

04-26-2024 LETTING ITEM 069

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED
HIGHWAY PLANS

FAP ROUTE 639 (IL 17)
SECTION (129X)CLV,SLP-1
CULVERT WINGWALL & SLOPE REPAIRS
MERCER COUNTY

C-94-003-24

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(129X)CLV,SLP-1	MERCER	15	1
		ILLINOIS	CONTRACT NO. 68H84	

D-94-003-24



LOCATION OF SECTION INDICATED THUS: -

INDEX OF SHEETS

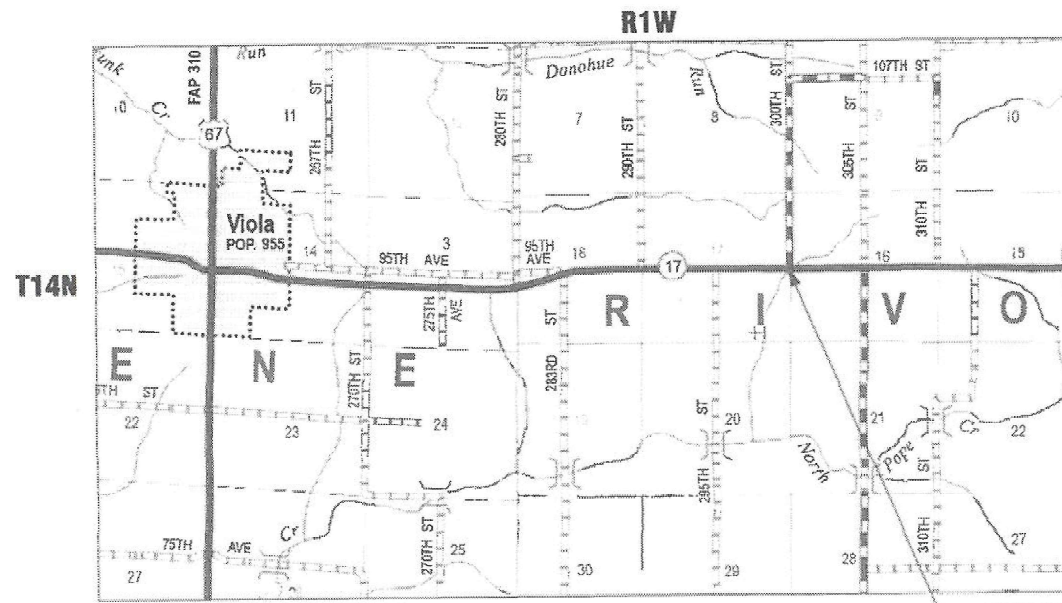
- 1 COVER SHEET
- 2 GENERAL NOTES
- 3-5 SUMMARY OF QUANTITIES
- 6 SCHEDULE OF QUANTITIES
- 7 HORIZONTAL ALIGNMENT AND BENCHMARK DATA
- 8 TYPICAL SECTIONS
- 9 PLAN AND PROFILE SHEET
- 10 TRAFFIC CONTROL PLAN
- 11-12 GUARDRAIL EROSION CONTROL TREATMENTS
- 13-15 BOX CULVERT DETAILS

HIGHWAY STANDARDS

000001-08	701201-05	780001-65
280001-07	701321-18	782006-01
701001-02	701901-09	
701006-05	704001-08	

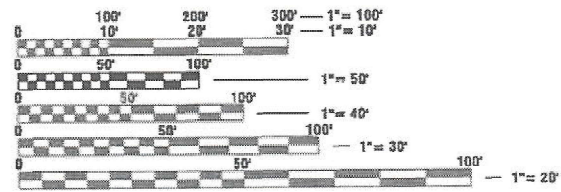
DESIGN DESIGNATION

IL 17: MINOR ARTERIAL
ADT: 2150 (2021)
SU: 140
MU: 130



GROSS LENGTH = 75 FT. = 0.014 MILE
NET LENGTH = 75 FT. = 0.014 MILE

LOCATION OF IMPROVEMENT



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 EXCAVATORS
1-800-892-0123
OR 811

PROJECT ENGINEER: BEN TELLEFSON
PROJECT MANAGER: WILL MOSER
CATALOG NO. 036450-00D
CONTRACT NO. 68H84

AARON M. SCHAFER
081-007926
LICENSED
STRUCTURAL
ENGINEER
STATE OF ILLINOIS
12/4/2023
DATE

REGISTERED STRUCTURAL ENGINEER
STATE OF ILLINOIS NO. 081-007926
LICENSE EXPIRES NOVEMBER 30, 2024

KLINGNER & ASSOCIATES, P.C.
Engineers • Architects • Surveyors
www.klingner.com
Galesburg, Illinois
48 North Prairie Street
309.342.4042
Quincy, IL Hannibal, MO
Burlington, IA Polk, IA Columbia, MO
Davenport, IA Carbondale, IL
DESIGN FIRM NO. 184-2738

PROJECT DESCRIPTION:

WINGWALL AND SLOPE REPAIRS
CULVERT ID: 066S017m027.030

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUBMITTED Jan 25 2024
Kensel A Barnett RSP
REGIONAL ENGINEER
March 22, 2024
SEA EKS
ENGINEER OF DESIGN AND ENVIRONMENT
March 22, 2024
Steph M. Smith
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

MODEL Path: \\P:\Caleburg\2\filed13081\DOT - DIST - 4 - PTB 201-023\Work Order 18 - FY 2024\Wip\Wip18_Traffic\171CADD_Sheet103_Summary of Quantities.dgn

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	100% STATE		CONSTRUCTION CODE					
				MERCER COUNTY							
				ROADWAY							
				0044 RURAL							
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	56	56							
20200100	EARTH EXCAVATION	CU YD	65	65							
* 20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	9	9							
20700110	POROUS GRANULAR EMBANKMENT	TON	40	40							
28000400	PERIMETER EROSION BARRIER	FOOT	75	75							
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	62	62							
28200200	FILTER FABRIC	SQ YD	93	93							
48101200	AGGREGATE SHOULDERS, TYPE B	TON	12	12							
50102400	CONCRETE REMOVAL	CU YD	17.8	17.8							
50200100	STRUCTURE EXCAVATION	CU YD	10.0	10.0							
54002020	EXPANSION BOLTS 3/4 INCH	EACH	22	22							
54003000	CONCRETE BOX CULVERTS	CU YD	20.7	20.7							
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3,510	3,510							
52200010	TEMPORARY SHEET PILING	SQ FT	900	900							

*= SPECIALTY ITEM



USER NAME = aschafer	DESIGNED -	REVISED -
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 12/4/2023	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FAP 639 (IL 17)
SUMMARY OF QUANTITIES**

SCALE: NONE SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.P. RTE. 639	SECTION (129X)CLV,SLP-1	COUNTY MERCER	TOTAL SHEETS 15	SHEET NO. 3
CONTRACT NO. 68H84			ILLINOIS FED. AID PROJECT	

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	100% STATE		CONSTRUCTION CODE					
				MERCER COUNTY							
				ROADWAY							
				0044							
RURAL											
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1	1							
63200310	GUARDRAIL REMOVAL	FOOT	50.0	50.0							
63301210	REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	75.0	75.0							
67100100	MOBILIZATION	L SUM	1	1							
70100405	TRAFFIC CONTROL & PROTECTION STANDARD 701321	EACH	1	1							
70100450	TRAFFIC CONTROL & PROTECTION STANDARD 701201	L SUM	1	1							
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1							
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6							
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	14	14							
70300100	SHORT TERM PAVEMENT MARKING	FOOT	150	150							
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	50	50							
70400100	TEMPORARY CONCRETE BARRIER	FOOT	275.0	275.0							
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2							
* 72501000	TERMINAL MARKERS DIRECT APPLIED	EACH	1	1							

*= SPECIALTY ITEM



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PLOT DATE = 12/5/2023	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FAP 639 (IL 17)
SUMMARY OF QUANTITIES**

