

FOR INDEX OF SHEETS, SEE SHEET NO. 2
 FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

08-03-2018 LETTING ITEM 053

UTILITIES:

FRONTIER COMMUNICATIONS
 214 S. 1ST STREET
 MONMOUTH, IL 61462
 ATTN: RON PRITCHARD
 (309) 734-7991

NOVA/RIO CABLEVISION, INC.
 P.O. BOX 1412
 GALESBURG, IL 61401
 ATTN: ROBERT FISCHER, JR.
 (309) 342-9681

MIDAMERICAN ENERGY
 5955 FENNO ROAD
 BETTENDORF, IA 52722
 ATTN: NATE TEAGER
 (515) 242-4300

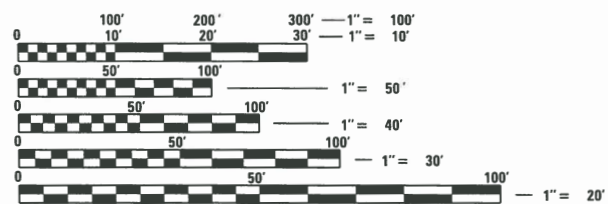
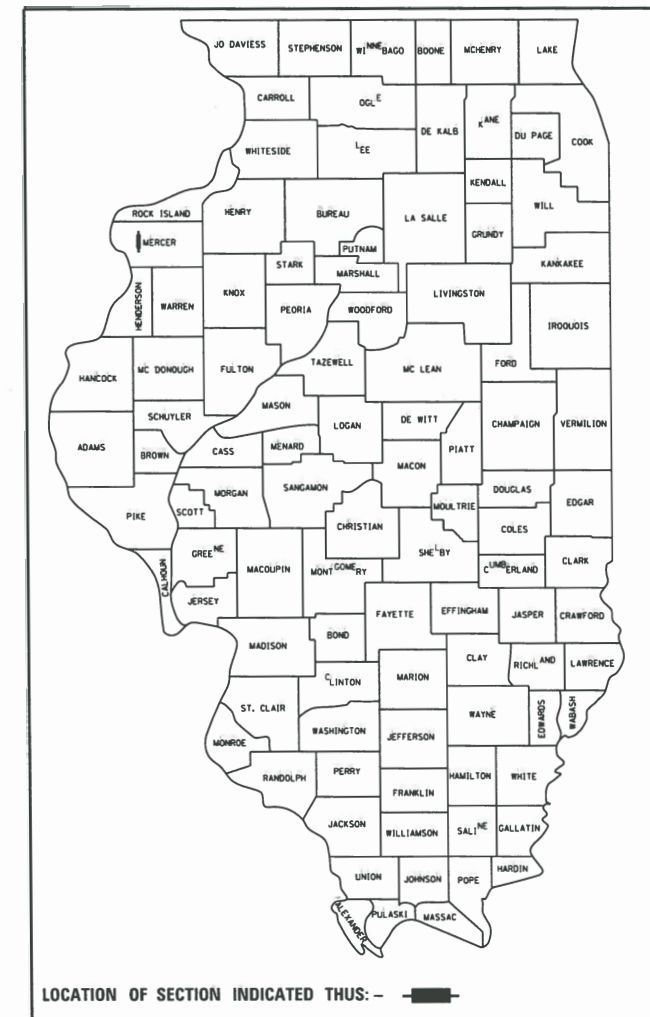
CITY OF ALEDO
 120 N. COLLEGE AVENUE
 ALEDO, IL 61231
 ATTN: JUSTIN BLASER
 (309) 582-7241

VILLAGE OF JOY
 MSA ENGINEERING
 2117 STATE STREET
 SUITE 200
 BETTENDORF, IA 52722
 (563) 445-3501

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
**PLANS FOR PROPOSED
 FEDERAL AID PROJECT
 SURFACE TRANSPORTATION
 RURAL**

COUNTY HIGHWAY 9 (JOY ROAD)
 SECTION 14-00103-02-DR
 PROJECT NO. PA6K(976)
 SEGMENT 2 CULVERT REPLACEMENTS
 MERCER COUNTY
 C-94-053-15

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	1
WHA# 1055M16			CONTRACT NO. 89741	
(ILLINOIS) FED. AID PROJECT PA6K(976)				



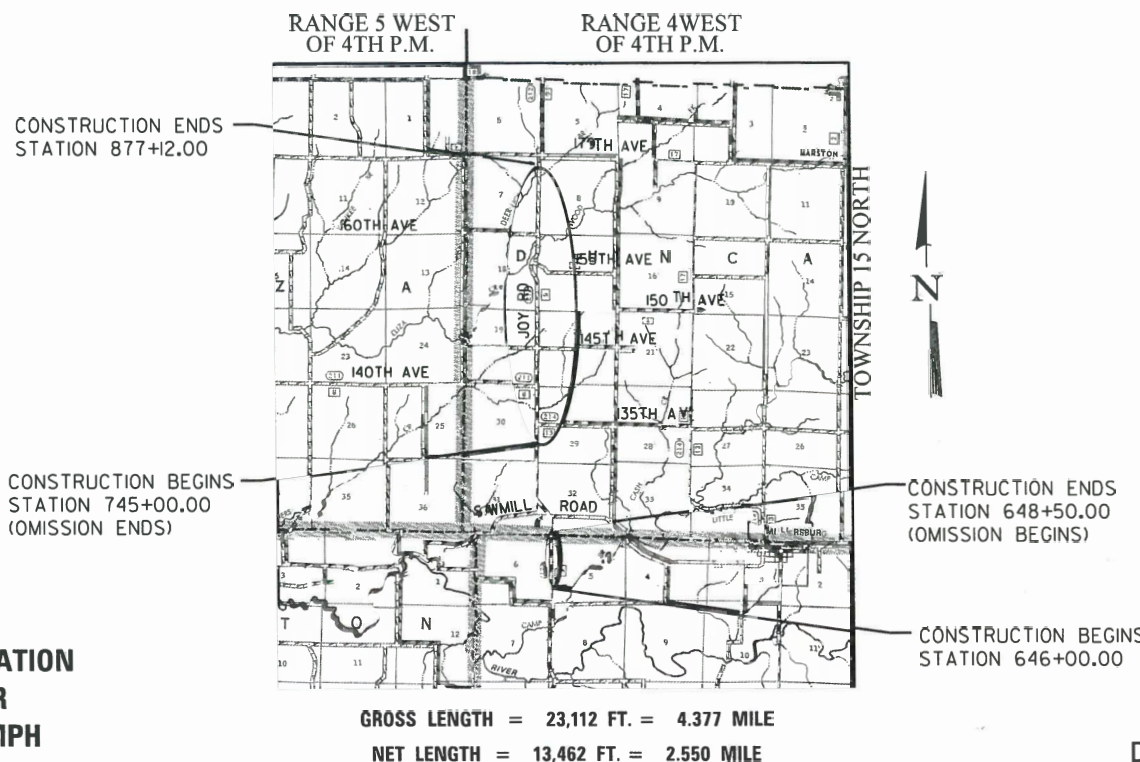
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROJECT ENGINEER: LGN
 PROJECT MANAGER: BKC

CATALOG NO. 034788-04
 CONTRACT NO. 89741

FUNCTIONAL CLASSIFICATION
 MAJOR COLLECTOR
 DESIGN SPEED 40 MPH
 2016 ADT - 490
 3R GUIDELINES



APPROVED APR 18th 2018
Quell
 MERCER COUNTY ENGINEER

PASSED 05-17 2018
[Signature]
 DISTRICT 4 LOCAL ROADS & STREETS ENGINEER

RELEASING FOR BID
 BASED ON LIMITED
 REVIEW May 17 2018
[Signature]
 REGION 3 ENGINEER



DATE: 4-16-18
 EXPIRES 11/30/19



INDEX OF SHEETS

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665001-02	WOVEN WIRE FENCE
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701901-07	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAILS
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725001-01	OBJECT AND TERMINAL MARKERS
728001-01	TELESCOPING STEEL SIGN SUPPORT
729001-01	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 22-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

GENERAL NOTES

THE PROJECT LIMITS ARE FROM STA. 646+00 TO 648+50 AND 745+00 TO STA. 877+12.

ALL CONSTRUCTION TO BE ACCORDING TO IDOT DESIGN AND STANDARD SPECIFICATIONS.

EXISTING STREET SIGNS AND TRAFFIC SIGNS THAT ARE WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED AND RESET BY THE CONTRACTOR IN ACCORDANCE WITH ARTICLE 107.25.

WHERE THE PROPOSED CONSTRUCTION MEETS AN EXISTING BITUMINOUS OR CONCRETE SURFACE, OR WHERE SAWING IS STATED ON THE PLANS, THE EXISTING SURFACE SHALL BE SAWED IN A NEAT, STRAIGHT LINE. COST OF SAWING IS TO BE INCLUDED IN THE UNIT BID PRICES OF THE ITEM BEING REMOVED.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE COUNTY SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS, MONUMENTS, AND RIGHT OF WAY PINS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

MERCER COUNTY HIGHWAY DEPARTMENT MUST BE NOTIFIED A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF ANY NON-EMERGENCY CONSTRUCTION WITHIN THE RIGHT-OF-WAY.

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SANDBAGS PER BARRICADE.

LOCATION POINTS AND ELEVATIONS OF CULVERTS ARE AT THE ENDS OF PIPE AND DO NOT INCLUDE THE FLARED END SECTIONS.

THE CONTRACTOR SHALL DISPOSE OF ALL MATERIAL GENERATED BY REMOVAL OF EXISTING STRUCTURES OFF-SITE.

ALL DISTURBED AREAS WITHIN THE PROJECT LIMITS SHALL BE SEEDED, FERTILIZED AND COVERED WITH EROSION CONTROL BLANKET OR MULCH, METHOD 2.

THE FINAL TOP FOUR INCHES OF SOIL IN RIGHT-OF-WAY AREA DISTURBED BY THE CONTRACTOR MUST BE A COHESIVE SOIL CAPABLE OF SUPPORTING VEGETATION.

ALL BORROW/WASTE/USE SITES MUST BE APPROVED BY IDOT PRIOR TO REMOVING ANY MATERIAL FROM THE PROJECT OR INITIATING ANY EARTHMOVING ACTIVITIES, INCLUDING TEMPORARY STOCKPILING OUTSIDE THE LIMITS OF CONSTRUCTION.

THE CONTRACTOR SHALL NOTIFY THE RESPECTIVE UTILITIES TO MAKE THE NECESSARY ADJUSTMENTS PRIOR TO THIS CONSTRUCTION.

THE UTILITIES LOCATED WITHIN THE PROJECT LIMITS OR IMMEDIATELY ADJACENT TO THE PROJECT CONSTRUCTION LIMITS INCLUDE:

FRONTIER COMMUNICATIONS 214 S. 1ST STREET MONMOUTH, IL 61462 ATTN: RON PRITCHARD (309) 734-7991	NOVA/RIO CABLEVISION, INC. P.O. BOX 1412 GALESBURG, IL 61401 ATTN: ROBERT FISCHER, JR. (309) 342-9681	VILLAGE OF JOY MSA ENGINEERING 2117 STATE STREET SUITE 200 BETTENDORF, IA 52722 (563) 445-3501
CITY OF ALEDO 120 N. COLLEGE AVENUE ALEDO, IL 61231 ATTN: JUSTIN BLASER (309) 582-7241	MIDAMERICAN ENERGY 5955 FENNO ROAD BETTENDORF, IA 52722 ATTN: NATE TEAGER (515) 242-4300	

PROJECT CONTROL

JOY ROAD - HORIZONTAL CONTROL POINTS					
PT #	STA.	N	E	EL.	DESCRIPTION
CP12	25.25' LT 762+48.57	1,676,841.21	2,100,314.27	665.19	5/8" IRON PIN
CP13	14.51' RT 764+82.12	1,677,073.33	2,100,361.67	667.80	5/8" IRON PIN
CP14	415.75' LT 779+78.80	1,678,581.95	2,099,977.15	680.15	5/8" IRON PIN
CP15	14.36' LT 884+64.97	1,688,878.11	2,100,647.64	661.38	5/8" IRON PIN
CP16	16.34' RT 888+27.14	1,689,239.07	2,100,689.60	662.72	5/8" IRON PIN
CP17	19.03' RT 929+87.89	1,693,390.08	2,100,881.51	676.60	5/8" IRON PIN
CP18	16.53' RT 932+43.41	1,693,647.22	2,100,892.52	676.67	5/8" IRON PIN
CP19	32.26' RT 994+93.92	1,699,890.48	2,100,959.21	756.03	5/8" IRON PIN
JOY ROAD - VERTICAL CONTROL POINTS					
BM #	STA.	N	E	EL.	DESCRIPTION
415	27.59' RT 726+24.71	1,673,217.34	2,100,258.36	697.40	R.R. SPIKE IN P.P. AT SE CORNER OF JOY RD AND 130TH AVE
416	28.69' RT 739+63.28	1,674,555.27	2,100,299.30	695.37	R.R. SPIKE IN P.P. AT HOUSE E SIDE OF JOY RD
417	43.53' RT 753+04.52	1,675,895.48	2,100,354.05	692.82	R.R. SPIKE IN P.P. AT NE CORNER OF JOY RD AND 135TH AVE
418	17.21' RT 763+85.24	1,676,976.41	2,100,361.19	668.00	CHIS. SQUARE ON NE CORNER OF WINGWALL OF STRUCTURE OVER WINTERS CREEK
419	46.72' LT 780+05.25	1,678,597.60	2,100,346.79	684.78	R.R. SPIKE IN P.P. AT NW CORNER OF JOY RD AND 140TH AVE
420	35.32' RT 793+96.97	1,679,896.32	2,100,469.50	706.98	R.R. SPIKE IN P.P. E SIDE OF JOY RD
421	34.15' RT 806+77.87	1,681,267.21	2,100,503.67	723.75	R.R. SPIKE IN P.P. AT NE CORNER OF JOY RD AND 145TH AVE
422	32.30' RT 819+41.70	1,682,530.91	2,100,521.79	724.42	R.R. SPIKE IN P.P.
423	37.10' RT 835+58.50	1,684,147.33	2,100,547.61	726.73	R.R. SPIKE IN P.P.
424	54.87' RT 849+81.23	1,685,569.60	2,100,587.81	706.45	R.R. SPIKE IN P.P.
425	36.46' RT 860+79.07	1,686,619.30	2,100,265.10	678.05	R.R. SPIKE IN P.P.
426	31.87' RT 878+44.16	1,688,255.79	2,100,673.02	656.48	R.R. SPIKE IN P.P.
427	15.58 LT 885+80.42	1,688,993.55	2,100,649.78	663.26	CHIS. SQUARE ON SW CORNER OF WINGWALL
428	34.15' RT 806+77.87	1,690,226.15	2,100,740.76	694.15	R.R. SPIKE IN 1ST P.P. NORTH OF HOUSE #1616
429	17' RT 916+41		698.31		CHIS. SQUARE ON NE CORNER OF BOX CULVERT 0.5 MI N OF 160TH AVE
430	30' RT 926+84		677.73		R.R. SPIKE IN 6TH P.P. S OF 170TH AVE
431	35' RT 941+57		690.46		R.R. SPIKE IN P.P. AT SE CORNER OF JOY RD AND 170TH AVE

COMMITMENTS

- THE CONTRACTOR SHALL INSTALL TEMPORARY FENCE ALONG THE PROPOSED ROW LINE AT STATION 647+23 (LOC. #12) TO ALLOW ACCESS FOR CONSTRUCTION OF THE CULVERT AND TO PREVENT CATTLE FROM ESCAPING THE PASTURE AREA. THE TEMPORARY FENCE WILL REMAIN IN PLACE UPON COMPLETION OF THE CULVERT CONSTRUCTION UNTIL PERMANENT FENCE IS INSTALLED BY OTHERS.
- THE CONTRACTOR SHALL INSTALL TEMPORARY MEASURES EVERY NIGHT AT ANY OTHER PROJECT LOCATION WHERE FENCING IS REMOVED AS PART OF THE CULVERT EXTENSIONS.

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**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

**INDEX OF SHEETS, STANDARDS, GENERAL NOTES,
PROJECT CONTROL, & COMMITMENTS**

SHEET NO. 01 OF 01 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	02
WHA* 1055M16		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		PAGE(976)

SUMMARY OF QUANTITIES

CONSTRUCTION
CODE 0004

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20101000	TEMPORARY FENCE	FOOT	254
20200100	EARTH EXCAVATION	CU YD	466
20400800	FURNISHED EXCAVATION	CU YD	947
20700110	POROUS GRANULAR EMBANKMENT	TON	300
20800150	TRENCH BACKFILL	CU YD	212
21400100	GRADING AND SHAPING DITCHES	FOOT	2,554
25000200	SEEDING, CLASS 2	ACRE	2.60
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	234
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	234
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	234
25100115	MULCH, METHOD 2	ACRE	7.81
25100630	EROSION CONTROL BLANKET	SQ YD	1,135
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	521
28000305	TEMPORARY DITCH CHECKS	FOOT	306
28000400	PERIMETER EROSION BARRIER	FOOT	1,332
28000500	INLET AND PIPE PROTECTION	EACH	12
28100125	STONE RIPRAP, CLASS B3	SQ YD	37
28100127	STONE RIPRAP, CLASS B4	SQ YD	189
28200200	FILTER FABRIC	SQ YD	189
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	960
50105220	PIPE CULVERT REMOVAL	FOOT	573
50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS FOR STRUCTURES	CU YD	58.4
50800105	REINFORCEMENT BARS	POUND	33,040
54002020	EXPANSION BOLTS 3/4 INCH	EACH	140
54003000	CONCRETE BOX CULVERTS	CU YD	175.3
542C0229*	PIPE CULVERTS, CLASS C, TYPE 1 24"	FOOT	180
542C0235*	PIPE CULVERTS, CLASS C, TYPE 1 30"	FOOT	80
542C0241*	PIPE CULVERTS, CLASS C, TYPE 1 36"	FOOT	53
542C0277*	PIPE CULVERTS, CLASS C, TYPE 1 72"	FOOT	56
542C1069*	PIPE CULVERTS, CLASS C, TYPE 2 24"	FOOT	114
542D0229*	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	44
54213459	END SECTIONS 24"	EACH	12
54213465	END SECTIONS 30"	EACH	4
54213471	END SECTIONS 36"	EACH	2
54213507	END SECTIONS 72"	EACH	2
△ 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	125
△ 63000370	LONG-SPAN GUARDRAIL OVER CULVERT, 25 FT SPAN	FOOT	100
△ 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
△ 63200310	GUARDRAIL REMOVAL	FOOT	303
△ 66500105	WOVEN WIRE FENCE, 4'	FOOT	228
67100100	MOBILIZATION	L SUM	1
△ 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
△ 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	8
Z0012754	STRUCT. REPAIR OF CONC. (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	15
X0900064*	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	142
X7010216*	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
XZ054500*	ROCK FILL (SPECIAL)	CU YD	58.4
XZ127902*	RETAINING WALL, SPECIAL	SQ FT	1,530

△ SPECIALTY ITEMS

*SEE SPECIAL PROVISIONS

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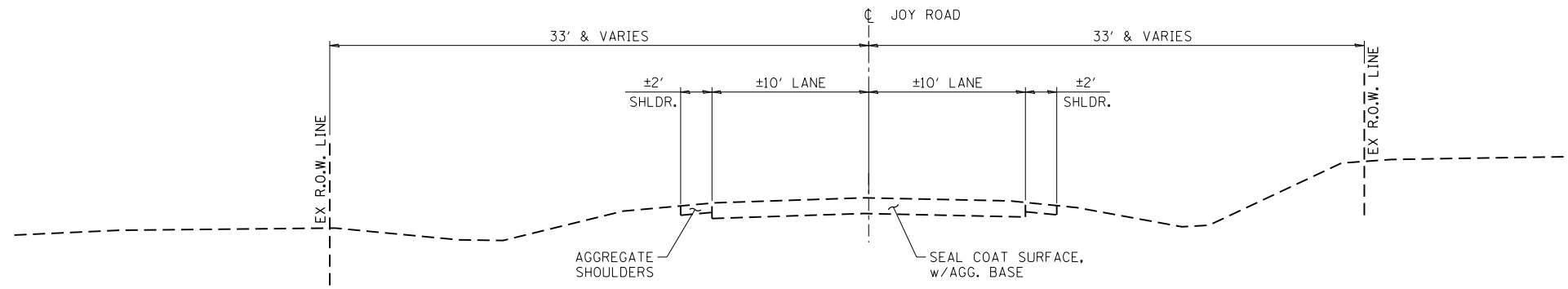
**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

SUMMARY OF QUANTITIES

SHEET NO. 01 OF 01 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	03
WHA* 1055M16		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT PA6K19761				

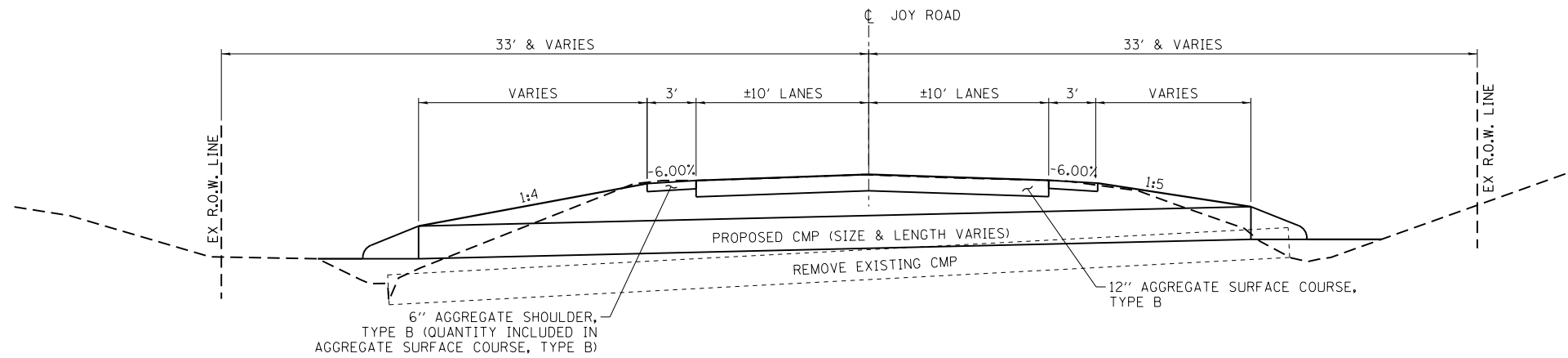
TYPICAL SECTIONS



EXISTING TYPICAL SECTION

(LOOKING NORTH)

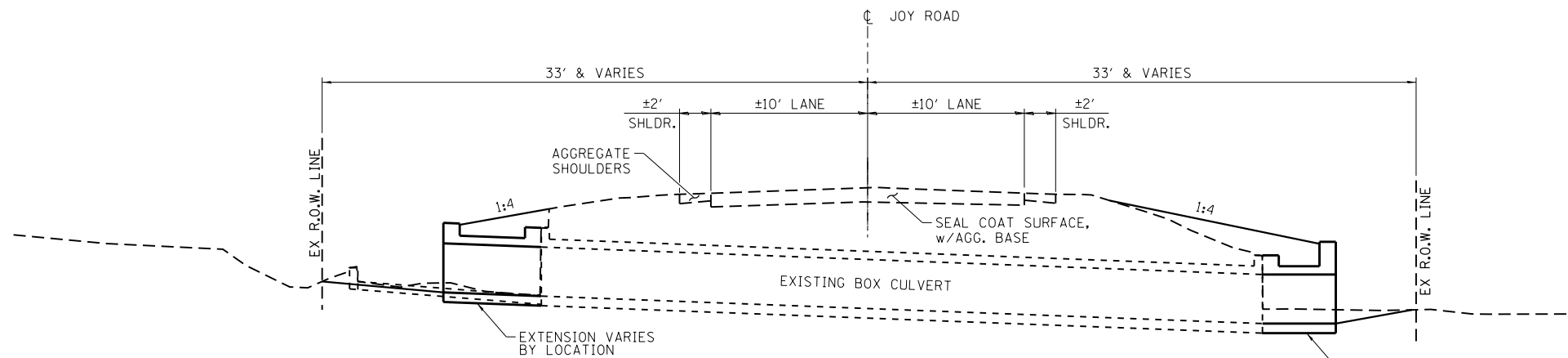
STA. 722+00.00 TO STA. 943+00.00



PROPOSED TYPICAL SECTION CMP REPLACEMENTS

(LOOKING NORTH)

STA. 775+37 STA. 819+80
 STA. 779+16 STA. 834+66
 STA. 786+04 STA. 851+44
 STA. 795+36 STA. 854+04
 STA. 808+99 STA. 860+41



PROPOSED TYPICAL SECTION BOX CULVERT EXTENSIONS

(LOOKING NORTH)

STA. 746+18
 STA. 757+63
 STA. 816+23
 STA. 830+95
 STA. 867+50
 STA. 877+12

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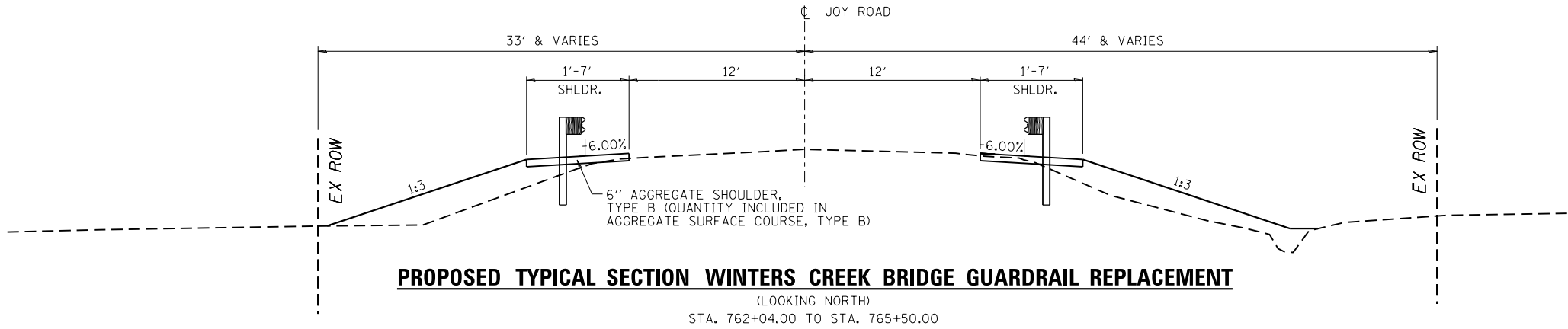
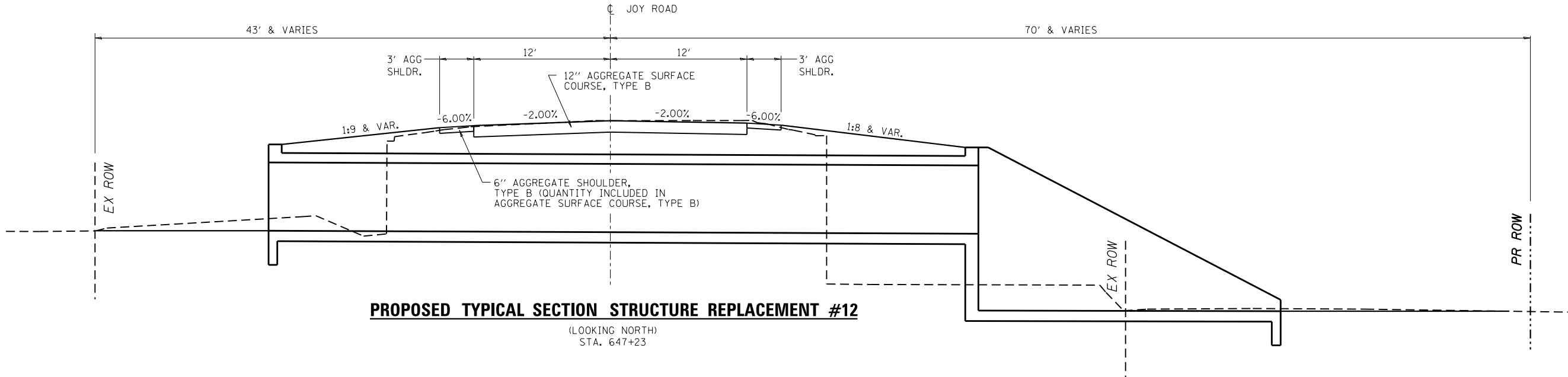
**MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSION**

TYPICAL SECTIONS

SHEET NO. 01 OF 02 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	04
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT	PA6K19761	

TYPICAL SECTIONS



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**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

TYPICAL SECTIONS

SHEET NO. 02 OF 02 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	05
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT	PA6K19761	

SCHEDULE OF QUANTITIES

EARTHWORK SUMMARY

STATION RANGE	LOCATION	A B C D			
		EARTH EXCAVATION (SPECIAL) 20200100 (CY)	EXCAVATION ADJUSTED FOR SHRINKAGE 25%	FILL (CY)	FURNISHED EXCAVATION 20400800 (CY)
646+00 - 648+50	LOCATION 12	116	87	353	266
745+00 - 746+75	LOCATION 16	29	22	24	2
757+25 - 758+00	LOCATION 16B	35	26	29	3
762+00 - 765+50	WINTERS CREEK BRIDGE	2	1	464	463
816+00 - 816+50	LOCATION 22	5	4	21	17
830+25 - 832+00	LOCATION 24	1	1	138	137
834+00 - 835+25	LOCATION 25	42	31	88	57
859+50 - 861+50	LOCATION 28	146	110	30	-80
867+00 - 868+00	LOCATION 29	39	29	104	75
876+00 - 878+00	LOCATION 30	51	38	45	7
PROJECT TOTAL		466			947

TEMPORARY FENCE

STATION	FOOT	REMARKS
JOY ROAD		
RT 646+07 - 647+98	207	LOCATION 12
LT 647+29 - 647+75	47	LOCATION 12
PROJECT TOTAL	254	

20101000

TRENCH BACKFILL

STATION	CU YD	REMARKS
JOY ROAD		
775+37	25	LOCATION 17 - 36" CMP
779+16	8	LOCATION 18 - 24" CMP
786+04	29	LOCATION 19 - 72" CMP
795+36	8	LOCATION 20 - 30" CMP
808+99	7	LOCATION 21 - 24" CMP
819+80	7	LOCATION 23 - 24" CMP
834+66	29	LOCATION 25 - 24" CMP
851+44	29	LOCATION 26 - 30" CMP
854+04	23	LOCATION 27 - 24" CMP
860+41	25	LOCATION 28 - 24" CMP
876+75	22	LOCATION 30 - F.E.R. 876+75 - 24" CMP
PROJECT TOTAL	212	

20800150

GRADING AND SHAPING DITCHES

STATION	FOOT	REMARKS
JOY ROAD		
RT 646+00 - 647+28	80	LOCATION 12
LT 646+50 - 647+28	96	LOCATION 12
RT 646+93 - 648+50	163	LOCATION 12
RT 745+00 - 745+94	95	LOCATION 16
RT 746+08 - 746+75	70	LOCATION 16
RT 757+55 - 758+00	45	LOCATION 16B
RT 762+50 - 763+59	109	WINTERS CREEK BRIDGE
RT 763+85 - 764+50	66	WINTERS CREEK BRIDGE
LT 775+37 - 776+00	65	LOCATION 17
RT 775+00 - 776+00	100	LOCATION 17
LT 778+75 - 778+30	55	LOCATION 18
RT 778+75 - 779+50	75	LOCATION 18
LT 785+25 - 786+50	125	LOCATION 19
RT 785+25 - 786+15	95	LOCATION 19
LT 795+00 - 796+00	100	LOCATION 20
RT 795+00 - 795+75	75	LOCATION 20
LT 808+50 - 809+50	100	LOCATION 21
RT 808+75 - 809+50	75	LOCATION 21
RT 816+00 - 816+50	50	LOCATION 22
LT 816+35 - 816+50	15	LOCATION 22
RT 819+50 - 820+50	100	LOCATION 23
LT 819+60 - 820+25	65	LOCATION 23
LT 830+25 - 830+55	30	LOCATION 24
RT 834+25 - 835+25	100	LOCATION 25
LT 834+50 - 835+25	75	LOCATION 25
RT 850+50 - 852+75	125	LOCATION 26
LT 853+75 - 854+25	50	LOCATION 27
RT 853+75 - 854+25	50	LOCATION 27
RT 860+00 - 861+00	100	LOCATION 28
RT 867+00 - 867+35	35	LOCATION 29
RT 867+60 - 867+75	15	LOCATION 29
RT 876+00 - 876+55	55	LOCATION 30
RT 877+00 - 878+00	100	LOCATION 30
PROJECT TOTAL	2,554	

21400100

SEEDING, CLASS 2

STATION	ACRE	REMARKS
JOY ROAD		
646+00 - 648+50	0.39	LOCATION 12
745+00 - 746+75	0.11	LOCATION 16
757+25 - 758+00	0.09	LOCATION 16B
762+04 - 765+88	0.28	WINTERS CREEK BRIDGE
775+00 - 776+00	0.10	LOCATION 17
778+75 - 779+50	0.07	LOCATION 18
785+25 - 786+50	0.17	LOCATION 19
795+00 - 796+00	0.09	LOCATION 20
808+50 - 809+50	0.09	LOCATION 21
816+00 - 816+50	0.06	LOCATION 22
819+50 - 820+50	0.08	LOCATION 23
830+25 - 831+50	0.17	LOCATION 24
834+00 - 835+25	0.13	LOCATION 25
850+50 - 852+00	0.20	LOCATION 26
853+75 - 854+25	0.08	LOCATION 27
859+50 - 861+50	0.16	LOCATION 28
867+00 - 868+00	0.13	LOCATION 29
876+00 - 878+00	0.20	LOCATION 30
PROJECT TOTAL	2.60	

25000200

NITROGEN FERTILIZER NUTRIENT

STATION	POUND	REMARKS
JOY ROAD		
SEEDING, CLASS 2 AREA	234	90 LBS / ACRE
PROJECT TOTAL	234	

25000400

PHOSPHORUS FERTILIZER NUTRIENT

STATION	POUND	REMARKS
JOY ROAD		
SEEDING, CLASS 2 AREA	234	90 LBS / ACRE
PROJECT TOTAL	234	

25000500

POTASSIUM FERTILIZER NUTRIENT

STATION	POUND	REMARKS
JOY ROAD		
SEEDING, CLASS 2 AREA	234	90 LBS / ACRE
PROJECT TOTAL	234	

25000600

MULCH, METHOD 2

STATION	ACRE	REMARKS
JOY ROAD		
SEEDING, CLASS 2 AREAS	2.60	
TEMPORARY SEEDING AREAS	5.21	2 APPLICATIONS
PROJECT TOTAL	7.81	

