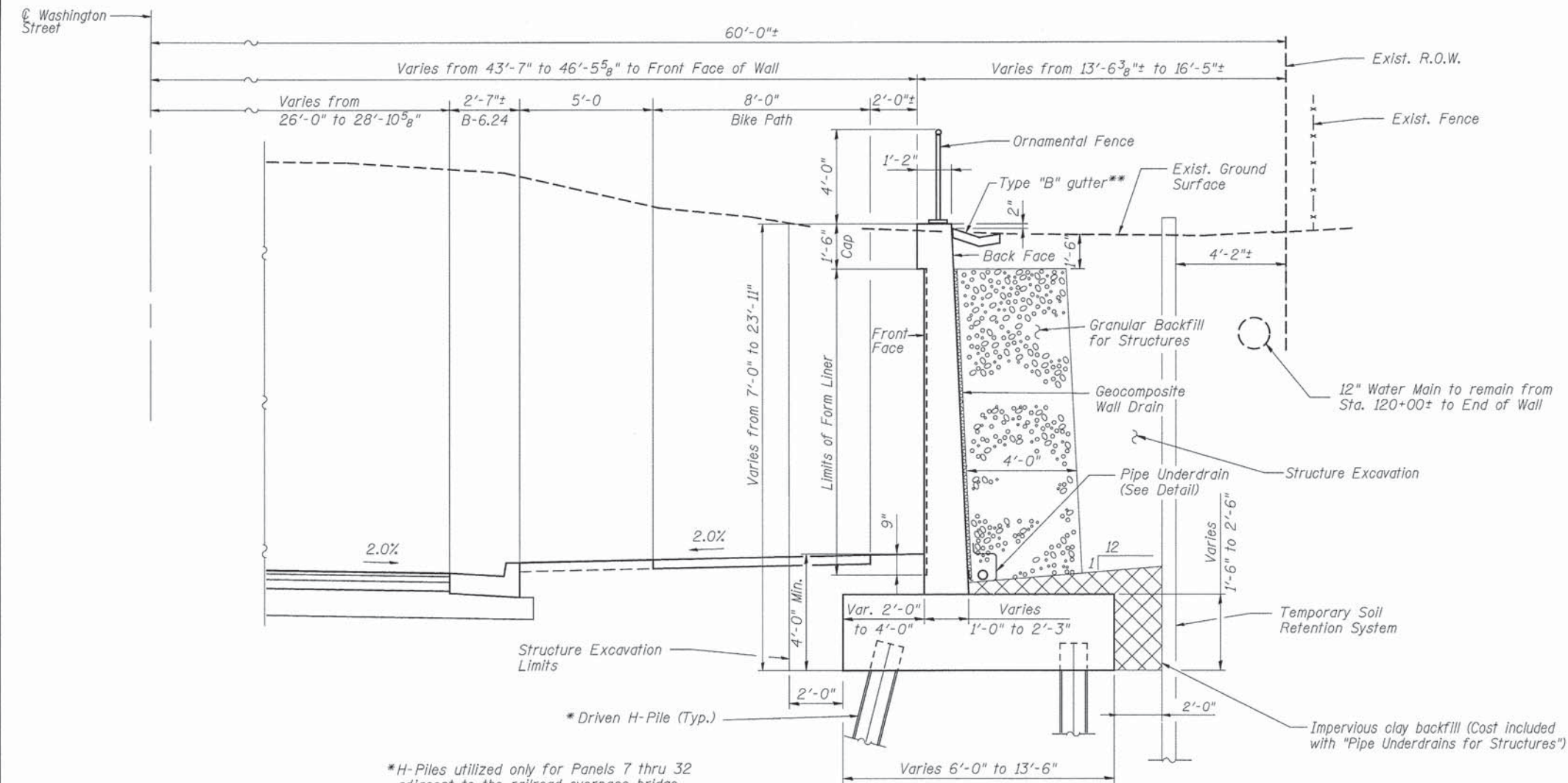
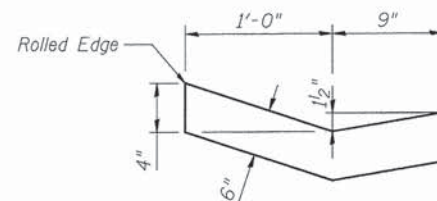




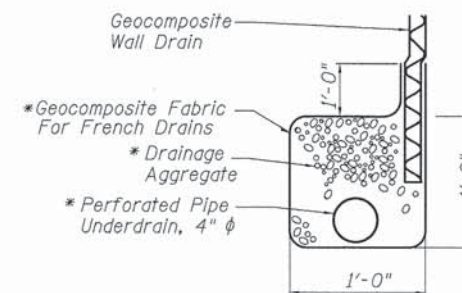
TYPICAL SECTION

*H-Piles utilized only for Panels 7 thru 32 adjacent to the railroad overpass bridge. The remaining panels are founded on spread footing.

**Type "B" Gutter to be provided along the back face of the retaining wall except within the limits of the proposed guardrail.



TYPE B GUTTER DETAIL



PIPE UNDERDRAIN DETAIL

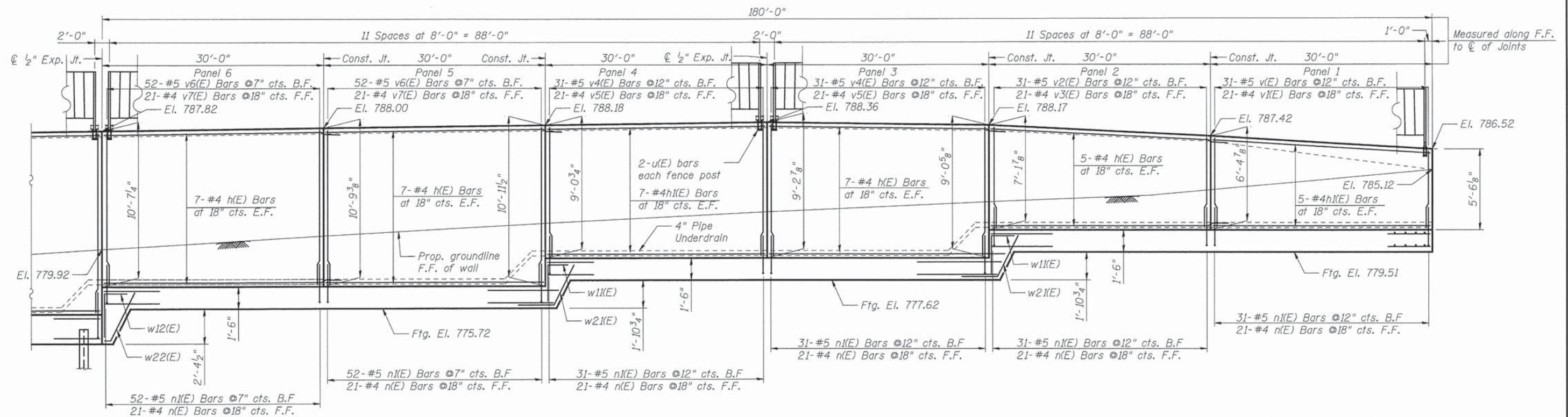
* included in the cost of "Pipe Underdrain for Structures"

TOTAL BILL OF MATERIAL

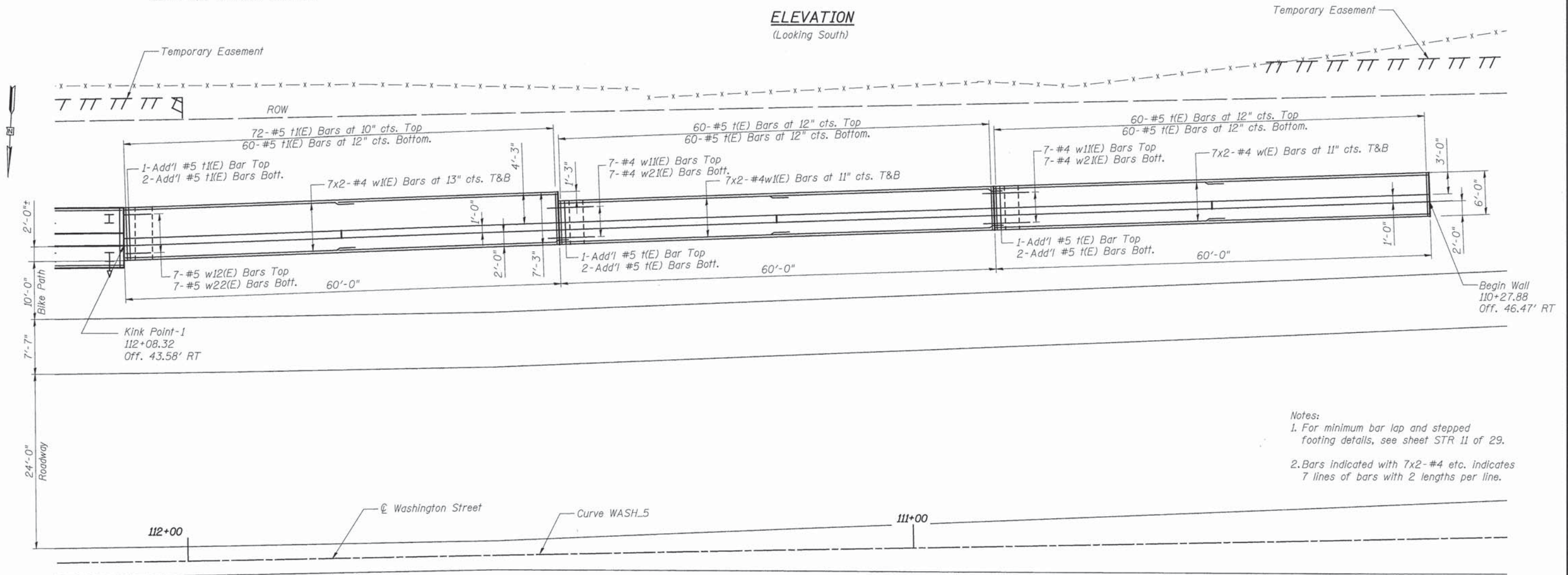
ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	8895
Concrete Structures	Cu. Yd.	1645.9
Form Liner Textured Surface	Sq. Ft.	13,885
Reinforcement Bars, Epoxy Coated	Pound	156,900
Furnishing Steel Piles HP12X53	Foot	8884
Driving Piles	Foot	8884
Test Pile Steel HP 12X53	Each	2
Geocomposite Wall Drain	Sq. Yd.	1532
Anti-Graffiti Protection System	Sq. Ft.	16,735
Granular Backfill For Structures	Cu. Yd.	2043
Staining Concrete Structures	Sq. Ft.	16,735
Ornamental Fence	Foot	1140
Pipe Underdrains For Structures 4"	Foot	1140
Temporary Soil Retention System	Sq. Ft.	17,809
Concrete Gutter Type B	Foot	810
Construction Vibration Monitoring	L. Sum	1

INDEX OF SHEETS

STR 1	Retaining Wall General Plan and Elevation
STR 2	Retaining Wall Typical Section and Total Bill of Material
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STR 4	Retaining Wall Plan & Elevation 2
STR 5	Retaining Wall Plan & Elevation 3
STR 6	Retaining Wall Plan & Elevation 4
STR 7	Retaining Wall Plan & Elevation 5
STR 8	Retaining Wall Plan & Elevation 6
STR 9	Retaining Wall Plan & Elevation 7
STR 10	Retaining Wall Details 1
STR 11	Retaining Wall Details 2
STR 12	Pile Details
STR 13	Ornamental Fence
STR 14	Boring Logs 1
STR 15	Boring Logs 2
STR 16	Boring Logs 3
STR 17	Boring Logs 4
STR 18	Boring Logs 5
STR 19	Panel Insert Formliner-Overall Elevation and Panels
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STR 25	Panel Insert Formliner-Enlargement Details
STR 26	Stone Pattern Formliner-Overall Elevation and Notes
STR 27	Stone Pattern Formliner-Elevation
STR 28	Stone Pattern Formliner-Elevation
STR 29	Stone Pattern Formliner-Elevation and Details

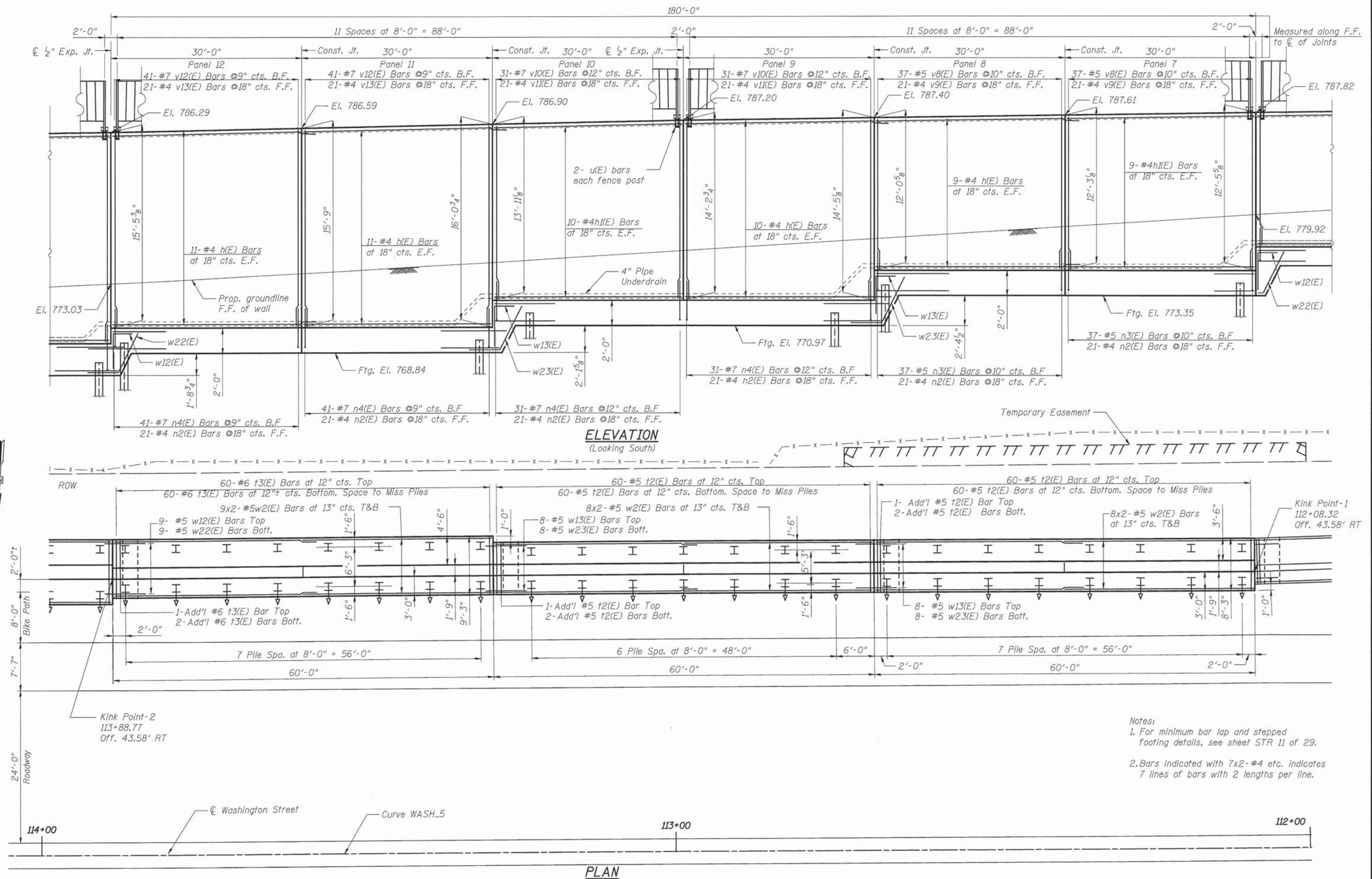


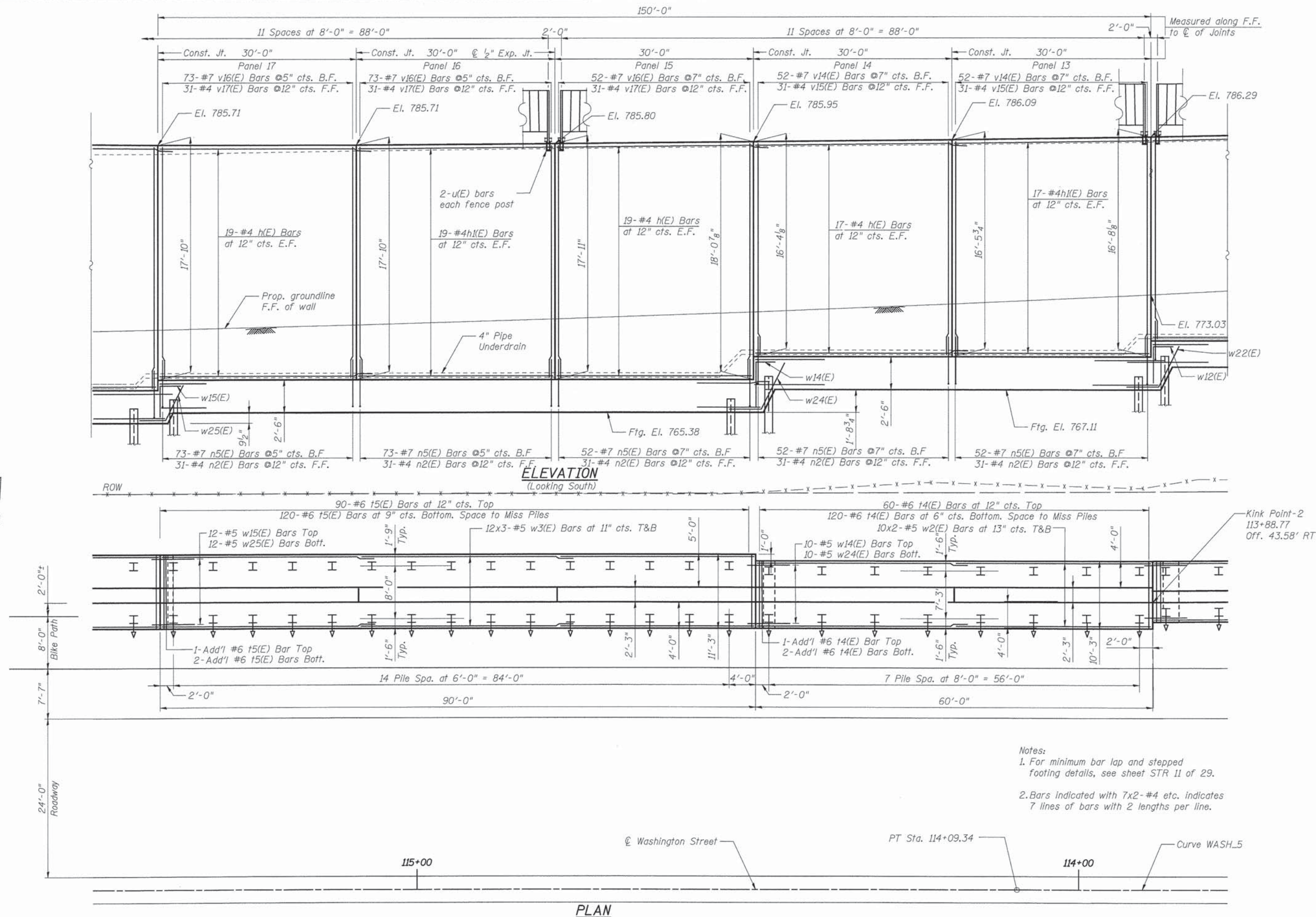
ELEVATION
(Looking South)



PLAN

- Notes:
1. For minimum bar lap and stepped footing details, see sheet STR 11 of 29.
 2. Bars indicated with 7x2-#4 etc. indicates 7 lines of bars with 2 lengths per line.

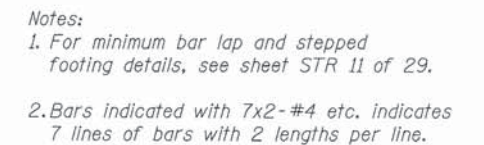




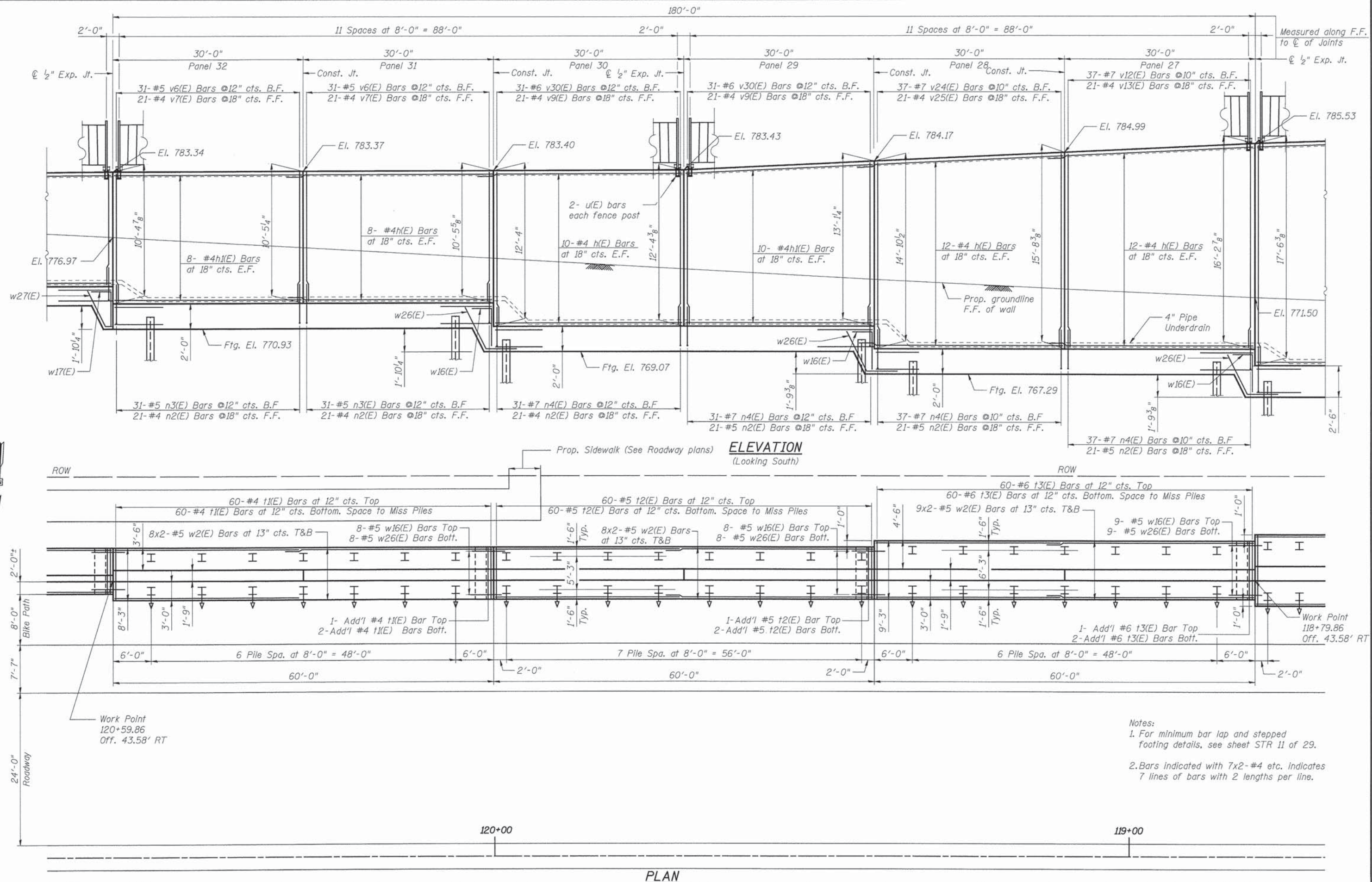
- Notes:
1. For minimum bar lap and stepped footing details, see sheet STR 11 of 29.
 2. Bars indicated with 7x2-#4 etc. indicates 7 lines of bars with 2 lengths per line.

PLAN

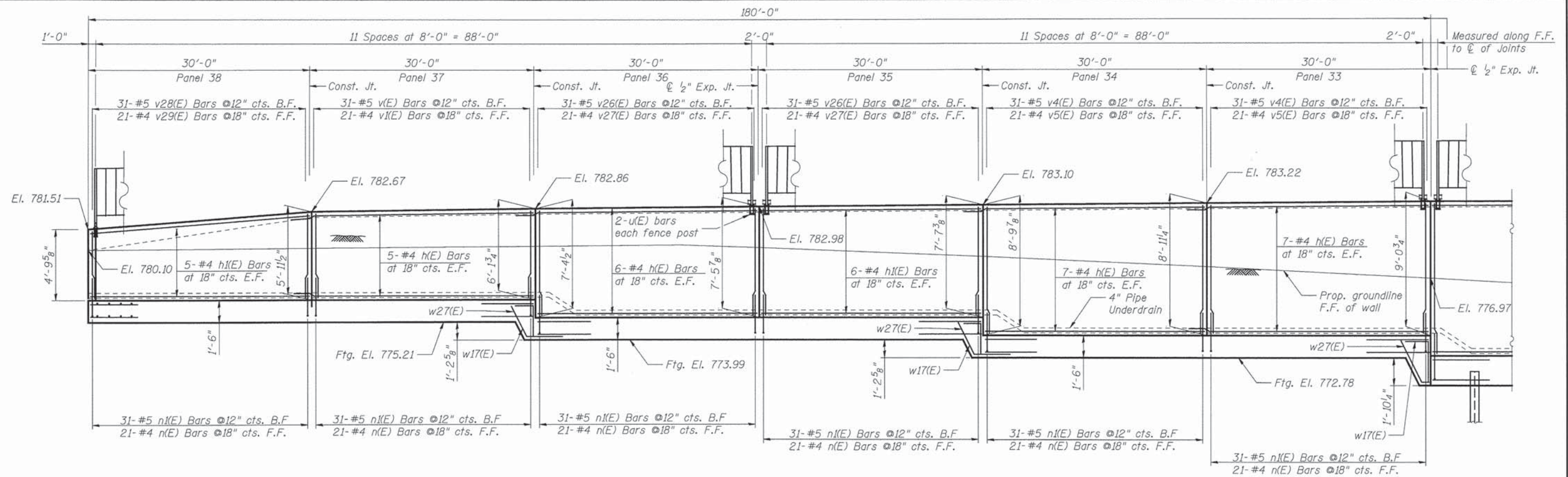
 PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy.Lisle)	DESIGNED - JM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RETAINING WALL PLAN & ELEVATION 3	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
	PLOT CONFIG = PDF(Grey.Large).plt	CHECKED - SLC	REVISED			187	11-00121-11-BR	LAKE	496	204		
	PLOT SCALE = 1/17	DRAWN - HH	REVISED			CONTRACT NO. 61A63						
	PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED			SHEET NO. STR 5 OF 29						
G:\LCDOT\21150.004\Drawings\STRUCT\Wall\PAE-3.dgn											ILLINOIS FED. AID PROJECT	



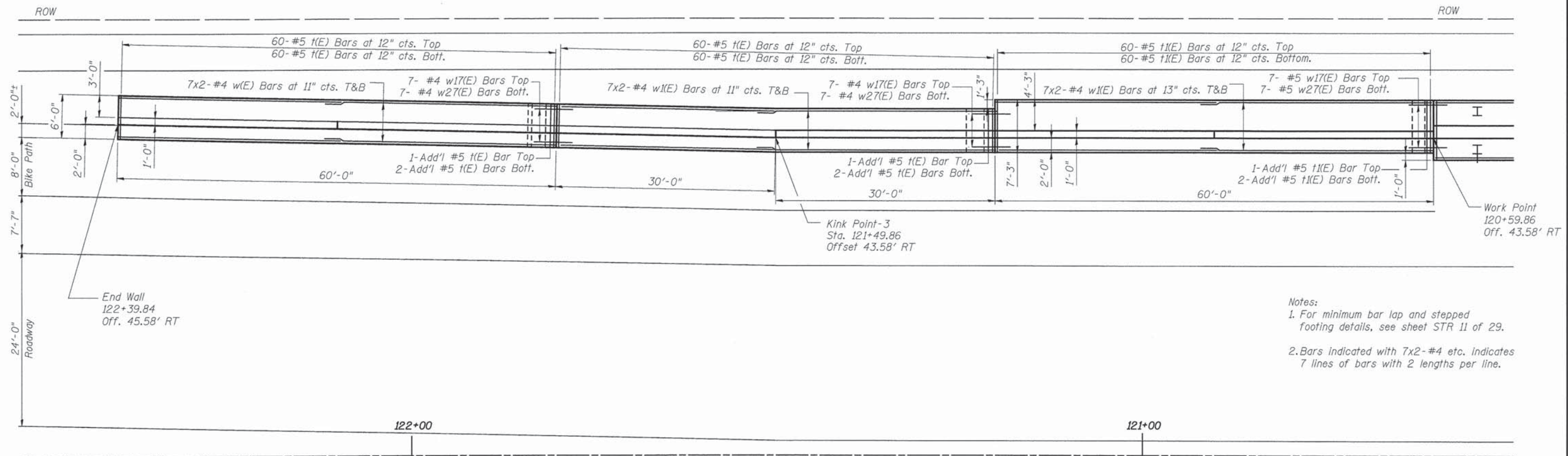
 PATRICK ENGINEERING	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen@rdwy.lisle.il.gov	DESIGNED - JM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RETAINING WALL PLAN & ELEVATION 4	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED	SHEET NO. STR 6 OF 29							
Q:\C00T\21150_004\Drawings\STRUCT\Wall\PA&E-4.dgn											



- Notes:
- For minimum bar lap and stepped footing details, see sheet STR 11 of 29.
 - Bars indicated with 7x2-#4 etc. indicates 7 lines of bars with 2 lengths per line.



Elevation
(Looking South)

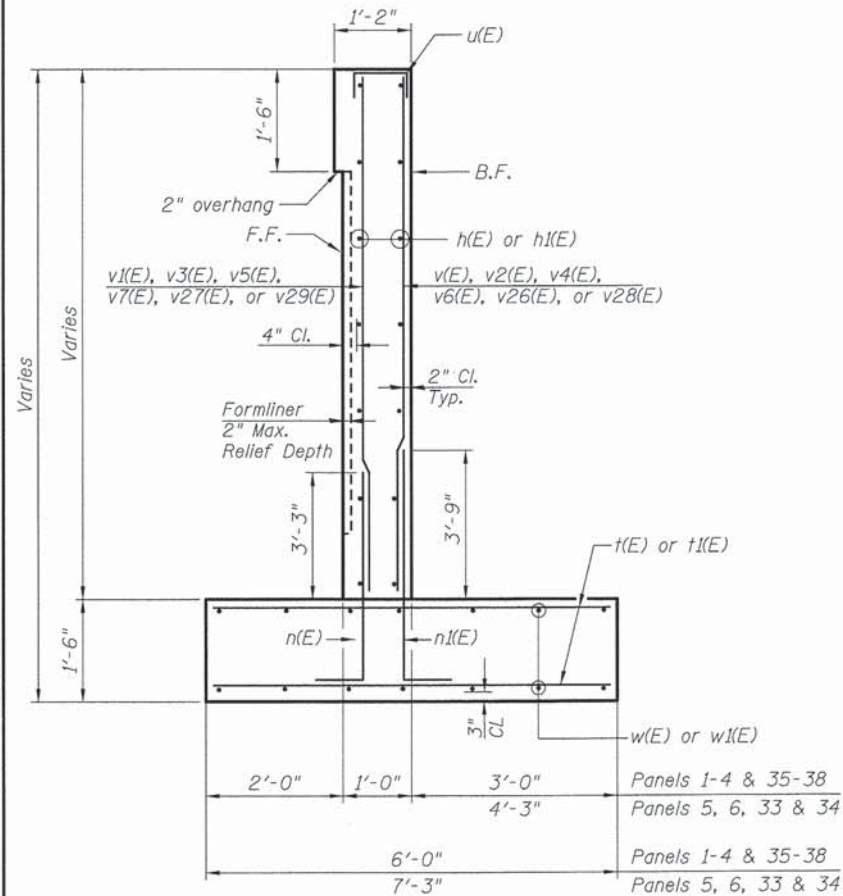


PLAN

- Notes:
- For minimum bar lap and stepped footing details, see sheet STR 11 of 29.
 - Bars indicated with 7x2-#4 etc. indicates 7 lines of bars with 2 lengths per line.

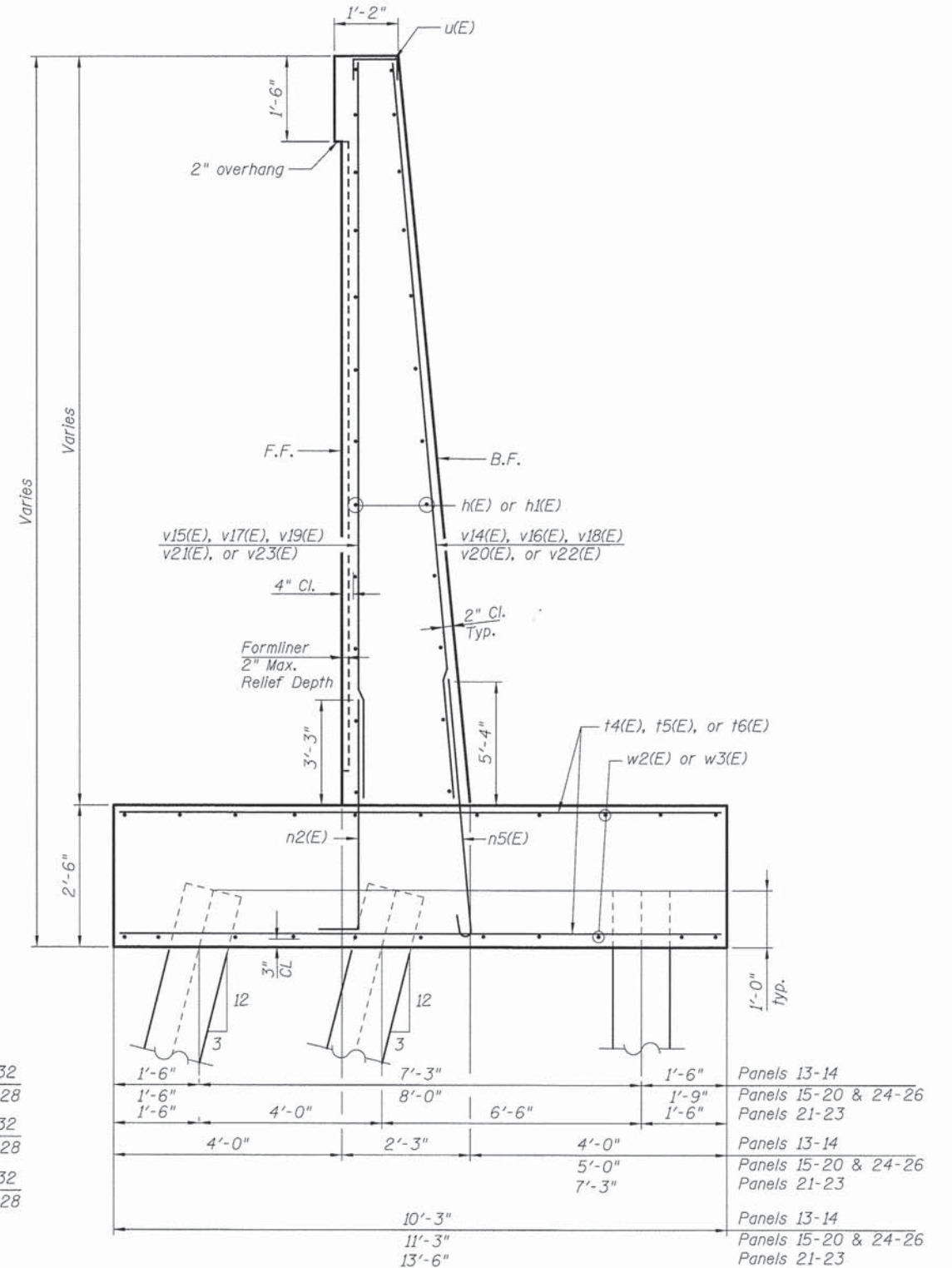
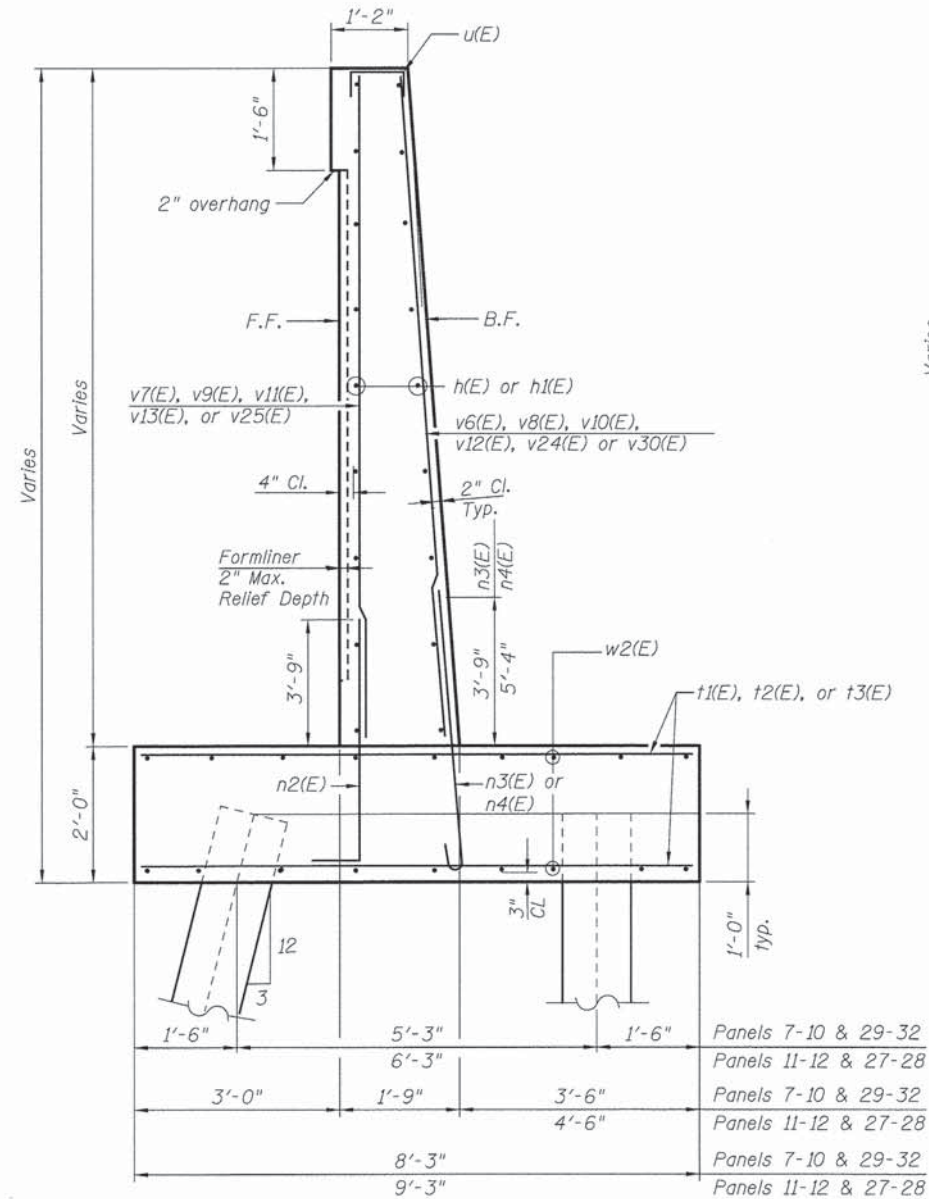
 PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = koeppen(Rdw.Lisla)	DESIGNED - JM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RETAINING WALL PLAN & ELEVATION 7	F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED			ILLINOIS FED. AID PROJECT				
SHEET NO. STR 9 OF 29										

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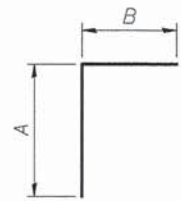


PILE DATA

Type:	HP 12x53
Nominal Required Bearing:	418 Kips
Factored Resistance Available:	193 Kips
Estimated Length:	35 ft.
No. Production Piles	240
No. Test Piles	2

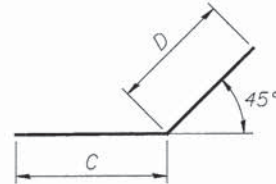


Notes:
1. For formliner details, see
Sheet No. STR 19 to STR 29.



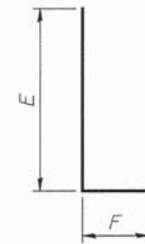
Bar	A	B
w11(E)	3'-0"	2'-1"
w12(E)	3'-4"	2'-7"
w13(E)	3'-9"	2'-7"
w14(E)	3'-10"	2'-7"
w15(E)	2'-11"	2'-7"
w16(E)	3'-4"	2'-7"
w17(E)	2'-4"	2'-1"

BARS w11(E) thru w17(E)



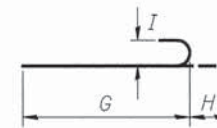
Bar	C	D
w21(E)	3'-7"	4'-3"
w22(E)	4'-1"	4'-8"
w23(E)	4'-1"	5'-3"
w24(E)	4'-1"	5'-5"
w25(E)	4'-1"	4'-2"
w26(E)	4'-1"	4'-9"
w27(E)	3'-7"	3'-3"

BARS w21(E) thru w27(E)



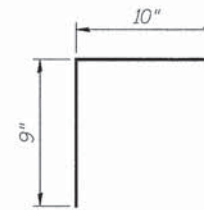
Bar	E	F
n(E)	4'-6"	8"
n1(E)	5'-0"	10"
n2(E)	5'-6"	8"

BARS n(E) thru n2(E)

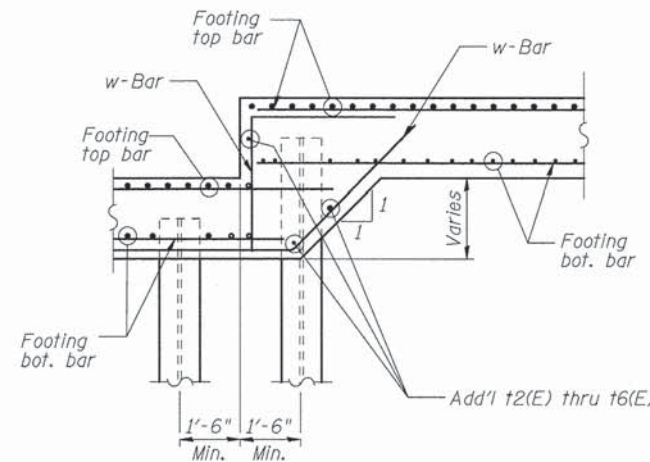
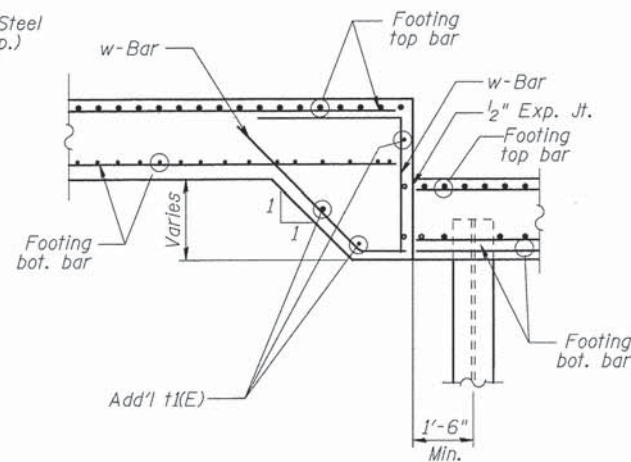
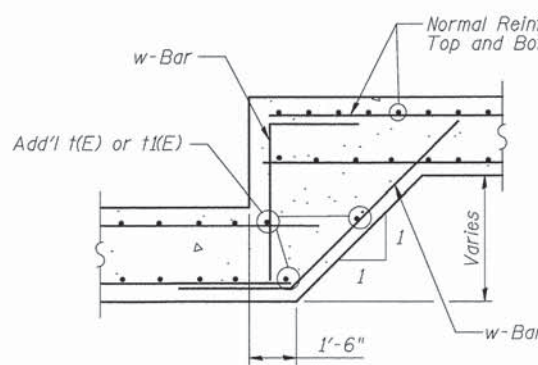


Bar	G	H	I
n3(E)	5'-6"	7"	5"
n4(E)	7'-1"	10"	7"
n5(E)	7'-7"	10"	7"

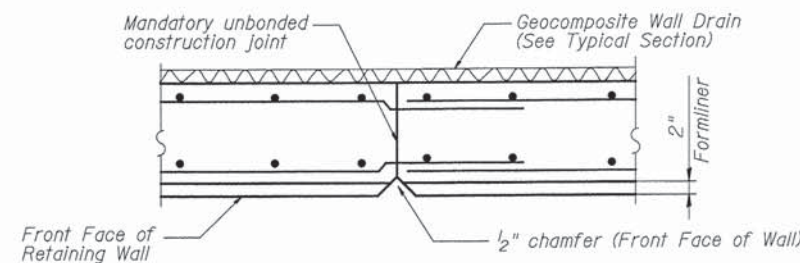
BARS n3(E) thru n5(E)



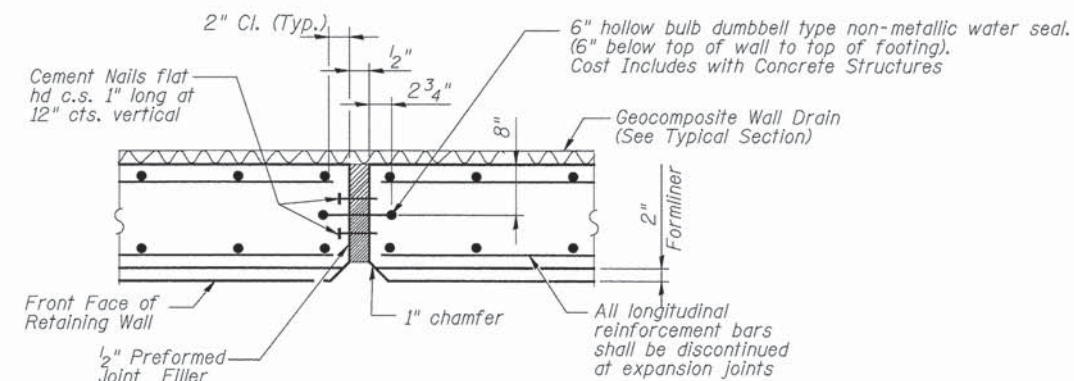
u(E) BAR



STEPPED FOOTING DETAILS



CONSTRUCTION JOINT DETAIL



EXPANSION JOINT DETAIL

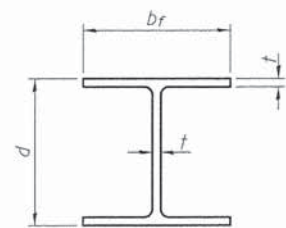
REINFORCEMENT BAR SCHEDULE

Bar	No.	Size	Length	Shape
h(E)	624	#4	32'-1"	—
h1(E)	318	#4	29'-8"	—
n(E)	252	#4	5'-2"	L
n1(E)	414	#5	5'-10"	L
n2(E)	686	#4	6'-2"	L
n3(E)	136	#5	6'-1"	U
n4(E)	280	#7	7'-11"	U
n5(E)	833	#7	8'-5"	U
t(E)	492	#5	5'-8"	—
t1(E)	381	#5	6'-11"	—
t2(E)	369	#5	7'-11"	—
t3(E)	246	#6	8'-11"	—
t4(E)	183	#6	9'-11"	—
t5(E)	729	#6	10'-11"	—
t6(E)	333	#7	13'-2"	—
v(E)	62	#5	5'-4"	—
v1(E)	42	#4	5'-4"	—
v2(E)	31	#5	6'-0"	—
v3(E)	21	#4	6'-0"	—
v4(E)	124	#5	8'-7"	—
v5(E)	84	#4	8'-7"	—
v6(E)	166	#5	10'-1"	—
v7(E)	84	#4	10'-1"	—
v8(E)	74	#5	11'-9"	—
v9(E)	84	#4	11'-9"	—
v10(E)	62	#7	13'-8"	—
v11(E)	42	#4	13'-8"	—
v12(E)	119	#7	15'-4"	—
v13(E)	63	#4	15'-4"	—
v14(E)	104	#7	16'-0"	—
v15(E)	62	#4	16'-0"	—
v16(E)	302	#7	17'-6"	—
v17(E)	155	#4	17'-6"	—
v18(E)	156	#7	18'-3"	—
v19(E)	93	#4	18'-3"	—
v20(E)	52	#7	18'-11"	—
v21(E)	31	#4	18'-11"	—
v22(E)	219	#7	19'-8"	—
v23(E)	93	#4	19'-8"	—
v24(E)	37	#7	14'-6"	—
v25(E)	21	#4	14'-6"	—
v26(E)	62	#5	7'-0"	—
v27(E)	42	#4	7'-0"	—

Bar	No.	Size	Length	Shape
v28(E)	31	#5	4'-5"	—
v29(E)	21	#4	4'-5"	—
v30(E)	62	#6	11'-9"	—
w(E)	56	#4	30'-11"	—
w1(E)	112	#4	31'-8"	—
w2(E)	240	#5	31'-11"	—
w3(E)	300	#5	31'-9"	—
w11(E)	14	#4	5'-1"	—
w12(E)	16	#5	5'-11"	—
w13(E)	16	#5	6'-4"	—
w14(E)	10	#5	6'-5"	—
w15(E)	24	#5	5'-6"	—
w16(E)	25	#5	5'-11"	—
w17(E)	21	#4	4'-5"	—
w21(E)	14	#4	7'-10"	—
w22(E)	16	#5	8'-9"	—
w23(E)	16	#5	9'-4"	—
w24(E)	10	#5	9'-6"	—
w25(E)	24	#5	8'-3"	—
w26(E)	25	#5	8'-10"	—
w27(E)	21	#4	6'-10"	—
u(E)	304	#4	2'-4"	—
Granular Backfill for Structures		Cu. Yd.	2043	
Structure Excavation		Cu. Yd.	8895	
Concrete Structures		Cu. Yd.	1645.9	
Reinforcement Bars, Epoxy Coated		Pound	156,900	
Geocomposite Wall Drain		Sq. Yd.	1532	
Pile Underdrains for Structures, 4"		Foot	1140	
Driving Piles		Foot	8884	
Furnishing Steel Piles HPI2X53		Foot	8884	

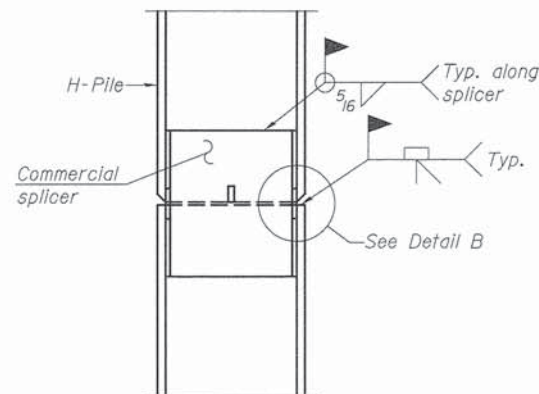
MIN. BAR LAP

#4 Bars = 2'-1"
#5 Bars = 2'-7"
#6 Bars = 3'-1"
#7 Bars = 4'-2"

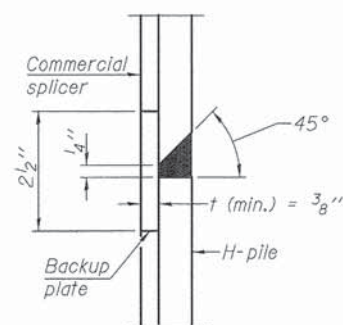


STEEL PILE TABLE

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"	1/16"	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"	1/16"	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"

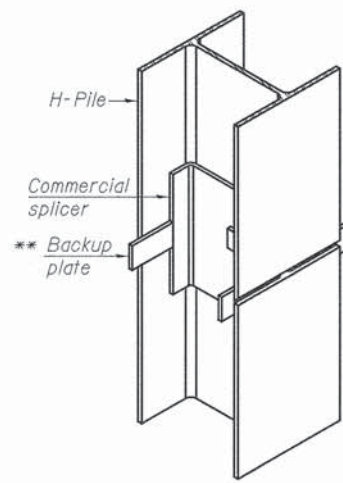


ELEVATION

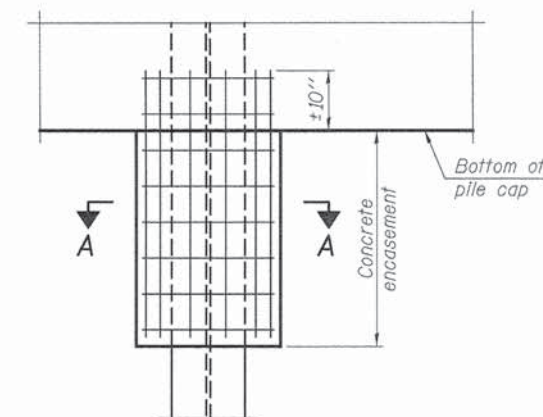


DETAIL "B"

WELDED COMMERCIAL SPLICE

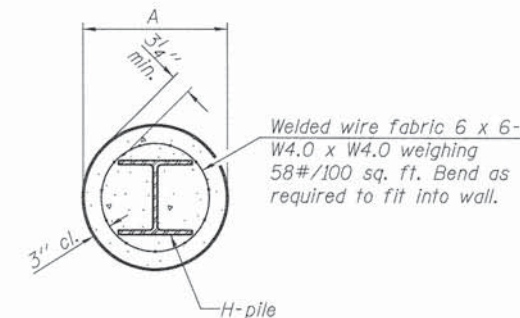


ISOMETRIC VIEW



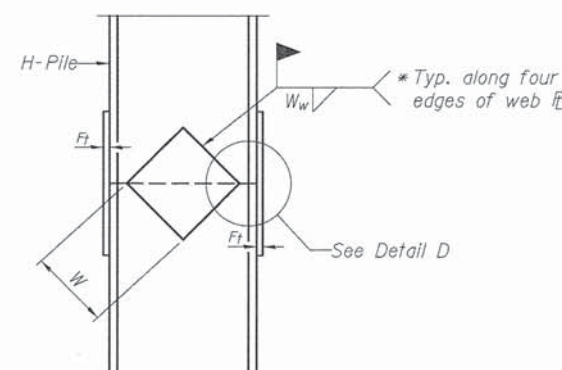
ELEVATION

PILE ENCASEMENT

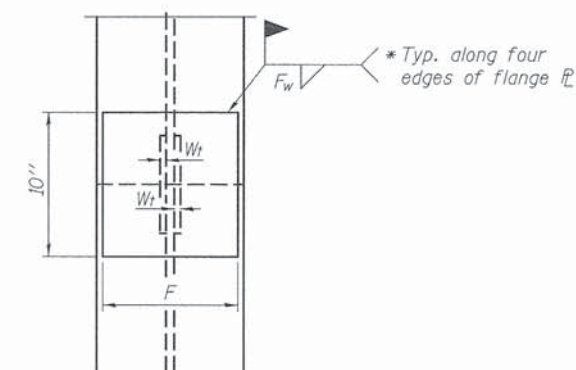


Note:
Forms for encasement may be omitted when soil conditions permit.

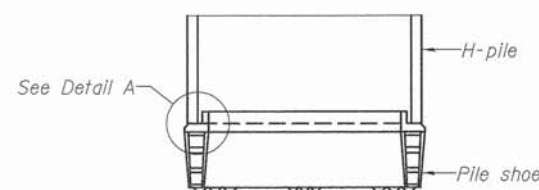
SECTION A-A



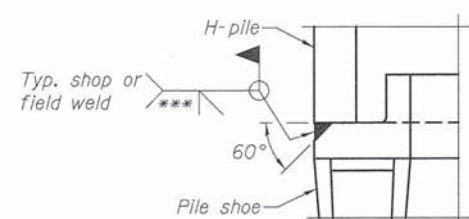
ELEVATION



END VIEW

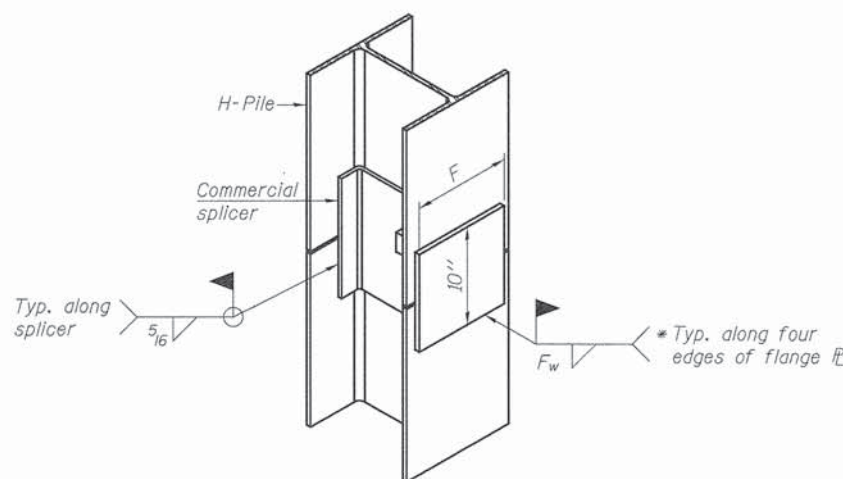


ELEVATION

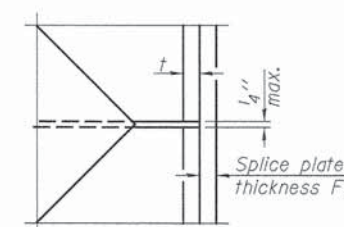


DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 8/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 8/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5 8/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 8/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5 8/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5 8/8"	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"

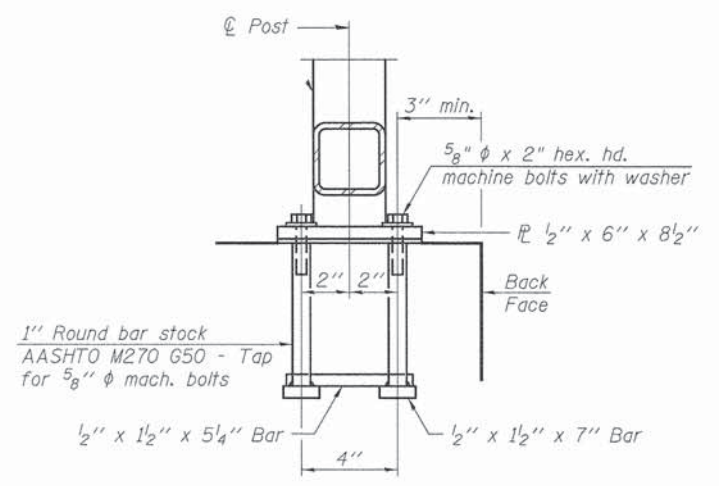
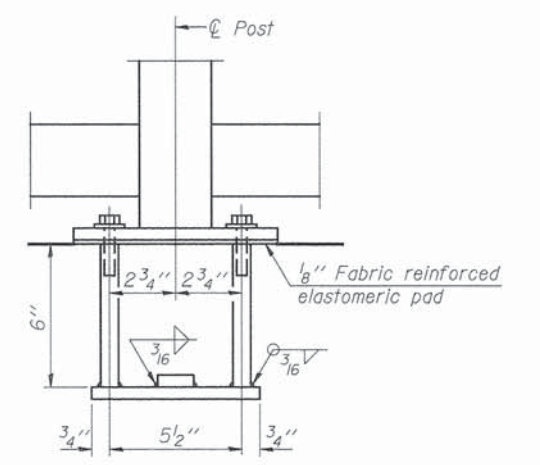
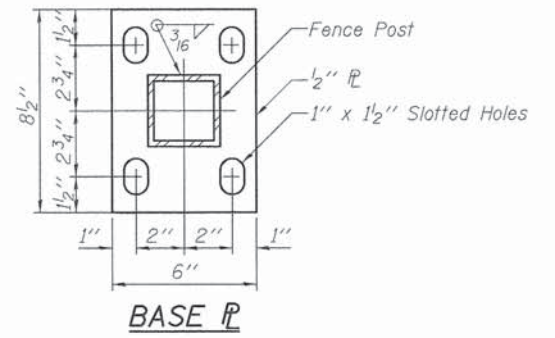
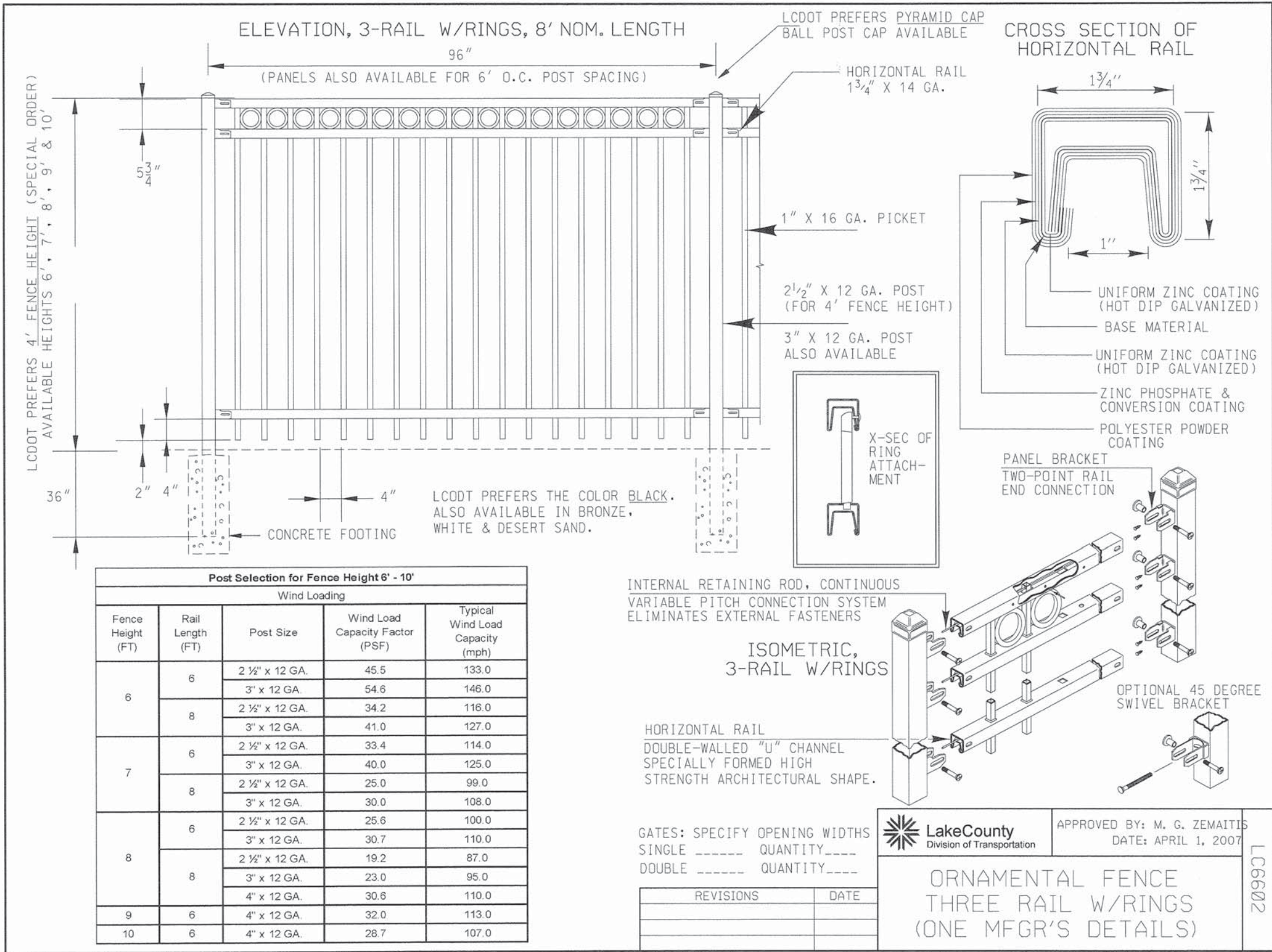
WELDED COMMERCIAL SPLICE ALTERNATE

- * 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.).