SCALE: NONE SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(129X)CLV,SLP-1	MERCER	15	4
CONTRACT NO. 68H84				
ILLINOIS FED. AID PROJECT				

TREE REMOVAL (6 TO 15 UNITS DIAMETER)
20100110

STATION	SIDE	OFFSET	UNITS
IL 17			
1430+55.0	RT	35	10
1430+55.0	RT	35	10
1430+55.0	RT	35	10
1430+55.0	RT	35	8
1430+55.0	RT	35	6
1430+55.0	RT	35	6
1430+55.0	RT	35	6
TOTAL			56
USE			56

*TREES TO BE REMOVED BY IDOT DOWN TO 3' ABOVE GROUND PRIOR TO APRIL 1ST

EARTH EXCAVATION SCHEDULE

LOCATION STATION TO STATION	SIDE	20200100 EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED (25%)	EMBANKMENT	EARTHWORK BALANCE
CU YD					
IL 17					
1430+25.00	1431+00.00	LT/RT	65	45	35
TOTALS			65	45	35
USE			65	45	35

EROSION CONTROL SCHEDULE

NUMBER	ITEM	UNIT	TOTAL
28000400	PERIMETER EROSION BARRIER	FOOT	75

THIS SCHEDULE INCLUDES ESTIMATED QUANTITIES. THEY MAY BE REDUCED, INCREASED, OR DELETED BY THE ENGINEER BASED ON ACTUAL FIELD CONDITIONS. NO WORK INVOLVING THESE ESTIMATED QUANTITIES SHALL BE PERFORMED WITHOUT THE DIRECTION AND APPROVAL OF THE ENGINEER.

RIPRAP SCHEDULE

STATION TO STATION	SIDE	WIDTH	28100807	28200200
			STONE DUMPED RIPRAP, CLASS A4	FILTER FABRIC
			TON	SQ YD
IL 17				
1430+25.00	1431+00.00	RT	12'-6"	61.9
TOTALS				92.8
USE				93

GUARDRAIL SCHEDULE

STATION TO STATION	SIDE	63301210	63100167	78200006	63200310	72501000
		REMOVE & REERECT SPBGR TYPE A	TRAFFIC BARRIER TERM., TY. 1 (SPECIAL) TAN.	GUARDRAIL REFLECTORS TYPE B	GUARDRAIL REMOVAL	TERMINAL MARKERS DIRECT APPLIED
		FOOT	EACH	FOOT		
IL 17						
1430+00.0	1430+75.0	LT	75.0	1	7	50
TOTALS			75.0	1	7	50

AGGREGATE SHOULDERS, TYPE B

STATION TO STATION	SIDE	WIDTH	TON
IL 17			
1430+25.0	1431+00.0	RT	4.0
TOTAL			11.9
USE			12

GUARDRAIL AGGREGATE EROSION CONTROL

STATION TO STATION	SIDE	WIDTH	TON
IL 17			
1430+25.0	1431+00.0	RT	8'-6"
TOTAL			25.3
USE			25

TRAFFIC CONTROL AND PROTECTION

LOCATION	70400100	70600250	70106700
	TEMP CONCRETE BARRIER	IMPACT ATTENUATORS TEMP NRN, TL3	TEMP RUMBLE STRIPS
		FOOT	EACH
IL 17			
1429+04.0	1431+73.0	275	2
TOTALS		275	2

PAINT PAVEMENT MARKING - LINE 5"

STATION TO STATION	SIDE	DESCRIPTION	78001120
			YELLOW FOOT
IL 17			
1427+96.0	1433+35.0	CL	DOUBLE SOLID LINE
TOTAL			1078.0
USE			1078

PAVEMENT MARKING REMOVAL - WATER BLASTING

STATION TO STATION	SIDE	DESCRIPTION	78300202
			SQ FT
IL 17			
1427+96.0	1433+35.0	CL	DOUBLE SOLID LINE
TOTAL			449.2
USE			450

SHORT TERM PAVEMENT MARKING

STATION TO STATION	70300100	70300150	
	SHORT TERM PAVEMENT MARKING	SHORT TERM PAVEMENT MARKING REMOVAL	
		FEET	SQ FT
IL 17			
1428+06.0	1432+75.0	150	50
TOTAL		150	50
USE		150	50

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 639 (IL 17)
SCHEDULE OF QUANTITIES

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(129X)CLV,SLP-1	MERCER	15	6
CONTRACT NO. 68H84				
ILLINOIS FED. AID PROJECT				

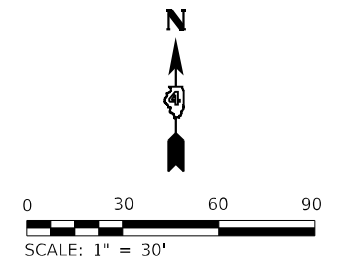
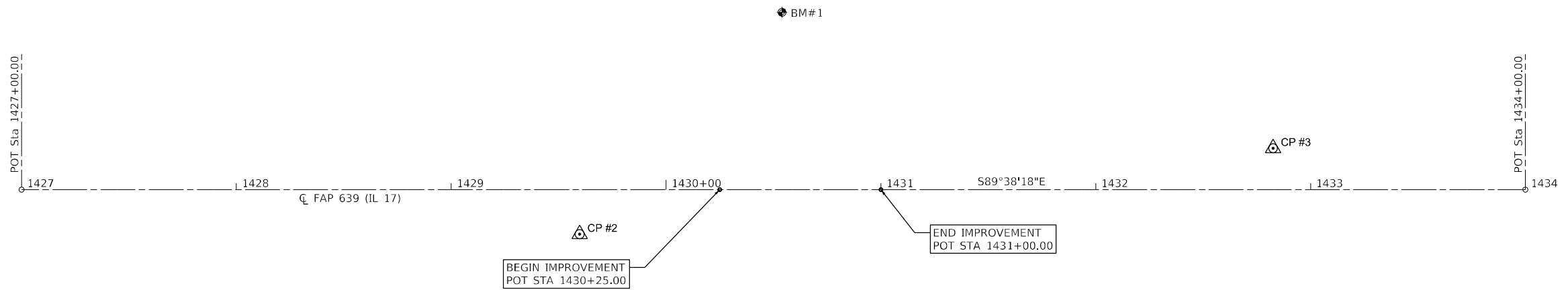
ALIGNMENT COORDINATES - FAP 639 (IL 17)			
	STATION	N	E
POT	1427+00.00	1,652,287.6258	2,200,943.3043
POT	1430+25.00	1,652,285.5745	2,201,268.2978
POT	1431+00.00	1,652,285.1011	2,201,343.2963
POT	1434+00.00	1,652,283.2075	2,201,643.2903

* COORDINATES ARE NAD83/2011ADJ

CONTROL POINT COORDINATES - FAP 639 (IL 17)			
CONTROL PT #	N	E	ELEV.
2	1,652,265.2780	2,201,202.9390	750.08
3	1,652,303.2280	2,201,525.9860	752.58

BENCHMARKS

BM #1: RAILROAD SPIKE IN POWER POLE, ELEV. 750.60, STA. 1430+53.95, 82.6 LT



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KLINGNER & ASSOCIATES, P.C.
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 49 North Park Street
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 Phone: 309.343.1100
 Fax: 309.343.1101
 www.klingner.com

USER NAME = rbailey	DESIGNED -	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

