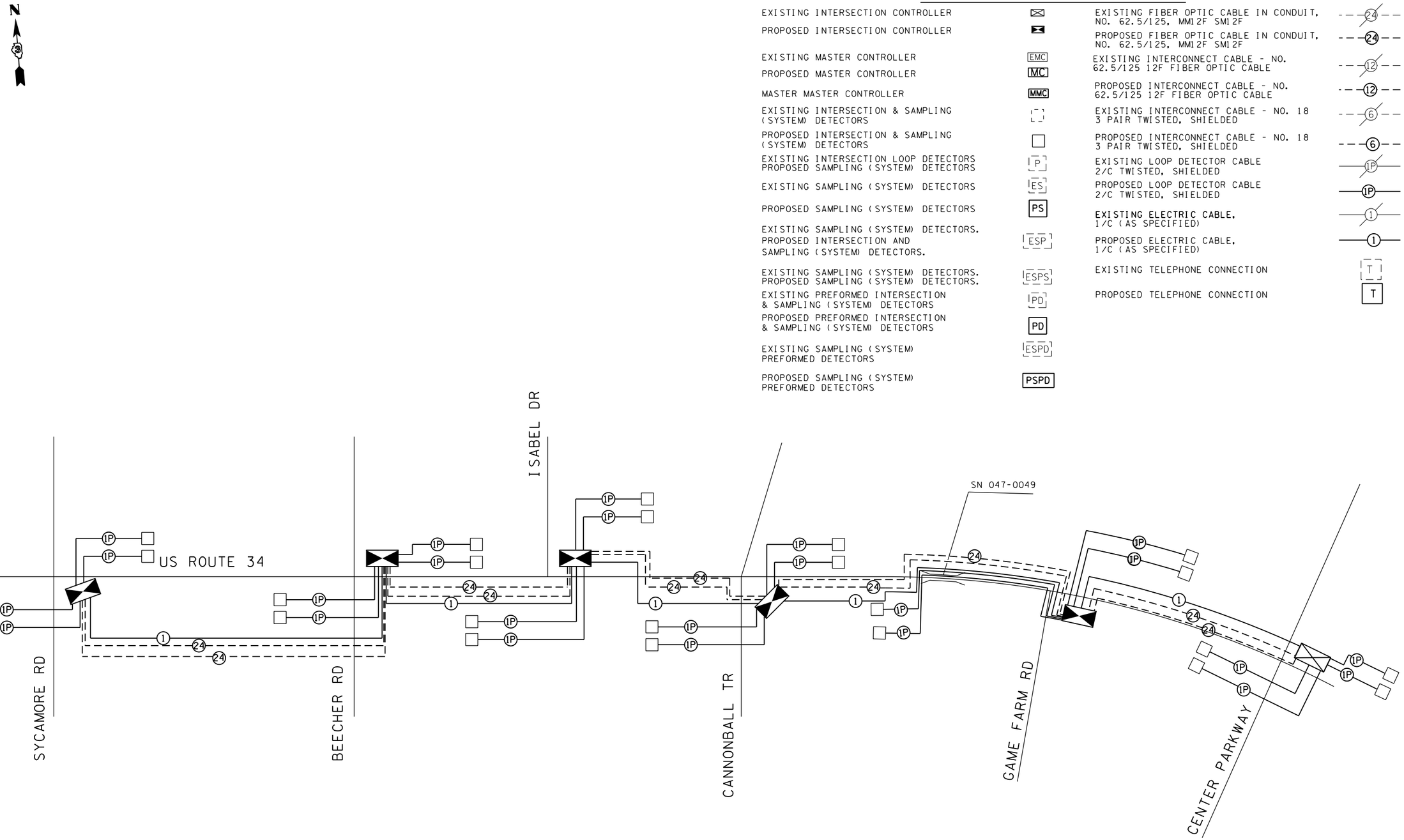
INTERCONNECT SCHEMATIC LEGEND

EXISTING INTERSECTION CONTROLLER	⊠	EXISTING FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	--24--
PROPOSED INTERSECTION CONTROLLER	⧓	PROPOSED FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	--24--
EXISTING MASTER CONTROLLER	EMC	EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE	--12--
PROPOSED MASTER CONTROLLER	MC	PROPOSED INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE	--12--
MASTER MASTER CONTROLLER	MMC	EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	--6--
EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS	[ ]	PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	--6--
PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS	□	EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	1P
EXISTING INTERSECTION LOOP DETECTORS PROPOSED SAMPLING (SYSTEM) DETECTORS	P	PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	1P
EXISTING SAMPLING (SYSTEM) DETECTORS	ES	EXISTING ELECTRIC CABLE, 1/C (AS SPECIFIED)	1
PROPOSED SAMPLING (SYSTEM) DETECTORS	PS	PROPOSED ELECTRIC CABLE, 1/C (AS SPECIFIED)	1
EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS.	ESP	EXISTING TELEPHONE CONNECTION	T
EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED SAMPLING (SYSTEM) DETECTORS.	ESPS	PROPOSED TELEPHONE CONNECTION	T
EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS	PD		
PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS	PD		
EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS	ESPD		
PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS	PSPD		



•(13)R-2((13 BR)C, (13 BR-1)BR)

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		DRAWN -	REVISED -
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Default	PLOT DATE = 2/1/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERCONNECT SCHEMATIC

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	301
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation, District 3

SOIL BORING LOG

Date 6/4/15

ROUTE US 34 (FAP 591) DESCRIPTION Intersection of US 34 & Sycamore Street in Yorkville LOGGED BY Larry Myers

SECTION (13)R-2[(13 BR)C, (13 BR-1)BR] LOCATION NE 1/4, SEC. 30, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.66075571, Longitude -88.47449856

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 01 (S.W. Quad.)
Station 308+34.30
Offset 74.6 ft Rt.
Ground Surface Elev. 640.77 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 623.3 ft ▼
Upon Completion 623.8 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				Augered Brown Silty Clay Loam Fill with Debris & Gravel Pieces
638.27				
	8			Hard Black Silty Clay with Organics
	9	>4.5	25	
	11	P		
635.77 -5				
	3			Stiff to Very Stiff Brown Silty Clay
	4	2.0	26	
	5	P		
633.77				
	4			Medium to Loose Brown Fine Sand to Coarse Gravel with Sand Layers - Loamy
	5		10	
	8			
-10				
	2			
	2		19	
	2			
	1			
	2		25	
	1			
-15				
	4			
	4		14	
	7			
▽				
	2			
	2		26	
	2			
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	5			Medium to Loose Brown Fine Sand to Coarse Gravel with Sand Layers - Loamy *(continued)*
	6		13	
	7			
-25				
	6			
	6		21	
614.27	8			
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING US 34 & SYCAMORE STREET.GPJ IL_DOT.GDT 6/20/16

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation, District 3

SOIL BORING LOG

Date 6/4/15

ROUTE US 34 (FAP 591) DESCRIPTION Intersection of US 34 & Sycamore Street in Yorkville LOGGED BY Larry Myers

SECTION (13)R-2[(13 BR)C, (13 BR-1)BR] LOCATION NE 1/4, SEC. 30, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.66083652, Longitude -88.47399539

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 02 (S.E. Quad.)
Station 309+69.13
Offset 34.7 ft Rt.
Ground Surface Elev. 640.23 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 625.2 ft ▼
Upon Completion 625.2 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				Augered Brown & Black Silty Clay Loam Fill with Debris
637.73				
	4			Very Stiff Gray & Brown Silty Clay Loam Fill with Debris & Gravel Pieces
	5	3.0	19	
	6	P		
635.23 -5				
	3			Very Stiff Brown Sandy Loam
	3	2.5	19	
	3	P		
633.23				
	5			Medium Brown Fine Sand to Coarse Gravel - Loamy
	7		5	
	10			
-10				
	8			
	9		4	
	15			
	5			
	7		7	
	9			
625.73				
-15 ▽				Loose Brown Fine Sand to Coarse Gravel with some Sand Layers
	3			
	3		17	
	9			
	4			
	6		19	
	4			
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	4			Loose Brown Fine Sand to Coarse Gravel with some Sand Layers *(continued)*
	5		16	
	6			
-25				
	6			
	5		19	
613.73	5			
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING US 34 & SYCAMORE STREET.GPJ IL_DOT.GDT 6/20/16

•(13)R-2[(13 BR)C, (13 BR-1)BR]

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Default	PLOT DATE = 2/1/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
SYCAMORE ROAD

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	302
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation, District 3

SOIL BORING LOG

Page 1 of 1

Date 6/9/15

ROUTE US 34 (FAP 591) DESCRIPTION Intersection of US 34 & Beecher Drive in Yorkville LOGGED BY Larry Myers

SECTION (13)R-2[(13 BR)C, (13 BR-1)BR] LOCATION NW 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM.
Latitude 41.66025869, Longitude -88.46674486

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 01 (S.W. Quad.)
Station 329+60.67
Offset 92.7 ft Rt.
Ground Surface Elev. 635.04 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 618.0 ft
Upon Completion 620.0 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill			
632.54			
Very Stiff Black Silty Clay Loam Fill	4		
	5 7	2.5 P	5
631.04			
Loose to Very Loose Grayish Loamy Fine Sand to Coarse Gravel with Clay / Silty Clay Pieces			
-5	4		
	3 4		8
	2		
	2 2		10
-10	WH		
	2 2		14
	WH		
	1 WH		15
-15			
	4		
	5 6		13
618.04			
Medium Gray Fine Sand to Coarse Gravel with Free Water & Sand Layers	5		
	7 7		22
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	3		
	4 5		21
-25	4		
	5 6		21
608.54			
End of Boring			
-30			
-35			
-40			

WH = Weight of Hammer

SOIL BORING US 34 & BEECHER STREET.GPJ IL_DOT.GDT 6/20/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation, District 3

SOIL BORING LOG

Page 1 of 1

Date 6/9/15

ROUTE US 34 (FAP 591) DESCRIPTION Intersection of US 34 & Beecher Drive in Yorkville LOGGED BY Larry Myers

SECTION (13)R-2[(13 BR)C, (13 BR-1)BR] LOCATION NW 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM.
Latitude 41.66073044, Longitude -88.46636793

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 02 (N.E. Quad.)
Station 330+50.17
Offset 86.6 ft Lt.
Ground Surface Elev. 635.46 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 625.5 ft
Upon Completion 625.5 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill with Debris			
632.96			
Medium Brown Fine Sand to Coarse Gravel - Possibly Fill	4		
	5 6		5
630.46			
-5	1		
Loose Brown Fine to Coarse Sand with some Gravel			
	2 2		5
	2		
	1 2		21
625.46			
-10	2		
Loose to Medium Brown Fine Sand to Coarse Gravel with Free Water & Sand Layers			
	2 2		16
	2		
	1 2		17
-15			
	4		
	5 6		18
	6		
	6 7		9
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	4		
Loose to Medium Brown Fine Sand to Coarse Gravel with Free Water & Sand Layers (continued)	5 6		18
-25	6		
608.96			
End of Boring			
-30			
-35			
-40			

SOIL BORING US 34 & BEECHER STREET.GPJ IL_DOT.GDT 6/20/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

•(13)R-2[(13 BR)C, (13 BR-1)BR]

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
BEECHER ROAD

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	303
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation, District 3

SOIL BORING LOG

Page 1 of 1

Date 6/10/15

ROUTE US 34 (FAP 591) DESCRIPTION Intersection of US 34 & Isabel Drive in Yorkville LOGGED BY Larry Myers

SECTION (13)R-2[(13 BR)C, (13 BR-1)BR] LOCATION NW 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM.
Latitude 41.66017084, Longitude -88.4626891

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 01 (S.E. Quad.)
Station 340+68.11
Offset 39.5 ft Rt.
Ground Surface Elev. 637.85 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 621.9 ft
Upon Completion 621.9 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill with Gravel Pieces			
635.35			
Very Stiff Brown Silty Clay / Silty Clay Loam Fill	2		
	3 4	3.0 P	26
632.85 -5			
Loose to Medium Brown Fine Sand to Coarse Gravel with Sand Layers - Loamy	2		
	3 6		6
	5		
	8 9		4
-10	7		
	9 10		4
	3		
	4 4		21
-15	4		
▼	6 7		14
620.85			
Dense Gray Fine Sand to Coarse Gravel with Sand Layers	16		
	18 27		9
-20			
Dense Gray Fine Sand to Coarse Gravel with Sand Layers *(continued)*	12		
	18 21		21
-25	14		
	16 20		14
611.35			
End of Boring			
-30			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING US 34 & ISABEL.GPJ IL_DOT.GDT 6/20/16

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation, District 3

SOIL BORING LOG

Page 1 of 1

Date 6/10/15

ROUTE US 34 (FAP 591) DESCRIPTION Intersection of US 34 & Isabel Drive in Yorkville LOGGED BY Larry Myers

SECTION (13)R-2[(13 BR)C, (13 BR-1)BR] LOCATION NW 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM.
Latitude 41.660455, Longitude -88.4632717

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 02 (N.W. Quad.)
Station 339+01.43
Offset 51.5 ft Lt.
Ground Surface Elev. 637.56 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 622.6 ft
Upon Completion 622.6 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill			
635.06			
Very Stiff Brown Silty Clay	3		
	4 5	3.0 P	25
632.56 -5			
Loose to Medium Brown Fine Sand to Coarse Gravel with Sand Layers - Loamy	3		
	3 4		11
	6		
	9 10		5
-10	7		
	9 12		6
	10		
	12 12		10
▼ -15	3		
	6 9		18
620.56			
Medium Gray Fine to Coarse Sand with some Gravel	7		
	7 12		16
-20			
Medium Gray Fine to Coarse Sand with some Gravel *(continued)*	12		
	15 12		16
-25	10		
	7 9		18
611.06			
End of Boring			
-30			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING US 34 & ISABEL.GPJ IL_DOT.GDT 6/20/16

•(13)R-2[(13 BR)C, (13 BR-1)BR]

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
ISABEL DR.

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	304
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation, District 3

SOIL BORING LOG

Page 1 of 1

Date 6/11/15

ROUTE US 34 (FAP 591) DESCRIPTION Intersection of US 34 & Cannonball Trail in Yorkville LOGGED BY Larry Myers

SECTION (13)R-2[(13 BR)C, (13 BR-1)BR] LOCATION NW 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM.

Latitude 41.66020164, Longitude -88.45881953

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 01 (N.E. Quad.)
Station 351+20.88
Offset 53.4 ft Lt.
Ground Surface Elev. 636.41 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 614.4 ft
Upon Completion 612.4 ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam - Fill				
	633.91			
Very Stiff to Stiff Dark Brown Silty Clay		3		
		3	2.5	22
		4	P	
	631.91			
Stiff Brown & Gray Silty Clay Loess	-5	1		
		2	1.5	26
		3	P	
	628.91			
Loose to Medium Brown Fine Sand to Coarse Gravel - Loamy with Sand Layers		2		
		3		12
		6		
	-10	5		
		8		6
		9		
		5		
		8		5
		16		
	621.91			
Dense to Medium Gray Fine Sand to Coarse Gravel - Loamy with Sand Layers	-15	9		
		14		8
		18		
	618.91			
Hard Gray Silty Clay Loam Till with Silt Seams		10		
		16		9
	617.41	16		
Dense Gray Fine Sand to Coarse Gravel with Sand Layers	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dense Gray Fine Sand to Coarse Gravel with Sand Layers (continued)		10		
		12		15
		9		
	614.41 ▼			
Dense Gray Fine Sand & Silt Interbedded with some Fine Sand Layers		15		
	▽	18		17
		20		
	-25	11		
		21		21
		28		
	-30	12		
		18		20
		24		
	604.91			
End of Boring	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation, District 3

SOIL BORING LOG

Page 1 of 1

Date 6/11/15

ROUTE US 34 (FAP 591) DESCRIPTION Intersection of US 34 & Cannonball Trail in Yorkville LOGGED BY Larry Myers

SECTION (13)R-2[(13 BR)C, (13 BR-1)BR] LOCATION NW 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM.

Latitude 41.66028033, Longitude -88.459389

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 02 (N.W. Quad.)
Station 349+64.15
Offset 69.5 ft Lt.
Ground Surface Elev. 635.70 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 619.7 ft
Upon Completion 618.7 ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam & Limestone Gravel - Fill				
	633.20			
Very Stiff Dark Brown Silty Clay		4		
		4	2.5	24
		4	P	
	630.70	-5		
Loose to Medium Brown Fine Sand to Coarse Gravel - Loamy with Sand Layers		2		
		2		13
		2		
		7		
		10		4
		8		
	-10	5		
		7		5
		10		
		4		
		5		10
	621.70	5		
Medium to Dense Gray Fine Sand to Coarse Gravel with Sand Layers	-15	6		
		10		9
	▽	20		
	618.20			
Hard Gray Silty Clay Loam Till with Fine Sand / Silt Layers		14		
		14	>4.5	9
		15	P	
	616.20			
	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dense Gray Fine Sand to Coarse Gravel with Sand Layers (continued)		16		
		17		14
		18		
	613.70			
Dense Gray Fine Sand & Silt Interbedded with some Coarse Sand Layers		17		
		18		19
		18		
	-25	15		
		18		12
		21		
	-30	16		
		16		17
	604.20	17		
End of Boring	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING US 34 & CANNONBALL TRAIL.GPJ IL_DOT.GDT 6/20/16

•(13)R-2[(13 BR)C, (13 BR-1)BR]

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		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 2/1/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
CANNONBALL TRAIL

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	305
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

EXISTING SIGN TO BE RELOCATED ON NEW WOOD SIGN SUPPORT

EXISTING SIGN AND SIGN SUPPORT TO BE REMOVED-NO REPLACEMENT

EXISTING SIGN AND SIGN SUPPORT TO BE REMOVED-
REPLACE W/NEW SIGN AND NEW SIGN SUPPORT

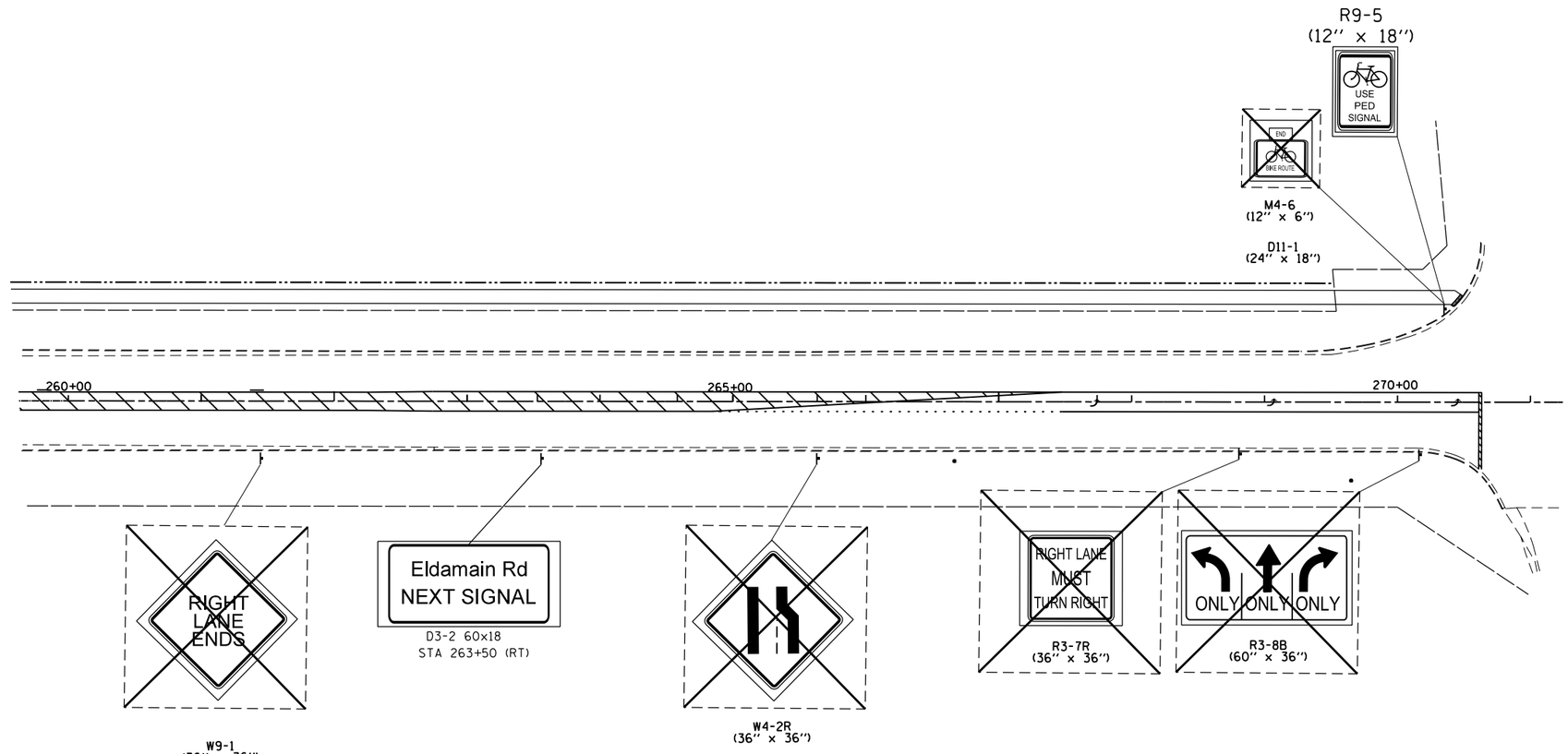
NEW SIGN TO BE INSTALLED ON NEW SIGN SUPPORT

NOTES-

12"X12" BLOCK OUTS REQUIRED
FOR SIGNS ON ALL CONCRETE SURFACES
FOR WOOD SIGN SUPPORTS TO BE INSTALLED

ALL SIGNS SHALL BE PLACED ON ONE WOOD
4"X6" POST, EXCEPT AS NOTED

ALL LOCATIONS ARE APPROXIMATE



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Default	PLOT DATE = 2/2/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNING PLANS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	306
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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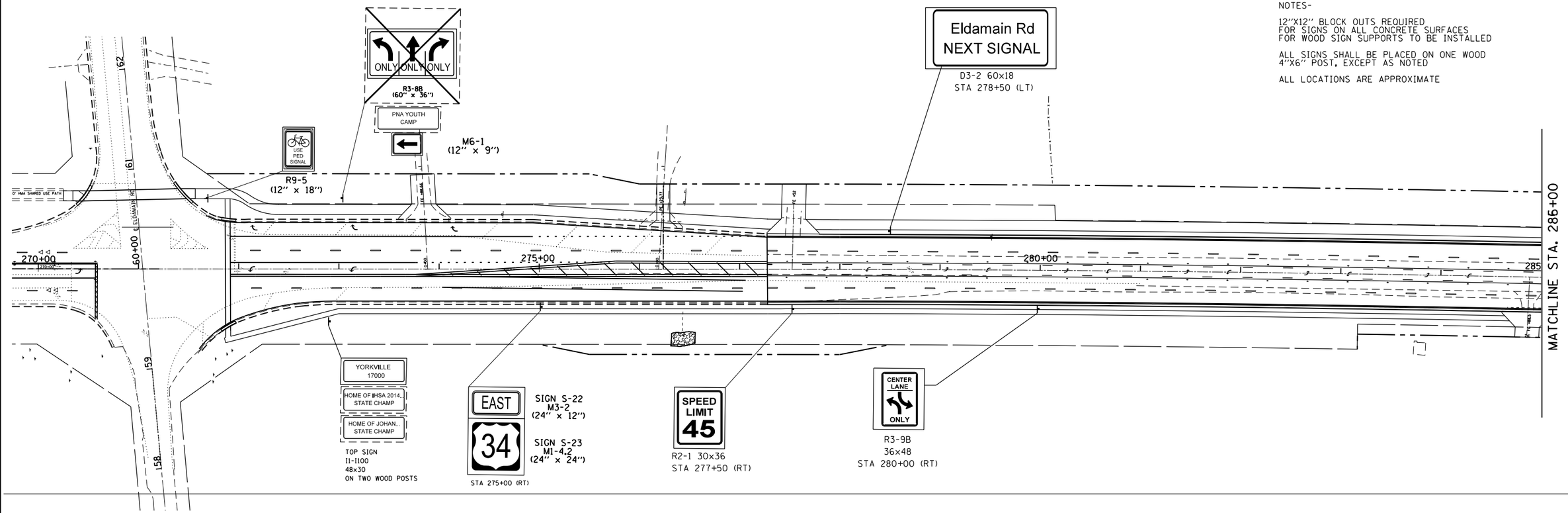

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNING PLANS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	*	KENDALL	533	307
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		

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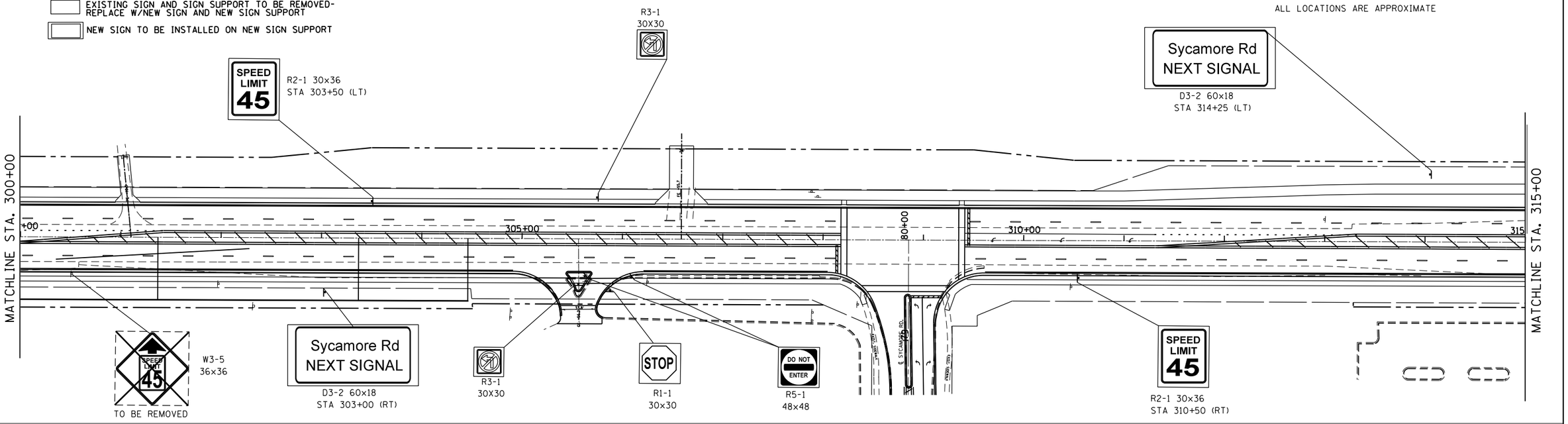

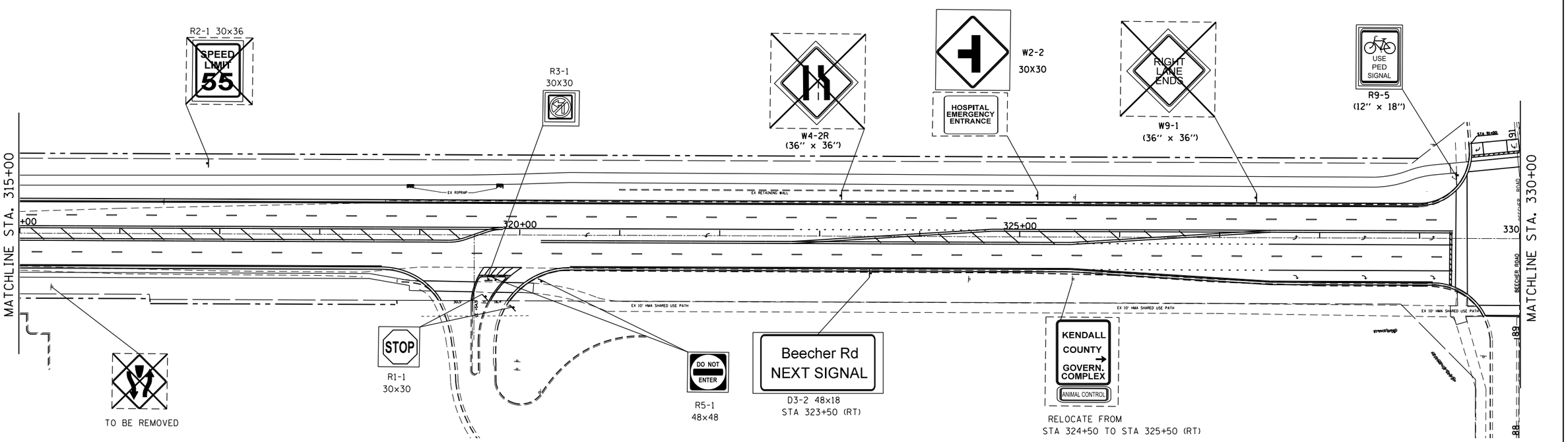

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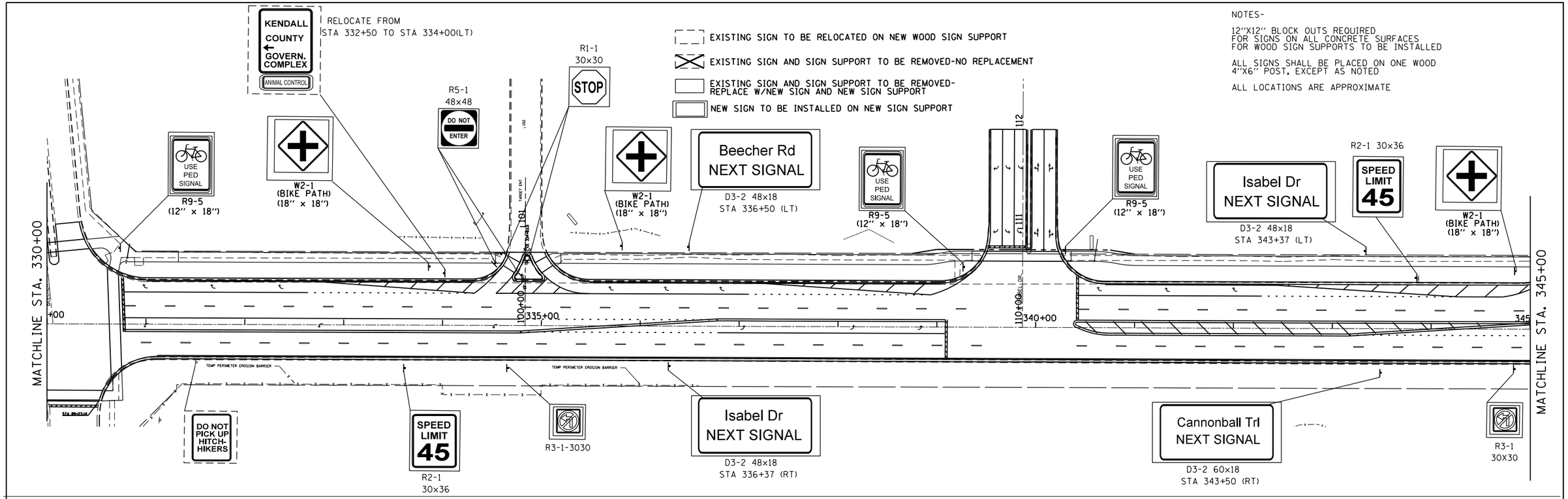

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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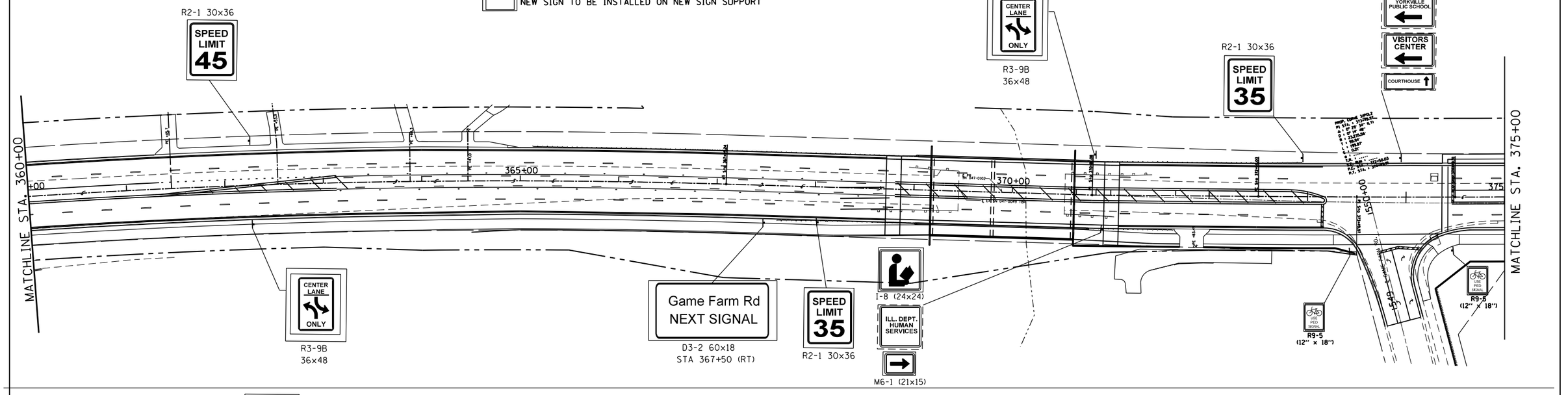

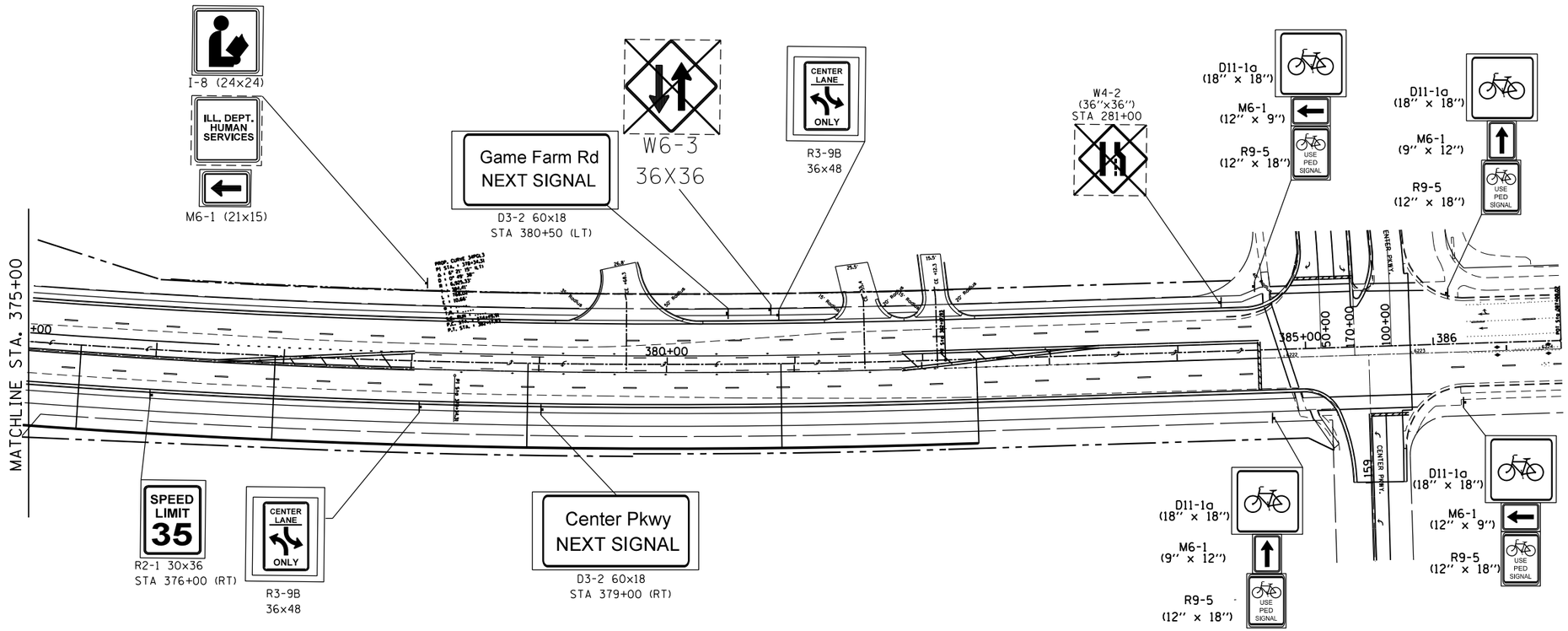

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNING PLANS

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	ILLINOIS FED. AID PROJECT			

DESIGN SPECIFICATIONS:

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS,
SEVENTH EDITION

DESIGN STRESSES:

f'c = 3,500 psi FOR DRILLED SHAFT FOUNDATIONS

f'c = 4,500 psi FOR PRECAST CONCRETE WALL PANELS AND POSTS

fy = 60,000 psi FOR REINFORCING STEEL

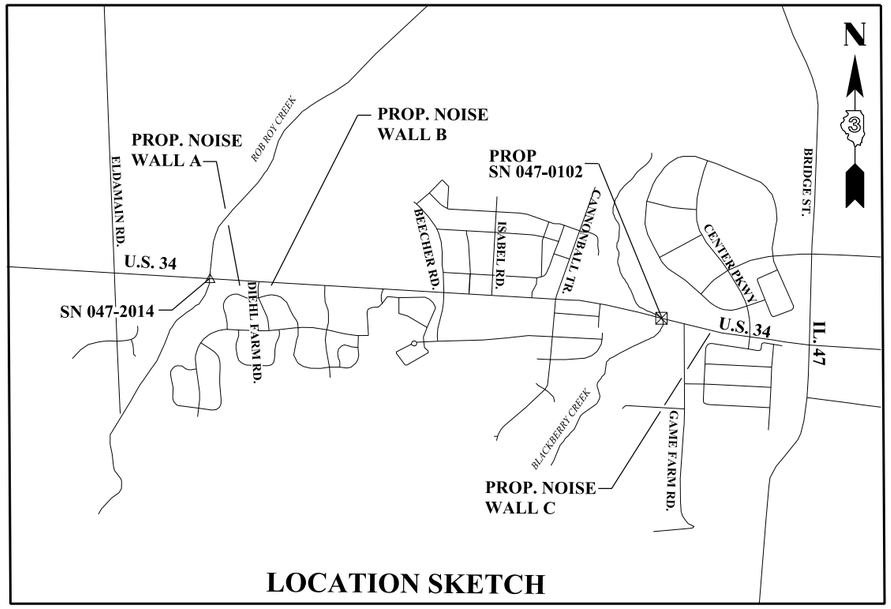
GENERAL NOTES:

1) WALLS SHALL BE FABRICATED AS A REFLECTIVE ABATEMENT SYSTEM.

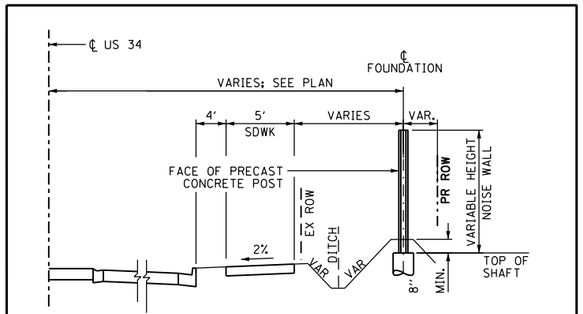
2) THE WALL TEXTURE PATTERN AND COLOR FOR THE PRECAST CONCRETE PANELS, AND COLOR FOR THE PRECAST CONCRETE POSTS SHALL CHOSEN BY THE CITY OF YORVILLE AFTER THE CONTRACT HAS BEEN AWARDED. SEE SPECIAL PROVISIONS,

3) FOUNDATIONS SHALL BE INCLUDED FOR PAYMENT AS PART OF "NOISE ABATEMENT WALL, GROUND MOUNTED".

4) QUANTITIES FOR NOISE ABATEMENT WALL, PRECAST CONCRETE ARE CALCULATED USING THE WALL HEIGHT DIMENSIONS SHOWN, BETWEEN THE THEORETICAL TOP OF WALL AND THEORETICAL BOTTOM OF WALL AT CENTERLINE OF FOUNDATIONS (OR TO TOP OF RETAINING WALL FOR PART OF WALL C).

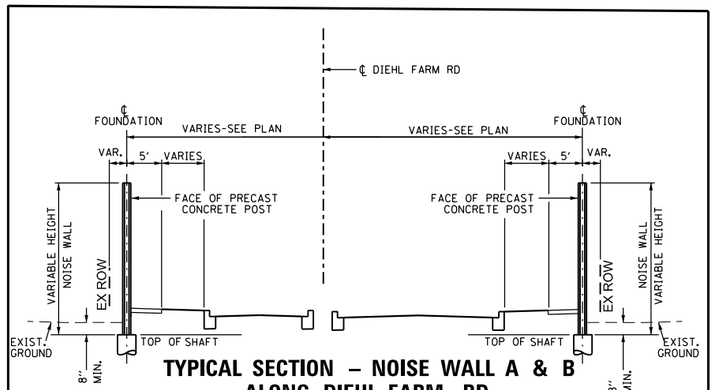


LOCATION SKETCH



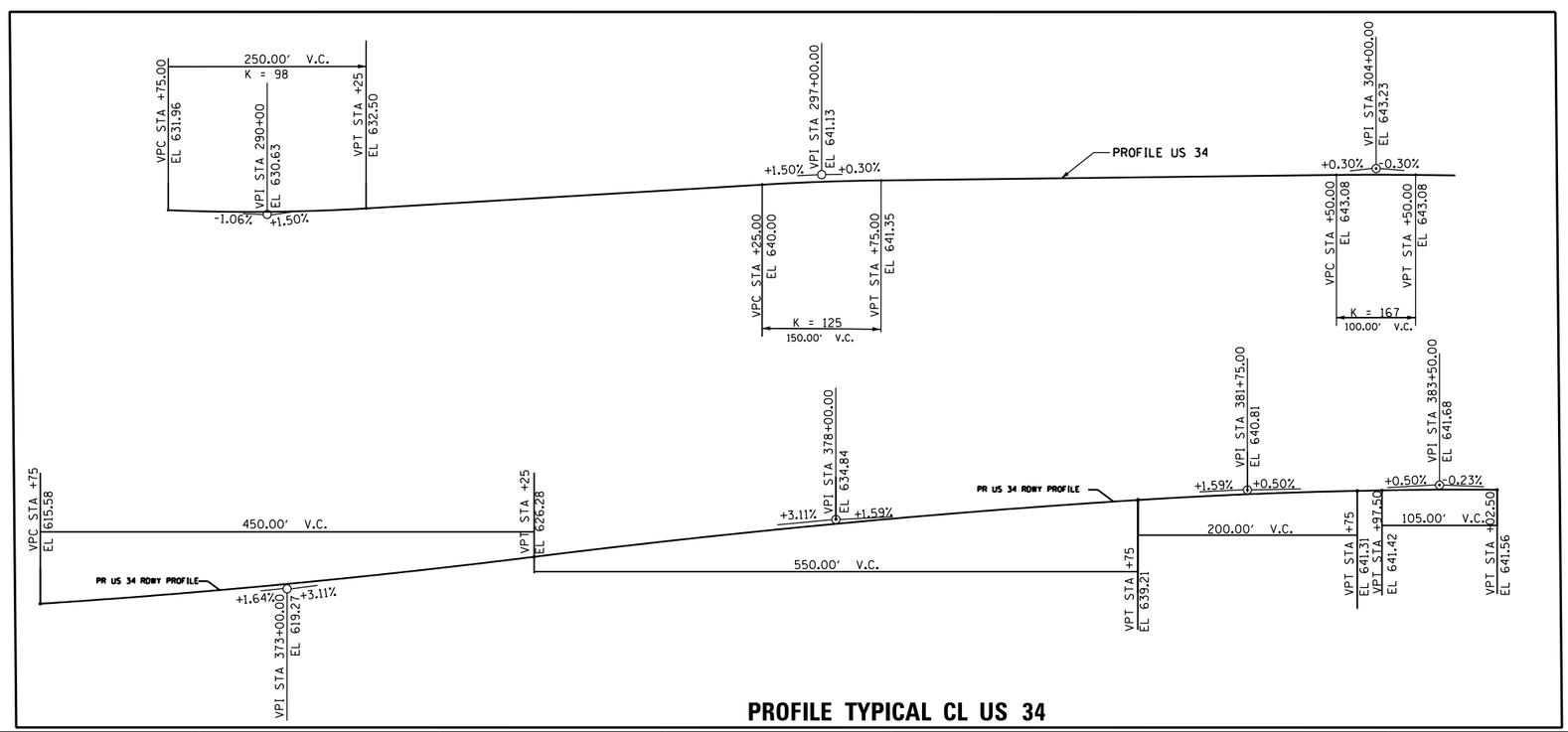
TYPICAL SECTION – NOISE WALL A & B ALONG US 34

NOISE WALL A STA 289+25 TO STA 296+60.75
NOISE WALL B STA 297+34 TO STA 304+46

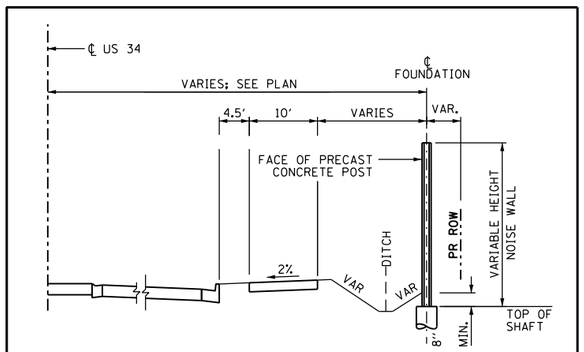


TYPICAL SECTION – NOISE WALL A & B ALONG DIEHL FARM RD.

NOISE WALL A STA 68+36 TO STA 69+30
NOISE WALL B STA 68+33 TO STA 69+38



PROFILE TYPICAL CL US 34



TYPICAL SECTION – NOISE WALL C

STA 375+24.52 TO STA 382+41*
***NOTE–FROM STA 375+24.52 TO STA 379+00, THE NOISE WALL WILL BE ON TOP OF RETAINING WALL**

*(13)R-2([13 BR]C, [13 BR-1BR]

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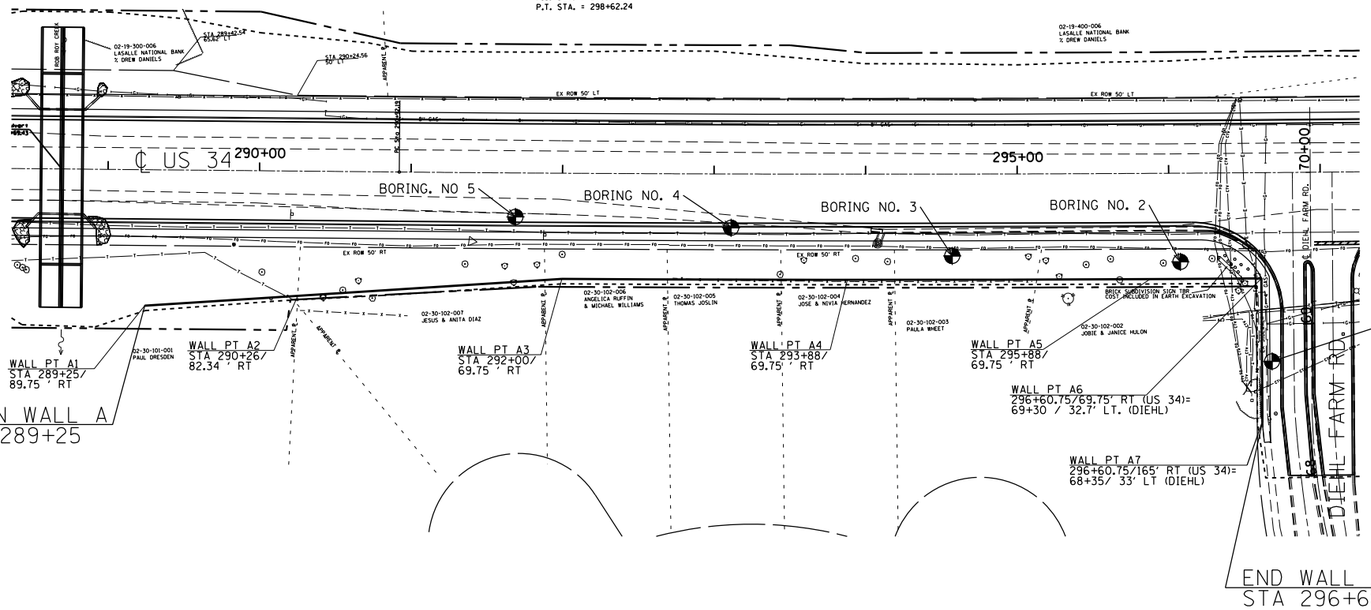
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

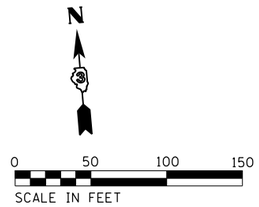
US 34, YORKVILLE
NOISE WALL TYPICALS & NOTES

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	311
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

EXIST. CURVE 36CLI-7
PI STA. = 294+71.23
Δ = 1° 17' 22" (LT)
D = 0° 10' 03"
R = 34,216.94'
T = 385.04'
L = 770.05'
E = 2.17'
P.C. STA. = 290+92.19
P.T. STA. = 298+62.24

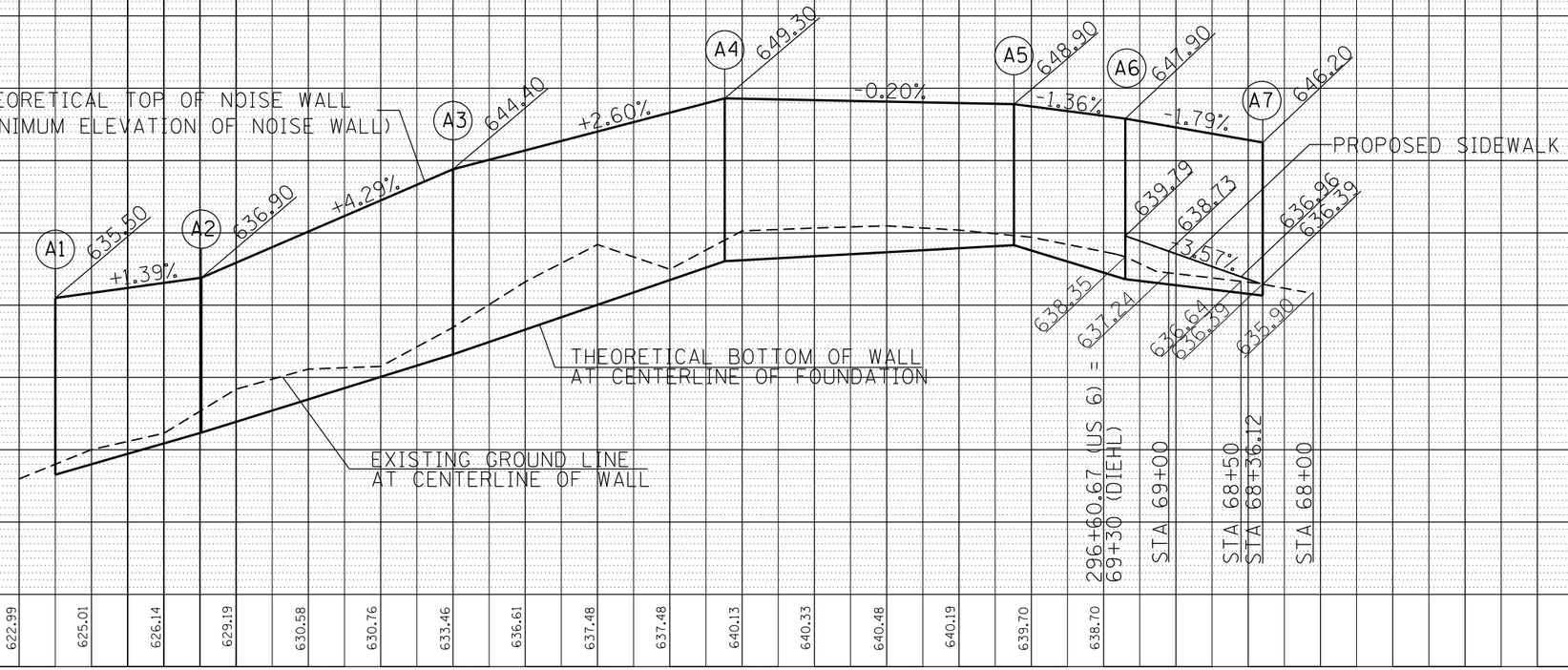




CONSTRUCTION NOTES:

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN IS APPROXIMATE AND MUST BE VERIFIED PRIOR TO EXCAVATION OR INSTALLATION.

SOIL BORING LOCATIONS



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOISE ABATEMENT WALL PLAN AND PROFILE – WALL A

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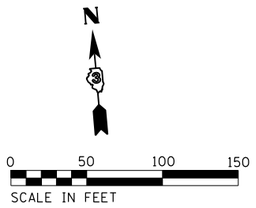
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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

PROFILE: SURVEYED | PLOTTED | DRAWN | CHECKED | BM. NOTED | STRUCTURE NO(ATN)S CHKD | NOTE BOOK | NO. | BY | DATE

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 NO(S)TA'NS CHKD
NOTE BOOK
NO.
BY
DATE



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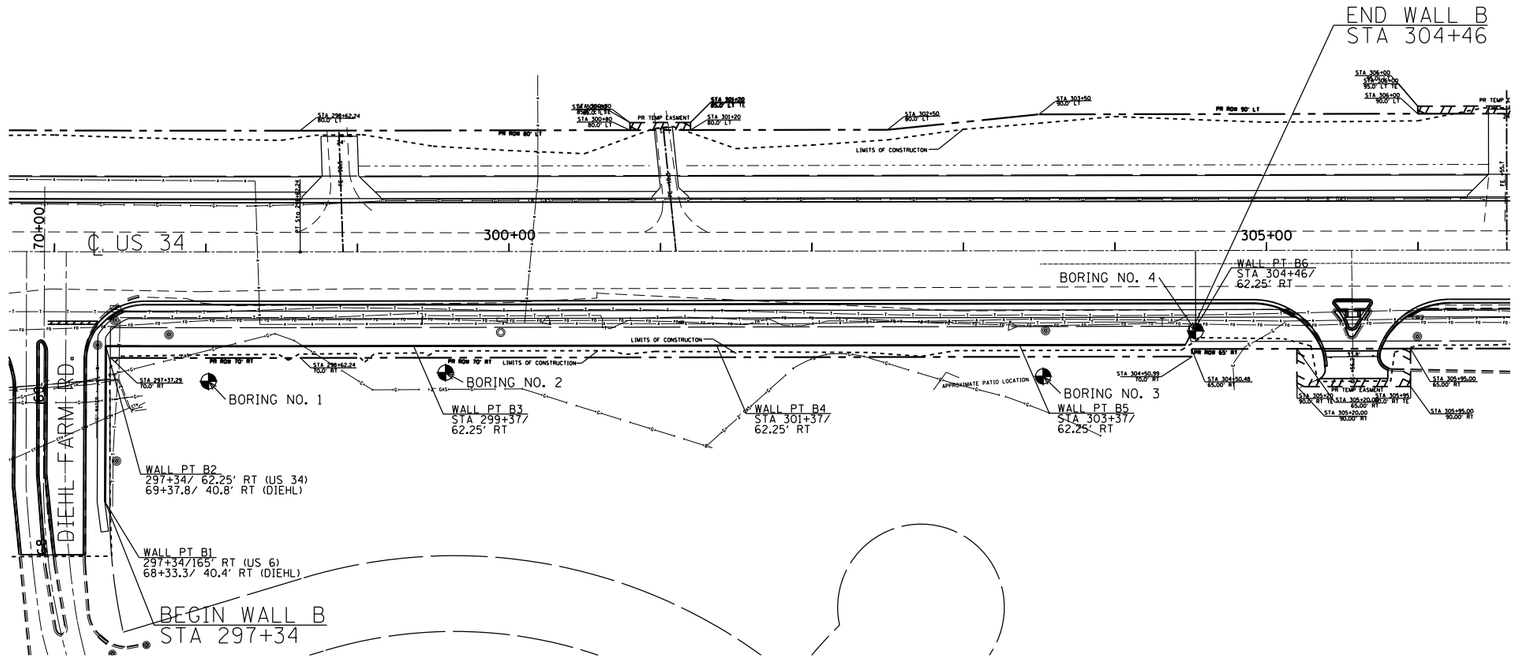

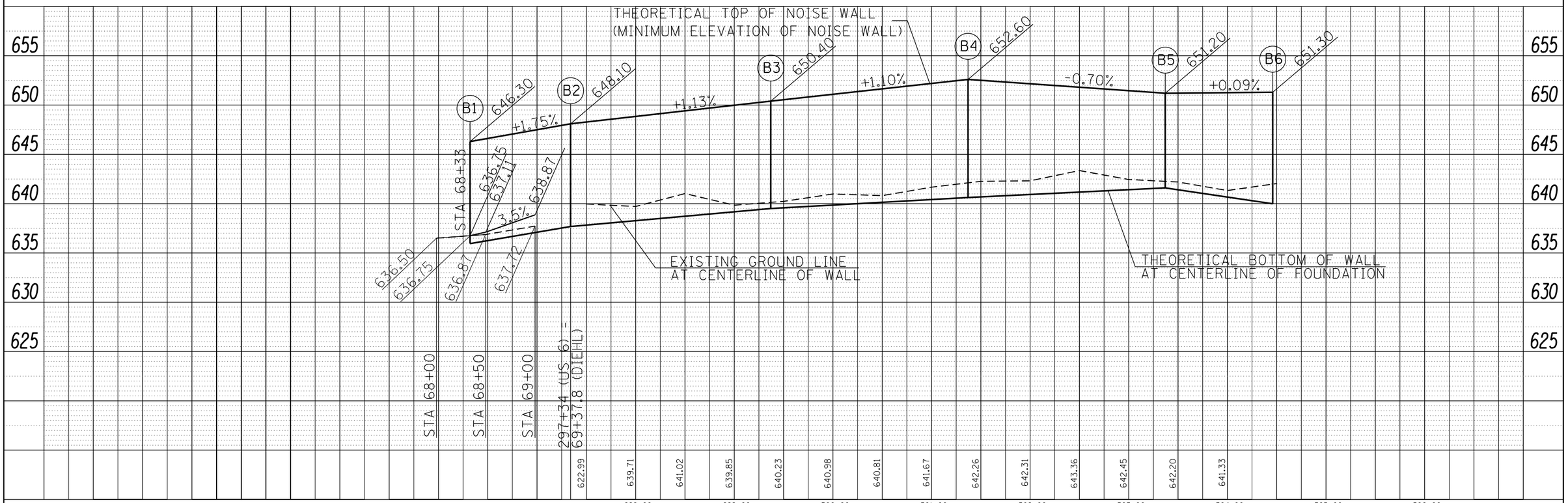

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOISE ABATEMENT WALL PLAN AND PROFILE – WALL B

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	•(13)R-2[(13 BR)C, (13 BR-1BR]	CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

PLAN
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PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
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BY
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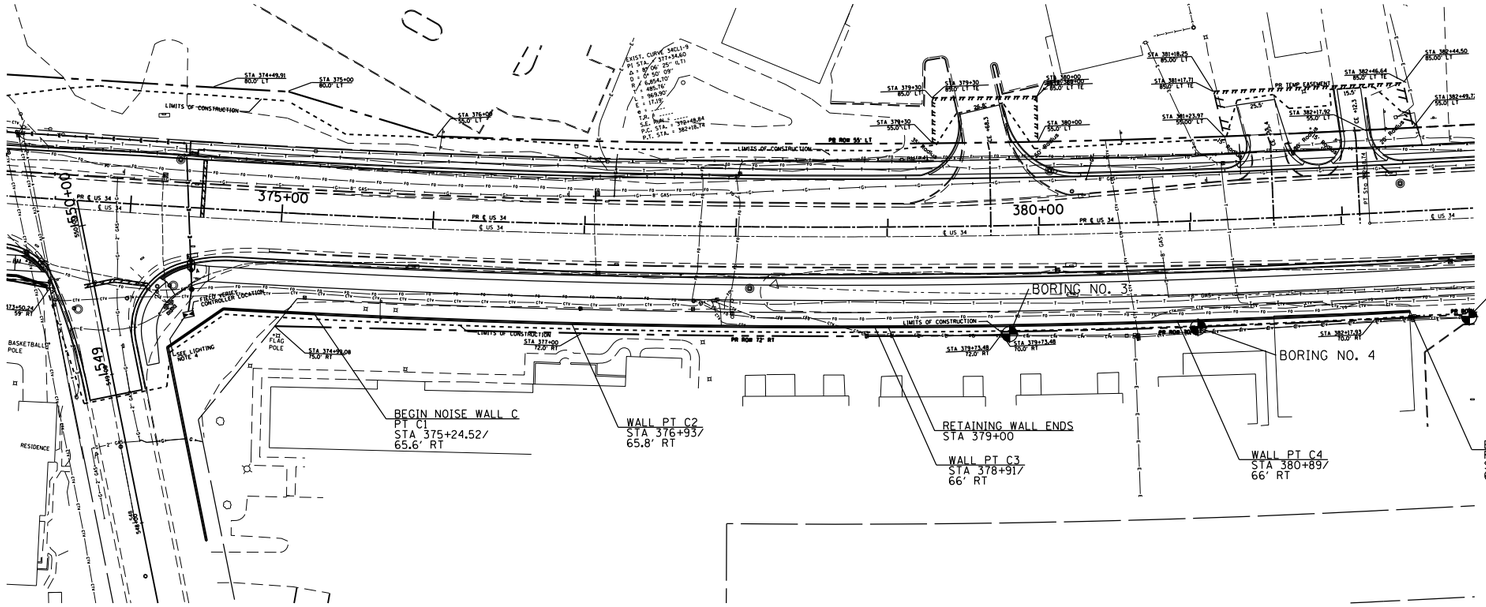

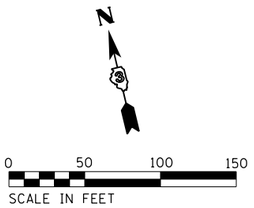

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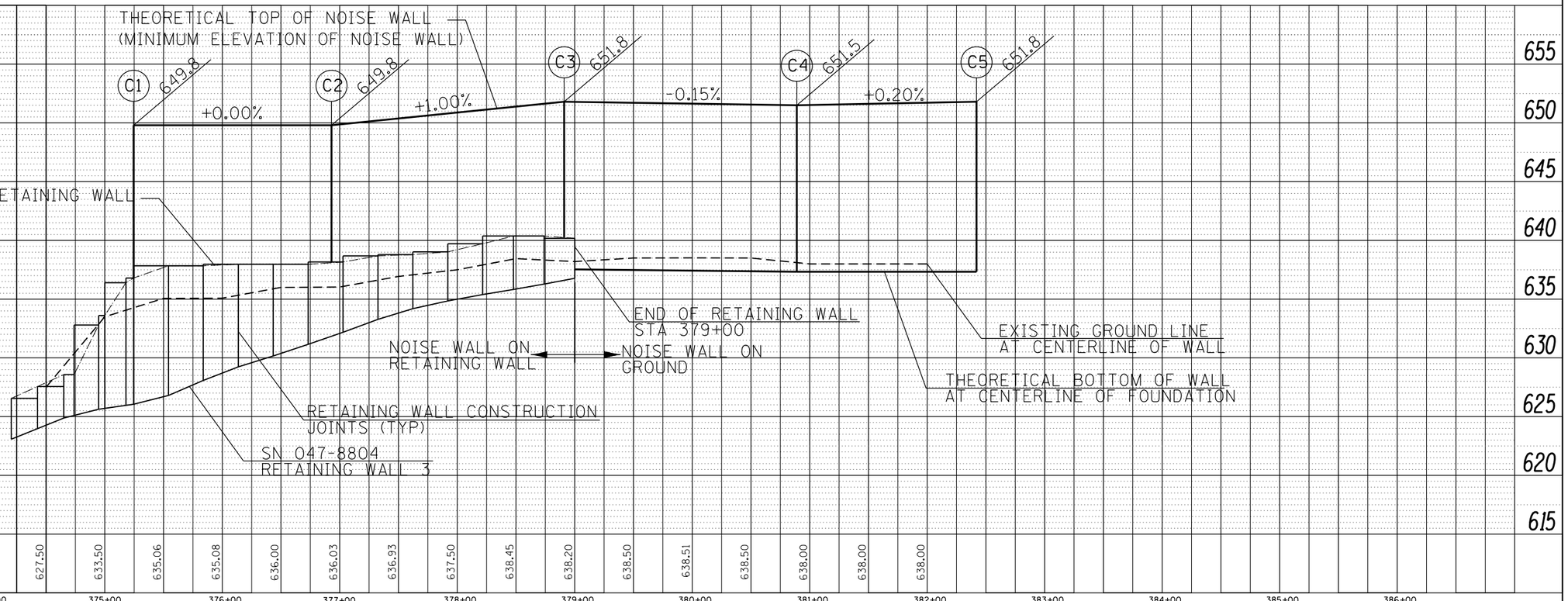
SOIL BORING LOCATIONS

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



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOISE ABATEMENT WALL PLAN AND PROFILE – WALL C

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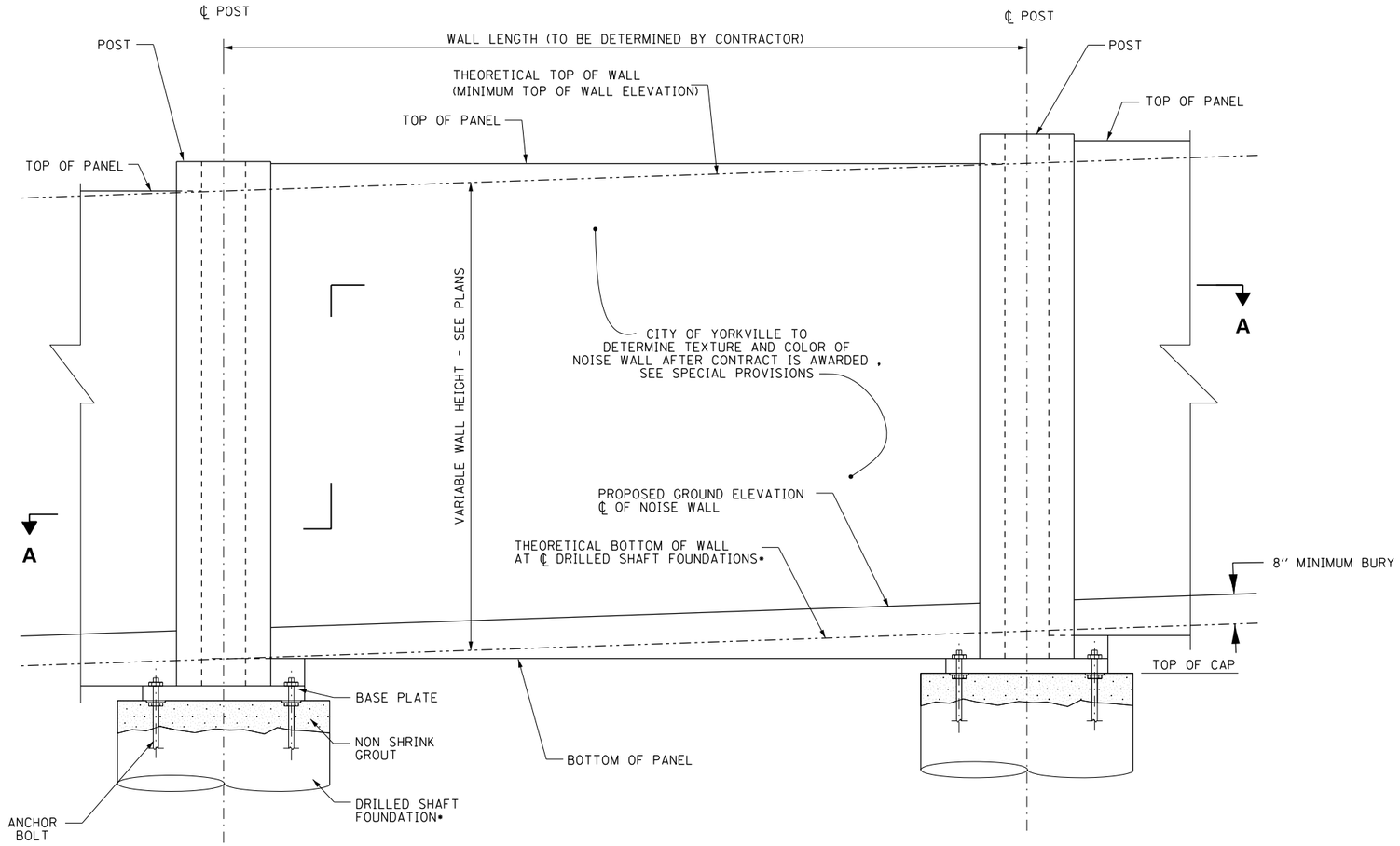


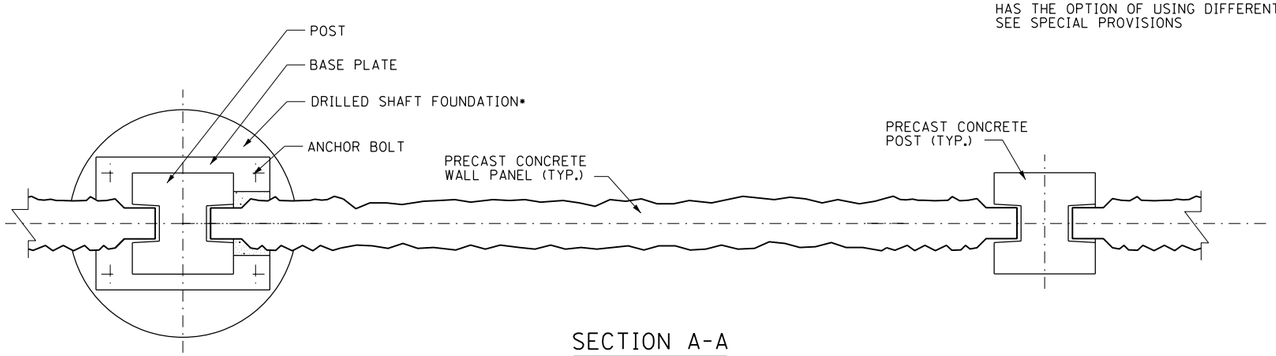
PARTIAL ELEVATION

NOISE ABATEMENT WALL GROUND MOUNTED	
NAW	NOISE ABATEMENT WALL, GROUND MOUNTED SQ FT
NOISE WALL A	9379
NOISE WALL B	8681
NOISE WALL C	4878
GRAND TOTAL	22938

FOUNDATION DESIGN PARAMETERS
COHESIVE SOILS:

NOISE WALL	BORING #	ESTIMATED UNDRAINED SHEAR STRENGTH, tsf
NOISE WALL A	B-01	0.75
NOISE WALL A	B-02	2.25
NOISE WALL A	B-03	1.75
NOISE WALL A	B-04	0.5
NOISE WALL A	B-05	1.0 ABOVE ELEV 626.0/0.75 BELOW ELEV 626.0
NOISE WALL B	B-01	0.5
NOISE WALL B	B-02	0.5
NOISE WALL B	B-03	1.0
NOISE WALL B	B-04	2.25
NOISE WALL C	B-02	1.0
NOISE WALL C	B-03	1.5
NOISE WALL C	B-04	1.25

• DRILLED SHAFT FOUNDATION SHOWN. THE CONTRACTOR HAS THE OPTION OF USING DIFFERENT FOUNDATIONS. SEE SPECIAL PROVISIONS



SECTION A-A

NOTE: BASE PLATE MOUNTING DETAILS SHOWN.
ALTERNATE EMBEDDED POSTS ACCECTABLE.