25100115

EROSION CONTROL BLANKET

STATION	SO YD	REMARKS
JOY ROAD		
DITCH GRADING AREAS	1,135	4' WIDE STRIP IN FLOWLINE
PROJECT TOTAL	1,135	

25100630

TEMPORARY EROSION CONTROL SEEDING

STATION	POUND	REMARKS
JOY ROAD		
SEEDING, CLASS 2 AREAS	521	2 APPLICATIONS @ 100 LBS / ACRE
PROJECT TOTAL	521	

28000250

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CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

SCHEDULE OF QUANTITIES

SHEET NO. 01 OF 03 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	06
WHA# 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		PAGE(976)

SCHEDULE OF QUANTITIES

TEMPORARY DITCH CHECKS		
STATION	FOOT	REMARKS
JOY ROAD		
RT 646+80 - 747+00	18	LOCATION 12 - 3 @ 6' EACH
LT 647+20	6	LOCATION 12 - 1 @ 6' EACH
RT 745+00 - 746+75	24	LOCATION 16 - 4 @ 6' EACH
RT 757+55	6	LOCATION 16B - 1 @ 6' EACH
RT 762+50 - 763+50	12	WINTERS CREEK BRIDGE - 2 @ 6' EACH
RT 764+00	6	WINTERS CREEK BRIDGE - 1 @ 6' EACH
RT 775+00 - 776+00	12	LOCATION 17 - 2 @ 6' EACH
LT 775+40 - 776+00	12	LOCATION 17 - 2 @ 6' EACH
LT 778+75	6	LOCATION 18 - 1 @ 6' EACH
RT 778+75 - 778+50	12	LOCATION 18 - 2 @ 6' EACH
LT 785+25 - 786+50	12	LOCATION 19 - 2 @ 6' EACH
RT 785+25	6	LOCATION 19 - 1 @ 6' EACH
LT 795+00 - 796+00	12	LOCATION 20 - 2 @ 6' EACH
RT 795+00 - 795+75	12	LOCATION 20 - 2 @ 6' EACH
LT 808+50 - 809+50	12	LOCATION 21 - 2 @ 6' EACH
RT 808+75 - 809+50	12	LOCATION 21 - 2 @ 6' EACH
LT 816+50	6	LOCATION 22 - 1 @ 6' EACH
RT 816+00 - 816+50	12	LOCATION 22 - 2 @ 6' EACH
LT 820+25	6	LOCATION 23 - 1 @ 6' EACH
RT 819+50 - 820+25	12	LOCATION 23 - 2 @ 6' EACH
RT 834+25 - 835+25	12	LOCATION 25 - 2 @ 6' EACH
LT 835+25	6	LOCATION 25 - 1 @ 6' EACH
RT 850+50 - 851+75	12	LOCATION 26 - 2 @ 6' EACH
LT 853+75 - 854+25	12	LOCATION 27 - 2 @ 6' EACH
RT 853+75 - 854+25	12	LOCATION 27 - 2 @ 6' EACH
RT 860+00 - 861+00	12	LOCATION 28 - 2 @ 6' EACH
RT 867+00 - 867+60	12	LOCATION 29 - 2 @ 6' EACH
RT 867+00 - 868+50	12	LOCATION 30 - 2 @ 6' EACH
PROJECT TOTAL	306	

PERIMETER EROSION BARRIER		
STATION	FOOT	REMARKS
JOY ROAD		
RT 646+00 - 646+80	81	LOCATION 12
LT 647+50 - 648+50	100	LOCATION 12
LT 762+67 - 763+58	95	WINTERS CREEK BRIDGE
LT 763+95 - 765+50	156	WINTERS CREEK BRIDGE
LT 757+25 - 758+00	75	LOCATION 16B
RT 795+00 - 795+75	75	LOCATION 20
LT 816+00 - 816+35	35	LOCATION 22
LT 830+25 - 832+00	175	LOCATION 24
RT 830+25 - 831+50	125	LOCATION 24
LT 834+00 - 834+50	50	LOCATION 25
LT 810+00 - 852+00	100	LOCATION 26
RT 859+50 - 861+50	200	LOCATION 28
LT 867+60 - 868+00	40	LOCATION 29
RT 876+75 - 878+50	25	LOCATION 30
PROJECT TOTAL	1,332	

INLET AND PIPE PROTECTION		
STATION	EACH	REMARKS
JOY ROAD		
RT 775+37	1	LOCATION 17
RT 779+16	1	LOCATION 18
LT 779+26	1	LOCATION 18 - EXISTING PIPE CULVERT
RT 786+15	1	LOCATION 19
LT 795+36	1	LOCATION 20
RT 808+99	1	LOCATION 21
RT 819+80	1	LOCATION 23
RT 834+76	1	LOCATION 25
RT 851+44	1	LOCATION 26
RT 854+04	1	LOCATION 27
RT 860+41	1	LOCATION 28
RT 877+55	1	LOCATION 30 - F.E.R. 876+75
PROJECT TOTAL	12	

STONE RIPRAP, CLASS B3		
STATION	SQ YD	REMARKS
JOY ROAD		
LT 851+39 - 851+49	24	LOCATION 26
LT 860+36 - 860+46	13	LOCATION 28
PROJECT TOTAL	37	

STONE RIPRAP, CLASS B4		
STATION	SQ YD	REMARKS
JOY ROAD		
LT 867+50	16	LOCATION 29
RT 867+50	150	LOCATION 29
LT 877+12	15	LOCATION 30
RT 877+12	8	LOCATION 30
PROJECT TOTAL	189	

FILTER FABRIC		
STATION	SQ YD	REMARKS
JOY ROAD		
LT 867+50	16	LOCATION 29
RT 867+50	150	LOCATION 29
LT 877+12	15	LOCATION 30
RT 877+12	8	LOCATION 30
PROJECT TOTAL	189	

AGGREGATE SURFACE COURSE, TYPE B		
STATION	TON	REMARKS
JOY ROAD		
646+88 - 647+57	141	LOCATION 12
RT 762+04 - 763+68	39	WINTERS CREEK BRIDGE - 6" SHLDR.
RT 763+86 - 765+12	29	WINTERS CREEK BRIDGE - 6" SHLDR.
LT 762+42 - 763+68	29	WINTERS CREEK BRIDGE - 6" SHLDR.
LT 763+86 - 765+50	40	WINTERS CREEK BRIDGE - 6" SHLDR.
775+37	58	LOCATION 17
779+16	64	LOCATION 18
786+04	63	LOCATION 19
795+36	59	LOCATION 20
808+99	62	LOCATION 21
819+80	72	LOCATION 23
834+66	59	LOCATION 25
851+44	62	LOCATION 26
854+04	62	LOCATION 27
860+41	60	LOCATION 28
RT 877+12	60	LOCATION 30 - F.E.R. 876+75
PROJECT TOTAL	960	

PIPE CULVERT REMOVAL		
STATION	FOOT	REMARKS
JOY ROAD		
775+37	61	LOCATION 17 - 31" CMP
779+16	50	LOCATION 18 - 18" CMP
786+04	56	LOCATION 19 - 72" CMP
795+36	49	LOCATION 20 - 24" CMP
808+99	44	LOCATION 21 - 18" CMP
819+80	56	LOCATION 23 - 24" CMP
834+66	58	LOCATION 25 - 18" CMP
851+44	55	LOCATION 26 - 24" CMP
854+04	55	LOCATION 27 - 24" CMP
860+41	56	LOCATION 28 - 18" CMP
RT 877+12	33	LOCATION 30 - F.E.R. 876+75 - 24" CMP
PROJECT TOTAL	573	

PIPE CULVERTS, CLASS C, TYPE 1 24"		
STATION	FOOT	REMARKS
JOY ROAD		
LENGTH OF PIPE ONLY		
779+16	46	LOCATION 18
808+99	40	LOCATION 21
819+80	48	LOCATION 23
860+41	46	LOCATION 28
PROJECT TOTAL	180	

PIPE CULVERTS, CLASS C, TYPE 1 30"		
STATION	FOOT	REMARKS
JOY ROAD		
LENGTH OF PIPE ONLY		
795+36	40	LOCATION 20
851+44	40	LOCATION 26
PROJECT TOTAL	80	

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DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

SCHEDULE OF QUANTITIES

SHEET NO. 02 OF 03 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	07
WHA# 1055MI6			CONTRACT NO. 89741	
ILLINOIS			FED. AID PROJECT	
			PAGE(976)	

SCHEDULE OF QUANTITIES

PIPE CULVERTS, CLASS C, TYPE 1 36"		
STATION	FOOT	REMARKS
JOY ROAD		LENGTH OF PIPE ONLY
775+37	53	LOCATION 17
PROJECT TOTAL	53	

END SECTIONS 36"		
STATION	EACH	REMARKS
JOY ROAD		
775+37	2	LOCATION 17
PROJECT TOTAL	2	

GUARDRAIL REMOVAL		
STATION	FOOT	REMARKS
JOY ROAD		
LT 762+92 - 763+67	76	WINTERS CREEK BRIDGE
LT 763+86 - 764+62	76	WINTERS CREEK BRIDGE
RT 762+92 - 763+67	75	WINTERS CREEK BRIDGE
RT 763+86 - 764+62	76	WINTERS CREEK BRIDGE
PROJECT TOTAL	303	

PIPE CULVERTS, CLASS C, TYPE 1 72"		
STATION	FOOT	REMARKS
JOY ROAD		LENGTH OF PIPE ONLY
786+04	56	LOCATION 19
PROJECT TOTAL	56	

END SECTIONS 72"		
STATION	EACH	REMARKS
JOY ROAD		
786+04	2	LOCATION 19
PROJECT TOTAL	2	

WOVEN WIRE FENCE, 4'		
STATION	FOOT	REMARKS
JOY ROAD		
RT 645+99 - 648+10	228	LOCATION 12
PROJECT TOTAL	228	

PIPE CULVERTS, CLASS C, TYPE 2 24"		
STATION	FOOT	REMARKS
JOY ROAD		LENGTH OF PIPE ONLY
834+66	56	LOCATION 25
854+04	58	LOCATION 27
PROJECT TOTAL	114	

STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS		
STATION	FOOT	REMARKS
JOY ROAD		
RT 763+02.0 - 763+52.0	50	WINTERS CREEK BRIDGE
LT 763+39.5 - 763+52.0	13	WINTERS CREEK BRIDGE
LT 764+02 - 764+52	50	WINTERS CREEK BRIDGE
RT 764+02 - 764+14.5	13	WINTERS CREEK BRIDGE
PROJECT TOTAL	125	

TERMINAL MARKER - DIRECT APPLIED		
STATION	EACH	REMARKS
JOY ROAD		
RT 762+52.0	1	WINTERS CREEK BRIDGE
LT 762+89.5	1	WINTERS CREEK BRIDGE
RT 764+64.5	1	WINTERS CREEK BRIDGE
LT 765+02.0	1	WINTERS CREEK BRIDGE
PROJECT TOTAL	4	

PIPE CULVERTS, CLASS D, TYPE 1 24"		
STATION	FOOT	REMARKS
JOY ROAD		
RT 877+12	44	LOCATION 30 - F.E.R. 876+75
PROJECT TOTAL	44	

LONG-SPAN GUARDRAIL OVER CULVERT, 25 FT SPAN		
STATION	FOOT	REMARKS
JOY ROAD		
LT 763+52.0 - 764+02.0	50	WINTERS CREEK BRIDGE
RT 763+52.0 - 764+02.0	50	WINTERS CREEK BRIDGE
PROJECT TOTAL	100	

GUARDRAIL REFLECTORS, TYPE A		
STATION	EACH	REMARKS
JOY ROAD		
RT 762+52.0 - 764+64.5	4	WINTERS CREEK BRIDGE
LT 762+89.5 - 765+02.0	4	WINTERS CREEK BRIDGE
PROJECT TOTAL	8	

END SECTIONS 24"		
STATION	EACH	REMARKS
JOY ROAD		
779+16	2	LOCATION 18
808+99	2	LOCATION 21
819+80	2	LOCATION 23
834+66	2	LOCATION 25
854+04	2	LOCATION 27
860+41	2	LOCATION 28
PROJECT TOTAL	12	

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT		
STATION	EACH	REMARKS
JOY ROAD		
RT 762+52.0 - 763+02.0	1	WINTERS CREEK BRIDGE
LT 762+89.5 - 763+39.5	1	WINTERS CREEK BRIDGE
RT 764+14.5 - 764+64.5	1	WINTERS CREEK BRIDGE
LT 764+52.0 - 765+02.0	1	WINTERS CREEK BRIDGE
PROJECT TOTAL	4	

END SECTIONS 30"		
STATION	EACH	REMARKS
JOY ROAD		
795+36	2	LOCATION 20
851+44	2	LOCATION 26
PROJECT TOTAL	4	

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DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

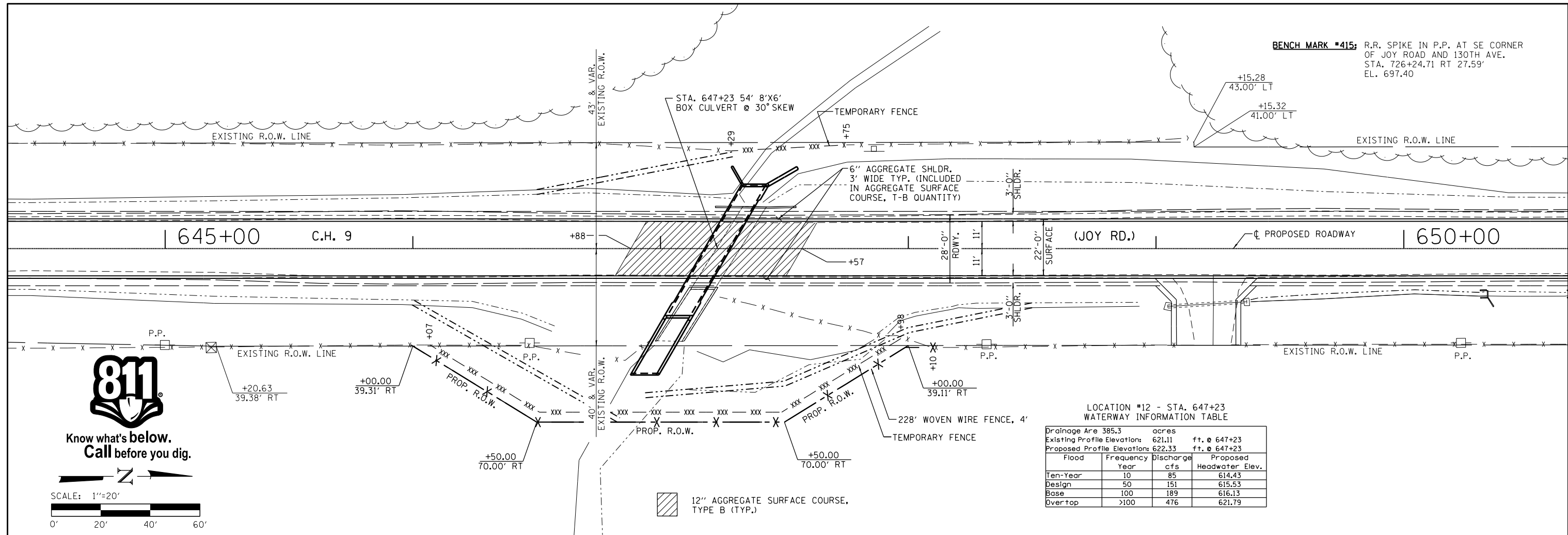
**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

SCHEDULE OF QUANTITIES

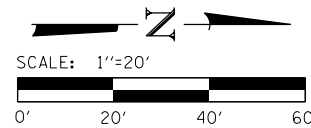
SHEET NO. 03 OF 03 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	08
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT	PA6K19761	

BENCH MARK #415: R.R. SPIKE IN P.P. AT SE CORNER OF JOY ROAD AND 130TH AVE. STA. 726+24.71 RT 27.59' EL. 697.40



Know what's below.
Call before you dig.



LOCATION #12 - STA. 647+23
WATERWAY INFORMATION TABLE

Drainage Area	385.3	acres	
Existing Profile Elevation	621.11	ft. @ 647+23	
Proposed Profile Elevation	622.33	ft. @ 647+23	
Flood Year	Frequency	Discharge cfs	Proposed Headwater Elev.
Ten-Year	10	85	614.43
Design	50	151	615.53
Base	100	189	616.13
Overtop	>100	476	621.79

SEE SHEET 10 FOR ROADWAY PROFILE

FILE: S:\PROJECTS\2016\1055MI6_MCH\DESIGN\TRANS\Drawings\1055MI6_Plan & Profile\Joy_Rd_L.dgn



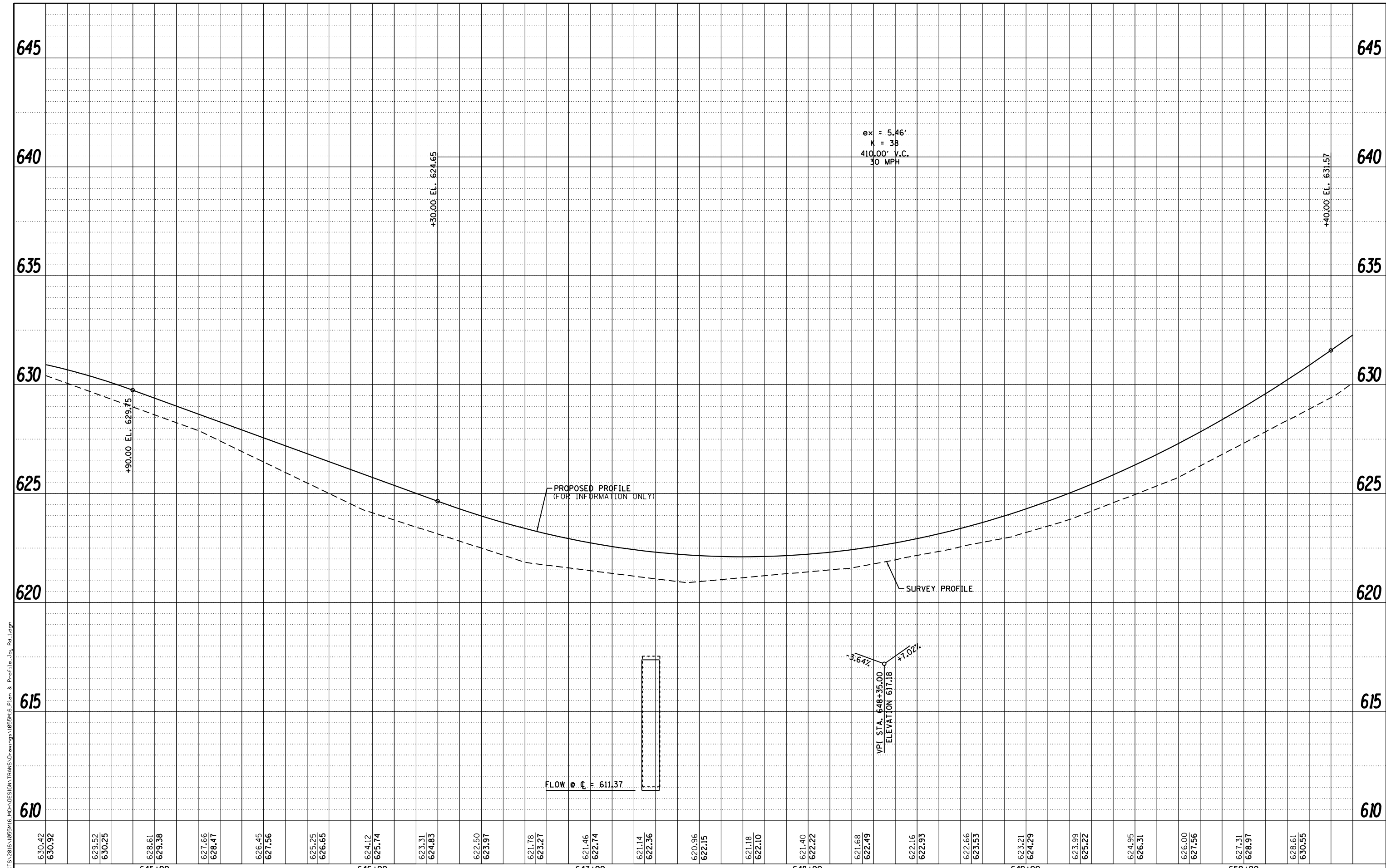
DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

**JOY ROAD
PLAN AND PROFILE**
SHEET NO. 01 OF 15 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	09
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		PAGE(976)

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630.42	630.92	629.52	630.25	628.61	629.38	627.66	628.47	626.45	627.56	625.25	626.65	624.12	625.74	623.31	624.83	622.50	623.97	621.78	623.27	621.46	622.74	621.14	622.36	620.96	622.15	621.18	622.10	621.40	622.22	621.68	622.49	622.16	622.93	622.66	623.53	623.21	624.29	623.99	625.22	624.95	626.31	626.00	627.56	627.31	628.97	628.61	630.55
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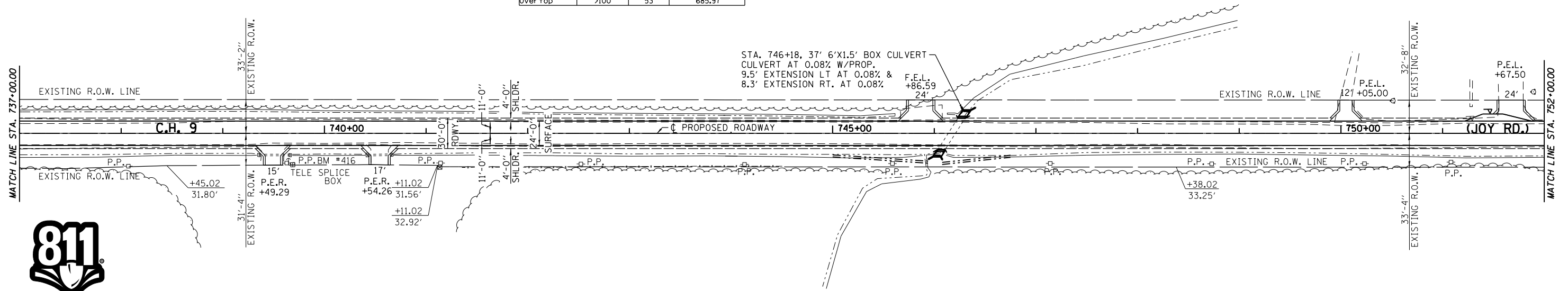
<p>WILLET HOFMANN & ASSOCIATES INC. ENGINEERING ARCHITECTURE LAND SURVEYING 809 EAST 2ND STREET, DIXON, IL 61021-0367 T: 815-284-3381 DESIGN FIRM: #184-000918</p>	DESIGNED - LGN	REVISED -	<p>MERCER COUNTY (C.H. 9) JOY ROAD SEGMENT 2 CULVERT EXTENSION</p>	<p>JOY ROAD PLAN AND PROFILE</p>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - GFS	REVISED -			212	14-00103-02-DR	MERCER	68	10	
	DRAWN - TBS	REVISED -			WHA* 1055MI6		CONTRACT NO. 89741			
	CHECKED - LGN	REVISED -			ILLINOIS FED. AID PROJECT		PA6K19761			

SHEET NO. 02 OF 15 SHEETS

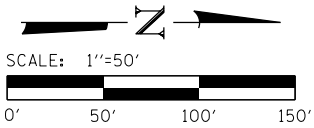
BENCH MARK #416: R.R. SPIKE IN P.P. AT HOUSE
EAST SIDE OF JOY RD
EL. 695.37

**LOCATION #16 - STA. 746+18
WATERWAY INFORMATION TABLE**

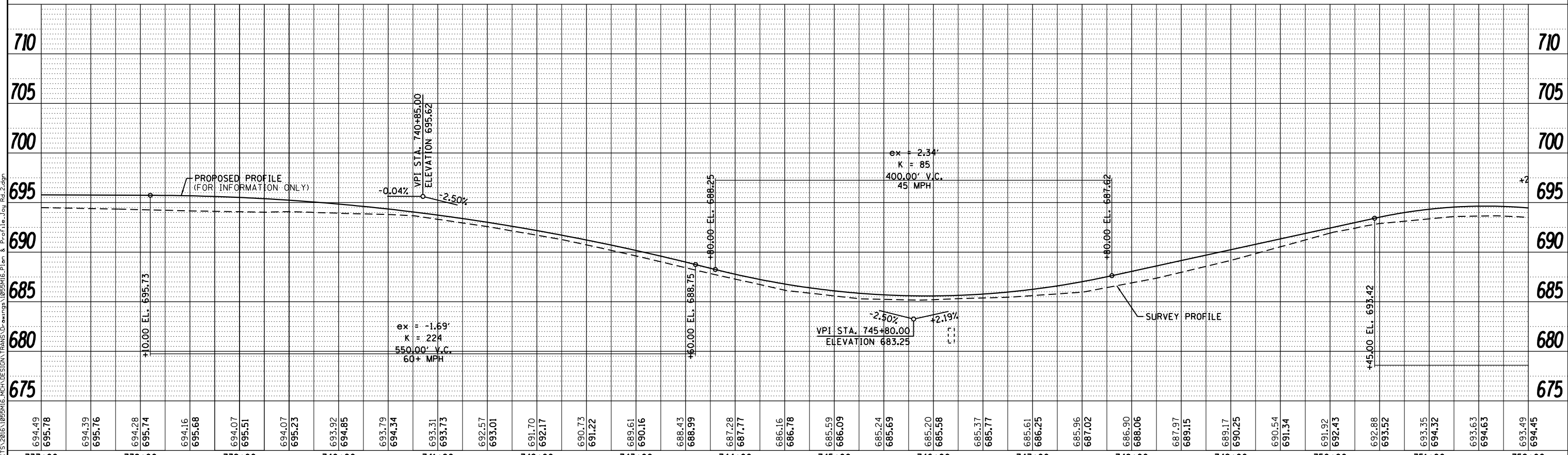
Drainage Area	34.4	acres
Existing Profile Elevation:	685.28	ft. @ 746+18
Proposed Profile Elevation:	685.62	ft. @ 746+18
Flood Year	10	11
Discharge		cfs
Proposed Headwater Elev.		
Ten-Year	50	22
Design	100	29
Base	>100	53
Over top		685.97



Know what's below.
Call before you dig.



12" AGGREGATE SURFACE COURSE,
TYPE B (TYP.)



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DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

**JOY ROAD
PLAN AND PROFILE**

SHEET NO. 03 OF 15 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	11
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		
		PA6K(976)		

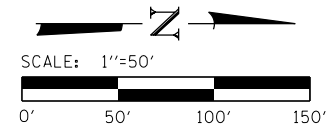
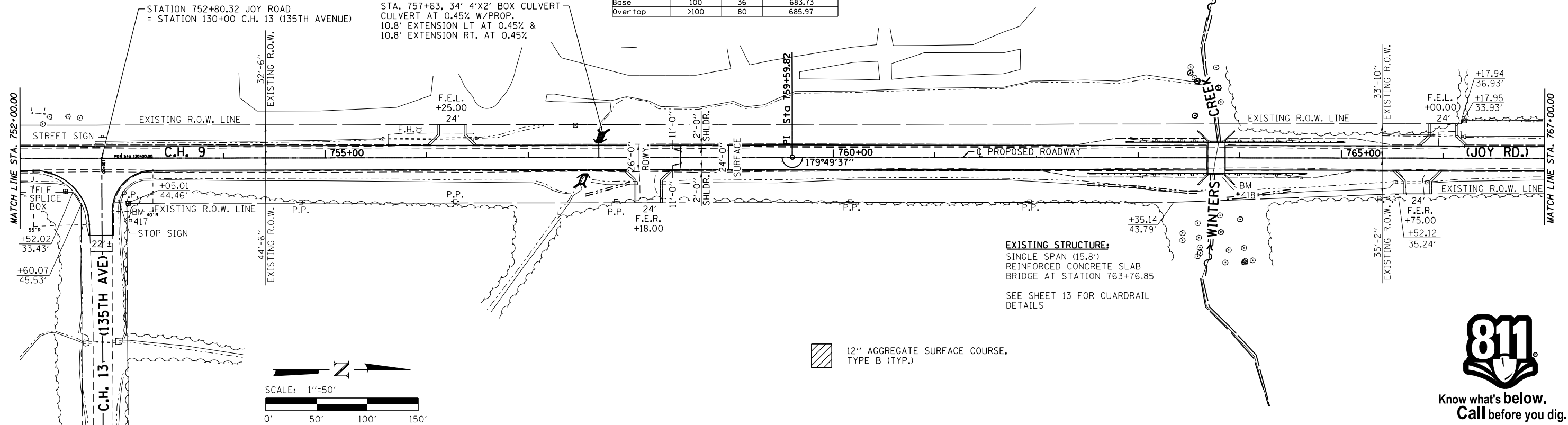
BENCH MARK #417: R.R. SPIKE IN P.P. AT NORTHEAST CORNER OF JOY RD AND 135TH AVE
EL. 692.82

LOCATION #16B - STA. 757+63
WATERWAY INFORMATION TABLE

Drainage Area 38.3 acres			
Existing Profile Elevation: 670.66 ft. @ 757+63		Proposed Profile Elevation: 671.77 ft. @ 757+63	
Flood Year	Frequency	Discharge cfs	Proposed Headwater Elev.
Ten-Year	10	13	682.61
Design	50	26	683.33
Base	100	36	683.73
Overtop	>100	80	685.97

WINTERS CREEK BRIDGE LOCATION - STA. 763+77
(SEE SHEETS 13 AND 14 FOR PLAN AND PROFILE DETAILS)

BENCH MARK #418: CHIS. "□" ON NORTHEAST CORNER OF WINGWALL OF STRUCTURE OVER WINTERS CREEK
EL. 668.00



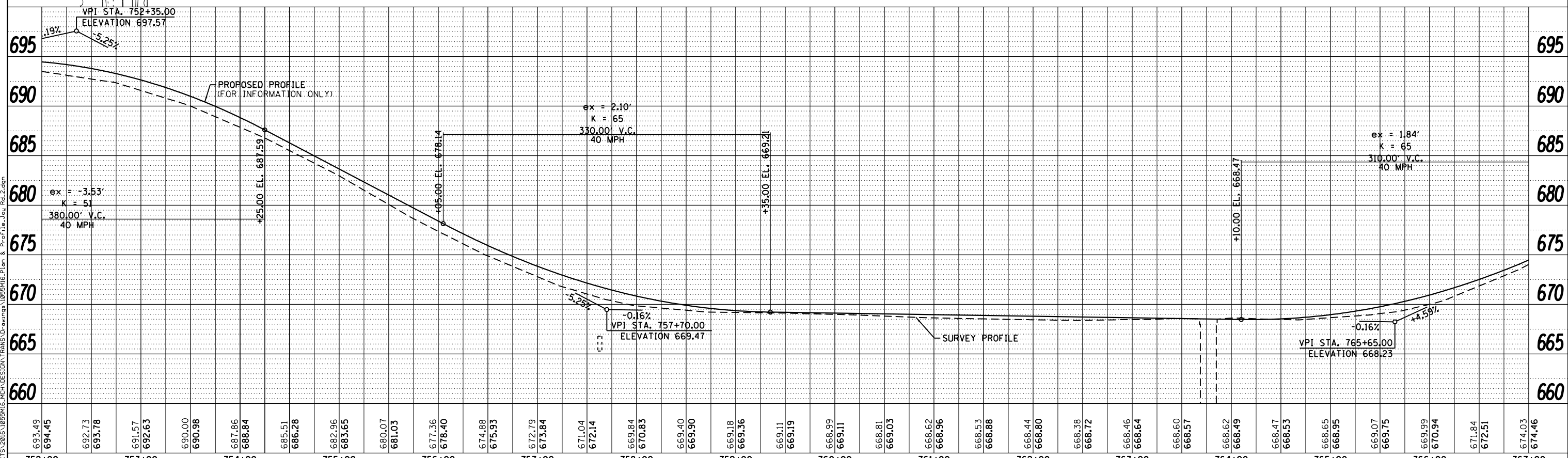
12" AGGREGATE SURFACE COURSE, TYPE B (TYP.)

