

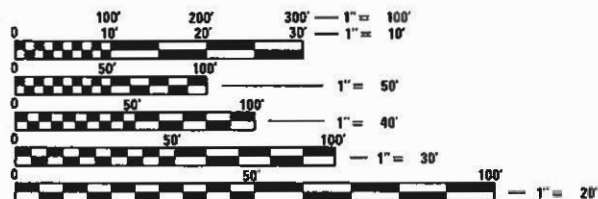
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HIGHWAY STANDARD DETAILS

- 000001-07 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
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- 601101-02 CONCRETE HEADWALL FOR PIPE UNDERDRAIN
- 701901-08 TRAFFIC CONTROL DEVICES
- 725001-01 OBJECT AND TERMINAL MARKERS
- 782006-01 GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
- B.L.R. 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- B.L.R. 22-7 TYP. APPL. OF T.C.D FOR RURAL LOC. HWYS. (2-LANE 2 WAY RURAL TRAFF.) (RD. CLOSED TO THRU TRAFF.)
- B.L.R. 23-4 TRAFFIC BARRIER TERMINAL TYPE 1
- B.L.R. 26-3 STEEL PLATE BEAM GUARDRAIL 29 IN. (731 mm) HEIGHT
- B.L.R. 27-1 TRAFFIC BARRIER TERMINAL TYPE 5A

FUNCTIONAL CLASSIFICATION: LOCAL
 DESIGN SPEED: 30 MPH
 DESIGN TRAFFIC: 2015 ADT = 150
 % TRUCKS: 6%
 % PASSENGER VEHICLES: 94%



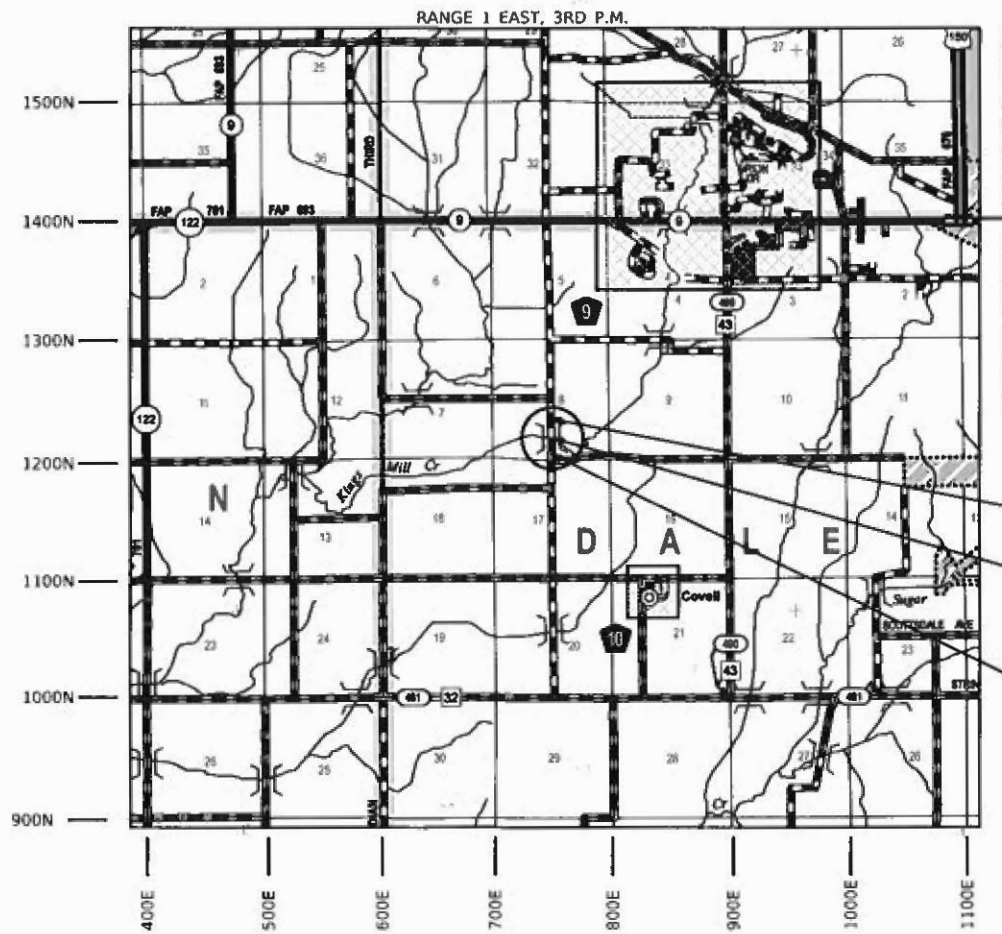
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
 1-800-892-0123
 OR 811

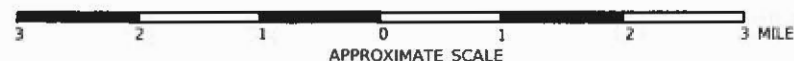
PROJECT ENGINEER: JOHN ZEMAN, PE
 PROJECT MANAGER: JOSEPH LOWRANCE, SE
 CONTRACT NO. 91583

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
**PROPOSED
 HIGHWAY PLANS**

SURFACE TRANSPORTATION PROGRAM – BRIDGE
 DALE TOWNSHIP McLEAN COUNTY
 ROUTE: T.R. 94 (750E)
 SECTION 10-11127-00-BR
 PROJECT YURA(102)
 MAITLAND BRIDGE REPLACEMENT
 STRUCTURE NO: 057-3919
 JOB NO. C-95-053-19

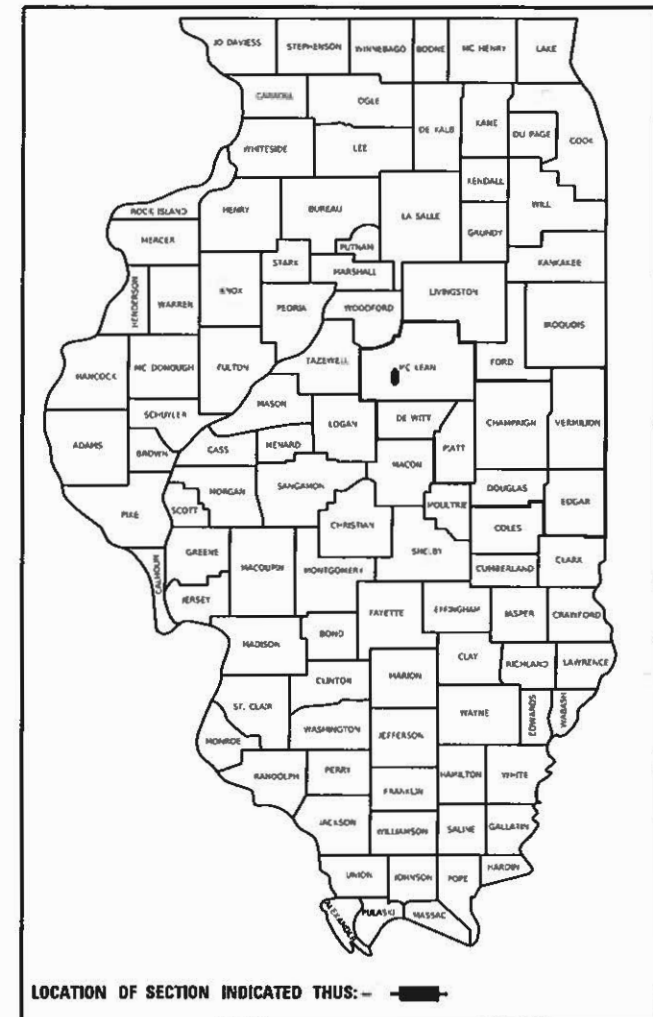


LOCATION MAP



GROSS LENGTH = 600 FT. = 0.11 MILE
 NET LENGTH = 600 FT. = 0.11 MILE

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	McLEAN	29	1
FED. AID PROJECT YURA(102)		ILLINOIS	CONTRACT NO. 91583	



IMPROVEMENT ENDS
 STATION 13+00.00
 STATION 10+00.00
 S.N. 057-3919
 THREE-SPAN
 BRIDGE OVER
 KINGS MILL
 CREEK
 IMPROVEMENT BEGINS
 STATION 7+00.00



John Zeman Date 10/04/19
 JOHN ZEMAN
 ILLINOIS PROFESSIONAL ENGINEER
 NO. 062-065759
 EXPIRATION 11/30/19

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED *October 4 20 19*
Thomas L. Stuber
 TOWNSHIP COMMISSIONER OF HIGHWAYS

SUBMITTED *OCTOBER 4 20 19*
Joseph Stuber
 COUNTY HIGHWAY ENGINEER

PASSED *OCTOBER 23 20 19*
[Signature]
 DISTRICT 5-LOCAL ROADS AND STREETS ENGINEER

RELEASING FOR BID BASED ON LIMITED REVIEW *October 23 20 19*
Dennis A. Sarnes
 REGION 3 ENGINEER

GENERAL NOTES

EXCEPT AS NOTED ON THE PLANS, PAVEMENT GRADES SHOWN ARE AT THE TOP OF PAVEMENT SURFACES.

BEFORE ORDERING PIPE CULVERTS OR PIPE DRAINS, THE CONTRACTOR SHALL CONSULT THE ENGINEER FOR EXACT LENGTHS.

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF EIGHT SAND BAGS PER BARRICADE.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUBSECTION MONUMENTS DESTROYED BY THE CONTRACTOR'S OPERATIONS.

SEEDING SHALL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN AN UNTILLABLE CONDITION. LOCATIONS TO BE SEEDED WILL BE DETERMINED BY THE ENGINEER.

THE FINISHED EARTHWORK SHALL HAVE A VEGETATION SUSTAINING SOIL COVERING THE TOP FOUR INCHES IN AREAS TO BE SEEDED OR SODDED. THE VEGETATION SUSTAINING SOIL REQUIRED WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION (SPECIAL).

ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.

ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION (SPECIAL).

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS INCLUDED IN THESE PLANS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.39 OF THE STANDARD SPECIFICATIONS.

TEMPORARY EROSION CONTROL SEEDING IS INCLUDED IN THIS CONTRACT TO SEED DISTURBED EARTH DURING TIME PERIODS WHEN PERMANENT SEEDING IS NOT ALLOWED. SOME OR ALL OF THE TEMPORARY EROSION CONTROL SEEDING WILL BE DELETED IF IT IS POSSIBLE TO PLACE PERMANENT SEEDING ON EARTH AT THE TIME OF THEIR COMPLETION.

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

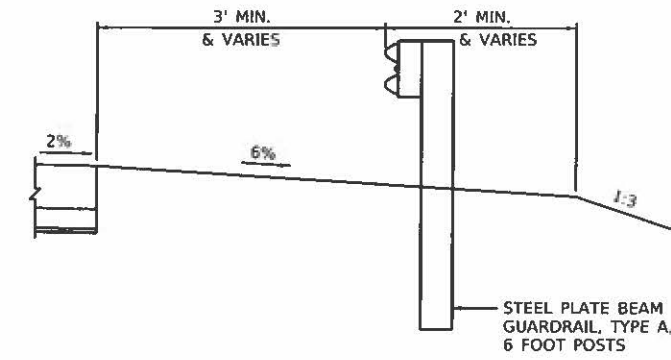
GRANULAR MATERIALS	2.05	TONS / CU YD
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THE CONTRACTOR SHALL CONTACT J.U.L.I.E. AT LEAST 48 HOURS PRIOR TO EXCAVATION TO DETERMINE WHICH UTILITIES ARE IN THE AREA.

WORK PERFORMED BY THE MCLEAN COUNTY HIGHWAY DEPARTMENT:
- PERMANENT SEEDING

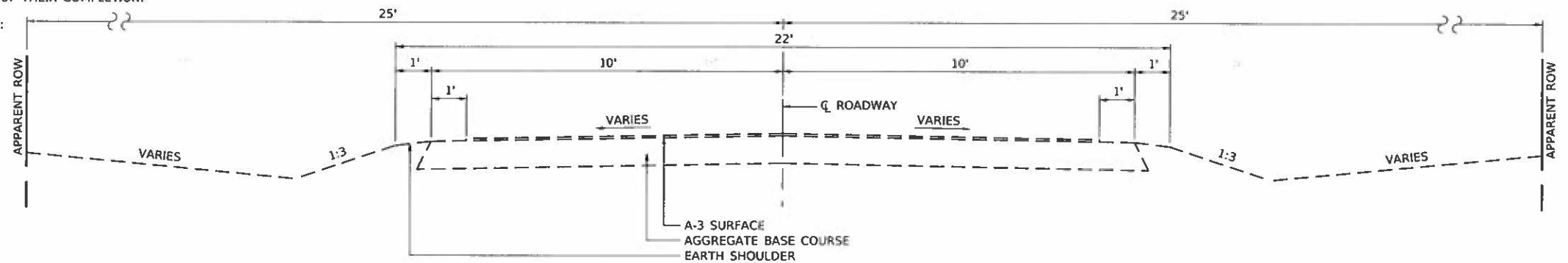
COMMITMENTS

NONE



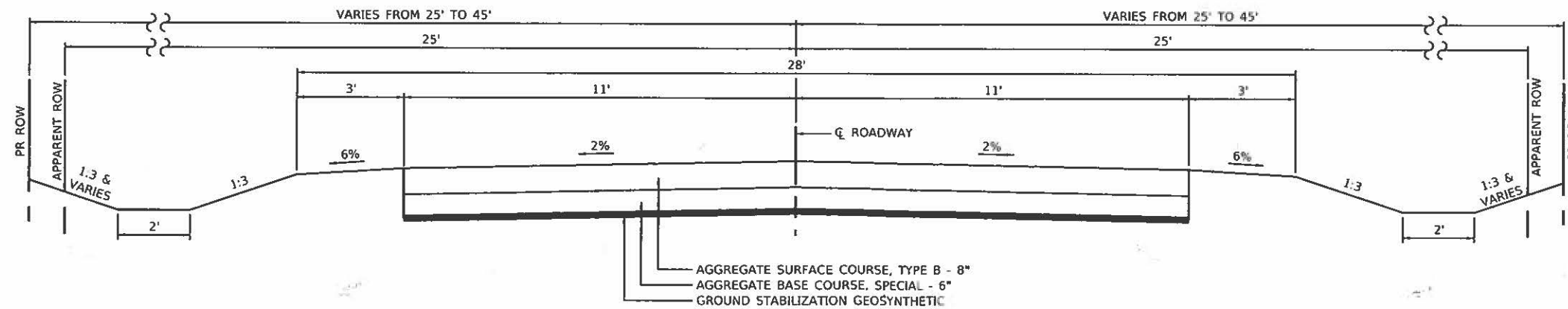
DETAIL AT GUARDRAIL

TR 94 (750E)
STA 8+52.60 RT TO STA 9+28.07 RT
STA 8+93.77 LT TO STA 9+44.24 LT
STA 10+55.76 RT TO STA 11+06.23 RT
STA 10+71.93 LT TO STA 11+47.40 LT



EXISTING TYPICAL CROSS SECTION

TR 94 (750E)



PROPOSED TYPICAL CROSS SECTION

TR 94 (750E)

STA 7+00.00 TO STA 9+10.00
STA 10+90.00 TO STA 13+00.00

SEE APPROACH PAVEMENT CONNECTOR IN MISCELLANEOUS DETAILS
STA 9+10.00 TO STA 9+21.15
STA 10+78.85 TO STA 10+90.00

USER NAME = dmayor	DESIGNED - PMG	REVISED -
PLOT SCALE = 2.0000"/ft.	DRAWN - MRA	REVISED -
PLOT DATE = 10/3/2019	CHECKED - JCZ	REVISED -
	DATE - 10/04/19	REVISED -

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	MCLEAN	29	2
			CONTRACT NO. 91583	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				ROADWAY	BRIDGE
				0004	0010
				RURAL	S.N. 057-3919
20300100	CHANNEL EXCAVATION	CU YD	575	575	
20800150	TRENCH BACKFILL	CU YD	3	3	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	100	100	
28000305	TEMPORARY DITCH CHECKS	FOOT	140	140	
28000500	INLET AND PIPE PROTECTION	EACH	1	1	
* 40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	542	542	
* 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1
* 50300225	CONCRETE STRUCTURES	CU YD	72.3		72.3
* 50300255	CONCRETE SUPERSTRUCTURE	CU YD	174.1		174.1
* 50300280	CONCRETE ENCASEMENT	CU YD	28.5		28.5
50300300	PROTECTIVE COAT	SQ YD	540		540
* 50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	81.9		81.9
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	84,800		84,800
△ 50900205	STEEL RAILING, TYPE S1	FOOT	256		256

* PAY ITEMS WITH SPECIAL PROVISION

△ SPECIALTY ITEMS

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				ROADWAY	BRIDGE
				0004 RURAL	0010 S.N. 057-3919
51201800	FURNISHING STEEL PILES HP14X73	FOOT	1,141		1,141
51202305	DRIVING PILES	FOOT	1,141		1,141
51203800	TEST PILE STEEL HP14X73	EACH	2		2
51500100	NAME PLATES	EACH	1		1
* 542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	40	40	
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	38		38
* 60108300	PIPE UNDERDRAINS 8" (SPECIAL)	FOOT	80	80	
* 61133200	FIELD TILE JUNCTION VAULTS, 3' DIA.	EACH	1	1	
* 61140000	STORM SEWERS (SPECIAL), 8"	FOOT	100	100	
Δ * 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	100	100	
Δ * 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4	4	
67100100	MOBILIZATION	L SUM	1	1	
Δ 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	
Δ 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	8	8	

* PAY ITEMS WITH SPECIAL PROVISION

Δ SPECIALTY ITEMS



USER NAME = c29eykr	DESIGNED - PMS	REVISED -
	DRAWN - MRA	REVISED -
PLOT SCALE = 2.0000' / in.	CHECKED - JCZ	REVISED -
PLOT DATE = 10/3/2019	DATE - 10/04/19	REVISED -

**McLEAN COUNTY
HIGHWAY DEPARTMENT**

SUMMARY OF QUANTITIES


SCALE: SHEET 2 OF 3 SHEETS STA. TO STA.

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BR	10-11127-00-BR	McLEAN	29	4
CONTRACT NO. 91583			[ROUNDS] FFD AID PROJECT V19A107	

				CONSTRUCTION CODE	
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	ROADWAY	BRIDGE
				0004	0010
				RURAL	S.N. 057-3919
* Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	149		149
△ * LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	4	4	
* X0320050	CONSTRUCTION LAYOUT (SPECIAL)	L SUM	1	1	
* X0325607	GROUND STABILIZATION GEOSYNTHETIC	SQ YD	1,074	1,074	
* X2020410	EARTH EXCAVATION (SPECIAL)	CU YD	1,160	1,160	
* X2070302	POROUS GRANULAR EMBANKMENT, SPECIAL	TON	118		118
* X2810228	STONE RIPRAP, CLASS B4 (SPECIAL)	TON	1,149		1,149
* X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	1	
* XX007860	AGGREGATE BASE COURSE, SPECIAL	SQ YD	1,020	1,020	

* PAY ITEMS WITH SPECIAL PROVISION

△ SPECIALTY ITEMS

 <p>2169 MCDRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 883-8455 / info@fa.com</p>	USER NAME = dneyer	DESIGNED - PHG	REVISED -	McLEAN COUNTY HIGHWAY DEPARTMENT	SUMMARY OF QUANTITIES	TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN - MPA	REVISION -	84			10-11127-00-BR	McLEAN	26	5	
	PLOT SCALE = 2,000' / 1" = 1/8" = 1/16" = 1/32"	CHECKED - JCZ	REVISION -			CONTRACT NO. 81583				
	PLOT DATE = 10/02/19	DATE - 10/04/19	REVISION -							

EARTHWORK					
LOCATION	X2020410	20300100	TOTAL EXCAVATION ADJUSTED FOR 25% SHRINKAGE	EMBANKMENT	BALANCE WASTE (+) OR SHORTAGE (-)
	EARTH EXCAVATION (SPECIAL)	CHANNEL EXCAVATION			
	CU YD	CU YD			
STA 7+00 TO STA 9+50	550		275	95	180
SN 057-3919	65	575	480	5	475
STA 10+50 TO STA 13+00	545		270	210	60
TOTAL	1,160	575	1,025	310	715

NOTE:

SEE STRUCTURE PLANS FOR DESCRIPTIONS OF EARTH EXCAVATION (SPECIAL) AND CHANNEL EXCAVATION AT SN 057-3919.
THE EXISTING ROAD SURFACE AND BASE SHALL NOT BE USED FOR EMBANKMENT AND HAS BEEN OMITTED FROM THE ADJUSTED EXCAVATION VOLUME.

