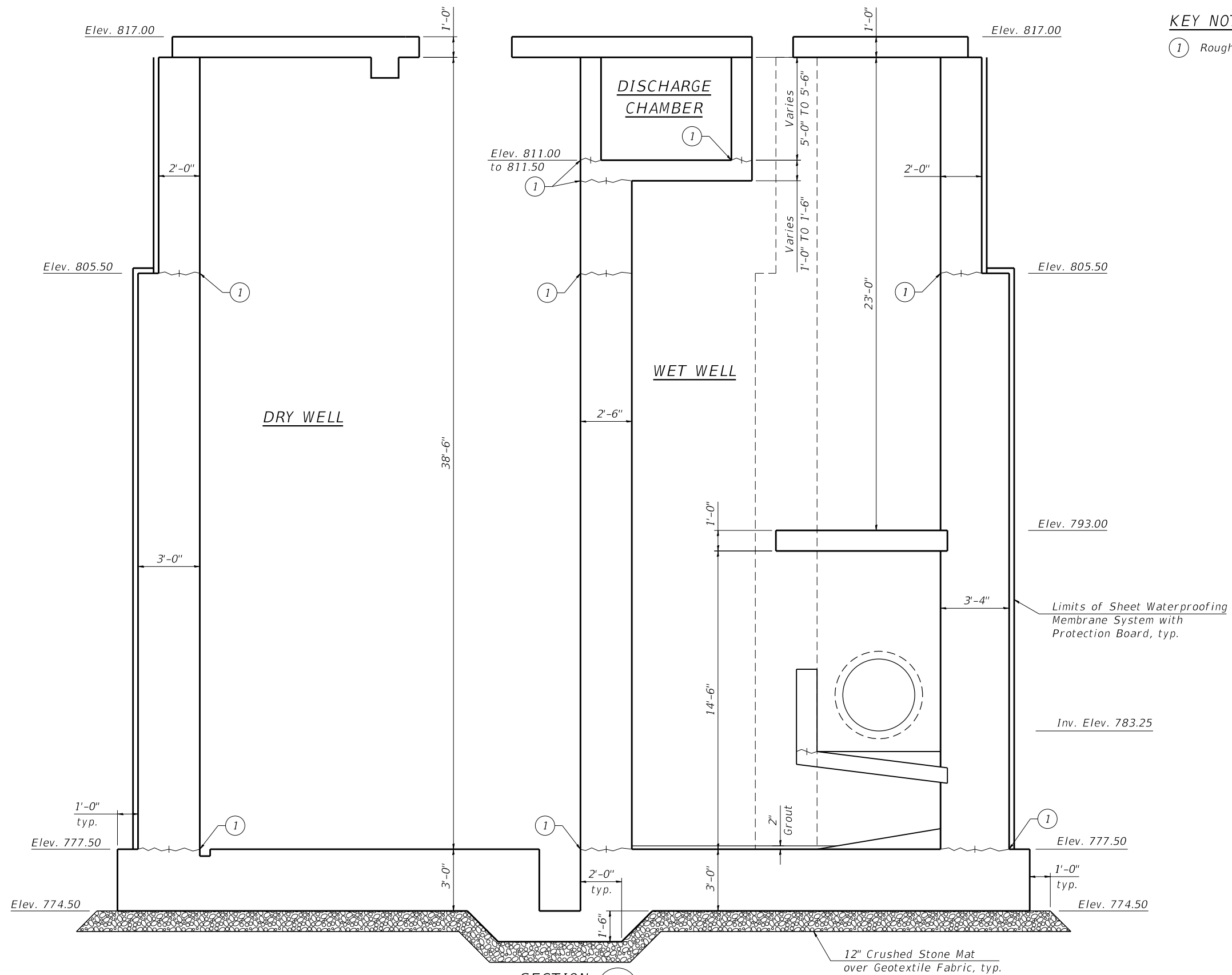
GENERAL NOTES

1. For General Structural Notes, see sheet SA1.

KEY NOTES

① Roughened Construction Joint with 6" PVC Waterstop

3
SA36



SECTION F SA11

0 1 2 3 6

MODEL: Default
FILE NAME: S:\MAD\1800-1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA11-StrSecF.dgn
8/27/2024 9:30:21 AM

STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
DRAWN - BJF	CHECKED - SAI	REVISED -
PLOT SCALE = 5:4.0000 "/ in.	DATE - 8/28/2024	REVISED -
PLOT DATE = 8/27/2024		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL SECTIONS - SECTION F-F
PUMP STATION 49**

SHEET SA11 OF 37 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 561
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

SA11

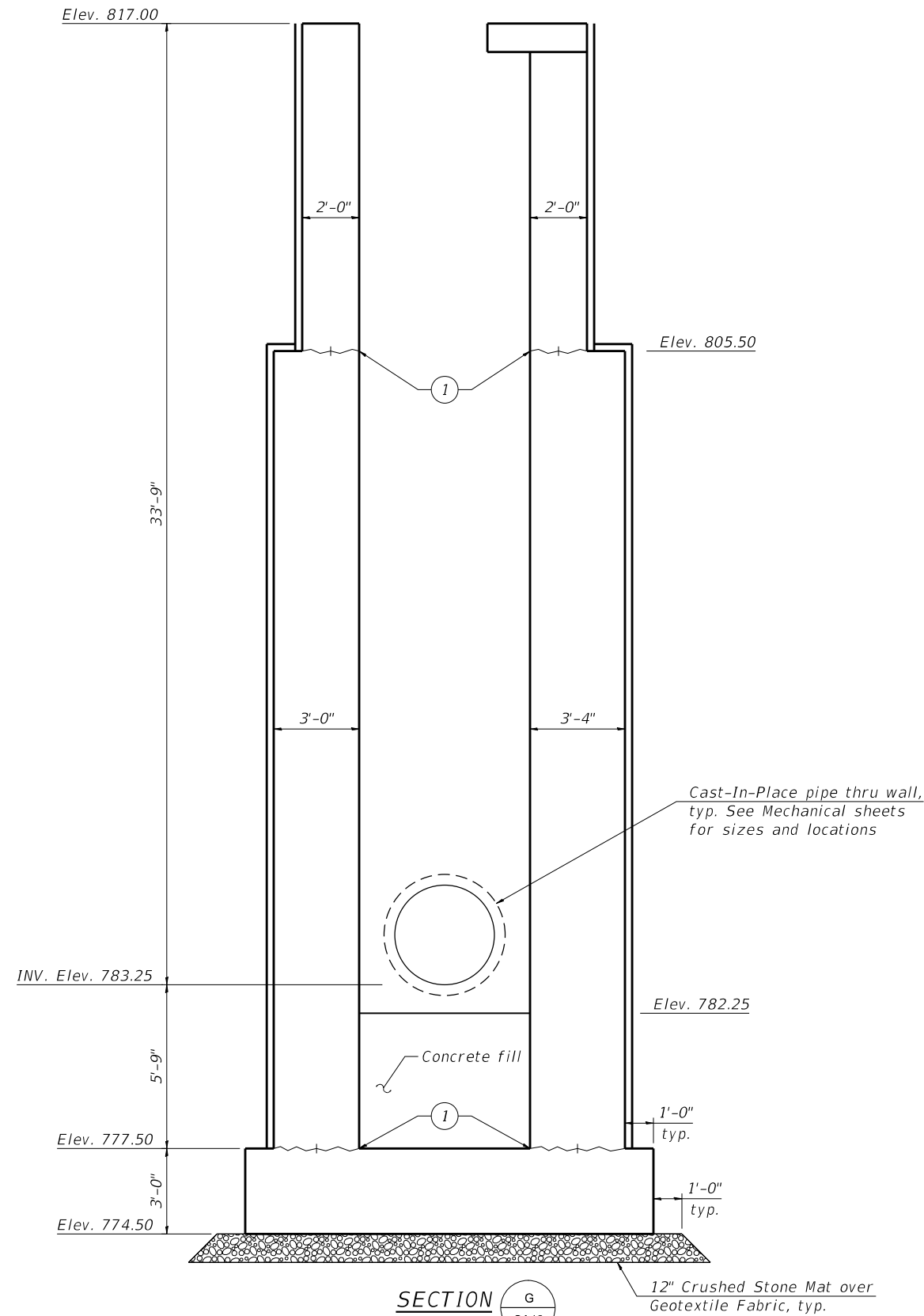
GENERAL NOTES

1. For General Structural Notes, see sheet SA1.

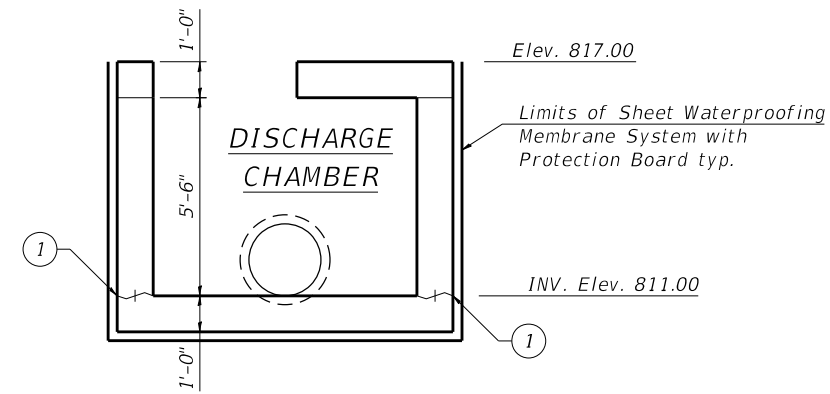
KEY NOTES

① Roughened Construction Joint with 6" PVC Waterstop

3
SA36



SECTION G
SA12
0 1 2 3 6



SECTION H
SA12
0 1 2 3 6

MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA12-StrSecGG&HH.dgn

STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
DRAWN - BJF	CHECKED - SAI	REVISED -
PLOT SCALE = 5:4.0000 "/ in.	DATE - 8/28/2024	REVISED -
PLOT DATE = 8/27/2024		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL SECTIONS - SECTION G-G & H-H
PUMP STATION 49

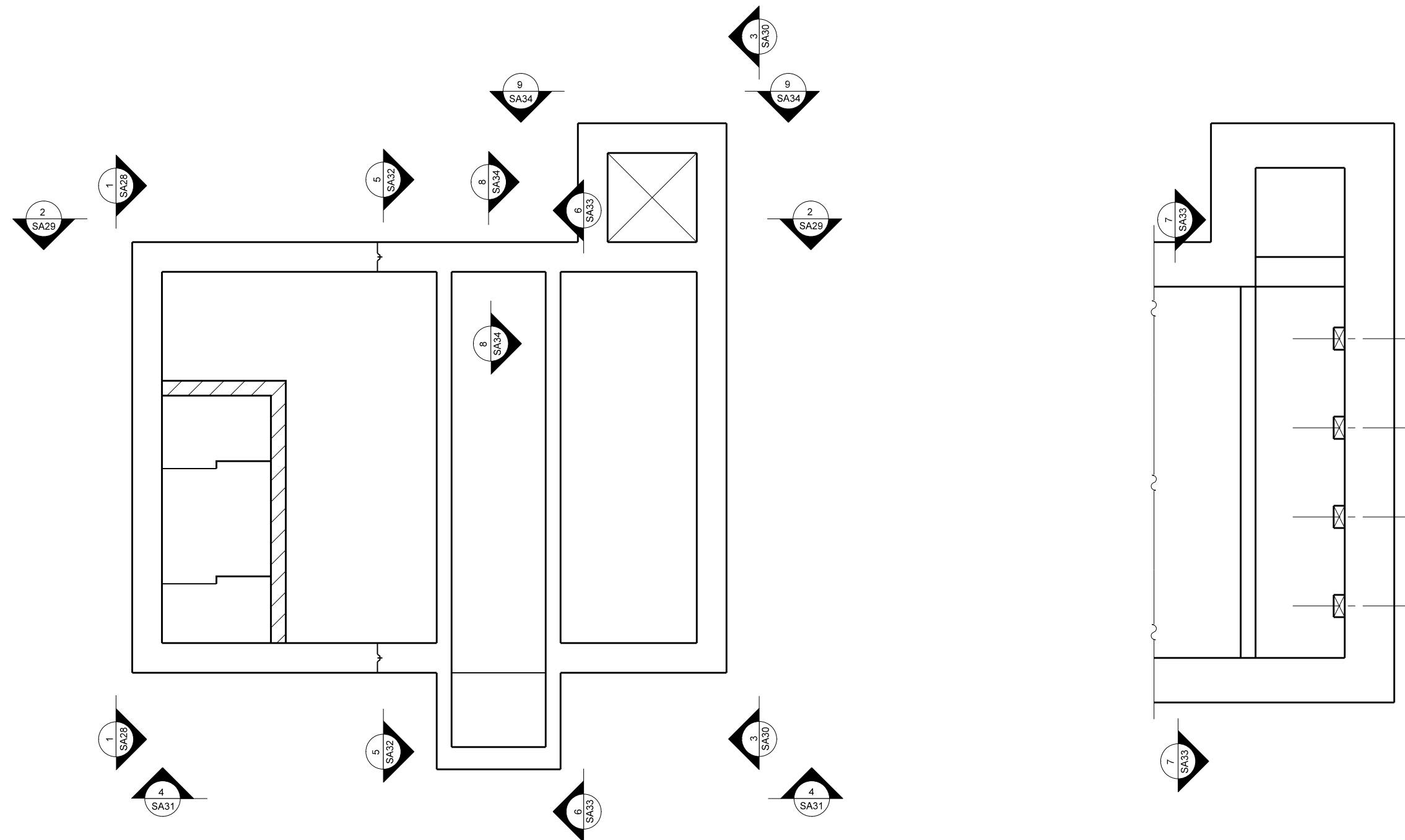
SHEET SA12 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	562
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

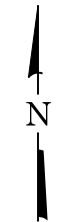
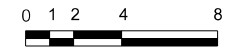
SA12

8/27/2024 9:30:22 AM

MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA13-KeyPlan.dgn
 8/27/2024 9:30:22 AM



REINFORCEMENT KEY PLAN



SA
 STRAND ASSOCIATES
 1170 SOUTH HOUBOLT ROAD
 JOLIET, ILLINOIS 60431
 (815) 744-4200
 IDFPR NO. 184-001273

USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
		DRAWN -	BJF	REVISED -	
PLOT SCALE =	8:0.0000 " / in.	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

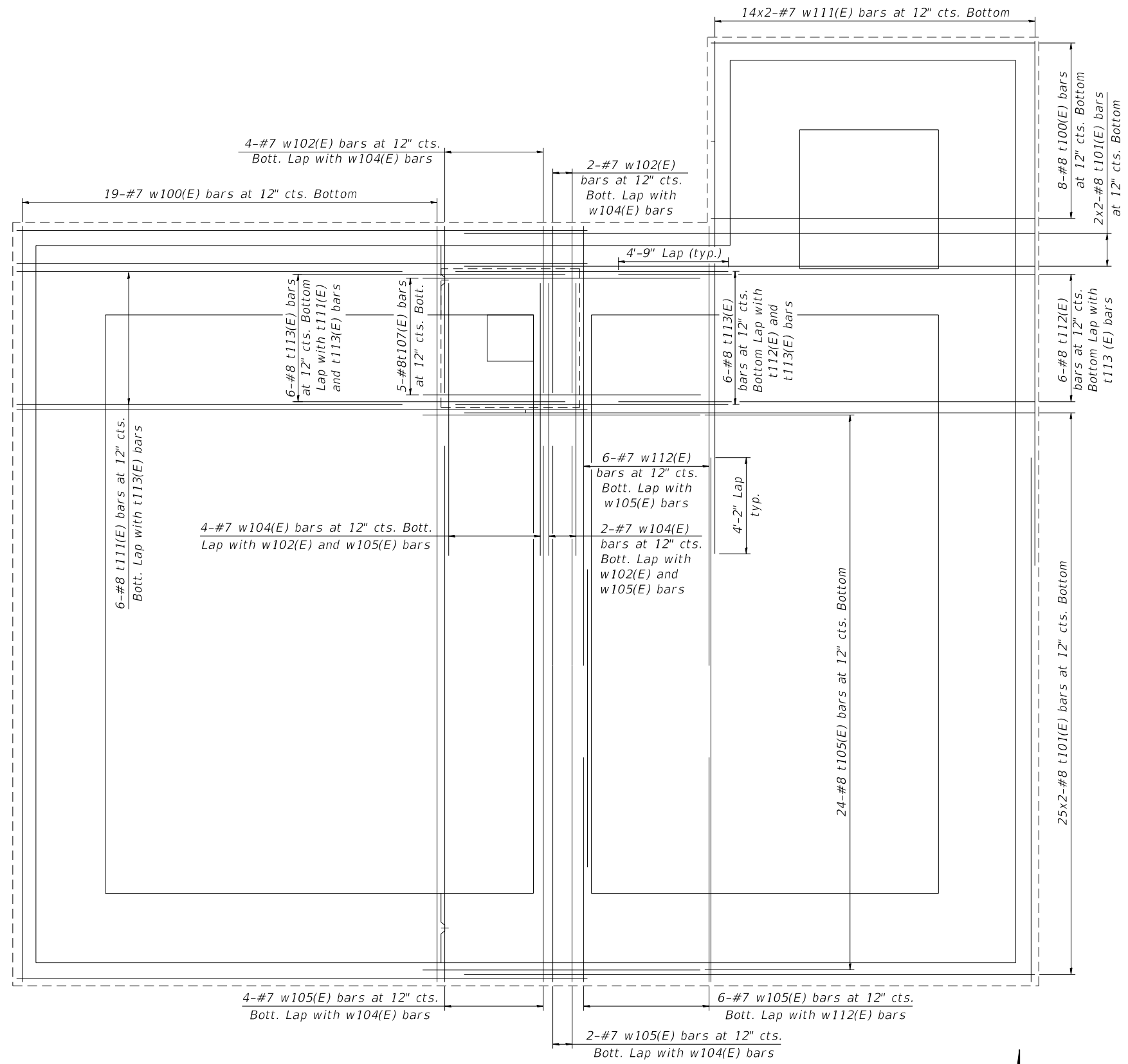
REINFORCEMENT DETAILS - KEY PLAN
 PUMP STATION 49

SHEET SA13 OF 37 SHEETS

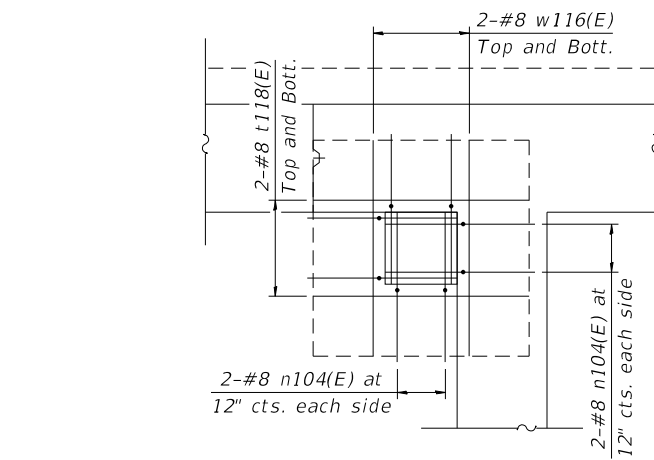
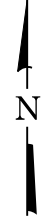
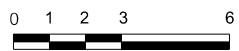
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	563
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		

SA13

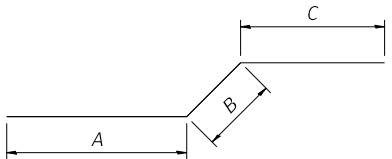
MODEL: Default
 FILE NAME: S:\MAD1\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA14-ReinDel-EI 777.50-BottomMat.dgn



REINFORCEMENT PLAN - ELEV. 777.50 - BOTTOM MAT



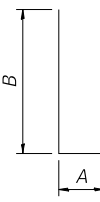
REINFORCEMENT PARTIAL PLAN - EL. 777.50 - SUMP PIT



A, B, & C DIMENSIONS

Bar	A	B	C
w102(E)	5'-3"	2'-2"	0'-4"
w104(E)	5'-3"	2'-2"	4'-9"
t113(E)	5'-3"	2'-2"	4'-9"

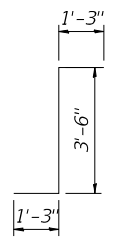
BARS w102(E), w104(E), & t113(E)



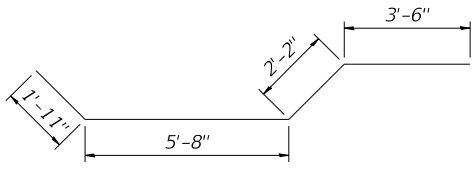
A & B DIMENSIONS

Bar	A	B
n100(E)	1'-3"	7'-6"
n101(E)	1'-3"	7'-11"
n102(E)	1'-2"	6'-11"
n103(E)	1'-2"	7'-4"

BARS n100(E), n101(E), n102(E), & n103(E)



BAR n104(E)



BAR t107(E)

SA14

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS - ELEV. 777.50
 PUMP STATION 49

SHEET SA14 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	564
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

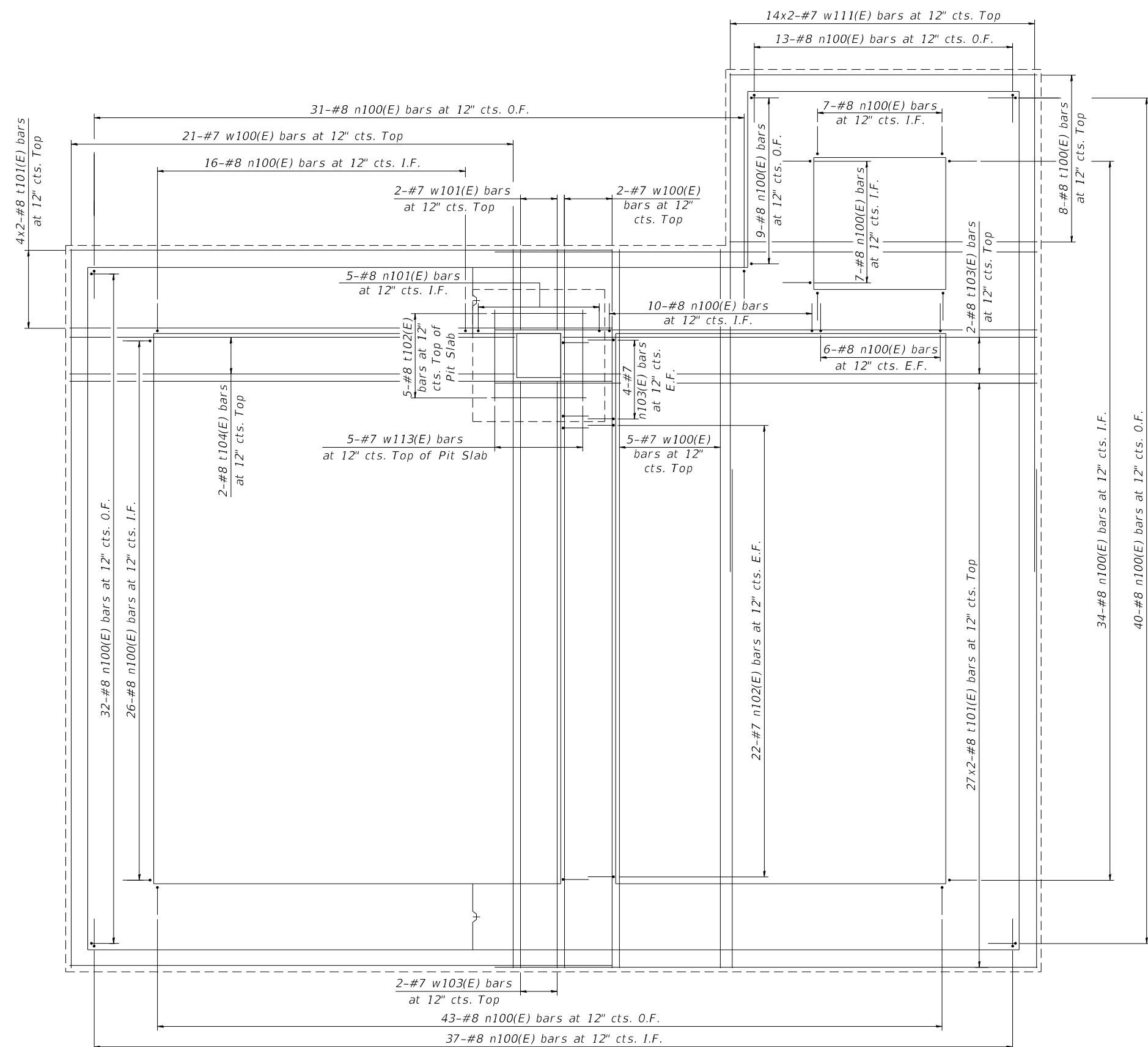
STRAND ASSOCIATES
 1170 SOUTH HOUBOLT ROAD
 JOLIET, ILLINOIS 60431
 (815) 744-4200
 IDFPFR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 5:4.0000 "/>		

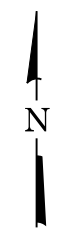
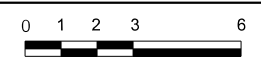
8/27/2024 9:30:22 AM

BILL OF MATERIALS

Bar	No.	Size	Length	Shape	
t100(E)	16	8	14'-0"	—	
t101(E)	116	8	24'-8"	—	
t102(E)	5	8	4'-0"	—	
t103(E)	2	8	21'-7"	—	
t104(E)	2	8	20'-3"	—	
t105(E)	24	8	12'-0"	—	
t111(E)	6	8	16'-9"	—	
t112(E)	6	8	18'-0"	—	
t113(E)	12	8	12'-2"	—	
t118(E)	4	8	6'-0"	—	
w100(E)	45	7	32'-8"	—	
w101(E)	2	7	3'-8"	—	
w102(E)	6	7	7'-9"	—	
w103(E)	2	7	26'-8"	—	
w104(E)	6	7	12'-2"	—	
w105(E)	12	7	23'-2"	—	
w111(E)	56	7	22'-8"	—	
w112(E)	6	7	21'-0"	—	
w113(E)	5	7	4'-0"	—	
w116(E)	4	8	6'-0"	—	
n100(E)	317	8	8'-9"	—	
n101(E)	5	8	9'-2"	—	
n102(E)	44	7	8'-1"	—	
n103(E)	8	7	8'-6"	—	
n104(E)	8	8	6'-0"	—	
Reinforcement Bars, Epoxy Coated				Pound	25,720



REINFORCEMENT PLAN - ELEV. 777.50 - TOP MAT



MINIMUM BAR LAPS

Bottom Mat:
 #7 Bar = 4'-2"
 #8 Bar = 4'-9"

Top Mat:
 #7 Bar = 4'-8"
 #8 Bar = 5'-4"

MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA15-ReinDel-EI 777.50-TopMat.dgn
 8/27/2024 9:30:23 AM

SA
 1170 SOUTH HOUBOLT ROAD
 JULIET, ILLINOIS 60431
 (815) 744-4200
 IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - SGH	REVISED -
DRAWN - BJF	REVISIONS -	
PLOT SCALE = 5:4.0000 "/>		

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

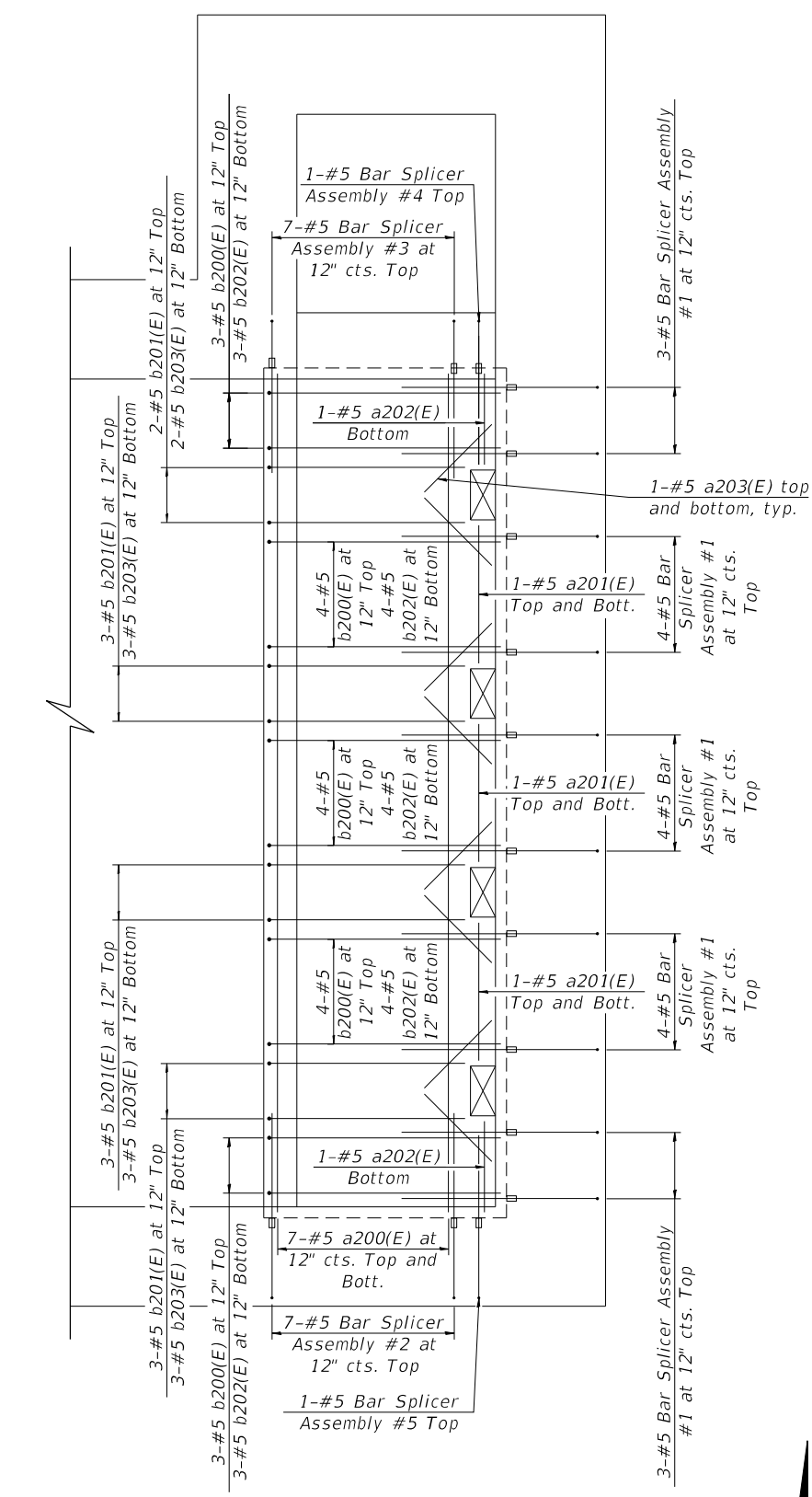
**REINFORCEMENT DETAILS - ELEV. 777.50
 PUMP STATION 49**

SHEET SA15 OF 37 SHEETS

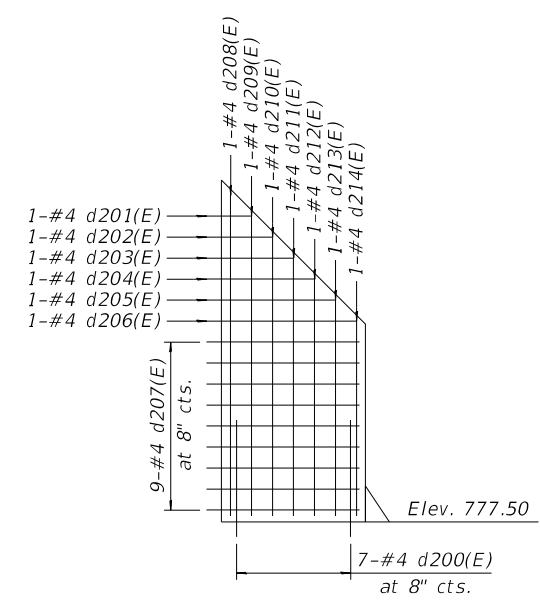
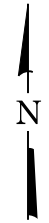
F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 565
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		

SA15

MODEL: Default
 FILE NAME: S:\MAD11800-18991-1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-SA16-ReinDet-InfFlowBaiffes.dgn
 8/27/2024 9:30:23 AM



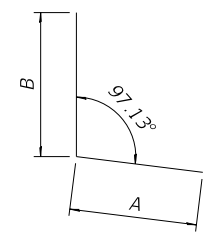
REINFORCEMENT PLAN - ELEV. 782.25 INFLOW BAFFLE



SECTION A-A

(3 locations - see SA2 for reference)

* Drill and set into foundation wall/floor according to Article 584.03 of the Standard Specifications. Min embedment shall be 1'-0". Cost included in the cost of "Concrete Structures".