EXISTING STRUCTURE:
SINGLE SPAN (15.8')
REINFORCED CONCRETE SLAB
BRIDGE AT STATION 763+76.5

SEE SHEET 13 FOR GUARDRAIL
DETAILS



Know what's below.
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693.49	694.45	692.73	693.78	691.57	692.63	690.00	690.98	687.86	688.84	685.51	686.28	682.96	683.65	680.07	681.03	677.36	678.40	674.88	675.93	672.79	673.84	671.04	672.14	669.84	670.83	669.40	669.90	669.18	669.36	669.11	669.19	668.99	669.11	668.81	669.03	668.62	668.96	668.53	668.88	668.44	668.60	668.38	668.72	668.46	668.64	668.60	668.57	668.62	668.49	668.47	668.53	668.65	668.95	669.07	669.75	669.99	670.94	671.84	672.51	674.03	674.46
752+00	753+00	754+00	755+00	756+00	757+00	758+00	759+00	760+00	761+00	762+00	763+00	764+00	765+00	766+00	767+00																																														

WILLET HOFMANN & ASSOCIATES INC.
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

DESIGNED - LGN	REVISIED -
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DRAWN - TBS	REVISIED -
CHECKED - LGN	REVISIED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

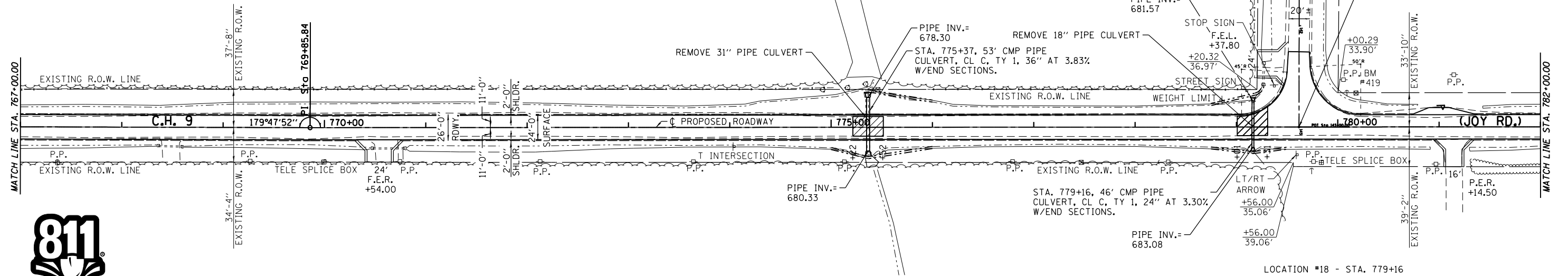
**JOY ROAD
PLAN AND PROFILE LOCATION**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	12
WHA# 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		

LOCATION #17 - STA. 775+37
WATERWAY INFORMATION TABLE

Drainage Area	8.3	acres	
Existing Profile Elevation	682.69	ft. @ 775+37	
Proposed Profile Elevation	686.05	ft. @ 775+37	
Flood Year	10	Discharge cfs	Proposed Headwater Elev.
Ten-Year	10	3	682.61
Design	50	7	683.33
Base	100	10	683.73
Over top	>100	59	685.97

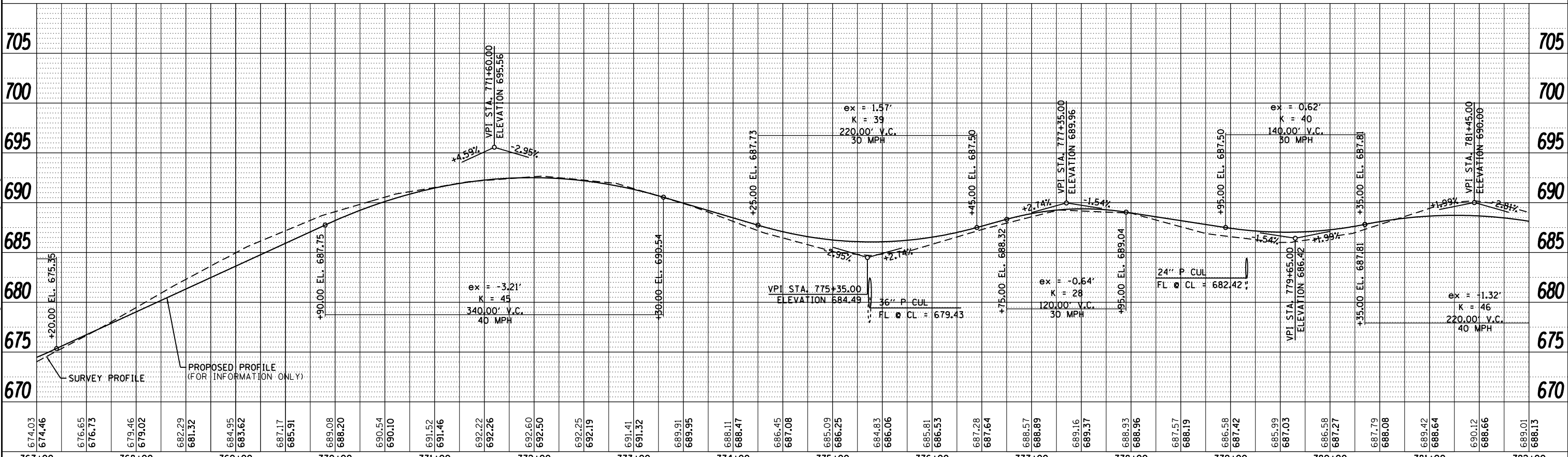
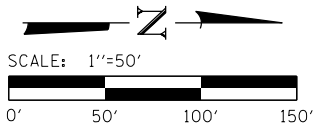
BENCH MARK #419: R.R. SPIKE IN P.P. AT NORTHWEST CORNER OF JOY RD AND 140TH AVE
EL. 684.78



LOCATION #18 - STA. 779+16
WATERWAY INFORMATION TABLE

Drainage Area	4.0	acres	
Existing Profile Elevation	686.39	ft. @ 779+16	
Proposed Profile Elevation	687.23	ft. @ 779+16	
Flood Year	10	Discharge cfs	Proposed Headwater Elev.
Ten-Year	10	2	683.77
Design	50	4	684.04
Base	100	6	684.34
Over top	>100	23	686.93

12" AGGREGATE SURFACE COURSE, TYPE B (TYP.)



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DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION

JOY ROAD
PLAN AND PROFILE LOCATION

SHEET NO. 07 OF 15 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	15
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		
		PA6K19761		

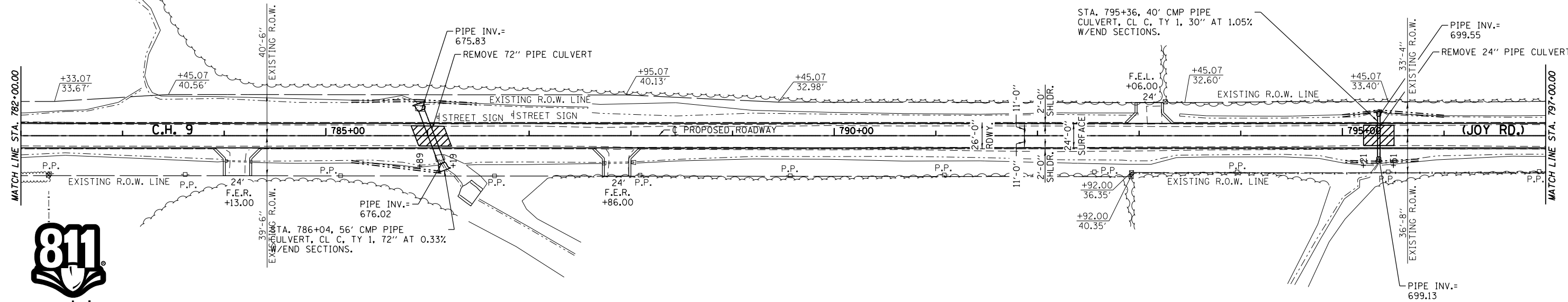
LOCATION #19 - STA. 786+04
WATERWAY INFORMATION TABLE

Drainage Area	98.5	acres	
Existing Profile Elevation	683.78	ft. @ 786+04	
Proposed Profile Elevation	683.77	ft. @ 786+04	
Flood Year	10	30	Proposed Headwater Elev.
Design	50	61	684.04
Base	100	82	684.34
Overtop	>100	218	686.93

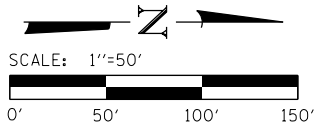
BENCH MARK #420: R.R. SPIKE IN P.P.
EAST SIDE OF JOY RD
EL. 706.98

LOCATION #20 - STA. 795+36
WATERWAY INFORMATION TABLE

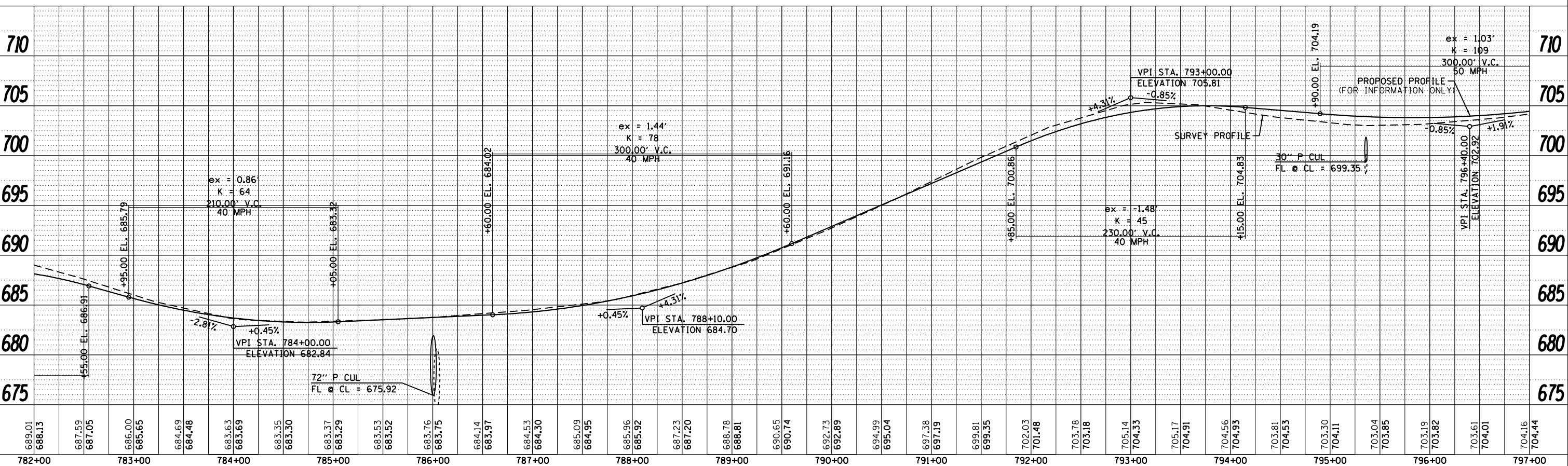
Drainage Area	24.9	acres	
Existing Profile Elevation	703.01	ft. @ 795+36	
Proposed Profile Elevation	703.90	ft. @ 795+36	
Flood Year	10	11	Proposed Headwater Elev.
Design	50	23	701.33
Base	100	31	702.40
Overtop	>100	32	703.60



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12" AGGREGATE SURFACE COURSE, TYPE B (TYP.)



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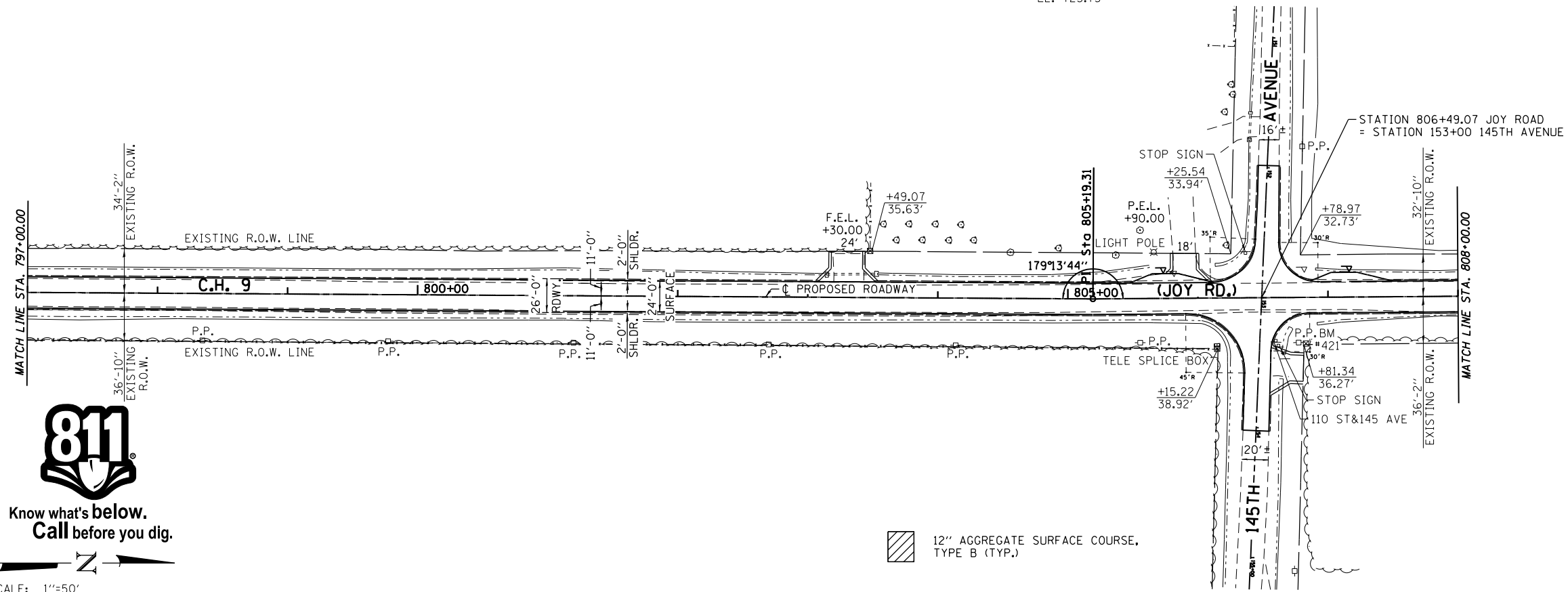
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CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

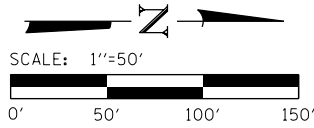
**JOY ROAD
PLAN AND PROFILE LOCATION**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	16
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		

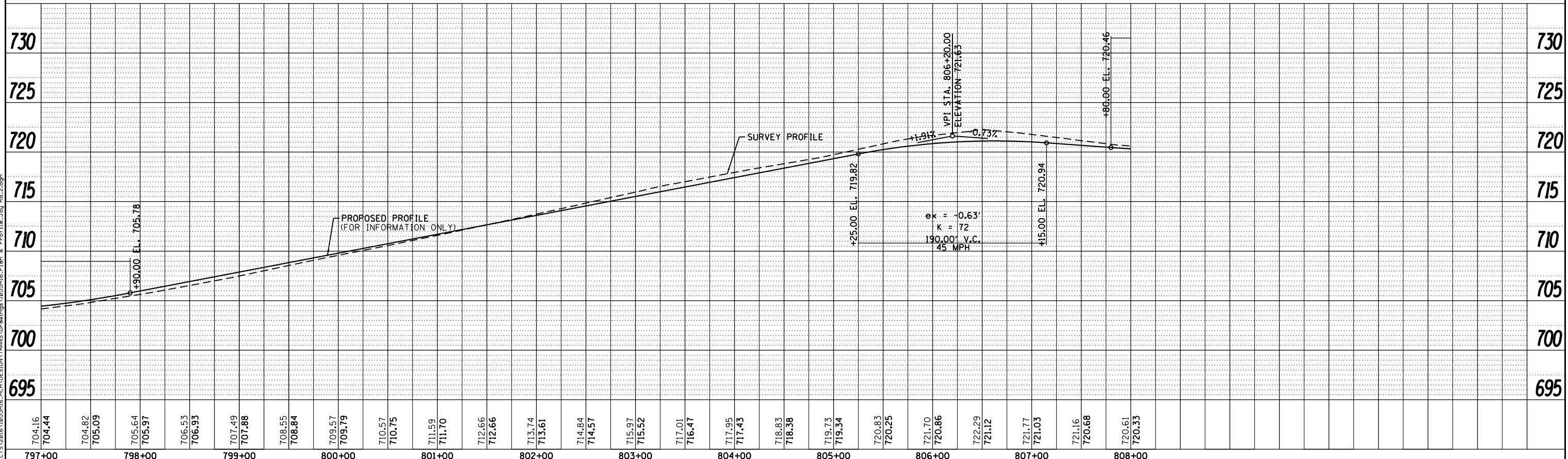
BENCH MARK #421: R.R. SPIKE IN P.P. AT NORTHEAST CORNER OF JOY RD AND 145TH AVE EL. 723.75



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12" AGGREGATE SURFACE COURSE, TYPE B (TYP.)



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DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION

JOY ROAD
PLAN AND PROFILE LOCATION

SHEET NO. 09 OF 15 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	17
WHA* 1055MI6		CONTRACT NO. 89741		

ILLINOIS FED. AID PROJECT PA6K19761

BENCH MARK #422; R.R. SPIKE IN P.P.
EL. 724.42

LOCATION #21 - STA. 808+99
WATERWAY INFORMATION TABLE

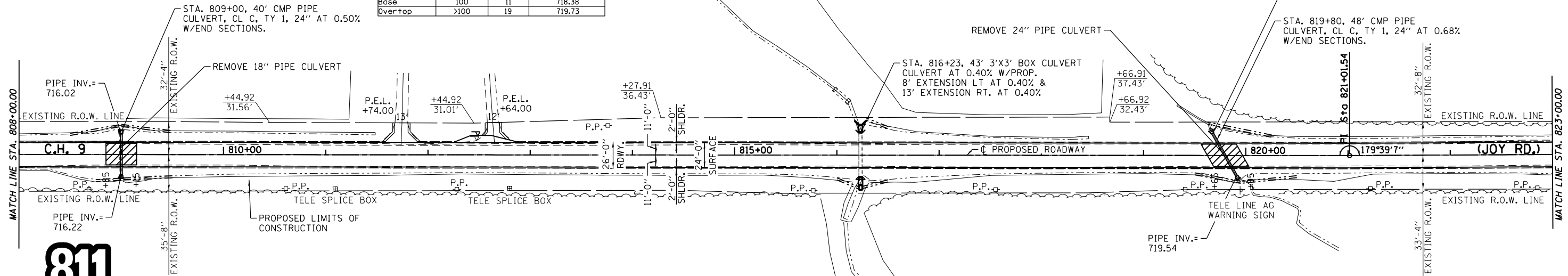
Drainage Area 7.1 acres			
Existing Profile Elevation:		719.99 ft. @ 808+99	
Proposed Profile Elevation:		720.03 ft. @ 808+99	
Flood Year	Frequency	Discharge cfs	Proposed Headwater Elev.
Ten-Year	10	3	717.23
Design	50	7	717.83
Base	100	11	718.38
Overtop	>100	19	719.73

LOCATION #22 - STA. 816+23
WATERWAY INFORMATION TABLE

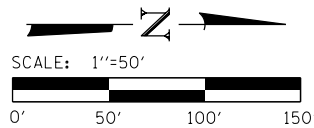
Drainage Area 71.0 acres			
Existing Profile Elevation:		717.84 ft. @ 816+23	
Proposed Profile Elevation:		718.91 ft. @ 816+23	
Flood Year	Frequency	Discharge cfs	Headwater Elev.
Ten-Year	10	18	715.51
Design	50	32	716.29
Base	100	43	716.81
Overtop	>100	88	718.61

LOCATION #23 - STA. 819+80
WATERWAY INFORMATION TABLE

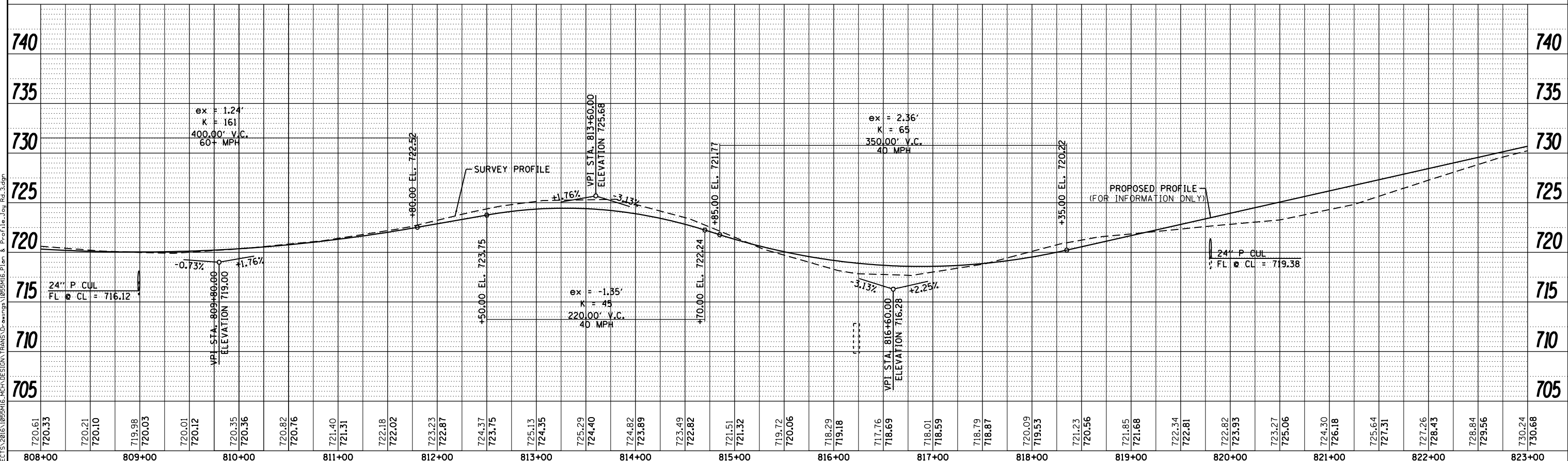
Drainage Area 10.3 acres			
Existing Profile Elevation:		722.64 ft. @ 819+80	
Proposed Profile Elevation:		723.48 ft. @ 819+80	
Flood Year	Frequency	Discharge cfs	Headwater Elev.
Ten-Year	10	4	720.73
Design	50	8	721.35
Base	100	10	721.67
Overtop	>100	17	723.34



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12" AGGREGATE SURFACE COURSE, TYPE B (TYP.)



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CHECKED - LGN	REVISED -

MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION

JOY ROAD
PLAN AND PROFILE

SHEET NO. 10 OF 15 SHEETS

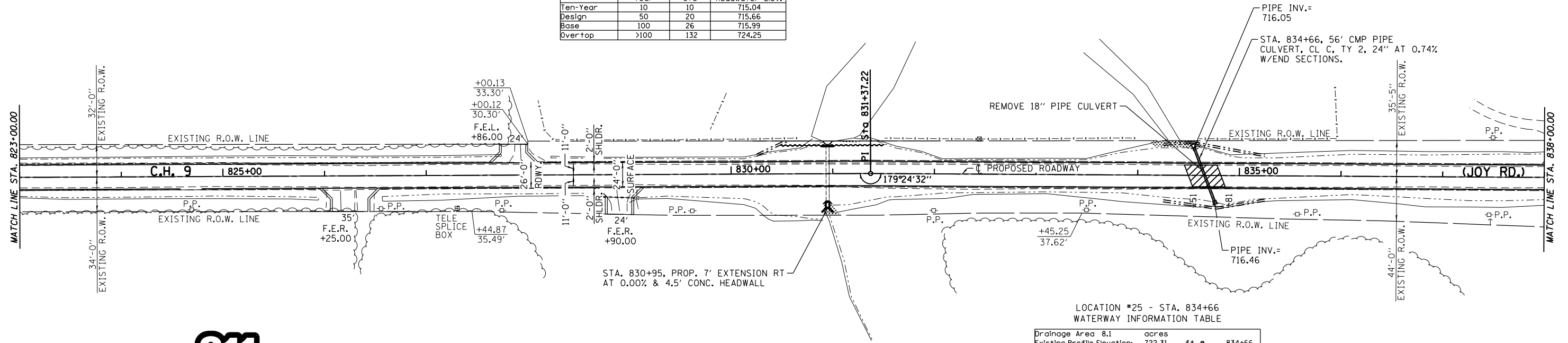
F.A.S. RTE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 18
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		

PA6K19761

LOCATION #24 - STA. 830+95
WATERWAY INFORMATION TABLE

Drainage Area	31.3	acres	
Existing Profile Elevation:	724.09	ft. @	830+95
Proposed Profile Elevation:	724.55	ft. @	830+95
Flood	Frequency	Discharge	Proposed
Ten-Year	10	10	715.04
Design	50	20	715.66
Base	100	26	715.99
Overtop	>100	132	724.25

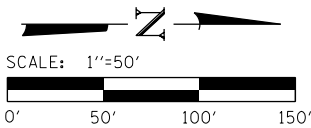
BENCH MARK #423: R.R. SPIKE IN P.P.
EL. 726.73



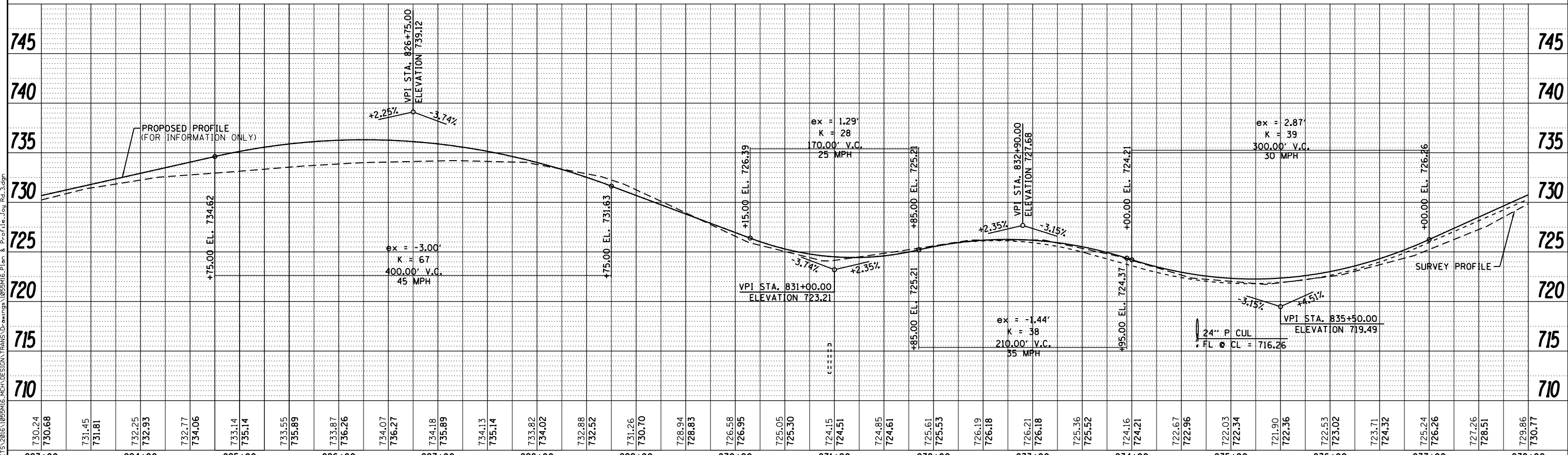
LOCATION #25 - STA. 834+66
WATERWAY INFORMATION TABLE

Drainage Area	8.1	acres	
Existing Profile Elevation:	722.31	ft. @	834+66
Proposed Profile Elevation:	722.69	ft. @	834+66
Flood	Frequency	Discharge	Proposed
Ten-Year	10	3	715.04
Design	50	7	715.66
Base	100	10	715.99
Overtop	>100	25	724.25

12" AGGREGATE SURFACE COURSE, TYPE B (TYP.)



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DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION

JOY ROAD
PLAN AND PROFILE

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	19
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		

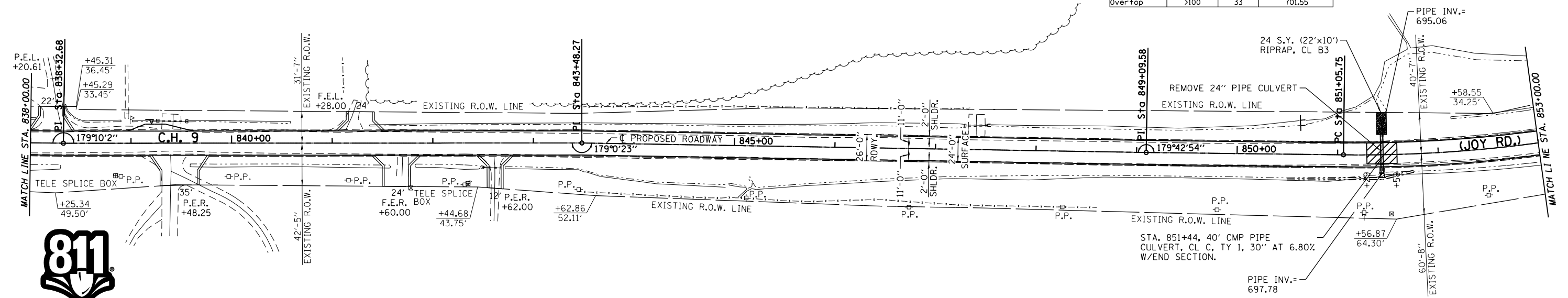
SHEET NO. 11 OF 15 SHEETS

PA6K(976)

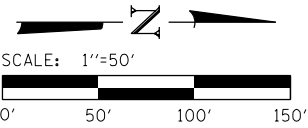
BENCH MARK #424: R.R. SPIKE IN P.P.
EL. 706.45

LOCATION #26 - STA. 851+44
WATERWAY INFORMATION TABLE

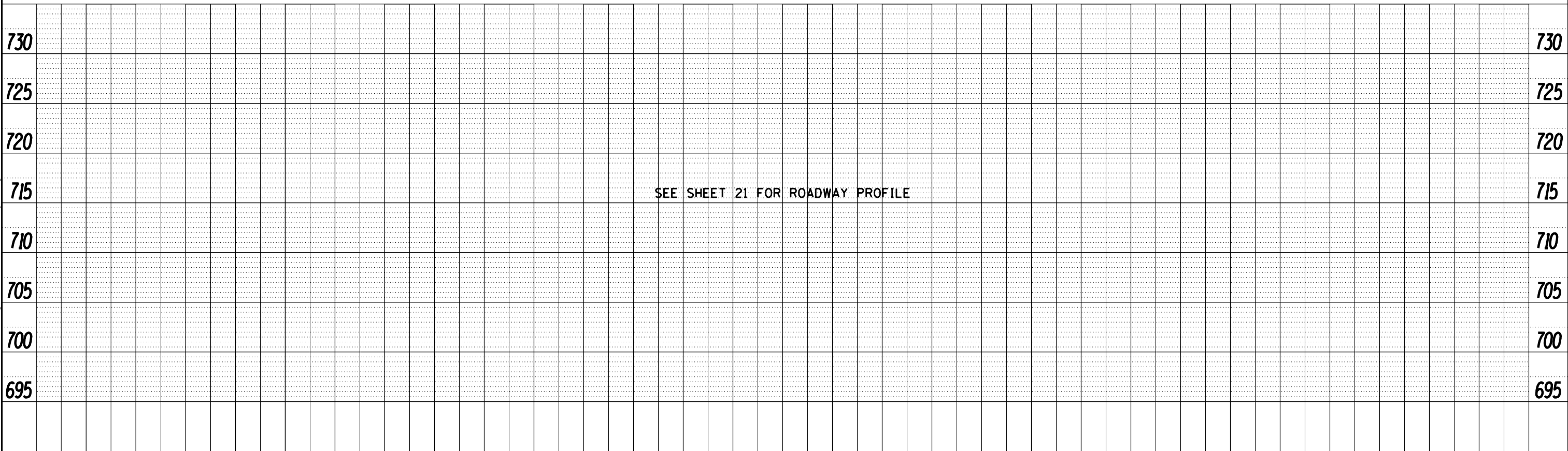
Drainage Area	21.8	acres	
Existing Profile Elevation	700.73	ft. @	851+44
Proposed Profile Elevation	701.05	ft. @	851+44
Flood	Frequency	Discharge	Proposed
	Year	cfs	Headwater Elev.
Ten-Year	10	7	699.04
Design	50	15	699.72
Base	100	20	700.13
Overtop	>100	33	701.55



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12" AGGREGATE SURFACE COURSE,
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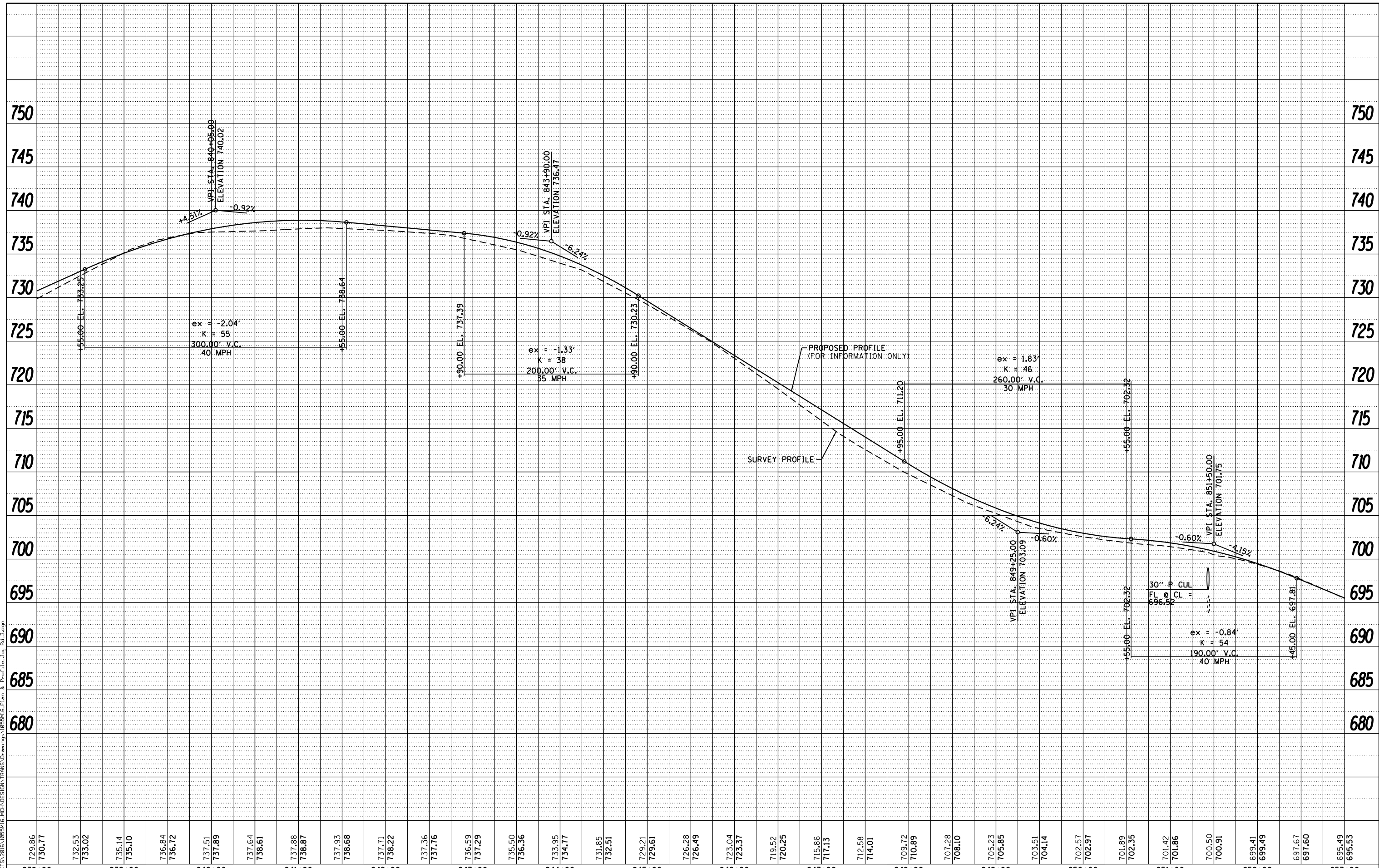
MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION

JOY ROAD
PLAN AND PROFILE

SHEET NO. 12 OF 15 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	20
	WHA* 1055MI6		CONTRACT NO. 89741	
		ILLINOIS	FED. AID PROJECT	PA6K19761

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729.86	730.77	732.53	733.02	735.14	735.10	736.84	736.72	737.51	737.89	737.64	738.61	737.88	738.87	737.93	738.68	737.71	738.22	737.36	737.76	736.59	737.29	735.50	736.36	733.95	734.77	731.85	732.51	729.21	729.61	726.28	726.49	723.04	723.37	719.52	720.25	715.86	717.13	712.58	714.01	709.72	710.89	707.28	708.10	705.23	705.85	703.51	704.14	702.57	702.97	701.89	702.35	701.42	701.86	700.50	700.91	699.41	699.49	697.67	697.60	695.49	695.53
838+00		839+00		840+00		841+00		842+00		843+00		844+00		845+00		846+00		847+00		848+00		849+00		850+00		851+00		852+00		853+00																															



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CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

**JOY ROAD
PLAN AND PROFILE**
SHEET NO. 13 OF 15 SHEETS

F.A.S. RTE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 21
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		PAGE(976)