PAVEMENT ITEMS			
LOCATION	40200800	X0325607	XX007860
	AGGREGATE SURFACE COURSE, TYPE B	GROUND STABILIZATION GEOSYNTHETIC	AGGREGATE BASE COURSE, SPECIAL
	TON	SQ YD	SQ YD
STA 7+00 TO STA 9+50	255	536	509
STA 10+50 TO STA 13+00	256	538	511
STA 11+81.00 RT	31		
TOTAL	542	1,074	1,020

PIPE CULVERT ITEMS			
LOCATION	20800150	28000500	542D0220
	TRENCH BACKFILL	INLET AND PIPE PROTECTION	PIPE CULVERTS, CLASS D, TYPE 1 15"
	CU YD	EACH	FOOT
STA 11+81.00 RT	3	1	40
TOTAL	3	1	40

60108300 - PIPE UNDERDRAINS 8" (SPECIAL)	
LOCATION	FOOT
2 LOCATIONS DETERMINED BY ENGINEER	80
TOTAL	80

28000250 - TEMPORARARY EROSION CONTROL SEEDING	
LOCATION	POUND
STA 7+00 TO STA 13+00	100
TOTAL	100

FIELD TILE ITEMS		
LOCATION	61133200	61140000
	FIELD TILE JUNCTION VAULTS, 3' DIA.	STORM SEWERS (SPECIAL), 8"
	EACH	FOOT
LOCATION DETERMINED BY ENGINEER	1	100
TOTAL	1	100

28000305 - TEMPORARY DITCH CHECKS	
LOCATION	FOOT
STA 8+00 RT	20
STA 8+50 LT	20
STA 9+10 RT	20
STA 9+50 LT	20
STA 10+50 RT	20
STA 10+90 LT	20
STA 12+00 LT	20
TOTAL	140

GUARDRAIL ITEMS					
LOCATION	63000001	63100075	72501000	78200005	LR631020
	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	TRAFFIC BARRIER TERMINAL, TYPE 5A	TERMINAL MARKER - DIRECT APPLIED	GUARDRAIL REFLECTORS, TYPE A	TRAFFIC BARRIER TERMINAL, TYPE 1
	FOOT	EACH	EACH	EACH	EACH
STA 8+52.60 RT TO STA 9+28.07 RT	37.5	1	1	2	1
STA 8+93.77 LT TO STA 9+44.24 LT	12.5	1	1	2	1
STA 10+55.76 RT TO STA 11+06.23 RT	12.5	1	1	2	1
STA 10+71.93 LT TO STA 11+47.40 LT	37.5	1	1	2	1
TOTAL	100	4	4	8	4



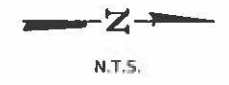
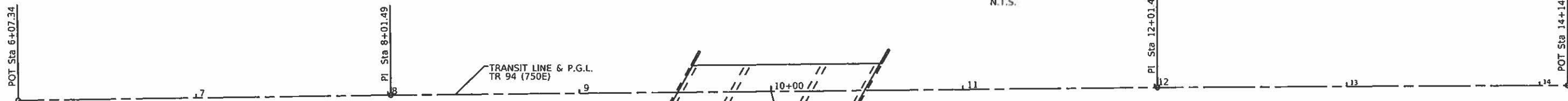
USER NAME = dmeyer	DESIGNED - PMG	REVISED -
	DRAWN - MRA	REVISED -
PLOT SCALE = 2.0000" = 1'	CHECKED - JCZ	REVISED -
PLOT DATE = 10/3/2019	DATE - 10/04/19	REVISED -

**McLEAN COUNTY
HIGHWAY DEPARTMENT**

SCHEDULE OF QUANTITIES

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

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	McLEAN	29	6
CONTRACT NO. 91583				
ILLINOIS FED. AID PROJECT YURA(102)				



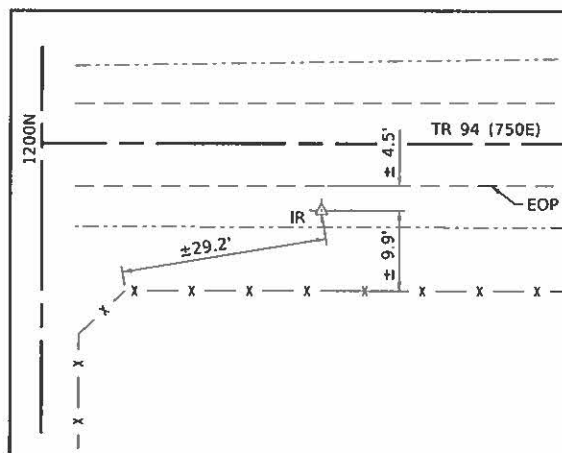
STATION	NORTHING	EASTING
6+07.34	1382236.39	764071.14
8+01.49	1382430.51	764067.97
10+00.00	1382629.01	764065.60
12+01.44	1382830.44	764063.20
14+14.38	1383043.37	764061.59

BENCHMARK:

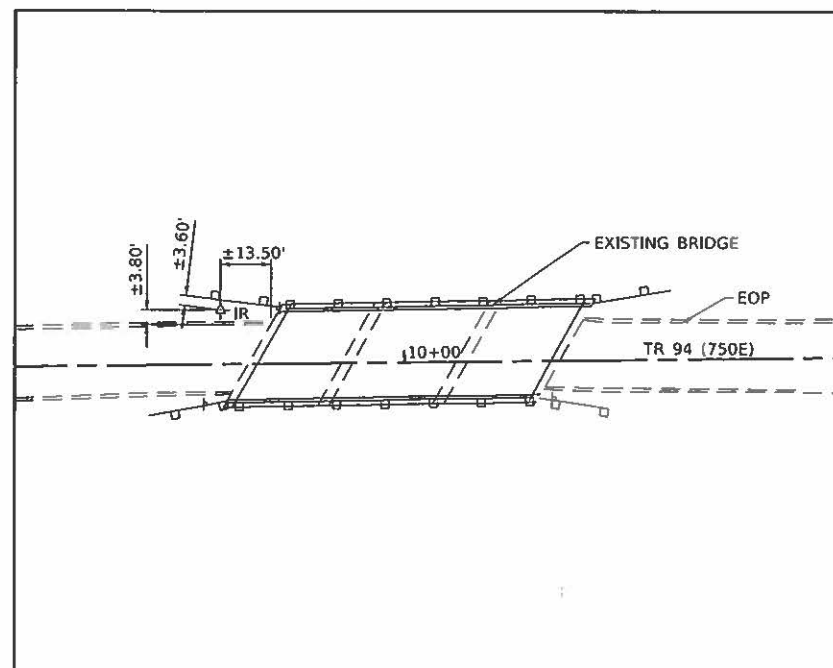
#1, R.R. SPIKE IN W FACE OF 1ST POWER POLE SOUTH OF EXISTING BRIDGE EAST SIDE OF 750E ROAD. STA 8+64.53, 24.67' RT. ELEVATION = 697.89

BENCHMARK:

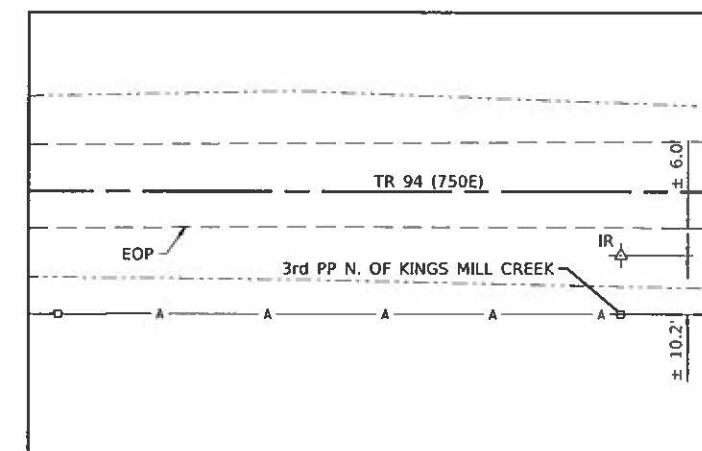
#2, R.R. SPIKE IN W FACE OF 1ST POWER POLE NORTH OF EXISTING BRIDGE EAST SIDE OF 750E ROAD. STA 12+03.86, 25.48' RT. ELEVATION = 698.85



CONTROL POINT #200
 N=1381762.76
 E=764087.67
 STA 1+3.50, 8.80' RT
 ELEV=705.07



CONTROL POINT #201
 N=1382581.70
 E=764052.24
 STA 9+52.83, 13.94' LT
 ELEV=701.73



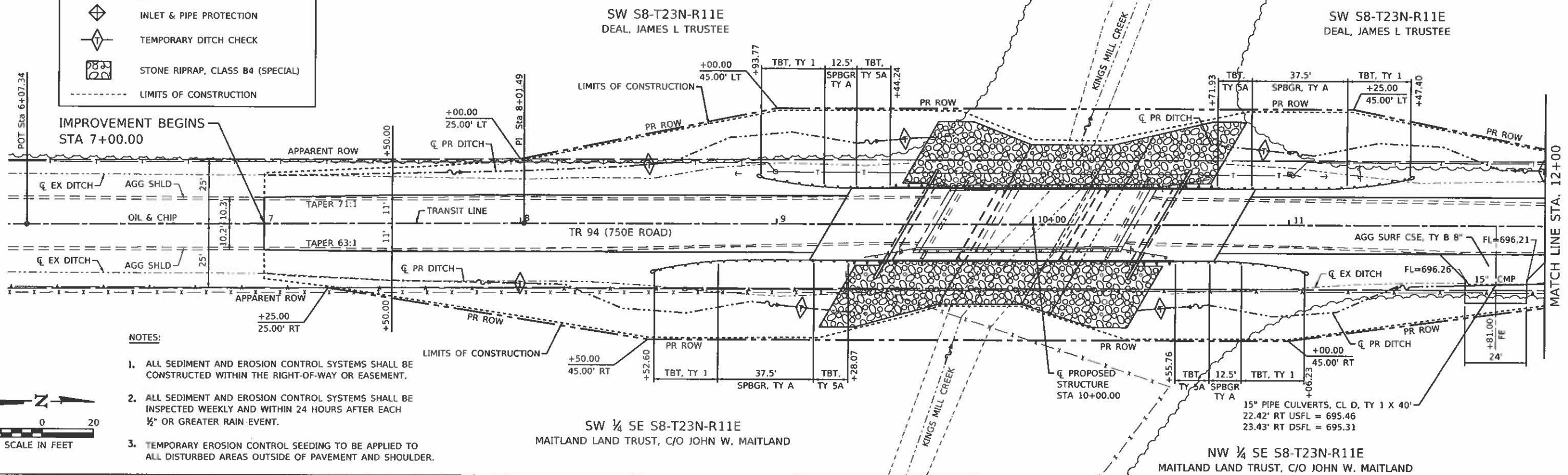
CONTROL POINT #202
 N=1383493.99
 E=764069.29
 STA 18+65.00, 15.00' RT
 ELEV=710.71

USER NAME = dmeyer	DESIGNED - PMG	REVISED -
PLOT SCALE = 40,000' 1" = 1"	DRAWN - MRA	REVISED -
PLOT DATE = 10/3/2019	CHECKED - JCZ	REVISED -
	DATE - 10/04/19	REVISED -

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	McLEAN	29	7
			CONTRACT NO. 91583	

LEGEND

- INLET & PIPE PROTECTION
- TEMPORARY DITCH CHECK
- STONE RIPRAP, CLASS B4 (SPECIAL)
- LIMITS OF CONSTRUCTION



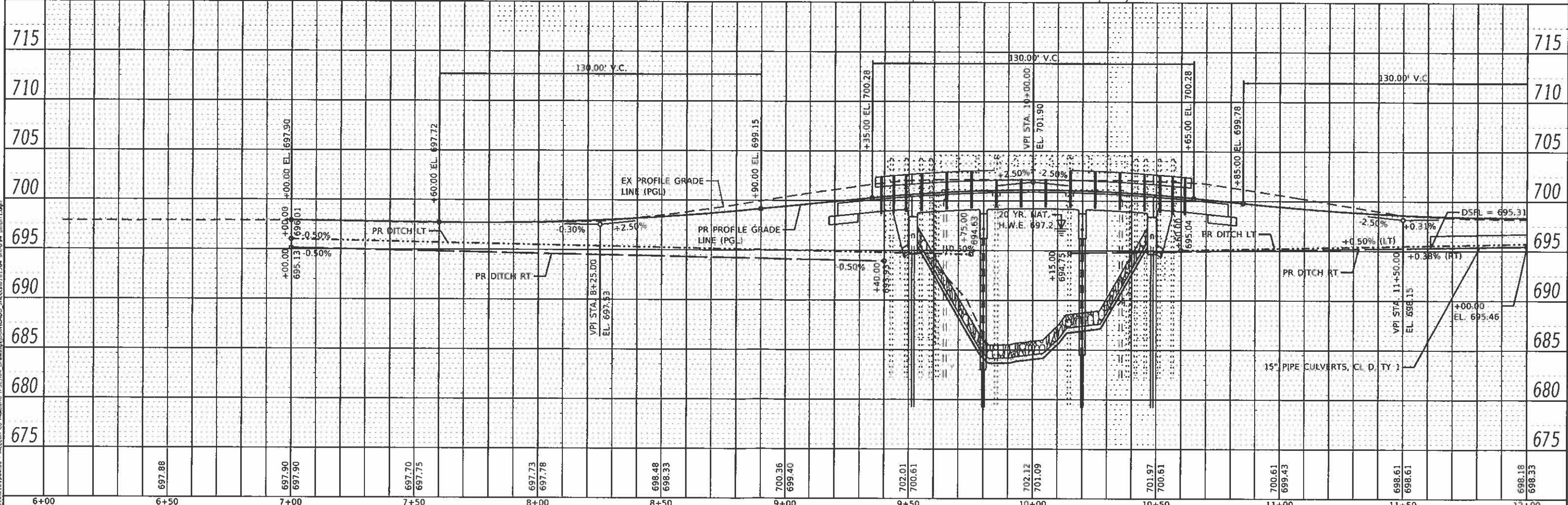
NOTES:

1. ALL SEDIMENT AND EROSION CONTROL SYSTEMS SHALL BE CONSTRUCTED WITHIN THE RIGHT-OF-WAY OR EASEMENT.
2. ALL SEDIMENT AND EROSION CONTROL SYSTEMS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EACH 1/2" OR GREATER RAIN EVENT.
3. TEMPORARY EROSION CONTROL SEEDING TO BE APPLIED TO ALL DISTURBED AREAS OUTSIDE OF PAVEMENT AND SHOULDER.



DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	
DATE	
BY	
NO.	
DESCRIPTION	
DATE	
BY	
NO.	
DESCRIPTION	

DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	
DATE	
BY	
NO.	
DESCRIPTION	
DATE	
BY	
NO.	
DESCRIPTION	



Farnsworth GROUP
 2709 McGRAW DRIVE
 BLOOMINGTON, ILLINOIS 61704
 (309) 883-8435 / info@f-w.com

USER NAME = marmstrong	DESIGNED - PMG	REVISED -
PLOT SCALE = 1" = 40.0000' / 1"	DRAWN - MRA	REVISED -
PLOT DATE = 10/3/2019	CHECKED - JCZ	REVISED -
	DATE - 10/04/19	REVISED -

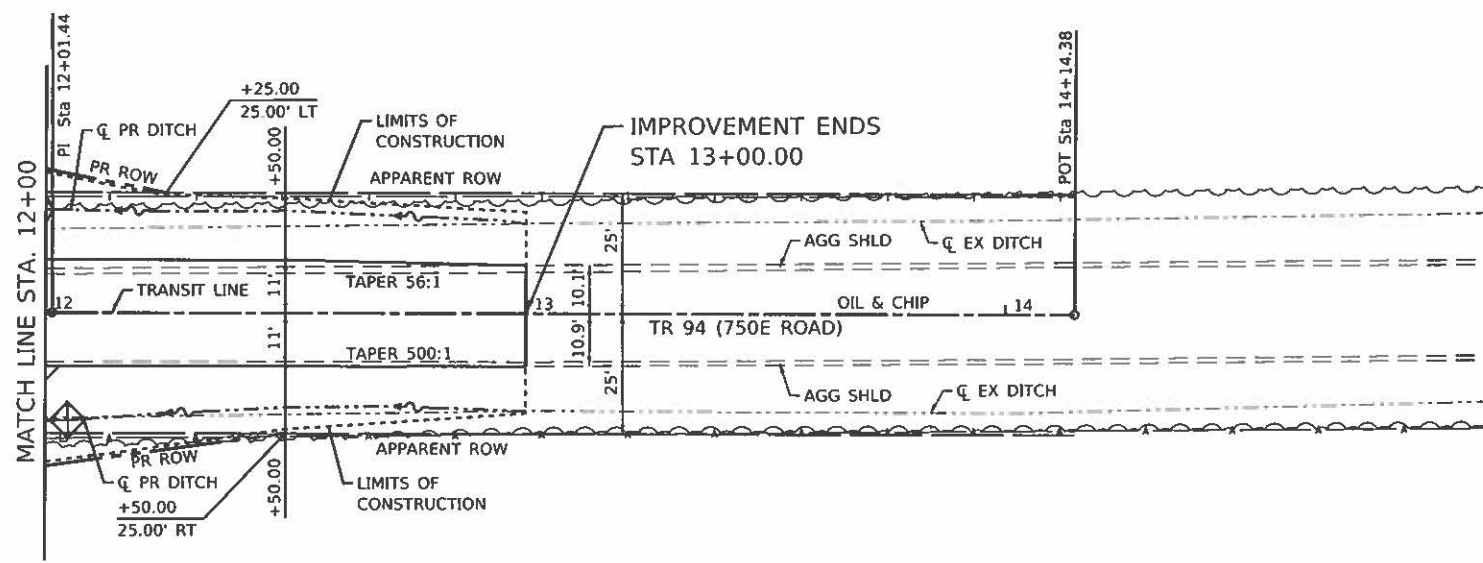
McLEAN COUNTY HIGHWAY DEPARTMENT

PLAN AND PROFILE

SCALE: 1"=30' | SHEET 1 OF 2 SHEETS | STA 6+00.00 TO STA 12+00.00

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	McLEAN	29	8
CONTRACT NO. 91583				

SW S8-T23N-R11E
DEAL, JAMES L TRUSTEE



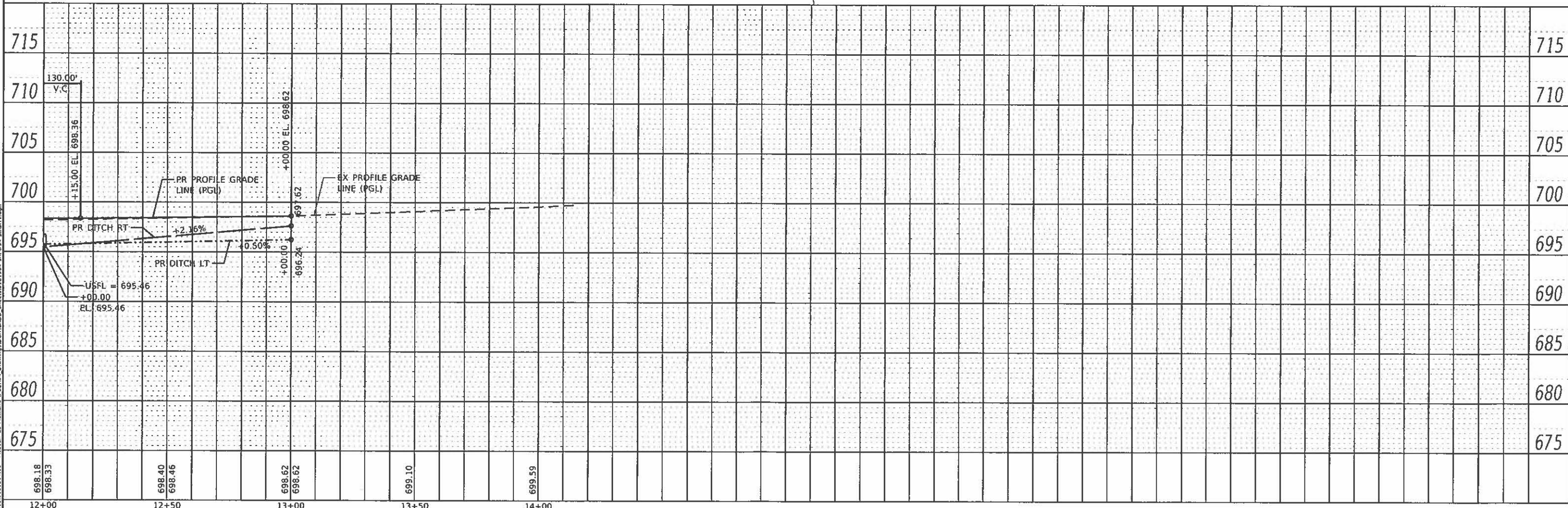
NW ¼ SE S8-T23N-R11E
MAITLAND LAND TRUST, C/O JOHN W. MAITLAND

NOTES:

1. ALL SEDIMENT AND EROSION CONTROL SYSTEMS SHALL BE CONSTRUCTED WITHIN THE RIGHT-OF-WAY OR EASEMENT.
2. ALL SEDIMENT AND EROSION CONTROL SYSTEMS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EACH ½" OR GREATER RAIN EVENT.
3. TEMPORARY EROSION CONTROL SEEDING TO BE APPLIED TO ALL DISTURBED AREAS OUTSIDE OF PAVEMENT AND SHOULDER.

LEGEND

	INLET & PIPE PROTECTION
	TEMPORARY DITCH CHECK
	STONE RIPRAP, CLASS 84 (SPECIAL)
	LIMITS OF CONSTRUCTION



DATE	
BY	
REVISIONS	
DATE	
BY	
NO.	

DATE	
BY	
REVISIONS	
DATE	
BY	
NO.	

Farnsworth GROUP
2700 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 883-8435 | info@f-w.com

USER NAME = mainstrong	DESIGNED - PMG	REVISED -
PLOT SCALE = 40.0000' / in.	DRAWN - MRA	REVISED -
PLOT DATE = 10/3/2019	CHECKED - JCZ	REVISED -
	DATE = 10/04/19	REVISED -

MCLEAN COUNTY
HIGHWAY DEPARTMENT

PLAN AND PROFILE

SCALE: 1"=20' | SHEET 2 OF 2 SHEETS | STA. 12+00.00 TO STA. 14+00.00

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	MCLEAN	29	9
CONTRACT NO. 91583				

Benchmarks: #1, R.R. Spike in West face of 1st power pole South of existing bridge, East side of 750E Road, Elevation = 697.89, Sta 8+64.43 / 24.67' RT.
 #2, R.R. Spike in West face of 1st power pole North of existing bridge, East side of 750E Road, Elevation = 698.85, Sta 12+03.74 / 25.48' RT.

Existing Structure: SN 057-3901 was constructed in 1958 by McLean County. The superstructure consists of a three-span continuous concrete slab bridge. Closed abutments consist of creosoted timber piles, timber lagging, and steel rod tiebacks. Pile bent piers are supported by precast concrete pile bents. The back to back of abutments length is 79'-10 1/2" and the out to out deck width is 26'-4". The span lengths are 23'-8", 29'-8", and 23'-8". The structure is on a 30° left forward skew. The structure is to be replaced during road closure.

No Salvage.