GRANULAR SOILS:

ANGLE OF INTERNAL FRICTION = 34°

EFFECTIVE UNIT WEIGHT = 120 PCF
(ABOVE GROUNDWATER TABLE)

EFFECTIVE UNIT WEIGHT = 58 pcf
(BELOW GROUNDWATER TABLE)

•(13)R-2[(13 BR)C, (13 BR-1BR)]

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOISE WALL PRECAST CONCRETE PANEL DETAILS

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

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

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 6/19/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall A, West of Diehl Farm Road LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION SW 1/4, SEC. 19, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.66124977, Longitude -88.48056201

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. _____
Station _____

BORING NO. 05
Station 291+69.07
Offset 29.0 ft Rt.
Ground Surface Elev. 630.52 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 620.5 ft
Upon Completion 620.5 ft
After _____ Hrs. _____ ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Shoulder Stone, Brown & Black Silty Clay Loam Fill				
	628.02	3		
Stiff Black Silty Clay Loam Fill with Gravel Pieces		4 4	2.0 P	25
	-5	2		
		2 3	1.5 P	19
	623.02	2		
Loose to Medium Rust Orange Fine Sand to Coarse Gravel - Loamy with Sand Layers & Free Water		3 3		16
	-10	5		
		7 8		15
		7		
		10 12		15
	615.52 -15	10		
Dense Gray Fine Sand to Coarse Gravel with Sand Layers & Free Water		15 15		11
		10		
		12 16		14
	-20			
Dense Gray Fine Sand to Coarse Gravel with Sand Layers & Free Water *(continued)*	609.02	10 15 17		16
End of Boring				
	-25			
	-30			
	-35			
	-40			

SOIL BORING NOISE WALL A.GPJ IL_DOT.GDT 6/30/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

•(13)R-2([13 BR)C, (13 BR-1BR]

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 3\Projects\EP03507\DRAWINGData\CADsheets\EP03507-sht-NAW.dgn	USER NAME = woodyer.jp	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 2/2/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
WALL A

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	316
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 6/18/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall A, West of Diehl Farm Road LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NW 1/4, SEC. 30, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.66110822, Longitude -88.47951966

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 03
Station 294+57.09
Offset 54.0 ft Rt.
Ground Surface Elev. 637.08 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 624.6 ft
Upon Completion 624.6 ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill				
	634.58	3		
Very Stiff Brown Silty Clay Fill		4 5	3.5 P	25
	632.08 -5	1		
Loose to Medium Brown Fine Sand to Coarse Gravel - Loamy with Sand Layers		2 2		11
		6		
		10 12		5
	-10	8		
		9 10		6
	624.58	6		
Medium Brown Fine Sand to Coarse Gravel with Sand Layers & Free Water		9 11		14
	-15	5		
		8 10		11
		6		
		9 12		15
	-20			
Medium Brown Fine Sand to Coarse Gravel with Sand Layers & Free Water *(continued)*	615.58	10 10 14		16
End of Boring	-25			
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 6/19/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall A, West of Diehl Farm Road LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION SW 1/4, SEC. 19, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.66119503, Longitude -88.48004537

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 04
Station 293+11.36
Offset 35.5 ft Rt.
Ground Surface Elev. 633.79 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 622.8 ft
Upon Completion 622.8 ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Brown Silty Clay Loam & Sandy Loam Fill				
	631.29	6		
Medium Brown Fine Sand to Coarse Gravel - Loamy with Sand Layers		9 10		6
	-5	5		
		7 9		5
		6		
		8 9		6
	623.79 -10	6		
Loose to Medium Rust Orange Fine Sand to Coarse Gravel with Sand Layers & Free Water		5 5		13
		5		
		5 5		19
	-15	5		
		6 7		15
		8		
	-20	8 8		15
Loose to Medium Rust Orange Fine Sand to Coarse Gravel with Sand Layers & Free Water *(continued)*	612.29	13 12 14		11
End of Boring	-25			
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

•(13)R-2[(13 BR)C, (13 BR-1BR]

SOIL BORING NOISE WALL A.GPJ IL_DOT.GDT 6/20/16

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		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 2/2/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
WALL A

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	317
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 6/18/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall A, West of Diehl Farm Road LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NW 1/4, SEC. 30, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.66086588, Longitude -88.47877286

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 01
Station 296+67.40
Offset 124.6 ft Rt.
Ground Surface Elev. 636.84 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 624.3 ft
Upon Completion 624.8 ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill				
634.34				
Stiff Brown Sandy Loam Fill with Sandy Clay Loam Layers - Fill		5		
		6	1.5	13
		6	P	
631.84	-5			
Loose to Medium Brown Fine Sand to Coarse Gravel - Loamy with Sand Layers		5		
		4		8
		4		
		6		
		10		4
		13		
	-10			
		6		
		7		10
		8		
624.84				
Medium Brown Fine Sand to Coarse Gravel with Free Water & Sand Layers		6		
		7		18
		9		
	-15			
		6		
		9		15
		8		
		6		
		9		12
		10		
	-20			
Medium Brown Fine Sand to Coarse Gravel with Free Water & Sand Layers *(continued)* 615.34		8		
		10		11
		15		
End of Boring				
	-25			
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 6/18/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall A, West of Diehl Farm Road LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NW 1/4, SEC. 30, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.66106032, Longitude -88.478972

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 02
Station 296+07.44
Offset 58.5 ft Rt.
Ground Surface Elev. 638.18 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 623.7 ft
Upon Completion 623.2 ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill & Brown Silty Clay Loam Fill				
635.68				
Hard Brown Silty Clay Loam Fill		7		
		11	4.5	19
		12	P	
633.18	-5			
Loose to Medium Brown Fine Sand to Coarse Gravel - Loamy with Sand Layers		6		
		5		4
		3		
		7		
		12		3
		14		
	-10			
		7		
		10		3
		13		
		6		
		7		16
623.68		6		
Medium Brown Fine Sand to Coarse Gravel with Free Water & Sand Layers	-15	4		
		5		22
		8		
		10		
		10		16
		14		
	-20			
Medium Brown Fine Sand to Coarse Gravel with Free Water & Sand Layers *(continued)* 616.68		8		
		10		15
		12		
End of Boring				
	-25			
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING NOISE WALL A.GPJ IL_DOT.GDT 6/30/16

•(13)R-2([13 BR]C, [13 BR-1BR]

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 3\Projects\EP03507\DrawingData\EADsheets\EP03507-sht-NAW.dgn Default	USER NAME = woodyerjp	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 2/2/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
WALL A

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	318
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 8/5/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall B, East of Diehl Farm Road LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 30, TWP. 37N, RNG. 30, 3rd PM,
Latitude 41.66094333, Longitude -88.47826978

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE Hollow Stem Auger

STRUCT. NO.
Station

BORING NO. 01
Station 298+01.74
Offset 85.4 ft Rt.
Ground Surface Elev. 637.75 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 624.8 ft ▼
Upon Completion 624.8 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				Augered Black & Brown Silty Clay Loam Fill
635.25				
	6			Loose Brown Loamy Fine to Coarse Sand with some Fine to Coarse Gravel
	5 5		10	
-5	3			
	2 3		7	
630.75				
	5			Medium Brown Fine Sand to Coarse Gravel with Sand Layers
	7 11		4	
-10	8			
	8 8		8	
	8			
	6 6		15	Free Water at 13.0'
-15	8			
	8 7		13	
	9			
	9 6		13	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	5			Medium Brown Fine Sand to Coarse Gravel with Sand Layers *(continued)*
	6 8		16	
616.25				
				End of Boring
-25				
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING NOISE WALL B.GPJ IL_DOT.GDT 6/30/16

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 8/5/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall B, East of Diehl Farm Road LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 30, TWP. 37N, RNG. 30, 3rd PM,
Latitude 41.66092533, Longitude -88.47769726

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE Hollow Stem Auger

STRUCT. NO.
Station

BORING NO. 02
Station 299+58.08
Offset 79.9 ft Rt.
Ground Surface Elev. 640.11 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 625.1 ft ▼
Upon Completion 625.1 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				Augered Black & Brown Silty Clay Loam Fill
637.61				
	2			Stiff Brown Silty Clay Fill
	2 3	1.0 P	24	
635.61				
-5	2			Loose Brown Loamy Fine to Coarse Sand with Minor Fine to Coarse Gravel
	2 4		10	
632.61				
	3			Medium Brown Fine Sand to Coarse Gravel with Sand Layers
	4 6		5	
-10	3			
	6 9		5	
	7			
	5 6		20	
-15	5			Free Water at 15.0'
	7 9		14	
	6			
	8 8		12	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	8			Medium Brown Fine Sand to Coarse Gravel with Sand Layers *(continued)*
	8 9		16	
618.61				
				End of Boring
-25				
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING NOISE WALL B.GPJ IL_DOT.GDT 6/30/16

*(13)R-2[(13 BR)C, (13 BR-1BR]

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		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 2/2/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
WALL B

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	319
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 8/5/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall B, East of Diehl Farm Road LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 30, TWP. 37N, RNG. 30, 3rd PM,
Latitude 41.66083421, Longitude -88.47625906

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE Hollow Stem Auger

STRUCT. NO.
Station

BORING NO. 03
Station 303+52.46
Offset 82.9 ft Rt.
Ground Surface Elev. 639.48 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 625.5 ft
Upon Completion 625.5 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill, Brown Silty Clay Loam			
636.98	3		
Stiff Brown Silty Clay Loam with Loamy Sand Layers	3 3	2.0 P	17
634.98			
-5 Medium Brown Fine Sand to Coarse Gravel with Sand Layers	5		
	7 10		5
	9		
	11 14		4
-10	9		
	8 9		6
	5		
	5 6		16
Free Water at 14.0' -15	5		
	7 7		13
	9		
	8 8		11
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium Brown Fine Sand to Coarse Gravel with Sand Layers (continued)	9		
617.98	9 10		18
End of Boring			
-25			
-30			
-35			
-40			

SOIL BORING NOISE WALL B.GPJ IL_DOT.GDT 6/20/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 6/19/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall B, East of Diehl Farm Road LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 30, TWP. 37N, RNG. 30, 3rd PM,
Latitude 41.66083873, Longitude -88.47588897

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 04
Station 304+53.16
Offset 73.5 ft Rt.
Ground Surface Elev. 642.18 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 624.7 ft
Upon Completion 624.7 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill			
639.68	10		
Hard Black / Brown Silty Clay Loam Fill with CA 6 Layers / Pieces	15 10	>4.5 P	7
-5	5		
	5 6	4.5 P	16
635.18			
Medium Brown Fine Sand to Coarse Gravel with Sand Layers	6		
	10 9		3
-10	9		
	14 15		3
	6		
	9 10		4
-15	5		
	6 9		14
	6		
	7 10		17
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium Brown Fine Sand to Coarse Gravel with Sand Layers (continued)	7		
620.68	7 10		15
End of Boring			
-25			
-30			
-35			
-40			

SOIL BORING NOISE WALL B.GPJ IL_DOT.GDT 6/20/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

•(13)R-2[(13 BR)C, (13 BR-1BR)

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		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 2/2/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
WALL B

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	320
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 8/6/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall C, West of Center Parkway LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.65811997, Longitude -88.44870669

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 03
Station 379+80.12
Offset 65.1 ft Rt.
Ground Surface Elev. 638.10 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 620.6 ft
Upon Completion 620.1 ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill, Brown Silty Clay				
635.60				
		3		
Very Stiff Brown Silty Clay		3 4	3.0 P	26
633.60				
Medium Brown Fine Sand to Coarse Gravel with some Sand Layers	-5	5		
		8 9		5
		4		
		6 11		6
	-10	10		
		15 15		4
		8		
		9 11		5
	-15	5		
		7 9		13
		6		
		10 11		17
	-20			
Medium Brown Fine Sand to Coarse Gravel with some Sand Layers *(continued)*		7 11 15		20
616.60				
End of Boring				
	-25			
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 8/6/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall C, West of Center Parkway LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM,
Latitude 41.65806024, Longitude -88.44825975

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 04
Station 381+03.03
Offset 63.9 ft Rt.
Ground Surface Elev. 637.64 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 620.6 ft
Upon Completion 620.6 ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill, Brown Silty Clay / Silty Clay Loam Fill				
635.14				
		3		
Very Stiff Brown Silty Clay Loam / Silty Clay Fill		4 6	2.5 P	22
633.14				
Medium Brown Fine Sand to Coarse Gravel with some Sand Layers	-5	5		
		7 8		5
		11		
		14 16		4
	-10	10		
		7 7		4
		11		
		10 12		10
	-15	7		
		8 10		12
		10		
		10 10		11
	-20			
Medium Brown Fine Sand to Coarse Gravel with some Sand Layers *(continued)*		10 11 10		13
616.14				
End of Boring				
	-25			
	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

•(13)R-2[(13 BR)C, (13 BR-1BR]

SOIL BORING NOISE WALL C.GPJ IL_DOT.GDT 6/20/16

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
WALL C

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	321
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 6/24/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall C, West of Center Parkway LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NW 1/4, SEC. 28, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.6578468, Longitude -88.44675857

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 01
Station 385+19.35
Offset 74.2 ft Rt.
Ground Surface Elev. 639.09 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 624.1 ft
Upon Completion 624.1 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill			
636.59			
Stiff Black & Brown Silty Clay Loam Fill	1		
	2 2	1.5 P	25
634.09 -5			
Stiff Brown Sandy Loam	3		
	2 2	1.0 P	16
632.59			
Medium Brown Fine Sand to Coarse Gravel with Sand Layers	5		
	6 6		5
-10	4		
	5 5		5
	5		
	7 7		5
Free Water at 15.0' -15	3		
	5 7		17
	5		
	6 7		17
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium Brown Fine Sand to Coarse Gravel with Sand Layers (continued)	5		
	7 8		18
617.59			
End of Boring			
-25			
-30			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING NOISE WALL C.GPJ IL_DOT.GDT 6/20/16

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 6/24/15

ROUTE FAP 591 (US 34) DESCRIPTION Noise Wall C, West of Center Parkway LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.65797603, Longitude -88.44761373

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.
Station

BORING NO. 02
Station 382+81.14
Offset 65.0 ft Rt.
Ground Surface Elev. 637.76 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 622.8 ft
Upon Completion 622.8 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Fill			
635.26			
Very Stiff Brown Silty Clay Loam Fill	2		
	2 4	2.0 P	23
633.26			
Loose to Medium Brown Fine Sand to Coarse Gravel with Sand Layers -5	2		
	3 5		6
	7		
	11 16		4
-10	6		
	11 14		4
	5		
	8 9		6
Free Water at 15.0' -15	5		
	7 9		16
	5		
	8 9		18
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Loose to Medium Brown Fine Sand to Coarse Gravel with Sand Layers (continued)	6		
	10 10		13
616.26			
End of Boring			
-25			
-30			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING NOISE WALL C.GPJ IL_DOT.GDT 6/20/16

•(13)R-2{(13 BR)C, (13 BR-1BR]

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
WALL C

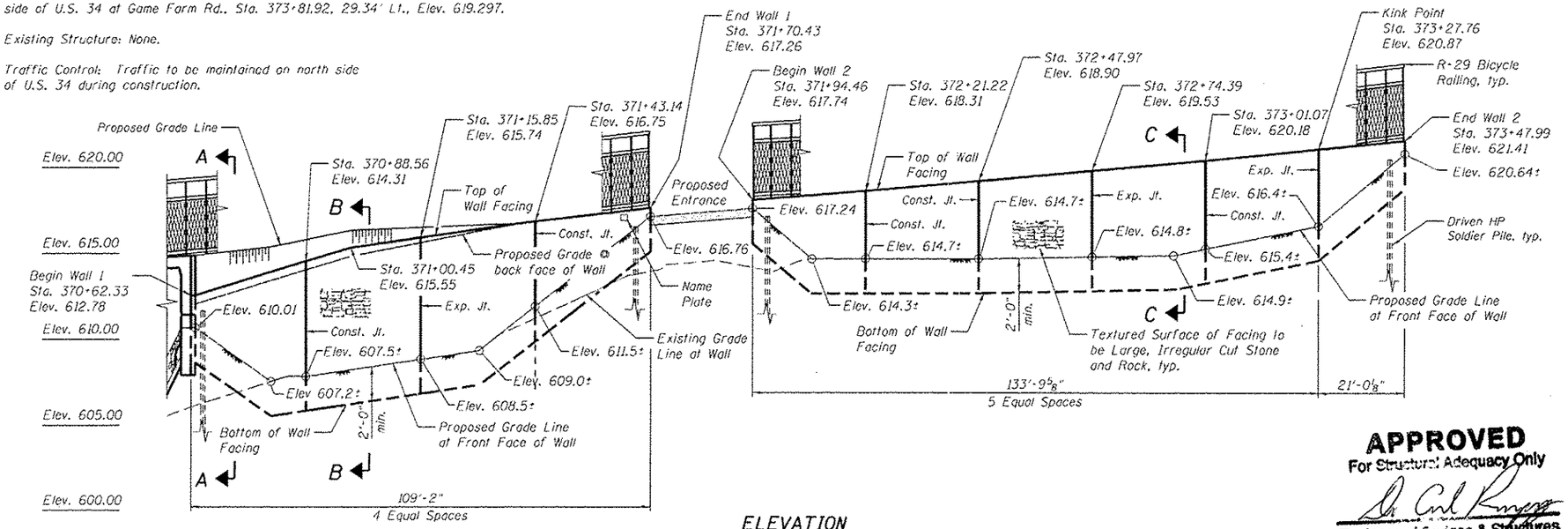
SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	322
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

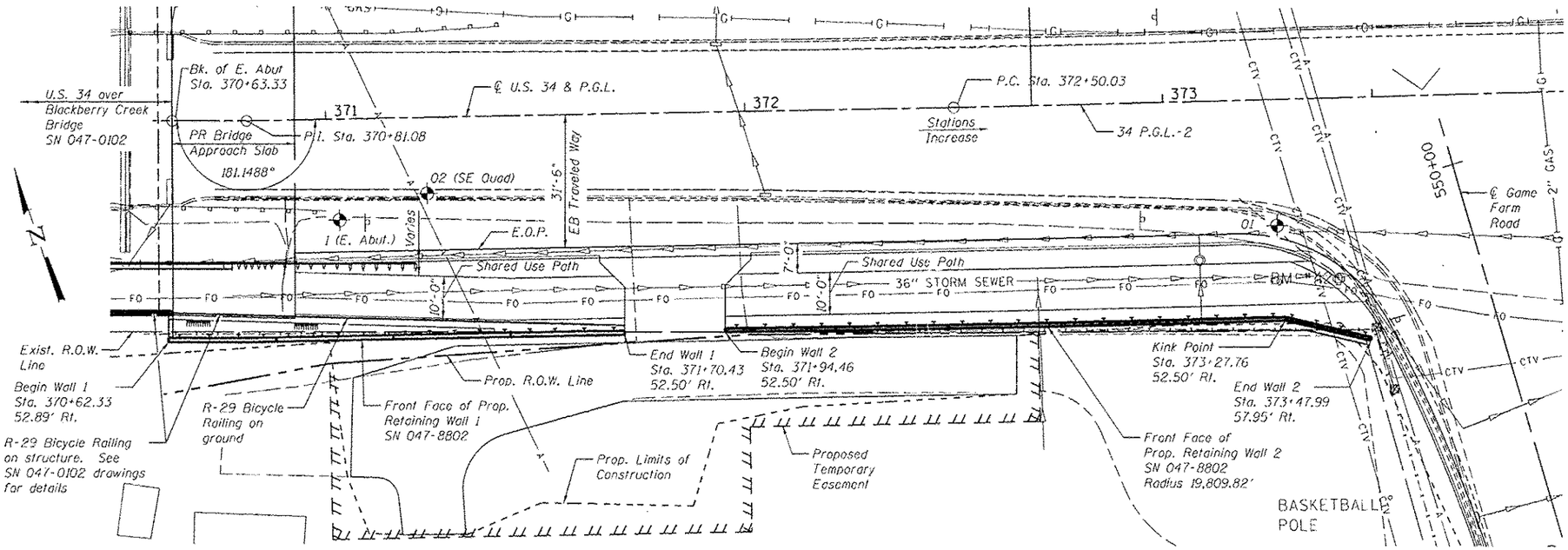
Bench Mark 230: Chiseled "□" cut on north side of east mast arm foundation, north side of U.S. 34 at Game Farm Rd., Sta. 373+81.92, 29.34' Lt., Elev. 619.297.

Existing Structure: None.

Traffic Control: Traffic to be maintained on north side of U.S. 34 during construction.



ELEVATION



PLAN

DESIGN SPECIFICATIONS

AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi (Cast-in-Place)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50) (Soldier Piles)

NOTES:

1. Horizontal dimensions and length measured along Front Face of Concrete Facing.
2. Stations and offsets are given to Front Face of Concrete Facing relative to ℄ U.S. 34 & P.G.L.

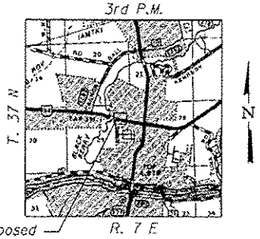
APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

STATE OF ILLINOIS
HOSSAM M. ABOU-ZEID
081-005537
REGISTERED STRUCTURAL ENGINEER

EXP. DATE: 11-30-2018
DATE: 01-18-2017

LEGEND:

- FO — Underground Telephone
- G — Underground Gasline
- A — Aerial Lines
- Existing Fence
- Storm Sewer
- E — Underground Electric
- CTV — Underground Cable TV
- Soil Boring



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
RETAINING WALLS 1 & 2
F.A.P. 591 (U.S. 34)
SEC. (13 BR-1)BR
KENDALL COUNTY
STATION 370+62.33 TO 373+48.13
STRUCTURE NO. 047-8802

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 047-8802
SHEET NO. RW-01 OF RW-11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	535	323
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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GENERAL NOTES

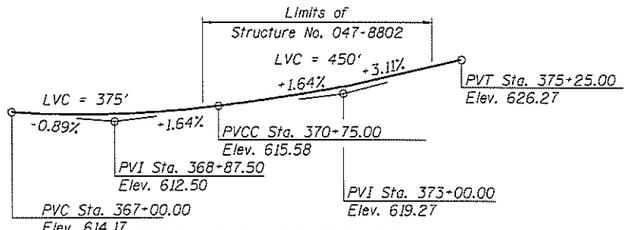
1. All structural steel shall be AASHTO M 270 Grade 50.
2. No field welding is permitted except as specified in the contract documents.
3. Reinforcement bars designated (E) shall be epoxy coated.
4. Elevations shall be verified in the field and may be adjusted as directed by the Engineer.
5. The Contractor is responsible for the design and performance of the lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi.

INDEX OF SHEETS

RW-01	General Plan and Elevation
RW-02	General Data
RW-03	Wall Plan and Elevation Details (1 of 4)
RW-04	Wall Plan and Elevation Details (2 of 4)
RW-05	Wall Plan and Elevation Details (3 of 4)
RW-06	Wall Plan and Elevation Details (4 of 4)
RW-07	Solider Pile Wall Details
RW-08	Soldier Pile Data Table and Bar List
RW-09	Bicycle Railing
RW-10	HP Pile Details
RW-11	Soil Borings

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	50
Concrete Structures	Cu. Yd.	64.8
Stud Shear Connectors	Each	255
Reinforcement Bars, Epoxy Coated	Pound	8,340
Bicycle Railing	Foot	155
Pile Shoes	Each	42
Name Plate	Each	1
Furnishing Soldier Piles (HP Section)	Foot	1,337
Driving Solider Piles	Foot	1,337
Untreated Timber Lagging	Sq. Ft.	1,142
Concrete Sealer	Sq. Ft.	1,484
Geocomposite Wall Drain	Sq. Yd.	743
Pipe Underdrains for Structures, 4"	Foot	285
Form Liner Textured Surface (Special)	Sq. Ft.	1,483
Bicycle Railing (Ground Mounted)	Foot	78



PROFILE GRADE U.S. 34

(Along ℄ U.S. 34)

CURVE DATA 34 P.G.L.-2

(U.S. 34)

PI STA. = 373+49.97
Δ = 0° 34' 47" (LT)
D = 0° 17' 24"
R = 19,757.32'
T = 99.94'
L = 199.87'
E = 0.25'
P.C. STA = 372+50.03
P.T. STA = 374+49.91

STATION 370+62.33 TO
373+48.13
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. 591-SEC. (13 BR-1)BR
STR. NO. 047-8802

NAME PLATE

See Std. 515001

benesch
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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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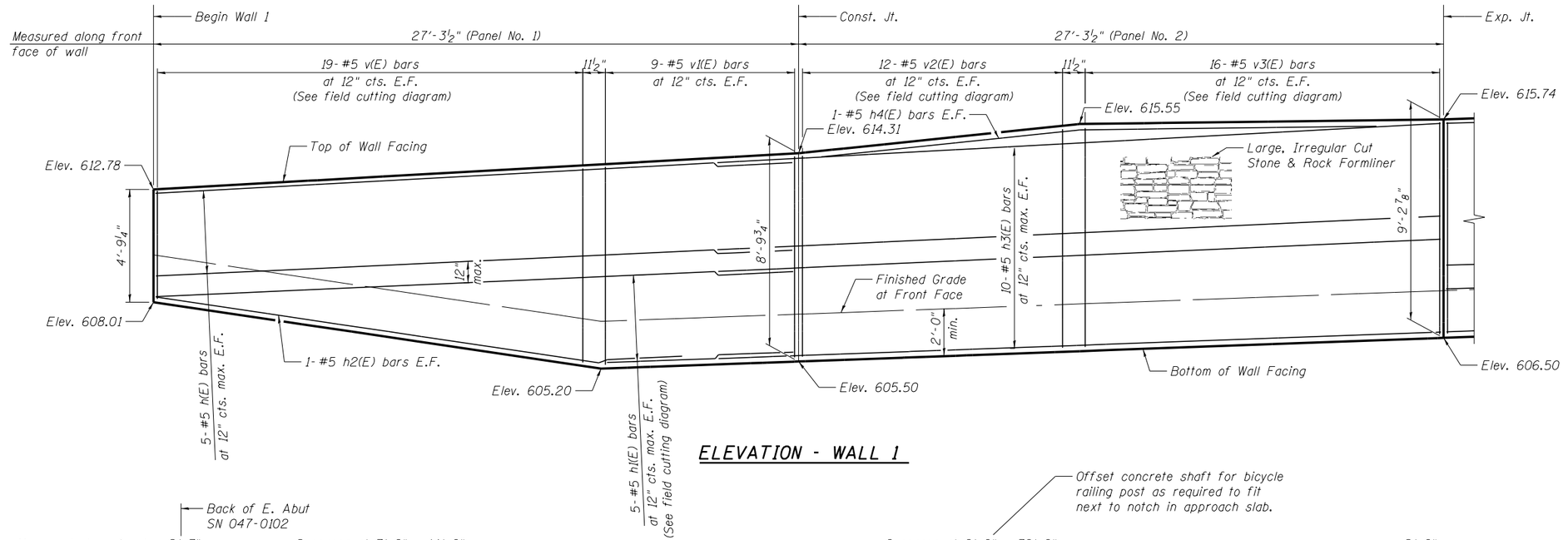
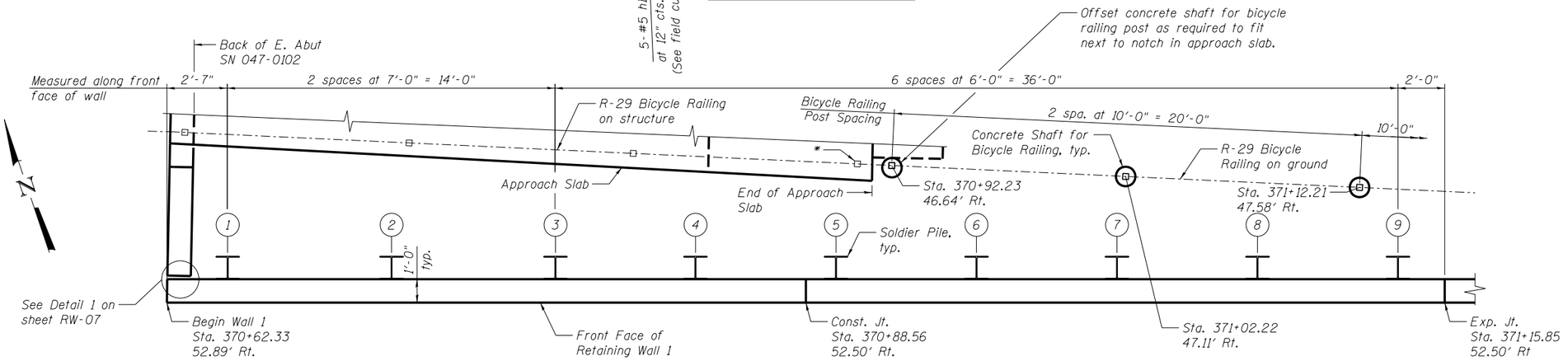


ELEVATION - WALL 1



PLAN - WALL 1

* See sheet S15 of S38 for Bicycle Railing on Blackberry Creek Bridge approach slab, S.N. 047-0102

MIN. BAR LAP LENGTH

#5 bar = 3'-7"

NOTES:

1. Reinforcement in wall shall be spaced to miss shear studs.
2. See Sheet RW-07 for Form Liner Details
3. See Sheet RW-08 for Bar List, Field Cutting Diagram and Bar Bends
4. E.F. denotes Each Face

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL PLAN AND ELEVATION DETAILS (1 of 4)
STRUCTURE NO. 047-8802
SHEET NO. RW-03 OF RW-11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	325
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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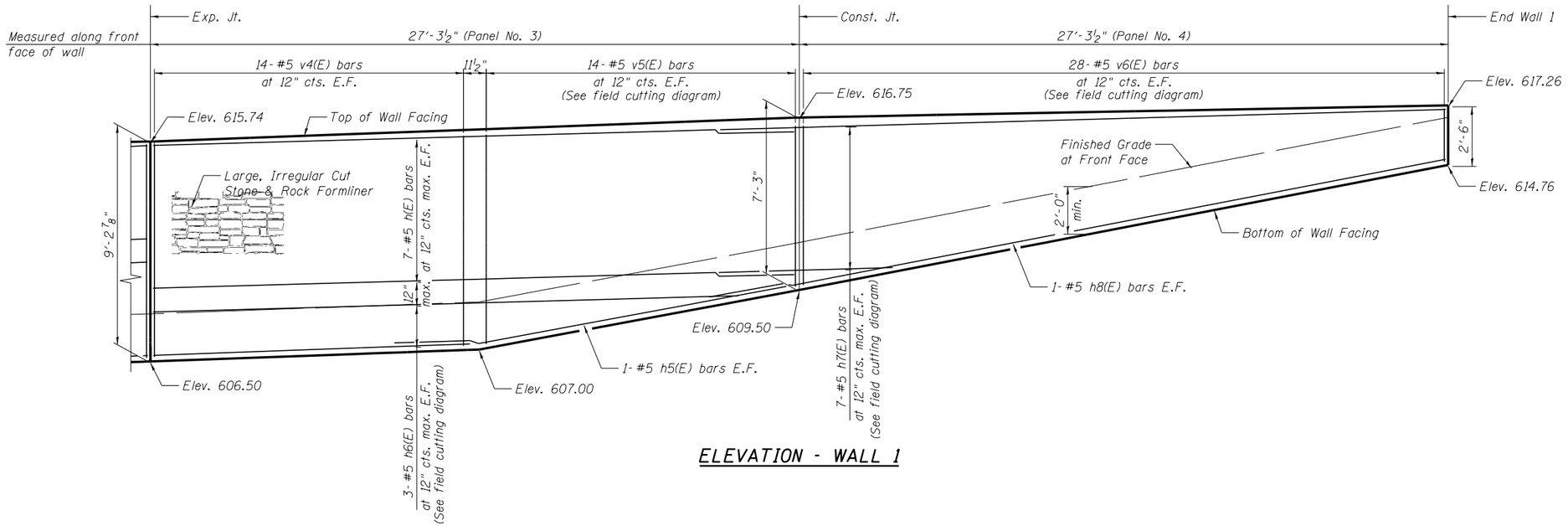
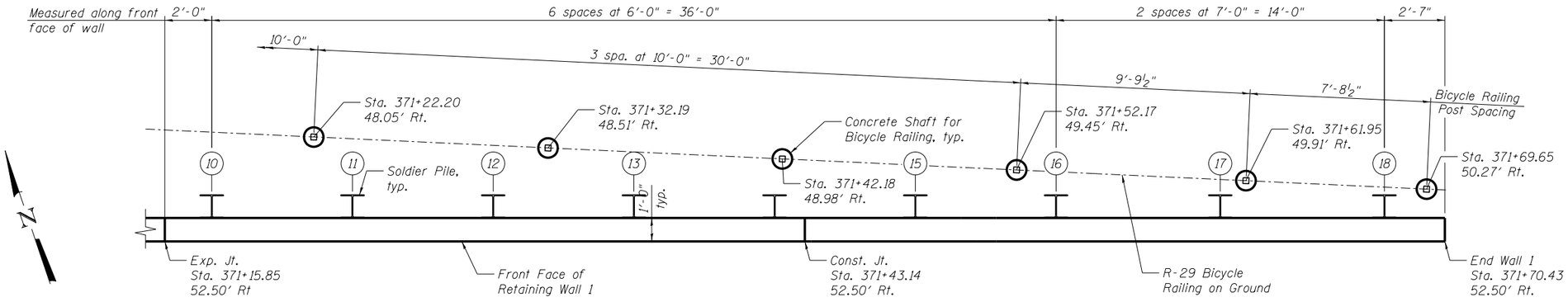


ELEVATION - WALL 1



PLAN - WALL 1

MIN. BAR LAP LENGTH

#5 bar = 3'-7"

NOTES:

1. Reinforcement in wall shall be spaced to miss shear studs.
2. See Sheet RW-07 for Form Liner Details
3. See Sheet RW-08 for Bar List, Field Cutting Diagram and Bar Bends
4. E.F. denotes Each Face

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL PLAN AND ELEVATION DETAILS (2 of 4)
STRUCTURE NO. 047-8802
SHEET NO. RW-04 OF RW-11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	326
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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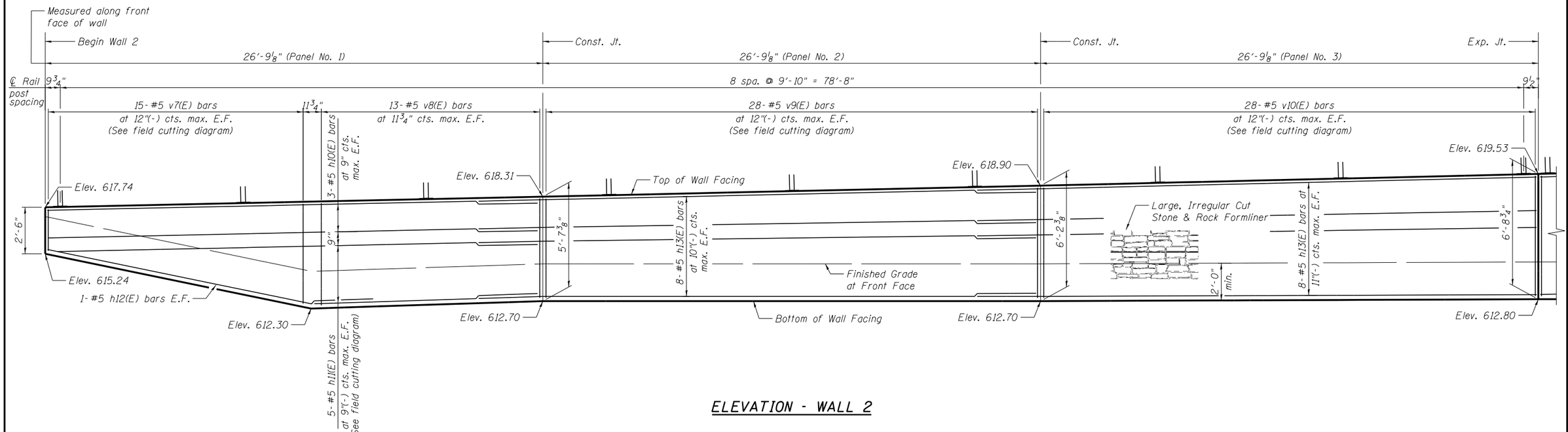
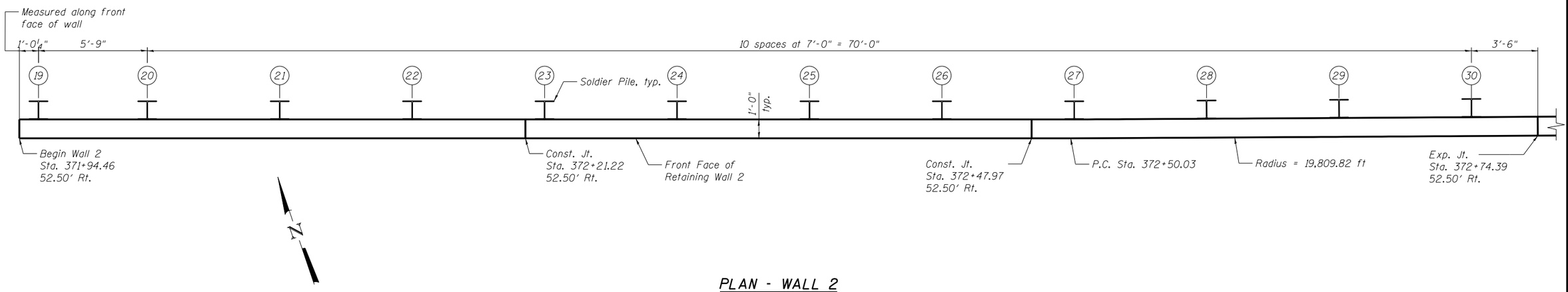


ELEVATION - WALL 2



PLAN - WALL 2

MIN. BAR LAP LENGTH

#5 bar = 3′-7"

NOTES:

1. Reinforcement in wall shall be spaced to miss shear studs.
2. See Sheet RW-07 for Form Liner Details
3. See Sheet RW-08 for Bar List, Field Cutting Diagram and Bar Bends
4. E.F. denotes Each Face

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205 North Michigan Avenue, Suite 2400
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL PLAN AND ELEVATION DETAILS (3 of 4)
STRUCTURE NO. 047-8802
SHEET NO. RW-05 OF RW-11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	327
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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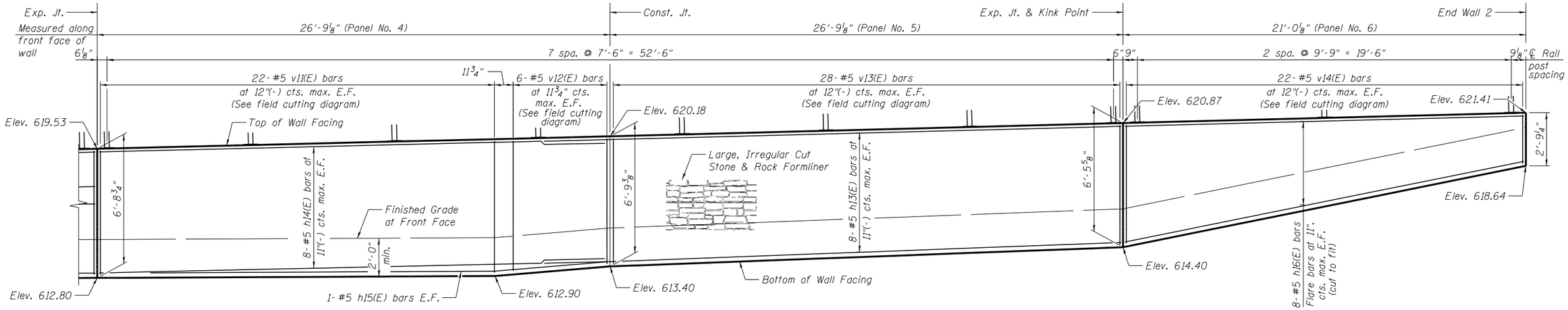
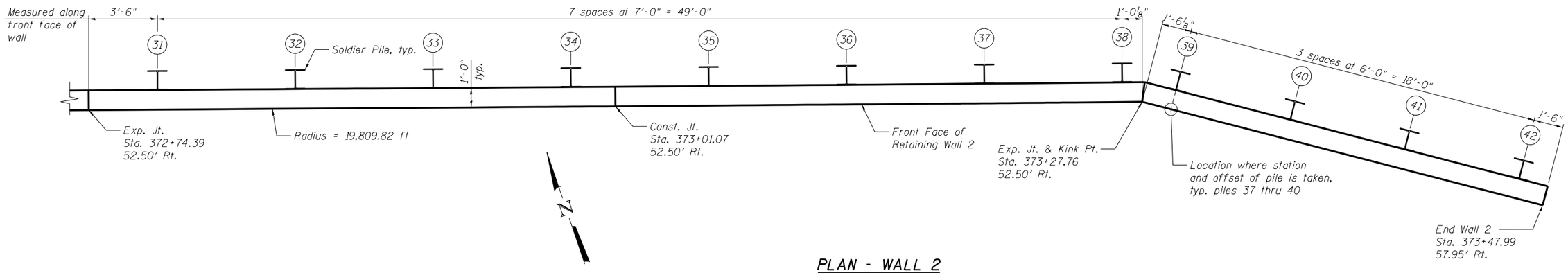


ELEVATION - WALL 2



PLAN - WALL 2

MIN. BAR LAP LENGTH

#5 bar = 3'-7"

NOTES:

1. Reinforcement in wall shall be spaced to miss shear studs.
2. See Sheet RW-07 for Form Liner Details
3. See Sheet RW-08 for Bar List, Field Cutting Diagram and Bar Bends
4. E.F. denotes Each Face

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL PLAN AND ELEVATION DETAILS (4 of 4)
STRUCTURE NO. 047-8802
SHEET NO. RW-06 OF RW-11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	328
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		

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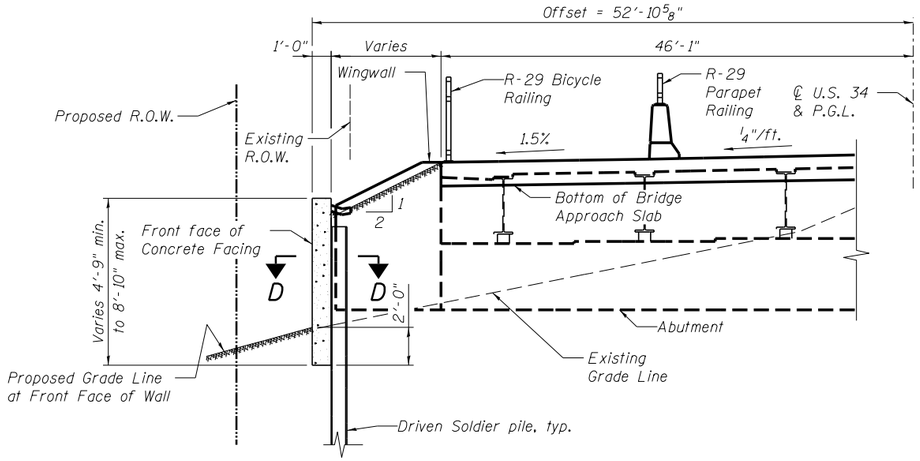
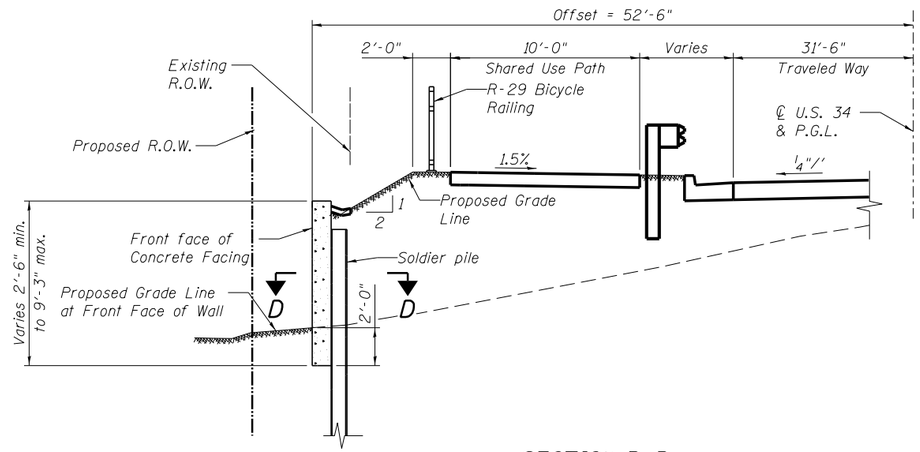


SECTION A-A

(See Detail E)



SECTION B-B

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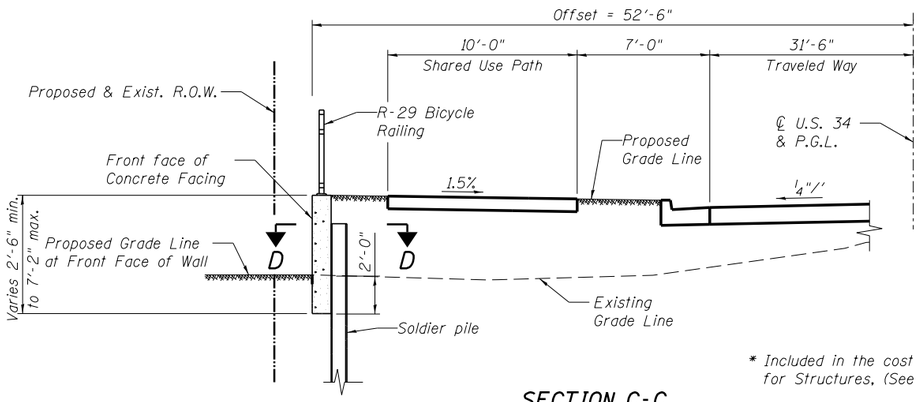

SECTION C-C

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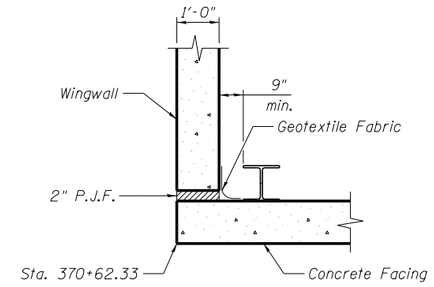

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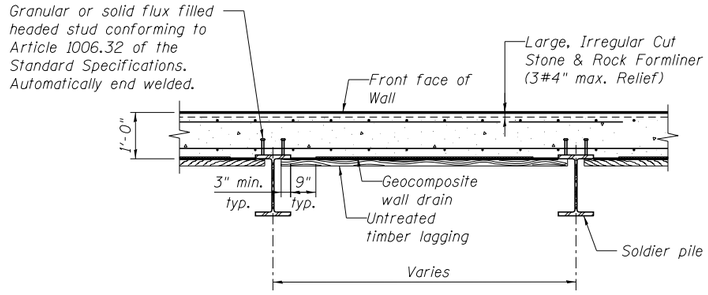
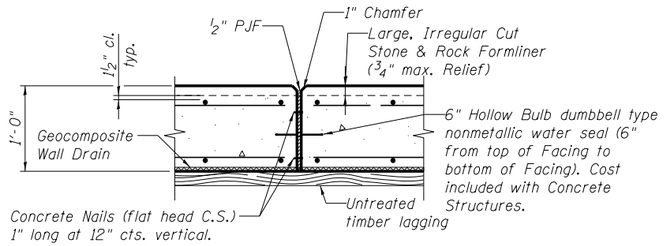
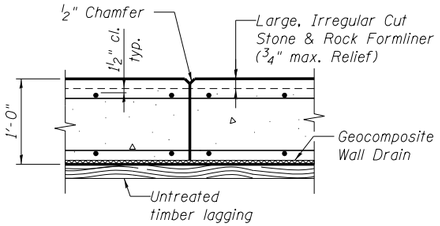


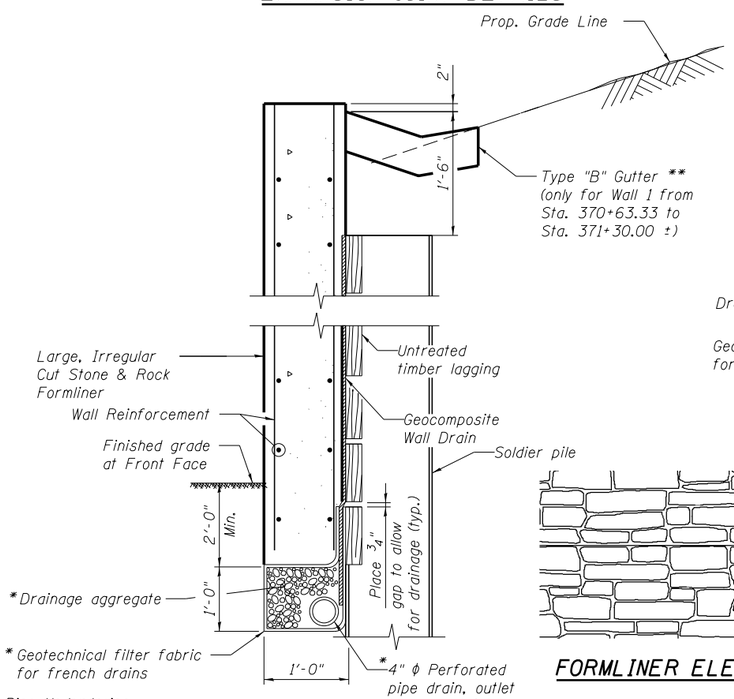
SECTION D-D



EXPANSION JOINT DETAILS

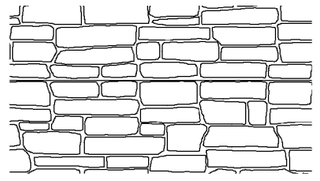


CONSTRUCTION JOINT DETAILS



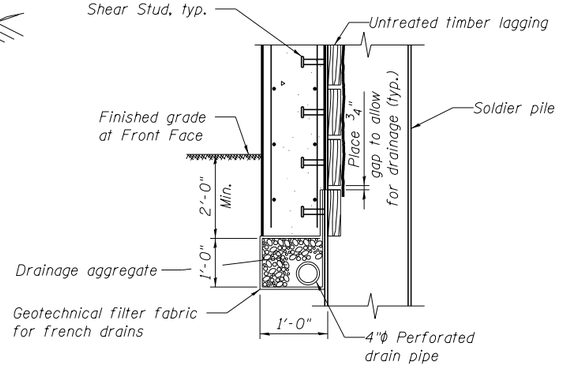
DETAIL E

(Between Soldier Piles)

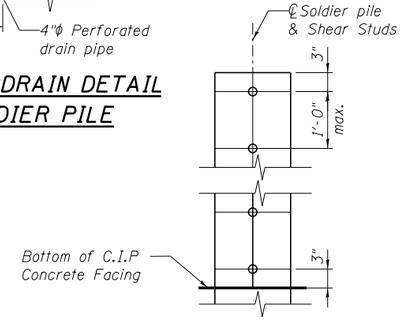


FORMLINER ELEVATION

FORMLINER SECTION



PIPE UNDERDRAIN DETAIL AT SOLDIER PILE



SHEAR STUD CONNECTORS LAYOUT

Note:
Use a minimum of 3 shear studs per pile.

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

** Drain the gutter near Sta. 370+65.00± using a vertical drain, no surface water to be drained into aggregate/pipe system.

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FILE NAME = 0478802_66993_007_PileWallDetails.dgn	USER NAME = habdou	DESIGNED - NG	REVISED -
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	PLOT DATE = 01\23\2017	CHECKED - SLV	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE WALL DETAILS
STRUCTURE NO. 047-8802
SHEET NO. RW-07 OF RW-11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	329
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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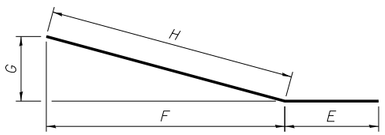
PILE DATA TABLE - WALL 1

Pile Number	Pile Size	Station At F.F.	Offset At F.F.	Top Of Pile Elev.	Finished Grade Elev. At F.F.	Pile Tip Elev.	Length Of Pile	No. Of Shear Studs
1	HP14x89	370+64.91	52.83' Rt.	611.26	609.60	582.10	29.00'	5
2	HP14x89	370+71.91	52.68' Rt.	611.67	608.50	581.00	31.00'	6
3	HP14x89	370+78.90	52.53' Rt.	612.08	607.41	575.91	36.00'	8
4	HP14x102	370+83.85	52.50' Rt.	612.37	607.33	571.83	41.00'	8
5	HP14x102	370+89.85	52.50' Rt.	612.78	607.55	572.05	41.00'	8
6	HP14x102	370+95.85	52.50' Rt.	613.40	607.77	572.27	41.00'	9
7	HP14x102	371+01.85	52.50' Rt.	613.90	607.99	572.49	41.00'	9
8	HP14x102	371+07.85	52.50' Rt.	613.97	608.21	572.71	41.00'	9
9	HP14x102	371+13.85	52.50' Rt.	614.05	608.43	572.93	41.00'	9
10	HP14x102	371+17.85	52.50' Rt.	614.15	608.57	573.07	41.00'	9
11	HP14x102	371+23.85	52.50' Rt.	614.37	608.79	573.29	41.00'	9
12	HP14x102	371+29.85	52.50' Rt.	614.59	609.03	573.53	41.00'	9
13	HP14x102	371+35.85	52.50' Rt.	614.81	610.15	574.65	40.00'	8
14	HP14x89	371+41.85	52.50' Rt.	615.04	611.26	580.26	35.00'	7
15	HP14x89	371+47.85	52.50' Rt.	615.17	612.41	583.41	32.00'	6
16	HP14x89	371+53.85	52.50' Rt.	615.28	613.56	587.06	28.00'	5
17	HP14x89	371+60.85	52.50' Rt.	615.41	614.91	592.41	23.00'	4
18	HP14x89	371+67.85	52.50' Rt.	615.55	616.26	593.76	22.00'	3

PILE DATA TABLE - WALL 2

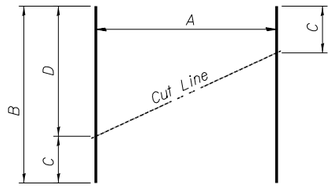
Pile Number	Pile Size	Station At F.F.	Offset At F.F.	Top Of Pile Elev.	Finished Grade Elev. At F.F.	Pile Tip Elev.	Length Of Pile	No. Of Shear Studs
19	HP14x73	371+95.48	52.50' Rt.	616.09	617.03	596.53	20.00'	3
20	HP14x73	372+01.23	52.50' Rt.	616.22	615.85	595.35	21.00'	3
21	HP14x73	372+08.23	52.50' Rt.	616.37	614.41	586.41	30.00'	5
22	HP14x73	372+15.23	52.50' Rt.	616.52	614.51	586.51	30.00'	5
23	HP14x73	372+22.23	52.50' Rt.	616.67	614.70	586.70	30.00'	5
24	HP14x73	372+29.23	52.50' Rt.	616.82	614.70	586.70	30.00'	5
25	HP14x73	372+36.23	52.50' Rt.	616.97	614.70	586.70	30.00'	5
26	HP14x73	372+43.23	52.50' Rt.	617.13	614.70	586.70	30.00'	5
27	HP14x73	372+49.95	52.50' Rt.	617.28	614.71	586.71	31.00'	6
28	HP14x73	372+56.93	52.50' Rt.	617.45	614.73	586.73	31.00'	6
29	HP14x73	372+63.92	52.50' Rt.	617.61	614.76	586.76	31.00'	6
30	HP14x73	372+70.89	52.50' Rt.	617.78	614.79	586.79	31.00'	6
31	HP14x73	372+77.87	52.50' Rt.	617.95	614.82	586.82	31.00'	6
32	HP14x73	372+84.85	52.50' Rt.	618.12	614.85	586.85	31.00'	6
33	HP14x73	372+91.84	52.50' Rt.	618.29	614.88	586.88	31.00'	6
34	HP14x73	372+98.82	52.50' Rt.	618.46	615.21	587.21	31.00'	6
35	HP14x73	373+05.80	52.50' Rt.	618.64	615.58	587.58	31.00'	6
36	HP14x73	373+12.79	52.50' Rt.	618.82	615.84	587.84	31.00'	6
37	HP14x73	373+19.77	52.50' Rt.	619.00	616.10	588.10	31.00'	6
38	HP14x73	373+26.75	52.50' Rt.	619.18	616.36	588.36	31.00'	6
39	HP14x73	373+29.21	52.89' Rt.	619.24	616.70	588.70	31.00'	6
40	HP14x73	373+34.99	54.45' Rt.	619.40	617.92	594.42	25.00'	4
41	HP14x73	373+40.77	56.00' Rt.	619.55	619.13	597.63	22.00'	3
42	HP14x73	373+46.55	57.56' Rt.	619.70	620.34	598.84	21.00'	3



h2(E), h4(E), h8(E), h12(E) & h15(E)

BAR DIMENSIONS

Bar	E	F	G	H
h2(E)	3'-7"	18'-6 3/4"	3'-5 1/4"	18'-10"
h4(E)	11"-0"	12'-5 7/8"	1'-1 3/4"	12'-7"
h5(E)	3'-7"	13'-4 7/8"	3'-4"	13'-7"
h12(E)	3'-7"	14'-0 1/4"	3'-4 1/4"	14'-5"
h15(E)	5'-11"	17'-10 3/8"	1'-4 7/8"	17'-11"



FIELD CUTTING DIAGRAM

Order bars full length. Cut as shown and use remainder of bars in opposite face.

FIELD CUTTING BAR TABLE

A	B	C	D
5-#5 h1(E) bars	35'-3"	8'-3"	27'-0"
3-#5 h6(E) bars	38'-0"	13'-7"	24'-5"
7-#5 h7(E) bars	38'-2"	7'-3"	30'-11"
5-#5 h11(E) bars	38'-2"	12'-3"	25'-11"
19-#5 v(E) bars	12'-4"	4'-4"	8'-0"
12-#5 v2(E) bars	17'-4"	8'-4"	9'-0"
16-#5 v3(E) bars	17'-11"	8'-10"	9'-1"
14-#5 v5(E) bars	15'-3"	6'-7"	8'-8"
28-#5 v6(E) bars	8'-7"	2'-1"	6'-6"
15-#5 v7(E) bars	7'-4"	2'-1"	5'-3"
28-#5 v9(E) bars	10'-11"	5'-2"	5'-9"
28-#5 v10(E) bars	12'-1"	5'-9"	6'-4"
22-#5 v11(E) bars	13'-1"	6'-4"	6'-9"
6-#5 v12(E) bars	13'-0"	6'-4"	6'-8"
28-#5 v13(E) bars	12'-4"	6'-0"	6'-4"
22-#5 v14(E) bars	8'-4"	2'-4"	6'-0"

BAR LIST - WALL 1

Bar	No.	Size	Length	Shape
h(E)	24	#5	27'-0"	
h1(E)	5	#5	35'-3"	
h2(E)	2	#5	22'-0"	
h3(E)	20	#5	30'-11"	
h4(E)	2	#5	23'-7"	
h5(E)	2	#5	17'-2"	
h6(E)	3	#5	38'-0"	
h7(E)	7	#5	38'-2"	
h8(E)	2	#5	31'-5"	
v(E)	19	#5	12'-4"	
v1(E)	18	#5	8'-3"	
v2(E)	12	#5	17'-4"	
v3(E)	16	#5	17'-11"	
v4(E)	28	#5	8'-9"	
v5(E)	14	#5	15'-3"	
v6(E)	28	#5	8'-7"	

BAR LIST - WALL 2

Bar	No.	Size	Length	Shape
h10(E)	6	#5	26'-5"	
h11(E)	5	#5	38'-2"	
h12(E)	2	#5	18'-0"	
h13(E)	48	#5	30'-4"	
h14(E)	16	#5	26'-7"	
h15(E)	2	#5	23'-10"	
h16(E)	16	#5	21'-0"	
v7(E)	15	#5	7'-4"	
v8(E)	26	#5	5'-3"	
v9(E)	28	#5	10'-11"	
v10(E)	28	#5	12'-1"	
v11(E)	22	#5	13'-1"	
v12(E)	6	#5	13'-0"	
v13(E)	28	#5	12'-4"	
v14(E)	22	#5	8'-4"	

NOTES:

1. Bottom of panel shall be placed at a minimum of 2'-0" below proposed ground line.
2. Elevations shall be verified in the field and may be adjusted as directed by the Engineer.
3. F.F. denotes front face.
4. Stations and offsets for piles taken at F.F. of wall.

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312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE DATA TABLE AND BAR LIST
STRUCTURE NO. 047-8802
SHEET NO. RW-08 OF RW-11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	330
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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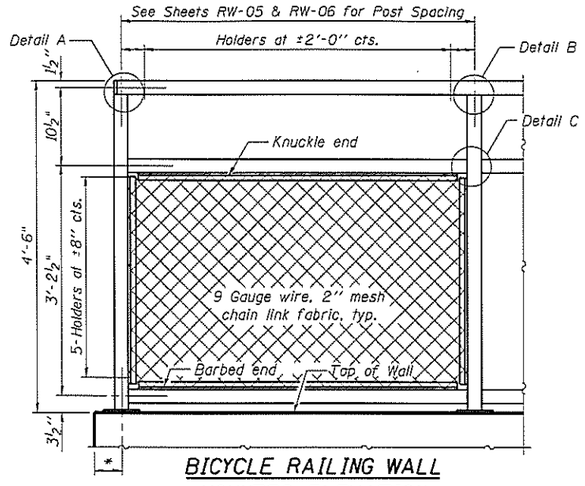
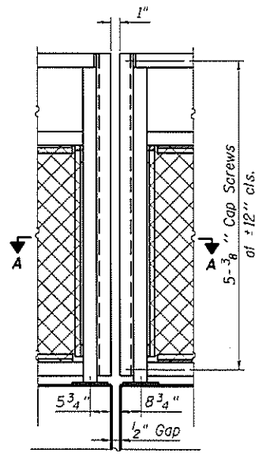
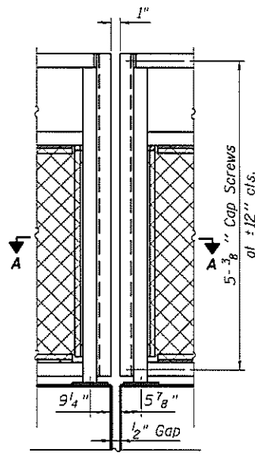


BICYCLE RAILING WALL MOUNTED ELEVATION

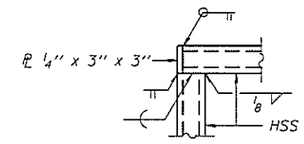
* $9\frac{3}{4}$" Beginning of Wall 2
$9\frac{1}{8}$" End of Wall 2



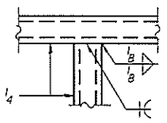
BICYCLE RAILING WALL MOUNTED ELEVATION AT WALL KINK
(Measurements Taken Along ℄ Railing)



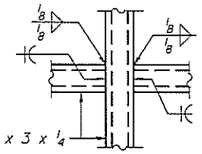
BICYCLE RAILING WALL MOUNTED ELEVATION AT CENTER EXP. JOINT WALL 2
(Measurements Taken Along ℄ Railing)



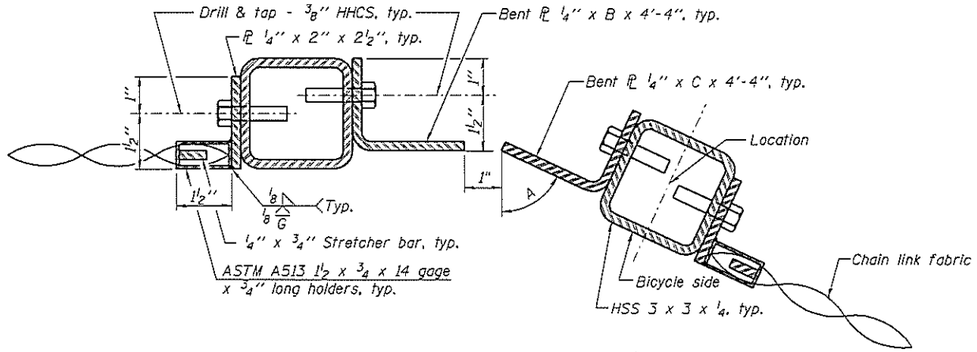
DETAIL A



DETAIL B



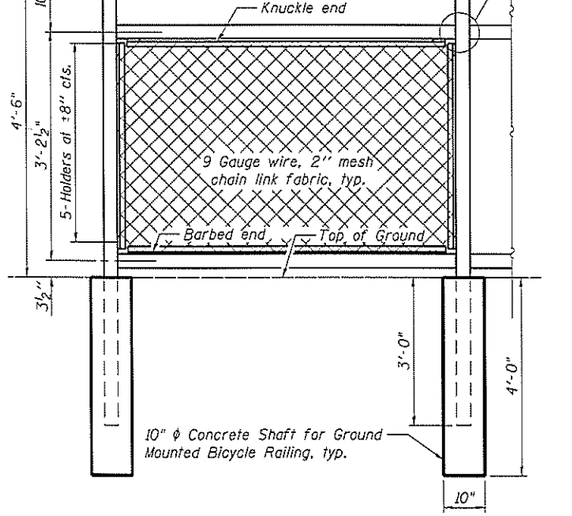
DETAIL C



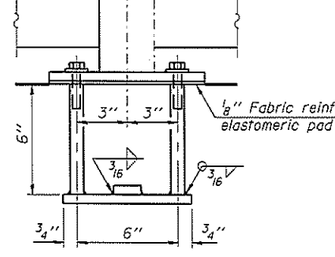
SECTION A-A

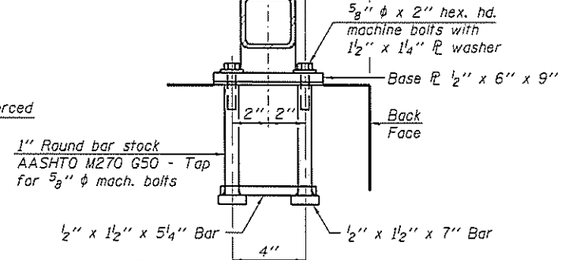
Location**	A	B	C
Sta. 370+92.23	90°0'00"	$9\frac{3}{8}$"*	$9\frac{3}{8}$"
Sta. 372+74.90	90°0'00"	8"	8"
Sta. 373+28.61	75°0'23"	$6\frac{1}{4}$"	$9\frac{1}{4}$"

* See sheet S17 for detail of last post on bridge approach slab, SN 047-0102.
** Stations provided are for posts located upstation at the expansion joints.



