Wang Engineering
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1145 N Main Street
Lombard, IL 60148
Telephone: (630) 953-9928
Fax

BORING LOG HA-01

WEI Job No.: 790-96-01

Client ..... TranSystems Corporation
Project Wisconsin Central RR Bridge over N Aurora Road
Location ..... Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 733.87 ft
North: 1862920.31 ft
East: 1011991.51 ft
Station:
Offset:

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	733.8	3-inch thick, RAILROAD BALLAST						
		Black and brown SAND to SANDY LOAM; moist –FILL–		PUSH	1		NP	14
				PUSH	2		NP	18
	729.4	Stiff, black and brown SILTY CLAY LOAM, trace gravel; moist –FILL–	5	PUSH	3		1.25 P	18
	727.9	Black SANDY LOAM; moist –FILL–		PUSH	4		1.05 B	22
	726.4	Stiff, black and gray SILTY CLAY LOAM; moist –FILL–						
	725.9	Brown SANDY CLAY; moist –FILL–		PUSH	5		2.87 B	30
	724.3	Very stiff, black and brown SILTY CLAY, trace gravel, organic; moist –FILL–	10					
	723.9	Stiff (1.0P), black SILTY CLAY LOAM, trace organic –BURIED TOPSOIL–						
		Boring terminated at 10.00 ft						
			15					
			20					

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	06-15-2017	Complete Drilling	06-15-2017	While Drilling	DRY
Drilling Contractor	Wang Testing Services	Drill Rig	GEOPROBE	At Completion of Drilling	DRY
Driller	J & J	Logger	RKC	Checked by	RKC	Time After Drilling	NA
Drilling Method	1" IDA Pneumatic Geoprobe LB Sampler			Depth to Water	NA

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

WANGENGINC 790960.GPJ WANGBNG.GDT 1/14/19

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Fax

BORING LOG HA-02

WEI Job No.: 790-96-01

Client ..... TranSystems Corporation
Project Wisconsin Central RR Bridge over N Aurora Road
Location ..... Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 730.07 ft
North: 1862897.42 ft
East: 1011945.25 ft
Station:
Offset:

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	729.8	3-inch thick, RAILROAD BALLAST						
		Gray, coarse SAND; moist –FILL–		PUSH	1		NP	6
				PUSH	2		NP	6
	725.2	Medium stiff, black and brown SILTY CLAY LOAM, trace organic	5	PUSH	3		0.75 P	28
	724.6	Gray, coarse SAND; moist –FILL–		PUSH	4		1.75 P	26
	723.4	Stiff, black and brown SILTY CLAY LOAM, trace gravel, organic; moist –FILL–						
	722.1	Brown and gray, coarse SAND; moist –FILL–		PUSH	5		1.24 B	26
	721.1	Stiff, black, brown and gray SILTY CLAY LOAM, trace gravel; moist –FILL–	10					
	720.1	Boring terminated at 10.00 ft						
			15					
			20					

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	06-15-2017	Complete Drilling	06-15-2017	While Drilling	DRY
Drilling Contractor	Wang Testing Services	Drill Rig	GEOPROBE	At Completion of Drilling	DRY
Driller	J & J	Logger	RKC	Checked by	RKC	Time After Drilling	NA
Drilling Method	1" IDA Pneumatic Geoprobe LB Sampler			Depth to Water	NA

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

WANGENGINC 790960.GPJ WANGBNG.GDT 1/14/19

6:09:14 PM
FILE NAME: Boring Logs 4

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS 4 STRUCTURE NO. 022-9948	
	CHECKED - MDS	REVISED -			
PLOT SCALE = 0:2.0000 ':" / in.	DRAWN - MDG	REVISED -			
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 44 OF 45 SHEETS	

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	201
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

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BORING LOG HA-03

WEI Job No.: 790-96-01

Client: TranSystems Corporation
Project: Wisconsin Central RR Bridge over N Aurora Road
Location: Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 729.10 ft
North: 1863031.86 ft
East: 1011960.28 ft
Station:
Offset:

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		Reddish, black and brown, fine to coarse SAND; moist –FILL–			1	PUSH	NP	13
	727.1	Brown and gray SILT to SILTY LOAM, trace gravel; moist –FILL–			2	PUSH	NP	17
	725.1	Black and brown SAND to SANDY LOAM; moist –FILL–	5		3	PUSH	NP	16
	722.4	Very stiff, black and brown SILTY LOAM to SILTY CLAY LOAM; moist –FILL–			4	PUSH	3.00 P	20
	721.6	Black, brown and gray SANDY GRAVEL to GRAVELLY SAND; moist –FILL–			5	PUSH	NP	11
	719.1	Boring terminated at 10.00 ft	10					
			15					
			20					

GENERAL NOTES

Begin Drilling: 06-15-2017 Complete Drilling: 06-15-2017
Drilling Contractor: Wang Testing Services Drill Rig: GEOPROBE
Driller: J & J Logger: RKC Checked by: RKC
Drilling Method: 1" IDA Pneumatic Geoprobe LB Sampler

WATER LEVEL DATA

While Drilling: ▽ DRY
At Completion of Drilling: ▼ DRY
Time After Drilling: NA
Depth to Water: ▼ NA

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

WANGENGINC 790951.GPJ WANGENG.GDT 1/14/19

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BORING LOG HA-04

WEI Job No.: 790-96-01

Client: TranSystems Corporation
Project: Wisconsin Central RR Bridge over N Aurora Road
Location: Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 728.89 ft
North: 1863064.49 ft
East: 1011961.56 ft
Station:
Offset:

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		Black and brown, fine to coarse SAND; moist –FILL–			1	PUSH	NP	15
					2	PUSH	NP	17
	723.9	Very stiff, black and brown SILTY CLAY LOAM, trace to some gravel, organic; moist –FILL–	5		3	PUSH	NP	8
					4	PUSH	2.00 P	19
	718.9	Boring terminated at 10.00 ft	10		5	PUSH	3.25 B	21
			15					
			20					

GENERAL NOTES

Begin Drilling: 06-15-2017 Complete Drilling: 06-15-2017
Drilling Contractor: Wang Testing Services Drill Rig: GEOPROBE
Driller: J & J Logger: RKC Checked by: RKC
Drilling Method: 1" IDA Pneumatic Geoprobe LB Sampler

WATER LEVEL DATA

While Drilling: ▽ DRY
At Completion of Drilling: ▼ DRY
Time After Drilling: NA
Depth to Water: ▼ NA

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

WANGENGINC 790951.GPJ WANGENG.GDT 1/14/19

6:09:22 PM
FILE NAME: Boring Logs 5

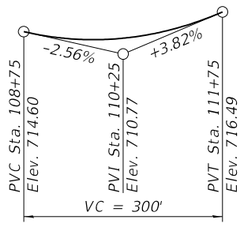
TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS 5 STRUCTURE NO. 022-9948	
	CHECKED - MDS	REVISED -			
PLOT SCALE = 0:2.0000 ':' / in.	DRAWN - MDG	REVISED -			
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 45 OF 45 SHEETS	

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	202
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

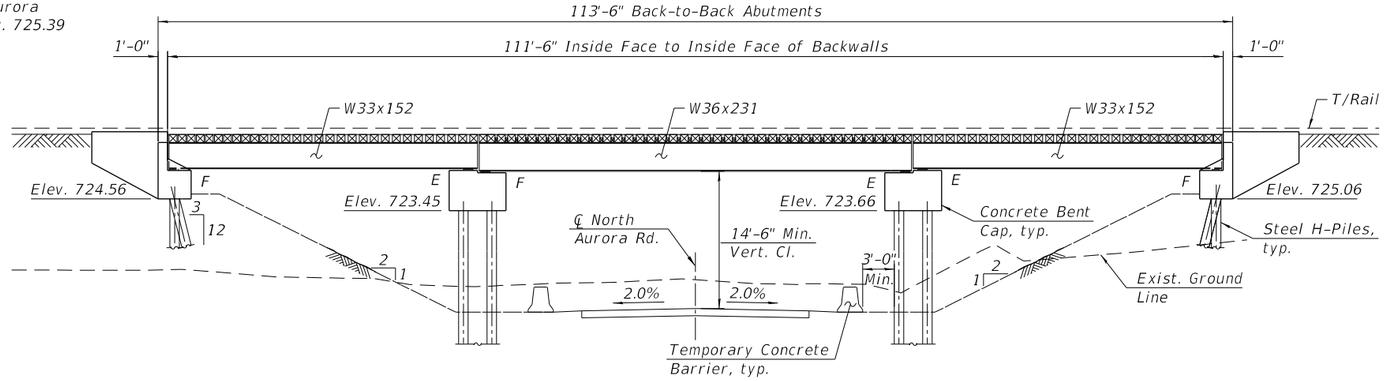
Benchmark: CP#4. Set Mag nail, ℄ North Aurora Rd at fence line W. of Field Entrance. Elev. 725.39

Existing Structure: None

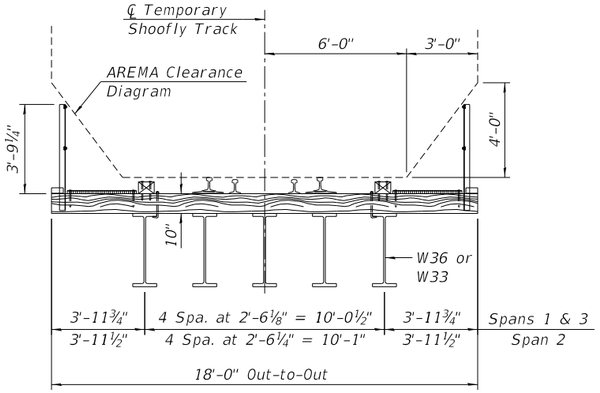


PROFILE GRADE

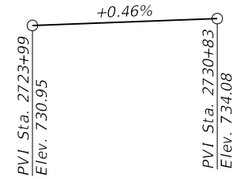
(Along Temporary ℄ N. Aurora Rd.)



ELEVATION



TYPICAL SECTION



TOP OF RAIL ELEVATIONS

(Along ℄ Temporary Shoofly Track)

DESIGN SPECIFICATIONS

2019 AREMA Manual for Railway Engineering
CN Guidelines for Design of Railway Structures, January 2006

LOADING COOPER E-80

Cooper E-80 or Alternate Load plus Diesel Impact without hammer blow

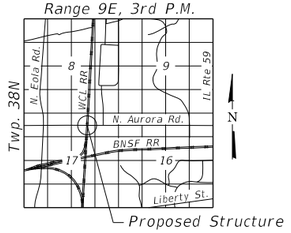
DESIGN STRESSES

FIELD UNITS

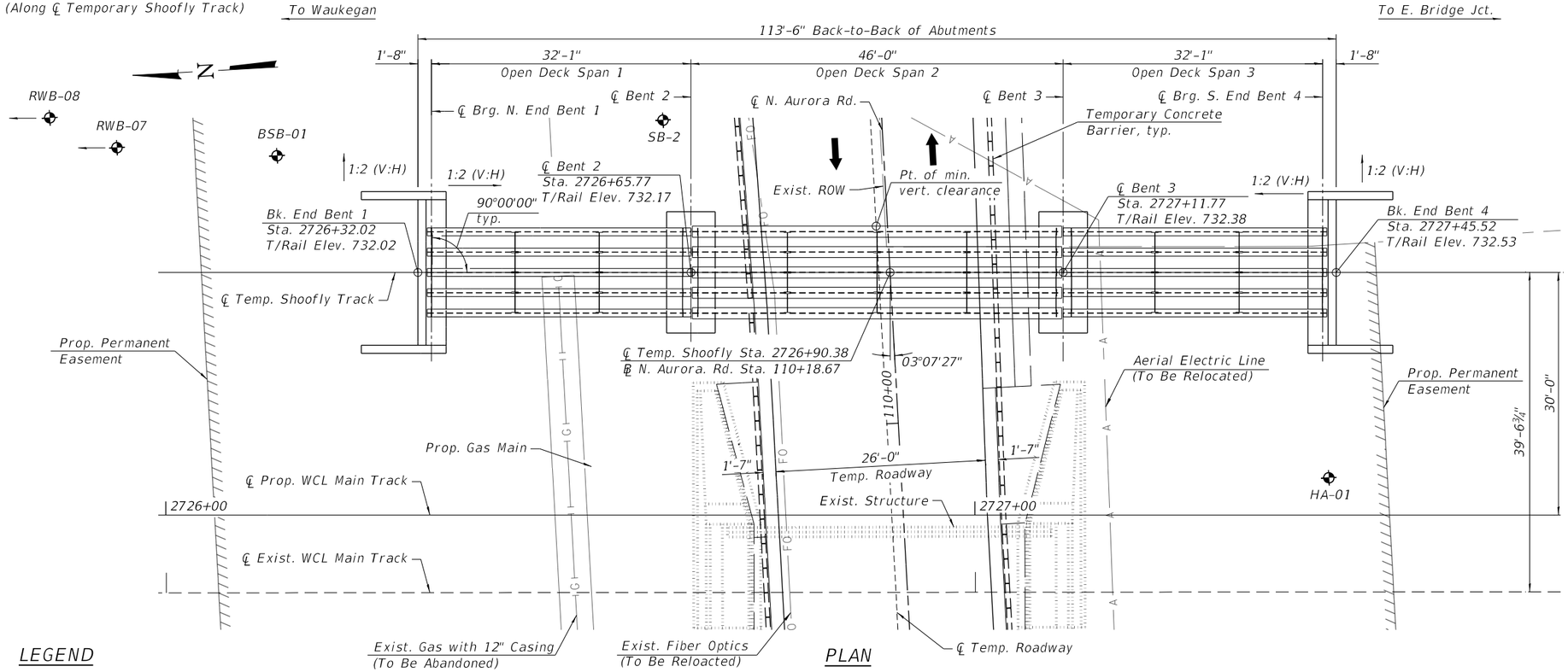
f'c = 5,000 psi (Precast Concrete)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (ASTM A709 Gr. 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec (S_{D1}) = 0.064g
Design Spectral Acceleration at 0.2 sec (S_{DS}) = 0.123g
Soil Site Class = C



LOCATION SKETCH



PLAN

LEGEND

Soil Boring

GENERAL PLAN AND ELEVATION
TEMPORARY BRIDGE
WISCONSIN CENTRAL LTD
OVER NORTH AURORA ROAD
F.A.U. RT. 1509 - SEC. 06-00133-00-BR
DUPAGE COUNTY
STATION 110+18.67

6:09:27 PM
FILE NAME: Shoofly General Plan and Elevation

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION TEMPORARY BRIDGE
	CHECKED - MDS	REVISED -		SHEET 1 OF 14 SHEETS
PLOT SCALE = 16:0.0000 ':" / in.	DRAWN - JM	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	203
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

GENERAL NOTES

GENERAL

1. See Sheet 159 of 426 for additional General Notes.

2. Temporary Bridge shall include all structural steel components, bearings, precast concrete, piles, handrail, railroad ties and all miscellaneous items necessary to construct the shoofly bridge. See Special Provisions.

PRECAST CONCRETE

1. All concrete material, placement and workmanship shall be in accordance with Chapter 8 of the AREMA Specifications.

2. Concrete shall have a minimum compressive strength of 5,000 psi at 28 days.

3. Exposed surfaces shall be formed in a manner that will produce a smooth and uniform appearance without rubbing or plastering. Exposed edges of 90 degrees or less are to be chamfered ¾" x ¾". Top surface to have a smooth finish, free of all float or trowel marks.

4. The Fabricator shall stencil the Fabricator's name, date of fabrication, the bridge number, lifting weight and piece mark on each component.

5. The Fabricator will be responsible for the design of the lifting loops or lift anchors for the erection of the precast members. Required details to be coordinated with the Contractor and approved by the Engineer. The area around all lifting loops shall be recessed so that the loops can be removed to a depth of ¾" and grouted.

6. The Fabricator will be responsible for the loading and properly securing the precast concrete members for shipment. All concrete components shall be made available for inspection by the Engineer at the Fabricator's plant prior to shipment.

STRUCTURAL STEEL

1. All structural steel shall be ASTM A709, Grade 50W. Handrail posts and pile plates shall be ASTM A709 Grade 36.

2. Calculated weight of Structural Steel = 116,442 pounds (ASTM A709 Grade 50W).
   Calculated weight of Structural Steel = 8,878 pounds (ASTM A709 Grade 36).

3. The main load carrying components subjected to tensile stress, other than fracture critical members, shall conform to the supplemental requirements for Notch Toughness, Zone 3. These components are designated "N.T.R." on the plans.

4. All bolted connections shall be made with high-strength bolts conforming to ASTM F3125 Grade A325, Type 1. Bolts shall be ⅞" diameter in $^{15}/_{16}$" diameter holes, unless otherwise noted. All bolt holes shall be subpunched or subdrilled and reamed to size in accordance with the Special Provisions. Bolts shall be tightened by the "turn of the nut" method as described in the AREMA Specifications.

FIELD WELDING

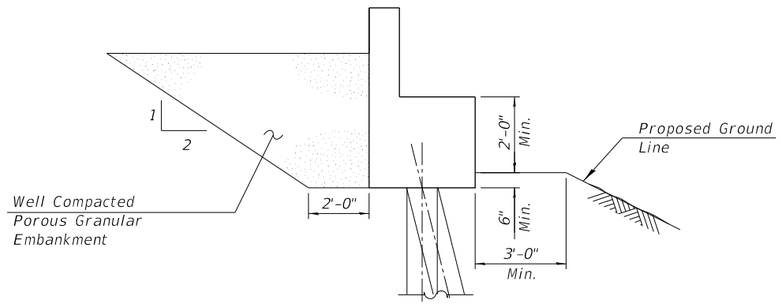
1. Welding must be accomplished with the SMAW or FCAW process. Welding must be in accordance with the requirements specified in AWS D1.5, except $^{5}/_{16}$" fillet welds may be made with a single pass. Welding electrodes must be E7018 for SMAW or E70T-1 or E-70T-5 for FCAW.

2. Welders must possess valid certification. Welding must be performed by operators who have been qualified previously by tests as prescribed by the American Welding Society's standard qualification procesure to perform the work required. The qualifications of the personnel must be submitted to the Engineer in advance of the work.

TOTAL BILL OF MATERIAL

Description	Unit	Total
Temporary Bridge	Each	1

INDEX OF SHEETS



SECTION AT END BENT

6:09:30 PM
FILE NAME: Shoofly General Data

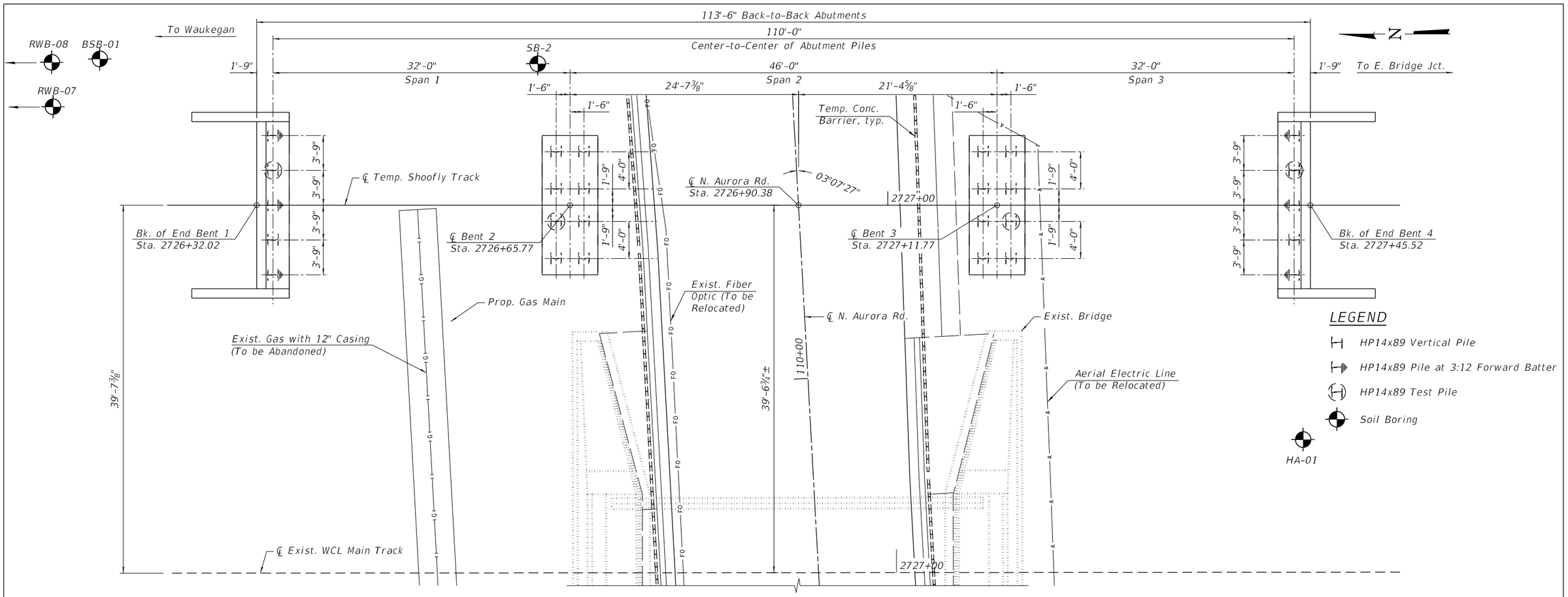
TRANSYSTEMS

USER NAME = brvanderwal		DESIGNED - JRM	REVISED -		
		CHECKED - MDS	REVISED -		
PLOT SCALE = 10:0.0000 ':" / in.		DRAWN - GJZ	REVISED -		
PLOT DATE = 1/25/2025		CHECKED - JRM	REVISED -		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
TEMPORARY BRIDGE
SHEET 2 OF 14 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	204
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



FOUNDATION PLAN & PILE LAYOUT

BILL OF MATERIAL *

Item	Unit	Total
Furnishing Steel Piles HP14x89	Foot	2,658
Driving Piles	Foot	2,658
Test Pile Steel HP14x89	Each	4
Pile Shoes	Each	26

* For Information Only. Items are Included in cost of Temporary Bridge.

ESTIMATED PILE LENGTHS

End Bent 1 = 105 ft.
Bent 2 = 100 ft.
Bent 3 = 100 ft.
End Bent 4 = 103 ft.

PILE DRIVING NOTES:

1. All piles shall be driven to 329 ton capacity or practical refusal. If any pile cannot be driven to this capacity, the Engineer shall be notified.
2. The steel H-piles shall be HP14x89 according to ASTM A572 Grade 50, with pile shoes.
3. For Pile Splice and Pile Shoe Details, See sheet 160 of 426.

6:09:33 PM
FILE NAME: Shoofly Foundation Layout Plan

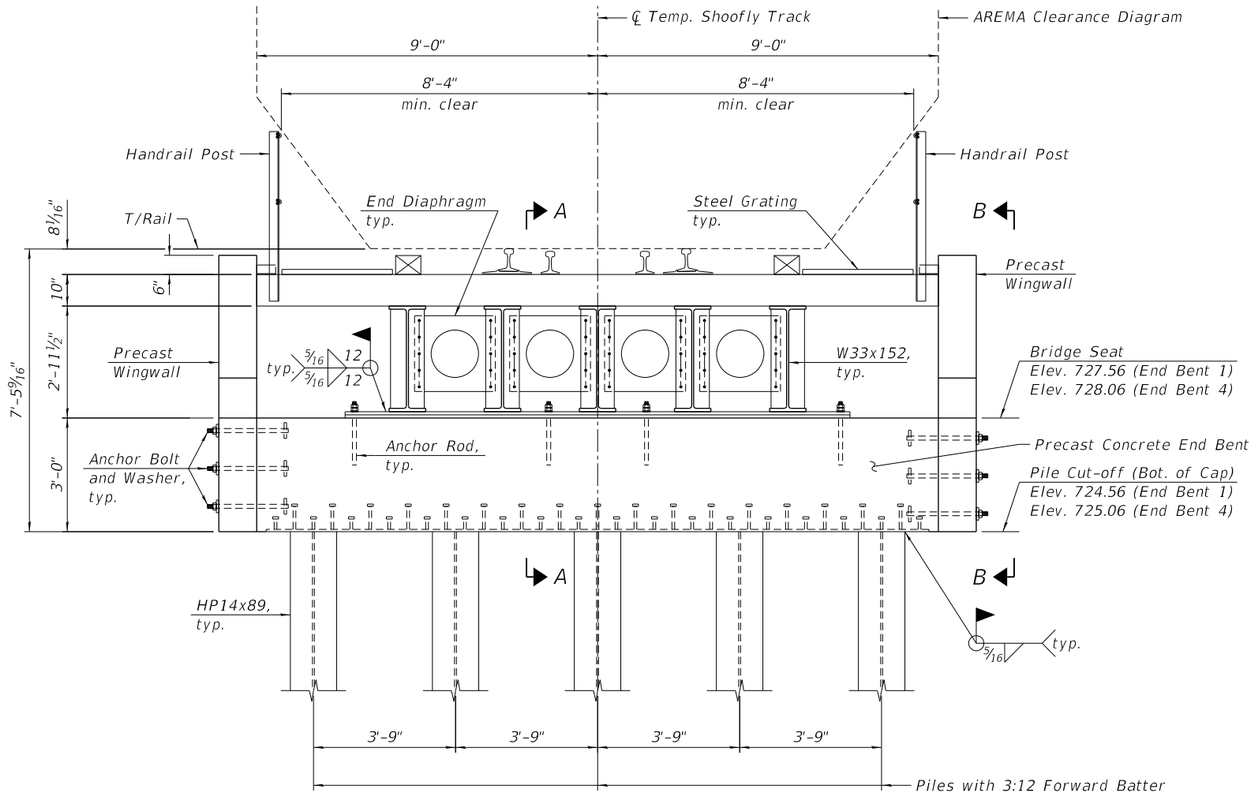
TRANSYSTEMS

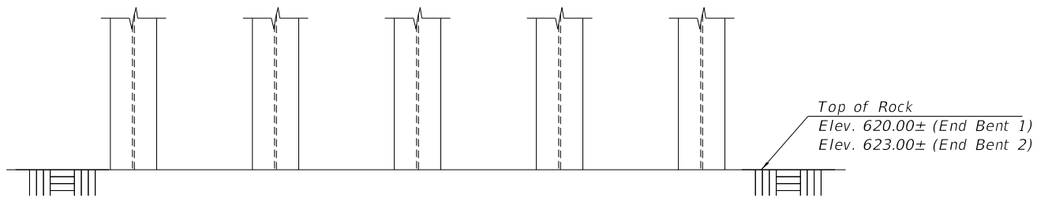
USER NAME = brvanderwal		DESIGNED - JRM	REVISED -		
		CHECKED - MDS	REVISED -		
PLOT SCALE = 10.67 ' / in.		DRAWN - GJZ	REVISED -		
PLOT DATE = 1/25/2025		CHECKED - JRM	REVISED -		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION LAYOUT PLAN
TEMPORARY BRIDGE
SHEET 3 OF 14 SHEETS

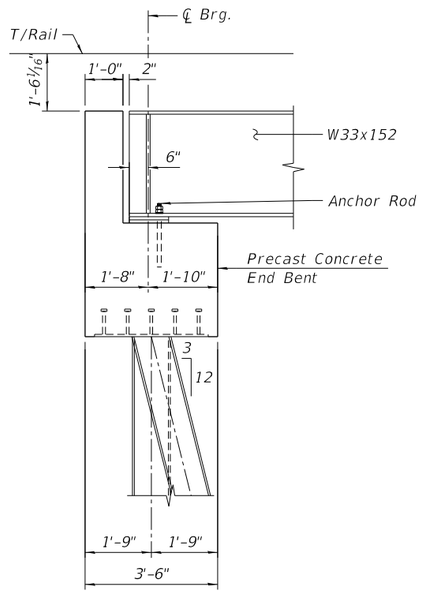
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	205
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



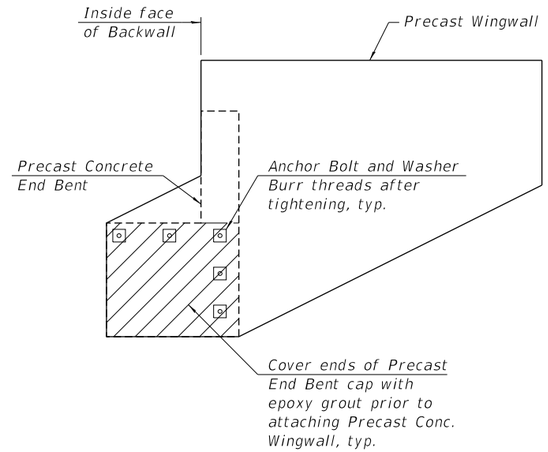


ELEVATION AT END BENT 1

(Looking North)
(End Bent 4 similar)



SECTION A-A



VIEW B-B

NOTES:

1. For Precast Concrete End Bent and Anchor Bolt details, see sheet 5 of 14.
2. T/Rail to T/Tie = 8 1/16". Dimension includes 7 5/16" height for 136 lb. rail and a 3/4" tie plate.
3. For bearing Anchor Rod details, see sheet 12 of 14.

6:09:34 PM
FILE NAME: Shoofly End Bent Details 1

TRANSYSTEMS

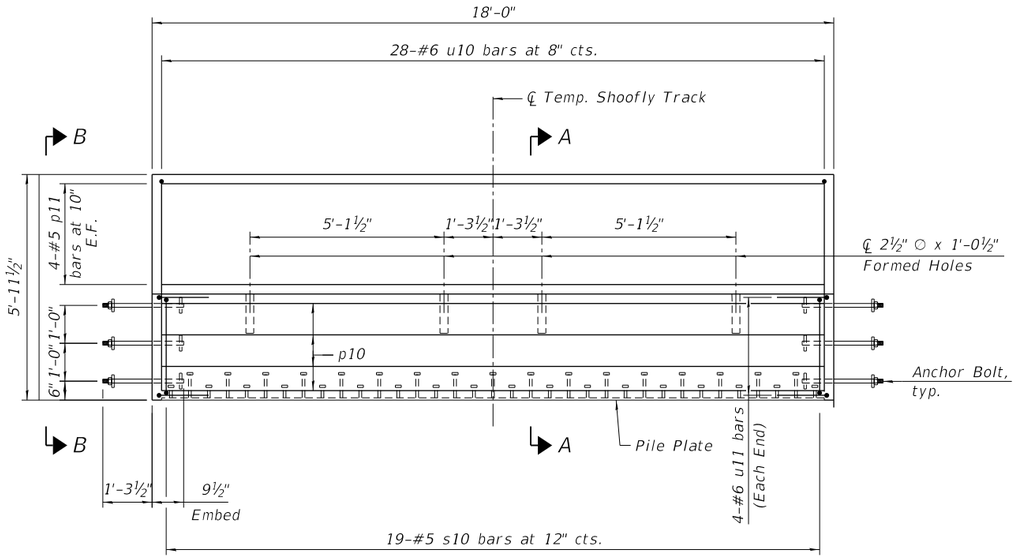
USER NAME = brvanderwal	DESIGNED - JRM	REVISED -	
	CHECKED - MDS	REVISED -	
PLOT SCALE = 4.0000 ' / in.	DRAWN - GJZ	REVISED -	
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

END BENT DETAILS 1
TEMPORARY BRIDGE

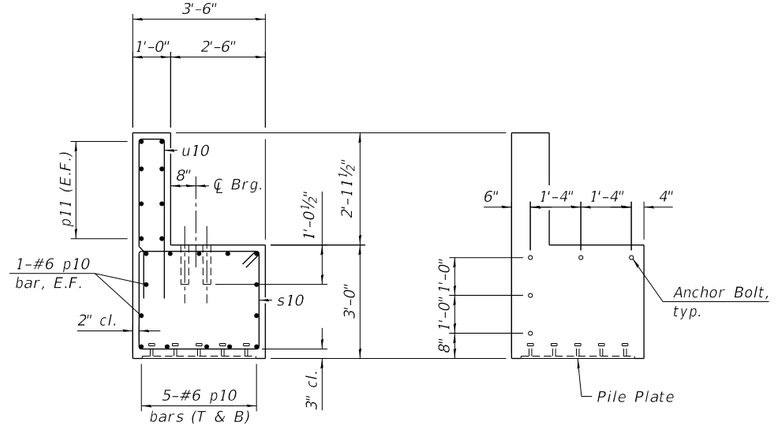
SHEET 4 OF 14 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	206
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



ELEVATION – PRECAST END BENT CAP

Estimated Wt. = 18.5 Tons
(2 Required)



SECTION A-A

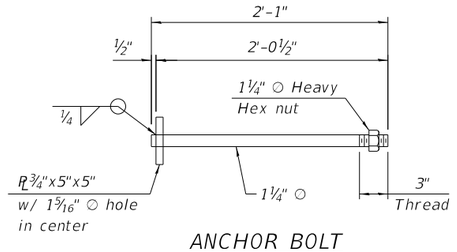
VIEW B-B

BILL OF MATERIAL

(Per End Bent)

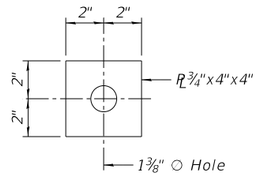
	Bar	No.	Size	Length	Shape
	p10	14	#6	17'-8"	
	p11	8	#5	17'-8"	
	s10	19	#5	12'-5"	
	u10	28	#6	9'-2"	
	u11	8	#6	6'-1"	
*	Precast Concrete Structures		Cu. Yd.	9.0	
*	Reinforcement Bars		Pound	1,230	
*	Pile Plate		Pound	1,805	
*	Anchor Bolts, 1¼"		Each	10	
*	Stud Shear Connectors		Each	90	

* For Information Only.
Items are included in cost of "Temporary Bridge".



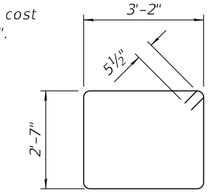
ANCHOR BOLT

(10 Req'd per Bent)

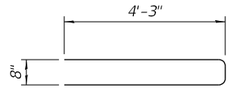


WASHER

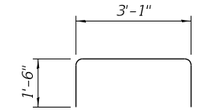
(10 Req'd per Bent)



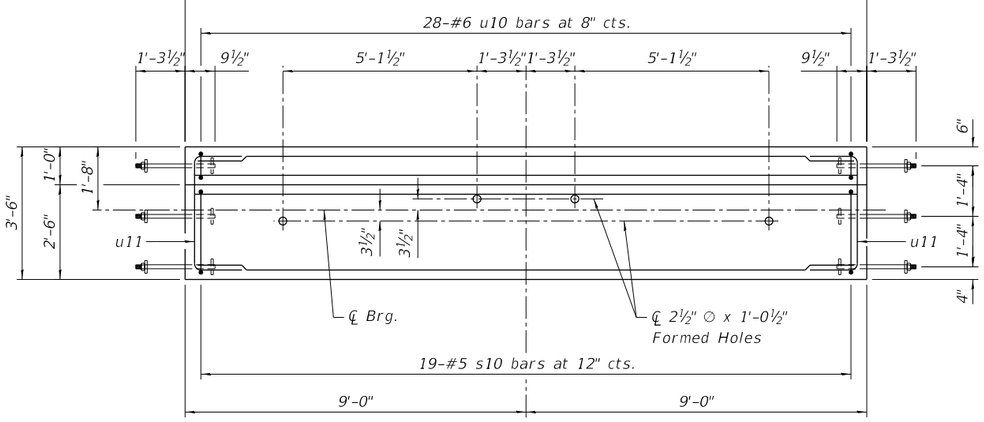
BAR s10



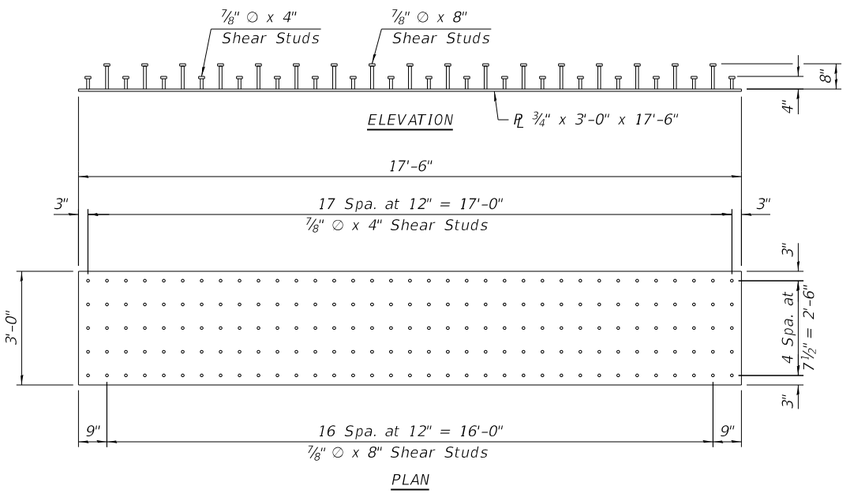
BAR u10



BAR u11



PLAN – PRECAST END BENT CAP



PLAN

PILE PLATE

Estimated Wt. = 1805 lbs.
(2 Required)

NOTES:

1. The Fabricator will be responsible for the design of the lifting loops or lift anchors for the erection of the precast members. Required details to be coordinated with the Contractor and approved by the Engineer.
2. E.F. denotes each face.
3. Pile Plate shall be ASTM A36 steel.
4. Anchor Bolts shall be ASTM F1554, Grade 36. Bolts and washers shall be galvanized according to ASTM F2329.
5. Locate reinforcement to miss formed holes, shear studs, and anchor bolts.

6:09:36 PM
FILE NAME: Shoofly End Bent Precast Details 2

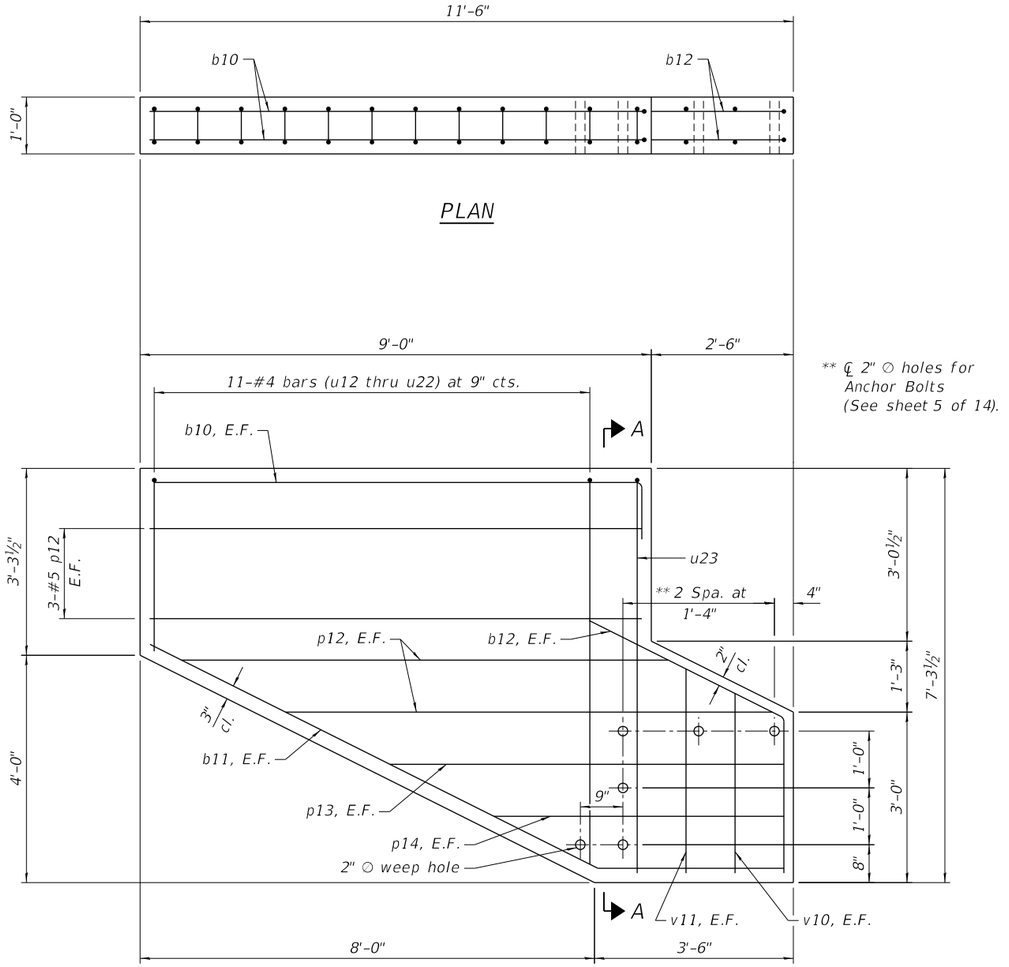
TRANSYSTEMS

USER NAME = brvanderwal		DESIGNED - JRM		REVISED -	
		CHECKED - MDS		REVISED -	
PLOT SCALE = 4.0000 ' / in.		DRAWN - GJZ		REVISED -	
PLOT DATE = 1/25/2025		CHECKED - JRM		REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

END BENT PRECAST DETAILS 2
TEMPORARY BRIDGE
SHEET 5 OF 14 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	207
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

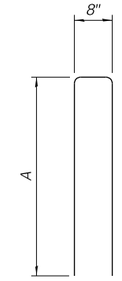


** ℄ 2" ∅ holes for Anchor Bolts (See sheet 5 of 14).

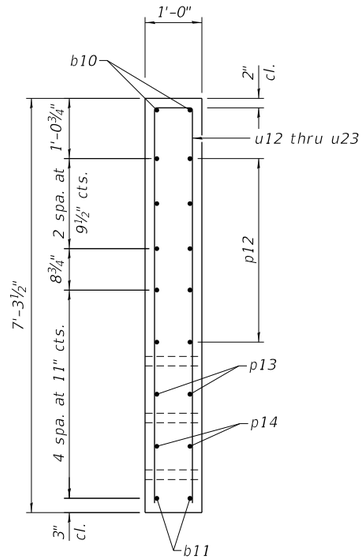
PRECAST WINGWALL ELEVATION

(Estimated Wt. = 4.5 Tons)

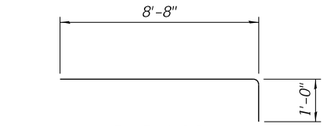
Bar	A
u12	3'-0"
u13	3'-4½"
u14	3'-9"
u15	4'-1½"
u16	4'-6"
u17	4'-10½"
u18	5'-3"
u19	5'-7½"
u20	6'-0"
u21	6'-4½"
u22	6'-9"
u23	6'-10"



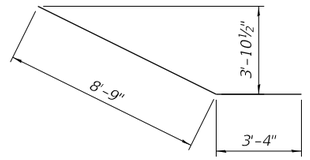
BARS u12 thru u23



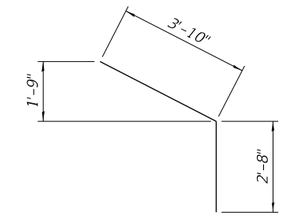
SECTION A-A



BAR b10



BAR b11



BAR b12

BILL OF MATERIAL

(Per Wingwall)

Bar	No.	Size	Length	Shape
b10	2	#4	9'-8"	
b11	2	#4	12'-1"	
b12	2	#4	6'-6"	
p12	10	#5	8'-8"	
p13	2	#5	7'-0"	
p14	2	#5	5'-2"	
u12	1	#4	6'-8"	
u13	1	#4	7'-5"	
u14	1	#4	8'-2"	
u15	1	#4	8'-11"	
u16	1	#4	9'-8"	
u17	1	#4	10'-5"	
u18	1	#4	11'-2"	
u19	1	#4	11'-11"	
u20	1	#4	12'-8"	
u21	1	#4	13'-5"	
u22	1	#4	14'-2"	
u23	1	#4	14'-4"	
v10	2	#4	3'-2"	
v11	2	#4	3'-8"	
* Precast Concrete Structures			Cu. Yd.	2.2
* Reinforcement Bars			Pound	250

* For Information Only. Items are included in cost of "Temporary Bridge".

NOTES:

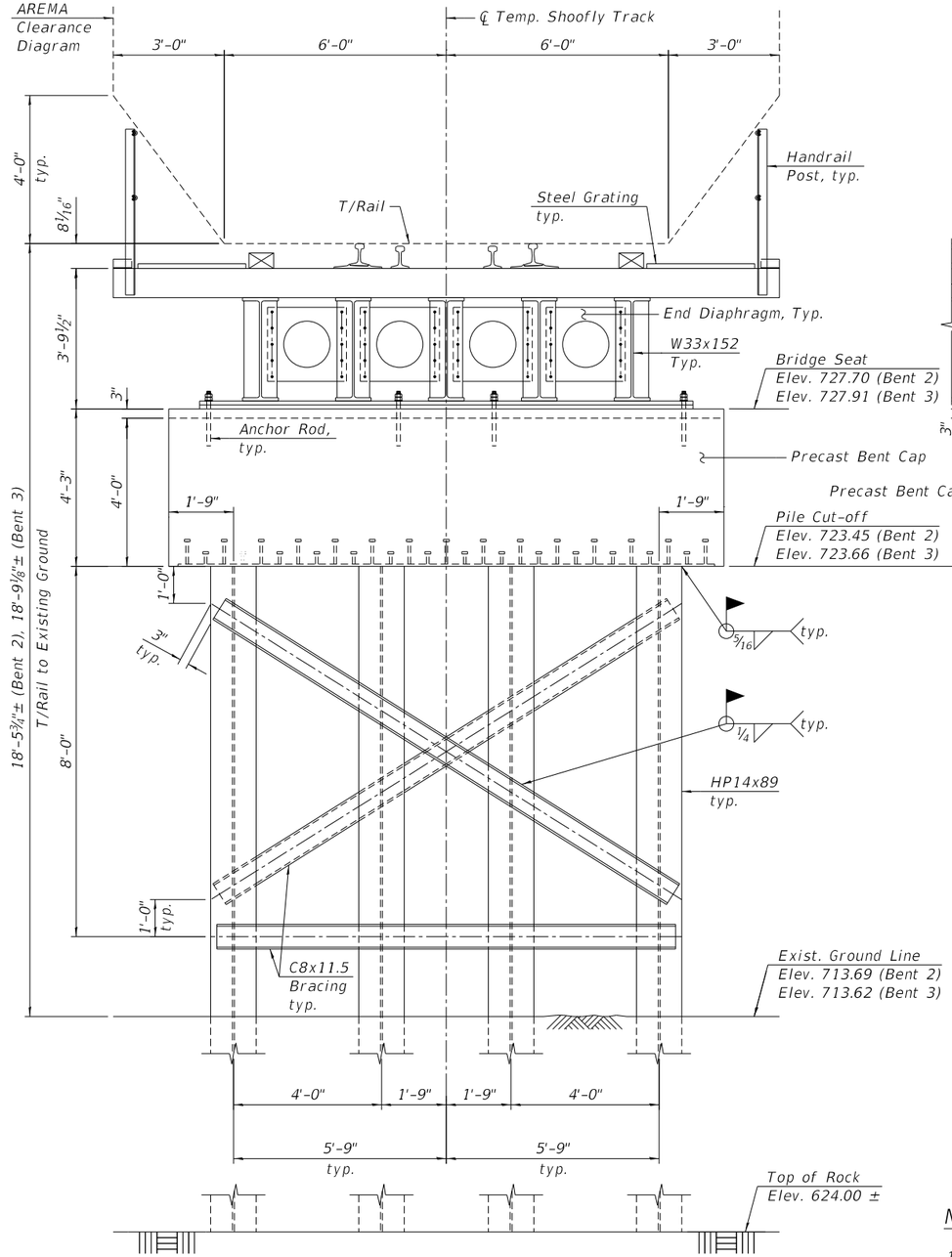
1. The Fabricator will be responsible for the design of the lifting loops or lift anchors for the erection of the precast members. Required details to be coordinated with the Contractor and approved by the Engineer.
2. E.F. denotes Each Face.

6:09:41 PM
FILE NAME: Shoofly End Bent Wingwall Details

TRANSYSTEMS

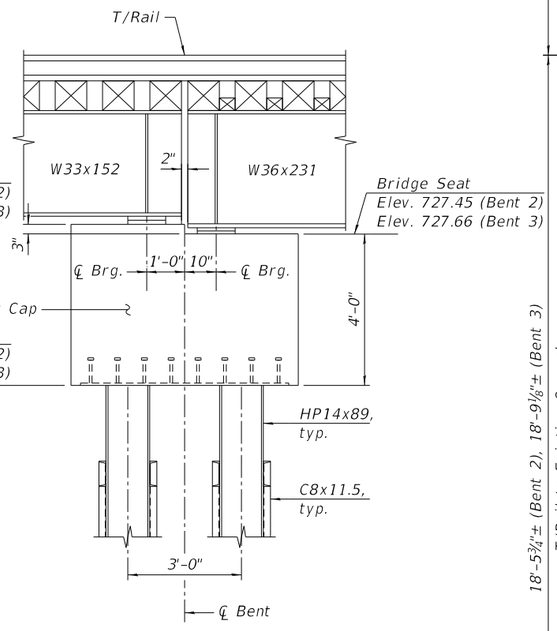
USER NAME = brvanderwal	DESIGNED - JRM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	END BENT WINGWALL DETAILS TEMPORARY BRIDGE
	CHECKED - MDS	REVISED -		
PLOT SCALE = 2.6667 ' / in.	DRAWN - GJZ	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 6 OF 14 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	208
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



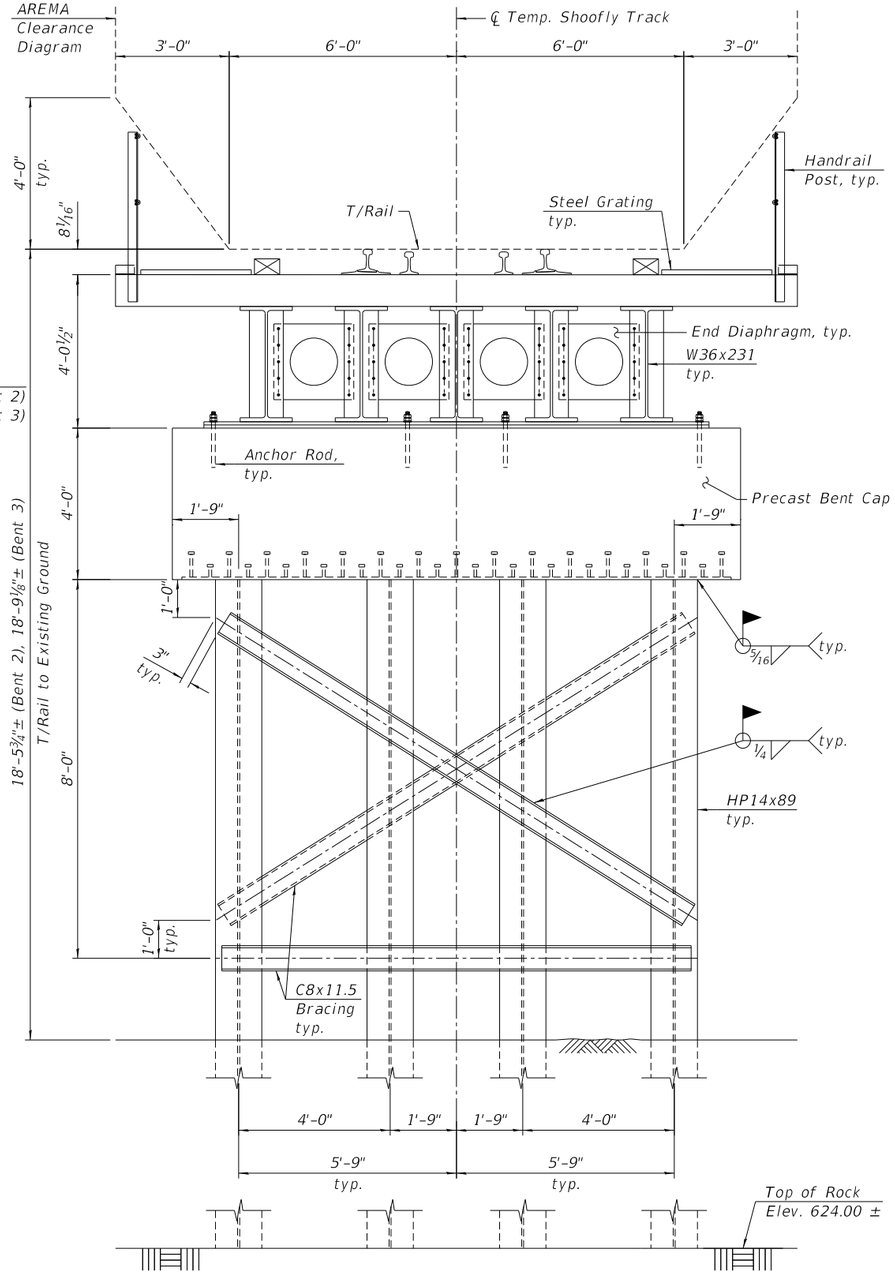
ELEVATION BENT 2 – SPAN 1

(Looking South)
(Bent 3 similar)



SECTION THRU BENT 2

(Bent 3 similar, opposite hand)



ELEVATION BENT 2 – SPAN 2

(Looking North)
(Bent 3 similar)

NOTES:

1. For Bent Cap Precast details, see sheet 8 of 14.
2. T/Rail to T/Tie = 8 1/16" Dimension includes 7 5/16" height for 136 lb. rail and a 3/4" tie plate.
3. For bearing Anchor Rod details, see sheet 12 of 14.

6:09:45 PM
FILE NAME: Shoofly Bents 2 & 3 Details 1

TRANSYSTEMS

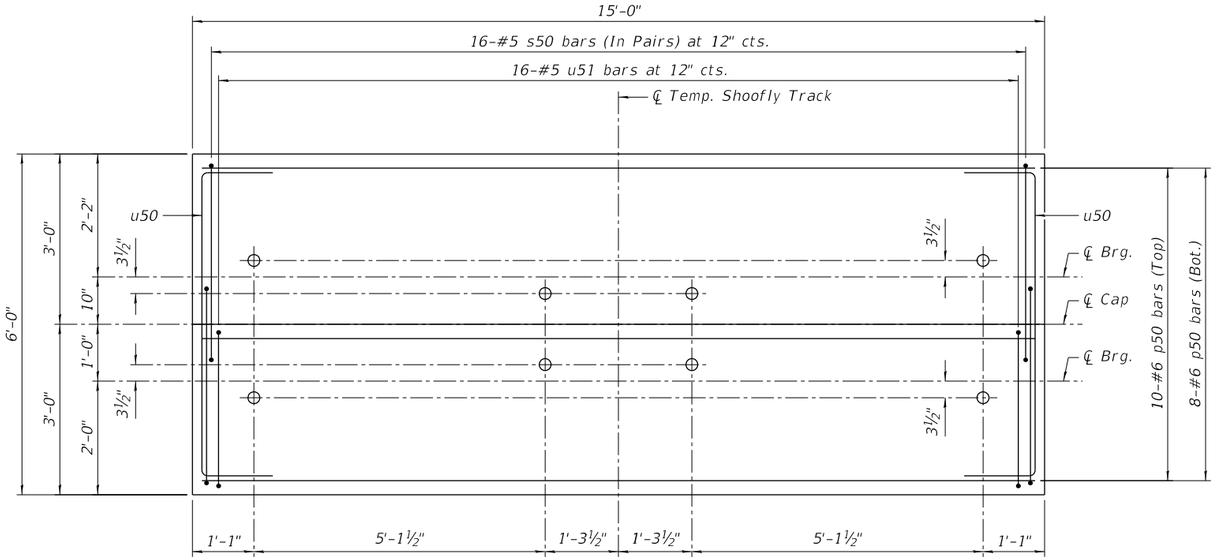
USER NAME = brvanderwal	DESIGNED - JRM	REVISED -	
	CHECKED - MDS	REVISED -	
PLOT SCALE = 4.0000 ' / in.	DRAWN - GJZ	REVISED -	
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENTS 2 AND 3 DETAILS 1
TEMPORARY BRIDGE

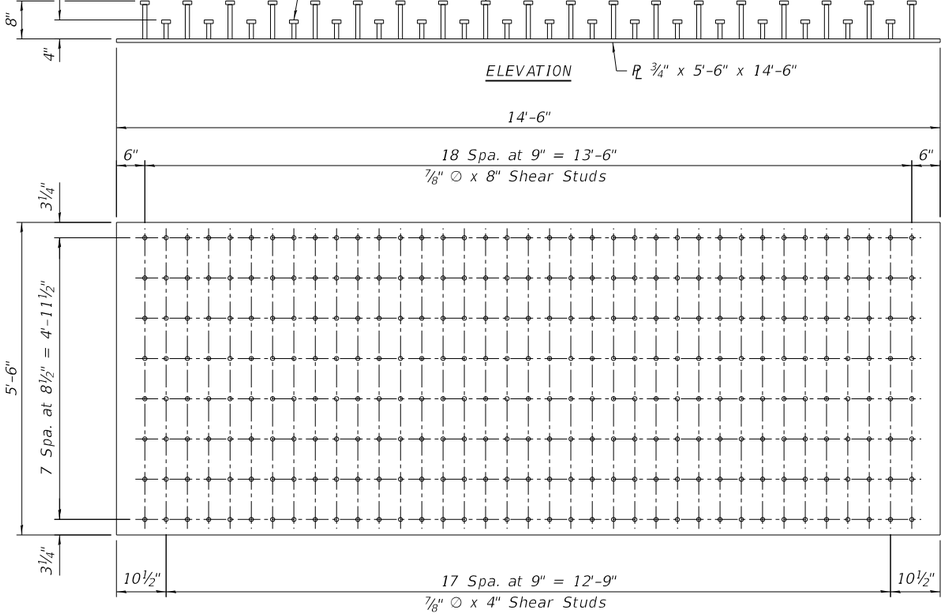
SHEET 7 OF 14 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	209
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



PLAN – PRECAST BENT CAP

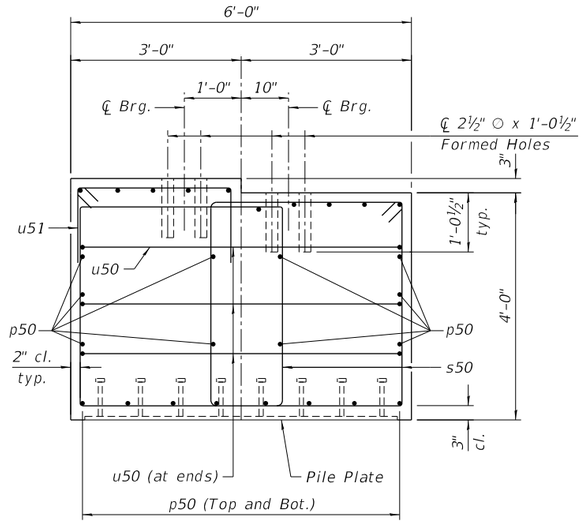
Estimated Wt. = 27 Tons
(2 Required)



PLAN

PILE PLATE

Estimated Wt. = 2,780 lbs.
(2 Required)



SECTION THRU BENT CAP

(Bent 2 shown)
(Bent 3 similar, opposite hand)

To E. Bridge Jct.
Bent 2

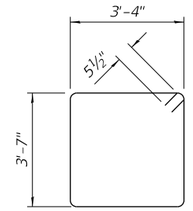
To E. Bridge Jct.
Bent 3

BILL OF MATERIAL

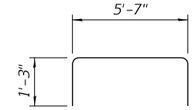
(Per Bent Cap)

	Bar	No.	Size	Length	Shape
	p50	28	#6	14'-8"	
	s50	32	#5	14'-9"	
	u50	6	#5	8'-1"	
	u51	16	#5	5'-2"	
*	Precast Concrete Structures		Cu. Yd.	13.8	
*	Reinforcement Bars		Pound	1,250	
*	Pile Plate		Pound	2,780	
*	Stud Shear Connectors		Each	152	

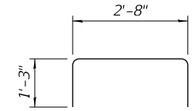
* For Information Only.
Items are included in cost of "Temporary Bridge".



BAR s50



BAR u50



BAR u51

NOTES:

1. The Fabricator will be responsible for the design of the lifting loops or lift anchors for the erection of the precast members. Required details to be coordinated with the Contractor and approved by the Engineer.

2. Locate reinforcement to miss formed holes and shear studs.

6:09:49 PM
FILE NAME: Shoofly Bents 2 & 3 Precast Details 2

TRANSYSTEMS

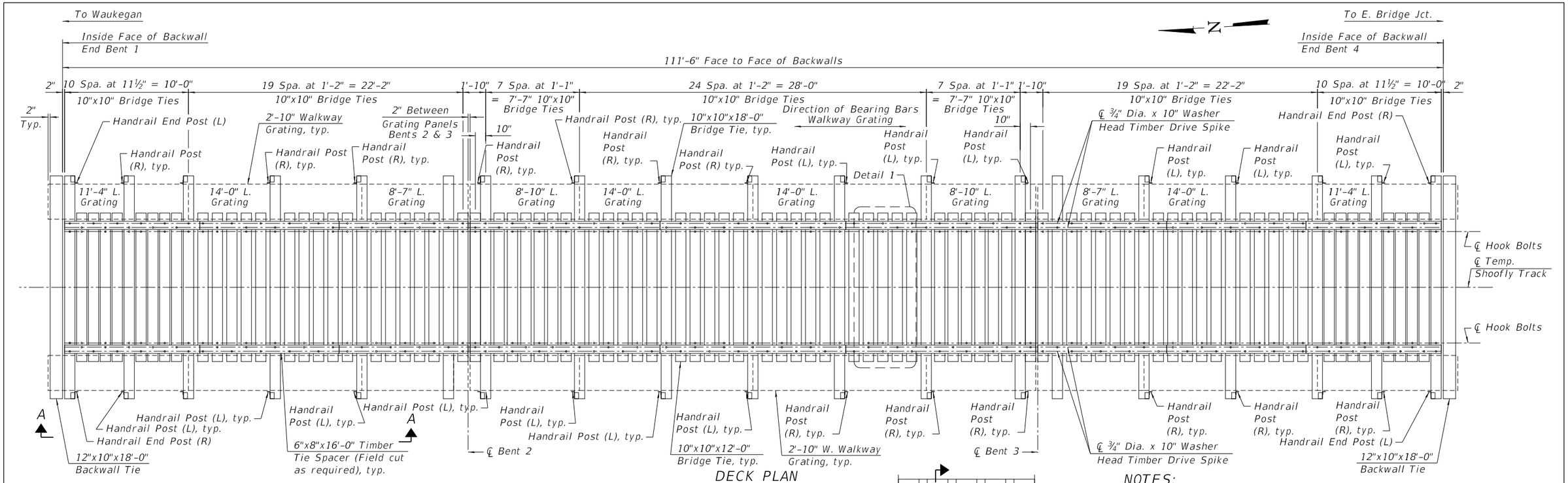
USER NAME = brvanderwal	DESIGNED - JRM	REVISED -			
	CHECKED - MDS	REVISED -			
PLOT SCALE = 2.6667 ' / in.	DRAWN - GJZ	REVISED -			
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

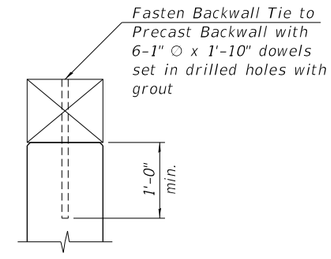
BENTS 2 & 3 PRECAST DETAILS 2
TEMPORARY BRIDGE

SHEET 8 OF 14 SHEETS

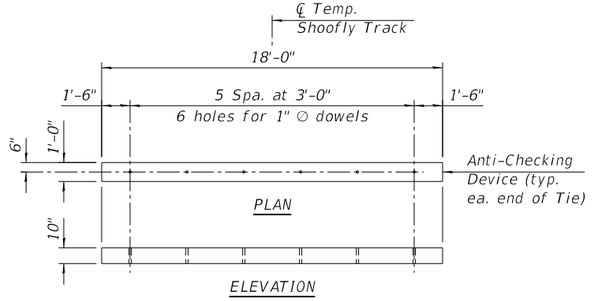
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	210
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



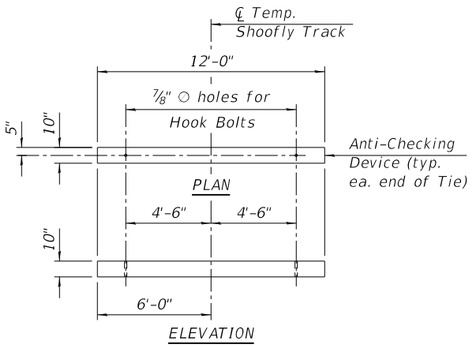
DECK PLAN



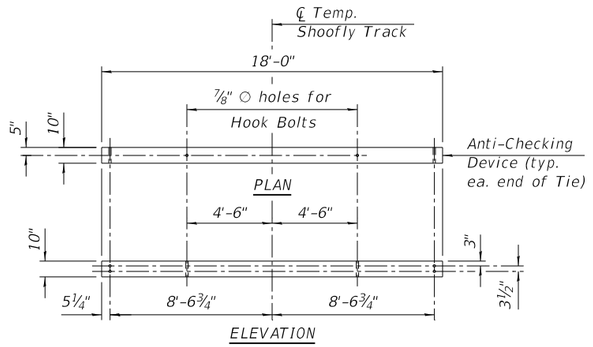
12"x10"x18'-0" BACKWALL TIE ANCHORAGE



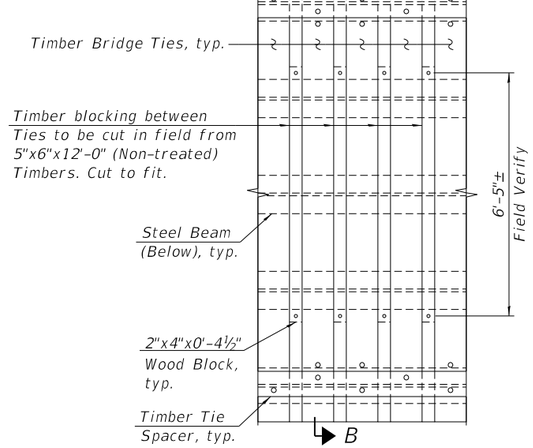
12"x10"x18'-0" BACKWALL TIE DETAIL



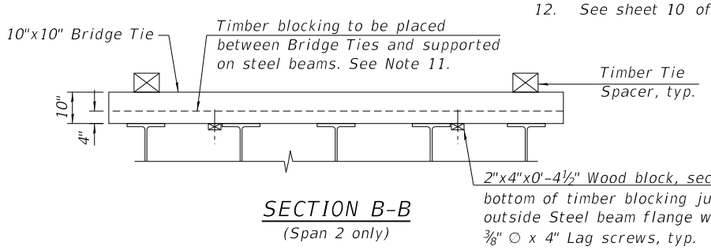
10"x10"x12'-0" TIE DETAIL



10"x10"x18'-0" TIE DETAIL



DETAIL 1
(Span 2 only)



SECTION B-B
(Span 2 only)

NOTES:

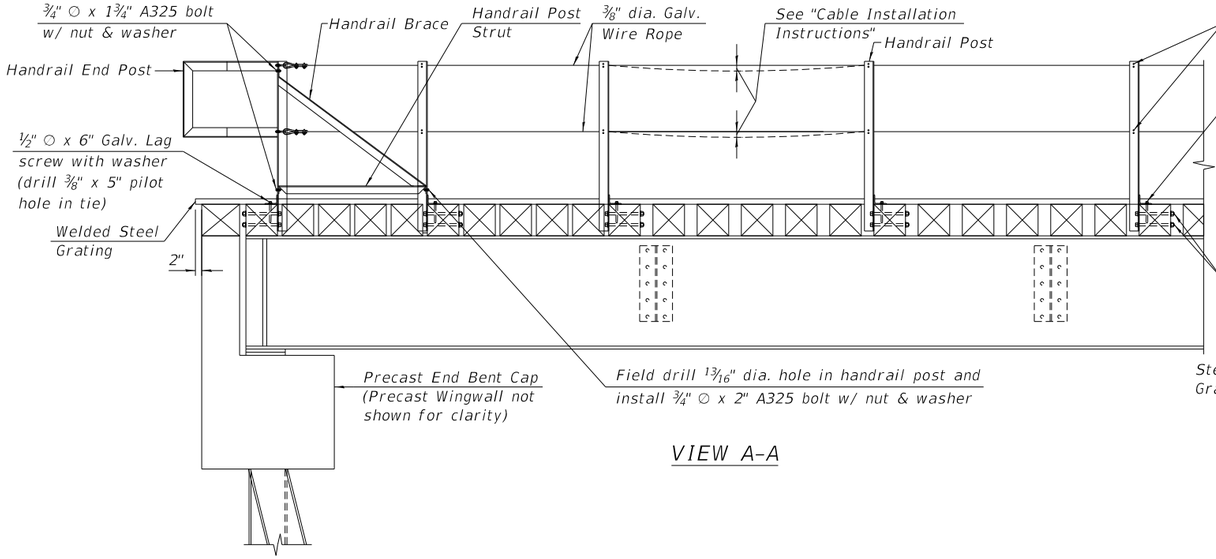
1. Field verify all dimensions, stations and elevations prior to start of construction.
2. Bridge ties and timber tie spacers to be produced from Softwood Species, West Coast Douglas Fir Select Structural or Southern Pine No. 1 Dense.
3. Timber to be well seasoned and conditioned. Timber to be pressure treated per AREMA specifications.
4. All bridge ties and timber tie spacers shall have anti-checking devices installed at each end.
5. All ties shall be bundled in groups of no more than 16 ties.
6. All holes for hook bolts to be pre-drilled.
7. Field holes, abrasions and cuts shall be treated with a preservative that meets the specifications of the American Wood-Preserver's Association. Treatment shall follow AWPA Standard M4-06.
8. Ties, rail and OTM to be provided by the Contractor. Additional material required and not listed in the Bill of Material to be provided by the Contractor.
9. Walkway grating shall be Type W/B with 1¾" x 3/16" serrated bearing bars.
10. Use 8 cut spikes for all ties (Cut spikes for inside guardrail not included).
11. Timber Blocking to be installed between Timber Ties, (Span 2 only), to prevent material from dropping thru deck to roadway below. Timber blocking to be cut to fill in field. Secure 2x4 Wood block of Timber Blocking prior to installing Blocking.
12. See sheet 10 of 14 for View A-A.

6:09:53 PM
FILE NAME: Shoofly Deck Plan

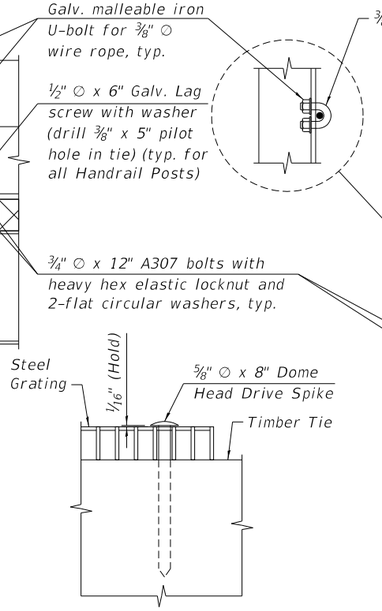
TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DECK PLAN TEMPORARY BRIDGE	
	CHECKED - MDS	REVISED -			
PLOT SCALE = 8.0000 ' / in.	DRAWN - GJZ	REVISED -			
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 9 OF 14 SHEETS	

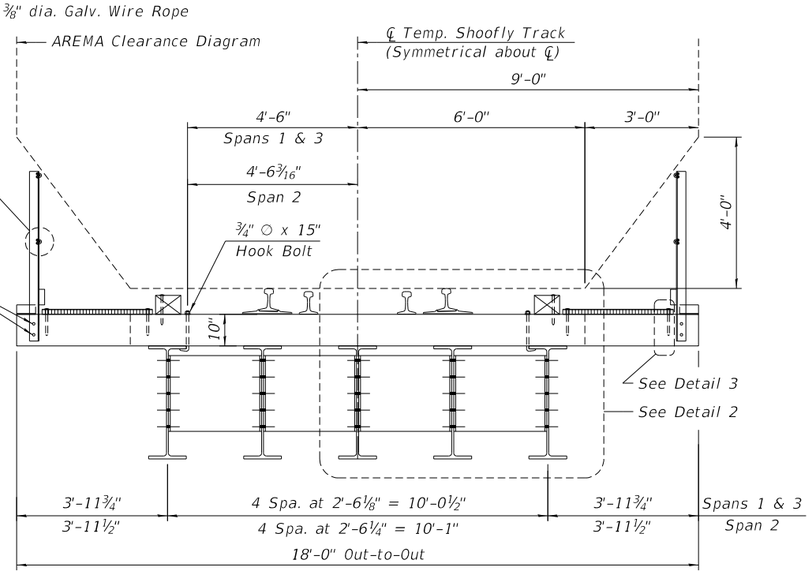
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	211
		CONTRACT NO. 61G79		
		ILLINOIS	FED. AID PROJECT	



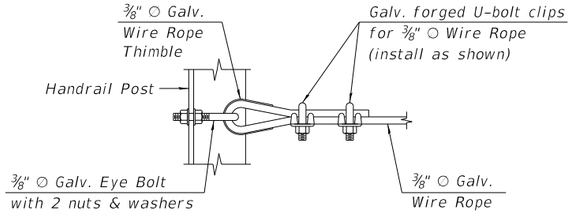
VIEW A-A



DETAIL 3



TYPICAL SECTION



CABLE END INSTALLATION DETAIL

CABLE INSTALLATION INSTRUCTION (PER SPAN)

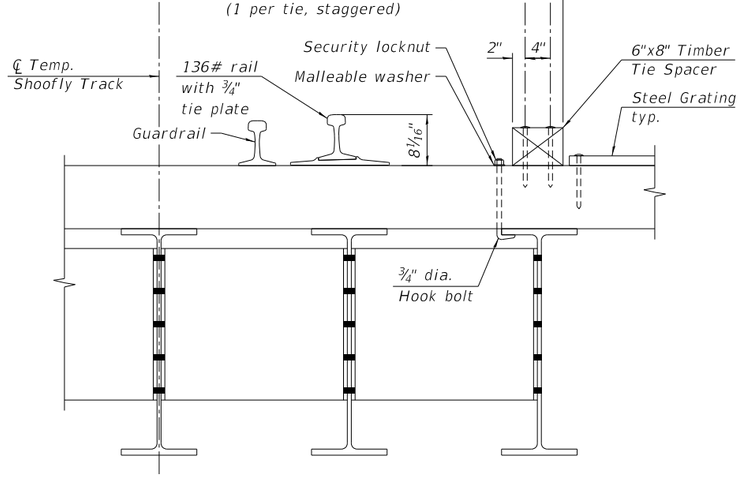
1. Prior to installing cable, make sure all Handrail Posts, Braces and Struts are installed with connections complete.
2. Thread Cable through all U-bolt clips and secure at End Posts. (Do not stretch)
3. Hang a minimum of 15 lbs. on cable between 2 Posts near mid-span. Span 2 and stretch cable to remove sag. Allow 2" max. sag to remain.
4. Tighten U bolt clips and Eye-Bolts at End Posts.
5. Remove hanging weight(s).
6. Tighten U-bolt clips at intermediate Handrail Posts.

* WALKWAY GRATING SCHEDULE

Item	Unit	Total
Welded Steel Grating (1¾" x 3/16" serrated bars) 34" wide x 8'-7" long (galvanized)	Each	4
Welded Steel Grating (1¾" x 3/16" serrated bars) 34" wide x 8'-10" long (galvanized)	Each	4
Welded Steel Grating (1¾" x 3/16" serrated bars) 34" wide x 11'-4" long (galvanized)	Each	4
Welded Steel Grating (1¾" x 3/16" serrated bars) 34" wide x 14'-0" long (galvanized)	Each	8

* TIMBER DECK & WALKWAY SCHEDULE

Item	Unit	Total
12"x10"x18'-0" Backwall Ties, Treated, (per detail)	Each	2
10"x10"x12'-0" Bridge Ties, Treated, (per detail)	Each	82
10"x10"x18'-0" Bridge Ties, Treated, (per detail)	Each	19
6"x8"x16'-0" Timber Tie Spacer	Each	18
Timber Blocking 5"x6"x12'-0"	Each	38
Wood Block 2"x4"x0'-4½"	Each	76
⅜" Nominal Diameter Wire Rope, 7 wire, galv. steel strand, Siemens Martins Grade, A-coating (ASTM A475)	Foot	440
Galv. Malleable Iron U bolt Clips w/ 2 elastic locknuts, zinc plated, for ⅜" dia. Wire Rope	Each	16
Galv. Malleable Iron U-bolt w/ 2 elastic locknuts, zinc plated, for ⅜" dia. Wire Rope	Each	60
⅜" ∅ Galv. Eye-Bolt with 2 nuts & 2 washers	Each	8
⅜" ∅ Galv. Wire Rope Thimble for ⅜" dia. Wire Rope	Each	8
¾" ∅ x 1¾" A325 H.S. Bolt, Type 1 w/ Heavy Hex Nut (A563, lubricated) and flat circular washer (F436), each component hot dip or mechanically zinc coated	Each	8
¾" ∅ x 2" A325 H.S. Bolt, Type 1 w/ Heavy Hex Nut (A563, lubricated) and flat circular washer (F436), each component hot dip or mechanically zinc coated	Each	4
¾" ∅ x 12" A307 Heavy Hex Grade A Bolt w/ elastic locknut & 2 - flat circular washer (F436), each component hot dip or mechanically zinc coated	Each	68
½" ∅ x 6" lag screw and flat circular washer, each component hot dip or mechanically zinc coated	Each	30
¾" ∅ x 10" washer head timber drive spike	Each	202
⅝" ∅ x 8" dome head drive spike (AREMA spec) (Galv.)	Each	104
¾" ∅ x 15" hook bolt w/ 3" thread	Each	116
#10 malleable washer for ¾" dia. bolt	Each	116
¾" #10 security locknut part SH 515	Each	116
Spikes for wood ties	Keg	1
1¾" x 3/16" WB Serrated Walkway Grating (per schedule, this sheet)	Lot	1
⅜" ∅ x 4" Lag Screws	Each	76
1" ∅ x 1'-10" Steel Dowels	Each	12

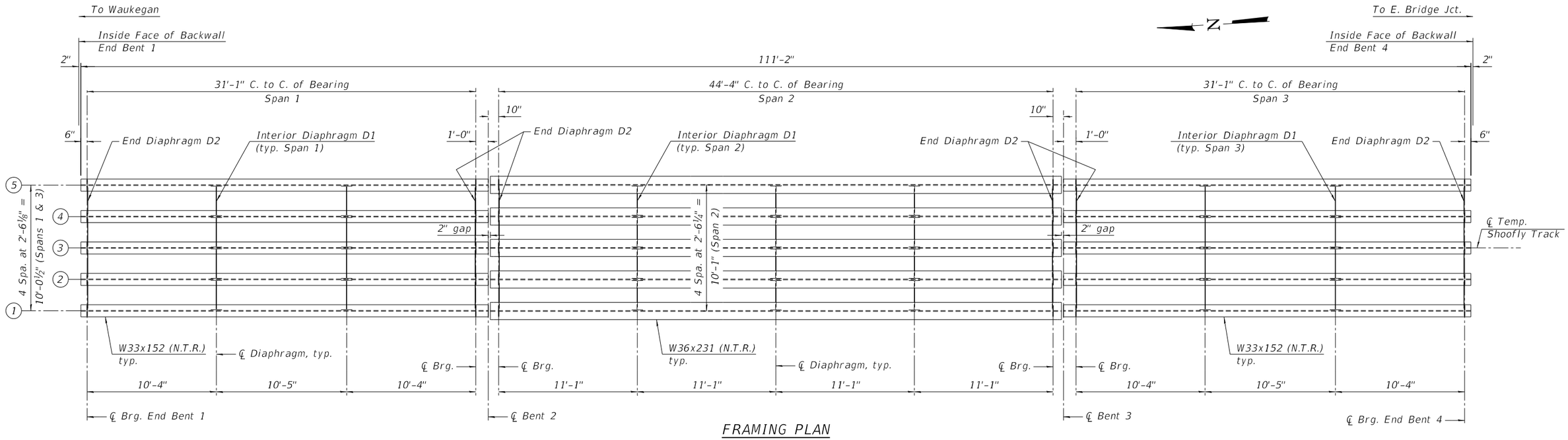


DETAIL 2

NOTES:

1. See sheet 13 of 14 for Handrail Details.
2. Install miscellaneous timber under ends of grating as required.

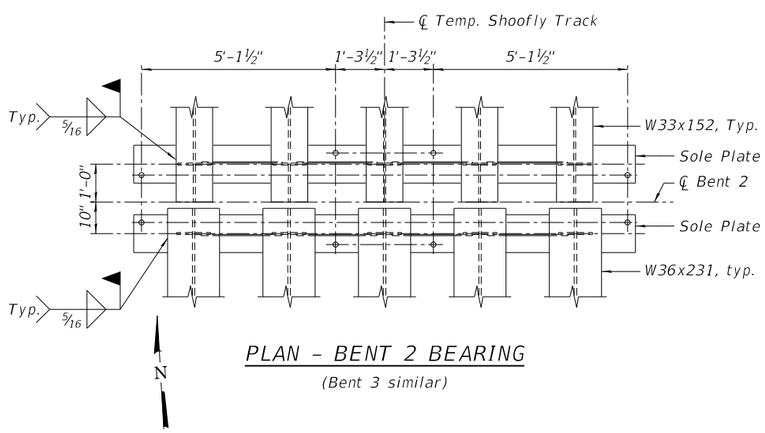
* For Information Only. Items included in cost of "Temporary Bridge".