DESIGN SPECIFICATIONS
 2017 AASHTO LRFD Bridge Design Specifications,
 Customary U.S. Units, 8th Edition

DESIGN STRESSES
 FIELD UNITS

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

LOADING HL-93

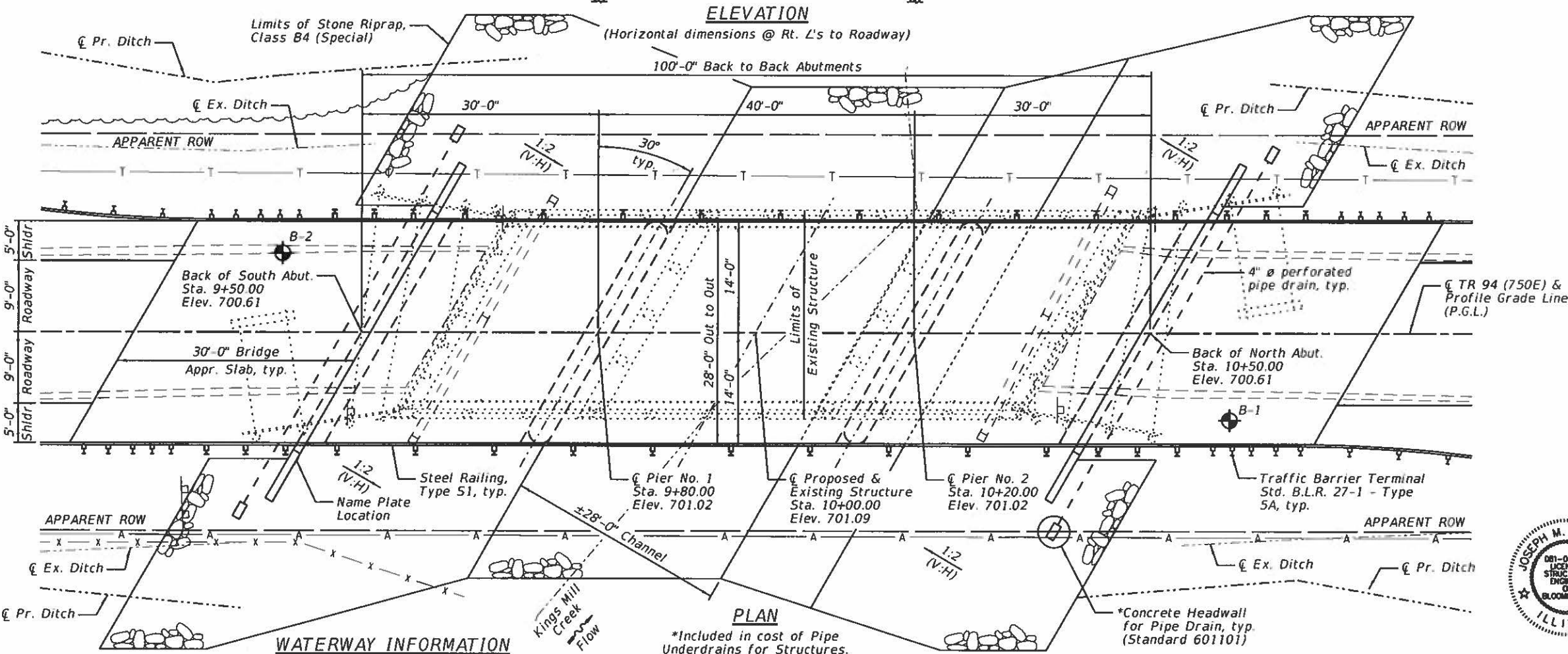
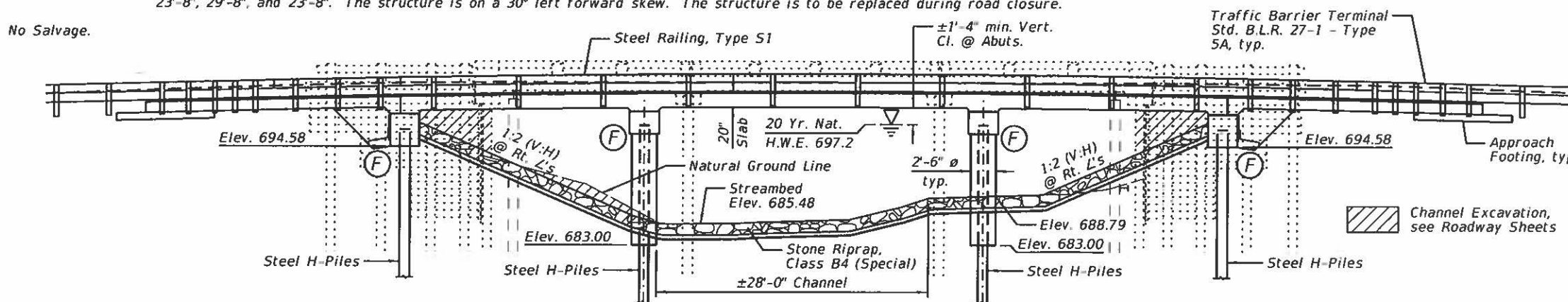
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (SD1) = 0.208g
 Design Spectral Acceleration at 0.2 sec. (SD5) = 0.125g
 Soil Site Class = D (assumed)

INDEX OF SHEETS

SHEET NO.	TITLE
1	GENERAL PLAN AND ELEVATION
2-3	GENERAL DATA
4	TOP OF SLAB ELEVATIONS
5	TOP OF APPROACH ELEVATIONS
6	SUPERSTRUCTURE
7	SUPERSTRUCTURE DETAILS
8-9	BRIDGE APPROACH SLAB DETAILS
10	STEEL RAILING, TYPE S1
11	ABUTMENTS
12	ABUTMENT DETAILS
13	PIER DETAILS
14	HP PILE DETAILS
15	SOIL BORING LOGS



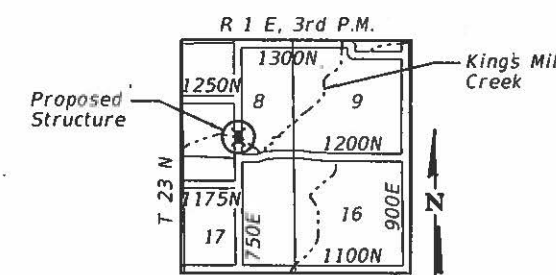
Drainage Area = 23.2 Sq. Mi. Exist. Low Grade Elev. 697.7 @ Sta. 7+55
 Prop. Low Grade Elev. 697.7 @ Sta. 7+74

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	5	1,890	487	482	695.9	0.2	0.2	696.1	696.1
Overtop Existing	20	3,282	567	577	697.2	0.5	0.5	697.7	697.7
Overtop Proposed	30	3,700	580	607	697.4	0.7	0.9	698.1	698.1
Base	40	4,000		607	697.6		0.9		698.5
Scour Design Check	100	4,860	611	629	697.9	0.8	0.9	698.7	698.8
Max. Calc.	200	5,632	629	652	698.2	0.8	1.3	699.0	699.5
	500	6,610	648	675	698.5	0.7	1.1	699.2	699.6

10 Yr. Velocity = 5.1 ft/sec. (Proposed)
 10 Yr. Velocity = 5.0 ft/sec. (Existing)

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.)				Item 113
	N. Abut.	Pier 1	Pier 2	S. Abut.	
Q20	N/A	679.5	681.0	N/A	5
Q100	N/A	682.0	683.5	N/A	
Q200	N/A	682.1	683.6	N/A	
Design	694.6	679.5	681.0	694.6	
Check	694.6	679.5	681.0	694.6	



I certify that to the best of my knowledge, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO Standard Specifications for Highway Bridges".



Joseph M. Lowrance Date 10-4-19
 JOSEPH M. LOWRANCE
 ILLINOIS STRUCTURAL ENGINEER
 NO. 081-006446
 Exp. Date 11/30/20

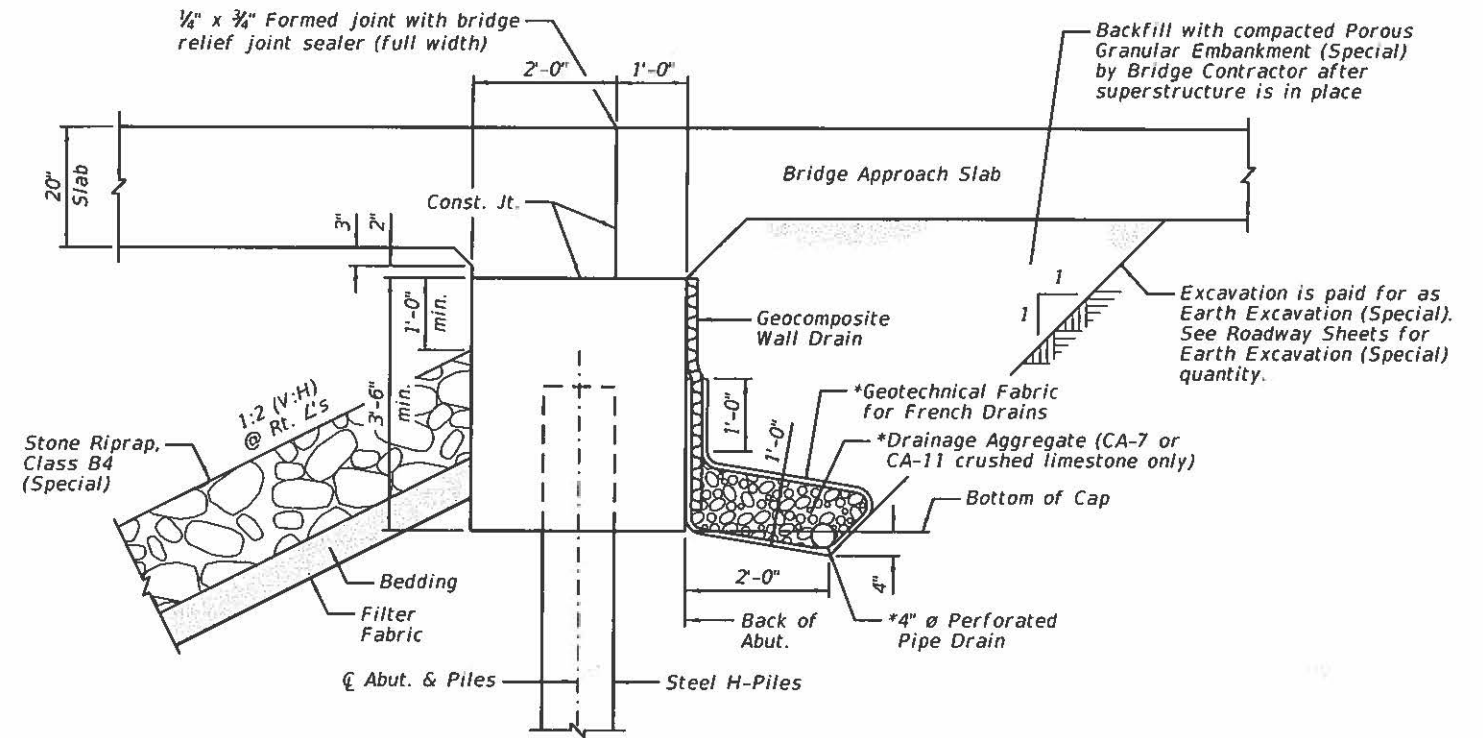
**TR 94 (750E ROAD) OVER
 KINGS MILL CREEK
 SECTION 10-11127-00-BR
 McLEAN COUNTY
 STATION 10+00.00
 STRUCTURE 057-3919**

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	1		1
Concrete Structures	Cu. Yd.	20.0	52.3	72.3
Concrete Superstructure	Cu. Yd.	174.1		174.1
Concrete Encasement	Cu. Yd.		28.5	28.5
Protective Coat	Sq. Yd.	527	13	540
Concrete Superstructure (Approach Slab)	Cu. Yd.	81.9		81.9
Reinforcement Bars, Epoxy Coated	Pound	78,090	6,710	84,800
Steel Railing, Type S1	Foot	256		256
Furnishing Steel Piles HP14x73	Foot		1,141	1,141
Driving Piles	Foot		1,141	1,141
Test Pile Steel HP14x73	Each		2	2
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		38	38
Pipe Underdrains for Structures 4"	Foot		149	149
Porous Granular Embankment, Special	Ton		118	118
Stone Riprap, Class B4 (Special)	Ton		1,149	1,149

GENERAL NOTES:

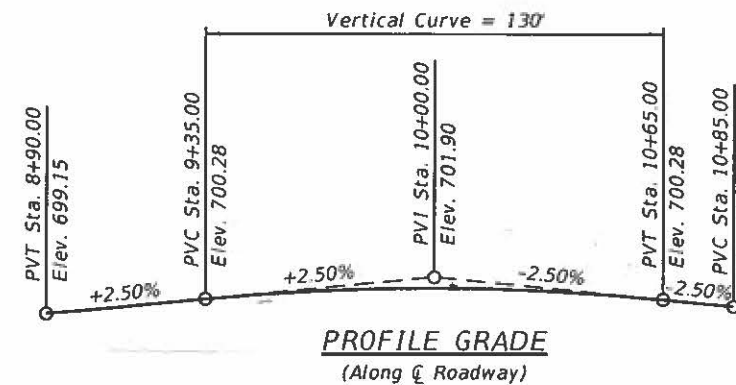
- 1.) Reinforcement bars designated (E) shall be epoxy coated.
- 2.) Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- 3.) The Contractor shall make allowance for the deflection of forms, shrinkage, and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.
- 4.) Protective Coat shall be applied to the surfaces identified in Article 503.19 of the Standard Specifications as well as the sides of the deck and approach slabs and the exposed surfaces of the wingwalls.
- 5.) Excavation required for construction of Stone Riprap, Class B4 (Special) will be paid for as "Channel Excavation". See Roadway Sheets for Channel Excavation quantity.



SECTION THRU ABUTMENT
(Similar to South Abutment)

NOTES:

- 1.) Horizontal dimensions @ Rt. L's to Abutment.
- 2.) *Included in the cost of Pipe Underdrains for Structures (see Special Provisions).
- 3.) All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

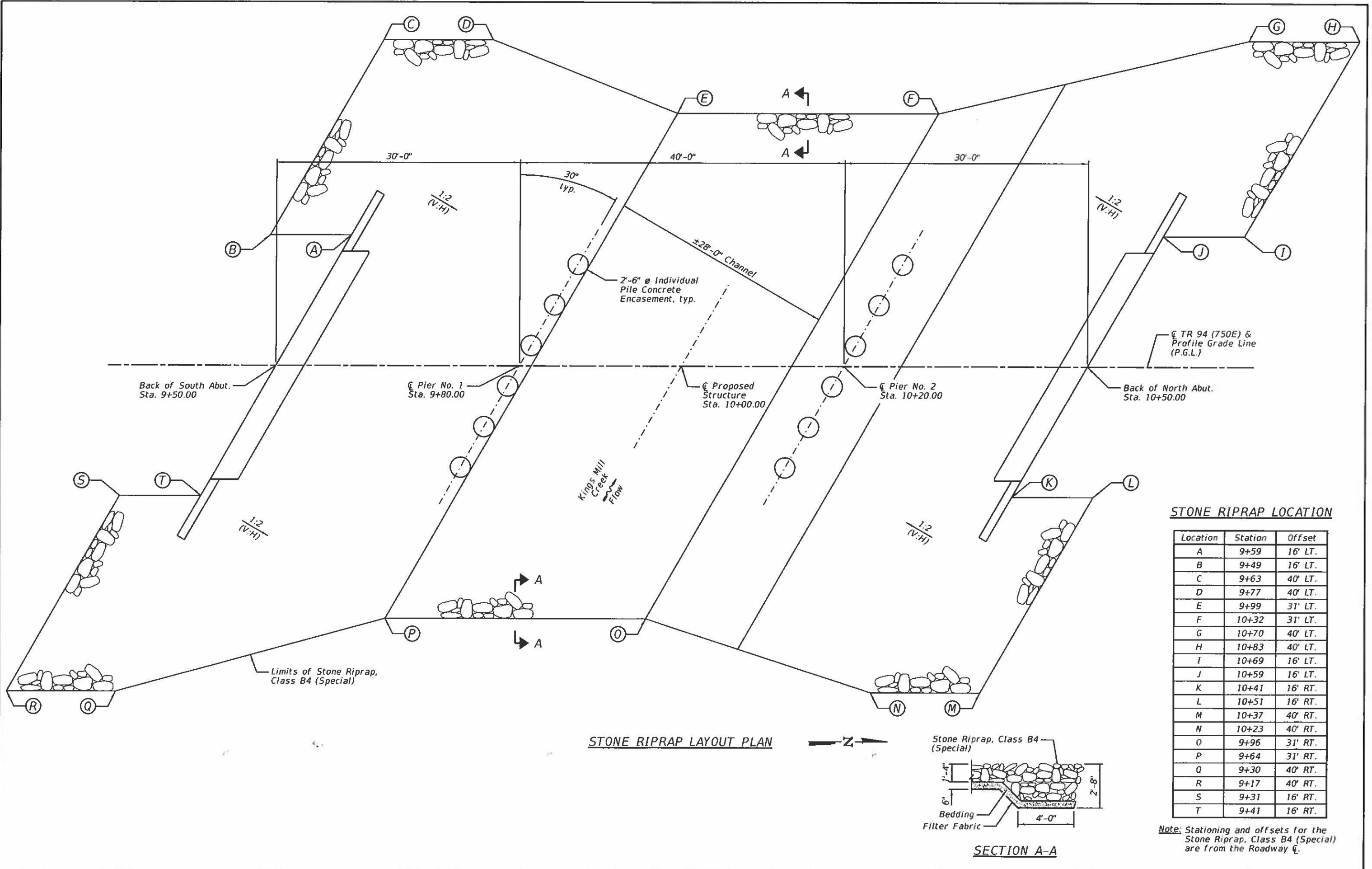


KINGS MILL CREEK
BUILT 20__ BY
MCLEAN COUNTY
SECTION 10-11127-00-BR
STATION 10+00.00
STR. NO. 057-3919 LOADING HL-93

NAME PLATE
See Standard 515001

DESIGNED - TJP/PMG	REVISED
CHECKED - JCZ	REVISED
DRAWN - DJM	REVISED
DATE - 10/04/19	REVISED
CHECKED - JML	REVISED

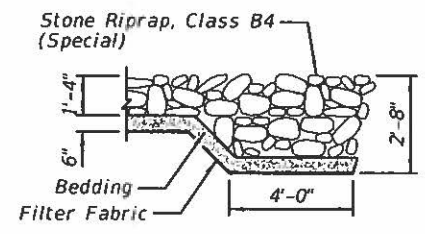
TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	MCLEAN	29	11
			CONTRACT NO. 91583	



STONE RIPRAP LOCATION

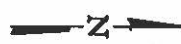
Location	Station	Offset
A	9+59	16' LT.
B	9+49	16' LT.
C	9+63	40' LT.
D	9+77	40' LT.
E	9+99	31' LT.
F	10+32	31' LT.
G	10+70	40' LT.
H	10+83	40' LT.
I	10+69	16' LT.
J	10+59	16' LT.
K	10+41	16' RT.
L	10+51	16' RT.
M	10+37	40' RT.
N	10+23	40' RT.
O	9+96	31' RT.
P	9+64	31' RT.
Q	9+30	40' RT.
R	9+17	40' RT.
S	9+31	16' RT.
T	9+41	16' RT.

Note: Stationing and offsets for the Stone Riprap, Class B4 (Special) are from the Roadway C.



SECTION A-A

STONE RIPRAP LAYOUT PLAN



WEST EDGE OF SLAB

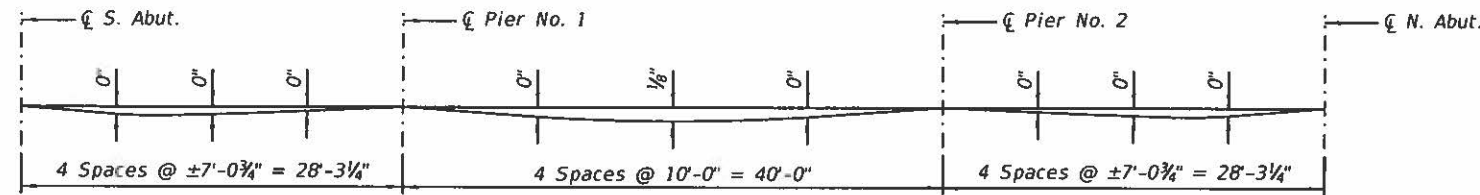
Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted for Dead Load Deflection
S. End of Slab	9+59.24	-14.00	700.49	700.49
☉ Piles South Abutment	9+59.81	-14.00	700.50	700.50
A	9+69.81	-14.00	700.64	700.64
B	9+79.81	-14.00	700.73	700.73
☉ Pier No. 1	9+88.08	-14.00	700.78	700.78
C	9+98.08	-14.00	700.81	700.82
D	10+08.08	-14.00	700.80	700.81
E	10+18.08	-14.00	700.75	700.76
☉ Pier No. 2	10+28.08	-14.00	700.66	700.66
F	10+38.08	-14.00	700.53	700.53
G	10+48.08	-14.00	700.37	700.37
☉ Piles North Abutment	10+56.35	-14.00	700.20	700.20
N. End of Slab	10+56.93	-14.00	700.19	700.19

☉ ROADWAY & PROFILE GRADE LINE (P.G.L.)