A & B DIMENSIONS

Bar	A	B
b200(E)	6'-6"	4'-0"
b201(E)	5'-5"	4'-0"
b202(E)	7'	4'-5"
b203(E)	5'-11"	4'-5"

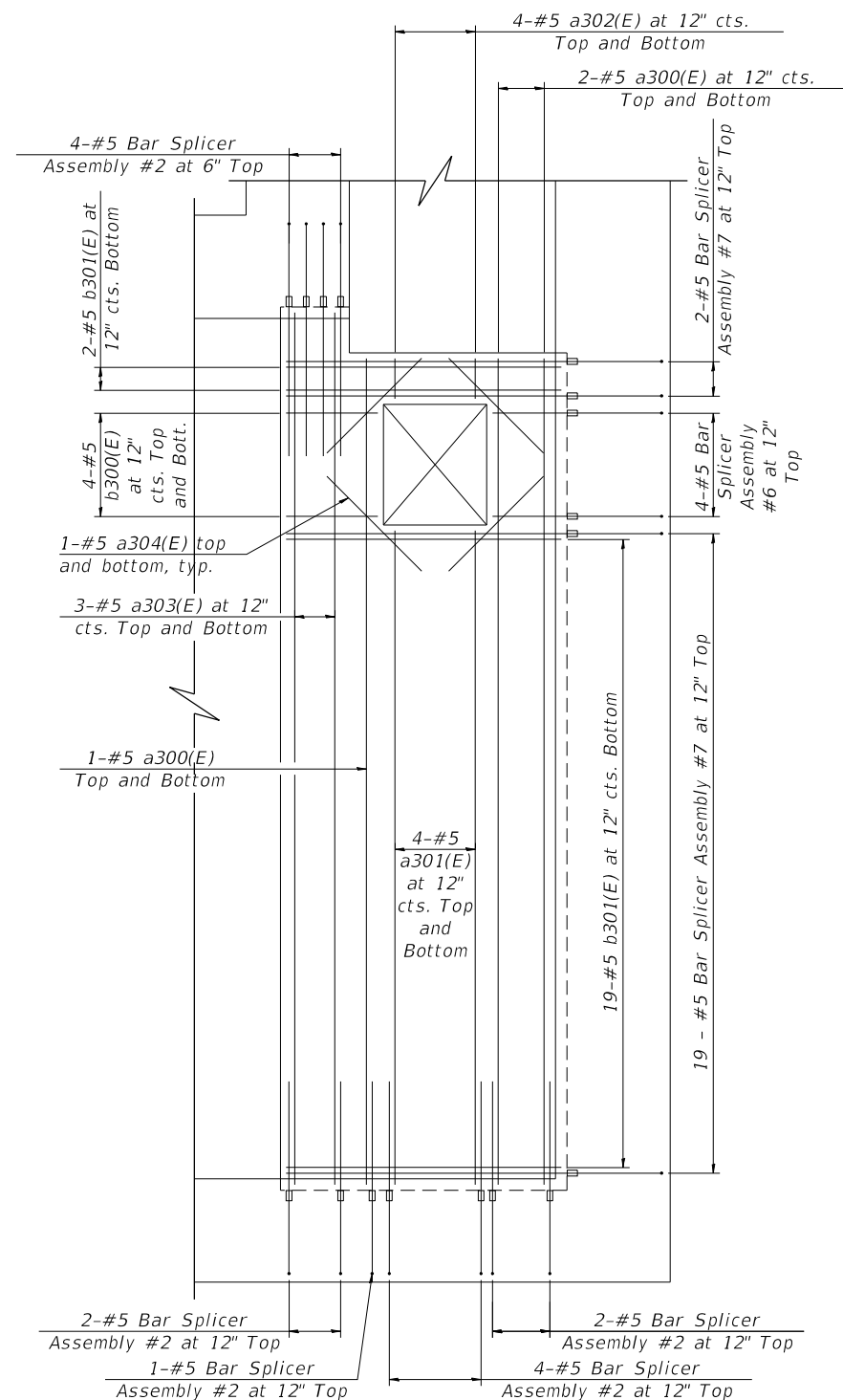
BARS b200(E), b201(E), b202(E), AND b203(E)

BILL OF MATERIALS

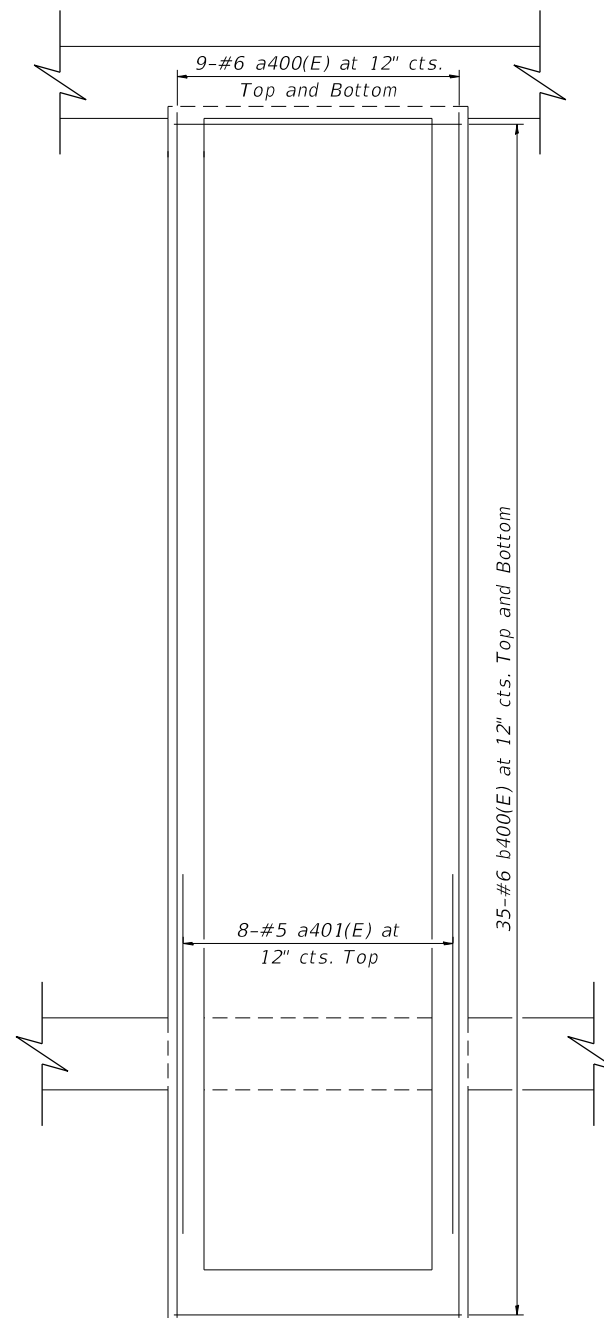
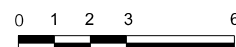
Bar	No.	Size	Length	Shape	
a200(E)	14	5	25'-4"	—	
a201(E)	6	5	4'-2"	—	
a202(E)	2	5	2'-6"	—	
a203(E)	16	5	3'-0"	—	
b200(E)	18	5	10'-6"	↙	
b201(E)	8	5	9'-5"	↙	
b202(E)	18	5	11'-5"	↙	
b203(E)	8	5	10'-4"	↙	
d200(E)	7	4	3'-5"	—	
d201(E)	1	4	1'-5"	—	
d202(E)	1	4	2'-1"	—	
d203(E)	1	4	2'-9"	—	
d204(E)	1	4	3'-5"	—	
d205(E)	1	4	4'-1"	—	
d206(E)	1	4	4'-9"	—	
d207(E)	9	4	4'-10"	—	
d208(E)	1	4	9'-6"	—	
d209(E)	1	4	8'-11"	—	
d210(E)	1	4	8'-4"	—	
d211(E)	1	4	7'-9"	—	
d212(E)	1	4	7'-2"	—	
d213(E)	1	4	6'-6"	—	
d214(E)	1	4	5'-11"	—	
Reinforcement Bars, Epoxy Coated				Pound	1,070
Bar Splicers				Each	34

BILL OF MATERIALS

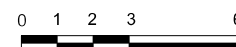
Bar	No.	Size	Length	Shape
a300(E)	6	5	24'-0"	—
a301(E)	8	5	19'-0"	—
a302(E)	8	5	1'-2"	—
a303(E)	6	5	25'-4"	—
a304(E)	8	5	4'-0"	—
a400(E)	18	6	33'-6"	—
a401(E)	8	5	10'-0"	—
b300(E)	8	5	2'-8"	—
b301(E)	21	5	8'-0"	—
b400(E)	70	6	8'-0"	—
Reinforcement Bars, Epoxy Coated			Pound	2,330
Bar Splicers			Each	38



REINFORCEMENT PLAN - ELEV. 793.00



REINFORCEMENT PLAN - ELEV. 811.50



MODEL: Default
FILE NAME: S:\MAD1\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA17-ReinDel-EI 793.67.dgn



USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 5:4.0000 "/>		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS - ELEV. 793.67
PUMP STATION 49

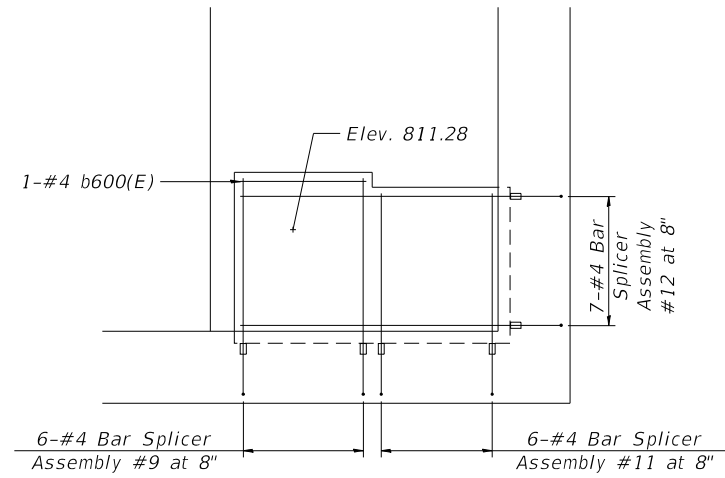
SHEET SA17 OF 37 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 567
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

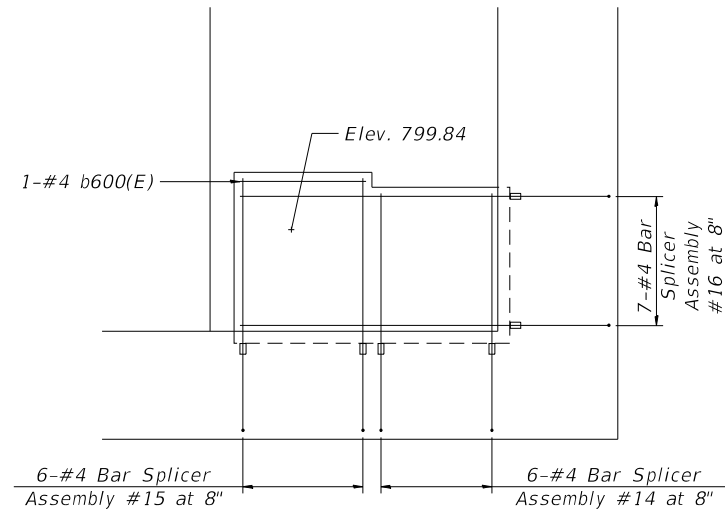
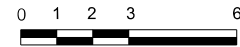
SA17

BILL OF MATERIALS

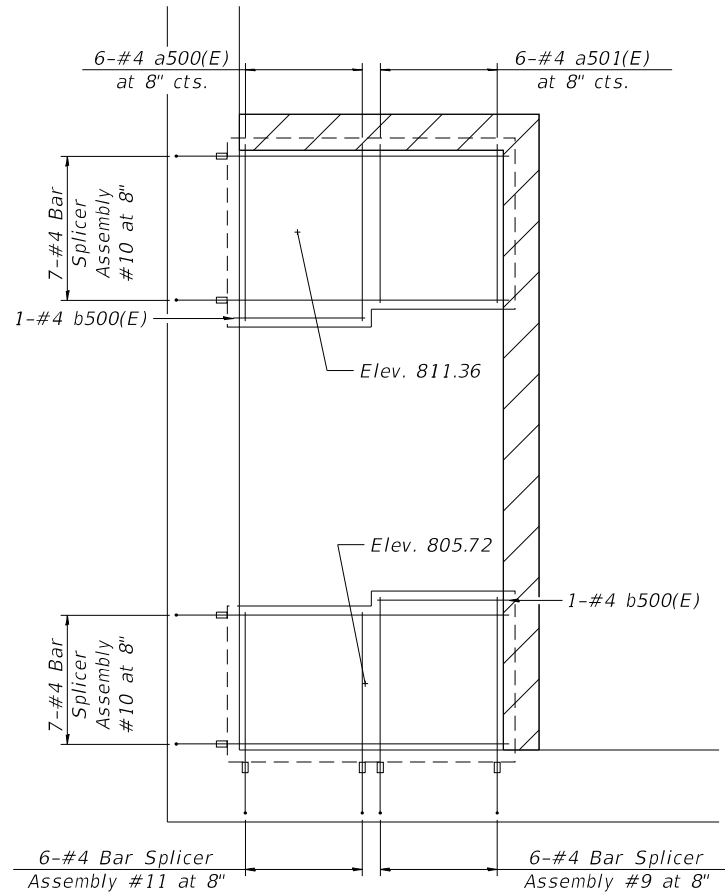
Bar	No.	Size	Length	Shape
a500(E)	18	4	4'-11"	—
a501(E)	18	4	4'-5"	—
b500(E)	6	4	3'-8"	—
b600(E)	2	4	3'-6"	—
Reinforcement Bars, Epoxy Coated			Pound	140
Bar Splicers			Each	116



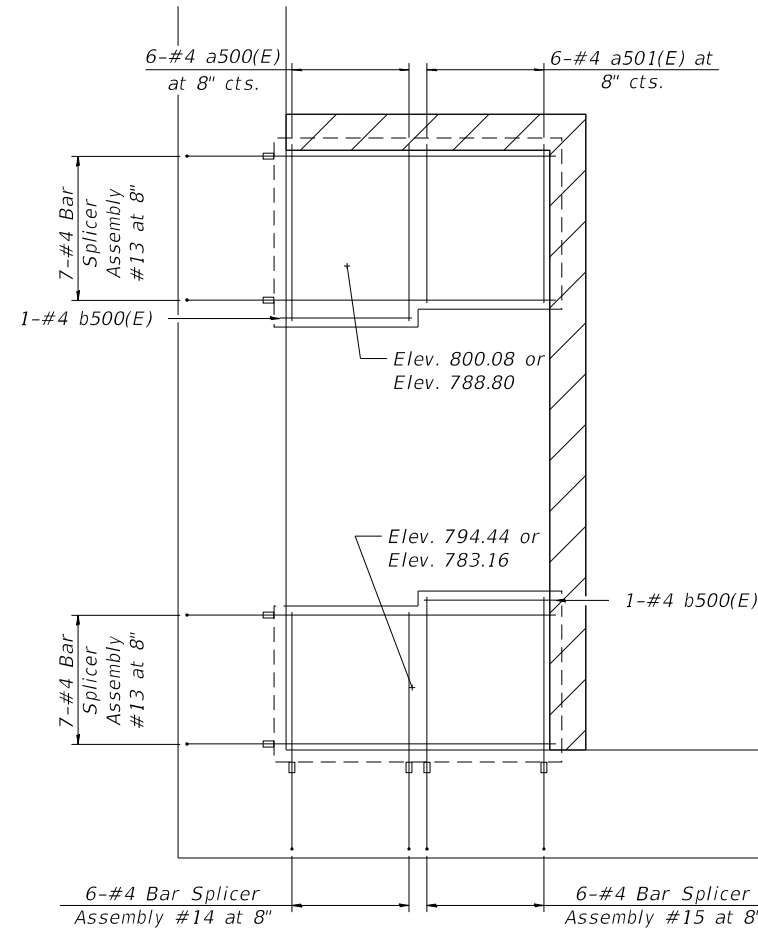
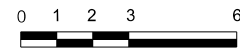
REINFORCEMENT PLAN - UPPER WET WELL STAIR SLAB



REINFORCEMENT PLAN - LOWER WET WELL STAIR SLAB



REINFORCEMENT PLAN - UPPER DRY WELL STAIR SLABS



REINFORCEMENT PLAN - LOWER DRY WELL STAIR SLABS



MODEL: Default
 FILE NAME: S:\MAD\1800-1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA18-ReinDet-El 805.33.dgn
 8/27/2024 9:30:24 AM



USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
PLOT SCALE =	5:4.0000 " / in.	DRAWN -	BJF	REVISED -	
PLOT DATE =	8/27/2024	CHECKED -	SAI	REVISED -	
		DATE -	8/28/2024	REVISED -	

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**REINFORCEMENT DETAILS - ELEV. 805.33
 PUMP STATION 49**

SHEET SA18 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	568
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		

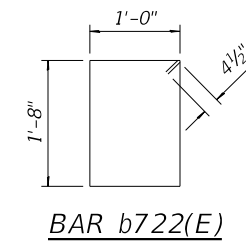
SA18

BILL OF MATERIALS

Bar	No.	Size	Length	Shape
a718(E)	4	5	8'-10"	—
a719(E)	4	5	9'-0"	—
a720(E)	4	5	8'-2"	—
a721(E)	8	5	27'-4"	—
a722(E)	4	7	26'-0"	—
a723(E)	8	5	7'-6"	—
a724(E)	4	5	8'-9"	—
a725(E)	4	5	7'-10"	—
a726(E)	62	7	5'-0"	—
a727(E)	2	7	5'-0"	—
a728(E)	2	7	5'-0"	—
a729(E)	2	7	4'-0"	—
a730(E)	2	7	5'-0"	—
a731(E)	4	7	4'-5"	—
b700(E)	14	7	9'-8"	—
b701(E)	8	7	1'-8"	—
b702(E)	8	7	3'-3"	—
b703(E)	20	7	21'-5"	—
b704(E)	14	7	12'-0"	—
b705(E)	18	7	11'-0"	—
b706(E)	6	7	8'-2"	—
b707(E)	2	7	7'-10"	—
b708(E)	8	7	21'-6"	—
b709(E)	2	7	34'-2"	—
b710(E)	16	7	3'-4"	—
b711(E)	4	7	29'-8"	—
b712(E)	8	7	19'-2"	—
b713(E)	10	7	8'-0"	—
b714(E)	4	7	8'-5"	—
b715(E)	6	7	27'-10"	—
b716(E)	10	7	3'-0"	—
b717(E)	8	7	10'-5"	—
b718(E)	12	7	13'-0"	—
b719(E)	16	7	12'-3"	—
b720(E)	4	7	16'-4"	—
b721(E)	8	7	8'-2"	—
b722(E)	40	4	6'-1"	□
Reinforcement Bars, Epoxy Coated		Pound	6,500	

MINIMUM BAR LAPS

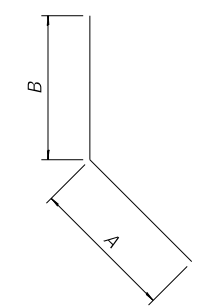
#7 Bar = 4'-2"



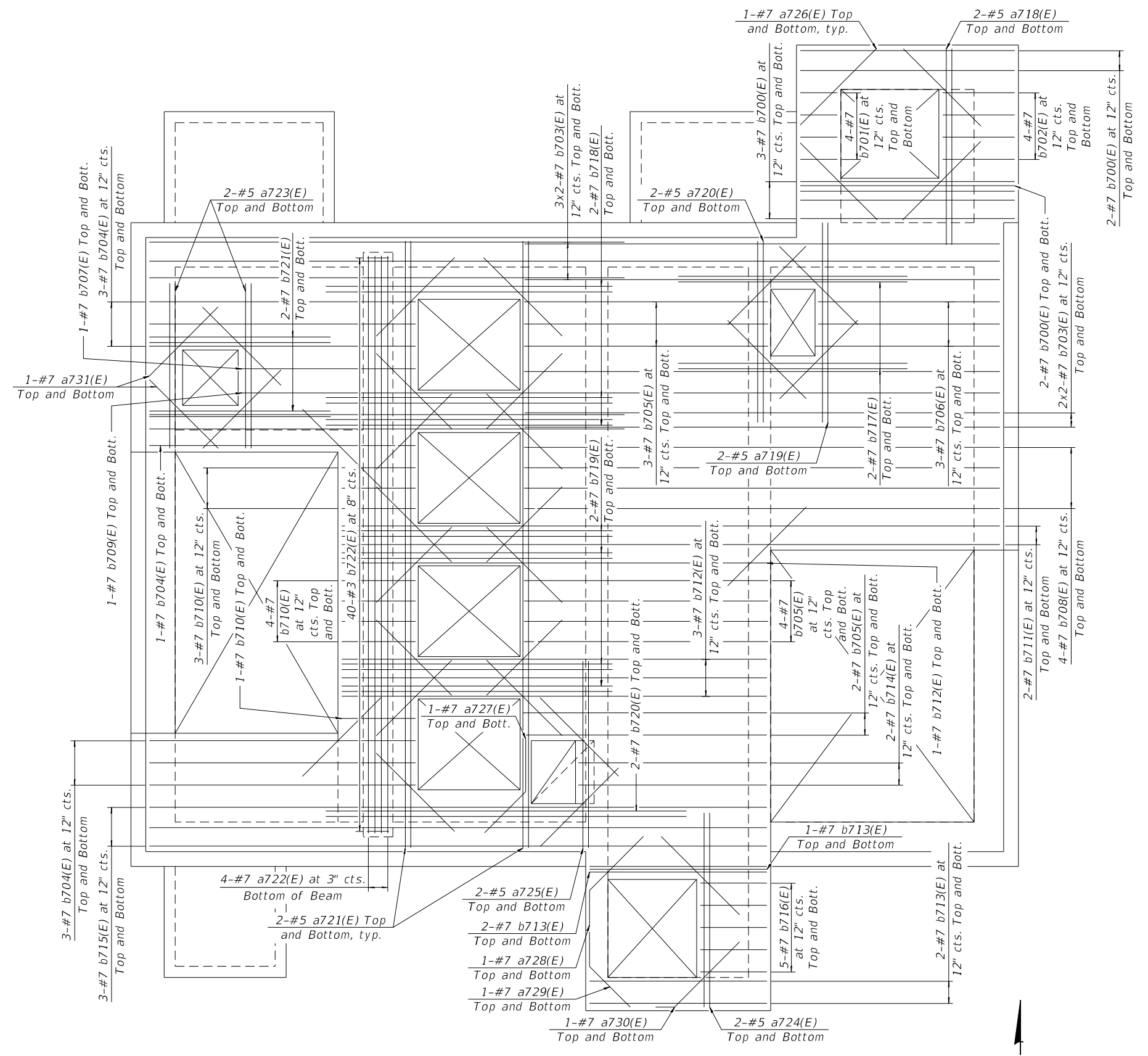
BAR b722(E)

A & B DIMENSION

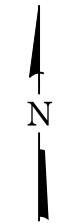
Bar	A	B
a727(E)	2'-6"	2'-6"
a728(E)	3'-6"	1'-6"
a729(E)	1'-6"	2'-6"
a730(E)	4'-0"	1'-0"



BARS a727(E), a728(E), a729(E), & a730(E)



REINFORCEMENT PLAN - ELEV. 817.00 (1)



MODEL: Default
 FILE NAME: S:\MAD\1800-1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA19-ReinDet-El 817.00(Horizontal ReinDet).dgn
 8/27/2024 9:30:24 AM



USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 5:4.0000 "/in.	DRAWN - BJF	REVISED -
PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
	DATE - 8/28/2024	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS - ELEV. 817.00
 PUMP STATION 49

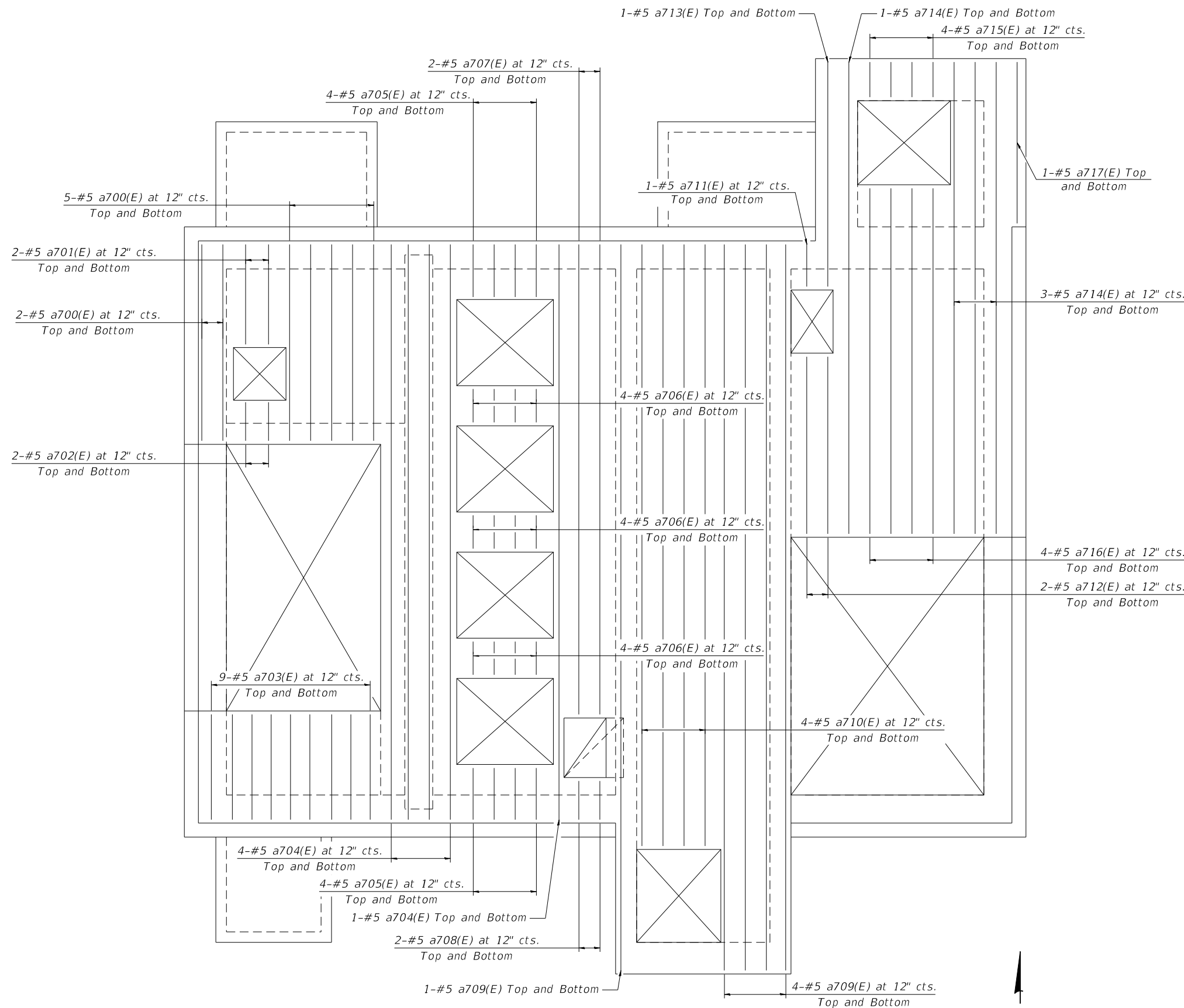
SHEET SA19 OF 37 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 569
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

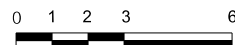
SA19

BILL OF MATERIALS

Bar	No.	Size	Length	Shape
a700(E)	14	5	9'-4"	—
a701(E)	4	5	4'-8"	—
a702(E)	4	5	1'-9"	—
a703(E)	18	5	5'-0"	—
a704(E)	10	5	27'-4"	—
a705(E)	16	5	2'-5"	—
a706(E)	24	5	1'-7"	—
a707(E)	4	5	22'-4"	—
a708(E)	4	5	1'-10"	—
a709(E)	10	5	34'-6"	—
a710(E)	8	5	28'-7"	—
a711(E)	2	5	2'-0"	—
a712(E)	4	5	8'-5"	—
a713(E)	2	5	10'-8"	—
a714(E)	8	5	22'-5"	—
a715(E)	8	5	1'-8"	—
a716(E)	8	5	16'-5"	—
a717(E)	2	5	7'-8"	—
Reinforcement Bars, Epoxy Coated			Pound	1,740



REINFORCEMENT PLAN - ELEV. 817.00 (2)



MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA20-ReinDet.dgn
 8/27/2024 9:30:24 AM



USER NAME = brianf	DESIGNED - SGH	REVISED -
DRAWN - BJF	REVISIONS -	
PLOT SCALE = 5:4.0000 "/>		

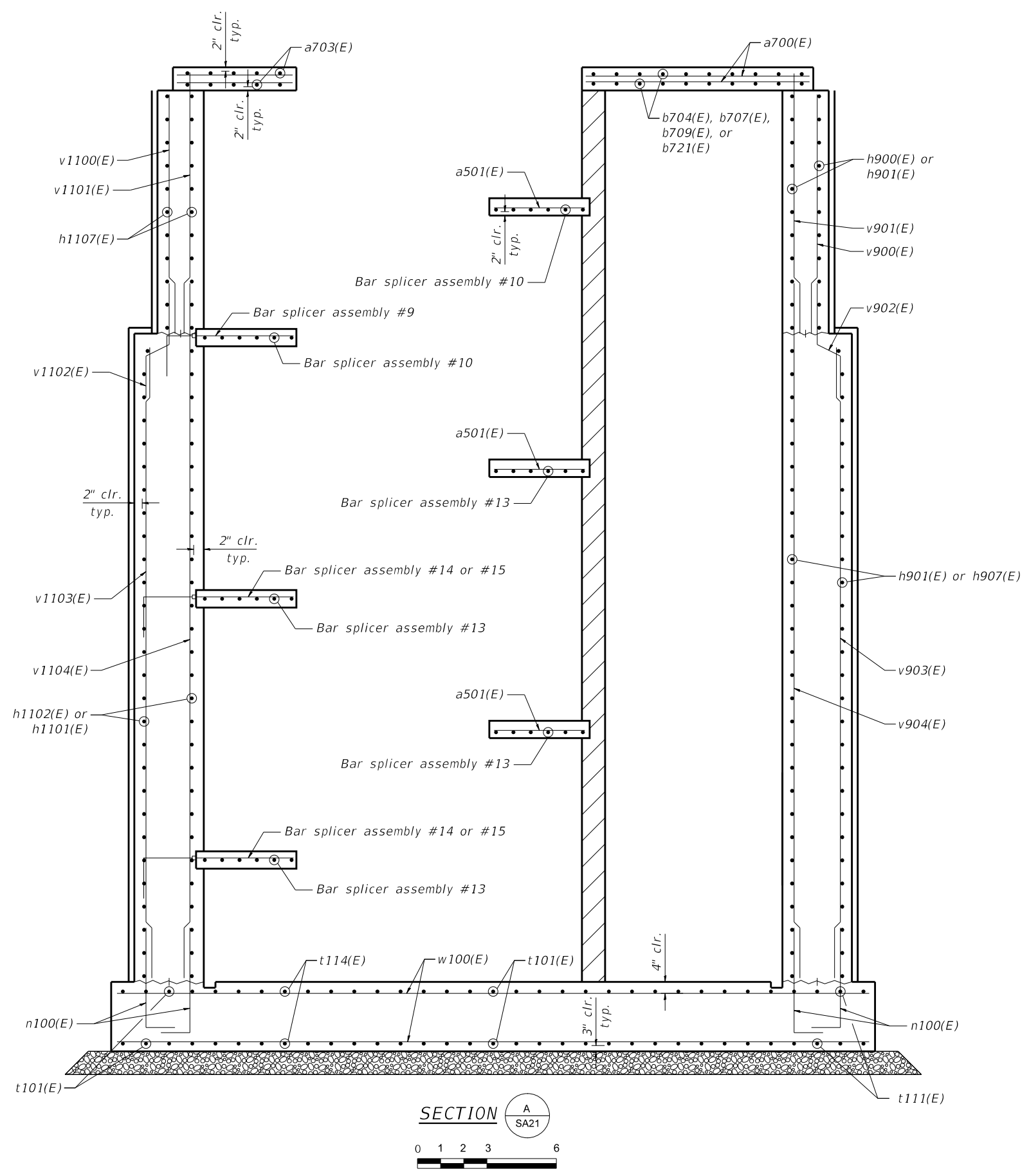
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**REINFORCEMENT DETAILS - ELEV. 817.00
 PUMP STATION 49**

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 570
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

SA20

MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-SA21-ReinDet-SecA.dgn
 8/27/2024 9:30:25 AM