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

F-HP

1-27-12



ANCHOR BOLT DETAILS FOR WALL ATTACHMENT

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" φ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

Patrick Engineering, Inc.
STRUCTURE BORING LOG

Page 1 of 1
Date 8/18/10

ROUTE A22 DESCRIPTION Washington Street

SECT. 08-00121-08-WR STRUCT. NO. DRILLED BY Groff Testing

COUNTY Lake LOCATION Grayslake, IL S. 27, TWP. 45N, RNG. 10E

Boring No. B-12-10
Station 112+00
Offset 22ft R

D
E
P
T
H

B
L
O
W
S

Qu
tsf

W
%

Surface Water Elev. _____
Groundwater Elev.: 769.5
when drilling at Completion 768.0
after _____ Hrs. _____

12" asphalt
787.00

Very stiff brown sandy clay, trace topsoil
4 2.25 27
2 *
2

2 2.0 22
3 *
4

782.50

Very stiff brown silty clay, trace gravel
4 2.75 18
4 *
5

780.00

Very stiff gray silty clay, trace sand
4 2.75 15
4 *
7

A-6
-10

LL=26
PI=14

4 4.25 14
7 *
9

3 4.5 13
5 *
7

-15

770.00

Loose gray clayey sand, trace gravel, wet
1 NP 24
2
3

768.00

End of Boring at 20.0'

* qu values determined using pocket penetrometer

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

Patrick Engineering, Inc.
STRUCTURE BORING LOG

Page 1 of 2
Date 12/16/10

ROUTE A22 DESCRIPTION Washington Street

SECT. 08-00121-08-WR STRUCT. NO. DRILLED BY Groff Testing

COUNTY Lake LOCATION Grayslake, IL S. 22, TWP. 45N, RNG. 10E

Boring No. B-13-10
Station 115+75
Offset 25ft L

D
E
P
T
H

B
L
O
W
S

Qu
tsf

W
%

Surface Water Elev. _____
Groundwater Elev.: _____
when drilling at Completion _____
after _____ Hrs. _____

10" CA-6
787.70

Black and brown clayey sand, with medium to coarse sand, stiff, moist
3 NP 17
4
4

784.50

Brown and gray silty clay, with medium sand, stiff to very stiff
3 1.25 28
4 **
6

2 2.68 21
3 **
5

3 4.17 11
5 **
8

-10

774.50

Gray silt, with clay, medium dense, moist
3 NP 20
5
8

A-4

770.50

Gray silty clay, with medium sand, very stiff
2 20
3
6

Trace gray clay
768.50

Gray silty clay, trace sand, very stiff
CL

3 2.64 17
5 **
8

-25

Trace fine gravel

Trace coarse sand

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

Patrick Engineering, Inc.
STRUCTURE BORING LOG

Page 2 of 2
Date 12/16/10

A22
08-00121-08-WR
Lake

Boring No. B-13-10
Station 115+75
Offset 25ft L

D
E
P
T
H

B
L
O
W
S

Qu
tsf

W
%

Surface Water Elev. _____
Groundwater Elev.: _____
when drilling at Completion _____
after _____ Hrs. _____

738.50 ft

Gray silty clay, stiff, moist
3 3.34 16
6 **
9

728.50

End of Boring at 60.0'

* qu values determined using pocket penetrometer

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

Patrick Engineering, Inc.
STRUCTURE BORING LOG

Page 1 of 2
Date 12/15/10

ROUTE A22 DESCRIPTION Washington Street

SECT. 08-00121-08-WR STRUCT. NO. DRILLED BY Groff Testing

COUNTY Lake LOCATION Grayslake, IL S. 27, TWP. 45N, RNG. 10E

Boring No. B-14-10
Station 116+75
Offset 25ft R

D
E
P
T
H

B
L
O
W
S

Qu
tsf

W
%

Surface Water Elev. _____
Groundwater Elev.: 719.0
when drilling _____
at Completion 721.5
after _____ Hrs.

D
E
P
T
H

B
L
O
W
S

Qu
tsf

W
%

10" CA-6 787.20
Black sandy topsoil, trace
fine gravel, moist 3 15
4
3
784.00 2 1.89 27
4 **
6
Brown silty clay, trace
medium sand, stiff, moist -5
2 28
2
4
4 2.14 11
4 **
7
777.50 -10
Gray silty clay, with
medium sand, trace fine
gravel, stiff, moist 3 1.44 12
3 **
5
775.00 -15
Gray silty, trace sand,
medium dense, moist 4 NP 19
6
10
748.00 -40
Gray silty clay, trace
medium sand, very stiff,
moist
769.00 2 2.06 18
3 **
4
Gray silty clay, trace to
with medium sand, trace
gravel, stiff, moist -20
LL=25
PI=11
A-6
3 1.98 18
3 **
5
-25

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

Patrick Engineering, Inc.
STRUCTURE BORING LOG

Page 2 of 2
Date 12/15/10

A22 A22
08-00121-08-WR 08-00121-08-WR
Lake Lake

Boring No. B-14-10
Station 116+75
Offset 25ft R

D
E
P
T
H

B
L
O
W
S

Qu
tsf

W
%

Surface Water Elev. _____
Groundwater Elev.: 713.00
when drilling _____
at Completion _____
after _____ Hrs.

D
E
P
T
H

B
L
O
W
S

Qu
tsf

W
%

738.00 ft 713.00 ft
End of Boring at 80.0'
* qu values determined
using pocket penetrometer
708.00 -80
Brown fine sand, medium
dense, wet 719.00 9 NP 22
8
17
716.00 -70
Gray silty clay, trace
coarse sand, with medium
sand, very stiff, moist 6 3.01 17
9 **
4
-75

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

Patrick Engineering, Inc.
STRUCTURE BORING LOG

Page 1 of 1
Date 8/18/10

ROUTE A22 DESCRIPTION Washington Street

SECT. 08-00121-08-WR STRUCT. NO. DRILLED BY Groff Testing

COUNTY Lake LOCATION Grayslake, IL S. 27, TWP. 45N, RNG. 10E

Boring No. B-15-10
Station 121+00
Offset 30ft R

D
E
P
T
H

B
L
O
W
S

Qu
tsf

W
%

Surface Water Elev. _____
Groundwater Elev.: _____
when drilling _____
at Completion _____
after _____ Hrs.

D
E
P
T
H

B
L
O
W
S

Qu
tsf

W
%

6" gravel 782.00
Very stiff brown sandy
clay, with topsoil and
gravel 2 3.0 27
2 *
3
2 1.25 22
2 *
3
777.00 -5
Stiff gray silty clay, high
plasticity 2 1.25 18
2 *
3
LL=56
PI=39
Very stiff brown and gray
silty clay 2 2.5 19
2 *
2
-10
2 3.5 17
3 *
4
769.50 -15
Very stiff gray silty clay,
trace coarse gravel 4 3.75 13
4 *
6
765.50 -20
Hard gray silty clay, trace
coarse gravel 7 4.25 18
7 *
8
762.50 -25
End of Boring at 20.0'
* qu values determined
using pocket penetrometer
-28

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

Patrick Engineering, Inc.
STRUCTURE BORING LOG

Page 1 of 2
Date 11/7/11

ROUTE A22 DESCRIPTION Washington Street Phase II 21150.004

SECT. 08-00121-08-WR STRUCT. NO. DRILLED BY Groff Testing

COUNTY Lake LOCATION Grayslake, IL S. 22, TWP. 45N, RNG. 10E

Boring No. B-21-11	D	B			Surface Water Elev.	D	B		
Station 116+50	E	L			Groundwater Elev.: 704.5	E	L		
Offset 30ft L	P	O			when drilling	P	O		
	T	W	Qu	W	at Completion	T	W	Qu	W
	H	S	tsf	%	after Hrs.	H	S	tsf	%

Stiff black topsoil

785.50

3 NP 31

4

5

Medium stiff brown and gray silty clay, some medium sand, moist

781.50

2 2.0* 14

2

3

Brown and gray silt, wet

780.50

3 1.0* 17

4

6

Stiff brown and gray silty clay, moist

779.00

4 2.0* 22

5

8

Very stiff gray silty clay, trace sand, moist

778.00

4 3.5* 19

5

6

Medium dense gray silt, wet A-4

773.90

2 3.1 15

4

5

Very stiff gray silty clay, trace medium sand, moist

746.70

3 4.88 18

5

7

Hard gray silty clay, some medium sand, moist

766.00

2 1.65 18

3

3

Very stiff gray silty clay, trace medium sand, moist

742.00

3 2.15 19

4

5

Very stiff gray silty clay, moist A-6

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test Stations, Depths, Offset, and Elevations are in Feet

Patrick Engineering, Inc.
STRUCTURE BORING LOG

Page 2 of 2
Date 11/7/11

A22 08-00121-08-WR Lake

A22 08-00121-08-WR Lake

Boring No. B-21-11	D	B				D	B		
Station 116+50	E	L				E	L		
Offset 30ft L	P	O				P	O		
	T	W	Qu	W		T	W	Qu	W
	H	S	tsf	%		H	S	tsf	%

738.50

713.50

708.50

726.00

708.50

726.00

688.50

Very stiff gray silty clay, trace medium to coarse sand, moist

Very stiff to hard gray silty clay, trace medium sand, moist

*qu values determined using pocket penetrometer

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test Stations, Depths, Offset, and Elevations are in Feet

Patrick Engineering, Inc.
STRUCTURE BORING LOG

Page 1 of 1
Date 11/10/11

ROUTE A22 DESCRIPTION Washington Street Phase II 21150.004

SECT. 08-00121-08-WR STRUCT. NO. DRILLED BY Groff Testing

COUNTY Lake LOCATION Grayslake, IL S. 27, TWP. 45N, RNG. 10E

Boring No. B-22-11	D	B			Surface Water Elev.	D	B		
Station 118+25	E	L			Groundwater Elev.: 763.5	E	L		
Offset 20ft R	P	O			when drilling	P	O		
	T	W	Qu	W	at Completion	T	W	Qu	W
	H	S	tsf	%	after Hrs.	H	S	tsf	%

10" CA-6 base course

786.20

3 NP 11

5

5

Stiff black topsoil

782.50

3 2.0* 31

3

4

Stiff brown silty clay, with organics, moist

780.50

3 4.75 17

4

5

Hard brown and gray silty clay, moist

775.00

5 5.45 16

7

9

Stiff gray silty clay, moist

773.00

5 3.14 14

5

6

Medium dense brown sand

772.20

5 NP 17

7

8

Medium dense gray silt, moist A-4

768.00

3 NP 13

7

8

Medium dense brown medium to coarse sand, moist

765.20

1 2.07 18

2

3

Very stiff gray silty clay, some medium sand, moist A-6

End of Boring at 40.0'

*qu values determined using pocket penetrometer

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test Stations, Depths, Offset, and Elevations are in Feet

PATRICK ENGINEERING

PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, IL 60532
patrickengineering.com

USER NAME = tkoeppen@dwg.Lisla
PLOT CONFIG = PDF(Gray.Small).plt
PLOT SCALE = 1:16
PLOT DATE = 7/3/2014

DESIGNED - DE
DRAWN - MDB
CHECKED - SMC/EJB
DATE - MDB

REVISED
REVISED
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
BORING LOGS 4
SHEET NO. STR 17 OF 29 SHEETS

F.A.U. RTE.
187

SECTION
11-00121-11-BR

COUNTY
LAKE

TOTAL SHEETS
496

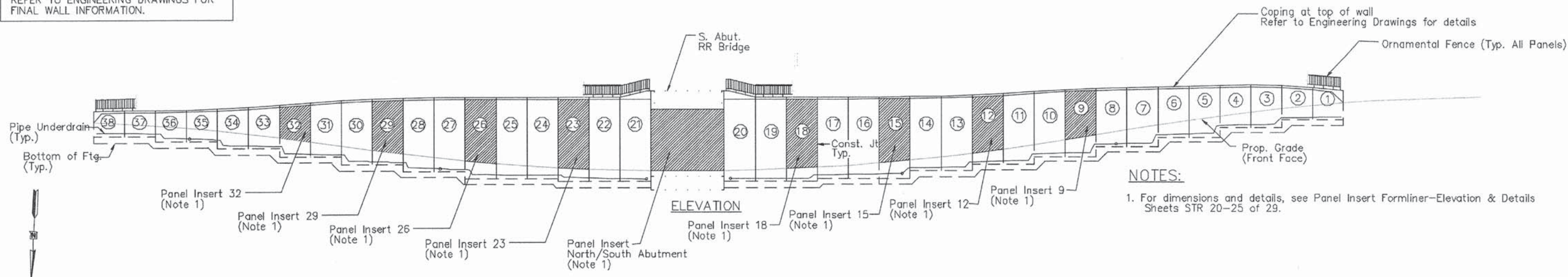
SHEET NO.
216

CONTRACT NO. 61A63

ILLINOIS FED. AID PROJECT

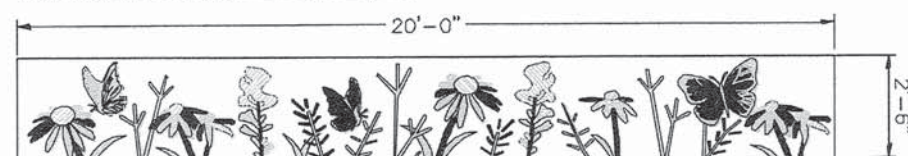
G:\LCOOT\21150.004\Drawings\STRUCT\Wall\Log4.dgn

STATIONS, ELEVATIONS AND DIMENSIONS PROVIDED FOR GENERAL COORDINATION. REFER TO ENGINEERING DRAWINGS FOR FINAL WALL INFORMATION.

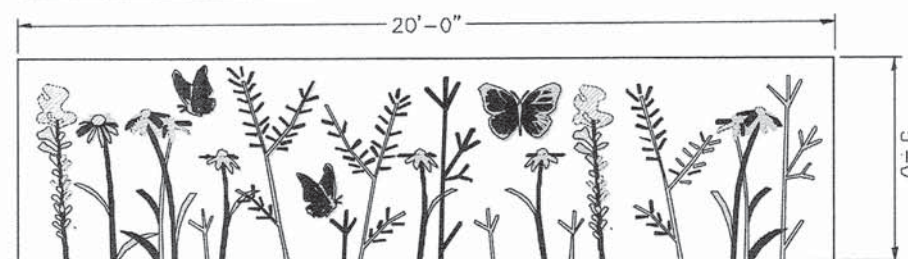


NOTES:
1. For dimensions and details, see Panel Insert Formliner-Elevation & Details Sheets STR 20-25 of 29.

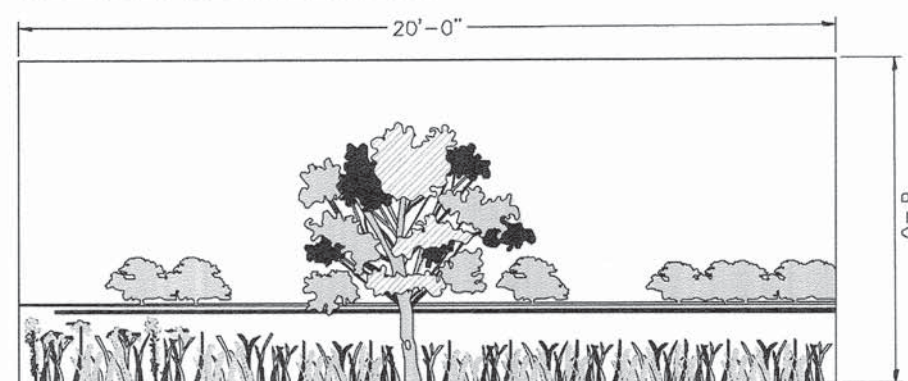
PANEL INSERTS - 32 & 9



PANEL INSERTS - 29 & 12



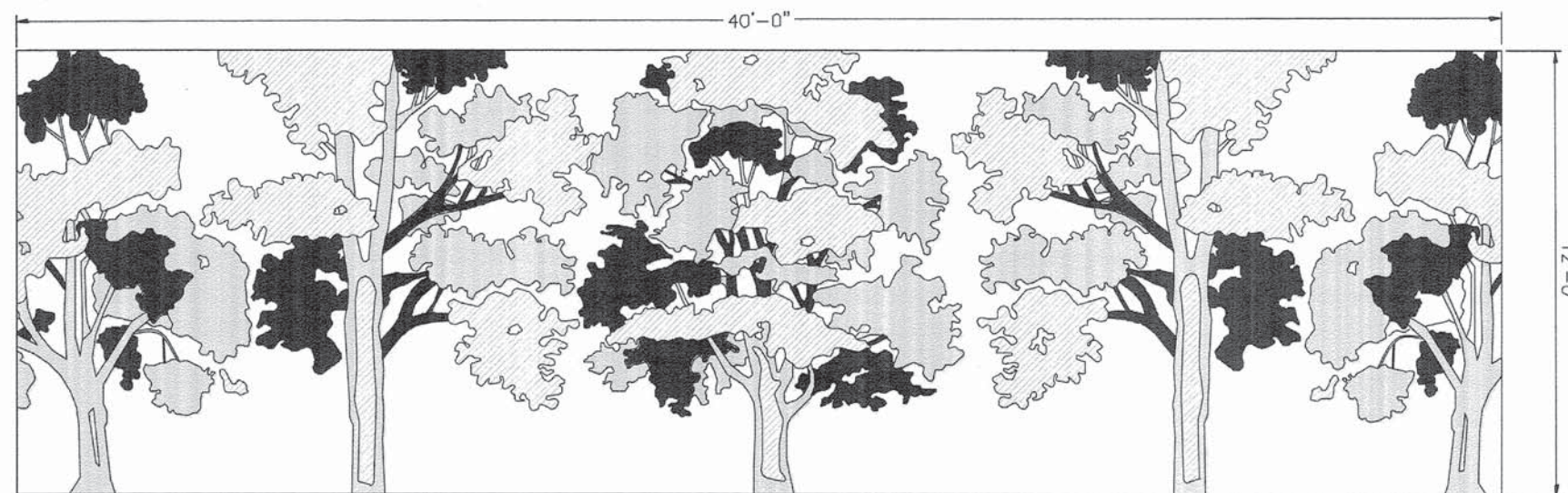
PANEL INSERTS - 26 & 15



PANEL INSERTS - 23 & 18



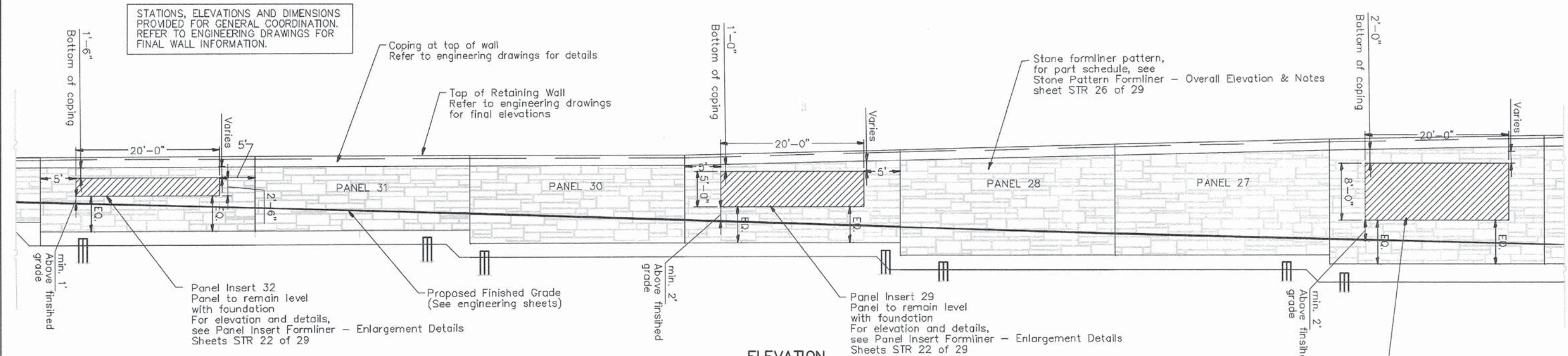
PANEL INSERTS - NORTH & SOUTH ABUTMENTS



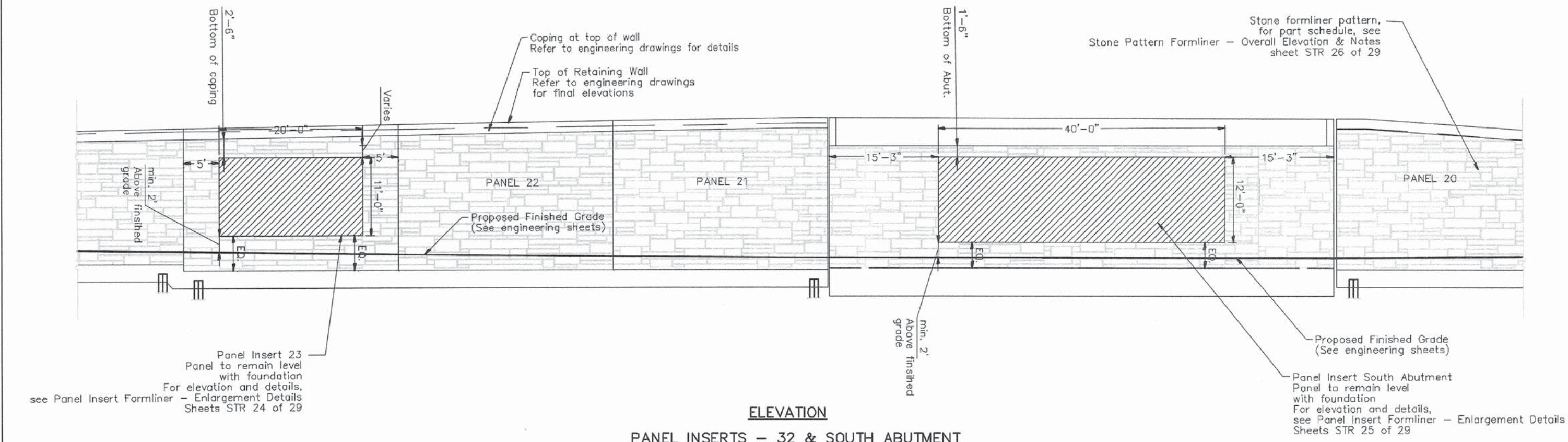
GENERAL NOTES:

- All exposed concrete surfaces to be stained per the project specifications.
- All background surfaces of panel inserts (Layer #3) shall have a matte finish (light stucco or similar). Those areas projecting or inset from this background shall have a smooth finish.
- At least ten days in advance of starting construction of the forms, the contractor shall construct test inserts for approval by the Engineer. These inserts shall have 1/2" and 1" projections, and 1/2" and 1" insets. The surfaces shall be as specified above.
- The approved test patterns will then be the standard of comparison for detail, workmanship, and surface finishes for all other inserts. Each new formliner will require the approval of the Engineer prior to inclusion in the project.
- Flexible molds, if used to form artwork, will become the property of LCDOT after completion of the work.
- MicroStation/AutoCad design files of the panel inserts will be provided to the contractor at their request. Additional form work details are also available at the request of the contractor.
- Although the total depth available for the image may be two inches, the image surfaces may have several levels to achieve the desired grass, wildflower and tree pattern.
- Actual width and shape of grass blades and flowers may be modified to produce a formliner that will achieve the design concept shown here.
- The contractor shall provide digital images of progress on the final, full-sized Panel Inserts every 48 hours once the large scale installation begins.

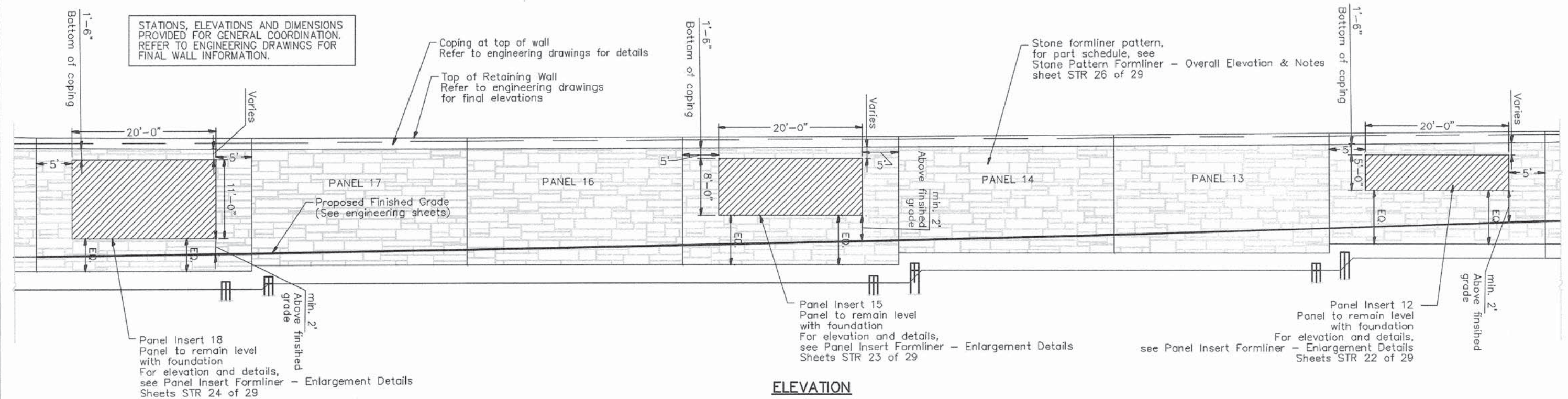
ELEVATIONS OF PANEL INSERTS



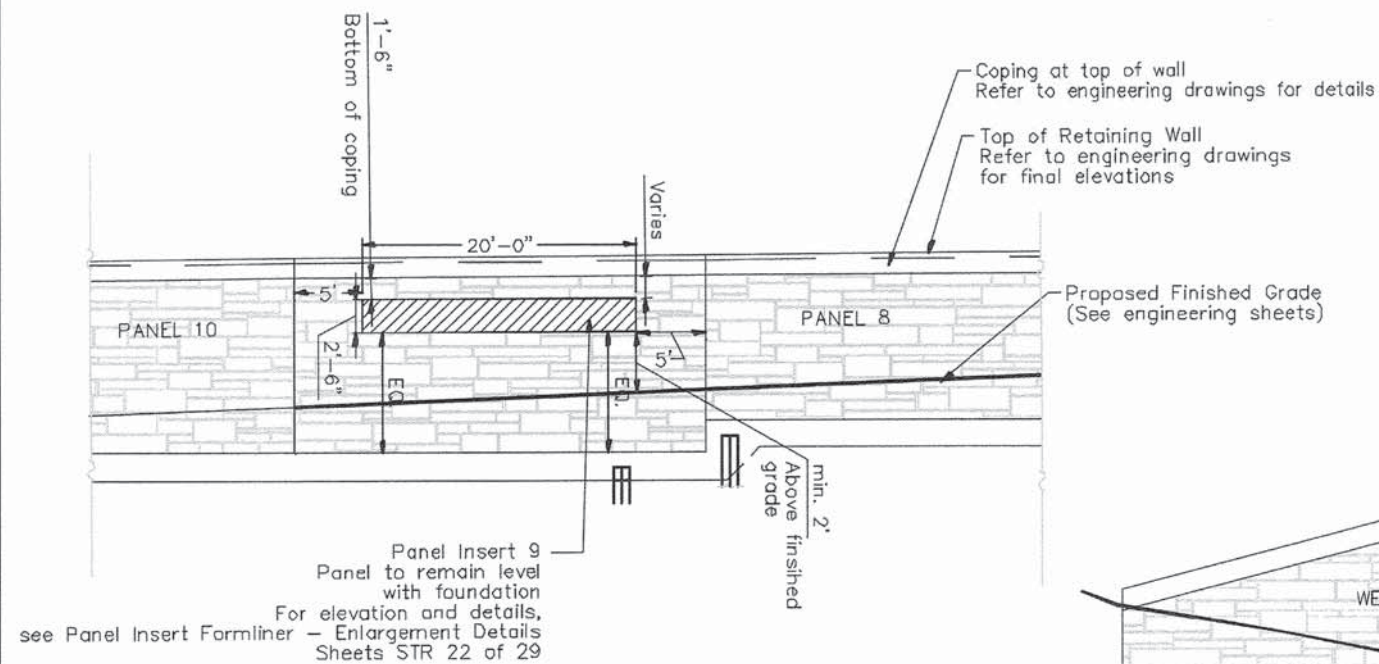
ELEVATION
PANEL INSERTS - 32 & 29 & 26



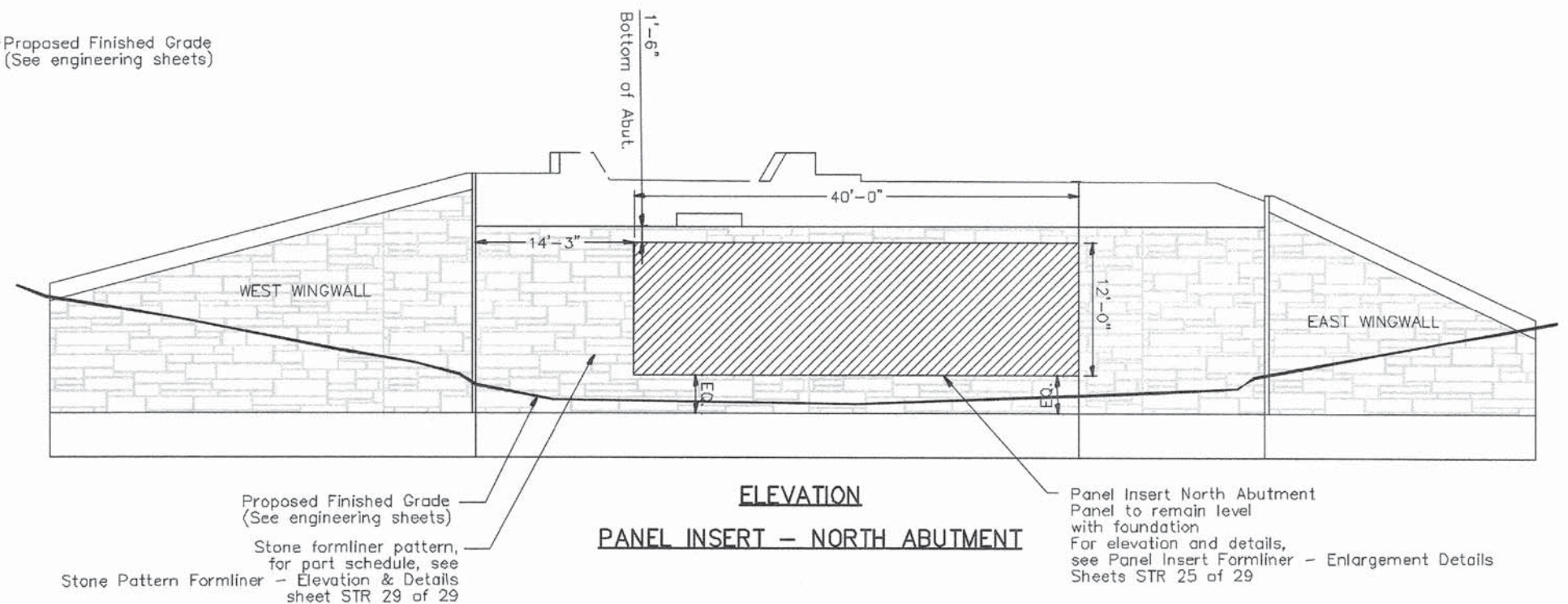
ELEVATION
PANEL INSERTS - 32 & SOUTH ABUTMENT



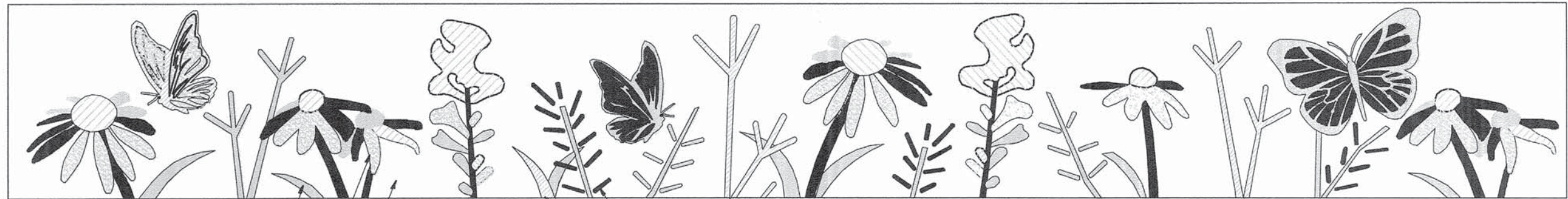
ELEVATION
PANEL INSERTS - 18 & 15 & 12



ELEVATION
PANEL INSERT - 9



ELEVATION
PANEL INSERT - NORTH ABUTMENT



All areas highlighted in light grey tones represent Layer #5 (1" inset)

All areas highlighted in light grey stipple represent Layer #2 (1 1/2" projection)

Layer #3 Background

All areas highlighted in black tones represent Layer #4 (1 1/2" inset)

All areas highlighted with hatched pattern represent Layer #1 (1" projection)

PANEL INSERT (32 & 9) ELEVATION DETAIL (ENLARGEMENT)

All areas highlighted with hatched pattern represent Layer #1 (1" projection)

All areas highlighted in light grey stipple represent Layer #2 (1 1/2" projection)

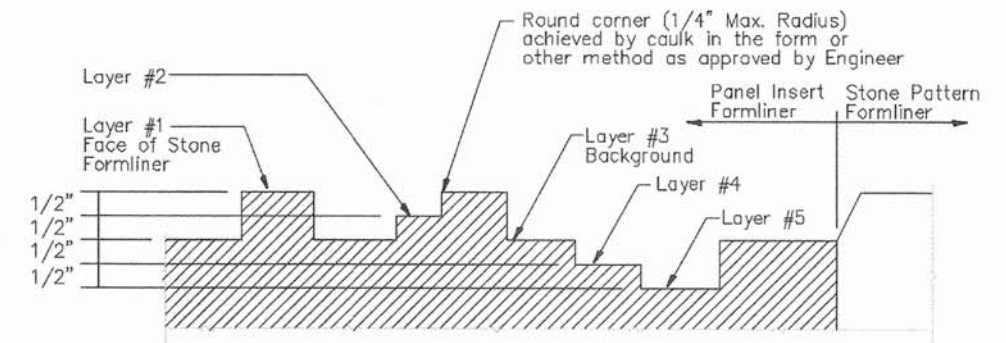
Layer #3 Background



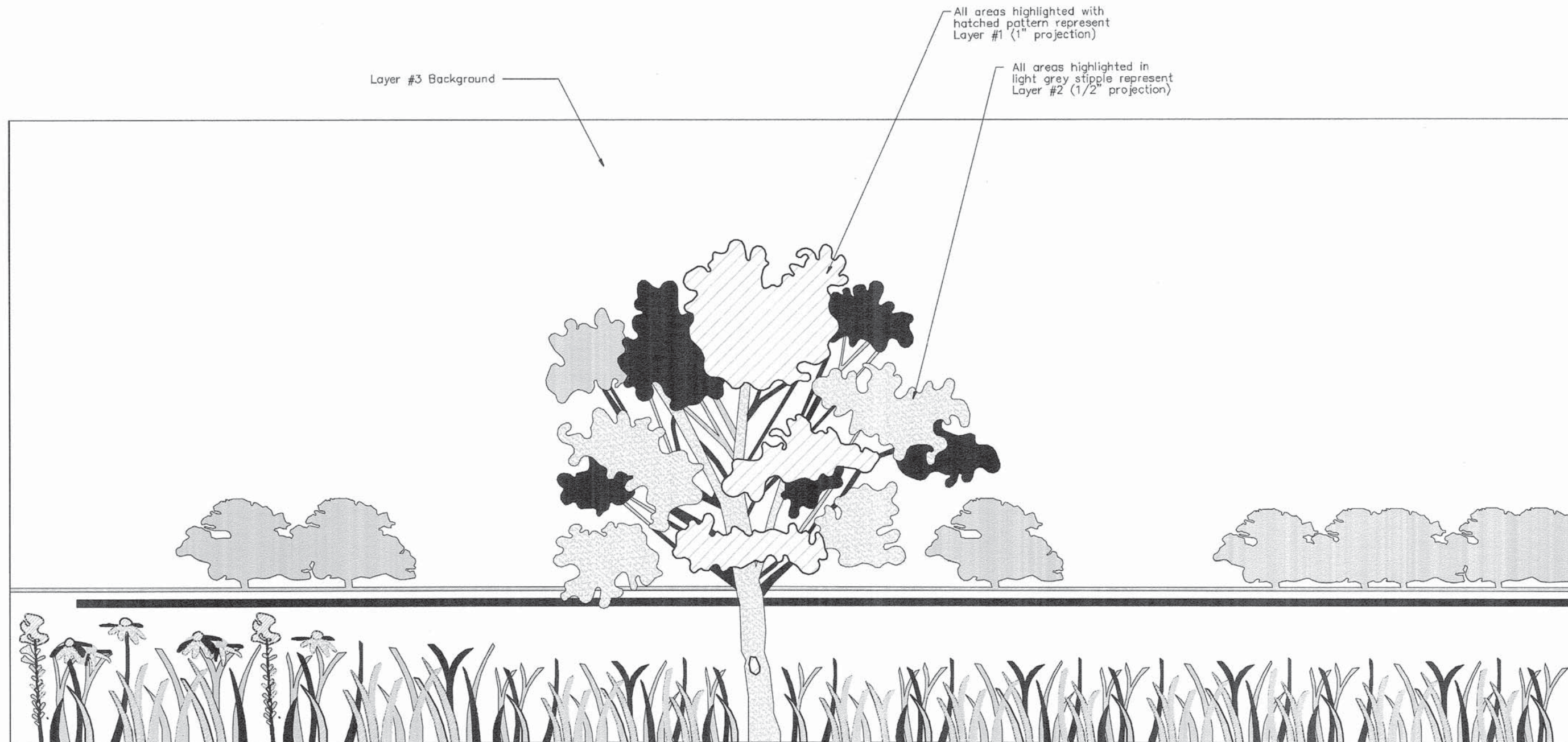
All areas highlighted in light grey tones represent Layer #5 (1" inset)

All areas highlighted in black tones represent Layer #4 (1 1/2" inset)

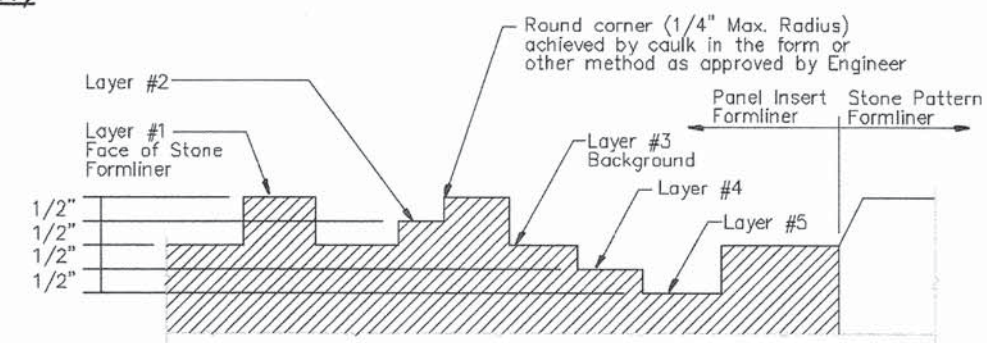
PANEL INSERT (29 & 12) ELEVATION DETAIL (ENLARGEMENT)



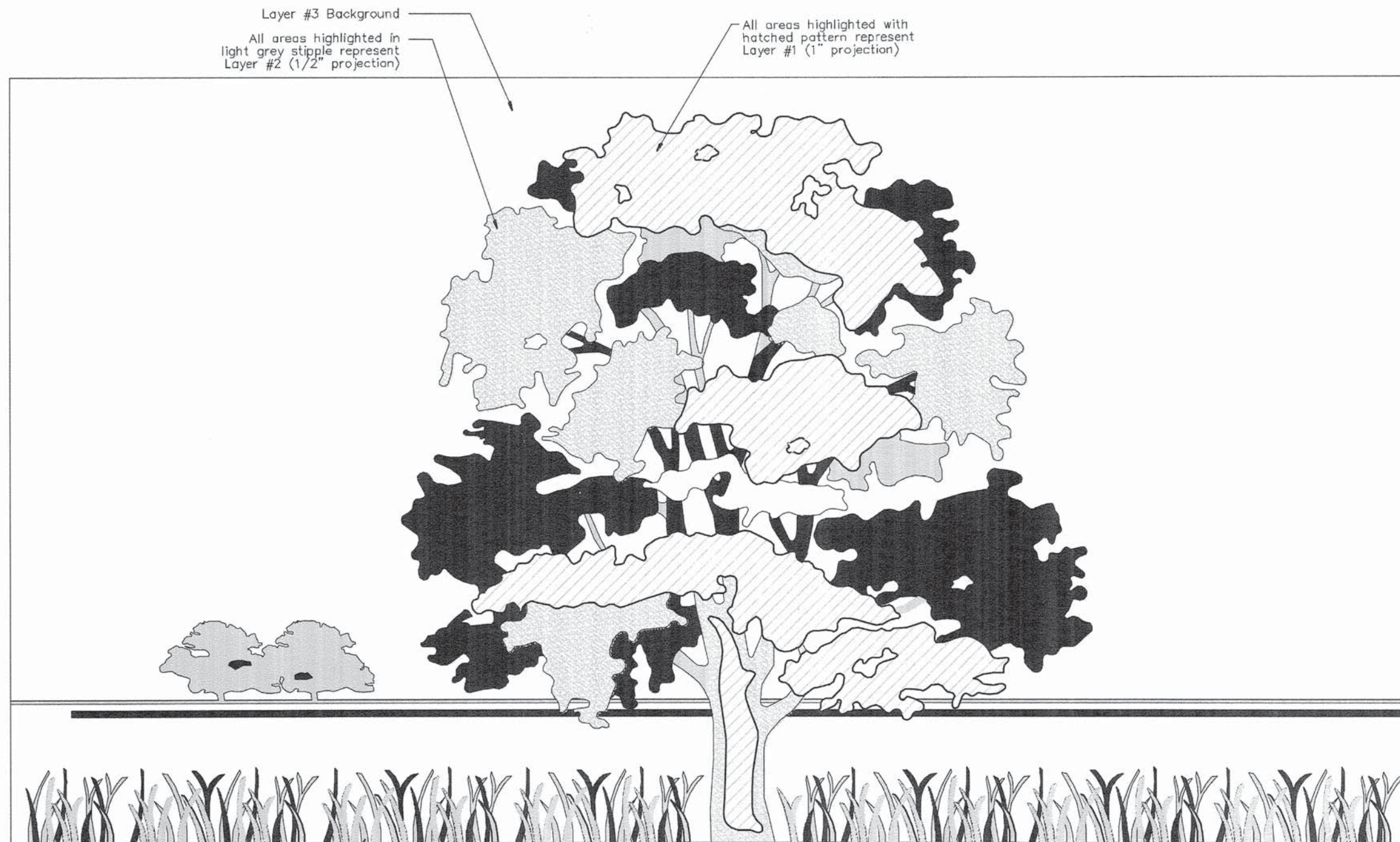
SECTION THROUGH PANEL INSERTS



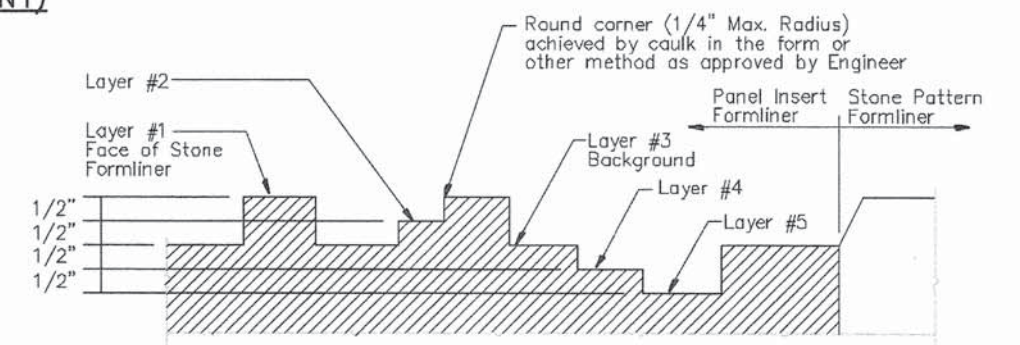
PANEL INSERT (26 & 15) ELEVATION DETAIL (ENLARGEMENT)



SECTION THROUGH PANEL INSERTS

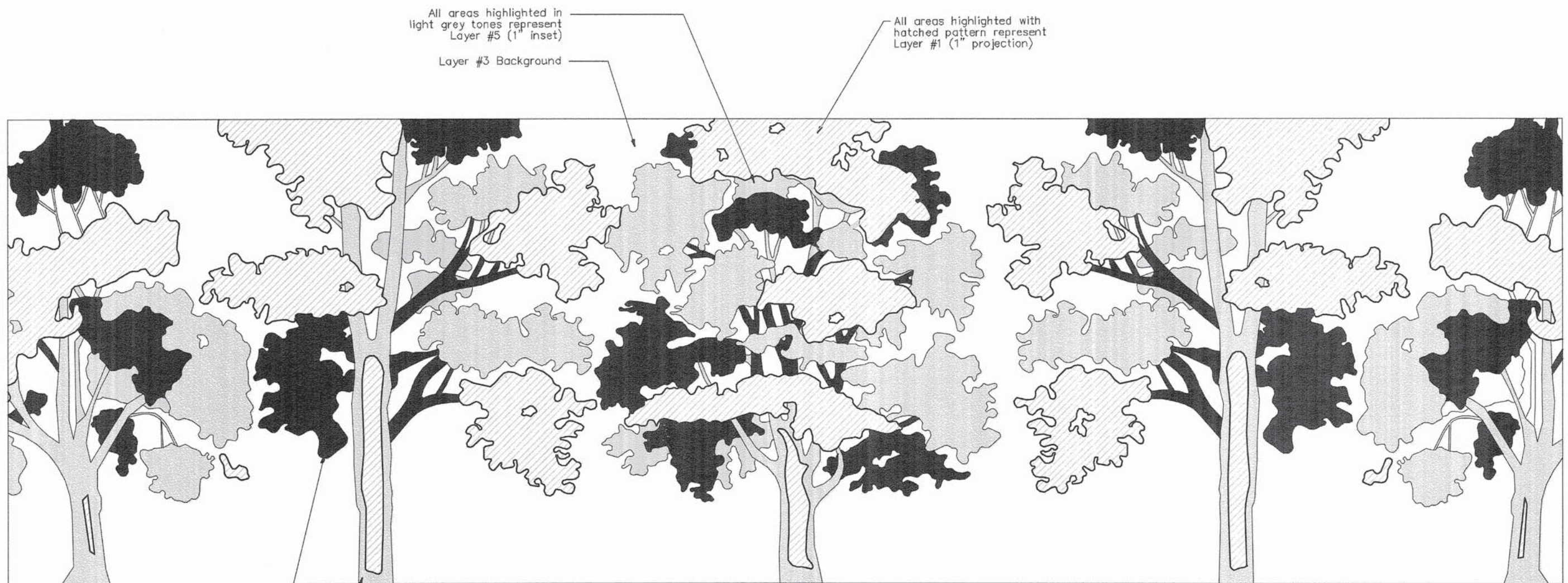


PANEL INSERT (23 & 18) ELEVATION DETAIL (ENLARGEMENT)

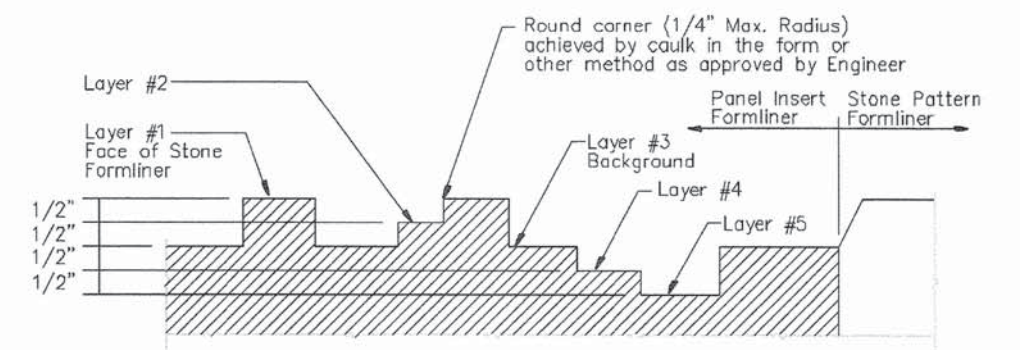


SECTION THROUGH PANEL INSERTS

 Teska Associates 627 Grove Street Evanston, IL 60201 www.TeskaAssociates.com	USER NAME = tkoeppen(Rdwg.Lisla)	DESIGNED - DS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET PANEL INSERT FORMLINER – ENLARGEMENT DETAILS	F.A.U. RTE.			SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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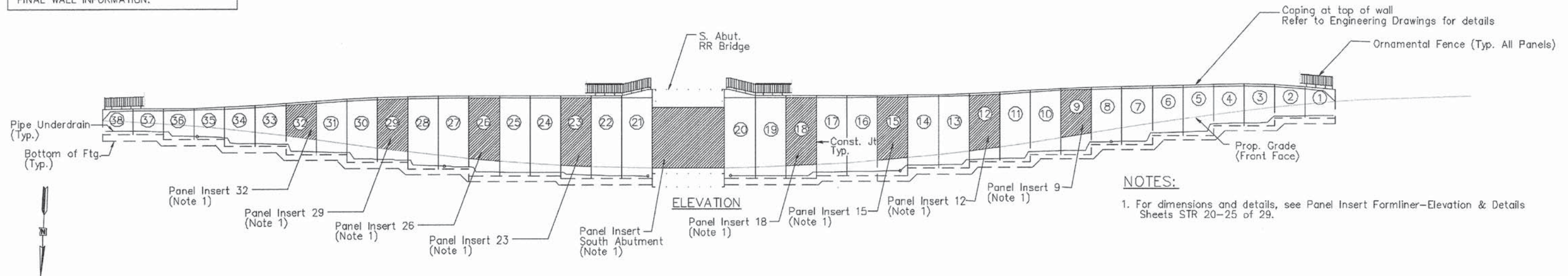


PANEL INSERT (NORTH AND SOUTH ABUTMENT) ELEVATION DETAIL (ENLARGEMENT)



SECTION THROUGH PANEL INSERTS

STATIONS, ELEVATIONS AND DIMENSIONS PROVIDED FOR GENERAL COORDINATION. REFER TO ENGINEERING DRAWINGS FOR FINAL WALL INFORMATION.

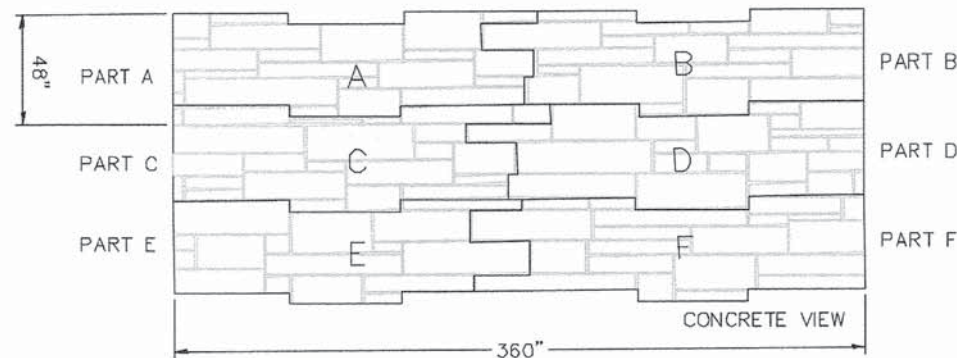


NOTES:

1. For dimensions and details, see Panel Insert Formliner-Elevation & Details Sheets STR 20-25 of 29.

STONE FORMLINER PATTERN

Part Size: 360"W x 48"H
Max Depth: 1.50"
Nominal Grouth: 0.875"
Stone Sizes: 12.6"-70"W
5"-21"H



GENERAL NOTES:

All exposed concrete surfaces to be stained per the project specifications.

North abutment and wing walls to have same stone pattern formliner treatment as South retaining wall.

The Contractor shall provide shop drawings to the Engineer for approval prior to construction activities. Shop drawing shall include plan, elevation, and details showing overall pattern, joint locations, form tie locations, end locations and other special conditions. Submittals shall be in accordance with the specifications provided.

Install in accordance with manufacturer's written instructions as applicable to each type of substrate required. Install in accordance with specified pattern and mortar.

Within thirty (30) days of receiving contract, the Contractor is required to submit samples of the formliner pattern.

The Contractor shall provide a mockup built on site thirty (30) days prior to commencing work, using same materials, methods and work force that will be used for the project. Engineer will determine specific requirements and location, and whether mockup shall be incorporated as part of the final project. Include an area to demonstrate formliner butt joint and, if appropriate continuation of pattern through construction joint.

Prepare, install and finish in accordance with current version of manufacturer's application guideline for the particular type of formliner used.

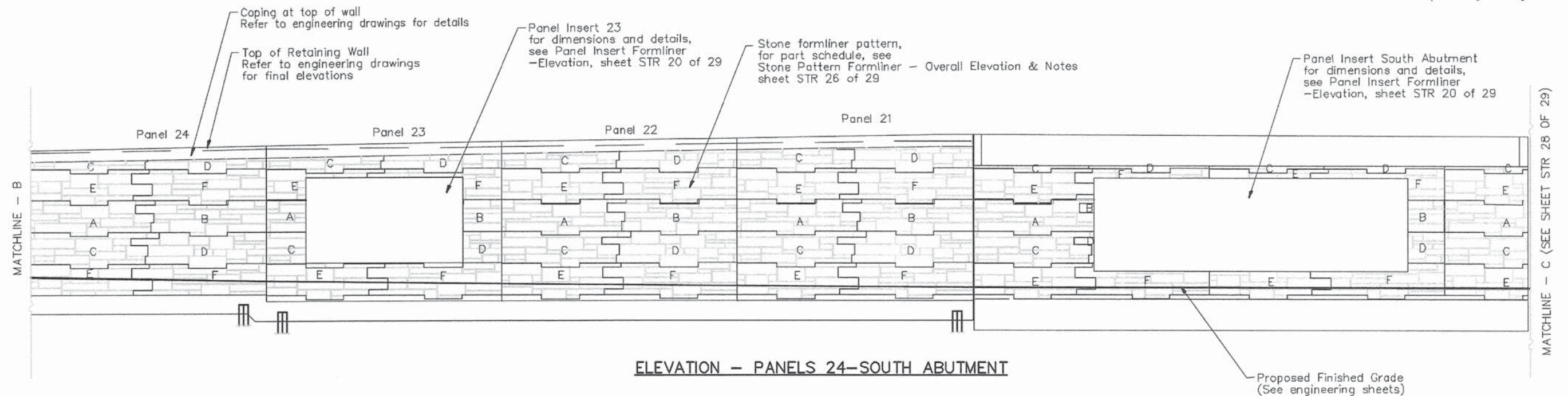
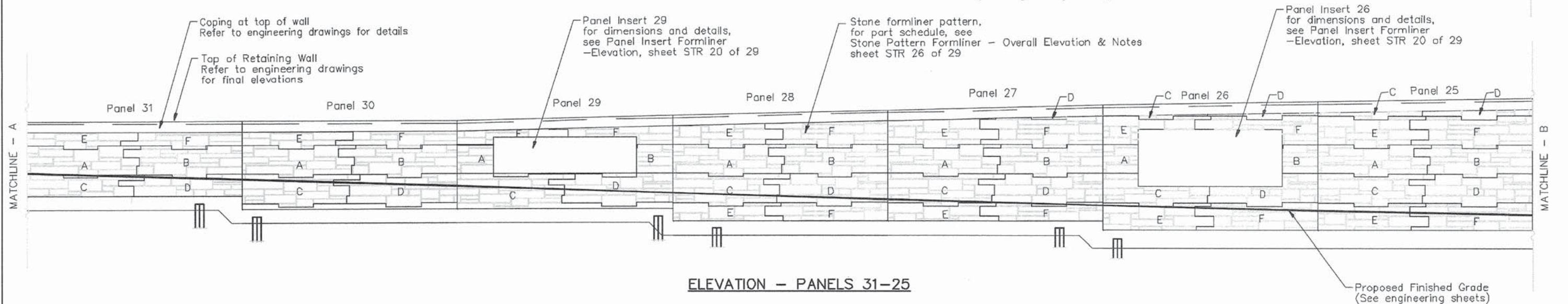
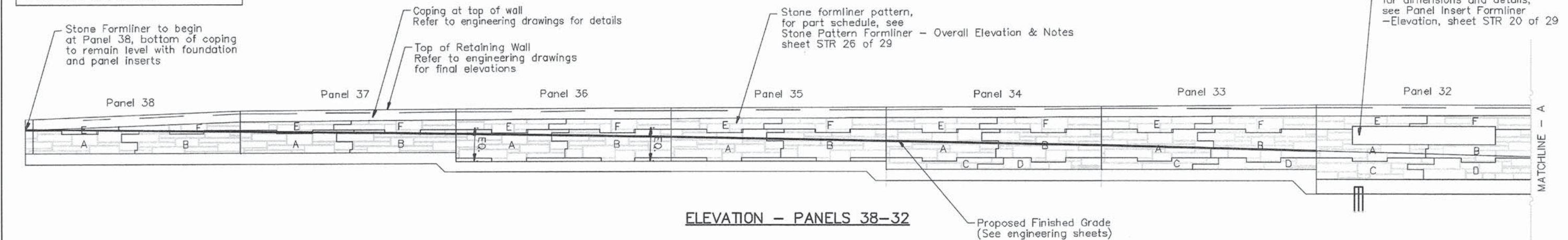
STONE FORMLINER SCHEDULE: SOUTH ELEVATION

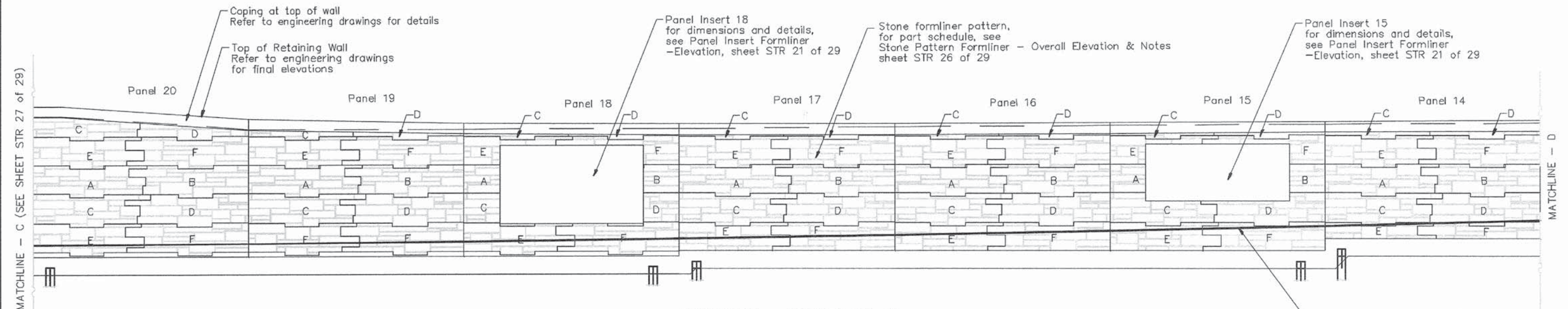
PANELS (note: first part number top of formliner)

- | | |
|---|--|
| ① Part C,D,E,F | ②① Part C,D,E,F,A,B,C,D,E,F |
| ② Part C,D,E,F | ②② Part C,D,E,F,A,B,C,D,E,F |
| ③ Part C,D,E,F | ②③ Part C,D,E,F,A,B,C,D,E,F (PANEL FORMLINER INSERT, SEE SHEET STR 21 OF 25) |
| ④ Part C,D,E,F | ②④ Part C,D,E,F,A,B,C,D,E,F |
| ⑤ Part C,D,E,F,A,B | ②⑤ Part C,D,E,F,A,B,C,D,E,F |
| ⑥ Part C,D,E,F,A,B | ②⑥ Part C,D,E,F,A,B,C,D,E,F (PANEL FORMLINER INSERT, SEE SHEET STR 20 OF 25) |
| ⑦ Part C,D,E,F,A,B | ②⑦ Part D,E,F,A,B,C,D,E,F |
| ⑧ Part C,D,E,F,A,B | ②⑧ Part E,F,A,B,C,D,E,F |
| ⑨ Part C,D,E,F,A,B,C,D (PANEL FORMLINER INSERT, SEE SHEET STR 23 OF 25) | ②⑨ Part E,F,A,B,C,D (PANEL FORMLINER INSERT, SEE SHEET STR 20 OF 25) |
| ⑩ Part C,D,E,F,A,B,C,D | ③① Part E,F,A,B,C,D |
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| ⑫ Part C,D,E,F,A,B,C,D (PANEL FORMLINER INSERT, SEE SHEET STR 22 OF 25) | ③③ Part E,F,A,B,C,D |
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| ⑭ Part C,D,E,F,A,B,C,D,E,F | ③⑤ Part E,F,A,B |
| ⑮ Part C,D,E,F,A,B,C,D,E,F (PANEL FORMLINER INSERT, SEE SHEET STR 22 OF 25) | ③⑥ Part E,F,A,B |
| ⑯ Part C,D,E,F,A,B,C,D,E,F | ③⑦ Part E,F,A,B |
| ⑰ Part C,D,E,F,A,B,C,D,E,F | ③⑧ Part E,F,A,B |
| ⑱ Part C,D,E,F,A,B,C,D,E,F (PANEL FORMLINER INSERT, SEE SHEET STR 22 OF 25) | |
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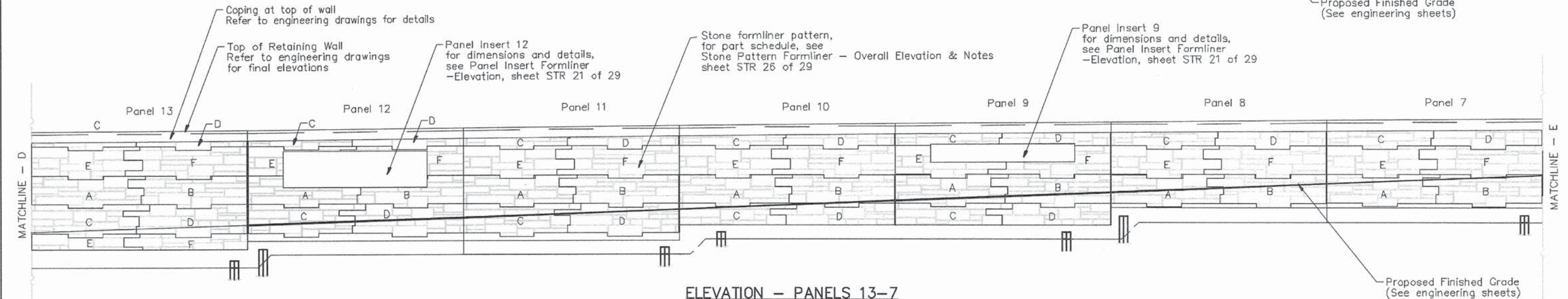
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E,F,E,F,E
A,B,B,A
C,D,D,C
E,F,E,F,E

STATIONS, ELEVATIONS AND DIMENSIONS PROVIDED FOR GENERAL COORDINATION. REFER TO ENGINEERING DRAWINGS FOR FINAL WALL INFORMATION.

