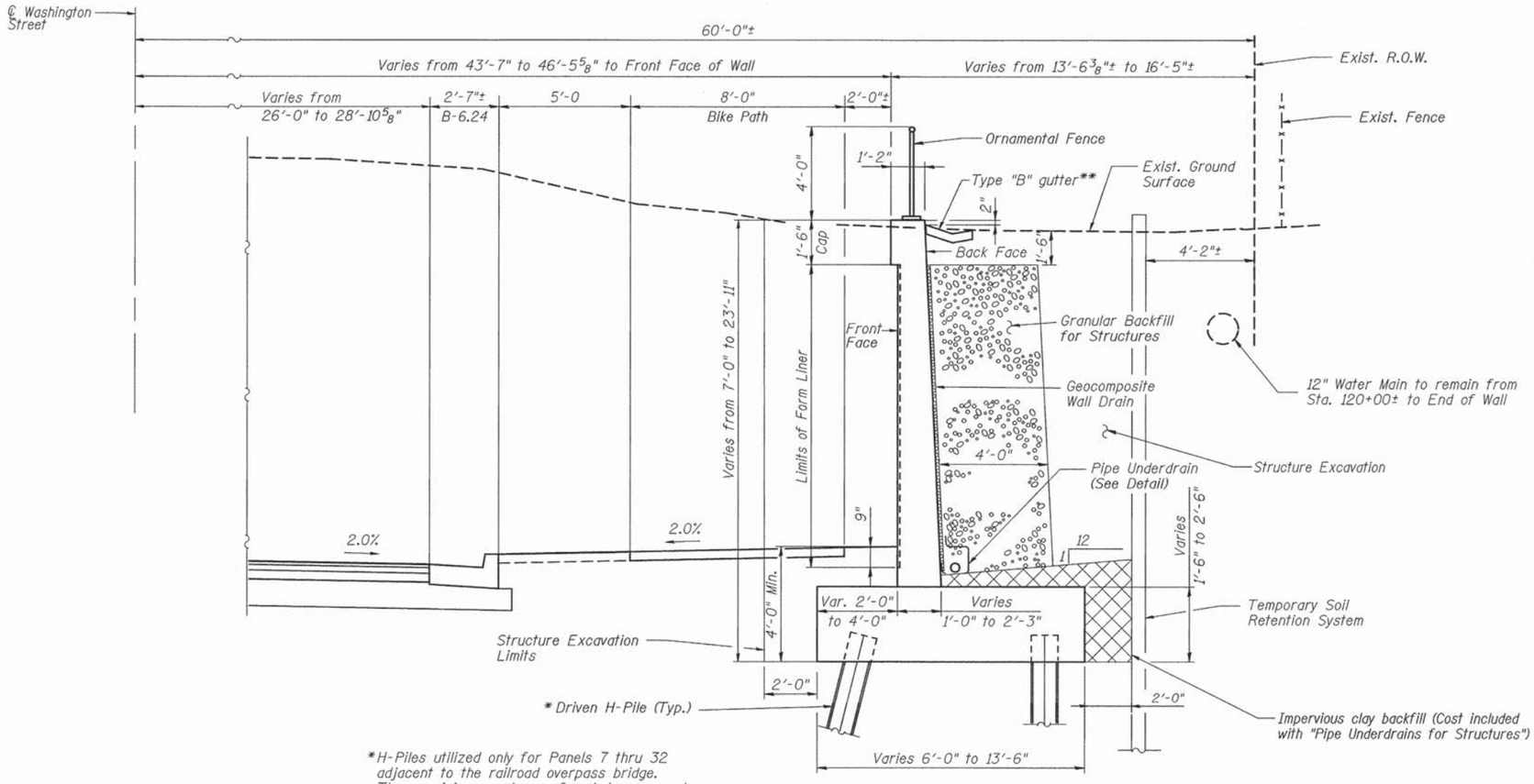


*H-Piles utilized only for Panels 7 thru 32 adjacent to the railroad overpass bridge. The remaining panels are founded on spread footing.

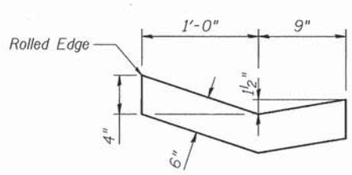
**Type "B" Gutter to be provided along the back face of the retaining wall except within the limits of the proposed guardrail.

TYPICAL SECTION

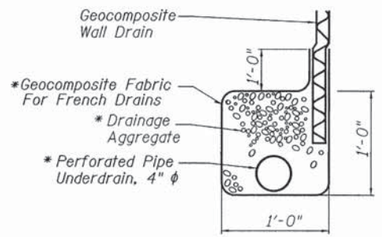
TOTAL BILL OF MATERIAL

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	156,770
Furnishing Steel Piles HP12X53	Foot	8848
Driving Piles	Foot	8848
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.	18,020
Concrete Gutter Type B	Foot	810
Construction Vibration Monitoring	L. Sum	1

INDEX OF SHEETS



TYPE B GUTTER DETAIL



PIPE UNDERDRAIN DETAIL

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

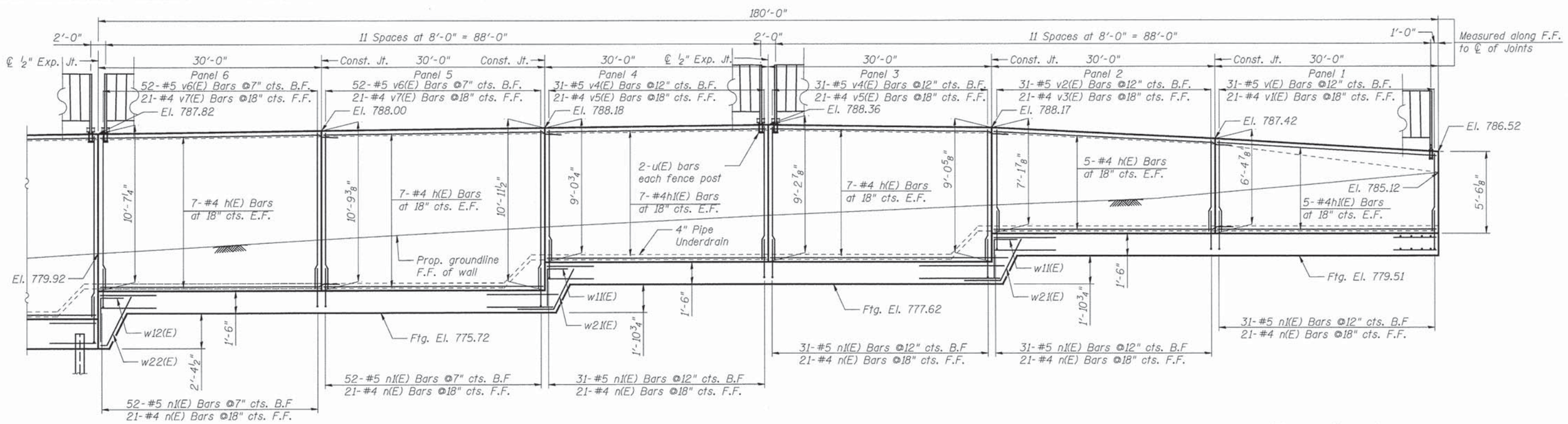
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = jrefvik(rdwg)	DESIGNED - JM	REVISED 10/7/2014
	PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - SLC	REVISED
	PLOT SCALE = 1:49.9999	DRAWN - HH	REVISED
	PLOT DATE = 10/8/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RETAINING WALL TYPICAL SECTION AND TOTAL BILL OF MATERIAL
SHEET NO. STR 2 OF 29

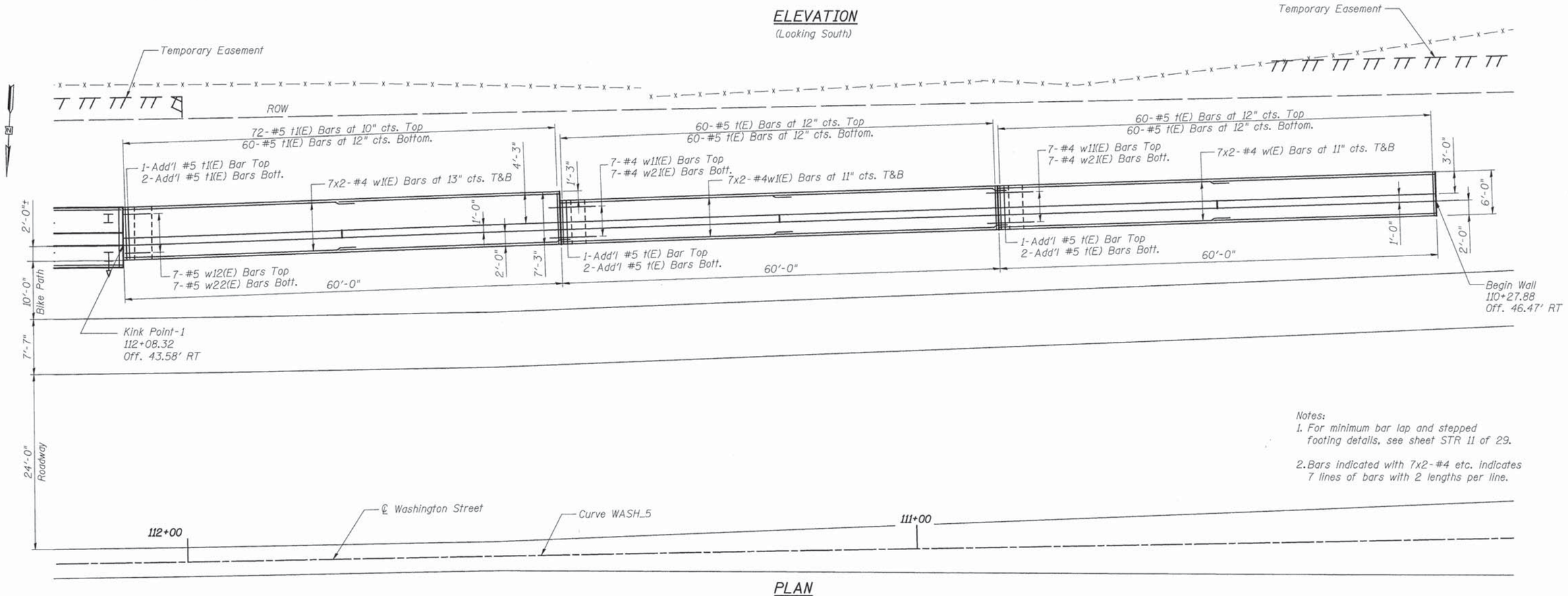
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	201
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

G:\LCDOT\21150_004\Drawings\STRUCT\Wall\Wall_BOM.dgn



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.

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

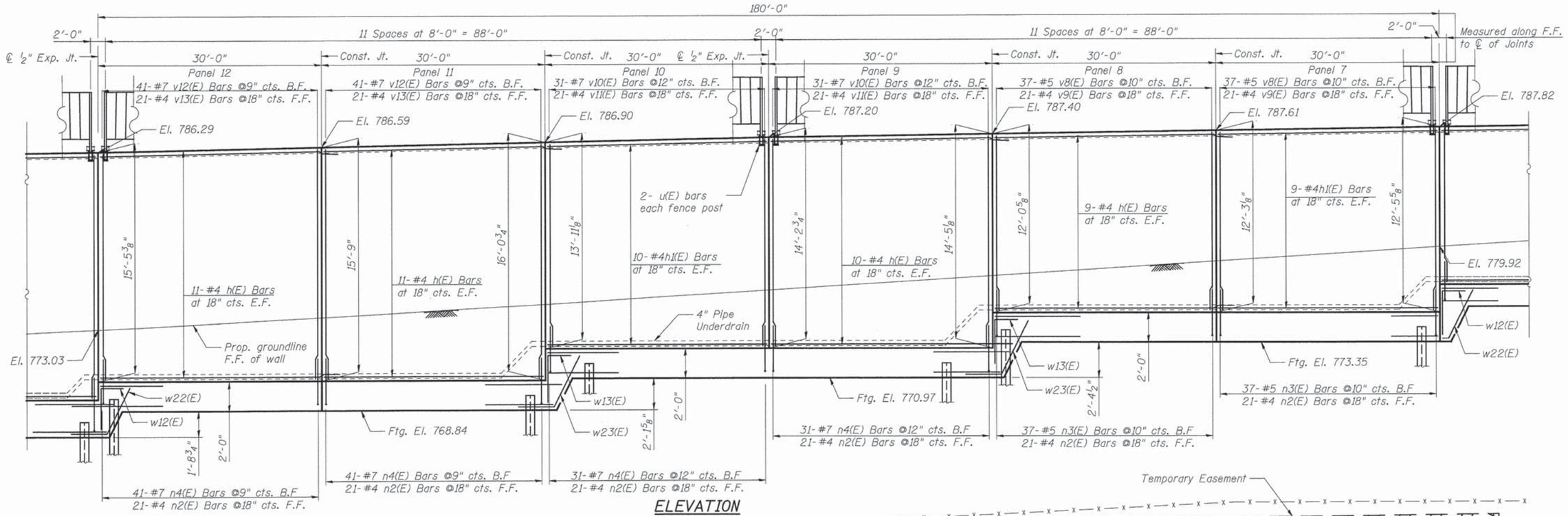
USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - JM	REVISED	
PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - SLC	REVISED	
PLOT SCALE = 1:7	DRAWN - HH	REVISED	
PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RETAINING WALL PLAN & ELEVATION 1
SHEET NO. STR 3 OF 29

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	202
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

Q:\LCDOT\21150_004\Drawings\STRUCT\Wall\P&E-1.dgn



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.

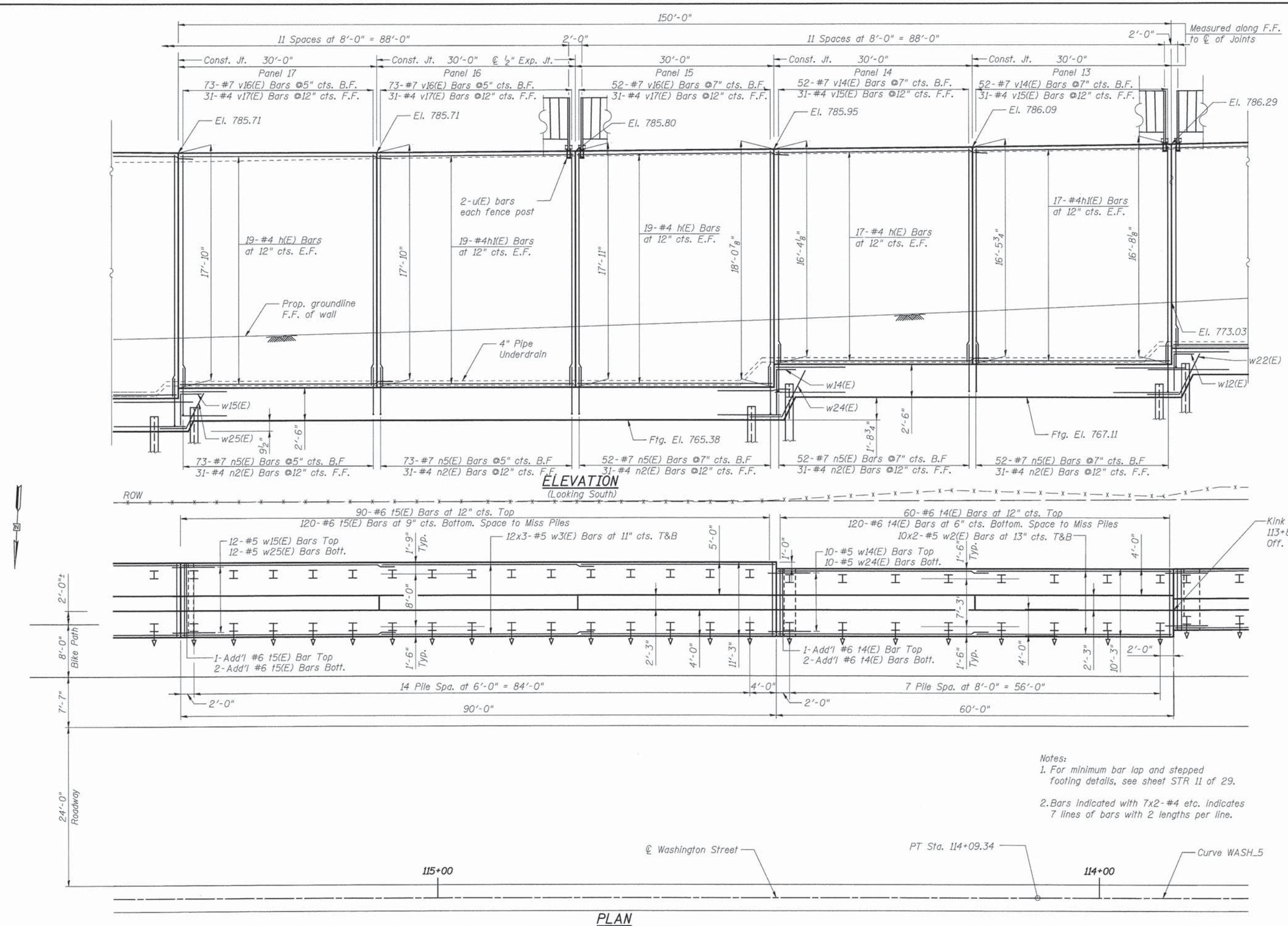
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - JM	REVISED
	PLOT CONFIG= PDF(Gray_Large).plt	CHECKED - SLC	REVISED
	PLOT SCALE = 1:7	DRAWN - HH	REVISED
	PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RETAINING WALL PLAN & ELEVATION 2
SHEET NO. STR 4 OF 29

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	203
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

D:\LCDOT\21150_004\Drawings\STRUCT\Wall\P&E-2.dgn



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.

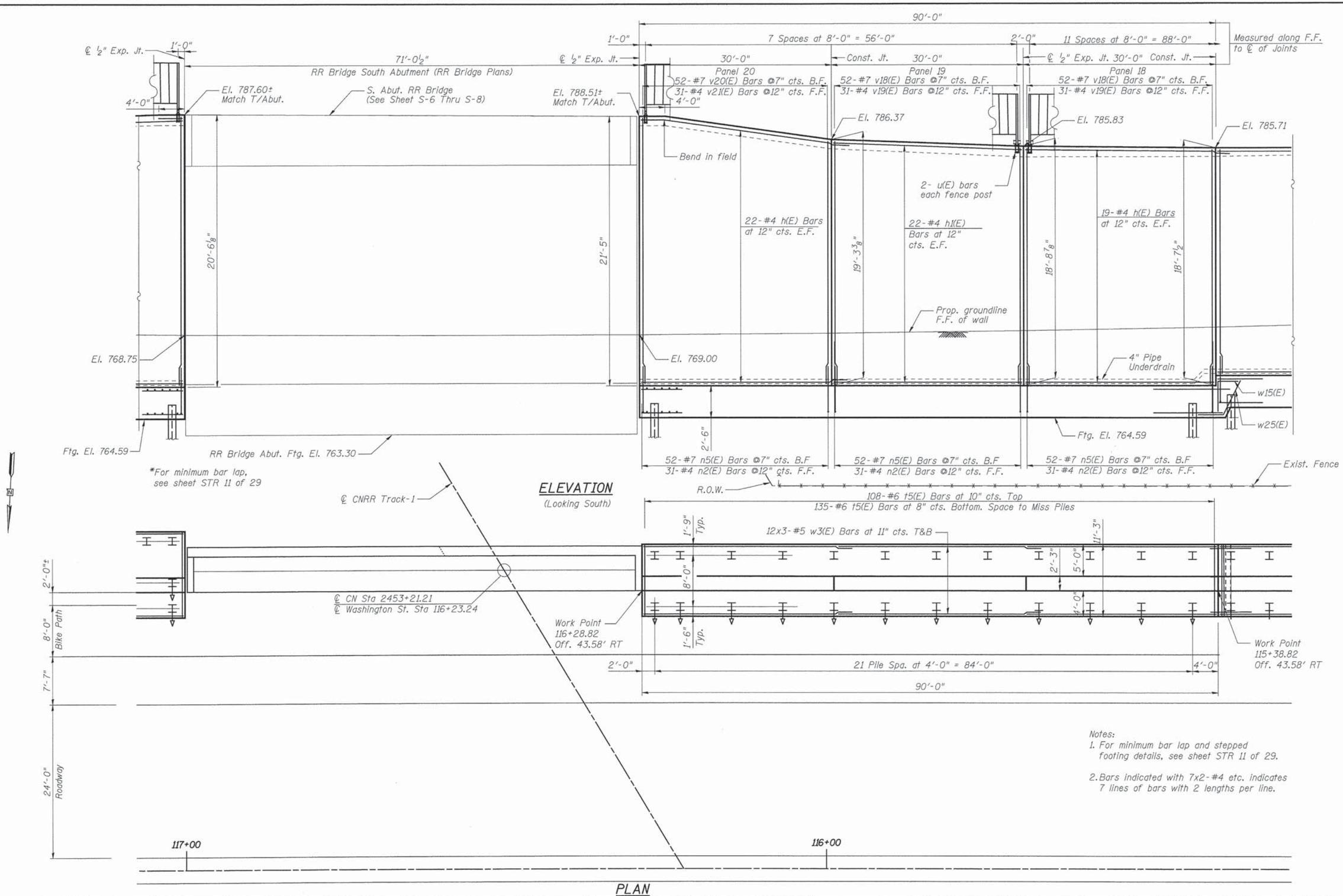
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - JM	REVISED
	PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - SLC	REVISED
	PLOT SCALE = 1:7	DRAWN - HH	REVISED
	PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RETAINING WALL PLAN & ELEVATION 3
SHEET NO. STR 5 OF 29

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	204
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

G:\LCDOT\21150.004\Drawings\STRUCT\Wall1\P&E-3.dgn



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.

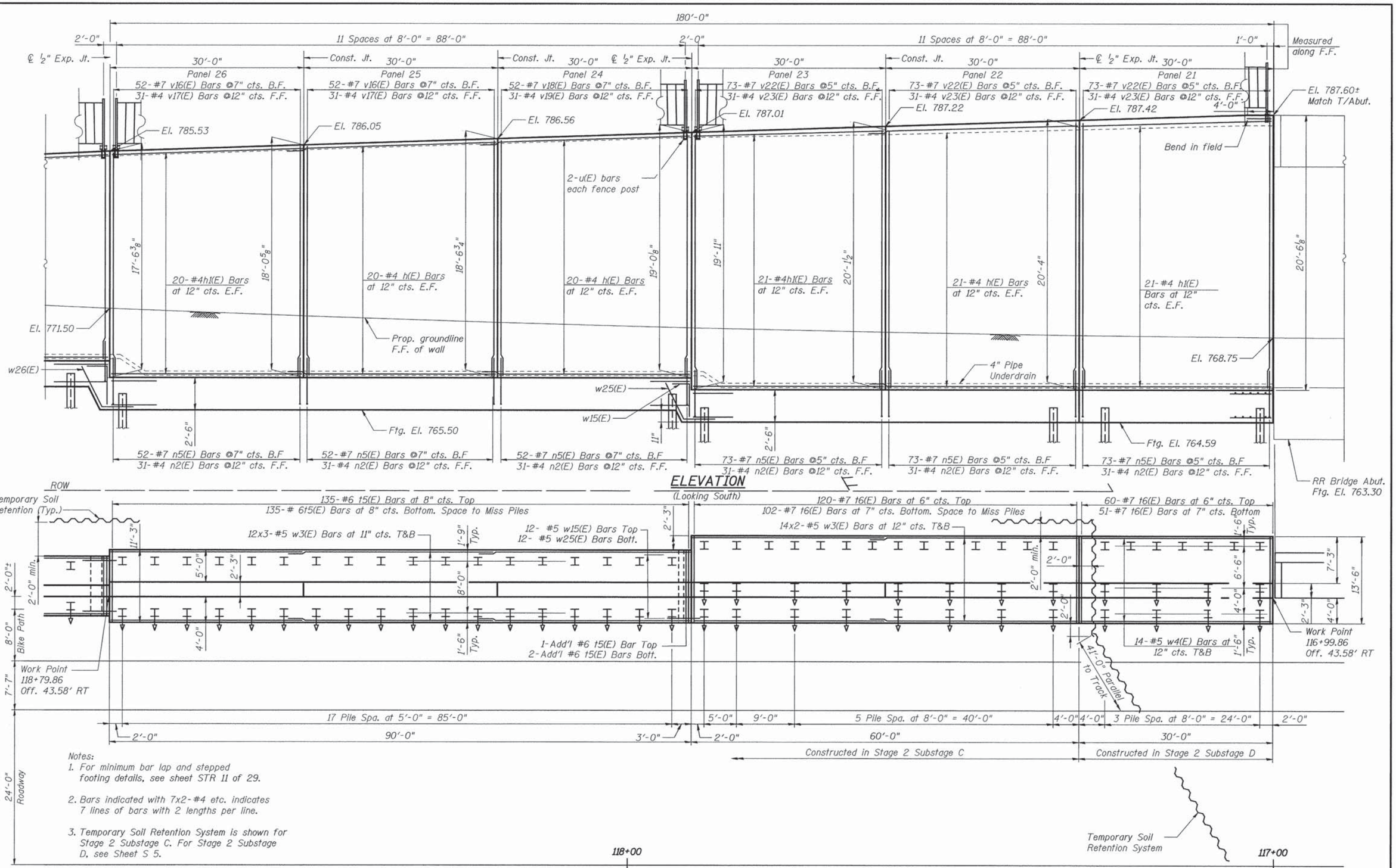
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - JM	REVISED
	PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - SLC	REVISED
	PLOT SCALE = 1:7	DRAWN - HH	REVISED
	PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RETAINING WALL PLAN & ELEVATION 4
SHEET NO. STR 6 OF 29

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	205
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

G:\LCDOT\21150.004\Drawings\STRUCT\Wall\P&E-4.dgn



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.
3. Temporary Soil Retention System is shown for Stage 2 Substage C. For Stage 2 Substage D, see Sheet S 5.

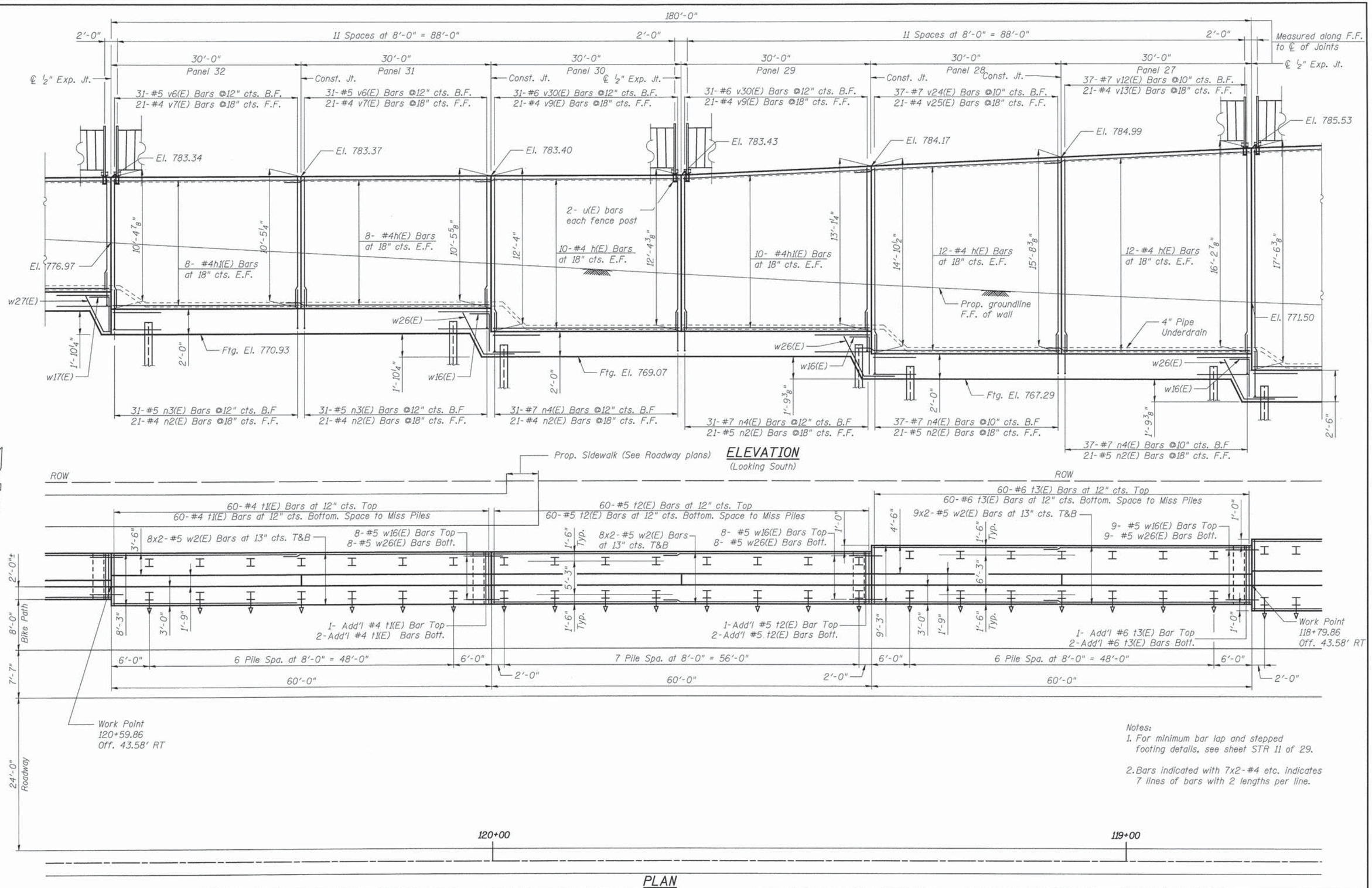
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = jrefvik(rdw)	DESIGNED - JM	REVISED 10/7/2014
	PLOT CONFIG= PDF(Gray_Large).plt	CHECKED - SLC	REVISED
	PLOT SCALE = 1:7	DRAWN - HH	REVISED
	PLOT DATE = 10/8/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RETAINING WALL PLAN & ELEVATION 5
SHEET NO. STR 7 OF 29

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	206
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

Q:\LCDOT\21150_004\Drawings\STRUCT\Wall\P&E-5.dgn

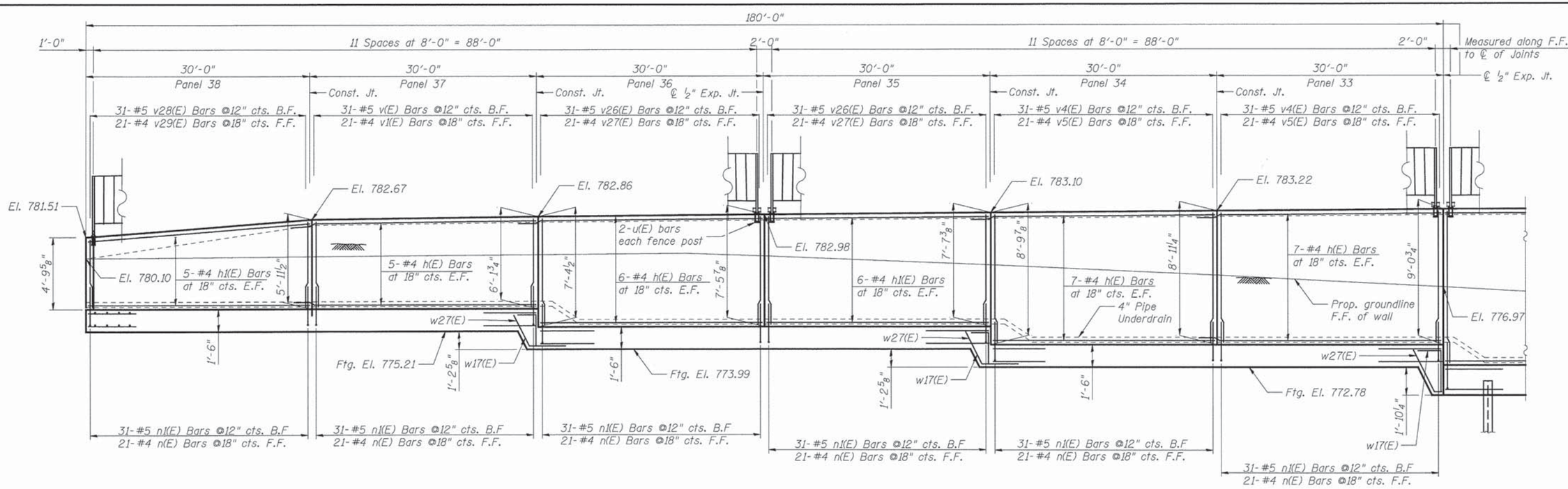


PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - JM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - SLC	REVISED	
	PLOT SCALE = 1:7	DRAWN - HH	REVISED	
	PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED	

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RETAINING WALL PLAN & ELEVATION 6
SHEET NO. STR 8 OF 29

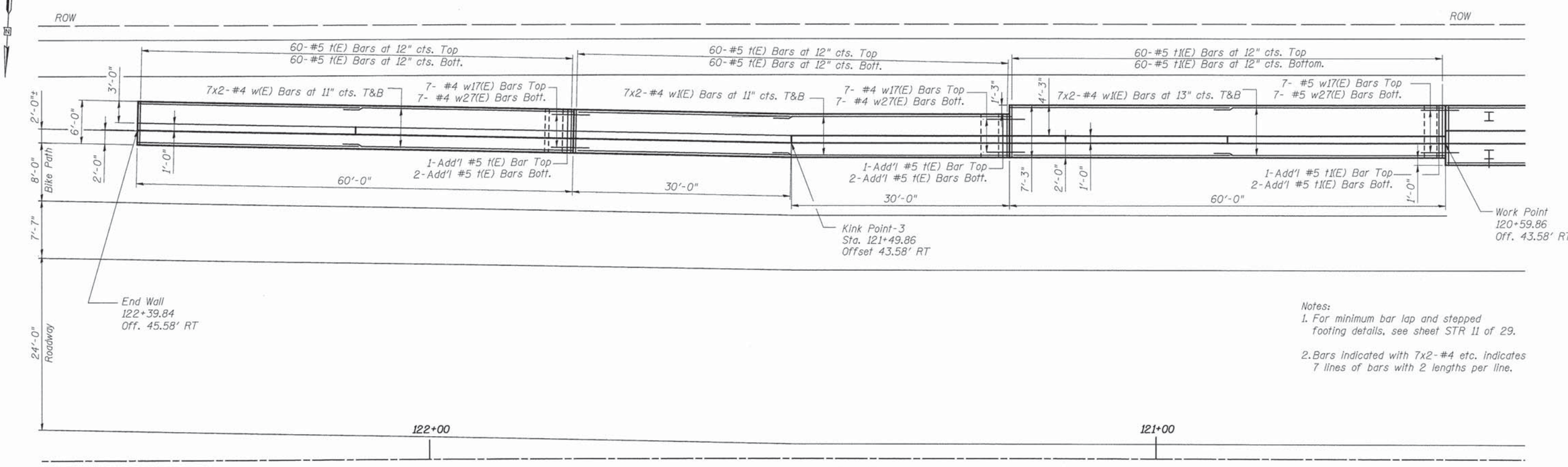
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	207
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

Q:\LCDOT\21152_024\Drawings\STRUCT\Wall\P&E-6.dgn



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.

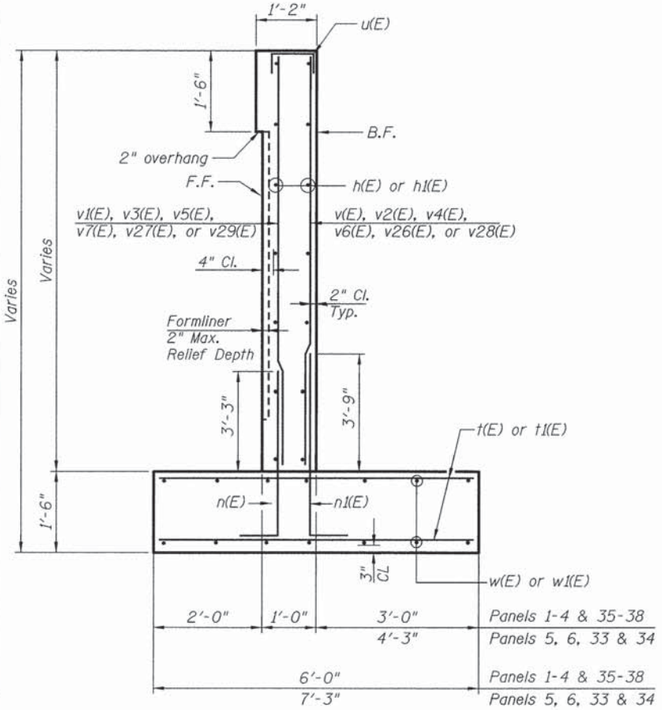
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - JM	REVISED
	PLOT CONFIG= PDF(Gray_Large).plt	CHECKED - SLC	REVISED
	PLOT SCALE = 1:7	DRAWN - HH	REVISED
	PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RETAINING WALL PLAN & ELEVATION 7
SHEET NO. STR 9 OF 29

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	208
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

G:\LCDOT\21150.004\Drawings\STRUCT\Wall\P&E-7.dgn

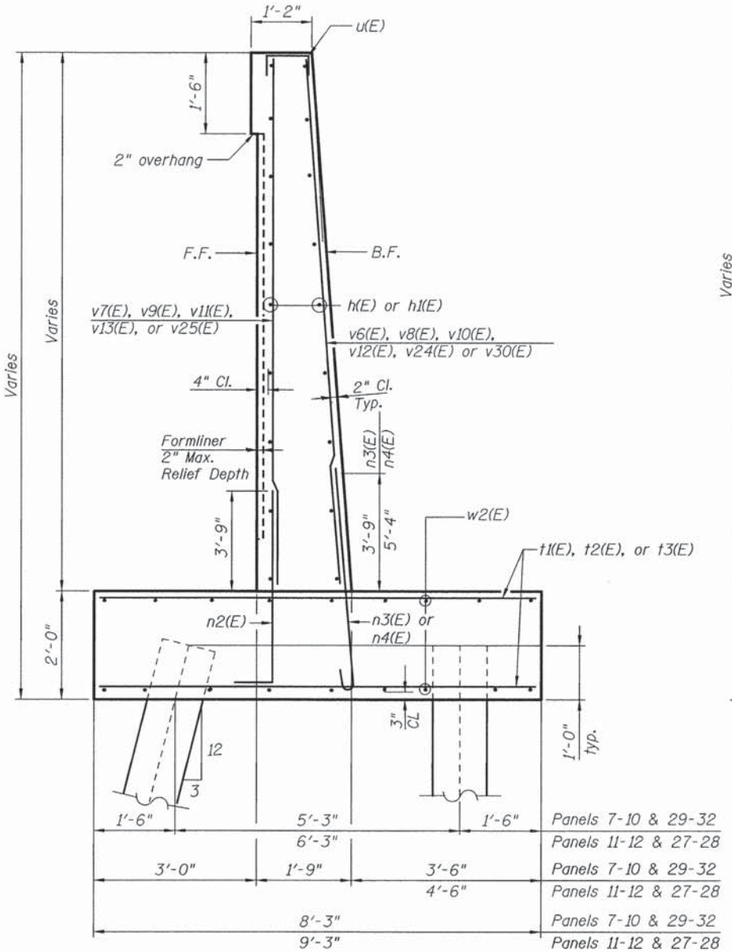


WALL SECTION

(Panels 1 thru 6 & Panels 33 thru 38)
Maximum Calculated Bearing Pressure = 1.88 ksi

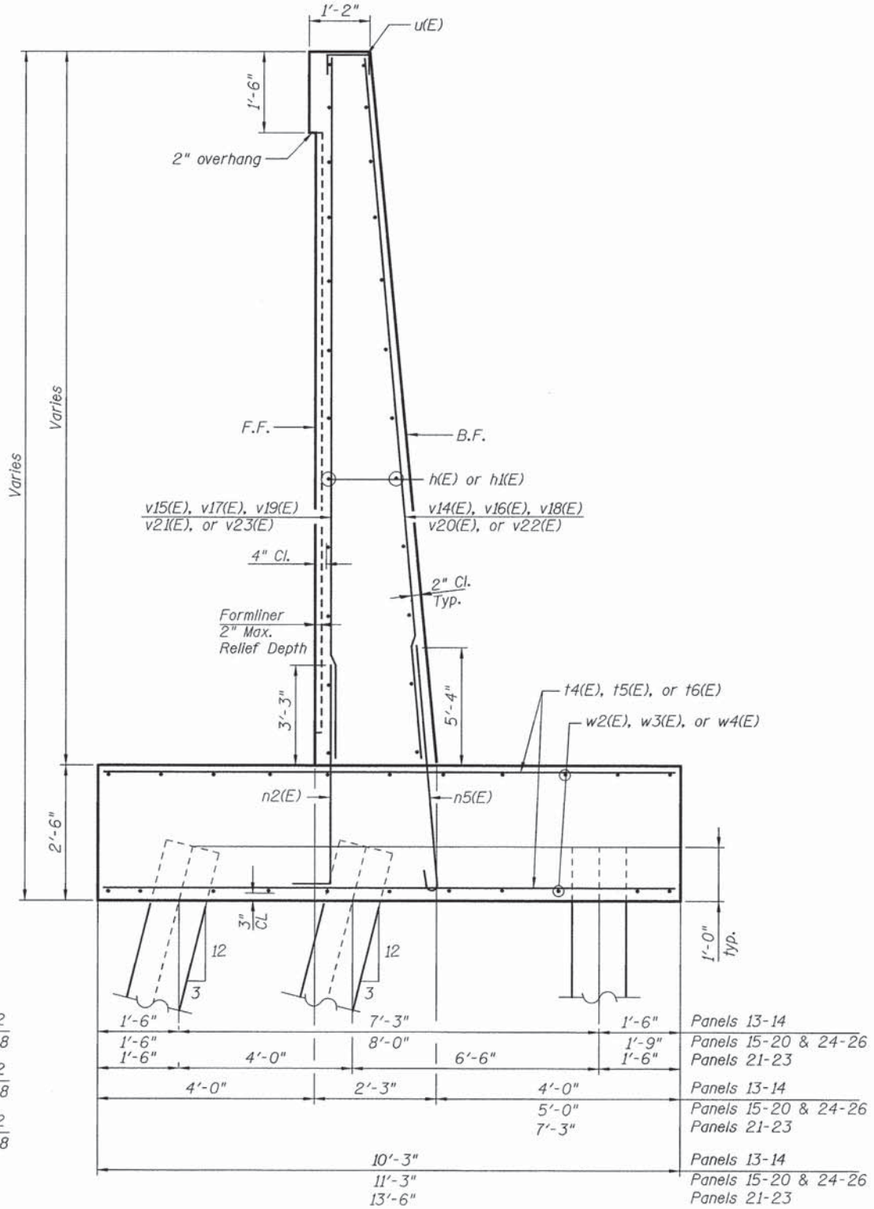
PILE DATA

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



WALL SECTION

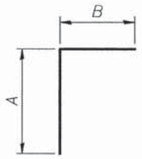
(Panels 7 thru 12 & Panels 27 thru 32)



WALL SECTION

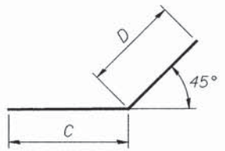
(Panels 13 thru 26)

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



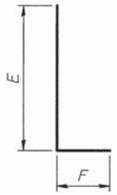
Bar	A	B
w11(E)	3'-0"	2'-1"
w12(E)	3'-4"	2'-7"
w13(E)	3'-9"	2'-7"
w14(E)	3'-10"	2'-7"
w15(E)	2'-11"	2'-7"
w16(E)	3'-4"	2'-7"
w17(E)	2'-4"	2'-1"

BARS w11(E) thru w17(E)



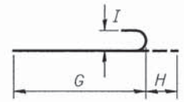
Bar	C	D
w21(E)	3'-7"	4'-3"
w22(E)	4'-1"	4'-8"
w23(E)	4'-1"	5'-3"
w24(E)	4'-1"	5'-5"
w25(E)	4'-1"	4'-2"
w26(E)	4'-1"	4'-9"
w27(E)	3'-7"	3'-3"

BARS w21(E) thru w27(E)



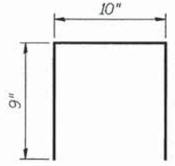
Bar	E	F
n(E)	4'-6"	8"
n1(E)	5'-0"	10"
n2(E)	5'-6"	8"

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)



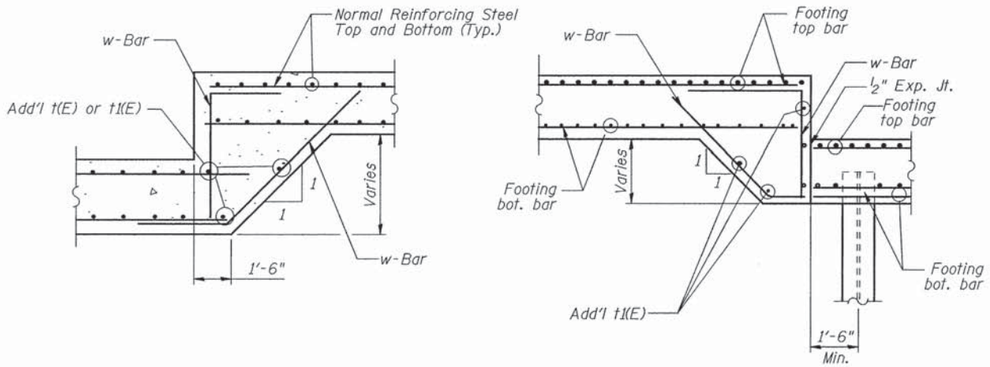
u(E) BAR

REINFORCEMENT BAR SCHEDULE

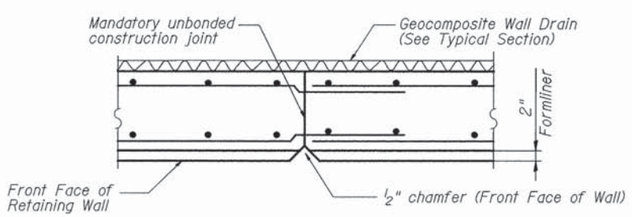
Bar	No.	Size	Length	Shape
h(E)	582	#4	32'-1"	
h1(E)	360	#4	29'-8"	
n(E)	252	#4	5'- 2"	
n1(E)	414	#5	5'- 10"	
n2(E)	686	#4	6'- 2"	
n3(E)	136	#5	6'- 1"	
n4(E)	280	#7	7'- 11"	
n5(E)	833	#7	8'- 5"	
t(E)	492	#5	5'- 8"	
t1(E)	381	#5	6'- 11"	
t2(E)	369	#5	7'- 11"	
t3(E)	246	#6	8'- 11"	
t4(E)	183	#6	9'- 11"	
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)	272	#5	31'-9"	
w4(E)	28	#5	29'-8"	
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"	

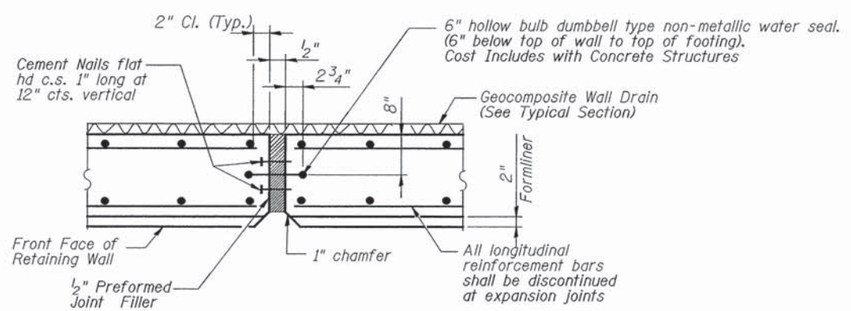
Granular Backfill for Structures	Cu. Yd.	2043
Structure Excavation	Cu. Yd.	8895
Concrete Structures	Cu. Yd.	1645.9
Reinforcement Bars, Epoxy Coated	Pound	156,770
Geocomposite Wall Drain	Sq. Yd.	1532
Pipe Underdrains for Structures, 4"	Foot	1140
Driving Piles	Foot	8848
Furnishing Steel Piles HP12X53	Foot	8848



STEPPED FOOTING DETAILS



CONSTRUCTION JOINT DETAIL



EXPANSION JOINT DETAIL

MIN. BAR LAP

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

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

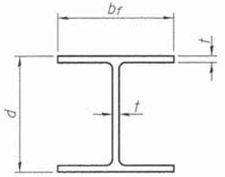
USER NAME = jrefvik(rdwy)	DESIGNED - JM	REVISED	10/7/2014
PLOT CONFIG= PDF(Gray_Large).plt	CHECKED - SLC	REVISED	
PLOT SCALE = 1:7	DRAWN - HH	REVISED	
PLOT DATE = 10/8/2014	CHECKED - SLC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RETAINING WALL DETAILS 2
SHEET NO. STR 11 OF 29

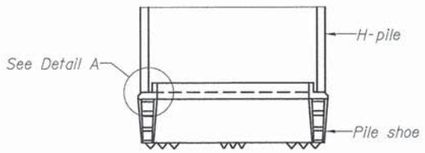
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	210
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

G:\LCDOT\21150_004\Drawings\STRUCT\Wall\Wall_Detail_2.dgn

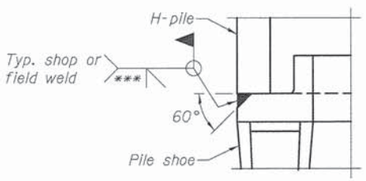


STEEL PILE TABLE

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

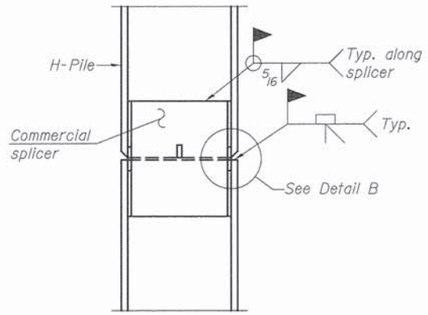


ELEVATION

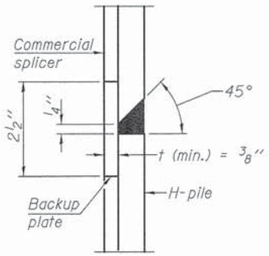


DETAIL A

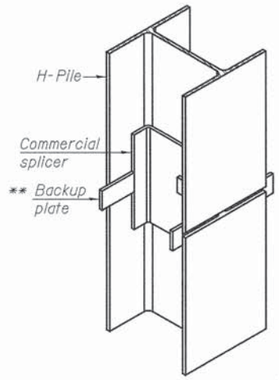
H-PILE SHOE ATTACHMENT



ELEVATION

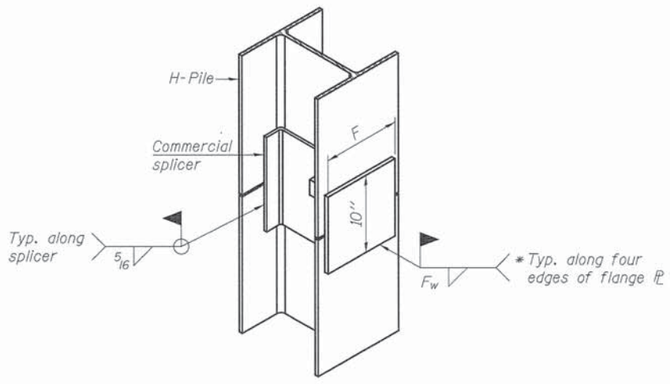


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



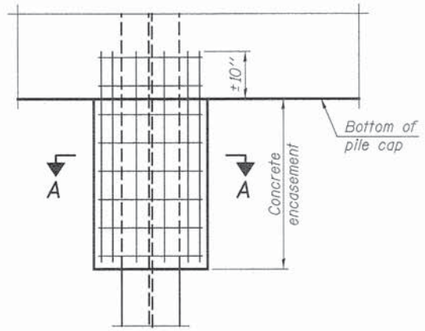
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

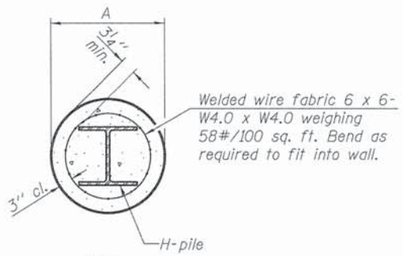
* Interrupt welds 1/4" from end of web and/or each flange.

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

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



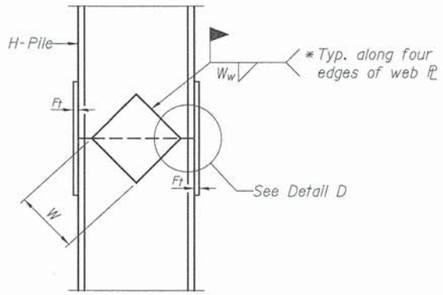
ELEVATION



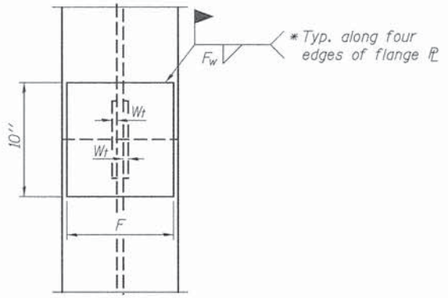
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

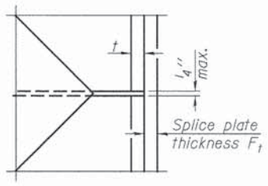
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

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

WELDED PLATE FIELD SPLICE

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

F-HP 1-27-12

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - JM	REVISED
PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - SLC	REVISED
PLOT SCALE = 1:16	DRAWN - HH	REVISED
PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED

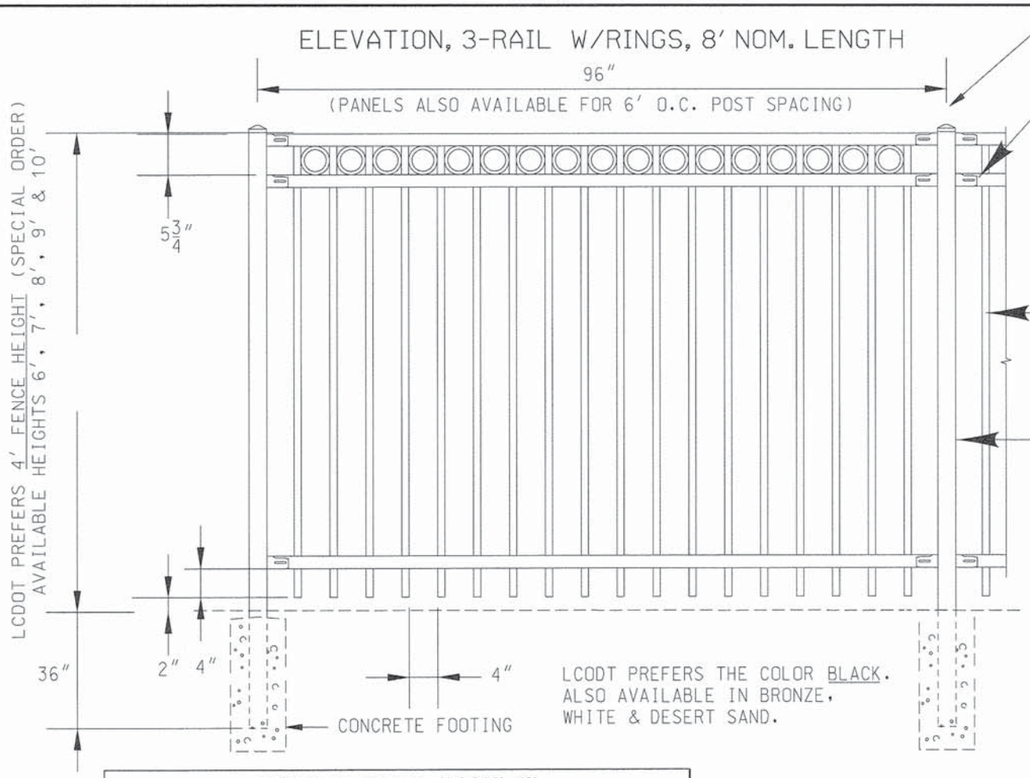
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
PILE DETAILS
SHEET NO. STR 12 OF 29

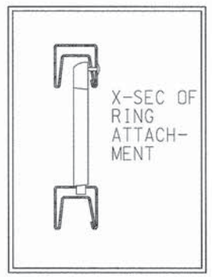
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	211
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

G:\LCDOT\21150.004\Drawings\STRUCT\Wall\Pile_Details.dgn

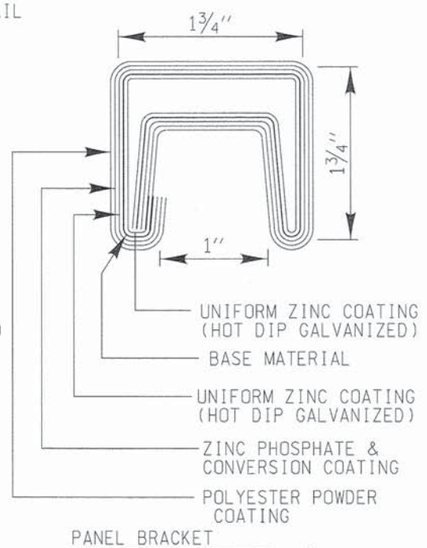
ELEVATION, 3-RAIL W/RINGS, 8' NOM. LENGTH

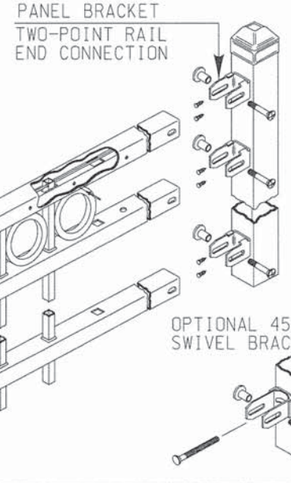


Post Selection for Fence Height 6' - 10'				
Wind Loading				
Fence Height (FT)	Rail Length (FT)	Post Size	Wind Load Capacity Factor (PSF)	Typical Wind Load Capacity (mph)
6	6	2 ½" x 12 GA.	45.5	133.0
		3" x 12 GA.	54.6	146.0
	8	2 ½" x 12 GA.	34.2	116.0
		3" x 12 GA.	41.0	127.0
7	6	2 ½" x 12 GA.	33.4	114.0
		3" x 12 GA.	40.0	125.0
	8	2 ½" x 12 GA.	25.0	99.0
		3" x 12 GA.	30.0	108.0
8	6	2 ½" x 12 GA.	25.6	100.0
		3" x 12 GA.	30.7	110.0
	8	2 ½" x 12 GA.	19.2	87.0
		3" x 12 GA.	23.0	95.0
		4" x 12 GA.	30.6	110.0
9	6	4" x 12 GA.	32.0	113.0
10	6	4" x 12 GA.	28.7	107.0

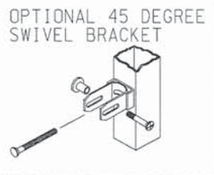


CROSS SECTION OF HORIZONTAL RAIL





ISOMETRIC, 3-RAIL W/RINGS



HORIZONTAL RAIL
DOUBLE-WALLED "U" CHANNEL
SPECIALLY FORMED HIGH
STRENGTH ARCHITECTURAL SHAPE.