SECTION A SA21
 0 1 2 3 6

SA21



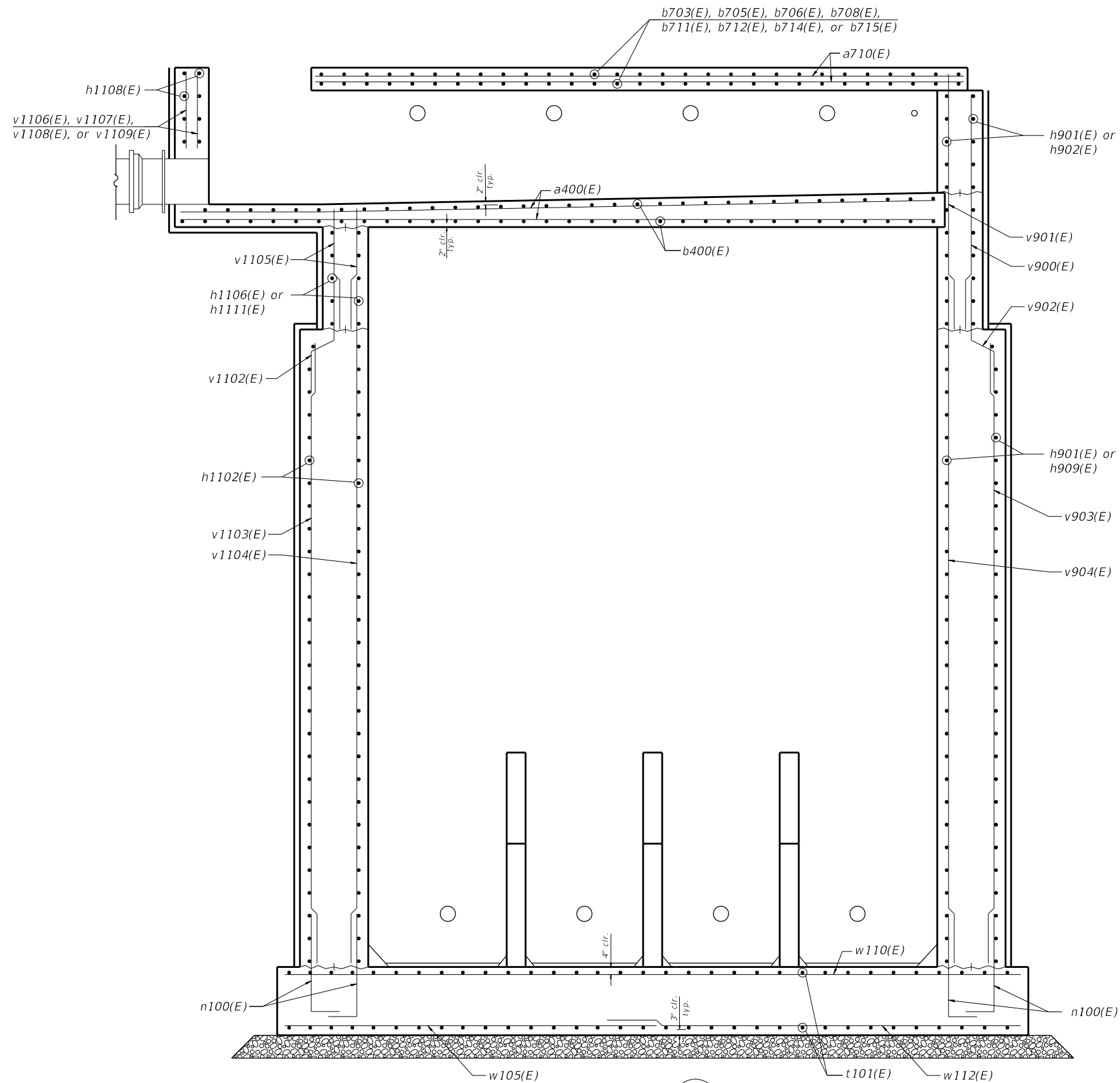
1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - SGH	REVISED -
	PLOT SCALE = 5:4.0000 "/ in.	DRAWN - BJF	REVISED -
	PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
		DATE - 8/28/2024	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS - SECTION A-A
 PUMP STATION 49

SHEET SA21 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	571
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		



SECTION B
SA22



MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA22-ReinDet-SectionB.dgn



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - SGH	REVISED -
		DRAWN - BJF	REVISED -
	PLOT SCALE = 5:4.0000 "/ in.	CHECKED - SAI	REVISED -
	PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

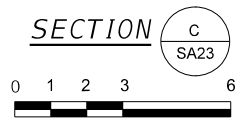
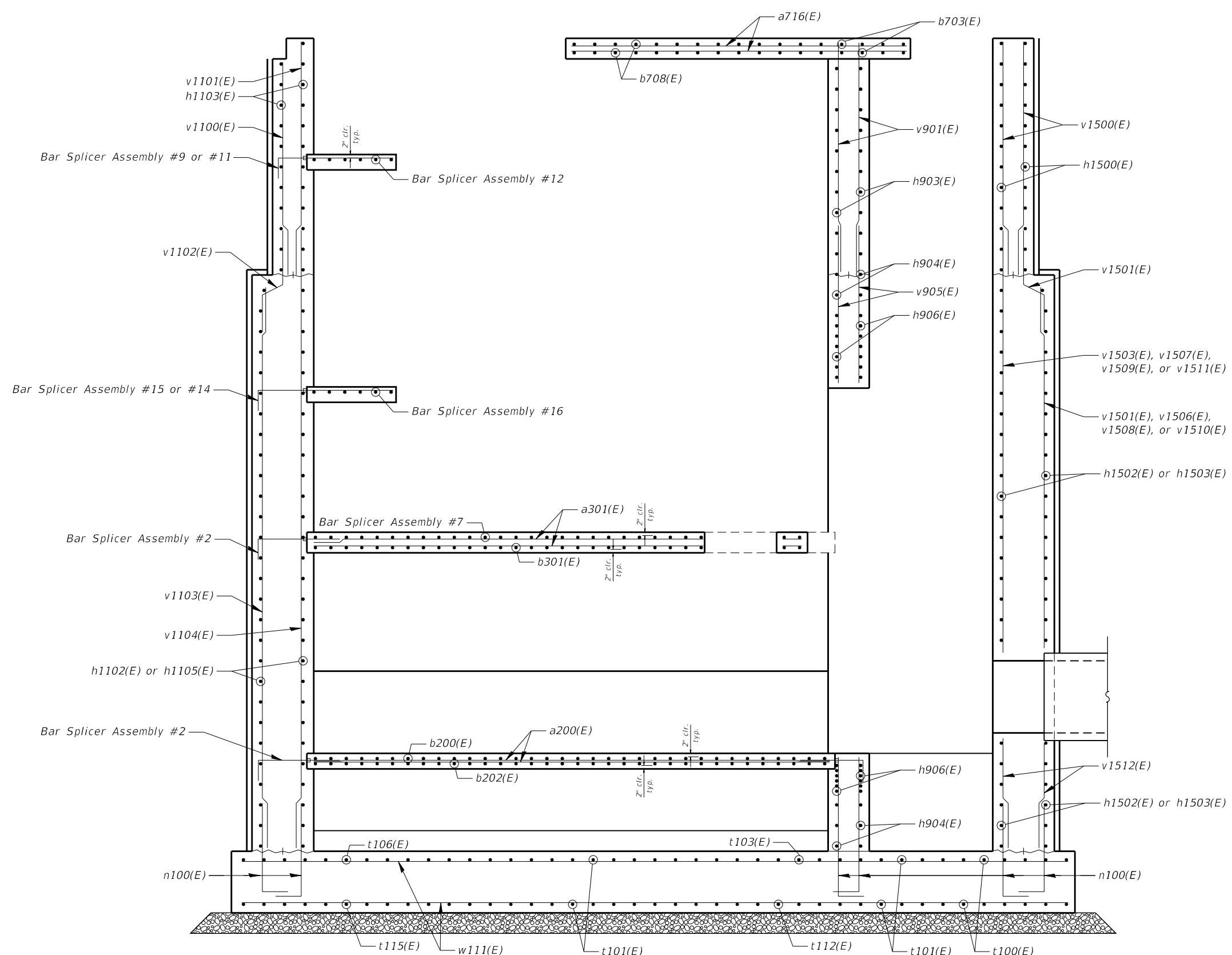
REINFORCEMENT DETAILS - SECTION B-B
PUMP STATION 49

SHEET SA22 OF 37 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 572
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

SA22

MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA23-ReinDet-SecC.dgn
 8/27/2024 9:30:25 AM



USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
DRAWN -	BJF	REVISIONS -			
PLOT SCALE =	5:4.0000 "/ in.	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

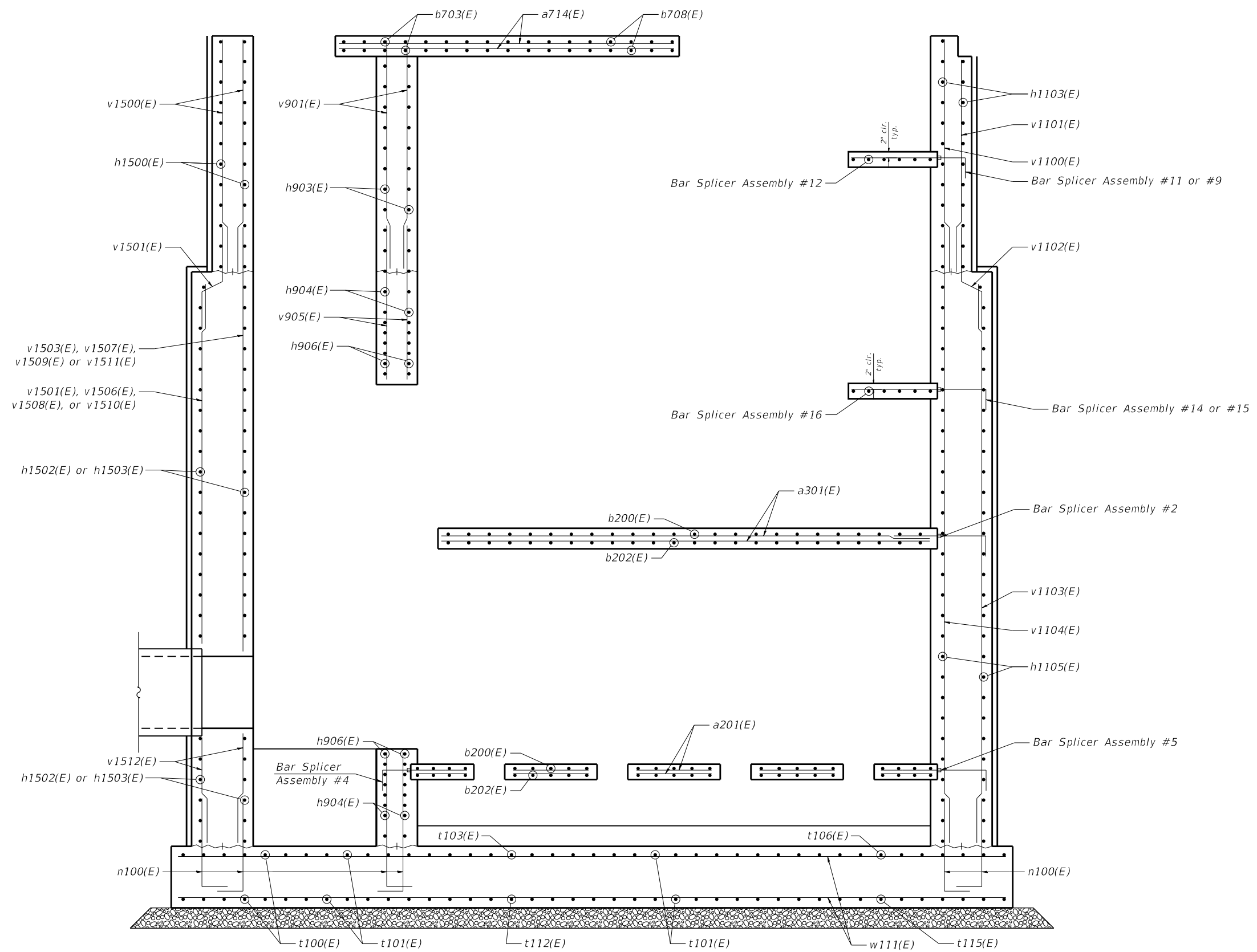
REINFORCEMENT DETAILS - SECTION C-C
 PUMP STATION 49

SHEET SA23 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	573
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

SA23

MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA24-ReinDet-SecDd.dgn
 8/27/2024 9:30:26 AM



SECTION D
 SA24
 0 1 2 3 6

SA24



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - SGH	REVISED -
	PLOT SCALE = 5:4.0000 "/ in.	DRAWN - BJF	REVISED -
	PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
		DATE - 8/28/2024	REVISED -

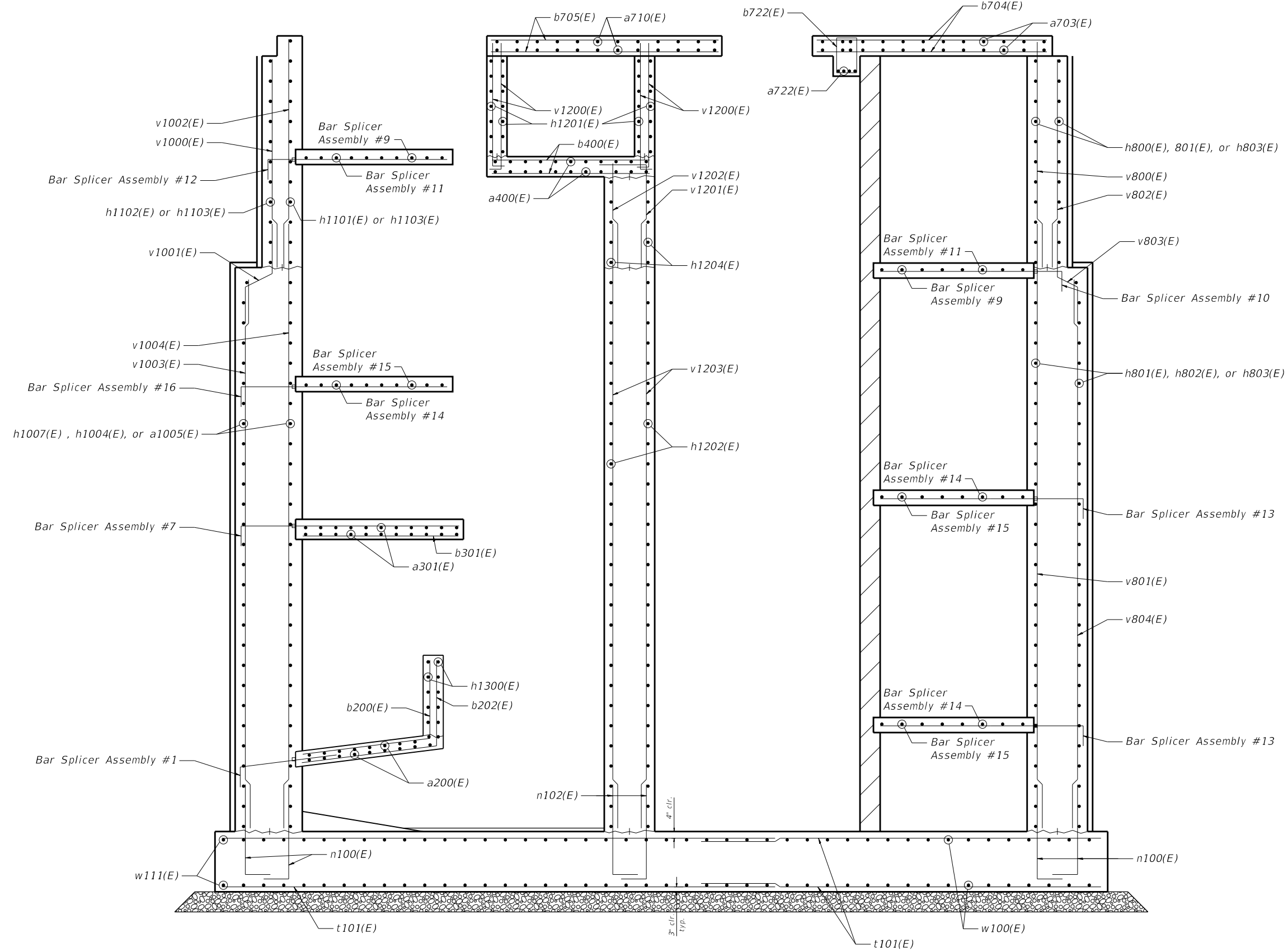
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS - SECTION D-D
 PUMP STATION 49

SHEET SA24 OF 37 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 574
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

MODEL: Default
 FILE NAME: S:\MAD\1800-1899\1843\002\Drawings\CAD\Micros-554\CAD_Sheets\PS19-xxxx-SA25-ReinDet-SEEE.dgn
 8/27/2024 9:30:26 AM



SECTION E
 SA25
 0 1 2 3 4 5 6



USER NAME = brianf	DESIGNED - SGH	REVISED -
DRAWN - BJF	CHECKED - SAI	REVISED -
PLOT SCALE = 5:4.0000 "/>		

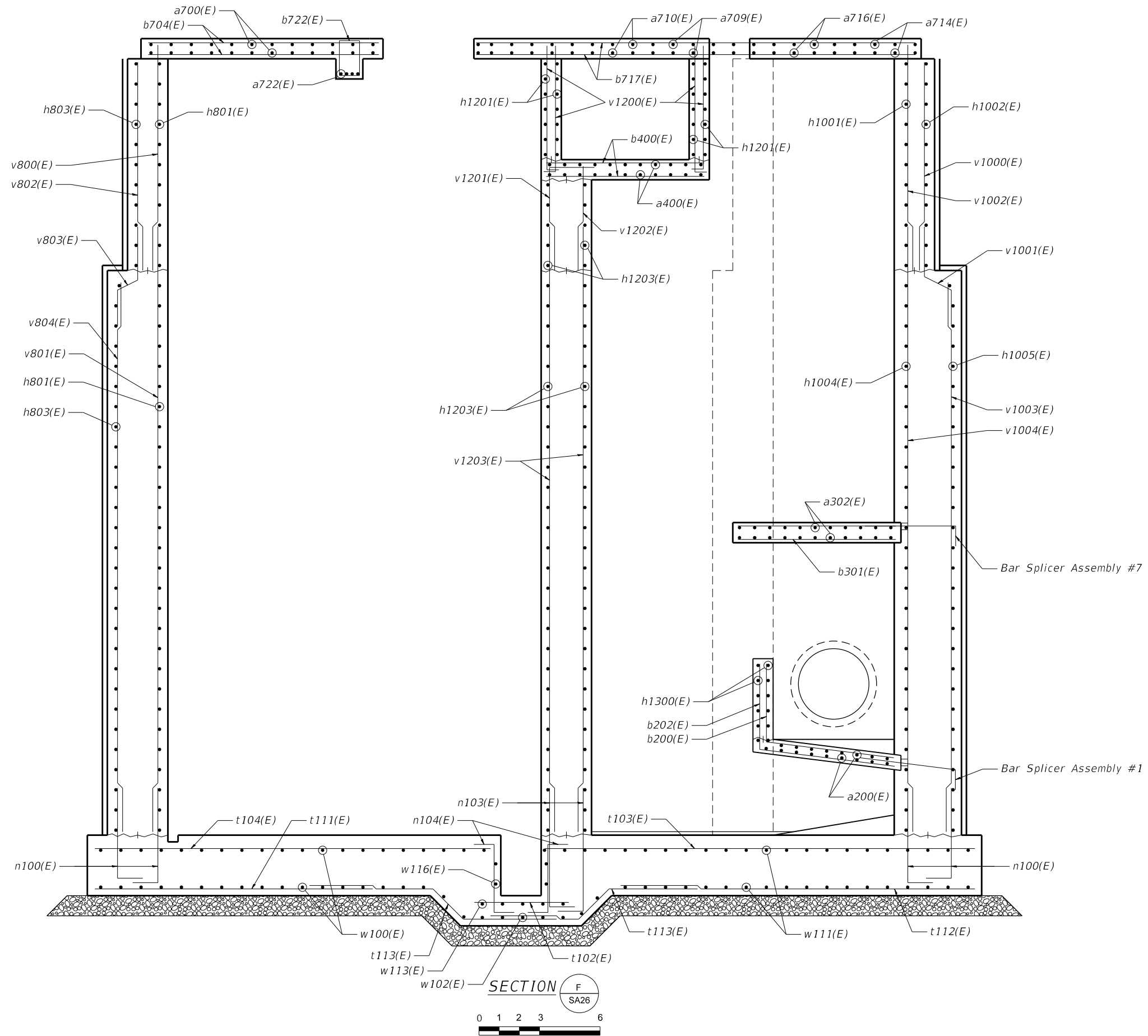
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS - SECTION E-E
 PUMP STATION 49
 SHEET SA25 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	575
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

SA25

MODEL: Default
 FILE NAME: S:\MAD1\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-SA26-ReinDet-SectionF.dgn
 8/27/2024 9:30:26 AM



SECTION F
 SA26
 0 1 2 3 6

SA26

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS - SECTION F-F
 PUMP STATION 49

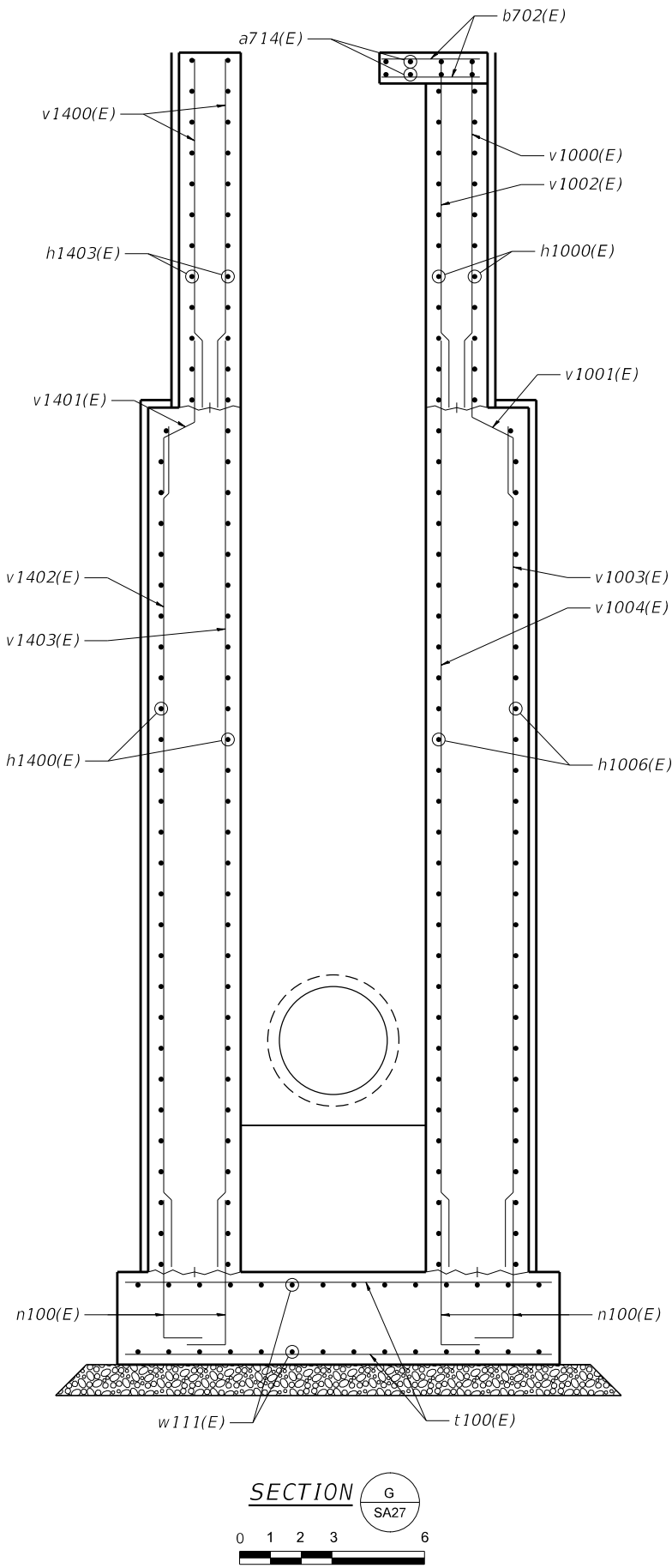
SHEET SA26 OF 37 SHEETS

USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 5:4.0000 " / in.	DRAWN - BJF	REVISED -
PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
	DATE - 8/28/2024	REVISED -

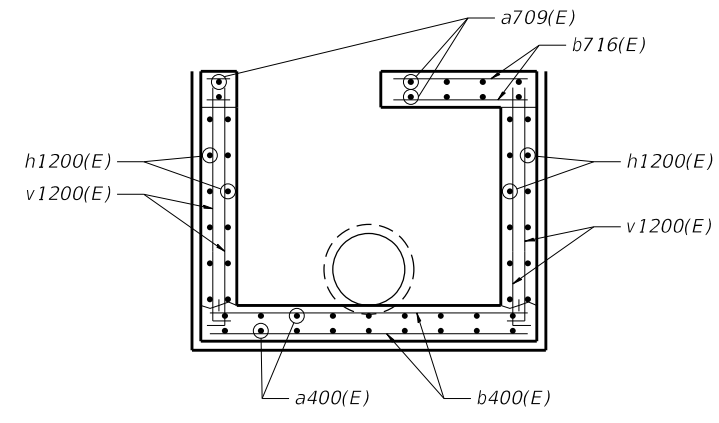
F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 576
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

STRAND ASSOCIATES
 1170 SOUTH HOUBOLT ROAD
 JOLIET, ILLINOIS 60431
 (815) 744-4200
 IDFP NO. 184-001273

MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA27-ReinDet-SecGG&HH.dgn
 8/27/2024 9:30:27 AM



SECTION G
 SA27
 0 1 2 3 6



SECTION H
 SA27
 0 1 2 3 6



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - SGH	REVISED -
	PLOT SCALE = 5:4.0000 " / in.	DRAWN - BJF	REVISED -
	PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
		DATE - 8/28/2024	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS - SECTION G-G & H-H
 PUMP STATION 49

SHEET SA27 OF 37 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 577
ILLINOIS FED. AID PROJECT			CONTRACT NO. 61J87	

SA27

BILL OF MATERIALS

Bar	No.	Size	Length	Shape
h800(E)	44	8	19'-4"	□
h801(E)	40	8	21'-8"	□
h802(E)	112	8	22'-4"	□
h803(E)	40	7	21'-8"	□
v800(E)	26	6	11'-4"	—
v801(E)	26	8	31'-7"	—
v802(E)	30	6	10'-4"	—
v803(E)	30	6	8'-7"	—
v804(E)	32	8	27'-10"	—
Reinforcement Bars, Epoxy Coated			Pound	18,300

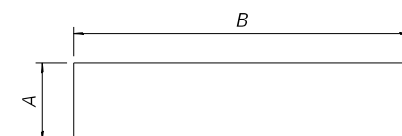
MINIMUM BAR LAPS

Vertical:
 #6 Bar = 3'-7"
 #8 Bar = 4'-9"

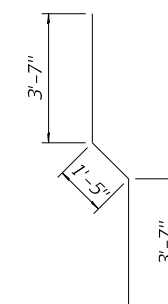
Horizontal:
 #8 Bar = 5'-4"

A & B DIMENSIONS

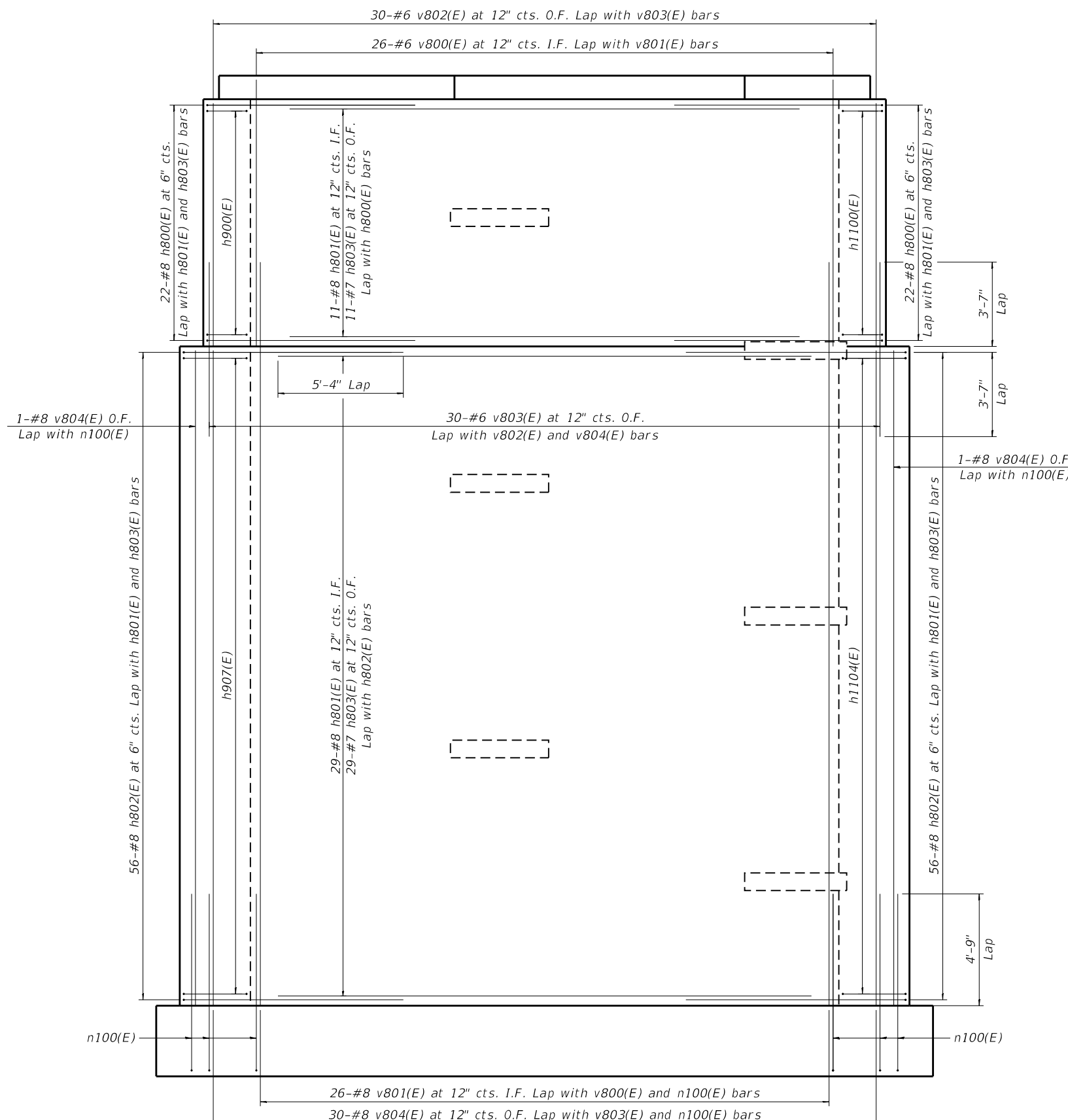
Bar	A	B
h800(E)	1'-8"	8'-10"
h802(E)	2'-8"	9'-10"



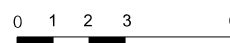
BARS h800(E) & h802(E)



BAR v803(E)



ELEVATION 1 (WEST WALL)



MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA28-ReinDet-Elev1.dgn

SA
 1170 SOUTH HOUBOLT ROAD
 JOLIET, ILLINOIS 60431
 (815) 744-4200
 IDFP NO. 184-001273

USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
DRAWN -	BJF	REVISED -			
PLOT SCALE =	5:4.0000 " / in.	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**REINFORCEMENT DETAILS - ELEVATION 1
 PUMP STATION 49**