LOCATION #27 - STA. 854+04
WATERWAY INFORMATION TABLE

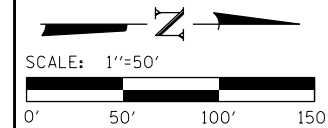
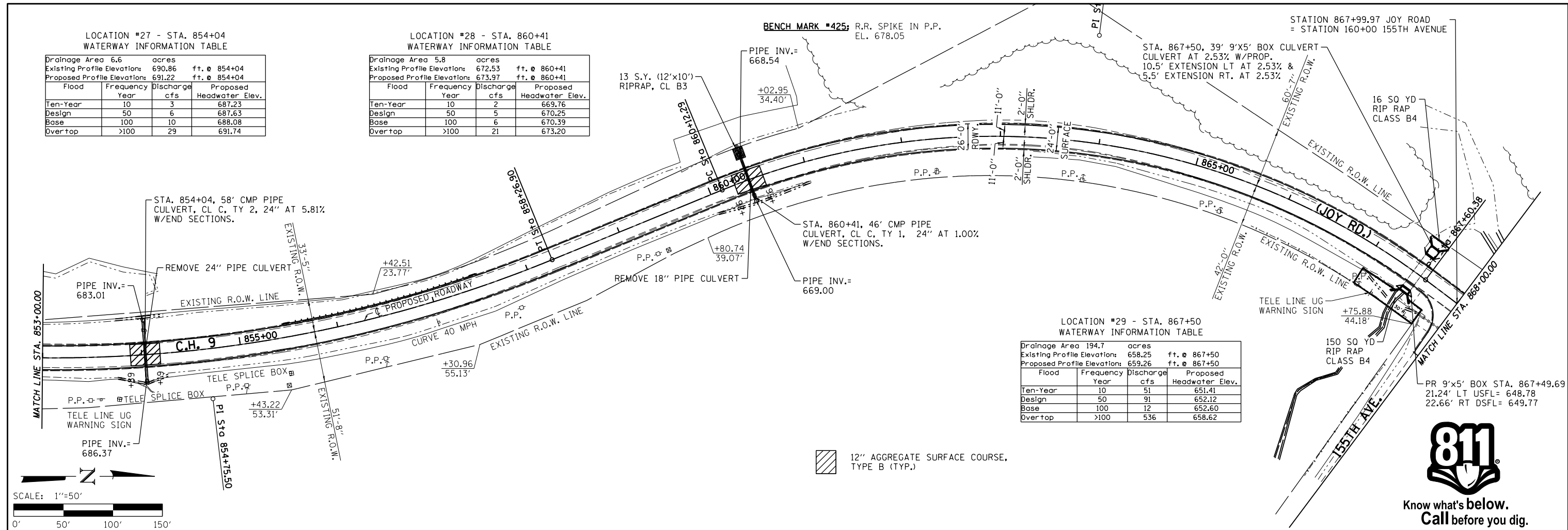
Drainage Area	6.6	acres		
Existing Profile Elevation:	690.86	ft. @	854+04	
Proposed Profile Elevation:	691.22	ft. @	854+04	
Flood	Frequency	Discharge	Proposed	
	Year	cfs	Headwater Elev.	
Ten-Year	10	3	687.23	
Design	50	6	687.63	
Base	100	10	688.08	
Overtop	>100	29	691.74	

LOCATION #28 - STA. 860+41
WATERWAY INFORMATION TABLE

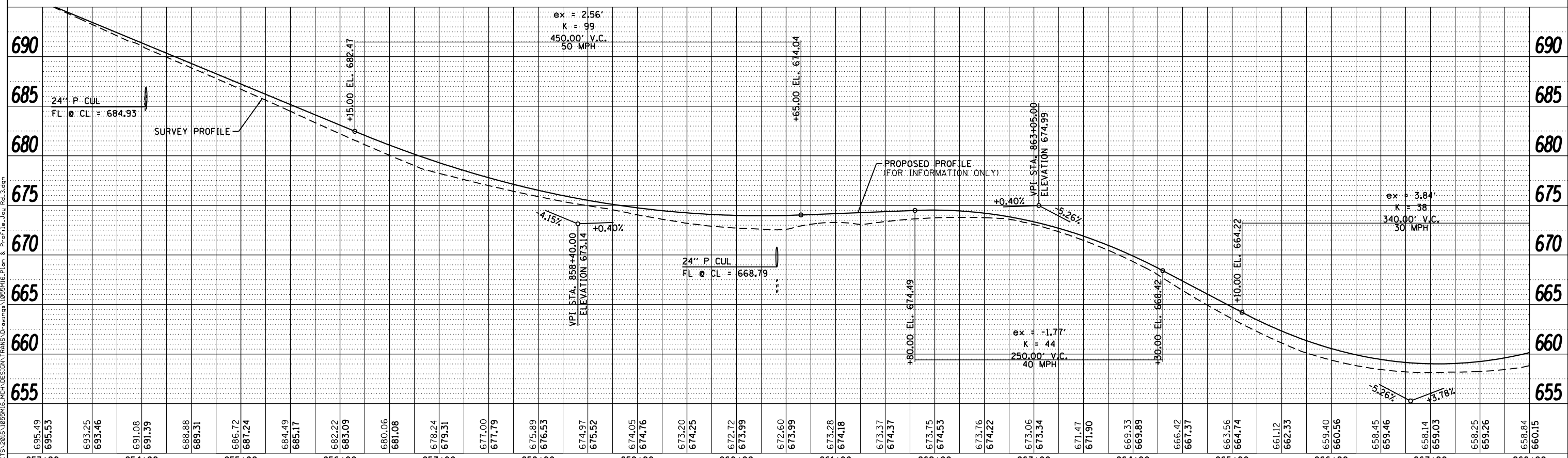
Drainage Area	5.8	acres		
Existing Profile Elevation:	672.53	ft. @	860+41	
Proposed Profile Elevation:	673.97	ft. @	860+41	
Flood	Frequency	Discharge	Proposed	
	Year	cfs	Headwater Elev.	
Ten-Year	10	2	669.76	
Design	50	5	670.25	
Base	100	6	670.39	
Overtop	>100	21	673.20	

LOCATION #29 - STA. 867+50
WATERWAY INFORMATION TABLE

Drainage Area	194.7	acres		
Existing Profile Elevation:	658.25	ft. @	867+50	
Proposed Profile Elevation:	659.26	ft. @	867+50	
Flood	Frequency	Discharge	Proposed	
	Year	cfs	Headwater Elev.	
Ten-Year	10	51	651.41	
Design	50	91	652.12	
Base	100	12	652.60	
Overtop	>100	536	658.62	



12" AGGREGATE SURFACE COURSE, TYPE B (TYP.)



695.49	695.53	693.25	693.46	691.08	691.39	688.88	689.31	686.72	687.24	684.49	685.17	682.22	683.09	680.06	681.08	678.24	679.31	677.00	677.79	675.89	676.53	674.97	675.52	674.05	674.76	673.20	674.25	672.72	673.99	672.60	673.99	673.28	674.18	673.37	674.37	673.75	674.53	673.76	674.22	673.06	673.34	671.47	671.90	669.33	669.89	666.42	667.37	663.56	664.74	661.12	662.33	659.40	660.56	658.45	659.46	658.14	659.03	658.25	659.26	658.84	660.15
853+00	854+00	855+00	856+00	857+00	858+00	859+00	860+00	861+00	862+00	863+00	864+00	865+00	866+00	867+00	868+00																																														



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CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION

JOY ROAD
PLAN AND PROFILE

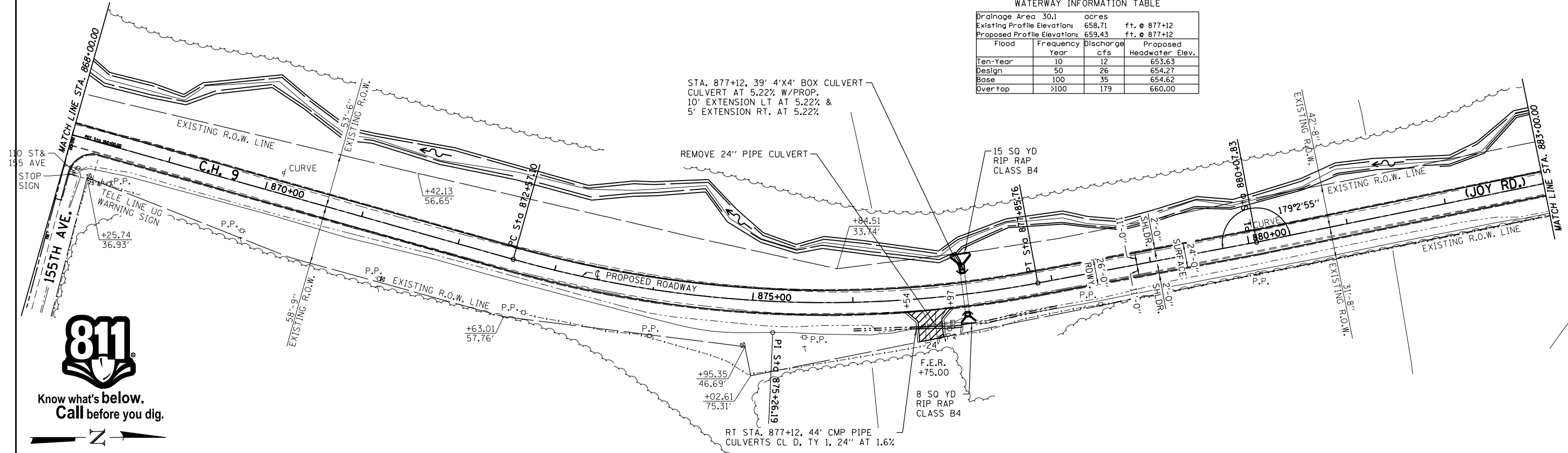
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS
212	14-00103-02-DR	MERCER	68 22
WHA* 1055MI6		CONTRACT NO. 89741	

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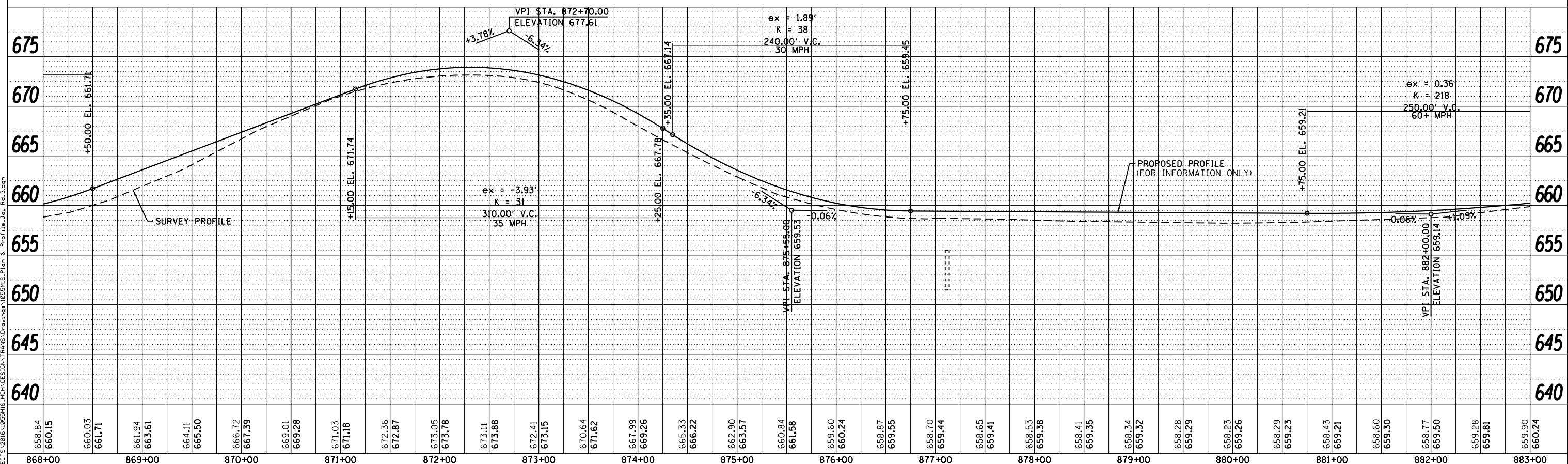
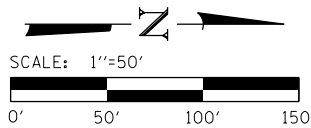
BENCH MARK #426: R.R. SPIKE IN P.P.
EL. 656.48

LOCATION #30 - STA. 877+12
WATERWAY INFORMATION TABLE

Drainage Area	30.1	acres	
Existing Profile Elevation:	658.71	ft. @ 877+12	
Proposed Profile Elevation:	659.43	ft. @ 877+12	
Flood Year	10	Discharge cfs	Proposed Headwater Elev.
Ten-Year	10	12	653.63
Design	50	26	654.27
Base	100	35	654.62
Overtop	>100	179	660.00



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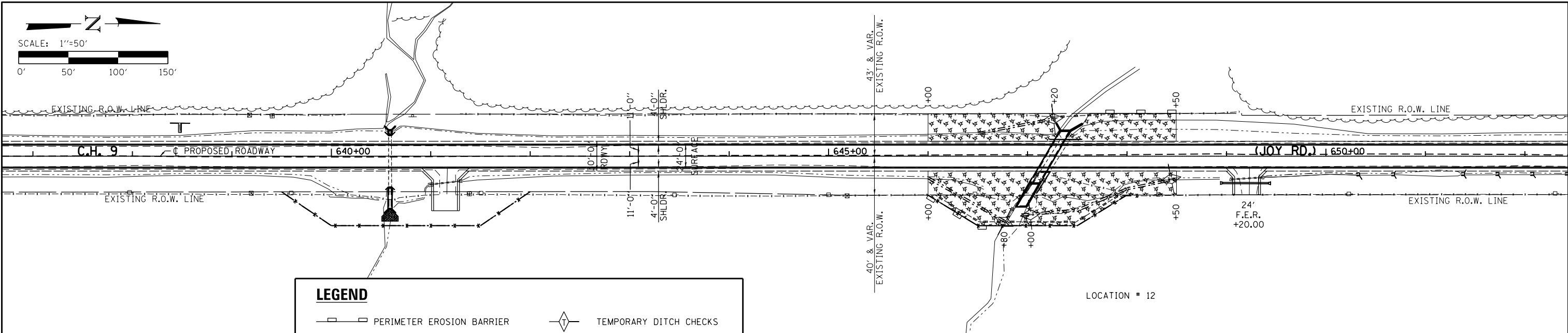
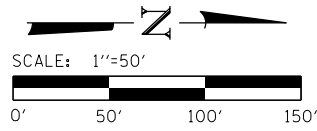
WILLET HOFMANN & ASSOCIATES INC.
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809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-00018

DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

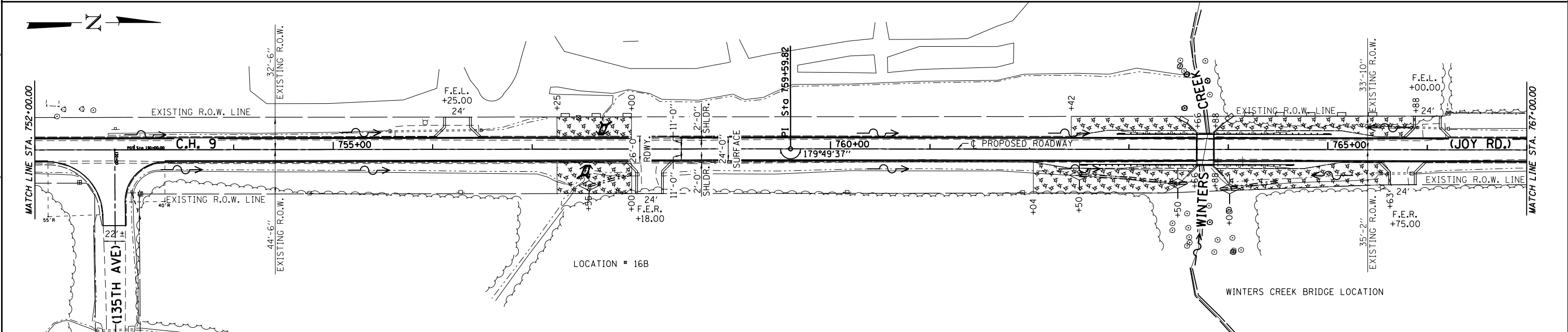
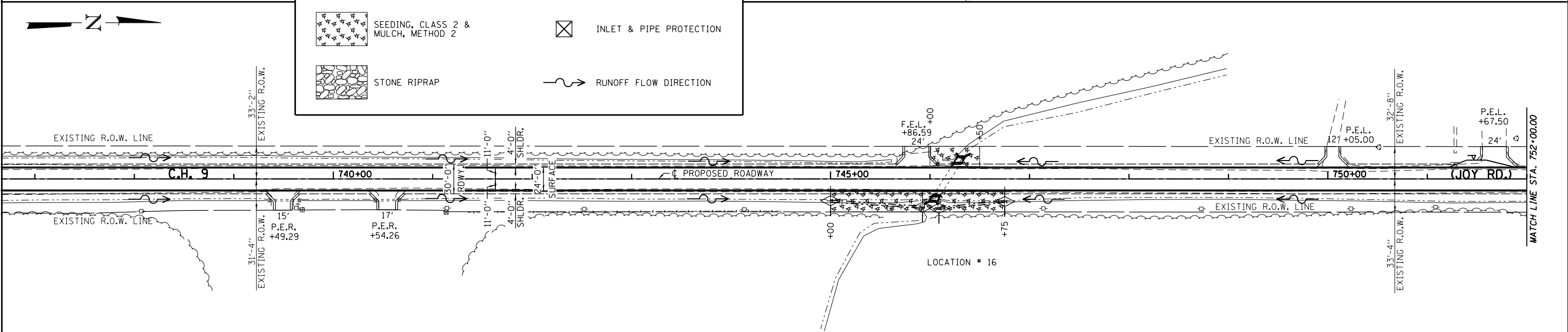
**JOY ROAD
PLAN AND PROFILE**
SHEET NO. 15 OF 15 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	23
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		



LEGEND

- PERIMETER EROSION BARRIER
- SEEDING, CLASS 2 & MULCH, METHOD 2
- STONE RIPRAP
- TEMPORARY DITCH CHECKS
- INLET & PIPE PROTECTION
- RUNOFF FLOW DIRECTION



FILE: S:\PROJECTS\2016\1055M16_MCH\DESIGN\TRANS\Drawings\1055M16_Erosion_Control_Plan.dwg



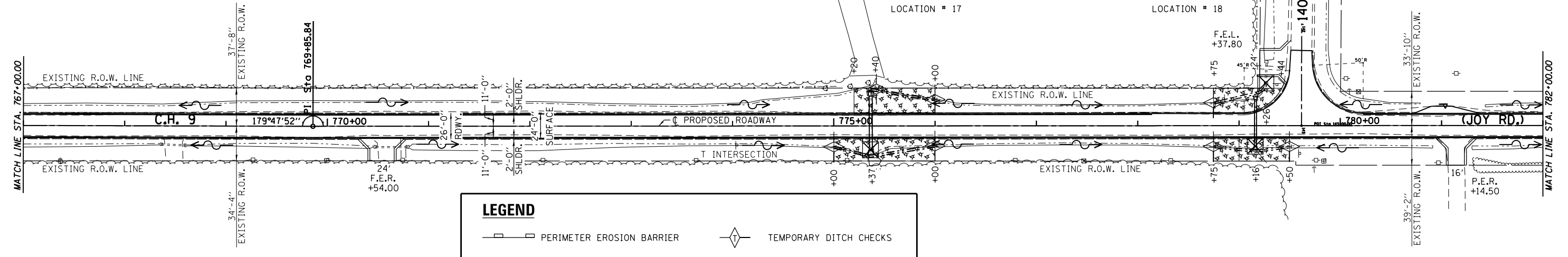
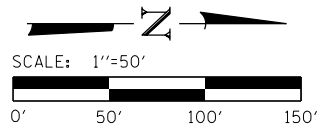
DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

**JOY ROAD
EROSION CONTROL PLAN**

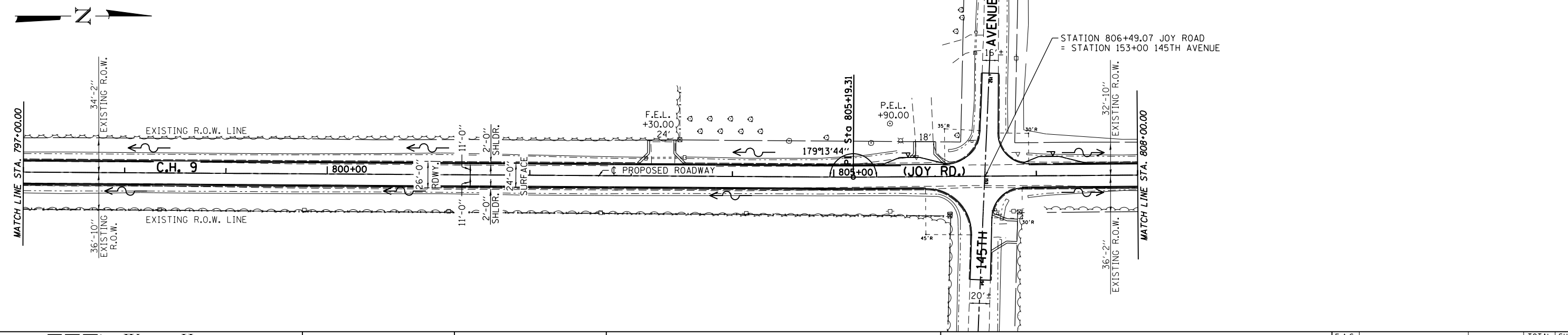
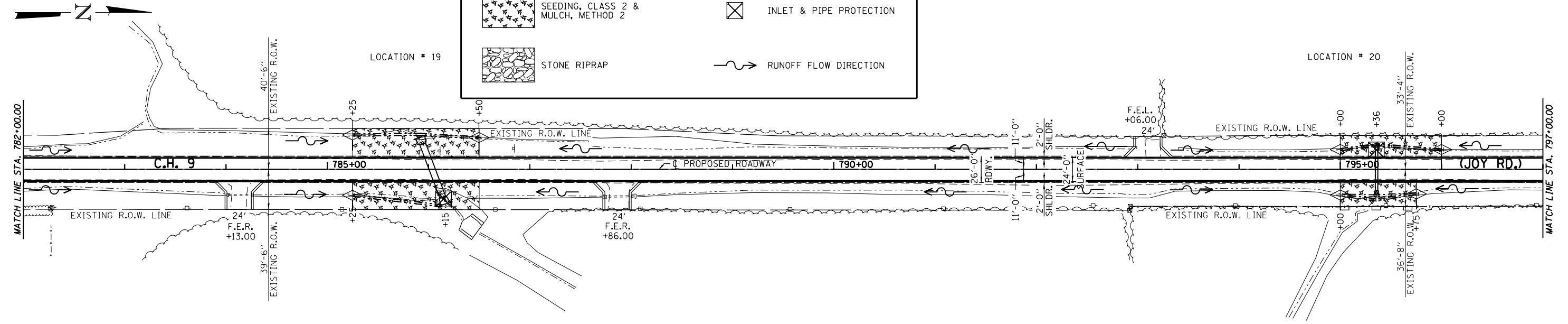
SHEET NO. 01 OF 05 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	24
WHA* 1055M16		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT	PA6K19761	



LEGEND

- PERIMETER EROSION BARRIER
- SEEDING, CLASS 2 & MULCH, METHOD 2
- STONE RIPRAP
- TEMPORARY DITCH CHECKS
- INLET & PIPE PROTECTION
- RUNOFF FLOW DIRECTION



FILE: S:\PROJECTS\2016\1055MI6_MCH\DESIGN\TRANS\02\erocn\1055MI6_Erosion_Control_Plan_L.dgn



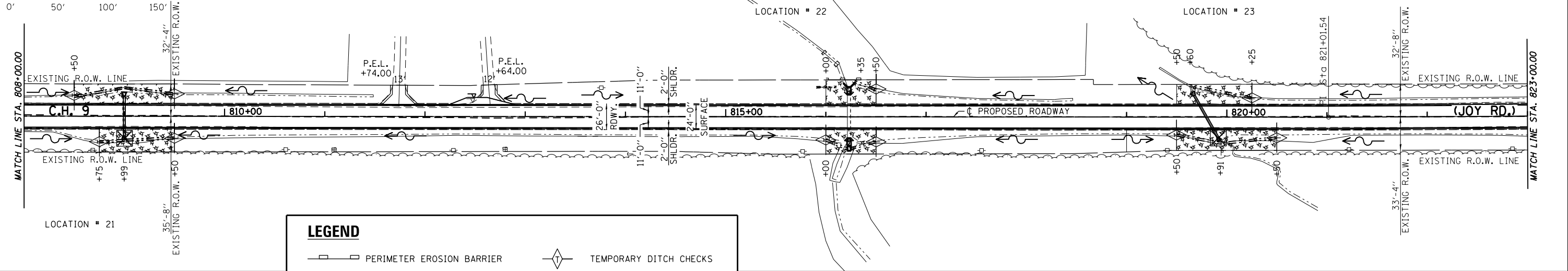
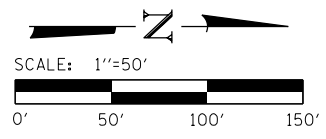
DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

**JOY ROAD
EROSION CONTROL PLAN**

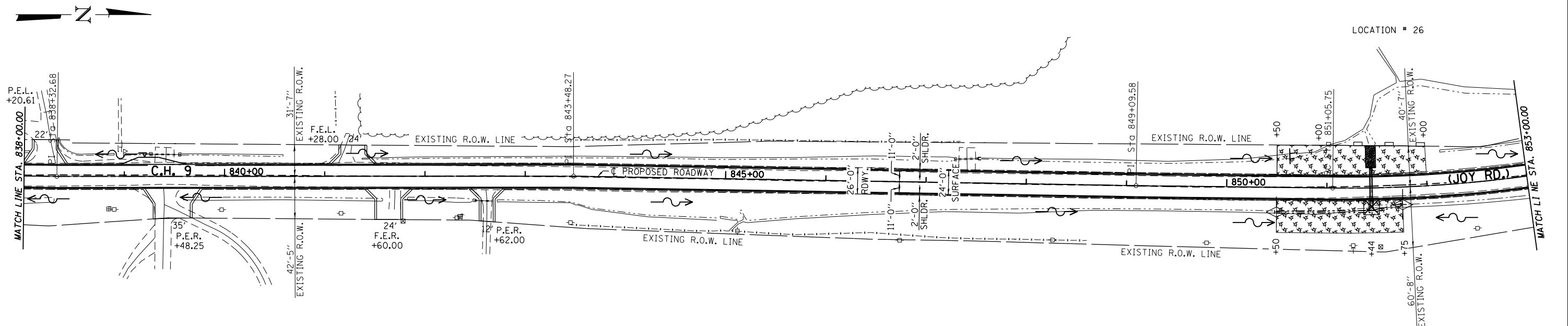
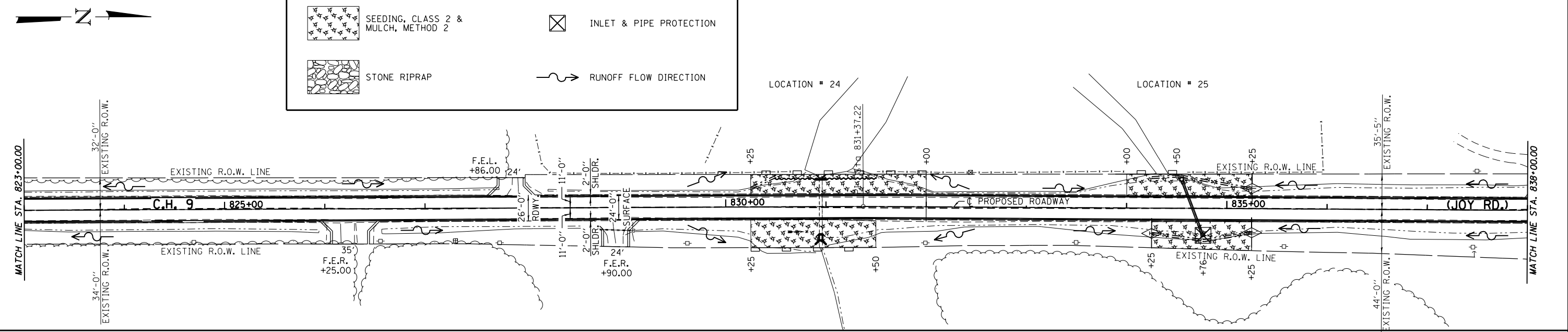
SHEET NO. 02 OF 05 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	25
WHA# 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT	PA6K19761	



LEGEND

	PERIMETER EROSION BARRIER		TEMPORARY DITCH CHECKS
	SEEDING, CLASS 2 & MULCH, METHOD 2		INLET & PIPE PROTECTION
	STONE RIPRAP		RUNOFF FLOW DIRECTION



FILE: S:\PROJECTS\2016\1055MI6_MCH\DESIGN\TRANS\00\eraprog\1055MI6_Erosion Control Plan_2.dgn



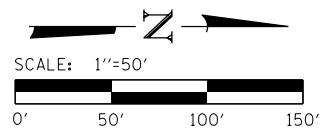
DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

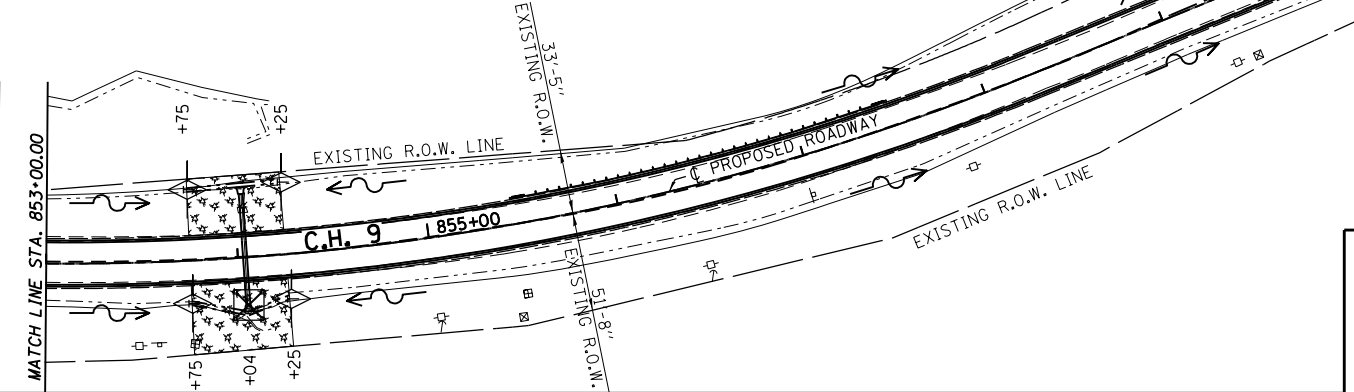
**JOY ROAD
EROSION CONTROL PLAN**

SHEET NO. 03 OF 05 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	26
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		
		PA6K19761		



LOCATION # 27

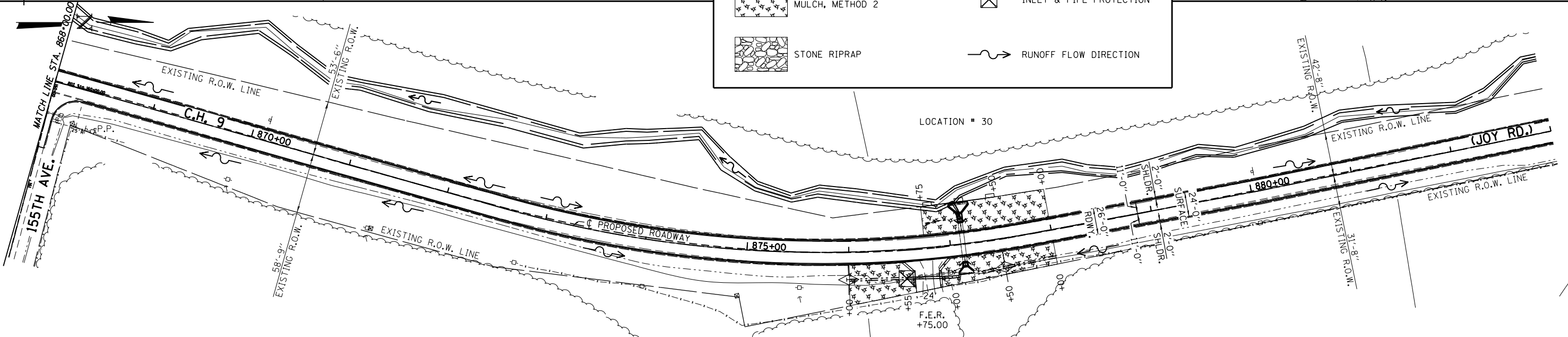


LOCATION # 28

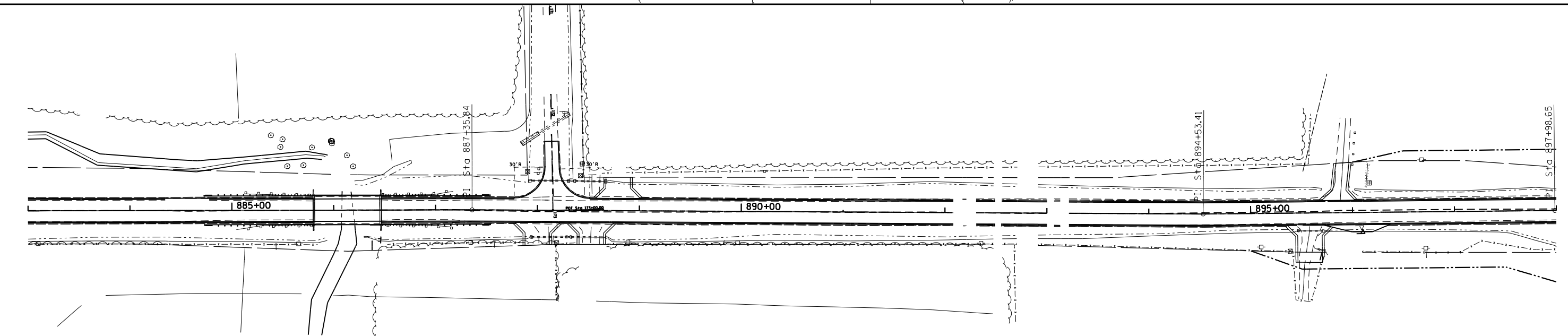
LEGEND

- PERIMETER EROSION BARRIER
- SEEDING, CLASS 2 & MULCH, METHOD 2
- STONE RIPRAP
- TEMPORARY DITCH CHECKS
- INLET & PIPE PROTECTION
- RUNOFF FLOW DIRECTION

LOCATION # 29



LOCATION # 30



FILE : S:\PROJECTS\2016\1055MI6_MCH\DESIGN\TRANS\04-erocnpl\1055MI6_Erosion_Control_Plan_2.dgn

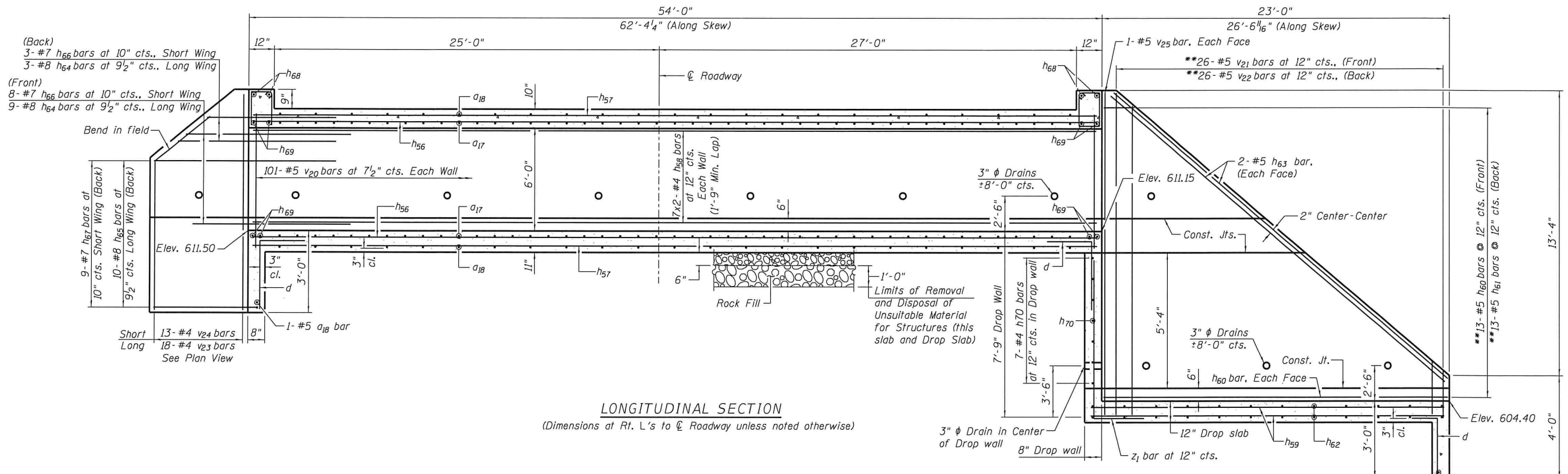
DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSION**

**JOY ROAD
EROSION CONTROL PLAN**

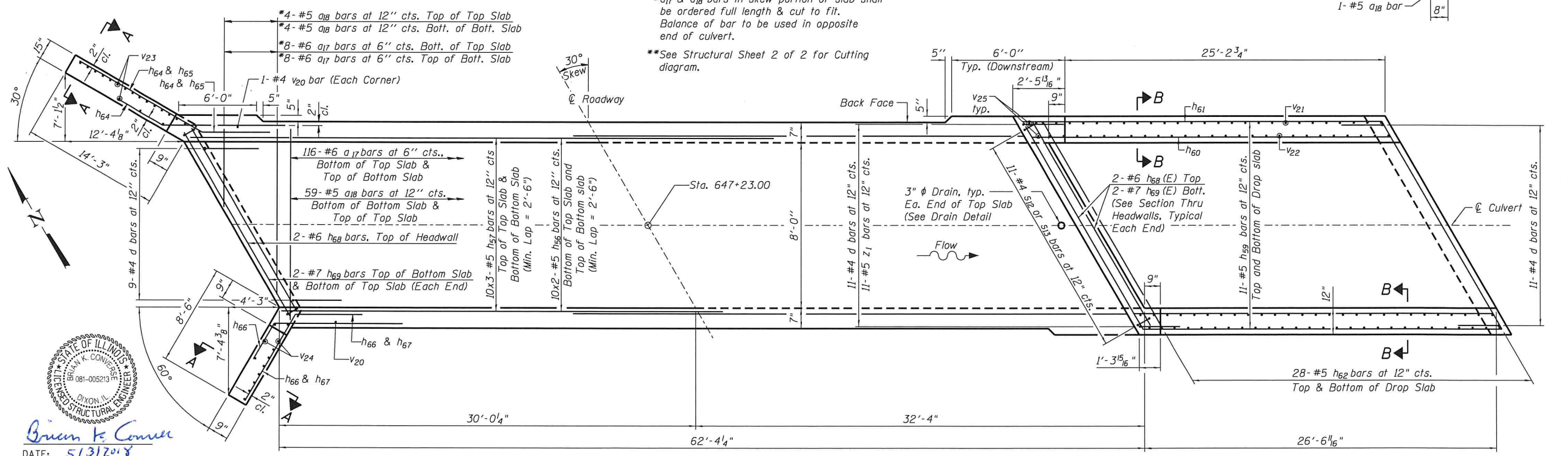
SHEET NO. 04 OF 05 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	27
WHA# 1055MI6		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT	PA6K19761	



LONGITUDINAL SECTION
(Dimensions at Rt. L's to ϕ Roadway unless noted otherwise)

* a_{17} & a_{18} bars in skew portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert.
**See Structural Sheet 2 of 2 for Cutting diagram.