GATES: SPECIFY OPENING WIDTHS
SINGLE _____ QUANTITY____
DOUBLE _____ QUANTITY____

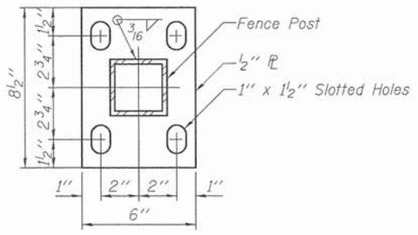
REVISIONS	DATE

LakeCounty
Division of Transportation

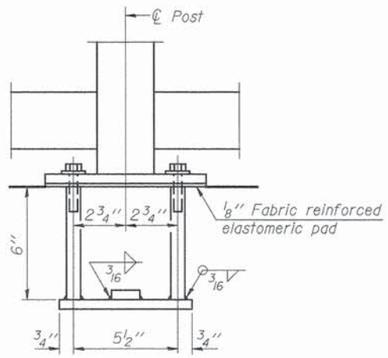
APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

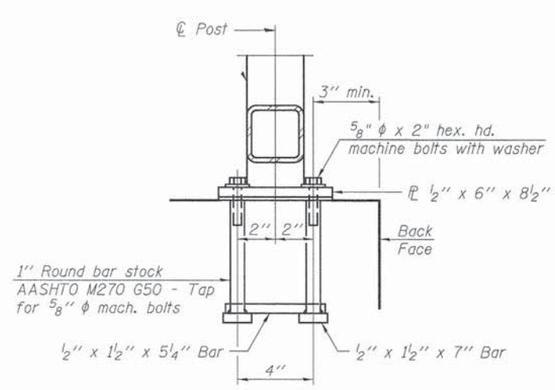
ORNAMENTAL FENCE THREE RAIL W/RINGS (ONE MFGR'S DETAILS)

LC6602



BASE ℄





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 ⅝" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - JM	REVISED	
PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - SLC	REVISED	
PLOT SCALE = 1:16	DRAWN - HH	REVISED	
PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
ORNAMENTAL FENCE
SHEET NO. STR 13 OF 29

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	212
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

Q:\LCDOT\21150.004\Drawings\STRUCT\Wall\Railing.dgn

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
Surface Elev. 788.00 ft

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

	DEPTH	BLOWS	Qu tsf	W %
12" asphalt				
787.00				
Very stiff brown sandy clay, trace topsoil		4 2 2	2.25 *	27
		2 3 4	2.0 *	22
782.50	-5			
Very stiff brown silty clay, trace gravel		4 4 5	2.75 *	18
780.00				
Very stiff gray silty clay, trace sand		4 4 7	2.75 *	15
A-6	-10			
LL=26 PI=14		4 7 9	4.25 *	14
		3 5 7	4.5 *	13
	-15			
770.00				
Loose gray clayey sand, trace gravel, wet		1 2 3	NP	24
768.00	-20			
End of Boring at 20.0'				
* qu values determined using pocket penetrometer	-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 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
Surface Elev. 788.50 ft

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

	DEPTH	BLOWS	Qu tsf	W %
10" CA-6				
787.70				
Black and brown clayey sand, with medium to coarse sand, stiff, moist		3 4 4	NP	17
784.50				
Brown and gray silty clay, with medium sand, stiff to very stiff	-5	3 4 6	1.25 **	28
		2 3 5	2.68 **	21
		3 5 8	4.17 **	11
	-10			
		4 6 9	4.0 *	17
774.50				
Gray silt, with clay, medium dense, moist		3 5 8	NP	20
A-4	-15			
770.50				
Gray silty clay, with medium sand, very stiff CL		2 3 6		20
Trace gray clay				
768.50	-20			
Gray silty clay, trace sand, very stiff CL				
		3 5 8	2.64 **	17
	-25			

	DEPTH	BLOWS	Qu tsf	W %
		3 4 6	3.30 **	17
	-30			
	-35	3 3 6	1.61 **	20
Trace fine gravel		3 3 5	1.85 **	12
	-40			
		5 8 4	3.92 **	14
	-45			
Trace coarse sand		6 9 12	3.59 **	17
	-50			

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
738.50 ft

	DEPTH	BLOWS	Qu tsf	W %
		3 6 9	3.34 **	16
	-55			
Gray silty clay, stiff, moist		3 5 7	2.47 **	29
728.50	-60			
End of Boring at 60.0'				
* qu values determined using pocket penetrometer	-65			
	-70			
	-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
PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, IL 60532
patrickengineering.com

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - DE	REVISED
PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - MDB	REVISED
PLOT SCALE = 1:8	DRAWN - SMC/EJB	REVISED
PLOT DATE = 7/17/2014	CHECKED - MDB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
BORING LOGS 1
SHEET NO. STR 14 OF 29

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	213
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

G:\LCDOT\21150_004\Drawings\STRUCT\Wall\Logl.dgn

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
Surface Elev. 788.00 ft

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

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

DEPTH	BLOWS	Qu tsf	W %
	3 3 5	1.81 **	18
-30			
	3 3 4	0.91 **	20
-35			
	3 4 5	1.69 **	20
Sand seam			
748.00			
-40			
Gray silty clay, trace medium sand, very stiff, moist			
Trace coarse sand	4 6 10	3.55 **	20
-45			
	4 6 12	2.68 **	13
-50			

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
08-00121-08-WR
Lake

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

DEPTH	BLOWS	Qu tsf	W %
	4 7 9	3.18 **	19
-55			
	6 7 10	3.05 **	23
-60			
	6 6 9	2.39 **	15
-65			
719.00			
Brown fine sand, medium dense, wet	9 8 17	NP	22
-70			
716.00			
Gray silty clay, trace coarse sand, with medium sand, very stiff, moist	6 9 4	3.01 **	17
-75			

A22
08-00121-08-WR
Lake

713.00 ft

DEPTH	BLOWS	Qu tsf	W %
	5 7 12	3.09 **	16
708.00			
-80			
End of Boring at 80.0'			
* qu values determined using pocket penetrometer			
-85			
-90			
-95			
-100			

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
Surface Elev. 782.50 ft

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

DEPTH	BLOWS	Qu tsf	W %
6" gravel			
782.00			
Very stiff brown sandy clay, with topsoil and gravel	2 2 3	3.0 *	27
-5			
	2 2 3	1.25 *	22
777.00			
Stiff gray silty clay, high plasticity			
776.00			
LL=56 PI=39	2 2 3	1.25 *	18
Very stiff brown and gray silty clay			
	2 2 2	2.5 *	19
-10			
	2 3 4	3.5 *	17
769.50			
Very stiff gray silty clay, trace coarse gravel	4 4 6	3.75 *	13
-15			
765.50			
Hard gray silty clay, trace coarse gravel	7 7 8	4.25 *	18
762.50			
-20			
End of Boring at 20.0'			
* qu values determined using pocket penetrometer			
-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 1 of 1
Date 11/11/11

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-17-11
Station 110+75
Offset 20ft R
Surface Elev. 792.50 ft

Surface Water Elev. _____
Groundwater Elev.:
when drilling _____
at Completion 775.5
after 784.5 Hrs. _____

DEPTH	Elev.	BLOWS	Qu tsf	W %
12" asphalt	791.50			
12" CA-6 base course	790.50	5 3 3	1.5*	28
Stiff brown silty clay, with organics, moist	789.50			
Stiff brown silty clay, moist		4 4 4	1.0*	14
-5				
Very stiff brown/gray silty clay, some medium sand, moist	787.00	4 5 6	4.3	17
		4 6 7	4.38	15
-10				
Very stiff gray silty clay, some medium to coarse sand, trace fine gravel, moist	782.00	4 4 5	2.77	15
Loose gray fine to coarse sand, wet	778.50	3 4 6	0.75*	14
-15				
Very stiff gray silty clay, some medium to coarse sand, trace fine gravel, moist	775.50	4 5 6	3.72	14
-20				
	767.50	3 4 6	2.93	17
-25				

End of Boring at 25.0'

*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 1
Date 11/9/11

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-18-11
Station 113+25
Offset 20ft R
Surface Elev. 793.50 ft

Surface Water Elev. _____
Groundwater Elev.:
when drilling 771.0
at Completion 781.5
after 504 Hrs. 784.8

DEPTH	Elev.	BLOWS	Qu tsf	W %
4" asphalt	793.20			
20" CA-6 base course	791.50	5 3		20
Black topsoil	790.50			
Medium stiff brown and gray silty clay, trace organics, moist		2 3 3	0.91	17
-5				
Very stiff brown and gray silty clay, some medium sand, moist	788.00	4 3 4	2.64	17
		4 4 9	3.84	14
-10				
Medium dense gray silt, trace clay and sand, moist	783.00	4 7 5	1.74	16
		3 3 9	2.02	20
-15				
Medium dense gray fine sand, wet	776.90	3 4 6	NP	22
-20				
Medium dense gray fine to coarse sand, wet	771.00	3 5 7	NP	18
-25				
Stiff gray silty clay, trace coarse sand, trace fine gravel, moist	766.80			
-30		2 4 5	1.65	19
Medium to coarse sand	758.50	2 6 7	1.98	20
-35				
-40				
-45				
-50				

End of Boring at 35.0'

*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 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-19-11
Station 114+50
Offset 20ft R
Surface Elev. 788.00 ft

Surface Water Elev. _____
Groundwater Elev.:
when drilling 764.5
at Completion 775.0
after _____ Hrs. _____

DEPTH	Elev.	BLOWS	Qu tsf	W %
4" asphalt	787.70			
14" CA-6 base course	786.50	7 3 4	NP	17
Stiff black topsoil				
		3 4 4	NP	18
-5				
Soft brown/gray silty clay, with organics, trace medium to coarse sand, moist	782.50	2 2 4	0.5*	23
Very stiff brown/gray silty clay, trace medium to coarse sand, moist	780.30	4 5 6	4.5*	17
-10				
		6 6 8	5.41	14
Very stiff gray silty clay, trace medium to coarse sand, moist	775.00	3 4 6	4.55	12
-15				
		3 4 6	3.1	18
-20				
Medium dense gray fine to coarse sand and silt, moist A-4	766.20	2 4 7	NP	22
-25				
Very stiff gray silty clay, some medium sand, moist	761.40	3 4 5	3.1	17
-30				
		P U S H		18
-35		3 4 6	2.36	18
		3 4 15	2.73	18
End of Boring at 40.0'	748.00			
-40				
-45				
-50				

*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(Rdwy_Lisle)	DESIGNED - DE		REVISED
PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - MDB		REVISED
PLOT SCALE = 1:16	CHECKED - SMC/EJB		REVISED
PLOT DATE = 7/3/2014	DATE - MDB		REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
BORING LOGS 3
SHEET NO. STR 16 OF 29 SHEETS

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	215
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

Q:\LCDOT\21150_004\Drawings\STRUCT\Wall\Log3.dgn

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
Station 116+50
Offset 30ft L
Surface Elev. 788.50 ft

Surface Water Elev. _____
Groundwater Elev.:
when drilling 704.5
at Completion _____
after _____ Hrs. _____

DEPTH	BLOWS	Qu tsf	W %
Stiff black topsoil			
	3 4 5	NP	31
785.50			
Medium stiff brown and gray silty clay, some medium sand, moist			
	3 3 3		19
-5			
	2 2 3	2.0*	14
781.50 Brown and gray silt, wet			
780.50			
Stiff brown and gray silty clay, moist			
779.00	3 4 6	1.0*	17
-10 Very stiff gray silty clay, trace sand, moist 778.00			
Medium dense gray silt, wet A-4			
	4 5 8	2.0*	22
	4 5 6	3.5*	19
773.90			
-15 Very stiff gray silty clay, trace medium sand, moist			
	2 4 5	3.1	15
-20			
766.00 Very stiff gray silty clay, trace medium sand, moist			
	2 3 3	1.65	18
-25			

DEPTH	BLOWS	Qu tsf	W %
-30	2 4 5	2.11	16
-35	2 4 5	2.27	18
-40	2 4 5	2.5*	14
746.70 Hard gray silty clay, some medium sand, moist			
-45	3 5 7	4.88	18
742.00 Very stiff gray silty clay, moist A-6			
-50	3 4 5	2.15	19

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

Boring No. B-21-11
Station 116+50
Offset 30ft L
738.50 ft

A22
08-00121-08-WR
Lake

713.50 ft

DEPTH	BLOWS	Qu tsf	W %
-55	2 3 6	2.48	18
-60	3 4 6	3.72	17
726.00 Very stiff gray silty clay, trace medium to coarse sand, moist			
	4 5 9	2.52	13
-65			
	5 9 12	5.21	15
-70			
	WOH 5 7	1.0*	17
-75			

DEPTH	BLOWS	Qu tsf	W %
708.50 Very stiff to hard gray silty clay, trace medium sand, moist	3 5 8	2.46	18
-80			
-85	5 6 9	3.39	16
-90	5 9 14	4.01	15
-95	6 8 13	4.75	14
688.50 *qu values determined using pocket penetrometer -100			
	7 15 16	6.36	14

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
Station 118+25
Offset 20ft R
Surface Elev. 787.00 ft

Surface Water Elev. _____
Groundwater Elev.:
when drilling 763.5
at Completion _____
after _____ Hrs. _____

DEPTH	BLOWS	Qu tsf	W %
10" CA-6 base course			
786.20			
Stiff black topsoil			
	3 5 5	NP	11
782.50			
Stiff brown silty clay, with organics, moist			
-5			
	3 3 4	2.0*	31
780.50			
Hard brown and gray silty clay, moist			
	3 4 5	4.75	17
	5 7 9	5.45	16
-10			
775.00			
Stiff gray silty clay, moist			
	5 5 6	3.14	14
773.00			
Medium dense brown sand 772.20	5 7 8	NP	17
-15 Medium dense gray silt, moist A-4			
768.00			
Medium dense brown medium to coarse sand, moist			
-20	3 7 8	NP	13
765.20			
Very stiff gray silty clay, some medium sand, moist A-6			
-25	1 2 3	2.07	18

DEPTH	BLOWS	Qu tsf	W %
	PUSH		17
-30	3 4 6	3.31	19
-35	3 4 6	3.39	18
-40	3 5 6	3.02	21
747.00 End of Boring at 40.0'			
*qu values determined using pocket penetrometer			
-45			
-50			

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 11/9/11

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-23-11
Station 119+85
Offset 24ft R
Surface Elev. 784.00 ft

Surface Water Elev. _____
Groundwater Elev.:
when drilling 761.0
at Completion _____
after 504 Hrs. 772.7

DEPTH	BLOWS	Qu tsf	W %
783.60 5" asphalt / 19" CA-6 base course			
	6 4 3	1.25*	10
782.00 Brown/black silty clay, moist			
781.00 Stiff black topsoil			
	3 2 3	NP	34
-5 778.50 Soft brown silty clay, moist			
	1 2 3	NP	19
776.10 Very stiff brown silty clay, trace sand, moist			
	2 4 6	3.25*	17
-10			
	3 5 6	3.8	15
771.00 Medium dense gray fine to coarse sand and silt, moist A-4			
	4 6 4	NP	11
-15			
766.50 Very stiff gray silty clay, moist			
	3 5 7	3.5*	25
-20			
759.50 Medium dense gray silt,			
	2 5 7	3.5*	25
-25			

DEPTH	BLOWS	Qu tsf	W %
wet			
756.50 Stiff gray silty clay, moist			
	2 4 4	2.07	18
-30			
	3 5 6	2.27	18
749.00 End of Boring at 35.0'			
-35			
-40			
-45			
-50			

*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 11/20/11

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-24-11
Station 122+00
Offset 25ft R
Surface Elev. 781.50 ft

Surface Water Elev. _____
Groundwater Elev.:
when drilling 757.5
at Completion 762.0
after _____ Hrs. _____

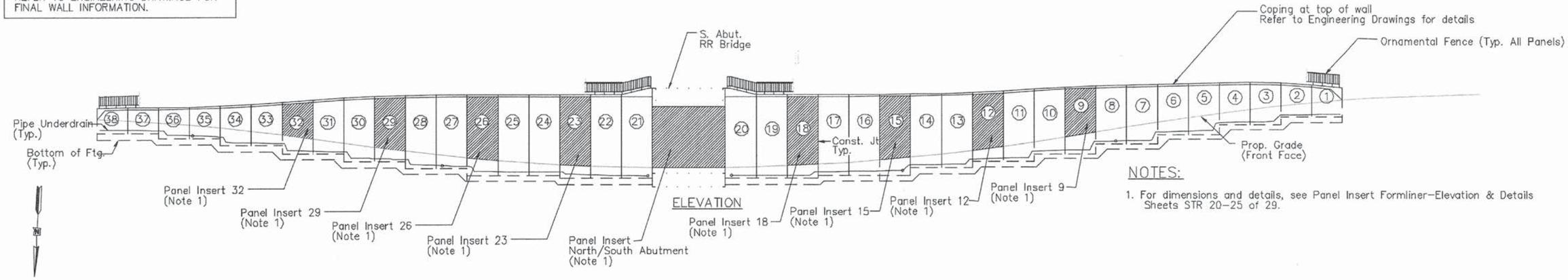
DEPTH	BLOWS	Qu tsf	W %
781.20 4" asphalt / 14" CA-6 base course			
780.00 Stiff black topsoil	3 3 3	NP	27
	2 3 3	NP	35
-5 776.00 Loose brown and gray silt and fine sand, moist			
	2 3 2	NP	22
773.50 Medium dense brown sand, moist			
	3 4 7	NP	16
-10 771.00 Medium dense gray silt, moist			
	3 4 6	2.5*	11
767.00 Very stiff gray silty clay, some sand, moist			
-15	3 3 4	2.0*	11
	3 4 5	3.97	12
-20			
759.00 Medium dense brown and gray silt, moist			
756.50	3 4 5	2.0*	19
-25			

DEPTH	BLOWS	Qu tsf	W %
End of Boring at 25.0'			
-30			
-35			
-40			
-45			
-50			

*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

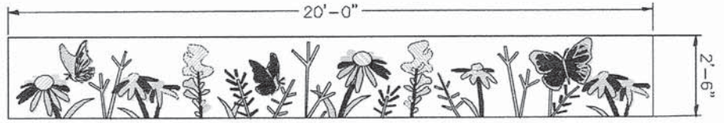
STATIONS, ELEVATIONS AND DIMENSIONS PROVIDED FOR GENERAL COORDINATION. REFER TO ENGINEERING DRAWINGS FOR FINAL WALL INFORMATION.



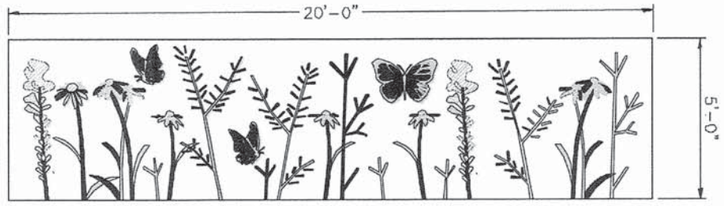
NOTES:

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

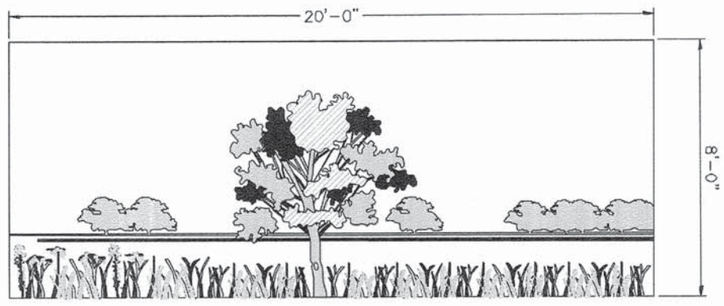
PANEL INSERTS – 32 & 9



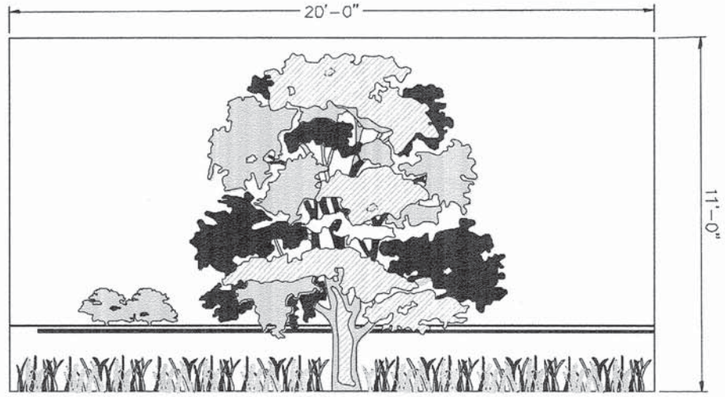
PANEL INSERTS – 29 & 12



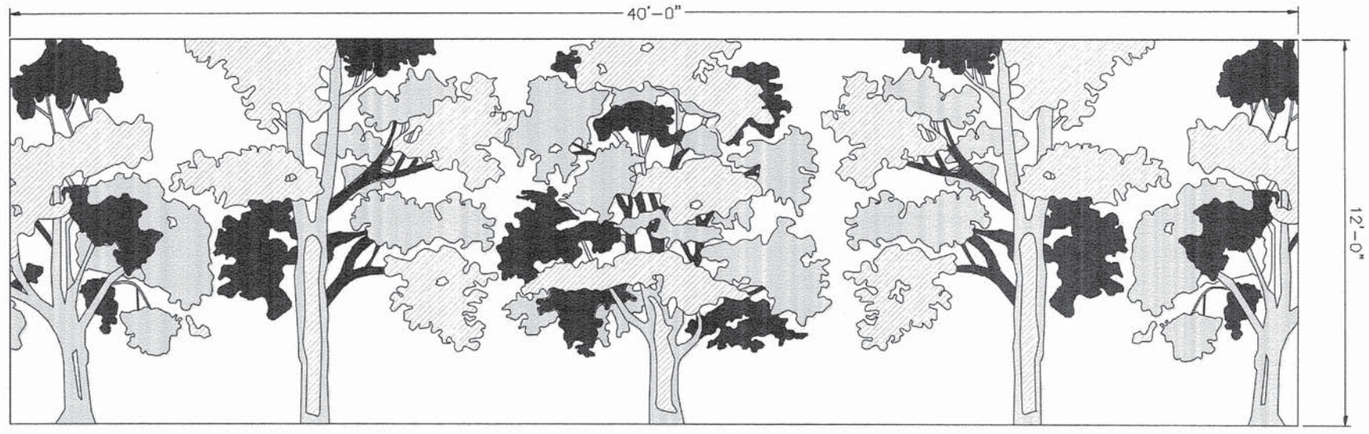
PANEL INSERTS – 26 & 15



PANEL INSERTS – 23 & 18



PANEL INSERTS – NORTH & SOUTH ABUTMENTS



ELEVATIONS OF PANEL INSERTS

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 comparsion for detail, workmanship, and surface finishes for all other insets. 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.

Teska Associates
627 Grove Street
Evanston, IL 60201
www.TeskaAssociates.com

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - DS	REVISED -	
PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - DS	REVISED -	
PLOT SCALE = 1:1Ø	CHECKED - JM	REVISED -	
PLOT DATE = 7/2/2014 11:17:ØØ PM	DATE - 6/30/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

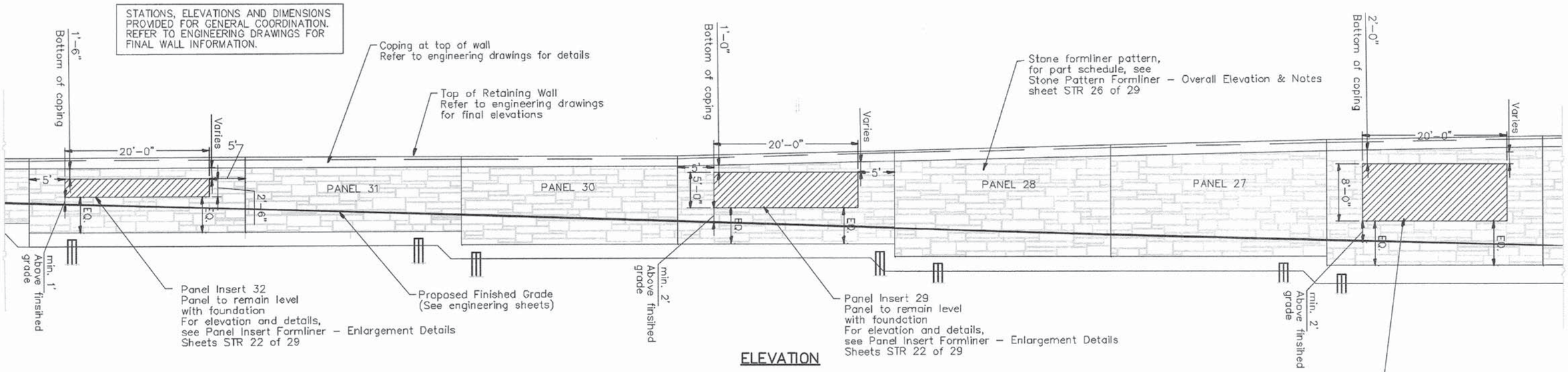
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
PANEL INSERT FORMLINER – OVERALL ELEVATION AND PANELS

SCALE: NTS | SHEET NO. STR 19 OF 29 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	218
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

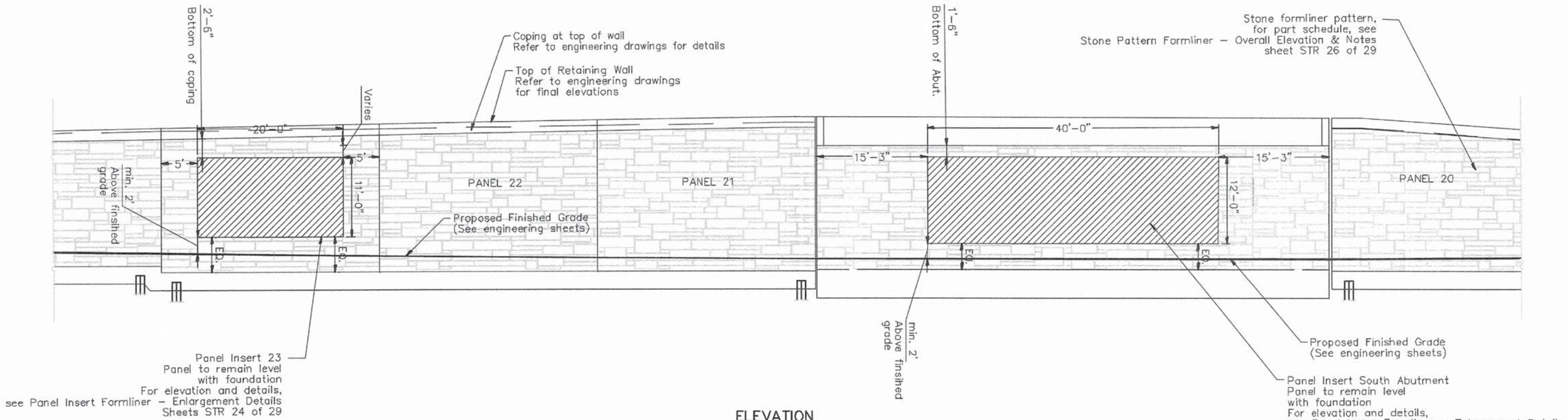
G:\LCDOT\21150.Ø24\Drawings\shts\Teska\S_Wall_Teska_Ø1.dgn

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



ELEVATION

PANEL INSERTS – 32 & 29 & 26



ELEVATION

PANEL INSERTS – 32 & SOUTH ABUTMENT

Teska Associates
627 Grove Street
Evanston, IL 60201
www.TeskaAssociates.com

USER NAME = tkoeppen\Rdwy_Lisle)	DESIGNED - DS	REVISED -	
PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - DS	REVISED -	
PLOT SCALE = 1:100	CHECKED - JM	REVISED -	
PLOT DATE = 7/2/2014 11:24:32 PM	DATE - 6/30/2014	REVISED -	

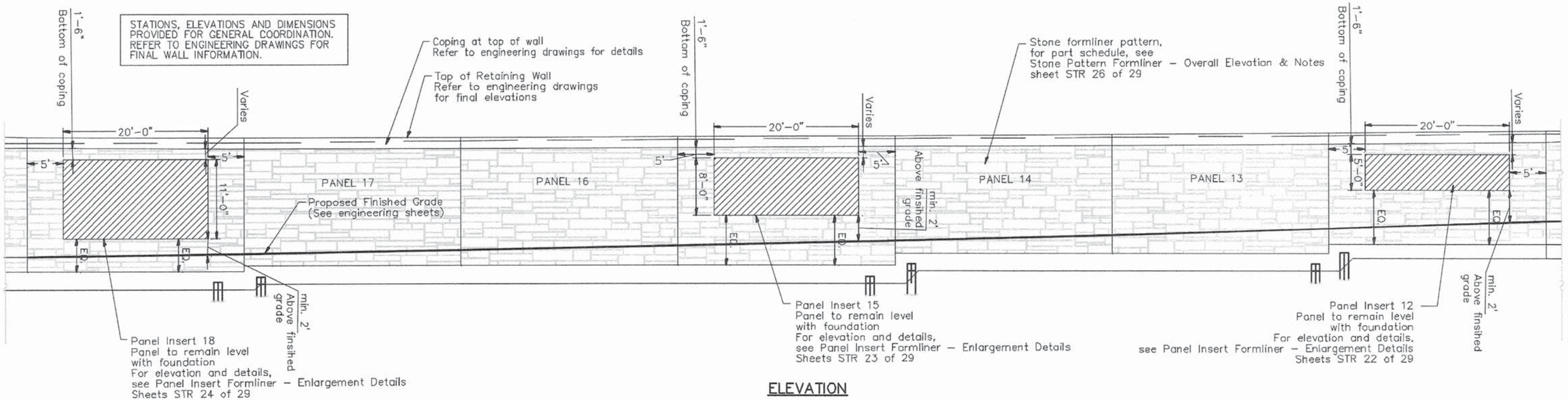
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
PANEL INSERT FORMLINER – ELEVATIONS

SCALE: NTS | SHEET NO. STR 20 OF 29 | STA. | TO STA.

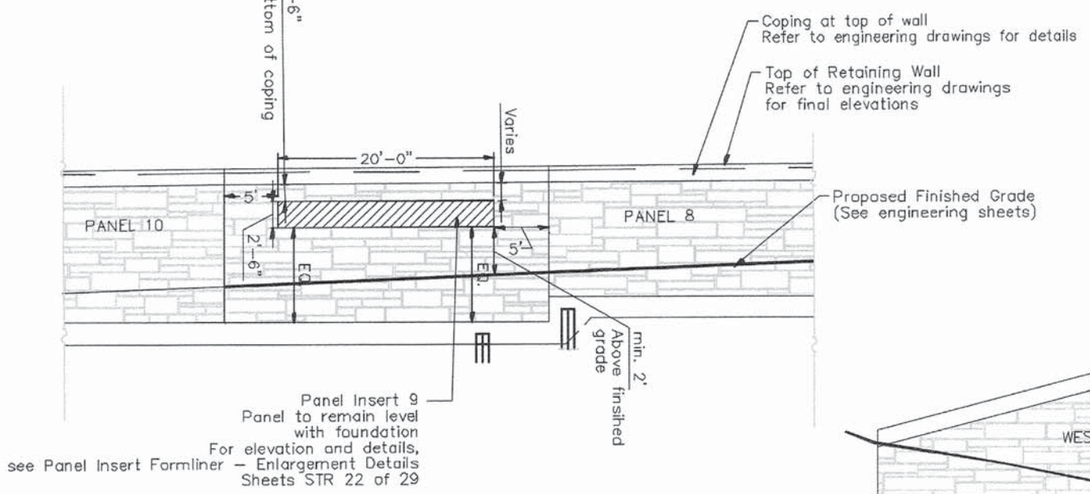
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	219
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150.024\Drawings\shts\Teska\S_Wall_Teska_02.dgn



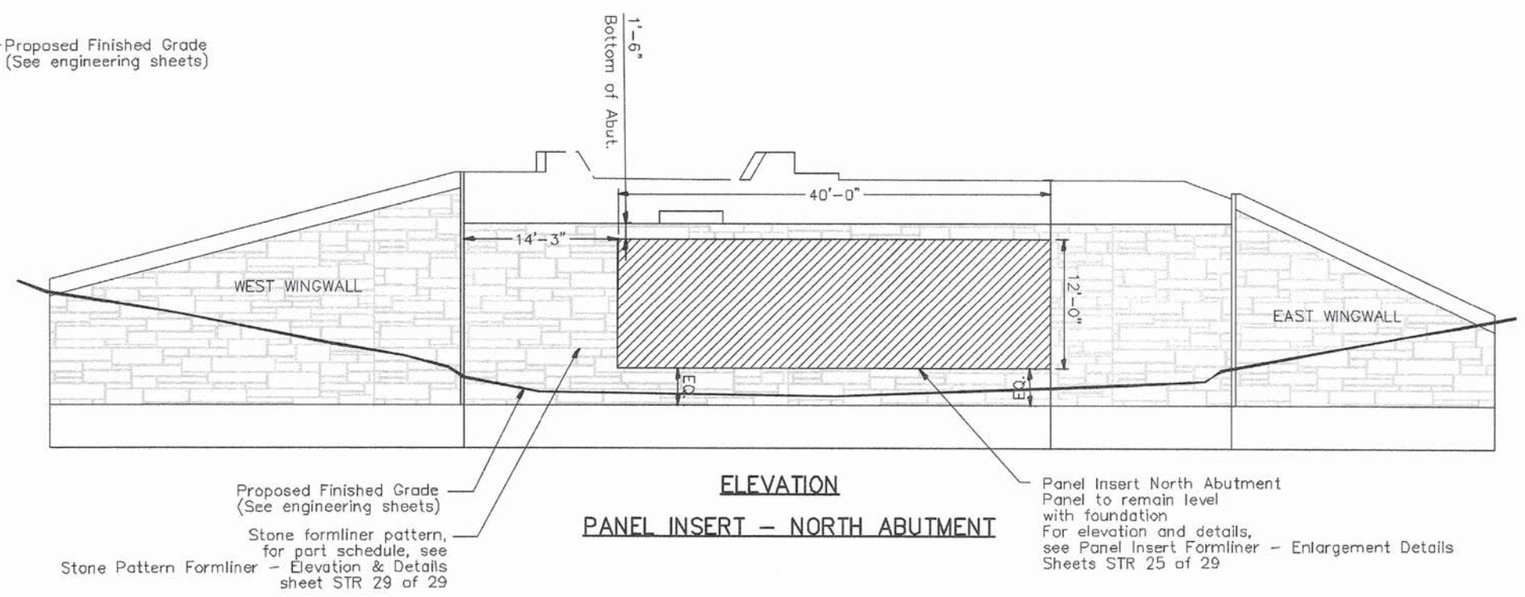
ELEVATION

PANEL INSERTS – 18 & 15 & 12



ELEVATION

PANEL INSERT – 9



ELEVATION

PANEL INSERT – NORTH ABUTMENT

Teska Associates
627 Grove Street
Evanston, IL 60201
www.TeskaAssociates.com

USER NAME = tkoeppen\Rdwy_Lisle)	DESIGNED - DS	REVISED -	
PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - DS	REVISED -	
PLOT SCALE = 1:100	CHECKED - JM	REVISED -	
PLOT DATE = 7/2/2014 11:25:37 PM	DATE - 6/30/2014	REVISED -	

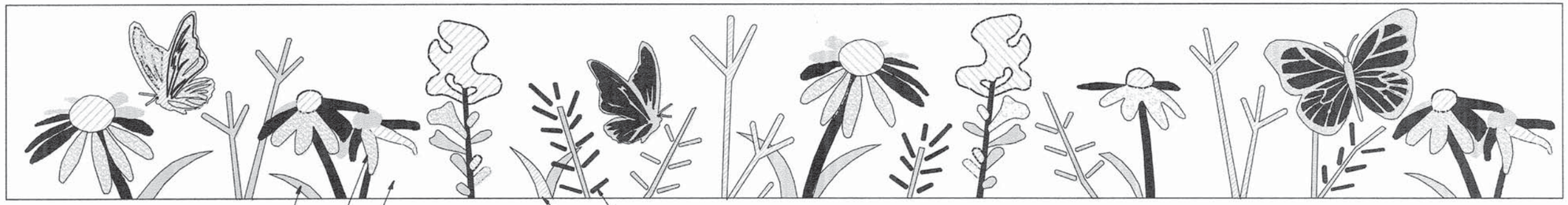
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
PANEL INSERT FORMLINER – ELEVATIONS

SCALE: NTS | SHEET NO. STR 21 OF 29 | STA. | TO STA.

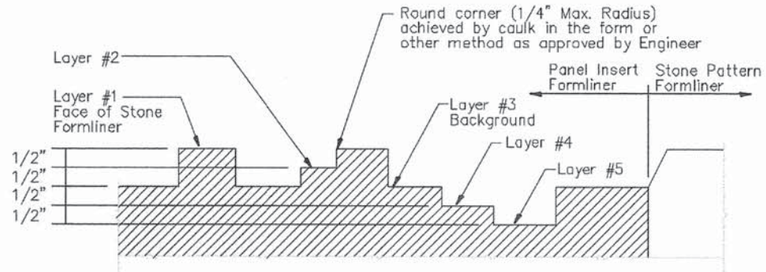
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	220
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150.204\Drawings\shts\Teska\S_Wall_Teska_03.dgn



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

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



SECTION THROUGH PANEL INSERTS

Teska Associates
627 Grove Street
Evanston, IL 60201
www.TeskaAssociates.com

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - DS	REVISED -	
PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - DS	REVISED -	
PLOT SCALE = 1:100	CHECKED - JM	REVISED -	
PLOT DATE = 7/2/2014 11:26:41 PM	DATE - 6/30/2014	REVISED -	

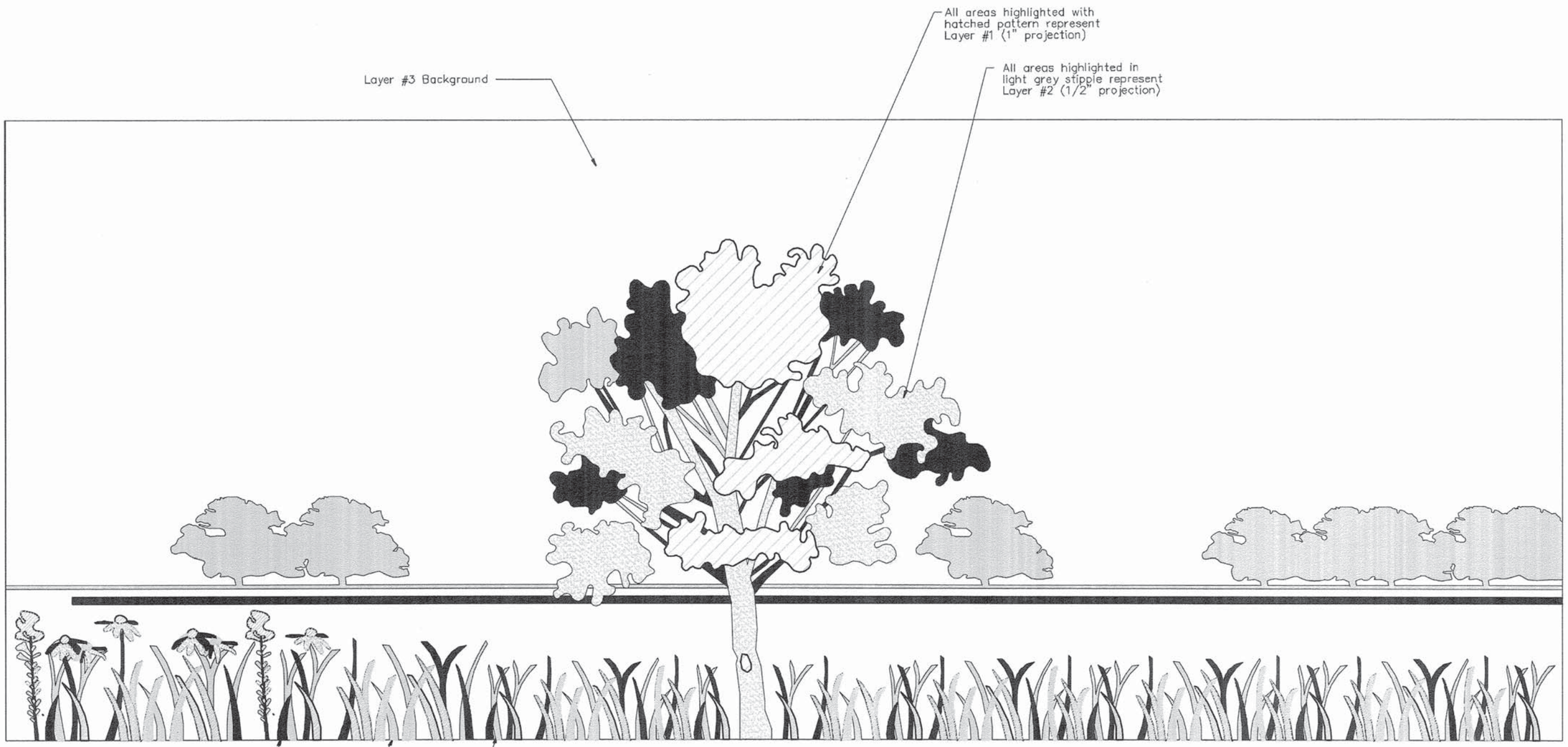
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
PANEL INSERT FORMLINER – ENLARGEMENT DETAILS

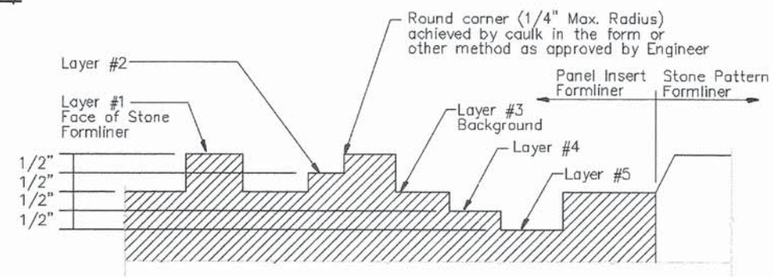
SCALE: NTS | SHEET NO. STR 22 OF 29 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	221
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150_004\Drawings\shts\Teska\S_Wall_Teska_04.dgn



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



SECTION THROUGH PANEL INSERTS

Teska Associates
627 Grove Street
Evanston, IL 60201
www.TeskaAssociates.com

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - DS	REVISED -	
PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - DS	REVISED -	
PLOT SCALE = 1:100	CHECKED - JM	REVISED -	
PLOT DATE = 7/2/2014 11:28:42 PM	DATE - 6/30/2014	REVISED -	

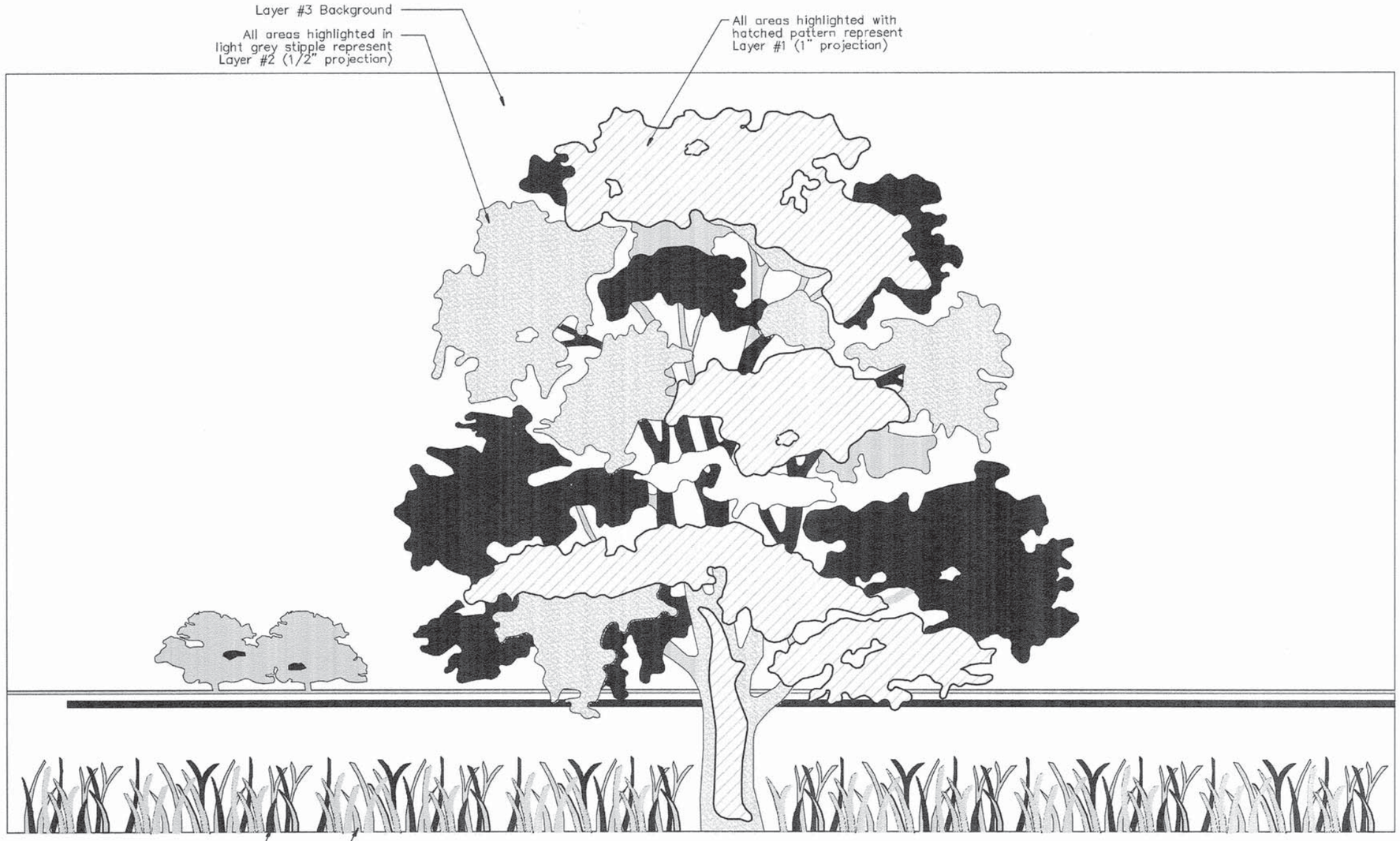
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
PANEL INSERT FORMLINER – ENLARGEMENT DETAILS

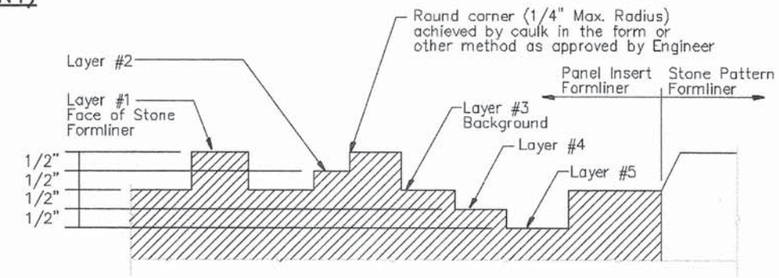
SCALE: NTS | SHEET NO. STR 23 OF 29 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	222
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150_024\Drawings\shts\Teska\S_Wall_Teska_05.dgn



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(Rdwy_Lisle)	DESIGNED - DS	REVISED -	
PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - DS	REVISED -	
PLOT SCALE = 1:100	CHECKED - JM	REVISED -	
PLOT DATE = 7/2/2014 11:30:17 PM	DATE - 6/30/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
PANEL INSERT FORMLINER – ENLARGEMENT DETAILS

SCALE: NTS | SHEET NO. STR 24 OF 29 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	223
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150_024\Drawings\shts\Teska\S_Wall_Teska_06.dgn

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

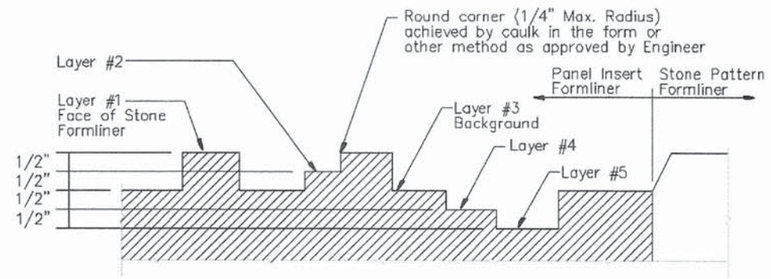
Layer #3 Background

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

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

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

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



SECTION THROUGH PANEL INSERTS

Teska Associates
627 Grove Street
Evanston, IL 60201
www.TeskaAssociates.com

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - DS	REVISED -	
PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - DS	REVISED -	
PLOT SCALE = 1:100	CHECKED - JM	REVISED -	
PLOT DATE = 7/2/2014 11:32:12 PM	DATE - 6/30/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

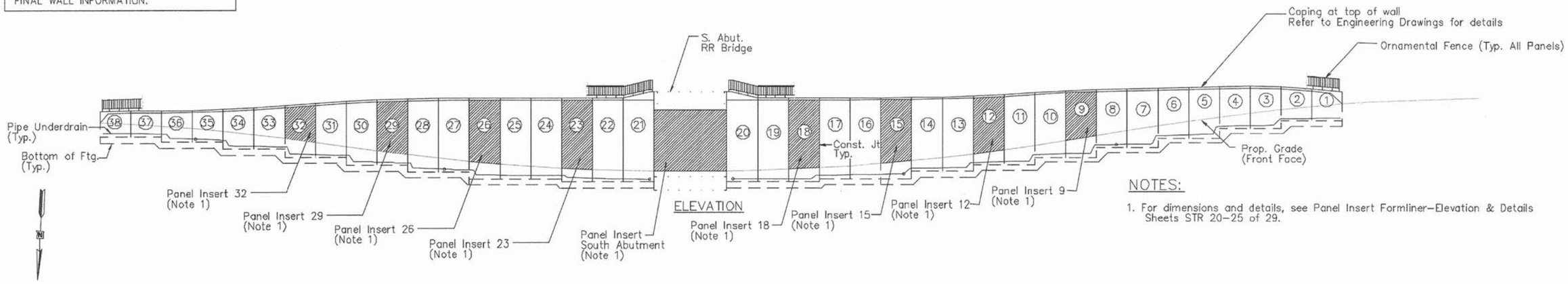
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
PANEL INSERT FORMLINER – ENLARGEMENT DETAILS

SCALE: NTS | SHEET NO. STR 25 OF 29 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	224
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150.024\Drawings\shts\Teska\S_Wall_Teska_07.dgn

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

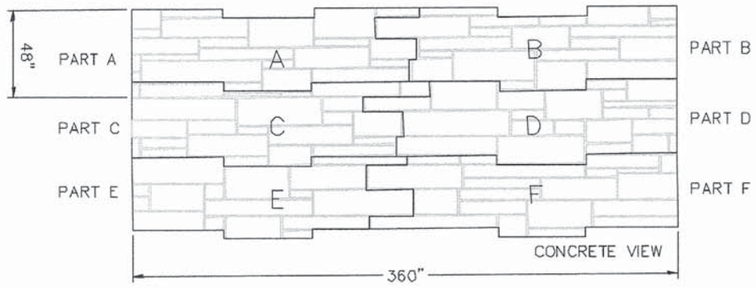


NOTES:

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

STONE FORMLINER PATTERN

Part Size: 360"W x 48"H
Max Depth: 1.50"
Nominal Grouth: 0.875"
Stone Sizes: 12.5"–70"W
5"–21"H



STONE FORMLINER SCHEDULE: SOUTH ELEVATION

PANELS (note: first part number top of formliner)

① Part C,D,E,F
② Part C,D,E,F
③ Part C,D,E,F
④ Part C,D,E,F
⑤ Part C,D,E,F,A,B
⑥ Part C,D,E,F,A,B
⑦ Part C,D,E,F,A,B
⑧ Part C,D,E,F,A,B
⑨ Part C,D,E,F,A,B,C,D (PANEL FORMLINER INSERT, SEE SHEET STR 23 OF 25)
⑩ Part C,D,E,F,A,B,C,D
⑪ Part C,D,E,F,A,B,C,D
⑫ Part C,D,E,F,A,B,C,D (PANEL FORMLINER INSERT, SEE SHEET STR 22 OF 25)
⑬ Part C,D,E,F,A,B,C,D,E,F
⑭ Part C,D,E,F,A,B,C,D,E,F
⑮ Part C,D,E,F,A,B,C,D,E,F (PANEL FORMLINER INSERT, SEE SHEET STR 22 OF 25)
⑯ Part C,D,E,F,A,B,C,D,E,F
⑰ Part C,D,E,F,A,B,C,D,E,F
⑱ Part C,D,E,F,A,B,C,D,E,F (PANEL FORMLINER INSERT, SEE SHEET STR 22 OF 25)
⑲ Part C,D,E,F,A,B,C,D,E,F
⑳ Part C,D,E,F,A,B,C,D,E,F

SOUTH ABUTMENT Part C,D,C,D,C (PANEL FORMLINER INSERT, SEE SHEET STR 21 OF 25)
E,F,E,F,E
A,B,B,A
C,D,D,C
E,F,E,F,E

㉑ Part C,D,E,F,A,B,C,D,E,F
㉒ Part C,D,E,F,A,B,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)
㉔ Part C,D,E,F,A,B,C,D,E,F
㉕ Part C,D,E,F,A,B,C,D,E,F
㉖ Part C,D,E,F,A,B,C,D,E,F (PANEL FORMLINER INSERT, SEE SHEET STR 20 OF 25)
㉗ Part D,E,F,A,B,C,D,E,F
㉘ Part E,F,A,B,C,D,E,F
㉙ Part E,F,A,B,C,D (PANEL FORMLINER INSERT, SEE SHEET STR 20 OF 25)
㉚ Part E,F,A,B,C,D
㉛ Part E,F,A,B,C,D
㉜ Part E,F,A,B,C,D (PANEL FORMLINER INSERT, SEE SHEET STR 20 OF 25)
㉝ Part E,F,A,B,C,D
㉞ Part E,F,A,B,C,D
㉟ Part E.F.A,B
㊱ Part E,F,A,B
㊲ Part E,F,A,B
㊳ Part E,F,A,B

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.

Teska Associates
627 Grove Street
Evanston, IL 60201
www.TeskaAssociates.com

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - DS	REVISED -	
PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - DS	REVISED -	
PLOT SCALE = 1:100	CHECKED - JM	REVISED -	
PLOT DATE = 7/2/2014 11:36:16 PM	DATE - 6/30/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

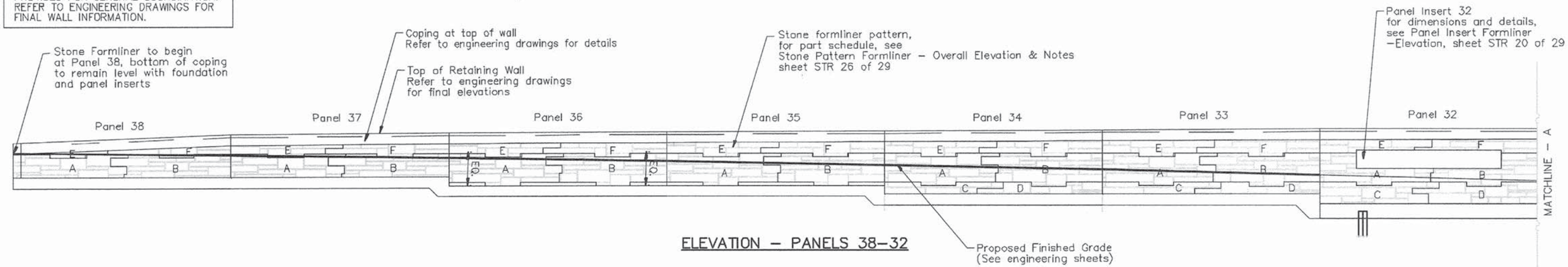
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
STONE PATTERN FORMLINER – OVERALL ELEVATION AND NOTES

SCALE: NTS | SHEET NO. STR 26 OF 29 | STA. | TO STA.

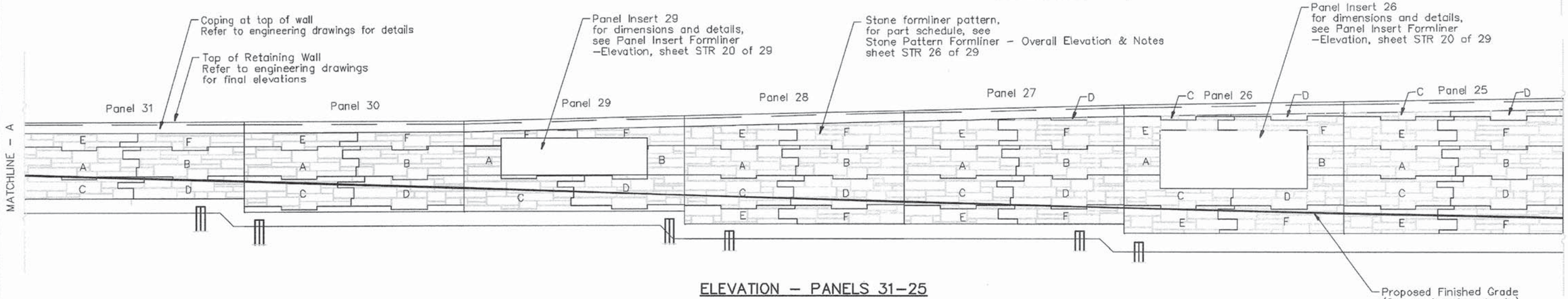
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	225
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Q:\LCDOT\21150.204\Drawings\shts\Teska\S_Wall_Teska_08.dgn

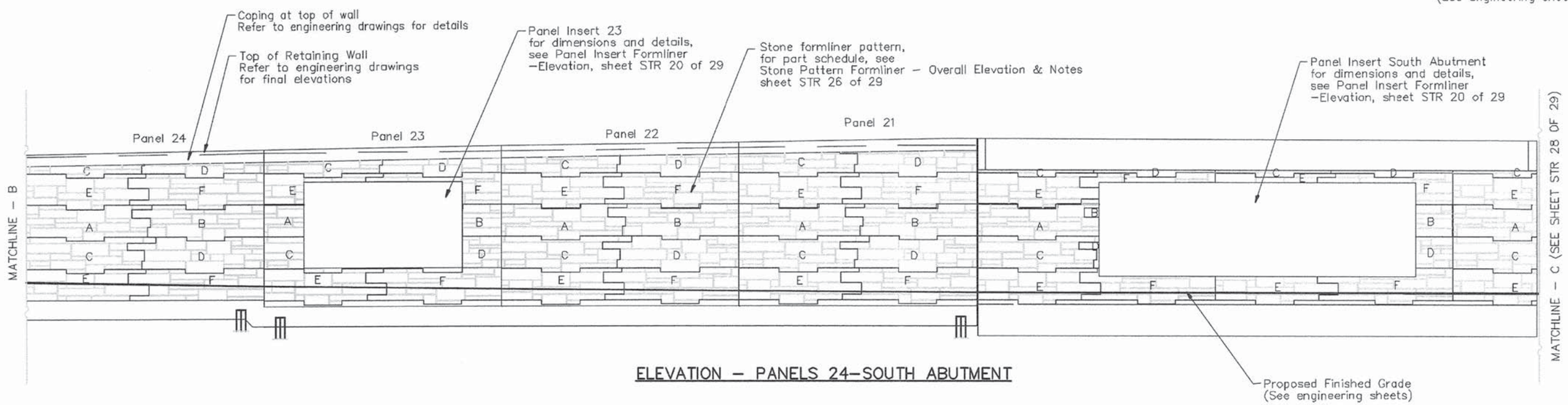
STATIONS, ELEVATIONS AND DIMENSIONS PROVIDED FOR GENERAL COORDINATION. REFER TO ENGINEERING DRAWINGS FOR FINAL WALL INFORMATION.