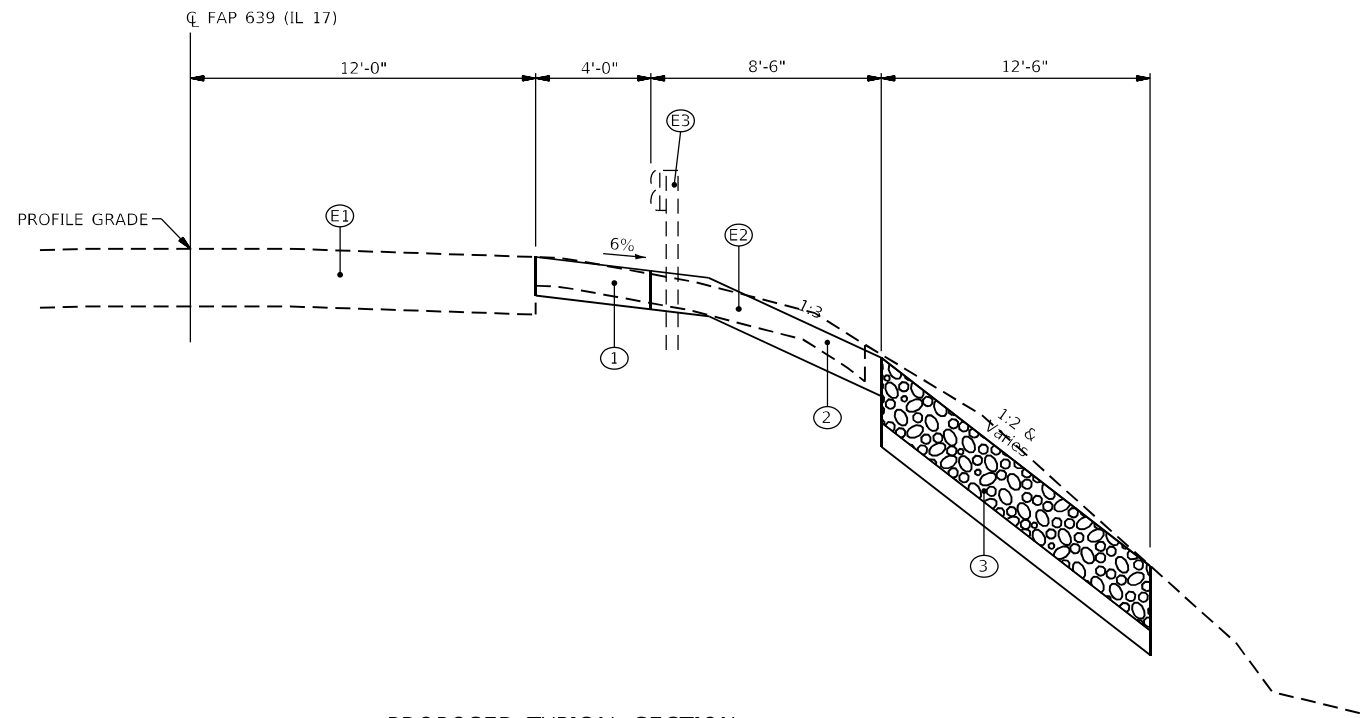
**FAP 639 (IL 17)
HORIZONTAL ALIGNMENT AND BENCHMARK DATA**

SCALE: 1"=30' SHEET 1 OF 1 SHEETS STA. 1427+00.00 TO STA. 1434+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(129)CLV,SLP-1	MERCER	15	7
CONTRACT NO. 68H84			ILLINOIS FED. AID PROJECT	

LEGEND

- Ⓔ1 EXISTING PAVEMENT
- Ⓔ2 EXISTING AGG. SHOULDER
- Ⓔ3 EXISTING GUARDRAIL (REMOVE AND REERECT)
- ① PROPOSED AGGREGATE SHOULDERS, TYPE A 8"
- ② PROPOSED GUARDRAIL AGGREGATE EROSION CONTROL
- ③ PROPOSED STONE DUMPED RIPRAP, CLASS A4



PROPOSED TYPICAL SECTION
 STA . 1430+25.00 TO 1431+00.00

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 Galesburg, Illinois

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FAP 639 (IL 17)
 TYPICAL SECTIONS**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(129X)CLV,SLP-1	MERCER	15	8
CONTRACT NO. 68H84				
ILLINOIS FED. AID PROJECT				

SE 1/4, SEC 17, T 14 N, R 1 W, 4TH PM

SW 1/4, SEC 16, T 14 N, R 1 W, 4TH PM

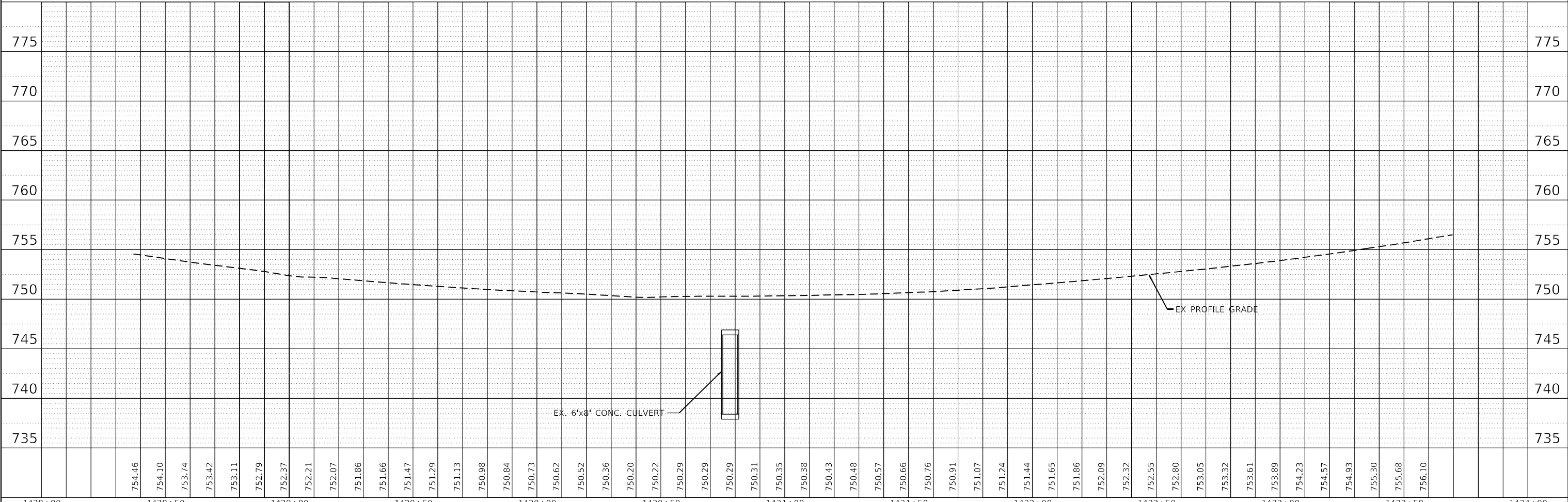
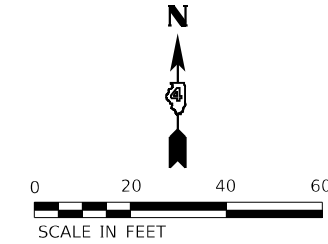
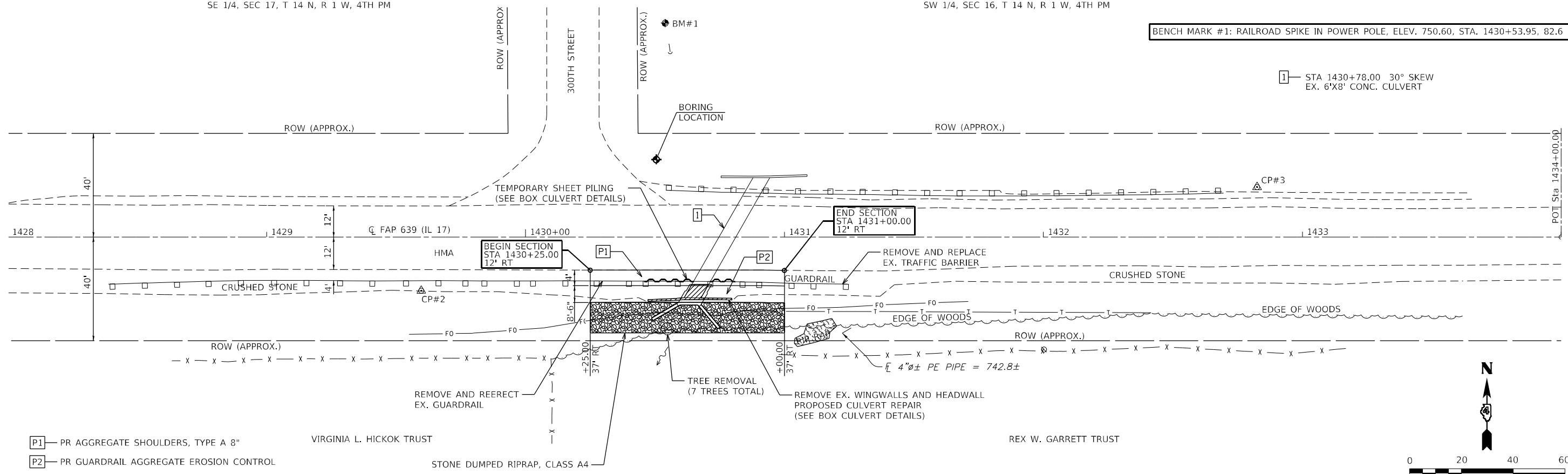
BENCH MARK #1: RAILROAD SPIKE IN POWER POLE, ELEV. 750.60, STA. 1430+53.95, 82.6 LT