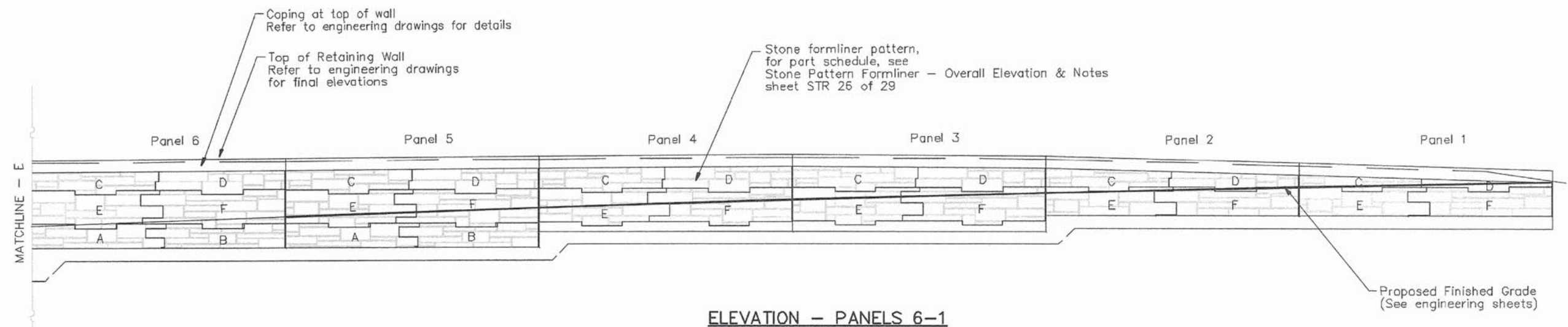




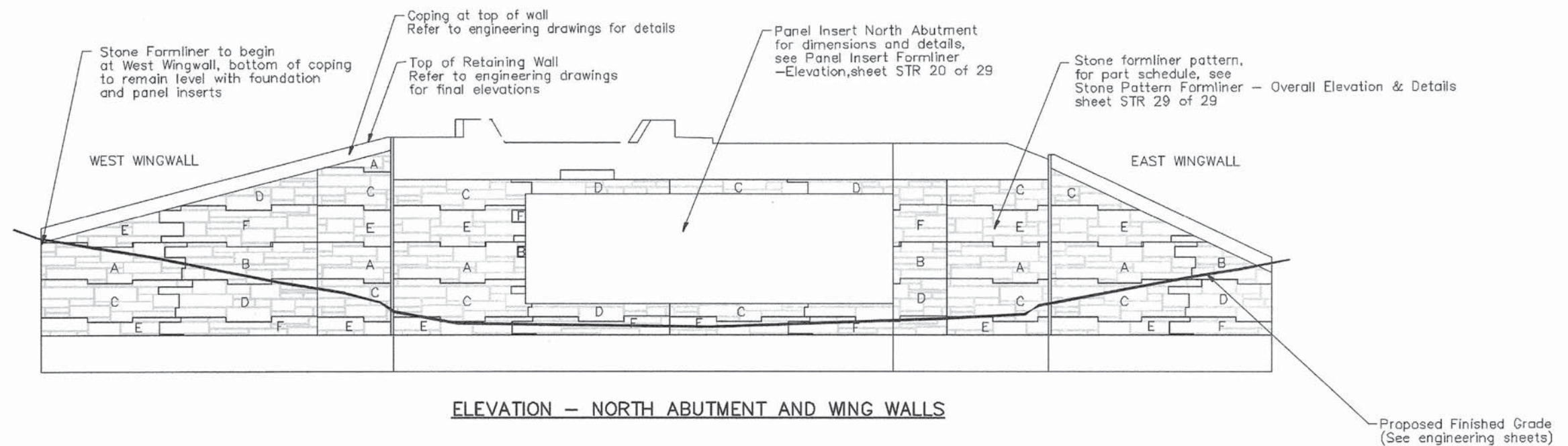
ELEVATION - PANELS 20-14



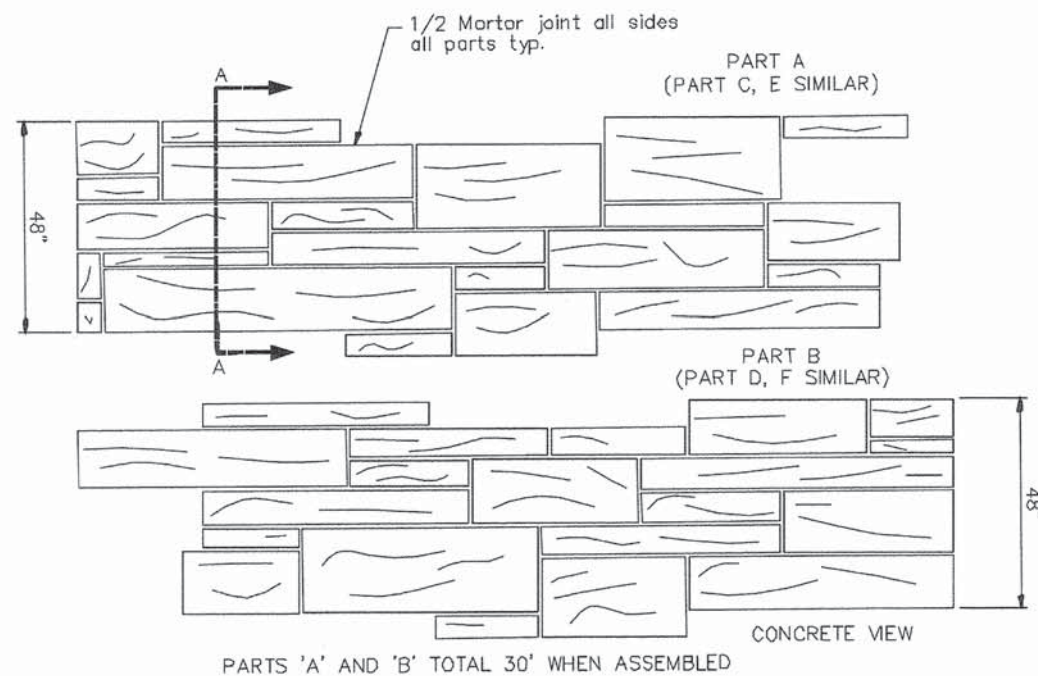
ELEVATION - PANELS 13-7



ELEVATION - PANELS 6-1



ELEVATION — NORTH ABUTMENT AND WING WALLS



STONE FORMLINER ELEVATION

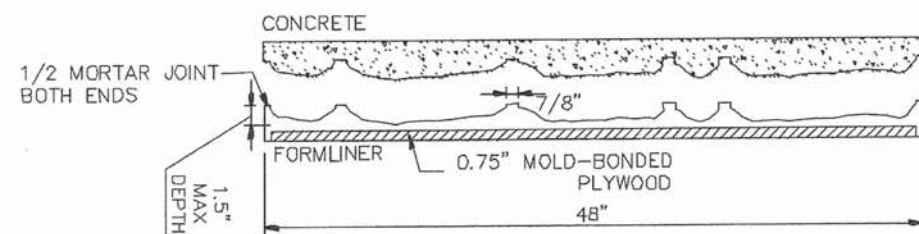
STONE FORMLINER SCHEDULE: NORTH ELEVATION

PANELS (note: first part number top of formliner)

WEST WINGWALL Part E, A, C, E, D, F, B, D, F, A, C, E, A, C, E

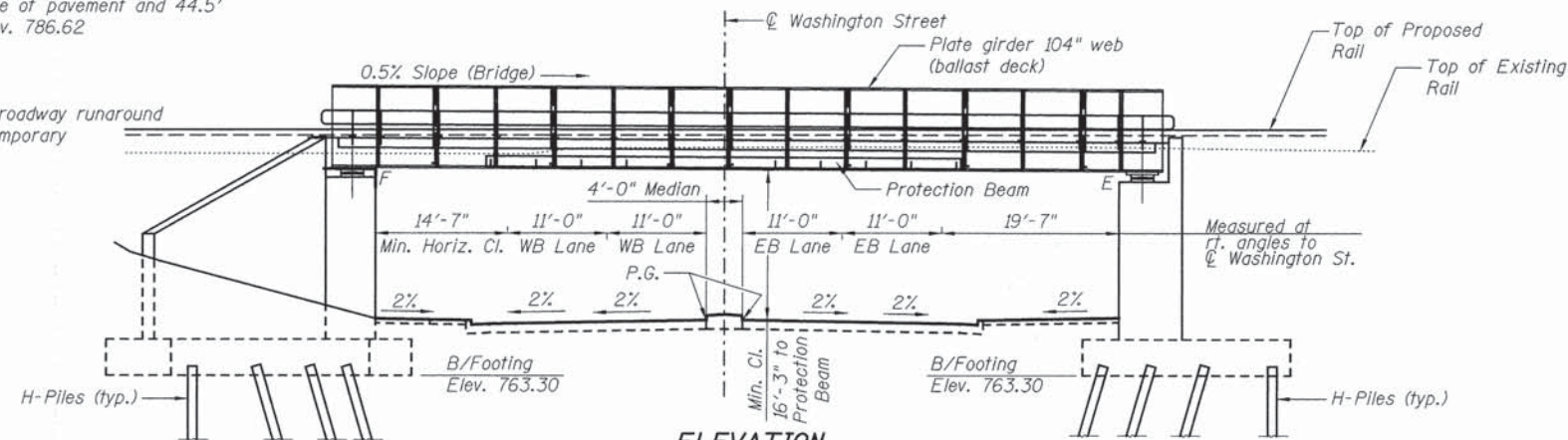
NORTH ABUTMENT Part C, E, A, C, E, D, F, B, D, F, C, C, E, D, F, B, D, F, C, E, A, C, E

EAST WINGWALL Part C, E, A, C, E, B, D, F



SECTION A-A

For utility layout,
see Sheet S-6

ELEVATION

Dimensions at right angles to $\odot$ Washington St.
112'-0 $\frac{3}{4}$ " Back to Back Abutments

LOADING E-90 OR
ALTERNATE LIVE LOAD

Allow for 12" future ballast raise

DESIGN SPECIFICATIONS

2011 AREMA Manual for Railway Engineering
as modified by CN Railway

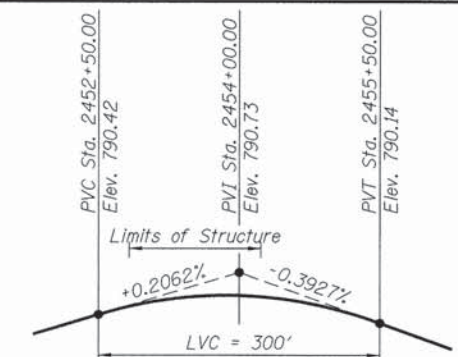
DESIGN STRESSES

FIELD UNITS

$f'_c = 5,000 \text{ psi (28 days)}$
 $f_y = 60,000 \text{ psi (Reinforcement)}$
 $f_s = 27,500 \text{ psi (ASTM A709 Grade 50)}$

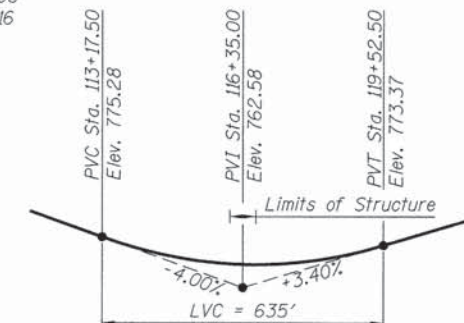
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.096
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.16
Soil Site Class = D

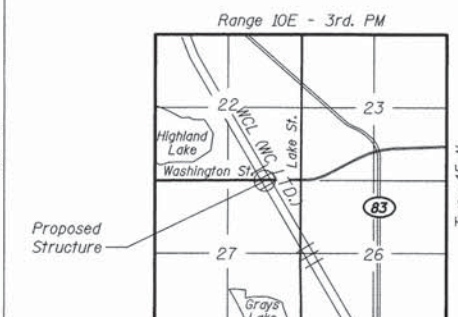


TOP OF RAIL PROFILE

(T/Rail along $\mathbb{C}$ Proposed CN (WC LTD.))

PROFILE GRADE

(Along Washington St.)



LOCATION SKETCH



Sarah L. Czaplinski
SARAH L. CZAPLICKI, S.E. 7/2/2014
NO. 081-006191
EXP. DATE: 11/30/14

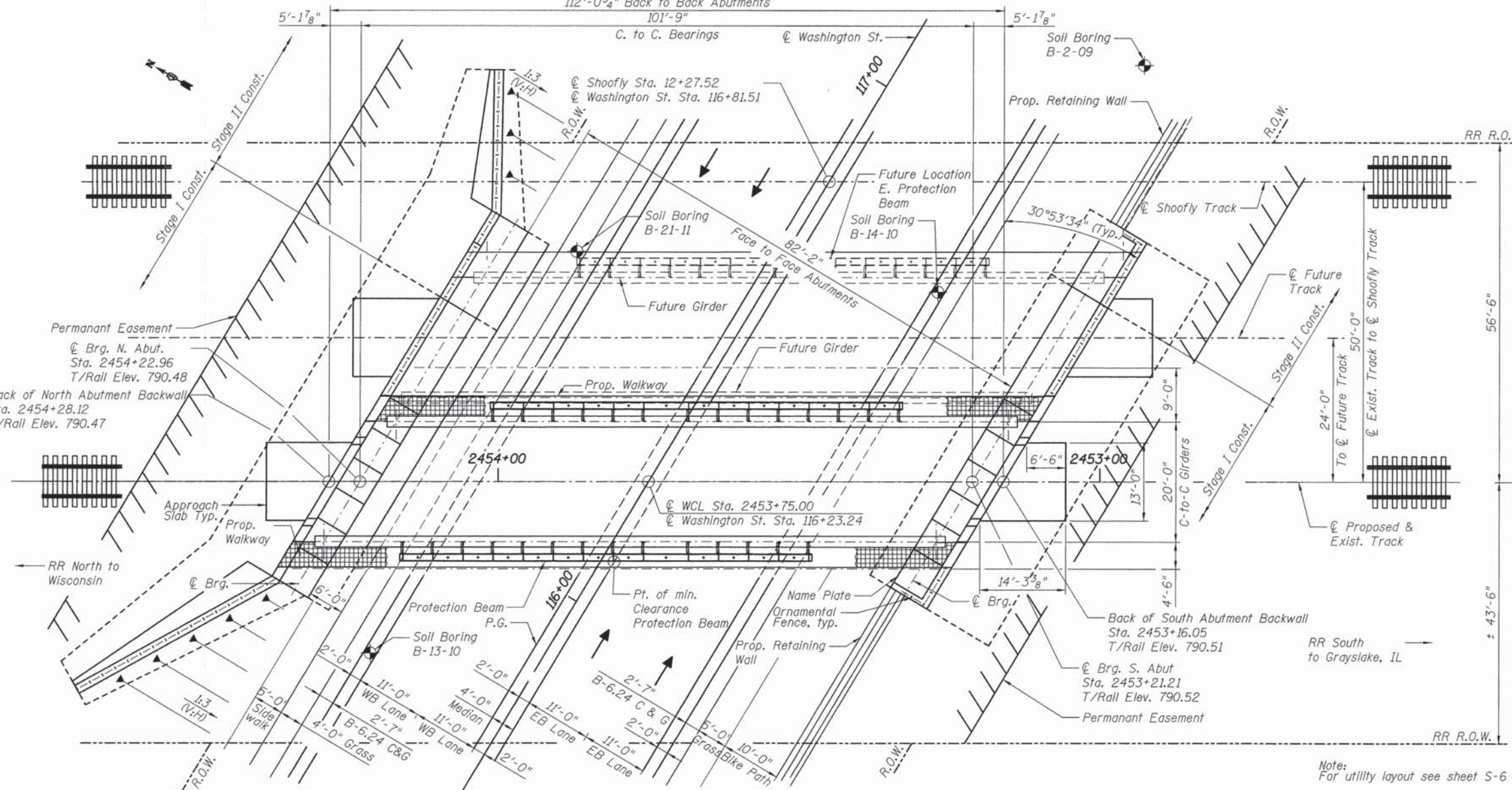
WCL (WC LTD.) OVER WASHINGTON ST.

FAU 187, SECTION 11-00121-11-BR

LAKE COUNTY

STATION 116+23.24

STRUCTURE NO. 049-3006



Note:
For utility layout see sheet S-6

WISCONSIN CENTRAL LTD.
MILEPOST 46.47 WAUKESHA SUBDIVISION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 049-3006

SHEET NO. S 1 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	229
		CONTRACT NO. 61A63		

ILLINOIS		FED. AID PROJECT
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PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, IL 60532
patrickengineering.com

USER NAME = tkoeppen@rdwy.lisle
PLOT CONFIG= PDF(Gray_Large).plt
PLOT SCALE = 1:10
PLOT DATE = 7/3/2014

DESIGNED - RWK	REVISED
CHECKED - SLC	REVISED
DRAWN - LFC	REVISED
CHECKED - SLC	REVISED

	REVISED
	REVISED
	REVISED
	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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INDEX OF SHEETS

S-1	General Plan and Elevation
S-2	Index of Sheets and Total Bill of Material
S-3	General Notes
S-4	Staging Plan I
S-5	Staging Plan II
S-6	Foundation Plan
S-7	South Abutment - Pile Cap Plan
S-8	South Abutment - Top Plan, Elevation, and Sections
S-9	North Abutment - Pile Cap Plan
S-10	North Abutment - Top Plan, Elevation, and Sections
S-11	North Abutment - Wingwall Elevation, Sections and Details
S-12	Abutment Details and Bill of Bars
S-13	Framing Plan and Girder Elevation
S-14	Deck Cross-Section and Table of Stresses
S-15	Girder Details
S-16	Lateral Bracing and Miscellaneous Details
S-17	End Floor Framing
S-18	Floor Plate Plan and Details
S-19	Plan of Walkway and Upper Floor Plate
S-20	Walkway and Handrail Details
S-21	Bearings
S-22	Bar Splicer Assembly and Mechanical Splicer Details
S-23	Structural Boring Log I
S-24	Structural Boring Log II
S-25	Structural Boring Log III
S-26	Structural Boring Log IV
S-27	Structural Boring Log V

TOTAL BILL OF MATERIAL

Item	Unit	Quantity
Form Liner Textured Surface	Sq. Ft.	3285
Furnishing and Erecting Structural Steel	L. Sum	1
Reinforcement Bars, Epoxy Coated	Pound	134,070
Bar Splicers	Each	192
Pipe Handrail	Foot	225
Furnishing Steel Piles HP14x89	Foot	7941
Driving Piles	Foot	7941
Test Pile Steel HP14x89	Each	2
Name Plates	Each	1
Anchor Bolts, 1½"	Each	24
Membrane Waterproofing	Sq. Ft.	1960
Geocomposite Wall Drain	Sq. Yd.	427
Anti-Graffiti Protection System	Sq. Ft.	3450
Braced Excavation	Cu. Yd.	5082
Concrete Structures (Special)	Cu. Yd.	1394.6
Steel Grate Walkway	Sq. Yd.	104
High Load Multi-Rotational Bearings, Guided Expansion, 700k	Each	3
High Load Multi-Rotational Bearings, Fixed - 700 k	Each	1
High Load Multi-Rotational Bearings, Non-Guided Expansion, 100k	Each	2
Granular Backfill for Structures	Cu. Yd.	569
Ornamental Fence	Foot	149
Pipe Underdrains for Structures 6"	Foot	391
Pipe Underdrains for Structures 8"	Foot	501
Staining Concrete Structures	Sq. Ft.	3450
Construction Vibration Monitoring	L. Sum	1

CN (WC LTD.)
BUILT BY
LAKE COUNTY
DIVISION OF TRANSPORTATION
F.A.U. RT 187 SEC. 11-00121-11 - BR
STA. 116+23.24 LOADING E90
STR. NO. 049-3006

NAME PLATE
See Std. 515001

GENERAL NOTES

Specifications

1. Design in accordance with American Railway Engineering and Maintenance of Way Association (AREMA) Manual for Railway Engineering 2011 edition as modified by WCL Guidelines for Design of Railway Structures, January 2006 revision. Steel and bearing design in accordance with AREMA Chapter 15, Steel Structures. Concrete and foundation design in accordance with AREMA Chapter 8, Concrete Structures and Foundations.
2. Workmanship and Materials shall be in accordance with the Standard Specifications for Road and Bridge Construction (Standard Specifications), Illinois Department of Transportation (IDOT) adopted January 1, 2012, and the Supplemental Specifications and Recurring Special Provisions adopted January 1, 2014 except that Steel Fabrication shall also be in accordance with the requirements of Canadian National Railway's Specification HC05121 Structural Steel Fabrication for Railway Bridges.
3. All fabricators performing work on metal components of structures shall be certified under the appropriate category of the AISC Quality Certification Program as indicated by Article 106.08 of the IDOT Standard Specifications for Road and Bridge Construction.
4. The Contractor is responsible for contacting JULIE, the railroad and utilites to verify locations of all utilities and railroad signals prior to starting work.

Materials

1. All structural steel shall be ASTM A709, Grade 50 unless otherwise noted.
2. The webs and tension flanges of the through plate girders and the End floorbeam are designated "Fracture Critical Members" (FCM) and shall conform to the requirements of the fracture control plan for fracture critical members in AREMA Chapter 15 for Zone 3. Members/components designated as Fracture Critical Members are indicated (FCM) on the plans.
3. Main load carrying members/components subject to tensile stress other than Fracture Critical Members shall conform to the supplemental requirements for Notch Toughness for Zone 3. Members/components requiring the additional Notch Toughness Requirements are designated as (NTR) on the plans.
4. Floorbeams shall not be cambered. They shall be fabricated with natural camber up. Plate Girders shall be cambered for dead load (including future ballast) as shown on the plans.
5. Estimated weight of structural steel:
Structural Steel (ASTM A709, Grade 50) 359,360 lbs.
Corrosion Resistant Structural Steel (C.R.) (ASTM A709, Grade 50W) 98,410 lbs.
6. The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat shall be CN Green No. 14.
7. All steel walkway grating shall be hot dipped galvanized in accordance with ASTM A123 and shall have a minimum mass of zinc coating of 2 oz/ft².

Bolted Connections

1. Fasteners for bolted connections shall be ASTM A325 Type 3 High Strength Bolts, 7/8" ϕ in 1 5/16" ϕ holes unless otherwise noted. All holes shall be drilled full size. The use of ASTM A490 bolts is not permitted.
2. Countersunk bolts for fastening deck plates shall be ASTM A449 Type 1 bolts.
3. High strength bolts shall be installed using the "Turn of the Nut" method.
4. Anchor Bolts shall be galvanized low alloy structural steel conforming to the requirements of ASTM F1554 Grade 105.

Welding

1. Welding electrodes, flux, procedures, welder qualification, inspection and testing shall be in accordance with Article 505.04 (a) of the Standard Specifications and Section 3.3, Welded Construction of AREMA Chapter 15. Welding electrodes are to be E70XX.
2. All welding must be done with shielded metal-arc, or submerged arc processes. All flange-to-web "T-Joint" welds and shop welded splices in flanges or webs shall be by approved continuous automatic feed and travel submerged arc weld.
3. Electro-slag, electro-gas, and gas metal-arc processes will not be permitted.

4. Preheating is required prior to flame cutting or welding:
Material thickness Temperature
>1 1/2 in to 2 3/8 in 150 deg F
>2 3/8 in 225 deg F
5. Welding procedures shall be submitted for the Engineer's and Railroad's review and approval before commencing any fabrication work.
6. Welding procedures shall be prepared in accordance with applicable requirements of Section 5 of the current Bridge Welding Code AWS D1.5 and AREMA Manual except as modified herein.
7. Welding procedures shall indicate the following information (applies to each type of weld, pre-qualified or other):
a. joint preparation
b. fit-up
c. electrode specification and diameter
d. welding position
e. flux, polarity and amperage
f. number of passes
g. preheat interpass temperatures
h. sequence of welding, any procedure changes from one pass to the next in the same weld
i. maximum thickness in weldment layer
8. Welding procedures for joining FCMs which are not pre-qualified shall be qualified by test as outlined in Section 12 of the current AWS D1.5.
9. No field welding is permitted except as specified in the contract documents unless authorized in writing by the Engineer and the Railroad.

Foundation Piles

1. Piles shall be Steel HP 14 x 89, ASTM A572 Grade 50.
2. The Contractor shall drive two test piles, one at each abutment, in permanent locations as shown on the plans or as directed by the Engineer. The remaining piles shall not be ordered until completion of the test piles and approval of the Engineer.

Concrete

1. Minimum 28 days concrete strength shall be 5,000 psi. The Contractor shall submit the proposed mix design to the Engineer for approval.
2. The cement used in the concrete shall be low alkali cement. The Contractor shall obtain and furnish to the Engineer and the Railroad a statement signed by an officer or chemist of the cement manufacturer, certifying that the cement furnished does not exceed 0.6 percent alkali equivalent, as measured by the percent of sodium oxide plus 0.658 times the percent of potassium oxide.
3. Blast furnace slag coarse aggregate and fly ash will not be allowed.
4. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60.
5. Reinforcement bars designated (E) shall be epoxy coated in accordance with ASTM A775.
6. Welding of reinforcement bars is not allowed.
7. Chutes, pipelines or baffles made of aluminum or aluminum alloy components shall not be used.
8. Concrete shall be protected from freezing, abnormally high temperatures, premature drying and moisture loss.
9. All concrete surfaces shall be moist cured for a minimum of 7 consecutive days at a minimum of 50 deg. F or for the time necessary to attain 70% of the specified 28 day compressive strength.
10. Use of curing compounds will not be permitted unless approved by the Engineer and the Railroad.
11. Field Testing: A minimum of four (4) cylinders shall be made for each 50 cubic yards or portion thereof for each class of concrete per day. Air content shall be checked at least twice for each 50 cubic yards or portion thereof for each class of concrete each day. A minimum of 2 determinations for slump shall be made for each 50 cubic yards or portion thereof for each class of concrete per day.

12. Unless otherwise shown on the drawings minimum concrete cover for reinforcement bars shall be as follows:		
Exposure Condition	Min. Cover	
Concrete cast against and permanently exposed to earth	3 in.	
Concrete not submerged or exposed to earth or de-icing chemicals:		
Principal reinforcing bars	2 in.	
Stirrups elsewhere, ties and spirals	2 in.	
Concrete submerged or exposed to earth in non-aggressive environments:		
Principal reinforcing bars	2 in.	
Stirrups elsewhere, ties and spirals	2 in.	
Concrete subjected to de-icing chemicals or other aggressive environments: or exposed to earth in non-aggressive environments:		
Principal reinforcing bars	2 1/2 in	
Stirrups elsewhere, ties and spirals	2 1/2 in	
Soffit of slabs over roadways		
Principal reinforcing bars	2 in.	

13. Reinforcement bar bending dimensions are out-to-out.
14. Reinforcement bar bending details shall be in accordance with the "Manual of Standard Practice for Detailing Reinforced Concrete Structures", ACI 315, most current edition.
15. Special care shall be provided in pouring concrete to proper elevations and in placing reinforcement in the bearing seat areas so as to avoid interference with the drilling of anchor bolt holes for bearings.
16. All exposed edges of concrete shall be chamfered 3/4 inch unless otherwise shown.
17. Concrete Sealer shall be applied to the exposed surfaces of the abutments and wingwalls.
18. The back of the abutments and wingwalls above top of footings shall be dampproofed to within 1'-0" of the finished ground surface in accordance with the Standard Specifications.

Existing Utilities

1. The existing utilities shown are not guaranteed to be accurate or all inclusive. The Contractor is responsible for verifying location and depth of existing utilities before starting work.

Survey Reference

1. Survey coordinates indicated on drawings are referenced to the State Plane Coordinate System NAD 83(2007) Illinois East Zone. Elevations are referenced to Vertical Datum NGVD29.

Design Criteria

Dead Load

Weight of track and structure including walkways with provisions for 12 in. of additional ballast (28 in. total ballast depth).

Live Load

Cooper E-90 or AREMA Alternate Live Load (Figure 15-1-3) whichever produces the greatest live load stress in the member

Impact

Percentage of live load for rolling equipment without hammer blow per AREMA Chapter 15 Section 1.3.5

Seismic Data

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.096
Design Spectral Acceleration at 0.2 sec. (SDs) = 0.16
Soil Site Class = D

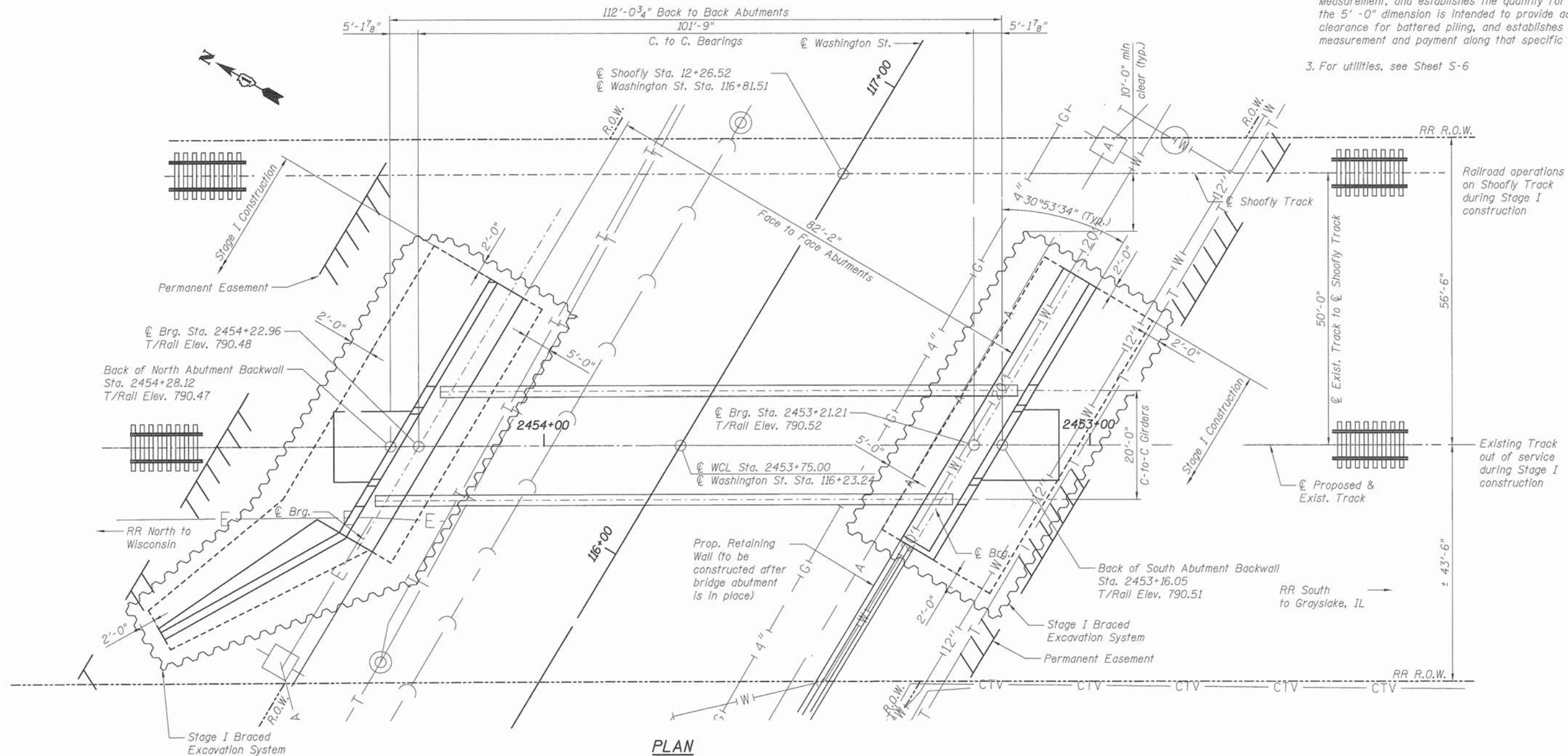
Design Stresses

f_s tension structural steel ASTM A709 Grade 50 27,500 psi
f_s tension Reinforcement Bars ASTM A615 Grade 60 24,000 psi
f'_c Compressive strength concrete at 28 days 5,000 psi

Maximum Live Load Plus Impact Deflection L/750 for Railroad Superstructure

	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy.Lisle)	DESIGNED - RWK	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES STRUCTURE NO. 049-3006	F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		SHEET NO. S 3 OF 27									

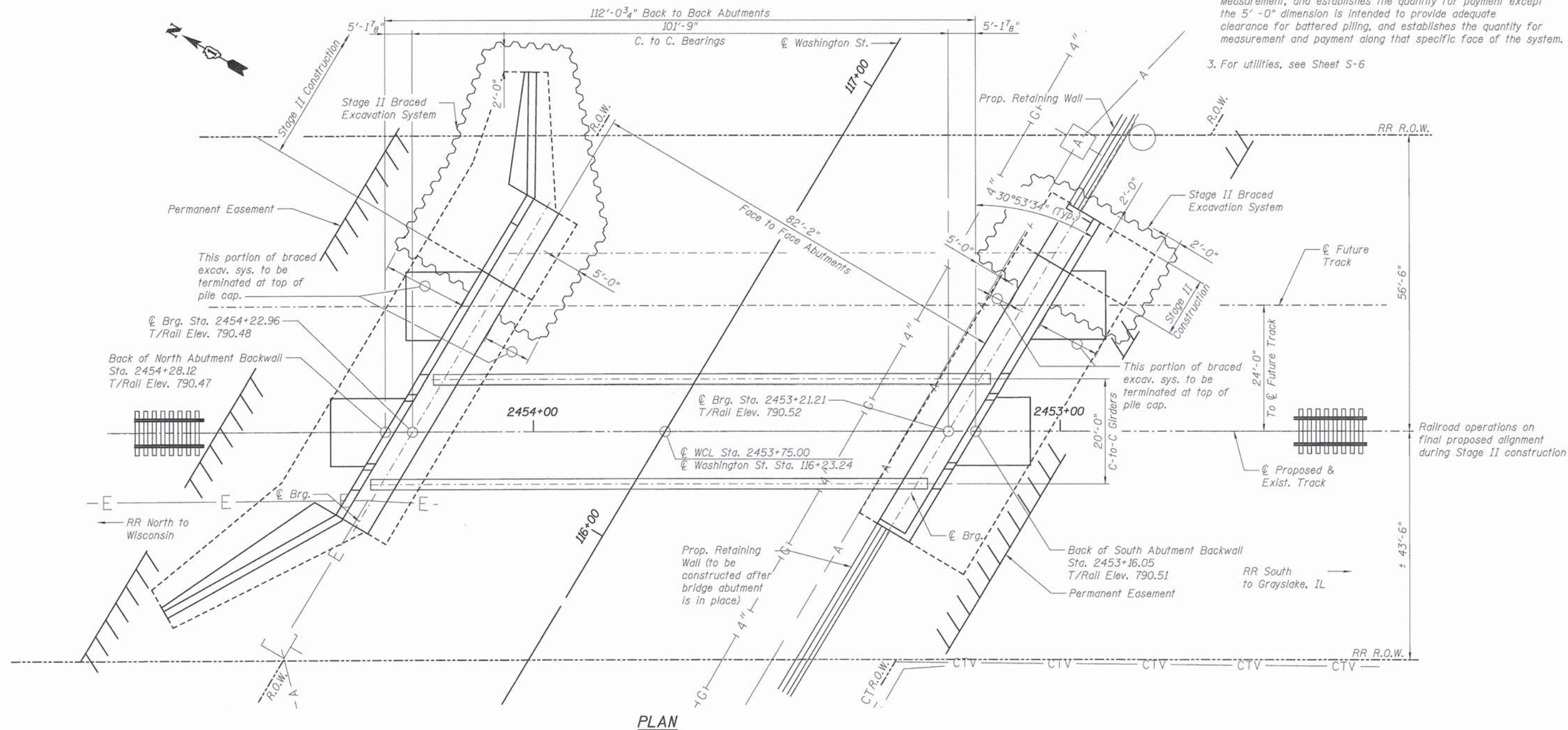
- Notes:
1. The Contractor shall submit a braced excavation system design sealed by an Illinois Licensed Structural Engineer including plan details and calculations for review and acceptance by the Engineer and the Railroad. The braced excavation system within the influence of railroad live load shall be designed by the Contractor per AREMA requirements and CN standards.
 2. Outlines and dimensions shown for the braced excavation are schematic and are to establish the general configuration. Clearances shown are to establish measurement and pay limits. The 2' - 0" dimension is per Section 502.12, Method of Measurement, and establishes the quantity for payment except the 5' - 0" dimension is intended to provide adequate clearance for battered piling, and establishes the quantity for measurement and payment along that specific face of the system.
 3. For utilities, see Sheet S-6



PATRICK ENGINEERING PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwg.Lisla)			DESIGNED - RWK	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGING PLAN I				F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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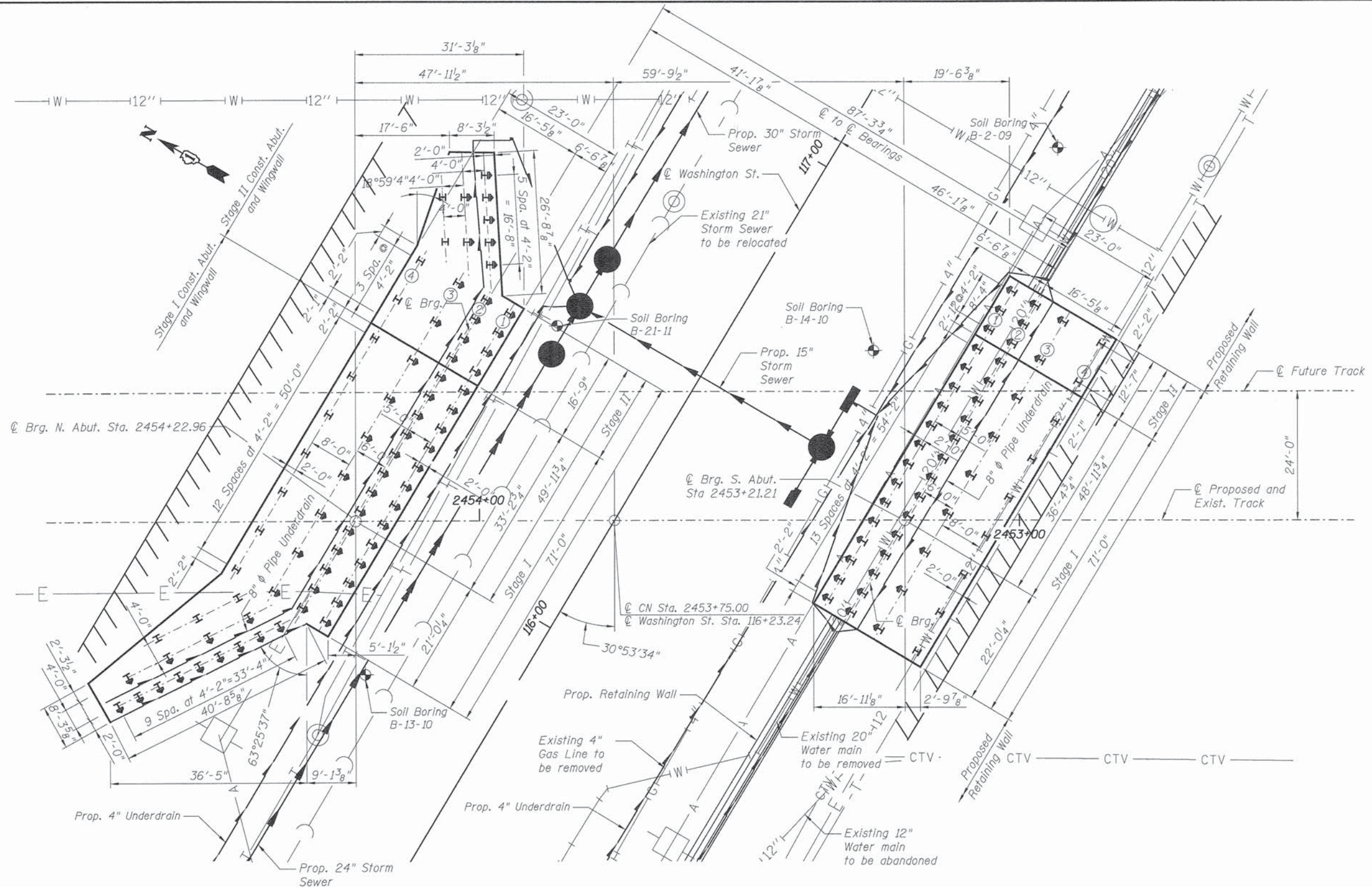
G:\LC001\21150.004\Drawings\STRUCT\RRB\ridge\shs\Staging Plan 1.dgn

- Notes:
1. The Contractor shall submit a braced excavation system design sealed by an Illinois Licensed Structural Engineer including plan details and calculations for review and acceptance by the Engineer and the Railroad. The braced excavation system within the influence of railroad live load shall be designed by the Contractor per AREMA requirements and CN standards.
 2. Outlines and dimensions shown for the braced excavation are schematic and are to establish the general configuration. Clearances shown are to establish measurement and pay limits. The 2' - 0" dimension is per Section 502.12, Method of Measurement, and establishes the quantity for payment except the 5' - 0" dimension is intended to provide adequate clearance for battered piling, and establishes the quantity for measurement and payment along that specific face of the system.
 3. For utilities, see Sheet S-6



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FOUNDATION PLAN

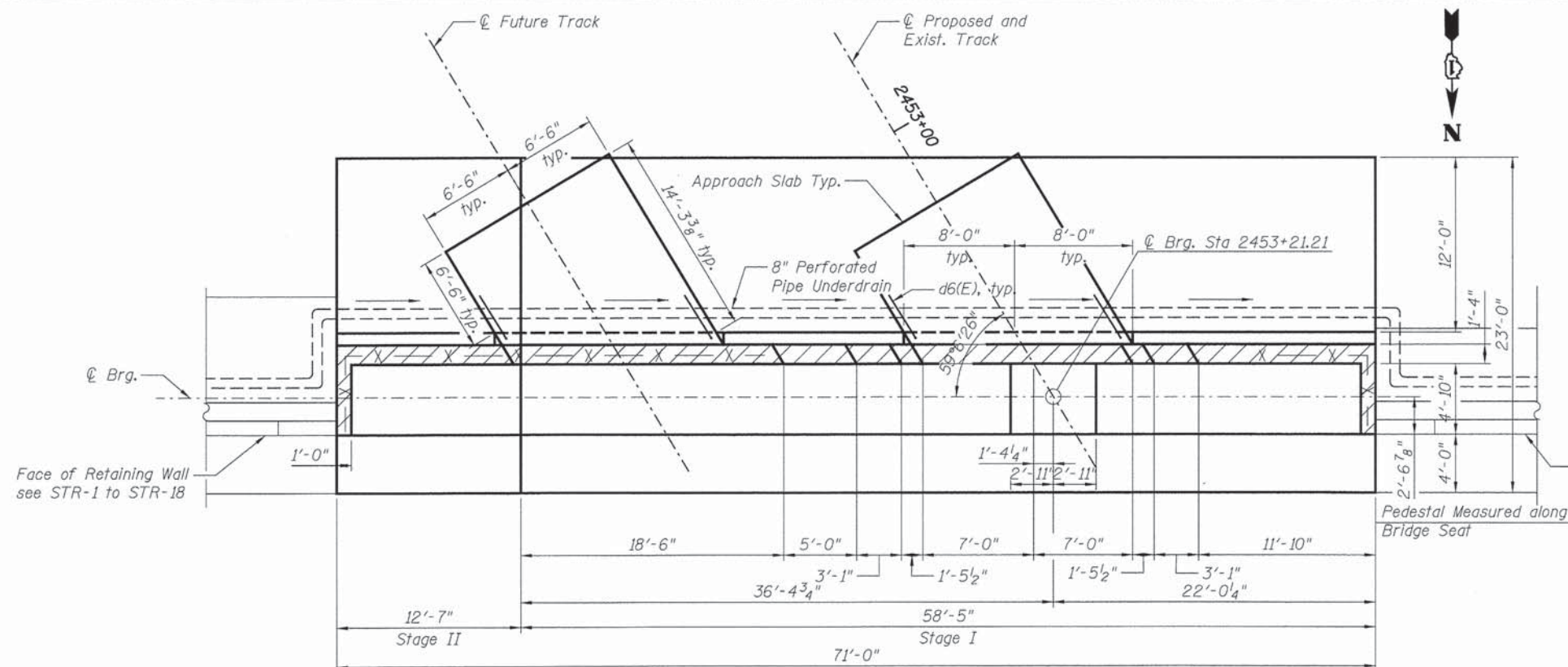
Scale: $\frac{3}{32}'' = 1'-0''$

Location on $\odot$ Proposed Track	RR Sta.	Roadway Sta.	Northing	Easting
$\odot$ Brg. S. Abut.	2453+21.21	116+50.85	2,072,803.41	1,061,282.17
$\odot$ RR at $\odot$ Road	2453+75.00	116+23.24	2,072,849.69	1,061,254.76
$\odot$ Brg. N. Abut.	2454+22.96	115+98.61	2,072,890.95	1,061,230.32

Note:
Utility adjustments and relocations shall be performed prior to commencing foundation work.

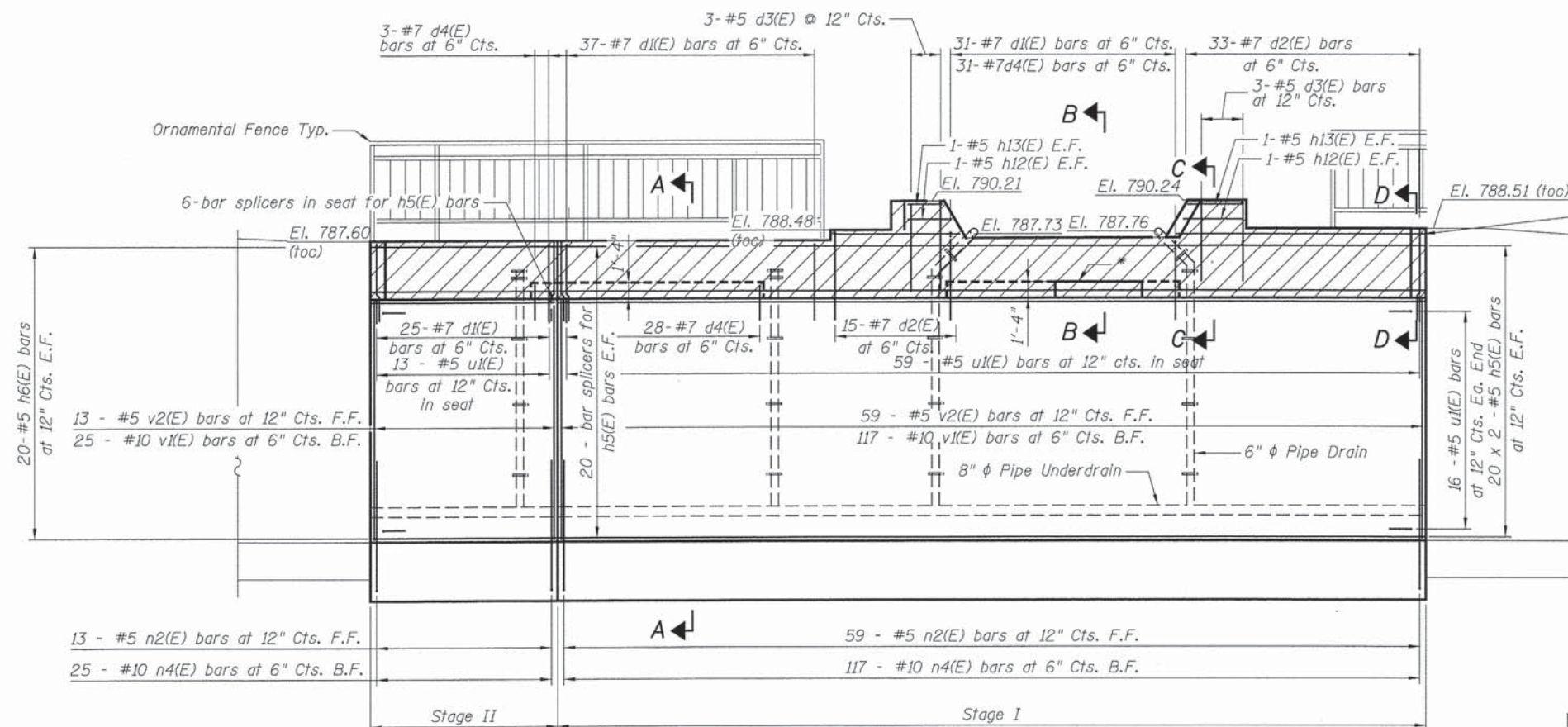


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	PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED			ILLINOIS FED. AID PROJECT				



PLAN - SOUTH ABUTMENT

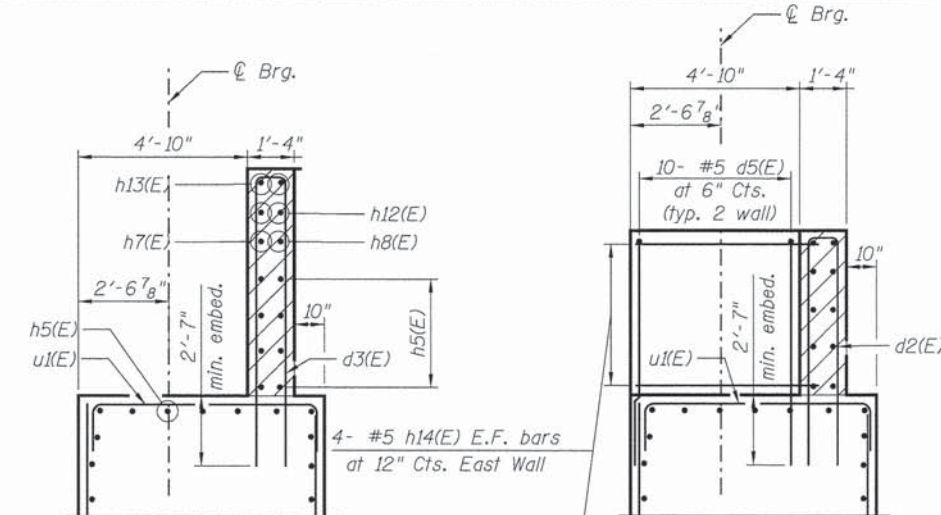
Scale: $\frac{3}{16}'' = 1'-0''$



ELEVATION - SOUTH ABUTMENT

Scale: $\frac{3}{16}'' = 1'-0''$

*Verify bearing seat elevations using actual bearing height provided by bearing manufacturer.

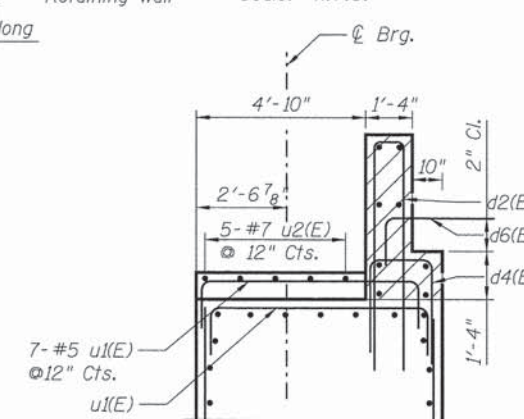


SECTION C-C

Scale: N.T.S.

SECTION D-D

Scale: N.T.S.



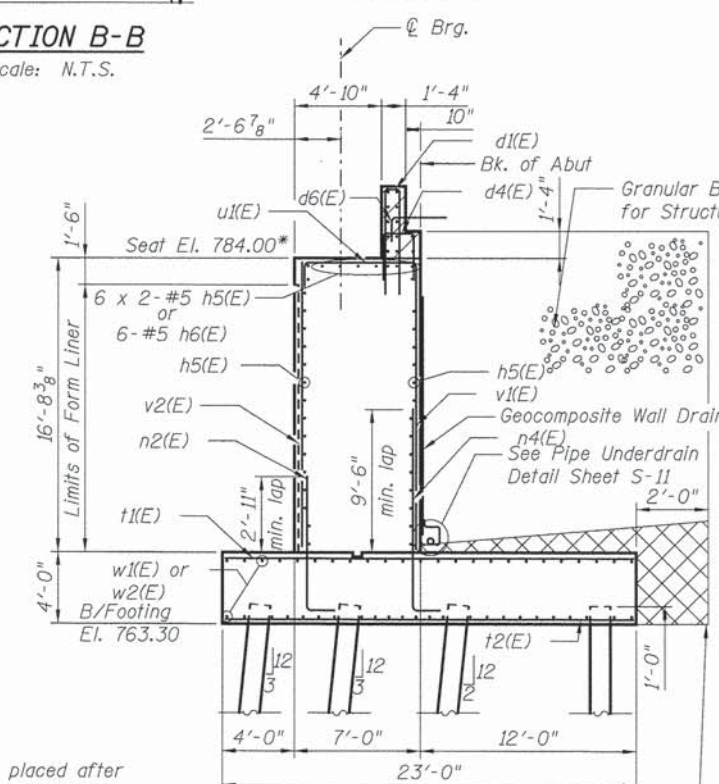
SECTION B-B

Scale: N.T.S.

Notes:

1. Elevations at the backwall are at the top of the $\frac{1}{2}''$ masonry plate, unless designated otherwise as the top of concrete (foc). See Joint Detail, Sheet S-18.
2. Contractor to verify seat and pedestal elevations. See Bearings Sheet S-21 Note 6.
3. Bars indicated thus 6 x 2 - #5 etc. Indicates 6 lines of bars with 2 lengths per line.
4. For anchor bolt layout see Sheet S-21.

Bar Size	Min. Lap
#5	3'-8"



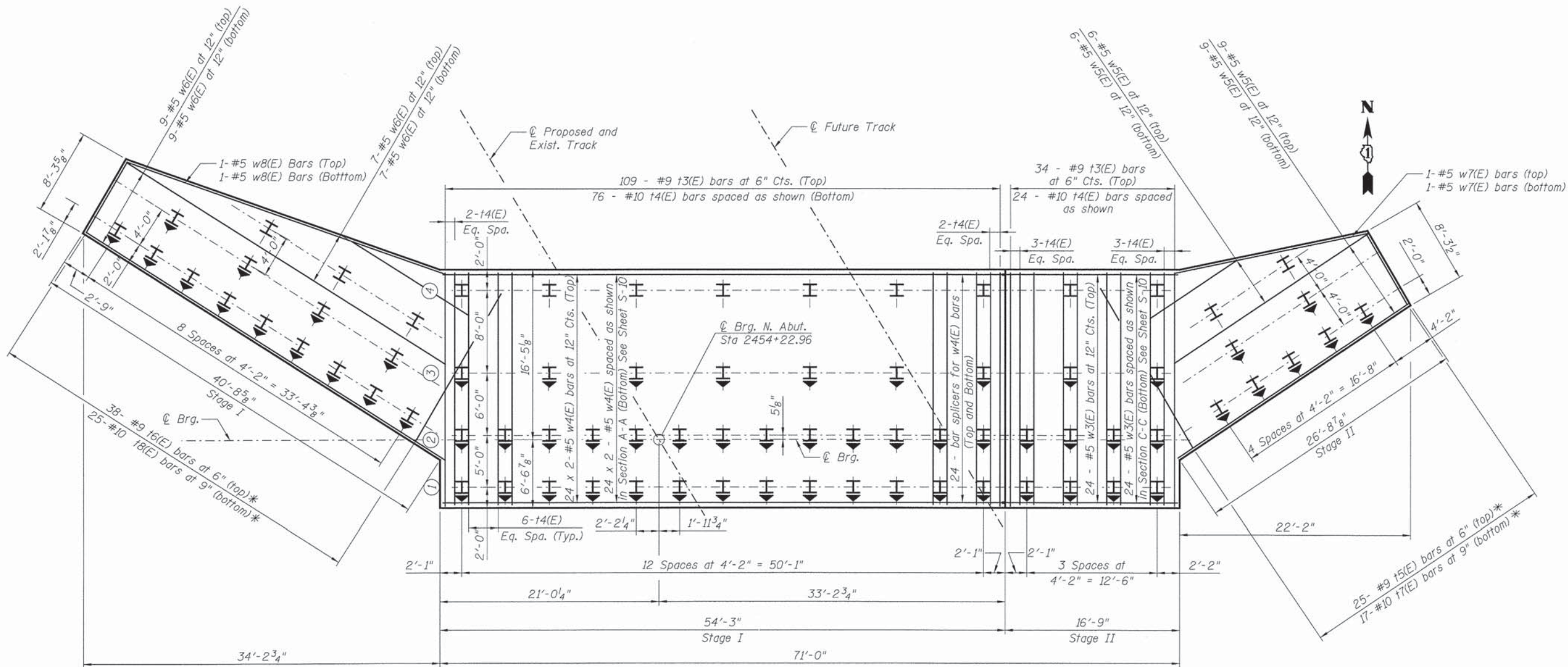
SECTION A-A

Scale: $\frac{3}{16}'' = 1'-0''$

Impervious Fill included with Pipe Underdrain

Indicates backwall to be placed after superstructure (Excluding steel deck plate) is in place.

For anchor bolt layout see sheet S-21



PILE CAP PLAN - NORTH ABUTMENT

Scale: $\frac{3}{16}" = 1'-0"$

Bar Size	Min. Lap
#5	3'-8"

*See Cutting Diagram S-12

PILE DATA

- Notes:
- For details of Bar Splicers, see sheet S-22 of 27.
 - For Section C-C, see sheet S-10 of 27.
 - Bars indicated thus 24 x 2 - #5 etc. indicates 24 lines of bars with 2 lengths per line.