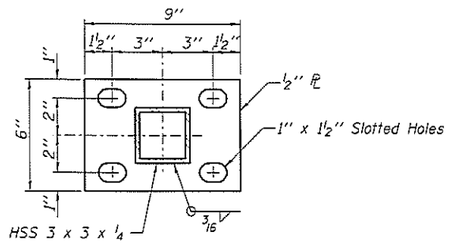
BICYCLE RAILING (GROUND MOUNTED) ELEVATION
(See Special Provisions)



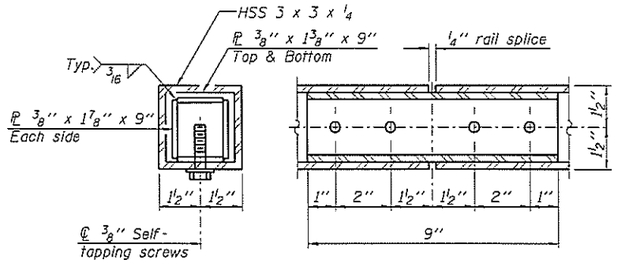


ANCHOR BOLT DETAILS

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



BASE ℄



RAIL SPLICE

NOTE:

1. *All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.*
2. *All structural steel tubing, post and railing, for parapet railing shall be CVN tested according to 1006.34(b) of the Standard Specifications.*
3. *For details of bicycle railing not shown here, See Sheet S17 of S38, US 34 over Blackberry Creek.*
4. *Railing shall be installed behind Wall 1 and on top of Wall 2.*

BILL OF MATERIAL

Item	Unit	Quantity
Bicycle Railing	Foot	155
Bicycle Railing (Ground Mounted)	Foot	78

(10'-0" Maximum Post Spacing)

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312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BICYCLE RAILING
STRUCTURE NO. 047-8802
SHEET NO. RW-09 OF RW-11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	1331
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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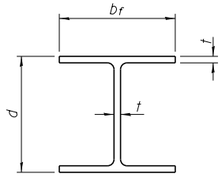
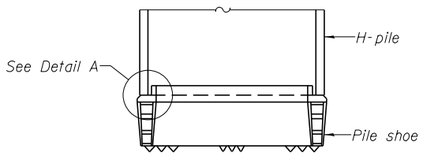
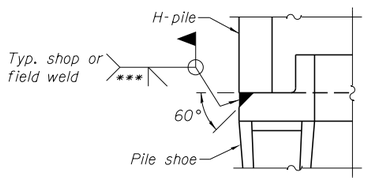


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	$14\frac{1}{4}''$	$14\frac{7}{8}''$	$\frac{13}{16}''$	30''
x102	14''	$14\frac{3}{4}''$	$\frac{11}{16}''$	30''
x89	$13\frac{7}{8}''$	$14\frac{3}{4}''$	$\frac{5}{8}''$	30''
x73	$13\frac{5}{8}''$	$14\frac{5}{8}''$	$\frac{1}{2}''$	30''
HP 12x84	$12\frac{1}{4}''$	$12\frac{1}{4}''$	$\frac{11}{16}''$	24''
x74	$12\frac{1}{8}''$	$12\frac{1}{4}''$	$\frac{5}{8}''$	24''
x63	12''	$12\frac{1}{8}''$	$\frac{1}{2}''$	24''
x53	$11\frac{3}{4}''$	12''	$\frac{7}{16}''$	24''
HP 10x57	10''	$10\frac{1}{4}''$	$\frac{9}{16}''$	24''
x42	$9\frac{3}{4}''$	$10\frac{1}{8}''$	$\frac{7}{16}''$	24''
HP 8x36	8''	$8\frac{1}{8}''$	$\frac{7}{16}''$	18''

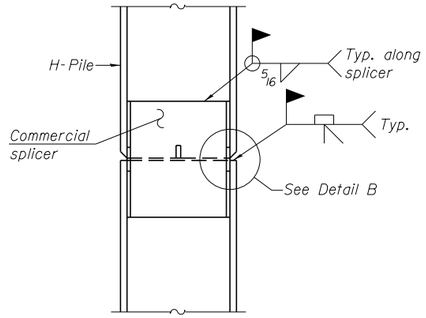


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



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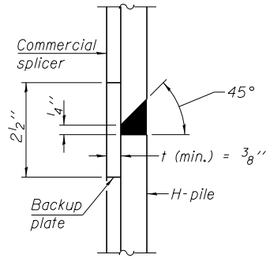
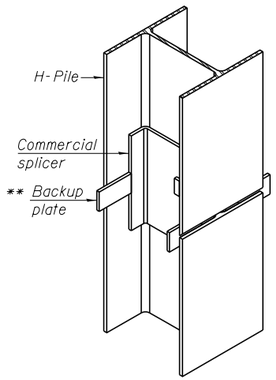
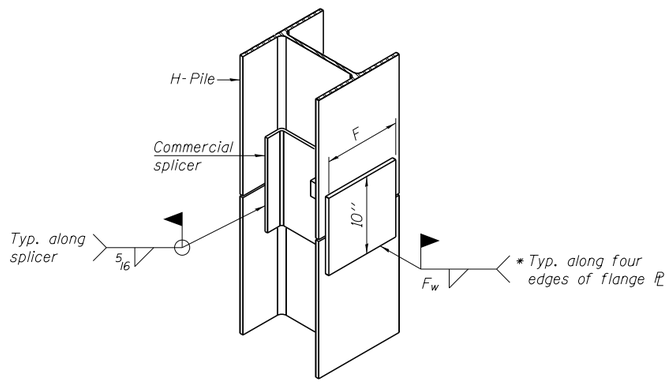


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



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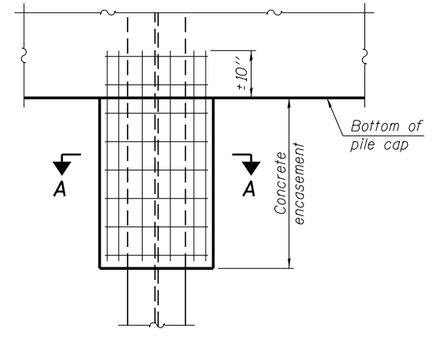
WELDED COMMERCIAL SPLICE ALTERNATE



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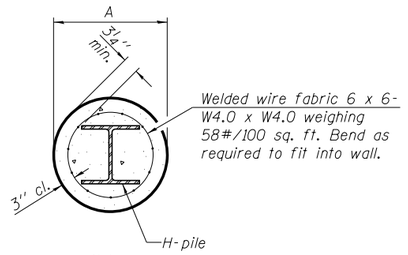
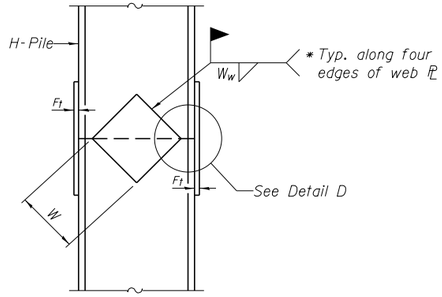


Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT



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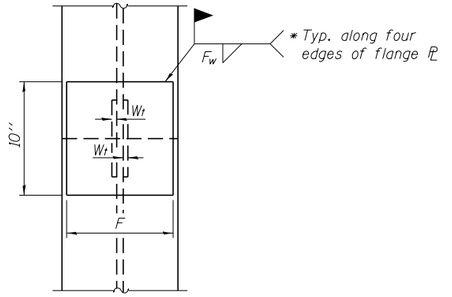
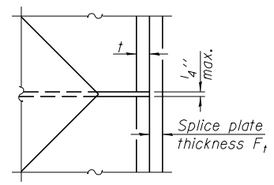


END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	$12\frac{1}{2}''$	1''	$\frac{7}{8}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x102	$12\frac{1}{2}''$	$\frac{7}{8}''$	$\frac{3}{4}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x89	$12\frac{1}{2}''$	$\frac{3}{4}''$	$\frac{11}{16}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x73	$12\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{9}{16}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
HP 12x84	10''	$\frac{7}{8}''$	$\frac{11}{16}''$	$6\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x74	10''	$\frac{7}{8}''$	$\frac{11}{16}''$	$6\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x63	10''	$\frac{5}{8}''$	$\frac{1}{2}''$	$6\frac{1}{2}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
x53	10''	$\frac{5}{8}''$	$\frac{1}{2}''$	$6\frac{1}{2}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
HP 10x57	8''	$\frac{3}{4}''$	$\frac{9}{16}''$	$5\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
x42	8''	$\frac{5}{8}''$	$\frac{9}{16}''$	$5\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
HP 8x36	7''	$\frac{5}{8}''$	$\frac{7}{16}''$	$4\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$

WELDED PLATE FIELD SPLICE

* Interrupt welds $\frac{1}{4}''$ from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer ($\frac{5}{16}''$ min.).

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

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

F-HP 1-27-12

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	PLOT DATE = 01\23\2017	CHECKED - SLV	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 047-8802
SHEET NO. RW-10 OF RW-11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	332
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		

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Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 5/19/15

ROUTE US 34 (FAP 591) DESCRIPTION Retaining Wall on South Side of US 34 between SN 047-0102 and Game Farm Road LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.65864384, Longitude -88.45101231

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-8802
Station

BORING NO. 01
Station 373+26.59
Offset 29.9 ft Rt.
Ground Surface Elev. 617.60 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Road Base Fill, Fabric, Asphalt Millings, Sand & Gravel Fill			
615.10			
Medium Brown Fill Sand / Gravel with Black Loamy Sand Fill	10		
613.60	6 5		15
Loose Black Fine to Coarse Sand with Organics & Silt Pockets and Peat Layers	2		
-5	3 2		14
WH = Weight of Hammer	WH		
608.60	WH 1		35
Very Loose Gray & Brown Fine to Coarse Sand - Loamy Layers & Peat Layers	WH		
-10	WH 1		52
WH = Weight of Hammer			
At 10-12 Ft Water is Trapped above Silt Layer. 605.60			
Very Stiff Gray Silt	8		
	10 12	2.5 P	17
603.10			
Hard Gray Silty Clay Till with Silt Layers	4		
-15	5 6	4.0 P	15
	6		
	7 8	4.0 P	15
-20			
Hard Gray Silty Clay Till with Silt Layers *(continued)*	5		
	6 7	4.3 S	13
593.60			
End of Boring			
-25			
-30			
-35			
-40			

SOIL BORING 047-8802.GPJ IL_DOT.GDT 3/24/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 5/18/15

ROUTE FAP 591 (US 34) DESCRIPTION US 34 over Blackberry Creek, 0.52 miles West of IL 47 LOGGED BY Larry Myers

SECTION 13 BR-1 LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.65883, Longitude -88.45177

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-0102 (Prop.) 047-0049 (Exist.)
Station 370+10

BORING NO. 02 (S.E. Quad.)
Station 371+24
Offset 18.0 ft Rt.
Ground Surface Elev. 613.61 ft

Surface Water Elev. 599.92 ft
Stream Bed Elev. 598.40 ft

Groundwater Elev.:
First Encounter 601.1 ft ▼
Upon Completion 601.1 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Brown Silty Clay Loam Fill			
611.11			
Medium to Loose Brown Loamy Fine to Coarse Sand with Gravel - Fill	4		
	6 9		8
-5	5		
	6 2		7
	2		
	2 2		22
603.61 -10			
Loose Gray & Black Fine to Medium Gravel with Organics & Peat layer @ 12.5' - 13.0'	2		
	2 2		18
WH = Weight of Hammer ▽	WH		
	2 4		31
598.61 -15			
Very Dense Gray Fine Sand to Coarse Gravel - Loamy with Boulders / Cobbles throughout	3		
	27 54	*	17
* Cobbles / Boulders @ 15.5'	37		
	27 31		11
593.61 -20			
Hard Gray Silty Clay Till with Silt & Silty Clay Layers / Seams			
-25			
	6		
	12 18	5.1 S	13
	8		
	10 20	5.4 S	13
584.11 -30			
Hard Gray Loam Till with Heavy Gravel Pieces	20		
	21 24	4.7 S	8
	15		
	18 26	4.5 S	9
576.61 -35			
Dense Gray Fine Sand to Coarse Gravel - Clean with Layers of Fine / Coarse Sand	21		
	28 19		11
	15		
	18 19		21
574.61			
Dense Gray Shale - Indicated on Auger Teeth -40			

SOIL BORING 047-0049.GPJ IL_DOT.GDT 5/29/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 5/18/15

ROUTE FAP 591 (US 34) DESCRIPTION US 34 over Blackberry Creek, 0.52 miles West of IL 47 LOGGED BY Larry Myers

SECTION 13 BR-1 LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.65883, Longitude -88.45177

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-0102 (Prop.) 047-0049 (Exist.)
Station 370+10

BORING NO. 02 (S.E. Quad.)
Station 371+24
Offset 18.0 ft Rt.
Ground Surface Elev. 613.61 ft

Surface Water Elev. 599.92 ft
Stream Bed Elev. 598.40 ft

Groundwater Elev.:
First Encounter 601.1 ft ▼
Upon Completion 601.1 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	8		
	12 15	4.7 S	11
	10		
	12 15	4.7 S	14
-25	6		
	12 18	5.1 S	13
	8		
	10 20	5.4 S	13
-30	20		
	21 24	4.7 S	8
	15		
	18 26	4.5 S	9
-35	21		
	28 19		11
	15		
	18 19		21
-40			
End of Boring 573.44	100/2"	No Recovery	
-45			
-50			
-55			
-60			

SOIL BORING 047-0049.GPJ IL_DOT.GDT 5/29/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS
STRUCTURE NO. 047-8802
SHEET NO. RW-11 OF RW-11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	333
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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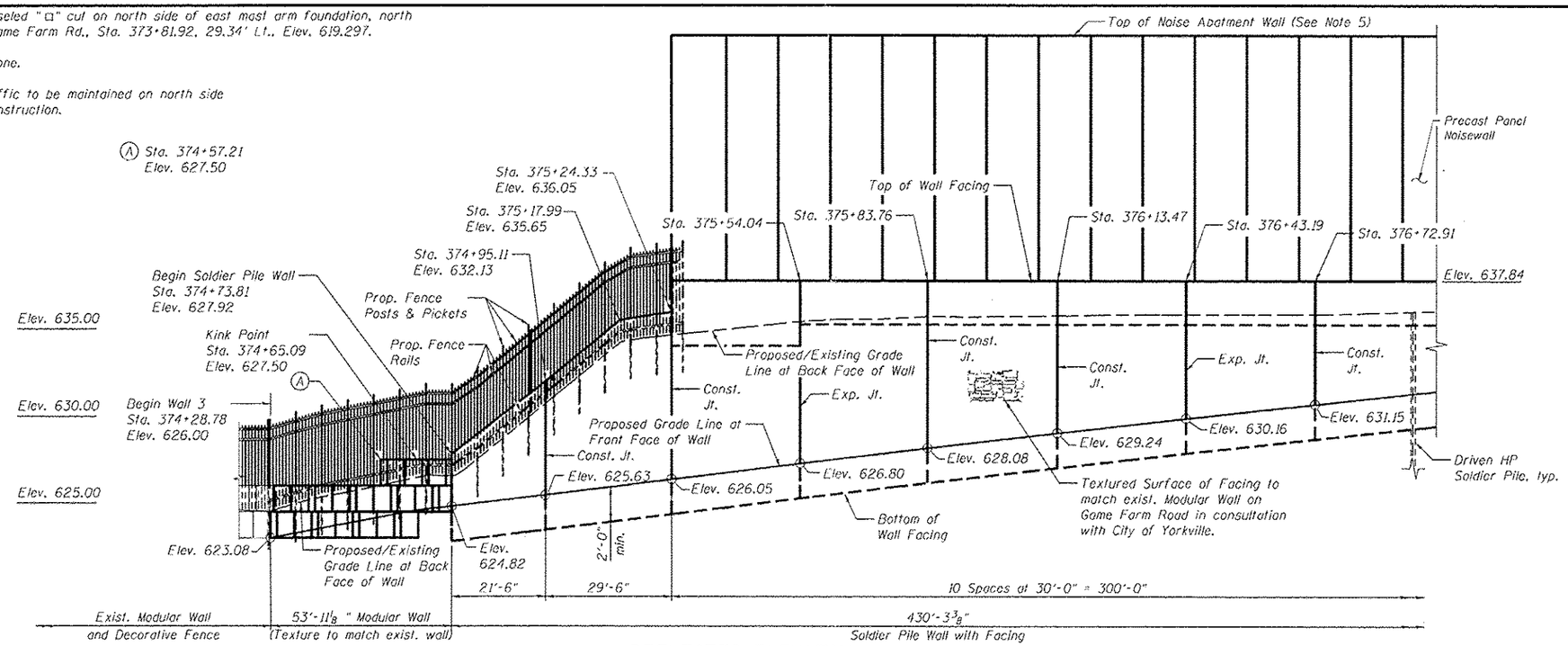
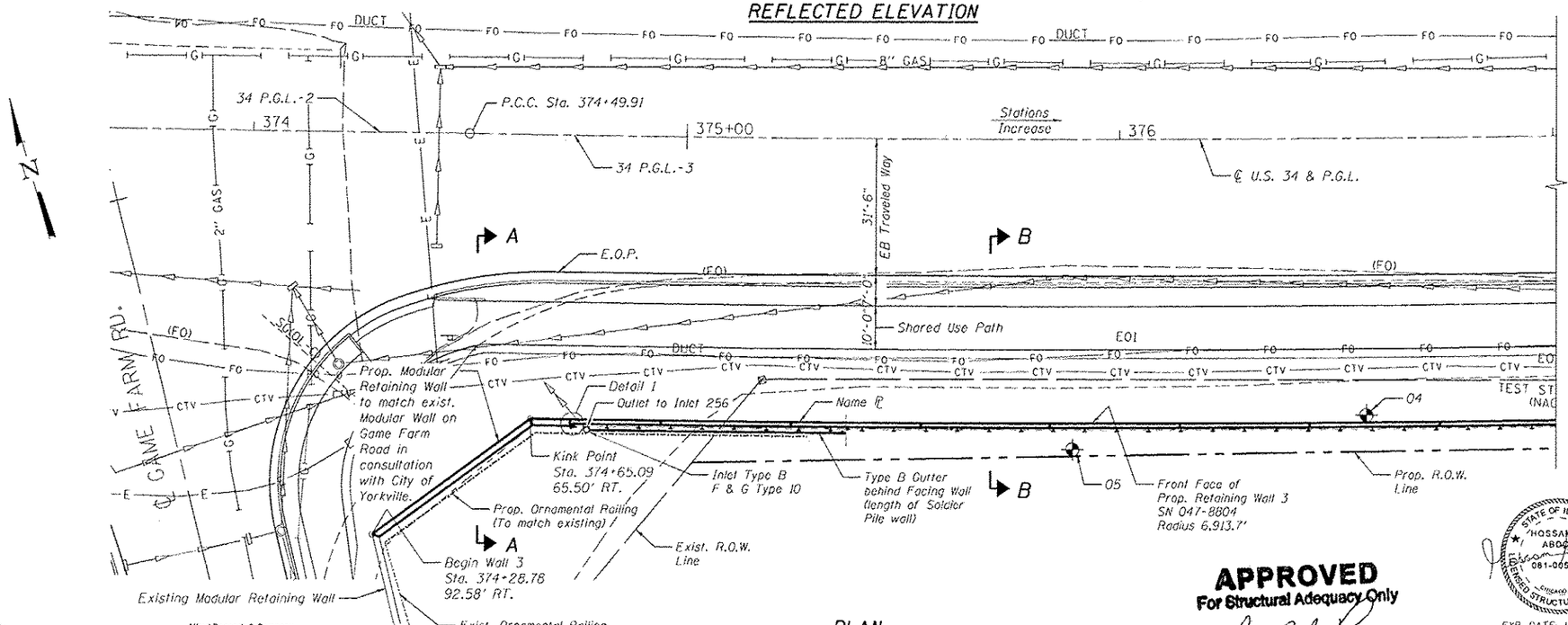
Bench Mark 230: Chiseled "□" cut on north side of east mast arm foundation, north side of U.S. 34 at Game Farm Rd., Sta. 373+81.92, 29.34' Lt., Elev. 619.297.

Existing Structure: None.

Traffic Control: Traffic to be maintained on north side of U.S. 34 during construction.



REFLECTED ELEVATION



PLAN

DESIGN SPECIFICATIONS

AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims

LOADING

35 psf Unfactored Wind Load on Noise Abatment Wall

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi (Cast-in-Place)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50) (Soldier Piles & Noisewall Posts)

PRECAST UNITS

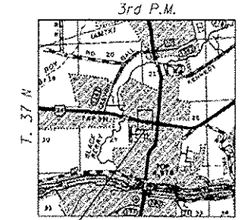
f'c = 4,500 psi (Noisewall Precast Panels)
fy = 60,000 psi (Reinforcement)

NOTES:

1. Horizontal dimensions and length measured along Front Face of Modular Wall or Concrete Facing.
2. Stations and offsets are given to Front Face of Modular Wall or Concrete Facing relative to ℄ U.S. 34 & P.G.L.
3. For Detail 1, see Sheet MW-04.
4. For Sections A-A & B-B, see sheet MW-09.
5. See Noise Abatement Wall sheets for top of Abatment Wall Elevations.

LEGEND:

- FO — Underground Telephone
- G — Underground Gasline
- A — Aerial Lines
- Existing Fence
- Storm Sewer
- E — Underground Electric
- CTV — Underground Cable TV
- Soil Boring



LOCATION SKETCH

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

STATE OF ILLINOIS
NOSSAM N. ABDOU
081-005537
LICENSED STRUCTURAL ENGINEER

EXP. DATE: 11-30-2018
DATE: 01-18-2017

GENERAL PLAN AND ELEVATION
RETAINING WALL 3
F.A.P. 591 (U.S. 34)
SEC. (13 BR-1)BR
KENDALL COUNTY
STATION 374+28.78 TO 379+00.00
STRUCTURE NO. 047-8804

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 047-8804
SHEET NO. MW-01 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	535	334
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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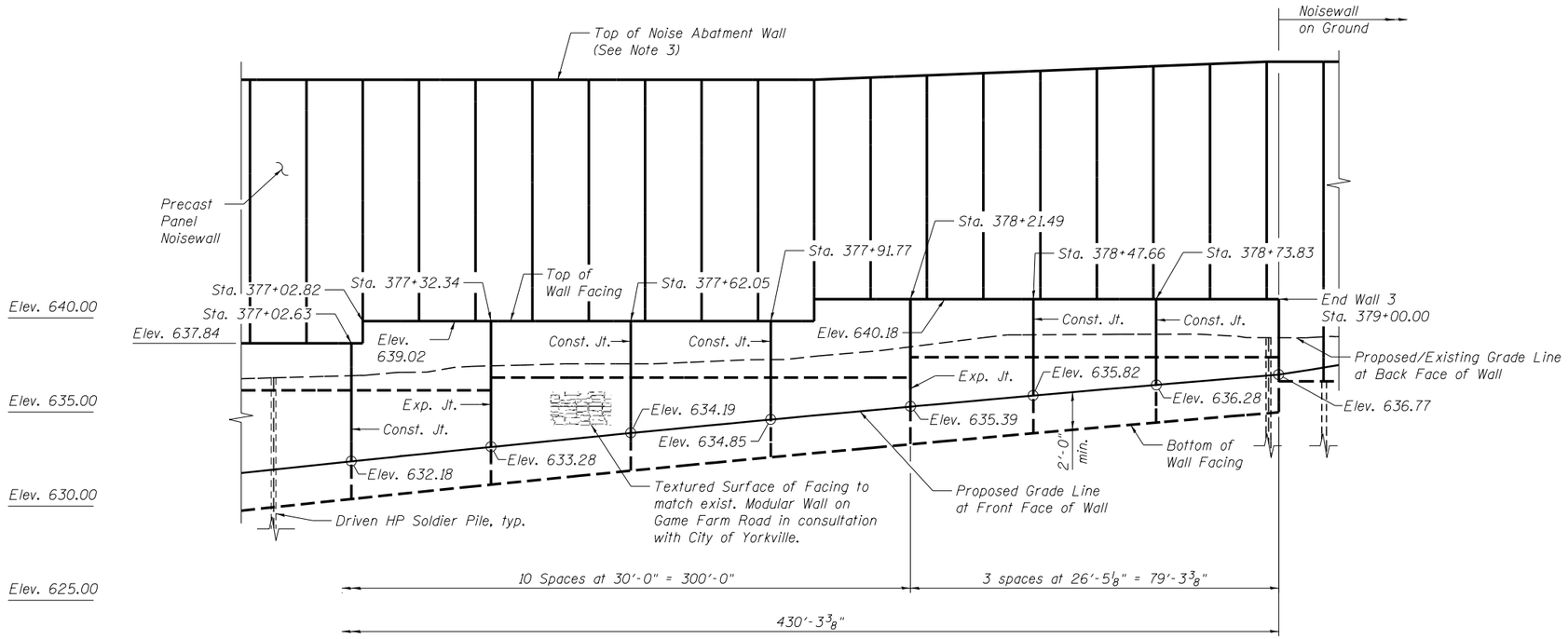
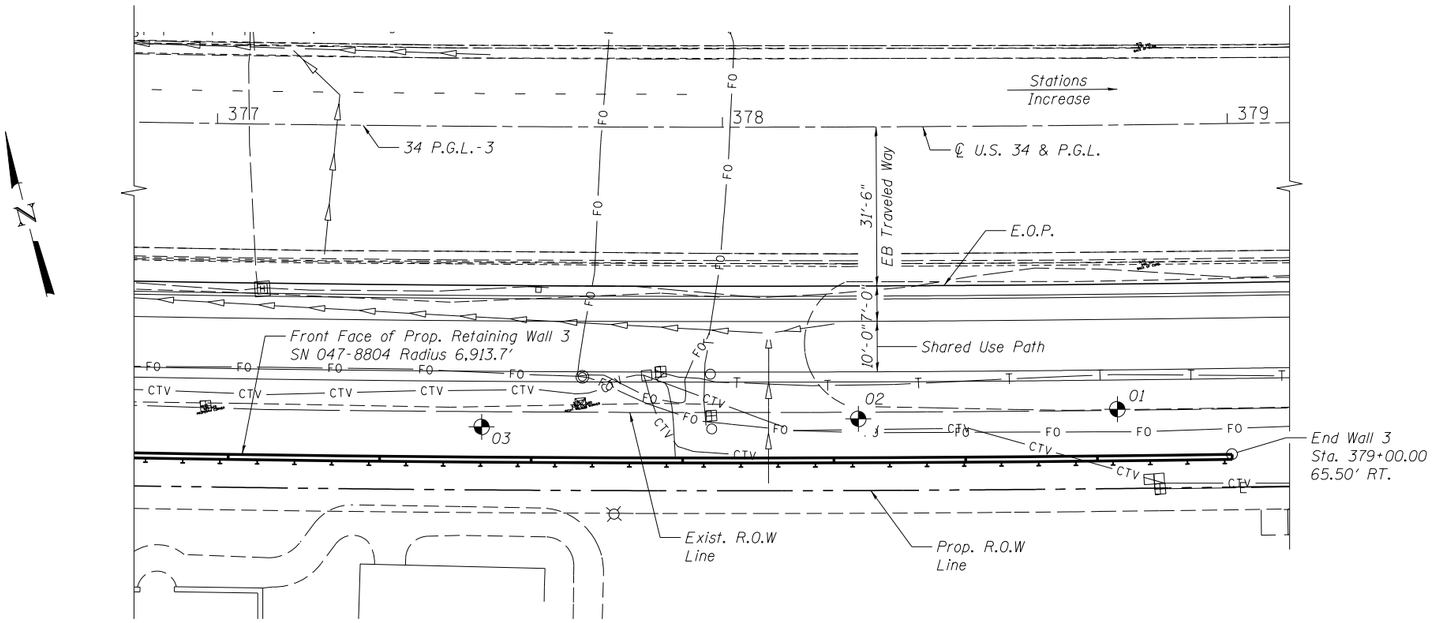


REFLECTED ELEVATION



PLAN

LEGEND:

- FO — Underground Telephone
- G — Underground Gasline
- A — Aerial Lines
- Existing Fence
- Storm Sewer
- E — Underground Electric
- CTV — Underground Cable TV
- Soil Boring

NOTES:

1. Horizontal dimensions and length measured along Front Face of Concrete Facing.
2. Stations and offsets are given to Front Face of Concrete Facing relative to ℄ U.S. 34 & P.G.L.
3. See Noise Abatement Wall sheets for top of Abatment Wall Elevations.

GENERAL PLAN AND ELEVATION
RETAINING WALL 3
F.A.P. 591 (U.S. 34)
SEC. (13 BR-1)BR
KENDALL COUNTY
STATION 374+28.78 TO 379+00.00
STRUCTURE NO. 047-8804

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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		CHECKED - HMA	REVISED -
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	PLOT DATE = 01\23\2017	CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 047-8804
SHEET NO. MW-02 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	335
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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GENERAL NOTES

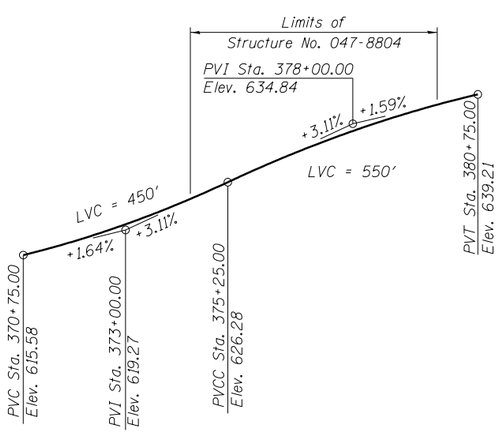
1. All structural steel shall be AASHTO M 270 Grade 50.
2. No field welding is permitted except as specified in the contract documents.
3. Reinforcement bars designated (E) shall be epoxy coated.
4. Elevations shall be verified in the field and may be adjusted as directed by the Engineer.
5. The Contractor is responsible for the design and performance of the lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi.

INDEX OF SHEETS

MW-01	General Plan and Elevation (1 of 2)
MW-02	General Plan and Elevation (2 of 2)
MW-03	General Data
MW-04	Modular Retaining Wall Plan and Elevation Details
MW-05	Soldier Pile Wall Plan and Elevation Details (1 of 4)
MW-06	Soldier Pile Wall Plan and Elevation Details (2 of 4)
MW-07	Soldier Pile Wall Plan and Elevation Details (3 of 4)
MW-08	Soldier Pile Wall Plan and Elevation Details (4 of 4)
MW-09	Soldier Pile Wall Details
MW-10	Soldier Pile Data Table and Bar List
MW-11	HP Pile Details
MW-12	Soil Borings (1 of 3)
MW-13	Soil Borings (2 of 3)
MW-14	Soil Borings (3 of 3)

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	344
Concrete Structures	Cu. Yd.	180.5
Stud Shear Connectors	Each	912
Reinforcement Bars, Epoxy Coated	Pound	30,860
Pile Shoes	Each	64
Name Plate	Each	1
Furnishing Soldier Piles (HP Section)	Foot	1,931
Driving Solider Piles	Foot	1,931
Untreated Timber Lagging	Sq. Ft.	47
Precast Modular Retaining Wall	Sq. Ft.	177
Concrete Sealer	Sq. Ft.	3,310
Geocomposite Wall Drain	Sq. Yd.	189
Pipe Underdrains for Structures, 4"	Foot	451
Noise Abatement Wall, Structure Mounted	Sq. Ft.	5,310
Ornamental Railing	Foot	106
Form Liner Textured Surface (Special)	Sq. Ft.	3,310



PROFILE GRADE U.S. 34

(Along ℄ U.S. 34)

CURVE DATA 34 P.G.L.-2

(US 34)
PI STA. = 373+49.97
Δ = 0° 34′ 47" (LT)
D = 0° 17′ 24"
R = 19,757.32′
T = 99.94′
L = 199.87′
E = 0.25′
P.C. STA = 372+50.03
P.T. STA = 374+49.91

CURVE DATA 34 P.G.L.-3

(US 34)
PI STA. = 378+34.31
Δ = 6° 25′ 32" (LT)
D = 0° 50′ 12"
R = 6,848.20′
T = 384.41′
L = 768.01′
E = 10.78
P.C. STA = 374+49.91
P.T. STA = 382+17.92

STATION 374+28.78 TO
379+00.00
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. 591-SEC. (13 BR-1)BR
STR. NO. 047-8804

NAME PLATE

See Std. 515001

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312-565-0450 Job No. 3938.15

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		CHECKED - SLV	REVISED -			591	(13 BR-1)BR	KENDALL	533	336
	PLOT SCALE =	DRAWN - RMG	REVISED -					CONTRACT NO. 66993		
	PLOT DATE = 01\23\2017	CHECKED - SLV	REVISED -		SHEET NO. MW-03 OF MW-14 SHEETS		ILLINOIS	FED. AID PROJECT		

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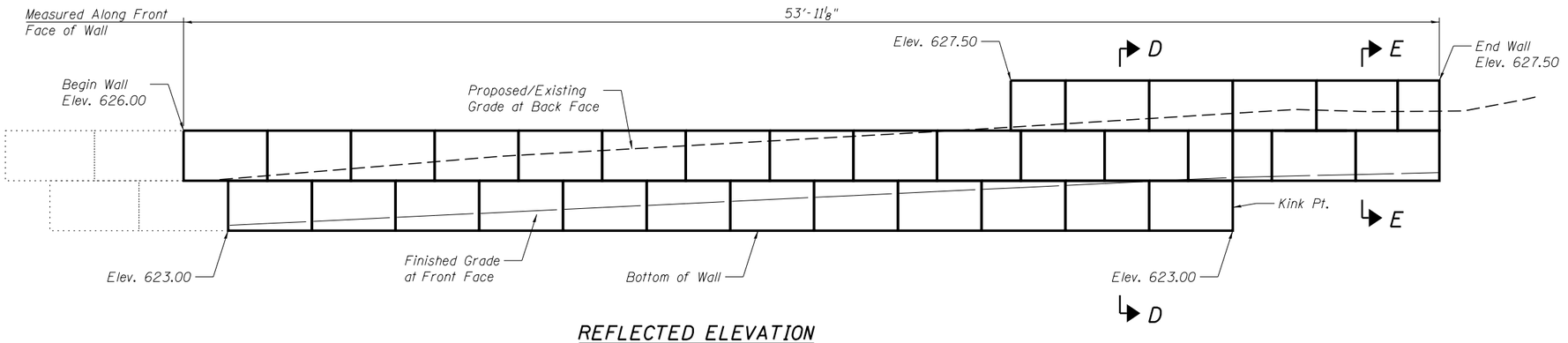
01\23\2017



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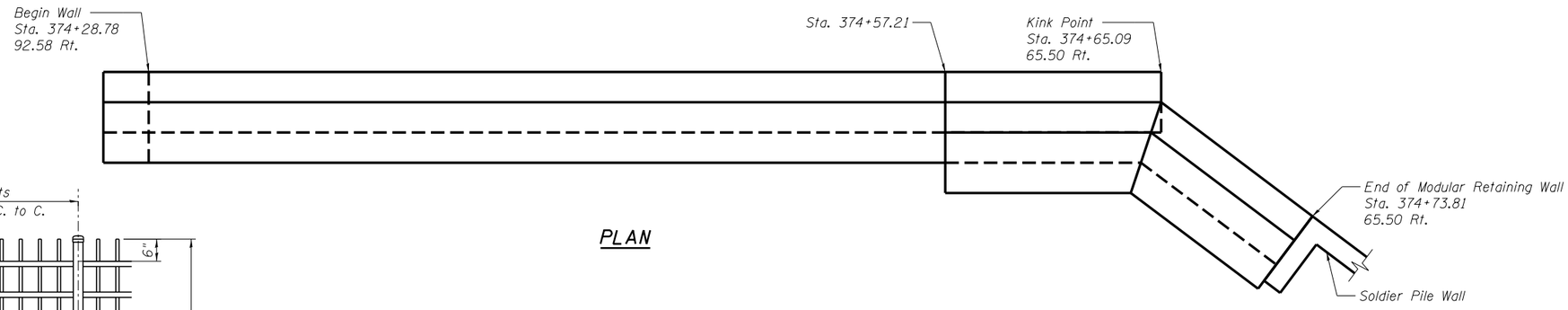
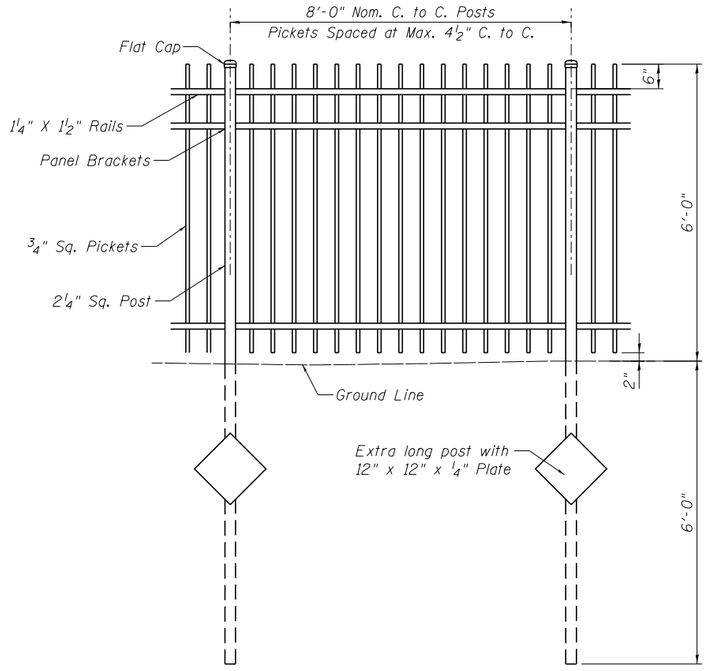
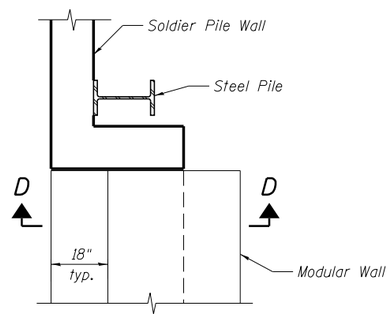


PLAN



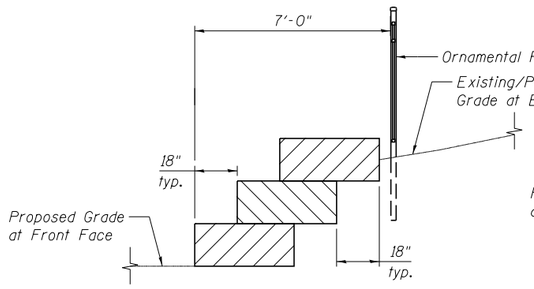
ORNAMENTAL RAILING DETAIL

(Match details of existing fence on Game Farm Road)

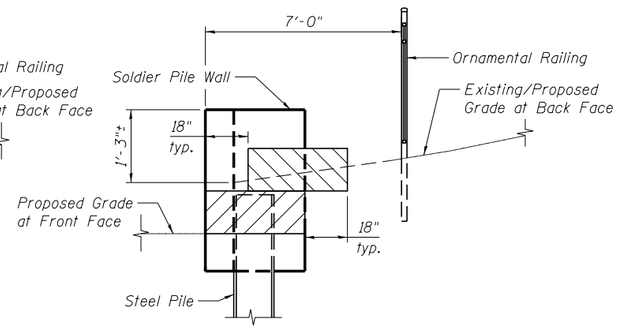


DETAIL 1

(Shown in Plan View on Sheet MW-01)



SECTION D-D



SECTION E-E

NOTES:

1. All railing materials to be Master Halco, Colonial Plus, Aluminum Ornamental Fence.
2. All railing materials to be black.

BILL OF MATERIAL

Item	Unit	Total
Precast Modular Retaining Wall	Sq. Ft.	177
Ornamental Railing	Foot	106

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205 North Michigan Avenue, Suite 2400
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		CHECKED - SLV	REVISED -
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	PLOT DATE = 01\23\2017	CHECKED - SLV	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MODULAR RETAINING WALL PLAN AND ELEVATION DETAILS
STRUCTURE NO. 047-8804
SHEET NO. MW-04 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	337
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		

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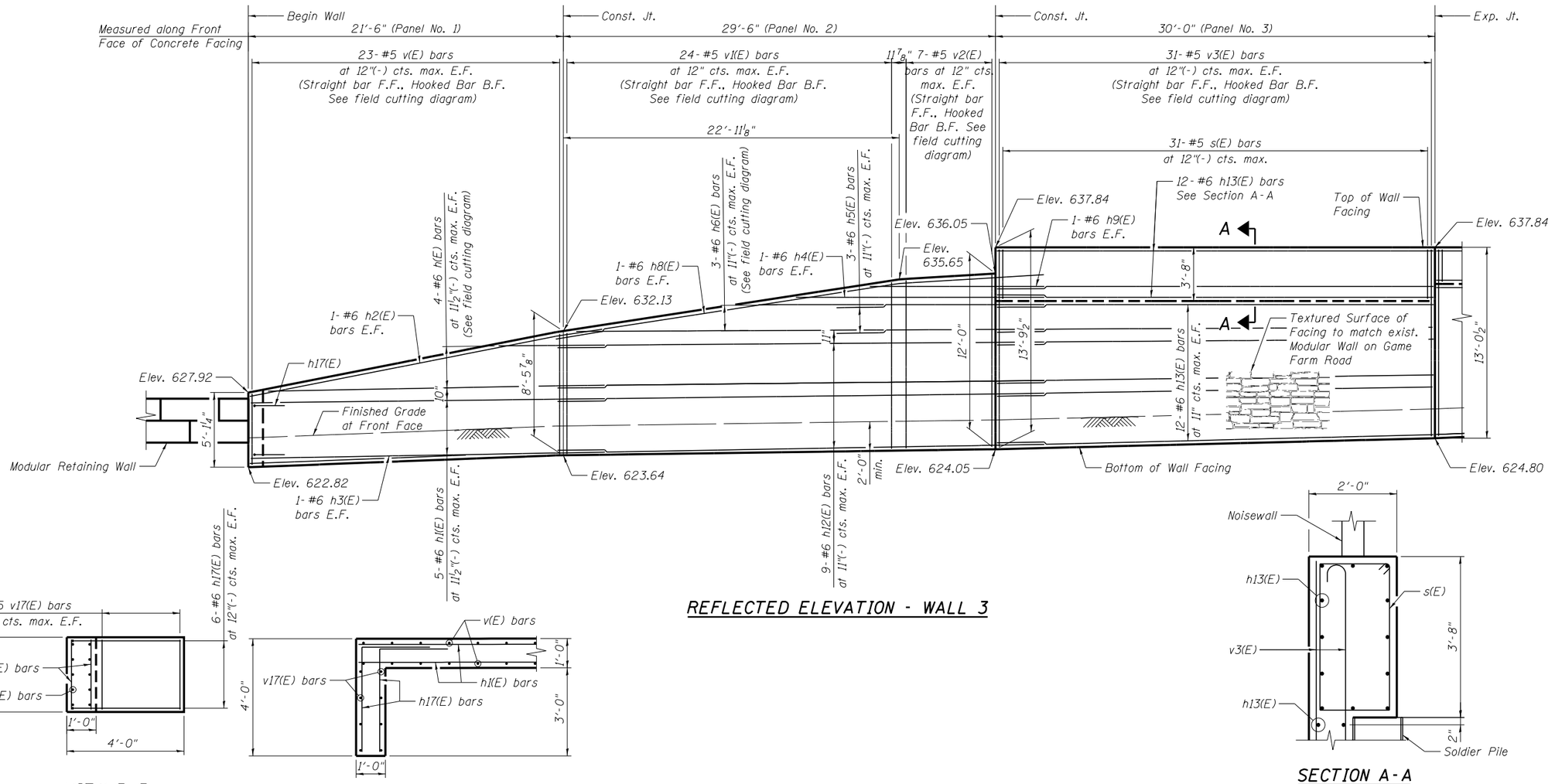


VIEW B-B

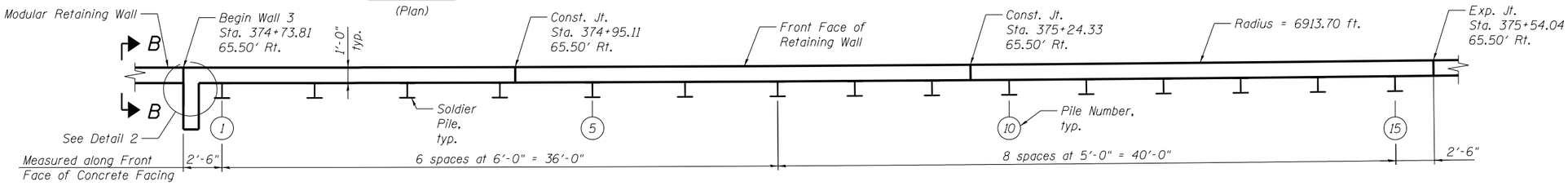
DETAIL 2

(Plan)

REFLECTED ELEVATION - WALL 3

SECTION A-A

(Showing cap blister)



PLAN - WALL 3

(Cap blister not shown for clarity)

MIN. BAR LAP LENGTH

#6 bar = 4'-4"

NOTES:

1. Reinforcement in wall shall be spaced to miss shear studs.
2. See Sheet MW-09 for Form Liner Details
3. See Sheet MW-10 for Bar List, Field Cutting Diagram and Bar Bends
4. E.F. denotes Each Face
5. F.F. denotes Front Face
6. B.F. denotes Back Face

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE WALL PLAN AND ELEVATION DETAILS (1 of 4)
STRUCTURE NO. 047-8804
SHEET NO. MW-05 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	338
		CONTRACT NO. 66993		
ILLINOIS	FED. AID PROJECT			

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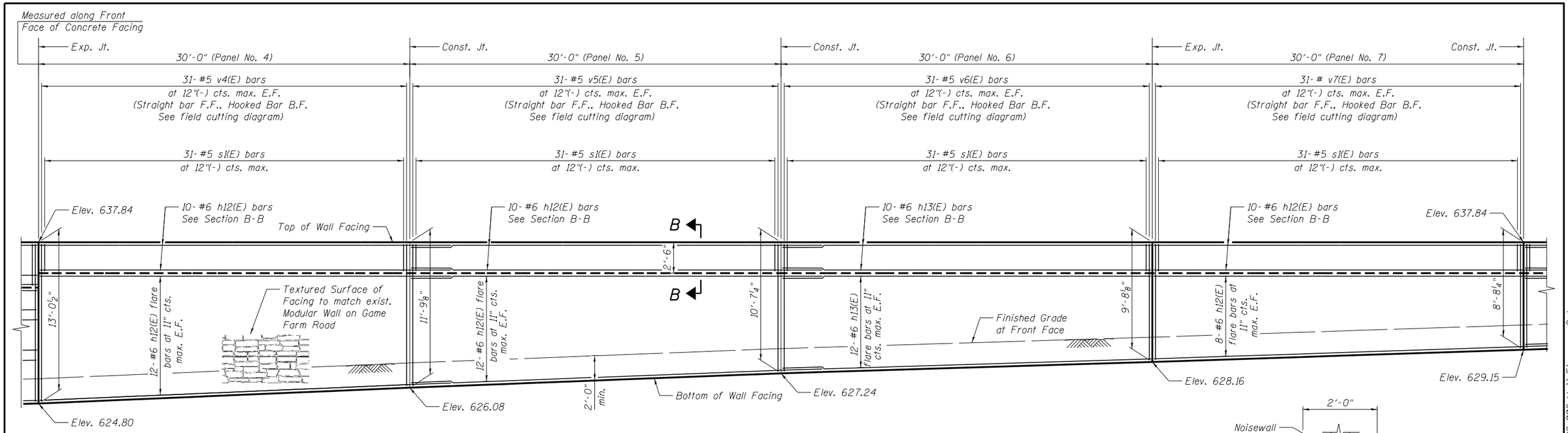
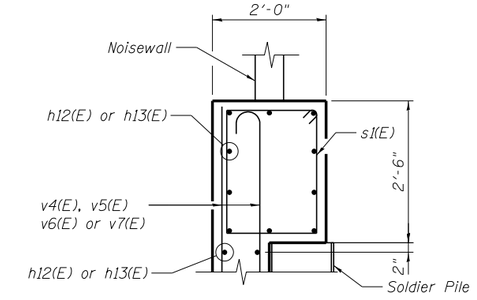
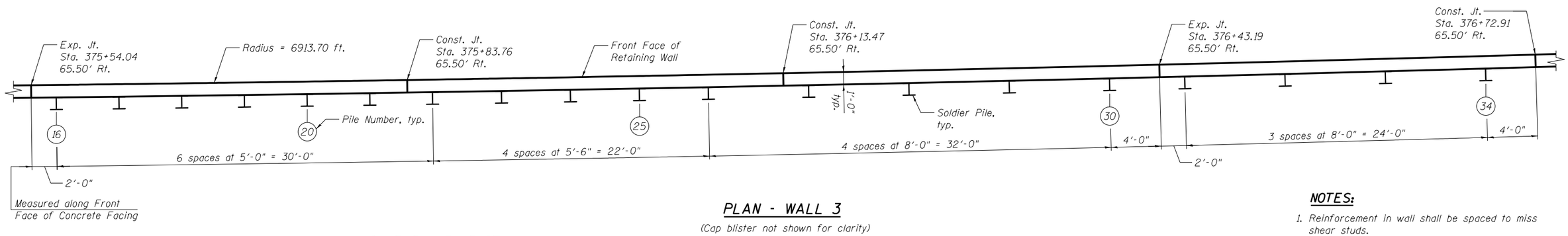


REFLECTED ELEVATION - WALL 3



SECTION B-B

(Showing cap blister)



PLAN - WALL 3

(Cap blister not shown for clarity)

MIN. BAR LAP LENGTH

#6 bar = 4'-4"

NOTES:

1. Reinforcement in wall shall be spaced to miss shear studs.
2. See Sheet MW-09 for Form Liner Details
3. See Sheet MW-10 for Bar List, Field Cutting Diagram and Bar Bends
4. E.F. denotes Each Face
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6. B.F. denotes Back Face

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE WALL PLAN AND ELEVATION DETAILS (2 of 4)
STRUCTURE NO. 047-8804
SHEET NO. MW-06 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	339
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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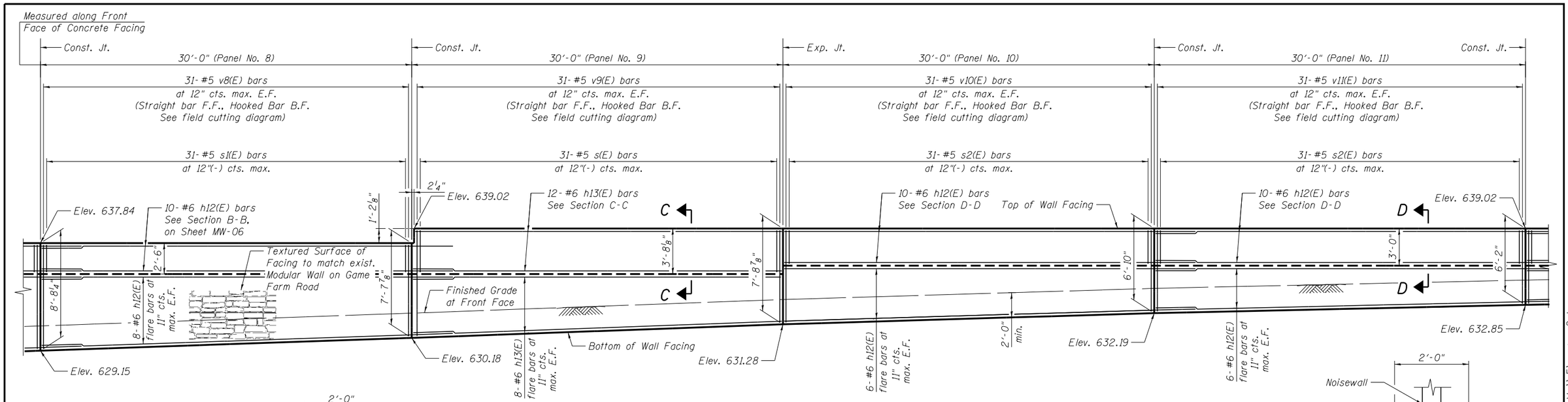
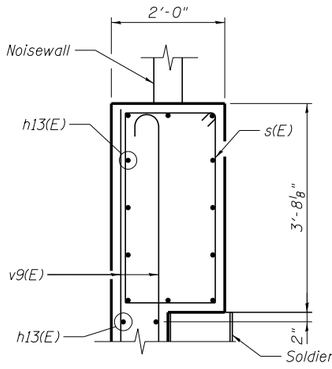


REFLECTED ELEVATION - WALL 3



SECTION C-C

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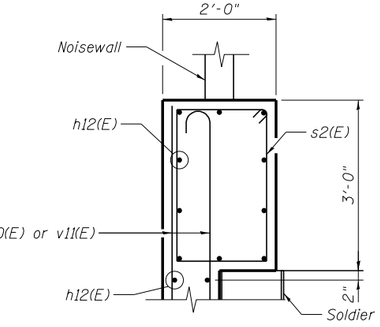

SECTION D-D

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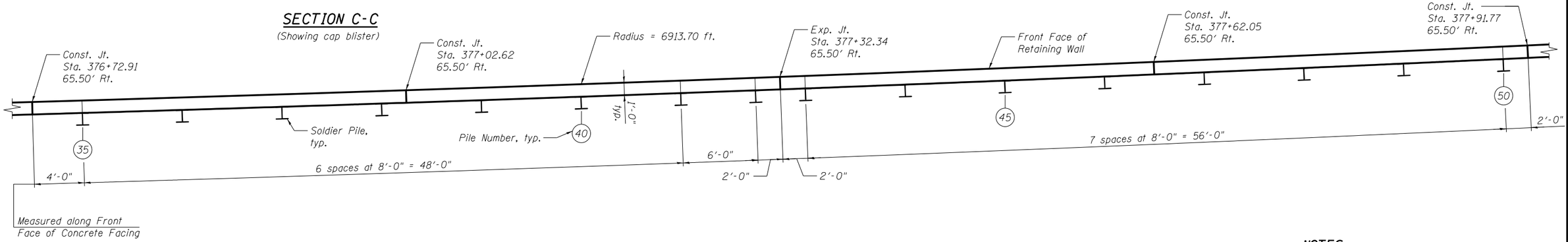

PLAN - WALL 3

(Cap blister not shown for clarity)

MIN. BAR LAP LENGTH

#6 bar = 4'-4"

NOTES:

1. Reinforcement in wall shall be spaced to miss shear studs.
2. See Sheet MW-09 for Form Liner Details
3. See Sheet MW-10 for Bar List, Field Cutting Diagram and Bar Bends
4. E.F. denotes Each Face
5. F.F. denotes Front Face
6. B.F. denotes Back Face

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE WALL PLAN AND ELEVATION DETAILS (3 of 4)
STRUCTURE NO. 047-8804
SHEET NO. MW-07 OF MW-14 SHEETS

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

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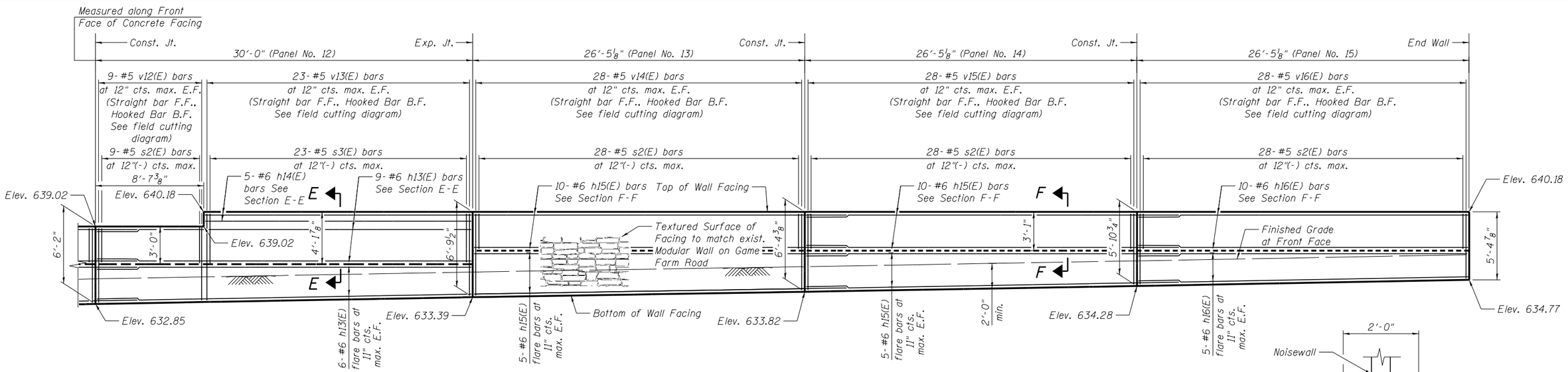

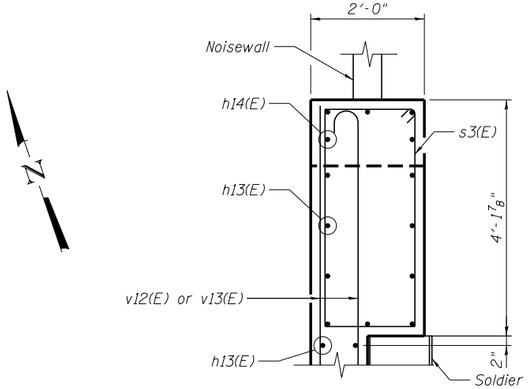

SECTION E-E
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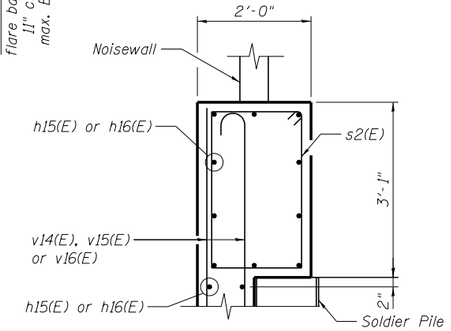
REFLECTED ELEVATION - WALL 3



SECTION F-F
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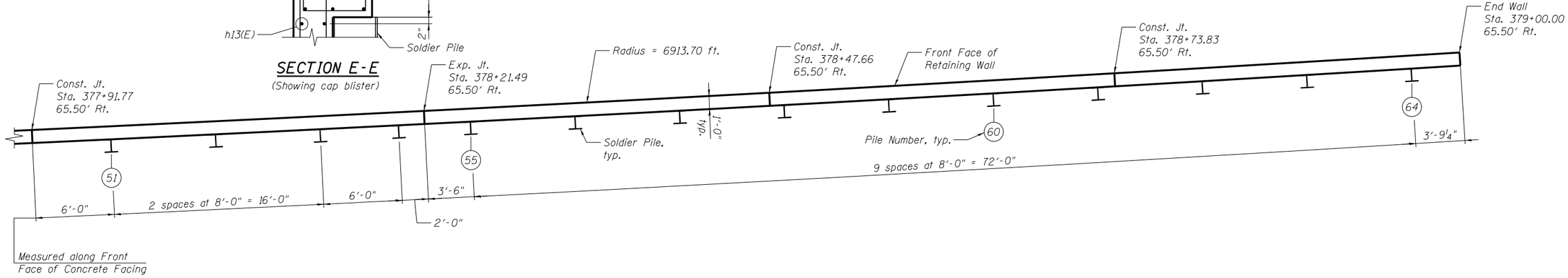

PLAN - WALL 3
(Cap blister not shown for clarity)

MIN. BAR LAP LENGTH
#6 bar = 4'-4"

NOTES:
1. Reinforcement in wall shall be spaced to miss shear studs.
2. See Sheet MW-09 for Form Liner Details
3. See Sheet MW-10 for Bar List, Field Cutting Diagram and Bar Bends
4. E.F. denotes Each Face
5. F.F. denotes Front Face
6. B.F. denotes Back Face

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE WALL PLAN AND ELEVATION DETAILS (4 of 4)
STRUCTURE NO. 047-8804
SHEET NO. MW-08 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	341
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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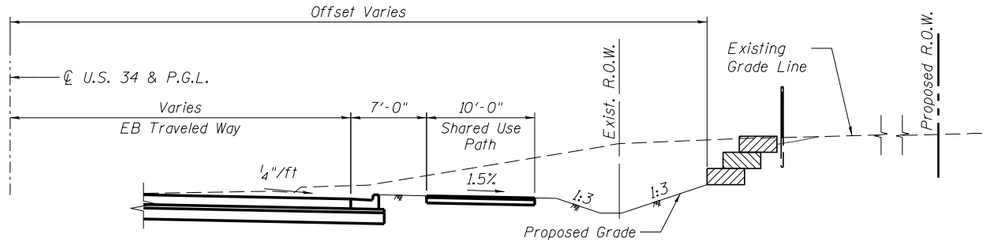
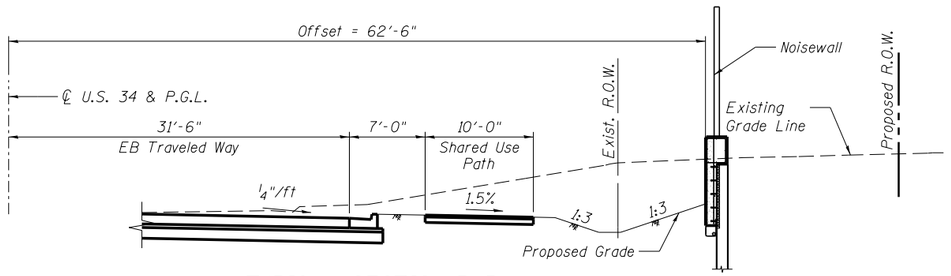


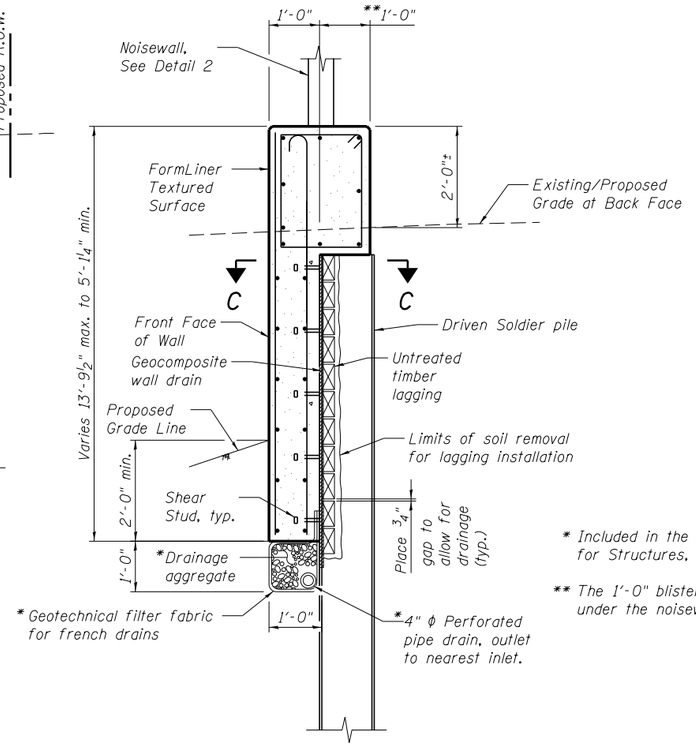
TYPICAL SECTION A-A

(Looking East)



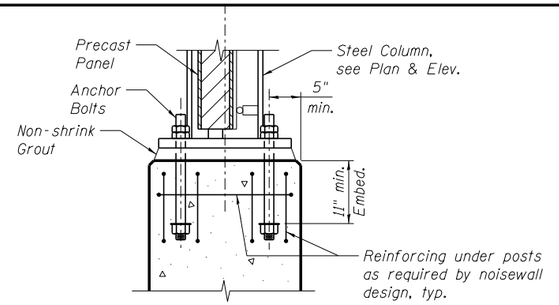
TYPICAL SECTION B-B

(Looking East)



SECTION THRU WALL SHOWING PIPE UNDERDRAIN DETAIL AT SOLDIER PILE

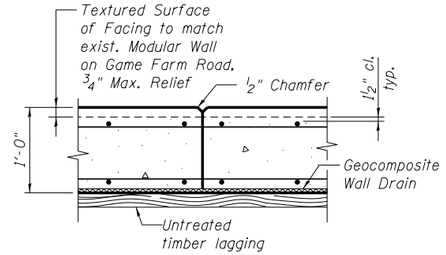
(at Noisewall)



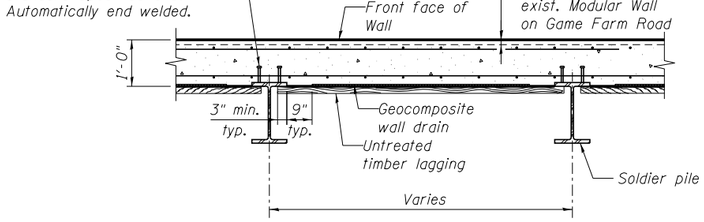
SUGGESTED CONNECTION DETAIL AT NOISEWALL POST

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

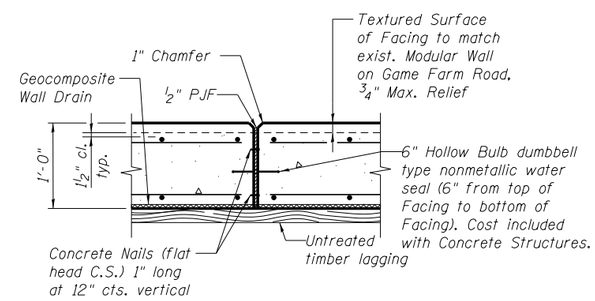
** The 1'-0" blister to be constructed only under the noisewall.



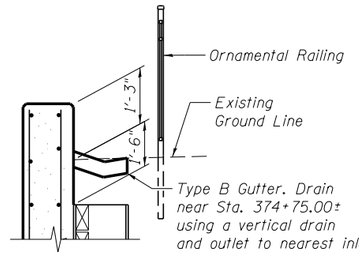
CONSTRUCTION JOINT DETAILS



SECTION C-C

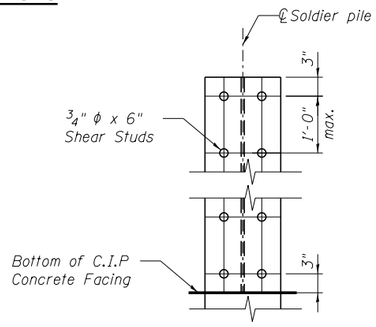


EXPANSION JOINT DETAILS



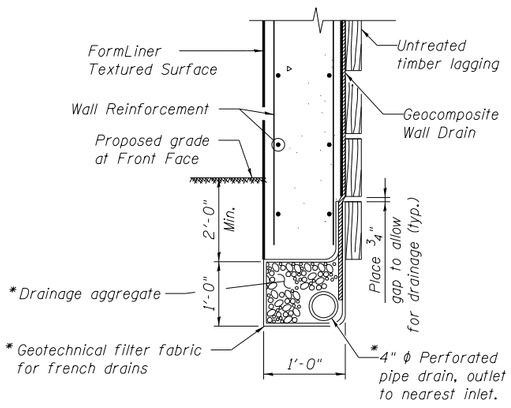
SECTION AT SOLDIER PILE WALL

(without Noisewall)

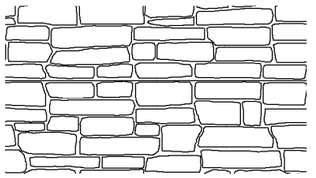


SHEAR STUD CONNECTORS LAYOUT

Note:
Use a minimum of 6 shear studs per pile.