PLAN
(Showing Slabs & Toewalls)

NOTES
See Structural Sheet 2 of 2 for additional Section, Details and Bill of Material.
Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

(Back)
3-#7 h_{66} bars at 10" cts., Short Wing
3-#8 h_{64} bars at 9 1/2" cts., Long Wing

(Front)
8-#7 h_{66} bars at 10" cts., Short Wing
9-#8 h_{64} bars at 9 1/2" cts., Long Wing

Bend in field

9-#7 h_{67} bars at 10" cts. Short Wing (Back)
10-#8 h_{65} bars at 9 1/2" cts. Long Wing (Back)

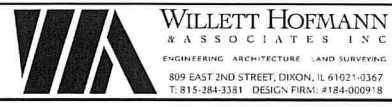
Short 13-#4 v_{24} bars
Long 18-#4 v_{23} bars
See Plan View



Brian K. Conner
DATE: 5/31/2018
EXPIRES 11/30/18

"I certify that to the best of my knowledge, information and belief, this Culvert 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 LRFD Bridge Design Specifications'."

FILE: S:\PROJECTS\2018\1055M16-MCH-DESIGN\STRUCT\2D-Drawings\Culvert at 647+23.1\1055M16_Culvert12 - 647+23.dgn



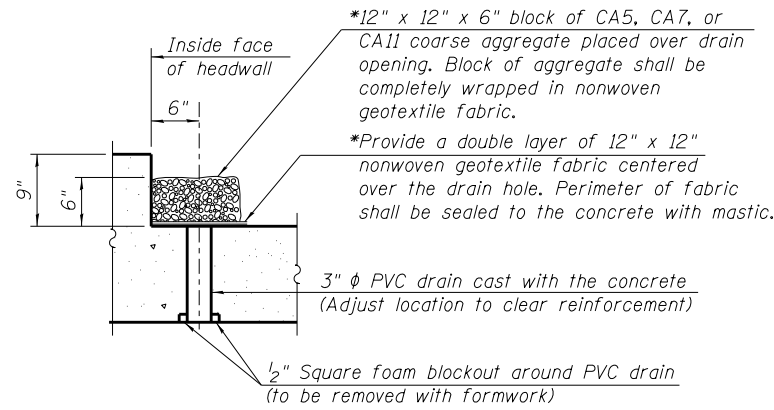
DESIGNED - MCW/EEL	REVISED -
CHECKED - PLP	REVISED -
DRAWN - FDL	REVISED -
CHECKED - PLP	REVISED -

MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS

CULVERT DETAILS
STATION 647 + 23.00
STRUCTURAL SHEET NO. 1 OF 2 SHEETS

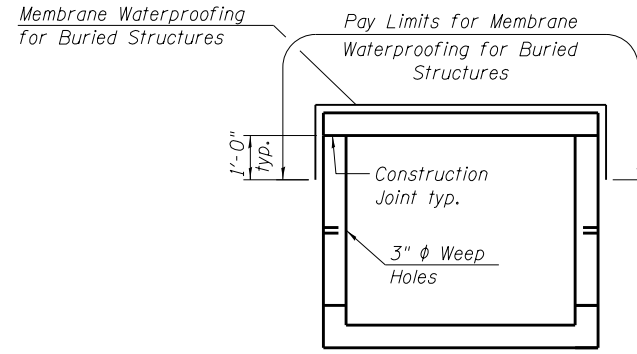
F.A.S. RTE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 28
WHA* 1055M16		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT P68K19761				

*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.

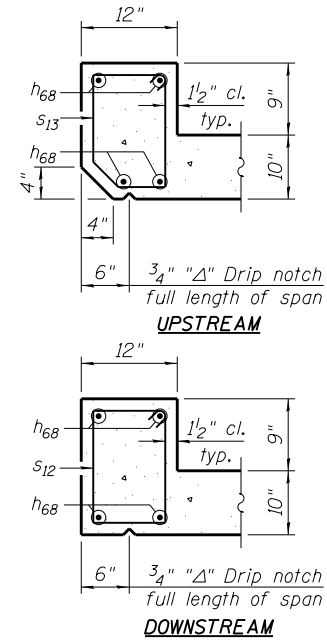


DRAIN DETAIL

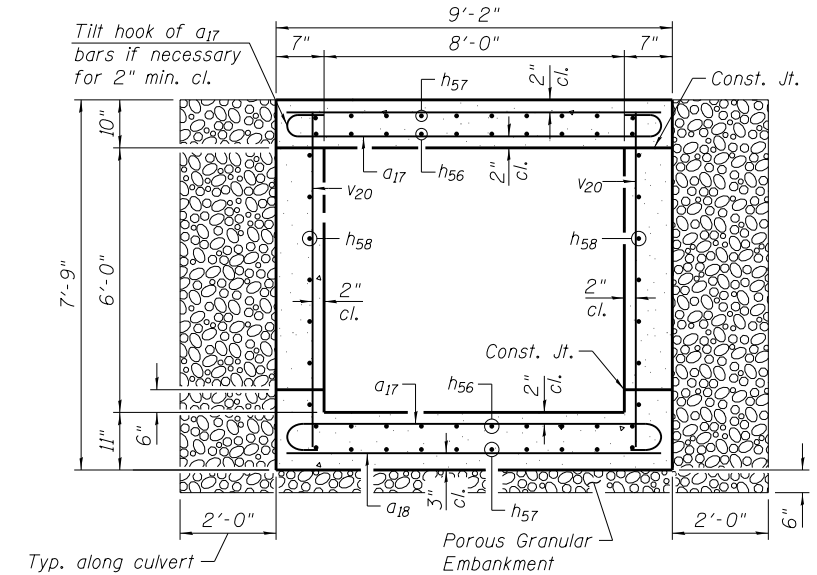
(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the Concrete Box Culverts.)



MEMBRANE WATERPROOFING FOR CAST-IN-PLACE BOX CULVERTS



SECTION THRU HEADWALL



SECTION THRU BARREL

Unsuitable Material and Rock Fill Limits not shown

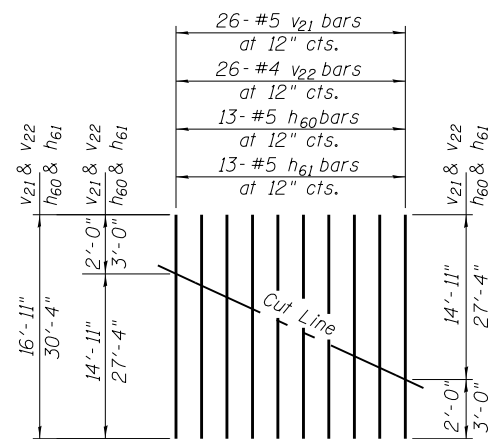
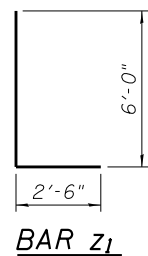
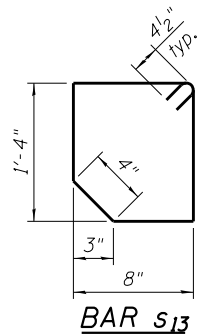
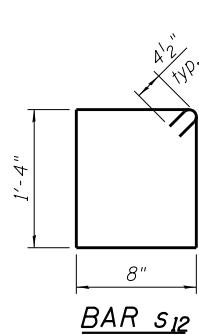
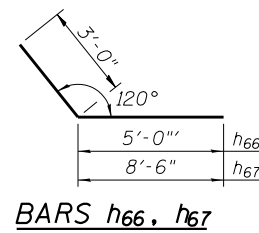
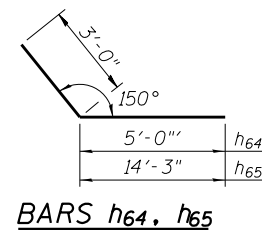
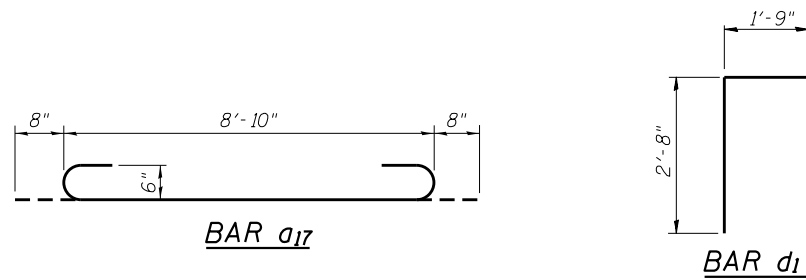
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a17	248	#6	10'-2"	U
a18	126	#5	8'-10"	—
d	31	#4	4'-5"	L
h56	40	#5	32'-4"	—
h57	60	#5	19'-1"	—
h58	28	#4	31'-11"	—
h59	22	#5	26'-10"	—
h60	13	#5	30'-4"	—
h61	13	#4	30'-4"	—
h62	56	#5	11'-0"	—
h63	4	#8	28'-8"	—
h64	24	#8	8'-0"	—
h65	20	#5	17'-3"	—
h66	22	#7	8'-0"	—
h67	18	#7	11'-6"	—
h68	4	#6	10'-0"	—
h69	8	#7	10'-0"	—
h70	7	#4	11'-0"	—
s12	11	#4	4'-9"	□
s13	11	#4	4'-8"	□
v20	204	#5	7'-4"	—
v21	26	#5	16'-11"	—
v22	26	#4	16'-11"	—
v23	36	#5	10'-1"	—
v24	26	#5	10'-1"	—
v25	4	#5	14'-11"	—
z1	11	#5	8'-6"	L
Porous Granular Embankment		Ton	222	
*** Removal and Disposal of Unsuitable Material for Structures		Cu. Yd.	30.4	
*** Reinforcement Bars		Pound	16,510	
*** Concrete Box Culverts		Cu. Yd.	92.0	
Membrane Waterproofing System for Buried Structures		Sq. Yd.	89	
*** Rock Fill (Special)		Cu. Yd.	30.4	

NOTES

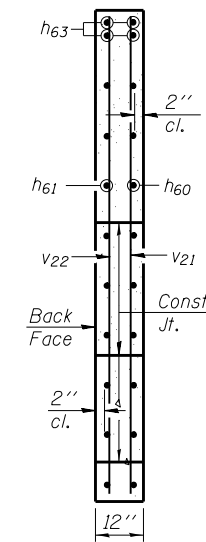
NO PRECAST OPTION ALLOWED.
All exposed edges shall be chamfered 3/4" unless otherwise noted.
***See Special Provisions.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	29
WHA* 1055M16		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT PAGE(1976)		

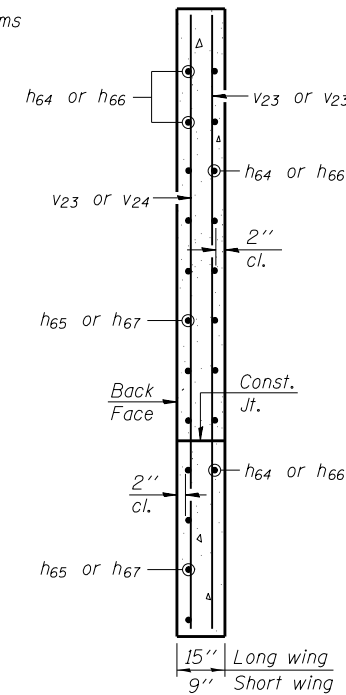


BAR CUTTING DIAGRAM

Order v21, v22, h60 and h61 bars full length. Cut as shown and use remainder of bars in opposite face.



SECTION B-B



SECTION A-A

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

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

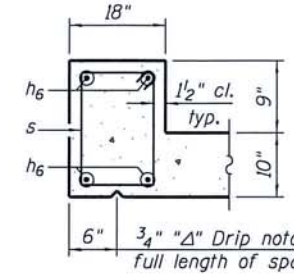
DESIGN SPECIFICATIONS

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

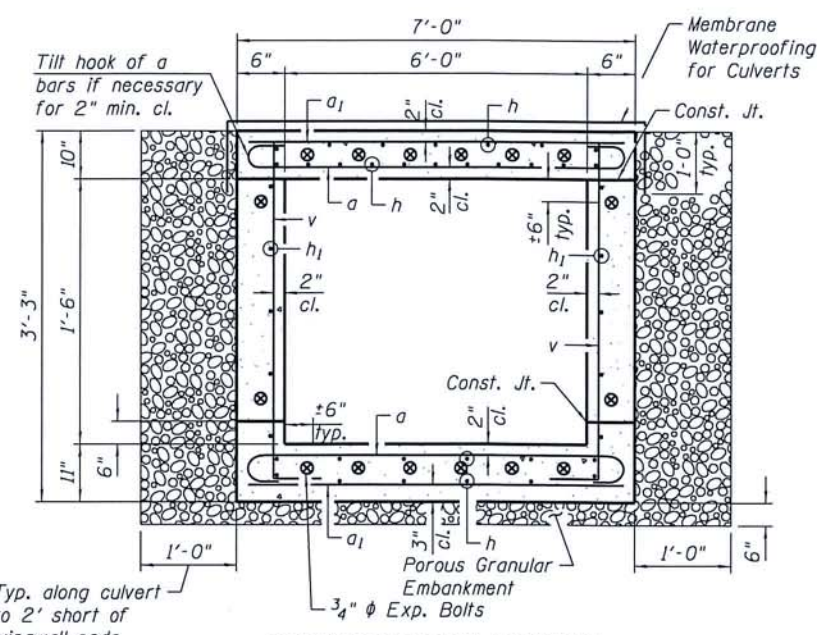


Brian K. Conner
 DATE: 5/13/2018
 EXPIRES 11/30/18

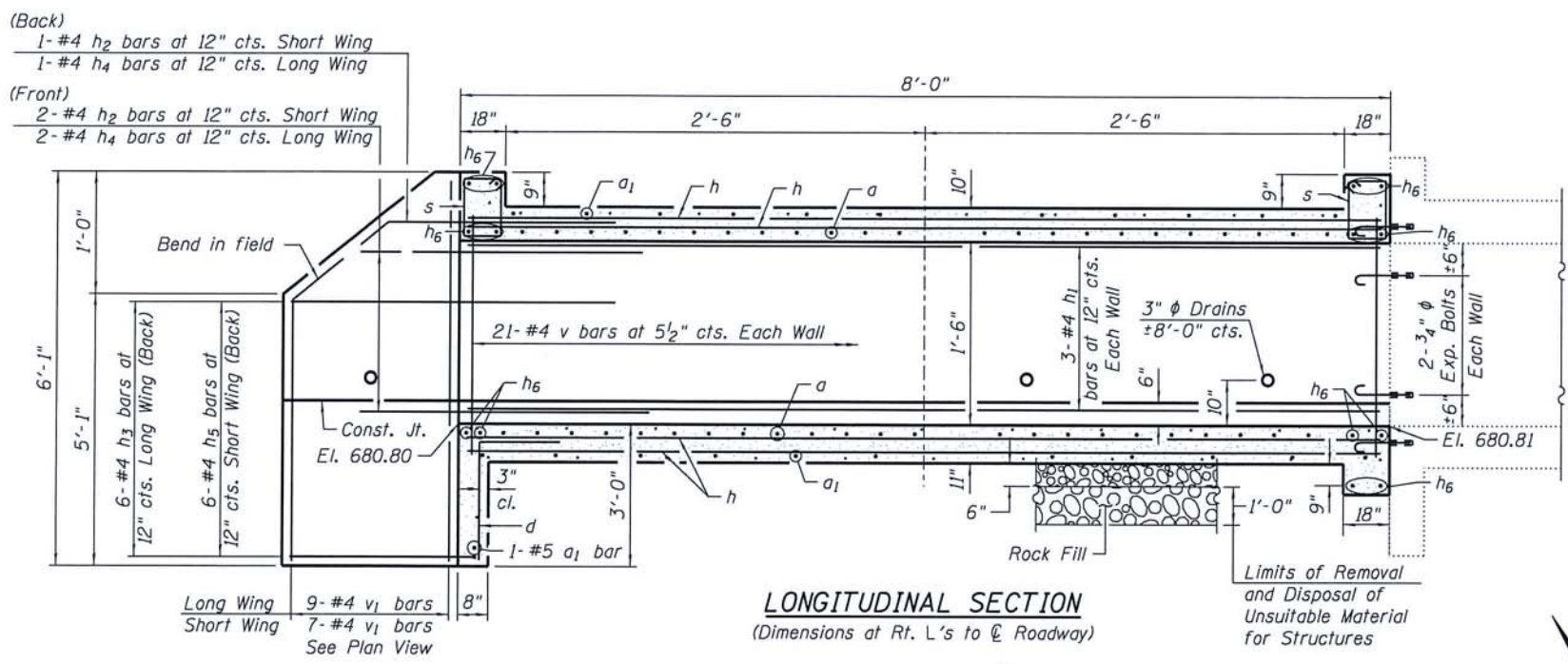
"I certify that to the best of my knowledge, information and belief, this Culvert Design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current 'AASHTO LRFD Bridge Design Specifications'."



SECTION THRU HEADWALL
 DOWNSTREAM

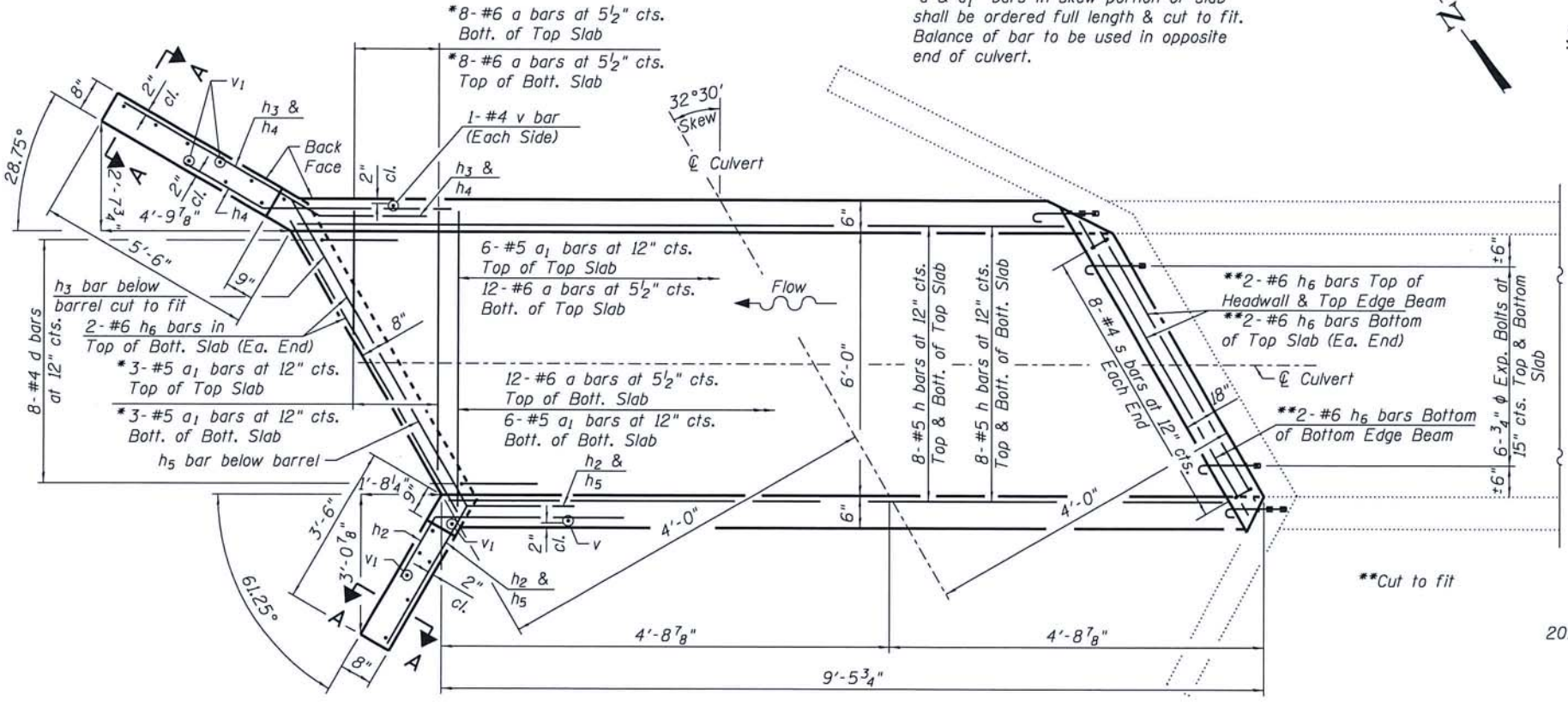


SECTION THRU BARREL
 Unsuitable Material and Rock Fill Limits not shown



LONGITUDINAL SECTION
 (Dimensions at Rt. L's to C Roadway)

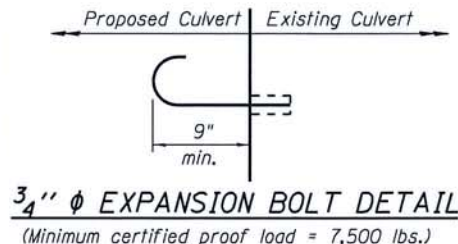
*"a & a1" bars in skew portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert.



SHOWING TOEWALL

PLAN

SHOWING HEADWALL & EDGE BEAM

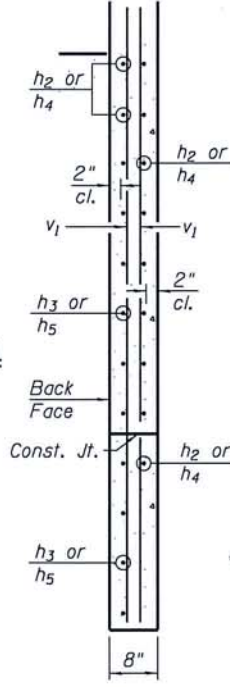


3/4" EXPANSION BOLT DETAIL
 (Minimum certified proof load = 7,500 lbs.)

LOADING HL93

DESIGN STRESSES
 $f_y = 60,000 \text{ psi}$
 $f'_c = 3,500 \text{ psi}$

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



SECTION A-A

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	36	#6	8'-0"	U
a1	19	#5	6'-8"	—
d	8	#4	4'-5"	L
h	32	#5	9'-1"	—
h1	6	#4	9'-1"	—
h2	3	#4	8'-0"	—
h3	6	#4	8'-10"	—
h4	3	#4	8'-0"	—
h5	6	#4	6'-5"	—
h6	14	#6	7'-10"	—
s	16	#4	5'-7"	□
v	44	#4	3'-4"	—
v1	16	#4	5'-8"	—
Porous Granular Embankment			Ton	7
*** Removal and Disposal of Unsuitable Material for Structures			Cu. Yd.	3.2
Reinforcement Bars			Pound	1,400
Expansion Bolts 3/4"			Each	16
Concrete Box Culverts			Cu. Yd.	7.1
Membrane Waterproofing System for Buried Structures			Sq. Yd.	6
*** Rock Fill (Special)			Cu. Yd.	3.2

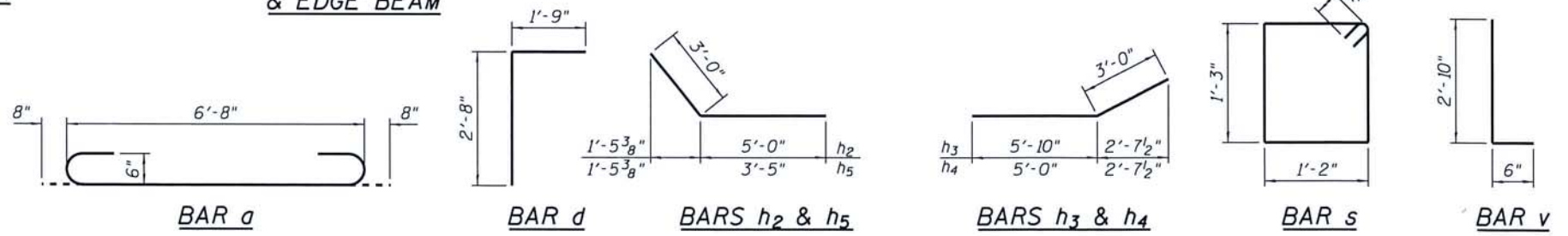
NOTES:

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

Expansion bolts shall be 3/4 inch diameter hooked bolts.

PRECAST OPTION NOT ALLOWED.

*** See Special Provisions.



BAR a

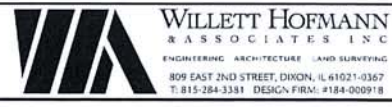
BAR d

BARS h2 & h5

BARS h3 & h4

BAR s

BAR v



DESIGNED - MCW	REVISED -
CHECKED - MAC	REVISED -
DRAWN - DAN	REVISED -
CHECKED - BKC	REVISED -

MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS

WEST CULVERT EXTENSION DETAILS
STATION 746 + 18
 STRUCTURAL SHEET NO. 1 OF 2 SHEETS

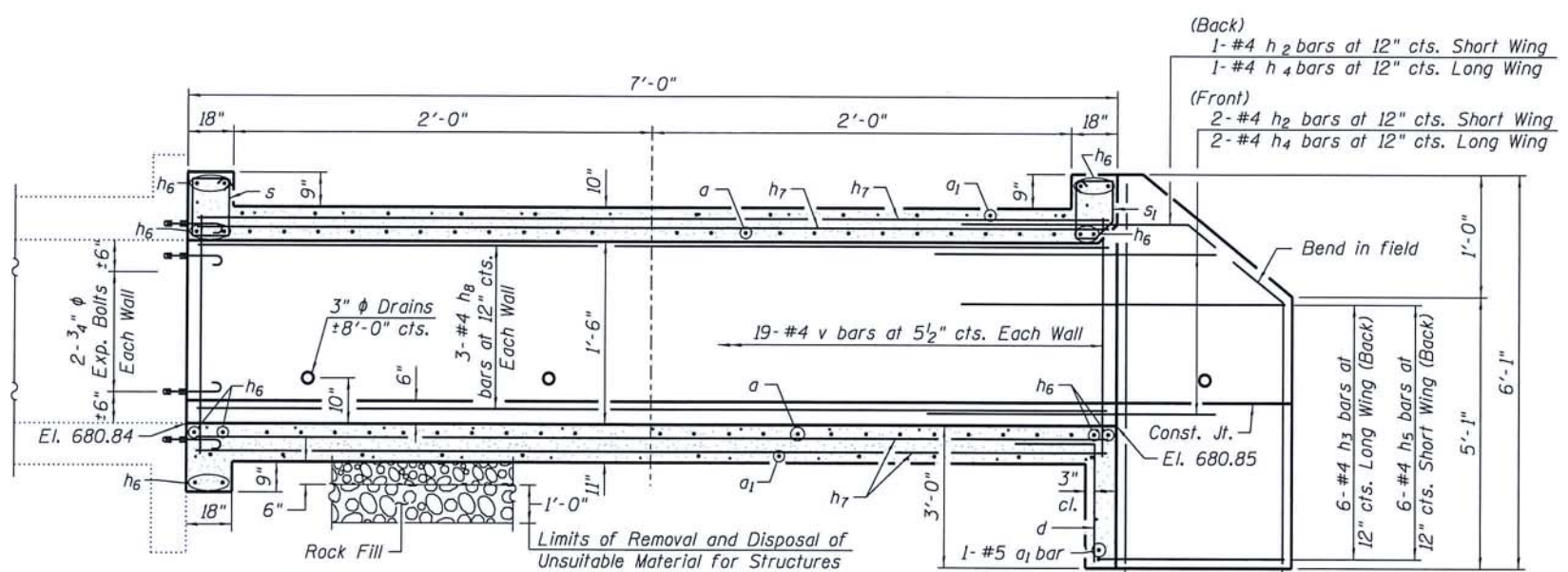
F.A.S. RTE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 30
WHA 1055M16		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT P68K1976				

FILE: S:\PROJECTS\2016\1055M16-MCH\DESIGN\STRUCT\20_Drawing\Culvert at 746+18\1055M16_Culvert Drawing.dgn



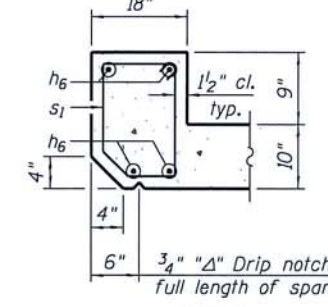
Brian K. Connor
 DATE: 5/13/2018
 EXPIRES 11/30/18

"I certify that to the best of my knowledge, information and belief, this Culvert 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 LRFD Bridge Design Specifications'."