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted for Dead Load Deflection
S. End of Slab	9+51.15	0.00	700.63	700.63
☉ Piles South Abutment	9+51.73	0.00	700.64	700.64
A	9+61.73	0.00	700.81	700.81
B	9+71.73	0.00	700.94	700.94
☉ Pier No. 1	9+80.00	0.00	701.02	701.02
C	9+90.00	0.00	701.07	701.08
D	10+00.00	0.00	701.09	701.10
E	10+10.00	0.00	701.07	701.08
☉ Pier No. 2	10+20.00	0.00	701.02	701.02
F	10+30.00	0.00	700.92	700.92
G	10+40.00	0.00	700.78	700.79
☉ Piles North Abutment	10+48.27	0.00	700.64	700.64
N. End of Slab	10+48.85	0.00	700.63	700.63

EAST EDGE OF SLAB

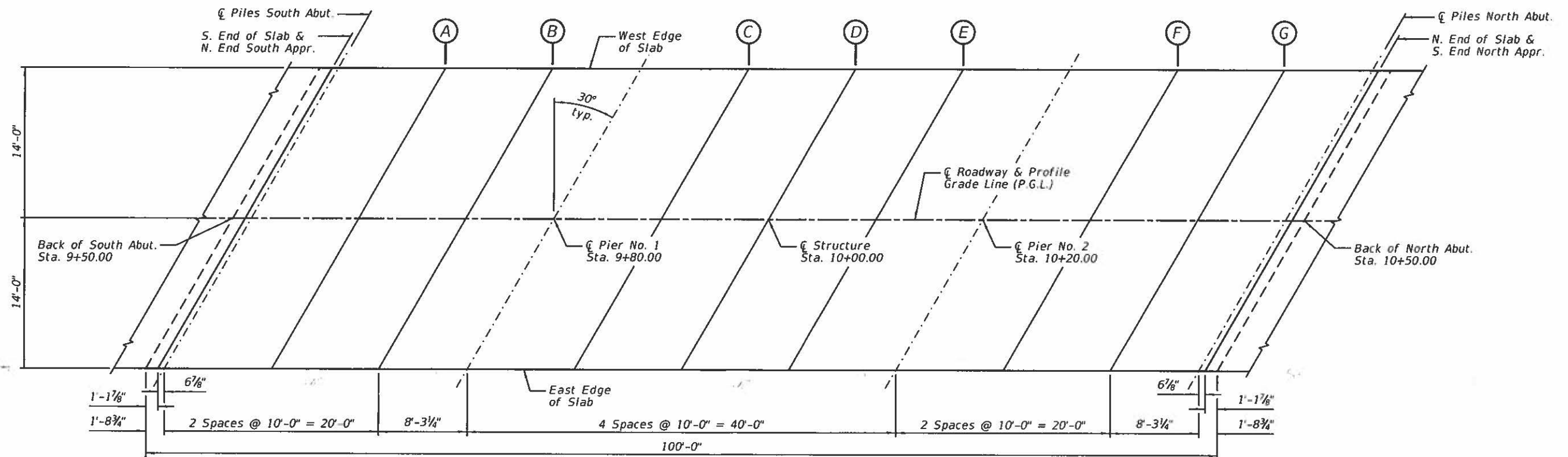
Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted for Dead Load Deflection
S. End of Slab	9+43.07	14.00	700.19	700.19
☉ Piles South Abutment	9+43.65	14.00	700.20	700.20
A	9+53.65	14.00	700.40	700.40
B	9+63.65	14.00	700.56	700.56
☉ Pier No. 1	9+71.92	14.00	700.66	700.66
C	9+81.92	14.00	700.75	700.76
D	9+91.92	14.00	700.80	700.81
E	10+01.92	14.00	700.81	700.82
☉ Pier No. 2	10+11.92	14.00	700.78	700.78
F	10+21.92	14.00	700.72	700.72
G	10+31.92	14.00	700.62	700.62
☉ Piles North Abutment	10+40.19	14.00	700.50	700.50
N. End of Slab	10+40.76	14.00	700.49	700.49



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

The above deflections are not for use in the field if the Engineer is working from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection."



PLAN



WEST EDGE APPROACH

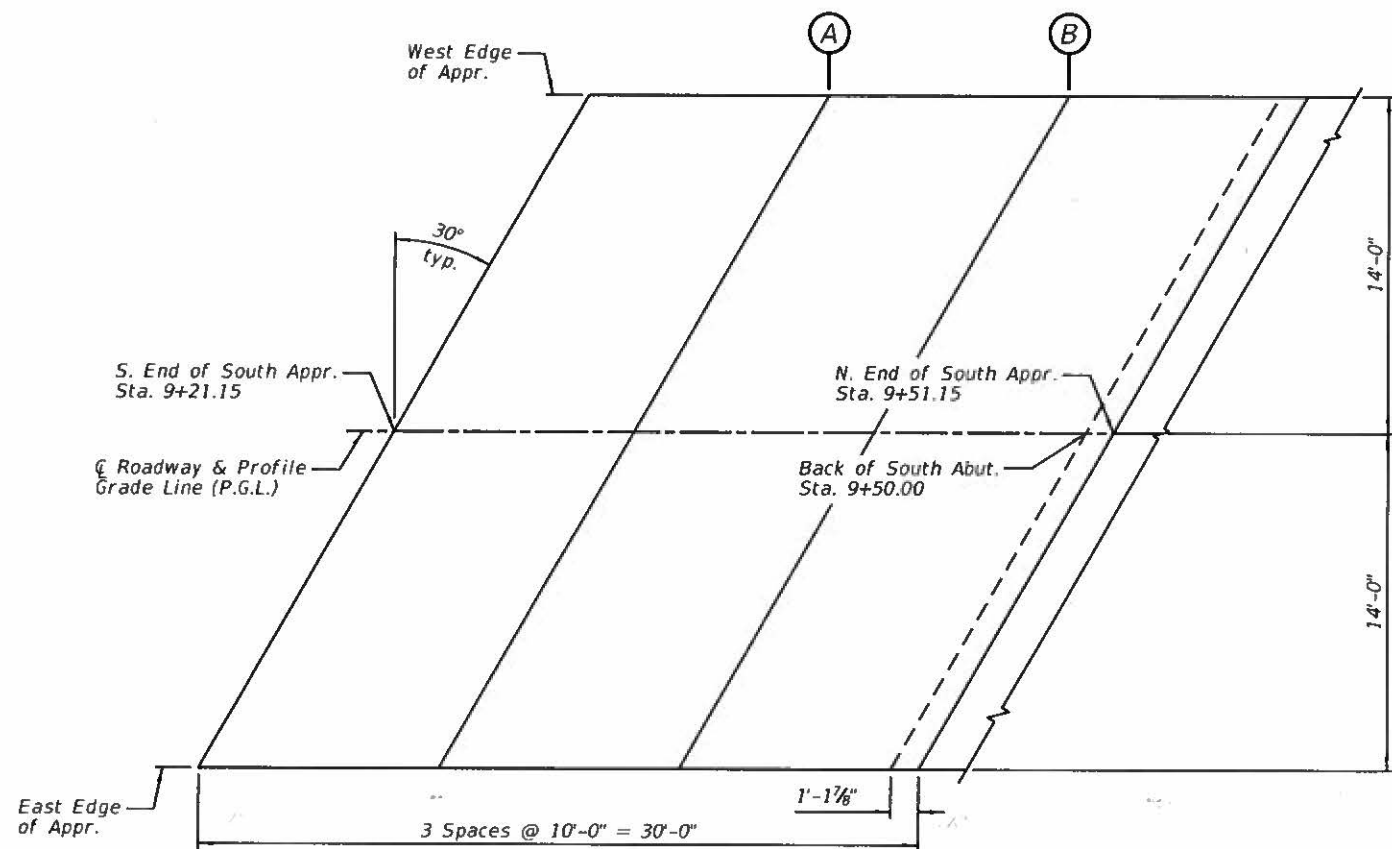
Location	Station	Offset	Theoretical Grade Elevation
S. End of South Appr.	9+29.24	-14.00	699.86
A	9+39.24	-14.00	700.10
B	9+49.24	-14.00	700.32
Back of South Abut.	9+58.08	-14.00	700.47
N. End of South Appr.	9+59.24	-14.00	700.49

☉ ROADWAY & PROFILE GRADE LINE (P.G.L.)

Location	Station	Offset	Theoretical Grade Elevation
S. End of South Appr.	9+21.15	0.00	699.93
A	9+31.15	0.00	700.18
B	9+41.15	0.00	700.43
Back of South Abut.	9+50.00	0.00	700.61
N. End of South Appr.	9+51.15	0.00	700.63

EAST EDGE APPROACH

Location	Station	Offset	Theoretical Grade Elevation
S. End of South Appr.	9+13.07	14.00	699.45
A	9+23.07	14.00	699.70
B	9+33.07	14.00	699.95
Back of South Abut.	9+41.92	14.00	700.16
N. End of South Appr.	9+43.07	14.00	700.19



SOUTH APPROACH SLAB PLAN

WEST EDGE APPROACH

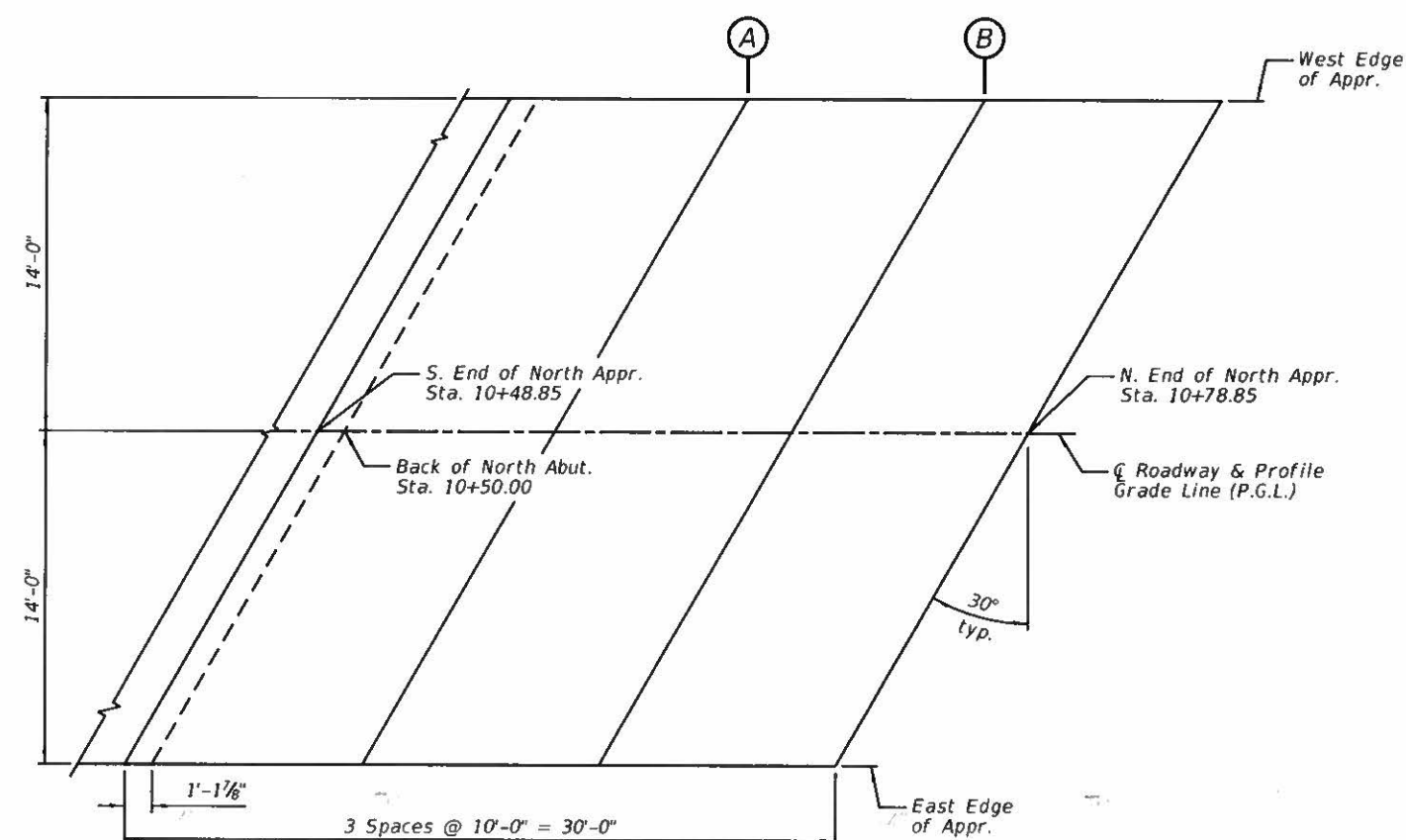
Location	Station	Offset	Theoretical Grade Elevation
S. End of North Appr.	10+56.93	-14.00	700.19
Back of North Abut.	10+58.08	-14.00	700.16
A	10+66.93	-14.00	699.95
B	10+76.93	-14.00	699.70
N. End of North Appr.	10+86.93	-14.00	699.45

☉ ROADWAY & PROFILE GRADE LINE (P.G.L.)

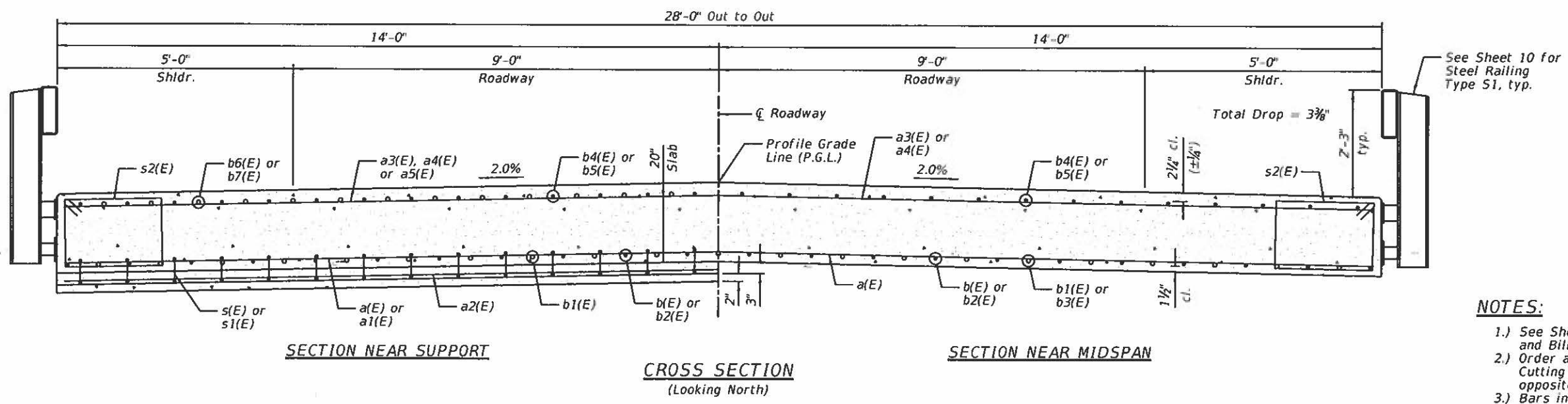
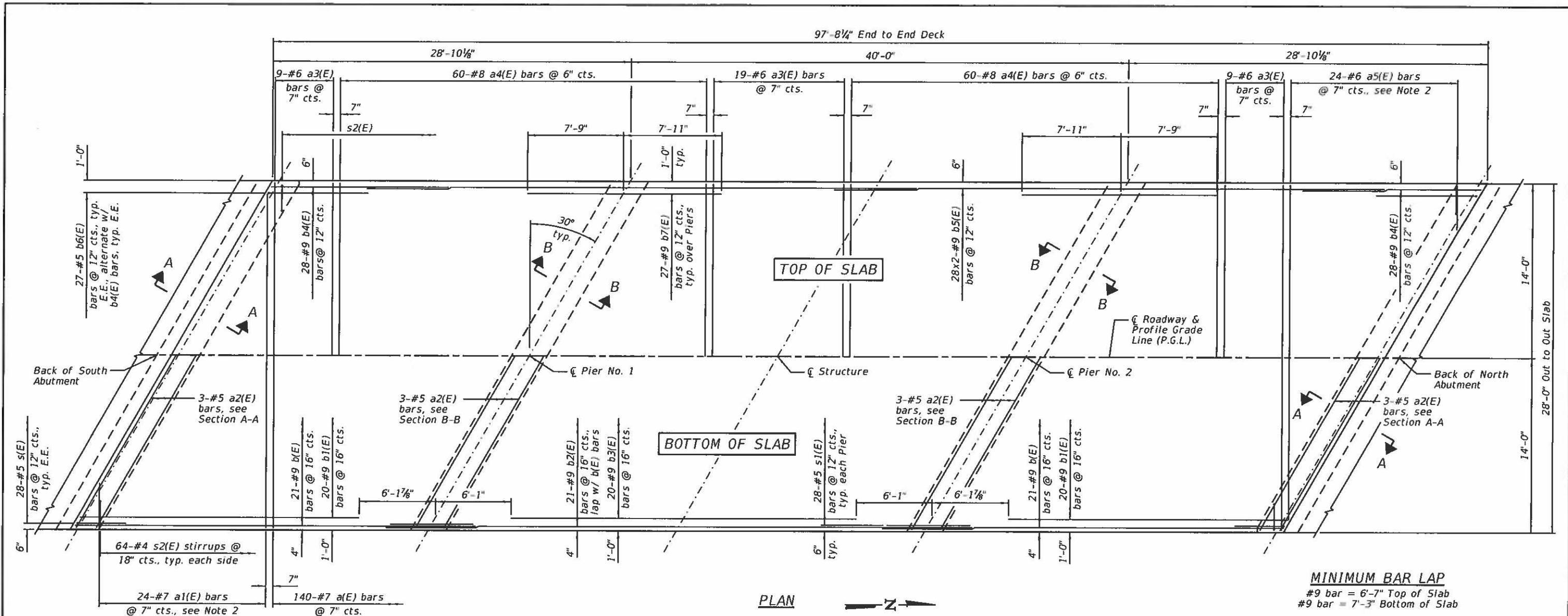
Location	Station	Offset	Theoretical Grade Elevation
S. End of North Appr.	10+48.85	0.00	700.63
Back of North Abut.	10+50.00	0.00	700.61
A	10+58.85	0.00	700.43
B	10+68.85	0.00	700.18
N. End of North Appr.	10+78.85	0.00	699.93

EAST EDGE APPROACH

Location	Station	Offset	Theoretical Grade Elevation
S. End of North Appr.	10+40.76	14.00	700.49
Back of North Abut.	10+41.92	14.00	700.47
A	10+50.76	14.00	700.32
B	10+60.76	14.00	700.10
N. End of North Appr.	10+70.76	14.00	699.86



NORTH APPROACH SLAB PLAN



- NOTES:
- 1.) See Sheet 7 for Sections A-A & B-B, Superstructure Details and Bill of Material.
 - 2.) Order a1(E) & a5(E) bars full length. Cut according to Bar Cutting Diagram on Sheet 7. Use remainder of bars in opposite end of deck.
 - 3.) Bars indicated thus 28x2-#9 etc. indicates 28 lines of bars with 2 lengths per line.

Farnsworth GROUP
 2709 McGRAY DRIVE
 BLOOMINGTON, ILLINOIS 61704
 (309) 853-8435 / info@f-w.com

DESIGNED - IIP/PMG	REVISED
CHECKED - JCZ	REVISED
DRAWN - DIM	REVISED
CHECKED - JML	REVISED

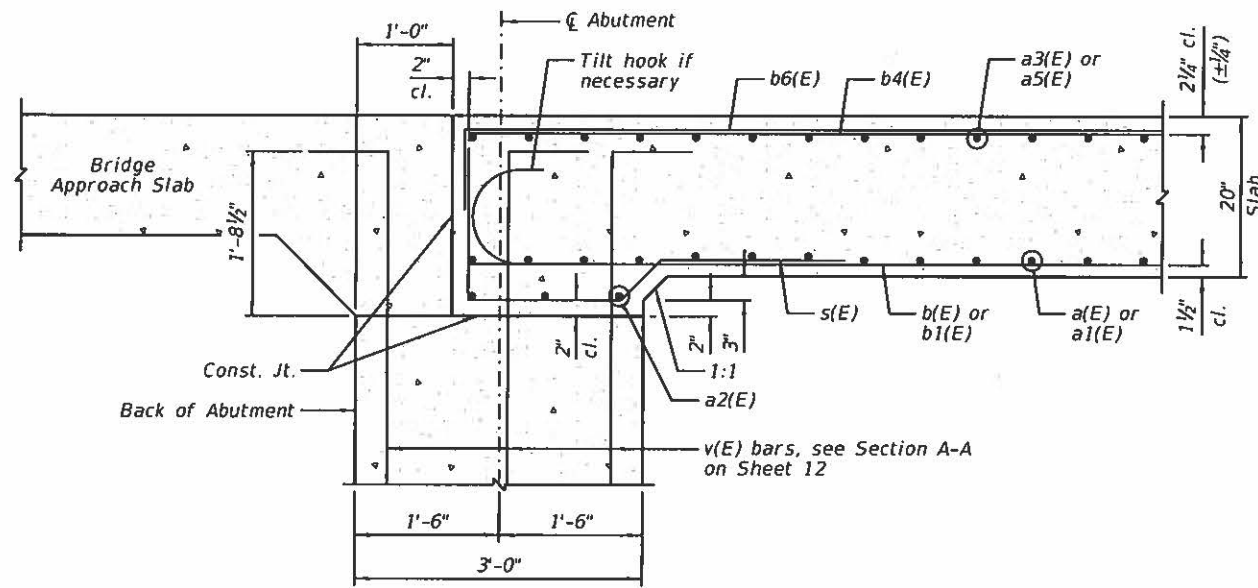
DATE - 10/04/19

McLEAN COUNTY HIGHWAY DEPARTMENT

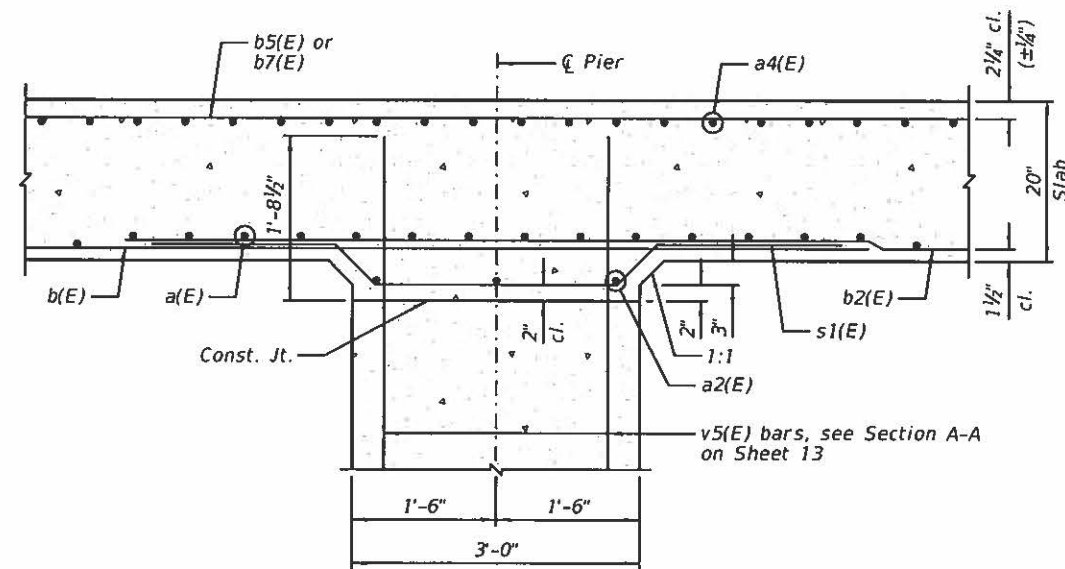
SUPERSTRUCTURE STRUCTURE NO. 057-3919

SHEET NO. 6 OF 15 SHEETS

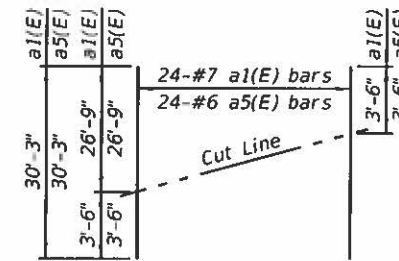
TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	McLEAN	29	15
CONTRACT NO. 91583				



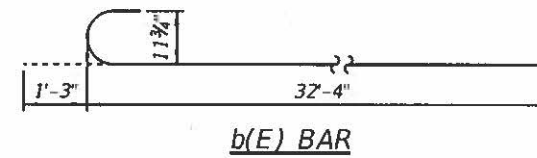
SECTION A-A
Dimensions @ Rt. L's to Abutment



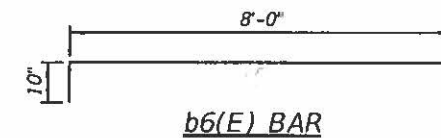
SECTION B-B
Dimensions @ Rt. L's to Pier



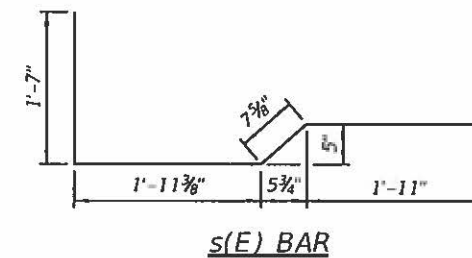
FIELD CUTTING DIAGRAM
Order a1(E) and a5(E) bars full length.
Cut as shown and use remainder of bars in opposite end of slab.