SECTION SHOWING PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES



FORMLINER ELEVATION

FORMLINER SECTION

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

FILE NAME = 0478804_66993_009_PileWallDetails.dgn	USER NAME = habdou	DESIGNED - NG	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE WALL DETAILS
STRUCTURE NO. 047-8804
SHEET NO. MW-09 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	342
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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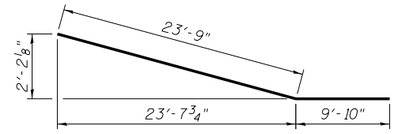
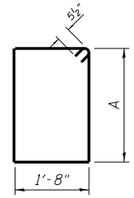
01\27\2017 10:06:23

PILE DATA TABLE - WALL 3

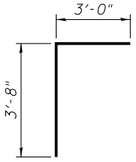
Pile Number	Pile Size	Station At F.F.	Offset At F.F.	Top Of Pile Elev.	Finished Grade Elev. At F.F.	Pile Tip Elev.	Length Of Pile	No. Of Shear Studs
1	HP14x73	374+76.29	65.50' Rt.	625.66	624.91	600.91	25.00	8
2	HP14x73	374+82.23	65.50' Rt.	626.83	625.13	601.13	26.00	10
3	HP14x73	374+88.17	65.50' Rt.	628.01	625.36	601.36	27.00	12
4	HP14x73	374+94.12	65.50' Rt.	629.18	625.59	601.59	28.00	14
5	HP14x73	375+00.06	65.50' Rt.	630.14	625.70	601.70	28.00	14
6	HP14x73	375+06.00	65.50' Rt.	631.06	625.79	601.79	29.00	16
7	HP14x89	375+11.95	65.50' Rt.	631.97	625.87	596.87	35.00	18
8	HP14x89	375+16.90	65.50' Rt.	632.73	625.94	595.94	37.00	20
9	HP14x89	375+21.85	65.50' Rt.	633.14	626.01	595.01	38.00	20
10	HP14x89	375+26.80	65.50' Rt.	634.17	626.11	594.11	40.00	22
11	HP14x89	375+31.76	65.50' Rt.	634.17	626.24	594.24	40.00	22
12	HP14x89	375+36.71	65.50' Rt.	634.17	626.36	594.36	40.00	22
13	HP14x89	375+41.66	65.50' Rt.	634.17	626.49	592.99	41.00	22
14	HP14x89	375+46.61	65.50' Rt.	634.17	626.61	593.11	41.00	22
15	HP14x89	375+51.57	65.50' Rt.	634.17	626.74	593.24	41.00	20
16	HP14x89	375+56.02	65.50' Rt.	635.34	626.89	593.39	42.00	22
17	HP14x89	375+60.98	65.50' Rt.	635.34	627.10	593.60	42.00	22
18	HP14x89	375+65.93	65.50' Rt.	635.34	627.31	593.81	42.00	22
19	HP14x89	375+70.88	65.50' Rt.	635.34	627.53	594.03	41.00	22
20	HP14x89	375+75.83	65.50' Rt.	635.34	627.74	594.24	41.00	22
21	HP14x89	375+80.79	65.50' Rt.	635.34	627.95	594.45	41.00	20
22	HP14x89	375+85.74	65.50' Rt.	635.34	628.16	594.66	41.00	20
23	HP14x89	375+91.19	65.50' Rt.	635.34	628.37	594.87	40.00	20
24	HP14x89	375+96.64	65.50' Rt.	635.34	628.58	596.58	39.00	20
25	HP14x89	376+02.08	65.50' Rt.	635.34	628.80	597.80	38.00	20
26	HP14x89	376+07.53	65.50' Rt.	635.34	629.01	600.01	35.00	18
27	HP14x73	376+15.46	65.50' Rt.	635.34	629.30	602.30	33.00	18
28	HP14x73	376+23.38	65.50' Rt.	635.34	629.55	602.55	33.00	18
29	HP14x73	376+31.30	65.50' Rt.	635.34	629.79	602.79	33.00	18
30	HP14x73	376+39.23	65.50' Rt.	635.34	630.04	603.04	32.00	16
31	HP14x73	376+45.17	65.50' Rt.	635.34	630.23	603.23	32.00	16
32	HP14x73	376+53.10	65.50' Rt.	635.34	630.49	603.49	32.00	16
33	HP14x73	376+61.02	65.50' Rt.	635.34	630.75	603.75	32.00	16
34	HP14x73	376+68.94	65.50' Rt.	635.34	631.02	608.02	27.00	14
35	HP14x73	376+76.87	65.50' Rt.	635.34	631.29	608.29	27.00	14
36	HP14x73	376+84.79	65.50' Rt.	635.34	631.56	608.56	27.00	14
37	HP14x73	376+92.72	65.50' Rt.	635.34	631.84	608.84	27.00	14
38	HP14x73	377+00.64	65.50' Rt.	635.34	632.11	609.11	26.00	12
39	HP14x73	377+08.56	65.50' Rt.	635.34	632.40	609.40	26.00	12
40	HP14x73	377+16.49	65.50' Rt.	635.34	632.69	609.69	26.00	12
41	HP14x73	377+24.41	65.50' Rt.	635.34	632.99	609.99	25.00	10
42	HP14x73	377+30.36	65.50' Rt.	635.34	633.21	610.21	25.00	10
43	HP14x73	377+34.32	65.50' Rt.	636.02	633.34	610.34	26.00	12
44	HP14x73	377+42.24	65.50' Rt.	636.02	633.58	610.58	25.00	10
45	HP14x73	377+50.17	65.50' Rt.	636.02	633.82	610.82	25.00	10
46	HP14x73	377+58.09	65.50' Rt.	636.02	634.06	611.06	25.00	10
47	HP14x73	377+66.02	65.50' Rt.	636.02	634.27	611.27	25.00	10
48	HP14x73	377+73.94	65.50' Rt.	636.02	634.45	611.45	25.00	10
49	HP14x73	377+81.86	65.50' Rt.	636.02	634.63	611.63	24.00	8
50	HP14x73	377+89.79	65.50' Rt.	636.02	634.81	611.81	24.00	8
51	HP14x73	377+97.71	65.50' Rt.	636.02	634.96	611.96	24.00	8
52	HP14x73	378+05.64	65.50' Rt.	636.02	635.10	614.10	22.00	8
53	HP14x73	378+13.56	65.50' Rt.	636.02	635.25	614.25	22.00	8
54	HP14x73	378+19.50	65.50' Rt.	636.02	635.35	614.35	22.00	8
55	HP14x73	378+24.95	65.50' Rt.	637.10	635.45	614.45	23.00	10
56	HP14x73	378+32.88	65.50' Rt.	637.10	635.58	614.58	23.00	10
57	HP14x73	378+40.80	65.50' Rt.	637.10	635.71	614.71	22.00	8
58	HP14x73	378+48.72	65.50' Rt.	637.10	635.84	614.84	22.00	8
59	HP14x73	378+56.65	65.50' Rt.	637.10	635.98	614.98	22.00	8
60	HP14x73	378+64.57	65.50' Rt.	637.10	636.12	615.12	22.00	8
61	HP14x73	378+72.50	65.50' Rt.	637.10	636.26	615.26	22.00	8
62	HP14x73	378+80.42	65.50' Rt.	637.10	636.40	615.40	22.00	8
63	HP14x73	378+88.35	65.50' Rt.	637.10	636.55	615.55	22.00	8
64	HP14x73	378+96.27	65.50' Rt.	637.10	636.70	615.70	21.00	6



h8(E)



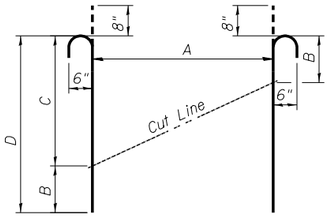
s(E), s1(E), s2(E) & s3(E)



h17(E)

BAR DIMENSIONS

Bar	A
s(E)	3'-4"
s1(E)	2'-2"
s2(E)	2'-8"
s3(E)	3'-10"



FIELD CUTTING DIAGRAM

Order bars full length. Cut as shown and use remainder of bars in opposite face. v(E) bars below cut line are used on front face, hooked v(E) bars above cut line are used on back face.

FIELD CUTTING BAR TABLE

A	B	C	D
4-#6 h(E) bars	7'-11"	23'-8"	32'-7"
3-#6 h6(E) bars	9'-2"	21'-8"	30'-10"
23-#5 v(E) bars	4'-9"	8'-1"	12'-10"
24-#5 v1(E) bars	8'-2"	11'-4"	19'-6"
7-#5 v2(E) bars	11'-4"	11'-7"	22'-11"
31-#5 v3(E) bars	12'-8"	13'-5"	26'-1"
31-#5 v4(E) bars	11'-5"	12'-8"	24'-1"
31-#5 v5(E) bars	10'-2"	11'-5"	21'-7"
31-#5 v6(E) bars	9'-3"	10'-2"	19'-5"
31-#5 v7(E) bars	8'-3"	9'-3"	17'-6"
31-#5 v8(E) bars	7'-3"	8'-3"	15'-6"
31-#5 v9(E) bars	7'-4"	8'-5"	15'-9"
31-#5 v10(E) bars	6'-5"	7'-4"	13'-9"
31-#5 v11(E) bars	5'-9"	6'-5"	12'-2"
9-#5 v12(E) bars	5'-7"	5'-9"	11'-4"
23-#5 v13(E) bars	6'-5"	6'-9"	13'-2"
28-#5 v14(E) bars	5'-11"	6'-5"	12'-4"
28-#5 v15(E) bars	5'-6"	5'-11"	11'-5"
28-#5 v16(E) bars	5'-0"	5'-6"	10'-6"

BAR LIST - WALL 3

Bar	No.	Size	Length	Shape
h(E)	4	#6	32'-7"	
h1(E)	10	#6	25'-10"	
h2(E)	2	#6	25'-3"	
h3(E)	2	#6	14'-9"	
h4(E)	2	#6	18'-6"	
h5(E)	6	#6	16'-0"	
h6(E)	3	#6	30'-10"	
h8(E)	2	#6	33'-2"	
h9(E)	2	#6	13'-1"	
h12(E)	182	#6	34'-5"	
h13(E)	119	#6	29'-9"	
h14(E)	5	#6	21'-1"	
h15(E)	40	#6	30'-10"	
h16(E)	20	#6	26'-2"	
h17(E)	12	#6	6'-8"	⌟
s(E)	62	#5	10'-11"	□
s1(E)	155	#5	8'-7"	□
s2(E)	155	#5	9'-7"	□
s3(E)	23	#5	11'-11"	□
v(E)	23	#5	13'-6"	
v1(E)	24	#5	20'-2"	
v2(E)	7	#5	23'-7"	
v3(E)	31	#5	26'-9"	
v4(E)	31	#5	24'-9"	
v5(E)	31	#5	22'-3"	
v6(E)	31	#5	20'-1"	
v7(E)	31	#5	18'-2"	
v8(E)	31	#5	16'-2"	
v9(E)	31	#5	16'-5"	
v10(E)	31	#5	14'-5"	
v11(E)	31	#5	12'-10"	
v12(E)	9	#5	12'-0"	
v13(E)	23	#5	13'-10"	
v14(E)	28	#5	13'-0"	
v15(E)	28	#5	12'-1"	
v16(E)	28	#5	11'-2"	
v17(E)	8	#5	4'-9"	

NOTES:

1. Bottom of panel shall be placed at a minimum of 2'-0" below proposed ground line.
2. Elevations shall be verified in the field and may be adjusted as directed by the Engineer.
3. F.F. denotes front face.
4. Stations and offsets for piles taken at F.F. of wall.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE DATA TABLE AND BAR LIST
STRUCTURE NO. 047-8804
SHEET NO. MW-10 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	343
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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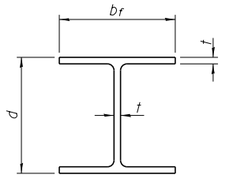
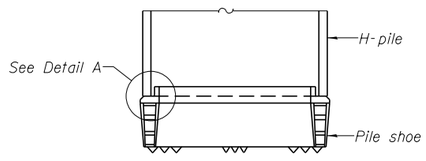
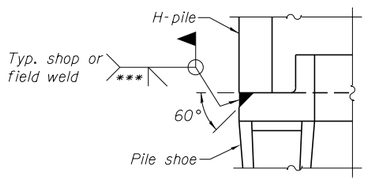


STEEL PILE TABLE

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

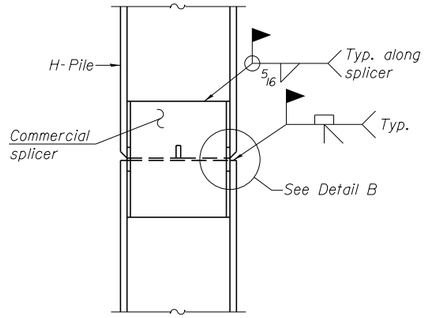


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



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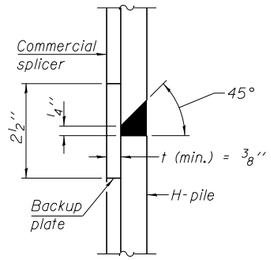
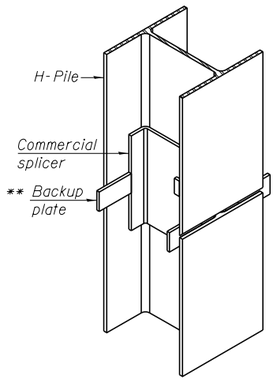
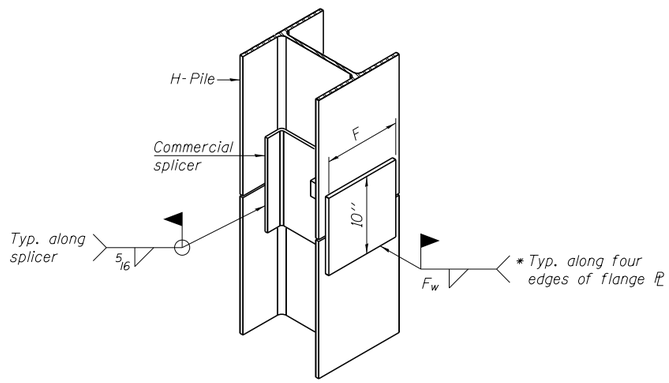


DETAIL "B"



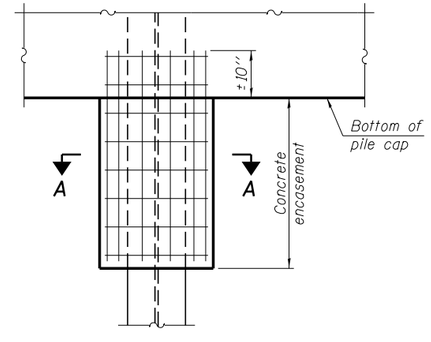
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE



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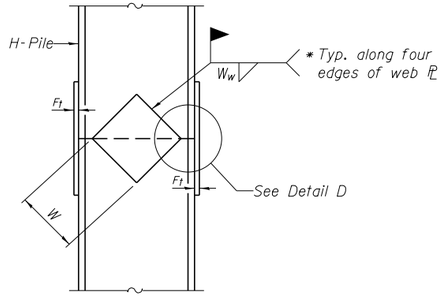

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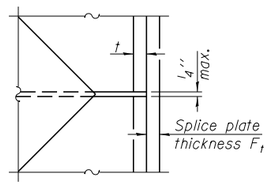
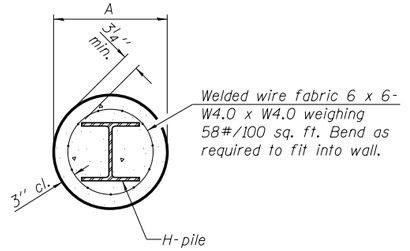


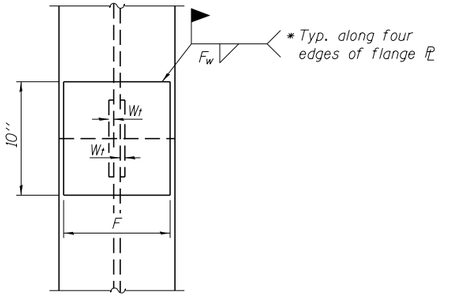
DETAIL D



Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT



END VIEW

Designation	F	F_f	F_w	W	W_f	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).

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

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

F-HP 1-27-12

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		CHECKED - SLV	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - SLV	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 047-8804
SHEET NO. MW-11 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	344
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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01\23\2017 15:41:09

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 4/30/15

ROUTE US 34 (FAP 591) DESCRIPTION Retaining Wall in South East Quadrant of US 34 & Game Farm Road Intersection LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.65820056, Longitude -88.44907102

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-8804
Station
BORING NO. 01
Station 378+77.59
Offset 56.3 ft Rt.
Ground Surface Elev. 637.44 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 619.9 ft ▼
Upon Completion 619.9 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Topsoil Fill, Brown Silty Clay Loess			
634.94			
Very Stiff Brown Silty Clay Loess	3		
	4 5	2.5 P	20
633.44			
Loose Brown Fine Sand to Coarse Gravel - Loamy	-5		
	3		
	2 2		8
630.44			
Very Loose Brown Fine to Coarse Sand - Loamy	WH		
WH = Weight of Hammer	WH WH		14
627.94			
Medium Brown Fine to Coarse Sand with Fine to Medium Gravel	-10 6		
	9 7		5
	12		
	12 12		5
	-15		
	9		
	9 12		11
Free Water at 17.5'	6		
	7 9		22
617.44	-20		
Dense Brown Fine Sand and Silt			12
			16 21		23
			8
			12 19		22
612.44	-25		
Dense Fine to Coarse Sand with Minor Fine to Coarse Gravel & Silt Pockets	8		
	15 23		17
609.94			
Very Dense Brown Fine Sand to Coarse Gravel - Potential Cobble / Boulders	30		
	31 31		9
	-30		
	21		
	34 31		10
	30		
	40 30		11
600.94			
End of Boring			
	-40		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING 047-8804.GPJ IL_DOT.GDT 3/24/16

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 4/30/15

ROUTE US 34 (FAP 591) DESCRIPTION Retaining Wall in South East Quadrant of US 34 & Game Farm Road Intersection LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.65822632, Longitude -88.44925567

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-8804
Station
BORING NO. 02
Station 378+26.71
Offset 57.8 ft Rt.
Ground Surface Elev. 637.53 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 620.0 ft ▼
Upon Completion 620.0 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Topsoil Fill, Brown Silty Clay Loess			
635.03			
Very Stiff Brown Silty Clay Loam with Gravel Pieces	3		
	4 5	2.5 P	20
633.03			
Medium Brown Fine Sand to Coarse Gravel	-5 5		
	5 8		5
	6		
	8 10		4
	-10 8		
	11 11		5
	8		
	11 10		5
	-15		
	11		
	12 7		10
	5		
	6 7		21
	-20		
Medium Brown Fine Sand to Coarse Gravel *(continued)*	6		
	10 11		19
			11
			11 14		20
613.03	-25		
Dense Brown Fine Sand to Coarse Gravel	12		
	16 18		14
	21		
	26 28		13
	-30 20		
	21 24		12
605.03	7		
Hard Gray Silty Clay Till	9 11	4.5 P	12
	9		
	10 11	4.5 P	14
597.53	-40		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING 047-8804.GPJ IL_DOT.GDT 3/24/16

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 4/30/15

ROUTE US 34 (FAP 591) DESCRIPTION Retaining Wall in South East Quadrant of US 34 & Game Farm Road Intersection LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.65822632, Longitude -88.44925567

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-8804
Station
BORING NO. 02
Station 378+26.71
Offset 57.8 ft Rt.
Ground Surface Elev. 637.53 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 620.0 ft ▼
Upon Completion 620.0 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Hard Brown Silty Clay Till	10		
	15 22		15
595.03			
Dense Brown Fine Sand to Coarse Gravel - Boulders / Cobbles Possible	-45		
	21		
	31 39		11
591.03			
End of Boring			
	-50		
	-55		
	-60		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING 047-8804.GPJ IL_DOT.GDT 3/24/16

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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		CHECKED - SLV	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - SLV	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS (1 of 3)
STRUCTURE NO. 047-8804
SHEET NO. MW-12 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	345
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 5/1/15

ROUTE US 34 (FAP 591) DESCRIPTION Retaining Wall in South East Quadrant of US 34 & Game Farm Road Intersection LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.658267, Longitude -88.44952326

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-8804
Station

BORING NO. 03
Station 377+52.74
Offset 59.5 ft Rt.
Ground Surface Elev. 636.19 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 621.2 ft ▼
Upon Completion 621.2 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Topsoil Fill, Brown Silty Clay Loess & Brown Loamy Sand & Gravel			
633.69			
Medium Brown Fine Sand to Coarse Gravel - Loamy	3		
	4		5
	6		
631.69			
-5			
Medium Brown Fine Sand to Coarse Gravel with some Fine to Coarse Sand Layers	6		
	9		2
	12		
	7		
	11		3
	11		
-10			
	8		
	12		3
	14		
	9		
	9		7
	13		
▼ -15			
	7		
	9		14
	11		
	6		
	9		24
	11		
-20			
Medium Brown Fine Sand to Coarse Gravel with some Fine to Coarse Sand Layers *(continued)*	7		
	11		22
	18		
	8		
	14		23
	14		
-25			
	10		
	14		20
	16		
609.19			
Dense Brown Fine Sand to Coarse Gravel with some Fine to Coarse Sand Layers	11		
	16		12
	16		
-30			
	12		
	16		13
	21		
604.69			
End of Boring			
-35			
-40			

SOIL BORING 047-8804.GPJ IL_DOT.GDT 3/24/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 5/2/15

ROUTE US 34 (FAP 591) DESCRIPTION Retaining Wall in South East Quadrant of US 34 & Game Farm Road Intersection LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.6583174, Longitude -88.44987309

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-8804
Station

BORING NO. 04
Station 376+56.35
Offset 63.8 ft Rt.
Ground Surface Elev. 636.62 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 621.6 ft ▼
Upon Completion 621.6 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Topsoil Fill, Brown Silty Clay Loam with Gravel Pieces			
634.12			
Very Stiff Brown Silty Clay Loam with Heavy Gravel Pieces	3		
	3	3.5	17
	2	P	
631.62 -5			
Loose Brown Fine to Coarse Sand with some Fine to Coarse Gravel	2		
	3		6
	3		
629.62			
Medium Brown Fine Sand to Coarse Gravel with some Fine to Coarse Sand Layers	3		
	5		4
	7		
-10			
	3		
	5		4
	6		
	3		
	5		17
	7		
▼ -15			
	3		
	7		15
	9		
619.62			
Dense Brown Fine Sand to Coarse Gravel	12		
	21		13
Cobbles / Boulders felt at 17.0'	19		
-20			
Dense Brown Fine Sand to Coarse Gravel	16		
	22		12
	24		
Cobbles / Boulders felt at 17.0' *(continued)*			
	15		
	14		19
	21		
611.62 -25			
Very Stiff Gray Silty Clay Loam Till	16		
	10	3.0	9
	7	P	
	10		
	10	3.5	13
	10	P	
-30			
	10		
	9	3.5	13
	7	P	
604.62			
Very Stiff (Dense) Gray Silt with Minor Silty Clay Loam Layers			
	15		
	27	3.5	15
	22	P	
600.12			
End of Boring			
-35			
-40			

SOIL BORING 047-8804.GPJ IL_DOT.GDT 3/24/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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	PLOT DATE = 01\23\2017	CHECKED - SLV	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS (2 of 3)
STRUCTURE NO. 047-8804
SHEET NO. MW-13 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	346
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 5/2/15

ROUTE US 34 (FAP 591) DESCRIPTION Retaining Wall in South East Quadrant of US 34 & Game Farm Road Intersection LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.6583425, Longitude -88.45012075

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-8804
Station

BORING NO. 05
Station 375+89.15
Offset 71.4 ft Rt.
Ground Surface Elev. 635.75 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 618.3 ft ▼
Upon Completion 618.3 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam Topsoil, Brown Silty Clay Loam			
633.25			
Loose Brown Fine to Coarse Sand - Loamy with Minor Fine to Medium Gravel	3		
	4 5		5
630.75 -5			
Medium Brown Fine Sand to Coarse Gravel with some Fine to Coarse Sand Layers	5		
	7 9		4
	6		
	6 11		4
-10			
	6		
	7 10		4
	6		
	11 11		4
-15			
	8		
	10 12		5
618.75			
Dense Brown Fine Sand to Coarse Gravel with Fine to Coarse Sand Layers	10		
Cobbles / Boulders felt at 17.0'	15 17		19
-20			
Dense Brown Fine Sand to Coarse Gravel with Fine to Coarse Sand Layers	17		
	27 25		14
Cobbles / Boulders felt at 17.0' *(continued)*			
	18		
	31 30		16
-25			
	29		
609.25	31 21		13
Very Stiff to Hard Gray Silty Clay Loam Till			
	9		
	9 12	4.0 P	13
-30			
	9		
602.75	10 12	4.0 P	12
Dense Brown Fine Sand to Coarse Gravel			
-35			
	18		
	21 18		14
596.75			
Dense Gray Silty Clay Till with Silt Layers & Fine Sand Layers -40			

SOIL BORING: 047-8804.GPJ IL_DOT.GDT 3/24/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 5/2/15

ROUTE US 34 (FAP 591) DESCRIPTION Retaining Wall in South East Quadrant of US 34 & Game Farm Road Intersection LOGGED BY Larry Myers

SECTION (13)R-2 & BY LOCATION NE 1/4, SEC. 29, TWP. 37N, RNG. 7E, 3rd PM, Latitude 41.6583425, Longitude -88.45012075

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 047-8804
Station

BORING NO. 05
Station 375+89.15
Offset 71.4 ft Rt.
Ground Surface Elev. 635.75 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 618.3 ft ▼
Upon Completion 618.3 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dense Gray Silty Clay Till with Silt Layers & Fine Sand Layers *(continued)*	21		
	27 32	>4.5 P	12
-45			
	20		
	20 20	>4.5 P	18
587.75			
Very Dense Gray Fine to Coarse Gravel with Minor Sand			
-50			
	30		
	42 43		11
581.75			
Hard (Very Dense) Gray Loam Till with Heavy Gravel Pieces. Borderline Gravel in Silt Matrix - Very Dense.	100/4"		7
580.42			
End of Boring			
-60			

SOIL BORING: 047-8804.GPJ IL_DOT.GDT 3/24/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS (3 of 3)
STRUCTURE NO. 047-8804
SHEET NO. MW-14 OF MW-14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	347
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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LEGEND

EXISTING STREET LIGHT POLE AND MAST ARM TO REMAIN. INSTALL NEW 400 W LUMINAIRE

STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT, M–C–3, 15 FT MAST ARM

PROPOSED ELECTRIC CABLE IN TRAFFIC SIGNAL CONDUIT, 600V (XLP–TYPE USE) 3–1/C NO.10

PROPOSED COMBINATION LIGHTING CONTROLLER INSIDE TRAFFIC SIGNAL CONTROLLER

EXISTING CITY STREET LIGHTING CONTROLLER (AT BEECHER ROAD ONLY)

UNIT DUCT, 600V, 2–1C NO. 10, 1/C NO. 10 GROUND, (XLP–TYPE USE), 3/4" DIA. POLYETHYLENE

LIGHTING GENERAL NOTES

1. ALL SPLICES AND CONNECTIONS FOR ROADWAY LIGHTING SHALL BE AT THE POLE BASE ONLY, UNDERGROUND SPLICING OF LIGHTING CONDUCTORS IS NOT PERMITTED.

2. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ELECTRICAL WORK WITH OTHER TRADES.

3. LUMINAIRE SHALL BE ORIENTED WITH OPTICS PERPENDICULAR TO THE CENTERLINE OF THE ROADWAY AS REQUIRED BY ARTICLE 821.04 OF THE STANDARD SPECIFICATIONS.

4. PROVIDE AND INSTALL COMBINATION LIGHTING CONTROLLER EQUIPMENT INSIDE TRAFFIC SIGNAL CONTROLLER. SEE COMBINATION LIGHTING CONTROLLER DETAIL AND SPECIAL PROVISION FOR MORE INFORMATION.

5. EXISTING MAST ARM AND LUMINAIRES SHALL BE REMOVED FROM THE TRAFFIC SIGNAL COMBINATION POLES. COST OF THIS WORK SHALL BE PAID UNDER REMOVAL OF LIGHTING UNIT, NO SALVAGE. SEE TRAFFIC SIGNAL PLANS FOR EXACT LOCATIONS.

6. THE COMBINATION ROADWAY LIGHTING LUMINAIRES AT THE US–34/BEECHER ROAD INTERSECTION SHALL BE CONNECTED TO THE EXISTING CITY STREET LIGHTING CONTROLLER LOCATED AT THE NORTH–EAST QUADRANT OF THE INTERSECTION.

BILL OF MATERIALS		QUANTITY	SYCAMORE	BEECHER	ISABEL	CANNONBALL	GAME FARM	ELDAMAIN
DESCRIPTION	UNIT	TOTALS	ROAD	ROAD	ROAD	TRAIL	ROAD	ROAD
DRILL EXISTING HANDHOLE	EACH	1	0	1	0	0	0	0
UNIT DUCT, 600V, 2-1C NO. 10, 1/C. NO. 10 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE	FOOT	40	0	40	0	0	0	0
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 10	FOOT	2240	245	525	260	425	235	550
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	2240	245	525	260	425	235	550
LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	18	2	4	2	4	2	4
REMOVAL OF LIGHTING UNIT, NO SALVAGE	EACH	17	0	4	3	4	2	4
COMBINATION LIGHTING CONTROLLER	EACH	5	1	0	1	1	1	1
TEMPORARY LIGHTING SYSTEM	EACH	6	1	1	1	1	1	1

*(13)R-2[(13 BR)C, (13 BR-1)BR]

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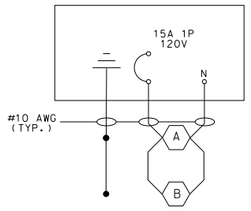
	PLOT DATE = 2/1/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

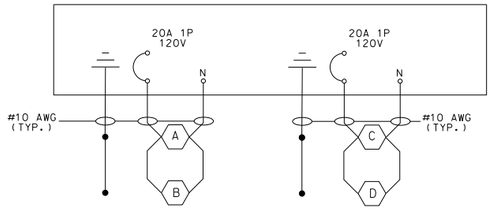
LIGHTING GENERAL NOTES

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

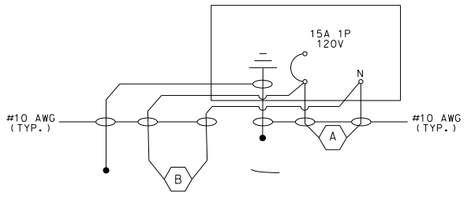
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	348
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		



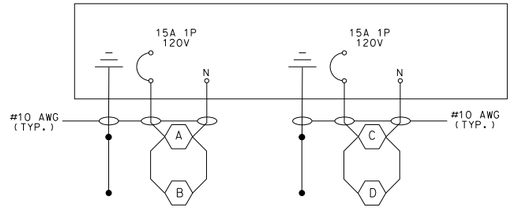
US RTE 34 & SYCAMORE RD.



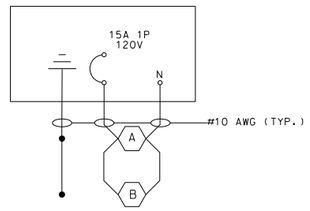
US RTE 34 & BEECHER RD.
(LUMINAIRES A, B, C, & D SHALL BE ADDED TO EXISTING CITY STREET LIGHTING CONTROLLER)



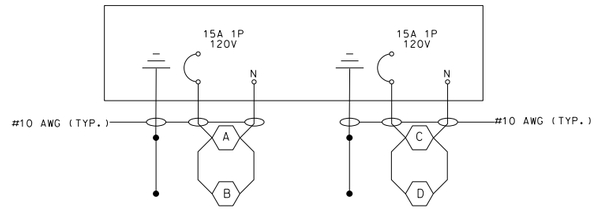
US RTE 34 & ISABEL DR.



US RTE 34 & CANNONBALL TR.



US RTE 34 & GAME FARM RD.



US RTE 34 & ELDAMAIN RD.

400W ROADWAY LUMINAIRE

GROUND ROD

• GROUND CONNECTION AT EACH POLE

NOTE:

ALL NECESSARY REVISIONS TO THE WIRING SHOWN ON THIS SHEET SHALL BE MADE AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.

*(13)R-2[(13 BR)C, (13 BR-1)BR]

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		DRAWN -	REVISED -
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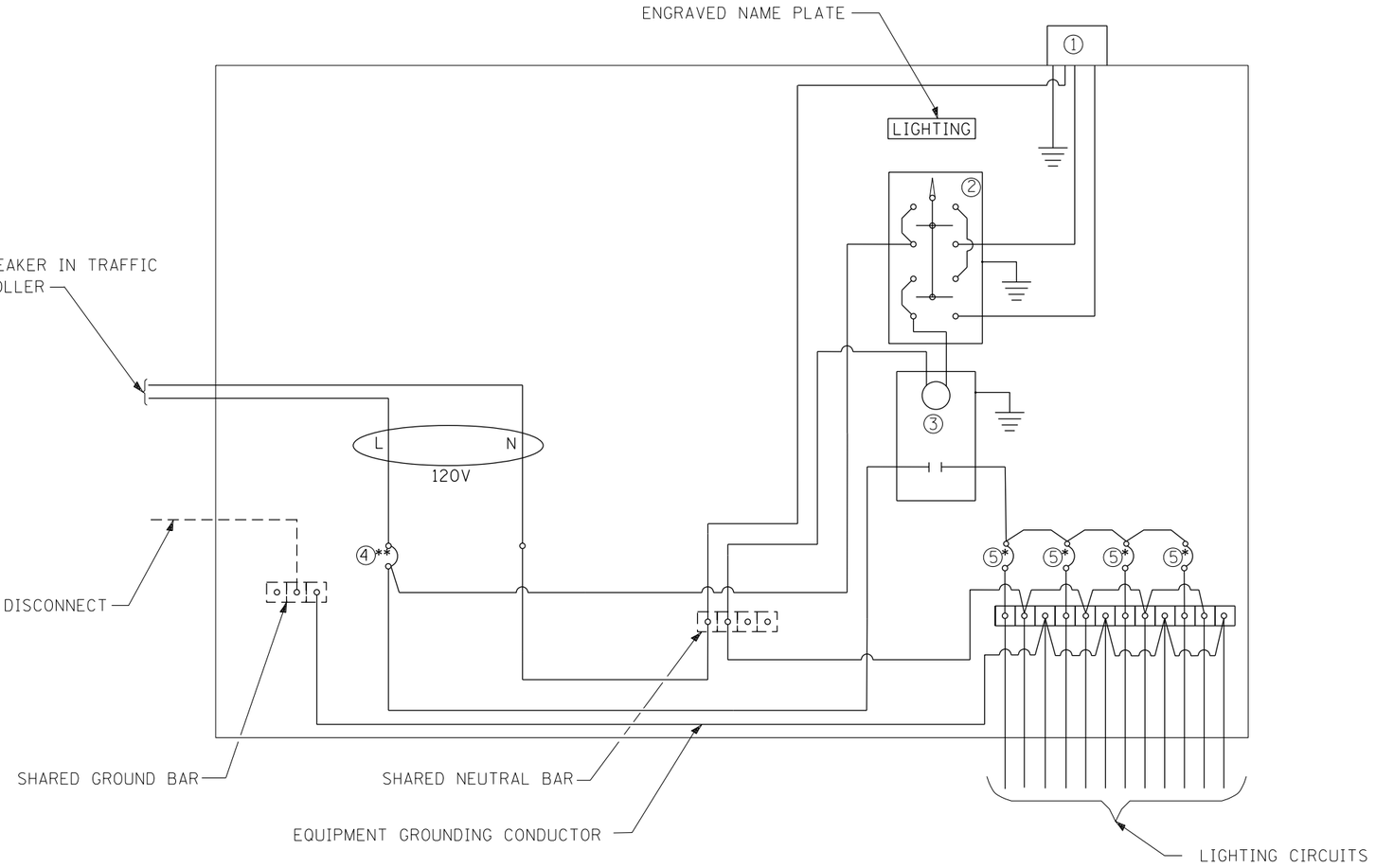
	PLOT DATE = 2/1/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CIRCUIT DIAGRAMS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	349
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			



LEGEND

Ground connected to shared ground bar.

---- Indicates shared with traffic signal controller equipment.

① Photocell with integral surge arrester.
② HAND-OFF-AUTO selector switch.
③ 30 amp, 1 pole electrically held contactor.
④ 20 amp, 1 pole, circuit breaker
⑤ 15 amp, 1 pole, branch breaker

* Quantity of branch breakers shall depend on the combination lighting circuit diagram or as directed by the engineer.

** Size larger as needed.

COMBINATION LIGHTING CONTROLLER WIRING DIAGRAM

GENERAL NOTES

All control installation components shall be U.L. listed.

All wiring shall be neatly dressed, identified by tags, and supported.

The circuit breaker shall be clearly labeled for lighting according to Article 1068.01(f) of the Standard Specifications.

Install under eave photocell on traffic signal controller cabinet per Article 1068.01(e)(2) of the Standard Specifications.

All lighting euipment shall be installed on a side mounted insulated subpanel per Article 1068.01(e)(9) of the Standard Specifications on the lower right hand side of the traffic signal controller or as directed by the engineer.

Provide an engraved stainless steel nameplate on the sub panel reading "LIGHTING".

•(13)R-2[(13 BR)C, (13 BR-1)BR]

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 3\Projects\EP03507\DrawingData\EADsheets\EP03507-sht-lighting.dgn	USER NAME = woodyerjp	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	COMBINATION LIGHTING CONTROLLER DETAIL			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -					591	•	KENDALL	533	350
	PLOT DATE = 2/1/2017	DATE -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.			CONTRACT NO. 66993		
										ILLINOIS FED. AID PROJECT		

LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT

Luminaires shall be according to Section 821 of the Standard Specifications and as follows:

ILLINOIS DEPARTMENT OF TRANSPORTATION
400W HPS LUMINAIRE PERFORMANCE TABLE

GIVEN CONDITIONS

ROADWAY DATA:	Pavement Width	36 FT
	Number Of Lanes (In Direction of Travel)	3
	Median Width	N/A
	IES Surface Classification	R3
	Q-Zero Value	.07
LIGHT POLE DATA:	Mounting Height	45 FT
	Mast Arm Length	15 FT
	Pole Set-Back From Edge Of Pavement	15 FT
LUMINAIRE DATA:	Lamp Type	HPS
	Lamp Lumens	50,000
	IES Vertical Distribution	M
	IES Control Of Distribution	FC
	IES Lateral Distribution	3
	Total Light Loss Factor	.684
LAYOUT DATA:	Spacing	175 FT
	Configuration	ONE SIDE ONLY
	Luminaire Overhang Over Edge Of Pavement Lane	0 FT

NOTE: Variations from the above specified IES distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

PERFORMANCE REQUIREMENTS

NOTE: These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

ILLUMINATION:	Average Horizontal Illumination, (E_{Ave})	1.3 fc
	Uniformity Ratio, (E_{Ave}/E_{Min})	3.0
LUMINANCE:	Average Luminance: (L_{Ave})	0.9 Cd/m^2
	Uniformity Ratios: (L_{Ave}/L_{Min})	3.0
	(L_{Max}/L_{Min})	5.0
	Maximum Veiling Luminance Ratio: (L_v/L_{Ave})	0.3

•(13)R-2[(13 BR)C, (13 BR-1)BR]

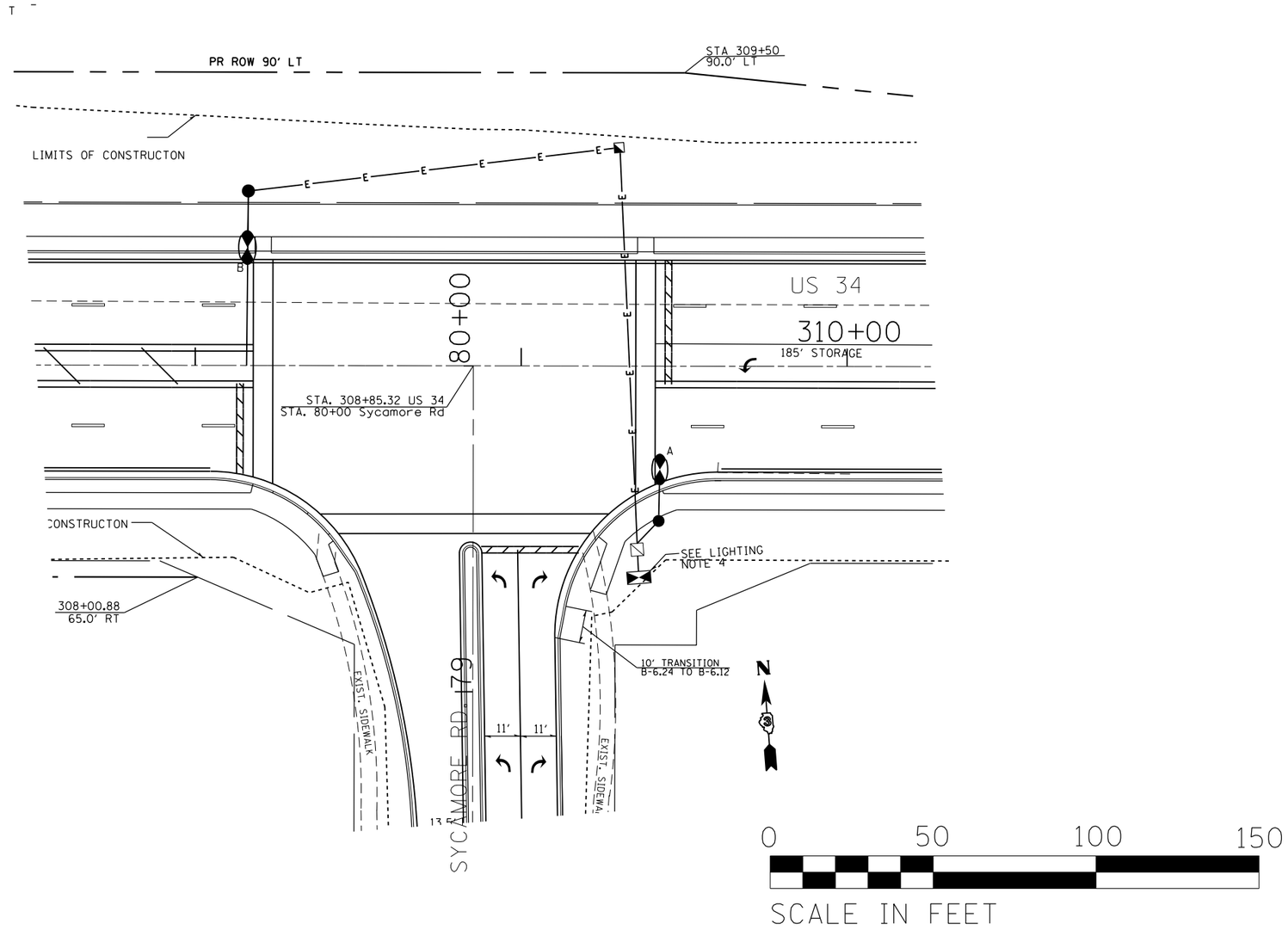
FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 3\Projects\EP03507\DrawingData\CADsheets\EP03507-sht-lighting.dgn	USER NAME = woodyer.jp	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LUMINAIRE PERFORMANCE TABLE			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -					591	•	KENDALL	533	351
	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -							CONTRACT NO. 66993		
	PLOT DATE = 2/1/2017	DATE -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.		ILLINOIS	FED. AID PROJECT		

LEGEND

STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT, M–C–3, 30 FT M.H., 15 FT MAST ARM

E E PROPOSED ELECTRIC CABLE IN TRAFFIC SIGNAL CONDUIT, 600V (XLP–TYPE USE) 3–1/C NO.10

PROPOSED COMBINATION LIGHTING CONTROLLER INSIDE TRAFFIC SIGNAL CONTROLLER



•(13)R-2[(13 BR)C, (13 BR-1)BR]

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	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 2/1/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING–SYCAMORE ROAD

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	352
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		

LEGEND

EXISTING STREET LIGHT POLE AND MAST ARM TO REMAIN. INSTALL NEW 400 W LUMINAIRE

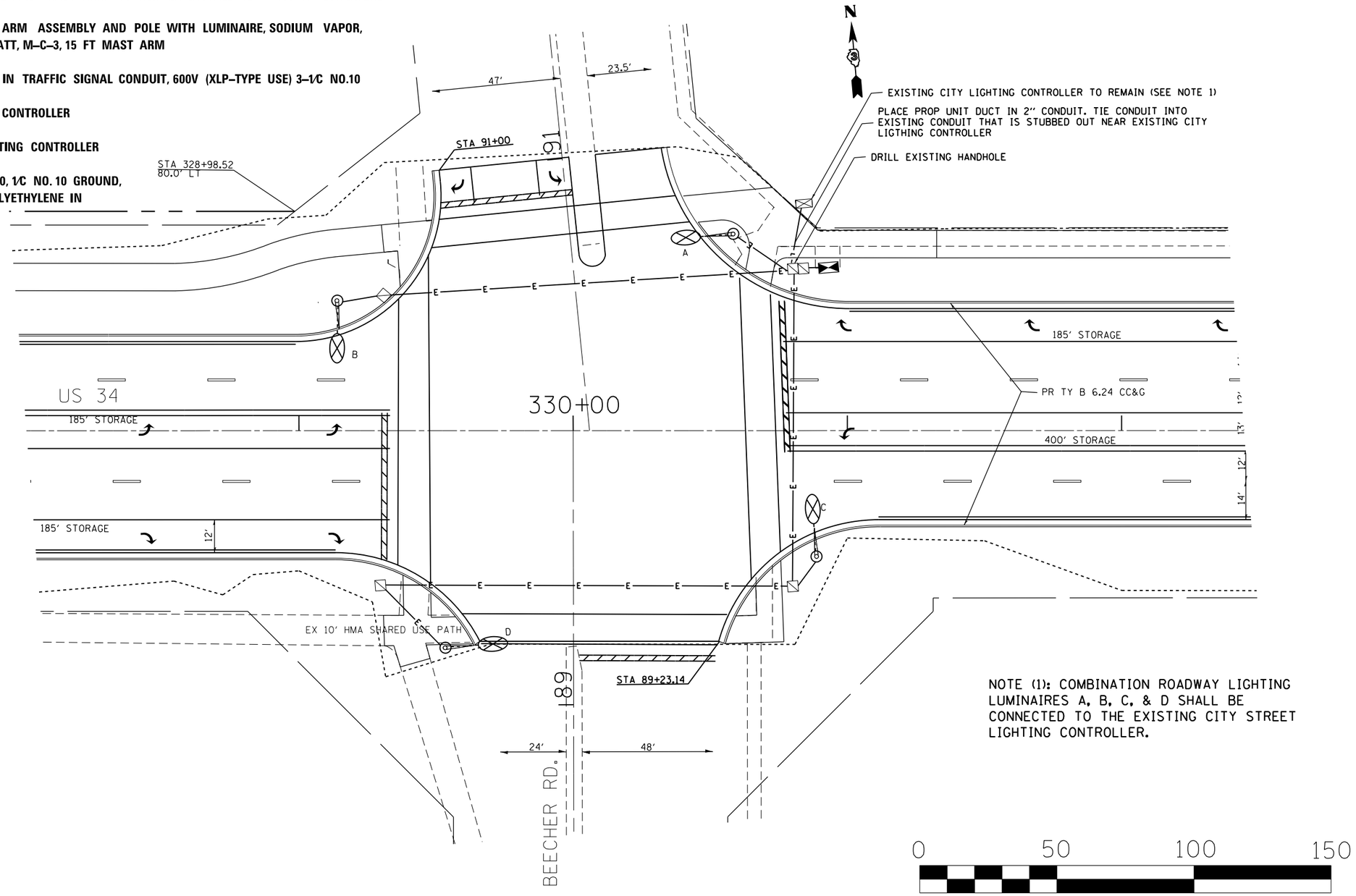
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT, M–C–3, 15 FT MAST ARM

E — PROPOSED ELECTRIC CABLE IN TRAFFIC SIGNAL CONDUIT, 600V (XLP–TYPE USE) 3–1⁄C NO.10

PROPOSED TRAFFIC SIGNAL CONTROLLER

EXISTING CITY STREET LIGHTING CONTROLLER

L — UNIT DUCT, 600V, 2–1C NO. 10, 1⁄C NO. 10 GROUND, (XLP–TYPE USE), 3⁄4" DIA. POLYETHYLENE IN 2" DIA. CONDUIT


N
EXISTING CITY LIGHTING CONTROLLER TO REMAIN (SEE NOTE 1)
PLACE PROP UNIT DUCT IN 2" CONDUIT. TIE CONDUIT INTO EXISTING CONDUIT THAT IS STUBBED OUT NEAR EXISTING CITY LIGTHING CONTROLLER
DRILL EXISTING HANDHOLE
47'
23.5'
STA 91+00
STA 328+98.52
80.0' LT
591
185' STORAGE
PR TY B 6.24 CC&G
400' STORAGE
US 34
330+00
185' STORAGE
12'
14'
EX 10' HMA SHARED USE PATH
STA 89+23.14
189
24'
48'
BEECHER RD.
A
B
C
D
E
E
E

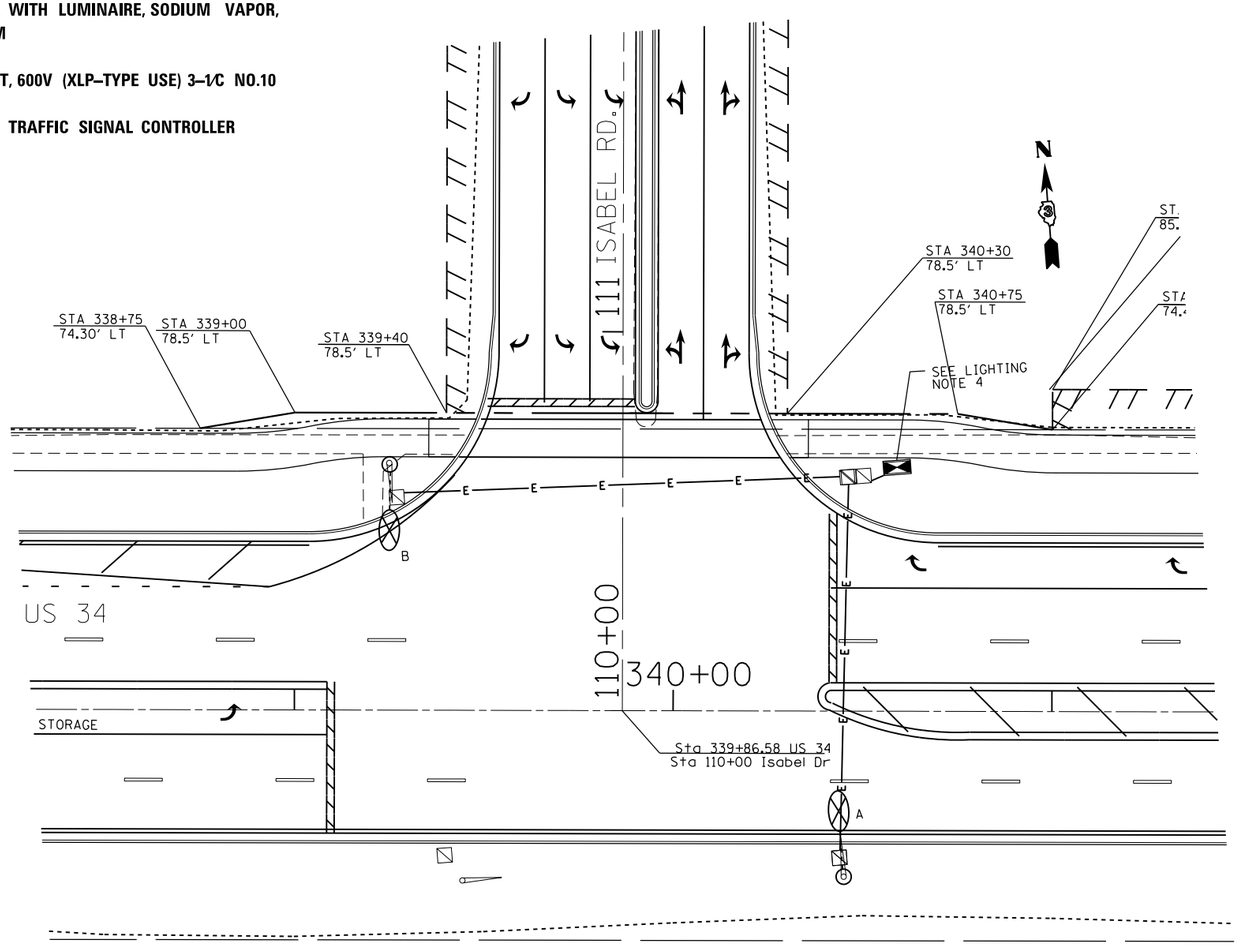
LEGEND

EXISTING STREET LIGHT POLE AND MAST ARM TO REMAIN. INSTALL NEW 400 W LUMINAIRE

STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT, M–C–3, 15 FT MAST ARM

E PROPOSED ELECTRIC CABLE IN TRAFFIC SIGNAL CONDUIT, 600V (XLP–TYPE USE) 3–1/C NO.10

PROPOSED COMBINATION LIGHTING CONTROLLER INSIDE TRAFFIC SIGNAL CONTROLLER



0 50 100 150

SCALE IN FEET

*(13)R-2[(13 BR)C, (13 BR-1)BR]

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		DRAWN -	REVISED -
	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 2/1/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING–ISABEL ROAD

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	354

CONTRACT NO. 66993

ILLINOIS FED. AID PROJECT

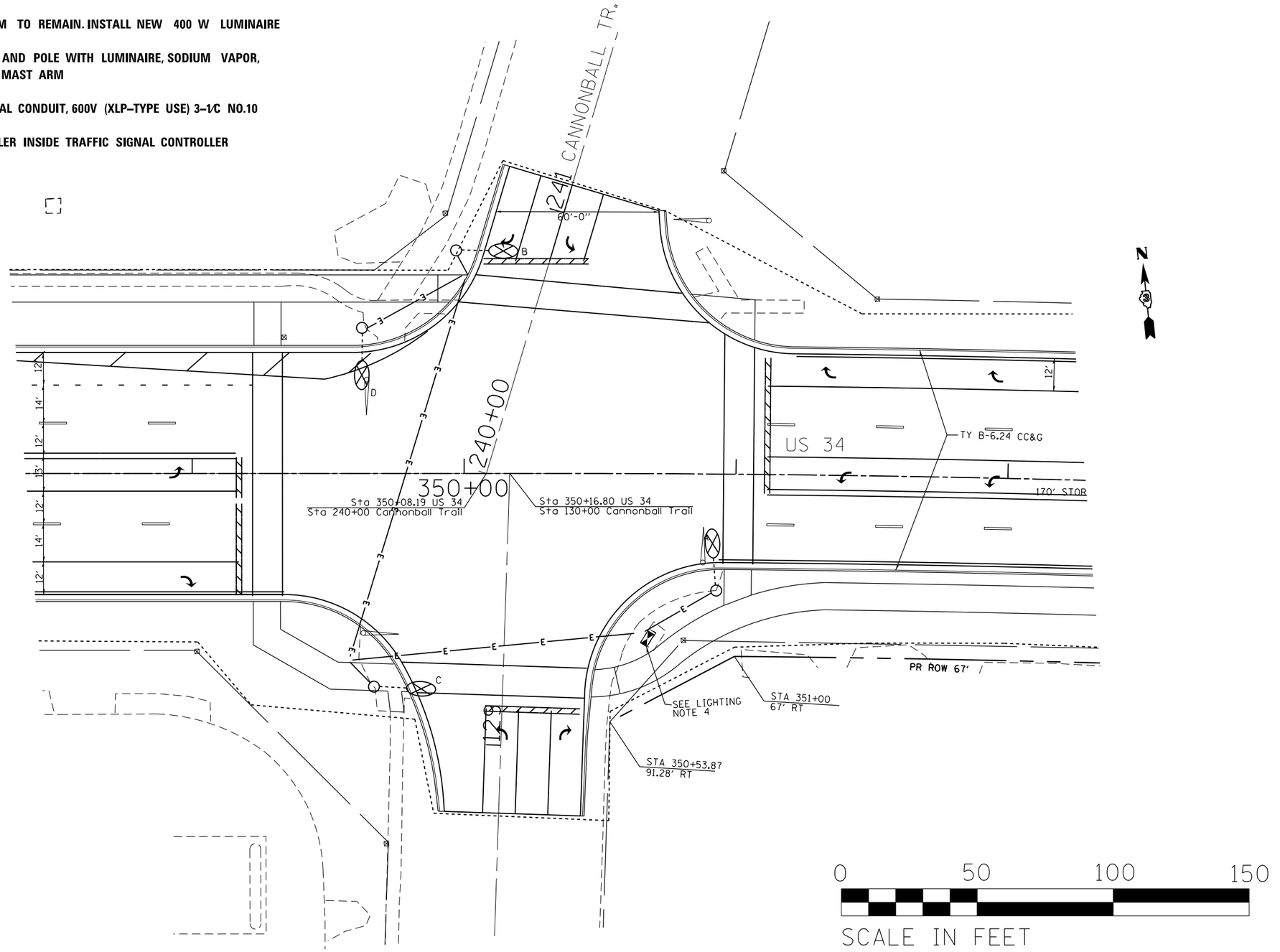
LEGEND

EXISTING STREET LIGHT POLE AND MAST ARM TO REMAIN. INSTALL NEW 400 W LUMINAIRE

STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT, M–C–3, 15 FT MAST ARM

E — PROPOSED ELECTRIC CABLE IN TRAFFIC SIGNAL CONDUIT, 600V (XLP–TYPE USE) 3–1/C NO.10

PROPOSED COMBINATION LIGHTING CONTROLLER INSIDE TRAFFIC SIGNAL CONTROLLER



•(13)R-2[(13 BR)C, (13 BR-1)BR]

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		DRAWN -	REVISED -
	PLOT SCALE = 40.0000 '/ in.	CHECKED -	REVISED -
	PLOT DATE = 2/1/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

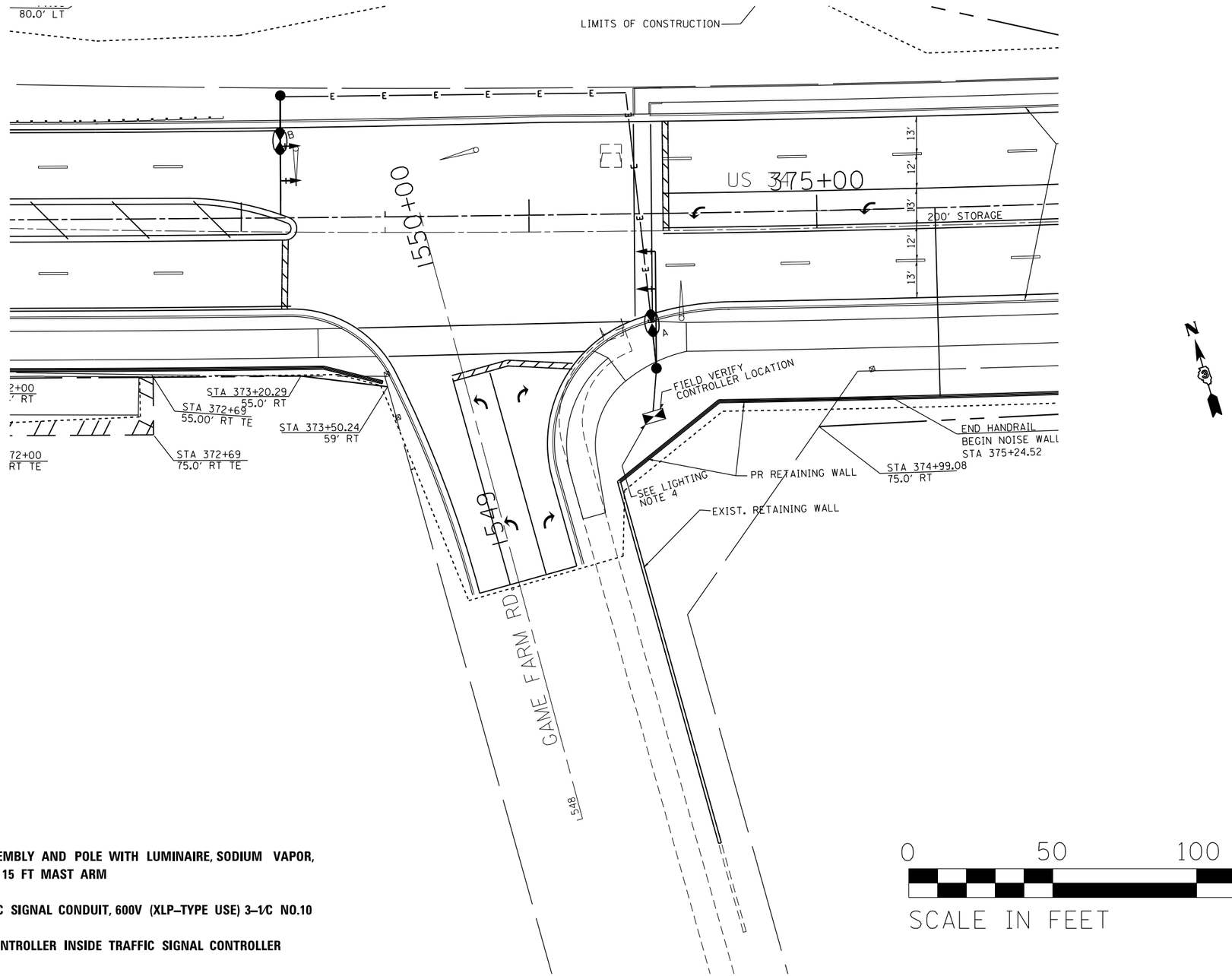
LIGHTING–CANNONBALL TRAIL

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	355

CONTRACT NO. 66993

ILLINOIS FED. AID PROJECT



LEGEND

STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT, M–C–3, 15 FT MAST ARM

E E PROPOSED ELECTRIC CABLE IN TRAFFIC SIGNAL CONDUIT, 600V (XLP–TYPE USE) 3–1/C NO.10

PROPOSED COMBINATION LIGHTING CONTROLLER INSIDE TRAFFIC SIGNAL CONTROLLER

0 50 100 150

SCALE IN FEET

•(13)R-2[(13 BR)C, (13 BR-1)BR]

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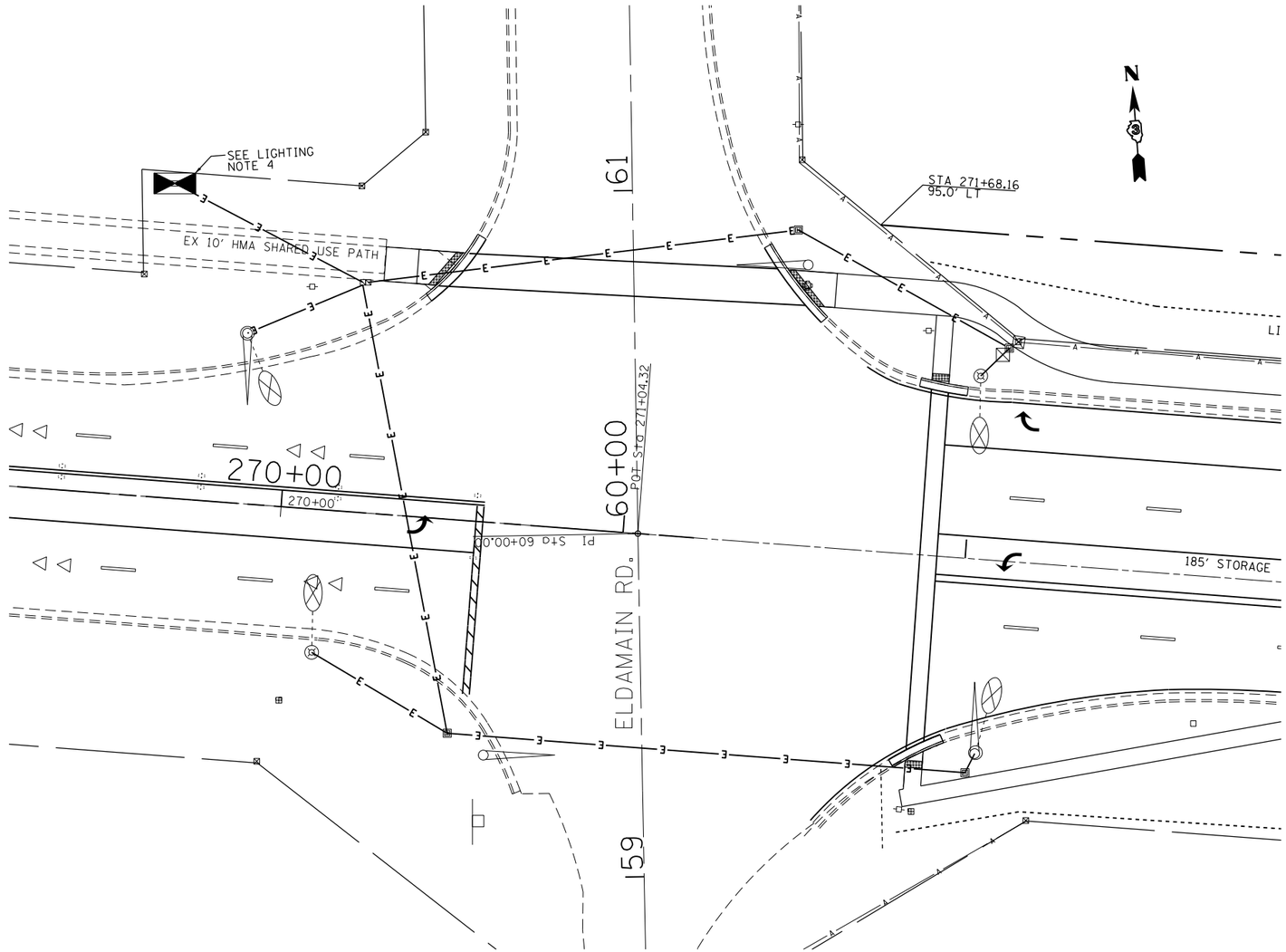
	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 2/1/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING–GAME FARM ROAD

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	356
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			



LEGEND

EXISTING STREET LIGHT POLE AND MAST ARM TO REMAIN. INSTALL NEW 400 W LUMINAIRE

STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT, M–C–3, 15 FT MAST ARM

PROPOSED ELECTRIC CABLE IN TRAFFIC SIGNAL CONDUIT, 600V (XLP–TYPE USE) 3–1C NO.10

PROPOSED COMBINATION LIGHTING CONTROLLER INSIDE TRAFFIC SIGNAL CONTROLLER

0 50 100 150

SCALE IN FEET

•(13)R-2[(13 BR)C, (13 BR-1)BR]

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	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 2/1/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING–ELDAMAIN RD.

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	357

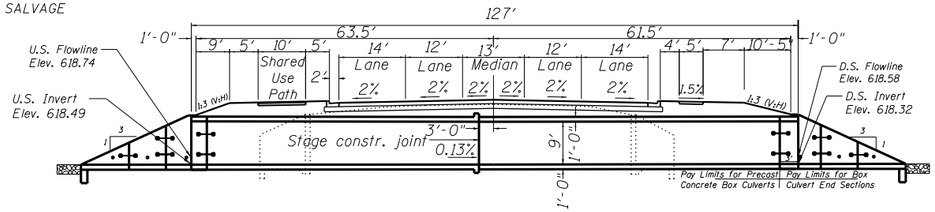
CONTRACT NO. 66993

ILLINOIS FED. AID PROJECT

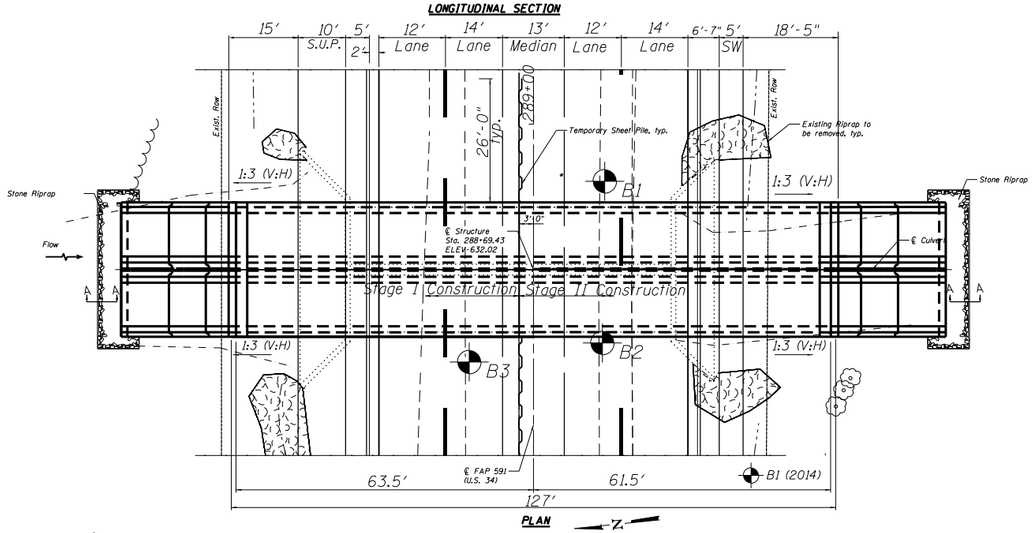
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE: S.N. 047-2014, F.A. RTE. 591, U.S. 34, SECTION (13)BR STA. 288+69.43. BUILT IN 1997 AS A TWO CELL 12' x 9' PRECAST CONCRETE BOX CULVERT WITH CAST-IN-PLACE CONCRETE END SECTIONS AND WING WALLS. THE TOTAL LENGTH OF THE CULVERT (ALONG THE CREEK CENTERLINE) MEASURES 69'-6". THERE IS NO GUARDRAIL AT THE CULVERT. THE EXISTING CULVERT IS TO BE REMOVED AND REPLACED WITH A 12' x 9' PRECAST DOUBLE BOX CULVERT UTILIZING STAGE CONSTRUCTION.