FRAMING PLAN

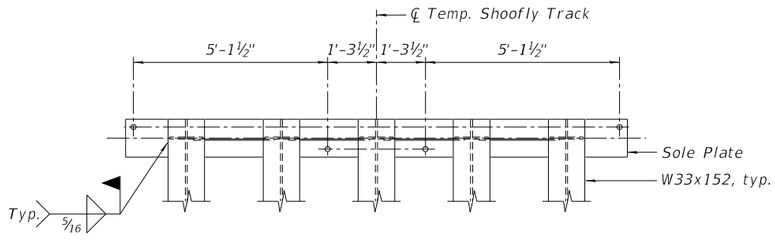
MOMENT AND SHEAR PER BEAM

MOMENT			
		Spans 1 & 3	Span 2
Dead Load		34 k-ft	94 k-ft
Live Load (E80 or Alt)		402 k-ft	667 k-ft
Impact		233 k-ft	374 k-ft
Total		669 k-ft	1,135 k-ft
Section (ASTM A709 Gr. 50)		W33x152	W36x231
Gross I Furnished		8,160 in^4	15,600 in^4
Net I Furnished		8,160 in^4	15,600 in^4
Net Section Modulus		487 in^3	854 in^3
Allowable Max. Stress in Flange		27.5 ksi	27.5 ksi
Actual stress in Flange	Tension	16.5 ksi	15.9 ksi
	Compression	16.5 ksi	15.9 ksi
Allowable Max. Deflection (Live load & Impact)		0.50"	0.83"
Actual Max. Deflection Live Load + Impact		0.47"	0.78"
SHEAR			
Dead Load		5 k	9 k
Live Load (E80)		60 k	66 k
Impact		35 k	37 k
Total		100 k	112 k
Allowable Web Shear Stress		17.5 ksi	17.5 ksi
Actual Web Shear Stress		4.9 ksi	4.3 ksi
End Stiffener Column Area Required		3.7 in^2	4.1 in^2
Section (2 Plates)		⅝" x 5"	⅝" x 5"
End Stiffener Column Area Furnished		11.1 in^2	13.2 in^2



PLAN - BENT 2 BEARING

(Bent 3 similar)



PLAN - END BENT BEARING

BEARING ON CONCRETE

	Spans 1 & 3	Span 2
Total Reaction	100 k	112 k
Net Bearing Area Furnished	139 in^2	198 in^2
Average Bearing Pressure	719 psi	566 psi

BILL OF MATERIAL*

Item	Unit	Total
Furnished and Erecting Structural Steel	Pound	116,442

* For information only.
Furnishing and Erecting Structural Steel is included in cost of "Temporary Bridge".

NOTES:

1. N.T.R. donotes Notch Toughness Requirements.

6:09:58 PM
FILE NAME: Shoofly Framing Plan and Design Data

TRANSYSTEMS

USER NAME = brvanderwal | PLOT SCALE = 8.0000 ' / in. | PLOT DATE = 1/25/2025

DESIGNED - JRM | CHECKED - MDS | DRAWN - GJZ | CHECKED - JRM

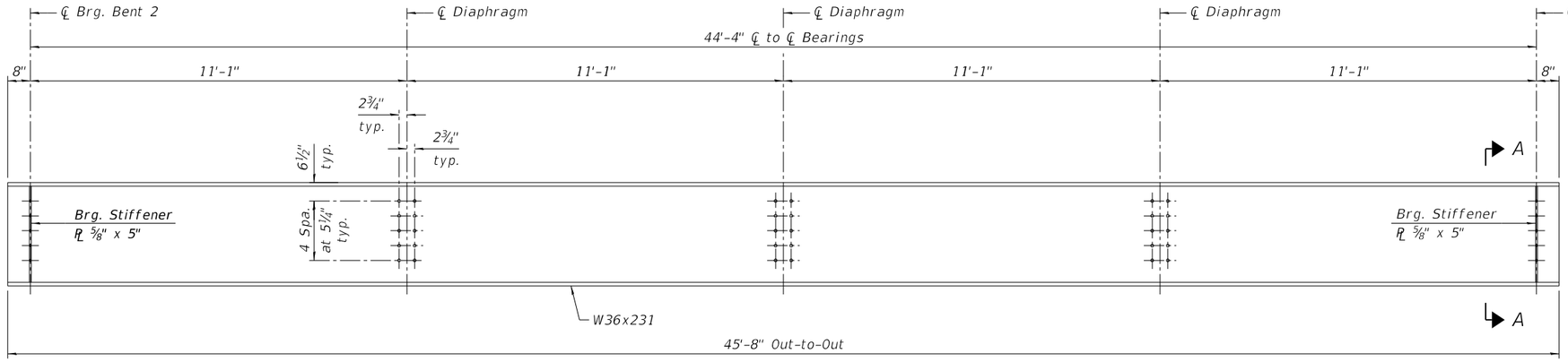
REVISED - | REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
TEMPORARY BRIDGE

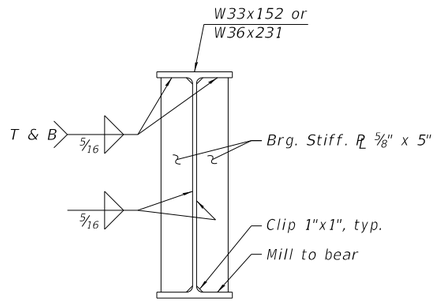
SHEET 11 OF 14 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	213
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

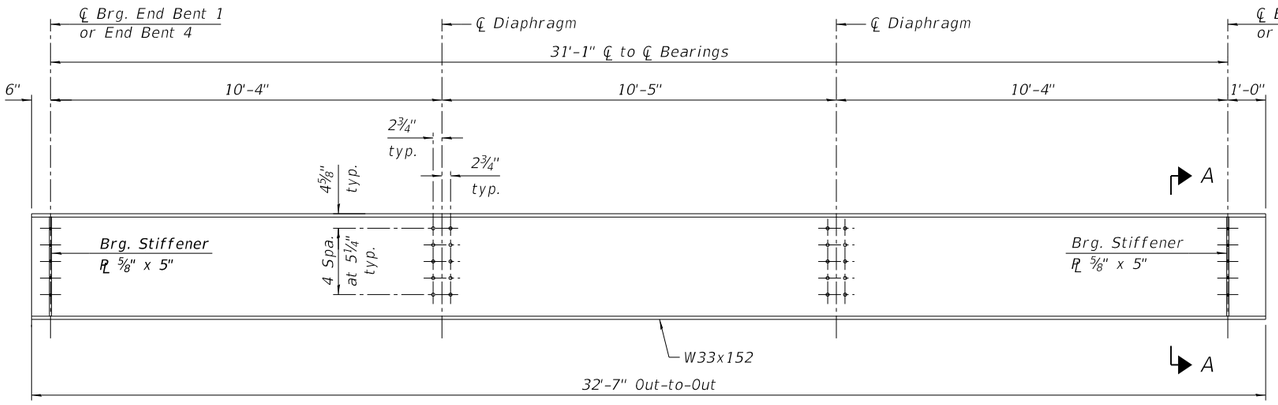


ELEVATION – BEAMS 1 THRU 5 (SPAN 2)

(5 Required)
Est. Wt. = 10,670 lbs. Each

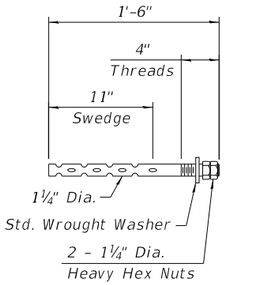


SECTION A-A



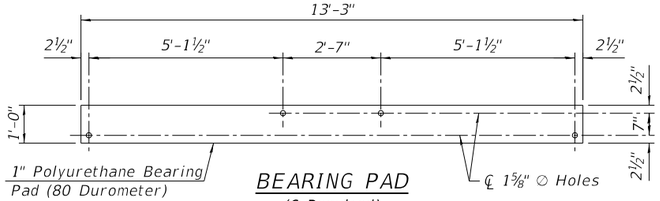
ELEVATION – BEAMS 1 THRU 5 (SPANS 1 & 3)

(10 Required)
Est. Wt. = 5,176 lbs. Each



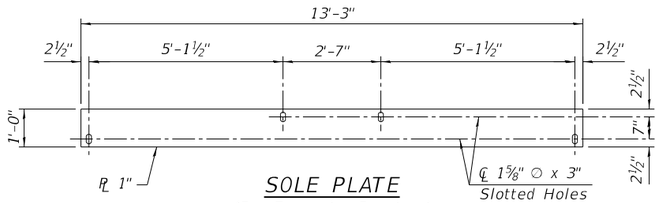
ANCHOR ROD

(24 Required)
Est. Wt. 8.1 lbs. each



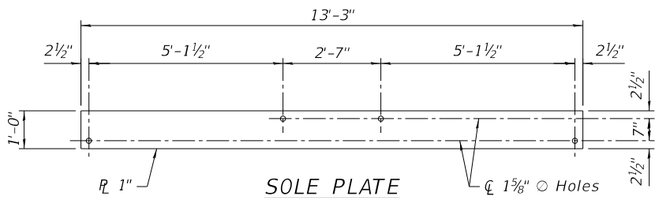
BEARING PAD

(6 Required)



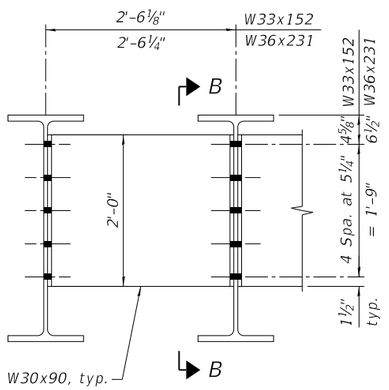
SOLE PLATE

(For Expansion Bearings)
(3 Required)
Est. Wt. 540.6 lbs.



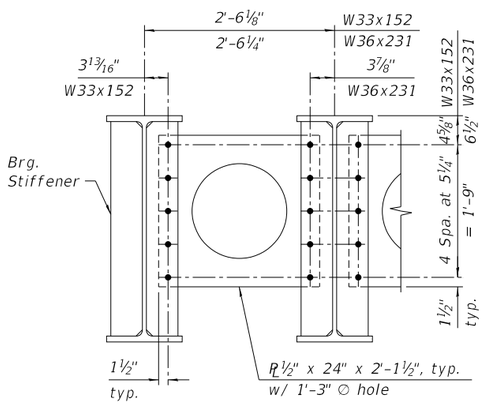
SOLE PLATE

(For Fixed Bearings)
(3 Required)
Est. Wt. = 540.6 lbs.



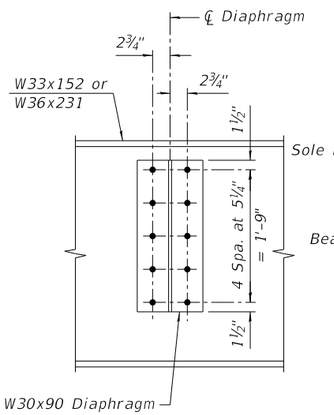
INTERIOR DIAPHRAGM D1

(28 Required)
Est. Wt. = 180 lbs. Each

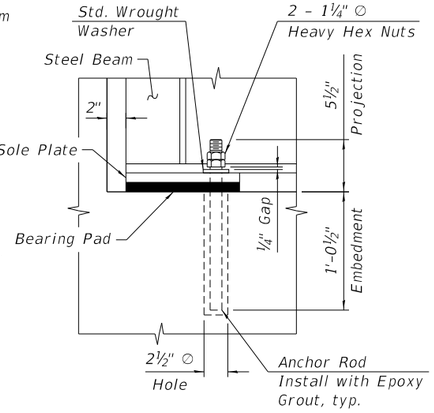


END DIAPHRAGM D2

(24 Required)
Est. Wt. = 65.33 lbs. Each



VIEW B-B



ANCHOR ROD DETAIL

NOTES:

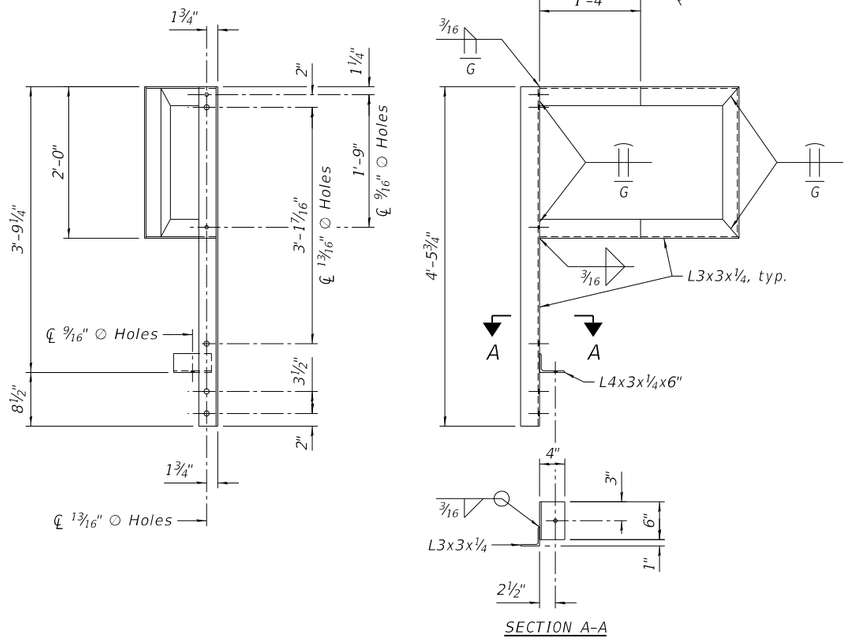
1. Anchor Rods shall be ASTM F1554, Grade 36. Bolts and washers shall be galvanized according to ASTM F2329.

6:10:00 PM
FILE NAME: Shoofly Beam Details

TRANSYSTEMS

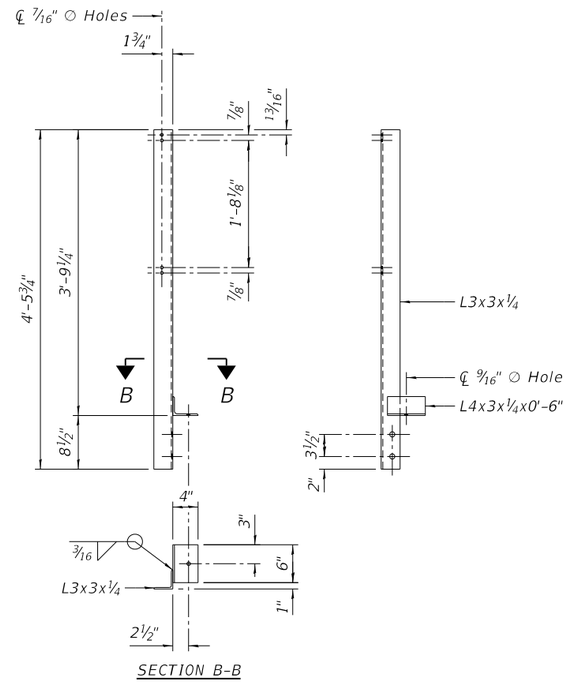
USER NAME = brvanderwal	DESIGNED - JRM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEAM DETAILS TEMPORARY BRIDGE
	CHECKED - MDS	REVISED -		
PLOT SCALE = 4.0000 ' / in.	DRAWN - GJZ	REVISED -		SHEET 12 OF 14 SHEETS
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	214
		CONTRACT NO. 61G79		
		ILLINOIS	FED. AID PROJECT	



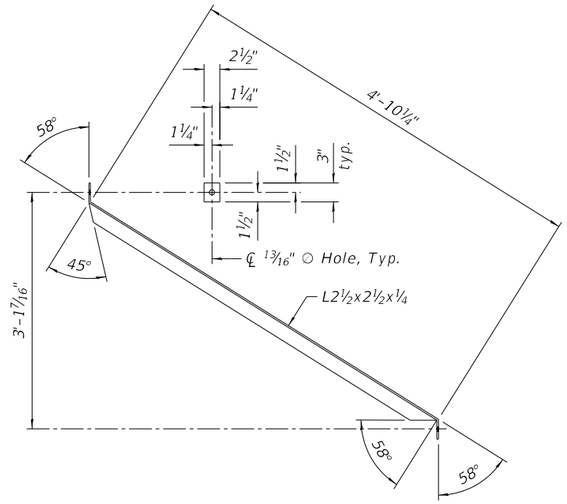
HANDRAIL END POST

Est. Wt. = 62.0 lb. Ea.
Right Post Shown, Left Post Opposite Hand
(2 Req'd. each Right & Left)



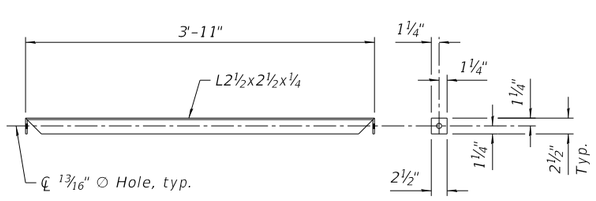
HANDRAIL POST

Est. Wt. = 24.4 lb. Ea.
Right Post Shown, Left Post Opposite Hand
(15 Req'd. each Right & Left)



HANDRAIL BRACE

Est. Wt. = 22.0 lb. Ea.
Right Brace Shown, Left Brace Opposite Hand
(4 Req'd.)



HANDRAIL POST STRUT

Est. Wt. = 17.8 lb. Ea.
(4 Req'd.)

NOTES:

1. *All steel for the handrails shall be ASTM A709 Grade 36.*

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

BORING LOG RWB-07

WEI Job No.: 790-96-01

Client: TranSystems Corporation
Project: Wisconsin Central RR Bridge over N Aurora Road
Location: Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 723.37 ft
North: 1863143.19 ft
East: 1012079.54 ft
Station: 110+77.95
Offset: 170.3 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		18-inch thick, black SILTY CLAY --TOPSOIL--						
	721.9	Very stiff, brown SILTY CLAY, some gravel --FILL--			1	5 5 5	2.21 B	25
	720.4	Very stiff, black SILTY CLAY, trace organic matter --BURIED TOPSOIL--	5		2	3 4 6	2.13 B	28
	717.1	Very stiff, light brown SILTY CLAY			3	5 5 7	2.05 B	22
	715.4	Medium stiff, brown SILTY CLAY LOAM; few silt seams; damp	10		4	3 9 8	0.75 P	22
	712.9	Very stiff, gray SILTY CLAY, trace gravel			5	6 6 8	2.87 B	18
			15		6	5 9 9	3.03 B	15
					7	5 7 9	2.05 B	18
					8	6 7 11	3.69 B	19
	703.4	Boring terminated at 20.00 ft	20					

GENERAL NOTES

Begin Drilling: 03-28-2017 Complete Drilling: 03-28-2017
Drilling Contractor: Wang Testing Services Drill Rig: D25 ATV [93%]
Driller: RR&RH Logger: M. Schmelzel Checked by: JAR
Drilling Method: 2.25" IDA HSA; autohammer; backfilled with soil cuttings and bentonite chips upon completion

WATER LEVEL DATA

While Drilling: DRY
At Completion of Drilling: 18.00 ft
Time After Drilling: NA
Depth to Water: NA

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

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

BORING LOG RWB-08

WEI Job No.: 790-96-01

Client: TranSystems Corporation
Project: Wisconsin Central RR Bridge over N Aurora Road
Location: Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 727.86 ft
North: 1863259.34 ft
East: 1012076.94 ft
Station: 110+77.11
Offset: 286.44 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		18-inch thick, stiff, black SILTY CLAY, trace organic matter --TOPSOIL--						
	726.4	Stiff, brown and black SILTY CLAY, little gravel			1	3 4 4	1.23 B	28
			5		2	3 2 4	1.39 B	35
	722.4	Medium stiff, gray to brown SILTY CLAY LOAM to SILTY LOAM			3	3 3 3	0.49 B	22
	719.9	Loose, brown SILTY LOAM; damp	10		4	2 4 4	NP	19
	717.4	Medium stiff, brown SILTY LOAM --L_L(%) = 28, P_L(%) = 17-- --%Gravel = 0.0-- --%Sand = 7.1-- --%Silt = 77.3-- --%Clay = 15.7--			5	3 3 4	0.82 B	21
	714.9	Medium dense, brown, fine SAND; saturated	15		6	7 6 7	NP	30
	712.4	Stiff, gray SILTY CLAY, trace gravel			7	3 4 6	1.39 B	16
					8	4 5 7	1.48 B	16
	707.9	Boring terminated at 20.00 ft	20					

GENERAL NOTES

Begin Drilling: 03-28-2017 Complete Drilling: 03-28-2017
Drilling Contractor: Wang Testing Services Drill Rig: D25 ATV [93%]
Driller: RR&RH Logger: M. Schmelzel Checked by: JAR
Drilling Method: 2.25" IDA HSA; autohammer; backfilled with soil cuttings and bentonite chips upon completion

WATER LEVEL DATA

While Drilling: 13.50 ft
At Completion of Drilling: DRY
Time After Drilling: NA
Depth to Water: NA

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

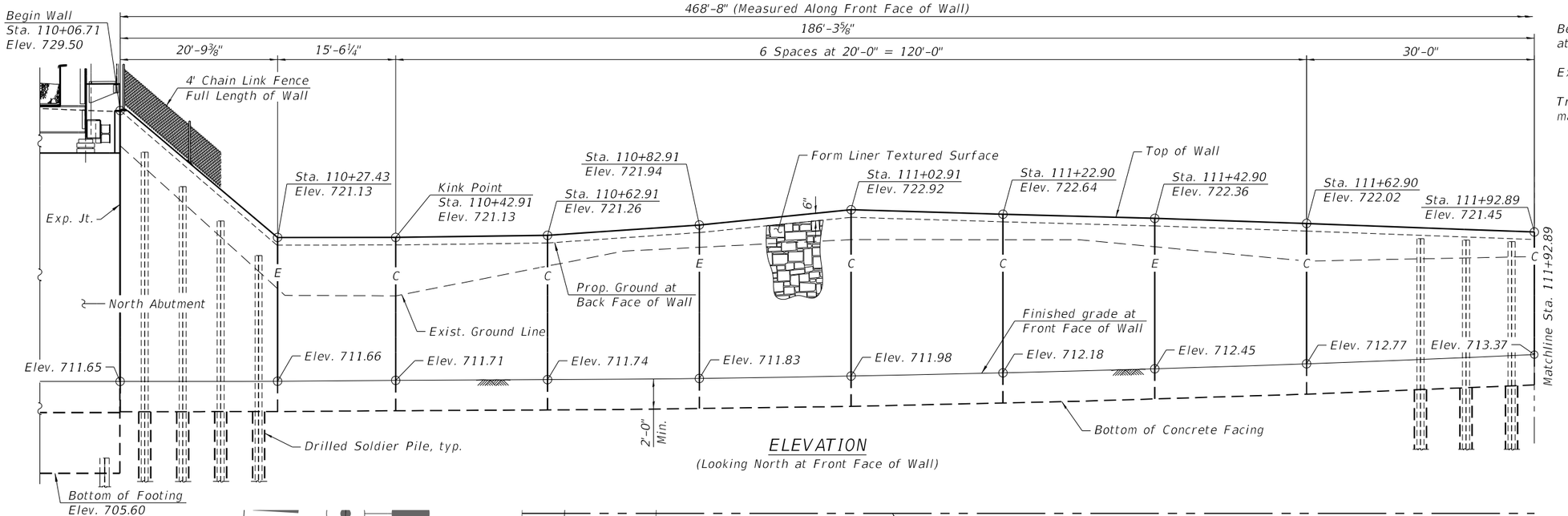
WANGENGINC 790901.GPJ WANGENG.GDT 1/14/19

6:10:05 PM
FILE NAME: Shoofly Boring Logs

TRANSYSTEMS

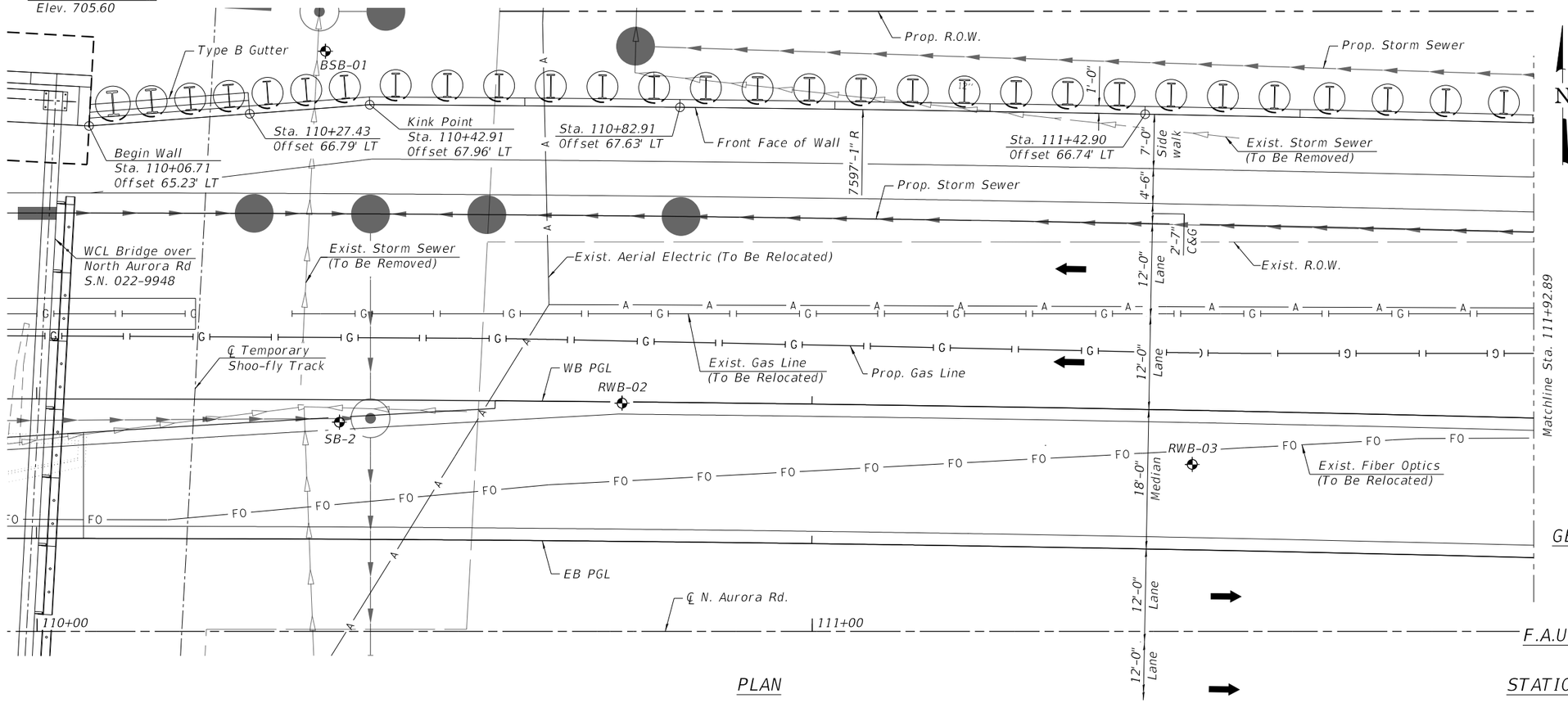
USER NAME = brvanderwal	DESIGNED - JM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS TEMPORARY BRIDGE	
	CHECKED - JRM	REVISED -			
PLOT SCALE = 0:2.0000 ':' / in.	DRAWN - MDG	REVISED -			
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 14 OF 14 SHEETS	

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	216
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



ELEVATION

(Looking North at Front Face of Wall)



PLAN

Benchmark: CP #4. Set Mag nail, ℄ North Aurora Rd. at fence line W. of Field Entrance. Elev. 725.39.

Existing Structure: None

Traffic on North Aurora Rd. to be maintained with stage construction.

DESIGN SPECIFICATIONS:

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

DESIGN STRESSES:

FIELD UNITS

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

NOTES:

1. C denotes Construction joint
2. E denotes Expansion Joint

LEGEND

Soil Boring

GENERAL PLAN AND ELEVATION 1
NORTHEAST RETAINING WALL
WISCONSIN CENTRAL LTD
OVER NORTH AURORA ROAD
F.A.U. RT. 1509 - SEC. 06-00133-00-BR
DUPAGE COUNTY
STATION 110+06.71 TO STATION 114+75.00

6:10:09 PM
FILE NAME: NE Wall General Plan and Elevation 1

TRANSYSTEMS

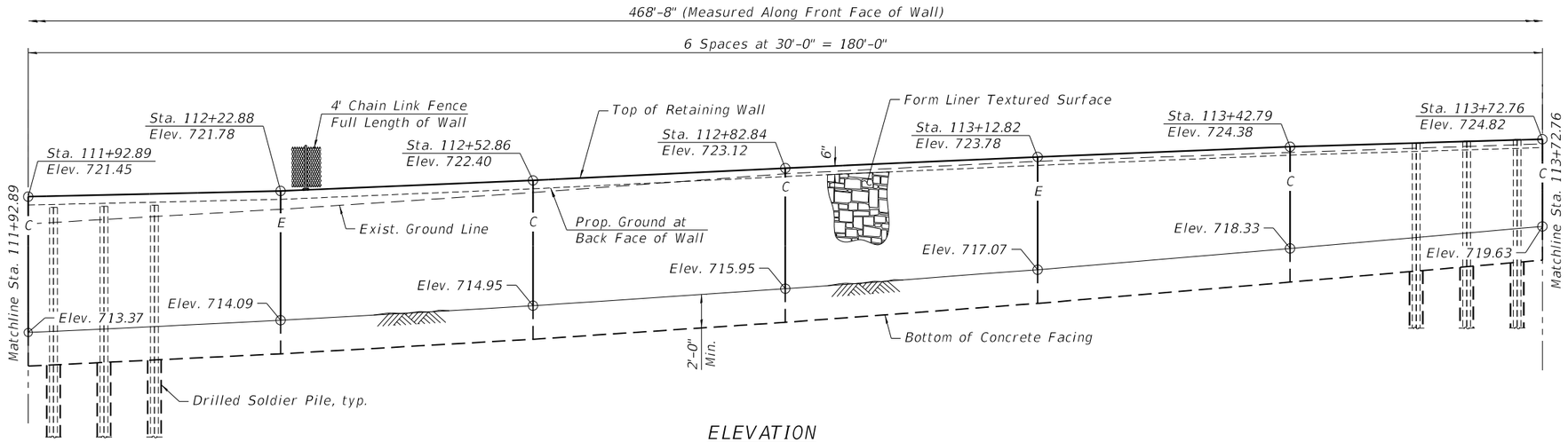
USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	
	CHECKED - JRM	REVISED -	
PLOT SCALE = 16:0.0000 ':' / in.	DRAWN - EH	REVISED -	
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION 1
NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)

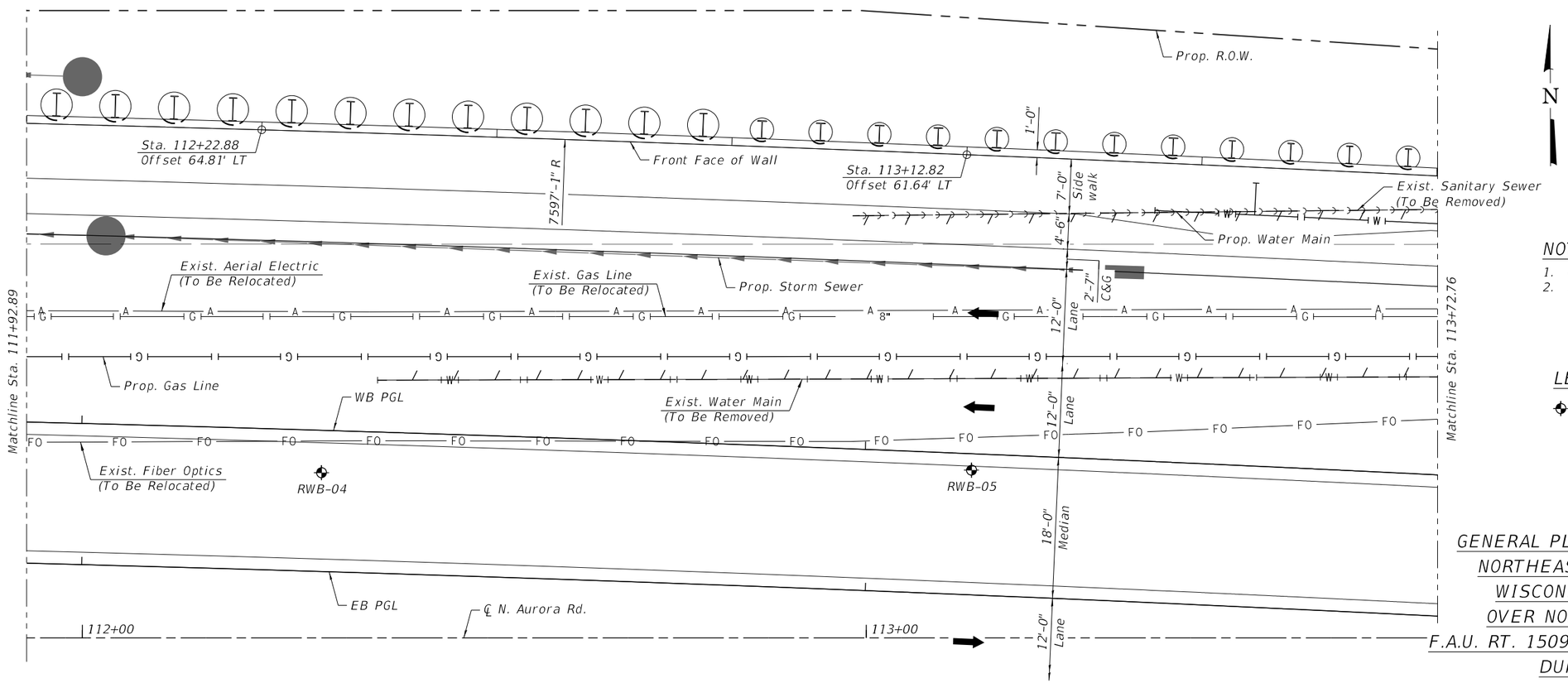
SHEET 1 OF 15 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	217
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



ELEVATION

(Looking North at Front Face of Wall)



PLAN

NOTES:

1. C denotes Construction joint
2. E denotes Expansion Joint

LEGEND

Soil Boring

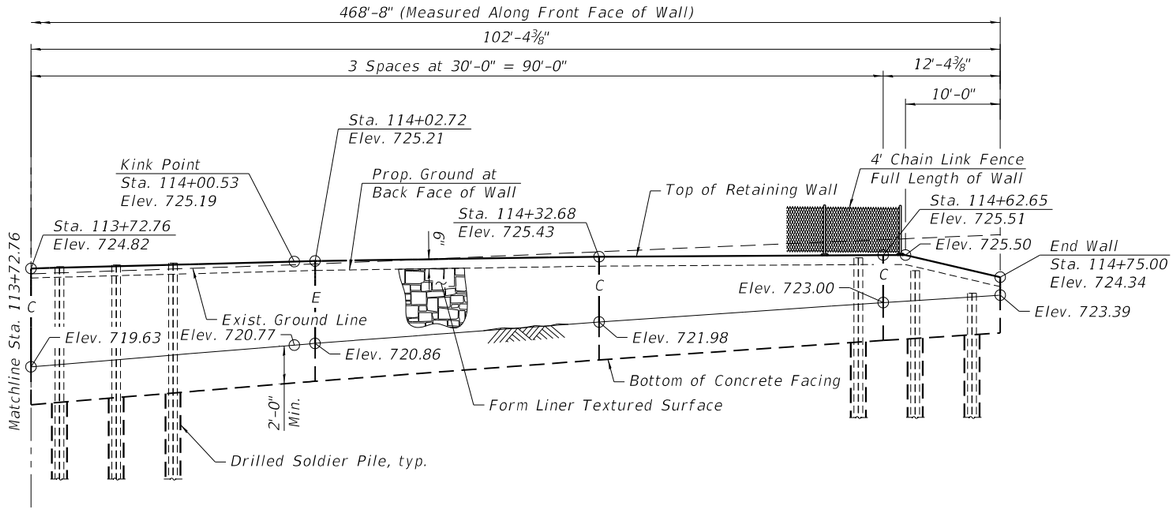
GENERAL PLAN AND ELEVATION 2
NORTHEAST RETAINING WALL
WISCONSIN CENTRAL LTD
OVER NORTH AURORA ROAD
F.A.U. RT. 1509 - SEC. 06-00133-00-BR
DUPAGE COUNTY
STATION 110+06.71 TO STATION 114+75.00

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION 2 NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
	CHECKED - JRM	REVISED -		
PLOT SCALE = 16:0.0000 ':" / in.	DRAWN - EH	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 2 OF 15 SHEETS

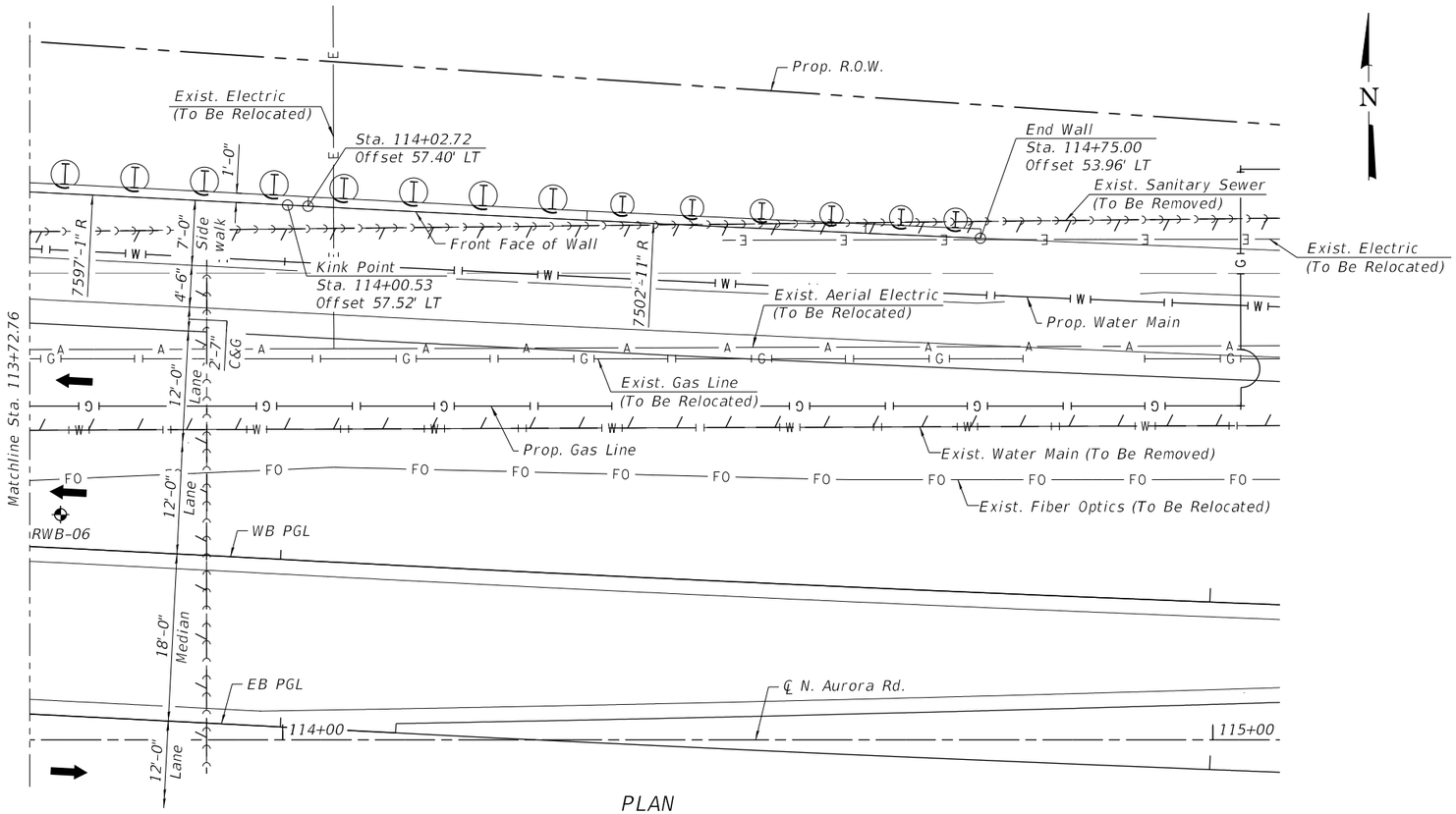
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	218
		CONTRACT NO. 61G79		
		ILLINOIS	FED. AID PROJECT	

6:10:12 PM
FILE NAME: NE Wall General Plan and Elevation 2



ELEVATION

(Looking North at Front Face of Wall)



PLAN

NOTES:

1. C denotes Construction joint
2. E denotes Expansion Joint

LEGEND

Soil Boring

GENERAL PLAN AND ELEVATION 3
NORTHEAST RETAINING WALL
WISCONSIN CENTRAL LTD
OVER NORTH AURORA ROAD
F.A.U. RT. 1509 - SEC. 06-00133-00-BR
DUPAGE COUNTY
STATION 110+06.71 TO STATION 114+75.00

6:10:14 PM
FILE NAME: NE Wall General Plan and Elevation 3

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -		
	CHECKED - JRM	REVISED -		
PLOT SCALE = 16:0.0000 ':' / in.	DRAWN - EH	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION 3
NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
SHEET 3 OF 15 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	219
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

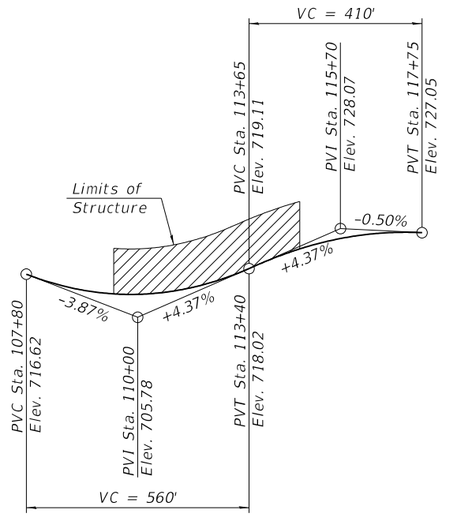
GENERAL NOTES:

1. Wall stations and offsets are measured from the centerline of North Aurora Road to the front face of the concrete facing.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Anti-Graffiti Protection System shall be applied to exposed surfaces of the facing.
4. Soldier piles shall be cleaned and given one shop coat of Inorganic Zinc Rich Primer. Cost included with Furnishing Soldier Piles (W Section).
5. All Exposed concrete edges shall have a standard ¾" chamfer, unless otherwise noted.
6. Wall to be built along straight chords between soldier piles and constuction/expansion joints.
7. The Contractor is responsible for the design and performance of the timber lagging using no less than a 3 inch nominal rough-sawn thickness and minimum allowable bending stress of 1,000 psi.
8. The existing soil in the drilled soldier pile areas contains groundwater. Temporary casing is likely required for the construction of the drilled shafts. See Section 516 of the Standard Specifications for direction on the use of temporary casing. The cost of temporary casing is included with Drilling and Setting Soldier Piles (In Soil).

TOTAL BILL OF MATERIAL

Item	Unit	Total
Structure Excavation	Cu. Yd.	442
Concrete Structures	Cu. Yd.	165.1
Form Liner Textured Surface	Sq. Ft.	4,223
Stud Shear Connectors	Each	550
Reinforcement Bars, Epoxy Coated	Pound	17,400
Furnishing Soldier Piles (W Section)	Foot	2,825
Drilling And Setting Soldier Piles (In Soil)	Cu. Ft.	30,809
Untreated Timber Lagging	Sq. Ft.	3,205
Geocomposite Wall Drain	Sq. Yd.	240
Pipe Underdrains For Structures 4"	Foot	469
Concrete Gutter, Type B	Foot	22
Chain Link Fence, 4' Attached To Structure	Foot	472
Anti-Graffiti Protection System	Sq. Ft.	3,991

INDEX OF SHEETS



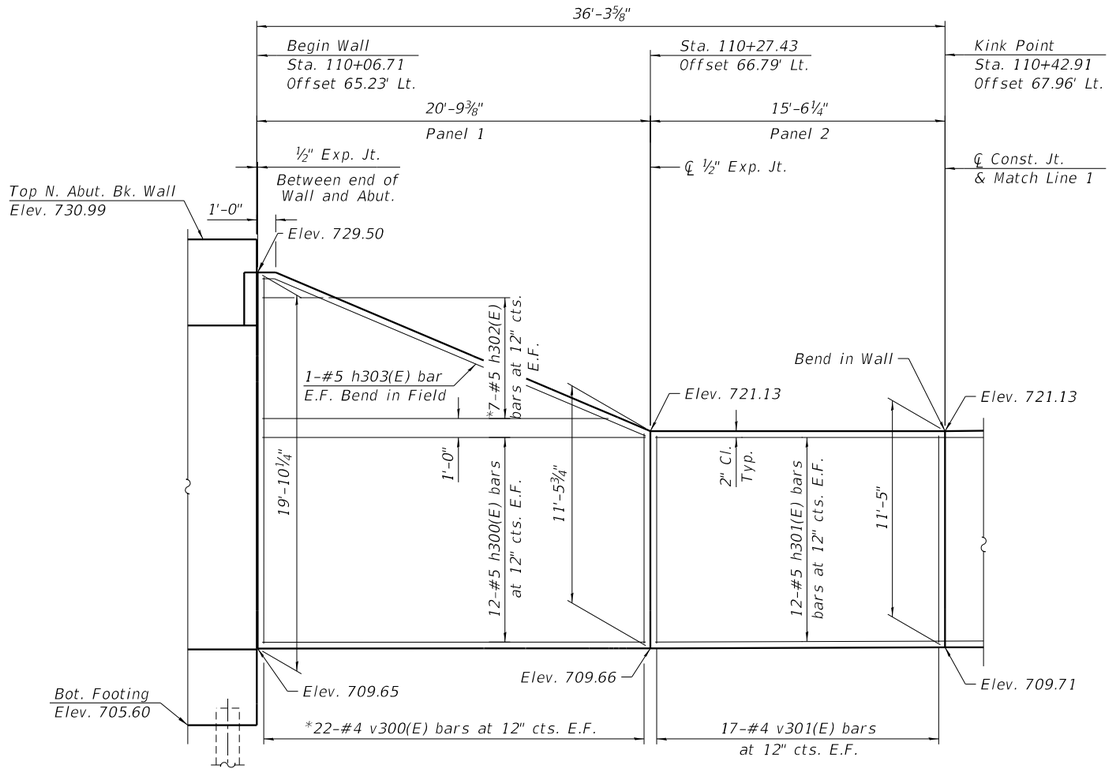
PROFILE GRADE

(Along Proposed ℄ N. Aurora Rd.)

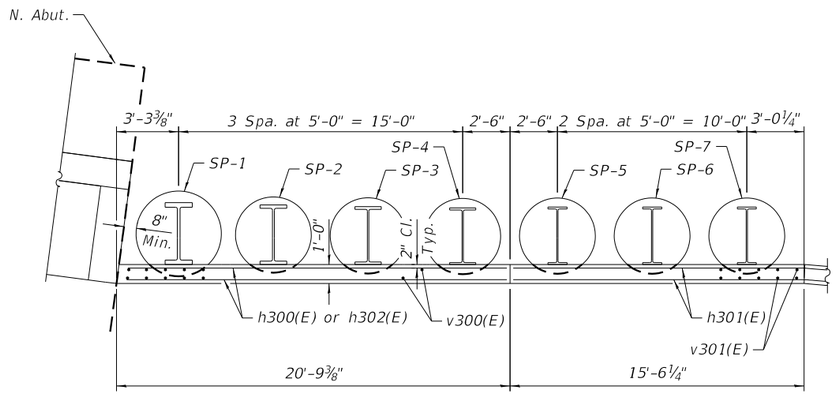
6:10:16 PM
FILE NAME: NE Wall General Data

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)	F.A.U. RTE. 1509
	CHECKED - JRM	REVISED -			SECTION 06-00133-00-BR
PLOT SCALE = 0:2.0000 ':" / in.	DRAWN - GJZ	REVISED -			COUNTY DUPAGE
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 4 OF 15 SHEETS	TOTAL SHEETS 426
					SHEET NO. 220
					CONTRACT NO. 61G79
					ILLINOIS FED. AID PROJECT



ELEVATION



PLAN

N

NOTES:

1. For soldier pile wall cross sections and details, see sheet 11 of 15.
2. For soldier pile layout and Bill of Material, see sheet 12 of 15.
3. Based on the high groundwater table, the use of temporary casing will be required down to elev. 697.0 in order to properly construct the drilled shafts. Casing may be pulled or left in place, as determined by the contractor. Cost included with Drilling and Setting Soldier Piles (In Soil).

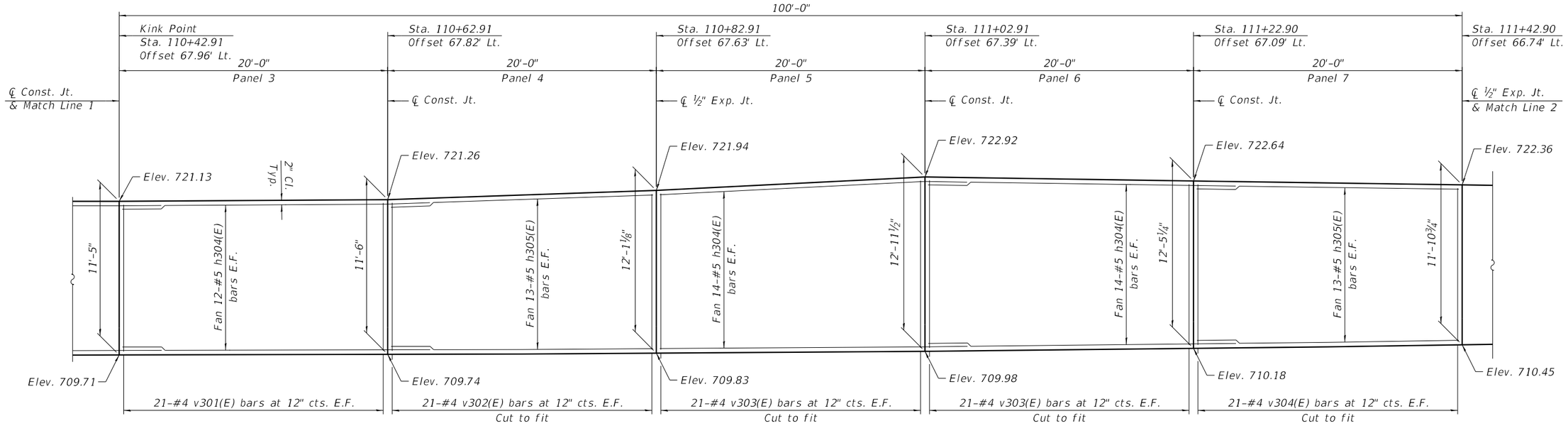
*See Field Cutting Diagram on sheet 12 of 15.

6:10:18 PM
FILE NAME: NE Wall Plan and Elevation 1

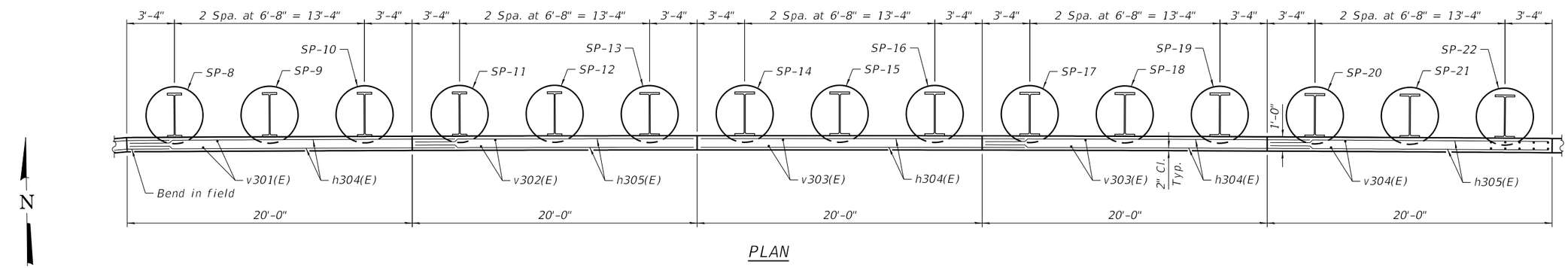
TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND ELEVATION 1 NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
	CHECKED - JRM	REVISED -		
PLOT SCALE = 8.0000 ' / in.	DRAWN - JM	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 5 OF 15 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	221
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



ELEVATION



PLAN

NOTES:

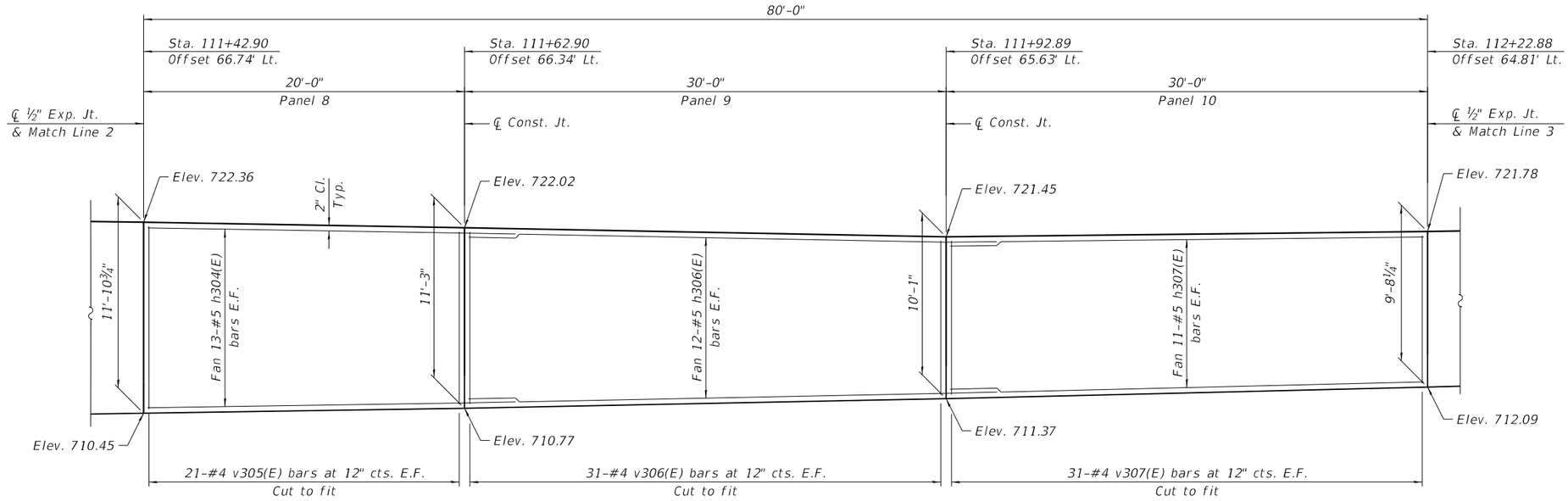
1. For soldier pile wall cross sections and details, see sheet 11 of 15.
2. For soldier pile layout and Bill of Material, see sheet 12 of 15.
3. Based on the high groundwater table, the use of temporary casing will be required down to elev. 697.0 in order to properly construct the drilled shafts. Casing may be pulled or left in place, as determined by the contractor. Cost included with Drilling and Setting Soldier Piles (In Soil).

6:10:20 PM
FILE NAME: NE Wall Plan and Elevation 2

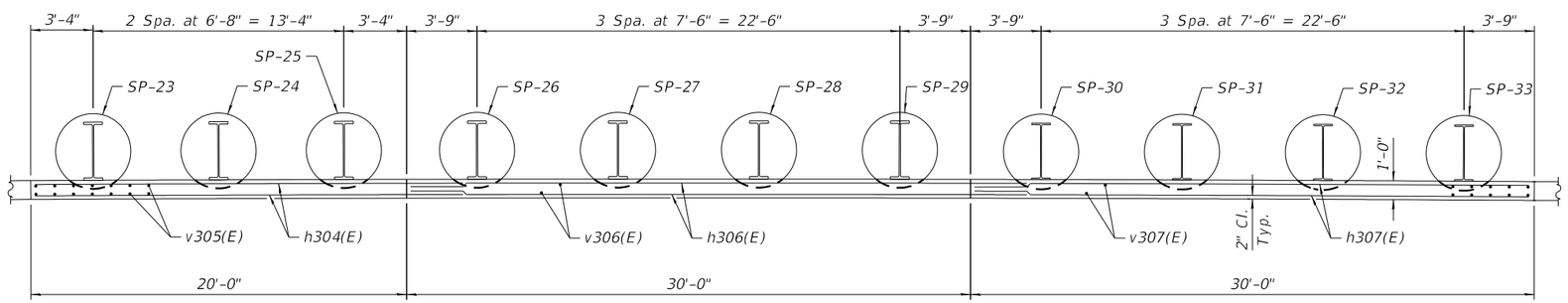
TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND ELEVATION 2 NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
	CHECKED - JRM	REVISED -		
PLOT SCALE = 8.0000 ' / in.	DRAWN - GJZ	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 6 OF 15 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	222
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



ELEVATION



PLAN

N

NOTES:

1. For soldier pile wall cross sections and details, see sheet 11 of 15.
2. For soldier pile layout and Bill of Material, see sheet 12 of 15.
3. Based on the high groundwater table, the use of temporary casing will be required down to elev. 697.0 in order to properly construct the drilled shafts. Casing may be pulled or left in place, as determined by the contractor. Cost included with Drilling and Setting Soldier Piles (In Soil).

6:10:22 PM
FILE NAME: NE Wall Plan and Elevation 3

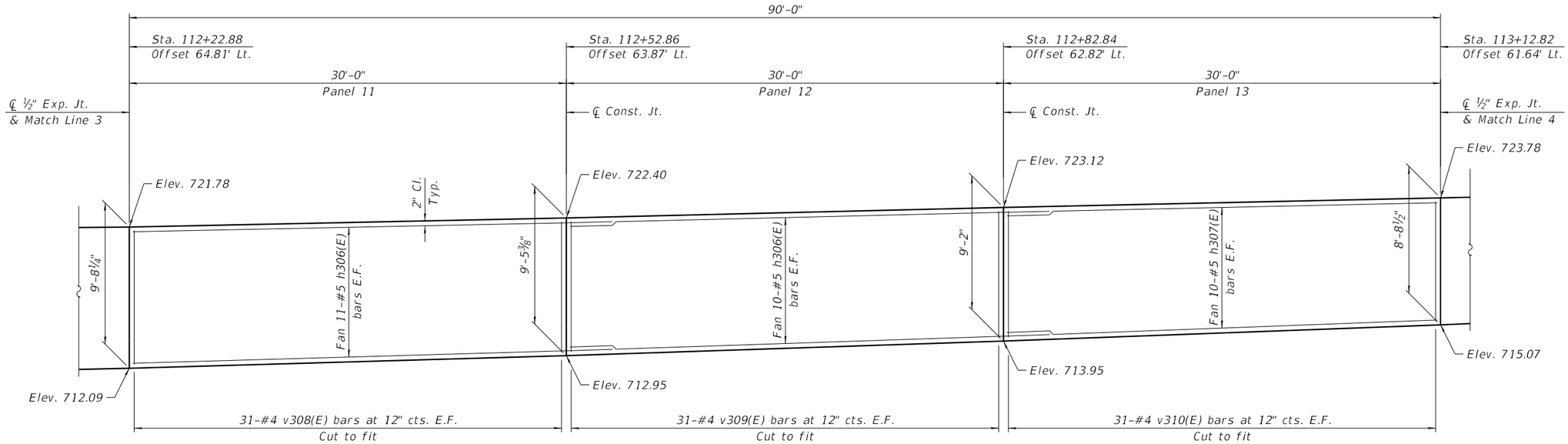
TRANSYSTEMS

USER NAME = brvanderwal		DESIGNED - JRG		REVISED -	
		CHECKED - JRM		REVISED -	
PLOT SCALE = 8.0000 ' / in.		DRAWN - GJZ		REVISED -	
PLOT DATE = 1/25/2025		CHECKED - JRM		REVISED -	

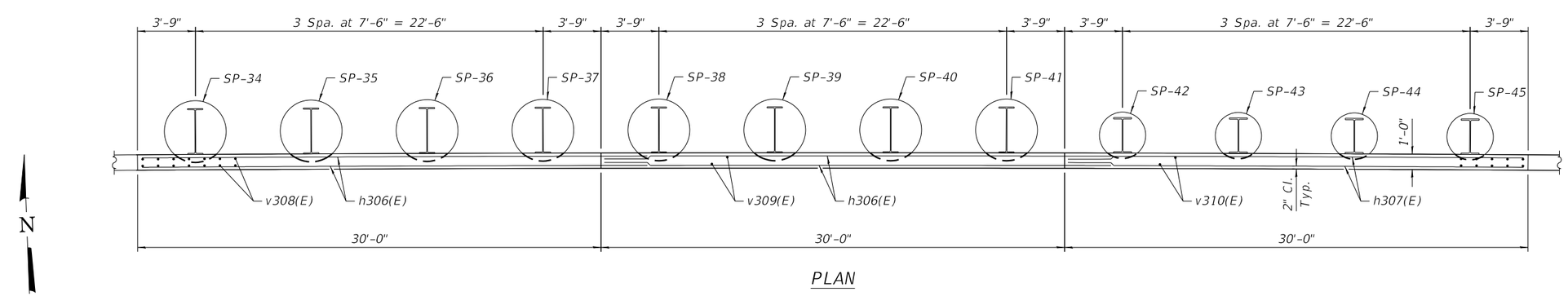
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION 3
NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
SHEET 7 OF 15 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	223
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



ELEVATION



PLAN

NOTES:

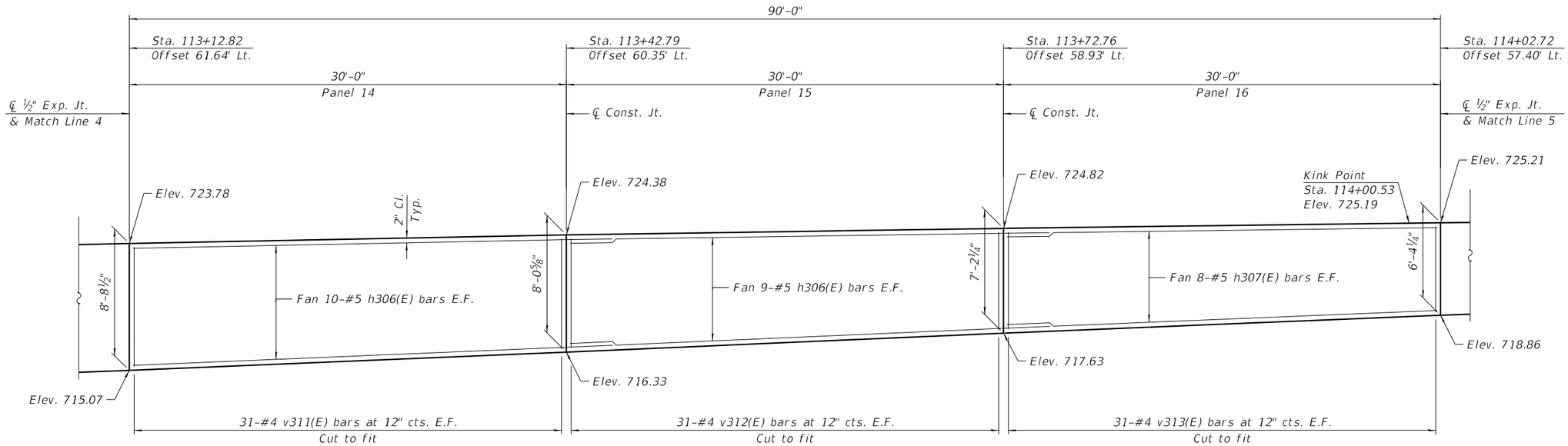
1. For soldier pile wall cross sections and details, see sheet 11 of 15.
2. For soldier pile layout and Bill of Material, see sheet 12 of 15.
3. Based on the high groundwater table, the use of temporary casing will be required down to elev. 697.0 in order to properly construct the drilled shafts. Casing may be pulled or left in place, as determined by the contractor. Cost included with Drilling and Setting Soldier Piles (In Soil).

6:10:24 PM
FILE NAME: NE Wall Plan and Elevation 4

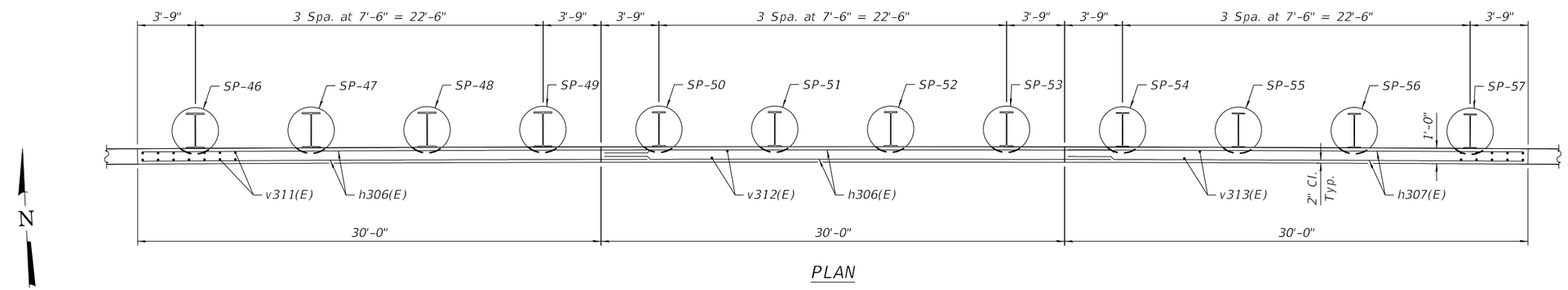
TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND ELEVATION 4 NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
	CHECKED - JRM	REVISED -		
PLOT SCALE = 8.0000 ' / in.	DRAWN - GJZ	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 8 OF 15 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	224
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



ELEVATION



PLAN

NOTES:

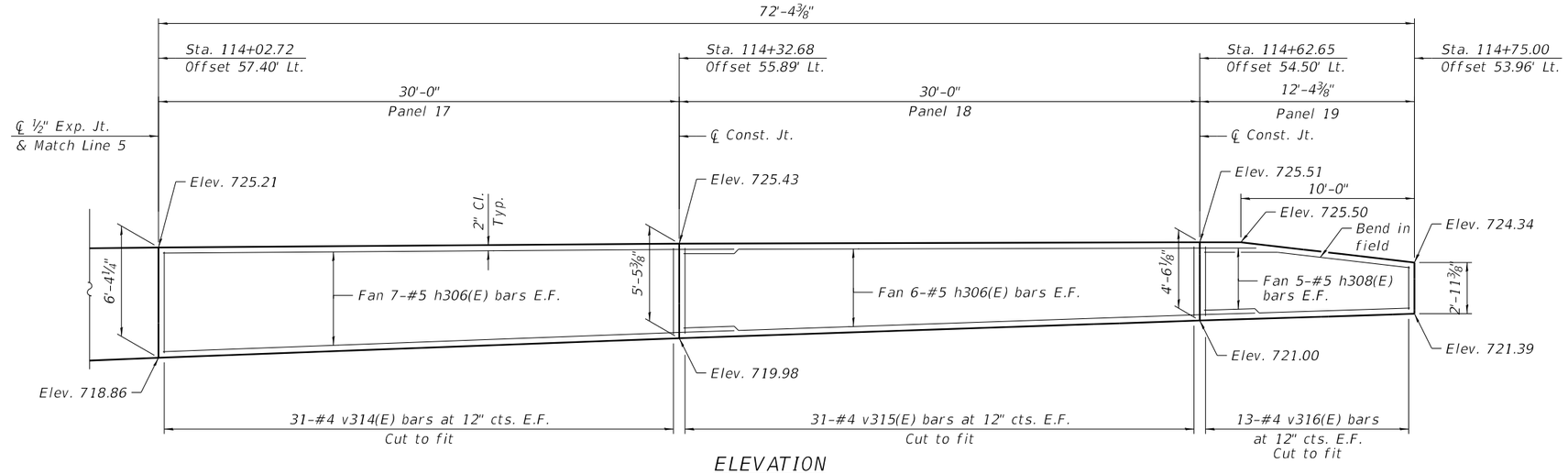
1. For soldier pile wall cross sections and details, see sheet 11 of 15.
2. For soldier pile layout and Bill of Material, see sheet 12 of 15.
3. Based on the high groundwater table, the use of temporary casing will be required down to elev. 697.0 in order to properly construct the drilled shafts. Casing may be pulled or left in place, as determined by the contractor. Cost included with Drilling and Setting Soldier Piles (In Soil).

6:10:26 PM
FILE NAME: NE Wall Plan and Elevation 5

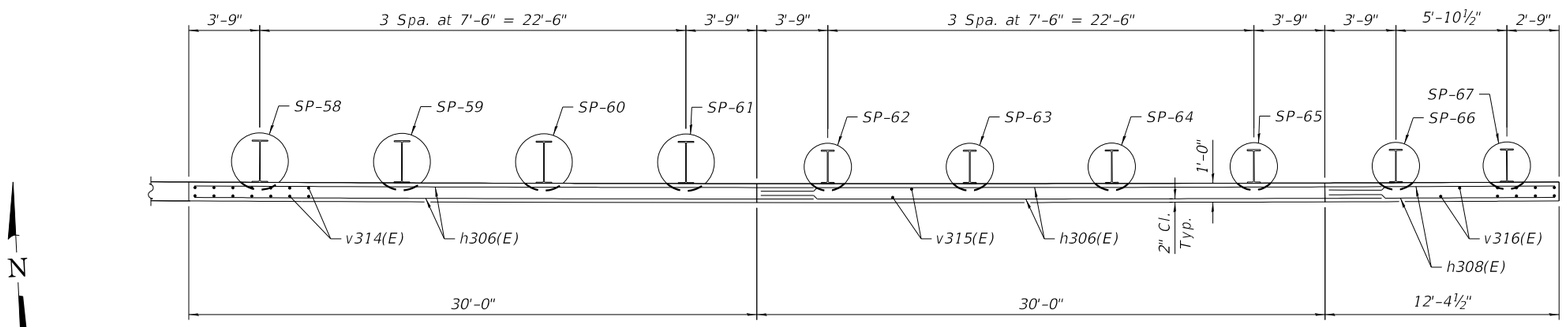
TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND ELEVATION 5 NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
	CHECKED - JRM	REVISED -		
PLOT SCALE = 8.0000 ' / in.	DRAWN - GJZ	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 9 OF 15 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	225
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



ELEVATION



PLAN

NOTES:

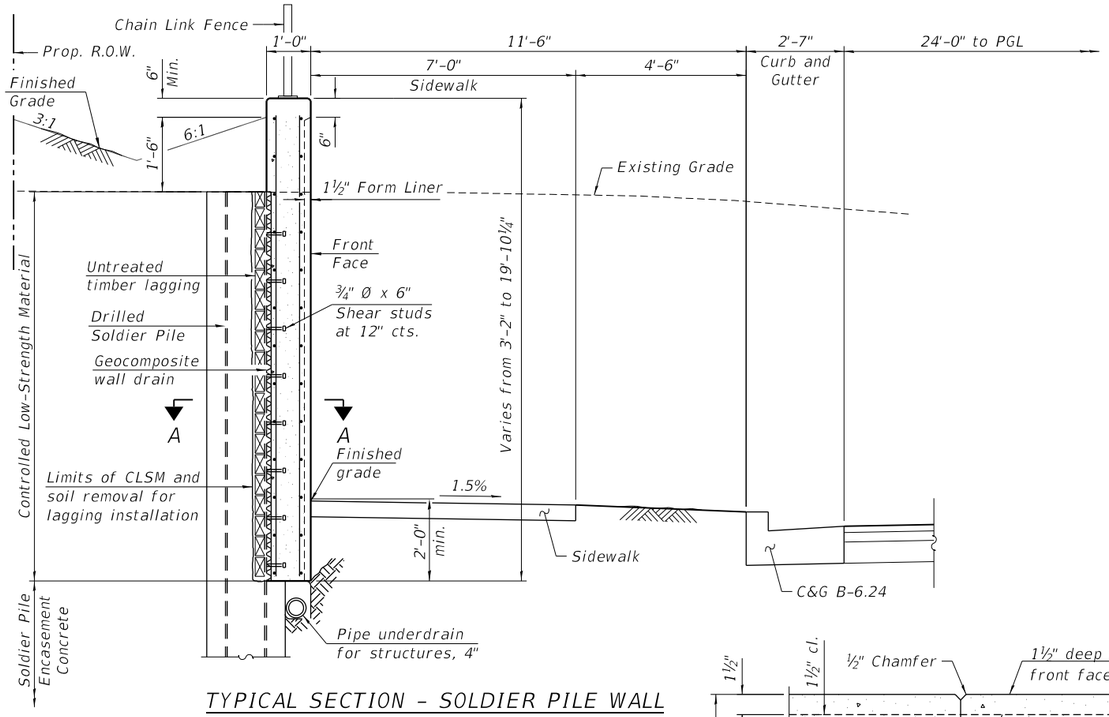
1. For soldier pile wall cross sections and details, see sheet 11 of 15.
2. For soldier pile layout and Bill of Material, see sheet 12 of 15.
3. Based on the high groundwater table, the use of temporary casing will be required down to elev. 697.0 in order to properly construct the drilled shafts. Casing may be pulled or left in place, as determined by the contractor. Cost included with Drilling and Setting Soldier Piles (In Soil).