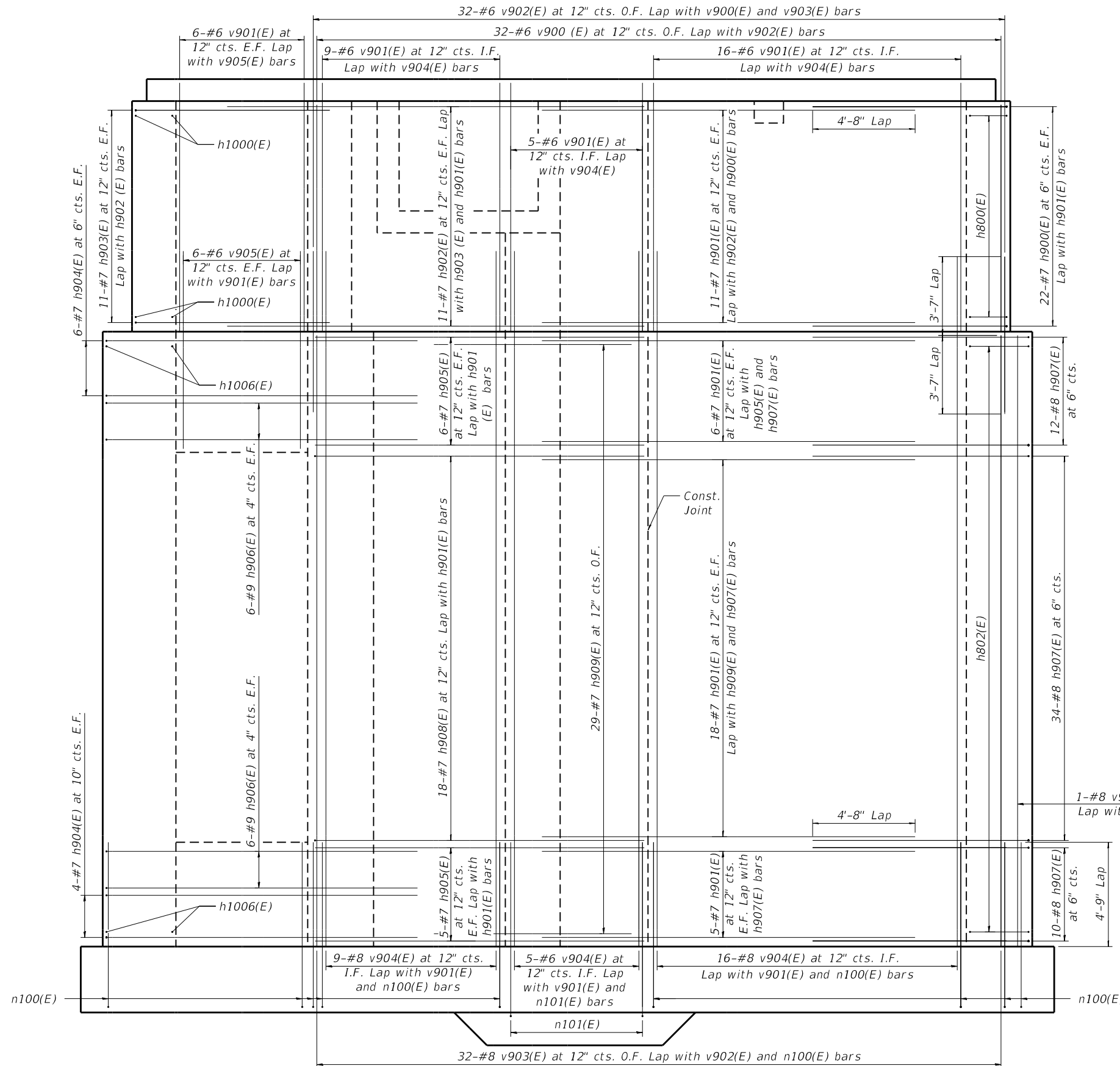
SHEET SA28 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	578
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		

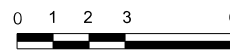
SA28

MINIMUM BAR LAPS

Vertical:
 #6 Bar = 3'-7"
 #8 Bar = 4'-9"
 Horizontal:
 #7 Bar = 4'-8"



ELEVATION 2 (NORTH WALL)

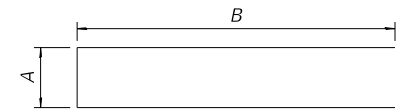


BILL OF MATERIALS

Bar	No.	Size	Length	Shape
h900(E)	22	8	19'-4"	□
h901(E)	80	7	17'-0"	□
h902(E)	22	7	19'-0"	□
h903(E)	22	7	10'-0"	□
h904(E)	20	7	15'-4"	□
h905(E)	22	7	15'-2"	□
h906(E)	24	9	15'-8"	□
h907(E)	56	8	22'-4"	□
h908(E)	18	7	33'-0"	□
h909(E)	29	7	9'-0"	□
v900(E)	32	6	10'-4"	□
v901(E)	42	6	11'-4"	□
v902(E)	32	6	8'-7"	□
v903(E)	33	8	27'-10"	□
v904(E)	30	8	31'-7"	□
v905(E)	12	6	8'-11"	□
Reinforcement Bars, Epoxy Coated		Pound	18,210	

A & B DIMENSIONS

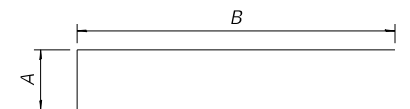
Bar	A	B
h900(E)	1'-8"	8'-10"
h907(E)	2'-8"	9'-10"
h908(E)	2'-8"	15'-2"



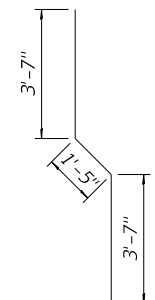
BARS h900(E), h907(E), & h908(E)

A & B DIMENSIONS

Bar	A	B
h903(E)	1'-2"	8'-10"
h904(E)	1'-6"	14'-2"
h906(E)	1'-6"	14'-2"



BARS h903(E), h904(E), & h906(E)



BARS v902(E)

MODEL: Default
 FILE NAME: S:\MAD1\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA29-ReinDet-Elev2.dgn



USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 5:4.0000 "/>		

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**REINFORCEMENT DETAILS - ELEVATION 2
 PUMP STATION 49**

SHEET SA29 OF 37 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 579
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

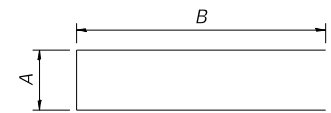
SA29

BILL OF MATERIALS

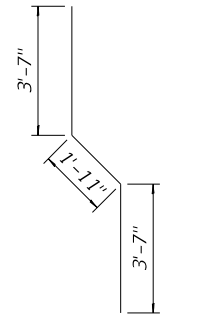
Bar	No.	Size	Length	Shape
h1000(E)	22	8	29'-4"	▭
h1001(E)	11	9	25'-11"	▭
h1002(E)	11	7	23'-4"	▭
h1003(E)	22	9	19'-4"	▭
h1004(E)	29	9	26'-3"	▭
h1005(E)	29	7	24'-4"	▭
h1006(E)	56	7	30'-8"	▭
h1007(E)	56	9	22'-8"	▭
v1000(E)	38	6	10'-4"	▭
v1001(E)	38	6	9'-1"	▭
v1002(E)	34	6	11'-4"	▭
v1003(E)	40	8	27'-10"	▭
v1004(E)	34	8	31'-7"	▭
Reinforcement Bars, Epoxy Coated			Pound	21,830

A & B DIMENSIONS

Bar	A	B
h1000(E)	1'-8"	13'-10"
h1003(E)	1'-8"	8'-10"
h1006(E)	3'-0"	13'-10"
h1007(E)	3'-0"	9'-10"



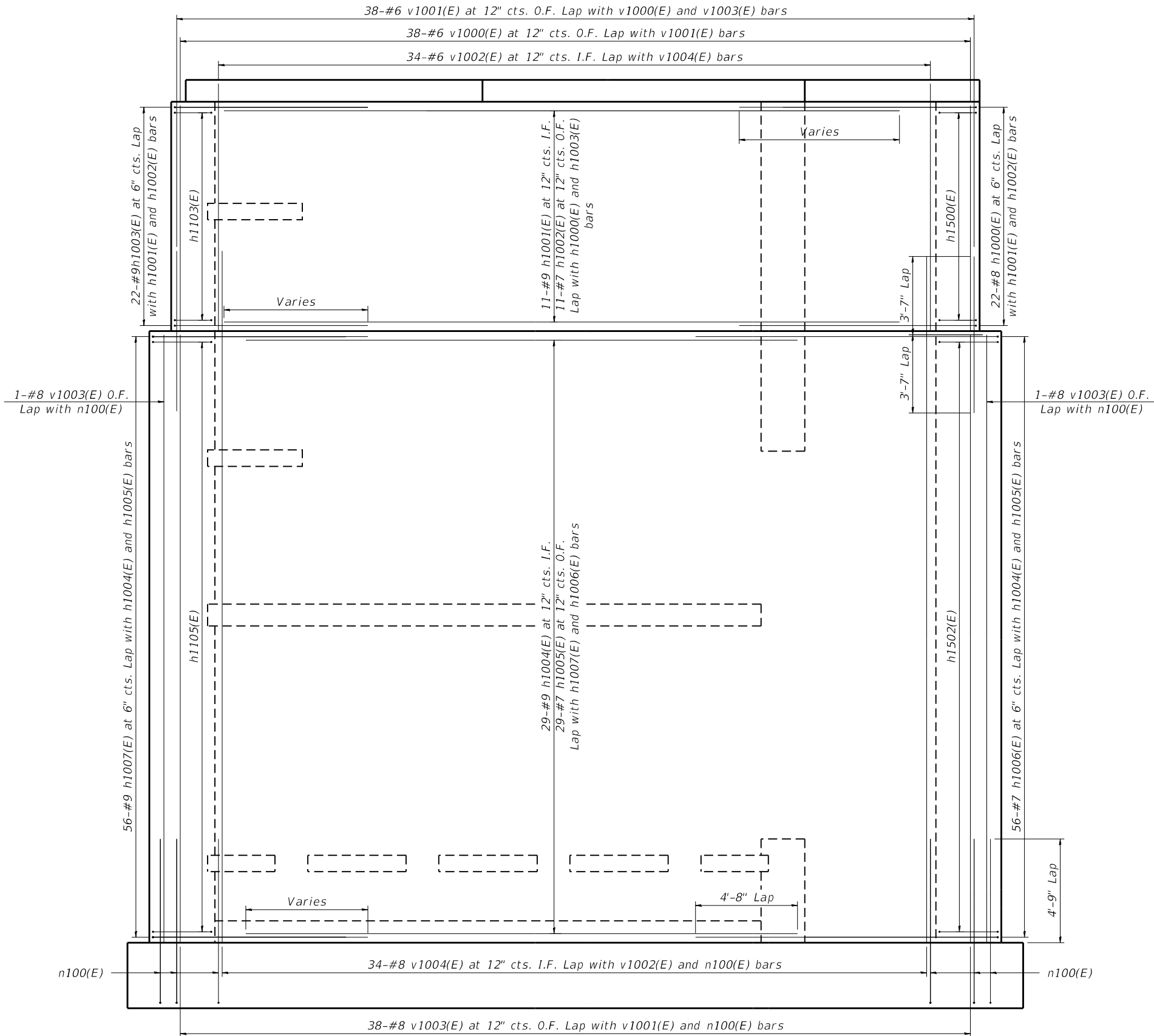
BARS h1000(E), h1003(E),
h1006(E), & h1007(E)



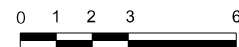
BAR v1001(E)

MINIMUM BAR LAPS

- Vertical:
 #6 Bar = 3'-7"
 #8 Bar = 4'-9"
- Horizontal:
 #7 Bar = 4'-8"
 #8 Bar = 5'-4"
 #9 Bar = 6'-7"



ELEVATION 3 (EAST WALL)



MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-SA30-ReinDet-Elv3.dgn

SA STRAND ASSOCIATES
 1170 SOUTH HOUBOLT ROAD
 JOLIET, ILLINOIS 60431
 (815) 744-4200
 IDFPR NO. 184-001273

USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
		DRAWN -	BJF	REVISED -	
PLOT SCALE =	5:4.0000 " / in.	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

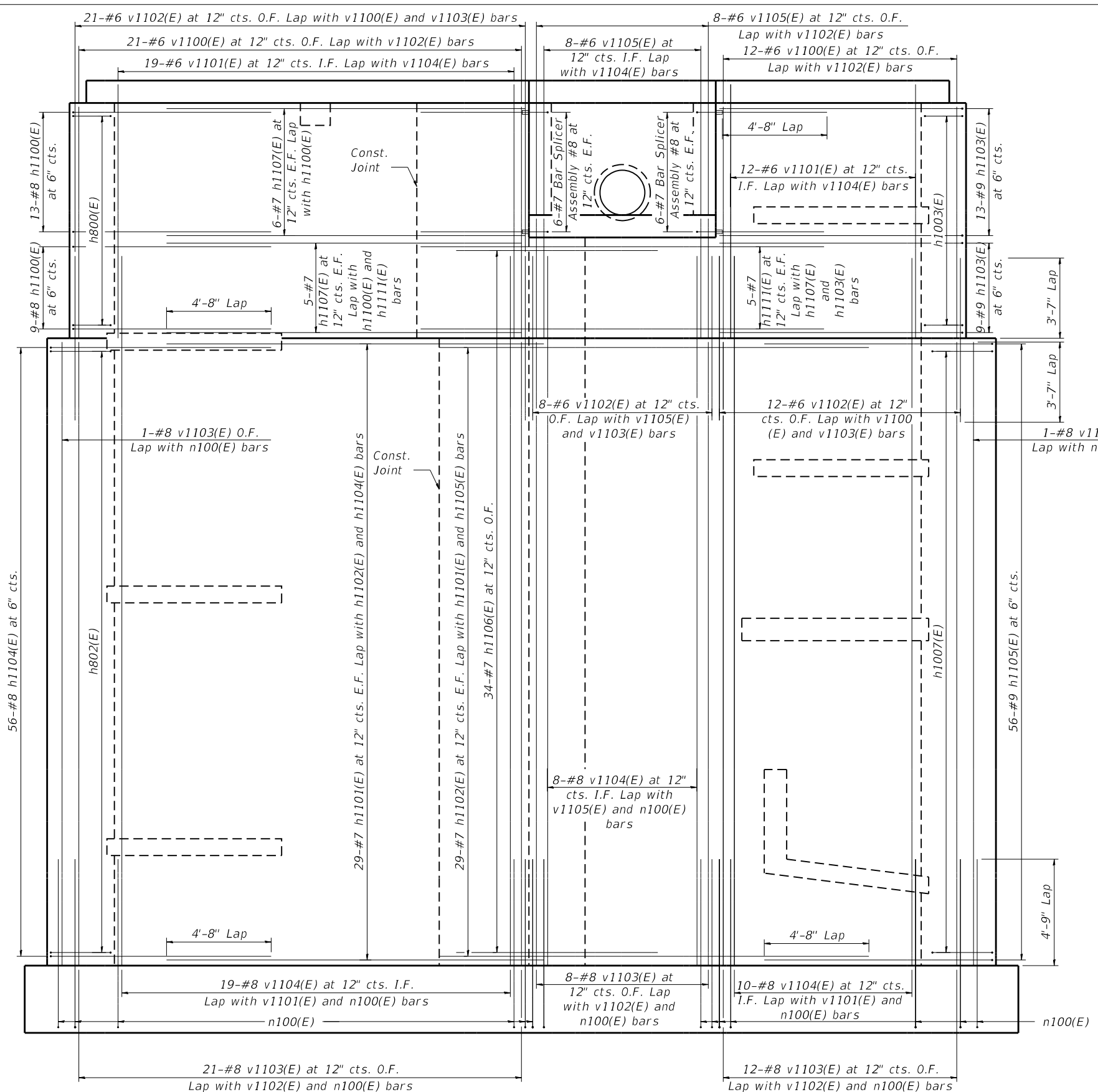
**REINFORCEMENT DETAILS - ELEVATION 3
 PUMP STATION 49**

SHEET SA30 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	580
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

SA30

MODEL: Default
 FILE NAME: S:\MAD11800-189911843\02\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA31-ReinDet-Elev4.dgn
 8/27/2024 9:30:28 AM

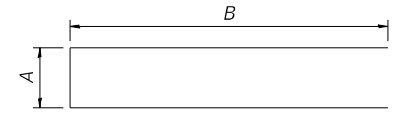


ELEVATION 4 (SOUTH WALL)



A & B DIMENSIONS

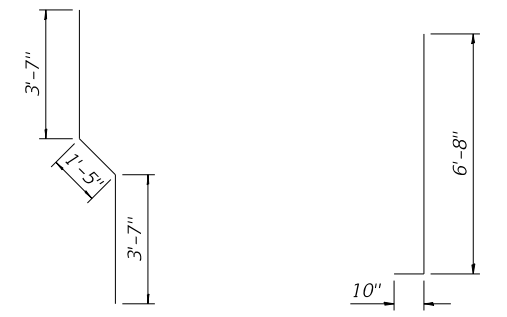
Bar	A	B
h1100(E)	1'-8"	8'-10"
h1103(E)	1'-8"	10'-10"
h1104(E)	2'-8"	9'-10"
h1105(E)	2'-8"	10'-2"
h1108(E)	1'-2"	5'-8"
h1109(E)	1'-2"	2'-8"
h1110(E)	1'-2"	2'-4"



BARS h1100(E), h1103(E),
 h1104(E), h1105(E), h1108(E),
 h1109(E), & h1110(E)

BILL OF MATERIALS

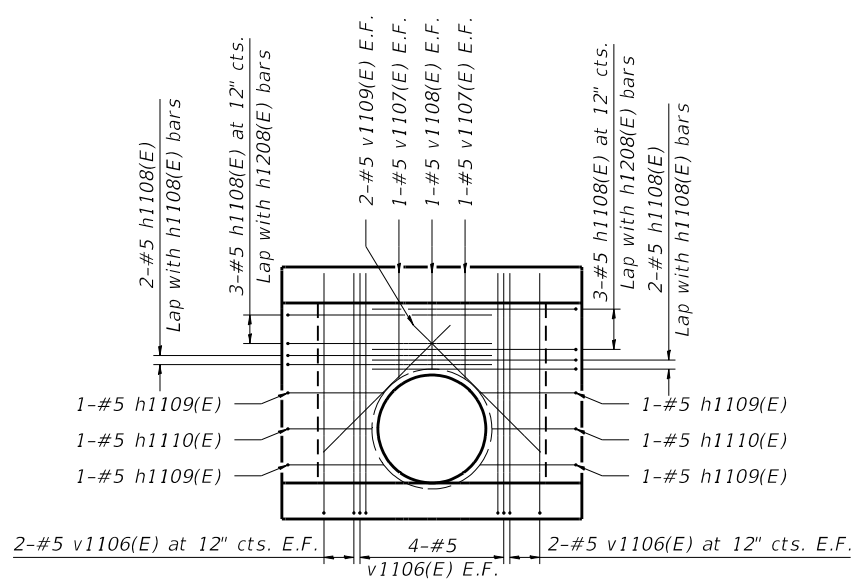
Bar	No.	Size	Length	Shape
h1100(E)	22	8	19'-4"	□
h1101(E)	58	7	17'-0"	—
h1102(E)	58	7	19'-0"	—
h1103(E)	22	9	23'-4"	□
h1104(E)	56	8	22'-4"	□
h1105(E)	56	9	23'-0"	□
h1106(E)	34	7	9'-0"	—
h1107(E)	22	7	16'-0"	—
h1108(E)	10	5	12'-6"	□
h1109(E)	4	5	6'-6"	□
h1110(E)	2	5	5'-10"	□
h1111(E)	10	7	18'-0"	—
v1100(E)	33	6	10'-4"	—
v1101(E)	31	6	11'-4"	—
v1102(E)	41	6	8'-7"	—
v1103(E)	43	8	27'-10"	—
v1104(E)	37	8	31'-7"	—
v1105(E)	16	6	5'-4"	—
v1106(E)	16	5	7'-6"	—
v1107(E)	4	5	3'-0"	—
v1108(E)	2	5	2'-8"	—
v1109(E)	4	5	5'-0"	—
Reinforcement Bars, Epoxy Coated		Pound	23,120	
Bar Splicers		Each	24	



BAR v1102(E) BAR v1106(E)

MINIMUM BAR LAPS

Vertical:
 #6 Bar = 3'-7"
 #8 Bar = 4'-9"
 Horizontal:
 #7 Bar = 4'-9"



ELEVATION 4-1 (SOUTH DISCHARGE CHAMBER WALL)



SA31



1170 SOUTH HOUBOLT ROAD
 JOLIET, ILLINOIS 60431
 (815) 744-4200
 IDFPR NO. 184-001273

USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
DRAWN -	BJF	REVISED -			
PLOT SCALE =	5:4.0000 "/in.	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	

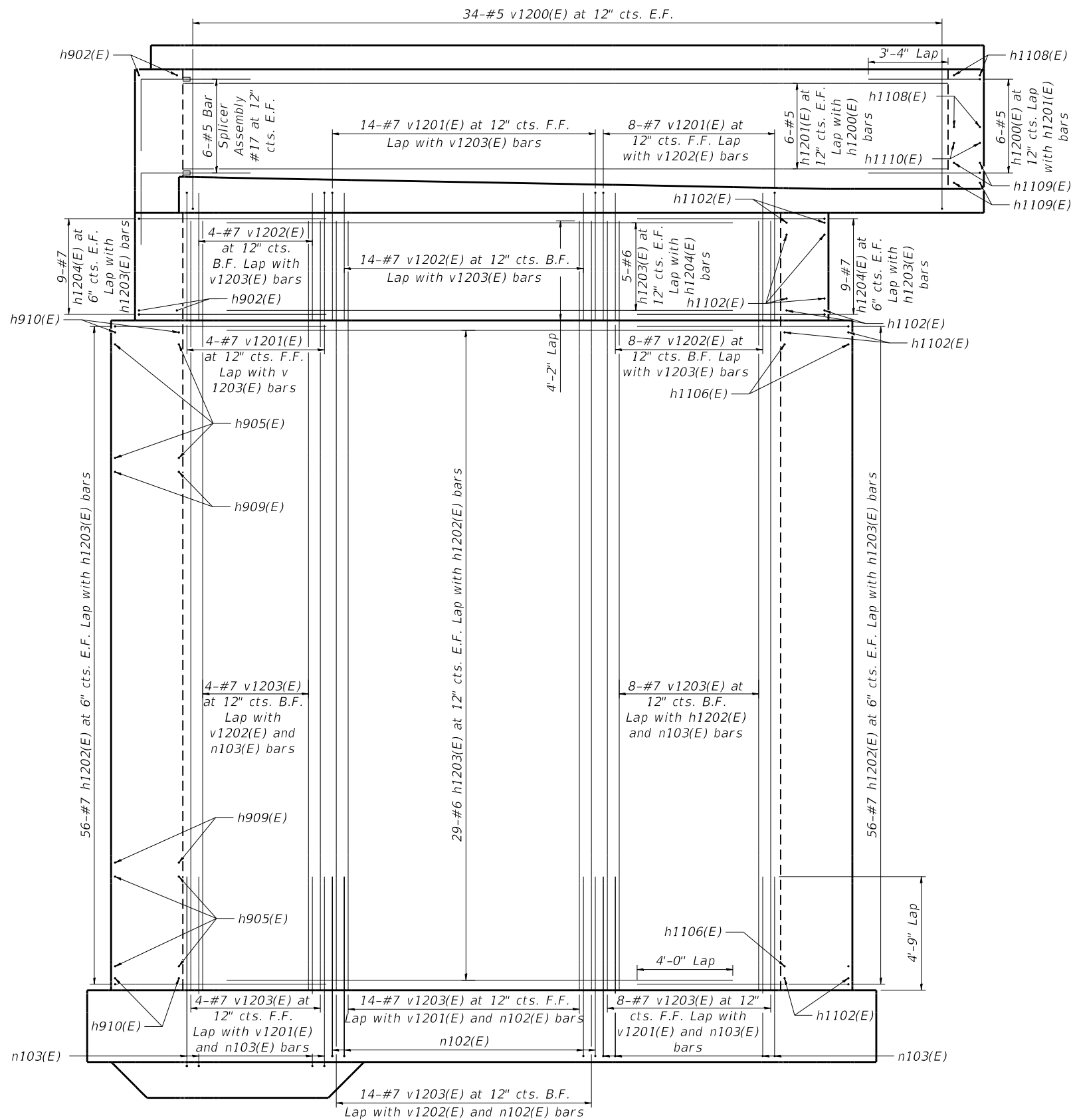
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS - ELEVATION 4
 PUMP STATION 49

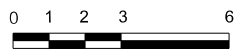
SHEET SA31 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	581
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

MODEL: Default
 FILE NAME: S:\MAD1\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA32-ReinDet-Elev5.dgn



ELEVATION 5 (MAIN INTERIOR WALL FROM THE WEST)

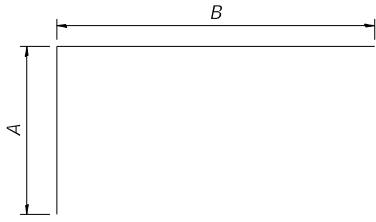


BILL OF MATERIALS

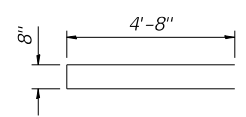
Bar	No.	Size	Length	Shape
h1200(E)	6	5	10'-0"	□
h1201(E)	12	5	31'-10"	□
h1202(E)	224	7	13'-6"	□
h1203(E)	68	6	21'-0"	□
h1204(E)	36	7	12'-6"	□
v1200(E)	68	5	7'-6"	□
v1201(E)	26	7	9'-6"	□
v1202(E)	26	7	5'-4"	□
v1203(E)	52	7	32'-2"	□
Reinforcement Bars, Epoxy Coated			Pound	11,820
Bar Splicers			Each	12

A & B DIMENSIONS

Bar	A	B
h1202(E)	4'-8"	8'-10"
h1204(E)	4'-8"	7'-10"
v1200(E)	10"	6'-8"
v1201(E)	4'-2"	5'-4"



BARS h1202(E), h1204(E), v1200(E), & v1201(E)



BAR h1200(E)

MINIMUM BAR LAPS

Vertical:
 #7 Bar = 4'-2"
 #8 Bar = 4'-9"

Horizontal:
 #5 Bar = 3'-4"
 #6 Bar = 4'-0"



USER NAME = brianf	DESIGNED - SGH	REVISED -
PLOT SCALE = 5:4.0000 "/> <td>DRAWN - BJF</td> <td>REVISED -</td>	DRAWN - BJF	REVISED -
PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
	DATE - 8/28/2024	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS - ELEVATION 5
 PUMP STATION 49

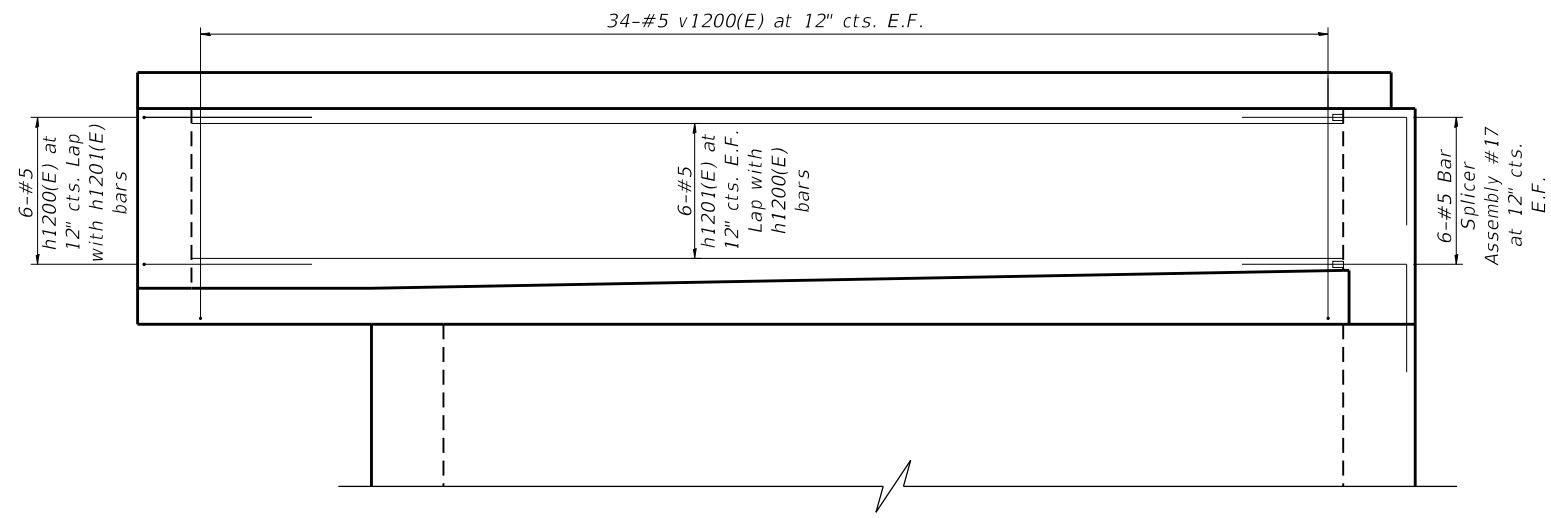
SHEET SA32 OF 37 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 582
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

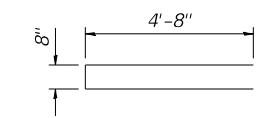
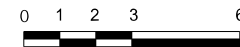
SA32

BILL OF MATERIALS

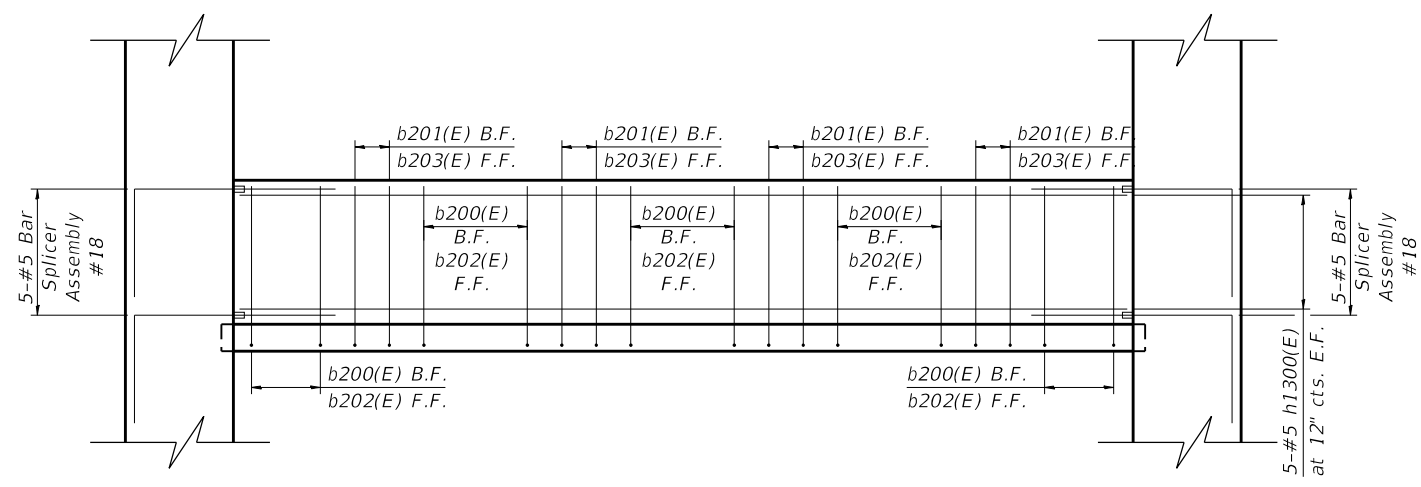
Bar	No.	Size	Length	Shape
h1200(E)	6	5	10'-0"	□
h1201(E)	12	5	31'-10"	—
h1300(E)	10	5	24'-8"	—
v1200(E)	68	5	7'-6"	□
Reinforcement Bars, Epoxy Coated			Pound	1,260
Bar Splicers			Each	22



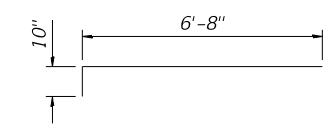
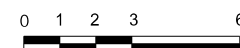
ELEVATION 6 (EAST DISCHARGE CHAMBER WALL FROM THE EAST)



BAR h1200(E)



ELEVATION 7 (INFLOW BAFFLE WALL FROM THE WEST)



BAR v1200(E)

MODEL: Default
FILE NAME: S:\MAD\1800-1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA33-ReinDet-Elev6.dgn

STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME =	brianf	DESIGNED -	SGH	REVISED -	
		DRAWN -	BJF	REVISED -	
PLOT SCALE =	5:4.0000 "/> <td>CHECKED -</td> <td>SAI</td> <td>REVISED -</td> <td></td>	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**REINFORCEMENT DETAILS - ELEVATION 6 & 7
PUMP STATION 49**

SHEET SA33 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	583
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		