1 - STA 1430+78.00 30° SKEW EX. 6'x8' CONC. CULVERT

PLAN	SURVEYED	DATE
	PLOTTED	
	ALIGNMENT CHECKED	
	NOTE BOOK NO.	
	CADD FILE NAME	

PROFILE	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
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1428+00	1428+50	1429+00	1429+50	1430+00	1430+50	1431+00	1431+50	1432+00	1432+50	1433+00	1433+50	1434+00																																								
754.46	754.10	753.74	753.42	753.11	752.79	752.37	752.21	752.07	751.86	751.66	751.47	751.29	751.13	750.98	750.84	750.73	750.62	750.52	750.36	750.20	750.22	750.29	750.29	750.29	750.31	750.35	750.38	750.43	750.48	750.57	750.66	750.76	750.91	751.07	751.24	751.44	751.65	751.86	752.09	752.32	752.55	752.80	753.05	753.32	753.61	753.89	754.23	754.57	754.93	755.30	755.68	756.10

KLINGNER & ASSOCIATES, P.C.
 Engineers • Architects • Surveyors
 616 N. 24TH ST. QUINCY, ILLINOIS 62301-2172
 STATE OF ILLINOIS DESIGN FIRM NO. 184-2738

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







STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 639 (IL 17)
PLAN AND PROFILE SHEET

SCALE: 1"=20' SHEET 1 OF 1 SHEETS STA. 1428+00.00 TO STA. 1434+00.00

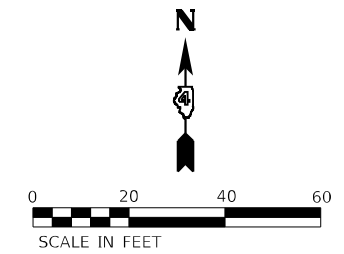
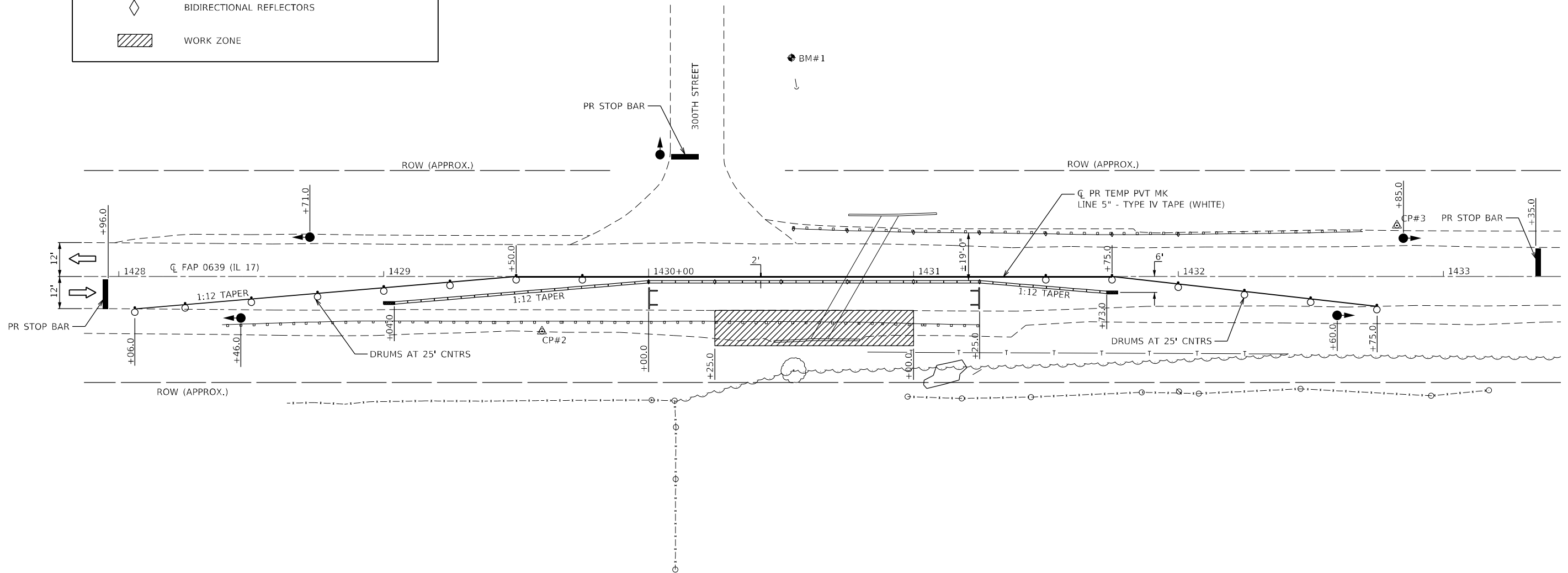
F.A.P. RTE. 639	SECTION (129X)CLV,SLP-1	COUNTY MERCER	TOTAL SHEETS 15	SHEET NO. 9
CONTRACT NO. 68H84				
ILLINOIS FED. AID PROJECT				

LEGEND

-  DIRECTION OF TRAFFIC
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH BI-DIRECTIONAL STEADY BURNING LIGHT
-  TEMPORARY TRAFFIC SIGNAL
-  TEMPORARY IMPACT ATTENUATOR
-  BIDIRECTIONAL REFLECTORS
-  WORK ZONE

GENERAL NOTES

- THIS WORK SHALL SUPPLEMENT AND BE IN ACCORDANCE WITH HIGHWAY STANDARD 701321.
- FOR DIMENSIONS AND SPACING, SEE HIGHWAY STANDARD 701321.
- REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
- TRAFFIC CONTROL MAY BE ADJUSTED DUE TO FIELD CONDITIONS OR APPROVED BY ENGINEER.