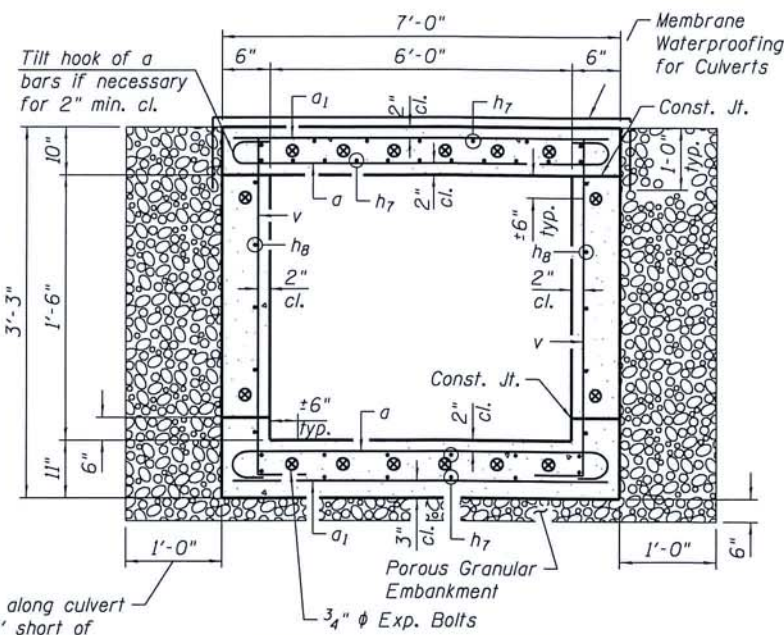


LONGITUDINAL SECTION
 (Dimensions at Rt. L's to Roadway)

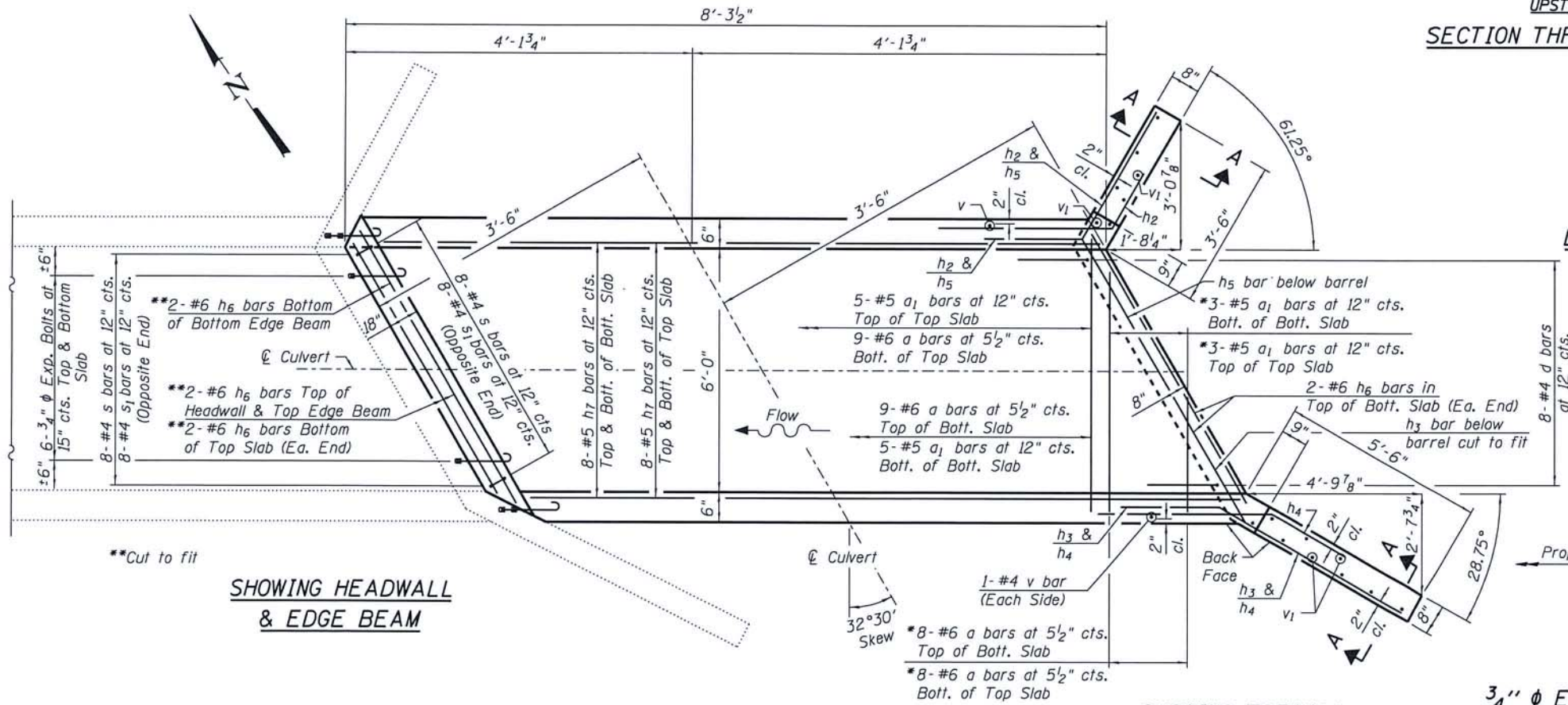
"a & a₁" bars in skew portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert.



SECTION THRU HEADWALL
 UPSTREAM



SECTION THRU BARREL
 Unsuitable Material and Rock Fill Limits not shown



SHOWING HEADWALL & EDGE BEAM

PLAN

LOADING HL93

DESIGN STRESSES
 f_y = 60,000 psi
 f'_c = 3,500 psi

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

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	34	#6	8'-0"	U
a ₁	17	#5	6'-8"	—
d	8	#4	4'-5"	L
h ₂	3	#4	8'-0"	—
h ₃	6	#4	8'-10"	—
h ₄	3	#4	8'-0"	—
h ₅	6	#4	6'-5"	—
h ₆	14	#6	7'-10"	—
h ₇	32	#5	7'-11"	—
h ₈	6	#4	7'-11"	—
s	8	#4	5'-7"	□
s ₁	8	#4	5'-5"	□
v	40	#4	3'-4"	—
v ₁	16	#4	5'-8"	—
Porous Granular Embankment			Ton	6
*** Removal and Disposal of Unsuitable Material for Structures			Cu. Yd.	2.7
Reinforcement Bars			Pound	1,310
Expansion Bolts 3/4"			Each	16
Concrete Box Culverts			Cu. Yd.	6.5
Membrane Waterproofing System for Buried Structures			Sq. Yd.	5
Rock Fill (Special)			Cu. Yd.	2.7

NOTES:

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

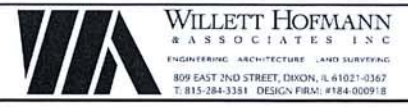
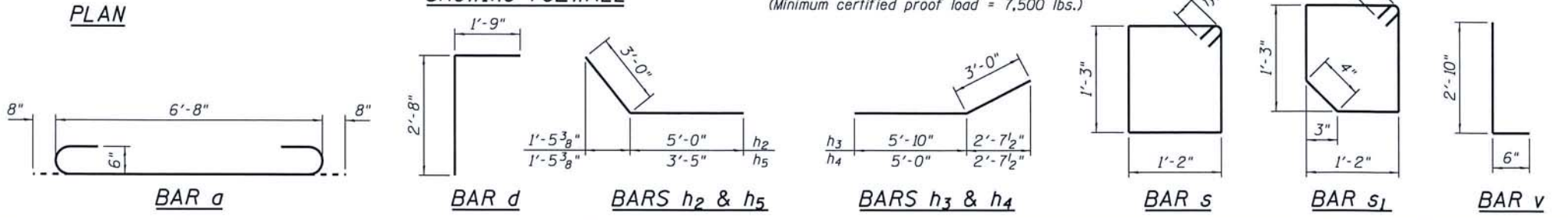
Expansion bolts shall be 3/4" φ hooked bolts.

PRECAST OPTION NOT ALLOWED.

***See Special Provisions.

3/4" φ EXPANSION BOLT DETAIL

(Minimum certified proof load = 7,500 lbs.)



DESIGNED - MCW	REVISED -
CHECKED - MAC	REVISED -
DRAWN - DAN	REVISED -
CHECKED - BKC	REVISED -

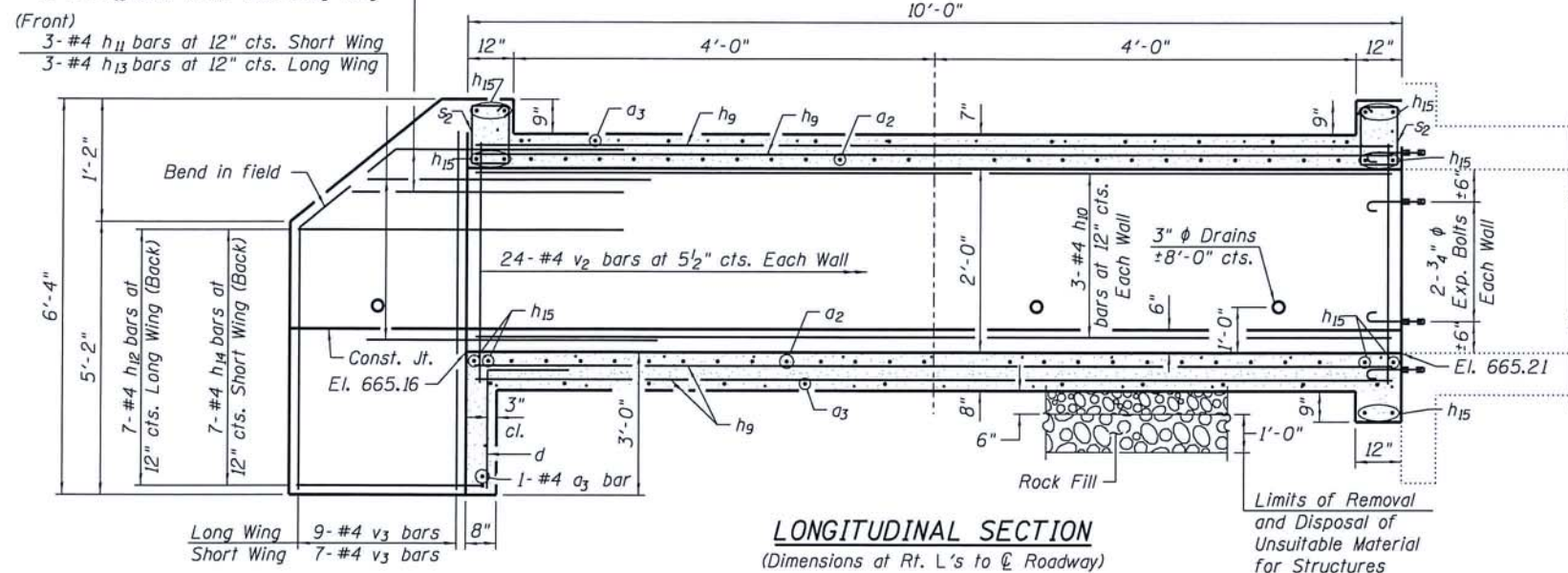
MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSIONS

EAST CULVERT EXTENSION DETAILS
 STATION 746+18

F.A.S. RTE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 31
WHA* 1055M16		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT PA6K19761				

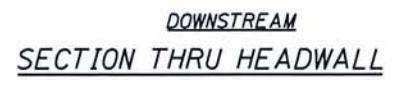
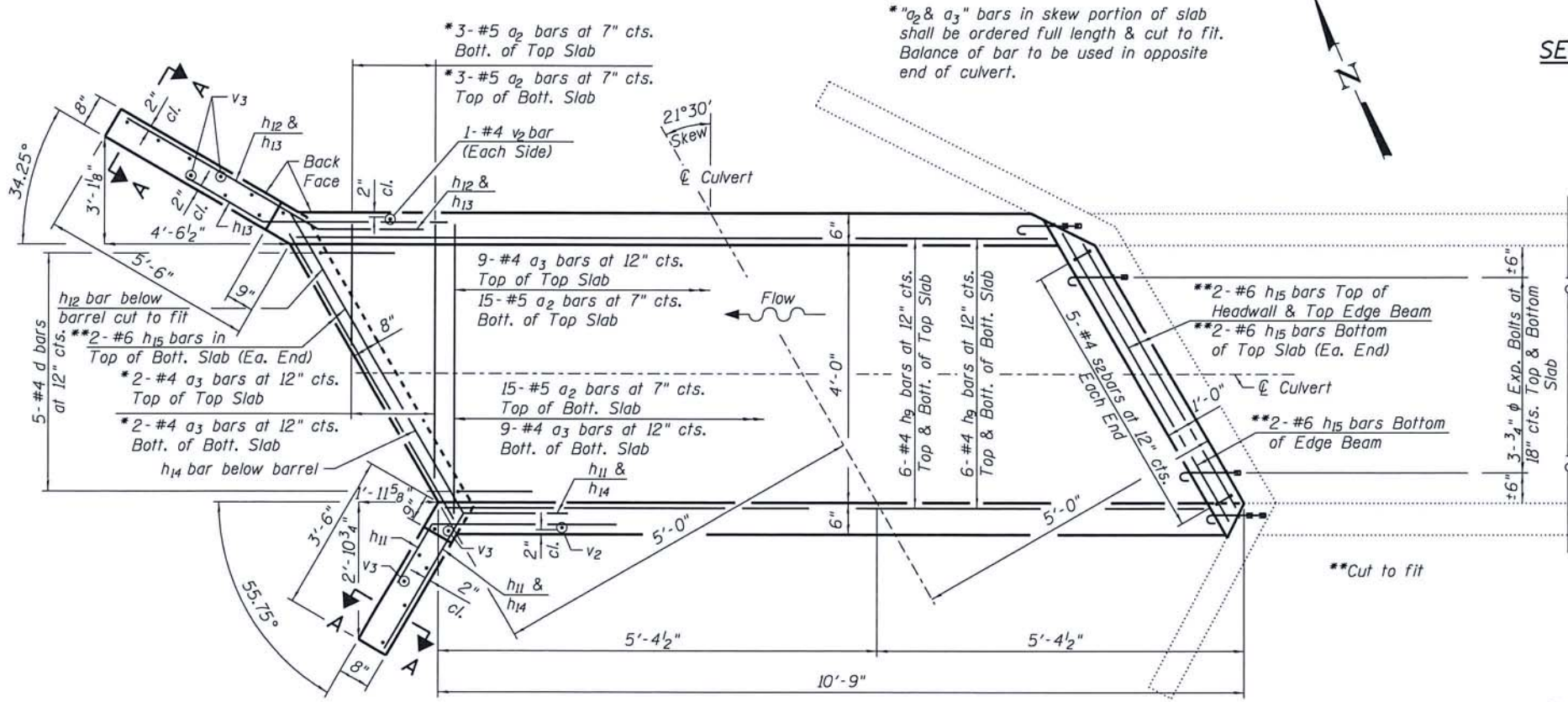
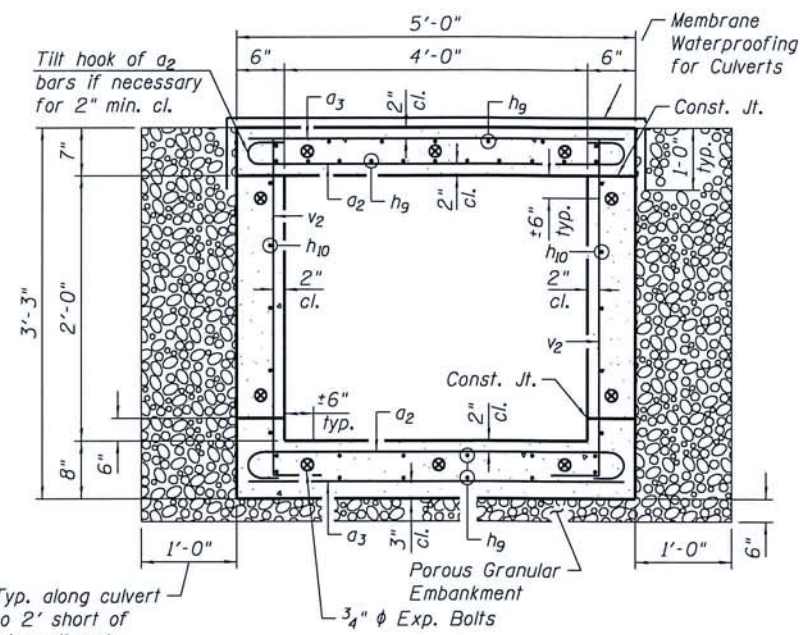
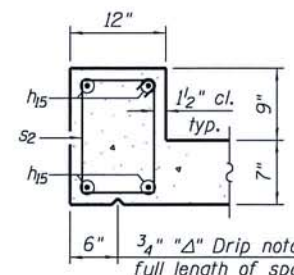
(Back)
 2-#4 h₁₁ bars at 12" cts. Short Wing
 2-#4 h₁₃ bars at 12" cts. Long Wing

(Front)
 3-#4 h₁₁ bars at 12" cts. Short Wing
 3-#4 h₁₃ bars at 12" cts. Long Wing



Brian F. Conner
 DATE: 5/31/2018
 EXPIRES 11/30/18

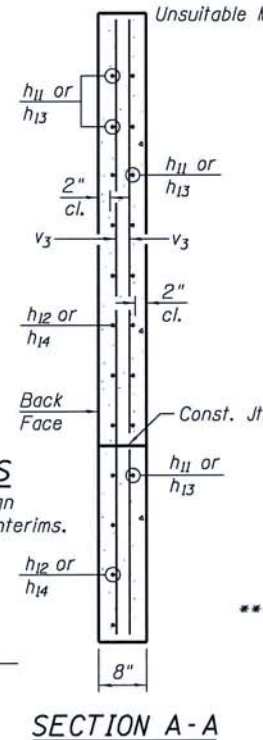
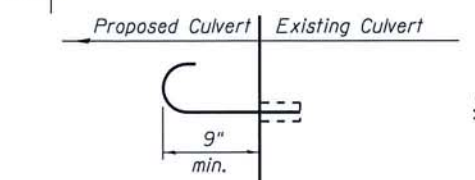
"I certify that to the best of my knowledge, information and belief, this Culvert Design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current 'AASHTO LRFD Bridge Design Specifications'."



LOADING HL93

DESIGN STRESSES
 f_y = 60,000 psi
 f'c = 3,500 psi

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



SECTION THRU BARREL

Unsuitable Material and Rock Fill Limits not shown

BILL OF MATERIAL

Bar No.	Size	Length	Shape
a ₂	#5	5'-10"	U
a ₃	#4	4'-8"	—
d	#4	4'-5"	L
h ₉	#4	10'-5"	—
h ₁₀	#4	10'-5"	—
h ₁₁	#4	8'-0"	—
h ₁₂	#4	8'-9"	—
h ₁₃	#4	8'-0"	—
h ₁₄	#4	6'-6"	—
h ₁₅	#6	5'-0"	—
s ₂	#4	4'-1"	□
v ₂	#4	3'-4"	—
v ₃	#4	6'-0"	—

Porous Granular Embankment	Ton	7
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	2.8
Reinforcement Bars	Pound	950
Expansion Bolts 3/4"	Each	10
Concrete Box Culverts	Cu. Yd.	5.9
Membrane Waterproofing System for Buried Structures	Sq. Yd.	7
Rock Fill (Special)	Cu. Yd.	2.8

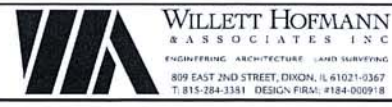
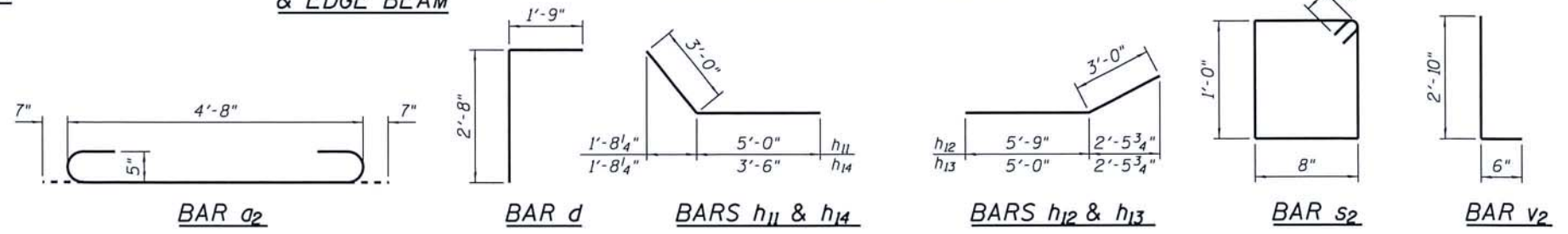
NOTES:

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

Expansion bolts should be 3/4" φ hooked bolts.

PRECAST OPTION NOT ALLOWED.

*** See Special Provisions.



DESIGNED - MCW	REVISED -
CHECKED - MAC	REVISED -
DRAWN - DAN	REVISED -
CHECKED - BKC	REVISED -

MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSIONS

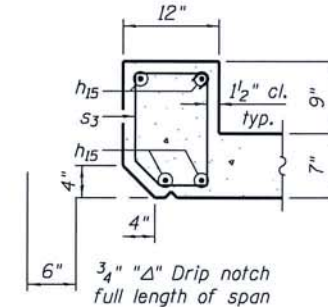
WEST CULVERT EXTENSION DETAILS
 STATION 757+63
 STRUCTURAL SHEET NO. 1 OF 2 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	32
WHA# 1055M16		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT P66K9761				

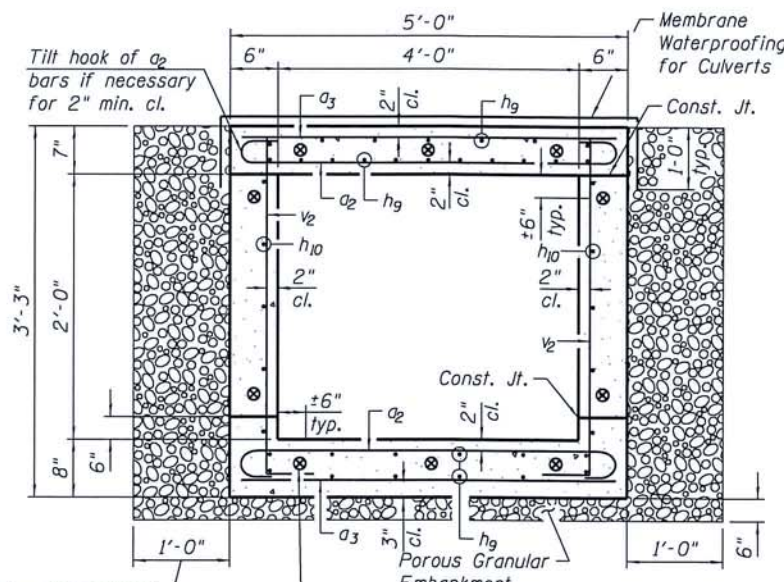


Brian Conner
 DATE: 5/31/2018
 EXPIRES 11/30/18

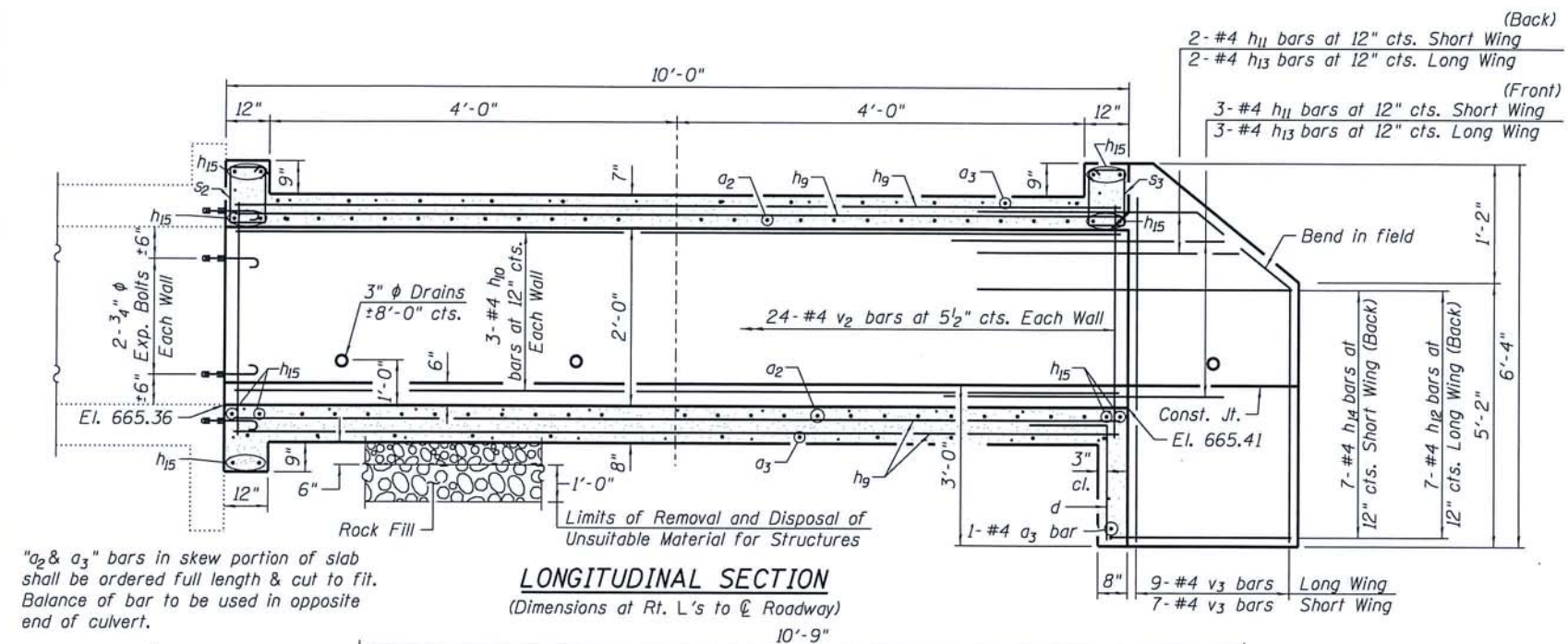
"I certify that to the best of my knowledge, information and belief, this Culvert Design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO LRFD Bridge Design Specifications."



SECTION THRU HEADWALL
 UPSTREAM

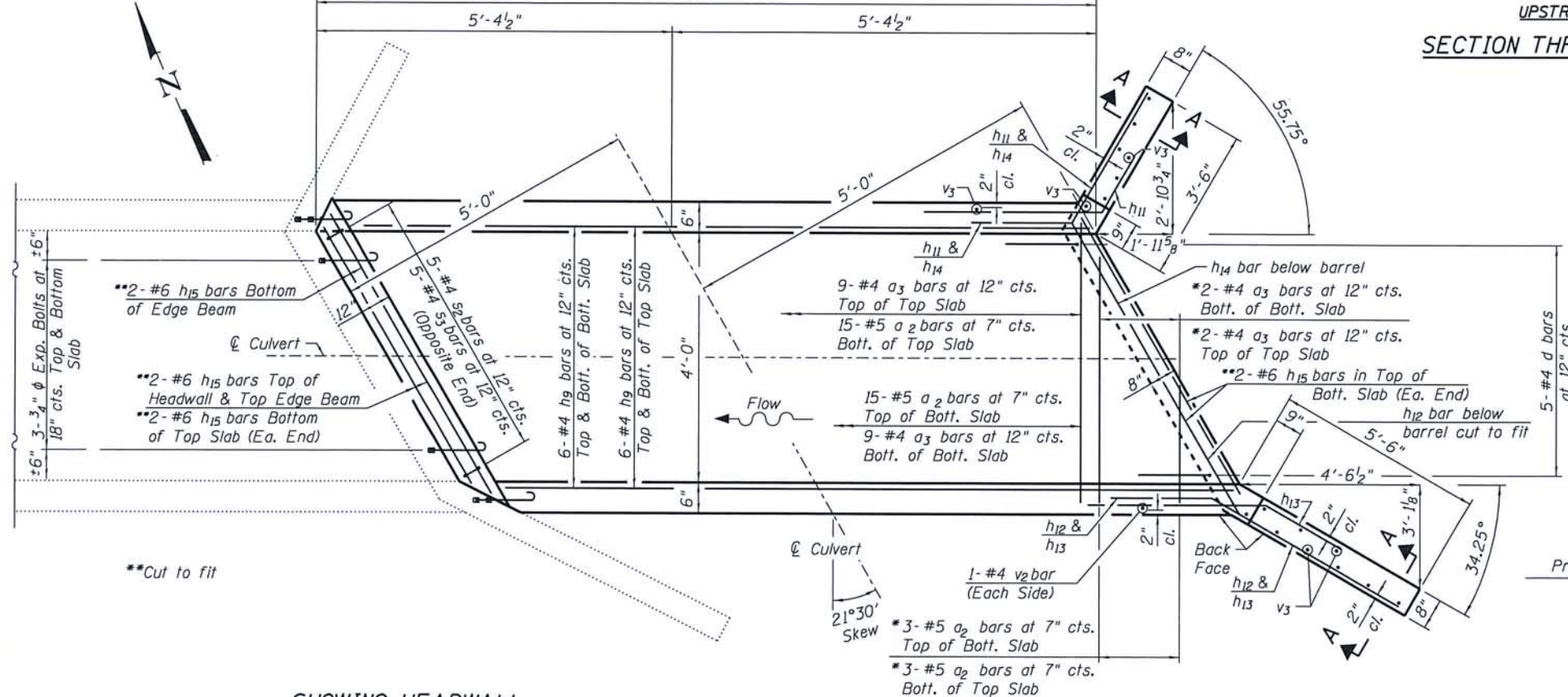


SECTION THRU BARREL
 Typ. along culvert to 2' short of wingwall ends



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

"a₂ & a₃" bars in skew portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert.



SHOWING HEADWALL & EDGE BEAM

PLAN

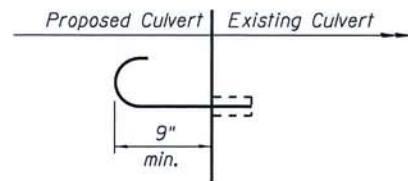
NOTES:
 A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
 Expansion bolts should be 3/4" ϕ hooked bolts.
PRECAST OPTION NOT ALLOWED.

***See Special Provisions.

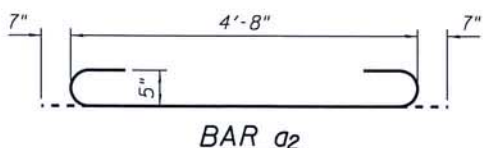
LOADING HL93

DESIGN STRESSES
 f_y = 60,000 psi
 f'c = 3,500 psi

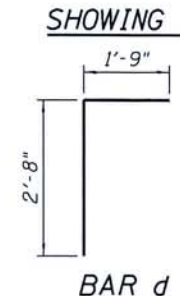
DESIGN SPECIFICATIONS
 2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims.



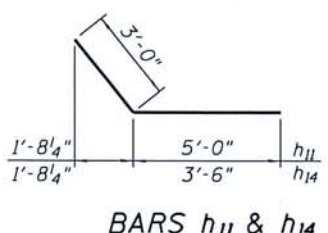
3/4" ϕ EXPANSION BOLT DETAIL
 (Minimum certified proof load = 7,500 lbs.)



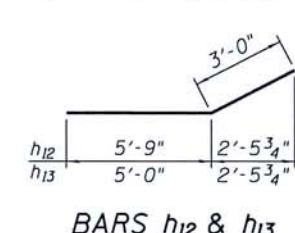
BAR a₂



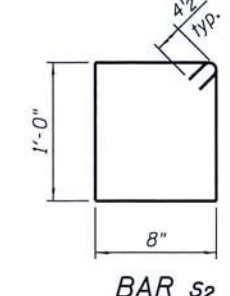
BAR d



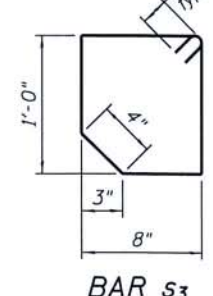
BARS h₁₁ & h₁₄



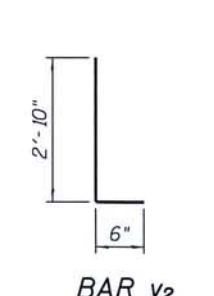
BARS h₁₂ & h₁₃



BAR s₂



BAR s₃

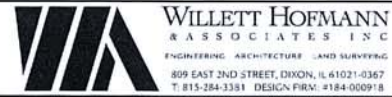


BAR v₂

BILL OF MATERIAL
 Unsuitable Material and Rock Fill Limits not shown

Bar	No.	Size	Length	Shape
a ₂	36	#5	5'-10"	
a ₃	23	#4	4'-8"	
d	5	#4	4'-5"	
h ₉	24	#4	10'-5"	
h ₁₀	6	#4	10'-5"	
h ₁₁	5	#4	8'-0"	
h ₁₂	7	#4	8'-9"	
h ₁₃	5	#4	8'-0"	
h ₁₄	7	#4	6'-6"	
h ₁₅	14	#6	5'-0"	
s ₂	5	#4	4'-1"	
s ₃	5	#4	3'-11"	
v ₂	50	#4	3'-4"	
v ₃	16	#4	6'-0"	
Porous Granular Embankment			Ton	7
*** Removal and Disposal of Unsuitable Material for Structures			Cu. Yd.	2.8
Reinforcement Bars			Pound	950
Expansion Bolts 3/4"			Each	10
Concrete Box Culverts			Cu. Yd.	5.9
Membrane Waterproofing System for Buried Structures			Sq. Yd.	7
*** Rock Fill (Special)			Cu. Yd.	2.8

SECTION A-A



DESIGNED - MCW
 CHECKED - MAC
 DRAWN - DAN
 CHECKED - BKC

REVISED -
 REVISED -
 REVISED -
 REVISED -

MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS

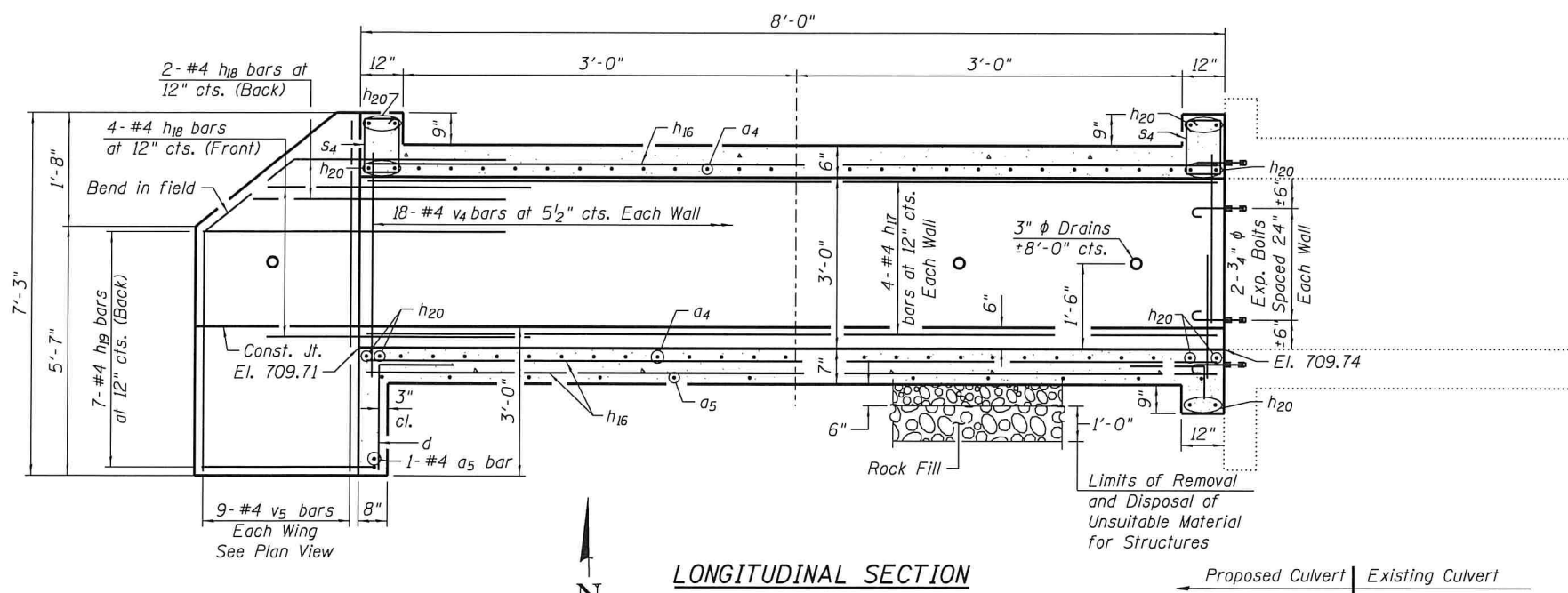
EAST CULVERT EXTENSION DETAILS
STATION 757 + 63
 STRUCTURAL SHEET NO. 2 OF 2 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	33
WHA* 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT P66K19761				

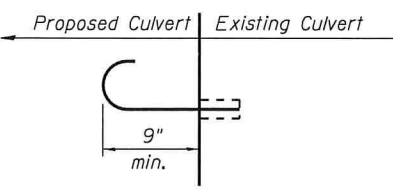


Brian Conner
 DATE: 5/31/2017
 EXPIRES 11/30/18

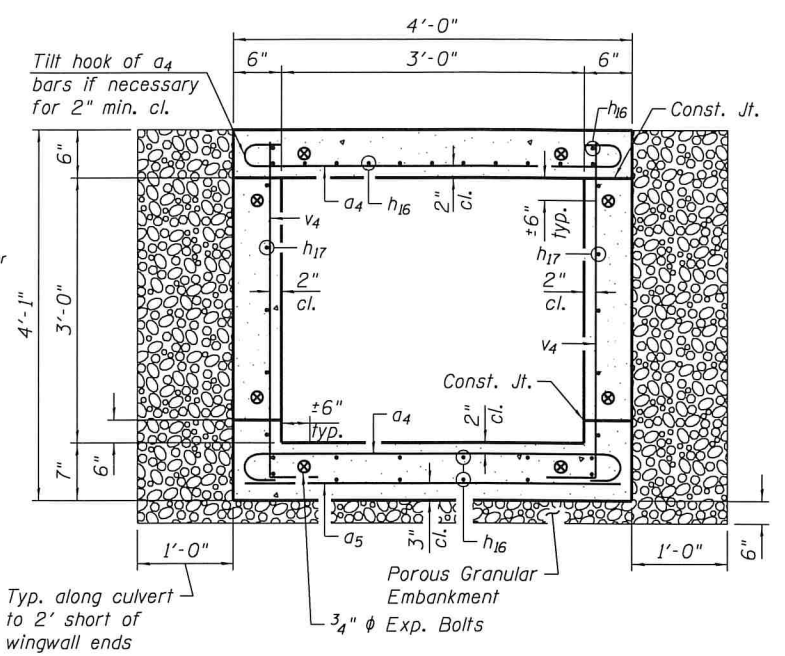
"I certify that to the best of my knowledge, information and belief, this Culvert Design is structurally adequate for the design loading shown on the plans, the design is an economical one for the style of structure and complies with requirements of the current 'AASHTO LRFD Bridge Design Specifications'."



