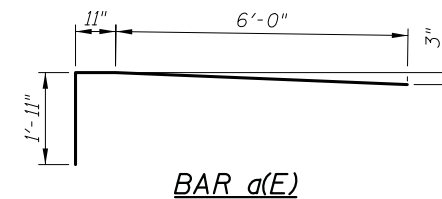
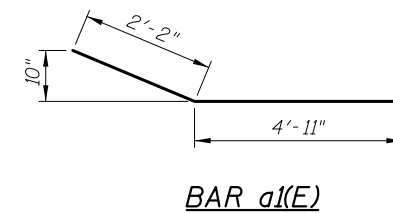
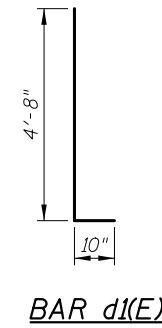
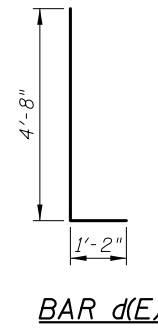
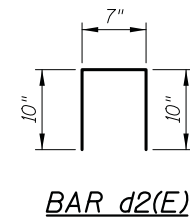
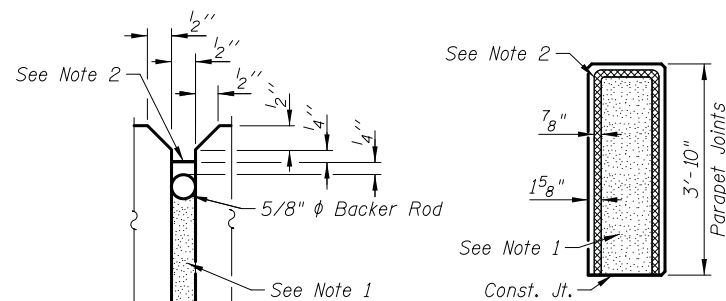


SECTION THRU ANCHORAGE SLAB & PARAPET
(All exposed edges have a 3/4" chamfer)



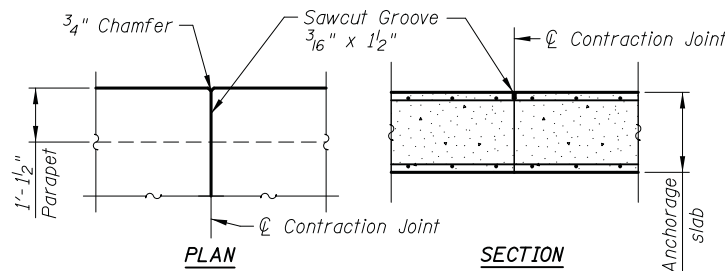
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	451	#7	8'-10"	
a1(E)	451	#5	7'-1"	
b50(E)	216	#5	32'-4"	
b51(E)	36	#5	26'-7"	
d(E)	451	#7	5'-10"	
d1(E)	451	#5	5'-6"	
d2(E)	110	#4	2'-3"	
e50(E)	260	#4	14'-8"	
e51(E)	10	#4	19'-6"	
Item	Unit	Quantity		
Concrete Superstructure	Cu. Yd.	244.5		
Form Liner Textured Surface	Sq. Ft.	2,596		
Protective Coat	Sq. Yd.	181		
Reinforcement Bars, Epoxy Coated	Pound	30,570		
Staining Concrete Structures	Sq. Ft.	2,596		
Anti-graffiti Protection System	Sq. Ft.	2,596		

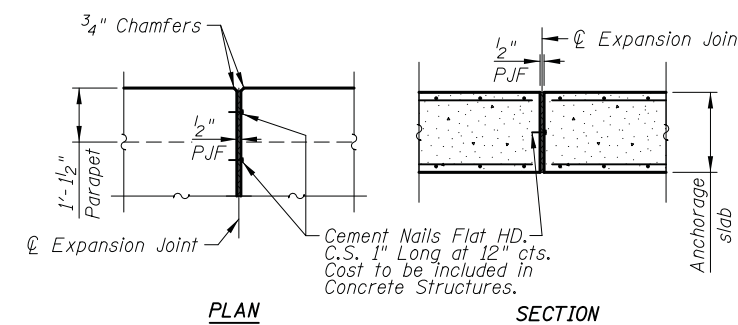


PARAPET JOINT DETAILS

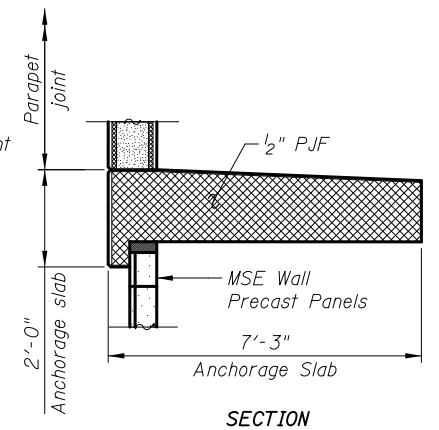
- Parapet Joint Notes:
1. Non-staining gray one component non-sag elastomeric gun grade polyurethane sealant meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25, use T with a 5/8" backer rod.
 2. 1/2" Preformed Self-Expanding Cork Joint Filler according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.



ANCHORAGE SLAB CONTRACTION JOINT DETAILS



ANCHORAGE SLAB EXPANSION JOINT DETAILS

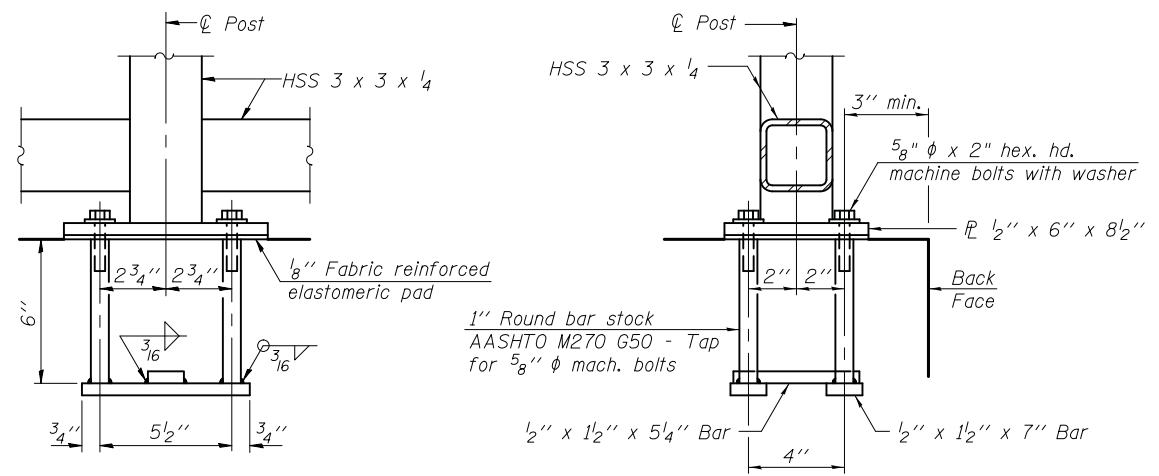
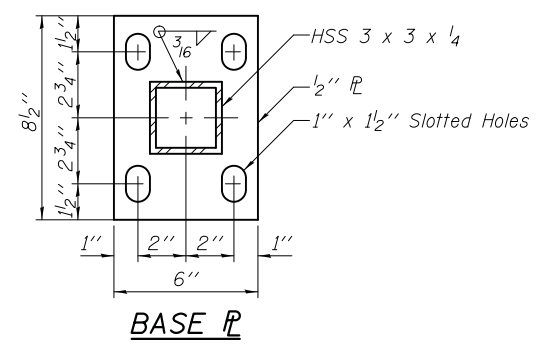
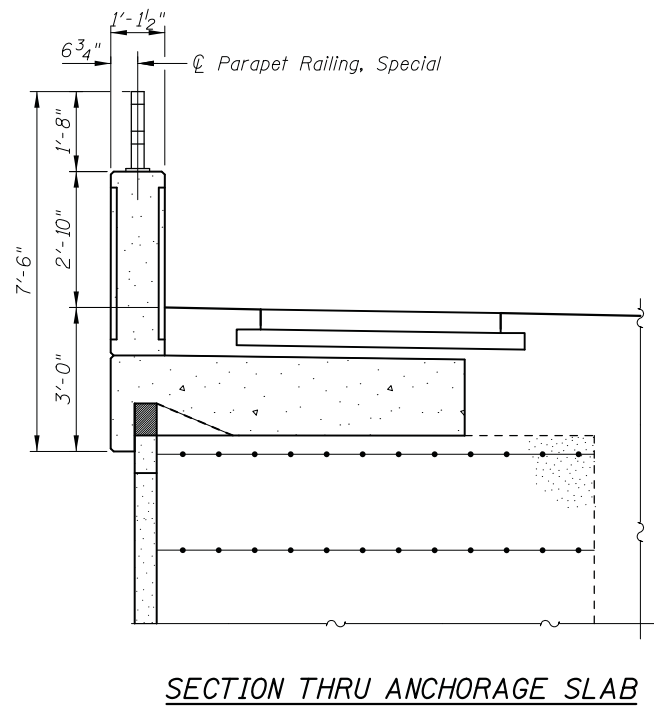
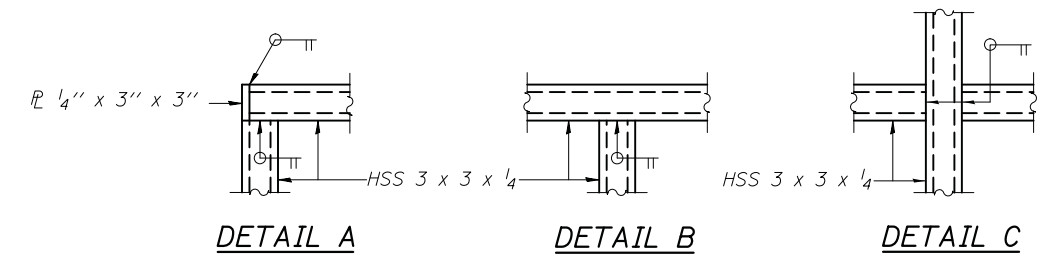
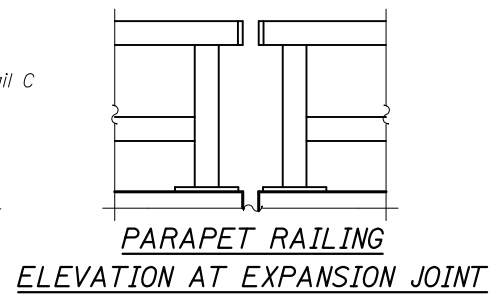
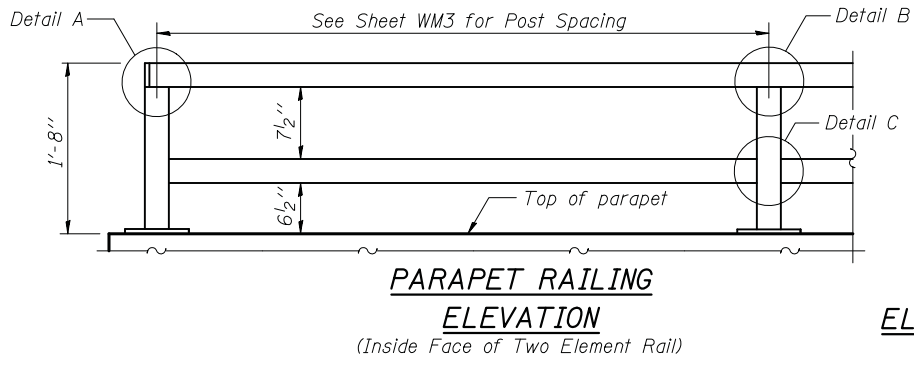


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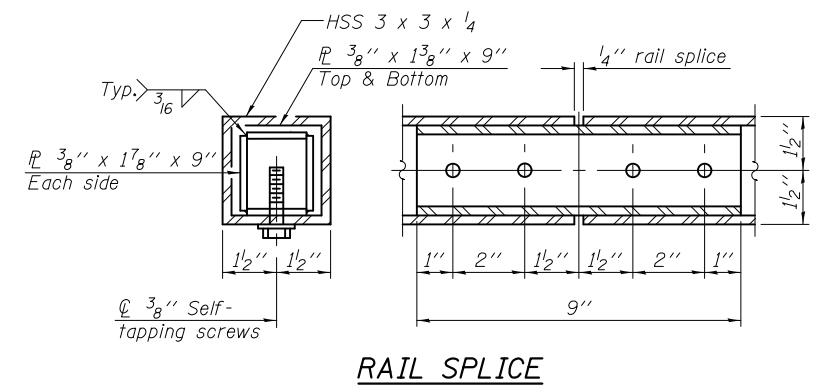
DRAWN	- K. KOMPARE	REVISED	-
DESIGNED	- K. KOMPARE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	301
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

Notes:
 A. All posts, anchor devices, plates and structural steel tubing shall be hot-dip galvanized after shop fabrication according to Article 509.05 of the Standard Specifications.
 B. All post, railing, splices, anchor devices, and bent plates shall be painted the color black (Munsell No. N1).



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



BILL OF MATERIAL

Item	Unit	Quantity
Parapet Railing, Special	Foot	409

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DESIGNED - K. KOMPARE	REVISED -
CHECKED - G. HATLESTAD	REVISED -
DATE - 01/29/18	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PARAPET RAILING, SPECIAL
 WALL M
 QUENTIN ROAD F.A.U. 2574
 SHEET NO. WM5 OF WM8 SHEET**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	302
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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

Page 1 of 1

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD
SECTION 08-00080-12-ES LOCATION Retaining Wall O
COUNTY Lake STRUCTURE NO. (Exist) (Prop.)
BORING NO. SB-75 DRILLING METHOD HSA HAMMER TYPE Automatic

Station 436+45
Offset 45' L
Ground Surface Elev. 775 (ft.)
Groundwater Depth First Encounter 13' (ft.)
Upon Completion None (ft.)
After Hrs. (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)
Black Silty CLAY Topsoil 12"	774										
Black & Grey CLAY, A-7-6 little fibers soft to firm		0	0.47	BS	37						
Brown & Grey CLAY, trace Sand, trace Gravel, A-6 firm to stiff	772.5	3									
		0	0.62	B	36						
Grey Organic CLAY, with fibers, A-8 very soft	769.5	6									
		0	0.70	B	54						
Dark Brown and Grey Organic CLAY, with Fibers, A-8, very soft	767	9	0.54	B	49						
		0	0.1	B							
Grey CLAY trace Sand, trace Gravel, A-6 stiff to very stiff	763.5	12	1.01	B	17						
		2	3-3	B							
		4	1.67	BS	19						
	15	6-7									
		1	2.17	B	20						
	18	2-4									
		4	2.33	B	19						
	19	4-7									
End of Boring at 20 Feet	755										

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

BBS 137 (9/05)

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

Page 1 of 1

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD
SECTION 08-00080-12-ES LOCATION Culvert Extension
COUNTY Lake STRUCTURE NO. (Exist) (Prop.)
BORING NO. SB-25 DRILLING METHOD HSA HAMMER TYPE Auto

Station 437+25
Offset 20' L
Ground Surface Elev. 780.0 (ft.)
Surface Water Elev. (ft.)
Groundwater Elev. First Encounter None (ft.)
Upon Completion Dry (ft.)
After Hrs. (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)
Brown CLAY Topsoil 10"	779.1										
Brown and Black CLAY, A-7-6, FILL soft		1	0.25	Qp	13						
		1-1									
Dark Grey and Brown CLAY, A-6 stiff	777	3									
		2	1.36	B	29						
	775	2-2									
Brown and Grey CLAY, A-6 trace Sand, trace Gravel, stiff to very stiff		6									
		2	1.01	B	34						
		2-2									
		9	2.02	B	23						
		2	4-3	B							
		3	2.33	B	19						
		12	3-5	B							
		3	3.30	B	18						
	765	3-4									
End of Boring at 15 Feet											

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

BBS 137 (9/05)

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Itasca, Illinois 60143
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DESIGNED	- K. KOMPARE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

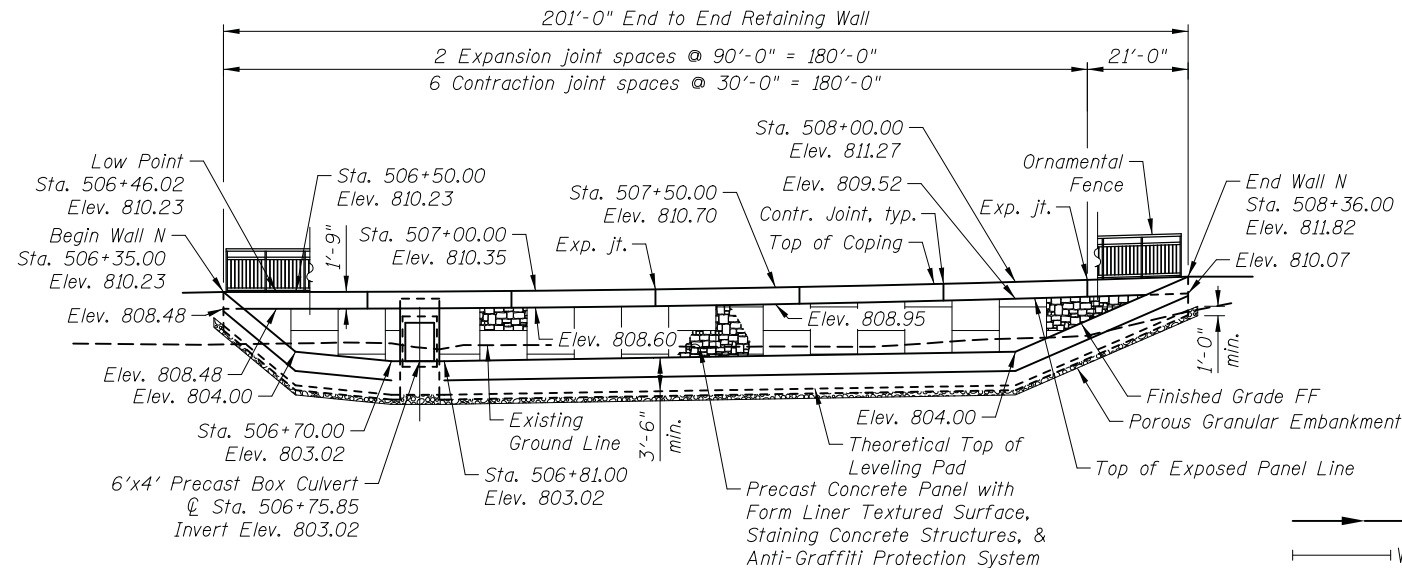
SOIL BORING LOGS II
WALL M
QUENTIN ROAD F.A.U. 2574
SHEET NO. WM8 OF WM8 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	305
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

Benchmark: TBM #8 Railroad spike (set) in power pole North of Lea Lane on West side of Quentin Road. Sta. 505+54.58, Offset 54.8' Lt. Elev. 812.66

Maintenance of Traffic: Traffic will be maintained during construction.

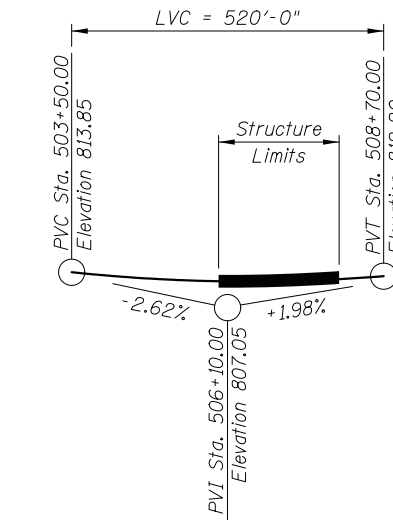
Existing Structure: None.



ELEVATION
Looking at Front Face of Wall

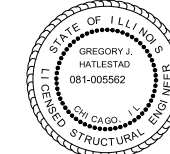
LEGEND

- Proposed Storm Sewer
- W — Existing Water Main
- C — Existing Sanitary Sewer
- G — Existing Gas Line
- A — Existing Aerial Lines
- ◆ Soil Boring



PROPOSED PROFILE QUENTIN ROAD

CIVILTECH ENGINEERING, INC.
GREGORY J. HATLESTAD, S.E.



GREGORY J. HATLESTAD, S.E.
081-005562

EXP 11-30-2018

DATE 01-29-2018

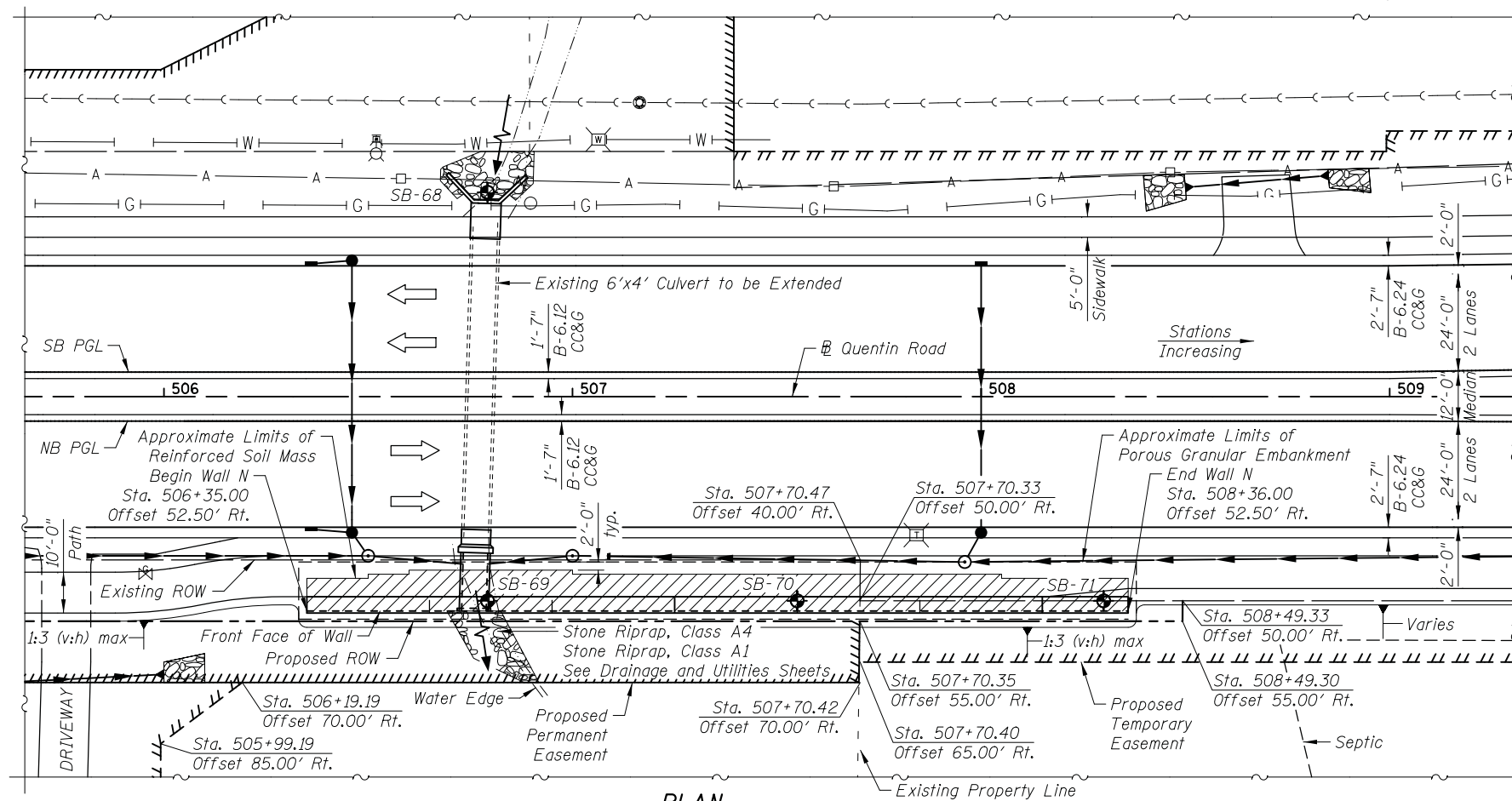
I certify that to the best of my knowledge, infrastructure, and belief, this wall design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of the structure and complies with requirements of the current AASHTO LRFD Bridge Design Specifications.

DESIGN SPECIFICATIONS
2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims

DESIGN STRESSES

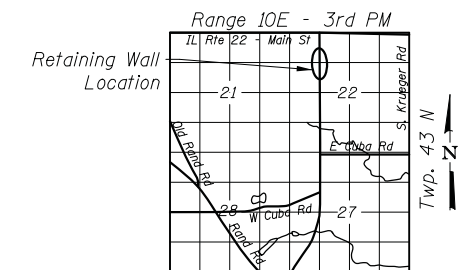
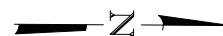
FIELD UNITS
 $f'_c = 4,000$ psi
 $f_y = 60,000$ psi (Reinforcement)

PRECAST UNITS
 $f'_c = 4,500$ psi (Precast Panels)
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 65,000$ psi (Welded Wire Fabric)



PLAN

Notes:
 Wall offsets are measured from Quentin Road to the front face of MSE wall precast panels.
 FF - Front Face
 BF - Back Face



LOCATION SKETCH

**GENERAL PLAN AND ELEVATION
 WALL N
 QUENTIN ROAD; F.A.U. RTE. 2574
 SECTION 08-00090-12-CH
 LAKE COUNTY
 STA. 506+35.00 TO STA. 508+36.00**

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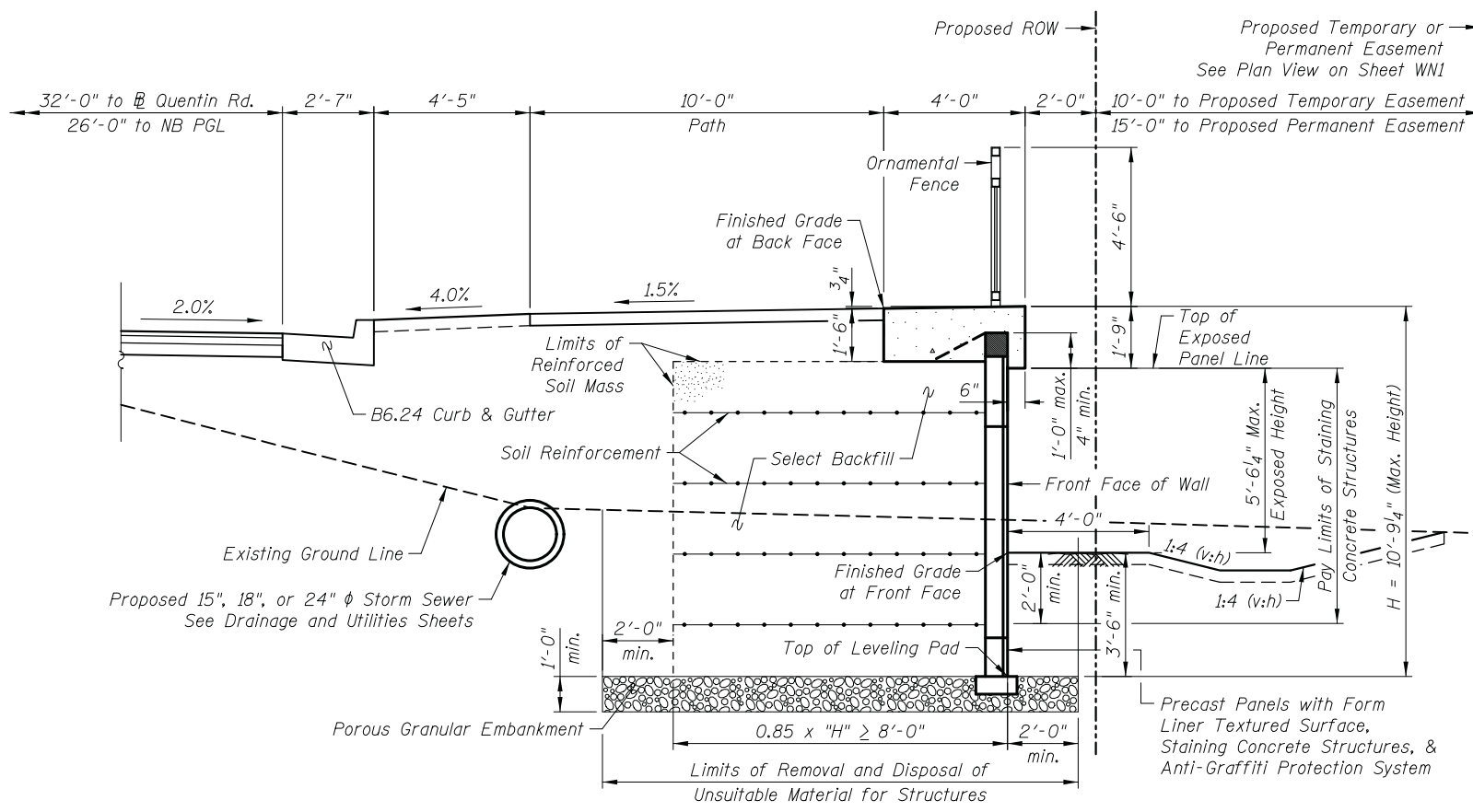
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DATE - 01/29/18	REVISED -

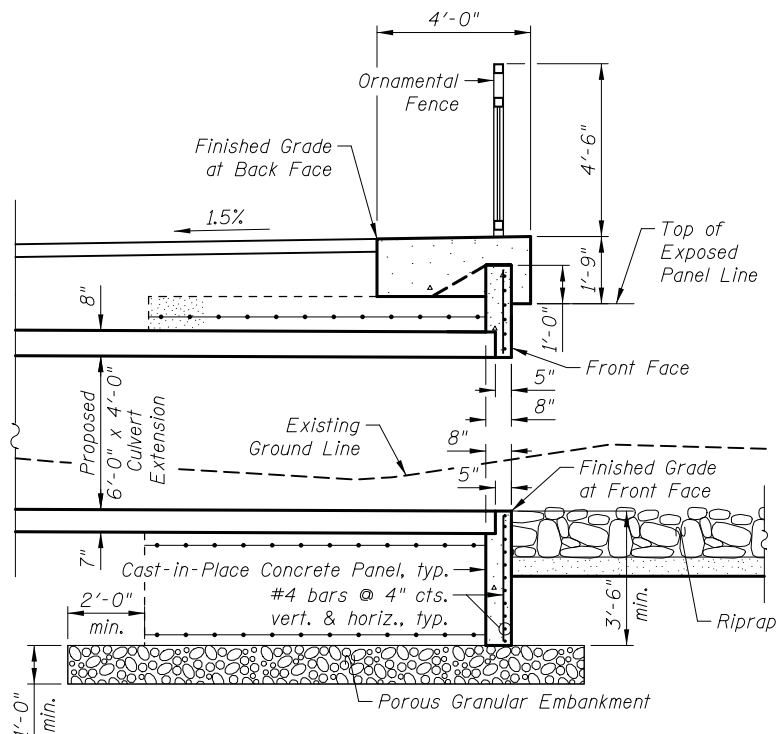
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION
 WALL N
 QUENTIN ROAD F.A.U. 2574
 SHEET NO. WN1 OF WN5 SHEET**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	306
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				



TYPICAL WALL SECTION



SECTION A-A

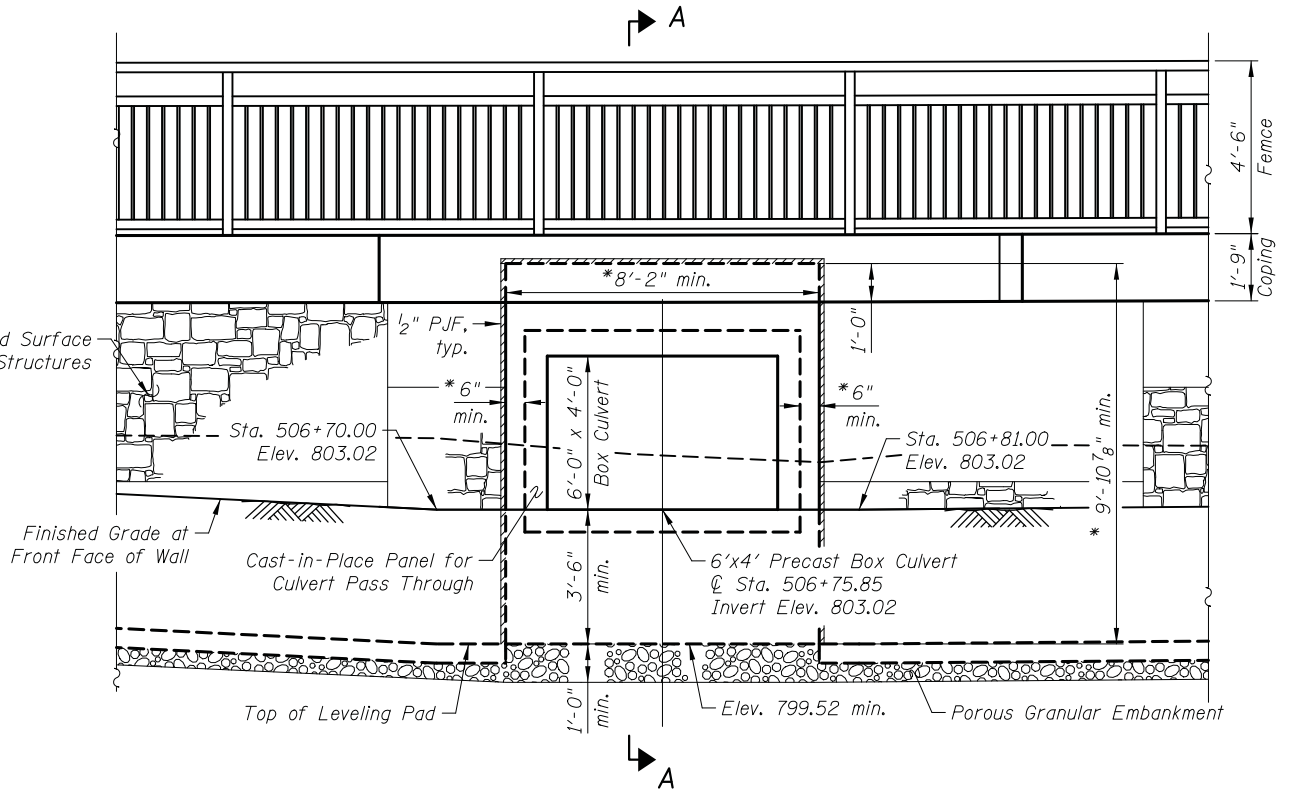
* Wall supplier to determine required dimensions

The MSE wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 kips/ft. of wall.

MSE WALL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	107
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	530
Form Liner Textured Surface	Sq. Ft.	1,597
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	1,597
Anti-Graffiti Protection System	Sq. Ft.	1,271
Staining Concrete Structures	Sq. Ft.	1,271

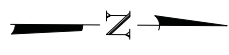
Notes:
Cost of concrete and epoxy coated reinforcement in CIP panel to be included in the pay item Mechanically Stabilized Earth Retaining Wall.



CAST-IN-PLACE PANEL FOR 6'x4' BOX CULVERT PASS THROUGH

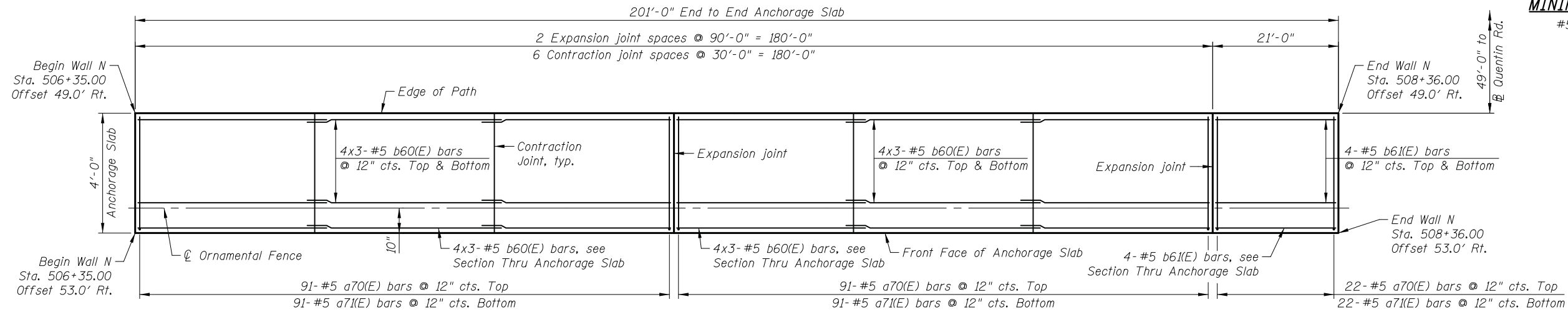
* Wall supplier to determine required dimensions

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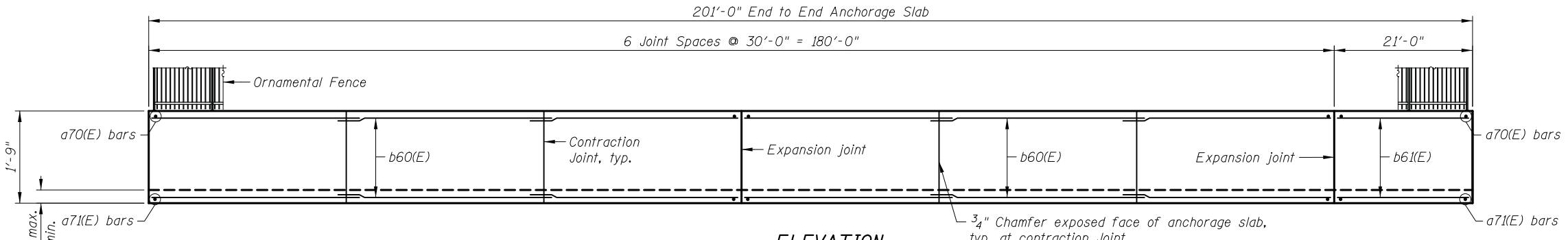


MINIMUM BAR LAP

#5 bar = 3'-4"

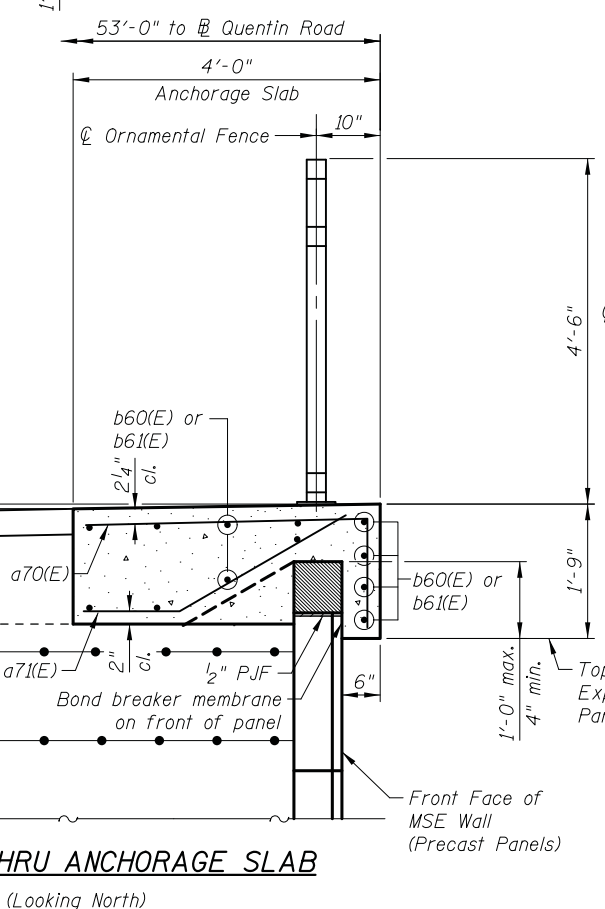


PLAN



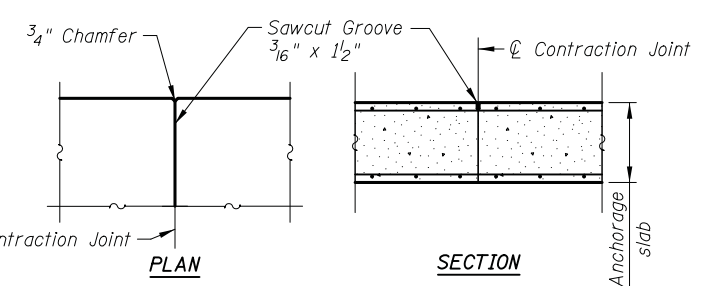
ELEVATION

Looking at Front Face of Anchorage Slab

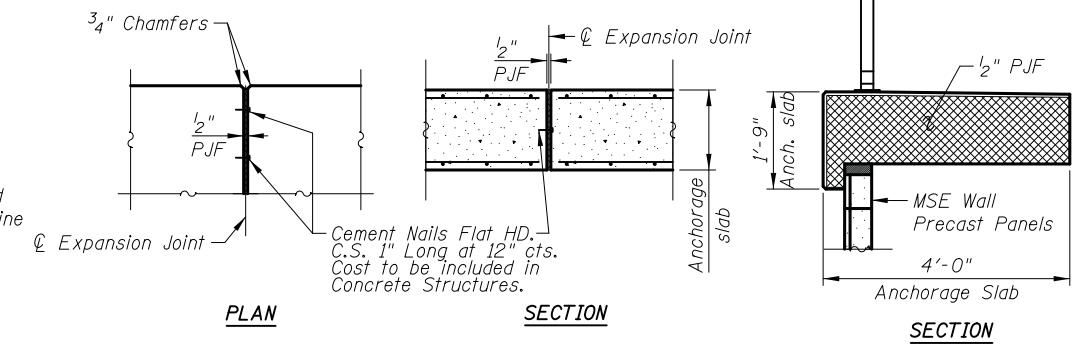


SECTION THRU ANCHORAGE SLAB

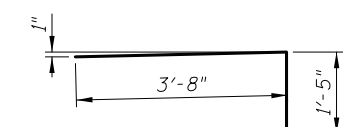
(Looking North)



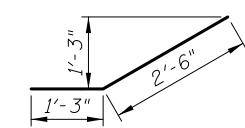
ANCHORAGE SLAB CONTRACTION JOINT DETAILS



ANCHORAGE SLAB EXPANSION JOINT DETAILS



BAR a70(E)



BAR a71(E)

**ANCHORAGE SLAB
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a70(E)	204	#5	5'-1"	
a71(E)	204	#5	3'-9"	
b60(E)	72	#5	32'-2"	
b61(E)	12	#5	20'-8"	
Item	Unit	Quantity		
Concrete Superstructure	Cu. Yd.	45.8		
Protective Coat	Sq. Yd.	90		
Reinforcement Bars, Epoxy Coated	Pound	4,560		

Notes:
Bars indicated thus 4x3-#5 indicate 4 lines of bars with 3 lengths per line.
For Ornamental Fence Details, see sheet WN4.

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DESIGNED	- K. KOMPARE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ANCHORAGE SLAB
WALL N
QUENTIN ROAD F.A.U. 2574**
SHEET NO. WN3 OF WN5 SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	308
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG Date 11/6/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY MP

SECTION 08-00080-12-ES LOCATION Retaining Wall P

COUNTY Lake STRUCTURE NO. (Exist) (Prop.)

BORING NO. SB-69 DRILLING METHOD HSA HAMMER TYPE Auto

Station 506+79
Offset 50' R
Ground Surface Elev. 804.1 (ft.)

Groundwater Depth
First Encounter None (ft.)
Upon Completion Dry (ft.)
After Hrs. (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	#'	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	#'	(tsf)	(%)
Black CLAY, Topsoil 12"	803.1										
Black to Dark Grey CLAY, A-6 to A-7-6 stiff	3	3-4		1.25	Qp	21					
	3										
	3	3-5		1.28	B	27					
Brown and Grey CLAY, trace sand, trace Gravel, A-6, stiff to very stiff	798.6										
	6	2	2-3	1.47	B	25					
	9	2	4-6	2.41	B	22					
Grey CLAY, trace Sand, trace Gravel, A-6, hard to very stiff	793.6										
	12	4	6-10	4.54	B	19					
	4	7-11		3.65	B	19					
End of Boring at 15 Feet	789.1										

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

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG Date 12/9/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD

SECTION 08-00080-12-ES LOCATION Retaining Wall P

COUNTY Lake STRUCTURE NO. (Exist) (Prop.)

BORING NO. SB-70 DRILLING METHOD HSA HAMMER TYPE Automatic

Station 507+55
Offset 50' R
Ground Surface Elev. 804 (ft.)

Groundwater Depth
First Encounter 11' (ft.)
Upon Completion 5' (ft.)
After Hrs. (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	#'	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	#'	(tsf)	(%)
Black CLAY Topsoil, 18"	802.5										
Grey & Brown CLAY, little Sand, little Gravel, A-7-6 stiff	3	3-4		1.55	B	25					
	3										
	2	2-4		1.78	B	29					
Brown & Grey CLAY, trace Sand, trace Gravel, A-6 hard	798.5										
	6	7	10-12	8.61	B	18					
Grey CLAY, trace Sand, trace Gravel, A-6 hard	796										
	9	5	6-6	2.41	B	17					
Grey SAND, to SAND & GRAVEL, A-1-b medium dense	793.5										
	12	7	11-17			16					
	5					8					
Grey CLAY, trace Sand, trace Gravel, A-6 very stiff	789.5										
	15	7-9		2.17		14					
	5	6-9		1.75	B	19					
	18										
	5	7-9		1.78	B	17					
End of Boring at 20 Feet	784										

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

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG Date 12/9/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD

SECTION 08-00080-12-ES LOCATION Retaining Wall P

COUNTY Lake STRUCTURE NO. (Exist) (Prop.)

BORING NO. SB-71 DRILLING METHOD HSA HAMMER TYPE Automatic

Station 508+30
Offset 50' R
Ground Surface Elev. 807 (ft.)

Groundwater Depth
First Encounter 8.5' (ft.)
Upon Completion 17.8' (ft.)
After Hrs. (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	#'	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	#'	(tsf)	(%)
Black CLAY Topsoil 16"	805.7										
Brown CLAY, trace Sand, trace Gravel, A-7-6 stiff	2	3-4		0.97	B	26					
Brown & Grey CLAY, trace Sand, trace Gravel, A-6 hard	804										
	3	4	6-8	4.07	BS	19					
	6										
	7	11-14		4.68	BS	19					
Grey SAND to SAND and GRAVEL, A-1-b medium dense	799.6										
	9	5	9-9			9					
Grey SAND, some Silt, A-2-4 medium dense	797										
	12	7	7-9			16					
Grey CLAY, trace Sand, trace Gravel, A-6 very stiff	794										
	6	7-9		1.94	B	19					
	15	4	7-10	2.99	BS	18					
	18										
	4	7-9		1.40	B	18					
End of Boring at 20 Feet	787										

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

BBS 137 (9/05)

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DRAWN - K. KOMPARE	REVISED -
DESIGNED - K. KOMPARE	REVISED -
CHECKED - G. HATLESTAD	REVISED -
DATE - 01/29/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
WALL N
QUENTIN ROAD F.A.U. 2574
SHEET NO. WNS OF WNS SHEET

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	310
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

Benchmark: TBM#8 Railroad Spike (set) in power pole Nast of Lea Lane on West side of Quentin Road.
Sta. 505+54.58, Offset 54.8' Lt. Elev. 812.66

Existing Structure: Existing structure built in 2005 as part of Roadway Reconstruction consists of a 73'-10 1/4" long, 6'x4' precast concrete box culvert with cast-in-place concrete end sections.

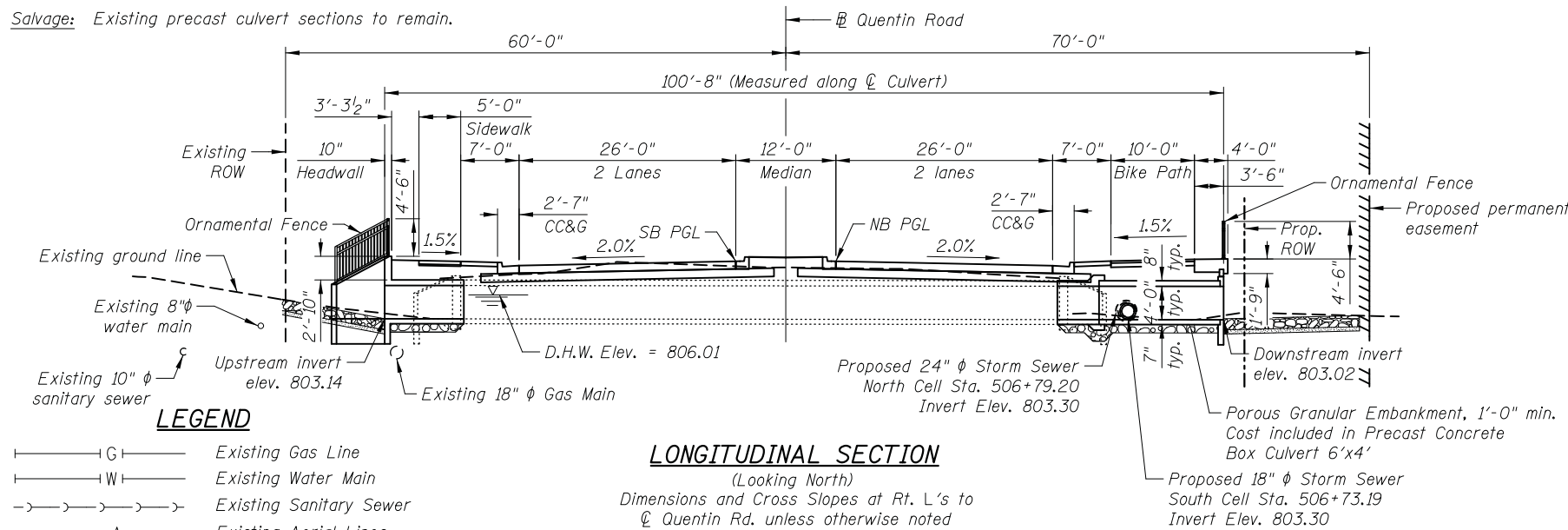
Maintenance of Traffic: Traffic will be maintained during construction.

Salvage: Existing precast culvert sections to remain.

WATERWAY INFORMATION

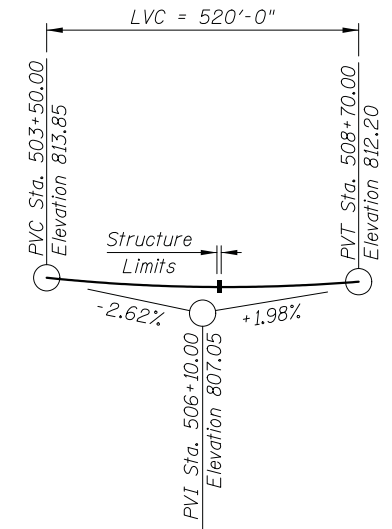
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	74	15.72	15.66	805.62	0.20	0.19	805.82	805.81
Design	30	100	18.06	18.00	806.01	0.35	0.40	806.36	806.41
	50	142	21.18	21.12	806.53	0.71	0.78	807.24	807.31
Base	100	186	23.82	23.76	806.97	1.30	1.36	808.27	808.33
Max. Calc.	500	336	24.00	24.00	808.06	1.62	2.35	809.68	810.41

10-Year Velocity through Existing Culvert = 5.30 fps
10-Year Velocity through Proposed Culvert = 5.75 fps

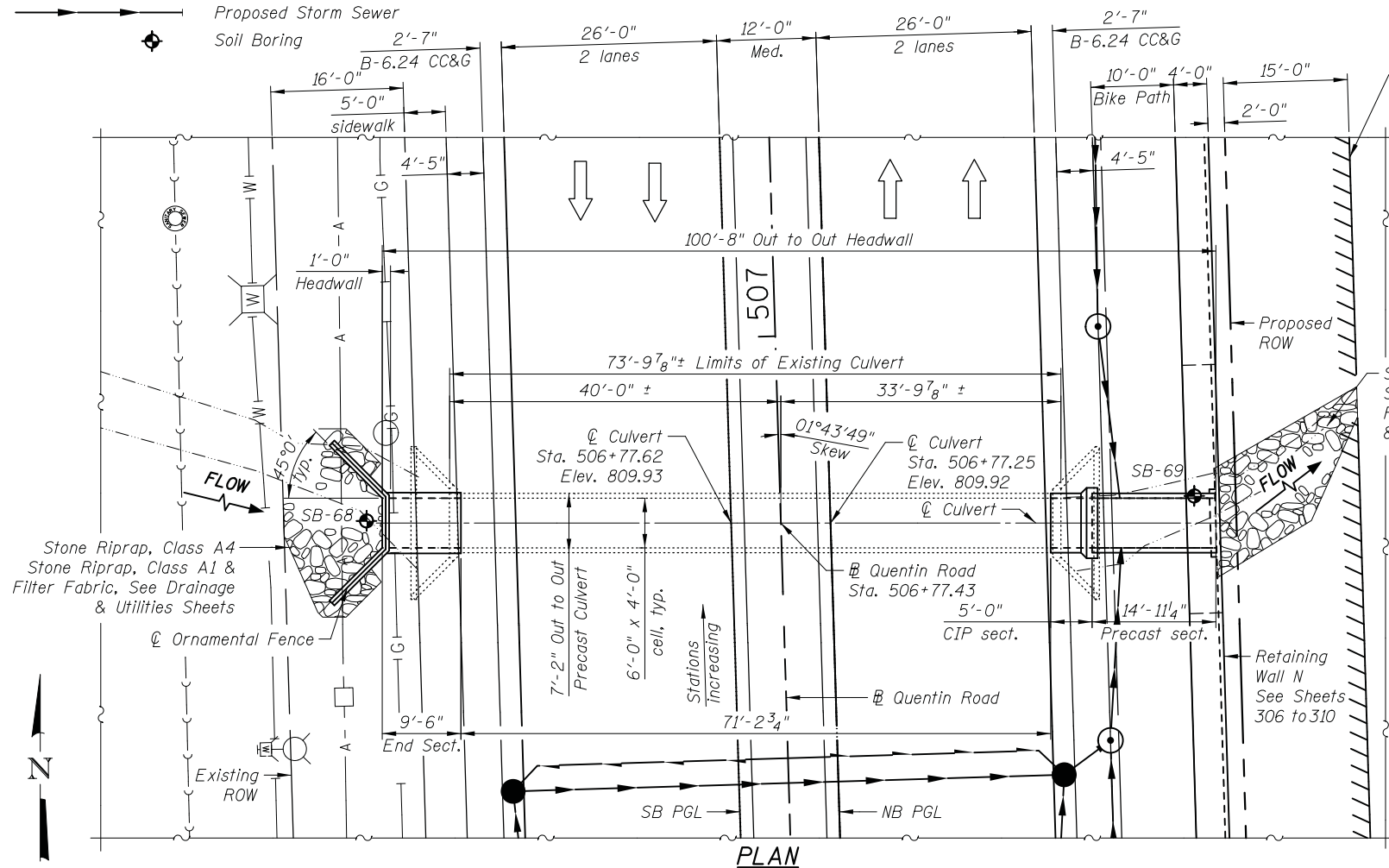


- LEGEND**
- G — Existing Gas Line
 - W — Existing Water Main
 - - - - Existing Sanitary Sewer
 - A — Existing Aerial Lines
 - Existing Guardrail
 - Proposed Storm Sewer
 - Soil Boring

LONGITUDINAL SECTION
(Looking North)
Dimensions and Cross Slopes at Rt. L's to centerline of Quentin Rd. unless otherwise noted



PROPOSED PROFILE QUENTIN ROAD
(Along NB or SB PGL, Offset 6.0' Lt. or Rt. of centerline of Quentin Rd.)

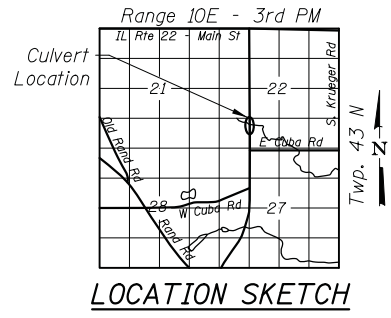


- INDEX OF SHEETS**
- C1 General Plan and Longitudinal Section
 - C2 General Data
 - C3 Concrete Removal Details
 - C4 West End Section
 - C5 East End Section
 - C6 Ornamental Fence Details
 - C7 Soil Boring Logs

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims

- DESIGN STRESSES**
- FIELD UNITS**
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
- PRECAST UNITS**
f'c = 5,000 psi
fy = 65,000 psi (Welded Wire Fabric)
- EXISTING PRECAST UNITS**
f'c = 35 MPa
fy = 420 MPa (Welded Wire Fabric)



GENERAL PLAN AND LONGITUDINAL SECTION CULVERT
QUENTIN ROAD; F.A.U. RTE. 2574 OVER SOUTH BRANCH OF INDIAN CREEK
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 506+77.43

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DRAWN	- J. SCHROEDER	REVISED	- 11/28/2017
DESIGNED	- J. SCHROEDER	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

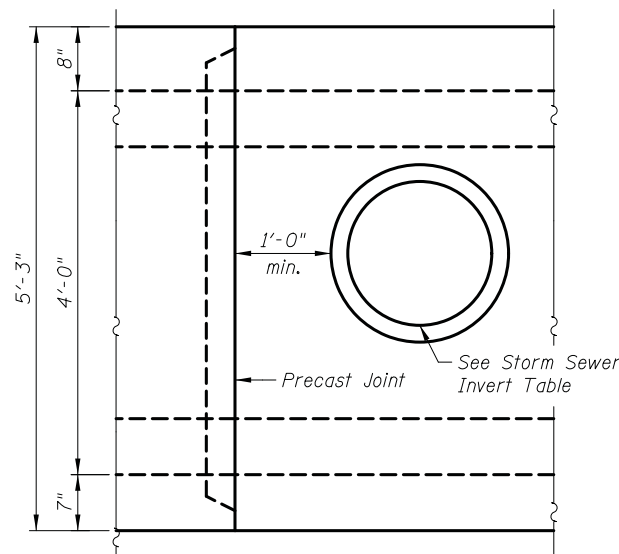
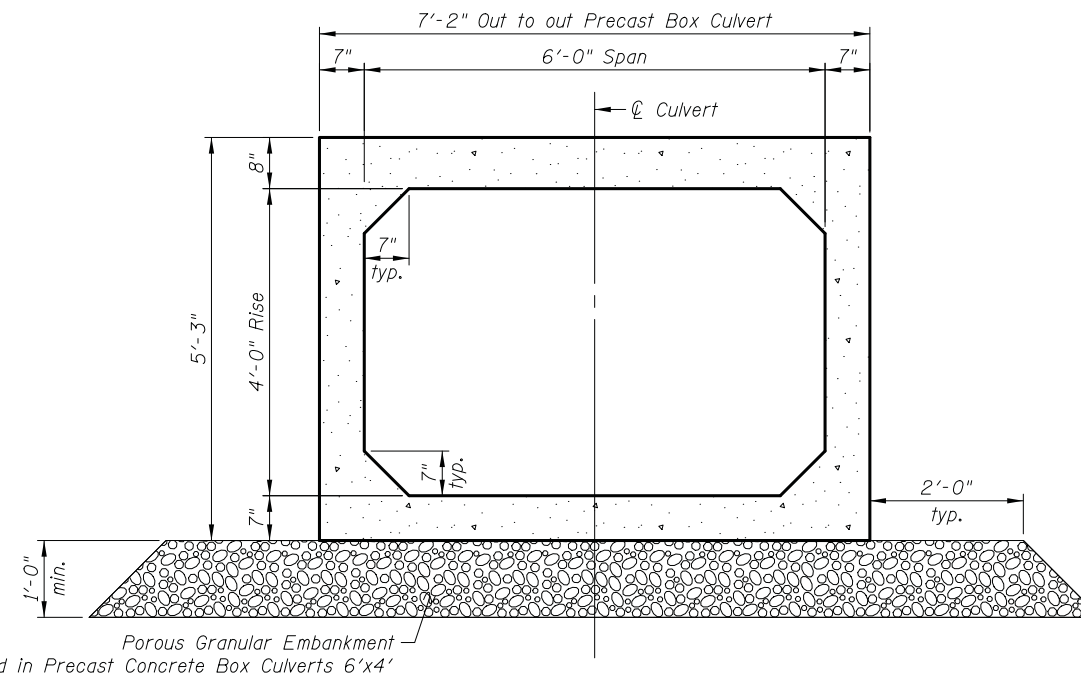
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	311
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

GENERAL NOTES:

1. Precast concrete box culvert sections shall conform to the requirements of Article 540.06 of the Standard Specifications and applicable requirements of ASTM C1577.
2. Diversion of stream flow during the removal of the existing culvert and the construction of the proposed culvert and all required erosion control measures shall be included in the cost of Precast Concrete Box Culverts 6'x4'.
3. The joints between precast box sections shall be sealed and all voids filled with mastic joint sealer. Mastic shall be according to Section 1055. In addition, the joints shall be externally sealed on four sides using either 13" wide external sealing bands conforming to Article 1057.01 or 24" wide non-woven geotechnical fabric meeting the requirements of Article 1080.01 except the minimum weight shall be 4 oz/sq. yd. The seal or fabric shall be centered over the joint and secured to remain in place during the backfilling operation.
4. Lifting holes shall be filled with concrete plugs and mastic after box sections are in place.
5. The cost of mastic and sealing bands is included in the cost of Precast Concrete Box Culverts 6'x4'.
6. The cost of Structure Excavation is included in the cost of Precast Concrete Box Culverts 6'x4'.