ELEVATION – PANELS 38–32



ELEVATION – PANELS 31–25



ELEVATION – PANELS 24–SOUTH ABUTMENT

Teska Associates
627 Grove Street
Evanston, IL 60201
www.TeskaAssociates.com

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - DS	REVISED -	
PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - DS	REVISED -	
PLOT SCALE = 1:100	CHECKED - JM	REVISED -	
PLOT DATE = 7/2/2014 11:37:17 PM	DATE - 6/30/2014	REVISED -	

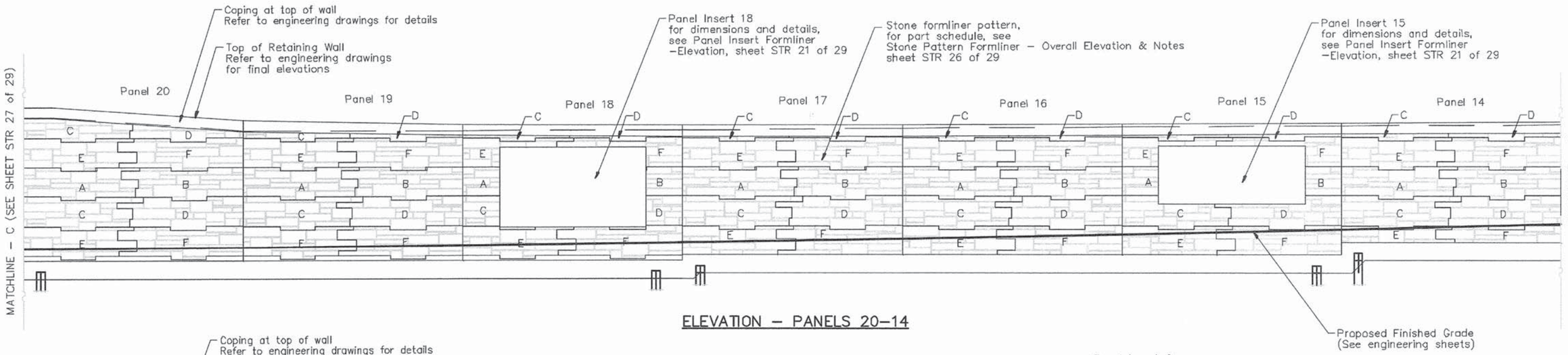
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
STONE PATTERN FORMLINER – ELEVATION

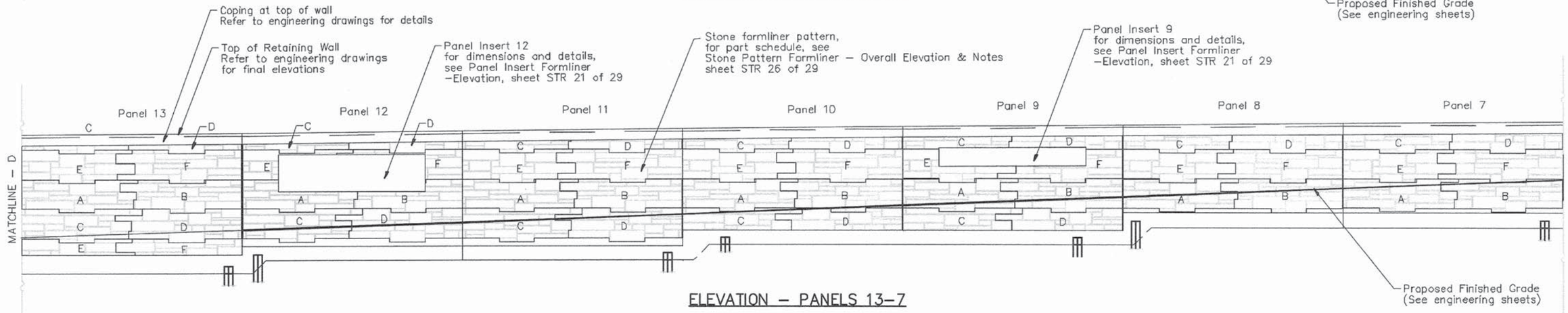
SCALE: NTS | SHEET NO. STR 27 OF 29 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	226
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

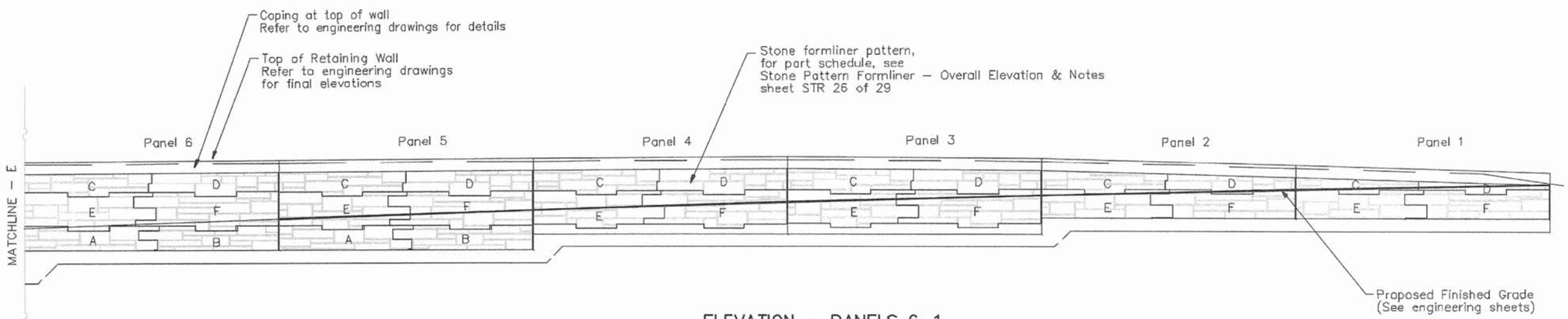
G:\LCDOT\21150_004\Drawings\shts\Teska\S_Wall_Teska_09.dgn



ELEVATION – PANELS 20–14



ELEVATION – PANELS 13–7

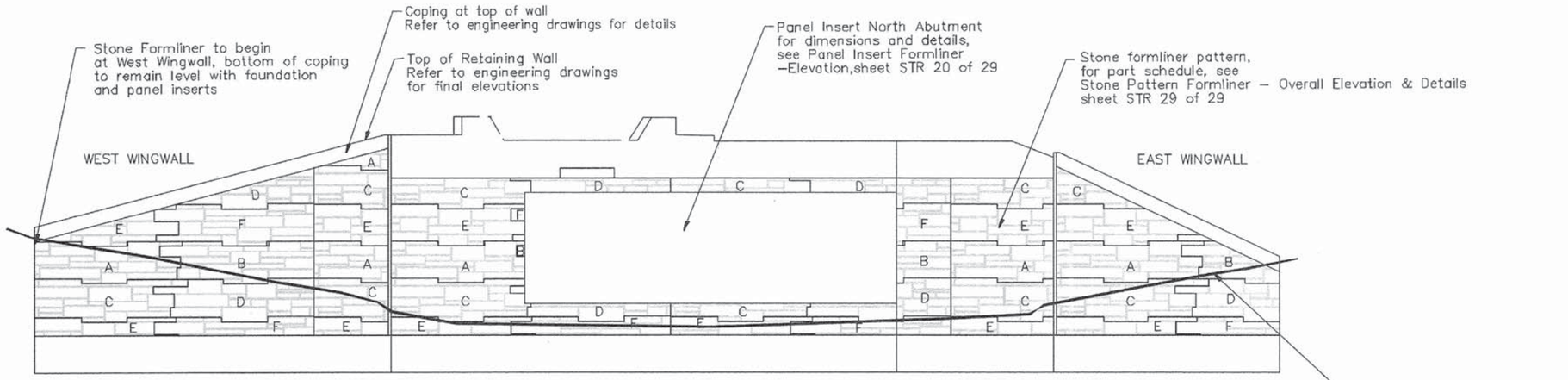


ELEVATION – PANELS 6–1

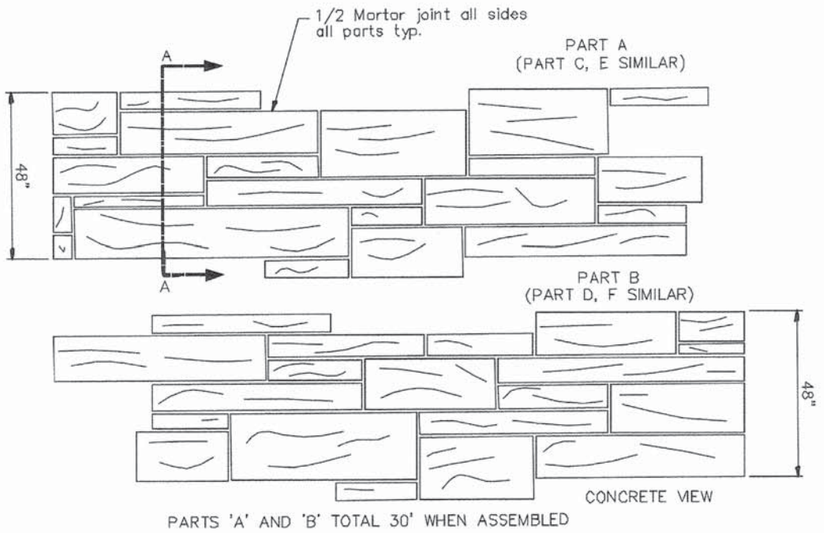
Teska Associates 627 Grove Street Evanston, IL 60201 www.TeskaAssociates.com	USER NAME = tkeppen(Rdwy_Lisle)	DESIGNED - DS	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION**	**WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET** **STONE PATTERN FORMLINER – ELEVATION**
	PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - DS	REVISED -		
	PLOT SCALE = 1:100	CHECKED - JM	REVISED -		SCALE: NTS | SHEET NO. STR 28 OF 29 | STA. | TO STA.
	PLOT DATE = 7/2/2014 11:38:24 PM	DATE - 6/30/2014	REVISED -		

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	227
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150.004\Drawings\shts\Teska\S_Wall_Teska_10.dgn



ELEVATION – NORTH ABUTMENT AND WING WALLS

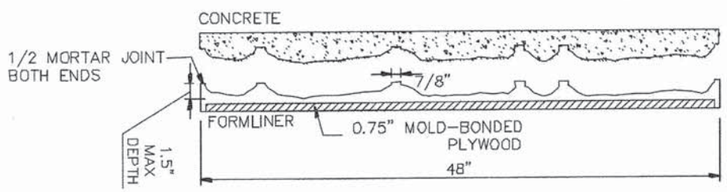


STONE FORMLINER ELEVATION

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

Teska Associates 627 Grove Street Evanston, IL 60201 www.TeskaAssociates.com	USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - DS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET STONE PATTERN FORMLINER – ELEVATION AND DETAILS
	PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - DS	REVISED -		
	PLOT SCALE = 1:100	CHECKED - JM	REVISED -		SCALE: NTS | SHEET NO. STR 29 OF 29 | STA. | TO STA.
	PLOT DATE = 7/2/2014 11:39:30 PM	DATE - 6/30/2014	REVISED -		

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	228
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

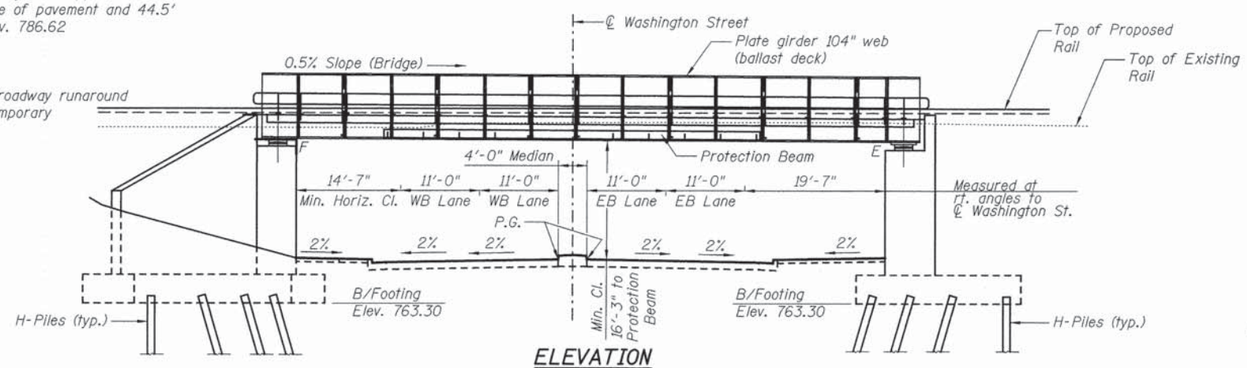
G:\LCDOT\21150_204\Drawings\shts\Teska\S_Wall_Teska_11.dgn

Benchmark: A 3' rebar with a yellow topper, located 19.2' south of the south edge of pavement and 44.5' east of the easterly rail. Elev. 786.62

Existing Structure: None

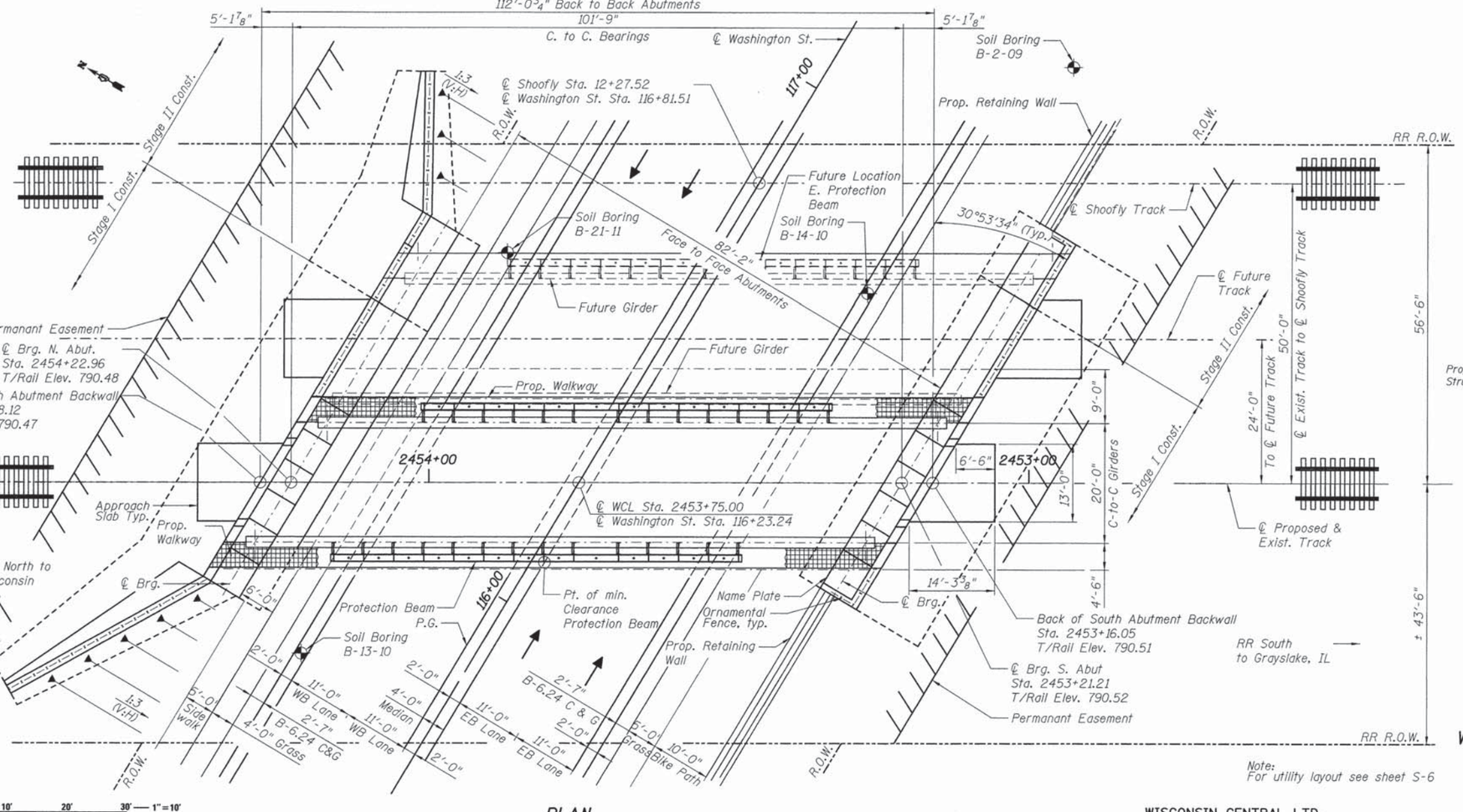
Traffic to be maintained by roadway runaround and railroad shoofly using temporary grade crossings.

For utility layout, see Sheet S-6



ELEVATION

Dimensions at right angles to ℄ Washington St.
112'-0 3/4" Back to Back Abutments



PLAN

Note: For utility layout see sheet S-6

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

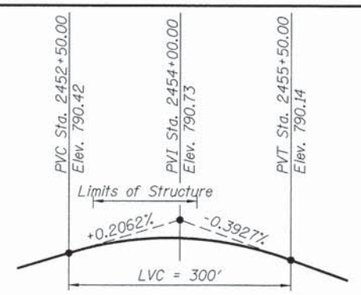
DESIGN STRESSES

FIELD UNITS

f'c = 5,000 psi (28 days)
fy = 60,000 psi (Reinforcement)
fs = 27,500 psi (ASTM A709 Grade 50)

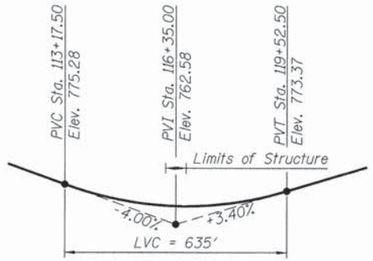
SEISMIC DATA

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



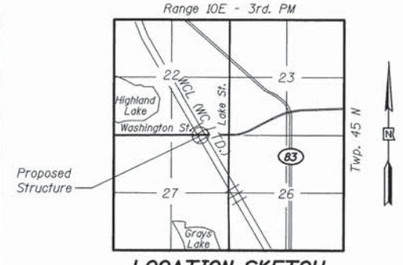
TOP OF RAIL PROFILE

(T/Rail along ℄ Proposed CN (WC LTD.))



PROFILE GRADE

(Along Washington St.)



LOCATION SKETCH

STATE OF ILLINOIS
SARAH L. CZAPLICKI
081-006191
LISLE, ILLINOIS
LICENSED STRUCTURAL ENGINEER

Sarah L. Czaplicki

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

WISCONSIN CENTRAL LTD.
MILEPOST 46.47 WAUKESHA SUBDIVISION

WCL (WC LTD.) OVER WASHINGTON ST.
FAU 187, SECTION 11-00121-11-BR
LAKE COUNTY
STATION 116+23.24
STRUCTURE NO. 049-3006

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - RWK	REVISED	
PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - SLC	REVISED	
PLOT SCALE = 1:10	DRAWN - LFC	REVISED	
PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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			

G:\LCDOT\21150.004\Drawings\STRUCT\RRBridge\ahta\GPE.dgn

INDEX OF SHEETS

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.	3976
Structure Excavation	Cu. Yd.	1155
Concrete Structures (Special)	Cu. Yd.	1394.7
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
Temporary Soil Retention System	Sq. Ft.	3791

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

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

USER NAME = hhassan(Rail)	DESIGNED - RWK	REVISED 10/7/2014	
PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - SLC	REVISED	
PLOT SCALE = 1:0.0833333	DRAWN - LFC	REVISED	
PLOT DATE = 10/8/2014	CHECKED - SLC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
STRUCTURE NO. 049-3006
SHEET NO. S 2 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	230
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

G:\LCDOT\21150_004\Drawings\STRUCT\RRBridge\shts\Drawing List_Summary of Quantities.dgn

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/ft^2.

Bolted Connections

1. Fasteners for bolted connections shall be ASTM A325 Type 3 High Strength Bolts, $\frac{7}{8}$" ϕ in $\frac{15}{16}$" 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 (q) 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
>$1\frac{1}{2}$ in to $2\frac{3}{8}$ in	150 deg F
>$2\frac{3}{8}$ 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	
Principal reinforcing bars	$2\frac{1}{2}$ in
Stirrups elsewhere, ties and spirals	$2\frac{1}{2}$ 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 $\frac{3}{4}$ 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. (S_{D1}) = 0.096
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.16
Soil Site Class = D

Design Stresses

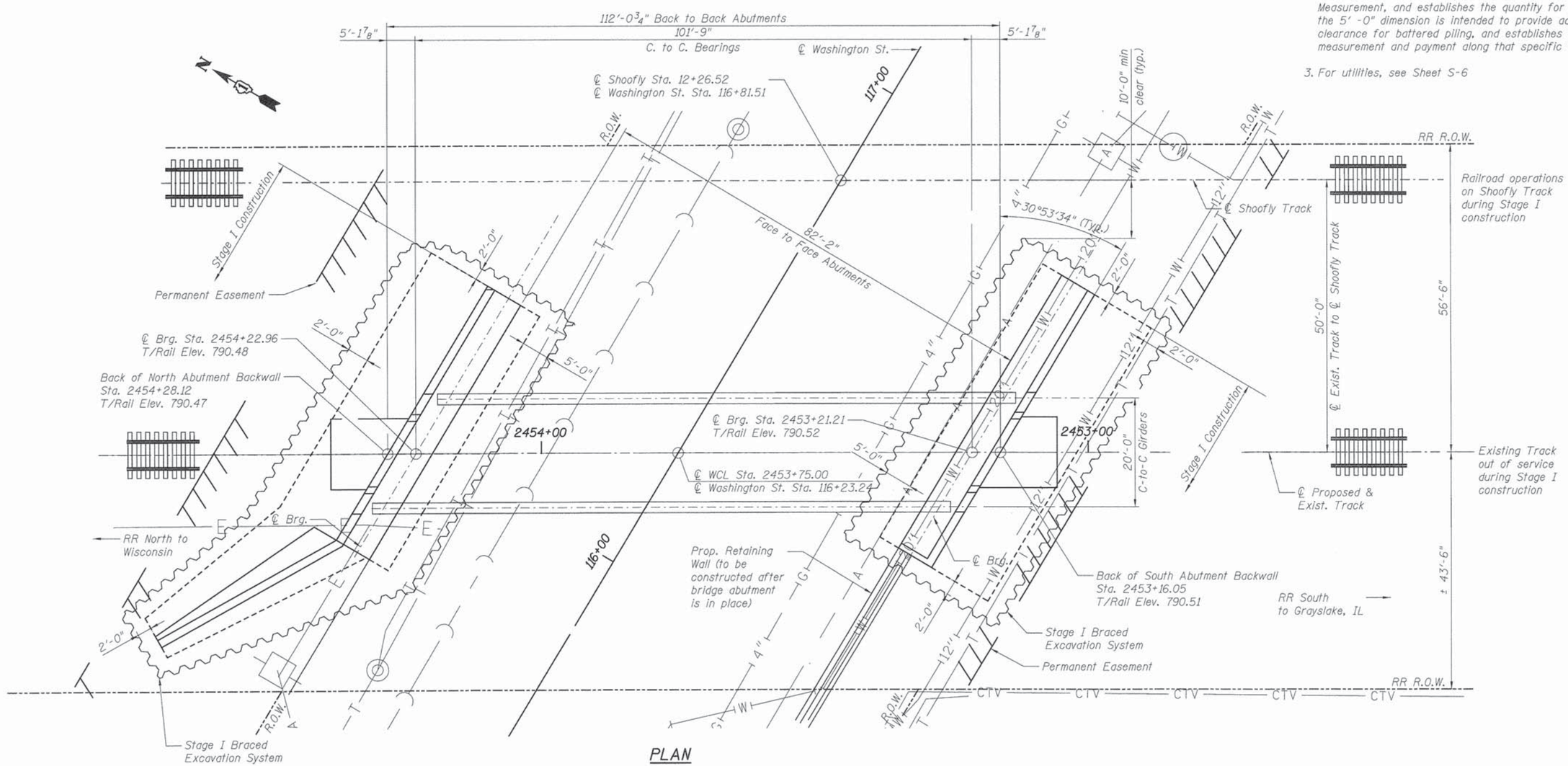
f_s tension structural steel ASTM A709 Grade 50	27,500 psi
f_s tension Reinforcement Bars ASTM A615 Grade 60	24,000 psi
f'_c Compressive strength concrete at 28 days	5,000 psi
Maximum Live Load Plus Impact Deflection	L/750 for Railroad Superstructure

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 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



PLAN

0 10' 20' 30' — 1"=10'

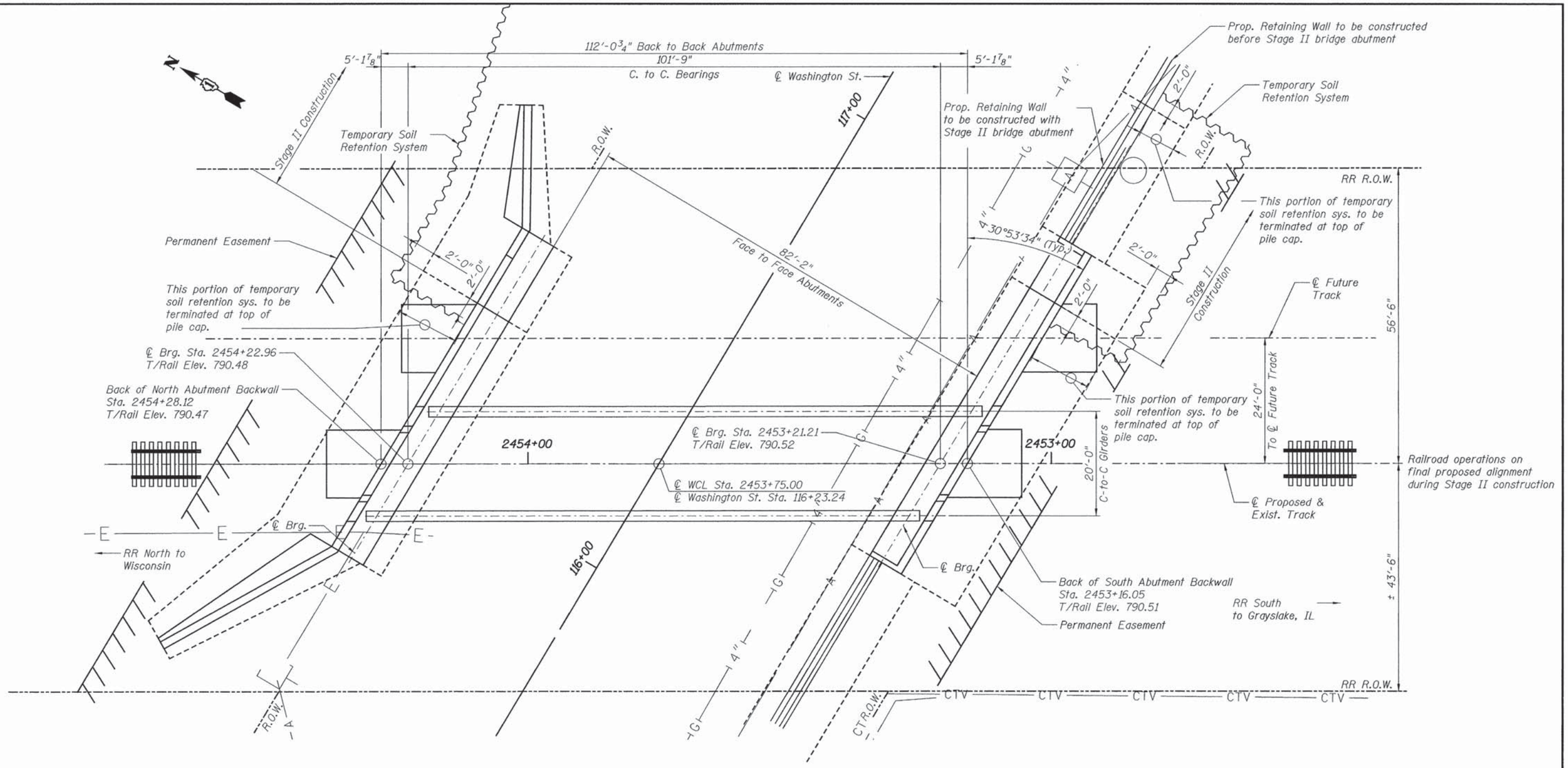
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoappen(Rdwy_Lisle)	DESIGNED - RWK	REVISED
	PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - SLC	REVISED
	PLOT SCALE = 1:20	DRAWN - LFC	REVISED
	PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGING PLAN I
STRUCTURE NO. 049-3006
SHEET NO. S 4 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	232
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

Q:\LCDOT\21150.024\Drawings\STRUCT\RRBridge\shts\Staging Plan 1.dgn



PLAN

Notes:

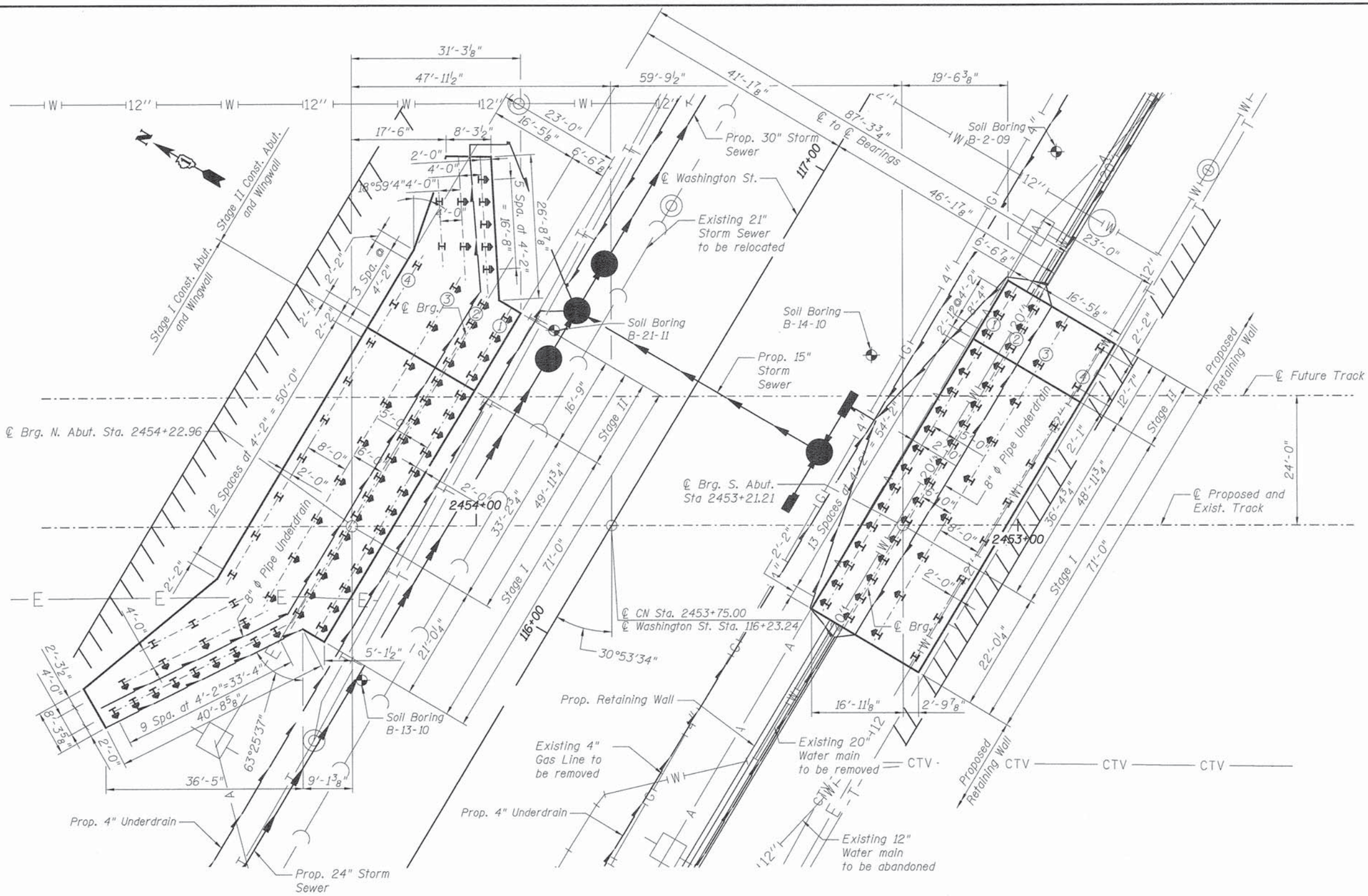
1. The Contractor shall submit a temporary soil retention system design sealed by an Illinois Licensed Structural Engineer including plan details and calculations for review and acceptance by the Engineer and the Railroad. The temporary soil retention system within the influence of railroad live load shall be be designed by the Contractor per AREMA requirements and CN standards.
2. Outlines and dimensions shown for the temporary soil retention system are schematic and are to establish the general configuration. Clearances shown are to establish measurement and pay limits.
3. For utilities, see Sheet S-6.
4. Excavation for Stage II construction paid for as Structure Excavation.

0 10' 20' 30' — 1"=10'

PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = hhassan(Rail)	DESIGNED - RWK	REVISED 10/7/2014	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGING PLAN II STRUCTURE NO. 049-3006
	PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - SLC	REVISED		
	PLOT SCALE = 1:10	DRAWN - LFC	REVISED		
	PLOT DATE = 10/8/2014	CHECKED - SLC	REVISED		SHEET NO. S 5 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	233
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

Q:\LCDOT\21150.004\Drawings\STRUCT\RRBridge\shts\Staging Plan 2.dgn



FOUNDATION PLAN

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

Location on ℄ Proposed Track	RR Sta.	Roadway Sta.	Northing	Easting
℄ Brg. S. Abut.	2453+21.21	116+50.85	2,072,803.41	1,061,282.17
℄ RR at ℄ Road	2453+75.00	116+23.24	2,072,849.69	1,061,254.76
℄ 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.

0 16' 32' 48' — 3/32" = 1'-0"

PATRICK ENGINEERING

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

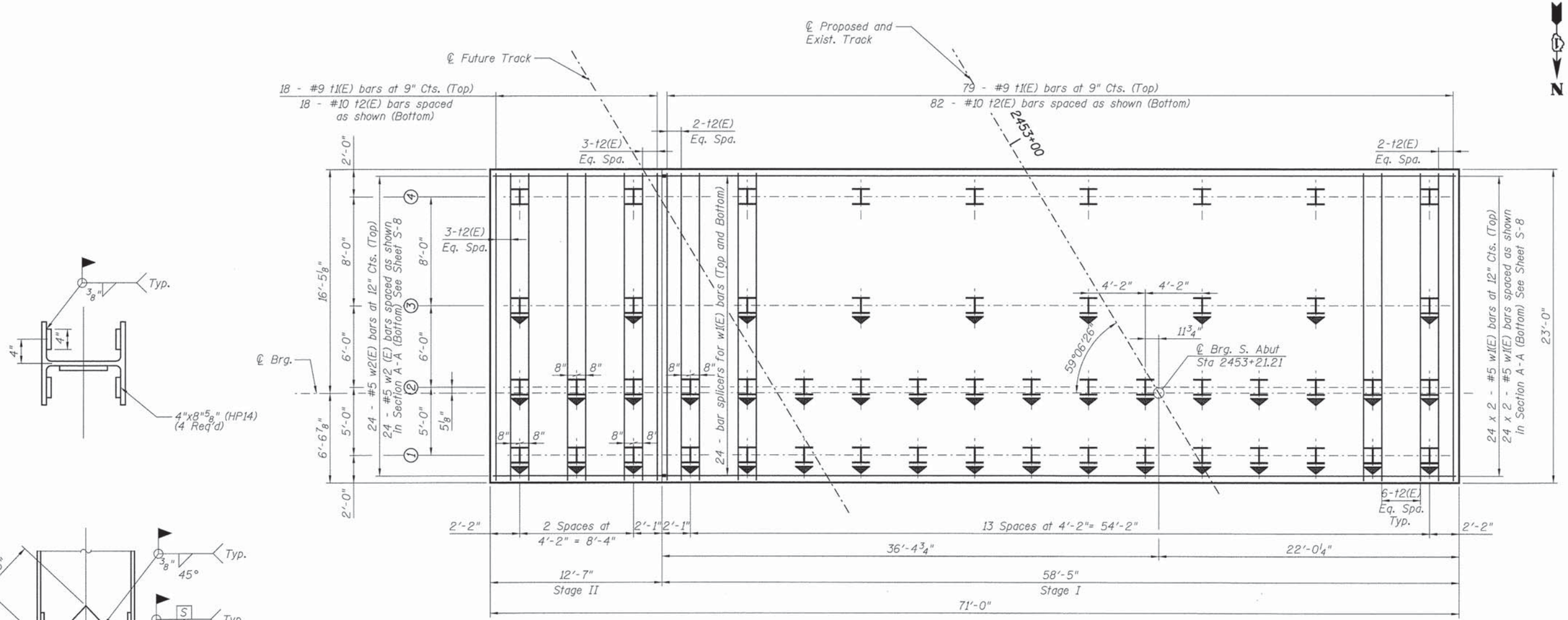
USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - JRR	REVISED
PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - SLC	REVISED
PLOT SCALE = 1:20	DRAWN - NS	REVISED
PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION PLAN
STRUCTURE NO. 049-3006
SHEET NO. S 6 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	234
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

Q:\LCDOT\21150.004\Drawings\STRUCT\RRBridge\shts\Foundation Plan.dgn



PILE CAP PLAN - SOUTH ABUTMENT

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

PILE SPLICE DETAILS

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

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

PILE DATA

Type: HP14x89
Nominal Required Bearing: 532k
Allowable Resistance Available: 265k
Est. Length: 60
No. Production Piles: 51
No. Test Piles: 1

0 4' 8' 12' — 1/4"=1'-0"

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

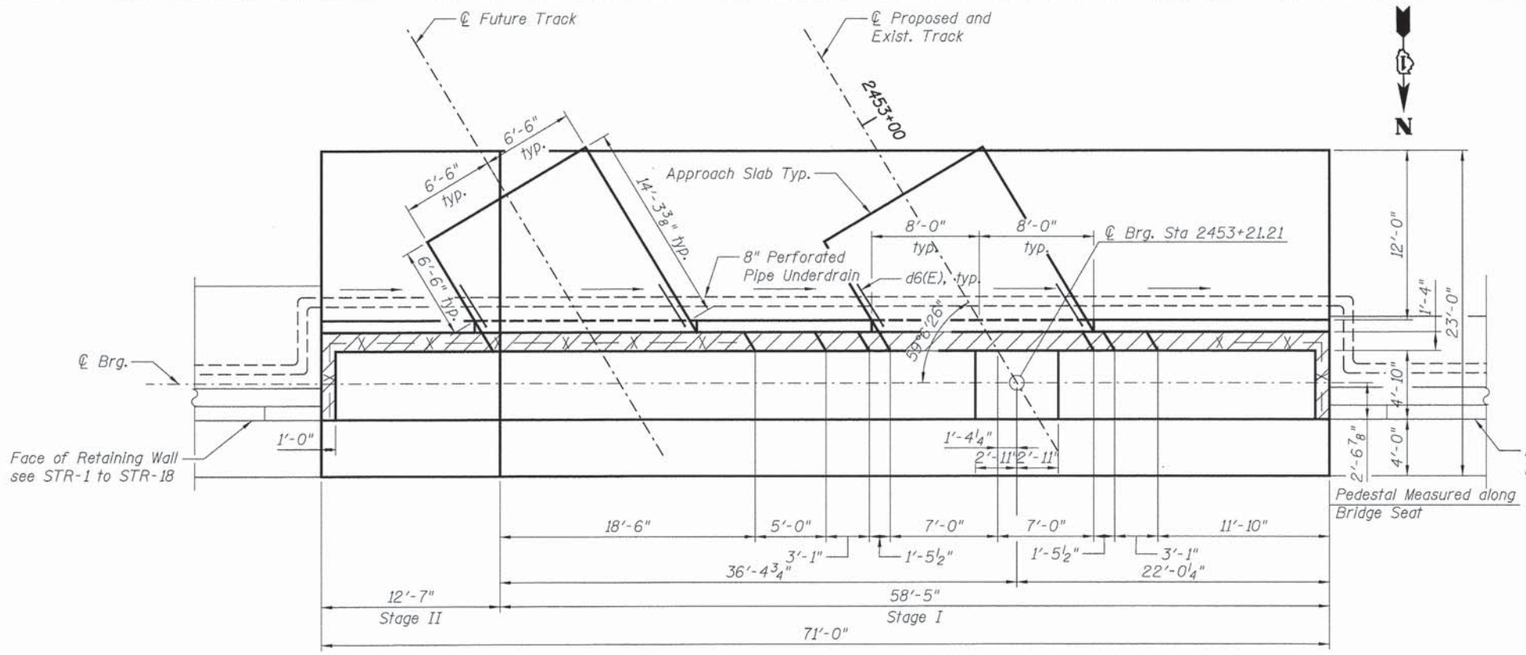
USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - JRR	REVISED
PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - SLC	REVISED
PLOT SCALE = 1:4	DRAWN - NS	REVISED
PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT – PILE CAP PLAN
STRUCTURE NO. 049-3006
SHEET NO. S 7 OF 27

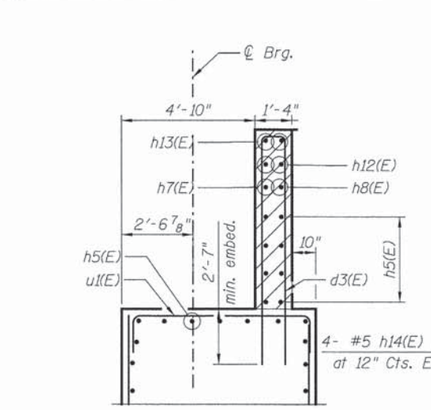
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	235
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

G:\LCDOT\21150_004\Drawings\STRUCT\RRBridge\shts\South Abutment Pile Cap Plan.dgn



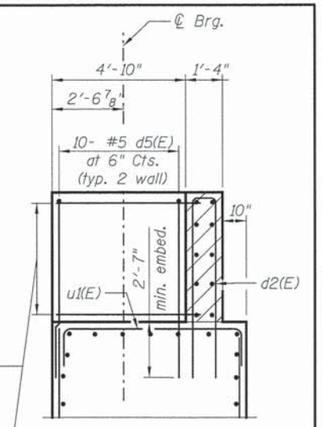
PLAN - SOUTH ABUTMENT

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



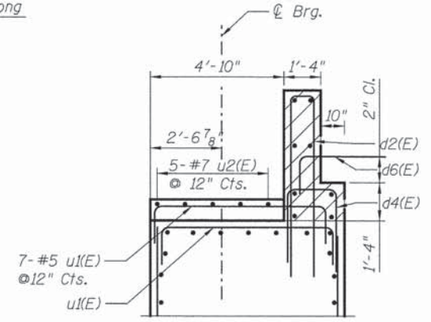
SECTION C-C

Scale: N.T.S.



SECTION D-D

Scale: N.T.S.

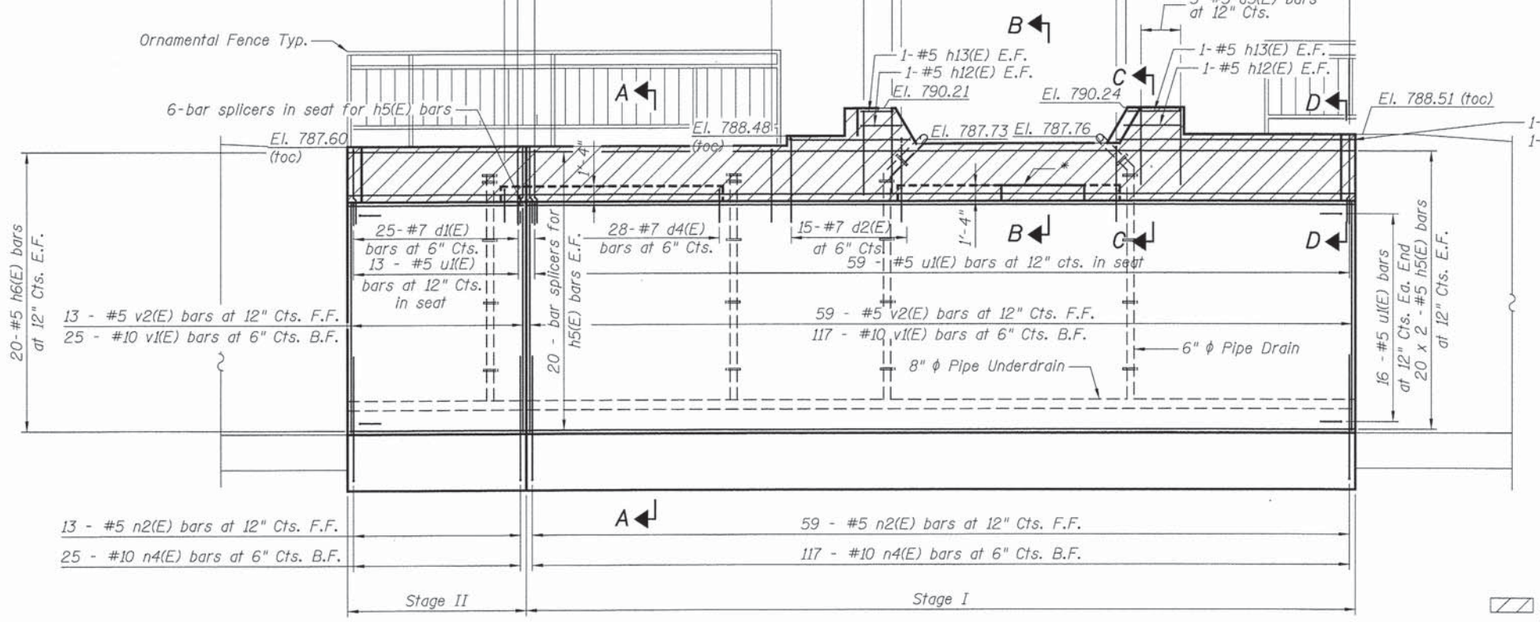


SECTION B-B

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 (toc). 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.



ELEVATION - SOUTH ABUTMENT

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

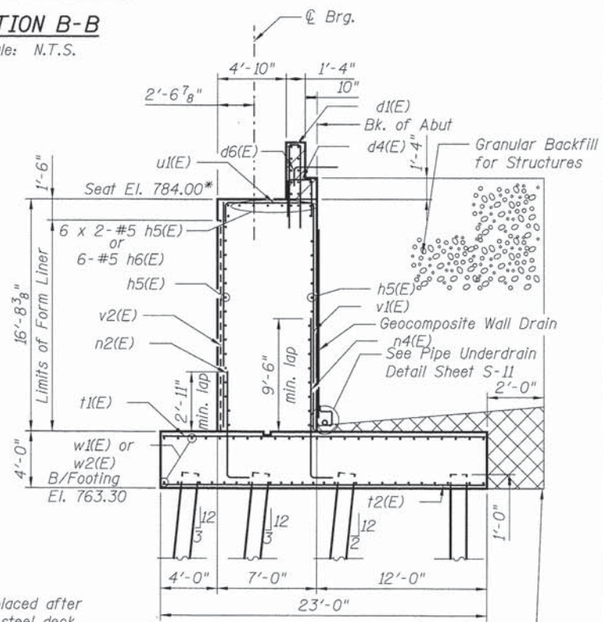
0 8' 16' 24' — 3/16" = 1'-0"

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

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

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

For anchor bolt layout see sheet S-21



SECTION A-A

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

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

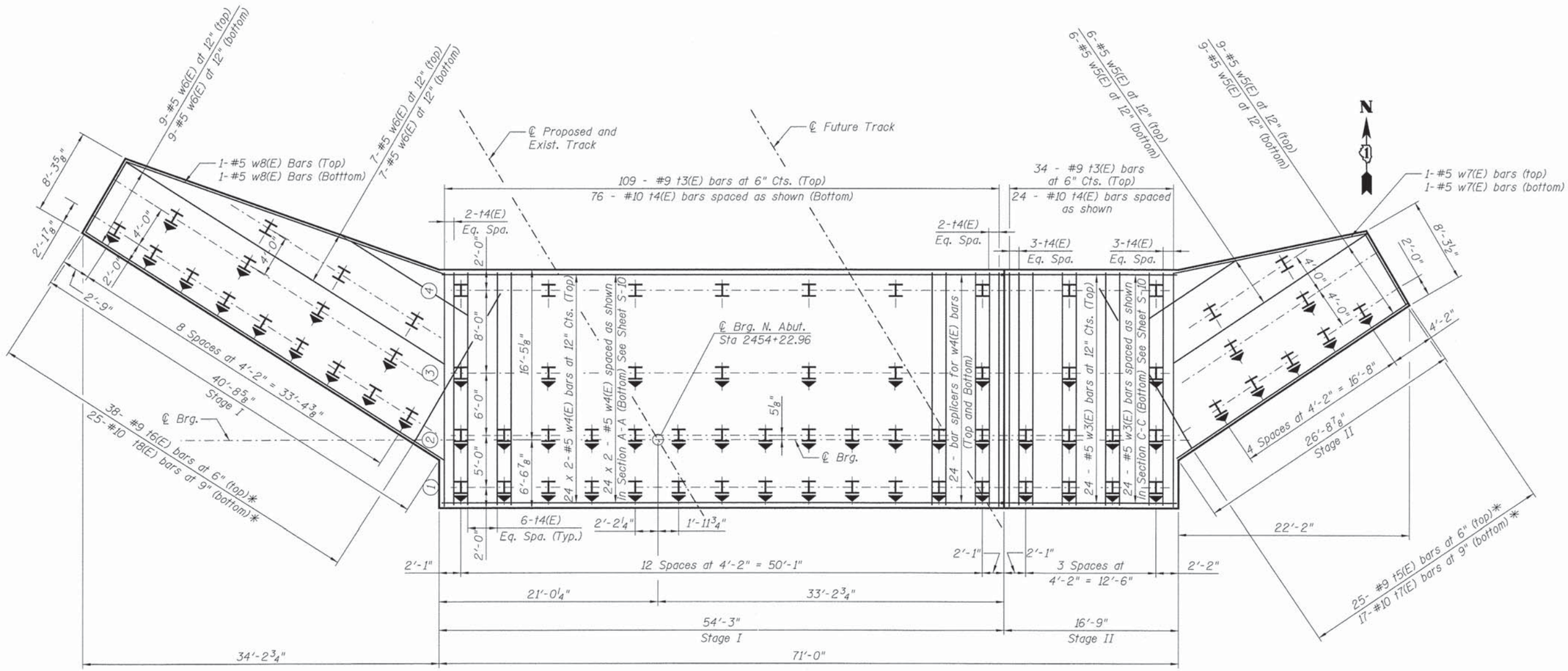
USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - LFC	REVISED	
PLOT CONFIG= PDF(Gray_Large).plt	CHECKED - NS	REVISED	
PLOT SCALE = 1:5.33333	DRAWN - NS	REVISED	
PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT – TOP PLAN, ELEVATION, AND SECTIONS
STRUCTURE NO. 049-3006
SHEET NO. S 8 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	236
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

Q:\LCDOT\21150.004\Drawings\STRUCT\RRBridge\shts\South Abutment.dgn



PILE CAP PLAN - NORTH ABUTMENT

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

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

*See Cutting Diagram S-12

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

PILE DATA

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

0 8' 16' 24' — 3/16" = 1'-0"

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

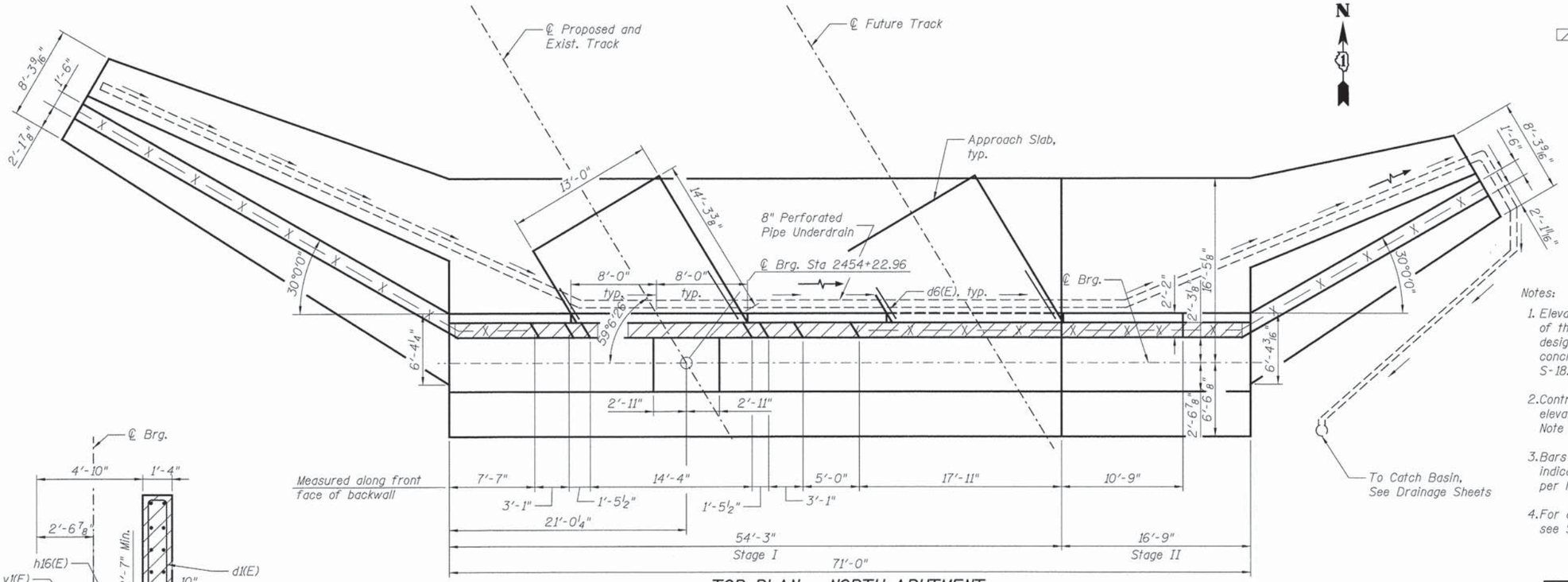
USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - JRR	REVISED	
PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - SLC	REVISED	
PLOT SCALE = 1:5.33334	DRAWN - NS	REVISED	
PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED	

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.
187	11-00121-11-BR	LAKE	496	237
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

Q:\LCDOT\21150_004\Drawings\STRUCT\RRBridge\shts\North Abutment Pile Plan.dgn



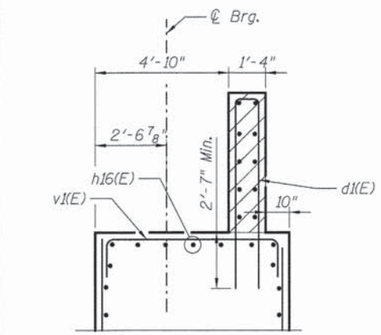
TOP PLAN - NORTH ABUTMENT

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

Notes:

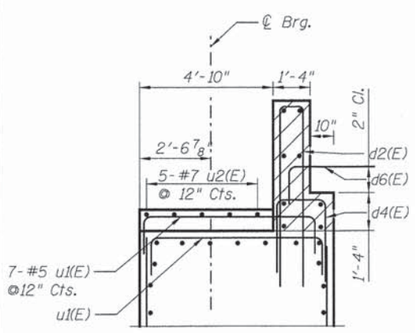
1. Elevations at the backwall are at the top of the 1/2" masonry plate, unless designated otherwise as the top of concrete (toc). See Joint Detail, Sheet S-18.
2. Contractor to verify seat and pedestal elevations. See Bearings Sheet S-21 Note 6.
3. Bars indicated thus 6 x 2 - #5 etc. indicates 6 lines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

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



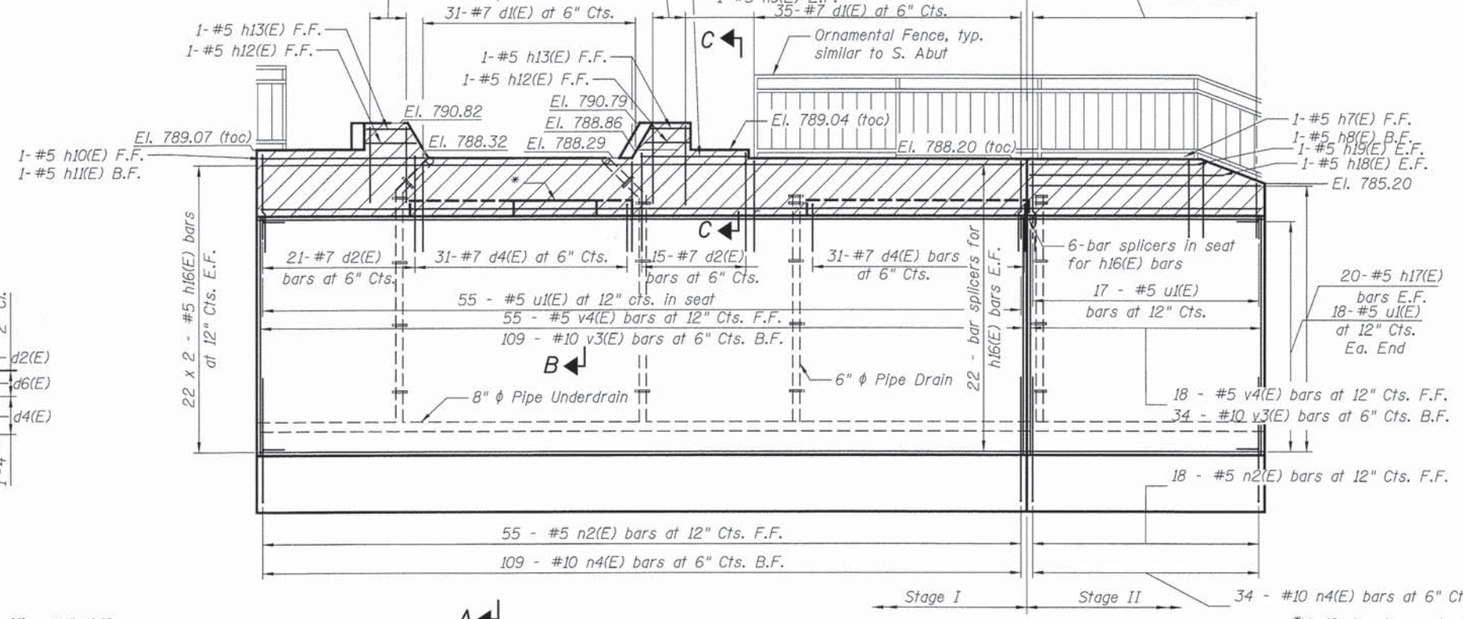
SECTION C-C

Scale: N.T.S.



SECTION B-B

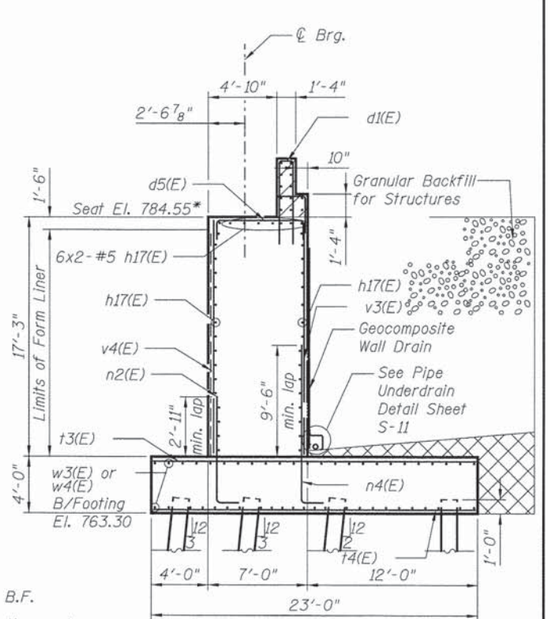
Scale: N.T.S.



ELEVATION - NORTH ABUTMENT

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

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



SECTION A-A

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

0 8' 16' 24' — 3/16" = 1'-0"

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

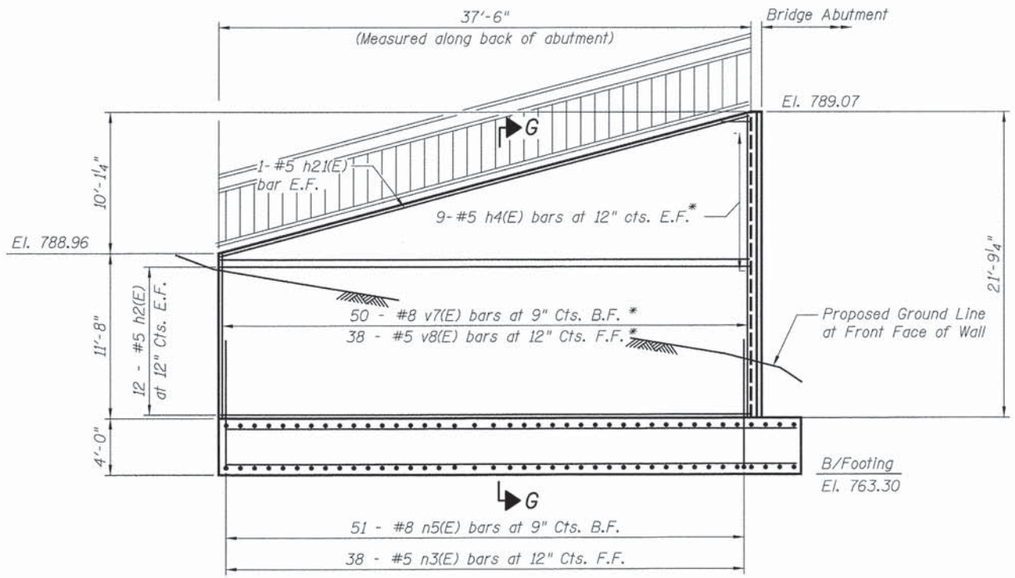
USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - LFC	REVISED
PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - NS	REVISED
PLOT SCALE = 1:5.33334	DRAWN - NS	REVISED
PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT – TOP PLAN, ELEVATION, AND SECTIONS
STRUCTURE NO. 049-3006
SHEET NO. S 10 OF 27

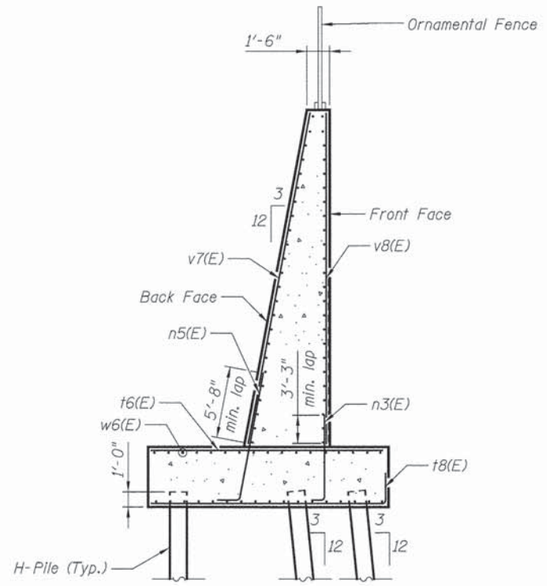
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	238
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

G:\LCDOT\21150_004\Drawings\STRUCT\RRBridge\shts\North Abutment.dgn

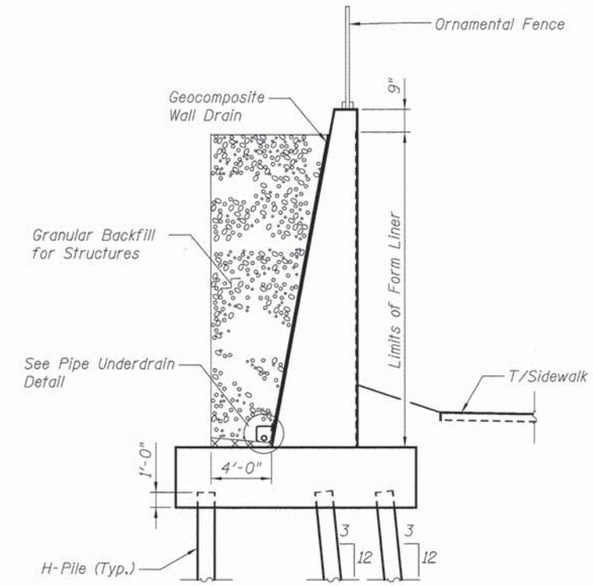


ELEVATION WEST WINGWALL

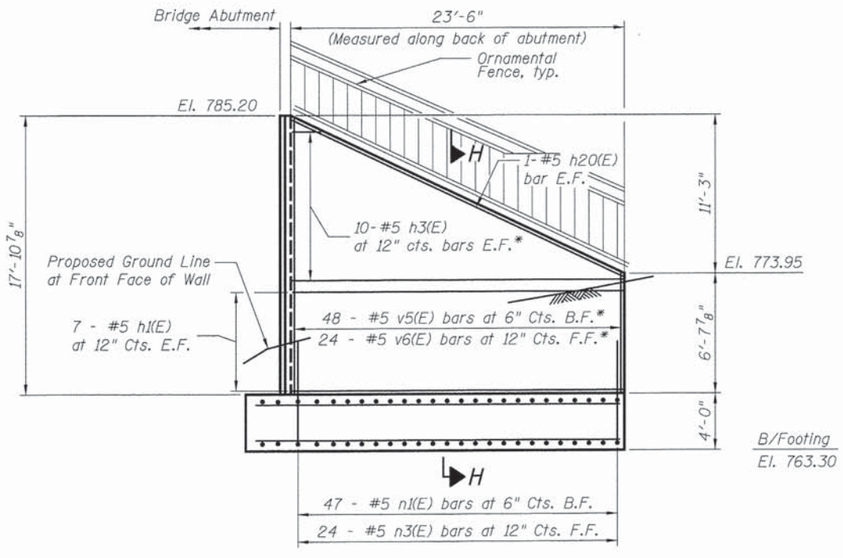
Scale: $\frac{3}{16}$" = 1'-0"



SECTION G-G

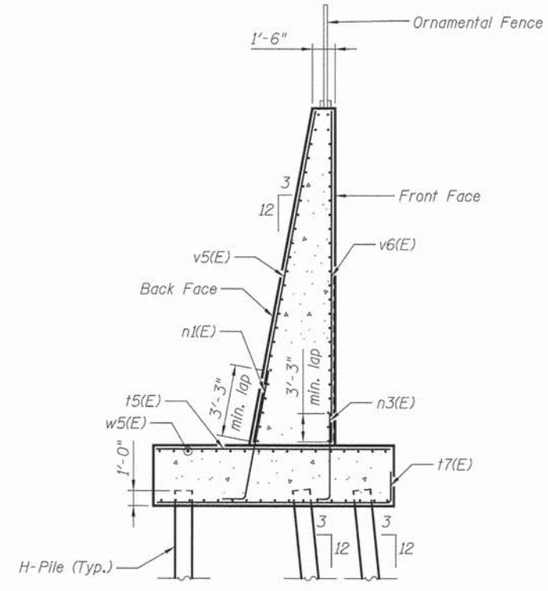


WINGWALL SECTION ADJACENT TO NORTH ABUTMENT

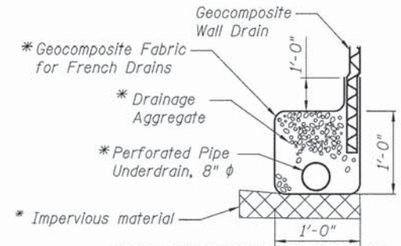


ELEVATION EAST WINGWALL

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



SECTION H-H



PIPE UNDERDRAIN DETAIL

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

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

0 8' 16' 24' — 3/16" = 1'-0"

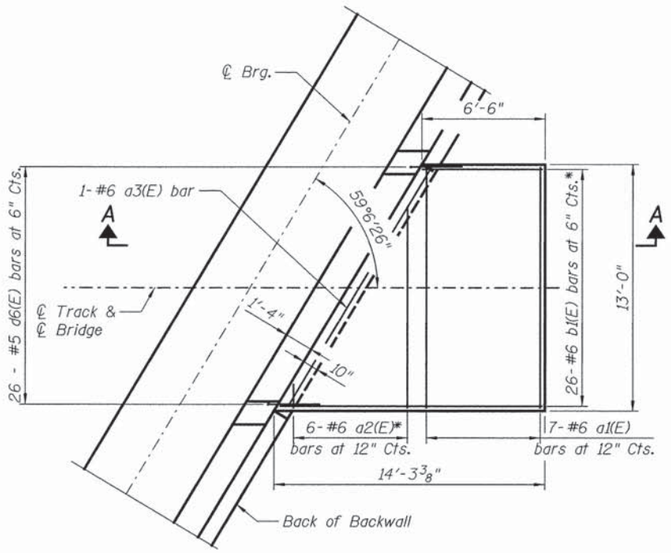
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoepper(Rdwy_Lisle)	DESIGNED - SLC	REVISED
	PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - JRR	REVISED
	PLOT SCALE = 1:5.33334	DRAWN - NS	REVISED
	PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT – WINGWALL ELEVATION, SECTIONS, AND DETAILS
STRUCTURE NO. 049-3006
SHEET NO. S 11 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	239
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

G:\LCDOT\21158_004\Drawings\STRUCT\RRBridge\shts\North Abutment Wingwall.dgn



APPROACH SLAB - PLAN

Scale: 1/4" = 1'-0"
(4 typ.)
* See Field Cutting Diagram

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

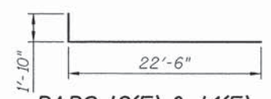
Bar	No.	Size	Length	Shape
n1(E)	47	# 5	8' - 3"	
n2(E)	73	# 5	6' - 7"	
n3(E)	62	# 5	8' - 1"	
n4(E)	143	# 10	16' - 0"	
n5(E)	51	# 8	11' - 2"	
w3(E)	48	# 5	16' - 4"	
w4(E)	96	# 5	28' - 10"	
w5(E)	30	# 5	26' - 6"	
w6(E)	32	# 5	40' - 6"	
w7(E)	2	# 5	27' - 7"	
w8(E)	2	# 5	41' - 4"	
t3(E)	143	# 9	22' - 6"	
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.	2,221
Structure Excavation			Cu. Yd.	786
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
Temporary Soil Retention System			Sq. Ft.	1,873

SOUTH ABUTMENT BILL OF MATERIAL

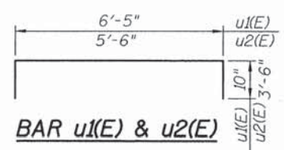
Bar	No.	Size	Length	Shape
h5(E)	92	# 5	31' - 0"	
h6(E)	46	# 5	12' - 3"	
h7(E)	1	# 5	16' - 3"	
h8(E)	1	# 5	17' - 2"	
h12(E)	4	# 5	3' - 3"	
h13(E)	4	# 5	2' - 9"	
h14(E)	18	# 5	5' - 8"	
d1(E)	93	# 7	12' - 10"	
d2(E)	48	# 7	14' - 10"	
d3(E)	6	# 5	6' - 10"	
d4(E)	62	# 7	9' - 6"	
d5(E)	10	# 5	14' - 8"	
d6(E)	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

SOUTH ABUTMENT PILE CAP BILL OF MATERIAL

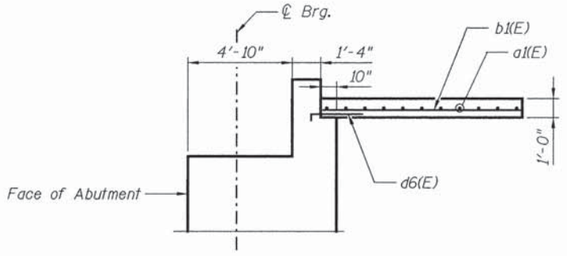
Bar	No.	Size	Length	Shape
n2(E)	72	# 5	6' - 7"	
n4(E)	142	# 10	16' - 0"	
w1(E)	96	# 5	31' - 0"	
w2(E)	48	# 5	12' - 2"	
t1(E)	97	# 9	22' - 6"	
t2(E)	100	# 10	24' - 4"	
Braced Excavation			Cu. Yd.	1,755
Structure Excavation			Cu. Yd.	369
Concrete Structures (Special)			Cu. Yd.	241.9
Reinforcement Bars, 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
Temporary Soil Retention System			Sq. Ft.	1,918



BARS t2(E) & t4(E)

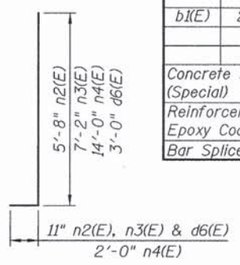


BAR u1(E) & u2(E)

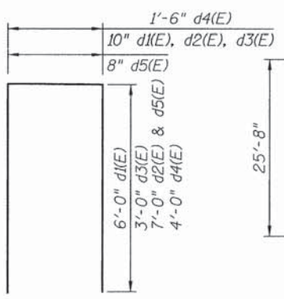


SECTION A-A

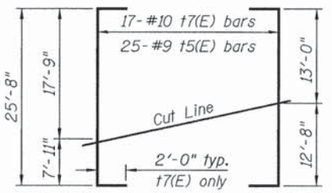
Scale: 1/4" = 1'-0"



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

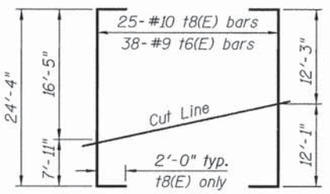


BARS d1(E), d2(E), d3(E), d4(E), & d5(E)



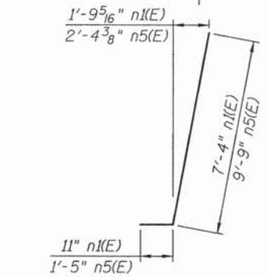
FIELD CUTTING DIAGRAM WINGWALL FOOTING

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

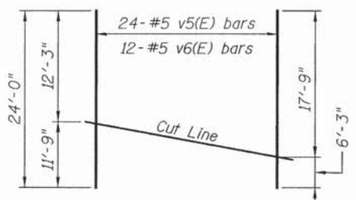


FIELD CUTTING DIAGRAM WINGWALL FOOTING

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

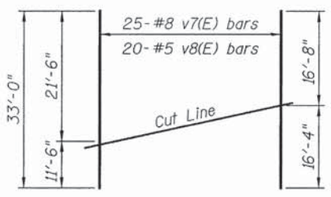


BARS n1(E) & n5(E)



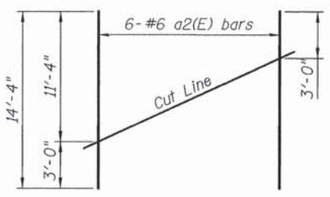
FIELD CUTTING DIAGRAM WINGWALL

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



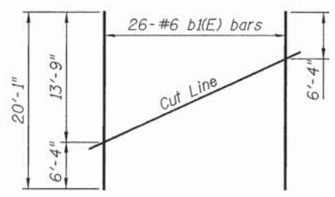
FIELD CUTTING DIAGRAM WINGWALL

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



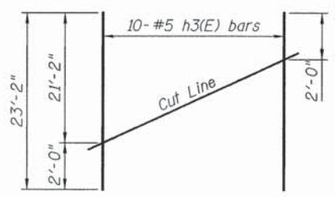
FIELD CUTTING DIAGRAM APPROACH SLAB

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



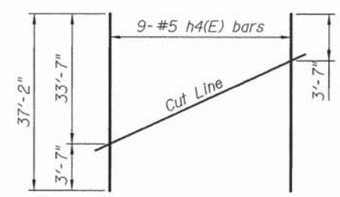
FIELD CUTTING DIAGRAM APPROACH SLAB

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.