6:10:28 PM
FILE NAME: NE Wall Plan and Elevation 6

TRANSYSTEMS

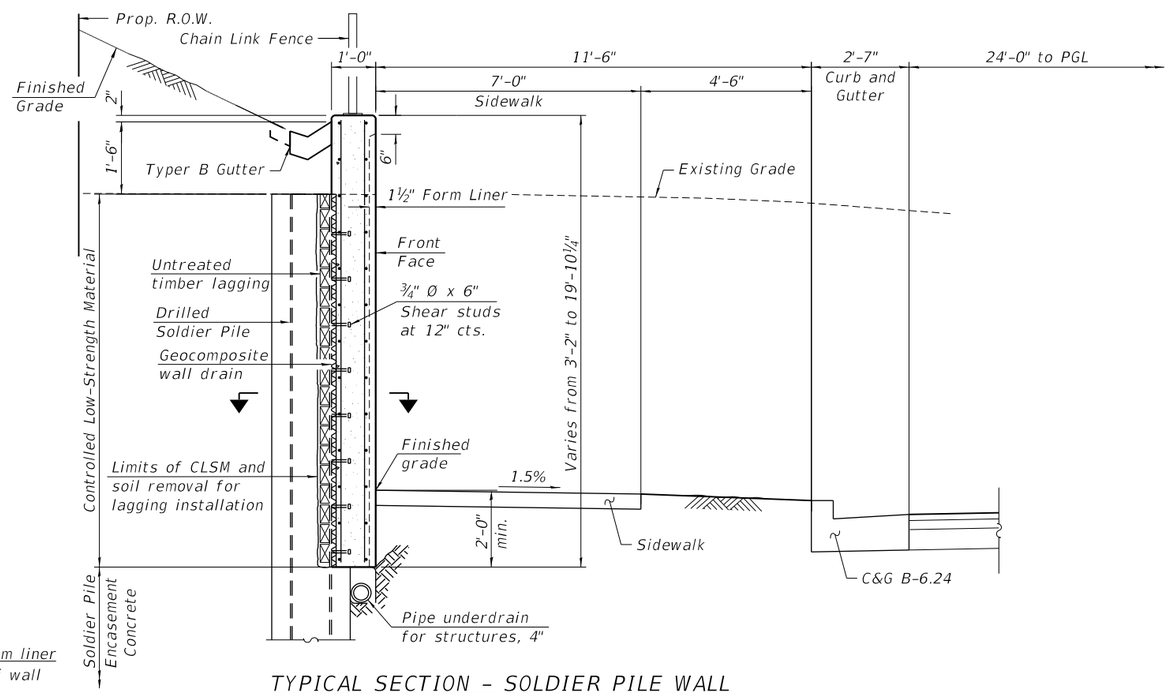
USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND ELEVATION 6 NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
	CHECKED - JRM	REVISED -		
PLOT SCALE = 8.0000 ' / in.	DRAWN - GJZ	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 10 OF 15 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	226
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



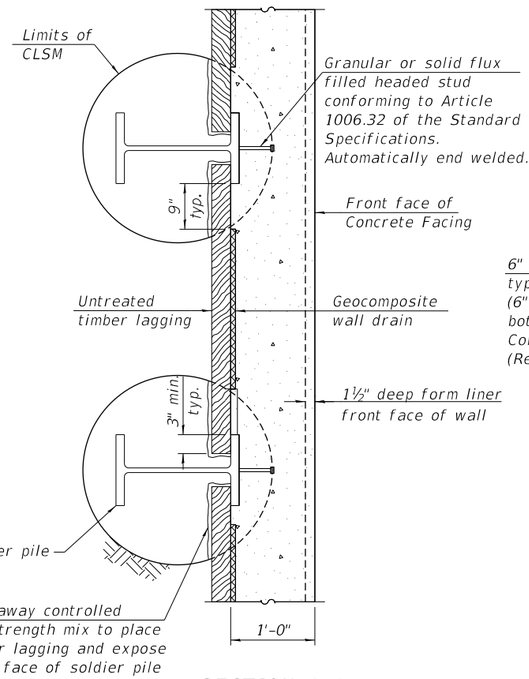
TYPICAL SECTION – SOLDIER PILE WALL

(Looking East)
(Sta. 110+70.00 to Sta. 114+75.00)

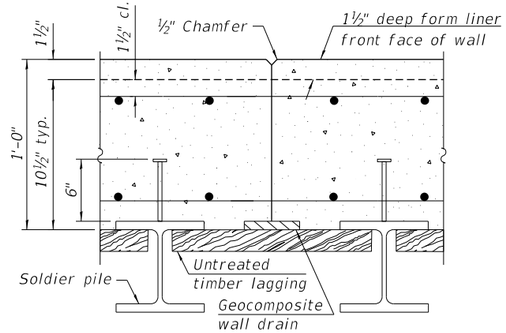


TYPICAL SECTION – SOLDIER PILE WALL

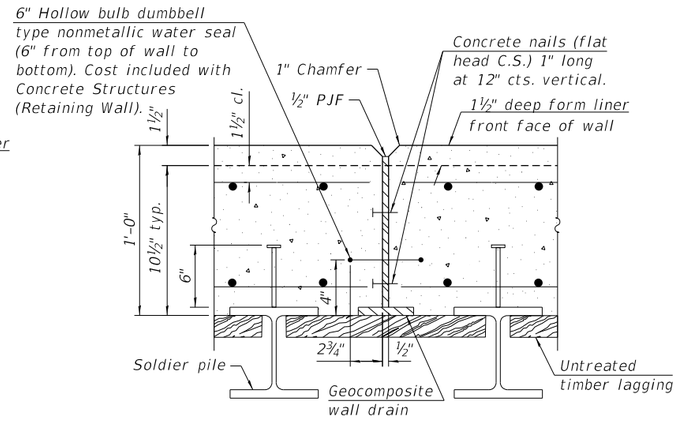
(Looking East)
(Sta. 110+06.71 to Sta. 110+28.35)



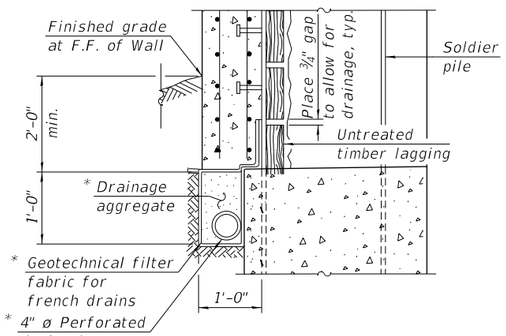
SECTION A–A



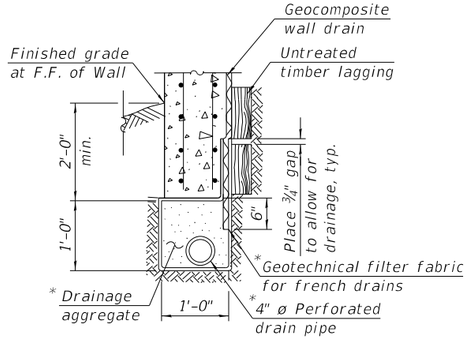
CONSTRUCTION JOINT DETAILS



EXPANSION JOINT DETAILS



PIPE UNDERDRAIN DETAIL AT SOLDIER PILE



PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES

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

6:10:30 PM
FILE NAME: NE Wall Sections and Details 1

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -		
	CHECKED - JRM	REVISED -		
PLOT SCALE = 16:0.0000 ':' / in.	DRAWN - EH	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL SECTIONS AND DETAILS 1
NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
SHEET 11 OF 15 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	227
		CONTRACT NO. 61G79		
		ILLINOIS	FED. AID PROJECT	

PILE SUMMARY

Pile	*Station	*Offset	Pile Size	Shaft Diameter	Top of Pile Elev.	Top of Shaft Elev.	Bot. of Pile Elev.	Pile Length
SP-1	110+09.78	68.10' Lt.	W36x529	4'-6"	726.87	709.65	651.87	75'-0"
SP-2	110+14.77	68.42' Lt.	W36x395	4'-0"	724.75	709.65	661.75	63'-0"
SP-3	110+19.76	68.75' Lt.	W36x302	4'-0"	722.64	709.66	667.64	55'-0"
SP-4	110+24.75	69.09' Lt.	W36x231	4'-0"	720.52	709.66	670.52	50'-0"
SP-5	110+29.73	69.49' Lt.	W36x194	4'-0"	719.13	709.67	671.13	48'-0"
SP-6	110+34.72	69.87' Lt.	W36x194	4'-0"	719.13	709.68	671.13	48'-0"
SP-7	110+39.71	70.25' Lt.	W36x194	4'-0"	719.13	709.70	671.13	48'-0"
SP-8	110+46.26	70.49' Lt.	W36x232	4'-0"	719.15	709.72	674.15	45'-0"
SP-9	110+52.93	70.45' Lt.	W36x232	4'-0"	719.20	709.73	674.20	45'-0"
SP-10	110+59.60	70.40' Lt.	W36x232	4'-0"	719.24	709.74	674.24	45'-0"
SP-11	110+66.26	70.34' Lt.	W36x232	4'-0"	719.37	709.76	674.37	45'-0"
SP-12	110+72.93	70.28' Lt.	W36x232	4'-0"	719.60	709.79	674.60	45'-0"
SP-13	110+79.60	70.18' Lt.	W36x262	4'-0"	719.83	709.82	674.83	46'-0"
SP-14	110+86.27	70.12' Lt	W36x302	4'-0"	720.10	709.86	672.10	48'-0"
SP-15	110+92.94	70.05' Lt.	W36x302	4'-0"	720.43	709.91	672.43	48'-0"
SP-16	110+99.61	69.96' Lt.	W36x302	4'-0"	720.76	709.96	672.76	48'-0"
SP-17	111+06.27	69.87' Lt.	W36x302	4'-0"	720.87	710.01	672.87	48'-0"
SP-18	111+12.94	69.77' Lt.	W36x302	4'-0"	720.78	710.08	672.78	48'-0"
SP-19	111+19.61	69.67' Lt.	W36x302	4'-0"	720.69	710.15	672.69	48'-0"
SP-20	111+26.28	69.56' Lt.	W36x282	4'-0"	720.59	710.23	674.59	46'-0"
SP-21	111+32.95	69.44' Lt.	W36x282	4'-0"	720.50	710.32	674.50	46'-0"
SP-22	111+39.61	69.31' Lt.	W36x262	4'-0"	720.41	710.41	674.41	46'-0"
SP-23	111+46.28	69.22' Lt.	W36x232	4'-0"	720.30	710.50	674.30	45'-0"
SP-24	111+52.95	69.09' Lt.	W36x232	4'-0"	720.19	710.61	674.19	45'-0"
SP-25	111+59.62	68.95' Lt.	W36x232	4'-0"	720.08	710.72	675.08	45'-0"
SP-26	111+66.70	68.80' Lt.	W36x232	4'-0"	719.95	710.85	671.95	48'-0"
SP-27	111+74.20	68.63' Lt.	W36x232	4'-0"	719.81	711.00	671.81	48'-0"
SP-28	111+81.70	68.46' Lt.	W36x232	4'-0"	719.66	711.15	671.66	48'-0"
SP-29	111+89.19	68.27' Lt.	W36x232	4'-0"	719.52	711.30	671.52	48'-0"
SP-30	111+96.70	68.02' Lt.	W36x150	4'-0"	719.49	711.46	674.49	45'-0"
SP-31	112+04.20	67.83' Lt.	W36x150	4'-0"	719.57	711.64	674.57	45'-0"
SP-32	112+11.70	67.63' Lt.	W36x150	4'-0"	719.66	711.82	674.66	45'-0"
SP-33	112+19.19	67.42' Lt.	W36x150	4'-0"	719.74	712.00	674.74	45'-0"
SP-34	112+26.70	67.18' Lt.	W36x135	4'-0"	719.86	712.20	679.86	40'-0"
SP-35	112+34.19	66.96' Lt.	W36x135	4'-0"	720.01	712.41	680.01	40'-0"
SP-36	112+41.69	66.72' Lt.	W36x135	4'-0"	720.17	712.63	680.17	40'-0"
SP-37	112+49.19	66.48' Lt.	W36x135	4'-0"	720.32	712.84	680.32	40'-0"
SP-38	112+56.69	66.23' Lt.	W36x135	4'-0"	720.49	713.08	680.49	40'-0"
SP-39	112+64.19	65.97' Lt.	W36x135	4'-0"	720.67	713.33	680.67	40'-0"
SP-40	112+71.69	65.71' Lt.	W36x135	4'-0"	720.85	713.58	680.85	40'-0"
SP-41	112+79.18	65.43' Lt.	W36x135	4'-0"	721.03	713.83	681.03	40'-0"
SP-42	112+86.67	64.82' Lt.	W27x161	3'-0"	721.20	714.09	678.20	43'-0"
SP-43	112+94.17	64.54' Lt.	W27x161	3'-0"	721.37	714.37	678.37	43'-0"
SP-44	113+01.66	64.24' Lt.	W27x161	3'-0"	721.53	714.65	678.53	43'-0"
SP-45	113+09.15	63.94' Lt.	W27x161	3'-0"	721.70	714.93	678.70	43'-0"
SP-46	113+16.66	63.62' Lt.	W27x146	3'-0"	721.86	715.23	681.86	40'-0"
SP-47	113+24.15	63.31' Lt.	W27x146	3'-0"	722.01	715.54	682.01	40'-0"
SP-48	113+31.64	62.98' Lt.	W27x146	3'-0"	722.16	715.86	682.16	40'-0"
SP-49	113+39.14	62.65' Lt.	W27x146	3'-0"	722.31	716.17	682.31	40'-0"
SP-50	113+46.64	62.31' Lt.	W27x114	3'-0"	722.44	716.49	685.44	37'-0"
SP-51	113+54.13	61.96' Lt.	W27x114	3'-0"	722.55	716.82	685.55	37'-0"
SP-52	113+61.62	61.61' Lt.	W27x114	3'-0"	722.66	717.14	685.66	37'-0"
SP-53	113+69.11	61.25' Lt.	W27x114	3'-0"	722.77	717.47	685.77	37'-0"
SP-54	113+76.61	60.86' Lt.	W27x84	3'-0"	722.87	717.78	688.87	34'-0"
SP-55	113+84.10	60.48' Lt.	W27x84	3'-0"	722.97	718.09	688.97	34'-0"
SP-56	113+91.59	60.10' Lt.	W27x84	3'-0"	723.06	718.40	689.06	34'-0"
SP-57	113+99.08	59.71' Lt.	W27x84	3'-0"	723.16	718.71	689.16	34'-0"
SP-58	114+06.58	59.32' Lt.	W27x84	3'-0"	723.24	719.00	692.24	31'-0"
SP-59	114+14.07	58.93' Lt.	W27x84	3'-0"	723.29	719.28	692.29	31'-0"
SP-60	114+21.55	58.55' Lt.	W27x84	3'-0"	723.35	719.56	692.35	31'-0"
SP-61	114+29.05	58.18' Lt.	W27x84	3'-0"	723.40	719.84	692.40	31'-0"
SP-62	114+36.51	57.59' Lt.	W21x73	2'-6"	723.44	720.11	693.44	30'-0"
SP-63	114+44.00	57.24' Lt.	W21x73	2'-6"	723.46	720.36	693.46	30'-0"
SP-64	114+51.49	56.89' Lt.	W21x73	2'-6"	723.48	720.62	693.48	30'-0"
SP-65	114+58.99	56.55' Lt.	W21x73	2'-6"	723.50	720.87	693.50	30'-0"
SP-66	114+66.48	56.21' Lt.	W21x68	2'-6"	723.07	721.12	696.07	27'-0"
SP-67	114+72.33	55.95' Lt.	W21x68	2'-6"	722.38	721.31	695.38	27'-0"

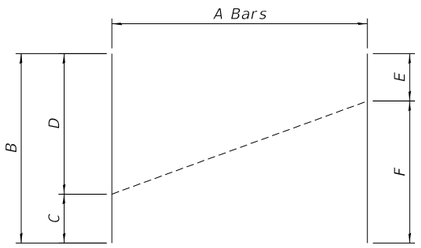
* Stations and offsets are located at the center of the pile.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300(E)	24	#5	20'-5"	———
h301(E)	24	#5	18'-8"	———
h302(E)	7	#5	21'-9"	———
h303(E)	2	#5	22'-2"	———
h304(E)	106	#5	23'-2"	———
h305(E)	52	#5	19'-8"	———
h306(E)	130	#5	33'-2"	———
h307(E)	58	#5	29'-8"	———
h308(E)	10	#5	12'-0"	———
v300(E)	22	#4	30'-7"	———
v301(E)	76	#4	11'-1"	———
v302(E)	42	#4	11'-9"	———
v303(E)	84	#4	12'-7"	———
v304(E)	42	#4	12'-1"	———
v305(E)	42	#4	11'-6"	———
v306(E)	62	#4	10'-11"	———
v307(E)	62	#4	9'-9"	———
v308(E)	62	#4	9'-4"	———
v309(E)	62	#4	9'-1"	———
v310(E)	62	#4	8'-10"	———
v311(E)	62	#4	8'-4"	———
v312(E)	62	#4	7'-8"	———
v313(E)	62	#4	6'-10"	———
v314(E)	62	#4	6'-0"	———
v315(E)	62	#4	5'-1"	———
v316(E)	26	#4	4'-2"	———

Structure Excavation	Cu. Yd.	442
Concrete Structures	Cu. Yd.	165.1
Form Liner Textured Surface	Sq. Ft.	4,223
Stud Shear Connectors	Each	550
Reinforcement Bars, Epoxy Coated	Pound	17,400
Furnishing Soldier Piles (W Section)	Foot	2,825
Drilling And Setting Soldier Piles (In Soil)	Cu. Ft.	30,809
Untreated Timber Lagging	Sq. Ft.	3,205
Geocomposite Wall Drain	Sq. Yd.	240
Pipe Underdrains for Structures 4"	Foot	469
Concrete Gutter, Type B	Foot	22
Chain Link Fence, 4' Attached to Structure	Foot	472
Anti-Graffiti Protection System	Sq. Ft.	3,991

Minimum Bar Laps	
Bar	Lap
#5(E)	3'-2"



FIELD CUTTING DIAGRAM

Order h302(E) and v300(E) bars full length. Cut as shown and use remainder of bars in opposite face.

Bar	A	B	C	D	E	F
h302(E)	7	21'-9"	3'-4"	18'-5"	3'-4"	18'-5"
v300(E)	22	30'-7"	11'-1"	19'-6"	11'-1"	19'-6"

6:10:32 PM
FILE NAME: NE Wall Sections and Details 2

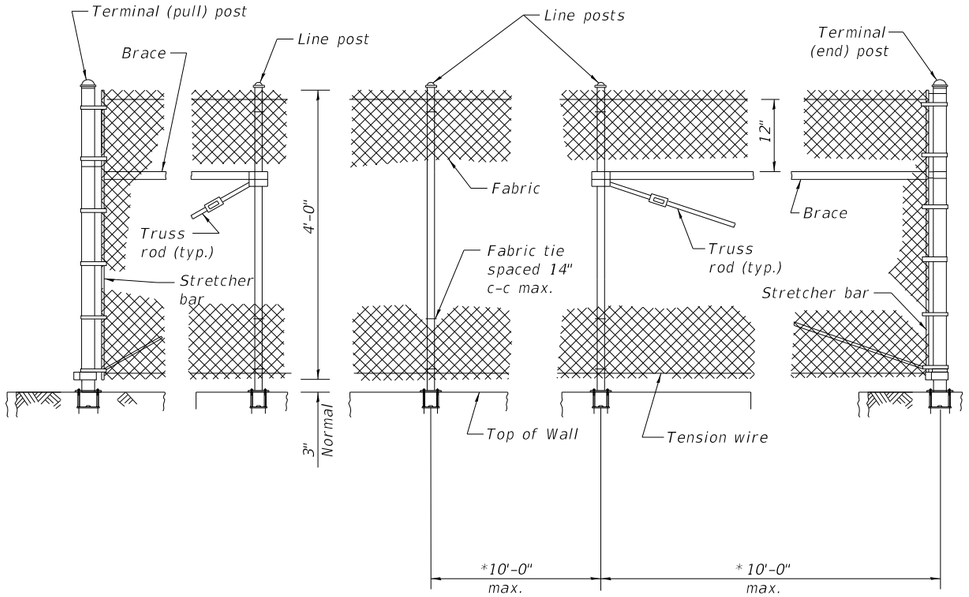
TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	
	CHECKED - JRM	REVISED -	
PLOT SCALE = 0:2.0000 ':" / in.	DRAWN - GJZ	REVISED -	
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL SECTIONS AND DETAILS 2
NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
SHEET 12 OF 15 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	228
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

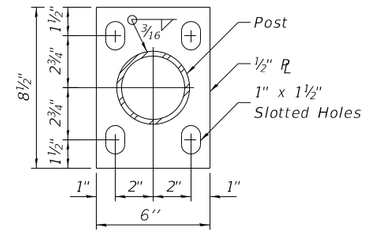


PULL POST ARRANGEMENT

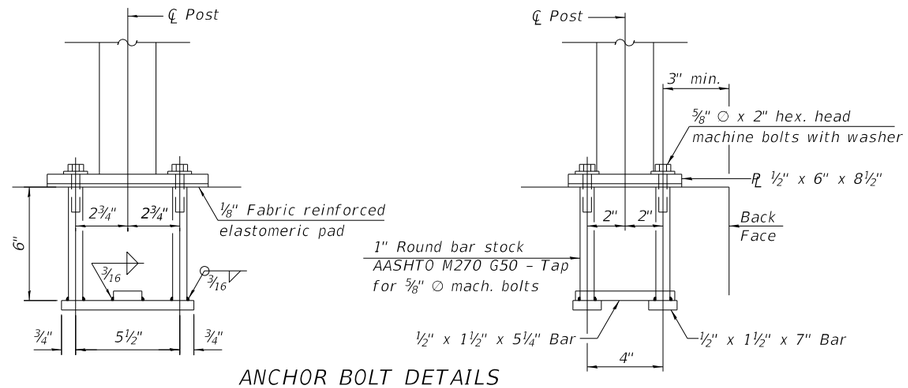
LINE POST ARRANGEMENT

END POST ARRANGEMENT

* The Post Anchors Shall be At least 2'-0" From Wall Expansion Joints.

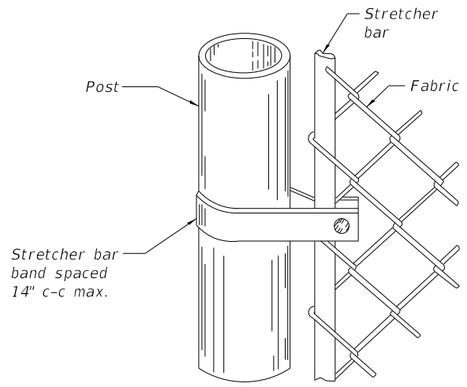


BASE PL

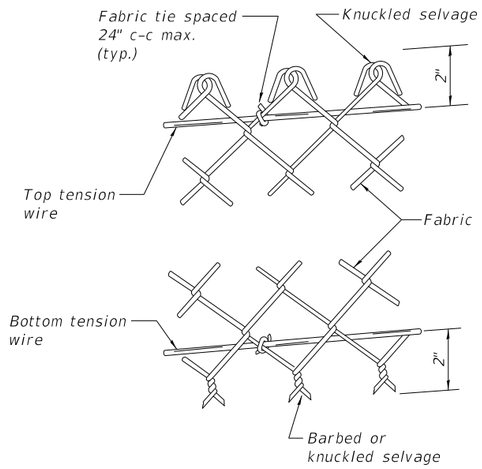


ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝" ∅ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



METHOD OF FASTENING STRETCHER BAR TO POST



METHOD OF TYING FABRIC TO TENSION WIRES

BILL OF MATERIAL

Item	Unit	Quantity
Chain Link Fence, 4' Attached to Structure	Foot	471

NOTES:

Cost of all the anchor bolts and accessories required for Chain Link Supports are included in Chain Link Fence, 4' Attached to Structure.

LINE POST	
Section	lbs./ft.
Pipe Type A 1.90 (48.3) O.D.	2.72
Pipe Type B 1.90 (48.3) O.D.	2.28
Pipe Type C 1.90 (48.3) O.D.	2.26
H 1.875x1.625 (47.6x41.3)	2.72

TERMINAL POST	
Section	lbs./ft.
Pipe Type A 2.375 O.D.	3.65
Pipe Type B 2.375 O.D.	3.11
Pipe Type C 2.375 O.D.	3.09
Roll Formed 3½x3½	See detail
Sq. Tubing 2½x2½	4.32

HORIZONTAL BRACES	
Section	lbs./ft.
Pipe Type A 1.66 O.D.	2.27
Pipe Type B 1.66 O.D.	1.83
Pipe Type C 1.66 O.D.	1.82
H 1.31x1.5	2.25
Roll Formed 1⅝x1¼	See detail

6:10:34 PM
FILE NAME: Chain Link Fence

TRANSYSTEMS

USER NAME = brvanderwal		DESIGNED - EH	REVISED -	
		CHECKED - JRM	REVISED -	
PLOT SCALE = 24:0.1733 ':" / In.		DRAWN - JE	REVISED -	
PLOT DATE = 1/25/2025		CHECKED - JRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE
NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
SHEET 13 OF 15 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	229
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

Wang Engineering
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Telephone: (630) 953-9928
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BORING LOG RWB-02

WEI Job No.: 790-96-01

Client ..... TranSystems Corporation
Project Wisconsin Central RR Bridge over N Aurora Road
Location ..... Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 716.43 ft
North: 1863002.35 ft
East: 1012076.77 ft
Station: 110+75.46
Offset: 29.45 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)		Moisture Content (%)
	715.7	9-inch thick, dark brown SILTY CLAY LOAM, trace organic matter							
		--TOPSOIL--							
		Very stiff, brown SILTY CLAY LOAM, trace gravel			1	3 6 7	3.53	B	17
	713.4	--FILL--							
		Very stiff to hard, brown SILTY CLAY, trace gravel	5		2	6 7 8	3.28	B	16
		--gray--			3	4 6 10	5.49	B	15
			10		4	5 7 8	> 4.50	P	16
					5	4 7 9	2.05	B	19
	703.4	Medium dense, brown and gray, fine GRAVELLY SAND; saturated							
		--hard drilling--	15		6	10 15 8	NP		8
	700.9	Medium dense, gray SILT; saturated			7	6 10 11	NP		20
	697.9	Very stiff to hard, gray SILTY CLAY, trace gravel							
			20		8	7 9 17	4.43	B	13
			25		9	8 11 15	3.20	B	11
					10	26 21 16	3.00	P	11
					11	9 10 14	2.50	P	16
		--stiff--	30		12	9 13 14	1.64	B	11
					13	7 12 14	4.76	B	19
	676.4	Boring terminated at 40.00 ft	40		14	7 10 14	3.12	B	21

GENERAL NOTES

Begin Drilling 04-03-2017 Complete Drilling 04-03-2017
Drilling Contractor Wang Testing Services Drill Rig D25 ATV [93%]
Driller NC&KS Logger J. Foote Checked by JAR
Drilling Method 2.25" IDA HSA; autohammer; backfilled with soil
cuttings and bentonite chips upon completion

WATER LEVEL DATA

While Drilling ▽ 13.00 ft
At Completion of Drilling ▼ DRY
Time After Drilling NA
Depth to Water ▼ NA

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

WANGENGINC 790960.GPJ WANGENG.GDT 1/14/19

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Telephone: (630) 953-9928
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BORING LOG RWB-03

WEI Job No.: 790-96-01

Client ..... TranSystems Corporation
Project Wisconsin Central RR Bridge over N Aurora Road
Location ..... Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 719.78 ft
North: 1862994.30 ft
East: 1012150.30 ft
Station: 111+49.0
Offset: 21.55 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)		Moisture Content (%)
	719.5	3-inch thick, CRUSHED STONE; moist							
	718.9	--SHOULDER AGGREGATE--							
		9-inch thick, brown SILTY CLAY LOAM, trace gravel			1	7 7 6	NP		13
		--FILL--							
	716.8	Medium dense, brown LOAM, some gravel; moist							
		--FILL--							
		Hard, brown SILTY CLAY, trace gravel	5		2	5 7 12	4.43	B	15
		--gray--			3	10 14 16	4.02	B	16
			10		4	5 9 11	4.02	B	17
					5	7 12 20	3.44	B	18
	707.6	Dense, gray, medium SAND; saturated							
		--fine sand with silt--	15		6	14 12 18	NP		11
	704.3	Hard, gray SILTY CLAY, trace gravel			7	7 7 8	6.64	B	16
	701.8	--sand heave--							
		Very dense, gray GRAVELLY SAND; saturated			8	18 40 13	NP		9
	699.3	Medium dense, gray SILT; saturated			9	6 9 14	NP		19
	697.6	Very stiff to hard, gray SILTY CLAY, trace gravel							
			25		10	10 24 18	4.50	P	12
					11	6 12 15	3.85	B	10
	689.8	Boring terminated at 30.00 ft	30		12	12 14 15	4.35	B	10
			35		13	7 12 14	4.76	B	19
			40		14	7 10 14	3.12	B	21

GENERAL NOTES

Begin Drilling 04-03-2017 Complete Drilling 04-03-2017
Drilling Contractor Wang Testing Services Drill Rig D25 ATV [93%]
Driller NC&KS Logger J. Foote Checked by JAR
Drilling Method 2.25" IDA HSA; autohammer; backfilled with soil
cuttings and bentonite chips upon completion

WATER LEVEL DATA

While Drilling ▽ 12.00 ft
At Completion of Drilling ▼ DRY
Time After Drilling NA
Depth to Water ▼ NA

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

WANGENGINC 790960.GPJ WANGENG.GDT 1/14/19

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Fax

BORING LOG RWB-04

WEI Job No.: 790-96-01

Client ..... TranSystems Corporation
Project Wisconsin Central RR Bridge over N Aurora Road
Location ..... Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 722.39 ft
North: 1862993.68 ft
East: 1012231.80 ft
Station: 112+30.5
Offset: 21.08 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)		Moisture Content (%)
	722.1	13-inch thick, CRUSHED STONE; moist							
	721.4	--SHOULDER AGGREGATE--							
		9-inch thick, dark brown SILTY CLAY LOAM			1	3 5 3	NP		12
		--FILL--							
	719.4	Medium dense, brown LOAM, some gravel; wet							
		--FILL--							
		Very stiff to hard, brown SILTY CLAY, trace gravel	5		2	4 7 9	3.61	B	16
		--gray--			3	7 12 14	4.43	B	18
			10		4	5 10 14	3.94	B	15
	711.9	Gray, fine SAND, some silt; saturated			5	5 8 11	1.50	P	12
	711.1	Stiff to very stiff, gray SILTY CLAY LOAM	15		6	6 7 11	3.44	B	14
					7	6 8 9	2.62	B	12
		--trace gravel--							
	702.4	Boring terminated at 20.00 ft	20		8	8 12 13	2.00	P	12

GENERAL NOTES

Begin Drilling 04-03-2017 Complete Drilling 04-03-2017
Drilling Contractor Wang Testing Services Drill Rig D25 ATV [93%]
Driller NC&KS Logger J. Foote Checked by JAR
Drilling Method 2.25" IDA HSA; autohammer; backfilled with soil
cuttings and bentonite chips upon completion

WATER LEVEL DATA

While Drilling ▽ 10.50 ft
At Completion of Drilling ▼ DRY
Time After Drilling NA
Depth to Water ▼ NA

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

WANGENGINC 790960.GPJ WANGENG.GDT 1/14/19

6:10:36 PM
FILE NAME: NE Boring Logs 1

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS 1 NORTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)	
	CHECKED - JRM	REVISED -			
PLOT SCALE = 0:2.0000 ':' / in.	DRAWN - MDG	REVISED -			
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 14 OF 15 SHEETS	

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	230
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
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Telephone: (630) 953-9928
Fax

BORING LOG RWB-05

WEI Job No.: 790-96-01

Client: TranSystems Corporation
Project: Wisconsin Central RR Bridge over N Aurora Road
Location: Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 724.45 ft
North: 1862993.83 ft
East: 1012314.72 ft
Station: 113+13.42
Offset: 21.4 LT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
724.0	6-inch thick, CRUSHED STONE; moist –SHOULDER AGGREGATE–						
	Stiff, black to brown SILTY CLAY LOAM, trace gravel –FILL–			1	5 4 3	1.25 P	16
721.5	Hard, gray SILTY CLAY, trace gravel	5		2	7 10 9	4.35 B	16
				3	4 8 12	6.23 B	16
		10		4	18 12 11	5.58 B	16
	–rig chatter– –hard drilling–			5	13 16 15	4.00 P	13
709.5	Boring terminated at 15.00 ft	15		6	27 18 25	5.74 B	9
		20					

GENERAL NOTES

Begin Drilling: 04-03-2017 Complete Drilling: 04-03-2017
Drilling Contractor: Wang Testing Services Drill Rig: D25 ATV [93%]
Driller: NC&KS Logger: J. Foote Checked by: JAR
Drilling Method: 2.25" IDA HSA; autohammer; backfilled with soil cuttings and bentonite chips upon completion

WATER LEVEL DATA

While Drilling: DRY
At Completion of Drilling: DRY
Time After Drilling: NA
Depth to Water: NA

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

WANGENGINC 790960.GPJ WANGENG.GDT 1/14/19

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

BORING LOG RWB-06

WEI Job No.: 790-96-01

Client: TranSystems Corporation
Project: Wisconsin Central RR Bridge over N Aurora Road
Location: Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 725.27 ft
North: 1862997.05 ft
East: 1012377.37 ft
Station: 113+76.12
Offset: 24.73 LT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
724.8	6-inch thick, CRUSHED STONE; moist –SHOULDER AGGREGATE–						
	Stiff, black, gray, and brown SILTY CLAY LOAM, trace gravel –FILL–			1	3 5 5	1.07 B	28
722.3	Stiff to hard, brown SILTY CLAY, trace gravel	5		2	7 10 12	4.35 B	17
				3	10 19 20	1.75 P	18
	–gray–	10		4	20 17 21	2.50 P	18
715.3	Boring terminated at 10.00 ft	15					
		20					

GENERAL NOTES

Begin Drilling: 04-03-2017 Complete Drilling: 04-03-2017
Drilling Contractor: Wang Testing Services Drill Rig: D25 ATV [93%]
Driller: NC&KS Logger: J. Foote Checked by: JAR
Drilling Method: 2.25" IDA HSA; autohammer; backfilled with soil cuttings and bentonite chips upon completion

WATER LEVEL DATA

While Drilling: DRY
At Completion of Drilling: DRY
Time After Drilling: NA
Depth to Water: NA

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

WANGENGINC 790960.GPJ WANGENG.GDT 1/14/19

6:10:38 PM
FILE NAME: NE Boring Logs 2

TRANSYSTEMS

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	CHECKED - JRM	REVISED -			
PLOT SCALE = 0:2.0000 ':' / in.	DRAWN - MDG	REVISED -			
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 15 OF 15 SHEETS	

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	231
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

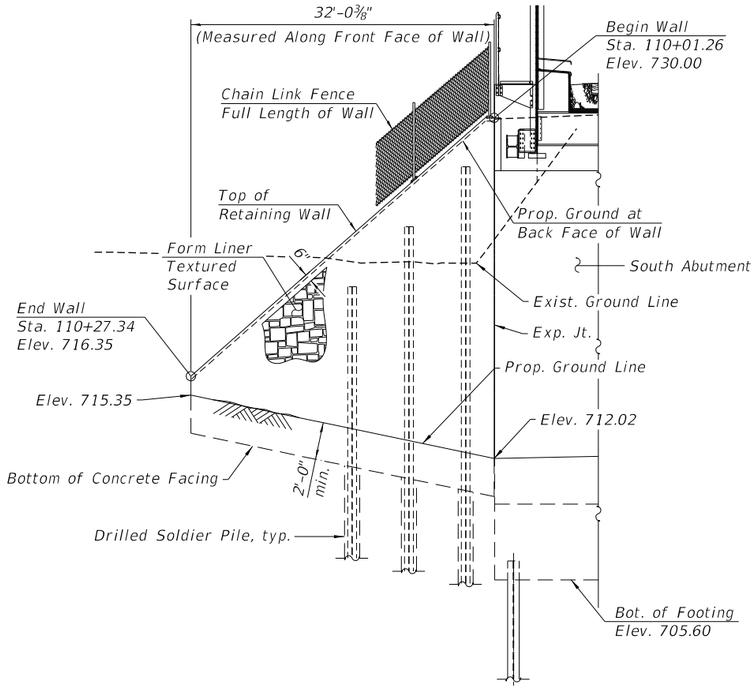
Benchmark: CP #4. Set Mag nail, ℄ North Aurora Rd. at fence line W. of Field Entrance. Elev. 725.39.

Existing Structure: None

Traffic on North Aurora Rd. to be maintained with stage construction.

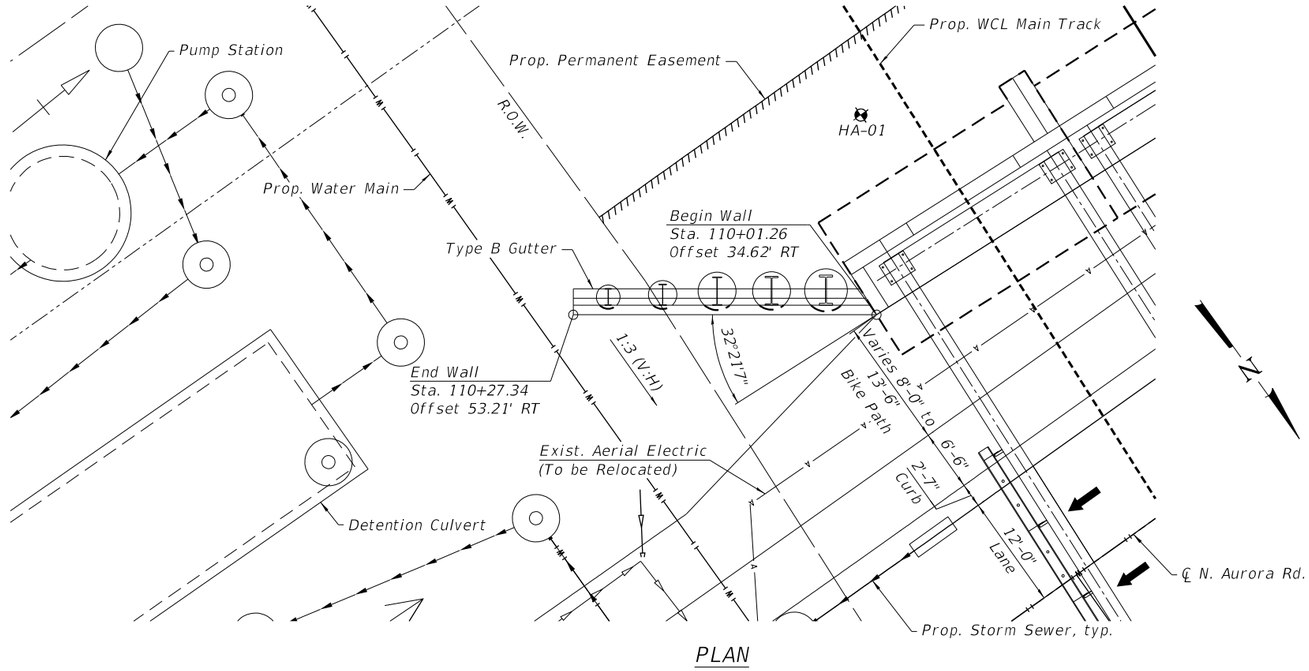
GENERAL NOTES:

1. Wall stations and offsets are measured from the centerline of North Aurora Road to the front face of the concrete facing.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Anti-Graffiti Protection System shall be applied to exposed surfaces of the facing.
4. Soldier piles shall be cleaned and given one shop coat of Inorganic Zinc Rich Primer. Cost included with Furnishing Soldier Piles (W Section).
5. All exposed concreted edges shall have a standard ¾" chamfer, unless otherwise noted.
6. For Chain Link Fence details, see sheet 229 of 426 .
7. The Contractor is responsible for the design and performance of the timber lagging using no less than a 3 inch nominal rough-sawn thickness and minimum allowable bending stress of 1,000 psi.
8. The existing soil in the drilled soldier pile areas contains groundwater. Temporary casing is likely required for the construction of the drilled shafts. See Section 516 of the Standard Specifications for direction on the use of temporary casing. The cost of the temporary casing is included with Drilling and Setting Soldier Piles (In Soil).



ELEVATION

(Looking South at Front Face of Wall)



PLAN

TOTAL BILL OF MATERIAL

Item	Unit	Total
Structure Excavation	Cu. Yd.	35
Concrete Structures	Cu. Yd.	13.7
Form Liner Textured Surface	Sq. Ft.	353
Stud Shear Connectors	Each	50
Reinforcement Bars, Epoxy Coated	Pound	1,600
Furnishing Soldier Piles (W Section)	Foot	230
Drilling And Setting Soldier Piles (In Soil)	Cu. Ft.	2,608
Untreated Timber Lagging	Sq. Ft.	265
Geocomposite Wall Drain	Sq. Yd.	15
Pipe Underdrains For Structures 4"	Foot	33
Concrete Gutter, Type B	Foot	35
Chain Link Fence, 4' Attached To Structure	Foot	35
Anti-Graffiti Protection System	Sq. Ft.	339

INDEX OF SHEETS

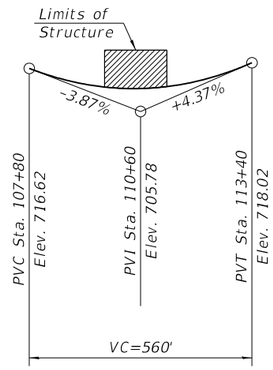
DESIGN SPECIFICATIONS:

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

DESIGN STRESSES:

FIELD UNITS

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



PROFILE GRADE

(Along Proposed ℄ N. Aurora Rd.)

GENERAL PLAN AND ELEVATION
SOUTHEAST RETAINING WALL
WISCONSIN CENTRAL LTD
OVER NORTH AURORA ROAD
F.A.U. RT 1509 - SEC. 06-00133-00-BR
DUPAGE COUNTY
STATION 110+01.26 TO STATION 110+27.34

6:10:42 PM
FILE NAME: SE Wall General Plan and Elevation

TRANSYSTEMS

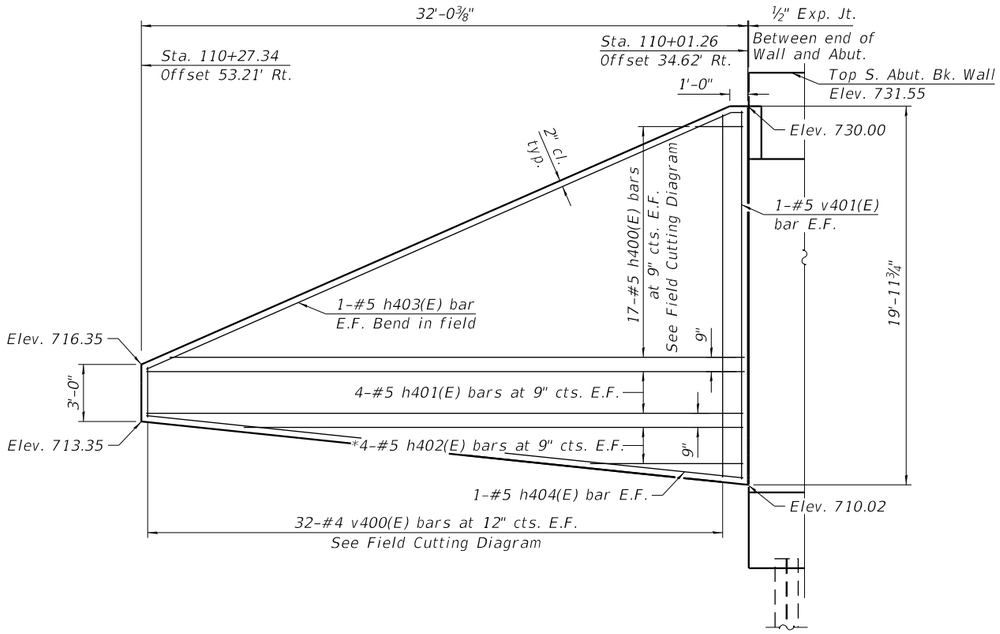
USER NAME = brvanderwal		DESIGNED - JRG		REVISED -
		CHECKED - JRM		REVISED -
PLOT SCALE = 16:0.0000 ':" / in.		DRAWN - JE		REVISED -
PLOT DATE = 1/25/2025		CHECKED - JRM		REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
SOUTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)

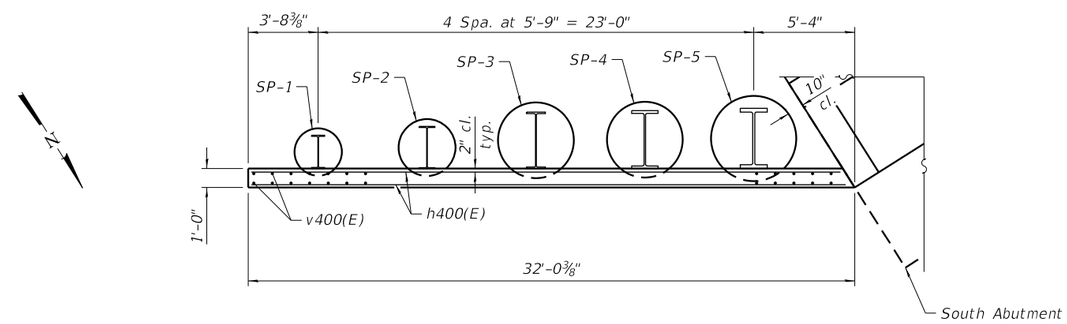
SHEET 1 OF 3 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	232
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

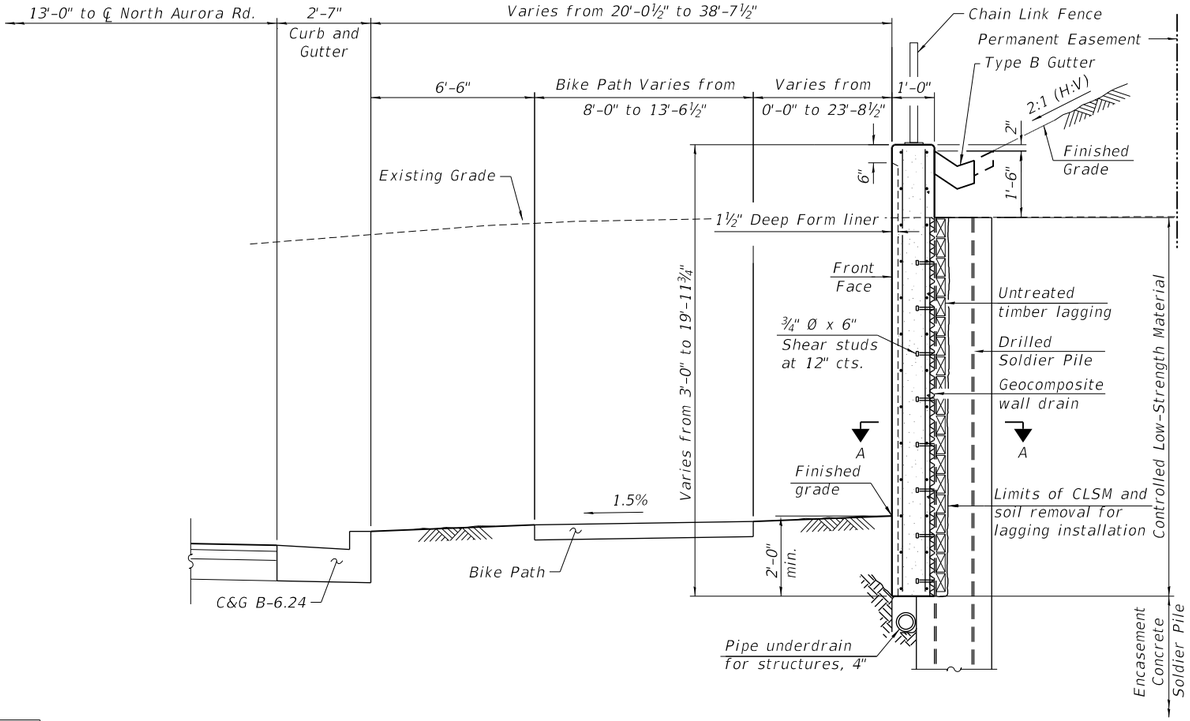


ELEVATION

*See Field Cutting Diagram



PLAN



TYPICAL SECTION - SOLDIER PILE WALL

(Looking East)

NOTES:

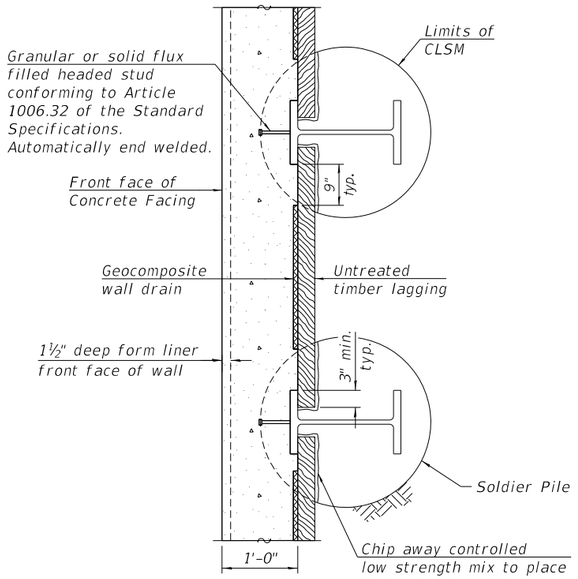
1. For Section A-A, wall details, Field Cutting Diagram and Bill of Material, see sheet 3 of 3.

6:10:45 PM
FILE NAME: SE Wall Plan and Elevation

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND ELEVATION SOUTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)	
	CHECKED - JRM	REVISED -			
PLOT SCALE = 8:0.0000 ':' / in.	DRAWN - EH	REVISED -			
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 2 OF 3 SHEETS	

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	233
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



SECTION A-A

PILE SUMMARY

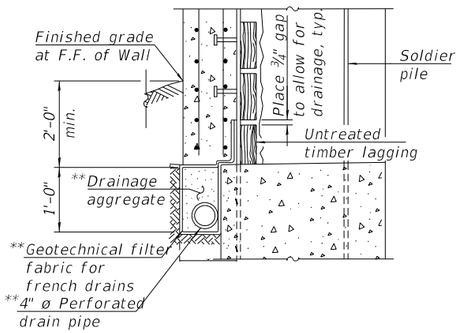
Pile	*Station	*Offset	Pile Size	Shaft Diameter	Top of Pile Elev.	Top of Shaft Elev.	Bot. of Pile Elev.	Pile Length
SP-1	110+23.24	52.60' Rt.	W21x68	2'-6"	716.31	712.97	686.31	30'-0"
SP-2	110+18.42	49.45' Rt.	W27x84	3'-0"	718.84	712.37	683.84	35'-0"
SP-3	110+13.52	46.42' Rt.	W36x150	4'-0"	721.37	711.77	676.37	45'-0"
SP-4	110+08.81	43.12' Rt.	W36x302	4'-0"	723.90	711.17	673.90	50'-0"
SP-5	110+04.09	39.83' Rt.	W36x441	4'-6"	726.43	710.57	656.43	70'-0"

* Stations and offsets are located at the center of the pile.

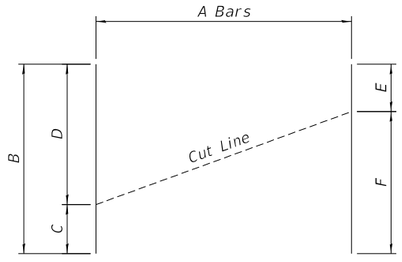
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h400(E)	17	#5	32'-7"	———
h401(E)	8	#5	31'-8"	———
h402(E)	4	#5	27'-5"	———
h403(E)	2	#5	34'-6"	———
h404(E)	2	#5	31'-10"	———
v400(E)	32	#4	22'-4"	———
v401(E)	2	#4	19'-7"	———

Structure Excavation	Cu. Yd.	35
Concrete Structures	Cu. Yd.	13.7
Form Liner Textured Surface	Sq. Ft.	353
Stud Shear Connectors	Each	50
Reinforcement Bars, Epoxy Coated	Pound	1,600
Furnishing Soldier Piles (W Section)	Foot	230
Drilling And Setting Soldier Piles (In Soil)	Cu. Ft.	2,608
Untreated Timber Lagging	Sq. Ft.	265
Geocomposite Wall Drain	Sq. Yd.	15
Pipe Underdrains for Structures 4"	Foot	33
Concrete Gutter, Type B	Foot	35
Chain Link Fence, 4' Attached to Structure	Foot	35
Anti-Graffiti Protection System	Sq. Ft.	339



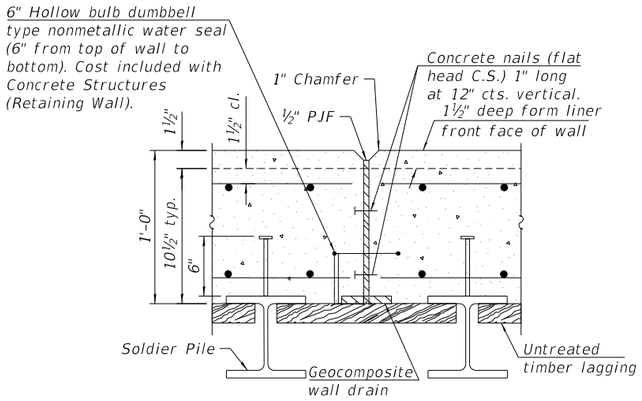
PIPE UNDERDRAIN DETAIL AT SOLDIER PILE



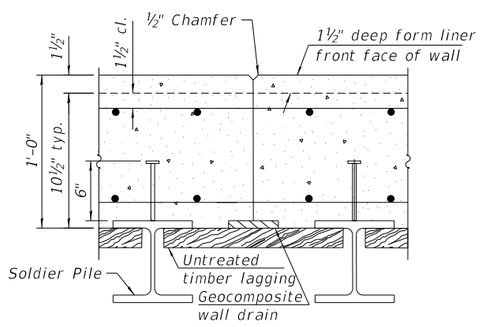
FIELD CUTTING DIAGRAM

Order h400(E), h402(E) and v400(E) bars full length.
Cut as shown and use remainder in opposite face.

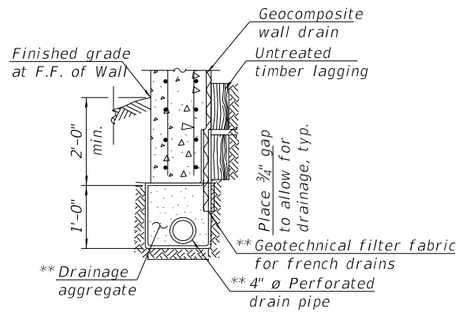
Bar	A	B	C	D	E	F
h400(E)	17	32'-7"	2'-7"	30'-0"	2'-7"	30'-0"
h402(E)	4	27'-5"	2'-11"	24'-6"	2'-11"	24'-6"
v400(E)	32	22'-4"	2'-9"	19'-7"	2'-9"	19'-7"



EXPANSION JOINT DETAILS



CONSTRUCTION JOINT DETIALS



PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES

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

6:10:48 PM
FILE NAME: SE Wall Details

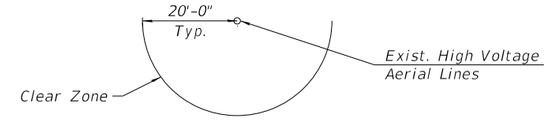
TRANSYSTEMS

USER NAME = brvanderwal		DESIGNED - JRG		REVISED -	
		CHECKED - JRM		REVISED -	
PLOT SCALE = 2:8.0000 ':" / in.		DRAWN - MDG		REVISED -	
PLOT DATE = 1/25/2025		CHECKED - JRM		REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL SECTIONS AND DETAILS
SOUTHEAST RETAINING WALL (STRUCTURE NO. 022-9948)
SHEET 3 OF 3 SHEETS

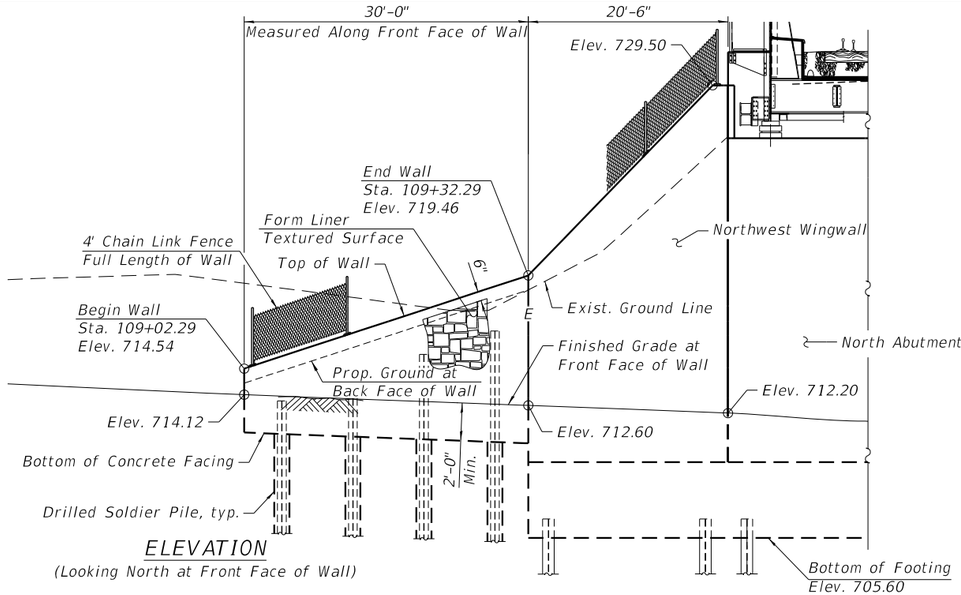
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	234
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



Benchmark: CP #4. Set Mag nail, ℄ North Aurora Rd at fence line W. of Field Entrance. Elev. 725.39

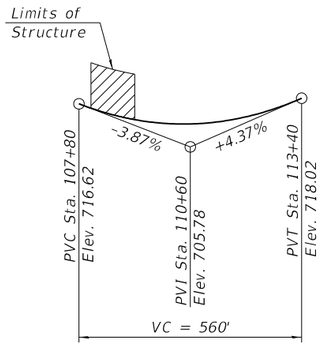
Existing Structure: None

Traffic on North Aurora Rd. to be maintained with stage construction.



ELEVATION

(Looking North at Front Face of Wall)



PROFILE GRADE

(Along Proposed ℄ N. Aurora Rd.)

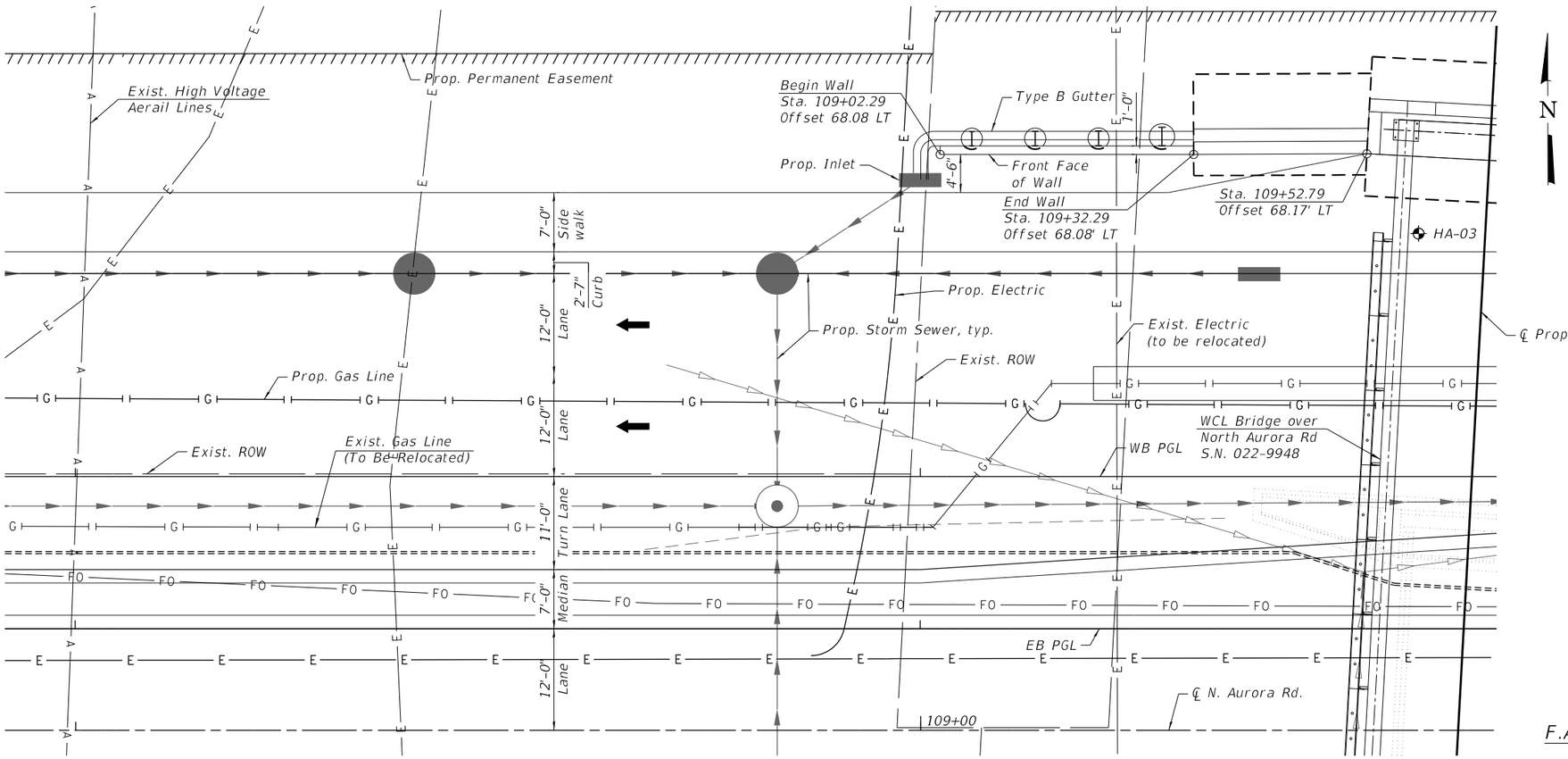
DESIGN SPECIFICATIONS:

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

DESIGN STRESSES:

FIELD UNITS

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



PLAN

LEGEND

Soil Boring

NOTES:

1. C denotes Construction joint
2. E denotes Expansion Joint

GENERAL PLAN AND ELEVATION NORTHWEST RETAINING WALL WISCONSIN CENTRAL LTD OVER NORTH AURORA ROAD F.A.U. RT. 1509 – SEC. 06-00133-00-BR DUPAGE COUNTY STATION 109+02.29 TO STATION 109+32.29

3:13:57 PM
FILE NAME: NW Wall General Plan and Elevation

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -		
	CHECKED - JRM	REVISED -		
PLOT SCALE = 16:0.0000 ':" / in.	DRAWN - EH	REVISED -		
PLOT DATE = 2/27/2025	CHECKED - JRM	REVISED -		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
NORTHWEST RETAINING WALL (STRUCTURE NO. 022-9948)
SHEET 1 OF 4 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	235
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

GENERAL NOTES:

1. Wall stations and offsets are measured from the centerline of North Aurora Road to the front face of the concrete facing.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Anti-Graffiti Protection System shall be applied to exposed surfaces of the facing.
4. Soldier piles shall be cleaned and given one shop coat of Inorganic Zinc Rich Primer. Cost included with Furnishing Soldier Piles (W Section).
5. All Exposed concrete edges shall have a standard ¾" chamfer, unless otherwise noted.
6. For Chain Link Fence details, see sheet 229 of 426 .
7. The Contractor is responsible for the design and performance of the timber lagging using no less than a 3 inch nominal rough-sawn thickness and minimum allowable bending stress of 1,000 psi.
8. The existing soil in the drilled soldier pile areas contains groundwater. Temporary casing is likely required for the construction of the drilled shafts. See Section 516 of the Standard Specifications for direction on the use of temporary casing. The cost of temporary casing is included with Drilling and Setting Soldier Piles (In Soil).

TOTAL BILL OF MATERIAL

Item	Unit	Total
Structure Excavation	Cu. Yd.	26
Concrete Structures	Cu. Yd.	6.3
Form Liner Textured Surface	Sq. Ft.	155
Stud Shear Connectors	Each	19
Reinforcement Bars, Epoxy Coated	Pound	630
Furnishing Soldier Piles (W Section)	Foot	126
Drilling And Setting Soldier Piles (In Soil)	Cu. Ft.	747
Untreated Timber Lagging	Sq. Ft.	121
Geocomposite Wall Drain	Sq. Yd.	10
Pipe Underdrains For Structures 4"	Foot	30
Concrete Gutter, Type B	Foot	31
Chain Link Fence, 4' Attached To Structure	Foot	31
Anti-Graffiti Protection System	Sq. Ft.	140

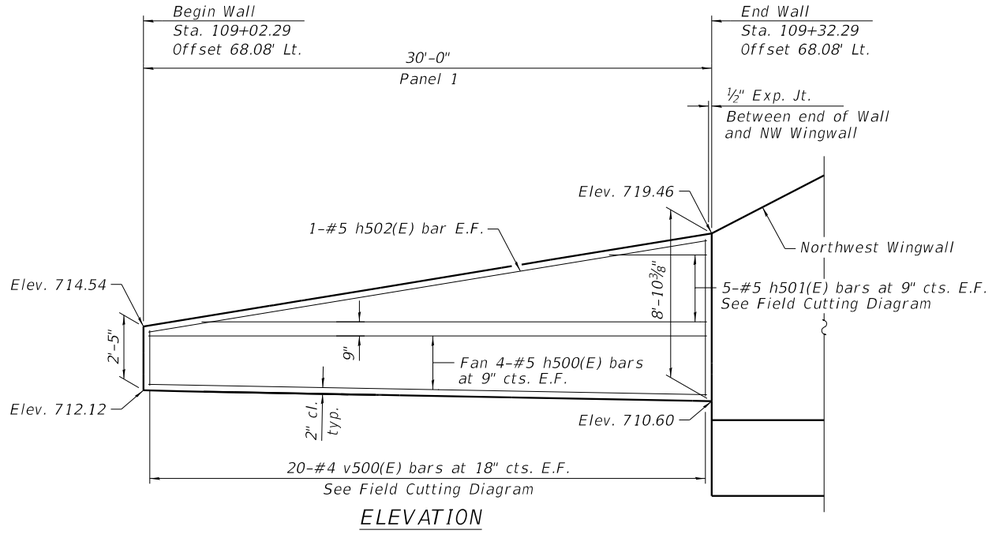
INDEX OF SHEETS

6:10:53 PM
FILE NAME: NW Wall General Data

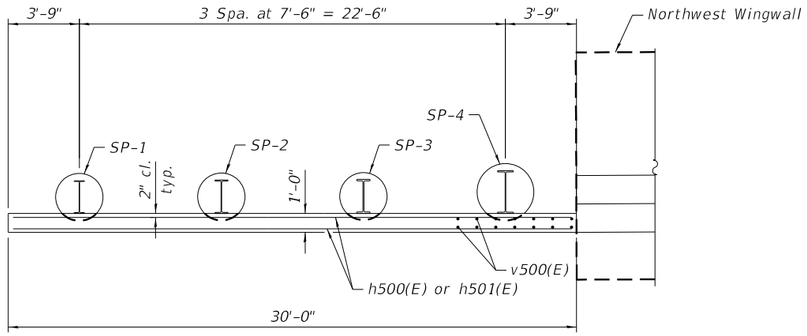
TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA NORTHWEST RETAINING WALL (STRUCTURE NO. 022-9948)
	CHECKED - JRM	REVISED -		
PLOT SCALE = 0.1667 ' / in.	DRAWN - EH	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 2 OF 4 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	236
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



ELEVATION



PLAN

N

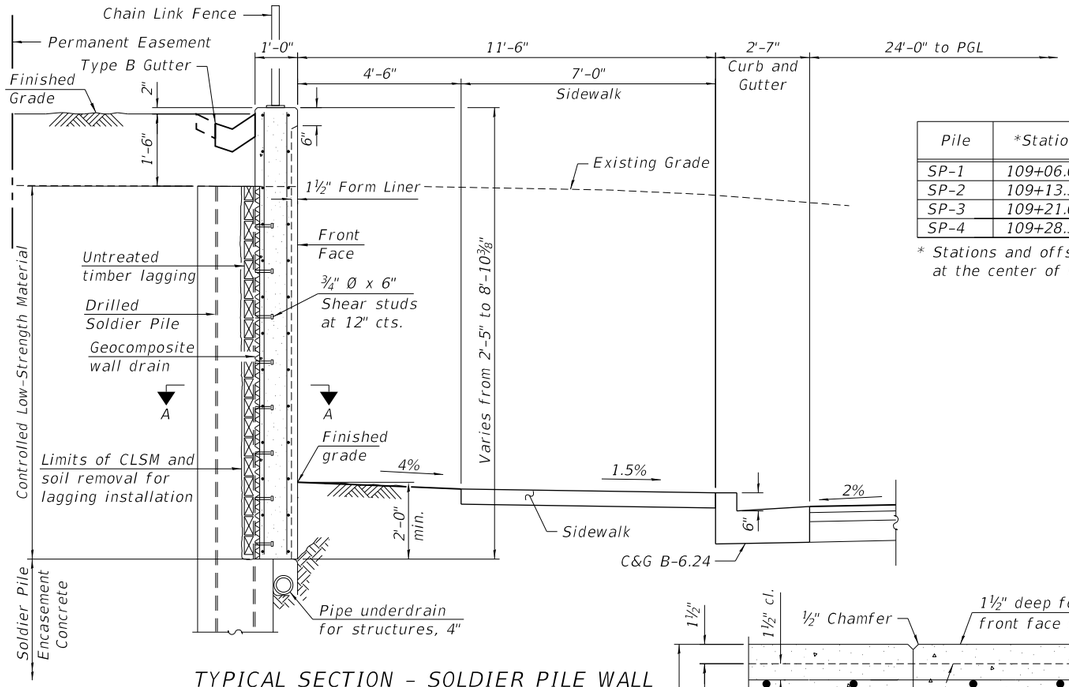
NOTES:

1. For soldier pile wall cross sections, details, Field Cutting Diagram, and pile summary, see sheet 4 of 4.

6:10:55 PM
FILE NAME: NW Wall Plan and Elevation

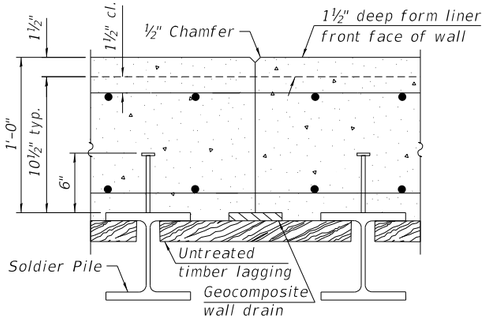
TRANSYSTEMS	USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND ELEVATION NORTHWEST RETAINING WALL (STRUCTURE NO. 022-9948)
		CHECKED - JRM	REVISED -		
	PLOT SCALE = 8.0000 ' / in.	DRAWN - EH	REVISED -		
	PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 3 OF 4 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	237
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

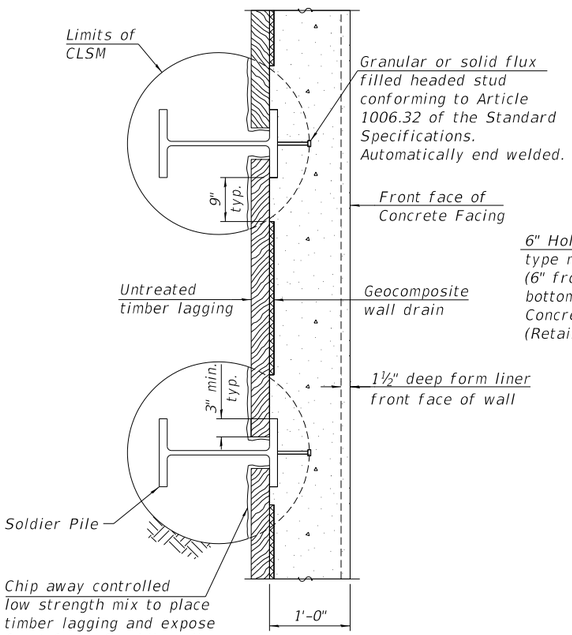


TYPICAL SECTION – SOLDIER PILE WALL

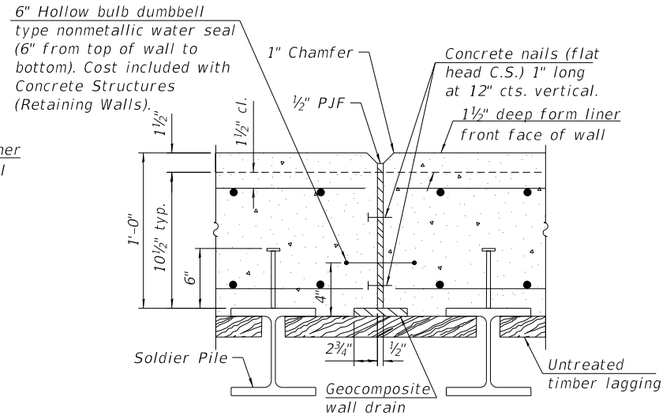
(Looking East)



CONSTRUCTION JOINT DETAILS



SECTION A-A

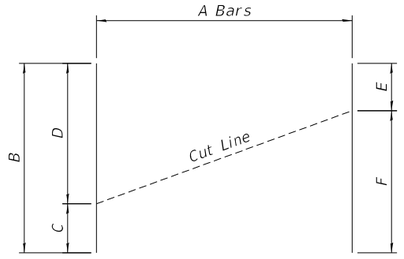


EXPANSION JOINT DETAILS

PILE SUMMARY

Pile	*Station	*Offset	Pile Size	Shaft Diameter	Top of Pile Elev.	Top of Shaft Elev.	Bot. of Pile Elev.	Pile Length
SP-1	109+06.04	69.94' Lt.	W21x44	2'-6"	713.49	711.88	689.49	24'-0"
SP-2	109+13.54	69.98' Lt.	W21x68	2'-6"	714.72	711.39	684.72	30'-0"
SP-3	109+21.04	70.00' Lt.	W21x93	2'-6"	715.95	710.90	680.95	35'-0"
SP-4	109+28.54	70.21' Lt.	W27x102	3'-0"	717.18	710.41	680.18	37'-0"

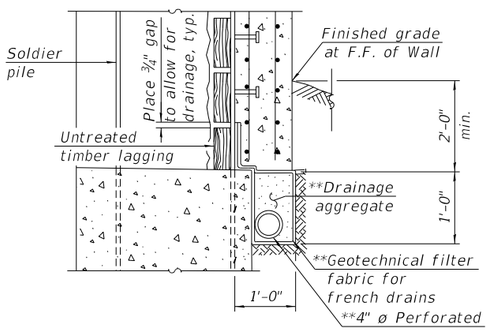
* Stations and offsets are located at the center of the pile.



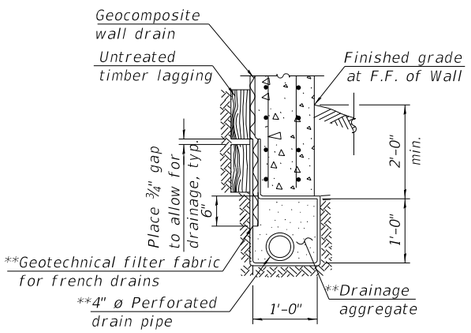
FIELD CUTTING DIAGRAM

Order h400(E), h402(E) and v400(E) bars full length.
Cut as shown and use remainder in opposite face.

Bar	A	B	C	D	E	F
h501(E)	5	33'-0"	5'-9"	27'-3"	5'-9"	27'-3"
v500(E)	20	10'-7"	2'-1"	8'-6"	2'-1"	8'-6"



PIPE UNDERDRAIN DETAIL AT SOLDIER PILE



PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES

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

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h500(E)	8	#5	29'-8"	———
h501(E)	5	#5	33'-0"	———
h502(E)	2	#5	30'-0"	———
v500(E)	20	#4	10'-7"	———
Structure Excavation		Cu. Yd.	26	
Concrete Structures		Cu. Yd.	6.3	
Form Liner Textured Surface		Each	155	
Shear Stud Connectors		Each	19	
Reinforcement Bars, Epoxy Coated		Pound	630	
Furnishing Soldier Piles (W Section)		Foot	126	
Drilling And Setting Soldier Piles (In Soil)		Cu. Ft.	747	
Untreated Timber Lagging		Sq. Ft.	121	
Geocomposite Wall Drain		Sq. Yd.	10	
Pipe Underdrains for Structures 4"		Foot	30	
Concrete Gutter, Type B		Foot	31	
Chain Link Fence, 4' Attached to Structure		Foot	31	
Anti-Graffiti Protection System		Sq. Ft.	140	

6:10:57 PM
FILE NAME: NW Wall Sections and Details

TRANSYSTEMS

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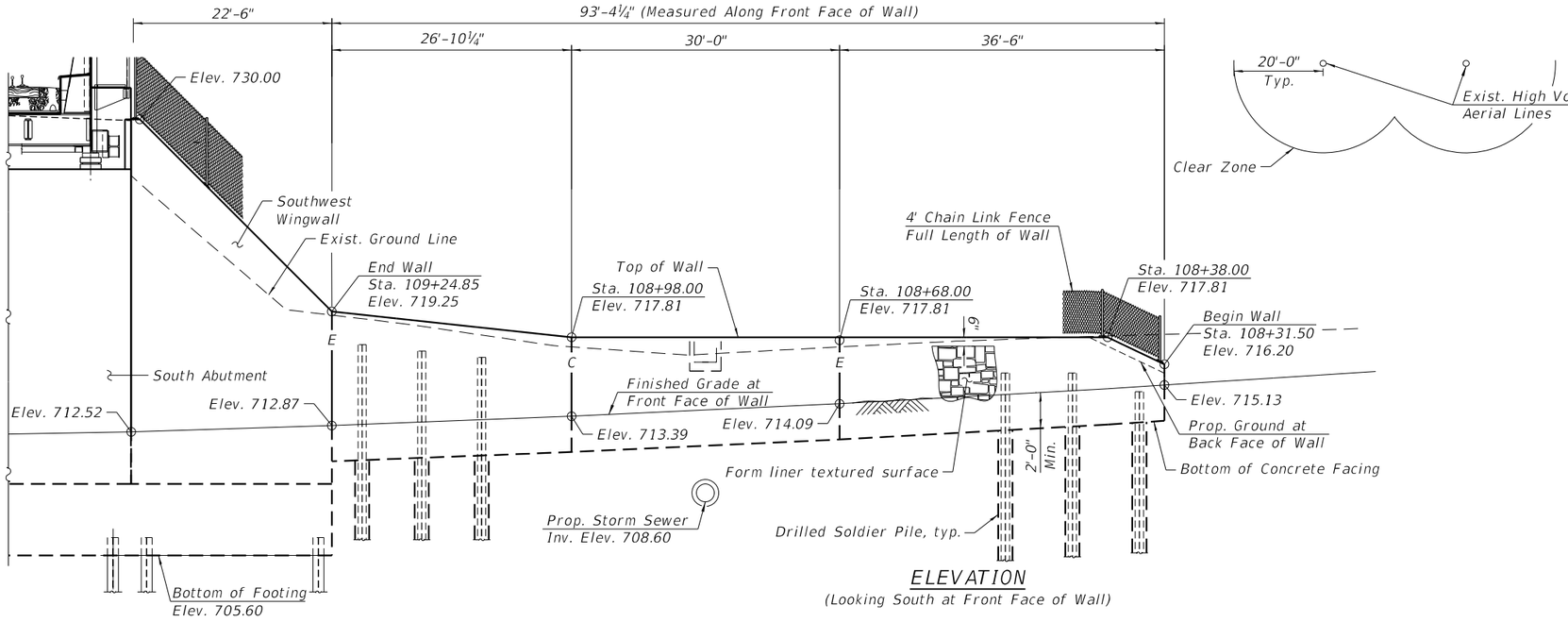
	CHECKED - JRM	REVISED -	
PLOT SCALE = 0:2.0000 ':' / in.	DRAWN - EH	REVISED -	
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

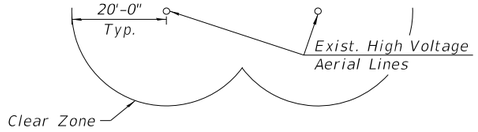
WALL SECTIONS AND DETAILS
NORTHWEST RETAINING WALL (STRUCTURE NO. 022-9948)
SHEET 4 OF 4 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	238
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



ELEVATION

(Looking South at Front Face of Wall)



Benchmark: CP #4. Set Mag nail,
℄ North Aurora Rd at fence line
W. of Field Entrance.
Elev. 725.39

Existing Structure: None

Traffic on North Aurora Rd. to be maintained with stage onstruction.