SA33

8/27/2024 9:30:29 AM

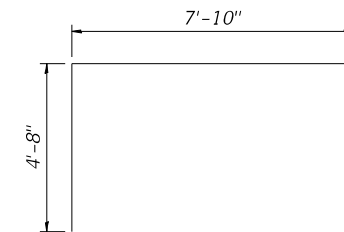
BILL OF MATERIALS

Bar	No.	Size	Length	Shape
h1400(E)	29	7	17'-8"	
h1401(E)	44	7	12'-6"	
h1402(E)	18	7	18'-4"	
h1403(E)	11	7	14'-8"	
h1500(E)	22	8	17'-4"	
h1501(E)	11	7	14'-8"	
h1502(E)	49	7	21'-0"	
h1503(E)	25	7	17'-8"	
h1504(E)	8	7	12'-0"	
h1505(E)	1	7	11'-2"	
h1506(E)	2	7	11'-3"	
h1507(E)	2	7	11'-10"	
h1508(E)	2	7	13'-0"	
h1509(E)	2	7	10'-6"	
h1510(E)	2	7	11'-10"	
v1400(E)	16	6	11'-4"	
v1401(E)	9	6	8'-7"	
v1402(E)	10	8	27'-10"	
v1403(E)	7	8	31'-7"	
v1500(E)	18	6	11'-4"	
v1501(E)	11	6	8'-7"	
v1502(E)	8	8	27'-10"	
v1503(E)	2	8	31'-7"	
v1504(E)	8	8	12'-0"	
v1505(E)	8	8	5'-0"	
v1506(E)	2	8	19'-5"	
v1507(E)	2	8	23'-3"	
v1508(E)	2	8	18'-5"	
v1509(E)	2	8	22'-3"	
v1510(E)	1	8	18'-3"	
v1511(E)	1	8	22'-1"	
v1512(E)	4	8	6'-3"	
v1513(E)	4	8	5'-8"	
v1514(E)	2	8	5'-6"	
Reinforcement Bars, Epoxy Coated		Pound	11,860	

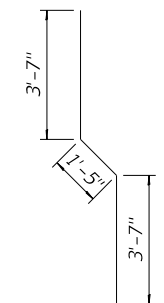
A & B DIMENSIONS

Bar	A	B
h1400(E)	2'-8"	7'-6"
h1402(E)	2'-8"	7'-10"
h1403(E)	1'-8"	6'-6"
h1500(E)	1'-8"	7'-10"
h1501(E)	1'-8"	6'-6"
h1502(E)	2'-8"	9'-2"
h1503(E)	2'-8"	7'-6"
h1505(E)	2'-8"	4'-3"
h1506(E)	2'-8"	4'-3 1/2"
h1507(E)	2'-8"	4'-7"
h1508(E)	2'-8"	5'-2"
h1509(E)	2'-8"	3'-11"
h1510(E)	2'-8"	4'-7"

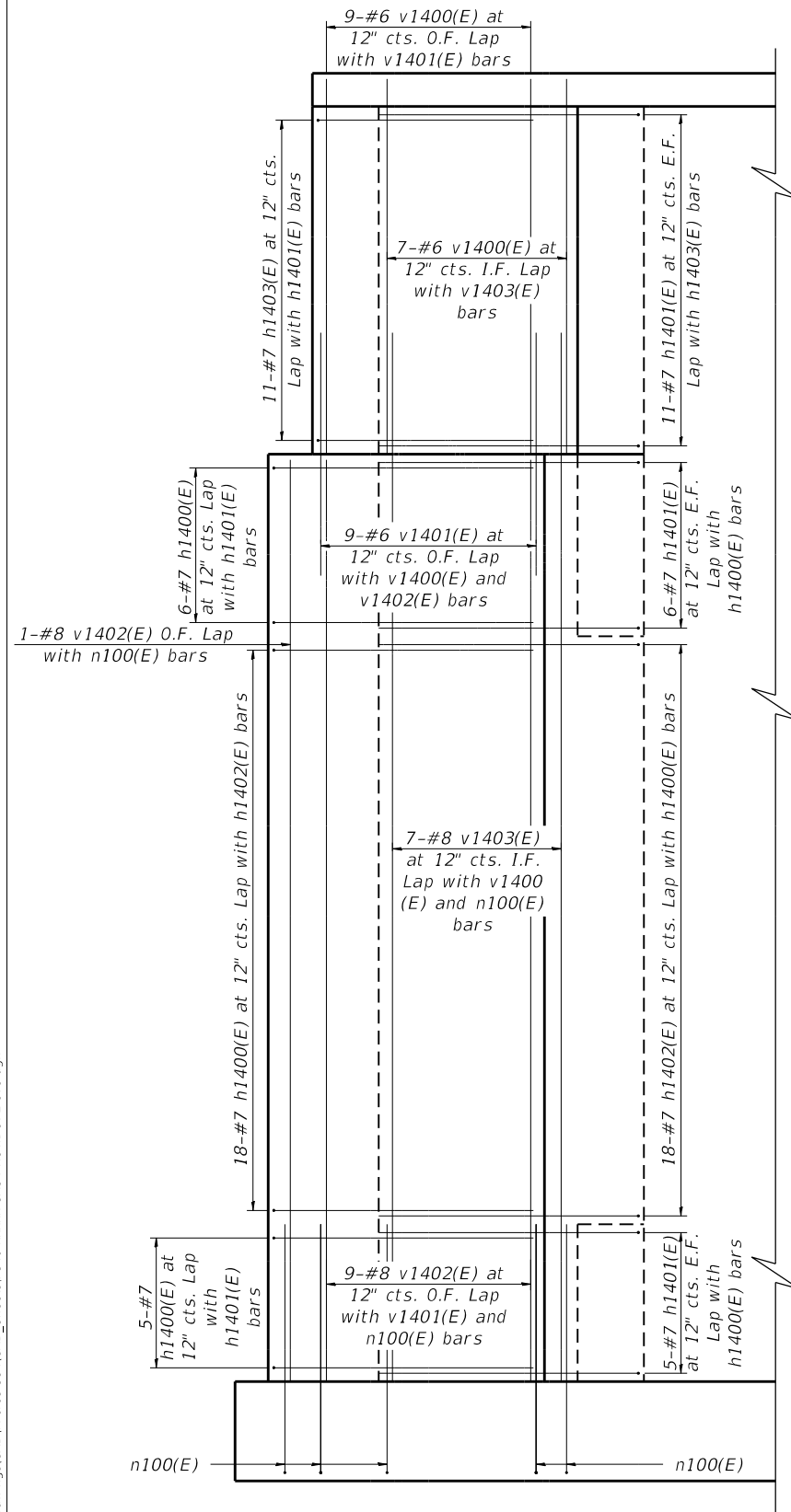
BARS h1400(E), h1402(E), h1403(E), h1500(E), h1501(E), h1502(E), h1503(E), h1505(E), h1506(E), h1507(E), h1508(E), h1509(E), & h1510(E)



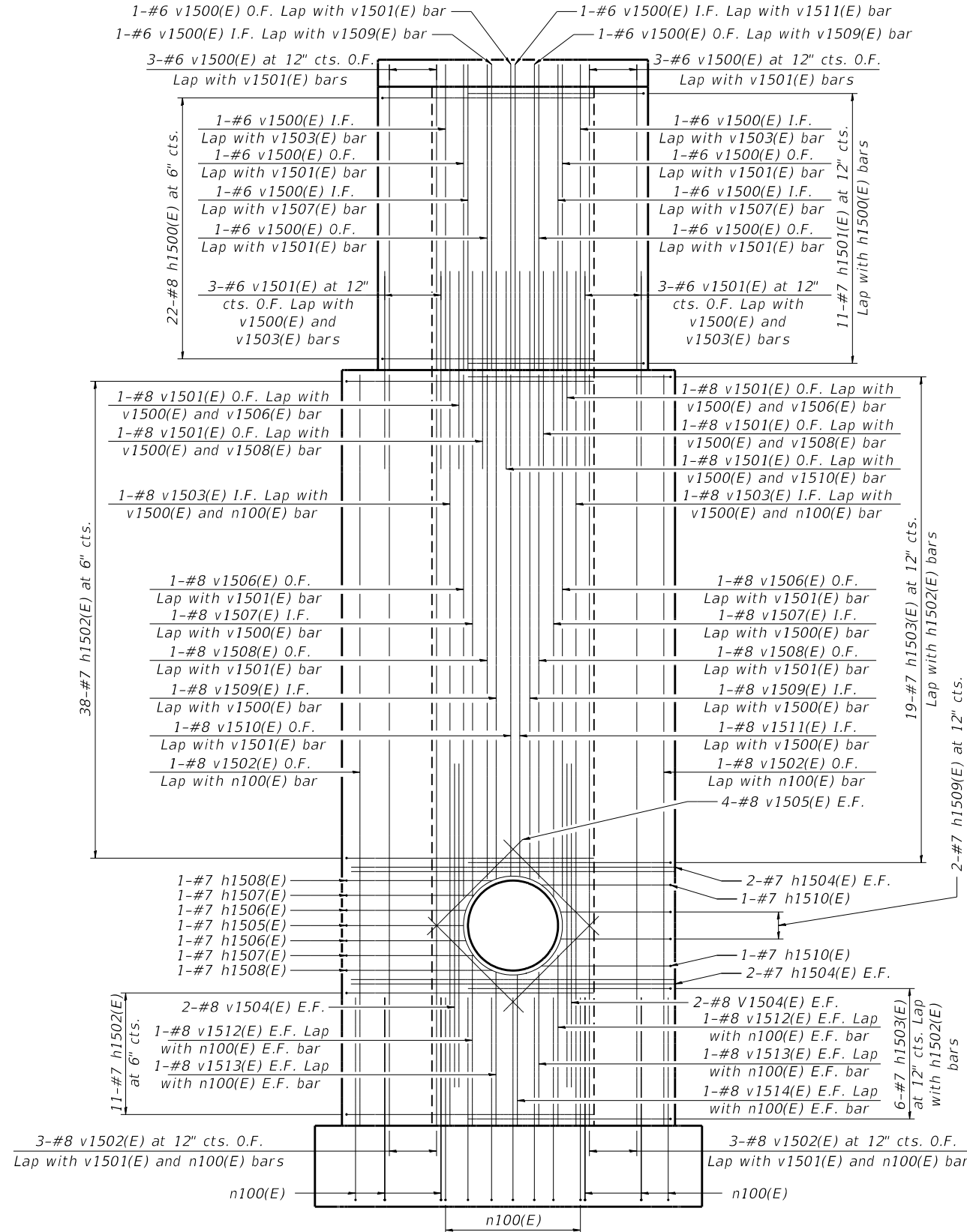
Bar h1401(E)



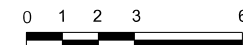
BARS v1401(E) & v1501(E)



ELEVATION 8 (WEST INFLOW WALL FROM THE WEST)



ELEVATION 9 (INFLOW BAFFLE WALL FROM THE NORTH)



MODEL: Default
FILE NAME: S:\MAD\1800-1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-SA34-ReinDet-Elev8.dgn



1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf
DESIGNED - SGH
DRAWN - BJF
CHECKED - SAI
DATE - 8/28/2024

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**REINFORCEMENT DETAILS - ELEVATION 8 & 9
PUMP STATION 49**

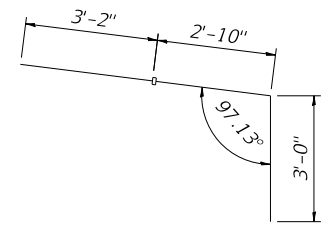
SHEET SA34 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	584
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

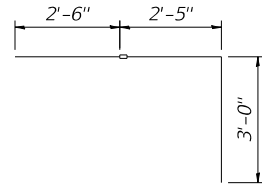
SA34

BAR SPLICER ASSEMBLIES

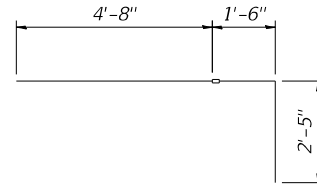
Bar	No.	Size
Assembly #1	18	5
Assembly #2	20	5
Assembly #3	7	5
Assembly #4	1	5
Assembly #5	1	5
Assembly #6	4	5
Assembly #7	21	5
Assembly #8	24	7
Assembly #9	12	4
Assembly #10	14	4
Assembly #11	12	4
Assembly #12	7	4
Assembly #13	28	4
Assembly #14	18	4
Assembly #15	18	4
Assembly #16	7	4
Assembly #17	24	5
Assembly #18	10	5
Bar Splicers	Each	246



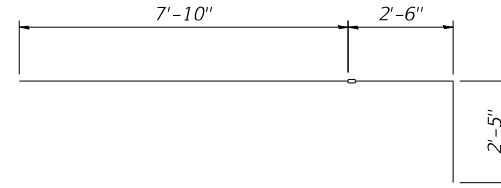
ASSEMBLY #1



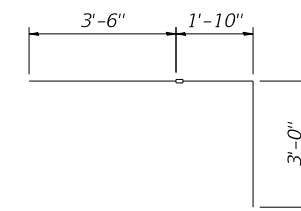
ASSEMBLY #5



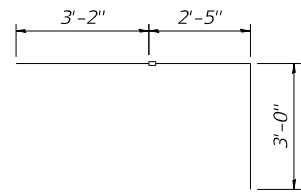
ASSEMBLY #9



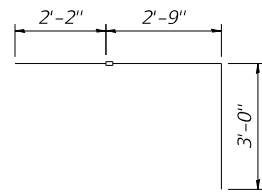
ASSEMBLY #13



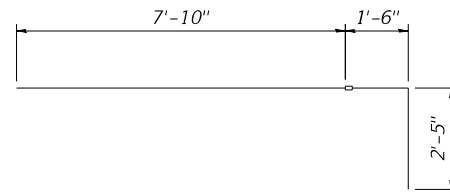
ASSEMBLY #17



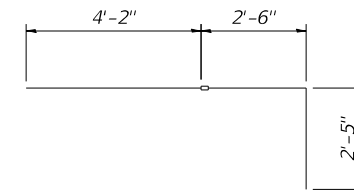
ASSEMBLY #2



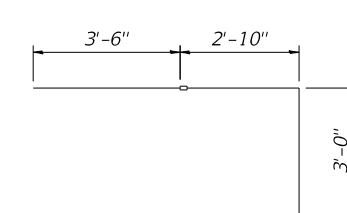
ASSEMBLY #6



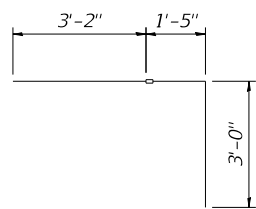
ASSEMBLY #10



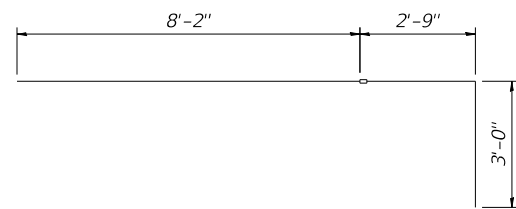
ASSEMBLY #14



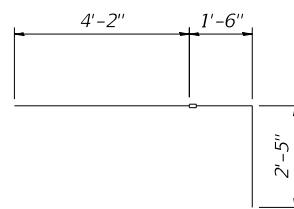
ASSEMBLY #18



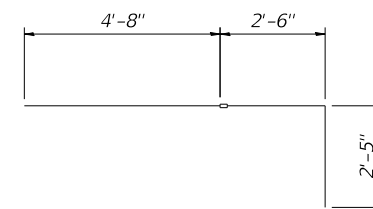
ASSEMBLY #3



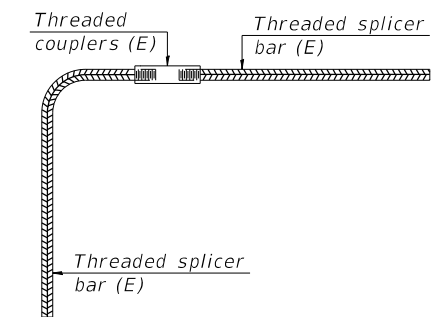
ASSEMBLY #7



ASSEMBLY #11



ASSEMBLY #15



BAR SPLICER ASSEMBLY

Bar Splicer Assembly 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 for alternatives.

See Sheets SA16 through SA33 for bar splicer locations.

SA35

MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-SA35-BarSplDet.dgn
8/27/2024 9:30:30 AM



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - SGH	REVISED -
		DRAWN - BJF	REVISED -
	PLOT SCALE = 8:0.0000 '"/in.	CHECKED - SAI	REVISED -
	PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY DETAILS
PUMP STATION 49**

SHEET SA35 OF 37 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 585
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

ALLOWABLE STRESSES AND LOADS	
MATERIAL	MATERIAL STRESS, DESIGNATION, OR ALLOWABLE LOAD
CAST-IN-PLACE CONCRETE	$f_c = 4,000$ PSI
MASONRY NET COMPRESSIVE STRENGTH	$f_m = 2,500$ PSI
REINFORCING STEEL (GRADE 60)	$F_y = 60$ KSI
STRUCTURAL STEEL	$F_y = 36$ KSI OR 50 KSI
STRUCTURAL ALUMINUM (6061-T6)	$F_y = 35$ KSI
WELDING ELECTRODES	E70XX
ANCHOR BOLTS	ASTM F1554 GRADE 36
CONNECTION BOLTS	ASTM A325
ALLOWABLE SOIL BEARING (NET):	4,000 PSF

Clear cover to reinforcing bars	
Item	Minimum clear cover
Concrete cast against and permanently exposed to earth	3"
Concrete exposed to earth, liquid, or weather	2"
Slabs, walls, or joists not exposed to weather, liquid, or in contact with ground	1"
Beams and columns not exposed to weather, liquid, or in contact with ground	1 1/2"

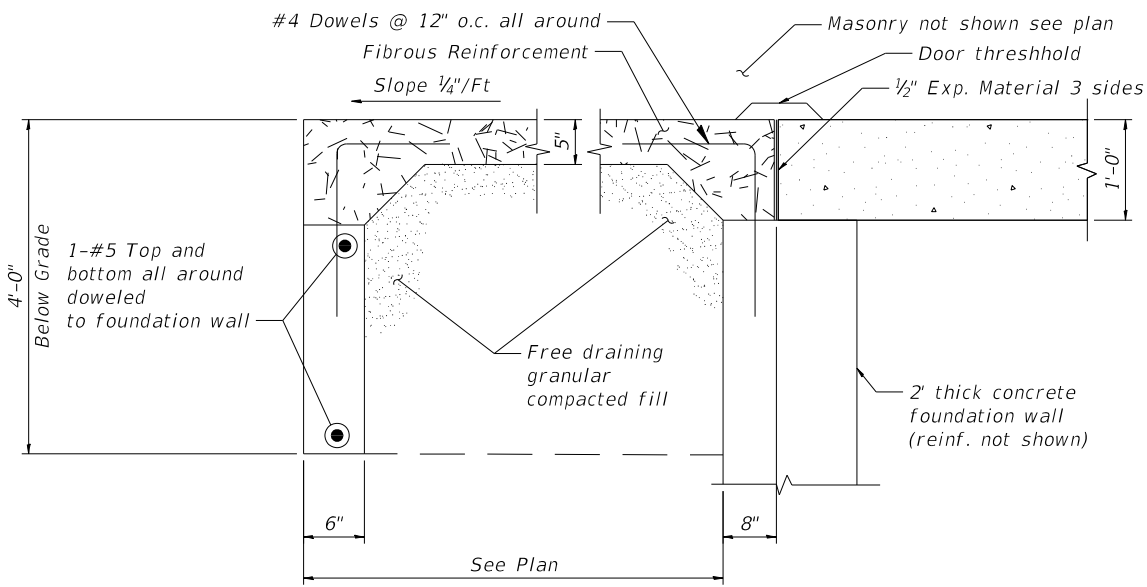
Notes:

- Clear cover is measured from member face to nearest edge of reinforcing bar.
- Clear cover for beams and columns 1 measured to nearest edge of stirrups.
- For walls and slabs with single mat of reinforcing, place rebar where shown on the drwgs. Where cover is not indicated, center single mat of reinforcing in wall or slab.

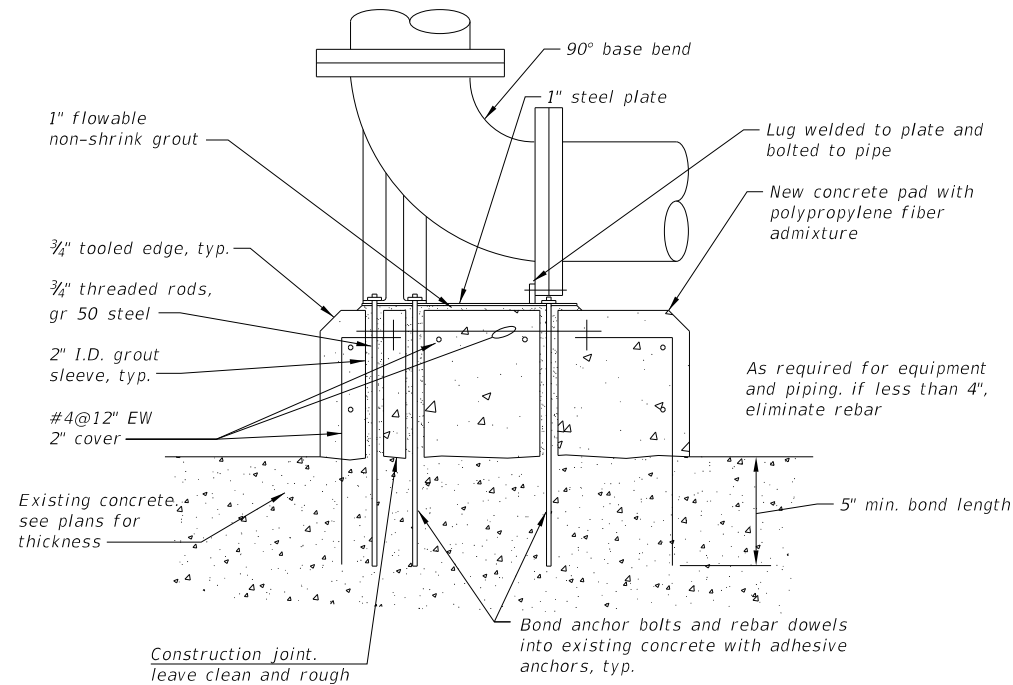
Lap Lengths for Masonry Reinforcing Bars		
Bar Size	8" CMU	12" CMU
#3	1'-3"	1'-3"
#4	1'-3"	1'-3"
#5	1'-8"	1'-3"
#6	2'-11"	2'-0"
#7	3'-11"	2'-7"

Notes:

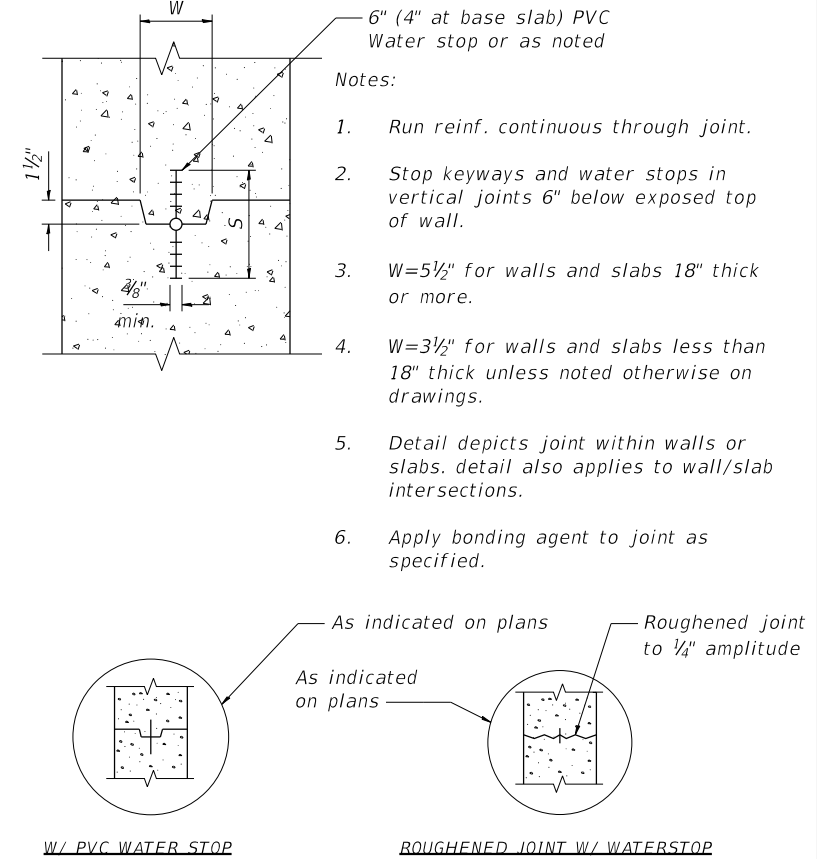
- Use lap lengths in this table unless noted otherwise on drawings.
- Table does not apply for columns.



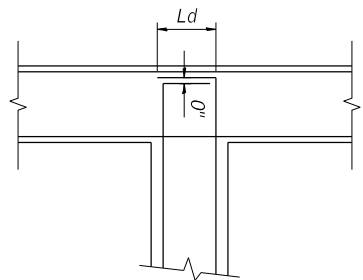
1 SA36 CONCRETE STOOP



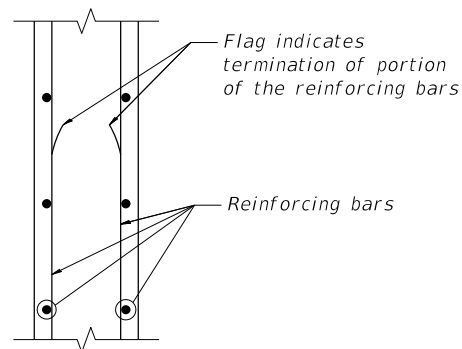
2 SA36 BASE BEND PAD DETAIL



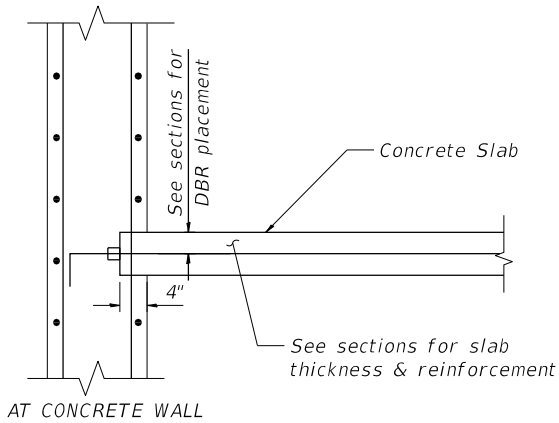
3 SA36 CONSTRUCTION JOINT



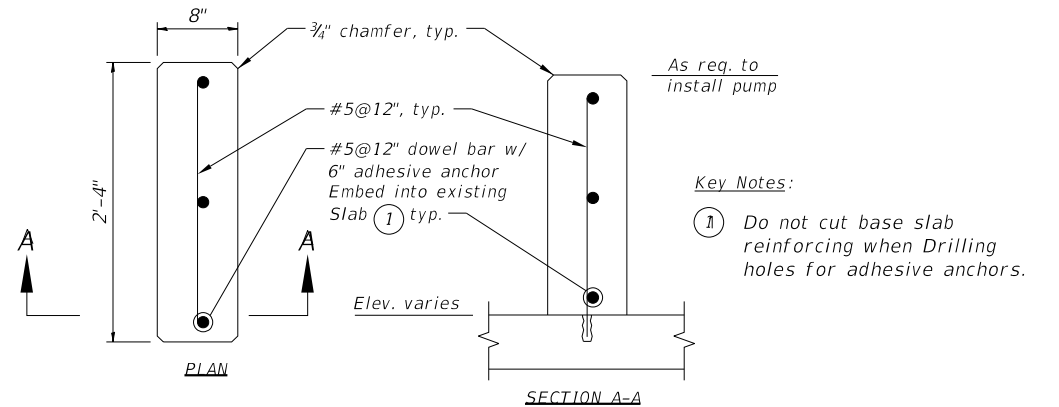
4 SA36 TANK TEE REINFORCING



5 SA36 REINFORCING TERMINATION



6 SA36 CONCRETE SLAB BOXOUT



7 SA36 PUMP CONCRETE PEDESTAL

MODEL: Default
FILE NAME: S:\MAD1\1800--1899\1843\002\Drawings\CAD\Micros-554\CAD_Sheets\PS49-xxxx-SA36-StrDet.dgn
8/27/2024 9:30:31 AM



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - SGH	REVISED -
	PLOT SCALE = 8:0.0000 "/> <td>DRAWN - BJF</td> <td>REVISED -</td>	DRAWN - BJF	REVISED -
	PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
		DATE - 8/28/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL DETAILS
PUMP STATION 49

SHEET SA36 OF 37 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	586
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

SA36

MSET PROJECT NO.: 20618		LOG OF BORING NO. SB-101		Page 1 of 3						
PROJECT: Route 14 Underpass Phase 2			SITE LOCATION: Barrington, Illinois							
BORING LOCATION: Station 204+26, 223' L			CLIENT: Civiltech Engineering, Inc.							
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS			REMARKS	
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf		Unconfined Compressive Strength, tsf
0		FILL - Black and Brown Clay LOAM, trace Roots, A-6	817.5	SS	1	8	29		3.0 Qp	
4		Black to Dark Grey CLAY, A-7-6 to A-8, very stiff Brown and Grey Clay LOAM, A-6, hard	815.0	SS	2	13	19	105	5.28	
				SS	3	18	19	106	7.57	
				SS	4	25	19			
12		Grey Clay LOAM, A-6, hard to very stiff	806.5	SS	5	19	19	104	5.32	
				SS	6	14	18	104	4.11	
				SS	7	16	16	105	3.49	
20		Grey GRAVEL with Sand, A-1, very dense, wet probable boulder at 18.0'	799.5	SS	8	68	13			
		Grey Clay LOAM, A-6, stiff to very stiff	797.0	SS	9	22	20			
				SS	10	10	23	100	1.13	
				SS	11	12	21	103	2.72	
				SS	12	13	23	101	2.48	

MSET PROJECT NO.: 20618		LOG OF BORING NO. SB-101		Page 2 of 3						
PROJECT: Route 14 Underpass Phase 2			SITE LOCATION: Barrington, Illinois							
BORING LOCATION: Station 204+26, 223' L			CLIENT: Civiltech Engineering, Inc.							
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS			REMARKS	
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf		Unconfined Compressive Strength, tsf
32		Grey Clay LOAM, A-6, stiff to very stiff, cont.		SS	13	12	13		3.0 Qp	
				SS	14	16	18	107	2.41	
				SS	15	17	16	110	2.68	
				SS	16	12	14	120	1.40	
				SS	17	12	14	120	1.05	
				SS	18	14	14	120	1.13	

MSET PROJECT NO.: 20618		LOG OF BORING NO. SB-101		Page 3 of 3						
PROJECT: Route 14 Underpass Phase 2			SITE LOCATION: Barrington, Illinois							
BORING LOCATION: Station 204+26, 223' L			CLIENT: Civiltech Engineering, Inc.							
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS			REMARKS	
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf		Unconfined Compressive Strength, tsf
64		Grey Clay LOAM, A-6, stiff to very stiff, cont.		SS	19	14	14	120	1.40	
				SS	20	13	16	115	1.94	
				SS	21	21	22	99	3.57	
		End of Boring at 75'	742.5							

WATER LEVEL OBSERVATIONS, ft.
 DURING DRILLING: 18.0'
 IMMEDIATELY AFTER DRILLING: 15.5'
 DELAYED READING AFTER 24 Hrs: 15.0'

BORING STARTED: 1/6/21
BORING COMPLETED: 1/6/21
LOGGED BY: GPF
BORING METHOD: HSA

WATER LEVEL OBSERVATIONS, ft.
 DURING DRILLING: 18.0'
 IMMEDIATELY AFTER DRILLING: 15.5'
 DELAYED READING AFTER 24 Hrs: 15.0'

BORING STARTED: 1/6/21
BORING COMPLETED: 1/6/21
LOGGED BY: GPF
BORING METHOD: HSA

WATER LEVEL OBSERVATIONS, ft.
 DURING DRILLING: 18.0'
 IMMEDIATELY AFTER DRILLING: 15.5'
 DELAYED READING AFTER 24 Hrs: 15.0'

BORING STARTED: 1/6/21
BORING COMPLETED: 1/6/21
LOGGED BY: GPF
BORING METHOD: HSA

MODEL: Default
 FILE NAME: \\SAMAD\1800-1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-5A37-SoilBoring.dgn
 8/27/2024 9:30:32 AM



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - SGH	REVISED -
	PLOT SCALE = 8:0.0000 " / in.	CHECKED - SAI	REVISED -
	PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SOIL BORING LOG - 1
 PUMP STATION 49**

SHEET SA37 OF 37 SHEETS

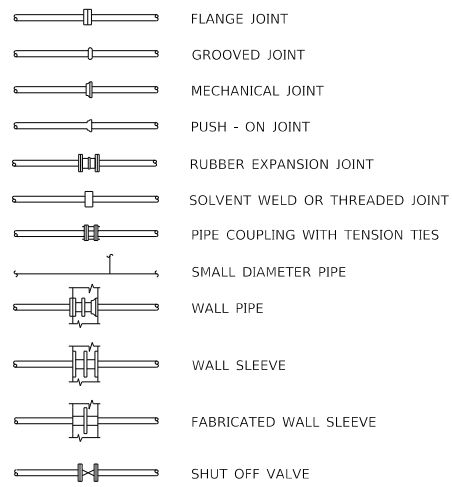
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	587
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		

SA37

GENERAL MECHANICAL NOTES:

1. DRAWINGS OF PUMPING STATION PUMPS, EQUIPMENT PADS, AND FLOOR DOORS ARE DETAILED USING XYLEM FLYGT EQUIPMENT.
2. STATION PIPING, FITTINGS, AND VALVES SHALL BE AWWA C151 DUCTILE IRON, SPECIAL THICKNESS CLASS 53, CONFORMING TO SPECIFICATIONS.
3. CONTRACTOR INSTALLING PUMPS SHALL CHECK ALIGNMENT OF PUMPS WITH FLOOR DOORS BEFORE ASSEMBLY TO ALLOW PROPER REMOVAL OF PUMPS.
4. ALL ANCHORS, BOLTS AND FABRICATED METAL WITHIN WET WEL, DRY WELL, AND DISCHARGE CHAMBER SHALL BE STAINLESS STEEL.
5. CONTRACTOR SHALL FURNISH ALL PIPING AND FITTINGS REQUIRED TO COMPLETE THE INSTALLATION.
6. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR HATCH AND GRATING DETAILS.
7. CONTRACTOR TO PROVIDE A LAYOUT DRAWING SHOWING ALL PIPING, SUPPORTERS, AND APPURTENANCES.
8. ALL DIMENSIONS LOCATING EQUIPMENT ARE FROM FINISHED WALL SURFACES OR CENTERLINES, AS INDICATED.
9. SEE CIVIL DRAWINGS FOR CONTINUATION OF PIPING OUTSIDE STRUCTURES.
10. ALL PIPE PENETRATIONS THROUGH INTERIOR AND EXTERIOR WALLS AND FLOORS SHALL BE SEALED WATERTIGHT.
11. THE CONTRACTOR SHALL MAKE ALL REQUIRED FIELD MEASUREMENTS TO VERIFY EXISTING AND CONTRACT INTERFACE DIMENSIONS, LOCATIONS, AND OTHER CONDITIONS.
12. PIPE SUPPORTS FOR PIPES LESS THAN 8-INCHES IN DIAMETER ARE NOT SHOWN ON THESE PLANS FOR CLARITY. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PIPE SUPPORT SYSTEMS WITH SUITABLE SPACING AS REQUIRED BY THE PROJECT SPECIAL PROVISIONS.
13. ALL EQUIPMENTS IN THE DRY AND WET WELL AREAS SHALL BE SUITABLE FOR CLASS I, GROUP D, DIVISION 2 HAZARDOUS LOCATIONS, AS CLASSIFIED BY THE NATIONAL ELECTRICAL CODE (NEC) FOR HAZARDOUS LOCATIONS.
14. REFER TO PUMP MANUFACTURER'S INSTRUCTIONS FOR THE MOUNTING OF PUMPS TO THE CONCRETE BASE.