TOTAL BILL OF MATERIAL

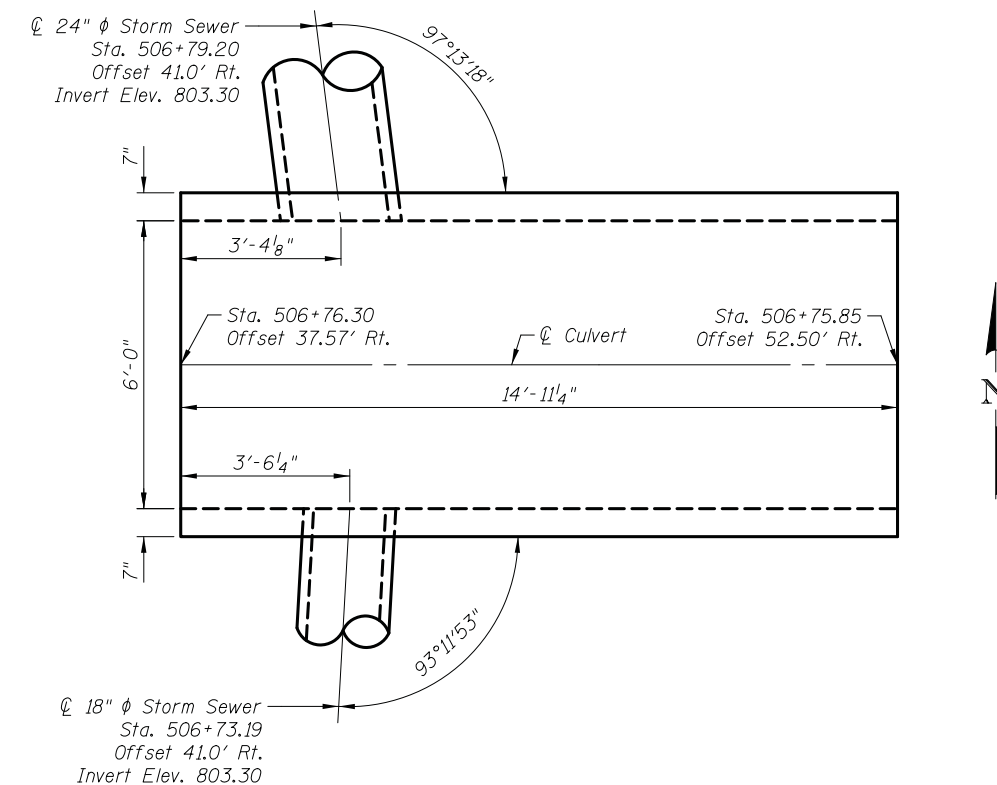
ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	10.8
Reinforcement Bars	Pound	2,950
Expansion Bolts 3/4"	Each	40
Concrete Box Culverts	Cu. Yd.	15.0
Precast Concrete Box Culverts 6'x4'	Foot	15.0
Ornamental Fence	Foot	24



OPENING IN PRECAST CELLS

STORM SEWER INVERT TABLE

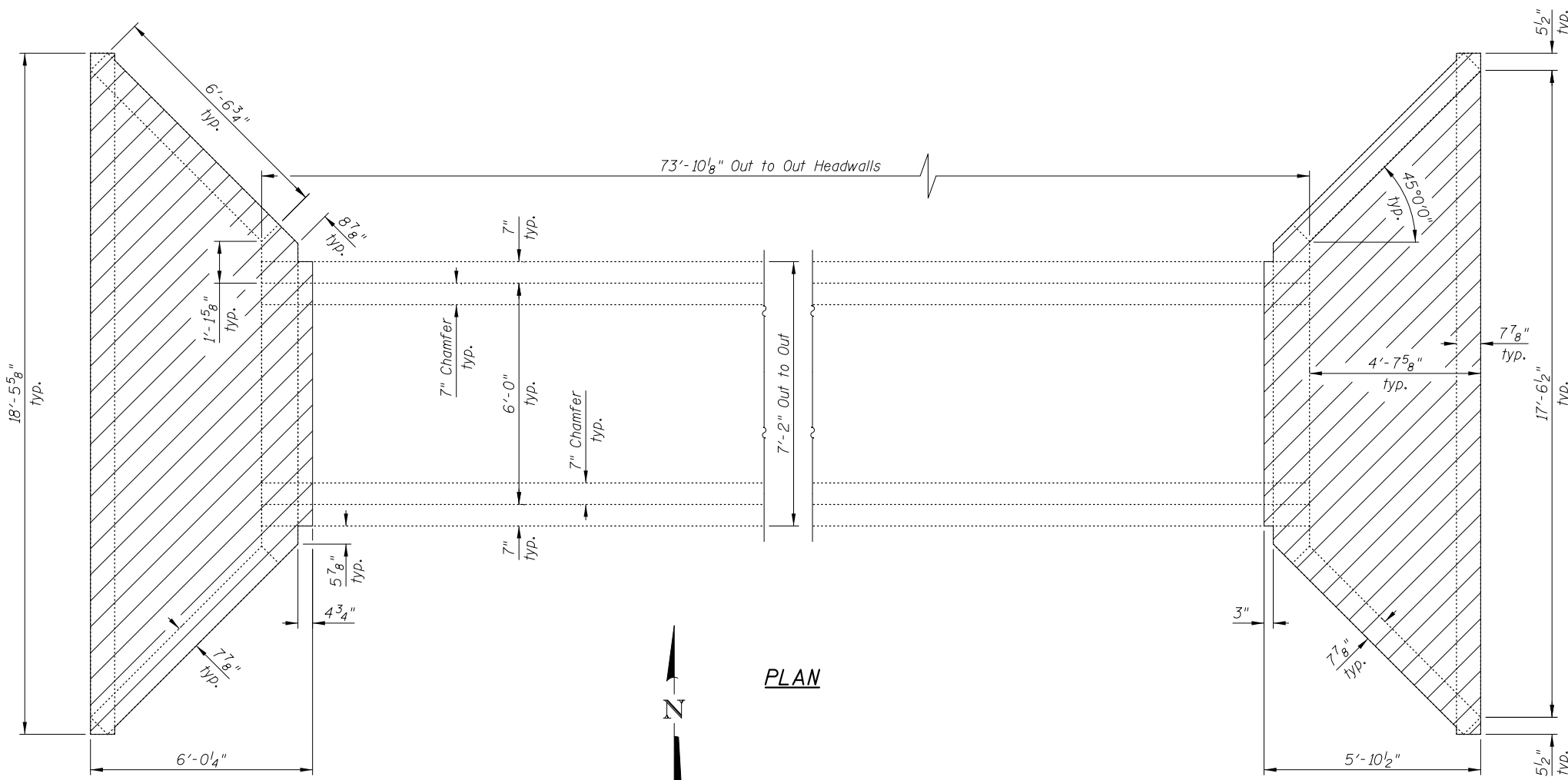
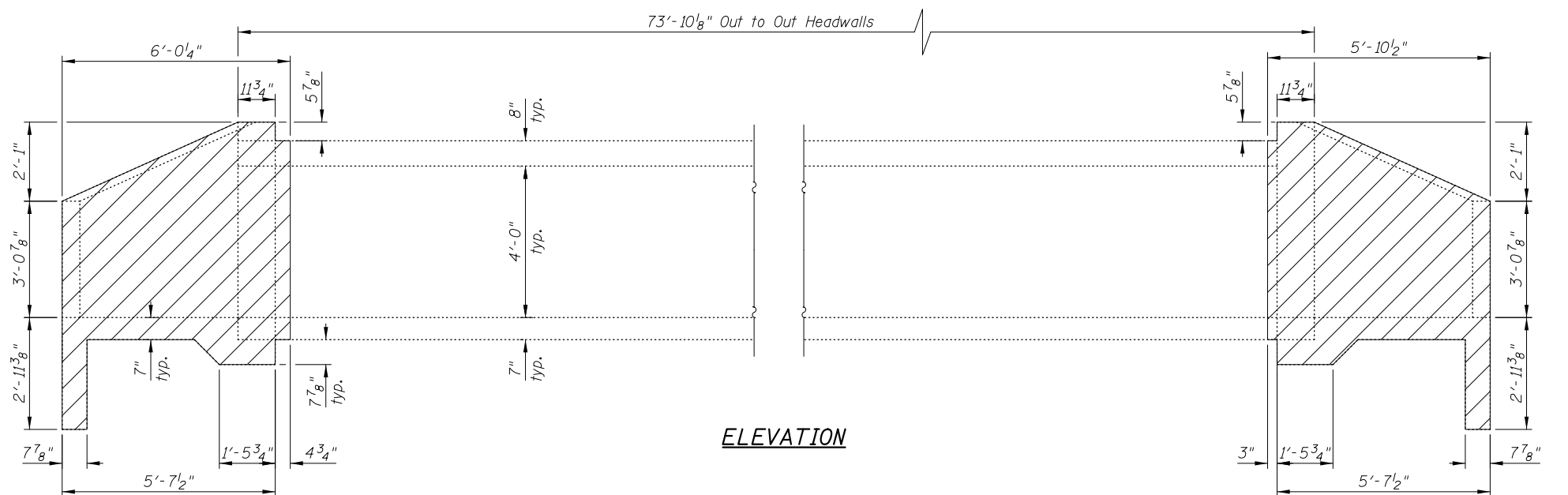
Station	Offset	Size	Invert	Location
506+79.20	41.0' Rt.	24" φ	803.30	North Cell
506+73.19	41.0' Rt.	18" φ	803.30	South Cell




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DRAWN	- J. SCHROEDER	REVISED	- 11/28/2017
DESIGNED	- J. SCHROEDER	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	312
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



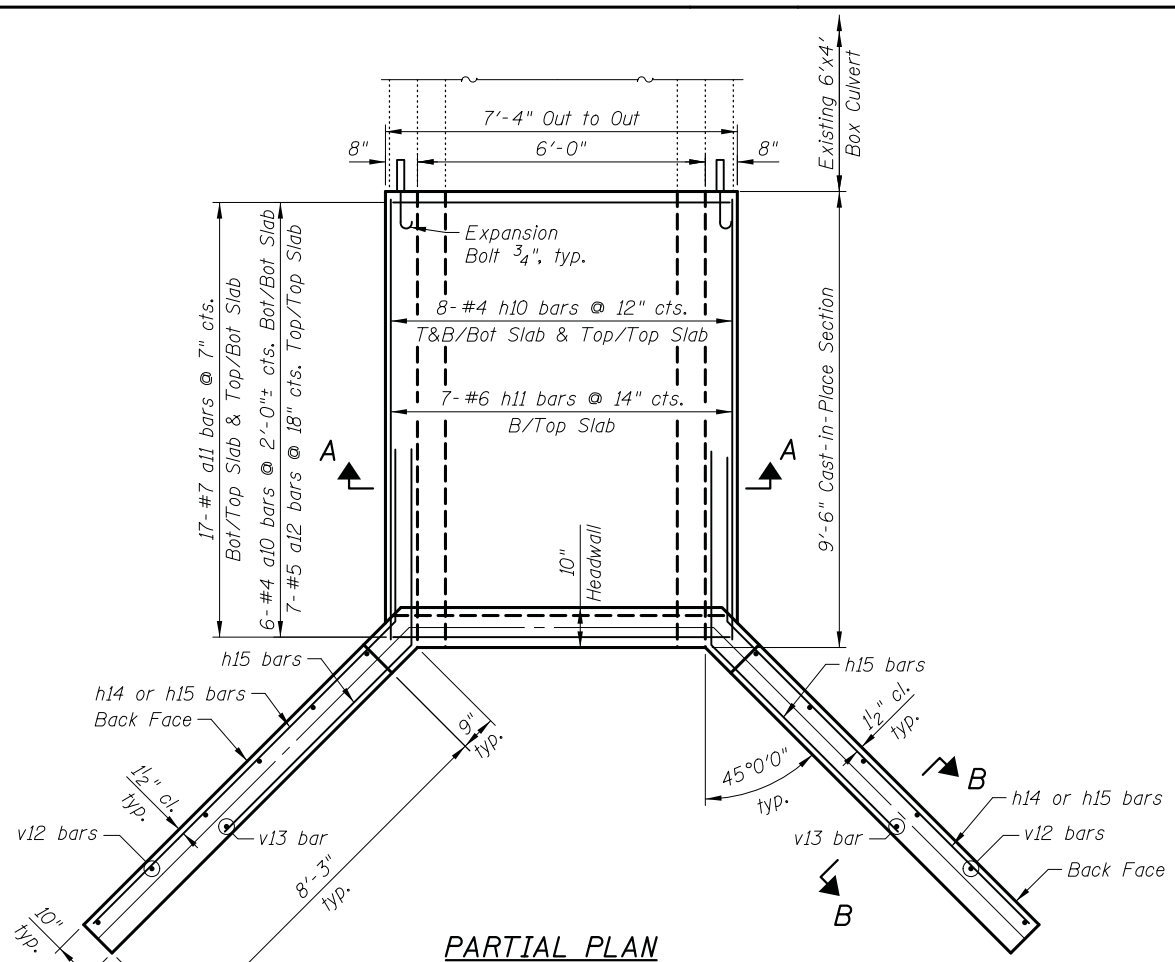
LEGEND

 Concrete Removal

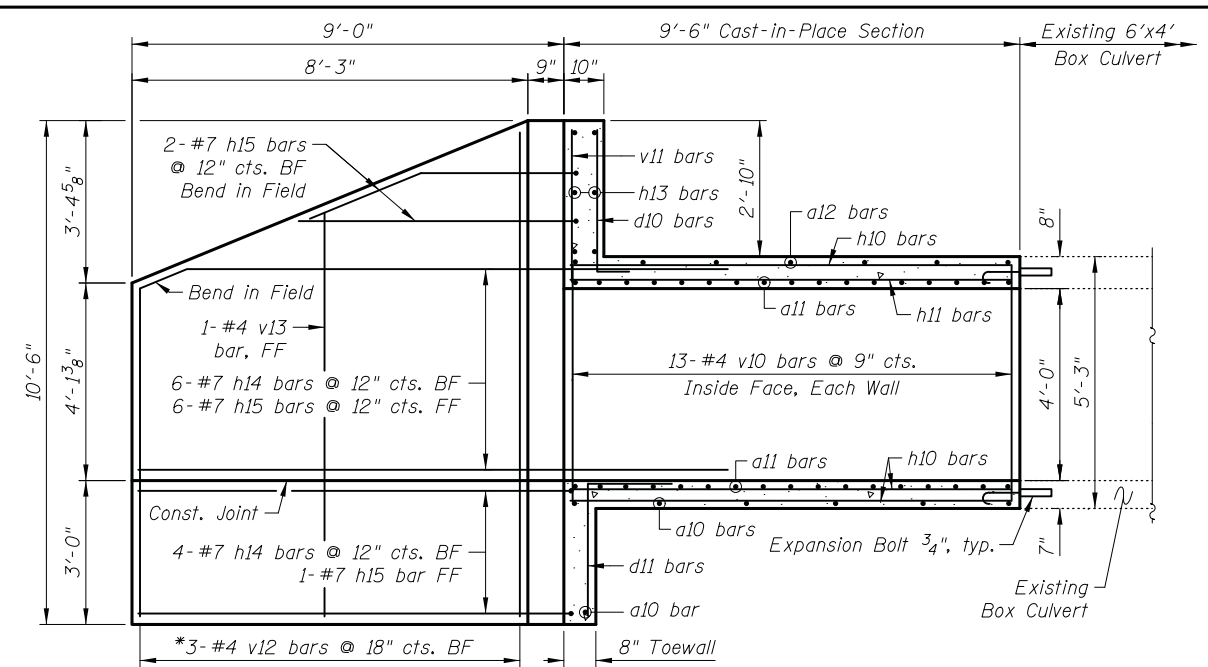
BILL OF MATERIAL

Item	Unit	Quantity
Concrete Removal	Cu. Yd.	10.8

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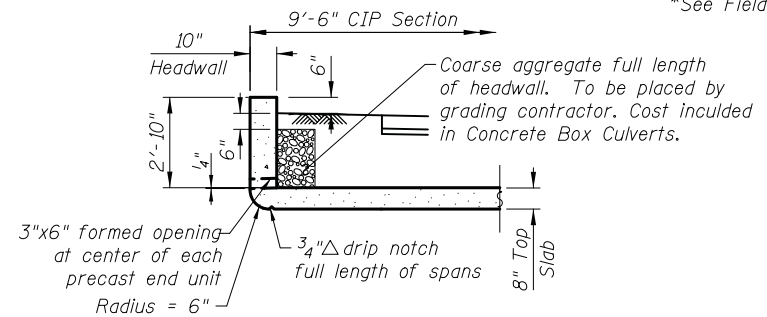


PARTIAL PLAN



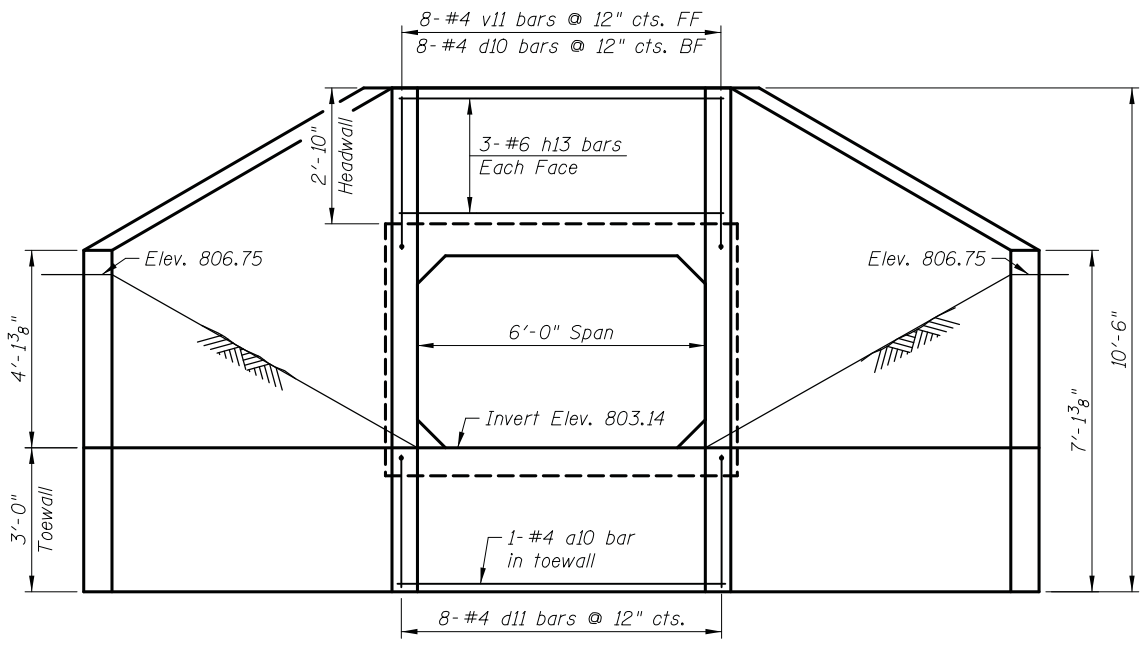
SOUTH WINGWALL ELEVATION

South wingwall is shown - North wingwall is similar
*See Field Cutting Diagram

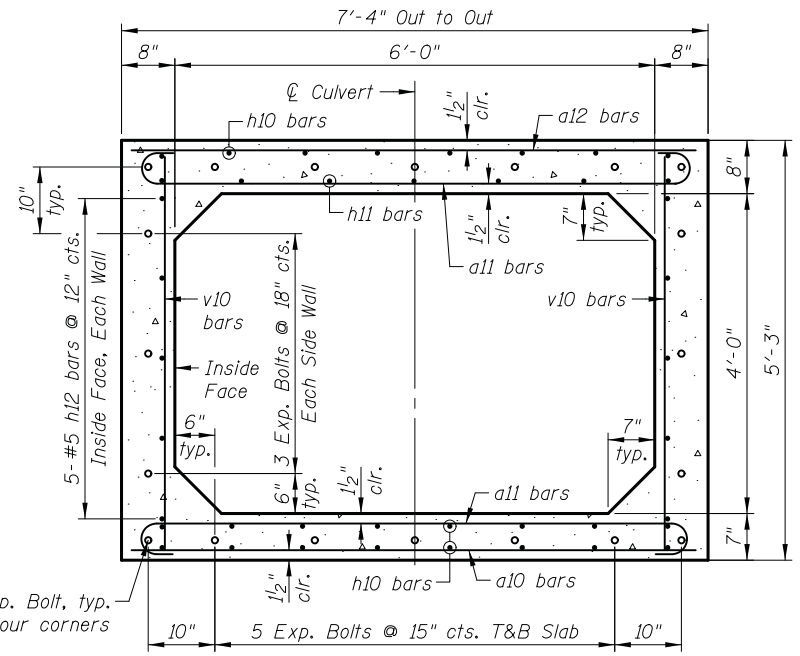


SECTION THRU HEADWALL

(Upstream End)

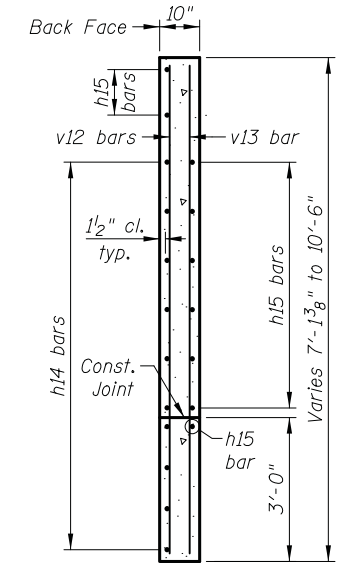


END VIEW

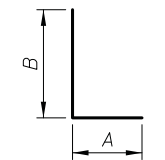


SECTION A-A

Note: Expansion bolts shall be 3/4" φ hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete.

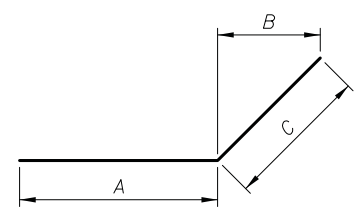


SECTION B-B



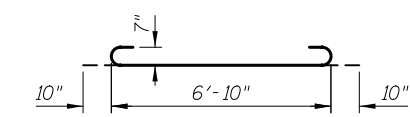
d10 & d11 BARS

Bar	A	B
d10	0'-8"	2'-10"
d11	1'-9"	2'-9"

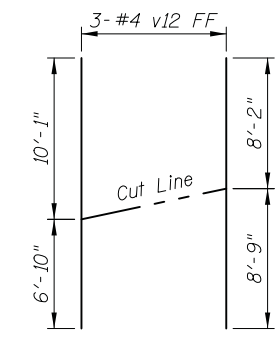


h14 & h15 BARS

Bar	A	B	C
h14	8'-11"	2'-6 3/8"	3'-7"
h15	5'-6"	2'-10 5/8"	4'-1"



a11 BAR



FIELD CUTTING DIAGRAM

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10	7	#4	7'-0"	—
a11	34	#7	8'-6"	┌
a12	7	#5	7'-0"	—
d10	8	#4	3'-6"	└
d11	8	#4	4'-6"	└
h10	24	#4	9'-2"	—
h11	7	#6	9'-2"	—
h12	10	#5	9'-2"	—
h13	6	#6	6'-8"	—
h14	20	#7	12'-6"	┌
h15	18	#7	9'-7"	┌
v10	26	#4	4'-11"	—
v11	8	#4	3'-2"	—
v12	6	#4	16'-11"	—
v13	2	#4	8'-5"	—
Item	Unit	Quantity		
Concrete Box Culverts	Cu. Yd.	11.2		
Reinforcement Bars	Pound	2,170		
Expansion Bolts 3/4"	Each	20		

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CIVILTECH
 450 E Devon Ave, Suite 300
 Itasca, Illinois 60143
 Tel: 630.773.3900 Fax: 630.773.3975
 www.civiltechinc.com

DRAWN - K. KOMPARE	REVISED - 11/28/2017
DESIGNED - J. SCHROEDER	REVISED -
CHECKED - G. HATLESTAD	REVISED -
DATE - 01/29/18	REVISED -

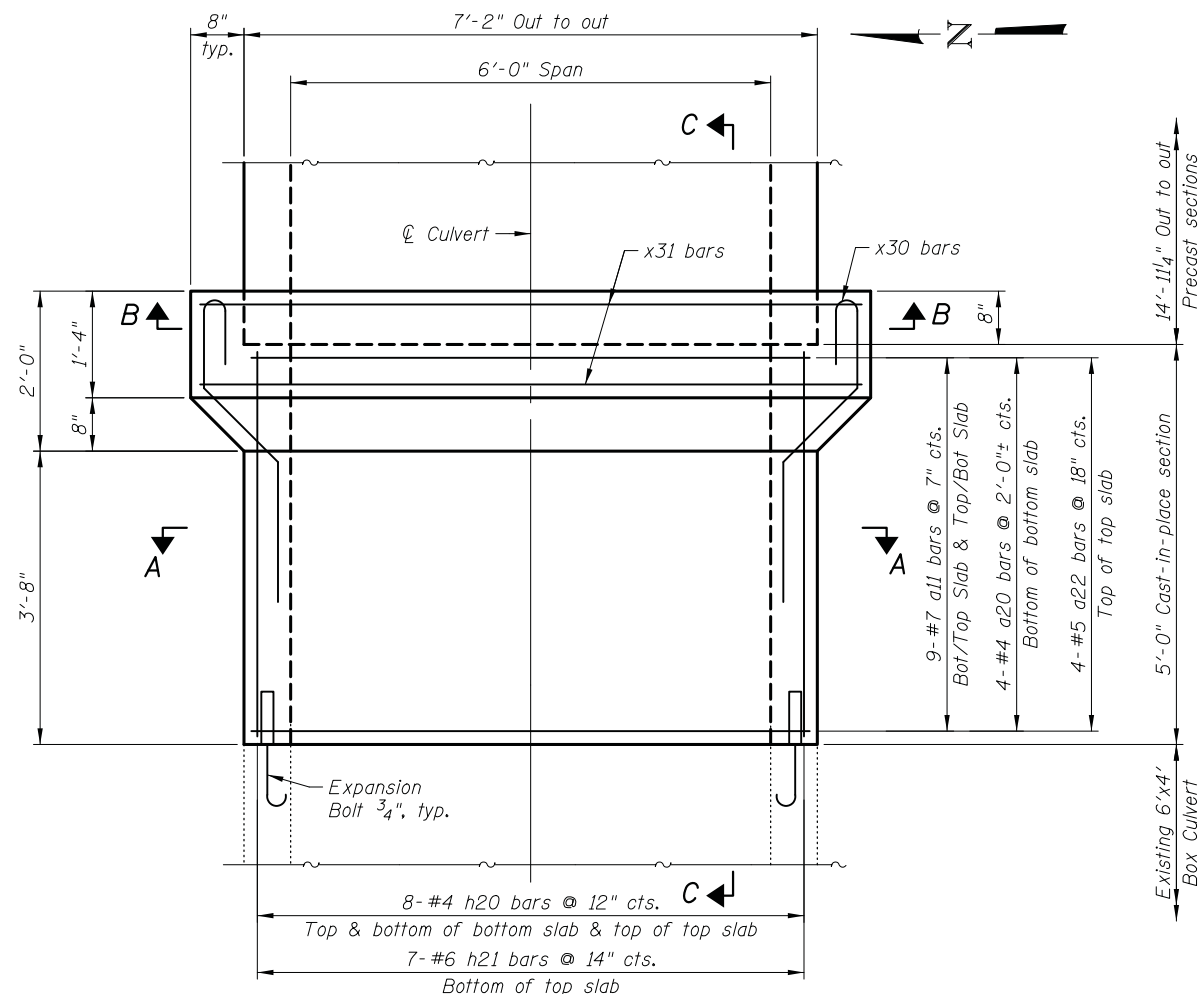
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST END SECTION
CULVERT
QUENTIN ROAD; F.A.U. 2574
 SHEET NO. C4 OF C7 SHEETS

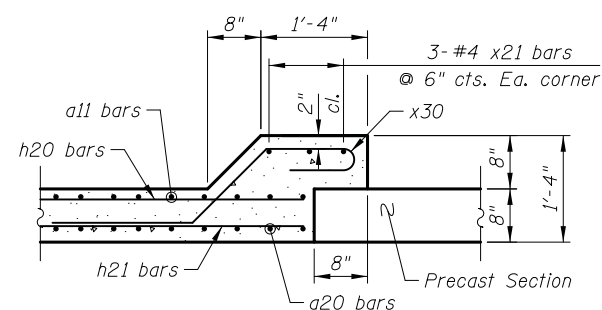
F.A.U. RTE. 2574	SECTION 08-00090-12-CH	COUNTY LAKE	TOTAL SHEETS 778	SHEET NO. 314
CONTRACT NO. 61E22			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	

BILL OF MATERIAL

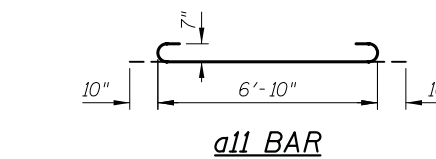
Bar	No.	Size	Length	Shape
a20	4	#4	6'-10"	—
a11	18	#7	8'-6"	⌋
a22	4	#5	6'-10"	—
h20	24	#4	4'-8"	—
h21	7	#6	4'-8"	—
h22	10	#5	4'-8"	—
v10	16	#4	4'-11"	—
x20	32	#4	5'-5"	┘
x21	12	#4	9'-0"	┘
Item	Unit	Quantity		
Concrete Box Culverts	Cu. Yd.	3.8		
Reinforcement Bars	Pound	780		
Expansion Bolts 3/4"	Each	20		



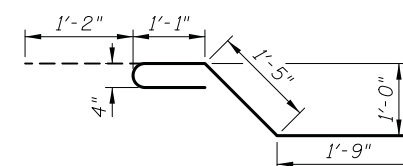
PARTIAL PLAN



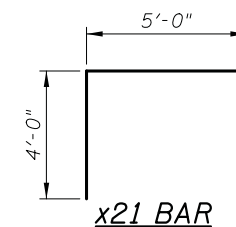
DETAIL "A"



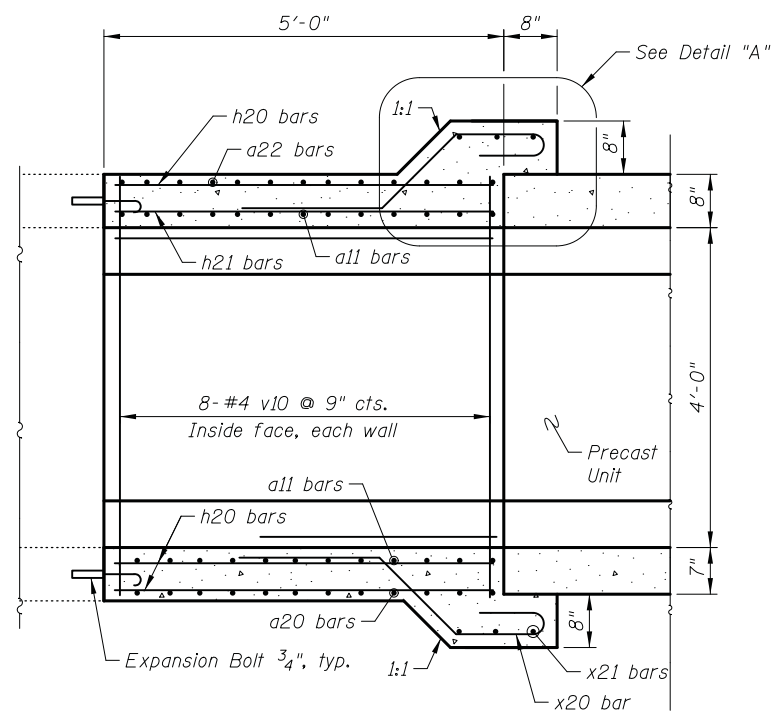
a11 BAR



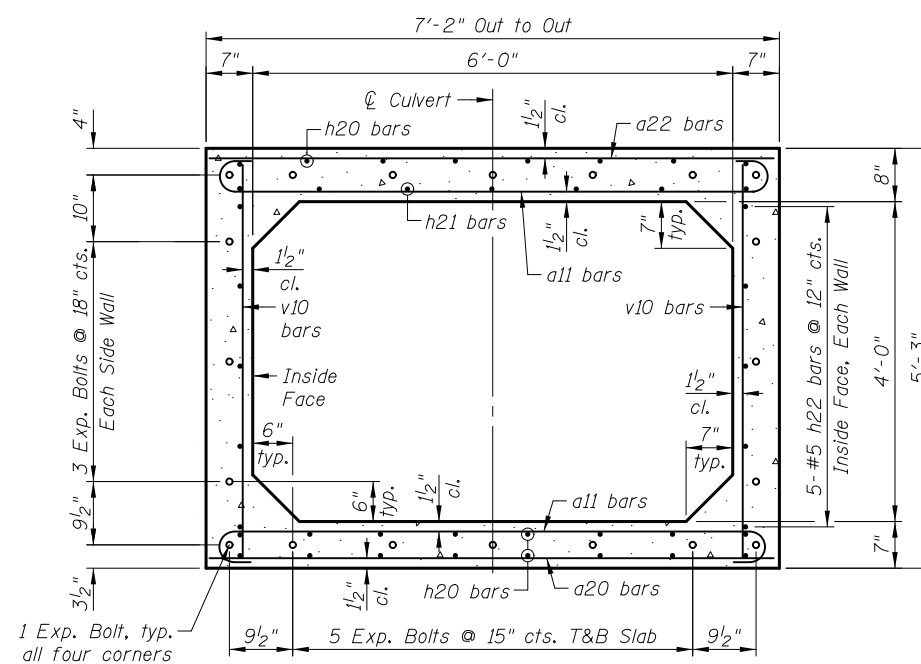
x20 BAR



x21 BAR

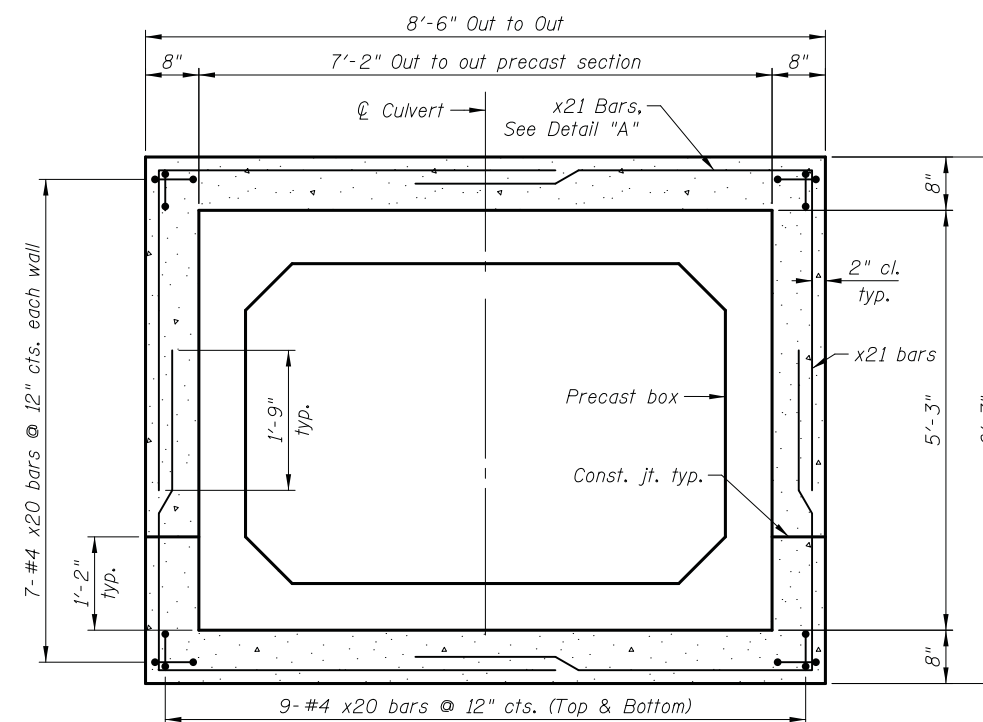


SECTION C-C



SECTION A-A

Note: Expansion bolts shall be 3/4" ϕ hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete.



SECTION B-B

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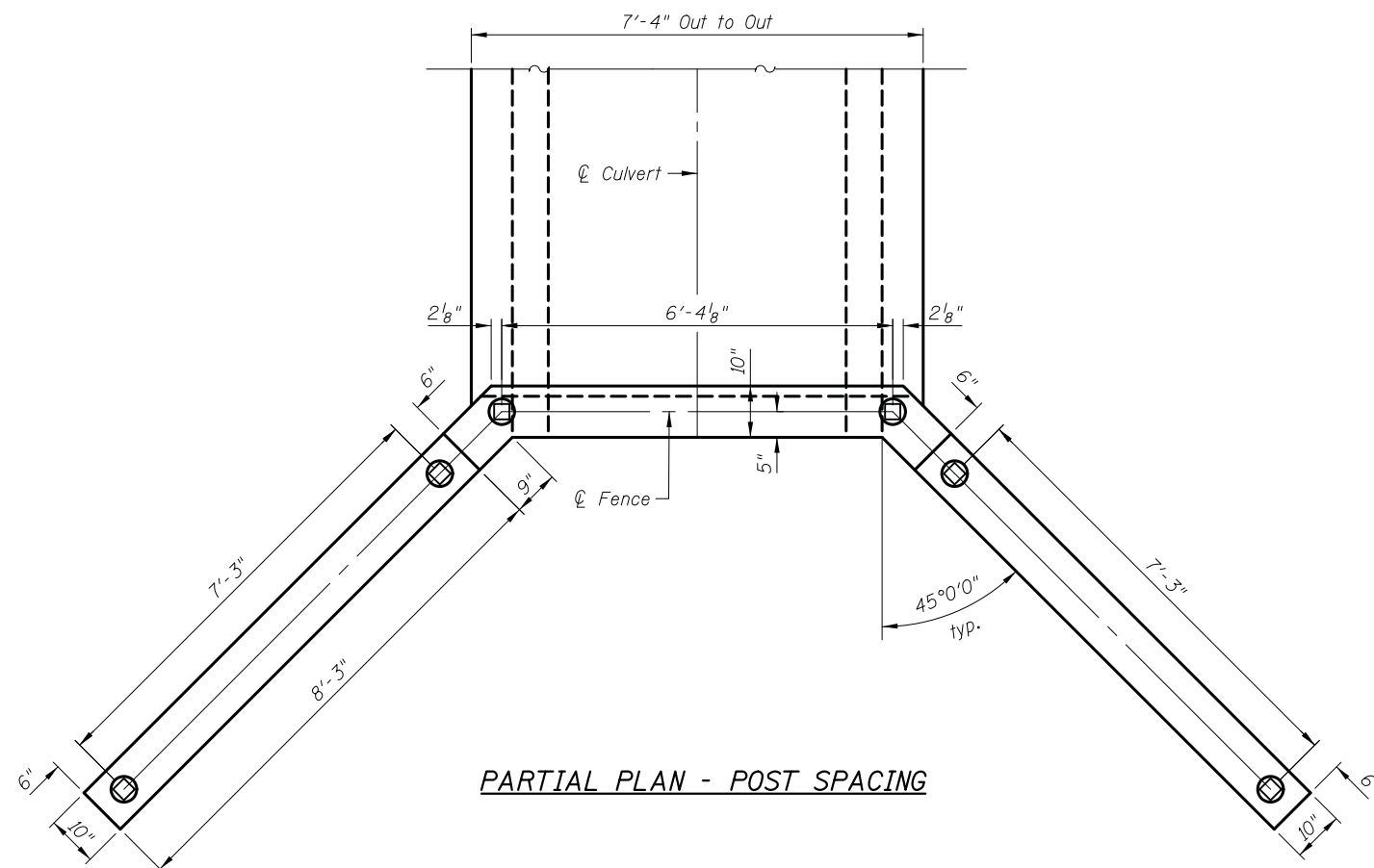
450 E Devon Ave, Suite 300
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
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DESIGNED	- J. SCHROEDER	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

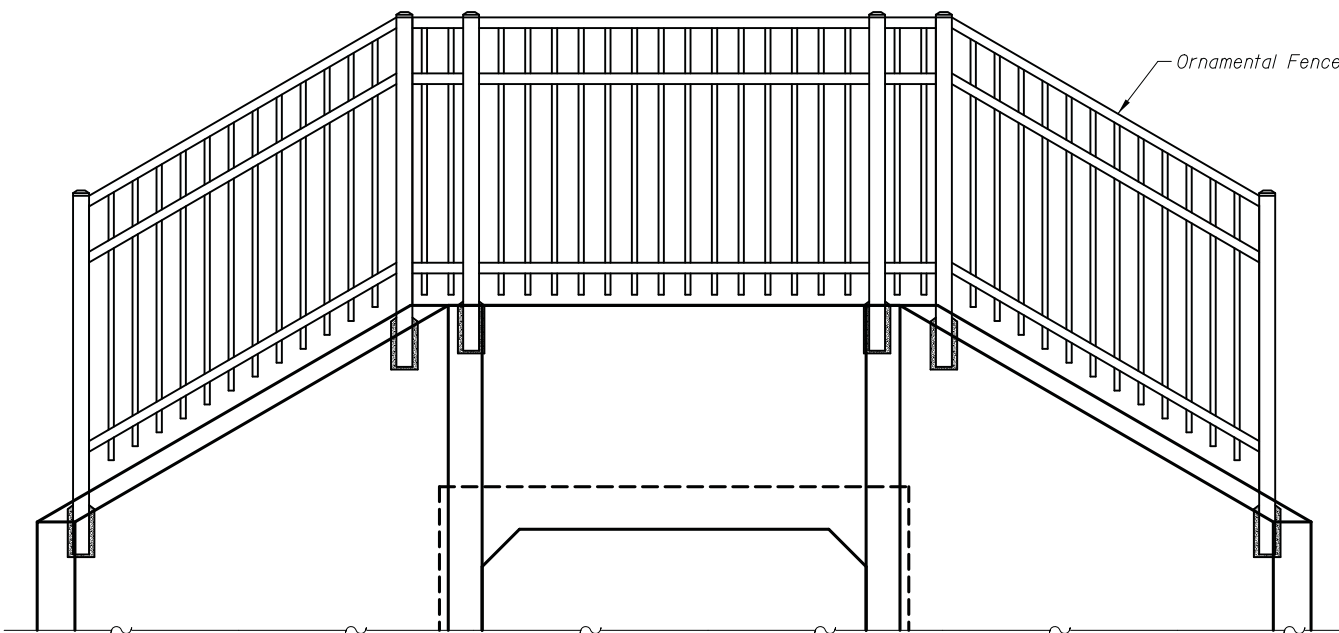
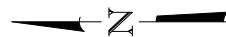
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST END SECTION
CULVERT
QUENTIN ROAD; F.A.U. 2574**
SHEET NO. C5 OF C7 SHEETS

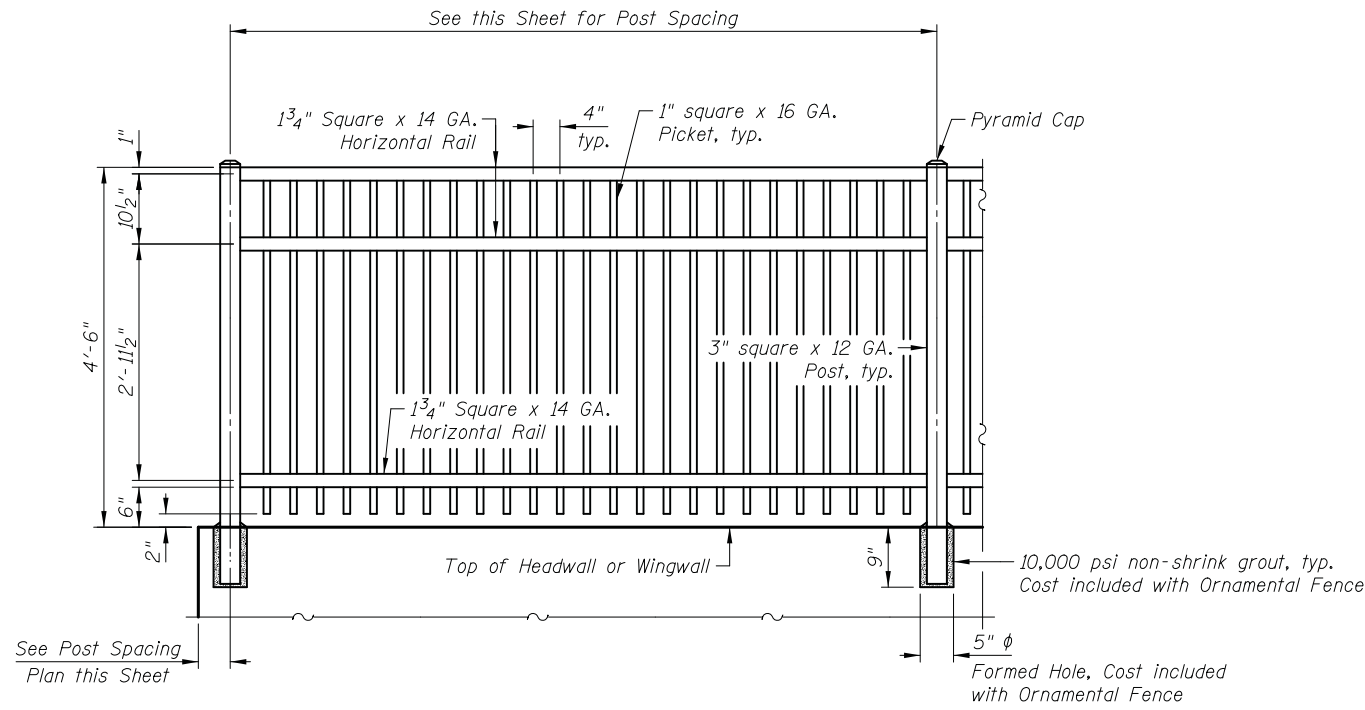
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	315
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



PARTIAL PLAN - POST SPACING



END VIEW



ORNAMENTAL FENCE ELEVATION

All posts, railings, splices, anchor devices, and bent plates shall be painted black.

BILL OF MATERIAL

Item	Unit	Quantity
Ornamental Fence	Foot	24

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DESIGNED - J. SCHROEDER	REVISED -
CHECKED - G. HATLESTAD	REVISED -
DATE - 01/29/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ORNAMENTAL FENCE DETAILS
CULVERT
QUENTIN ROAD; F.A.U. 2574
SHEET NO. C6 OF C7 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	316
FED. ROAD DIST. NO. 1				ILLINOIS FED. AID PROJECT
CONTRACT NO. 61E22				

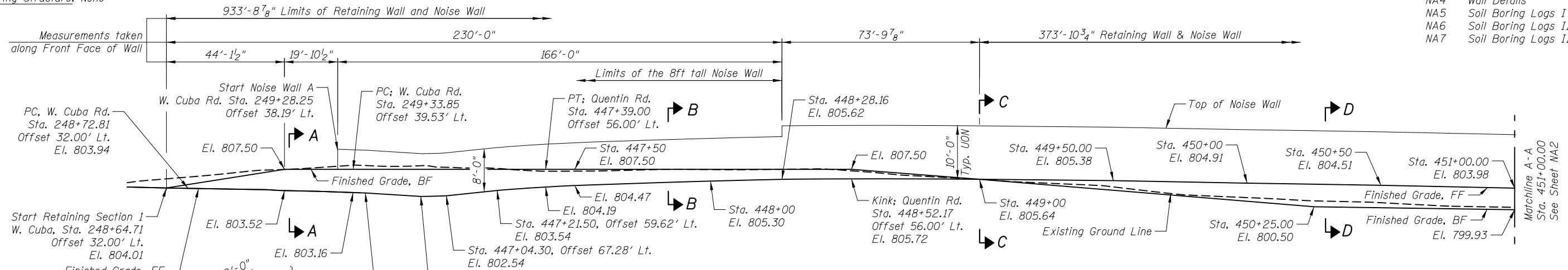
Bench Mark: Railroad spike (set) in power pole. Quentin Rd. Sta. 449+09.64, Offset 62.63' Lt., Elev. 807.50.

Maintenance of Traffic: Traffic will be maintained during construction.

Existing Structure: None

INDEX OF SHEETS

- NA1 General Plan and Elevation I
- NA2 General Plan and Elevation II
- NA3 General Data
- NA4 Wall Details
- NA5 Soil Boring Logs I
- NA6 Soil Boring Logs II
- NA7 Soil Boring Logs III



DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims

1989 AASHTO Guide Specification for Structural Design of Sound Barriers with 1992 and 2002 Interims

DESIGN STRESSES

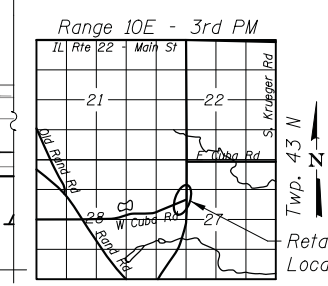
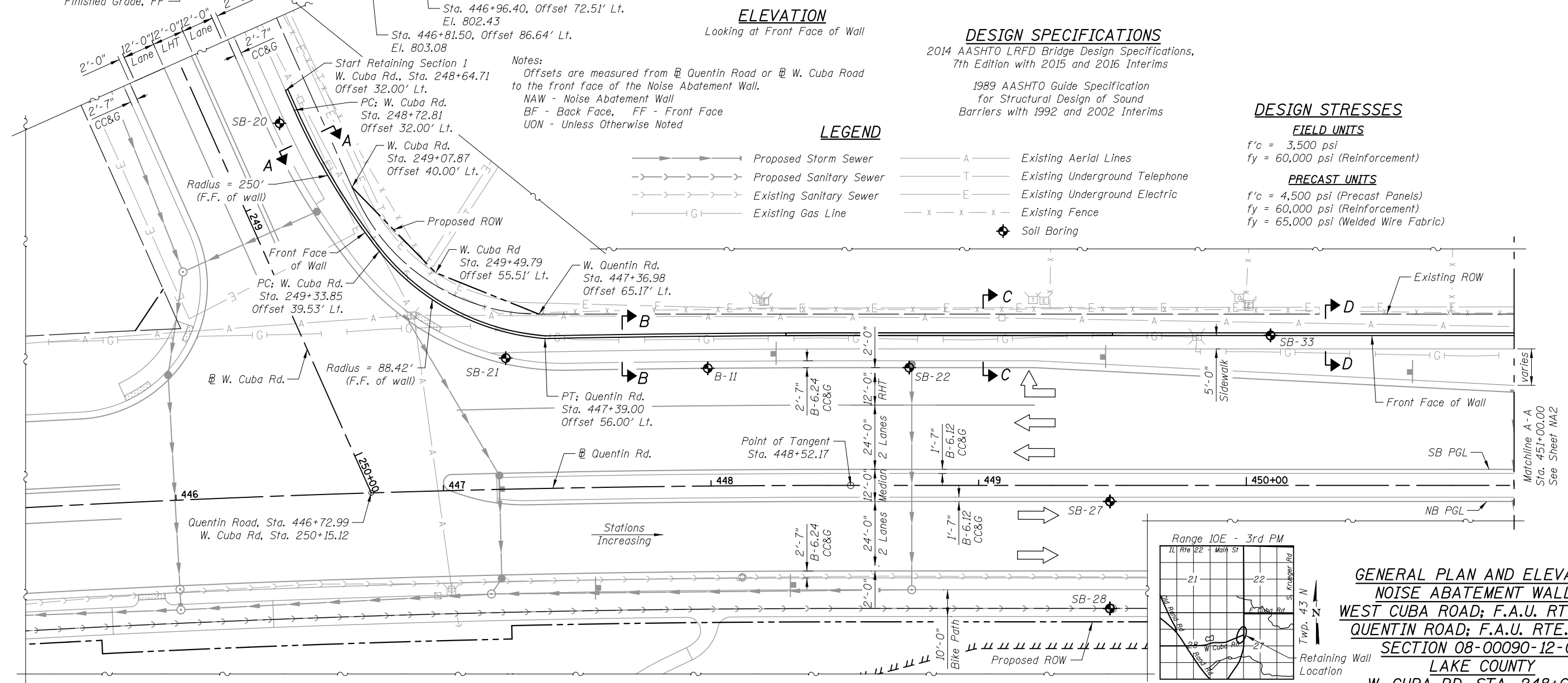
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS
f'c = 4,500 psi (Precast Panels)
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)

LEGEND

- Proposed Storm Sewer
- Proposed Sanitary Sewer
- Existing Sanitary Sewer
- Existing Gas Line
- Existing Aerial Lines
- Existing Underground Telephone
- Existing Underground Electric
- Existing Fence
- Soil Boring

Notes:
Offsets are measured from W. Quentin Road or W. Cuba Road to the front face of the Noise Abatement Wall.
NAW - Noise Abatement Wall
BF - Back Face, FF - Front Face
UON - Unless Otherwise Noted



**GENERAL PLAN AND ELEVATION
NOISE ABATEMENT WALL A
WEST CUBA ROAD; F.A.U. RTE. 1260
QUENTIN ROAD; F.A.U. RTE. 2574
SECTION 08-00090-12-CH
LAKE COUNTY
W. CUBA RD. STA. 248+64.71
TO QUENTIN RD. STA. 455+30.00**

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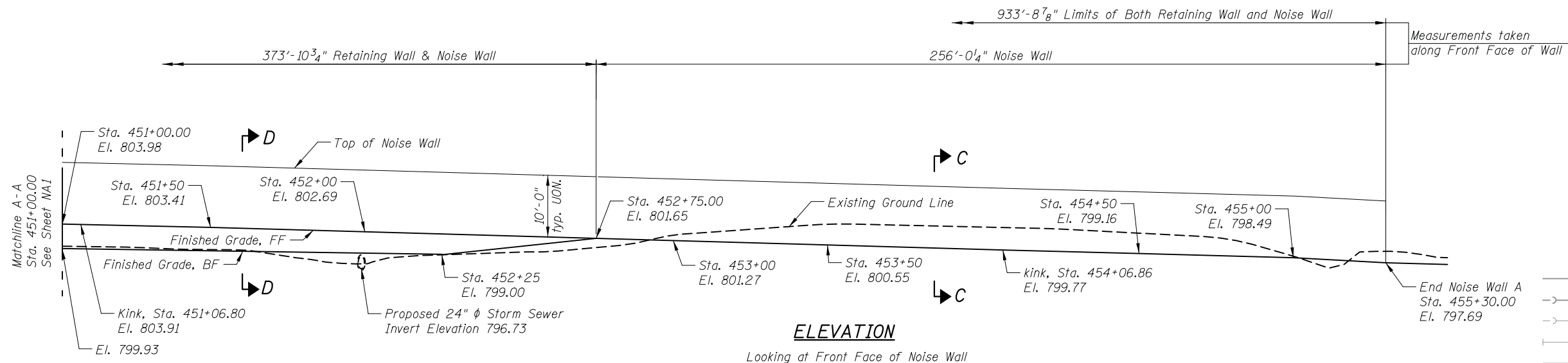
CIVILTECH
450 E Devon Ave, Suite 300
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

DRAWN	- K. KOMPARE	REVISED	-
DESIGNED	- K. KOMPARE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

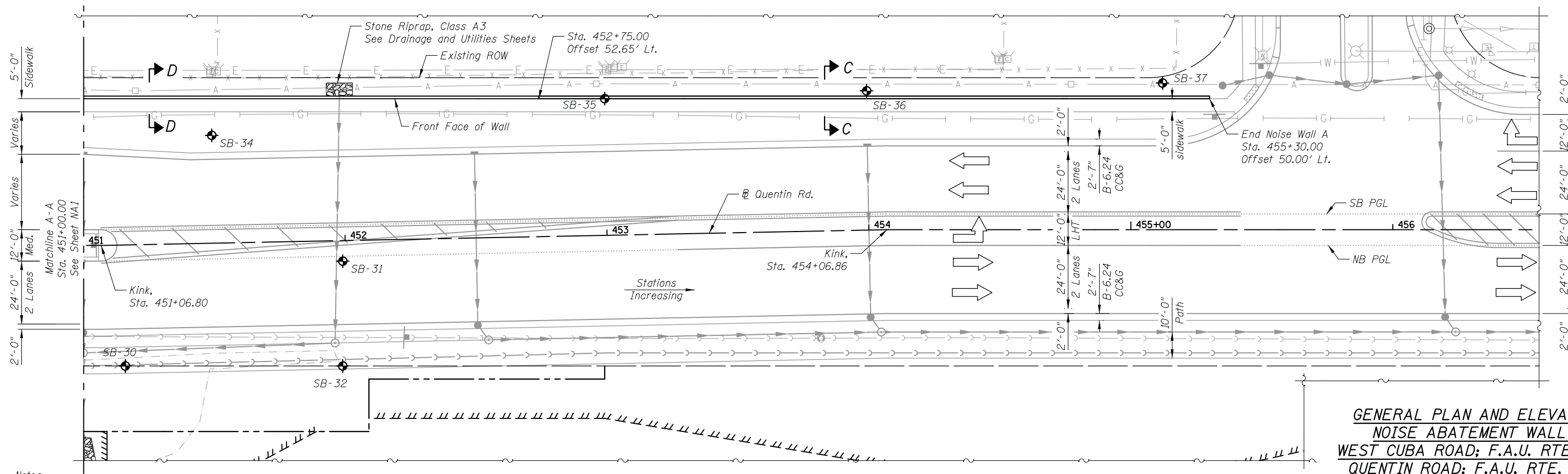
**GENERAL PLAN AND ELEVATION I
NOISE ABATEMENT WALL A
QUENTIN ROAD; F.A.U. 2574**
SHEET NO. NA1 OF NA7 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	318
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				



LEGEND

- Proposed Storm Sewer
- Proposed Sanitary Sewer
- Existing Sanitary Sewer
- G — Existing Gas Line
- A — Existing Aerial Lines
- E — Existing Underground Electric
- W — Existing Water Main
- x — Existing Fence
- ⊕ Soil Boring



Notes:
 Offsets are measured from Quentin Road to the front face of the Noise Abatement Wall.
 NAW - Noise Abatement Wall
 BF - Back Face
 FF - Front Face
 UOM - Unless Otherwise Noted

**GENERAL PLAN AND ELEVATION
 NOISE ABATEMENT WALL A
 WEST CUBA ROAD; F.A.U. RTE. 1260
 QUENTIN ROAD; F.A.U. RTE. 2574
 SECTION 08-00090-12-CH
 LAKE COUNTY
 W. CUBA RD. STA. 248+64.71
 TO QUENTIN RD. STA. 455+30.00**

1/2 2/2/2018 2:07:06 PM I:\21724\cadd\sheet\4-Noise Walls\NAW_A\02_NAWA_GPE.dgn

CIVILTECH
 450 E Devon Ave, Suite 300
 Itasca, Illinois 60143
 Tel: 630.773.3900 Fax: 630.773.3975
 www.civiltechinc.com

DRAWN	- K. KOMARE	REVISED	-
DESIGNED	- K. KOMARE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION II
 NOISE ABATEMENT WALL A
 QUENTIN ROAD; F.A.U. 2574**
 SHEET NO. NA2 OF NA7 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	319
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL QUANTITY
Noise Abatement Wall, Ground Mounted	Sq. Ft.	10,384
Staining Concrete Structures	Sq. Ft.	19,244
Anti-Graffiti Protection System	Sq. Ft.	19,244

GENERAL NOTES:

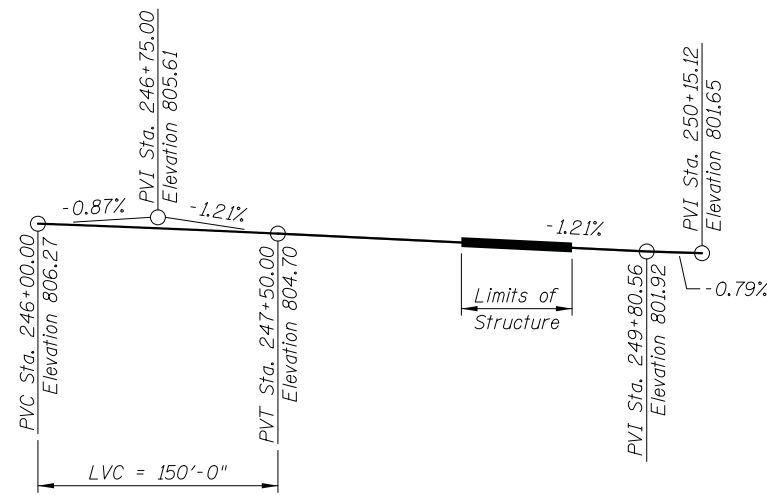
- The foundation, posts & noise wall panels shall be designed to accommodate the ultimate or maximum Noise Wall height and earth retention conditions. An active earth pressure of 40 psf per foot depth/equivalent fluid pressure can be used in design for drained conditions. A lateral earth pressure of 85 psf per foot depth/equivalent fluid pressure should be used for undrained conditions below the design water level.
- The foundation is to be designed by the Contractor. The foundation is not to be placed within 1'-0" of any pipes or utilities.
- The Contractor shall verify any obstruction to pipes and utilities prior to construction of foundation.