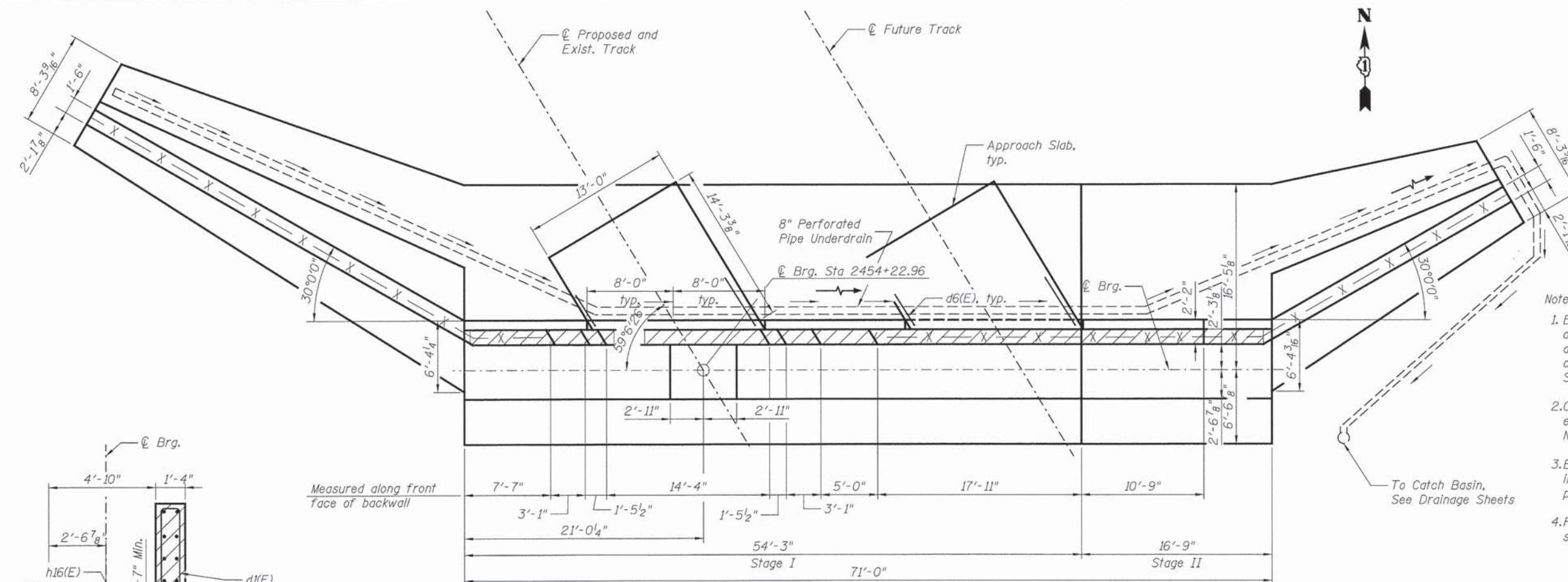
Type: HP14x89
 Nominal Required Bearing: 532k
 Allowable Resistance Available: 265k
 Est. Length: 60
 No. Production Piles: 76
 No. Test Piles: 1



	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppe(Rdwy.Lisle)	DESIGNED - JRR	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NORTH ABUTMENT - PILE CAP PLAN STRUCTURE NO. 049-3006 SHEET NO. S 9 OF 27	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		PLOT CONFIG = PDF(Grey, Large).plt	CHECKED - SLC	REVISED			187	11-00121-11-BR	LAKE	496	237
		PLOT SCALE = 1/8"=1'-0"	DRAWN - NS	REVISED			CONTRACT NO. 61A63				
		PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED			ILLINOIS FED. AID PROJECT				

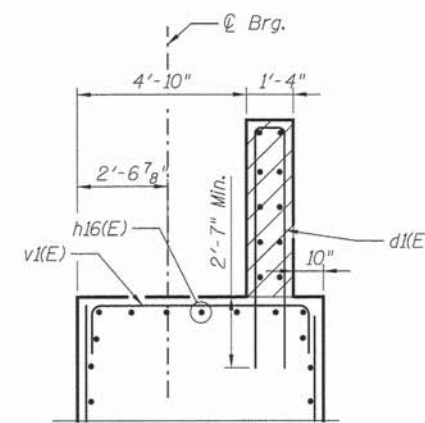


Indicates backwall to be placed after superstructure (Excluding steel deck plate) is in place.

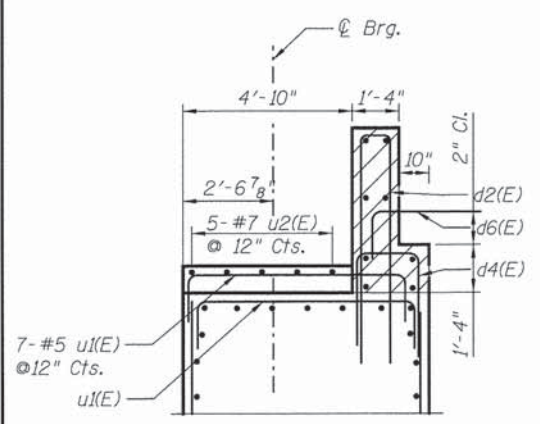


- Notes:
- Elevations at the backwall are at the top of the 1/2" masonry plate, unless designated otherwise as the top of concrete (toc). See Joint Detail, Sheet S-18.
 - Contractor to verify seat and pedestal elevations. See Bearings Sheet S-21 Note 6.
 - Bars indicated thus 6 x 2 - #5 etc. indicates 6 lines of bars with 2 lengths per line.
 - For anchor bolt layout see Sheet S-21.

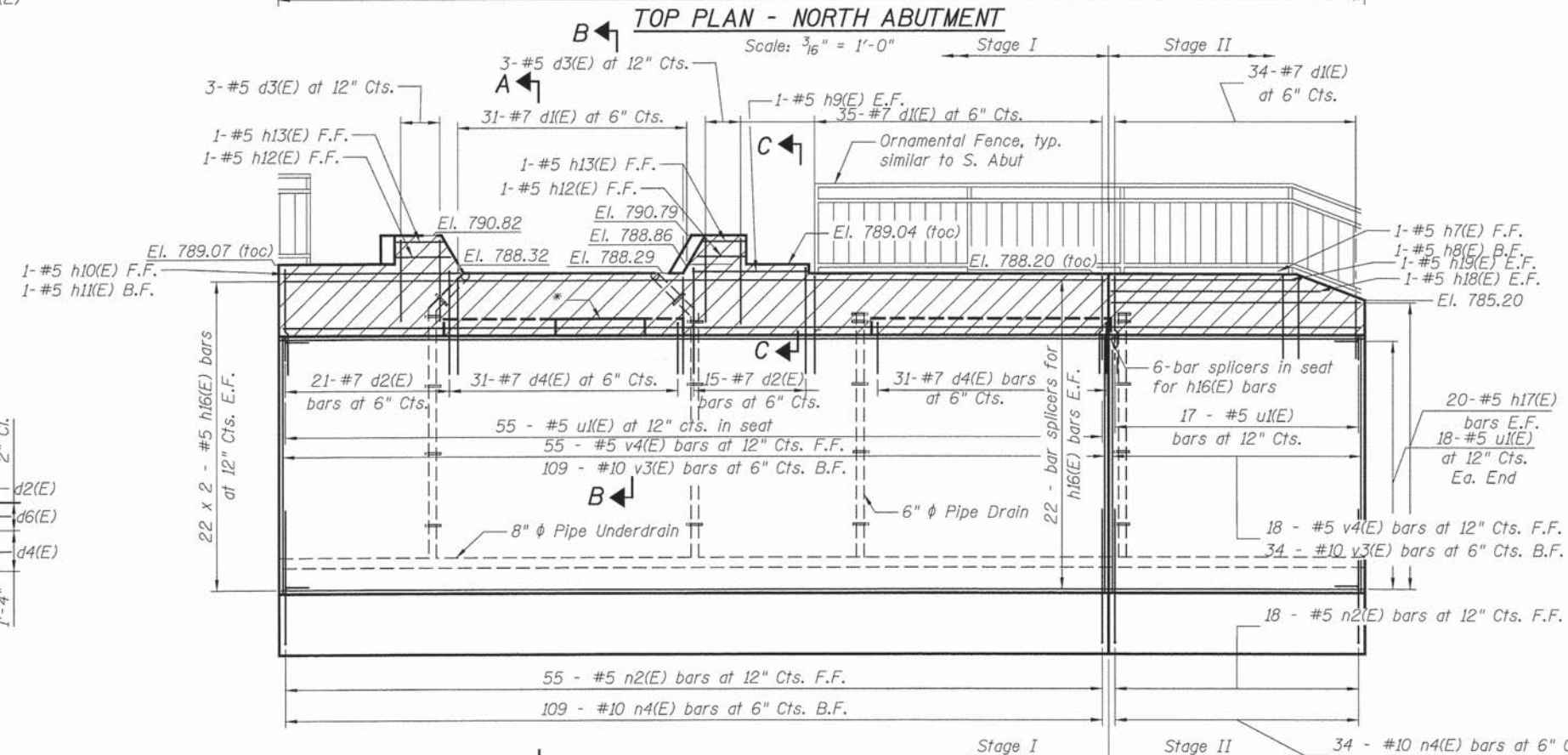
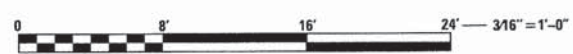
Bar Size	Min. Lap
#5	3'-8"



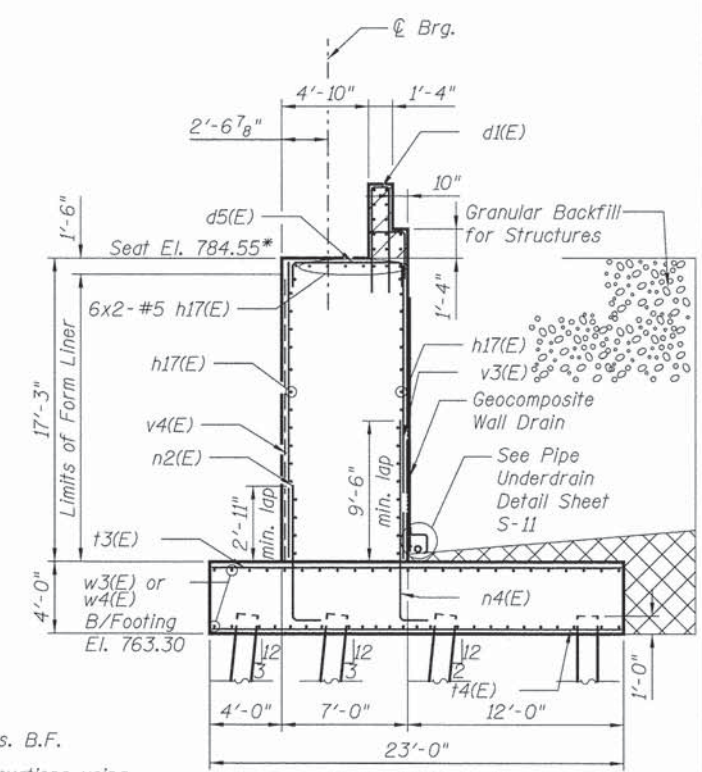
SECTION C-C
Scale: N.T.S.



SECTION B-B
Scale: N.T.S.

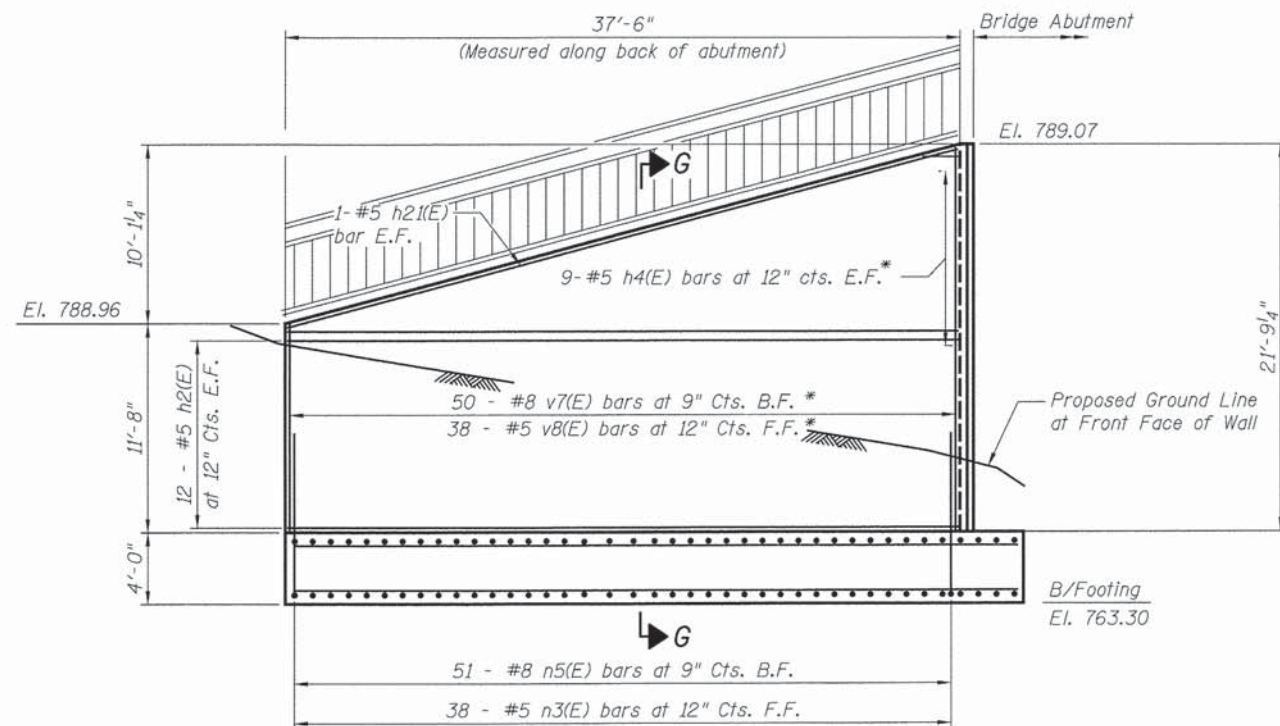


ELEVATION - NORTH ABUTMENT
Scale: 3/16" = 1'-0"



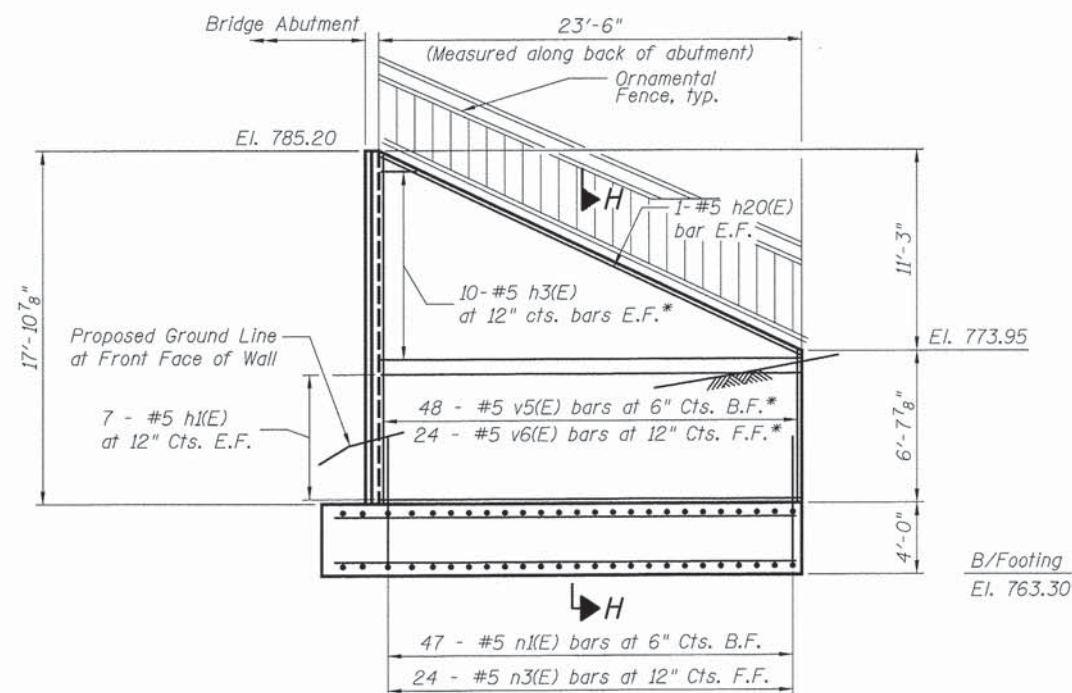
SECTION A-A
Scale: 3/16" = 1'-0"

*Verify bearing seat elevations using actual bearing height provided by bearing manufacturer.



ELEVATION WEST WINGWALL

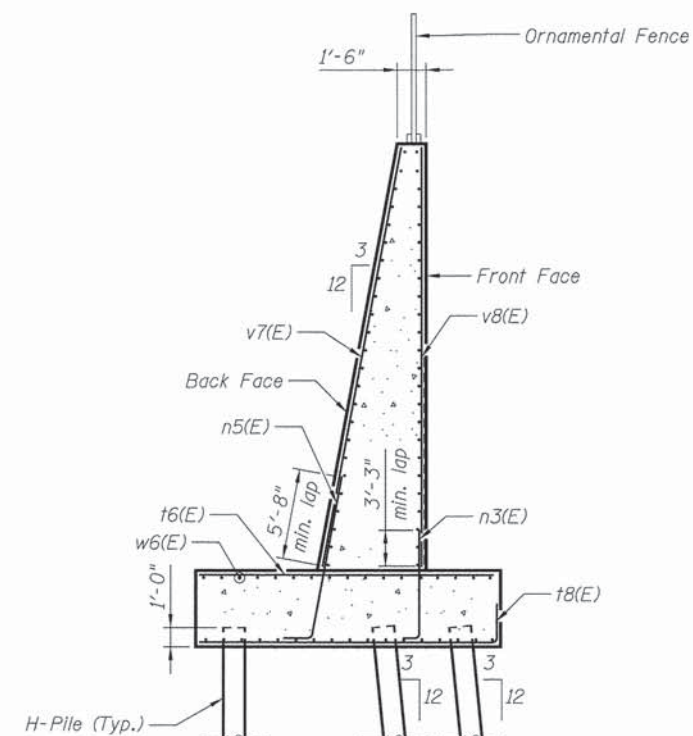
Scale: 3/16" = 1'-0"



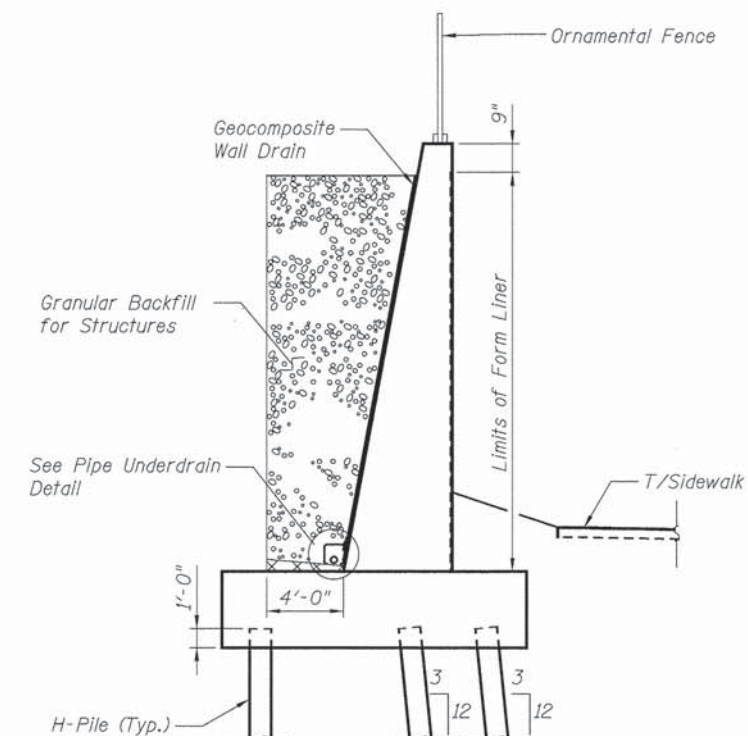
ELEVATION EAST WINGWALL

Scale: 3/16" = 1'-0"

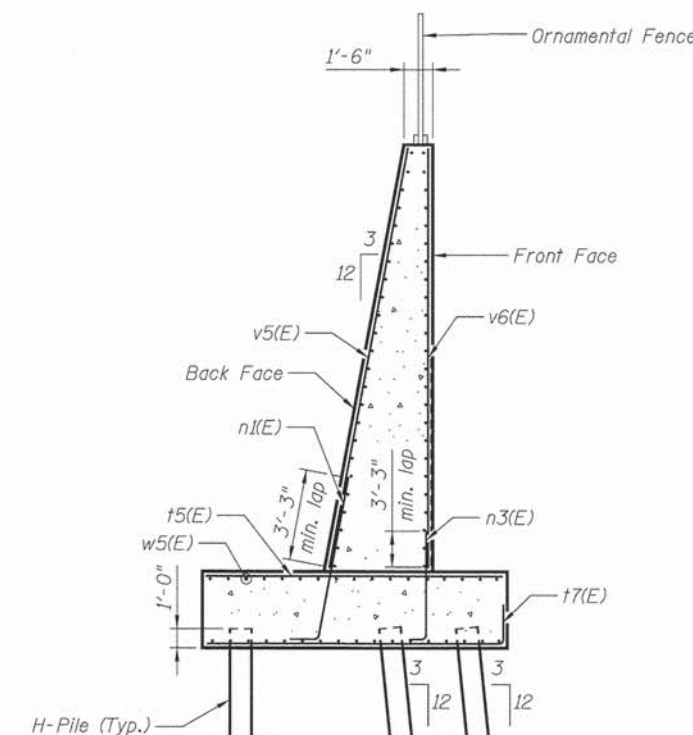
* See Field Cutting Diagrams on Sheet S-12 of S-27.



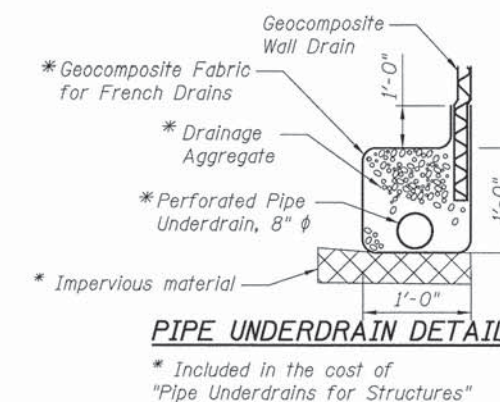
SECTION G-G



WINGWALL SECTION ADJACENT TO NORTH ABUTMENT

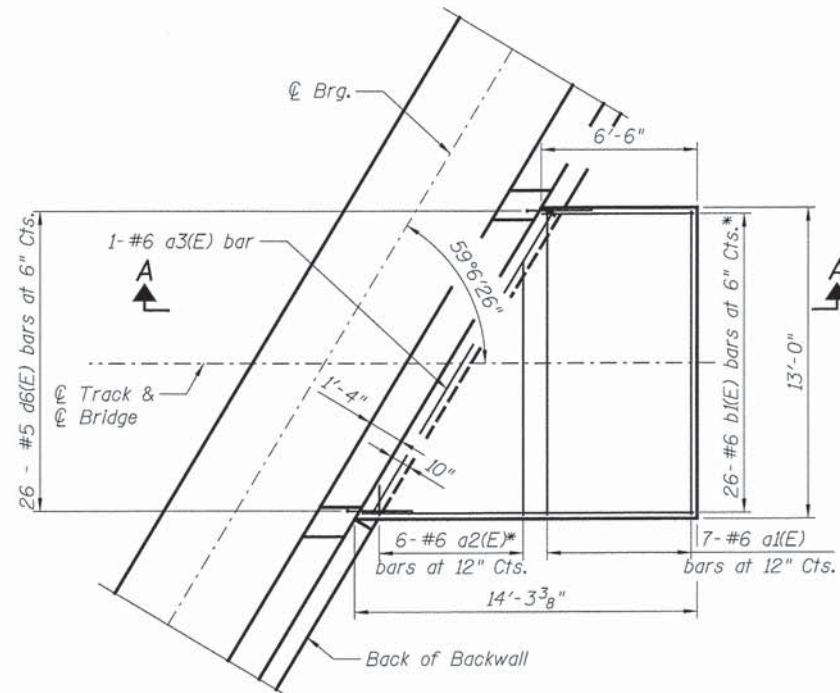


SECTION H-H



 PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = koeppen(Rdwg.Lisle)	DESIGNED - SLC	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NORTH ABUTMENT – WINGWALL ELEVATION, SECTIONS, AND DETAILS STRUCTURE NO. 049-3006	F.A.J RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT CONFIG = PDF(Greg.Large).plt	CHECKED - JRR	REVISED			187	11-00121-11-BR	LAKE	496	239
	PLOT SCALE = 1/5.33334	DRAWN - NS	REVISED			CONTRACT NO. 61A63				
	PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED			ILLINOIS FED. AID PROJECT				
SHEET NO. S 11 OF 27										

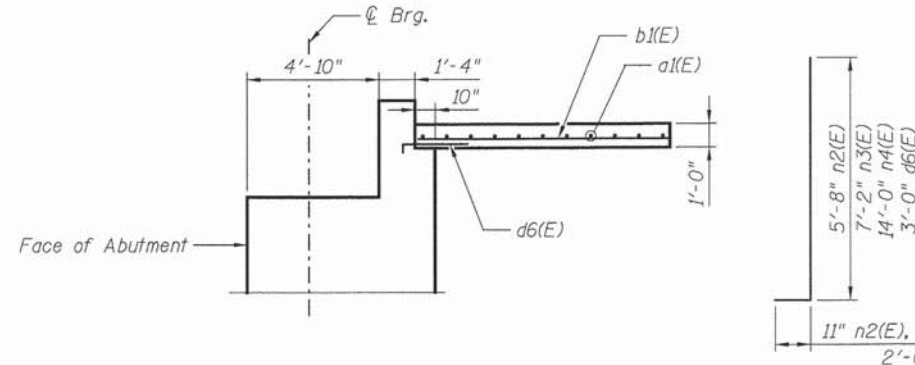
Q:\CDDT\21150_004\Drawings\STRUCT\RRBridge\ashta\North Abutment Wingwall.dgn



APPROACH SLAB - PLAN

Scale: 1/4" = 1'-0"

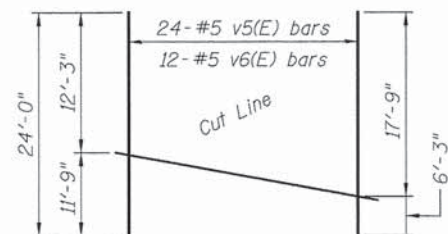
(4 typ.)
* See Field Cutting Diagram



SECTION A-A

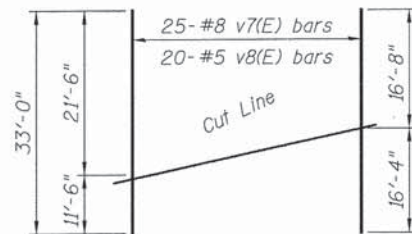
Scale: 1/4" = 1'-0"

BARS n2(E), n3(E), n4(E) & d6(E)



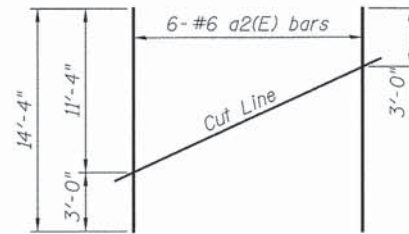
FIELD CUTTING DIAGRAM WINGWALL

Order v5(E) bars and v6(E) bars full length. Cut as shown and use remainder of bars in opposite end of wall.



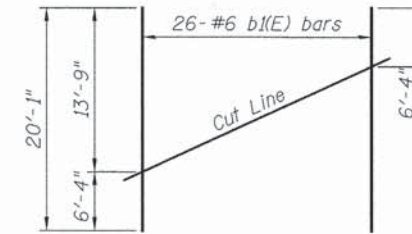
FIELD CUTTING DIAGRAM WINGWALL

Order v7(E) bars and v8(E) bars full length. Cut as shown and use remainder of bars in opposite end of wall.



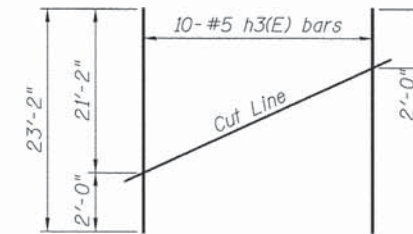
FIELD CUTTING DIAGRAM APPROACH SLAB

Order a2(E) bars full length. Cut as shown and use remainder of bars in adjacent approach slab.



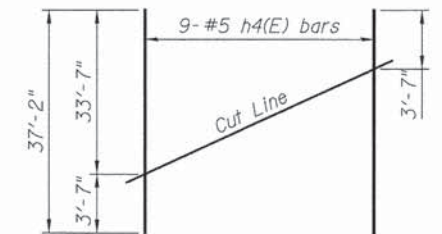
FIELD CUTTING DIAGRAM APPROACH SLAB

Order b1(E) bars full length. Cut as shown and use remainder of bars in adjacent of approach slab.



FIELD CUTTING DIAGRAM WINGWALL

Order h3(E) bar full length. Cut as shown and use remainder of bars in opposite face of wall.



FIELD CUTTING DIAGRAM WINGWALL

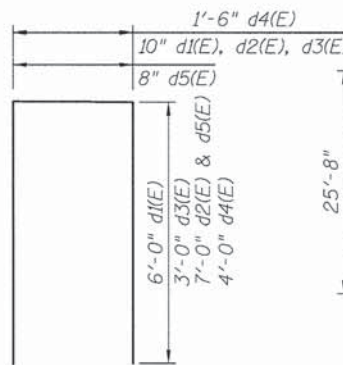
Order h4(E) bar full length. Cut as shown and use remainder of bars in opposite face of wall.

NORTH ABUTMENT BILL OF MATERIAL

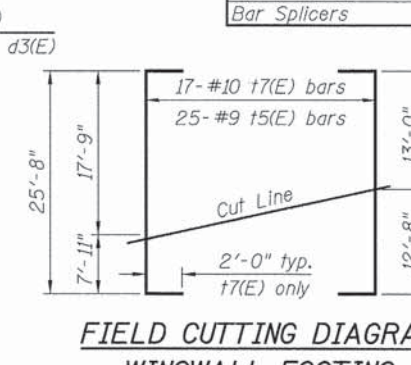
Bar	No.	Size	Length	Shape
h1(E)	14	# 5	23' - 2"	
h2(E)	24	# 5	37' - 2"	
h3(E)	10	# 5	23' - 2"	
h4(E)	9	# 5	37' - 2"	
h7(E)	1	# 5	16' - 3"	
h8(E)	1	# 5	17' - 2"	
h9(E)	2	# 5	13' - 4"	
h10(E)	1	# 5	11' - 9"	
h11(E)	1	# 5	10' - 10"	
h12(E)	4	# 5	3' - 3"	
h13(E)	4	# 5	2' - 9"	
h16(E)	88	# 5	28' - 10"	
h17(E)	52	# 5	16' - 5"	
h18(E)	2	# 5	14' - 5"	
h19(E)	2	# 5	12' - 5"	
h20(E)	2	# 5	25' - 8"	
h21(E)	2	# 5	38' - 5"	
d1(E)	100	# 7	12' - 10"	
d2(E)	36	# 7	14' - 10"	
d3(E)	6	# 5	6' - 10"	
d4(E)	62	# 7	9' - 6"	
d6(E)	62	# 5	3' - 11"	
v3(E)	143	# 10	16' - 11"	
v4(E)	73	# 5	17' - 0"	
v5(E)	24	# 5	24' - 0"	
v6(E)	12	# 5	24' - 0"	
v7(E)	25	# 8	33' - 0"	
v8(E)	19	# 5	33' - 0"	
u1(E)	108	# 5	8' - 1"	
u2(E)	5	# 7	12' - 6"	
a1(E)	14	# 6	12' - 8"	
a2(E)	6	# 6	14' - 4"	
a3(E)	2	# 6	14' - 9"	
b1(E)	26	# 6	20' - 1"	
Concrete Structures (Special)				Cu. Yd. 467.8
Reinforcement Bars, Epoxy Coated				Pound 28,660
Bar Splicers				Each 50

NORTH ABUTMENT PILE CAP BILL OF MATERIAL

Bar	No.	Size	Length	Shape
n1(E)	47	# 5	8' - 3"	
n2(E)	73	# 5	6' - 7"	
n3(E)	62	# 5	8' - 1"	
n4(E)	143	# 10	16' - 0"	
n5(E)	51	# 8	11' - 2"	
w3(E)	48	# 5	16' - 4"	
w4(E)	96	# 5	28' - 10"	
w5(E)	30	# 5	26' - 6"	
w6(E)	32	# 5	40' - 6"	
w7(E)	2	# 5	27' - 7"	
w8(E)	2	# 5	41' - 4"	
t3(E)	143	# 9	22' - 6"	
t4(E)	100	# 10	24' - 4"	
t5(E)	25	# 9	25' - 8"	
t6(E)	38	# 9	24' - 4"	
t7(E)	17	# 10	29' - 8"	
t8(E)	25	# 10	28' - 4"	
Braced Excavation				Cu. Yd. 2999
Concrete Structures (Special)				Cu. Yd. 348.3
Reinforcement Bars, Epoxy Coated				Pound 50,780
Furnishing Steel Piles, HP14x89				Foot 4,753
Driving Piles				Foot 4,753
Test Pile Steel HP14x89				Each 1
Bar Splicers				Each 48

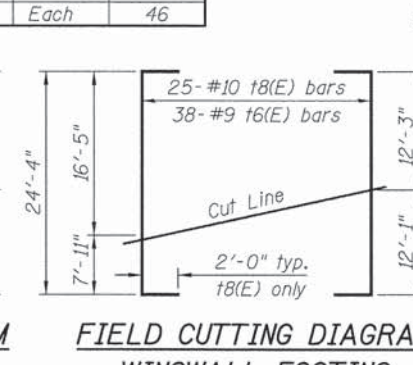


BARS d1(E), d2(E), d3(E), d4(E), & d5(E)



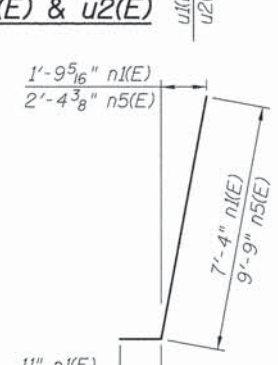
FIELD CUTTING DIAGRAM WINGWALL FOOTING

Order t7(E) and t5(E) bars full length. Cut as shown and use remainder of bars in opposite end of footing.



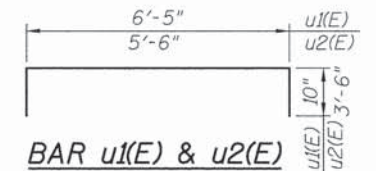
FIELD CUTTING DIAGRAM WINGWALL FOOTING

Order t8(E) and t6(E) bars full length. Cut as shown and use remainder of bars in opposite end of footing.



BARS n1(E) & n5(E)

BARS t2(E) & t4(E)



BAR u1(E) & u2(E)

SOUTH ABUTMENT PILE CAP BILL OF MATERIAL

Bar	No.	Size	Length	Shape
n2(E)	72	# 5	6' - 7"	
n4(E)	142	# 10	16' - 0"	
w1(E)	96	# 5	31' - 0"	
w2(E)	48	# 5	12' - 2"	
t1(E)	97	# 9	22' - 6"	
t2(E)	100	# 10	24' - 4"	
Braced Excavation				Cu. Yd. 2083
Concrete Structures (Special)				Cu. Yd. 241.9
Reinforcement Bars, Epoxy Coated				Pound 31,880
Furnishing Steel Piles, HP14x89				Foot 3,188
Driving Piles				Foot 3,188
Test Pile Steel HP14x89				Each 1
Bar Splicers				Each 48

SOUTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h5(E)	92	# 5	31' - 0"	
h6(E)	46	# 5	12' - 3"	
h7(E)	1	# 5	16' - 3"	
h8(E)	1	# 5	17' - 2"	
h12(E)	4	# 5	3' - 3"	
h13(E)	4	# 5	2' - 9"	
h14(E)	18	# 5	5' - 8"	
d1(E)	93	# 7	12' - 10"	
d2(E)	48	# 7	14' - 10"	
d3(E)	6	# 5	6' - 10"	
d4(E)	62	# 7	9' - 6"	
d5(E)	10	# 5	14' - 8"	
d6(E)	62	# 5	3' - 11"	
v1(E)	142	# 10	16' - 4"	
v2(E)	72	# 5	16' - 0"	
u1(E)	111	# 5	8' - 1"	
u2(E)	5	# 7	12' - 6"	
a1(E)	14	# 6	12' - 8"	
a2(E)	6	# 6	14' - 4"	
a3(E)	2	# 6	14' - 9"	
b1(E)	26	# 6	20' - 1"	
Concrete Structures (Special)				Cu. Yd. 336.7
Reinforcement Bars, Epoxy Coated				Pound 22,750
Bar Splicers				Each 46

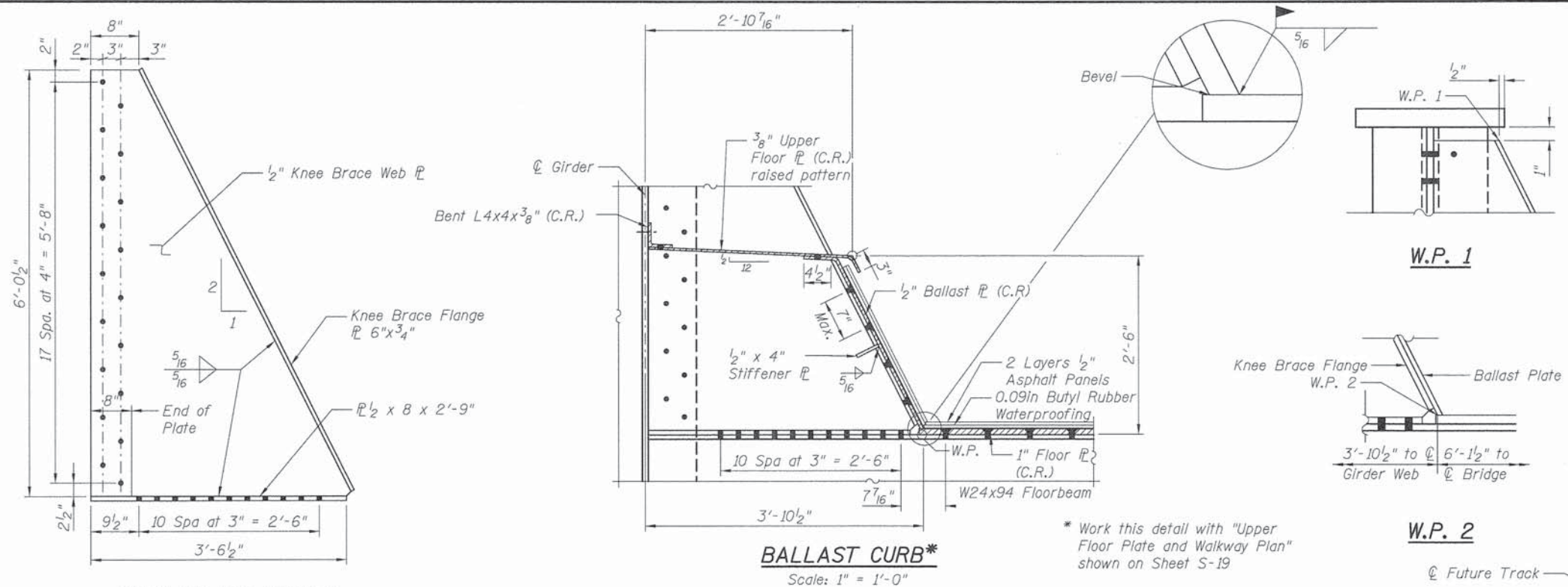
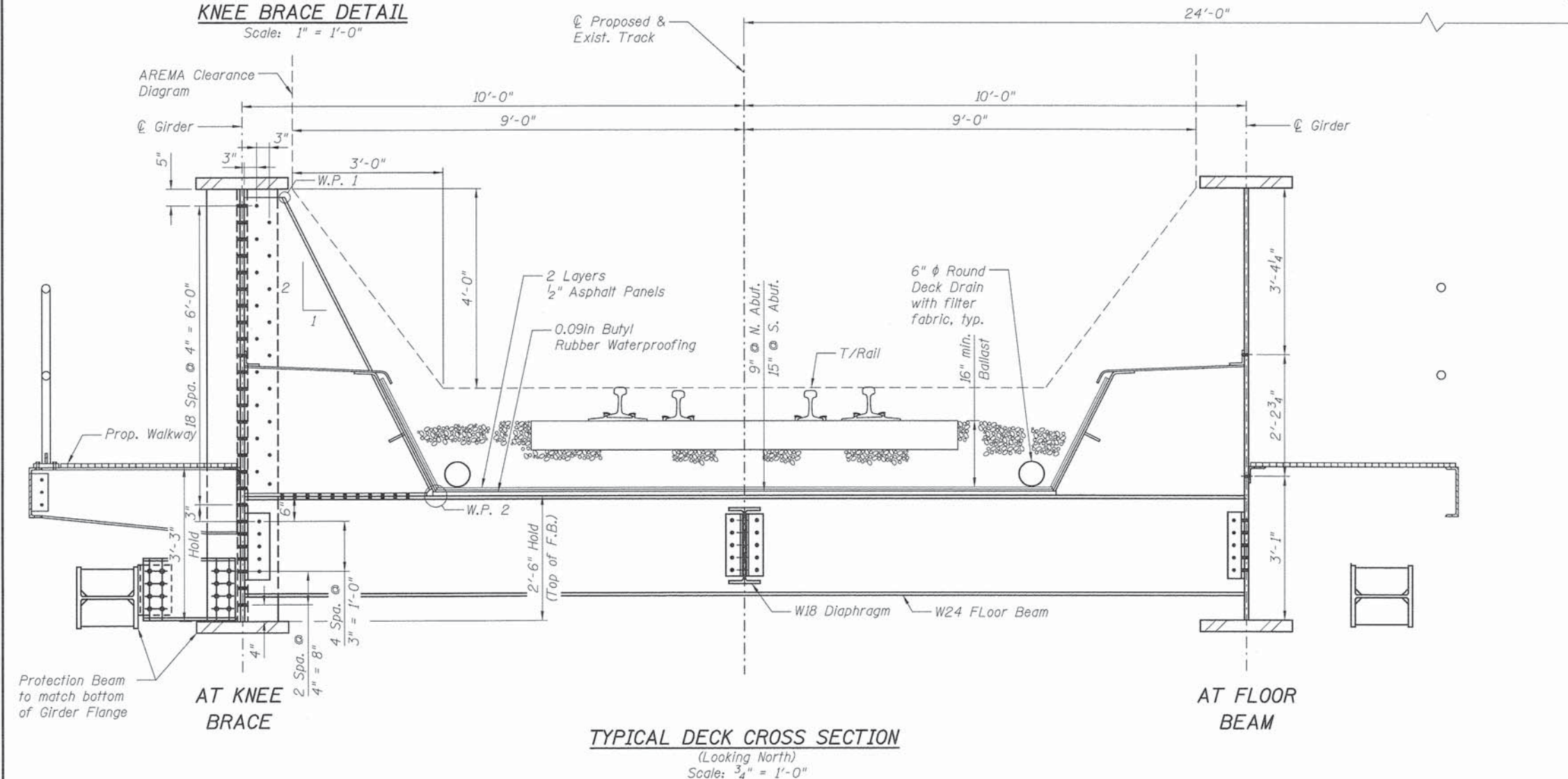


TABLE OF STRESSES				
SPAN LENGTH 101'-9" C/C BEARINGS				
STEEL: A709 GRADE 50				
TOP FLANGE PLATE SIZE: 2 3/4 x 22		AREA = 60.50 in ²		
WEB PLATE SIZE: 1 x 104		AREA = 104.00 in ²		
BOTTOM FLANGE PLATE SIZE: 2 3/4 x 22		AREA = 60.50 in ²		
S _{x-x} TOP = 8,010 in ³ (Gross)		I _x = 438,531 in ⁴ (Gross)		
S _{x-x} BOT = 7,620 in ³ (Net)		I _x = 418,333 in ⁴ (Net)		
END REACTION kip	SHEAR STRESS ksi	BENDING MOMENT kft	BENDING STRESSES BOT. FLANGE ksi	
DEAD LOAD	267	2.57	6,785	10.69
LIVE LOAD E90	342	3.29	7,526	11.85
IMPACT 26.4%	90	0.87	1,989	3.13
CENTRIFUGAL FORCE COMPOSITE	-	-	-	-
TOTAL GROUP "A"	699	6.73	16,310	25.67
ALLOWABLE STRESSES (BENDING & SHEAR)	-	17.50	-	27.5
RATIO OF WORKING STRESS TO ALLOWABLE	-	0.38	-	0.93



$\frac{\Delta LL + I}{SPAN} = \frac{1}{876}$	
ALLOWABLE STRESS RANGE FOR FATIGUE CATEGORY "B" FOR N>2,000,000 CYCLES S _{Rfat} = 16.0 ksi	
MAXIMUM DESIGN STRESS RANGE AT BOTTOM FLANGE TO WEB WELD AT MIDSPAN 12.3 ksi < S _{Rfat}	
FLOOR BEAMS W24x94 SPAN LENGTH = 20'-0"	
TOTAL BOTTOM FLANGE STRESS = 19.0 ksi (Tension) PERMISS. STRESS = 27.5 ksi	
RATIO $\frac{WORKING}{PERMISS} = 0.69$	
$\frac{\Delta LL + I}{SPAN} = \frac{1}{889}$	
MAX. STRESS RANGE PERMISS. FATIGUE STRESS = 0.89	
END FLOOR BEAMS W24x117 SPAN LENGTH = 10'-10 1/8"	
TOTAL TOP FLANGE STRESS = 8.0 ksi (Tension) PERMISS. STRESS = 27.5 ksi	
RATIO $\frac{WORKING}{PERMISS} = 0.29$	
$\frac{\Delta LL + I}{SPAN} = \frac{1}{14,456}$	
MAX. STRESS RANGE PERMISS. FATIGUE STRESS = 0.38	

Scale: 1" = 1'-0"

Typ. all Floor Beams

Scale: 1" = 1'-0"

Scale: N.T.S.

DETAIL C

Note

1. See Sheet S-13 of S-27 for Locations of Details A, B, C, D and E.

Side (2) gouged out to sound metal after side (1) is welded, and then weld.

No. of passes will vary with thickness t

SUBMERGED ARC WELDED JOINTS FOR FLANGE AND WEB PLATE SPLICES

Welding shall be performed in flat position. Run-off plates shall be used to ensure sound welds and full throat thickness, and shall be of same material and geometry as flange at joint. After completion and cooling of weld, remove run-off plates and grind weld flush on all sides (in direction of stresses).

PLAN-PROTECTION BEAM

SECTION A-A
PROTECTION BEAM

Scale: $1\frac{1}{2}" = 1'-0"$

0 2' 4' — $\frac{3}{4}" = 1'-0"$

Scale: 1" = 1'-0"

Scale: 1" = 1'-0"

USER NAME = tkoeppen(Rdwy.Lisa)	DESIGNED - LFC	REVISED
PLOT CONFIG= PDF(Grey.Small).plt	CHECKED - SLC	REVISED
PLOT SCALE = 1x2.166667	DRAWN - LFC	REVISED
PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

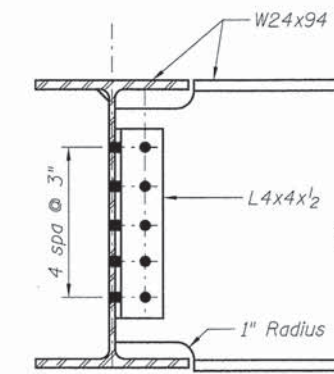
LATERAL BRACING AND MISCELLANEOUS DETAILS
STRUCTURE NO. 049-3006

SHEET NO. S 16 OF 27

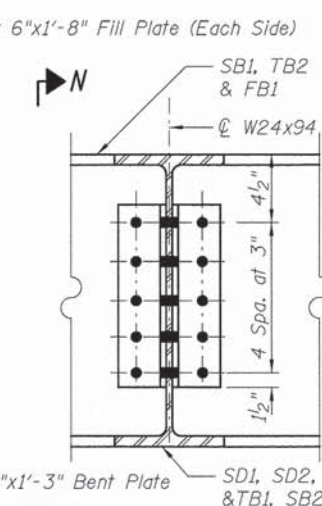
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	244
		CONTRACT NO. 61A63		
ILLINOIS FED. AID PROJECT				

Legend

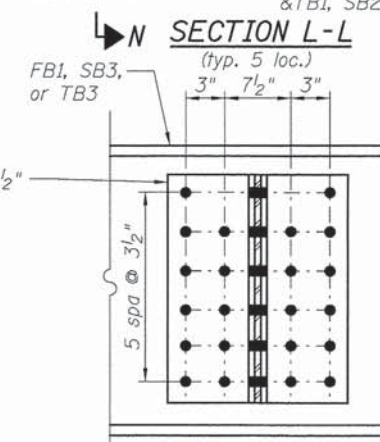
SB- Short Floor Beam
TB - Transfer Beam
SD - Special Diaphragms
EFB- End Floor Beam
FB - Floor Beam



SECTION N-N

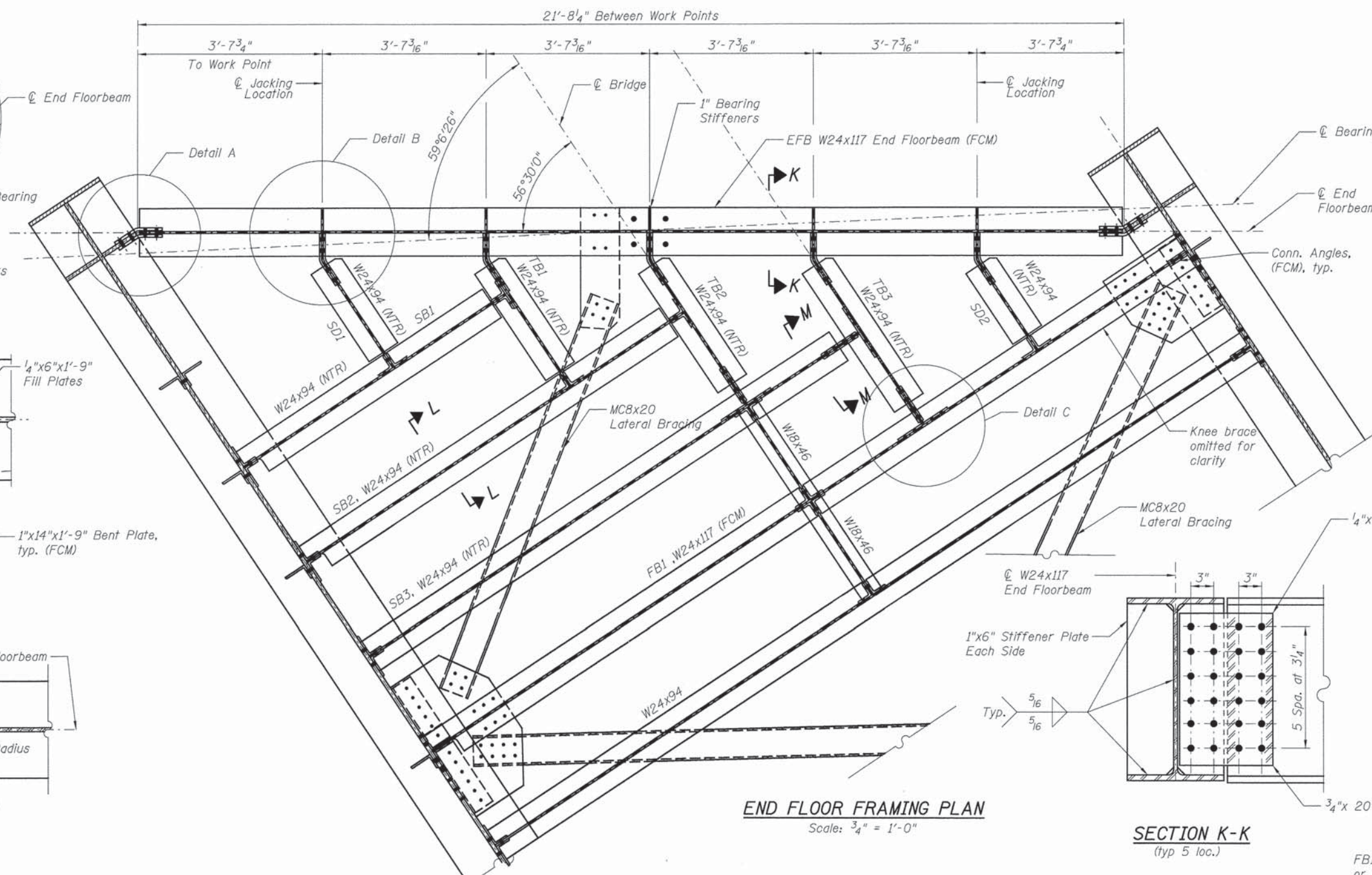


SECTION K-K
(typ 5 loc.)

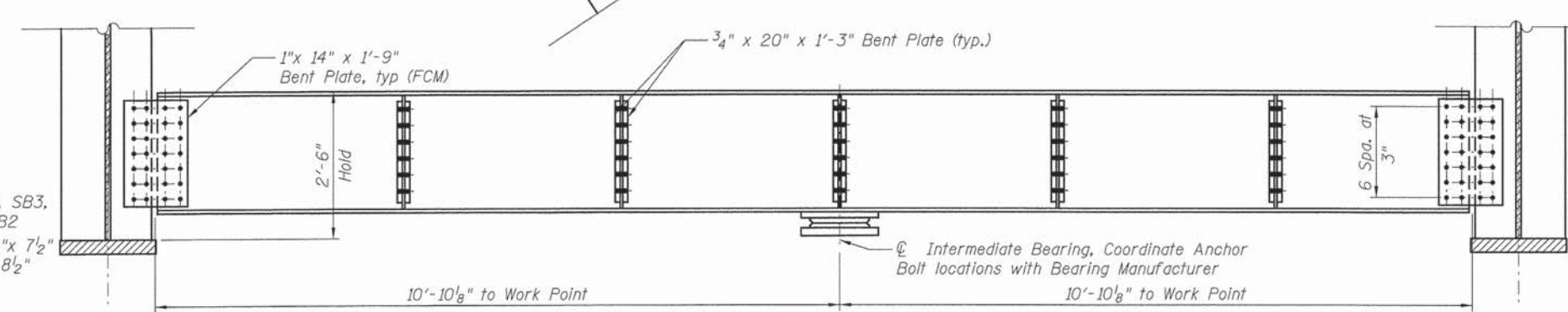


SECTION L-L
(typ. 5 loc.)

SECTION M-M
typ. 3 Loc.

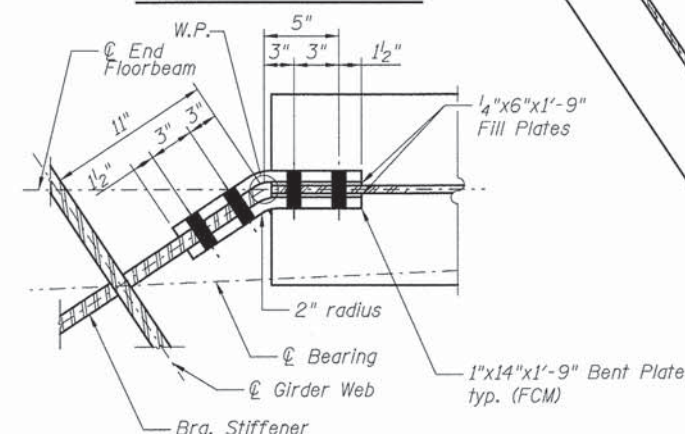


END FLOOR FRAMING PLAN
Scale: 3/4" = 1'-0"

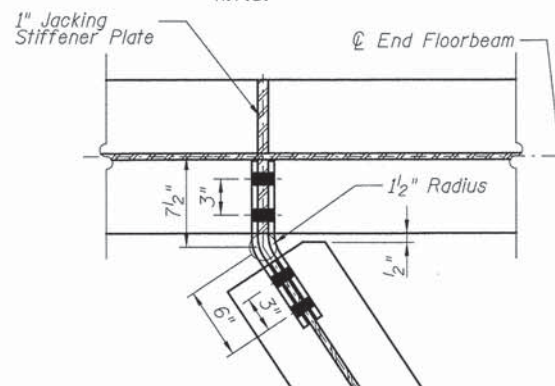


ELEVATION VIEW OF END FLOOR BEAM
Scale: 3/4" = 1'-0"

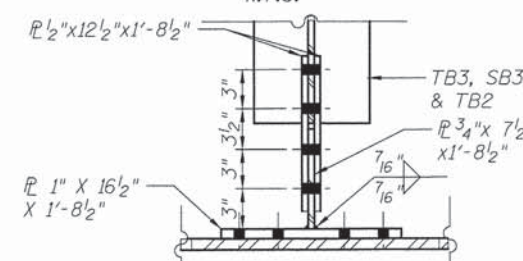
WORK POINT DETAIL



DETAIL A
(1" φ H.S. Bolts)
N.T.S.

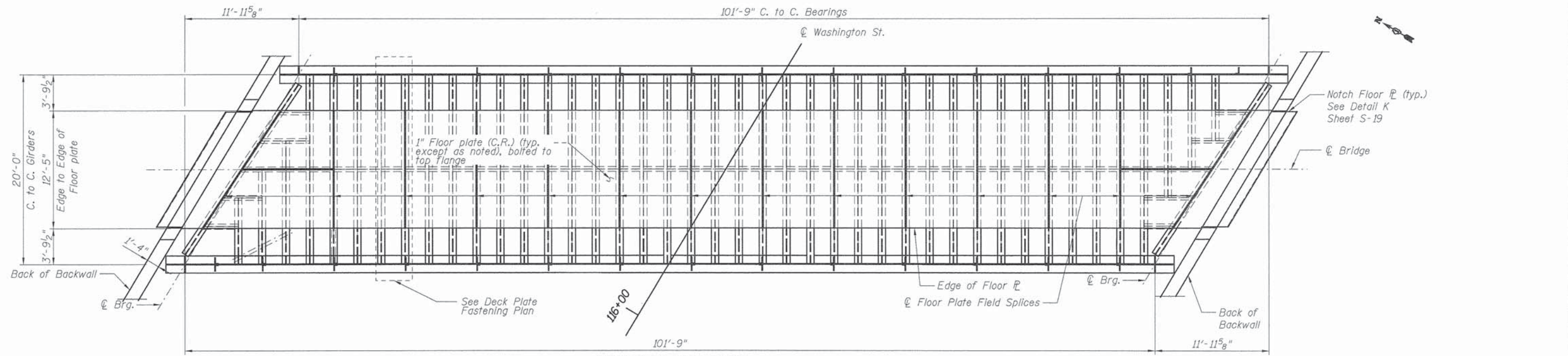


DETAIL B
N.T.S.



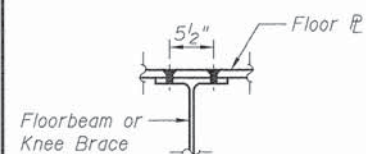
DETAIL C

 PATRICK ENGINEERING PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwj.Lisile)		DESIGNED - JRR	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	END FLOOR FRAMING STRUCTURE NO. 049-3006		F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT CONFIG= PDF(Greg.Large.plt)		CHECKED - SLC	REVISED		187	11-00121-11-BR	LAKE	496	245		
	PLOT SCALE = 1:5.33333		DRAWN - LFC	REVISED		CONTRACT NO. 61A63						
	PLOT DATE = 7/17/2014		CHECKED - SLC	REVISED		SHEET NO. S 17 OF 27						
						ILLINOIS FED. AID PROJECT						

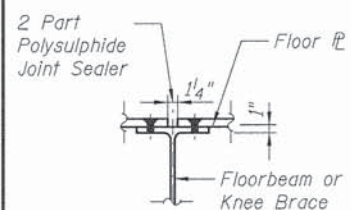


FLOOR PLATE PLAN

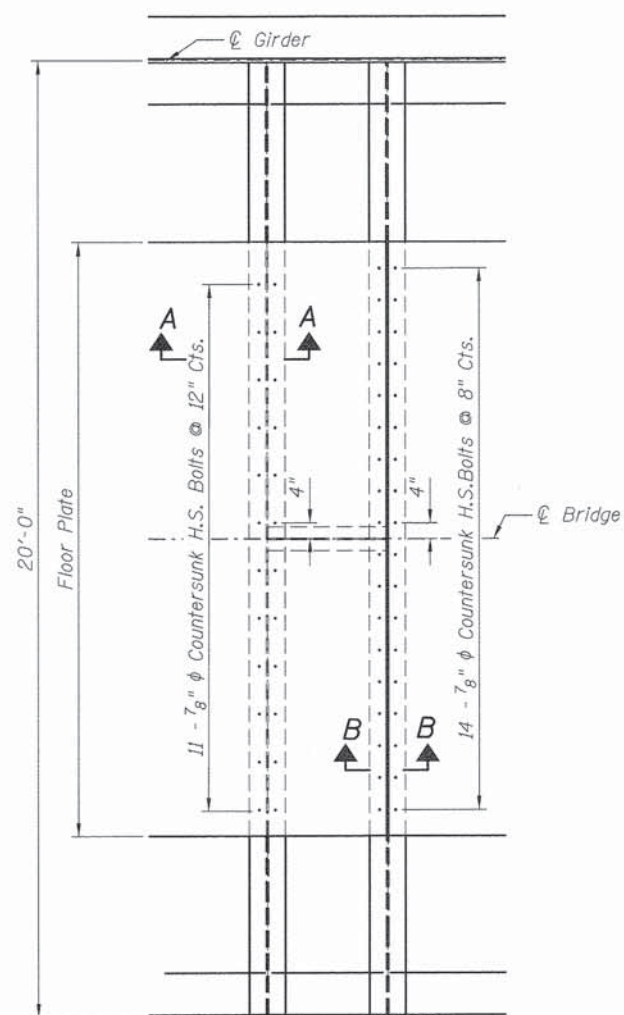
Scale: $\frac{3}{16}'' = 1'-0''$



SECTION A-A

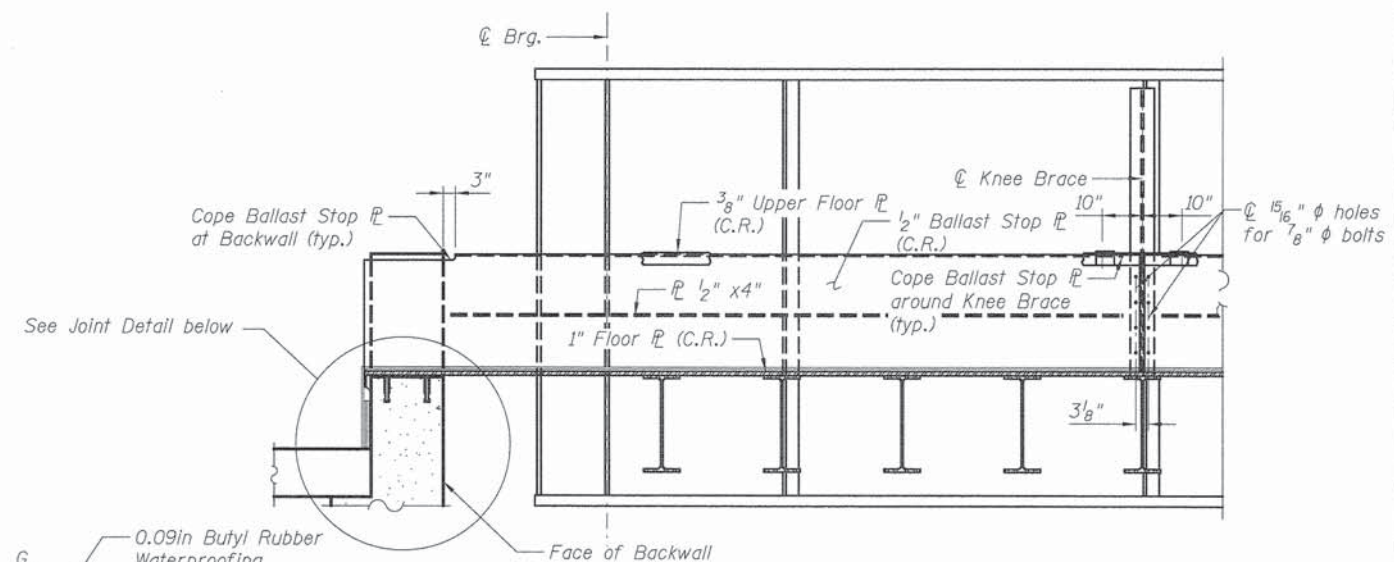


SECTION B-B



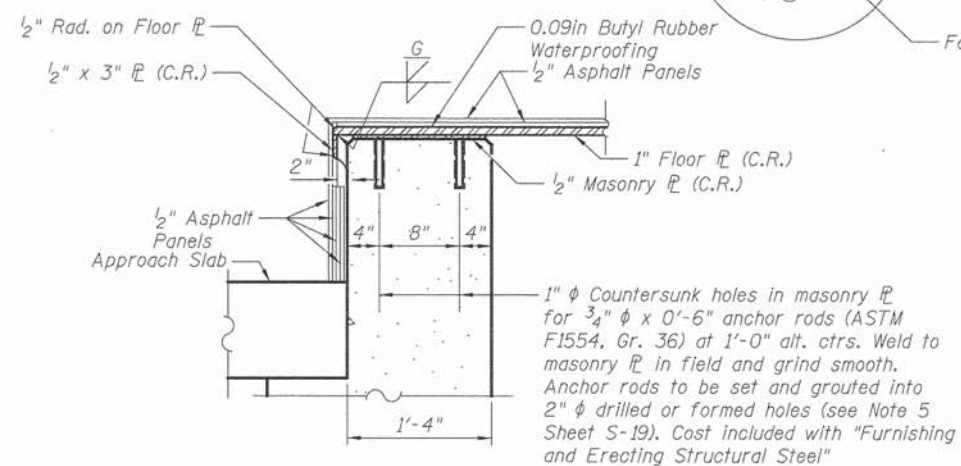
DECK PLATE FASTENING PLAN

N.T.S.