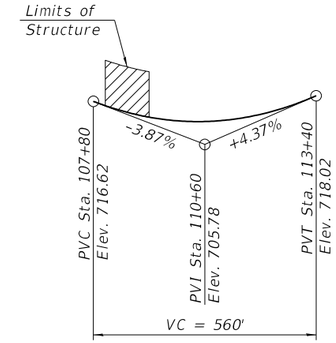
DESIGN SPECIFICATIONS:

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

DESIGN STRESSES:

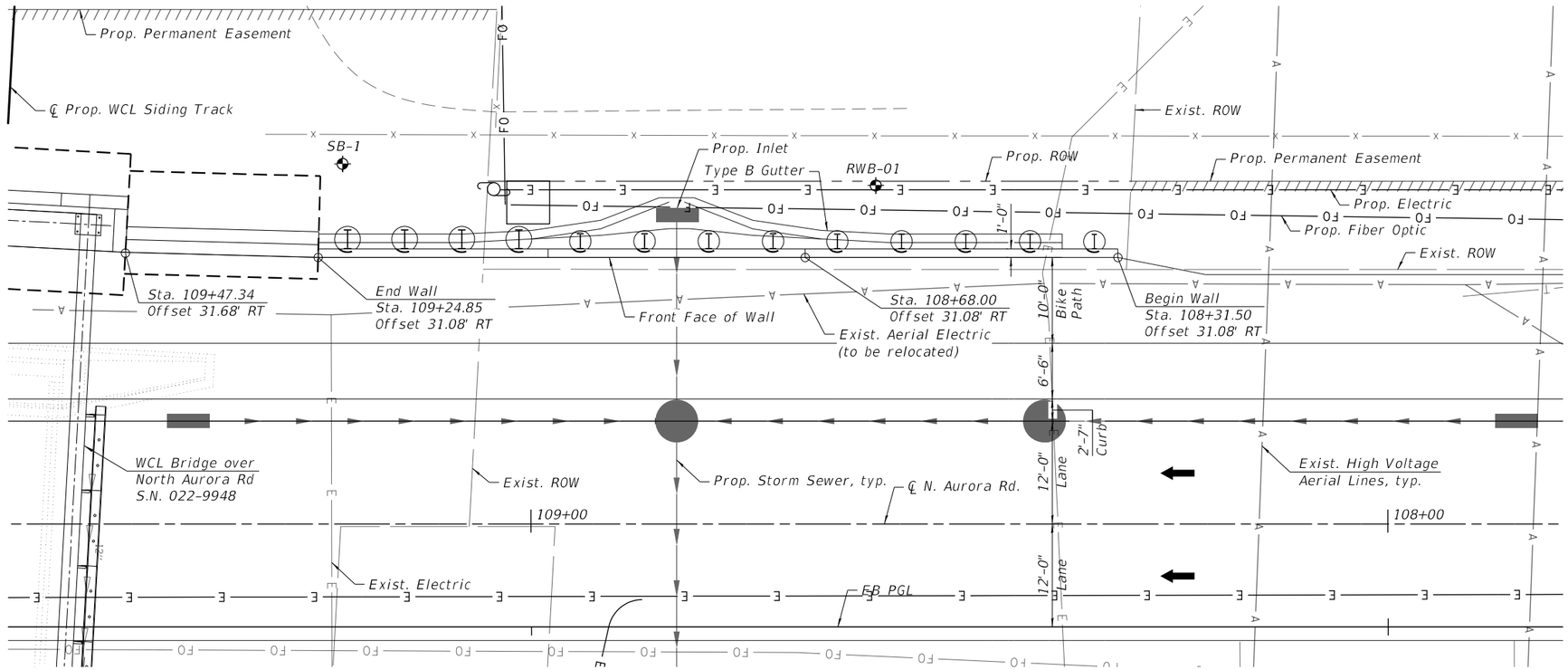
FIELD UNITS

f'c = 3,500 psi (Wall Facing)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

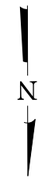


PROFILE GRADE

(Along Proposed ℄ N. Aurora Rd.)



PLAN



NOTES:

1. C denotes Construction joint.
2. E denotes Expansion joint.

LEGEND

Soil Boring

GENERAL PLAN AND ELEVATION
SOUTHWEST RETAINING WALL
WISCONSIN CENTRAL LTD
OVER NORTH AURORA ROAD
F.A.U. RT. 1509 - SEC. 06-00133-00-BR
DUPAGE COUNTY
STATION 108+31.50 STATION 109+24.85

3:14:10 PM
FILE NAME: SW Wall General Plan and Elevation

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION SOUTHWEST RETAINING WALL (STRUCTURE NO. 022-9948)
	CHECKED - JRM	REVISED -		
PLOT SCALE = 16:0.0000 ':' / in.	DRAWN - EH	REVISED -		SHEET 1 OF 5 SHEETS
PLOT DATE = 2/27/2025	CHECKED - JRM	REVISED -		

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	239
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

GENERAL NOTES:

1. Wall stations and offsets are measured from the centerline of North Aurora Road to the front face of the concrete facing.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Anti-Graffiti Protection System shall be applied to exposed surfaces of the facing.
4. Soldier piles shall be cleaned and given one shop coat of Inorganic Zinc Rich Primer. Cost included with Furnishing Soldier Piles (W Section).
5. All Exposed concrete edges shall have a standard ¾" chamfer, unless otherwise noted.
6. For Chain Link Fence details, see sheet 229 of 426 .
7. The Contractor is responsible for the design and performance of the timber lagging using no less than a 3 inch nominal rough-sawn thickness and minimum allowable bending stress of 1,000 psi.
8. The existing soil in the drilled soldier pile areas contains groundwater. Temporary casing is likely required for the construction of the drilled shafts. See Section 516 of the Standard Specifications for direction on the use of temporary casing. The cost of temporary casing is included with Drilling and Setting Soldier Piles (In Soil).

TOTAL BILL OF MATERIAL

Item	Unit	Total
Structure Excavation	Cu. Yd.	61
Concrete Structures	Cu. Yd.	21.0
Form Liner Textured Surface	Sq. Ft.	519
Stud Shear Connectors	Each	64
Reinforcement Bars, Epoxy Coated	Pound	1,960
Furnishing Soldier Piles (W Section)	Foot	432
Drilling And Setting Soldier Piles (In Soil)	Cu. Ft.	2,541
Untreated Timber Lagging	Sq. Ft.	396
Geocomposite Wall Drain	Sq. Yd.	30
Pipe Underdrains For Structures 4"	Foot	94
Concrete Gutter, Type B	Foot	87
Chain Link Fence, 4' Attached To Structure	Foot	94
Anti-Graffiti Protection System	Sq. Ft.	473

INDEX OF SHEETS

6:11:02 PM
FILE NAME: SW Wall General data

TRANSYSTEMS

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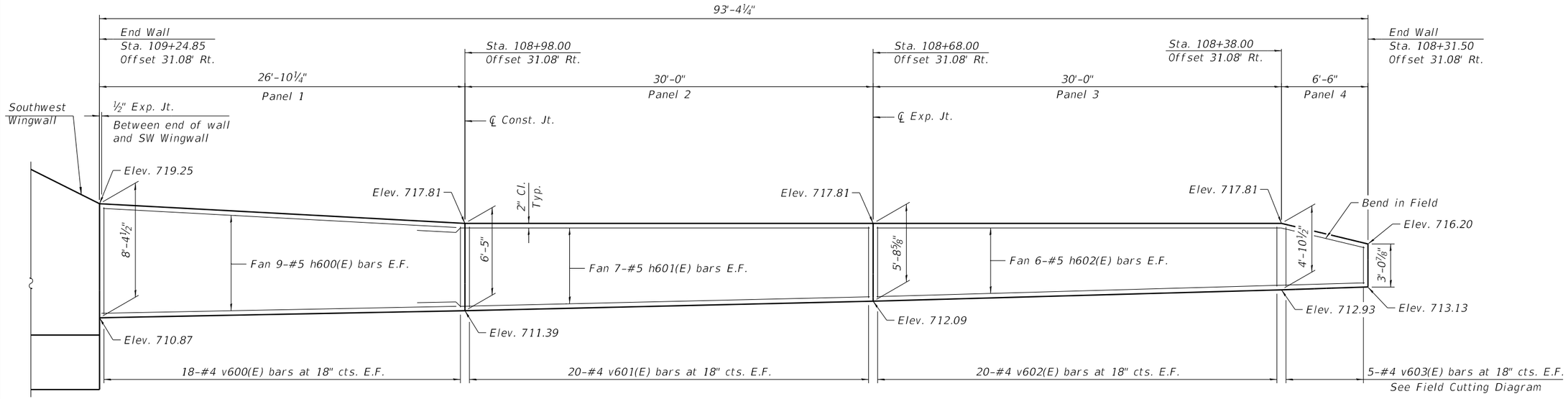
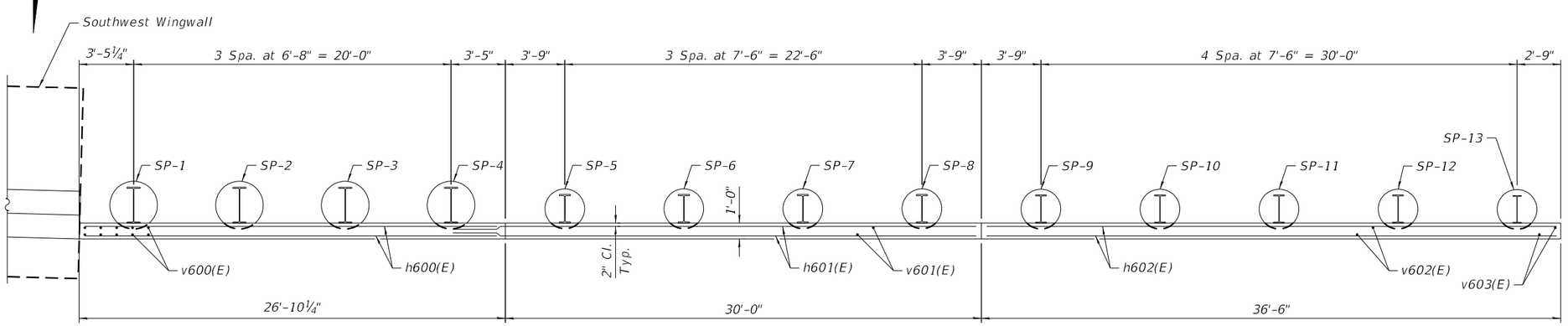
	CHECKED - JRM	REVISED -		
PLOT SCALE = 0.1667 ' / in.	DRAWN - EH	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 2 OF 5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	240
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



ELEVATION



PLAN

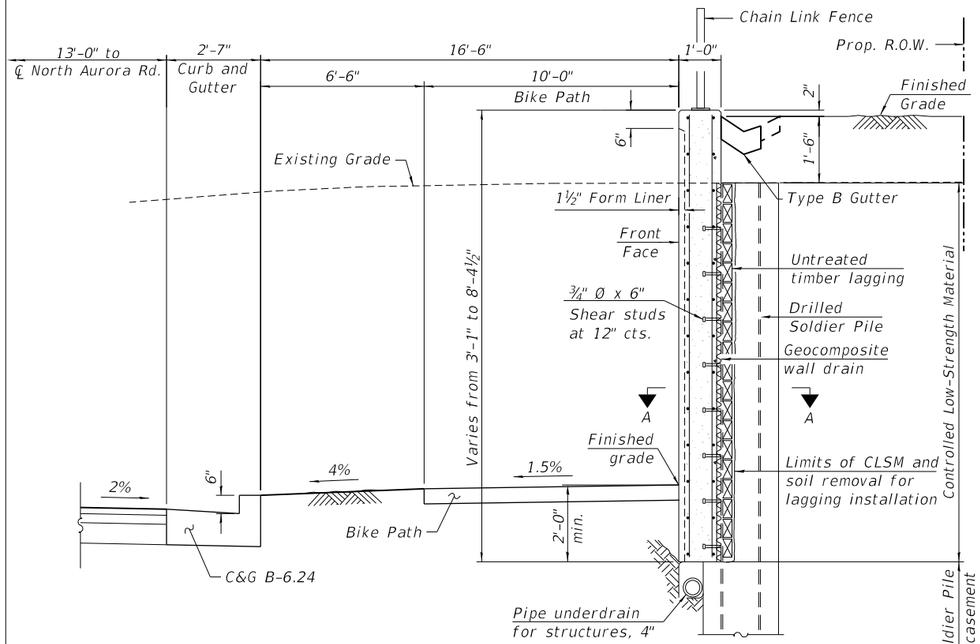
NOTES:

1. For soldier pile wall cross sections and details, Field Cutting Diagram, and Bill of Material, see sheet 4 of 5.

6:11:04 PM
FILE NAME: SW Wall Plan and Elevation

TRANSYSTEMS	USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND ELEVATION SOUTHWEST RETAINING WALL (STRUCTURE NO. 022-9948)
		CHECKED - JRM	REVISED -		
	PLOT SCALE = 8.0000 ' / in.	DRAWN - EH	REVISED -		SHEET 3 OF 5 SHEETS
	PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	241
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



TYPICAL SECTION – SOLDIER PILE WALL

(Looking East)

PILE SUMMARY

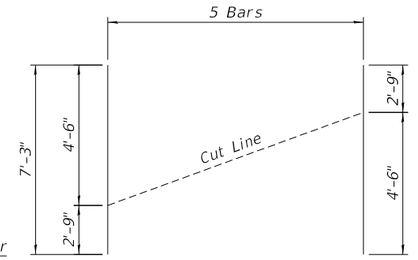
Pile	*Station	*Offset	Pile Size	Shaft Diameter	Top of Pile Elev.	Top of Shaft Elev.	Bot. of Pile Elev.	Pile Length
SP-1	109+21.42	33.21' Rt.	W27x102	3'-0"	717.40	710.94	680.40	37'-0"
SP-2	109+14.75	33.21' Rt.	W27x102	3'-0"	717.04	711.07	680.04	37'-0"
SP-3	109+08.08	33.21' Rt.	W27x102	3'-0"	716.68	711.19	679.68	37'-0"
SP-4	109+01.42	33.21' Rt.	W27x102	3'-0"	716.33	711.32	679.33	37'-0"
SP-5	108+94.25	32.98' Rt.	W21x93	2'-6"	716.14	711.48	681.14	35'-0"
SP-6	108+86.75	32.98' Rt.	W21x93	2'-6"	716.14	711.65	681.14	35'-0"
SP-7	108+79.25	32.98' Rt.	W21x93	2'-6"	716.14	711.83	681.14	35'-0"
SP-8	108+71.75	32.98' Rt.	W21x93	2'-6"	716.14	712.00	681.14	35'-0"
SP-9	108+64.25	32.96' Rt.	W21x68	2'-6"	716.14	712.20	686.14	30'-0"
SP-10	108+56.75	32.96' Rt.	W21x68	2'-6"	716.14	712.41	686.14	30'-0"
SP-11	108+49.25	32.96' Rt.	W21x68	2'-6"	716.14	712.62	686.14	30'-0"
SP-12	108+41.75	32.96' Rt.	W21x68	2'-6"	716.14	712.83	686.14	30'-0"
SP-13	108+34.25	32.94' Rt.	W21x44	2'-6"	715.21	713.05	691.21	24'-0"

* Stations and offsets are located at the center of the pile.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h600(E)	18	#5	26'-7"	———
h601(E)	14	#5	33'-2"	———
h602(E)	12	#5	36'-2"	———
v600(E)	36	#4	8'-0"	———
v601(E)	40	#4	6'-1"	———
v602(E)	40	#4	5'-4"	———
v603(E)	5	#4	7'-3"	———

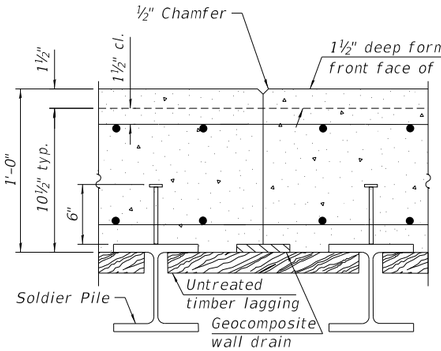
Structure Excavation	Cu. Yd.	61
Concrete Structures	Cu. Yd.	21.0
Form Liner Textured Surface	Sq. Ft.	519
Stud Shear Connectors	Each	64
Reinforcement Bars, Epoxy Coated	Pound	1,960
Furnishing Soldier Piles (W Section)	Foot	432
Drilling And Setting Soldier Piles (In Soil)	Cu. Ft.	2,541
Untreated Timber Lagging	Sq. Ft.	396
Geocomposite Wall Drain	Sq. Yd.	30
Pipe Underdrains for Structures 4"	Foot	94
Concrete Gutter, Type B	Foot	87
Chain Link Fence, 4' Attached to Structure	Foot	94
Anti-Graffiti Protection System	Sq. Ft.	473



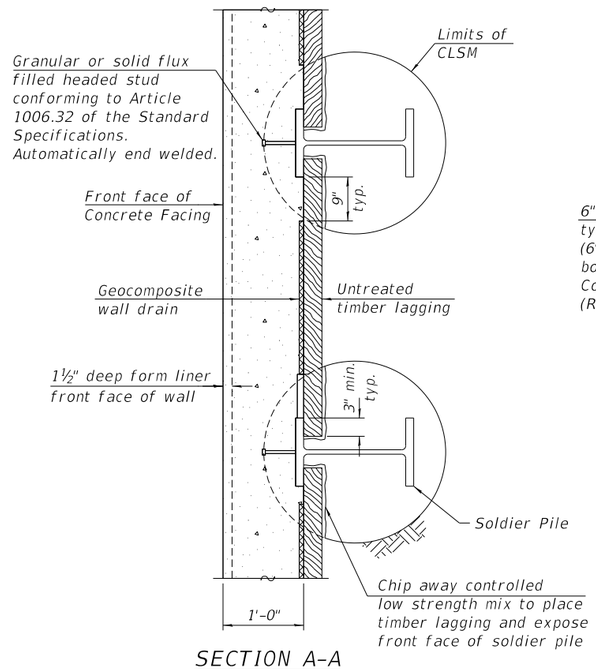
FIELD CUTTING DIAGRAM

Order v603(E) bars full length.
Cut as shown and use remainder in opposite face.

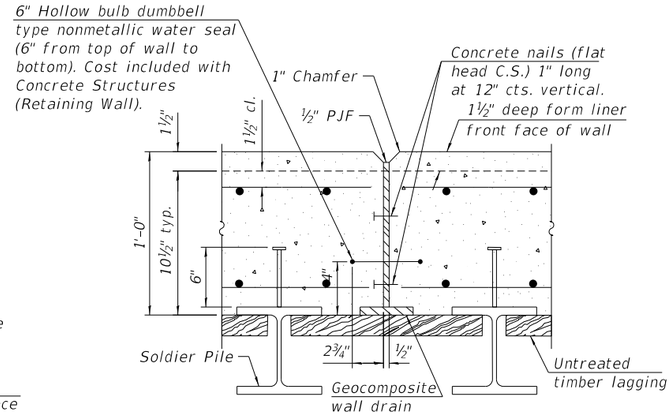
Minimum Bar Laps	
Bar	Lap
#5(E)	3'-2"



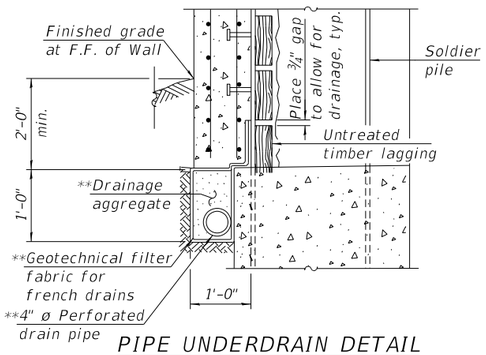
CONSTRUCTION JOINT DETAILS



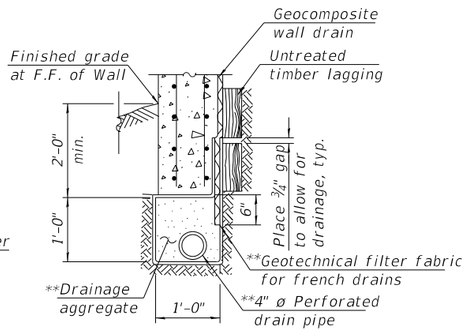
SECTION A-A



EXPANSION JOINT DETAILS



PIPE UNDERDRAIN DETAIL AT SOLDIER PILE



PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES

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

6:11:06 PM
FILE NAME: SW Wall Sections and Details

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - JRG	REVISED -		
	CHECKED - JRM	REVISED -		
PLOT SCALE = 0:2.0000 ':' / in.	DRAWN - EH	REVISED -		
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL SECTIONS AND DETAILS
SOUTHWEST RETAINING WALL (STRUCTURE NO. 022-9948)

SHEET 4 OF 5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	242
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

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

BORING LOG RWB-01

WEI Job No.: 790-96-01

Client: TranSystems Corporation
Project: Wisconsin Central RR Bridge over N Aurora Road
Location: Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 718.44 ft
North: 1862933.86 ft
East: 1011860.89 ft
Station: 108+59.76
Offset: 39.48 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		18-inch thick, black SILTY CLAY, some gravel						
		--TOPSOIL--						
	716.9	Medium stiff to very stiff, gray and brown SILTY CLAY LOAM			1	5 6 6	3.94 B	23
		--L_L(%) = 46, P_L(%) = 21-- --%Gravel = 0.0-- --%Sand = 2.8-- --%Silt = 67.7-- --%Clay = 29.4--	5		2	3 2 3	0.98 B	30
	712.9	Hard, brown SILTY CLAY, trace gravel			3	4 7 8	4.35 B	20
		--wet spoon--	10		4	4 5 6	4.59 B	20
		--hard drilling-- --rig chatter-- --stiff-- --L_L(%) = 32, P_L(%) = 17-- --%Gravel = 11.7-- --%Sand = 8.7-- --%Silt = 51.2-- --%Clay = 28.4--			5	11 10 10	1.23 B	19
	705.4	Stiff to very stiff, gray CLAY LOAM, little gravel	15		6	5 4 6	1.64 B	16
					7	8 9 11	2.50 P	15
			20		8	7 7 13	NA	14

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	697.9	--hard drilling-- --rig chatter--						
		Dense, gray GRAVELLY LOAM			9	20 19 14	NP	19
	695.4	--no rig chatter-- Very stiff, gray SILTY CLAY LOAM to CLAY LOAM, little gravel	25		10	4 8 11	3.53 B	14
	692.2	Dense, gray, medium SAND; saturated			11	14 19 14	2.46 B	16
	690.4	Stiff, gray SILTY CLAY; interbedded silt seams			12	4 6 11	1.00 P	18
	688.4	Boring terminated at 30.00 ft	30					
			35					
			40					

GENERAL NOTES

Begin Drilling: 03-28-2017 Complete Drilling: 03-28-2017
Drilling Contractor: Wang Testing Services Drill Rig: D25 ATV [93%]
Driller: RR&RH Logger: M. Schmelzel Checked by: JAR
Drilling Method: 2.25" IDA HSA; autohammer; backfilled with soil cuttings and bentonite chips upon completion

WATER LEVEL DATA

While Drilling: 11.00 ft
At Completion of Drilling: 12.75 ft
Time After Drilling: NA
Depth to Water: NA

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

WANGENG: 790960.GPJ WANGENG.GDT 1/14/19

6:11:08 PM
FILE NAME: SW Boring Logs

TRANSYSTEMS

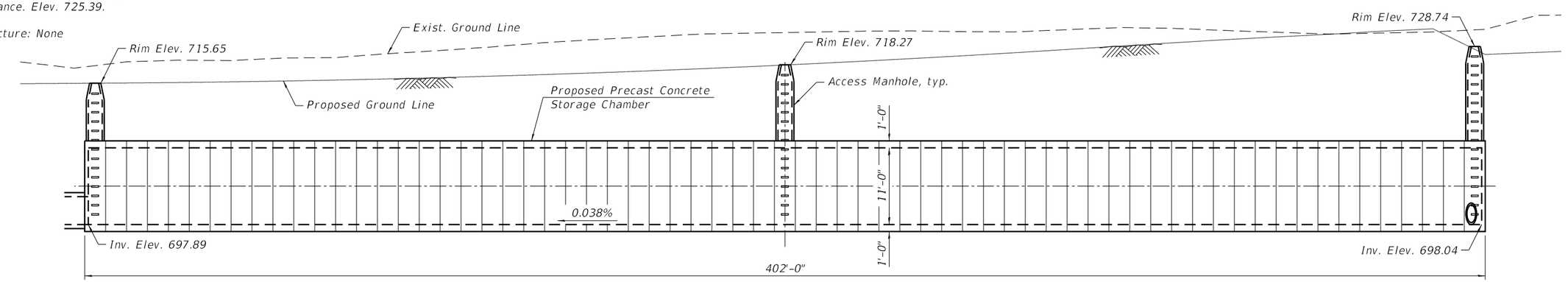
USER NAME = brvanderwal	DESIGNED - JRG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS SOUTHWEST RETAINING WALL (STRUCTURE NO. 022-9948)	
	CHECKED - JRM	REVISED -			
PLOT SCALE = 0:2.0000 ':" / in.	DRAWN - MDG	REVISED -			
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 5 OF 5 SHEETS	

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	243
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

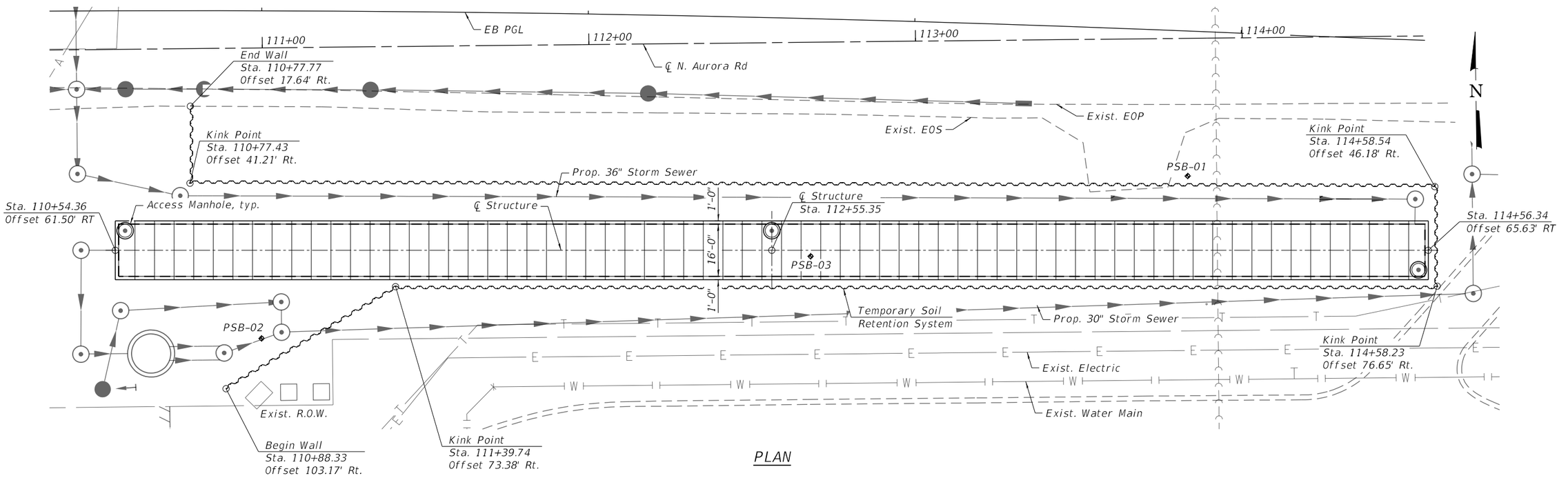
Benchmark: CP#4. Set Mag nail, ℄ North Aurora Rd at fence line W. of Field Entrance. Elev. 725.39.

Existing Structure: None

No Salvage.



ELEVATION
(Looking North)



PLAN

LEGEND

Soil Boring

NOTES:

1. Offsets are measured from ℄ North Aurora Road to the ℄ of the storage chamber.

LOADING H10

Allow for 2' of surcharge

DESIGN SPECIFICATIONS

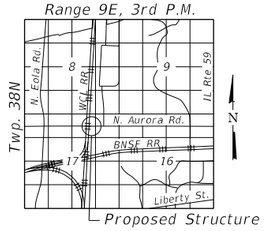
2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

DESIGN STRESSES

PRECAST UNITS

f'c = 5,000 psi

fy = 65,000 psi (Welded Wire Fabric)



LOCATION SKETCH

GENERAL PLAN
PUMP STATION STORAGE CHAMBER
NORTH AURORA ROAD
F.A.U. RT. 1509 – SEC. 06-00133-00-BR
DUPAGE COUNTY
STATION 110+54.36 TO 114+56.34

6:11:11 PM
FILE NAME: STORAGE CHAMBER GPE

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - WJC	REVISED -	
	CHECKED - JRM	REVISED -	
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PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STORAGE CHAMBER

SHEET 1 OF 4 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	244
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.

2. Precast concrete box culvert section shall conform to the requirements of Article 540.06 of the Standard Specifications and the applicable requirements of ASTM C1577. The design fill height for this structure is 14.0 ft.

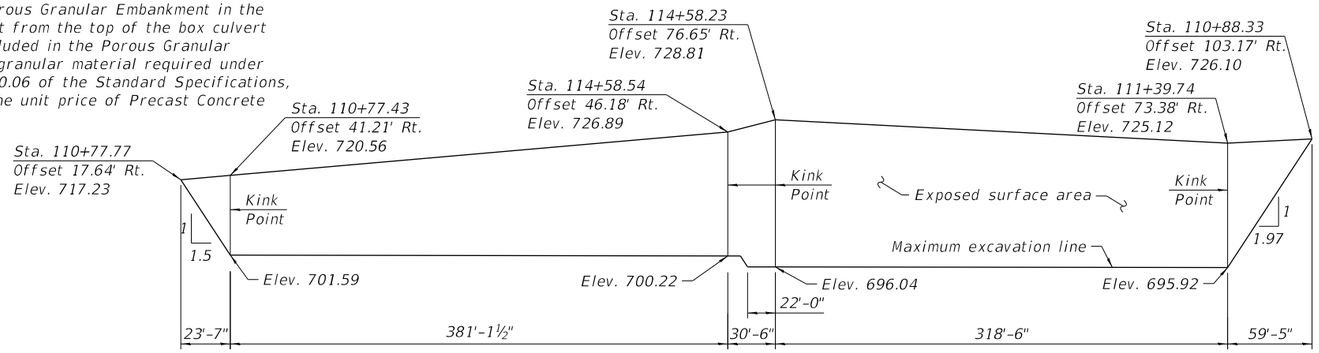
3. Contractor/Precast manufacturer to provide all details for skewed boxes and/or mitered ends as required. Details and plans shall be submitted for approval and sealed by an Illinois licensed Structural Engineer.

4. Geocomposite Wall Drain shall be according to Section 591 of the Standard Specifications, except that concrete nails shall not be used in areas where it overlaps Membrane Waterproofing System for Buried Structures.

5. Precast concrete box culverts shall be backfilled with Porous Granular Embankment in the required excavation areas on the sides of the box culvert from the top of the box culvert to the bottom of the box culvert. This area of PGE is included in the Porous Granular Embankment pay item. The 12-inch thick layer of porous granular material required under the precast concrete box culvert, according to Section 540.06 of the Standard Specifications, will not be paid for separately but shall be included in the unit price of Precast Concrete Box Culverts 16'x11' (Special).

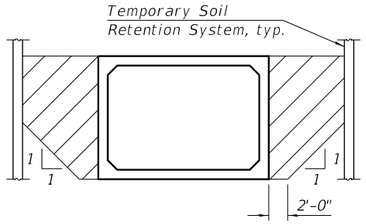
TOTAL BILL OF MATERIAL

Item	Unit	Total
Porous Granular Embankment	Cu. Yd.	1,449
Structure Excavation	Cu. Yd.	10,657
Temporary Soil Retention System	Sq. Ft.	20,588
Geocomposite Wall Drain	Sq. Yd.	898
Precast Concrete Box Culverts 16'x11' (Special)	Foot	402
Membrane Waterproofing System for Buried Structures	Sq. Yd.	898



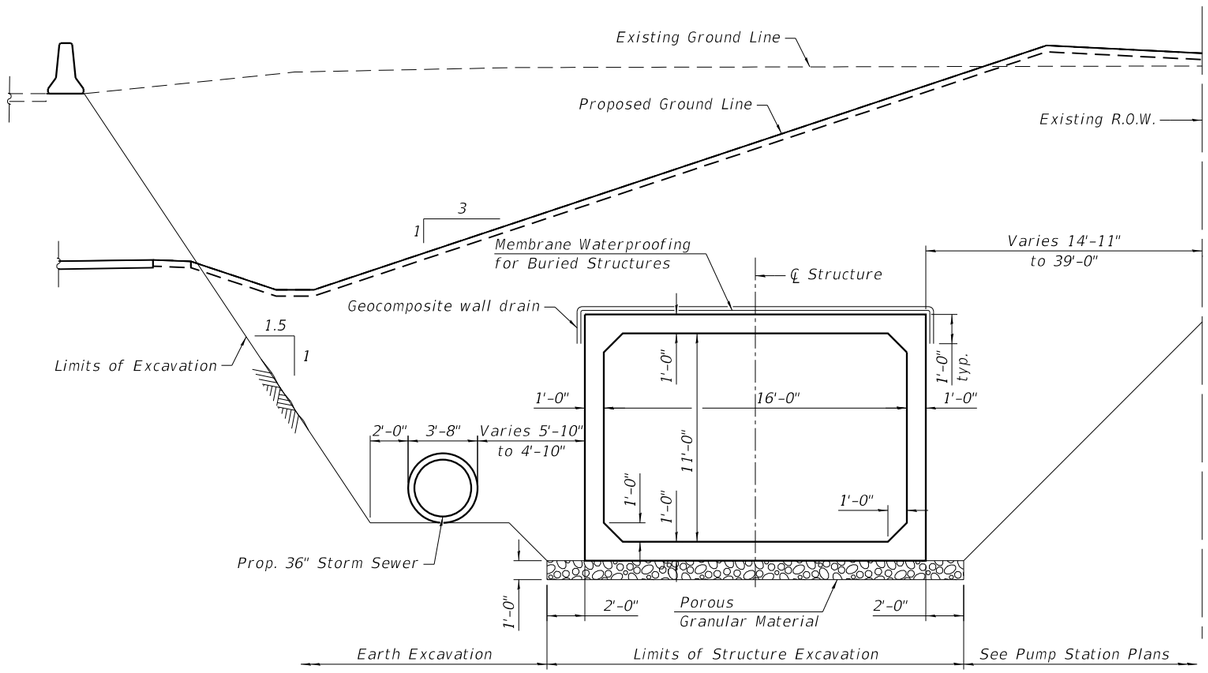
TEMPORARY SOIL RETENTION SYSTEM - ELEVATION

(Unfolded View, Measured along F.F. of Wall)



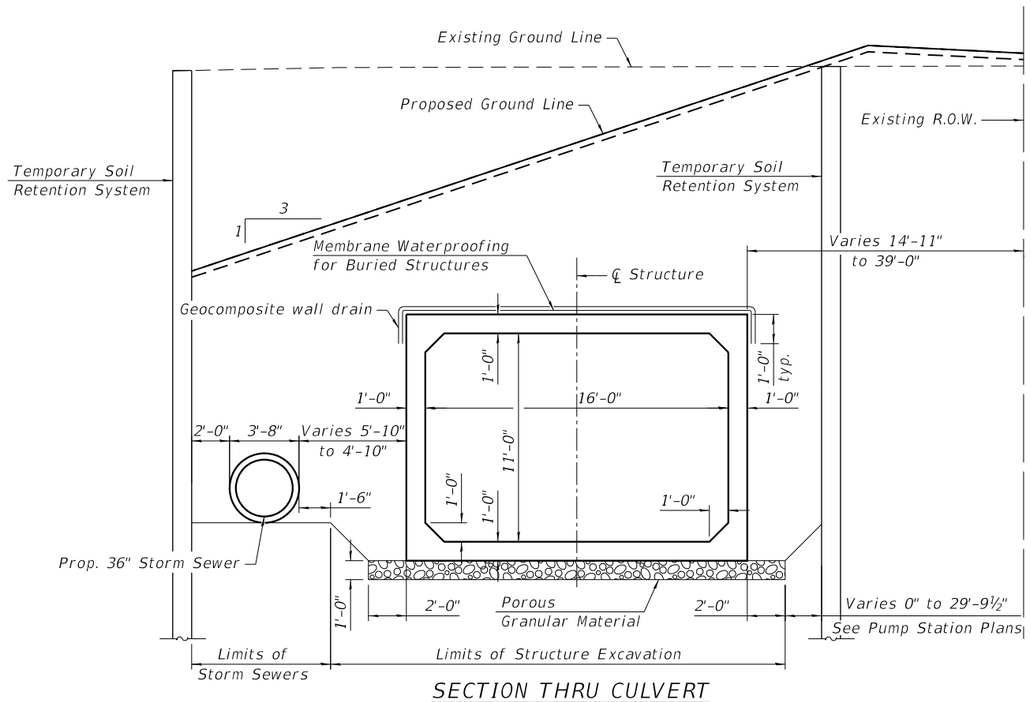
PAY LIMITS FOR POROUS GRANULAR EMBANKMENT

(Hatched area)



SECTION THRU CULVERT

(Looking East)
(Sta. 110+54.36 to Sta. 110+77.43)



SECTION THRU CULVERT

(Looking East)
(Sta. 110+77.43 to Sta. 114+56.34)

6:11:13 PM
FILE NAME: STORAGE CHAMBER GENERAL DATA

TRANSYSTEMS

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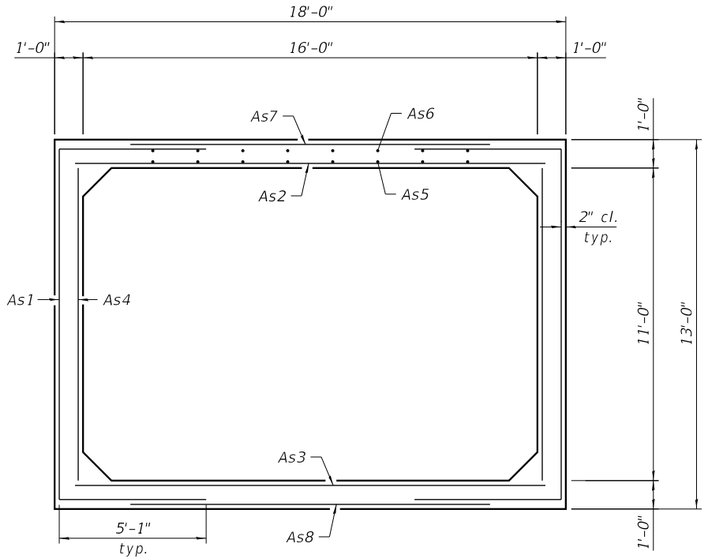
	CHECKED - JRM	REVISED -			
PLOT SCALE = 8:0.0000 ':" / in.	DRAWN - WJC	REVISED -			
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -		SHEET 2 OF 4 SHEETS	

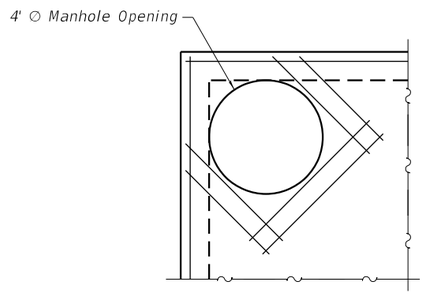
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	245
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



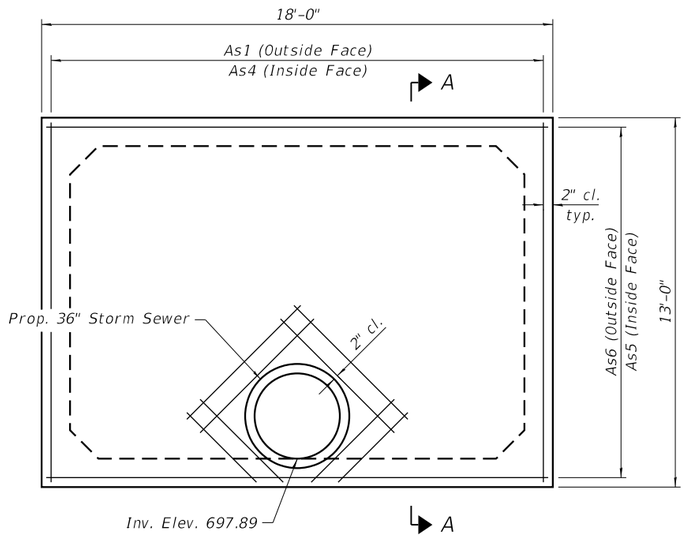
SECTION THRU PRECAST BARREL
(Looking East)

PRECAST BOX CULVERT
REINFORCING TABLE

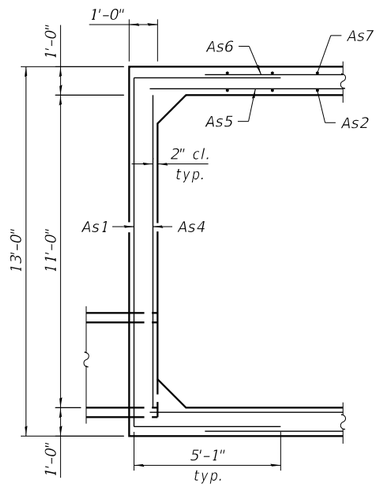
Bar	Area
As1	1.25 in^2/ft
As2	0.80 in^2/ft
As3	0.80 in^2/ft
As4	0.29 in^2/ft
As5	0.29 in^2/ft
As6	0.29 in^2/ft
As7	0.29 in^2/ft
As8	0.29 in^2/ft



MANHOLE DETAIL



PRECAST BARREL END PANEL (WEST)
(Looking East)



SECTION A-A
(Looking North)

6:11:15 PM
FILE NAME: STORAGE CHAMBER DETAILS

TRANSYSTEMS

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		CHECKED - MDS	REVISED -	
PLOT SCALE = 8:0.0000 ':" / in.		DRAWN - JM	REVISED -	
PLOT DATE = 1/25/2025		CHECKED - MDS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS
STORAGE CHAMBER
SHEET 3 OF 4 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	246
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

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

BORING LOG PSB-01

WEI Job No.: 790-96-01

Client: TranSystems Corporation
Project: Wisconsin Central RR Bridge over N Aurora Road
Location: Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 725.74 ft
North: 1862930.14 ft
East: 1012384.10 ft
Station: 113+82.98
Offset: 42.16 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
724.7	12-inch thick, dark brown to black SILTY CLAY --TOPSOIL--						
	Stiff, brown SILTY CLAY	0		1	2 2 4	1.23 B	33
722.7	Soft, brown SILTY CLAY LOAM	5		2	2 2 1	0.25 B	29
720.2	Hard, brown SILTY CLAY, trace gravel			3	5 8 13	5.08 B	15
	--soil cuttings saturated--	10		4	8 12 14	NA	17
	--wet spoon--			5	3 8 9	4.10 B	19
	--very stiff--	15		6	5 16 21	2.95 B	20
711.2	Gray LOAM, little gravel; damp						
710.2	Very stiff to hard, gray SILTY CLAY LOAM to CLAY LOAM, little gravel			7	7 12 16	2.87 B	12
		20		8	10 10 15	4.51 B	11
		25		9	11 13 17	4.10 B	13
	--rig chatter--			10	7 9 15	5.49 B	12
		30		11	14 14 16	NR	
				12	7 13 17	5.49 B	15
		35		13	8 12 12	4.00 P	15
690.7	Boring terminated at 35.00 ft						

GENERAL NOTES

Begin Drilling: 03-28-2017 Complete Drilling: 03-28-2017
Drilling Contractor: Wang Testing Services Drill Rig: D25 ATV [93%]
Driller: RR&RH Logger: M. Schmelzel Checked by: JAR
Drilling Method: 2.25" IDA HSA; autohammer; backfilled with soil cuttings and bentonite chips upon completion

WATER LEVEL DATA

While Drilling: 8.00 ft
At Completion of Drilling: DRY
Time After Drilling: NA
Depth to Water: NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 790901.GPJ WANGENG.GDT 1/14/19

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

BORING LOG PSB-02

WEI Job No.: 790-96-01

Client: TranSystems Corporation
Project: Wisconsin Central RR Bridge over N Aurora Road
Location: Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 723.85 ft
North: 1862883.89 ft
East: 1012099.93 ft
Station: 110+98.85
Offset: 88.96 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	36-inch thick, stiff, black SILTY CLAY, trace gravel --TOPSOIL--						
720.8	Stiff, brown and black SILTY CLAY, trace gravel	0		1	2 3 5	1.75 P	34
		5		2	4 6 7	1.64 B	26
718.3	Hard, brown SILTY CLAY, trace gravel			3	4 7 11	5.08 B	20
		10		4	2 4 6	NA	22
710.8	--rig chatter-- Very stiff, gray SILTY CLAY, trace gravel			5	13 14 15	5.33 B	18
		15		6	2 5 7	3.36 B	19
706.8	Brown LOAM, little gravel; moist			7	6 10 20	3.75 P	16
705.8	Medium dense, brown, coarse GRAVELLY SANDY LOAM; wet --%Gravel = 35.2-- --%Sand = 44.4--	20		8	9 11 13	NP	12
703.3	--%Silt = 17.4-- --%Clay = 3.0-- Medium dense, gray SILTY LOAM, sandy gravel seams --L_L(%) = 29, P_L(%) = 16-- --%Gravel = 8.2-- --%Sand = 16.4-- --%Silt = 57.5-- --%Clay = 17.9--	25		9	7 8 13	NP	19
				10	7 11 10	NP	10
698.3	Hard, gray CLAY LOAM, little gravel	30		11	21 25 24	> 4.50 P	10
				12	18 23 28	5.33 B	10
690.8	Boring terminated at 35.00 ft	35		13	15 20 22	6.31 S	11

GENERAL NOTES

Begin Drilling: 03-27-2017 Complete Drilling: 03-27-2017
Drilling Contractor: Wang Testing Services Drill Rig: D50 ATV [88%]
Driller: RR&RH Logger: M. Schmelzel Checked by: JAR
Drilling Method: 2.25" IDA HSA; autohammer; backfilled with soil cuttings and bentonite chips upon completion

WATER LEVEL DATA

While Drilling: 18.00 ft
At Completion of Drilling: 35.00 ft
Time After Drilling: NA
Depth to Water: NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 790901.GPJ WANGENG.GDT 1/14/19

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

BORING LOG PSB-03

WEI Job No.: 790-96-01

Client: TranSystems Corporation
Project: Wisconsin Central RR Bridge over N Aurora Road
Location: Naperville, DuPage County, IL

Datum: NAVD 88
Elevation: 725.96 ft
North: 1862906.97 ft
East: 1012268.36 ft
Station: 112+67.29
Offset: 65.55 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	18-inch thick, black SILTY CLAY, trace organic matter --TOPSOIL--						
724.5	Very stiff to hard, brown SILTY CLAY, trace gravel	0		1	2 4 6	3.94 B	20
		5		2	5 9 10	4.50 P	16
	--L_L(%) = 35, P_L(%) = 19-- --%Gravel = 1.4-- --%Sand = 6.7-- --%Silt = 60.8-- --%Clay = 31.0--	10		3	7 9 11	> 4.50 P	18
				4	5 20 13	4.51 B	19
713.7	Light brown SILT; moist	15		5	5 6 15	2.05 B	19
713.0	Medium dense, brown, coarse SAND, some gravel; saturated			6	10 12 10	NP	16
710.5	Hard, gray CLAY LOAM to SILTY LOAM, some gravel			7	18 23 28	> 4.50 P	11
	--coarse gravel in spoon--	20		8	16 18 26	NR	
	--rig chatter-- --L_L(%) = 24, P_L(%) = 14-- --%Gravel = 6.8-- --%Sand = 26.9-- --%Silt = 49.1-- --%Clay = 17.2--	25		9	19 50/3"	NA	17
700.5	Hard, gray SILTY CLAY LOAM, trace gravel			10	13 18 22	4.59 B	12
		30		11	13 14 18	5.99 B	16
694.2	Very dense, gray GRAVELLY LOAM, dry			12	11 19 24	4.26 B	16
691.0	Boring terminated at 35.00 ft	35		13	30 42 23	NP	9

GENERAL NOTES

Begin Drilling: 03-27-2017 Complete Drilling: 03-27-2017
Drilling Contractor: Wang Testing Services Drill Rig: D50 ATV [88%]
Driller: RR&RH Logger: M. Schmelzel Checked by: JAR
Drilling Method: 2.25" IDA HSA; autohammer; backfilled with soil cuttings and bentonite chips upon completion

WATER LEVEL DATA

While Drilling: 13.00 ft
At Completion of Drilling: 12.00 ft
Time After Drilling: NA
Depth to Water: NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 790901.GPJ WANGENG.GDT 1/14/19

6:11:17 PM
FILE NAME: Boring Logs

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - WJC	REVISED -	
	CHECKED - JRM	REVISED -	
PLOT SCALE = 0:2.0000 ':" / in.	DRAWN - MDG	REVISED -	
PLOT DATE = 1/25/2025	CHECKED - JRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STORAGE CHAMBER
SHEET 4 OF 4 SHEETS

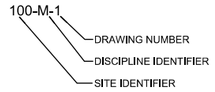
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DUPAGE	426	247
		CONTRACT NO. 61G79		
		ILLINOIS	FED. AID PROJECT	

GENERAL LEGEND

DISCIPLINE IDENTIFIER

DISCIPLINE	DISCIPLINE IDENTIFIER
GENERAL	G
CIVIL KEY	CK
CIVIL NOTES	CN
CIVIL REMOVAL	CR
CIVIL FACILITIES	CF
CIVIL GRADING	CG
CIVIL EROSION CONTROL	CE
CIVIL PIPING	CP
REMOVALS	R
ARCHITECTURAL	A
STRUCTURAL FOUNDATION	SF
STRUCTURAL	S
PROCESS-MECHANICAL	M
PLUMBING	P
HVAC	H
ELECTRICAL	E
ELECTRICAL LIGHTING	L
INSTRUMENTATION AND CONTROL	N

DRAWING NUMBER DESIGNATION



PLAN NOTE DESIGNATION

PLAN NOTE. SEE NOTES ON SAME DRAWING.

STANDARD DETAIL DESIGNATION

ON DRAWING WHERE DETAIL IS TAKEN

ON DRAWING WHERE DETAIL IS SHOWN

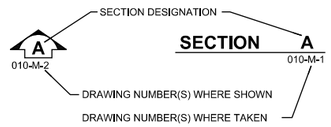
NOTE:
STANDARD DETAILS ARE LOCATED ON DRAWINGS THAT HAVE BEEN ASSIGNED A SITE IDENTIFIER OF 999 FOLLOWED BY A DISCIPLINE IDENTIFIER. THESE DRAWINGS ARE PLACED LAST IN THE DRAWING SET.

EXAMPLE: 999-M-1

SECTION DESIGNATION

ON DRAWING WHERE SECTION IS TAKEN

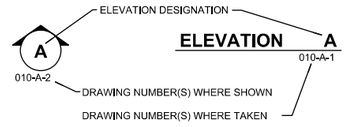
ON DRAWING WHERE SECTION IS SHOWN



CASEWORK ELEVATION DESIGNATION

ON DRAWING WHERE SECTION IS TAKEN

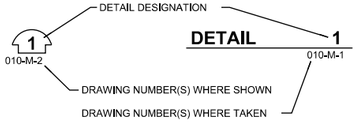
ON DRAWING WHERE SECTION IS SHOWN



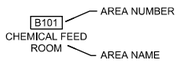
DETAIL DESIGNATION

ON DRAWING WHERE DETAIL IS TAKEN

ON DRAWING WHERE DETAIL IS SHOWN



AREA DESIGNATION



SYMBOLS

NON-RIGID INSULATION

RIGID INSULATION

SAND OR FILL

FREE DRAINING FILL

2 6 ROUGH CARPENTRY (NOMINAL SIZE INDICATED)

CONCRETE

CONCRETE BLOCK

FACE BRICK

OR 0 0 0 PRECAST CONCRETE PLANK

EARTH OR BACKFILL

ROCK

REMOVAL

BAR GRATING

CHECKERED PLATE

PLANK GRATING

2' x 2' SUSPENDED ACOUSTICAL CEILING

GYPSUM BOARD CEILING. REFER TO ROOM FINISH SCHEDULE FOR FINISH

8'-8" CEILING HEIGHT ABOVE FINISHED FLOOR

111-10 DOOR NO. DOOR DESIGNATOR

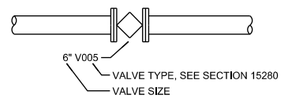
105 WINDOW NO. WINDOW DESIGNATOR

INSTRUMENT IDENTIFICATION

SAME AS SHOWN ON P&ID LEGEND.
EXCEPTION: COMPONENT DESIGNATORS NOT USED ON PROCESS MECHANICAL DRAWINGS

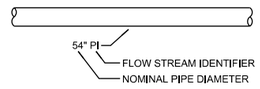
VALVE IDENTIFICATION

EXAMPLE:



PIPE IDENTIFICATION

EXAMPLE:



ABBREVIATIONS

ACT	ACOUSTICAL TILE	EXT	EXTERIOR	MO	MASONRY OPENING	T	TOP
AD	ACCESS DOOR			MULL	MULLION	T	TREAD
ADDL	ADDITIONAL	F/	FACE OF			T/	TOP OF
AFF	ABOVE FINISHED FLOOR	FCA	FLANGED COUPLING ADAPTOR			T/S	TOP OF STEEL
AL	ALUMINUM	FD	FLOOR DRAIN	N	NEW	T&B	TOP AND BOTTOM
ALT	ALTERNATE	FE	FIRE EXTINGUISHER	NIC	NOT IN CONTRACT	T & G	TONGUE & GROOVE
APPROX	APPROXIMATE	FEC	FIRE EXTINGUISHER CABINET	NO. or #	NUMBER	TDC	TRAFFIC DECK COVERING
ARCH	ARCHITECTURAL	FF	FINISH FLOOR	NOM	NOMINAL	TEMP	TEMPERED
ARV	AIR RELEASE VALVE	FFE	FINISH FLOOR ELEVATION	NR	NON-RATED	THK	THICK
ARVV	AIR RELEASE/VACUUM VALVE	FH	FULL HEIGHT	NTS	NOT TO SCALE	TOC	TOP OF CONCRETE or CURB
AVG	AVERAGE	FHC	FIRE HOSE CABINET			TOP	TOP OF PARAPET
		FIN	FINISH	OC	ON CENTER	TOS	TOP OF STEEL
B	BOTTOM	FL or FLR	FLOOR	OD	OUTSIDE DIAMETER	TOW	TOP OF WALL
B/	BOTTOM OF	FLG	FLANGE	OFI	OWNER FURNISHED ITEM	TYP	TYPICAL
BF	BLIND FLANGE	FO	FINISHED OPENING	OFOI	OWNER FURNISHED OWNER INSTALLED	UNO	UNLESS NOTED OTHERWISE
BFP	BACKFLOW PREVENTER	FOC	FACE OF CONCRETE	OPNG or OPN'G	OPENING		
BFV	BUTTERFLY VALVE	FOS	FACE OF STUD	OPPO	OPPOSITE	VB	VINYL BASE
BLDG	BUILDING	FOUND	FOUNDATION	P&ID	PROCESS AND INSTRUMENTATION DIAGRAM	VCT	VINYL COMPOSITION TILE
BLK	BLOCK	FOW	FACE OF WALL	P. LAM.	PLASTIC LAMINATE	VER	VERIFY
BLKG	BLOCKING	FRP	FIBER REINFORCED PLASTIC	PC	PORTLAND CEMENT	VERT	VERTICAL
BM	BEAM	FS	FLOOR SINK	PCP	PRE-STRESSED CONCRETE PIPE	VIF	VERIFY IN FIELD
BOB	BOTTOM OF BEAM	FS	FULL SIZE	PJF	PREFORMED JOINT FILLER	VRV	VACUUM RELEASE VALVE
BOT	BOTTOM	FSD	FULL SIZE DETAIL	PL	PLATE	W	WIDE
BRD	BOARD	FT	FEET	PLAS	PLASTIC	W/	WITH
BV	BALL VALVE	FTG	FOOTING	PLYWD	PLYWOOD	WC	WATER CLOSET
		FV	FIELD VERIFY	PR	PAIR	WD	WOOD
CL	CENTERLINE			PREP	PREPARATION	WL	WATER LEVEL
CEM	CEMENT	GA	GAUGE	PROJ	PROJECTION	WO	WITHOUT
CH	CEILING HEIGHT	GALV	GALVANIZED	PT	PAINT	WP	WATERPROOFING
CJ or CJT	CONTROL JOINT	GB	GRAB BAR	PV	PLUG VALVE	WS	WATERSTOP
CLG or CEIL	CEILING	GCMU	GLAZED CONCRETE MASONRY UNIT	PVC	POLYVINYL CHLORIDE	WWF	WELDED WIRE FABRIC
CLO	CLOSET	GL	GLASS			YR	YEAR
CLR	CLEAR	GR	GRADE	QT	QUARRY TILE		
CMU	CONCRETE MASONRY UNIT	GV	GATE VALVE				
CO	CLEAN OUT	GYP BD	GYPSUM BOARD	R	RISER		
COL	COLUMN			R or RAD	RADIUS		
COMPO	COMPOSITION	H	HIGH	RC	ROOF CONDUCTOR		
CONC	CONCRETE	HB	HOSE BIB	RCP	REINFORCED CONCRETE PIPE		
CONF	CONFERENCE	H/C	HANDICAPPED	RCP	REFLECTED CEILING PLAN		
CONN	CONNECTION	HDWD	HARDWOOD	RD	ROOF DRAIN		
CONST	CONSTRUCTION	HDWR	HARDWARE	REC	RECESSED		
CONT	CONTINUOUS	HM	HOLLOW METAL	RED	REDUCER		
CONTR	CONTRACT/CONTRACTOR	HORZ	HORIZONTAL	REDW'D	REDWOOD		
CONTR JT	CONTRACTION JOINT	HP	HIGH POINT	REF	REFERENCE		
CORR	CORRIDOR	HT	HEIGHT	REFL	REFLECTED		
C.T.	CERAMIC TILE	HWL	HIGH WATER LEVEL	REINF	REINFORCE/REINFORCING		
CPVC	CHLORINATED POLYVINYL CHLORIDE			REQ'D	REQUIRED		
CSK	COUNTERSINK	ID	INSIDE DIAMETER	RES	RESILIENT		
CTR	CENTER	INSUL	INSULATION	REV	REVISION/REVISED		
CV	CHECK VALVE	INT	INTERIOR	RM	ROOM		
		INV	INVERT	RO	ROUGH OPENING		
DBL	DOUBLE						
DEG	DEGREE	JAN	JANITOR	SCHED	SCHEDULE		
DEG	DEGREES (ANGULAR)			SD	SUMP DISCHARGE		
DET	DETAIL	KITCH	KITCHEN	SECT	SECTION		
DIA	DIAMETER			SHT	SHEET		
DIAG	DIAGONAL	LAV	LAVATORY	SIM	SIMILAR		
DIM	DIMENSION	LEV	LEVEL	SL	SLUDGE		
DIP	DUCTILE IRON PIPE	LIG	LAY-IN-GRID CEILING	SPA	SPACE OR SPACING		
DIR	DIRECTION	LLH	LONG LEG HORIZONTAL	SPECS	SPECIFICATIONS		
DN	DOWN	LLV	LONG LEG VERTICAL	SQ	SQUARE		
DWG	DRAWING	LP	LOW POINT	SR	SHORT RADIUS		
		LR	LONG RADIUS	SS or SST	STAINLESS STEEL		
EA	EACH	LTG	LIGHTING	STD	STANDARD		
ECC	ECCENTRIC	LTWT	LIGHT WEIGHT	STL	STEEL		
EF	EACH FACE	LWL	LOW WATER LEVEL	STRUCT	STRUCTURAL		
EJ	EXPANSION JOINT			SUSP	SUSPENDED		
EL	ELEVATION	MAINT	MAINTENANCE	SV	STAIN AND VARNISH		
ELEC	ELECTRICAL	MATL	MATERIAL				
ELEV or EL	ELEVATION	MAX	MAXIMUM				
ELL	ELBOW	MB	MACHINE BOLT				
ELEV	ELEVATOR	MECH	MECHANICAL				
EQ	EQUAL	MET	METAL				
EQUIP	EQUIPMENT	MEZZ	MEZZANINE				
EW	EACH WAY	MFR	MANUFACTURER				
EWC	ELECTRICAL WATER COOLER	MH	MANHOLE				
EXIST or (X)	EXISTING	MIN	MINIMUM				
EXP	EXPANSION	MISC	MISCELLANEOUS				
EXP JT	EXPANSION JOINT	MJ	MECHANICAL JOINT				

1. THIS IS STANDARD LEGEND. NOT ALL OF THE INFORMATION SHOWN ON THIS LEGEND IS NEEDED IN THESE CONTRACT DRAWINGS.
2. WORK IN THIS CONTRACT SHOWN FULL-TONE UNLESS OTHERWISE NOTED.

FLOW STREAM IDENTIFIERS

ALP	AIR (LOW PRESSURE)	NG	NATURAL GAS
ALUM	ALUMINUM SULFATE	NPW	NON-POTABLE WATER
AHP	AIR (HIGH PRESSURE)		
		OA	ODOROUS AIR
BWS	BACKWASH SUPPLY	OF	OVERFLOW
BWW	BACKWASH WASTE		
		PHOS	PHOSPHATE
CGR	COOLING GLYCOL RETURN	PO	POLYMER
CGS	COOLING GLYCOL SUPPLY		
CLE	CLARIFIER EFFLUENT	RW	RAW WATER
D	DRAIN	SA	SAMPLE
		SAN	SANITARY SEWER
EXH	EXHAUST		
		SHC	SODIUM HYPOCHLORITE
FE	FILTER EFFLUENT	SUP	SUPERNATANT
FI	FILTER INFLUENT	ST	STORM SEWER
FM	FORCE MAIN		
FTW	FILTER TO WASTE	V	VENT
FSA	HYDROFLUOSILICIC ACID	W1	POTABLE CITY WATER
FW	FINISHED WATER	W2	NON-POTABLE CITY WATER
		W3	PLANT EFFLUENT WATER (NON-POTABLE)
HGR	HEATING GLYCOL RETURN		
HGS	HEATING GLYCOL SUPPLY		
HWR	HEATING WATER RETURN		
HWS	HEATING WATER SUPPLY		
LPO	LIQUID POLYMER		

GENERAL NOTES

1. CONTRACTOR TO PROVIDE ALL MATERIALS, EQUIPMENT, LABOR AND SERVICE NECESSARY FOR CONSTRUCTION, TESTING AND PLACING NEW DUPLEX PUMP STATION INTO OPERATION. CONTRACTOR RESPONSIBLE FOR RESTORATION AS REQUIRED.
2. CITY OF NAPERVILE DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC (NDPU-E) WILL PROVIDE, IN ACCORDANCE WITH THEIR ELECTRIC SERVICE RULES, A STANDARD 480/277 VOLT, 3 PHASE, 4 WIRE METERED ELECTRIC SERVICE, CONTRACTOR TO COORDINATE AS REQUIRED. CONTACT NDPU-E MR. RON RITTER AT (630) 420-4183.
3. THE PROPOSED PUMP STATION IS LOCATED ADJACENT TO AN AREA SCHEDULED FOR CONSTRUCTION OF A STORMWATER DETENTION BASIN. DURING WET WEATHER SUDDEN WATER LEVEL FLUCTUATIONS IN AND AROUND THE AREA AND WITHIN THE DETENTION BASIN MAY OCCUR. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL PROTECTION OF PROPOSED PROJECT IMPROVEMENTS AS REQUIRED DUE TO FLOOD WATERS WHICH MAY INUNDATE PROPOSED IMPROVEMENTS.

PLAN | SURVEYED | PLOTTED | ALIGNMENT CHECKED | RT. OF WAY CHECKED | CADD FILE NAME | NOTE BOOK | NO. | BY | DATE

PROFILE | SURVEYED | PLOTTED | GRADES CHECKED | BM. NOTED | STRUCTURE NOTATNS CHKD | NOTE BOOK | NO. | BY | DATE

FILE NAME = GENERAL SYMBOLS AND ABBREVIATIONS

DONOHUE

USER NAME = brvanderwal	DESIGNED - KRL	REVISED -	
	DRAWN - KRL	REVISED -	
PLOT SCALE = 2.1000 ' / in.	CHECKED - EPC	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – GENERAL
GENERAL LEGEND
SYMBOLS AND ABBREVIATIONS

SCALE: | SHEET 1 OF 5 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	248
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		

PLUMBING / HVAC ABBREVIATIONS AND SYMBOLS

PLUMBING LEGEND

- HW - HOT WATER PIPE (ON PLUMBING DRAWINGS)
- HWRE - HOT WATER RECIRCULATING PIPE (ON PLUMBING DRAWINGS)
- HWS - HEATING WATER SUPPLY PIPE (ON HVAC DRAWINGS)
- HWR - HEATING WATER RETURN PIPE (ON HVAC DRAWINGS)
- PIPE (REFER TO FLOW STREAM IDENTIFIERS)
- BELOW SLAB OR BURIED PIPE (REFER TO FLOW STREAM IDENTIFIERS)
- VENT
- ELBOW FITTING (TURNED DOWN)
- ELBOW FITTING (TURNED UP)
- TEE OUTLET UP
- TEE OUTLET DOWN
- PIPE ANCHOR
- PIPE HANGER
- PIPE GUIDE
- CAP
- EXPANSION JOINT
- UNION
- FLANGE
- VENT THRU ROOF (X" VTR)
- FLOOR DRAIN
- CLEANOUT (X" CO)
- FLOOR CLEANOUT (X" CO)
- WALL CLEANOUT
- HUB DRAIN (X" HD)
- ROOF DRAIN (X" RD)
- OVERFLOW DRAIN (X" OD)
- TRENCH DRAIN
- YARD HYDRANT
- WALL HYDRANT (WH)
- HOSE BIBB (HB)
- REDUCER (CONCENTRIC)
- REDUCER (ECCENTRIC)
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- GATE VALVE
- ANGLE STOP
- GLOBE VALVE
- PLUG VALVE
- PRESSURE REDUCING VALVE
- RELIEF OR SAFETY VALVE
- CONTROL VALVE (2-WAY)
- CONTROL VALVE (3-WAY)
- BALANCING VALVE
- MANUAL AIR VENT
- STRAINER
- BACKFLOW PREVENTER
- WATER HAMMER ARRESTOR

HVAC LEGEND

- ACCESS DOOR (AD)
- DUCT (FIRST FIG. IS SIDE SHOWN) (12x20)
- DUCT SECTION (RETURN) (20x12)
- DUCT SECTION (SUPPLY)
- DUCT LINING
- RETURN, EXHAUST OR SUPPLY GRILLE W/ MVD
- ELBOW DOWN
- ELBOW W/ TURNING VANES
- MANUAL VOLUME DAMPER
- FLEXIBLE CONNECTOR
- SMOKE DETECTOR (SD)
- THERMOSTAT / TEMPERATURE SENSOR (T)
- HUMIDISTAT (H)
- PRESSURE SENSOR (P)
- FIRE DAMPER
- MOTOR OPERATED DAMPER
- GRAVITY BACKDRAFT DAMPER
- PRESSURE GAUGE
- THERMOMETER

FLOWSTREAM IDENTIFIERS

AI	INSTRUMENT AIR	HWRE	HOT WATER RECIRCULATION
AHP	AIR (HIGH PRESSURE)	HWS	HEATING WATER SUPPLY
AV	ACID VENT	RHG	REFRIGERANT (HOT GAS)
AW	ACID WASTE	RL	REFRIGERANT (LIQUID)
CND	CONDENSATE	RS	REFRIGERANT (SUCTION)
CGR	COOLING GLYCOL RETURN	SAN	SANITARY SEWER
CGS	COOLING GLYCOL SUPPLY	SHC	SODIUM HYPOCHLORITE
CR	CONDENSATE RETURN	STM	STORM SEWER
CWR	CHILLED WATER RETURN	TE	TERTIARY EFFLUENT
CWS	CHILLED WATER SUPPLY	TW	TEMPERED WATER
F	FIRE SPRINKLER	TWRE	TEMPERED WATER RECIRC
FE	FINAL EFFLUENT	V	VENT
NG	GAS (NATURAL)	W1	POTABLE CITY WATER
HGR	HEATING GLYCOL RETURN	W2	NON-POTABLE CITY WATER
HGS	HEATING GLYCOL SUPPLY	W3	PLANT EFFLUENT WATER (NOT-POTABLE)
HPHW	HIGH PRESSURE HOT WATER	"A"	WATER HAMMER SIZE, LETTERS A-D
HPW	HIGH PRESSURE WATER		
HW	HOT WATER		
HWR	HEATING WATER RETURN		

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MVD	MANUAL VOLUME DAMPER
BDD	BACKDRAFT DAMPER	OA	OUTSIDE AIR
BOD	BOTTOM OF DUCT	PSIG	POUND PER SQUARE INCH (GAUGE)
CL	CENTER LINE ELEVATION		
DFU	DRAINAGE FIXTURE UNIT	THRU	THROUGH
EL	ELEVATION	TOD	TOP OF DUCT
EXP	EXPLOSION PROOF	VTR	VENT THROUGH ROOF
H-O-A	HAND-OFF-AUTO SWITCH	WSFU	WATER SUPPLY FIXTURE UNIT
HP	HIGH POINT	VIF	VERIFY IN FIELD
LP	LOW POINT		

EQUIPMENT TAG IDENTIFIERS

AC	AIR COMPRESSOR	HD	HUB DRAIN
ACU	AIR CONDITIONING UNIT	HUH	HOT WATER UNIT HEATER
ACCU	AIR COOLED CONDENSING UNIT	HWC	HOT WATER CONVECTOR
AHU	AIR HANDLING UNIT	HWP	HOT WATER PUMP
AS	AIR SEPARATOR	ICD	INSULATED MOTOR CONTROL DAMPER
B	BOILER	IH	INTAKE HOOD
BS	BRANCH SELECTOR	LAV	LAVATORY
BT	BAFFLE TANK	MAU	MAKE-UP AIR UNIT
C	CHILLER	MCD	MOTOR CONTROL DAMPER
CO	CLEANOUT	MS	MOP SINK
CP	CIRCULATING PUMP	OAL	OUTSIDE AIR LOUVER
CS	COUNTERTOP SINK	P	PUMP
CWP	CHILLED WATER PUMP	RAL	RELIEF AIR LOUVER
DEH	DEHUMIDIFIER	RD	ROOF DRAIN
EAL	EXHAUST AIR LOUVER	RG	RETURN GRILLE
EEW	EMERGENCY EYEWASH STATION	RH	RELIEF HOOD
EF	EXHAUST FAN	RPZ	REDUCED ZONE PRESSURE BACKFLOW PREVENTER
EG	EXHAUST GRILLE	SD	SUPPLY DIFFUSER
EH	ELECTRIC HEATER	SF	SUPPLY FAN
EUH	ELECTRIC UNIT HEATER	SG	SUPPLY GRILLE
EWC	ELECTRIC WATER COOLER	SHR	SHOWER
EWS	EMERGENCY WASH STATION	SS	SERVICE SINK
EXT	EXPANSION TANK	TCP	TEMPERATURE CONTROL PANEL
FC	FAN COIL	TG	TRANSFER GRILLE
FRES	FREEZE RESISTANT EMERGENCY SHOWER	TMV	THERMOSTATIC MIXING VALVE
FREW	FREEZE RESISTANT EMERGENCY FACE WASH	UR	URINAL
		VP	VACUUM PUMP
FD	FLOOR DRAIN	WCCU	WATER COOLED CONDENSING UNIT
GDCP	GAS DETECTION CONTROL PANEL	WC	WATER CLOSET
GUH	GAS UNIT HEATER	WH	WALL HYDRANT
GWH	GAS WATER HEATER		
HB	HOSE BIB		

ELECTRICAL ABBREVIATIONS AND SYMBOLS

ABBREVIATIONS

A	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CAPACITY
C	CONTACTOR/CONDUIT/COIL
CB	CIRCUIT BREAKER
CKT, CCT	CIRCUIT
DISC	DISCONNECT
EP	EXPLOSION PROOF
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GRD	GROUND
GRS	GALVANIZED RIGID STEEL
HF	HARMONIC FILTER
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
J	JUNCTION BOX
KVA	KILOVOLT AMPERE
KW	KILOWATT
LCP	LOCAL CONTROL PANEL
LP	LIGHTING PANEL
LSI	LONG-TIME, SHORT-TIME AND INSTANTANEOUS
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MV	MEDIUM VOLTAGE MANHOLE
NEC	NATIONAL ELECTRICAL CODE (ANSI/NFPA-70)
NEU, N	NEUTRAL
NC	NORMALLY CLOSED
NF	NON FUSED
NGR	NEUTRAL GROUND RESISTOR
NO	NORMALLY OPEN
OL	OVERLOAD RELAY
PC	PHOTOCELL
PMG	PADMOUNT GEAR
PMT	PADMOUNT TRANSFORMER
PP	POWER PANEL
PVC	POLY VINYL CHLORIDE
SW	SWITCH
SWBD	SWITCH BOARD
SWGR	SWITCHGEAR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHERPROOF
XFMR	TRANSFORMER

ONE-LINE SYMBOLS

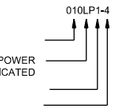
- 15 M (OR) CL 600 500 — MOLDED CASE CIRCUIT BREAKER (UPPER NUMERAL INDICATES FRAME SIZE) (LOWER NUMERAL INDICATES TRIP SETTING) (CL - INDICATES CURRENT LIMITING CIRCUIT BREAKER) (M - INDICATES MOTOR CIRCUIT PROTECTOR)
- FVNR 2a 1b 2 — MAGNETIC STARTER AND MOLDED CASE CIRCUIT BREAKER (FVNR - INDICATES FULL VOLTAGE NON-REVERSING) (FVR - INDICATES FULL VOLTAGE REVERSING) (SSRV - INDICATES SOLID STATE REDUCED VOLTAGE) (TSTW - INDICATES TWO SPEED TWO WINDING) (TSSW - INDICATES TWO SPEED SINGLE WINDING) (CONT - INDICATES CONTACTOR) (AUXILIARY CONTACTS - (2a TWO N.O.)(1b ONE N.C.) (NUMERAL INDICATES NEMA SIZE)
- T — TRANSFORMER
- FVNR 2a 1b 2 — COMBINATION MAGNETIC STARTER WITH MOLDED CASE CIRCUIT BREAKER (FVNR - INDICATES FULL VOLTAGE NON-REVERSING) (FVR - INDICATES FULL VOLTAGE REVERSING) (SSRV - INDICATES SOLID STATE REDUCED VOLTAGE) (TSTW - INDICATES TWO SPEED TWO WINDING) (AUXILIARY CONTACTS - (2a TWO N.O.)(1b ONE N.C.) (NUMERAL INDICATES NEMA SIZE)
- GROUND
- 75 — MOTOR (NUMERAL INDICATES HORSEPOWER)
- GENERATOR
- 52 — DRAW-OUT CIRCUIT BREAKER (NUMERAL INDICATES DEVICE NUMBER)
- 80A — FUSED SWITCH (NUMERAL INDICATES FUSE SIZE)
- MEDIUM-VOLTAGE TERMINATION
- 52 — CURRENT TRANSFORMER AND PROTECTIVE DEVICE (NUMERAL INDICATES DEVICE NUMBER)

PLAN SYMBOLS

- A — LED OR FLUORESCENT FIXTURE - RECESSED (LETTER DENOTES TYPE)
- A — LED OR FLUORESCENT FIXTURE - SURFACE/SUSPENDED (LETTER DENOTES TYPE)
- A — LED OR FLUORESCENT FIXTURE - WALL MOUNTED (LETTER DENOTES TYPE)
- A — LED OR HID FIXTURE - WALL MOUNTED (LETTER DENOTES TYPE)
- A — LED OR HID FIXTURE - POLE MOUNTED FIXTURE (LETTER DENOTES TYPE)
- A — LED OR HID FIXTURE - SURFACE/SUSPENDED (LETTER DENOTES TYPE)
- EMERGENCY BATTERY LIGHT
- REMOTE HEAD FOR EMERGENCY BATTERY LIGHT
- EXIT LIGHT WITH INDICATING DIRECTIONAL ARROW
- $ $_2$ $_3$ $_4$ — SWITCH (SINGLE POLE, 2-POLE, 3-WAY, 4-WAY)
- $_{MC}$ — MOMENTARY CONTACT SWITCH - CENTER OFF
- $_P$ — SWITCH / PILOT LIGHT
- DUPLEX GFCI RECEPTACLE - 120V
- EXPLOSIONPROOF SIMPLEX GROUNDED RECEPTACLE - 120V
- TELEPHONE OUTLET, WALL MOUNT WITH 3/4" CONDUIT TO TELEPHONE TERMINAL CABINET
- D — DATA INFORMATION OUTLET
- RECESSED CEILING SPEAKER
- V — VOLUME CONTROL
- WALL SPEAKER
- S — SMOKE DETECTOR
- F — FIRE ALARM HORN
- F S — FIRE ALARM HORN AND STROBE
- S — FIRE ALARM STROBE
- F — FIRE ALARM PULL STATION
- H — HEAT DETECTOR
- F FS — FLOW SWITCH
- MD — MOTION DETECTOR
- CONNECTION TO EQUIPMENT
- SPECIAL PURPOSE RECEPTACLE, NEMA TYPE AND AMPERE RATING AS INDICATED

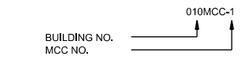
- MANUAL STARTER WITH PILOT LIGHT
- THREE PHASE MAGNETIC STARTER
- I — INFORMATION OUTLET
- THREE PHASE COMBINATION MAGNETIC STARTER AND DISCONNECT SWITCH
- SINGLE PHASE MAGNETIC STARTER
- 30 — NON-FUSED DISCONNECT SWITCH (NUMERAL INDICATES SWITCH RATING)
- F 60 40 — FUSED DISCONNECT SWITCH - 3 POLE UNLESS OTHERWISE INDICATED (UPPER NUMERAL INDICATES SWITCH RATING) (LOWER NUMERAL INDICATES FUSE RATING)
- $ — 3-PHASE MANUAL MOTOR SWITCH
- LIGHTING PANEL
- T — TRANSFORMER
- POWER PANEL
- TERMINAL CABINET (ITC - INDICATES INSTRUMENTATION) (TTC - INDICATES TELEPHONE)
- M — MOTOR
- J — JUNCTION BOX
- HH — HANDHOLE
- MH — MANHOLE
- SURVEILLANCE CAMERA
- GROUND ROD
- CONDUIT STUB
- CONDUIT TURNING UP OR TO OBSERVER
- CONDUIT TURNING DOWN OR AWAY FROM OBSERVER
- FLEXIBLE CONDUIT CONNECTION
- HOMERUN CIRCUIT OR CONDUCTORS
- E — DIRECT BURIAL CABLE
- UNDERGROUND ELECTRICAL DUCT, CONCRETE ENCASED.