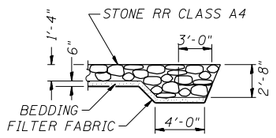
NO SALVAGE



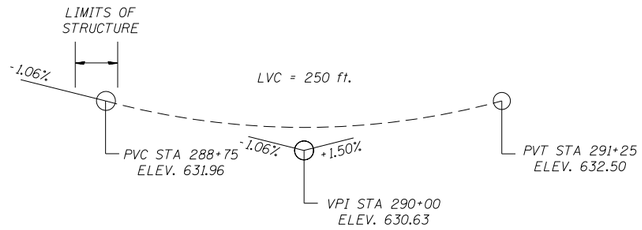
LONGITUDINAL SECTION



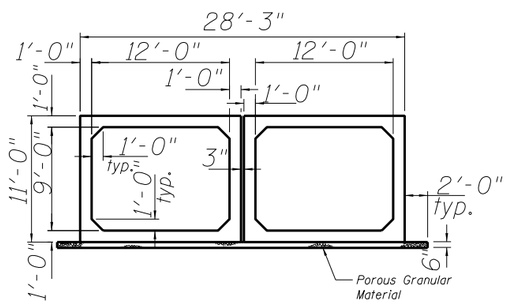
B1 Indicates Soil Boring Location and Number
ALL BORINGS DONE IN 1996 EXCEPT AS NOTED



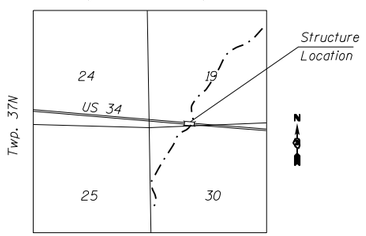
SECTION A-A



PROFILE GRADE
(ALONG ℄ ROADWAY)



SECTION THRU PRECAST BARREL



LOCATION MAP

STATION 288+69.43
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 591 SECTION (13BR-1)BR
F.A. PROJ.
LOADING HL-93
STR. NO. 047-2051

NAME PLATE
SEE STD. 515001

TEMPORARY SHEET PILING DATA

TOP ELEV. = 631.50
TIP ELEV. = 593.65 AND VARIES
EMBEDMENT = 22.1 ft.
MIN. SECTION MODULUS = 53.8 in^3/ft

IF THE CONTRACTOR CHOOSES TO ALTER THE TEMPORARY CANTILEVERED SHEET PILING DESIGN REQUIREMENTS SHOWN ON THE PLANS FOR LESSER DESIGN REQUIREMENTS, THEN FULL DESIGN SUBMITTALS WITH THE REQUIRED SEALS WILL BE EXPECTED BY THE DEPARTMENT FOR REVIEW AND APPROVAL.

GENERAL NOTES

ALL DIMENSIONS ARE IN INCHES (in.) EXCEPT AS NOTED.

THIS BOX CULVERT HAS A FILL HEIGHT OF 3'-7" . THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-273.

THE CONTRACTOR SHALL ANCHOR THE SHEET PILING TO THE BACK OF THE EXISTING WALLS. THE CONNECTION SHALL BE APPROVED BY THE ENGINEER.

THERE WAS A BRIDGE BUILT AT THIS LOCATION IN 1923, AND THIS STRUCTURE WAS WIDENED IN 1946. WHEN IT WAS WIDENED, THE ORIGINAL 1923 FOOTING WAS LEFT IN PLACE. IF THE EXISTING FOOTING (OR ANY OTHER SUBSTRUCTURE) IS ENCOUNTERED WHILE DRIVING SHEET PILING, THEN THE FOOTING (OR ANY OTHER SUBSTRUCTURE) SHALL BE REMOVED AND PAID FOR AS SPECIFIED IN ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

HARD DRIVING MAY BE ENCOUNTERED DURING THE SHEET PILING INSTALLATION. THE CONTRACTOR SHALL PROVIDE THE APPROPRIATE DRIVING EQUIPMENT FOR THE SOIL CONDITIONS INDICATED ON THE BORING LOGS.

TO PREVENT SPILLAGE OF BACKFILL MATERIAL BETWEEN STAGES, THE CONTRACTOR SHALL PROVIDE A MEANS OF POSITIVE CONFINEMENT OF THE BACKFILL MATERIAL AGAINST THE CULVERT SIDE WALL AND THE EXISTING ABUTMENT FACE. THE METHOD OF CONFINEMENT SHALL BE APPROVED BY THE ENGINEER.

BILL OF MATERIALS

ITEM	UNIT	QUANT.
BOX CULVERT REMOVAL	FOOT	87.5
NAME PLATE	EACH	1
PRECAST CONCRETE BOX CULVERT 12'x 9' (SPECIAL)	FOOT	242
STONE RIPRAP CLASS A4	SQ. YD.	135
FILTER FABRIC FOR RIPRAP	SQ. YD.	135
PRECAST BOX CULVERT END SECTIONS	EACH	4
TRAVERSABLE PIPE GRATE	FOOT	700
TEMPORARY SOIL RETENTION SYSTEM	SQ. FT.	314
POROUS GRANULAR EMBANKMENT	CU. YD.	1272

WATERWAY INFORMATION

Drainage Area = 17.2 sq. mi. Prop. Low Grade Elev. = 631.13 @ Sta. 290+00

Flood	Freq. (Yr.)	Q (C.F.S.)	Opening (Sq. Ft.) Exist.	Opening (Sq. Ft.) Prop.	Nat. H.W.E.	Head (Ft.) Exist.	Head (Ft.) Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	802	176	181	626.0	0.3	0.2	626.3	626.2
Hydraulic Design	50	1253	195	200	626.8	0.8	0.8	627.7	627.6
Base	100	1472	202	207	627.1	1.1	1.1	628.3	628.2
MAX. CALC.	500	2010	218	223	627.8	2.2	2.1	630.0	629.9
Overtopping	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

10-year velocity exist. 4.7 fps

10-year velocity prop 4.5 fps

LOADING HL-93

Allow 50 lbs./sq. ft. FOR FUTURE WEARING SURFACE.

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition
ASTM C1577

DESIGN STRESSES

PRECAST UNITS:
f'_c = 5000 lbs./sq. in.
f_y = 65,000lbs./sq. in.

FIELD UNITS:
f'_c = 3500 lbs./sq. in.
f_y = 60,000 lbs./sq. in. (REINF.)

GENERAL PLAN
U.S. ROUTE 34 OVER
ROB ROY CREEK
F.A.P. ROUTE 591 - SECTION (13)BR
KENDALL COUNTY
STA. 288+69.43
STRUCTURE NO. 047-2051

•(13)R-2((13 BRIC, (13 BR-1)BR]

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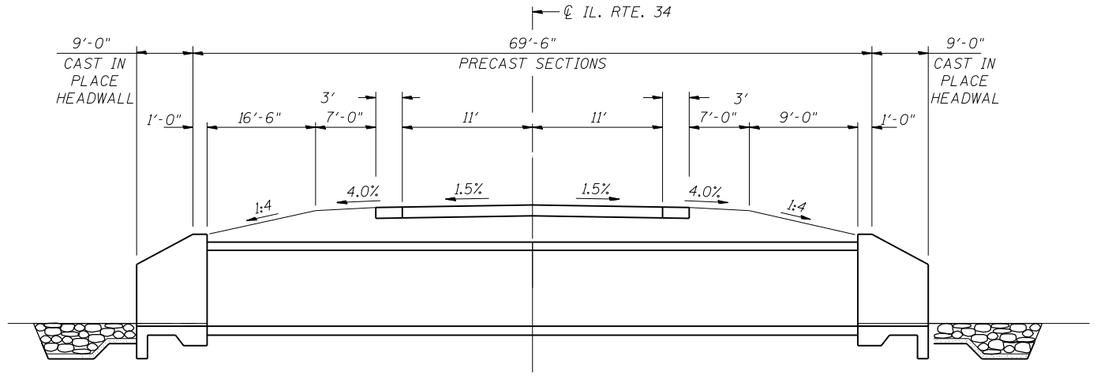
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 2/2/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

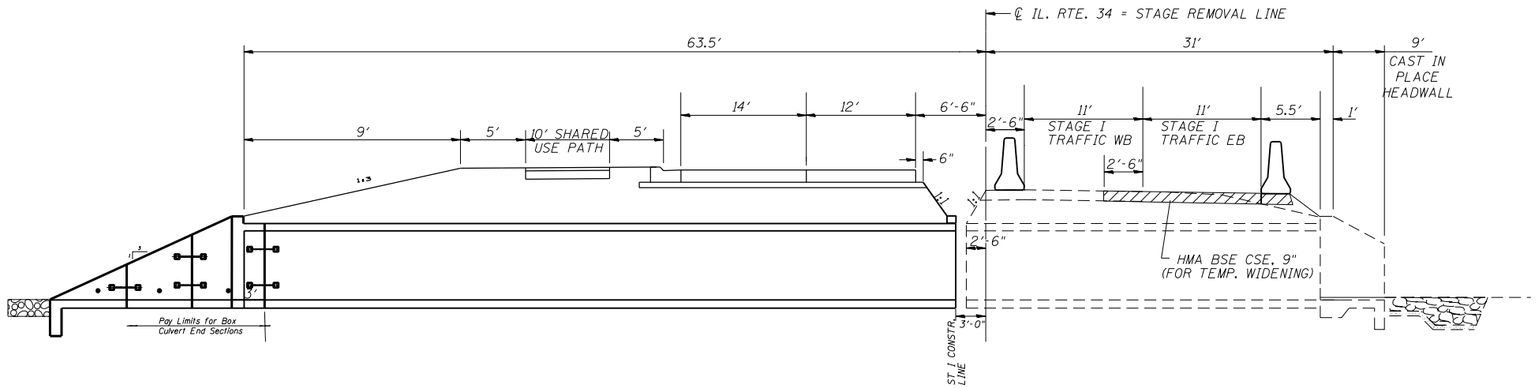
GENERAL PLAN AND ELEVATION
PROPOSED SN 047-2051

SCALE: | SHEET 1 OF 7 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	358
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

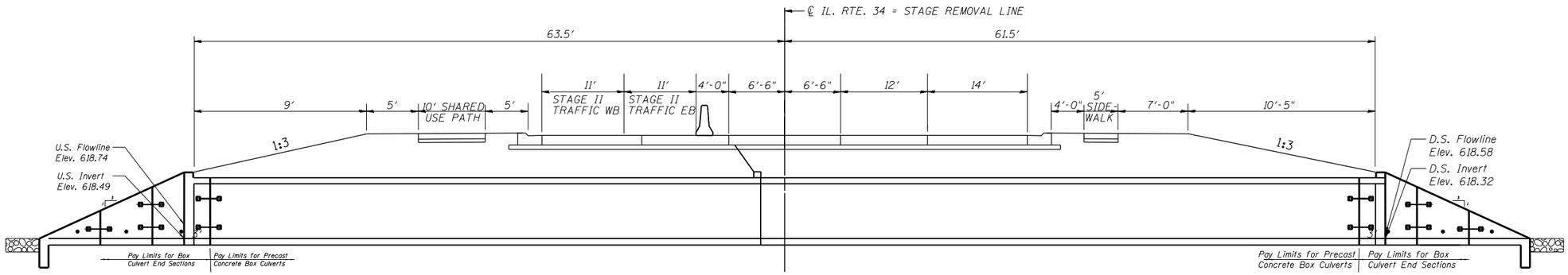


EXISTING



STAGE I CONSTRUCTION

N



STAGE II CONSTRUCTION

N

*(13)R-2[(13 BR)C, (13 BR-1)BR]

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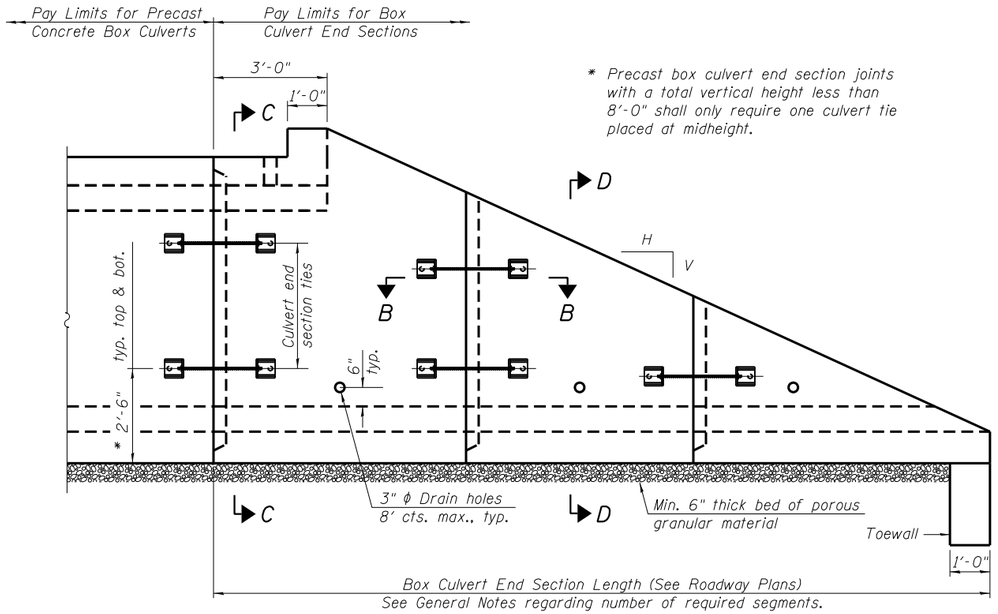
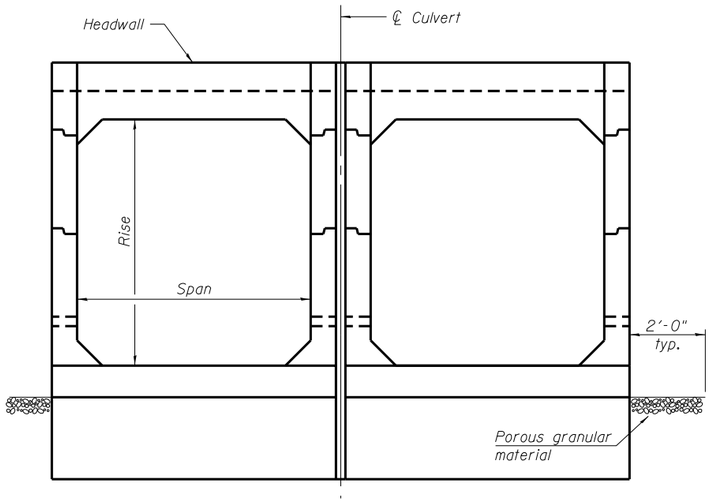
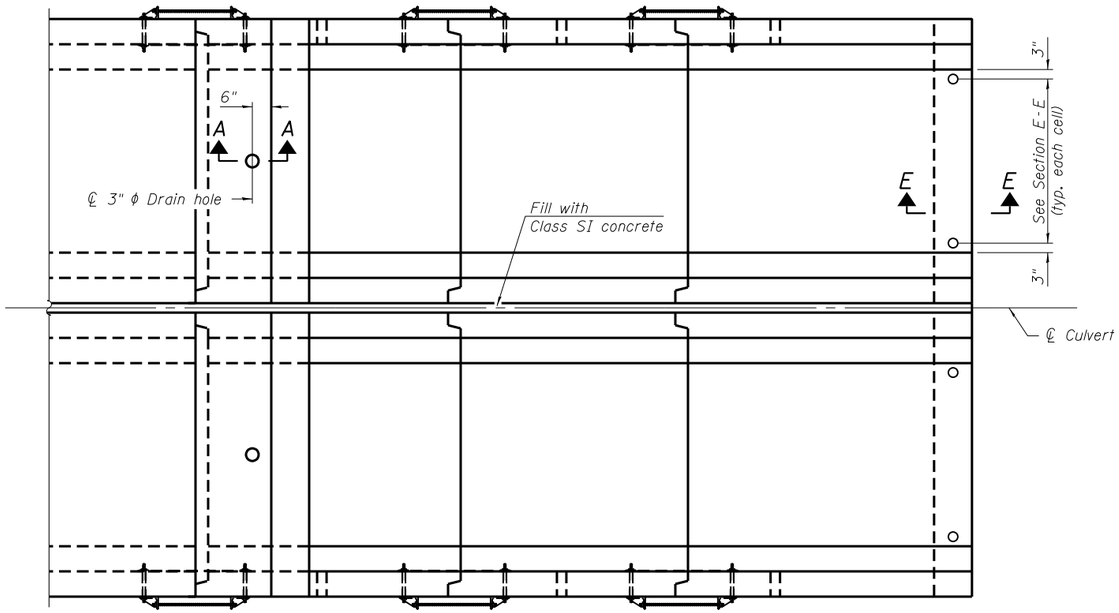
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -					591	•	KENDALL	533	359
	PLOT DATE = 2/2/2017	DATE -	REVISED -		SCALE:	SHEET 2 OF 7 SHEETS	STA. TO STA.			CONTRACT NO. 66993		
										ILLINOIS	FED. AID PROJECT	



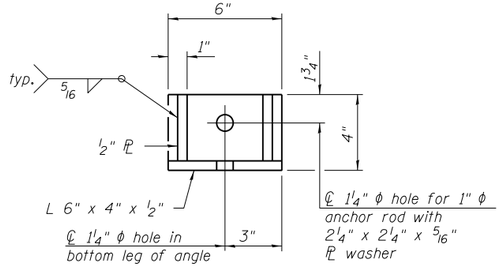
ELEVATION



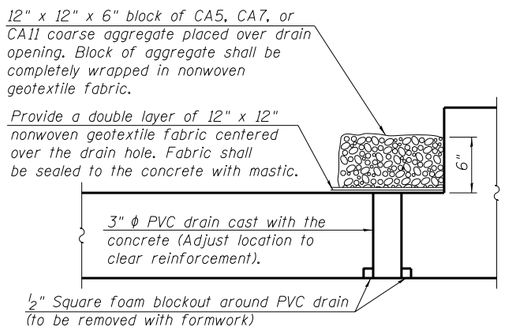
END VIEW



PLAN

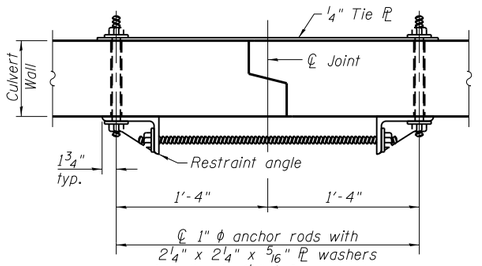


RESTRAINT ANGLE DETAIL



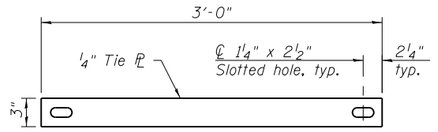
SECTION A-A

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)



SECTION B-B

(Showing end section tie details)



TIE PLATE DETAIL

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. This work will be measured for payment as each, with each end of each culvert being one each. End sections will be paid for at the contract unit price per each for Box Culvert End Sections of the culvert number specified.

Typical box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements of ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

Number of segments shown in Elevation is for example only. Length and number of precast box sections required to construct Box Culvert End Sections shall be determined by the Contractor.

See roadway plans for embankment slope (V:H).

1" ϕ anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2 1/4" x 2 1/4" x 5/16" plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 1/2 turn on one of the nuts for anchor rods installed in the walls. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the contract unit price for Box Culvert End Sections of the culvert number specified.

Drain holes shall conform to the requirements of Article 503.11 of the Standard Specifications unless noted otherwise.

Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01. The minimum weight of the fabric shall be 6 oz. / sq. yd..

For end sections with traversable pipe grate systems, see grate detail sheet for required modifications.

The 3" nominal space between adjacent end sections shall be filled with Class SI concrete in accordance with Article 540.06 of the Standard Specifications. Cost included with Box Culvert End Sections.

MCB-TES

10-15-2016

*(13)R-2((13 BR)C, (13 BR-1)BR)

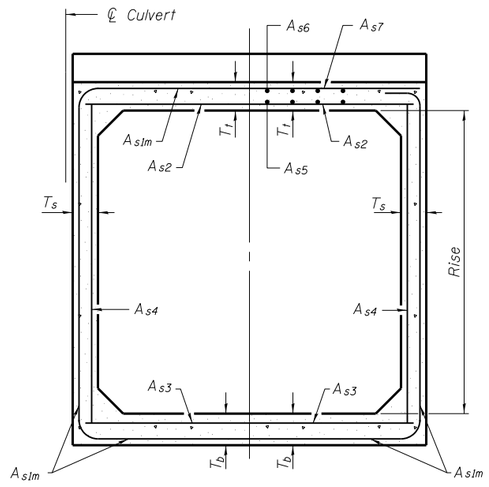
FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 3\Projects\EP03507\DrawingData\EADsheets\EP03507-sht-SN.047-REVISED	USER NAME = woodyerjp	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 2/2/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MULTI-CELL PRECAST BOX CULVERT TAPERED END SECTIONS

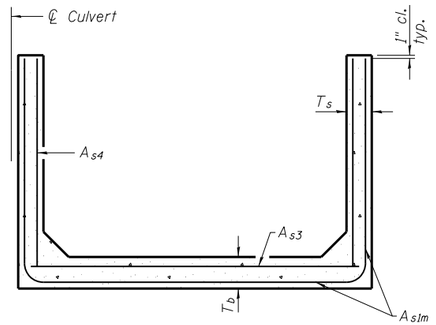
SCALE: | SHEET 3 OF 7 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	360
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

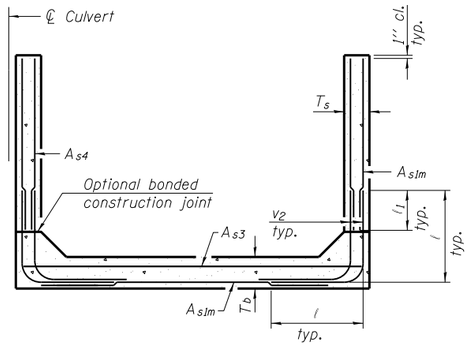


(Design Earth Cover ≥ 2 ft) (Design Earth Cover < 2 ft)

SECTION C-C



SECTION D-D



ALTERNATE SECTION D-D

Aslm REINFORCEMENT

(in.²/ ft)

Ts (in.) \ Rise (ft)	2	3	4	5	6	7	8	9	10	11	12
4	0.19	0.17									
5	0.26	0.21	0.18								
6	0.22	0.26	0.23	0.22							
7	0.25	0.33	0.59	0.27	0.28						
8	0.40	0.35	0.43	0.39	0.36	0.34	0.40				
9	0.44	0.39	0.35	0.43	0.40	0.37	0.36	0.48			
10	0.48	0.42	0.38	0.47	0.44	0.41	0.38	0.42	0.56		
11	0.52	0.45	0.54	0.50	0.46	0.44	0.41	0.46	0.50	0.65	
12	0.55	0.49	0.58	0.54	0.50	0.48	0.45	0.46	0.46	0.61	0.75

(Aslm reinforcement based upon welded wire reinforcement conforming to AASHTO M 55 or M 221).

l1 DIMENSION

#3 bar = 2'-0"
#4 bar = 2'-8"
#5 bar = 3'-4"
#6 bar = 3'-11"

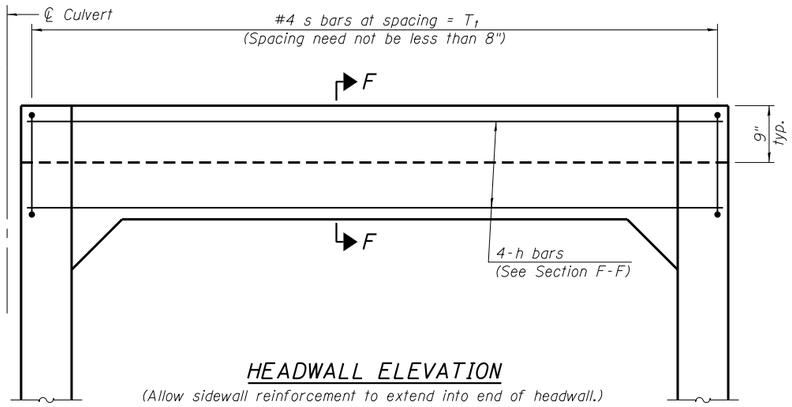
Notes:

Alternate Section D-D is provided to allow the Contractor the option of casting the bottom slab of the end section first followed by construction of the sidewalls using conventional forming methods. Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval when using Alternate Section D-D.

The size and spacing of the v_2 bars shall provide a minimum reinforcement area along each face of the walls (in.²/ft.) equal to 1.10*(Aslm). v_2 bars may consist of #3 thru #6 size reinforcement bars and the longitudinal spacing shall not exceed the lesser of the wall thickness or 8 inches.

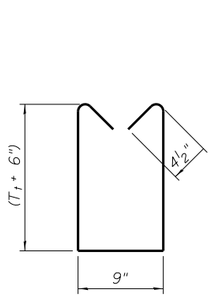
Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.

Sections C-C, D-D, and Headwall Elevation are symmetric about ℄ culvert through 180° rotation.

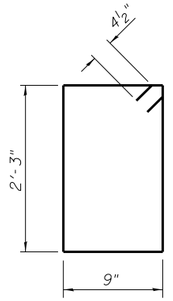


HEADWALL ELEVATION

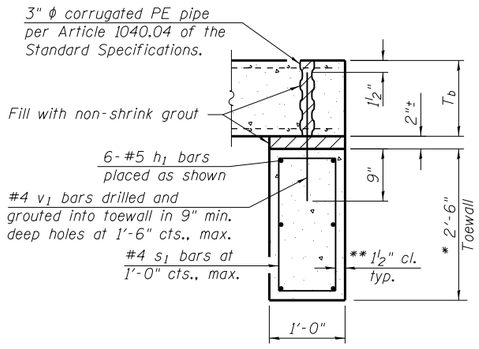
(Allow sidewall reinforcement to extend into end of headwall.)



BAR s



BAR s1



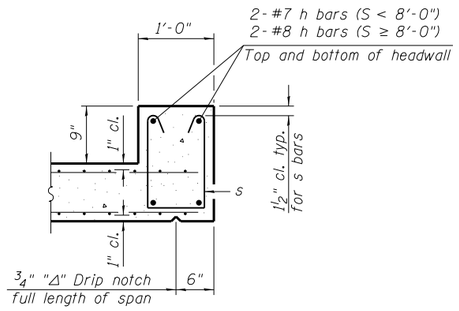
SECTION E-E

TOEWALL CONSTRUCTION SEQUENCE

1. Perform excavation and construct toewall.
2. Backfill according to the applicable paragraphs of Article 502.10 of the Standard Specifications and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling the method.

** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.



SECTION F-F

MCB-TES 10-15-2016

(Sheet 2 of 2)

•(13)R-2[(13 BRIC, (13 BR-1)BR]

FILE NAME =	USER NAME =	DESIGNED -	REVISED
		CHECKED -	REVISED
	PLOT SCALE =	DRAWN -	REVISED
	PLOT DATE =	CHECKED -	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MULTI-CELL PRECAST BOX CULVERT TAPERED END SECTIONS

SHEET NO. 4 OF 7 SHEETS

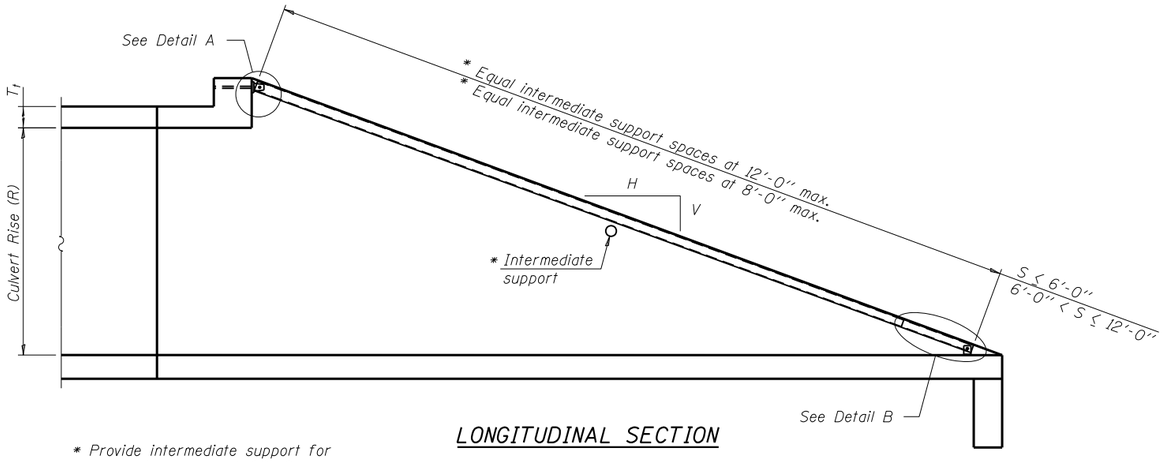
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	361
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

GENERAL NOTES

The minimum edge distance from the center of a hole to the free edge of a structural shape or plate shall be 1½" unless noted otherwise.

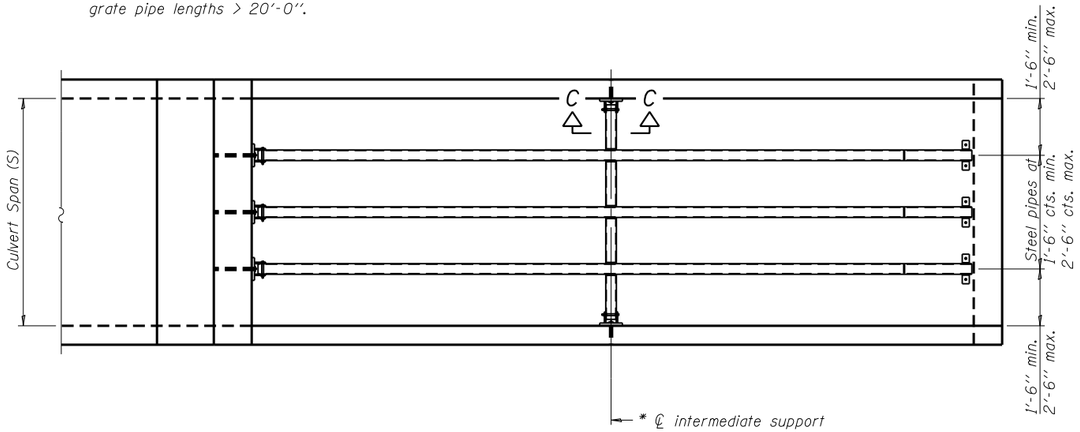
This standard shall only be used on concrete end sections not skewed more than ±15 degrees with roadway.

The Contractor may install the thru bolts using drilling and grouting in lieu of providing a formed hole using steel pipe. Installation shall be in accordance with Article 509.06 using a method that results in the annulus surrounding the bolt being completed filled with adhesive. The method of drilling shall not result in spalled concrete at the exit face. Epoxy grouted thru bolts shall be snug tightened followed by an additional ⅓ turn on the interior nut at final installation. Cost included with Traversable Pipe Grate.

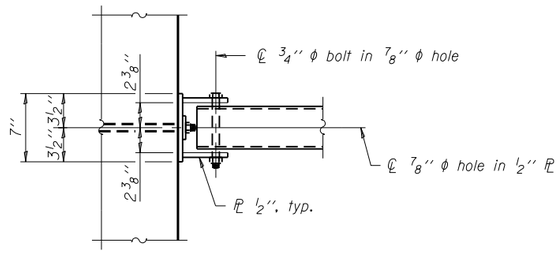


LONGITUDINAL SECTION

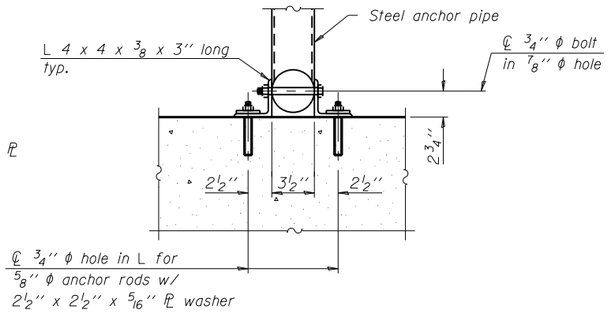
* Provide intermediate support for grate pipe lengths > 20'-0".



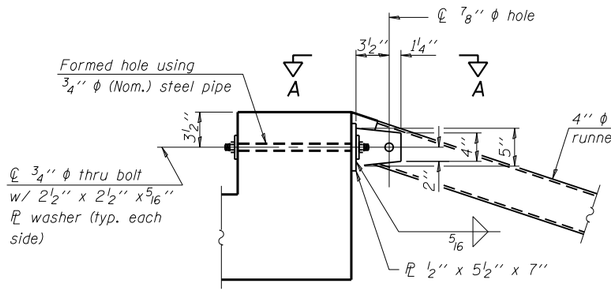
PLAN VIEW



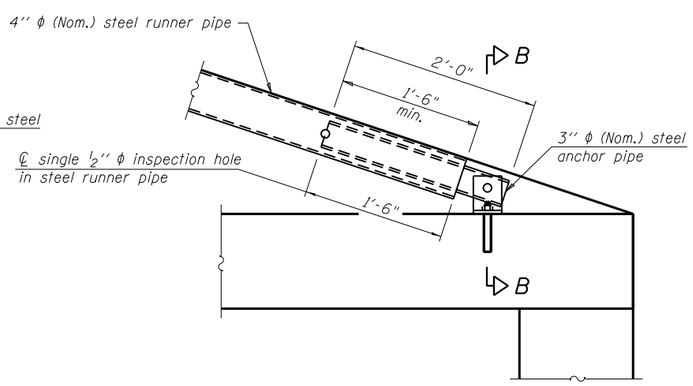
VIEW A-A



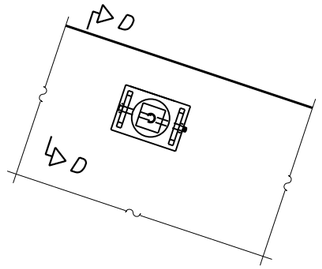
SECTION B-B



DETAIL A

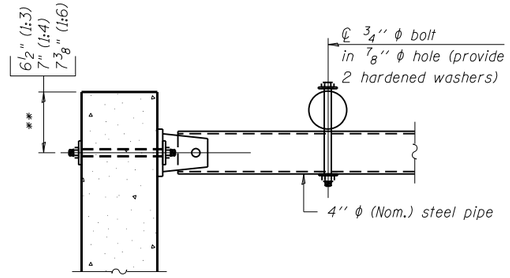


DETAIL B



VIEW C-C

(See Detail A for dimensions and details not shown.)



SECTION D-D

** Measured perpendicular to top of culvert wall. In addition, formed hole shall be located a minimum of 6" measured horizontally from any vertical joints necessary for construction of the culvert end section.

TPGBC-ZS-1

8-21-13

•(13)R-2[(13 BR)C, (13 BR-1)BR]

FILE NAME =	USER NAME =	DESIGNED -	REVISED
		CHECKED -	REVISED
	PLOT SCALE =	DRAWN -	REVISED
	PLOT DATE =	CHECKED -	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAVERSABLE PIPE GRATE FOR BOX CULVERTS

SHEET NO. 5 OF 7 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	362
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

PIPE-GRATE SCHEDULE FOR BOX CULVERT END SECTIONS

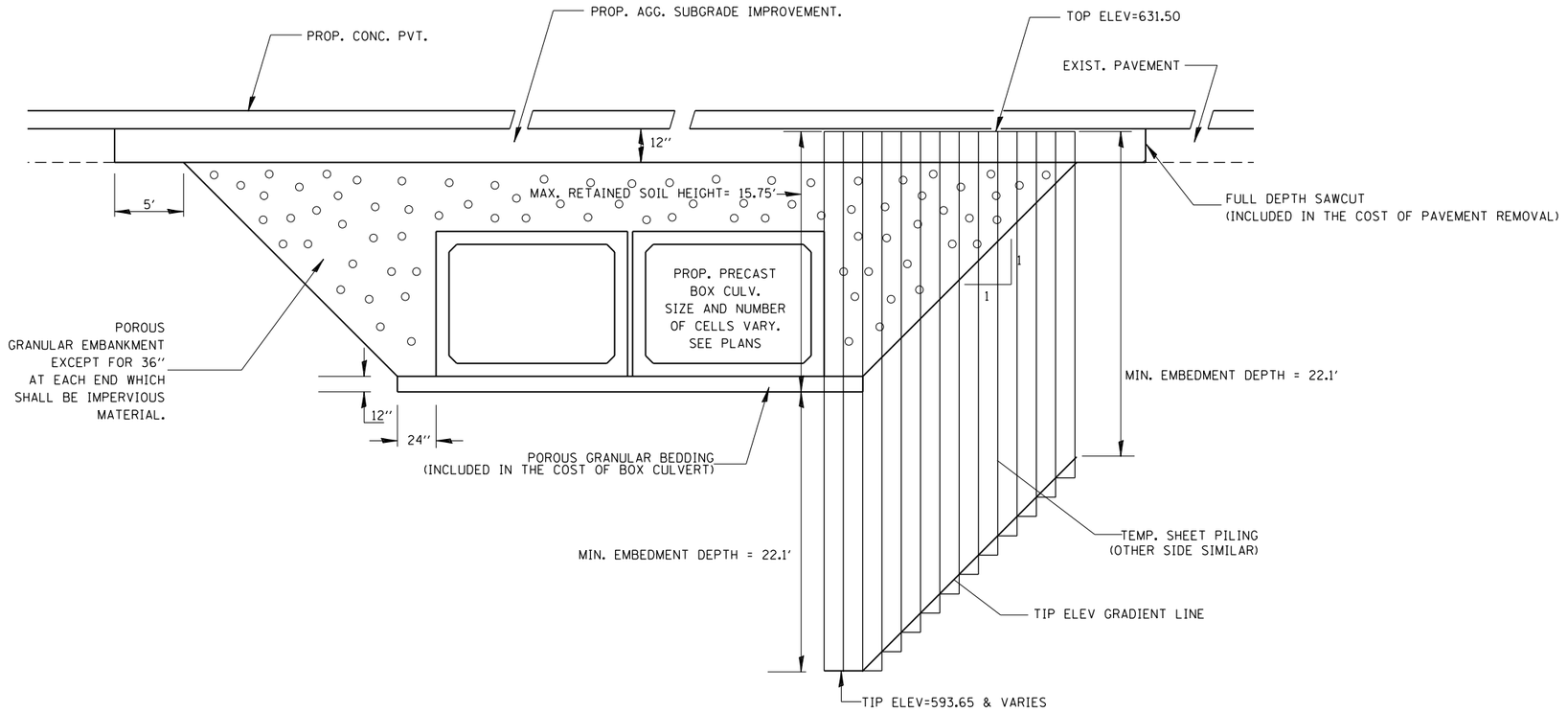
Precast Box Culvert Dimensions			Slope of End Section								
			1:3			1:4			1:6		
S (ft)	R (ft)	T, (in)	Main Pipe No. / Length	Int. Support No. / Length	Total Length of Pipe	Main Pipe No. / Length	Int. Support No. / Length	Total Length of Pipe	Main Pipe No. / Length	Int. Support No. / Length	Total Length of Pipe
4	2	7.5	1 @ 8'-10"	N/A	8'-10"	1 @ 11'-7"	N/A	11'-7"	1 @ 17'-2"	N/A	17'-2"
4	2	5	1 @ 8'-2"	N/A	8'-2"	1 @ 10'-8"	N/A	10'-8"	1 @ 15'-11"	N/A	15'-11"
4	3	7.5	1 @ 12'-0"	N/A	12'-0"	1 @ 15'-8"	N/A	15'-8"	1 @ 23'-3"	1 @ 3'-7"	26'-10"
4	3	5	1 @ 11'-4"	N/A	11'-4"	1 @ 14'-10"	N/A	14'-10"	1 @ 22'-0"	1 @ 3'-7"	25'-7"
4	4	7.5	1 @ 15'-2"	N/A	15'-2"	1 @ 19'-10"	1 @ 3'-7"	23'-5"	1 @ 29'-4"	2 @ 3'-7"	36'-6"
4	4	5	1 @ 14'-6"	N/A	14'-6"	1 @ 18'-11"	N/A	18'-11"	1 @ 28'-1"	2 @ 3'-7"	35'-3"
5	2	8	1 @ 8'-11"	N/A	8'-11"	1 @ 11'-9"	N/A	11'-9"	1 @ 17'-5"	N/A	17'-5"
5	2	6	1 @ 8'-5"	N/A	8'-5"	1 @ 11'-1"	N/A	11'-1"	1 @ 16'-5"	N/A	16'-5"
5	3	8	1 @ 12'-1"	N/A	12'-1"	1 @ 15'-10"	N/A	15'-10"	1 @ 23'-6"	1 @ 4'-7"	28'-1"
5	3	6	1 @ 11'-7"	N/A	11'-7"	1 @ 15'-2"	N/A	15'-2"	1 @ 22'-6"	1 @ 4'-7"	27'-1"
5	4	8	1 @ 15'-3"	N/A	15'-3"	1 @ 20'-0"	1 @ 4'-7"	24'-7"	1 @ 29'-7"	2 @ 4'-7"	38'-9"
5	4	6	1 @ 14'-9"	N/A	14'-9"	1 @ 19'-3"	N/A	19'-3"	1 @ 28'-7"	2 @ 4'-7"	37'-9"
5	5	8	1 @ 18'-5"	N/A	18'-5"	1 @ 24'-1"	2 @ 4'-7"	33'-3"	1 @ 35'-8"	3 @ 4'-7"	49'-5"
5	5	6	1 @ 17'-11"	N/A	17'-11"	1 @ 23'-5"	1 @ 4'-7"	28'-0"	1 @ 34'-8"	2 @ 4'-7"	43'-10"
6	2	8	2 @ 8'-11"	N/A	17'-10"	2 @ 11'-9"	N/A	23'-6"	2 @ 17'-5"	N/A	34'-10"
6	2	7	2 @ 8'-8"	N/A	17'-4"	2 @ 11'-5"	N/A	22'-10"	2 @ 16'-11"	N/A	33'-10"
6	3	8	2 @ 12'-1"	N/A	24'-2"	2 @ 15'-10"	N/A	31'-8"	2 @ 23'-6"	1 @ 5'-7"	52'-7"
6	3	7	2 @ 11'-10"	N/A	23'-8"	2 @ 15'-6"	N/A	31'-0"	2 @ 23'-0"	1 @ 5'-7"	51'-7"
6	4	8	2 @ 15'-3"	N/A	30'-6"	2 @ 20'-0"	1 @ 5'-7"	45'-7"	2 @ 29'-7"	2 @ 5'-7"	70'-4"
6	4	7	2 @ 15'-0"	N/A	30'-0"	2 @ 19'-8"	1 @ 5'-7"	44'-11"	2 @ 29'-1"	2 @ 5'-7"	69'-4"
6	5	8	2 @ 18'-5"	N/A	36'-10"	2 @ 24'-1"	2 @ 5'-7"	59'-4"	2 @ 35'-8"	3 @ 5'-7"	88'-1"
6	5	7	2 @ 18'-2"	N/A	36'-4"	2 @ 23'-9"	2 @ 5'-7"	58'-8"	2 @ 35'-2"	2 @ 5'-7"	81'-6"
6	6	8	2 @ 21'-7"	1 @ 5'-7"	48'-9"	2 @ 28'-3"	2 @ 5'-7"	67'-8"	2 @ 41'-9"	3 @ 5'-7"	100'-3"
6	6	7	2 @ 21'-4"	1 @ 5'-7"	48'-3"	2 @ 27'-11"	2 @ 5'-7"	67'-0"	2 @ 41'-3"	3 @ 5'-7"	99'-3"
7	2	8	2 @ 8'-11"	N/A	17'-10"	2 @ 11'-9"	N/A	23'-6"	2 @ 17'-5"	N/A	34'-10"
7	3	8	2 @ 12'-1"	N/A	24'-2"	2 @ 15'-10"	N/A	31'-8"	2 @ 23'-6"	2 @ 6'-7"	60'-2"
7	4	8	2 @ 15'-3"	N/A	30'-6"	2 @ 20'-0"	2 @ 6'-7"	53'-2"	2 @ 29'-7"	3 @ 6'-7"	78'-11"
7	5	8	2 @ 18'-5"	N/A	36'-10"	2 @ 24'-1"	3 @ 6'-7"	67'-11"	2 @ 35'-8"	4 @ 6'-7"	97'-8"
7	6	8	2 @ 21'-7"	2 @ 6'-7"	56'-4"	2 @ 28'-3"	3 @ 6'-7"	76'-3"	2 @ 41'-9"	5 @ 6'-7"	116'-5"
7	7	8	2 @ 24'-9"	3 @ 6'-7"	69'-3"	2 @ 32'-4"	4 @ 6'-7"	91'-0"	2 @ 47'-10"	6 @ 6'-7"	135'-2"
8	2	8	3 @ 8'-11"	N/A	26'-9"	3 @ 11'-9"	N/A	35'-3"	3 @ 17'-5"	N/A	52'-3"
8	3	8	3 @ 12'-1"	N/A	36'-3"	3 @ 15'-10"	N/A	47'-6"	3 @ 23'-6"	2 @ 7'-7"	85'-8"
8	4	8	3 @ 15'-3"	N/A	45'-9"	3 @ 20'-0"	2 @ 7'-7"	75'-2"	3 @ 29'-7"	3 @ 7'-7"	111'-6"
8	5	8	3 @ 18'-5"	N/A	55'-3"	3 @ 24'-1"	3 @ 7'-7"	95'-0"	3 @ 35'-8"	4 @ 7'-7"	137'-4"
8	6	8	3 @ 21'-7"	2 @ 7'-7"	79'-11"	3 @ 28'-3"	3 @ 7'-7"	107'-6"	3 @ 41'-9"	5 @ 7'-7"	163'-2"
8	7	8	3 @ 24'-9"	3 @ 7'-7"	97'-0"	3 @ 32'-4"	4 @ 7'-7"	127'-4"	3 @ 47'-10"	6 @ 7'-7"	189'-0"
8	8	8	3 @ 27'-11"	3 @ 7'-7"	106'-6"	3 @ 36'-6"	4 @ 7'-7"	139'-10"	3 @ 53'-11"	6 @ 7'-7"	207'-3"
9	2	9	3 @ 9'-3"	N/A	27'-9"	3 @ 12'-1"	N/A	36'-3"	3 @ 17'-11"	N/A	53'-9"
9	3	9	3 @ 12'-4"	N/A	37'-0"	3 @ 16'-2"	N/A	48'-6"	3 @ 24'-0"	3 @ 8'-7"	97'-9"
9	4	9	3 @ 15'-6"	N/A	46'-6"	3 @ 20'-4"	2 @ 8'-7"	78'-2"	3 @ 30'-1"	3 @ 8'-7"	116'-0"
9	5	9	3 @ 18'-8"	N/A	56'-0"	3 @ 24'-5"	3 @ 8'-7"	99'-0"	3 @ 36'-2"	4 @ 8'-7"	142'-10"
9	6	9	3 @ 21'-10"	2 @ 8'-7"	82'-8"	3 @ 28'-7"	3 @ 8'-7"	111'-6"	3 @ 42'-3"	5 @ 8'-7"	169'-8"
9	7	9	3 @ 25'-0"	3 @ 8'-7"	100'-9"	3 @ 32'-8"	4 @ 8'-7"	132'-4"	3 @ 48'-4"	6 @ 8'-7"	196'-6"
9	8	9	3 @ 28'-2"	3 @ 8'-7"	110'-3"	3 @ 36'-10"	4 @ 8'-7"	144'-10"	3 @ 54'-5"	6 @ 8'-7"	214'-9"
9	9	9	3 @ 31'-4"	3 @ 8'-7"	119'-9"	3 @ 40'-11"	5 @ 8'-7"	165'-8"	3 @ 60'-6"	7 @ 8'-7"	241'-7"
10	2	10	3 @ 9'-6"	N/A	28'-6"	3 @ 12'-5"	N/A	37'-3"	3 @ 18'-5"	N/A	55'-3"
10	3	10	3 @ 12'-8"	N/A	38'-0"	3 @ 16'-6"	N/A	49'-6"	3 @ 24'-6"	3 @ 9'-7"	102'-3"
10	4	10	3 @ 15'-10"	N/A	47'-6"	3 @ 20'-8"	2 @ 9'-7"	81'-2"	3 @ 30'-7"	3 @ 9'-7"	120'-6"
10	5	10	3 @ 19'-0"	N/A	57'-0"	3 @ 24'-9"	3 @ 9'-7"	103'-0"	3 @ 36'-8"	4 @ 9'-7"	148'-4"
10	6	10	3 @ 22'-1"	2 @ 9'-7"	85'-5"	3 @ 28'-11"	3 @ 9'-7"	115'-6"	3 @ 42'-9"	5 @ 9'-7"	176'-2"
10	7	10	3 @ 25'-3"	3 @ 9'-7"	104'-6"	3 @ 33'-0"	4 @ 9'-7"	137'-4"	3 @ 48'-10"	6 @ 9'-7"	204'-0"
10	8	10	3 @ 28'-5"	3 @ 9'-7"	114'-0"	3 @ 37'-2"	4 @ 9'-7"	149'-10"	3 @ 54'-11"	6 @ 9'-7"	222'-3"
10	9	10	3 @ 31'-7"	4 @ 9'-7"	133'-1"	3 @ 41'-3"	5 @ 9'-7"	171'-8"	3 @ 61'-0"	7 @ 9'-7"	250'-1"
10	10	10	3 @ 34'-9"	4 @ 9'-7"	142'-7"	3 @ 45'-5"	5 @ 9'-7"	184'-2"	3 @ 67'-1"	8 @ 9'-7"	277'-11"
11	2	11	4 @ 9'-9"	N/A	39'-0"	4 @ 12'-9"	N/A	51'-0"	4 @ 18'-11"	N/A	75'-8"
11	3	11	4 @ 12'-11"	N/A	51'-8"	4 @ 16'-11"	N/A	67'-8"	4 @ 25'-0"	3 @ 10'-7"	131'-9"
11	4	11	4 @ 16'-1"	N/A	64'-4"	4 @ 21'-0"	2 @ 10'-7"	105'-2"	4 @ 31'-1"	3 @ 10'-7"	156'-1"
11	6	11	4 @ 22'-5"	2 @ 10'-7"	110'-10"	4 @ 29'-3"	3 @ 10'-7"	148'-9"	4 @ 43'-3"	5 @ 10'-7"	225'-11"
11	8	11	4 @ 28'-9"	3 @ 10'-7"	146'-9"	4 @ 37'-6"	4 @ 10'-7"	192'-4"	4 @ 55'-5"	6 @ 10'-7"	285'-2"
11	10	11	4 @ 35'-0"	4 @ 10'-7"	182'-4"	4 @ 45'-9"	5 @ 10'-7"	235'-11"	4 @ 67'-7"	8 @ 10'-7"	355'-0"
11	11	11	4 @ 38'-2"	4 @ 10'-7"	195'-0"	4 @ 49'-10"	6 @ 10'-7"	262'-10"	4 @ 73'-8"	9 @ 10'-7"	389'-11"
12	2	12	4 @ 10'-0"	N/A	40'-0"	4 @ 13'-1"	N/A	52'-4"	4 @ 19'-5"	N/A	77'-8"
12	3	12	4 @ 13'-2"	N/A	52'-8"	4 @ 17'-3"	N/A	69'-0"	4 @ 25'-6"	3 @ 11'-7"	136'-9"
12	4	12	4 @ 16'-4"	N/A	65'-4"	4 @ 21'-4"	2 @ 11'-7"	108'-6"	4 @ 31'-7"	4 @ 11'-7"	172'-8"
12	6	12	4 @ 22'-8"	2 @ 11'-7"	113'-10"	4 @ 29'-7"	3 @ 11'-7"	153'-1"	4 @ 43'-9"	5 @ 11'-7"	232'-11"
12	8	12	4 @ 29'-0"	3 @ 11'-7"	150'-9"	4 @ 37'-10"	4 @ 11'-7"	197'-8"	4 @ 55'-11"	7 @ 11'-7"	304'-9"
12	9	12	4 @ 32'-2"	4 @ 11'-7"	175'-0"						
12	10	12	4 @ 35'-4"	4 @ 11'-7"	187'-8"	4 @ 46'-1"	5 @ 11'-7"	242'-3"	4 @ 68'-1"	8 @ 11'-7"	365'-0"
12	12	12	4 @ 41'-8"	5 @ 11'-7"	224'-7"	4 @ 54'-4"	6 @ 11'-7"	286'-10"	4 @ 80'-3"	10 @ 11'-7"	436'-10"

8-21-13

TPGBC-ZS-2

•(13)R-2[(13 BR)C, (13 BR-1)BR]

FILE NAME $FILES$		DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAVERSABLE PIPE GRATE FOR BOX CULVERTS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			591	•	KENDALL	533	363
PLOT DATE $DATE$		DRAWN -	REVISED -						CONTRACT NO. 66993	
		CHECKED -	REVISED -		SHEET NO. 6 OF 7 SHEETS			ILLINOIS	FED. AID PROJECT	



SECTION THROUGH PRECAST BOX CULVERT SHOWING TEMP. SHEET PILIING*

*NOTE- THE TEMPORARY SHEET PILING IS ONE ALTERNATIVE TO RETAIN SOIL DURING STAGE CONSTRUCTION. THE CONTRACTOR HAS OTHER OPTIONS. SEE TEMPORARY SOIL RETENTION SYSTEM IN THE STANDARD SPECIFICATIONS.

*(13)R-2[(13 BR)C, (13 BR-1)BR]

FILE NAME $FILES$		DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY SOIL RETENTION SYSTEM	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			591	•	KENDALL	533	364
		DRAWN -	REVISED -						CONTRACT NO. 66993	
PLOT DATE $DATE$		CHECKED -	REVISED -		SHEET NO. 7 OF 7 SHEETS			ILLINOIS	FED. AID PROJECT	

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 6/12/14

ROUTE FAP 591 (US 34) **DESCRIPTION** US 34 Over Rob Roy Creek **LOGGED BY** Larry Myers

SECTION (13)BR **LOCATION** NW 1/4, **SEC.** 30, **TWP.** 37N, **RNG.** 7E, 3rd **PM**,
Latitude 41.66129938, **Longitude** -88.48181867

COUNTY Kendall **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** CME Automatic

STRUCT. NO. 047-2051 (Prop.) 047-2014 (Exist.)
Station 288+69.43

BORING NO. 1 (2014) (S.W. Quad.)
Station 288+25.65
Offset 45.0 ft Rt.
Ground Surface Elev. 625.20 ft

Surface Water Elev. 619.76 ft
Stream Bed Elev. 618.52 ft

Groundwater Elev.:
First Encounter 620.2 ft ▼
Upon Completion 617.2 ft ▽
After ____ Hrs. ____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Black Silty Clay Loam with Gravel pieces - Fill			
622.70	3		
Very Stiff Black Silty Clay Loam Fill with Gravel Pieces & Debris	3 3	2.0 P	14
620.20 ▼ -5	3		
Medium Brown Fine Sand to Medium Gravel with Free Water	4 5		14
▽	4		
	6 9		14
-10	6		
	8 8		14
612.70	4		
Very Stiff Gray Sandy Clay Loam / Sandy Loam Till	5 5	3.5 P	9
610.20 -15	3		
Very Stiff Gray Silty Clay with Silt Seams	3 5	3.5 P	16
	3		
	4 5	2.5 P	19
605.20 -20			
Very Loose Gray Very Fine Sand & Silt	WH		
	WH WH		22
WH = Weight of Hammer			
	5		
	9 12		19
-25			
	6		
599.20	8 28		17
Dense Gray Fine Sand to Coarse Gravel with Boulders & Cobbles at 26.0'			
	16		
	21 24		12
594.95 -30	100/3"		8
Auger Refusal End of Boring			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING 047-2014.GPJ IL_DOT.GDT 4/11/16

•(13)R-2[(13 BR)C, (13 BR-1)BR]

FILE NAME =	USER NAME = woodyerjp	DESIGNED -	REVISED -
pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 3\Projects\EP03507\DrawingData\EADsheets\EP03507-sht-SN.047-2051		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 2/2/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOG
PROP. SN 047-2051

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	365
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 2/15/96

ROUTE FAP 591 (US 34) DESCRIPTION US 34 Over Rob Roy Creek LOGGED BY K. Whittington

SECTION (13)BR LOCATION NW 1/4, SEC. 30, TWP. 37N, RNG. 7E, 3rd PM,
Latitude , Longitude

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE

STRUCT. NO. 047-2014 (Prop.) 047-0004 (Exist.)
Station 288+69.43

BORING NO. 1 (S.E. Quad.)
Station 288+88
Offset 15.0 ft Rt.
Ground Surface Elev. 630.38 ft

Surface Water Elev. 619.30 ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion Wash ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Shoulder Stone over Black Loam				
627.88				
Medium to Stiff Dark Brown Rocky Loam (Fill) * Frozen		15		
		15		12
		13*		
	-5			
		3		
		3	1.1	14
		3	S	
		4		
		4	1.2	12
		3	P	
620.88				
Loose Gray Coarse Sand/Fine Gravel with Free Water	-10			
		8**		
** Rock in Tube		4		11
		4		
		2/18+"		
				18
615.88				
Dense Gray Loamy Gravel Till with Large Limestone Pieces	-15	100/2"		
				15
614.21 On March 11, 1996 continued augering in this hole. Could not advance auger past 16 feet. Possible Concrete Obstruction. Moved to Boring #2.		100/2"		15
End of Boring				
	-20			

SOIL BORING 047-2014.GPJ IL_DOT.GDT 4/11/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 3/11/96

ROUTE FAP 591 (US 34) DESCRIPTION US 34 Over Rob Roy Creek LOGGED BY K. Whittington

SECTION (13)BR LOCATION NW 1/4, SEC. 30, TWP. 37N, RNG. 7E, 3rd PM,
Latitude , Longitude

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE

STRUCT. NO. 047-2014 (Prop.) 047-0004 (Exist.)
Station 288+69.43

BORING NO. 2 (S.W. Quad.)
Station 288+54
Offset 14.5 ft Rt.
Ground Surface Elev. 630.78 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Not Sampled.				
Drilled this boring to confirm Top of Rock elevation encountered in Boring #1.	-5			
	-10			
	-15			
615.18				
Auger Refusal at 15.6' Possible Concrete Obstruction. End of Boring		100/1"		
	-20			

SOIL BORING 047-2014.GPJ IL_DOT.GDT 4/11/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

•(13)R-2[(13 BR)C, (13 BR-1)BR]

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		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 2/2/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOG
PROP. SN 047-2051

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	366
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 4/9/96

ROUTE FAP 591 (US 34) DESCRIPTION US 34 Over Rob Roy Creek LOGGED BY K. Whittington

SECTION (13)BR LOCATION NW 1/4, SEC. 30, TWP. 37N, RNG. 7E, 3rd PM,
Latitude , Longitude

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE

STRUCT. NO. 047-2014 (Prop.) 047-0004 (Exist.)
Station 288+69.43

BORING NO. 3 (N.W. Quad.)
Station 288+50
Offset 13.5 ft Lt.
Ground Surface Elev. 630.78 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion Wash ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Shoulder Stone, Brown Silty Clay				
626.28				
Medium Brown-Black Silty Clay & Loam with Gravel Pebbles	-5	2		
		2	0.7	15
		2	P	
Soft at Lower 9.5' - 10.5'	-10	1		
620.28		2	0.2	21
Loose Loamy Brown Sand/Gravel		2	P	19
618.78				
Loose Brown Sand & Gravel with Free Water				
	-15	2		
		2		14
		4		
614.28				
Medium Gray Sand and Gravel (Gravel to Coarse Size)		5		
		7		14
		7		
	-20	7		
Medium Gray Sand and Gravel (Gravel to Coarse Size) *(continued)*		8		15
		10		
		-		
607.78		-		
Stiff Gray Silty Clay Till		-		
	-25	5		
		6	1.8	17
		8	B	
602.78				
Medium Gray Fine Sand and Silt				
600.78	-30	6		
Medium Gray Sand & Coarse Gravel (Round to Angular) contains some Silt Layers		7		19
		8		
	-35	6		
		10		11
		13		
	-40	9		

SOIL BORING 047-2014.GPJ IL_DOT.GDT 4/11/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 4/9/96

ROUTE FAP 591 (US 34) DESCRIPTION US 34 Over Rob Roy Creek LOGGED BY K. Whittington

SECTION (13)BR LOCATION NW 1/4, SEC. 30, TWP. 37N, RNG. 7E, 3rd PM,
Latitude , Longitude

COUNTY Kendall DRILLING METHOD Hollow Stem Auger HAMMER TYPE

STRUCT. NO. 047-2014 (Prop.) 047-0004 (Exist.)
Station 288+69.43

BORING NO. 3 (N.W. Quad.)
Station 288+50
Offset 13.5 ft Lt.
Ground Surface Elev. 630.78 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion Wash ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium Gray Sand & Coarse Gravel (Round to Angular) contains some Silt Layers *(continued)*		18		17
		22		
587.78				
Dense Gray Silt				
	-45	16		
		19		19
		22		
	-50	10		
		16		21
		21		
575.78	-55	10		24
Hard Gray & Brown Silty Loam Till (Rocky)		31		
		49	4.5	9
			P	
572.78				
Weathered Gray Shale				
570.90	-60	100/4.5"	3.5-4.0	12
End of Boring				

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
			P	
	-65			
	-70			
	-75			
	-80			

SOIL BORING 047-2014.GPJ IL_DOT.GDT 4/11/16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

•(13)R-2[(13 BR)C, (13 BR-1)BR]

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 3\Projects\EP03507\DrawingData\CADsheets\EP03507-sht-SN_047-2051.dgn	USER NAME = woodyer.jp	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 2/2/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOG
PROP. SN 047-2051

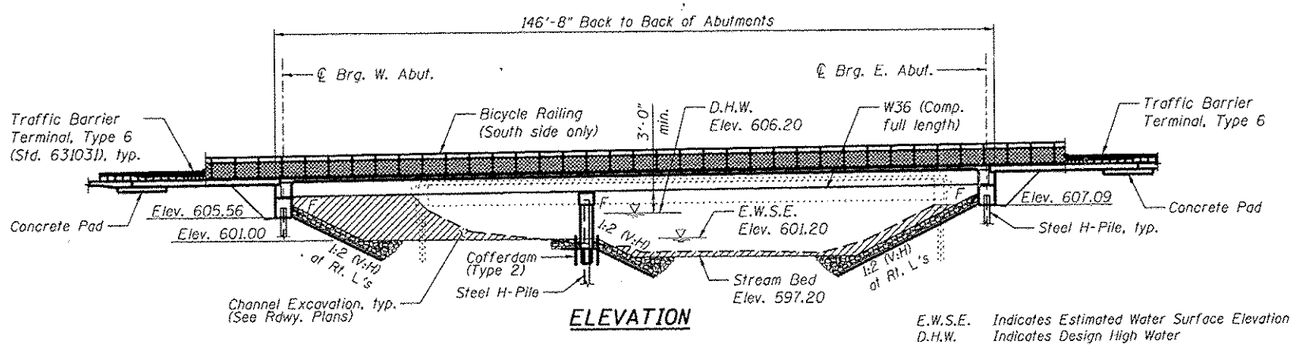
SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	•	KENDALL	533	367
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

Bench Mark 231: Chiseled "□" cut on west end of north hubrail of existing bridge SN 047-0049. Sta. 369+66.00. 15' Lt.. Elev. 611.32.

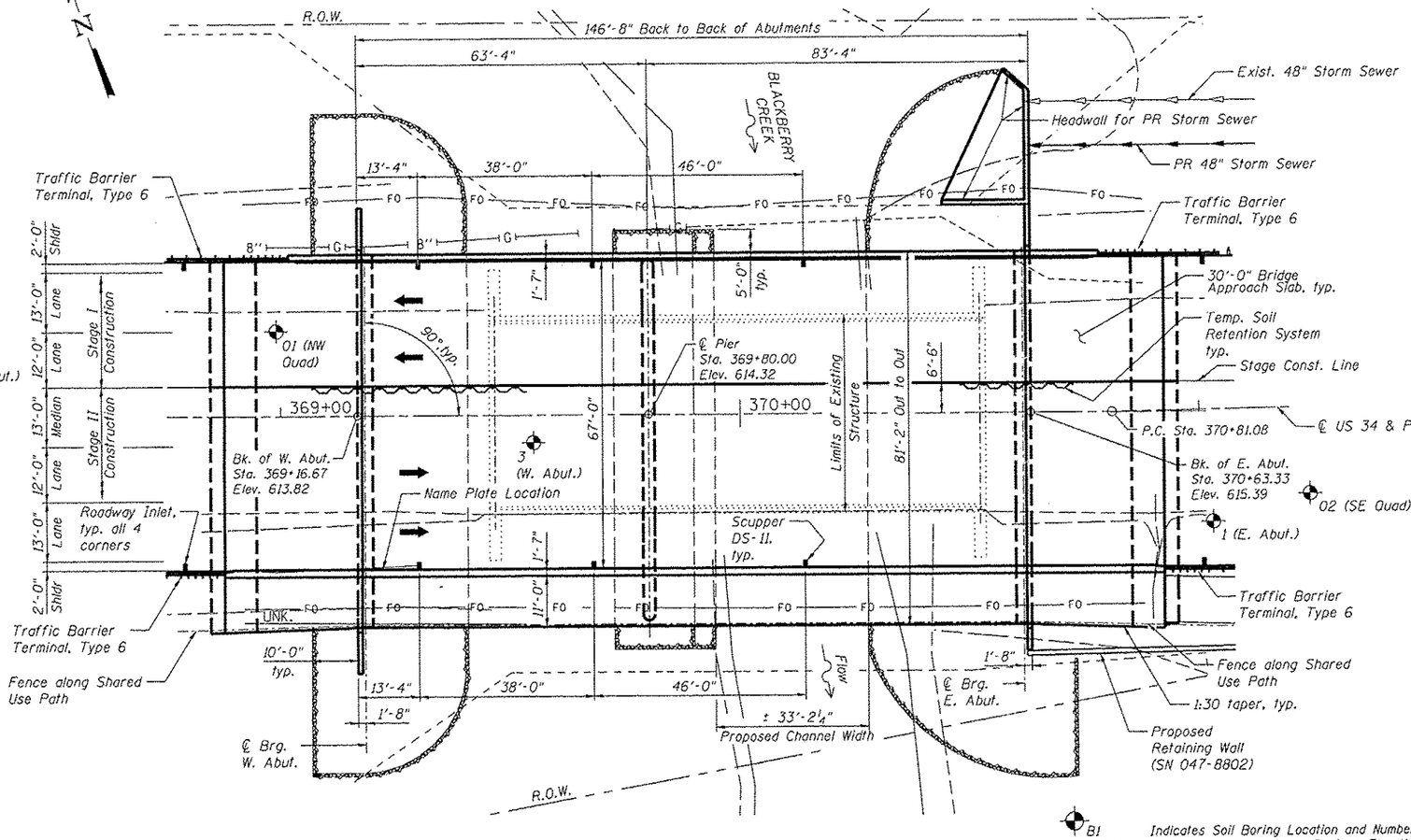
Existing Structure: S.N. 047-0049 was originally constructed in 1986 as F.A.P. Route 591 (U.S. Rte. 34), Section 13BR-1. The existing structure consists of a single span steel plate girder bridge on pile supported abutments. The structure is 108'-4" back-to-back of abutments and 43'-2" wide out-to-out of the deck (40'-0" clear width between the curbs). The structure is to be removed and replaced. Traffic to be maintained using staged construction.

No salvage.



ELEVATION

E.W.S.E. Indicates Estimated Water Surface Elevation
D.H.W. Indicates Design High Water



PLAN

B1 Indicates Soil Boring Location and Number
E.W.S.E. Indicates Estimate Water Surface Elevation
D.H.W. Indicates Design High Water

WATERWAY INFORMATION

Drainage Area = 69.0 sq. mi. Exist. Low Grade Elev. 612.01 at Sta. 367+88
Prop. Low Grade Elev. ±613.59 at Sta. 368+33

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Hwt. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1381	501	642	604.9	0.2	0.1	605.1	605.0
Design	50	2303	614	778	606.0	0.4	0.2	606.5	606.2
Base	100	2771	660	833	606.5	0.6	0.3	607.0	606.7
Scour Design	200	3337	707	892	606.9	0.8	0.4	607.7	607.3
Overtopping	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max. Calc.	500	4053	736	958	607.4	1.2	0.5	608.7	607.9

10 Year Velocity Existing 2.9 fps
10 Year Velocity Proposed 2.1 fps

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.) W. Abut.	Pier	E. Abut.	Item
0100	605.56	592.90	607.09	113
0200	605.56	592.65	607.09	
Design	605.56	592.90	607.09	B
Check	605.56	592.65	607.09	

STATION 369+90.00
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. 591-SEC. (13 BR-1)BR
LOADING HL-93
STR. NO. 047-0102

NAME PLATE

See Std. 515001

DESIGN SPECIFICATIONS

AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

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

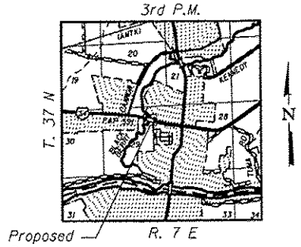
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.066g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.125g
Soil Site Class = C

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

STATE OF ILLINOIS
HOSSAM M. ABDO
081-005537
LICENSED STRUCTURAL ENGINEER

EXP. DATE: 11-30-2018
DATE: 01-18-2017



LOCATION SKETCH

UTILITIES LEGEND

FO — Fiber Optic Line
G — Gas Line

GENERAL PLAN AND ELEVATION
US 34 OVER BLACKBERRY CREEK
F.A.P. 591 (US 34)
SEC. (13 BR-1)BR
KENDALL COUNTY
STATION 369+90.00
STRUCTURE NO. 047-0102

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 01\27\2017	CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 047-0102
SHEET NO. 501 OF 538 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	538	368
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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GENERAL NOTES

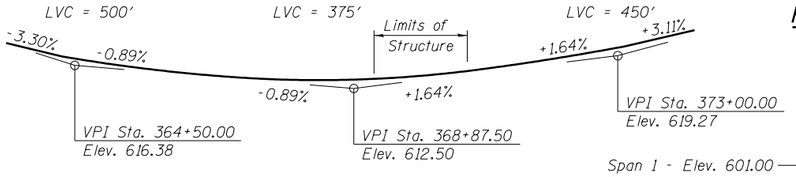
1. Fasteners shall be ASTM A325 Type 3. Bolts $^{7}/_{8}$" diameter, holes $^{15}/_{16}$" diameter, U.N.O.
2. Calculated weight of Structural Steel = 290,220 lbs.
3. All structural steel shall be AASHTO M 270 Grade 50W, U.N.O.
4. No field welding is permitted except as specified in the contract documents.
5. Reinforcement bars designated (E) shall be epoxy coated.
6. If the Contractor elects to use cantilever forming brackets on the exterior beams, the brackets shall be placed at the same locations as required for the hardwood blocks in article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
7. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $^{1}/_{8}$" (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
8. Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete diaphragm plus 1'-6". The structural steel shall also be painted for a distance of 5'-0" on both sides of the ℄ of bearing at the pier. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.
9. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
10. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
11. Seal coat thickness design is based on the Estimated Water Surface Elevation (EWSE). Cofferdam design details and proposed changes in seal coat thickness shall be submitted to the Engineer for approval with the cofferdam design.