LOADING

(Unfactored)
 Noise Wall = 25 psf
 Retaining Wall with Noise Wall = 35 psf
 Equivalent Fluid Pressure = 40 psf (drained)
 Equivalent Fluid Pressure = 85 psf (undrained)

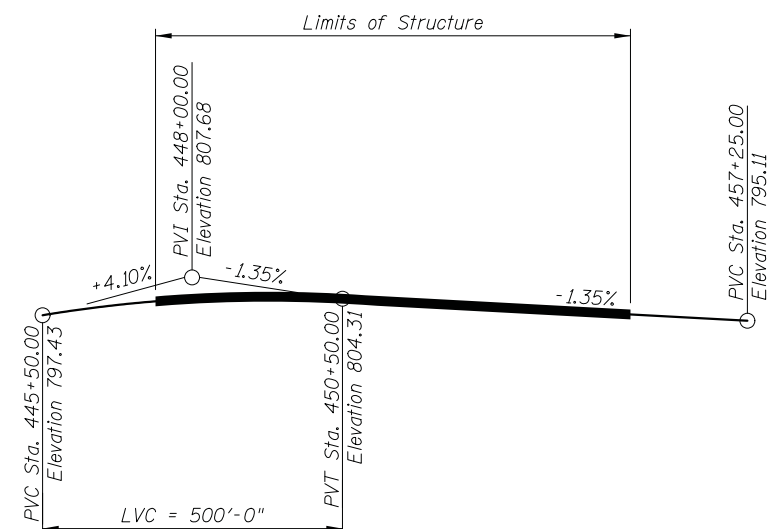
CURVE DATA

(Quentin Road)
 $\Delta = 3^{\circ}10'06.50''$ (Rt)
 $D = 1^{\circ}00'08.74''$
 $T = 158.08'$
 $L = 316.08'$
 $E = 2.19'$
 $R = 5,715.70'$
 $P.C. = Sta. 445+43.99$
 $P.T. = Sta. 448+60.07$
 $P.I. = Sta. 447+02.07$



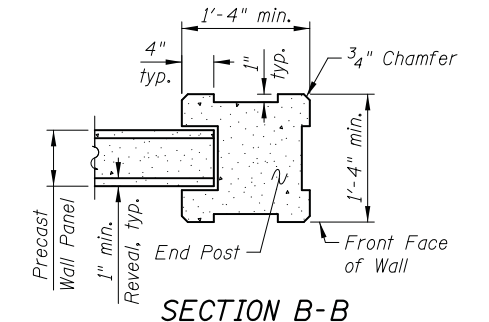
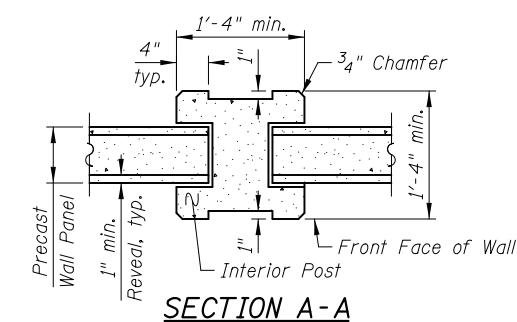
PROFILE GRADE

(Along \bar{C} W. Cuba Road)



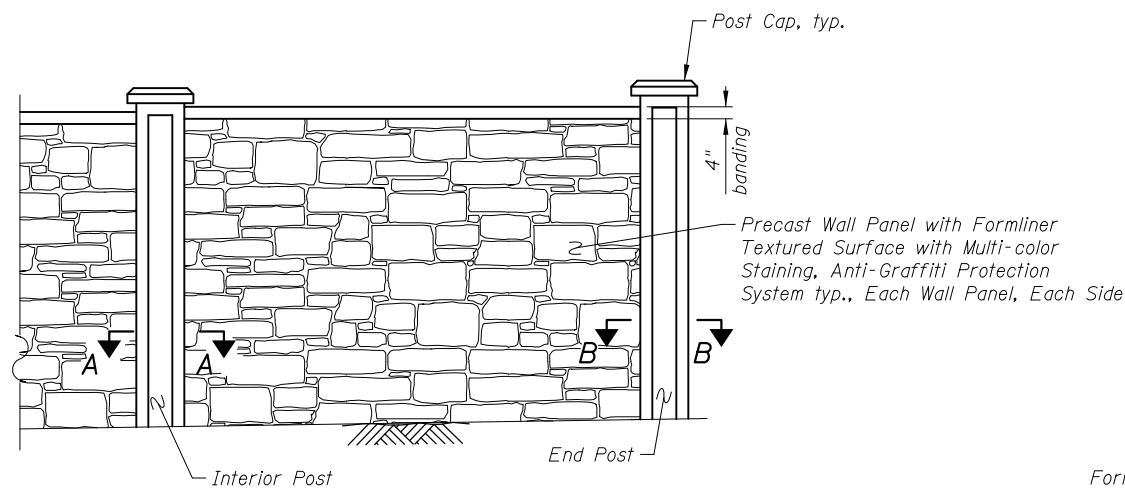
PROFILE GRADE

(Along \bar{C} Quentin Road)

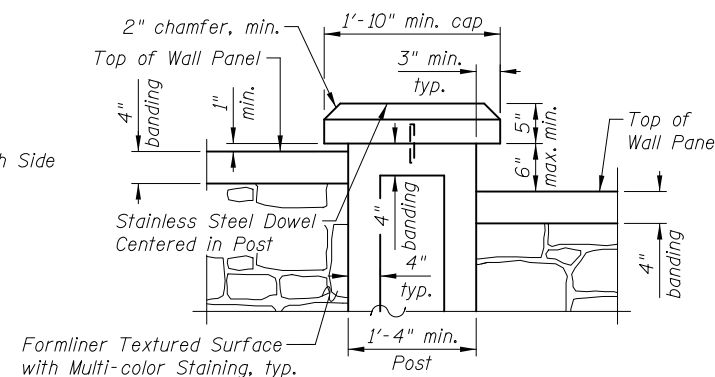


SECTION A-A

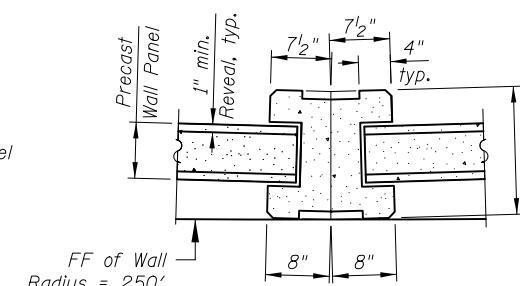
SECTION B-B



PARTIAL NOISE ABATEMENT WALL ELEVATION

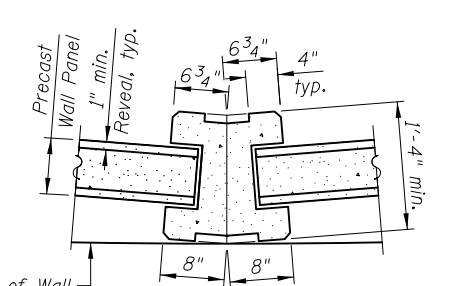


POST CAP DETAIL



SECTION D-D

Panels to be built along chord between column posts



SECTION C-C

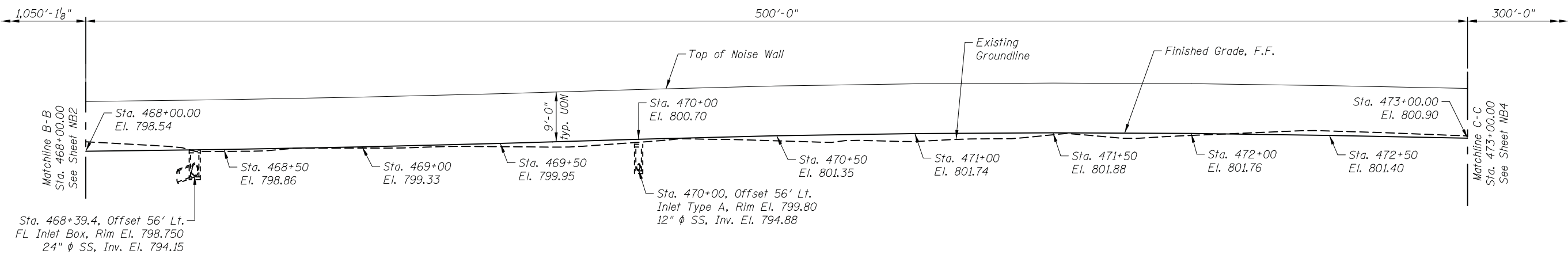
FF of Wall Radius = 88.42'

Panels to be built along chord between column posts

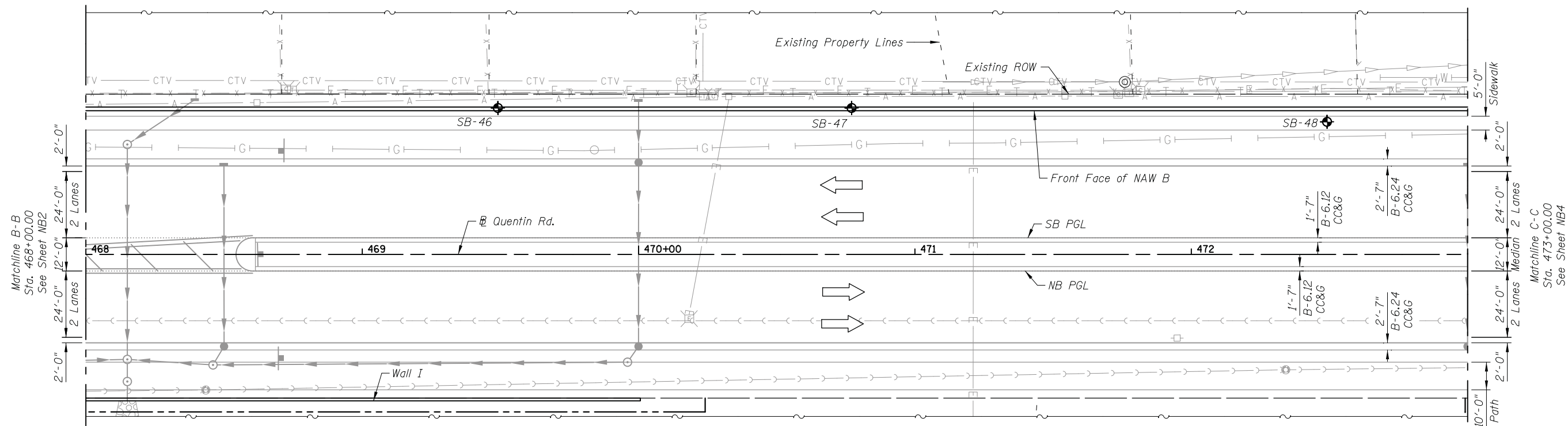
I:\2724\cadd\sheet\4-Noise_Walls\NAW_A.03-NAWA_GeneralData.dgn 2/2/2018 2:07:07 PM

DRAWN	- K. KOMPARE	REVISED	-
DESIGNED	- K. KOMARE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	320
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				



ELEVATION
(Looking at Front Face of Noise Wall)



PLAN

LEGEND

- → → Proposed Storm Sewer
- ▽ — Existing Storm Sewer
- - - Existing Sanitary Sewer
- T - Existing Underground Telephone
- CTV - Existing Underground Cable TV
- A — Existing Aerial Lines
- G - Existing Gas Line
- W - Existing Water Main
- E - Existing Underground Electric
- x - Existing Fence
- ⊕ Soil Boring

Notes:
Offsets are measured from Quentin Road to the front face of the Noise Abatement Wall.
NAW - Noise Abatement Wall.
BF - Back Face
FF - Front Face
UON - Unless Otherwise Noted

**GENERAL PLAN AND ELEVATION
NOISE ABATEMENT WALL B
QUENTIN ROAD, F.A.U. RTE. 2574
SECTION 08-00090-12-CH
LAKE COUNTY
STA. 457+50.00 TO STA. 476+00.00**

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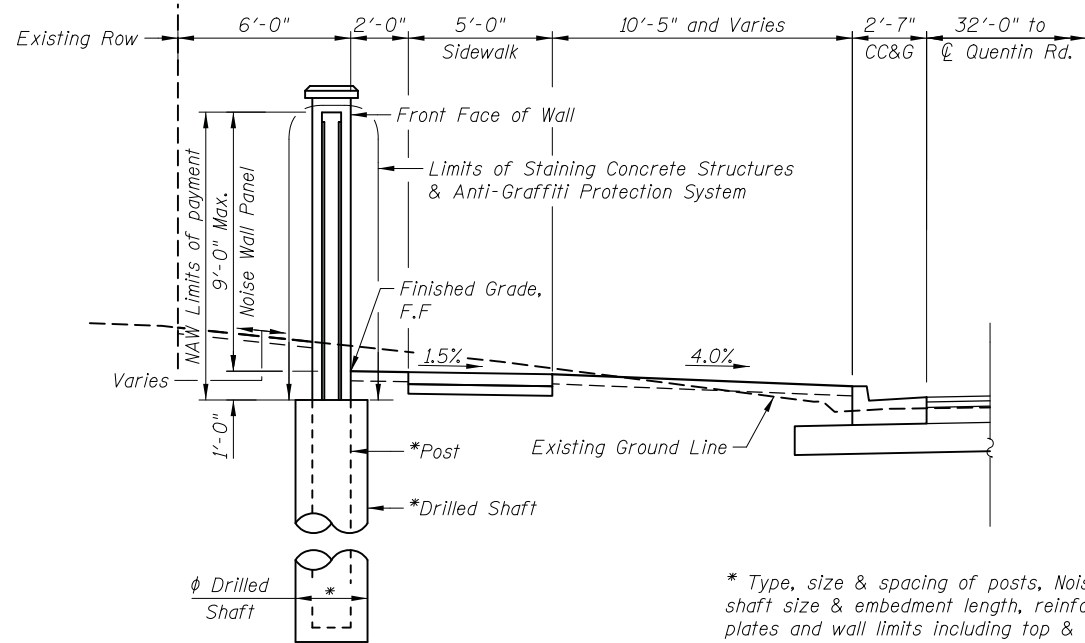
CIVILTECH
450 E Devon Ave, Suite 300
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

DRAWN	- K. KOMPARE	REVISED	-
DESIGNED	- K. KOMPARE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION III
NOISE ABATEMENT WALL B
QUENTIN ROAD F.A.U. 2574
SHEET NO. NB3 OF NB10 SHEET**

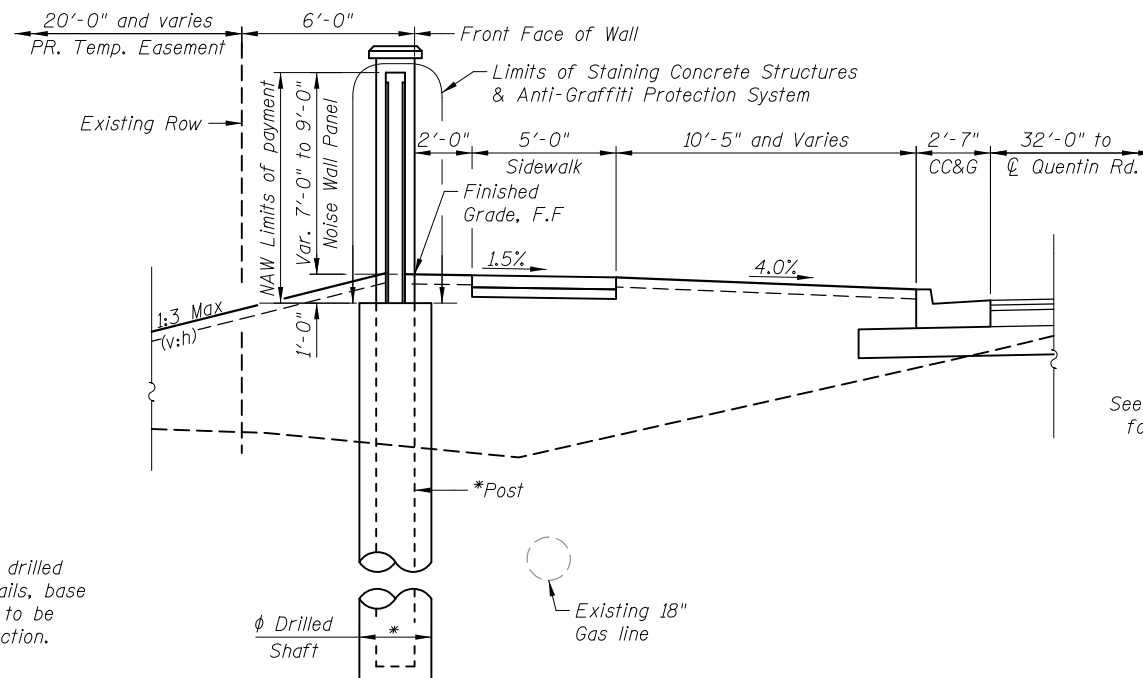
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	327
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



TYPICAL NOISE WALL SECTION

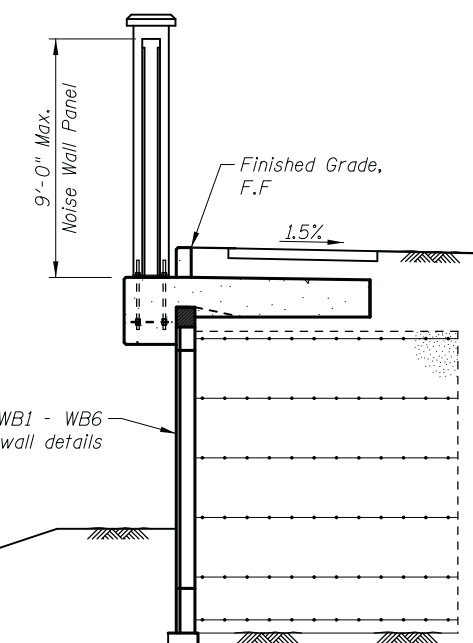
(Ground Mounted, Sta. 464+00 to Sta. 473+44.09)

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



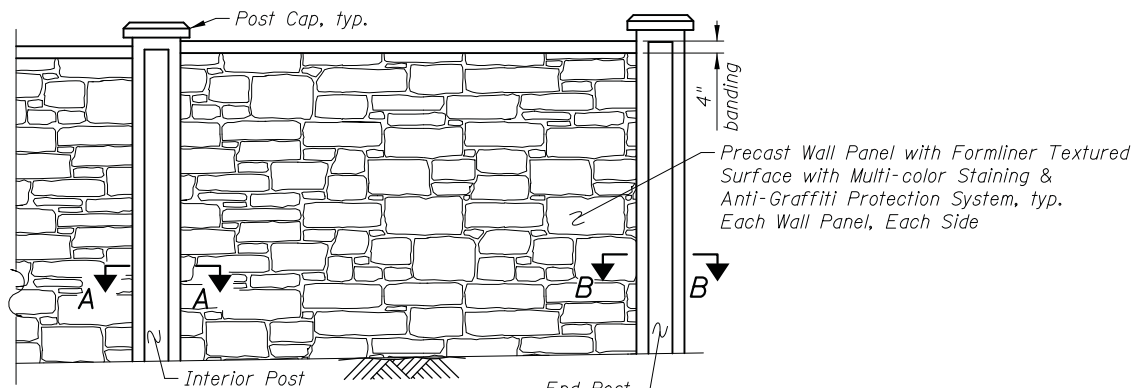
TYPICAL NOISE WALL SECTION

(Ground Mounted, Sta. 457+50 to Sta. 463+50)
(Ground Mounted, Sta. 475+24.09 to Sta. 476+00)

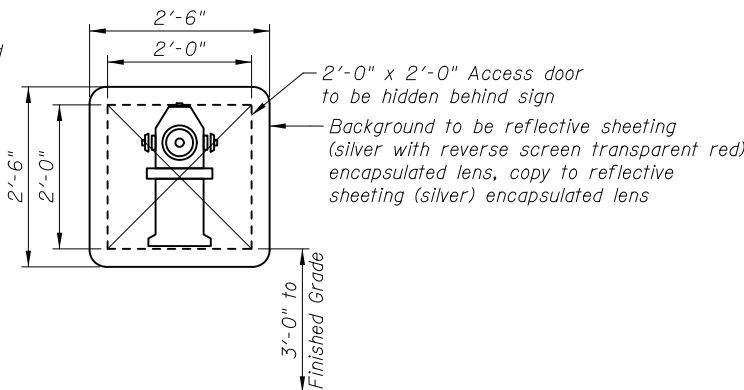


TYPICAL NOISE WALL SECTION

(Structure Mounted, Sta. 473+44.09 to Sta. 475+24.09)
See Ground Mounted Typical Noise Wall Section for balance of information

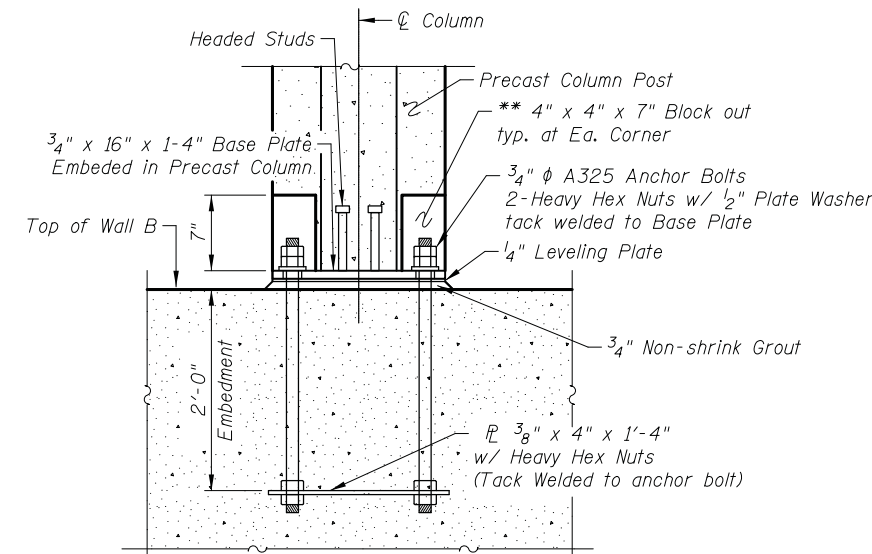


PARTIAL NOISE ABATEMENT WALL ELEVATION



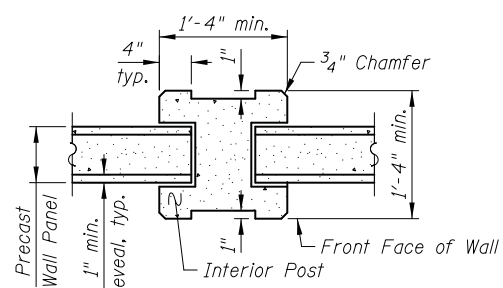
FIRE HYDRANT ACCESS DOOR SIGN DETAIL

Fire hydrant sign to hide access door

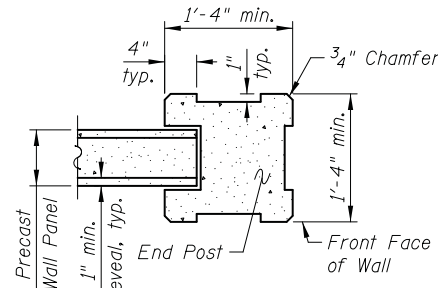


ELEVATION

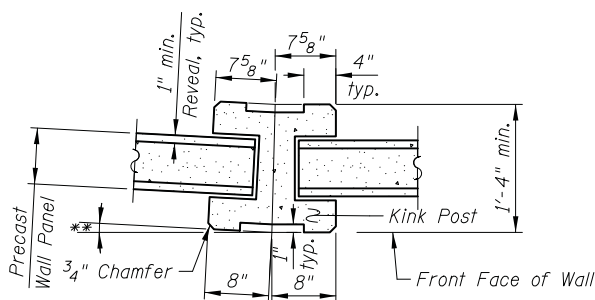
** Block outs shall be filled and stained to match columns after erection
Base plate are included in the cost of the Noise Abatement Wall, Structure Mounted



SECTION A-A

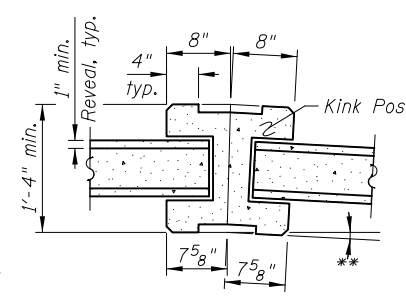


SECTION B-B



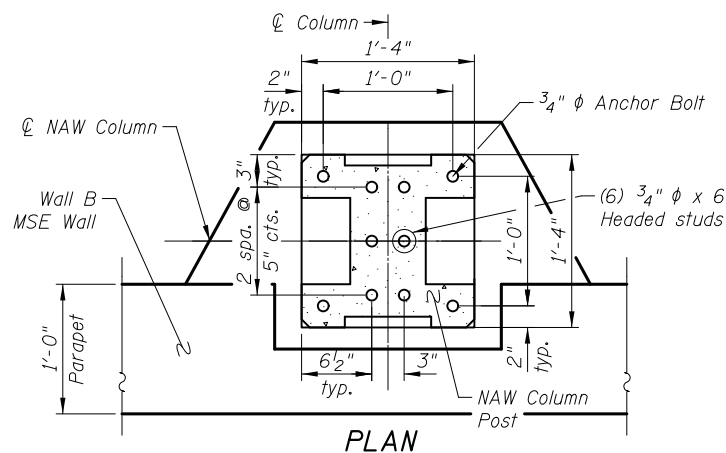
SECTION C-C

** Kink Post angle is 02° 59' 22.43"



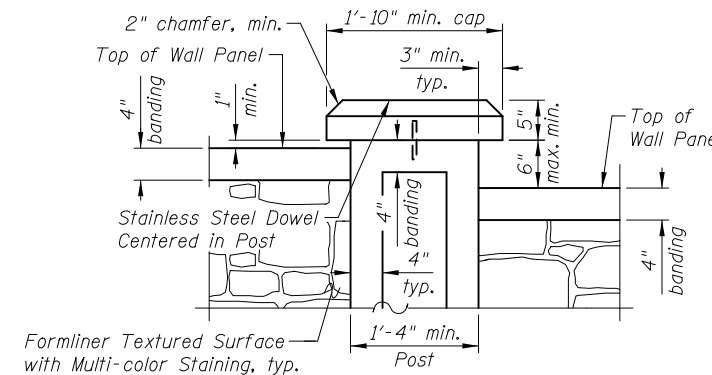
SECTION D-D

** Kink Post angle is 02° 59' 22.43"



PLAN

See Noise Wall Column Connection Plan on Sheet WB2 for balance of information



POST CAP DETAIL

11/2/2018 2:07:22 PM \\s2724\cadd\sheet\4-Noise_Walls\NAW_B\05-NAWB_Details.dgn

Benchmark: TBM #5 Railroad spike (set) in seventh power pole North of Cuba Road on West side of Quentin Road, Quentin Road Sta. 475+75.63, Offset 56.00' Lt., Elevation 796.44.

Maintenance of Traffic: Traffic will be maintained during construction.

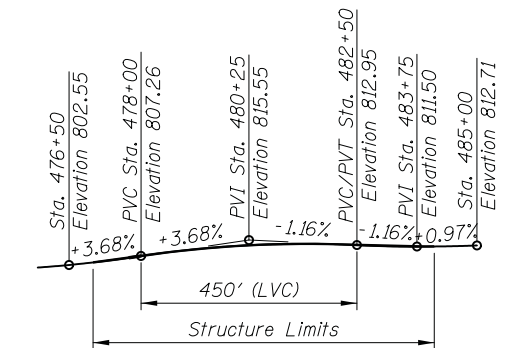
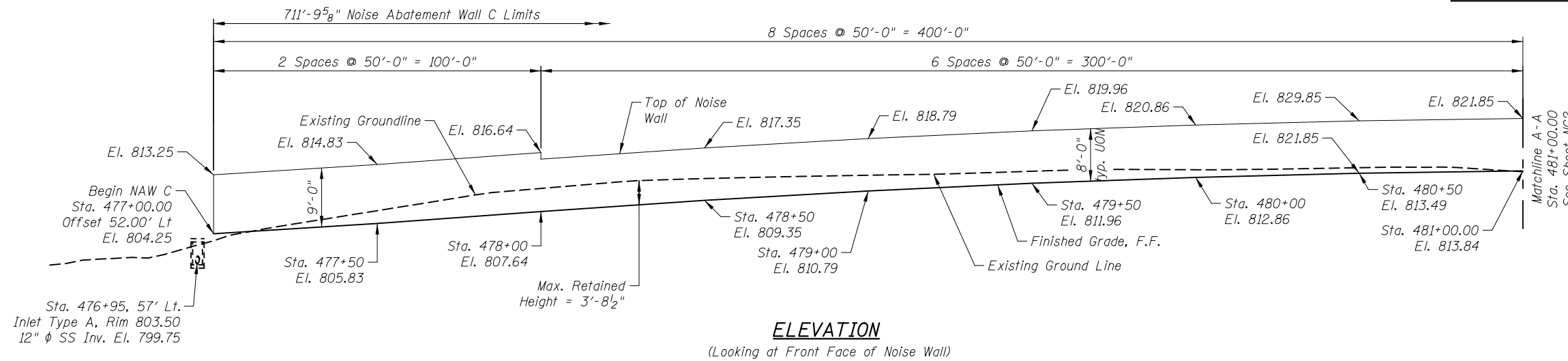
Existing Structure: None

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL QUANTITY
Noise Abatement Wall, Ground Mounted	Sq. Ft.	6,283
Anti-Graffiti Protection System	Sq. Ft.	12,566
Staining Concrete Structures	Sq. Ft.	12,566

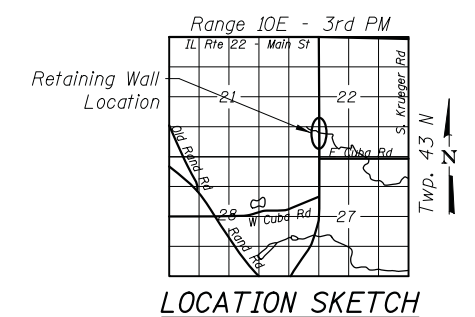
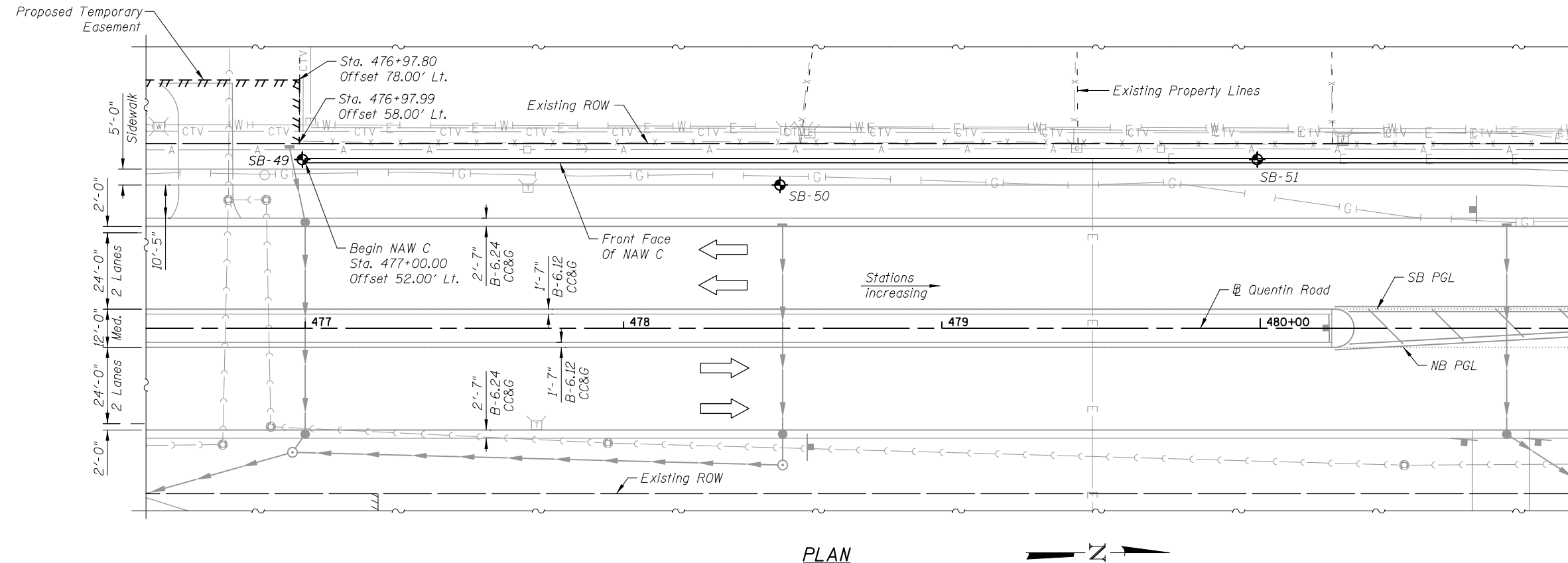
INDEX OF SHEETS

- NC1 General Plan and Elevation I
- NC2 General Plan and Elevation II
- NC3 General Noise Wall Details
- NC4 Soil Boring Logs I
- NC5 Soil Boring Logs II



DESIGN STRESSES

- FIELD UNITS**
- f'c = 3,500 psi
 - fy = 60,000 psi (Reinforcement)
- PRECAST UNITS**
- f'c = 4,500 psi (Precast Panels)
 - fy = 60,000 psi (Reinforcement)
 - fy = 65,000 psi (Welded Wire Fabric)
- LOADING**
- (Unfactored)
 - Wind Load (Ground Mounted) = 25 psf
 - Equivalent Fluid Pressure = 85 psf (undrained)



LEGEND

- Proposed Storm Sewer
- Existing Water Main
- Existing Fence
- Existing Sanitary Sewer
- Existing Underground Cable TV
- Existing Aerial Lines
- Existing Gas Line
- Existing Underground Electric
- Soil Boring

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims

1989 AASHTO Guide Specification for Structural Design of Sound Barriers with 1992 and 2002 Interims

Notes:

Offsets are measured from Quentin Road to the front face of the Noise Abatement Wall.

NAW - Noise Abatement Wall.

BF - Back Face

FF - Front Face

UON - Unless Otherwise Noted

GENERAL PLAN AND ELEVATION I

NOISE ABATEMENT WALL C

QUENTIN ROAD, F.A.U. RTE. 2574

SECTION 08-00090-12-CH

LAKE COUNTY

STA. 477+00.00 TO STA. 484+11.00

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DRAWN	- K. KOMPARE	REVISED	-
DESIGNED	- K. KOMPARE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

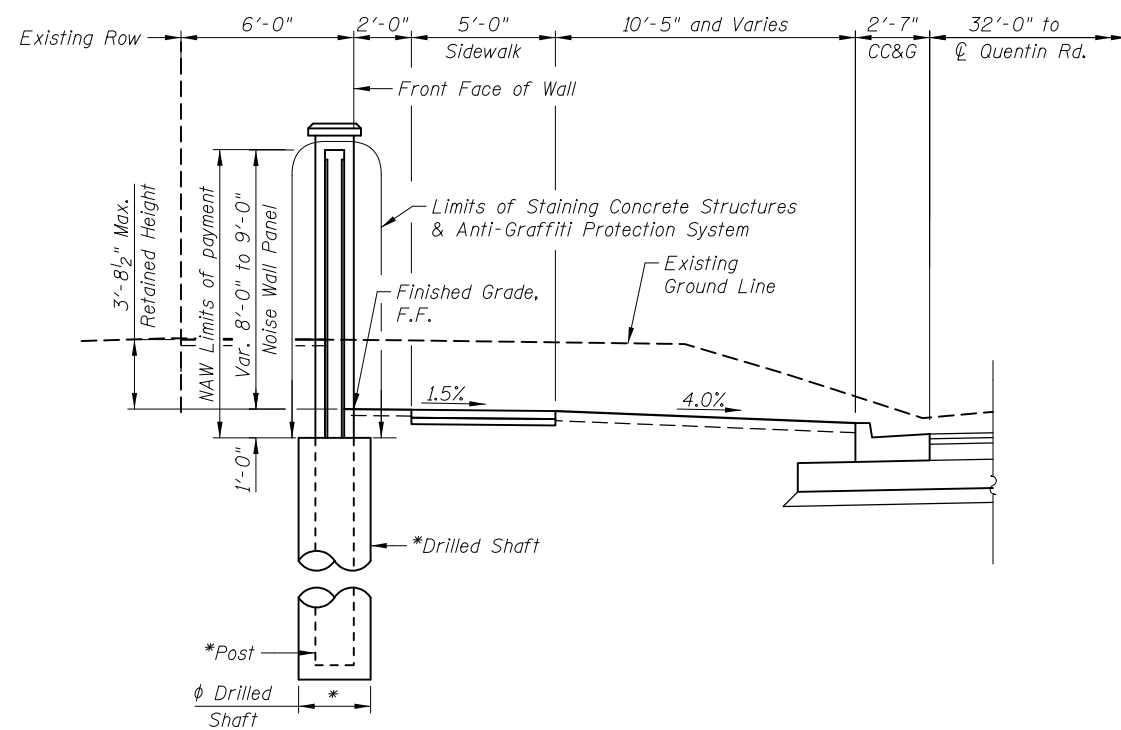
GENERAL PLAN AND ELEVATION I

NOISE ABATEMENT WALL C

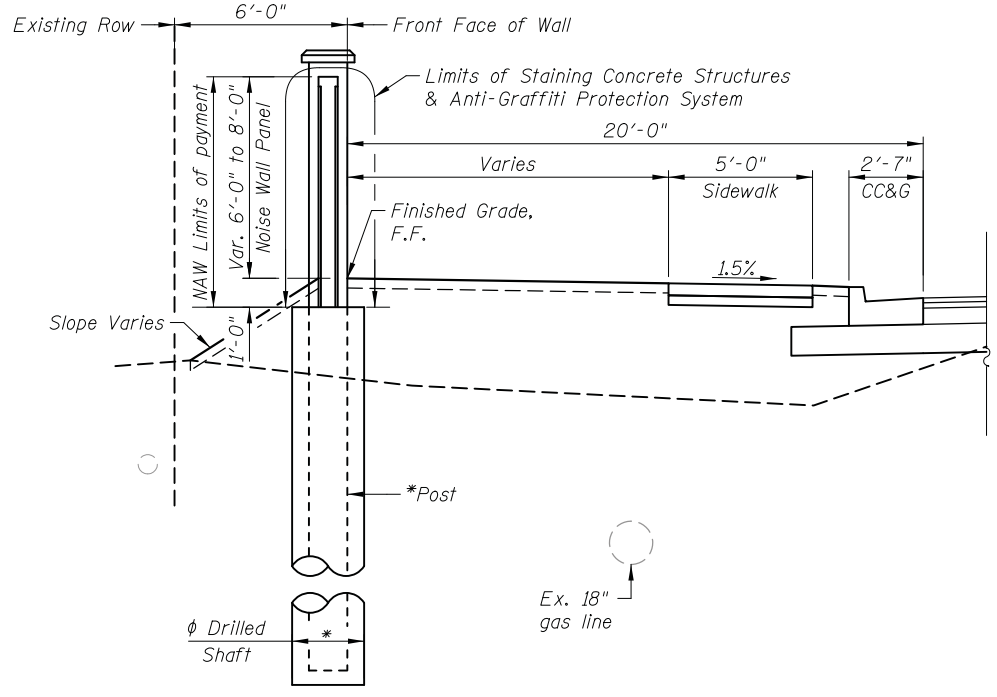
QUENTIN ROAD F.A.U. 2574

SHEET NO. NC1 OF NC5 SHEET

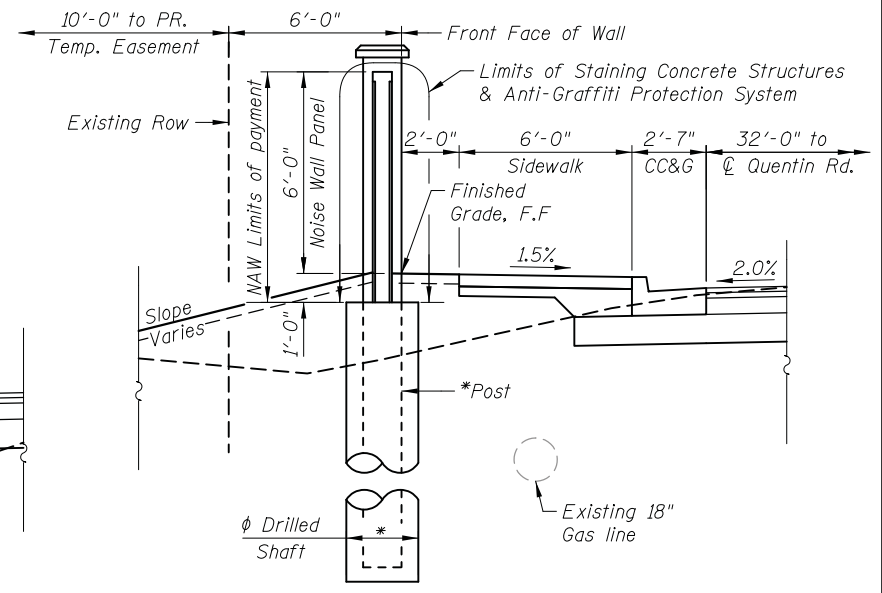
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	335
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



TYPICAL NOISE WALL SECTION
(Ground Mounted, Sta. 477+00 to Sta. 481+00)

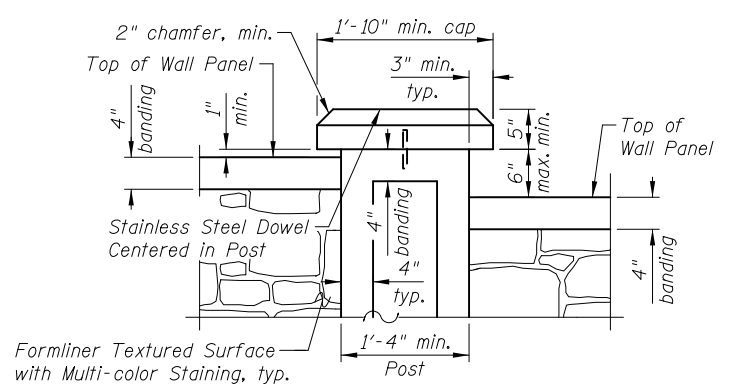


TYPICAL NOISE WALL SECTION
(Ground Mounted, Sta. 481+00 to Sta. 483+10)

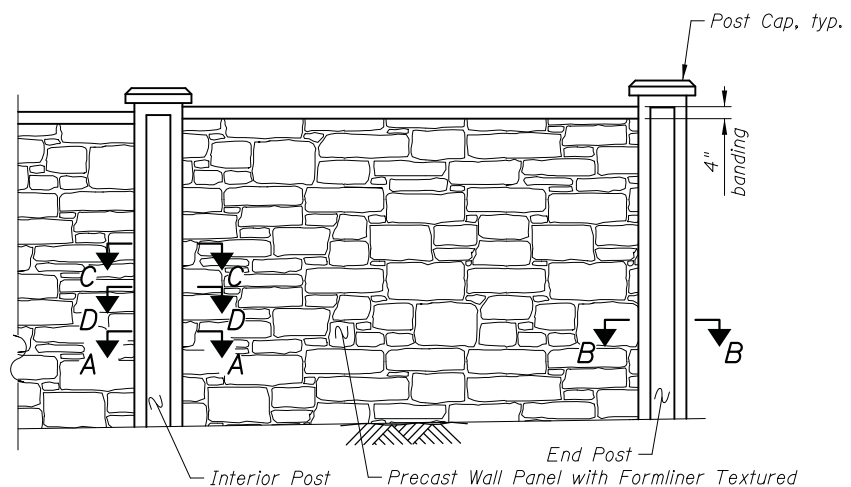


TYPICAL NOISE WALL SECTION
(Ground Mounted, Sta. 483+65 to Sta. 484+11)

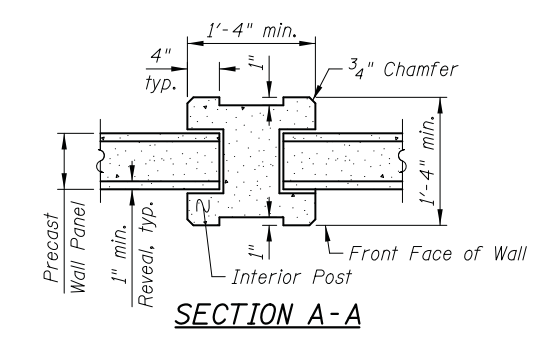
* Type, size & spacing of posts, Noise Wall Panels, drilled shaft size & embedment length, reinforcement details, and wall limits including top & bottom of wall to be determined by the Noise Wall Supplier during construction.



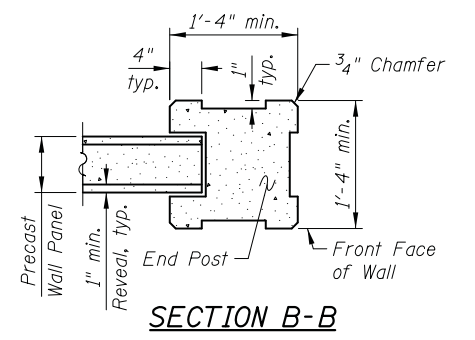
POST CAP DETAIL



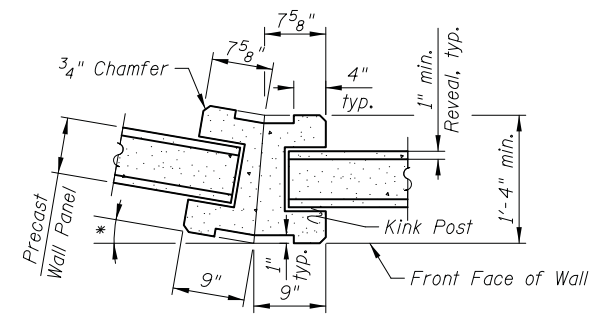
PARTIAL NOISE ABATEMENT WALL ELEVATION



SECTION A-A

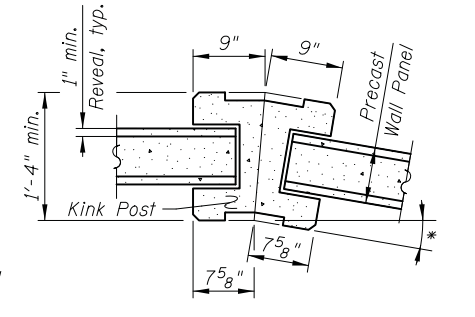


SECTION B-B



SECTION C-C

* Kink Post angle is 09° 43' 08.06"



SECTION D-D

* Kink Post angle is 09° 43' 08.06"

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DRAWN	- K. KOMPARE	REVISED	-
DESIGNED	- K. KOMPARE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 01/29/18	REVISED	-

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	337
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

Benchmark: TBM #6 Railroad spike (set) in first power pole North of Bristol Trail Road on West side of Quentin Road, Quentin Road Sta. 485+28.11, Offset 46.23' Lt., Elevation 812.80.

Maintenance of Traffic: Traffic will be maintained during construction.

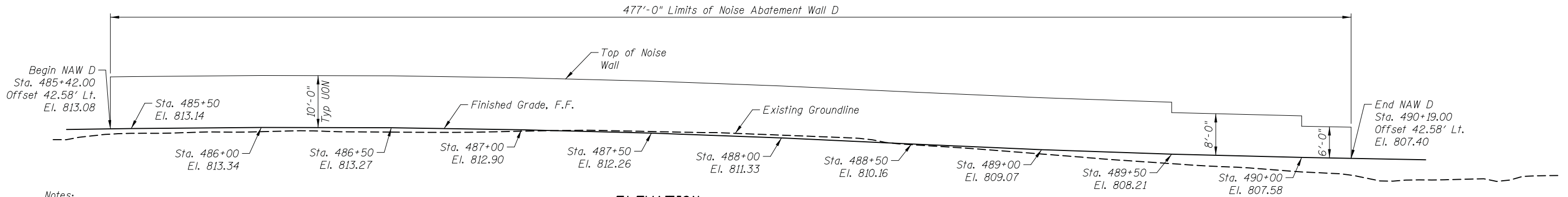
Existing Structure: None

INDEX OF SHEETS

- ND1 General Plan and Elevation
- ND2 General Data
- ND3 Soil Boring Logs I
- ND4 Soil Boring Logs II

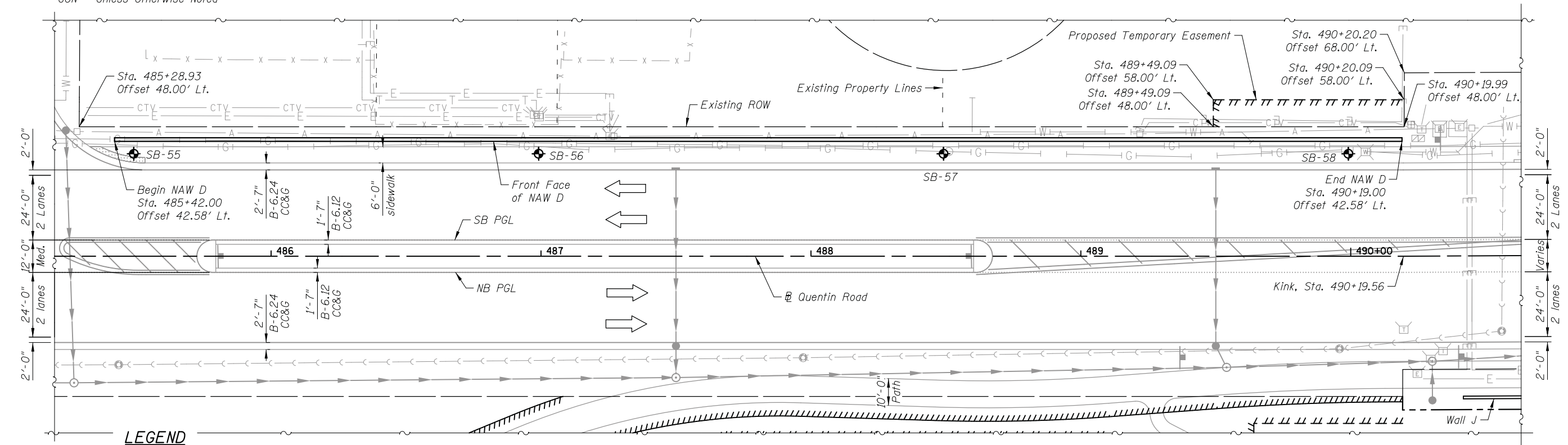
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL QUANTITY
Noise Abatement Wall, Ground Mounted	Sq. Ft.	5,071
Anti-Graffiti Protection System	Sq. Ft.	10,142
Staining Concrete Structures	Sq. Ft.	10,142



ELEVATION
(Looking at Front Face of Noise Wall)

Notes:
Offsets are measured from Quentin Road to the front face of the Noise Abatement Wall.
NAW - Noise Abatement Wall
BF - Back Face
FF - Front Face
UON - Unless Otherwise Noted



LEGEND

- Proposed Storm Sewer
- Existing Underground Telephone
- Existing Sanitary Sewer
- Existing Aerial Lines
- Existing Gas Line
- Existing Underground Cable TV
- Existing Underground Electric
- Existing Fence
- Existing Water Main
- Soil Boring

DESIGN STRESSES

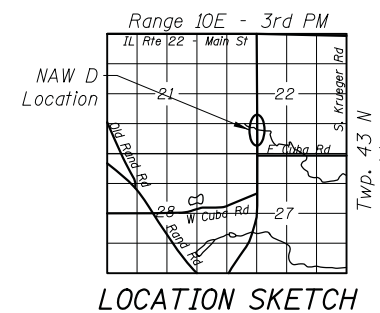
FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

PRECAST UNITS
 $f'_c = 4,500$ psi (Precast Panels)
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 65,000$ psi (Welded Wire Fabric)



LOADING

(Unfactored)
Wind Load (Ground mounted) = 25 psf



DESIGN SPECIFICATIONS
 2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interims
 1989 AASHTO Guide Specification for Structural Design of Sound Barriers with 1992 and 2002 Interims

**GENERAL PLAN AND ELEVATION
 NOISE ABATEMENT WALL D
 QUENTIN ROAD, F.A.U. RTE. 2574
 SECTION 08-00090-12-CH
 LAKE COUNTY
 STA. 485+42.00 TO STA. 490+19.00**

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 2/2/2018 2:07:51 PM

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

Page 1 of 1
Date 11/5/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY MP

SECTION 08-00080-12-ES LOCATION NAW - D

COUNTY Lake STRUCTURE NO. (Exist) (Prop.)

BORING NO. SB-55 DRILLING METHOD HSA HAMMER TYPE Auto

Station 485+49
Offset 38' L
Ground Surface Elev. 811.8 (ft.)

Surface Water Elev. (ft.)	E	D	B	U	M
Groundwater Elev. (ft.)	L	E	L	C	O
First Encounter (ft.)	E	P	O	S	I
Upon Completion (ft.)	T	T	S	S	S
After Hrs. (ft.)	H	H	Qu	Cu	T

SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)
Black CLAY, A-6 Topsoil 15"	810.5										
Brown CLAY, little Sand, little gravel, A-6 very stiff to hard		2	4.27		15						
		3-5	B								
	3										
		3	3.72		19						
		5-6	B								
		6									
		5	5.08		18						
		7-9	B								
		9									
		5	7.18		16						
		9-10	B								
801.3											
Grey CLAY, trace Sand, trace Gravel, A-6, hard to very stiff		5	4.31		15						
		6-8	B								
		2	2.41		17						
		3-6	B								
796.8											
Grey SAND, trace Gravel, trace Silt, A-3, medium dense		6			8						
		6-6									
793.8											
Grey Silty Clay LOAM, A-2-4 medium dense		2			17						
		5-4									
End of Boring at 20 Feet	791.8										

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

BBS 137 (9/05)

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

Page 1 of 1
Date 11/5/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY MP

SECTION 08-00080-12-ES LOCATION NAW - B

COUNTY Lake STRUCTURE NO. (Exist) (Prop.)

BORING NO. SB-56 DRILLING METHOD HSA HAMMER TYPE Auto

Station 486+99
Offset 38' L
Ground Surface Elev. 812.4 (ft.)

Surface Water Elev. (ft.)	E	D	B	U	M
Groundwater Elev. (ft.)	L	E	L	C	O
First Encounter (ft.)	E	P	O	S	I
Upon Completion (ft.)	T	T	S	S	S
After Hrs. (ft.)	H	H	Qu	Cu	T

SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)
Crushed Limestone Shoulder, 6"	811.9										
Brown and Grey CLAY, little sand, little Gravel, A-6 hard		2	4.19		20						
		4-6	BS								
	3										
		3	4.62		20						
		5-6	B								
		6									
		4	4.11		20						
		7-10	B								
		9									
		5	4.04		19						
		8-11	B								
800.9											
Grey CLAY, trace Sand, trace Gravel, A-6, very stiff to stiff		7	6.56		17						
		8-8	B		15						
		3	1.98		11						
		4-5	B								
796.9											
Grey Sandy Clay LOAM, A-4 to A-6 very stiff		4	2.13		10						
		5-8	BS								
794.4											
Grey CLAY, trace Sand, trace Gravel, A-6, stiff		3	1.98		19						
		3-5	B								
End of Boring at 20 Feet	792.4										

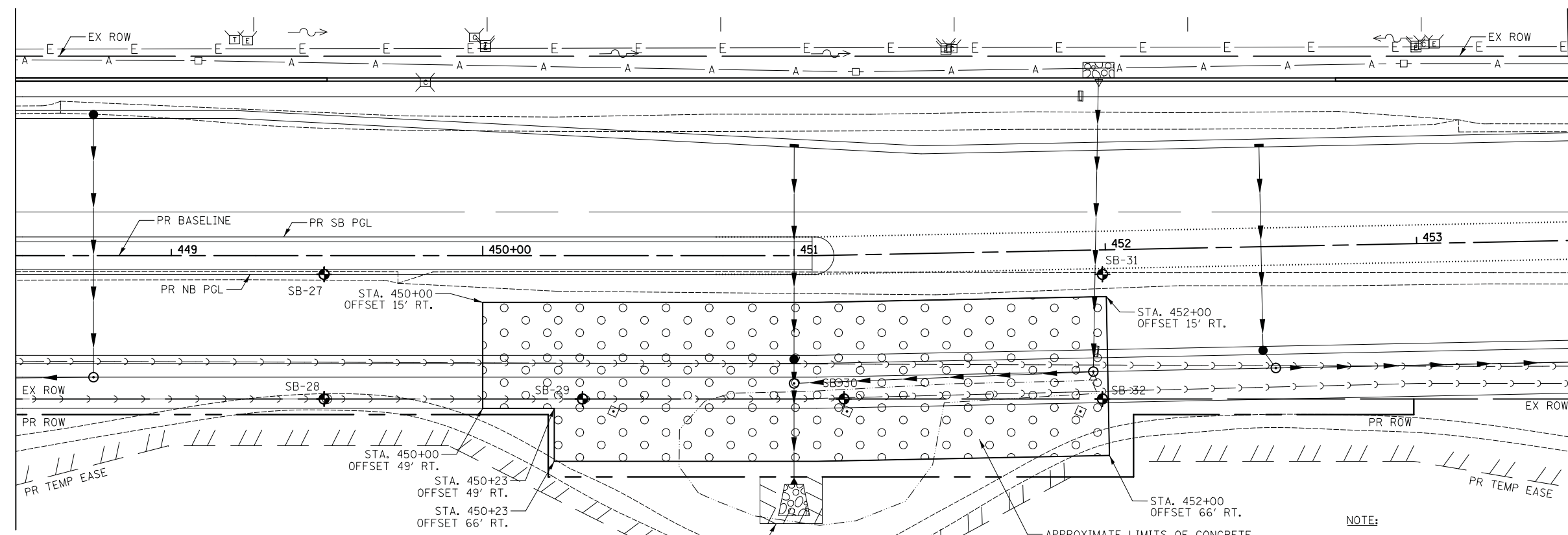
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

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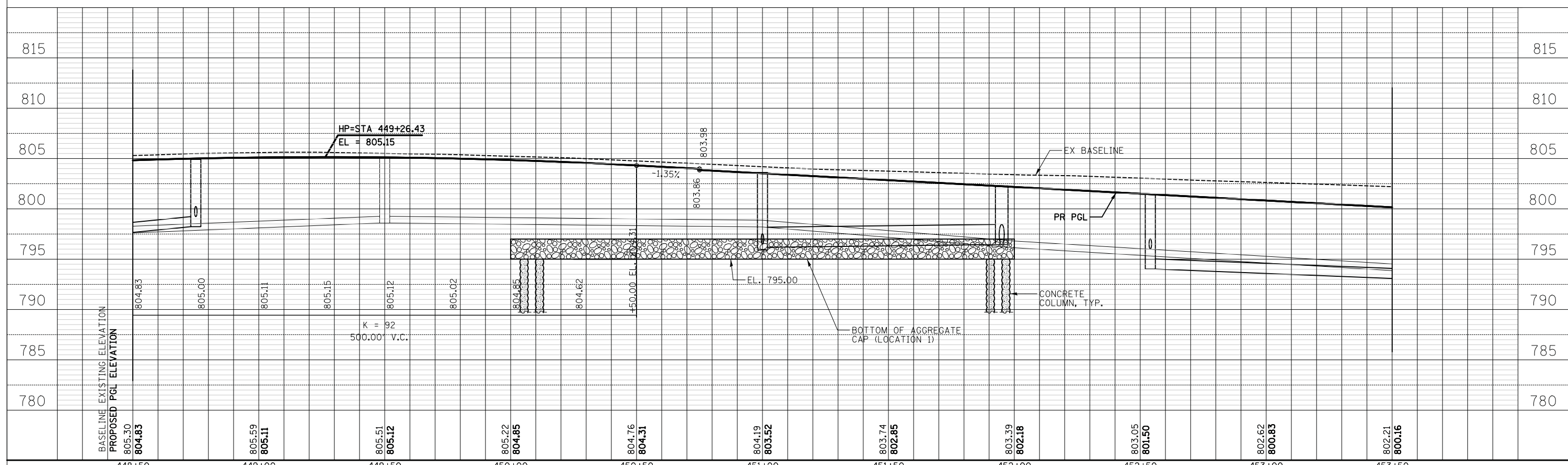
LEGEND

- CONCRETE COLUMN GROUND IMPROVEMENT
- Settlement Platforms
 - Sta. 450+42, 50-ft. Right
 - Sta. 451+17, 50-ft. Right
 - Sta. 451+92, 50-ft. Right

NOTE:

- WITH THE PROXIMITY OF A RECONSTRUCTED 20-INCH NICOR GAS MAIN, THE OUTERMOST CONCRETE COLUMN SHALL BE PLACED AT LEAST 5 FT AWAY FROM THE RELOCATED GAS MAIN. THE GAS MAIN IS ANTICIPATED TO BE AT 66 FT RT RESULTING IN OFFSET TO THE OUTERMOST CONCRETE COLUMN AT 61 FT RT, UNLESS DETERMINED OTHERWISE THROUGH AS-BUILT PLANS AND FIELD UTILITY COORDINATION.