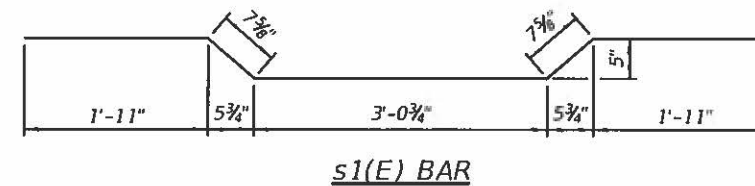
b(E) BAR



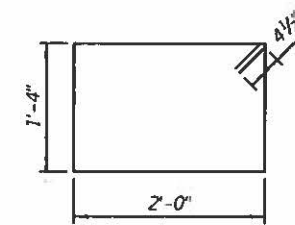
b6(E) BAR



s(E) BAR



s1(E) BAR

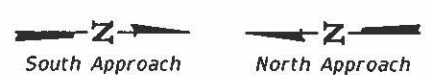
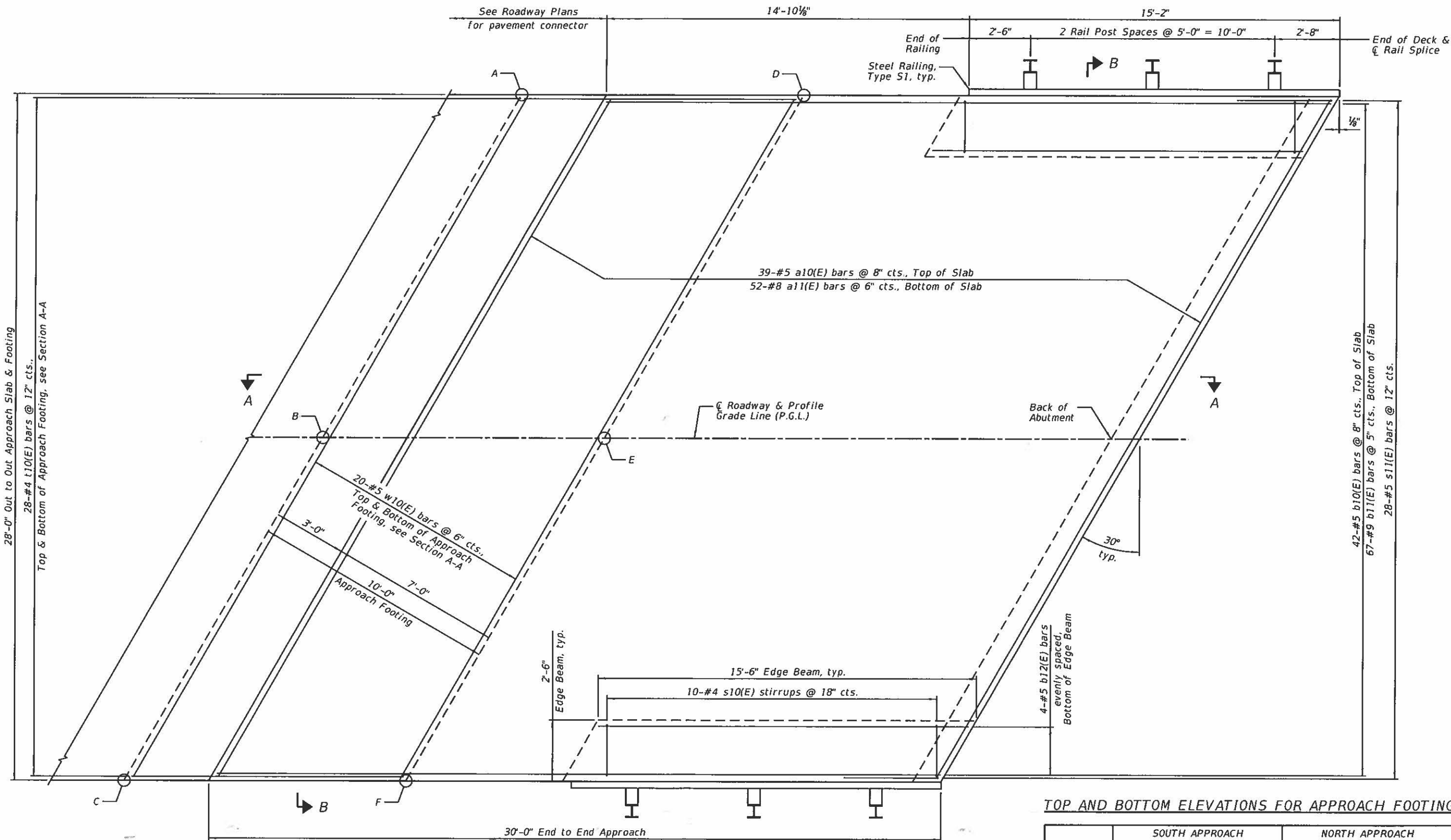


s2(E) BAR

**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	140	#7	27'-8"	—
a1(E)	24	#7	30'-3"	—
a2(E)	12	#5	32'-0"	—
a3(E)	37	#6	27'-8"	—
a4(E)	120	#8	27'-8"	—
a5(E)	24	#6	30'-3"	—
b(E)	42	#9	33'-7"	C
b1(E)	40	#9	22'-6"	—
b2(E)	21	#9	47'-3"	—
b3(E)	20	#9	27'-10"	—
b4(E)	56	#9	14'-4"	—
b5(E)	28	#9	44'-3"	—
b6(E)	54	#5	8'-10"	└
b7(E)	54	#9	15'-8"	—
s(E)	56	#5	6'-1"	L
s1(E)	56	#5	8'-2"	—
s2(E)	128	#4	7'-5"	□
Item		Unit	Quantity	
Concrete Superstructure		Cu. Yd.	174.1	
Protective Coat		Sq. Yd.	340	
Reinforcement Bars, Epoxy Coated		Pound	46,200	

NOTE:
See Sheet 6 for locations of Sections A-A and B-B.

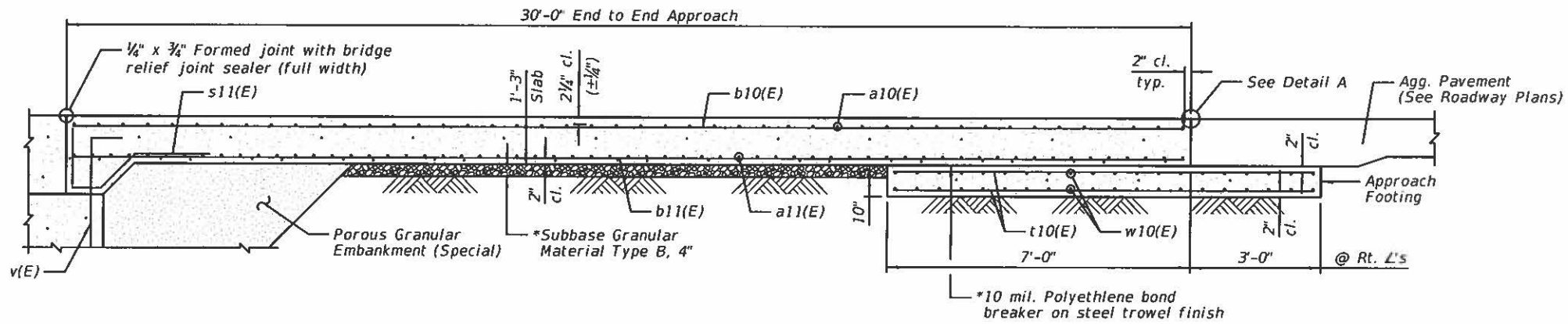


PLAN
South Approach shown, North Approach similar.

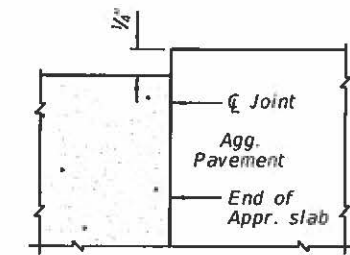
TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

POINT	SOUTH APPROACH		NORTH APPROACH	
	TOP	BOTTOM	TOP	BOTTOM
A	698.52	697.69	698.52	697.69
B	698.60	697.76	698.60	697.76
C	698.11	697.28	698.18	697.35
D	698.81	697.97	698.81	697.97
E	698.89	698.05	698.89	698.05
F	698.40	697.57	698.40	697.57

NOTE:
See Sheet 9 for Sections A-A & B-B.



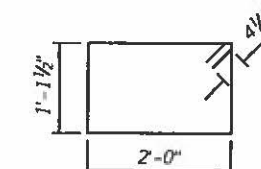
SECTION A-A



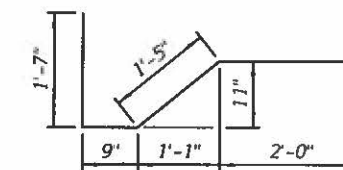
FLEXIBLE PAVEMENT
DETAIL A

TWO APPROACHES
BILL OF MATERIAL

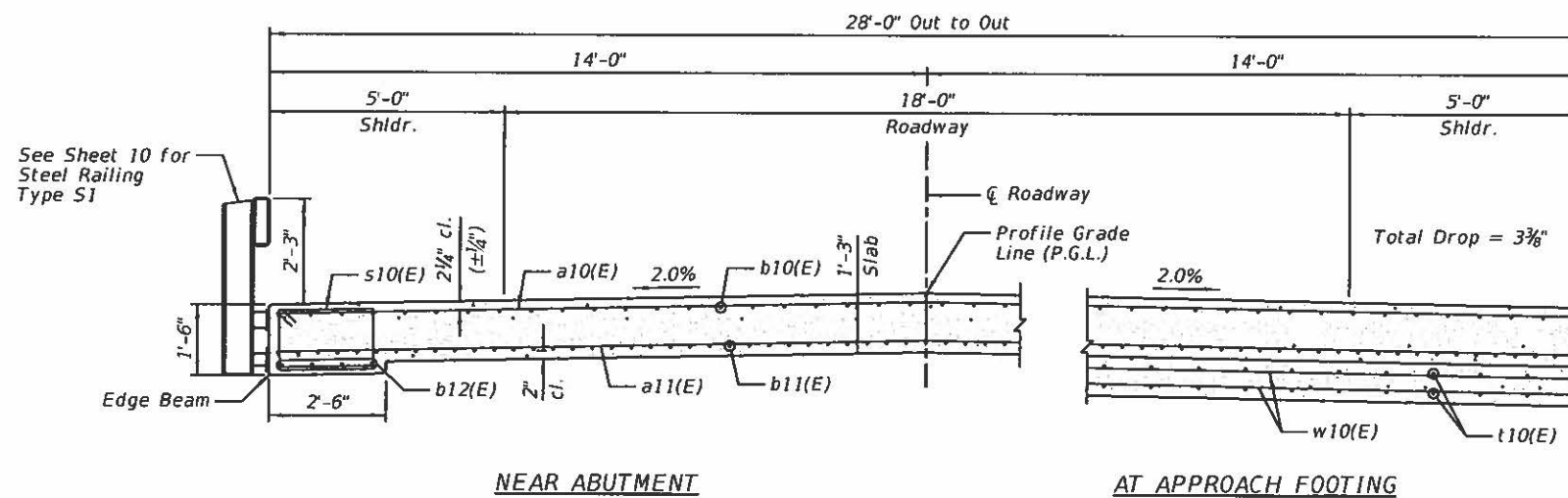
Bar	No.	Size	Length	Shape	
a10(E)	78	#5	32'-0"	—	
a11(E)	104	#8	32'-0"	—	
b10(E)	84	#5	29'-8"	—	
b11(E)	134	#9	29'-8"	—	
b12(E)	16	#5	15'-2"	—	
s10(E)	40	#4	7'-0"	□	
s11(E)	56	#5	5'-9"	└	
t10(E)	112	#4	11'-2"	—	
w10(E)	80	#5	32'-0"	—	
Item				Unit	Quantity
Concrete Structures				Cu. Yd.	20.0
Protective Coat				Sq. Yd.	187
Concrete Superstructure (Approach Slab)				Cu. Yd.	81.9
Reinforcement Bars, Epoxy Coated				Pound	31,890



BAR s10(E)



BAR s11(E)



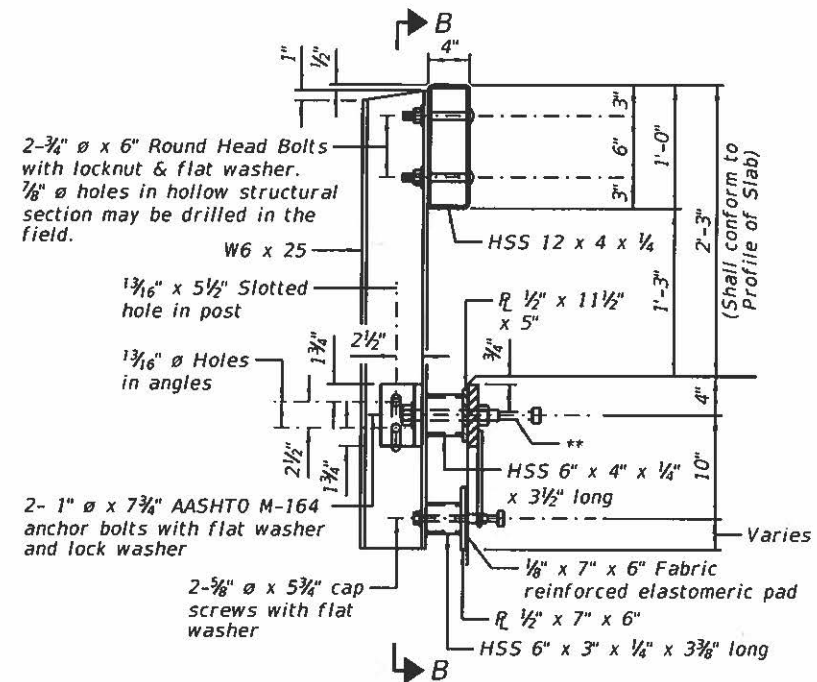
NEAR ABUTMENT

AT APPROACH FOOTING

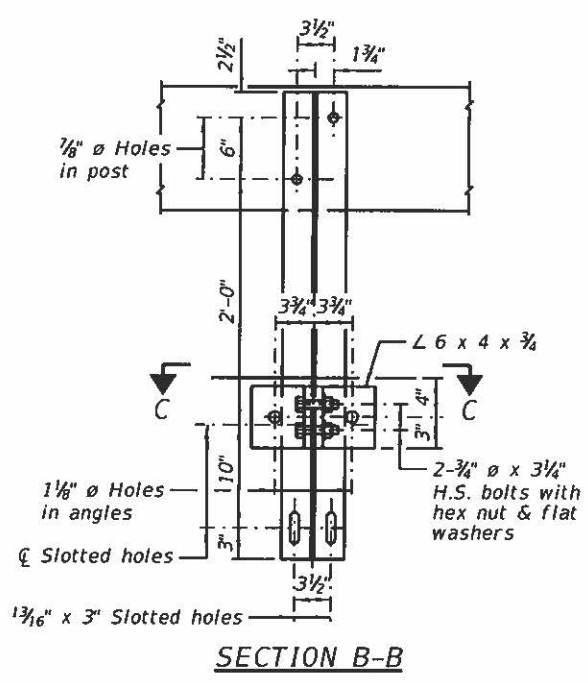
SECTION B-B

NOTES:

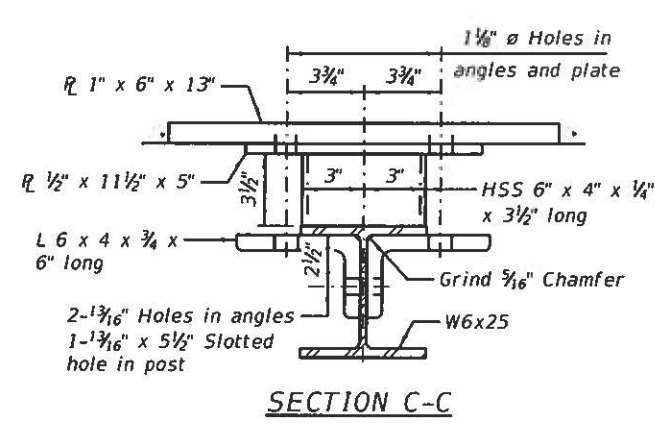
- 1.) See Sheet 8 for location of Sections A-A & B-B.
- 2.) Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
- 3.) Approach footing concrete shall be paid for as Concrete Structures.
- 4.) The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
- 5.) Cost of excavation for approach footing included with Concrete Structures.
- 6.) For Porous Granular Embankment (Special) and drainage treatment details, see Sheet 2.
- 7.) For v(E) bar details, see Sheets 11.
- 8.) *Cost included with Concrete Superstructure (Approach Slab).



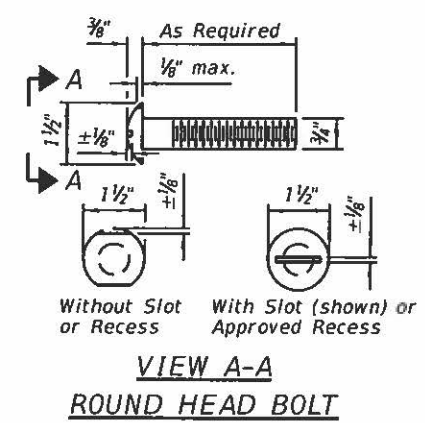
SECTION AT RAILING POST



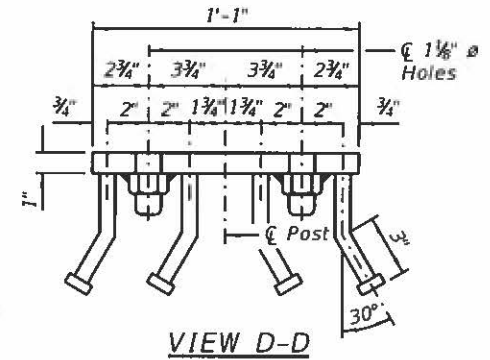
SECTION B-B



SECTION C-C



VIEW A-A
ROUND HEAD BOLT

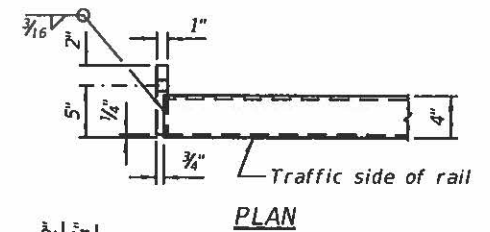


VIEW D-D

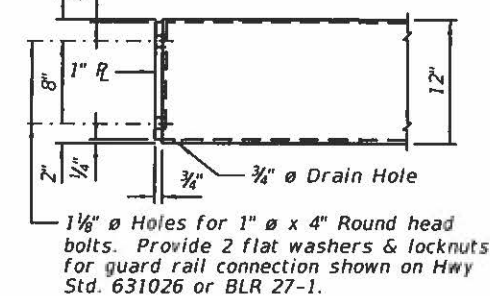
SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	

T = Total movement at expansion joint as shown on the design plans.