INDEX OF SHEETS

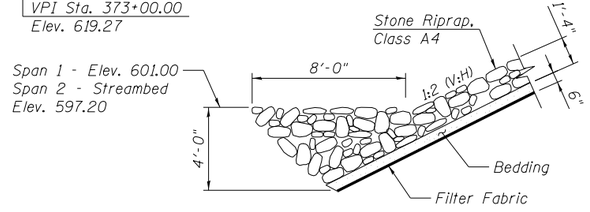
S01 General Plan and Elevation
S02 General Data
S03 Foundation Layout
S04 Stage I Removal & Construction and Temporary Soil Retention
S05 Stage II Removal & Construction
S06 Temporary Concrete Barrier for Stage Construction
S07 Top of Deck Elevations Plan
S08 Top of Deck Elevations (1 of 3)
S09 Top of Deck Elevations (2 of 3)
S10 Top of Deck Elevations (3 of 3)
S11 Top of Approach Slab Elevations
S12 Deck Reinforcement Plan
S13 Deck Cross Section and Details
S14 Superstructure Details (1 of 2)
S15 Superstructure Details (2 of 2)
S16 Diaphragm Details
S17 Bicycle Railing
S18 Drainage Scupper, DS-11
S19 Bridge Approach Slab Details (1 of 2)
S20 Bridge Approach Slab Details (2 of 2)
S21 Framing Plan and Girder Elevation
S22 Structural Steel Details
S23 Moment and Reaction Tables
S24 Bearing Details
S25 West Abutment Details Stage I
S26 West Abutment Details Stage II
S27 East Abutment Details Stage I
S28 East Abutment Details Stage II
S29 Pier Details Stage I
S30 Pier Details Stage II
S31 Stormsewer Headwall Details (1 of 2)
S32 Stormsewer Headwall Details (2 of 2)
S33 HP Pile Details
S34 Bar Splicer Assembly Details
S35 Concrete Parapet Slipforming Option
S36 Soil Borings (1 of 3)
S37 Soil Borings (2 of 3)
S38 Soil Borings (3 of 3)

TOTAL BILL OF MATERIAL

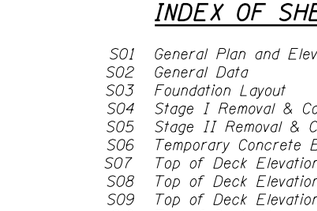
ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.	-	1,390	1,390
Filter Fabric	Sq. Yd.	-	1,390	1,390
Removal of Existing Structures	Each	1	-	1
Structure Excavation	Cu. Yd.	-	662	662
Cofferdam Excavation	Cu. Yd.	-	304	304
Cofferdam (Type 2) (Location - 1)	Each	-	1	1
Concrete Structures	Cu. Yd.	-	257.9	257.9
Concrete Superstructure	Cu. Yd.	414.6	-	414.6
Bridge Deck Grooving	Sq. Yd.	1,524	-	1,524
Seal Coat Concrete	Cu. Yd.	-	95.8	95.8
Protective Coat	Sq. Yd.	1,946	-	1,946
Concrete Superstructure (Approach Slab)	Cu. Yd.	226.0	-	226.0
Furnishing and Erecting Structural Steel	L. Sum	1	-	1
Stud Shear Connectors	Each	7,590	-	7,590
Reinforcement Bars, Epoxy Coated	Pound	182,900	36,880	219,780
Bar Splicers	Each	884	-	884
Bicycle Railing	Foot	205	-	205
Parapet Railing	Foot	205	-	205
Furnishing Steel Piles HP14x73	Foot	-	1,130	1,130
Driving Piles	Foot	-	1,130	1,130
Test Pile Steel HP14x73	Each	-	3	3
Pile Shoes	Each	-	33	33
Name Plates	Each	1	-	1
Anchor Bolts, 3/4"	Each	-	22	22
Anchor Bolts, 1"	Each	-	44	44
Temporary Soil Retention System	Sq. Ft.	-	428	428
Geocomposite Wall Drain	Sq. Yd.	-	125	125
Drainage Scuppers, DS-11	Each	6	-	6
Pipe Underdrains for Structures, 4"	Foot	-	216	216
Granular Backfill for Structures	Cu. Yd.	-	217	217



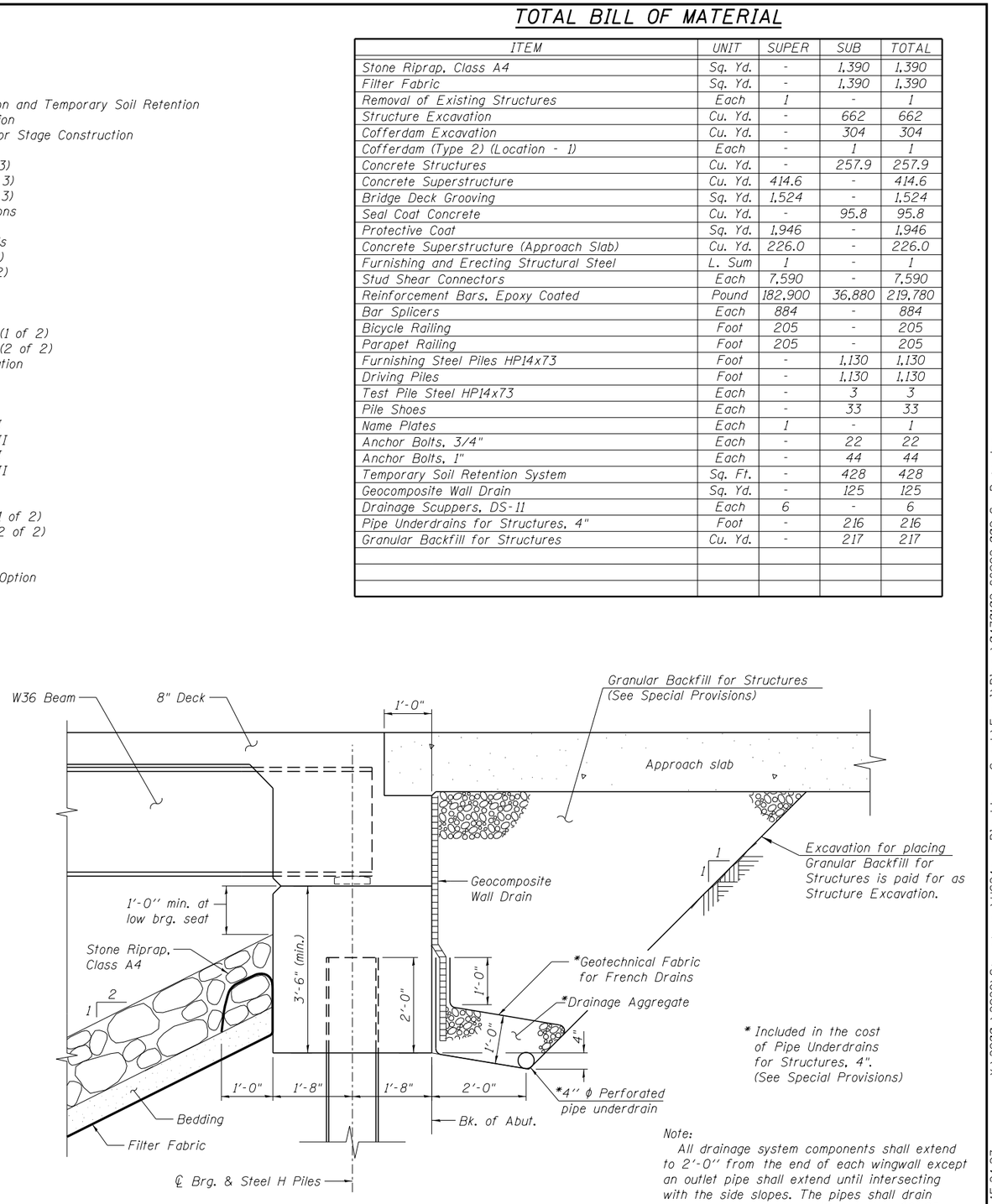
PROFILE GRADE



TOE STONE RIPRAP TREATMENT FOR STREAM CROSSINGS



FLANK STONE RIPRAP TREATMENT



SECTION THRU INTEGRAL ABUTMENT

(East Abutment shown, West Abutment similar)

* Included in the cost of Pipe Underdrains for Structures, 4". (See Special Provisions)

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

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Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 047-0102
SHEET NO. S02 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	369
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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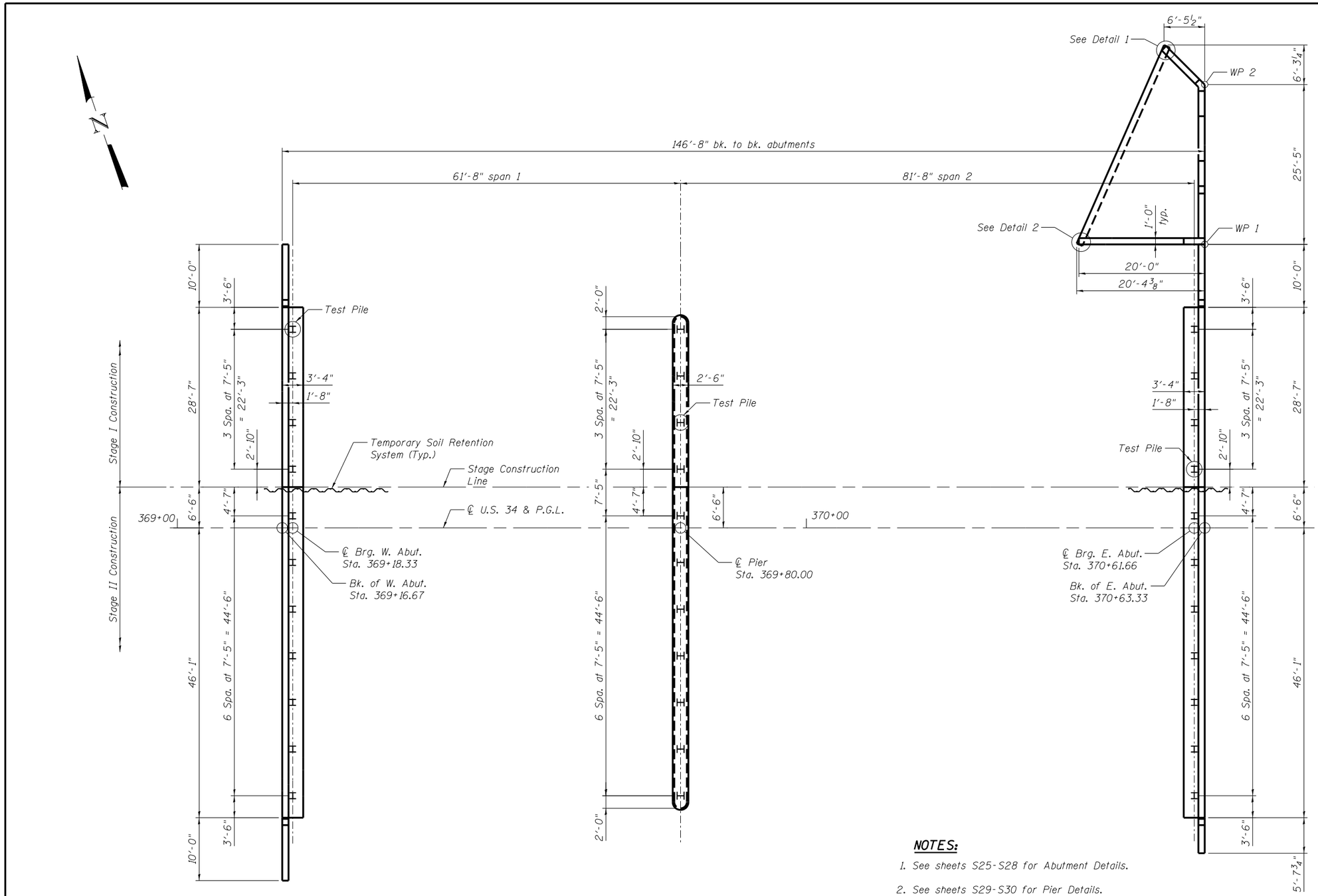
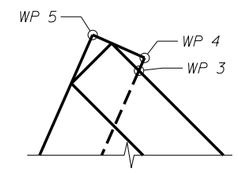
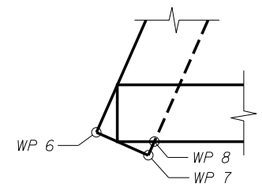


FOUNDATION LAYOUT



DETAIL 1



DETAIL 2

WORK POINTS

Work Pt.	Station	Offset
WP1	370+63.33	45.08' Lt.
WP2	370+63.33	70.50' Lt.
WP3	370+57.69	76.14' Lt.
WP4	370+57.79	76.37' Lt.
WP5	370+56.88	76.77' Lt.
WP6	370+42.96	45.25' Lt.
WP7	370+43.88	44.84' Lt.
WP8	370+43.99	45.08' Lt.

NOTES:

1. See sheets S25-S28 for Abutment Details.
2. See sheets S29-S30 for Pier Details.
3. See sheet S33 for HP Pile Details.
4. See sheet S04 for Temp. Soil Retention Details.
5. See sheets S31 and S32 for Storm Sewer Headwall Details.

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312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION LAYOUT
STRUCTURE NO. 047-0102
SHEET NO. S03 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	370
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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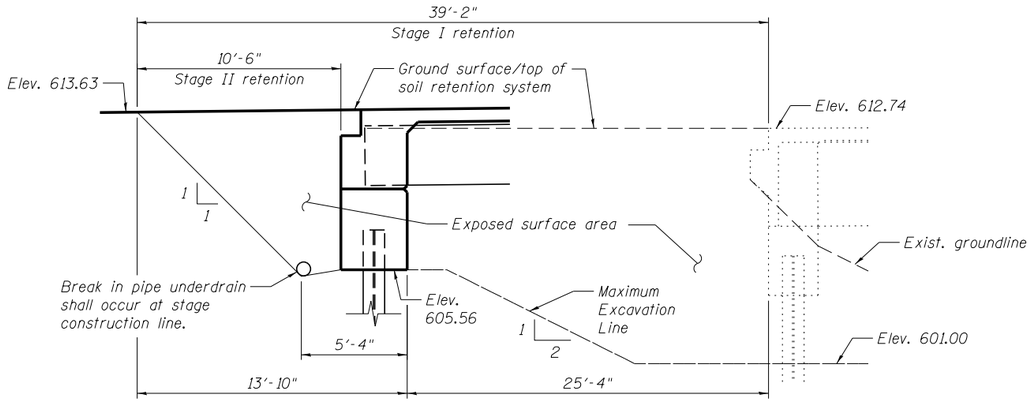
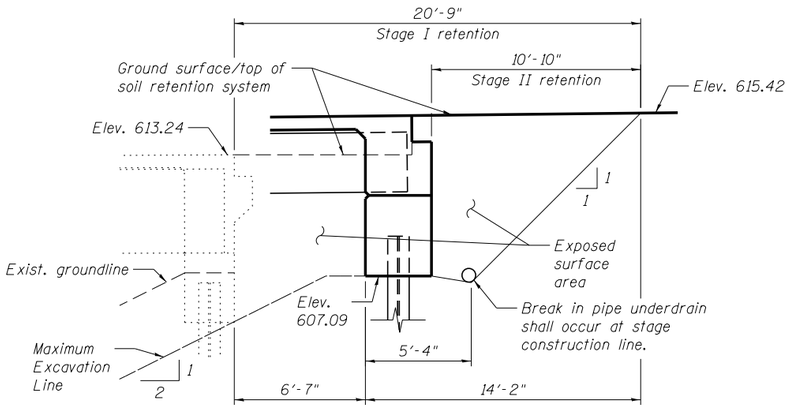


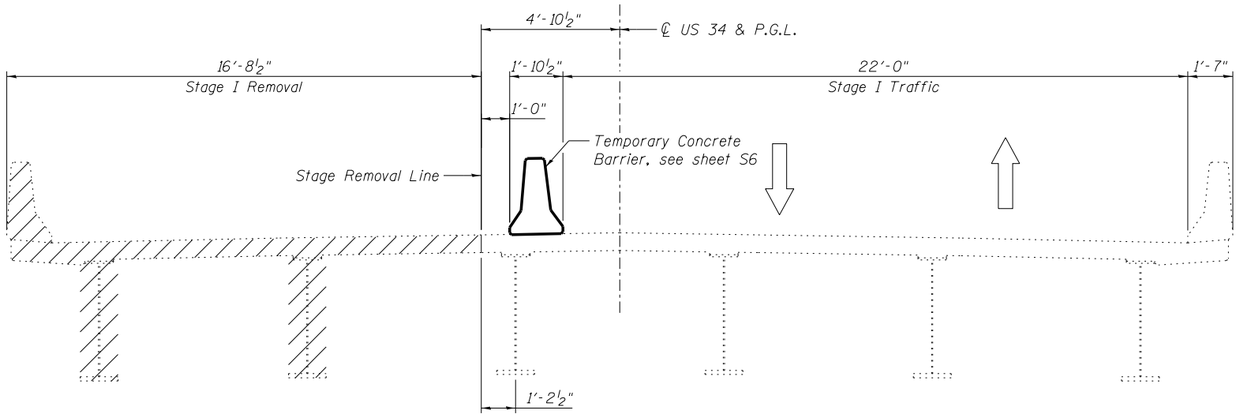
WEST ABUTMENT TEMPORARY SOIL RETENTION SYSTEM

(at Stage Const. Line)



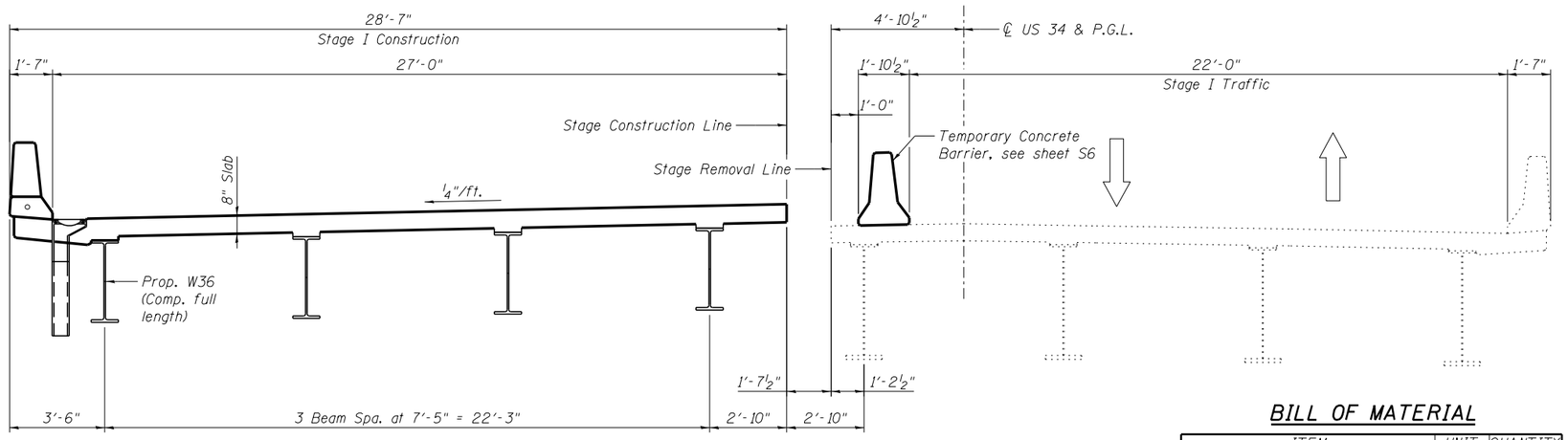
EAST ABUTMENT TEMPORARY SOIL RETENTION SYSTEM

(at Stage Const. Line)



STAGE I REMOVAL

(Looking Upstation)



STAGE I CONSTRUCTION

(Looking Upstation)

NOTES:

1. A cantilevered sheet piling design does not appear feasible due to the presence of cobbles/boulders and hard till in the area of the temporary soil retention system. Additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
2. For quantity of temporary concrete barriers, see roadway plans.
3. Hatched area indicates "Removal of Existing Structures".

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Soil Retention System	Sq. Ft.	428

benesch
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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE I REMOVAL & CONSTRUCTION AND TEMPORARY SOIL RETENTION
STRUCTURE NO. 047-0102
SHEET NO. S04 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	371
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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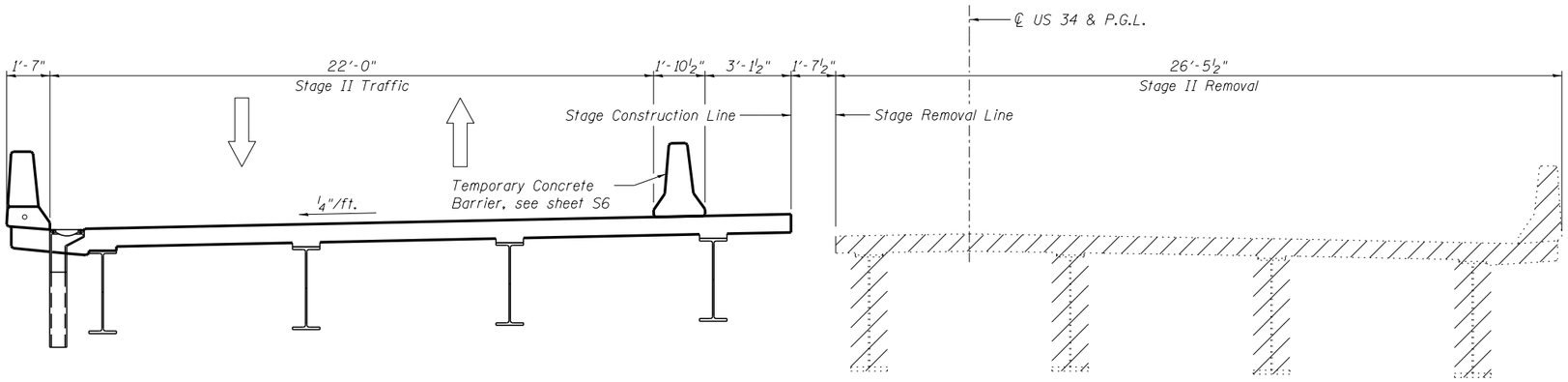
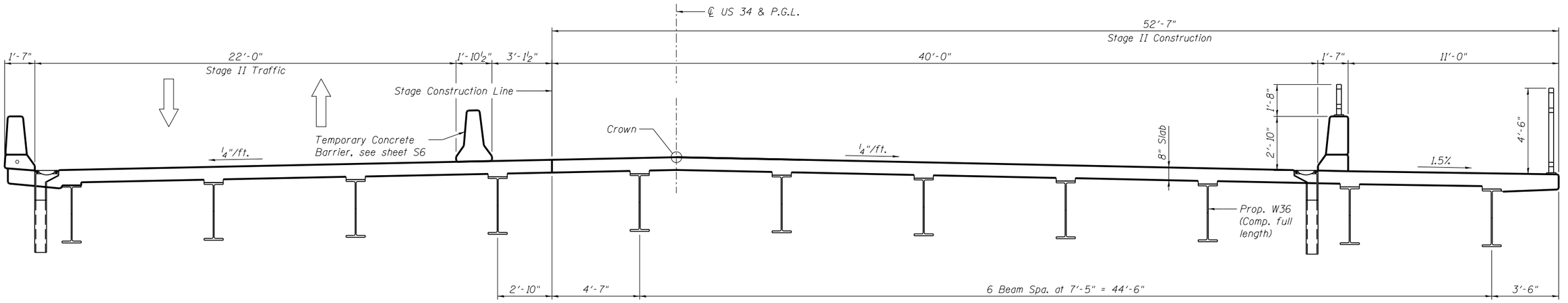


STAGE II REMOVAL

(Looking Upstation)



STAGE II CONSTRUCTION

(Looking Upstation)

NOTES:

1. For quantity of temporary concrete barriers, see roadway plans.
2. Hatched area indicates "Removal of Existing Structures".

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE II REMOVAL & CONSTRUCTION
STRUCTURE NO. 047-0102
SHEET NO. S05 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	372
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		

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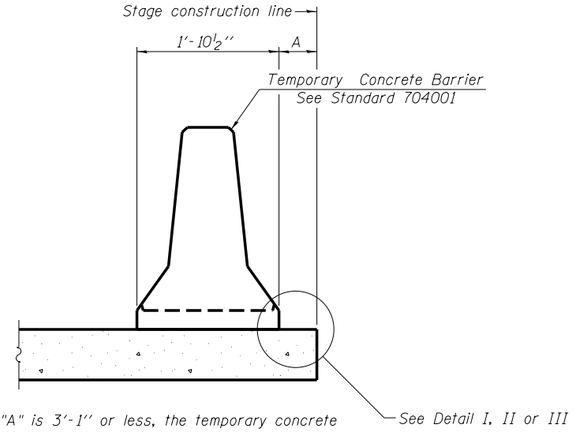
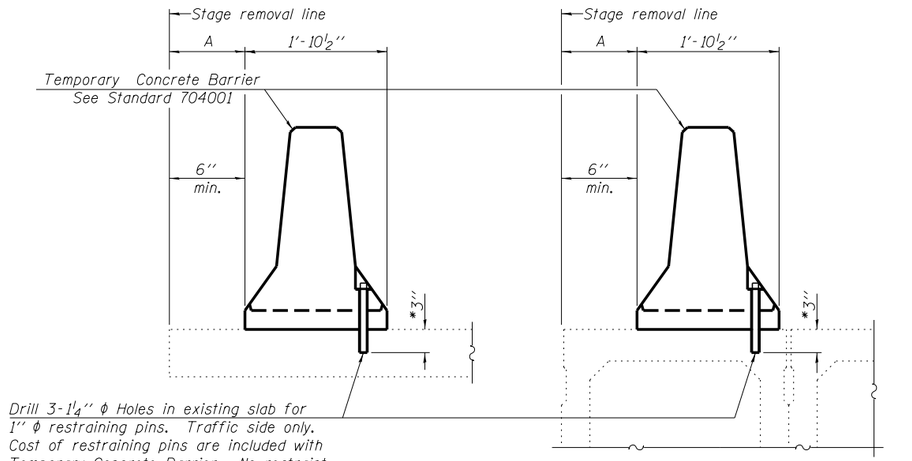


When "A" is 3'-1'' or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1''.

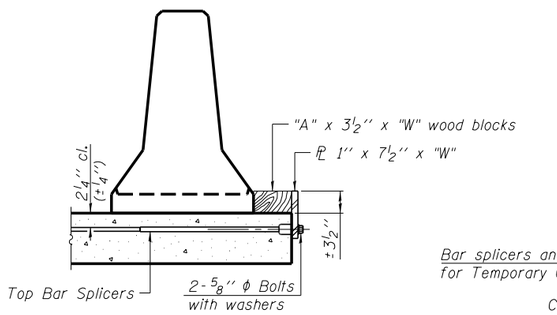
NEW SLAB OR NEW DECK BEAM



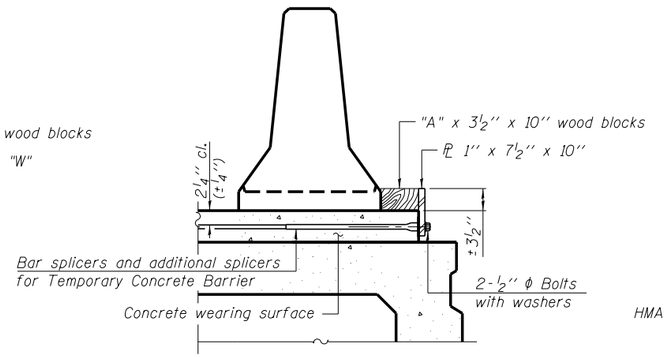
EXISTING SLAB

EXISTING DECK BEAM

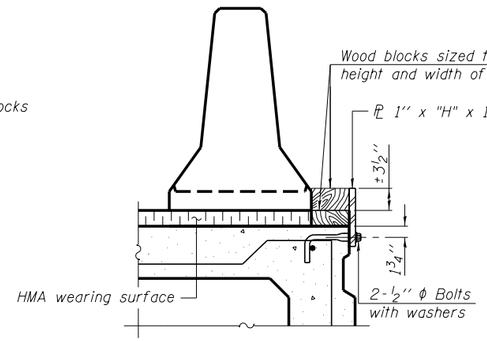
SECTIONS THRU SLAB OR DECK BEAM



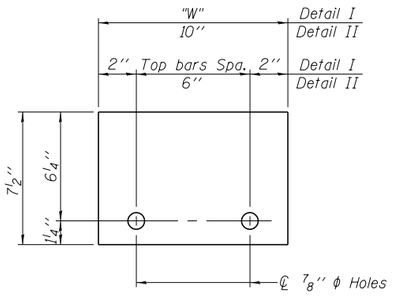
DETAIL I



DETAIL II

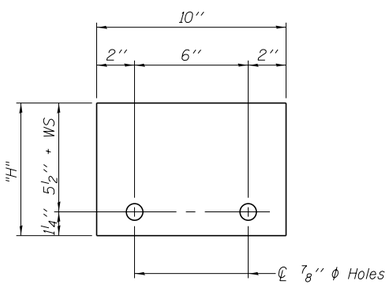


DETAIL III



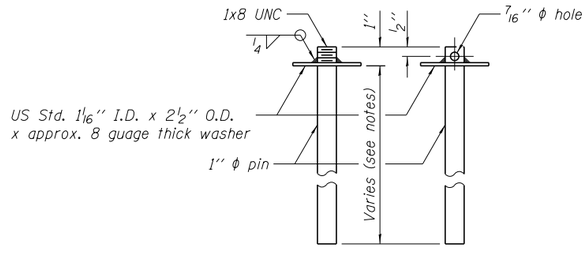
STEEL RETAINER ℄ 1'' x 7½'' x "W"

(Detail I and II)

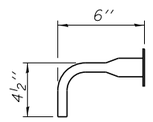


STEEL RETAINER ℄ 1'' x "H" x 10''

(Detail III)



RESTRAINING PIN



BAR SPLICER FOR #4 BAR - DETAIL III

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier.

A retainer assembly shall be located at the approximate ℄ of each temporary concrete barrier.

The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.

When the 'A' dimension is less than 1½'', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6'' to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.

Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0'' centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.

Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6'' apart, shall be placed at 6'-0'' centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

R-27

07-22-16

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 047-0102

SHEET NO. 506 OF 538 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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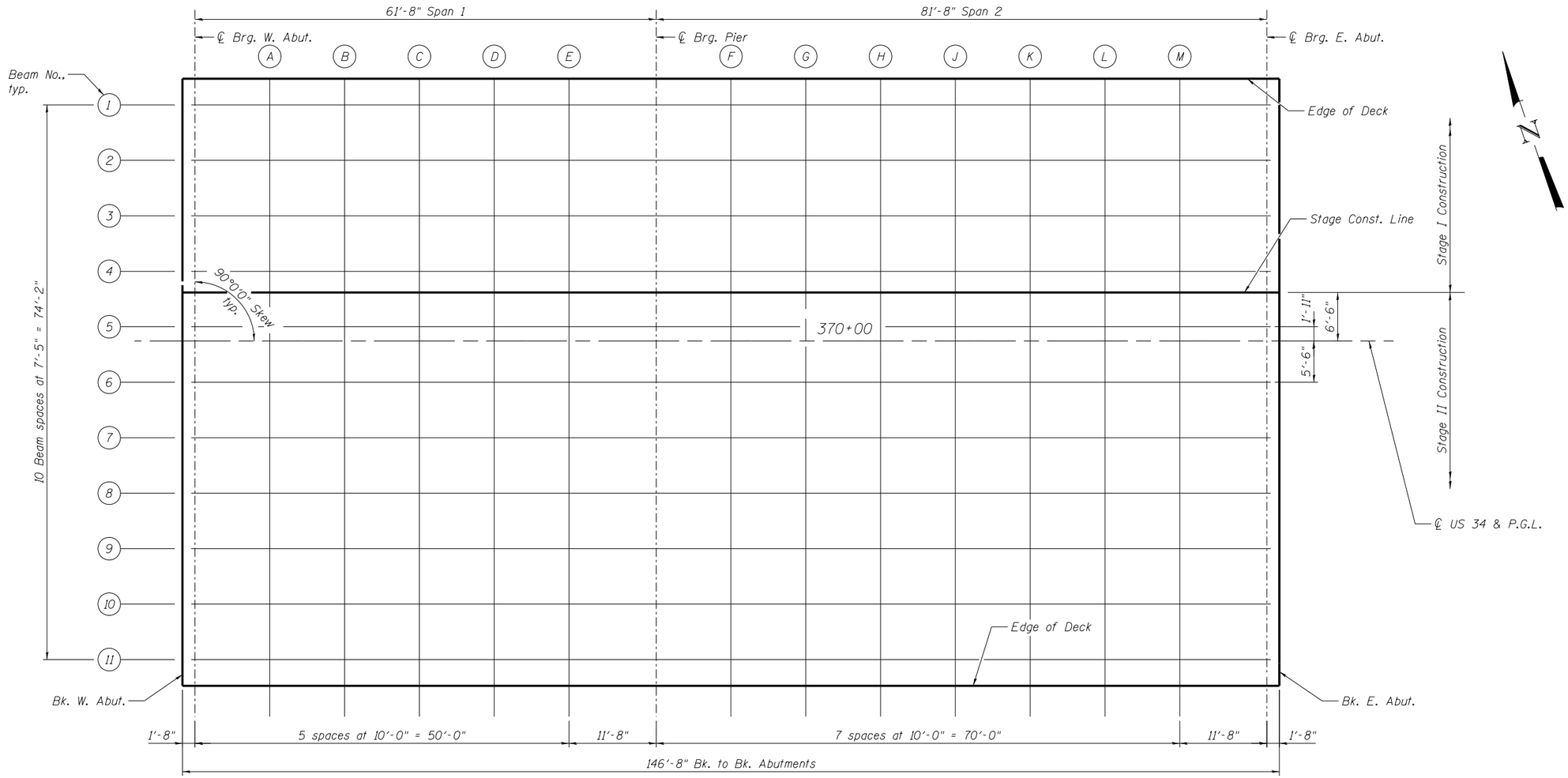
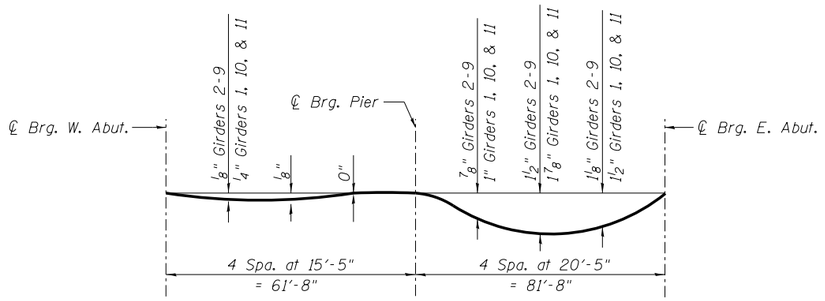


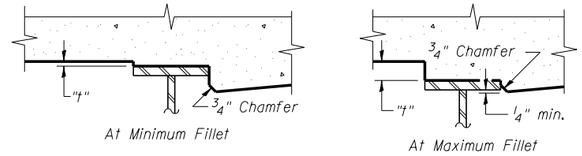
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets S8, S9, & S10.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above and on sheets S8 - S10. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets S8 - S10, minus 8" slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

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312-565-0450 Job No. 3938.15

FILE NAME = 0470102_66993_007_DeckElev1.dgn	USER NAME = habdou	DESIGNED - MRC	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS PLAN
STRUCTURE NO. 047-0102
SHEET NO. S07 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	374
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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BEAM 1

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	-31.58	613.17	613.17
℄ Brg. W. Abut.	369+18.33	-31.58	613.18	613.18
A	369+28.33	-31.58	613.24	613.25
B	369+38.33	-31.58	613.31	613.32
C	369+48.33	-31.58	613.38	613.40
D	369+58.33	-31.58	613.46	613.47
E	369+68.33	-31.58	613.55	613.54
℄ Brg. Pier	369+80.00	-31.58	613.66	613.66
F	369+90.00	-31.58	613.77	613.80
G	370+00.00	-31.58	613.88	613.96
H	370+10.00	-31.58	613.99	614.12
J	370+20.00	-31.58	614.12	614.27
K	370+30.00	-31.58	614.25	614.41
L	370+40.00	-31.58	614.38	614.51
M	370+50.00	-31.58	614.53	614.61
℄ Brg. E. Abut.	370+61.66	-31.58	614.70	614.70
Bk. E. Abut.	370+63.33	-31.58	614.73	614.73

BEAM 2

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	-24.17	613.32	613.32
℄ Brg. W. Abut.	369+18.33	-24.17	613.33	613.33
A	369+28.33	-24.17	613.39	613.40
B	369+38.33	-24.17	613.46	613.48
C	369+48.33	-24.17	613.54	613.55
D	369+58.33	-24.17	613.62	613.62
E	369+68.33	-24.17	613.71	613.70
℄ Brg. Pier	369+80.00	-24.17	613.82	613.82
F	369+90.00	-24.17	613.92	613.95
G	370+00.00	-24.17	614.03	614.10
H	370+10.00	-24.17	614.15	614.26
J	370+20.00	-24.17	614.27	614.40
K	370+30.00	-24.17	614.40	614.54
L	370+40.00	-24.17	614.54	614.65
M	370+50.00	-24.17	614.68	614.75
℄ Brg. E. Abut.	370+61.66	-24.17	614.86	614.86
Bk. E. Abut.	370+63.33	-24.17	614.88	614.88

BEAM 3

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	-16.75	613.48	613.48
℄ Brg. W. Abut.	369+18.33	-16.75	613.48	613.48
A	369+28.33	-16.75	613.55	613.56
B	369+38.33	-16.75	613.61	613.63
C	369+48.33	-16.75	613.69	613.70
D	369+58.33	-16.75	613.77	613.77
E	369+68.33	-16.75	613.86	613.86
℄ Brg. Pier	369+80.00	-16.75	613.97	613.97
F	369+90.00	-16.75	614.08	614.10
G	370+00.00	-16.75	614.19	614.25
H	370+10.00	-16.75	614.30	614.40
J	370+20.00	-16.75	614.43	614.55
K	370+30.00	-16.75	614.56	614.68
L	370+40.00	-16.75	614.69	614.79
M	370+50.00	-16.75	614.84	614.90
℄ Brg. E. Abut.	370+61.66	-16.75	615.01	615.01
Bk. E. Abut.	370+63.33	-16.75	615.04	615.04

BEAM 4

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	-9.33	613.63	613.63
℄ Brg. W. Abut.	369+18.33	-9.33	613.64	613.64
A	369+28.33	-9.33	613.70	613.71
B	369+38.33	-9.33	613.77	613.78
C	369+48.33	-9.33	613.84	613.86
D	369+58.33	-9.33	613.93	613.93
E	369+68.33	-9.33	614.02	614.01
℄ Brg. Pier	369+80.00	-9.33	614.13	614.13
F	369+90.00	-9.33	614.23	614.26
G	370+00.00	-9.33	614.34	614.41
H	370+10.00	-9.33	614.46	614.56
J	370+20.00	-9.33	614.58	614.70
K	370+30.00	-9.33	614.71	614.83
L	370+40.00	-9.33	614.85	614.95
M	370+50.00	-9.33	614.99	615.05
℄ Brg. E. Abut.	370+61.66	-9.33	615.17	615.17
Bk. E. Abut.	370+63.33	-9.33	615.19	615.19

STAGE CONSTRUCTION LINE

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	-6.50	613.69	613.69
℄ Brg. W. Abut.	369+18.33	-6.50	613.70	613.70
A	369+28.33	-6.50	613.76	613.77
B	369+38.33	-6.50	613.83	613.84
C	369+48.33	-6.50	613.90	613.92
D	369+58.33	-6.50	613.99	613.99
E	369+68.33	-6.50	614.07	614.07
℄ Brg. Pier	369+80.00	-6.50	614.19	614.19
F	369+90.00	-6.50	614.29	614.32
G	370+00.00	-6.50	614.40	614.47
H	370+10.00	-6.50	614.52	614.62
J	370+20.00	-6.50	614.64	614.76
K	370+30.00	-6.50	614.77	614.89
L	370+40.00	-6.50	614.91	615.01
M	370+50.00	-6.50	615.05	615.11
℄ Brg. E. Abut.	370+61.66	-6.50	615.23	615.23
Bk. E. Abut.	370+63.33	-6.50	615.25	615.25

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	PLOT DATE = 01\23\2017	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS (1 OF 3)
STRUCTURE NO. 047-0102
SHEET NO. S08 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	375
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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BEAM 5

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	-1.92	613.78	613.78
℄ Brg. W. Abut.	369+18.33	-1.92	613.79	613.79
A	369+28.33	-1.92	613.86	613.87
B	369+38.33	-1.92	613.92	613.94
C	369+48.33	-1.92	614.00	614.01
D	369+58.33	-1.92	614.08	614.08
E	369+68.33	-1.92	614.17	614.16
℄ Brg. Pier	369+80.00	-1.92	614.28	614.28
F	369+90.00	-1.92	614.38	614.41
G	370+00.00	-1.92	614.49	614.56
H	370+10.00	-1.92	614.61	614.71
J	370+20.00	-1.92	614.74	614.86
K	370+30.00	-1.92	614.87	614.99
L	370+40.00	-1.92	615.00	615.10
M	370+50.00	-1.92	615.15	615.21
℄ Brg. E. Abut.	370+61.66	-1.92	615.32	615.32
Bk. E. Abut.	370+63.33	-1.92	615.35	615.35

℄ US 34 & P.G.L.

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	0.00	613.82	613.82
℄ Brg. W. Abut.	369+18.33	0.00	613.83	613.83
A	369+28.33	0.00	613.90	613.91
B	369+38.33	0.00	613.96	613.98
C	369+48.33	0.00	614.04	614.05
D	369+58.33	0.00	614.12	614.12
E	369+68.33	0.00	614.21	614.20
℄ Brg. Pier	369+80.00	0.00	614.32	614.32
F	369+90.00	0.00	614.42	614.45
G	370+00.00	0.00	614.53	614.60
H	370+10.00	0.00	614.65	614.75
J	370+20.00	0.00	614.78	614.90
K	370+30.00	0.00	614.91	615.03
L	370+40.00	0.00	615.04	615.14
M	370+50.00	0.00	615.19	615.25
℄ Brg. E. Abut.	370+61.66	0.00	615.36	615.36
Bk. E. Abut.	370+63.33	0.00	615.39	615.39

BEAM 6

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	5.50	613.71	613.71
℄ Brg. W. Abut.	369+18.33	5.50	613.72	613.72
A	369+28.33	5.50	613.78	613.79
B	369+38.33	5.50	613.85	613.86
C	369+48.33	5.50	613.92	613.94
D	369+58.33	5.50	614.01	614.01
E	369+68.33	5.50	614.09	614.09
℄ Brg. Pier	369+80.00	5.50	614.21	614.21
F	369+90.00	5.50	614.31	614.34
G	370+00.00	5.50	614.42	614.49
H	370+10.00	5.50	614.54	614.64
J	370+20.00	5.50	614.66	614.78
K	370+30.00	5.50	614.79	614.91
L	370+40.00	5.50	614.93	615.03
M	370+50.00	5.50	615.07	615.13
℄ Brg. E. Abut.	370+61.66	5.50	615.25	615.25
Bk. E. Abut.	370+63.33	5.50	615.27	615.27

BEAM 7

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	12.92	613.55	613.55
℄ Brg. W. Abut.	369+18.33	12.92	613.56	613.56
A	369+28.33	12.92	613.63	613.64
B	369+38.33	12.92	613.69	613.71
C	369+48.33	12.92	613.77	613.78
D	369+58.33	12.92	613.85	613.85
E	369+68.33	12.92	613.94	613.94
℄ Brg. Pier	369+80.00	12.92	614.05	614.05
F	369+90.00	12.92	614.16	614.18
G	370+00.00	12.92	614.27	614.33
H	370+10.00	12.92	614.38	614.48
J	370+20.00	12.92	614.51	614.63
K	370+30.00	12.92	614.64	614.76
L	370+40.00	12.92	614.77	614.87
M	370+50.00	12.92	614.92	614.98
℄ Brg. E. Abut.	370+61.66	12.92	615.09	615.09
Bk. E. Abut.	370+63.33	12.92	615.12	615.12

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	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS (2 OF 3)
STRUCTURE NO. 047-0102
SHEET NO. S09 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	376
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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BEAM 8

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	20.33	613.40	613.40
℄ Brg. W. Abut.	369+18.33	20.33	613.41	613.41
A	369+28.33	20.33	613.47	613.48
B	369+38.33	20.33	613.54	613.55
C	369+48.33	20.33	613.62	613.63
D	369+58.33	20.33	613.70	613.70
E	369+68.33	20.33	613.79	613.78
℄ Brg. Pier	369+80.00	20.33	613.90	613.90
F	369+90.00	20.33	614.00	614.03
G	370+00.00	20.33	614.11	614.18
H	370+10.00	20.33	614.23	614.33
J	370+20.00	20.33	614.35	614.47
K	370+30.00	20.33	614.48	614.60
L	370+40.00	20.33	614.62	614.72
M	370+50.00	20.33	614.76	614.82
℄ Brg. E. Abut.	370+61.66	20.33	614.94	614.94
Bk. E. Abut.	370+63.33	20.33	614.96	614.96

BEAM 9

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	27.75	613.25	613.25
℄ Brg. W. Abut.	369+18.33	27.75	613.26	613.26
A	369+28.33	27.75	613.32	613.33
B	369+38.33	27.75	613.39	613.40
C	369+48.33	27.75	613.46	613.47
D	369+58.33	27.75	613.54	613.55
E	369+68.33	27.75	613.63	613.63
℄ Brg. Pier	369+80.00	27.75	613.74	613.74
F	369+90.00	27.75	613.85	613.88
G	370+00.00	27.75	613.96	614.03
H	370+10.00	27.75	614.07	614.18
J	370+20.00	27.75	614.20	614.33
K	370+30.00	27.75	614.33	614.46
L	370+40.00	27.75	614.46	614.57
M	370+50.00	27.75	614.61	614.67
℄ Brg. E. Abut.	370+61.66	27.75	614.78	614.78
Bk. E. Abut.	370+63.33	27.75	614.81	614.81

BEAM 10

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	35.17	613.09	613.09
℄ Brg. W. Abut.	369+18.33	35.17	613.10	613.10
A	369+28.33	35.17	613.16	613.18
B	369+38.33	35.17	613.23	613.25
C	369+48.33	35.17	613.31	613.32
D	369+58.33	35.17	613.39	613.39
E	369+68.33	35.17	613.48	613.47
℄ Brg. Pier	369+80.00	35.17	613.59	613.59
F	369+90.00	35.17	613.69	613.73
G	370+00.00	35.17	613.80	613.88
H	370+10.00	35.17	613.92	614.04
J	370+20.00	35.17	614.04	614.19
K	370+30.00	35.17	614.17	614.32
L	370+40.00	35.17	614.31	614.43
M	370+50.00	35.17	614.45	614.53
℄ Brg. E. Abut.	370+61.66	35.17	614.63	614.63
Bk. E. Abut.	370+63.33	35.17	614.66	614.66

BEAM 11

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	369+16.67	42.58	612.98	612.98
℄ Brg. W. Abut.	369+18.33	42.58	612.99	612.99
A	369+28.33	42.58	613.05	613.06
B	369+38.33	42.58	613.12	613.14
C	369+48.33	42.58	613.20	613.21
D	369+58.33	42.58	613.28	613.28
E	369+68.33	42.58	613.37	613.36
℄ Brg. Pier	369+80.00	42.58	613.48	613.48
F	369+90.00	42.58	613.58	613.62
G	370+00.00	42.58	613.69	613.77
H	370+10.00	42.58	613.81	613.93
J	370+20.00	42.58	613.93	614.08
K	370+30.00	42.58	614.06	614.21
L	370+40.00	42.58	614.20	614.32
M	370+50.00	42.58	614.34	614.42
℄ Brg. E. Abut.	370+61.66	42.58	614.52	614.52
Bk. E. Abut.	370+63.33	42.58	614.54	614.54

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FILE NAME = 0470102_66993_010_DeckElev4.dgn	USER NAME = habdou	DESIGNED - MRC	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS (3 OF 3)
STRUCTURE NO. 047-0102
SHEET NO. S10 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	377
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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NORTH EDGE OF SHOULDER

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations
W. End of West Appr. Slab	368+87.67	-33.50	613.16
W1	368+97.67	-33.50	613.20
W2	369+07.67	-33.50	613.24
E. End of West Appr. Slab	369+17.67	-33.50	613.30
W. End of East Appr. Slab	370+62.33	-33.50	614.84
E1	370+72.33	-33.50	615.00
E2	370+82.33	-33.50	615.16
E. End of East Appr. Slab	370+92.33	-33.50	615.33

STAGE CONSTRUCTION LINE

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations
W. End of West Appr. Slab	368+87.67	-6.50	613.55
W1	368+97.67	-6.50	613.59
W2	369+07.67	-6.50	613.64
E. End of West Appr. Slab	369+17.67	-6.50	613.69
W. End of East Appr. Slab	370+62.33	-6.50	615.24
E1	370+72.33	-6.50	615.40
E2	370+82.33	-6.50	615.56
E. End of East Appr. Slab	370+92.33	-6.50	615.72

℄ US 34, P.G.L. & CROWN

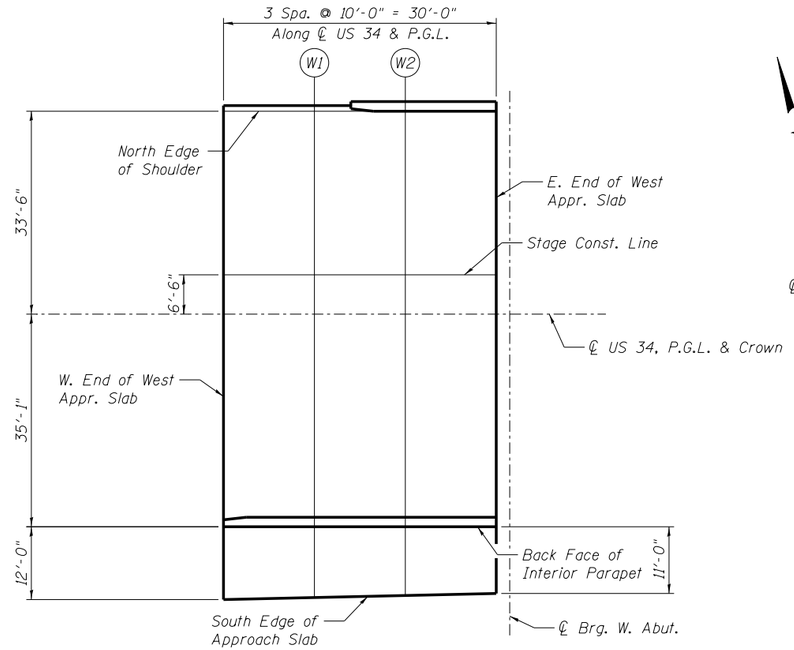
Location	Station	Offset From P.G.L.	Theoretical Grade Elevations
W. End of West Appr. Slab	368+87.67	0.00	613.69
W1	368+97.67	0.00	613.73
W2	369+07.67	0.00	613.78
E. End of West Appr. Slab	369+17.67	0.00	613.83
W. End of East Appr. Slab	370+62.33	0.00	615.37
E1	370+72.33	0.00	615.53
E2	370+82.33	0.00	615.70
E. End of East Appr. Slab	370+92.33	0.00	615.86

BACKFACE OF INTERIOR PARAPET

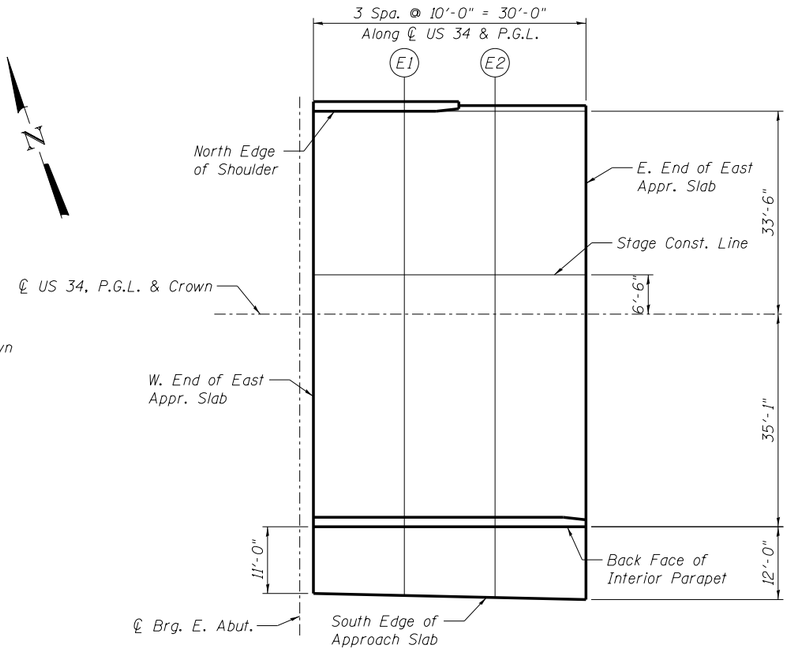
Location	Station	Offset From P.G.L.	Theoretical Grade Elevations
W. End of West Appr. Slab	368+87.67	35.08	612.96
W1	368+97.67	35.08	613.00
W2	369+07.67	35.08	613.04
E. End of West Appr. Slab	369+17.67	35.08	613.10
W. End of East Appr. Slab	370+62.33	35.08	614.64
E1	370+72.33	35.08	614.80
E2	370+82.33	35.08	614.96
E. End of East Appr. Slab	370+92.33	35.08	615.13

SOUTH EDGE OF APPROACH SLAB

Location	Station	Offset From P.G.L.	Theoretical Grade Elevations
W. End of West Appr. Slab	368+87.67	47.08	612.78
W1	368+97.67	46.75	612.82
W2	369+07.67	46.42	612.87
E. End of West Appr. Slab	369+17.67	46.08	612.93
W. End of East Appr. Slab	370+62.33	46.08	614.48
E1	370+72.33	46.42	614.63
E2	370+82.33	46.75	614.79
E. End of East Appr. Slab	370+92.33	47.08	614.95



WEST APPROACH



EAST APPROACH

PLAN

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205 North Michigan Avenue, Suite 2400
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312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
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TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO. 047-0102
SHEET NO. S11 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	378
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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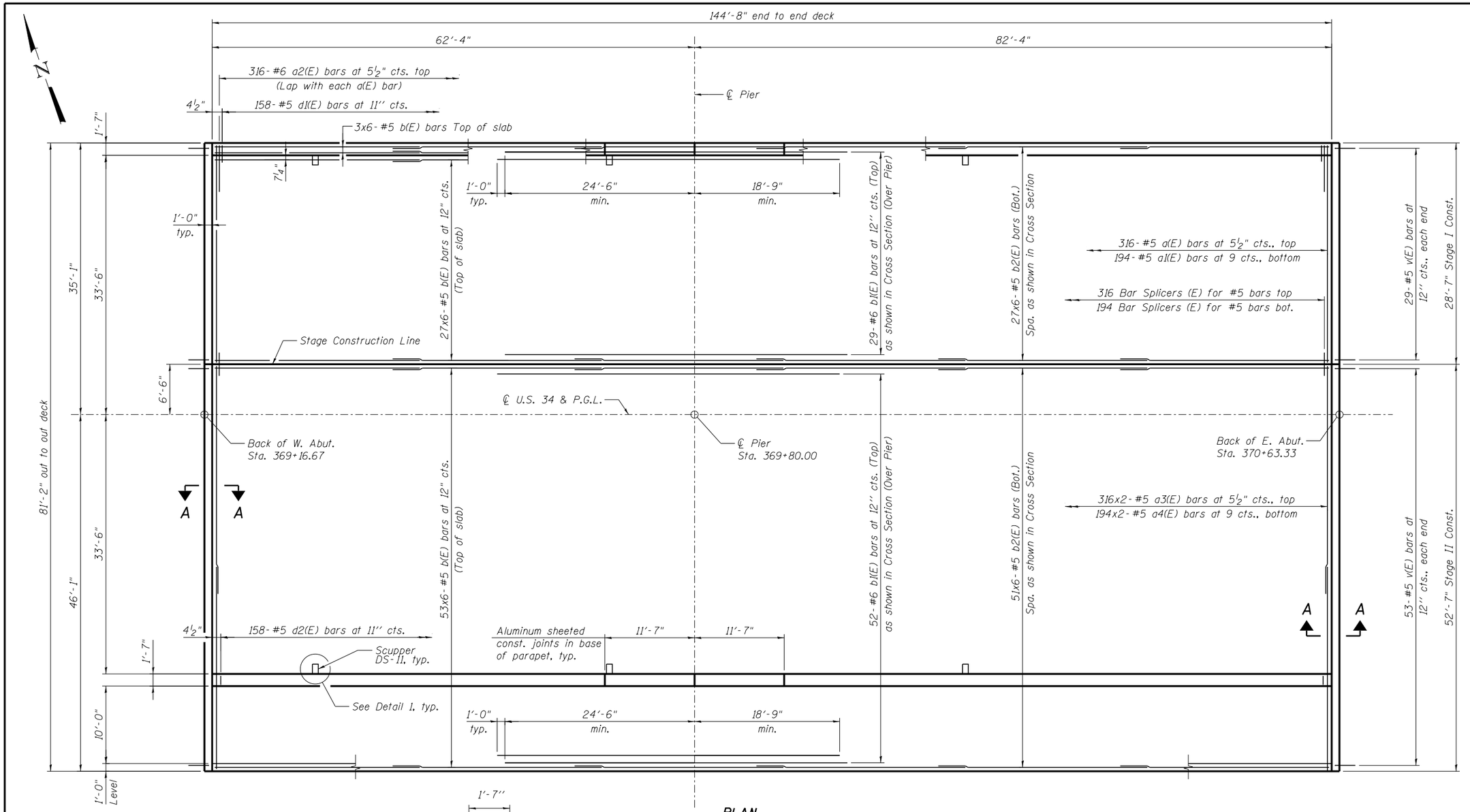
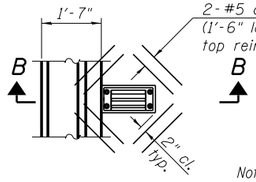
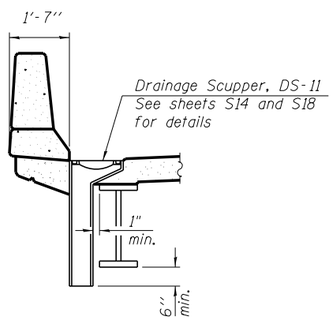


PLAN



DETAIL 1

Note:
Cut longitudinal reinforcement to clear drainage scuppers.



SECTION B-B

MINIMUM BAR LAP

#5 bar = 3'-6"
#6 bar = 4'-10"

NOTES:

1. See Sheet S14 for Superstructure Details, Bar Bends and Bill of Material.
2. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See Sheet S15 for parapet reinforcement.
4. Cut longitudinal bars b(E), b1(E) and b2(E) as required at Scuppers.
5. For Section A-A see sheet S16.
6. For Scupper longitudinal locations, see Sheet S1.
7. If the deck pour starts from the east abutment, an uplift of 2.8 kips/Brg at the West Abutment will occur. The Contractor shall submit measures to resist the uplift to the Engineer for Approval. Deck pour starting from the west abutment will result in no uplift.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK REINFORCEMENT PLAN
STRUCTURE NO. 047-0102
SHEET NO. S12 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	379
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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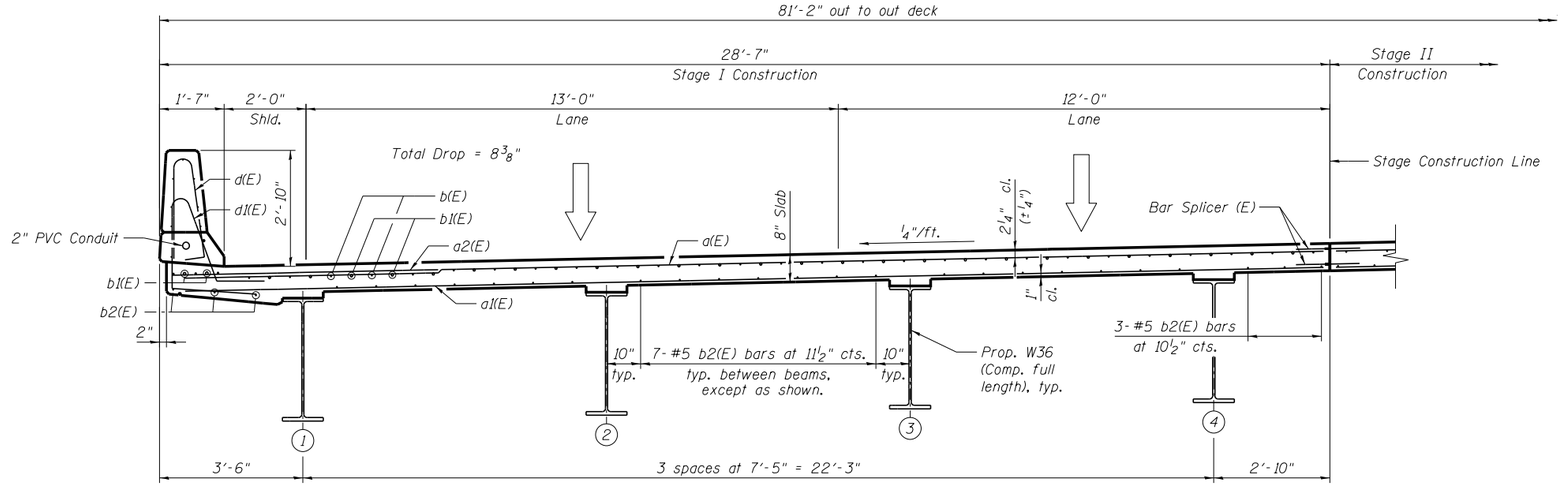
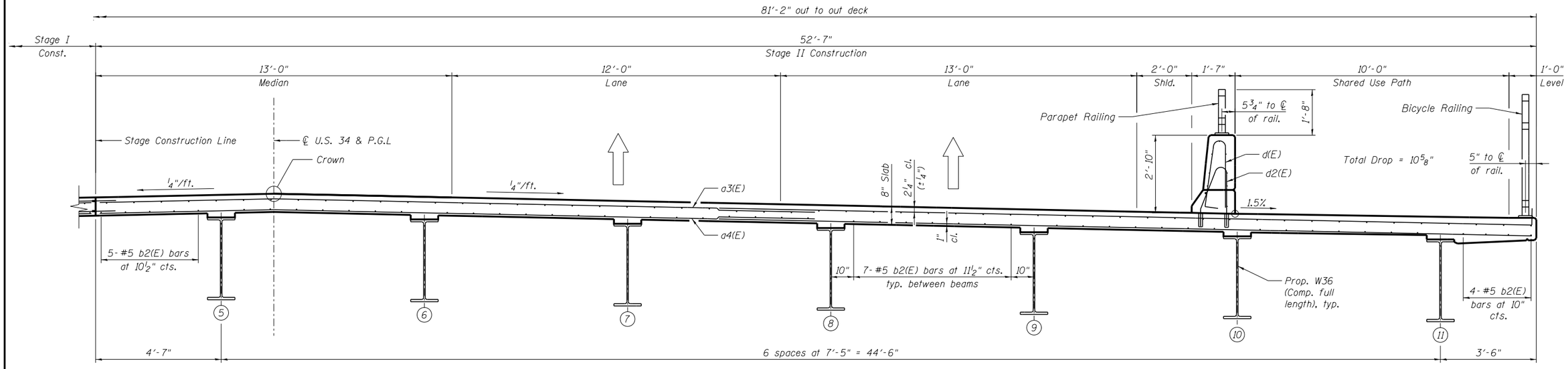


CROSS SECTION NEAR PIER

(Looking East)

NOTE:

Drainage Scuppers not shown for clarity.



CROSS SECTION NEAR MIDSPAN

(Looking East)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION AND DETAILS
STRUCTURE NO. 047-0102
SHEET NO. S13 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	380
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		

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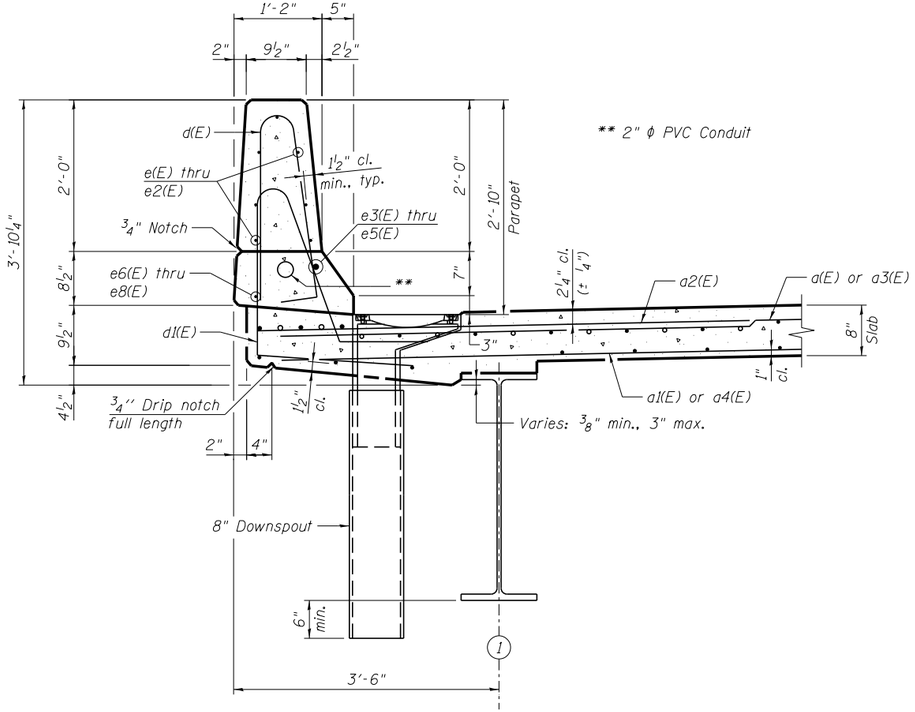
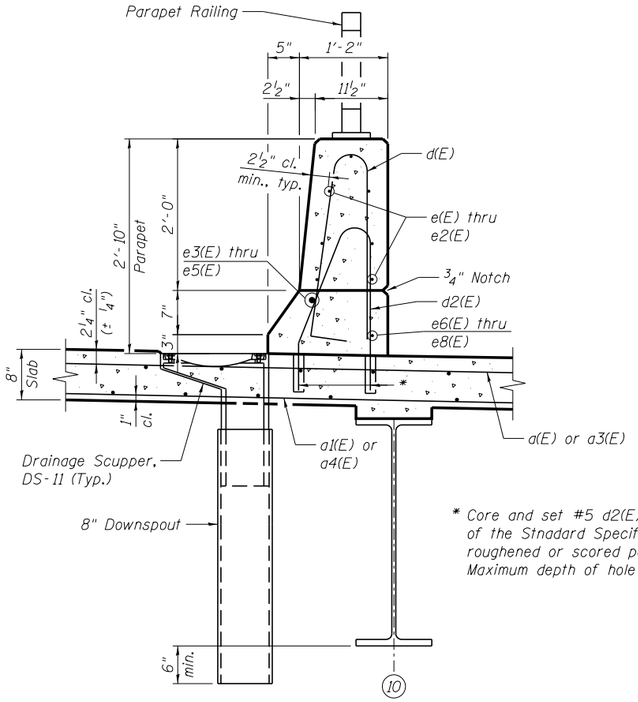


SECTION THRU EXTERIOR PARAPET

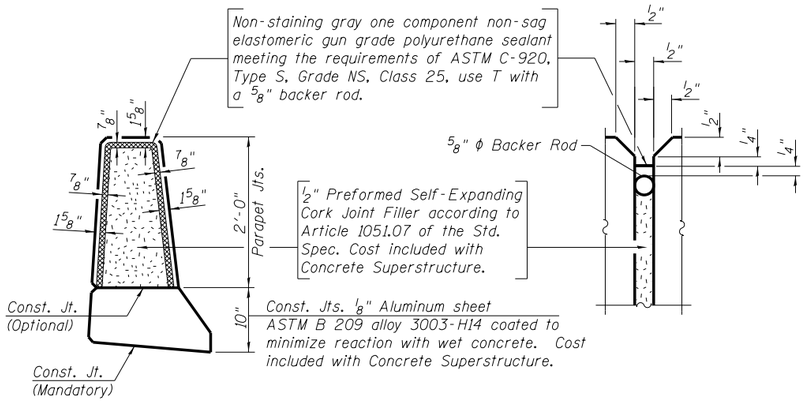


* Core and set #5 d2(E) bar according to Article 509.06 of the Stndard Specifications. Cored holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of hole shall not exceed 6".