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

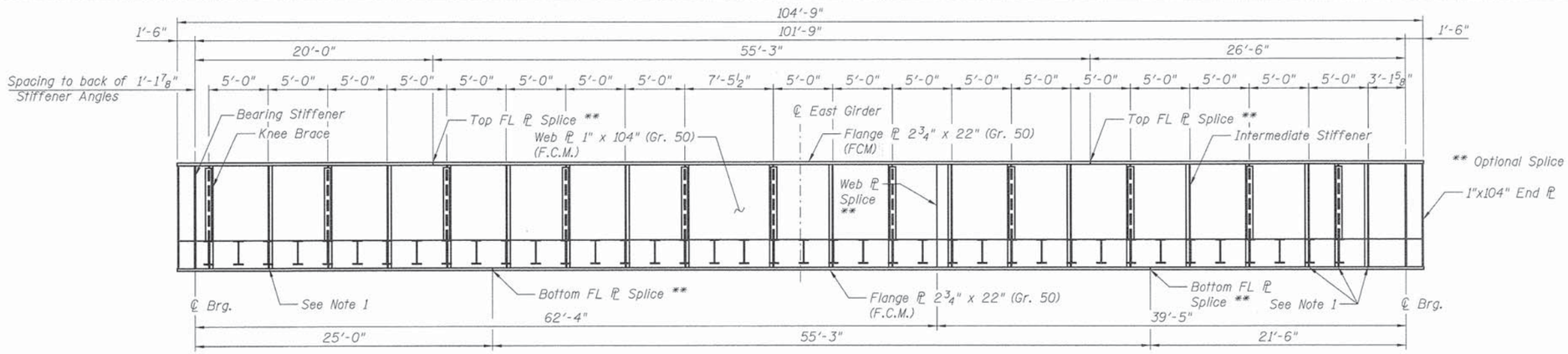
USER NAME = hhassan(Rail)	DESIGNED - LFC	REVISED 10/7/2014	
PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - JRR	REVISED	
PLOT SCALE = 1:5.33334	DRAWN - NS	REVISED	
PLOT DATE = 10/8/2014	CHECKED - SLC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS AND BILL OF BARS
STRUCTURE NO. 049-3006
SHEET NO. S 12 OF 27

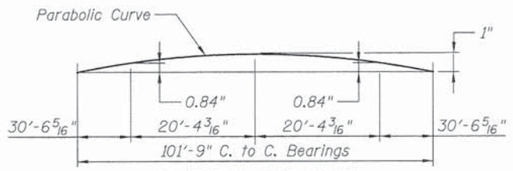
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	240
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

Q:\LCDOT\21150_004\Drawings\STRUCT\RRBridge\shts\Abutment Details.dgn

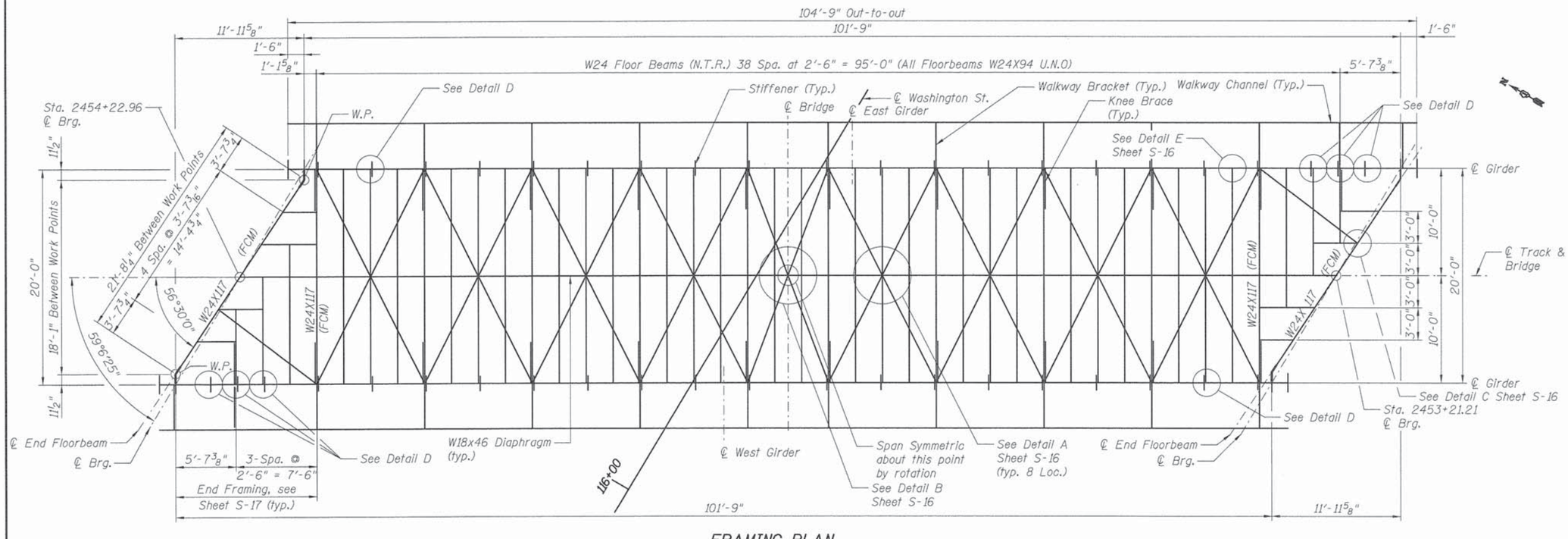


GIRDER INSIDE ELEVATION

(East Girder shown, West Girder similar by rotation)
Scale: 3/16" = 1'-0"



CAMBER DIAGRAM



FRAMING PLAN

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

Notes:

1. Intermediate Stiffeners at noted locations shall be welded to girder bottom flange. See Detail D Sheet S-16
2. For hole pattern in girder web see Sheets S-14 and S-15.
3. Shop assemble girder spans complete, including floorbeams and connection angles in suitable frames; ream holes so that angles shall be square with the beam and true to dimensions, verify dimensions and match mark for ease of field erection.
4. The top of all floorbeams shall be in the same plane.
5. (F.C.M.) Indicates fracture critical member.
6. (N.T.R.) Indicates notch toughness requirement.

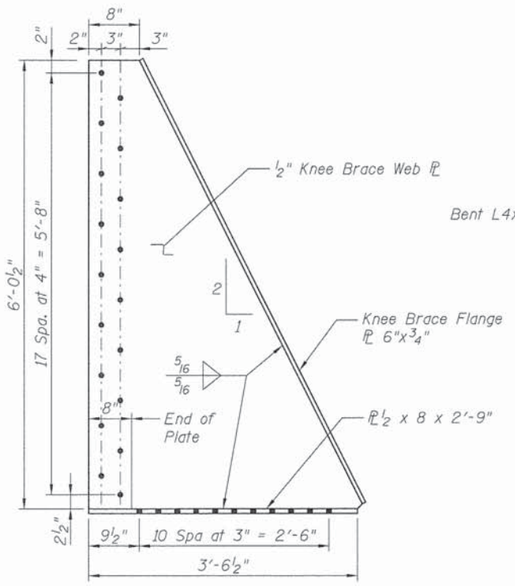
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen\Rdwy_Lisle	DESIGNED - RWK	REVISED
	PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - SLC	REVISED
	PLOT SCALE = 1.12.6667	DRAWN - LFC	REVISED
	PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND GIRDER ELEVATION
STRUCTURE NO. 049-3006
SHEET NO. S 13 OF 27

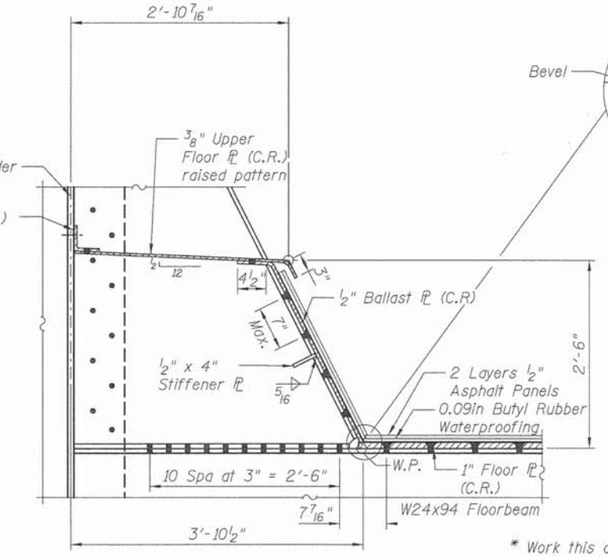
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	241
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

G:\LCDOT\21152.024\Drawings\STRUCT\RRBridge\shts\Framing Plan.dgn



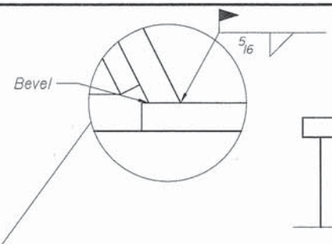
KNEE BRACE DETAIL

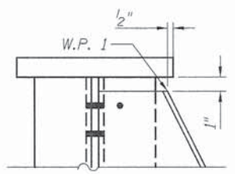
Scale: 1" = 1'-0"



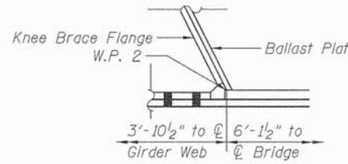
BALLAST CURB*

Scale: 1" = 1'-0"



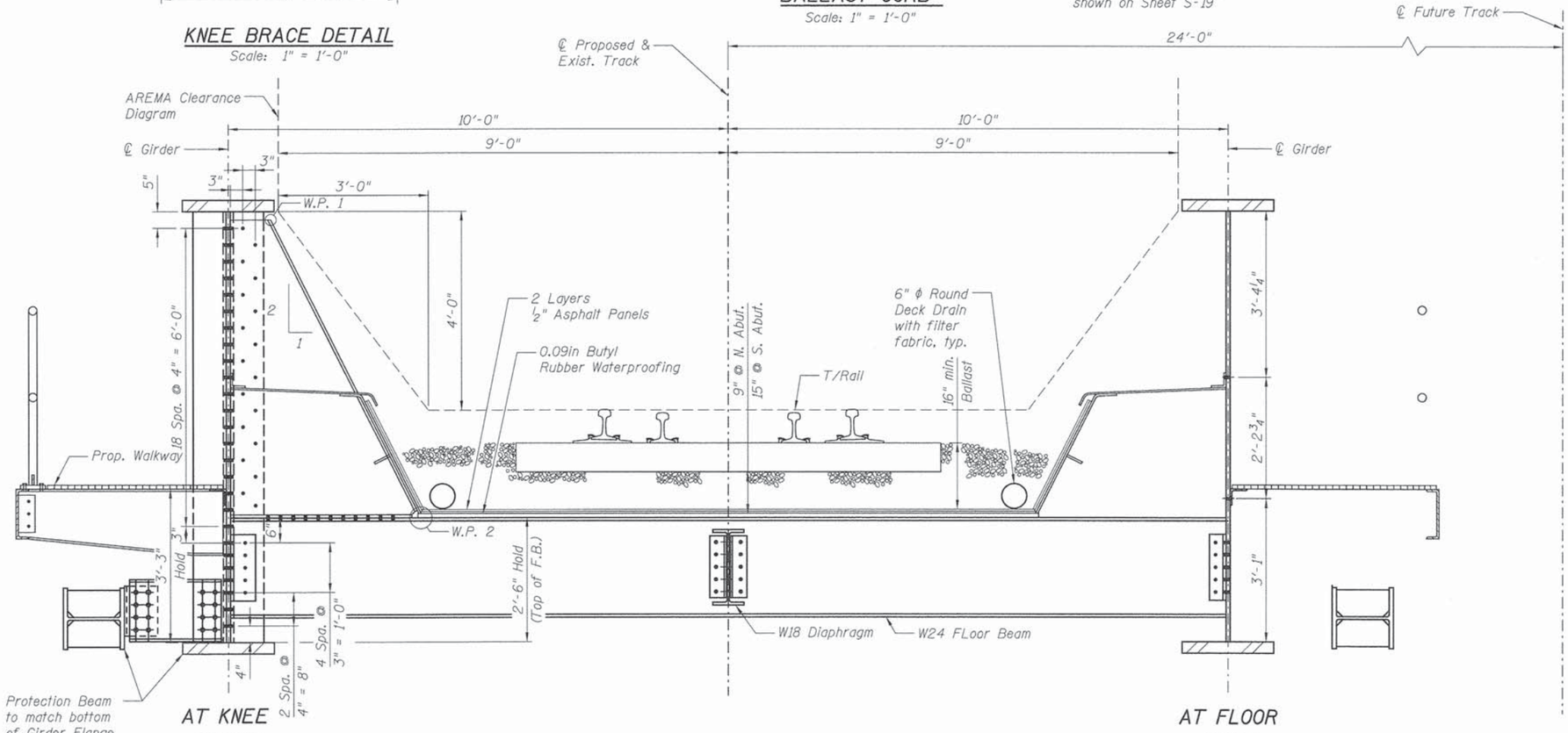


W.P. 1



W.P. 2

* Work this detail with "Upper Floor Plate and Walkway Plan" shown on Sheet S-19



TYPICAL DECK CROSS SECTION

(Looking North)
Scale: ¾" = 1'-0"

TABLE OF STRESSES

SPAN LENGTH 101'-9" C/C BEARINGS

STEEL: A709 GRADE 50
TOP FLANGE PLATE SIZE: 2¾ x 22 — AREA = 60.50 in²
WEB PLATE SIZE: 1 x 104 — AREA = 104.00 in²
BOTTOM FLANGE PLATE SIZE: 2¾ x 22 — AREA = 60.50 in²

Sx-x TOP = 8,010 in³ (Gross) — Ix = 438,531 in⁴ (Gross)
Sx-x BOT = 7,620 in³ (Net) — Ix = 418,333 in⁴ (Net)

	END REACTION kip	SHEAR STRESS ksi	BENDING MOMENT kft	BENDING STRESSES BOTT. 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

$$RATIO\ \frac{WORKING}{PERMISS} = 0.69$$

$$\frac{\Delta\ LL + I}{SPAN} = \frac{1}{889}$$

$$\frac{MAX.\ STRESS\ RANGE}{PERMISS.\ FATIGUE\ STRESS} = 0.89$$

END FLOOR BEAMS W24x117 SPAN LENGTH = 10'-10⅛"

TOTAL TOP
FLANGE STRESS = 8.0 ksi (Tension)
PERMISS. STRESS = 27.5 ksi

$$RATIO\ \frac{WORKING}{PERMISS} = 0.29$$

$$\frac{\Delta\ LL + I}{SPAN} = \frac{1}{14,456}$$

$$\frac{MAX.\ STRESS\ RANGE}{PERMISS.\ FATIGUE\ STRESS} = 0.38$$

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

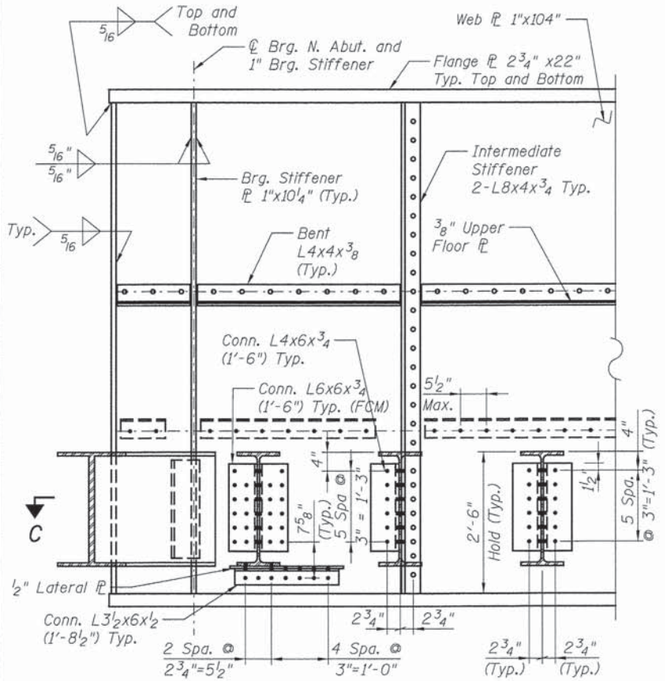
USER NAME = tkoeppen(Rdwy.Lisle)	DESIGNED - RWK	REVISED
PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - SLC	REVISED
PLOT SCALE = 1:2	DRAWN - LFC	REVISED
PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED

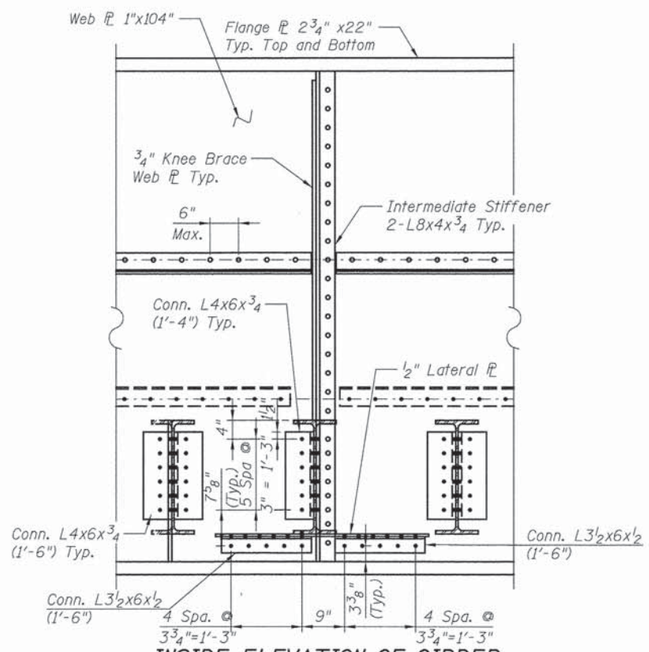
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS-SECTION AND TABLE OF STRESSES
STRUCTURE NO. 049-3006
SHEET NO. S 14 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	242
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

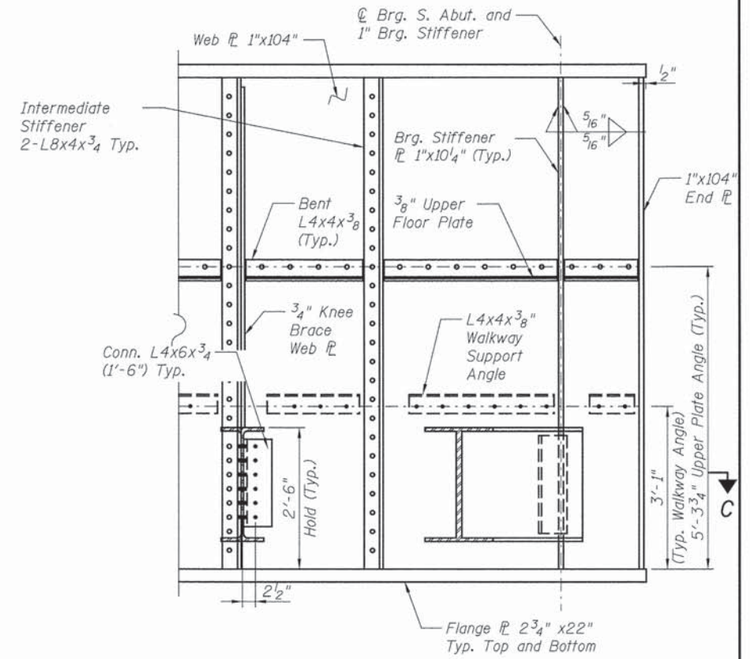
G:\LCDOT\21150_024\Drawings\STRUCT\RRBridge\shts\Typical Section.dgn

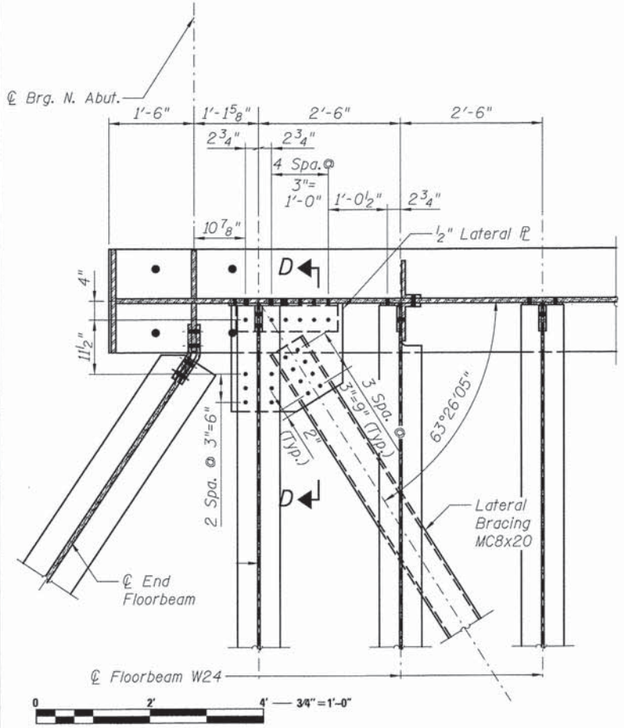


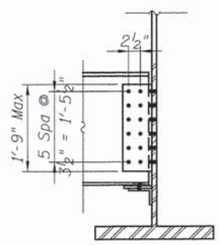


INSIDE ELEVATION OF GIRDER

Scale: 3/4" = 1'-0"

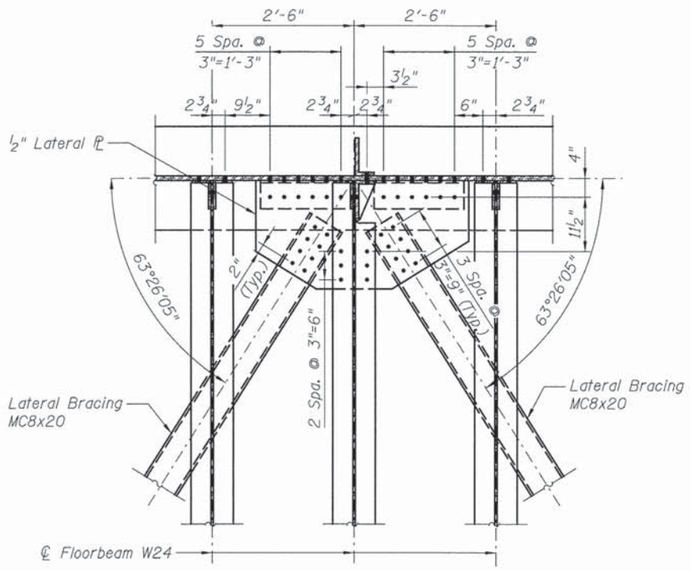






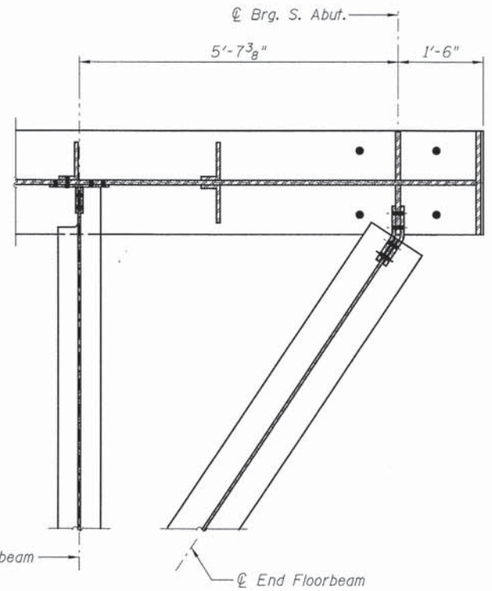
SECTION D-D

Scale: 3/4" = 1'-0"



SECTION C-C

Scale: 3/4" = 1'-0"



Note: All bolt nuts to be placed on inside face of girder

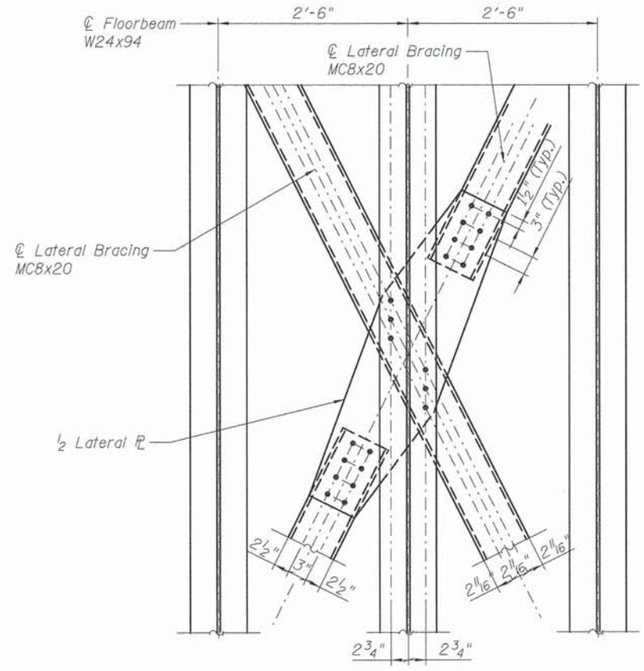
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - RWK	REVISED	
	PLOT CONFIG= PDF(Grey_Large).plt	CHECKED - SLC	REVISED	
	PLOT SCALE = 1:2.0833333	DRAWN - LFC	REVISED	
	PLOT DATE = 7/17/2014	CHECKED - SLC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER DETAILS
STRUCTURE NO. 049-3006
SHEET NO. S 15 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	243
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

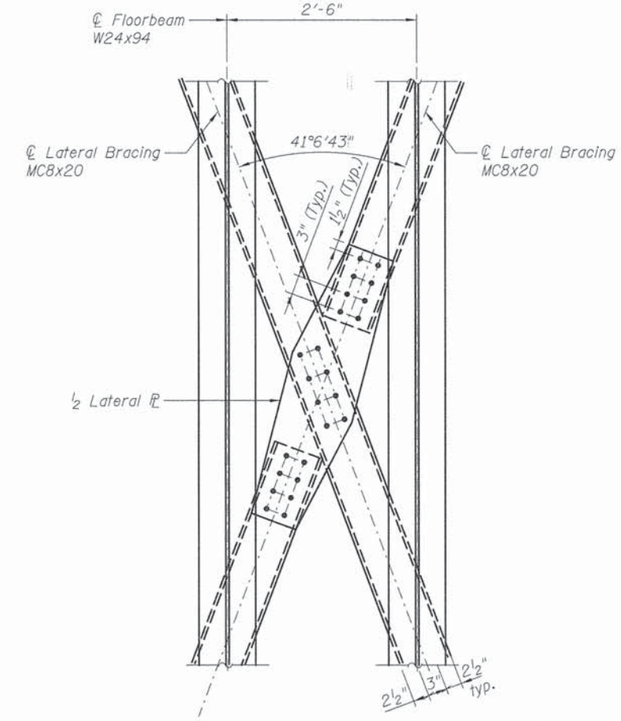
Q:\LCDOT\21150.004\Drawings\STRUCT\RRBridge\shts\Girder Details I.dgn



DETAIL A

LATERAL BRACING DETAILS

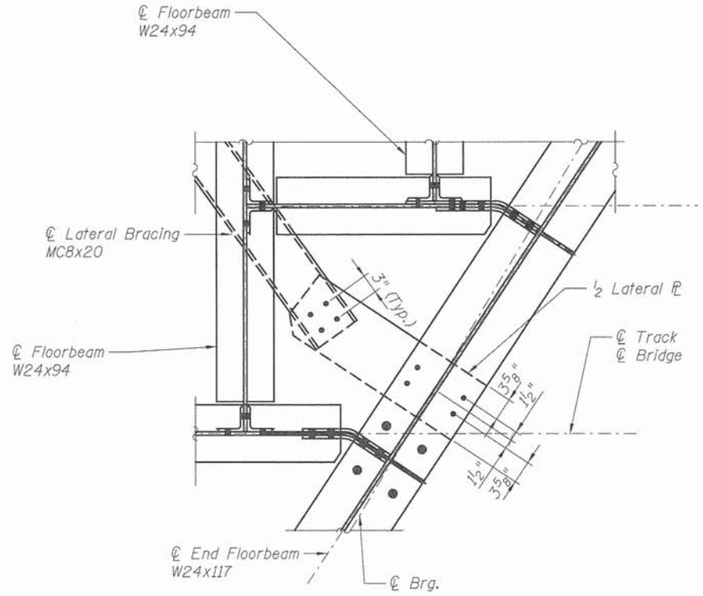
Scale: 1" = 1'-0"



DETAIL B

LATERAL BRACING DETAILS

Scale: 1" = 1'-0"



DETAIL C

Note

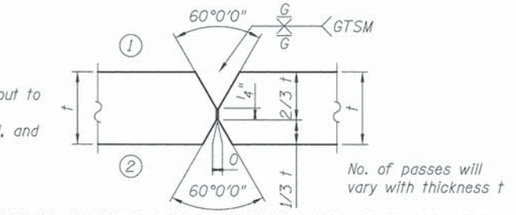
1. See Sheet S-13 of S-27 for Locations of Details A, B, C, D and E.

DETAIL E

Typ. all Floor Beams

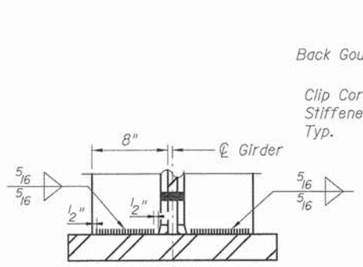
FLANGE TO WEB WELD DETAIL

Scale: N.T.S.



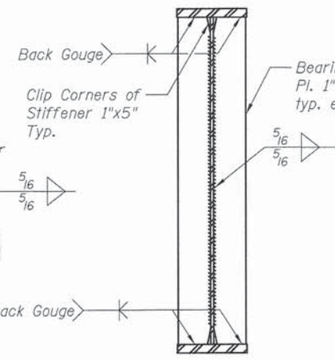
SUBMERGED ARC WELDED JOINTS FOR FLANGE AND WEB PLATE SPLICES

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).



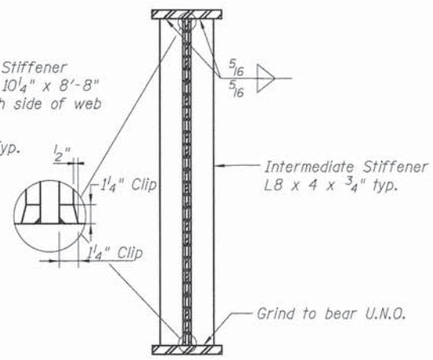
DETAIL D

Scale: 1½" = 1'-0"



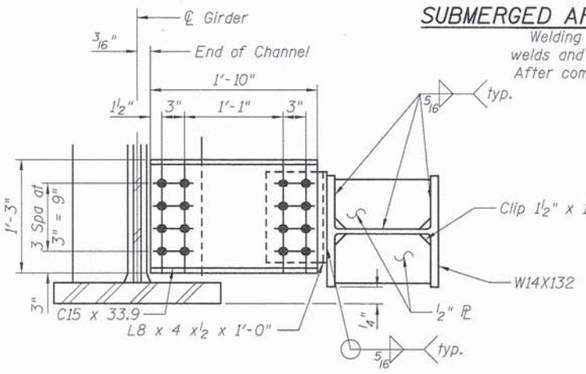
BEARING STIFFENER

Scale: 1" = 1'-0"



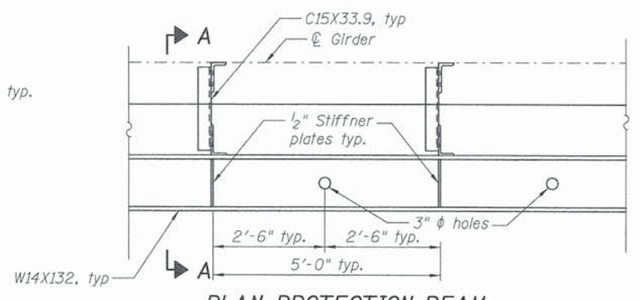
INTERMEDIATE STIFFENER

Scale: 1" = 1'-0"



SECTION A-A

PROTECTION BEAM



PLAN-PROTECTION BEAM

0 2' 4' — 3/4" = 1'-0"

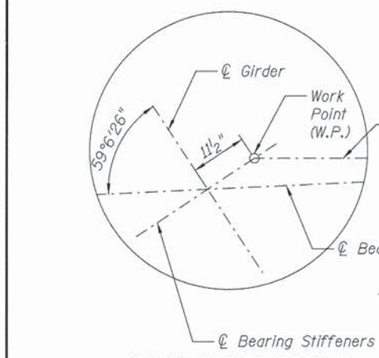
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - LFC	REVISED
	PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - SLC	REVISED
	PLOT SCALE = 1:0.166667	DRAWN - LFC	REVISED
	PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

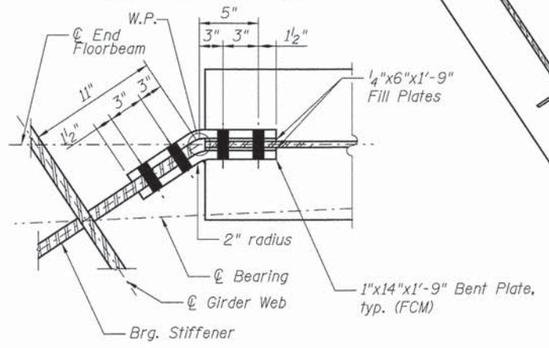
LATERAL BRACING AND MISCELLANEOUS DETAILS
STRUCTURE NO. 049-3006
SHEET NO. S 16 OF 27

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		

G:\LCDOT\21152.024\Drawings\STRUCT\RRBridge\shts\Girder Details III.dgn

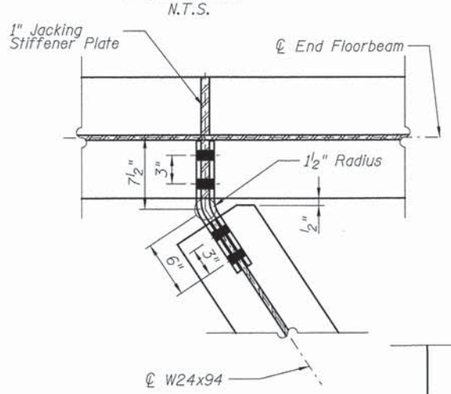


WORK POINT DETAIL



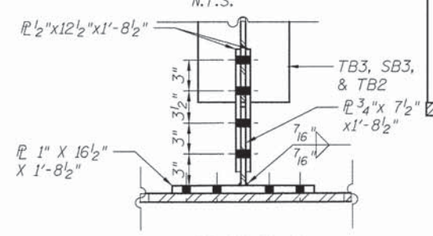
DETAIL A

(1" ϕ H.S. Bolts)
N.T.S.

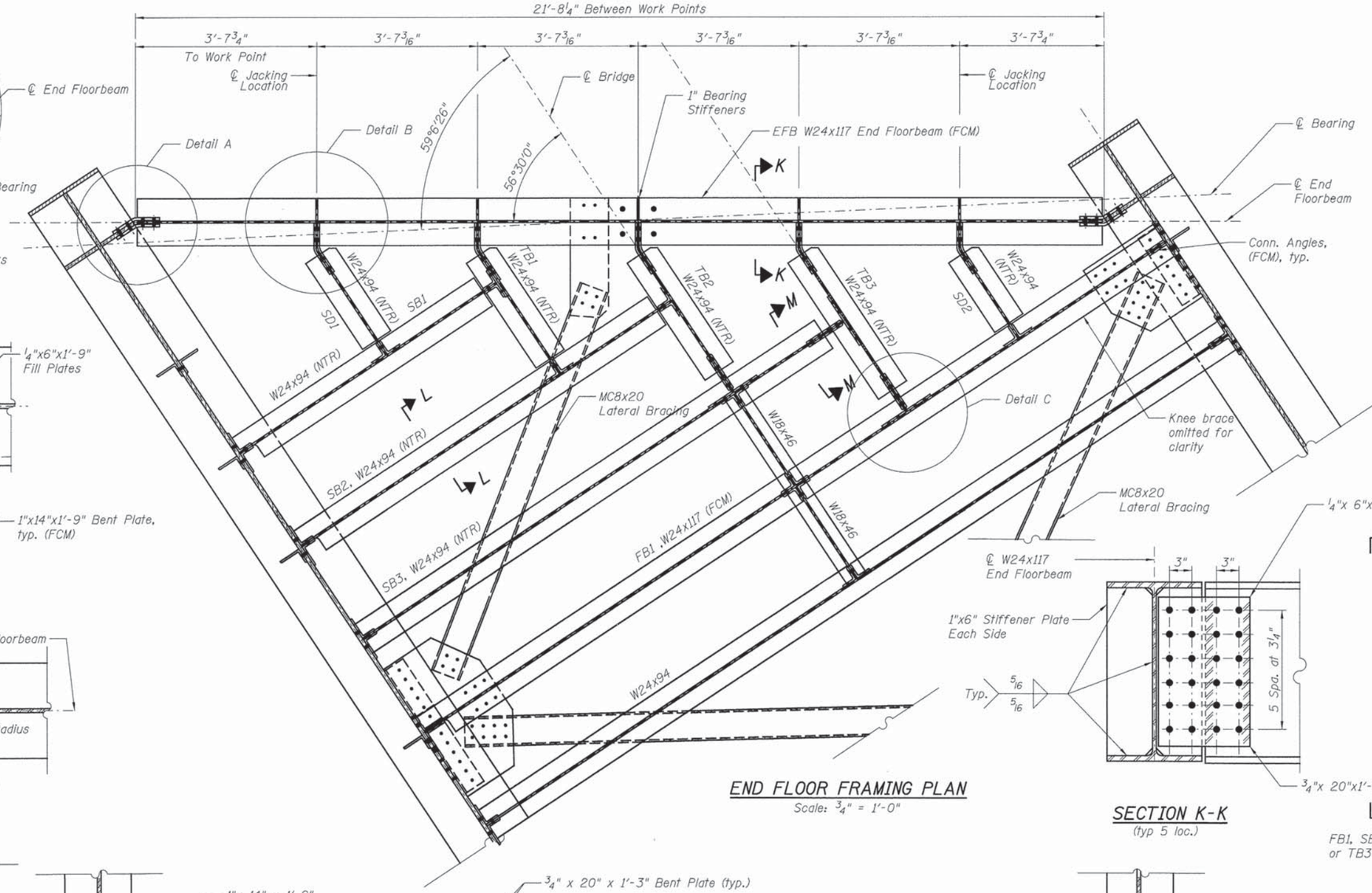


DETAIL B

N.T.S.



DETAIL C

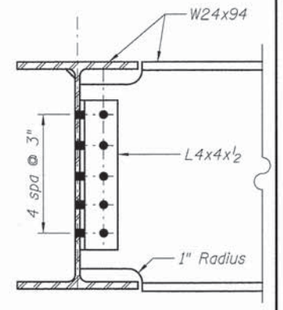


END FLOOR FRAMING PLAN

Scale: ¾" = 1'-0"

Legend

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



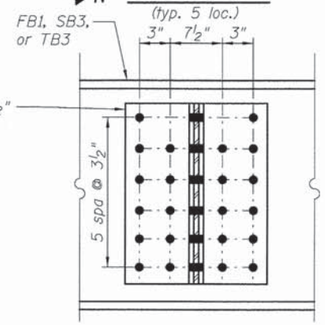
SECTION N-N

SECTION K-K

(typ 5 loc.)

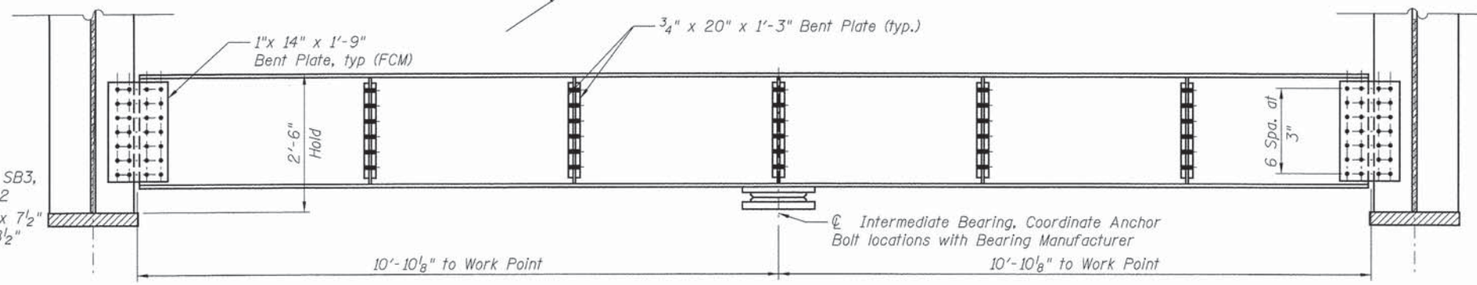
SECTION L-L

(typ. 5 loc.)



SECTION M-M

typ. 3 Loc.

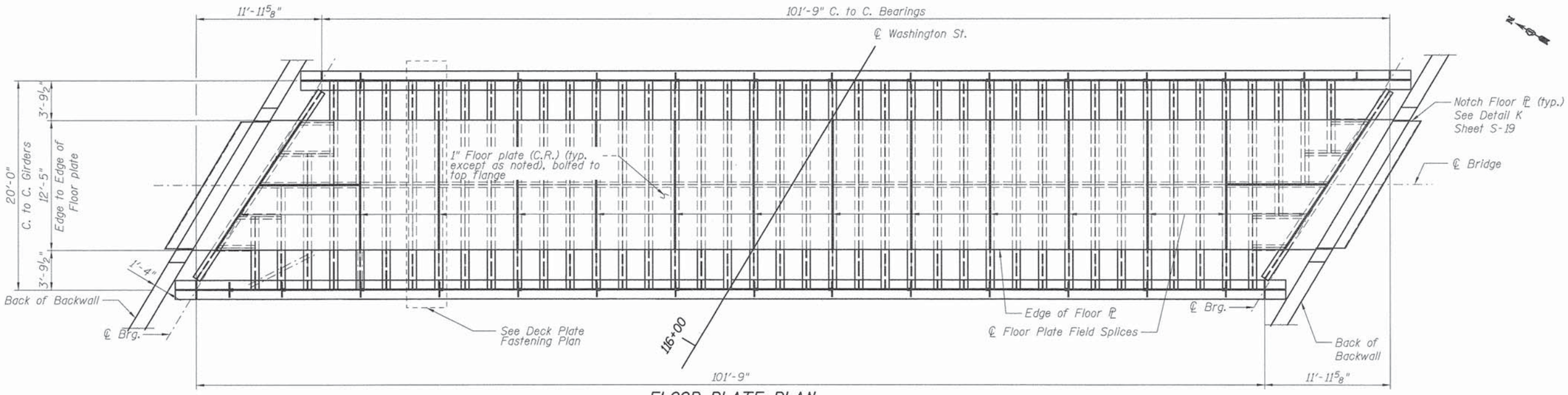


ELEVATION VIEW OF END FLOOR BEAM

Scale: ¾" = 1'-0"

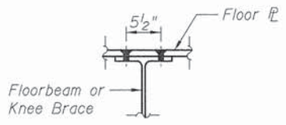
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy.Lisle)	DESIGNED - JRR	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	END FLOOR FRAMING STRUCTURE NO. 049-3006	F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT CONFIG= PDF(Grey_Large).plt	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		

Q:\LCDOT\21150_004\Drawings\STRUCT\RRBridge\shts\End Floorbeam.dgn

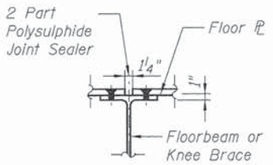


FLOOR PLATE PLAN

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



SECTION A-A



SECTION B-B

0 8' 16' 24' — 1/8"=1'-0"

DECK PLATE FASTENING PLAN

N.T.S.

BALLAST STOP PLATE ELEVATION

Scale: ½" = 1'-0"

JOINT DETAIL AT ABUTMENT

Scale: 1" = 1'-0"

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

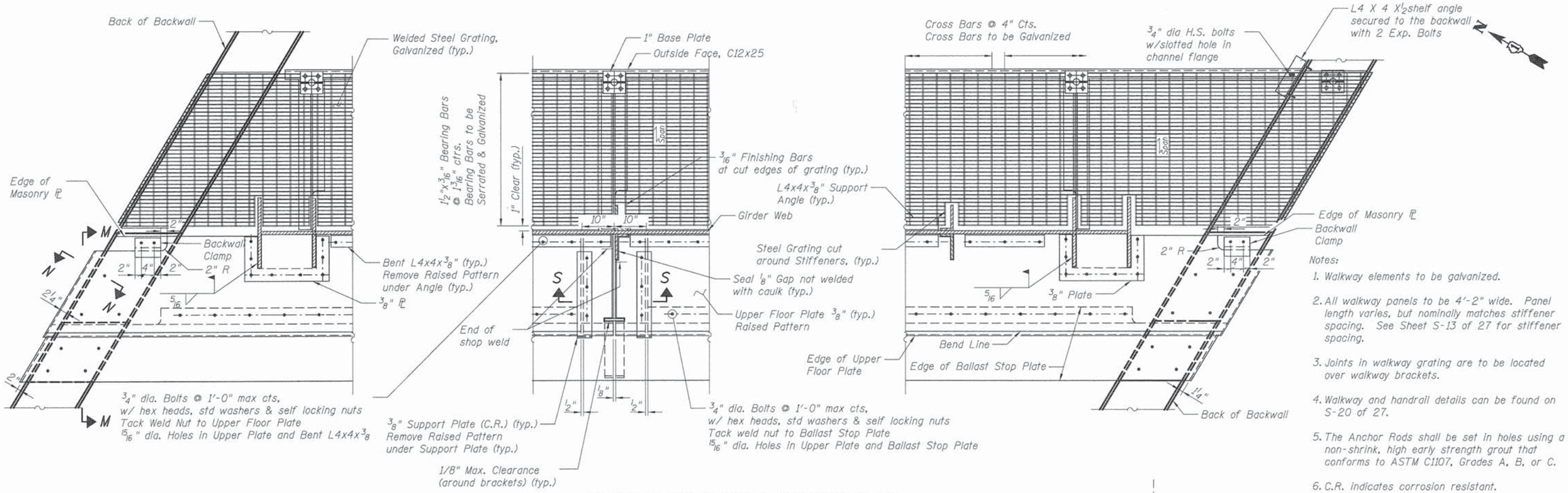
USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - LFC	REVISED	
PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - SLC	REVISED	
PLOT SCALE = 1:16	DRAWN - LFC	REVISED	
PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FLOOR PLATE PLAN AND DETAILS
STRUCTURE NO. 049-3006
SHEET NO. S 18 OF 27

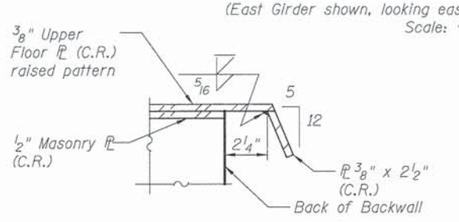
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	246
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

Q:\LCDOT\21152.024\Drawings\STRUCT\RRBridge\shts\Floor Plate Details.dgn



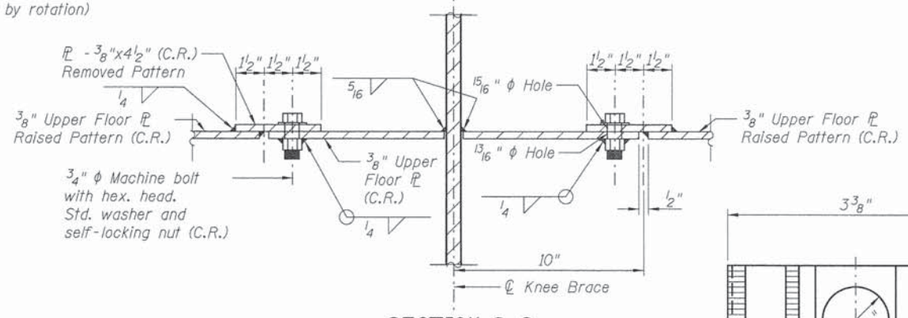
UPPER FLOOR PLATE & WALKWAY PLAN

(East Girder shown, looking east, West Girder similar by rotation)
Scale: 3/4" = 1'-0"



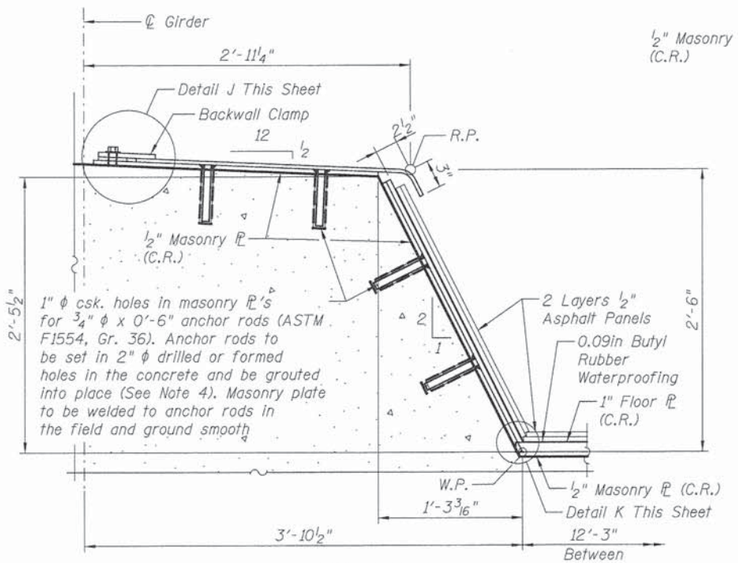
SECTION N-N

Scale: 3" = 1'-0"



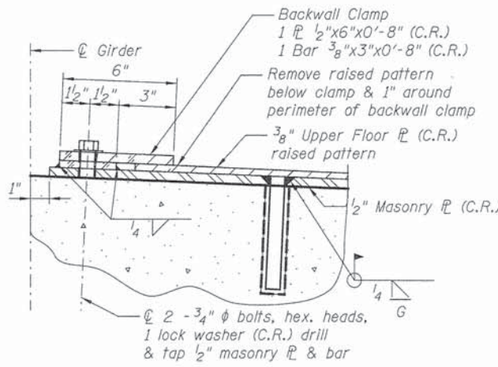
SECTION S-S

Scale: 3" = 1'-0"



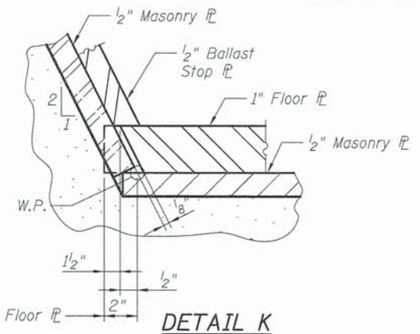
SECTION M-M

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



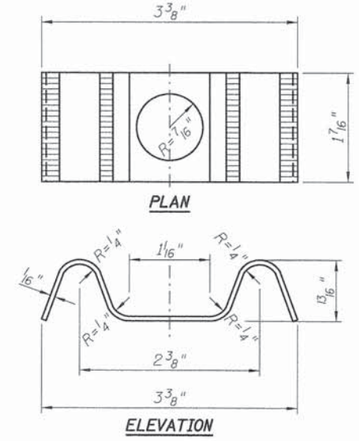
DETAIL J

Scale: 3" = 1'-0"



DETAIL K

N.T.S.