BALLAST STOP PLATE ELEVATION

Scale: $\frac{1}{2}'' = 1'-0''$

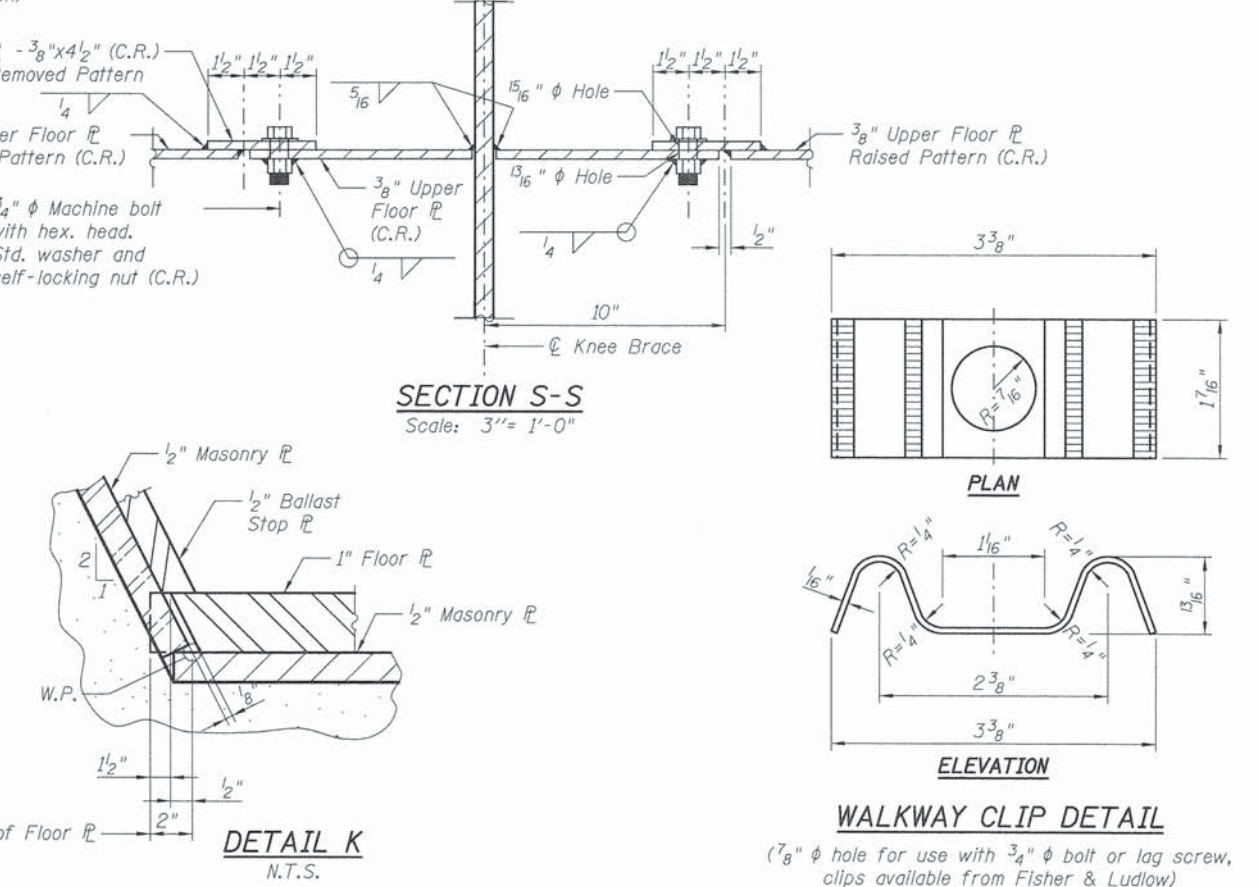
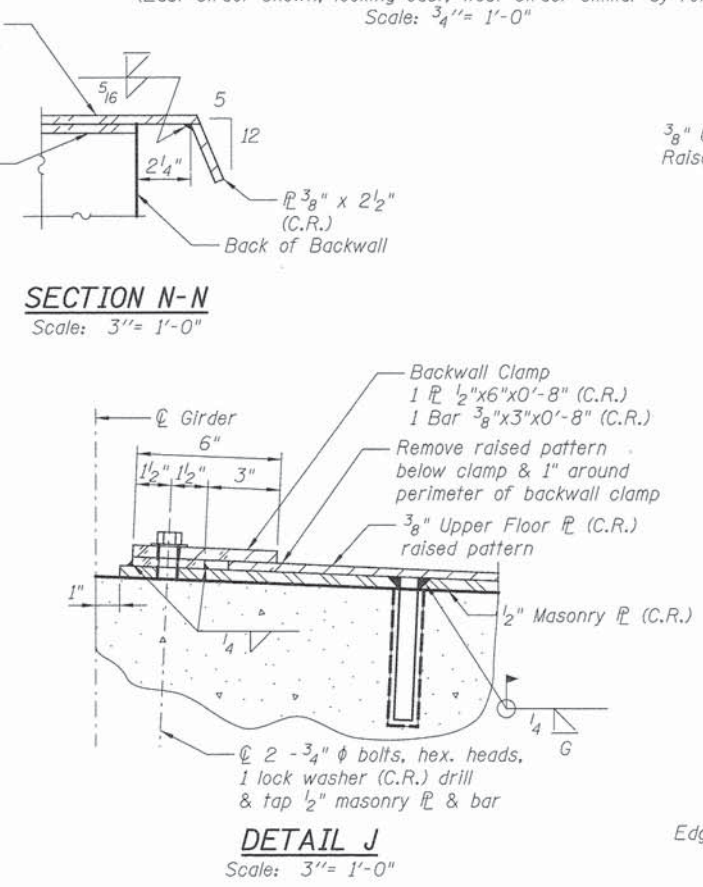
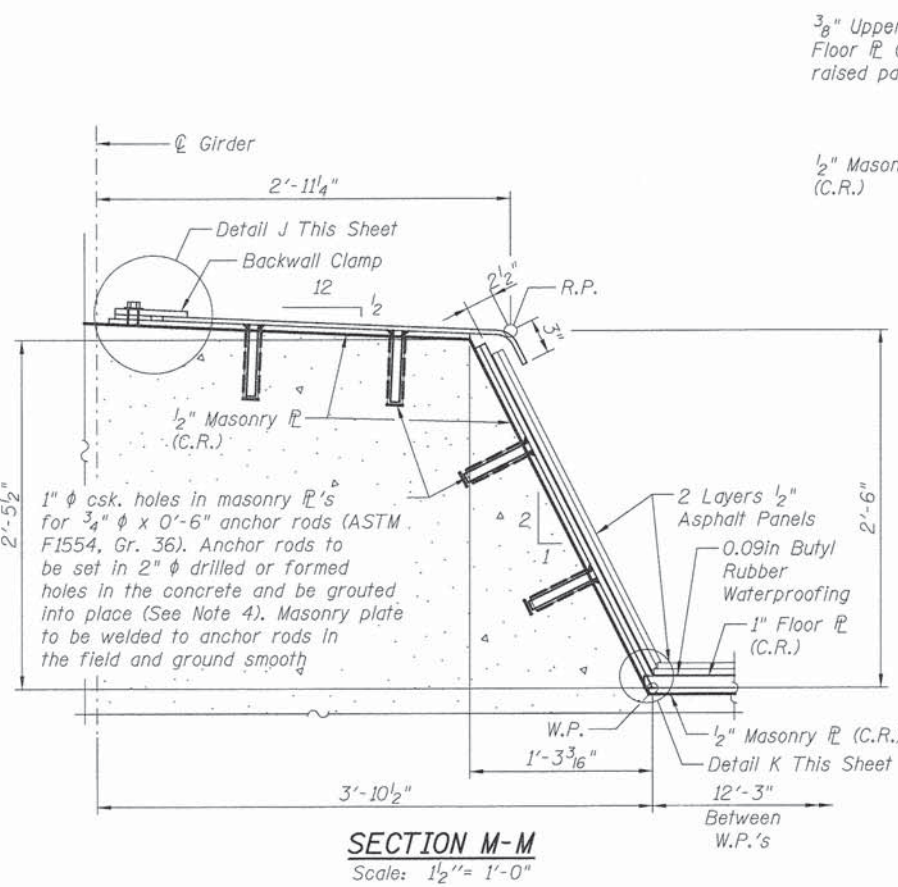
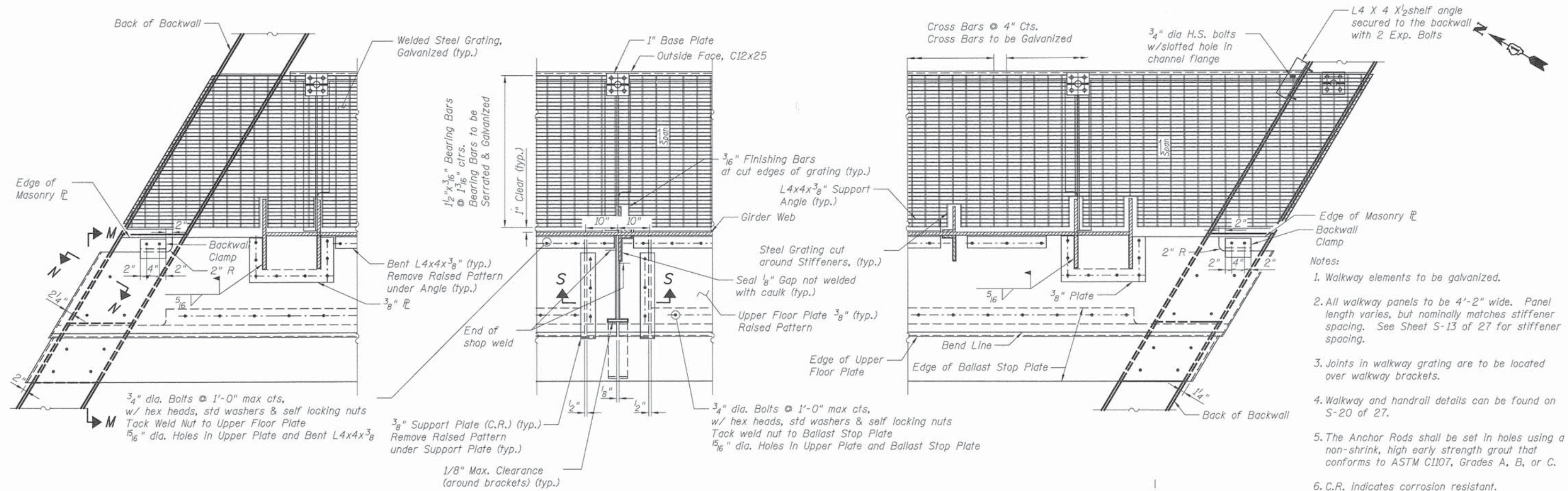


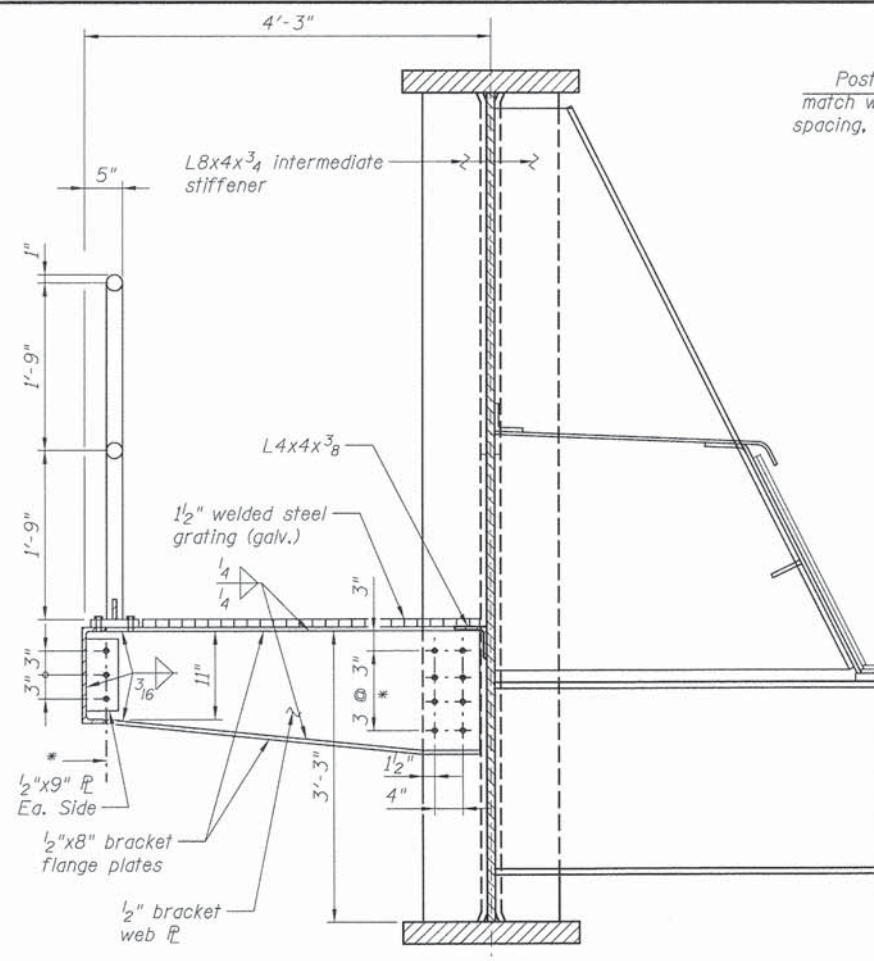
JOINT DETAIL AT ABUTMENT

Scale: $1'' = 1'-0''$



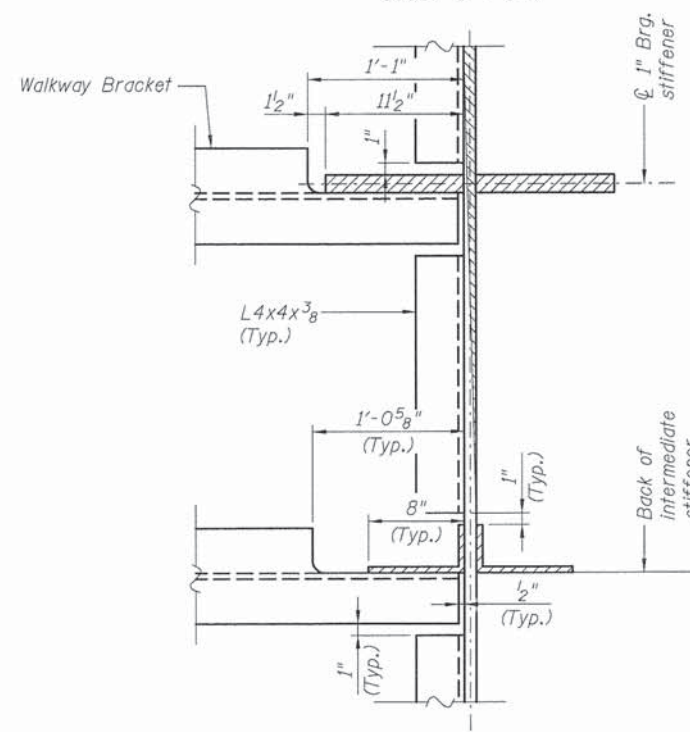
 PATRICK ENGINEERING	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = kwoepfer(Rdwj.Lisla)	DESIGNED - LFC	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FLOOR PLATE PLAN AND DETAILS STRUCTURE NO. 049-3006	F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT CONFIG = PDF(Grey.Small).plt	CHECKED - SLC	REVISED	187			11-00121-11-BR	LAKE	496	246	
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	PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED	ILLINOIS FED. AID PROJECT							
SHEET NO. S 18 OF 27											





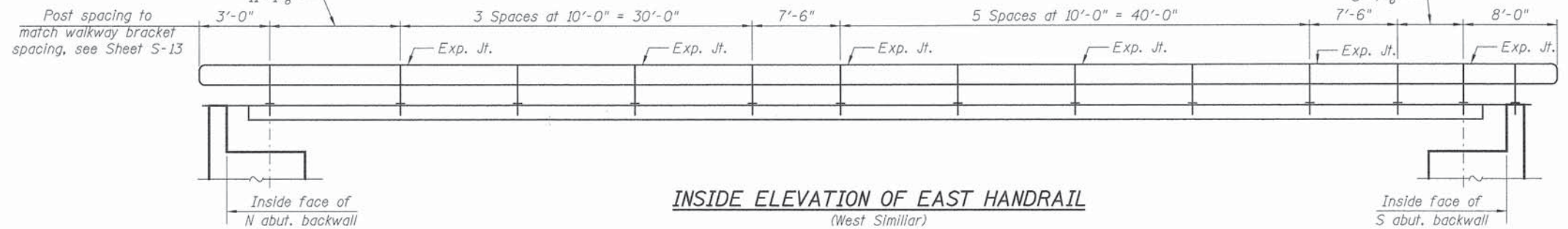
WALKWAY SECTION

Scale: 1" = 1'-0"



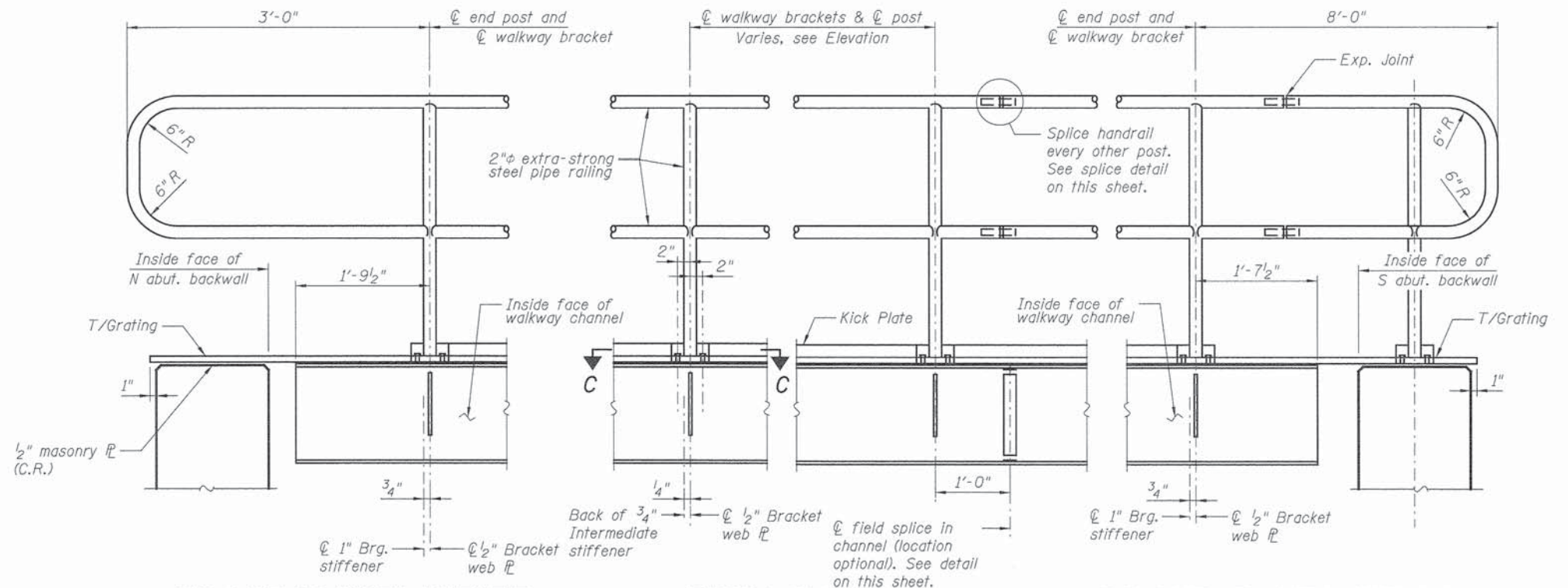
WALKWAY BRACKET PARTIAL PLAN

Scale: 1/2" = 1'-0"



INSIDE ELEVATION OF EAST HANDRAIL

(West Similar)



TYPICAL PANEL

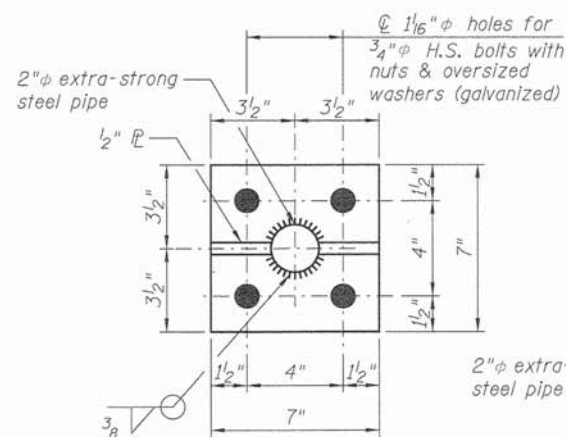
Scale: 1" = 1'-0"

END POST AT NORTH ABUTMENT

Scale: 1" = 1'-0"

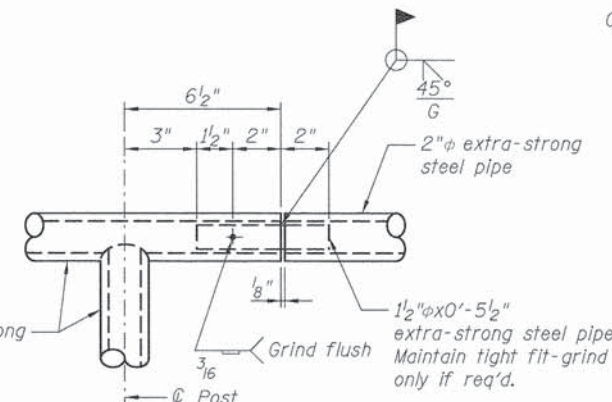
END POST AT SOUTH ABUTMENT

Scale: 1" = 1'-0"



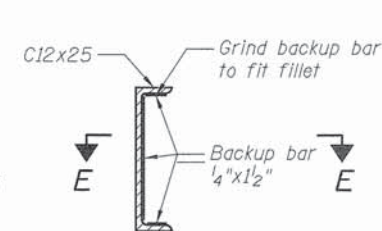
HANDRAIL BASE PLATE

Scale: 3" = 1'-0"



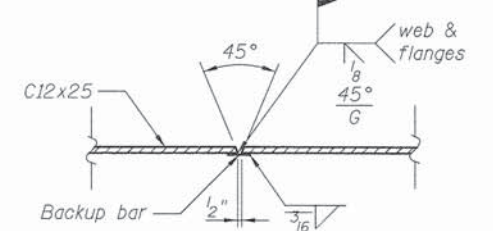
SPLICE DETAIL

Scale: 3" = 1'-0"



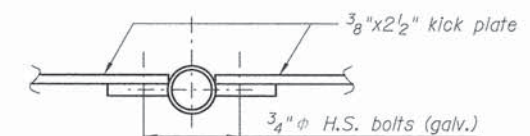
CHANNEL SPLICE

Scale: 1/2" = 1'-0"



SECTION E-E

Scale: 1/2" = 1'-0"

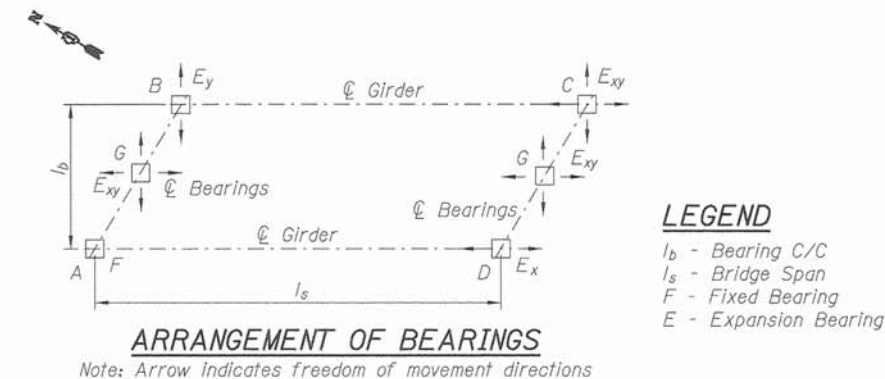
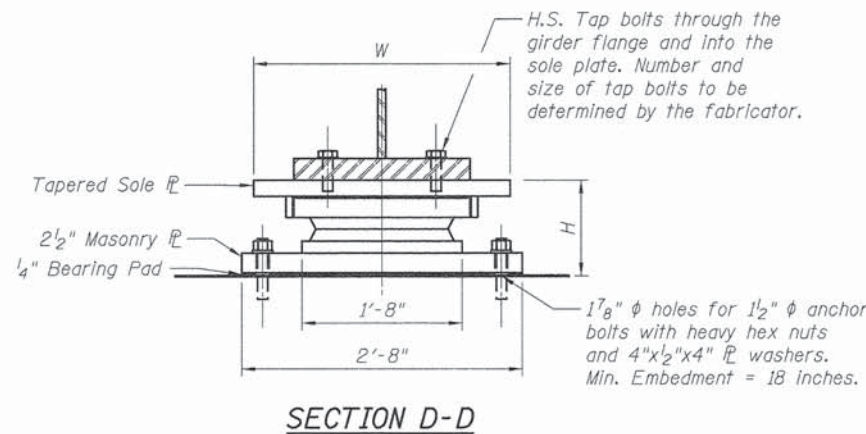
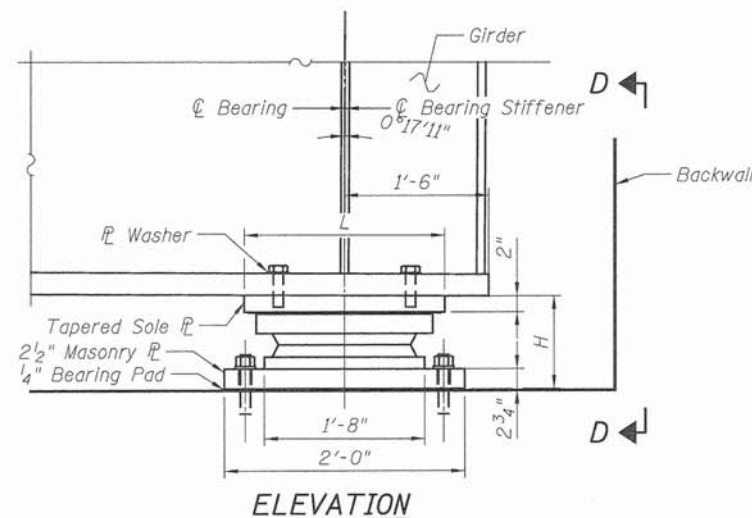


SECTION C-C

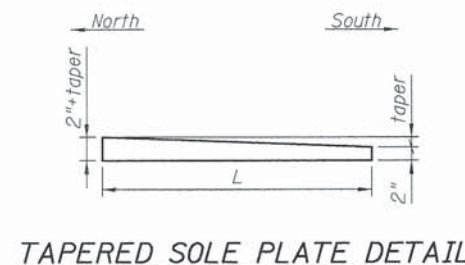
Scale: 1/2" = 1'-0"

- Notes:
1. The railing, posts, base plates, kick plates, and stiffeners between base plates and posts shall be included in the item "Steel Pipe Handrail".
 2. Railing, posts, kick plates, base plates and bolts, nuts and washers for handrail connections shall be galvanized.

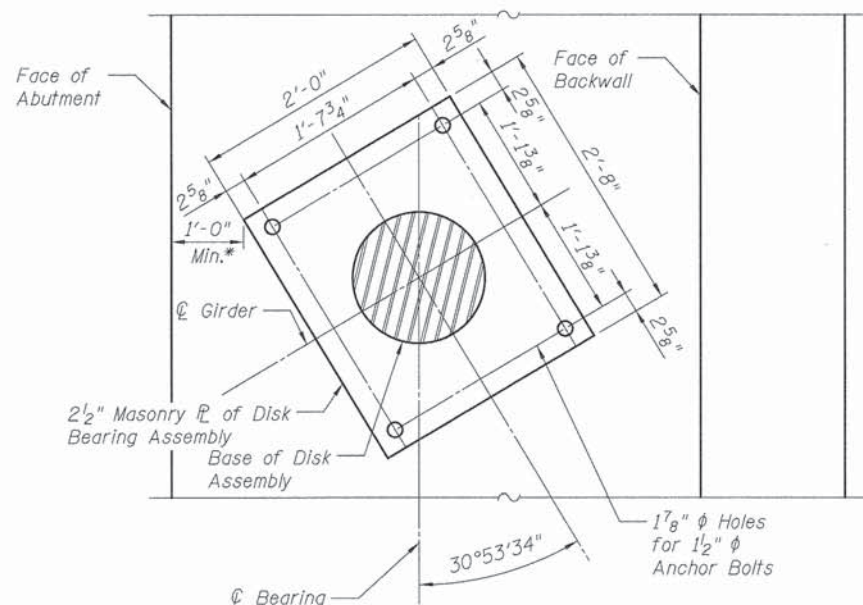
 PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwg.Lisae)	DESIGNED - LFC	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WALKWAY AND HANDRAIL DETAILS STRUCTURE NO. 049-3006	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT CONFIG= PDF(Grey.Small).plt	CHECKED - NS	REVISED			187	11-00121-11-BR	LAKE	496	248
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	PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED			ILLINOIS FED. AID PROJECT				
SHEET NO. S 20 OF 27										



High Load Multi-Rotational Bearings - Design Data								
Bearing Mark	Type	Maximum Vertical (kips)	Minimum Vertical (kips)	Longitudinal Movement	Longitudinal Load (kips)	Lateral Movement	Lateral Load (kips)	H
A	Fixed Long. Fixed Lat.	700	265	Restrained	150	Restrained	20	11.512"
B	Fixed Long. Exp. Lat.	700	265	Restrained	150	3/4" Each Direction	-	11.605"
C	Exp. Long. Exp. Lat.	700	265	1" Each Direction	-	3/4" Each Direction	-	11.605"
D	Exp. Long. Fixed Lat.	700	265	1" Each Direction	-	Restrained	20	11.605"
G	Exp. Long. Exp. Lat.	185	80	3/4" Each Direction	-	3/4" Each Direction	-	11.605"

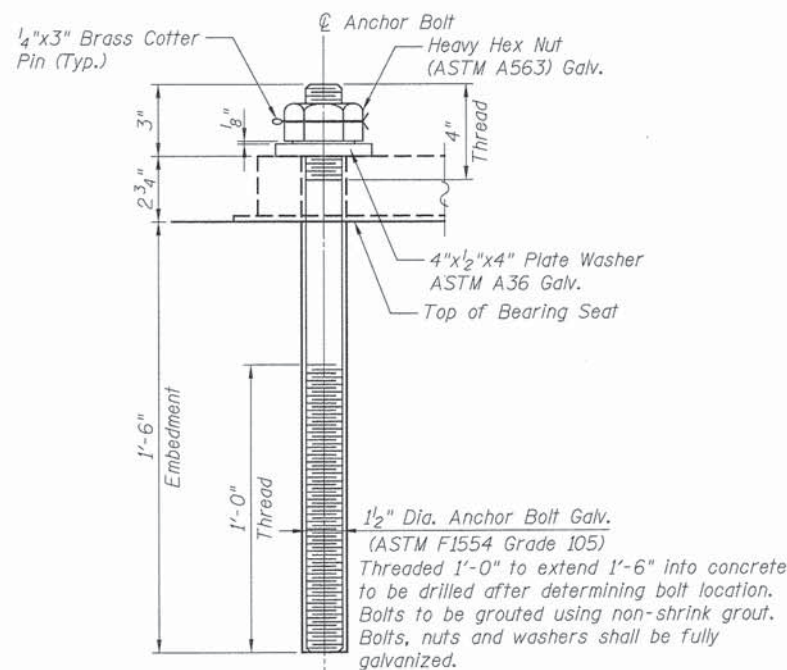


Brg.	L	W	taper
A	25.00	32.00	5/8"
B	32.00	25.00	5/8"
C	25.00	32.00	5/8"
D	25.00	32.00	5/8"

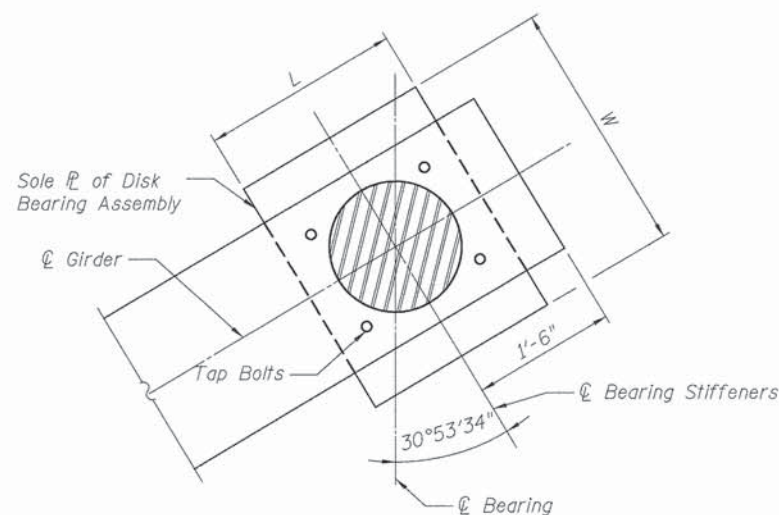


MASONRY PLATE PLAN

* Minimum clearance to face of abutment may be reduced with written approval from the Engineer and the Railroad. Minimum 1'-0" from effective bearing area shall be maintained.



ANCHOR BOLT DETAIL



SOLE PLATE PLAN

Notes:

1. High load multi-rotational bearings shall be shear-inhibited disc-type bearings. Pot bearings will not be accepted.

2. Design and workmanship shall be in accordance with the AREMA Manual Chapter 15.

3. Material shall be in accordance with the following specifications:

- Structural Steel: ASTM A709, Grade 50
 - Welding: AWS D1.5
 - Anchor Bolts: ASTM F1554, Grade 105 Hot Dip Galvanized
 - HS Tap Bolts: ASTM A325, Galvanized

4. All holes shall be drilled not punched.

5. All non-sliding surfaces of bearings shall be zinc-metalized in accordance with ASTM B833-09 Zinc Coating shall not be less than 0.01".

6. Dimensions for bearings (sole plates, masonry plates, base of disk, height of assembly "H", etc.) are provided to show general arrangement of the bearings and their individual components. The Contractor shall adjust these dimensions as required for the specific bearings proposed to be used and submit shop drawings for approval of the Engineer and the Railroad. The abutment bridge seat elevations (bearing pedestal elevations) shown on the drawings are based on an "H" dimension of 11.512in for the fixed bearing and 11.605in for all others. If the total height of the approved bearing varies from the dimensions shown the Contractor shall adjust the bearing seat elevation and reinforcing steel at each abutment as required to suit the actual height of the bearing supplied.

7. Bearing pad shall be Fabreeka or Sorbtex pads (or approved equivalent).

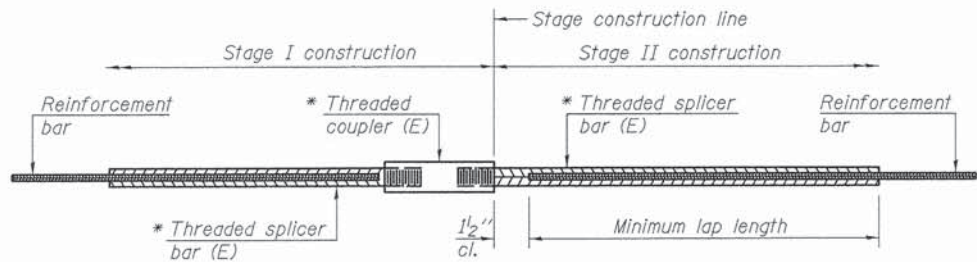
8. Surface roughness of sliding and rotational elements shall not exceed 32μ in (RMS) in accordance with ANSI/ASME B46.1, Surface Texture.

9. Shim plates paid for as Furnishing and Erecting Structural Steel.

10. Component requirements shall be in accordance with the AREMA Manual Chapter 15 Section 10.4.

BILL OF MATERIAL

Item	Location	Unit	Quantity
High Load Multi-Rotational Bearings, Fixed, 700k	A	Each	1
High Load Multi-Rotational Bearings, Guided Expansion, 700k	B, C & D	Each	3
High Load Multi-Rotational Bearings, Non-Guided Expansion, 200k	G	Each	2
Anchor Bolts 1 1/2"		Each	24



STANDARD BAR SPLICER ASSEMBLY

Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

Table 1: Black bar, 0.8 Class C

Table 2: Black bar, Top bar lap, 0.8 Class C

Table 3: Epoxy bar, 0.8 Class C

Table 4: Epoxy bar, Top bar lap, 0.8 Class C

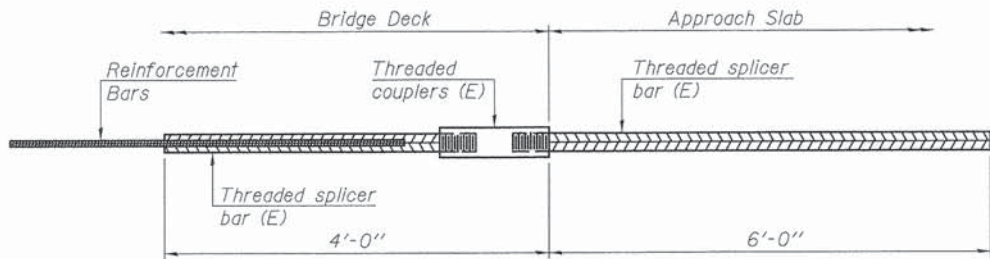
Table 5: Epoxy bar, Class C

Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1 1/2' + thread length

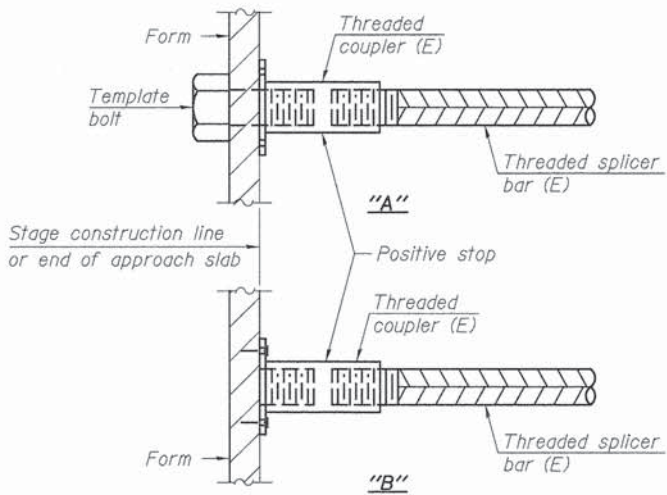
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
S. Abut. Footing	#5	48	Table 6
S. Abut. Stem	#5	46	Table 5
N. Abut. Footing	#5	48	Table 6
N. Abut. Stem	#5	50	Table 5



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =

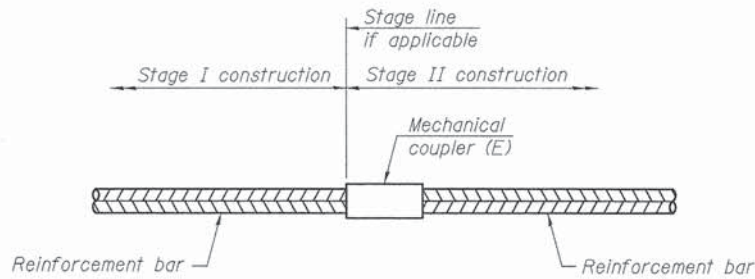


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.

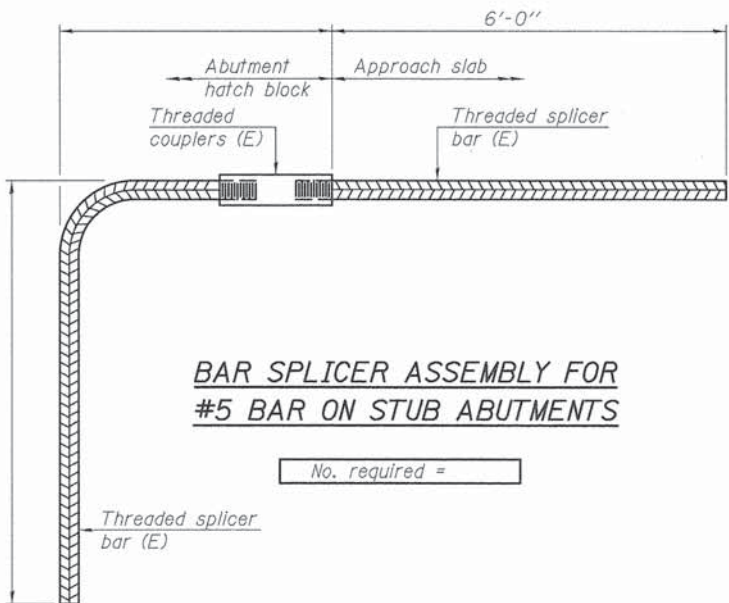
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

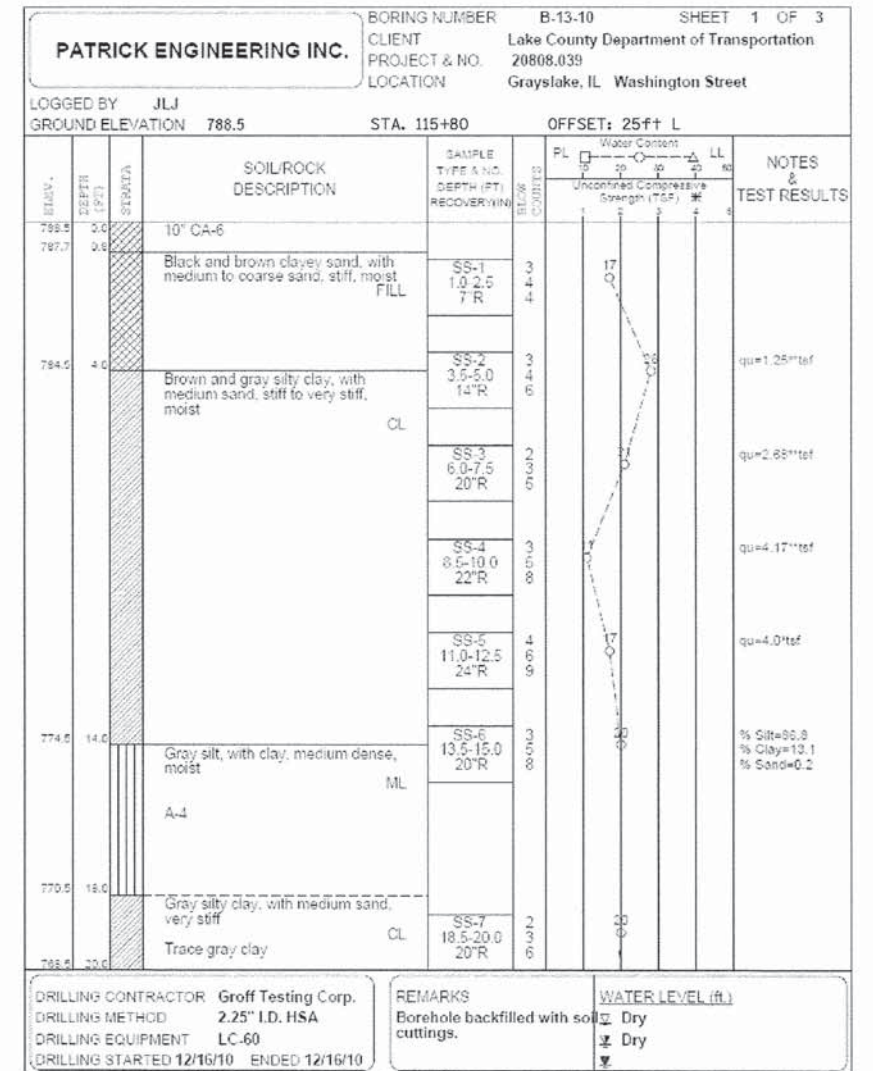
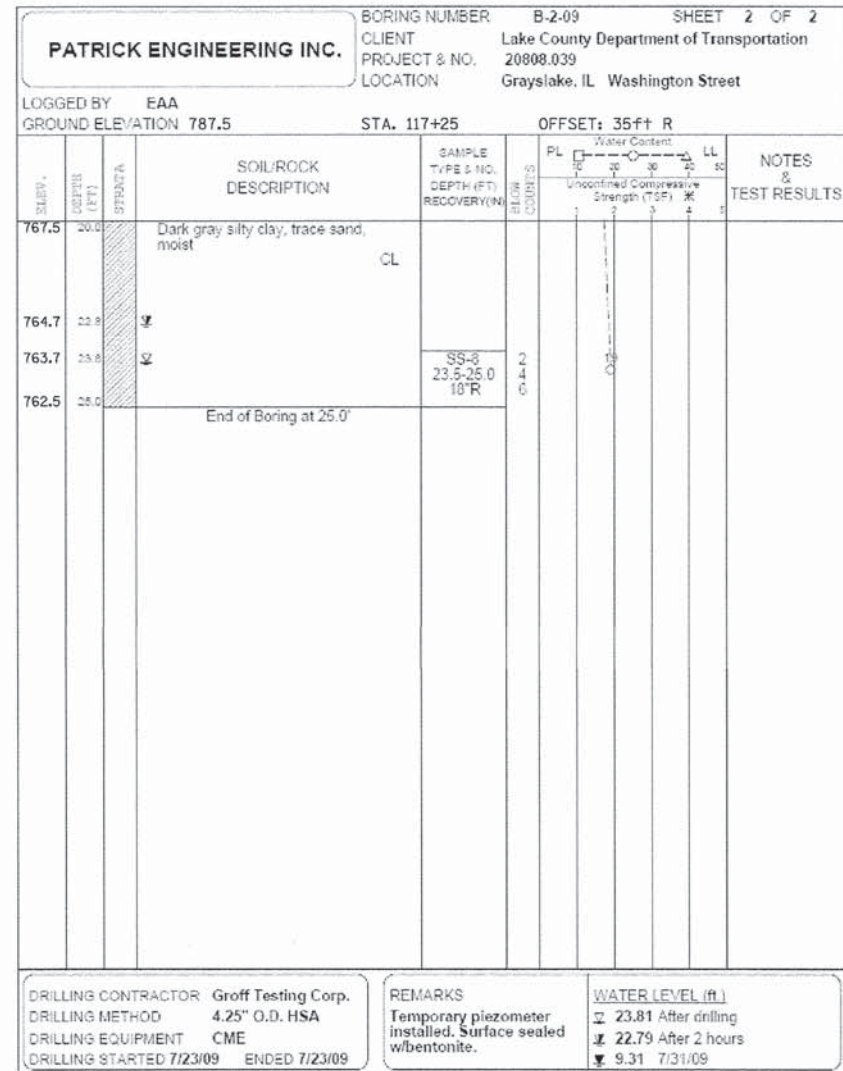
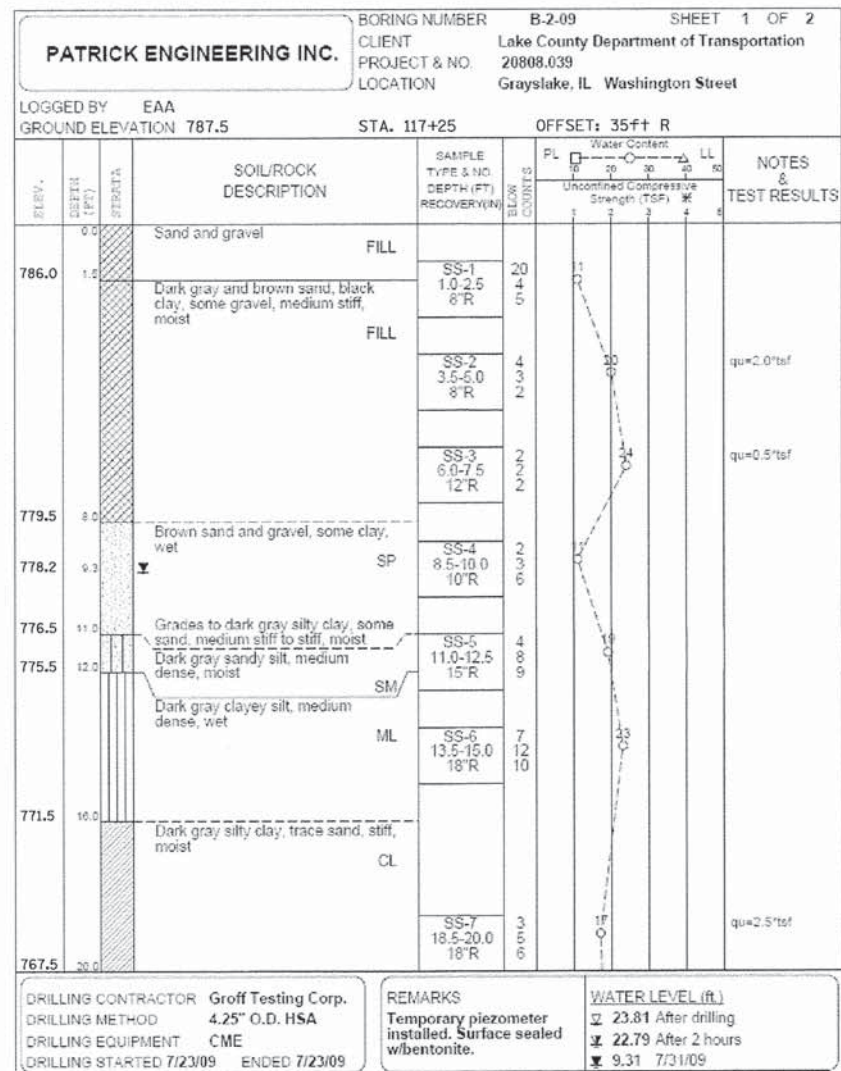
NOTES

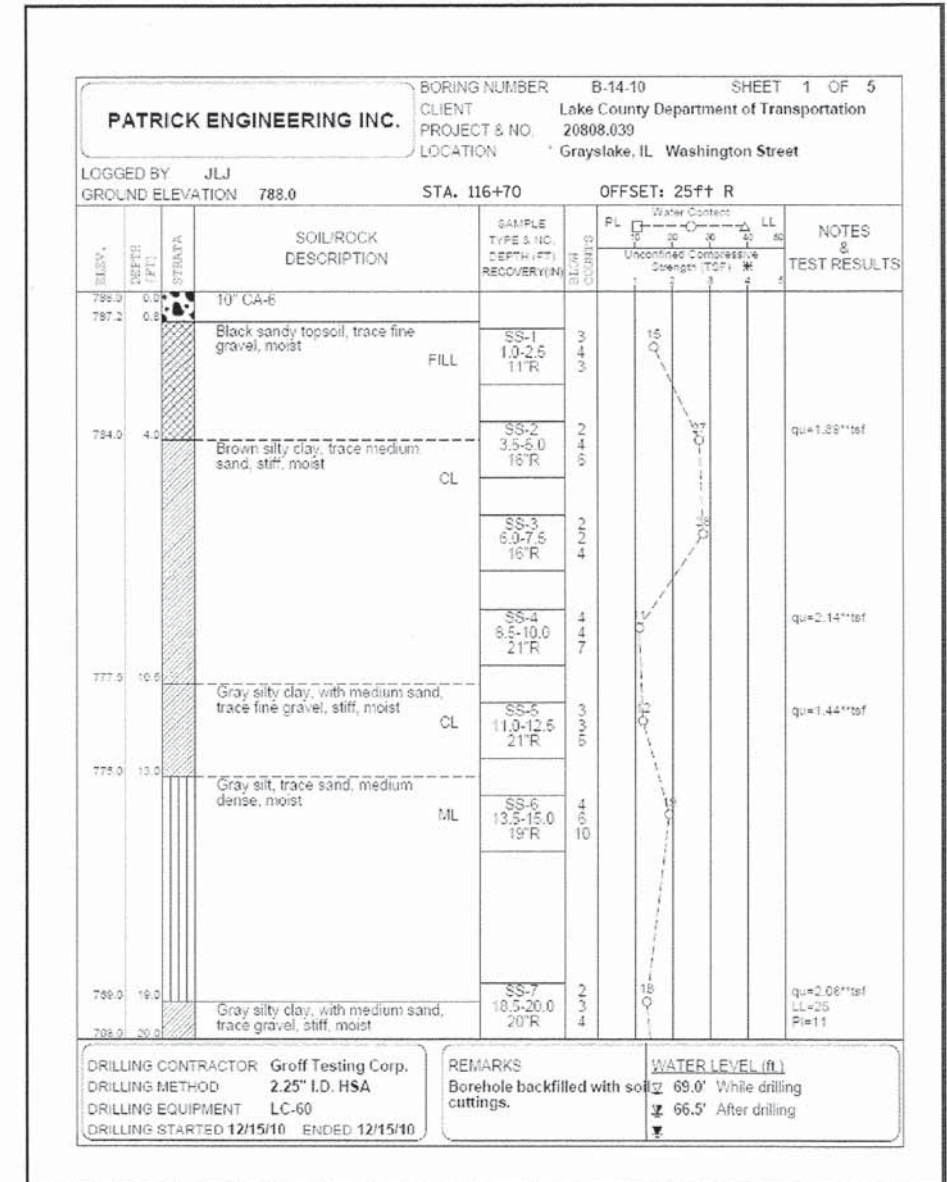
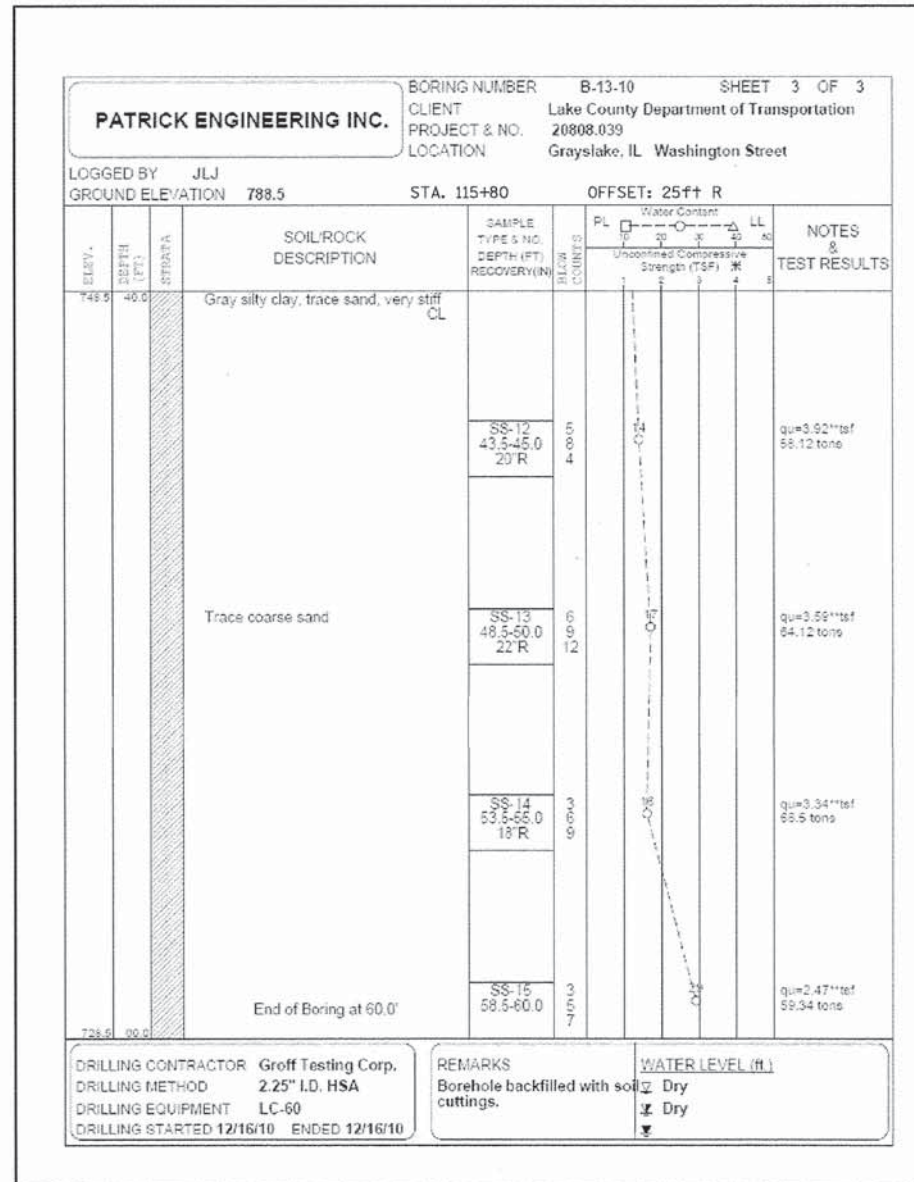
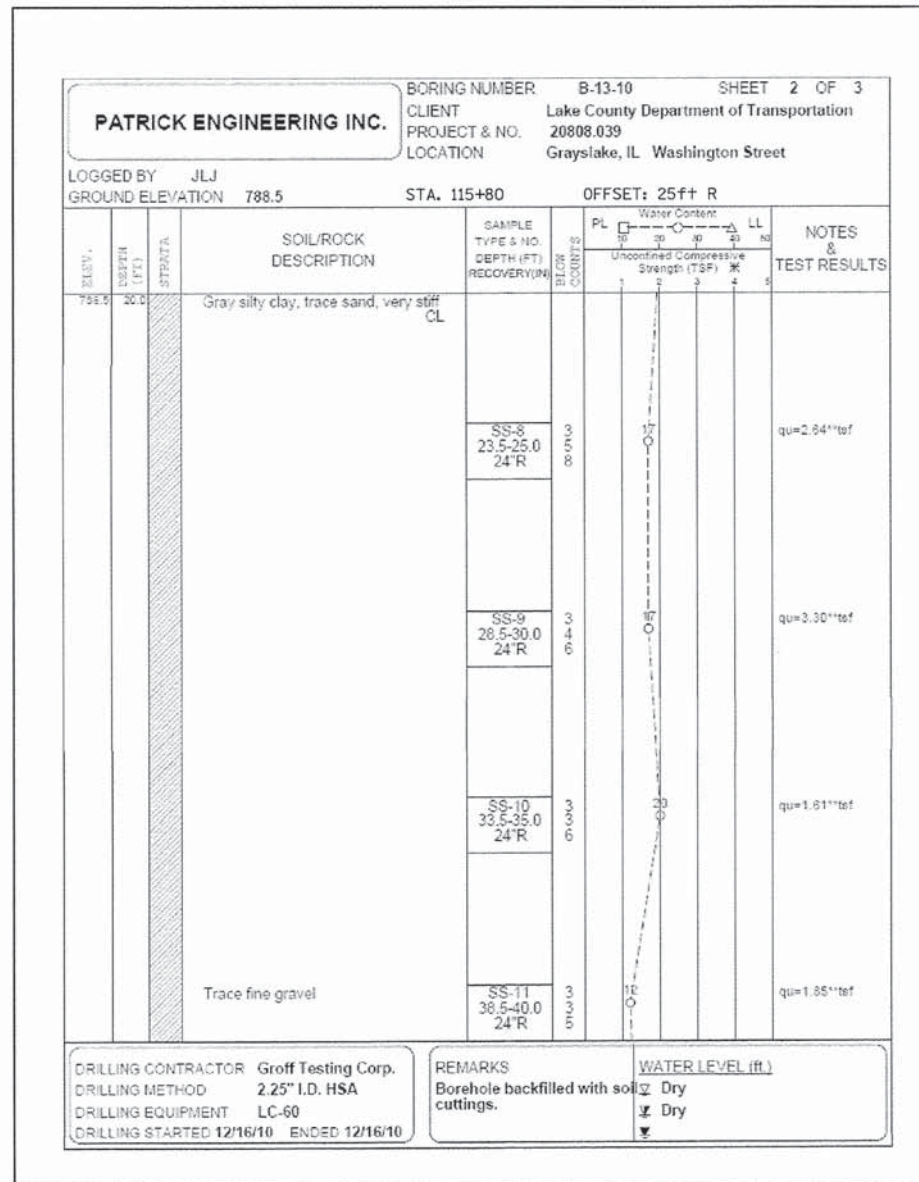
Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

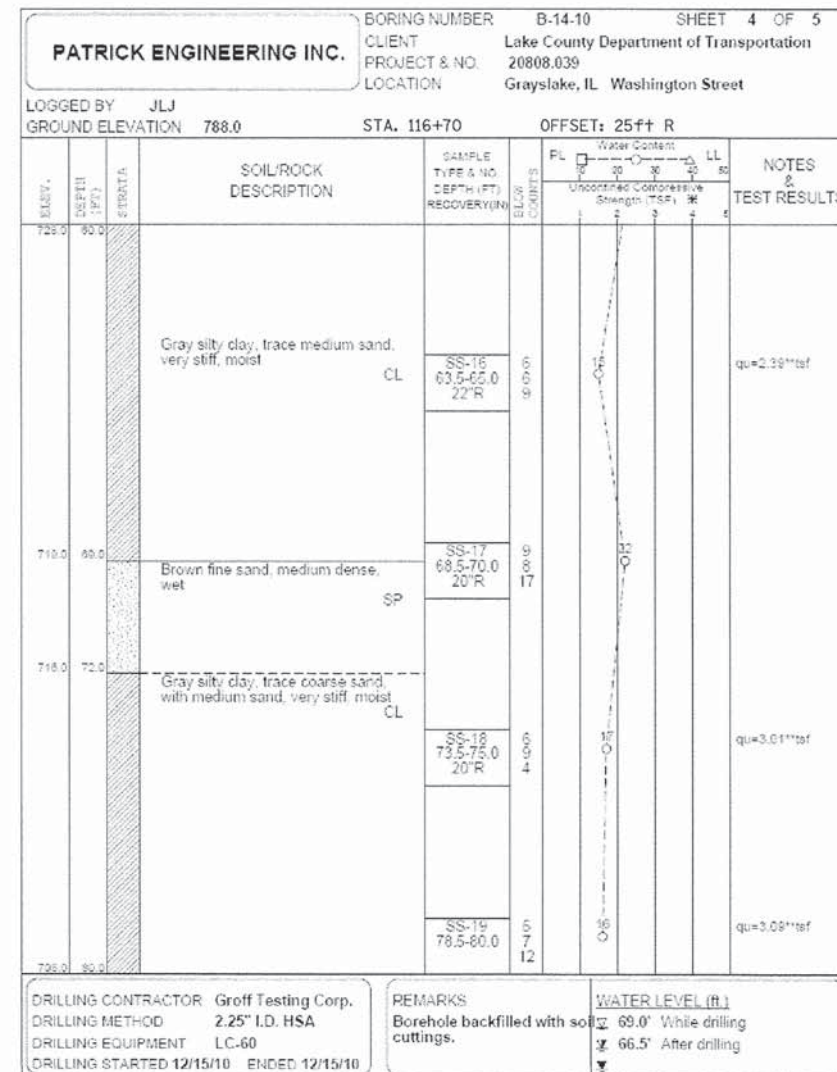
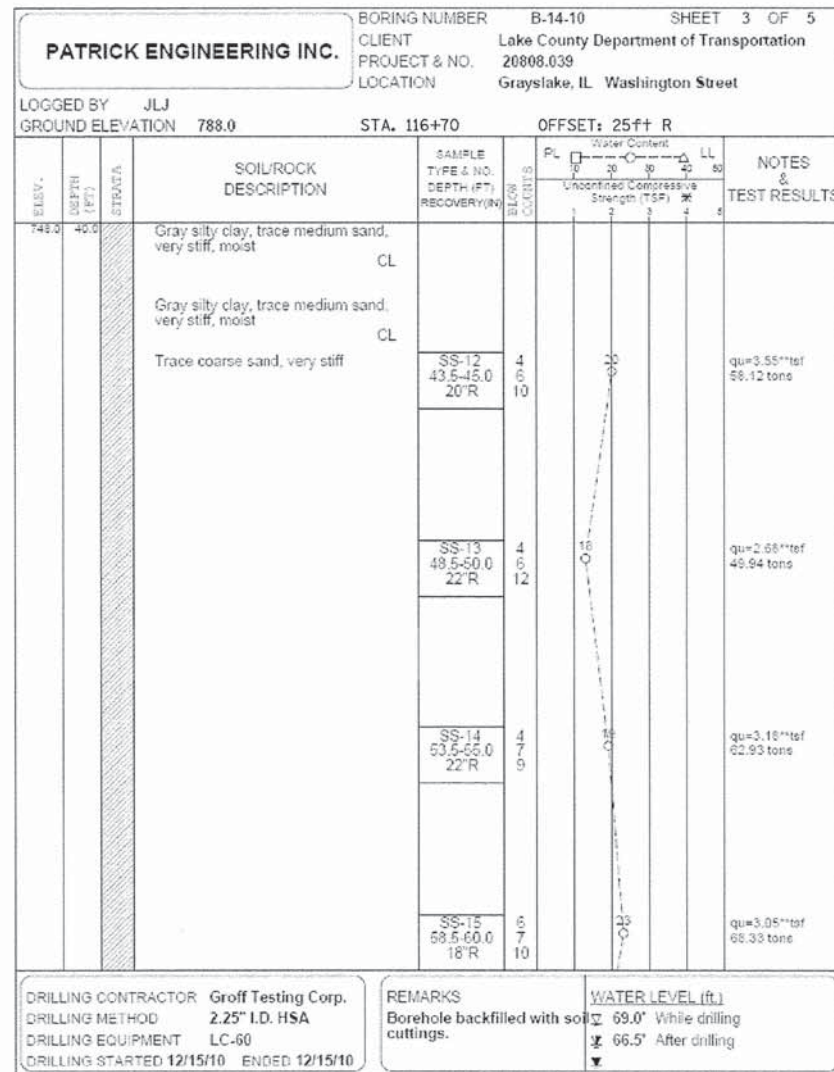
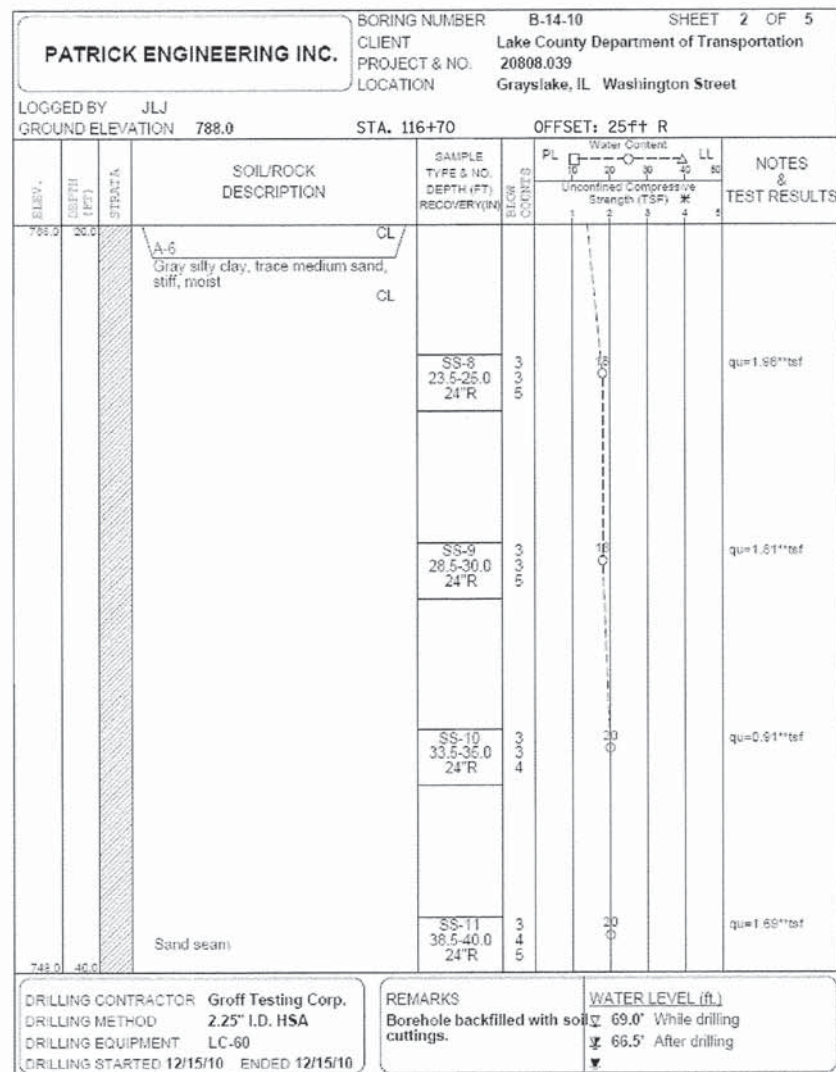
All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.