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 Engineers - Architects - Surveyors
 Galesburg, Illinois

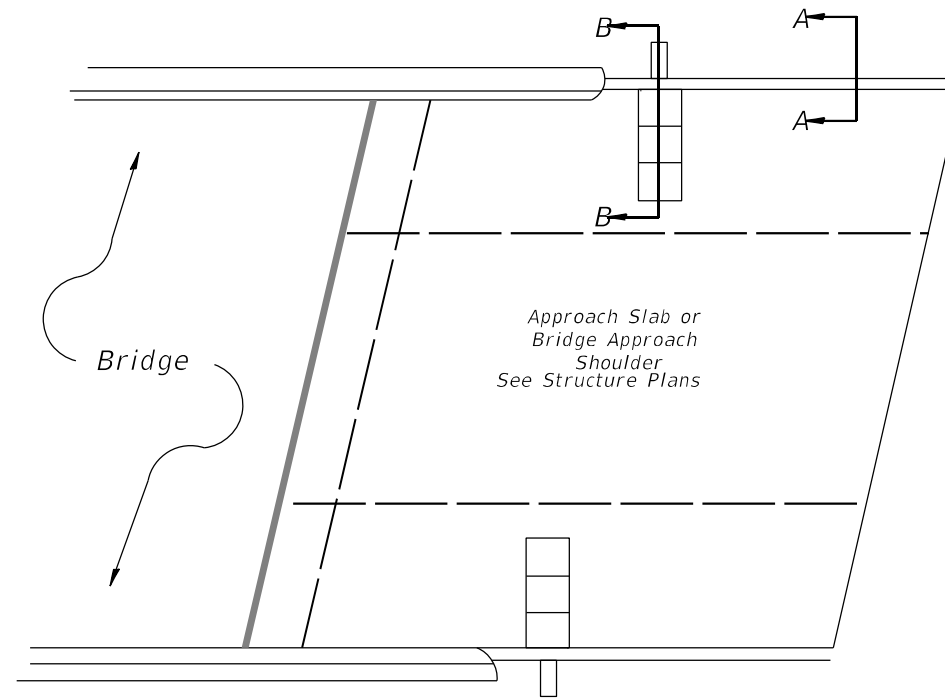
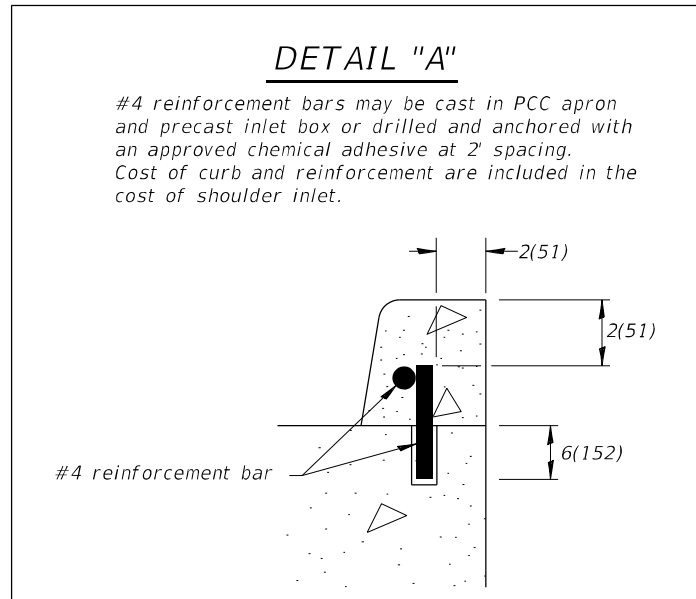
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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

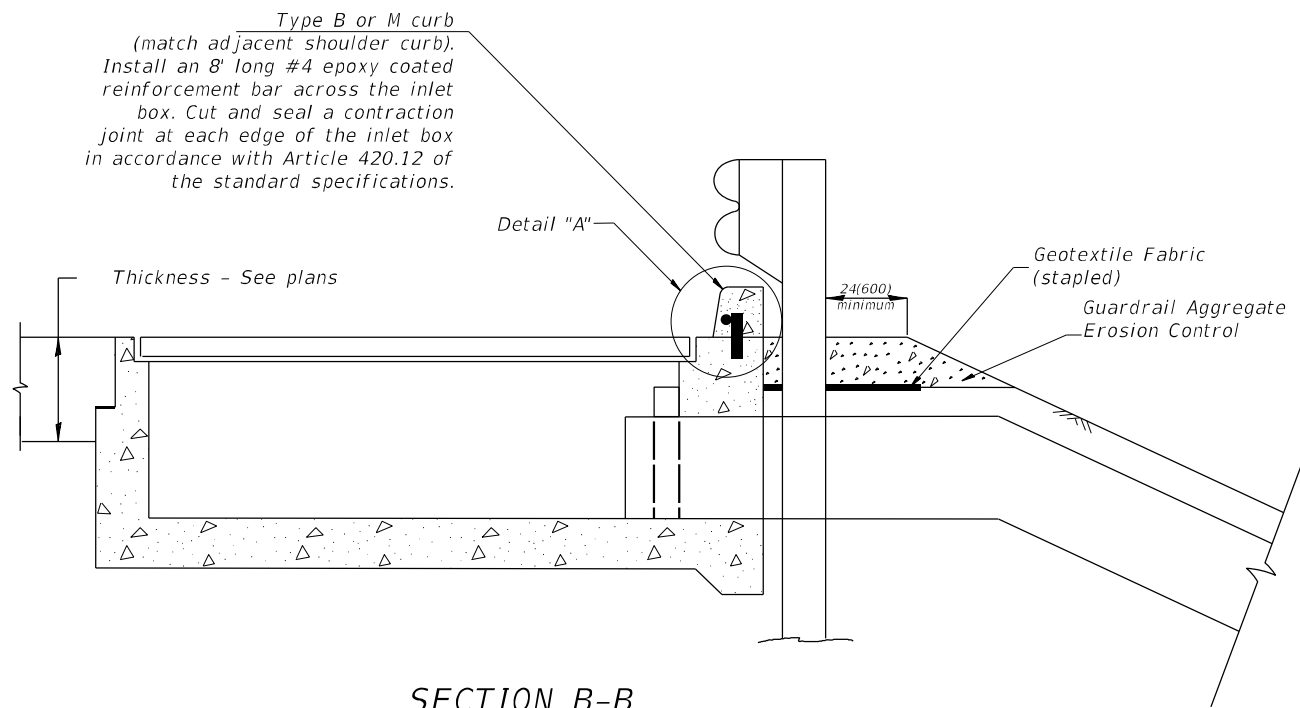
**FAP 639 (IL 17)
TRAFFIC CONTROL PLAN**

SCALE: 1"=20' SHEET 1 OF 1 SHEETS STA. 1428+00.00 TO STA. 1433+00.00

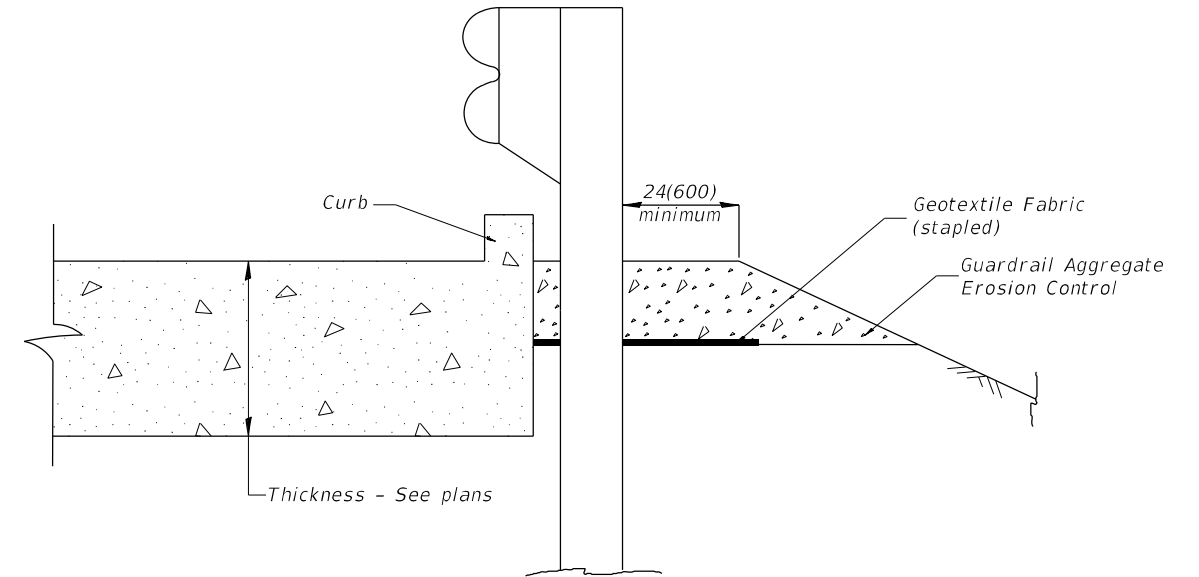
F.A.P. RTE. 639	SECTION (129)CLV,SLP-1	COUNTY MERCER	TOTAL SHEETS 15	SHEET NO. 10
CONTRACT NO. 68H84				
ILLINOIS FED. AID PROJECT				



PLAN VIEW
APPROACH SLAB OR SHOULDER PLACEMENT



SECTION B-B
TYPICAL SECTION AT INLETS
TYPE E, F & G (HIGHWAY STANDARD 610001)



SECTION A-A
TYPICAL SECTION WITH BRIDGE APPROACH CURB

All dimensions are in inches (millimeters) unless otherwise noted.