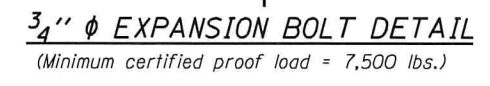
LONGITUDINAL SECTION



SECTION THRU HEADWALL



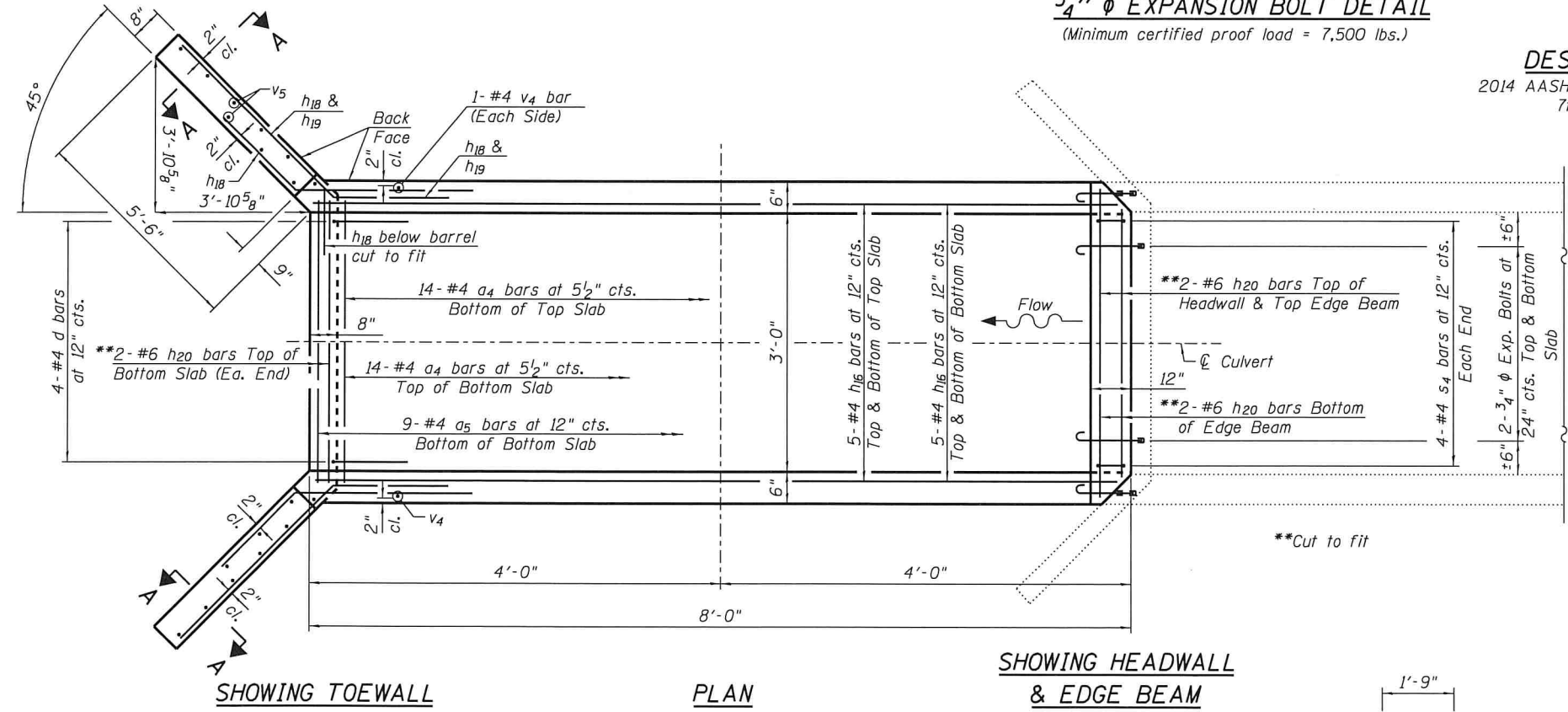
SECTION THRU BARREL
 Unsuitable Material and Rock Fill Limits not shown



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

LOADING HL93

DESIGN STRESSES
 $f_y = 60,000 \text{ psi}$
 $f'_c = 3,500 \text{ psi}$



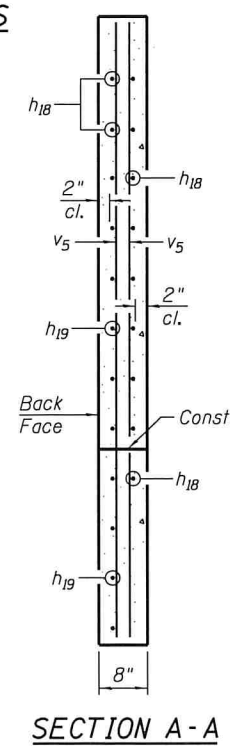
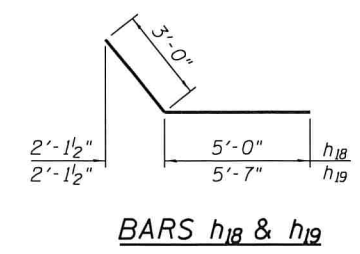
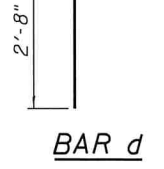
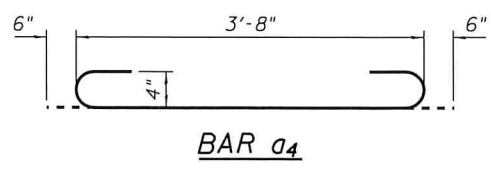
SHOWING HEADWALL & EDGE BEAM

SHOWING TOEWALL

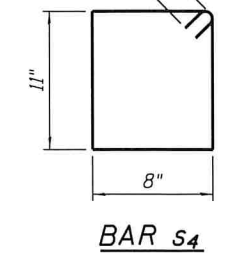
PLAN

NOTES:
 A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
 Expansion bolts shall be 3/4" phi hooked bolts.
PRECAST OPTION NOT ALLOWED.

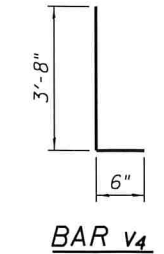
*** See Special Provisions.



SECTION A-A



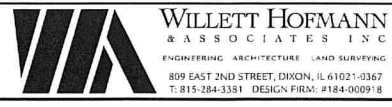
BAR s4



BAR v4

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a4	28	#4	4'-8"	—
a5	10	#4	3'-8"	—
d	4	#4	4'-5"	—
h16	20	#4	7'-8"	—
h17	8	#4	7'-8"	—
h18	12	#4	8'-0"	—
h19	14	#4	8'-7"	—
h20	14	#6	3'-8"	—
s4	8	#4	3'-11"	□
v4	36	#4	4'-2"	—
v5	18	#4	6'-10"	—
Porous Granular Embankment			Ton	6
*** Removal and Disposal of Unsuitable Material for Structures			Cu. Yd.	1.8
Reinforcement Bars			Pound	690
Expansion Bolts 3/4"			Each	8
Concrete Box Culverts			Cu. Yd.	5.3
*** Rock Fill (Special)			Cu. Yd.	1.8



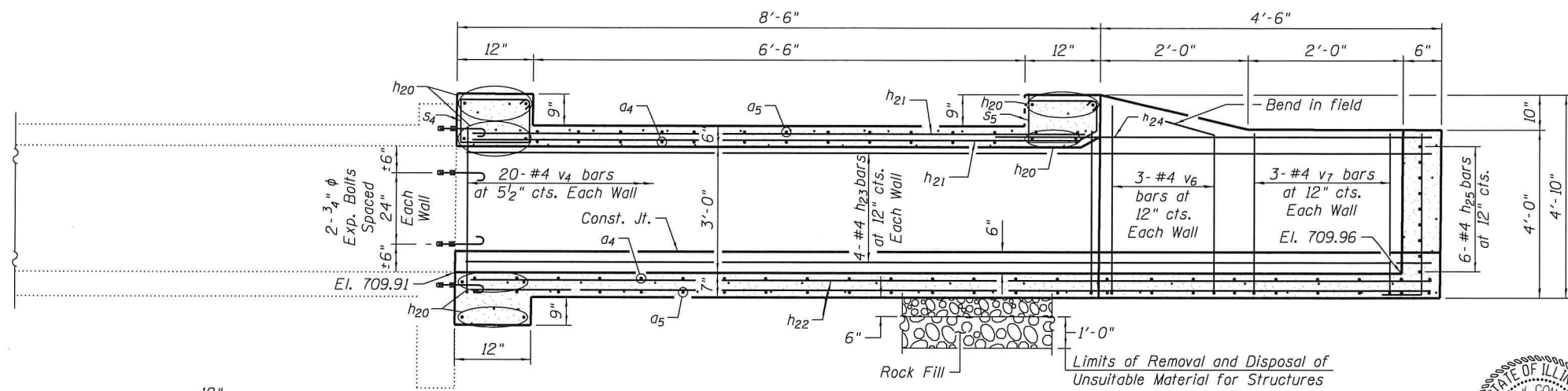
DESIGNED - MCW	REVISED -
CHECKED - MAC	REVISED -
DRAWN - DAN	REVISED -
CHECKED - BKC	REVISED -

MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSIONS

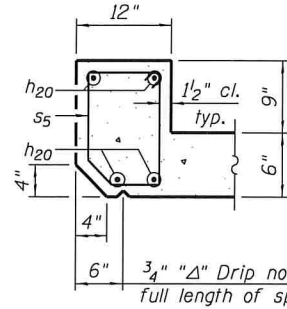
WEST CULVERT EXTENSION DETAILS
 STATION 816 + 23
 STRUCTURAL SHEET NO. 1 OF 2 SHEETS

F.A.S. RFE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 34
WHA # 1055M16		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT PAK919761				

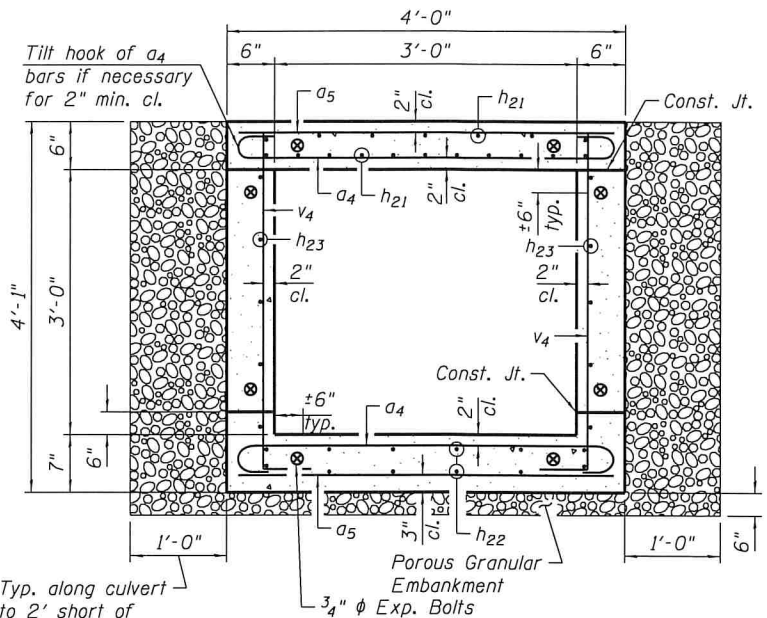
FILE: S:\PROJECTS\2016\1055M16-MCH-DESIGN\STRUCT\2D\Drawings\Culvert.ctb 816+23\1055M16.Culvert Drawing.dgn



LONGITUDINAL SECTION



SECTION THRU HEADWALL



SECTION THRU BARREL



Brian K. Conner
 DATE: 5/31/2018
 EXPIRES 11/30/18

"I certify that to the best of my knowledge, information and belief, this Culvert 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 LRFD Bridge Design Specifications'."

LOADING HL93

DESIGN STRESSES

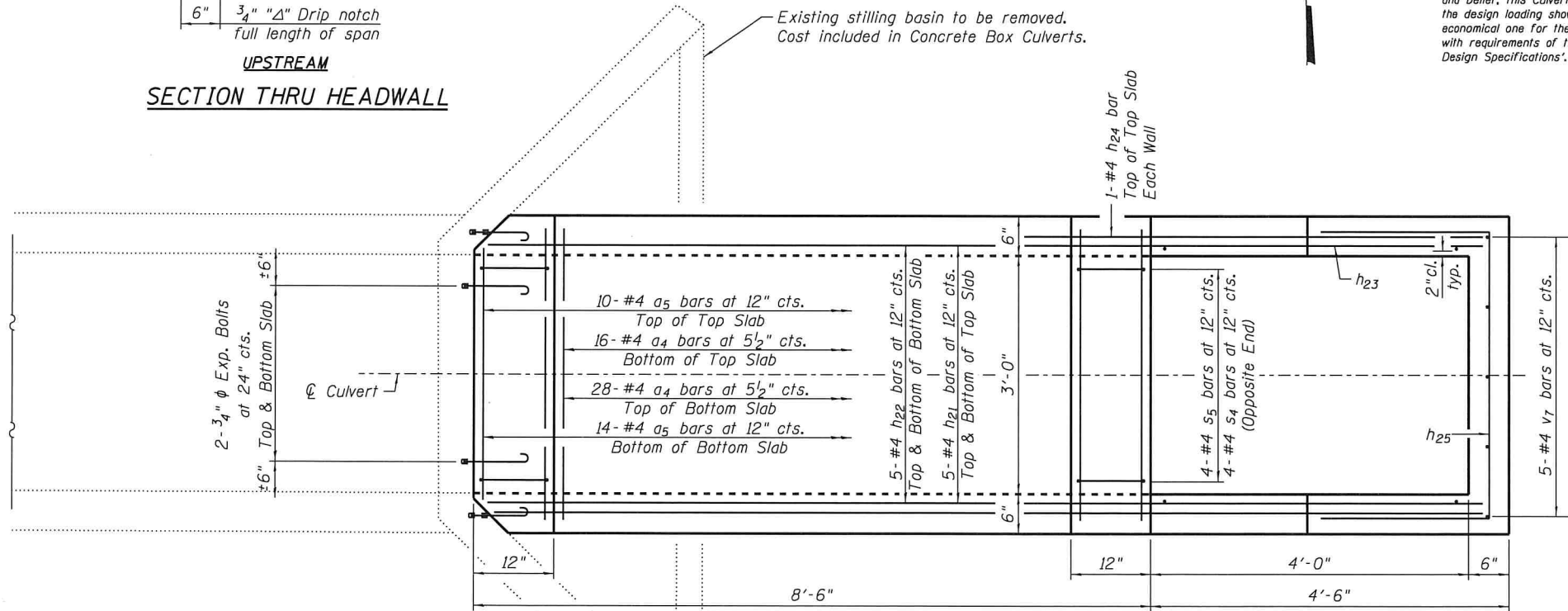
$f_y = 60,000 \text{ psi}$
 $f'_c = 3,500 \text{ psi}$

DESIGN SPECIFICATIONS

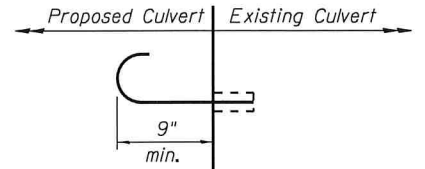
2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims.

BILL OF MATERIAL

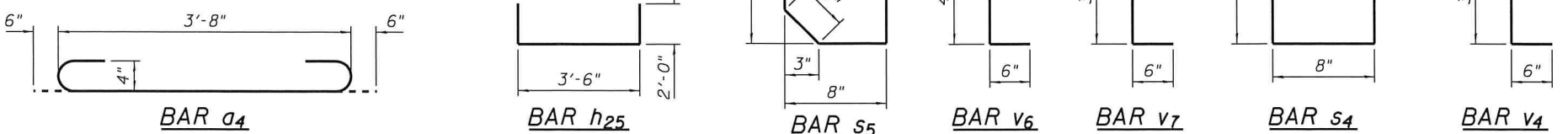
Bar	No.	Size	Length	Shape
a4	44	#4	4'-8"	
a5	24	#4	3'-8"	
h20	12	#6	3'-8"	
h21	10	#4	8'-2"	
h22	10	#4	12'-8"	
h23	8	#4	12'-8"	
h24	2	#4	12'-5"	
h25	6	#4	7'-6"	
s4	4	#4	3'-11"	
s5	4	#4	3'-5"	
v4	40	#4	4'-2"	
v6	6	#4	4'-11"	
v7	11	#4	4'-10"	
Porous Granular Embankment		Ton	10	
*** Removal and Disposal of Unsuitable Material for Structures		Cu. Yd.	2.9	
Reinforcement Bars		Pound	640	
Expansion Bolts 3/4"		Each	8	
Concrete Box Culverts		Cu. Yd.	4.3	
*** Rock Fill (Special)		Cu. Yd.	2.9	



PLAN



3/4" EXPANSION BOLT DETAIL
 (Minimum certified proof load = 7,500 lbs.)



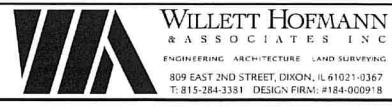
NOTES:

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

Expansion bolts shall be 3/4" φ hooked bolts.

PRECAST OPTION NOT ALLOWED.

*** See Special Provisions.



DESIGNED - MCW	REVISED -
CHECKED - MAC	REVISED -
DRAWN - DAN	REVISED -
CHECKED - BKC	REVISED -

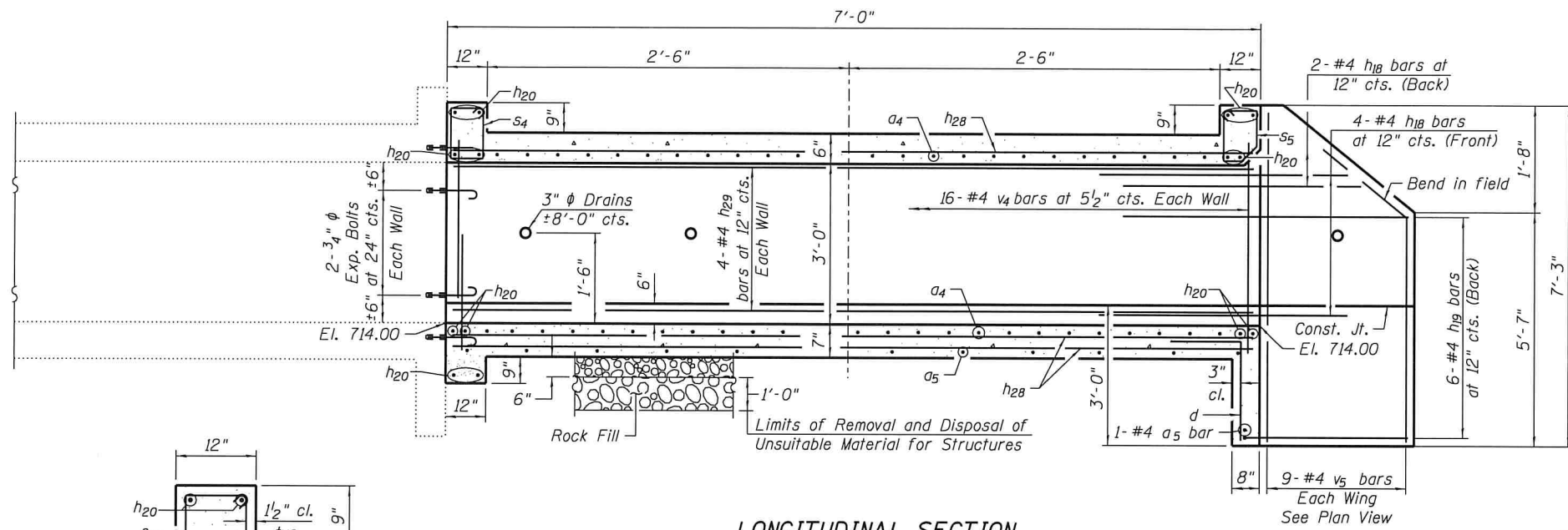
**MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSIONS**

**EAST CULVERT EXTENSION DETAILS
 STATION 816 + 23**

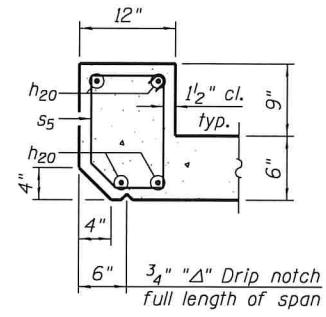
F.A.S. RTE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 35
WHA# 1055M16		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT PA6(1976)		

STRUCTURAL SHEET NO. 2 OF 2 SHEETS

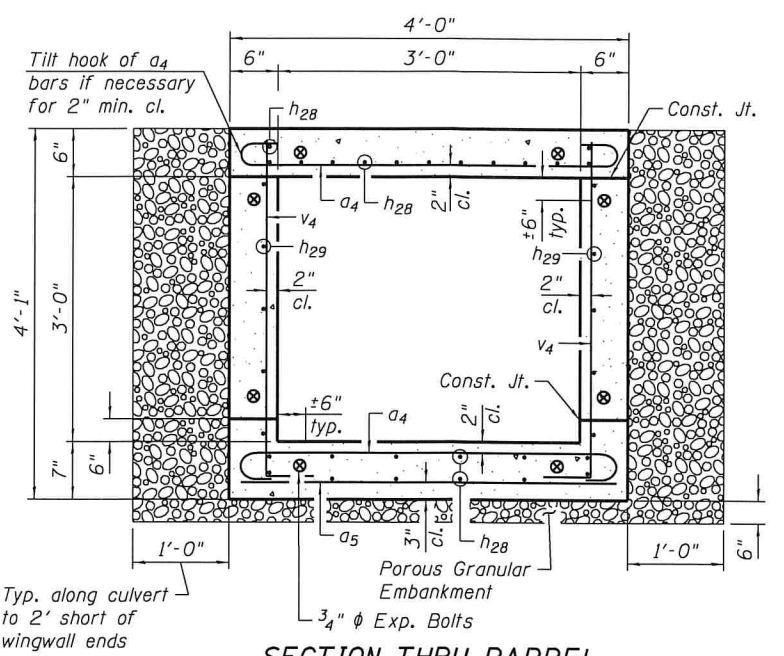
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LONGITUDINAL SECTION



UPSTREAM SECTION THRU HEADWALL



SECTION THRU BARREL



Brian K. Conner
DATE: 5/31/2018
EXPIRES 11/30/18

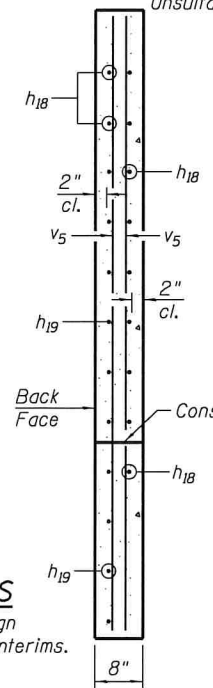
"I certify that to the best of my knowledge, information and belief, this Culvert Design is structurally adequate for the design loading shown on the plans, the design is an economical one for the style of structure and complies with requirements of the current 'AASHTO LRFD Bridge Design Specifications'."

Typ. along culvert to 2' short of wingwall ends

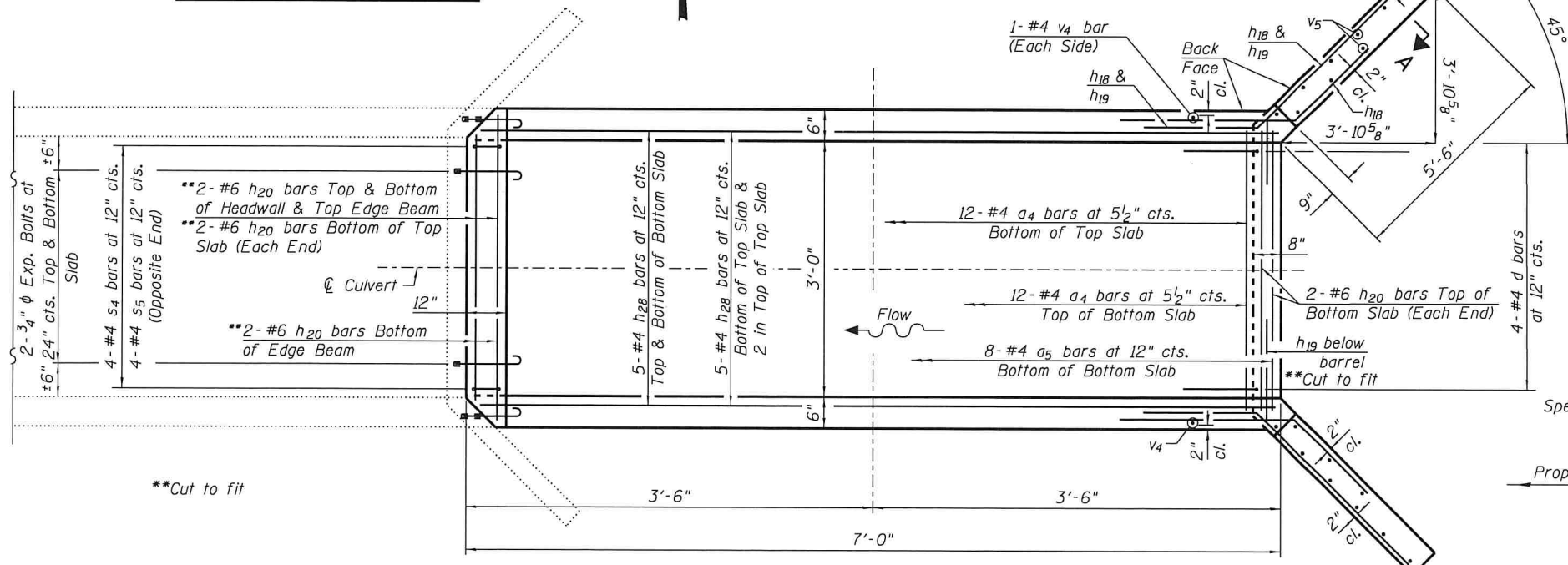
Unsuitable Material and Rock Fill Limits not shown

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a ₄	24	#4	4'-8"		
a ₅	9	#4	3'-8"		
d	4	#4	4'-5"		
h ₁₈	12	#4	8'-0"		
h ₁₉	12	#4	8'-7"		
h ₂₀	14	#6	3'-8"		
h ₂₈	17	#4	6'-8"		
h ₂₉	8	#4	6'-8"		
s ₄	4	#4	3'-11"		
s ₅	4	#4	3'-5"		
v ₄	34	#4	4'-2"		
v ₅	18	#4	6'-10"		
Porous Granular Embankment				Ton	5
*** Removal and Disposal of Unsuitable Material for Structures				Cu. Yd.	1.6
Reinforcement Bars				Pound	640
Expansion Bolts 3/4"				Each	8
Concrete Box Culverts				Cu. Yd.	4.5
*** Rock Fill (Special)				Cu. Yd.	1.6



SECTION A-A



SHOWING HEADWALL & EDGE BEAM

SHOWING TOEWALL

PLAN

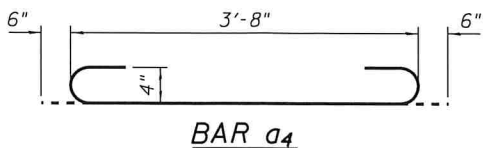
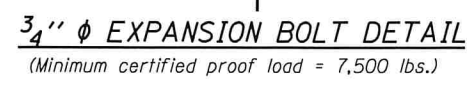
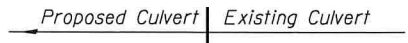
LOADING HL93

DESIGN STRESSES

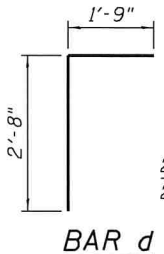
f_y = 60,000 psi
f'_c = 3,500 psi

DESIGN SPECIFICATIONS

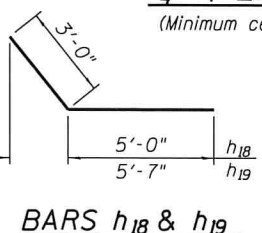
2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims.



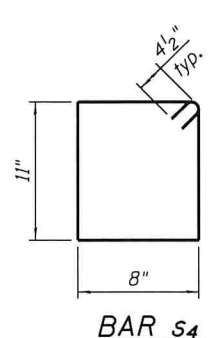
BAR a₄



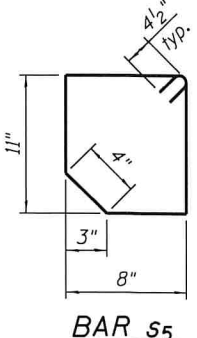
BAR d



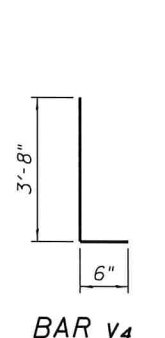
BARS h₁₈ & h₁₉



BAR s₄



BAR s₅



BAR v₄

NOTES:

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

Expansion bolts shall be 3/4" diameter hooked bolts.

PRECAST OPTION NOT ALLOWED.