WALKWAY CLIP DETAIL

(7/8" ϕ hole for use with 3/4" ϕ bolt or lag screw, clips available from Fisher & Ludlow)

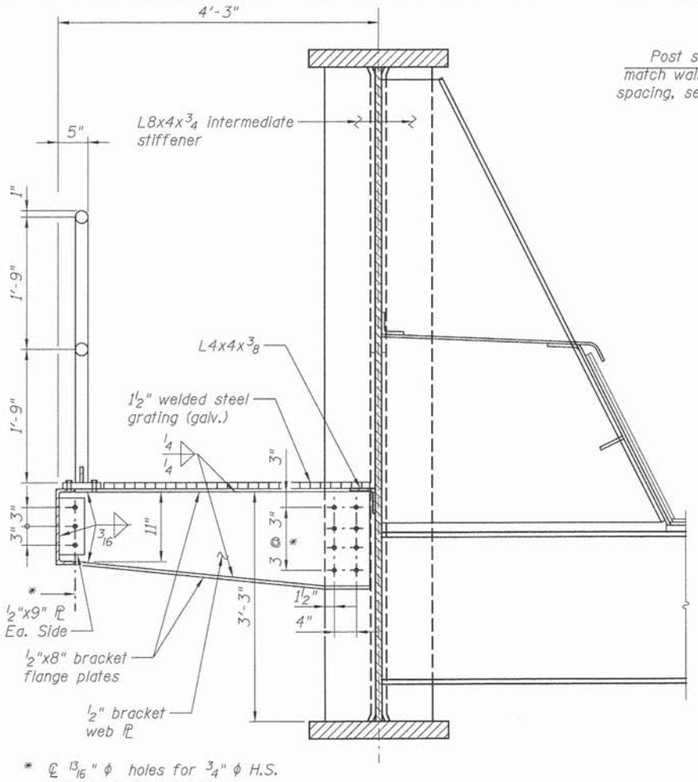
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - DMN	REVISED	
	PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - SLC	REVISED	
	PLOT SCALE = 1:2	DRAWN - DMN	REVISED	
	PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN OF WALKWAY AND UPPER FLOOR PLATE
STRUCTURE NO. 049-3006
SHEET NO. S 19 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	247
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

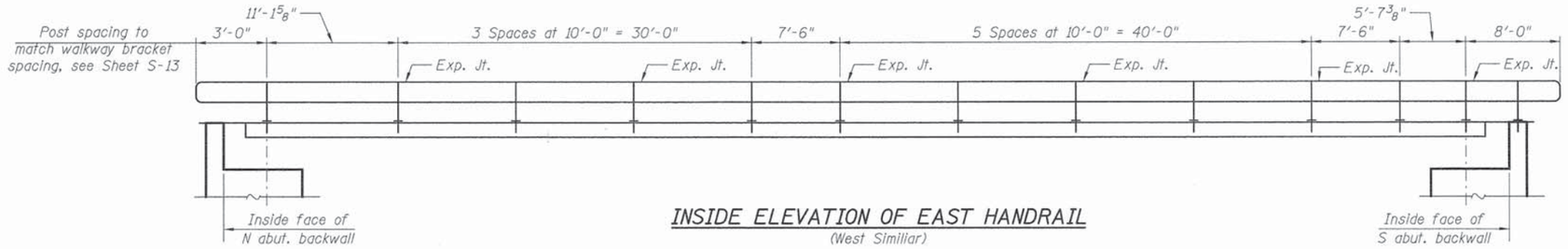
Q:\LCDOT\21150.024\Drawings\STRUCT\RRBridge\shts\Upper Floor Plate Details.dgn



* ℄ 13/16" ϕ holes for 3/4" ϕ H.S. bolts, nuts & washers

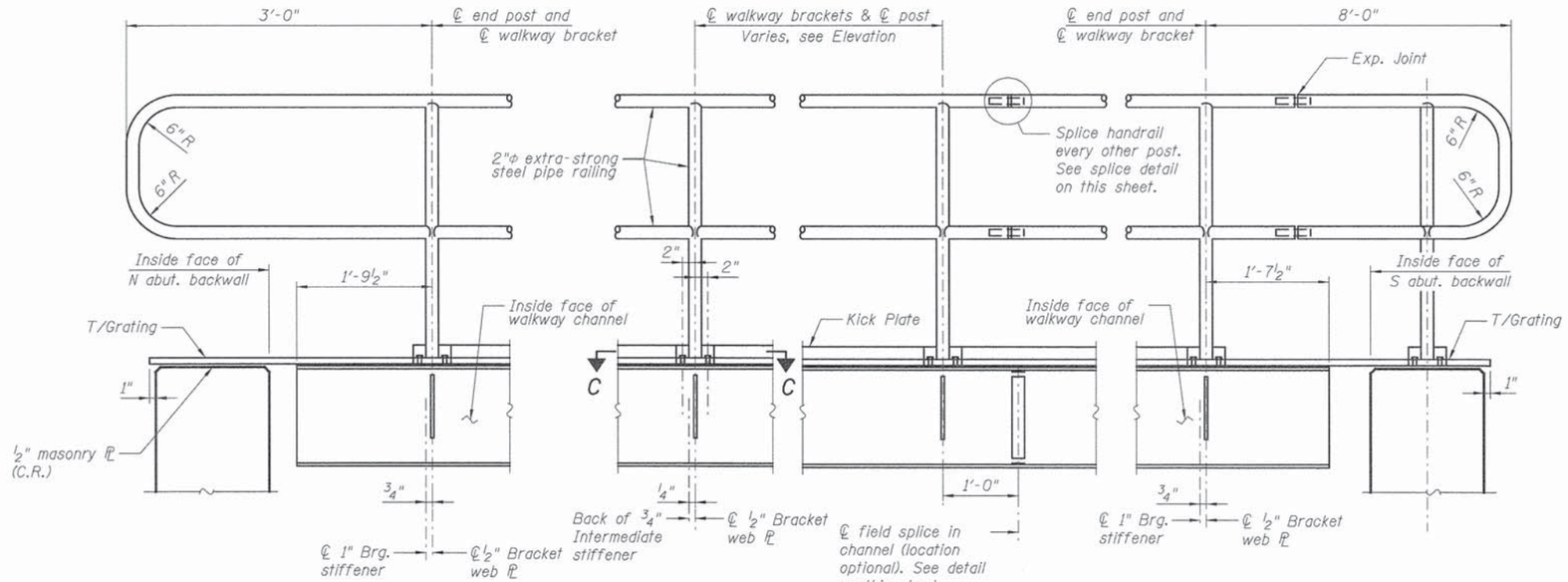
WALKWAY SECTION

Scale: 1" = 1'-0"



INSIDE ELEVATION OF EAST HANDRAIL

(West Similiar)



END POST AT NORTH ABUTMENT

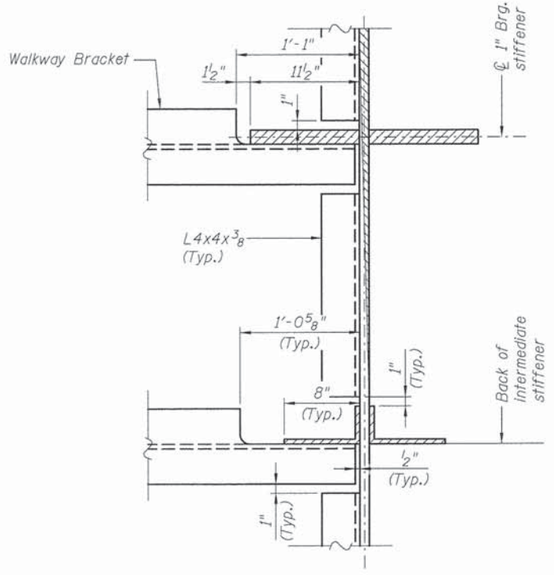
Scale: 1" = 1'-0"

TYPICAL PANEL

Scale: 1" = 1'-0"

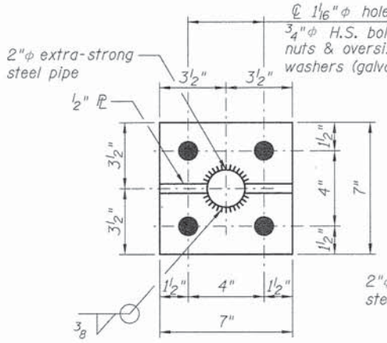
END POST AT SOUTH ABUTMENT

Scale: 1" = 1'-0"



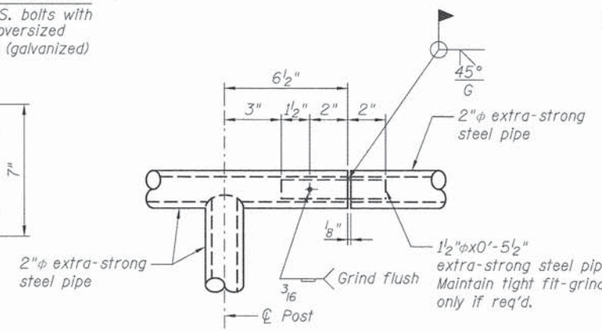
WALKWAY BRACKET PARTIAL PLAN

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



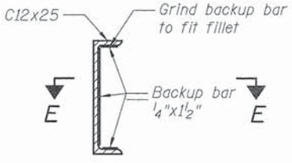
HANDRAIL BASE PLATE

Scale: 3" = 1'-0"



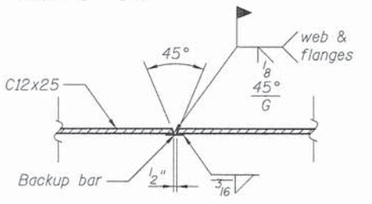
SPLICE DETAIL

Scale: 3" = 1'-0"



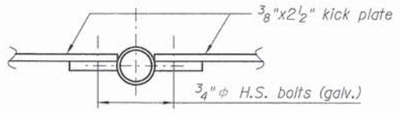
CHANNEL SPLICE

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



SECTION E-E

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



SECTION C-C

Scale: 1 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
PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, IL 60532
patrickengineering.com

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - LFC	REVISED
PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - NS	REVISED
PLOT SCALE = 1:2	DRAWN - NS	REVISED
PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED

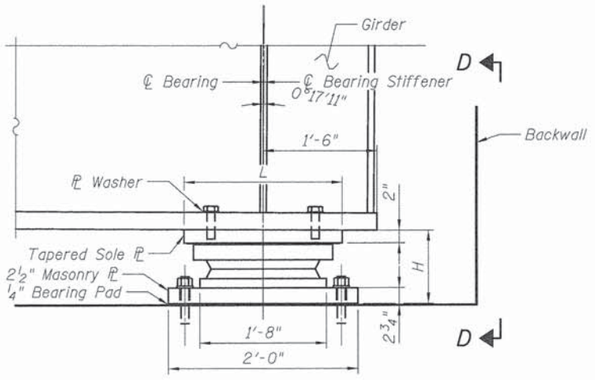
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALKWAY AND HANDRAIL DETAILS
STRUCTURE NO. 049-3006

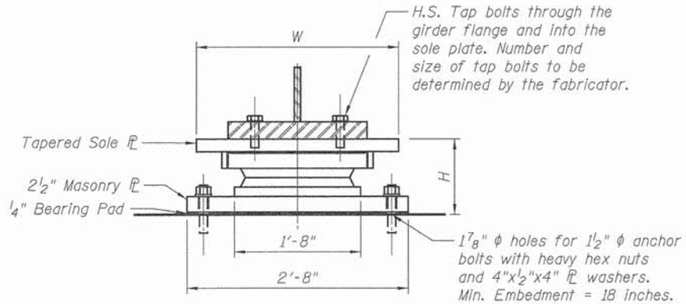
SHEET NO. S 20 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	248
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

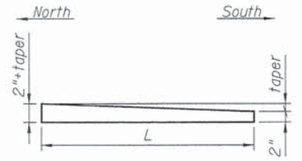
G:\LCDOT\21158.004\Drawings\STRUCT\RRBridge\shts\Walkway.dgn



ELEVATION

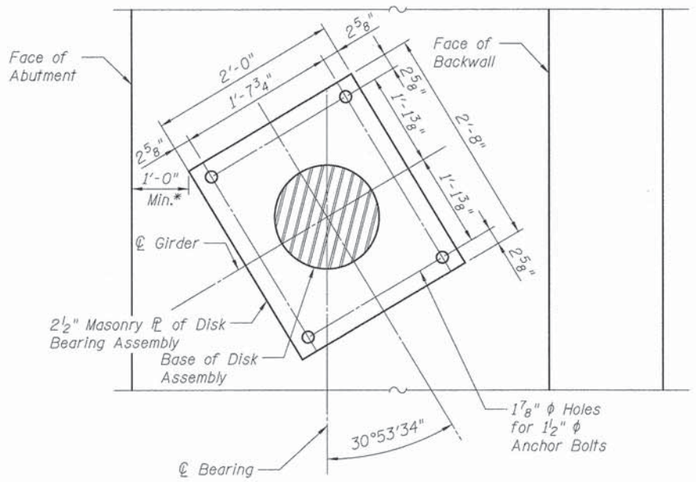


SECTION D-D



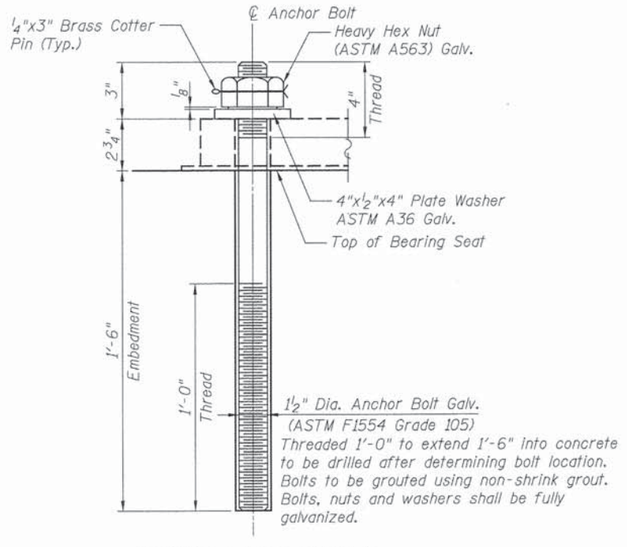
TAPERED SOLE PLATE DETAIL

Brg.	L	W	taper
A	25.00	32.00	1/8"
B	32.00	25.00	3/32"
C	25.00	32.00	1/8"
D	25.00	32.00	1/8"

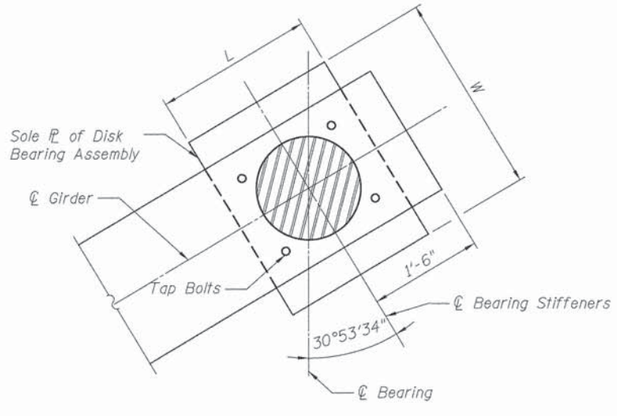


MASONRY PLATE PLAN

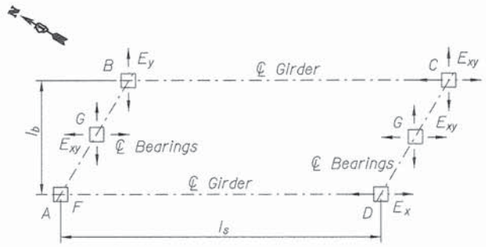
* Minimum clearance to face of abutment may be reduced with written approval from the Engineer and the Railroad. Minimum 1'-0" from effective bearing area shall be maintained.



ANCHOR BOLT DETAIL



SOLE PLATE PLAN



ARRANGEMENT OF BEARINGS

Note: Arrow indicates freedom of movement directions

LEGEND

l_b - Bearing C/C
l_s - Bridge Span
F - Fixed Bearing
E - Expansion Bearing

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	¾" Each Direction	-	11.605"
C	Exp. Long. Exp. Lat.	700	265	1" Each Direction	-	¾" 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	¾" Each Direction	-	¾" Each Direction	-	11.605"

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 1½"		Each	24

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

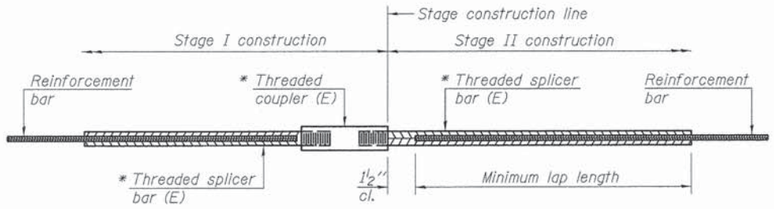
USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - RWK	REVISED	
PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - SLC	REVISED	
PLOT SCALE = 1:2	DRAWN - LFC	REVISED	
PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARINGS
STRUCTURE NO. 049-3006
SHEET NO. S 21 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	249
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

G:\LCDOT\21150.024\Drawings\STRUCT\RRBridge\shts\Bearings.dgn



STANDARD BAR SPLICER ASSEMBLY

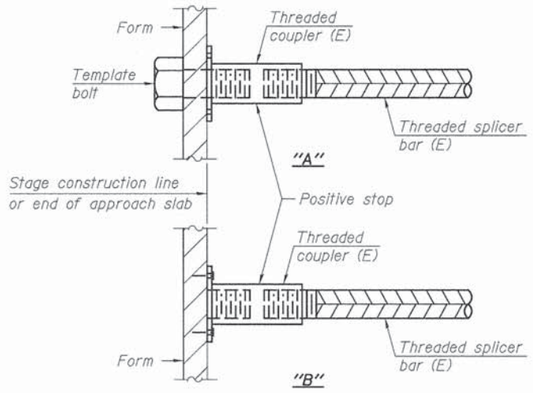
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	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 + 1½" + thread length

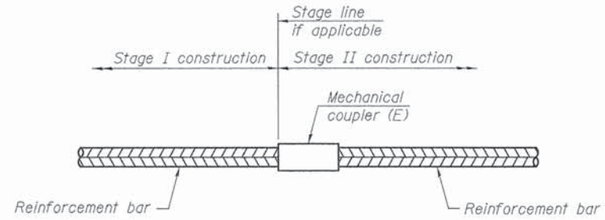
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



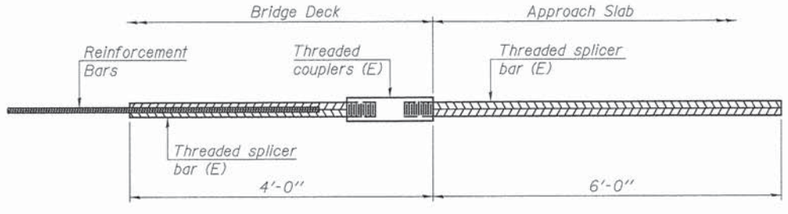
INSTALLATION AND SETTING METHODS

"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.



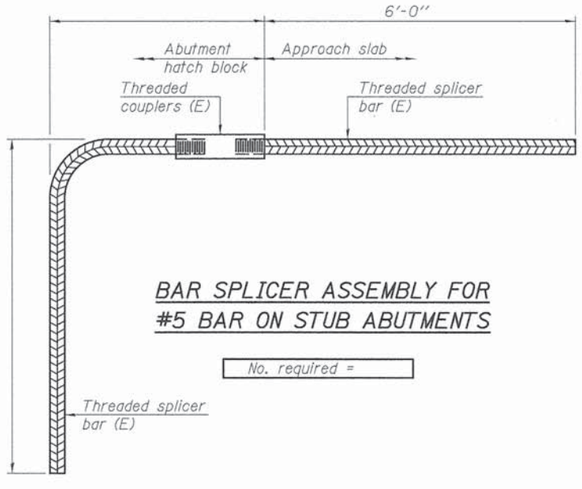
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. 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
PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, IL 60532
patrickengineering.com

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - SLC	REVISED
PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - JRR	REVISED
PLOT SCALE = 1.0.166667	DRAWN - NS	REVISED
PLOT DATE = 7/3/2014	CHECKED - SLC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 049-3006
SHEET NO. S 22 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	250
		CONTRACT NO. 61A63		
		ILLINOIS FED. AID PROJECT		

G:\LCDOT\21152.024\Drawings\STRUCT\RRBridge\shts\Bar Splicer Assembly.dgn

PATRICK ENGINEERING INC.

BORING NUMBER B-2-09 SHEET 1 OF 2
CLIENT Lake County Department of Transportation
PROJECT & NO. 20808.039
LOCATION Grayslake, IL Washington Street

LOGGED BY EAA
GROUND ELEVATION 787.5 STA. 117+25 OFFSET: 35ft R

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
	0.0		Sand and gravel FILL				
786.0	1.5		Dark gray and brown sand, black clay, some gravel, medium stiff, moist FILL	SS-1 1.0-2.5 6"R	20 4 5	0.7	
				SS-2 3.5-5.0 6"R	4 4 4	2.0	qu=2.0*tsf
				SS-3 6.0-7.5 12"R	2 2 2	0.5	qu=0.5*tsf
779.5	8.0		Brown sand and gravel, some clay, wet SP	SS-4 8.5-10.0 10"R	2 3 6		
776.5	11.0		Grades to dark gray silty clay, some sand, medium stiff to stiff, moist	SS-5 11.0-12.5 15"R	4 8 9	17	
775.5	12.0		Dark gray sandy silt, medium dense, moist SM				
			Dark gray clayey silt, medium dense, wet ML	SS-6 13.5-15.0 18"R	7 12 10	33	
771.5	16.0		Dark gray silty clay, trace sand, stiff, moist CL				
				SS-7 18.5-20.0 18"R	3 5 6	11	qu=2.5*tsf
767.5	20.0						

DRILLING CONTRACTOR	Groff Testing Corp.
DRILLING METHOD	4.25" O.D. HSA
DRILLING EQUIPMENT	CME
DRILLING STARTED	7/23/09 ENDED 7/23/09

REMARKS
Temporary piezometer installed. Surface sealed w/bentonite.

WATER LEVEL (ft.)
▽ 23.81 After drilling
▼ 22.79 After 2 hours
▼ 9.31 7/31/09

PATRICK ENGINEERING INC.

BORING NUMBER B-2-09 SHEET 2 OF 2
CLIENT Lake County Department of Transportation
PROJECT & NO. 20808.039
LOCATION Grayslake, IL Washington Street

LOGGED BY EAA
GROUND ELEVATION 787.5 STA. 117+25 OFFSET: 35ft R

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
767.5	20.0		Dark gray silty clay, trace sand, moist CL				
764.7	22.8		▽				
763.7	23.8		▽	SS-8 23.5-25.0 18"R	6 4 3	0.9	
762.5	25.0		End of Boring at 25.0'				

DRILLING CONTRACTOR	Groff Testing Corp.
DRILLING METHOD	4.25" O.D. HSA
DRILLING EQUIPMENT	CME
DRILLING STARTED	7/23/09 ENDED 7/23/09

REMARKS
Temporary piezometer installed. Surface sealed w/bentonite.

WATER LEVEL (ft.)
▽ 23.81 After drilling
▼ 22.79 After 2 hours
▼ 9.31 7/31/09

PATRICK ENGINEERING INC.

BORING NUMBER B-13-10 SHEET 1 OF 3
CLIENT Lake County Department of Transportation
PROJECT & NO. 20808.039
LOCATION Grayslake, IL Washington Street

LOGGED BY JLJ
GROUND ELEVATION 788.5 STA. 115+80 OFFSET: 25ft L

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
788.5	0.0		10" CA-6				
787.7	0.8		Black and brown clayey sand, with medium to coarse sand, stiff, moist FILL	SS-1 1.0-2.5 7"R	3 4 4	1.7	
				SS-2 3.5-5.0 14"R	3 5 4	0.9	qu=1.25**tsf
784.5	4.0		Brown and gray silty clay, with medium sand, stiff to very stiff, moist CL	SS-3 6.0-7.5 20"R	5 7 12		qu=2.85**tsf
				SS-4 8.5-10.0 22"R	5 8 9	1.7	qu=4.17**tsf
				SS-5 11.0-12.5 24"R	4 6 9	1.7	qu=4.0*tsf
774.5	14.0		Gray silt, with clay, medium dense, moist ML A-4	SS-6 13.5-15.0 20"R	3 5 6	2.0	% Silt=86.8 % Clay=13.1 % Sand=0.2
770.5	18.0		Gray silty clay, with medium sand, very stiff CL Trace gray clay	SS-7 18.5-20.0 20"R	5 7 10	2.0	
768.5	20.0						

DRILLING CONTRACTOR	Groff Testing Corp.
DRILLING METHOD	2.25" I.D. HSA
DRILLING EQUIPMENT	LC-60
DRILLING STARTED	12/16/10 ENDED 12/16/10

REMARKS
Borehole backfilled with soil cuttings.

WATER LEVEL (ft.)
▽ Dry
▼ Dry
▼

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

USER NAME = tkoeppen\Rdwy_Lisle\	DESIGNED - DE	REVISED
PLOT CONFIG= PDF\Gray_Small\plt	CHECKED - MDB	REVISED
PLOT SCALE = 1:2	DRAWN - SMC/EJB	REVISED
PLOT DATE = 7/3/2014	CHECKED - MDB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL BORING LOG I
STRUCTURE NO. 049-3006
SHEET NO. S 23 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	251
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

G:\LCDOT\21150.004\Drawings\STRUCT\RRBridge\shts\Soil Boring 1.dgn

PATRICK ENGINEERING INC.

BORING NUMBER B-13-10 SHEET 2 OF 3
CLIENT Lake County Department of Transportation
PROJECT & NO. 20808.039
LOCATION Grayslake, IL Washington Street

LOGGED BY JLJ
GROUND ELEVATION 788.5 STA. 115+80 OFFSET: 25ft R

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 LL 40 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
758.5	30.0		Gray silty clay, trace sand, very stiff CL				
				SS-8 23.5-25.0 24"R	3 3 3		qu=2.64**tsf
				SS-9 28.5-30.0 24"R	3 4 6		qu=3.30**tsf
				SS-10 33.5-35.0 24"R	5 7 10		qu=1.61**tsf
			Trace fine gravel	SS-11 38.5-40.0 24"R	3 5 7		qu=1.85**tsf

DRILLING CONTRACTOR Groff Testing Corp.
DRILLING METHOD 2.25" I.D. HSA
DRILLING EQUIPMENT LC-60
DRILLING STARTED 12/16/10 ENDED 12/16/10

REMARKS: Borehole backfilled with soil cuttings.

WATER LEVEL (ft.)
▽ Dry
▼ Dry

PATRICK ENGINEERING INC.

BORING NUMBER B-13-10 SHEET 3 OF 3
CLIENT Lake County Department of Transportation
PROJECT & NO. 20808.039
LOCATION Grayslake, IL Washington Street

LOGGED BY JLJ
GROUND ELEVATION 788.5 STA. 115+80 OFFSET: 25ft R

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 LL 40 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
748.5	40.0		Gray silty clay, trace sand, very stiff CL				
				SS-12 43.5-45.0 20"R	4 6 9		qu=3.92**tsf 58.12 tons
			Trace coarse sand	SS-13 48.5-50.0 22"R	6 9 12		qu=3.59**tsf 84.12 tons
				SS-14 53.5-55.0 18"R	5 8 9		qu=3.34**tsf 88.5 tons
			End of Boring at 60.0'	SS-15 58.5-60.0	3 5 7		qu=2.47**tsf 59.34 tons
728.5	60.0						

DRILLING CONTRACTOR Groff Testing Corp.
DRILLING METHOD 2.25" I.D. HSA
DRILLING EQUIPMENT LC-60
DRILLING STARTED 12/16/10 ENDED 12/16/10

REMARKS: Borehole backfilled with soil cuttings.

WATER LEVEL (ft.)
▽ Dry
▼ Dry

PATRICK ENGINEERING INC.

BORING NUMBER B-14-10 SHEET 1 OF 5
CLIENT Lake County Department of Transportation
PROJECT & NO. 20808.039
LOCATION Grayslake, IL Washington Street

LOGGED BY JLJ
GROUND ELEVATION 788.0 STA. 116+70 OFFSET: 25ft R

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 LL 40 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
788.0	0.0		10" CA-6				
787.2	0.8		Black sandy topsoil, trace fine gravel, moist FILL	SS-1 1.0-2.5 11"R	3 4 3		
784.0	4.0		Brown silty clay, trace medium sand, stiff, moist CL	SS-2 3.5-5.0 16"R	3 4 2		qu=1.69**tsf
				SS-3 6.0-7.5 16"R	4 3 3		
				SS-4 8.5-10.0 21"R	4 4 7		qu=2.14**tsf
777.5	10.5		Gray silty clay, with medium sand, trace fine gravel, stiff, moist CL	SS-5 11.0-12.5 21"R	3 3 5		qu=1.44**tsf
775.0	13.0		Gray silt, trace sand, medium dense, moist ML	SS-6 13.5-15.0 19"R	4 6 10		
769.0	19.0			SS-7 18.5-20.0 20"R	2 3 4		qu=2.08**tsf LL=25 PI=11
768.0	20.0		Gray silty clay, with medium sand, trace gravel, stiff, moist				

DRILLING CONTRACTOR Groff Testing Corp.
DRILLING METHOD 2.25" I.D. HSA
DRILLING EQUIPMENT LC-60
DRILLING STARTED 12/15/10 ENDED 12/15/10

REMARKS: Borehole backfilled with soil cuttings.

WATER LEVEL (ft.)
▽ 69.0' While drilling
▼ 66.5' After drilling

PATRICK ENGINEERING INC.

BORING NUMBER B-14-10 SHEET 2 OF 5
CLIENT Lake County Department of Transportation
PROJECT & NO. 20808.039
LOCATION Grayslake, IL Washington Street

LOGGED BY JLJ
GROUND ELEVATION 788.0 STA. 116+70 OFFSET: 25ft R

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
788.0	30.0		A-6 CL Gray silty clay, trace medium sand, stiff, moist CL				
				SS-8 23.5-25.0 24"R	3 3 5		qu=1.98**tsf
				SS-9 28.5-30.0 24"R	3 3 5		qu=1.81**tsf
				SS-10 33.5-35.0 24"R	3 3 4		qu=0.91**tsf
748.0	40.0		Sand seam	SS-11 38.5-40.0 24"R	3 4 5		qu=1.69**tsf

DRILLING CONTRACTOR	Groff Testing Corp.	REMARKS	WATER LEVEL (ft.)
DRILLING METHOD	2.25" I.D. HSA	Borehole backfilled with soil cuttings.	▽ 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-14-10 SHEET 3 OF 5
CLIENT Lake County Department of Transportation
PROJECT & NO. 20808.039
LOCATION Grayslake, IL Washington Street

LOGGED BY JLJ
GROUND ELEVATION 788.0 STA. 116+70 OFFSET: 25ft R

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
748.0	40.0		Gray silty clay, trace medium sand, very stiff, moist CL				
			Gray silty clay, trace medium sand, very stiff, moist CL				
			Trace coarse sand, very stiff	SS-12 43.5-45.0 20"R	4 6 10		qu=3.55**tsf 55.12 tons
				SS-13 48.5-50.0 22"R	4 5 12		qu=2.66**tsf 49.94 tons
				SS-14 53.5-55.0 22"R	4 7 9		qu=3.18**tsf 62.93 tons
				SS-15 58.5-60.0 18"R	6 7 10		qu=3.05**tsf 68.33 tons

DRILLING CONTRACTOR	Groff Testing Corp.	REMARKS	WATER LEVEL (ft.)
DRILLING METHOD	2.25" I.D. HSA	Borehole backfilled with soil cuttings.	▽ 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-14-10 SHEET 4 OF 5
CLIENT Lake County Department of Transportation
PROJECT & NO. 20808.039
LOCATION Grayslake, IL Washington Street

LOGGED BY JLJ
GROUND ELEVATION 788.0 STA. 116+70 OFFSET: 25ft R

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
728.0	60.0		Gray silty clay, trace medium sand, very stiff, moist CL	SS-16 63.5-65.0 22"R	6 9 10		qu=2.39**tsf
718.0	70.0		Brown fine sand, medium dense, wet SP	SS-17 68.5-70.0 20"R	9 8 17		
718.0	72.0		Gray silty clay, trace coarse sand with medium sand, very stiff, moist CL	SS-18 73.5-75.0 20"R	5 5 4		qu=3.01**tsf
708.0	80.0			SS-19 78.5-80.0	5 7 12		qu=3.09**tsf

DRILLING CONTRACTOR	Groff Testing Corp.	REMARKS	WATER LEVEL (ft.)
DRILLING METHOD	2.25" I.D. HSA	Borehole backfilled with soil cuttings.	▽ 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-14-10 SHEET 5 OF 5
CLIENT Lake County Department of Transportation
PROJECT & NO. 20808.039
LOCATION Grayslake, IL Washington Street

LOGGED BY JLJ
GROUND ELEVATION 788.0 STA. 116+70 OFFSET: 25ft R

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL LL / Unconfined Compressive Strength (TSF)	NOTES & TEST RESULTS
708.0	80.0		End of Boring at 80.0'				

DRILLING CONTRACTOR Groff Testing Corp.
DRILLING METHOD 2.25" I.D. HSA
DRILLING EQUIPMENT LC-60
DRILLING STARTED 12/15/10 ENDED 12/15/10

REMARKS
Borehole backfilled with soil cuttings.

WATER LEVEL (ft.)
▽ 69.0' While drilling
▼ 66.5' After drilling

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
GROUND ELEVATION 788.5 STA. 116+30 OFFSET: 30ft L

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL LL / Unconfined Compressive Strength (TSF)	NOTES & TEST RESULTS
788.5	0.0		Stiff black topsoil				
				SS-1 1.0-2.5 7"R	3 4 5	21	
785.5	3.0		Brown and gray silty clay, some medium sand, trace coarse sand, fine gravel, medium stiff, moist CL	SS-2 3.5-5.0 1"R	3 3 3	19	Pounded spoon twice. Very low recovery.
				SS-3 6.0-7.5 14"R	2 2 3	14 27	qu=2.0*tsf
781.5	7.0		Brown and gray silt, wet ML				
780.5	8.0		Brown and gray silty clay, trace medium sand, and occasional silt seams, stiff, moist CL	SS-4 8.5-10.0 13"R	3 4 6	17 10	qu=1.0*tsf qu=4.5*tsf
779.0	9.5		Gray silty clay, trace medium to coarse sand, and trace fine gravel, very stiff, moist CL				
778.0	10.5		Gray silt, little clay, medium dense, wet ML	SS-5 11.0-12.5 15"R	4 5 8	22	qu=2.0*tsf % Silt=81.7 % Clay=17.8 % Sand=0.5
				SS-6 13.5-15.0 15"R	4 5 6	19	qu=3.5*tsf
773.9	14.6		Gray silty clay, trace medium sand, with silt seams, very stiff, moist CL				
				SS-7 18.5-20.0 15"R	2 4 5	15	qu=3.0*tsf qu=3.1**tsf

DRILLING CONTRACTOR Groff Testing
DRILLING METHOD 3.25" I.D. HSA
DRILLING EQUIPMENT CME 75
DRILLING STARTED 11/7/11 ENDED 11/7/11

REMARKS
Borehole backfilled with spoils upon completion.

WATER LEVEL (ft.)
▽ 84.0' while drilling
▼

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
GROUND ELEVATION 788.5 STA. 116+30 OFFSET: 30ft L

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL LL / Unconfined Compressive Strength (TSF)	NOTES & TEST RESULTS
768.5	20.0		Gray silty clay, trace medium sand, with silt seams, very stiff, moist CL				
766.0	22.5		Gray silty clay, trace medium sand, very stiff, moist CL	SS-8 23.5-25.0 18"R	2 3 3	13	qu=1.5*tsf qu=1.65**tsf
				SS-9 28.5-30.0 18"R	2 4 5	16	qu=1.5*tsf qu=2.11**tsf
				SS-10 33.5-35.0 18"R	2 4 5	18	qu=1.5*tsf qu=2.27**tsf
			Trace fine gravel	SS-11 38.5-40.0 18"R	2 4 5	16	qu=2.5*tsf Dry Density=110pcf

DRILLING CONTRACTOR Groff Testing
DRILLING METHOD 3.25" I.D. HSA
DRILLING EQUIPMENT CME 75
DRILLING STARTED 11/7/11 ENDED 11/7/11

REMARKS
Borehole backfilled with spoils upon completion.

WATER LEVEL (ft.)
▽ 84.0' while drilling
▼

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - DE	REVISED	
PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - MDB	REVISED	
PLOT SCALE = 1:2	DRAWN - SMC/EJB	REVISED	
PLOT DATE = 7/3/2014	CHECKED - MDB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL BORING LOG IV
STRUCTURE NO. 049-3006
SHEET NO. S 26 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	254
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

Q:\LCDOT\21150.004\Drawings\STRUCT\RRBridge\shts\Soil Boring 4.dgn

PATRICK ENGINEERING INC.

BORING NUMBER B-21-11 SHEET 3 OF 5
CLIENT Lake County DOT
PROJECT & NO. Washington Street Phase II 21150.004
LOCATION

LOGGED BY JLJ
GROUND ELEVATION 788.5 STA. 116+30 OFFSET: 30ft L

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL LL / Unconfined Compressive Strength (TSF)	NOTES & TEST RESULTS
748.5	40.0		Gray silty clay, trace medium sand, stiff, moist CL				
746.7	41.8		Gray silty clay, some medium sand, trace fine gravel, very stiff, moist CL	SS-12 43.5-45.0 11"R	3 5 7	18	qu=3.5*tsf qu=4.88**tsf
742.0	46.5		Gray silty clay, trace fine gravel, very stiff, moist	SS-13 48.5-50.0 18"R	3 4 5	19	qu=1.5*tsf qu=2.16**tsf LL=32 PI=16
			Trace medium sand, no fine gravel	SS-14 53.5-55.0 18"R	2 3 6	18	qu=1.5*tsf qu=2.48**tsf
				SS-15 58.5-60.0 18"R	3 4 6	17	qu=2.75*tsf qu=3.72**tsf

DRILLING CONTRACTOR	Groff Testing
DRILLING METHOD	3.25" I.D. HSA
DRILLING EQUIPMENT	CME 75
DRILLING STARTED 11/7/11	ENDED 11/7/11

REMARKS
Borehole backfilled with spoils upon completion.

WATER LEVEL (ft.)
▽ 84.0' while drilling

PATRICK ENGINEERING INC.

BORING NUMBER B-21-11 SHEET 4 OF 5
CLIENT Lake County DOT
PROJECT & NO. Washington Street Phase II 21150.004
LOCATION

LOGGED BY JLJ
GROUND ELEVATION 788.5 STA. 116+30 OFFSET: 30ft L

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL LL / Unconfined Compressive Strength (T&F)	NOTES & TEST RESULTS
728.5	60.0		Gray silty clay, trace fine gravel, very stiff, moist				
726.0	62.5		Gray silty clay, trace medium to coarse sand, very stiff, moist CL	SS-16 63.5-65.0 18"R	4 5 9	15	qu=2.5*tsf qu=2.52**tsf
			Hard	SS-17 68.5-70.0 18"R	5 9 12	15	qu=4.5*tsf qu=5.21**tsf
			Medium stiff	SS-18 73.5-75.0 18"R	WOH 3 7	17	qu=1.0*tsf Dry Density=114.7pcf
708.5	80.0			SS-19 78.5-80.0 18"R	3 5 8	18	qu=3.5*tsf qu=2.46**tsf

DRILLING CONTRACTOR	Groff Testing
DRILLING METHOD	3.25" I.D. HSA
DRILLING EQUIPMENT	CME 75
DRILLING STARTED 11/7/11	ENDED 11/7/11

REMARKS
Borehole backfilled with spoils upon completion.

WATER LEVEL (ft.)
▽ 84.0' while drilling

PATRICK ENGINEERING INC.

BORING NUMBER B-21-11 SHEET 5 OF 5
CLIENT Lake County DOT
PROJECT & NO. Washington Street Phase II 21150.004
LOCATION

LOGGED BY JLJ
GROUND ELEVATION 788.5 STA. 116+30 OFFSET: 30ft L

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL LL / Unconfined Compressive Strength (TSF)	NOTES & TEST RESULTS
708.5	80.0		Gray silty clay, trace medium sand, very stiff to hard, moist CL				
				SS-20 83.5-85.0 18"R	5 6 9	15	qu=3.5*tsf qu=3.39**tsf
				SS-21 88.5-90.0 18"R	5 9 14	15	qu=4.0*tsf qu=4.01**tsf
				SS-22 93.5-95.0 18"R	6 8 13	14	qu>4.5*tsf qu=4.75**tsf
688.5	100.0		End of Boring at 100.0'	SS-23 98.5-100.0 18"R	7 15 16	14	qu>4.5*tsf qu=6.36**tsf

DRILLING CONTRACTOR	Groff Testing
DRILLING METHOD	3.25" I.D. HSA
DRILLING EQUIPMENT	CME 75
DRILLING STARTED 11/7/11	ENDED 11/7/11

REMARKS
Borehole backfilled with spoils upon completion.

WATER LEVEL (ft.)
▽ 84.0' while drilling

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

USER NAME = thoeppner(Rdwy_Lisle)	DESIGNED - DE	REVISED	
PLOT CONFIG= PDF(Grey_Small).plt	CHECKED - MDB	REVISED	
PLOT SCALE = 1:2	DRAWN - SMC/EJB	REVISED	
PLOT DATE = 7/3/2014	CHECKED - MDB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL BORING LOG V
STRUCTURE NO. 049-3006
SHEET NO. S 27 OF 27

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	255
		CONTRACT NO. 61A63		
	ILLINOIS FED. AID PROJECT			

Q:\LCDOT\21150_004\Drawings\STRUCT\RRBridge\shts\Soil Boring 5.dgn

NOTES:

1. BALLAST TO BE GRADED LEVEL TO 1-INCH BELOW BOTTOM OF TIE BY CONTRACTOR PRIOR TO EACH TRACK REALIGNMENT.

2. 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.

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

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

USER NAME = MVanWest(Rail)	DESIGNED - JGG/KEK	REVISED - 10/07/2014	
PLOT CONFIG = PDFIGrey_Large).plt	DRAWN - JGG/KEK	REVISED -	
PLOT SCALE = 1:50.0001	CHECKED - SPH	REVISED -	
PLOT DATE = 10/7/2014 2:16:52 PM	DATE - 6/30/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

SCALE: SHEET NO. RR 1 OF 54 STA. 2452+00 TO STA. 2437+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	256
				61A63

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

G:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt_Plan_Profile_Sheets.dgn

MATCHLINE STA. 2467+00

MATCHLINE STA. 2452+00

TEMPORARY CONSTRUCTION EASEMENT

PRO. STAGING LOCATION FOR MATERIALS AND CONTRACTOR TURNAROUND

LIMITS OF CONSTRUCTION FOR TEMPORARY SHOOFLY

TEMPORARY CONSTRUCTION EASEMENT

WCL STA. 2465+97.76 END TEMP CONSTRUCTION EASEMENT

301.4ft

763.1ft

METRA WASHINGTON STREET - GRAYSLAKE STATION

CL FUTURE SECOND WCL MAIN TRACK

WCL R.O.W.

PRO. 12' TEMP FENCE WCL R.O.W.

EX. METRA PLATFORM

METRA TEMPORARY PLATFORM (380')

CL EXISTING AND PROPOSED WCL MAIN TRACK

CL EXISTING WISCONSIN CENTRAL LIMITED (WCL) MAIN TRACK

PROPOSED 48-FT TEMPORARY RUBBER CROSSING

CL. WCL RAILWAY STA. 2455+14.83

CL. RDWY. RUN AROUND. STA. 23+93.83

REMOVE EX. MAIN TRACK WITHIN THE LIMITS OF BRIDGE CONSTRUCTION

CL TEMPORARY ROADWAY RUN-AROUND

CL. WCL RAILWAY STA. 2453+75.00

CL. WASHINGTON ST. STA. 116+23.24

CL. WCL SHOOFLY STA. 13+66.35

CL. RDWY. RUN AROUND. STA. 24+52.10

TEMPORARY CROSSING GATES INSTALLED BY WCL (TYP.)

PROPOSED 48-FT TEMPORARY RUBBER CROSSING

PROPOSED BRIDGE

WASHINGTON STREET

TO WISCONSIN

TO GRAYSLAKE

WETLANDS BOUNDARY

0 25' 50' 100'

PLAN SCALE: 1"=50'

STA. 2464+05.09 EX. WCL MAIN/ END TEMP PLATFORM STA. 22+80.15 PRO. SHOOFLY

STA. 2463+00 END RAISE OF GRADE FOR BRIDGE

STA. 2460+25.88 EX. WCL MAIN/ BEGIN TEMP PLATFORM STA. 19+00.13 PRO. SHOOFLY

Prop. Curve C3
PI Sta. 17+57.81
Δ = 1° 09' 50" (LT)
D = 0° 50' 00"
T = 69.84'
R = 6,875.55'
L = 139.68'
SE = 4"
SC Sta. 16+87.96
CS Sta. 18+27.64
V=60 MPH (f)

Prop. Spiral Curve S6
Δ = 0° 40' 00" (LT)
L = 160.00'
CS Sta. 18+27.64
ST Sta. 19+87.64

Prop. Spiral Curve S5
Δ = 0° 40' 00" (LT)
L = 160.00'
TS Sta. 15+27.96
SC Sta. 16+87.96

VERTICAL SCALE: 0 5' 10'

HORIZONTAL SCALE: 0 25' 50' 100'

700.00' V.C. RC = 0.0950

300.00' V.C. RC = 0.1998

200.00' V.C. RC=0.095

200.00' V.C. RC=0.015

T/R PRO. MAIN TRACK

T/R PRO. RR SHOOFLY

T/R EX. MAIN

EX. GROUND CL SHOOFLY

ELEVATION 788.57 VPI STA. 2459+50.00

ELEVATION 789.65 VPI STA. 22+00.00

ELEVATION 789.60 VPI STA. 16+50.00

ELEVATION 790.73 VPI STA. 2454+00.00

ELEVATION 788.57 (EX. MN) ELEVATION 789.50 (SHELY) ELEVATION 790.27 (PRO. MN)

ELEVATION 788.50 (EX. MN) ELEVATION 789.50 (SHELY) ELEVATION 790.52 (PRO. MN)

2455+14.83 CL ROADWAY RUN.

2453+75 CL WASHINGTON ST.

+0.22% +0.20% +0.28% +0.03% +0.2723% +0.27% +0.04% +0.03% 0.00% -0.3927% +0.06% +0.06% +0.2062% 0.00%

+00.00 EL. 789.87 +00.00 EL. 789.65 +00.00 EL. 789.52 +00.00 EL. 789.62 +50.00 EL. 789.53 +50.00 EL. 789.60 +00.00 EL. 789.94 +50.00 EL. 790.14 +50.00 EL. 790.42 +50.00 EL. 789.50

ELEV. 790.479 2454+22.96

ELEV. 790.517 2453+21.21

2467+00	2466+00	2465+00	2464+00	2463+00	2462+00	2461+00	2460+00	2459+00	2458+00	2457+00	2456+00	2455+00	2454+00	2453+00	2452+00
PRO.(SF)	790.52	790.39	790.27	790.16	790.05	789.94	789.83	789.74	789.68	789.64	789.62	789.60	789.59	789.58	789.56
EX.(M)	790.43	790.32	790.34	790.20	790.06	789.93	789.79	789.65	789.52	789.38	789.25	789.11	788.98	788.84	788.82
PRO.(M)															
	789.55	789.54	789.52	789.50	789.51	789.50	789.50	789.50	789.50	789.50	789.50	789.50	789.50	789.50	789.49
	788.80	788.78	788.76	788.74	788.72	788.70	788.68	788.64	788.61	788.58	788.55	788.52	788.53	788.58	788.69

SURVEYED
PLOTTED
ALIGNMENT CHECKED
BEST FIT BALANCED
NOTE BOOK
NO.
PLAN

GRADES CHECKED
S.M. NOTED
STRUCTURE NOTATNS CHKD
PROFILE

DATE | BY

PENTABLE = ...\ILSLEVPENTABLE\TRANSPENLTBL

PATRICK ENGINEERING	PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = MVanWest(Rail)	PLOT CONFIG= PDF(Grey_Large).plt	PLOT SCALE = 1:50.0001	PLOT DATE = 10/7/2014 2:16:57 PM
		DESIGNED - JGG/KEK	DRAWN - JGG/KEK	CHECKED - SPH	DATE - 6/30/2014
		REVISED - 10/07/2014	REVISED -	REVISED -	REVISED -

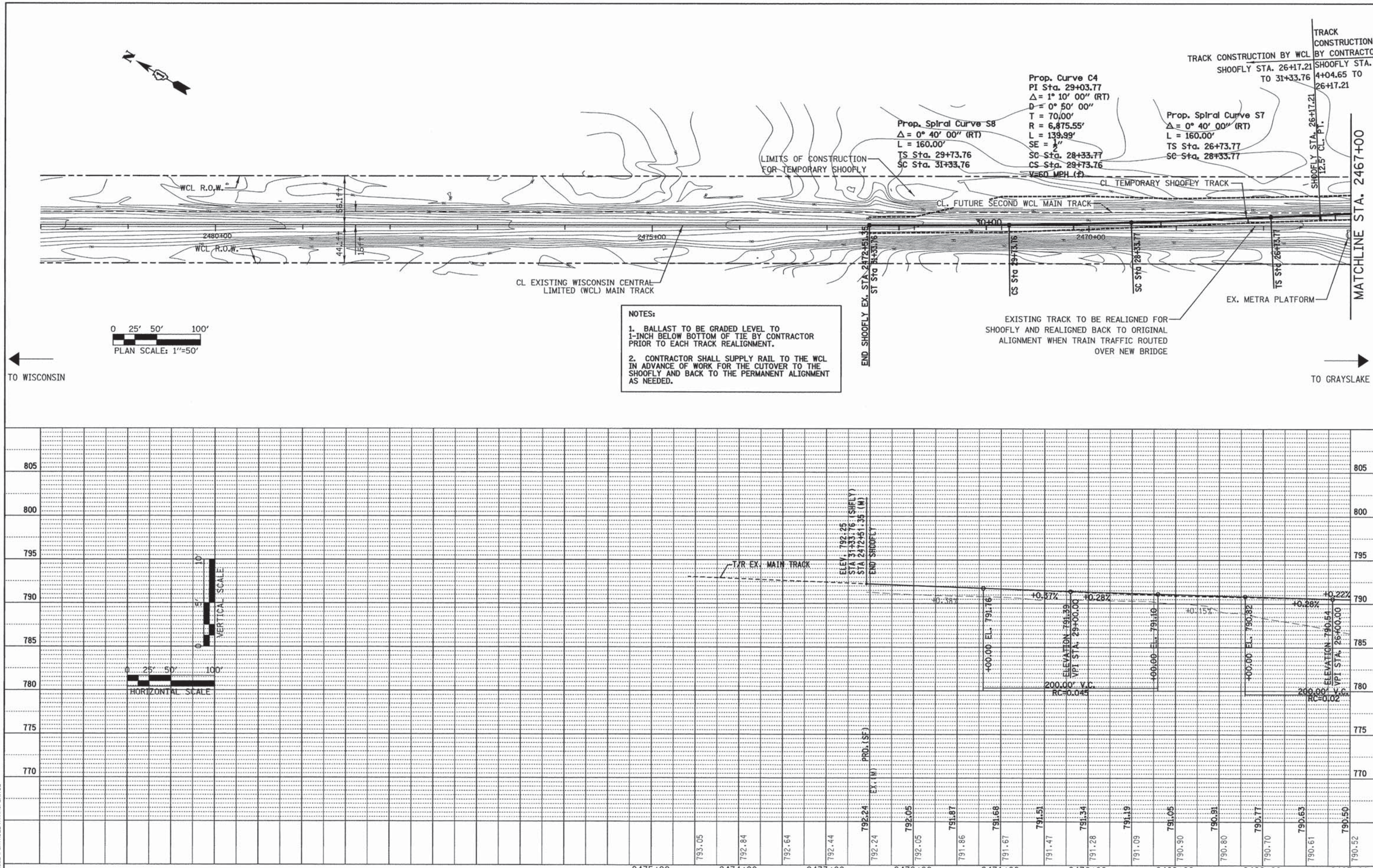
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

SCALE: | SHEET NO. RR 2 OF 54 | STA. 2467+00 | TO STA. 2452+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	257
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D:\LCDOT\21150..024\Drawings\RAIL\SHEETS\WashSt_Plan_Profile_Sheets.dgn



PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = kkoehnekeRdwy	DESIGNED - JGG/KEK	REVISED -
	PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - JGG/KEK	REVISED -
	PLOT SCALE = 1:100	CHECKED - SPH	REVISED -
	PLOT DATE = 7/30/2014 4:52:23 PM	DATE - 6/30/2014	REVISED -

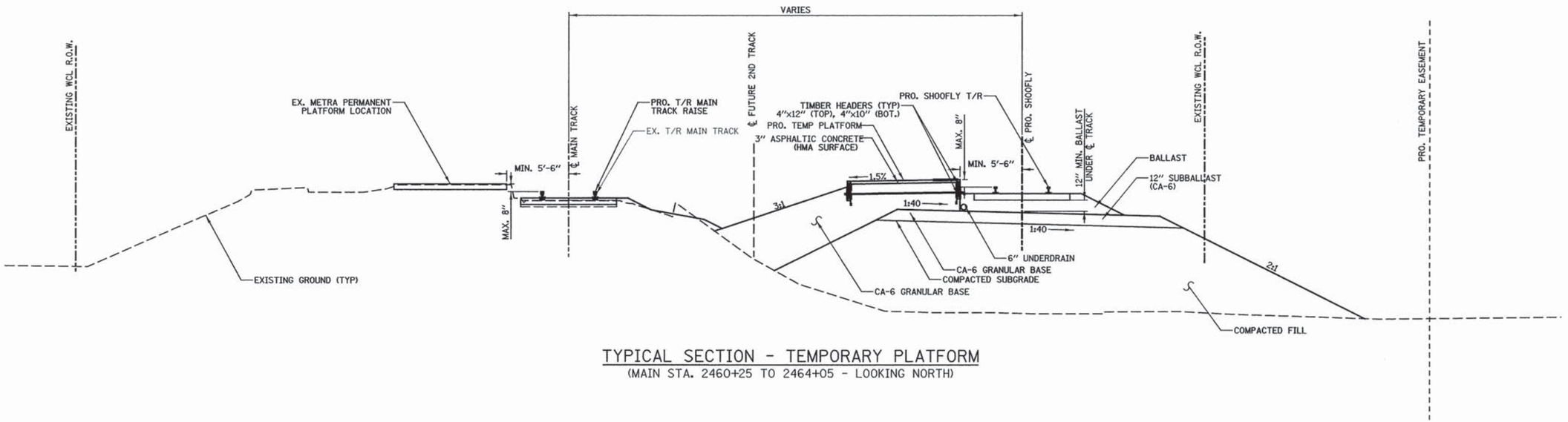
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

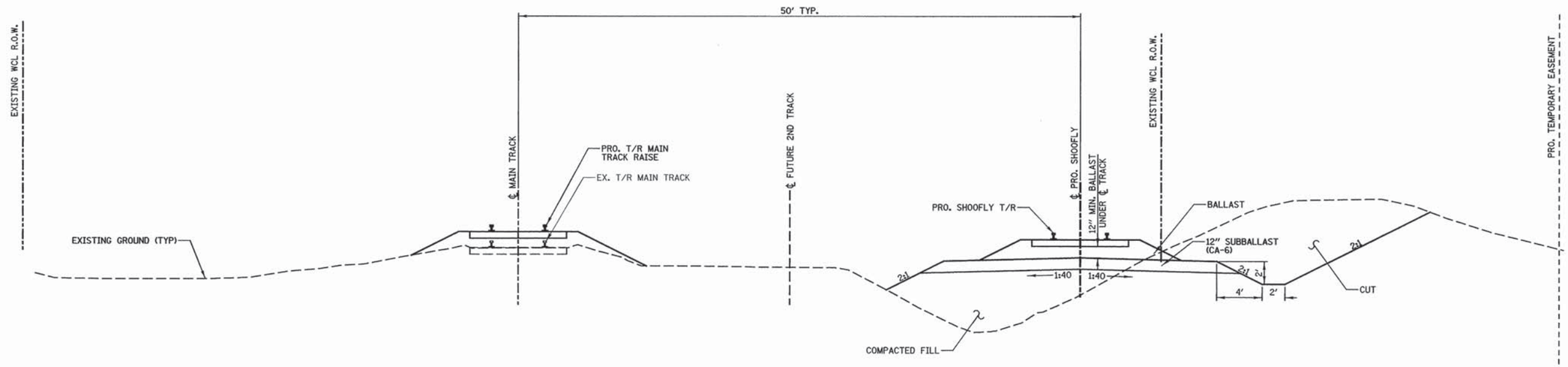
SCALE:	SHEET NO. RR 3 OF 54	STA. 2481+00	TO STA. 2467+00

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

G:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt_Plan_Profile_Sheets.dgn



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



TYPICAL SECTION - TEMPORARY SHOOFLY
(LOOKING NORTH)

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

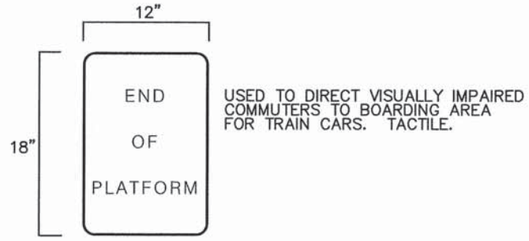
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED -	
	PLOT SCALE = 1:4.99999	CHECKED - SPH	REVISED -	
	PLOT DATE = 7/17/2014 9:05:05 PM	DATE - 6/30/2014	REVISED -	

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD TYPICAL SECTIONS

SCALE: | SHEET NO. RR 4 OF 54 | STA. | TO STA.

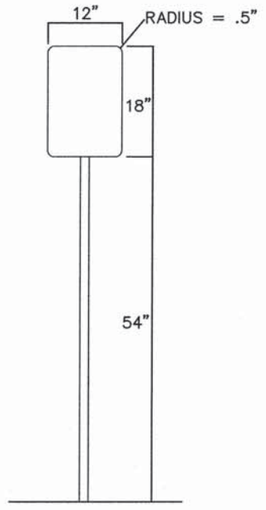
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	259
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

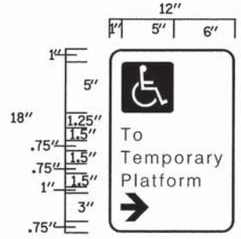
G:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt_Plan_Profile_Sheets.dgn



USED TO DIRECT VISUALLY IMPAIRED COMMUTERS TO BOARDING AREA FOR TRAIN CARS. TACTILE.

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





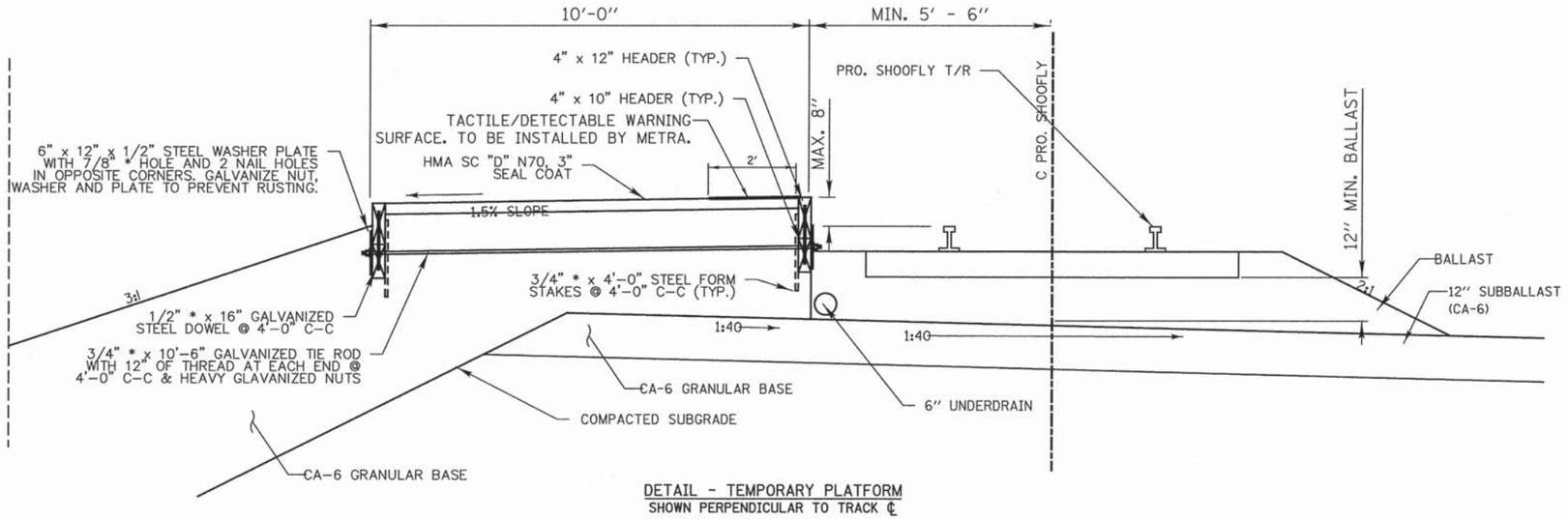
SIGN 7.18

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

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

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 (HMA SC "D" N70, 3"). CONTRACTOR WILL APPLY 2 COATS OF SEALANT (PAY ITEM 40300300).
4. METRA FORCES WILL INSTALL TACTILE/DETECTABLE WARNING SURFACES.
5. THE TEMPORARY PLATFORM WILL BE DEMOLISHED AND 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

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

PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
	PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED - ___	
	PLOT SCALE = 1:4.99999	CHECKED - SPH	REVISED - ___	
	PLOT DATE = 10/7/2014 5:03:20 PM	DATE - 6/30/2014	REVISED - ___	

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD TYPICAL PLATFORM AND CROSSING DETAILS

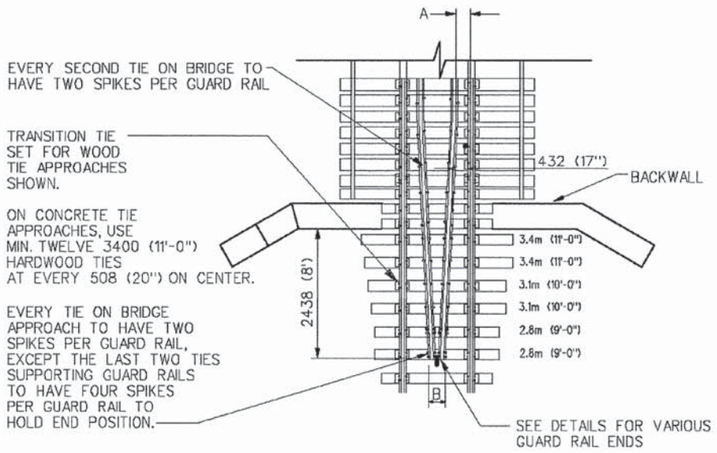
SCALE: AS NOTED | SHEET NO. RR 5 OF 54 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	260
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt_Plan_Profile_Sheets.dgn

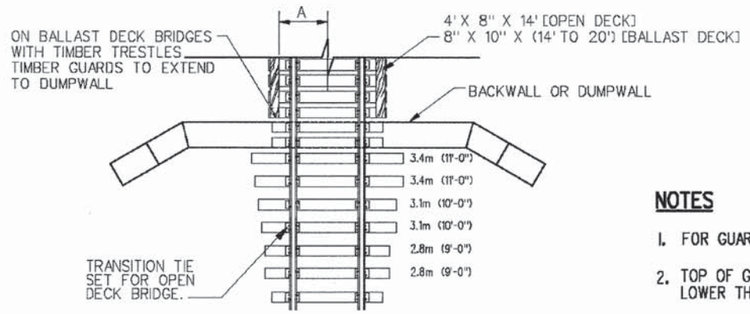
ALL METRIC MEASUREMENTS, MILLIMETERS UNLESS STATED OTHERWISE, ARE A ROUNDED SOFT CONVERSION OF BRITISH UNITS SHOWN IN BRACKETS

INTERIOR GUARD RAILS



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

EXTERIOR GUARD TIMBERS



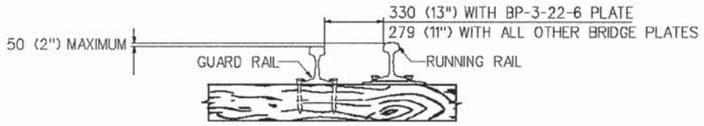
	A
OPEN DECK	1100 (3'-6")
BALLAST DECK	1800 (6'-0")

NOTES

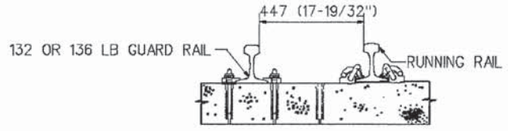
1. FOR GUARD RAIL POLICY REFER TO SPC 4500.
2. TOP OF GUARD RAIL SHALL NOT BE HIGHER, OR MORE THAN 50mm (2") LOWER THAN TOP OF RUNNING RAIL.
3. FOR TYPICAL GUARD RAIL INSTALLATIONS FOR TUNNELS AND OVERHEAD STRUCTURES SEE TS-1108 SHEET 2 OF 3 & SHEET 3 OF 3 RESPECTIVELY.
4. FOR CLEARANCE DETAILS SEE SPC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

FOR ADDITIONAL INFORMATION E-MAIL "TRACKSTD"

TYPICAL TIE SECTION

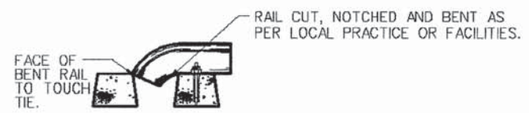


WOOD TIE

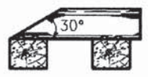


CN 60G CONCRETE TIE

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 / Dessin MG | Checked / Vérification GGS | Approved / Approbation Chief Engineer

Office of Chief Engineer
Bureau de l'Ingenieur en Chef

Date 2005 JUNE | Plan Number / Dessin numéro TS – 1108

SHEET 1 OF 3

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

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -	
PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED -	
PLOT SCALE = 1:4.99999	CHECKED - SPH	REVISED -	
PLOT DATE = 7/17/2014 9:05:52 PM	DATE - 6/30/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

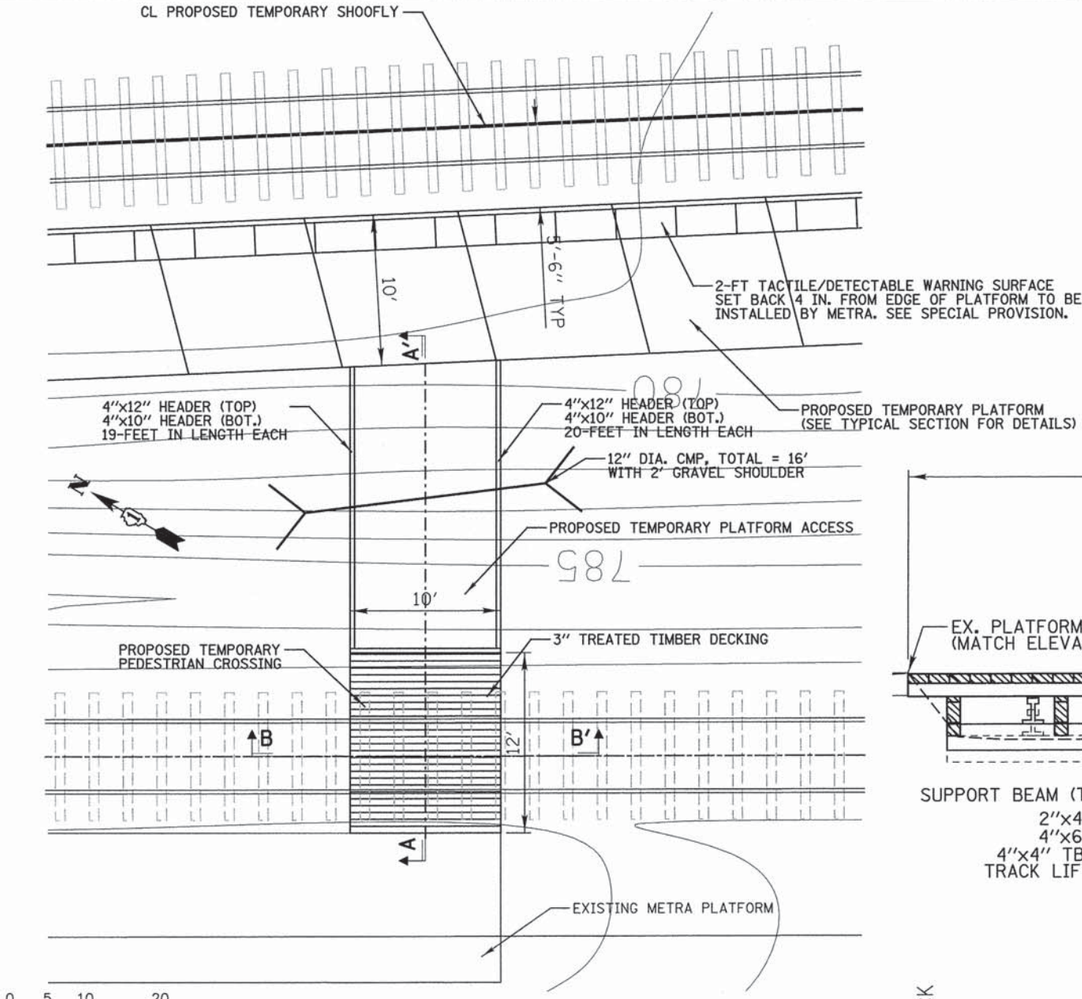
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
CN STANDARD INSIDE STEEL GUARD RAIL

SCALE: | SHEET NO. RR 6 OF 54 | STA. | TO STA.