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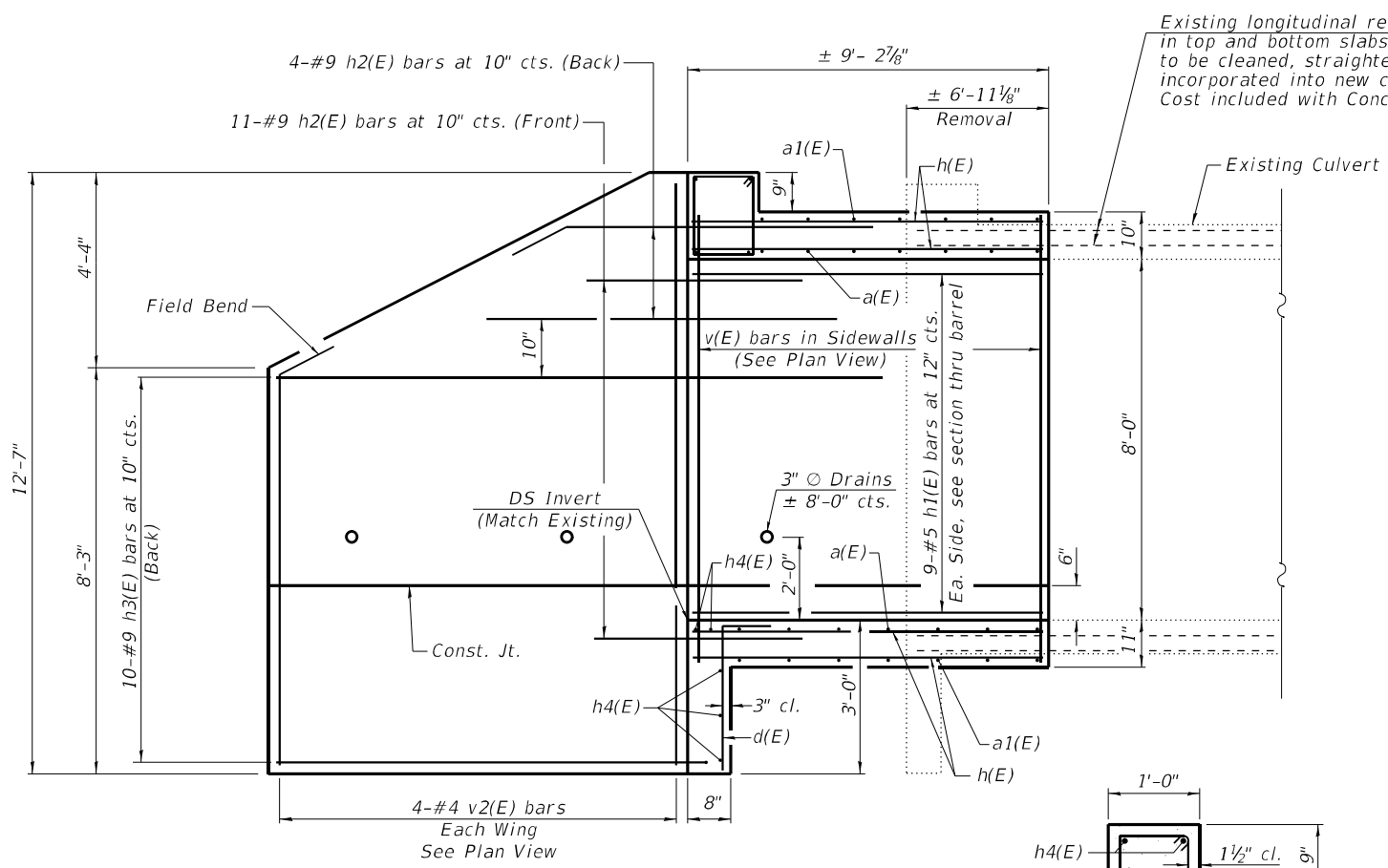
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	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

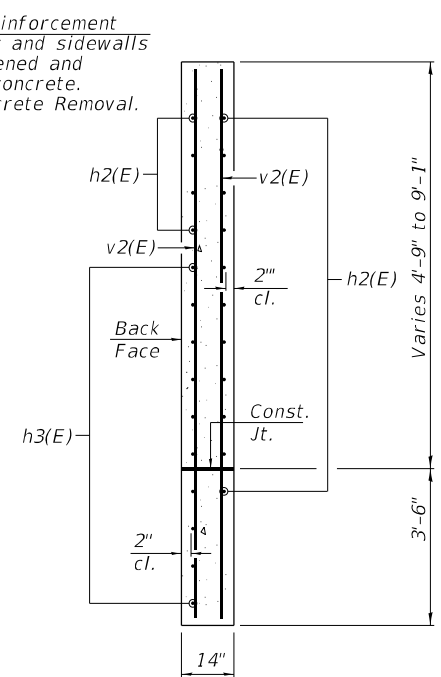
FAP 639 (IL 17)
GUARDRAIL EROSION CONTROL TREATMENTS

SCALE: NONE SHEET 2 OF 2 SHEETS STA. TO STA.

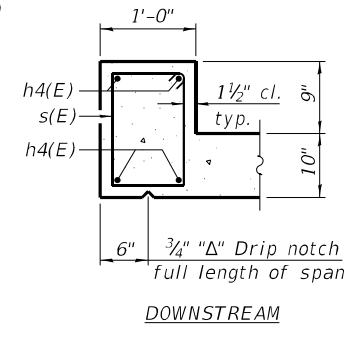
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CONTRACT NO. 68H84				
ILLINOIS FED. AID PROJECT				



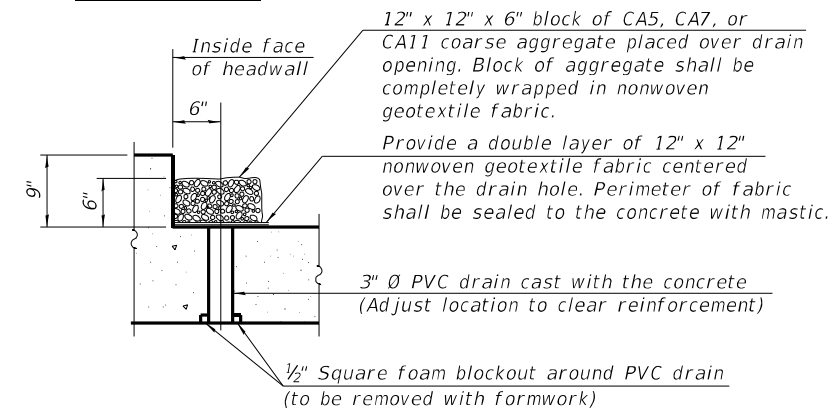
LONGITUDINAL SECTION
Dimensions at Rt. L's to \perp Roadway