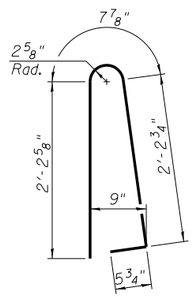
SECTION THRU INTERIOR PARAPET

SUPERSTRUCTURE BILL OF MATERIAL

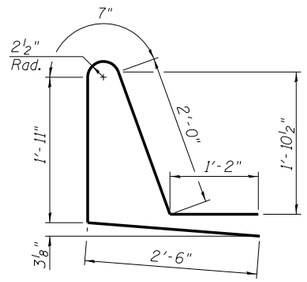
Bar	No.	Size	Length	Shape
a(E)	316	#5	28'-3"	
a1(E)	194	#5	28'-3"	
a2(E)	316	#6	6'-6"	
a3(E)	632	#5	27'-11"	
a4(E)	388	#5	27'-11"	
a5(E)	48	#5	1'-6"	
b(E)	498	#5	31'-8"	
b1(E)	81	#6	44'-3"	
b2(E)	468	#5	31'-8"	
d(E)	316	#5	5'-7"	
d1(E)	158	#5	8'-2"	
d2(E)	158	#5	4'-8"	
e(E)	42	#4	16'-7"	
e1(E)	28	#4	11'-3"	
e2(E)	56	#4	17'-4"	
e3(E)	4	#8	28'-2"	
e4(E)	4	#8	11'-3"	
e5(E)	4	#8	38'-2"	
e6(E)	4	#4	26'-7"	
e7(E)	4	#4	11'-3"	
e8(E)	8	#4	25'-3"	
m(E)	16	#6	28'-1"	
m1(E)	8	#6	28'-3"	
m2(E)	66	#5	4'-0"	
m3(E)	54	#6	7'-1"	
m4(E)	12	#6	3'-2"	
m5(E)	6	#6	2'-6"	
m6(E)	6	#6	4'-3"	
s(E)	158	#5	8'-1"	
s1(E)	158	#5	10'-4"	
v(E)	164	#5	3'-1"	
Reinforcement Bars, Epoxy Coated		Pound	97,070	
Concrete Superstructure		Cu. Yds.	404.4	



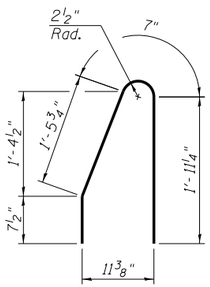
PARAPET JOINT DETAILS



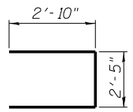
BAR d(E)



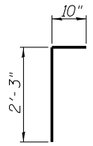
BAR d1(E)



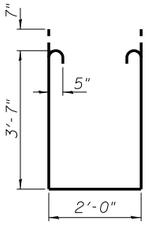
BAR d2(E)



BAR s(E)



BAR v(E)



BAR s1(E)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS (1 of 2)
STRUCTURE NO. 047-0102
SHEET NO. S14 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	381
		CONTRACT NO. 66993		
ILLINOIS FED. AID PROJECT				

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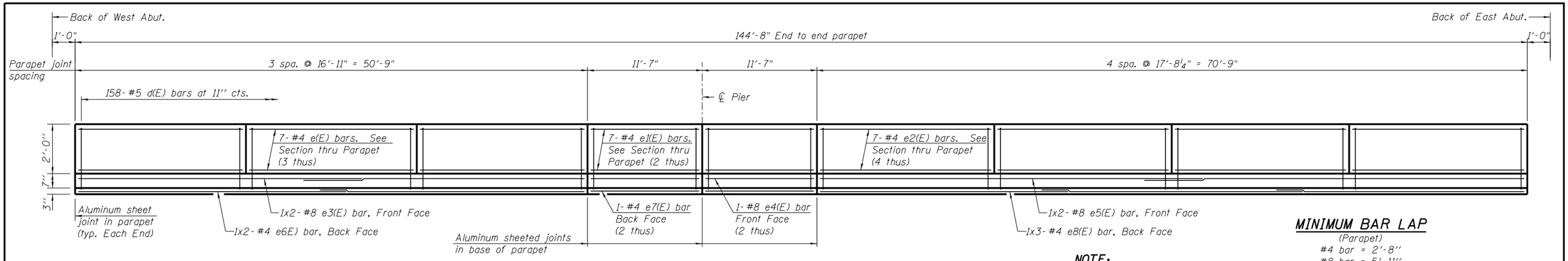


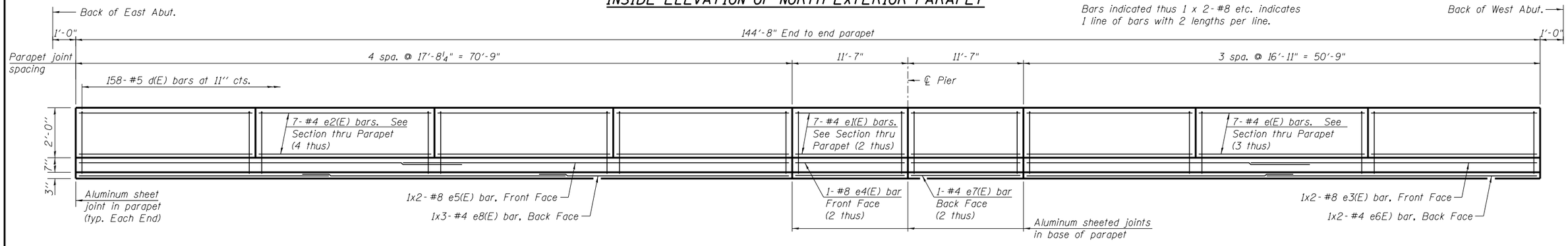
INSIDE ELEVATION OF NORTH EXTERIOR PARAPET

NOTE:

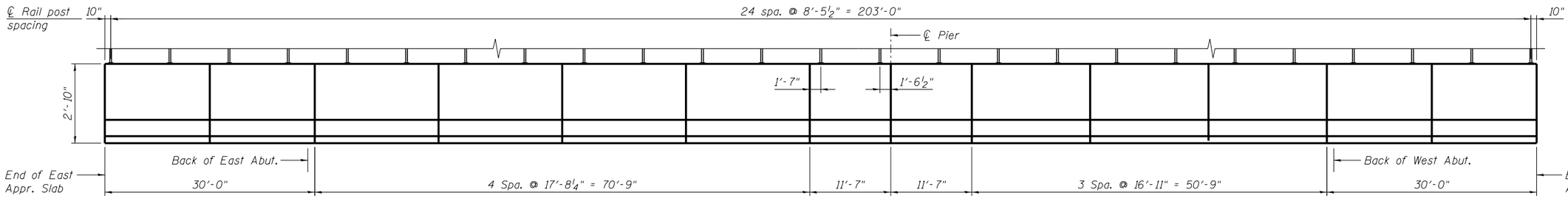
Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.

MINIMUM BAR LAP

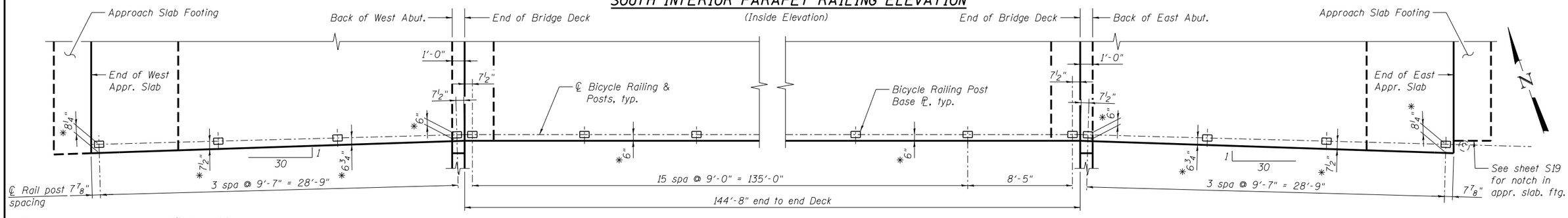
(Parapet)
#4 bar = 2'-8"
#8 bar = 5'-11"



INSIDE ELEVATION OF SOUTH INTERIOR PARAPET



SOUTH INTERIOR PARAPET RAILING ELEVATION



BICYCLE RAILING PLAN

* Measured from Edge of Deck to ℄ Post

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STATE OF ILLINOIS
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SUPERSTRUCTURE DETAILS (2 of 2)
STRUCTURE NO. 047-0102
SHEET NO. S15 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	382
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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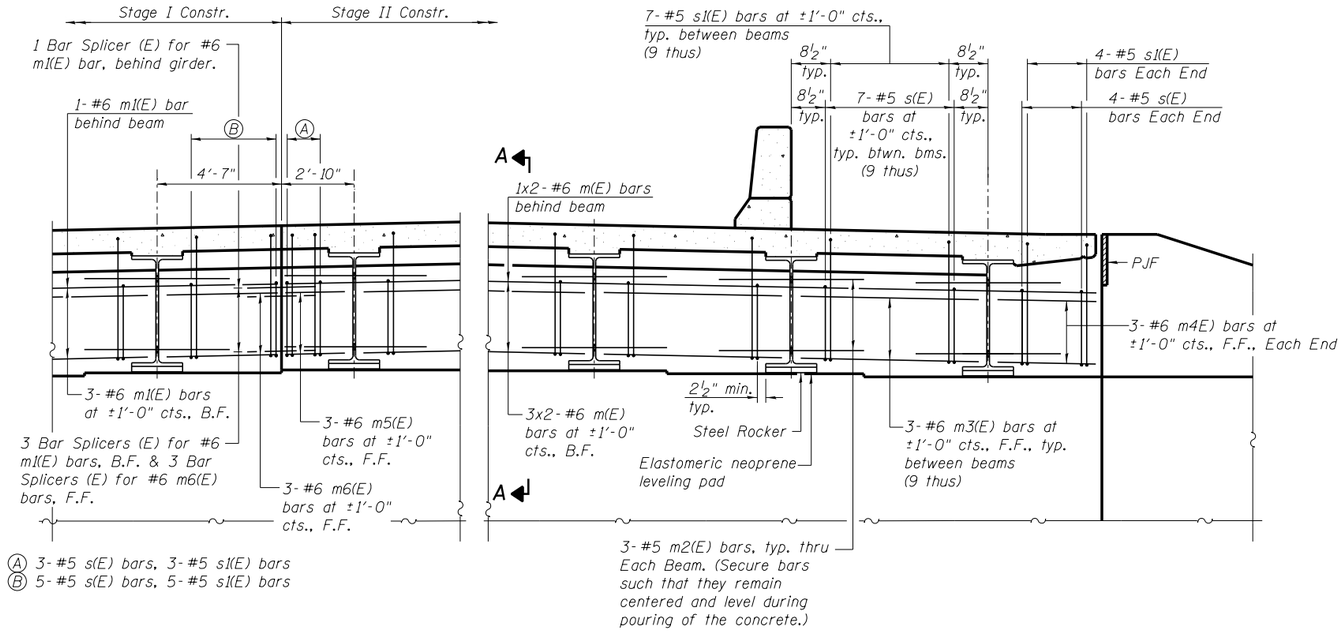
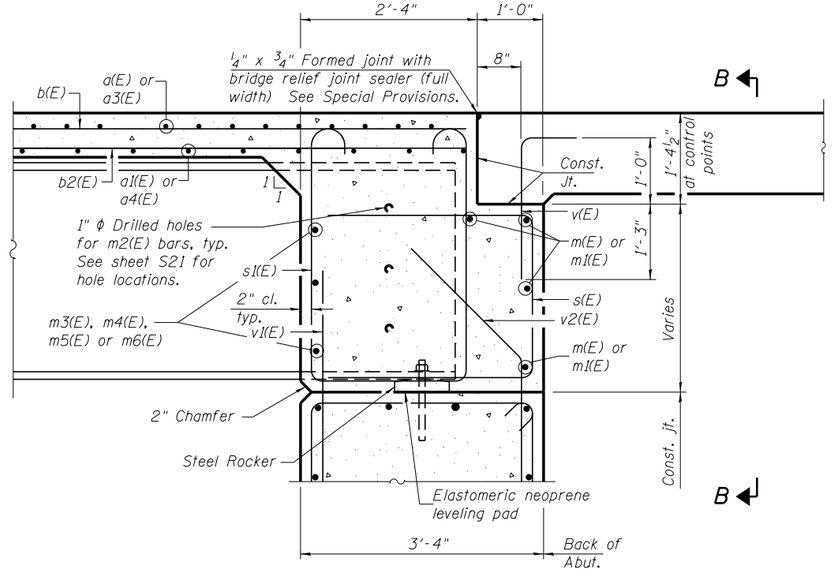


DIAPHRAGM ELEVATION AT ABUTMENT

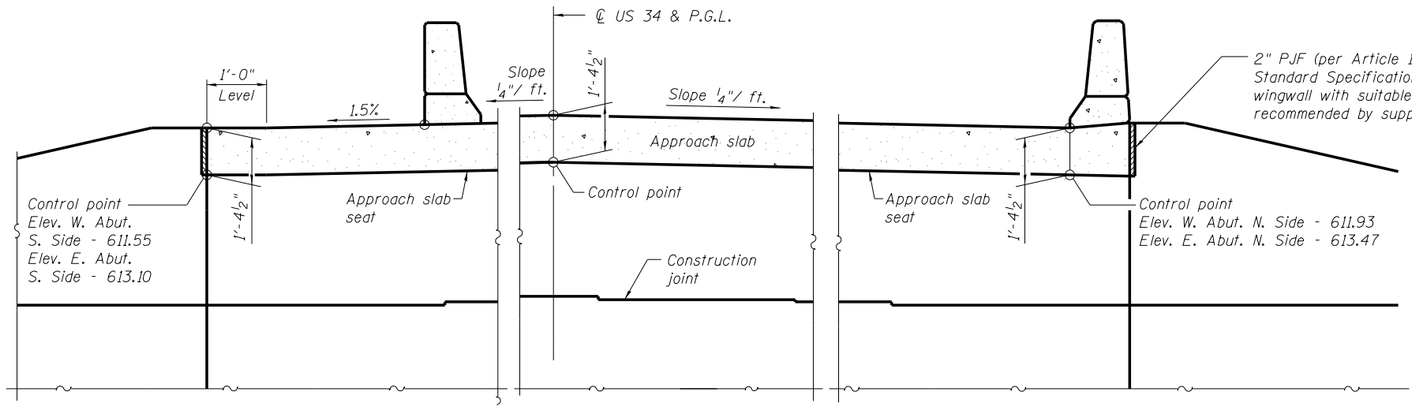
(East Abutment Looking East shown, West Abutment similar)

LEGEND

F.F. - Front Face
B.F. - Back Face



SECTION A-A



SECTION B-B

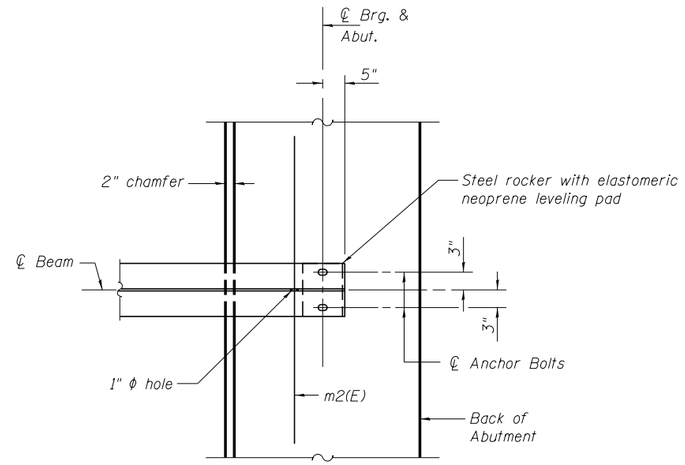
(East Abutment Looking West shown, West Abutment similar)

MINIMUM BAR LAP

#6 Bar = 3'-10"

NOTES:

1. Reinforcement bars in diaphragm are billed with superstructure on sheet S14.
2. Concrete in diaphragm is included with Concrete Superstructure on sheet S14.
3. For details of bars s(E), s1(E) and v(E) see sheet S14.
4. The approach slab seat shall have a constant slope determined from the control points shown.
5. For bearing details see sheet S24.



PARTIAL PLAN AT ABUTMENT

(Showing bottom flange of beam)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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DIAPHRAGM DETAILS
STRUCTURE NO. 047-0102
SHEET NO. S16 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	383
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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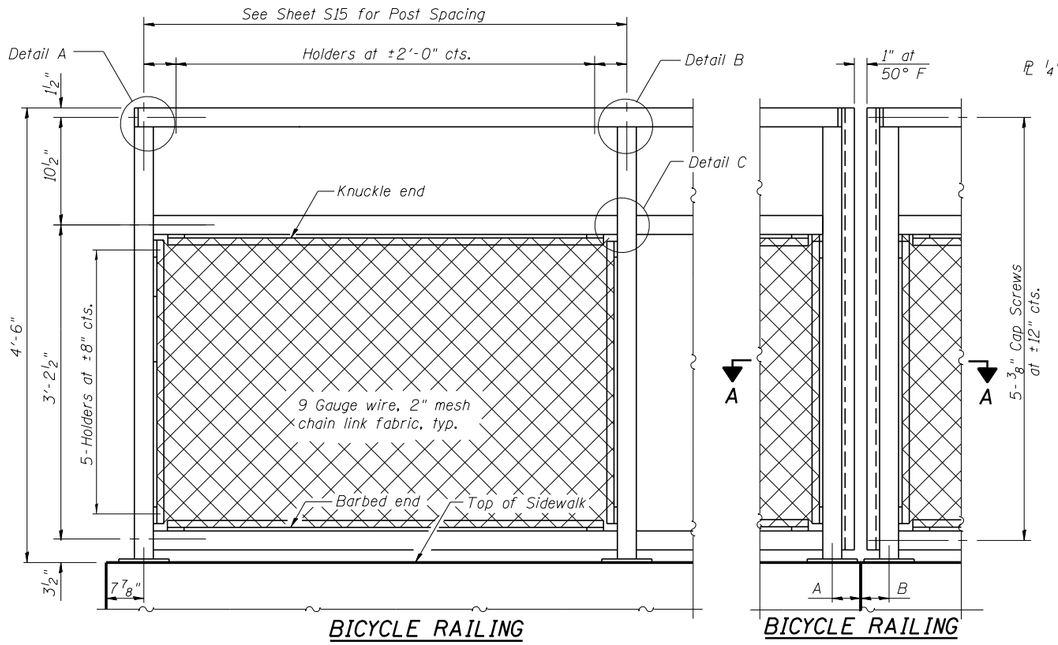
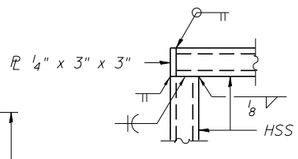
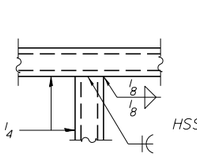


BICYCLE RAILING

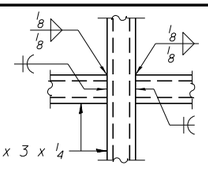
BICYCLE RAILING



DETAIL A



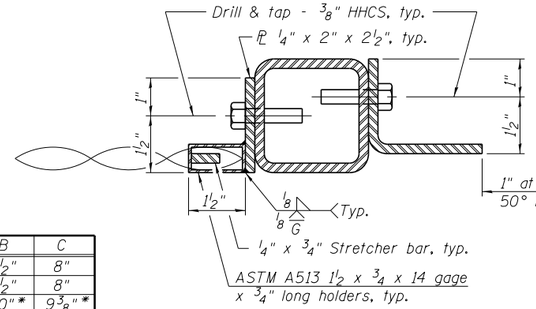
DETAIL B

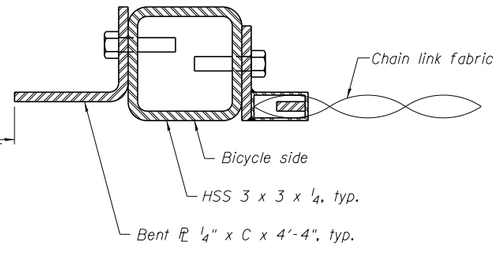


DETAIL C

NOTES:

1. All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
2. All structural steel tubing, post and railing, for parapet railing shall be CVN tested according to 1006.34(b) of the Standard Specifications.
3. Work this sheet with sheet RW-09, for end post on east approach slab and first post on wall 1, Soldier Pile Wall SN 047-8802

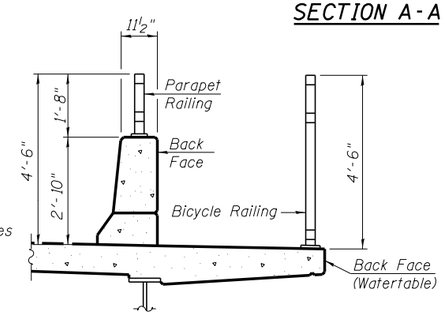




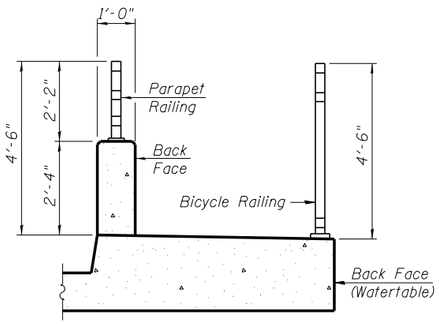
Location	A	B	C
Sta. 369+17.67	7½"	7½"	8"
Sta. 370+62.33	7½"	7½"	8"
Sta. 370+92.33	7 7/8"	10" *	9 3/8" *

* See sheet RW-09 for detail of first post on Wall 1, SN 047-8802.

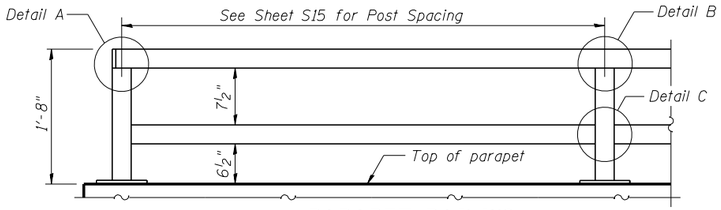
SECTION A-A



SECTION THRU DECK

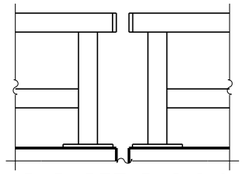


SECTION THRU SIDEWALK



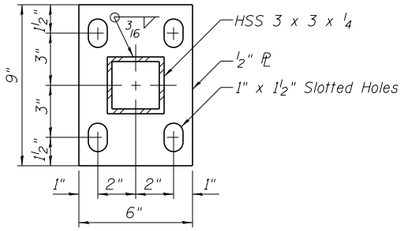
PARAPET RAILING ELEVATION

(Inside Face of Two Element Rail)

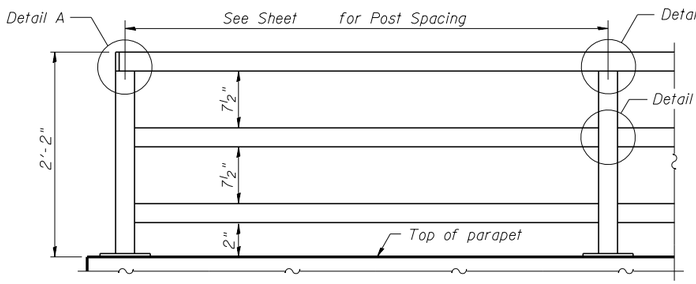


PARAPET RAILING ELEVATION AT EXPANSION JOINT

(Two Element Rail Shown - Three Element Rail Similar)

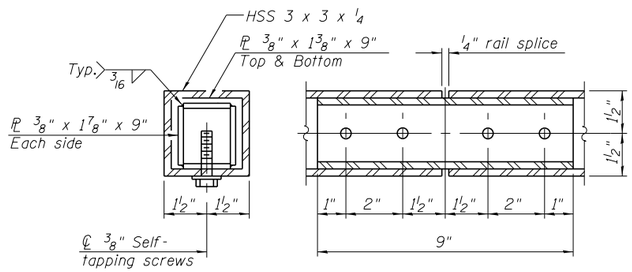


BASE PL

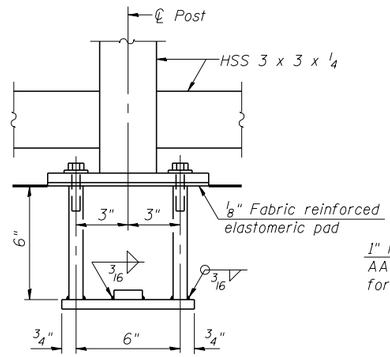


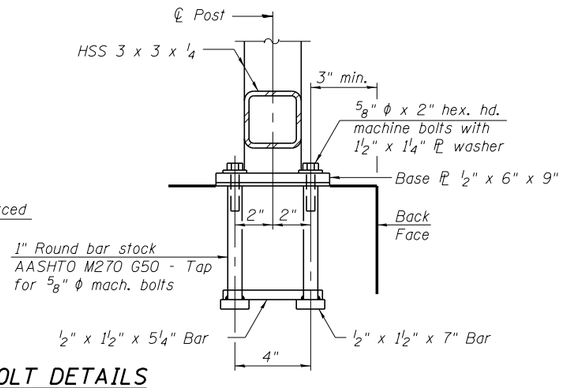
PARAPET RAILING ELEVATION

(Inside Face of Three Element Rail)



RAIL SPLICE





ANCHOR BOLT DETAILS

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

BILL OF MATERIAL

Item	Unit	Quantity
Bicycle Railing	Foot	205
Parapet Railing	Foot	205

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

R-29

07-05-16 (10'-0" Maximum Post Spacing)

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		CHECKED - RMG	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - RMG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BICYCLE RAILING
STRUCTURE NO. 047-0102

SHEET NO. S17 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	384
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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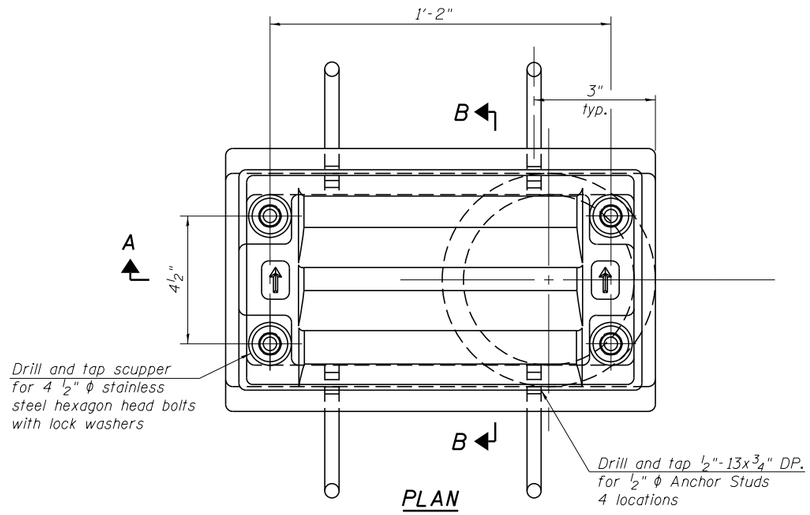
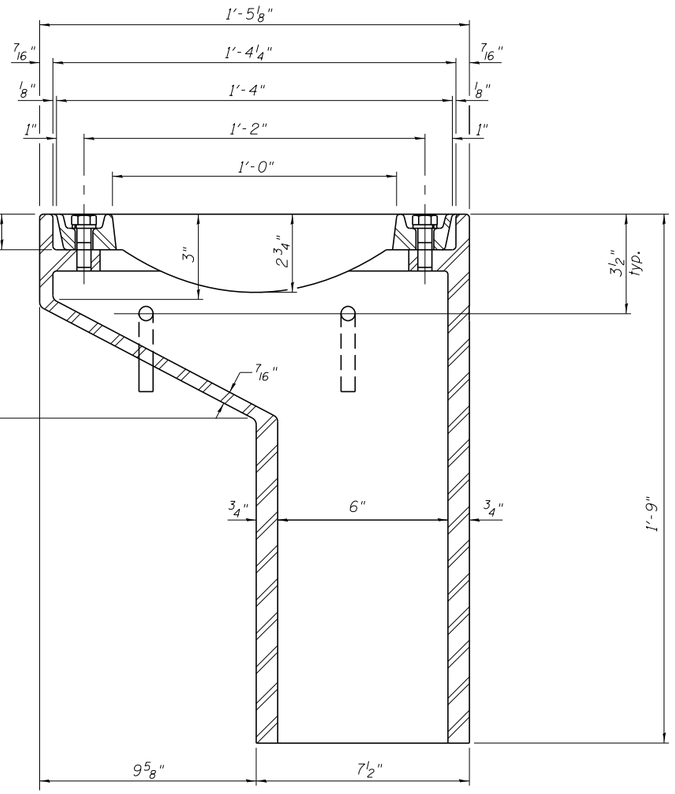
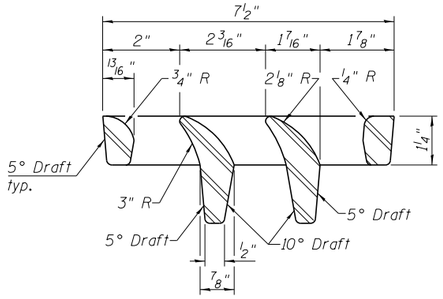


PLAN

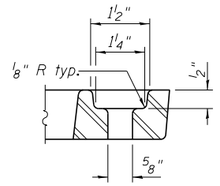


SECTION A-A

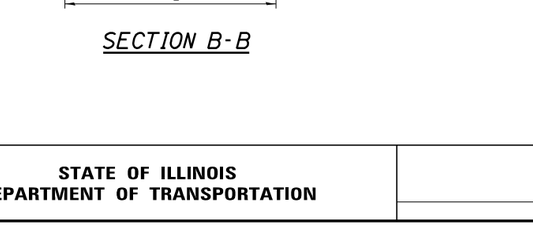
See sheet S14 for scupper location relative to parapet.



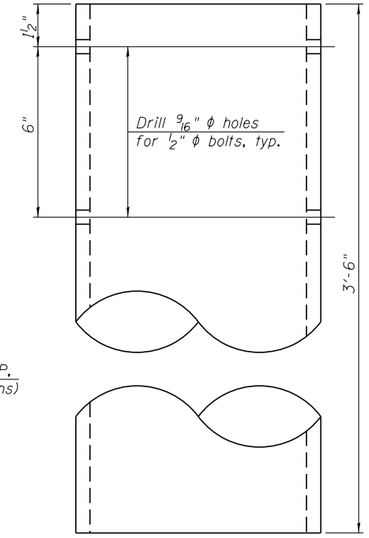
VANE GRATE DETAIL



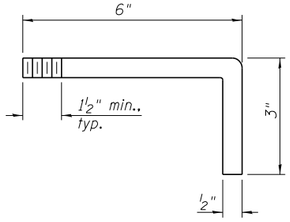
BOLT HOLE DETAIL



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

NOTES:

1. *All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.*
2. *Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.*
3. *Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.*
4. *As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.*
5. *Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.*
6. *The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.*
7. *Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.*
8. *Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.*

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	6

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

DS-11 7-1-10

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		CHECKED - RMG	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11
STRUCTURE NO. 047-0102
SHEET NO. S18 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	385
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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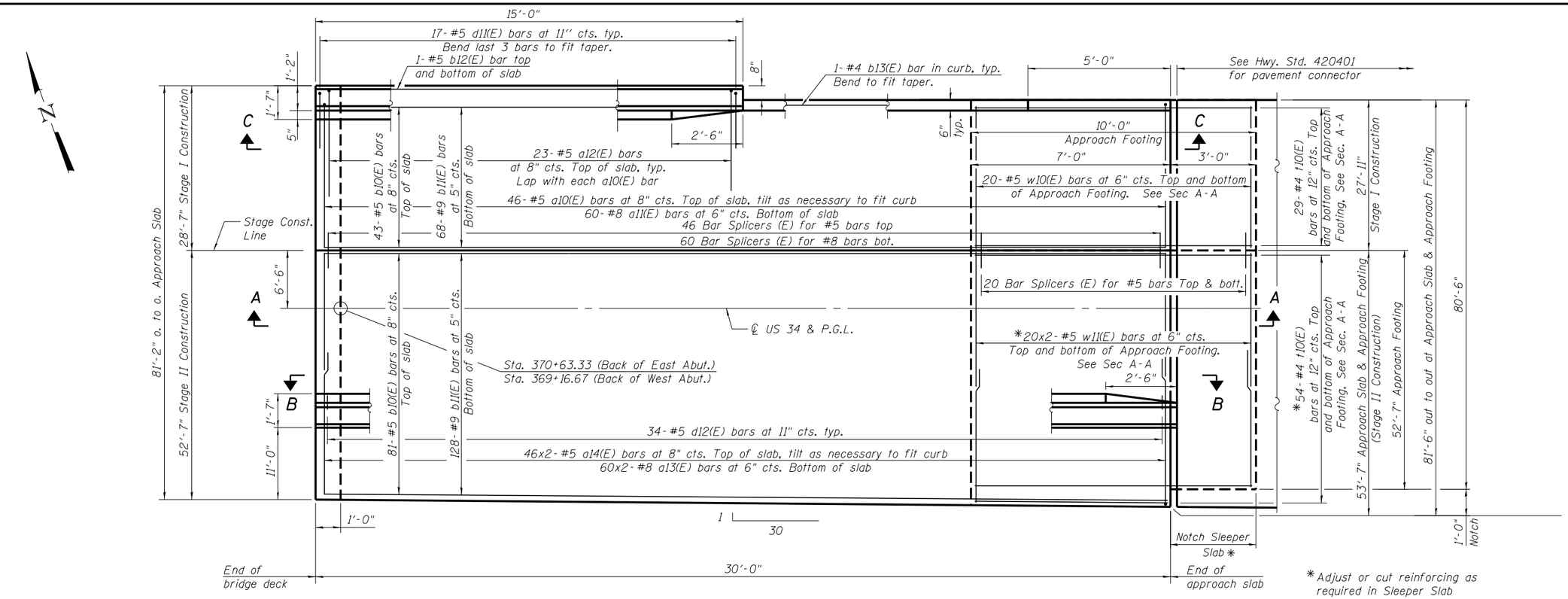
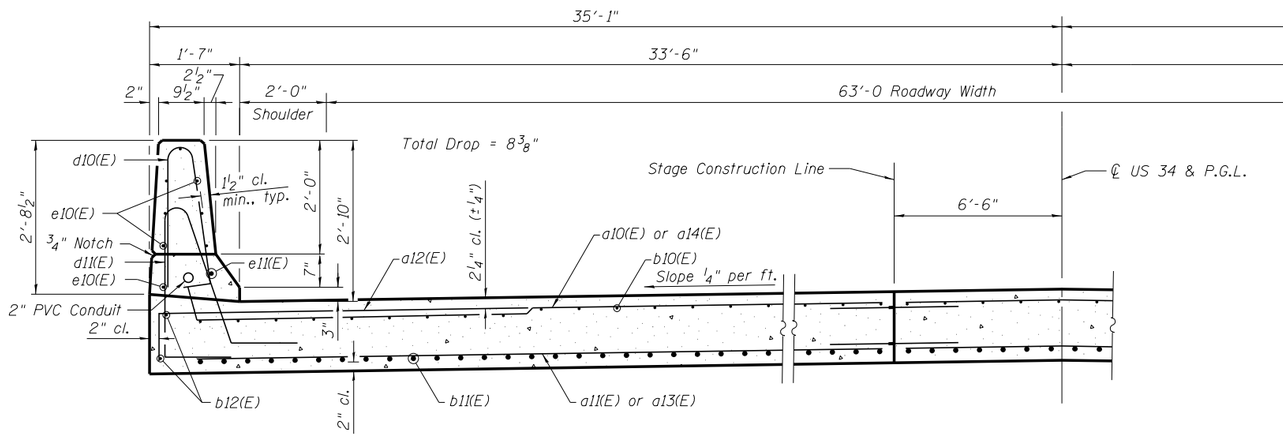


PLAN

(East Approach Shown.
West Approach Opposite Hand)

MINIMUM BAR LAP

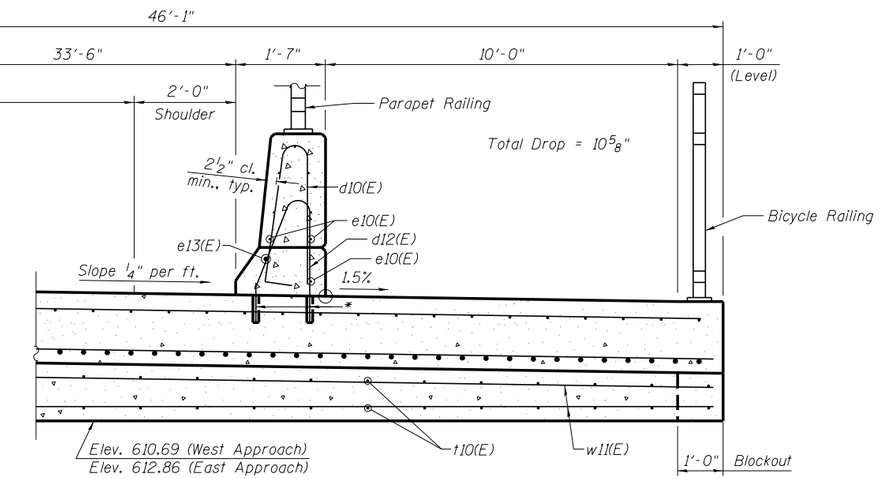
#5 bar = 3'-6"
#8 bar = 5'-11"



NEAR ABUTMENT

CROSS SECTION

(Looking East)



AT APPROACH FOOTING

* Core and set #5 d12(E) bar according to Article 509.06 of the Stnadard Specifications. Cored holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of hole shall not exceed 6".

NOTES:

1. Bars indicated thus 1x2-#5 etc. indicates 1 line of bars with 2 lengths per line.
2. See sheet S20 for Section A-A and Views B-B & C-C.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS (1 of 2)
STRUCTURE NO. 047-0102
SHEET NO. S19 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	386
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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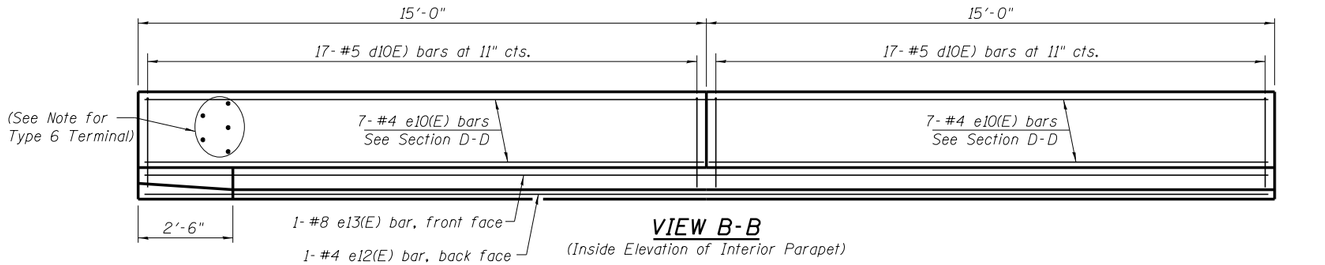
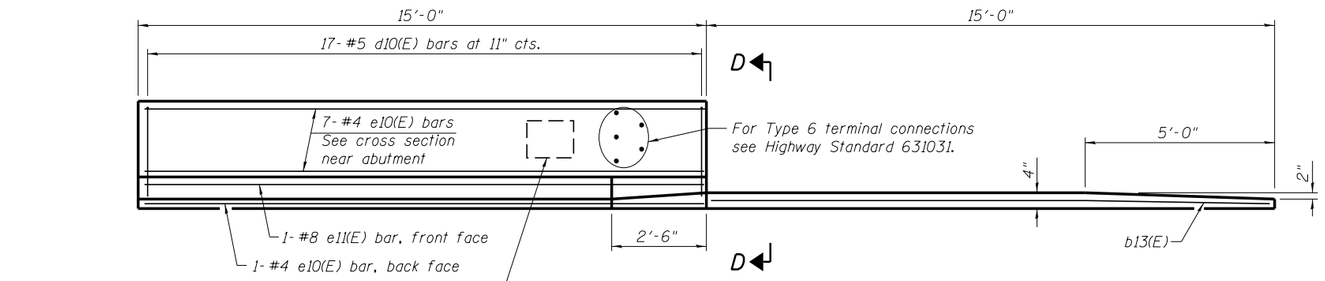
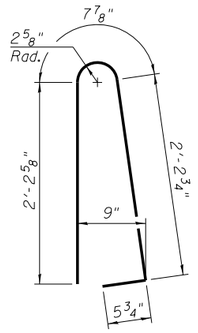


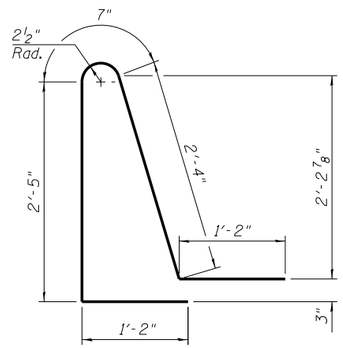
VIEW B-B
(Inside Elevation of Interior Parapet)



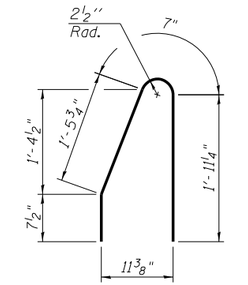
VIEW C-C
(Inside Elevation of Exterior Parapet and Curb)



BAR d10(E)



BAR d11(E)

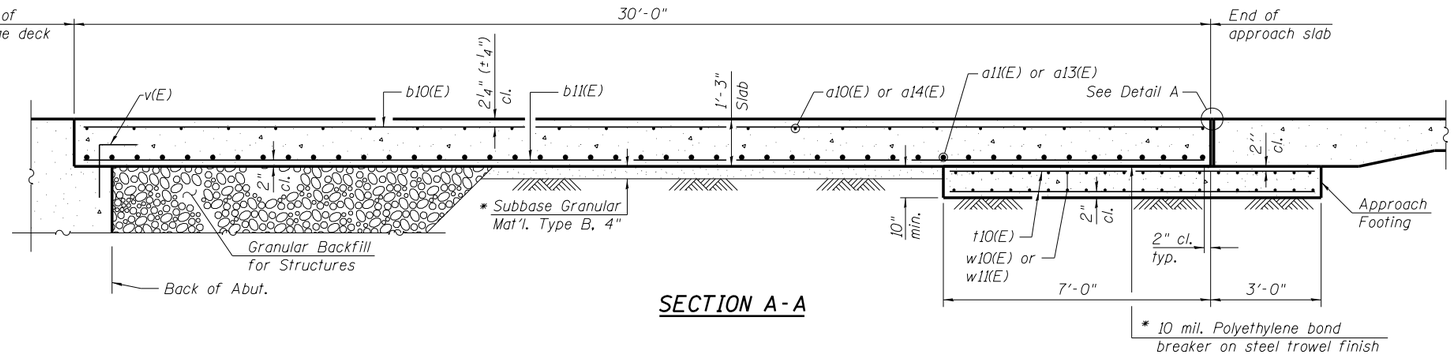


BAR d12(E)

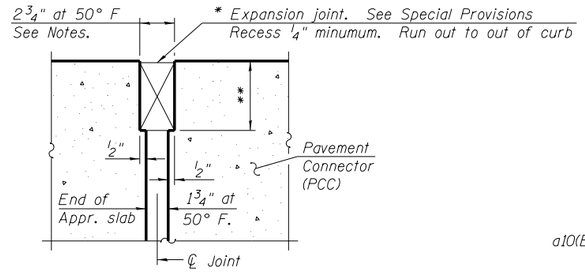
TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	92	#5	28'-0"	
a11(E)	120	#8	27'-7"	
a12(E)	46	#5	7'-4"	
a13(E)	240	#8	29'-8"	
a14(E)	184	#5	29'-11"	
b10(E)	248	#5	29'-8"	
b11(E)	392	#9	29'-8"	
b12(E)	4	#5	14'-8"	
b13(E)	2	#4	14'-8"	
d10(E)	102	#5	5'-7"	
d11(E)	34	#5	7'-8"	
d12(E)	68	#5	4'-8"	
e10(E)	44	#4	14'-8"	
e11(E)	2	#8	14'-8"	
e12(E)	2	#4	29'-8"	
e13(E)	2	#8	29'-8"	
t10(E)	332	#4	9'-8"	
w10(E)	80	#5	27'-7"	
w11(E)	160	#5	28'-5"	
Concrete Superstructure			Cu. Yd.	10.2
Concrete Superstructure (Approach Slab)			Cu. Yd.	226.0
Concrete Structures			Cu. Yd.	50.4
Reinforcement Bars, Epoxy Coated			Pound	95,020

MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-8"
#5 bar = 3'-6"
#8 bar = 5'-11"



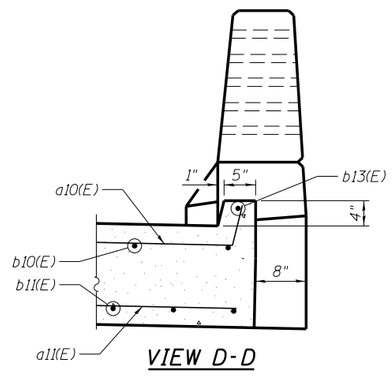
SECTION A-A



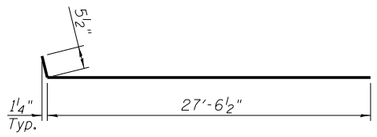
DETAIL A

* Cost included with Concrete Superstructure (Approach Slab).

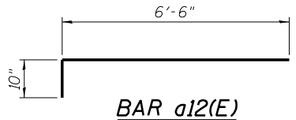
** Per manufacturer recommendations



VIEW D-D



BAR a10(E)



BAR a12(E)

NOTES:

1. The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach pavement.
2. Parapet concrete shall be paid for as Concrete Superstructure.
3. Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
4. Approach footing concrete shall be paid for as Concrete Structures.
5. The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
6. Cost of excavation for approach footing included with Concrete Structures.
7. For Granular Backfill for Structures and drainage treatment details, see sheet S02.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS (2 of 2)
STRUCTURE NO. 047-0102
SHEET NO. S20 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	387
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		

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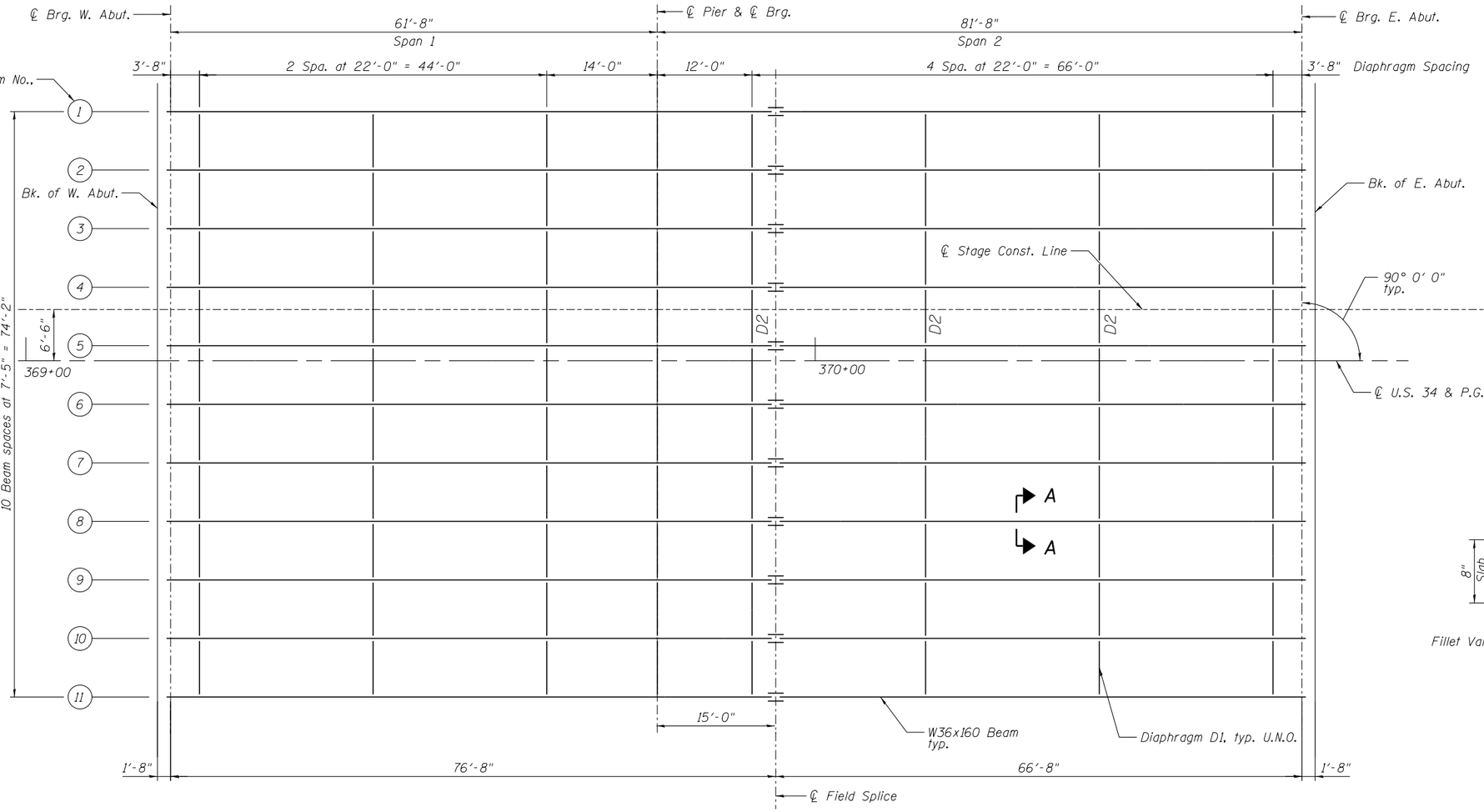
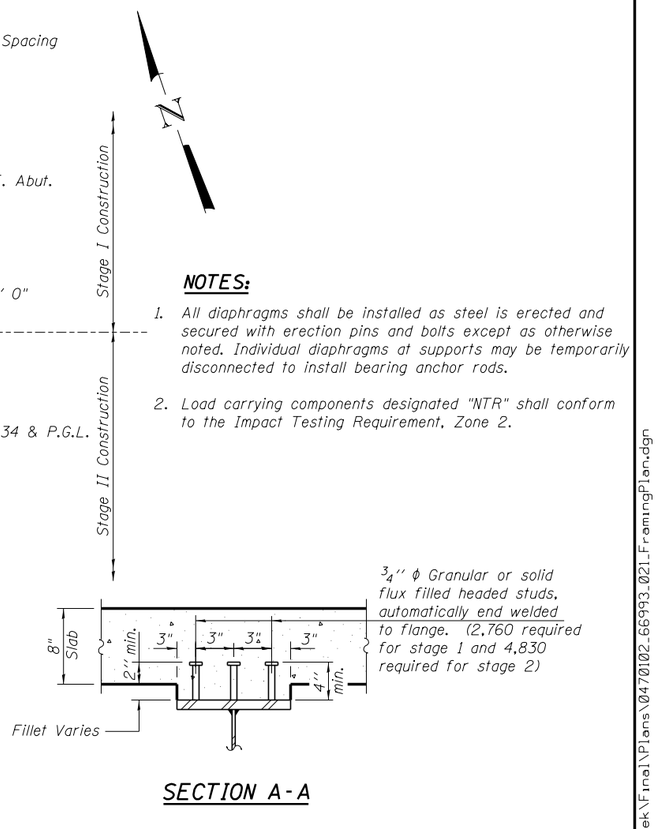


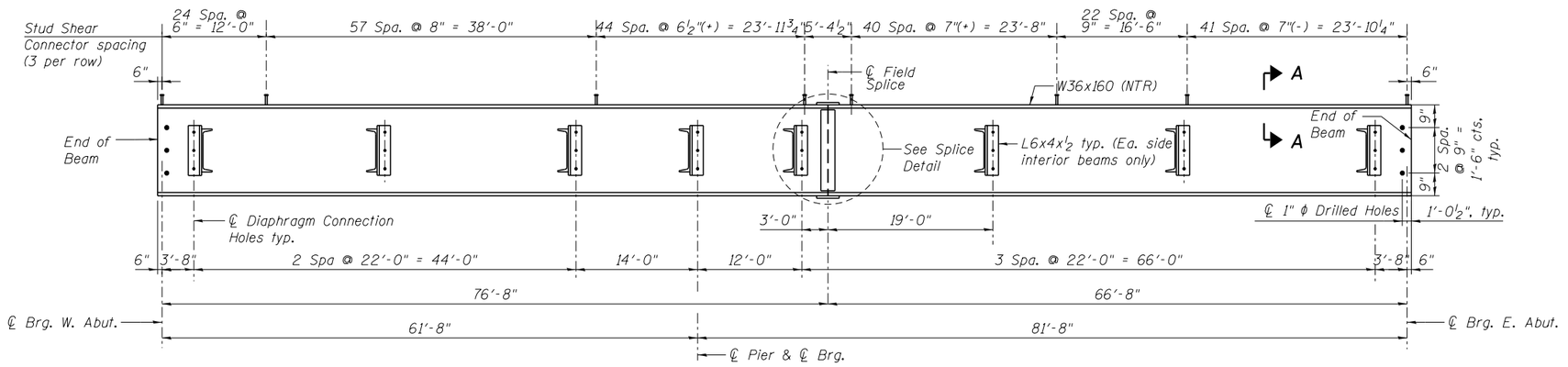
FRAMING PLAN



NOTES:

1. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
2. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

SECTION A-A



BEAM ELEVATION

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND GIRDER ELEVATION
STRUCTURE NO. 047-0102
SHEET NO. S21 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	388
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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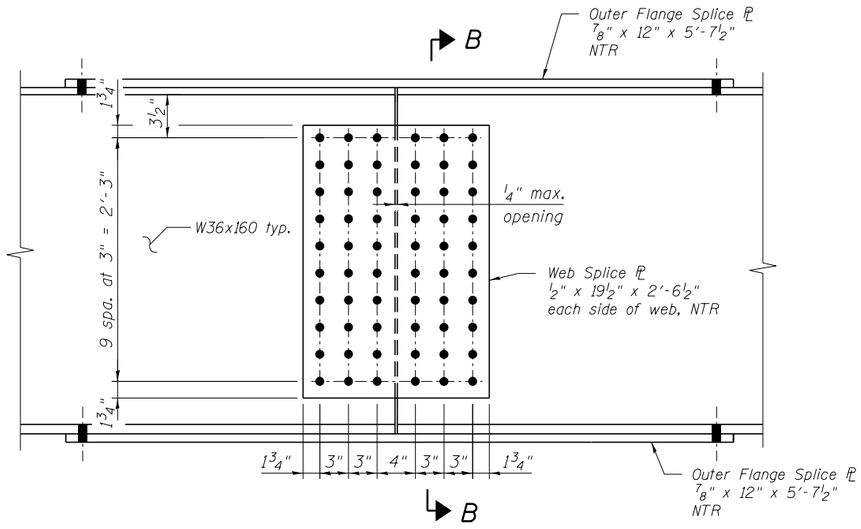
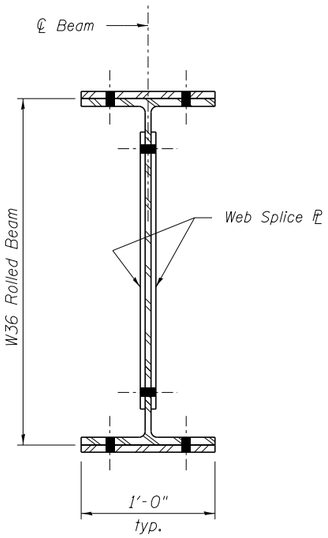
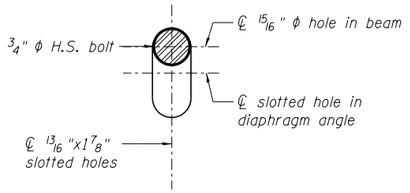


ELEVATION - FIELD SPLICE

(60 Bolts per Web Splice)

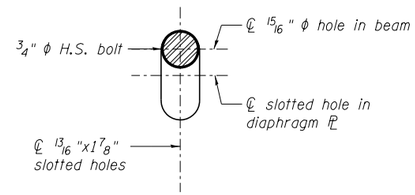


SECTION B-B



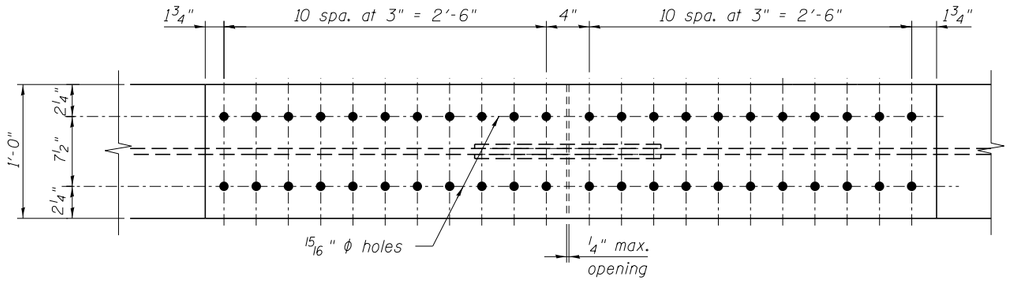
DETAIL 1

(Showing position of bolt in diaphragm angle slotted holes after Stage II steel erection)



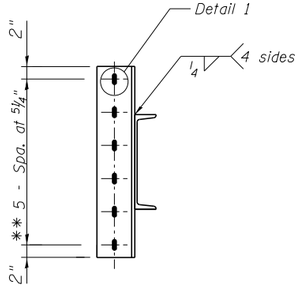
DETAIL 2

(Showing position of bolt in diaphragm PL slotted holes after Stage II steel erection)



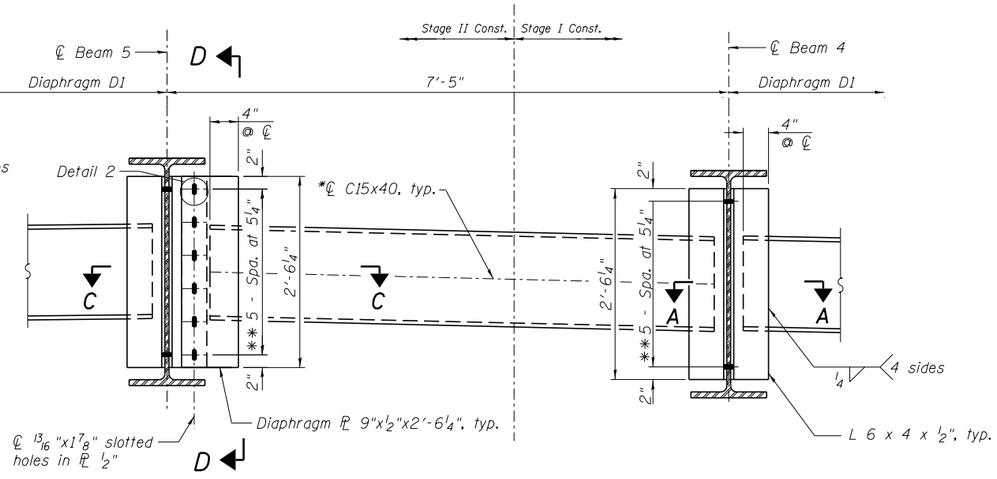
FLANGE SPLICE

(Top & Bottom Flanges)
(40 Bolts per Flange Splice)



SECTION D-D

(Diaphragm D2)

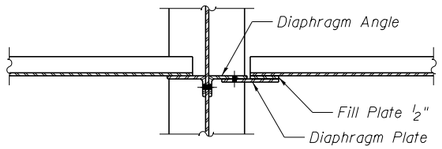


DIAPHRAGM D2 DETAILS

(Beam 5 only)

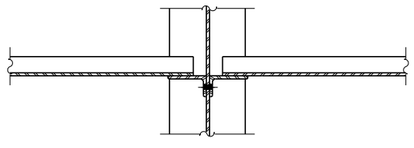
TYPICAL DETAIL

DIAPHRAGM DETAILS



SECTION C-C

(Beam 5 only)



SECTION A-A

(Typical for all beams)

NOTES:

1. Two hardened washers required for each set of oversized holes.
2. *Alternate channels C15x50 are permitted to facilitate material acquisition.
3. Calculated weight of structural steel is based on C15x40 sections. The alternate, if utilized, shall be provided at no additional cost to the Department.
4. **$3/4$"ϕ HS bolts, $15/16$"ϕ holes U.N.O.
5. Bolts connecting typical diaphragms to Beam 5 as well as those in the slotted holes for Diaphragm D2 shall be finger tight until Stage II pour is complete.
6. Load carrying components designated "NTR" shall conform to the Impact Texting Requirement, Zone 2.

***TOP OF BEAM ELEVATIONS

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6	Beam 7	Beam 8	Beam 9	Beam 10	Beam 11
℄ Brg. W. Abut.	612.43	612.58	612.73	612.89	613.04	612.97	612.81	612.66	612.51	612.35	612.24
℄ Brg. Pier 1	612.87	613.02	613.17	613.32	613.48	613.40	613.25	613.09	612.94	612.79	612.68
℄ Splice	612.98	613.12	613.27	613.43	613.58	613.51	613.35	613.20	613.05	612.90	612.79
℄ Brg. E. Abut.	613.95	614.11	614.26	614.42	614.57	614.50	614.34	614.19	614.03	613.88	613.77

***For Fabrication Only

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205 North Michigan Avenue, Suite 2400
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312-565-0450 Job No. 3938.15

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	PLOT SCALE =	DRAWN - MRC	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 047-0102
SHEET NO. S22 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	389
		CONTRACT NO. 66993		
	ILLINOIS	FED. AID PROJECT		

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INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in^4)	9,760	9,760	9,760
$I_c(n)$	(in^4)	24,452	24,452	24,452
$I_c(3n)$	(in^4)	18,077	18,077	18,077
$I_c(cr)$	(in^4)	-----	12,890	-----
S_s	(in^3)	542	542	542
$S_c(n)$	(in^3)	769	769	769
$S_c(3n)$	(in^3)	698	698	698
$S_c(cr)$	(in^3)	-----	615	-----
DC1	(k/')	0.943	0.943	0.943
M_{DC1}	('k)	187	635	501
DC2	(k/')	0.091	0.091	0.091
M_{DC2}	('k)	18	62	48
DW	(k/')	0.305	0.305	0.305
M_{DW}	('k)	60	207	161
M_{L+IM}	('k)	690	910	1037
M_u (Strength I)	('k)	1554	2,774	2743
$\phi_f M_n$	('k)	3,968	3,206	3,784
f_s DC1	(ksi)	4.1	14.1	11.1
f_s DC2	(ksi)	0.3	1.2	0.8
f_s DW	(ksi)	1.0	4.0	2.8
f_s (L+IM)	(ksi)	10.8	17.8	16.2
f_s (Service II)	(ksi)	19.5	42.4	35.7
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-----	-----	-----
$\phi_f F_n$	(ksi)	-----	-----	-----
V_f	(k)	45.3	49.9	49.9

INTERIOR GIRDER REACTION TABLE				
		W. Abut.	Pier	E. Abut.
R_{DC1}	(k)	26.2	85.6	38.2
R_{DC2}	(k)	1.8	8.3	3.0
R_{DW}	(k)	6.0	27.8	9.9
R_{L+IM}	(k)	74.3	124.1	80.7
R_{Total}	(k)	108.4	245.8	131.7

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

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

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

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Note:
M_{L+IM} and R_{L+IM} include the effects of centrifugal force and superelevation.

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		CHECKED - HMA	REVISED -			591	(13 BR-1)BR	KENDALL	533	390
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	PLOT DATE = 01\23\2017	CHECKED - HMA	REVISED -		SHEET NO. S23 OF S38 SHEETS			ILLINOIS	FED. AID PROJECT	

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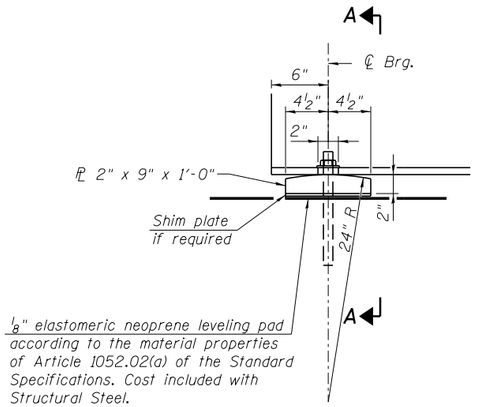
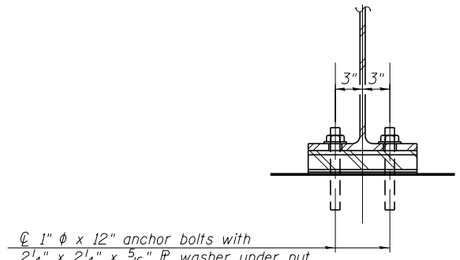
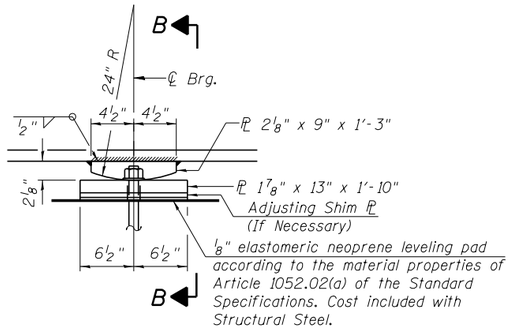




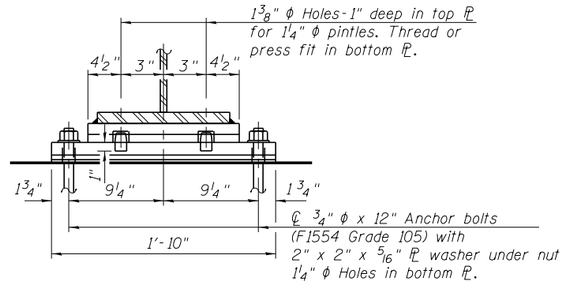
SECTION A-A

ELEVATION AT WEST & EAST ABUTMENTS

FIXED BEARING AT WEST & EAST ABUTMENTS

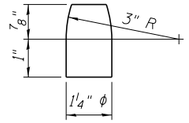


ELEVATION AT PIER



SECTION B-B

FIXED BEARING AT PIER



PINTLE

NOTES:

1. The structural steel plates and pintles of the bearing shall conform to the requirements of AASHTO M270 Grade 50W.
2. Two ⅛" adjusting shim shall be provided for each bearing in addition to all other plates and placed as shown on the beam details.
3. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
4. Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
5. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
6. Cost of steel plates and pintles required for Fixed Bearing assemblies shall be included with Furnishing & Erecting Structural Steel, Lump Sum.
7. Beams shall be braced for stability during erection and remain braced until deck is poured and cured.
8. Anchor bolts at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, ¾"	Each	22
Anchor Bolts, 1"	Each	44

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 047-0102
SHEET NO. S24 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	391
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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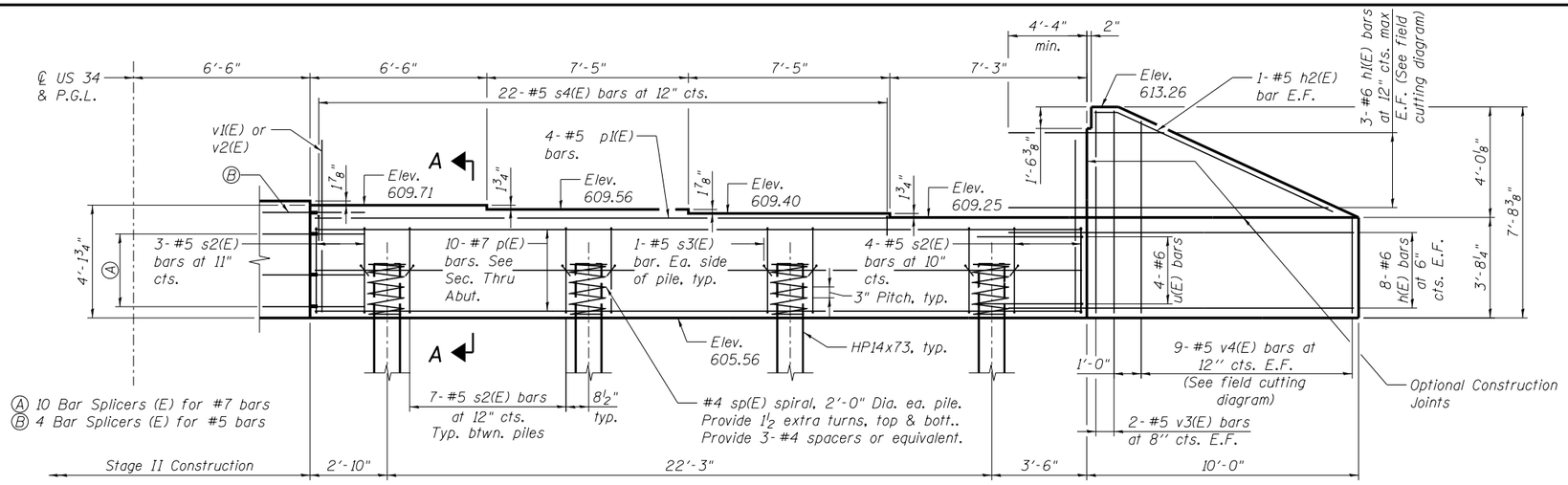
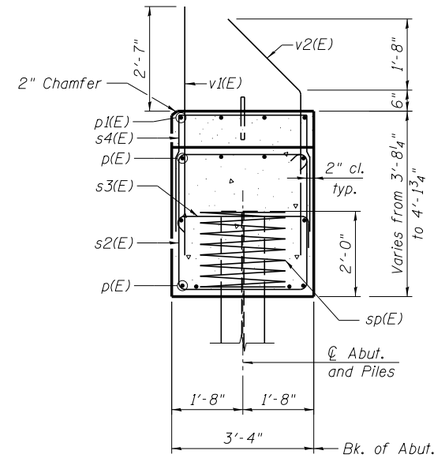
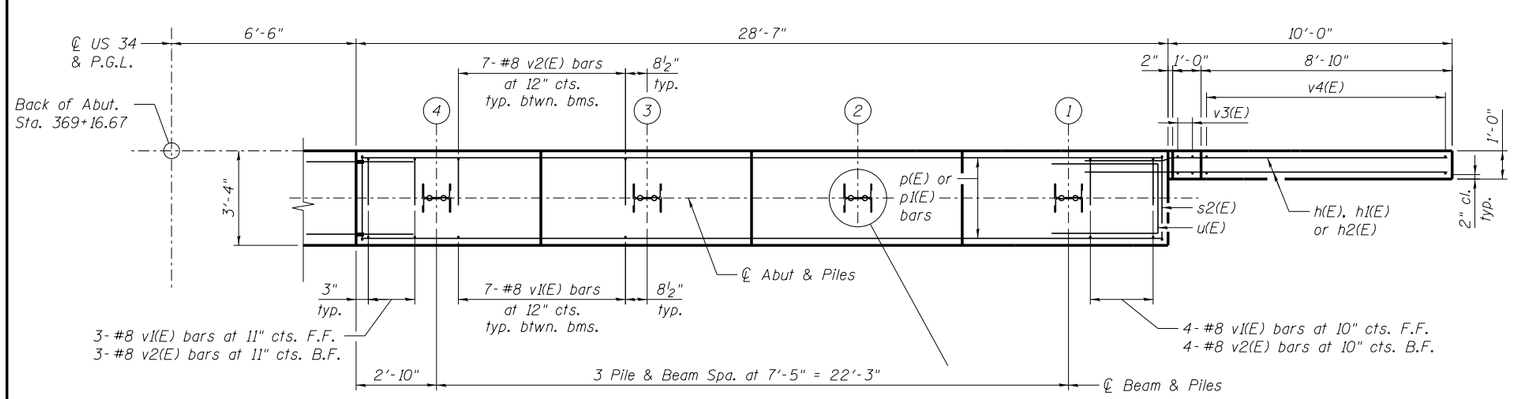


WEST ABUTMENT - ELEVATION

(Stage I Construction)

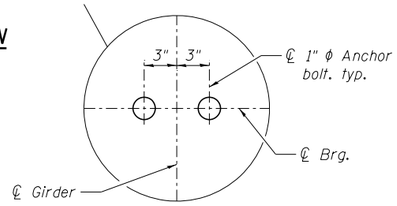


SECTION A-A



WEST ABUTMENT - PLAN

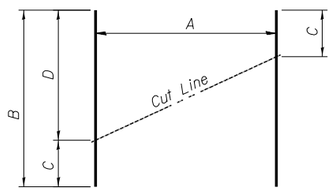
(Stage I Construction)



ANCHOR BOLT LAYOUT

FIELD CUTTING BAR TABLE

A	B	C	D
3-#6 h1(E) bars	22'-11"	9'-2"	13'-9"
9-#5 v4(E) bars	10'-6"	3'-5"	7'-1"
9-#5 v6(E) bars	9'-10"	3'-2"	6'-8"



FIELD CUTTING DIAGRAM

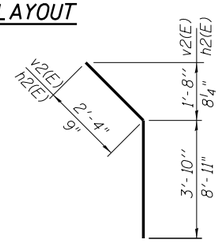
Order bars full length. Cut as shown and use remainder of bars in opposite face.