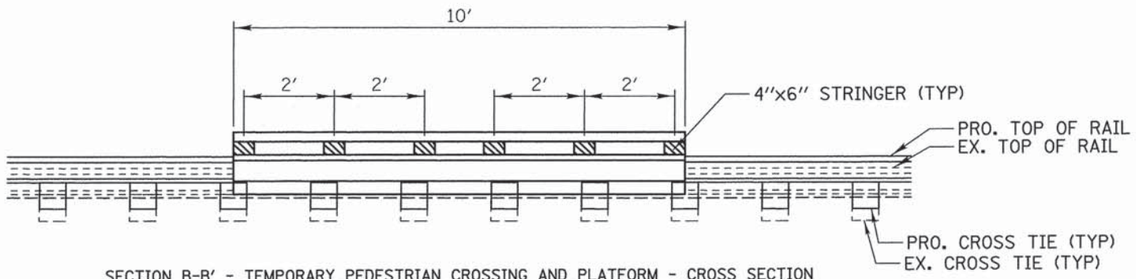
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	261
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

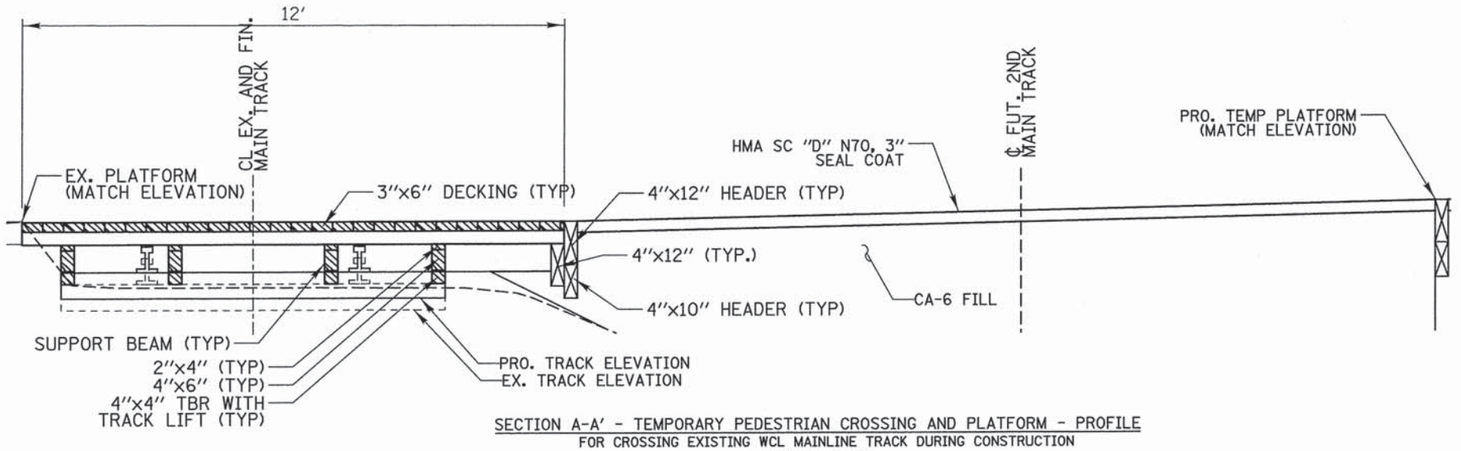
G:\LCDOT\21150_004\Drawings\RAIL\SHEETS\WashSt_Plan_Profile_Sheets.dgn



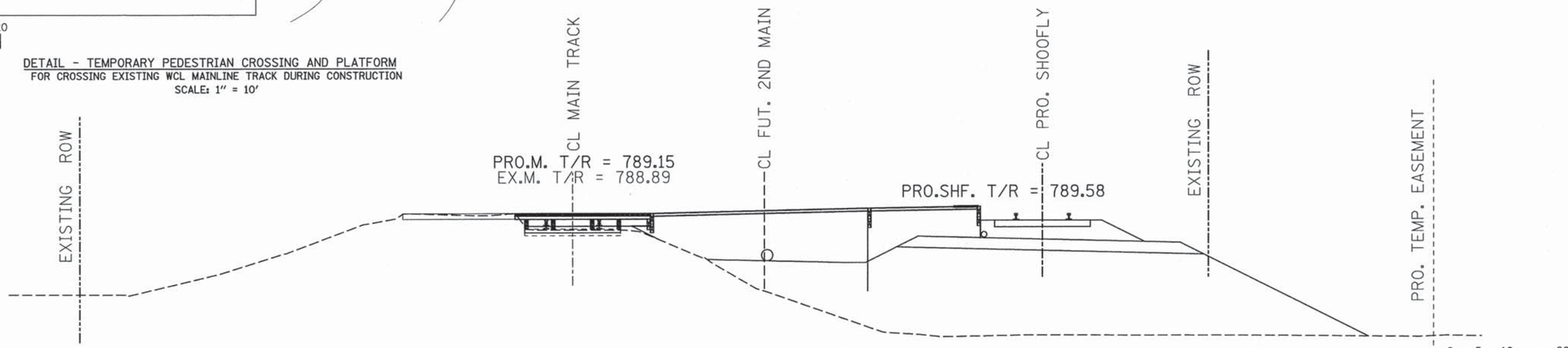
DETAIL - TEMPORARY PEDESTRIAN CROSSING AND PLATFORM
FOR CROSSING EXISTING WCL MAINLINE TRACK DURING CONSTRUCTION
SCALE: 1" = 10'



SECTION B-B' - TEMPORARY PEDESTRIAN CROSSING AND PLATFORM - CROSS SECTION
FOR CROSSING EXISTING WCL MAINLINE TRACK DURING CONSTRUCTION
NOT TO SCALE



SECTION A-A' - TEMPORARY PEDESTRIAN CROSSING AND PLATFORM - PROFILE
FOR CROSSING EXISTING WCL MAINLINE TRACK DURING CONSTRUCTION
NOT TO SCALE



CROSS SECTION - TEMPORARY PEDESTRIAN CROSSING AND PLATFORM - STA. 2460+66.500
FOR CROSSING EXISTING WCL MAINLINE TRACK DURING CONSTRUCTION
SCALE: 1" = 10'

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 1:4.99999	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014 4:51:28 PM	DATE - 6/30/2014	REVISED - ___	

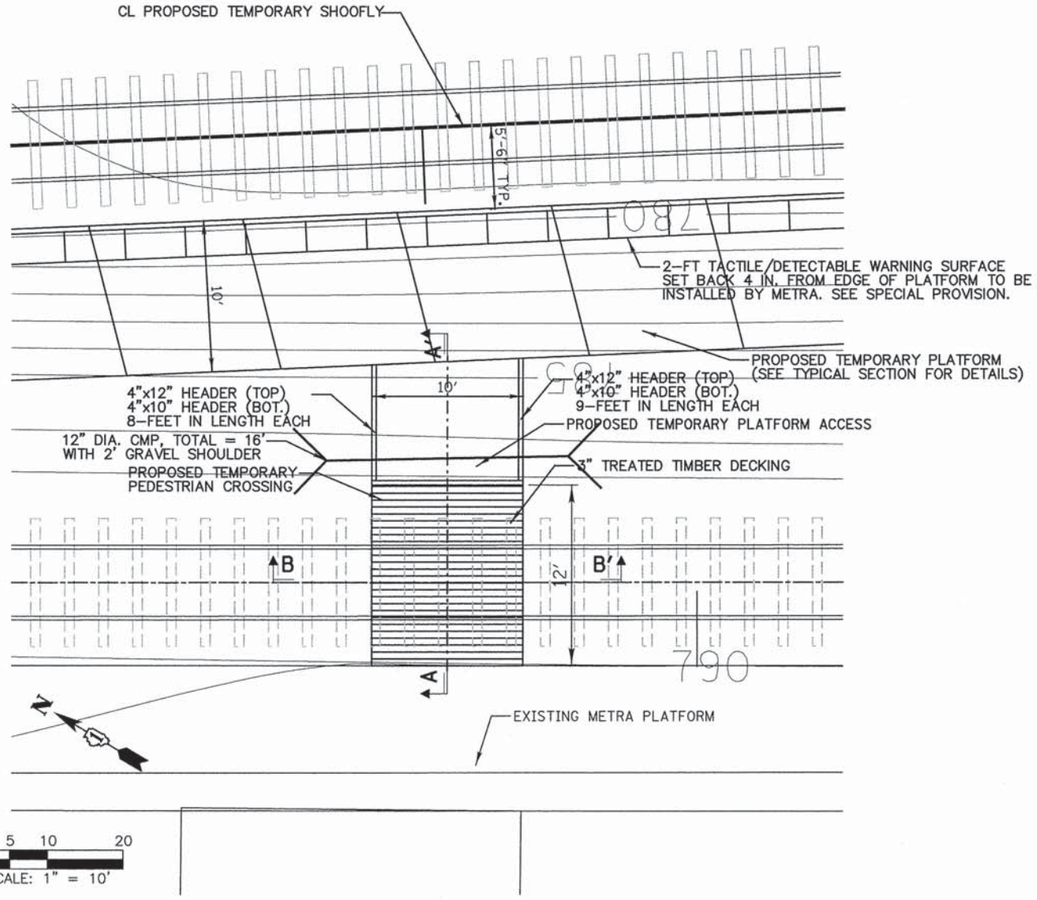
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD TEMPORARY PLATFORM AND CROSSING DETAIL – STA. 2460+66.5

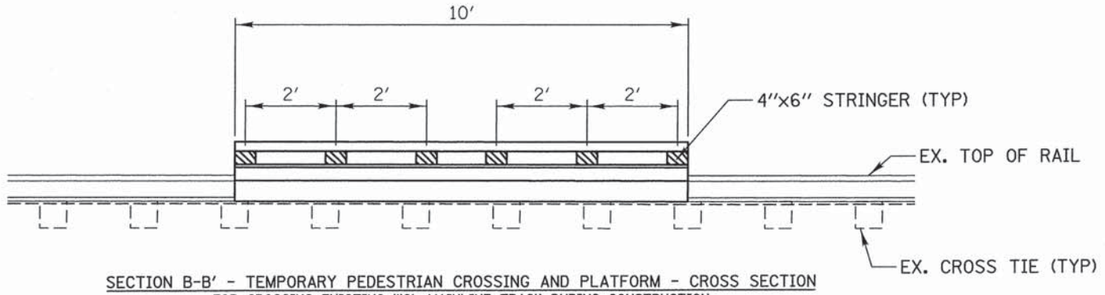
SCALE: AS NOTED | SHEET NO. RR 7 OF 54 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	262
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

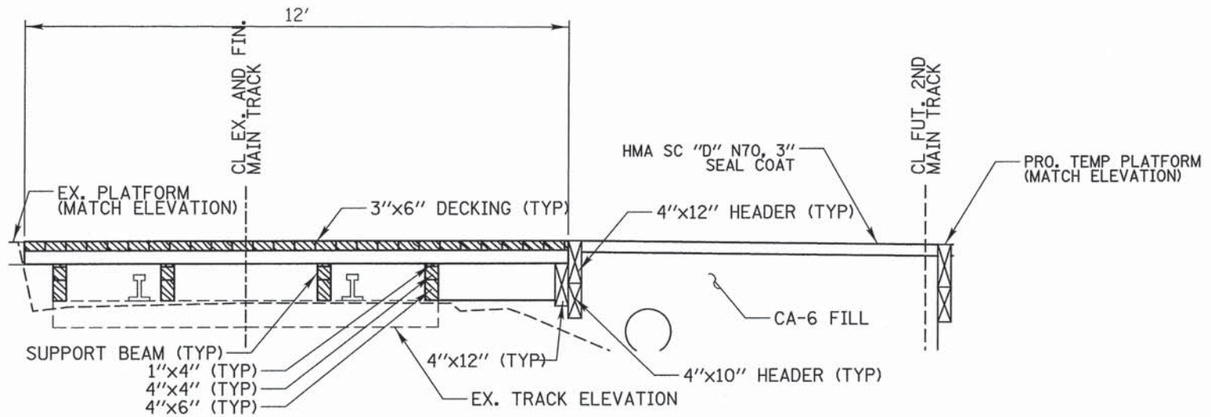
PENTABLE = ...\LISLE\PENTABLE\TRANSPEN.TBL
G:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt_Plan_Profile_Sheets.dgn



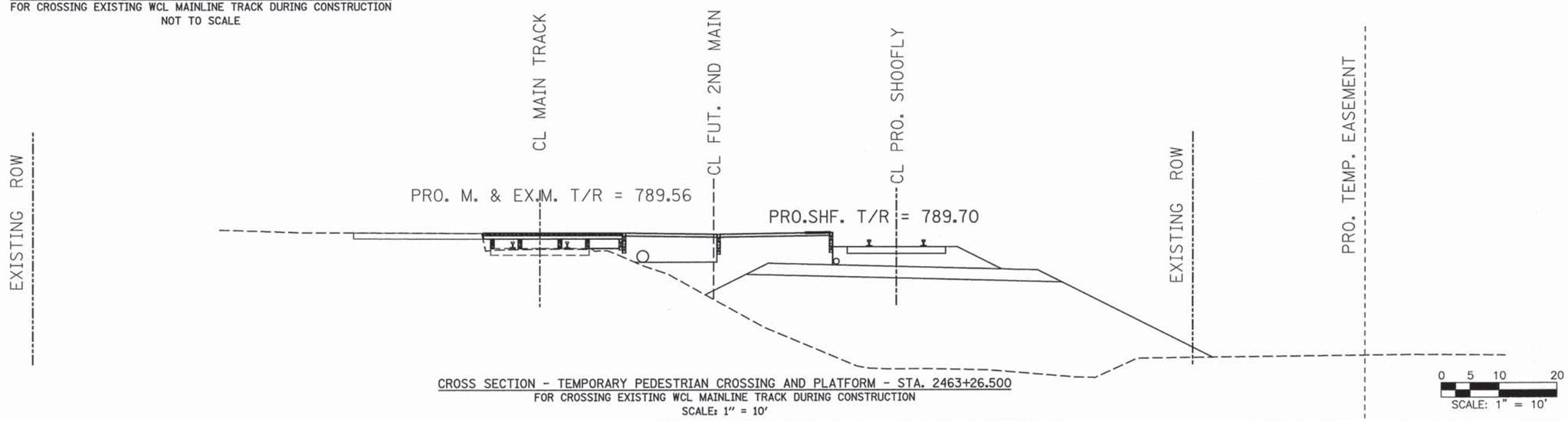
DETAIL - TEMPORARY PEDESTRIAN CROSSING AND PLATFORM
FOR CROSSING EXISTING WCL MAINLINE TRACK DURING CONSTRUCTION
NOT TO SCALE



SECTION B-B' - TEMPORARY PEDESTRIAN CROSSING AND PLATFORM - CROSS SECTION
FOR CROSSING EXISTING WCL MAINLINE TRACK DURING CONSTRUCTION
NOT TO SCALE



SECTION A-A' - TEMPORARY PEDESTRIAN CROSSING AND PLATFORM - PROFILE
FOR CROSSING EXISTING WCL MAINLINE TRACK DURING CONSTRUCTION
NOT TO SCALE



CROSS SECTION - TEMPORARY PEDESTRIAN CROSSING AND PLATFORM - STA. 2463+26.500
FOR CROSSING EXISTING WCL MAINLINE TRACK DURING CONSTRUCTION
SCALE: 1" = 10'

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 1:4.99999	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014 4:51:36 PM	DATE - 6/30/2014	REVISED - ___	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD TEMPORARY PLATFORM AND CROSSING DETAIL – STA. 2463+26.5

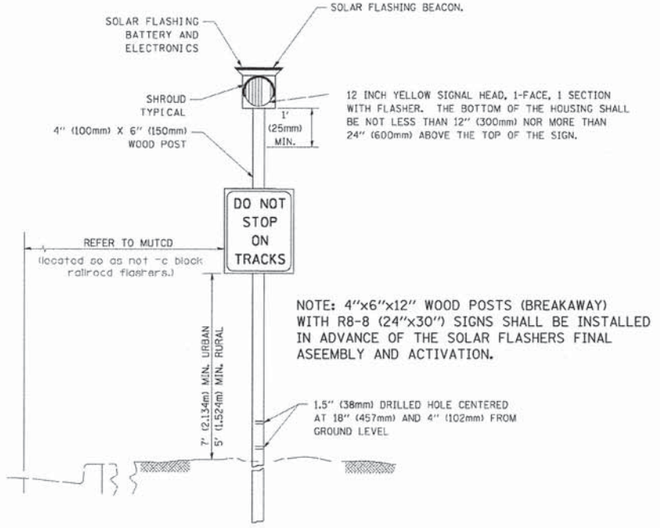
SCALE: AS NOTED	SHEET NO. RR 8 OF 54	STA.	TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	263
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

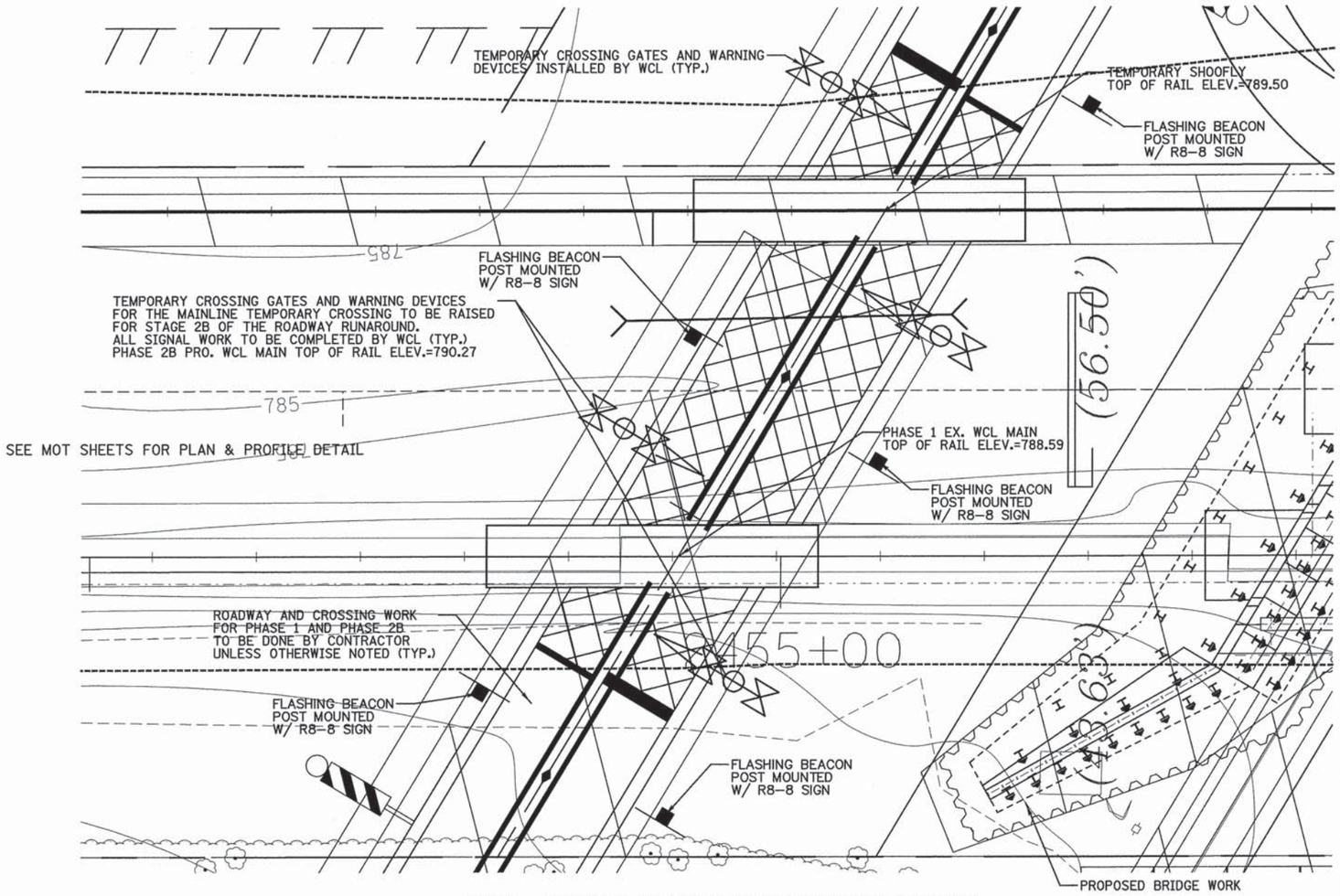
PENTABLE = ...\LISLE\PENTABLE\TRANSPEN.TBL
G:\LCDOT\21150_004\Drawings\RAIL\SHEETS\WashSt_Plan_Profile_Sheets.dgn

W10-9P 24" X 18"

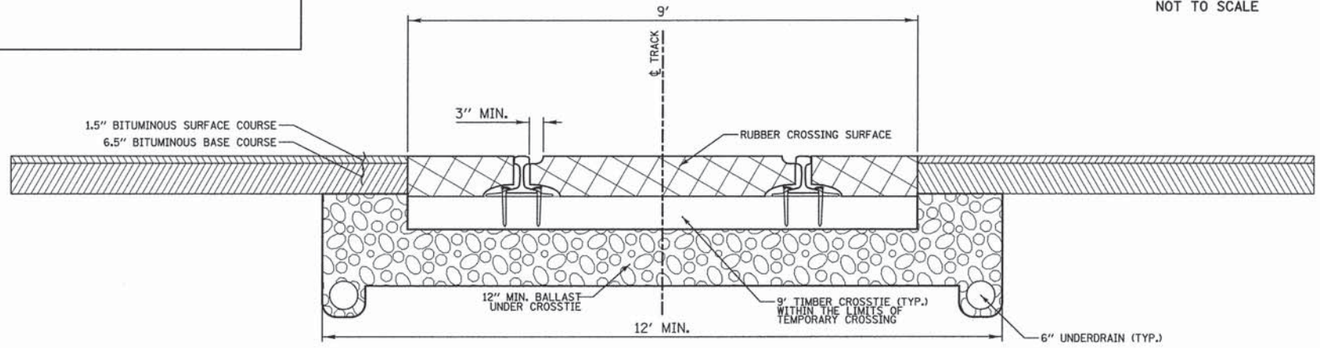
THE W10-9P SUPPLEMENTAL SIGN SHALL BE MOUNTED DIRECTLY BELOW THE GRADE CROSSING ADVANCE WARNING SIGNS.



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



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

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 1:4.99999	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014 2:17:10 PM	DATE - 6/30/2014	REVISED - ___	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

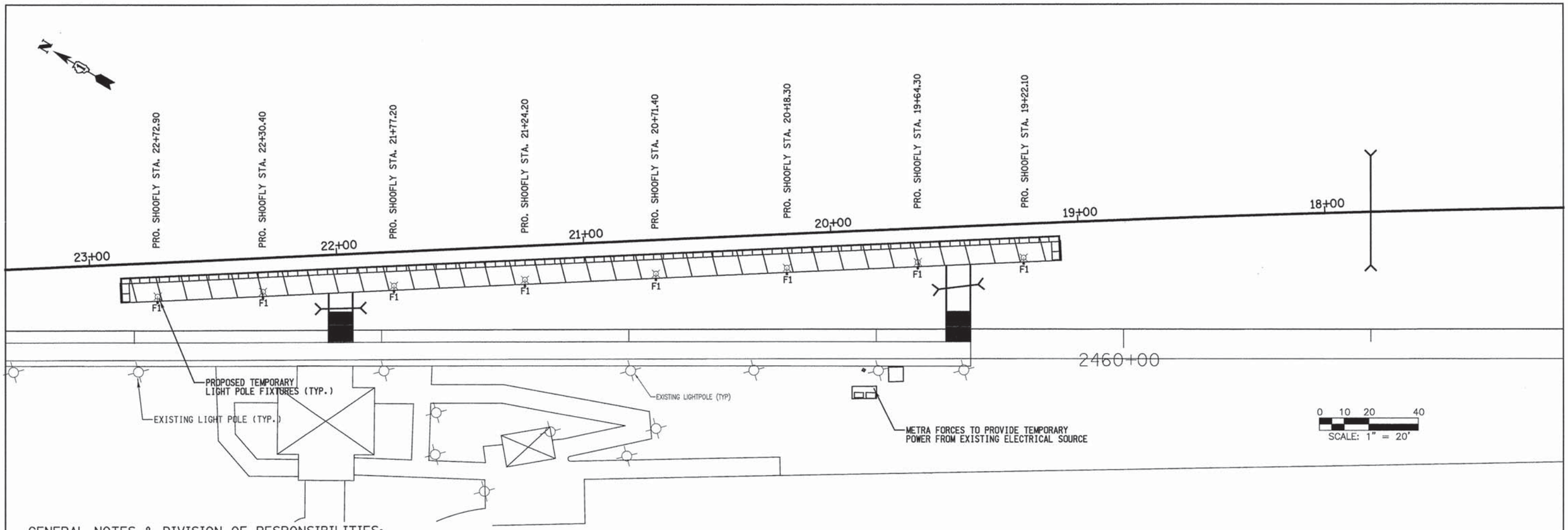
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD TEMPORARY CROSSING DETAIL FOR ROADWAY RUNAROUND

SCALE: AS NOTED | SHEET NO. RR 9 OF 54 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	264
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

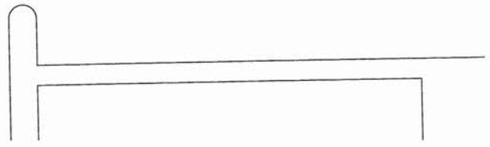
PENTABLE = ...\LISLE\PENTABLE\TRANSPEN.TBL

Q:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt_Plan_Profile_Sheets.dgn



GENERAL NOTES & DIVISION OF RESPONSIBILITIES:

1. ALL MATERIALS TO BE PROCURED AND DELIVERED BY CONTRACTOR. CONTRACTOR SHALL COORDINATE ORDERING OF MATERIALS TO ENSURE DELIVERY PRIOR TO METRA FORCES SCHEDULED WORK.
2. CONTRACTOR WILL COORDINATE AND COMPLETE TEMPORARY POLE INSTALLATION AS INDICATED ON THE DRAWINGS.
3. METRA FORCES WILL INSTALL LIGHT FIXTURES AND RUN WIRE FOR TEMPORARY LIGHTING.
4. UPON COMPLETION OF PROJECT, METRA WILL SALVAGE ALL DESIRED MATERIALS. CONTRACTOR WILL DISPOSE OF ANY REMAINING MATERIALS OFF SITE.



PENTABLE = ...\Lisle\PenTable\TransPen.tbl

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -	
PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED -	
PLOT SCALE = 1:20.5375	CHECKED - SPH	REVISED -	
PLOT DATE = 7/17/2014 2:08:49 PM	DATE - 6/30/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

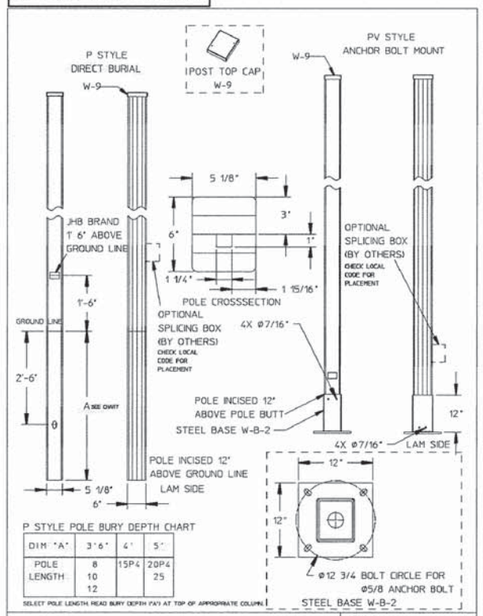
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
STATION TEMPORARY LIGHTING PLAN

SCALE: | SHEET NO. RR 10 OF 54 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	265
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150.204\Drawings\RAIL\SHEETS\WashSt_TempLighting_Sheet.dgn

LUMINAIRE POLE: TYPE 'F1'



P STYLE POLE BURY DEPTH CHART

DIM "A"	3'-6"	4'	5'
POLE LENGTH	8	15P4	20P4
	10		25
	12		

SELECT POLE LENGTH, READ BURY DEPTH (A') AT TOP OF APPROPRIATE COLUMN

6" X 5-1/8" P AND PV SIDE MOUNT STRAIGHT POLE SPECIFICATION

TimberWood PRODUCTS

1-14

LUMINAIRE POLE: TYPE 'F1'

SternbergLighting
ESTABLISHED 1933 / EMPLOYEE OWNED

SPECIFICATION

6" x 5-1/8" P and PV SIDE MOUNT STRAIGHT POLE

BUILDING A PART NUMBER

MODEL	HEIGHT	TYPE	TEXTURE	CONFIGURATION	FINISH*
TW2	25	PV	R	SM	BKT**
TW2 – 6"x 5-1/8"	8 10 12 15P4 20P4 25	P – DIRECT BURIAL PV – ANCHOR BOLT	R – ROUGH S – SMOOTH	SM – SIDE MOUNT	

STANDARD FINISHES*
- BKT Black Textured
- WHT White Textured
- PGT Park Green Textured
- ABZT Architectural Medium Bronze Textured
- DBT Dark Bronze Textured

*Smooth finishes are available upon request

CUSTOM FINISHES
- OI Old Iron
- RT Rust
- WBR Weathered Brown
- CD Cedar
- WBK Weathered Black
- TT Two Tone

STERNBERG SELECT FINISHES
- VG Verde Green
- SI Swedish Iron
- OWGT Old World Gray Textured

Specifications – For TimberWood Architectural Laminated Wood Light Poles

1.0 **General:** TimberWood Architectural Laminated Wood Light Poles shall be of materials, size, shapes, styles, patterns and fabrication as specified herein and as shown on JH Baxter detail drawings.

2.0 **Lumber:** Coast region Douglas Fir only for direct bury. (Port Orford Cedar or Alaskan Yellow Cedar for above ground use only). L1 laminating grade for strength and appearance is used on all exposed wide faces. L2 or L2 dense is used for interior laminations. Grades are described in current WCLIB Grading Rules.

3.0 **Laminating Requirements:** Architectural Laminated Wood Light Poles shall be laminated with adhesives meeting or exceeding the exterior durability performance requirements of the most recent revision of American National Standard ANSI / AITC A190.1-2007.

4.0 **Surface Finish, Appearance & Tolerances:** Open defects such as knotholes exceeding ½" in diameter or wane exceeding ¼" x 12" shall be filled with wood filler for surfaced four faces with edges eased to 3/8" radius. For rough, textured four sides, knots will be exposed. Tolerances shall be from +0 to -1/4" in width and depth.

5.0 **Preservative Treatment:** Architectural Laminated Wood Light Poles will be treated with 6% pentachlorophenol borne in light hydrocarbon solvent in conformance with AWPA Standards to a minimum net retention of 0.60 pounds per cubic foot of penta.

6.0 **Trademark:** Each Architectural Laminated Wood Light Poles shall be branded to indicate Manufacture-Month-Year at 18" above intended ground line.

7.0 **Wrapping:** Architectural Laminated Wood Light Poles will be individually wrapped.

8.0 **Embedment:** As required by local codes and soil conditions. Designed by others. Refer to form no. SL-1281 for recommendations.

9.0 **Top Protection:** Metal cap must be installed unless fixture is top mounted.

10.0 **Incising:** All Architectural Laminated Wood Light Poles will be incised on all four sides to 1/2" in depth from butt to 16" above indicated ground mark (P poles) or 12" from butt if mounted in steel base (PV). Incising adds durability to treated Douglas Fir.

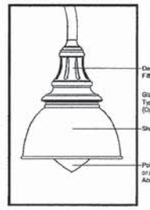
*Base and metal parts (non-finish)
**Default color if none is chosen

SternbergLighting
ESTABLISHED 1933 / EMPLOYEE OWNED
555 Lawrence Ave. Roselle, IL 60172 • 847-588-3400 • Fax 847-588-3440
www.sternberglighting.com Email: info@sternberglighting.com

1-14

1910/5/LBS-5LB-5LBL 1930/5/LBS-5LB LAKE BLUFF SERIES SPECIFICATIONS

LUMINAIRE POST/ARM DOWNLIGHT: TYPE F1



1910 EPA = 0.74 (ft²)
WEIGHT = 12 LBS

GENERAL
The 1910/5LB and 1930/5LB Lake Bluff series is a decorative downlight fixture which consists of a decorative cast aluminum fitter, cast ballast housing assembly, a spun aluminum full shade, and lens.

FITTER
The fitter shall be heavy wall cast aluminum with eight flutes, 356 alloy for high tensile strength with an average wall thickness of .250". It shall have an 9 1/4" inside diameter opening to attach to the 9" neck of the acorn/shade assembly. When ordered with a Sternberg candy cane pole, the fitter shall be welded to the arm end or tenon for safety and to ensure the fixture will be plumb, secure and level over the life of the installation. The large end of the fitter shall contain the cast ballast housing.

BALLAST HOUSING
The ballast housing shall be heavy wall cast aluminum, 356 alloy for high tensile strength. The housing shall be cast as an integral part of the fitter to prevent water entry into the ballast compartment and to ensure high capacity heat sinking of ballast temperatures, keeping the ballast cooler and ensuring long life. The ballast mounting plate shall be cast aluminum and provide tool-less removal from the housing using 2 ea finger latches.

ELECTRICAL
The fixture shall be U.L. or E.T.L. listed. H.I.D. ballasts shall be high power factor with lamp starting down to –30 degrees C. Medium base and mogul base porcelain sockets are 4KV rated. The ballast/socket assembly shall be pre-wired and located in the fitter when specified with a medium base socket. All compact fluorescent (PL) ballasts shall be instant start electronic with a starting temperature of down to 0 degrees F. They shall have a 4-pin socket to accept quad or triple tube lamps. Ballasts shall be DOE EISA compliant.

SHADE ASSEMBLY OPTIONS
The 1910/5/LB series has an acorn globe that shall be 12" in diameter with a 9" diameter neck. It will be made of vandal resistant clear frosted, UV stabilized polycarbonate or dent resistant (DR) clear frosted acrylic. The assembly shall be sealed to help prevent insect penetration. The shade shall be made of .100 thick spun aluminum and have an outside diameter of 18". It shall be have an 9" spun aluminum neck for insertion into the cast fitter. The shade shall also have 4 each rivnuts riveted into its spun neck for connection to the acorn/globe.

The 1930/5/LB series has an acorn globe that shall be 16" in diameter with a 9" diameter neck. It will be made of vandal resistant clear frosted, UV stabilized polycarbonate or dent resistant (DR) clear frosted acrylic. The assembly shall be sealed to help prevent insect penetration. The shade shall be made of .100 thick spun aluminum and have an outside diameter of 18½". It shall be have an 9" spun aluminum neck for insertion into the cast fitter. The shade shall also have 4 each rivnuts riveted into its spun neck for connection to the acorn/globe.

LIST NO. 1910/5/LBS-5/LB-5LBL 1930/5/LBS-5LB LAKE BLUFF SERIES

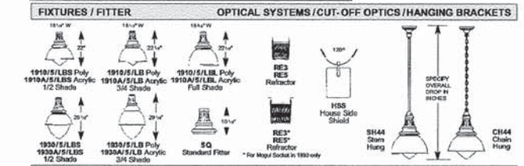
OPTICAL OPTION FOR ACORN/ SHADE ASSEMBLY
The 1910/5/RLM and 1930/5/RLM acorn mounted fixtures shall have an I.E.S. Type 3 distribution (RE3) or Type 5 distribution (RE5) borosilicate prismatic glass refractor, spring held into position 11-13

(Continued on back page)

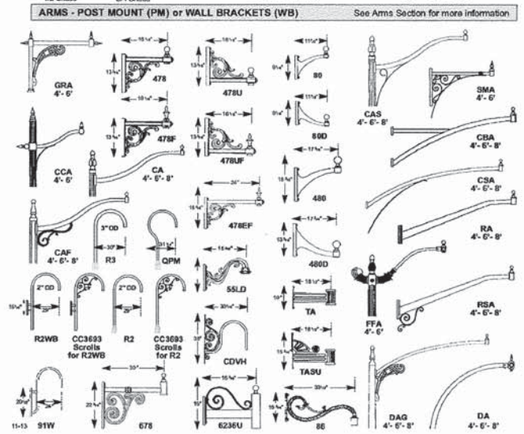
1910/5/LBS-5LB-5LBL 1930/5/LBS-5LB LAKE BLUFF FIXTURES/ARMS PM-WB

LUMINAIRE POST/ARM DOWNLIGHT: TYPE F1

FIXTURES / FITTER — **OPTICAL SYSTEMS / CUT-OFF OPTICS / HANGING BRACKETS**



ARMS - POST MOUNT (PM) or WALL BRACKETS (WB) — See Arms Section for more information



BUILDING A PART NUMBER

LUMINAIRE POST/ARM DOWNLIGHT: TYPE F1

POST & ARM FIXTURES

ARM MOUNTED FIXTURE NO. OF ARMS	FIXTURE /POST/ARM	CENTER POST TOP FIXTURE (FT)	POST (See Post Section)	POST CAP	LIGHT SOURCE BALLAST WATTS/TYPE/VOLTS	OPTICS	OPTIONS	FINISH
2	1910/5LB/RPM	FT	3906RT4-12AG		100HPS120	RE3	MHP100/MED	BKT

WALL FIXTURES

FIXTURE/WALL BRACKET	LIGHT SOURCE BALLAST WATTS/TYPE/VOLTS	OPTICS	OPTIONS	FINISH
1910LSB/478FWB	100 HPS120	RE3	HPS100/MED	BKT

HANGING FIXTURES

FIXTURE/HANGING BRACKET	OVERALL DROP IN INCHES	LIGHT SOURCE BALLAST WATTS/TYPE/VOLTS	OPTICS	OPTIONS	FINISH
1910/5LB/SH44	48 INCHES	100 HPS120		HPS100/MED	BKT

PART NUMBER SELECTIONS

FIXTURES
- 1910/5LBS[2]
- 1910A/5LBS[2]
- 1910/5LB[2]
- 1910A/5LB[2]
- 1910/5LBL[4]
- 1910A/5LBL[4]
- 1930/5LBS
- 1930A/5LBS
- 1930/5LB
- 1930A/5LB

OPTICS
- RE3
- RE5
- HSS

VOLTAGES
- 120
- 208
- 240
- 277
- 480
- MULTI (120-277)

POST ARMS
- 80PM
- 80DPM
- 86PM
- 480PM
- 480DPM
- 478PM
- 478FPM
- 478UPM
- 478UFPM
- TAPT
- TASUPT
- 478EFPM
- 678PM
- 5SLDPM
- 6236UPM
- CDVHPM
- 91WPM
- RPM
- R3PM
- QPM
- CSA4[3]
- CSAS[3]
- CSAB[3]
- SMAA4[3]
- SMAS[3]
- CAS4[3]
- R2PM

POST ARMS
- CASS[3]
- CASB[3]
- CCA4[3]
- CCAS[3]
- CAF4[3]
- CAFS[3]
- CAFB[3]
- CBA4[3]
- CBAS[3]
- CBAB[3]
- RSA4[3]
- RSAS[3]
- RSAB[3]
- FFA4[3]
- FFAS[3]
- RA4[3]
- RAS[3]
- RAB[3]
- DA4[3]
- DAS[3]
- DAB[3]
- DAG4[3]
- DAGS[3]
- DAGB[3]
- CA4[3]
- CAS[3]
- CAB[3]

WALL BRACKET ARMS
- 5SLDWB
- 80WB
- 80DWB
- 86WB
- 91WWB
- 478WB
- 478FWB
- 478UWB
- 478UFWB
- 478EFWB
- 480WB
- 480DWB
- 678WB
- 6236UWB
- CDVHWB
- R2WB
- TAWB
- TASUWB

HANGING BRACKETS
- CH44
- SH44

BALLASTS[1,5]
- 35HPS[1]
- 50HPS
- 70HPS
- 100HPS
- 150HPS
- 250HPS[2]
- 50MHP
- 70MHP
- 100MHP
- 150MHP
- 200MHP
- 250MHP
- 26PLT
- 32PLT
- 42PLT
- 57PLT
- 70PLT
- INCAND

LAMPS[5]
- HPS35/MED
- HPS50/MED
- HPS70/MED
- HPS100/MED
- HPS150/MED
- HPS250/MOG/ED18*
- MHP50/MED
- MHP70/MED
- MHP100/MED
- MHP150/MED
- MHP200/MED*
- MHP250/MOG/ED28*
- PLT26
- PLT32
- PLT42
- PLT57
- PLT70

STANDARD FINISHES*
- BKT Black Textured
- WHT White Textured
- PGT Park Green Textured
- ABZT Architectural Medium Bronze Textured
- DBT Dark Bronze Textured

*Smooth finishes are available upon request

CUSTOM FINISHES
- OI Old Iron
- RT Rust
- WBR Weathered Brown
- CD Cedar
- WBK Weathered Black
- TT Two Tone

STERNBERG SELECT FINISHES
- VG Verde Green
- SI Swedish Iron
- OWGT Old World Gray Textured

OPTIONS
- FHS Single Fuse and Holder-120, 277 Volt
- FHD Dual Fuse and Holder-208,240,480 Volt
- QR Quartz Re-Strike
- PF Pineapple Finial or Ford (TA, TASCR)
- CC3693 Scrolls for R2 or R3 Arm
- HS Hangstraight
- LAMPS Select from List

Note: Photocell option available for arm or pole mounting only

NOTES:
[1] 35HPS is 120 volt only.
[2] 150 watt maximum.
[3] Medium base sockets standard for 1910 and 1930 with ballasts up to 200 watts HID. Mogul base sockets can be used if ballast is remote mounted, 4 pin for PL.
[4] 1930 Acorn only.
[5] Add (S) Spike or (B) Ball after arm to designate type of finial.
* Metal halide systems are pulse start.

SternbergLighting
ESTABLISHED 1933 / EMPLOYEE OWNED
555 Lawrence Ave. Roselle, IL 60172 • 847-588-3400 • Fax 847-588-3440
www.sternberglighting.com Email: info@sternberglighting.com

11-13

1910/5/LBS-5LB-5LBL 1930/5/LBS-5LB LAKE BLUFF SERIES SPECIFICATIONS

LIST NO. 1910/5/LBS-5/LB-5LBL 1930/5/LBS-5LB LAKE BLUFF SERIES

around the medium base socket. The refractor shall be conical shaped with a diameter of 5" on one end and 4 ½" on the other. The glass refractor shall be 5" tall. Mogul sockets require RE3 or RE5 glass refractors.

House Side Shield (HSS) is an option which will block up to 120° of light in any one direction.

QUARTZ RE-STRIKE
The fixture can be supplied with an optional quartz re-strike system to retain constant fixture light if the H.I.D. lamp fails. The fixture will be equipped with a 800 watt quartz lamp and a controller to run on a 120 volt circuit and must be used in conjunction with a 120 volt or multi-tap ballast.

PHOTOCELLS
Photocells shall be either the thermo bi-metal button type or the electronic button type. Photocells shall be mounted in the pole shaft on an access plate and are not pre-wired as ballast housing assemblies and fitters are packaged separately for ease of wiring to source. The thermo bi-metal photocell shall be designed to turn on at 1.0 footcandle and turn off at not more than 5 footcandles. The electronic button type photocell is instant on and a 5-10 second turn off and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles. Photocells are either 120 volt or 208 thru 277 volt.

ARMS
All arms are made of cast aluminum and/or extruded aluminum. Arms with decorative filigree have meticulously detailed scroll work and gracefully curved brackets. All fixtures will have its fitter either welded to the arm or will be mechanically attached at the factory to ensure arms will be plumb, secure and level over the life of the installation. Each arm shall be bolted to a post mount adapter, which is welded to the pole to ensure proper alignment to the base. Arms are pre-wired for ease of installation.

FINISH
Prior to coating, each assembly shall be chemically cleaned and etched in a 5-stage washing system which includes alkaline cleaning, rinsing, phosphoric etching, reverse osmosis water rinsing, and non-chrome sealing to ensure corrosion resistance and excellent adhesion for the finish coating. The finish coating shall be electrostatically applied semi-gloss, super durable polyester powder baked at 400 degrees for a durable and superior, color retentive finish. Our optional antique Verde Green finish and Swedish Iron finish are hand brushed using a 3-step process. The total assembly shall be wrapped in shockproof wrapping or fully enclosed in corrugated cartons.

WARRANTY
Five-year limited warranty. See product and finish warranty guide for details.

SternbergLighting
ESTABLISHED 1933 / EMPLOYEE OWNED
555 Lawrence Ave. Roselle, IL 60172 • 847-588-3400 • Fax 847-588-3440
www.sternberglighting.com Email: info@sternberglighting.com

11-13

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

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -	
PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED -	
PLOT SCALE = 1:20	CHECKED - SPH	REVISED -	
PLOT DATE = 7/17/2014 9:19:10 PM	DATE - 6/30/2014	REVISED -	

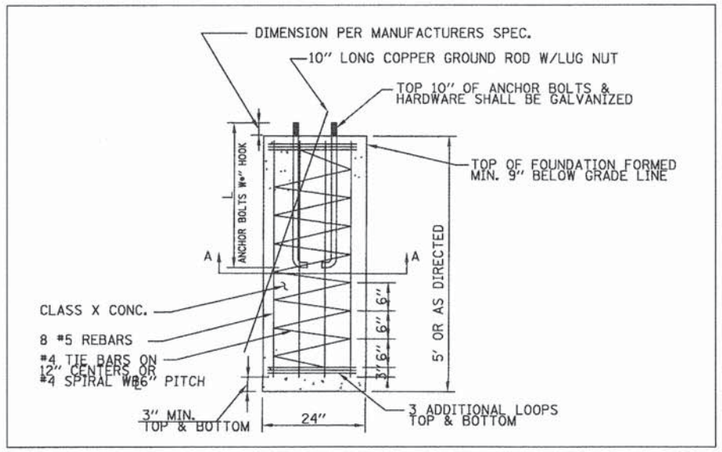
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

SCALE: | SHEET NO. RR 11 OF 54 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	266
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

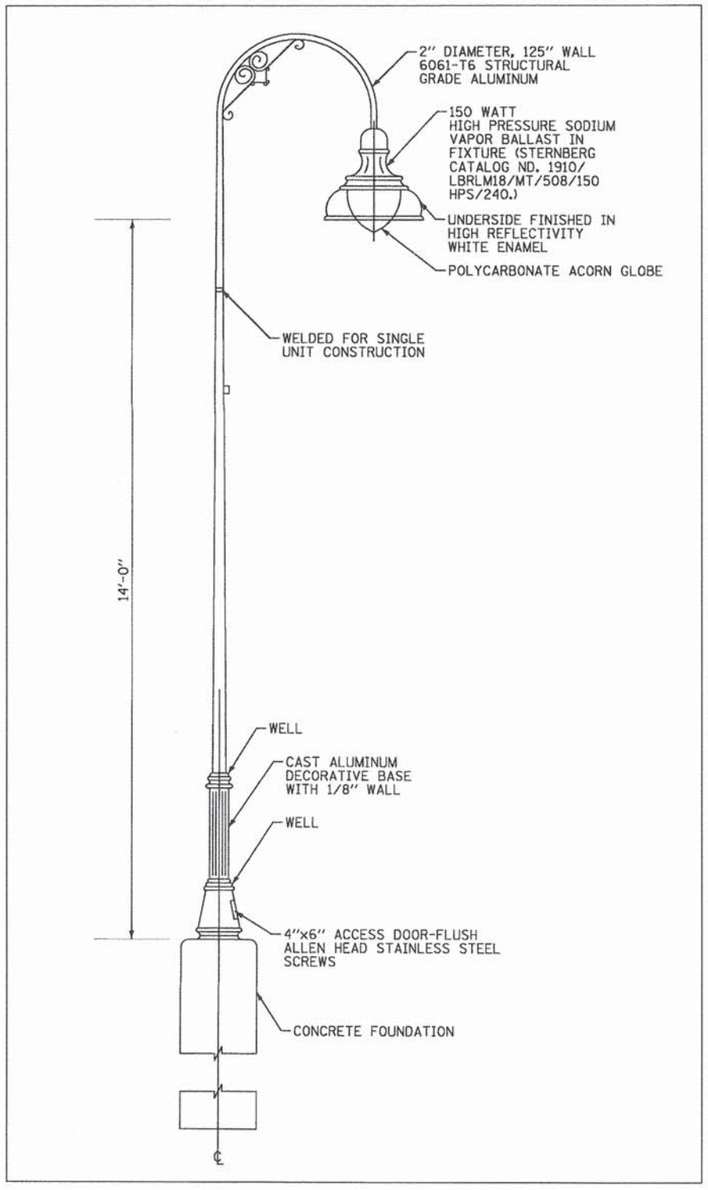
G:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt_TempLighting_Sheet.dgn



2 / 266 LIGHT POLE FOUNDATION
SCALE: NONE

MOUNTING HEIGHT	A	B	L	ANCHOR BOLT DIAMETER
14'	24"	18"	18"	1/2"

3 / 266 LIGHTING FOUNDATION DIMENSIONS
SCALE: NONE



1 / 266 DECORATIVE LIGHT POLE DETAIL
SCALE: NONE

PENTABLE = ...\ILSLE\PENTABLE\TRANSPEN.TBL

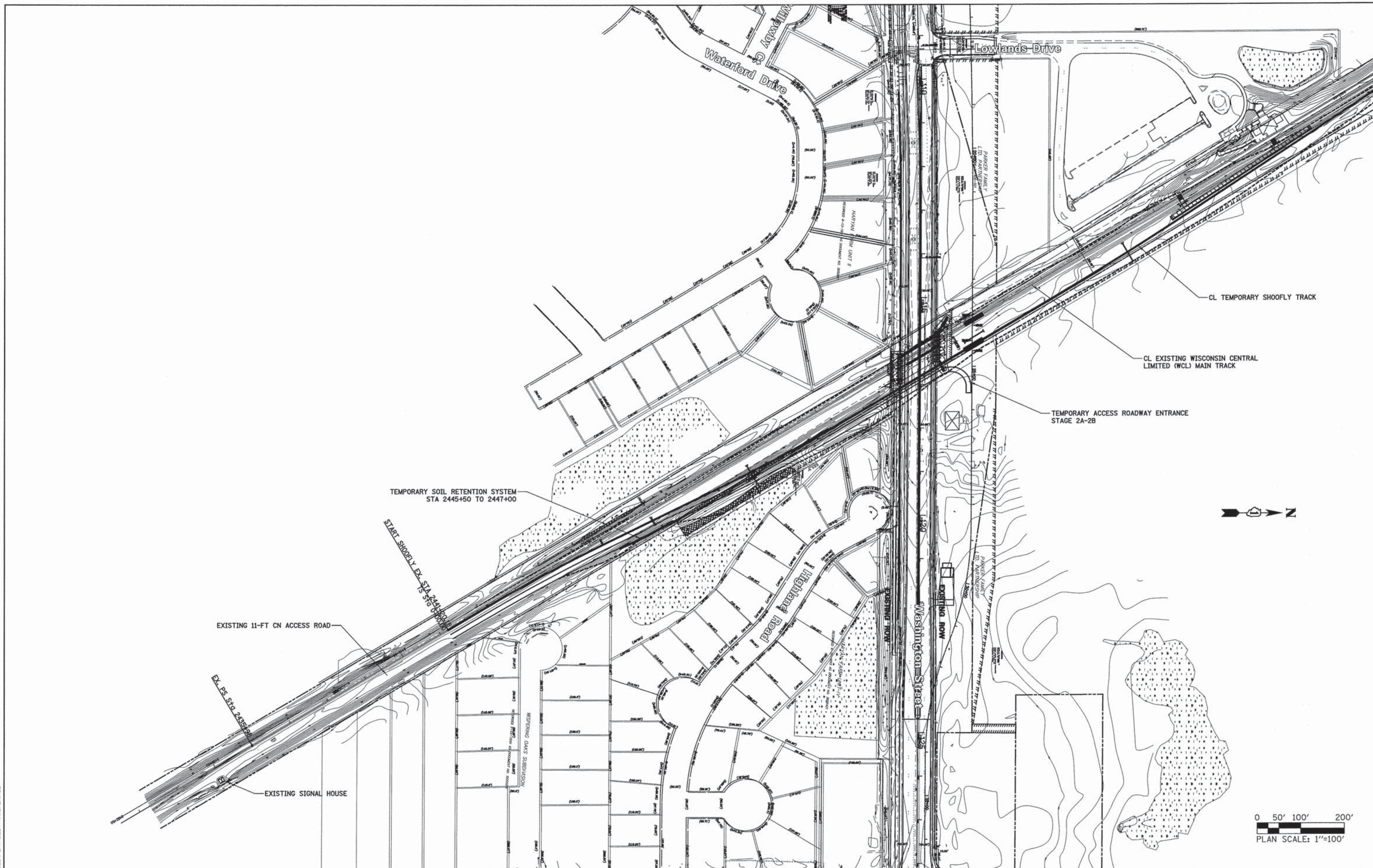
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	PLOT CONFIG= PDF(Grey_Small).plt	DRAWN - KEK	REVISED -	
	PLOT SCALE = 1:39.9999	CHECKED - SPH	REVISED -	
	PLOT DATE = 7/17/2014 1:32:38 PM	DATE - 6/30/2014	REVISED -	

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

SCALE: | SHEET NO. RR 12 OF 54 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	267
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

Q:\LCDOT\21150.024\Drawings\RAIL\SHEETS\WashSt_TempLighting_Sheet.dgn



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

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

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

PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014
	PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED -
	PLOT SCALE = 1:100	CHECKED - SPH	REVISED -
	PLOT DATE = 10/7/2014 2:17:18 PM	DATE - 6/30/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

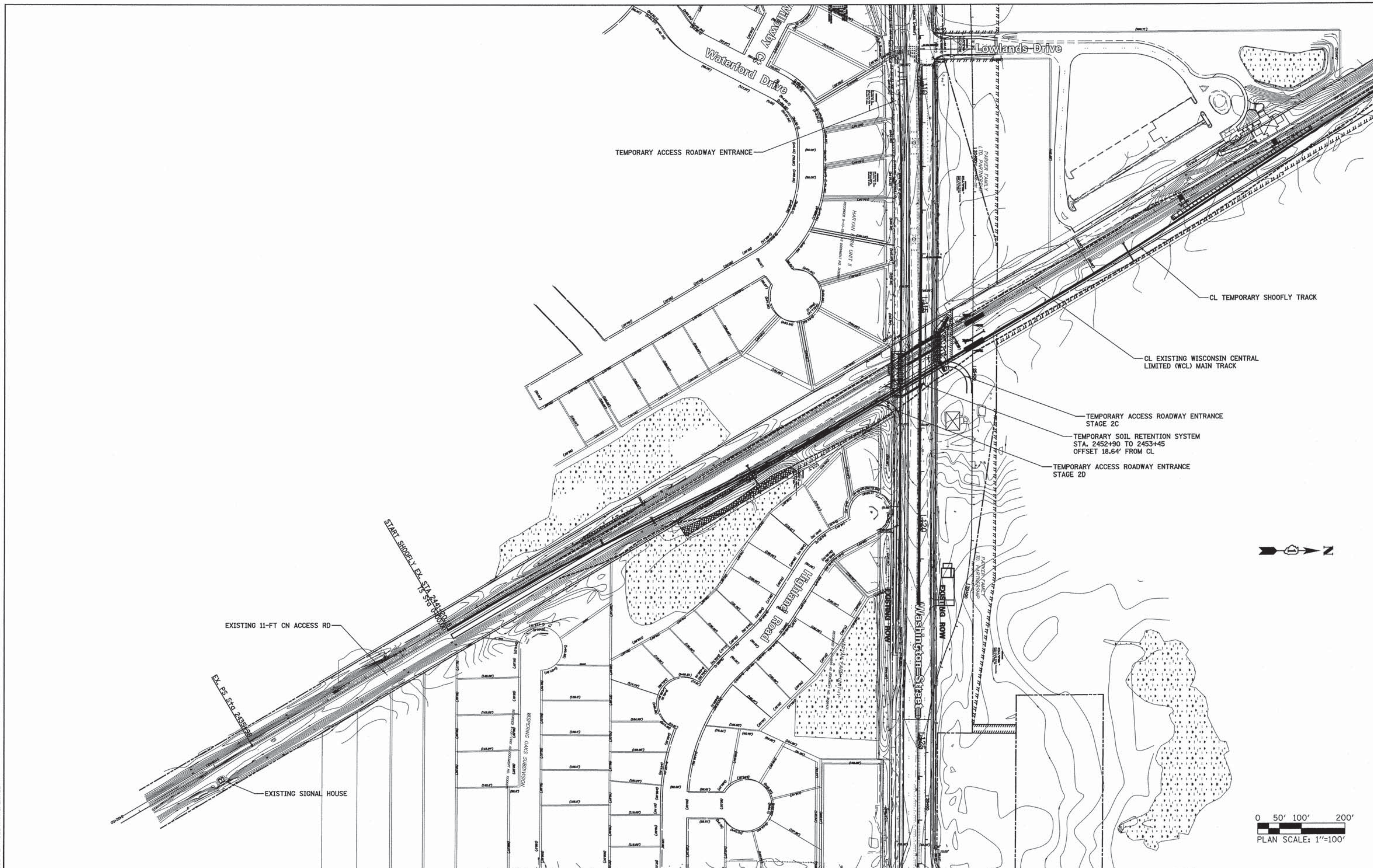
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD TEMPORARY ACCESS ROADWAY DETAIL 1

SCALE: 1"=100' | SHEET NO. RR 13 OF 54 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	268
		CONTRACT NO. 61A63		

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

G:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt_Plan_TempXing_Sheets.dgn



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

PROFILE	
NOTE BOOK	SURVEYED
NO.	PLOTTED
	GRADES CHECKED
	B.M. NOTED
	STRUCTURE NOTAT'NS CHK'D

PATRICK ENGINEERING

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED -	
PLOT SCALE = 1:100	CHECKED - SPH	REVISED -	
PLOT DATE = 10/7/2014 2:17:23 PM	DATE - 6/30/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

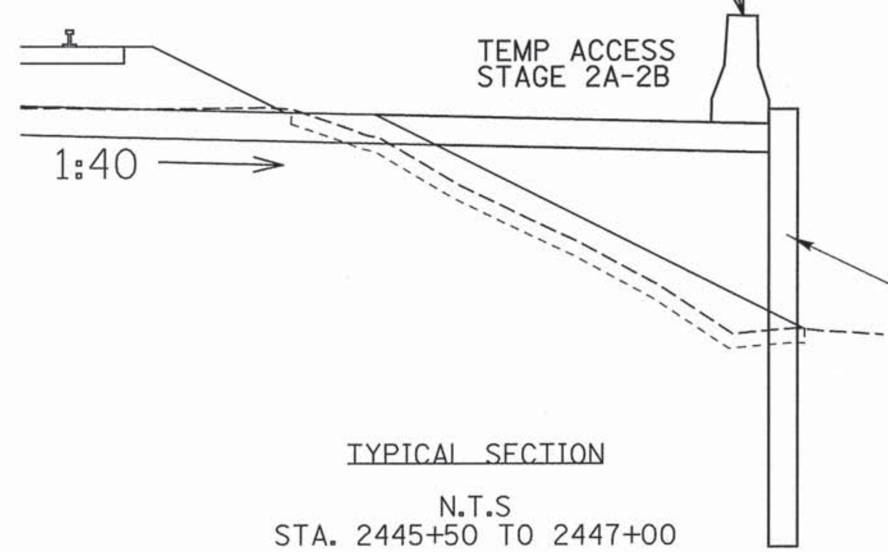
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD TEMPORARY ACCESS ROADWAY DETAIL 2

SCALE: 1"=100' | SHEET NO. RR 14 OF 54 | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	269
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

Q:\LCDOT\21150_004\Drawings\RAIL\SHEETS\WashSt_Plan_TempXing_Sheets.dgn

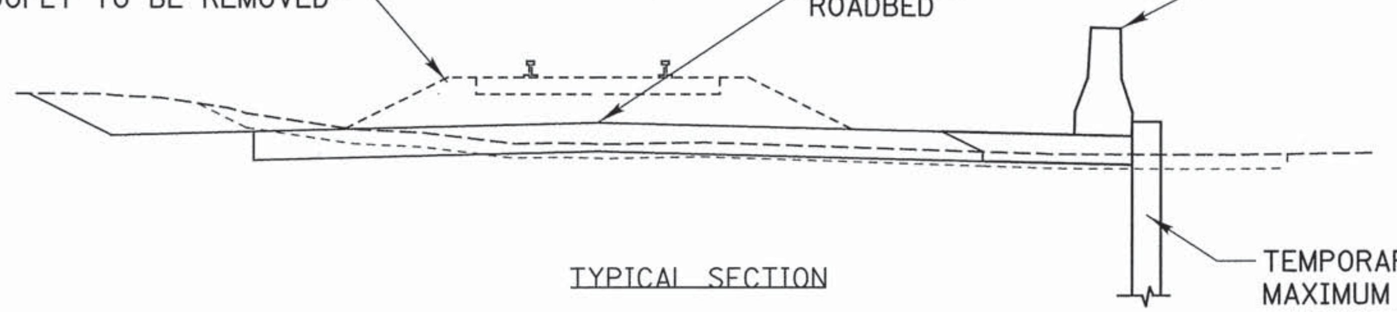


TYPICAL SECTION

N.T.S
STA. 2445+50 TO 2447+00

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
TEMPORARY SOIL RETENTION SYSTEM	SQ. FT.	1200



TYPICAL SECTION

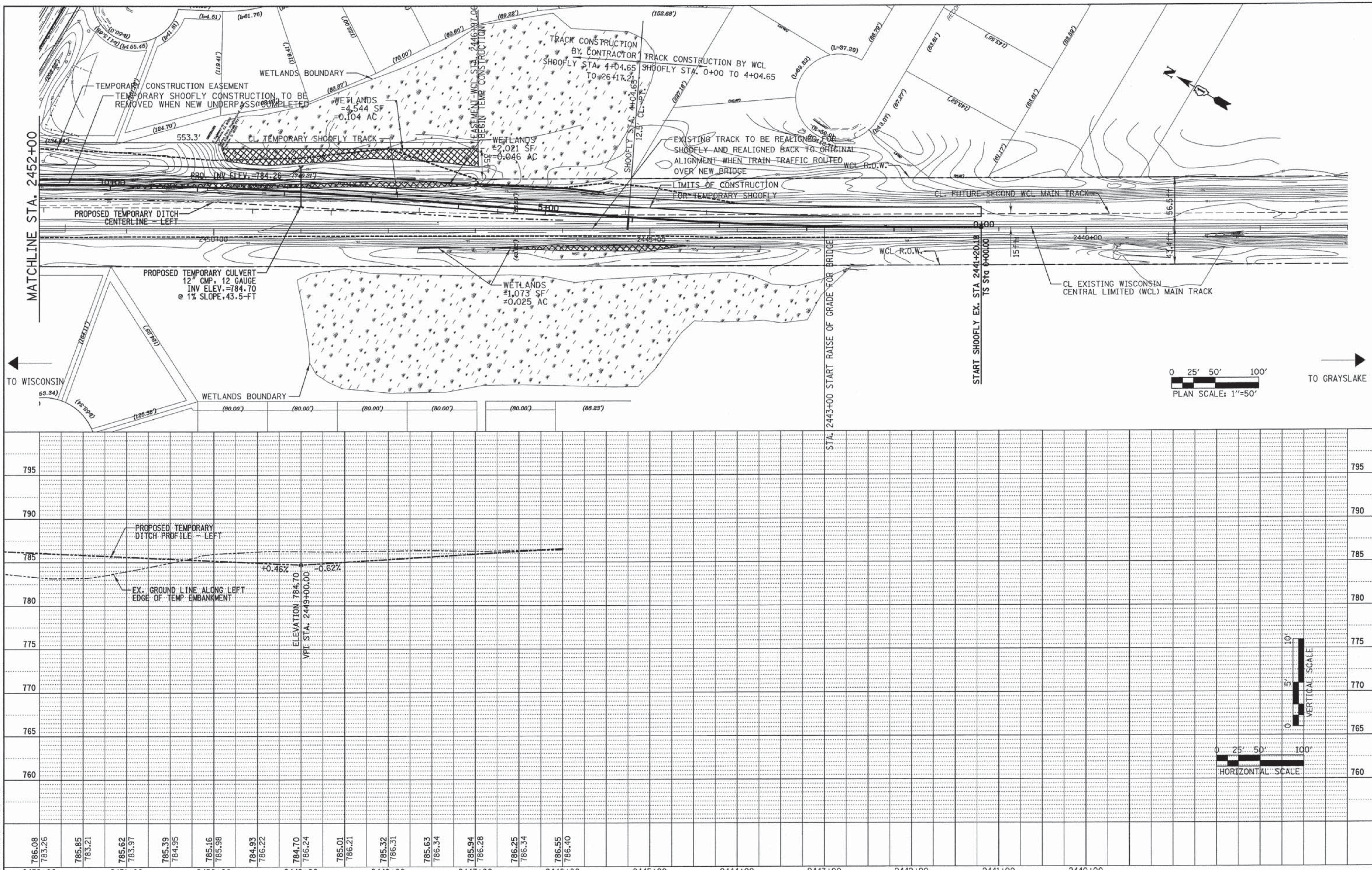
N.T.S
STA. 2452+90 TO 2453+45

NOTES:

1. THE CONTRACTOR SHALL SUBMIT A SOIL RETENTION SYSTEM DESIGN SEALED BY AN ILLINOIS LICENSED STRUCTURAL ENGINEER INCLUDING PLAN DETAILS AND CALCULATIONS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER AND THE RAILROAD. EXCAVATION SUPPORT WITHIN THE INFLUENCE OF RAILROAD LIVE LOAD SHALL BE DESIGNED PER AREMA REQUIREMENTS AND WCL STANDARDS FOR E-90 LOADING.