PANELBOARDS



DEVICE NUMBER	FUNCTION
27	UNDERVOLTAGE RELAY
32	REVERSE POWER RELAY
46	PHASE-BALANCE CURRENT RELAY
47	PHASE-SEQUENCE VOLTAGE RELAY
50	INSTANTANEOUS OVERCURRENT
51	AC TIME OVERCURRENT RELAY
51N	GROUND OVERCURRENT
52	AC CIRCUIT BREAKER
59	OVERVOLTAGE RELAY
67	AC DIRECTIONAL OVERCURRENT
81	OVER/UNDER FREQUENCY RELAY
86	LOCKOUT RELAY
89	POTENTIAL TRANSFORMER

MOTOR CONTROL CENTER



1. THIS IS STANDARD LEGEND. NOT ALL OF THE INFORMATION SHOWN ON THIS LEGEND IS NEEDED IN THESE CONTRACT DRAWINGS.

PLAN — SURVEYED / PLOTTED / CROSS SECTIONS CHECKED / BM. NOTES / STRUCTURE NOTATIONS CHKD / NOTE BOOK / NO. / BY / DATE

PROFILE — SURVEYED / PLOTTED / CROSS SECTIONS CHECKED / BM. NOTES / STRUCTURE NOTATIONS CHKD / NOTE BOOK / NO. / BY / DATE

FILE NAME = 0620952-PS-GEN-02

DONOHUE

USER NAME = brvanderwal	DESIGNED - JRR	REVISED -	
	DRAWN - JRR	REVISED -	
PLOT SCALE = 2.1000 ' / in.	CHECKED - FGM	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

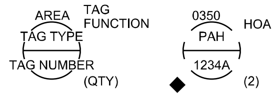
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – GENERAL
PLUMBING LEGEND / HVAC LEGEND / ELECTRICAL LEGEND

SCALE: | SHEET 2 OF 5 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	249
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		

INSTRUMENT TAG IDENTIFICATION



COMPONENT DESIGNATOR

AREA	0350:	BUILDING OR PROCESS AREA NUMBER
TAG TYPE	P:	FIRST LETTER, SEE TABLE BELOW
	AH:	SUCCEEDING LETTERS, SEE TABLE BELOW
TAG NUMBER	12:	P&ID NUMBER
	3:	LOOP NUMBER
	4:	EQUIPMENT NUMBER
	A:	DEVICE LETTER IF MULTIPLE DEVICES
TAG FUNCTION	HOA:	TAG FUNCTION ABBREVIATION, SEE LISTING AT RIGHT
(QUANTITY)	(2):	TOTAL NUMBER OF DEVICES WHERE MORE THAN ONE DEVICE IS REQUIRED, DEVICE NUMBERS ARE SEQUENTIAL BEGINNING WITH THE TAG NUMBER SHOWN. IF QUANTITY IS NOT SHOWN THEN ONE DEVICE ONLY IS REQUIRED.
COMPONENT DESIGNATOR	◆	SEE LISTING AT RIGHT

MISCELLANEOUS ABBREVIATIONS

ACC	ACCUMULATE/ACCUMULATION	PCN	PROCESS CONTROL NETWORK
ALT	ALTERNATE	PLC	PROGRAMMABLE LOGIC CONTROLLER
CAM	CAMERA	PROT	PROTECTOR/PROTECTION
CN	CONTROLNET	PTR	PRINTER
CPU	CENTRAL PROCESSING UNIT	PWR	POWER
CTL	CONTROL		
DN	DEVICENET	RAD	RADIO
DO	DATA OUTLET	RIO	REMOTE I/O
DSC	DISCONNECT	SBOX	SPLICE BOX
		SEQ	SEQUENCE
ETM	ELAPSED TIME METER	SM	SINGLE MODE
		SW	SWITCH
FOC	FIBER OPTIC CABLE	TEMP	TEMPERATURE
FOPP	FIBER OPTIC PATCH PANEL		
FW	FIREWALL	UPS	UNINTERRUPTIBLE POWER SUPPLY
HMI	HUMAN MACHINE INTERFACE	WAP	WIRELESS ACCESS POINT
INIT	INITIATE		
INT	INTERVAL		
IP	INTERNET PROTOCOL		
JBX	JUNCTION BOX		
MOR	MOTOR OVERLOAD RELAY		
MPR	MOTOR PROTECTION RELAY		
MC	MEDIA CONVERTER		
MM	MULTIMODE		
MS	MOTOR STARTER		
NIC	NETWORK INTERFACE CARD		
OIU	OPERATOR INTERFACE UNIT		

TAG FUNCTION ABBREVIATIONS

ALT	ALTERNATE
C	CLOSE/CLOSED
COMM	COMMUNICATIONS
CM	COMPUTER-MANUAL
DIFF	DIFFERENCE/DIFFERENTIAL
DN	DEVICENET
DO	DISSOLVED OXYGEN
ESTP	EMERGENCY STOP (ESTOP)
F	FAIL
F(X)	CHARACTERIZED/FUNCTION
FOR	FORWARD-STOP(OFF)-REVERSE (MAINTAINED CONTACT)
FSR	FORWARD-STOP-REVERSE (MOMENTARY CONTACT)
FWD	FORWARD
F/R	FORWARD/REVERSE (MOTOR STARTER COILS)
HOA	HAND-OFF-AUTOMATIC (MAINTAINED CONTACT)
HOR	HAND-OFF-REMOTE (MAINTAINED CONTACT)
II	CURRENT TO CURRENT
IP	CURRENT TO PNEUMATIC
LL	LEAD-LAG (MAINTAINED CONTACT)
LOE	LOSS OF ECHO (ULTRASONIC SENSOR FAILURE)
LOR	LOCAL-OFF-REMOTE (MAINTAINED CONTACT)
LOS	LOCKOUT STOP (LOCKABLE IN STOP POSITION)
L/R	LOCAL-REMOTE (MAINTAINED CONTACT)
MA	MANUAL-AUTOMATIC (MAINTAINED CONTACT)
MOA	MANUAL-OFF-AUTOMATIC (MAINTAINED CONTACT)
O	OPEN/OPENED
OA	OFF-AUTOMATIC
OCA	OPEN-CLOSE-AUTOMATIC (MAINTAINED CONTACT)
OC	OPEN-CLOSE
OSC	OPEN-STOP-CLOSE (SPRING RETURN TO CENTER)
OO	ON-OFF (MAINTAINED CONTACT)
OOA	ON-OFF-AUTO (MAINTAINED CONTACT)
OOR	ON-OFF-REMOTE (MAINTAINED CONTACT)
QTY	QUANTITY
R	RUN
REV	REVERSE
RST	RESET
SBL	SLUDGE BLANKET INTERFACE LEVEL
SP	SPEED POTENTIOMETER
SPD	SPEED
SQRT	SQUARE ROOT
SS	START-STOP (MOMENTARY CONTACT)
SSA	START-STOP-AUTOMATIC (MOMENTARY CONTACT)
SSL	START-STOP-LOCK (LOCKABLE IN STOP POSITION)
SUM	SUMMATION
VIB	VIBRATION
X	MULTIPLE/MULTIPLY

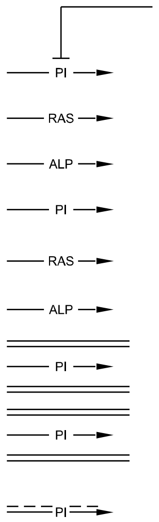
MEANINGS OF INSTRUMENT IDENTIFICATION LETTERS

LETTER	FIRST LETTER (S)		SUCCEEDING LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (*)		ALARM (W. LOGGING)	ANNUNCIATE	
B	BURNER, FLAME, COMBUSTION		USERS CHOICE (*)	USERS CHOICE (*)	USERS CHOICE (*)
C	USERS CHOICE (*)			CONTROL	
D	USERS CHOICE (*)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			FEEDBACK
G	USERS CHOICE (*)		GLASS, VIEWING DEVICE		
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME SCHEDULE	TIME RATE OF CHANGE	KEYPAD (DATA ENTRY)	CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTOR, MOISTURE, HUMIDITY	MOMENTARY			MONITORING
N	USERS CHOICE (*)		USERS CHOICE (*)	USERS CHOICE (*)	USERS CHOICE (*)
O	USERS CHOICE (*)		ORIFICE		
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY OR HEAT DUTY	INTEGRATE			
R	RADIATION		RECORD, TREND, LOG		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	UNIVERSAL/MULTIVARIABLE (*)		MULTIFUNCTION (*)	MULTIFUNCTION (*)	MULTIFUNCTION (*)
V	VIBRATION, MECHANICAL ANAL.			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE, TORQUE		WELL		
X	UNCLASSIFIED (*)	X AXIS	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	EVENT, STATE, OR PRESENCE	Y AXIS		RELAY,COMPUTE,CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

(*) WHEN USED. AN EXPLANATION IS SHOWN ADJACENT TO SYMBOL.

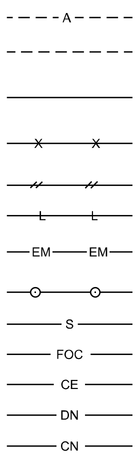
LINE IDENTIFICATION

PROCESS FLOW



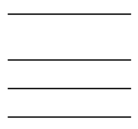
- FLOW STREAM IDENTIFIERS. SEE PROCESS MECHANICAL LEGEND FOR FLOW STREAM IDENTIFIER LISTING.
- NEW MAJOR PROCESS FLOW STREAM (CLOSED CONDUIT)
- NEW INTERMEDIATE PROCESS FLOW STREAM (CLOSED CONDUIT)
- NEW MINOR PROCESS FLOW STREAM (CLOSED CONDUIT)
- EXISTING MAJOR PROCESS FLOW STREAM (CLOSED CONDUIT)
- EXISTING INTERMEDIATE PROCESS FLOW STREAM (CLOSED CONDUIT)
- EXISTING MINOR PROCESS FLOW STREAM (CLOSED CONDUIT)
- NEW MAJOR PROCESS FLOW STREAM (OPEN CONDUIT)
- EXISTING MAJOR PROCESS FLOW STREAM (OPEN CONDUIT)
- HEAT TRACED PROCESS FLOW STREAM (CLOSED CONDUIT)

SIGNALS

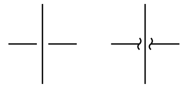


- MODULATED (4-20mA DC)
- HARDWIRED DISCRETE INPUTS/OUTPUTS
- INSTRUMENT SUPPLY OF CONNECTION TO EQUIPMENT
- FAILED SYSTEM (CAPILLARY TUBING ETC.)
- PNEUMATIC
- HYDRAULIC
- ELECTROMAGNETIC OR SONIC (GUIDED)
- MECHANICAL LINK
- SERIAL LINK (RS232/485)
- FIBER OPTIC CABLE
- COPPER ETHERNET CABLE
- DEVICENET
- CONTROLNET

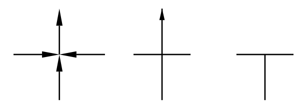
STRUCTURES AND EQUIPMENT



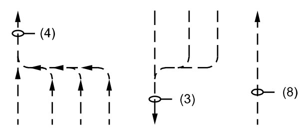
- NEW, RELOCATED, OR REFURBISHED EQUIPMENT
- EXISTING EQUIPMENT
- NEW OR RELOCATED STRUCTURE
- EXISTING STRUCTURE



NON-CONNECTING LINES



CONNECTING LINES



PARALLEL SIGNALS.
(PARENTHETICAL NUMBER INDICATES QUANTITY OF SIGNALS REPRESENTED)

LOCAL CONTROL PANEL TAG IDENTIFICATION

TAG NUMBER

V-W-XYZ ◆

V: SITE IDENTIFIER
W: EQUIPMENT
- CS - CONTROL STATION
- ITC - INSTRUMENT TERM. CABINET
- LCP - LOCAL CONTROL PANEL
- SPCP - SUMP PUMP CONTROL PANEL
- VFD - VARIABLE FREQUENCY DRIVE

X: P&ID NUMBER
Y: LOOP NUMBER
Z: EQUIPMENT NUMBER
◆ COMPONENT DESIGNATOR

EQUIPMENT AND VALVE TAG IDENTIFICATION

TAG NUMBER

V-W-XYZ ✳✳

V: SITE IDENTIFIER
W: EQUIPMENT
- E - EJECTOR
- G - GATE
- M - MECHANICAL EQUIPMENT
- P - PUMP
- T - TANK
- ARV - AIR RELEASE VALVE
- AVRV- AIR & VACUUM RELIEF VALVE
- ATS - AUTOMATIC TRANSFER SWITCH
- EPS - EMERGENCY POWER SYSTEM
- LCV - LEVEL CONTROL VALVE
- PCV - PRESSURE CONTROL VALVE
- PSV - PRESSURE SAFETY (RELIEF) VALVE
- TCV - TEMPERATURE CONTROL VALVE

X: P&ID NUMBER
Y: LOOP NUMBER
Z: EQUIPMENT NUMBER
✳✳: COMPONENT DESIGNATOR

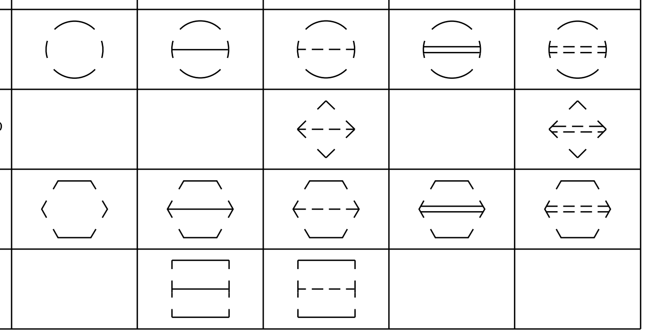
COMPONENT DESIGNATORS

◆	PROVIDE COMPONENT IN ACCORDANCE WITH DIVISION 16D.
◆◆	FURNISHED AS PART OF A MANUFACTURER'S OR VENDOR'S PACKAGED SYSTEM UNDER DIVISION 11 AND DIVISION 15. TO BE INSTALLED IN ACCORDANCE WITH DIVISION 16D.
◆◆◆	EXISTING COMPONENT, TO BE RELOCATED IN ACCORDANCE WITH DIVISION 16D.
◆◆◆◆	OWNER FURNISHED COMPONENT, TO BE INSTALLED IN ACCORDANCE WITH DIVISION 16D.
✳	PROVIDE COMPONENT IN ACCORDANCE WITH DIVISION 11 AND DIVISION 15.
✳✳	FURNISHED AS PART OF A MANUFACTURER'S OR VENDOR'S PACKAGED SYSTEM UNDER DIVISION 11 AND DIVISION 15. TO BE INSTALLED IN ACCORDANCE WITH DIVISION 11 AND DIVISION 15.
✳✳✳	EXISTING COMPONENT, TO BE RELOCATED IN ACCORDANCE WITH DIVISION 11 AND DIVSION 15.
✳✳✳✳	OWNER FURNISHED COMPONENT, TO BE INSTALLED IN ACCORDANCE WITH DIVISION 11 AND DIVISION 15.
●	PROVIDE COMPONENT IN ACCORDANCE WITH DIVISION 16.
●●	FURNISHED AS PART OF A MANUFACTURER'S OR VENDOR'S PACKAGED SYSTEM UNDER DIVISION 11 AND DIVISION 15. TO BE INSTALLED IN ACCORDANCE WITH DIVISION 16.
●●●	EXISTING COMPONENT, TO BE RELOCATED IN ACCORDANCE WITH DIVISION 16.
●●●●	OWNER FURNISHED COMPONENT, TO BE INSTALLED IN ACCORDANCE WITH DIVISION 16.

COMPONENT DESIGNATORS ARE NOT INTENDED TO ENCOMPASS PIPING, CONDUIT, WIRING, OR CONCRETE STRUCTURES.

INSTRUMENT SYMBOLS

	FIELD MOUNTED	PANEL MOUNTED ACCESSIBLE TO OPERATOR	PANEL MOUNTED INACCESSIBLE TO OPERATOR	MOTOR STARTER MOUNTED ACCESSIBLE TO OPERATOR	MOTOR STARTER MOUNTED INACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS					
PROGRAMMABLE CONTROLLER-BASED FUNCTIONS					
PANEL MOUNTED OIU FUNCTIONS					
PC BASED HMI WORKSTATION FUNCTIONS					



GENERAL NOTES

1. DRAWINGS SHOW CONTROL, SIGNAL AND ASSOCIATED SINGLE PHASE POWER WIRING REQUIREMENTS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WIRING, WHETHER SHOWN OR NOT, NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.
3. DRAWINGS SHOW APPROXIMATE LOCATIONS OF DEVICES AND PANELS, FIELD VERIFY DIMENSIONS AND ELEVATIONS.
4. SHIELDED AND UNSHIELDED CONDUCTORS SHALL BE RUN IN CONDUIT. SHIELDED CONDUCTORS SHALL NOT BE COMBINED WITH UNSHIELDED CONDUCTORS IN ANY CONDUIT. NEITHER SHIELDED NOR UNSHIELDED CONDUCTORS SHALL BE INCLUDED IN THE SAME CONDUIT AS POWER WIRING.
5. CONDUITS SHALL BE SIZED TO ACCOMMODATE REQUIRED CONDUCTORS AND SPARES.
6. DRAWINGS DO NOT SHOW CONDUIT SYSTEMS. PROVIDE, AS A MINIMUM, PULL BOXES AS RECOMMENDED BY CONDUCTOR MANUFACTURER. CONDULETS SHALL NOT BE USED AS PULL BOXES.
7. PROVIDE EXPLOSION-PROOF SEAL-OFF FITTINGS ON ALL CONDUIT EXITING CLASSIFIED OR RATED LOCATIONS. FITTINGS SHALL BE INSTALLED PER NEC.
8. SHIELDED AND UNSHIELDED CONDUCTORS SHALL HAVE A MINIMUM OF 6" SEPARATION BETWEEN CONDUIT ON PARALLEL RUNS.
9. SHIELDED AND UNSHIELDED CONDUCTORS SHALL BE SEPARATED BY STEEL BARRIERS IN ALL COMBINED SIGNAL JUNCTION BOXES AND INSTRUMENT TERMINATION CABINETS.
10. CONDUCTORS SHALL NOT BE SPLICED EXCEPT AT TERMINALS OR AS DESIGNATED BY ENGINEER.
11. FOR EACH CONDUIT, PROVIDE A MINIMUM OF TWO CONDUCTORS OR 10% OF TOTAL CONDUCTORS IN CONDUIT, WHICHEVER IS GREATER AS SPARES. TAG BOTH ENDS OF EACH SPARE. TERMINATE EACH END OF SPARE CONDUCTORS AT TERMINALS WHENEVER POSSIBLE.
12. SPARE AND GROUND CONDUCTORS ARE GENERALLY NOT SHOWN IN WIRING TABLES.

INDEX LEGEND

()	#14	(QUANTITY)	#14 THHN/THWN CONDUCTORS.
()	STP	(QUANTITY)	#16 SHIELDED TWISTED PAIR.
()	MB	(QUANTITY)	#16 SHIELDED TWISTED PAIR (MODBUS).
()	3C-S	(QUANTITY)	#16 SHIELDED 3-CONDUCTOR.
()	4C-S	(QUANTITY)	#16 SHIELDED 4-CONDUCTOR.
()	5C-S	(QUANTITY)	#16 SHIELDED 5-CONDUCTOR.
()	RTD	(QUANTITY)	3-WIRE RTD CABLE.
()	E	(QUANTITY)	TYPE E THERMOCOUPLE CABLE.
()	K	(QUANTITY)	TYPE K THERMOCOUPLE CABLE.
()	FOC	(QUANTITY)	FIBER OPTIC CABLE.
()	CE	(QUANTITY)	COPPER ETHERNET.
()	VFC	(QUANTITY)	VENDOR FURNISHED CABLE.

INDEX SYMBOLS

0123 — INSTRUMENT INDEX SYMBOL AS SHOWN ON INSTRUMENT LOCATION DRAWINGS.

0123 = INDEX NUMBER

PLAN	DATE	BY
SURVEYED		
PLOTTED		
ALIGNMENT CHECKED		
R.O.W. CHECKED		
NOTE BOOK NO.		
CADD FILE NAME		

PROFILE	DATE	BY
SURVEYED		
PLOTTED		
GRADES CHECKED		
BM NOTED		
STRUCTURE NOTATIONS CHKD		
NOTE BOOK NO.		

FILE NAME = INSTRUMENTATION AND CONTROL STANDARD LEGEND

DONOHUE

USER NAME = brvanderwal	DESIGNED - JCE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PUMP STATION – GENERAL INSTRUMENTATION AND CONTROL STANDARD LEGEND
	DRAWN - JCE	REVISED -		
PLOT SCALE = 2.1000 ' / in.	CHECKED - RJN	REVISED -		
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -		SCALE: SHEET 3 OF 5 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	250
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		

VALVE SYMBOLS

- SEAT ECCENTRIC PLUG
- BUTTERFLY
- BALL
- VENTED BALL
- GLOBE
- GATE
- KNIFE GATE
- PINCH
- DIAPHRAGM
- SOLENOID
- THREE-WAY
- TELESCOPING
- BALL CHECK
- SWING CHECK
- SPLIT DISC CHECK
- DIAPHRAM CHECK
- CALIBRATED BALANCE
- PRESSURE CONTROL (REGULATED SIDE)
- TEMPERATURE CONTROL
- PRESSURE RELIEF
- AIR RELEASE
- COMBINATION AIR AND VACCUUM RELEASE
- MUD

GATE SYMBOLS

- SLUICE
- SLIDE
- FLAP GATE
- WIER GATE
- STOP PLANK (LOG)

VALVE AND GATE POWER ACTUATOR SYMBOLS

- ELECTRIC MOTOR
- PNEUMATIC WITH SOLENOID
- HYDRAULIC WITH SOLENOID
- ELECTRIC MOTOR WITH POSITIONER
- PNEUMATIC WITH POSITIONER
- HYDRAULIC WITH POSITIONER

NOTE ON 'XX':

ON LOSS OF PRIMARY POWER (PNEUMATIC OR ELECTRICAL)

XX:

FC = FAIL CLOSED POSITION
FIP = FAIL INTERMEDIATE POSITION
FLP = FAIL LAST POSITION
FO = FAIL OPEN POSITION

FLOW AND LEVEL ELEMENT SYMBOLS

- PARSHALL FLUME
- ROTAMETER
- PROPELLER OR TURBINE METER
- LEVEL ELEMENT, ULTRASONIC, SUSPENDED, NON-INTRUSIVE
- LEVEL ELEMENT, RADAR, SUSPENDED, NON-INTRUSIVE
- LEVEL ELEMENT, HYDROSTATIC, SUSPENDED, SUBMERSIBLE
- LEVEL ELEMENT, INDUCTIVE, SUSPENDED, SUBMERSIBLE
- LEVEL ELEMENT, BUBBLER
- PULSE-DOPPLER VELOCITY PROFILER
- CLAMP ON ULTRASONIC FLOWMETER
- MAGNETIC FLOWMETER
- PITOT-STATIC
- VENTURI OR FLOW TUBE
- VORTEX SHEDDING
- ORIFICE METER
- BALL FLOAT
- FLOAT, MAGNETICALLY ACTIVATED REED SWITCH
- ANALYSIS ELEMENT, SUSPENDED, IMMERSIBLE
- THERMAL DISPERSION HOT-TAP RETRACTABLE FLOW ELEMENT (043 FE/FIT 0843)

MISCELLANEOUS SYMBOLS

- SWITCHED RECEPTACLE (POWER, CONTROL OR SIGNAL) WITH CORD AND PLUG SET
- BLIND FLANGE OR CLEAN OUT
- DRAIN
- STRAINER
- FLUSHING WATER CONNECTION
- SEAL WATER CONNECTION
- EJECTOR
- AUTOMATIC SAMPLER
- DIFFUSER
- VENT
- PURGE SET X: W = WATER A = AIR
- PULSATION DAMPENER
- EXPANSION JOINT
- FLAME ARRESTOR
- FLAME TRAP ASSEMBLY
- FLAME CHECK
- DESK MOUNTED MONITOR AND KEYBOARD
- MEDIA CONVERTER
- 120V — 120 VOLT, 60 HZ POWER SUPPLY POINT
- MIXER WITH ELECTRIC MOTOR
- ELECTRIC MOTOR
- MANUAL SAMPLE PORT
- AUTOMATIC DRAIN
- MANUAL DRIP TRAP
- DIAPHRAGM SEAL
- ANNULAR SEAL
- FLOW STRAIGHTENING VANE
- CALIBRATION CHAMBER
- DENSITY METER X: N - NUCLEAR O - OPTICAL U - ULTRASONIC M - MICROWAVE
- RUPTURE DISK
- BALANCING VALVE
- ANTENNA
- DESK MOUNTED THICK CLIENT/ WORK STATION WITH MONITOR(S)
- INDUSTRIAL DATA OUTLET W/ 120VAC OUTLET AND ETHERNET CONNECTION

INPUTS & OUTPUTS (I/O) TO PLC, DAQ OR DISTRIBUTED CONTROL SYSTEMS

UNIVERSAL INPUT/OUPUT (I/O = I/O POINT TYPE)

(X) — EQUIPMENT — FUNCTION

I/O POINT TYPES:

DI (DIGITAL INPUT)
RO (RELAY OUTPUT)
AI (ANALOG INPUT)
AO (ANALOG OUTPUT)
RTD (RESISTANCE TEMPERATURE DETECTOR)

NOTE ON 'X':

X = TOTAL NUMBER OF I/O WHERE MORE THAN ONE I/O IS REQUIRED. IF QUANTITY IS NOT SHOWN THEN ONE I/O IS REQUIRED.

PUMP & COMPRESSOR SYMBOLS

- SUBMERSIBLE PUMP
- CENTRIFUGAL PUMP (DRY PIT, PLAN VIEW)
- CENTRIFUGAL PUMP (DRY PIT, ELEVATION)
- CENTRIFUGAL PUMP (INLINE)
- VERTICAL TURBINE PUMP
- PROGRESSING CAVITY PUMP
- CENTRIFUGAL BLOWER
- CHEMICAL INDUCTION MIXER
- ROTARY LOBE PUMP, BLOWER OR COMPRESSOR (POSITIVE DISPLACEMENT)
- AXIAL FLOW PUMP
- AIR OPERATED DIAPHRAGM PUMPS W. INTEGRAL CHECK VALVES: CYLINDER ASSIST
- SPRING RETURN
- COMPRESSOR (PISTON)
- CHEMICAL FEED PUMP
- PLUNGER PUMP
- DIAPHRAGM PUMP
- HOSE PUMP

NOTE ON 'X':

AS : ADJUSTABLE SPEED
CS-1 : CONSTANT SPEED (SINGLE SPEED)
CS-2 : CONSTANT SPEED (TWO SPEED)
CS-R : CONSTANT SPEED (REVERSING)
MS : MECHANICAL SHIV (ADJUSTABLE)

INTERFACE SYMBOLS

PROCESS

XXX A — SOURCE SHEET NO. NOT VISIBLE XXX = DESTINATION SHEET NO. A = INTERFACE DESIGNATOR

ELECTRICAL

XXX A — SOURCE SHEET NO. NOT VISIBLE XXX = DESTINATION SHEET NO. A = INTERFACE DESIGNATOR

- TO EXISTING INTERFACE NOT IN CONTRACT
- TO NEW OR FUTURE INTERFACE NOT IN CONTRACT

PLAN — NOTE BOOK NO. — SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.T. OF WAY CHECKED / CADD FILE NAME — BY — DATE

PROFILE — NOTE BOOK NO. — SURVEYED / PLOTTED / GRADES CHECKED / S.A. NOTED / STRUCTURE NOTATIONS CHKD — BY — DATE

FILE NAME = INSTRUMENTATION AND CONTROL STANDARD SYMBOLOGY

DONOHUE

USER NAME = brvanderwal	DESIGNED - JCE	REVISED -
	DRAWN - JCE	REVISED -
PLOT SCALE = 2.1000 ' / in.	CHECKED - RJN	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – GENERAL
INSTRUMENTATION AND CONTROL
STANDARD SYMBOLOGY

SCALE: | SHEET 4 OF 5 SHEETS | STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 61G79

ILLINOIS FED. AID PROJECT

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
PROFILE CHECKED
BM. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

110+00
111
112

N

0 10 20 30
SCALE IN FEET

+70.0
87.0' RT
726.22'

DRAIN STR 2-38
RIM EL=726.28'

DRAIN STR 2-41
RIM EL=726.60'

+30.8
87.0' RT
726.89'

DRAIN STR 2-37
RIM EL=723.50'

11'

BOLLARDS

14'

1.1%

16'

2.0%

HMA SURF CSE, MIX "D", IL-9.5, N50 2"
HMA BASE CSE, 8"
AGG BASE CSE, TY B 4"

+64.4
105.9' RT
727.35'

50' R

+84.6
112.1' RT
727.75'

PUMP STATION
TOP OF WET WELL
EL=726.50'

+88.1
98.0' RT
726.19'

+04.1
101.0' RT
726.37'

+23.1
101.0' RT
726.58'

+42.2
111.7' RT
726.82'

12' R

CONC OUTLET FOR CURB AND GUTTER
TYPE B-6.12
(PAID AS COMB CONC C&G B-6.12)

EX ELECTRIC HH

PAD MOUNTED TRANSFORMERS

DEPRESSED CURB 39'
(PAID AS COMB CONC C&G B-6.12)

+70.4
98.0' RT
726.00'

COMB CONC CURB AND GUTTER
TYPE B-6.12

+47.9
125.3' RT
727.00'

CONC SLAB FOR PS EQUIPMENT

FILE NAME = 060092-PS-DVWDET-01

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - MKW	REVISED -	
	DRAWN - BMS	REVISED -	
PLOT SCALE = 20.0000 ' / in.	CHECKED - BVW	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – GENERAL SITE PLAN

SCALE: 1"=10' | SHEET 5 OF 5 SHEETS | STA. | TO STA.

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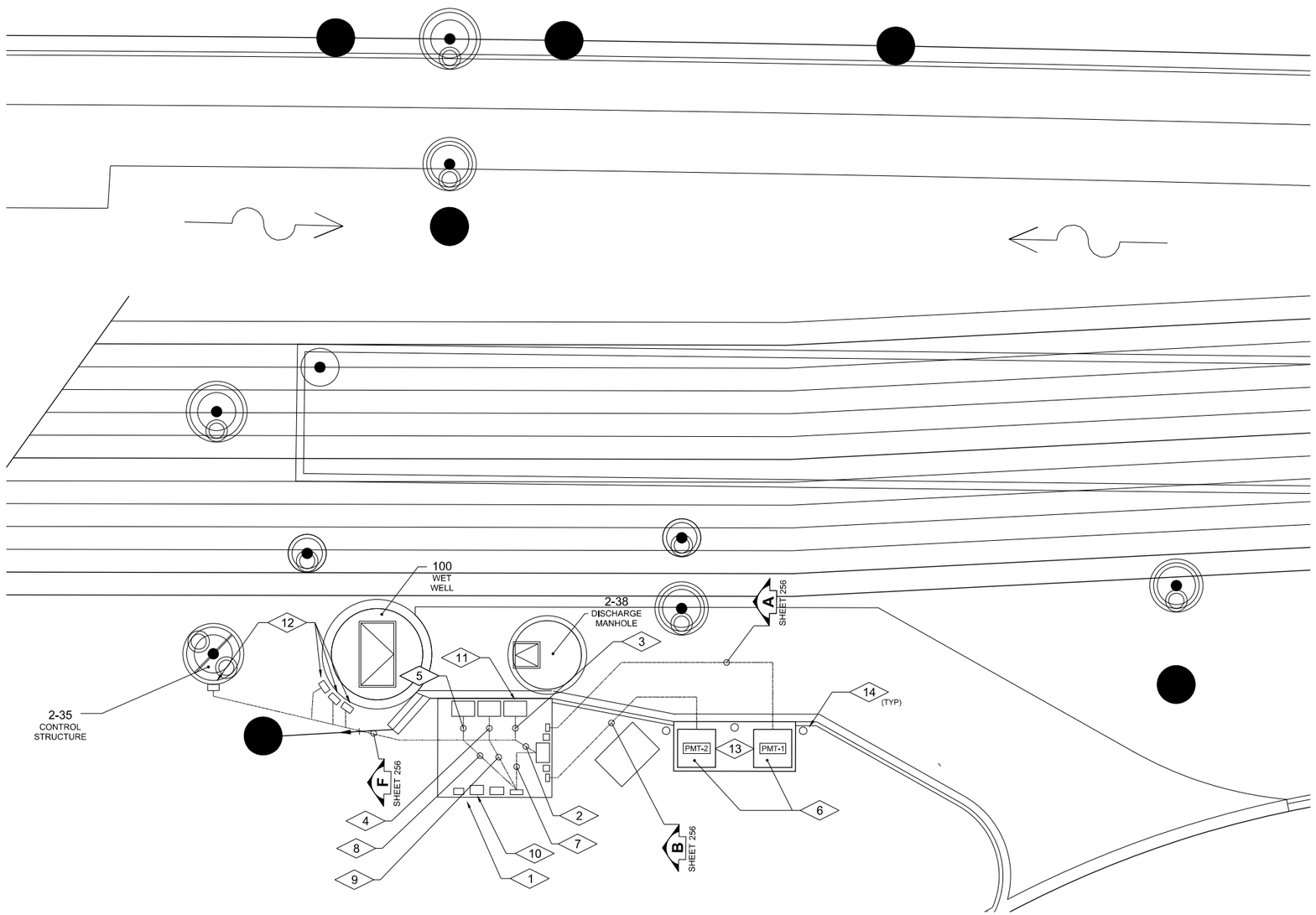
	ILLINOIS	FED. AID PROJECT		

PLAN
SURVEYED
PLOTTED
CHANGES CHECKED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
NOTE BOOK
CADD FILE NAME
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
CHANGES CHECKED
BM. NOTED
STRUCTURE NO(TA)NS CHKD
NOTE BOOK
NO.
BY
DATE



PLAN

0 1' 8'

N

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS, ELEVATIONS AND LOCATIONS PRIOR TO CONSTRUCTION AND / OR FABRICATION.
2. CONTROL STRUCTURE, DISCHARGE MANHOLE AND WET WELL SHALL BE:

   CLASS 1, DIVISION 2
   GROUP D
   HAZARDOUS CLASSIFIED
   LOCATION
3. COORDINATE EXACT DUCT BANK ROUTES WITH EXISTING SITE PIPING, DUCT BANKS, AND OTHER CONSTRUCTION.
4. CONTRACTOR SHALL POT HOLE AND HAND DIG TO FIELD VERIFY EXISTING UTILITIES.
5. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER IMMEDIATELY OF ANY DISCREPANCIES SHOWN ON THE DRAWINGS AND ANY CONFLICTS BETWEEN EXISTING AND NEW.
6. THE EXACT HORIZONTAL LOCATION OF HANDHOLES AND BENDS SHOWN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE IN ACCORDANCE WITH THE GENERAL CONFIGURATION SHOWN.
7. COSTS FOR SHEETING, SHORING, AND SUPPORT OF ADJACENT OR CROSSING PIPING AND ELECTRICAL CONDUITS IS ENTIRELY THE CONTRACTORS RESPONSIBILITY AND CAN BE MINIMIZED OR AVOIDED BY ADJUSTING THE INSTALLATION SEQUENCE.

PLAN NOTES:

1. SEE SHEET 261 FOR EQUIPMENT LOCATION DETAILS.
2. PROVIDE CONDUIT NO. 5 WITHIN SLAB IN ACCORDANCE WITH THE SPECIFICATIONS.
3. SHEET 256 C
4. SHEET 256 D
5. SHEET 256 E
6. SEE DETAIL E272
7. PROVIDE CONDUIT NO. 13 AND 14 WITHIN SLAB FROM 100-ATS-1 TO 100-PP-1 IN ACCORDANCE WITH THE SPECIFICATIONS.
8. PROVIDE CONDUIT NO. 15 WITHIN SLAB FROM 100-VFD-0101 TO 100-PP-1 IN ACCORDANCE WITH THE SPECIFICATIONS.
9. PROVIDE CONDUIT NO. 16 WITHIN SLAB FROM 100-VFD-0102 TO 100-PP-1 IN ACCORDANCE WITH THE SPECIFICATIONS.
10. PROVIDE CONDUIT NO. 17 WITHIN SLAB FROM AREA LIGHT TO 100-MPC-1 IN ACCORDANCE WITH THE SPECIFICATIONS.
11. PROVIDE CONDUIT NO. 18 WITHIN SLAB FROM ANTENNA TO 100-CP-1 IN ACCORDANCE WITH THE SPECIFICATIONS.
12. SPLICEBOX: SEE DETAIL E031
13. SEE DETAIL S346
14. SEE DETAIL S101

FILE NAME = ELECTRICAL SITE PLAN

DONOHUE

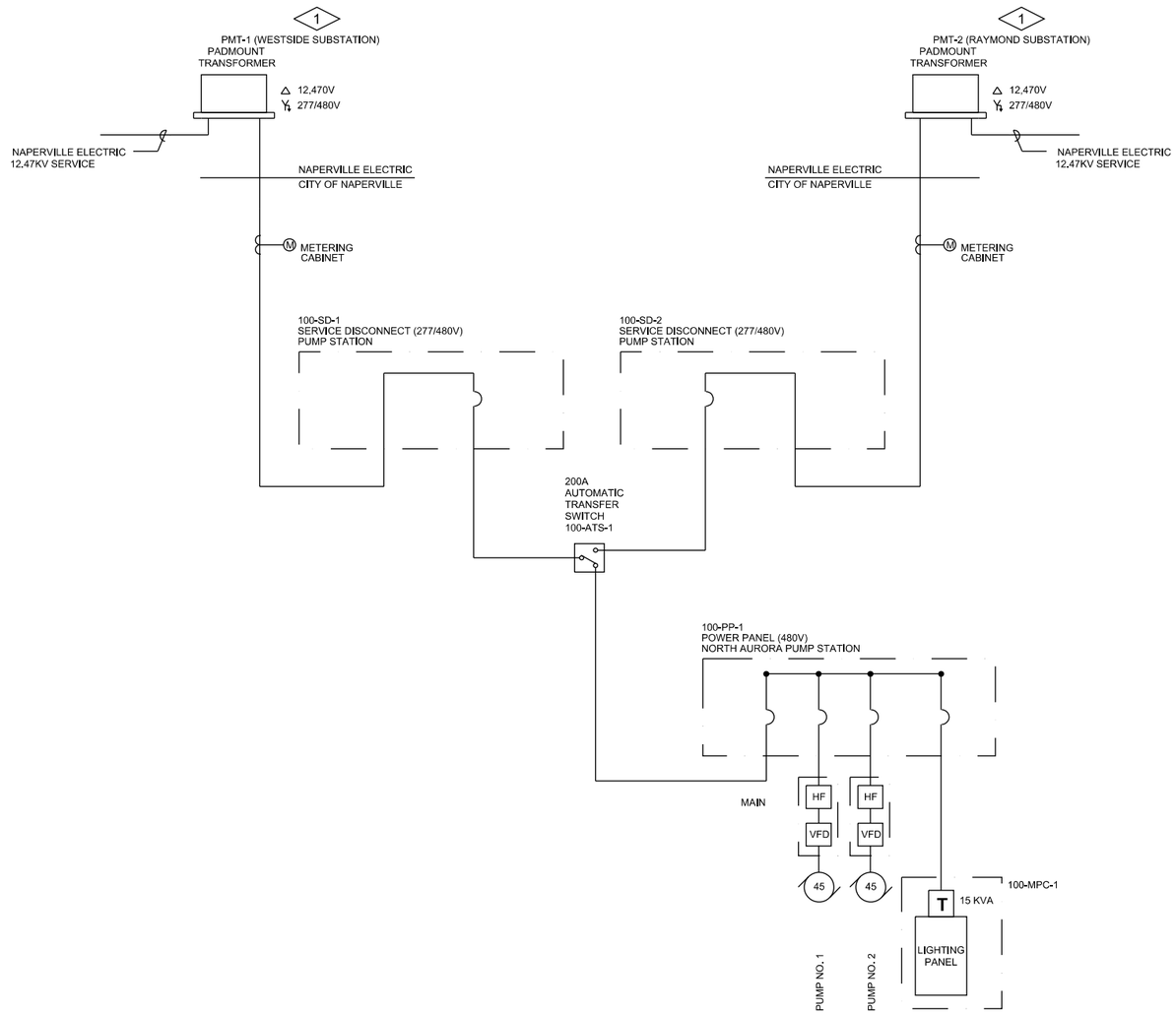
USER NAME = brvanderwal	DESIGNED - JRR	REVISED -	
	DRAWN - JRR	REVISED -	
PLOT SCALE = 0.1739 ' / in.	CHECKED - FGM	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – ELECTRICAL
ELECTRICAL SITE PLAN

SCALE: | SHEET 1 OF 4 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	253
		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			



GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO CONSTRUCTION AND/OR FABRICATION.
2. DRAWING IS A REPRESENTATION OF INTERCONNECTIONS TO THE PLANT ELECTRICAL DISTRIBUTION.

PLAN NOTES: ◇

1. WESTSIDE SUBSTATION TO BE NORMAL SOURCE AND RAYMOND SUBSTATION TO BE BACK-UP SOURCE.

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
CROSS SECTIONS CHECKED
B.M. NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.
BY
DATE

FILE NAME = OVERALL ONE-LINE DIAGRAM

DONOHUE

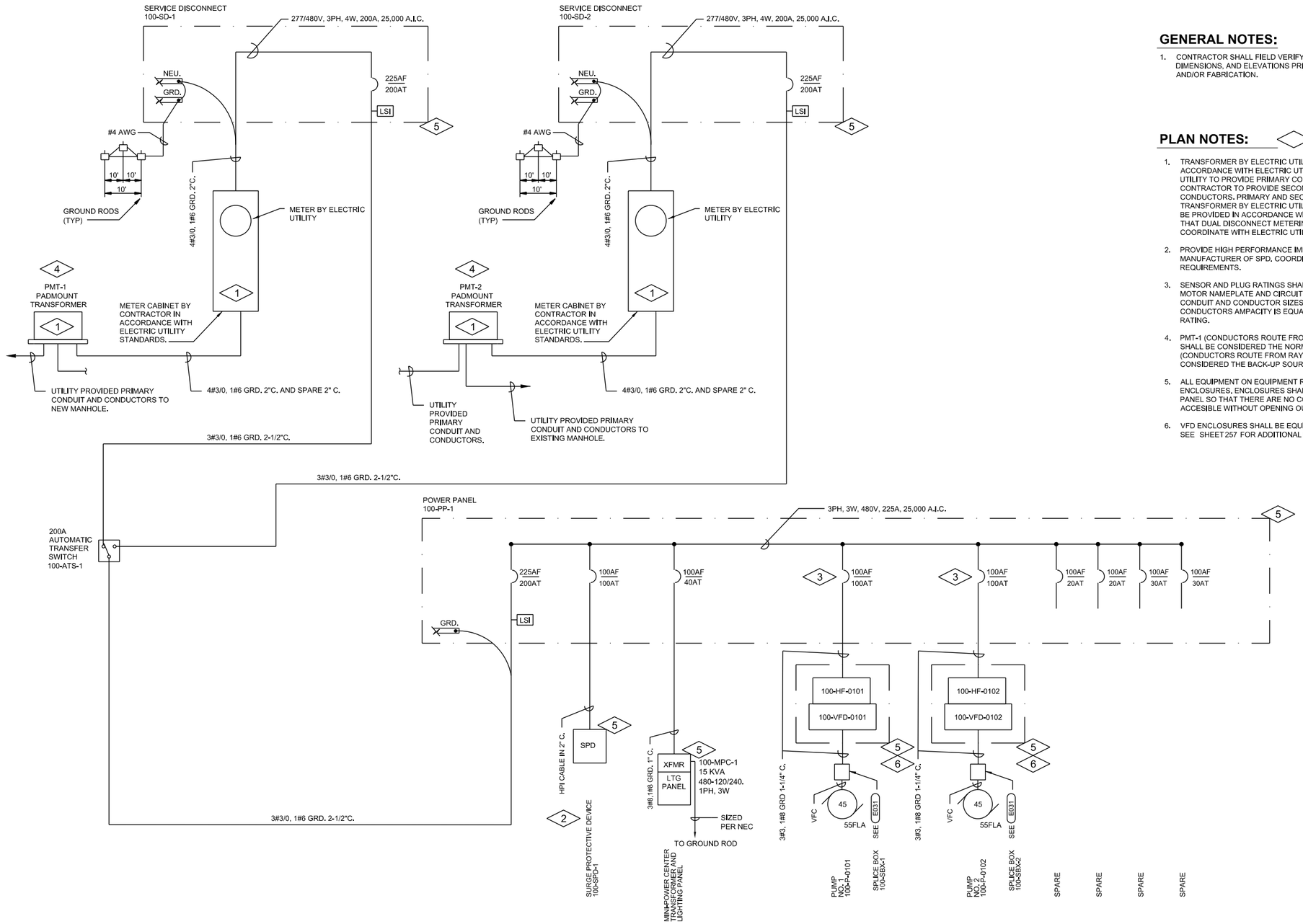
USER NAME = brvanderwal	DESIGNED - JRR	REVISED -	
	DRAWN - JRR	REVISED -	
PLOT SCALE = 0.1739 ' / in.	CHECKED - FGM	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – ELECTRICAL
OVERALL ONE LINE DIAGRAM

SCALE: | SHEET 2 OF 4 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	254
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO CONSTRUCTION AND/OR FABRICATION.

PLAN NOTES:

1. TRANSFORMER BY ELECTRIC UTILITY, PAD BY CONTRACTOR IN ACCORDANCE WITH ELECTRIC UTILITY STANDARDS. ELECTRIC UTILITY TO PROVIDE PRIMARY CONDUIT AND CONDUCTORS AND CONTRACTOR TO PROVIDE SECONDARY CONDUIT AND CONDUCTORS. PRIMARY AND SECONDARY TERMINATIONS ON TRANSFORMER BY ELECTRIC UTILITY. METERING ENCLOSURE TO BE PROVIDED IN ACCORDANCE WITH UTILITY STANDARDS SUCH THAT DUAL DISCONNECT METERING ENCLOSURE IS PROVIDED; COORDINATE WITH ELECTRIC UTILITY.
2. PROVIDE HIGH PERFORMANCE IMPEDANCE CABLE FROM MANUFACTURER OF SPD. COORDINATE CONDUIT SIZE WITH CABLE REQUIREMENTS.
3. SENSOR AND PLUG RATINGS SHALL BE PROVIDED BASED ON MOTOR NAMEPLATE AND CIRCUIT BREAKER IN VFD; ADJUST CONDUIT AND CONDUCTOR SIZES AS REQUIRED SUCH THAT CONDUCTORS AMPACITY IS EQUAL TO OR GREATER THAN PLUG RATING.
4. PMT-1 (CONDUCTORS ROUTE FROM WESTSIDE SUBSTATION) SHALL BE CONSIDERED THE NORMAL SOURCE AND PMT-2 (CONDUCTORS ROUTE FROM RAYMOND SUBSTATION) SHALL BE CONSIDERED THE BACK-UP SOURCE.
5. ALL EQUIPMENT ON EQUIPMENT RACKS SHALL BE IN NEMA 4X ENCLOSURES. ENCLOSURES SHALL HAVE A DEAD FRONT OUTER PANEL SO THAT THERE ARE NO CONTROLS OR DISCONNECTS ACCESIBLE WITHOUT OPENING OUTER DOOR OF ENCLOSURE.
6. VFD ENCLOSURES SHALL BE EQUIPPED WITH INTRUSION ALARMS; SEE SHEET257 FOR ADDITIONAL INFORMATION.

100-PP-1 ONE-LINE DIAGRAM
NORTH AURORA PUMP STATION

NTS

PLAN — SURVEYED, PLOTTED, ADJACENT CHECKED, RT. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK, NO., BY, DATE

PROFILE — SURVEYED, PLOTTED, ADJACENT CHECKED, BM. NOTED, STRUCTURE NO/ATHS CHKD, NOTE BOOK, NO., BY, DATE

FILE NAME = ONE-LINE DIAGRAM

DONOHUE

USER NAME = brvanderwal	DESIGNED - JRR	REVISED -
	DRAWN - JRR	REVISED -
PLOT SCALE = 0.1739 ' / in.	CHECKED - FGM	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – ELECTRICAL
ONE LINE DIAGRAM

SCALE: | SHEET 3 OF 4 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	255
		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			

SURFACE MOUNTED NEMA 4X
480 V, 3 PHASE, 3 WIRE
RATING 25,000 A.I.C.

PANEL SCHEDULE 100-PP-1

200A MAIN BREAKER
225A MAIN BUS
225A GRD. BUS

CKT. NO.	TRIP/P	DESCRIPTION	PHASE A	PHASE B	PHASE C	DESCRIPTION	TRIP/P	CKT. NO.
1			•					2
3	100/3	SURGE PROTECTIVE DEVICE 100-SPD-1 (1)		•		MINI-POWER CENTER 100-MPC-1	40/3	4
5					•			6
7			•					8
9	100/3	N.A. PUMP STATION PUMP NO. 1 100-P-1 (2)		•		N.A. PUMP STATION PUMP NO. 2 100-P-2 (2)	100/3	10
11					•			12
13			•					14
15	20/3	SPARE		•		SPARE	20/3	16
17					•			18
19			•					20
21	30/3	SPARE		•		SPARE	30/3	22
23					•			24
		TOTALS:	-	-	-	-		

SURFACE MOUNTED NEMA 4X
120 / 240 V, 1 PHASE, 3 WIRE
RATING 10,000 A.I.C.

PANEL SCHEDULE 100-MPC-1

TRANSFORMER AND PANELBOARD COMBINATION

40A PRIMARY BREAKER
70A SECONDARY BREAKER

CKT. NO.	TRIP/P	DESCRIPTION	PHASE A	PHASE B	DESCRIPTION	TRIP/P	CKT. NO.
1	20/1	RECEPTACLES	•		SPARE	20/1	2
3	20/1	EXTERIOR LIGHTING		•	SPARE	20/1	4
5	20/1	PUMP STATION CONTROL PANEL 100-CP-1	•		SPARE	20/1	6
7	20/1	SPARE		•	SPARE	20/1	8
9	20/1	SPARE	•		SURGE PROTECTIVE DEVICE 100-SPD-2 (1)	30/2	10
11	20/1	SPARE		•			12
		TOTALS:	-	-	-		

GENERAL NOTES:

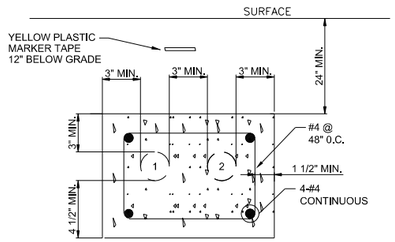
1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO CONSTRUCTION AND/OR FABRICATION.

PLAN NOTES: ◇

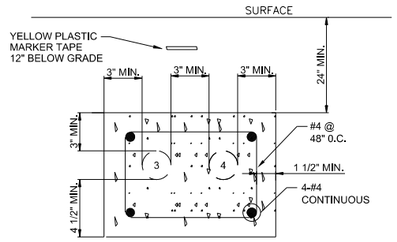
1. PROVIDE HIGH PERFORMANCE IMPEDANCE CABLE FROM MANUFACTURER OF SPD. COORDINATE CONDUIT SIZE WITH CABLE REQUIREMENTS.
2. SENSOR AND PLUG RATINGS SHALL BE PROVIDED BASED ON MOTOR NAMEPLATE AND CIRCUIT BREAKER IN VFD; ADJUST CONDUIT AND CONDUCTOR SIZES AS REQUIRED SUCH THAT CONDUCTORS AMPACITY IS EQUAL TO OR GREATER THAN PLUG RATING.
3. CONDUIT TO BE WITHIN CONCRETE SLAB.

DUCTBANK SCHEDULE

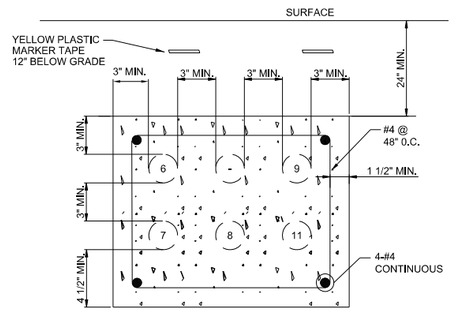
NUMBER	SIZE	FROM	TO	CONTENTS	REMARKS	
1	2-1/2"	100-SD-1	PMT-1	POWER	480V	
2	2-1/2"	100-SD-1	PMT-1	SPARE	CAP IN PMT-1 AND 100-SD-1	
3	2-1/2"	100-SD-2	PMT-2	POWER	480V	
4	2-1/2"	100-SD-2	PMT-2	SPARE	CAP IN PMT-2 AND 100-SD-2	
5	1"	100-CP-1	ATS-1	CONTROL		3
6	1"	100-CP-1	235-SBX-4	CONTROL		
7	1"	100-CP-1	100-SBX-3	CONTROL		
8	1"	100-CP-1	100-SBX-3	ANALOG	GRS CONDUIT	
9	1"	100-CP-1	100-SBX-1	CONTROL		
10	1-1/4"	100-VFD-0101	100-SBX-1	POWER	480V	
11	1"	100-CP-1	100-SBX-2	CONTROL		
12	1-1/4"	100-VFD-0102	100-SBX-2	POWER	480V	
13	2"	100-ATS-1	100-PP-1	POWER	480V	3
14	2"	100-ATS-1	100-PP-1	SPARE	CAP IN 100-ATS-1 AND 100-PP-1	3
15	1-1/4"	100-VFD-0101	100-PP-1	POWER		3
16	1-1/4"	100-VFD-0102	100-PP-1	POWER		3
17	1"	AREA LIGHT	100-MPC-1	POWER	120V	3
18	1"	ANTENNA	100-CP-1	CONTROL		3



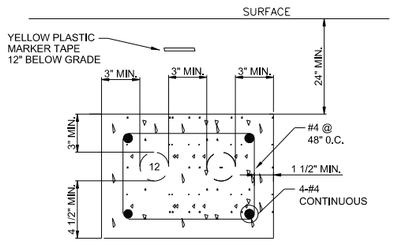
DUCT BANK SECTION A
NTS SHEET 253



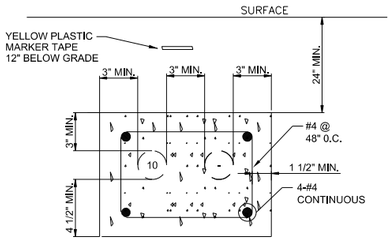
DUCT BANK SECTION B
NTS SHEET 253



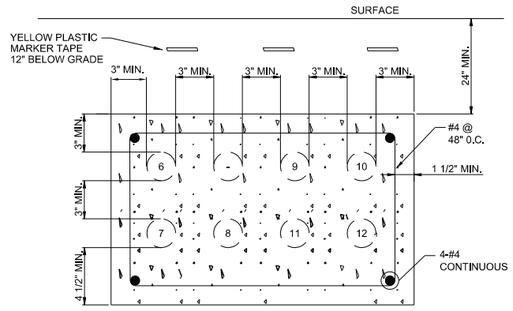
DUCT BANK SECTION C
NTS SHEET 253



DUCT BANK SECTION D
NTS SHEET 253



DUCT BANK SECTION E
NTS SHEET 253



DUCT BANK SECTION F
NTS SHEET 253

PROFILE — SURVEYED — PLOTTED — CROSS CHECKED — B.M. NOTED — STRUCTURE NOTATNS CHKD — NOTE BOOK — NO. — BY — DATE

PLAN — SURVEYED — PLOTTED — ALIGNMENT CHECKED — RT. OF WAY CHECKED — CADD FILE NAME — NOTE BOOK — NO. — BY — DATE

FILE NAME = PANEL SCHEDULES

DONOHUE

USER NAME = brvanderwal	DESIGNED - JRR	REVISED -	
	DRAWN - JRR	REVISED -	
PLOT SCALE = 0.1739 ' / in.	CHECKED - FGM	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – ELECTRICAL
PANEL SCHEDULES

SCALE: | SHEET 4 OF 4 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	256
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		

NAPERVILLE WATER SERVICE CENTER
SCADA-1

CONTROL STRUCTURE: HIGH LEVEL ALARM (YA); HIGH LEVEL WARN (YA)

PUMP STATION: PLC OK (YL); VFD INTRU (YA); VFD INTRU (YA); CTRL ENCL INTRU (YA); WELL INTRU (YA); HS INTRU ACK

WET WELL FLOATS: LAG START (YL); HIGH LEVEL (YA); LEAD START (YL); LOW LEVEL (YA); PUMP STOP (YL); FLOAT MODE (YL)

WET WELL LEVEL CONTROL: LAG START (YL); HIGH LEVEL (YA); LEAD START (YL); LOW LEVEL (YA); PUMP STOP (YL); XDCR FAIL (YA); LI; LC; STPT

WET WELL PUMPS (x2): RUN (YL); VFD FAULT (YA); OL (YA); KI STARTS; HOA (YL); SEAL FAIL (YA); SI %; ETM; HIGH TEMP (YA); SC %

ATS: PRIMARY PWR AVAILABLE (JL); PRIMARY UTILITY (YL); SECONDARY PWR AVAILABLE (JL); SECONDARY UTILITY (YL)

PUMP STATION CONTROL PANEL
100-CP-1

XX ENET SW; PLC MICRO 1400; XFMR 120V; JX SPD; JX UPS; TC HEAT; XX PHASE; SC PUMP 1 SPD POT (2); HS RESET (2); XX ISB (X); HS PUMP 1 HOA (2); YL VFD FAULT (2); YL MOTOR OT (2); YL SEAL FAIL (2); KC FLOAT MODE TIMERS (X); HS PLC / FLOAT; HS LEAD 1 AUTO LEAD 2 (2)

POWER OK (YL); JX LINE FILTER; ZS DOOR; YL PUMP 1 RUN (2); YL FLOAT MODE; XY FLOAT MODE RELAYS (X); KM ETM (2); HS REST AUTO FLOATS (2)

WET WELL FLOAT: HIGH LEVEL (YL); LAG START (YL); LEAD START (YL); PUMP STOP (YL); LOW LEVEL (YL)

CONTROL STRUCTURE FLOAT: HIGH LEVEL ALARM (YL); HIGH LEVEL WARNING (YL)

REQUIRED COMMUNICATION SIGNALS:
- FLOAT STATUS (x5)
- PUMP FAIL TO RUN (x2)
- PUMP OVERTEMP (x2)
- PUMP SEAL FAIL (x2)
- VFD FAULT (x2)
- PUMP RUNNING (x2)
- PUMP IN AUTO (x2)
- PUMP IN HAND (x2)
- VFD ENCL. INTRUSION(X2)
- PUMP LEAD STATUS
- FLOAT MODE ACTIVE
- WETWELL LEVEL
- LEVEL SETPOINTS
- PRIMARY UTILITY PWR FAIL
- SECONDARY UTILITY PWR FAIL
- UPS FAIL
- UPS ON BATTERY POWER
- STATION ALARM
- PLC COMM LOSS
- LINE FILTER FAIL
- ENCLOSE INTRUSION
- WET WELL INTRUSION

MDS entraNET (UT); SPD; XX ANTENNA; 100-ANT-1; YL ALARM BEACON

SC PUMP 1 SPD POT (2)

100 ZS 0100 ENCL DOOR

WELL LEVEL LIT; XX ISB (X); MPR; MPR; (2); 1

120V

CTRL PWR FAIL; UPS FAULT; UPS ON BATTERY POWER; SPD-1 FAIL; SPD-2 FAIL; ATS- PRIMARY UTILITY AVAILABLE; ATS- PRIMARY UTILITY ON PRIMARY UTILITY POWER; ATS- SECONDARY UTILITY AVAILABLE; ATS- SECONDARY UTILITY ON SECONDARY UTILITY POWER; CONTROL STRUCTURE HIGH LEVEL; CONTROL STRUCTURE HIGH HIGH LEVEL; PUMP WETWELL HATCH INTRUSION; PUMP WETWELL LOW LOW LEVEL; PUMP WETWELL PUMP(S) STOP; PUMP WETWELL LEAD START; PUMP WETWELL LAG START; PUMP WETWELL HIGH HIGH LEVEL; WETWELL LEVEL; LOOP POWERED; PUMP NO. 1 SEAL FAIL; PUMP NO. 1 OVERTEMP; PUMP NO. 2 SEAL FAIL; PUMP NO. 2 OVERTEMP; PUMP STATION CONTROL ENCLOSURE INTRUSION; PUMP NO. 1 IN REMOTE (2); PUMP NO. 1 IN LOCAL (2); PUMP NO. 1 RUNNING (2); PUMP NO. 1 VFD FAULT (2); PUMP NO. 1 VFD INTRUSION (2); PUMP NO. 1 REQUIRED (2); PUMP NO. 1 SPEED REFERENCE (2); -A-; 3C-S; CE

COMMUNICATED SIGNALS (x2)
- >> POWER
- >> VFD STATUS
- >> MOTOR CURRENT
- >> SPEED FEEDBACK
- >> SPARE (x5)

AUTOMATIC TRANSFER SWITCH
100-ATS-1

SURGE PROTECTION DEVICE
100-SPD-2

SURGE PROTECTION DEVICE
100-SPD-1

(2); (6); 100-SBX-3; (5); 100-SBX-2; 100-SBX-1; (2); (2)

VFC

100 LSHH 0111 HIGH LEVEL ALARM
LSH 0112 LAG START
LSH 0113 LEAD START
LSL 0114 PUMP OFF
LSLL 0115 LOW LEVEL ALARM

100 LT 0120

PUMP NO. 1 VFD
100-VFD-0101
100-VFD-0102 PUMP NO. 2 VFD
HS LOR; YL RUN; YL FAULT; HS RESET; VFD HIK OIU; COMM ENET; 100 ZS 0101 ENCL DOOR

FROM DETENTION BASIN

235-SBX-4; (2); (2); VFC

235 LSHH 0131 HIGH LEVEL ALARM
LSH 0132 HIGH LEVEL WARNING

CONTROL STRUCTURE RESTRICTION PLATE WITH OVERFLOW WEIR

CONTROL STRUCTURE (2-35)

V

PUMP NO. 1 100-P-0101 AS
PUMP NO. 2 100-P-0102 AS

100 ZS 0103 ACCESS HATCH

WET WELL STRUCTURE 100

DISCHARGE MANHOLE (2-38)

TO OUTLET SEWER

PLAN NOTES:

1. MOTOR PROTECTION RELAYS TO BE SUPPLIED BY PUMP MANUFACTURER AND SHALL BE INSTALLED BY SYSTEM INTEGRATOR.

GENERAL NOTES:

1. CONTROL STRUCTURE, DISCHARGE MANHOLE AND WET WELL SHALL BE:

CLASS 1, DIVISION 2
GROUP D
HAZARDOUS CLASSIFIED LOCATION

PLAN — SURVEYED; PLOTTED; ALIGNMENT CHECKED; RT. OF WAY CHECKED; CADD FILE NAME; NOTE BOOK; NO. ____; BY; DATE

PROFILE — SURVEYED; PLOTTED; GRADES CHECKED; BLM. NOTED; STRUCTURE NOTATNS CHKD; NOTE BOOK; NO. ____; BY; DATE

FILE NAME = PROCESS AND INSTRUMENTATION DIAGRAM

DONOHUE

USER NAME = brvanderwal	DESIGNED - JCE	REVISED -	
	DRAWN - JCE	REVISED -	
PLOT SCALE = 0.1739 ' / in.	CHECKED - RJN	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – INSTRUMENTATION AND CONTROLS
WET WELL
PROCESS AND INSTRUMENTATION DIAGRAM

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	257
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		

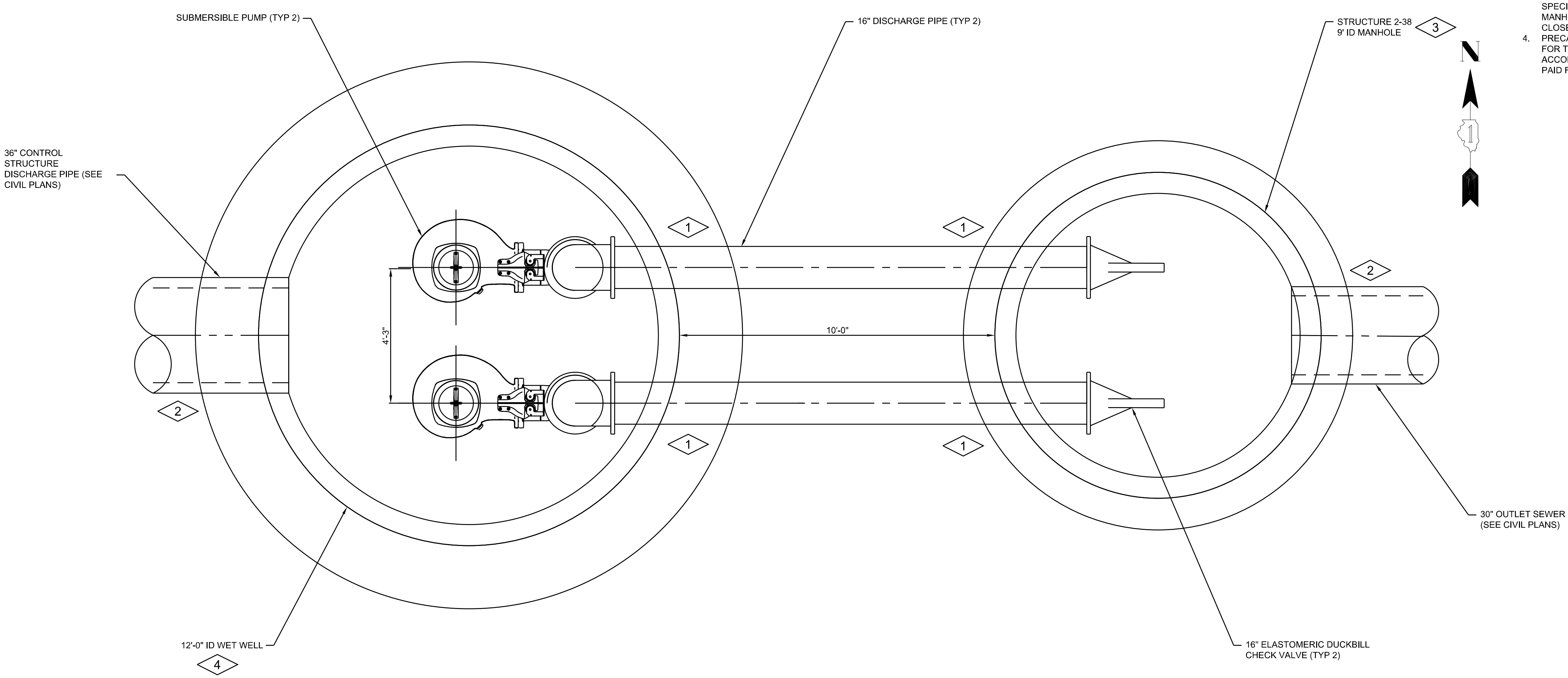
GENERAL NOTES:

1. WET WELL AND DISCHARGE MANHOLE SHALL BE:

   CLASS 1, DIVISION 2
   GROUP D
   HAZARDOUS CLASSIFIED
   LOCATION

PLAN NOTES:

1. JOINTS NOT SHOWN FOR CLARITY. WALL PENETRATION PER DETAIL M100
2. WALL PENETRATION PER DETAIL M119
3. PRECAST CONCRETE MANHOLE. WORK SPECIFIED FOR THE PRECAST MANHOLE SHALL BE IN ACCORDANCE WITH IDOT STANDARD SPECIFICATION 602 AND PAID FOR UNDER PAY ITEM MANHOLES, TYPE A, 9'-DIAMETER TYPE 1 FRAME CLOSED LID.
4. PRECAST CONCRETE MANHOLE. WORK SPECIFIED FOR THE PRECAST MANHOLE SHALL BE ACCORDANCE WITH SPECIAL PROVISION 2A AND PAID FOR UNDER PAY ITEM MANHOLE, SPECIAL.



LOWER PLAN

0 1' 2'

PLAN	NOTE BOOK	SURVEYED / PLOTTED / ALIGNMENT CHECKED / R/T. OF WAY CHECKED / CADD FILE NAME	BY	DATE
PROFILE	NOTE BOOK	SURVEYED / PLOTTED / GRADES CHECKED / B.M. NOTED / STRUCTURE NOTATIONS CHKD	BY	DATE

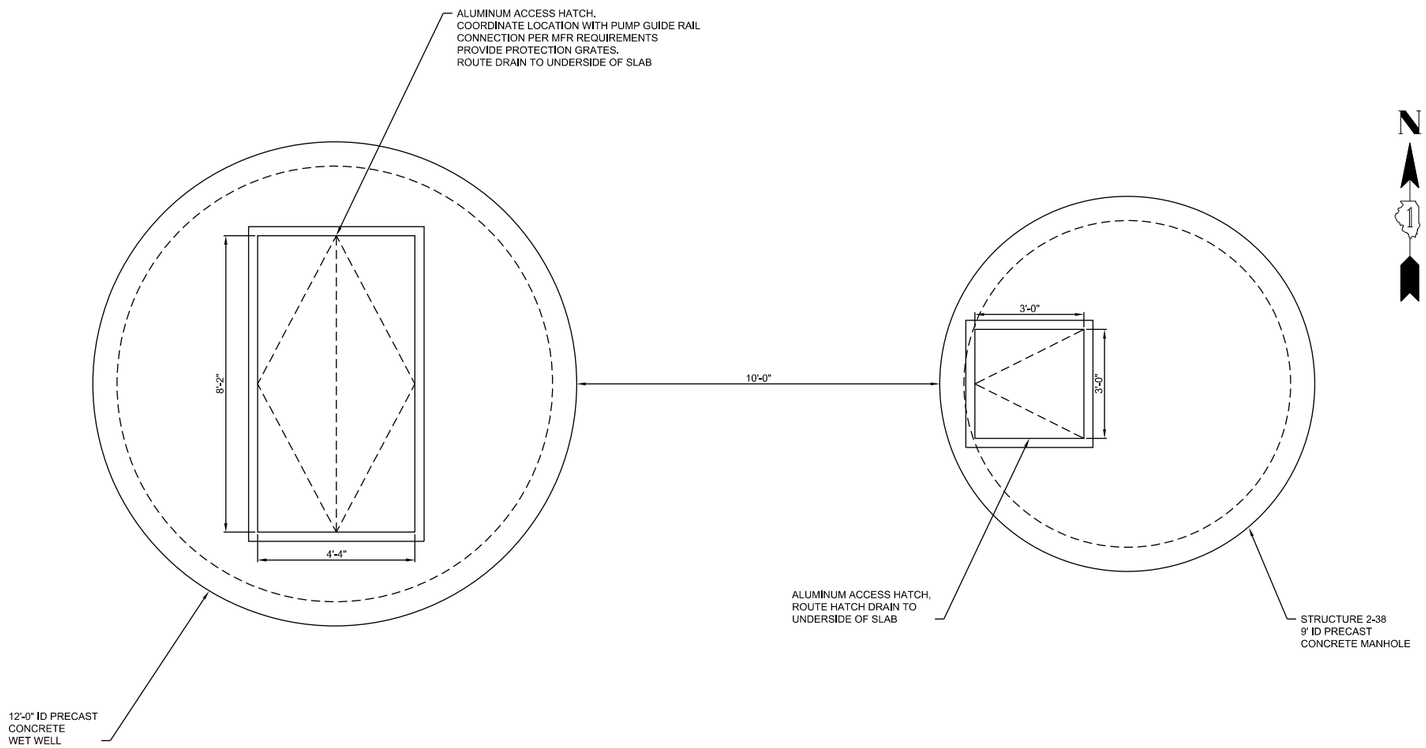
FILE NAME = LOWER PLAN - MECHANICAL

DONOHUE	USER NAME = brvanderwal	DESIGNED - CEE/KRL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PUMP STATION - PROCESS WET WELL LOWER PLAN - STRUCTURAL /MECHANICAL	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - CEE/KRL	REVISED -			1509	06-00133-00-BR	DuPAGE	426	258
	PLOT SCALE = 0.1739 ' / in.	CHECKED - TJB/EPC	REVISED -			CONTRACT NO. 61G79				
	PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -		SCALE: SHEET 1 OF 5 SHEETS STA. TO STA.	ILLINOIS FED. AID PROJECT				

GENERAL NOTES:

1. WET WELL AND DISCHARGE MANHOLE SHALL BE:

   CLASS 1, DIVISION 2
   GROUP D
   HAZARDOUS CLASSIFIED
   LOCATION



UPPER PLAN

0 1' 2'

PLAN: SURVEYED | PLOTTED | ALIGNMENT CHECKED | RT. OF WAY CHECKED | CADD FILE NAME | NOTE BOOK | NO. | BY | DATE

PROFILE: SURVEYED | PLOTTED | CROSS SECTIONS CHECKED | B.M. NOTED | STRUCTURE NOTATIONS CHKD | NOTE BOOK | NO. | BY | DATE

FILE NAME = UPPER PLAN - MECHANICAL

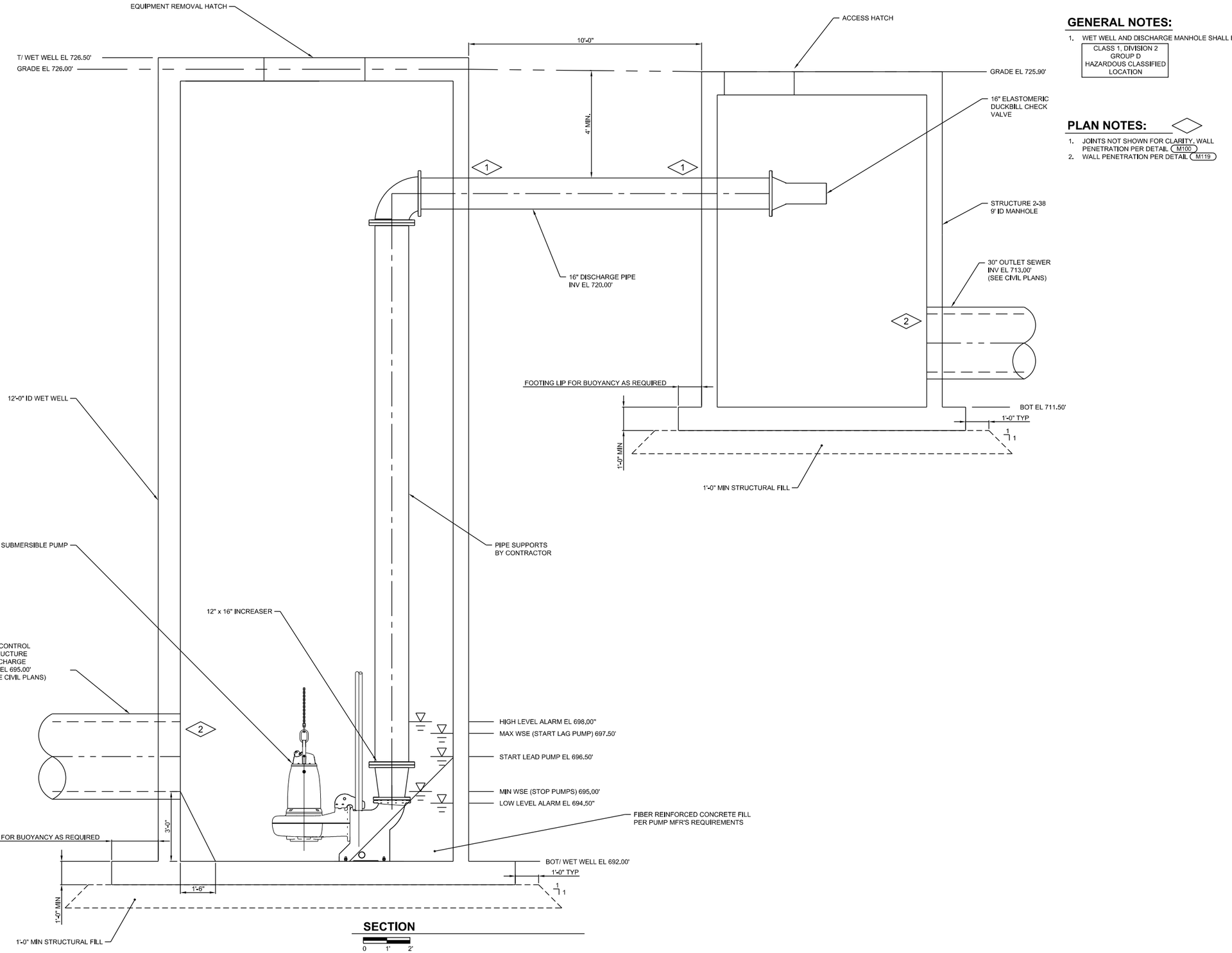
DONOHUE	USER NAME = brvanderwal	DESIGNED - CEE/KRL	REVISED -
		DRAWN - CEE/KRL	REVISED -
	PLOT SCALE = 0.1739 ' / in.	CHECKED - TJB/EPC	REVISED -
	PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – PROCESS
WET WELL
UPPER PLAN – STRUCTURAL /MECHANICAL

SCALE: | SHEET 2 OF 5 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	259
		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			



GENERAL NOTES:

1. WET WELL AND DISCHARGE MANHOLE SHALL BE:
   CLASS 1, DIVISION 2
   GROUP D
   HAZARDOUS CLASSIFIED LOCATION

PLAN NOTES:

1. JOINTS NOT SHOWN FOR CLARITY. WALL PENETRATION PER DETAIL (M100)
2. WALL PENETRATION PER DETAIL (M119)

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
POINTS CHECKED
BM. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

FILE NAME = SECTION - MECHANICAL

USER NAME = brvanderwal	DESIGNED - CEE/KRL	REVISED -	
	DRAWN - CEE/KRL	REVISED -	
PLOT SCALE = 0.1739 ' / in.	CHECKED - TJB/EPC	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

DONOHUE

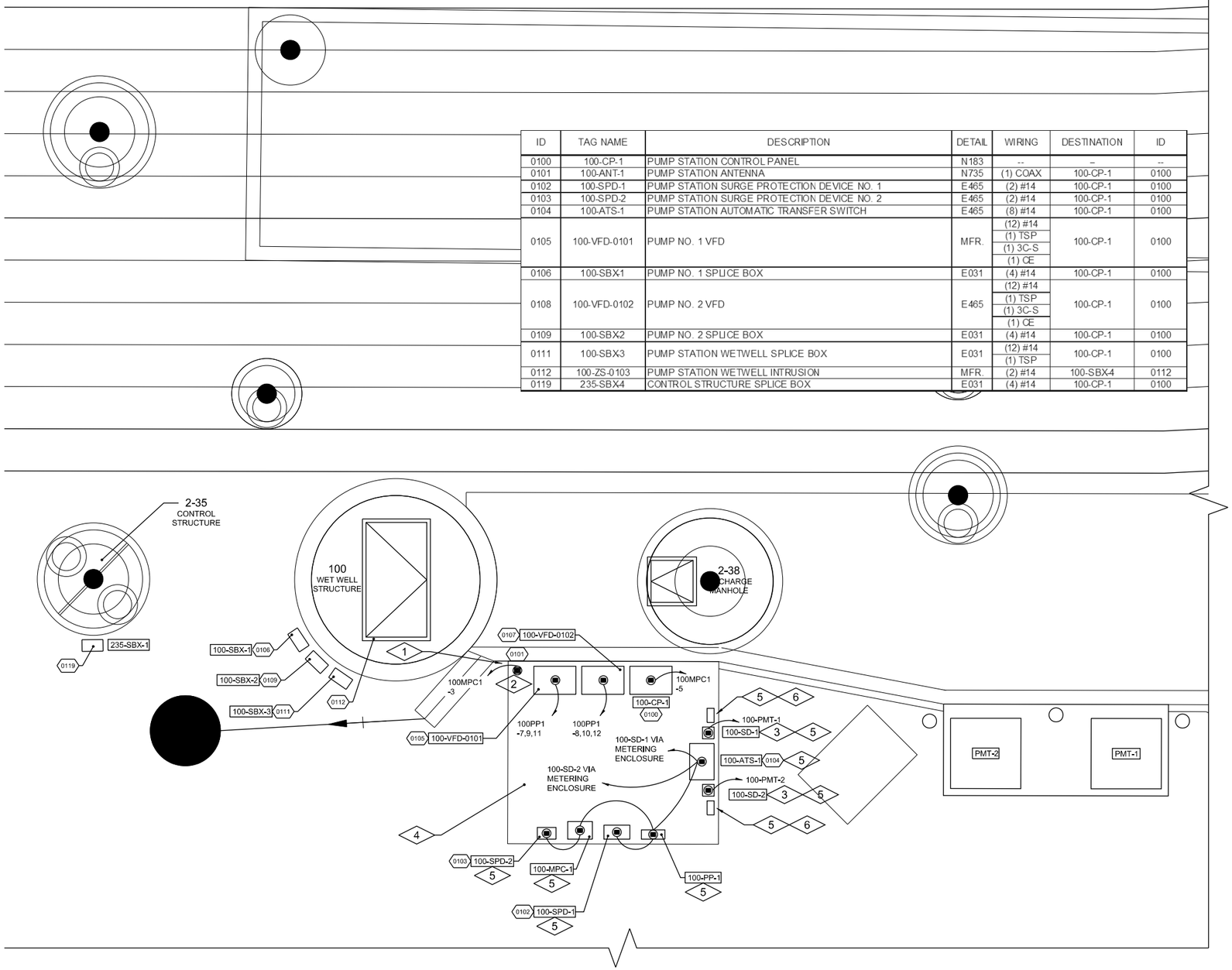
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – PROCESS
WET WELL
SECTION – STRUCTURAL /MECHANICAL

SCALE: | SHEET 3 OF 5 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	260
		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			

ID	TAG NAME	DESCRIPTION	DETAIL	WIRING	DESTINATION	ID
0100	100-CP-1	PUMP STATION CONTROL PANEL	N183	--	–	--
0101	100-ANT-1	PUMP STATION ANTENNA	N735	(1) COAX	100-CP-1	0100
0102	100-SPD-1	PUMP STATION SURGE PROTECTION DEVICE NO. 1	E465	(2) #14	100-CP-1	0100
0103	100-SPD-2	PUMP STATION SURGE PROTECTION DEVICE NO. 2	E465	(2) #14	100-CP-1	0100
0104	100-ATS-1	PUMP STATION AUTOMATIC TRANSFER SWITCH	E465	(8) #14	100-CP-1	0100
0105	100-VFD-0101	PUMP NO. 1 VFD	MFR.	(12) #14 (1) TSP (1) 3C-S (1) CE	100-CP-1	0100
0106	100-SBX1	PUMP NO. 1 SPLICE BOX	E031	(4) #14	100-CP-1	0100
0108	100-VFD-0102	PUMP NO. 2 VFD	E465	(12) #14 (1) TSP (1) 3C-S (1) CE	100-CP-1	0100
0109	100-SBX2	PUMP NO. 2 SPLICE BOX	E031	(4) #14	100-CP-1	0100
0111	100-SBX3	PUMP STATION WETWELL SPLICE BOX	E031	(12) #14 (1) TSP	100-CP-1	0100
0112	100-ZS-0103	PUMP STATION WETWELL INTRUSION	MFR.	(2) #14	100-SBX4	0112
0119	235-SBX4	CONTROL STRUCTURE SPLICE BOX	E031	(4) #14	100-CP-1	0100



GRADE PLAN

0 1' 4'

N

GENERAL NOTES:

1. CONTROL STRUCTURE, WET WELL AND DISCHARGE MANHOLE SHALL BE:

   CLASS 1, DIVISION 2
   GROUP D
   HAZARDOUS CLASSIFIED LOCATION

PLAN NOTES:

1. FIXTURE TYPE 'A' AND A-POLE.
2. SEE DETAIL (E099) . RECEPTACLE SHALL BE CIRCUITED TO 100MPC1-1. COORDINATE LOCATION WITH OWNER.
3. SEE DETAIL (E453) FOR GROUNDING DETAILS. COORDINATE GROUNDING TRIAD WITH FIELD CONSTRAINTS.
4. SEE DETAIL (S346) FOR EQUIPMENT PAD DETAILS.
5. EQUIPMENT TO BE RACK MOUNTED; SEE DETAIL (E465) .
6. METERING ENCLOSURE: ENCLOSURE TO BE NEMA 3R.