PILE DATA

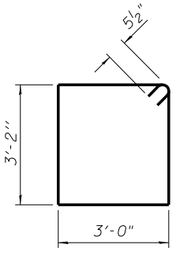
Type: HP14x73 with Pile Shoes
Nominal Required Bearing: 390 kips
Factored Resistance Available: 214 kips
Est. Length: 37 ft.
No. Production Piles: 3
No. Test Piles: 1

LEGEND

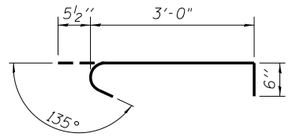
F.F. - Front Face
B.F. - Back Face
E.F. - Each Face



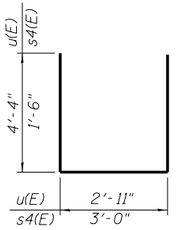
BAR v2(E) & h2(E)



BAR s2(E)



BAR s3(E)



BAR u(E) & S4(E)

NOTES:

1. Pour steps monolithically with cap.
2. See sheet S26 for Stage II West Abutment Details.
3. See sheet S33 for H-Pile Details.
4. See sheet S34 for Bar Splicer Details.
5. Space Reinforcement in cap to miss anchor bolts.

WEST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#6	14'-2"	
h1(E)	6	#6	22'-11"	
h2(E)	4	#5	9'-8"	
p(E)	10	#7	28'-3"	
p1(E)	4	#5	21'-0"	
p2(E)	20	#7	29'-3"	
p3(E)	4	#5	23'-7"	
p4(E)	4	#5	7'-11"	
s2(E)	79	#5	13'-3"	
s3(E)	22	#5	4'-0"	
s4(E)	54	#5	6'-0"	
sp(E)	11	#4	2'-0"	
u(E)	8	#6	11'-7"	
v1(E)	79	#8	5'-11"	
v2(E)	79	#8	6'-2"	
v3(E)	4	#5	7'-4"	
v4(E)	9	#5	10'-6"	
v5(E)	4	#5	7'-0"	
v6(E)	9	#5	9'-10"	
Structure Excavation		Cu. Yd.	506	
Concrete Structures		Cu. Yd.	43.6	
Reinforcement Bars, Epoxy Coated		Pound	7,890	
Furnishing Steel Piles HP14x73		Foot	370	
Driving Piles		Foot	370	
Test Pile Steel HP14x73		Each	1	
Pile Shoes		Each	11	

* Length is height of spiral.

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FILE NAME = 0470102_66993_025_WestAbut1.dgn	USER NAME = habdou	DESIGNED - SLV	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - SLV	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT DETAILS STAGE I
STRUCTURE NO. 047-0102
SHEET NO. S25 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	392
		CONTRACT NO. 66993		
ILLINOIS FED. AID PROJECT				

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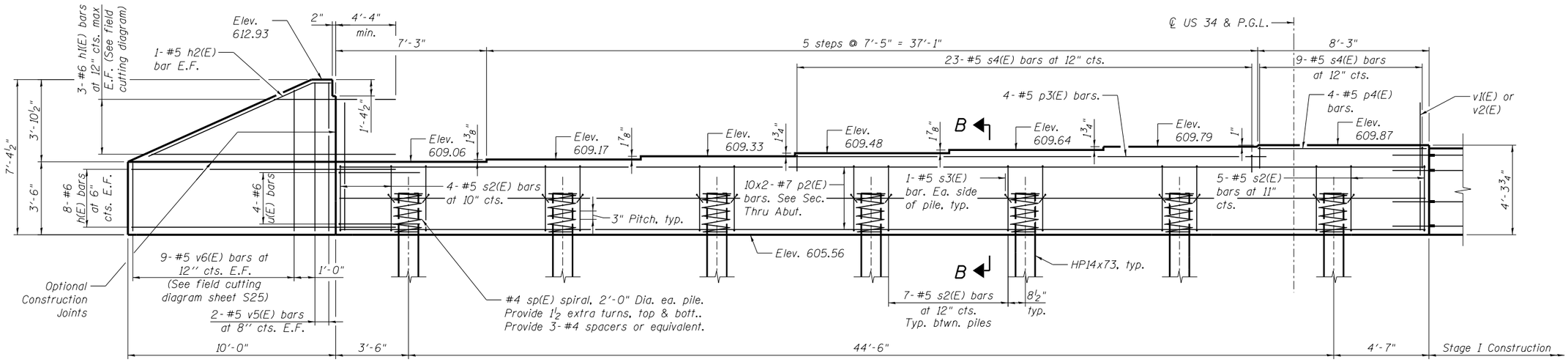
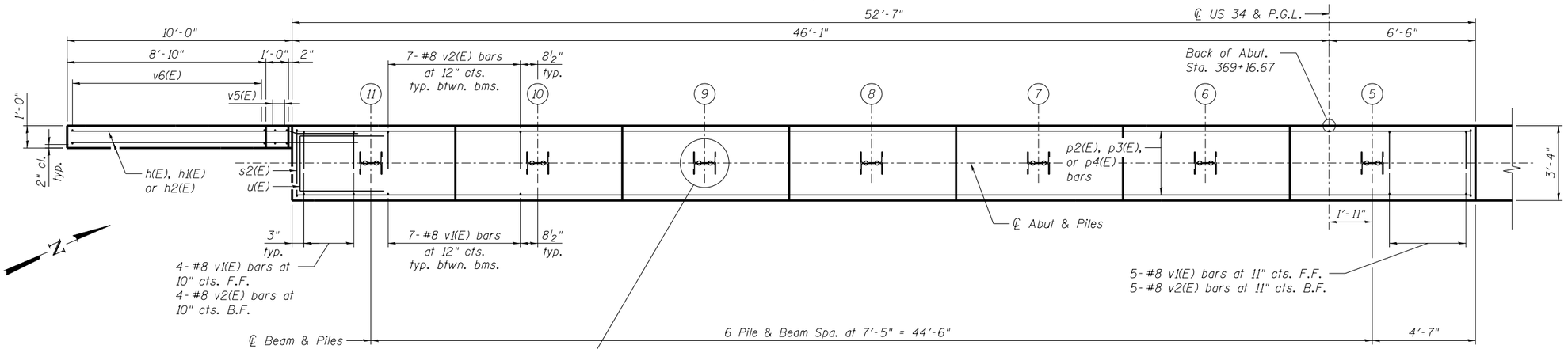


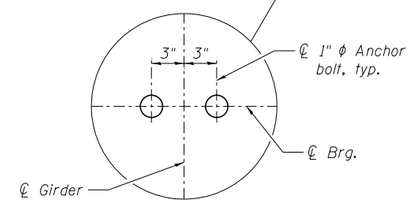
WEST ABUTMENT - ELEVATION

(Stage II Construction)

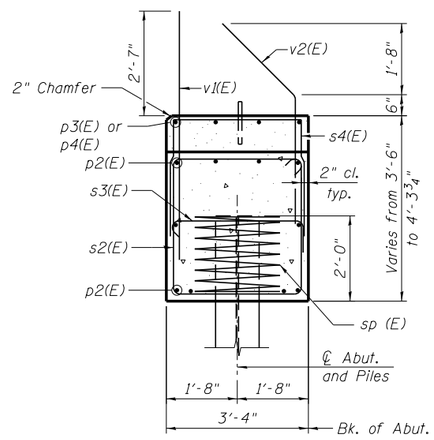


WEST ABUTMENT - PLAN

(Stage II Construction)



ANCHOR BOLT LAYOUT



SECTION B-B

PILE DATA

Type: HP14x73 with Pile Shoes
Nominal Required Bearing: 390 kips
Factored Resistance Available: 214 kips
Est. Length: 37 ft.
No. Production Piles: 7
No. Test Piles: 0

NOTES:

1. Pour steps monolithically with cap.
2. See sheet S25 for bar bends and field cutting diagram.
3. See sheet S33 for H-Pile Details.
4. Bars indicated thus 10 x 2 -#7 etc. indicates 10 lines of bars with 2 lengths per line.
5. Space reinforcement in cap to miss anchor bolts.

LEGEND

F.F. - Front Face
B.F. - Back Face
E.F. - Each Face

MINNIMUM LAP

#7 Bar = 6'-3"

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

FILE NAME = 0470102_66993_026_WestAbut2.dgn	USER NAME = habdou	DESIGNED - SLV	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - SLV	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT DETAILS STAGE II
STRUCTURE NO. 047-0102
SHEET NO. S26 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	393
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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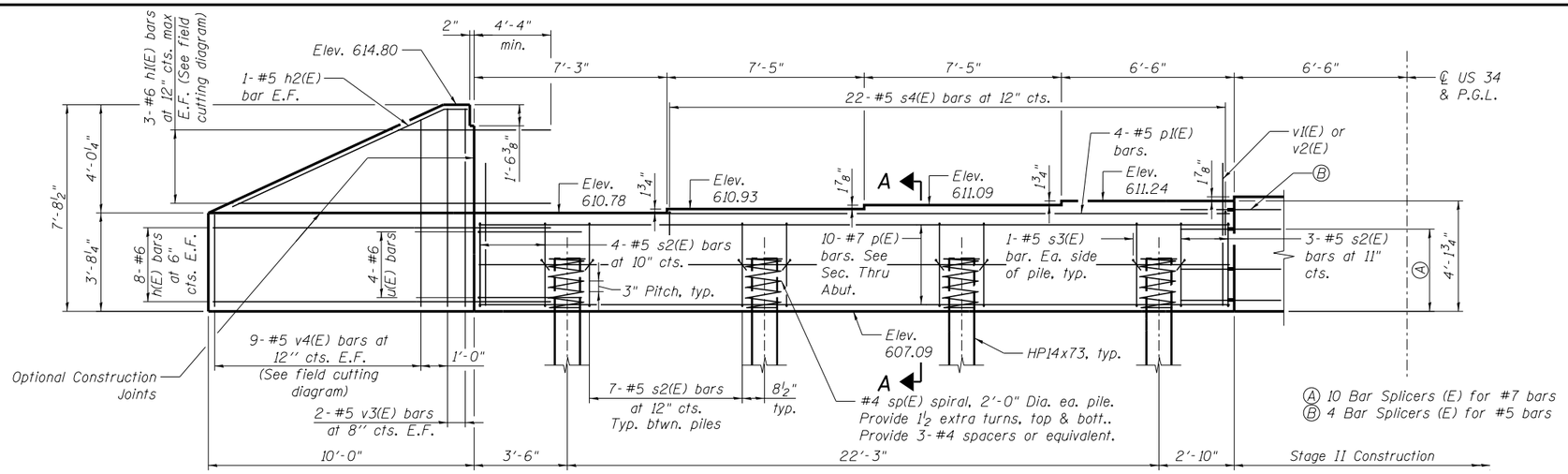
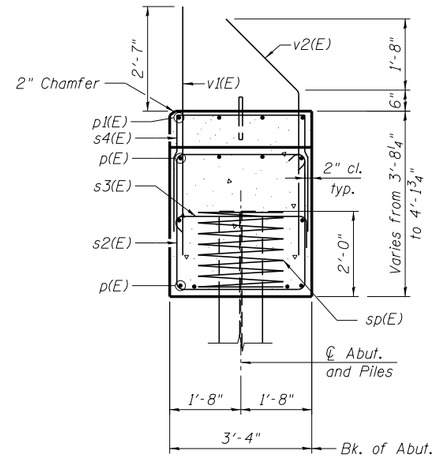
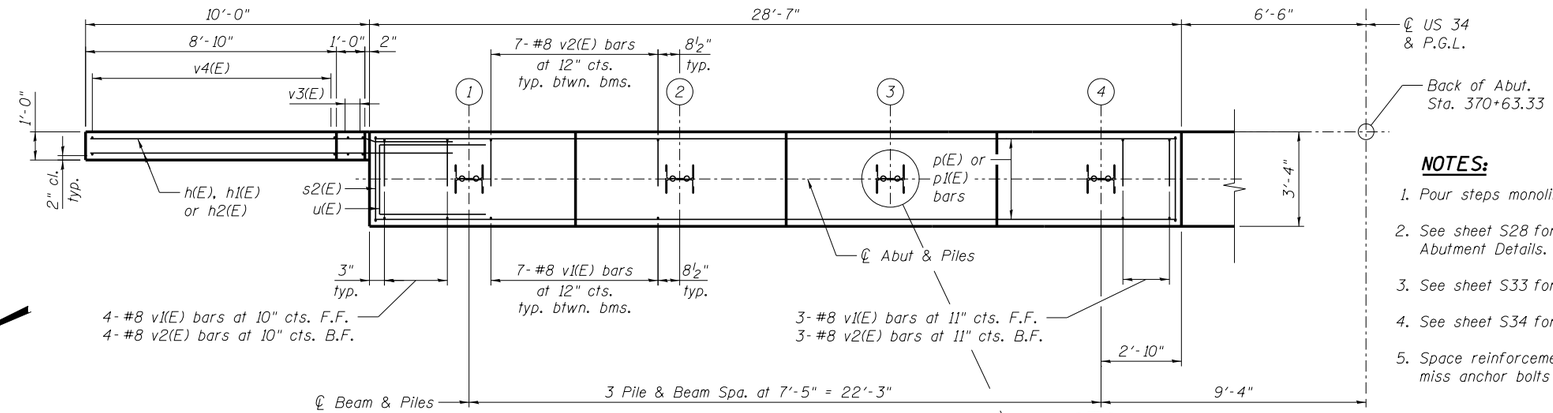


EAST ABUTMENT - ELEVATION

(Stage I Construction)



SECTION A-A



EAST ABUTMENT - PLAN

(Stage I Construction)

NOTES:

1. Pour steps monolithically with cap.
2. See sheet S28 for Stage II West Abutment Details.
3. See sheet S33 for H-Pile Details.
4. See sheet S34 for Bar Splicer Details.
5. Space reinforcement in cap to miss anchor bolts

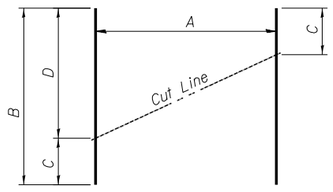
EAST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#6	14'-2"	
h1(E)	3	#6	22'-11"	
h2(E)	2	#5	9'-8"	
h4(E)	22	#6	9'-11"	
h5(E)	2	#6	9'-4"	
h6(E)	2	#5	5'-6"	
p(E)	10	#7	28'-3"	
p1(E)	4	#5	21'-0"	
p2(E)	20	#7	29'-3"	
p3(E)	4	#5	23'-7"	
p4(E)	4	#5	7'-11"	
s2(E)	79	#5	13'-3"	
s3(E)	22	#5	4'-0"	
s4(E)	54	#5	6'-0"	
* sp(E)	11	#4	2'-0"	
u(E)	8	#6	11'-7"	
v1(E)	79	#8	5'-11"	
v2(E)	79	#8	6'-2"	
v3(E)	4	#5	7'-4"	
v4(E)	9	#5	10'-6"	
v5(E)	4	#5	7'-0"	
v7(E)	5	#5	12'-1"	
Structure Excavation		Cu. Yd.	156	
Concrete Structures		Cu. Yd.	42.9	
Reinforcement Bars, Epoxy Coated		Pound	7,770	
Furnishing Steel Piles HP14x73		Foot	380	
Driving Piles		Foot	380	
Test Pile Steel HP14x73		Each	1	
Pile Shoes		Each	11	

* Length is height of spiral.

FIELD CUTTING BAR TABLE

A	B	C	D
3-#6 h1(E) bars	22'-11"	9'-2"	13'-9"
9-#5 v4(E) bars	10'-6"	3'-5"	7'-1"
5-#5 v7(E) bars	12'-1"	5'-4"	6'-9"



FIELD CUTTING DIAGRAM

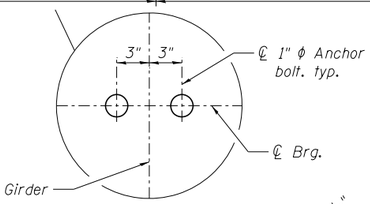
Order bars full length. Cut as shown and use remainder of bars in opposite face.

PILE DATA

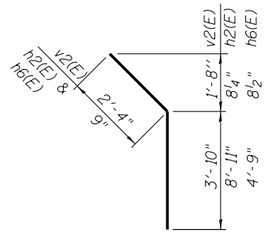
Type: HP14x73 with Pile Shoes
Nominal Required Bearing: 390 kips
Factored Resistance Available: 214 kips
Est. Length: 38 ft.
No. Production Piles: 3
No. Test Piles: 1

LEGEND

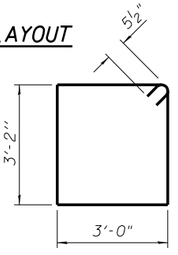
F.F. - Front Face
B.F. - Back Face
E.F. - Each Face



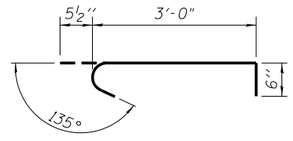
ANCHOR BOLT LAYOUT



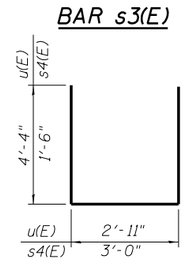
BAR v2(E), h2(E) & h6(E)



BAR s2(E)



BAR s3(E)



BAR u(E) & S4(E)

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312-565-0450 Job No. 3938.15

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		CHECKED - DTS	REVISED -
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	PLOT DATE = 01\23\2017	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT DETAILS STAGE I
STRUCTURE NO. 047-0102
SHEET NO. S27 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	394
		CONTRACT NO. 66993		
		ILLINOIS FED. AID PROJECT		

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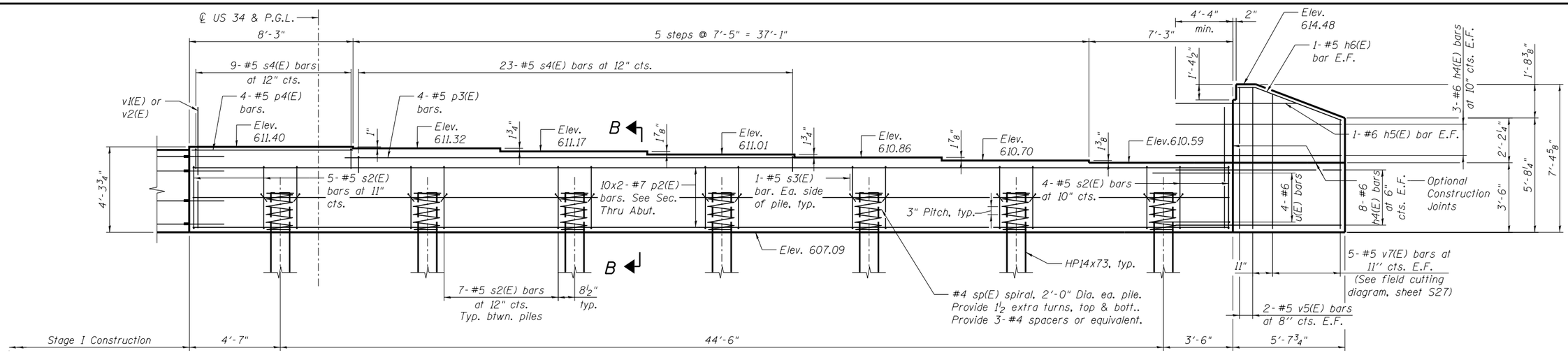
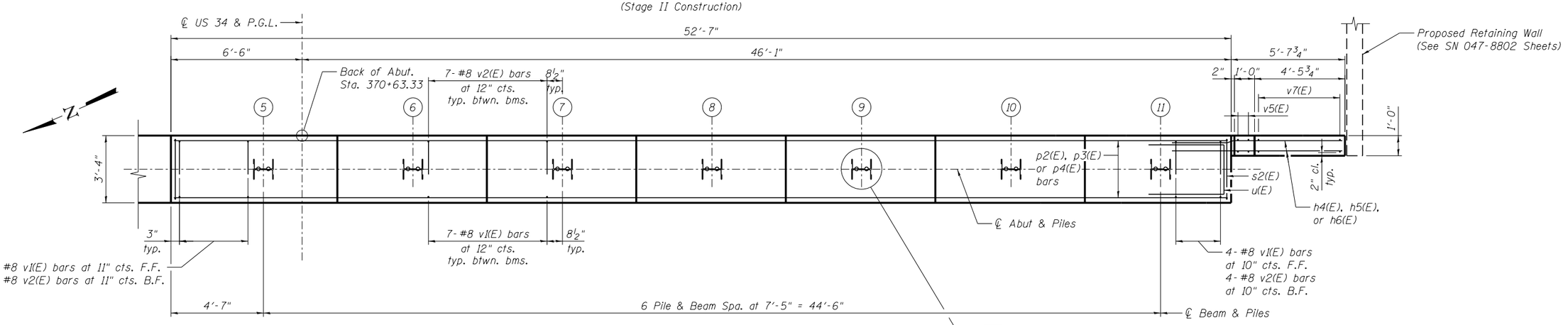


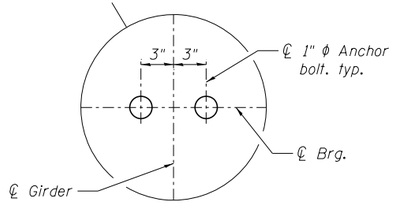
EAST ABUTMENT - ELEVATION

(Stage II Construction)

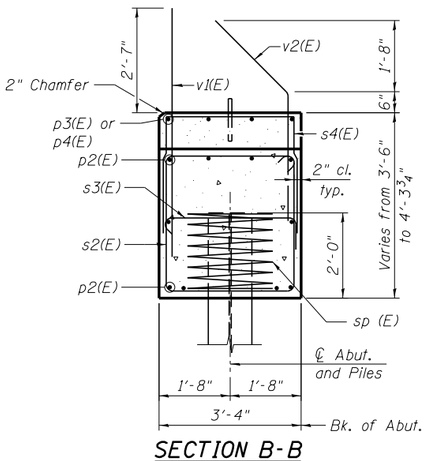


EAST ABUTMENT - PLAN

(Stage II Construction)



ANCHOR BOLT LAYOUT



SECTION B-B

PILE DATA

Type: HP14x73 with Pile Shoes
Nominal Required Bearing: 390 kips
Factored Resistance Available: 214 kips
Est. Length: 38 ft.
No. Production Piles: 7
No. Test Piles: 0

NOTES:

1. Pour steps monolithically with cap.
2. See sheet S27 for bar bends and field cutting diagram.
3. See sheet S33 for H-Pile Details.
4. Bars indicated thus 10 x 2 -#7 etc. indicates 10 lines of bars with 2 lengths per line.
5. Space reinforcement in cap to miss anchor bolts.

LEGEND

F.F. - Front Face
B.F. - Back Face
E.F. - Each Face

MINNIMUM LAP

#7 Bar = 6'-3"

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Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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	PLOT DATE = 01\23\2017	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT DETAILS STAGE II
STRUCTURE NO. 047-0102
SHEET NO. S28 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	395
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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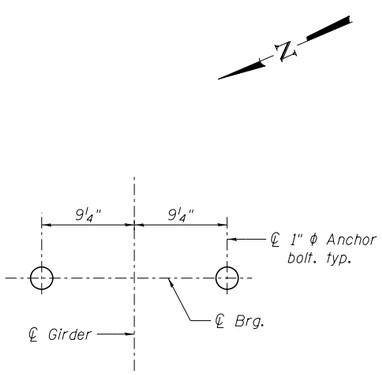
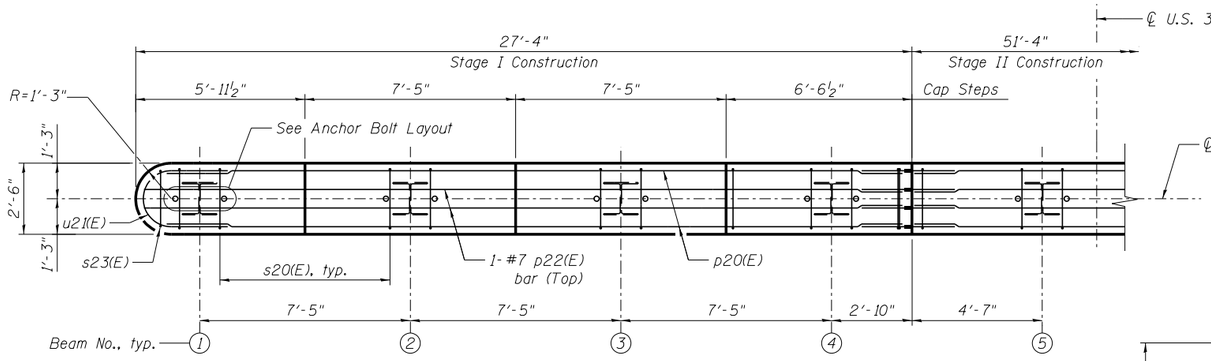
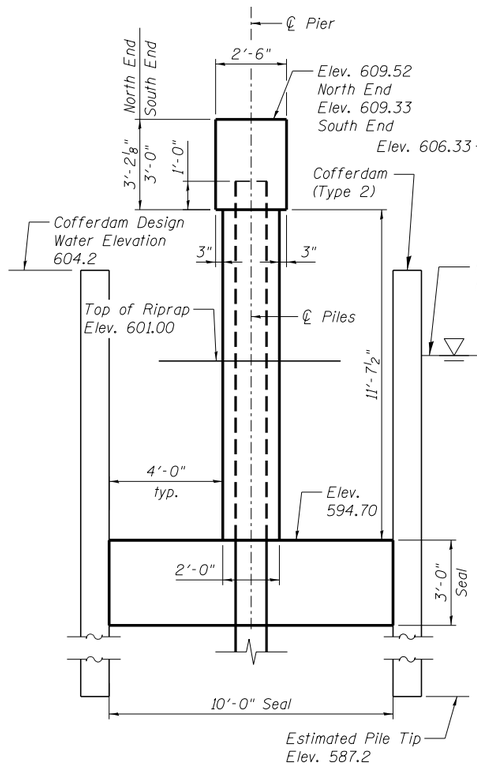


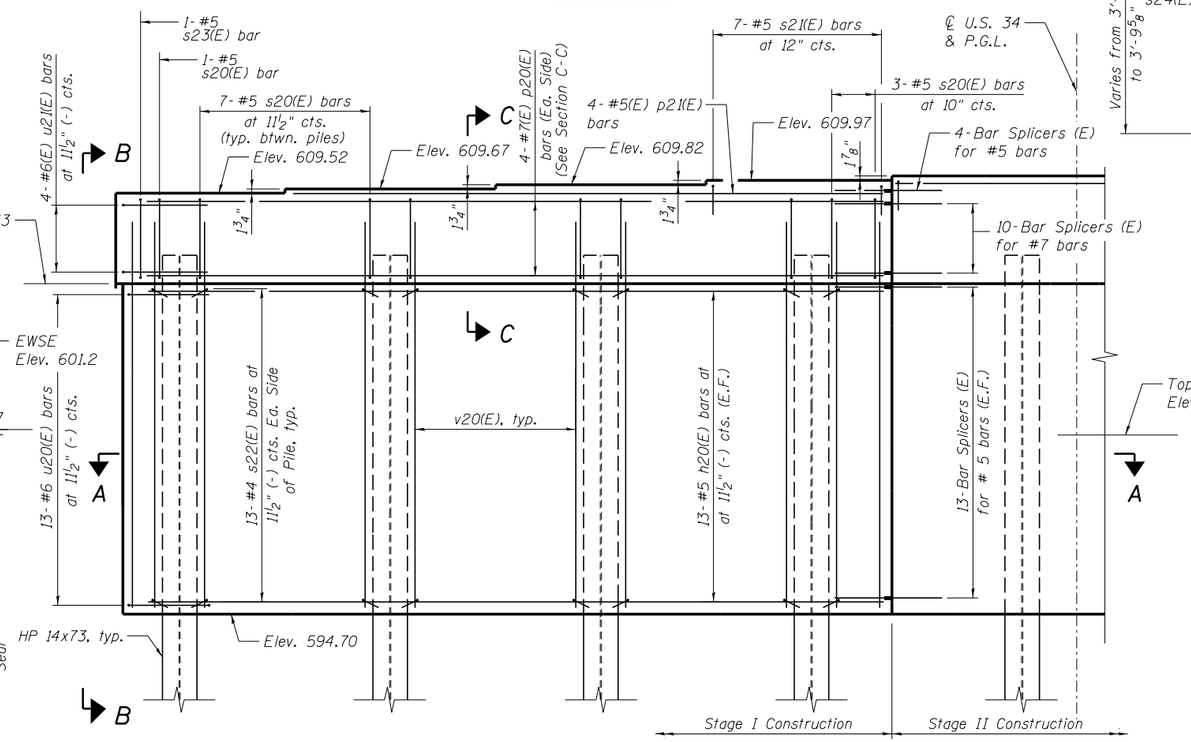
ANCHOR BOLT LAYOUT



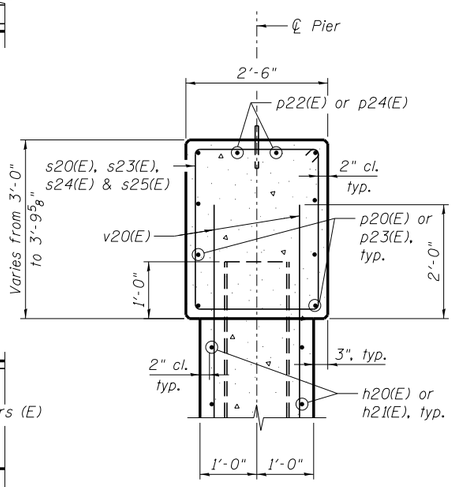
PIER PLAN



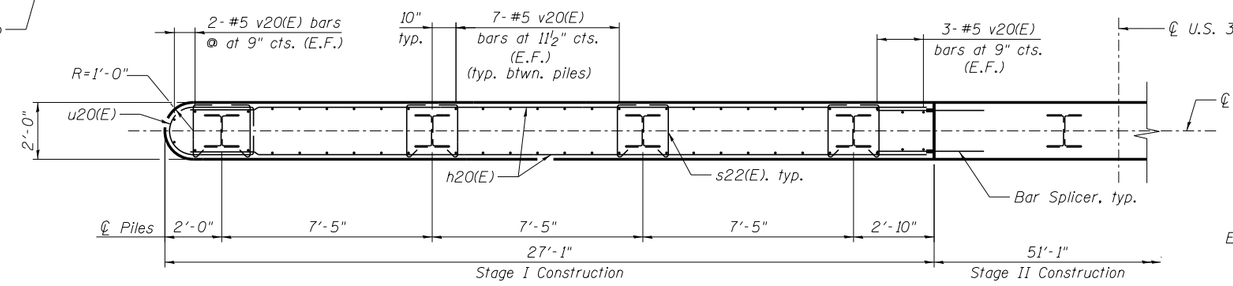
VIEW B-B



PIER ELEVATION



SECTION C-C



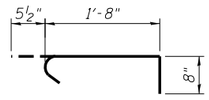
SECTION A-A

BILL OF MATERIAL

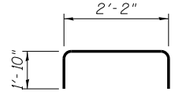
Bar	No.	Size	Length	Shape
h20(E)	26	#5	25'-11"	——
h21(E)	52	#5	26'-10"	——
p20(E)	8	#7	26'-0"	——
p21(E)	4	#5	21'-0"	——
p22(E)	2	#7	27'-0"	——
p23(E)	16	#7	28'-2"	——
p24(E)	4	#7	28'-8"	——
p25(E)	4	#5	30'-2"	——
p26(E)	4	#5	8'-0"	——
s20(E)	25	#5	10'-11"	□
s21(E)	39	#5	5'-10"	⌐¬
s22(E)	286	#4	2'-10"	□
s23(E)	1	#5	10'-7"	□
s24(E)	1	#5	10'-3"	□
s25(E)	48	#5	10'-7"	□
u20(E)	26	#6	8'-4"	⊔
u21(E)	8	#6	10'-9"	⊔
v20(E)	150	#5	13'-8"	——
Concrete Structures			Cu. Yd.	91.8
Reinforcement Bars, Epoxy Coated			Pound	8,310
Furnishing Steel Piles HP14x73			Foot	380
Driving Piles			Foot	380
Test Pile Steel HP14x73			Each	1
Pile Shoes			Each	11
Cofferdam (Type 2) (Location 1).			Each	1
Cofferdam Excavation			Cu. Yd.	304
Seal Coat			Cu. Yd.	95.8

PILE DATA

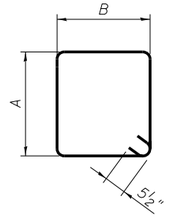
Type: HP 14x73 with Pile Shoes
Nominal Required Bearing: 578 kips
Factored Resistance Available: 318 kips
Est. Length: 38 ft
No. Production Piles: 3
No. Test Piles: 1



BAR s22(E)

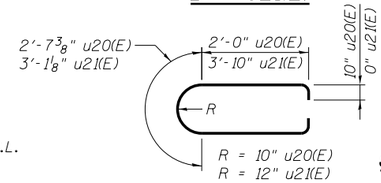


BAR s21(E)



BARS s20(E), s23(E), s24(E) & s25(E)

BAR	A	B
s20(E)	2'-10"	2'-2"
s23(E)	2'-10"	2'-0"
s24(E)	2'-8"	2'-0"
s25(E)	2'-8"	2'-2"



BARS u20(E) & u21(E)

LEGEND

E.F. = Each Face

NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S33.
4. Work this sheet with sheet S30.
5. For details of bar splicers, see sheet S34.

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Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

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	PLOT DATE = 01\23\2017	CHECKED - SLV	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER DETAILS STAGE I
STRUCTURE NO. 047-0102
SHEET NO. S29 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	396
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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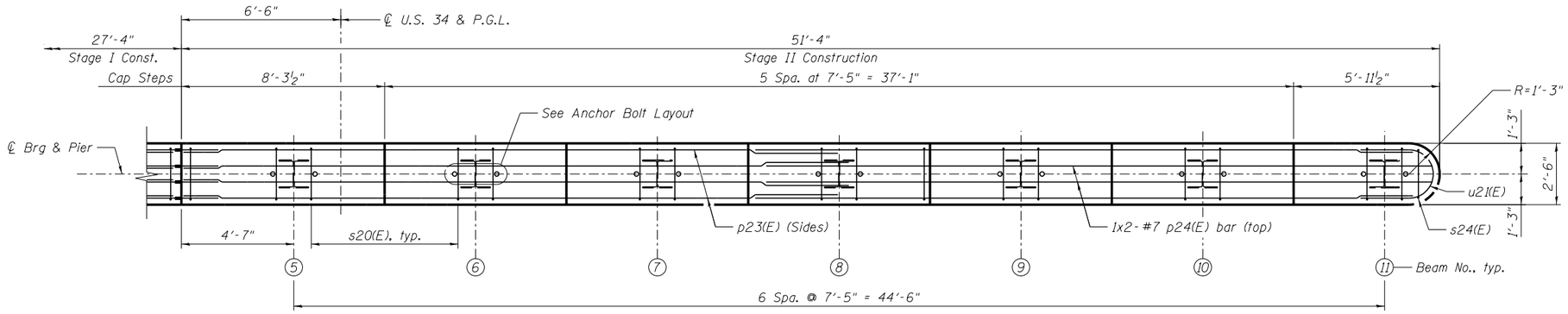
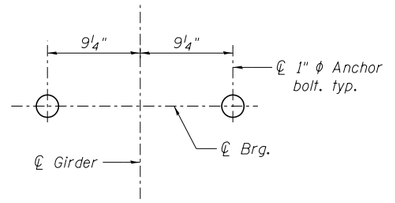
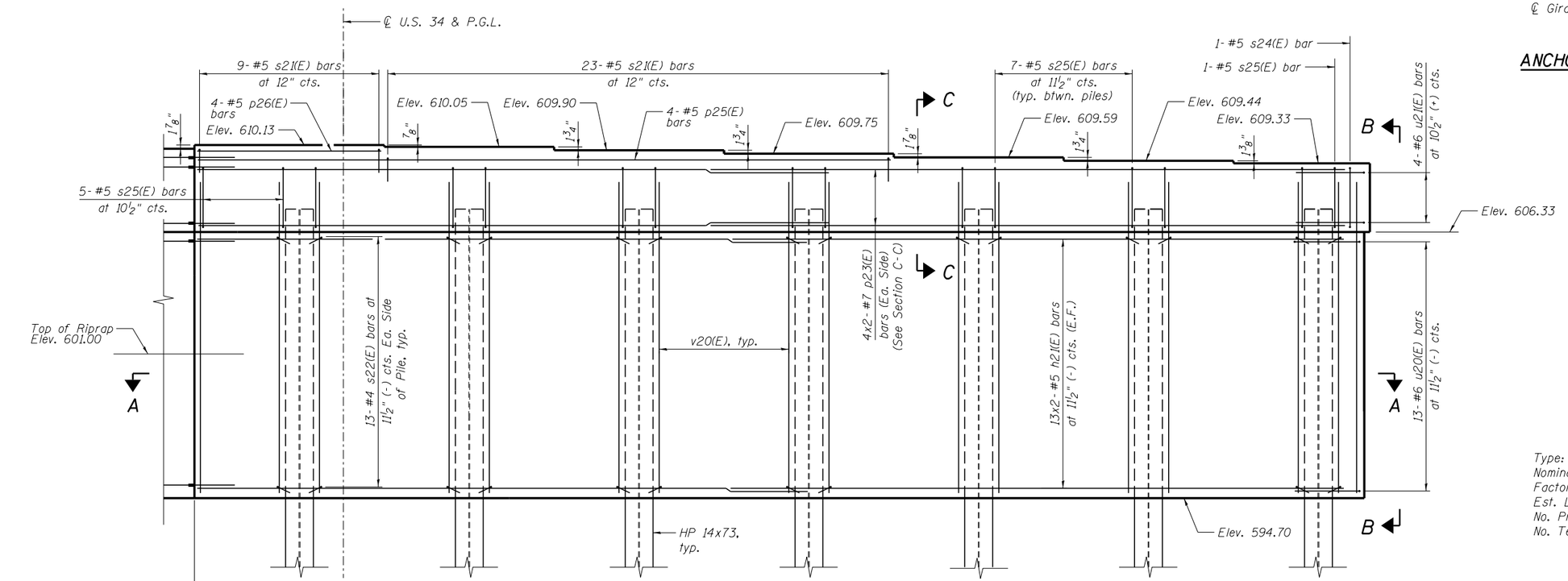


PIER PLAN



ANCHOR BOLT LAYOUT



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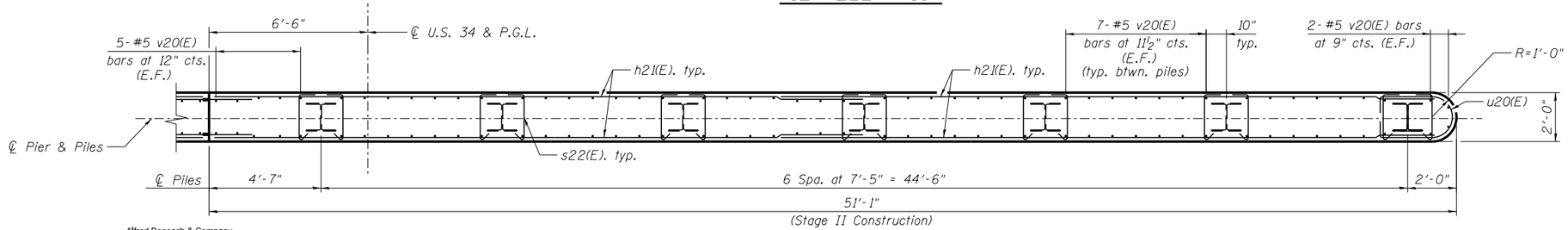

SECTION A-A

PILE DATA

Type: HP 14x73 with Pile Shoes
Nominal Required Bearing: 578 kips
Factored Resistance Available: 318 kips
Est. Length: 38 ft
No. Production Piles: 7
No. Test Piles: 0

LEGEND

E.F. = Each Face

MINIMUM BAR LAP

#5 BAR = 3'-9"
#7 BAR = 6'-3"

NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S33.
4. For View B-B and Section C-C, see sheet S29.
5. Work this sheet with sheet S29.
6. For reinforcement bar bend details, see sheet S29.
7. For details of bar splicers, see sheet S34.

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Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

FILE NAME = 0470102_66993_030_PierDetails2.dgn	USER NAME = habdou	DESIGNED - MRC	REVISED -
		CHECKED - SLV	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - SLV	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER DETAILS STAGE II
STRUCTURE NO. 047-0102
SHEET NO. S30 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	397
		CONTRACT NO. 66993		
ILLINOIS	FED. AID PROJECT			

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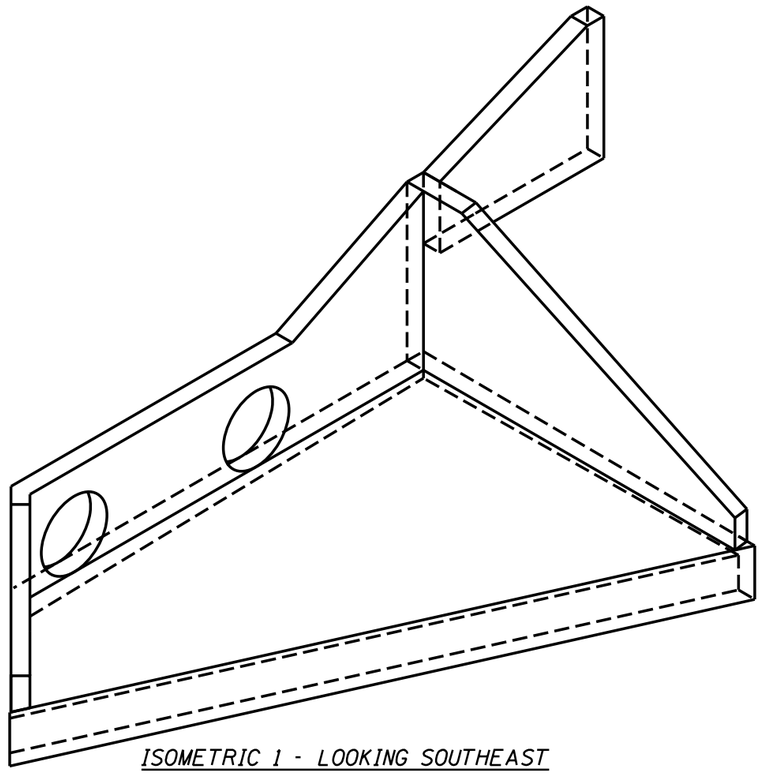
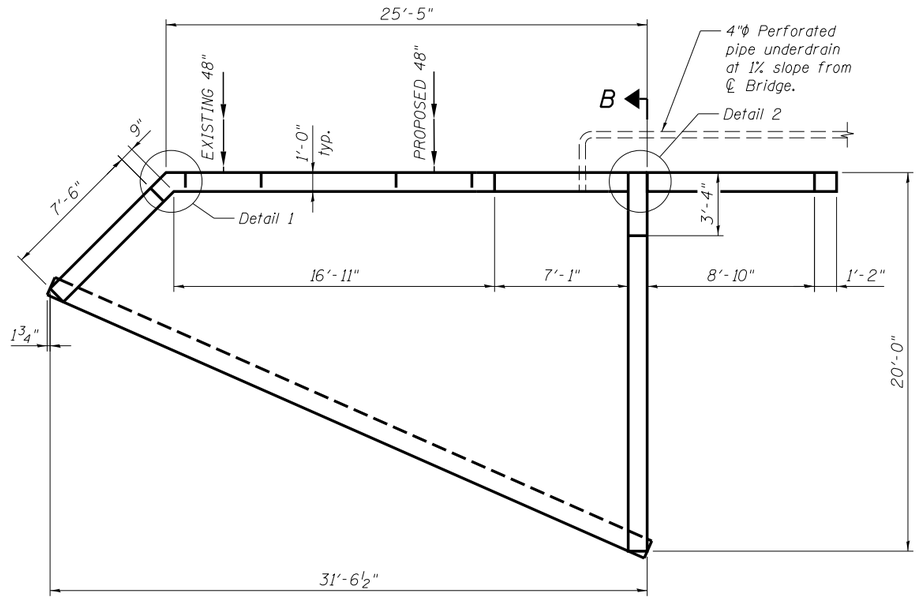
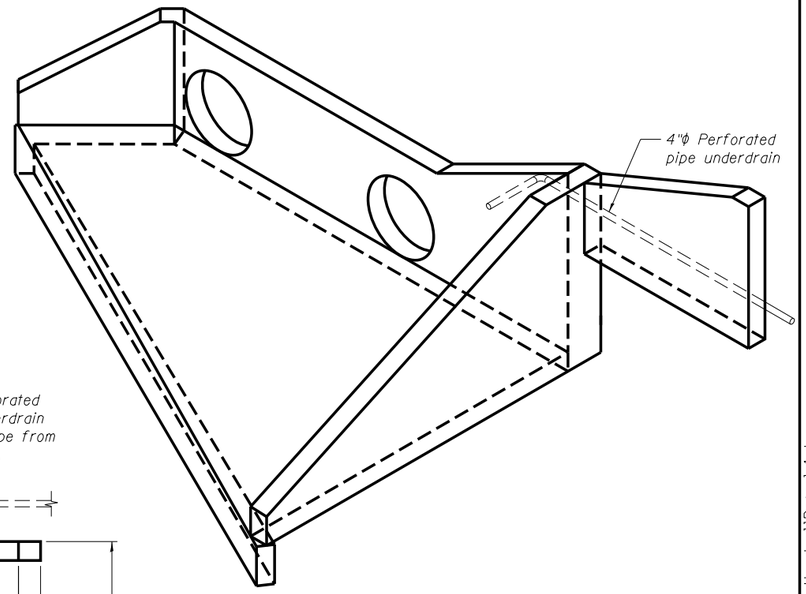


ISOMETRIC 1 - LOOKING SOUTHEAST

(For illustrative puproses only, N.T.S.)



PLAN

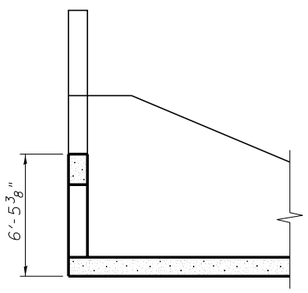


ISOMETRIC 2 - LOOKING NORTHEAST

(For illustrative puproses only, N.T.S.)

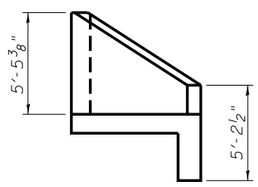
NOTES:

1. See Foundation Layout for work points to lay out storm sewer headwall and foundation.
2. See Sheet S32 for Details 1 & 2.

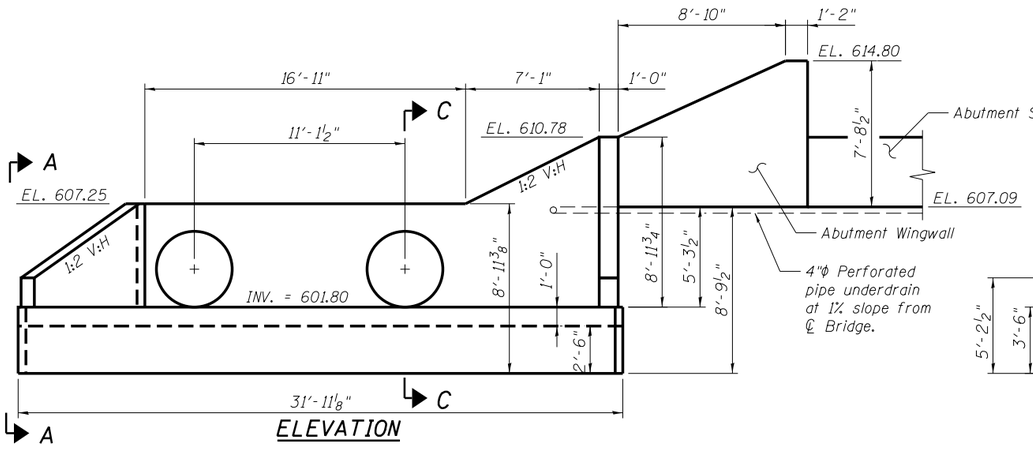


SECTION C-C

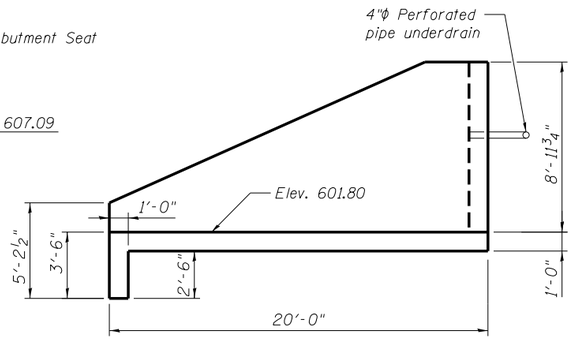
(At Proposed Storm Sewer)



VIEW A-A



ELEVATION



SECTION B-B

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

FILE NAME = 0470102_66993_031_HeadwallDetails1.dgn	USER NAME = habdou	DESIGNED - MRC/SLV	REVISED -
		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STORM SEWER HEADWALL DETAILS (1 of 2)
STRUCTURE NO. 047-0102
SHEET NO. S31 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	398
		CONTRACT NO. 66993		
ILLINOIS	FED. AID PROJECT			

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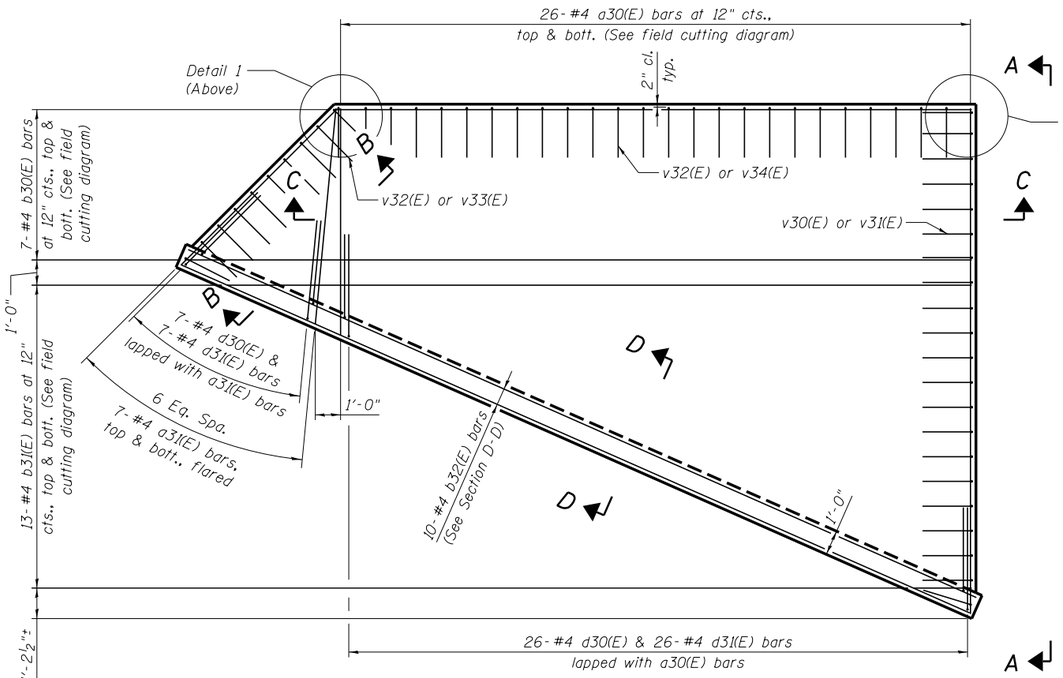
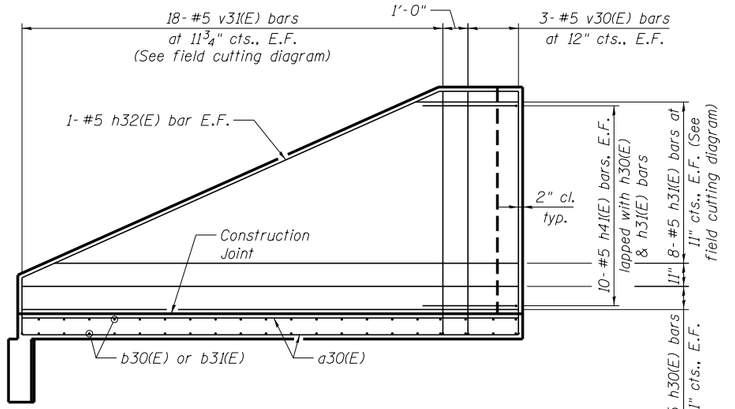


FOOTING PLAN

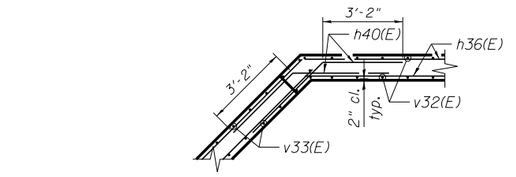


VIEW A-A

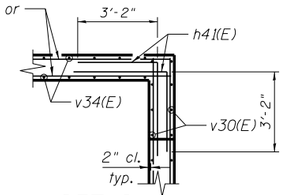
(Reinforcement in bottom stem not shown for clarity, see Section D-D)

BILL OF MATERIAL

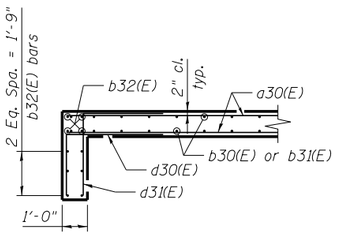
Bar	No.	Size	Length	Shape
a30(E)	26	#4	29'-0"	
a31(E)	14	#4	7'-6"	
b30(E)	7	#4	56'-5"	
b31(E)	13	#4	31'-10"	
b32(E)	10	#4	34'-2"	
h30(E)	4	#5	19'-8"	
h31(E)	8	#5	22'-4"	
h32(E)	2	#5	21'-3"	
h33(E)	4	#5	8'-4"	
h34(E)	4	#5	10'-1"	
h35(E)	2	#5	9'-3"	
h36(E)	14	#5	25'-1"	
h37(E)	2	#5	5'-10"	
h38(E)	2	#5	3'-10"	
h39(E)	2	#5	9'-6"	
h40(E)	12	#5	7'-2"	
h41(E)	20	#5	6'-11"	
h42(E)	2	#5	1'-10"	
s30(E)	16	#5	5'-3"	
v30(E)	6	#5	11'-8"	
v31(E)	18	#5	15'-10"	
v32(E)	40	#5	8'-0"	
v33(E)	8	#5	11'-9"	
v34(E)	7	#5	20'-0"	
d30(E)	33	#4	6'-4"	
d31(E)	33	#4	6'-5"	
Concrete Structures			Cu. Yd.	29.2
Reinforcement Bars, Epoxy Coated			Pound	3,720



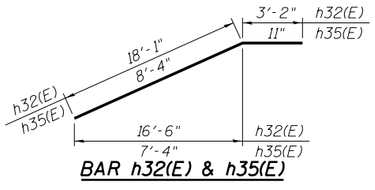
DETAIL 1



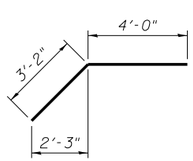
DETAIL 2



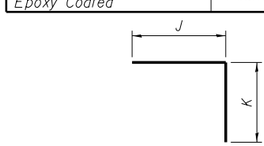
SECTION D-D



BAR h32(E) & h35(E)

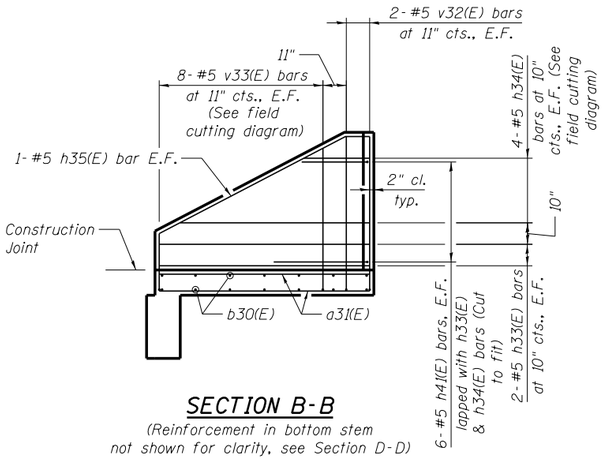


BAR h40(E)



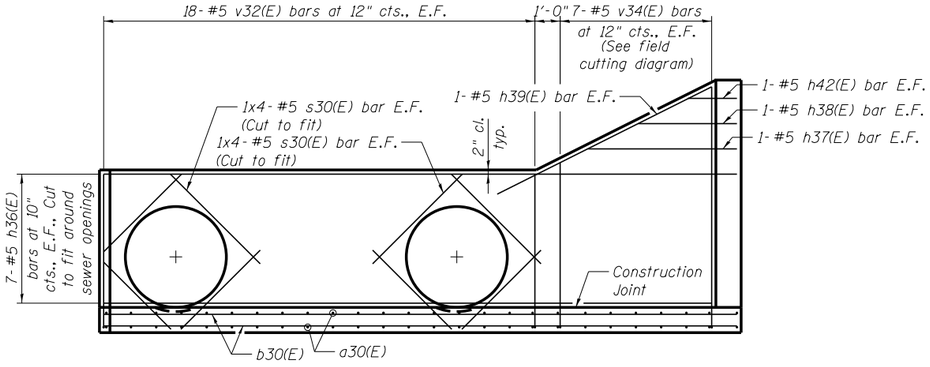
BAR d30(E), d31(E), h41(E), v30(E) & v32(E)

Bar	J	K
d30(E)	2'-6"	3'-10"
d31(E)	3'-2"	3'-3"
h41(E)	3'-2"	3'-9"
v30(E)	2'-0"	9'-8"
v32(E)	2'-0"	6'-0"

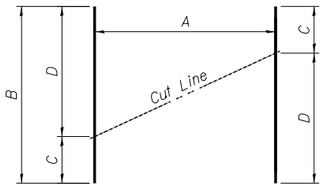


SECTION B-B

(Reinforcement in bottom stem not shown for clarity, see Section D-D)



SECTION C-C

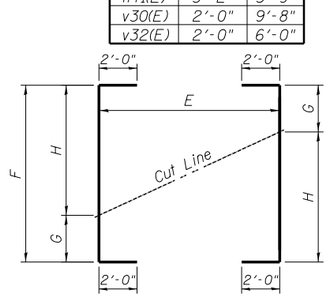


FIELD CUTTING DIAGRAM

Order bars full length. Cut as shown and use remainder of bars on opposite side.

FIELD CUTTING BAR TABLE

A	B	C	D
26- #4 a30(E) bars	29'-0"	9'-0"	20'-0"
7- #4 b30(E) bars	56'-5"	25'-3"	31'-2"
13=#4 b31(E) bars	31'-10"	2'-4"	29'-6"
8- #5 h31(E) bars	22'-4"	4'-0"	18'-4"
4- #5 h34(E) bars	10'-1"	7'-6"	2'-7"



FIELD CUTTING DIAGRAM

Order bars full length. Cut as shown and use remainder of bars on opposite side.

FIELD CUTTING BAR TABLE

E	F	G	H
18- #5 v31(E) bars	11'-10"	2'-2"	9'-8"
8- #5 v33(E) bars	7'-9"	2'-2"	5'-7"
7- #5 v34(E) bars	16'-0"	6'-6"	9'-6"

MINIMUM BAR LAP

#4 Bar = 2'-7"
#5 Bar = 3'-2"

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205 North Michigan Avenue, Suite 2400
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312-565-0450 Job No. 3938.15

FILE NAME = 0470102_66993_032_HeadwallDetails2.dgn	USER NAME = habdou	DESIGNED - MRC/SLV	REVISED -
		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 01\23\2017	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STORM SEWER HEADWALL DETAILS (2 of 2)
STRUCTURE NO. 047-0102
SHEET NO. S32 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	399
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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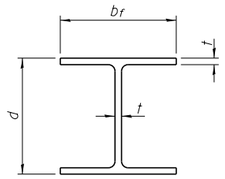
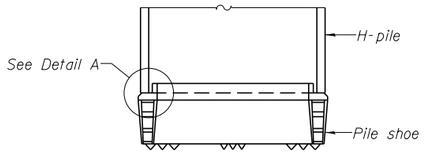
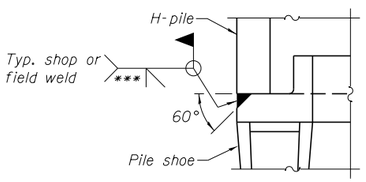


STEEL PILE TABLE

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

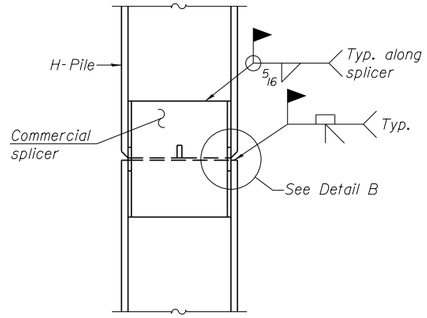


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



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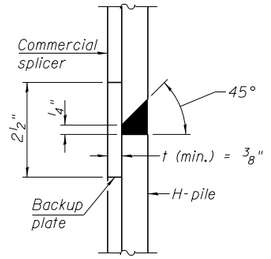
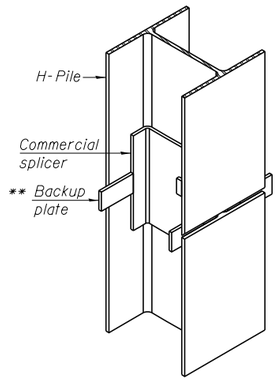
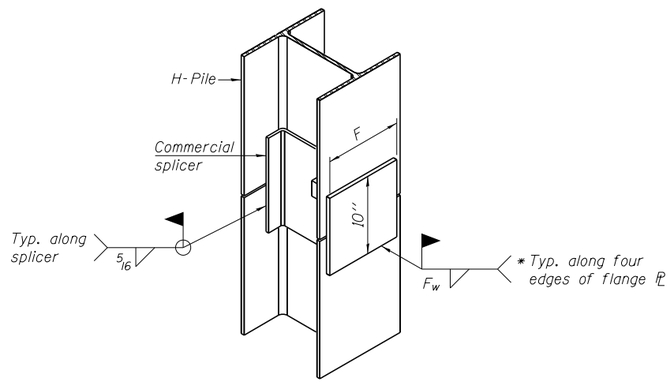


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



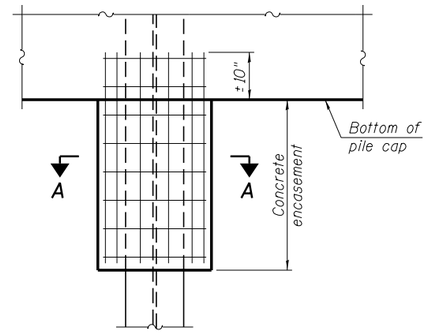
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).



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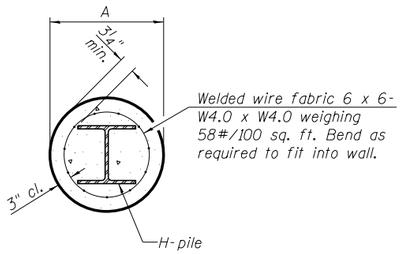
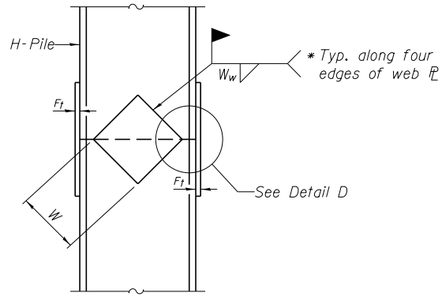


Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT



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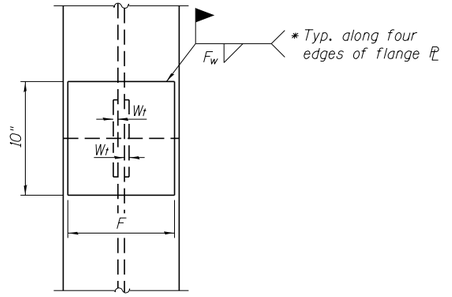
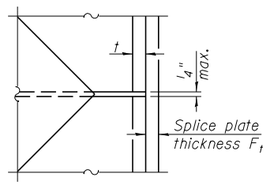


END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_f	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

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

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 3938.15

F-HP 1-27-12

FILE NAME = 0470102_66993_033_PileDetails.dgn	USER NAME = habdou	DESIGNED - SLV	REVISED -
		CHECKED - DTS	REVISED -
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	PLOT DATE = 01\23\2017	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 047-0102
SHEET NO. S33 OF S38 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
591	(13 BR-1)BR	KENDALL	533	400
		CONTRACT NO. 66993		
	ILLINOIS FED. AID PROJECT			

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