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

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



MATCHLINE STA. 2452+00
TEMPORARY CONSTRUCTION EASEMENT
TEMPORARY SHOOFLY CONSTRUCTION TO BE REMOVED WHEN NEW UNDERPASS IS COMPLETED
WETLANDS BOUNDARY
WETLANDS =4,544 SF =0.104 AC
CL TEMPORARY SHOOFLY TRACK
WETLANDS =2,021 SF =0.046 AC
TRACK CONSTRUCTION BY CONTRACTOR SHOOFLY STA. 4+04.65 TO 26+17.21
TRACK CONSTRUCTION BY WCL SHOOFLY STA. 0+00 TO 4+04.65
EXISTING TRACK TO BE REALIGNED FOR SHOOFLY AND REALIGNED BACK TO ORIGINAL ALIGNMENT WHEN TRAIN TRAFFIC ROUTED OVER NEW BRIDGE
LIMITS OF CONSTRUCTION FOR TEMPORARY SHOOFLY
WCL R.O.W.
CL FUTURE SECOND WCL MAIN TRACK
PRO. INV ELEV.=784.26
PROPOSED TEMPORARY DITCH CENTERLINE - LEFT
PROPOSED TEMPORARY CULVERT 12" CMP, 12 GAUGE INV ELEV.=784.70 @ 1% SLOPE,43.5-FT
WETLANDS =1,073 SF =0.025 AC
STA. 2443+00 START RAISE OF GRADE FOR BRIDGE
START SHOOFLY EX. STA 2441+20.18 TS Sta 0+00.00
CL EXISTING WISCONSIN CENTRAL LIMITED (WCL) MAIN TRACK
TO WISCONSIN
TO GRAYSLAKE
PLAN SCALE: 1"=50'
PROPOSED TEMPORARY DITCH PROFILE - LEFT
EX. GROUND LINE ALONG LEFT EDGE OF TEMP EMBANKMENT
+0.46%
-0.62%
ELEVATION 784.70
VPI STA. 2449+00.00
VERTICAL SCALE
HORIZONTAL SCALE
786.08 783.26
785.85 783.21
785.62 783.97
785.39 784.95
785.16 785.98
784.93 786.22
784.70 786.24
785.01 786.21
785.32 786.31
785.63 786.34
785.94 786.28
786.25 786.34
786.55 786.40
2452+00 2451+00 2450+00 2449+00 2448+00 2447+00 2446+00 2445+00 2444+00 2443+00 2442+00 2441+00 2440+00

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED -	
PLOT SCALE = 1:50.0001	CHECKED - SPH	REVISED -	
PLOT DATE = 10/7/2014 2:17:31 PM	DATE - 6/30/2014	REVISED -	

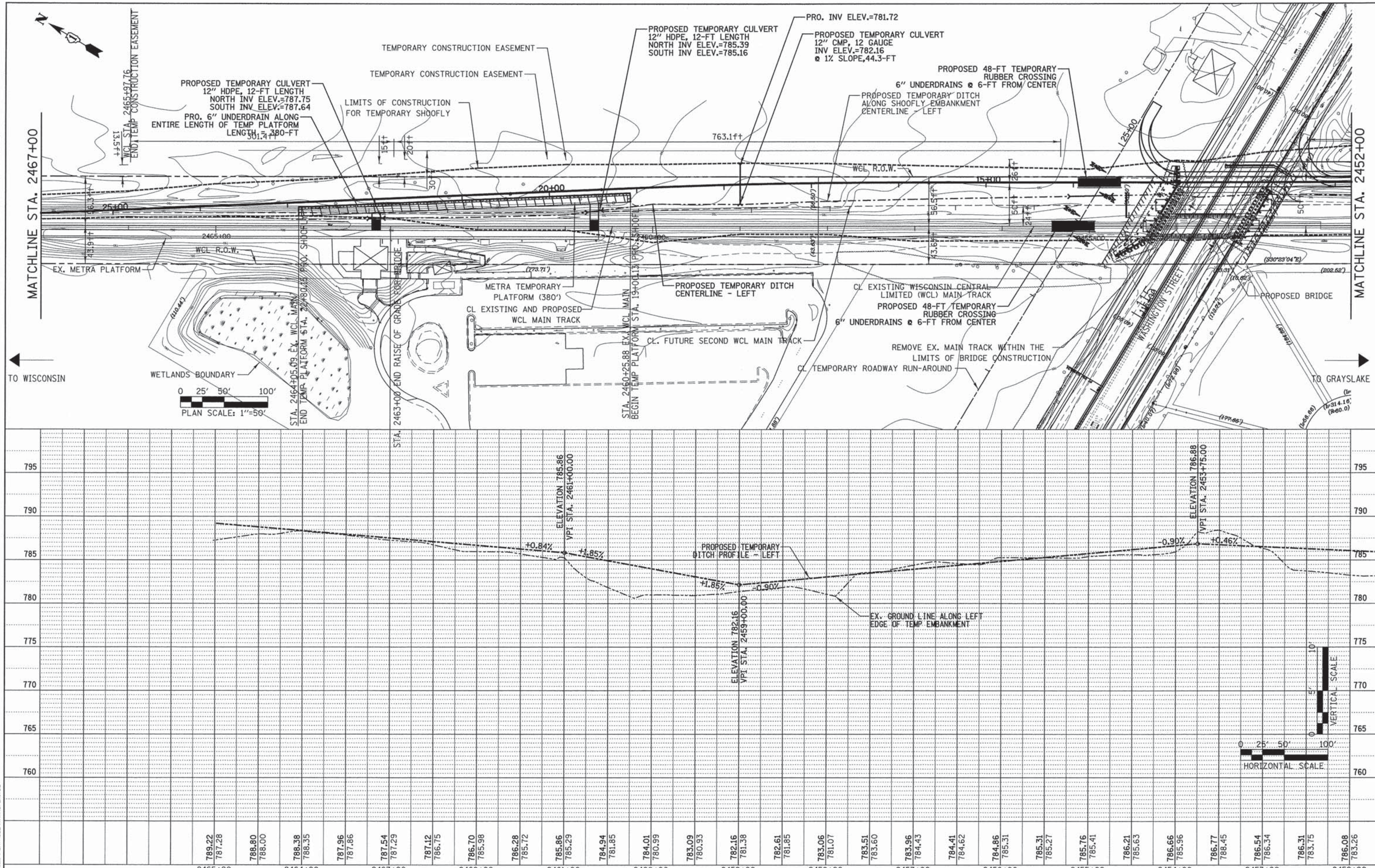
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
TEMPORARY DITCH PROFILE FOR RAILROAD EMBANKMENT

SCALE: | SHEET NO. RR 16 OF 54 | STA. 2452+00 TO STA. 2437+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	271
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		61A63

q:\icdot\21150.004\drawings\rail\SHEETS\WashSt_Ditch_Plan_Profile_Sheets.dgn



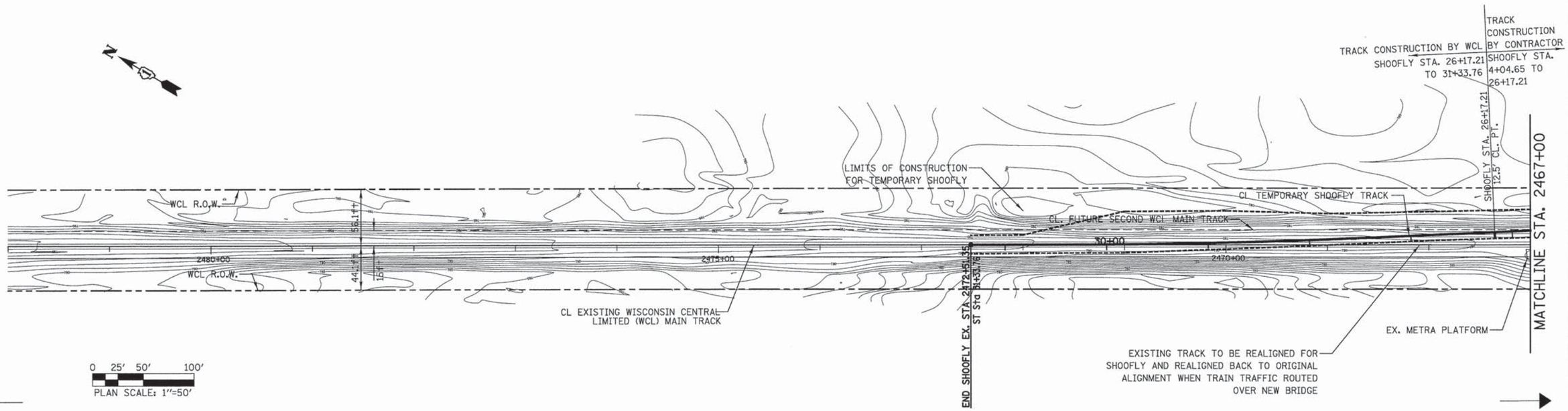
PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET TEMPORARY DITCH PROFILE FOR RAILROAD EMBANKMENT
	PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED -		
	PLOT SCALE = 1:50.0001	CHECKED - SPH	REVISED -		
	PLOT DATE = 10/7/2014 2:17:35 PM	DATE - 6/30/2014	REVISED -		SCALE: SHEET NO. RR 17 OF 54 STA. 2467+00 TO STA. 2452+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	272
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

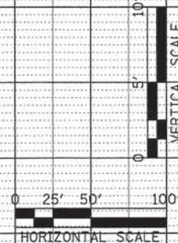
q:\lcdot\21150.004\drawings\rail\SHEETS\WashSt_Ditch_Plan_Profile_Sheets.dgn

PENTABLE = ..\LISLEPENTABLE\TRANSPEN.TBL

PLAN
SURVEYED
PLOTTED
GRADES CHECKED
R.O.W. CHECKED
NOTE BOOK
NO.
BY
DATE



PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
R.O.W. CHECKED
NOTE BOOK
NO.
BY
DATE



805 800 795 790 785 780 775 770

795 790 785 780 775 770 765 760

NO DITCH PROFILES NEEDED STA. 2467+00 to 2481+00.

PENTABLE = ...\PenTable\Slo1_GreyGrid.tbl

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -
PLOT CONFIG= PDF(Grey_Large).plt	DRAWN - KEK	REVISED -
PLOT SCALE = 1:50.0001	CHECKED - SPH	REVISED -
PLOT DATE = 7/17/2014 2:11:55 PM	DATE - 6/30/2014	REVISED -

G:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt_Ditch_Plan_Profile_Sheets.dgn

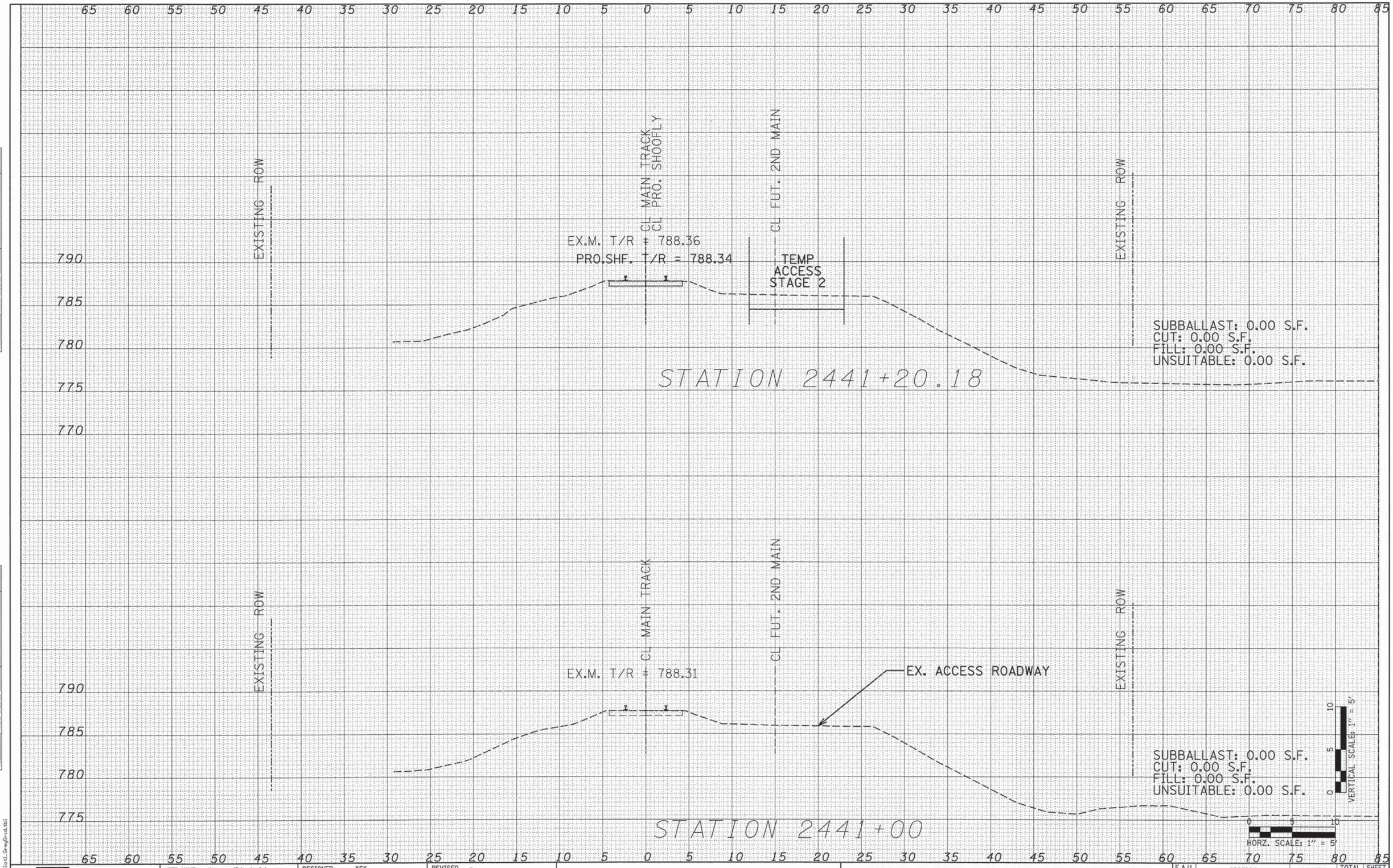
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
TEMPORARY DITCH PROFILE FOR RAILROAD EMBANKMENT

SCALE: | SHEET NO. RR 18 OF 54 | STA. 2481+00 TO STA. 2467+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	273
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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



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

...\PenTable\Slot1.DrwgCrvd.tbl

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -
	DRAWN - KEK	REVISED -
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED -
PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -

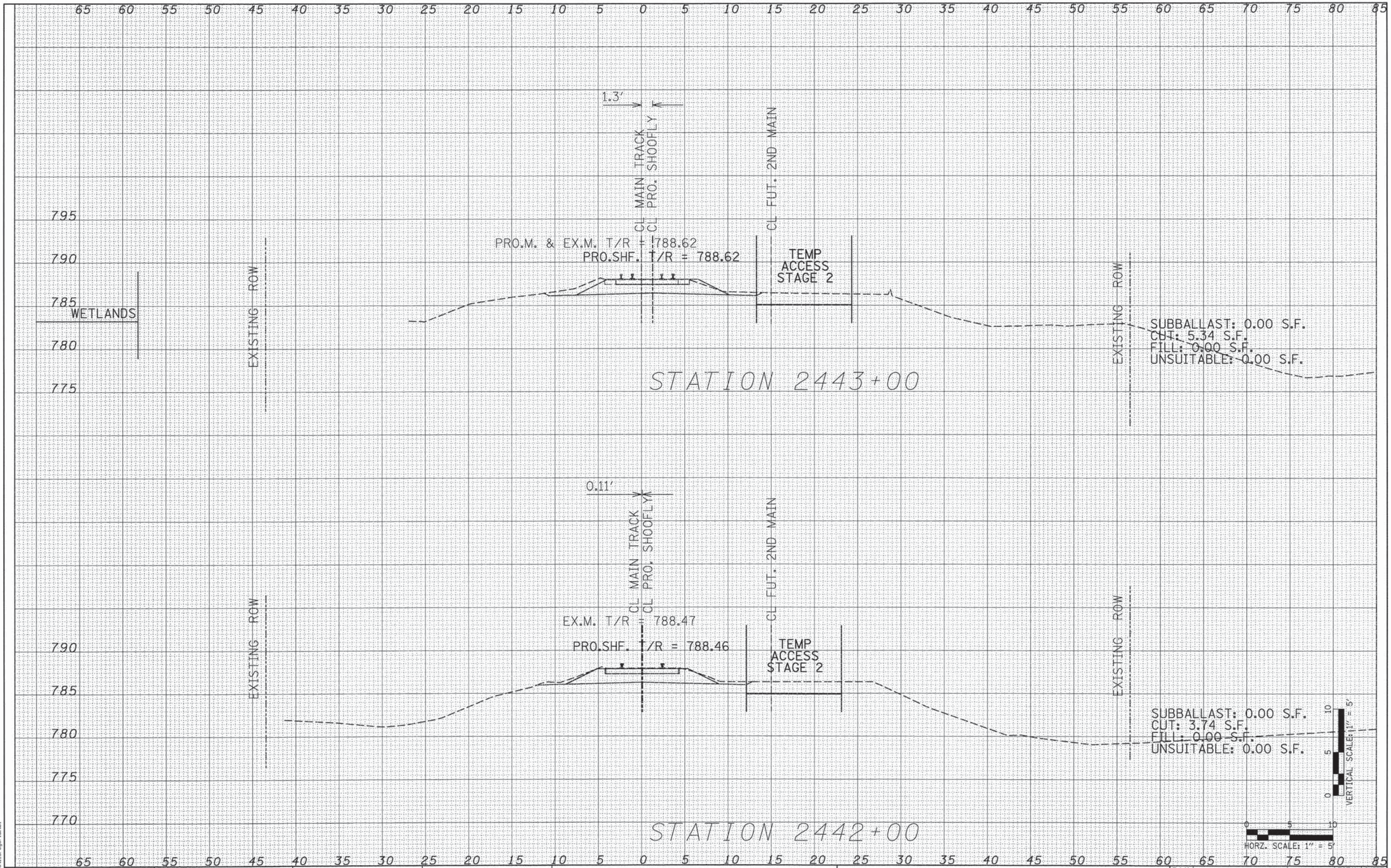
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 19 OF 54 | STA. 2441+00 | TO STA. 2441+20.18

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	274
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Q:\LCDOT\21150_004\Drawings\RAIL\SHEETS\WashSt_Rail_XSec_Sheets.dgn



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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -	
	DRAWN - KEK	REVISED -	
PLOT SCALE = 5.0000 '/ in.	CHECKED - SPH	REVISED -	
PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -	

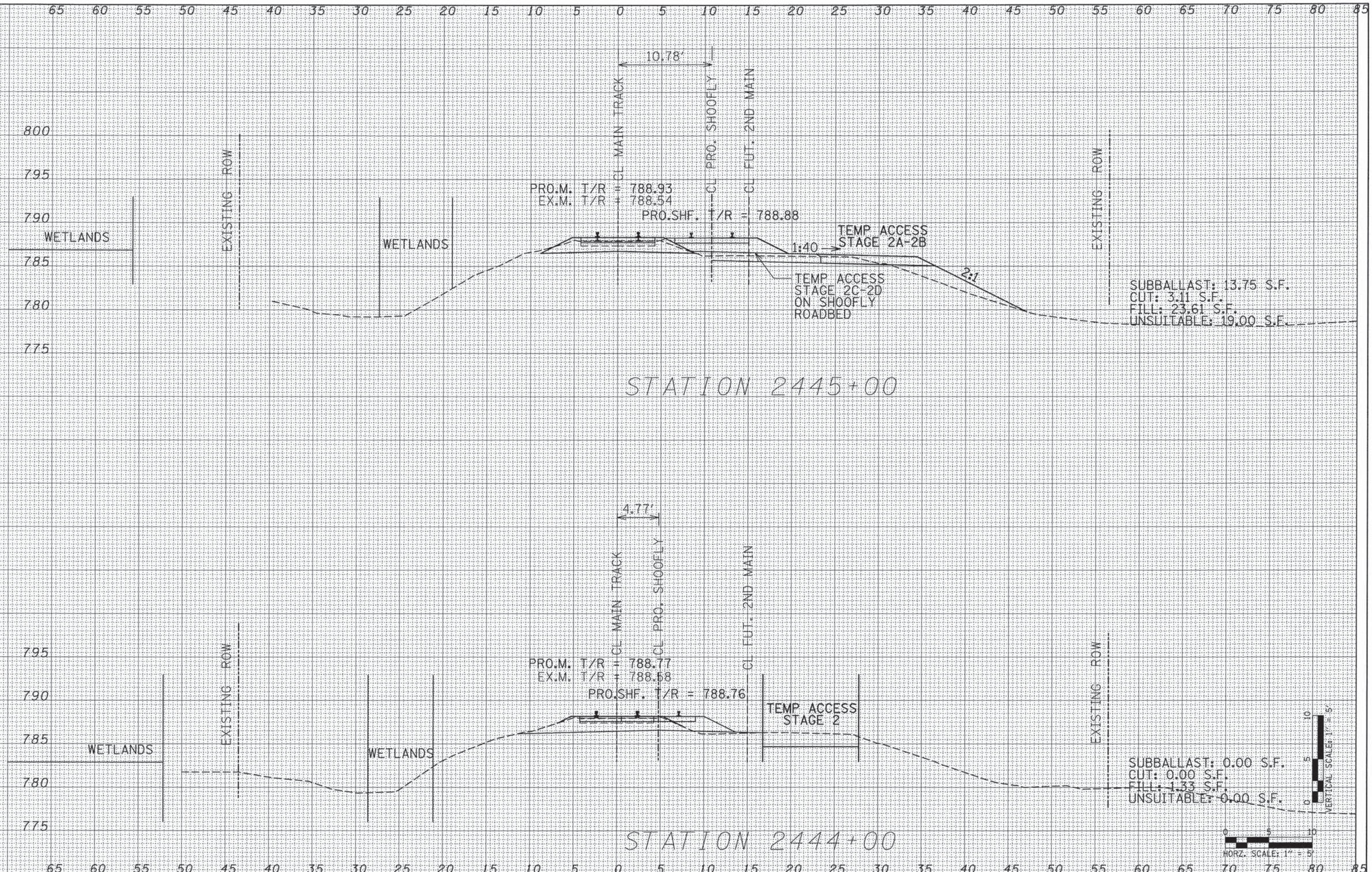
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 20 OF 54 | STA. 2442+00 TO STA. 2443+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	275
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Q:\LCDOT\21150_004\Drawings\RAIL\SHEETS\WashSt_Rail_XSec_Sheets.dgn



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

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

...\LISLE\PENTABLE\TRANSPEN.TBL

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED - ___	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

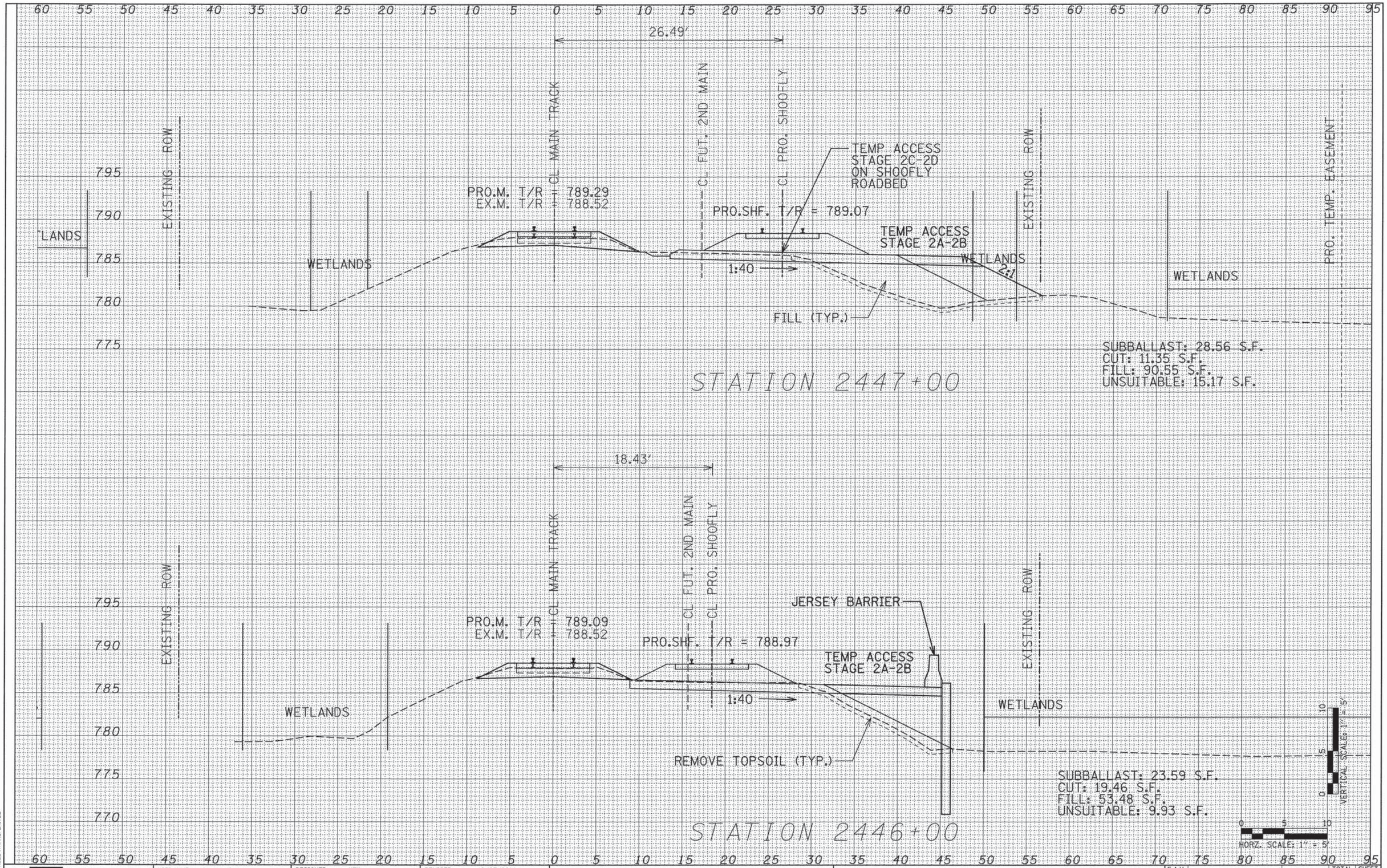
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 21 OF 54 | STA. 2444+00 TO STA. 2445+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	276
				61A63

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

q:\lodot\21150.004\drawings\rail\sheets\WashSt_Rail_XSec_Sheets.dgn



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

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

...\ISLE\PENTABLE\TRANSPEN.TBL

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED -	10/07/2014
	DRAWN - KEK	REVISED -	___
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED -	___
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED -	___

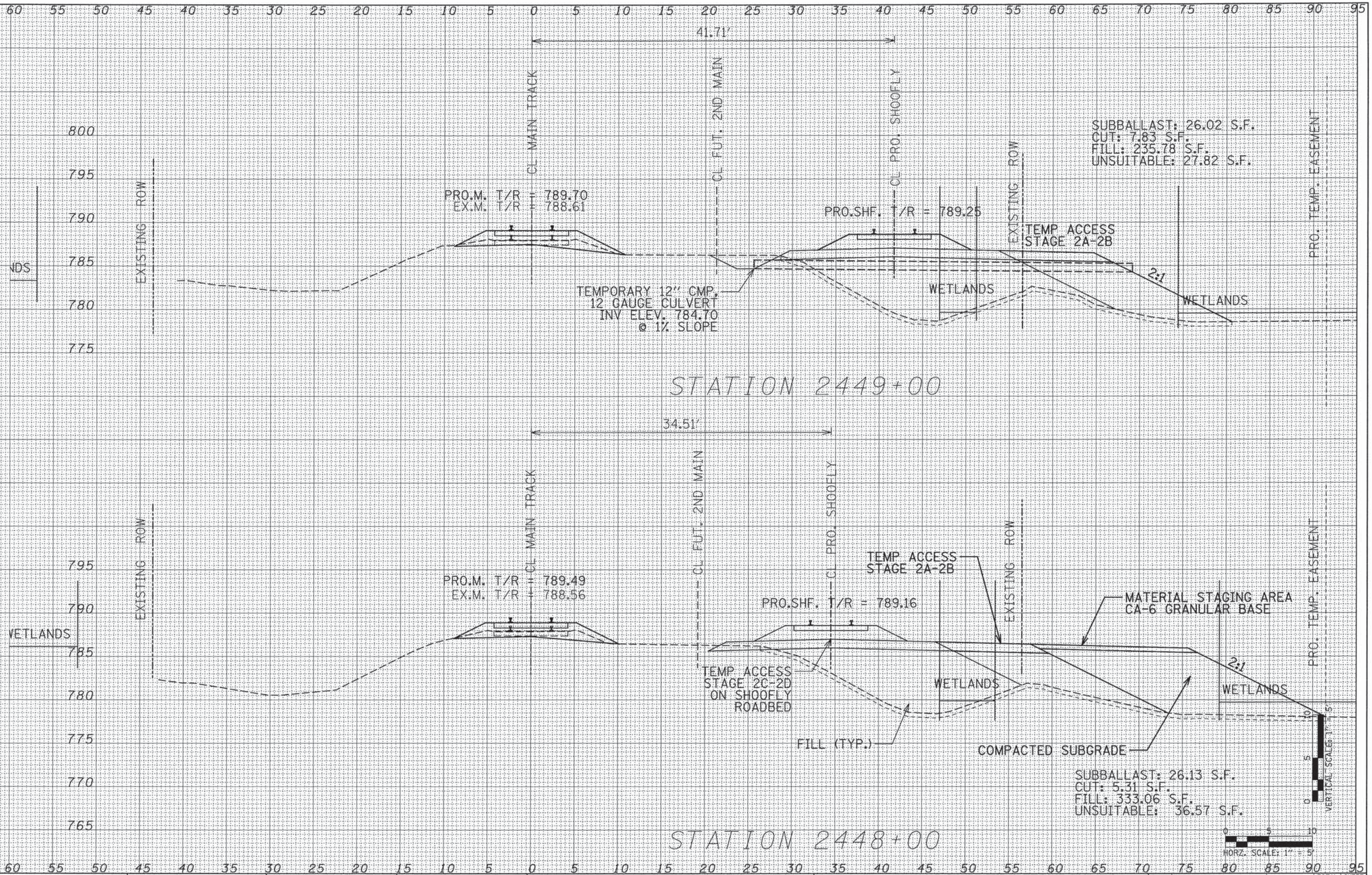
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 22 OF 54 | STA. 2446+00 TO STA. 2447+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	277
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

gt\lodot\21150.024\drawings\rail\sheets\WashSt_Rail_XSec_Sheets.dgn



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

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

...\ISLE\PENTABLE\TRANSPEN.TBL

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED - ___	

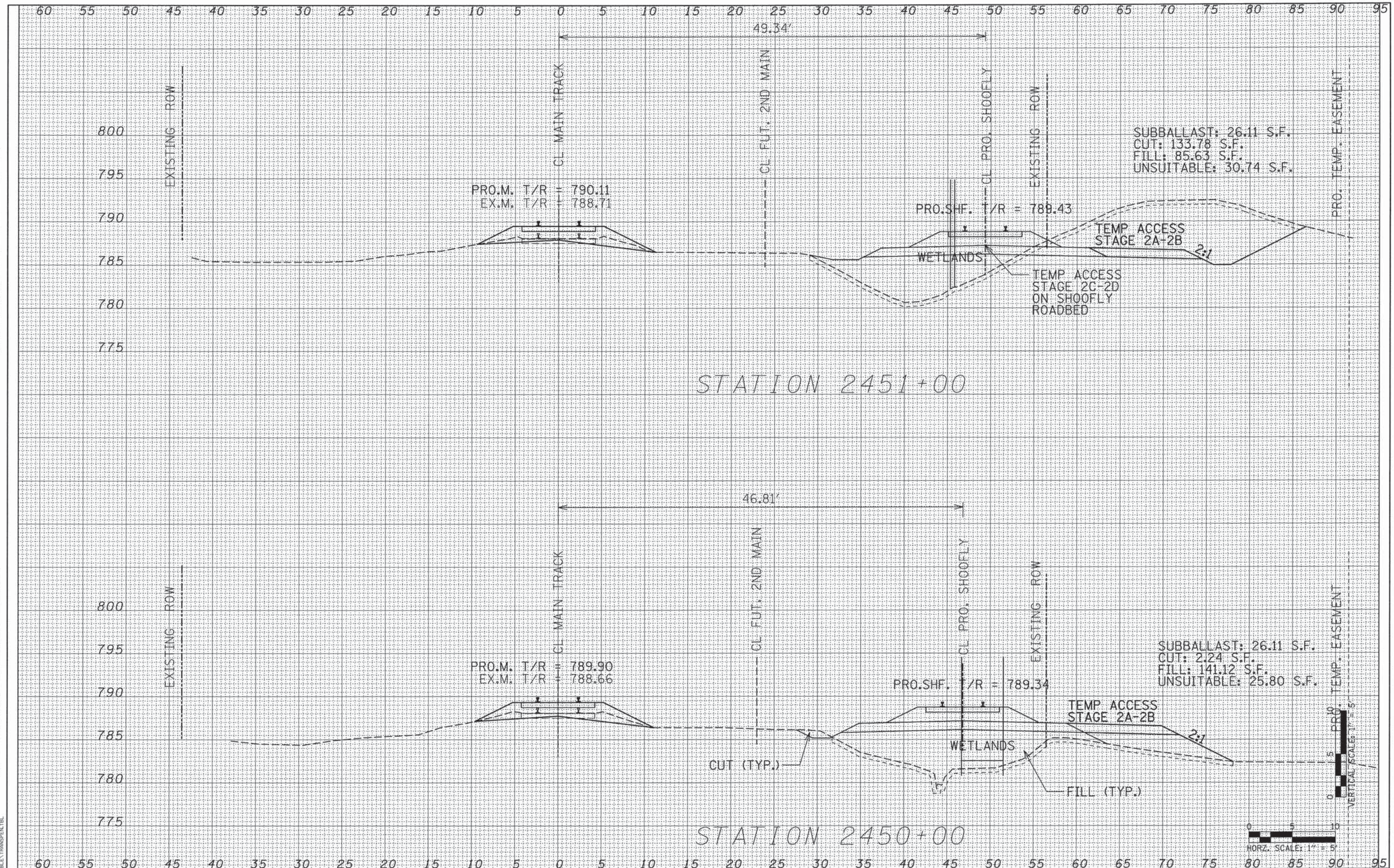
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 23 OF 54 | STA. 2448+00 TO STA. 2449+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	278
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

q:\lodot\21150.004\drawings\rail\sheets\WashSt_Rail_XSec_Sheets.dgn



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

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

...\LISLE\PENTABLE\TRANSPEN.TBL

PATRICK ENGINEERING

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED - ___	

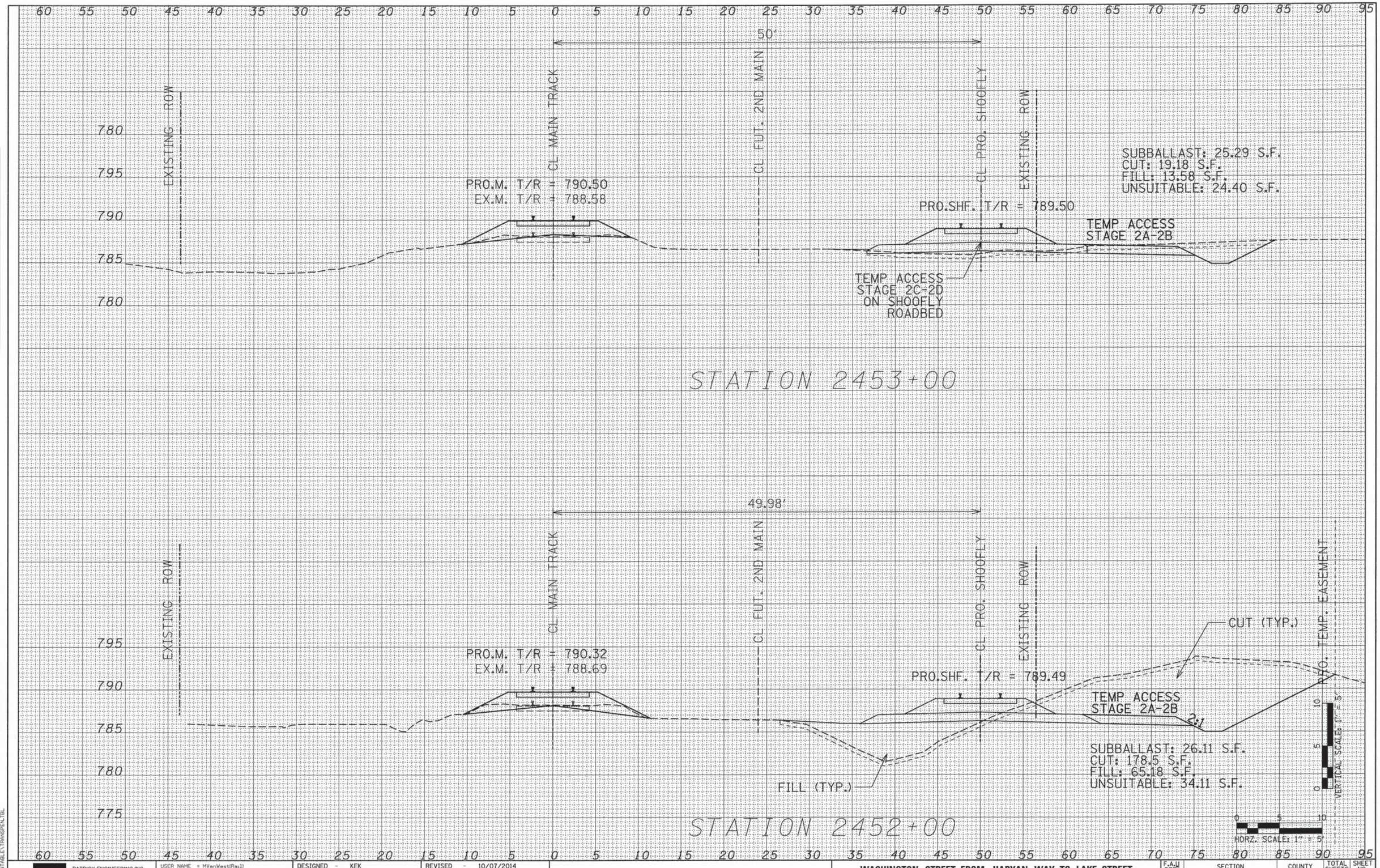
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 24 OF 54 | STA. 2450+00 | TO STA. 2451+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	279
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

gr\lodot\21150.004\drawings\rail\sheets\WashSt_Rail_XSec_Sheets.dgn



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

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

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014
	DRAWN - KEK	REVISED - ___
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED - ___
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED - ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

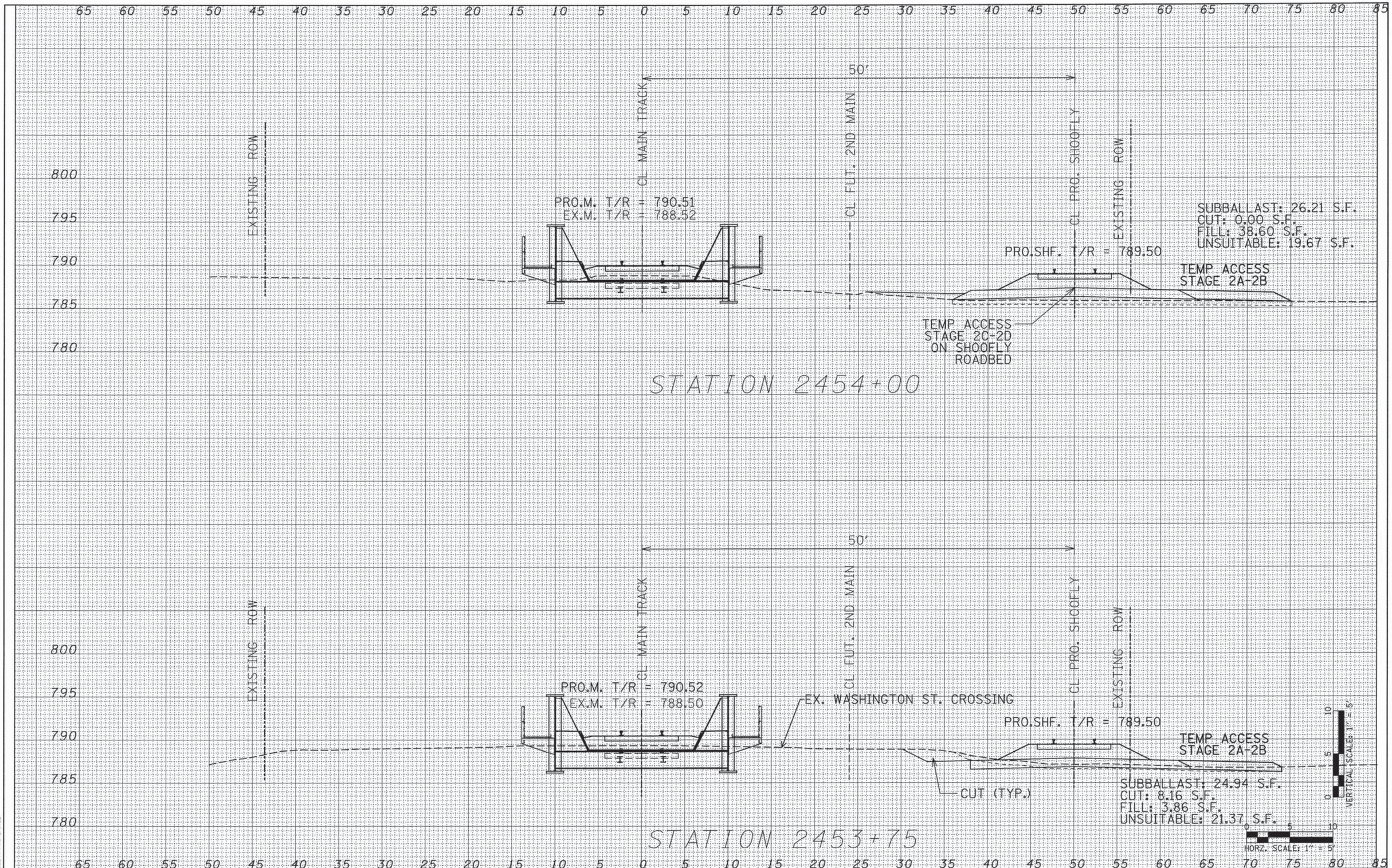
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 25 OF 54 | STA. 2452+00 TO STA. 2453+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	280
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

...\LISLE\PENTABLE\TRANSPEN.TBL

q:\lcdot\21150.024\drawings\rail\sheets\WashSt_Rail_XSec_Sheets.dgn



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

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

...\LISLE\PENTABLE\TRANSPEN.TBL

PATRICK ENGINEERING

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED - ___	

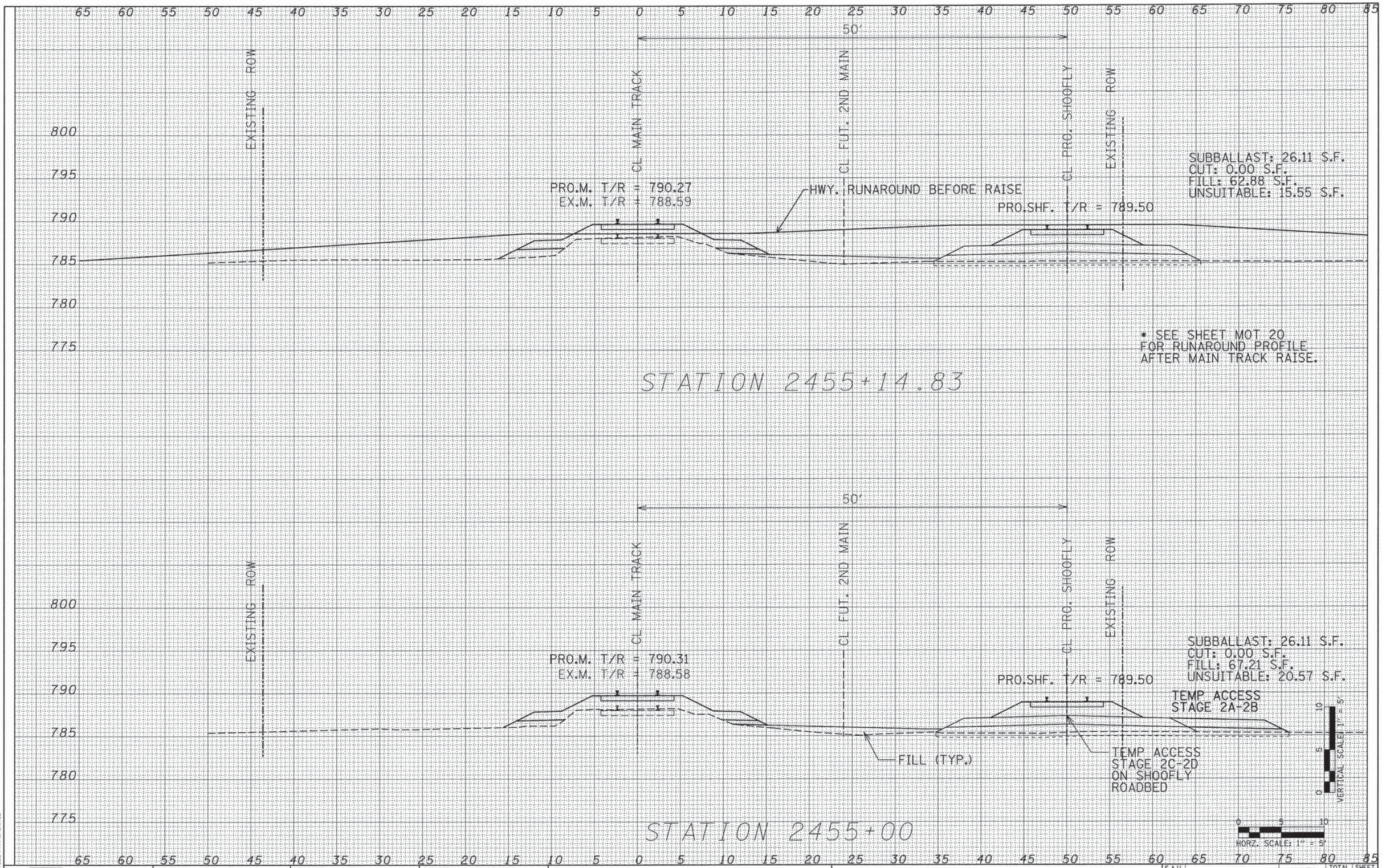
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 26 OF 54 | STA. 2453+75 | TO STA. 2454+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	281
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

gs\lcdot\21150.004\drawings\rail\sheets\WashSt_Rail_XSec_Sheets.dgn



FINAL SURVEY — NOTE BOOK — NO.

	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

ORIGINAL SURVEY — NOTE BOOK — NO.

	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

...\LISLE\PENTABLE\TRANSPEN.TBL

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED - ___	

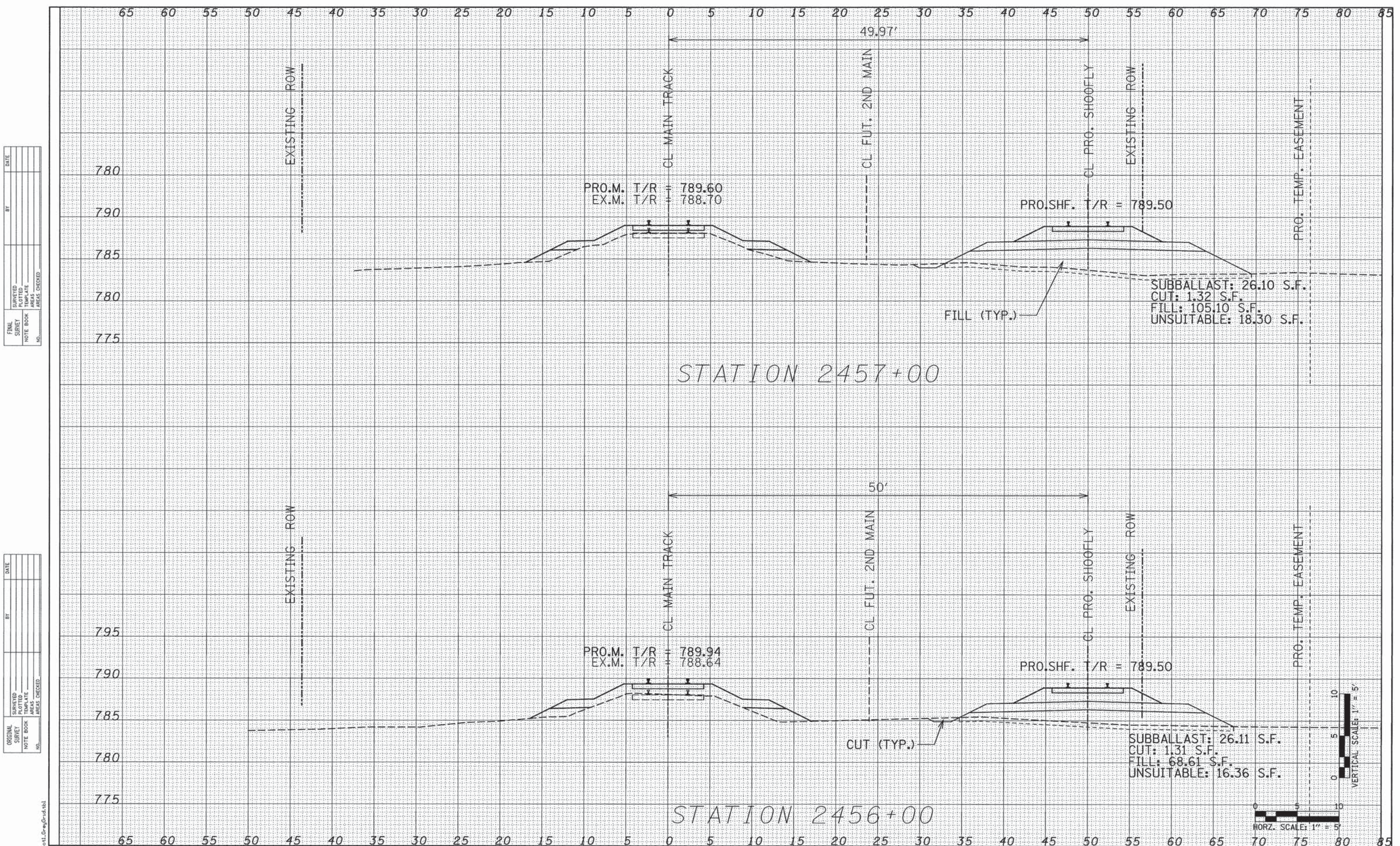
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 27 OF 54 | STA. 2455+00 | TO STA. 2455+14.83

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	282
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

q:\ledot\21150_004\drawings\rail\sheets\WashSt_Rail_XSec_Sheets.dgn



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

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

...\PenTable\Std_GreyGrid.tbl

PATRICK ENGINEERING

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -	
	DRAWN - KEK	REVISED -	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED -	
PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -	

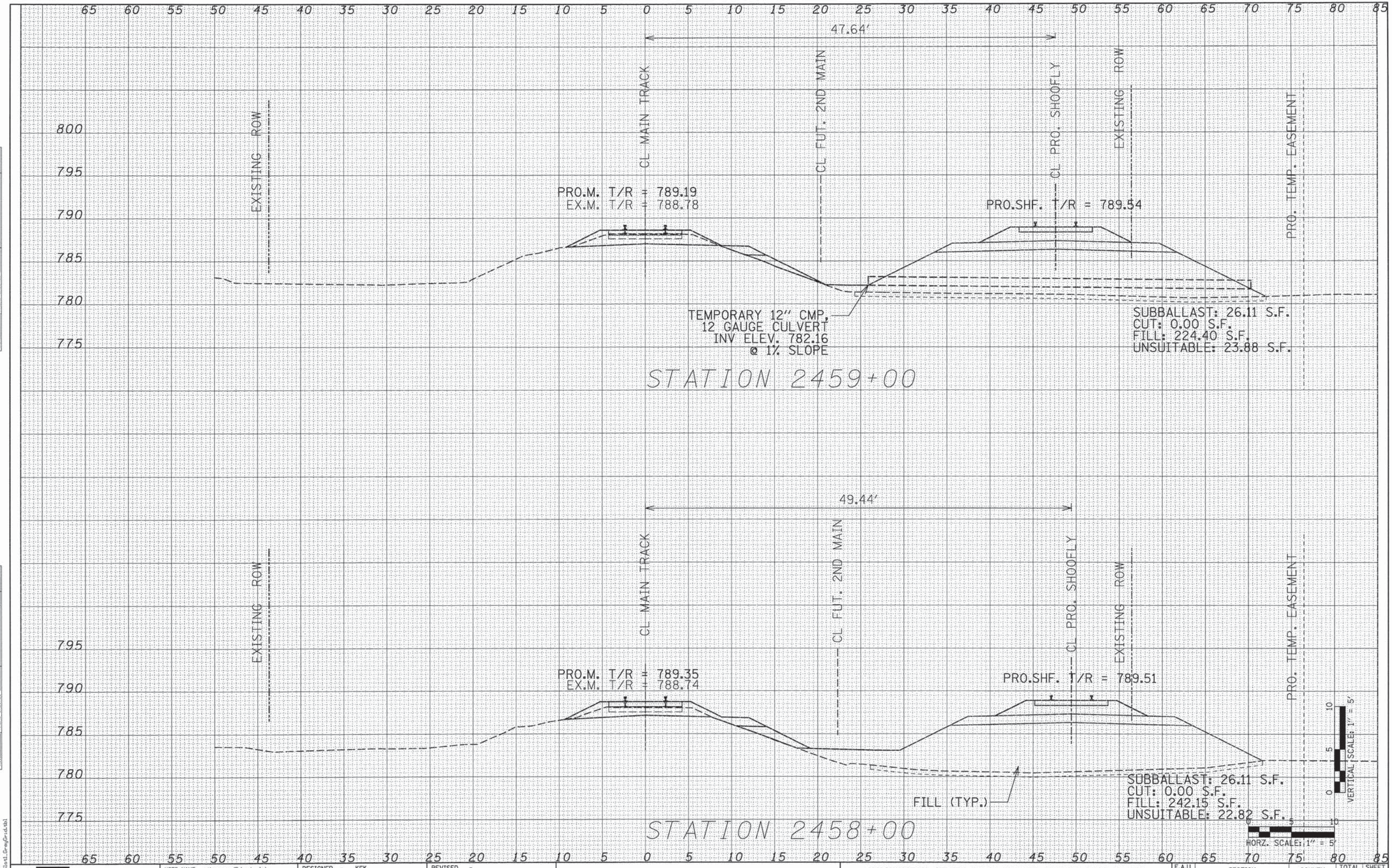
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 26 OF 52 | STA. 2456+00 TO STA. 2457+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	283
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt_Rail_XSec_Sheets.dgn



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

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

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

USER NAME = tkoepper(Rdwy_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

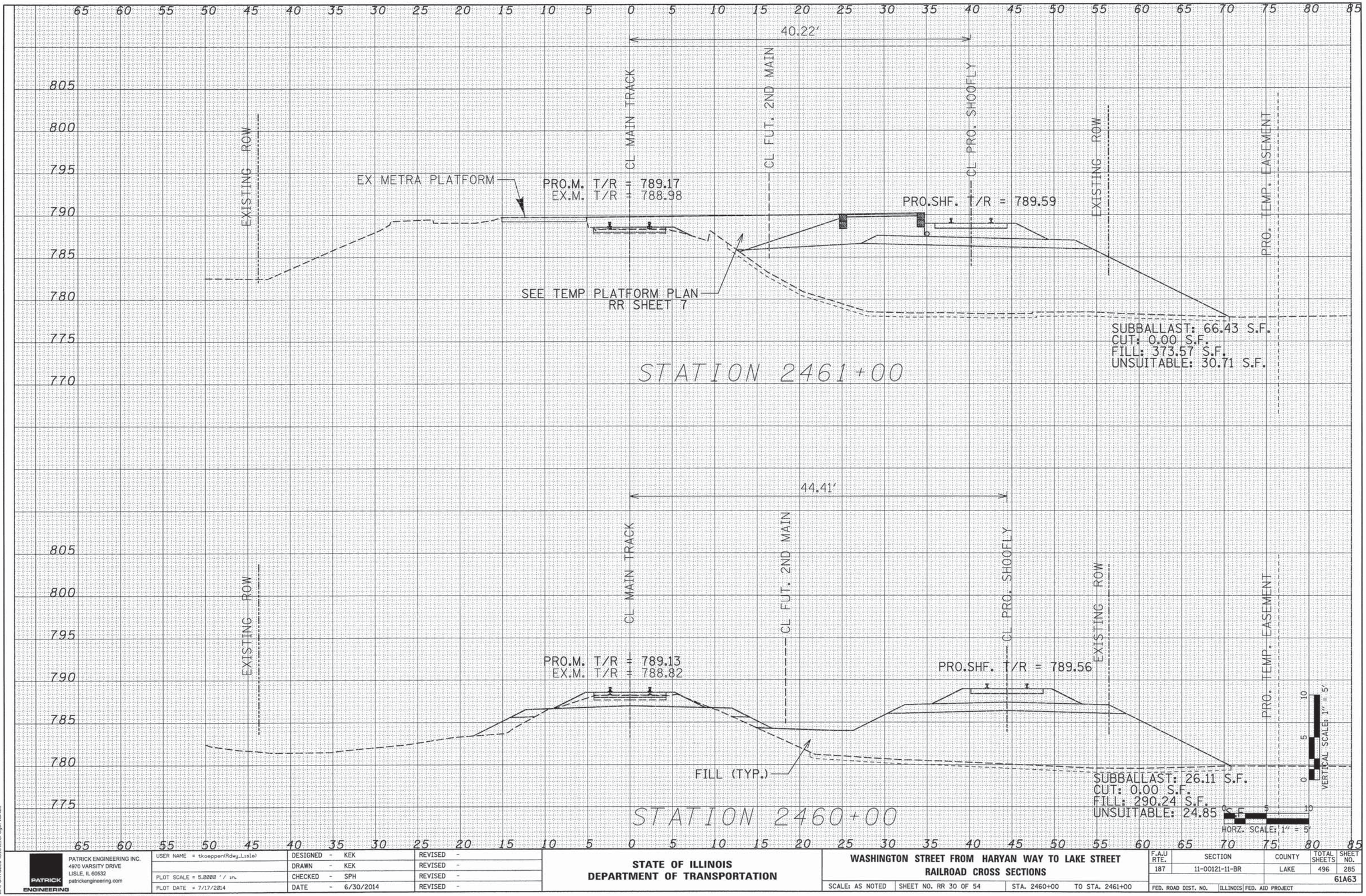
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 29 OF 54 | STA. 2458+00 | TO STA. 2459+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	284
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