PLAN



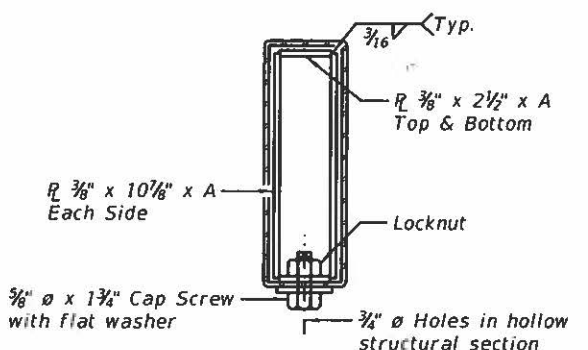
ELEVATION

END OF RAIL DETAILS

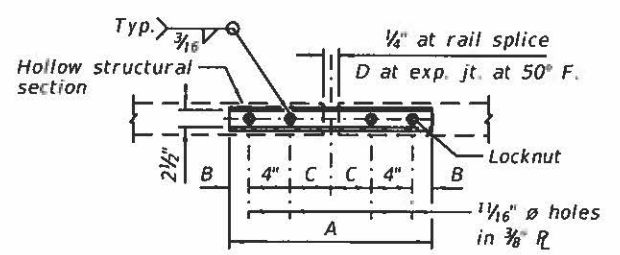
Notes:
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S1.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
 ** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.

BILL OF MATERIAL

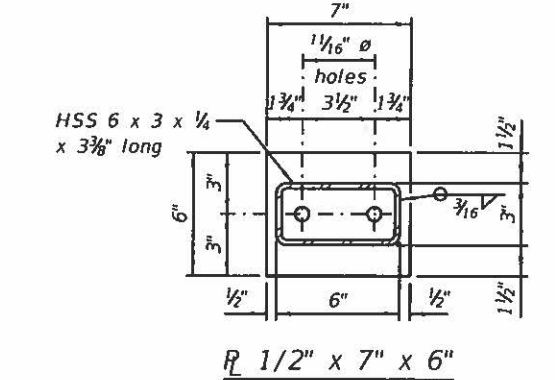
Item	Unit	Quantity
Steel Railing, Type S1	Foot	256



SECTIONS AT RAIL SPLICE

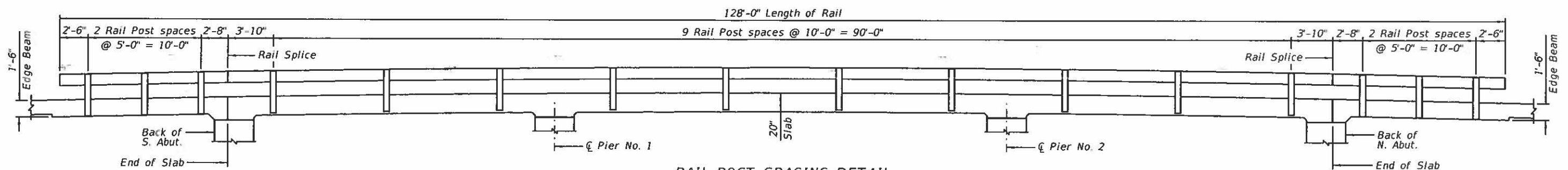


PLAN-BOTT. SPLICE R TYPICAL

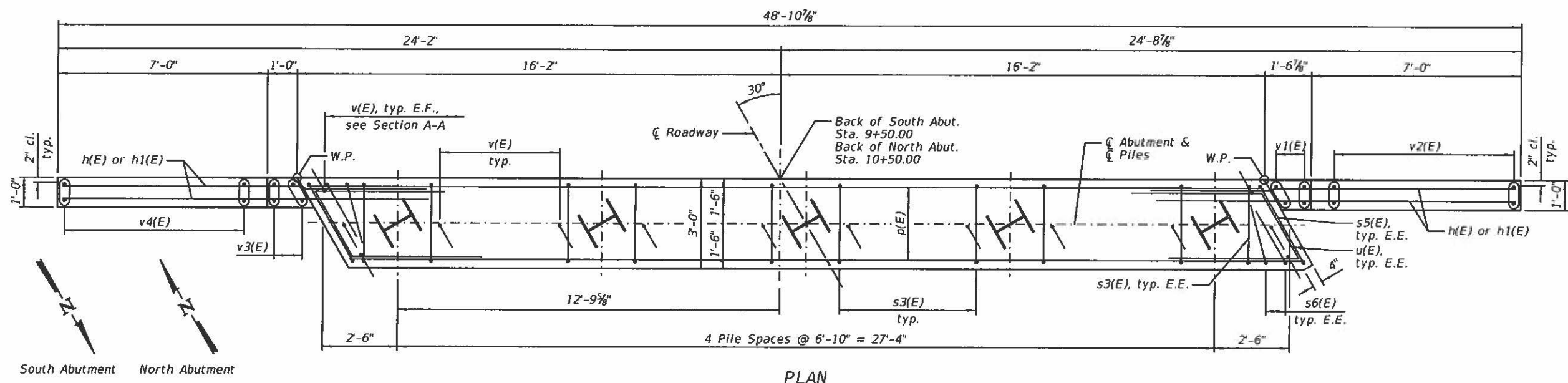


ANCHOR DEVICE

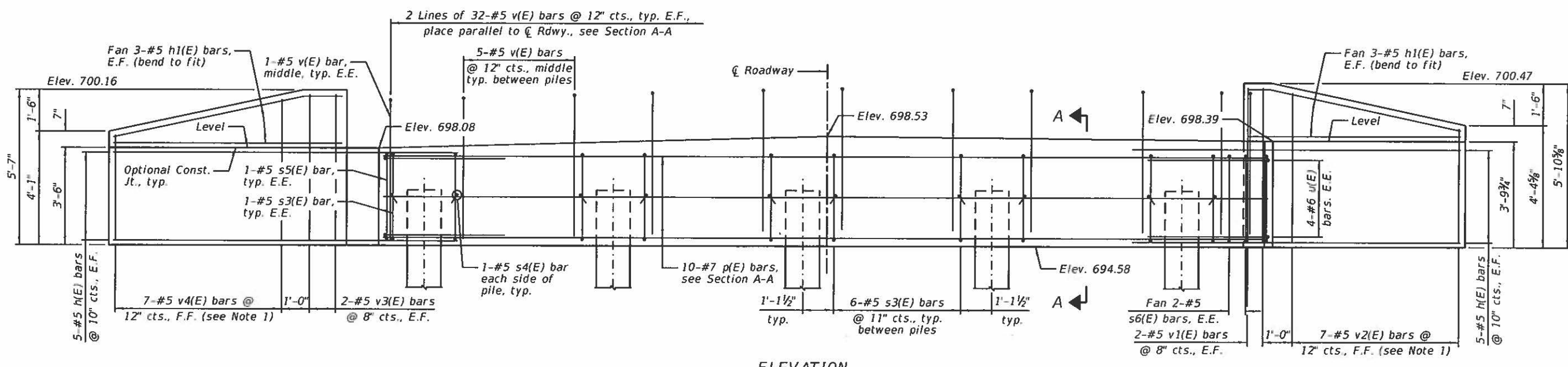
*Threaded areas shall be plugged or blocked off during casting of slab.



RAIL POST SPACING DETAIL



PLAN



ELEVATION

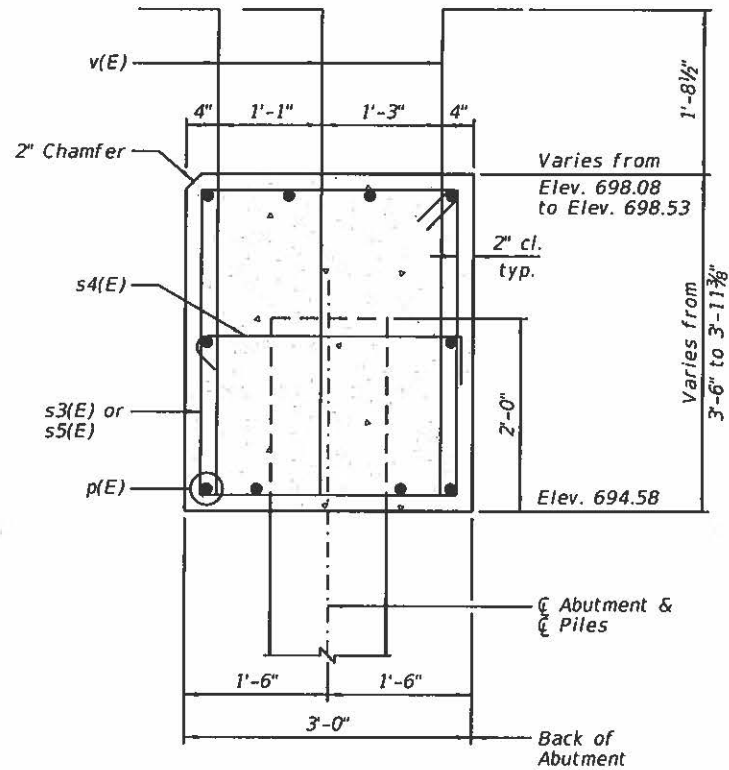
SOUTH ABUTMENT PILE DATA
 Type: HP14x73
 Nominal Required Bearing: 282 kips
 Factored Resistance Available: 155 kips
 Est. Length: 40 Feet
 Min. Tip Elev.: 679.6
 No. Production Piles: 4
 No. Test Piles: 1

NORTH ABUTMENT PILE DATA
 Type: HP14x73
 Nominal Required Bearing: 282 kips
 Factored Resistance Available: 155 kips
 Est. Length: 40 Feet
 Min. Tip Elev.: 679.6
 No. Production Piles: 5
 No. Test Piles: 0

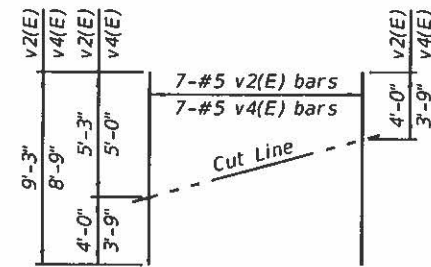
- NOTES:**
- 1.) Order v2(E) & v4(E) bars full length. Cut according to the Field Cutting Diagram on Sheet 12. Use remainder of bars in opposite face.
 - 2.) See Sheet 12 for Section A-A and Two Abutments Bill of Material.
 - 3.) See Sheet 14 for Pile Details.
 - 4.) E.E. denotes Each End, F.F., denotes Front Face and E.F. denotes Each Face.

DESIGNED - IIP/PMG	REVISED
CHECKED - JCZ	REVISED
DRAWN - DJM	REVISED
CHECKED - JML	REVISED
DATE - 10/04/19	

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	McLEAN	29	20
CONTRACT NO. 91583				



SECTION A-A
Dimensions @ Rt. L's to Abutment

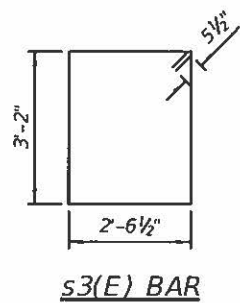


FIELD CUTTING DIAGRAM

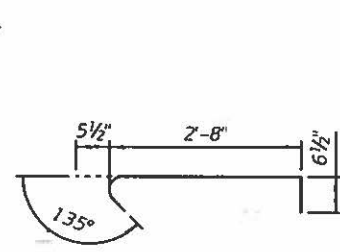
Order v2(E) & v4(E) full length. Cut as shown and use remainder of bars in opposite face.

TWO ABUTMENTS BILL OF MATERIAL

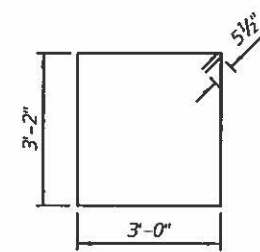
Bar	No.	Size	Length	Shape
h(E)	40	#5	12'-7"	—
h1(E)	24	#5	7'-8"	—
p(E)	20	#7	32'-0"	—
s3(E)	52	#5	12'-4"	□
s4(E)	20	#5	3'-8"	┌
s5(E)	4	#5	13'-3"	□
s6(E)	8	#5	8'-3"	└
u(E)	16	#6	11'-5"	┌
v(E)	172	#5	5'-10"	└
v1(E)	8	#5	5'-6"	—
v2(E)	14	#5	9'-3"	—
v3(E)	8	#5	5'-3"	—
v4(E)	14	#5	8'-9"	—
Item	Unit	Quantity		
Concrete Structures	Cu. Yd.	33.6		
Protective Coat	Sq. Yd.	13		
Reinforcement Bars, Epoxy Coated	Pound	4,570		
Furnishing Steel Piles HP14x73	Foot	360		
Driving Piles	Foot	360		
Test Pile Steel HP14x73	Each	1		



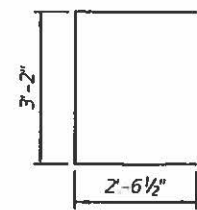
s3(E) BAR



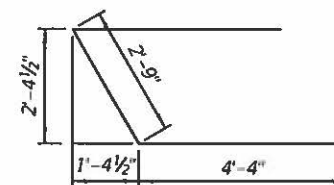
s4(E) BAR



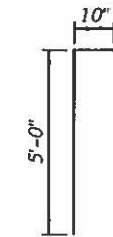
s5(E) BAR



s6(E) BAR



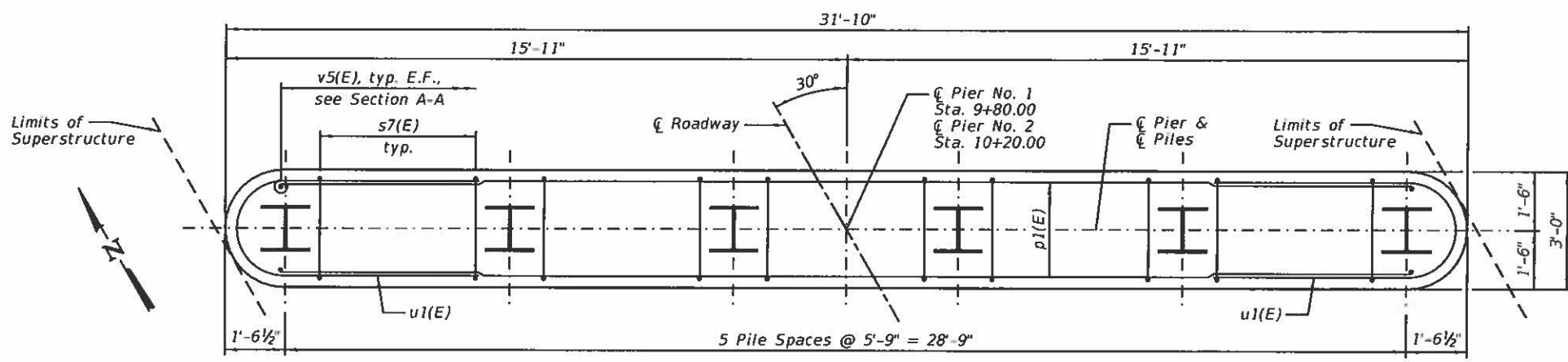
u(E) BAR



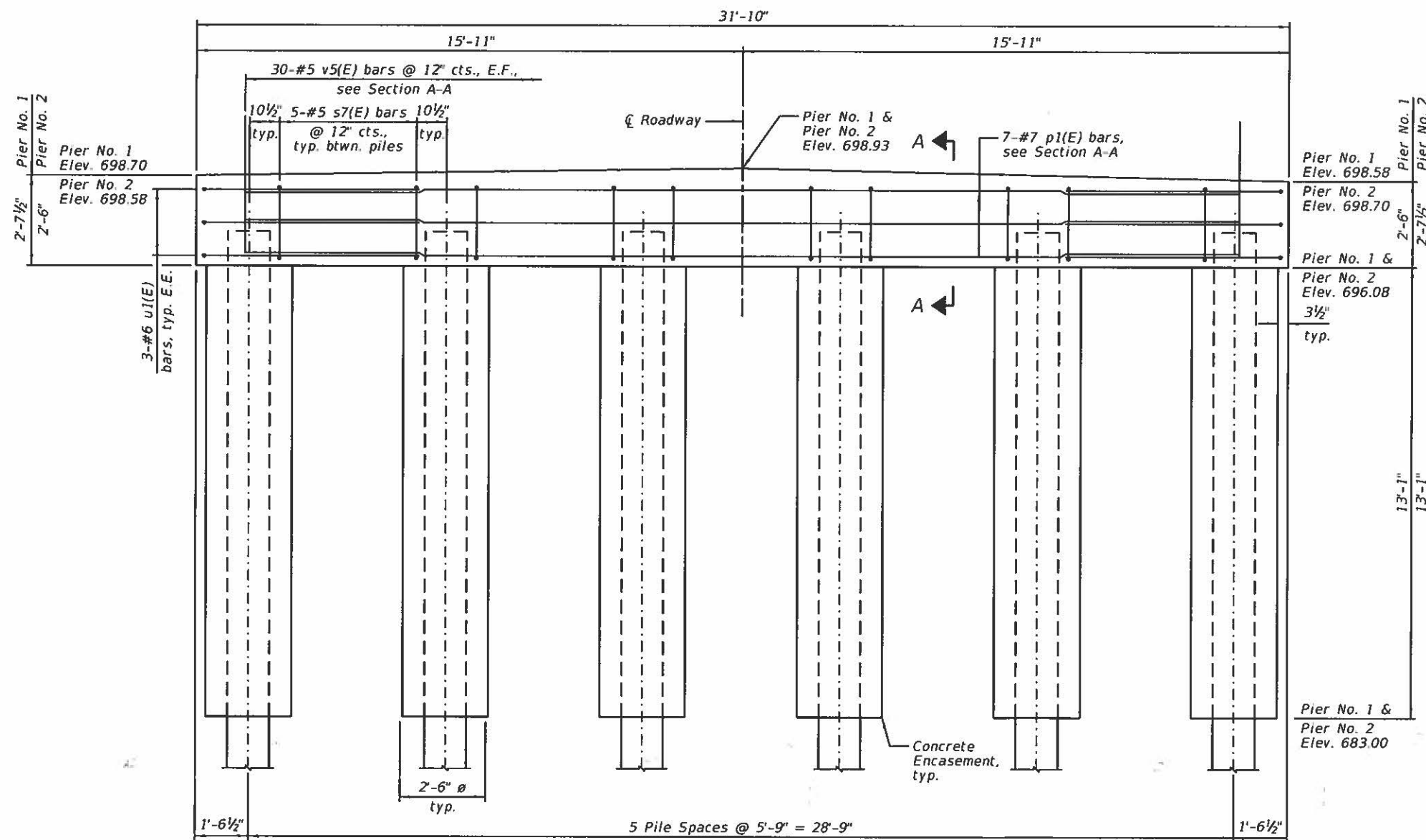
v(E) BAR

NOTES:

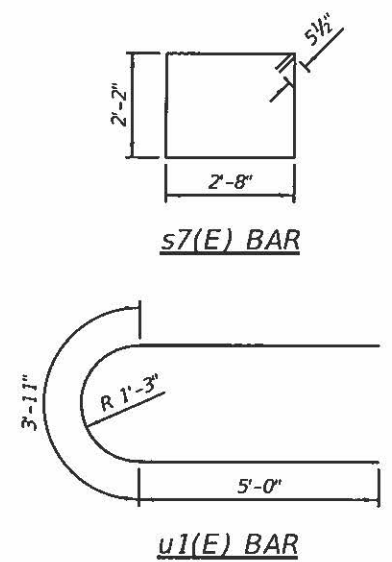
- 1.) Order v2(E) & v4(E) bars full length. Cut according to the Field Cutting Diagram. Use remainder of bars in opposite face.
- 2.) See Sheet 11 for location of Section A-A.
- 3.) See Sheet 14 for Pile Details.



TOP PLAN

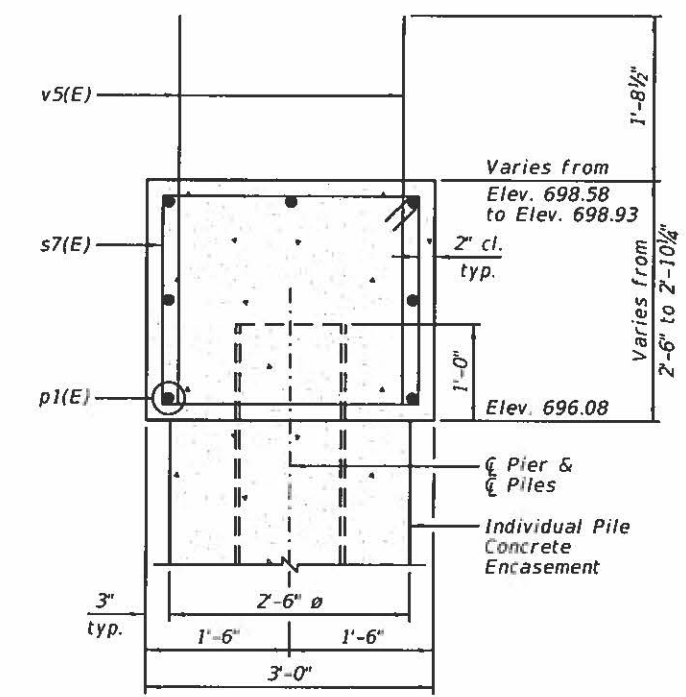


ELEVATION
(Looking North)



TWO PIERS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p1(E)	14	#7	28'-10"	—
s7(E)	50	#5	10'-7"	□
u1(E)	12	#6	13'-11"	C
v5(E)	120	#5	4'-1"	—
Item	Unit	Quantity		
Concrete Structures	Cu. Yd.	18.7		
Concrete Encasement	Cu. Yd.	28.5		
Reinforcement Bars, Epoxy Coated	Pound	2,140		
Furnishing Steel Piles HP14x73	Foot	781		
Driving Piles	Foot	781		
Test Pile Steel HP14x73	Each	1		

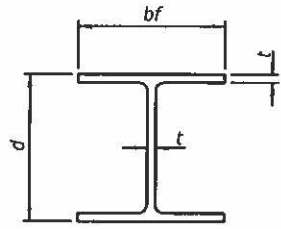


SECTION A-A
Dimensions @ Rt. L's to Pier

PIER NO. 1 PILE DATA
 Type: HP14x73
 Nominal Required Bearing: 395 kips
 Factored Resistance Available: 198 kips
 Est. Length: 71 Feet
 Min. Tip Elev.: 664.5
 No. Production Piles: 6
 No. Test Piles: 0

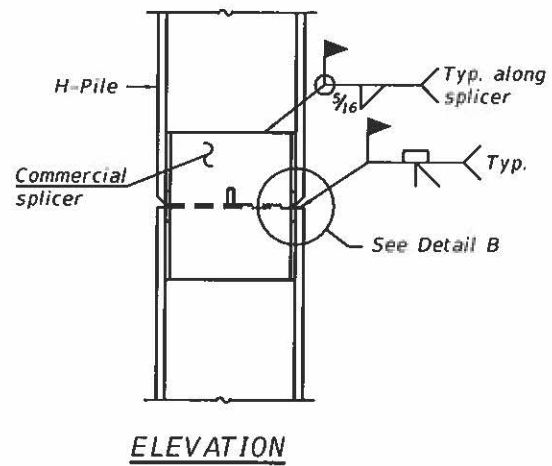
PIER NO. 2 PILE DATA
 Type: HP14x73
 Nominal Required Bearing: 395 kips
 Factored Resistance Available: 198 kips
 Est. Length: 71 Feet
 Min. Tip Elev.: 666.0
 No. Production Piles: 5
 No. Test Piles: 1

- NOTES:**
- 1.) E.E. denotes Each End and E.F. denotes Each Face.
 - 2.) Concrete Encasement quantity is included in Plan Quantity for Concrete Structures and not paid separately.