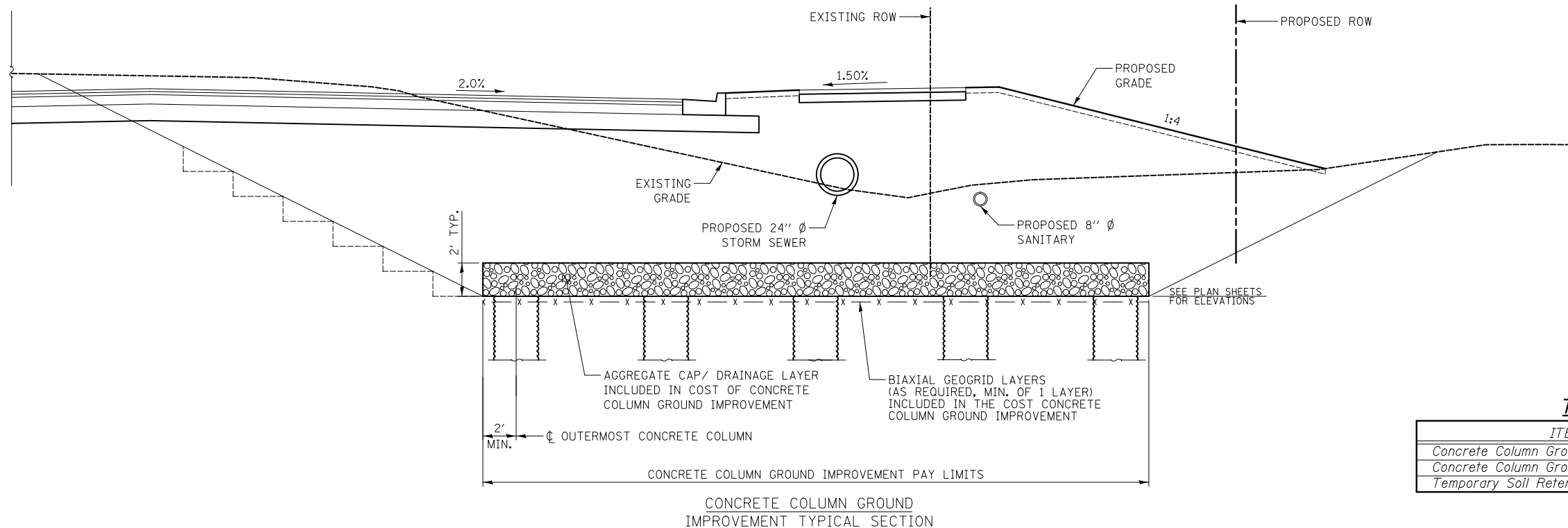
QUENTIN ROAD



	Two Pierce Place, Suite 1400 Itasca, Illinois 60143 Tel: 630.773.3900 Fax: 630.773.3975 www.civiltechinc.com	DESIGNED - PK DRAWN - JRR CHECKED - RTM DATE - 11/13/2017	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	VERT. 0 5 10 HORIZ. 0 20 40	CONCRETE COLUMN PLAN I	SHEET NO. 1 OF 6 SHEETS STA. TO STA.	<table border="1" style="font-size: small;"> <tr><td>F.A.U. RTE.</td><td>SECTION</td><td>COUNTY</td><td>TOTAL SHEETS</td><td>SHEET NO.</td></tr> <tr><td>2574</td><td>08-00090-12-CH</td><td>LAKE</td><td>778</td><td>344</td></tr> <tr><td colspan="5" style="text-align: center;">CONTRACT NO. 61E22</td></tr> </table>	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	2574	08-00090-12-CH	LAKE	778	344	CONTRACT NO. 61E22				
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.																			
2574	08-00090-12-CH	LAKE	778	344																			
CONTRACT NO. 61E22																							

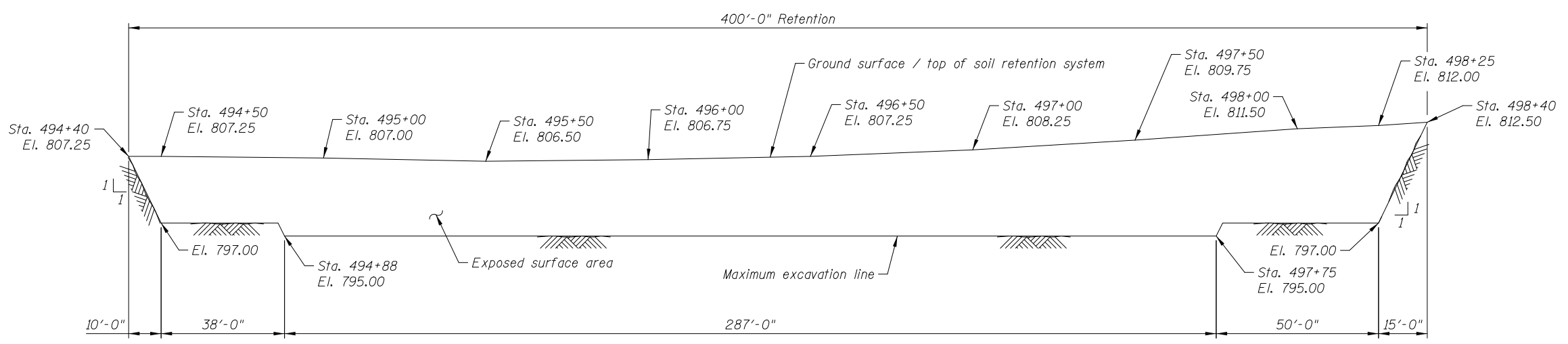
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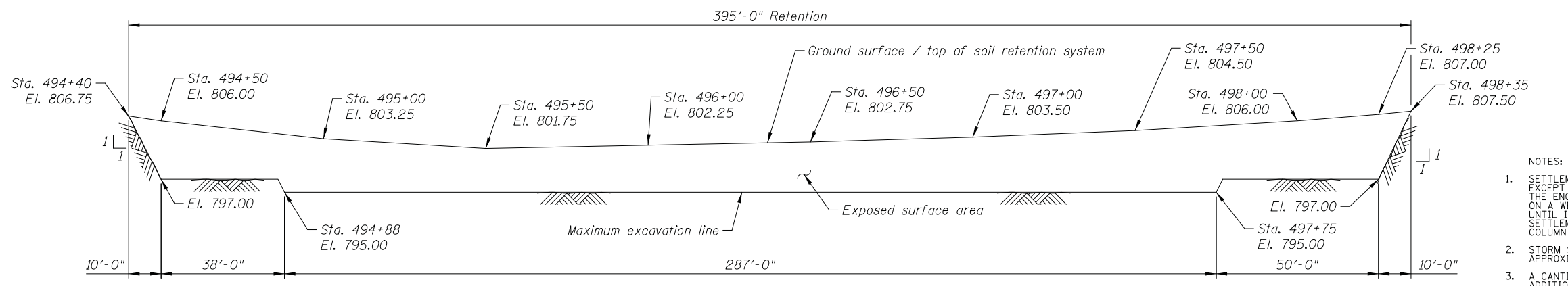


TOTAL BILL OF MATERIALS

ITEM	UNIT	TOTAL
Concrete Column Ground Improvement Location #1	L. Sum	1
Concrete Column Ground Improvement Location #2	L. Sum	1
Temporary Soil Retention System	Sq. Ft.	8,394



ELEVATION OF TSRS FOR AGGREGATE SUBGRADE IMPROVEMENT, OFFSET 16' RIGHT



ELEVATION OF TSRS FOR AGGREGATE SUBGRADE IMPROVEMENT, OFFSET 61' RIGHT

- NOTES:
- SETTLEMENT PLATFORMS SHALL BE ERECTED IN ACCORDANCE WITH ARTICLE 204.06 EXCEPT THAT THE PLATFORMS SHALL BE PLACED AT THE TOP EMBANKMENT. THE ENGINEER SHALL CONTINUE TO TAKE SETTLEMENT READING AT LEAST ON A WEEKLY BASIS AFTER THE CONSTRUCTION OF THE ROADWAY EMBANKMENT UNTIL IT HAS BEEN DETERMINED THAT LESS THAN 1 INCHES OF SETTLEMENT REMAINS. COST SHALL BE INCLUDED IN THE COST OF COLUMN GROUND IMPROVEMENT.
 - STORM SEWER IS TO BE TRENCHED IN AFTER SETTLEMENT HAS OCCURRED, APPROXIMATELY 2 TO 3 MONTHS.
 - A CANTILEVERED SHEET PILING DESIGN DOES NOT APPEAR FEASIBLE AND ADDITIONAL MEMBERS OR OTHER RETENTION SYSTEMS MAY BE NECESSARY. THE CONTRACTOR SHALL SUBMIT A TEMPORARY SOIL RETENTION SYSTEM DESIGN INCLUDING PLAN DETAILS AND CALCULATIONS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER.

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

Page 1 of 1
Date 10/25/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JM

SECTION 08-00080-12-ES LOCATION Ground Improvement Area

COUNTY Lake STRUCTURE NO. _____ (Exist) _____ (Prop.)

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

Station 449+49
Offset 6' R
Ground Surface Elev. 805.1 (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/ft ²	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/ft ²	(tsf)	(%)
Black CLAY Topsoil mixed with Crushed Gravel, FILL	804.7					Brown and Grey CLAY, A-6, trace Sand, trace Gravel, very stiff to hard	21				
Brown and Grey CLAY, A-6 FILL very stiff	803.1	4	3.0	Qp	17						
Gray & Black CLAY, A-6 FILL trace Organic Material, very stiff	802.1	3	4-5		21						
Brown and Grey CLAY, A-6 trace Sand, trace Gravel, hard		4	4.5	Qp	18						
		5	6.21	B	18						
		7	7.95	BS	19						
		5	7.21	B	19						
		3	3.10	B	18						
		5	4.12	BS	17						
		4	3.49	B	17						

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

BBS 137 (9/05)

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

Page 1 of 1
Date 10/23/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD

SECTION 08-00080-12-ES LOCATION Ground Improvement Area

COUNTY Lake STRUCTURE NO. _____ (Exist) _____ (Prop.)

BORING NO. SB-28 DRILLING METHOD HSA HAMMER TYPE Auto

Station 449+49
Offset 46' R
Ground Surface Elev. 804.3 (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/ft ²	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/ft ²	(tsf)	(%)
Black TOPSOIL (4")	804					Grey CLAY, trace Sand and Gravel, A-6, very stiff to stiff	21				
Brown and Grey CLAY: FILL, hard		5	6-8	4.5	P	19					
		4	5-7	4.53	BS	18					
		4	5-7	4.53	BS	18					
		3	4-5	4.95	S	17					
		4	5-9	2.72	B	17					
		4	6-11	5.43	B	16					
		3	4-6	2.72	B	19					
		4	8-11	6.76	BS	17					
		5	8-10	4.95	S	17					
		4	6-8	5.82	B	16					
		3	4-5	2.79	B	18					
		3	4-6	2.64	B	17					
		4	4-5	2.13	B	19					

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

BBS 137 (9/05)

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

Page 1 of 1
Date 10/28/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD

SECTION 08-00080-12-ES LOCATION Ground Improvement Area

COUNTY Lake STRUCTURE NO. _____ (Exist) _____ (Prop.)

BORING NO. SB-29 DRILLING METHOD HSA HAMMER TYPE Automatic

Station 450+32
Offset 46' R
Ground Surface Elev. 800.1 (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/ft ²	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/ft ²	(tsf)	(%)
Black TOPSOIL (10")	799.3					Grey CLAY, trace Sand and Gravel, A-6, very stiff	21				
Brown and Grey CLAY, trace Sand and Gravel: FILL, firm		2	3-3	0.75	P	25					
		2	2-3	0.97	B	23					
		3	6-7	2.52	B	19					
thin black seam	794.6										
Brown and Grey CLAY, trace Sand and Gravel, A-6, hard		2	5-6	5.82	B	18					
		3	4-5	3.88	B	17					
		3	3-5	3.69	B	17					
		3	4-5	2.72	B	18					
		3	4-5	2.72	B	19					
		3	4-9	3.49	B	18					

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

BBS 137 (9/05)

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MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG Date 10/29/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD
SECTION 08-00080-12-ES LOCATION Ground Improvement Area
COUNTY Lake STRUCTURE NO. _____ (Exist) _____ (Prop.)

BORING NO. SB-30 DRILLING METHOD HSA HAMMER TYPE Automatic

Station 451+15 Surface Water Elev. 792.8 (ft.)
Offset 46' R Groundwater Elev. 7.0' (ft.)
Ground Surface Elev. 796.5 (ft.) Upon Completion 3.7 (ft.)
After _____ Hrs. _____ (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/ft*	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/ft*	(tsf)	(%)	
Black TOPSOIL (8")	795.8					Grey CLAY, trace Sand and Gravel, A-6, very stiff to stiff	21					
Dark Grey to Black CLAY, some Peat Fibers, A-8, firm to stiff		0	0.58	BS	78		4	6-8	2.91	B	18	
		3										
		0	1.16	B	31		24	4	6-9	2.91	B	18
		6										
Grey CLAY, little Sand, trace Gravel, A-6, very soft to stiff	790				45		27					
		0			33							
		4-2	0.12									
		9	0	1.44	B	24		4	5-7	1.75	B	15
		4-2										
Grey CLAY, trace Sand and Gravel, A-6, firm to very stiff	786					End of Boring at 30'	766.5					
		2	1.0	P	16							
		12	3-3									
		0	0.58	BS	18							
		15										
		0	0.4									
		3	2.52	B	18							
		4-6										
		18										
		4	2.13	B	18							
		4-6										

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

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG Date 10/28/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD
SECTION 08-00080-12-ES LOCATION Ground Improvement Area
COUNTY Lake STRUCTURE NO. _____ (Exist) _____ (Prop.)

BORING NO. SB-31 DRILLING METHOD HSA HAMMER TYPE Automatic

Station 451+99 Surface Water Elev. none (ft.)
Offset 9' R Groundwater Elev. none (ft.)
Ground Surface Elev. 801.9 (ft.) Upon Completion dry (ft.)
After _____ Hrs. _____ (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/ft*	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/ft*	(tsf)	(%)		
Black TOPSOIL (8")	801.2					Grey CLAY, trace Sand and Gravel, A-6, hard to very stiff	21						
Brown and Grey CLAY, little Sand and Gravel: FILL, stiff	799.9		6	1.5	16								
Dark Grey to Black CLAY, A-7-6, stiff	798.9		4-10	1.0	19								
Brown, Grey and Black CLAY, trace Sand and Gravel, A-7-6, very stiff to firm			3	2.52	B	24		24	4	6-8	4.19	B	18
			3-3										
		6											
		1	0.89	BS	41		27						
		2-3											
		9	2	1.16	27			4	6-8	3.10	B	19	
		2											
Brown and Grey CLAY, trace Sand and Gravel, A-6, very stiff to hard	792.4		2-3	2.79	20	End of Boring at 30'	771.9						
		4	6.80	B	17								
		12	6-8										
		4	5.04	B	18								
		5-7											
		15											
Grey CLAY, trace Sand and Gravel, A-6, hard	786.4		4	5.63	16								
		6-8											
		18											
		4	4.66	B	16								
		5-7											

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

BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG Date 10/29/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD
SECTION 08-00090-12-ES LOCATION Ground Improvement Area
COUNTY Lake STRUCTURE NO. _____ (Exist) _____ (Prop.)

BORING NO. SB-32 DRILLING METHOD HSA HAMMER TYPE Automatic

Station 451+98 Surface Water Elev. none (ft.)
Offset 49' R Groundwater Elev. none (ft.)
Ground Surface Elev. 801.3 (ft.) Upon Completion dry (ft.)
After _____ Hrs. _____ (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/ft*	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/ft*	(tsf)	(%)	
Black TOPSOIL (8")	800.6					Grey CLAY, trace Sand and Gravel, A-6, very stiff to hard	21					
Dark Grey to Black CLAY, A-7-6, stiff	799.3		2	1.36	27							
Grey CLAY, A-7-6, firm			2-2	0.75	28							
		3										
		1	0.97	S	24		24	4	6-5	2.72	B	18
		2-1										
		6										
Brown and Grey CLAY, trace Sand and Gravel, A-6, hard to very stiff	795.8		5	5.24	18		27					
		6-6										
		9	2	2.91	19			6	8-11	5.24	B	18
		4-3										
		2										
Brown and Grey CLAY, trace Sand and Gravel, A-6, very stiff to hard	790.8		2	3.41	17	End of Boring at 30'	771.3					
		12	4-6									
		3	3.88	B	17							
		5-8										
		15										
		4	3.10	B	18							
		6-9										
		18										
		5	4.19	B	18							
		6-7										
sand seam at 19'												

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

BBS 137 (9/05)

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MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG Date 12/10/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD
SECTION 08-00080-12-ES LOCATION Ground Improvement Station 459+25 to 460+75
COUNTY Lake STRUCTURE NO. (Exist) (Prop.)
BORING NO. SB-76 DRILLING METHOD HSA HAMMER TYPE Automatic

Station 457+75 Groundwater Depth None (ft.)
Offset 40' R First Encounter 17' (ft.)
Ground Surface Elev. 792 (ft.) After Hrs. (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)
Black Silty CLAY Topsoil 6"	791.5										
Dark Grey to Black CLAY, little Organic Fibers, A-7-6, Fill, stiff		3	1.59		35						
		3-4	BS								
	789	3									
Brown & Grey CLAY, trace Sand, trace Gravel, A-6 FILL, stiff		3	1.98		23						
		3-3	B								
	786.5	6									
Brown & Grey CLAY, trace Sand, trace Gravel, A-6, stiff		3	2.64		20						
		3-3	B								
	785.5	9									
Brown & Grey CLAY, trace Sand, trace Gravel, A-6, stiff		2	1.20		15						
		3-3	B								
	781.5	12	2.33		21						
Grey CLAY, little Sand, little Gravel, A-6, very stiff		5-5	B								
		3	2.75		19						
		4-6	B								
	779.5	3	2.83		20						
		4-6	B								
	777.5	3	2.83		19						
		4-6	B								
End of Boring at 20 Feet	772										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206) BBS 137 (9/05)

MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG Date 12/9/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD
SECTION 08-00080-12-ES LOCATION Ground Improvement Station 459+25 to 460+75
COUNTY Lake STRUCTURE NO. (Exist) (Prop.)
BORING NO. SB-77 DRILLING METHOD HSA HAMMER TYPE Automatic

Station 458+75 Groundwater Depth None (ft.)
Offset 40' R First Encounter 15' (ft.)
Ground Surface Elev. 791 (ft.) After Hrs. (ft.)

SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)
Black Silty CLAY Topsoil 12"	790										
Grey Organic CLAY, A-7-6 to A-8 firm		1	2.9		25						
		2-9									
	785.5	3									
Black to Dark Brown fibrous PEAT, A-8 very soft		2	2.3		48						
		2-3									
	785.5	6									
Black to Dark Brown fibrous PEAT, A-8 very soft		0	1.1		333						
		1-1									
	782.5	9	0.23		339						
Brown Fibrous PEAT, A-8 very soft		0	0.0								
		0-0	S								
	782.5	12	0.35		151						
Grey CLAY, trace Sand, trace Gravel, A-6, stiff		0	0.0		121						
		0-0									
	775	18	0.81		21						
Grey CLAY, trace Sand, trace Gravel, A-6, stiff		3-3	B								
		18									
	771	2	0.93		24						
		3-4	B								
End of Boring at 20 Feet	771										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206) BBS 137 (9/05)

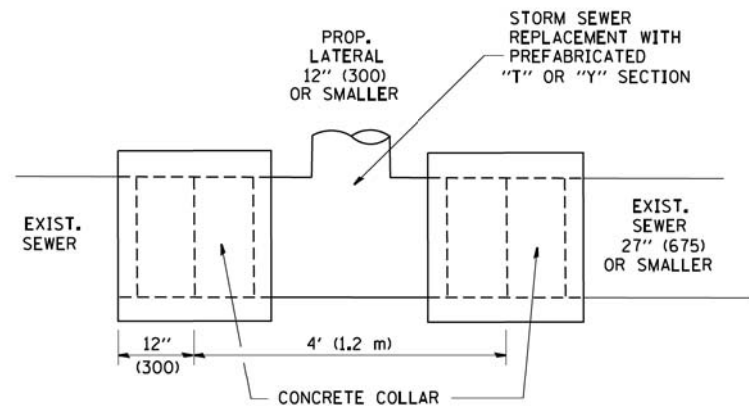
MIDLAND STANDARD ENGINEERING & TESTING, INC. Page 1 of 1
STRUCTURE FOUNDATION BORING LOG Date 12/9/13

ROUTE 364 DESCRIPTION Quentin Road LOGGED BY JD
SECTION 08-00080-12-ES LOCATION Ground Improvement Station 459+25 to 460+75
COUNTY Lake STRUCTURE NO. (Exist) (Prop.)
BORING NO. SB-78 DRILLING METHOD HSA HAMMER TYPE Automatic

Station 459+75 Groundwater Depth None (ft.)
Offset 40' R First Encounter 19.0' (ft.)
Ground Surface Elev. 793 (ft.) After Hrs. (ft.)

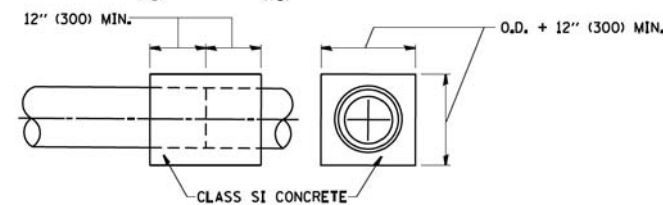
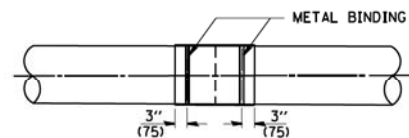
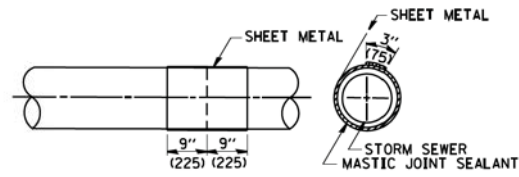
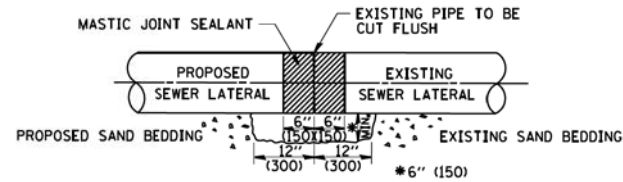
SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)	SOIL DESCRIPTION	(ft.)	(ft.)	/6"	(tsf)	(%)
Black Silty CLAY Topsoil 18"	791.5										
Grey & Black Organic CLAY, CH mixed with little Topsoil, FILL		3	4.3		42						
		4-3									
	790	3									
Dark Brown & Grey CLAY, trace Sand, trace Gravel, A-6, very stiff		2	2.3		24						
		2-3									
	784.5	6									
Brown and Grey Sandy LOAM, little Gravel, A-2-4, slightly dense		4	2.68		18						
		4-5	B								
	784.5	9	3.37		21						
Brown and Grey Sandy LOAM, little Gravel, A-2-4, slightly dense		3	4.4		17						
		4-4									
	780	12	5.4		16						
Grey CLAY, trace Sand, trace Gravel, A-6, very stiff to stiff		5	4.5								
		12									
	780	3	2.13		14						
Grey CLAY, trace Sand, trace Gravel, A-6, very stiff to stiff		4-5	B								
		15									
	778	3	1.75		18						
Grey CLAY, trace Sand, trace Gravel, A-6, very stiff to stiff		4-6	B								
		18									
	773	3	1.82		19						
Grey CLAY, trace Sand, trace Gravel, A-6, very stiff to stiff		5-7	B								
		18									
End of Boring at 20 Feet	773										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206) BBS 137 (9/05)



DETAIL "A"

LATERAL CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER

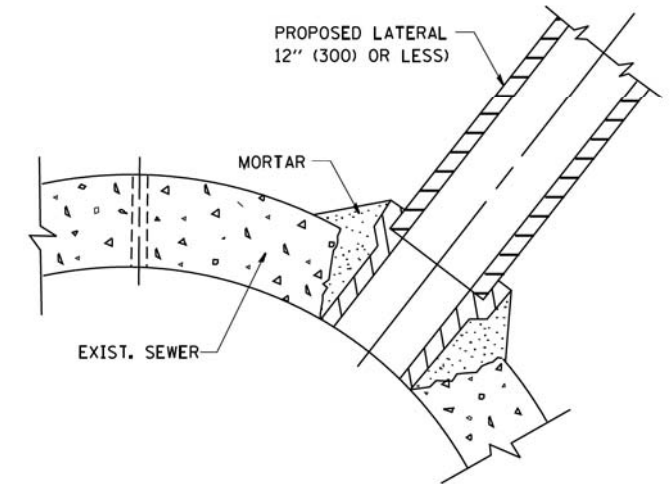


DETAIL "B"

CLASS SI CONCRETE COLLAR

CONSTRUCTION SEQUENCE

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12' x 6' (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERENCE OF THE PIPE PLUS 3" (75) LONG.
5. WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OZZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
9. PLACE CLASS SI CONCRETE AROUND THE JOINT.



DETAIL "C"

PROPOSED LATERAL CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER

NOTES

MATERIAL

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

CONSTRUCTION METHODS

- I. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.
- II. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:
 - A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".
 - B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

GENERAL

CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.

CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

BASIS OF PAYMENT

TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS. THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.

REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.

TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.

CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

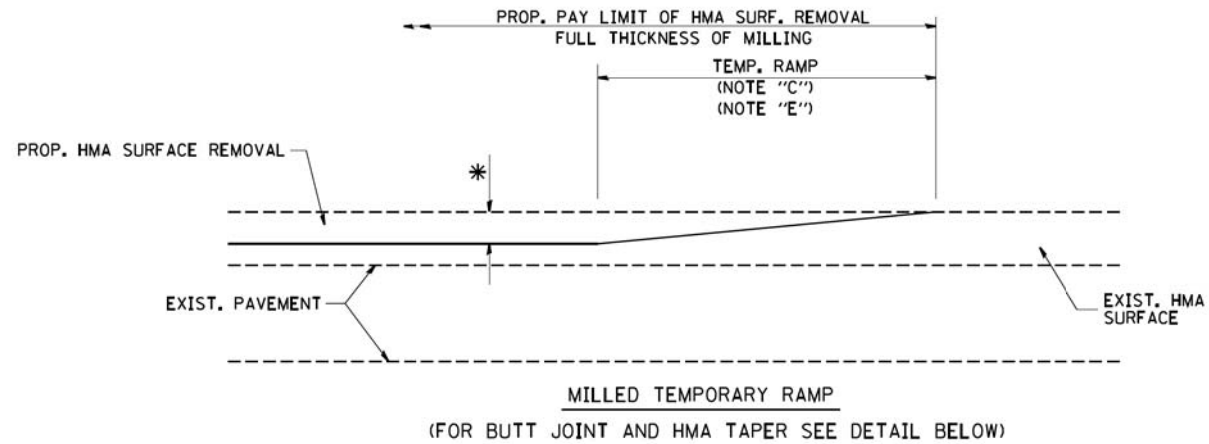
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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		DRAWN -	REVISED - R. SHAH 09-09-94
	PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - R. SHAH 10-25-94
	PLOT DATE = 1/4/2008	DATE - 07-25-90	REVISED - R. SHAH 06-12-96

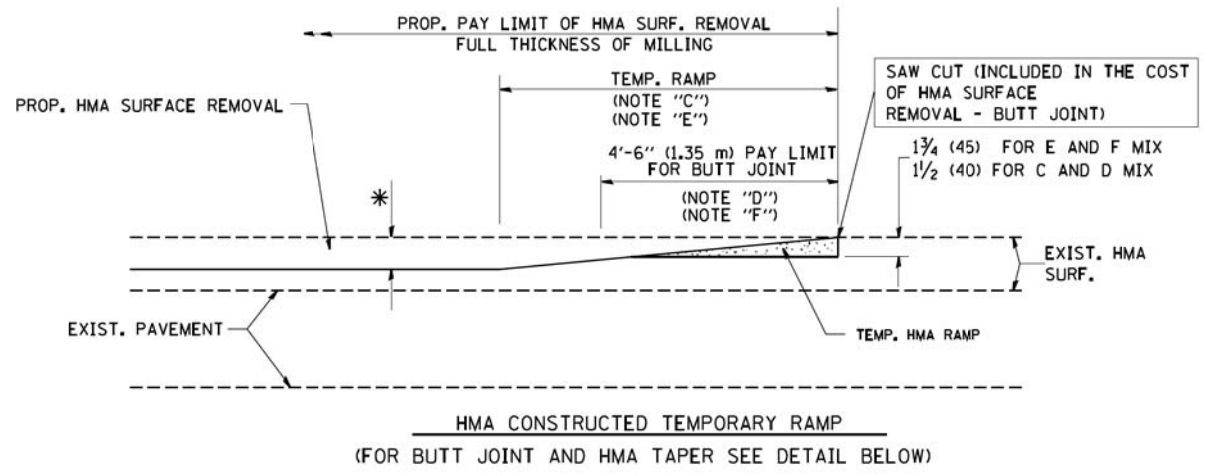
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DETAIL OF STORM SEWER CONNECTION TO EXISTING SEWER	
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS
STA.	TO STA.

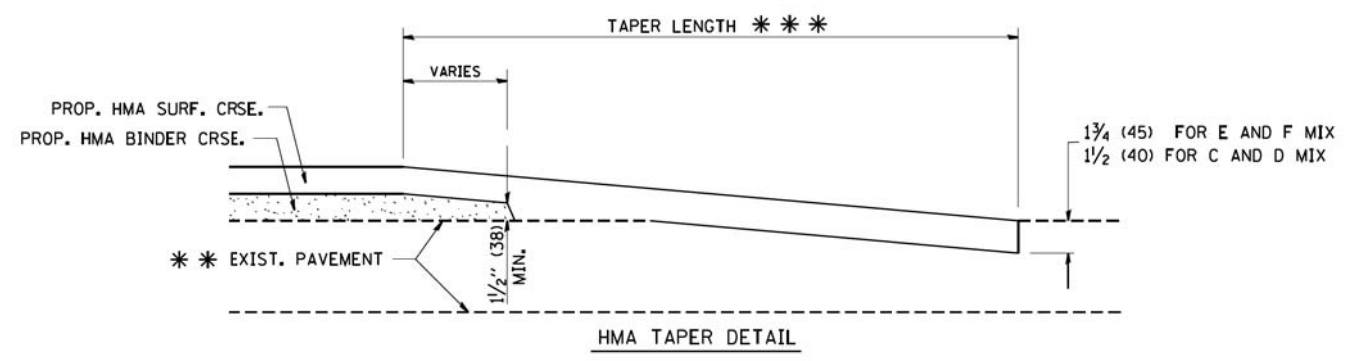
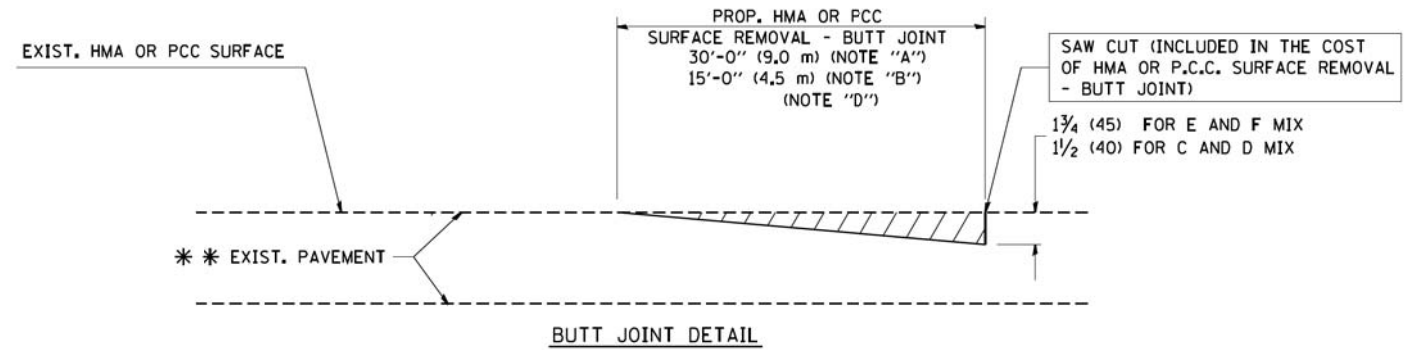
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	350
BD500-01 (BD-7)			CONTRACT NO. 61E22	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



OPTION 1



OPTION 2
TYPICAL TEMPORARY RAMP



TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

*** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

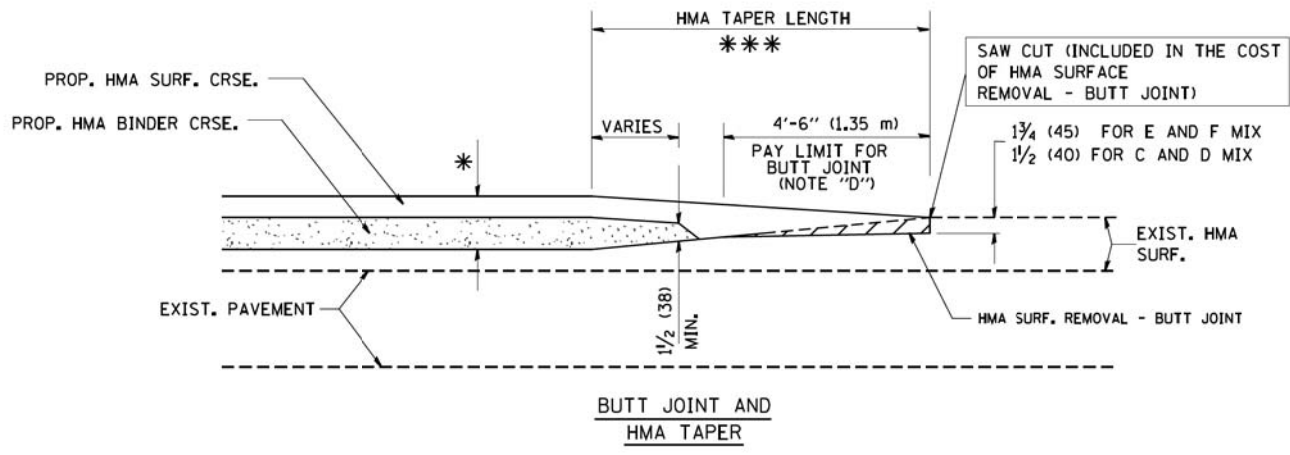
NOTES

- A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
 - B: MINOR SIDE ROADS.
 - C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
 - D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
 - E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
 - F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT
 - G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
- * SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- *** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

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



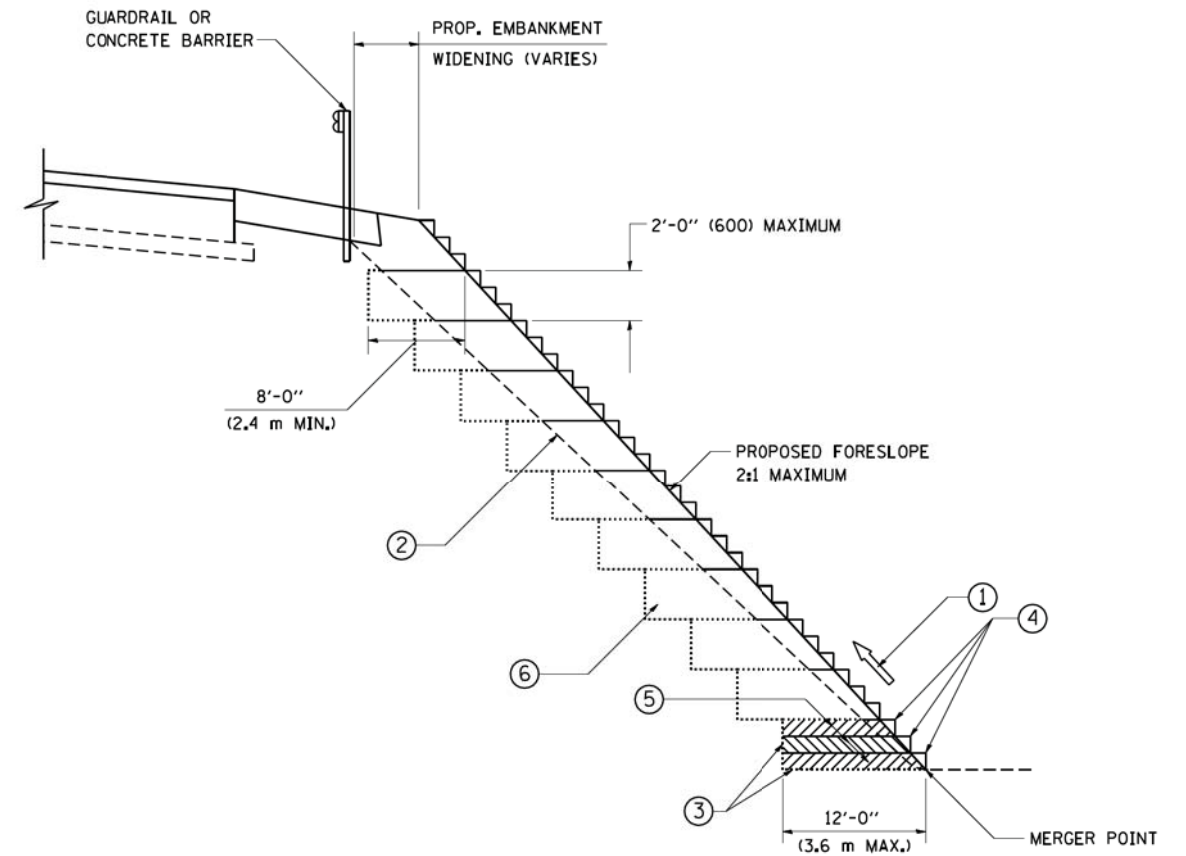
TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING

FILE NAME = W:\diststd\22x34\bd32.dgn	USER NAME = geglanoht	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94
		DRAWN -	REVISED - A. ABBAS 03-21-97
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED - M. GOMEZ 04-06-01
	PLOT DATE = 1/4/2008	DATE - 06-13-90	REVISED - R. BORO 01-01-07

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BUTT JOINT AND HMA TAPER DETAILS		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	351
BD400-05 BD32		CONTRACT NO. 61E22		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



**TYPICAL BENCHING DETAIL
FOR EMBANKMENT**

NOTES:

- ① CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
- ② EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
- ③ BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
- ④ TRIM TO FINAL SLOPE.
- ⑤ EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
- ⑥ EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- ⑦ SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

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

FILE NAME =
W:\diststd\22x34\bd51.dgn

USER NAME = geglennobt
PLOT SCALE = 50.0000' / IN.
PLOT DATE = 1/4/2008

DESIGNED -
DRAWN - CADD
CHECKED - S.E.B.
DATE - 06-16-04

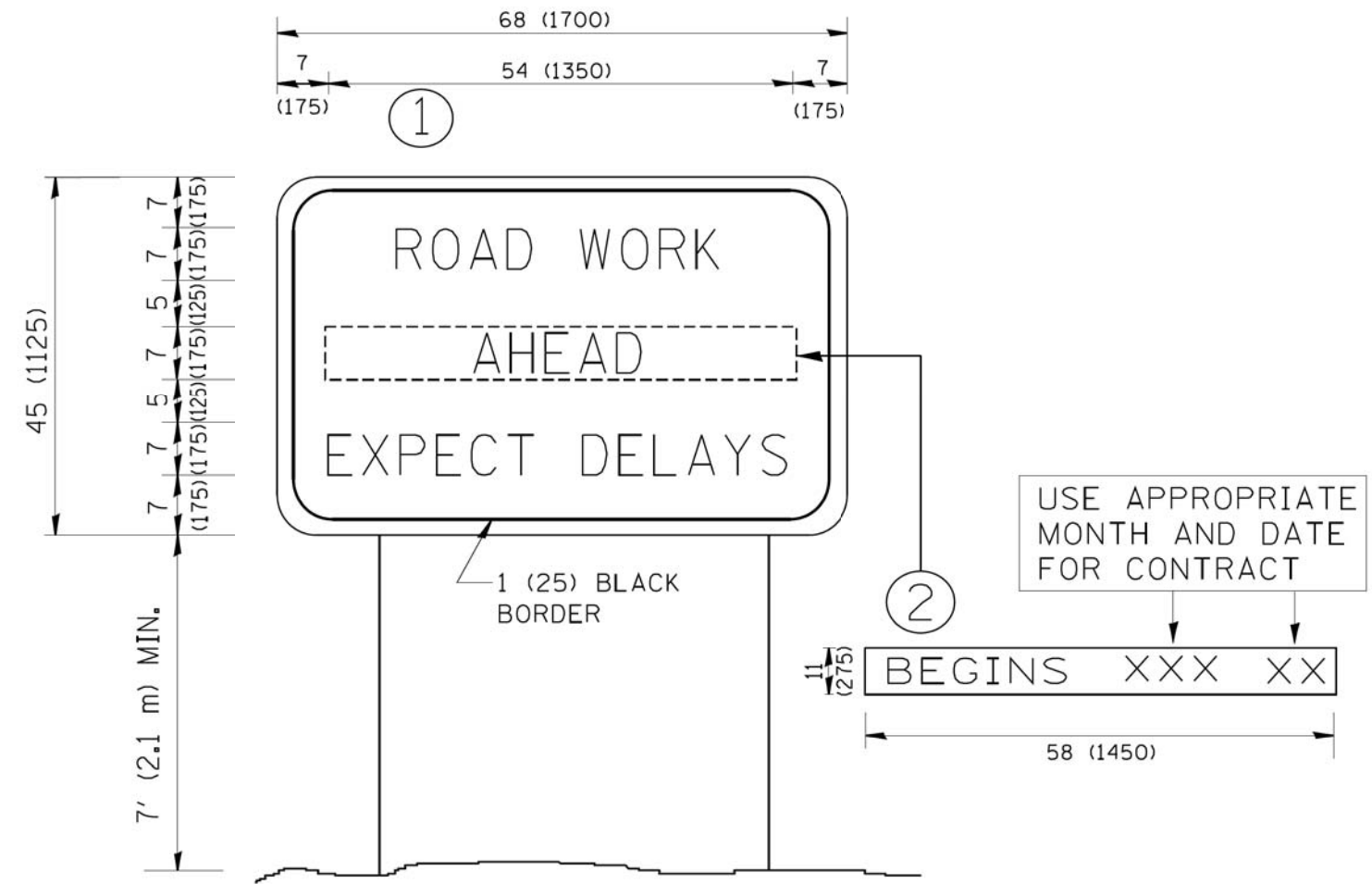
REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BENCHING DETAIL
FOR EMBANKMENT WIDENING**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	352
BD-51			CONTRACT NO. 61E22	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

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

FILE NAME = W:\diststd\22x34\tc22.dgn	USER NAME = geglano	DESIGNED - DRAWN -	REVISED - R. MIRS 09-15-97
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
	PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

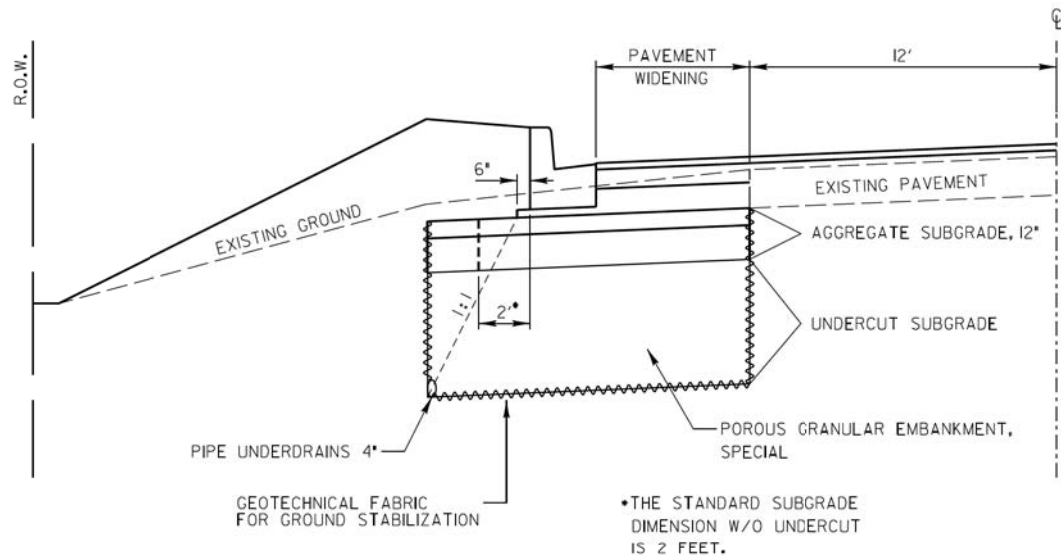
**ARTERIAL ROAD
INFORMATION SIGN**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	353
TC-22			CONTRACT NO. 61E22	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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

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



IN UNSTABLE AREAS, THE SUBGRADE SHALL BE:
 UNDERCUT (PAID FOR AS EARTH EXCAVATION PER CU YD);
 REINFORCED WITH GEOTECHNICAL FABRIC FOR GROUND STABILIZATION (PAID FOR PER SQ YD);
 DRAINED BY INSTALLATION OF PIPE UNDERDRAINS, 4" (PAID FOR PER FOOT);
 BACKFILLED WITH POROUS GRANULAR EMBANKMENT, SPECIAL (PAID FOR PER TON) AND;
 TOPPED WITH AGGREGATE SUBGRADE, 12" (300mm) (PAID FOR PER SQ YD).

SCALE:
 HORIZONTAL 1" = 5'
 VERTICAL 1" = 2.5'

REVISIONS	DATE	APPROVED BY: M. G. ZEMAITIS

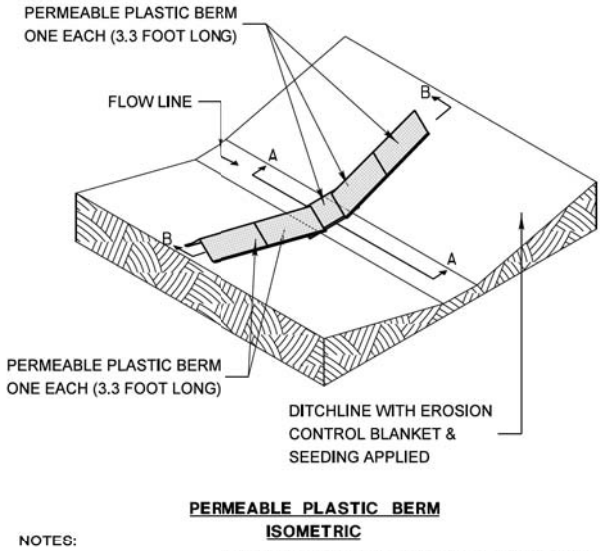
LakeCounty Division of Transportation

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

UNDERCUT DETAIL

LC2000

FOR USE WHILE ESTABLISHING FINAL LANDSCAPING

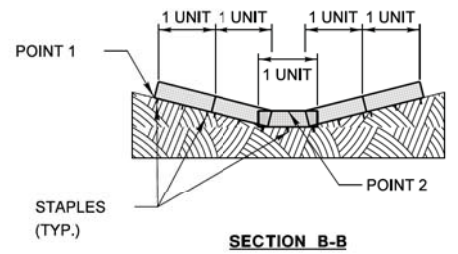
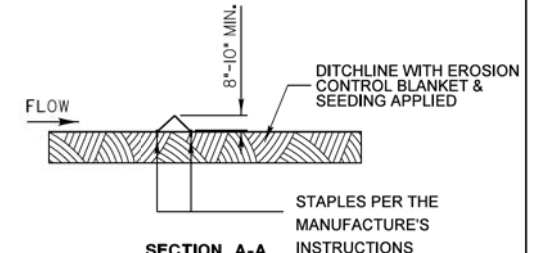


NOTES:
 THE PERMEABLE PLASTIC BERM SHALL REPLACE THE TEMPORARY DITCH CHECK AFTER THE INSTALLATION OF EROSION CONTROL BLANKET AND SEEDING.

EACH PERMEABLE PLASTIC BERM IS 3.3 FEET IN LENGTH. THE MINIMUM INSTALLATION IN A DITCH SHALL BE THREE UNITS. THE INSTALLATION SHOWN WILL BE MEASURED AND PAID FOR AS A PERMEABLE PLASTIC BERM 16.5 FEET IN LENGTH (5 UNITS).

STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

POINT 1 MUST BE HIGHER THAN POINT 2 TO INSURE THAT WATER FLOWS THROUGH OR OVER THE BERM AND NOT AROUND THE ENDS.



REVISIONS	DATE	APPROVED BY: M. G. ZEMAITIS
ADDED DIMENSIONS	04/11/08	
REVISED PAY ITEM	04/15/10	
ADDED PLASTIC BERM (pg2)	10/10/12	

LakeCounty Division of Transportation

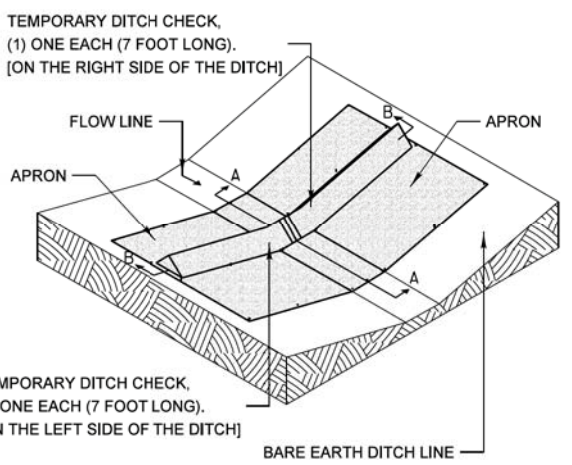
APPROVED BY: M. G. ZEMAITIS DATE: APRIL 1, 2007

TEMPORARY DITCH CHECK INSTALLATION FOR ROADWAY OR DRAINAGE DITCH

LC2050

(SHEET 2 OF 2)

FOR BARE EARTH APPLICATION ONLY

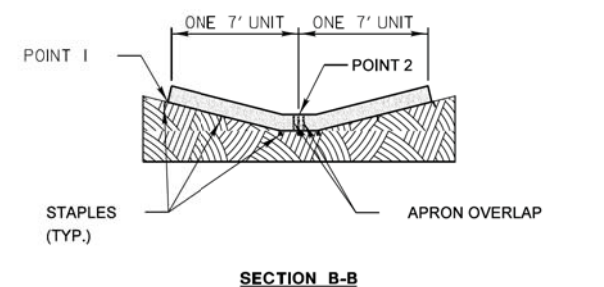
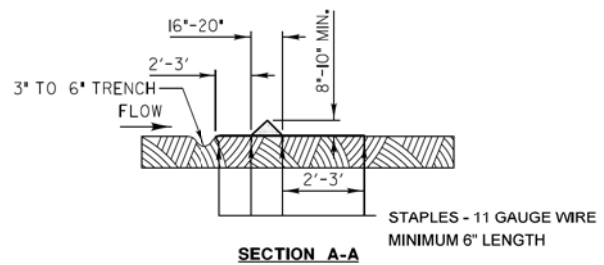


NOTES:
 THE TEMPORARY DITCH CHECK SHALL BE USED IN BARE EARTH DITCH LINES AND SHALL BE REMOVED JUST PRIOR TO THE INSTALLATION OF EROSION CONTROL BLANKET AND SEEDING.

THE INSTALLATION SHOWN WILL BE MEASURED AND PAID FOR AS A TEMPORARY DITCH CHECK 14 FEET IN LENGTH.

STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE 7' UNIT AS SHOWN ON THE DIAGRAM.

POINT 1 MUST BE HIGHER THAN POINT 2 TO INSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.



REVISIONS	DATE	APPROVED BY: M. G. ZEMAITIS
ADDED DIMENSIONS	04/11/08	
REVISED PAY ITEM	04/15/10	
ADDED PLASTIC BERM (pg2)	10/10/12	

LakeCounty Division of Transportation

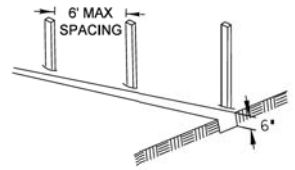
APPROVED BY: M. G. ZEMAITIS DATE: APRIL 1, 2007

TEMPORARY DITCH CHECK INSTALLATION FOR ROADWAY OR DRAINAGE DITCH

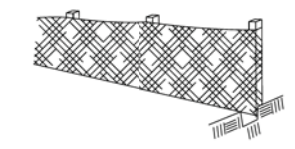
LC2050

(SHEET 1 OF 2)

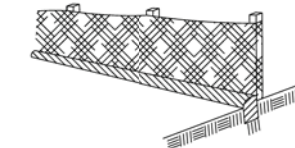
1. SET POSTS AND EXCAVATE OR SLIT-TRENCH A 6-INCH DEEP TRENCH UPSLOPE ALONG THE LINE OF POSTS



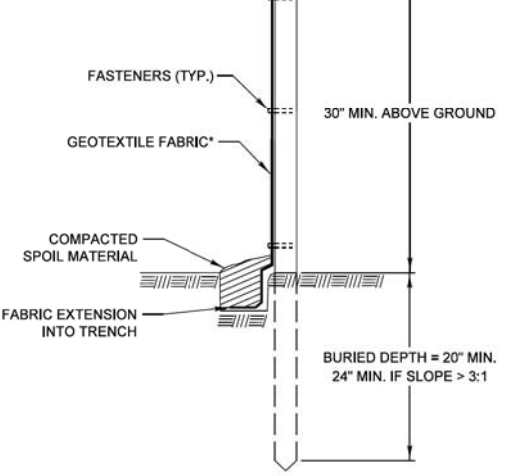
2. ATTACH GEOTEXTILE FILTER FABRIC TO EACH POST WITH A MINIMUM OF 3 (THREE) FASTENERS PER POST AND EXTEND FABRIC TO THE BOTTOM OF THE TRENCH



3. BACKFILL AND COMPACT THE EXCAVATED MATERIALS



- POSTS - CHOICE OF:
 1.2" X 1.2" NOMINAL HARDWOOD POSTS
 2.6" X 2.6" NOMINAL NO.2 SOUTHERN PINE OR U. T. L. OR C-SHAPE STEEL POSTS WITH MIN. WEIGHT 1.33 LBS/FT



* NOTE: OPTIONAL WIRE SUPPORT
 - MIN. 30" HEIGHT
 - MIN. 14 GAUGE WIRE
 - MIN. 6 HORIZ. WRES
 - MIN. 6" VERTICAL SPACING

SCALE 1" = 1'

Requirements	Test Methods	Wire Backed Supported Silt Fence*	Geotextile Elongation >=50%*	Geotextile Elongation <50%*
Maximum Post Spacing		4 feet	4 feet	6 feet
Grab Strength	ASTMD 4632			
Machine direction		90 lbs	124 lbs	124 lbs
X-Machine direction		90 lbs	100 lbs	100 lbs
Permittivity*	ASTMD 4491	0.05 sec ⁻¹	0.05 sec ⁻¹	0.05 sec ⁻¹
Apparent Opening Size	ASTMD 4751	0.024in maximum average roll value		
Ultraviolet stability (retained strength)	ASTMD 4355	70% after 500 hours of exposure		

REVISIONS	DATE	APPROVED BY: M. G. ZEMAITIS
ORIG. by LCSMC	4/21/08	
Update Text	7/15/11	

LakeCounty Division of Transportation

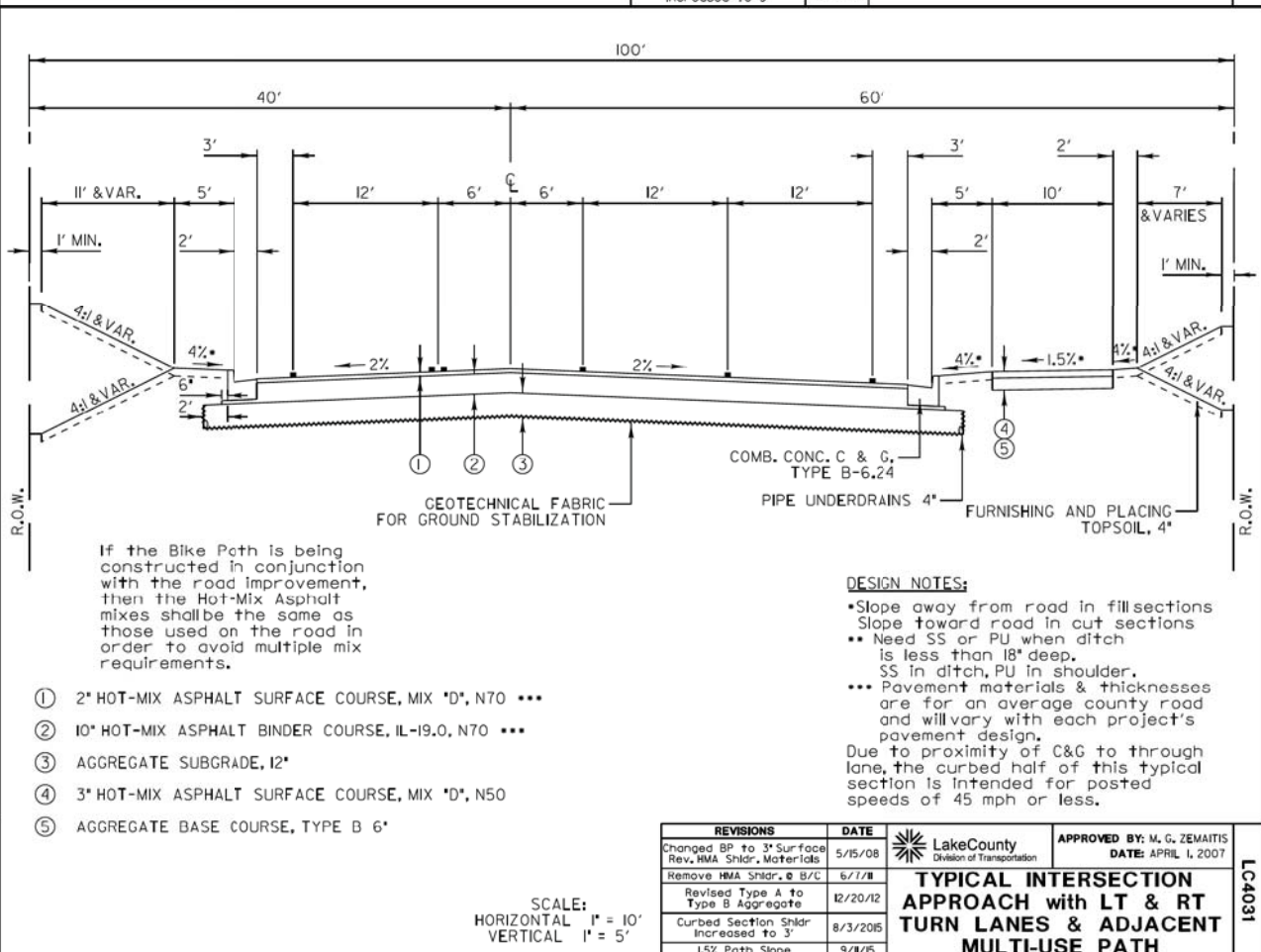
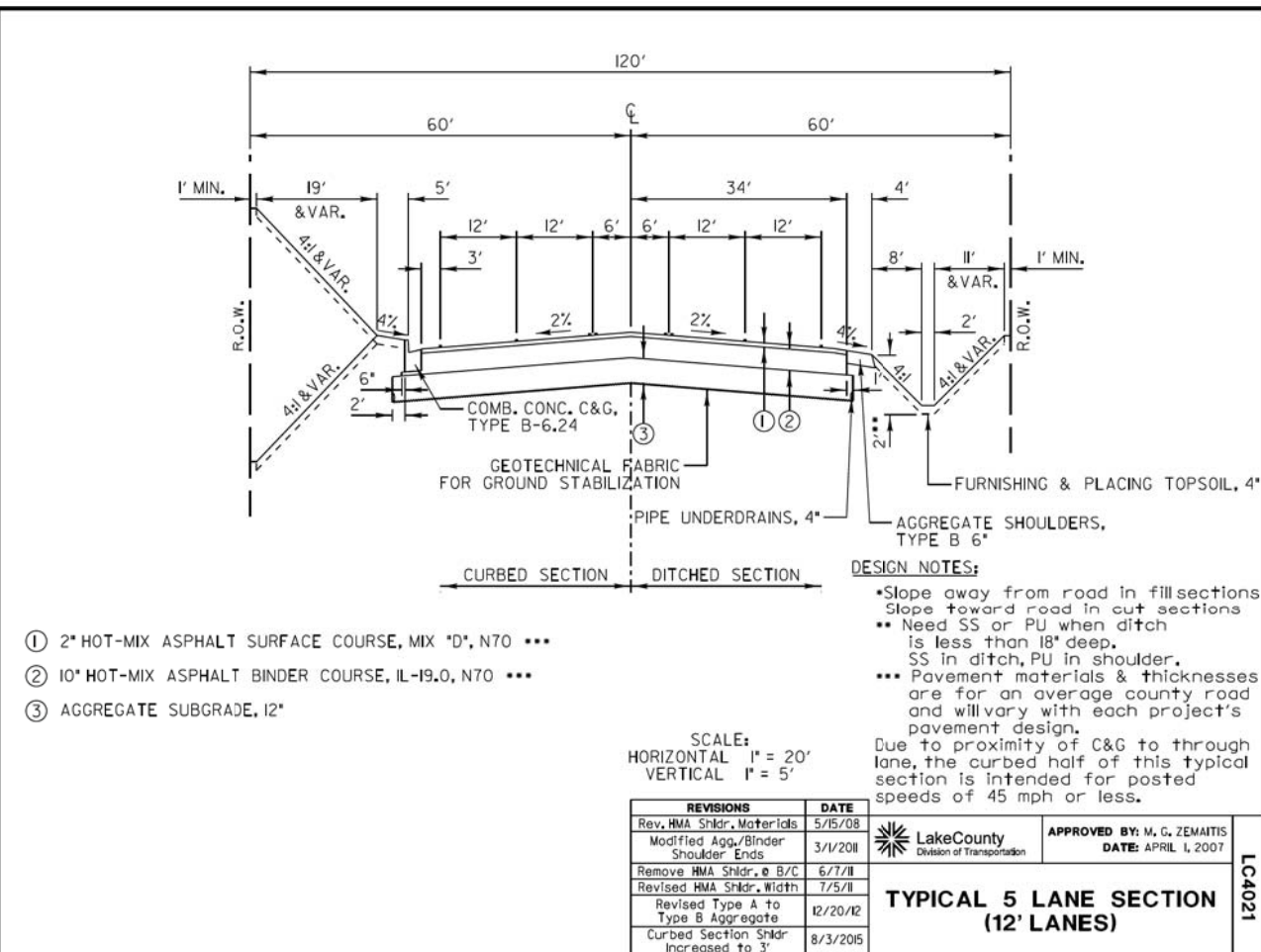
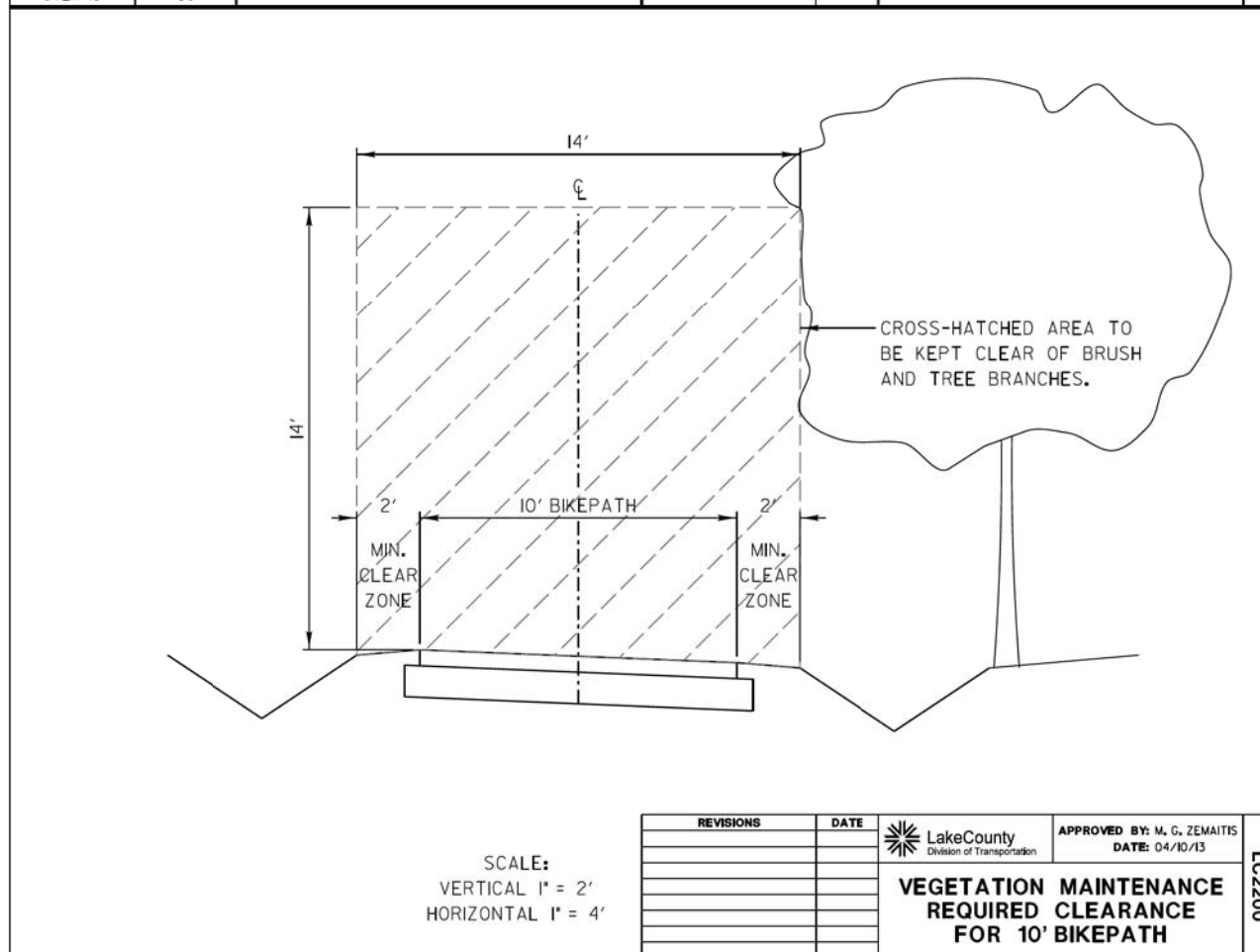
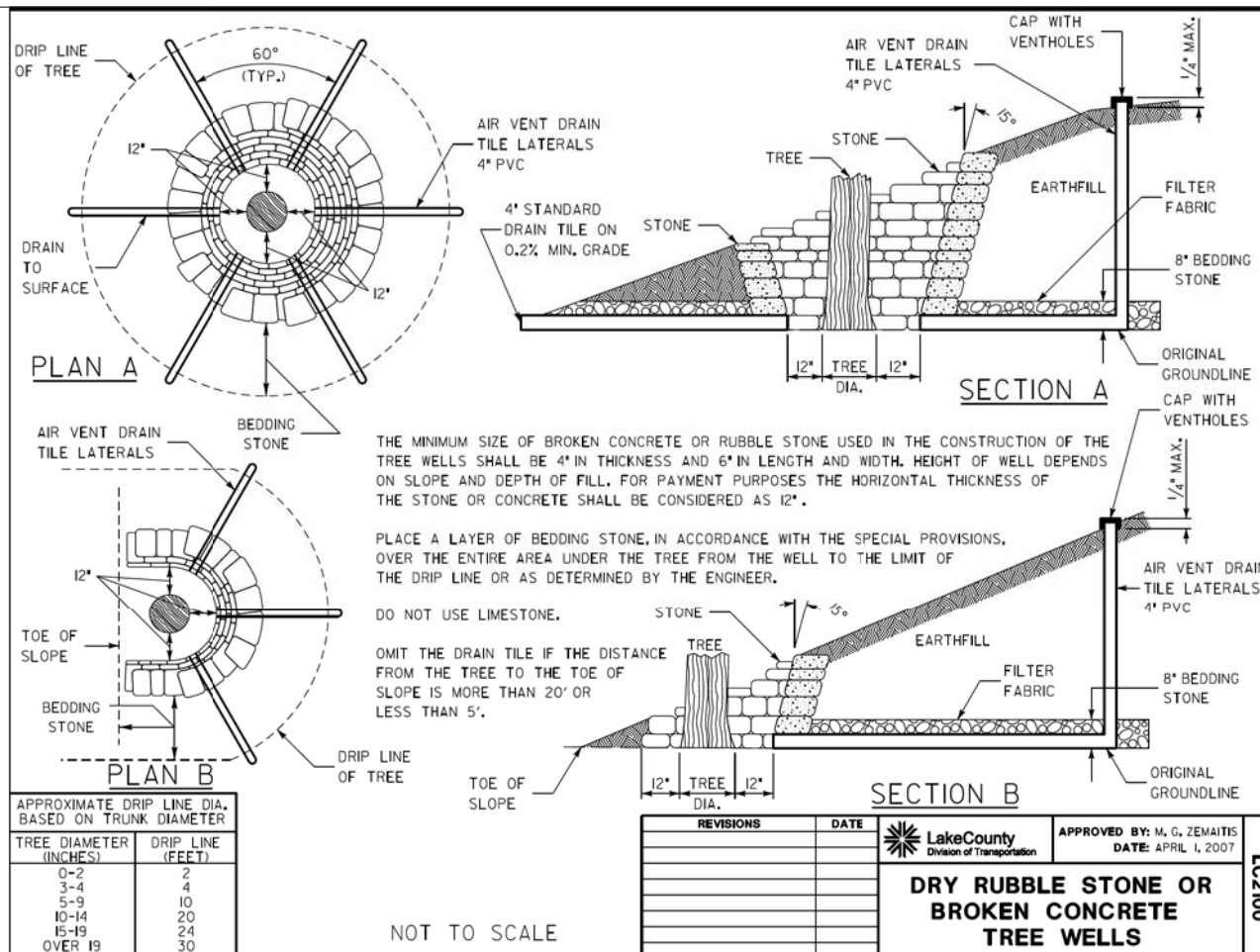
APPROVED BY: M. G. ZEMAITIS DATE: JUNE 20, 2008

PERIMETER EROSION BARRIER INSTALLATION

LC2051

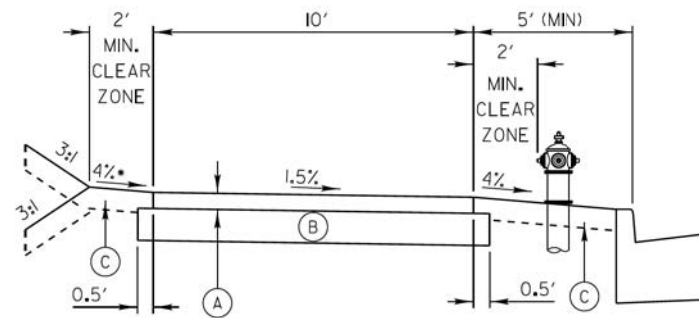
DATE	
BY	
NO.	
ORIGINAL SURVEY	
NOTED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	

DATE	
BY	
NO.	
ORIGINAL SURVEY	
NOTED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	



DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	



- (A) 3" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50
- (B) AGGREGATE BASE COURSE, TYPE B 6"
- (C) FURNISHING AND PLACING TOPSOIL, 4", and SEEDING, CLASS 2A or SODDING

DESIGN NOTE:

•Slope away from road in fill sections
•Slope toward road in cut sections

If the Bike Path is being constructed in conjunction with the road improvement, then the Hot-Mix Asphalt mixes shall be the same as those used on the road in order to avoid multiple mix requirements.