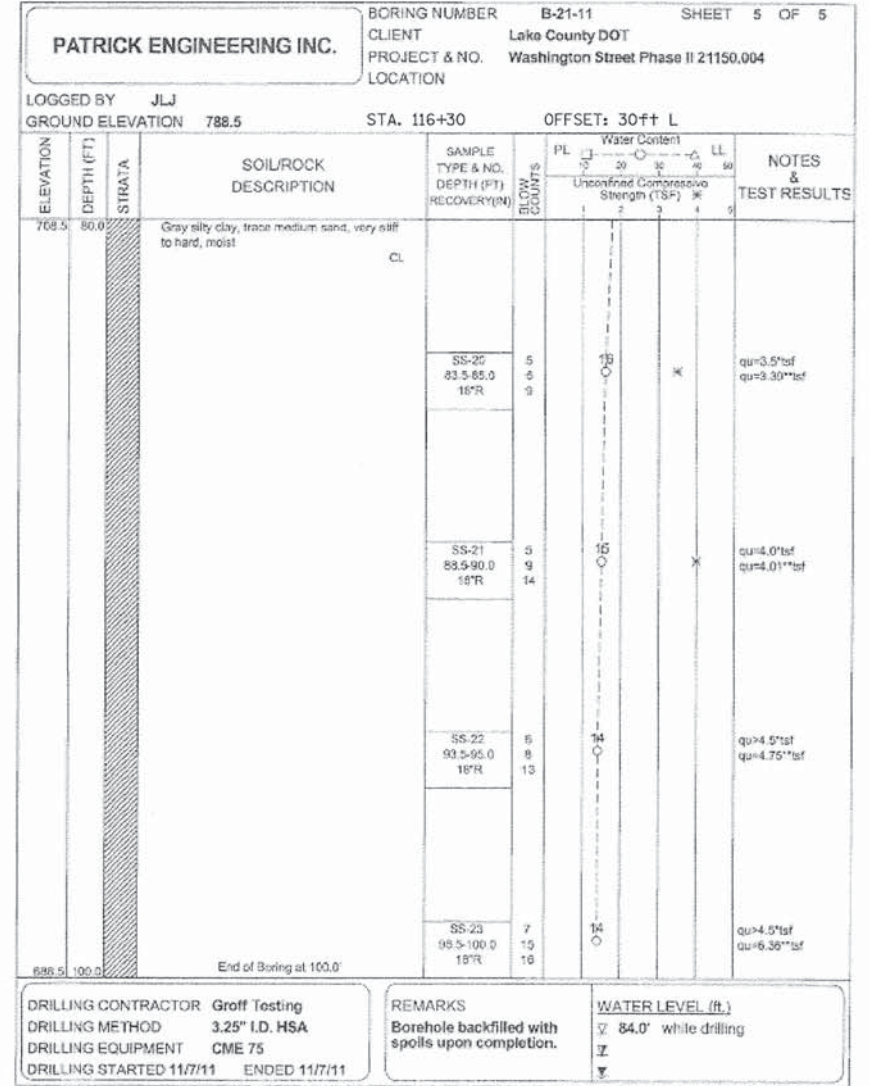
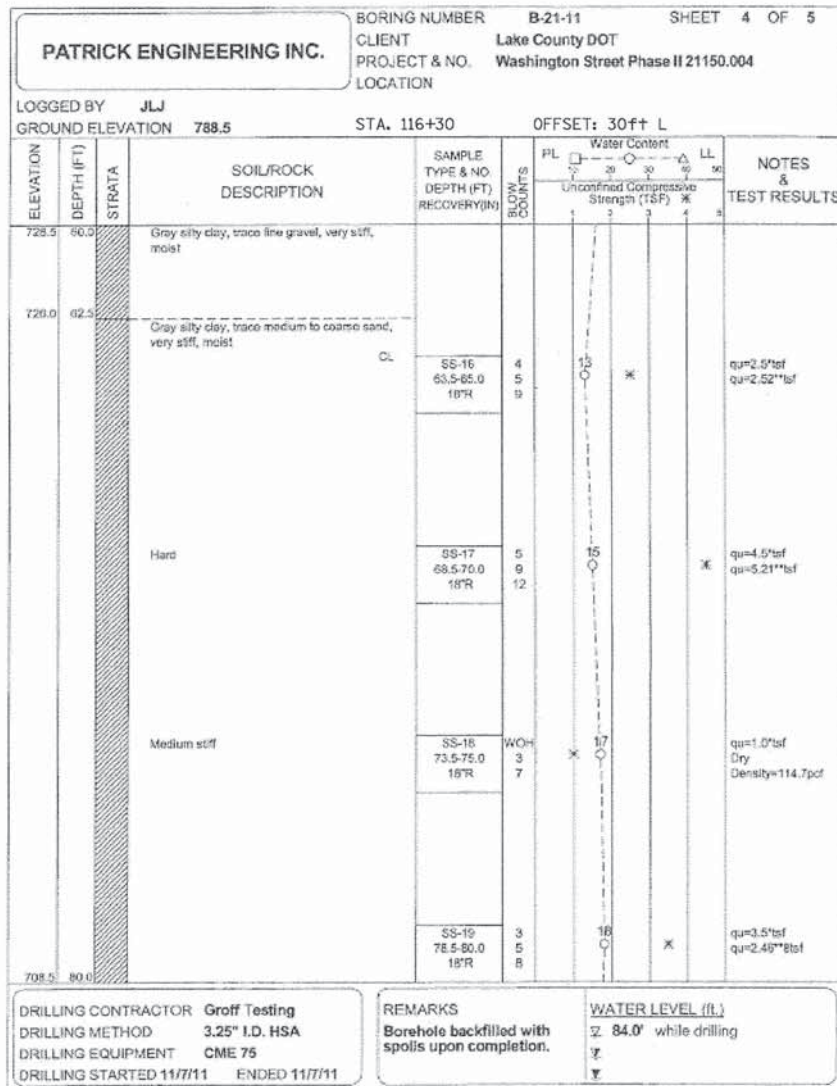
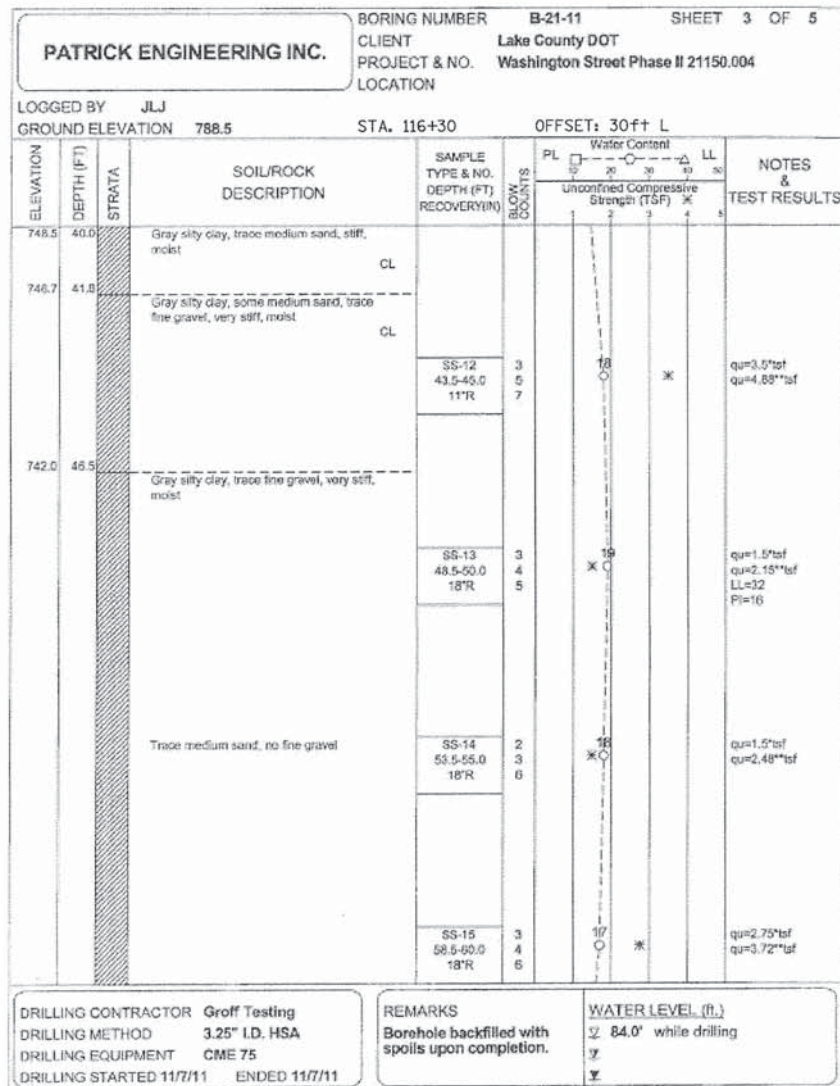




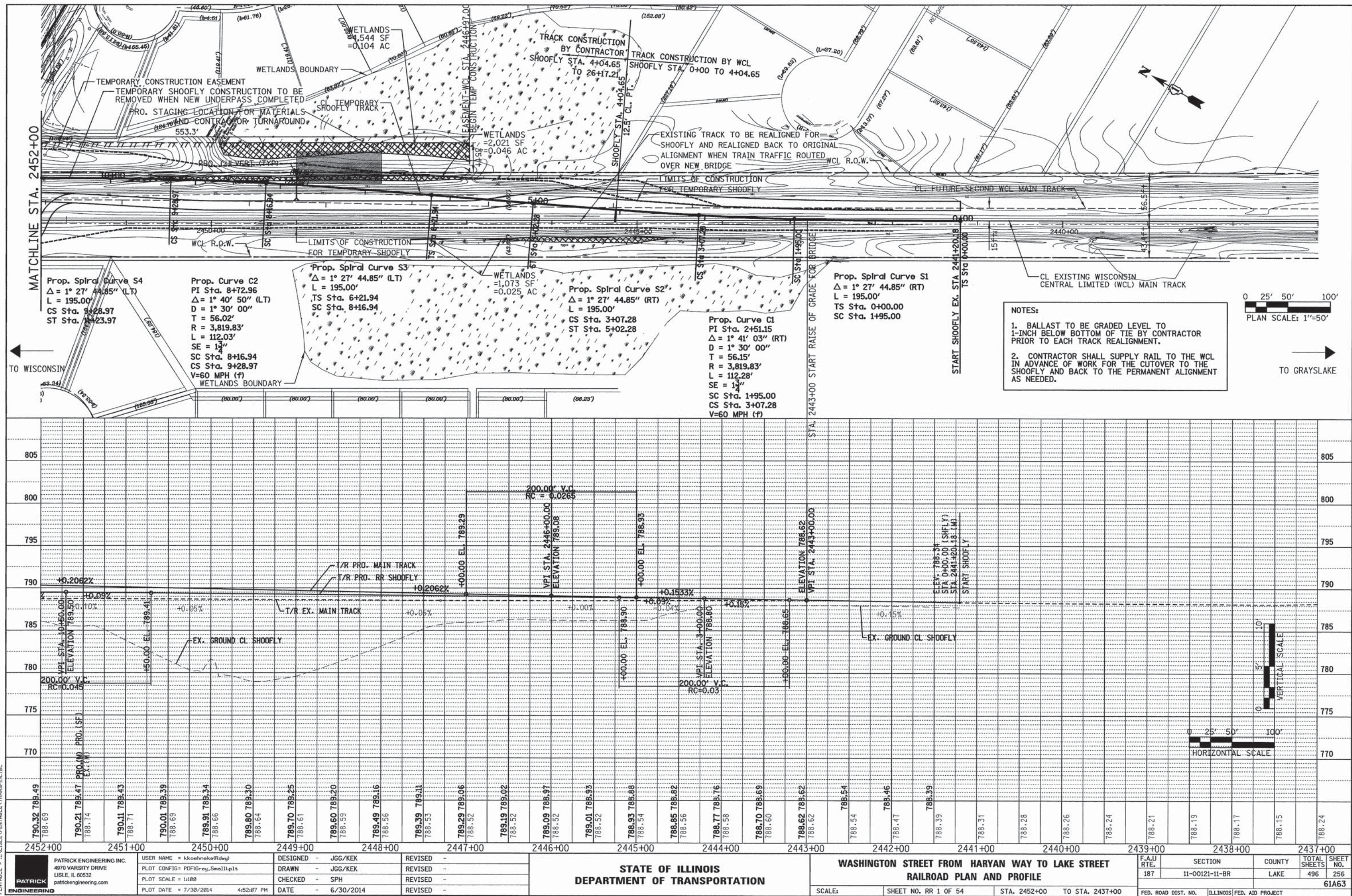
PATRICK ENGINEERING INC.		BORING NUMBER B-14-10 SHEET 5 OF 5						
CLIENT Lake County Department of Transportation		PROJECT & NO. 20808.039						
LOCATION Grayslake, IL Washington Street								
LOGGED BY JLJ		STA. 116+70						
GROUND ELEVATION 788.0		OFFSET: 25ft R						
ELEV.	DEPTH (FT)	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(%)	PL	Water Content	LL	Unconfined Compressive Strength (TSF)	NOTES & TEST RESULTS
788.0	80.0	End of Boring at 80.0'						
DRILLING CONTRACTOR Groff Testing Corp.		REMARKS Borehole backfilled with soil cuttings.		WATER LEVEL (ft.)				
DRILLING METHOD 2.25" I.D. HSA				69.0' While drilling				
DRILLING EQUIPMENT LC-60				66.5' After drilling				
DRILLING STARTED 12/15/10 ENDED 12/15/10								

PATRICK ENGINEERING INC.		BORING NUMBER B-21-11 SHEET 1 OF 5						
CLIENT Lake County DOT		PROJECT & NO. Washington Street Phase II 21150.004						
LOCATION								
LOGGED BY JLJ		STA. 116+30						
GROUND ELEVATION 788.5		OFFSET: 30ft L						
ELEVATION	DEPTH (FT)	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(%)	PL	Water Content	LL	Unconfined Compressive Strength (TSF)	NOTES & TEST RESULTS
788.5	0.0	Stiff black topsoil	SS-1 1.0-2.5 1'R	3			31	
785.5	3.0	Brown and gray silty clay, some medium sand, trace coarse sand, fine gravel, medium stiff, moist	SS-2 3.5-5.0 1'R	3			19	Pounded spoon twco. Very low recovery.
781.5	7.0	Brown and gray silt, wet	SS-3 5.0-7.5 1'R	2			14	qu=2.0'tsf
780.5	8.0	Brown and gray silty clay, trace medium sand, and occasional silt seam, stiff, moist	SS-4 8.5-10.0 1'R	3			17	qu=1.0'tsf
779.0	9.5	Gray silty clay, trace medium to coarse sand, and trace fine gravel, very stiff, moist	SS-5 11.0-12.5 1'R	4			10	qu=4.5'tsf
778.0	10.5	Gray silt, little clay, medium dense, wet	SS-6 13.5-15.0 1'R	4			22	qu=2.0'tsf % Silt=81.7 % Clay=17.8 % Sand=0.5
773.9	14.5	Gray silty clay, trace medium sand, with silt seams, very stiff, moist	SS-7 18.5-20.0 1'R	2			16	qu=3.5'tsf qu=3.0'tsf qu=3.1'tsf
DRILLING CONTRACTOR Groff Testing		REMARKS Borehole backfilled with spoils upon completion.		WATER LEVEL (ft.)				
DRILLING METHOD 3.25" I.D. HSA				84.0' while drilling				
DRILLING EQUIPMENT CME 75								
DRILLING STARTED 11/7/11 ENDED 11/7/11								

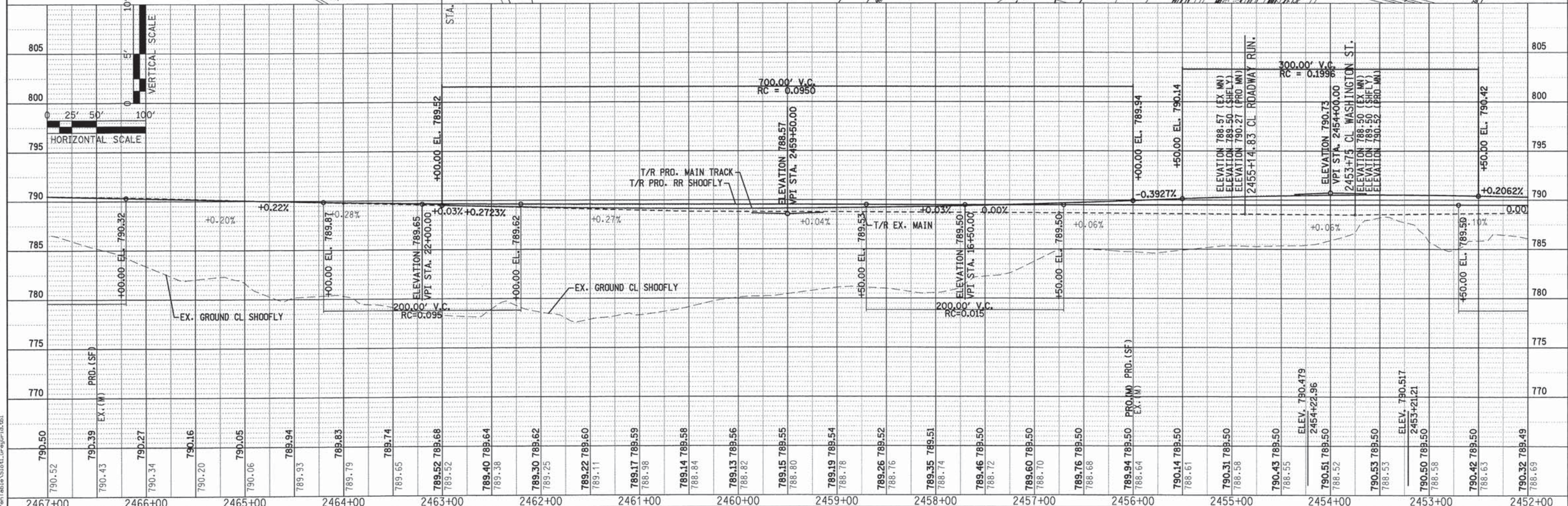
PATRICK ENGINEERING INC.		BORING NUMBER B-21-11 SHEET 2 OF 5						
CLIENT Lake County DOT		PROJECT & NO. Washington Street Phase II 21150.004						
LOCATION								
LOGGED BY JLJ		STA. 116+30						
GROUND ELEVATION 788.5		OFFSET: 30ft L						
ELEVATION	DEPTH (FT)	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(%)	PL	Water Content	LL	Unconfined Compressive Strength (TSF)	NOTES & TEST RESULTS
788.5	20.0	Gray silty clay, trace medium sand, with silt seams, very stiff, moist	CL					
765.0	22.5	Gray silty clay, trace medium sand, very stiff, moist	SS-8 23.5-25.0 1'R	2			19	qu=1.5'tsf qu=1.85'tsf
			SS-9 28.5-30.0 1'R	2			16	qu=1.5'tsf qu=2.1'tsf
			SS-10 33.5-35.0 1'R	2			16	qu=1.5'tsf qu=2.2'tsf
		Trace fine gravel	SS-11 39.5-40.0 1'R	2			16	qu=2.5'tsf Dry Density=110pcf
DRILLING CONTRACTOR Groff Testing		REMARKS Borehole backfilled with spoils upon completion.		WATER LEVEL (ft.)				
DRILLING METHOD 3.25" I.D. HSA				84.0' while drilling				
DRILLING EQUIPMENT CME 75								
DRILLING STARTED 11/7/11 ENDED 11/7/11								



PROFILE	SURVEYED _____	BY _____	DATE _____
	PLOTTED _____		
NOTE BOOK	GRADES CHECKED _____		
	B.M. NOTED _____		
NO. _____	STRUCTURE NOTATIONS CHECKED _____		



PROFILE	SURVEYED _____	BY _____	DATE _____
	PLOTTED _____		
	GRADES CHECKED _____		
NOTE BOOK	B.M. NOTED _____		
NO. _____	STRUCTURE NOTATIONS CHK'D _____		



 PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdw.Lisale)	DESIGNED - JGG/KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RAILROAD PLAN AND PROFILE	SCALE:		SHEET NO. RR 2 OF 54	STA. 2467+00 TO STA. 2452+00	F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 7/17/2014 2:07:47 PM	DATE - 6/30/2014	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT								

PLAN	SURVEYED	BY	DATE
PLOTTED			
NOTE BOOK			
NO.			

PROFILE	SURVEYED	BY	DATE
PLOTTED			
NOTE BOOK			
NO.			

PENTABLE = ...\\LISLE\TABLE\TRANSPEN.TBL

PATRICK ENGINEERING
PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, IL 60532
patrickengineering.com

USER NAME = kkoehnke(Rdwj)
PLOT CONFIG = PDF(Greg.Small).plt
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DESIGNED - JGG/KEK
DRAWN - JGG/KEK
CHECKED - SPH
DATE - 6/30/2014

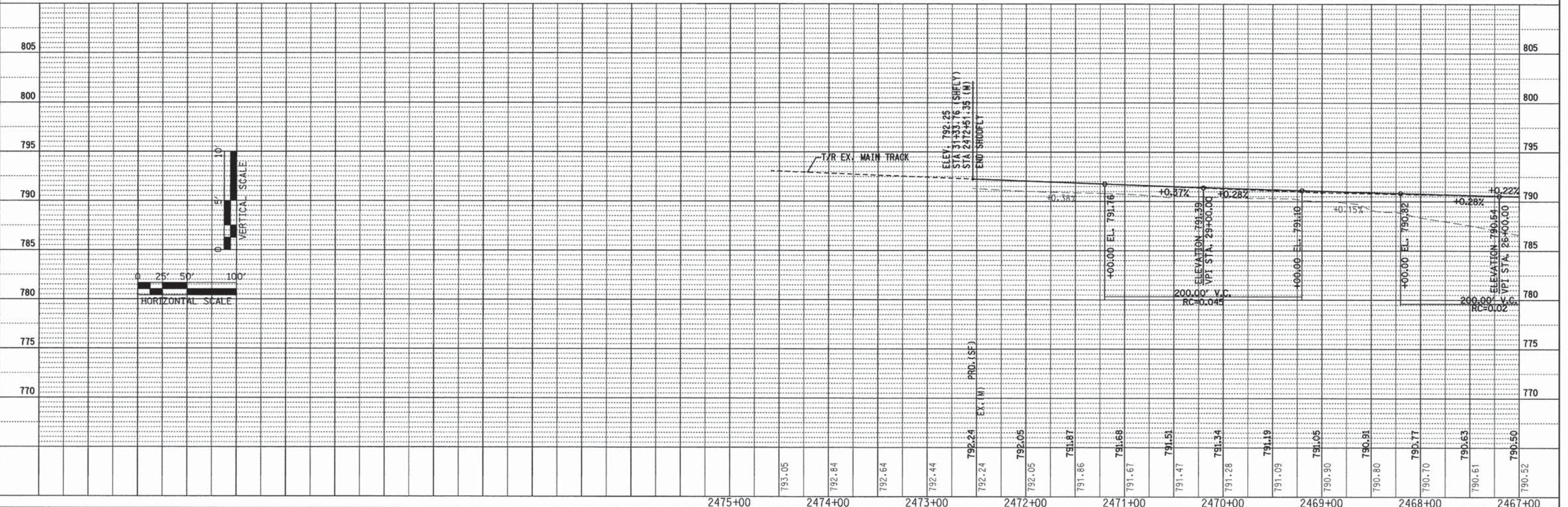
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD PLAN AND PROFILE

SCALE: SHEET NO. RR 3 OF 54 STA. 2481+00 TO STA. 2467+00

F.A.W. RTE. 187	SECTION 11-00121-11-BR	COUNTY LAKE	TOTAL SHEETS 496	SHEET NO. 258
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				61A63



- NOTES:
- BALLAST TO BE GRADED LEVEL TO 1-INCH BELOW BOTTOM OF TIE BY CONTRACTOR PRIOR TO EACH TRACK REALIGNMENT.
 - CONTRACTOR SHALL SUPPLY RAIL TO THE WCL IN ADVANCE OF WORK FOR THE CUTOVER TO THE SHOOFLY AND BACK TO THE PERMANENT ALIGNMENT AS NEEDED.

Prop. Spiral Curve S8
 $\Delta = 0^\circ 40' 00''$ (RT)
 $L = 160.00'$
TS Sta. 29+73.76
SC Sta. 31+33.76

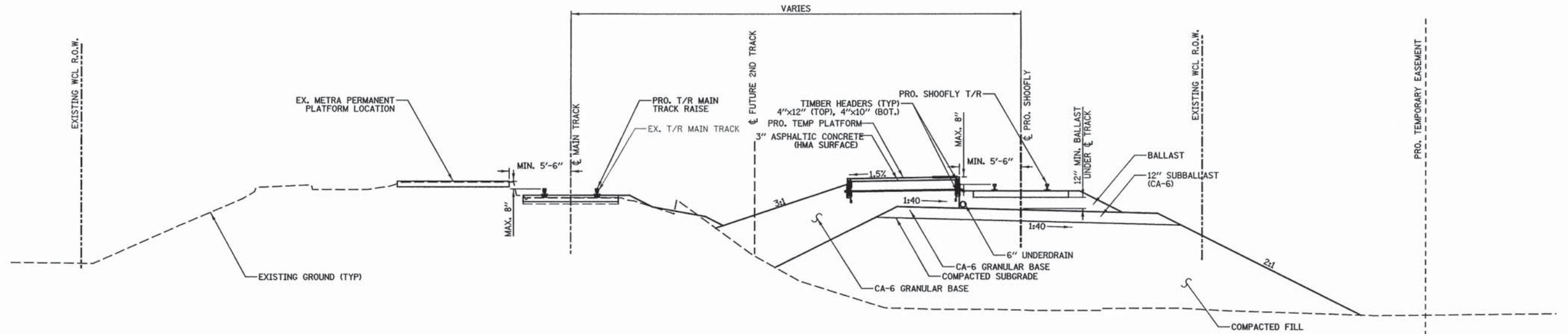
Prop. Curve C4
PI Sta. 29+03.77
 $\Delta = 1^\circ 10' 00''$ (RT)
 $D = 0^\circ 50' 00''$
 $T = 70.00'$
 $R = 6,875.55'$
 $L = 139.99'$
 $SE = \frac{1}{2}''$
SC Sta. 28+33.77
CS Sta. 29+73.76
 $V = 60$ MPH (P)

Prop. Spiral Curve S7
 $\Delta = 0^\circ 40' 00''$ (RT)
 $L = 160.00'$
TS Sta. 26+73.77
SC Sta. 28+33.77

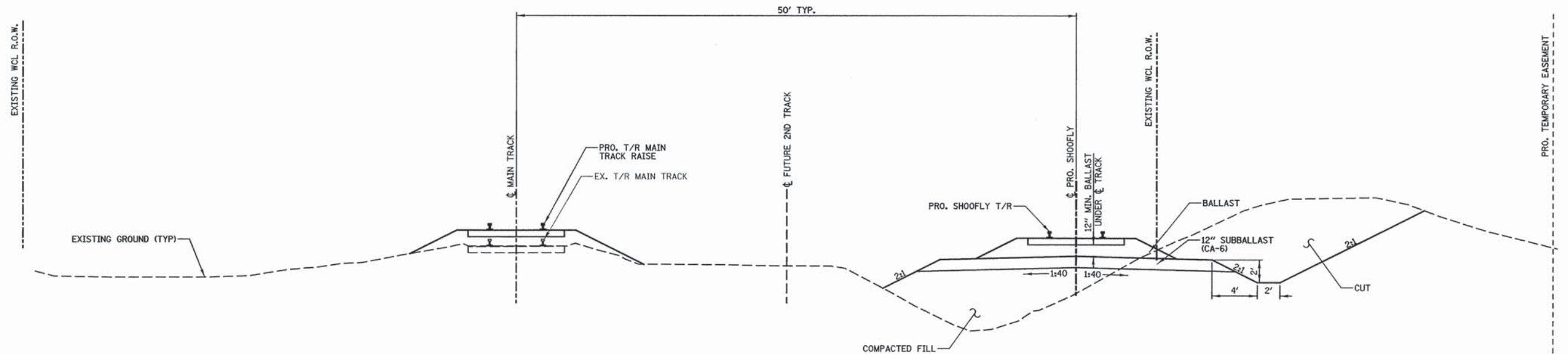
TRACK CONSTRUCTION BY WCL
SHOOFLY STA. 26+17.21
TO 31+33.76

CONSTRUCTION BY CONTRACTOR
SHOOFLY STA. 4+04.65
TO 26+17.21

MATCHLINE STA. 2467+00



TYPICAL SECTION - TEMPORARY PLATFORM
(MAIN STA. 2460+25 TO 2464+05 - LOOKING NORTH)

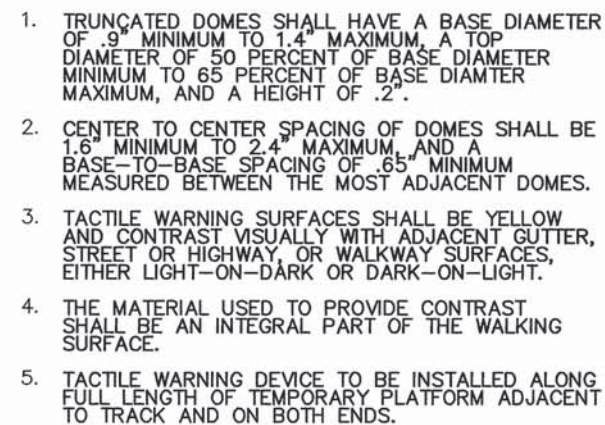


TYPICAL SECTION - TEMPORARY SHOOFLY
(LOOKING NORTH)

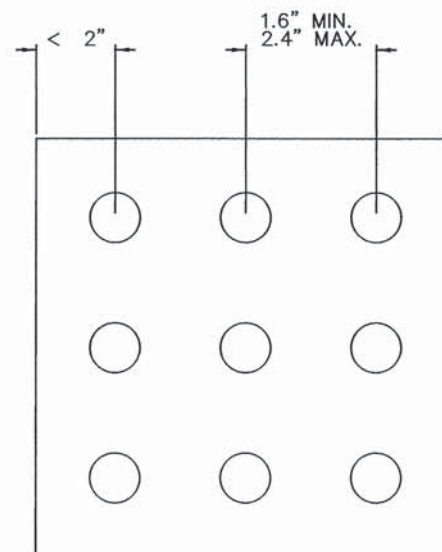
RENTABLE # 11-00121-11-BR

 PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen@dwg.lisle	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RAILROAD TYPICAL SECTIONS				F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 7/17/2014 9:05:05 PM	DATE - 6/30/2014	REVISED -		ILLINOIS FED. AID PROJECT								
					SCALE:	SHEET NO. RR 4 OF 54	STA.	TO STA.					

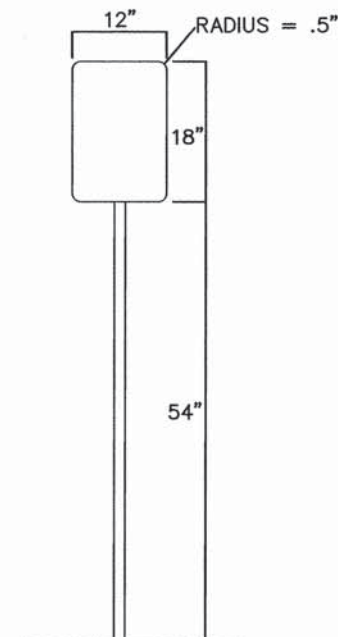
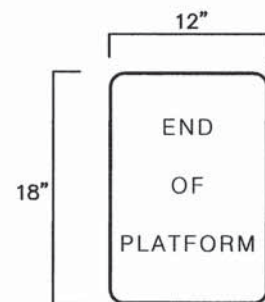
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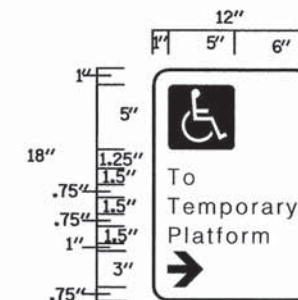
DETAIL — TACTILE WARNING DEVICE
NOT TO SCALE



DETAIL — METRA TACTILE SIGN FOR TEMPORARY PLATFORM
TEMPORARY SIGN TO BE PLACED AT END OF PLATFORM FOR
VISUAL IMPAIRED PATRON SAFETY
NOT TO SCALE



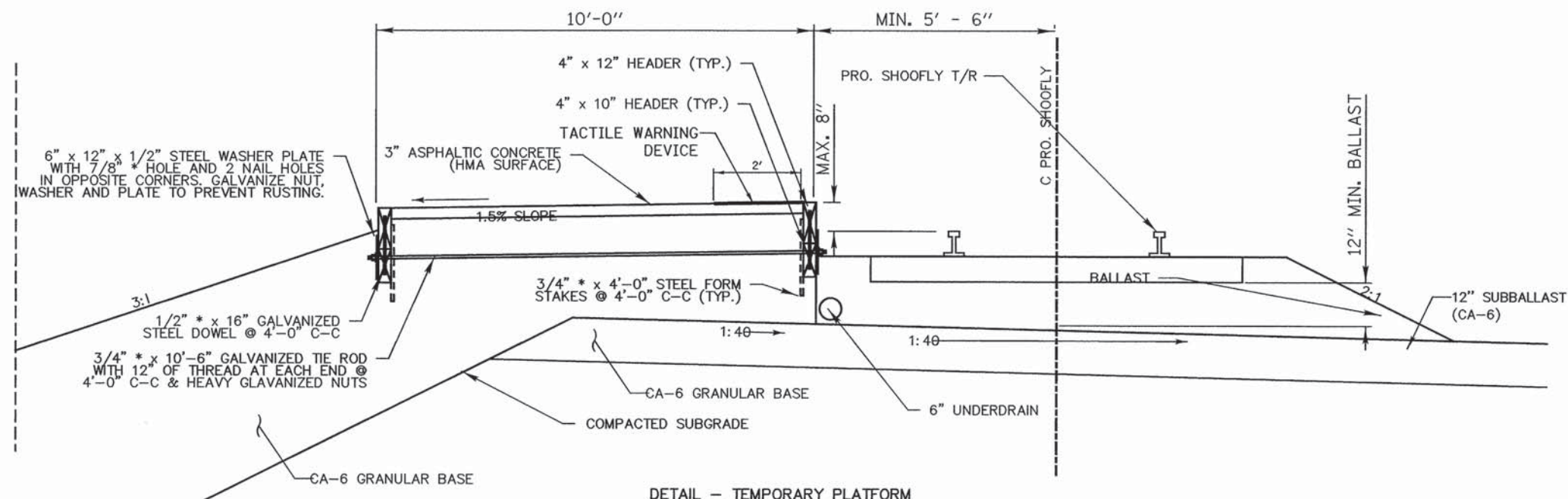
DETAIL - METRA TEMPORARY DIRECTIONAL SIGNS FOR TEMPORARY PLATFORM
TEMPORARY SIGNS TO BE PLACED FOR DIRECTION TO TEMPORARY PLATFORMS
NOT TO SCALE



SIGN 7.18
USED TO DIRECT DISABLED
COMMUTERS TO BOARDING
AREA FOR TRAIN CARS.

RAILROAD TEMPORARY PLATFORM AND ACCESS RAMP NOTES

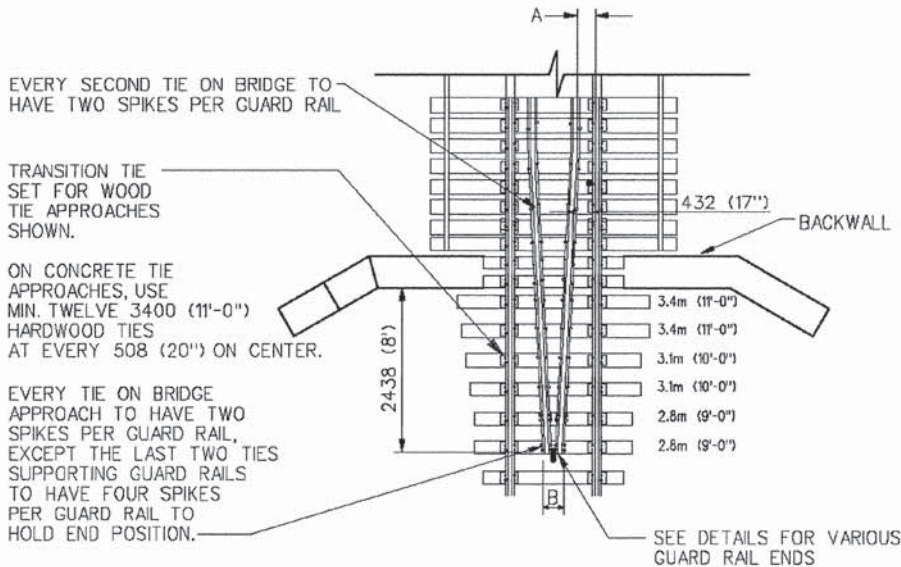
1. ALL MATERIAL FOR THE TEMPORARY PLATFORM WILL BE FURNISHED BY THE CONTRACTOR.
2. METRA FORCES WILL INSTALL THE TIMBERS FOR THE EDGE OF THE PLATFORM.
3. THE 3-INCH ASPHALT PLATFORM SURFACE WILL BE FURNISHED AND PLACED BY THE CONTRACTOR.
4. METRA FORCES WILL REMOVE AND SALVAGE THE TIMBER MATERIAL WHEN THE TEMPORARY PLATFORM IS REMOVED.
5. THE REMAINING MATERIAL FROM THE TEMPORARY PLATFORM WILL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
(PAY ITEM X0327147)



DETAIL - TEMPORARY PLATFORM
SHOWN PERPENDICULAR TO TRACK ~
NOT TO SCALE

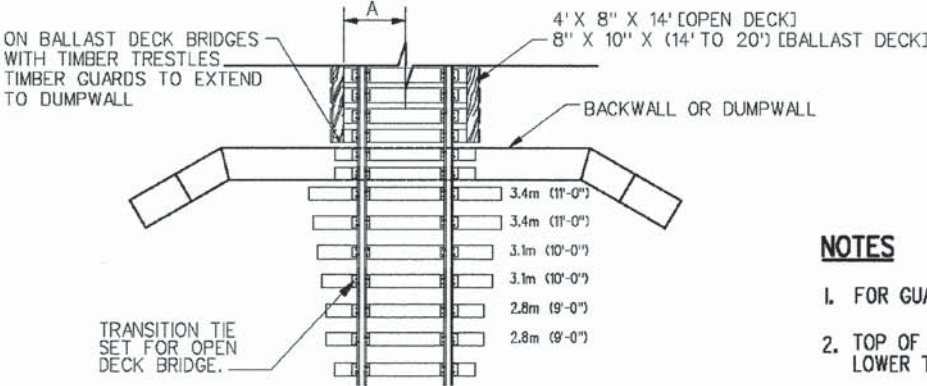
NOTE: TEMPORARY PLATFORM ACCESS RAMPS STA. 2460+66.500 AND STA. 2463+26.500
TO BE CONSTRUCTED SAME AS TEMPORARY PLATFORM

INTERIOR GUARD RAILS



	GUARD RAIL	A	B
OPEN DECK	WITH TRANSITION SET	279 (11'')	229 (9'')
	WOOD TIES	279 (11'')	229 (9'')
BALLAST DECK	CN 60G CONCRETE TIES	447 (17 19/32'')	447 (17 19/32'')

EXTERIOR GUARD TIMBERS

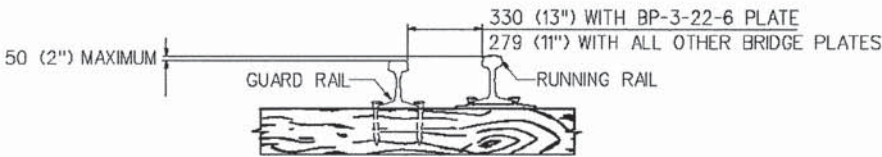


	A
OPEN DECK	1100 (3'-6'')
BALLAST DECK	1800 (6'-0'')

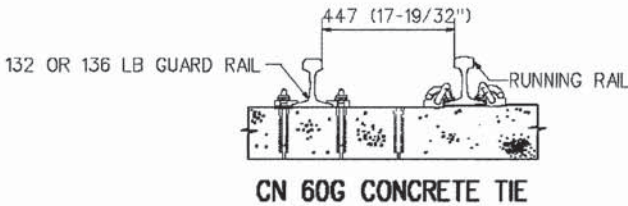
NOTES

- FOR GUARD RAIL POLICY REFER TO SPC 4500.
- TOP OF GUARD RAIL SHALL NOT BE HIGHER, OR MORE THAN 50mm (2") LOWER THAN TOP OF RUNNING RAIL.
- FOR TYPICAL GUARD RAIL INSTALLATIONS FOR TUNNELS AND OVERHEAD STRUCTURES SEE TS-1108 SHEET 2 OF 3 & SHEET 3 OF 3 RESPECTIVELY.
- FOR CLEARANCE DETAILS SEE SPC 2103.
- AT LOCATIONS WHERE CONLEY JOINTS OR CONCRETE TIES INTERFERE WITH THESE CONFIGURATIONS, SPECIAL GUARD RAIL DESIGNS WILL BE FURNISHED BY THE CHIEF ENGINEER.
- FOR OPEN DECK WHERE BALLAST WALL WILL NOT PERMIT TIE LENGTHS SHOWN, USE LONGEST POSSIBLE TIE LENGTH

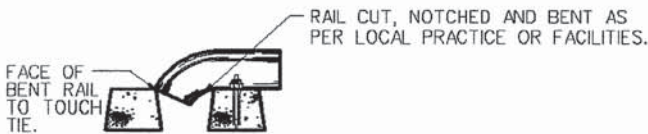
TYPICAL TIE SECTION



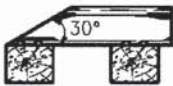
WOOD TIE



TYPICAL DETAIL OF GUARD RAIL ENDS



BENT UNDER STYLE



30° SLOPE STYLE

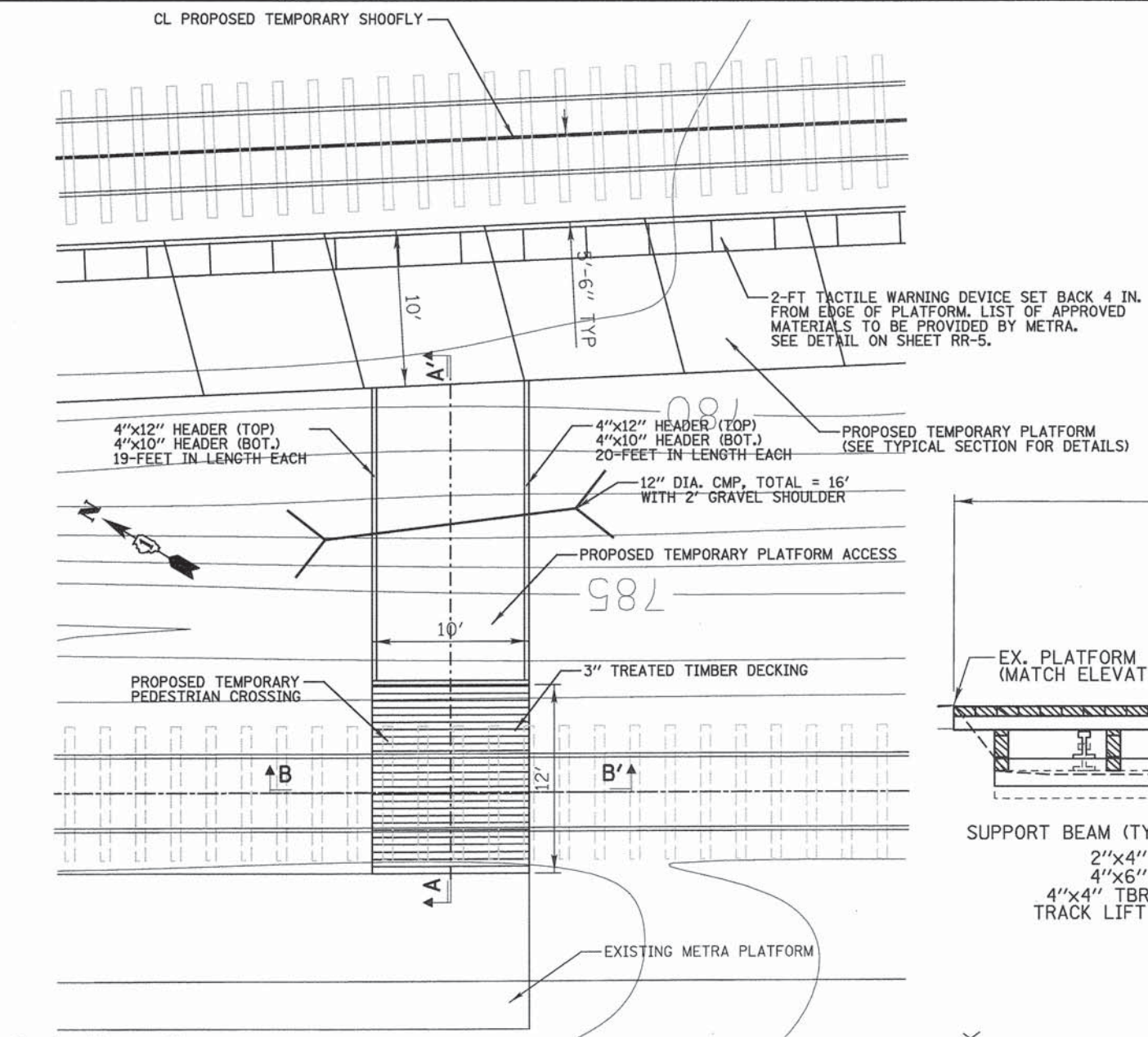
THIS DRAWING SUPERSEDES TS-1108 DATED MAR,'89 REVISED JUL.2001

No.	Date	Revision
Standard		
Norme		
TYPICAL GUARD RAIL INSTALLATION BRIDGES		
Drawn	MG	Checked
Dessin		Vérification
	GGS	Approved
		Approbation
Office of Chief Engineer		
Bureau de l'Ingénieur en Chef		
Date	2005 JUNE	Plan Number
		Dessin numéro
		TS - 1108

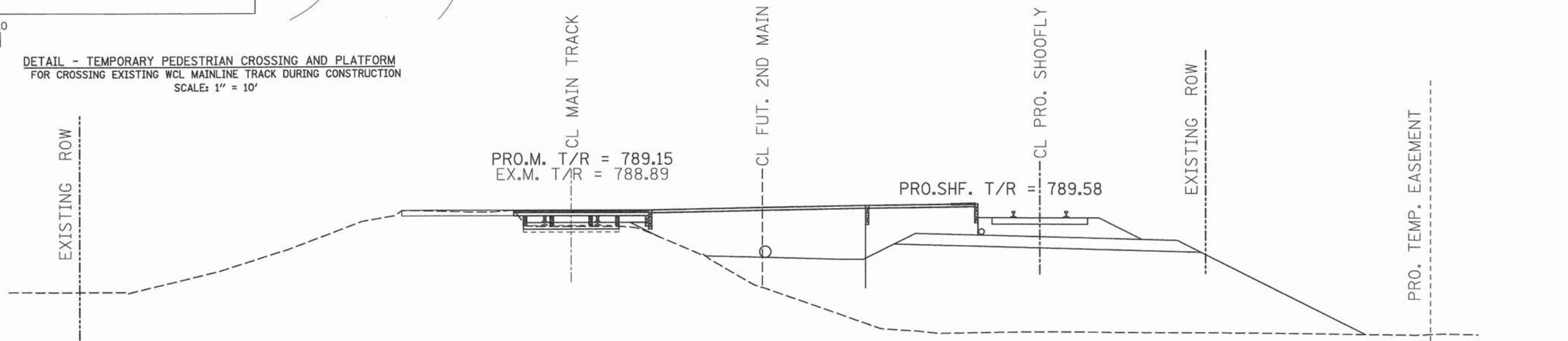
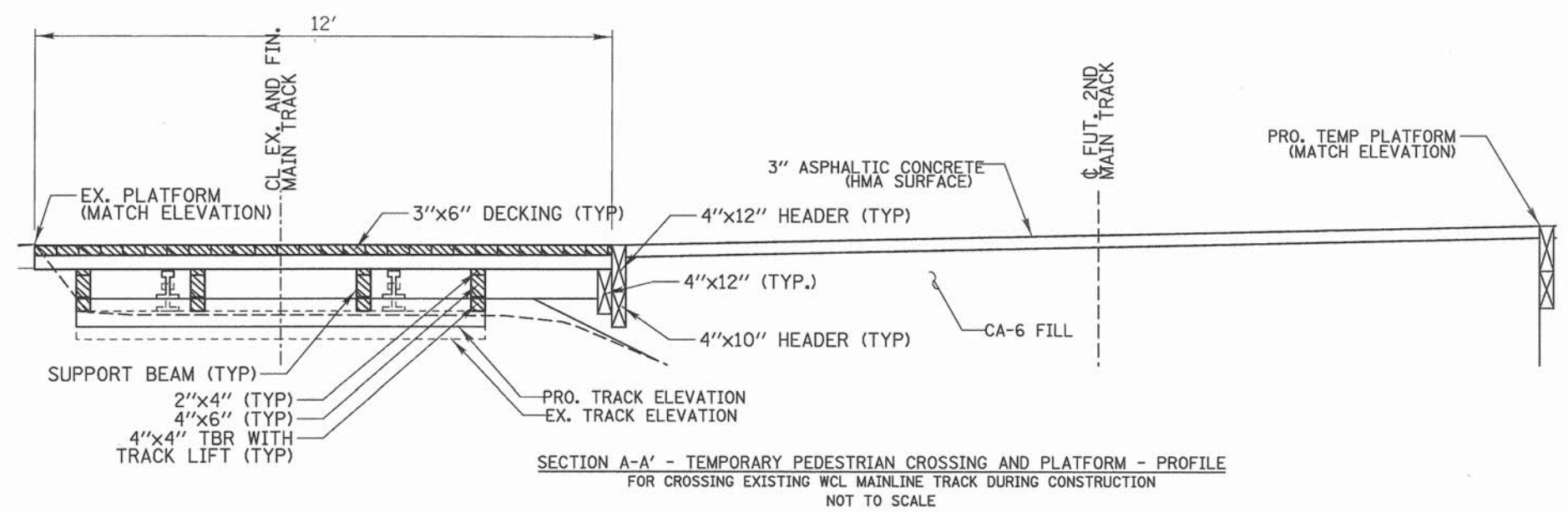
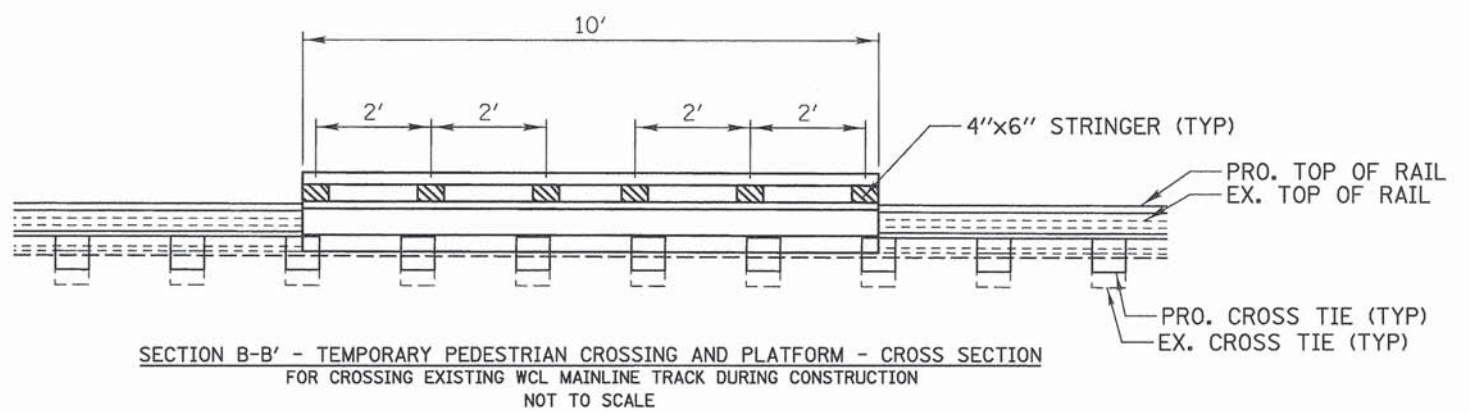
DETAIL - INSIDE STEEL GUARDRAIL FOR RAIL BRIDGE
(CN STANDARD TS-1108)

SHEET 1 OF 3

FOR ADDITIONAL INFORMATION E-MAIL "TRACKSTD"



DETAIL - TEMPORARY PEDESTRIAN CROSSING AND PLATFORM
FOR CROSSING EXISTING WCL MAINLINE TRACK DURING CONSTRUCTION
SCALE: 1" = 10'

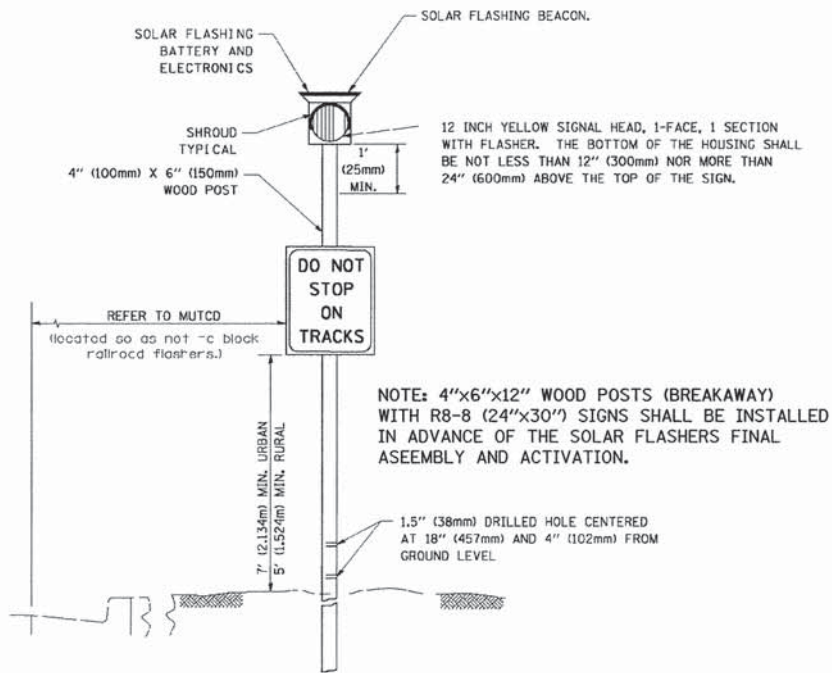


PATRICK ENGINEERING	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = MvanWest(Rail)	DESIGNED - KEK	REVISED - ____	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET			F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - KEK	REVISED - ____		RAILROAD TEMPORARY PLATFORM AND CROSSING DETAIL - STA. 2460+66.5			187	11-00121-11-BR	LAKE	496	262
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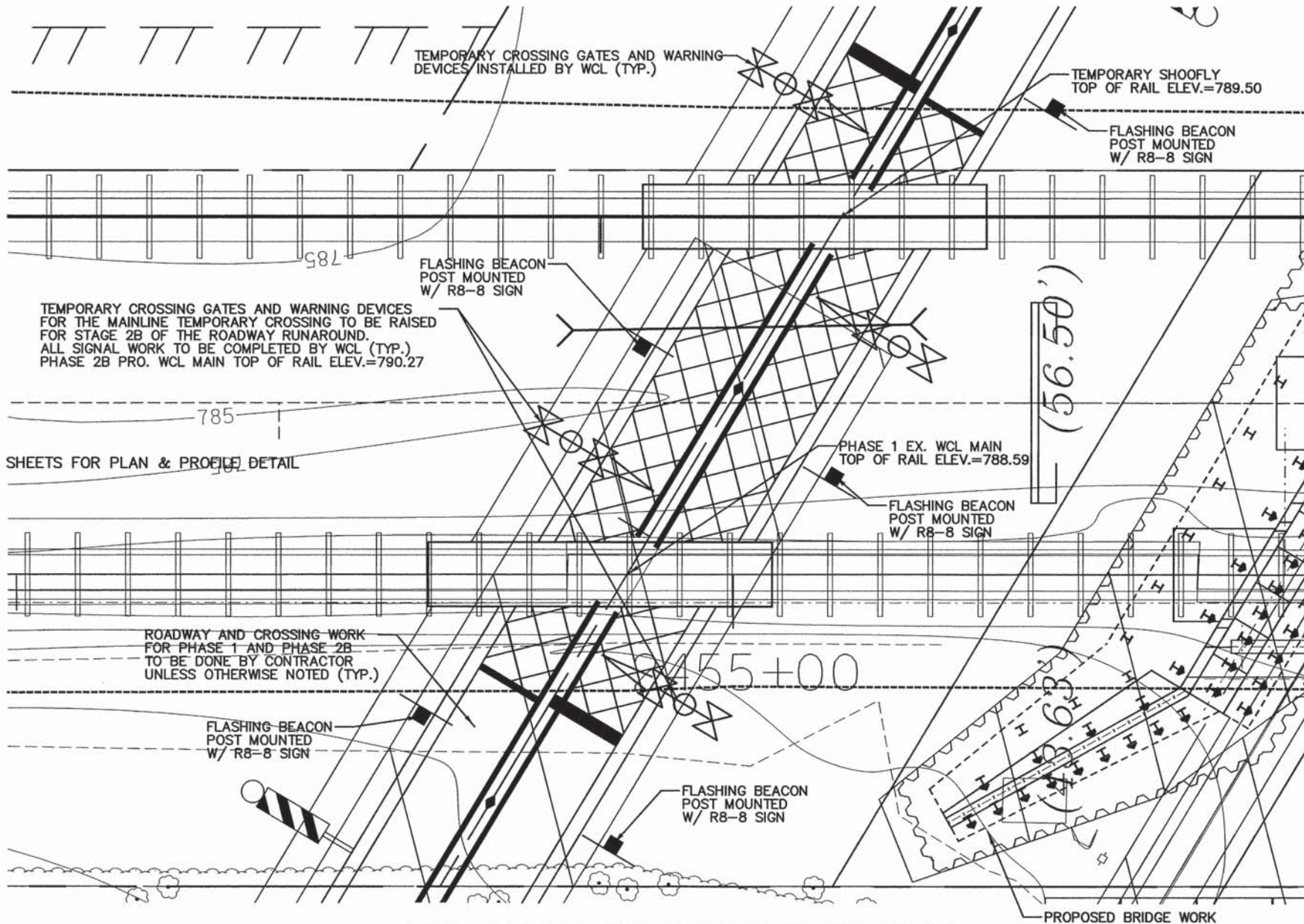
W10-9P 24" X 18"

THE W10-9P SUPPLEMENTAL SIGN SHALL BE MOUNTED DIRECTLY BELOW THE GRADE CROSSING ADVANCE WARNING SIGNS.