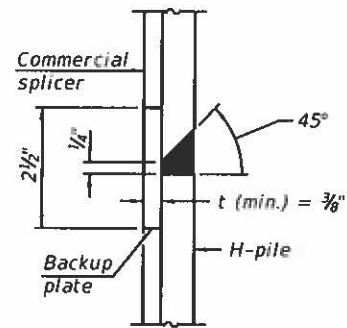


STEEL PILE TABLE

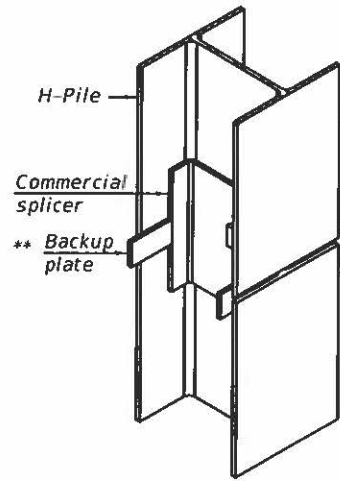
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"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



ELEVATION

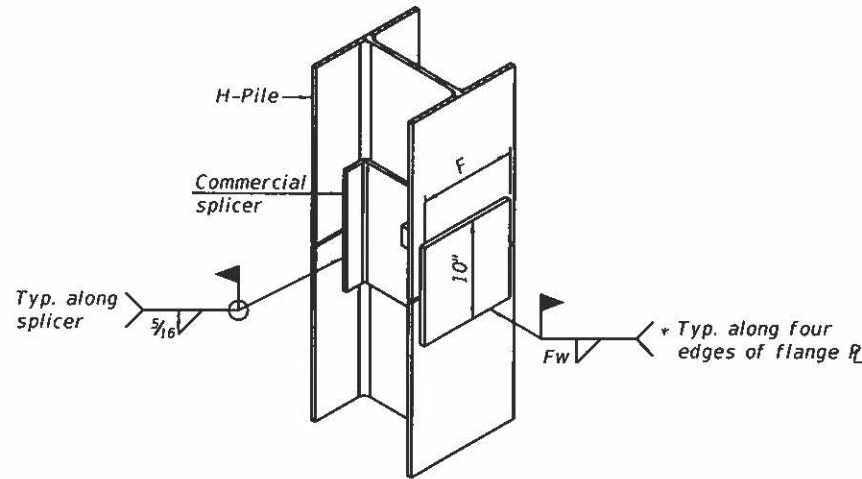


DETAIL "B"



ISOMETRIC VIEW

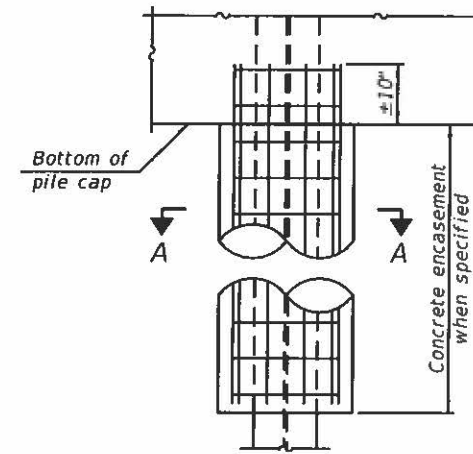
WELDED COMMERCIAL SPLICE



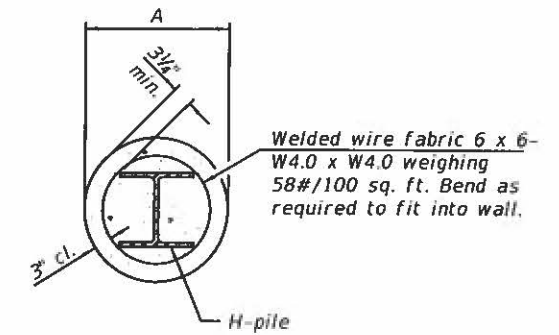
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

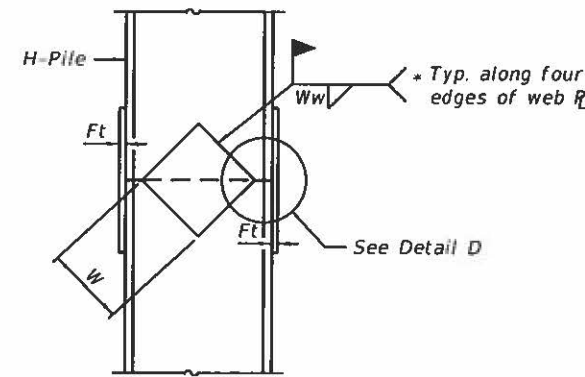


ELEVATION

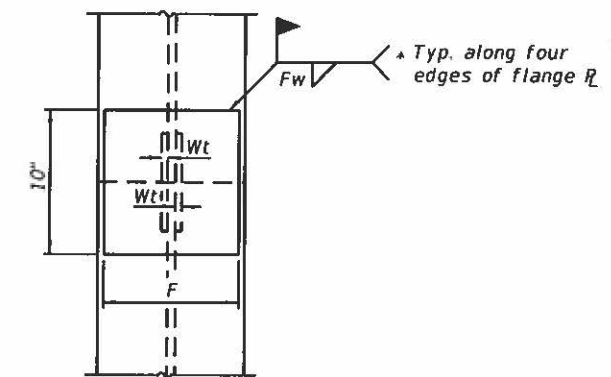


SECTION A-A

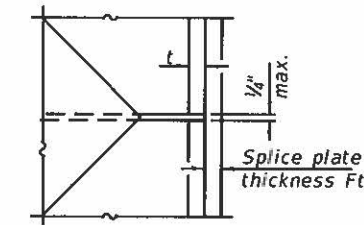
INDIVIDUAL PILE CONCRETE ENCASEMENT
(Forms for encasement may be omitted when soil conditions permit).



ELEVATION



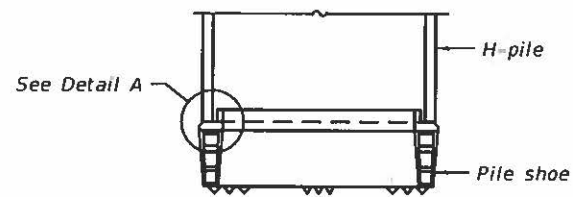
END VIEW



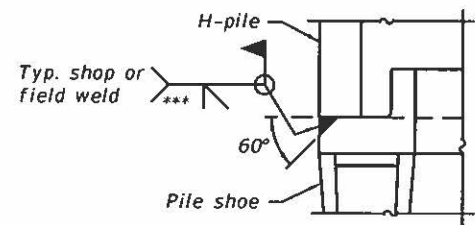
DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	3/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"



ELEVATION



DETAIL A

SHOE ATTACHMENT

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

F-HP

8-11-2017

Farnsworth GROUP
2708 MCGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / info@f-w.com

DESIGNED - IIP/PMG	REVIS
CHECKED - JCZ	REVIS
DRAWN - DJM	REVIS
CHECKED - JML	REVIS
DATE - 10/04/19	

McLEAN COUNTY HIGHWAY DEPARTMENT

**HP PILE DETAILS
STRUCTURE NO. 057-3919**

SHEET NO. 14 OF 15 SHEETS

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	MCLEAN	29	23
			CONTRACT NO. 91583	

ILLINOIS DEPARTMENT OF TRANSPORTATION
Ramsey Geotechnical Engineering
STRUCTURE BORING LOG

Page 1 of 1
Date 12/5/16

ROUTE N 750 E Road DESCRIPTION Mallard Bridge
SECT. 10-11127-00-BR STRUCT. NO. _____ DRILLED BY B. Williamson
COUNTY McLean LOCATION Dele Township S. 8, TWP. 23N, RNG. 1E

Boring No. B-1 N. Abutment
Station _____
Offset R
Surface Elev. 99.50 ft

DEPTH H	BL O W S	Qu tsf	W %	DEPTH H	BL O W S	Qu tsf	W %
	2	P	17		8	B	10
	2		1.0		11		7.79
	3				16		
	3	P	15		2	B	13
	6		2.5		4		2.58
	4				6		
89.50	2	B	24				
	3		1.23				
	3						
81.50	2	B	32		2		43
	1		0.41		4		
	2				5		
86.50	2	B	14				
	4		2.42				
	5						
84.50	2	B	15		2	B	22
	4		1.85		2		1.60
	4				4		
	2	B	18				
	4		7.42				
	7						
	3	B	10		3	B	18
	7		4.92		4		2.71
	9				6		
84.50	3	B	10				
	7		11.81				
	33						
74.50	7	B	10		3	B	11
	10		13.74		8		4.72
	14				9		

Surface Water Elev. _____
Groundwater Elev. when drilling 86.5
at Completion 86.5
after _____ Hrs.

Soil to very stiff dark brown SILTY CLAY LOAM
Hard to very stiff gray SILTY LOAM (TILL)
Stiff dark brown SILTY CLAY LOAM
Hard gray SILTY LOAM (TILL)
Soft to medium stiff dark brown SILTY CLAY LOAM
Loose dark brown SILTY LOAM, with organics
Very stiff to stiff gray SILTY LOAM (TILL)
Stiff to very stiff gray SILTY LOAM (TILL)
Very loose brown fine to coarse SAND
Stiff gray SILTY LOAM (TILL)
Hard gray SILTY LOAM (TILL)
Very stiff to stiff gray SILTY LOAM (TILL)
End of Boring at 50'

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

Surface Elev. 99.50 = Survey Elev. ±701.65

ILLINOIS DEPARTMENT OF TRANSPORTATION
Ramsey Geotechnical Engineering
STRUCTURE BORING LOG

Page 1 of 1
Date 12/5/16

ROUTE N 750 E Road DESCRIPTION Mallard Bridge
SECT. 10-11127-00-BR STRUCT. NO. _____ DRILLED BY B. Williamson
COUNTY McLean LOCATION Dele Township S. 8, TWP. 23N, RNG. 1E

Boring No. B-2 S. Abutment
Station _____
Offset R
Surface Elev. 99.70 ft

DEPTH H	BL O W S	Qu tsf	W %	DEPTH H	BL O W S	Qu tsf	W %
	2	P	24		3	B	15
	3		1.5		5		1.97
	2				6		
71.70	2	P	22		3	B	13
	3		1.0		5		4.39
	3				7		
83.70	0	P	31				
	1		0.5				
	2						
86.70	0	P	29		3		51
	1		0.5		5		
	2				7		
84.70	1	P	19				
	2		0.75				
	3						
86.70	2				2	B	23
	2				3		1.89
	2				5		
83.70	2	B	14				
	3		1.89				
	5						
81.70	4	B	10		3	B	15
	4		8.72		4		2.30
	9				5		
79.70	3	B	14				
	5		2.58				
	5						
74.70	2	B	13		15	P	7
	4		1.64		42		4.5+
	5				40		

Surface Water Elev. _____
Groundwater Elev. when drilling 86.7
at Completion 86.7
after _____ Hrs.

Stiff gray SILTY LOAM (TILL)
Hard gray SILTY LOAM (TILL)
Medium dense dark brown SILTY LOAM, with organics
Stiff to very stiff gray SILTY LOAM (TILL)
Very loose brown fine to coarse SAND
Stiff gray SILTY LOAM (TILL)
Hard gray SILTY LOAM (TILL)
Hard gray SILTY LOAM (TILL)
Very stiff to stiff gray SILTY LOAM (TILL)
End of Boring at 50'

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

Surface Elev. 99.70 = Survey Elev. ±701.58

TESTING SERVICE CORPORATION
LEGEND FOR BORING LOGS

FILL TOPSOIL PEAT GRAVEL SAND SILT CLAY DOLOMITE

SAMPLE TYPE:
SS = Split Spoon
ST = Thin-Walled Tube
A = Auger

FIELD AND LABORATORY TEST DATA:
N = Standard Penetration Resistance in Blows per Foot
Wc = In-Situ Water Content
Qu = Unconfined Compressive Strength in Tons per Square Foot
* Pocket Penetrometer Measurement; Maximum Reading = 4.5 tsf
γD = Dry Unit Weight in Pounds per Cubic Foot

WATER LEVELS:
▽ While Drilling
▽ End of Boring
▽ 24 Hours

SOIL DESCRIPTION:

MATERIAL	PARTICLE SIZE RANGE
BOULDER	Over 12 inches
COBBLE	12 inches to 3 inches
Coarse GRAVEL	3 inches to ¾ inch
Small GRAVEL	¾ inch to No. 4 Sieve
Coarse SAND	No. 4 Sieve to No. 10 Sieve
Medium SAND	No. 10 Sieve to No. 40 Sieve
Fine SAND	No. 40 Sieve to No. 200 Sieve
SILT and CLAY	Passing No. 200 Sieve

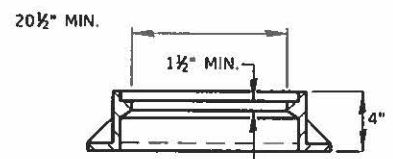
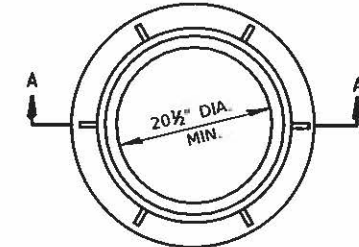
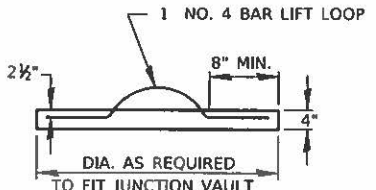
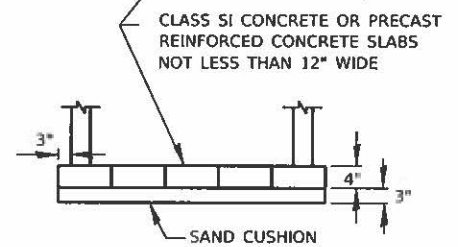
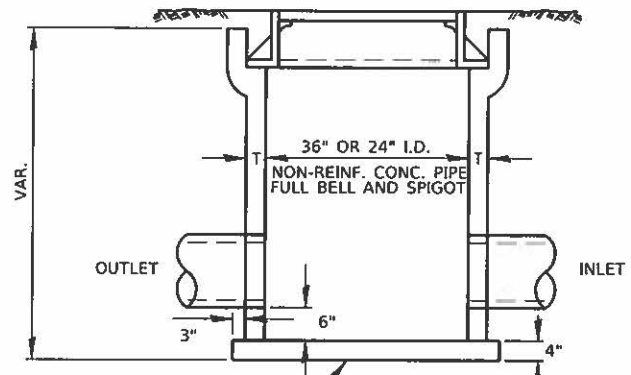
COHESIVE SOILS	COHESIONLESS SOILS
CONSISTENCY Qu	RELATIVE DENSITY N
Very Soft	Less than 0.3
Soft	0.3 to 0.6
Stiff	0.6 to 1.0
Tough	1.0 to 2.0
Very Tough	2.0 to 4.0
Hard	4.0 and over
	Very Loose
	Loose
	Firm
	Dense
	Very Dense
	0 - 4
	4 - 10
	10 - 30
	30 - 50
	50 and over

MODIFYING TERM	PERCENT BY WEIGHT
Trace	1 - 10
Little	10 - 20
Some	20 - 35

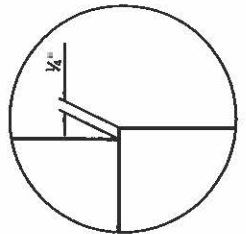
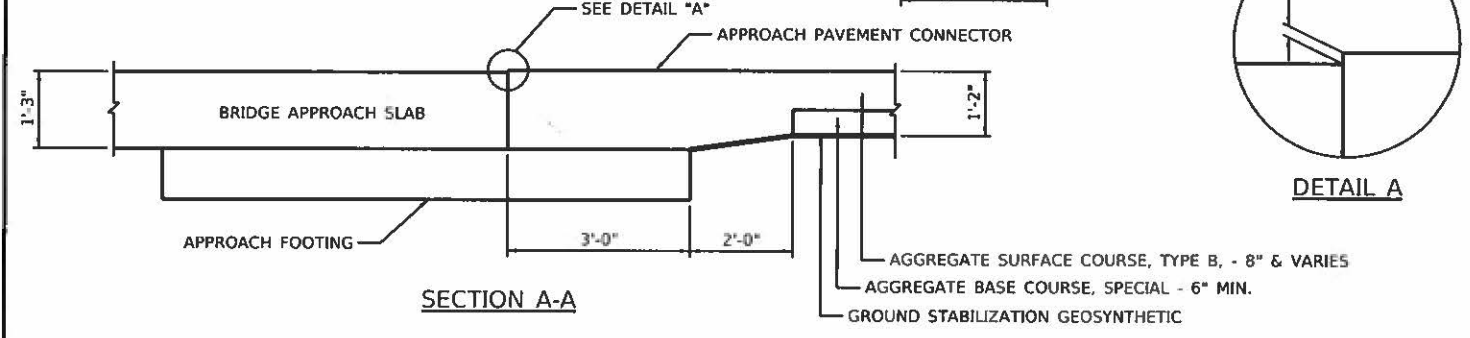
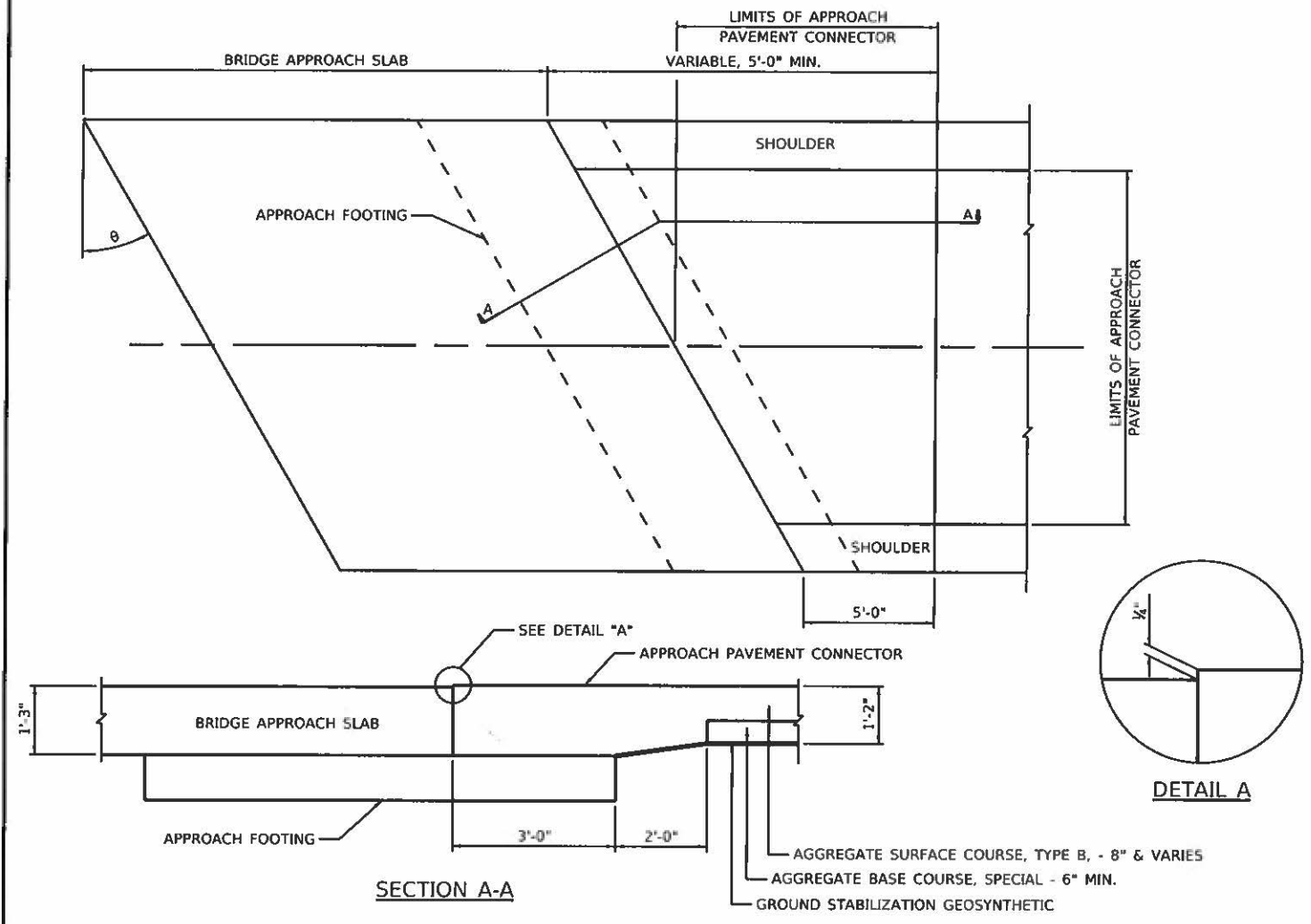
ALTERNATE MATERIALS FOR WALLS	T
PRECAST REINFORCED CONCRETE RISERS	4"
CONCRETE MASONRY UNIT	5"
MONOLITHIC CONCRETE	6"
BUILDING BRICK, GRADE SW FROM CLAY OR SHALE	8"
CONCRETE BUILDING BRICK, GRADE A	8"

NOTES

1. THE CONTRACT UNIT PRICE FOR FIELD TILE JUNCTION VAULT SHALL INCLUDE THE COST OF FURNISHING AND PLACING THE FRAME AND GRATE OR PRECAST CONCRETE LID AND WHEN REQUIRED, THE SAND CUSHION.
2. ALL FIELD TILE JUNCTION VAULTS SHALL BE 2'-0" IN DIAMETER UNLESS OTHERWISE NOTED ON THE PLANS.