SCALE:
VERTICAL 1" = 2'
HORIZONTAL 1" = 4'

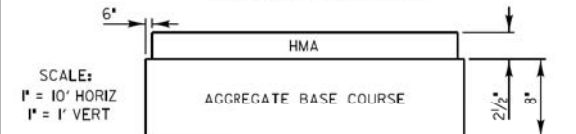
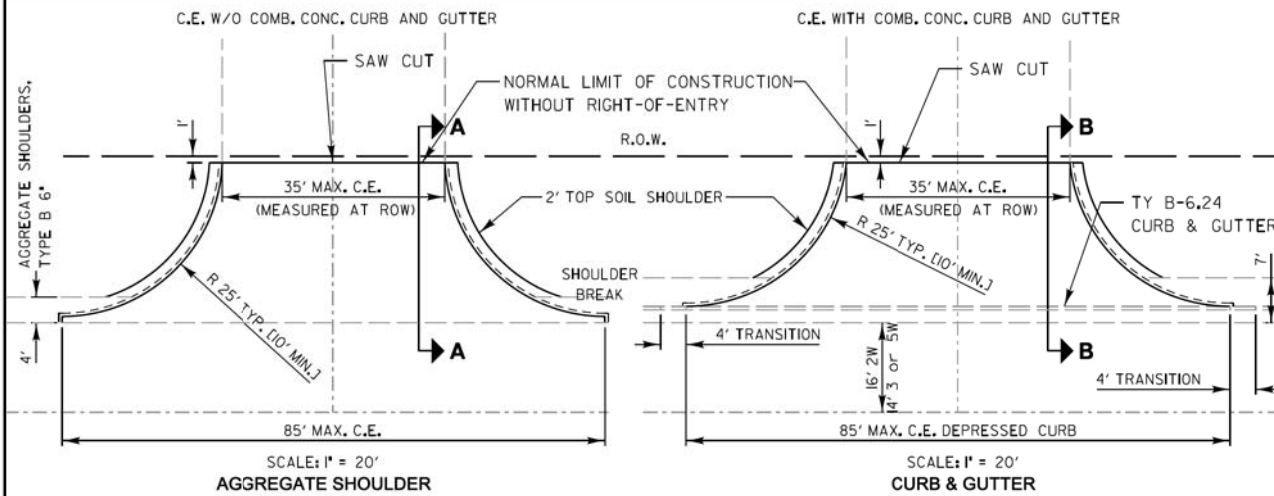
REVISIONS	DATE
Changed BP to 3" Surface	5/1/2008
Modified Agg. Base Course	3/1/2008
Change To Mix "D"	2/20/2012
Revised Type A to Type B Aggregate	12/20/12
1.5% Path Slope	9/11/2015

LakeCounty
Division of Transportation

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

**TYPICAL SECTION
10' HOT-MIX ASPHALT
BIKEPATH IN VICINITY OF
CURB & GUTTER**

LC4054



CEs: 2 1/2" HOT-MIX ASPHALT CONCRETE SURFACE COURSE on 6" AGGREGATE BASE COURSE, TYPE B

Calculated Quantities for COMMERCIAL ENTRANCE w/o Curb & Gutter above:

- HMA Surface Course Weight Used = 112 lbs/Sq Yd/Inch thickness
Area = 132.6 Sq Yd
132.6 Sq Yd x 112 lb/Sq Yd/Inch x 2.5 Inches = **19 Ton**
- Aggregate Base Course Weight Used = 2 Ton/Cu Yd
137.0 Sq Yd x 2 Ton/Cu Yd x 8 Inch thickness = **61 Ton**

Calculated Quantities for COMMERCIAL ENTRANCE with Curb & Gutter above:

- HMA Surface Course Weight Used = 112 lbs/Sq Yd/Inch thickness
Area = 116.3 Sq Yd
116.3 Sq Yd x 112 lb/Sq Yd/Inch x 2.5 Inches = **16 Ton**
- Aggregate Base Course Weight Used = 2 Ton/Cu Yd
120.4 Sq Yd x 2 Ton/Cu Yd x 8 Inch thickness = **54 Ton**

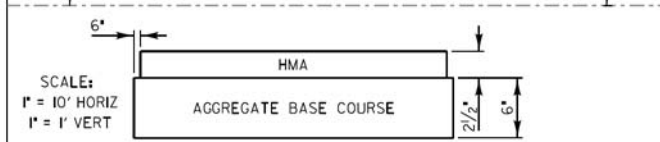
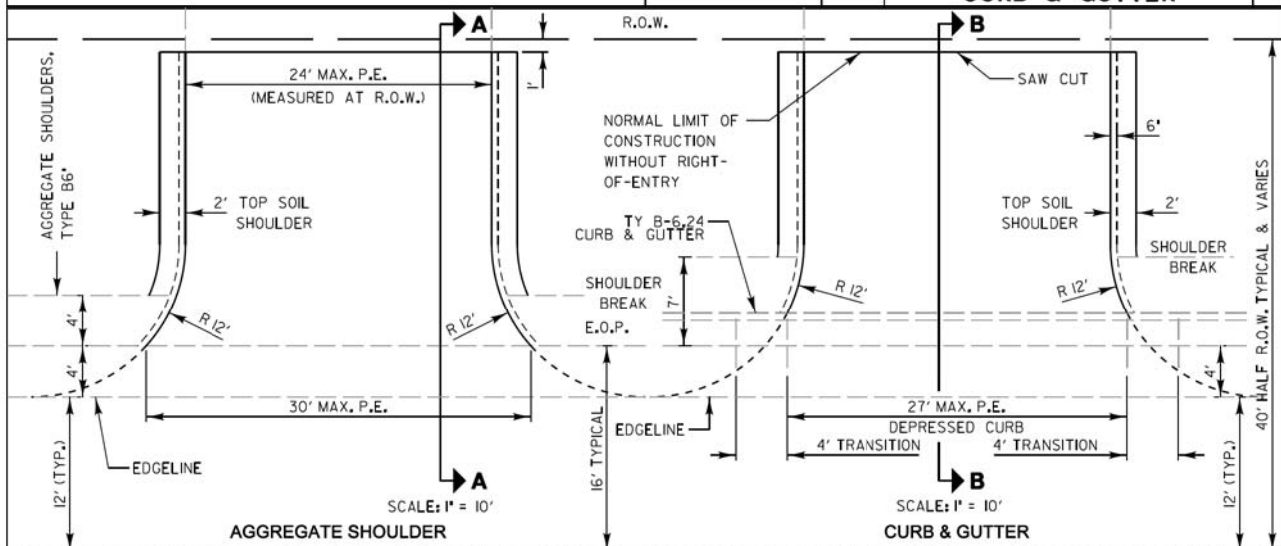
REVISIONS	DATE
Removed Prime Coat Qty	5/20/08
Revised Type A to Type B Aggregate	12/20/12
Revised Curb Transition	1/7/15

LakeCounty
Division of Transportation

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

**TYPICAL MAJOR ACCESS
(COMMERCIAL ENTRANCE)**

LC4101



PEs: 2 1/2" HOT-MIX ASPHALT SURFACE COURSE ON 6" AGGREGATE BASE COURSE, TYPE B

Calculated Quantities for PRIVATE ENTRANCE w/o Curb and Gutter:

- HMA Surface Course Weight Used = 112 lbs/Sq Yd/Inch thickness
Area = 63.0 Sq Yd
63.0 Sq Yd x 112 lb/Sq Yd/Inch x 2.5 Inches = **9 Ton**
- Aggregate Base Course Weight Used = 2 Ton/Cu Yd
65.7 Sq Yd x 2 Ton/Cu Yd x 6 Inch thickness = **22 Ton**

Calculated Quantities for PRIVATE ENTRANCE with Curb and Gutter:

- HMA Surface Course Weight Used = 112 lbs/Sq Yd/Inch thickness
Area = 55.0 Sq Yd
55.0 Sq Yd x 112 lb/Sq Yd/Inch x 2.5 Inches = **8 Ton**
- Aggregate Base Course Weight Used = 2 Ton/Cu Yd
57.2 Sq Yd x 2 Ton/Cu Yd x 6 Inch thickness = **19 Ton**

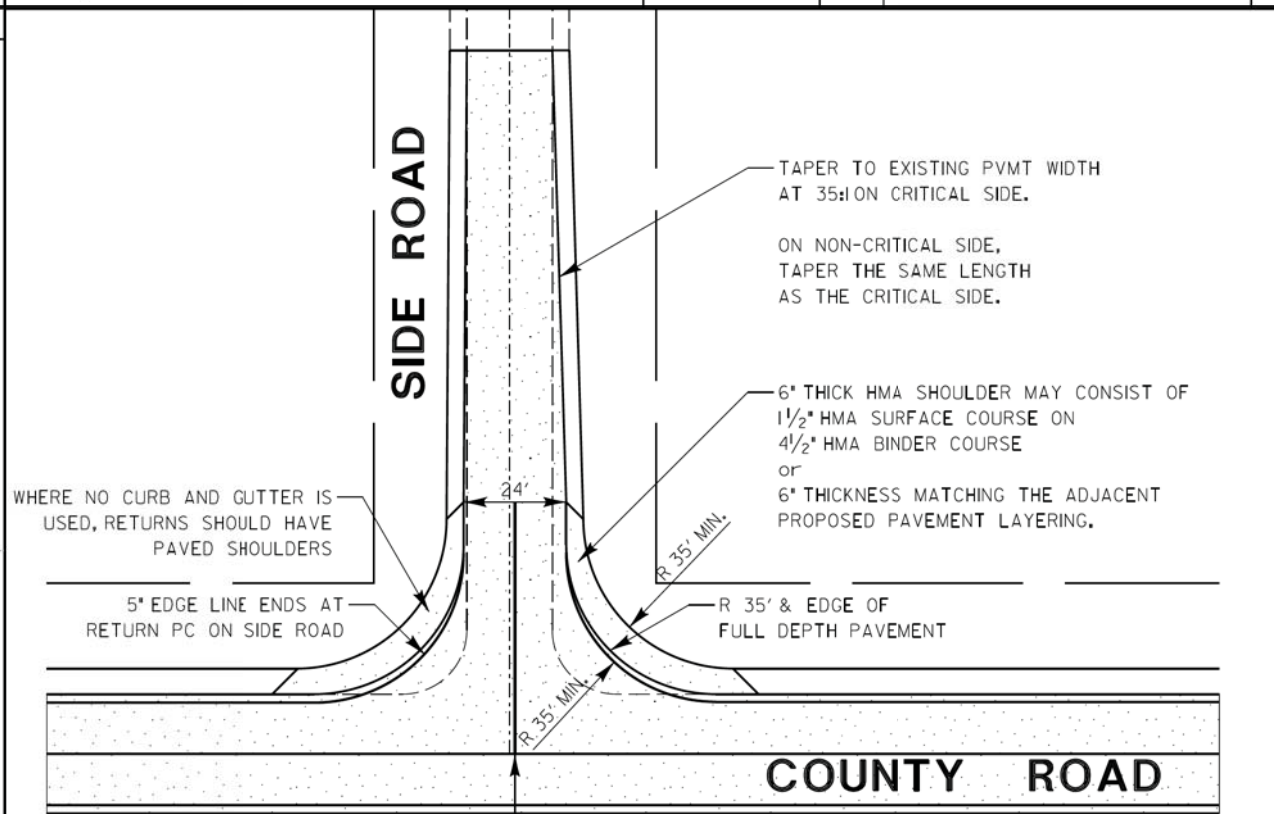
REVISIONS	DATE
Removed Prime Coat Qty	5/20/08
Revised Ent. EOP Radius	6/4/13
Revised Type A to Type B Aggregate	12/20/12
Revised Curb Transition	1/7/15

LakeCounty
Division of Transportation

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

**TYPICAL MINOR ACCESS
(PRIVATE ENTRANCE)**

LC4100



PROPOSED SIDE ROAD SHOULD BE CENTERED IN RIGHT-OF-WAY EVEN IF EXISTING IS NOT.

SCALE: 1" = 30'

REVISIONS	DATE

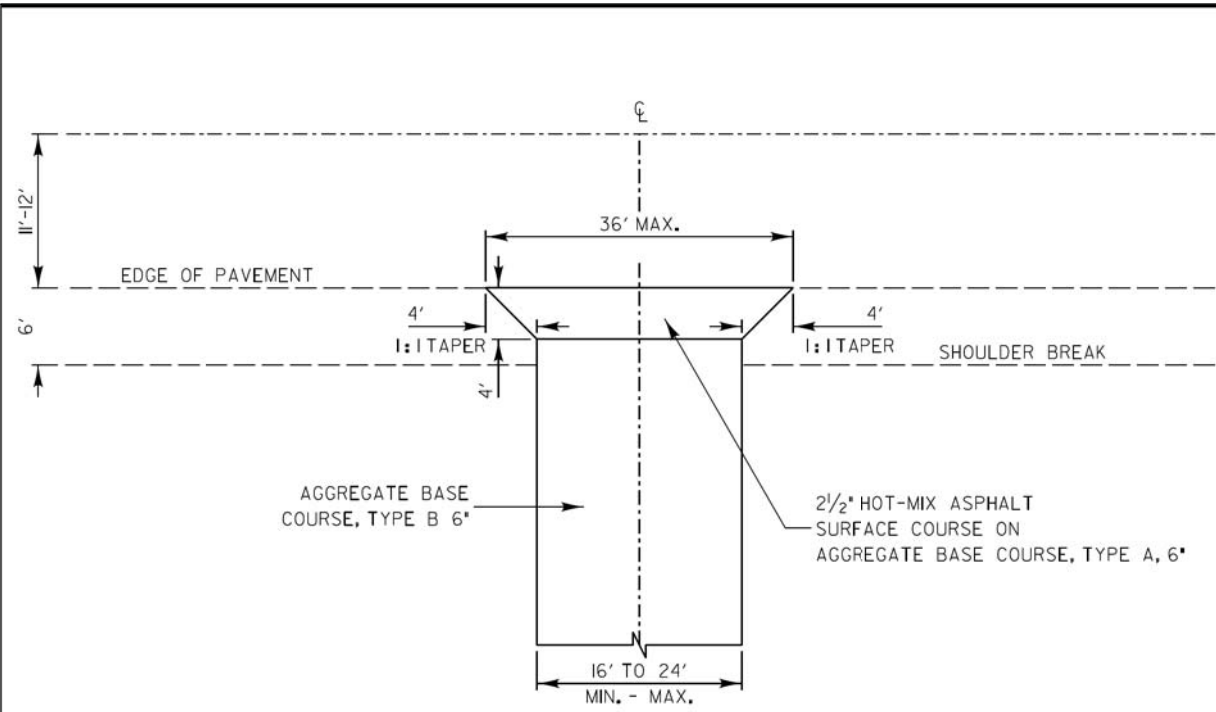
LakeCounty
Division of Transportation

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

**TYPICAL MAJOR ACCESS
(SIDE ROAD)**

LC4102

DATE	BY
SURVEYED	PLOTTED
TEMPLATE	AREAS CHECKED
NOTE BOOK	NO.



DESIGN NOTE:

The Hot-Mix Asphalt apron will not be included on roads with a 2' (or wider) paved shoulder. The apron will be constructed behind curb & gutter only when a hot-mix asphalt shoulder is not included.

SCALE: 1" = 10'

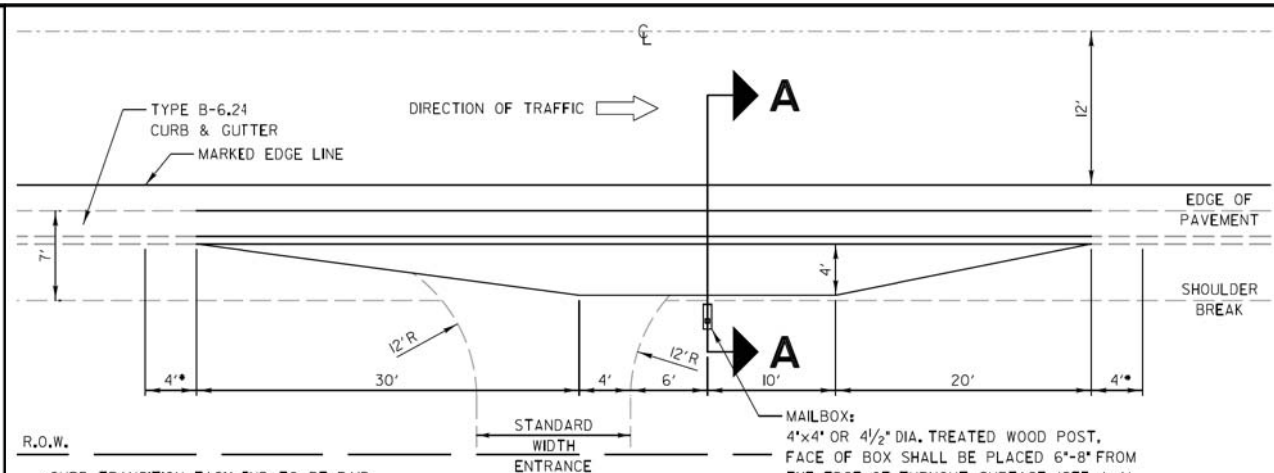
REVISIONS	DATE
Revised Type A to Type B Aggregate	12/20/12



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

HOT-MIX ASPHALT APRON FOR AGGREGATE FIELD ENTRANCE

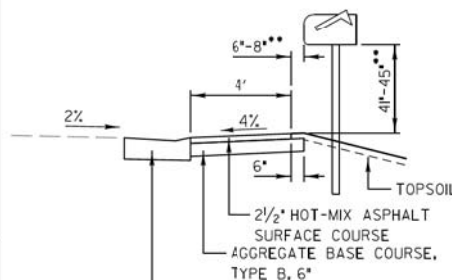
LC4103



*CURB TRANSITION EACH END TO BE PAID FOR AT THE CONTRACT UNIT PRICE FOR COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24.

DESIGN NOTES:

- The Resident Engineer shall contact the local postmaster prior to installing the new mailbox posts for the local mounting height of the mailbox. The standard mounting height is 3 1/2'; however, local postmasters may vary this height.
- The standard mailbox post is a 4"x4" or a 4 1/2" dia. treated wood post. The standard bury length of the post is 2'. Do not shorten or exceed this bury length.
- Depending on the location of the shoulder break with respect to the edge of the mailbox turnout the overall post length may vary from 5' 8" to 6' 4" to maintain the 2' bury length and the 3 1/2' mounting height.



SECTION A-A
SCALE: 1" = 5'

TYPE B-6.24 DEPRESSED - 70 LIN FT

** USPS RESIDENTIAL MAILBOX STANDARD

REVISIONS	DATE
6"-8" BOX OFFSET ADDED	12/22/11
Revised Type A to Type B Aggregate	12/20/12
Revised Curb Transition	1/7/15
Pave Shldr = 3" (all cases)	2/24/2017

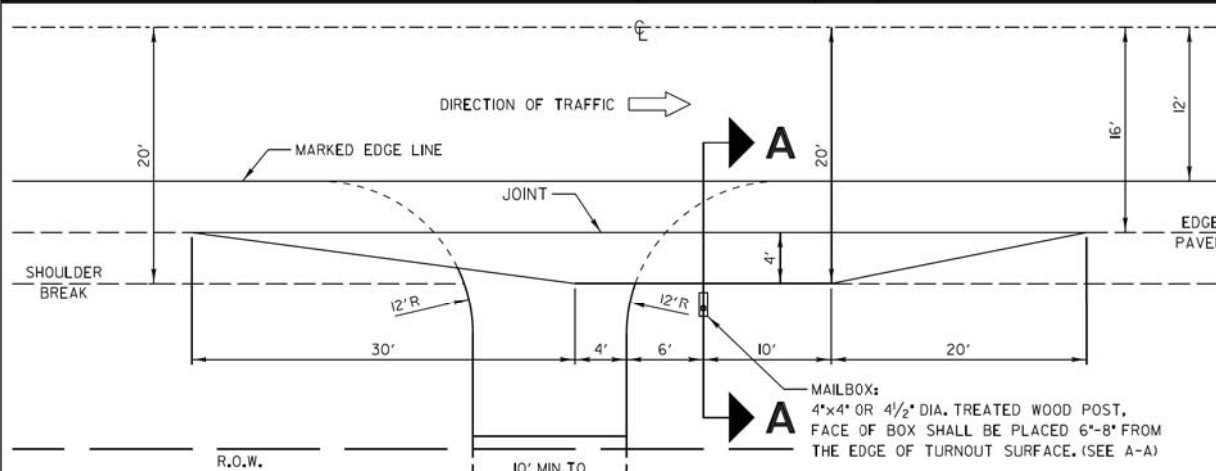


APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

MAILBOX TURNOUT ALONG CURBED ROADS

LC4121

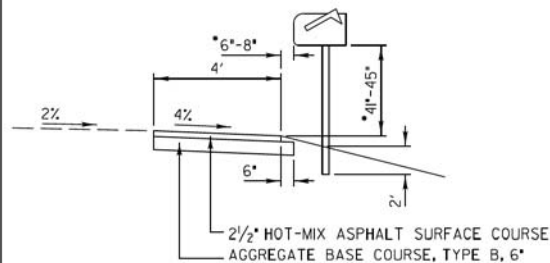
DATE	BY
SURVEYED	PLOTTED
TEMPLATE	AREAS CHECKED
NOTE BOOK	NO.



SCALE: 1" = 10'

DESIGN NOTES:

- The Resident Engineer shall contact the local postmaster prior to installing the new mailbox posts for the local mounting height of the mailbox. The standard mounting height is 3 1/2'; however, local postmasters may vary this height.
- The standard mailbox post is a 4"x4" or a 4 1/2" dia. treated wood post. The standard bury length of the post is 2'. Do not shorten or exceed this bury length.
- Depending on the location of the shoulder break with respect to the edge of the mailbox turnout the overall post length may vary from 5' 8" to 6' 4" to maintain the 2' bury length and the 3 1/2' mounting height.



SECTION A-A
SCALE: 1" = 5'

* USPS RESIDENTIAL MAILBOX STANDARD

REVISIONS	DATE
4' PAVED SHOULDER ADDED	9/21/10
6"-8" BOX OFFSET ADDED	12/22/11
Revised Type A to Type B Aggregate	12/20/12



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

MAILBOX TURNOUT ALONG UNCURBED ROADS

LC4120



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

DESIGNED - PK	REVISED -
DRAWN - JRR	REVISED -
CHECKED - RTM	REVISED -
DATE - 11/13/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

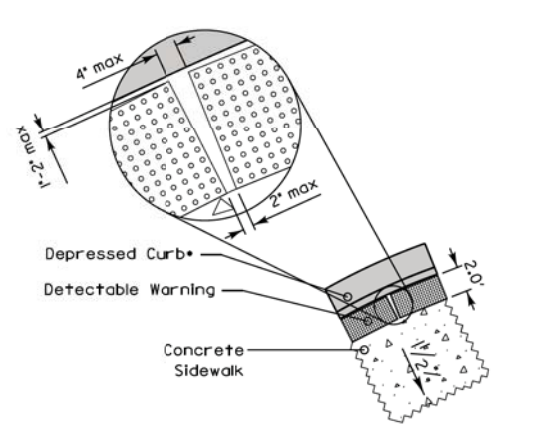
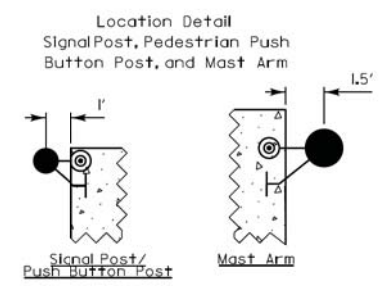
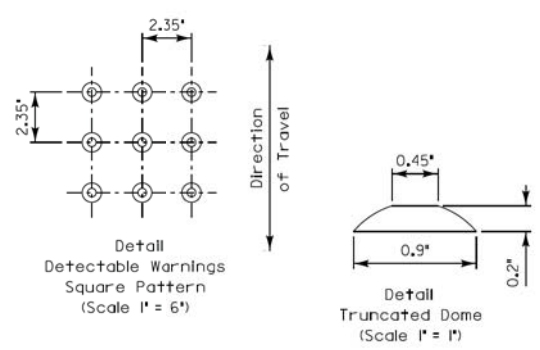
LCDOT HIGHWAY STANDARDS

SHEET NO. 5 OF 15 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	358
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
NO.	



***GENERAL NOTES:**

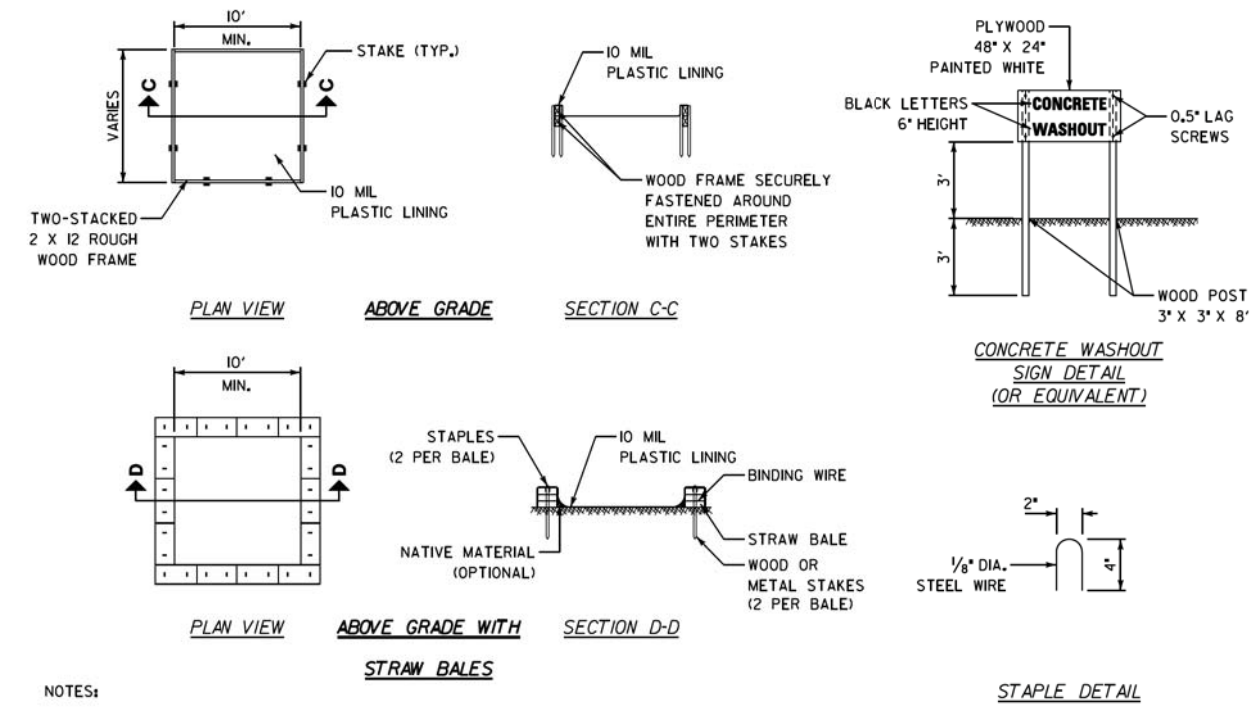
1. Cross slopes on sidewalks and paths shall not exceed 1.5% except at locations detailed on the plans.
2. Only whole cast iron panels from the manufacturer shall be used for the detectable warnings. Cut panels shall not be allowed.
3. The gutter slope for the DEPRESSED CURB adjacent to the curb ramp shall be a maximum of 2% (standard curb and gutter is 5%). The back of curb rise shall be a maximum of 1/2" (standard depressed curb is 1/2"). See IDOT standard 606001 for the different curb dimensions.
4. The Depressed Curb and the Transition Curb will be paid for as COMBINATION CONCRETE CURB AND GUTTER of the type adjacent to the curb ramp.
5. The DETECTABLE WARNINGS shall be installed according to Article 424.09 of the IDOT Standard Specifications and the LCOOT specification 42400800 DETECTABLE WARNINGS. Detectable warnings shall be measured and paid for per square foot.

REVISIONS	DATE	APPROVED BY:	DATE:
Added Warning Details	8/1/2009	M. G. ZEMAITIS	APRIL 1, 2007
Updates & Remove Duplicates	7/14/2015		

Lake County
Division of Transportation

DETECTABLE WARNINGS and PEDESTRIAN PUSHBUTTON LOCATIONS

LC4201



NOTES:

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. OTHER WASHOUT DESIGNS MAY BE USED IF APPROVED BY THE ENGINEER.
3. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

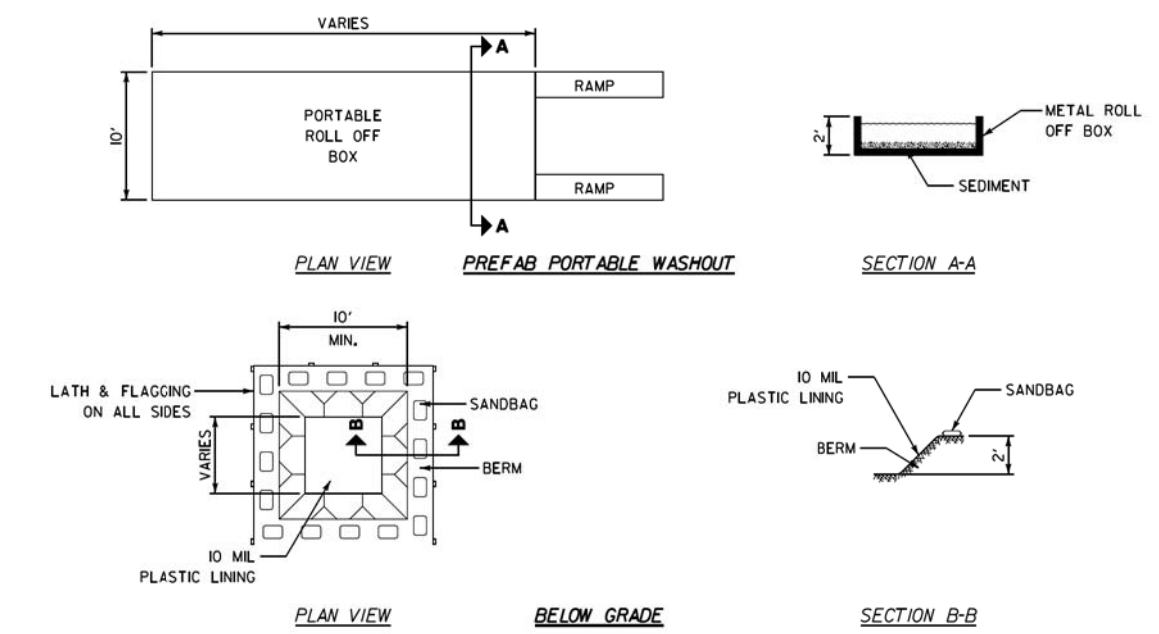
REVISIONS	DATE	APPROVED BY:	DATE:
		MGZ	March 17, 2008

Lake County
Division of Transportation

CONCRETE WASHOUT FACILITIES

SHEET 2 OF 2

LC4202



NOTES:

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. OTHER WASHOUT DESIGNS MAY BE USED IF APPROVED BY THE ENGINEER.
3. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

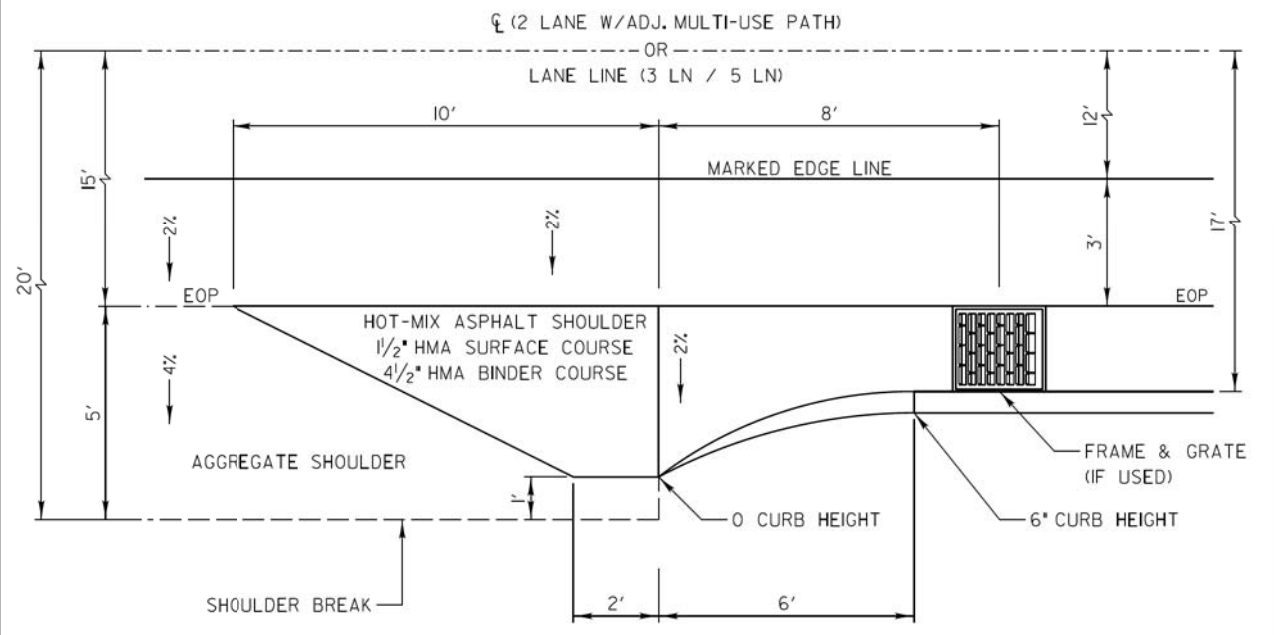
REVISIONS	DATE	APPROVED BY:	DATE:
		MGZ	March 17, 2008

Lake County
Division of Transportation

CONCRETE WASHOUT FACILITIES

SHEET 1 OF 2

LC4202



NOTES:

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. OTHER WASHOUT DESIGNS MAY BE USED IF APPROVED BY THE ENGINEER.
3. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

REVISIONS	DATE	APPROVED BY:	DATE:
Revised Shoulder Widths	8/3/2015	M. G. ZEMAITIS	APRIL 1, 2007

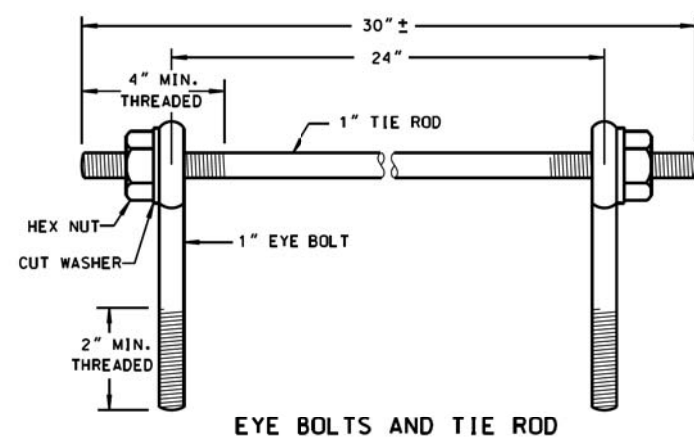
Lake County
Division of Transportation

TRANSITION FROM AGGREGATE SHOULDER TO B-6.24 FOR 17' OFFSET TO FACE

LC4800

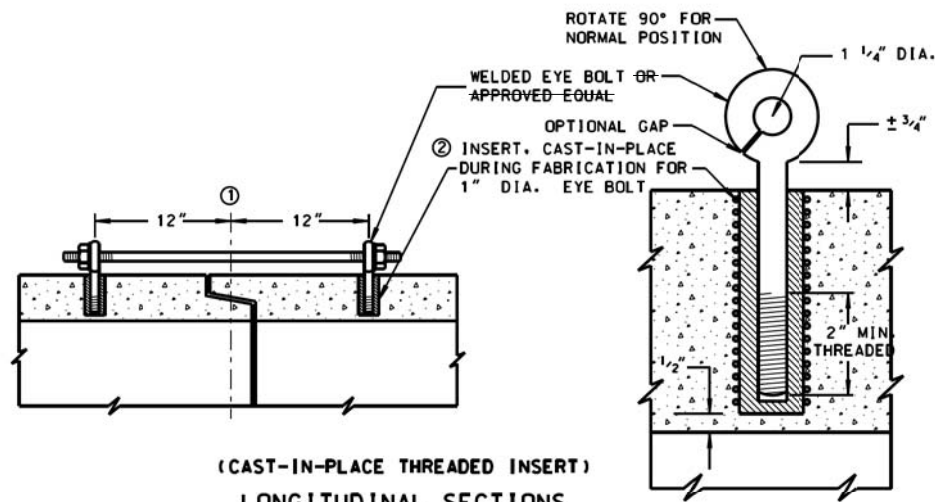
DATE
BY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK
AREAS CHECKED

DATE
BY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK
AREAS CHECKED



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST-IN-PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS. JOINT TIES AND HARDWARE SHALL BE GALVANIZED STEEL.

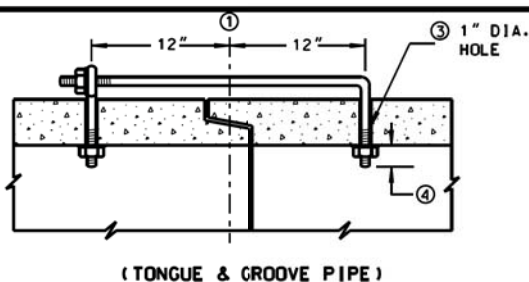
CONCRETE CULVERT PIPE AND SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT THE LAST THREE JOINTS BEFORE A FLARED END SECTION

THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR CONCRETE PIPE.

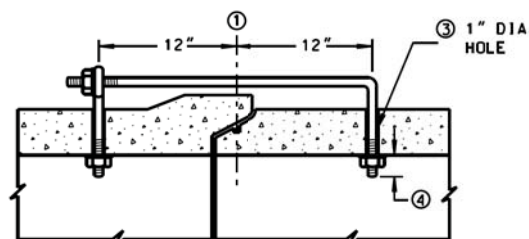
UNLESS OTHERWISE STATED IN THE CONTRACT THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE CULVERT PIPE AS INDICATED ON THE PLANS AND BY THIS DETAIL WILL BE CONSIDERED INCLUDED IN THE COST OF PIPE CULVERTS OR STORM SEWERS.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR GALVANIZED STEEL JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

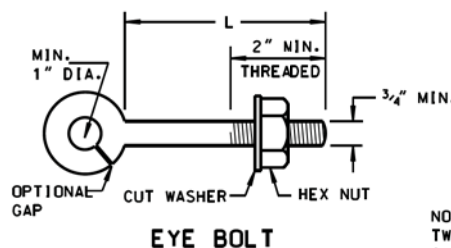
- ① 1/2" OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12" FROM 1/2" OF TONGUE AND GROOVE.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2".
- ⑤ OPENING TO BE ROD DIAMETER + 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

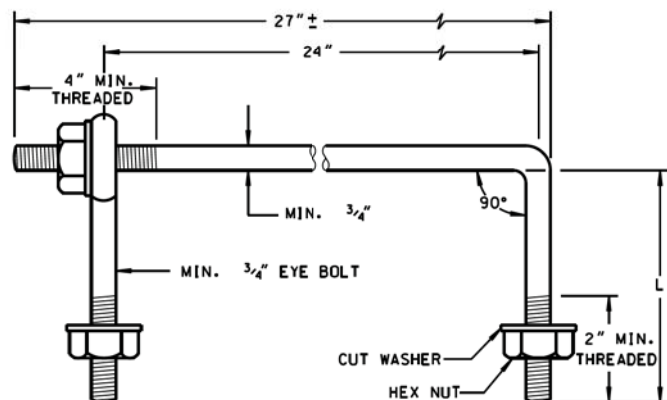


(MODIFIED BELL PIPE)
LONGITUDINAL SECTION



EYE BOLT

NOTE:
TWO EYE BOLTS MAY BE USED WITH
A 30" LONG THREADED ROD IN LIEU
OF THE 90° BENT TIE ROD.



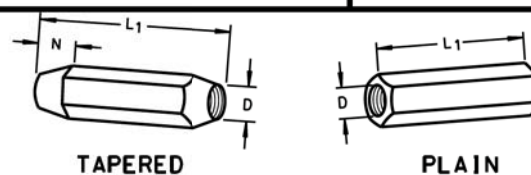
EYE BOLT AND TIE ROD

(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

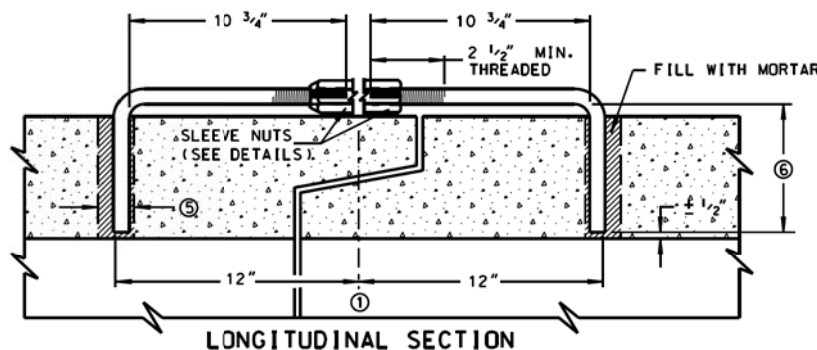
EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



TAPERED PLAIN
RIGHT AND LEFT THREADS

SLEEVE NUTS



LONGITUDINAL SECTION

(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)

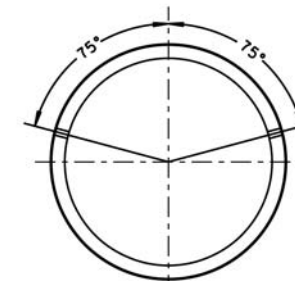
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L1	N
12-60	5/8	5/8	5	1 1/2
66-84	3/4	3/4	5	1 1/2
90-108	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES

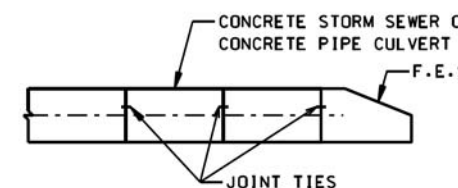
NOT TO SCALE

REVISIONS	DATE
ADDED JOINT TIE MAT'L	7/8/11



PLACEMENT OF (2) CAST-IN-PLACE
INSERTS OR HOLES DURING FABRICATION
FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



TYPICAL JOINT TIE
LOCATIONS



APPROVED BY: M. ZEMAITIS
DATE: 04/01/11

**JOINT TIES FOR
CONCRETE PIPE**

LC5402



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

DESIGNED - PK	REVISED -
DRAWN - JRR	REVISED -
CHECKED - RTM	REVISED -
DATE - 11/13/2017	REVISED -

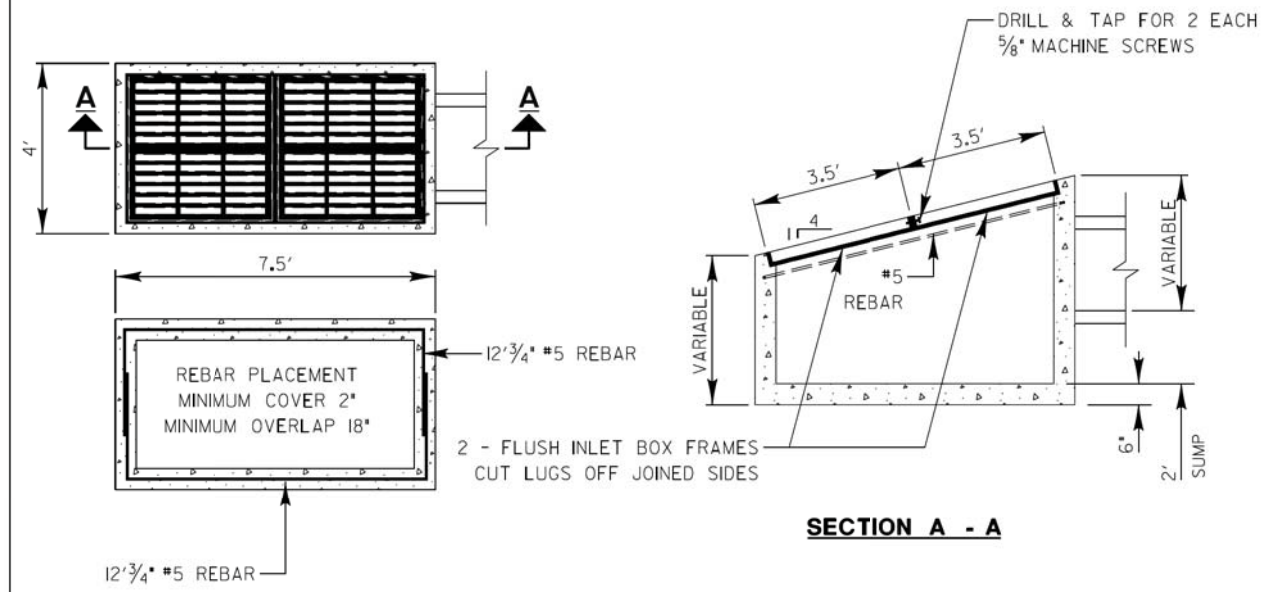
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

LC DOT HIGHWAY STANDARDS

SHEET NO. 8 OF 15 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	361
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	



BILL OF MATERIALS

- MACHINE SCREWS 5/8" x 1 1/4" = 2 EACH
- #5 REBAR (#5 REBAR) = 24' 1 1/2" DIA.
- STD. 542546 STEEL FRAME and GRATE = 2 EACH
- PORTLAND CEMENT CONCRETE (+5%) = _____ CU YD

SEE IDOT STD. 542546 FOR TYPICAL DETAILS OF STD. FLUSH INLET BOX FOR MEDIAN

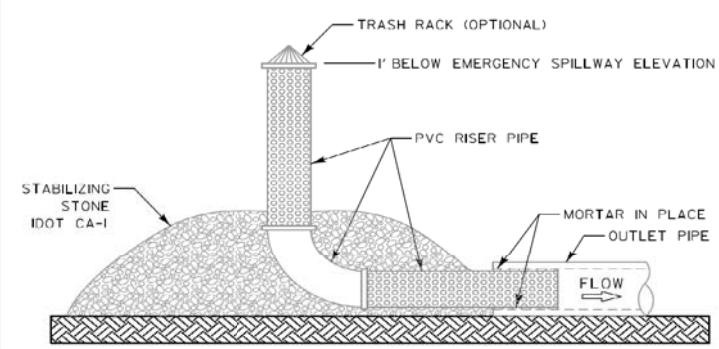
SCALE: 1" = 3'

REVISIONS	DATE

LakeCounty Division of Transportation
 APPROVED BY: M. G. ZEMAITIS
 DATE: APRIL 1, 2007

INLET SPECIAL, STANDARD 542546, DOUBLE (SLOPED GRATES)

LC6002



DESIGN NOTES:

PVC RISER PIPE SHALL BE ONE SIZE SMALLER THAN OUTLET PIPE AND SHALL BE SECURELY FIXED TO THE INSIDE OF THE OUTLET PIPE WITH MORTAR.

PVC RISER SHALL HAVE 1" HOLES EVENLY SPACED AROUND THE CIRCUMFERENCE OF THE PIPE AS FOLLOWS:

PIPE DIA (IN)	NUMBER OF 1" HOLES PER LIN FT OF PIPE
5	25
6	30
8	40
10	50
12	60

PVC RISER PIPE SHALL BE LOOSELY DOUBLE OR TRIPLE WRAPPED WITH CHICKEN WIRE OR 1/4" HARDWARE CLOTH AROUND BOTH MEMBERS AND WRAPPED ON THE OUTSIDE WITH A WOVEN MONOFILAMENT GEOTEXTILE.

PLACE SUFFICIENT CA-1 STONE TO HOLD THE RISER PIPE IN PLACE.

IF TRASH RACK IS PROVIDED, IT SHALL BE SECURELY FASTENED TO THE INLET. TRASH GUARD MAY BE FABRICATED FROM METAL RODS (1/4" DIA MIN) OR GALVANIZED WELDED WIRE FABRIC (6 GAGE MIN). THE SPACING BETWEEN VERTICAL MEMBERS SHOULD BE INCH.

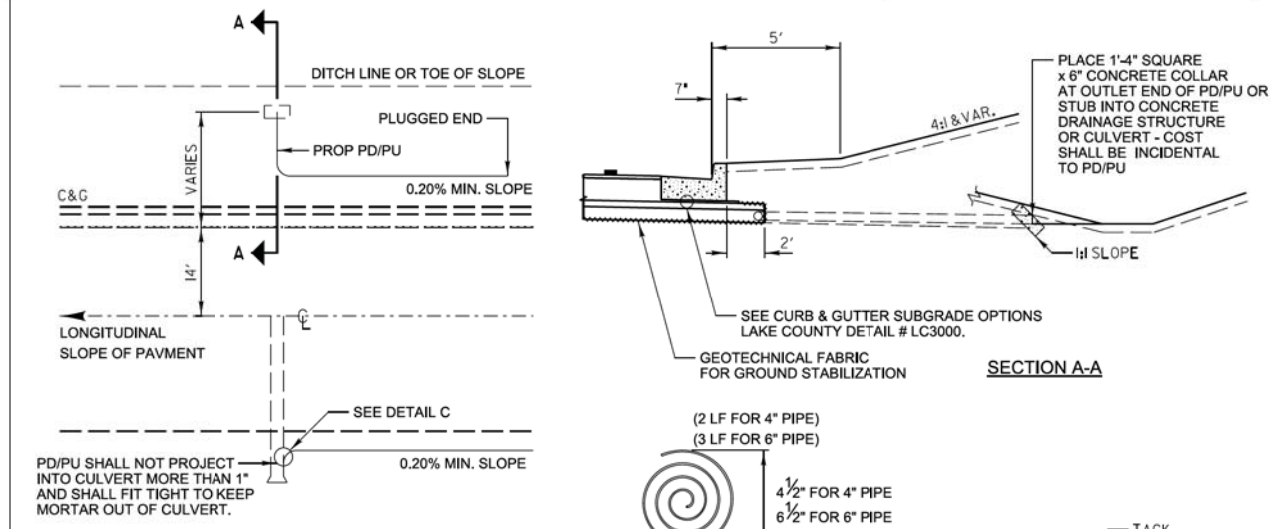
REVISIONS	DATE

LakeCounty Division of Transportation
 APPROVED BY: M. G. ZEMAITIS
 DATE: JAN. 22, 2014

PERFORATED RISER PIPE DETAIL

LC6060

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	

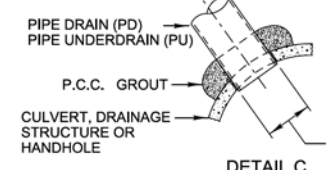


TYPICAL PIPE DRAIN/ PIPE UNDERDRAIN OUTLET

DESIGN NOTES:
 All work shall be according to the applicable portions of the "Standard Specifications" except as modified hereon.

In addition to the requirements of Article 601.08 of the "Standard Specifications", the contract unit price per foot for pipe drains 4" & 6" and pipe underdrains 4" shall include the cost of furnishing and placing the rodent shield.

The removable rodent shield shall be furnished and installed in accordance with one of the configurations shown. The shield shall be fabricated from steel wire, or expanded metal, as detailed above and shall be galvanized after fabrication in accordance with AASHTO M-111. Other submitted designs for a removable rodent shield will be allowed with the approval of the Engineer.