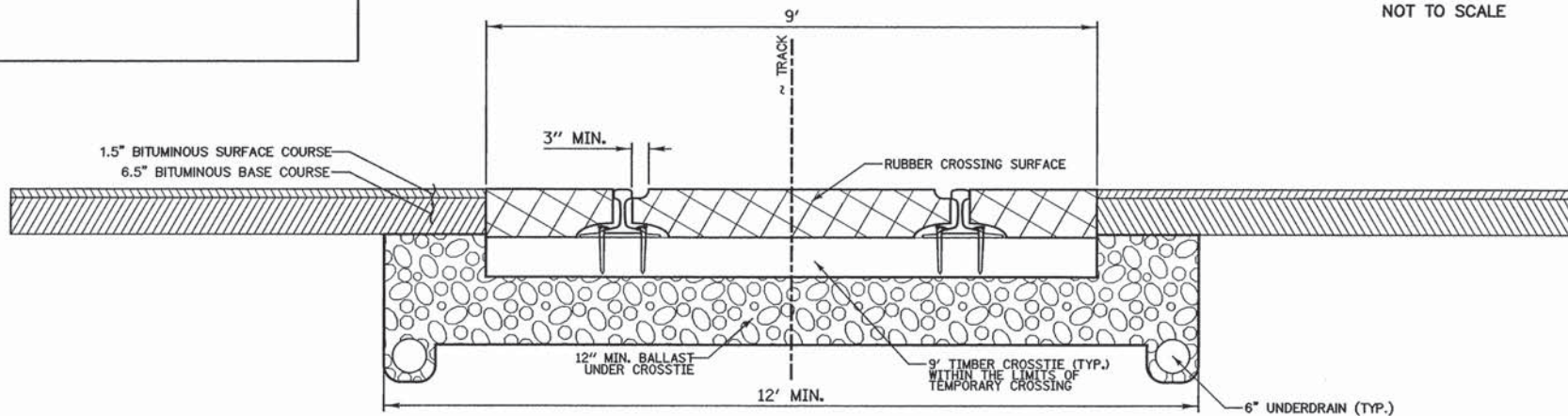


DETAIL - FLASHING BEACON, POST MOUNTED, SOLAR POWERED INSTALLATION
STANDARD ICC DETAIL FOR RUNAROUND CROSSING (6 TOTAL)
NOT TO SCALE

SEE MOT SHEETS FOR PLAN & PROFILE DETAIL



DETAIL - TEMPORARY TEMPORARY ROADWAY RUNAROUND CROSSINGS
FOR CROSSING EXISTING WCL MAINLINE TRACK AND SHOOFLY
VIA ROADWAY RUNAROUND DURING CONSTRUCTION
NOT TO SCALE



DETAIL - TEMPORARY TIMBER CROSSING FOR ROADWAY RUNAROUND
SHOWN ALONG ~ OF ROADWAY RUNAROUND
NOT TO SCALE

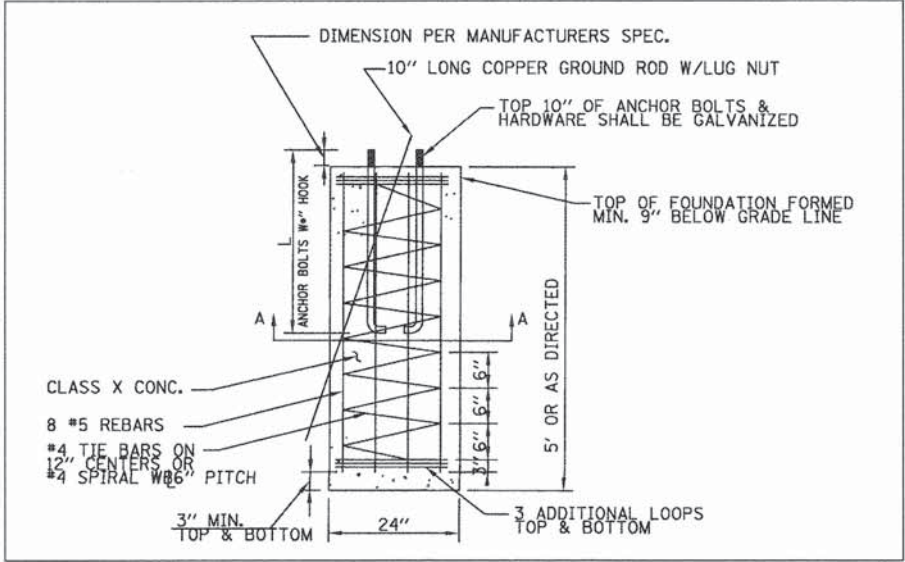
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD TEMPORARY CROSSING DETAIL FOR ROADWAY RUNAROUND

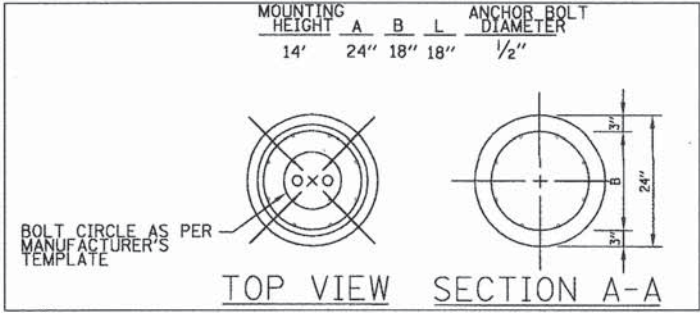
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187	11-00121-11-BR	LAKE	496	264
61A63				

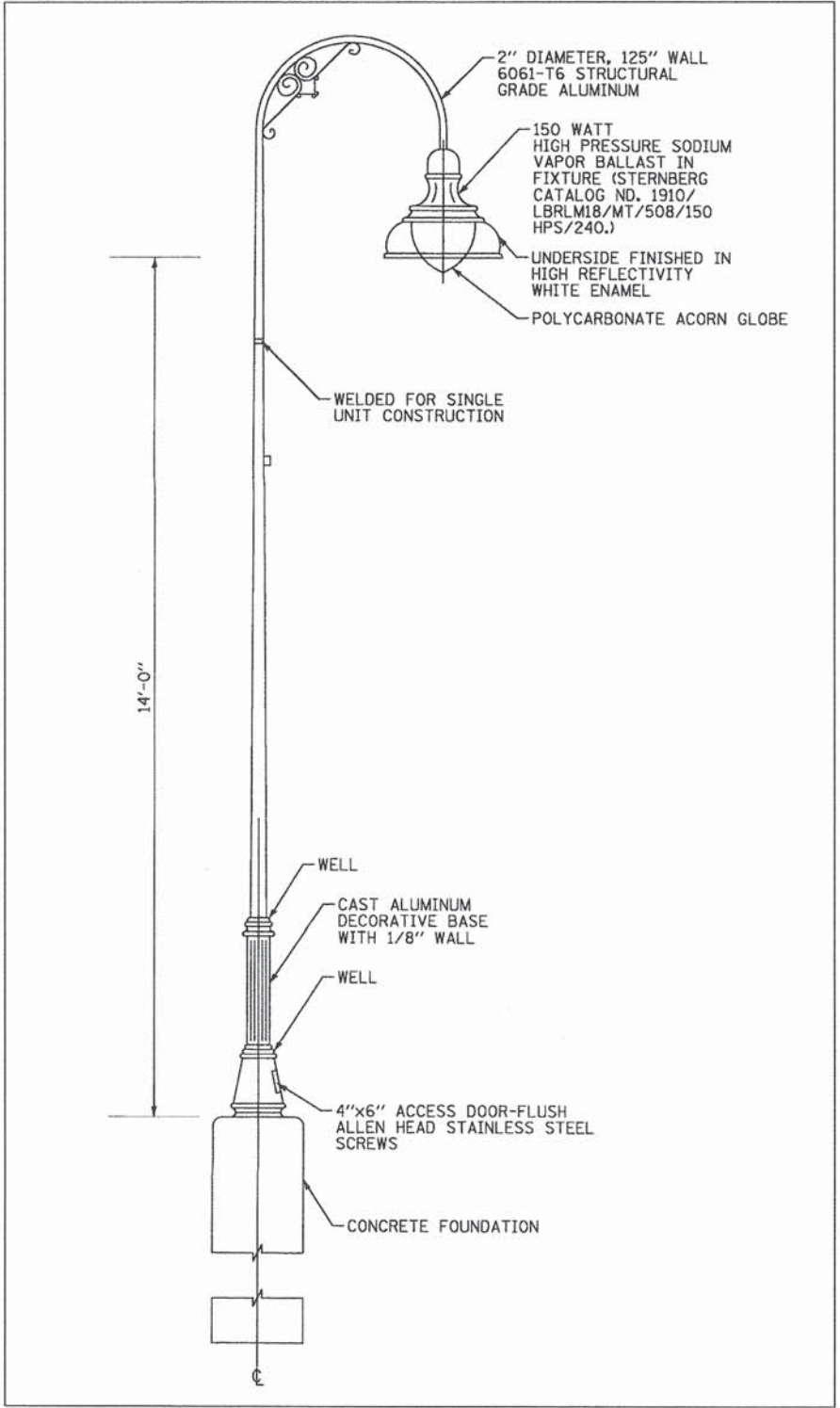
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



2 LIGHT POLE FOUNDATION
SCALE: NONE



3 LIGHTING FOUNDATION DIMENSIONS
SCALE: NONE



1 DECORATIVE LIGHT POLE DETAIL
SCALE: NONE

RENTABLE - ...\\LISLE\\PENTABLE\\TRANSPEN\\TBL



PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, IL 60532
patrickengineering.com

USER NAME = MVanWest(Rail)
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PLOT DATE = 7/17/2014 1:32:30 PM

DESIGNED - KEK
DRAWN - KEK
CHECKED - SPH
DATE - 6/30/2014

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
STATION TEMPORARY LIGHTING DETAILS

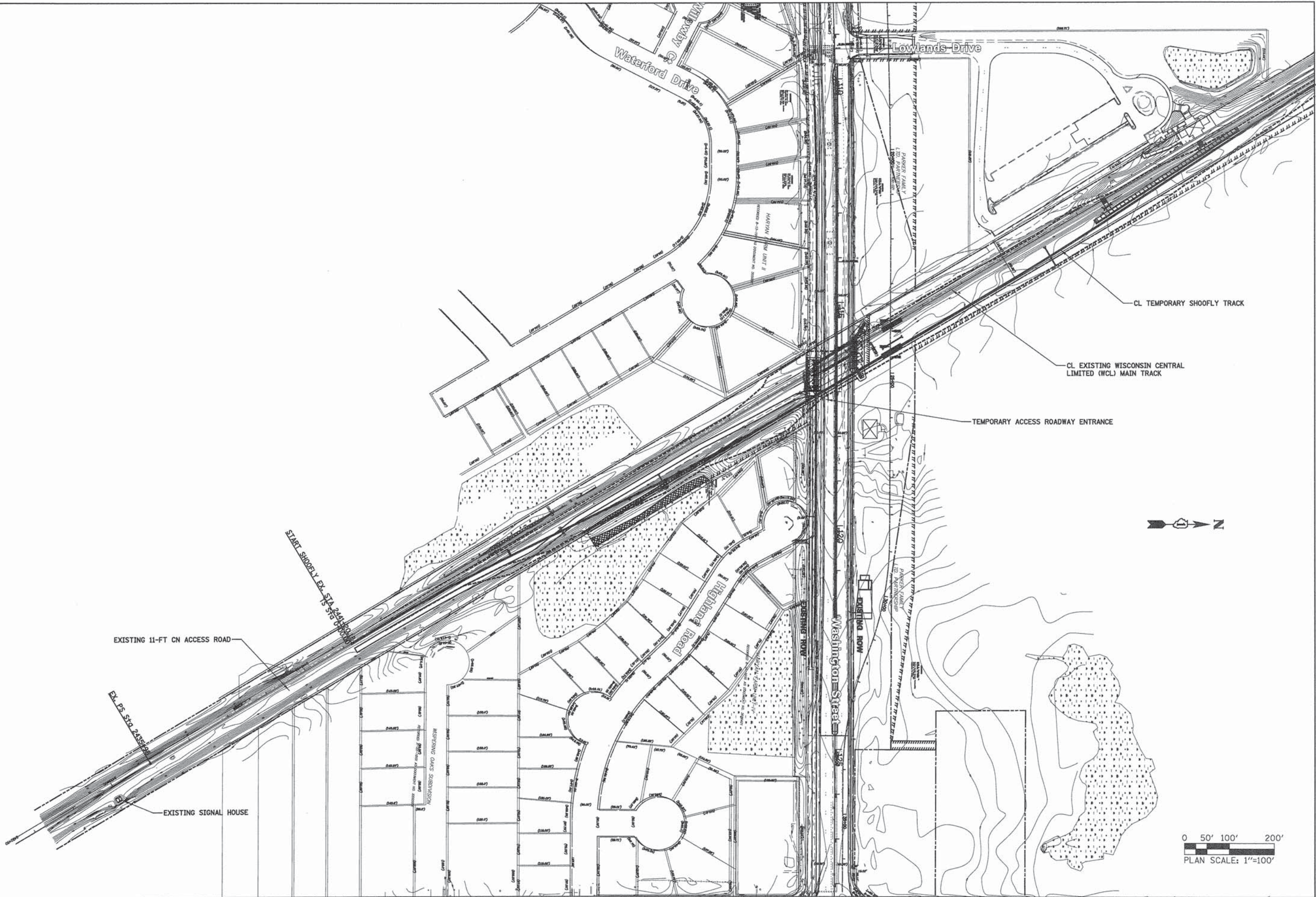
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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61A63				
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

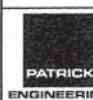
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PROFILE	SUBMITTED	PLOTTED	CHECKED	DATE
NO.	NO.	NO.	NO.	NO.



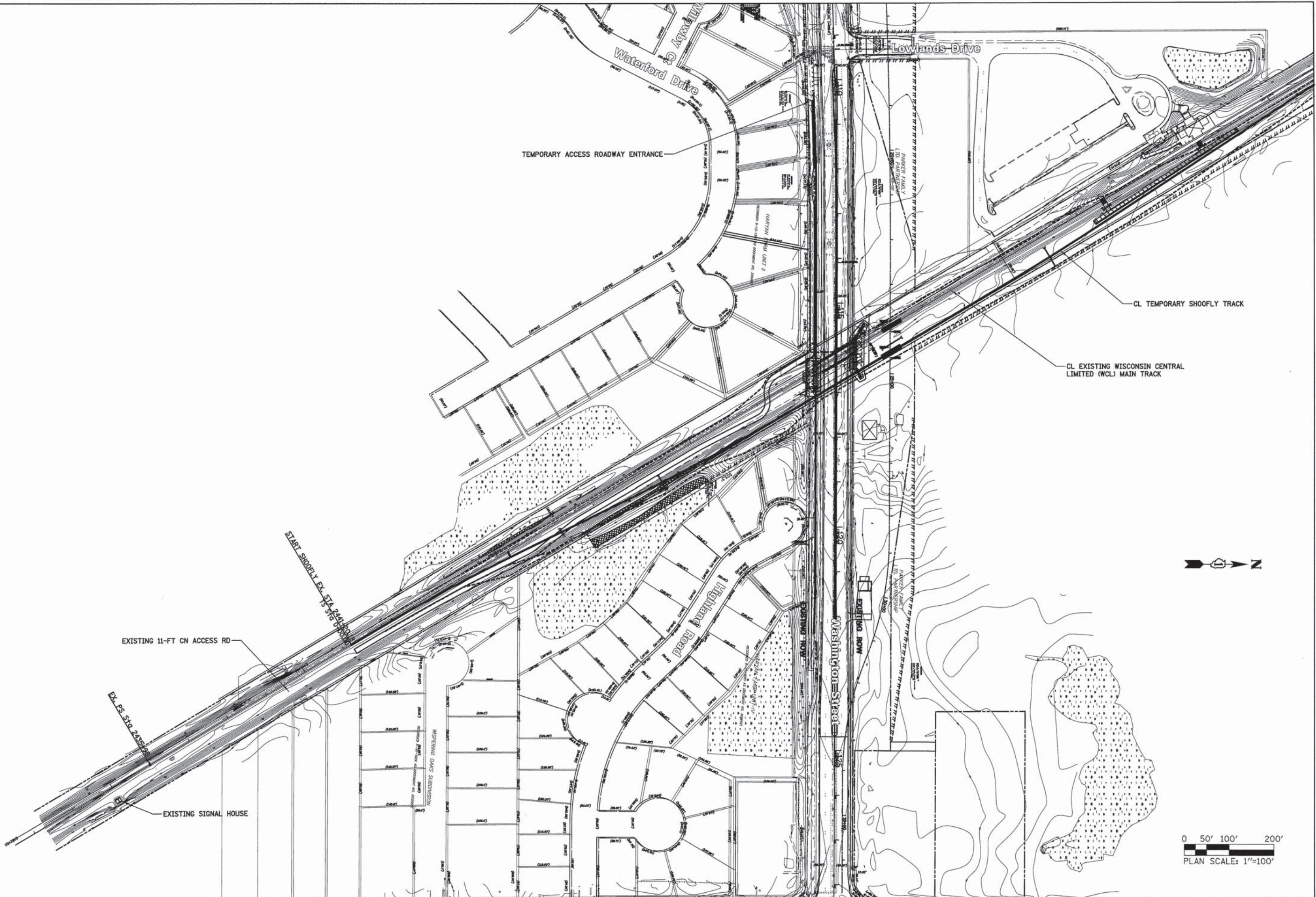
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NO.	BY	
NOTE BOOK	ALIGNED	CHECKED
	NO.	
	DATE	

PROFILE	SURVEYED	DATE
NO.	BY	
NOTE BOOK	GRADES	CHECKED
	NO.	
	DATE	



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 PATRICK ENGINEERING 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy.Lisle)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RAILROAD TEMPORARY ACCESS ROADWAY DETAIL 2			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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SCALE: 1"=100'		SHEET NO. RR 14 OF 54		STA. TO STA.								

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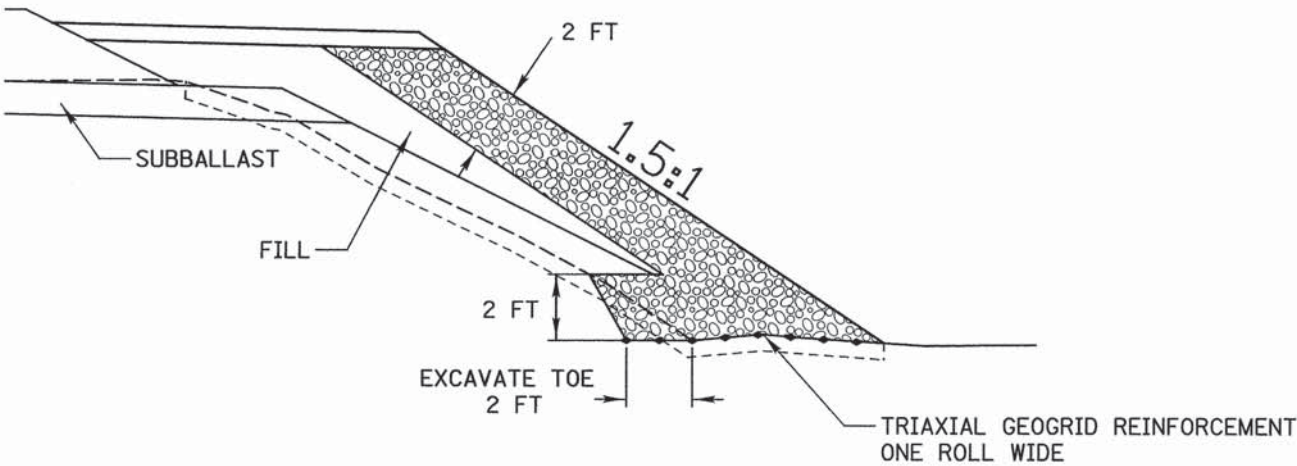
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DATE	BY	SURVEYED	PLANNED	CHECKED	NOTED	FILE NAME
PLAN		NOTE BOOK NO.				

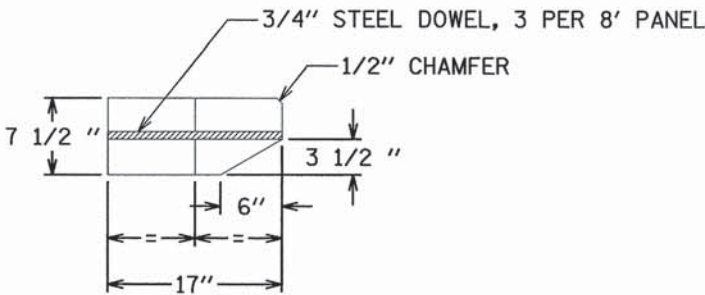
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NOTES:

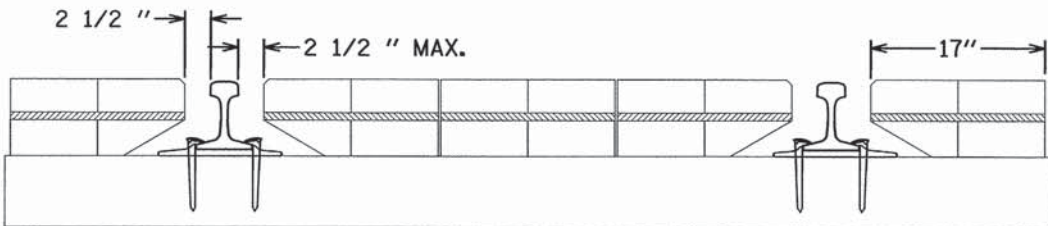
1. CLEAR SURFACE OF BRUSH AND VEGETATION AND EXCAVATE 2-FT OF EXISTING TOE BEFORE PLACING TRIAXIAL GEOGRID.
2. UNROLL AND PLACE TRIAXIAL GEOGRID PARALLEL TO THE SLOPE FACE. THE TRIAXIAL GEOGRID SHALL BE TENSAR TRIAX 140 OR EQUIVALENT APPROVED BY THE ENGINEER.
3. RUBBER TIRED VEHICLES MAY TRAVEL ON THE GEOGRID AT LOW SPEEDS, LESS THAN 5 MILES PER HOUR. TURNING OF VEHICLES SHOULD BE AVOIDED TO PREVENT DISLOCATION OR DAMAGE TO THE GEOGRID. TRACKED VEHICLES SHALL NOT BE OPERATED DIRECTLY ON THE GEOGRID. A MINIMUM OF 8 INCHES OF FILL COVER OVER THE GEOGRID IS REQUIRED FOR OPERATION OF TRACKED CONSTRUCTION VEHICLES ON THE REINFORCEMENT.
4. AFTER INSTALLATION OF GEOGRID, PLACE IDOT GRADATION RR1 STONE IN LIFTS NO MORE THAN 1 FEET THICK ON THE GEOGRID. RR1 STONE ON THE GEOGRID TO BE 2 FEET THICK. THE 2-FT THICK RIP RAP SHALL ACT AS BASE FOR EMBANKMENT AND CAPILLARY BREAK.
5. SOIL PLACED AS EMBANKMENT FILL ABOVE THE 2-FT THICK LAYER OF RR1 SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY PER ASTM D1557 TO WITHIN 3 FEET OF THE SLOPE FACE. COMPACT THE NEAR-FACE ZONE USING A MINIMUM OF THREE PASSES. USE ONLY HAND OPERATED COMPACTION EQUIPMENT WITHIN 3 FEET OF THE SLOPE FACE.
6. PLACE IDOT GRADATION RR1 2 FEET THICK ON SLOPE FACE AS SHOWN.



TYPICAL SECTION
SLOPE REINFORCEMENT DETAIL
N.T.S
STA. 2445+50 TO 2446+80



TWO PIECE PANEL

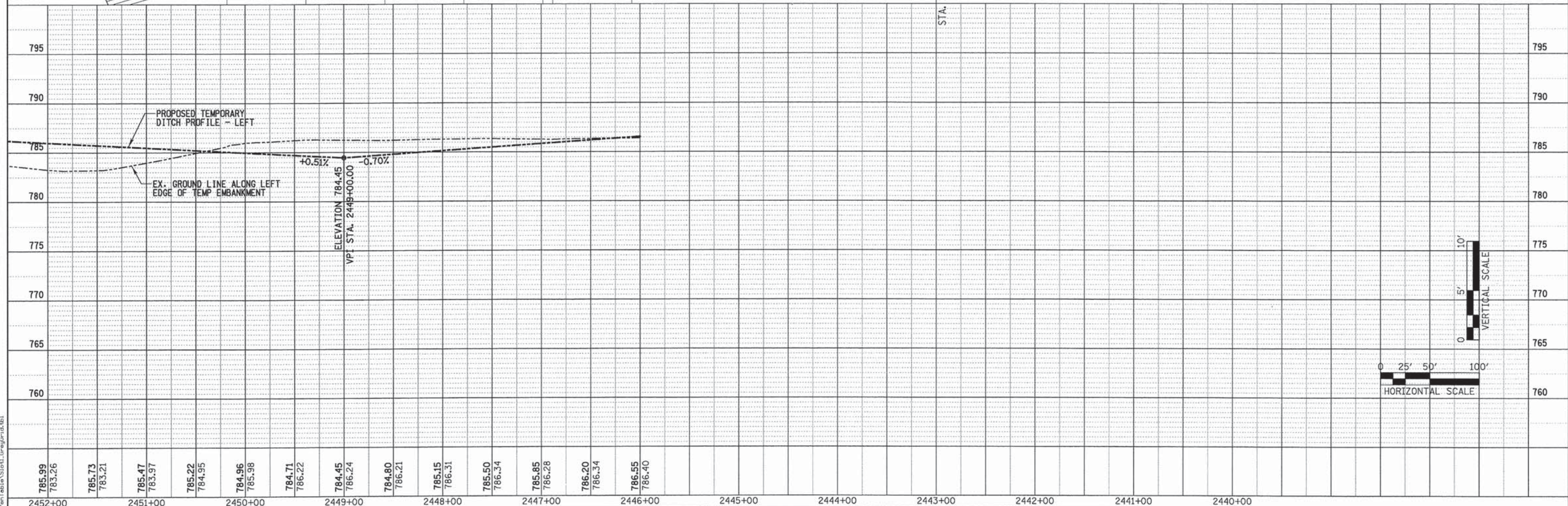
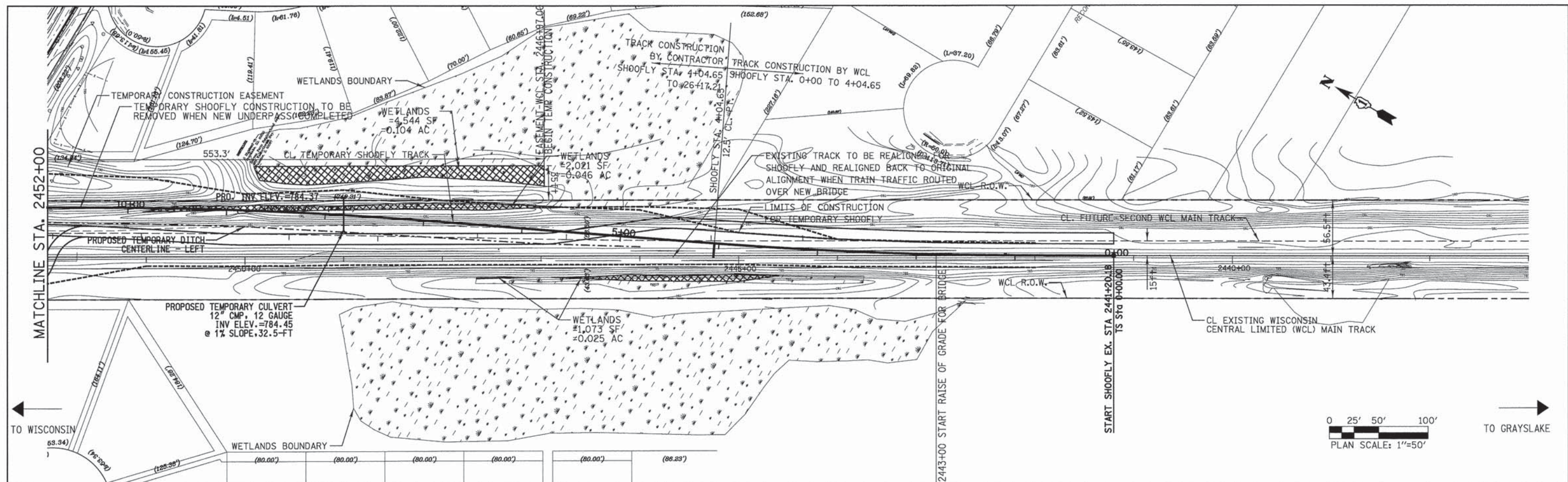


8'-6" CROSS TIE

FULL DEPTH TIMBER CROSSING DETAILS

PATRICK ENGINEERING PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwg-Lisle)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RAILROAD TEMPORARY ACCESS ROADWAY DETAIL 3			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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Q:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt.Plan.Temp\King.Sheets.dgn					SCALE:	SHEET NO. RR 15 OF 54	STA.	TO STA.	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			

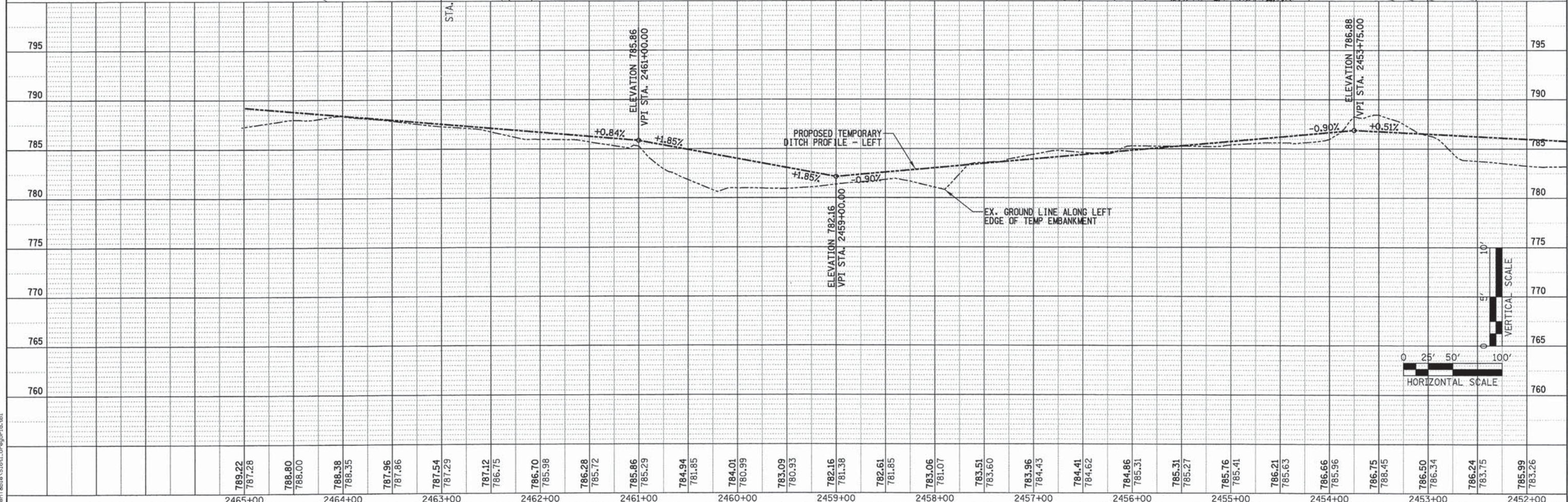
PROFILE	SURVEYED _____	BY _____	DATE _____
NOTE BOOK	GRADES CHECKED _____		
NO. _____	B.M. NOTED _____		
	STRUCTURE NOTATIONS CHECKED _____		



 PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = kkoeppe(Rdw,Lisle)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET TEMPORARY DITCH PROFILE FOR RAILROAD EMBANKMENT	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT CONFIG= PDF(Grey,Large).plt	DRAWN - KEK	REVISED -			187	11-00121-11-BR	LAKE	496	271
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	PLOT DATE = 7/17/2014 2:11:50 PM	DATE - 6/30/2014	REVISED -			SCALE: SHEET NO. RR 16 OF 54 STA. 2452+00 TO STA. 2437+00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT										

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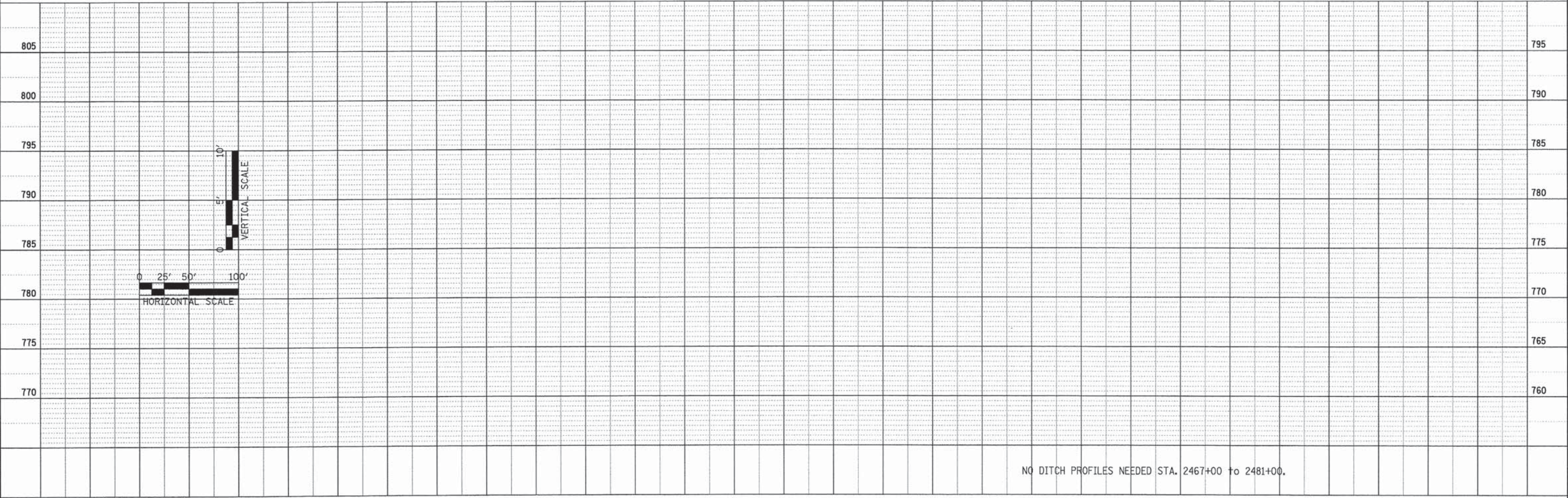
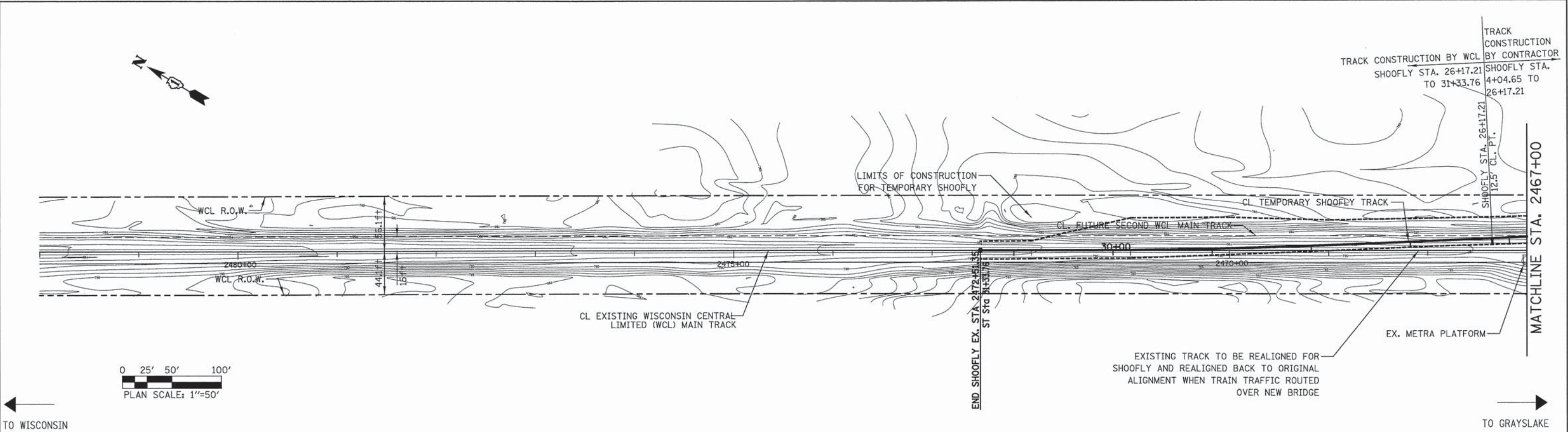
PROFILE	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	GRADES CHECKED		
NO. _____	B.M. NOTED		
	STRUCTURE NOTATIONS CHECKED		



 PATRICK ENGINEERING	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = thoeppen@dwg.lisle.il	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET TEMPORARY DITCH PROFILE FOR RAILROAD EMBANKMENT	F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		PLOT CONFIG = PDF(Grey, Large).plt	DRAWN - KEK	REVISED -			187	11-00121-11-BR	LAKE	496	272
		PLOT SCALE = 1:50.0001	CHECKED - SPH	REVISED -			61A63				
		PLOT DATE = 7/17/2014 2:11:53 PM	DATE - 6/30/2014	REVISED -							
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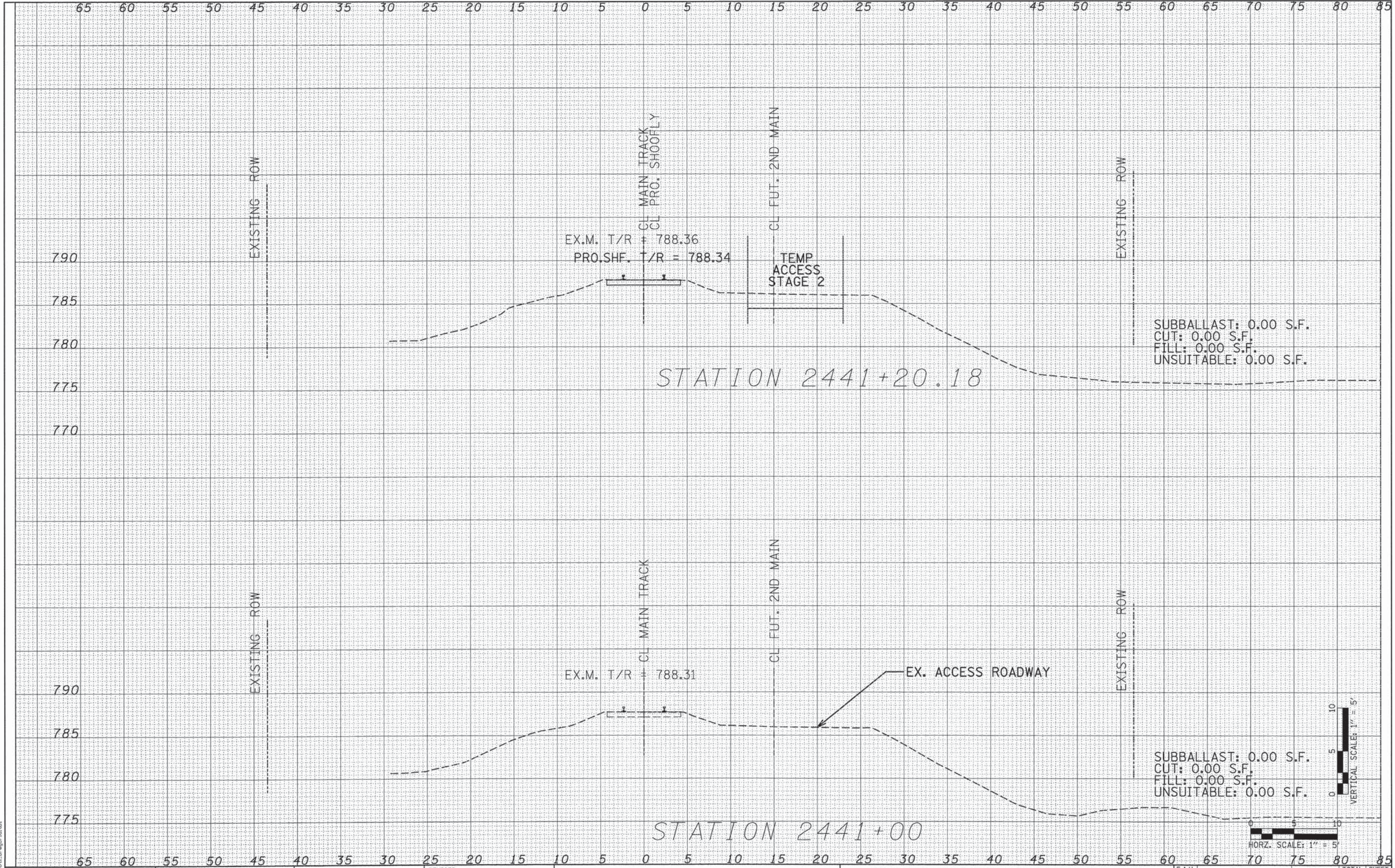
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	NO.	FILE NAME	

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	NOTE BOOK	CHECKED	
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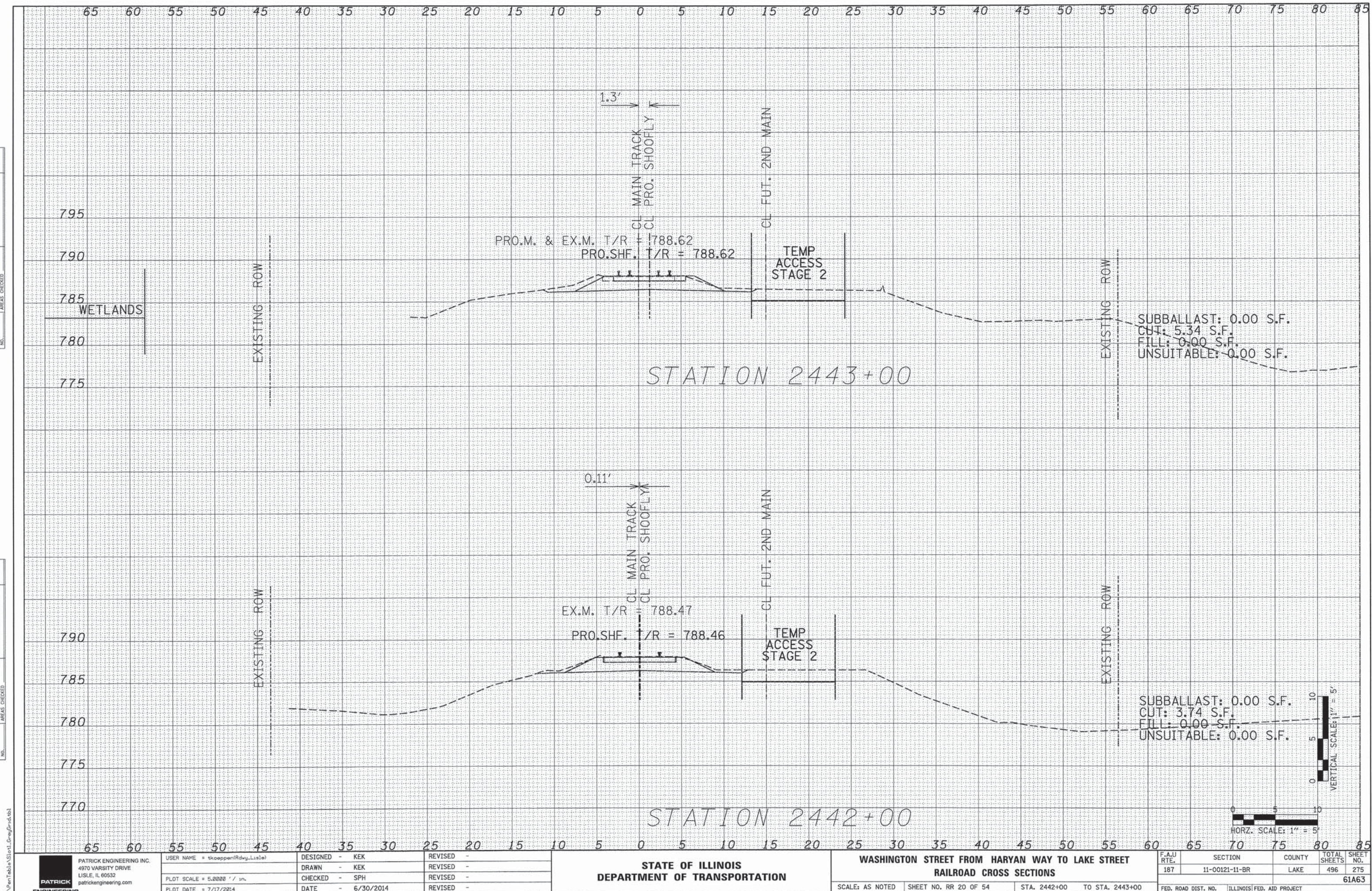


FINAL	DATE
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NOTED	DATE
BOOK	BY
AREAS	DATE
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ORIGINAL	DATE
SURVEY	BY
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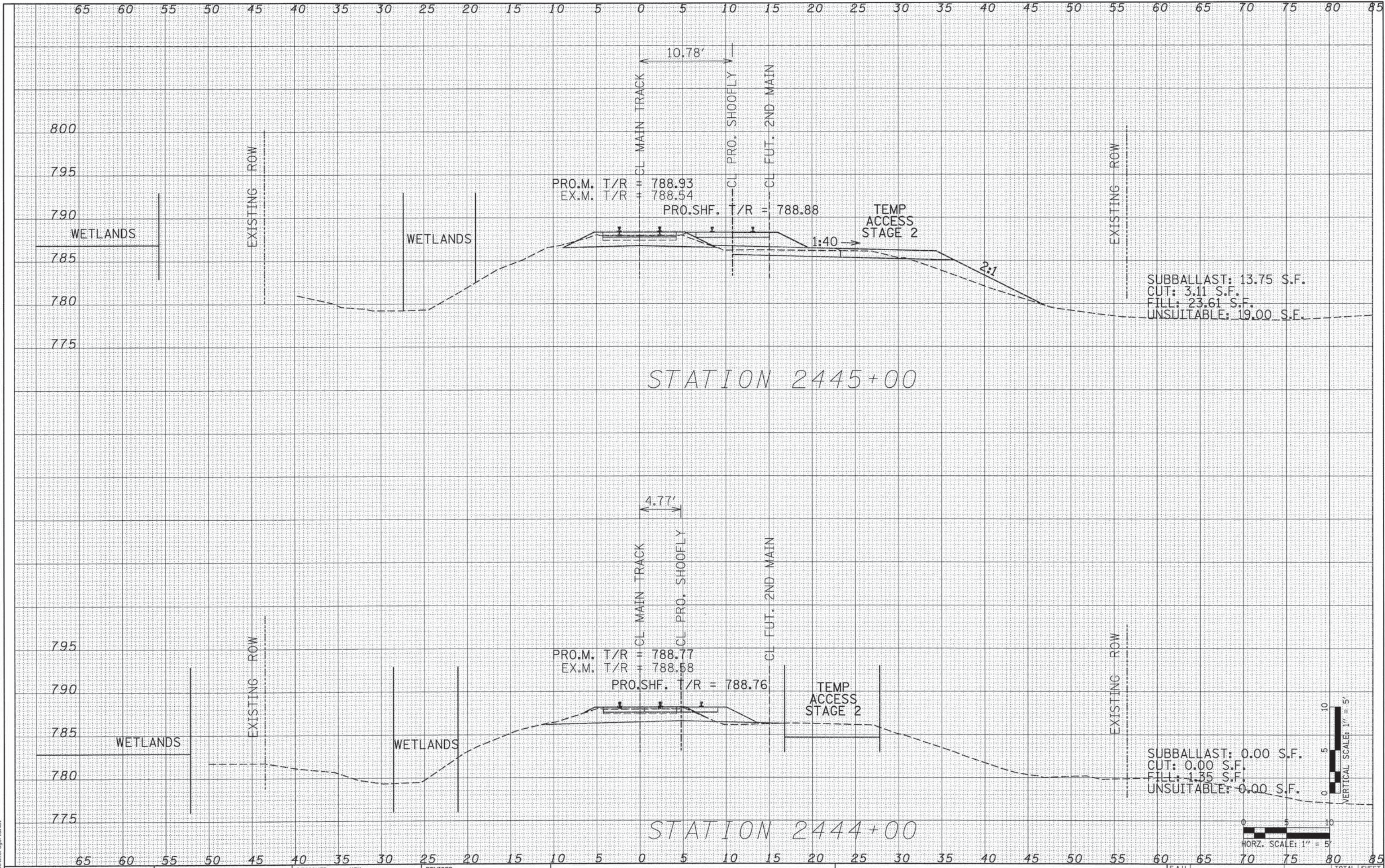


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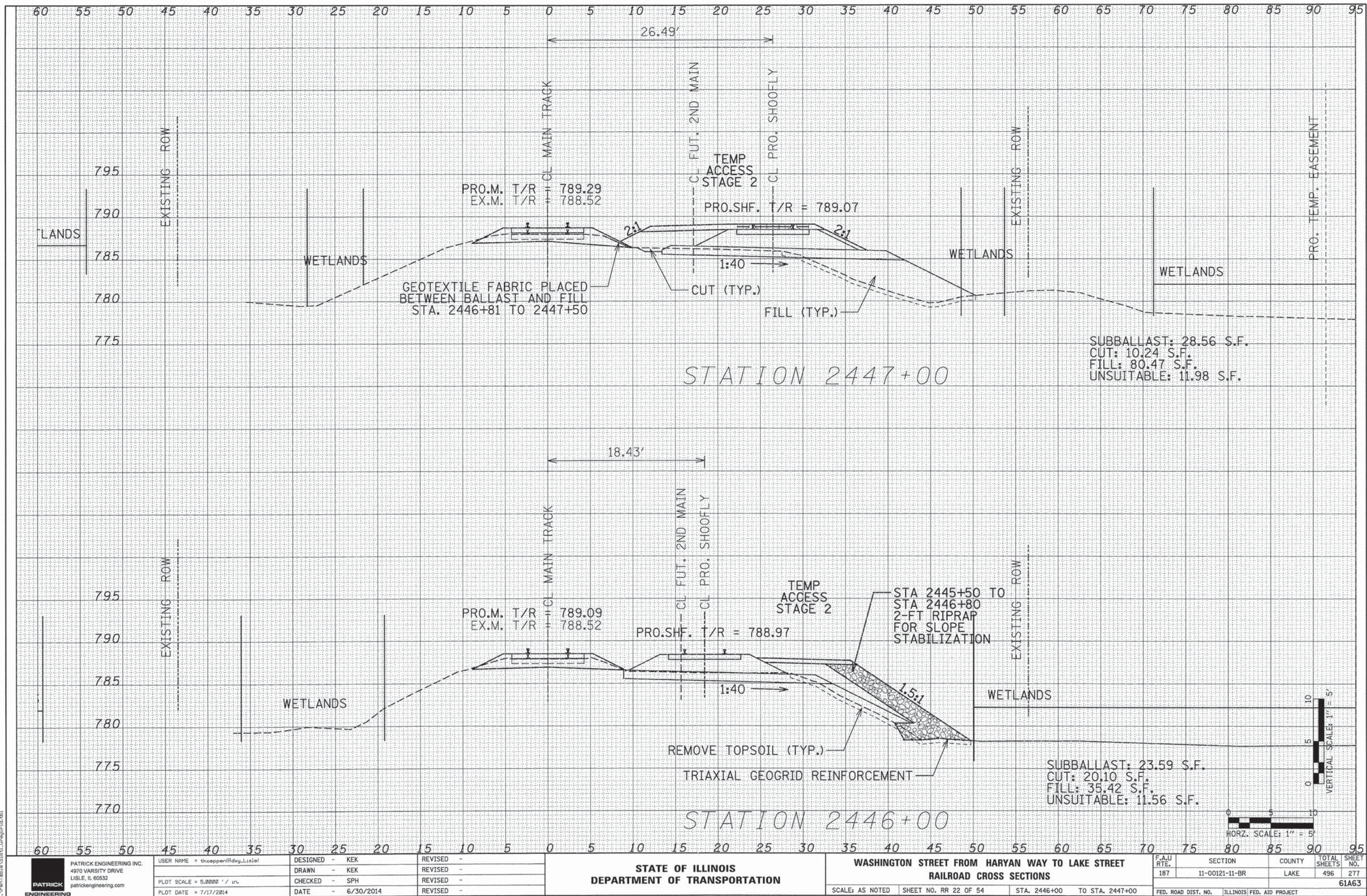
FINAL	DATE
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NOTE BOOK	NO.
TEMP	NO.
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CHECKED	NO.

ORIGINAL	DATE
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NOTE BOOK	NO.
TEMP	NO.
AREAS	NO.
CHECKED	NO.