SECTION A-A



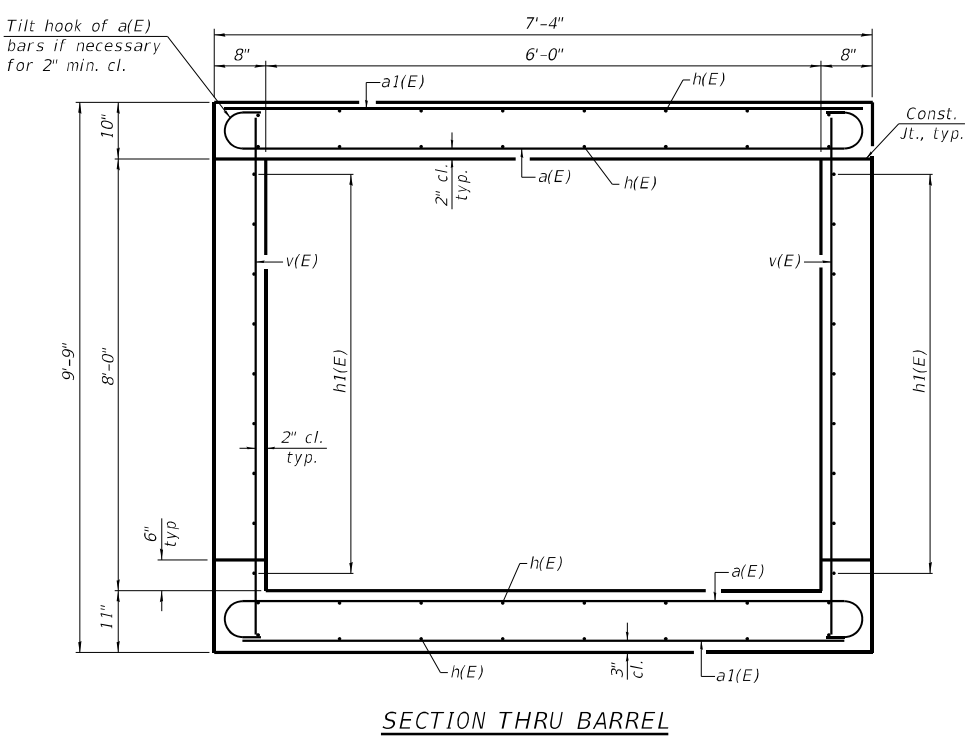
SECTION THRU HEADWALL



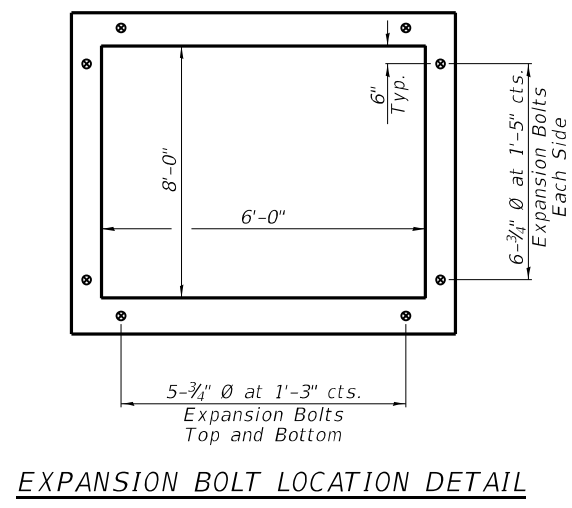
DRAIN DETAIL

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

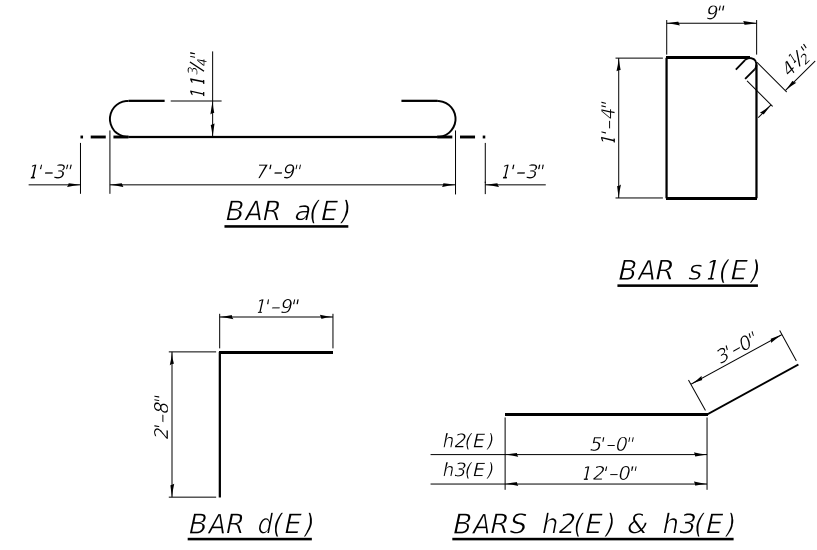
Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.



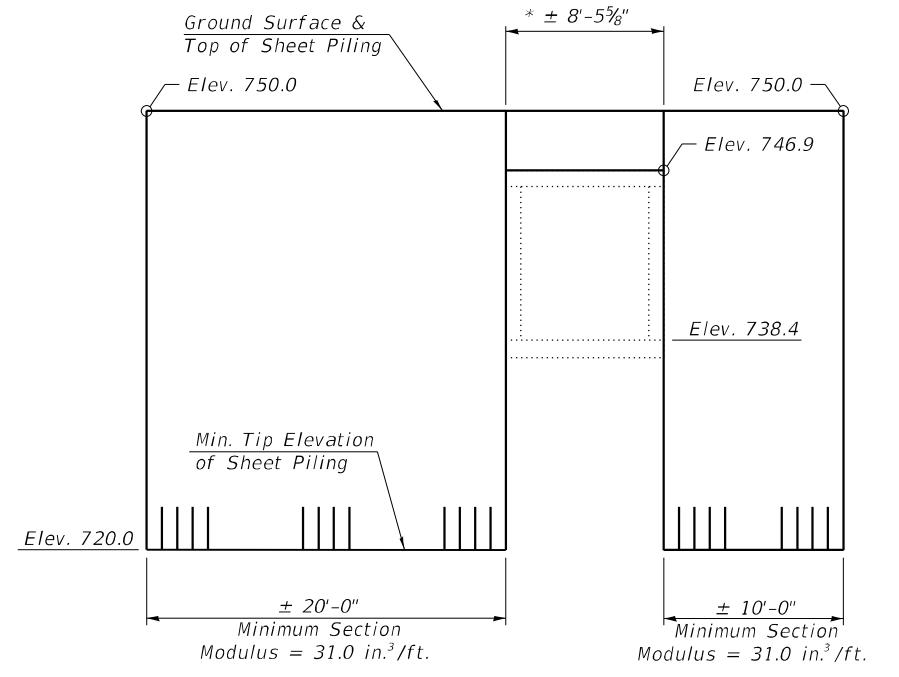
SECTION THRU BARREL



EXPANSION BOLT LOCATION DETAIL



TEMPORARY SHEET PILING
(Looking North)



If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

* Contractor shall temporarily retain the soil above the existing culvert, during construction. Approximate fill height is 3'-0". Cost included in "Temporary Sheet Piling".

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	28	#6	10'-3"	U
a1(E)	14	#5	7'-9"	U
d(E)	8	#4	4'-5"	L
h(E)	32	#5	8'-11"	—
h1(E)	18	#5	8'-11"	—
h2(E)	30	#9	8'-0"	—
h3(E)	20	#9	15'-0"	—
h4(E)	9	#6	7'-9"	—
s(E)	8	#4	4'-11"	□
v(E)	30	#6	9'-4"	—
v1(E)	2	#6	9'-4"	—
v2(E)	8	#4	12'-3"	—
Reinforcement Bars, Epoxy Coated			Pound	3,510
Concrete Box Culverts			Cu. Yd.	20.7
Expansion Bolts, 3/4"			Each	22
Concrete Removal			Cu. Yd.	17.8
Temporary Sheet Piling			Sq. Ft.	900

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KLINGNER & ASSOCIATES, P.C.
Engineers - Architects - Surveyors
Galesburg, Illinois
www.klingner.com