PLAN — NOTE BOOK — NO. ____
SURVEYED — PLOTTED — ALIGNMENT CHECKED — R/T. OF WAY CHECKED — CADD FILE NAME — BY — DATE

PROFILE — NOTE BOOK — NO. ____
SURVEYED — PLOTTED — PROFILE CHECKED — BM. NOTED — STRUCTURE NOTATNS CHKD — BY — DATE

FILE NAME = UPPER PLAN - ELECTRICAL I&C

DONOHUE

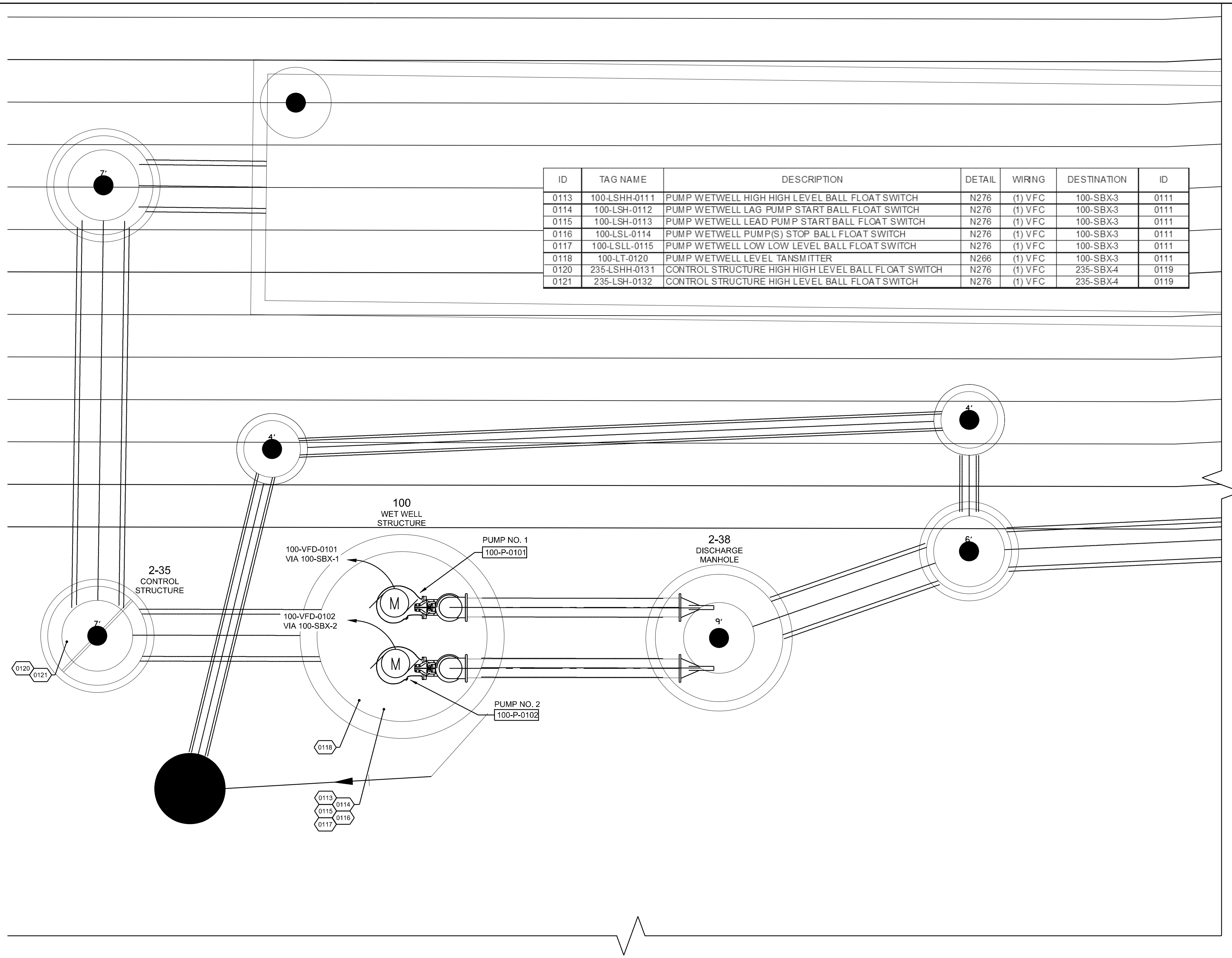
USER NAME = brvanderwal	DESIGNED - JCE/JRR	REVISED -
	DRAWN - JCE/JRR	REVISED -
PLOT SCALE = 0.1739 ' / in.	CHECKED - RJN/FGM	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – PROCESS
WET WELL
UPPER PLAN – ELECTRICAL /I&C

SCALE: | SHEET 4 OF 5 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	261
		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			



ID	TAG NAME	DESCRIPTION	DETAIL	WIRING	DESTINATION	ID
0113	100-LSHH-0111	PUMP WETWELL HIGH HIGH LEVEL BALL FLOAT SWITCH	N276	(1) VFC	100-SBX-3	0111
0114	100-LSH-0112	PUMP WETWELL LAG PUMP START BALL FLOAT SWITCH	N276	(1) VFC	100-SBX-3	0111
0115	100-LSH-0113	PUMP WETWELL LEAD PUMP START BALL FLOAT SWITCH	N276	(1) VFC	100-SBX-3	0111
0116	100-LSL-0114	PUMP WETWELL PUMP(S) STOP BALL FLOAT SWITCH	N276	(1) VFC	100-SBX-3	0111
0117	100-LSLL-0115	PUMP WETWELL LOW LOW LEVEL BALL FLOAT SWITCH	N276	(1) VFC	100-SBX-3	0111
0118	100-LT-0120	PUMP WETWELL LEVEL TANSMITTER	N266	(1) VFC	100-SBX-3	0111
0120	235-LSHH-0131	CONTROL STRUCTURE HIGH HIGH LEVEL BALL FLOAT SWITCH	N276	(1) VFC	235-SBX-4	0119
0121	235-LSH-0132	CONTROL STRUCTURE HIGH LEVEL BALL FLOAT SWITCH	N276	(1) VFC	235-SBX-4	0119

N

GENERAL NOTES:

1. CONTROL STRUCTURE, WET WELL AND DISCHARGE MANHOLE SHALL BE:

   CLASS 1, DIVISION 2
   GROUP D
   HAZARDOUS CLASSIFIED
   LOCATION

LOWER PLAN

0 1' 4'

USER NAME = brvanderwal	DESIGNED - JCE/JRR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN - JCE/JRR	REVISED -	
PLOT SCALE = 0.1739 ' / in.	CHECKED - RJN/FGM	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

DONOHUE

PUMP STATION - PROCESS
WET WELL
LOWER PLAN - ELECTRICAL /I&C

SCALE: | SHEET 5 OF 5 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	262

CONTRACT NO. 61G79

ILLINOIS FED. AID PROJECT

FILE NAME = LOWER PLAN - ELECTRICAL I&C

PLAN — NOTE BOOK NO. — SURVEYED — PLOTTED — ALIGNMENT CHECKED — R/W CHECKED — CADD FILE NAME — BY — DATE

PROFILE — NOTE BOOK NO. — SURVEYED — PLOTTED — GRADES CHECKED — BM. NOTED — STRUCTURE NOTATIONS CHKD — BY — DATE

PLAN
SURVEYED
PLOTTED
CHARGES CHECKED
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
CHARGES CHECKED
B.M. NOTED
STRUCTURE NO
TAINS CHKD
NOTE BOOK
NO.
BY
DATE

GENERAL STRUCTURAL NOTES

GENERAL

1. THE GENERAL STRUCTURAL NOTES AND STANDARD STRUCTURAL DETAILS APPLY TO THE ENTIRE PROJECT UNLESS SPECIFICALLY NOTED OTHERWISE.

DESIGN CRITERIA

1. DESIGN AND CONSTRUCT IN CONFORMANCE WITH THE INTERNATIONAL BUILDING CODE, 2018 EDITION.

2. SUPERIMPOSED DESIGN LOADS

   A. LIVE LOADS 100 PSF + EQUIP

FOUNDATIONS

1. PLACE FOOTINGS ON NATURAL UNDISTURBED EARTH OR STRUCTURAL FILL

REINFORCEMENT

1. REINFORCEMENT STEEL
   A. DEFORMED BARS: ASTM A615 - GRADE 60
2. UNLESS NOTED OTHERWISE PROVIDE CLEAR COVER FOR REINFORCEMENT AS FOLLOWS:
   A. CAST AGAINST:
      1. EARTH: 3 INCHES
   B. EXPOSED TO EARTH, WEATHER, OR WATER
      1. SLABS
         A. #5 BARS OR SMALLER: 1 1/2 INCHES
         B. #6 THROUGH #11 BARS: 2 INCHES
3. DO NOT FIELD WELD OR FIELD BEND REINFORCING BARS.

CONCRETE

1. DESIGN STRENGTH
   A. INTERIOR EQUIPMENT BASES, FENCE POST PIERS, CONCRETE FILLETS IN TANKS, AND WHERE SPECIFICALLY NOTED
      CLASS B: F'C = 3000 PSI
   B. ALL LOCATIONS, EXCEPT WHERE CLASS B SPECIFIED
      CLASS A: F'C = 4500 PSI
2. PROVIDE 3/4 IN. CHAMFER ON EXTERNAL CORNERS OF EXPOSED EDGES OF CONSTRUCTION JOINTS.
3. VERIFY EQUIPMENT PAD AND CURB LOCATIONS, DIMENSIONS, AND ELEVATIONS WITH EQUIPMENT MANUFACTURERS.

MISCELLANEOUS

1. VERIFY PERTINENT EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING CONSTRUCTION AND/OR FABRICATION.

FILE NAME = STRUCTURAL GENERAL NOTES

DONOHUE

USER NAME = brvanderwal	DESIGNED - CEE	REVISED -	
	DRAWN - CEE	REVISED -	
PLOT SCALE = 0.1739 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION - STRUCTURAL
STRUCTURAL GENERAL NOTES

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	263
		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			

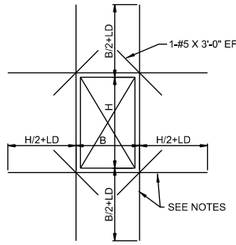
PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

MINIMUM REINFORCEMENT BAR SPLICE AND ANCHORAGE LENGTH (INCHES) S010

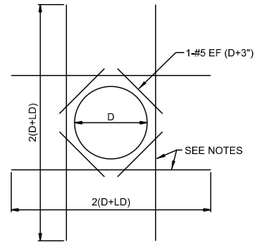
BAR SIZE	LAPPED SPLICE LENGTH		EMBEDMENT LENGTH		COMPRESSION LAP LENGTH
	TOP BARS	OTHERS	TOP BARS	OTHERS	
3	24	19	19	15	12
4	32	25	25	19	15
5	40	31	31	24	19
6	48	37	37	29	23
7	70	54	54	42	26
8	80	62	62	48	30
9	91	70	70	54	34
10	102	78	78	61	38
11	113	87	87	67	42

NOTES:

1. TOP BARS ARE HORIZONTAL BARS SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
2. FOR BARS SPACED LESS THAN 6 BAR DIAMETER OC INCREASE LENGTH BY 25%.
3. WHEN LAPPING TWO DIFFERENT SIZE BARS USE THE LAP LENGTH OF THE SMALLER BAR UNLESS NOTED OTHERWISE.
4. EMBEDMENT LENGTH IS MINIMUM LENGTH OF EMBEDMENT FOR STRAIGHT DOWELS WHERE END HOOK IS NOT SHOWN, UNLESS OTHERWISE NOTED.
5. COMPRESSION LAP LENGTH FOR VERTICAL COLUMN BARS ONLY.
6. HOOKS SHALL BE ACI STANDARD UNLESS OTHERWISE NOTED.
7. FOR EPOXY COATED REINFORCEMENT, INCREASE LENGTH BY 20% FOR TOP BARS AND 50% FOR OTHERS.



RECTANGULAR OPENING



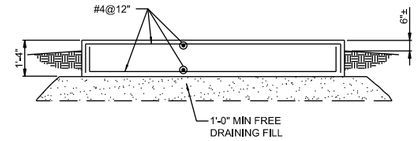
CIRCULAR OPENING

NOTES:

1. THESE DETAILS APPLY TO ALL OPENINGS IN CONCRETE WALLS AND SLABS WHEN THE LARGEST OPENING DIMENSION IS GREATER THAN TWO TIMES SECTION THICKNESS OR GREATER THAN REINFORCING SPACING IN THE SECTION, UNLESS OTHERWISE INDICATED IN THE DRAWINGS.
2. THE AREA OF ADDITIONAL REINFORCING REQUIRED IN EACH FACE ON EACH SIDE OF AN OPENING SHALL EQUAL OR EXCEED ONE-HALF OF THE AREA OF THE INTERCEPTED BARS IN EACH FACE, IN EACH DIRECTION, RESPECTIVELY WITH A MINIMUM OF 1-#5 BAR EACH FACE.
3. PLACE THE ADDED BARS IN THE SAME LAYERS AS THE WALL OR SLAB REINFORCING.
4. LD = EMBEDMENT LENGTH. SEE (S010)

ADDITIONAL REINFORCEMENT AT OPENINGS IN WALLS AND SLABS DETAIL S020

NTS



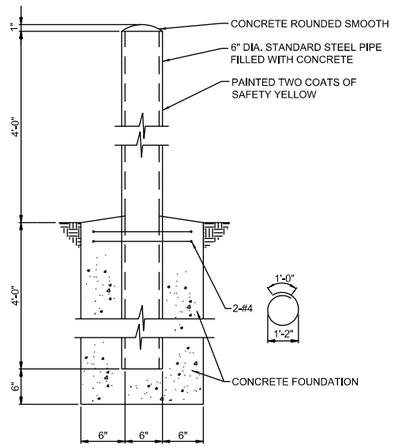
EQUIPMENT PAD DETAIL S346

NTS

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
CONCRETE STRUCTURES	CU. YD.	20
REINFORCEMENT BARS	POUNDS	2700
BOLLARDS	EACH	EACH

PROFILE
SURVEYED
PLOTTED
CROSS SECTIONS CHECKED
B.M. NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.
BY
DATE



SECTION

BOLLARD DETAIL S101

NTS

FILE NAME = STRUCTURAL DETAILS

DONOHUE

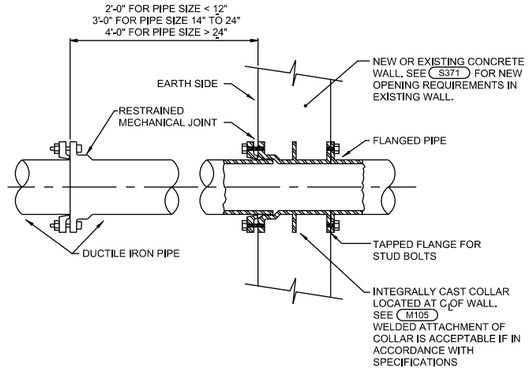
USER NAME = brvanderwal	DESIGNED - CEE	REVISED -	
	DRAWN - CEE	REVISED -	
PLOT SCALE = 0.1739 ' / in.	CHECKED - TJB	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – DETAILS
STANDARD DETAILS
STRUCTURAL

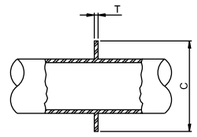
SCALE: | SHEET 1 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	264
		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			



MJ / FLG DUCTILE IRON WALL PIPE DETAIL M100

NTS

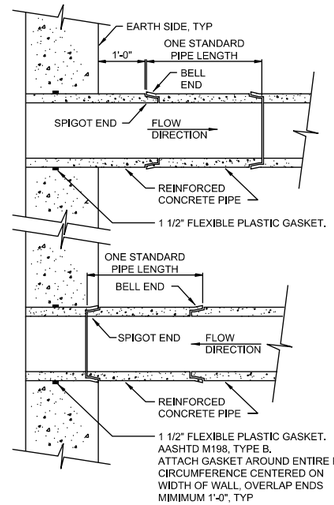


MINIMUM COLLAR DIMENSIONS

NOMINAL PIPE DIA (INCHES)	INTEGRALLY CAST D.I. COLLAR T THICKNESS (INCHES)	INTEGRALLY CAST D.I. COLLAR C DIAMETER (INCHES)	STEEL COLLAR T THICKNESS (INCHES)	STEEL COLLAR C DIAMETER (INCHES)
4	0.50	8.00	0.25	6.80
6	0.50	10.00	0.25	8.90
8	0.50	12.50	0.25	11.05
10	0.50	14.50	0.25	13.10
12	0.50	16.50	0.25	15.20
14	0.75	19.50	0.25	17.30
16	0.75	21.75	0.25	19.40
18	0.75	23.75	0.38	22.50
20	0.75	25.75	0.38	24.60
24	0.75	30.25	0.38	28.80
30	1.00	36.50	0.50	36.00
36	1.00	43.00	0.50	42.30
42	1.25	49.50	0.75	50.75
48	1.25	56.50	0.75	57.05
54	1.50	63.00	1.00	66.06
60	1.50	70.25	1.00	70.11

DUCTILE IRON WALL AND FLOOR PIPE COLLAR DIMENSIONS DETAIL M105

NTS



REINFORCED CONCRETE WALL PIPE DETAIL M119

NTS

PLAN
DATE
BY
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.

PROFILE
DATE
BY
SURVEYED
PLOTTED
CROSS SECTIONS CHECKED
B.M. NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.

FILE NAME = MECHANICAL STANDARD DETAILS

DONOHUE

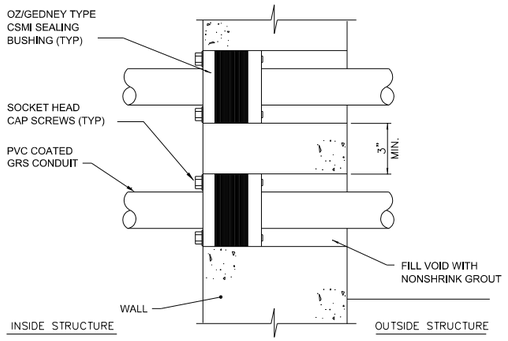
USER NAME = brvanderwal	DESIGNED - KRL	REVISED -	
	DRAWN - KRL	REVISED -	
PLOT SCALE = 0.1739 ' / in.	CHECKED - EPC	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – DETAILS
STANDARD DETAILS
MECHANICAL

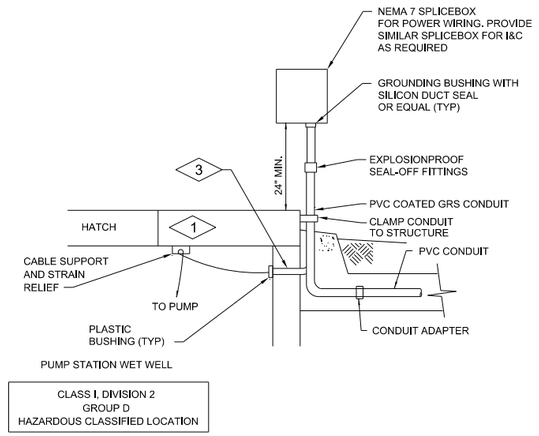
SCALE: | SHEET 2 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	265
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



CONDUIT ENTRY THRU WALL DETAIL E011

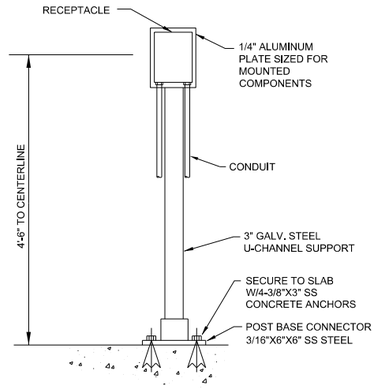
NTS



NOTE: PROVIDE CORROSION RESISTANT SPLICES.

SPLICEBOX DETAIL E031

NTS

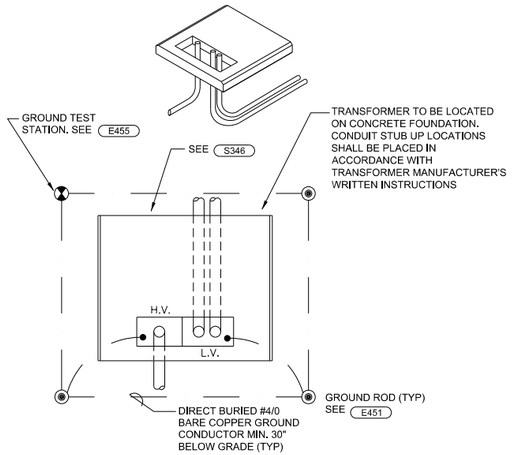


CONDUIT AND WIRING IN ACCORDANCE WITH NEC AND DIVISION 26.

NOTES:
1. ROUND OFF ALL EXPOSED EDGES AND CORNERS.
2. PAINT METAL IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.
3. ALL BOLTS, ANCHORS, AND OTHER HARDWARE SHALL BE STAINLESS STEEL.
4. RECEPTACLE ENCLOSURE TO BE LOCKABLE TO PREVENT UNAUTHORIZED USE.

STANCHION MOUNT DUPLEX WEATHERPROOF GFCI RECEPTACLE E099

NTS



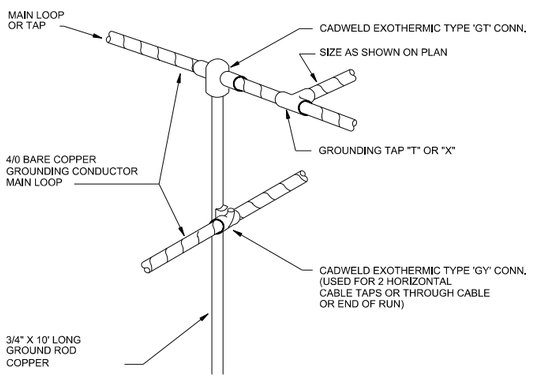
NOTE: BOND TRANSFORMER AND SERVICE DISCONNECT GRIDS TOGETHER. ONE TEST WELL SHALL BE PROVIDED AS TRANSFORMER GROUND GRIDS SHALL BE BONDED TOGETHER.

TRANSFORMER PAD DETAIL E272

NTS

PLAN NOTES:

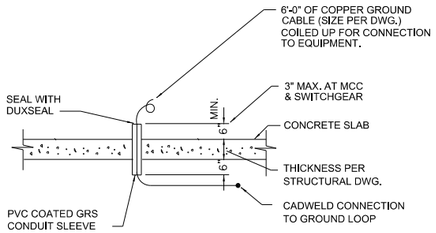
1. CONDUIT AND STRAIN RELIEF SHALL BE ACCESSIBLE FROM HATCH WITHOUT HAVING TO ENTER THE WET WELL.
2. COORDINATE LOCATION AND INSTALLATION OF GROUND RODS WITH SITE PIPING AND ELECTRICAL DUCT BANKS; ADJUST GROUND RODS AS REQUIRED.
3. CONTRACTOR TO CORE DRILL SLAB. PROVIDE LINK SEAL; SEE DETAIL (E011) . ENTIRE CONDUIT ROUTING FROM JUNCTION BOX SHALL BE PVC COATED GRS.



NOTE: EXOTHERMIC CONNECTIONS SHALL BE USED.

CONDUCTOR TO GROUND ROD CONNECTION DETAIL E451

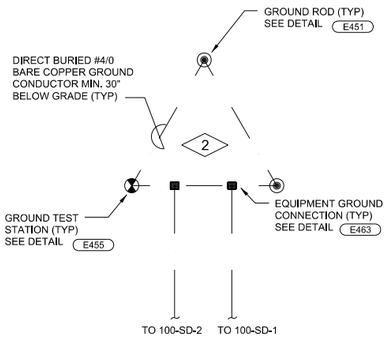
NTS



NOTE: EXTEND CONDUIT SLEEVE TO EQUIPMENT

EQUIPMENT GROUND CABLE STUB-UP E452

NTS



GROUNDING TRIAD DETAIL E453

NTS

DONOHUE	USER NAME = brvanderwal	DESIGNED - JRR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PUMP STATION – DETAILS STANDARD DETAILS ELECTRICAL 1
		DRAWN - JRR	REVISED -		
	PLOT SCALE = 0.1739 ' / in.	CHECKED - FGM	REVISED -		SCALE: SHEET 3 OF 6 SHEETS STA. TO STA.
	PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -		

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	266
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		

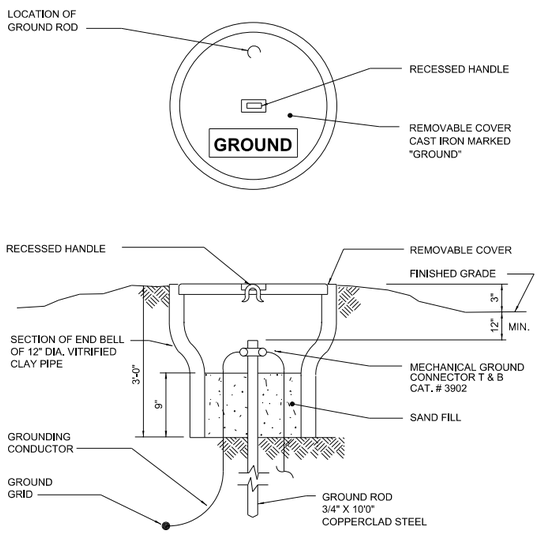
PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / RT. OF WAY CHECKED / CADD FILE NAME / NOTE BOOK / NO. / BY / DATE

PROFILE — SURVEYED / PLOTTED / CROSS SECT. CHECKED / B.M. NOTED / STRUCTURE NOTATNS CHKD / NOTE BOOK / NO. / BY / DATE

FILE NAME = ELECTRICAL STANDARD DETAILS 1

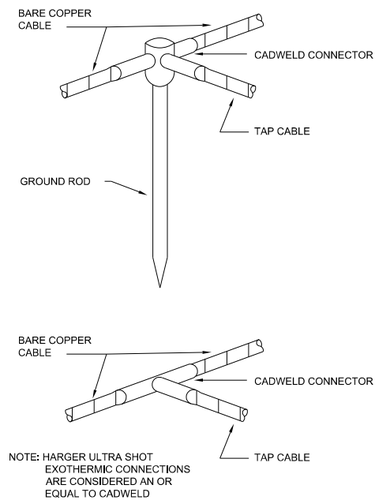
FIXTURE SCHEDULE

TYPE	DESCRIPTION	LED ARRAY	MANUFACTURER	CATALOG NUMBER	REMARKS
A	D-SERIES LED AREA	5,862 LUMENS	LITHONIA AMERICAN ELECTRIC LIGHTING EATON	DSX0 LED P2 40K T2M MVOLT SPA PER DBLXD DLL127F 1.5 JU ATB0 P201 MVOLT R2 BK MP NL PCSS PRVP PA1A 740U T2U ADJA BK 20K OA/RA1016	POLE MOUNTED MOUNTED 20'-0" ABOVE GRADE SEE DETAIL (N735)
A-POLE	SQUARE STRAIGHT STEEL POLE DRILL MOUNTING 4 @ 90 DEGREES BLACK POLE, 5" WALL THICKNESS	N/A	LITHONIA AMERICAN ELECTRIC LIGHTING EATON		SEE DETAIL (N735)



GROUNDING TEST STATION DETAIL **E455**

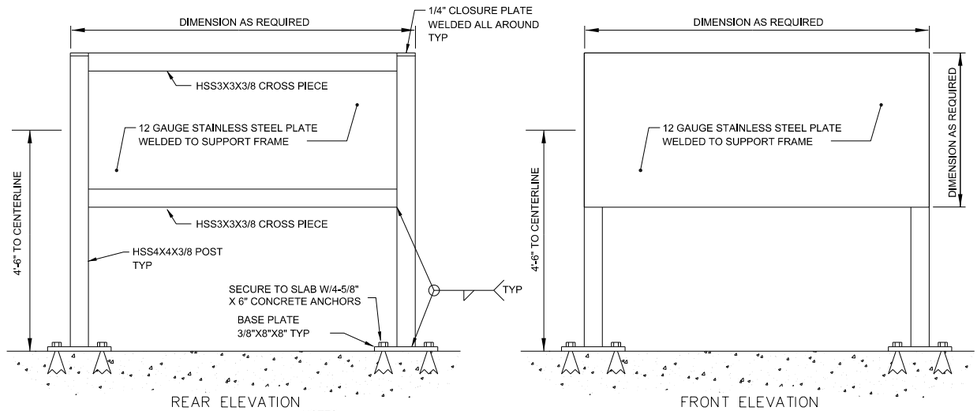
NTS



NOTE: HARGER ULTRA SHOT EXOTHERMIC CONNECTIONS ARE CONSIDERED AN OR EQUAL TO CADWELD

GROUNDING CONNECTION DETAIL **E463**

NTS



NOTES:
1. CONTRACTOR SHALL DETERMINE APPROPRIATE SIZE FOR EQUIPMENT RACK.
2. ALL MATERIALS AND HARDWARE SHALL BE STAINLESS STEEL.

RACK MOUNTED DETAIL **E465**

NTS

PLAN — SURVEYED, PLOTTED, CHANGES CHECKED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK, NO. — BY — DATE

PROFILE — SURVEYED, PLOTTED, CHANGES CHECKED, BM. NOTED, STRUCTURE NOTATNS CHKD, NOTE BOOK, NO. — BY — DATE

FILE NAME = ELECTRICAL STANDARD DETAILS 2

DONOHUE

USER NAME = brvanderwal	DESIGNED - JRR	REVISED -
	DRAWN - JRR	REVISED -
PLOT SCALE = 0.1739 ' / in.	CHECKED - FGM	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

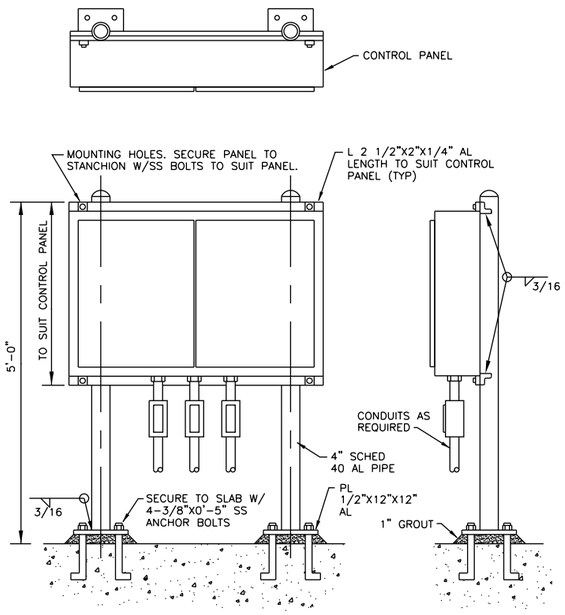
PUMP STATION – DETAILS
STANDARD DETAILS
ELECTRICAL 2

SCALE: | SHEET 4 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	267
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

PLAN
SURVEYED
PLOTTED
DRAWN
BM: NOTED
R/T. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

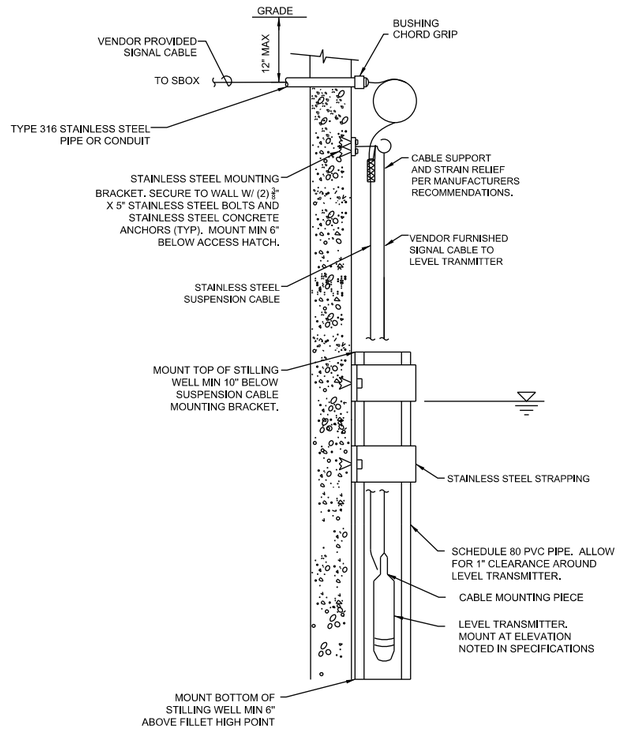
PROFILE
SURVEYED
PLOTTED
DRAWN
BM: NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE



NOTES:
1. ROUND OFF ALL EXPOSED EDGES & CORNERS.
2. PAINT METAL IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

DOUBLE STANCHION CONTROL PANEL MOUNT N183

NTS



SUBMERSIBLE LEVEL TRANSMITTER N266

NTS

FILE NAME = I&C STANDARD DETAILS 1

DONOHUE

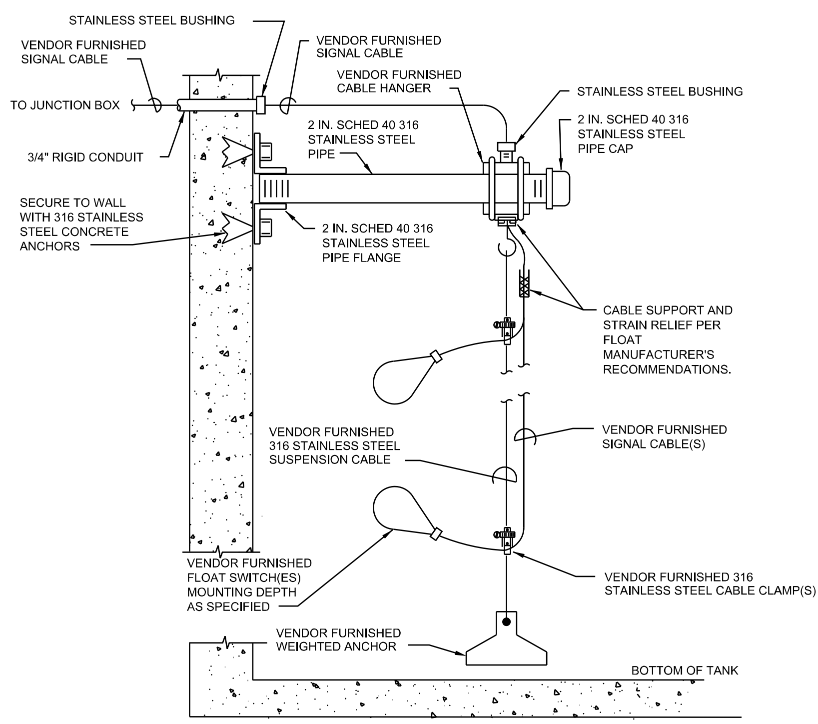
USER NAME = brvanderwal	DESIGNED - JCE	REVISED -
	DRAWN - JCE	REVISED -
PLOT SCALE = 0.1739 ' / in.	CHECKED - RJN	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION – DETAILS
STANDARD DETAILS
INSTRUMENTATION AND CONTROL 1

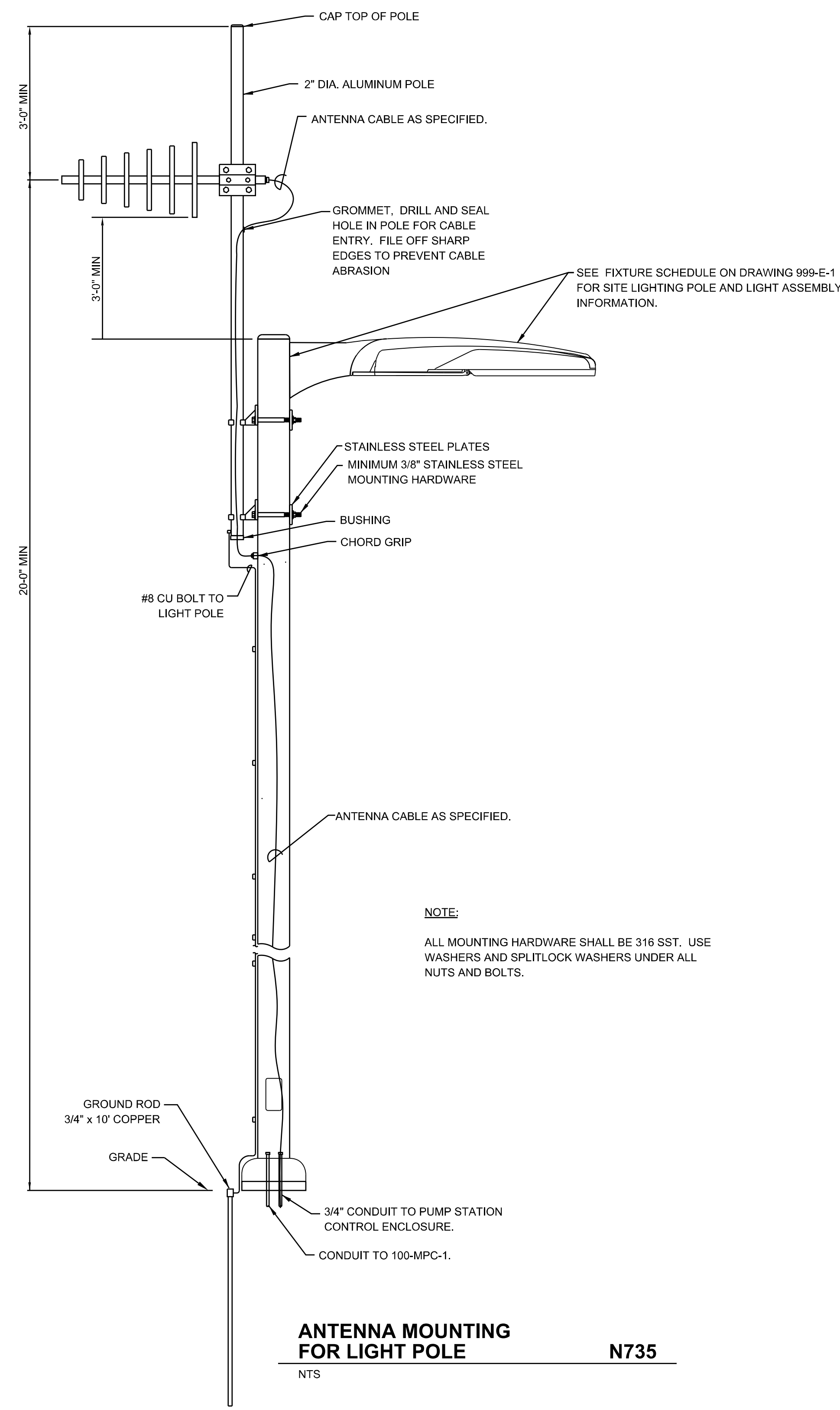
SCALE: | SHEET 5 OF 6 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	268
		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			



FLOAT TYPE
SIDEWALL MOUNTED **N276**

NTS



NOTE:

ALL MOUNTING HARDWARE SHALL BE 316 SST. USE WASHERS AND SPLITLOCK WASHERS UNDER ALL NUTS AND BOLTS.

ANTENNA MOUNTING
FOR LIGHT POLE **N735**

NTS

FILE NAME = I&C STANDARD DETAILS 2

DONOHUE

USER NAME = brvanderwal	DESIGNED - JCE	REVISED -
	DRAWN - JCE	REVISED -
PLOT SCALE = 0.1739 ' / in.	CHECKED - RJN	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PUMP STATION - DETAILS
STANDARD DETAILS
INSTRUMENTATION AND CONTROL 2

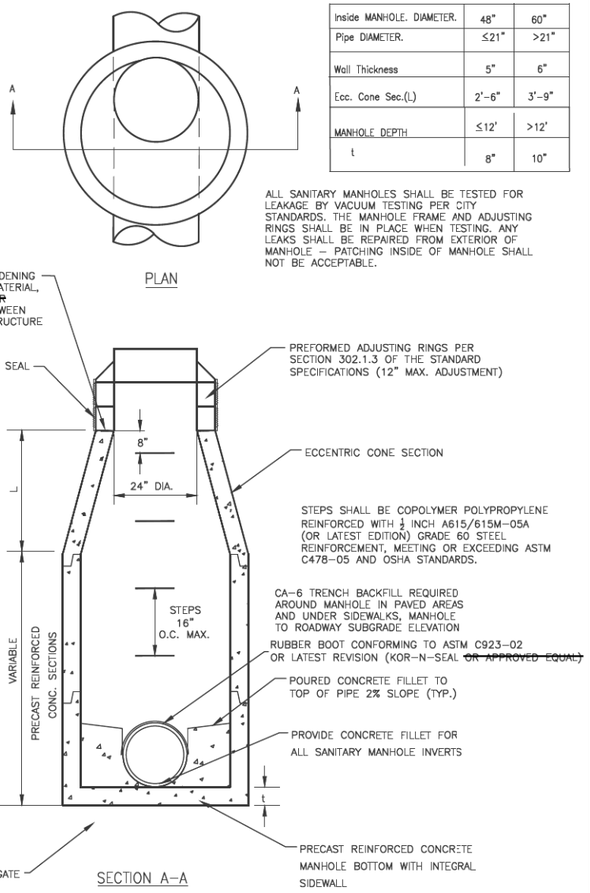
SCALE: SHEET 6 OF 6 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	269
		CONTRACT NO. 61G79		

ILLINOIS FED. AID PROJECT

PLAN — SURVEYED / PLOTTED / QUANTITIES CHECKED / BM. NOTED / STRUCTURE NOTATNS CHKD — NOTE BOOK — NO. ____ — BY — DATE

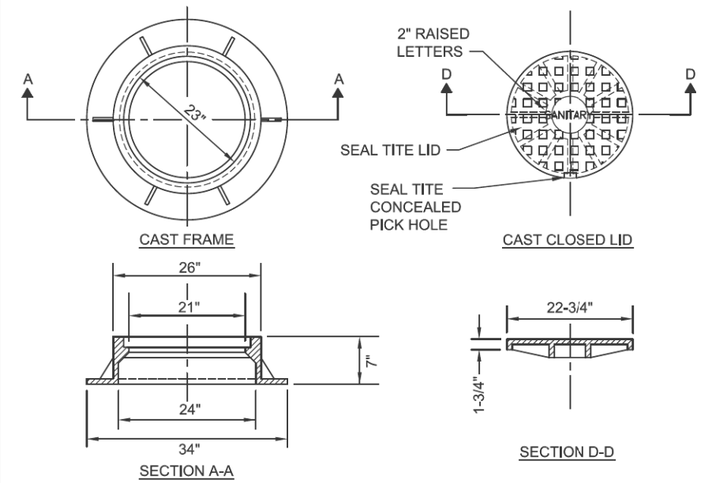
PROFILE — SURVEYED / PLOTTED / QUANTITIES CHECKED / BM. NOTED / STRUCTURE NOTATNS CHKD — NOTE BOOK — NO. ____ — BY — DATE



Inside MANHOLE. DIAMETER.	48"	60"
Pipe DIAMETER.	≤21"	>21"
Wall Thickness	5"	6"
Ecc. Cone Sec.(L)	2'-6"	3'-9"
MANHOLE DEPTH	≤12'	>12'
t	8"	10"

ALL SANITARY MANHOLES SHALL BE TESTED FOR LEAKAGE BY VACUUM TESTING PER CITY STANDARDS. THE MANHOLE FRAME AND ADJUSTING RINGS SHALL BE IN PLACE WHEN TESTING. ANY LEAKS SHALL BE REPAIRED FROM EXTERIOR OF MANHOLE – PATCHING INSIDE OF MANHOLE SHALL NOT BE ACCEPTABLE.

City of Naperville STANDARD DETAIL	SANITARY SEWER MANHOLE	SANITARY 1
	REVISED: 08/01/2018 — SHEET 1 OF 1	390.01



NOTES:

1) DUCTILE IRON SHALL BE GRADE 65-45-12 AND SHALL BE TESTED IN ACCORDANCE WITH FEDERAL SPECIFICATIONS.

2) ALL FRAMES AND COVERS SHALL HAVE MACHINED HORIZONTAL AND VERTICAL BEARING SURFACES. PICK HOLES SHALL NOT CREATE OPENINGS IN THE COVER.

3) THE MANHOLE COVERS SHALL HAVE 2" RAISED LETTERS AS SHOWN.

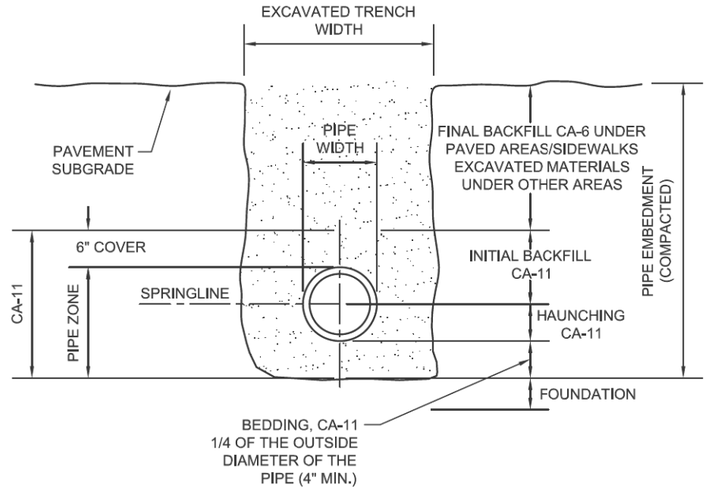
4) ALTERNATIVE TO DUCTILE IRON LID, GREY IRON CL 35 LID MAY BE USED.

5) CASTINGS ARE SHALL BE EAST JORDAN 1022-Z3; NEENAH R-1772 ~~OR APPROVED EQUAL.~~

6) WATERPROOF, BOLTDOWN FRAME AND COVER SHALL BE USED IN FLOOD PLAIN AREA, AND AS NOTED ON THE PLANS. NEENAH R-1916-F1, EAST JORDAN IRON WORKS 1022-Z1PT ~~OR APPROVED EQUAL~~.

7. LIDS AND FRAMES TO MEET ASSHTO M306 PROOF LOADING SPECIFICATIONS

City of Naperville STANDARD DETAIL	SANITARY MANHOLE - FRAME & COVER	SANITARY 6
	REVISED: 01/01/2013 — SHEET 1 OF 1	390.06



NOTES:

1. IN PAVED AREAS, ALL TRENCHES MUST BE COMPACTED IN CONFORMANCE WITH SECTION 550.07 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION.
2. IF FOUNDATION IS UNSUITABLE TO BED PIPE, UNDERCUTS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.

City of Naperville STANDARD DETAIL	TRENCH SECTION FOR PVC PIPE	SANITARY 10
	REVISED: 01/01/2013 — SHEET 1 OF 1	390.10

FILE NAME = 060092-NAPERVILLE DETAILS

TRANSYSTEMS

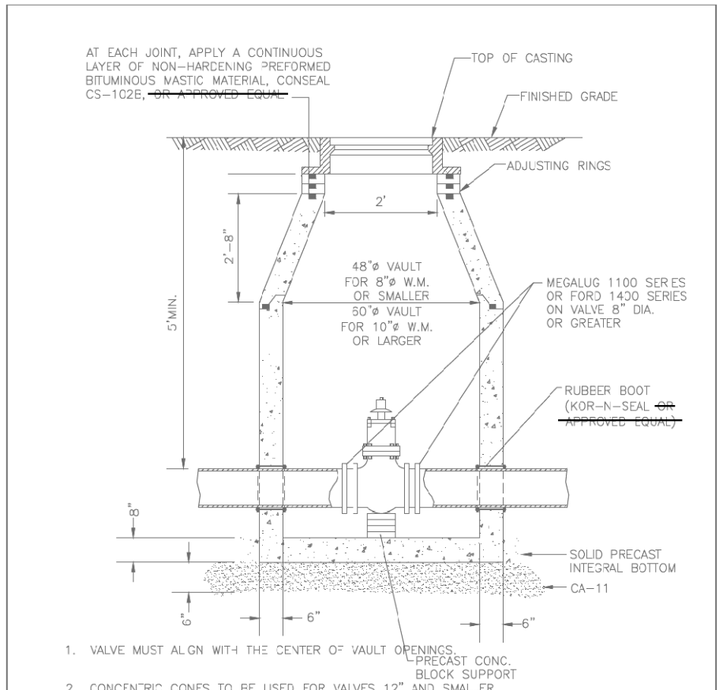
USER NAME = brvanderwal	DESIGNED - MKW	REVISED -
	DRAWN - BMS	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED - BVW	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH AURORA ROAD
PENNSBURY LANE TO FRONTENAC ROAD
CITY OF NAPERVILLE DETAILS

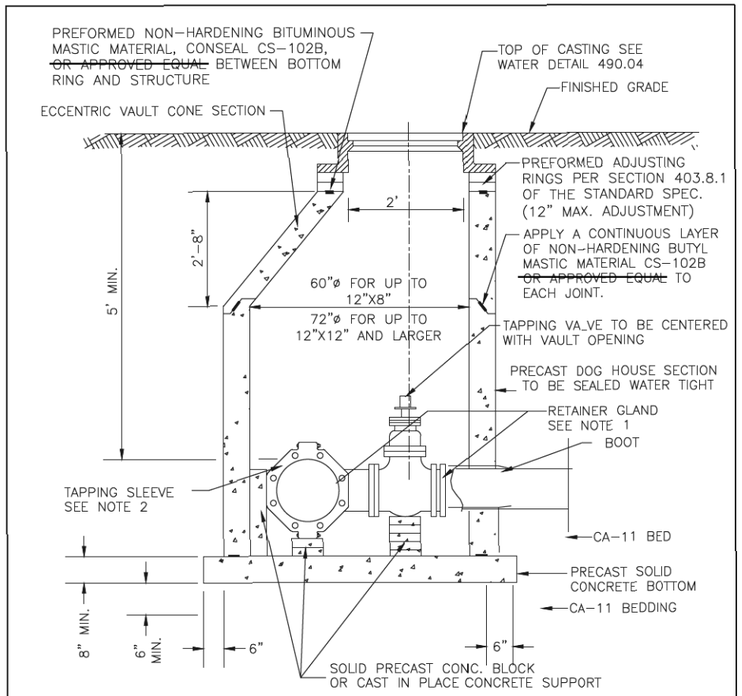
SCALE: NONE — SHEET 1 OF 8 SHEETS — STA. — TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	270
		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			



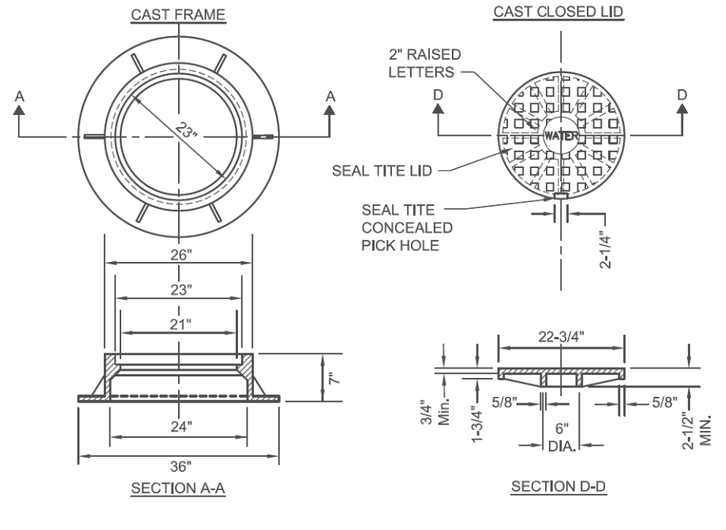
1. VALVE MUST ALIGN WITH THE CENTER OF VAULT OPENINGS.
2. CONCENTRIC CONES TO BE USED FOR VALVES 12" AND SMALLER.
3. VALVES SHALL BE RESILIENT WEDGE GATE VALVES WITH MECHANICAL JOINT ENDS TO COMPLY WITH ANSI/AWWA C515-09 OR LATEST VERSION VALVES TO BE CLOW, AMERICAN, WATEROUS, KENNEDY ~~OR APPROVED EQUAL~~.
4. WHEN ADJUSTMENTS ARE NECESSARY, THEY SHALL BE PERFORMED WITH A MAXIMUM OF TWO (2) PRECAST CONCRETE RINGS SET IN A BED OF PREFORMED NON-HARDENING MASTIC MATERIAL (CONSEAL CS-102B, OR APPROVED EQUAL) TO A MAXIMUM HEIGHT OF 12".

City of Naperville STANDARD DETAIL	VALVE VAULT	WATER 1
	EFFECTIVE: 7/17/2020 — SHEET 1 OF 1	490.01



1.) USE MEGALUG SERIES 1100 OR FORD UNI-FLANGE SERIES 1400 RETAINER GLANDS WITH STAINLESS STEEL T-BOLTS COATED WITH ANTI-SIEZE COMPOUND.
2) TAPPING SLEEVES SHALL BE CAST OR DUCTILE IRON MECHANICAL JOINT CONFORMING TO ANSI/AWWA C110/A21.10-82 (TYLER/UNION OR APPROVED EQUAL). EXISTING PIPE TO BE DISINFECTED PRIOR TO INSTALLATION OF TAPPING SLEEVE. TAPPING SLEEVE TO BE PRESSURE TESTED HYDROSTATICALLY TO OPERATING PRESSURE PLUS 50 PERCENT PRIOR TO MAKING PRESSURE CONNECTION.
3) EXISTING PIPE TO BE DISINFECTED PRIOR TO INSTALLATION OF TAPPING SLEEVE AND TAPPING SLEEVE IS TO BE PRESSURE TESTED TO OPERATING PRESSURE PLUS 50 PERCENT PRIOR TO MAKING PRESSURE CONNECTION.
4) DO NOT USE STAINLESS STEEL SLEEVE ON SIZE TAPS OR PIPES LARGER THAN 12" DIAMETER
5) IN THE EVENT IT IS NECESSARY TO USE A PRECAST SPLIT BOTTOM FLOOR DUE TO SPACE CONSTRAINTS THE FLOOR MUST BE GROUTED WATER TIGHT.
6) TAPPING VALVES SHALL CONFORM TO C515-09 OR LATEST REVISION: AMERICAN SERIES 2500 RESILIENT WEDGE TAPPING VALVES WITH FLANGED X MECHANICAL JOINT ENDS ~~OR APPROVED EQUAL~~.

City of Naperville STANDARD DETAIL	VALVE VAULT WITH CAST/DUCTILE IRON SLEEVE PRESSURE TAP	WATER 2
	REVISED: 01/01/2013 — SHEET 1 OF 1	490.02



NOTES:

1. DUCTILE IRON SHALL BE GRADE 65-45-12 AND SHALL BE TESTED IN ACCORDANCE WITH FEDERAL SPECIFICATIONS.
2. ALL FRAMES AND COVERS SHALL HAVE MACHINED HORIZONTAL AND VERTICAL BEARING SURFACES. PICK HOLES SHALL NOT CREATE OPENINGS IN THE COVER.
3. THE MANHOLE COVERS SHALL HAVE RAISED LETTERS AS SHOWN.
4. ALTERNATIVE TO DUCTILE IRON LID, GREY IRON CL 35 LID MAY BE USED.
5. DIMENSIONS FOR CASTINGS ARE COMPARABLE TO EAST JORDAN 1022 OR NEENAH R-1772-C, HEAVY DUTY.
6. LIDS AND FRAMES TO MEET AASHTO M306 PROOF LOADING SPECIFICATIONS.

City of Naperville STANDARD DETAIL	VALVE VAULT - FRAME & COVER	WATER 4
	REVISED: 01/01/2013 — SHEET 1 OF 1	490.04

PLAN: SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK, NO., BY, DATE

PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, BM. NOTED, STRUCTURE NOTATNS CHKD

FILE NAME = 060092-NAPERVILLE DETAILS

TRANSYSTEMS

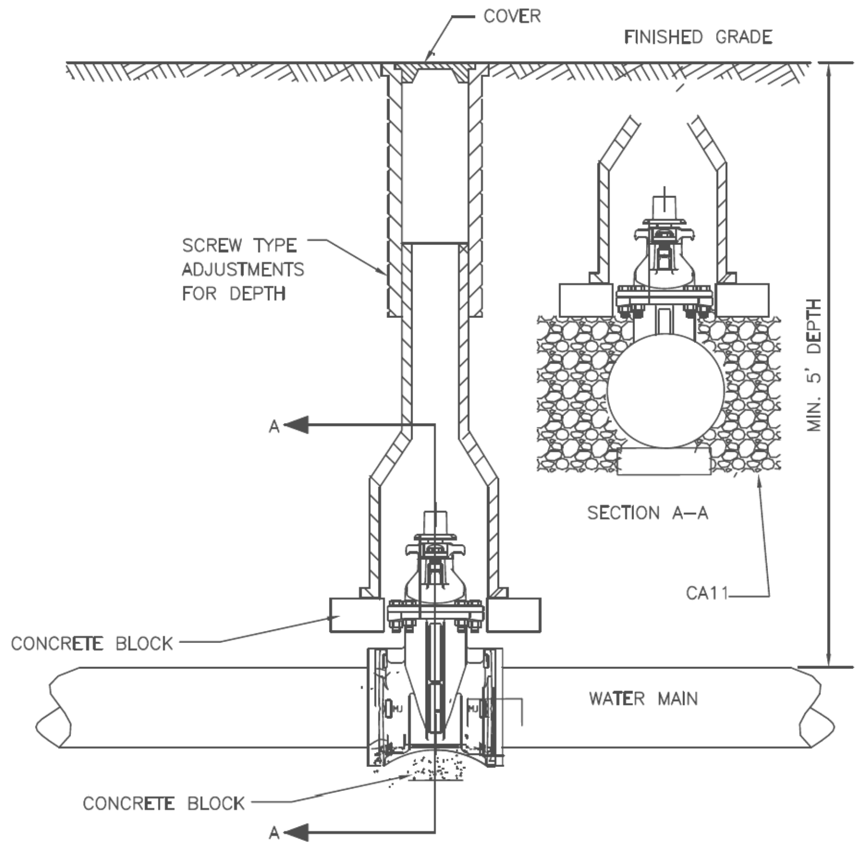
USER NAME = brvanderwal	DESIGNED - MKW	REVISED -	
	DRAWN - BMS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BVW	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH AURORA ROAD
PENNSBURY LANE TO FRONTENAC ROAD
CITY OF NAPERVILLE DETAILS

SCALE: NONE | SHEET 2 OF 8 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	271
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



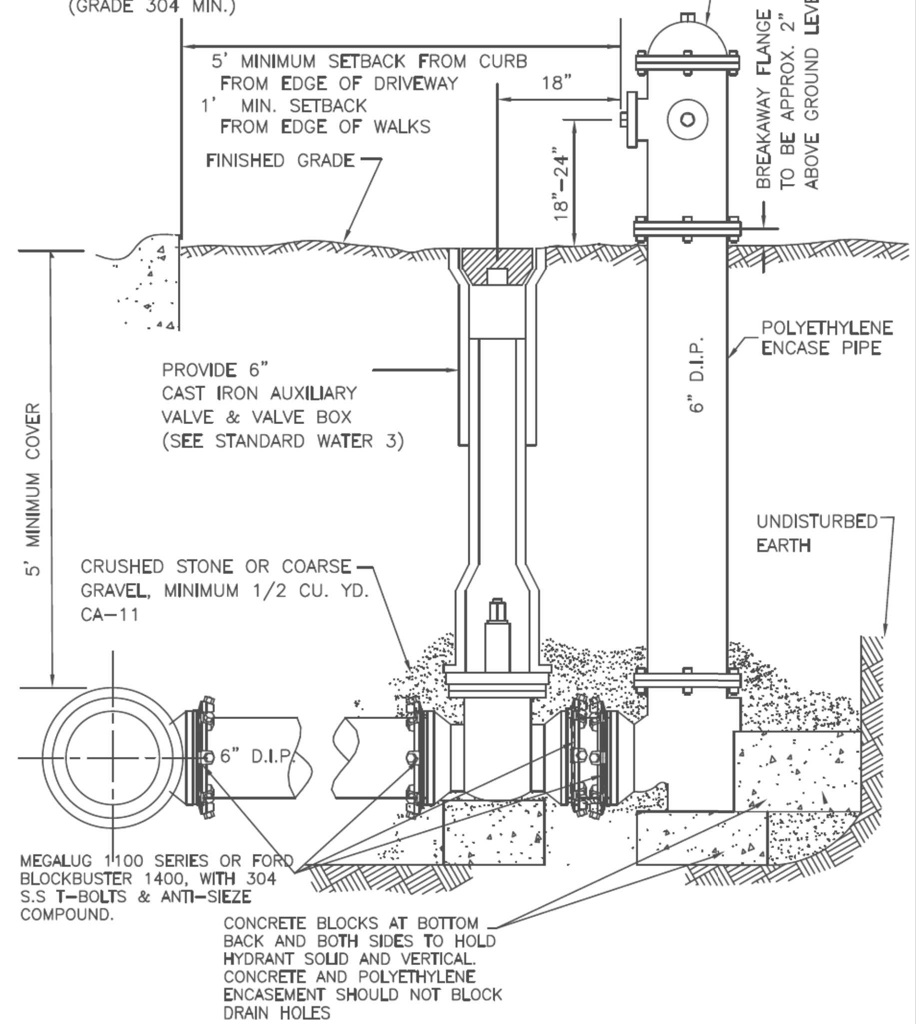
NOTES:

1. TYLER 6850 ~~OR APPROVED EQUAL~~. FOR LARGER VALVES TYLER 6860 ~~OR APPROVED EQUAL~~ WITH #6 BASE.
2. VALVE BOXES ARE NOT ALLOWED IN PAVED AREAS – VALVE VAULT SHALL BE PROVIDED. CONTRACTOR SHALL SUBMIT IN WRITING ANY LOCATION WHERE A VAULT IS NOT INTENDED TO BE INSTALLED AND SPECIFIC REASON WHY IT CANNOT BE INSTALLED. THIS MUST BE APPROVED IN WRITING BY DPU–WATER.
3. RESTRAINT GLANDS REQUIRED ON EACH SIDE OF VALVE IF STUBBED FOR FUTURE CONNECTION OR PIPE BEND WITHIN TWO PIPE LENGTHS OF VALVE.

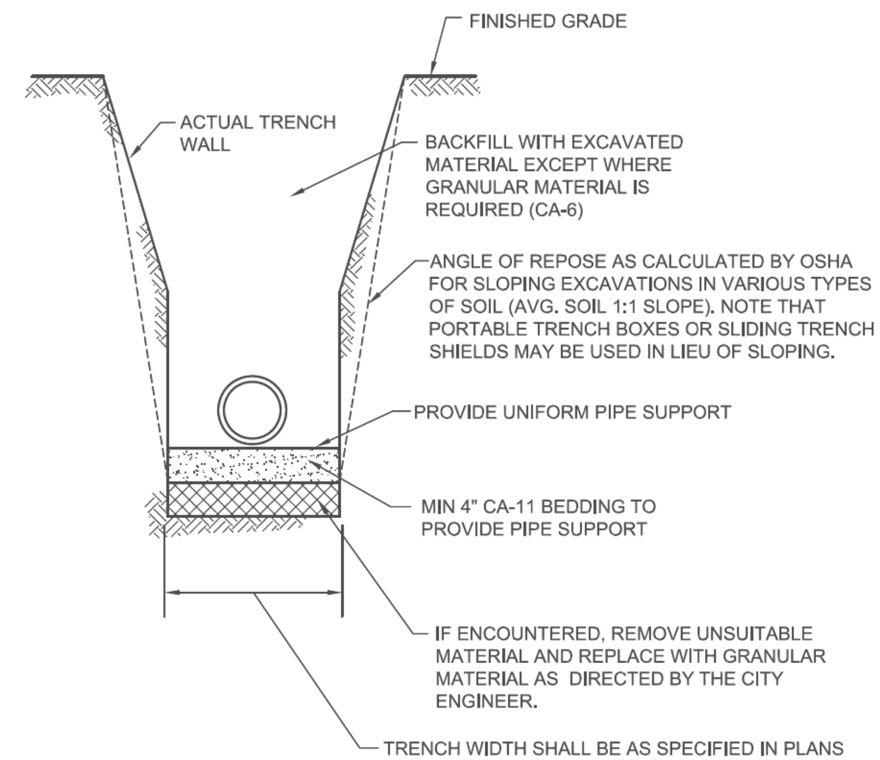
City of Naperville STANDARD DETAIL	VALVE BOX	WATER 5
	REVISED: 01/01/2013 — SHEET 1 OF 1	490.05

NOTES:
1. CHAIN AND CHAIN HOOKS SHALL BE REMOVED FROM HYDRANT
2. HYDRANT SHALL BE FACTORY PAINTED WITH 2 COATS OF TNEMEC VERSATONE 82 HS ~~(OR APPROVED EQUAL)~~ SAFETY ORANGE
3. ALL FASTENERS/HARDWARE BELOW GRADE SHALL BE STAINLESS STEEL. (GRADE 304 MIN.)

PERMITTED TYPES:
–WATEROUS PACER WB–67 5–1/4"
–CLOW MEDALLION 5–1/4"
–MUELLER A–423 5–1/4"



City of Naperville STANDARD DETAIL	HYDRANT	WATER 6
	REVISED: 05/15/2015 — SHEET 1 OF 1	490.06



NOTES:

1. IN PAVED AREAS ALL TRENCHES SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 550.07 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. METHOD 1, 95% MINIMUM STANDARD PROCTOR.

2. DUCTILE IRON WATER MAIN TO BE CLASS 52. ALL DUCTILE IRON PIPE IS TO BE ENCASED IN POLYETHYLENE FILM. POLYETHYLENE ENCASEMENT TO BE INSTALLED IN ACCORDANCE WITH AWWAC105A21.5-99.(OR LATEST EDITION)

3. STAINLESS STEEL NUTS, BOLTS/T-BOLTS, AND WASHERS, TYPE 304 OR BETTER, WILL BE REQUIRED ON ALL WATER MAIN INSTALLATIONS. THIS WOULD APPLY TO HYDRANTS, TAPPING SLEEVES, VALVES, FITTINGS, RESTRAINT, AND OTHER APPURTENANCES BURIED OR IN VALVE VAULTS. MECHANICAL JOINTS AND RESTRAINT GLANDS REQUIRE 304 STAINLESS STEEL T-BOLTS. AN ANTI-SEIZE COMPOUND SHALL BE FACTORY APPLIED TO NUTS OR BOLTS - ANY DAMAGE TO THIS COATING SHALL BE REPAIRED WITH FIELD-APPLIED, APPROVED ANTI-SEIZE COMPOUND THAT IS A MOLYBDENUM-BASE LUBRICANT, BOSTIK NEVER-SEEZ ~~OR APPROVED EQUAL.~~

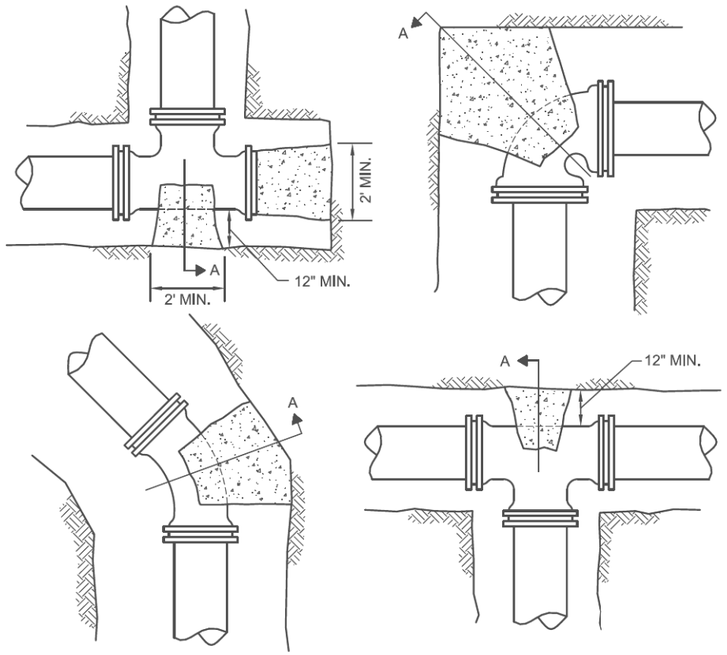
City of Naperville STANDARD DETAIL	WATER MAIN TRENCH SECTION	WATER 10
	REVISED: 01/01/2013 — SHEET 1 OF 1	490.10

PLAN	SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.T. OF WAY CHECKED / CADD FILE NAME	NOTE BOOK / NO.
PROFILE	SURVEYED / PLOTTED / GRADES CHECKED / B.M. NOTED / STRUCTURE NOTATIONS CHKD	NOTE BOOK / NO.

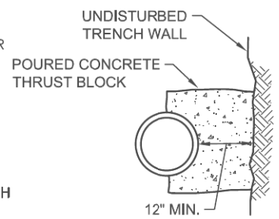
FILE NAME = 0600092-NAPERVILLE DETAILS

TRANSYSTEMS	USER NAME = brvanderwal	DESIGNED - MKW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NORTH AURORA ROAD PENNSBURY LANE TO FRONTENAC ROAD CITY OF NAPERVILLE DETAILS
		DRAWN - BMS	REVISED -		
	PLOT SCALE = 100.0000 ' / in.	CHECKED - BVW	REVISED -		
	PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -		SCALE: NONE — SHEET 3 OF 8 SHEETS — STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	272
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		



1. THRUST BLOCKING TO PREVENT MOVEMENT OF LINES UNDER PRESSURE AT BENDS, TEES, CAPS, VALVES, HYDRANTS, & AT POINTS SPECIFIED BY THE ENGINEER SHALL BE CLASS "SI".
2. CONCRETE A MINIMUM OF 12" THICK, PLACED BETWEEN SOLID GROUND & THE FITTING, AND SHALL BE ANCHORED IN SUCH A MANNER THAT THE PIPE AND FITTING WILL BE ACCESSIBLE FOR REPAIRS.
3. THRUST BLOCKS SHALL BE PLACED AT BENDS OF 11-1/4° OR MORE.
4. PIPE BENDS TO BE POLYETHYLENE ENCASED.
5. JOINT RESTRAINT AT BEND AND LENGTH OF PIPE EACH DIRECTION FROM BENDS AS REQUIRED BY THE CITY OF NAPERVILLE IF UNDISTURBED SOIL NOT AVAILABLE.
6. THRUST BLOCK FOR PIPES LARGER THAN 12"ø MUST BE POURED IN PLACE



SECTION A

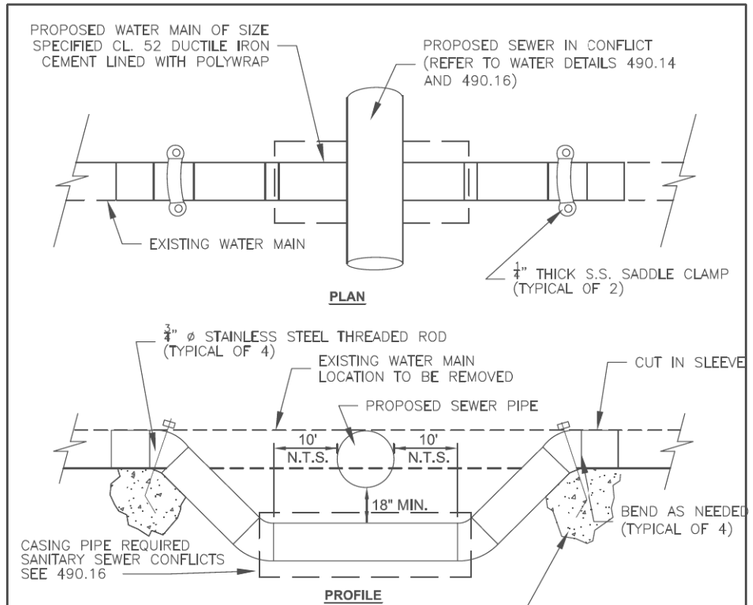
City of Naperville STANDARD DETAIL

THRUST BLOCK

REVISED: 05/15/2015 | SHEET 1 OF 1

WATER 11

490.11



PLAN

PROFILE

1.) PIPING TO BE DISINFECTED DURING INSTALLATION. ALL NEW JOINTS SHALL BE INSTALLED WITH MEG-A-LUG, ~~OR APPROVED EQUAL,~~ JOINT RESTRAINT. CONTRACTOR SHALL USE 22 1/2 OR 11 1/4 DEGREE BENDS IN LIEU OF 45 DEGREE BENDS WHERE POSSIBLE.

2.) VERTICAL THRUST BLOCKS UNDER BENDS SHALL BE 1 C.Y. MINIMUM OR SIZED AS NEEDED TO RESTRAIN BENDS. CONCRETE TO SUFFICIENTLY CURE PRIOR TO TESTING. POURED CONCRETE SHALL NOT BE PLACED AROUND PIPE BOLTS OR HINDER FUTURE MAINTENANCE.

3.) POLYWRAP SHOULD BE IN SHEETS INSTALLED UNDER WATER MAIN WITH ALL PIPING JOINTS EXPOSED UNTIL AFTER PRESSURE TEST IS COMPLETE, THEN WRAPPED AND TAPED IN PLACE PRIOR TO BACKFILLING.

4.) SEWERS INSTALLED ABOVE WATER MAIN SHALL BE DESIGNED TO PROVIDE WATER MAIN PROTECTION AS REQUIRED BY I.E.P.A

5.) ALL PIPING TO BE FLUSHED AND TWO SAFE CONSECUTIVE BACTERIAL SAMPLES TAKEN PRIOR TO CITY PLACING MAIN BACK IN SERVICE.