PIPING SYMBOLS



PIPING DESIGNATIONS

— A —	AIR
— CA —	COMPRESSED AIR
— CW —	COLD WATER
— CWR —	COLD WATER RETURN
— CWS —	COLD WATER SUPPLY
— DEW —	DISINFECTED EFFLUENT WATER
— G —	NATURAL GAS PIPING
— HW —	HOT WATER
— HHWR —	HEATING HOT WATER RETURN
— HHWS —	HEATING HOT WATER SUPPLY
— LPC —	LOW PRESSURE CONDENSATE
— LPS —	LOW PRESSURE STEAM
— NPW —	NONPOTABLE WATER
— RL —	REFRIGERANT LIQUID
— RS —	REFRIGERANT SUCTION
— SPD —	SUMP PUMP DISCHARGE
— SW —	SOFT WATER
- - - - -	VENT PIPE
- - - - -	WASTE BELOW GRADE
—————	WASTE ABOVE GRADE
— - - —	STORM BELOW GRADE
— - - —	STORM ABOVE GRADE

MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-M1-MechNotes.dgn

1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME =	brianf	DESIGNED -	ABC	REVISED -	
		DRAWN -	BJF	REVISED -	
PLOT SCALE =	2:0.0000 " / in.	CHECKED -	SAI	REVISED -	
PLOT DATE =	8/27/2024	DATE -	8/28/2024	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

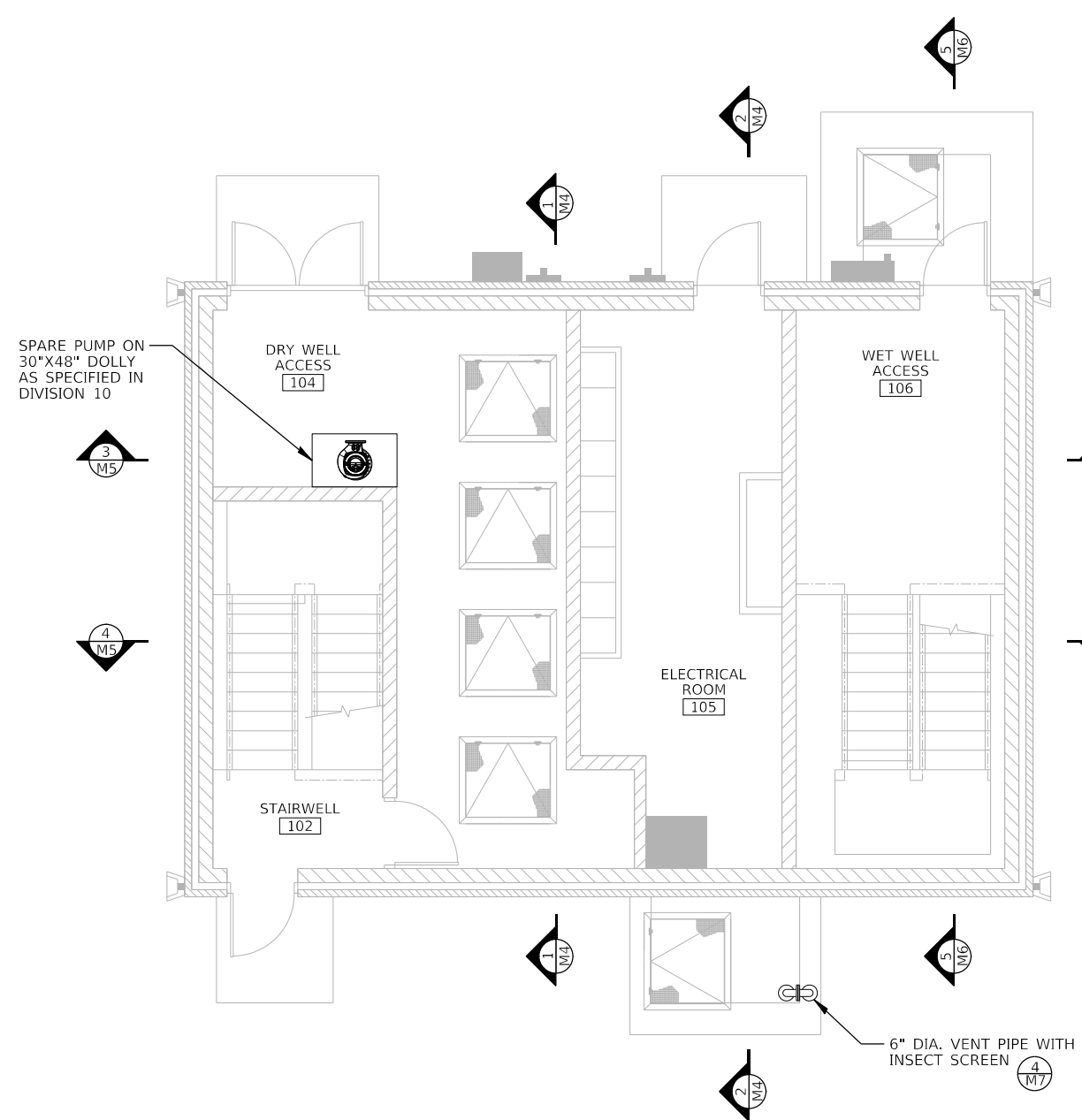
**MECHANICAL ABBREVIATIONS, SYMBOLS AND NOTES
PUMP STATION 49**

SHEET M1 OF 9 SHEETS

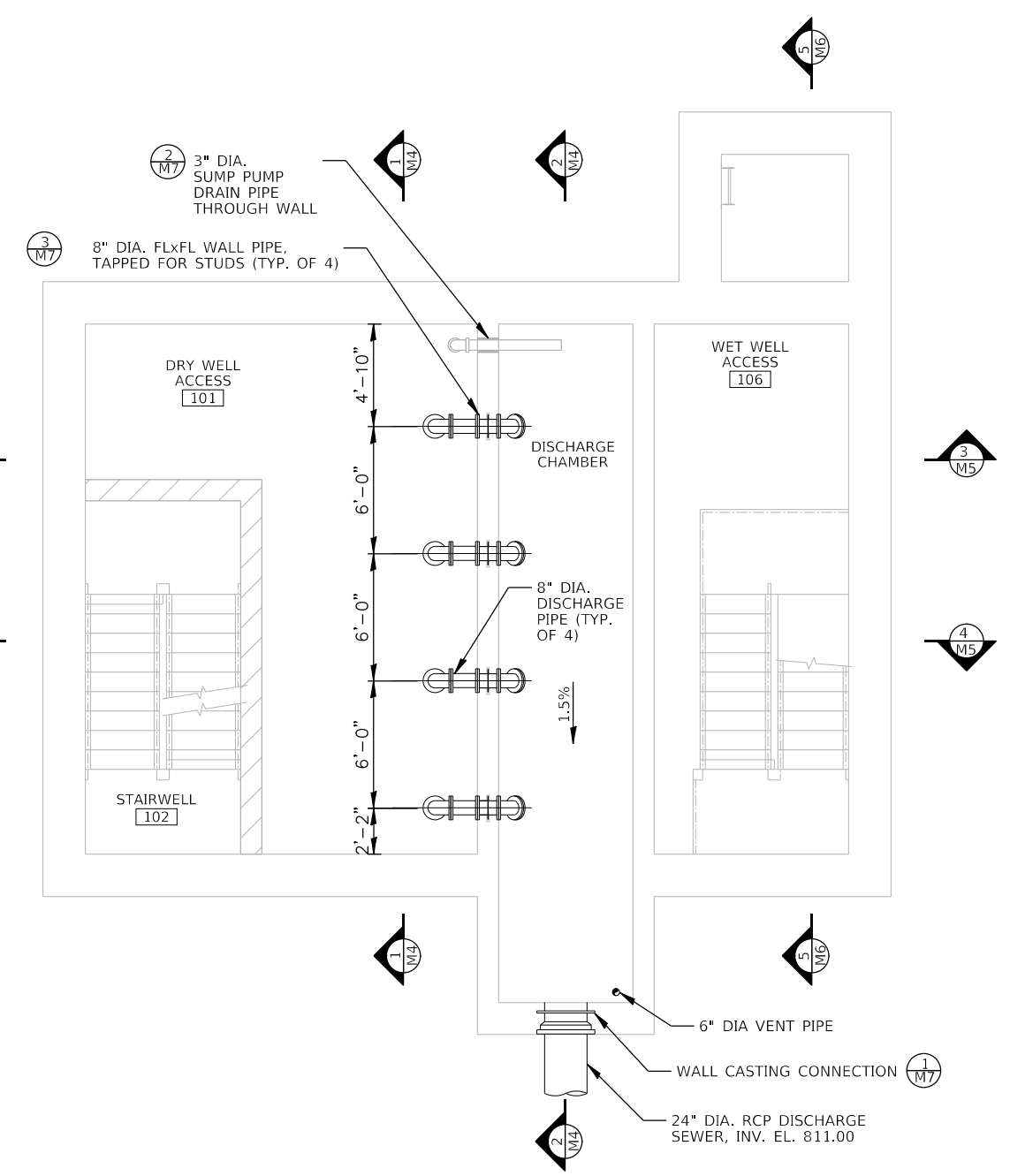
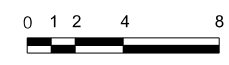
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	588
CONTRACT NO. 61J87				
		ILLINOIS	FED. AID PROJECT	

M1

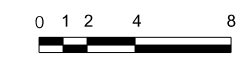
MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-M2-Mech\FloorPlan.dgn
 8/27/2024 9:30:35 AM



MECHANICAL GROUND FLOOR PLAN ELEV. 817.00



MECHANICAL INTERMEDIATE FLOOR PLAN ELEV. 811.50



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - ABC	REVISED -
	PLOT SCALE = 8:0.0000 "/> <td>DRAWN - BJF</td> <td>REVISED -</td>	DRAWN - BJF	REVISED -
	PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
		DATE - 8/28/2024	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

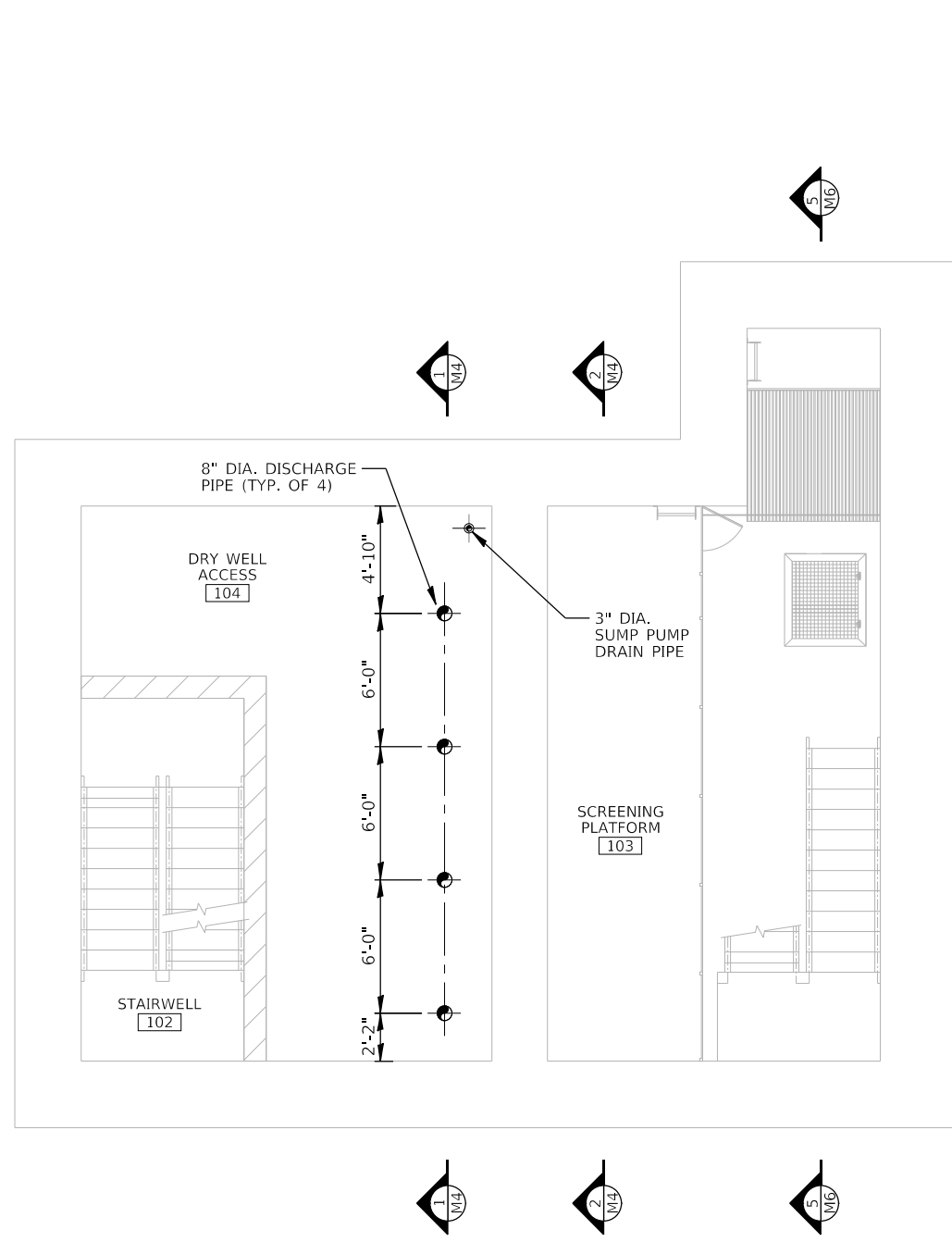
**MECHANICAL GROUND & INTERMEDIATE FLOOR PLANS
 PUMP STATION 49**

SHEET M2 OF 9 SHEETS

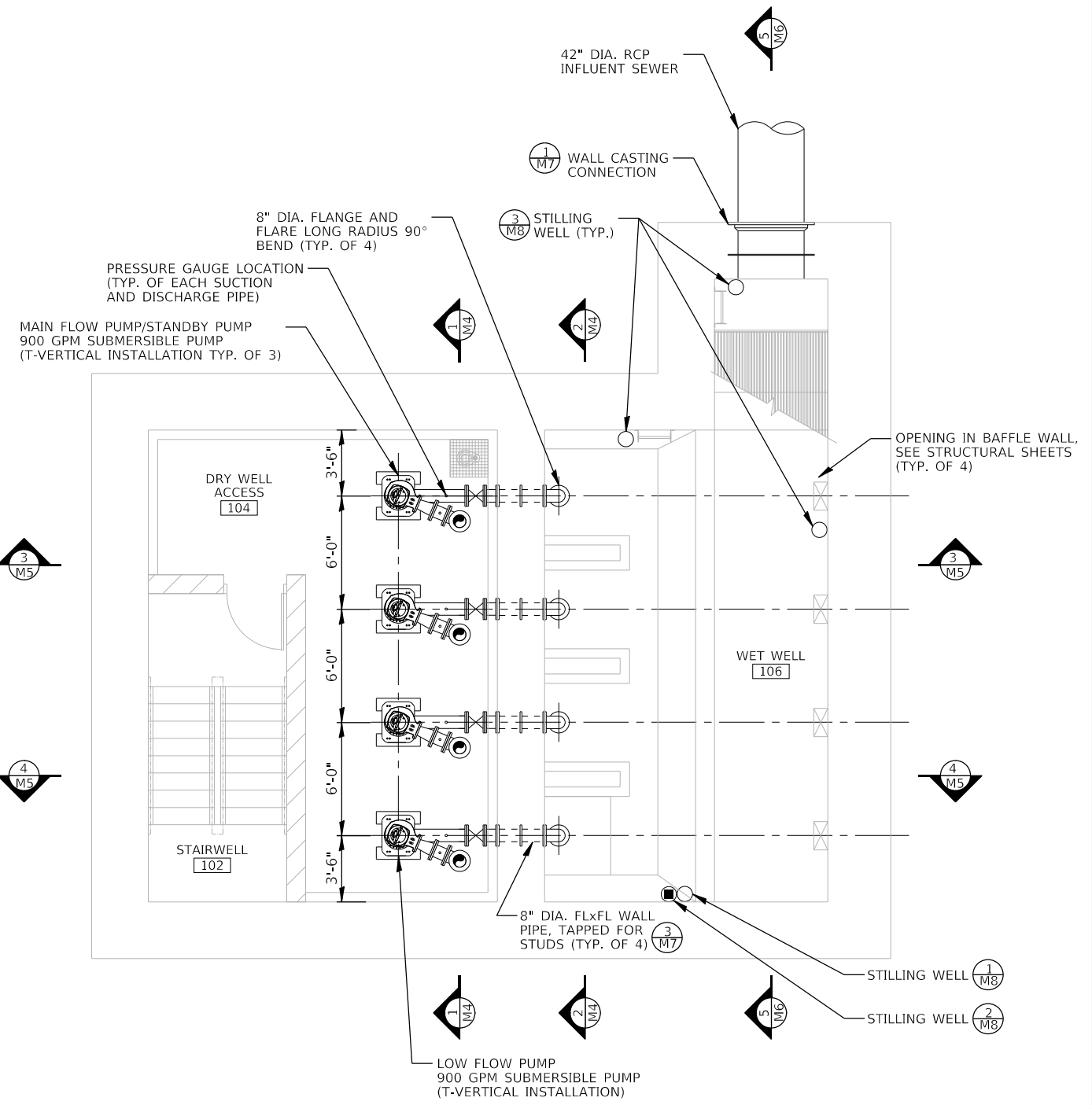
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	589
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		

M2

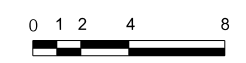
MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-M3-MechIntermed.dgn



MECHANICAL INTERMEDIATE FLOOR PLAN ELEV. 793.00



MECHANICAL WET WELL FLOOR PLAN ELEV. 777.50



**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**MECHANICAL INTERMEDIATE & WELL FLOOR PLANS
 PUMP STATION 49**

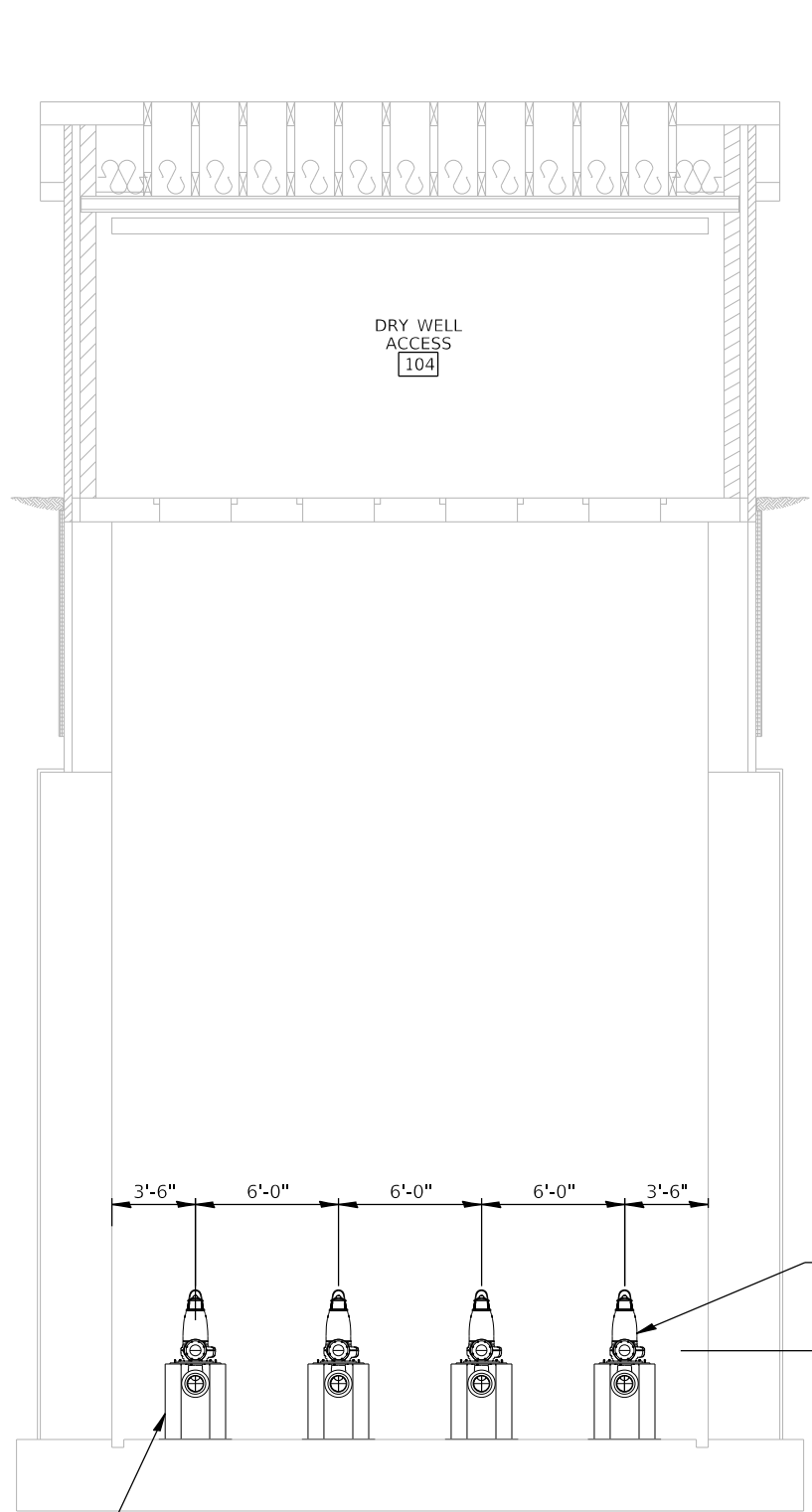
SHEET M3 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	590
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		

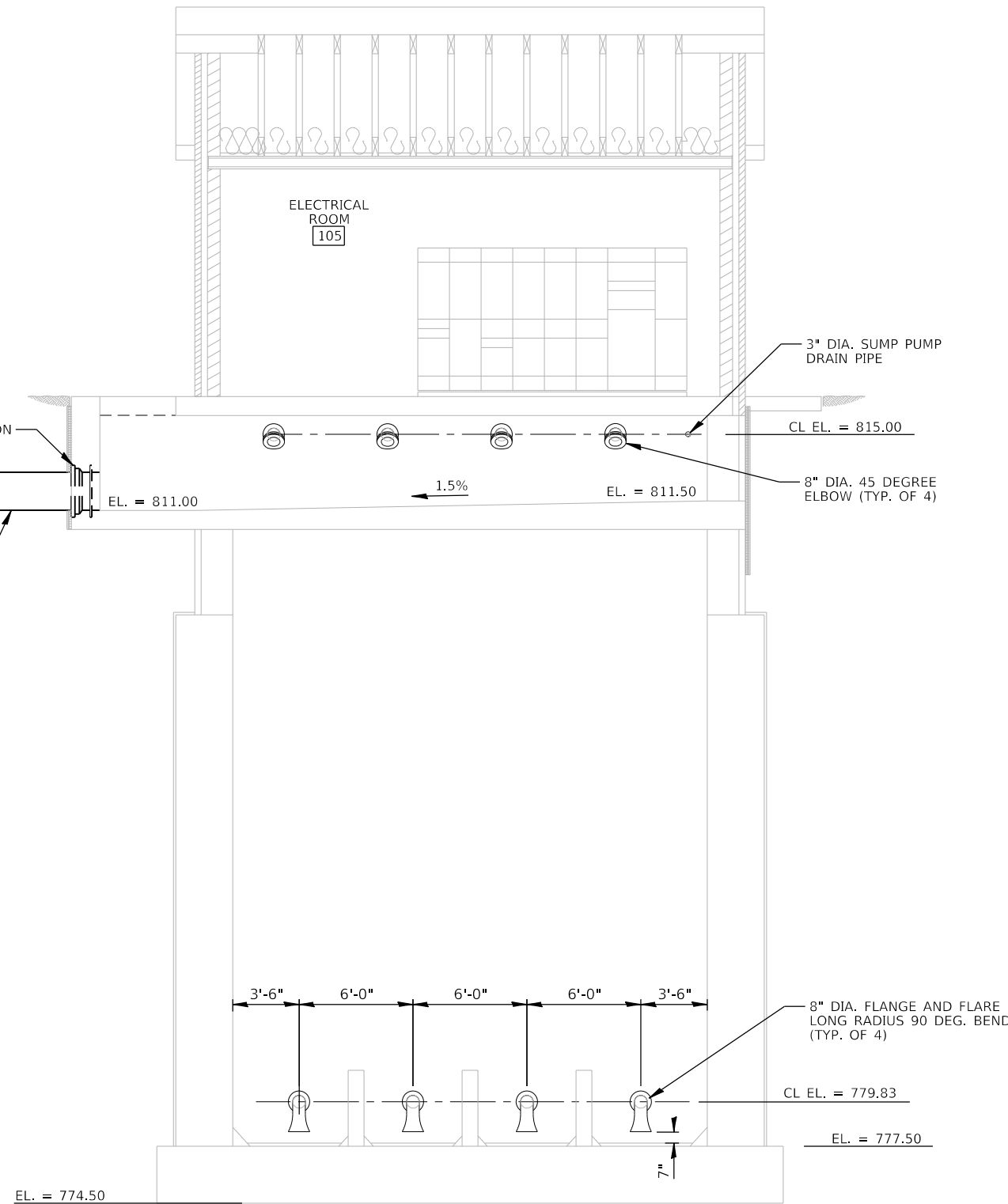
STRAND ASSOCIATES
 1170 SOUTH HOUBOLT ROAD
 JOLIET, ILLINOIS 60431
 (815) 744-4200
 IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - ABC	REVISED -
DRAWN - BJF	REVISED -	
PLOT SCALE = 8:0.0000 "/> <td>CHECKED - SAI</td> <td>REVISED -</td>	CHECKED - SAI	REVISED -
PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-M4-MechBuildSec.dgn
 8/27/2024 9:30:36 AM



1
M4
MECHANICAL BUILDING SECTION
 0 1 2 4 8



2
M4
MECHANICAL BUILDING SECTION
 0 1 2 4 8



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - ABC	REVISED -
		DRAWN - BJF	REVISED -
	PLOT SCALE = 8:0.0000 "/> <td>CHECKED - SAI</td> <td>REVISED -</td>	CHECKED - SAI	REVISED -
	PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

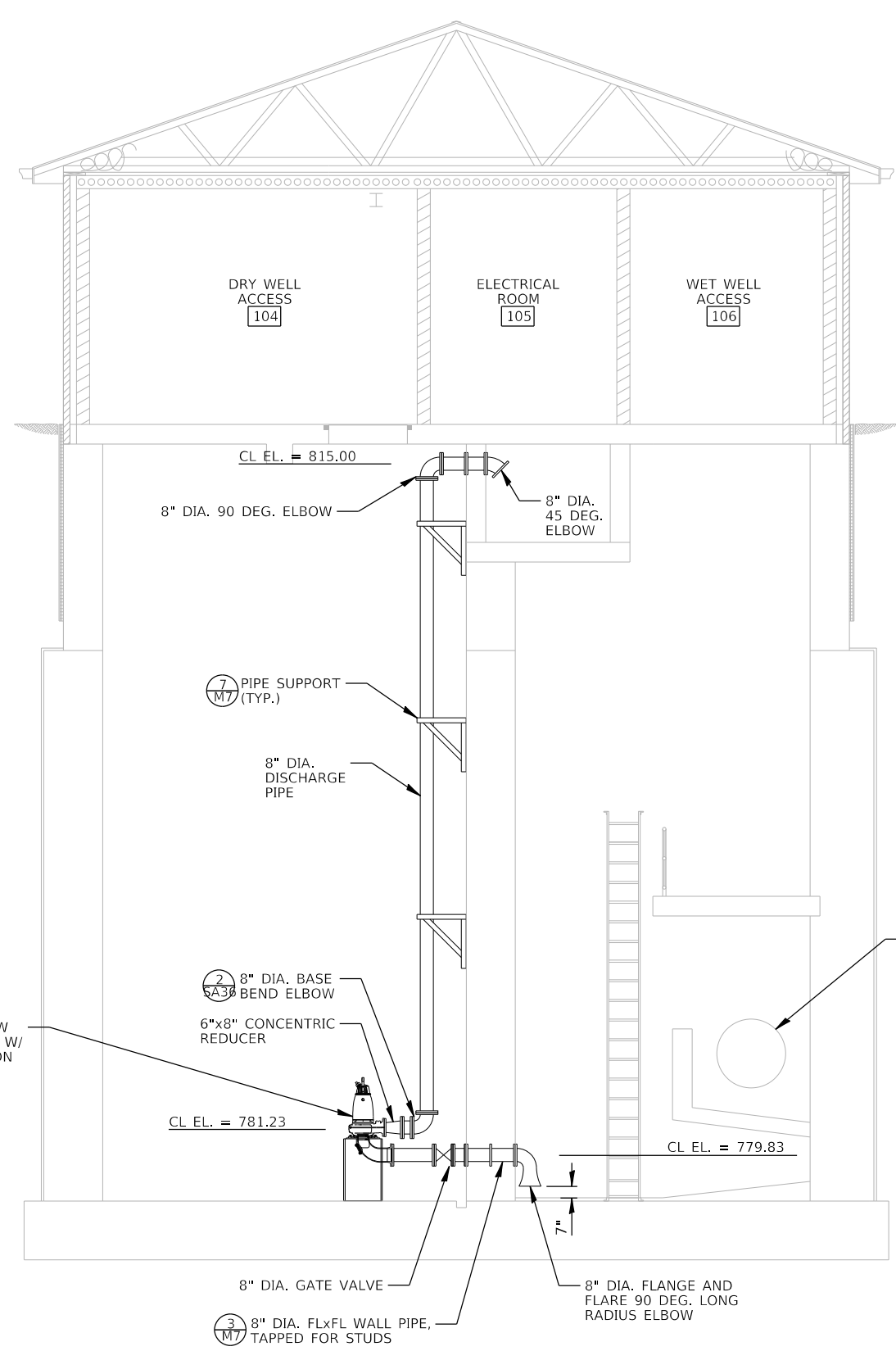
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MECHANICAL BUILDING SECTIONS
 PUMP STATION 49