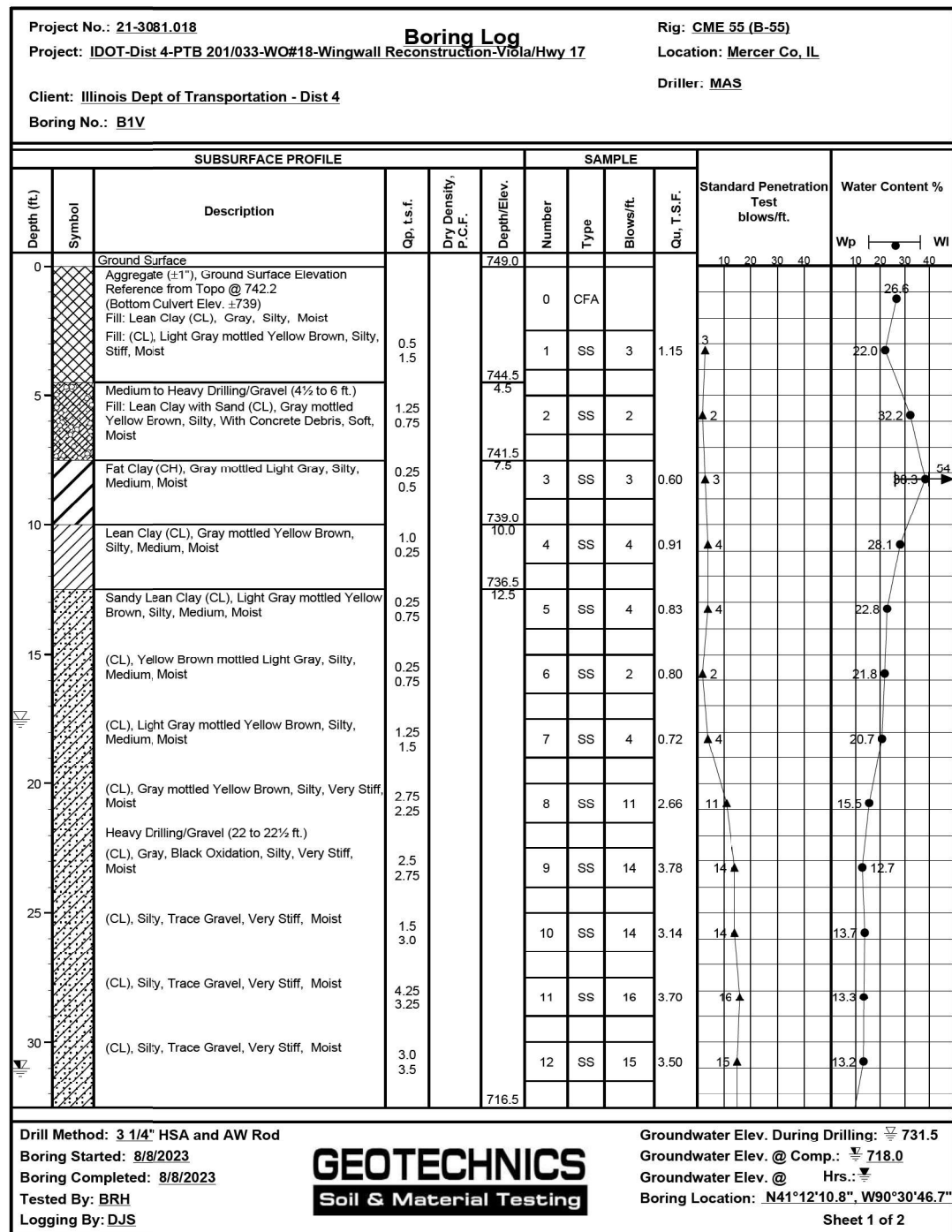
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	DATE -	REVISED -

STATE OF ILLINOIS
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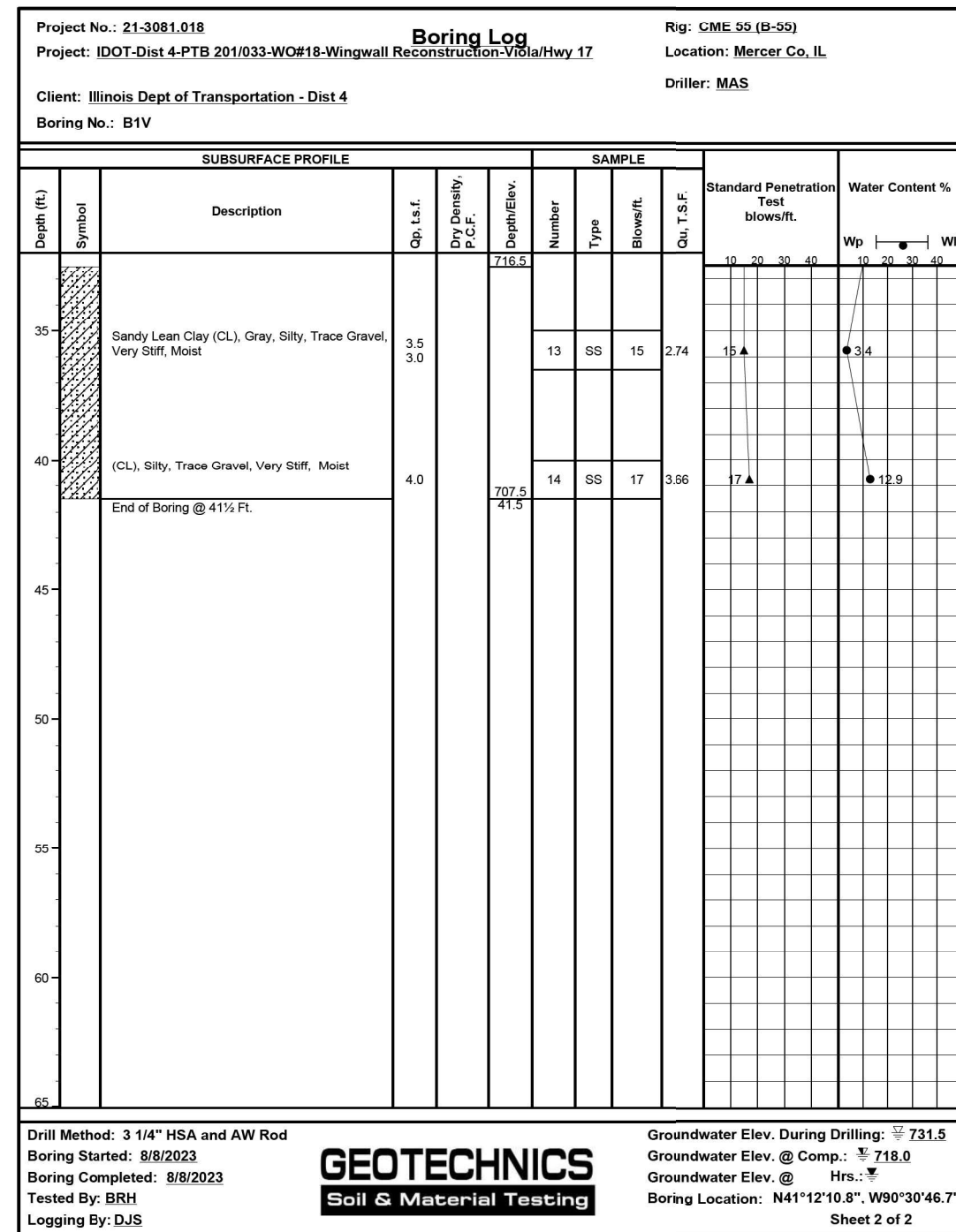
FAP 639 (IL 17)
BOX CULVERT DETAILS

SCALE: NONE SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.P. RTE. 639	SECTION (129X)CLV,SLP-1	COUNTY MERCER	TOTAL SHEETS 15	SHEET NO. 14
CONTRACT NO. 68H84			ILLINOIS FED. AID PROJECT	



SOIL BORING



SOIL BORING

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	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 639 (IL 17)
BOX CULVERT DETAILS

SCALE: NONE SHEET 3 OF 3 SHEETS STA. TO STA.

F.A.P. RTE. 639	SECTION (129)CLV,SLP-1	COUNTY MERCER	TOTAL SHEETS 15	SHEET NO. 15
CONTRACT NO. 68H84				
ILLINOIS FED. AID PROJECT				