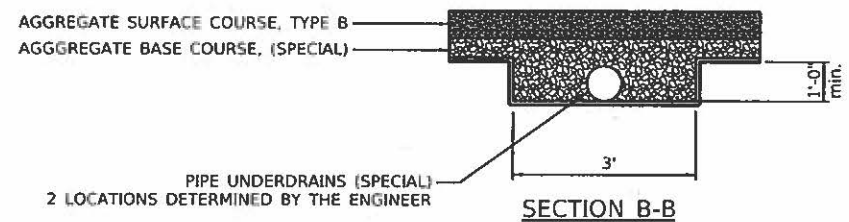
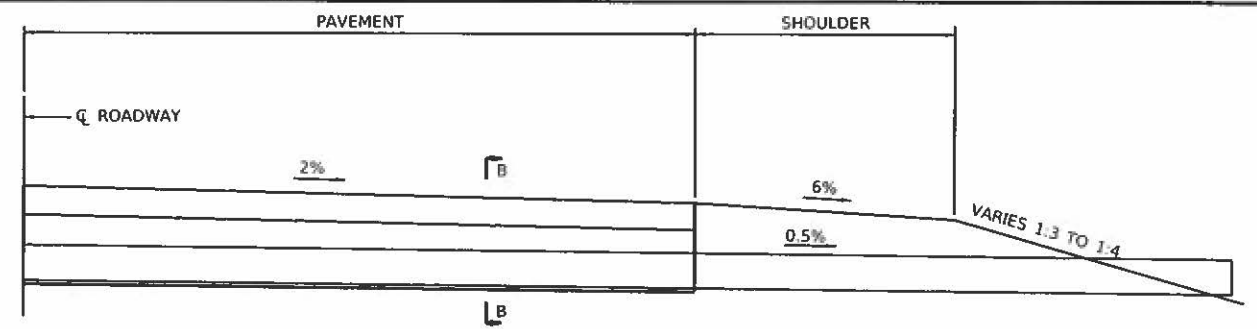
FIELD TILE JUNCTION VAULT



APPROACH PAVEMENT CONNECTOR

GENERAL NOTES

SEE STRUCTURE PLANS FOR DETAILS OF BRIDGE APPROACH SLAB AND APPROACH FOOTING



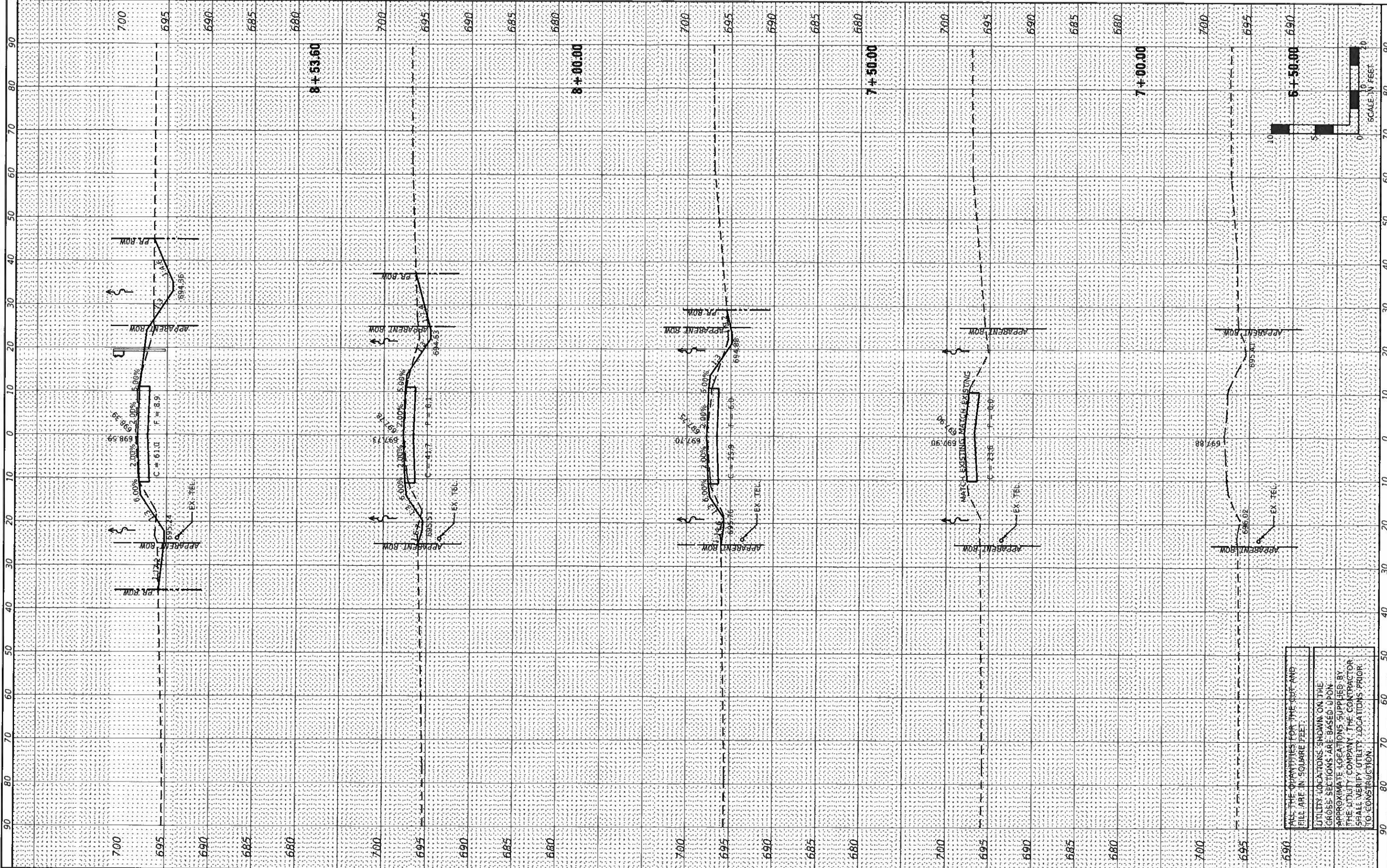
PIPE UNDERDRAINS (SPECIAL)
DETAIL SYMMETRICAL @ C ROADWAY

USER NAME = dneyer	DESIGNED - PMG	REVISED -
PLOT SCALE = 2.0000' / 1 in.	DRAWN - MRA	REVISED -
PLOT DATE = 10/3/2019	CHECKED - JCZ	REVISED -
	DATE - 10/04/19	REVISED -

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	McLEAN	29	25
			CONTRACT NO. 91583	

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

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



ALL THE QUANTITIES FOR THE CUT AND FILL ARE IN SQUARE FEET.
 UTILITY LOCATIONS SHOWN ON THE GROSS SECTIONS ARE BASED UPON APPROXIMATE LOCATIONS SUPPLIED BY THE UTILITY COMPANY. THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

Farnsworth GROUP
 2709 McGRADY DRIVE
 BLOOMINGTON, ILLINOIS 61704
 (309) 663-8435 / info@f-w.com

DESIGNED - PMG	REVISED -
CHECKED - JJO	REVISED -
DRAWN - MRA	REVISED -
CHECKED - JCZ	REVISED -
DATE - 10/04/2019	

**McLEAN COUNTY
 HIGHWAY DEPARTMENT**

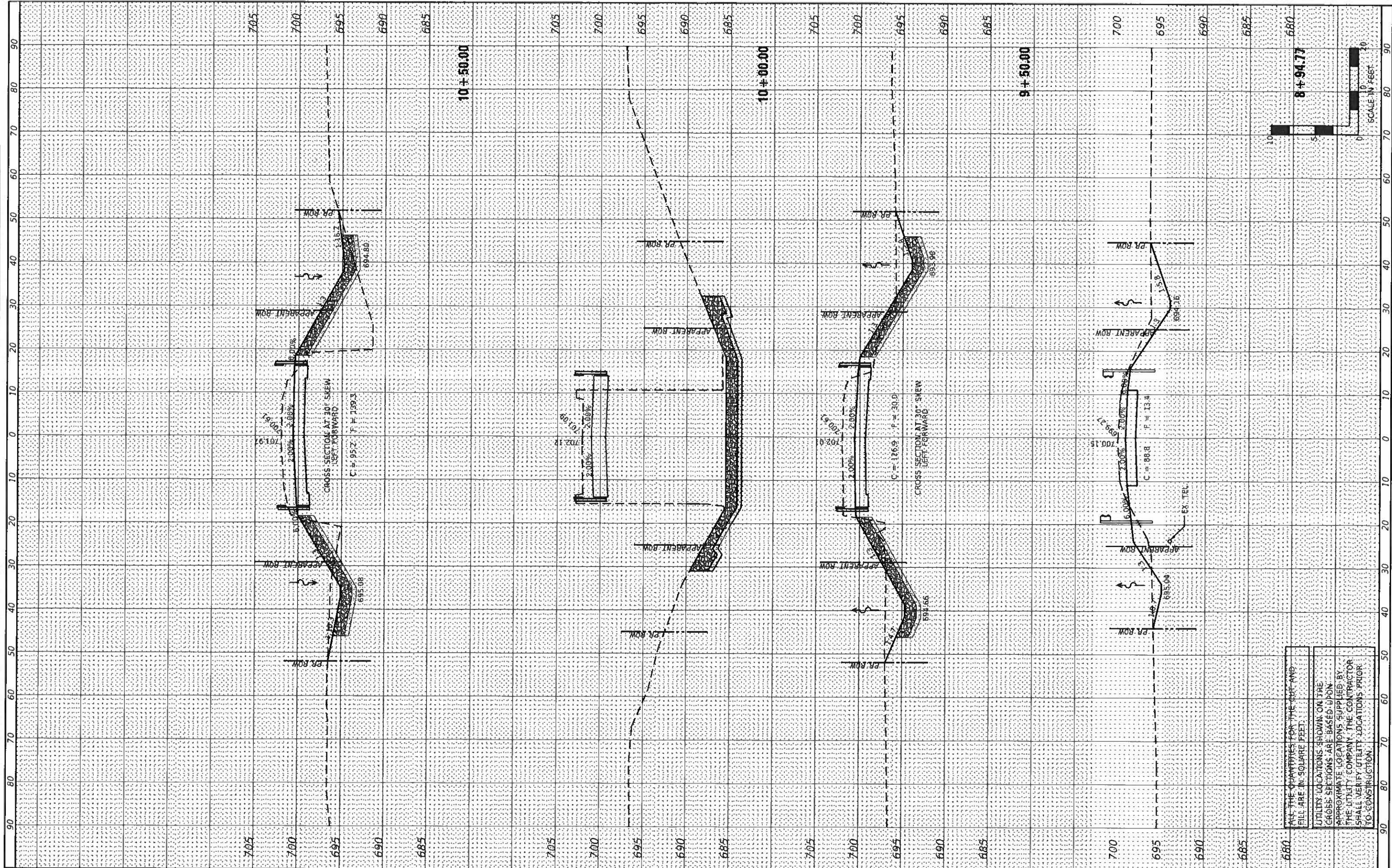
CROSS SECTIONS

SCALE: SHEET 1 OF 4 SHEETS STA. 6+50.00 TO STA.

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	MCLEAN	29	26
CONTRACT NO. 91583				
ILLINOIS FED. AID PROJECT				

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

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



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 2708 McGRATH DRIVE
 BLOOMINGTON, ILLINOIS 61704
 (308) 863-8435 / info@fw.com

DESIGNED - PMG	REVISED -
CHECKED - JJO	REVISED -
DRAWN - MRA	REVISED -
CHECKED - JCZ	REVISED -

DATE - 10/04/2019

McLEAN COUNTY HIGHWAY DEPARTMENT

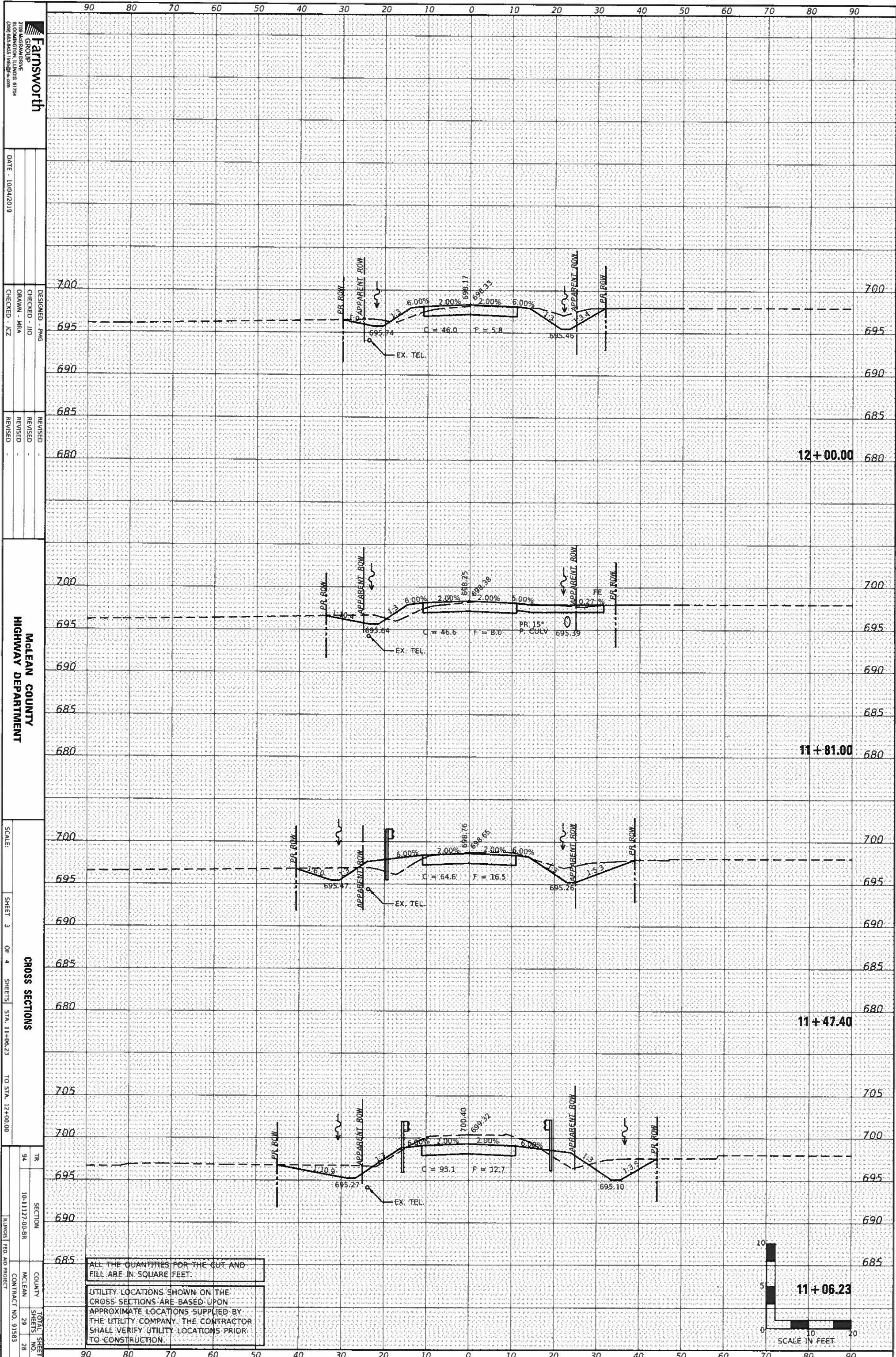
CROSS SECTIONS

SCALE: SHEET 2 OF 4 SHEETS STA. TO STA. 10+50.00

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	MCLEAN	29	27
CONTRACT NO. 91583				
ILLINOIS FED. AID PROJECT				

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

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



Farnsworth
 2700 WOODWAY DRIVE
 SUITE 100
 HOUSTON, TEXAS 77057
 (713) 961-4444 / farnsworth.com

McLEAN COUNTY HIGHWAY DEPARTMENT

DESIGNED - PMG
 CHECKED - JLD
 DRAWN - MRA
 CHECKED - JCZ

REVISIONS

SCALE: SHEET 3 OF 4 SHEETS STA. 11+06.23 TO STA. 12+00.00

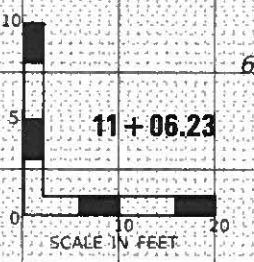
CROSS SECTIONS

TR	SECTION	COUNTY	TOTAL SHEET
94	10-11127-00-BR	MCLEAN	29
			28

CONTRACT NO. 91583

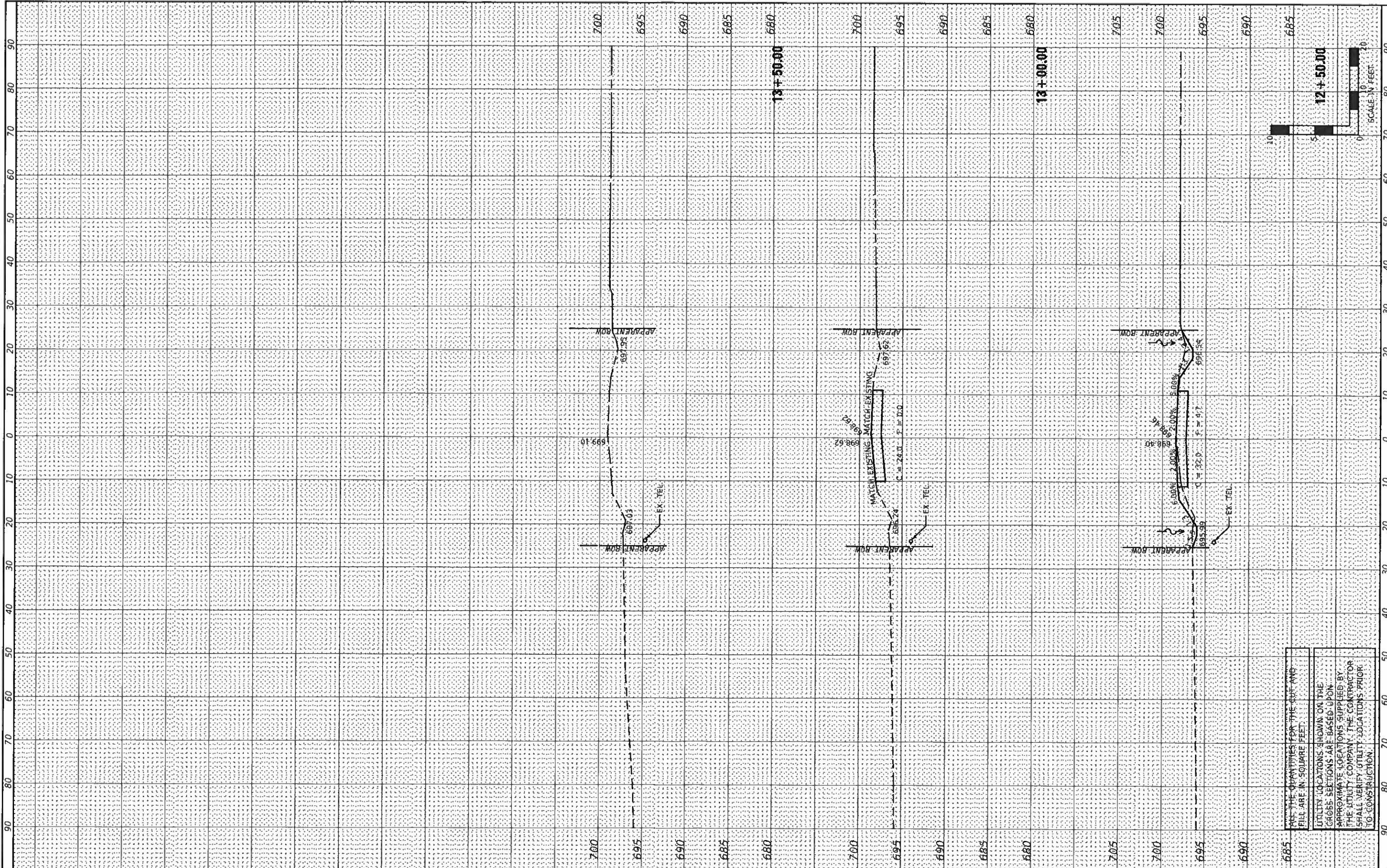
ALL THE QUANTITIES FOR THE CUT AND FILL ARE IN SQUARE FEET.

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

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



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 2709 McGRAW DRIVE
 BLOOMINGTON, ILLINOIS 61704
 (309) 863-9438 | info@fw.com

DESIGNED - PMG	REVISED -
CHECKED - JJO	REVISED -
DRAWN - MRA	REVISED -
CHECKED - JCZ	REVISED -
DATE - 10/04/2019	

**McLEAN COUNTY
HIGHWAY DEPARTMENT**

SCALE:	SHEET 4 OF 4 SHEETS	STA. 12+50.00 TO STA. 13+50.00
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TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	10-11127-00-BR	MCLEAN	29	29
CONTRACT NO. 91583				
ILLINOIS FED. AID PROJECT				