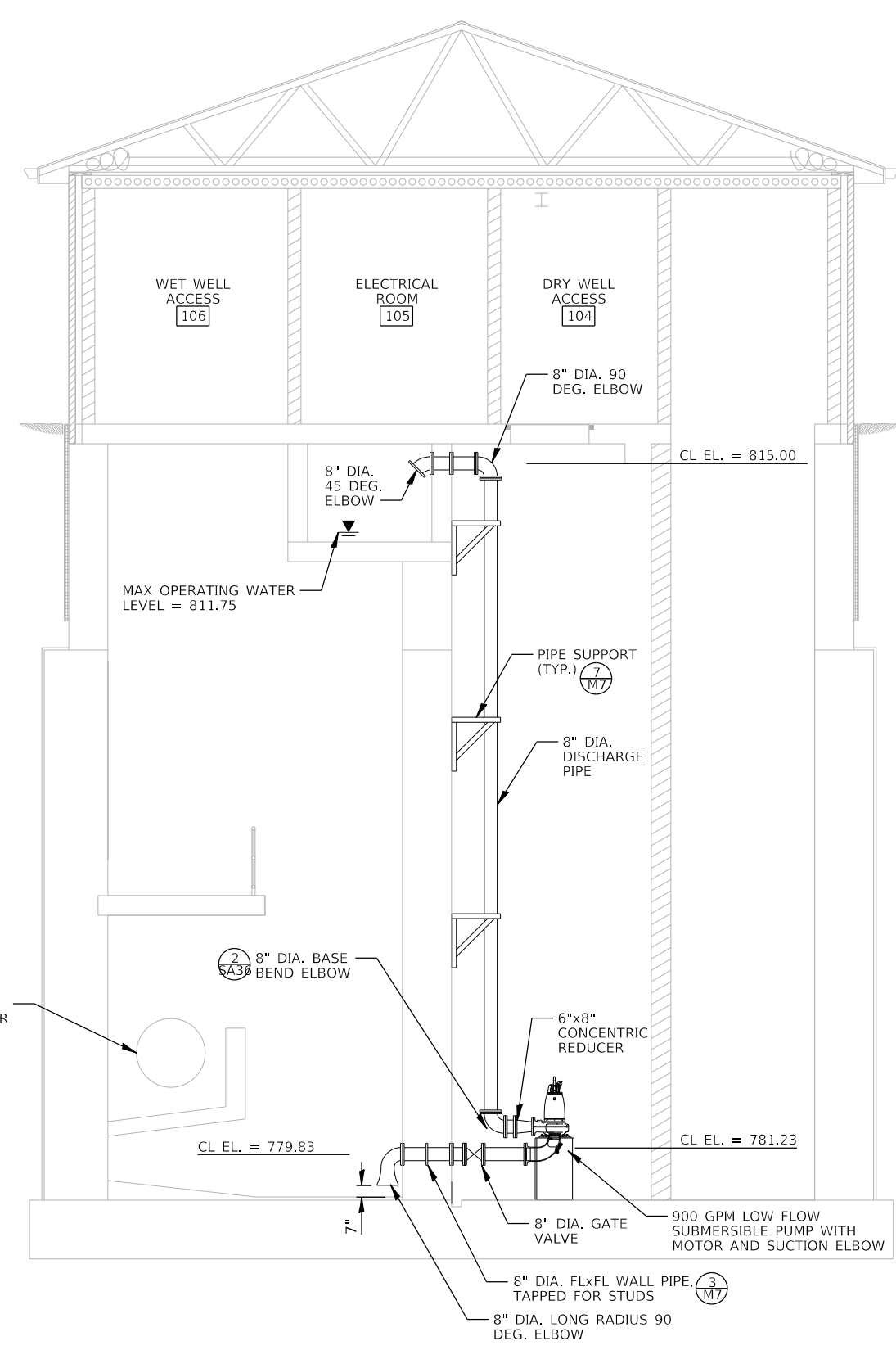
SHEET M4 OF 9 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 591
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

MODEL: Default
 FILE NAME: S:\MAD\1800-1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-M5-MechBuildSec.dgn



3
M5
MECHANICAL BUILDING SECTION
 0 1 2 4 8



4
M5
MECHANICAL BUILDING SECTION
 0 1 2 4 8

- ▼ 100-YR WSEL=793.92
- ▼ HWA EL.=791.00
- ▼ 50-YR WSEL=789.90
- ▼ LWA EL.=781.25



USER NAME = brianf	DESIGNED - ABC	REVISED -
	DRAWN - BJF	REVISED -
PLOT SCALE = 8:0.0000 "/> <td>CHECKED - SAI</td> <td>REVISED -</td>	CHECKED - SAI	REVISED -
PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

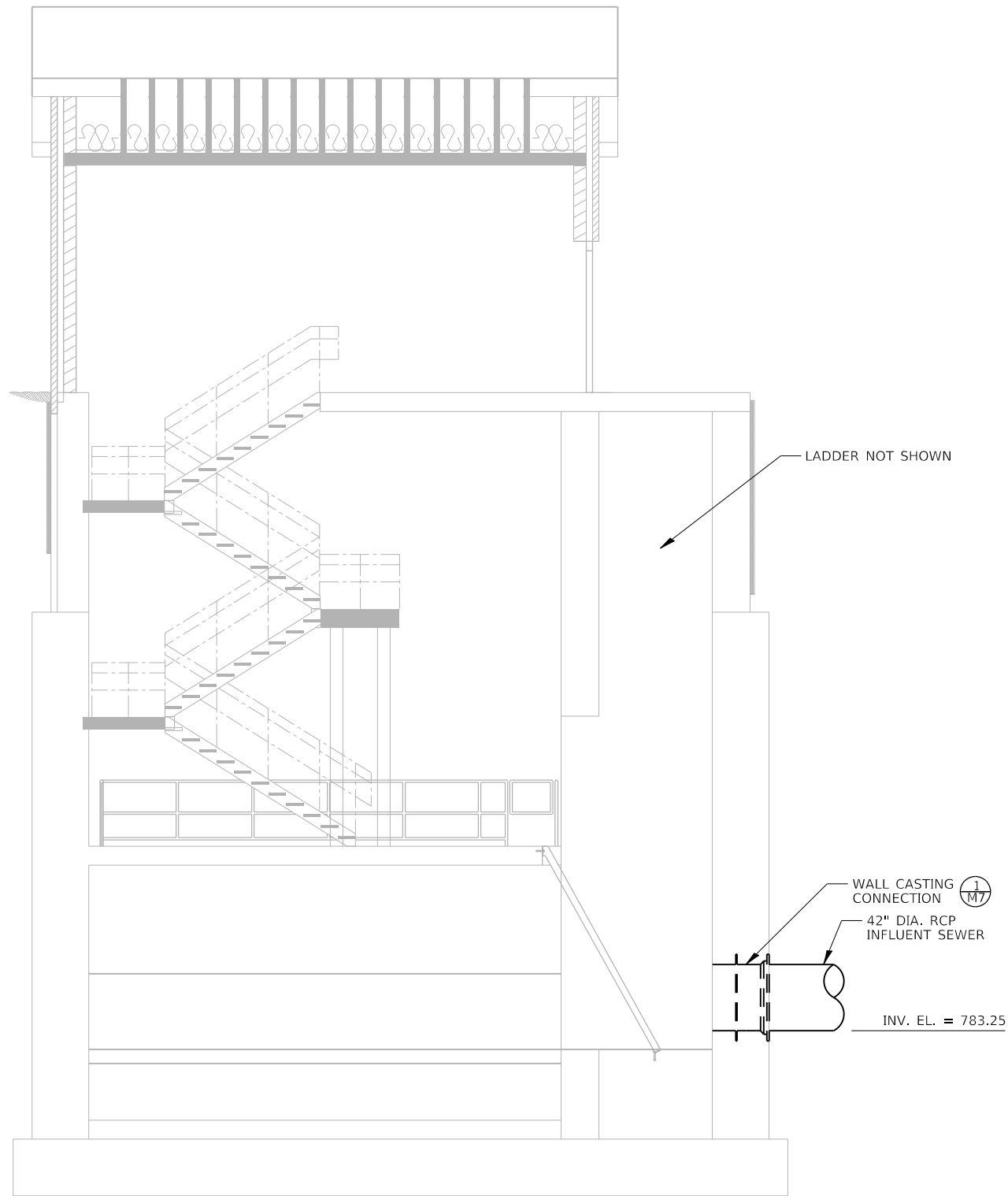
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**MECHANICAL BUILDING SECTIONS
 PUMP STATION 49**

SHEET M5 OF 9 SHEETS

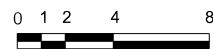
F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 592
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

M5



5
M6

MECHANICAL BUILDING SECTION



**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MECHANICAL BUILDING SECTIONS
PUMP STATION 49**

SHEET M6 OF 9 SHEETS

M6

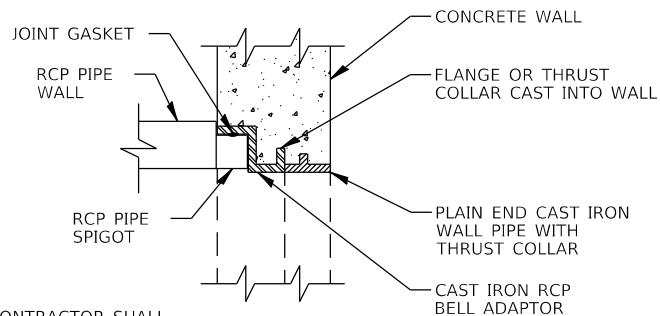
MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-M6-MechBuildSec.dgn

SA
STRAND
ASSOCIATES*

1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

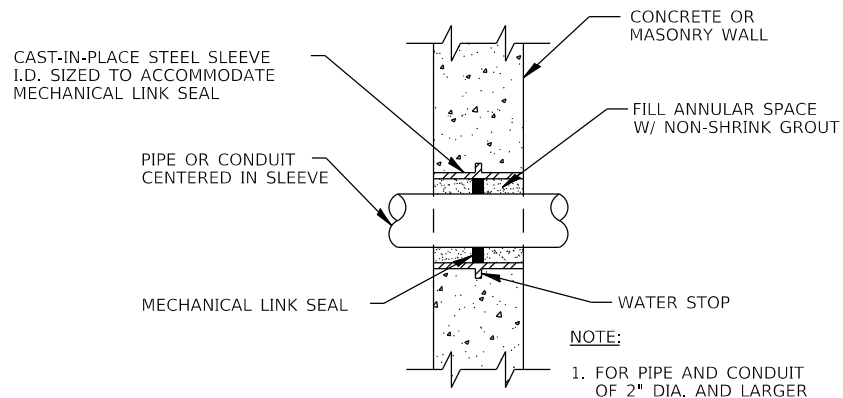
USER NAME = brianf	DESIGNED - ABC	REVISED -
	DRAWN - BJF	REVISED -
PLOT SCALE = 8:0.0000 " = 1/8" in.	CHECKED - SAI	REVISED -
PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	593
				CONTRACT NO. 61J87
		ILLINOIS	FED. AID PROJECT	



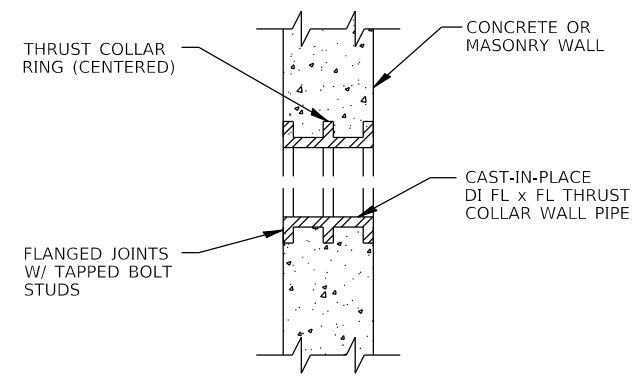
NOTE:
1. THE CONTRACTOR SHALL COORDINATE RCP PIPE CONNECTION WITH THE WALL PIPE FITTING.

1 WALL CASTING CONNECTION
SCALE: NONE

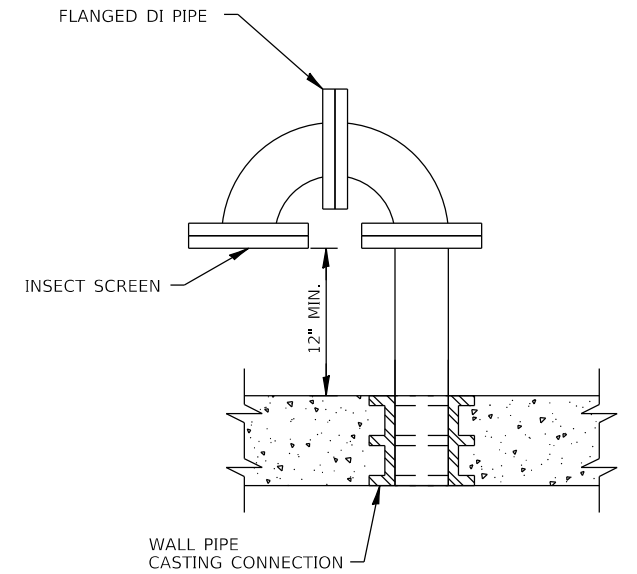


NOTE:
1. FOR PIPE AND CONDUIT OF 2" DIA. AND LARGER

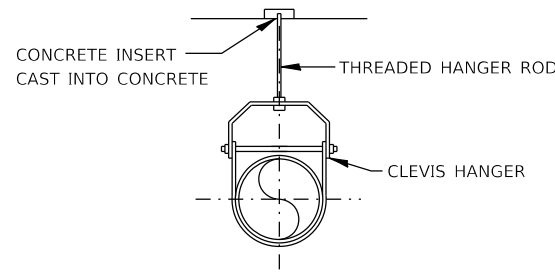
2 PIPE AND CONDUIT SEALED PENETRATION
SCALE: NONE



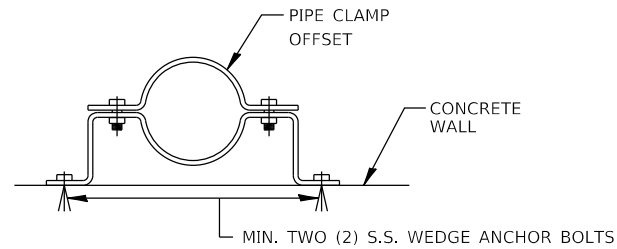
3 WALL PIPE CASTING (FL x FL)
SCALE: NONE



4 DISCHARGE CHANNEL VENT
SCALE: NONE

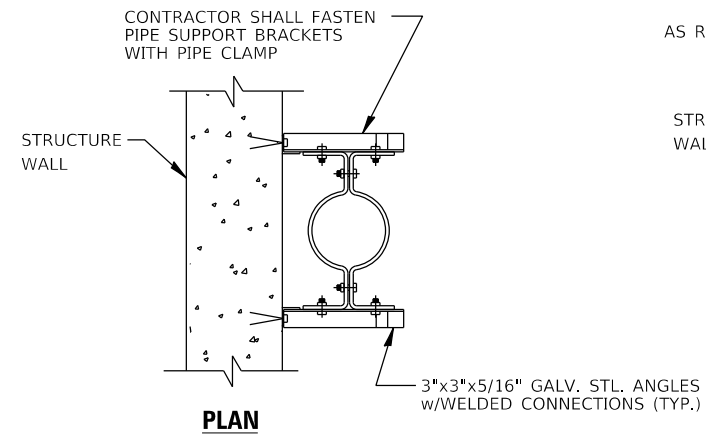


5 PIPE HANGERS
SCALE: NONE

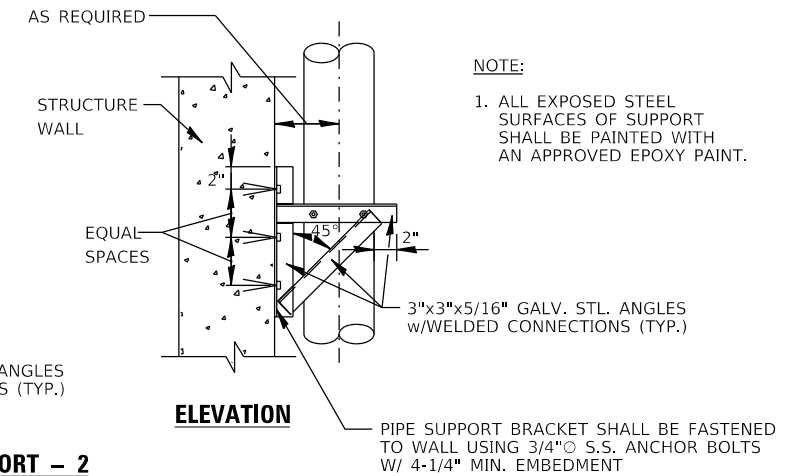


ANCHOR BOLTS:
PIPE DIA. > 8" USE 3/4" Ø BOLTS W/ 4-1/4" MIN. EMBEDMENT
PIPE DIA. < 8" USE 1/2" Ø BOLTS W/ 3-1/2" MIN. EMBEDMENT

6 PIPE SUPPORT - 1
SCALE: NONE



7 PIPE SUPPORT - 2
SCALE: NONE



NOTE:
1. ALL EXPOSED STEEL SURFACES OF SUPPORT SHALL BE PAINTED WITH AN APPROVED EPOXY PAINT.

PIPE SUPPORT BRACKET SHALL BE FASTENED TO WALL USING 3/4" Ø S.S. ANCHOR BOLTS W/ 4-1/4" MIN. EMBEDMENT

MODEL: Default
FILE NAME: S:\MAD\1800-1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-M7-MechDet.dgn



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - ABC	REVISED -
	PLOT SCALE = 8:0.0000 "/ in.	DRAWN - BJF	REVISED -
	PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
		DATE - 8/28/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MECHANICAL DETAILS
PUMP STATION 49

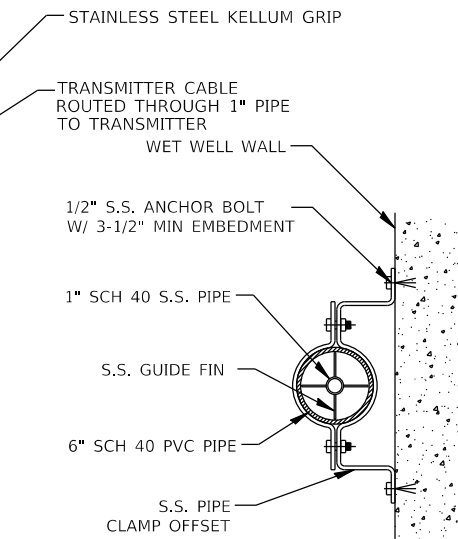
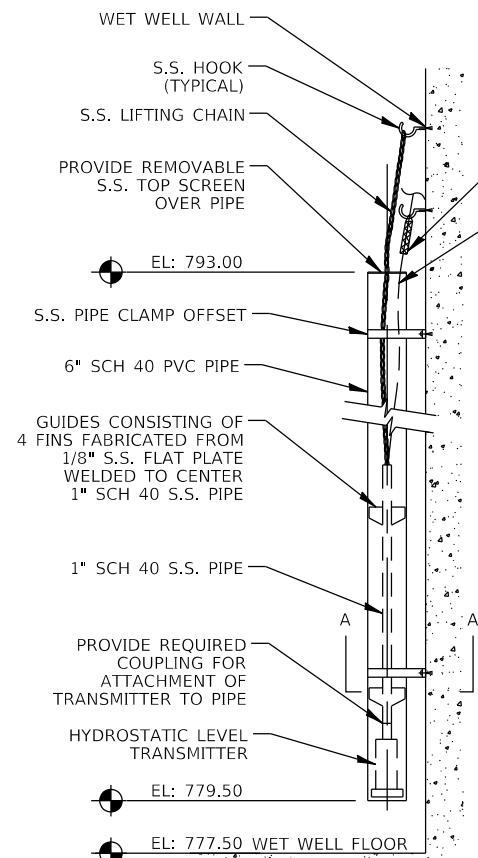
SHEET M7 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	594
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT

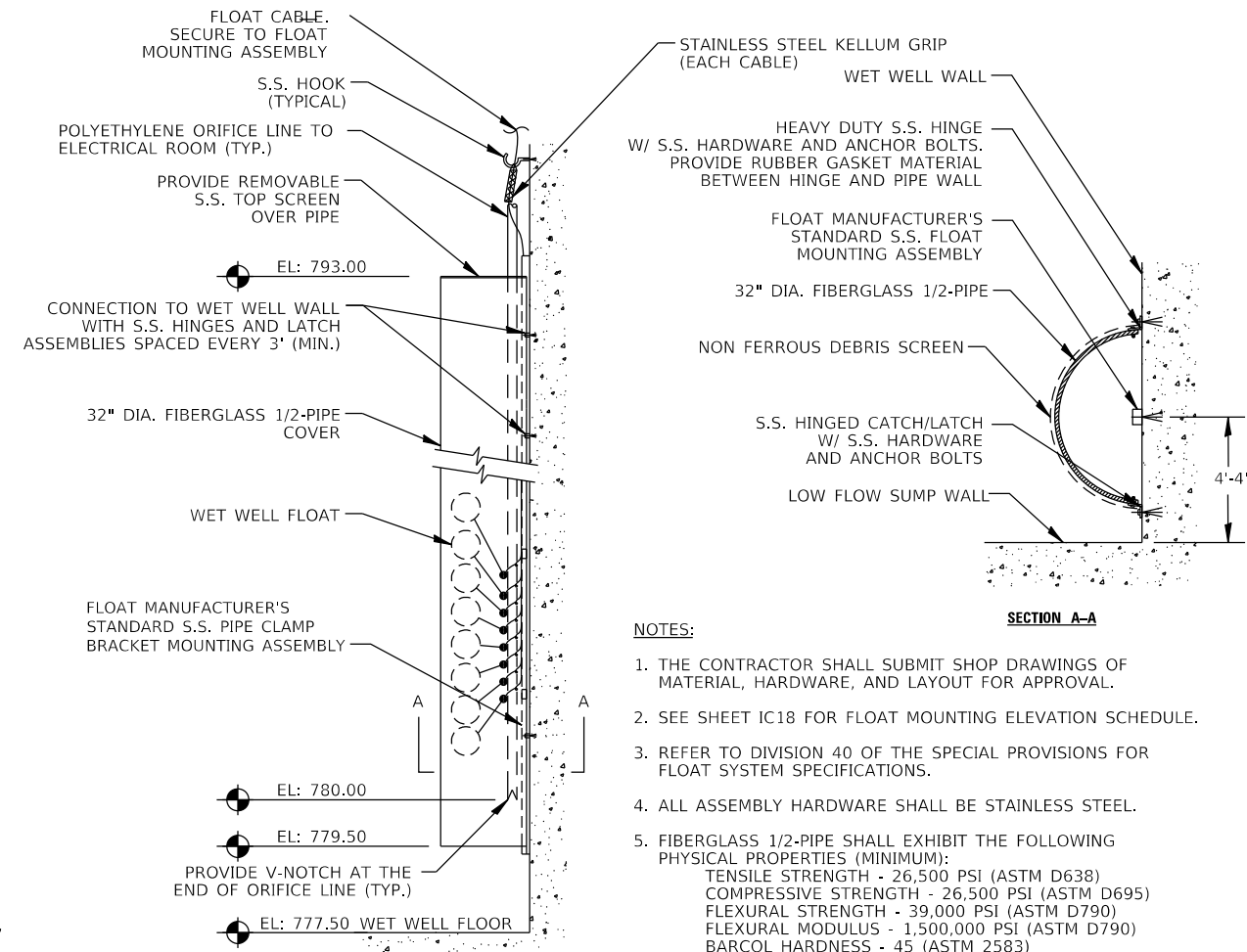
M7

8/27/2024 9:30:37 AM



- NOTES:**
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF MATERIAL, HARDWARE, AND LAYOUT FOR APPROVAL.
 2. THE INTERNAL GUIDE SHALL BE WEIGHTED TO AVOID BUOYANCY, SUCH THAT THE HYDROSTATIC LEVEL TRANSMITTER WILL REMAIN AT THE LEVEL INSTALLED.
 3. REFER TO DIVISION 40 OF THE SPECIAL PROVISIONS FOR HYDROSTATIC LEVEL TRANSMITTER SPECIFICATION.

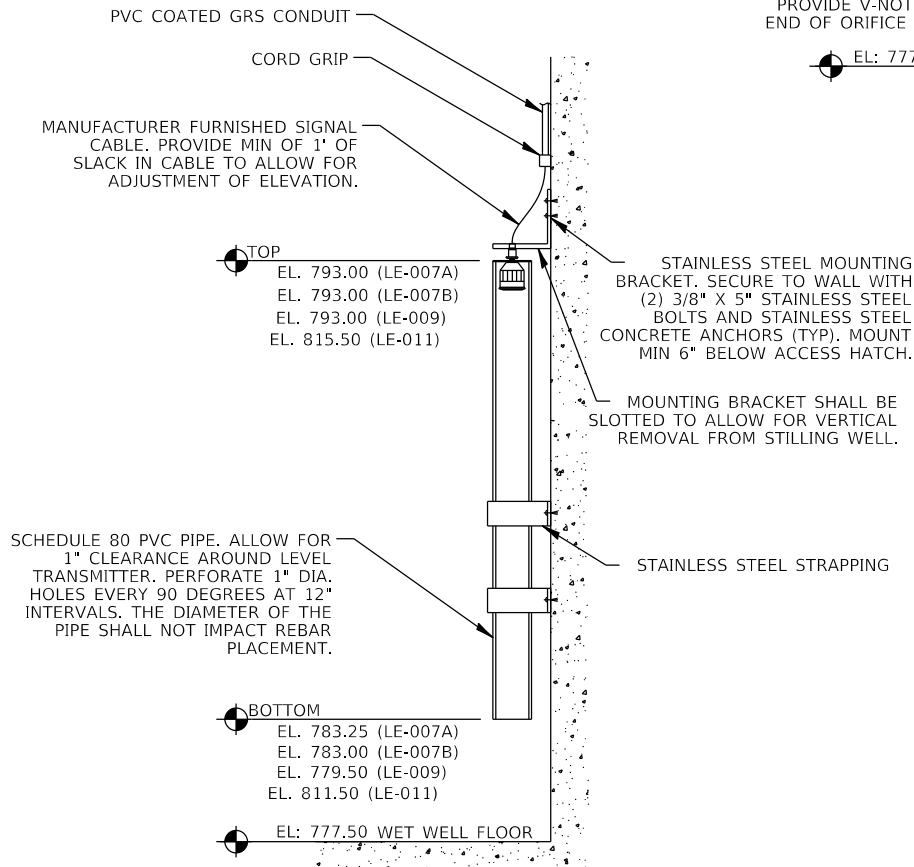
1 SUBMERSIBLE LEVEL TRANSMITTER INSTALLATION
SCALE: NONE



- NOTES:**
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF MATERIAL, HARDWARE, AND LAYOUT FOR APPROVAL.
 2. SEE SHEET IC18 FOR FLOAT MOUNTING ELEVATION SCHEDULE.
 3. REFER TO DIVISION 40 OF THE SPECIAL PROVISIONS FOR FLOAT SYSTEM SPECIFICATIONS.
 4. ALL ASSEMBLY HARDWARE SHALL BE STAINLESS STEEL.
 5. FIBERGLASS 1/2-PIPE SHALL EXHIBIT THE FOLLOWING PHYSICAL PROPERTIES (MINIMUM):
TENSILE STRENGTH - 26,500 PSI (ASTM D638)
COMPRESSIVE STRENGTH - 26,500 PSI (ASTM D695)
FLEXURAL STRENGTH - 39,000 PSI (ASTM D790)
FLEXURAL MODULUS - 1,500,000 PSI (ASTM D790)
BARCOL HARDNESS - 45 (ASTM 2583)
WATER ABSORPTION - 0.09% MAX (ASTM D570)

SECTION A-A

2 STILLING WELL INSTALLATION
SCALE: NONE



3 ULTRASONIC DETECTOR INSTALLATION
SCALE: NONE

MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-W8-MechDet.dgn



USER NAME = brianf	DESIGNED - ABC	REVISED -
PLOT SCALE = 8:0.0000 " / in.	DRAWN - BJF	REVISED -
PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
	DATE - 8/28/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MECHANICAL DETAILS
PUMP STATION 49

SHEET M8 OF 9 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 595
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

PUMP SCHEDULE

TAG	LOCATION	TYPE	GPM	HEAD FEET	MOTOR				MANUFACTURER	MODEL NO.	REMARKS
					HP	KW	RPM	VOLT/PH/HZ			
MP1 (MAIN FLOW PUMP)	DRY WELL	VERTICAL	900	33.25	14	10.44	1,800	460/3/60	FLYGT	NT3153MT	1,2,3,4
MP2 (MAIN FLOW PUMP)	DRY WELL	VERTICAL	900	33.25	14	10.44	1,800	460/3/60	FLYGT	NT3153MT	1,2,3,4
MP3 (MAIN FLOW PUMP)	DRY WELL	VERTICAL	900	33.25	14	10.44	1,800	460/3/60	FLYGT	NT3153MT	1,2,3,4
LFP (LOW FLOW PUMP)	DRY WELL	VERTICAL	900	33.25	14	10.44	1,800	460/3/60	FLYGT	NT3153MT	1,2,3,4
SMP (SPARE MAIN FLOW PUMP)	DRY WELL	VERTICAL	900	33.25	14	10.44	1,800	460/3/60	FLYGT	NT3153MT	1,2,3,4

NOTES:

1. ALL EQUIPMENT SHALL BE SUITABLE FOR CLASS 1, GROUP D, DIVISION 2, EXPLOSION PROOF CONSTRUCTION FOR HAZAROUS LOCATIONS.
2. COORDINATE WITH ELECTRICAL AND SCADA PLANS.
3. REFER TO SHEET IC18 FOR DATA OF PUMP OPERATIONS WITH RISING/FALLING WATER LEVELS.
4. MOTOR HP NOTED IS MAXIMUM RATED PUMP HP.