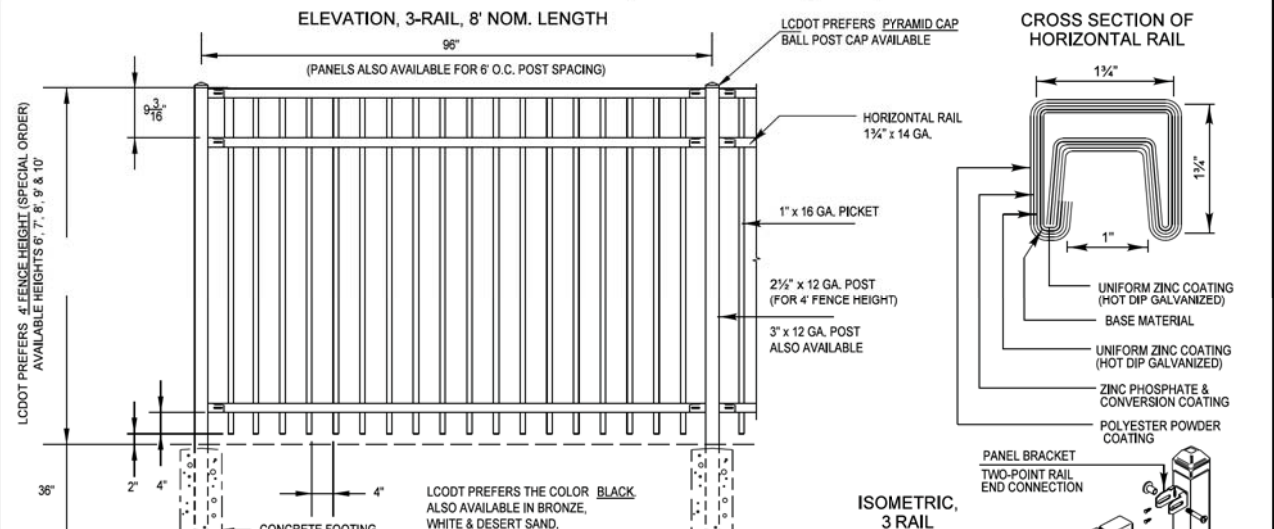


REVISIONS	DATE

LakeCounty Division of Transportation
 APPROVED BY: M. G. ZEMAITIS
 DATE: APRIL 1, 2007

SUB-SURFACE DRAINS

LC6020



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 1/2" x 12 GA.	45.5	133.0
	8	3" x 12 GA.	54.6	146.0
	10	3" x 12 GA.	34.2	116.0
7	6	2 1/2" x 12 GA.	41.0	127.0
	8	3" x 12 GA.	40.0	125.0
	10	3" x 12 GA.	25.0	99.0
8	6	2 1/2" x 12 GA.	30.0	108.0
	8	3" x 12 GA.	25.6	100.0
	10	3" x 12 GA.	30.7	110.0
9	6	2 1/2" x 12 GA.	19.2	87.0
	8	3" x 12 GA.	23.0	95.0
	10	4" x 12 GA.	30.6	110.0
10	6	4" x 12 GA.	32.0	113.0
	8	4" x 12 GA.	28.7	107.0

INTERNAL RETAINING ROD, CONTINUOUS VARIABLE PITCH CONNECTION SYSTEM ELIMINATES EXTERNAL FASTENERS

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

GATES: SPECIFY OPENING WIDTHS
 SINGLE QUANTITY _____
 DOUBLE QUANTITY _____

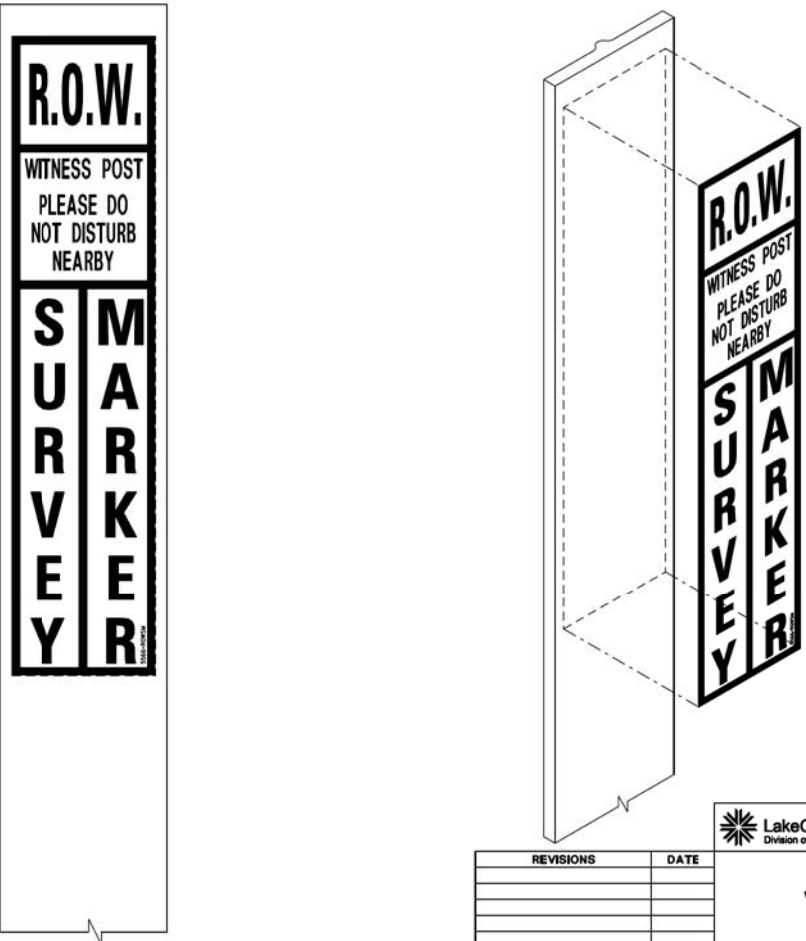
REVISIONS	DATE

LakeCounty Division of Transportation
 APPROVED BY: M. G. ZEMAITIS
 DATE: APRIL 1, 2007

ORNAMENTAL FENCE THREE RAIL (ONE MFGR'S DETAILS)

LC6601

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



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

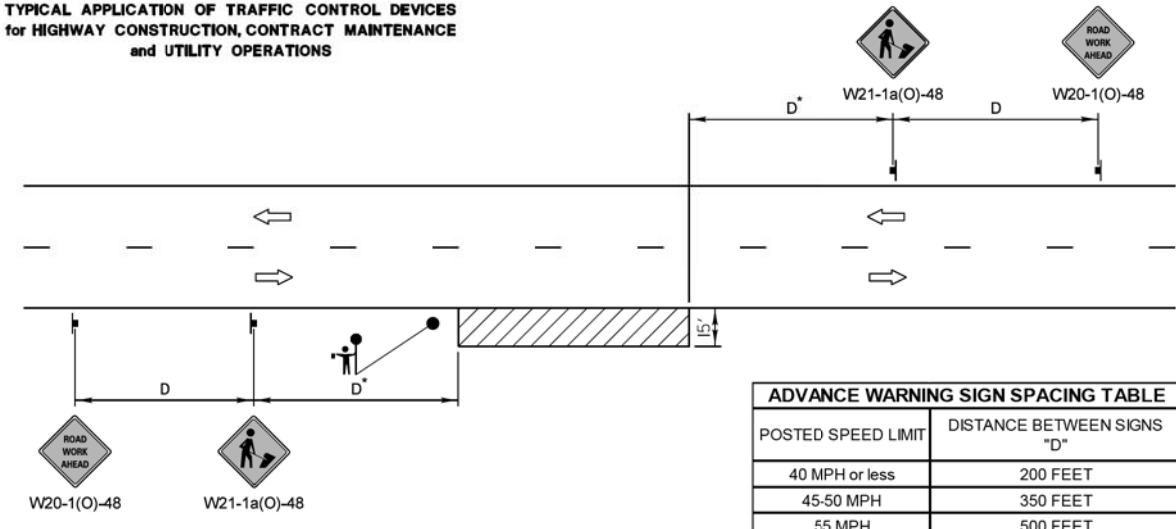
Lake County Division of Transportation

WITNESS POST

LC6650

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

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES for HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE and UTILITY OPERATIONS



GENERAL NOTES:

This special detail is used at any time, any vehicle, equipment, workers or their activities require a stationary, intermittent or continuous moving operation within 15 feet of the traffic lane, where the average speed is 1 mph or less.

* Minimum distance "D" is shown in the Advance Warning Sign Spacing Table. If the work is a moving operation, the maximum distance "D" may be extended to 1/2 the length required for one normal working day's operation or 4 miles, whichever is less.

If the work operation does not exceed 60 minutes, traffic control may be according to I.D.O.T. Highway Standard 701301.

SYMBOLS

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH TRAFFIC CONTROL SIGN WHEN REQUIRED

APPROVED BY: A. KHAWAJA
DATE: APRIL 1, 2007

Lake County Division of Transportation

MODIFIED IDOT STANDARD 701011-04

TWO LANE, TWO WAY, OFF-ROAD OPERATIONS DAY OPERATIONS ONLY

LC7000

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES for HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE and UTILITY OPERATIONS

ADVANCE WARNING SIGN SPACING TABLE

POSTED SPEED LIMIT	DISTANCE BETWEEN SIGNS		
	"A"	"B"	"C"
40 MPH or less	400 FEET	200 FEET	200 FEET
45-50 MPH	400 FEET	350 FEET	350 FEET
55 MPH	500 FEET	500 FEET	500 FEET

SYMBOLS

- WORK AREA
- CONE, BARRICADE, OR DRUM
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- ARROW BOARD
- TYPE II BARRICADE W/TYPE A FLASHING LIGHT
- HIGH LEVEL WARNING DEVICE **
- FLAGGER WITH TRAFFIC CONTROL SIGN

MODIFIED IDOT STANDARD 701701-10

APPROVED BY: ANTHONY KHAWAJA
DATE: APRIL 1, 2007

Lake County Division of Transportation

URBAN LANE CLOSURE MULTILANE INTERSECTION

LC7003

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES for HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE and UTILITY OPERATIONS

GENERAL NOTE:

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement or where construction requires lane closures.

DESIGN NOTES:

- For a side road with a speed limit of 40 mph or less, the closed portion of the main route shall be protected by blocking with Type II barricades or drums, 1/3 of the cross section of the closed portion of the roadway.
- For a side road with a speed limit of 45 mph or greater, the closed portion of the main route shall be protected by blocking with Type II barricades or drums, 1/2 of the cross section of the closed portion of the roadway.
- All W20-1 "ROAD WORK AHEAD" signs shall be 48"x48" with fluorescent orange reflective sheeting with an amber Type A flashing light mounted on the sign.
- When the side road lies between the beginning of the mainline signing and the work zone, a M6-1 Single Headed Arrow shall be used in lieu of the M6-4 Double Headed Arrow.
- For a lane closure on a side road, use the applicable portions of the appropriate Highway Standard or Traffic Control Detail. The spacing of the signs and barricades or drums shall be adjusted for field conditions as directed by the engineer. The directional arrow shall be covered or removed when no longer consistent with the side road closure.
- Advance warning signs shall be omitted on driveways unless otherwise noted.
- The traffic control and protection for side roads and intersections shall be included in the contract lump sum price for "TRAFFIC CONTROL AND PROTECTION, SPECIAL."

ADVANCE WARNING SIGN SPACING TABLE

POSTED SPEED LIMIT	DISTANCE BETWEEN SIGNS "D"
40 MPH or less	200 FEET
45-50 MPH	350 FEET
55 MPH	500 FEET

SYMBOLS

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE W/TYPE A FLASHING LIGHT
- DRUM WITH STEADY BURNING LIGHT

MODIFIED IDOT DISTRICT ONE SIDE ROAD DETAIL

APPROVED BY: ANTHONY KHAWAJA
DATE: APRIL 1, 2007

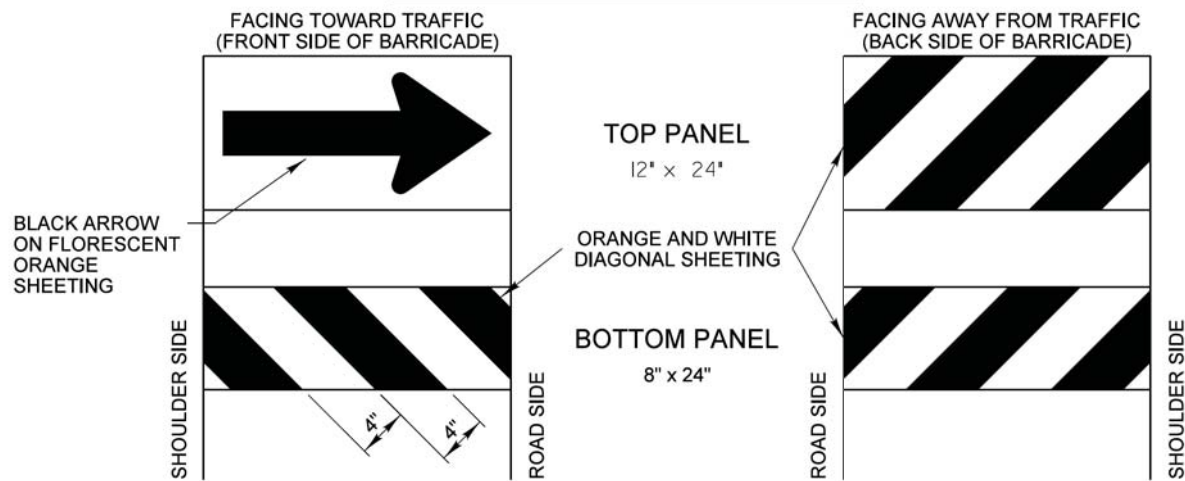
Lake County Division of Transportation

TRAFFIC CONTROL AND PROTECTION for SIDEROADS, INTERSECTIONS and DRIVEWAYS

LC7004

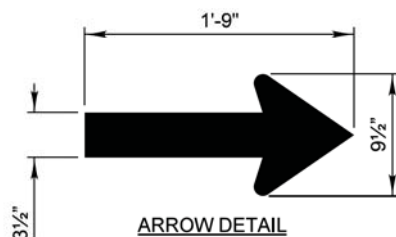
DATE	BY	SURVEYED	PLOTTED	TEMPLATE	AREAS CHECKED
NO.		FINISH	NO. SURVEY	NO. BOOK	NO.

DIRECTION INDICATOR BARRICADES



GENERAL NOTES

- 1) Direction Indicator Barricades shall be constructed from non-metallic Type II barricades meeting the requirements of Article 1106.02 of the Standard Specifications, except where modified by this detail.
- 2) The Direction Indicator Barricades shall be equipped with Type C steady burning lights if used to channelize traffic during the hours of darkness.
- 3) The reflective sheeting for the top panel shall be Type AZ fluorescent orange. The diagonal panels shall have orange and white Type A or better reflective sheeting.



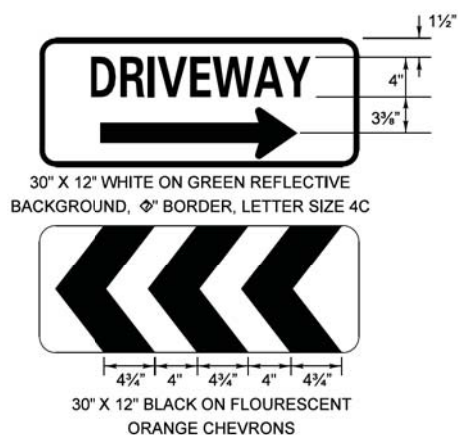
REVISIONS	DATE	APPROVED BY:	DATE:
Text Update	7/15/11	ANTHONY KHAWAJA	APRIL 1, 2007
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE			
DIRECTION INDICATOR BARRICADES			
LC7200			



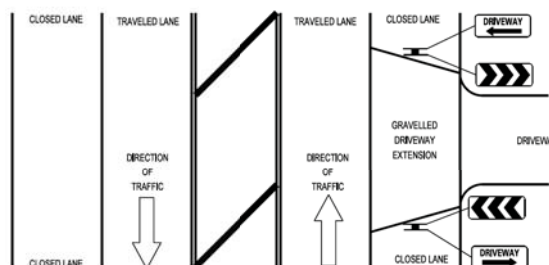
48" X 36"
BLACK ON FLUORESCENT ORANGE
REFLECTIVE BACKGROUND
1" BORDER WITH 1/4" INSET
LETTER SIZE 6D
*LETTER SIZE 6E BOLD

REVISIONS	DATE	APPROVED BY:	DATE:
Revised Signs & Text	1/1/09	A KHAWAJA	APRIL 1, 2007
Text Update	7/15/11		
TEMPORARY CONSTRUCTION INFORMATION SIGNS			
SHEET 2 OF 2			
LC7201			

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



EXAMPLE OF DRIVEWAY SIGN ASSEMBLY INSTALLATION



TEMPORARY CONSTRUCTION INFORMATION SIGNING NOTES:

1. The driveway and chevron signs shall be mounted back to back on the near side of the roadway where the entrance is located. There will be two sign assemblies per driveway.
2. Temporary construction information signs shall be post mounted 7' above the near edge of pavement and shall be a minimum of 6' beyond the edge of the nearest traveled lane, or as directed by the Engineer.
3. The retroreflective sign face shall be a minimum of Type "A" material.
4. The temporary construction information signs shall be removed or relocated when the Engineer determines the signs to be no longer necessary.
5. Existing traffic control signs and messages that are in conflict with the proposed maintenance of traffic shall be covered or modified with a temporary overlay as shown in the plans and/or as directed by the Engineer.
6. Install additional temporary sign panel assemblies as shown in the plans and/or directed by the Engineer.

REVISIONS	DATE	APPROVED BY:	DATE:
Revised Signs & Text	1/1/09	A KHAWAJA	APRIL 1, 2007
Text Update	7/15/11		
TEMPORARY CONSTRUCTION INFORMATION SIGNS			
SHEET 1 OF 2			
LC7201			



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DESIGNED - PK	REVISED -
DRAWN - JRR	REVISED -
CHECKED - RTM	REVISED -
DATE - 11/13/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

LC DOT HIGHWAY STANDARDS

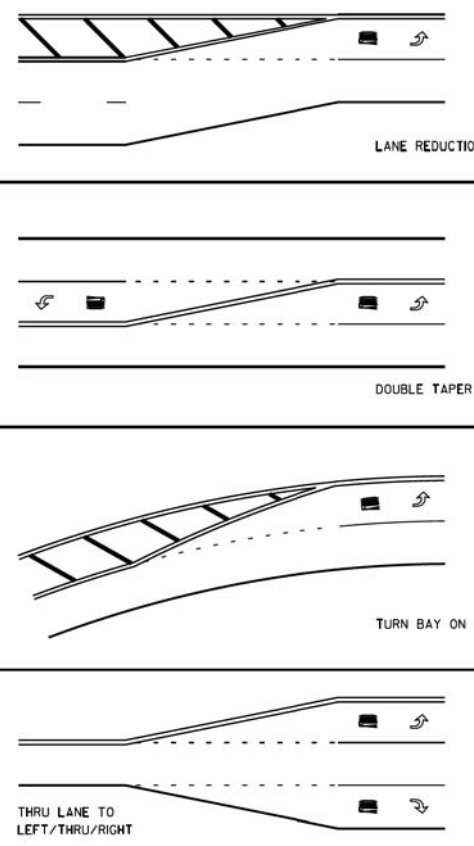
SHEET NO. 11 OF 15 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	364
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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

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

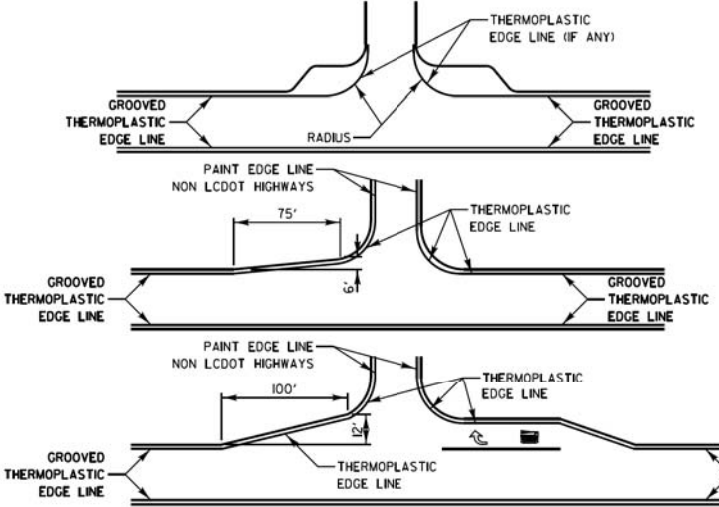
TYPICAL MINI-SKIP PAVEMENT MARKINGS



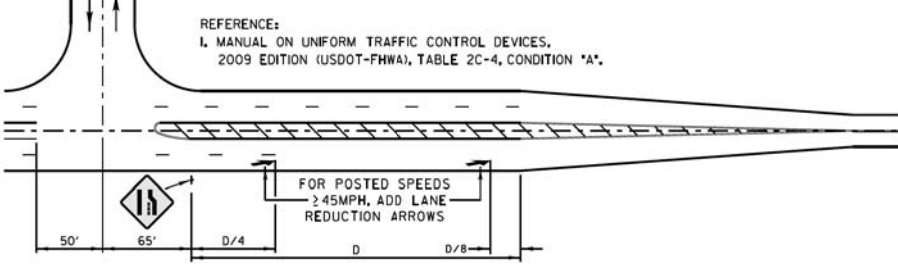
MINI-SKIPS ARE 2 FEET WHITE LINE WITH 6 FEET SPACING. THE MINI-SKIP IS THE SAME WIDTH AS THE PAVEMENT MARKING LINE, IT EXTENDS.

TYPICAL PAVEMENT MARKINGS

EDGE LINE RADII AT SIDE STREETS

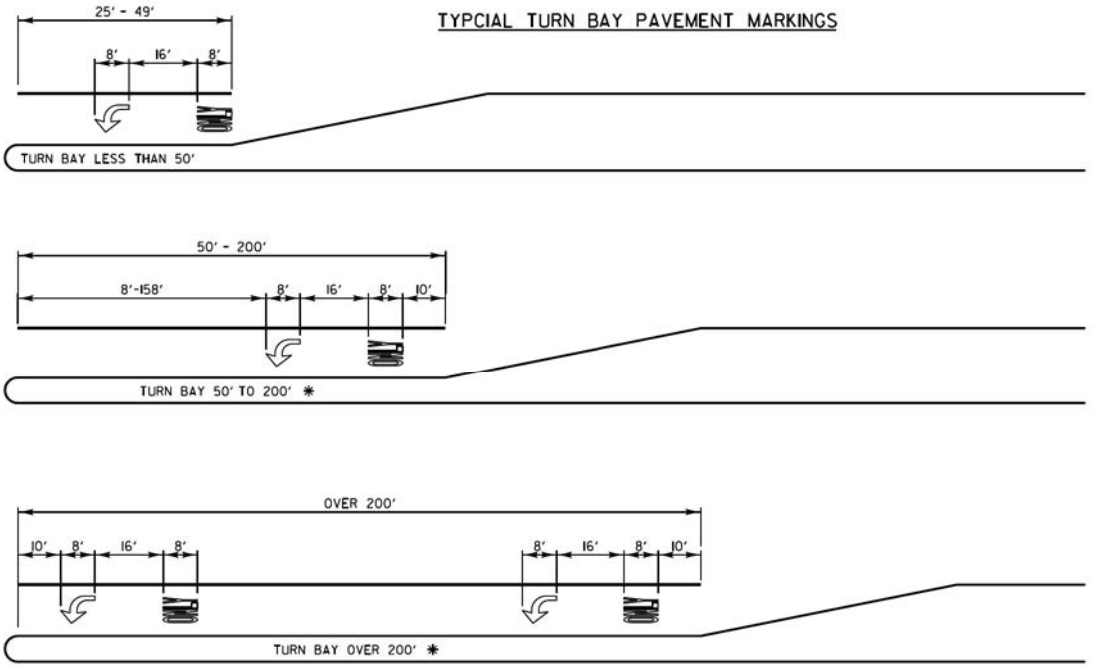


LANE REDUCTION ARROW PLACEMENT



DESIGN SPEED MPH	D (FEET)
<45	VARIABLE
45	775' (D)
50	885' (D)
55	990' (D)

TYPICAL TURN BAY PAVEMENT MARKINGS



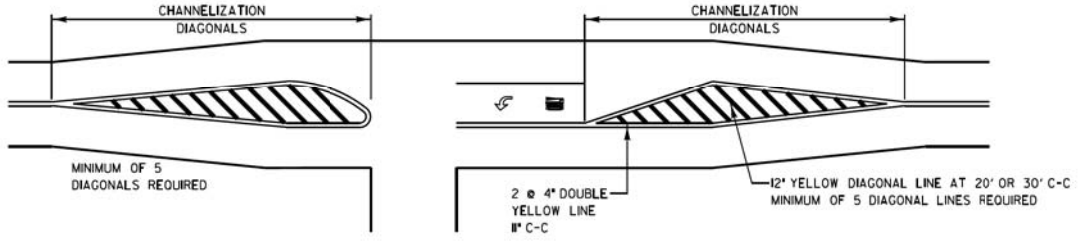
* AT INTERSECTIONS WITH VIDEO DETECTION, THE ARROW AND ONLY PAVEMENT MARKINGS SHALL BE A MINIMUM OF 30' BEHIND THE STOP BAR.

AREA = 15.6 SQ. FT.

AREA = 20.8 SQ. FT.

FULL SIZE LETTERS (8") AND ARROWS SHALL BE USED. TURN LANES IN EXCESS OF 400' IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW W/ "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW W/ "ONLY".

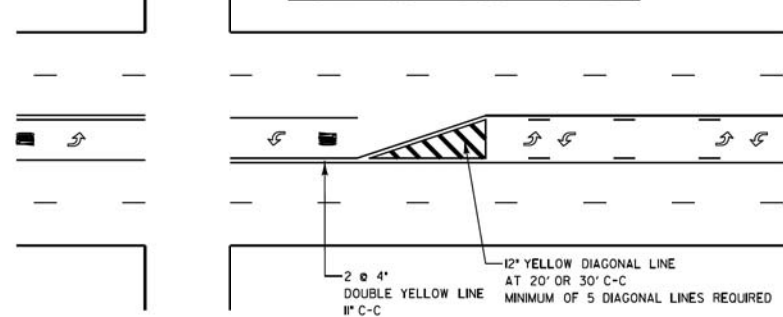
TWO LANE ROAD



TYPICAL DIAGONAL SPACING

SPEED LIMIT RANGE	DIAGONAL SPACING	
	CONTINUOUS	INTERSECTION CHANNELIZATION
30-45 MPH	75 FT.	20 FT.
OVER 45 MPH	150 FT.	30 FT.

TWO-WAY LEFT TO LEFT TURN BAY



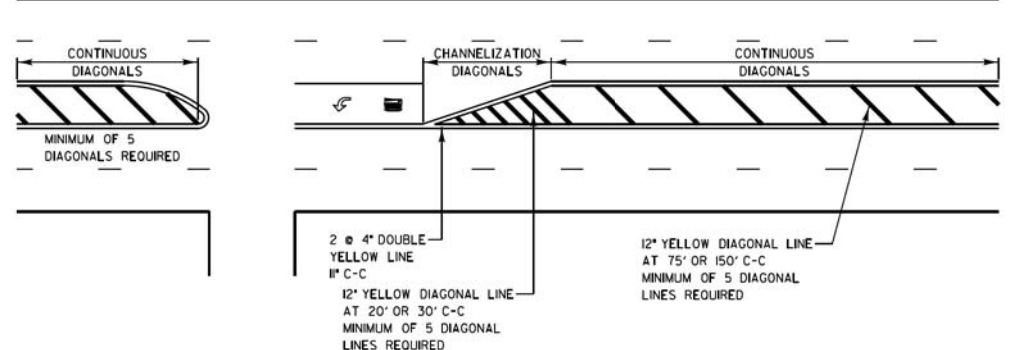
DUAL LEFT TURN ARROWS



A MINIMUM OF TWO PAIRS OF DUAL LEFT TURN ARROWS SHALL BE USED. THE DUAL LEFT TURN ARROWS SHALL BE WHITE IN COLOR, THE INTERVAL BETWEEN SETS OF DUAL LEFT TURN ARROWS SHOULD BE 200' AND 300'.

31.2 SQ. FT. MINIMUM OF 2 SETS REQUIRED

3 OR 5 LANE ROAD



REVISIONS	DATE
SEPARATED RAILROAD SHEET	06/02/08
ADDED LANE REDUCTION ARROWS	07/11/12
RAISED TO RECESSED MARKERS	12/2/13
REMOVE STATION NUMBERS	5/30/14
THERMO EDGELINES at RETURNS	11/18/16
ALL PM TO GROOVED THERMO	1/26/17
REVISED EDGELINES at RETURNS	4/10/17

LakeCounty Division of Transportation

APPROVED BY: A. KHAWAJA DATE: APRIL 1, 2007

TYPICAL PAVEMENT MARKINGS FOR COUNTY HIGHWAYS

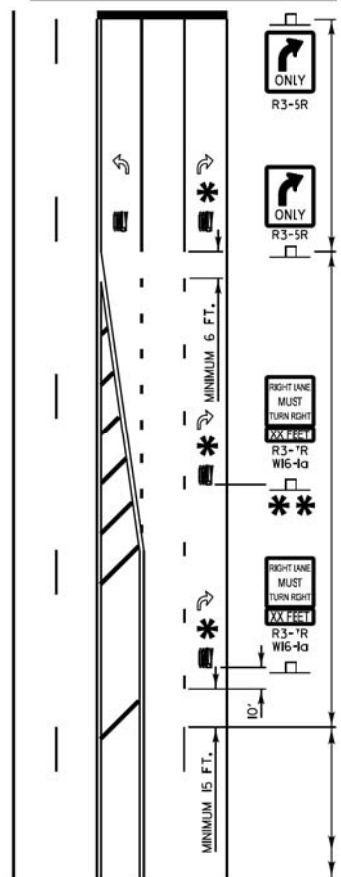
SHEET 1 OF 2

LC7800

DATE	BY	SURVEYED	PLOTTED	TEMPLATE	NO.

DATE	BY	SURVEYED	PLOTTED	TEMPLATE	NO.

THRU LANE TO
TURN LANE CONVERSION



TURN LANE
6' WHITE LINE
(ADDITIONAL PAVEMENT MARKINGS AS SHOWN
ON SHEET ONE OF THE L.C.D.O.T. TYPICAL
PAVEMENT MARKINGS DETAIL SHEETS)

TRANSITION ZONE
6' WHITE 3/12' SKIP DASH
LANE LINE

MINIMUM TRANSITION ZONE LENGTH

POSTED SPEED	LENGTH
25 M.P.H.	255 FT
30 M.P.H.	330 FT
35 M.P.H.	405 FT
40 M.P.H.	480 FT
45 M.P.H.	555 FT
50 M.P.H.	630 FT
55 M.P.H.	705 FT

* LOCATION OF PAV'T MARKINGS
(MEASURED FROM BEGINNING OF TRANSITION ZONE)

POSTED SPEED	LOCATION OF PAV'T MARKINGS
25 M.P.H.	10 FT, 260 FT
30 M.P.H.	10 FT, 170 FT, 340 FT
35 M.P.H.	10 FT, 210 FT, 410 FT
40 M.P.H.	10 FT, 170 FT, 330 FT, 490 FT
45 M.P.H.	10 FT, 190 FT, 370 FT, 560 FT
50 M.P.H.	10 FT, 170 FT, 330 FT, 490 FT, 640 FT
55 M.P.H.	10 FT, 180 FT, 350 FT, 520 FT, 710 FT

** FOR POSTED SPEEDS 40 M.P.H. OR GREATER
A SECOND R3-7/W16-1g SIGN INSTALLATION
SHALL BE LOCATED HALFWAY BETWEEN THE
BEGINNING OF THE TRANSITION ZONE AND THE
BEGINNING OF THE TURN LANE

THRU LANE
4' WHITE 10'/30' SKIP DASH
LANE LINE

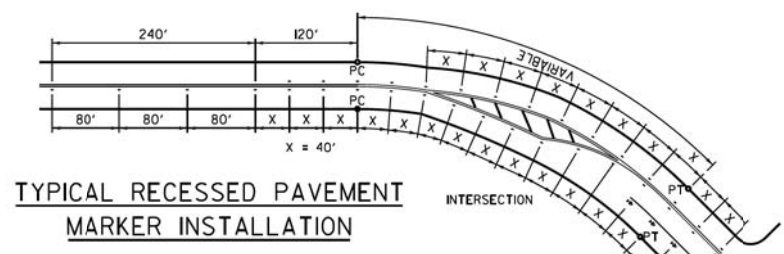
PAVEMENT MARKING GUIDELINES

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE OF 2 LANE PAVEMENT	4 IN.	SKIP-DASH	YELLOW	10 FT. LINE WITH 30 FT. SPACE
NO PASSING ZONE LINES FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 IN.	SOLID	YELLOW	5 1/2 IN. C-C FROM SKIP-DASH CENTERLINE 11IN. C-C (OMIT SKIP-DASH CENTERLINE BETWEEN)
CENTERLINE ON MULTI-LANE UNDIVIDED LANE LINES	2 @ 4 IN.	SOLID	YELLOW	11 IN. C-C
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2 FT. LINE WITH 6 FT. SPACE
EDGE LINES	5 IN. WHITE 4 IN. YELLOW	SOLID	WHITE - RIGHT YELLOW - LEFT	OUTLINE RAISED MEDIANS IN YELLOW
TURN LANE MARKINGS	6 IN. LINE FULL SIZE LETTERS AND SYMBOLS (8 FT.)	SOLID	WHITE	TURN ARROW 15.6 SO. FT. STRAIGHT ARROW 11.5 SO. FT. ONLY 20.8 SO. FT. COMB. ARROW 26.0 SO. FT.
TWO WAY LEFT TURN MARKING	2 @ 4 IN. EACH DIRECTION 8 FT. LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10 FT. LINE WITH 30 FT. SPACE FOR SKIP-DASH 5 1/2 IN. C-C BETWEEN SKIP-DASH LINE AND SOLID LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK	12 IN. @ 30"	SOLID	WHITE	12 IN. LONGITUDINAL BAR WITH 24 IN. SPACE 6 FT. TO 12 FT. WIDE SEE TYPICAL CROSSWALK MARKING DETAIL
STOP BARS	24 IN.	SOLID	WHITE	PLACE 4 FT. IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT, OTHERWISE PLACE AT DESIRED STOPPING POINT.
PAINTED MEDIANS	2 @ 4 IN. @ 1 IN. C-C 12 IN. DIAGONALS @ 45° NO DIAGONALS USED FOR 4 FT. WIDE MEDIAN	SOLID	YELLOW; 2-WAY TRAFFIC WHITE; 1-WAY TRAFFIC	11 IN. C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING DETAIL MINIMUM OF 5 DIAGONALS
CORE MARKING AND CHANNELIZING LINES	8 IN. WITH 2 IN. DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS 15 FT. C-C (LESS THAN 30 M.P.H.) 20 FT. C-C (30 TO 45 M.P.H.) 30 FT. C-C (OVER 45 M.P.H.) MINIMUM OF 5 DIAGONALS
R.R. CROSSING	24 IN. TRANSVERSE LINES RR IS 6 FT.-LETTER 16 IN. LINE FOR "X"	SOLID	WHITE	SEE I.D.O.T. STD. 78000 50 FT. AREA OF: "R" = 3.6 SO. FT. / "R" "X" = 54.0 SO. FT.
SHOULDER DIAGONALS (FOR PAVED SHOULDER 2 6 FT.)	12 IN. @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50 FT. C-C (LESS THAN 30 M.P.H.) 75 FT. C-C (30 TO 45 M.P.H.) 150 FT. C-C (OVER 45 M.P.H.) MINIMUM OF 5 DIAGONALS

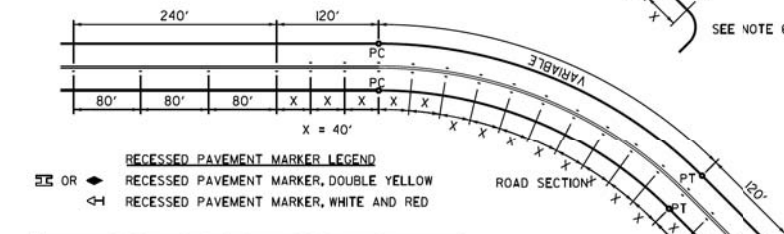
ALL PAVEMENT MARKINGS TO BE GROOVED THERMOPLASTIC, UNLESS OTHERWISE SPECIFIED BY THE ENGINEER

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO PART II "MARKINGS" IN THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", AND THE LATEST I.D.O.T. HIGHWAY STANDARD 78000.

TYPICAL PAVEMENT MARKINGS AND RECESSED PAVEMENT MARKERS

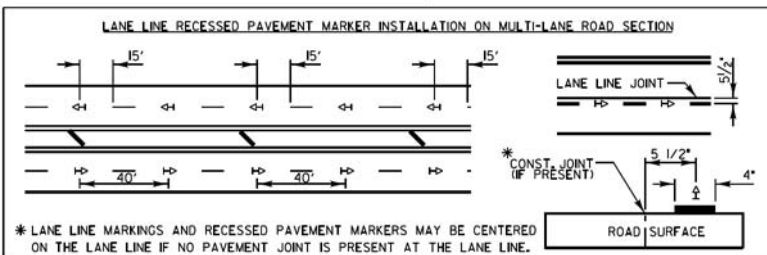
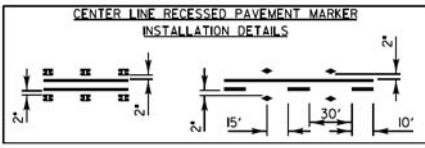


TYPICAL RECESSED PAVEMENT MARKER INSTALLATION

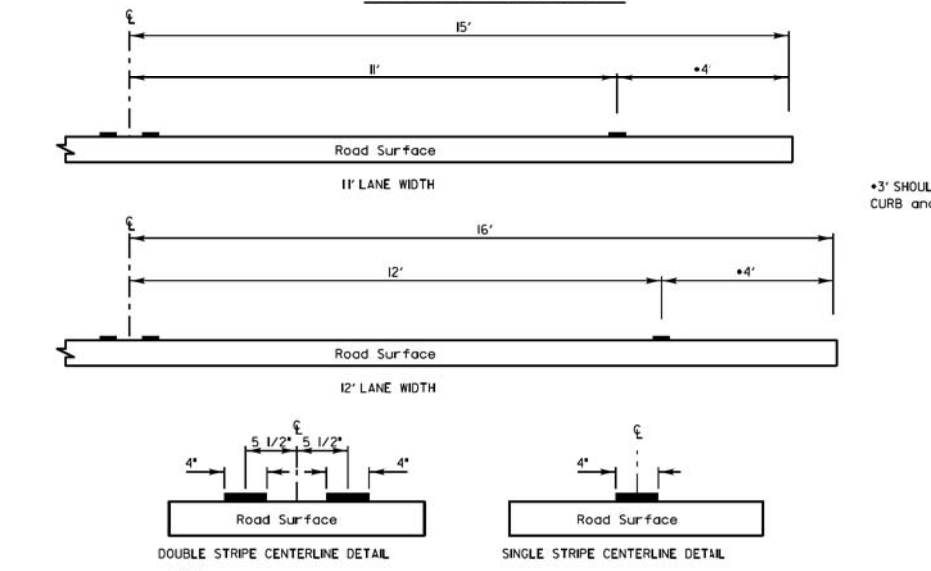


- RECESSED PAVEMENT MARKER NOTES:
- CENTERLINE RECESSED PAVEMENT MARKERS (RPM'S) SHALL BE PLACED ON ALL TWO AND THREE LANE HIGHWAYS WITH CURVES OVER 3 1/2 DEGREES, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
 - SPACING = 40' FOR CENTERLINE MARKERS.
 - ALL RPM'S ON CENTERLINE ARE 2-WAY YELLOW. LANE LINE MARKERS ARE WHITE/RED.
 - MARKERS SHALL BE INSTALLED ACCORDING TO F.H.W.A. MEMORANDUM H10-21.
 - MARKERS SHALL BE FIELD ADJUSTED TO BE LOCATED IN CENTER OF THE 30' GAP OF A 30'/10' SKIP/DASH CENTERLINE.
 - RPM'S WHICH ARE TO BE LOCATED WITHIN THE INTERSECTION OF A CROSS STREET, SHALL NOT BE INSTALLED.
 - A MINIMUM OF 4 WHITE/RED MARKERS SHALL BE INSTALLED ALONG THE TURN LANE LINE.
 - RPM'S INSTALLED ON MULTI-LANE ROAD SECTIONS SHALL BE INSTALLED ON THE WHITE SKIP-DASH LANE LINE ONLY. THESE RPM'S SHALL BE LOCATED IN CENTER OF THE 30' GAP OF A 30'/10' SKIP/DASH LANE LINE.

RECESSED PAVEMENT MARKER LEGEND

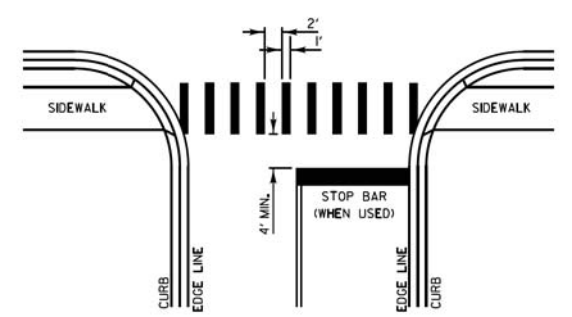


PAVEMENT CROSS SECTION SHOWING TYPICAL PAVEMENT MARKINGS (2-LANE ROADWAY)



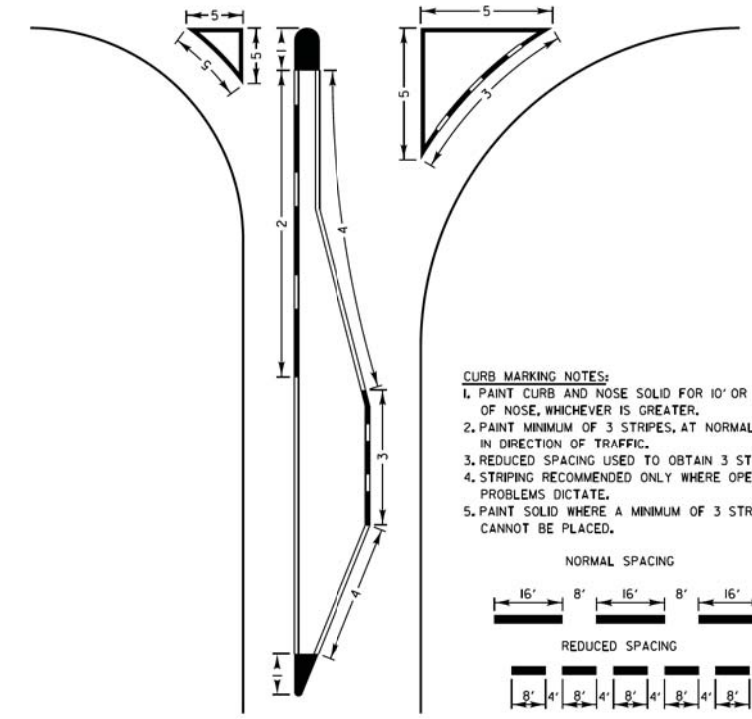
DOUBLE STRIPE CENTERLINE DETAIL
 NOTE:
 CENTERLINE MARKINGS ARE 4" LINES AT 1" CENTERS.

CROSSWALKS



- CROSSWALK NOTES:
- THE WIDTH OF THE CROSSWALK IS GENERALLY 6' EXCEPT AT SCHOOL CROSSINGS AND MULTIUSE PATH CROSSINGS, WHICH CAN BE 8' OR 10' WIDE.
 - THE STOP BAR SHALL BE INSTALLED A MINIMUM OF 4' IN ADVANCE OF THE CROSSWALK.

CURB MARKING



- CURB MARKING NOTES:
- PAINTE CURB AND NOSE SOLID FOR 10' OR RADIUS OF NOSE, WHICHEVER IS GREATER.
 - PAINTE MINIMUM OF 3 STRIPES, AT NORMAL SPACING, IN DIRECTION OF TRAFFIC.
 - REDUCED SPACING USED TO OBTAIN 3 STRIPE MINIMUM.
 - STRIPING RECOMMENDED ONLY WHERE OPERATIONAL PROBLEMS DICTATE.
 - PAINTE SOLID WHERE A MINIMUM OF 3 STRIPES CANNOT BE PLACED.

REVISIONS	DATE
SEPARATED RAILROAD SHEET	06/02/08
REVISED RPM DETAILS	07/1/12
RAISED TO RECESSED MARKERS	12/2/13
REMOVE STATION NUMBERS	5/30/14
THERMO EDGELINES at RETURNS	11/18/16
ALL PM TO GROOVED THERMO	1/26/17
REVISED EDGELINES at RETURNS	4/10/17

LakeCounty
Division of Transportation

APPROVED BY: A. KHAWAJA
DATE: APRIL 1, 2007

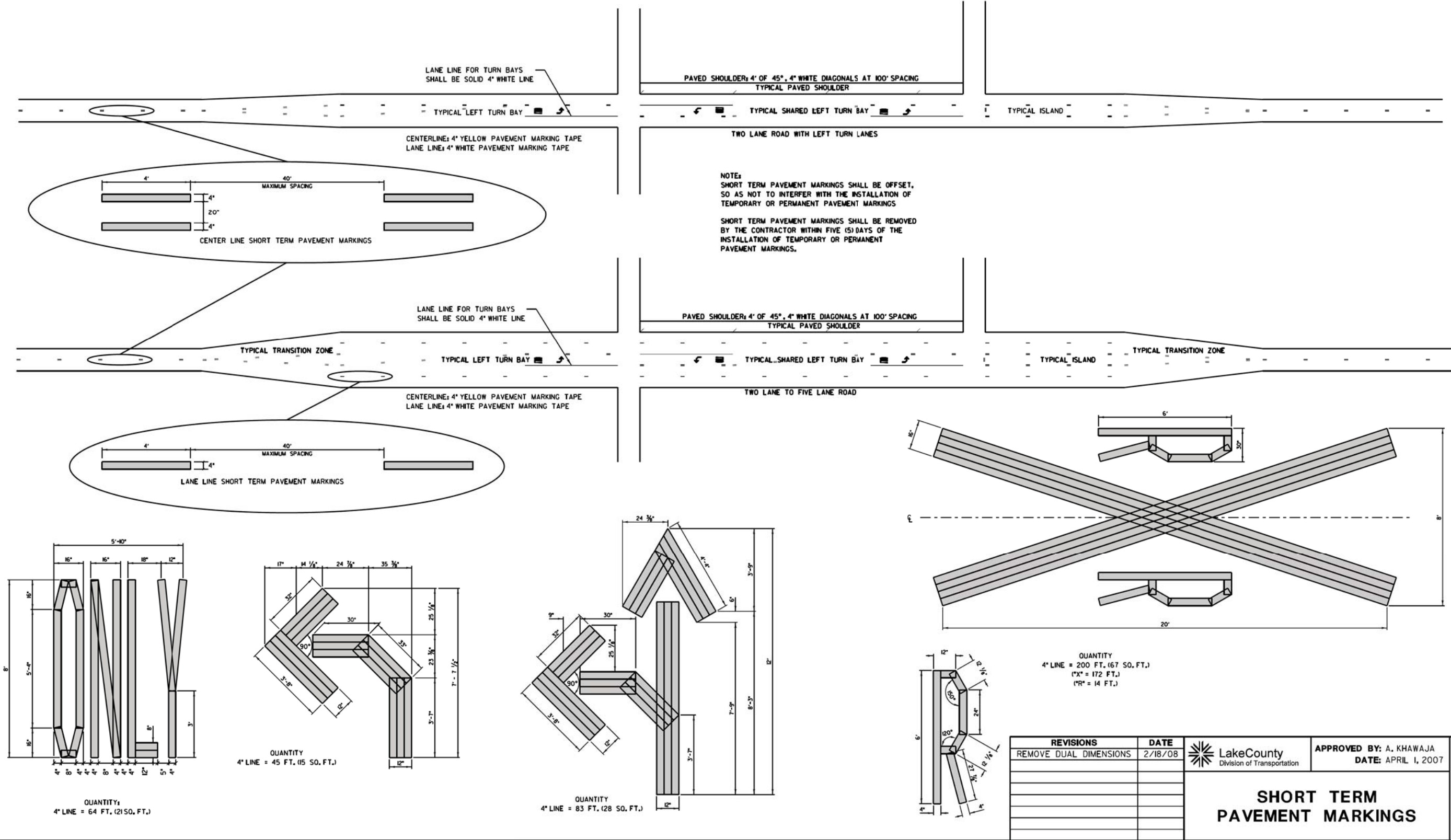
TYPICAL PAVEMENT MARKINGS FOR COUNTY HIGHWAYS
SHEET 2 OF 2

LC7800

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

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

TYPICAL SHORT TERM PAVEMENT MARKINGS



REVISIONS	DATE
REMOVE DUAL DIMENSIONS	2/18/08

Lake County
Division of Transportation

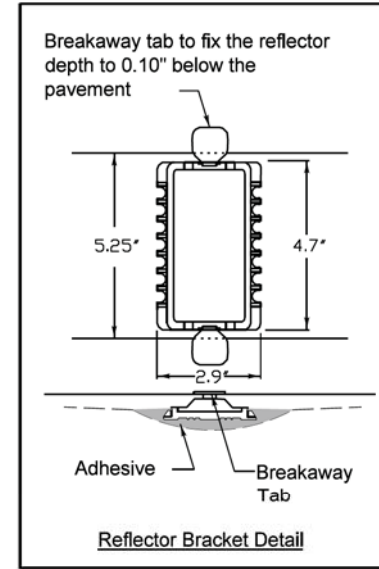
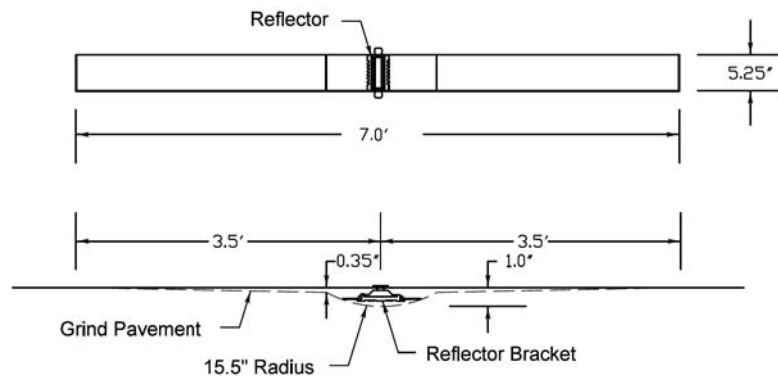
APPROVED BY: A. KHAWAJA
DATE: APRIL 1, 2007

SHORT TERM PAVEMENT MARKINGS

LC7802

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

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



Notes

1. The reflective pavement marker lens shall be a 3M 190 series pavement marker or an approved equal.
 2. The reflector bracket shall be made of a polycarbonate and shall be a MarkerOne Series R100 or an approved equal.
 3. The adhesive used shall meet the requirements of AASHTO M237 specification for adhesives to be used in cementing asphalt surfaces.
- Markers shall be placed at 40' intervals on lane lines and painted medians and 40' intervals on curves and approaching intersections as shown on LCDOT standard LC7800.

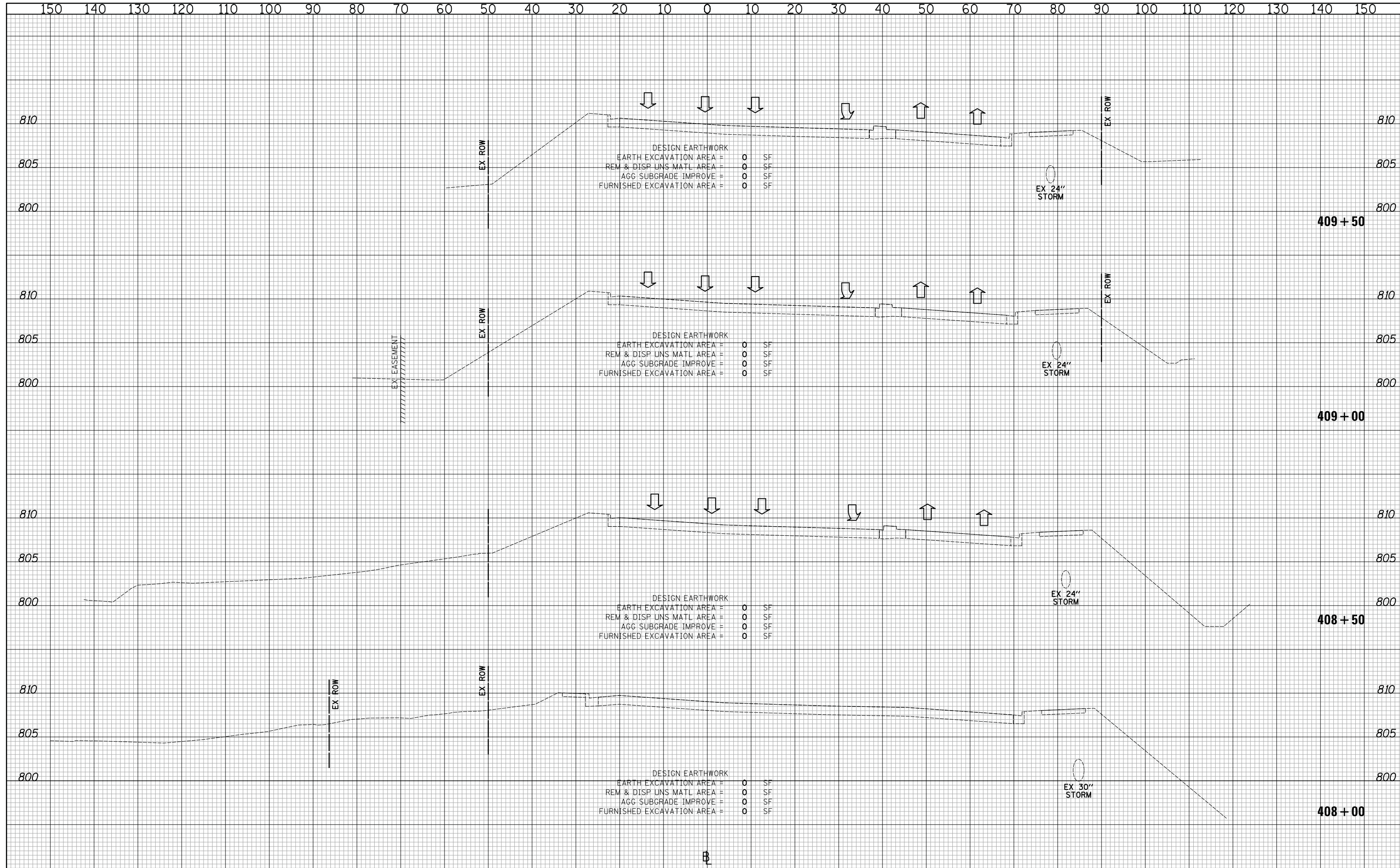
REVISIONS	DATE	APPROVED BY: JN DATE: 12/02/13

RECESSED REFLECTIVE PAVEMENT MARKER

LC7805

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	



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DATE - 11/13/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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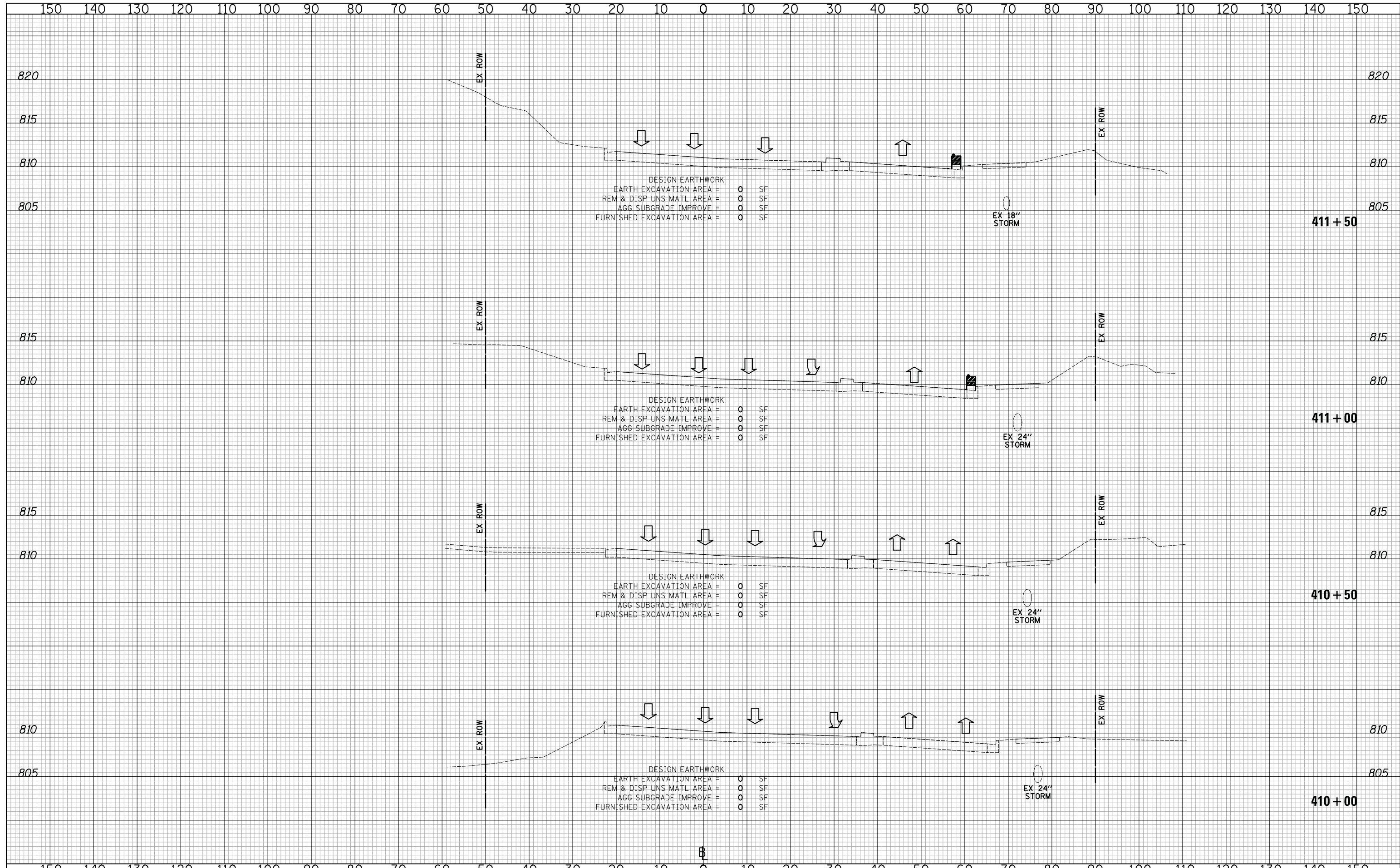
SCALES

CROSS SECTIONS STAGE I - QUENTIN ROAD
 SHEET NO. 1 OF 89 SHEETS STA. 408+00 TO STA. 409+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	369
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				CONTRACT NO. 61E22

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

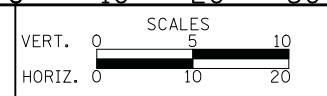
DATE	
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PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
ORIGINAL SURVEY	
NOTE BOOK	
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DATE - 11/13/2017	REVISED -

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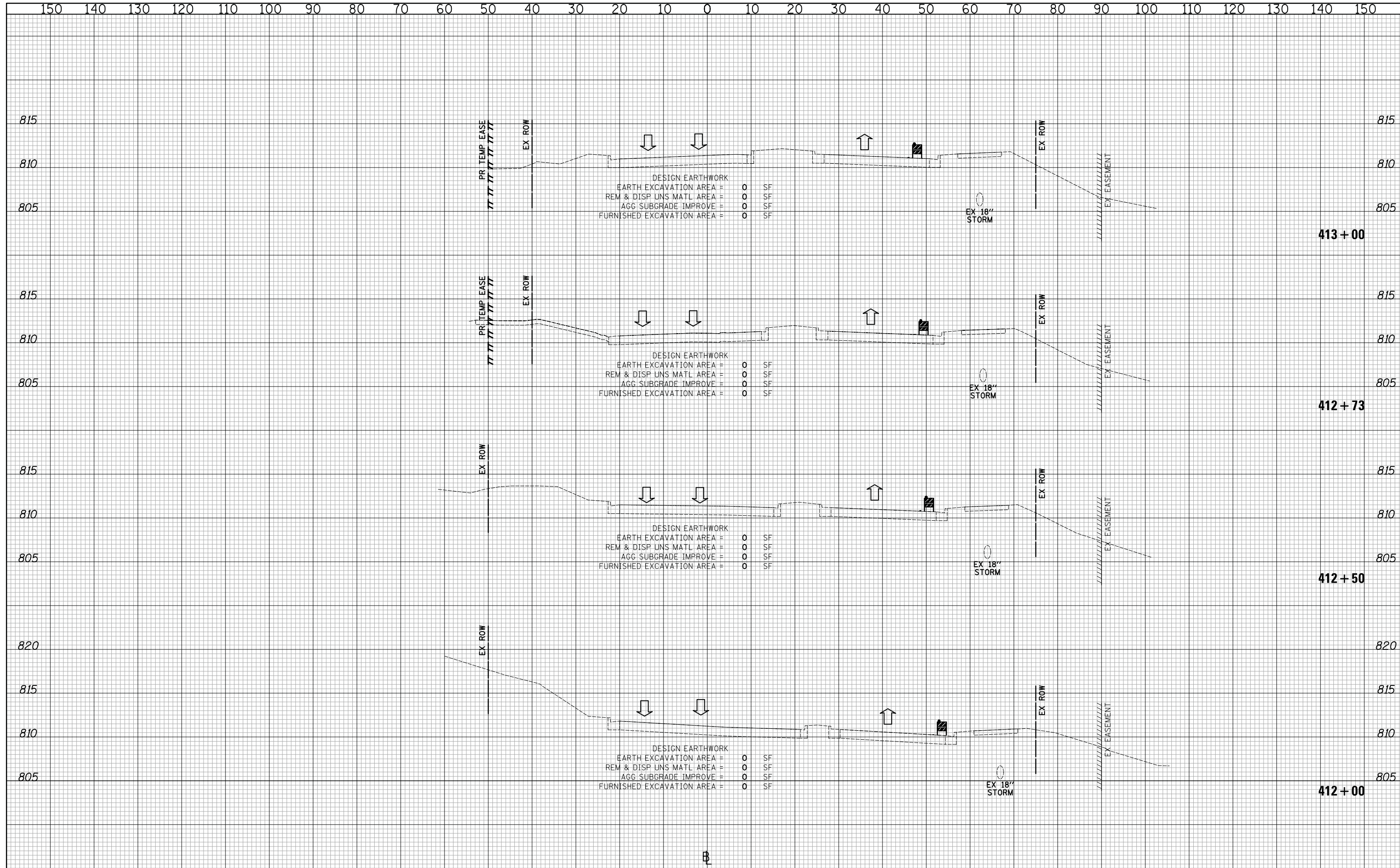
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 2 OF 89 SHEETS STA. 410+00 TO STA. 411+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	370
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				CONTRACT NO. 61E22

DATE	
BY	
FINISHED SURVEY	
PLOTTED TEMPLATE	
NOTE BOOK AREAS CHECKED	
NO.	