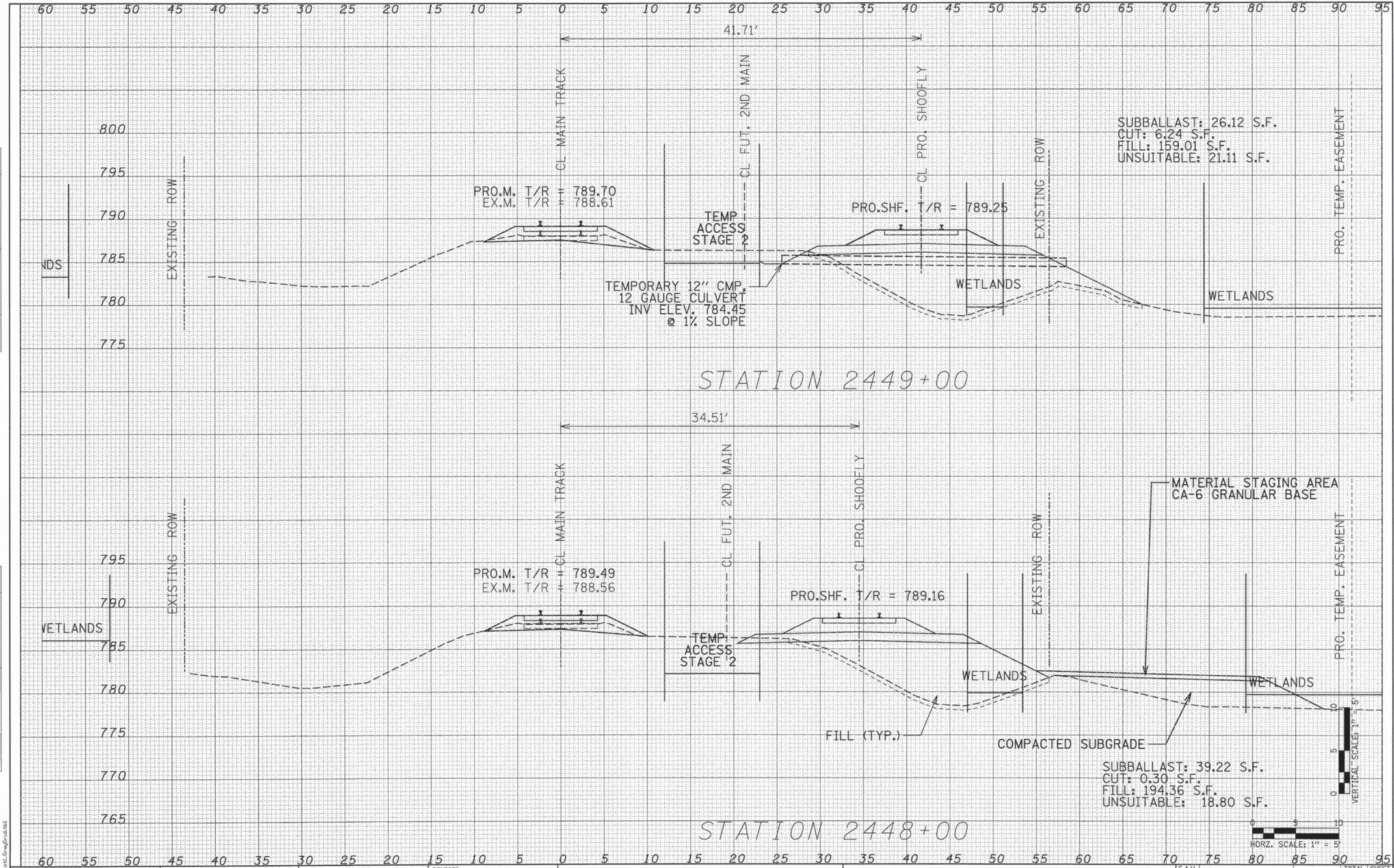
 PATRICK ENGINEERING	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy,Lisle)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RAILROAD CROSS SECTIONS			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			DRAWN - KEK	REVISED -					187	11-00121-11-BR	LAKE	496	276
		PLOT SCALE = 5.0000' / 1" = 5'	CHECKED - SPH	REVISED -		61A63							
		PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -		SCALE: AS NOTED	SHEET NO. RR 21 OF 54	STA. 2444+00 TO STA. 2445+00	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

ORIGINAL					
SURVEY	SURVEYED			BY	DATE
	PLOTTED				
	TEMPLATE				
	AREAS				
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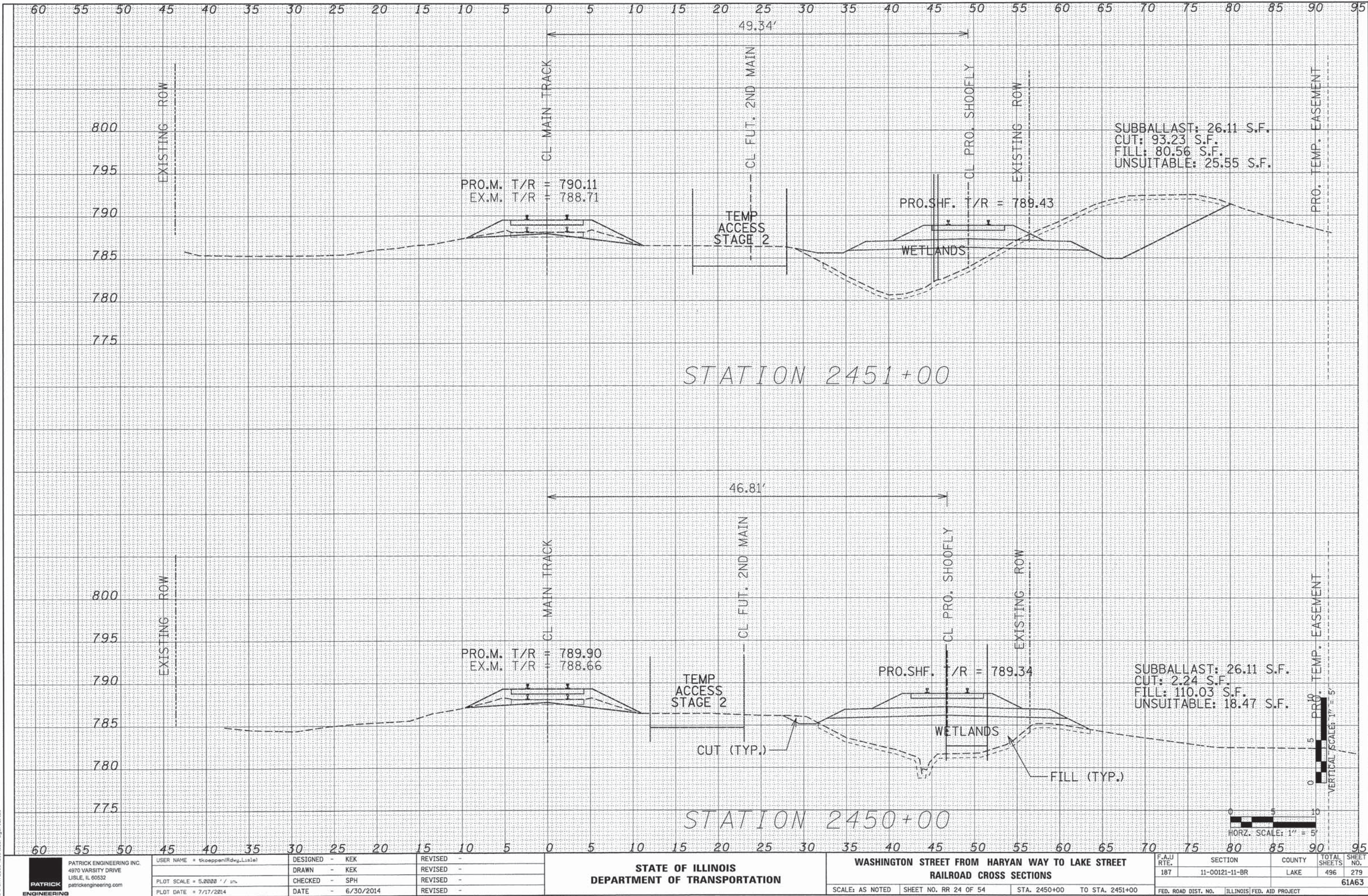


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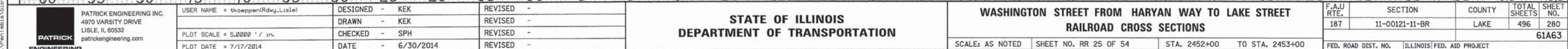
 PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com PATRICK ENGINEERING	USER NAME = tkoeppen(Rdy.Lisle)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RAILROAD CROSS SECTIONS				F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - KEK	REVISED -		187	11-00121-11-BR	LAKE	496	278				
	PLOT SCALE = 5.0000' / 1"	CHECKED - SPH	REVISED -		61A63								
	PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -										
					SCALE: AS NOTED	SHEET NO. RR 23 OF 54	STA. 2448+00 TO STA. 2449+00	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

DATE	
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DATE	
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NOTED	
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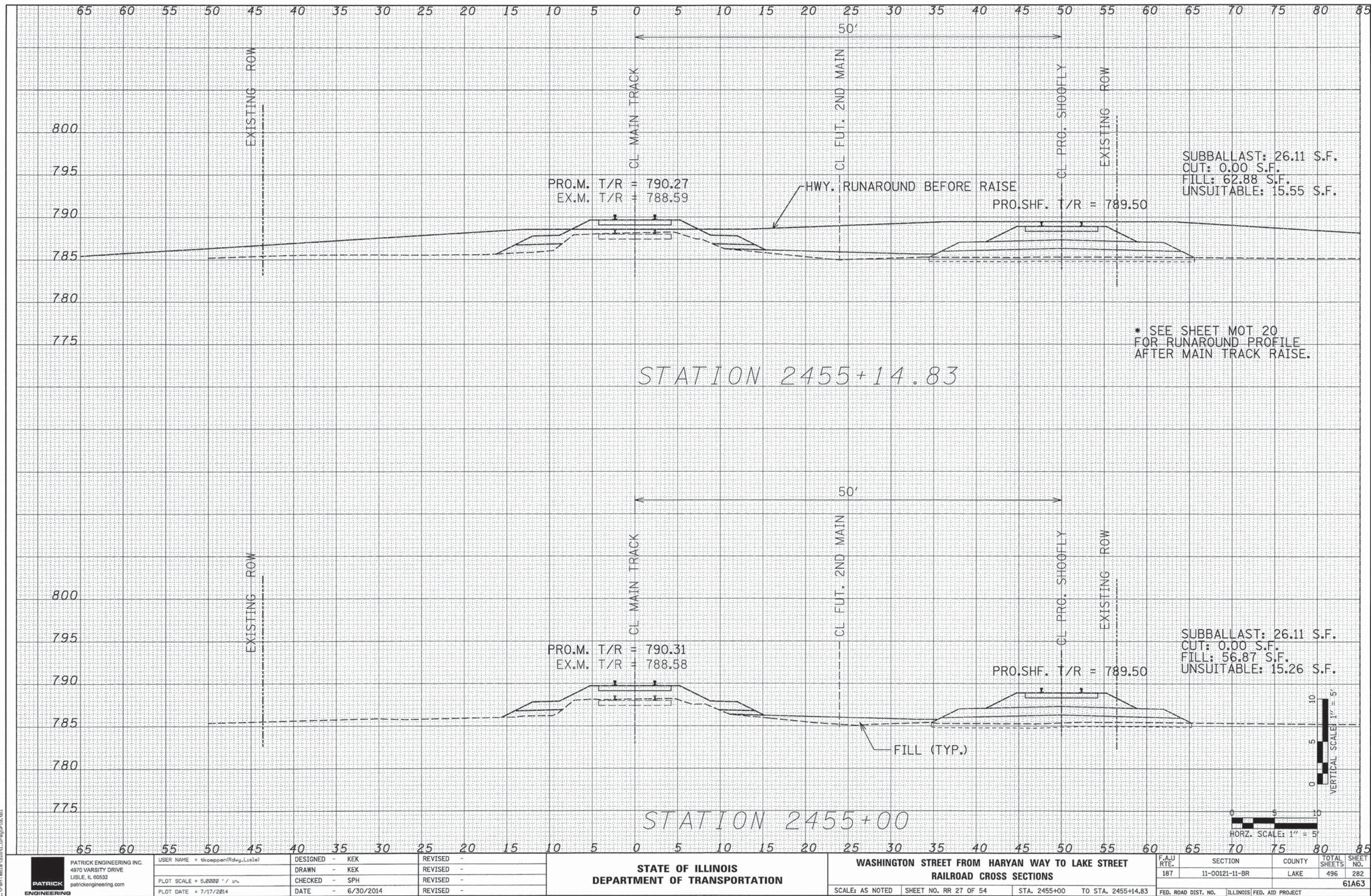
	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwg_Lisle)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		PLOT SCALE = 5.0000' / 1"	DRAWN - KEK	REVISED -		RAILROAD CROSS SECTIONS			187	11-00121-11-BR	LAKE	496	279
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			DATE - 6/30/2014	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

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ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		

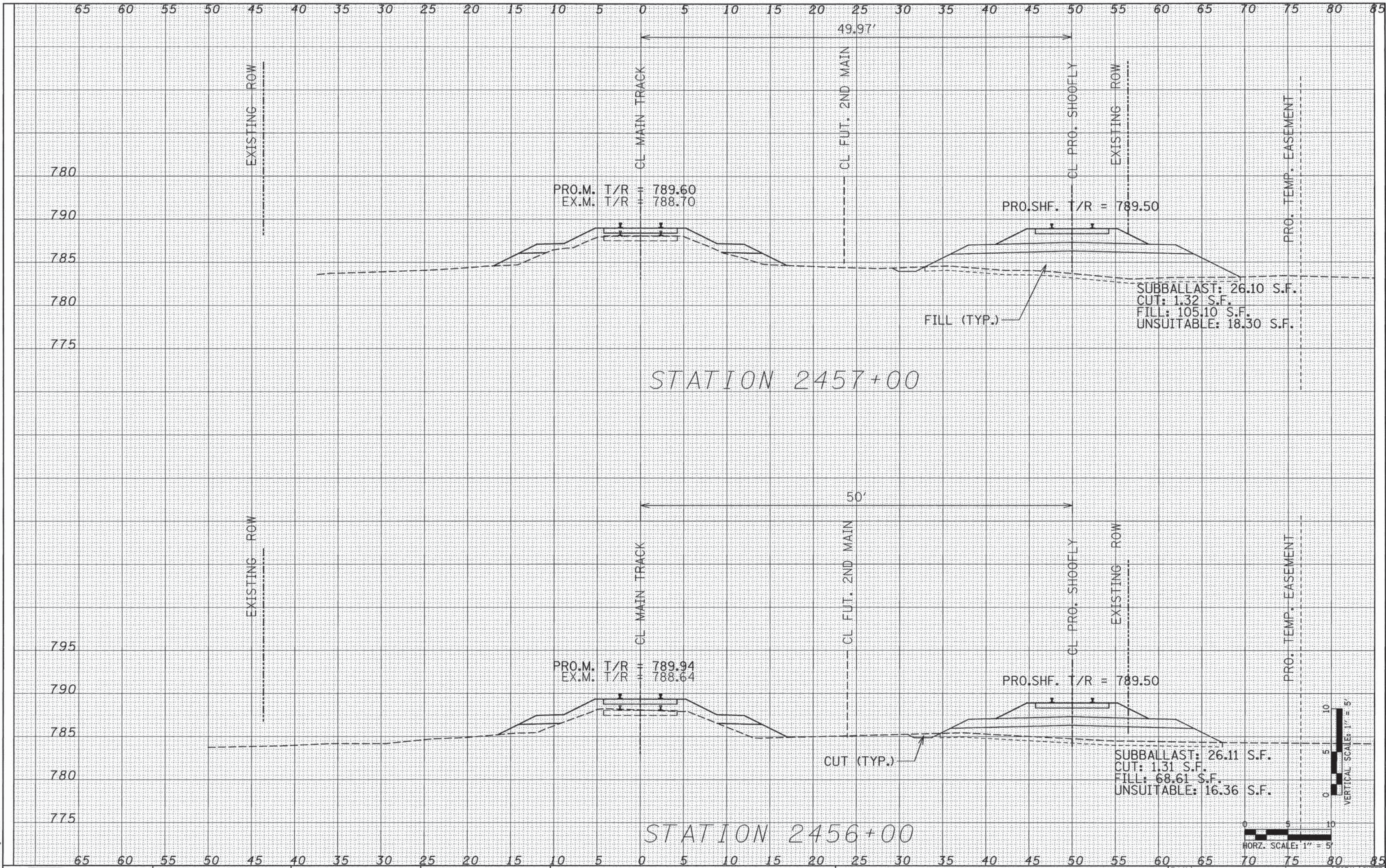
 PATRICK ENGINEERING	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com		USER NAME = thoeppen(Rday.Lisile)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RAILROAD CROSS SECTIONS			F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
				DRAWN - KEK	REVISED -		187	11-00121-11-BR	LAKE	496	281			
			PLOT SCALE = 5,000'0" / in.	CHECKED - SPH	REVISED -		61A63							
			PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -		SCALE: AS NOTED	SHEET NO. RR 26 OF 54	STA. 2453+75 TO STA. 2454+00	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

ORIGINAL SURVEY	SURVEYED _____	BY _____	DATE _____
NOTE BOOK	PLOTTED _____		
	TEMPLATE _____		
	AREAS _____		
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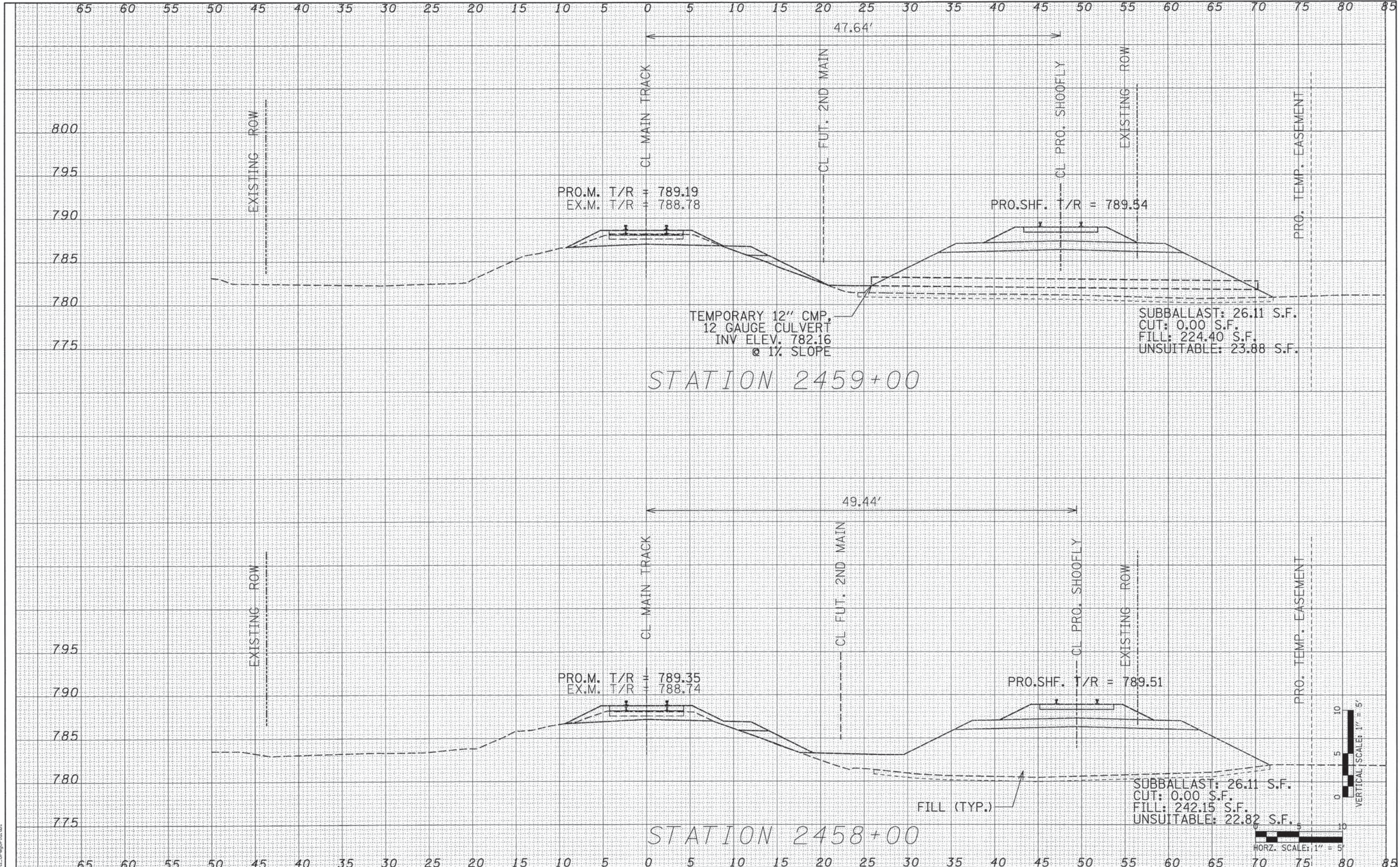
FINAL	BY	DATE
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NOTED		
BOOK		
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ORIGINAL	BY	DATE
SURVEY		
NOTED		
BOOK		
NO.		



DATE	BY	SURVEYED	PLOTTED	TEMPLATE	NO.

DATE	BY	SURVEYED	PLOTTED	TEMPLATE	NO.



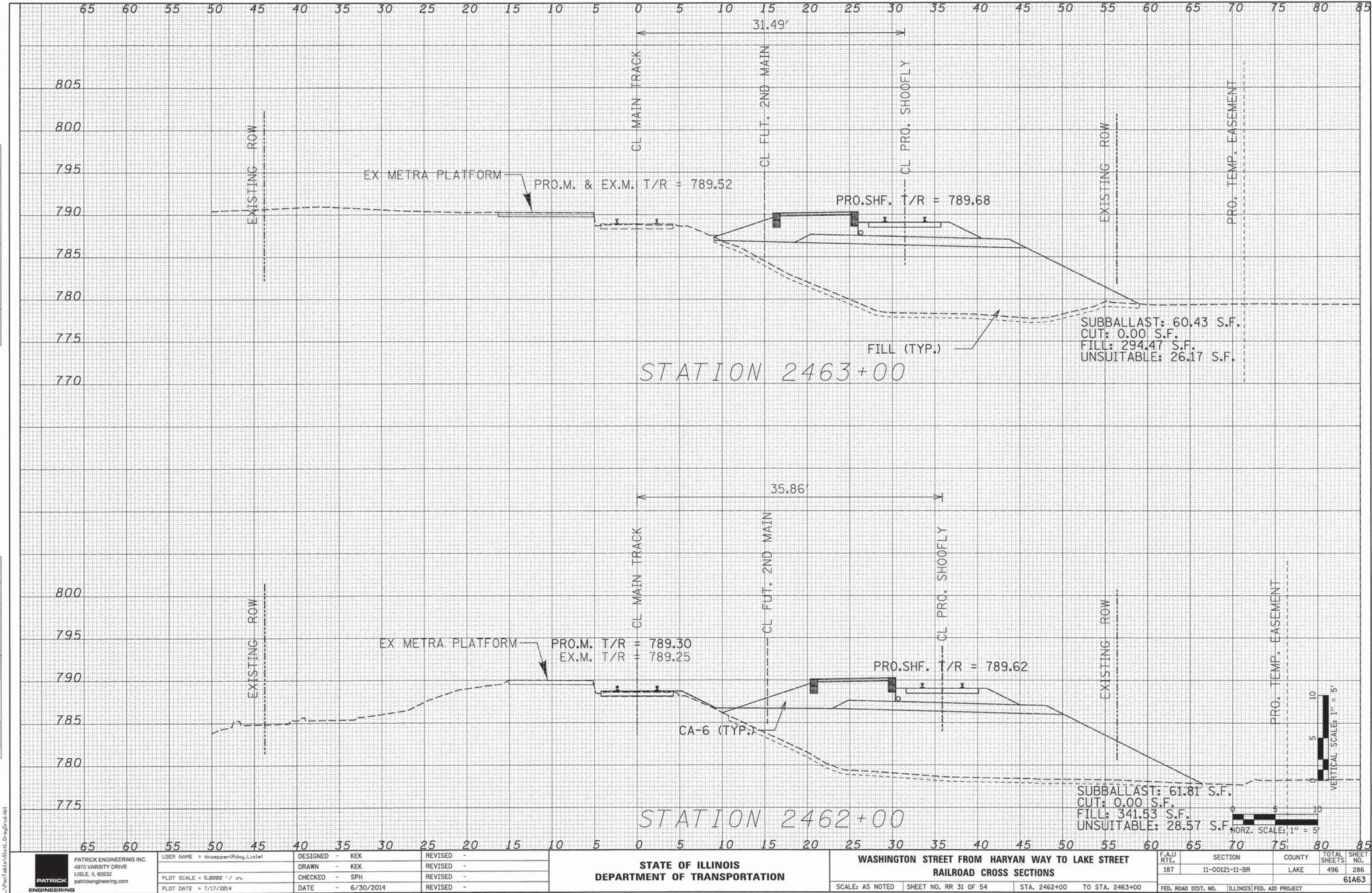
 PATRICK ENGINEERING INC. 4970 VARSITY DRIVE Lisle, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwj.Lisle) PLOT SCALE = 5.0000' / 1"	DESIGNED - KEK DRAWN - KEK CHECKED - SPH DATE - 6/30/2014	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RAILROAD CROSS SECTIONS	F.A.U. RTE. 187 SECTION 11-00121-11-BR COUNTY LAKE TOTAL SHEETS 496 SHEET NO. 284 61A63	SCALE: AS NOTED SHEET NO. RR 29 OF 54 STA. 2458+00 TO STA. 2459+00 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

ORIGINAL			
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	TEMPLATE		
	AREAS		
	AREAS CHECKED		
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		BY	DATE



FINAL	DATE
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NOTED	
BOOK	
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ORIGINAL	DATE
SURVEY	BY
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BOOK	
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PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, IL 60532
patrickengineering.com

USER NAME = tkoeppen(Rdwg.Lisle)
DESIGNED - KEK
DRAWN - KEK
CHECKED - SPH
DATE - 6/30/2014
PLOT SCALE = 5.0000' / 1" = 5'
PLOT DATE = 7/17/2014

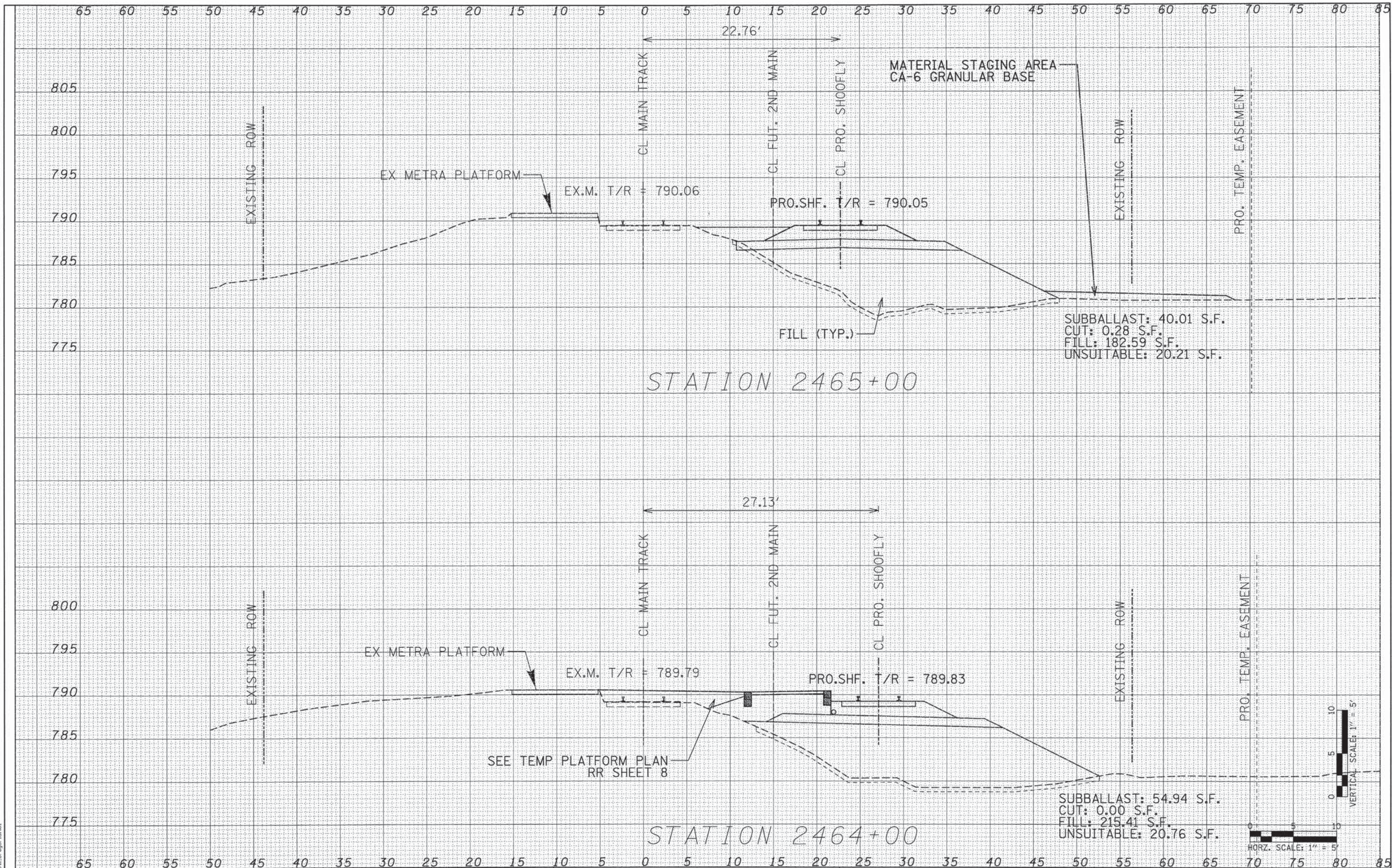
DESIGNED - KEK
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED SHEET NO. RR 31 OF 54 STA. 2462+00 TO STA. 2463+00

ORIGINAL	BY	DATE
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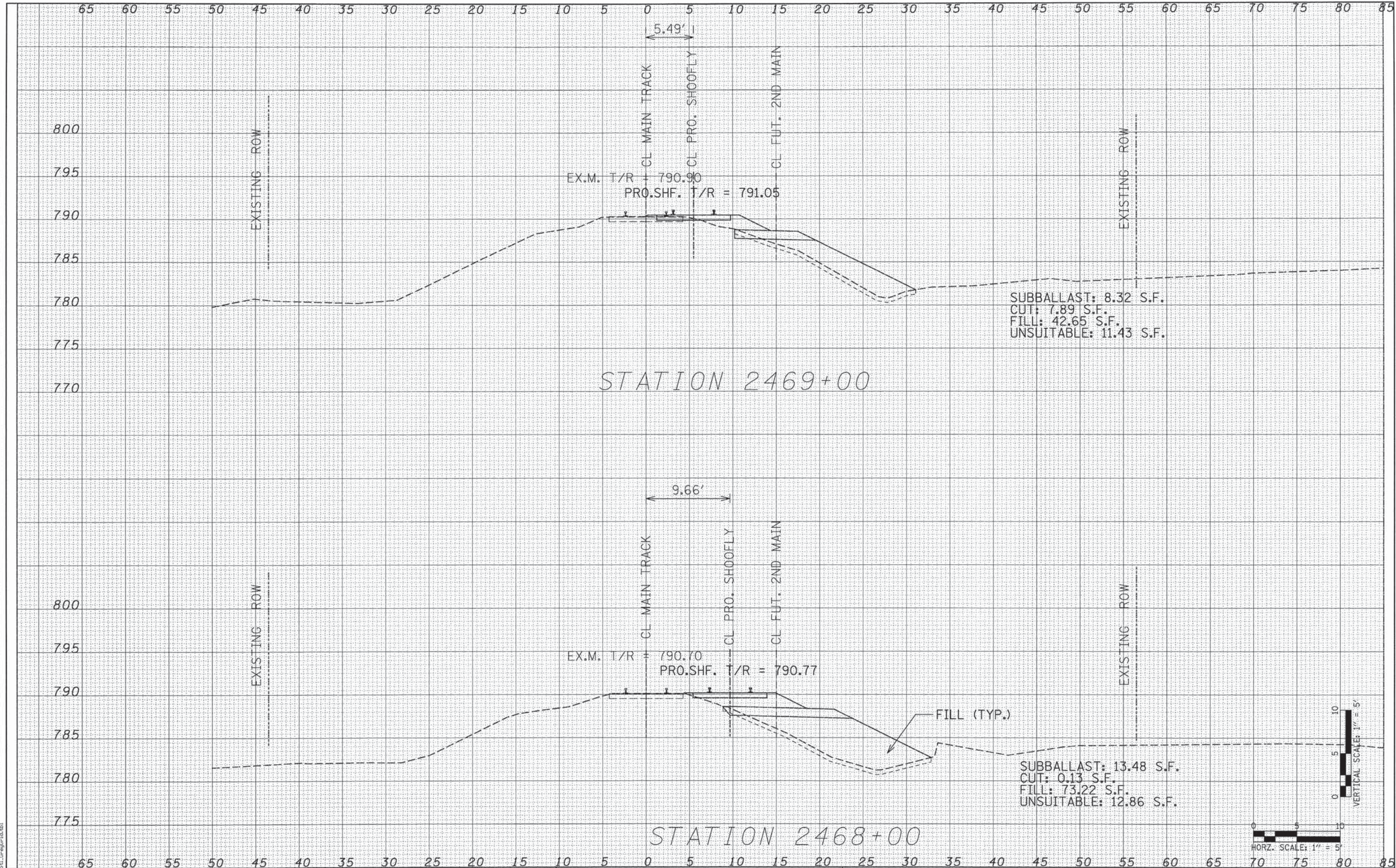


ORIGINAL				BY	DATE
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 PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkeppert@ivy.lia10	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RAILROAD CROSS SECTIONS			FED. AID RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - KEK	REVISED -					187	11-00121-11-BR	LAKE	496	288
	PLOT SCALE = 5.0000' / 1" =	CHECKED - SPH	REVISED -							61A63		
	PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -		SCALE: AS NOTED SHEET NO. RR 33 OF 54 STA. 2466+00 TO STA. 2467+00			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

DATE	BY	SURVEYED	PLOTTED	TEMPLATE	AREAS	CHECKED
FINAL						
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NOTE BOOK						
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DATE	BY	SURVEYED	PLOTTED	TEMPLATE	AREAS	CHECKED
ORIGINAL						
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NOTE BOOK						
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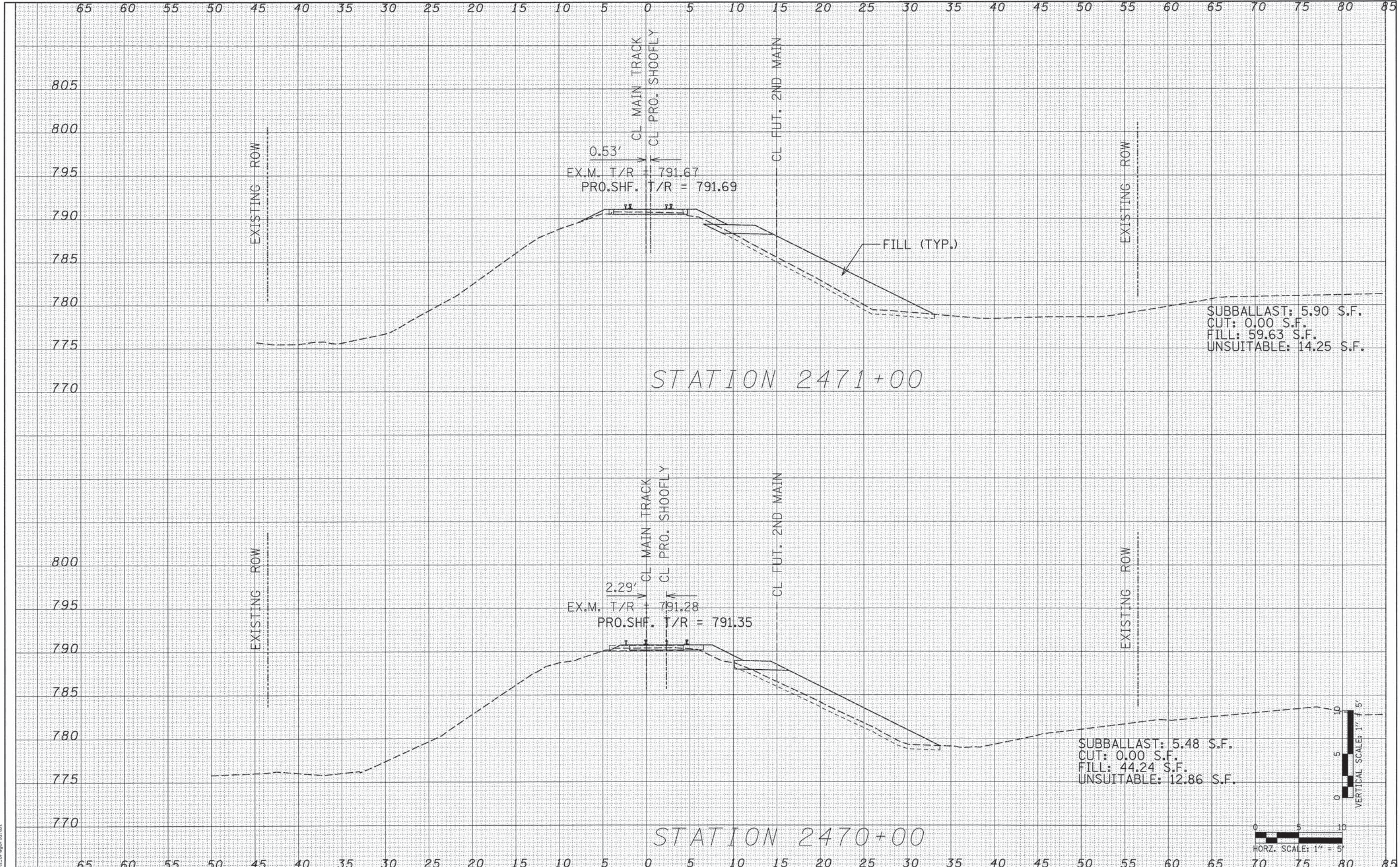


 PATRICK ENGINEERING	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdyg_Lisle)	DESIGNED - KEK	REVISED -										
			DRAWN - KEK	REVISED -										
		PLOT SCALE = 5.0000' / in.	CHECKED - SPH	REVISED -										
		PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -										
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION					WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RAILROAD CROSS SECTIONS					F.A.U R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
					SCALE: AS NOTED SHEET NO. RR 34 OF 54 STA. 2468+00 TO STA. 2469+00					187	11-00121-11-BR	LAKE	496	289
										61A63				
										FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

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PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, IL 60532
patrickengineering.com

USER NAME = tkoeppen(Rdwy,Lisle)	DESIGNED - KEK	REVISED -
	DRAWN - KEK	REVISED -
PLOT SCALE = 5,000.00' / 1"	CHECKED - SPH	REVISED -
PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	290

FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT

SCALE: AS NOTED

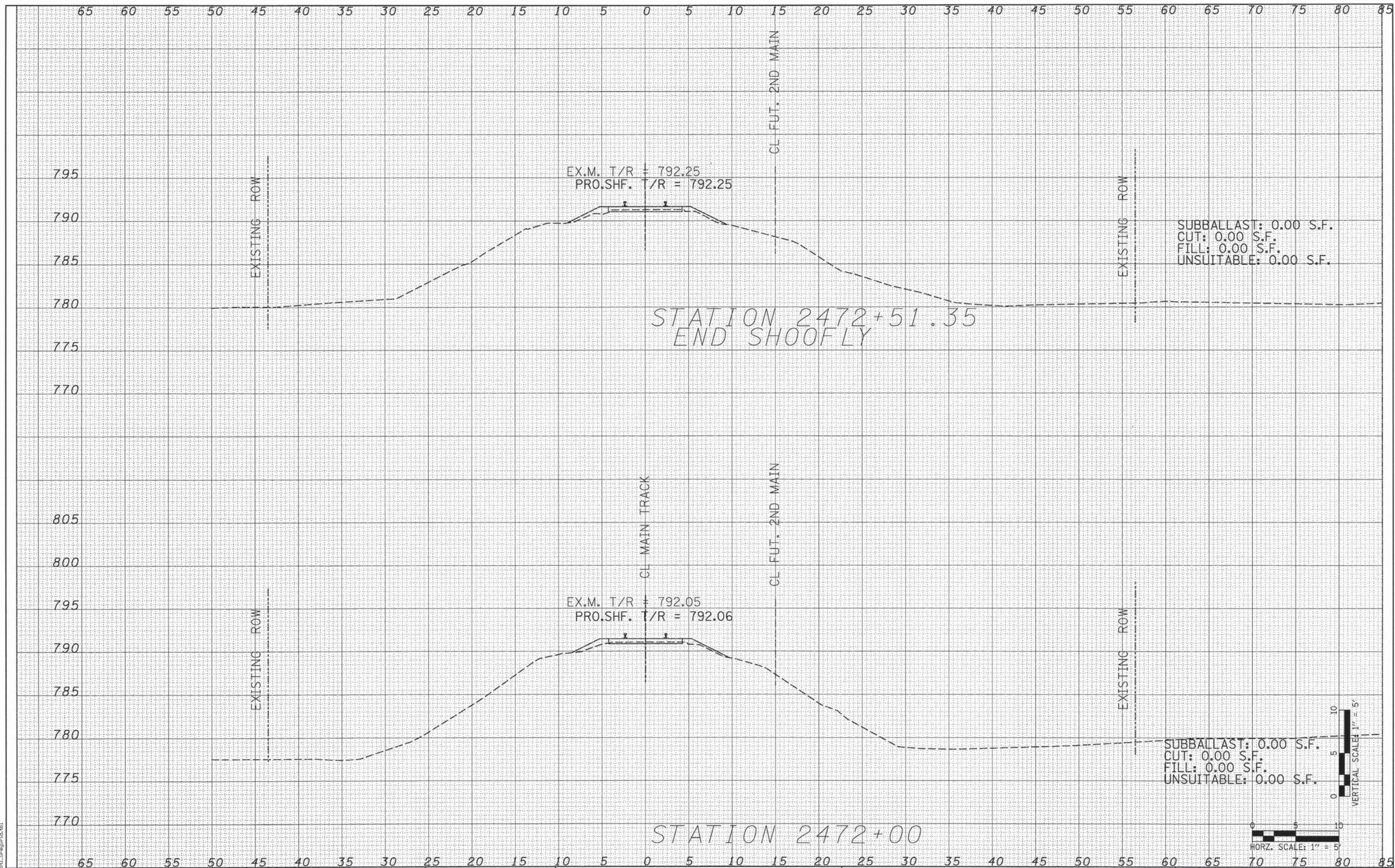
SHEET NO. RR 35 OF 54

STA. 2470+00 TO STA. 2471+00

HORIZ. SCALE: 1" = 5'

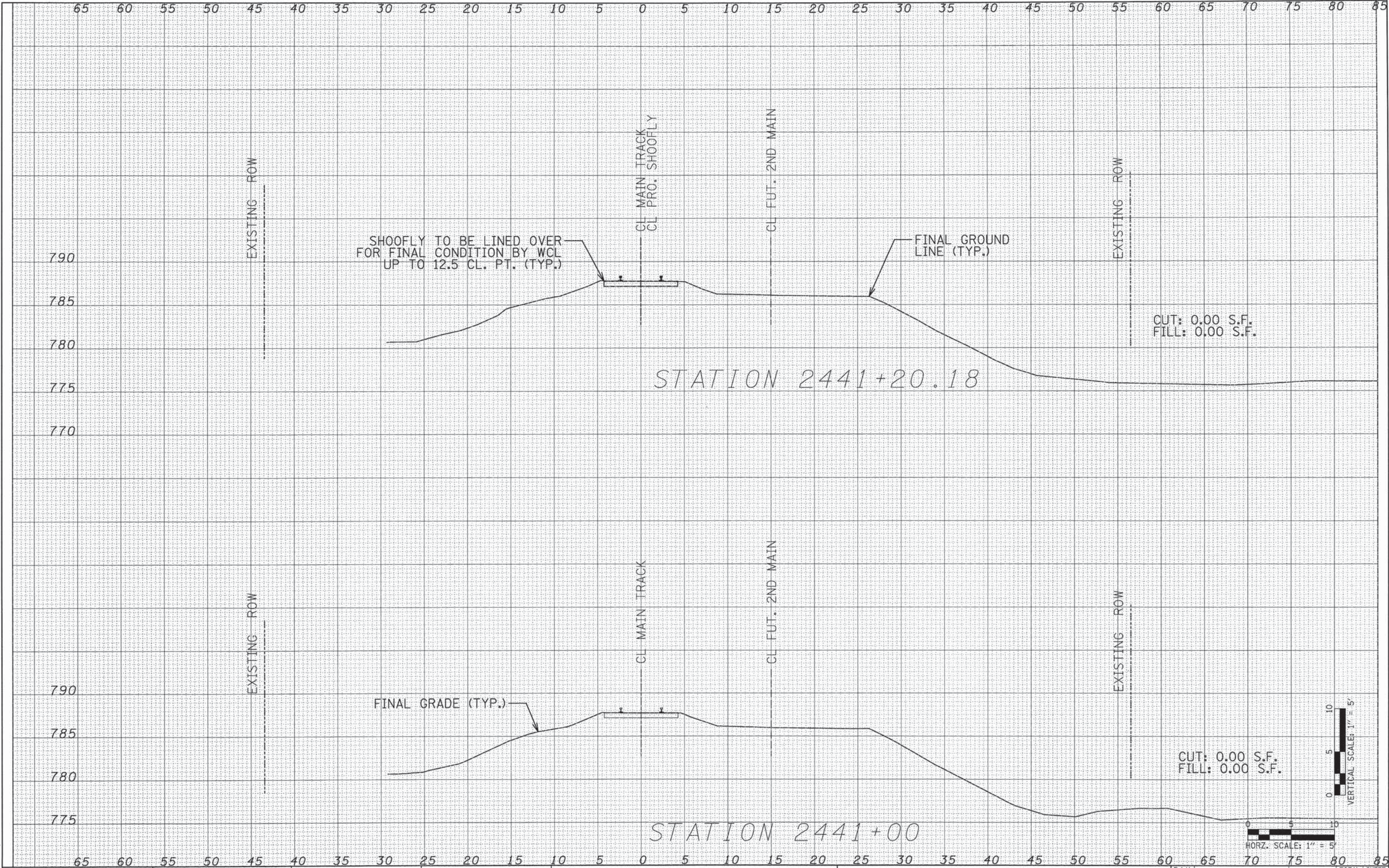
VERTICAL SCALE: 1" = 5'

ORIGINAL SURVEY	SURVED _____	BY _____	DATE _____
	PLOTTED _____		
NOTE BOOK	TEMPLATE _____		
	AREAS _____		
NO.	AREAS CHECKED _____		



FINAL	SURVEYED	DATE
SURVEY	PLOTTED	BY
NOTE BOOK	TEMPLATE	
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ORIGINAL	SURVEYED	DATE
SURVEY	PLOTTED	BY
NOTE BOOK	TEMPLATE	
NO.	AREAS CHECKED	



 PATRICK ENGINEERING	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy.Lisle)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RESTORATION CROSS SECTIONS			F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			DRAWN - KEK	REVISED -					187	11-00121-11-BR	LAKE	496	292
		PLOT SCALE = 5.0000' / in.	CHECKED - SPH	REVISED -					61A63				
		PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -									
SCALE: AS NOTED						SHEET NO. RR 37 OF 54	STA. 2441+00	TO STA. 2441+20.18	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

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ORIGINAL SURVEY	SURVEYED _____	BY _____	DATE _____
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	AREAS CHECKED _____		
NOTE BOOK			

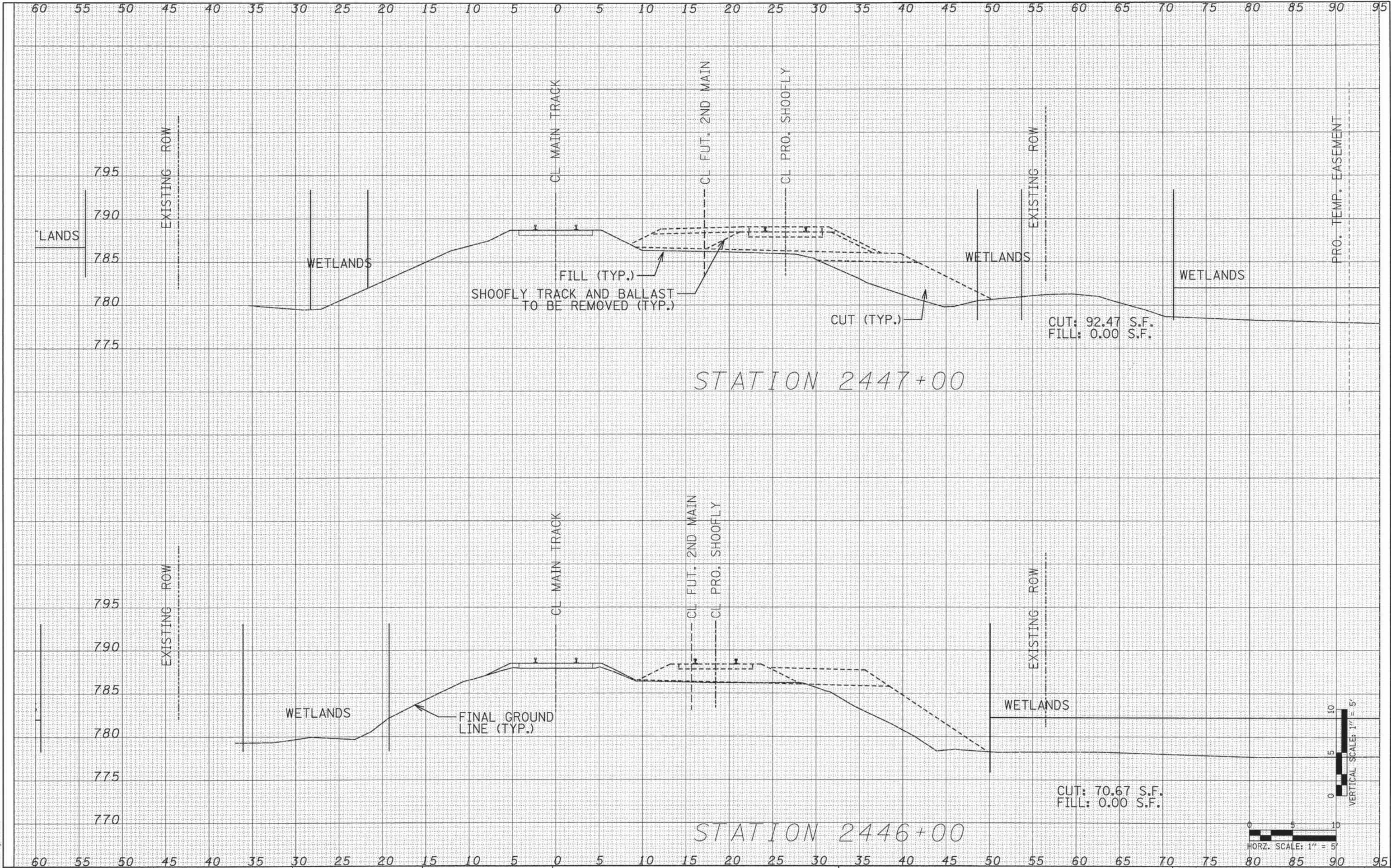
 PATRICK ENGINEERING	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdy.Lisle)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RESTORATION CROSS SECTIONS			F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		PLOT SCALE = 5.0000' / 1in.	DRAWN - KEK	REVISED -					187	11-00121-11-BR	LAKE	496	293
		PLOT DATE = 7/17/2014	CHECKED - SPH	REVISED -		61A63							
		DATE = 6/30/2014	REVISED -	SCALE: AS NOTED							SHEET NO. RR 38 OF 54	STA. 2442+00 TO STA. 2443+00	FED. ROAD DIST. NO.

ORIGINAL			BY	DATE
SURVEY				
PLOTTED				
TEMPLATE				
AREAS				
CHECKED				
NO.				

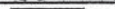
 PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com		USER NAME = tkoeppen@day.lisle.il	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RESTORATION CROSS SECTIONS			F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
				DRAWN - KEK	REVISED -		187	11-00121-11-BR	LAKE	496	294			
			PLOT SCALE = 5.0000 ' / 1" =	CHECKED - SPH	REVISED -									
			PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -									
						SCALE: AS NOTED	SHEET NO. RR 39 OF 54	STA. 2444+00 TO STA. 2445+00		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
									61A63					

DATE	BY	SURVEYED	PLOTTED	TEMPLATE	AREAS	CHECKED
		FINAL	NO.	NO.	NO.	NO.

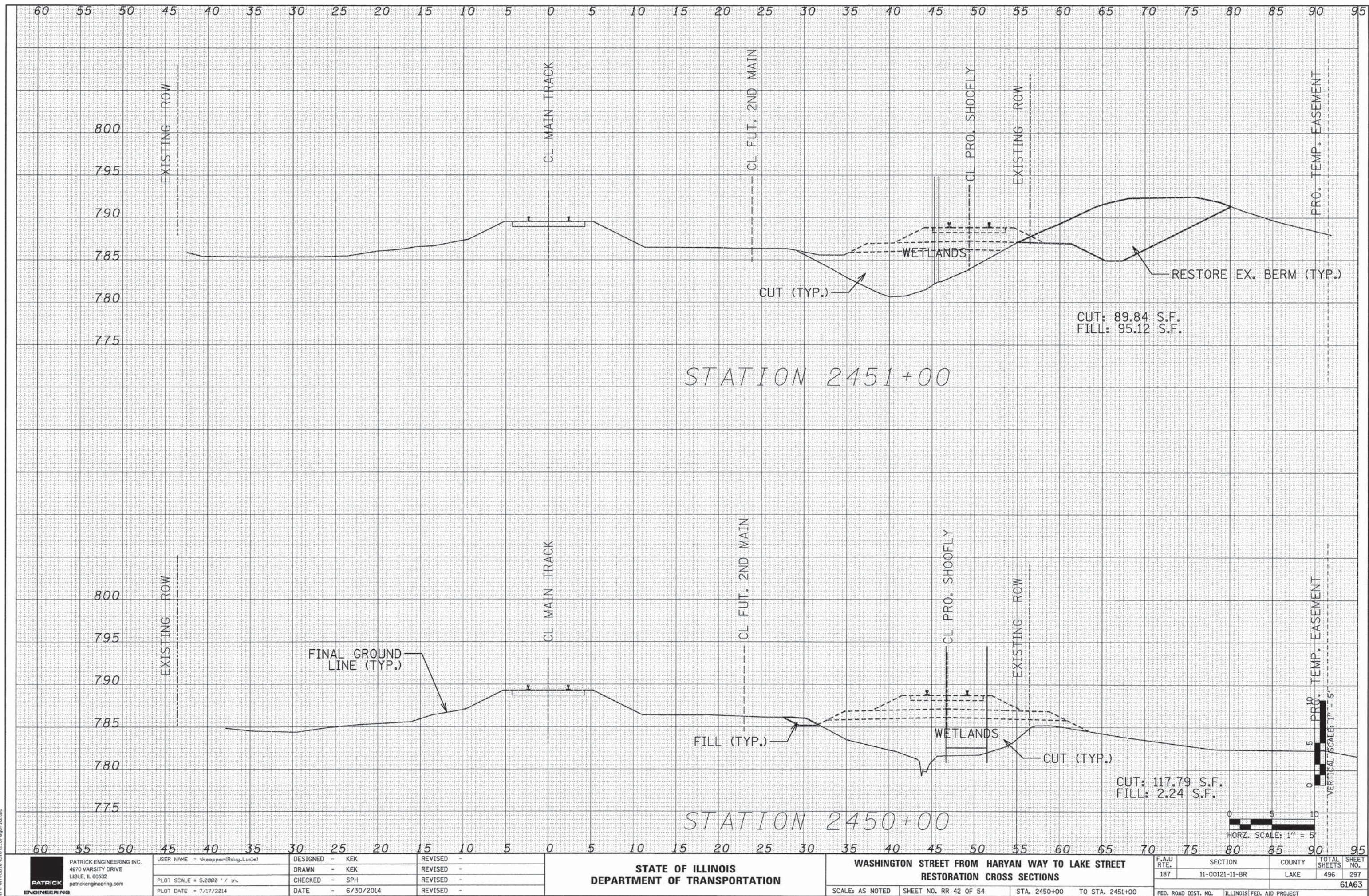
DATE	BY	SURVEYED	PLOTTED	TEMPLATE	AREAS	CHECKED
		ORIGINAL	NO.	NO.	NO.	NO.



ORIGINAL	SURVEYED _____	BY _____	DATE _____
	SURVEY _____		
NOTE BOOK	PLOTTED _____		
	TEMPLATE _____		
	AREAS _____		
NO. _____	AREAS CHECKED _____		

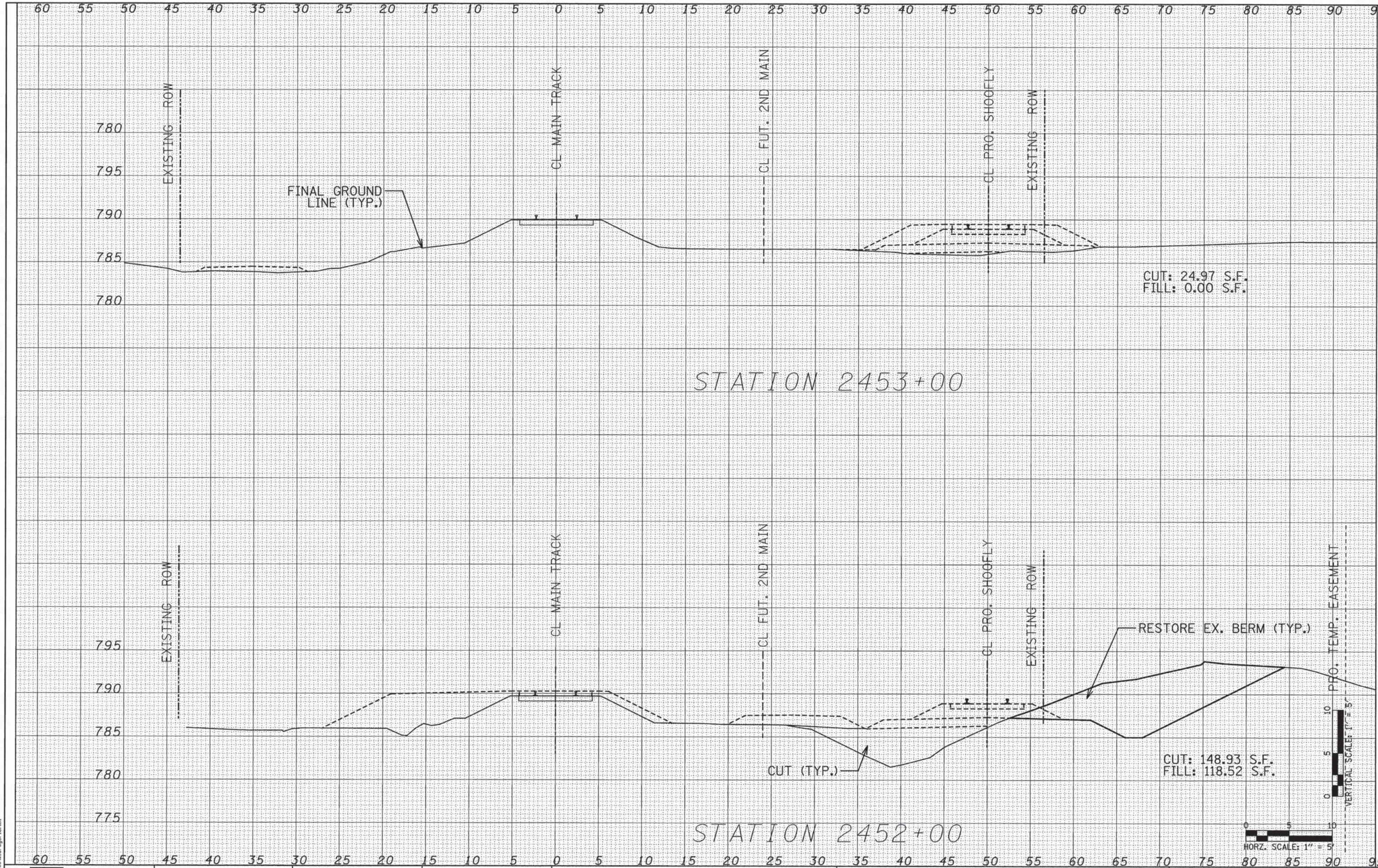
 PATRICK ENGINEERING	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com		USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RESTORATION CROSS SECTIONS			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
				DRAWN - KEK	REVISED -		187	11-00121-11-BR	LAKE	496	296			
			PLOT SCALE = 5.0000' / in.	CHECKED - SPH	REVISED -		61A63							
			PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -									
					SCALE: AS NOTED	SHEET NO. RR 41 OF 54	STA. 2448+00 TO STA. 2449+00		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT				

ORIGINAL		BY	DATE
SURVIVED			
SURVEY			
PLOTTED			
TEMPLATE			
AREAS			
CHECKED			
NO.			



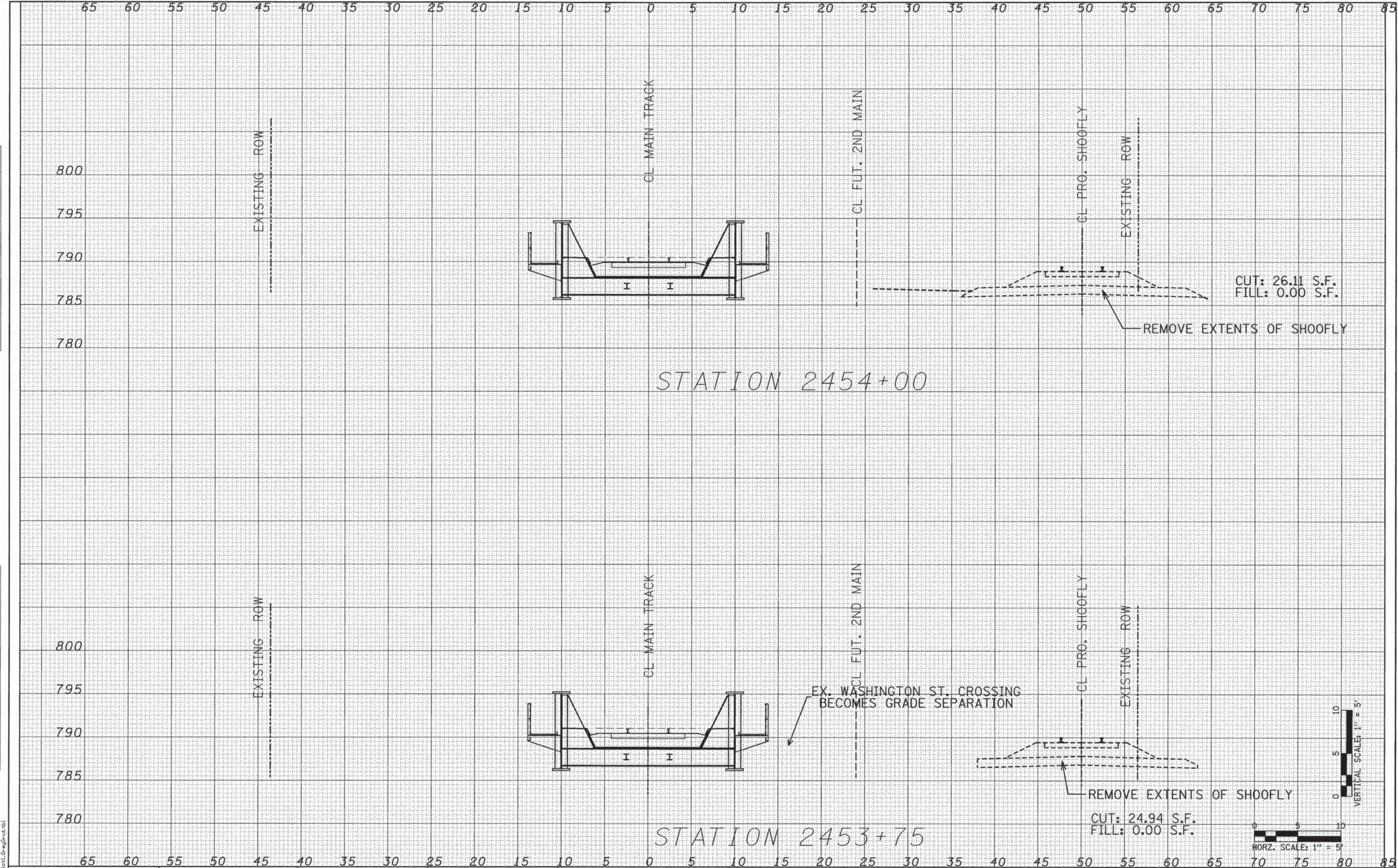
FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS CHECKED		



FINAL	SURVEYED	DATE
SURVEY	PLOTTED	BY
NOTE BOOK	TEMPLATE	
NO.	AREAS CHECKED	

ORIGINAL	SURVEYED	DATE
SURVEY	PLOTTED	BY
NOTE BOOK	TEMPLATE	
NO.	AREAS CHECKED	



PATRICK ENGINEERING PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkeoppen@dwg.Ltise)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET RESTORATION CROSS SECTIONS			F.A.U. RTE. 187	SECTION 11-00121-11-BR	COUNTY LAKE	TOTAL SHEETS 496	SHEET NO. 299
	PLOT SCALE = 5.0000' / 1" = 5'	DRAWN - KEK	REVISED -					61A63				
	PLOT DATE = 7/17/2014	CHECKED - SPH	REVISED -		SCALE: AS NOTED			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
	DATE - 6/30/2014	REVISED -	SHEET NO. RR 44 OF 54			STA. 2453+75 TO STA. 2454+00						

G:\CDDT\21150_004\Drawings\RAIL\SHEETS\WashSt_Rail_RESTXSec_Sheets.dgn

ORIGINAL SURVEY	SURVEYED _____	BY _____	DATE _____
NOTE BOOK	TEMPLATED _____		
NO.	AREAS _____		
	AREAS CHECKED _____		