...\PenTable\Slot1_GreyGrid.tbl

G:\LCDOT\21150_004\Drawings\RAIL\SHEETS\WashSt_Rail_XSec_Sheets.dgn



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

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

...\PenTable\Slot1_GreyScale.tbl

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

USER NAME = tkoepper(Rdwy_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 -	

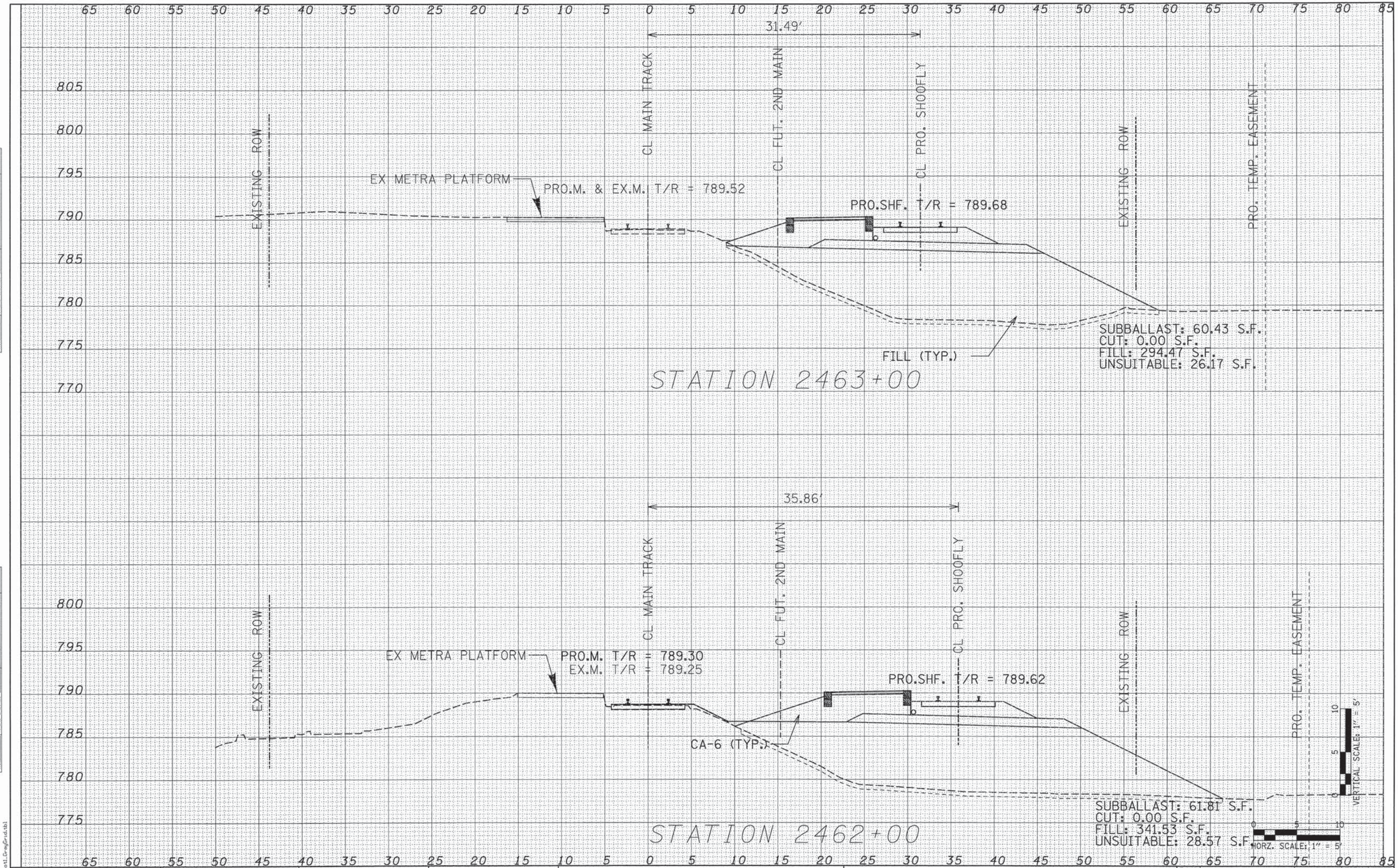
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 30 OF 54 | STA. 2460+00 | TO STA. 2461+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	285
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Q:\LCDOT\21150_024\Drawings\RAIL\SHEETS\WashSt_Rail_XSec_Sheets.dgn



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

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

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

USER NAME = tkoeppen(Rdwg_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

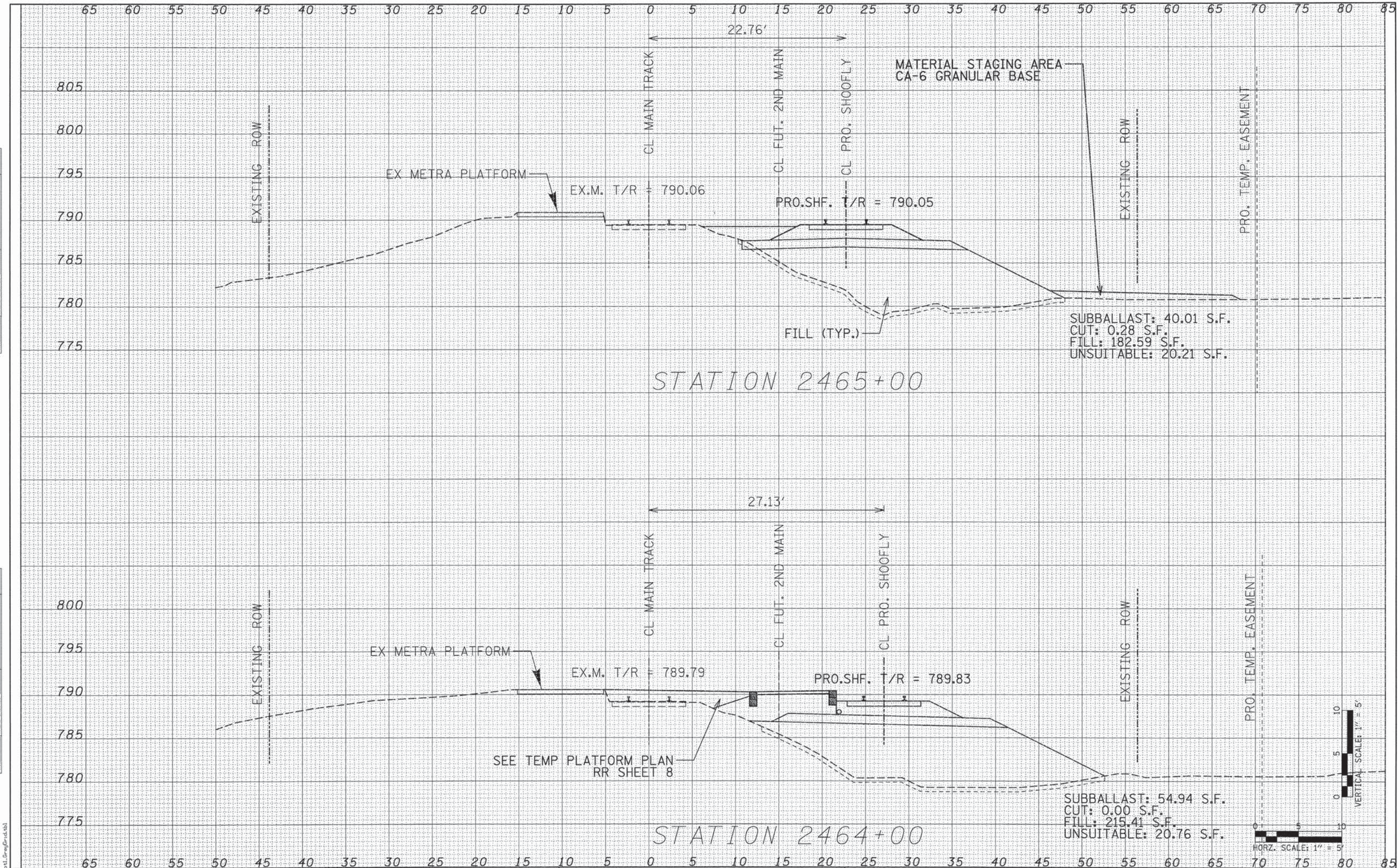
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

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

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	286
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

...\PenTable\Slot1_Grey6rid.tbl

G:\LCDOT\21152_004\Drawings\RAIL\SHEETS\WashSt_Rail_XSec_Sheets.dgn



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

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

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

USER NAME = tkoepper(Rdwy_Lisle)	DESIGNED - KEK	REVISED -	
	DRAWN - KEK	REVISED -	
PLOT SCALE = 5.2000 ' / in.	CHECKED - SPH	REVISED -	
PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

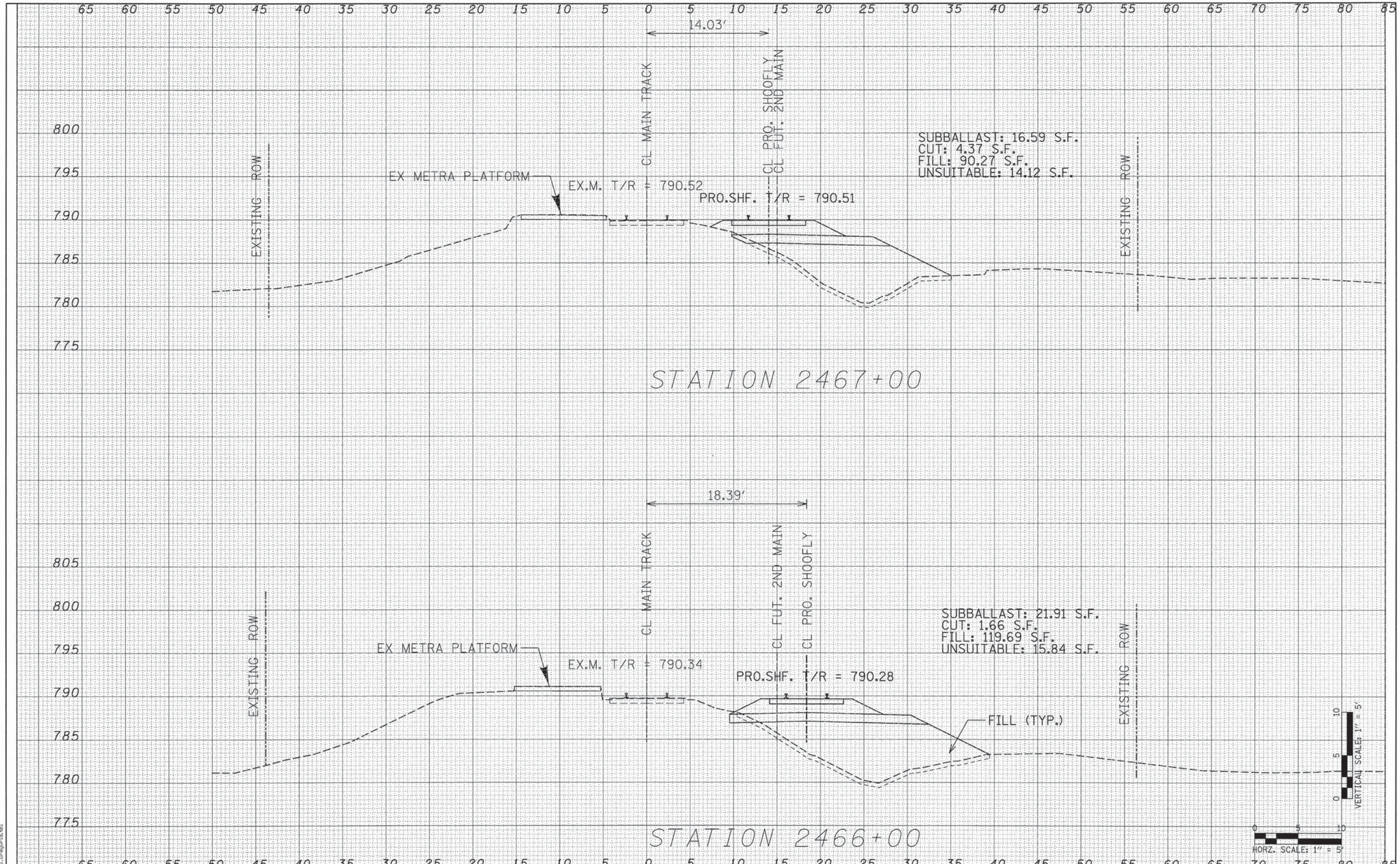
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 32 OF 54 | STA. 2464+00 TO STA. 2465+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	287
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

...\PenTable\Slo1_Grey(Grid.tbl

G:\LCDOT\21150_024\Drawings\RAIL\SHEETS\WashSt_Rail_XSec_Sheets.dgn



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

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

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

USER NAME = tkoepper(Rdwy_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

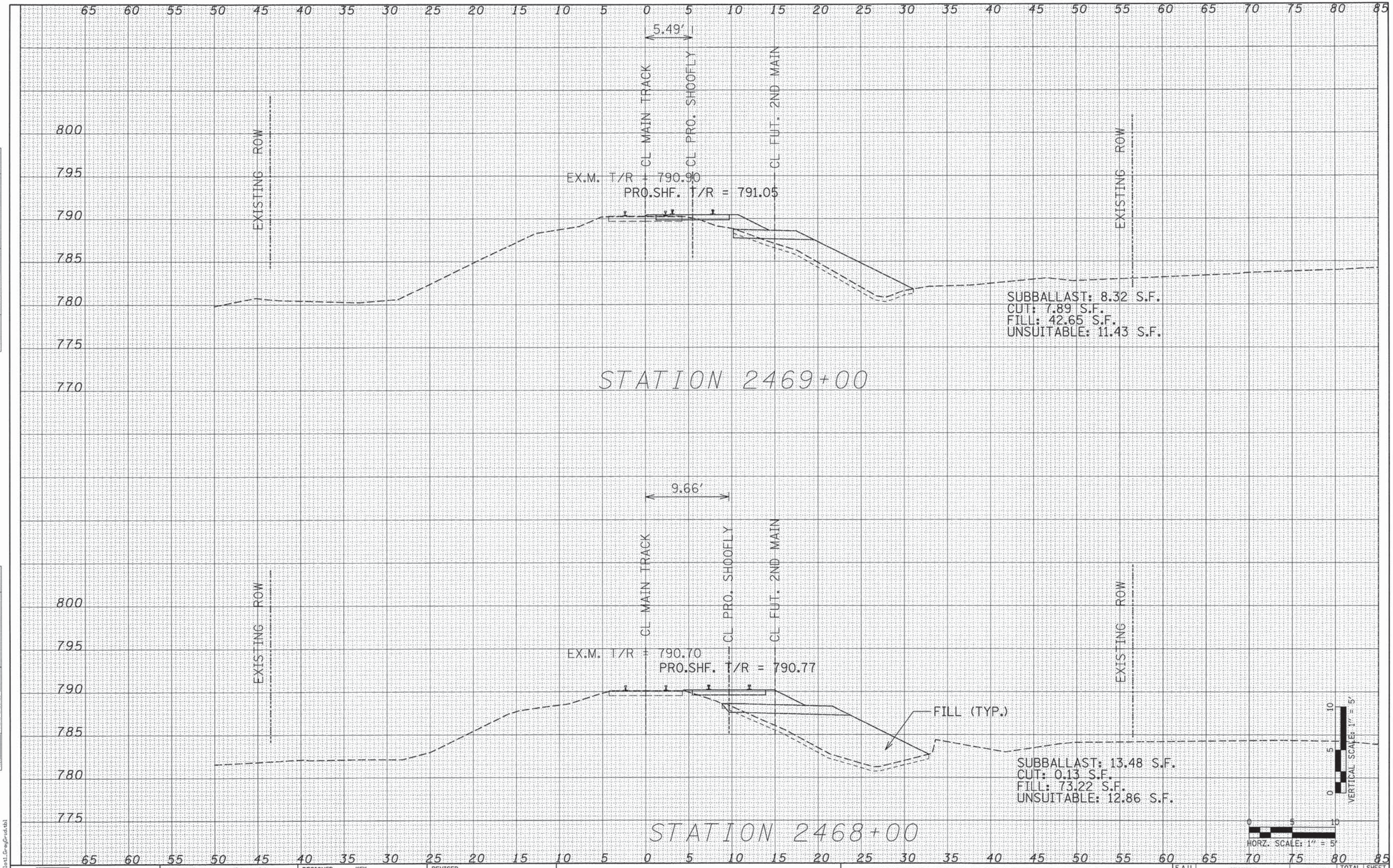
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 33 OF 54 | STA. 2466+00 TO STA. 2467+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	288
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		61A63

...\PenTable\Slot1_GreyGrid.tbl

Q:\LCDOT\21152_004\Drawings\RAIL\SHEETS\WashSt_Rail_XSec_Sheets.dgn



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

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

PATRICK ENGINEERING

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -	
	DRAWN - KEK	REVISED -	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED -	
PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

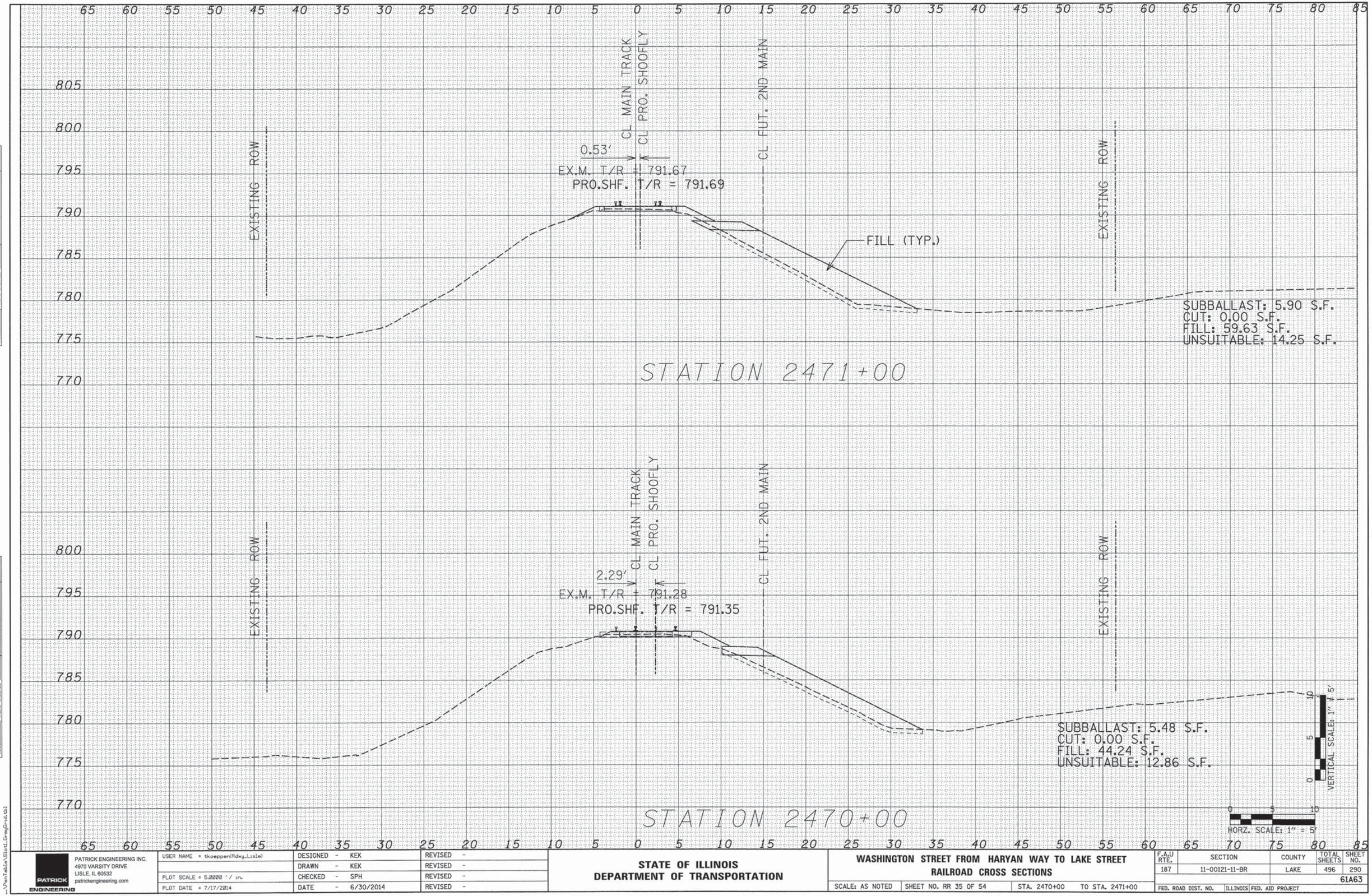
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 34 OF 54 | STA. 2468+00 | TO STA. 2469+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	289
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

...\PenTables\Slot1_DrwGrid.tbl

Q:\LCDOT\21150.004\Drawings\RAIL\SHEETS\WashSt_Rail_XSec_Sheets.dgn



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

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

..\PenTable\Std_Grey6rnd.tbl

PATRICK ENGINEERING

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -	
	DRAWN - KEK	REVISED -	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED -	
PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -	

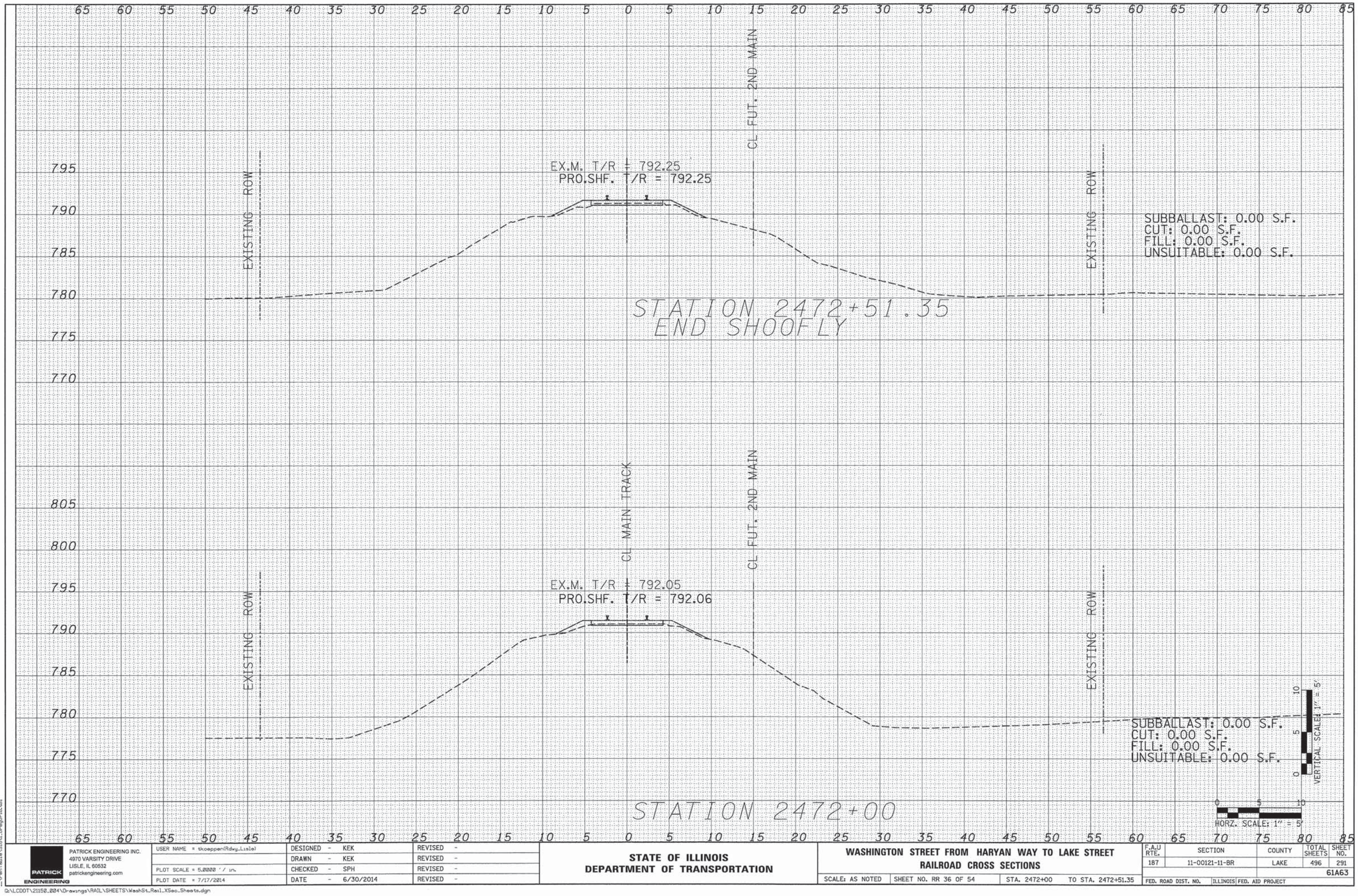
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 35 OF 54 | STA. 2470+00 | TO STA. 2471+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	290
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Q:\LCDOT\21150_004\Drawings\RAIL\SHEETS\WashSt_Rail_XSec_Sheets.dgn



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

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

...\PenTable\Slot1_GreyGrid.tbl

PATRICK ENGINEERING

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -
	DRAWN - KEK	REVISED -
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED -
PLOT DATE = 7/17/2014	DATE - 6/30/2014	REVISED -

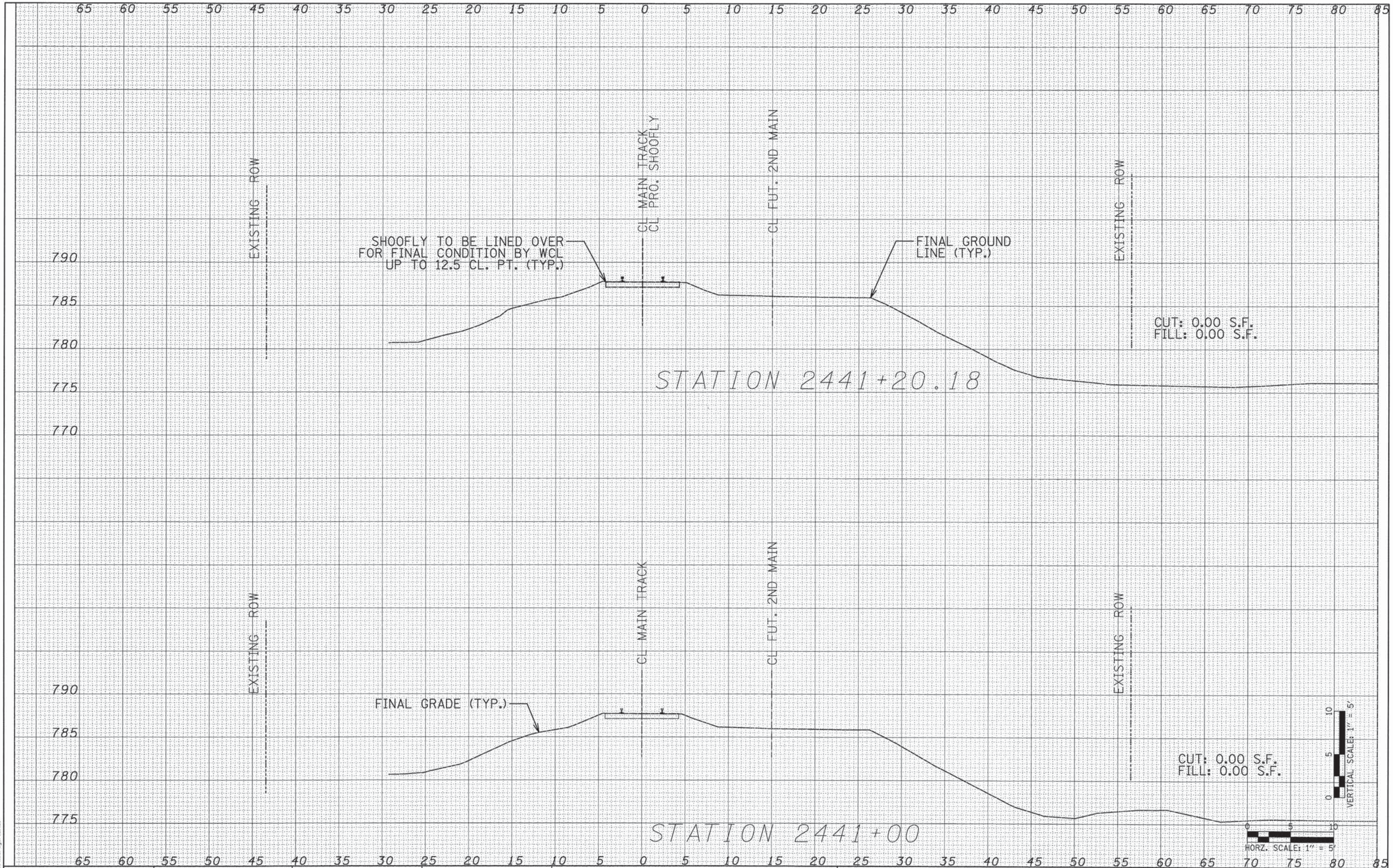
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RAILROAD CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 36 OF 54 | STA. 2472+00 | TO STA. 2472+51.35

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	291
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150_004\D-awings\RAIL\SHEETS\WashSt_Rail_XSec_Sheets.dgn



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

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

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

USER NAME = tkoeppen(Rdwy_Lisle)	DESIGNED - KEK	REVISED -	
	DRAWN - KEK	REVISED -	
PLOT SCALE = 5.0000 ' / 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
RESTORATION CROSS SECTIONS

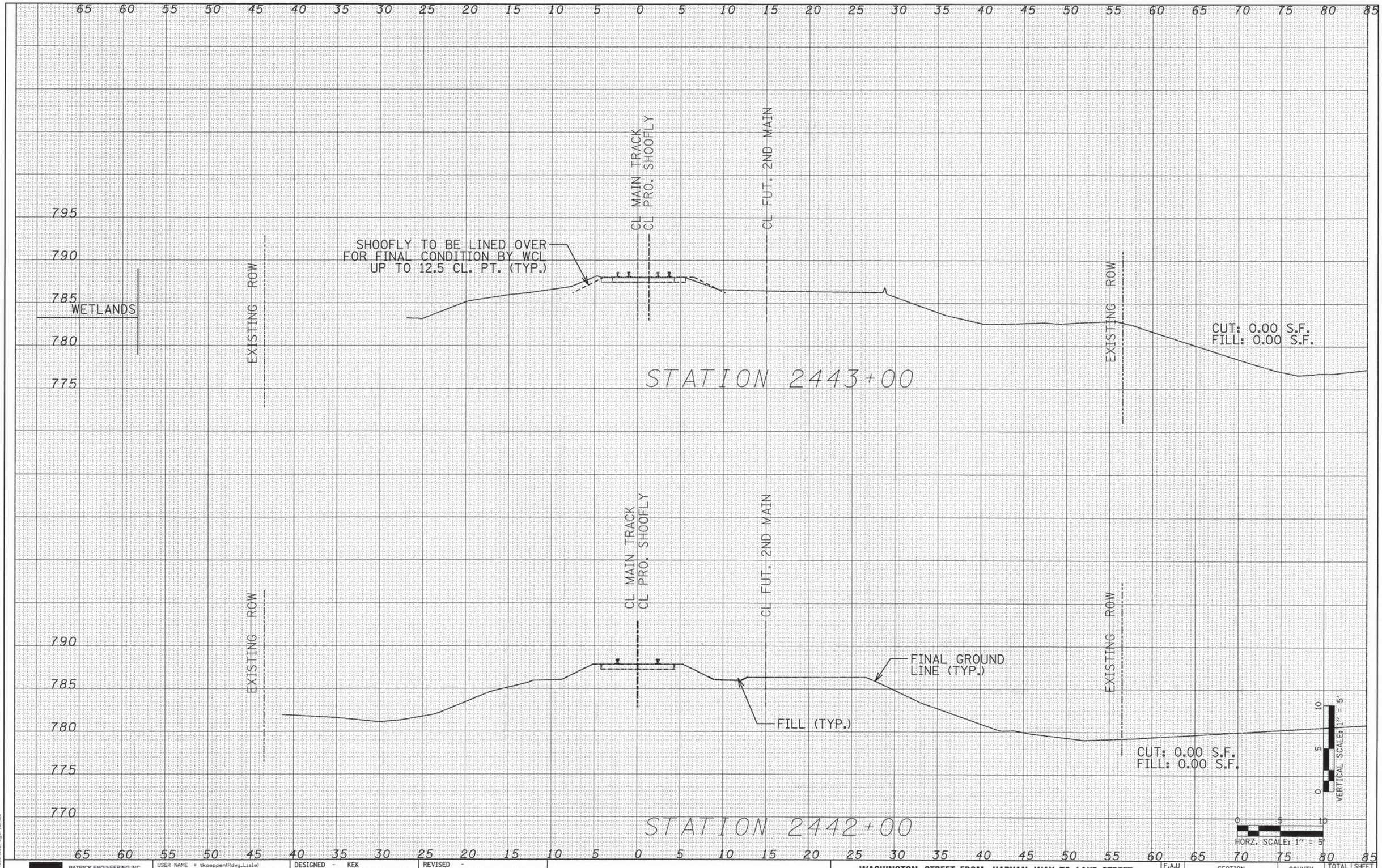
SCALE: AS NOTED | SHEET NO. RR 37 OF 54 | STA. 2441+00 TO STA. 2441+20.18

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	292
				61A63

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

Q:\LCDOT\21150_004\Drawings\RAIL\SHEETS\WashSt_Rail_RESTXSec_Sheets.dgn

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



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

...\PenTable\Std_GreyGrid.tbl

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

USER NAME = tkoepper(Rdwy_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 -	

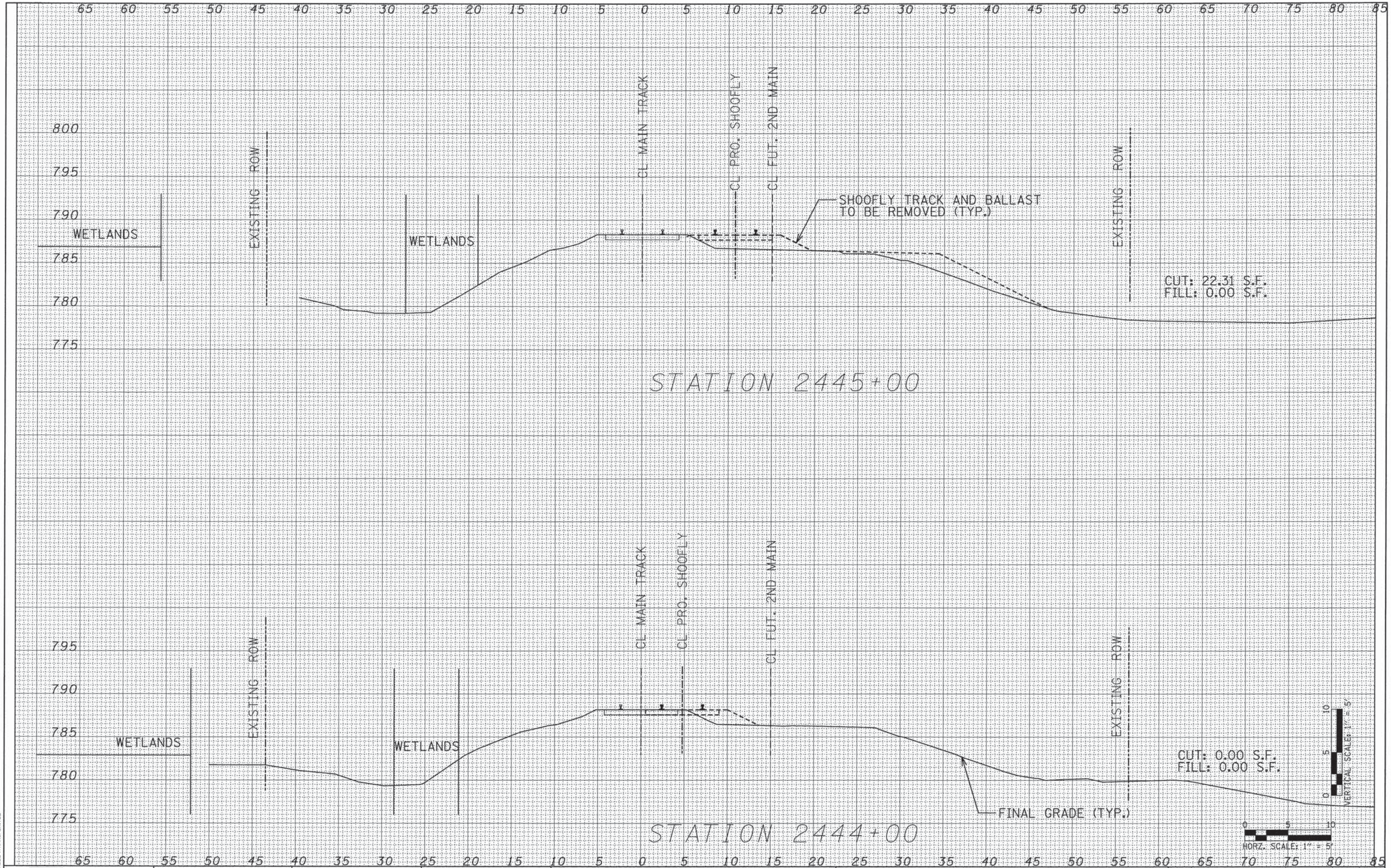
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RESTORATION CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 38 OF 54 | STA. 2442+00 TO STA. 2443+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	293
				61A63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

G:\LCDOT\21150.204\Drawings\RAIL\SHEETS\WashSt_Rail_RESTXSec_Sheets.dgn



PATRICK ENGINEERING INC. 4970 VARSITY DRIVE LISLE, IL 60532 patrickengineering.com	USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014
		DRAWN - KEK	REVISED -
	PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED -
	PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED -

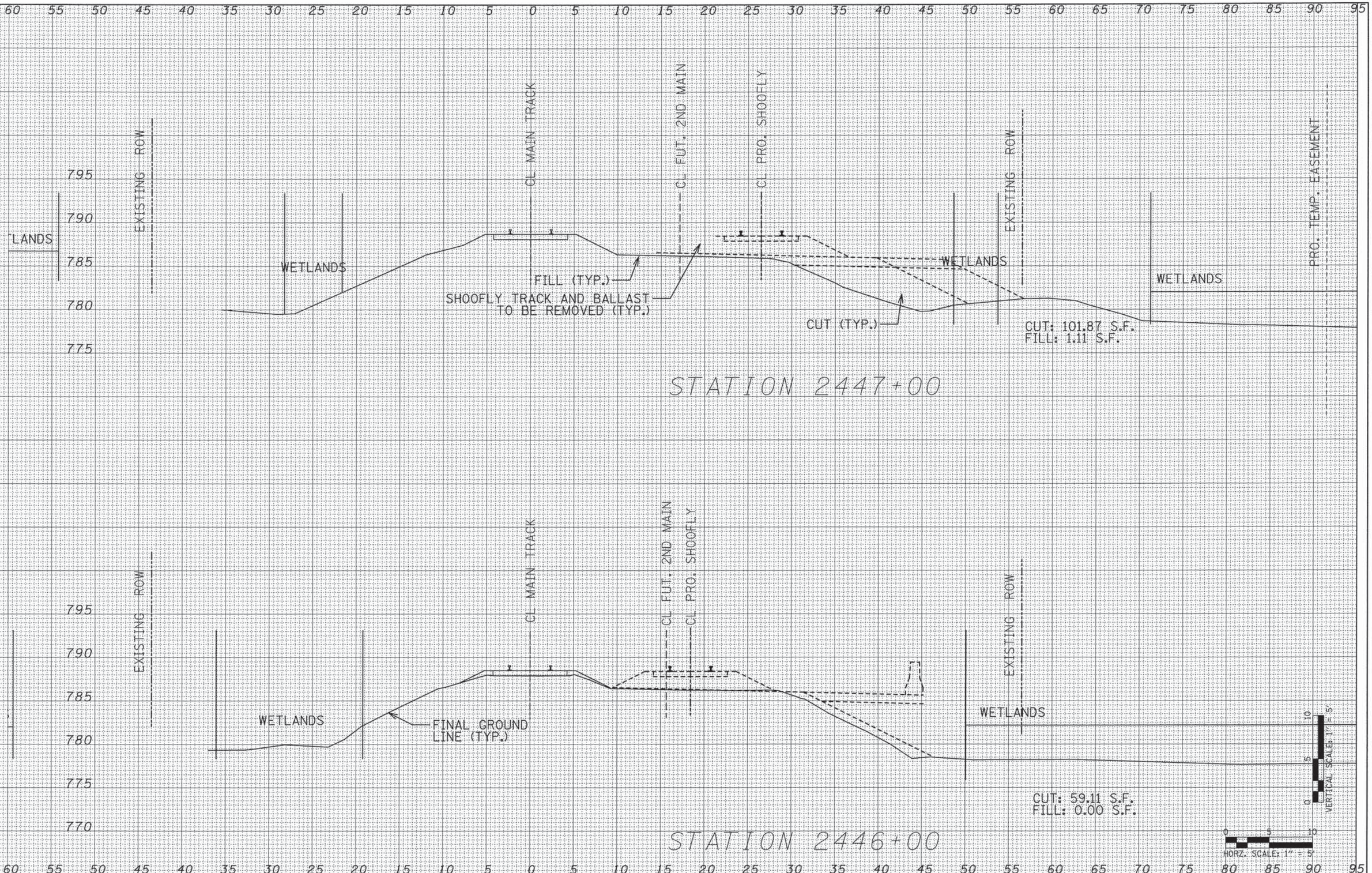
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RESTORATION CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 39 OF 54 | STA. 2444+00 TO STA. 2445+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	294
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

q:\lcdot\21150_004\drawings\rail\SHEETS\WashSt_Rail_RESTXSec_Sheets.dgn



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

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

...\LISLE\PENTABLE\TRANSPEN.TBL

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED - ___	

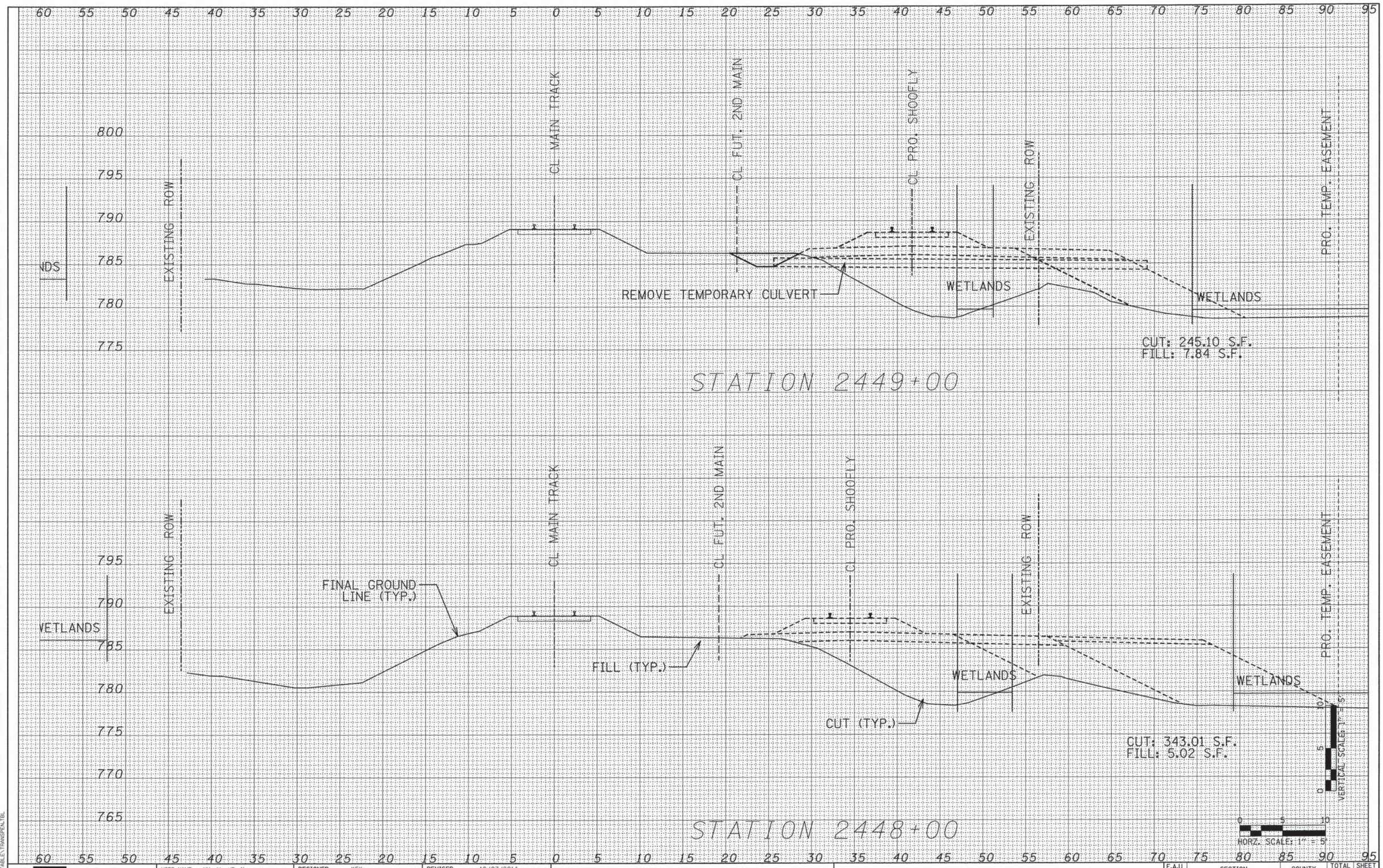
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RESTORATION CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 40 OF 54 | STA. 2446+00 | TO STA. 2447+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	295
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

gi\lcdot\21150.004\drawings\rail\SHEETS\WashSt_Rail_RESTXSec_Sheets.dgn



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

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

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED -	10/07/2014
	DRAWN - KEK	REVISED -	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED -	
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

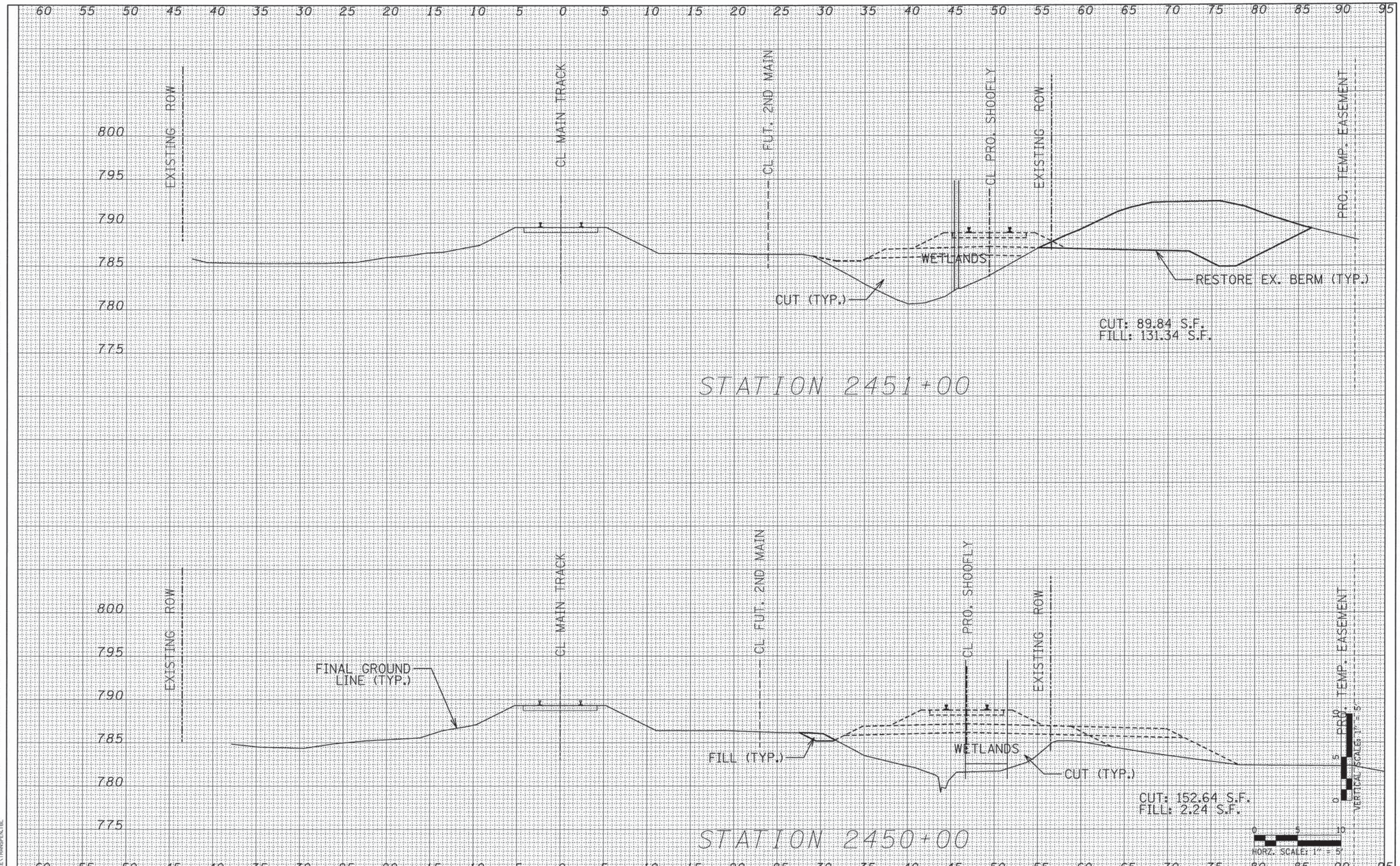
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RESTORATION CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 41 OF 54 | STA. 2448+00 | TO STA. 2449+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	296
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

...\LISLE\PENTABLE\TRANSPEN.TBL

q:\lcdot\21158.024\drawings\rail\SHEETS\WashSt_Rail_RESTXSec_Sheets.dgn



FINAL SURVEY — NOTE BOOK — NO.

	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

ORIGINAL SURVEY — NOTE BOOK — NO.

	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

PATRICK ENGINEERING

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014
	DRAWN - KEK	REVISED - ___
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED - ___
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED - ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

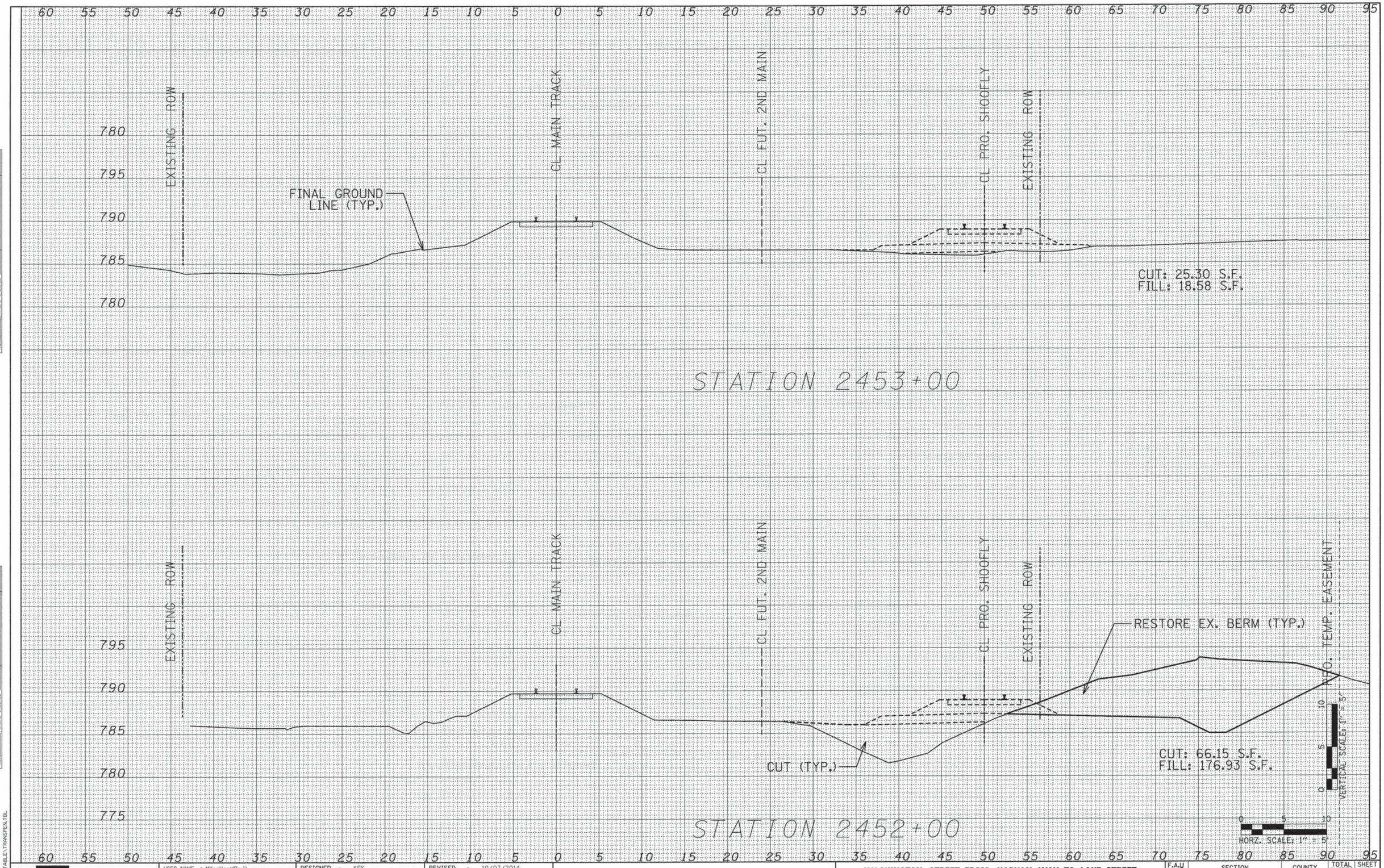
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RESTORATION CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 42 OF 54 | STA. 2450+00 | TO STA. 2451+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	297
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

...\LISLE\PENTABLE\TRANSPEN.TBL

qt\ledot\21150.004\drawings\rail\SHEETS\WashSt_Rail_RESTXSec_Sheets.dgn



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

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

...\LISLE\PENTABLE\TRANSPEN.TBL

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED - ___	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

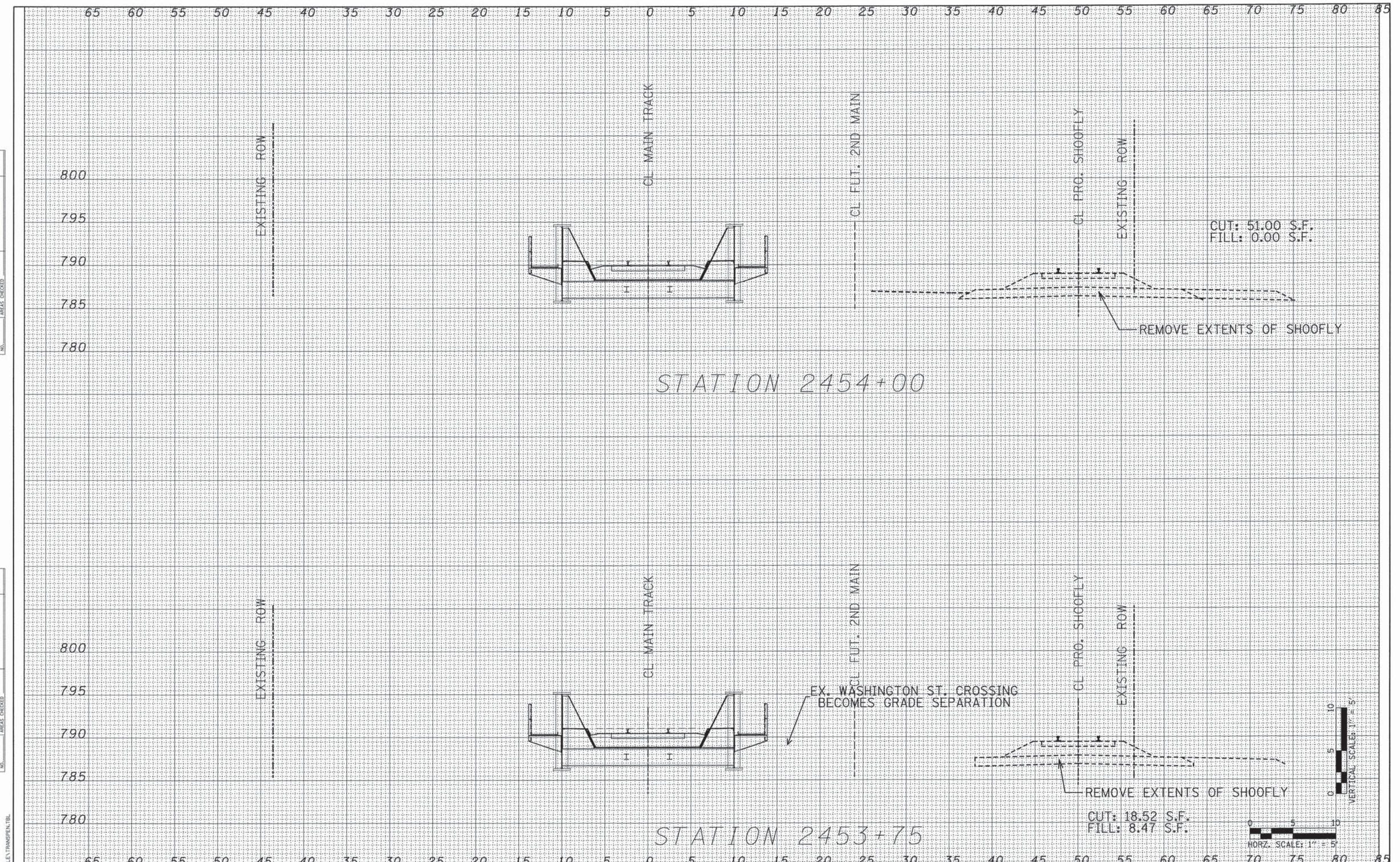
WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RESTORATION CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 43 OF 54 | STA. 2452+00 TO STA. 2453+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	298
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

q:\lcdot\21150_004\drawings\rail\SHEETS\WashSt_Rail_RESTXSec_Sheets.dgn

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



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

...\LISLE\PENTABLE\TRANSPEN.TBL

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED - ___	

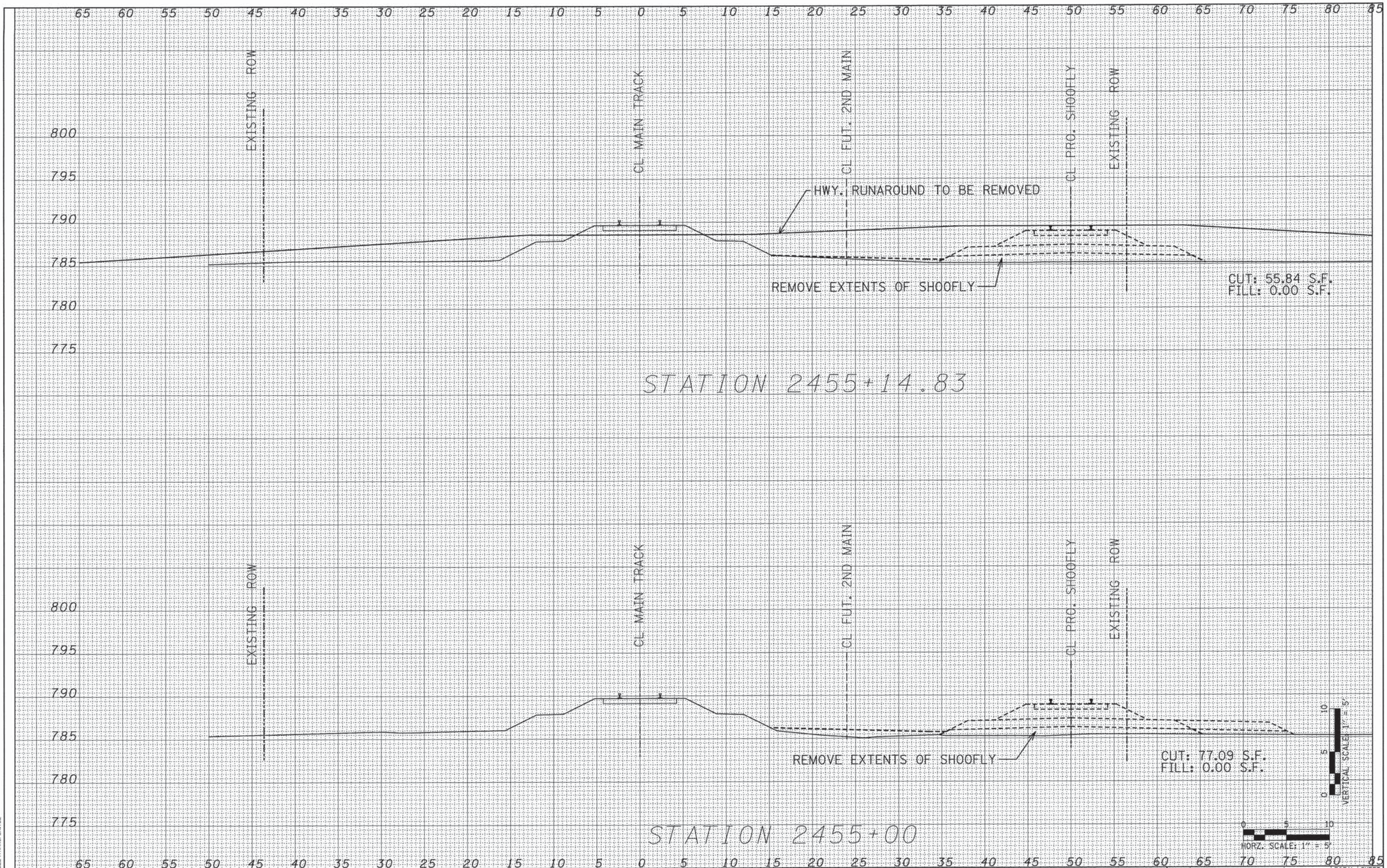
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RESTORATION CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 44 OF 54 | STA. 2453+75 | TO STA. 2454+00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	299
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

gp\lodot\21150.204\drawings\rail\SHEETS\WashSt_Rail_RESTXSec_Sheets.dgn



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

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

..\LISLE\PENTABLE\TRANSPEN.TBL

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

USER NAME = MVanWest(Rail)	DESIGNED - KEK	REVISED - 10/07/2014	
	DRAWN - KEK	REVISED - ___	
PLOT SCALE = 5.0000 ' / in.	CHECKED - SPH	REVISED - ___	
PLOT DATE = 10/7/2014	DATE - 6/30/2014	REVISED - ___	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WASHINGTON STREET FROM HARYAN WAY TO LAKE STREET
RESTORATION CROSS SECTIONS

SCALE: AS NOTED | SHEET NO. RR 45 OF 54 | STA. 2455+00 | TO STA. 2455+14.83

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
187	11-00121-11-BR	LAKE	496	300
				61A63
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

q:\ledot\21150.004\drawings\rail\SHEETS\WashSt_Rail_RESTXSec_Sheets.dgn