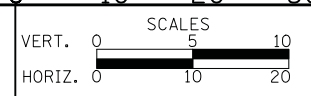
DATE	
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ORIGINAL SURVEY	
PLOTTED TEMPLATE	
NOTE BOOK AREAS CHECKED	
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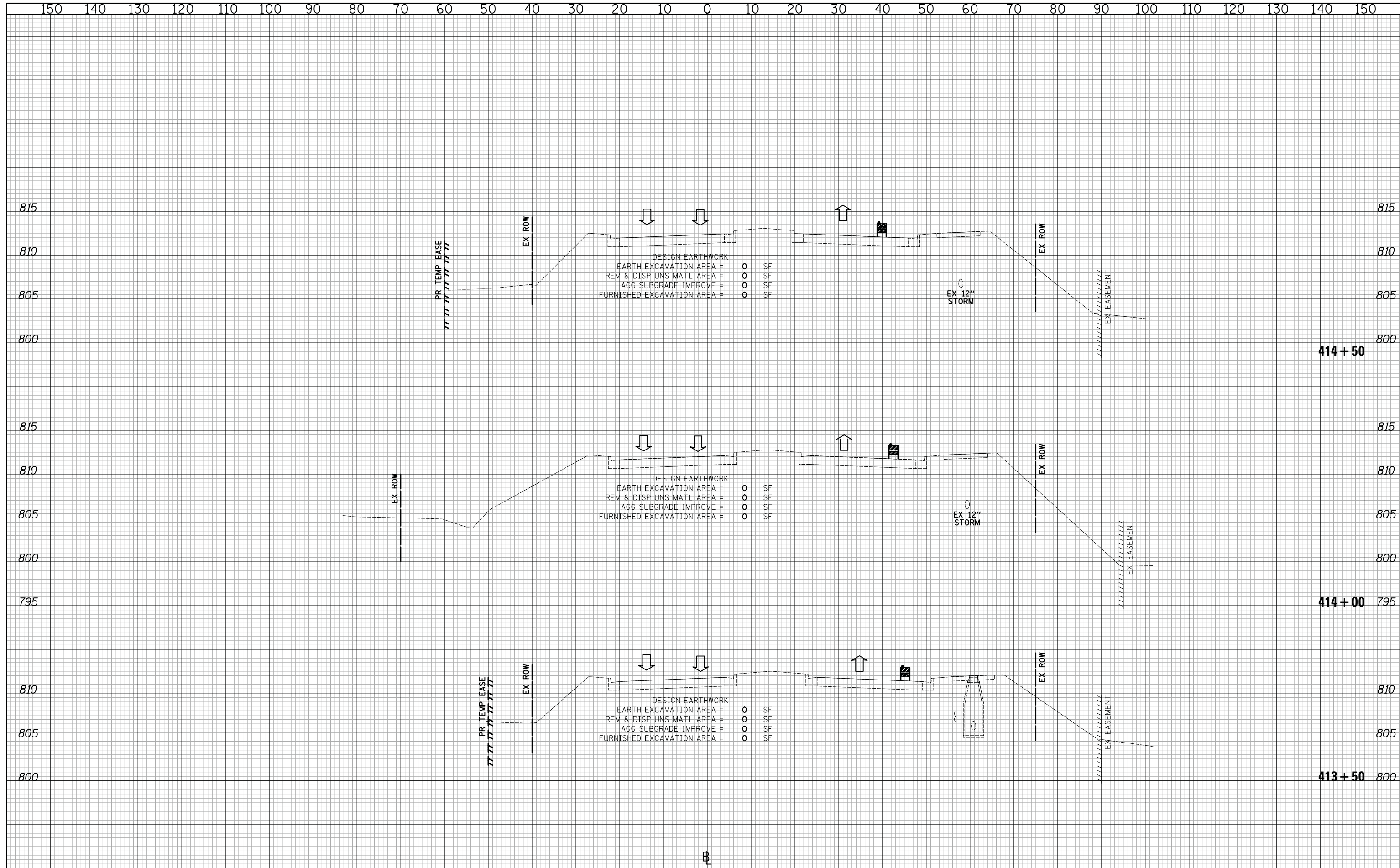
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 3 OF 89 SHEETS STA. 412+00 TO STA. 413+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	371
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
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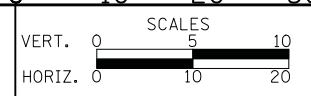
DATE	
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SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
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CHECKED - RTM	REVISED -
DATE - 11/13/2017	REVISED -

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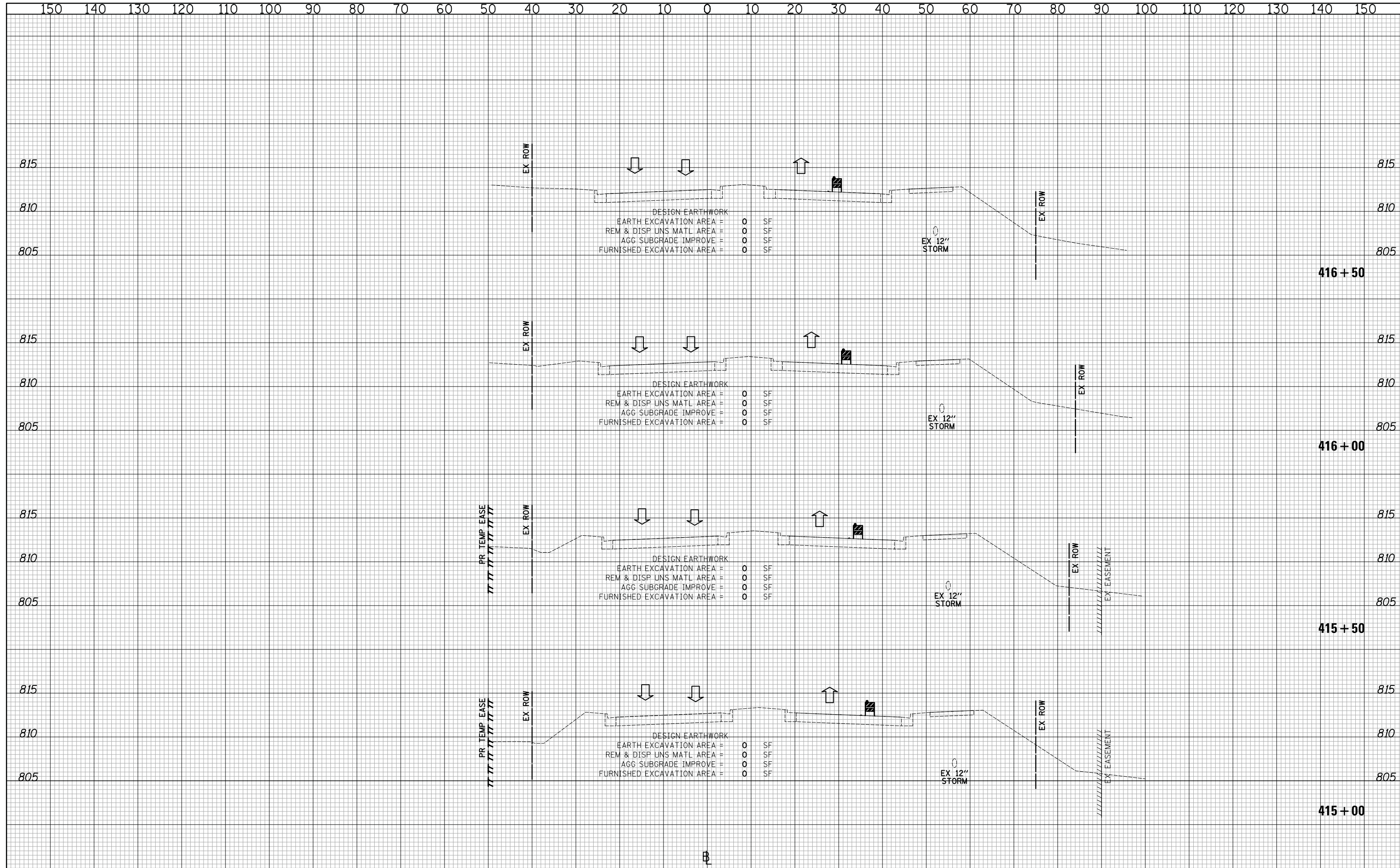
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 4 OF 89 SHEETS STA. 413+50 TO STA. 414+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	372
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

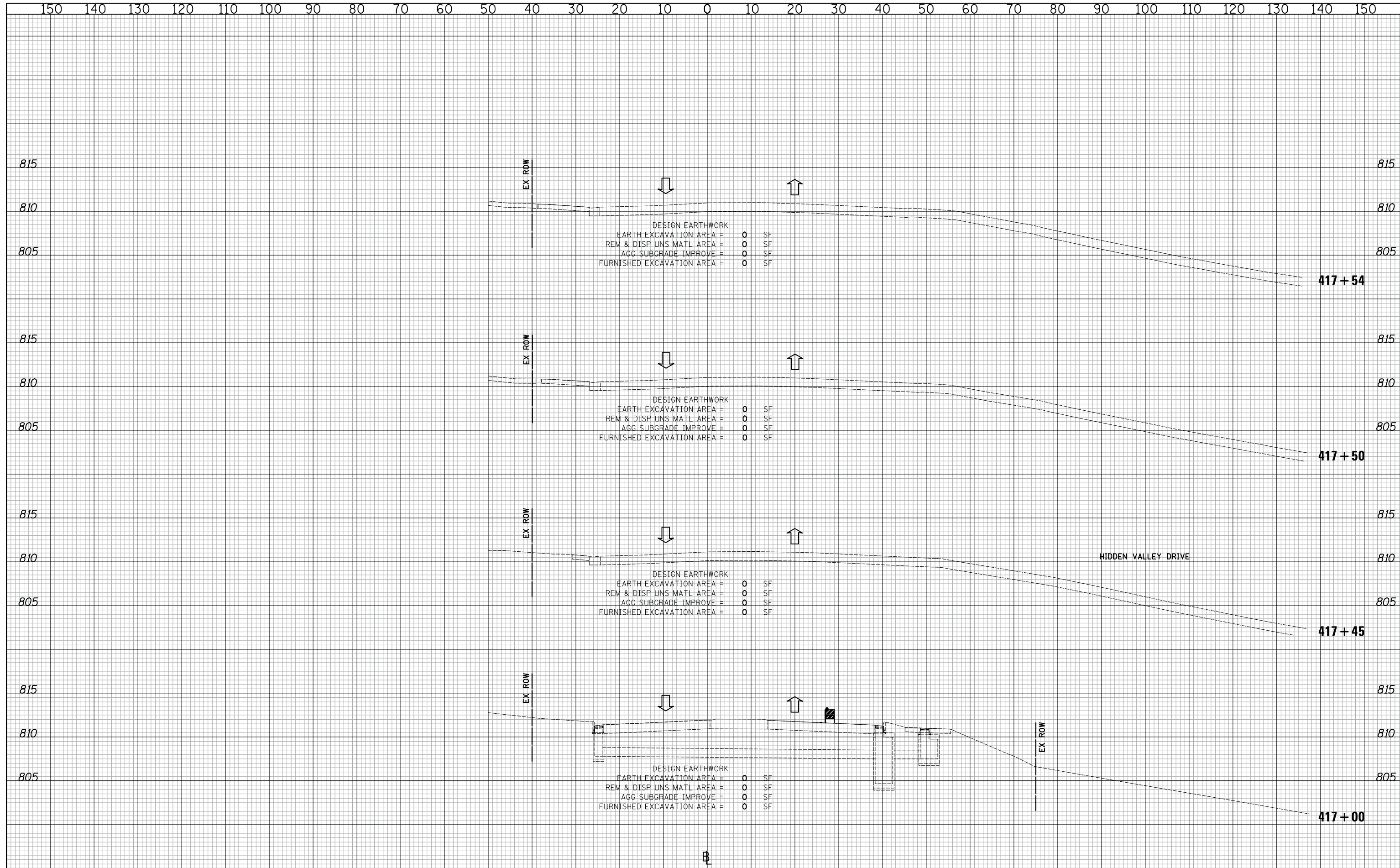
DATE	
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SURVEYED	
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TEMPLATE	
AREAS CHECKED	
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DATE	
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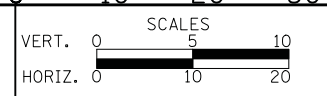
DATE	
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PLOTTED	
TEMPLATE	
AREAS	
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DATE - 11/13/2017	REVISED -

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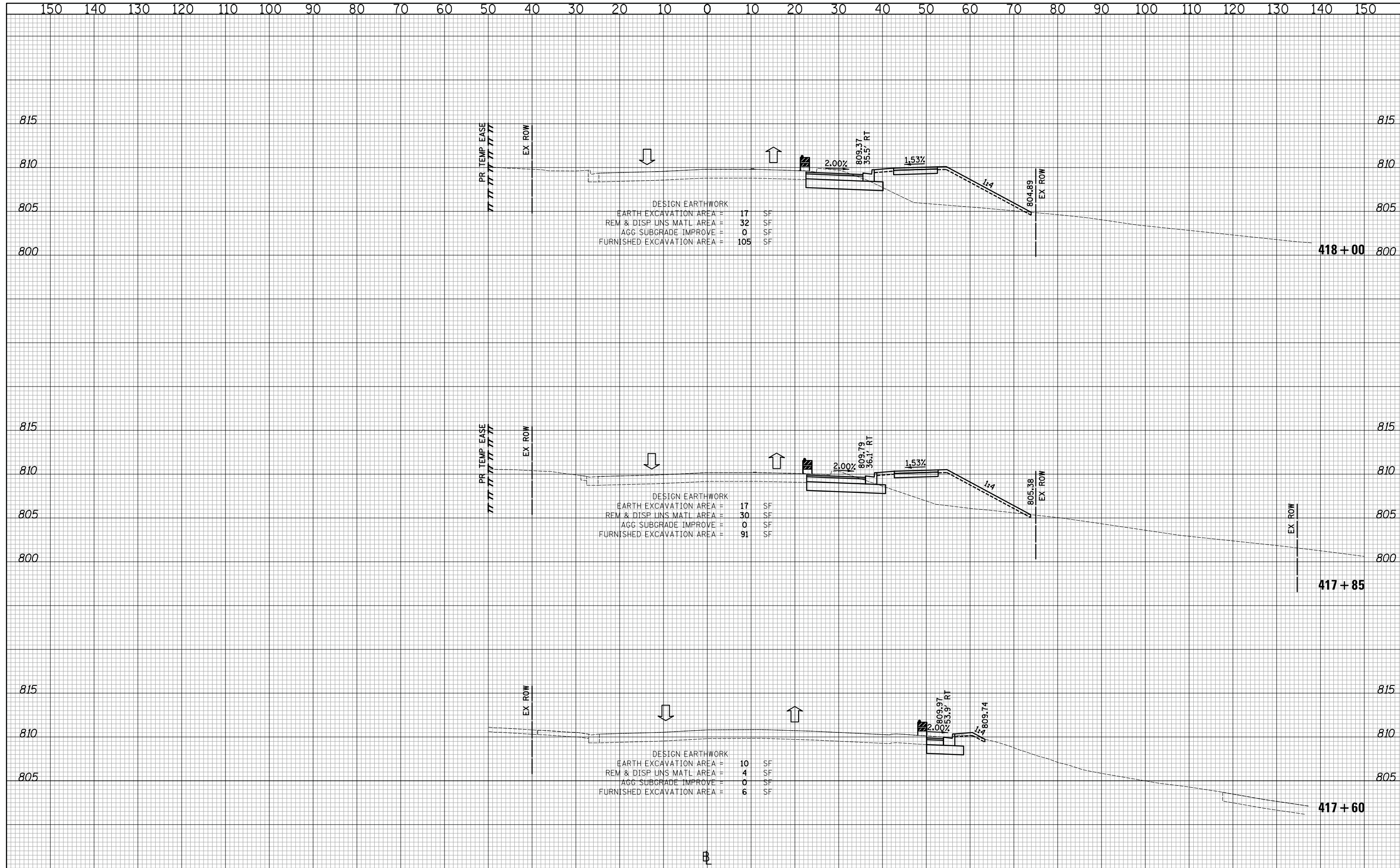


CROSS SECTIONS STAGE I - QUENTIN ROAD
 SHEET NO. 6 OF 89 SHEETS STA. 417+00 TO STA. 417+54

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	374
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				CONTRACT NO. 61E22

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

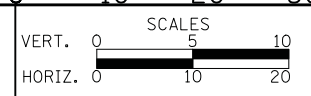
DATE	
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ORIGINAL SURVEY NO.	
SURVEYED PLOTTED AREAS CHECKED	
TEMPLATE AREAS CHECKED	
NOTE BOOK AREAS CHECKED	



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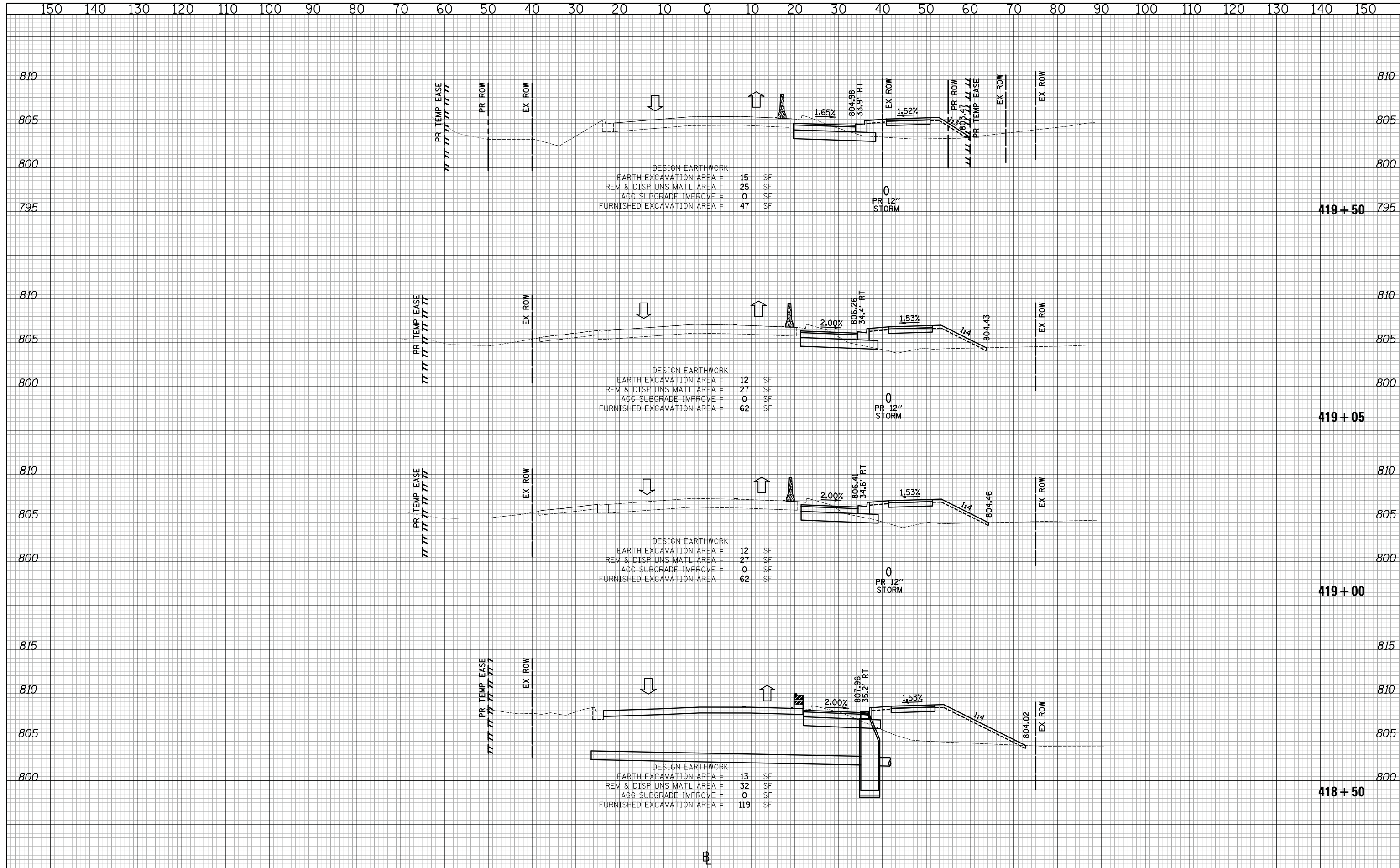
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 7 OF 89 SHEETS STA. 417+60 TO STA. 418+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	375
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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

DATE	
BY	
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ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
AREAS CHECKED	



DESIGN EARTHWORK
 EARTH EXCAVATION AREA = 15 SF
 REM & DISP UNS MATL AREA = 25 SF
 AGG SUBGRADE IMPROVE = 0 SF
 FURNISHED EXCAVATION AREA = 47 SF

DESIGN EARTHWORK
 EARTH EXCAVATION AREA = 12 SF
 REM & DISP UNS MATL AREA = 27 SF
 AGG SUBGRADE IMPROVE = 0 SF
 FURNISHED EXCAVATION AREA = 62 SF

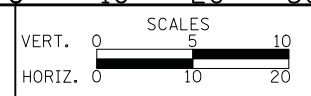
DESIGN EARTHWORK
 EARTH EXCAVATION AREA = 12 SF
 REM & DISP UNS MATL AREA = 27 SF
 AGG SUBGRADE IMPROVE = 0 SF
 FURNISHED EXCAVATION AREA = 62 SF

DESIGN EARTHWORK
 EARTH EXCAVATION AREA = 13 SF
 REM & DISP UNS MATL AREA = 32 SF
 AGG SUBGRADE IMPROVE = 0 SF
 FURNISHED EXCAVATION AREA = 119 SF

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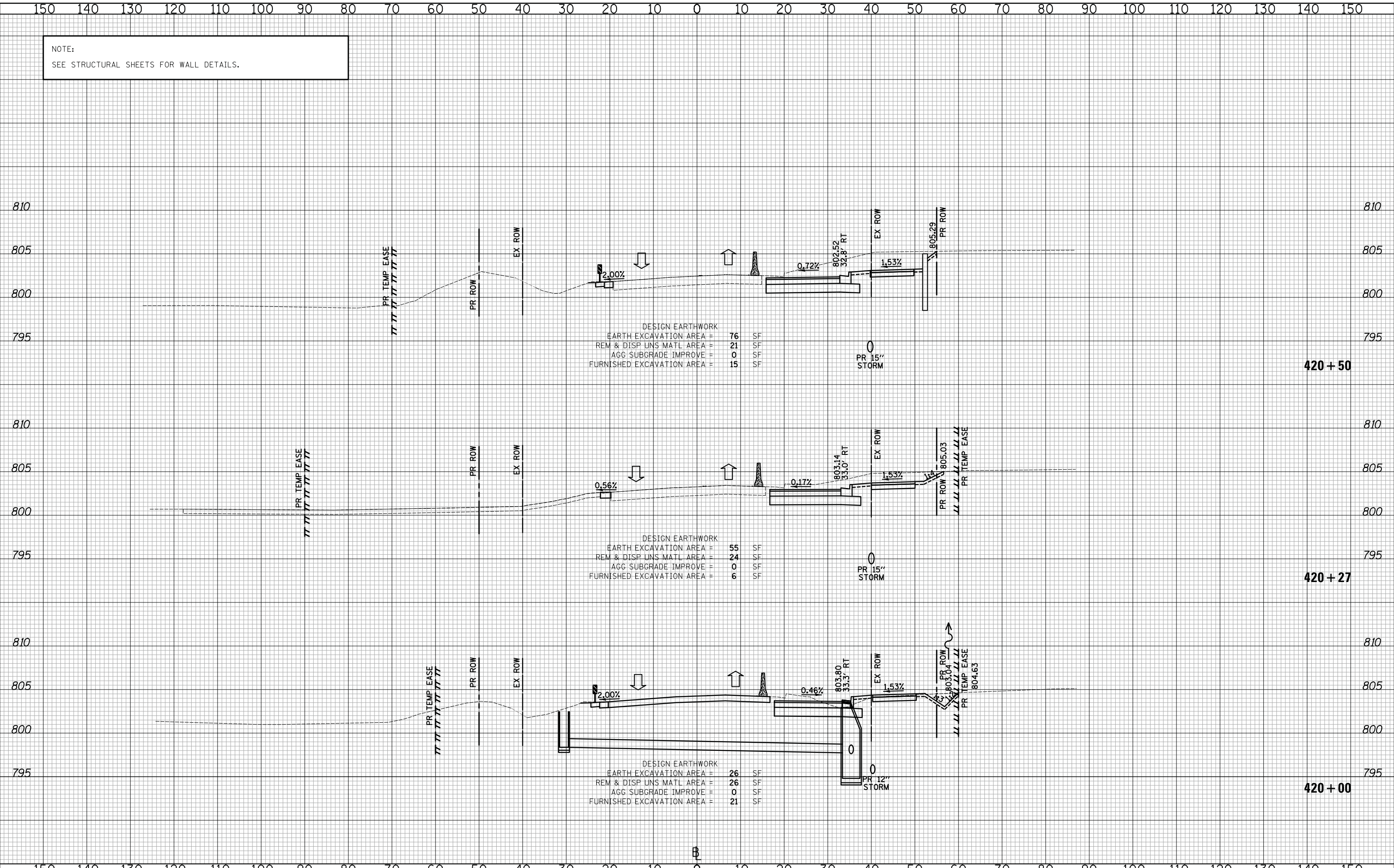
CROSS SECTIONS STAGE I - QUENTIN ROAD
 SHEET NO. 8 OF 89 SHEETS | STA. 418+50 TO STA. 419+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	376
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61E22	

NOTE:
SEE STRUCTURAL SHEETS FOR WALL DETAILS.

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
NO.	



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CROSS SECTIONS STAGE I - QUENTIN ROAD

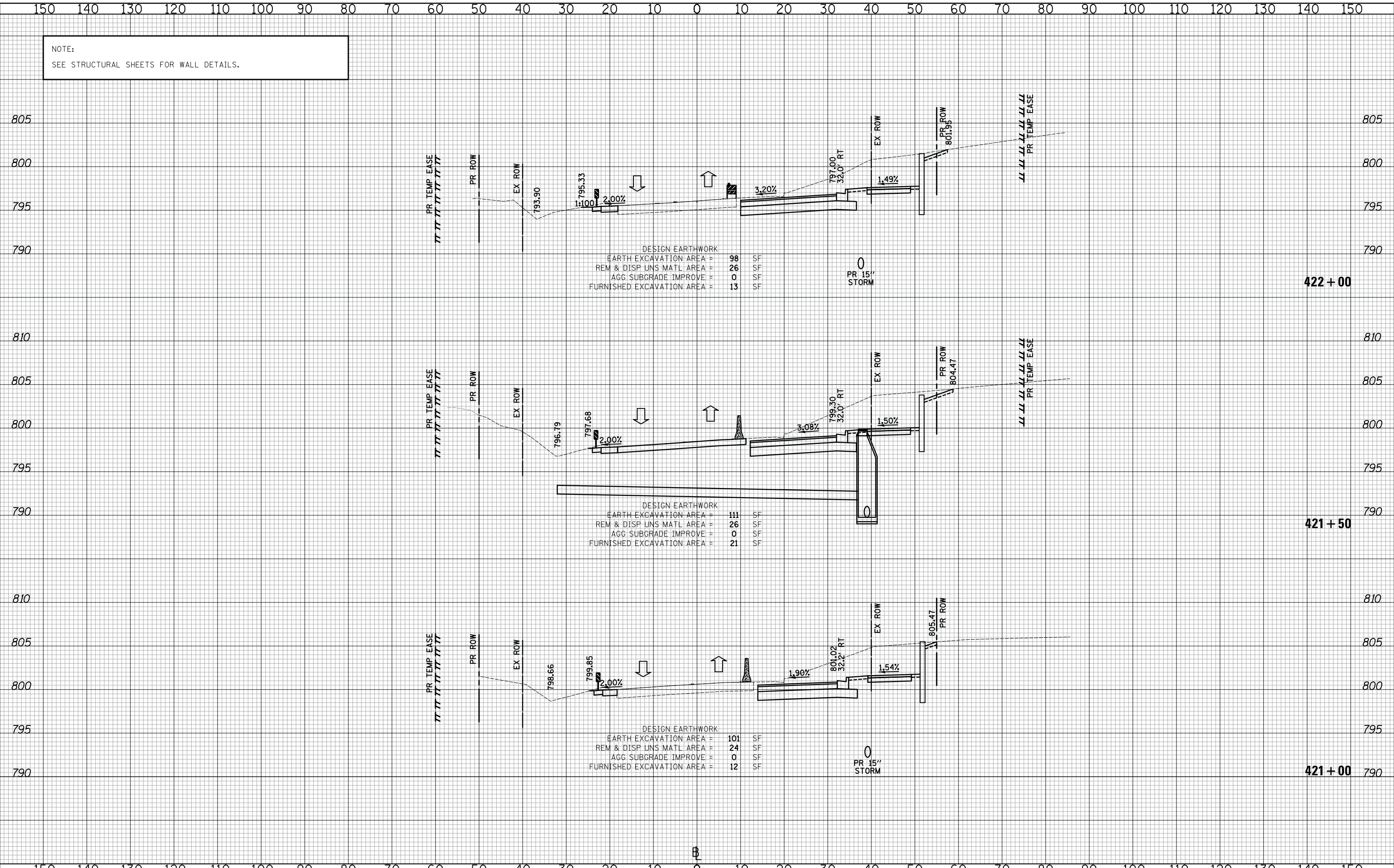
SHEET NO. 9 OF 89 SHEETS STA. 420+00 TO STA. 420+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	377
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				CONTRACT NO. 61E22

NOTE:
SEE STRUCTURAL SHEETS FOR WALL DETAILS.

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
NO.	



DESIGN EARTHWORK

EARTH EXCAVATION AREA	=	98	SF
REM & DISP UNS MATL AREA	=	26	SF
AGG SUBGRADE IMPROVE	=	0	SF
FURNISHED EXCAVATION AREA	=	13	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA	=	111	SF
REM & DISP UNS MATL AREA	=	26	SF
AGG SUBGRADE IMPROVE	=	0	SF
FURNISHED EXCAVATION AREA	=	21	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA	=	101	SF
REM & DISP UNS MATL AREA	=	24	SF
AGG SUBGRADE IMPROVE	=	0	SF
FURNISHED EXCAVATION AREA	=	12	SF

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DATE - 11/13/2017	REVISED -

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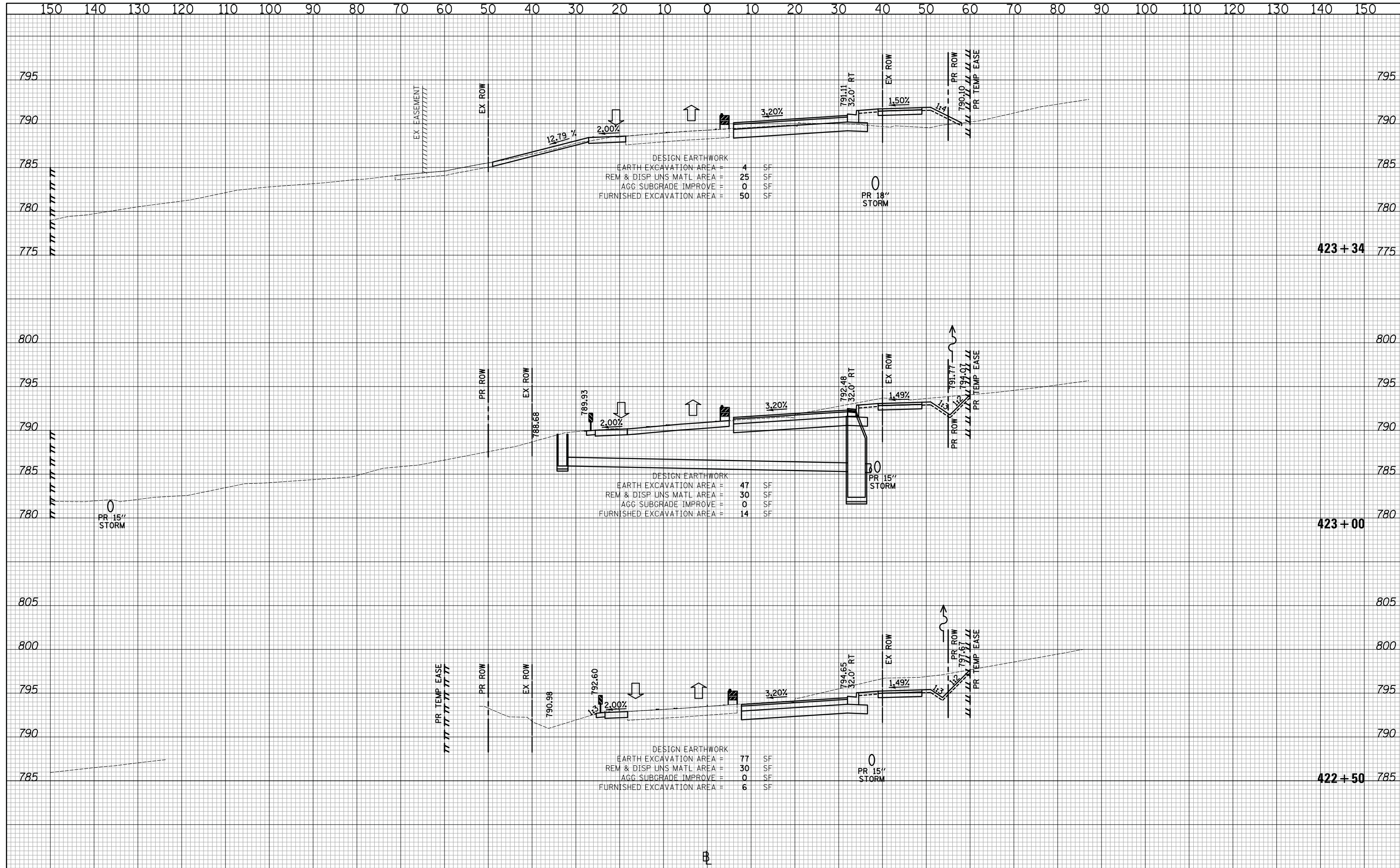
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 10 OF 89 SHEETS STA. 421+00 TO STA. 422+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	378
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	



DESIGN EARTHWORK
 EARTH EXCAVATION AREA = 4 SF
 REM & DISP UNS MATL AREA = 25 SF
 AGG SUBGRADE IMPROVE = 0 SF
 FURNISHED EXCAVATION AREA = 50 SF

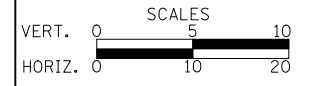
DESIGN EARTHWORK
 EARTH EXCAVATION AREA = 47 SF
 REM & DISP UNS MATL AREA = 30 SF
 AGG SUBGRADE IMPROVE = 0 SF
 FURNISHED EXCAVATION AREA = 14 SF

DESIGN EARTHWORK
 EARTH EXCAVATION AREA = 77 SF
 REM & DISP UNS MATL AREA = 30 SF
 AGG SUBGRADE IMPROVE = 0 SF
 FURNISHED EXCAVATION AREA = 6 SF

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CROSS SECTIONS STAGE I - QUENTIN ROAD

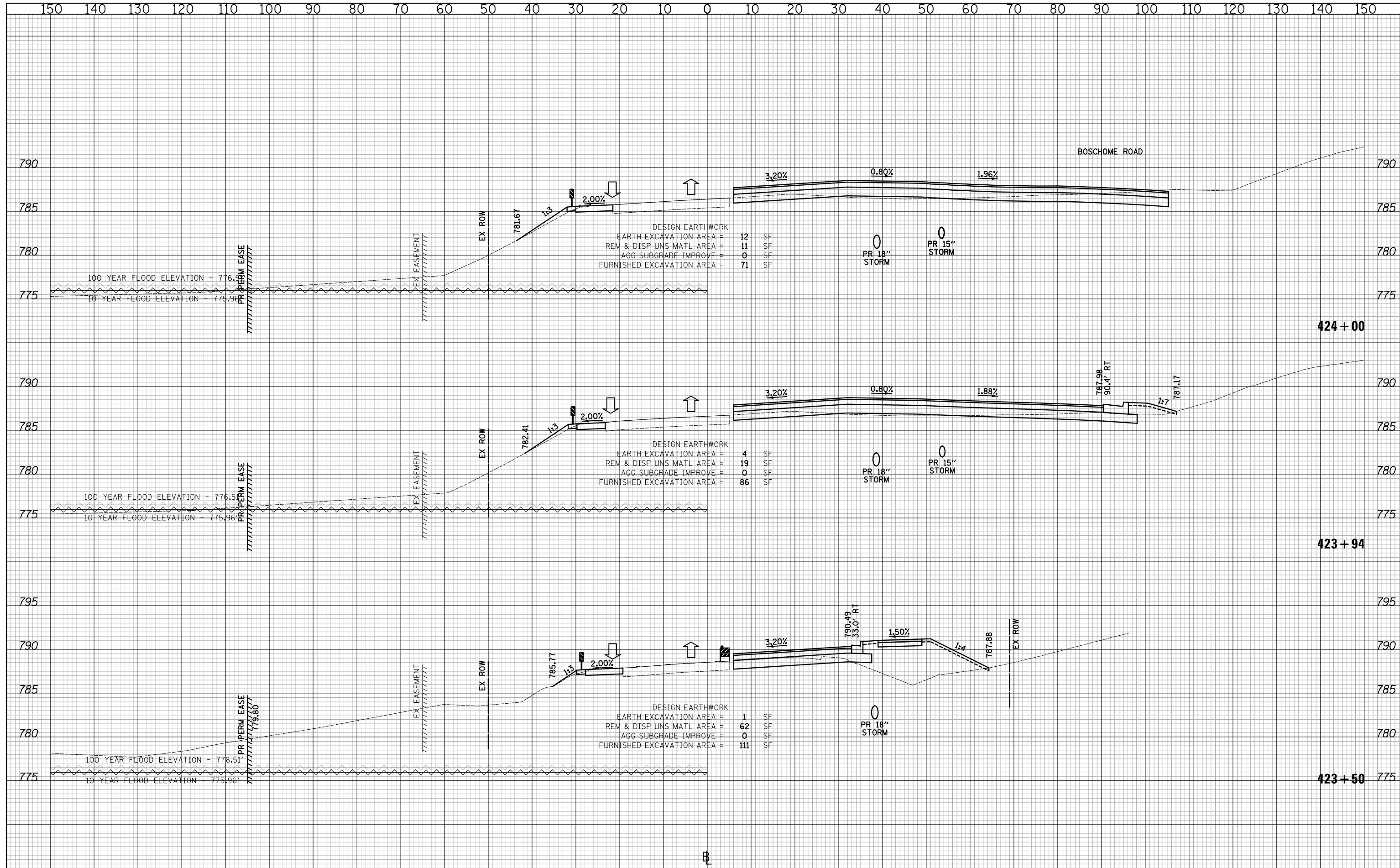
SHEET NO. 11 OF 89 SHEETS STA. 422+50 TO STA. 423+34

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	379
				CONTRACT NO. 61E22

FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT

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



DESIGN EARTHWORK

EARTH EXCAVATION AREA =	12	SF
REM & DISP UNS MATL AREA =	11	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	71	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA =	4	SF
REM & DISP UNS MATL AREA =	19	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	86	SF

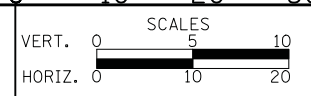
DESIGN EARTHWORK

EARTH EXCAVATION AREA =	1	SF
REM & DISP UNS MATL AREA =	62	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	111	SF

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CHECKED - RTM	REVISIED -
DATE - 11/13/2017	REVISIED -

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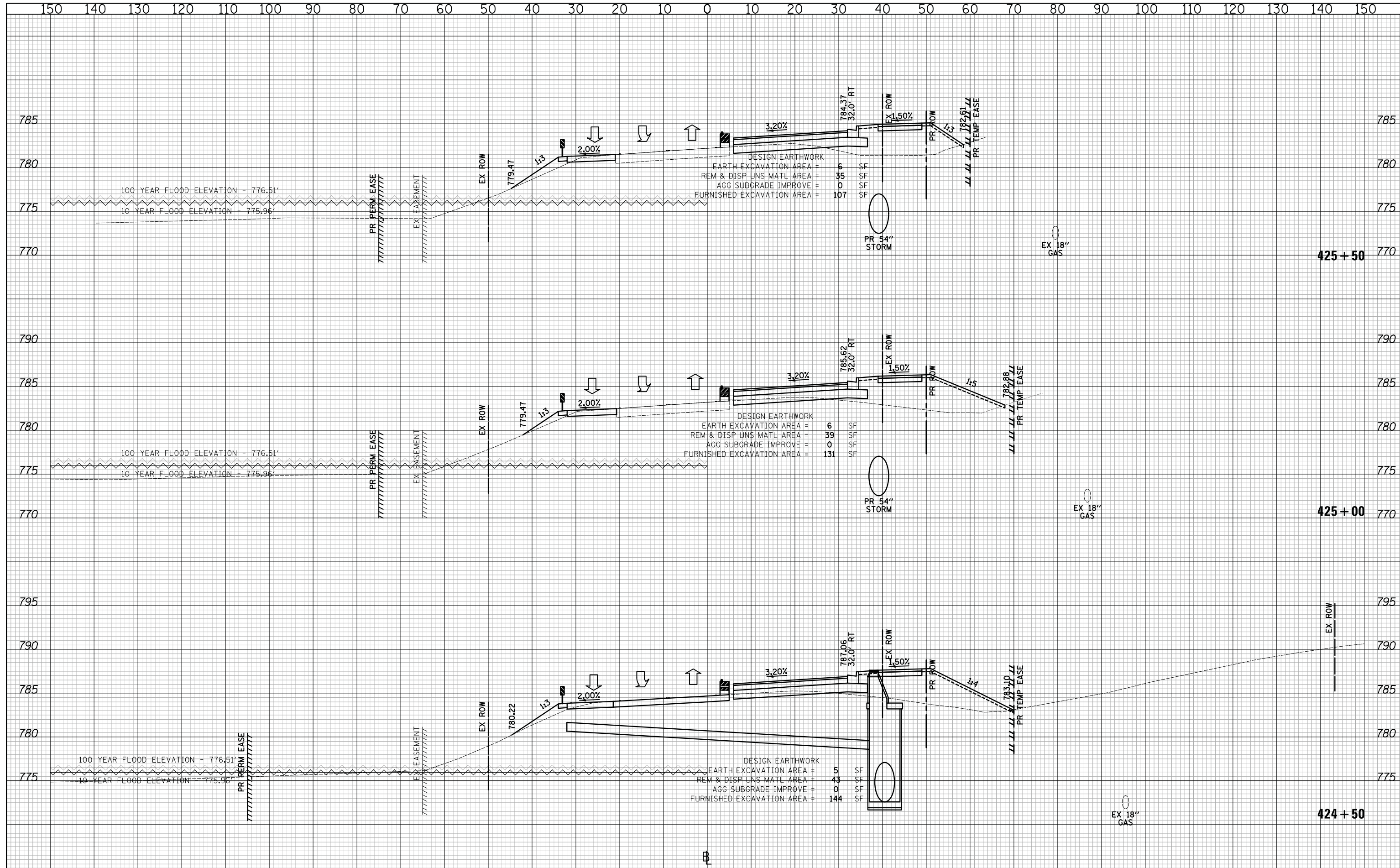
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 12 OF 89 SHEETS STA. 423+50 TO STA. 424+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	380
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
	TEMPLATE
	AREAS
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DATE	
BY	
NO.	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
	TEMPLATE
	AREAS
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CHECKED - RTM	REVISED -
DATE - 11/13/2017	REVISED -

**STATE OF ILLINOIS
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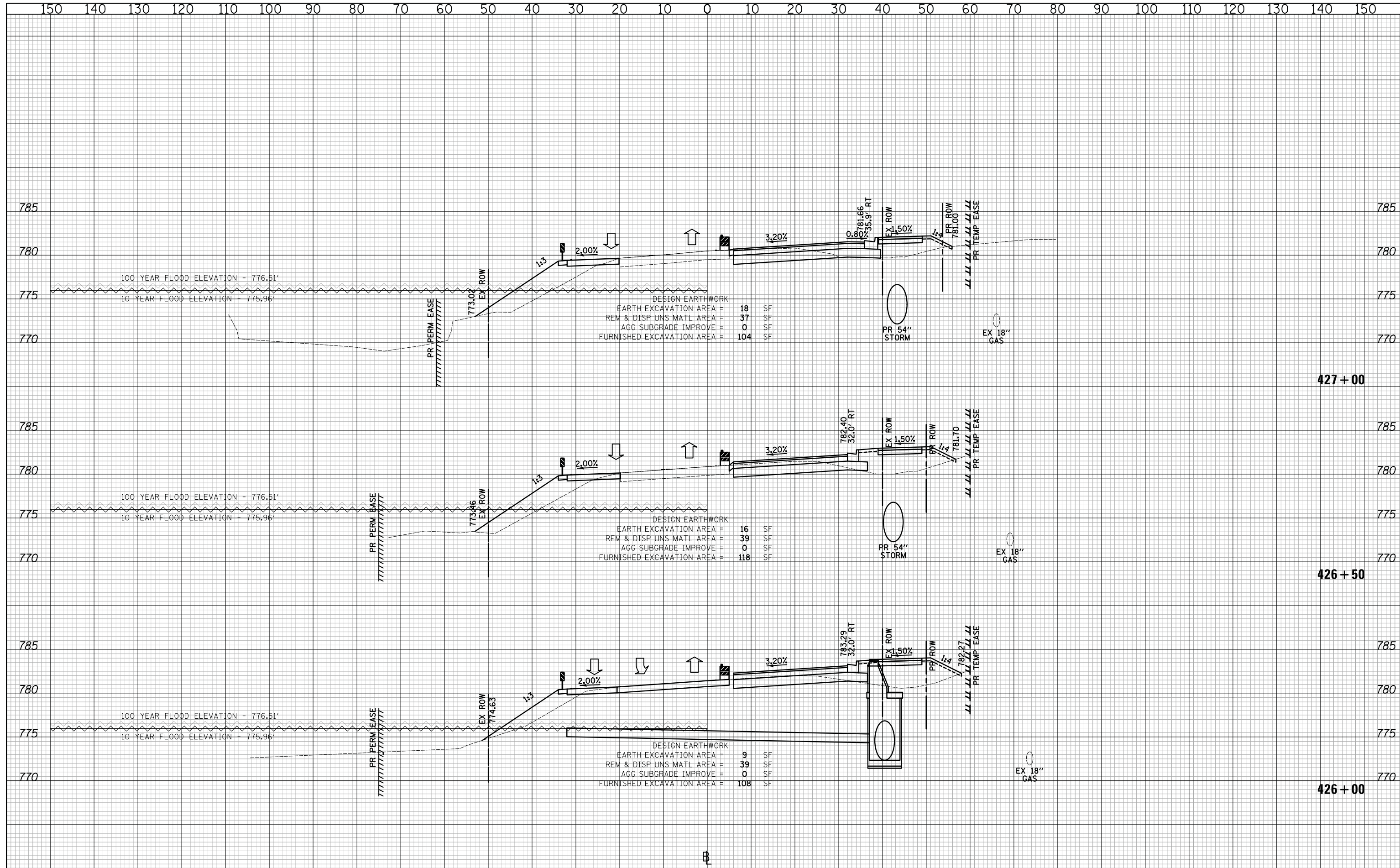
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 13 OF 89 SHEETS STA. 424+50 TO STA. 425+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	381
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
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TEMPLATE	
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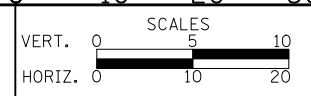
DATE	
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SURVEYED	
PLOTTED	
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AREAS	
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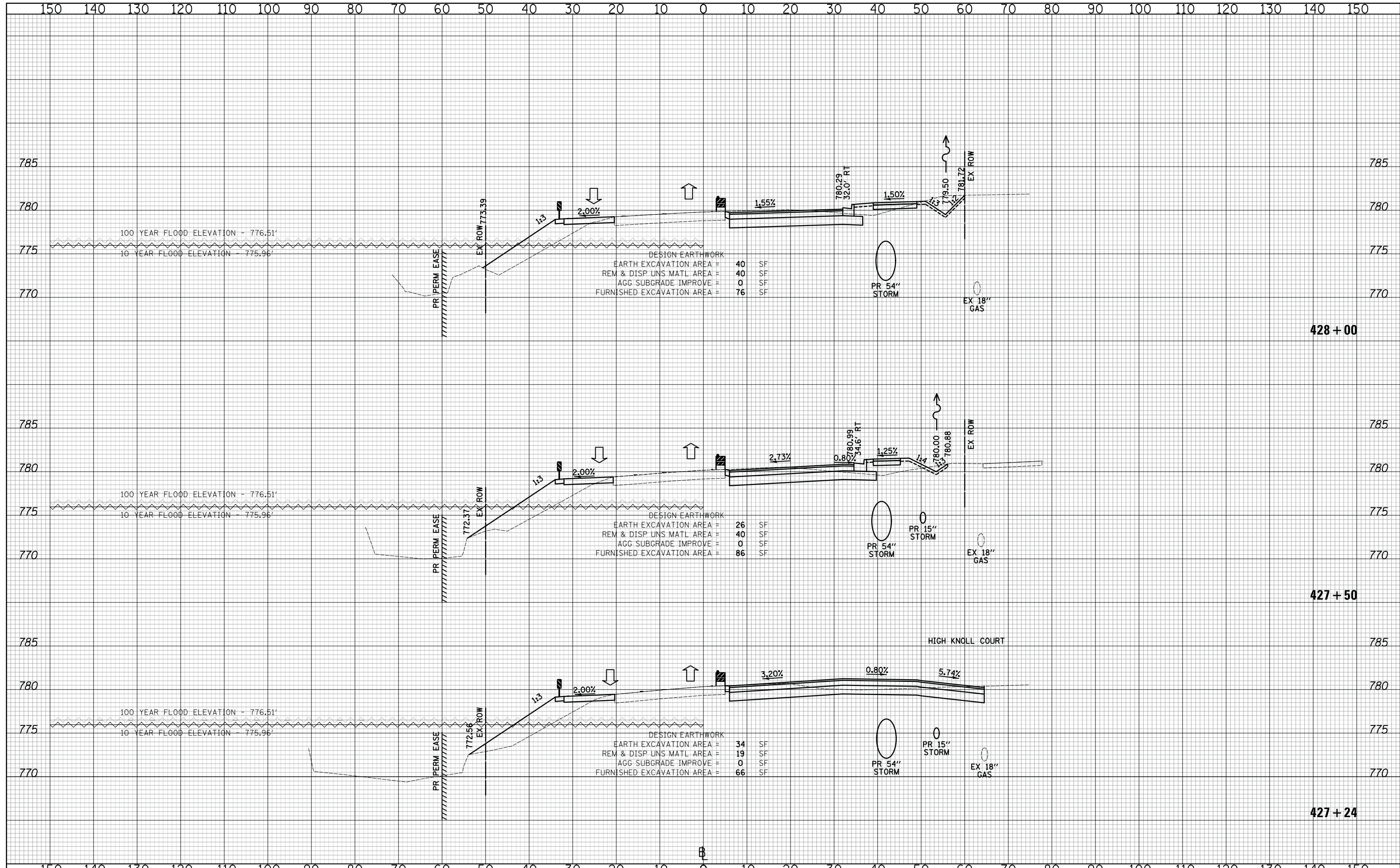
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 14 OF 89 SHEETS STA. 426+00 TO STA. 427+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	382
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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



DESIGN EARTHWORK

EARTH EXCAVATION AREA =	40	SF
REM & DISP UNS MATL AREA =	40	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	76	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA =	26	SF
REM & DISP UNS MATL AREA =	40	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	86	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA =	34	SF
REM & DISP UNS MATL AREA =	19	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	66	SF

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DATE - 11/13/2017	REVISED -

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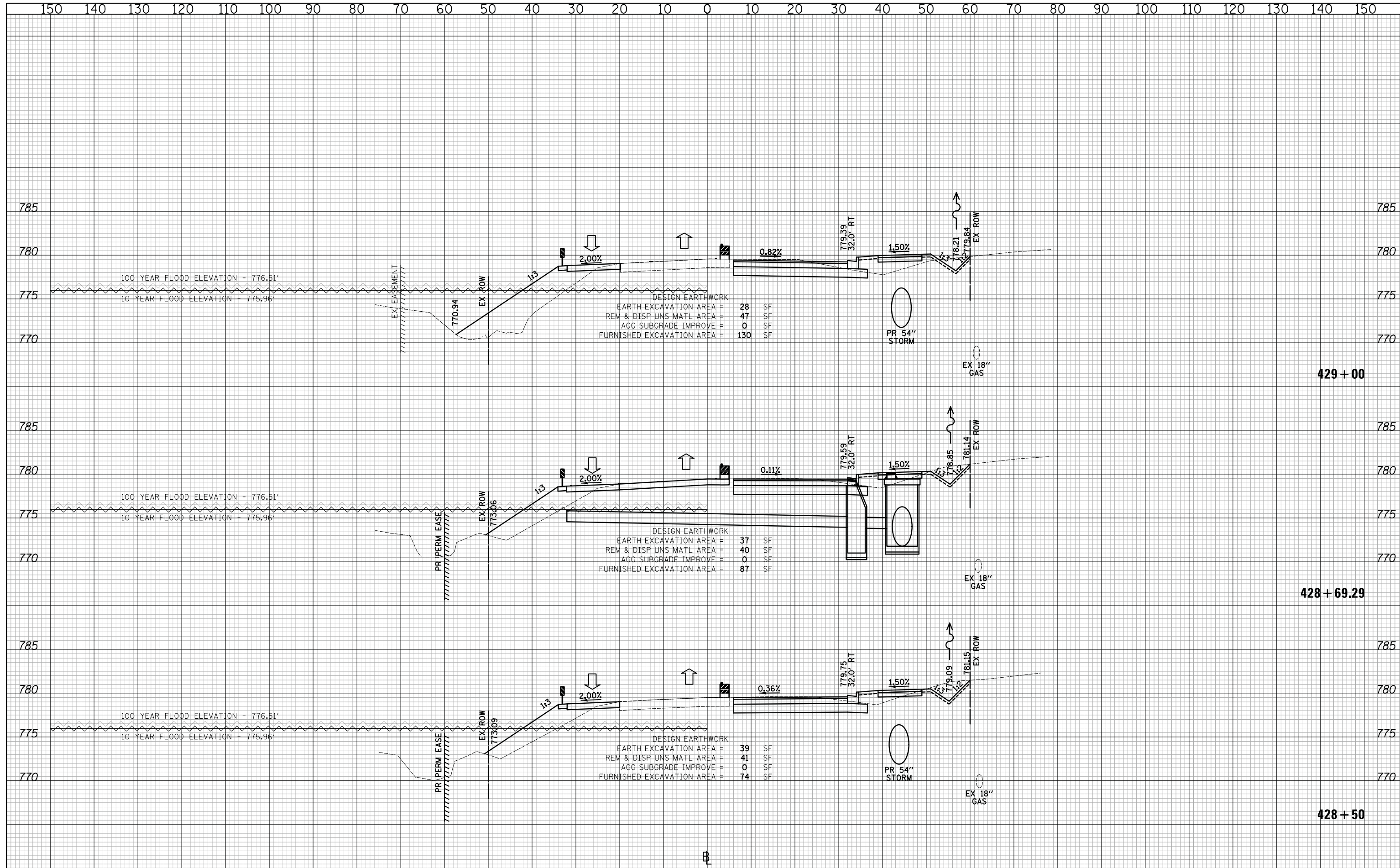
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 15 OF 89 SHEETS STA. 427+24 TO STA. 428+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	383
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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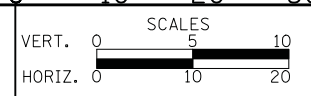
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ORIGINAL SURVEY NOTE BOOK NO.	



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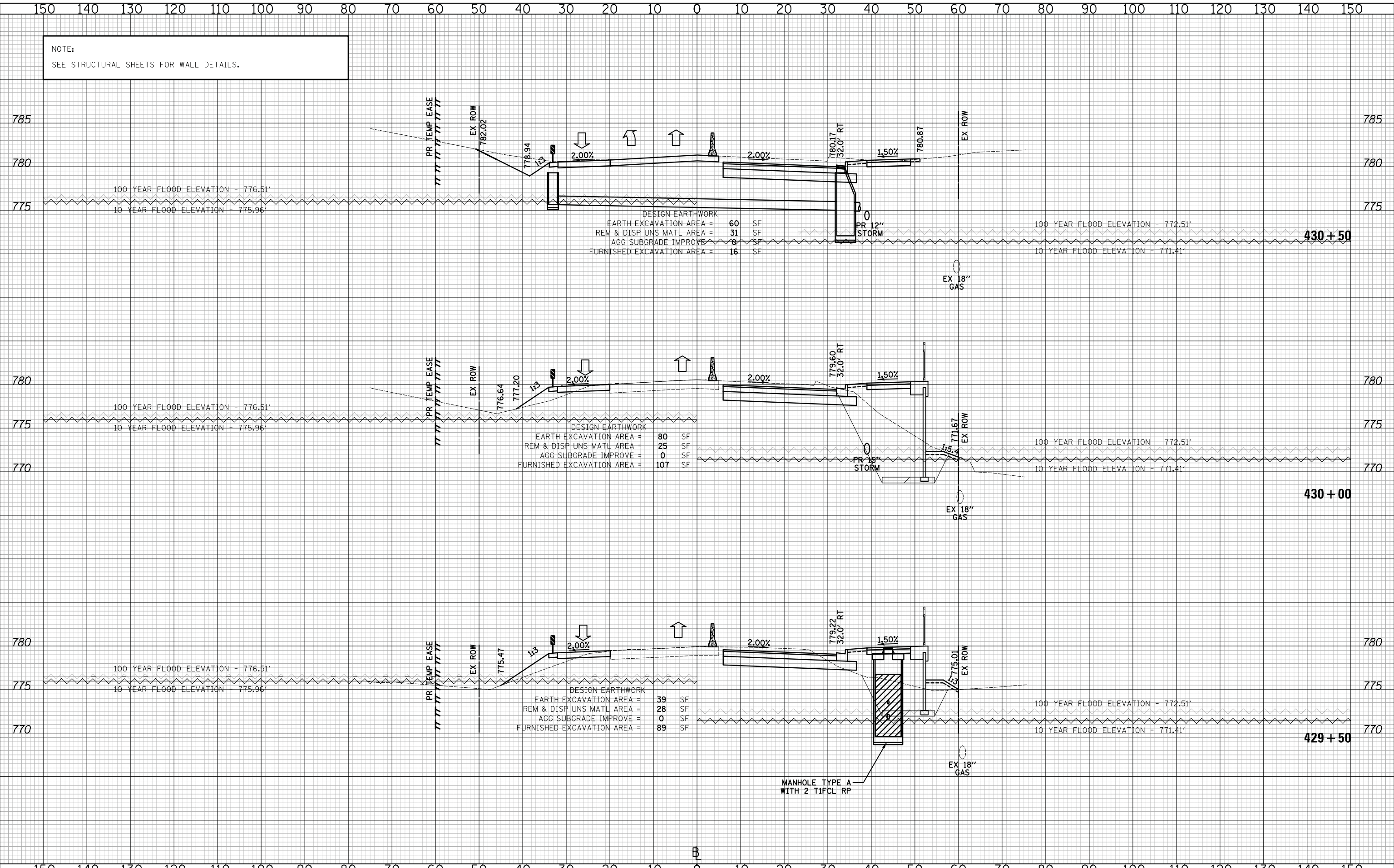
CROSS SECTIONS STAGE I - QUENTIN ROAD
 SHEET NO. 16 OF 89 SHEETS STA. 428+50 TO STA. 429+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	384
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

NOTE:
SEE STRUCTURAL SHEETS FOR WALL DETAILS.