MODEL: Default
 FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS19-xxxx-M9-MechSchedules.dgn



1170 SOUTH HOUBOLT ROAD
 JOLIET, ILLINOIS 60431
 (815) 744-4200
 IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - ABC	REVISED -
	DRAWN - BJF	REVISED -
PLOT SCALE = 8:0.0000 " / in.	CHECKED - SAI	REVISED -
PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**MECHANICAL SCHEDULES
 PUMP STATION 49**

SHEET M9 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	596
CONTRACT NO. 61J87				
ILLINOIS		FED. AID PROJECT		

EQUIPMENT ABBREVIATIONS

ACCU	AIR COOLED CONDENSING UNIT
AHU	AIR HANDLING UNIT
AS	AIR SEPARATOR
BLR	BOILER
BB	BASEBOARD
CONV	CONVECTOR
CD	CEILING DIFFUSER
CHILL	CHILLER
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CWP	CHILLED WATER PUMP
DC	DRY COOLER
DH	DEHUMIDIFIER
DL	DRUM LOUVER
EBB	ELECTRIC BASEBOARD
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EJ	EXPANSION JOINT
EL	EXPANSION LOOP
ER	EXHAUST REGISTER
ERC	ELECTRIC REHEAT COIL
ERU	ENERGY RECOVERY UNIT
EUH	ELECTRIC UNIT HEATER
EWB	ELECTRIC WALL HEATER
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FTR	FINNED TUBE RADIATION
FUR	FURNACE
HC	HEATING COIL
HP	HEAT PUMP
HU	HUMIDIFIER
HUH	HOT WATER UNIT HEATER
HWP	HOT WATER PUMP
HX	HEAT EXCHANGER
L	LOUVER
MAU	MAKE-UP AIR UNIT
P	PUMP
PC	PUMPED CONDENSATE
RCP	RADIANT CEILING PANEL
RF	RETURN FAN
RG	RETURN GRILLE
RR	REGISTER
RTU	ROOFTOP UNIT
SD	SUCTION DIFFUSER
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SR	SUPPLY REGISTER
SS	SPLIT SYSTEM
ST	STEAM TRAP
SUH	STEAM UNIT HEATER
TCP	TEMPERATURE CONTROL PANEL
TG	TRANSFER GRILLE
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME BOX
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE

GENERAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AP	ACCESS PANEL
BOD	BOTTOM OF DUCT
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
COND	CONDENSATE
DAT	DISCHARGE AIR TEMPERATURE
DB	DRY BULB TEMPERATURE
DDC	DIRECT DIGITAL CONTROL
DG	DOOR GRILLE
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EL	ELEVATION
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
FC	FAIL CLOSED
FD	FLOOR DRAIN
FLA	FULL LOAD AMPS
FO	FAIL OPEN
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FT	FEET
FVNR	FULL VOLTAGE NON REVERSING
GA	GAUGE
GPM	GALLONS PER MINUTE
HHW	HEATING HOT WATER
IPLV	INTEGRATED PART LOAD VALVE
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSANDS OF BTU PER HOUR
MC	MECHANICAL CONTRACTOR
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OC	ON CENTER
ODP	OPEN DRIP PROOF
OV	OUTLET VELOCITY
PD	PRESSURE DROP
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SP	STATIC PRESSURE
TEFC	TOTALLY ENCLOSED FAN COOLED
WB	WET BULB

EQUIPMENT SYMBOLS

	EQUIPMENT TAG
	CONNECT TO EXISTING (TIE-IN NUMBER)
	BASE MOUNTED PUMP
	INLINE PUMP
	UNIT HEATER
	ROOF EXHAUST FAN
	AIR FLOW DIRECTION
	CEILING DIFFUSER WITH FLEXIBLE DUCT
	VARIABLE AIR VOLUME (VAV) BOX WITH HEATING HOT WATER REHEAT COIL
	VARIABLE AIR VOLUME (VAV) BOX WITH ELECTRIC REHEAT COIL
	DUCT BOOST COIL

DUCTWORK SYMBOLS

	SUPPLY DUCT (UP OR SECTION)
	SUPPLY OR OUTSIDE AIR DUCT (DOWN/OR AWAY)
	EXHAUST OR RETURN DUCT (UP OR SECTION)
	EXHAUST OR RETURN DUCT (DOWN/OR AWAY)
	ROUND DUCTWORK UP
	ROUND DUCTWORK DOWN
	FLEXIBLE CANVAS CONNECTION
	TURNING VANES

DAMPER SYMBOLS

	MANUAL VOLUME DAMPER
	AUTOMATIC DAMPER
	BACKDRAFT DAMPER
	1-1/2 HR. FIRE DAMPER

PIPING SYMBOLS

	BALL VALVE
	TEE DOWN
	TEE UP
	ELBOW DOWN
	ELBOW UP
	GATE VALVE
	GLOBE VALVE
	3-WAY VALVE
	METER
	GAS SHUTOFF PLUG VALVE
	BALANCING VALVE
	PRESSURE REDUCING VALVE
	STRAINER
	UNION
	GAS PRESSURE REGULATOR
	BUTTERFLY VALVE
	TEMPERATURE ELEMENT
	TEMPERATURE INDICATOR
	TEMPERATURE TRANSMITTER
	PRESSURE INDICATOR
	PRESSURE TRANSMITTER
	FLOW SWITCH
	MANUAL AIR VENT
	CHECK VALVE
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	FLEXIBLE CONNECTOR
	TRIPLE DUTY VALVE
	FLOOR DRAIN

PIPING DESIGNATIONS

	CWR	CHILLED WATER RETURN
	CWS	CHILLED WATER SUPPLY
		GAS PIPING
	HHWR	HEATING HOT WATER RETURN
	HHWS	HEATING HOT WATER SUPPLY
	LPC	LOW PRESSURE CONDENSATE
	LPS	LOW PRESSURE STEAM
	RL	REFRIGERANT LIQUID
	RS	REFRIGERANT SUCTION

FIELD MOUNTED CONTROLS

	T	THERMOSTAT
	H	ROOM HUMIDISTAT
	P	PRESSURE SENSOR
	S	ROOM SENSOR
		DUCT SMOKE DETECTOR

ACTUATORS

	M	MOTOR (ELECTRIC)
	P	PNEUMATIC
	S	SOLENOID

GENERAL HEATING AND VENTILATION NOTES:

1. CONTRACT DOCUMENT DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
2. COORDINATE WITH OTHER TRADES TO ELIMINATE CONFLICTS BETWEEN PIPING, DUCTWORK, ELECTRICAL WORK, ETC. DRAWINGS OF ALL OTHER TRADES SHALL BE REVIEWED. EACH CONTRACTOR SHALL COORDINATE THE INSTALLATION AND SCHEDULING OF THEIR WORK WITH OTHER TRADES TO PREVENT INTERFERENCE WITH THEIR RESPECTIVE INSTALLATIONS.
3. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR TO INSTALL COMPLETE AND OPERABLE SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED BY CODE.
4. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
5. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED SHOP DRAWINGS.
6. ALL PIPE LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL NEW DUCT ROUTING AND ELEVATIONS PRIOR TO FABRICATION AND INSTALLATION.
7. ELECTRIC UNIT HEATER THERMOSTATS PROVIDED BY DIVISION 26, UNLESS OTHERWISE NOTED.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HV ABBREVIATIONS, SYMBOLS AND NOTES
PUMP STATION 49

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	597
CONTRACT NO. 61J87				

SHEET HV1 OF 7 SHEETS

ILLINOIS FED. AID PROJECT

MODEL: Default
FILE NAME: S:\MAD1\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-HV1-HVNotes.dgn

SA
STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = brianf	DESIGNED - CHW	REVISED -
PLOT SCALE = 2:0.0000 '"/in.	DRAWN - BJF	REVISED -
PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
	DATE - 8/28/2024	REVISED -

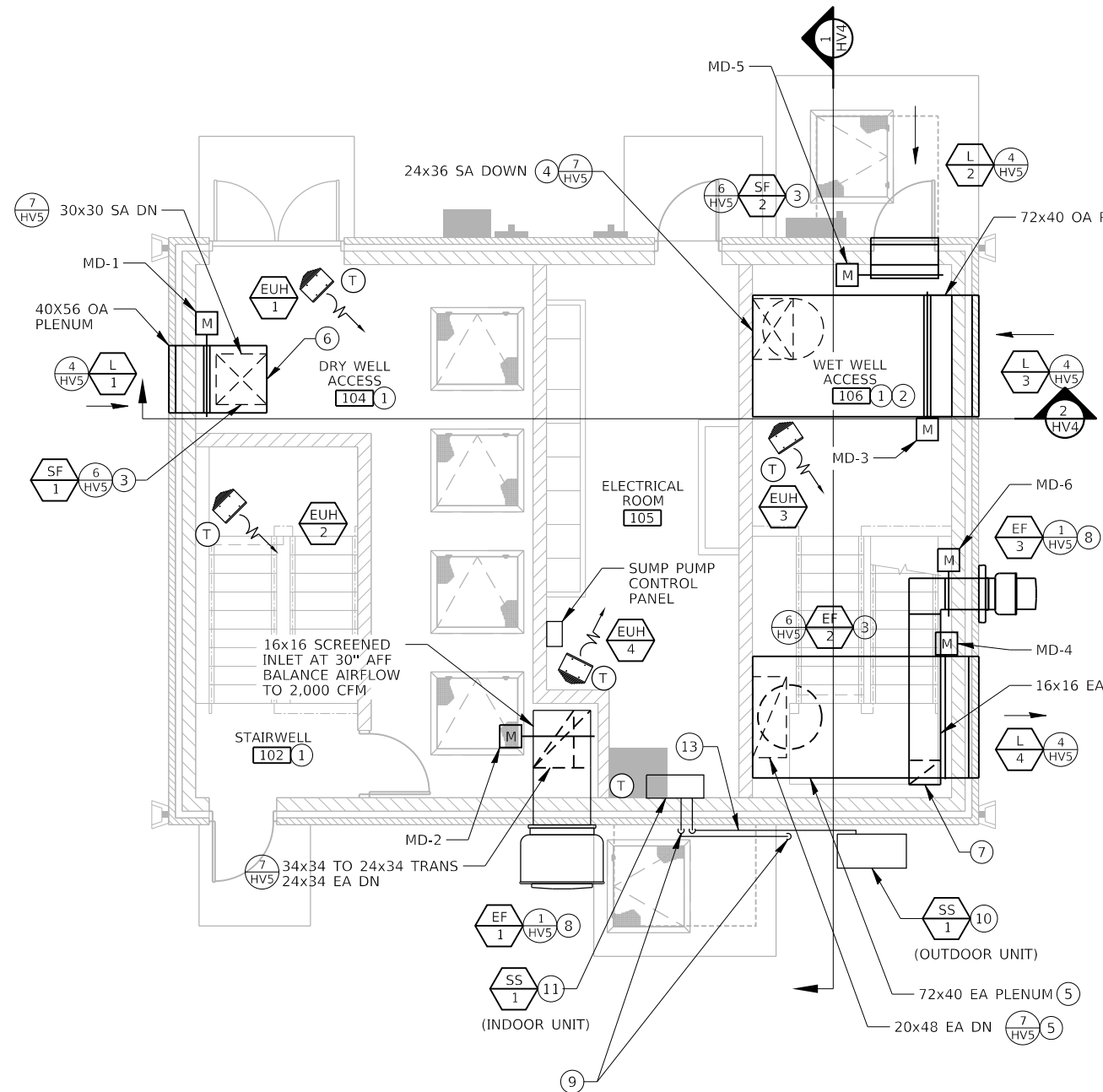
HV1

GENERAL NOTES:

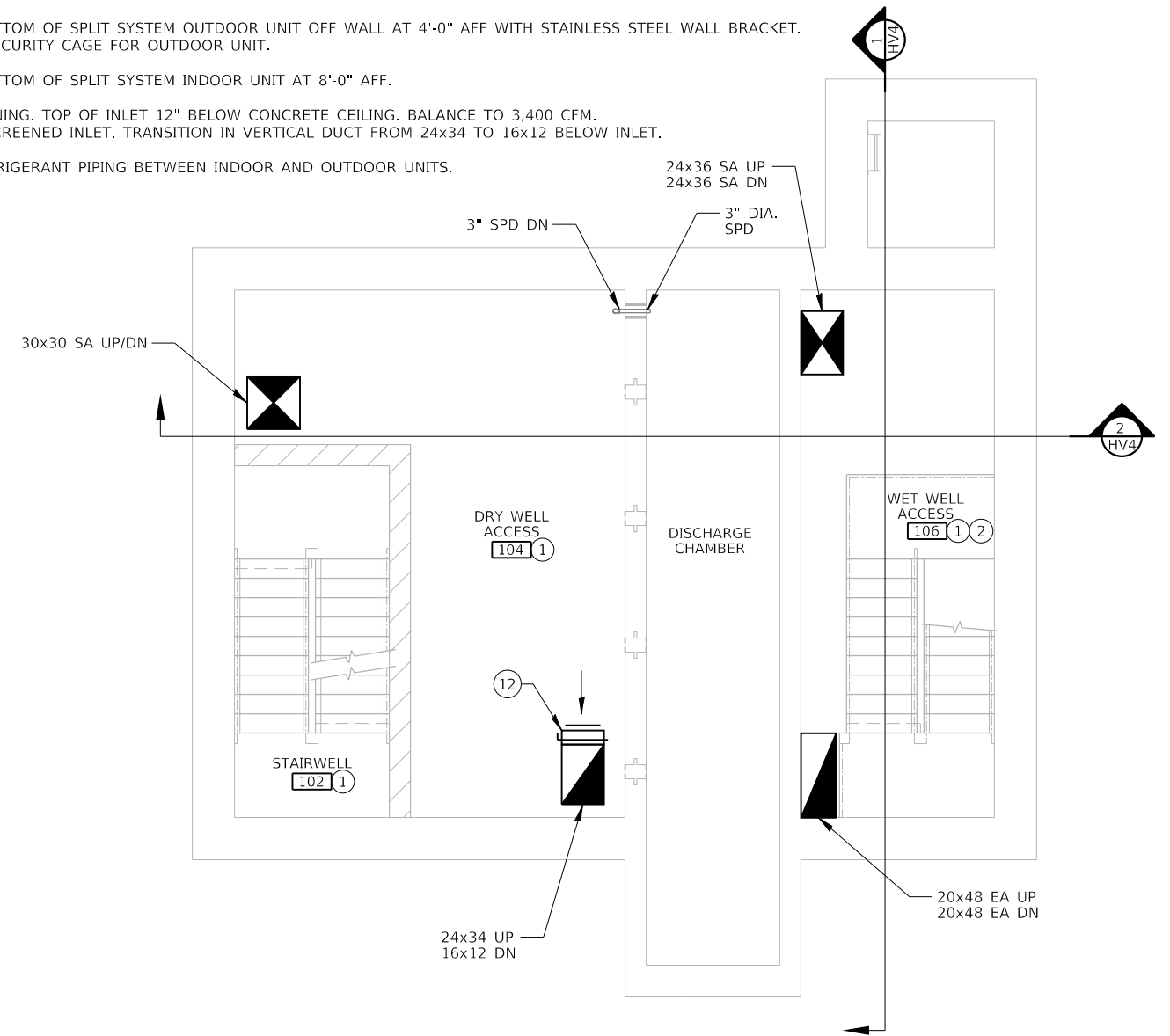
- SEE HV1 FOR GENERAL NOTES.

KEY NOTES:

- EQUIPMENT AND ACCESSORIES SHALL BE SUITABLE FOR CLASS 1, DIVISION 2, GROUPS C AND D ENVIRONMENTS. DUCTWORK SHALL BE GROUNDED.
- DUCTWORK IN WET WELL SHALL BE 316 SS.
- MOUNT BOTTOM OF FAN IN VERTICAL AT 2'-0" ABOVE PLATFORM ELEVATION.
- 38" DIA. OUT OF PLENUM INTO FAN. TRANSITION FROM 38" DIA. OUT BOTTOM OF FAN TO 24x36.
- 38" DIA. OUT OF PLENUM INTO FAN. TRANSITION FROM 38" DIA. OUT BOTTOM OF FAN TO 20x48.
- TERMINATE 24x24 SA WITH SCREENED INLET EVEN WITH FINISHED FLOOR. BALANCE AIRFLOW TO 2,000 CFM.
- TERMINATE 16x8 WITH SCREENED INLET AT 12" ABOVE PLATFORM ELEVATION.
- MOUNT EF ON WALL AT TOP OF DUCT = 10'-8" AFF.
- ROUTE CONDENSATE TO GRADE AS SHOWN. TERMINATE AT 12" AFF. PROVIDE SCREENED OUTLET.
- MOUNT BOTTOM OF SPLIT SYSTEM OUTDOOR UNIT OFF WALL AT 4'-0" AFF WITH STAINLESS STEEL WALL BRACKET. PROVIDE SECURITY CAGE FOR OUTDOOR UNIT.
- MOUNT BOTTOM OF SPLIT SYSTEM INDOOR UNIT AT 8'-0" AFF.
- 24x12 OPENING. TOP OF INLET 12" BELOW CONCRETE CEILING. BALANCE TO 3,400 CFM. PROVIDE SCREENED INLET. TRANSITION IN VERTICAL DUCT FROM 24x34 TO 16x12 BELOW INLET.
- ROUTE REFRIGERANT PIPING BETWEEN INDOOR AND OUTDOOR UNITS.



HV GROUND FLOOR PLAN ELEV. 817.00



HV INTERMEDIATE FLOOR PLAN ELEV. 811.50



MODEL: Default
FILE NAME: S:\MAD\1800-1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-HV2-HVGroundPlan.dgn
8/27/2024 9:52:17 AM



USER NAME = brianf	DESIGNED - CHW	REVISED -
PLOT SCALE = 8:0.0000 "/>		

DRAWN - BJF	REVISED -
CHECKED - SAI	REVISED -
DATE - 8/28/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**HV GROUND & INTERMEDIATE FLOOR PLANS
PUMP STATION 49**

SHEET HV2 OF 7 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 598
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

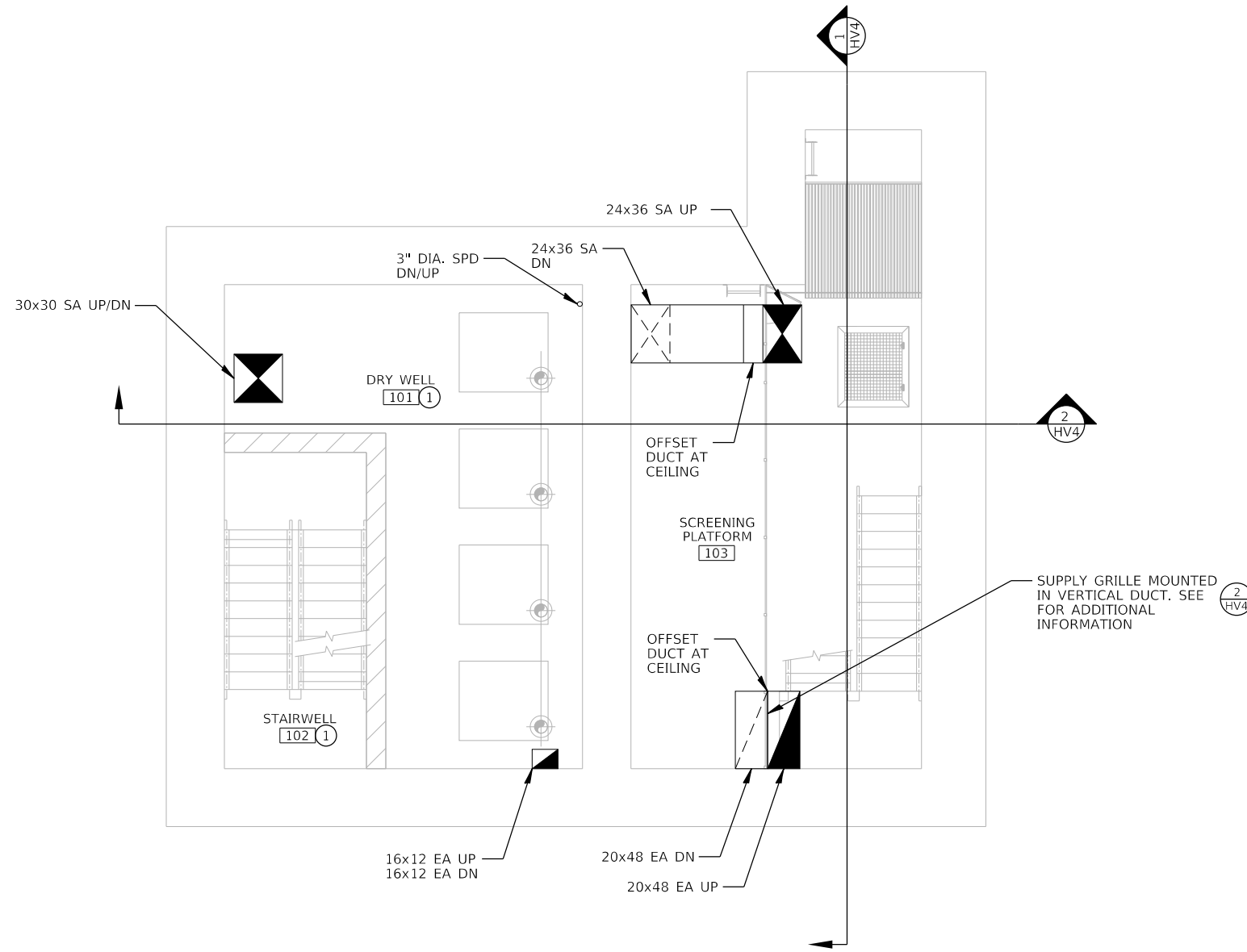
HV2

GENERAL NOTES:

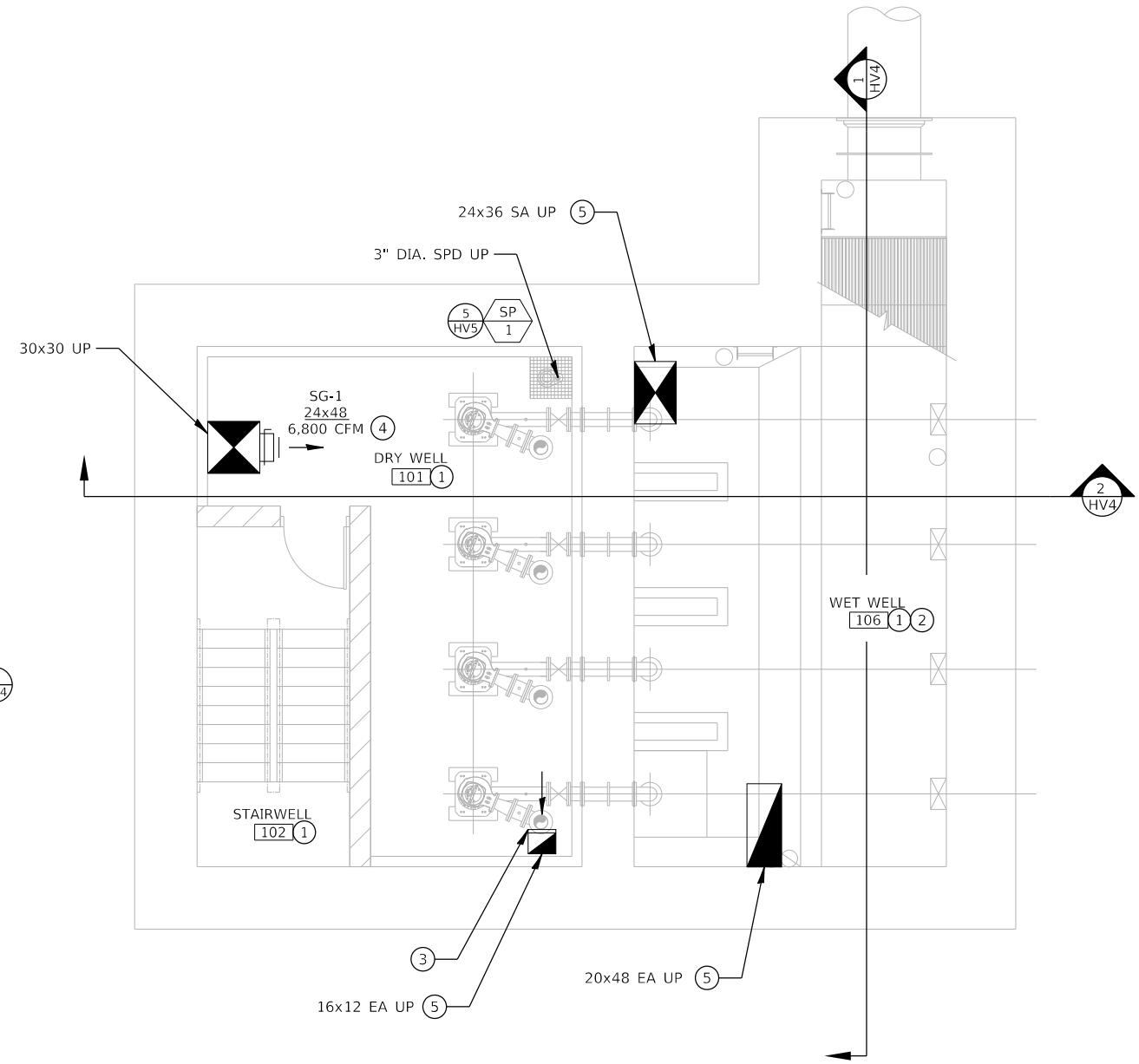
1. SEE HV1 FOR GENERAL NOTES.

KEY NOTES:

1. EQUIPMENT AND ACCESSORIES SHALL BE SUITABLE FOR CLASS 1, DIVISION 1, GROUPS C AND D ENVIRONMENTS. DUCTWORK SHALL BE GROUNDED.
2. DUCTWORK IN WET WELL SHALL BE 316 SS.
3. 16x12 SCREENED INLET AT 12" AFF. BALANCE TO 3,400 CFM.
4. MOUNT BOTTOM OF SUPPLY GRILLE AT 8'-0" AFF.
5. TERMINATE SCREENED INLET OR OUTLET AT EL. 795.92.



HV INTERMEDIATE FLOOR PLAN ELEV. 793.00



HV WET WELL FLOOR PLAN ELEV. 777.50

MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-HV3-HVFloorPlan.dgn
8/27/2024 9:30:39 AM



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - CHW	REVISED -
		DRAWN - BJF	REVISED -
	PLOT SCALE = 8:0.0000 " / in.	CHECKED - SAI	REVISED -
	PLOT DATE = 8/27/2024	DATE - 8/28/2024	REVISED -

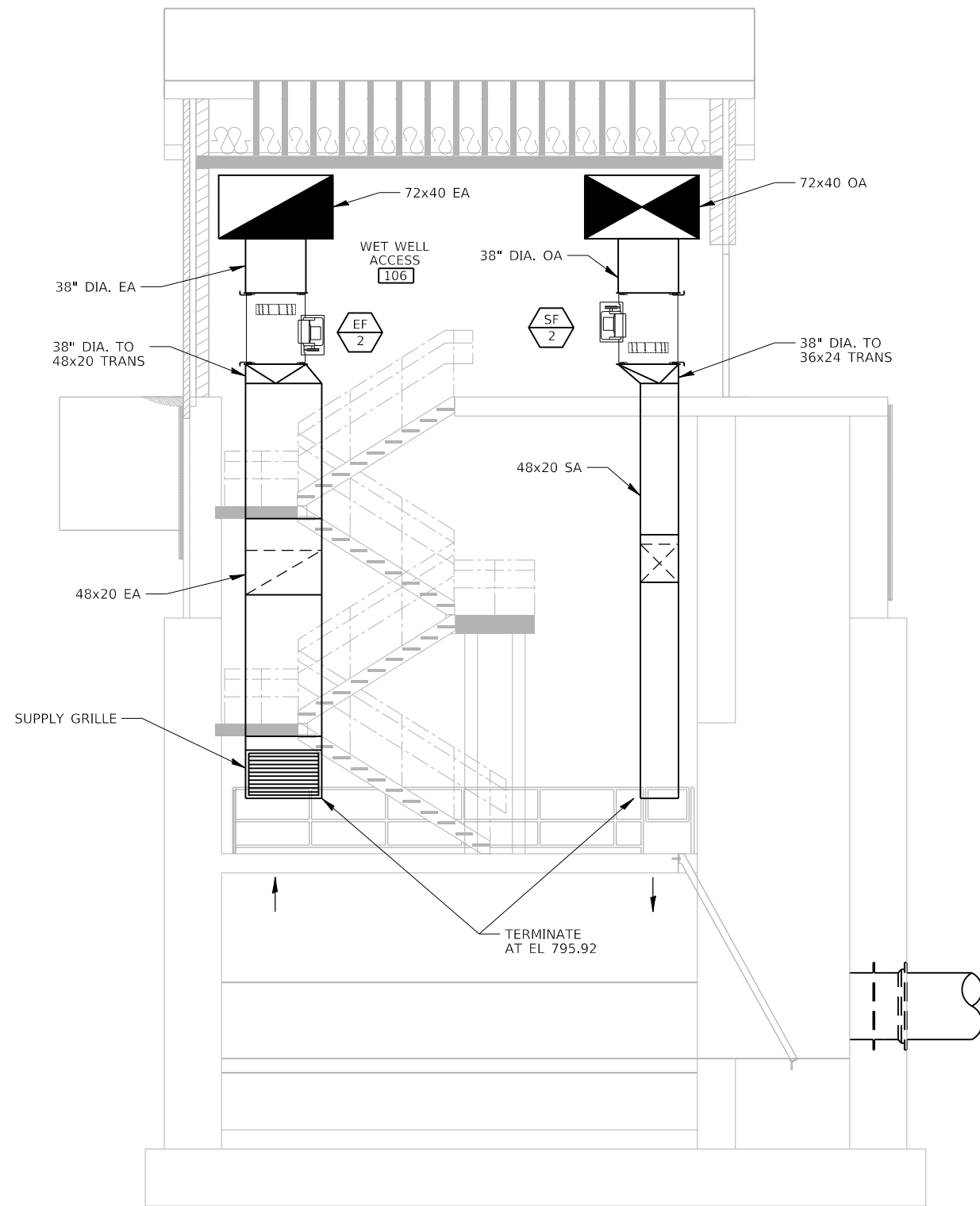
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**HV INTERMEDIATE & WET WELL FLOOR PLANS
PUMP STATION 49**

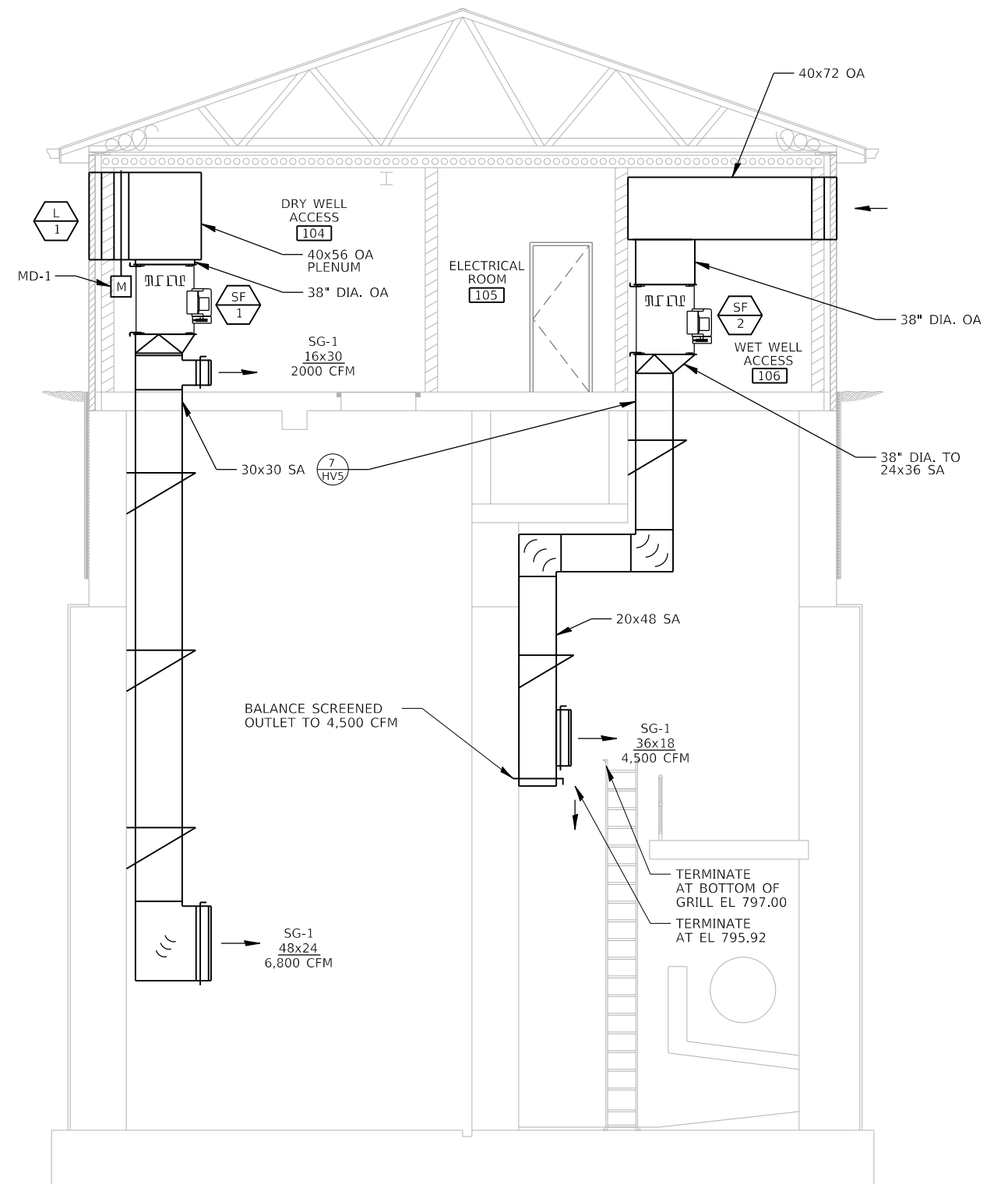
SHEET HV3 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	11-00087-00-GS	LAKE	816	599
CONTRACT NO. 61J87				

ILLINOIS FED. AID PROJECT



1 HV4 HV BUILDING SECTION
0 1 2 4 8



2 HV4 HV BUILDING SECTION
0 1 2 4 8

MODEL: Default
FILE NAME: S:\MAD\1800--1899\1843\002\Drawings\CAD\Micros-SS4\CAD_Sheets\PS49-xxxx-HV4-HVBuildSec.dgn
8/27/2024 10:05:19 AM



1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME = brianf	DESIGNED - CHW	REVISED -
	PLOT SCALE = 8:0.0000 " / in.	DRAWN - BJF	REVISED -
	PLOT DATE = 8/27/2024	CHECKED - SAI	REVISED -
		DATE - 8/28/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HV BUILDING SECTIONS
PUMP STATION 49

SHEET HV4 OF 7 SHEETS

F.A.P. RTE. 305	SECTION 11-00087-00-GS	COUNTY LAKE	TOTAL SHEETS 816	SHEET NO. 600
CONTRACT NO. 61J87				
ILLINOIS FED. AID PROJECT				

HV4