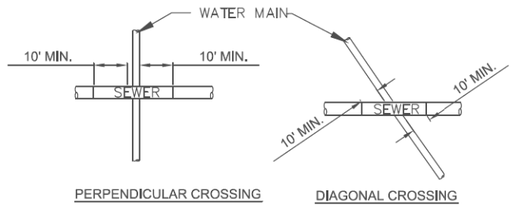
City of Naperville STANDARD DETAIL

LOWERING/ADJUSTING WATER MAIN

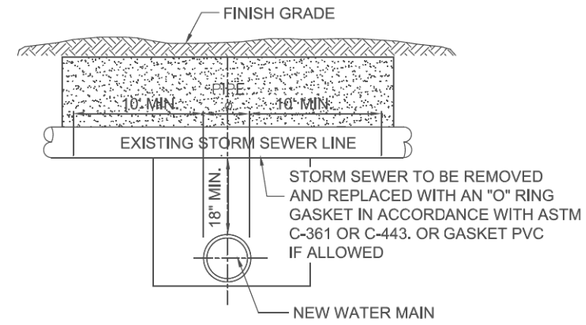
REVISED: 05/15/2015 | SHEET 1 OF 1

WATER 13

490.13



PERPENDICULAR CROSSING | DIAGONAL CROSSING



NOTE:
NEW STORM SEWER INSTALLATION SHALL BE GASKETED STRUCTURE TO STRUCTURE

City of Naperville STANDARD DETAIL

WATER MAIN PROTECTION FROM EXISTING STORM SEWER PIPE

REVISED: 01/01/2013 | SHEET 1 OF 1

WATER 14

490.14

PLAN: SURVEYED, PLOTTED, ALIGNMENT CHECKED, R/T. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK, NO., BY, DATE

PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, B.M. NOTED, STRUCTURE NOTATNS CHKD, NOTE BOOK, NO., BY, DATE

FILE NAME = 060892-NAPERVILLE DETAILS

TRANSYSTEMS

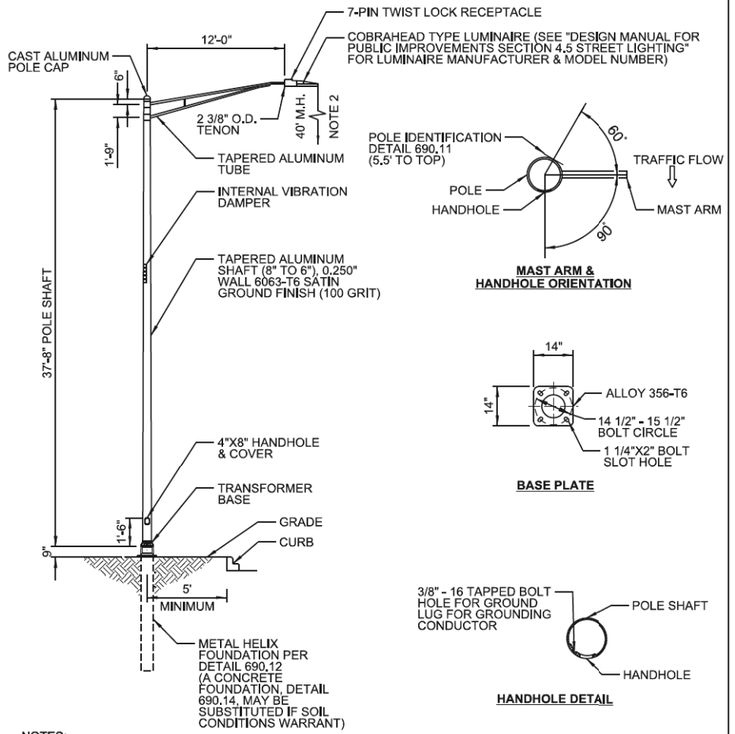
USER NAME = brvanderwal	DESIGNED - MKW	REVISED -
	DRAWN - BMS	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED - BVW	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH AURORA ROAD
PENNSBURY LANE TO FRONTENAC ROAD
CITY OF NAPERVILLE DETAILS

SCALE: NONE | SHEET 4 OF 8 SHEETS | STA. | TO STA.

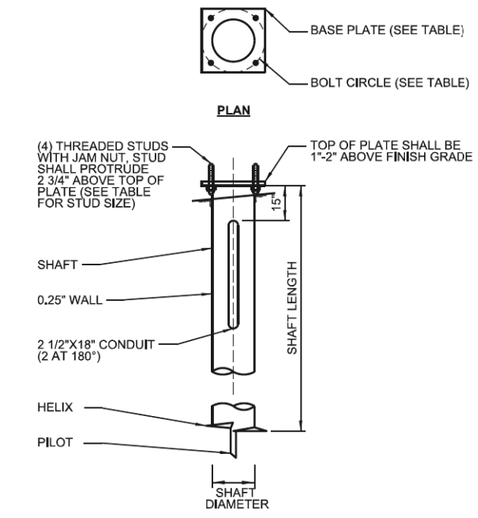
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	273
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		



NOTES:

1. COMPLETE ASSEMBLY NATURAL SATIN FINISH WITH 5 YEAR WARRANTY. HADCO, VALMONT ~~OR APPROVED EQUAL~~.
2. MOUNTED HEIGHT FROM TENON TO POLE ANCHOR PLATE.
3. LUMINAIRE ATTACHED TO POLE WITH CLAMP BRACKET & 1/2" X 13" N.C. S.S. HARDWARE.
4. POLE IS UL CLASSIFIED WITH UL LABEL AND HANDHOLE COVER GASKET COMPLYING WITH UL 1572.
5. RISE OF LUMINAIRE ARM IS 34".
6. POLE DESIGN MEETS LATEST AASHTO SPECIFICATION FOR 90 MPH WIND WITH A LUMINAIRE HAVING A MAXIMUM EPA OF 1.6 SQ. FT. AND WEIGHING 75 LBS.

City of Naperville STANDARD DETAIL	TRUSS ARM STREET LIGHT DETAIL - 40 FOOT	LIGHTING 6
	EFFECTIVE: 4/20/2020 | SHEET 1 OF 1	690.06



HELIX FOUNDATION MATERIALS	
ITEM	MATERIAL REQUIREMENT
BASE PLATE	AASHTO M 270M, GRADE 36 (M270M, GRADE 250)
SHAFT	ASTM A 252, GRADE 2 (PHOSPHOROUS 0.04% MAXIMUM, SULFUR 0.05% MAXIMUM)
HELIX SCREW	AASHTO M 183 (ASTM A 635)
PILOT POINT	AASHTO M 270 (ASTM A 575)
ANCHOR RODS/STUDS	AASHTO M 314 (ASTM F 1554)
HEXAGON NUTS	AASHTO M 291M (ASTM A 563) GRADE DH, OR AASHTO M 292 (ASTM A 194) GRADE 2H
WASHERS	AASHTO M 293 (ASTM F 436)

HELIX FOUNDATION SIZE					
POLE HEIGHT	BOLT CIRCLE	SHAFT DIA.	BOLT SIZE	SHAFT LENGTH	BASEPLATE
23 FT	10 1/2"	8 5/8"	1"	5.0 FT	12"X12"X1"
32 FT	11 1/2"	8 5/8"	1"	6.0 FT	12"X12"X1"
40 FT	15"	8 5/8"	1"	6.0 FT	15"X15"X1 1/4"

City of Naperville STANDARD DETAIL	HELIX TYPE POLE FOUNDATION DETAIL	LIGHTING 12
	EFFECTIVE: 4/20/2020 | SHEET 1 OF 2	690.12

NOTES:

1. ALL MATERIALS SHALL BE GALVANIZED ACCORDING TO AASHTO M 111 (LATEST REVISION).
2. ALL WELDS SHALL BE CONTINUOUS AND NOT LESS THAN 1/4" FILLET WELDS. THE WELDED FOUNDATION SHALL BE CAPABLE OF WITHSTANDING 10,000 FT/LBS OF INSTALLATION TORQUE APPLIED ABOUT THE AXIS OF THE FOUNDATION.
3. THE HELIX FOUNDATION SHAFT SHALL BE INSTALLED PLUMB AND THE BASE PLATE SHALL BE IN LEVEL.
4. THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE INSTALLATION OF THE LIGHT POLE.
5. THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF THE BASE PLATE WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS.
6. ANY VOIDS WITHIN THE METAL FOUNDATION SHALL BE FILLED WITH FINE AGGREGATE.
7. METAL FOUNDATIONS SHALL BE INSTALLED IN UNDISTURBED SOIL. PREDRILLING A PILOT HOLE AND/OR BACK FILLING AROUND THE FOUNDATION IS NOT ALLOWED.
8. THE METAL FOUNDATION SHALL NOT BE INSTALLED TO A TORQUE WHICH EXCEEDS THE MANUFACTURER'S MAXIMUM TORQUE RATING NOR SHALL IT BE INSTALLED TO AN INSTALLATION TORQUE VALUE OF LESS THAN 3,500 FT LB. METAL FOUNDATIONS THAT ARE NOT INSTALLED TO FULL INSTALLATION DEPTH OR DO NOT ACHIEVE THE MINIMUM INTALLATION TORQUE SHALL BE REMOVED AND REPLACE WITH A CONCRETE FOUNDATION.
9. BASE PLATE TO BE PERPENDICULAR TO SHAFT AXIS (± 1 DEG) AND HOLE CENTERLINE CONCENTRIC (± 0.188) TO THE SHAFT AXIS.
10. PILOT POINT AND SHAFT AXES TO BE CONCENTRIC (± 125) AND IN LINE (± 2 DEG).
11. BASE PLATE SHALL BE PERMANENTLY STAMPED WITH MANUFACTURUER'S NAME AND DATE OF MANUFACTURE.

City of Naperville STANDARD DETAIL	HELIX TYPE POLE FOUNDATION DETAIL	LIGHTING 12
	EFFECTIVE: 4/20/2020 | SHEET 2 OF 2	690.12

PLAN: SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK, NO., BY, DATE

PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, B.M. NOTED, STRUCTURE NOTATNS CHKD, NOTE BOOK, NO., BY, DATE

FILE NAME = 0608P2-NAPERVILLE DETAILS

TRANSYSTEMS			
USER NAME = brvanderwal	DESIGNED - MKW	REVISED -	
	DRAWN - BMS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BVW	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH AURORA ROAD
PENNSBURY LANE TO FRONTENAC ROAD
CITY OF NAPERVILLE DETAILS

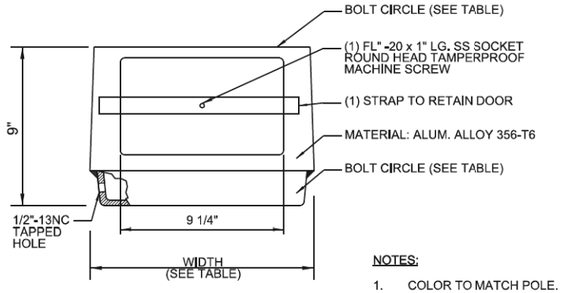
SCALE: NONE | SHEET 5 OF 8 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	274
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		

SIZE				
POLE HEIGHT	TOP BOLT CIRCLE	BOTTOM BOLT CIRCLE	WIDTH	BOLT DIA.
23 FT	10 1/2"-12"	10"-12 3/4"	11 1/2"	1"
30 FT (CBD)	14 1/2"-15"	14 1/2"-16 1/4"	15"	1 1/4"
32 FT	10 1/2"-12"	10"-12 3/4"	11 1/2"	1"
40 FT	11 1/2"-12"	10"-12 3/4"	11 1/2"	1"
47.5 FT	14 1/2"-15"	14 1/2"-16 1/4"	15"	1"

BASE SUPPLIED WITH:

1. DOOR AND 1/4"-20NC S.S. HEX. HD. SCREW
2. EIGHT WASHERS 1/2" THICK X 2 3/4" O.D. (GALV. PER ASTM A153 OR ASTM B454)
3. FOUR 8NC X 3 3/4" LONG GALV. STL. HEX. HD. BOLTS
4. FOUR 8NC GALV. STL. HEX. NUTS
5. FOUR GALV. STL. LOCK WASHERS
6. FOUR GALV. STL. FLAT WASHERS
7. FHWA APPROVED MEETING AASHTO BREAKAWAY REQUIREMENTS
8. BEFORE INSTALLATION OF BREAKAWAY BASE, USER SHOULD CONSULT WITH AUTHORIZED DISTRIBUTOR REGARDING USERS PROPOSED APPLICATION, LOAD REQUIREMENTS AND INSTALLATION METHODS. FAILURES CAN RESULT FROM USERS MISAPPLICATION OR IMPROPER INSTALLATION. TO APPROACH OPTIMUM STATIC LOADS, USE THE LARGEST POSSIBLE BOLT CIRCLES. SHIMS SHALL NOT BE ALLOWED.



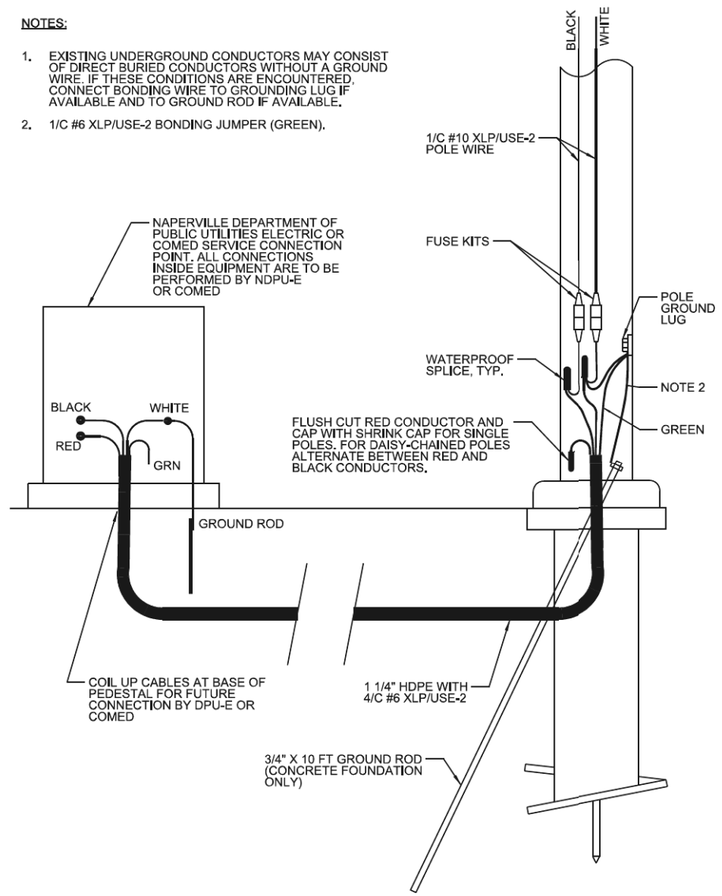
NOTES:

1. COLOR TO MATCH POLE.

City of Naperville STANDARD DETAIL	TRANSFORMER BASE - 9 INCH	LIGHTING 16
	EFFECTIVE: 4/20/2020 SHEET 1 OF 1	690.16

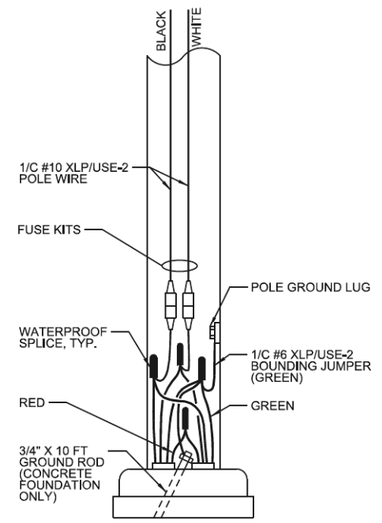
NOTES:

1. EXISTING UNDERGROUND CONDUCTORS MAY CONSIST OF DIRECT BURIED CONDUCTORS WITHOUT A GROUND WIRE. IF THESE CONDITIONS ARE ENCOUNTERED, CONNECT BONDING WIRE TO GROUNDING LUG IF AVAILABLE AND TO GROUND ROD IF AVAILABLE.
2. 1/C #6 XLP/USE-2 BONDING JUMPER (GREEN).



DIRECT CONNECTED LIGHT POLE

City of Naperville STANDARD DETAIL	TYPICAL STREET LIGHT CONNECTION	LIGHTING 23
	EFFECTIVE: 4/20/2020 SHEET 1 OF 3	690.23



LIGHT POLE ON CONTROLLER

City of Naperville STANDARD DETAIL	TYPICAL STREET LIGHT CONNECTION	LIGHTING 23
	EFFECTIVE: 4/20/2020 SHEET 2 OF 3	690.23

PLAN: SURVEYED, PLOTTED, CROSS CHECKED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK, NO., BY, DATE

PROFILE: SURVEYED, PLOTTED, CROSS CHECKED, ELEV. NOTED, STRUCTURE NO/ATTNS CHKD, NOTE BOOK, NO., BY, DATE

FILE NAME = 0620892-NAPERVILLE DETAILS

TRANSYSTEMS

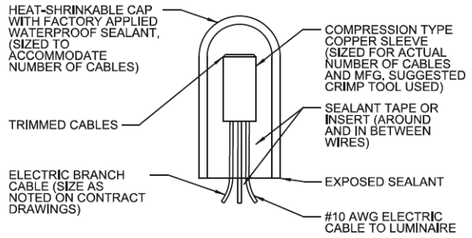
USER NAME = brvanderwal	DESIGNED - MKW	REVISED -	
	DRAWN - BMS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BVW	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

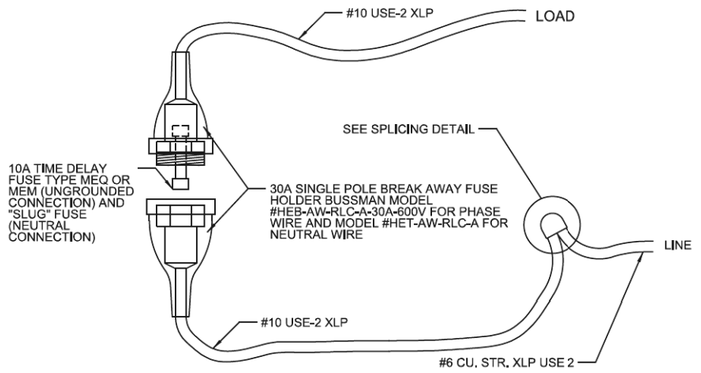
NORTH AURORA ROAD
PENNSBURY LANE TO FRONTENAC ROAD
CITY OF NAPERVILLE DETAILS

SCALE: NONE | SHEET 6 OF 8 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	275
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

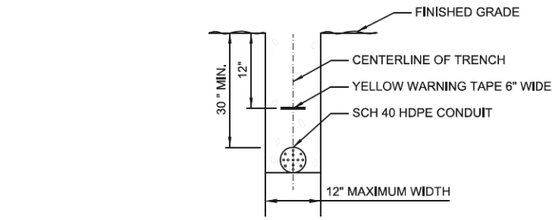


SPLICE DETAIL

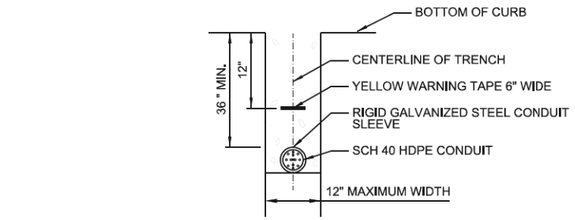


TYPICAL FUSE HOLDER CONNECTION IN POLE

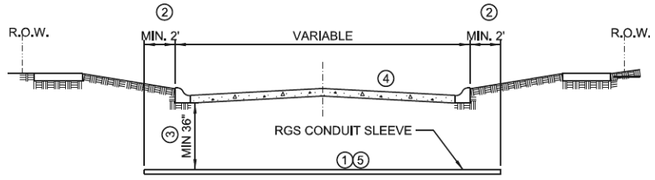
City of Naperville STANDARD DETAIL	TYPICAL STREET LIGHT CONNECTION	LIGHTING 23
	EFFECTIVE: 4/20/2020 — SHEET 3 OF 3	690.23



TRENCH CROSS SECTION (NON-PAVED AREAS)



TRENCH CROSS SECTION (UNDER ROADWAYS & COMMERCIAL DRIVEWAYS)



ROADWAY / PAVEMENT CROSSING

① SLEEVE SHALL BE HEAVY WALL RIGID GALVANIZED STEEL (RGS) CONDUIT.

② SLEEVE SHALL EXTEND A MINIMUM OF 2 FT. BEYOND BACK OF CURB.

③ SLEEVE SHALL BE A MINIMUM OF 36" BELOW ROADWAY OR CURB BOTTOM.

④ CONTRACTOR SHALL PERFORM EXPLORATORY POTHOLES IN PAVEMENT IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND AS DIRECTED BY THE ENGINEER.

⑤ CONDUIT SHALL BE PUSHED UNDER EXISTING ROADWAY AND COMMERCIAL DRIVEWAYS UNLESS OTHERWISE APPROVED BY THE CITY.

City of Naperville STANDARD DETAIL	TYPICAL TRENCH DETAIL	LIGHTING 30
	EFFECTIVE: 4/20/2020 — SHEET 1 OF 1	690.30

PLAN: SURVEYED, PLOTTED, CROSS CHECKED, BM. NOTED, STRUCTURE NOTATNS CHKD, BY, DATE; NOTE BOOK, NO.

PROFILE: SURVEYED, PLOTTED, CROSS CHECKED, BM. NOTED, STRUCTURE NOTATNS CHKD, BY, DATE; NOTE BOOK, NO.

FILE NAME = 060092-NAPERVILLE DETAILS

TRANSYSTEMS

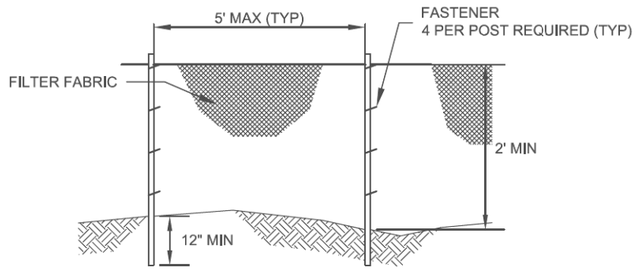
USER NAME = brvanderwal	DESIGNED - MKW	REVISED -	
	DRAWN - BMS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BVW	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

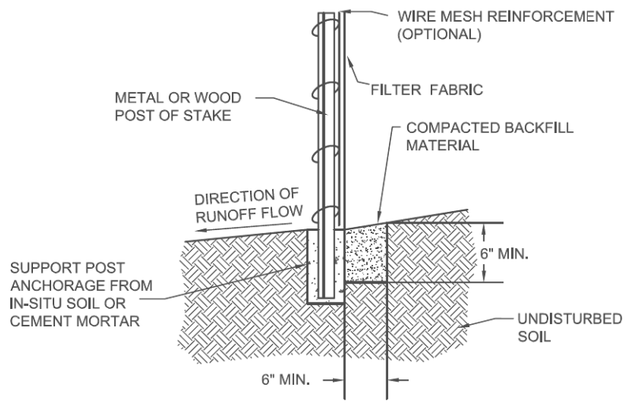
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

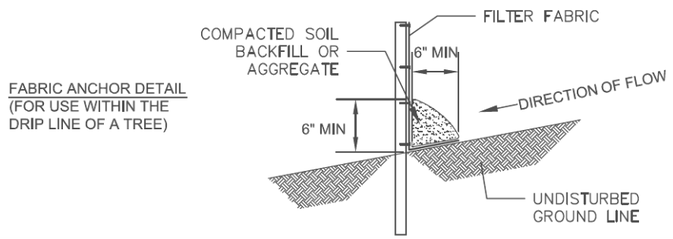
NORTH AURORA ROAD
PENNSBURY LANE TO FRONTENAC ROAD
CITY OF NAPERVILLE DETAILS

SCALE: NONE | SHEET 7 OF 8 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	276
		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			







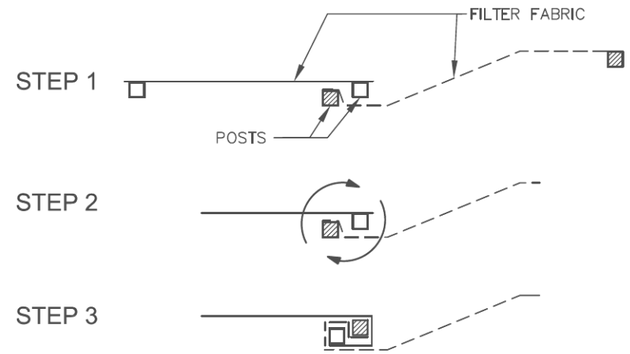
City of Naperville
STANDARD DETAIL

TEMPORARY EROSION CONTROL MEASURE - SILT FENCE

REVISED: 01/01/2013 | SHEET 1 OF 2

LANDSCAPE 3

790.03



STEPS FOR THE ATTACHMENT OF TWO SILT FENCES:
1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREESIN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. DRIVE BOTH POSTS A MINIMUM OF 18 INCHES INTO THE GROUND AND BURY THE FLAP.

NOTES:
1. TEMPORARY SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS I WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NON-WOVEN OR 50 FOR WOVEN.
3. FENCE POSTS SHALL BE EITHER STANDARD STEEL POST OR WOOD POST WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.
4. DEPENDING UPON THE CONFIGURATION, ATTACH FABRIC AND WIRE MESH WITH HOG RINGS, STEEL POST WITH TIE WIRES, WOOD POST WITH NAILS.

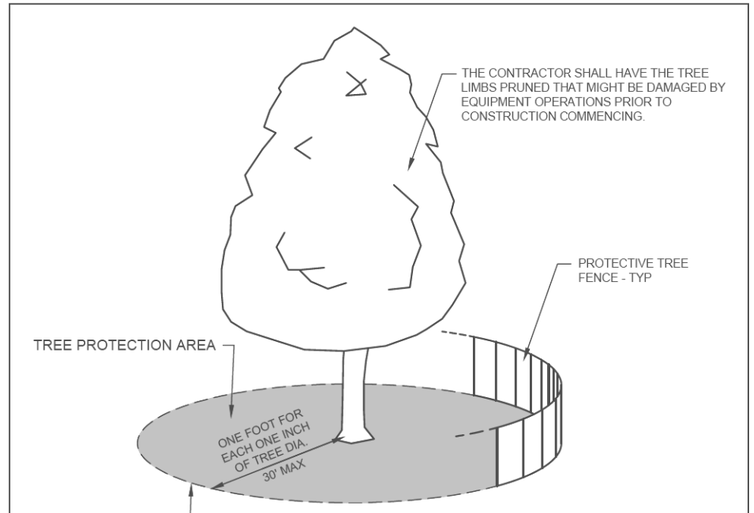
City of Naperville
STANDARD DETAIL

TEMPORARY EROSION CONTROL MEASURE - SILT FENCE

REVISED: 01/01/2013 | SHEET 2 OF 2

LANDSCAPE 3

790.03



NOTES:

1. A TREE PROTECTION AREA SHALL BE ESTABLISHED AROUND A TREE A DISTANCE OF ONE FOOT FOR EACH ONE INCH OF TREE DIAMETER, UP TO A MAXIMUM OF 30 FEET.
2. PROTECTIVE TREE FENCE SHALL BE INSTALLED AT THE LIMITS OF THE TREE PROTECTION AREA. THE FENCE SHALL BE HIGH ENOUGH SO AS TO BE VISIBLE TO ALL CONSTRUCTION PERSONNEL.
3. GRADE CHANGES, UTILITY TRENCHES, STORAGE OF CONSTRUCTION MATERIAL, DUMPING OF WASTE, OR OPERATION OR STORAGE OF ANY EQUIPMENT SHALL NOT BE ALLOWED WITHIN THE TREE PROTECTION AREA.
4. AUGURING IS REQUIRED IF A UTILITY MUST BE INSTALLED WITHIN THE TREE PROTECTION AREA. AUGURED UTILITIES MUST BE A MINIMUM OF 24 INCHES BELOW GRADE.
5. ALL TREES TO BE SAVED WHICH HAVE BEEN SUBJECTED TO CONSTRUCTION ACTIVITY WITHIN THE TREE PROTECTION AREA SHOULD BE SELECTIVELY THINNED 10% BY AN ARBORIST SKILLED AT THE SELECTIVE THINNING PROCEDURE. NONE OF THE TREES SHALL BE TOPPED, HEADED BACK, SKINNED (REMOVAL OF THE INTERIOR BRANCHES), OR CLIMBED WITH SPIKES. ALL DEAD WOOD SHOULD BE REMOVED TO AVOID HAZARD.
6. IT IS RECOMMENDED THAT FOLLOWING CONSTRUCTION, TREES BE MAINTAINED IN THEIR NATIVE CONDITION. NO LAWN SHOULD BE PLACED AROUND THE TREES. IT IS RECOMMENDED THAT THE AREA BE MULCHED WITH 2 INCHES OF DECOMPOSED LEAVES AND 2 INCHES OF WOOD CHIPS OR BARK.

City of Naperville
STANDARD DETAIL

TREE PROTECTION

REVISED: 08/01/2018 | SHEET 1 OF 1

LANDSCAPE 10

790.10

PLAN: DATE | BY | SURVEYED | PLOTTED | CROSS CHECKED | BAL. NOTED | STRUCTURE NOTATNS CHKD | NOTE BOOK | NO.

PROFILE: DATE | BY | SURVEYED | PLOTTED | CROSS CHECKED | BAL. NOTED | STRUCTURE NOTATNS CHKD | NOTE BOOK | NO.

FILE NAME = 060092-NAPERVILLE DETAILS

TRANSYSTEMS

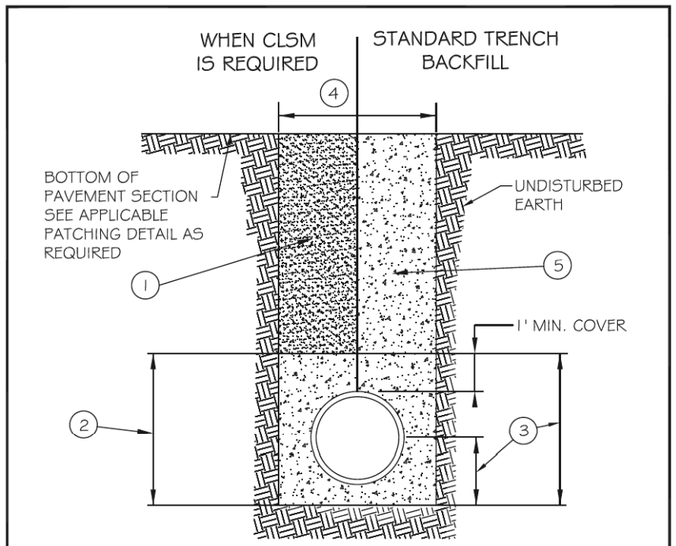
USER NAME = brvanderwal	DESIGNED - MKW	REVISED -
	DRAWN - BMS	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED - BVW	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH AURORA ROAD
PENNSBURY LANE TO FRONTENAC ROAD
CITY OF NAPERVILLE DETAILS

SCALE: NONE | SHEET 8 OF 8 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	277
		CONTRACT NO. 61G79		
		ILLINOIS	FED. AID PROJECT	

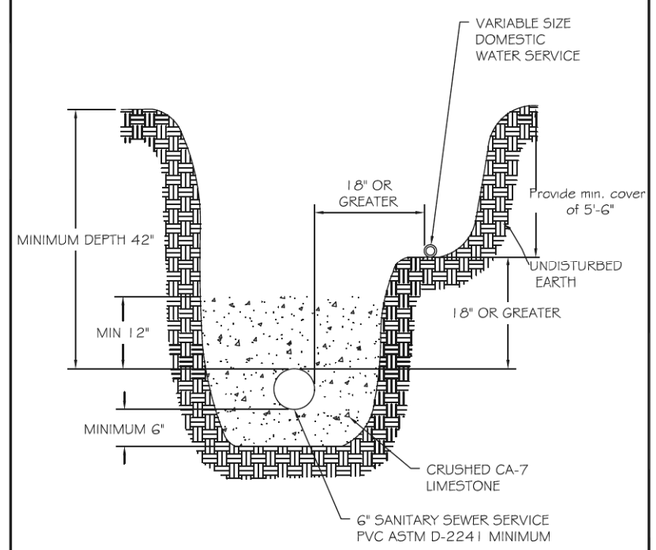


1. CONTROLLED LOW-STRENGTH MATERIAL (CLSM) I.D.O.T. APPROVED MIX WHEN REQUIRED BY CITY ENGINEER.
2. ALL CLSM INSTALLATIONS REQUIRE CA-6 PLACEMENT TO 1' OVER T.O.P.
3. RIGID PIPE: CA-7 SHALL BE PLACED FROM 4" BELOW PIPE TO THE SPRING LINE. FLEXIBLE PIPE: CA-7 SHALL BE PLACED FROM 4" BELOW PIPE TO 1' OVER T.O.P.
4. MAXIMUM TRENCH WIDTH IN ACCORDANCE WITH SECTION 20-4.05
5. CA-6 OR APPROVED TRENCH BACKFILL. FOR NON-PAVED AREAS: SELECT EXCAVATED MATERIAL MAY BE SUBSTITUTED FOR CA-6 AS DIRECTED BY THE ENGINEER.

REVISIONS		WATER TRENCH DETAIL PAVED & UNPAVED		
DATE: 01-24-13	BY: DG	SCALE: NOT TO SCALE	CHECKED: LA	DRAWING NUMBER
05-09-17	MGP	DATE: 1/04	DRAWN: DG	EXHIBIT III-A-1

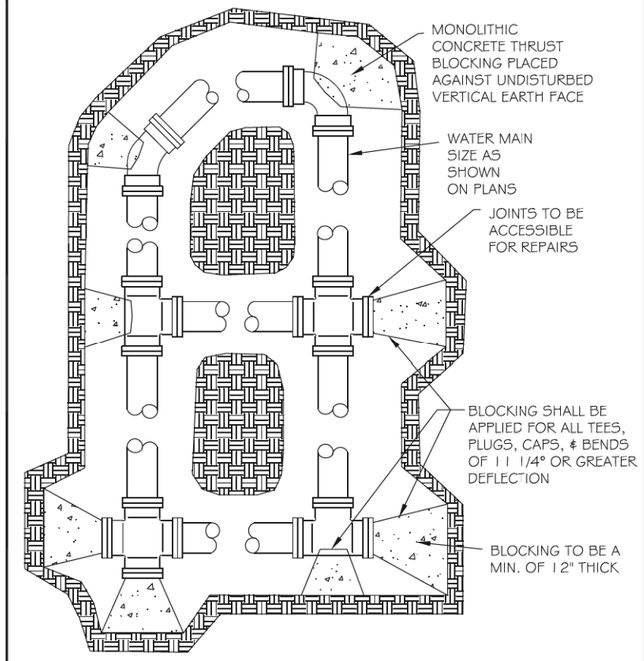
AURORA The City of Lights — ENGINEERING

REQUIRED WHEN A SEPARATE TRENCH OR A TEN FOOT (10') MINIMUM SEPARATION IS NOT POSSIBLE. REFER TO THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.



REVISIONS		SANITARY AND WATER SERVICE SEPARATION		
DATE: 01/2011	BY: jms	SCALE: NOT TO SCALE	CHECKED: DF	DRAWING NUMBER
05/2017	mgp	DATE: 1/04	DRAWN: NM	EXHIBIT III-C-2

AURORA The City of Lights — ENGINEERING



REVISIONS		THRUST BLOCKING		
DATE: 01/2011	BY: jms	SCALE: NOT TO SCALE	CHECKED: DF	DRAWING NUMBER
		DATE: 1/04	DRAWN: NM	EXHIBIT III-C-3

AURORA The City of Lights — ENGINEERING

PLAN: SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK, NO.
PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, BM. NOTED, STRUCTURE NOTATNS CHKD
BY, DATE

FILE NAME = 060092-AURORA DETAILS

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - MKW	REVISED -
	DRAWN - BMS	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED - BVW	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH AURORA ROAD
PENNSBURY LANE TO FRONTENAC ROAD
CITY OF AURORA DETAILS

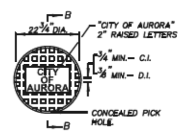
SCALE: NONE | SHEET 1 OF 3 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	278
		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			

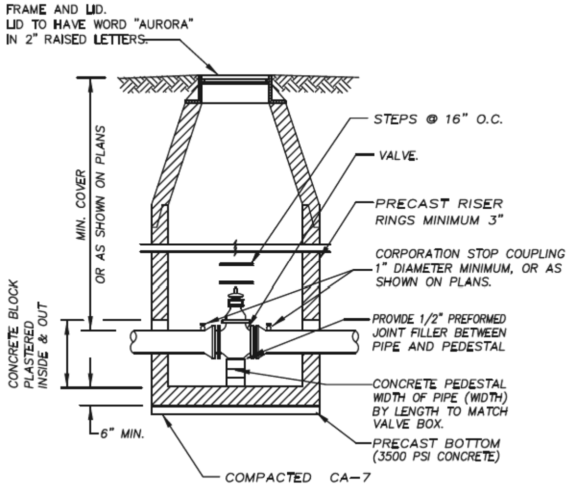
CAST FRAME

NOTES:
1. DUCTILE IRON CASTINGS SHALL BE GRADE 60-40-18 AND SHALL BE TESTED IN ACCORDANCE WITH FEDERAL SPECIFICATIONS.
2. ALL LIDS AND COVERS SHALL BE MACHINED.
3. THE MANHOLE COVERS SHALL HAVE RAISED LETTERS.
4. FRAME AND LID TO BE NEENAH R-1713-B.
5. LID SHALL BE CAST WITH THE DESIGNATION "CITY OF AURORA".
6. LID SHALL HAVE A CONCEALED PICK HOLE.

ALL JOINTS BETWEEN PRECAST ELEMENTS, ADJUSTMENT RINGS AND MANHOLE FRAMES AND LIDS ON ALL UNDER GROUND STRUCTURES, SHALL BE SET IN PLACE WITH ONE OF THE FOLLOWING: BUTYL RUBBER JOINT SEALANTS AS MANUFACTURED BY CONCRETE PRODUCTS SUPPLY CO. ER STIK ST8, HAMILTON GASKET CO. KENT SEAL, AS APPROVED BY THE CITY ENGINEER, AND ALL JOINTS TO BE TUCKPOINTED WITH ANTI-HYDRAULIC CEMENT.



CAST CLOSED LID

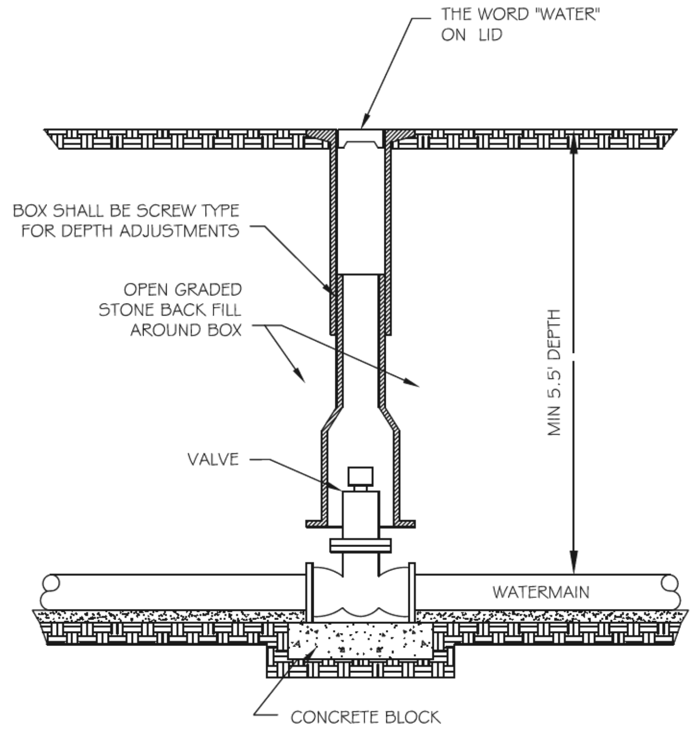


REFER TO THE STANDARD SPECIFICATIONS FOR IMPROVEMENTS FOR VALVE, VAULT, CORPORATION, PIPE, AND JOINT TYPES, MANUFACTURES, AND SIZES.

NOTES:

1. VALVE VAULTS TO BE PRECAST REINFORCED CONCRETE UNLESS OTHERWISE APPROVE.
2. **PRECAST CONCRETE ADJUSTMENT RINGS SHALL BE USED FOR ALL ADJUSTMENTS UP TO A MAXIMUM ADJUSTMENT OF EIGHT INCHES (8").**
3. **ALL VALVES LOCATED UNDER PAVEMENT SHALL BE LOCATED WITH VAULT.**

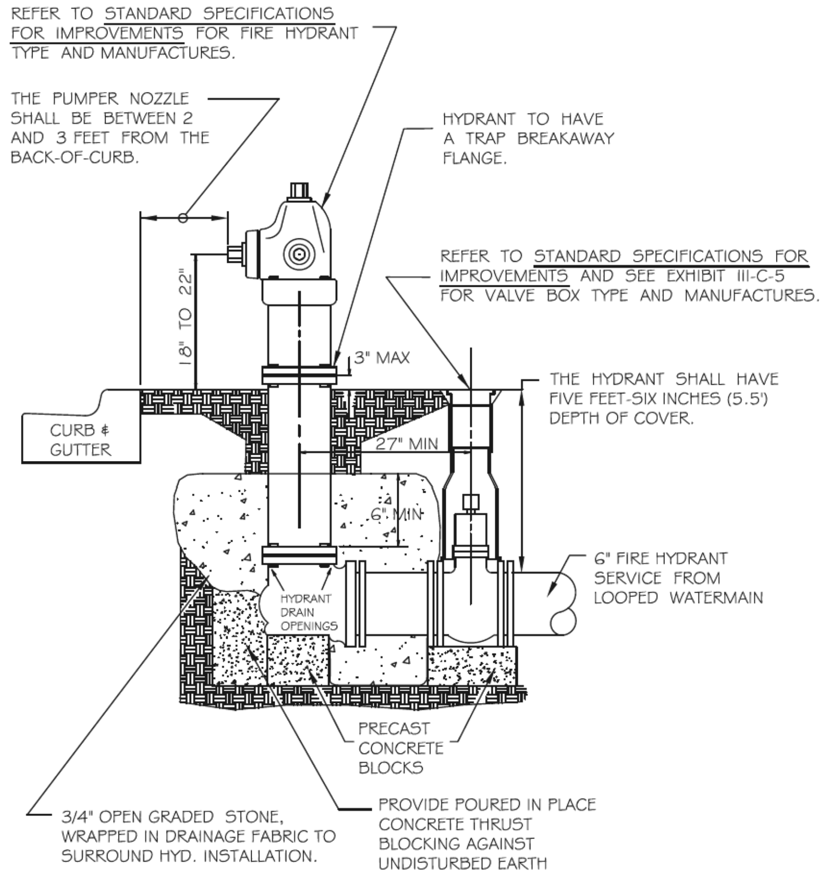
REVISIONS		VALVE IN VAULT		
DATE:	BY:			
12/2010	ST	SCALE: NOT TO SCALE	CHECKED: DF	DRAWING NUMBER
01/2011	jhs	DATE: 1/04	DRAWN: NM	EXHIBIT III-C-4
11/2014	JJ			



REFER TO THE STANDARD SPECIFICATIONS FOR IMPROVEMENTS FOR VALVE AND BOX TYPE, MANUFACTURE, AND SIZES.

NOTES:
1. ALL NUTS, BOLTS, AND THREADED RODS SHALL BE STAINLESS STEEL (SEE THE STANDARD SPECIFICATIONS FOR IMPROVEMENTS FOR STEEL GRADE).

DATE:	BY:	TYPICAL VALVE & BOX		
01/2011	jhs	SCALE: NOT TO SCALE	CHECKED: DF	DRAWING NUMBER
		DATE: 1/04	DRAWN: NM	EXHIBIT III-C-5



REVISIONS		HYDRANT INSTALLATION		
DATE: 8/02	BY: NM, redrawn			
1/04	SAZ, redrawn	SCALE: NOT TO SCALE	CHECKED: DF	DRAWING NUMBER
01/2011	jhs, Revisions	DATE: 8/02	DRAWN: NM / SAZ	EXHIBIT III-C-7

PLAN	SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.O.W. CHECKED / CADD FILE NAME	NOTE BOOK NO.
PROFILE	SURVEYED / PLOTTED / GRADES CHECKED / BM NOTES / STRUCTURE NOTATNS CHKD	NOTE BOOK NO.

FILE NAME = 060092-AURORA DETAILS

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - MKW	REVISED -	
	DRAWN - BMS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BVW	REVISED -	
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH AURORA ROAD
PENNSBURY LANE TO FRONTENAC ROAD
CITY OF AURORA DETAILS

SCALE: NONE | SHEET 2 OF 3 SHEETS | STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	279
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	DRAWN / CHECKED		
	BM. NOTED		
NOTE BOOK	RT. OF WAY CHECKED		
NO.	CADD FILE NAME		

Minimum Restraint Length (ft) on both sides of the Fitting

Fitting Type/Nominal Size		6”	8”	12”	16”
11 ¼ ° Bend		2	3	4	6
22 ½ ° Bend		5	6	9	11
45 ° Bend		10	13	18	23
90 ° Bend		23	30	43	56
Dead End		31	40	57	74
Top Side of a Vertical Offset [1]		19	25	35	46
Tee Run x Branch [2]	6” BY	24			
Tee Run x Branch [2]	8” BY	22	34		
Tee Run x Branch [2]	12” BY	18	31	51	
Tee Run x Branch [2]	16” BY	14	28	48	67
Reducer [3]	8” BY	17			
Reducer [3]	12” BY	42	30		
Reducer [3]	16” BY	62	54	31	

[1] All joints within the lowered section of the watermain shall be restrained or shall be solid pipe. The above distances reflect the required restraint distance on the normally elevated watermain either side of the 45° Fitting of the vertical offset (or lowering).

[2] Minimum of 8 ft of solid pipe is required on both sides of the fitting on the run side. Distance indicates the length of restraint on the branch side or the side perpendicular to the tee run watermain.

[3] Indicates the distance from the larger end of the reducer.

Notes: 1) All nuts and bolts shall be stainless steel.
2) The Entire restraint system from the fitting to the minimum restraint distance must be Inspected by The City of Aurora or it’s representative prior to backfilling.

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	DRAWN / CHECKED		
	BM. NOTED		
NOTE BOOK	STRUCTURE NOTATNS CHKD		
NO.			

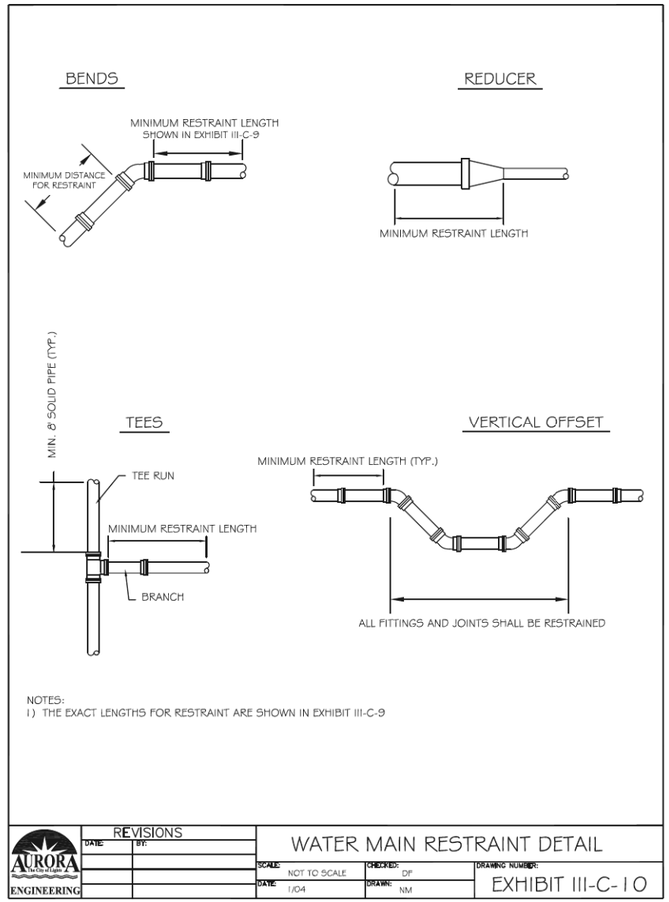
Engineering Department

Revisions	
Date:	By:

Watermain Restraint Length Table

Scale: None	Checked PJH
Date: 2/04	Drawn: DF

EXHIBIT III-C-9



NOTES:
1) THE EXACT LENGTHS FOR RESTRAINT ARE SHOWN IN EXHIBIT III-C-9

ENGINEERING	REVISIONS DATE:	BY:	WATER MAIN RESTRAINT DETAIL		
			SCALE: NOT TO SCALE	CHECKED: DF	DRAWING NUMBER: EXHIBIT III-C-10
			DATE: 1/04	DRAWN: NM	

FILE NAME = 0620952-AURORA DETAILS

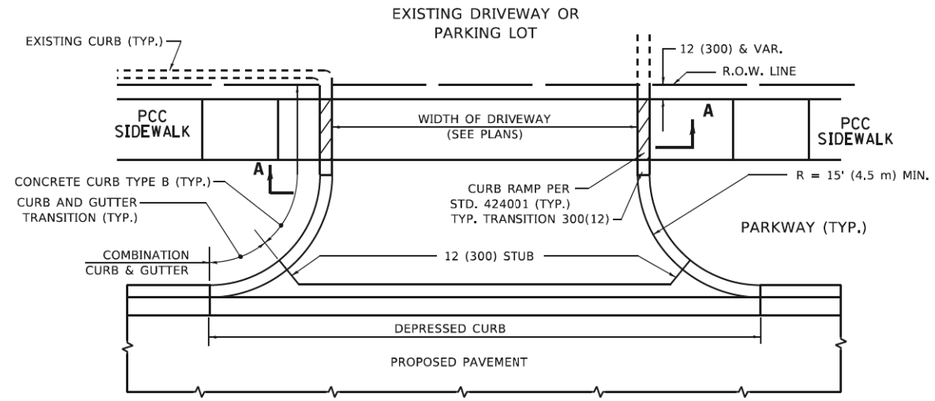
TRANSYSTEMS	USER NAME = brvanderwal	DESIGNED - MKW	REVISED -
		DRAWN - BMS	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED - BVW	REVISED -
	PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

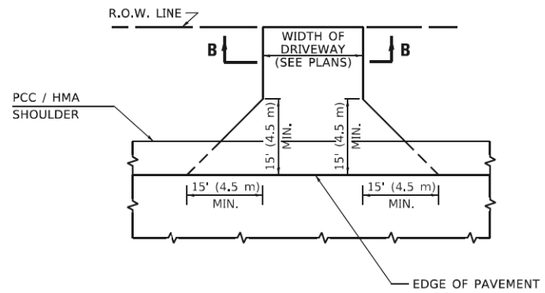
NORTH AURORA ROAD
PENNSBURY LANE TO FRONTENAC ROAD
CITY OF AURORA DETAILS

SCALE: NONE SHEET 3 OF 3 SHEETS STA. TO STA.

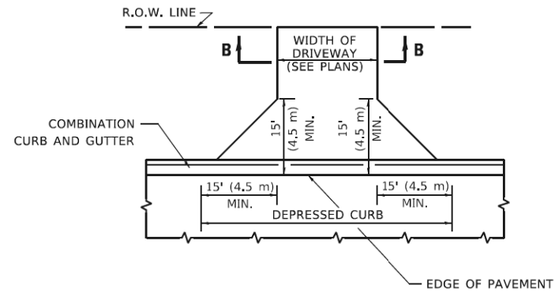
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	280
		CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		



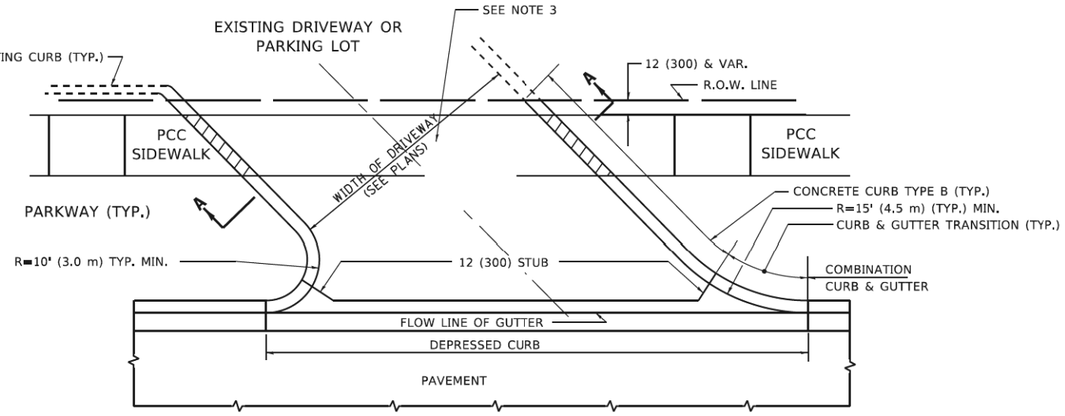
WITH CONCRETE CURB, TYPE B



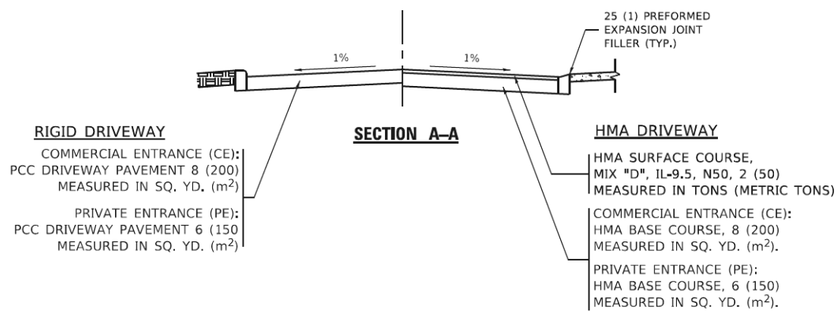
ADJACENT TO PCC /HMA SHOULDER

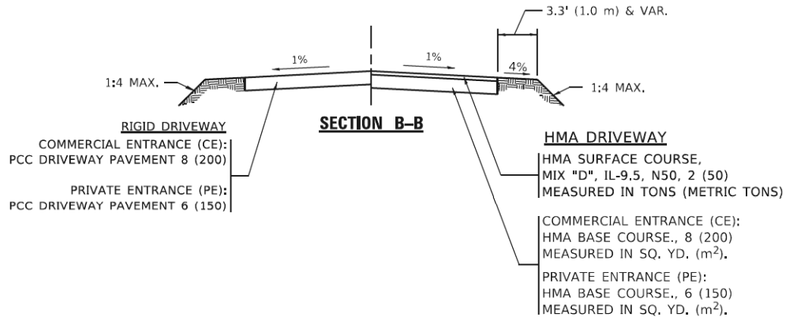


ADJACENT TO CURB AND GUTTER



WITH CONCRETE CURB, TYPE B





RURAL FIELD ENTRANCE (FE)

HMA SURFACE COURSE,
MIX "D", IL-95, N50, 2 (50)
MEASURED IN TONS (METRIC TONS)

AGGREGATE BASE COURSE., TYPE B, 8 (200)
MEASURED IN SQ. YD. (m2).

GENERAL NOTES

1. DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.

2. COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE NOTED.

MODEL: Default
FILE NAME: pw:\\Bid-pw.bentley.com:PWIDOT\Documents\IDOT Offices\District 1\Projects\D8=50x22x34\CADData\CADSheets\bd01.dgn

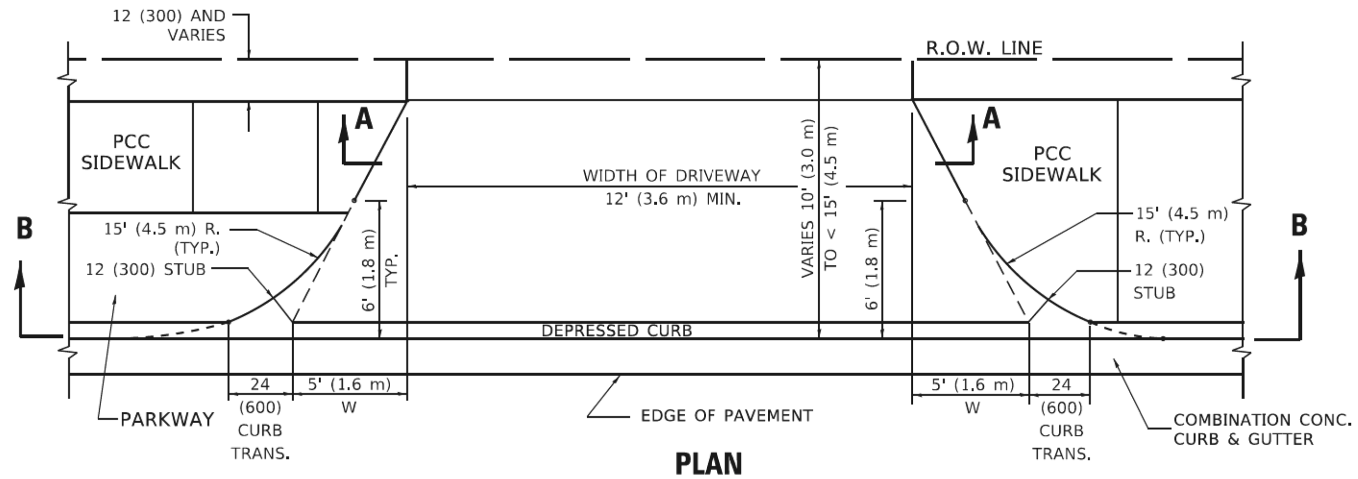
USER NAME = Lawrence,DeManche	DESIGNED - R. SHAH	REVISED - R. BORO 06-11-08	
	DRAWN -	REVISED - R. BORO 09-06-11	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - K. SMITH 08-28-19	
PLOT DATE = 11/18/2022	DATE - 11-04-95	REVISED - K. SMITH 11-18-22	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

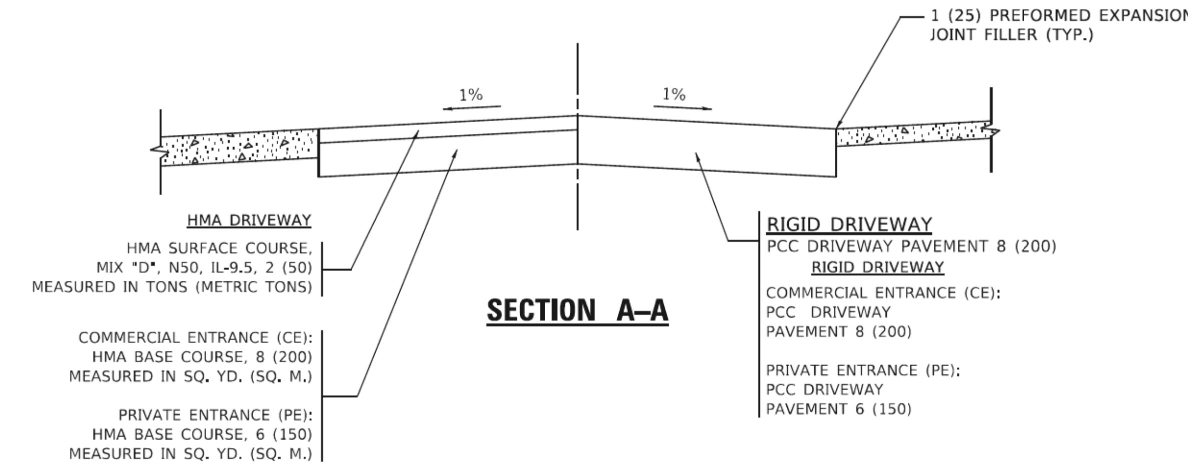
DRIVEWAY DETAILS – DISTANCE BETWEEN R.O.W. AND FACE OF CURB & EDGE OF SHOULDER ≥15'(4.5m)

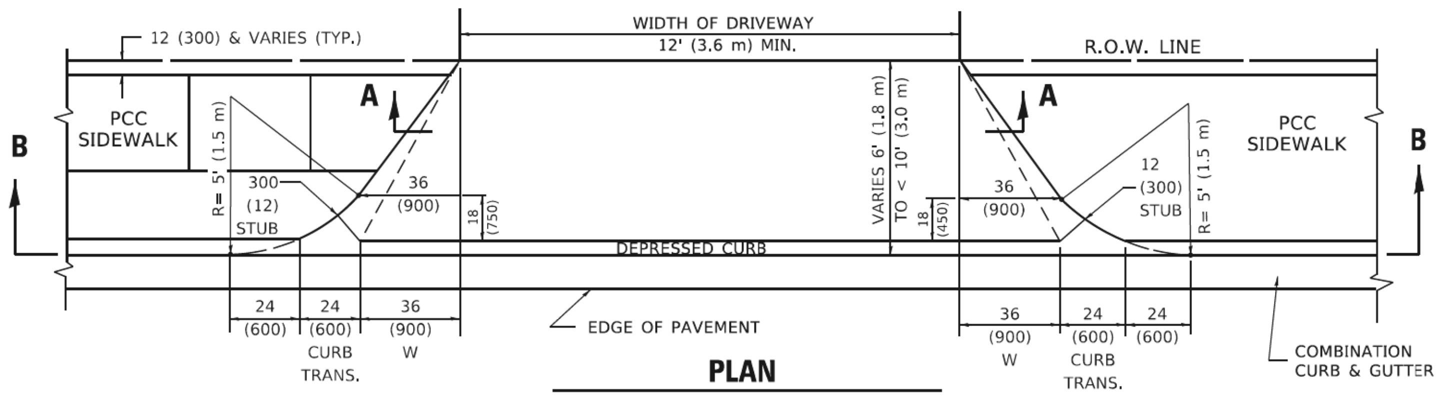
SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	281
BD400–01 (BD–01)		CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			

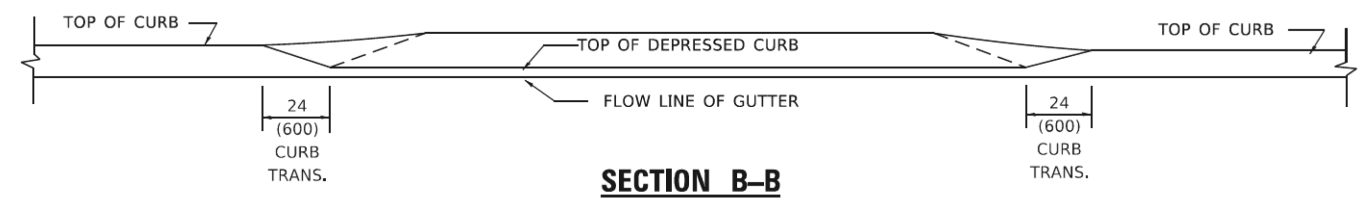


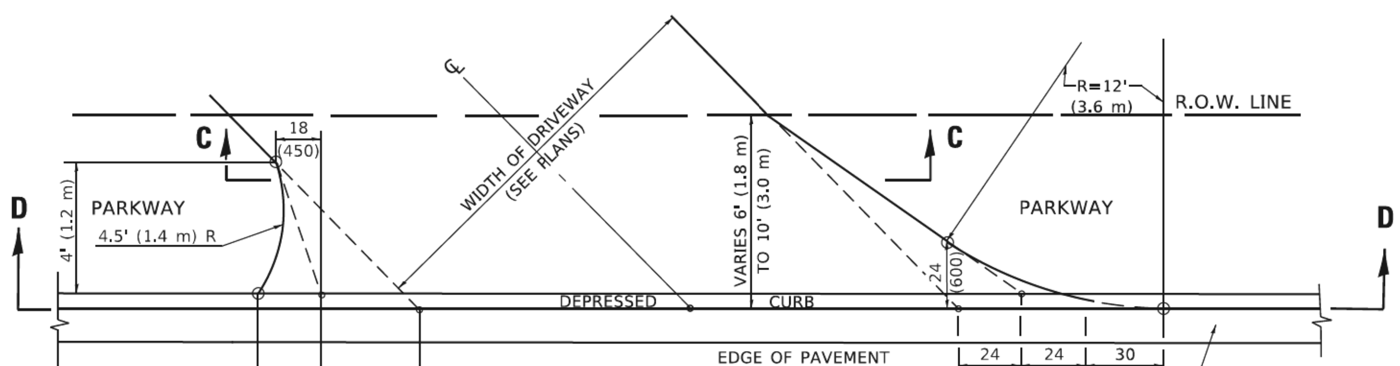
PLAN
10' (3.0 m) TO < 15' (4.5 m)



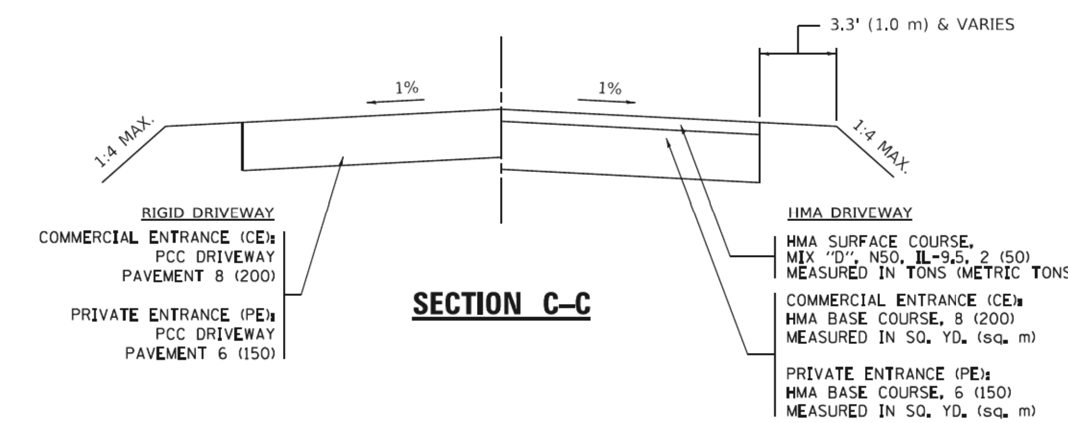


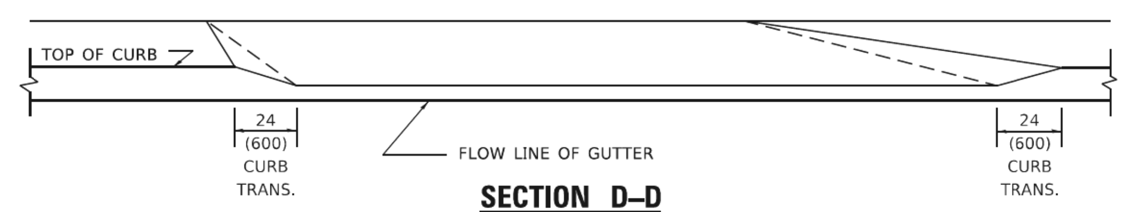
PLAN
6' (1.8 m) TO < 10' (3.0 m)





PLAN
6' (1.8 m) TO 10' (3.0 m)





GENERAL NOTES

1. DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATION 10 IN THE PERMIT HANDBOOK. WHERE SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED WITH RIGID PAVEMENT. WHERE NO SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED IN KIND. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.
2. WHEN THE DISTANCE BETWEEN R.O.W. AND THE BACK OF CURB IS EQUAL TO OR LESS THAN 8' (2.4 m), THE PCC SIDEWALK SHALL EXTEND TO THE BACK OF CURB.
3. "W" VARIES FROM 36 (900) TO 5' (1.5 m) PROPORTIONAL TO THE LENGTH (L), FROM 6' (1.8 m) TO 10' (3 m).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE NOTED.

MODEL: Default

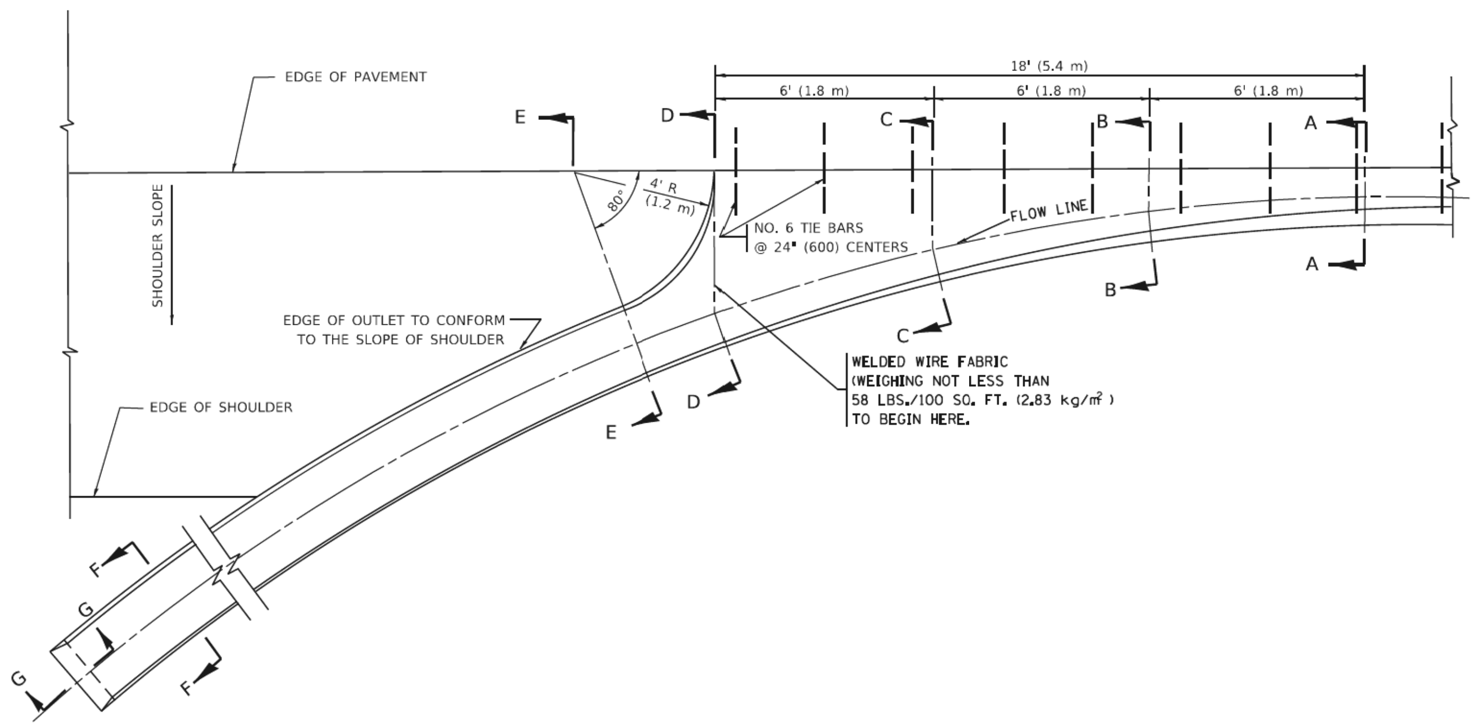
USER NAME = Lawrence.DeManche	DESIGNED - R. SHAH	REVISED - R. BORO 01-01-07	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED - R. BORO 09-06-11	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - K. SMITH 08-27-19	
PLOT DATE = 11/18/2022	DATE - 11-06-95	REVISED - K. SMITH 11-18-22	

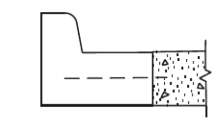
DRIVEWAY DETAILS
DISTANCE BETWEEN ROW AND FACE OF CURB < 15' (4.5m)

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	282

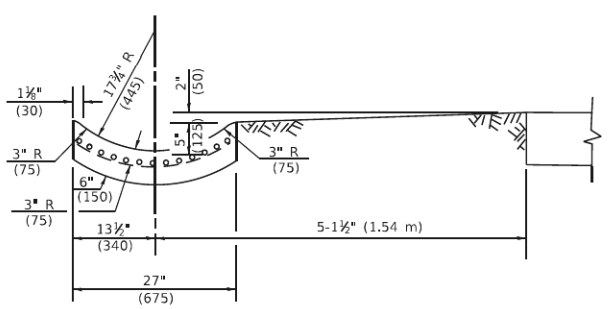
BD400-02 (BD-02) CONTRACT NO. 61G79
ILLINOIS FED. AID PROJECT



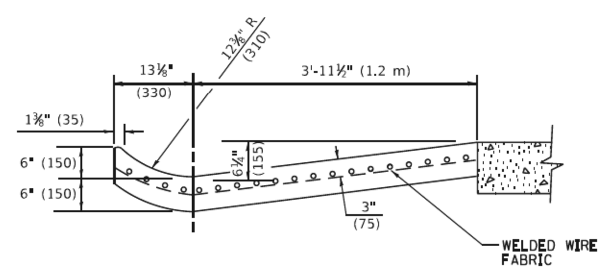


SECTION A–A *

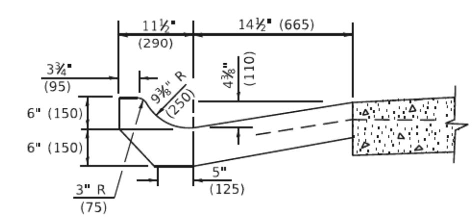
* DIMENSIONS OF THE CURB & GUTTER AT SECTION A-A ARE SHOWN ON STATE STANDARD 606001.
FOR DETAILS OF OUTLET FOR CONCRETE CURB & GUTTER, TYPE B-6.24 (B-15.60) SEE STATE STANDARD 606006.



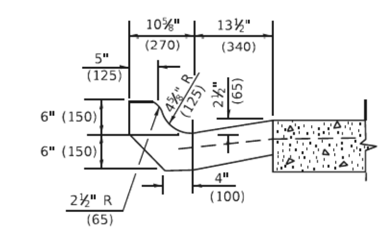
SECTION E–E



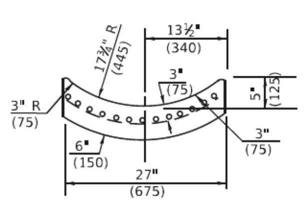
SECTION D–D



SECTION C–C



SECTION B–B



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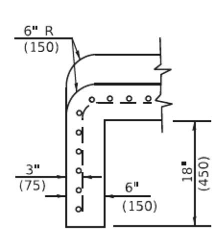

SECTION G–G

GENERAL NOTES

1. GUTTER OUTLET SHALL BE TIED TO THE PAVEMENT IN ACCORDANCE WITH DETAILS FOR LONGITUDINAL CONSTRUCTION JOINT SHOWN ON STANDARD 420001.
2. TIE BARS SHALL BE NO. 20 (NO.6) AT 24" (600) CENTERS UNLESS OTHERWISE SHOWN.
3. IF THE AVERAGE GRADE OF PAVEMENT FOR THE DISTANCE FROM SECTION A-A TO D-D EXCEEDS 2%, THIS DISTANCE SHALL BE INCREASED 6' (1.8 m) FOR EACH 1% INCREASE IN GRADE.

METHOD OF MEASUREMENT

FOR SECTION A-A TO E-E AND CURTAIN WALL=
1.25 CU. YDS. (0.96^{3}m) CLASS SI CONCRETE (OUTLET) FOR 9" (225) PAV'T.
1.27 CU. YDS. (0.96^{3}m) CLASS SI CONCRETE (OUTLET) FOR 10" (250) PAV'T.
FOR SECTION F-F=
0.045 CU. YDS. (0.03^{3}m) CLASS SI CONCRETE PER ft. (m).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

USER NAME = Lawrence,DeManche	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED - E. GOMEZ 12-21-00	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - K. SMITH 08-27-19	
PLOT DATE = 11/18/2022	DATE - 08-04-86	REVISED - K. SMITH 11-18-22	

OUTLET FOR CONCRETE CURB AND GUTTER

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	283

BD600–01 (BD–03) CONTRACT NO. 61G79

ILLINOIS FED. AID PROJECT

MODEL: Default
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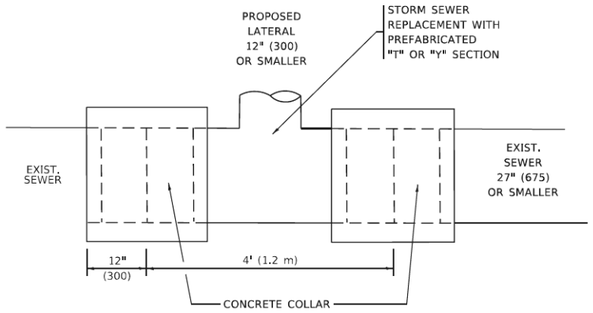
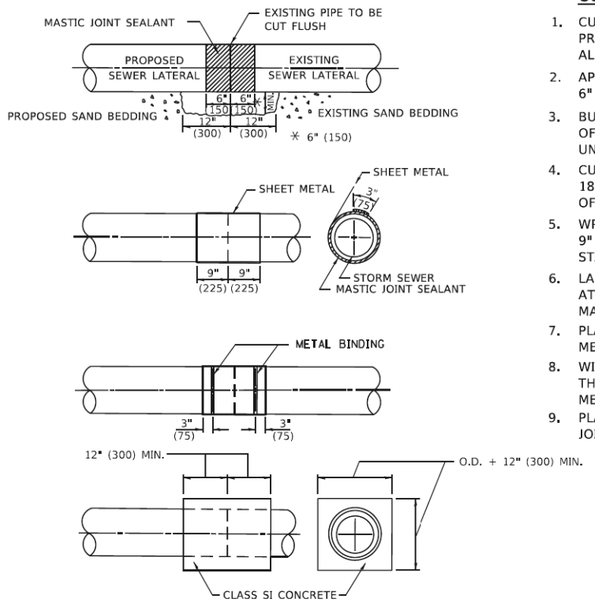


DETAIL "A"

LATERAL CONNECTION TO EXISTING SEWER
OF 27" (675) OR SMALLER

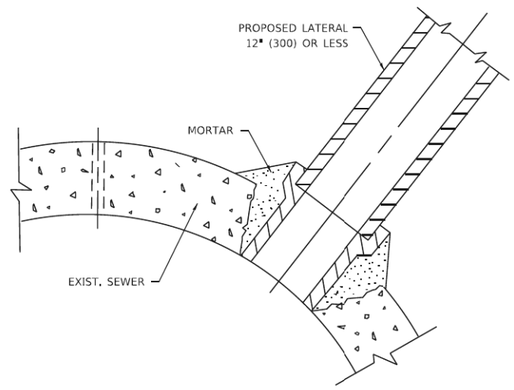


DETAIL "B"

CLASS SI CONCRETE COLLAR

CONSTRUCTION SEQUENCE

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12' x 6' (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERANCE OF THE PIPE PLUS 3" (75) LONG.
5. WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OOZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
9. PLACE CLASS SI CONCRETE AROUND THE JOINT.



DETAIL "C"

PROPOSED LATERAL
CONNECTION TO EXISTING SEWER
OF 30" (750) OR LARGER

NOTES:

MATERIAL

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

CONSTRUCTION METHODS

I. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.

II. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:
- A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".
- B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

GENERAL

1. CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.
2. CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

BASIS OF PAYMENT

1. TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS, THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.
2. REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.
3. TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.
4. CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

* ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

MODEL: Default
FILE NAME: pw:\\Illinois-pw.bentley.com:PWIDOT\Documents\IDOT Offices\District 1\Projects\Districtsd22x34\CADData\CADSheets\bd07.dgn

USER NAME = Lawrence.DeManche	DESIGNED - M. DE YONG	REVISED - R. SHAH 09-09-94	
	DRAWN -	REVISED - R. SHAH 10-25-94	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - R. SHAH 06-12-96	
PLOT DATE = 11/18/2022	DATE - 07-25-90	REVISED - K. SMITH 11-18-22	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL OF STORM SEWER CONNECTION TO EXISTING SEWER

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

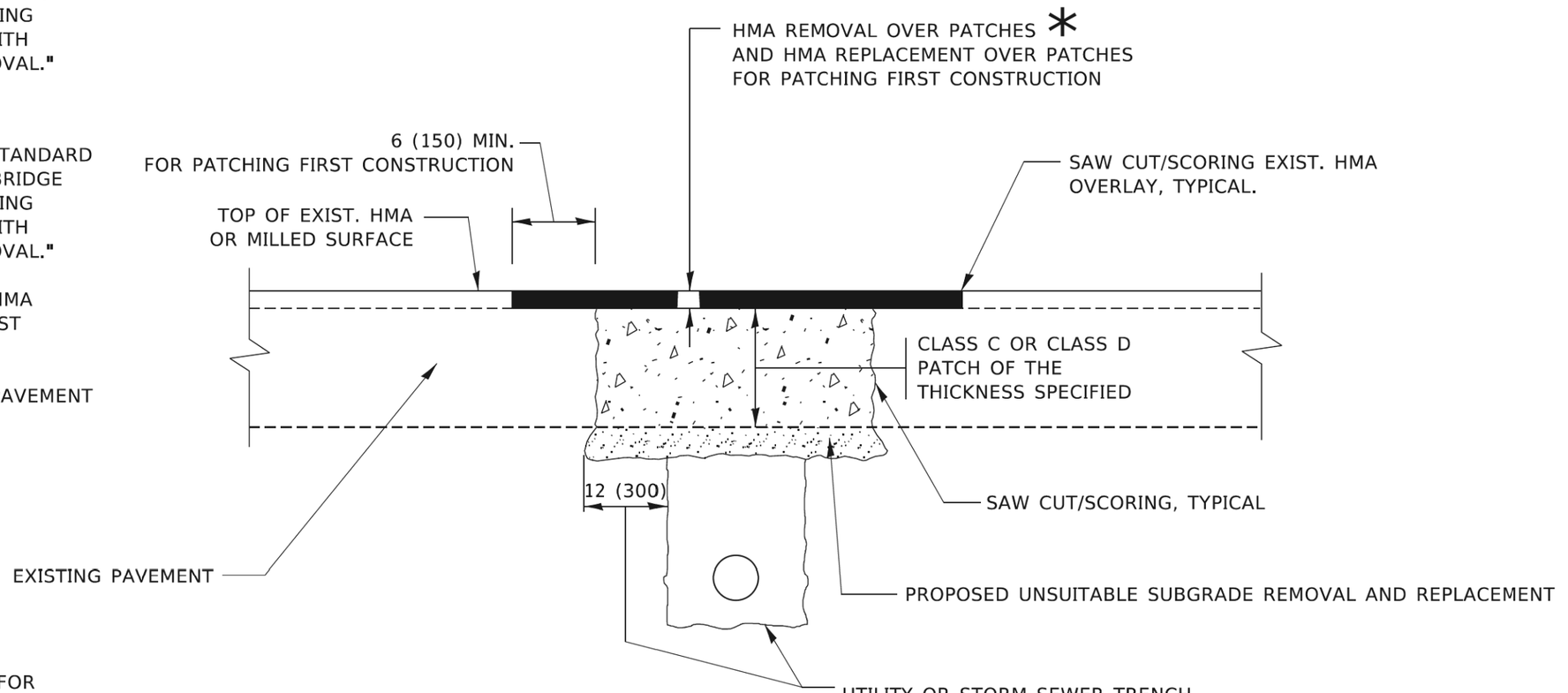
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	284
	BD500-01 (BD-07)	CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			

METHOD OF MEASUREMENT

REFER TO SECTION 442 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL."

BASIS OF PAYMENT

1. REFER TO SECTION 442 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL."
2. SAW CUT/SCORING OF EXISTING HMA OVERLAY IS INCLUDED IN THE COST OF PAVEMENT PATCHING.
3. SAW CUT/SCORING OF EXISTING PAVEMENT IS INCLUDED IN THE COST OF PAVEMENT PATCHING.



* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

SEQUENCE OF CONSTRUCTION (MILLING FIRST)

1. MILL HMA FIRST IF THERE IS AT LEAST 4½ INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

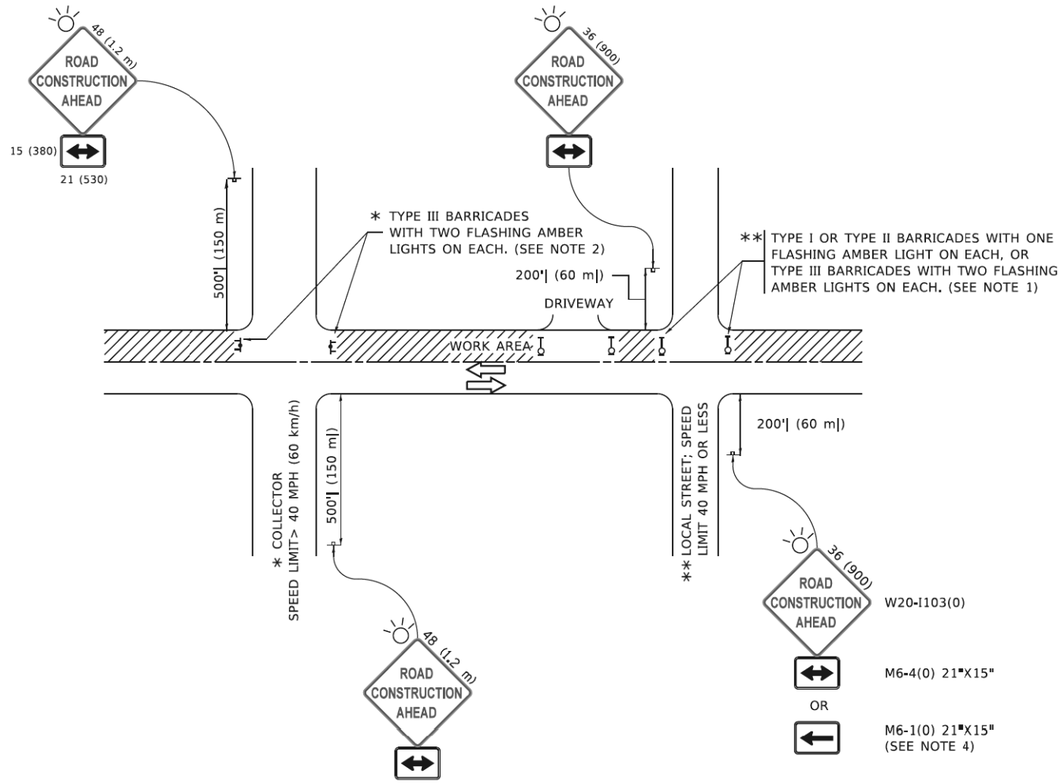
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

USER NAME = Lawrence,DeManche	DESIGNED - R. SHAH	REVISED - R. BORO 01-01-07	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED - R. BORO 09-04-07	
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED - K. ENG 10-27-08	
PLOT DATE = 11/18/2022	DATE - 10-25-94	REVISED - K. SMITH 11-18-22	

PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	285
	BD400-04 (BD-22)	CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			



NOTES:

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
   a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 36 x 36 (900x900) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
   a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
4. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
5. WHEN WORK IS BEING PERFORMED ON A SIDE ROAD OR DRIVEWAY, FOLLOW THE APPLICABLE STANDARD(S). THE DIRECTIONAL ARROW (M6-1 OR M6-4) SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE TRAFFIC CONTROL SET-UP.
6. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.
7. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in inches (millimeters) unless otherwise shown.

USER NAME = footem]	DESIGNED - L.H.A.	REVISED - A. HOUSEH 10-15-96	
	DRAWN -	REVISED - T. RAMMACHER 01-06-00	
PLOT SCALE = 50.0000 ' / In.	CHECKED -	REVISED - A. SCHUETZE 07-01-13	
PLOT DATE = 3/4/2019	DATE - 06-89	REVISED - A. SCHUETZE 09-15-16	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	286
	TC-10	CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			

MODEL: Default
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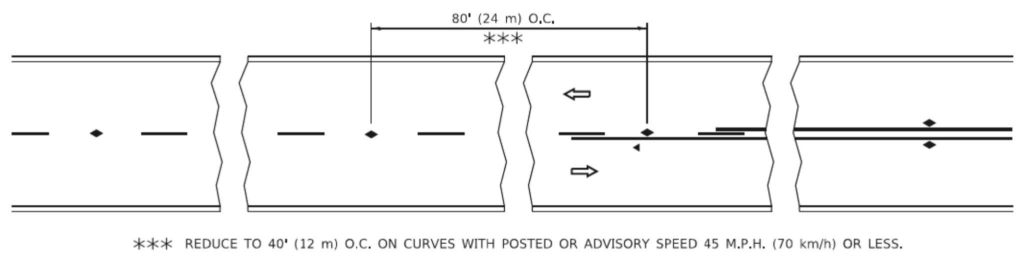
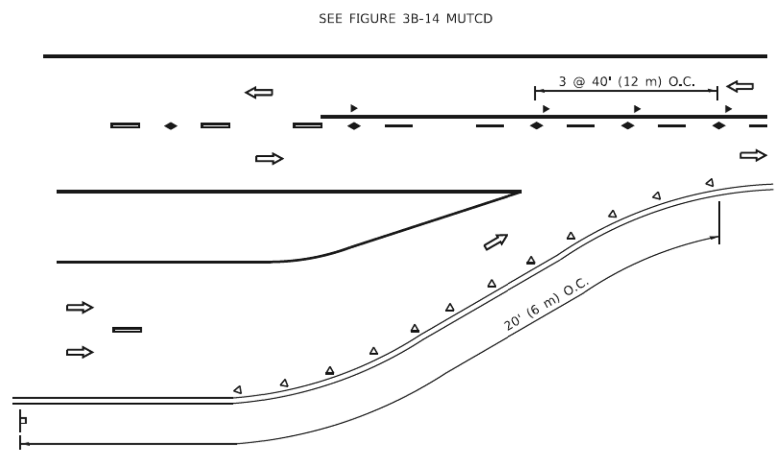
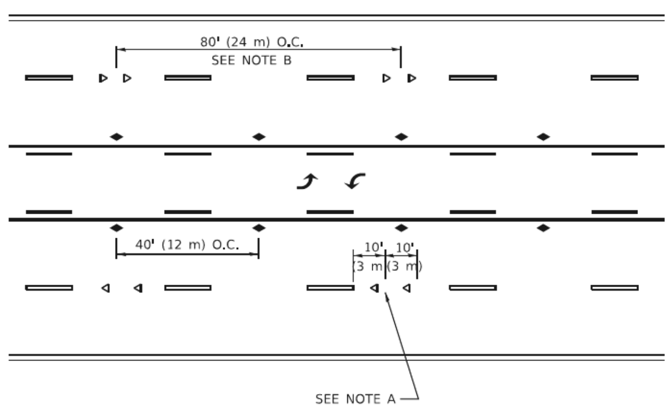
tc10.dgn 3/4/2019 10:22:07 AM Lisa.footem



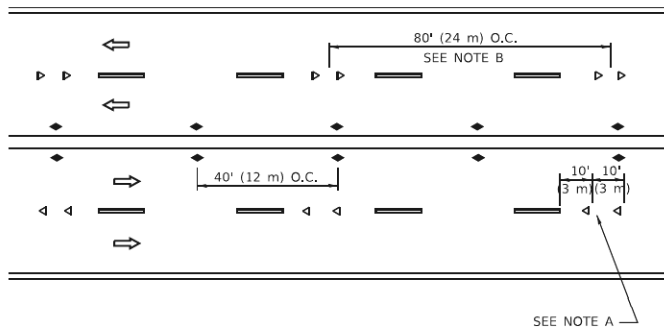
TWO–LANE/TWO–WAY



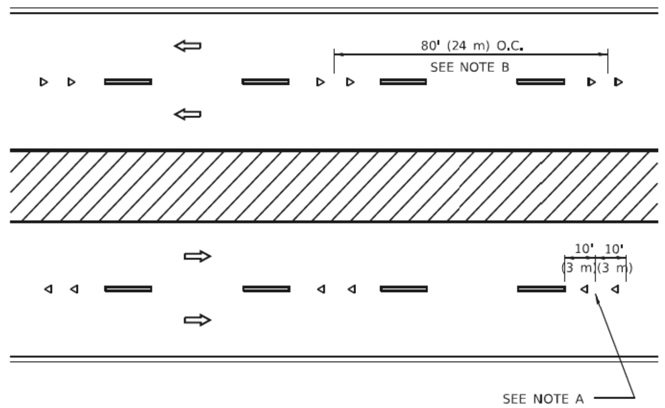
LANE REDUCTION TRANSITION



TWO–WAY LEFT TURN



MULTI–LANE/UNDIVIDED



MULTI–LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.
4. MARKERS ARE TO BE USED ADJACENT TO BOTH SOLID WHITE LINES IN DUAL LEFT TURN LANES

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (W/O)
- TWO-WAY AMBER MARKER

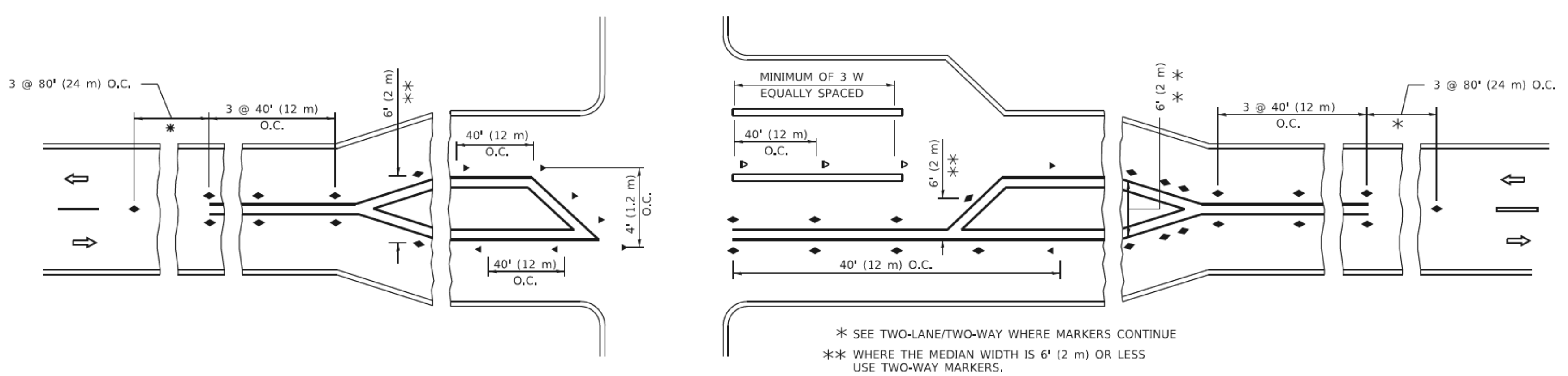
LANE MARKER NOTES

A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



TURN LANES

All dimensions are in inches (millimeters) unless otherwise shown.

USER NAME = footemj	DESIGNED -	REVISED - T. RAMMACHER 03-12-99	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED - T. RAMMACHER 01-06-00	
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - C. JUCIUS 09-09-09	
PLOT DATE = 3/4/2019	DATE -	REVISED - C. JUCIUS 07-01-13	

TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW–PLOW RESISTANT)

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	287
	TC-11	CONTRACT NO. 61G79		
	ILLINOIS	FED. AID PROJECT		

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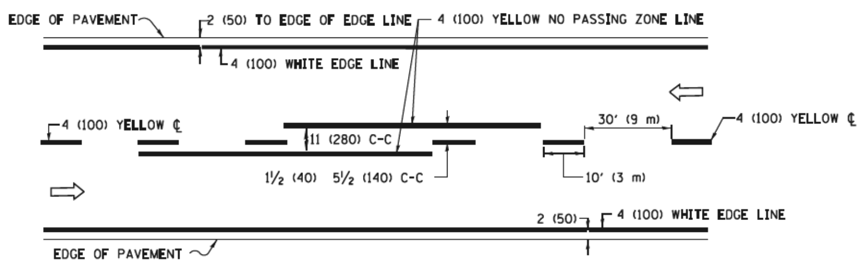
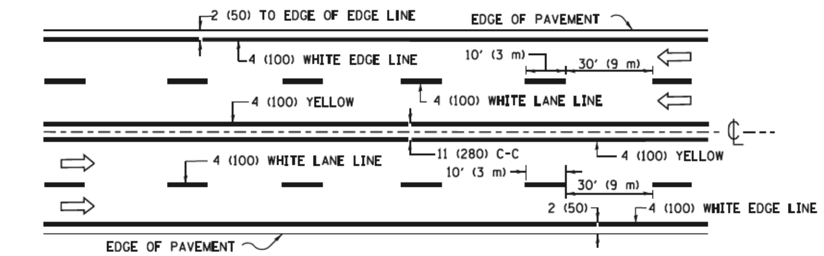
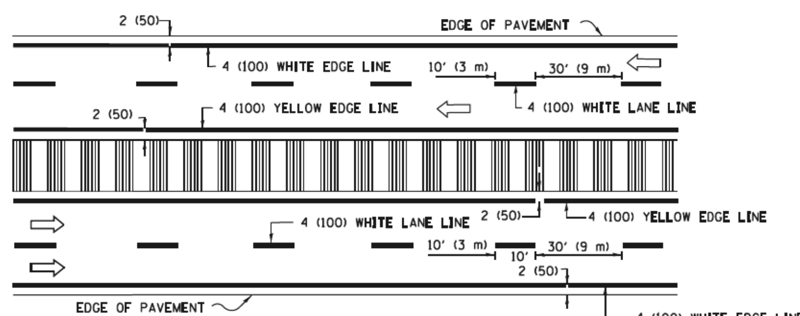


2-LANE ROADWAY

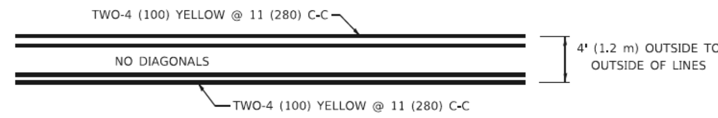


MULTI–LANE UNDIVIDED

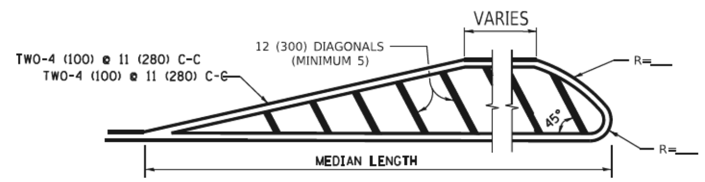


MULTI–LANE DIVIDED
WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING



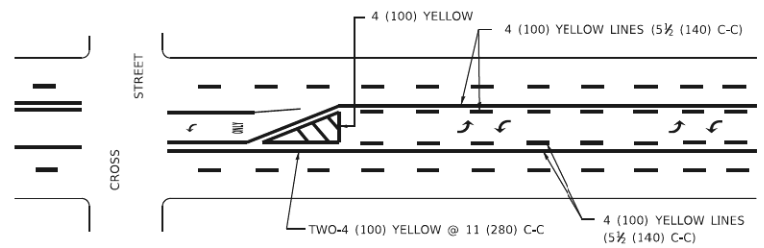
4' (1.2 m) WIDE MEDIANS ONLY



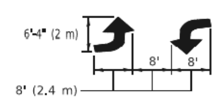
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h))
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

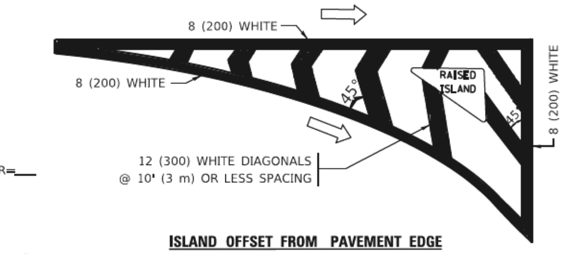


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.

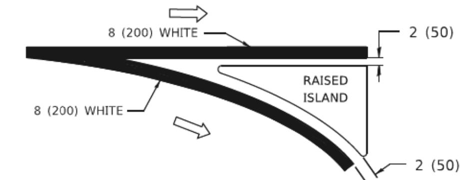


MEDIAN WITH TWO–WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

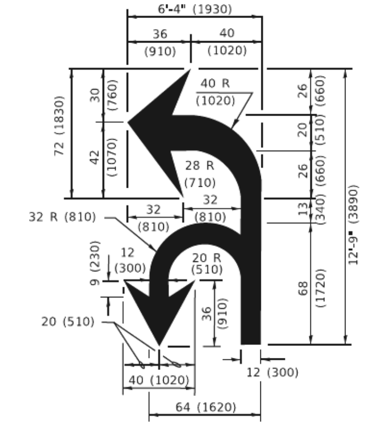


ISLAND OFFSET FROM PAVEMENT EDGE

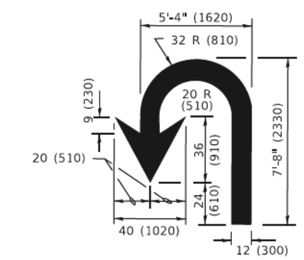


ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

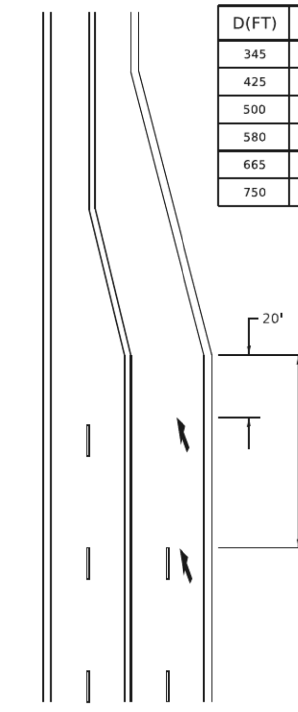


COMBINATION LEFT AND U–TURN



U–TURN

D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55



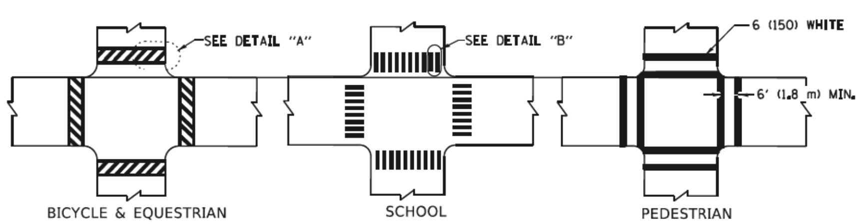
LANE REDUCTION TRANSITION

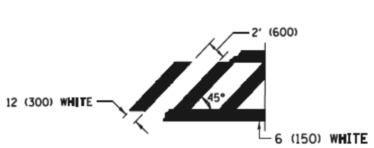
* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m^2) EACH "X"=54.0 SQ. FT. (5.0 m^2)
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

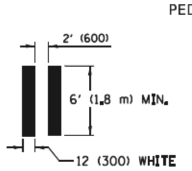
FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.





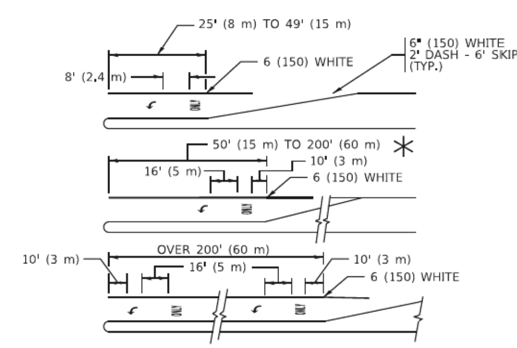
DETAIL "A"



DETAIL "B"

TYPICAL CROSSWALK MARKING

* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES



FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
↰ AREA = 15.6 SQ. FT. (1.5 m^2) ONLY AREA = 20.8 SQ. FT. (1.9 m^2)

* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING

MODEL: Default

USER NAME = footemj	DESIGNED - EVERS	REVISED - C. JUCIUS 09-09-09	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
	DRAWN -	REVISED - C. JUCIUS 07-01-13		
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - C. JUCIUS 12-21-15		
PLOT DATE = 3/4/2019	DATE - 03-19-90	REVISED - C. JUCIUS 04-12-16		SCALE: NONE SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	288
TC–13		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		

TURN BAY ENTRANCE AT START OF LANE CLOSURE TAPER

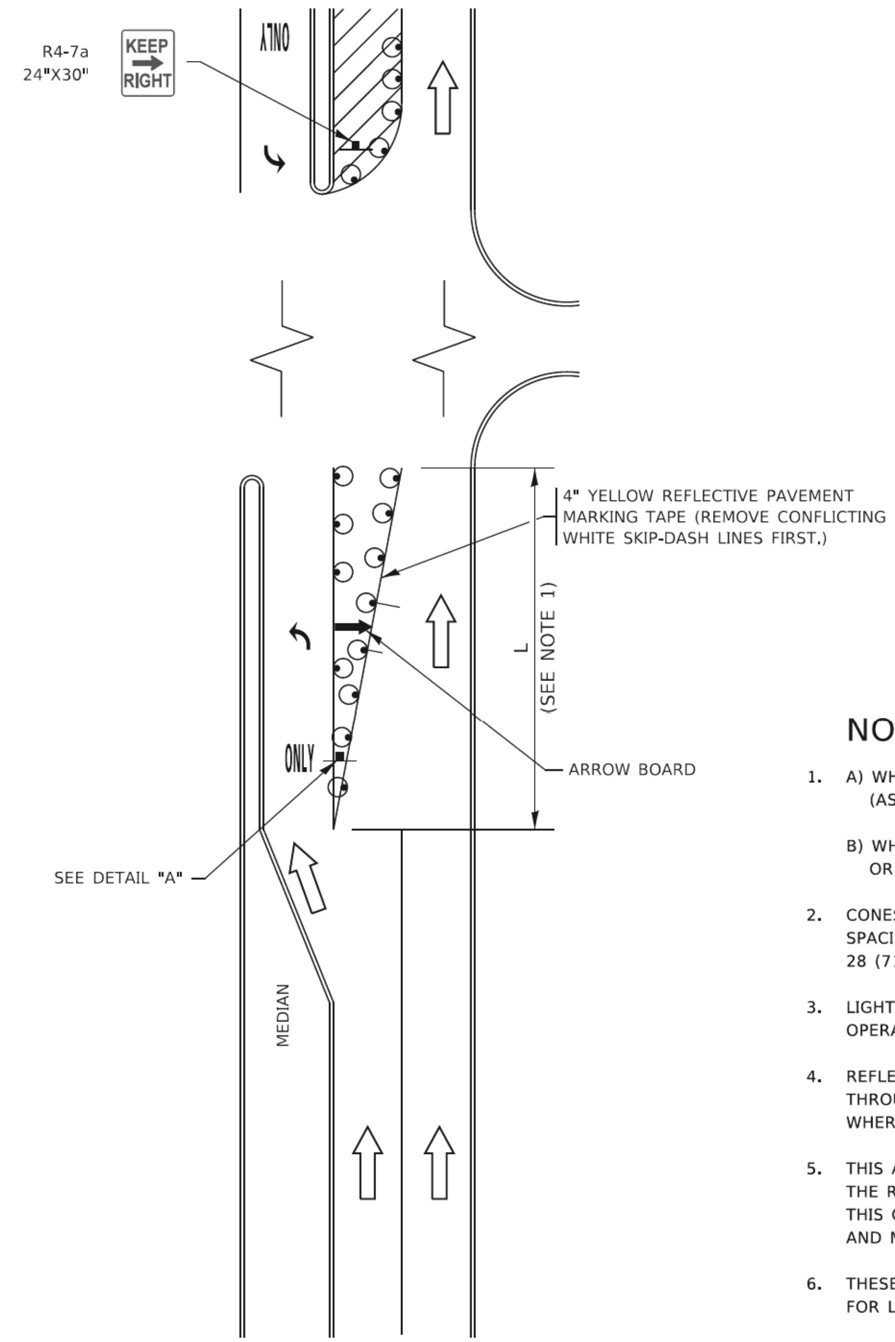


FIGURE 1

TURN BAY ENTRANCE WITHIN A LANE CLOSURE

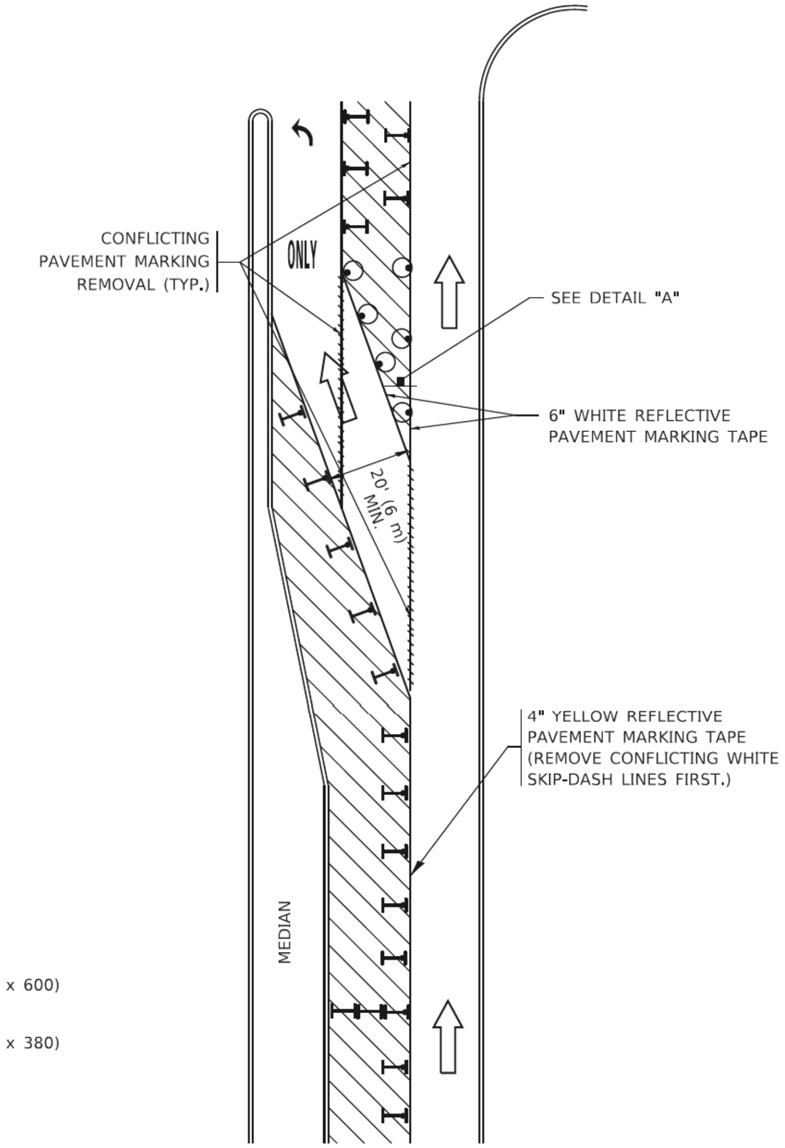


FIGURE 2

LEGEND

- WORK AREA
- LANE OPEN TO TRAFFIC
- ARROW BOARD
- TYPE I OR II BARRICADE OR DRUM WITH STEADY BURN LIGHT
- DRUM WITH STEADY BURN LIGHT
- SIGN ASSEMBLY
- TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

NOTES:

1. A) WHEN "L" IS ≤ THE STORAGE LENGTH OF THE TURN LANE (AS SHOWN IN FIG. 1), USE FIGURE 1.

   B) WHEN "L" IS > THE STORAGE LENGTH OF THE TURN LANE OR THE TURN LANE IS WITHIN THE LANE CLOSURE, USE FIGURE 2.

2. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.

3. LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.

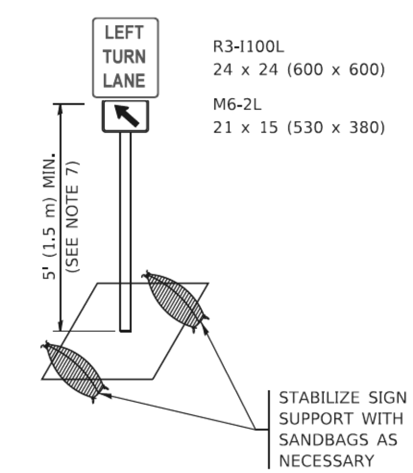
4. REFLECTIVE TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED THROUGHOUT THE BARRICADED AREAS OF EACH TURN BAY AS SHOWN WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN (14) DAYS.

5. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-I100R 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.

6. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.

7. THE SIGNS SHALL BE MOUNTED ABOVE THE BARRICADES/DRUMS ON SEPARATE SIGN SUPPORTS THAT MEET NCHRP 350 OR MASH PREQUIREMENTS.

8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.



DETAIL A

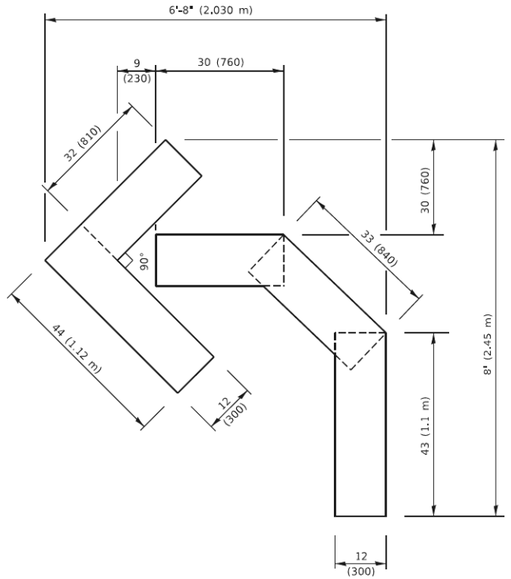
All dimensions are in inches (millimeters) unless otherwise shown.

USER NAME = footemj	DESIGNED - T. RAMMACHER 09-08-94	REVISED - R. BORO 09-14-09	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN - A. HOUSEH 11-07-95	REVISED - A. SCHUETZE 07-01-13	
PLOT SCALE = 50.0000 ' / in.	CHECKED - A. HOUSEH 10-12-96	REVISED - A. SCHUETZE 09-15-16	
PLOT DATE = 3/4/2019	DATE - T. RAMMACHER 01-06-00	REVISED -	

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)

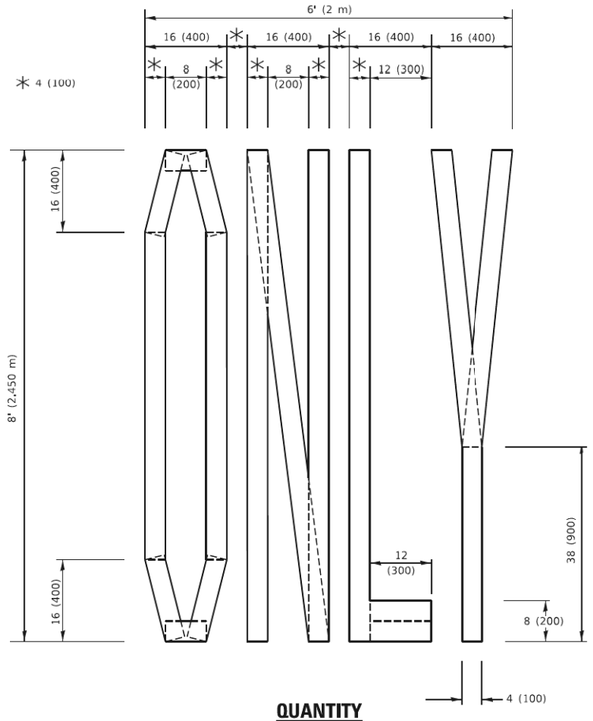
SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	289
	TC-14	CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			



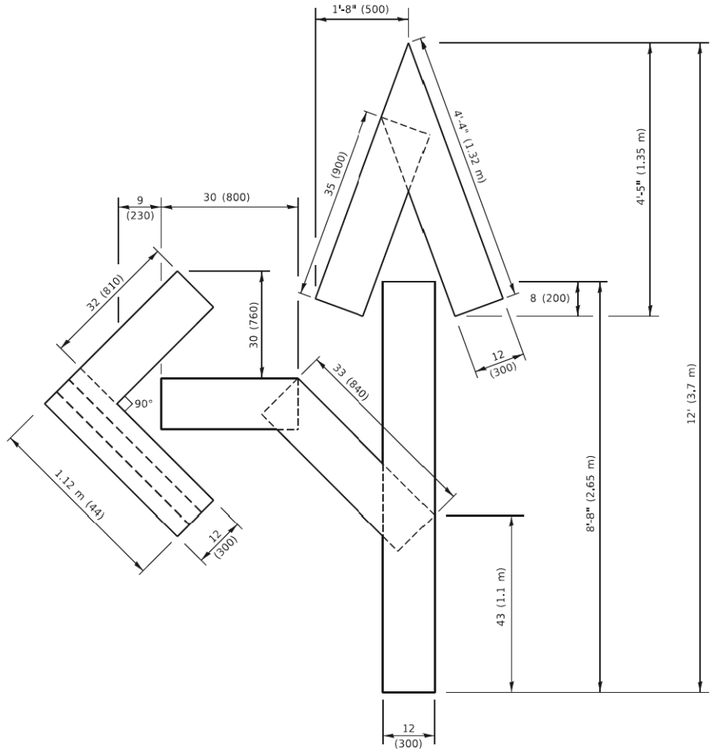
QUANTITY

4 (100) LINE = 45.5 ft. (13.9 m)
15.2 sq. ft. (1.41 sq. m)



QUANTITY

4 (100) LINE = 64.1 ft. (19.5 m)
21.4 sq. ft. (1.99 sq. m)

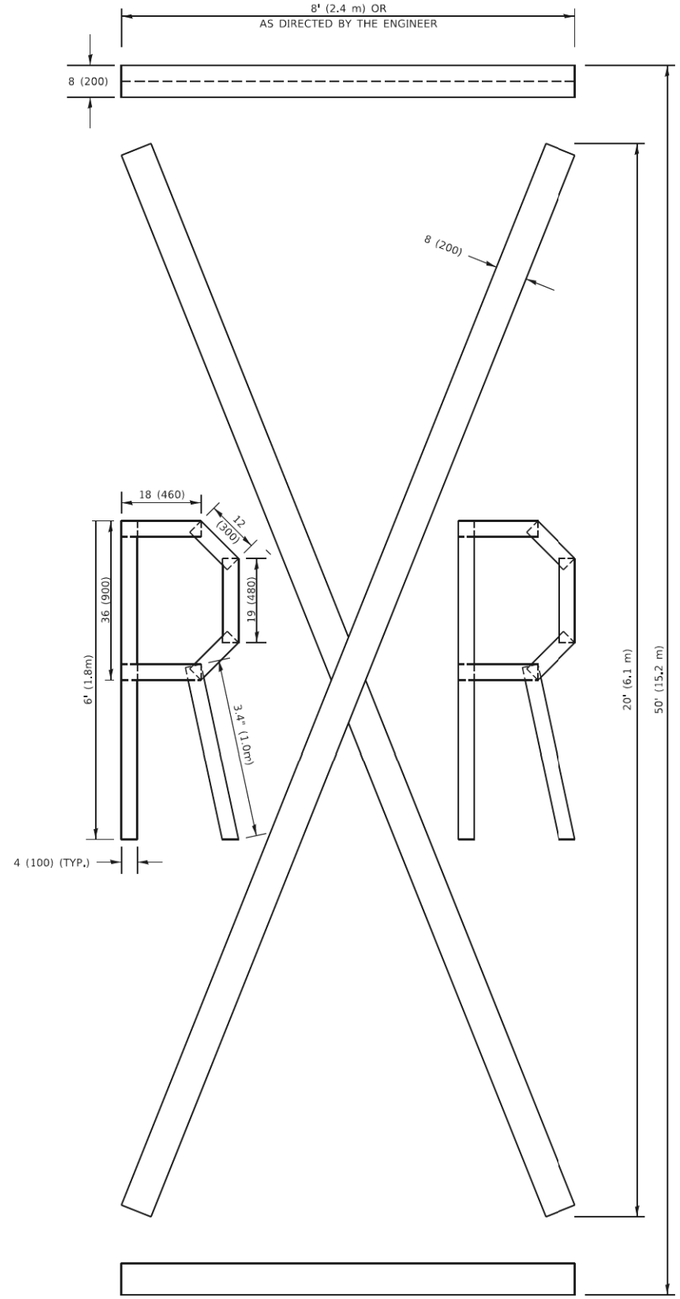


QUANTITY

4 (100) LINE = 82.5 ft. (25.1 m)
27.5 sq. ft. (2.53 sq. m)

NOTE:

ALL QUANTITIES OF PLACEMENT ARE REPRESENTED IN LINEAR FEET OF 4" LINES TO MATCH THE 4" TEMPORARY TAPE PAY ITEM AND REPRESENTS THE TOTAL QUANTITY OF 4" TAPE REQUIRED.



QUANTITY

4 (100) LINE = 225.9 ft. (68.9 m)
75.3 sq. ft. (6.99 sq. m)

All dimensions are in inches (millimeters) unless otherwise shown.

USER NAME = footemj	DESIGNED -	REVISED - T. RAMMACHER 03-02-98	
	DRAWN -	REVISED - E. GOMEZ 08-28-00	
PLOT SCALE = 50.0068 ' / in.	CHECKED -	REVISED - E. GOMEZ 08-28-00	
PLOT DATE = 3/4/2019	DATE - 09-18-94	REVISED - A. SCHUETZE 09-15-16	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHORT TERM PAVEMENT MARKING LETTERS AND SYMBOLS

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	290
	TC-16	CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			

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Last date: 3/4/2019 10:57:16 AM User: footemj

ROUTE MARKERS

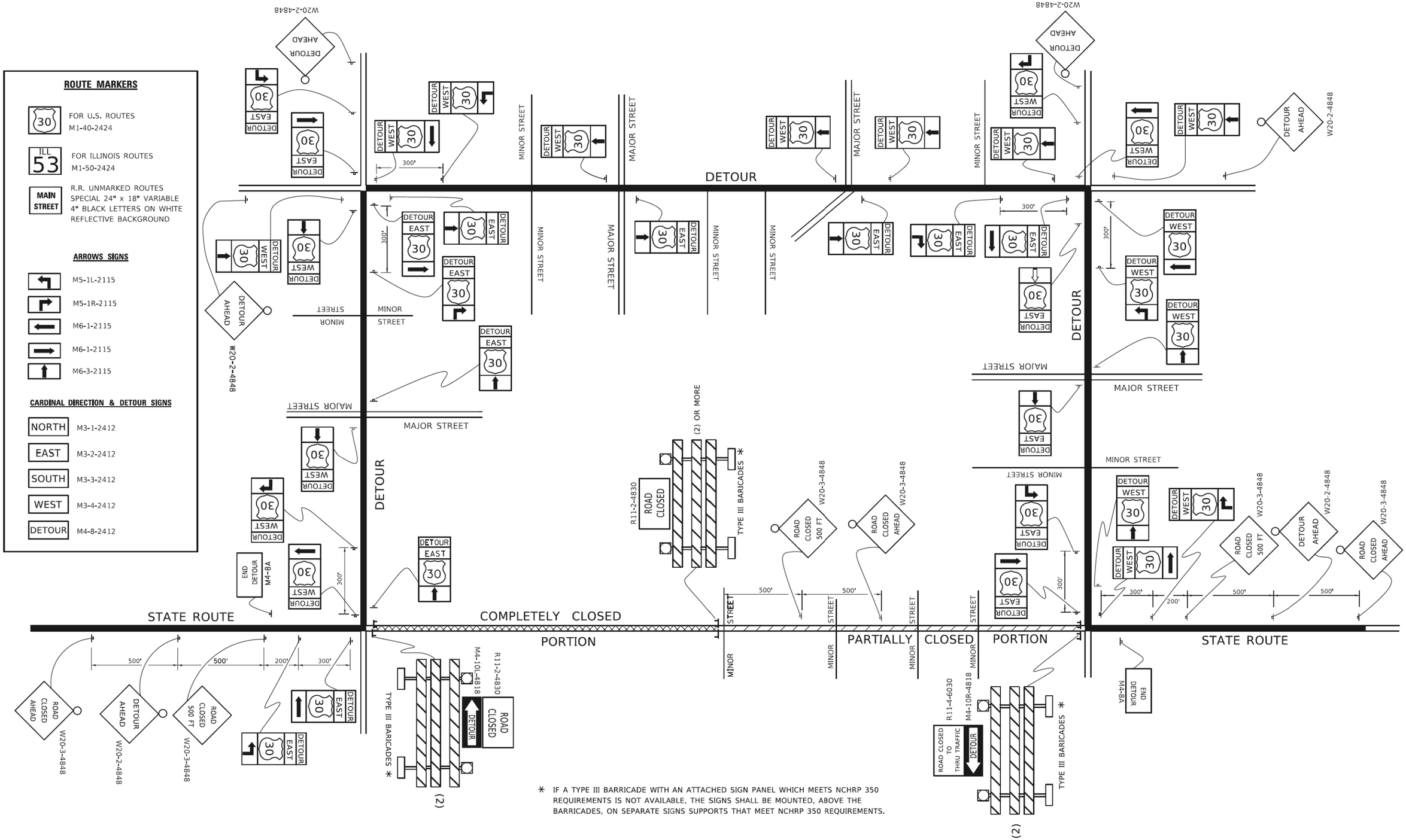
- 30 — FOR U.S. ROUTES M1-40-2424
- ILL 53 — FOR ILLINOIS ROUTES M1-50-2424
- MAIN STREET — R.R. UNMARKED ROUTES SPECIAL 24" x 18" VARIABLE 4" BLACK LETTERS ON WHITE REFLECTIVE BACKGROUND

ARROWS SIGNS

- M5-1L-2115
- M5-1R-2115
- M6-1-2115
- M6-1-2115
- M6-3-2115

CARDINAL DIRECTION & DETOUR SIGNS

NORTH	M3-1-2412
EAST	M3-2-2412
SOUTH	M3-3-2412
WEST	M3-4-2412
DETOUR	M4-8-2412



* IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

MODEL: Default
FILE NAME: pw:\\IL084EBIDINTEG.Illinois.gov:PWIDOT\Documents\IDOT Offices\District 1\Projects\Std222x34\CADData\CADSheets\stc21.dgn

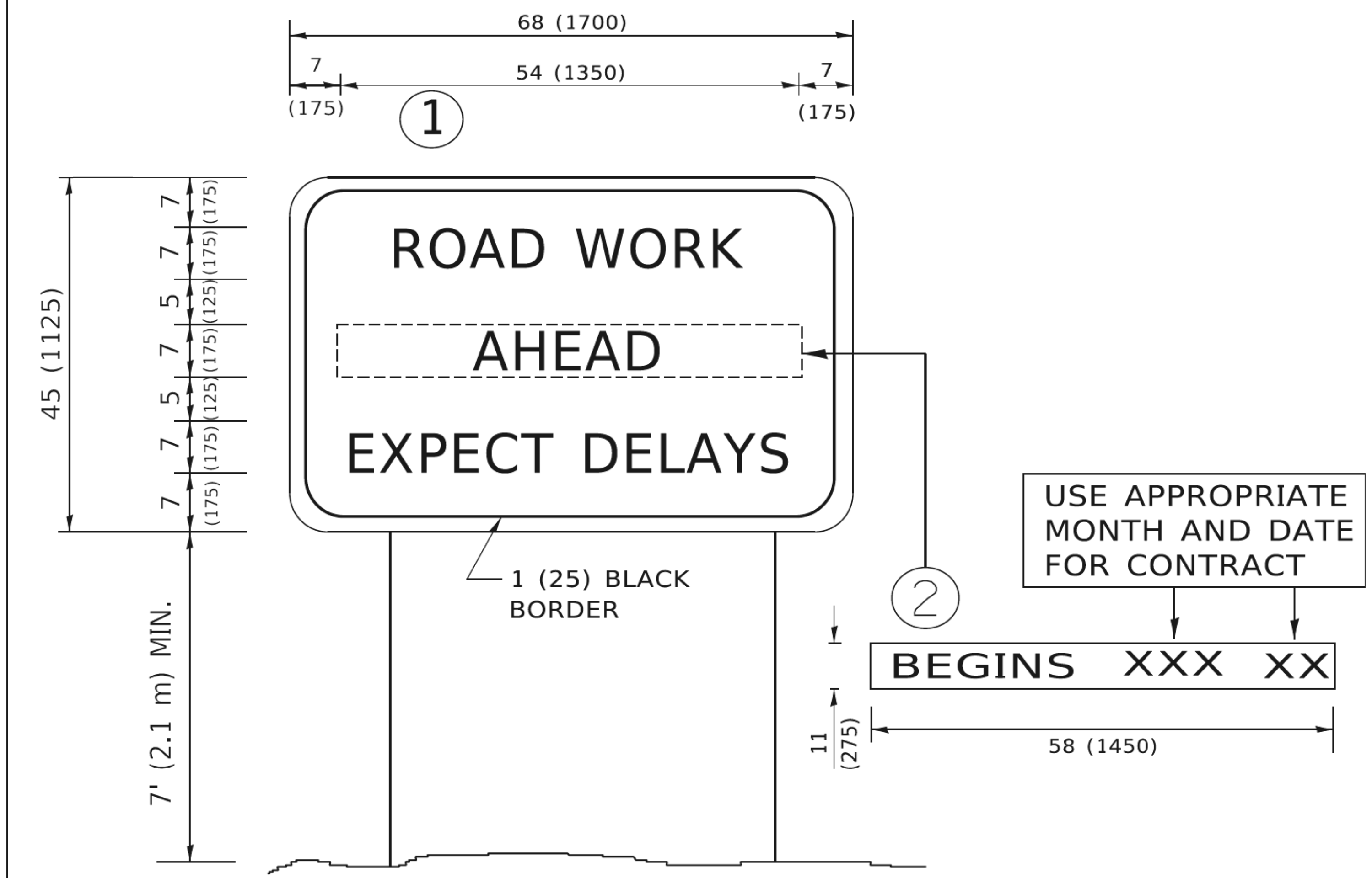
USER NAME = footem]	DESIGNED -	REVISED - 10-18-02	
	DRAWN -	REVISED - R. BORO 09-14-09	
PLOT SCALE = 50.0000 ' / In.	CHECKED -	REVISED -	
PLOT DATE = 3/4/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETOUR SIGNING FOR CLOSING STATE HIGHWAYS

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	291
	TC-21	CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN (1) WITH INSTALLED PANEL (2) ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL (2) SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

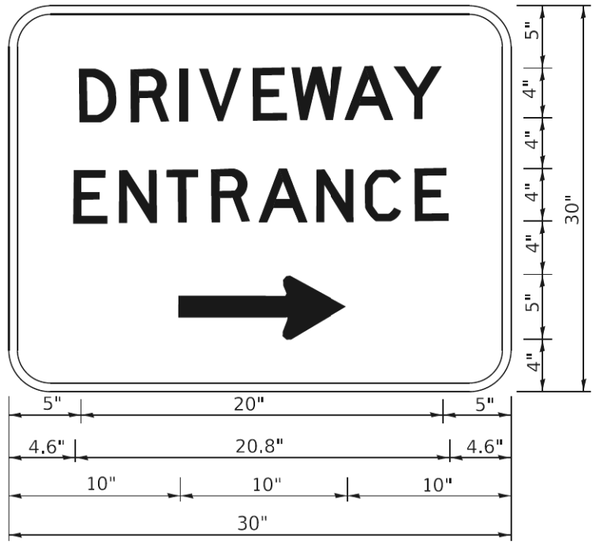
USER NAME = footemj	DESIGNED -	REVISED - R. MIRS 09-15-97
	DRAWN -	REVISED - R. MIRS 12-11-97
PLOT SCALE = 50.0000 ' / In.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
PLOT DATE = 3/4/2019	DATE -	REVISED - C. JUCIUS 01-31-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARTERIAL ROAD
INFORMATION SIGN

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	292
	TC–22	CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			



3.0" RADIUS, 0.5" BORDER, WHITE ON GREEN; REFLECTORIZED
"DRIVEWAY" D; "ENTRANCE" D; STANDARD ARROW CUSTOM 12.0" x 5.0"

NOTES:

1. HALF OF THE SIGNS WILL REQUIRE A LEFT HAND FACING ARROW.
2. TWO SIGNS SHALL BE USED AT EACH COMMERCIAL ENTRANCE PLACED BACK-TO-BACK: ONE WITH A RIGHT HAND ARROW (SHOWN) SHALL BE PLACED ON THE NEAR RIGHT SIDE THE DRIVEWAY AND ONE WITH A LEFT HAND ARROW SHALL BE PLACED ON THE FAR LEFT SIDE OF THE DRIVEWAY.
3. SIGNS TO BE PAID FOR AS ITEM "TEMPORARY INFORMATION SIGNING".

MODEL: Default
FILE NAME: pw:\\dotcnnroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 1\Projects\Details\d22x34\CADData\CADSheets\tc26.dgn

USER NAME = Ieysa	DESIGNED -	REVISED - C. JUCIUS 02-15-07	
	DRAWN -	REVISED -	
PLOT SCALE = 50.0000 ' / In.	CHECKED -	REVISED -	
PLOT DATE = 8/6/2021	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRIVEWAY ENTRANCE SIGNING

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	293
	TC-26	CONTRACT NO. 61G79		
	ILLINOIS FED. AID PROJECT			

tc26.dgn 8/6/2021 8:37:07 AM Ieysa

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

720
715

EX/PR ℄
NORTH AURORA ROAD
0.27'

717.48 719.45 719.64 719.28

-1.50% -1.50%

PR ROW | EX ROW | EX ROW | PR ROW | TEMP ESMT

EX TEL | EX ELEC

EX 6" GAS LINE

EX FIBER OPTIC

106+50.00

PRE-STAGE EW END AREAS		STAGE 1 EW END AREAS	
CUT AREA =	0	CUT AREA =	8
FILL AREA =	0	FILL AREA =	10
TS STRIP=	0	TS STRIP=	10

720
715

EX/PR ℄
NORTH AURORA ROAD

718.73 719.77 719.96 719.60 720.10 719.20

-1.50% -1.50% 1.6

TEMP ESMT | PR ROW | EX ROW | EX ROW | PR ROW | TEMP ESMT

EX TEL | EX ELEC

EX 6" GAS LINE

EX FIBER OPTIC

106+00.00

PRE-STAGE EW END AREAS		STAGE 1 EW END AREAS	
CUT AREA =	0	CUT AREA =	5
FILL AREA =	0	FILL AREA =	13
TS STRIP=	0	TS STRIP=	15

720
715

EX/PR ℄
NORTH AURORA ROAD

TEMP ESMT | PR ROW | EX ROW | EX ROW | PR ROW | TEMP ESMT

EX TEL | EX ELEC

EX 6" GAS LINE

EX FIBER OPTIC

105+50.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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

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

FILE NAME = 060032-XSC-TEMPNAR.dgn

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - BMS	REVISED -
	DRAWN - MKW	REVISED -
PLOT SCALE = 20.0000 ' / in.	CHECKED - BVW	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRE-STAGE & STAGE 1 NORTH AURORA ROAD
CROSS SECTIONS

SCALE: 10 H: 5 V | SHEET 1 OF 15 SHEETS | STA. 105+50.00 TO STA. 106+50.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	294
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

720
715

EX/PR ℄ NORTH AURORA ROAD
1.02

717.35 716.84 716.34 716.52 716.18 716.68 718.66

1:6 -1.50% -1.50% 1:6

EX ROW | PR. PERM. ESMT | EX ROW | PR. PERM. ESMT

EX TEL

EX 6" GAS LINE

108+00.00

PRE-STAGE EW END AREAS		STAGE 1 EW END AREAS	
CUT AREA =	0	CUT AREA =	54
FILL AREA =	0	FILL AREA =	7
TS STRIP=	0	TS STRIP=	27

720
715

EX/PR ℄ NORTH AURORA ROAD
0.80

717.92 718.12 717.62 717.80 717.45

1:6 -1.50% -1.50%

EX ROW | PR. PERM. ESMT | EX ROW | PR. PERM. ESMT

EX TEL

EX 6" GAS LINE

107+50.00

PRE-STAGE EW END AREAS		STAGE 1 EW END AREAS	
CUT AREA =	0	CUT AREA =	40
FILL AREA =	0	FILL AREA =	0
TS STRIP=	0	TS STRIP=	0

720
715

EX/PR ℄ NORTH AURORA ROAD
0.53

718.22 718.73 718.92 718.57 719.06 719.15

-1.50% -1.50%

EX ROW | PR. PERM. ESMT | EX ROW | PR. PERM. ESMT | TEMP. ESMT

EX TEL | EX ELEC

EX 6" GAS LINE

EX FIBER OPTIC

107+00.00

PRE-STAGE EW END AREAS		STAGE 1 EW END AREAS	
CUT AREA =	0	CUT AREA =	14
FILL AREA =	0	FILL AREA =	5
TS STRIP=	0	TS STRIP=	8

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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

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

FILE NAME = 060892-XSC-TEMPNAR.dgn

TRANSYSTEMS

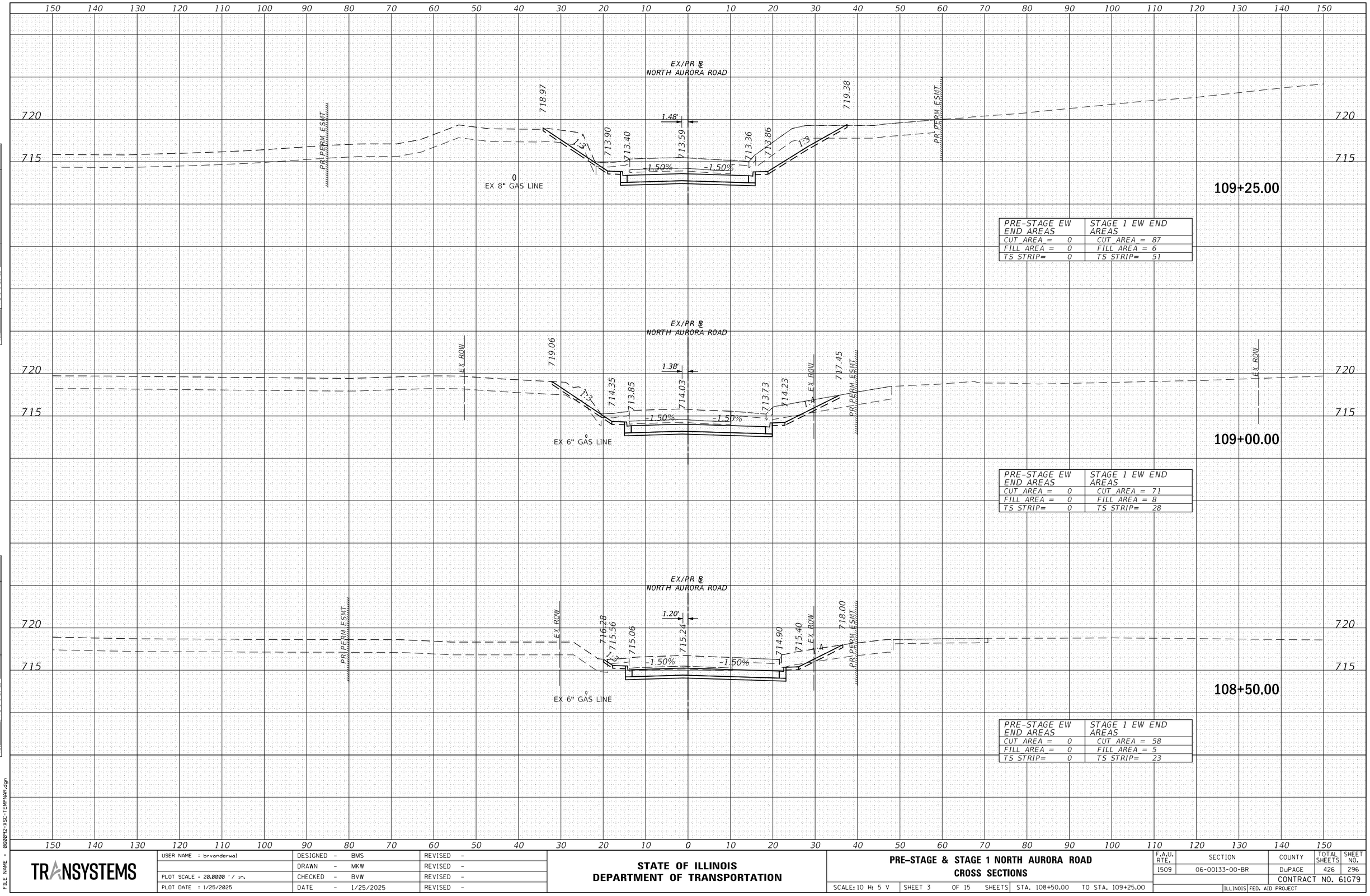
USER NAME = brvanderwal	DESIGNED - BMS	REVISED -
	DRAWN - MKW	REVISED -
PLOT SCALE = 20.0000 ' / in.	CHECKED - BVW	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRE-STAGE & STAGE 1 NORTH AURORA ROAD
CROSS SECTIONS

SCALE: 10 H: 5 V | SHEET 2 OF 15 SHEETS | STA. 107+00.00 TO STA. 108+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	295
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		



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

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

FILE NAME = 0608092-XSC-TEMPNAR.dgn

TRANSYSTEMS

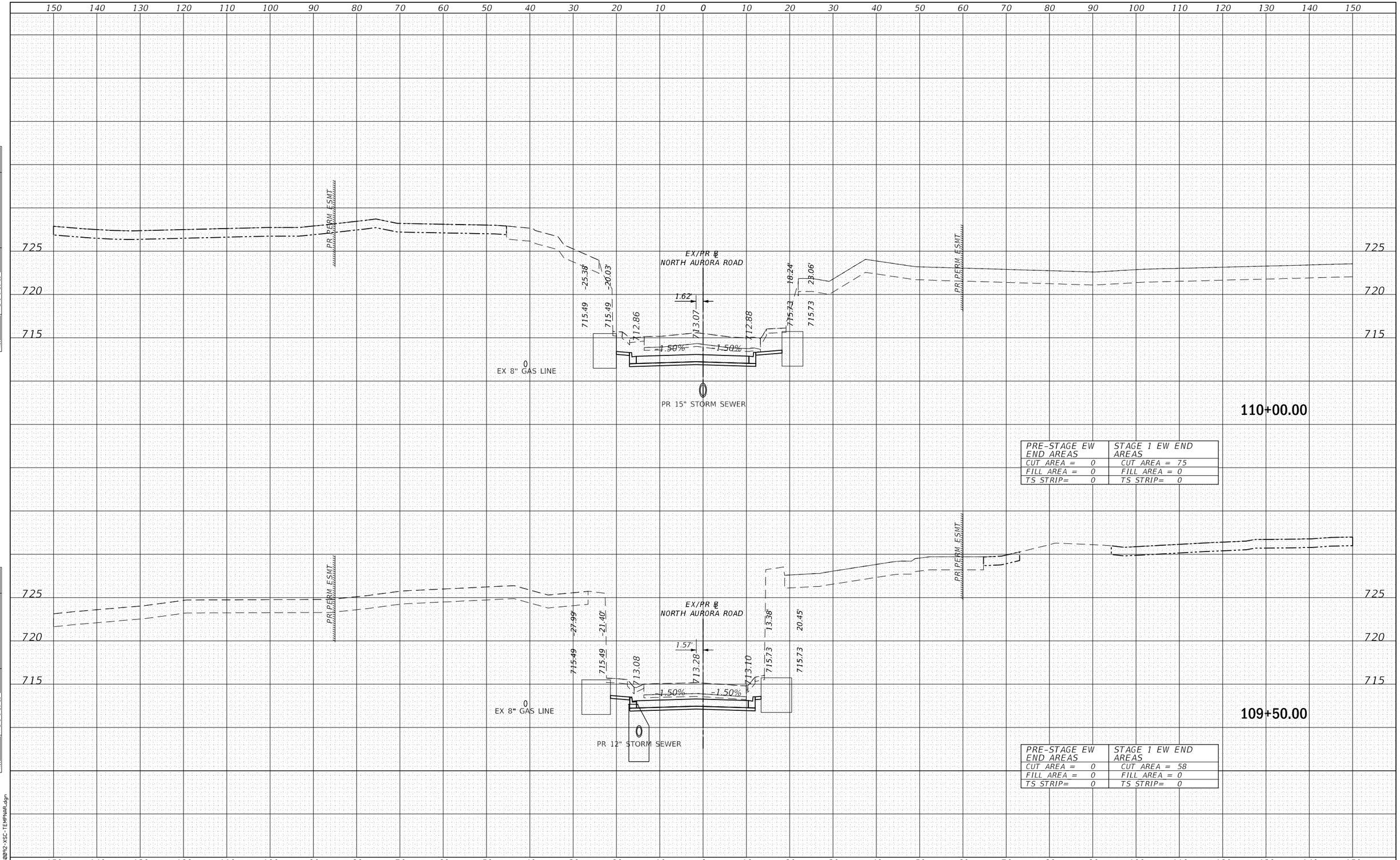
USER NAME = brvanderwal	DESIGNED - BMS	REVISED -
	DRAWN - MKW	REVISED -
PLOT SCALE = 20.0000 ' / in.	CHECKED - BVW	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRE-STAGE & STAGE 1 NORTH AURORA ROAD
CROSS SECTIONS

SCALE: 10 H: 5 V | SHEET 3 OF 15 SHEETS | STA. 108+50.00 TO STA. 109+25.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	296
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		



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

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

FILE NAME = 060092-XSC-TEMPNAR.dgn

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - BMS	REVISED -
	DRAWN - MKW	REVISED -
PLOT SCALE = 20.0000 ' / in.	CHECKED - BVW	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

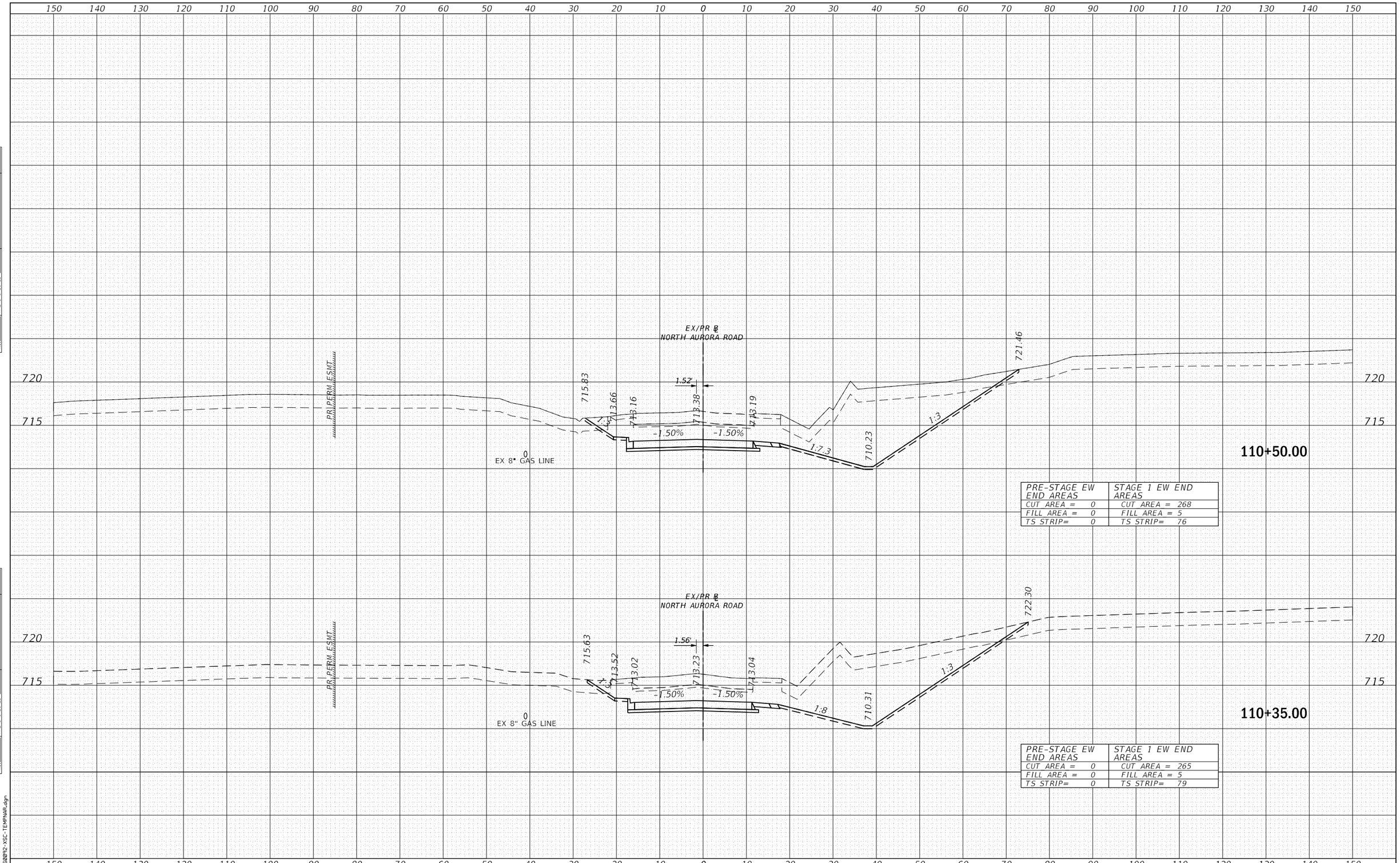
PRE-STAGE & STAGE 1 NORTH AURORA ROAD
CROSS SECTIONS

SCALE: 10 H: 5 V | SHEET 4 OF 15 SHEETS | STA. 109+50.00 TO STA. 110+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	297
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

FILE NAME = 060892-XSC-TEMPNAR.dgn

TRANSYSTEMS

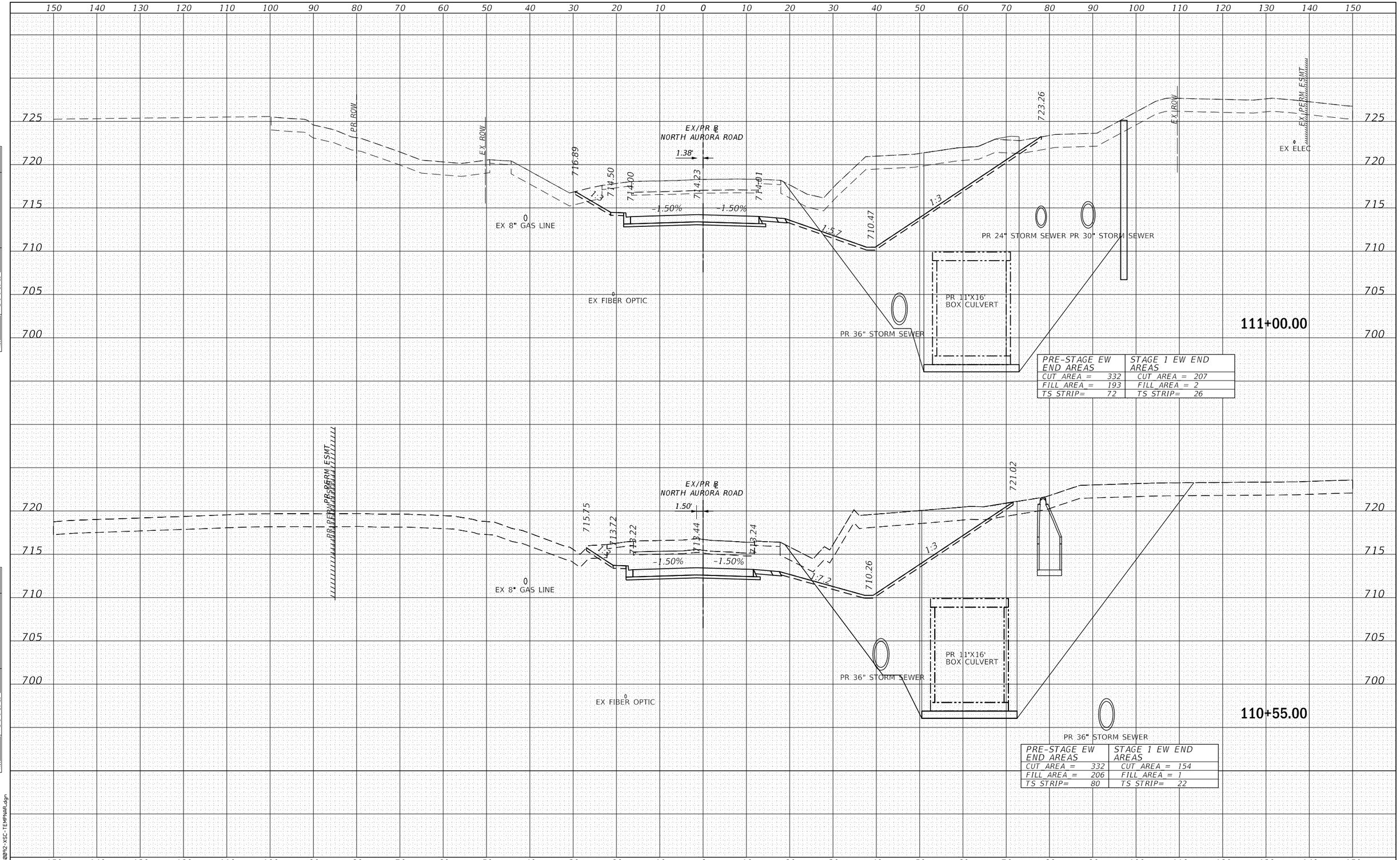
USER NAME = brvanderwal	DESIGNED - BMS	REVISED -
	DRAWN - MKW	REVISED -
PLOT SCALE = 20.0000 ' / in.	CHECKED - BVW	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRE-STAGE & STAGE 1 NORTH AURORA ROAD
CROSS SECTIONS

SCALE: 10 H: 5 V | SHEET 5 OF 15 SHEETS | STA. 110+35.00 TO STA. 110+50.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	298
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		



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

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

FILE NAME = 060092-XSC-TEMPNAR.dgn

TRANSYSTEMS

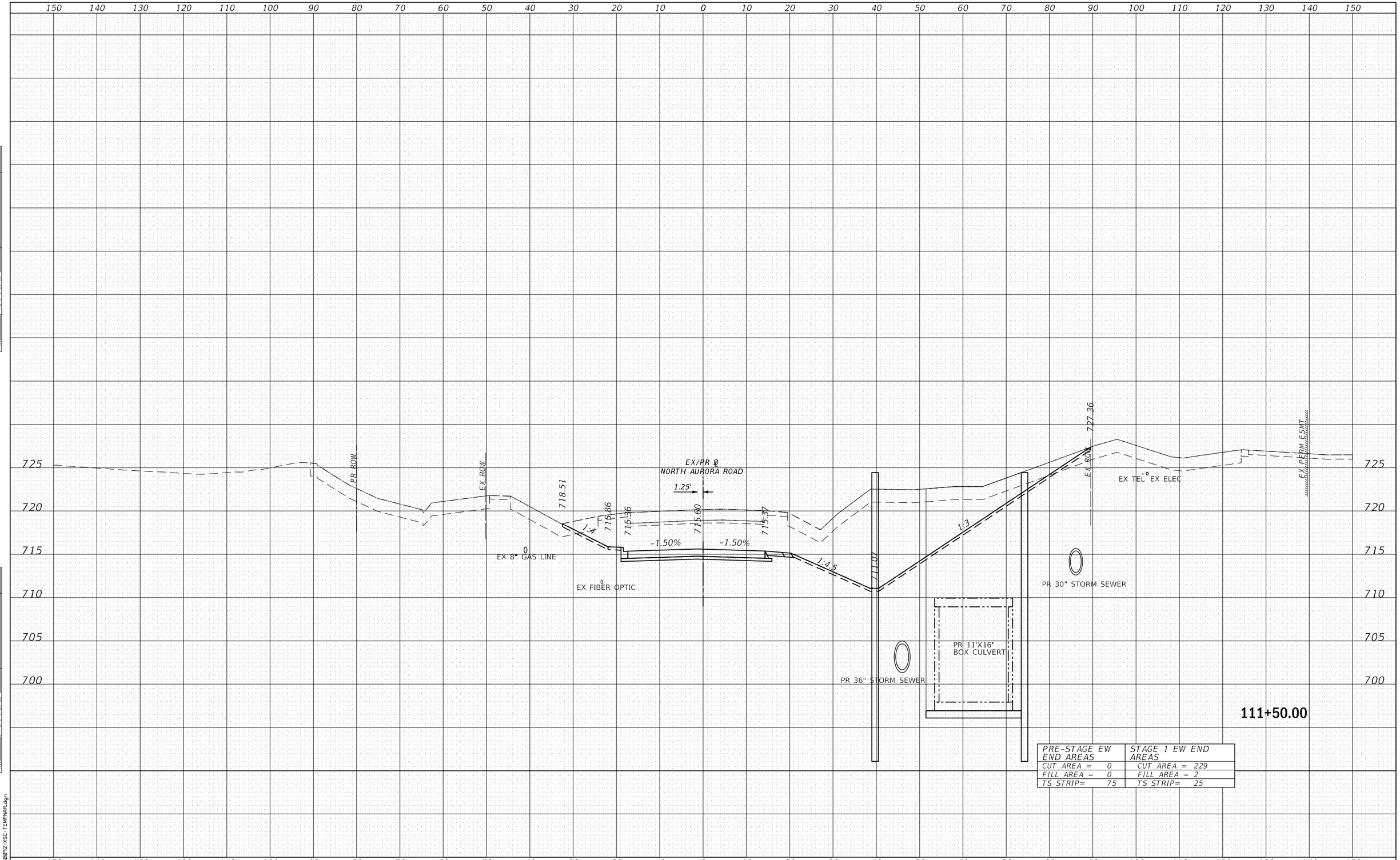
USER NAME = brvanderwal	DESIGNED - BMS	REVISED -
	DRAWN - MKW	REVISED -
PLOT SCALE = 20.0000 ' / in.	CHECKED - BVW	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRE-STAGE & STAGE 1 NORTH AURORA ROAD
CROSS SECTIONS

SCALE: 10 H: 5 V | SHEET 6 OF 15 SHEETS | STA. 110+55.00 TO STA. 111+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	299
		CONTRACT NO. 61G79		
		ILLINOIS FED. AID PROJECT		



PRE-STAGE EW END AREAS		STAGE 1 EW END AREAS	
CUT AREA =	0	CUT AREA =	229
FILL AREA =	0	FILL AREA =	2
TS STRIP=	75	TS STRIP=	25

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

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

FILE NAME = 060092-XSC-TEMPNAR.dgn

TRANSYSTEMS

USER NAME = brvanderwal	DESIGNED - BMS	REVISED -
	DRAWN - MKW	REVISED -
PLOT SCALE = 20.0000 ' / in.	CHECKED - BVW	REVISED -
PLOT DATE = 1/25/2025	DATE - 1/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRE-STAGE & STAGE 1 NORTH AURORA ROAD
CROSS SECTIONS

SCALE: 10 H: 5 V | SHEET 7 OF 15 SHEETS | STA. 111+50.00 TO STA. 111+50.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1509	06-00133-00-BR	DuPAGE	426	300
		CONTRACT NO. 61G79		
		ILLINOIS	FED. AID PROJECT	