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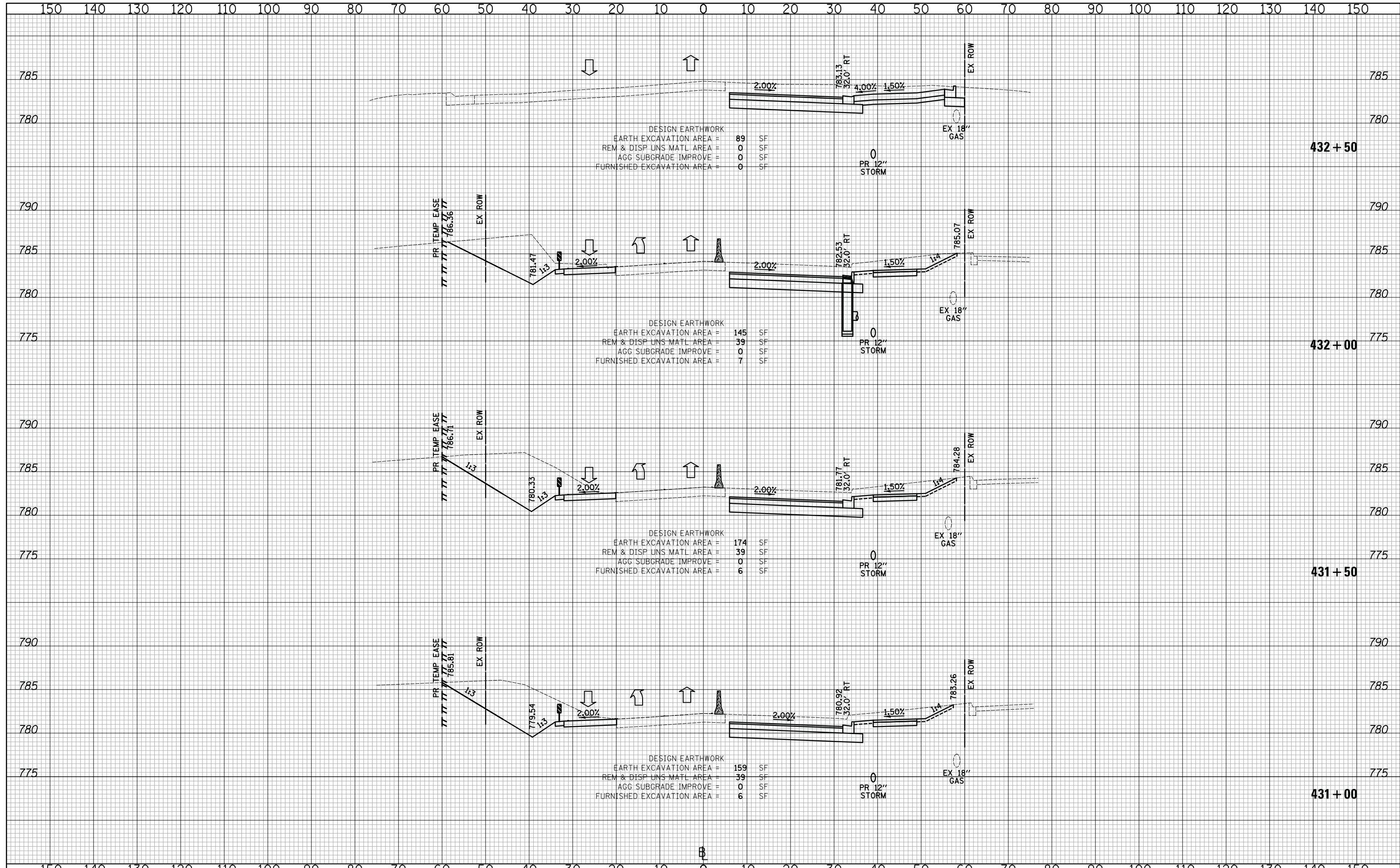
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 17 OF 89 SHEETS STA. 429+46.15 TO STA. 430+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	385
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
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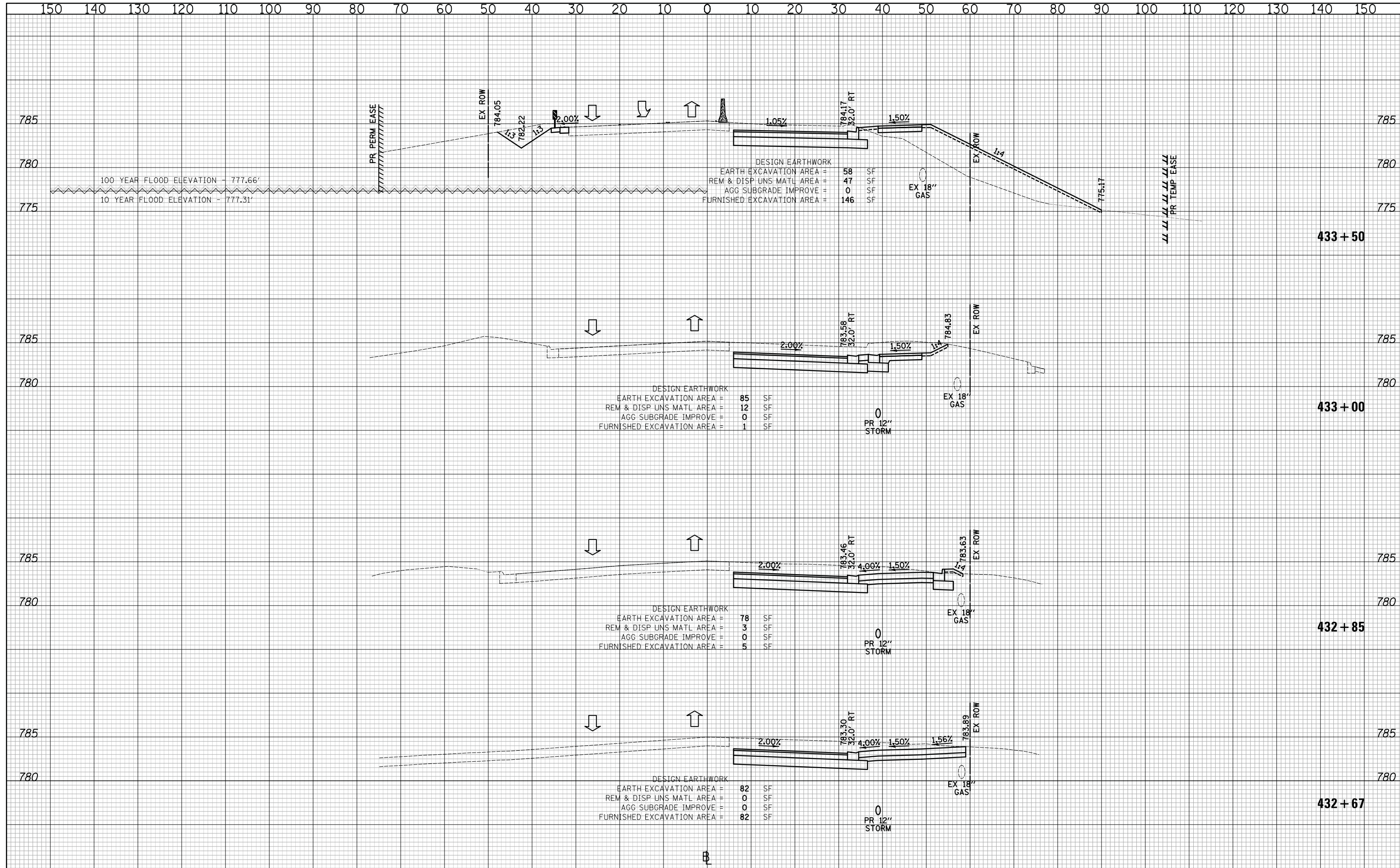
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 18 OF 89 SHEETS STA. 431+00 TO STA. 432+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	386
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
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ORIGINAL SURVEY	
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TEMPLATE	
AREAS CHECKED	
NOTE BOOK	
AREAS CHECKED	



DESIGN EARTHWORK

EARTH EXCAVATION AREA =	58	SF
REM & DISP UNS MATL AREA =	47	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	146	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA =	85	SF
REM & DISP UNS MATL AREA =	12	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	1	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA =	78	SF
REM & DISP UNS MATL AREA =	3	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	5	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA =	82	SF
REM & DISP UNS MATL AREA =	0	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	82	SF

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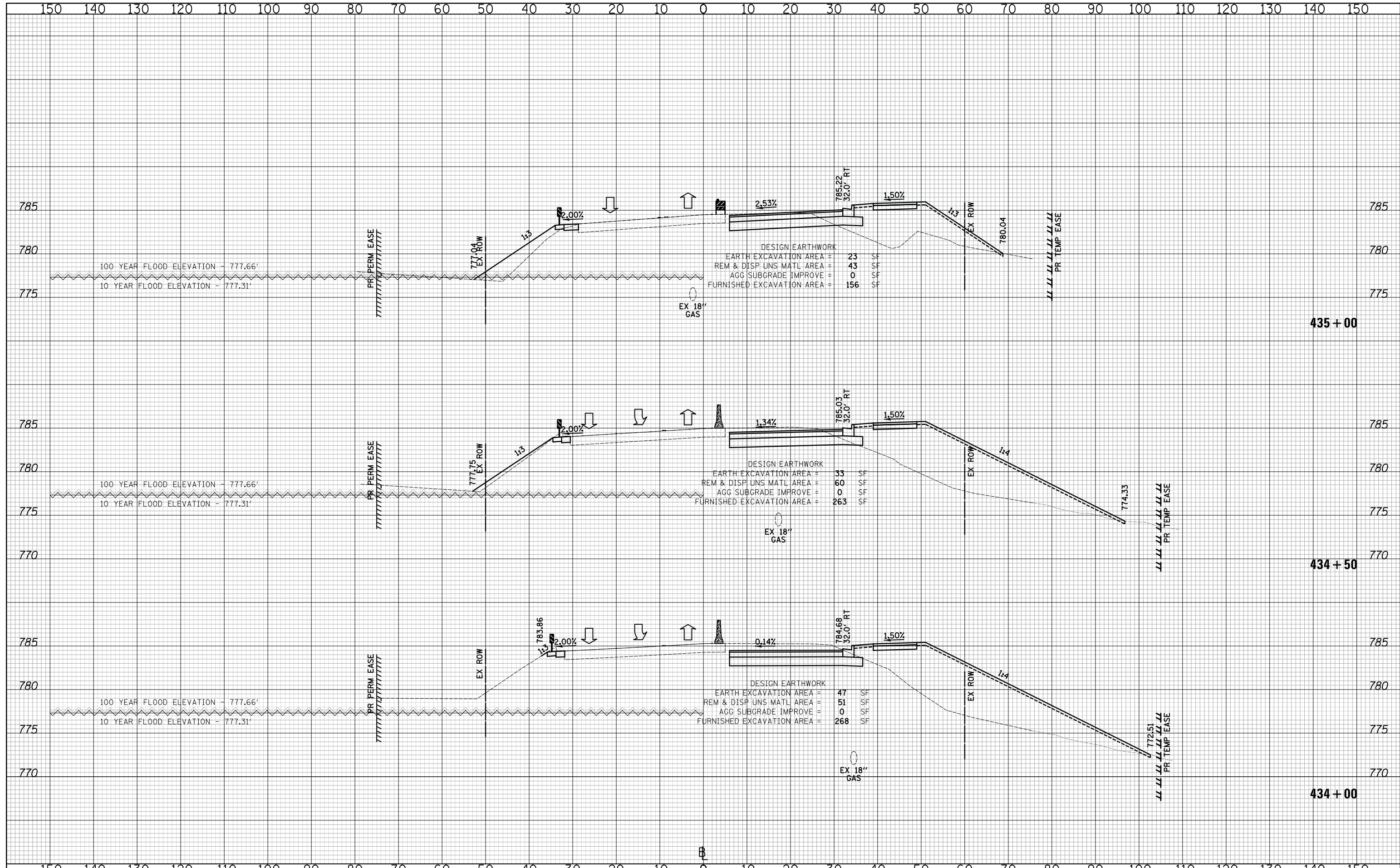
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 19 OF 89 SHEETS STA. 432+67 TO STA. 433+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	387
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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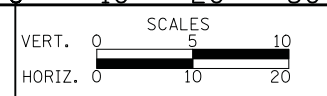
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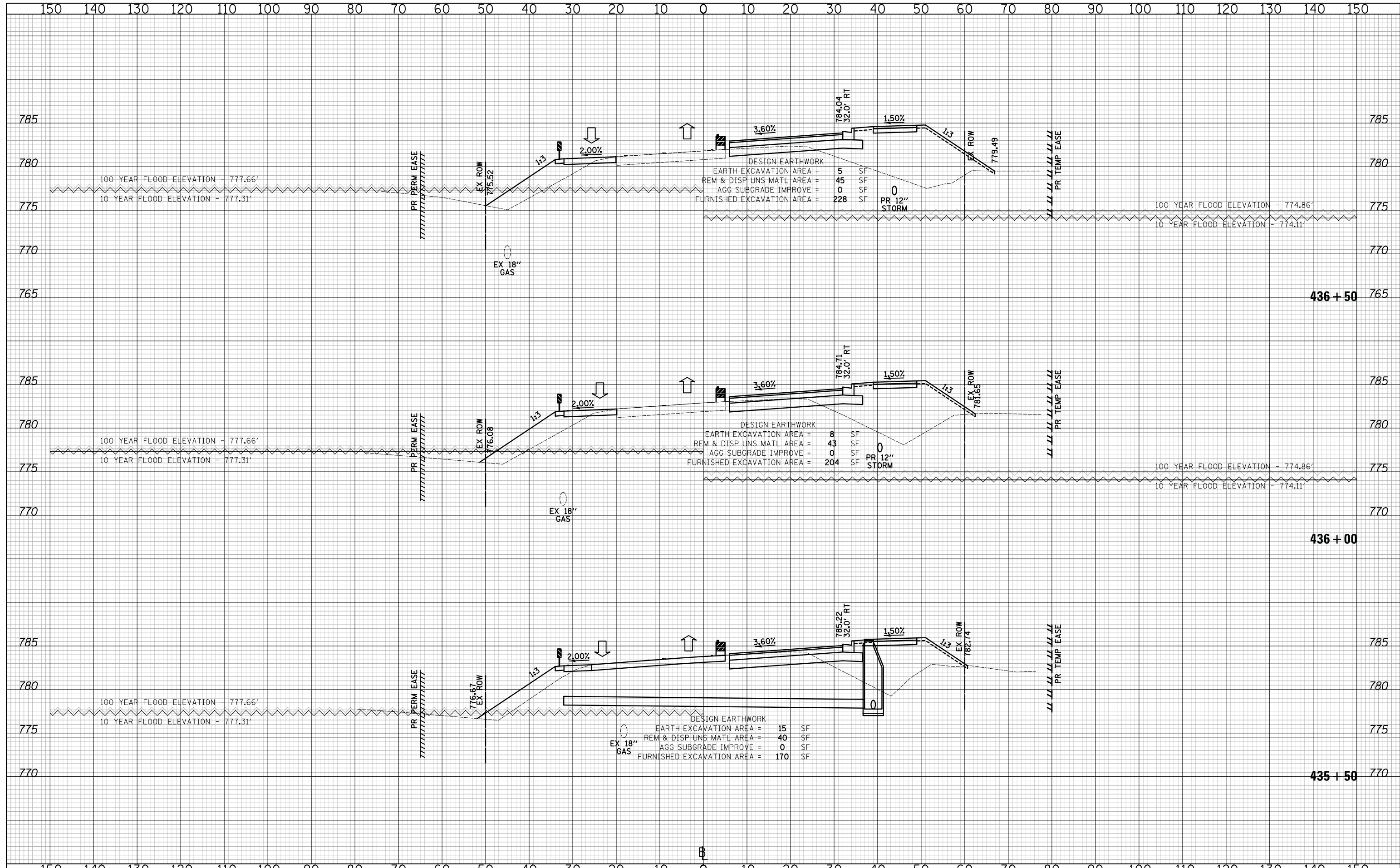
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 20 OF 89 SHEETS STA. 434+00 TO STA. 435+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	388
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
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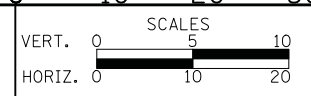
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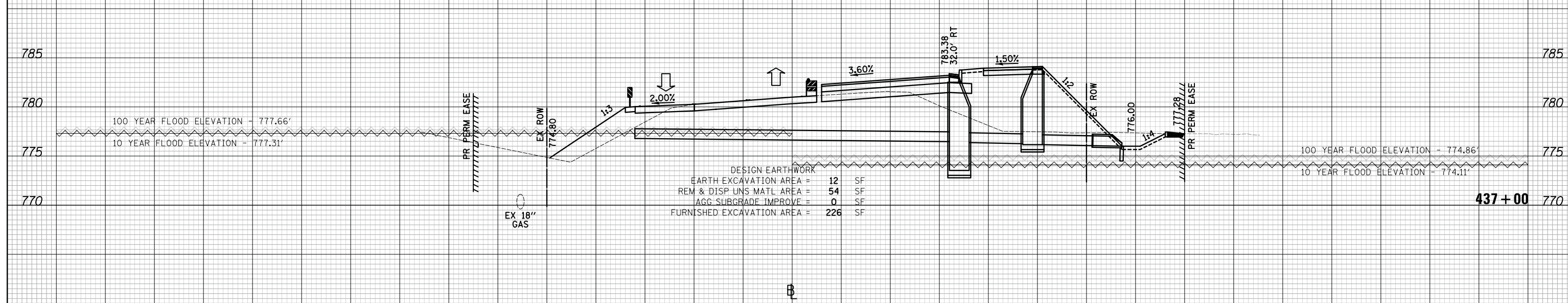
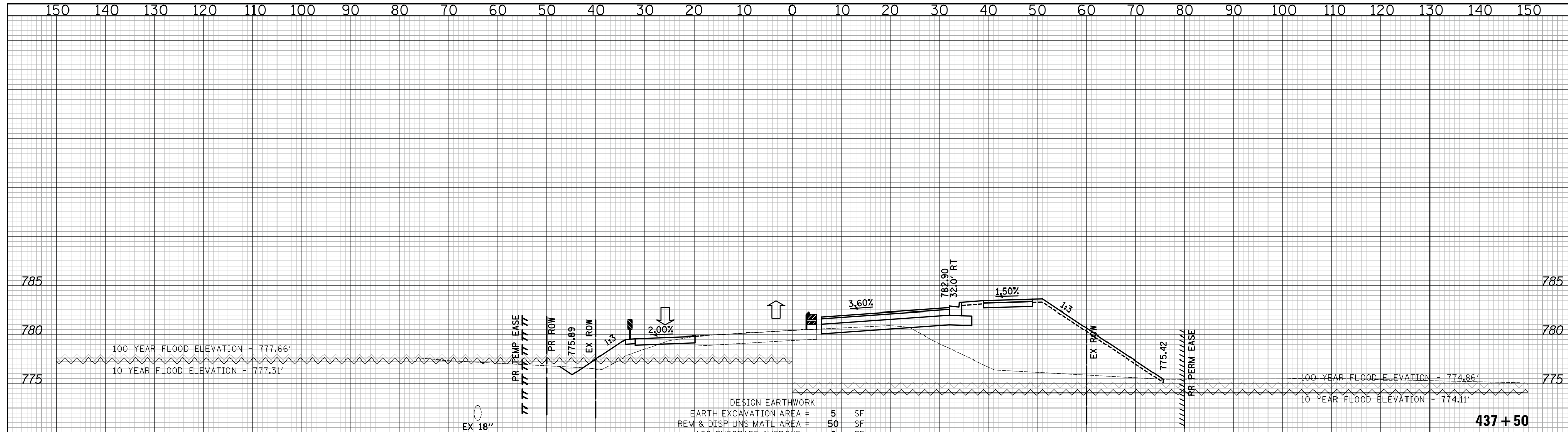
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 21 OF 89 SHEETS STA. 435+50 TO STA. 436+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	389
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
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NOTE BOOK	
AREAS CHECKED	
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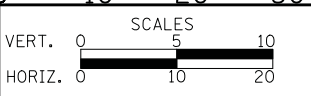
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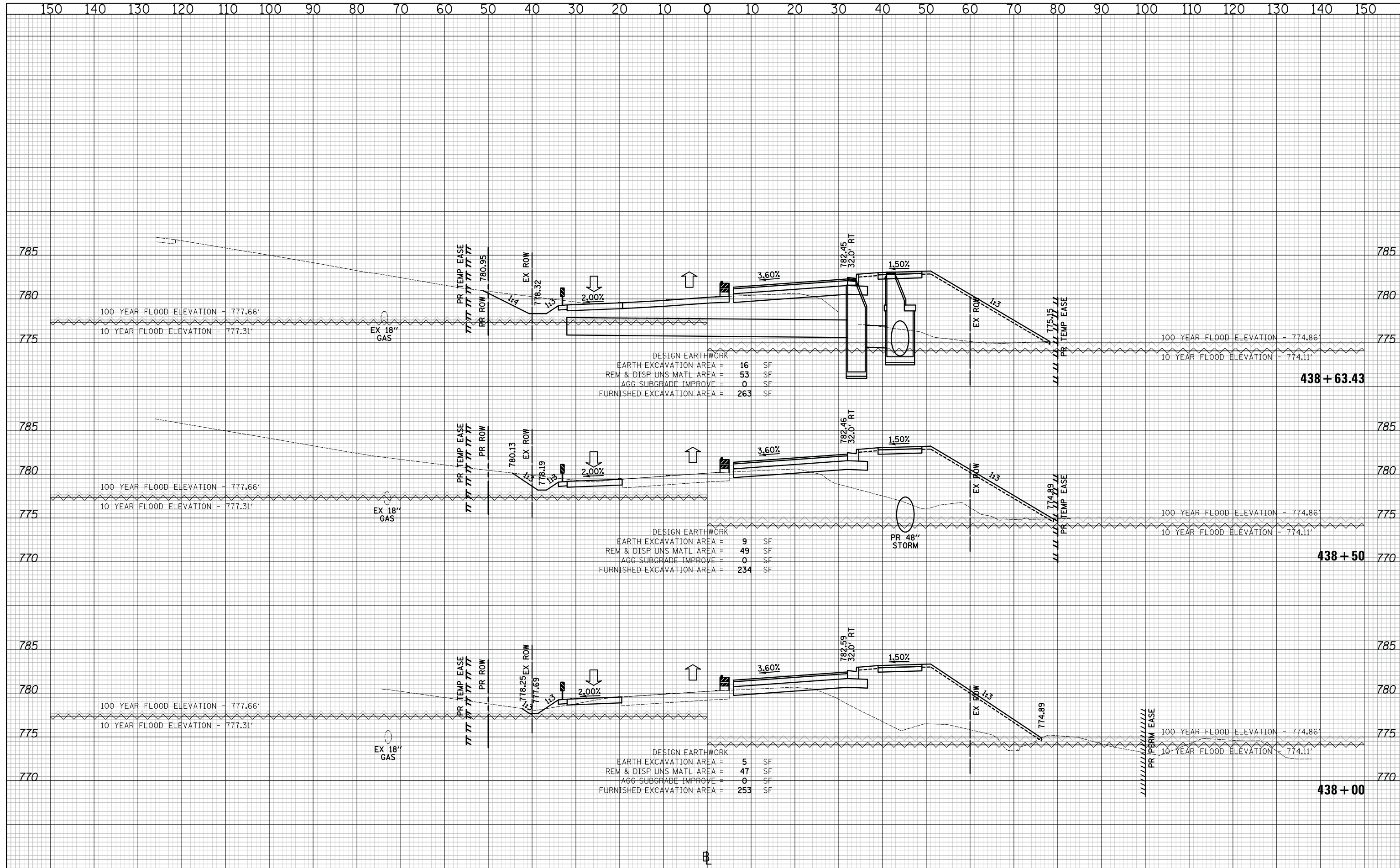


CROSS SECTIONS STAGE I - QUENTIN ROAD
 SHEET NO. 22 OF 89 SHEETS | STA. 437+00 TO STA. 437+54.22

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	390
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
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NOTE BOOK	
AREAS CHECKED	
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TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
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DESIGN EARTHWORK

EARTH EXCAVATION AREA =	16	SF
REM & DISP UNS MATL AREA =	53	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	263	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA =	9	SF
REM & DISP UNS MATL AREA =	49	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	234	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA =	5	SF
REM & DISP UNS MATL AREA =	47	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	253	SF

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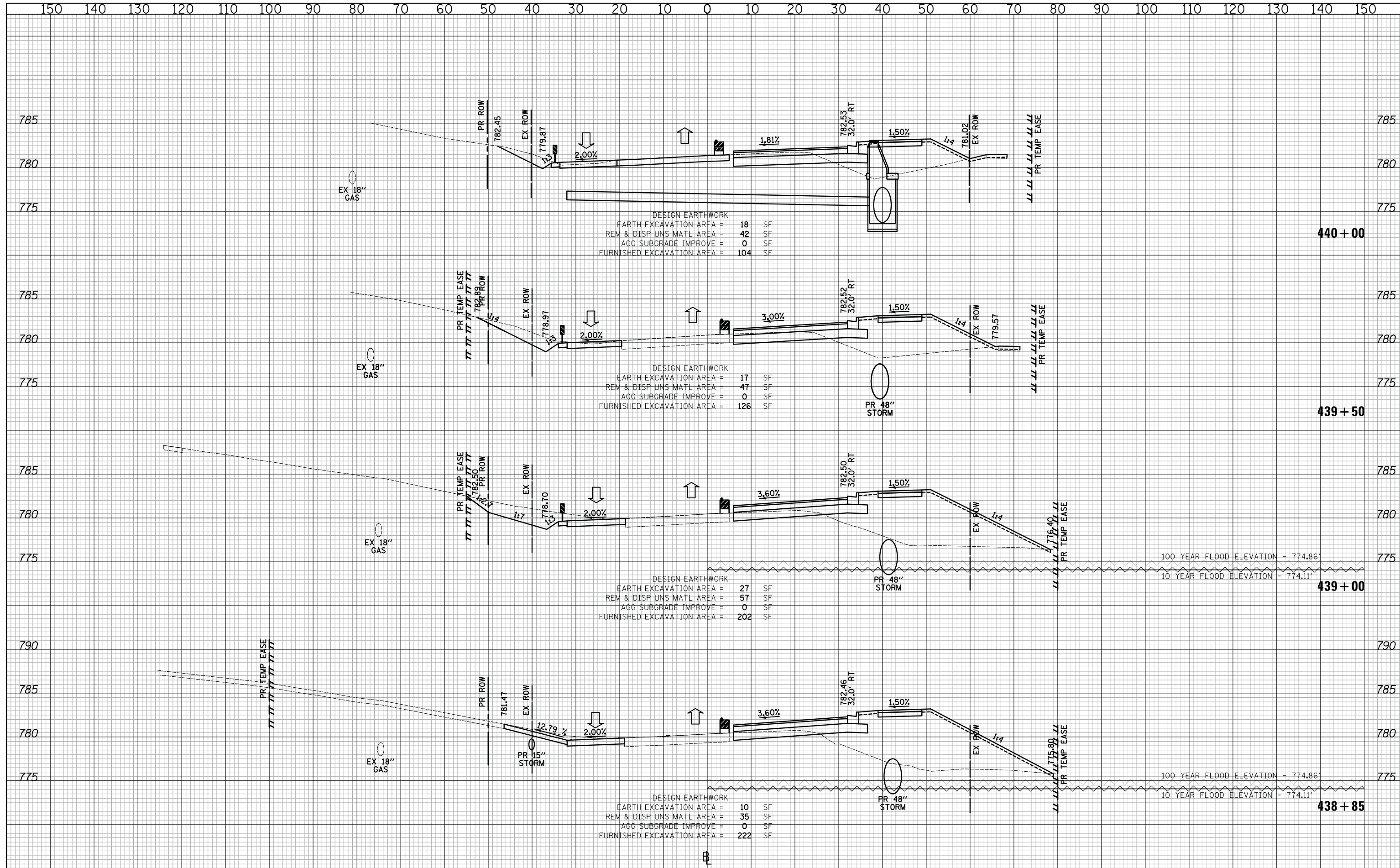
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 23 OF 89 SHEETS STA. 438+00 TO STA. 438+63.43

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	391
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
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ORIGINAL SURVEY	
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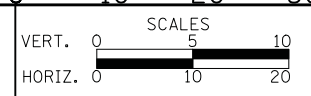
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ORIGINAL SURVEY	
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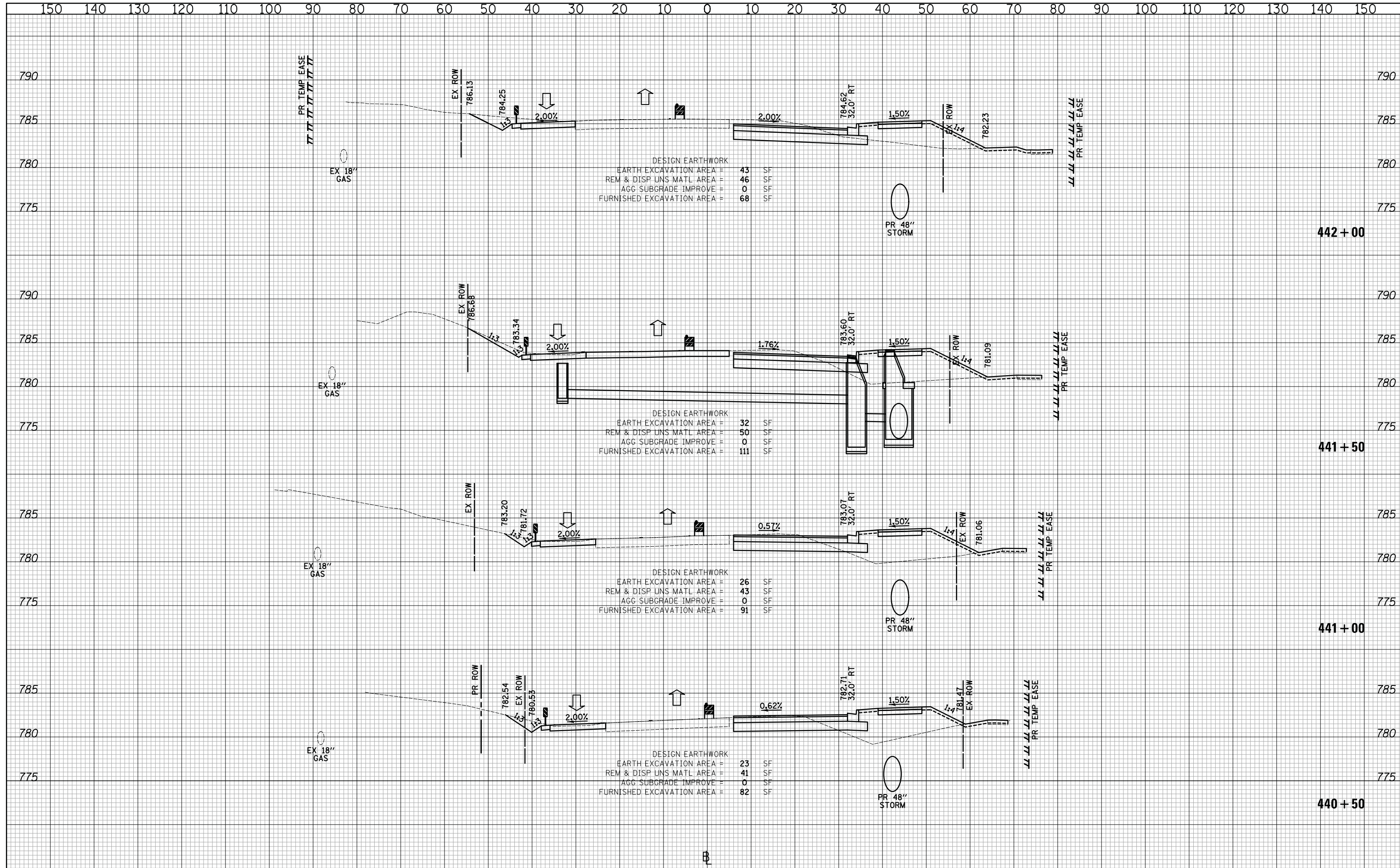
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 24 OF 89 SHEETS STA. 438+85 TO STA. 440+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	392
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
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DESIGN EARTHWORK

EARTH EXCAVATION AREA	=	43	SF
REM & DISP UNS MATL AREA	=	46	SF
AGG SUBGRADE IMPROVE	=	0	SF
FURNISHED EXCAVATION AREA	=	68	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA	=	32	SF
REM & DISP UNS MATL AREA	=	50	SF
AGG SUBGRADE IMPROVE	=	0	SF
FURNISHED EXCAVATION AREA	=	111	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA	=	26	SF
REM & DISP UNS MATL AREA	=	43	SF
AGG SUBGRADE IMPROVE	=	0	SF
FURNISHED EXCAVATION AREA	=	91	SF

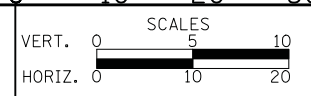
DESIGN EARTHWORK

EARTH EXCAVATION AREA	=	23	SF
REM & DISP UNS MATL AREA	=	41	SF
AGG SUBGRADE IMPROVE	=	0	SF
FURNISHED EXCAVATION AREA	=	82	SF

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CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 25 OF 89 SHEETS STA. 440+50 TO STA. 442+00

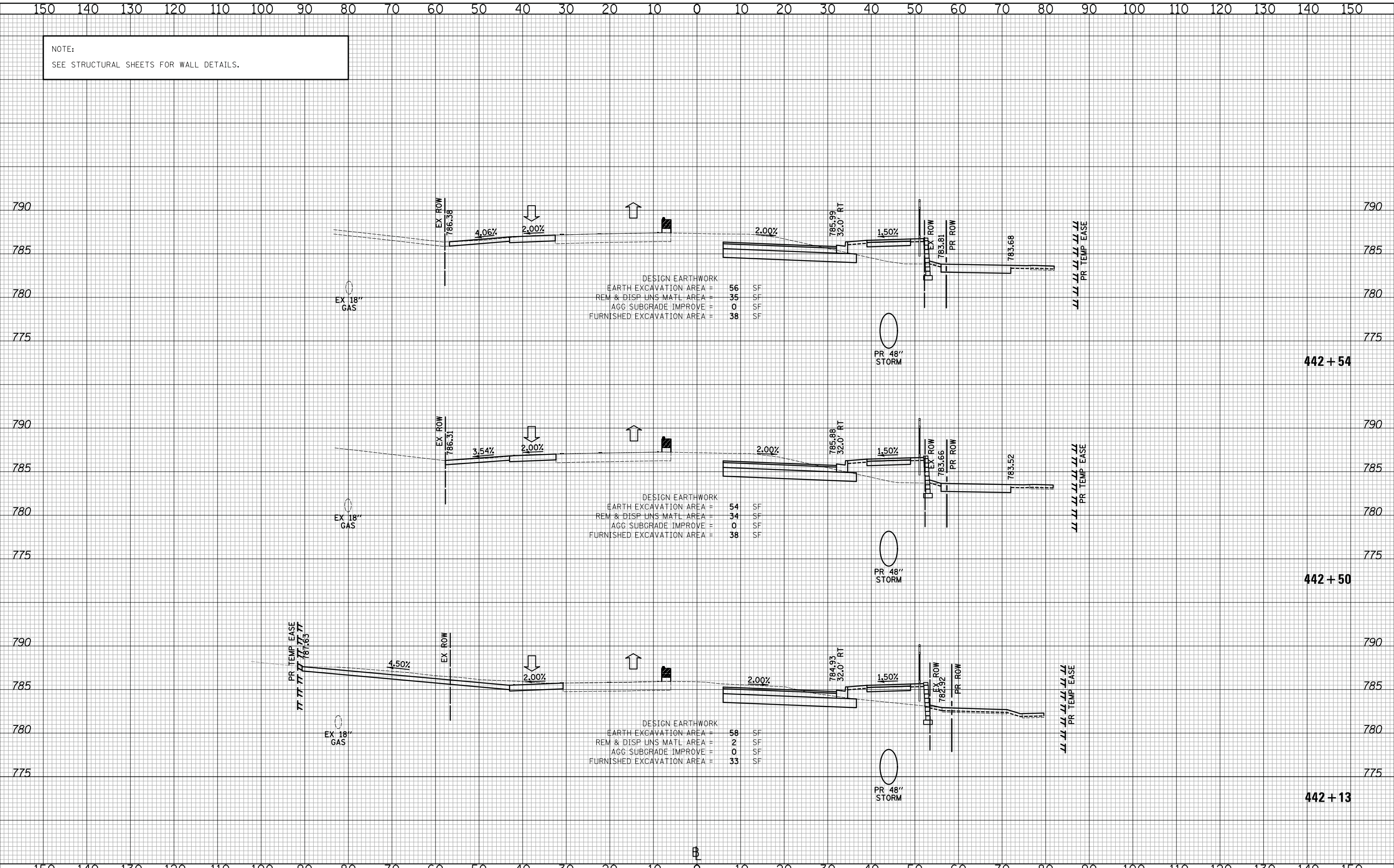
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	393
				CONTRACT NO. 61E22

FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT

NOTE:
SEE STRUCTURAL SHEETS FOR WALL DETAILS.

DATE	
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DESIGN EARTHWORK
 EARTH EXCAVATION AREA = 56 SF
 REM & DISP UNS MATL AREA = 35 SF
 AGG SUBGRADE IMPROVE = 0 SF
 FURNISHED EXCAVATION AREA = 38 SF

DESIGN EARTHWORK
 EARTH EXCAVATION AREA = 54 SF
 REM & DISP UNS MATL AREA = 34 SF
 AGG SUBGRADE IMPROVE = 0 SF
 FURNISHED EXCAVATION AREA = 38 SF

DESIGN EARTHWORK
 EARTH EXCAVATION AREA = 58 SF
 REM & DISP UNS MATL AREA = 2 SF
 AGG SUBGRADE IMPROVE = 0 SF
 FURNISHED EXCAVATION AREA = 33 SF

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CROSS SECTIONS STAGE I - QUENTIN ROAD

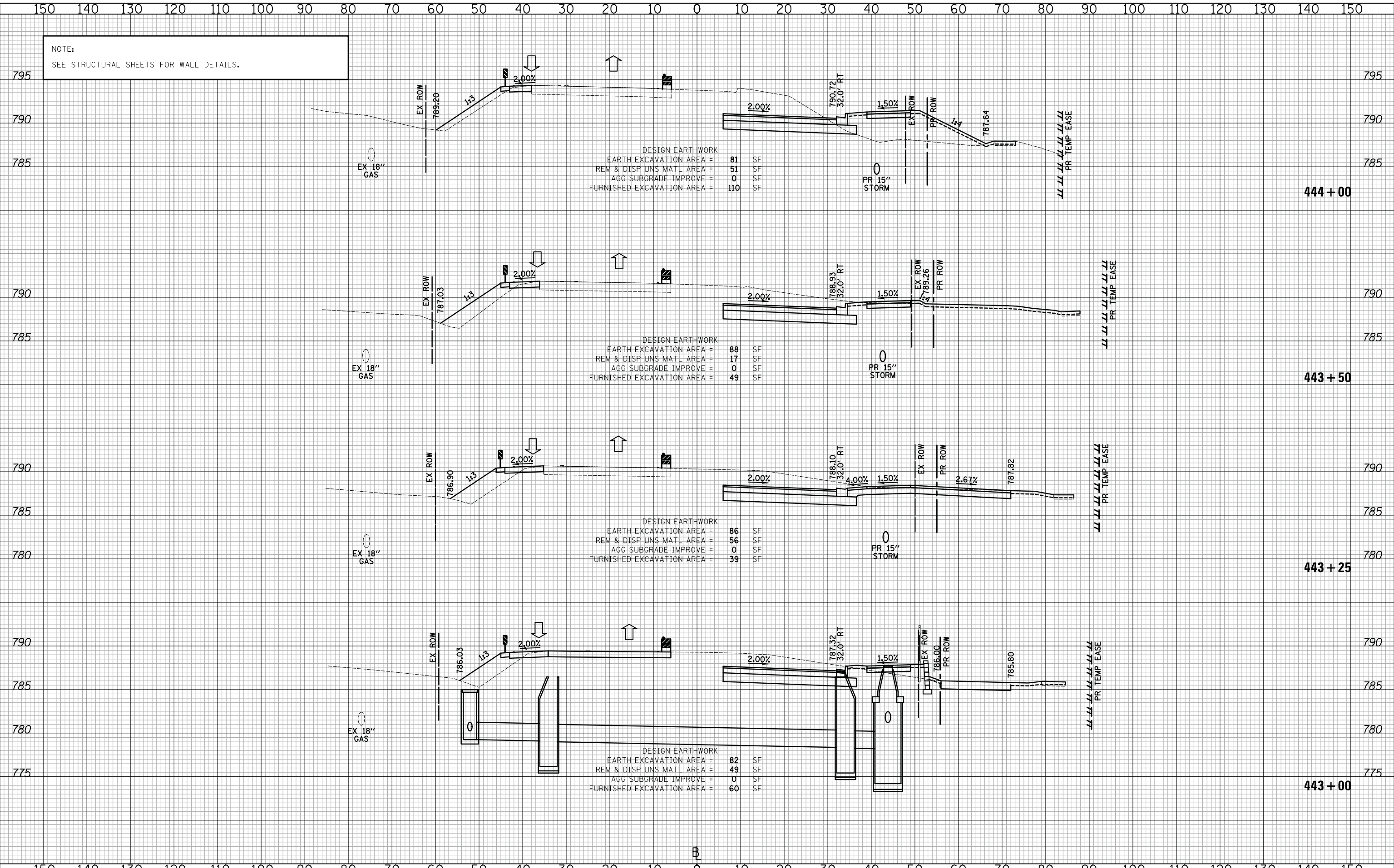
SHEET NO. 26 OF 89 SHEETS STA. 442+13 TO STA. 442+54

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	394
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

NOTE:
SEE STRUCTURAL SHEETS FOR WALL DETAILS.

DATE	
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AREAS CHECKED	
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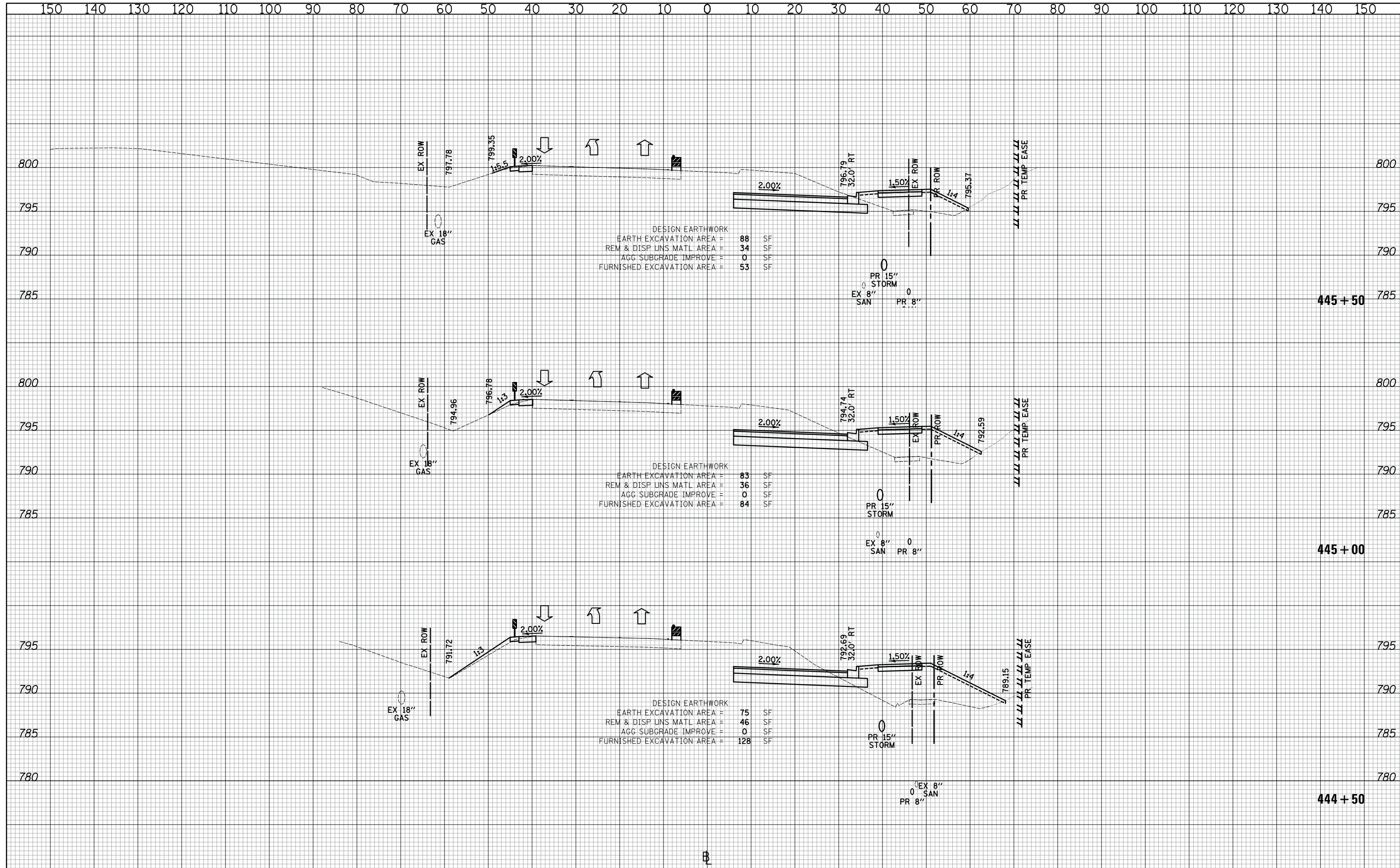
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 27 OF 89 SHEETS STA. 443+00 TO STA. 444+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	395
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
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DATE	
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SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
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DESIGN EARTHWORK

EARTH EXCAVATION AREA =	88	SF
REM & DISP UNS MATL AREA =	34	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	53	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA =	83	SF
REM & DISP UNS MATL AREA =	36	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	84	SF

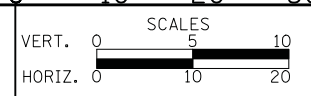
DESIGN EARTHWORK

EARTH EXCAVATION AREA =	75	SF
REM & DISP UNS MATL AREA =	46	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	128	SF

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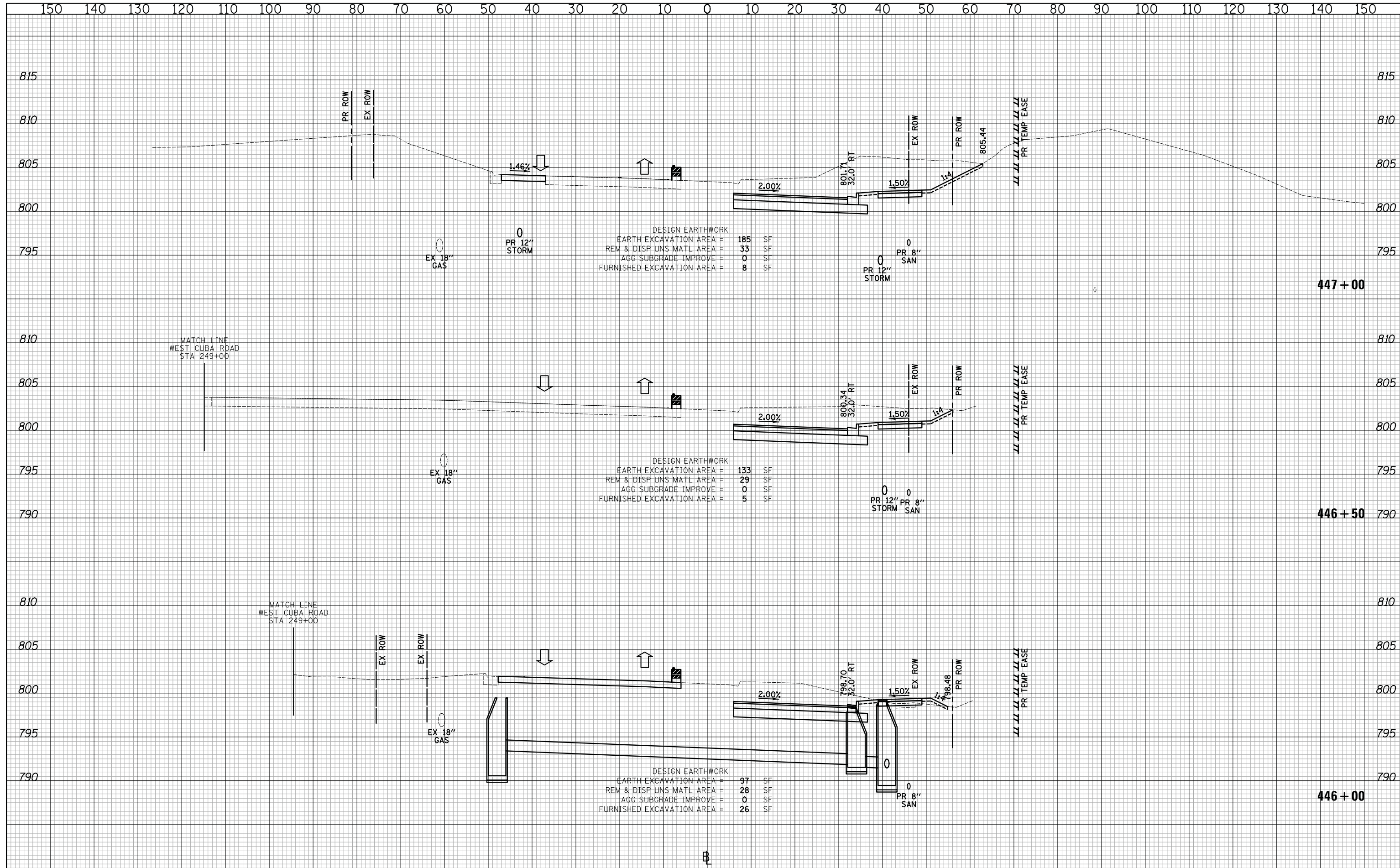
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 28 OF 89 SHEETS STA. 444+50 TO STA. 445+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	396
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	



DESIGN EARTHWORK

EARTH EXCAVATION AREA =	185	SF
REM & DISP UNS MATL AREA =	33	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	8	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA =	133	SF
REM & DISP UNS MATL AREA =	29	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	5	SF

DESIGN EARTHWORK

EARTH EXCAVATION AREA =	97	SF
REM & DISP UNS MATL AREA =	28	SF
AGG SUBGRADE IMPROVE =	0	SF
FURNISHED EXCAVATION AREA =	26	SF

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

DESIGNED - PK	REVISIED -
DRAWN - JRR	REVISIED -
CHECKED - RTM	REVISIED -
DATE - 11/13/2017	REVISIED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



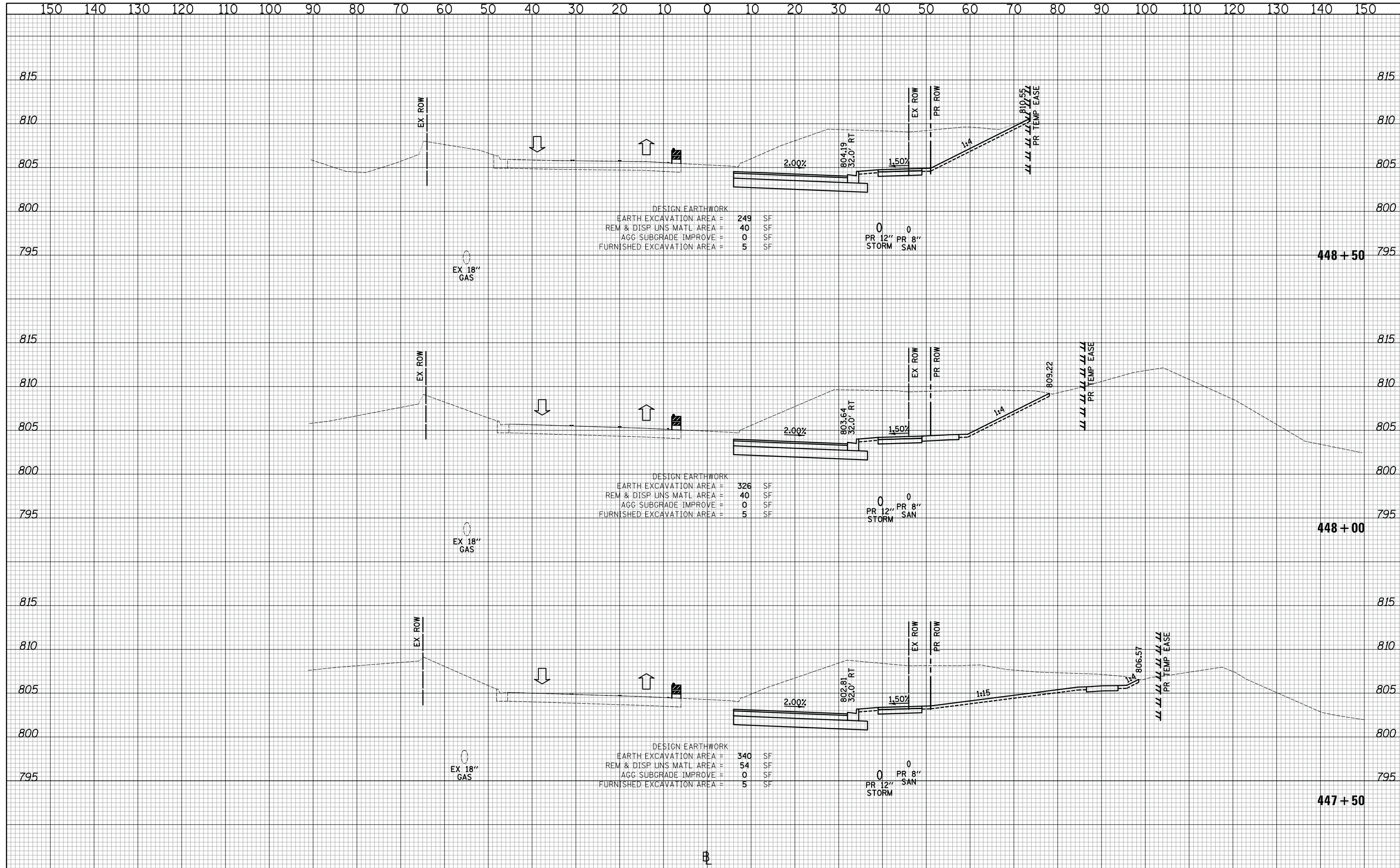
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 29 OF 89 SHEETS STA. 446+00 TO STA. 447+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	397
				CONTRACT NO. 61E22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
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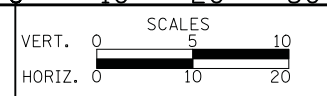
DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
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DATE - 11/13/2017	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**



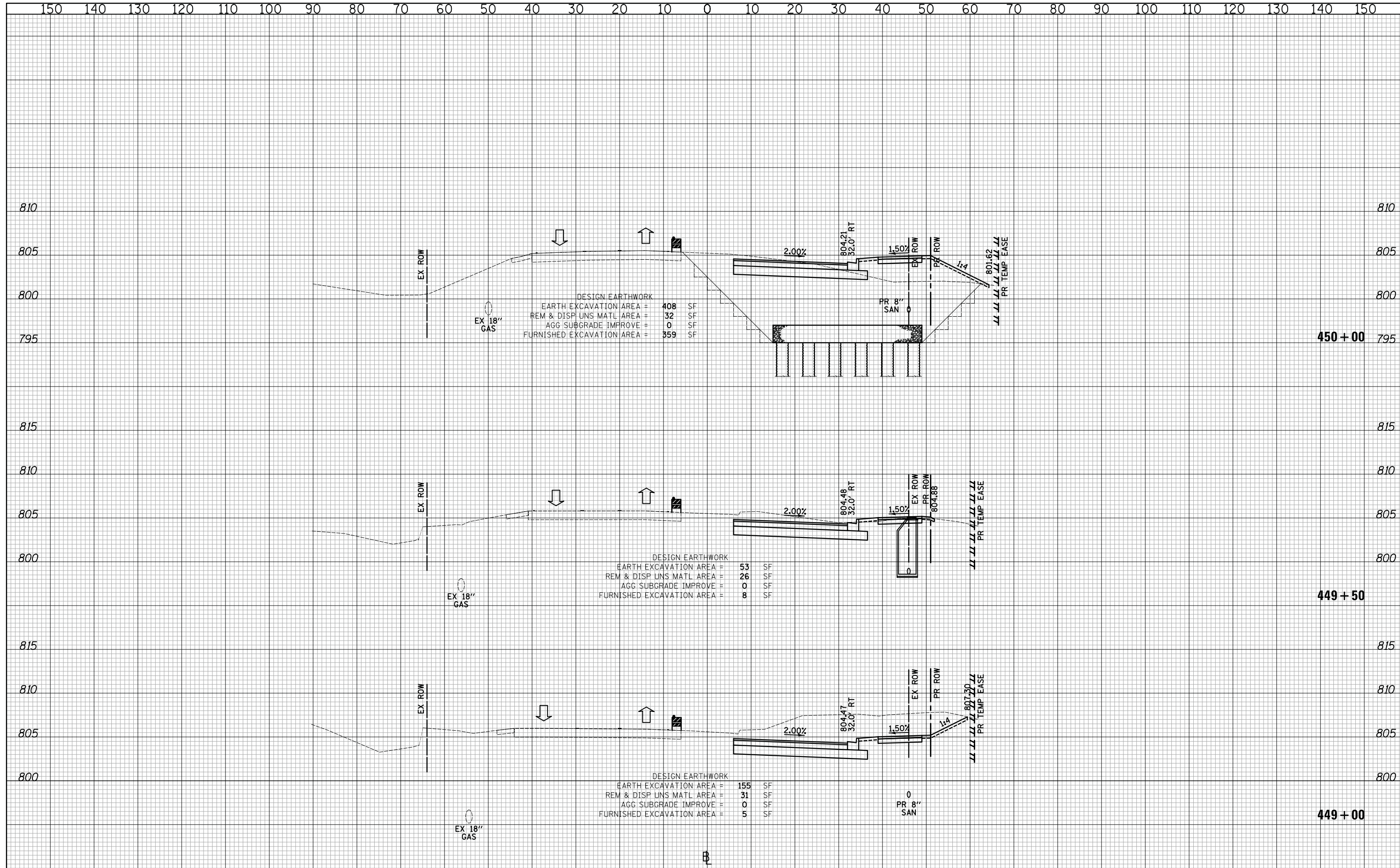
CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 30 OF 89 SHEETS STA. 447+50 TO STA. 448+50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	398
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				CONTRACT NO. 61E22

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

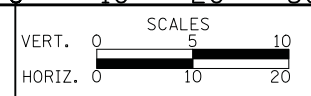
DATE	
BY	
NO.	
ORIGINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
NO.	
FINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
NO.	



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DRAWN - JRR	REVISED -
CHECKED - RTM	REVISED -
DATE - 11/13/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

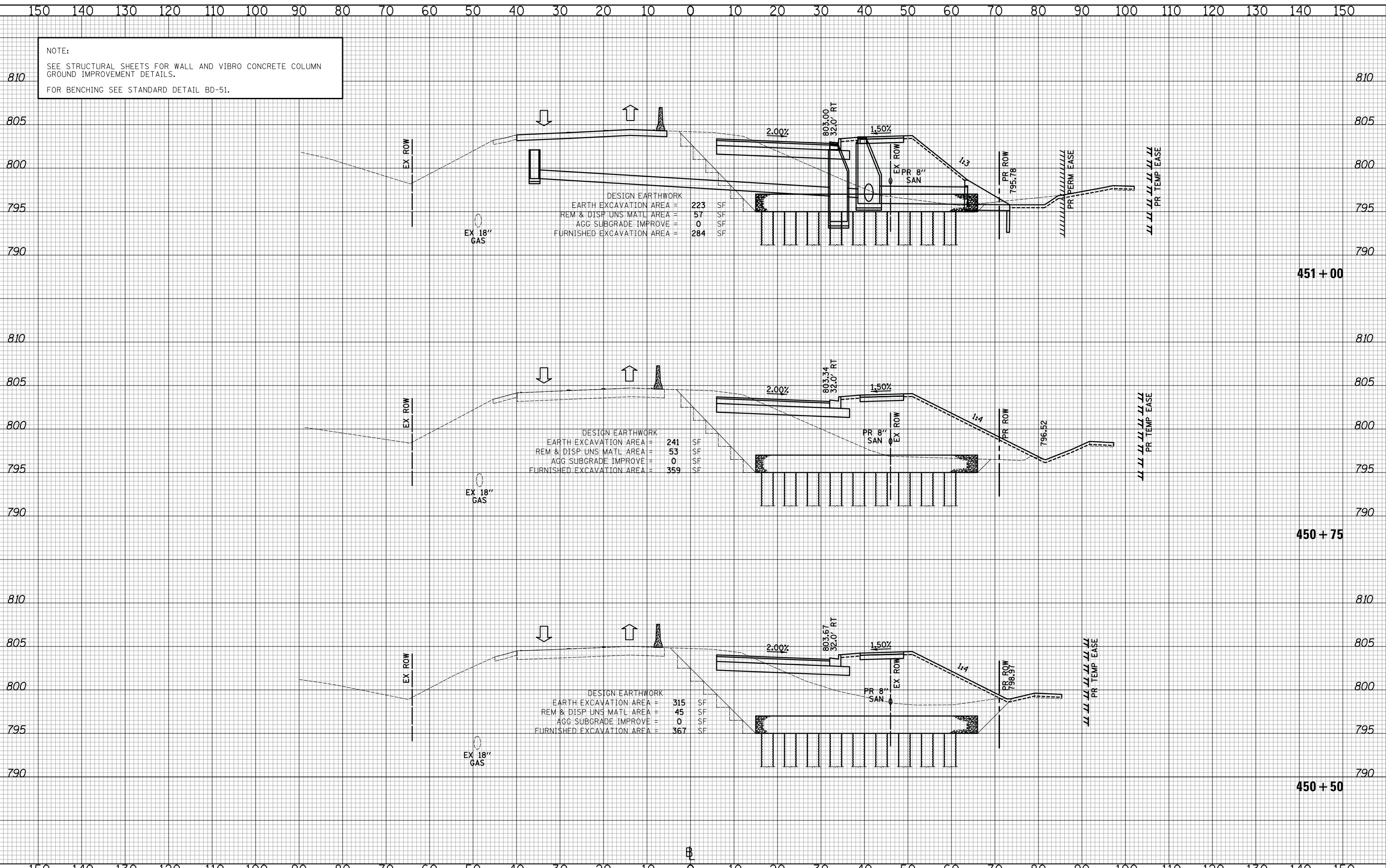


CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 31 OF 89 SHEETS STA. 449+00 TO STA. 450+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	399
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

NOTE:
SEE STRUCTURAL SHEETS FOR WALL AND VIBRO CONCRETE COLUMN
GROUND IMPROVEMENT DETAILS.
FOR BENCHING SEE STANDARD DETAIL BD-51.



DESIGN EARTHWORK
EARTH EXCAVATION AREA = 223 SF
REM & DISP UNS MATL AREA = 57 SF
AGG SUBGRADE IMPROVE = 0 SF
FURNISHED EXCAVATION AREA = 284 SF

DESIGN EARTHWORK
EARTH EXCAVATION AREA = 241 SF
REM & DISP UNS MATL AREA = 53 SF
AGG SUBGRADE IMPROVE = 0 SF
FURNISHED EXCAVATION AREA = 359 SF

DESIGN EARTHWORK
EARTH EXCAVATION AREA = 315 SF
REM & DISP UNS MATL AREA = 45 SF
AGG SUBGRADE IMPROVE = 0 SF
FURNISHED EXCAVATION AREA = 367 SF

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

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

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CHECKED - RTM	REVISED -
DATE - 11/13/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CROSS SECTIONS STAGE I - QUENTIN ROAD

SHEET NO. 32 OF 89 SHEETS STA. 450+50 TO STA. 451+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2574	08-00090-12-CH	LAKE	778	400
CONTRACT NO. 61E22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				