*** See Special Provisions.



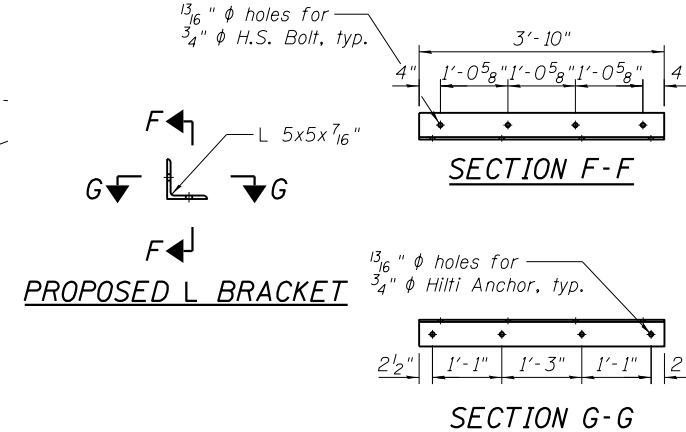
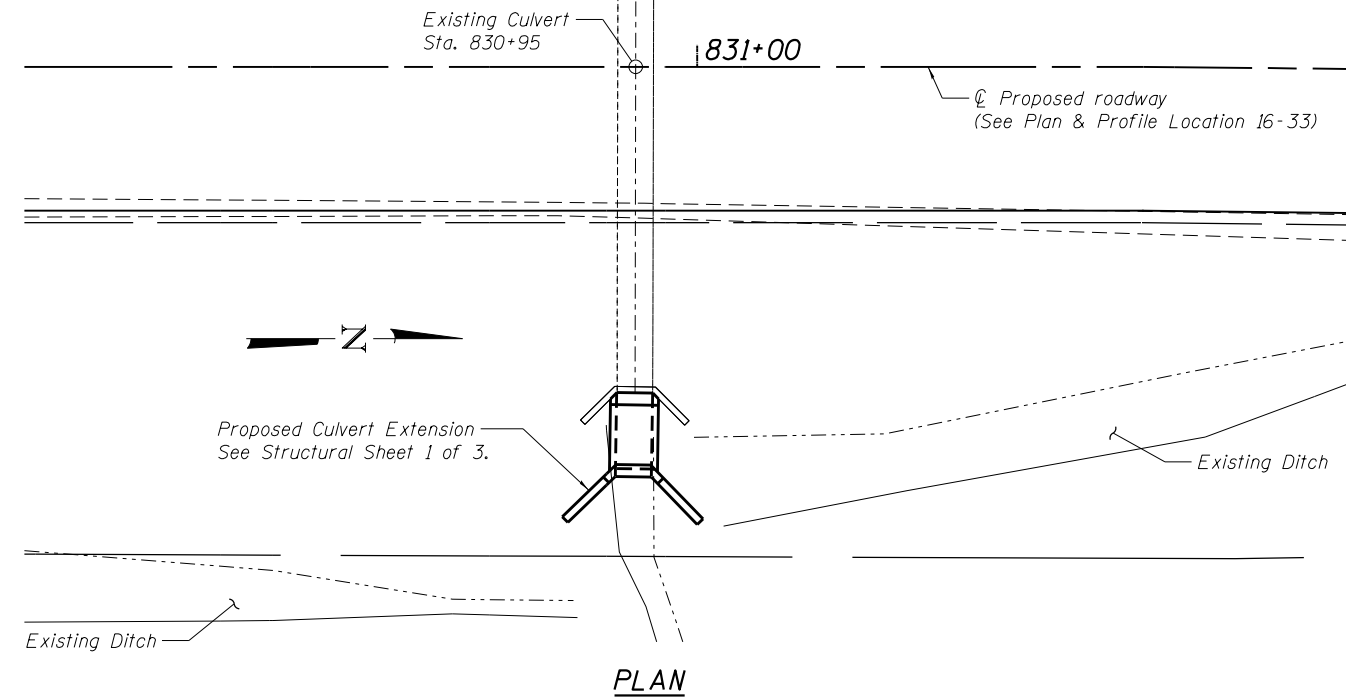
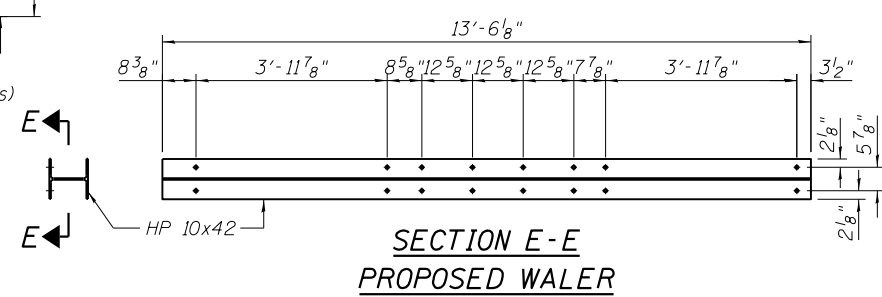
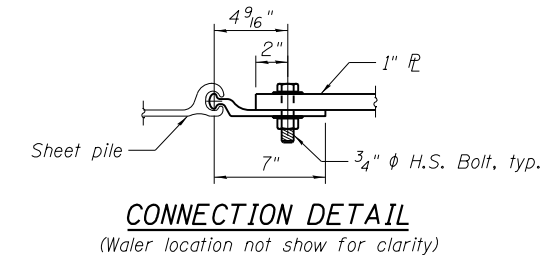
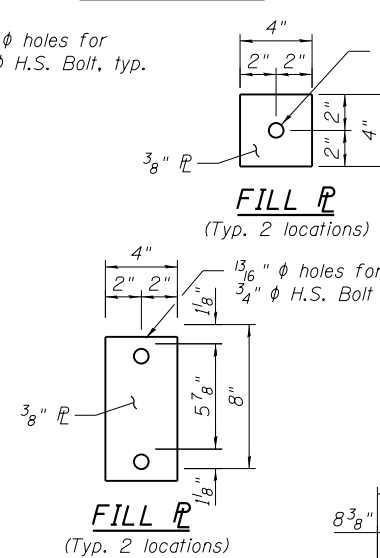
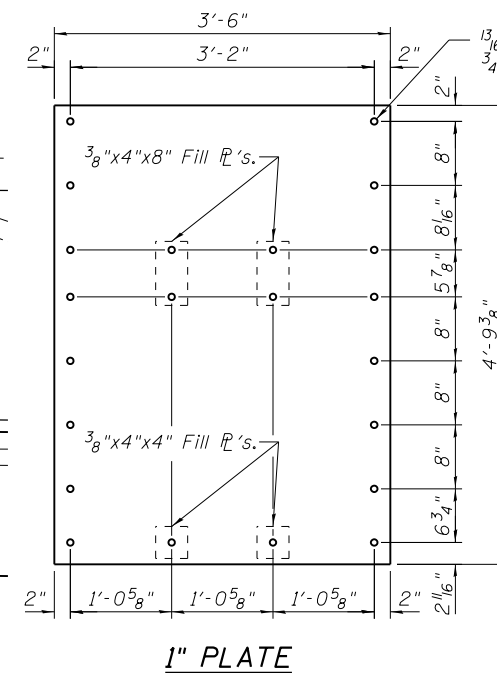
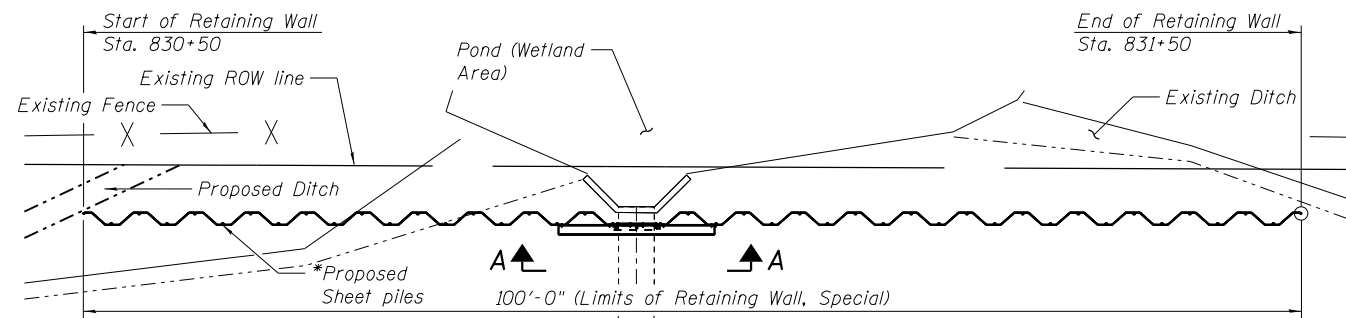
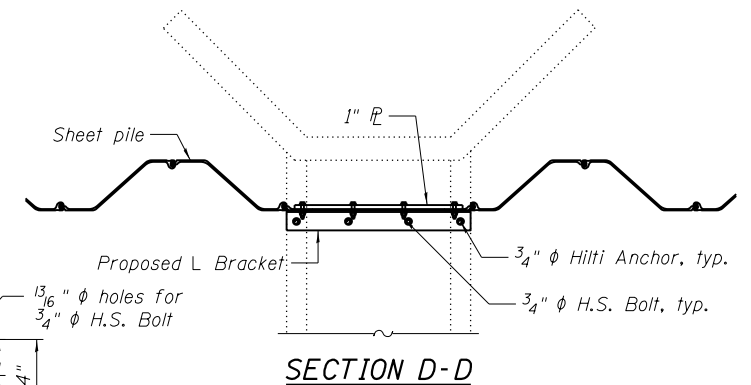
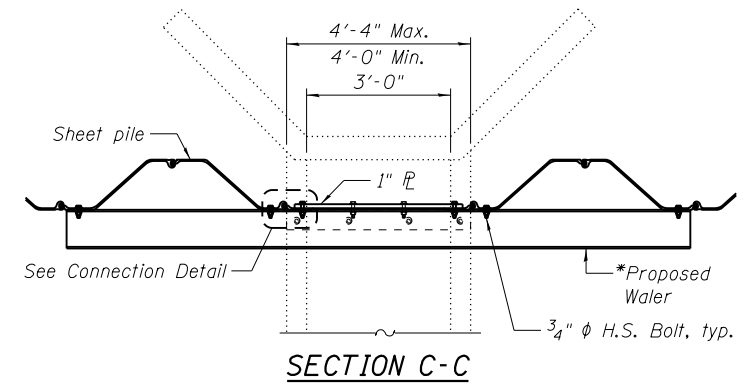
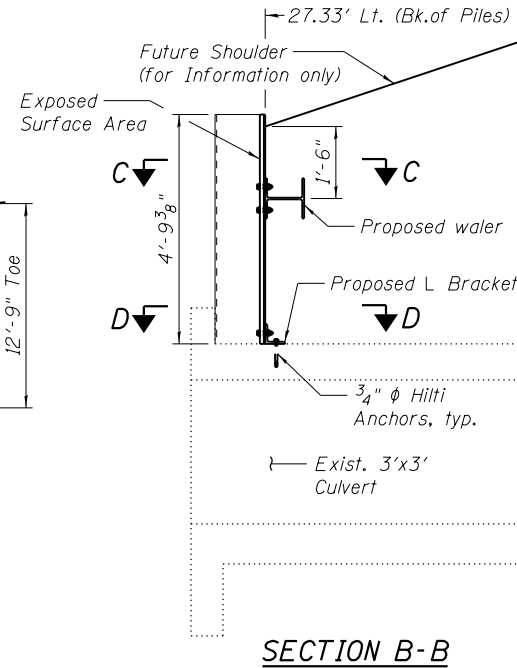
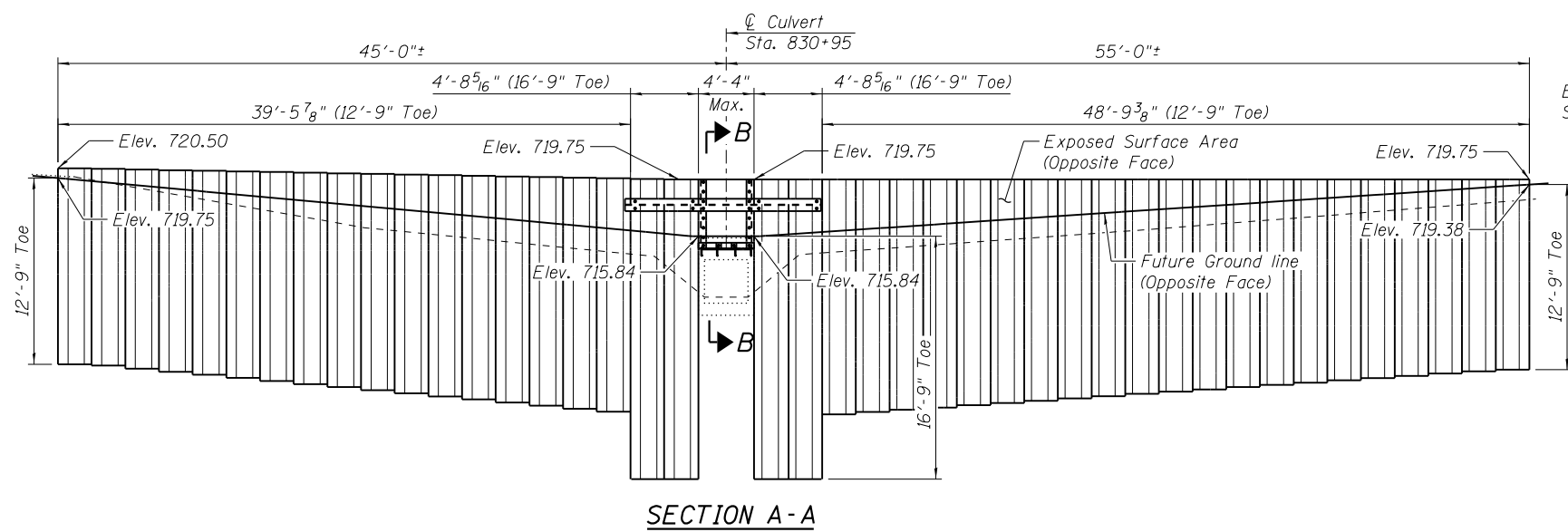
DESIGNED - MCW	REVISED -
CHECKED - MAC	REVISED -
DRAWN - DAN	REVISED -
CHECKED - BKC	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

**EAST CULVERT EXTENSION DETAILS
STATION 830 + 95**
STRUCTURAL SHEET NO. 1 OF 3 SHEETS

F.A.S. RTE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 36
WHA# 1055M16		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT PAKG19761				

FILE = S:\PROJECTS\2016\1055M16-MCH\DESIGN\STRUCT\20-Drawing\N\Culvert.ctb at 8/30/18 10:51:16 AM



NOTES:
 All walers, angles and plates shall have a minimum yield strength of $F_y = 36$ ksi.
 Sheet Piles shall be AASHTO M202 Grade 50 steel and shall have a minimum section modulus of $S_x = 21$ in³/ft. and shall be attached at every contact with the waler.
 All Sheet Piling shall be treated with Coal Tar Epoxy while all other Retaining Wall components shall be galvanized per ASTM A123/A123M-13 and AASHTO M111. See Special Provisions.
 All HILTI anchors shall be Kwik Bolt 3, Hot Dipped galvanized expansion anchors. With 3 3/4" minimum embedment, and the contractor shall adhere to all manufacturer's installation procedures.
 *Bolt spacing is valid for PZC 13 Sheet Piles only with HP10x42 only. Contractor has the option to use different steel sections for Retaining Wall. See Special Provisions.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Retaining Wall, Special	Sq. Ft.	1,530

Cost of walers, angles, bolts and anchors included in the cost of "Retaining Wall, Special." See Special Provisions.

DESIGNED - EEL	REVISED -
CHECKED - PLP	REVISED -
DRAWN - FDL	REVISED -
CHECKED - PLP	REVISED -

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	37
WHA# 1055M16		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT		
		PAGE(976)		

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BORING LOG No. 1

Page 1 of 1

PROJECT		SITE								
Sheet Pile Retaining Wall		Mercer County, IL								
GRAPHIC LOG	USCS SYMBOL	DEPTH (ft.)	SAMPLES				TESTS			
			NUMBER	TYPE	RECOVERY	SPT - N (BLOWS / FT.)	MOISTURE, %	DRY DENSITY (PCF)	UNCONFINED STRENGTH (PSF)	OTHER
DESCRIPTION										
	CL	0	1	SS	17		27			
	CH		2	SS	18	5	26.7			
	CL	5								
			10	3	SS	18	7	15.6		
			15	4	SS	18	9	14.4		
			20	5	SS	18	14	18.4		
			25	6	SS	18	12	18.4		
		30	7	SS	18	23	18.7			
1.0 Lean CLAY, trace organic matter, dark brown Site Datum: Drilling Method: HSA Fat CLAY, dark grayish brown, medium stiff 6.0 Sandy lean CLAY, trace gravel, yellowish brown, medium stiff -- color changes to dark gray and becomes stiff at about 12' -- sand seams near 19' becomes very stiff at about 27' 30.0 Bottom of Boring										
Notes:							* Calibrated hand penetrometer Hammer Type: Manual			
Water Level: 18 Ft. While Drilling 15 Ft. After Drilling Ft.							Boring Started: 2/6/17		Boring Completed: 2/6/17	
							Rig: ATV		Foreman: DC	
							Approved: NMG		Job #: 1-4126	

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES; IN-SITU, THE TRANSITION MAY BE GRADUAL.

FILE : S:\PROJECTS\2016\1055M16\MCH\DESIGN\STRUCT\2D\Drawings\Culvert.et 8:30+95\055M16_Boring_Log.dgn



DESIGNED - MCW	REVISED -
CHECKED - MAC	REVISED -
DRAWN - DAN	REVISED -
CHECKED - PLP	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

**SOIL BORING LOG
RETAINING WALL AT STATION 830+95**

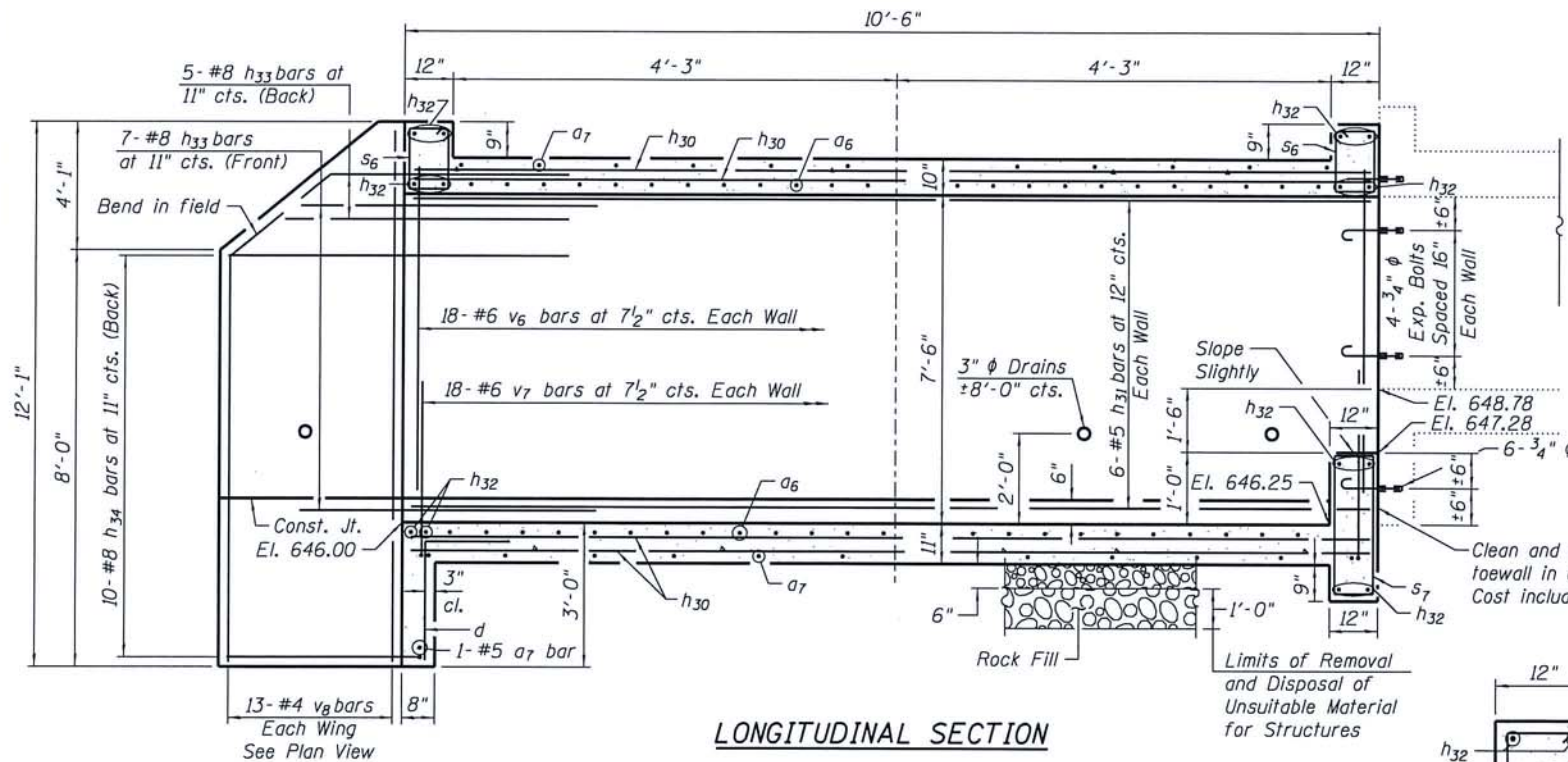
STRUCTURAL SHEET NO. 3 OF 3 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	38
WHA# 1055M16		CONTRACT NO. 89741		
ILLINOIS		FED. AID PROJECT	PAGE(976)	

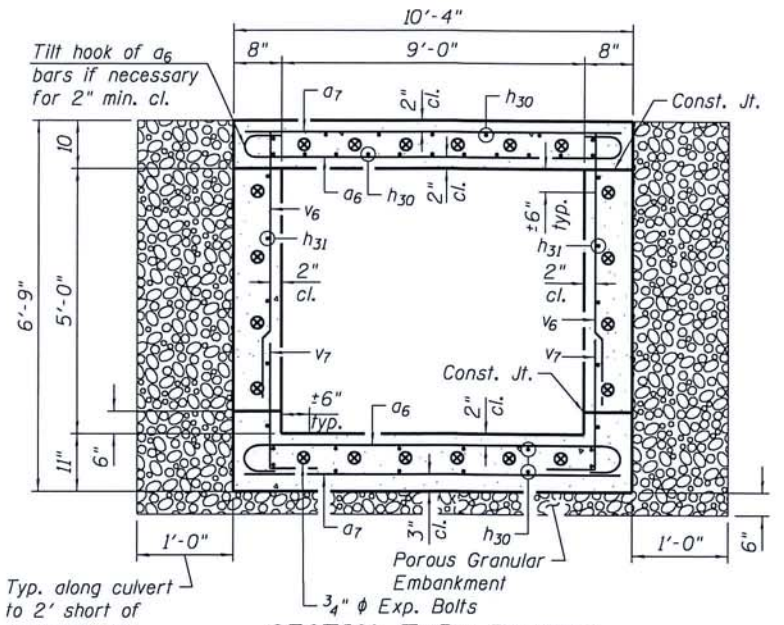


Brian K. Conner
 DATE: 5/31/2018
 EXPIRES 11/30/18

"I certify that to the best of my knowledge, information and belief, this Culvert 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 LRFD Bridge Design Specifications'."



LONGITUDINAL SECTION

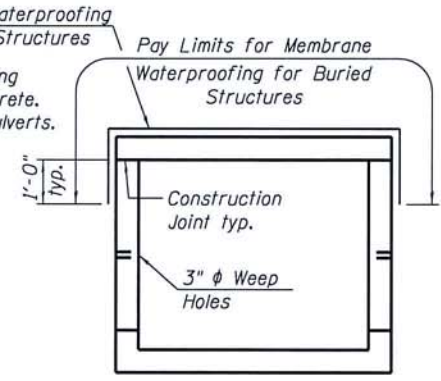


SECTION THRU BARREL

Unsuitable Material and Rock Fill Limits not shown
BILL OF MATERIAL

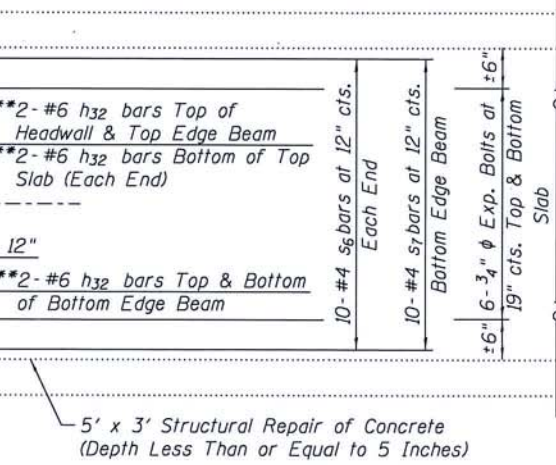
Bar	No.	Size	Length	Shape
a6	39	#6	11'-4"	U
a7	25	#5	10'-0"	U
d	10	#4	4'-5"	U
h30	44	#5	10'-2"	—
h31	12	#5	10'-2"	—
h32	14	#6	10'-0"	—
h33	24	#8	8'-0"	—
h34	20	#8	12'-3"	—
s6	20	#4	4'-7"	□
s7	10	#4	6'-7"	□
v6	38	#6	7'-6"	—
v7	28	#6	5'-8"	—
v8	26	#4	11'-8"	—

Porous Granular Embankment	Ton	14
*** Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	4.8
Reinforcement Bars	Pound	3,900
Expansion Bolts 3/4"	Each	20
Concrete Box Culverts	Cu. Yd.	15.2
Structural Repair of Concrete (Depth Less Than or Equal To 5 Inches)	Sq. Ft.	15
Membrane Waterproofing System for Buried Structures	Sq. Yd.	6
*** Rock Fill (Special)	Cu. Yd.	4.8



MEMBRANE WATERPROOFING FOR CAST-IN-PLACE BOX CULVERTS

SECTION THRU HEADWALL



LOADING HL93

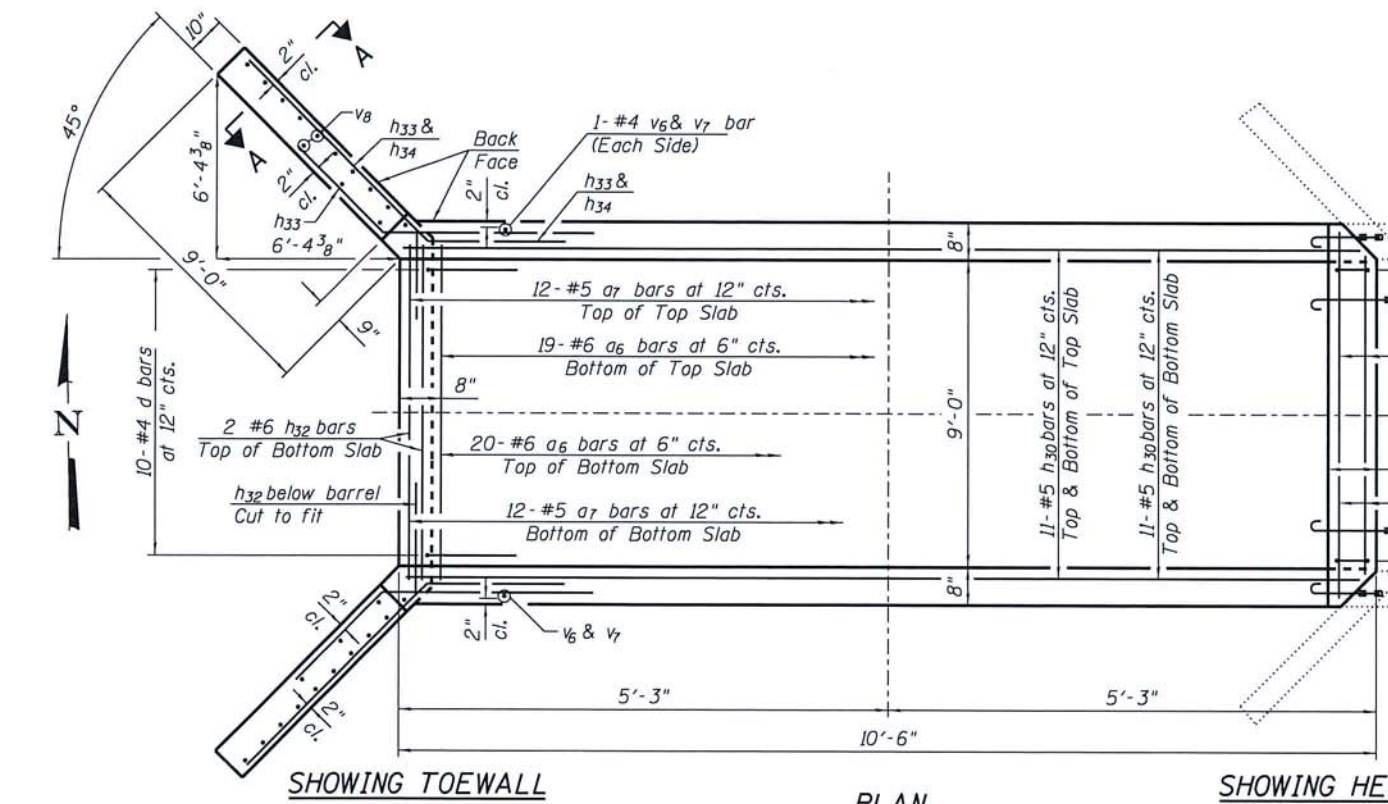
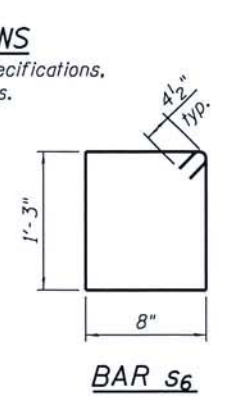
DESIGN STRESSES

$f_y = 60,000 \text{ psi}$
 $f'_c = 3,500 \text{ psi}$

DESIGN SPECIFICATIONS

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

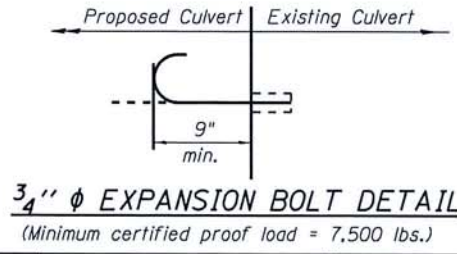
SECTION A-A



SHOWING TOEWALL

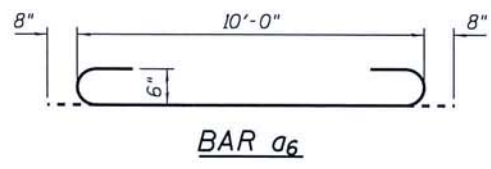
PLAN

SHOWING HEADWALL & EDGE BEAM

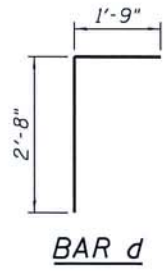


3/4" EXPANSION BOLT DETAIL

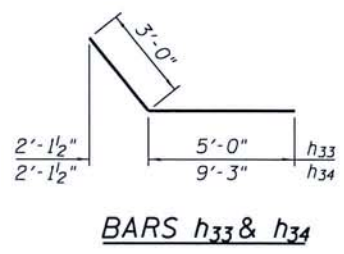
(Minimum certified proof load = 7,500 lbs.)



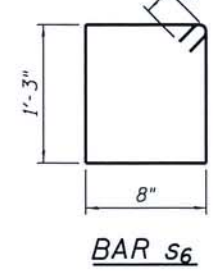
BAR a6



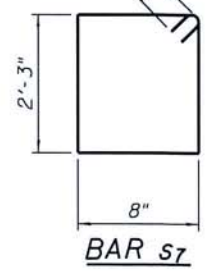
BAR d



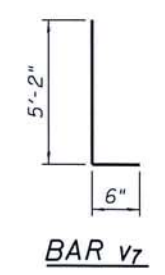
BARS h33 & h34



BAR s6



BAR s7



BAR v7

NOTES:
 A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
 Expansion bolts shall be 3/4" φ hooked bolts.
PRECAST OPTION NOT ALLOWED.

*** See Special Provisions.



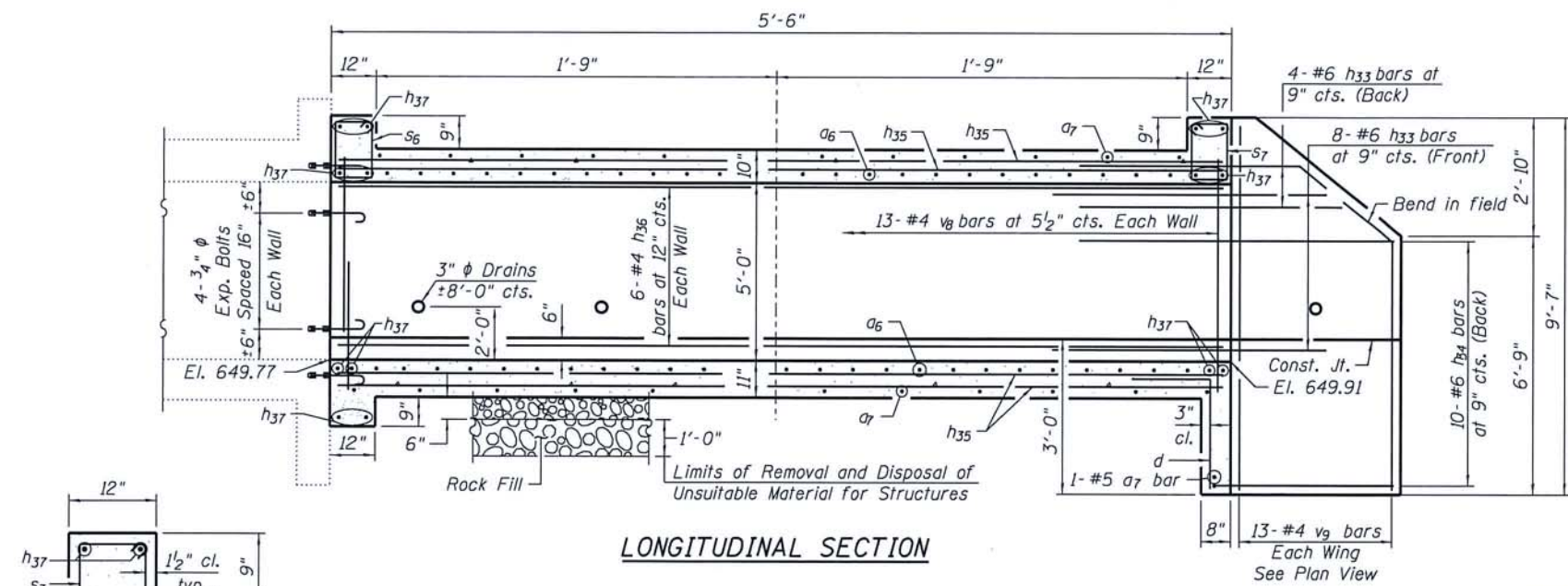
DESIGNED - MCW	REVISED -
CHECKED - MAC	REVISED -
DRAWN - DAN	REVISED -
CHECKED - BKC	REVISED -

MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSIONS

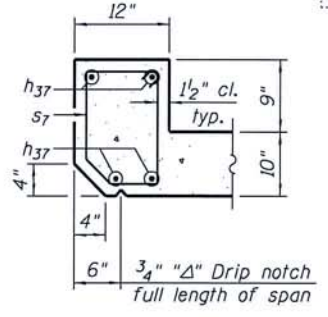
WEST CULVERT EXTENSION DETAILS
 STATION 867 + 50
 STRUCTURAL SHEET NO. 1 OF 2 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	39
WHA* 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT P68K19761				

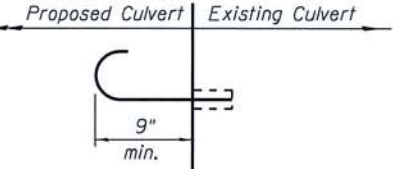
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LONGITUDINAL SECTION



SECTION THRU HEADWALL



3/4" EXPANSION BOLT DETAIL
(Minimum certified proof load = 7,500 lbs.)



Brian K. Converse
DATE: 5/3/2018
EXPIRES 11/30/18

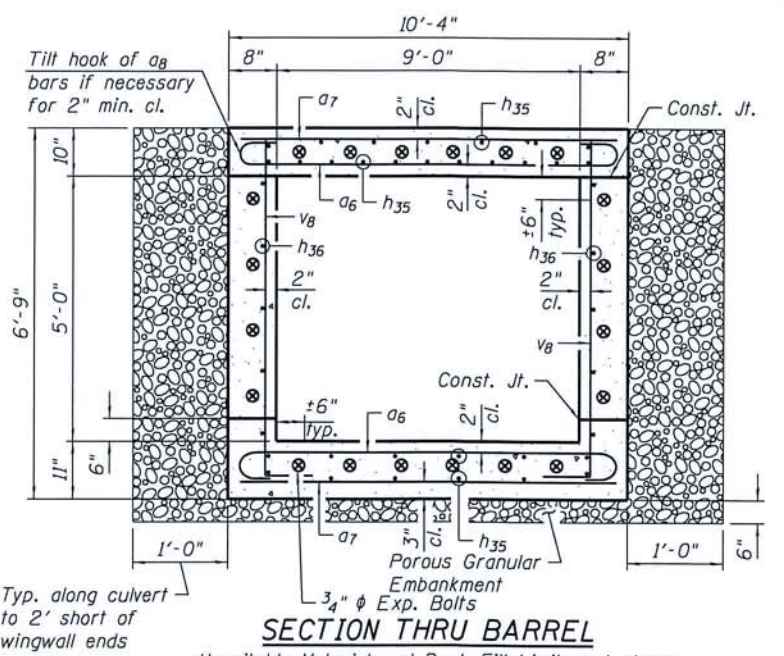
"I certify that to the best of my knowledge, information and belief, this Culvert Design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current 'AASHTO LRFD Bridge Design Specifications'."

LOADING HL93

DESIGN STRESSES
fy = 60,000 psi
f'c = 3,500 psi

DESIGN SPECIFICATIONS

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

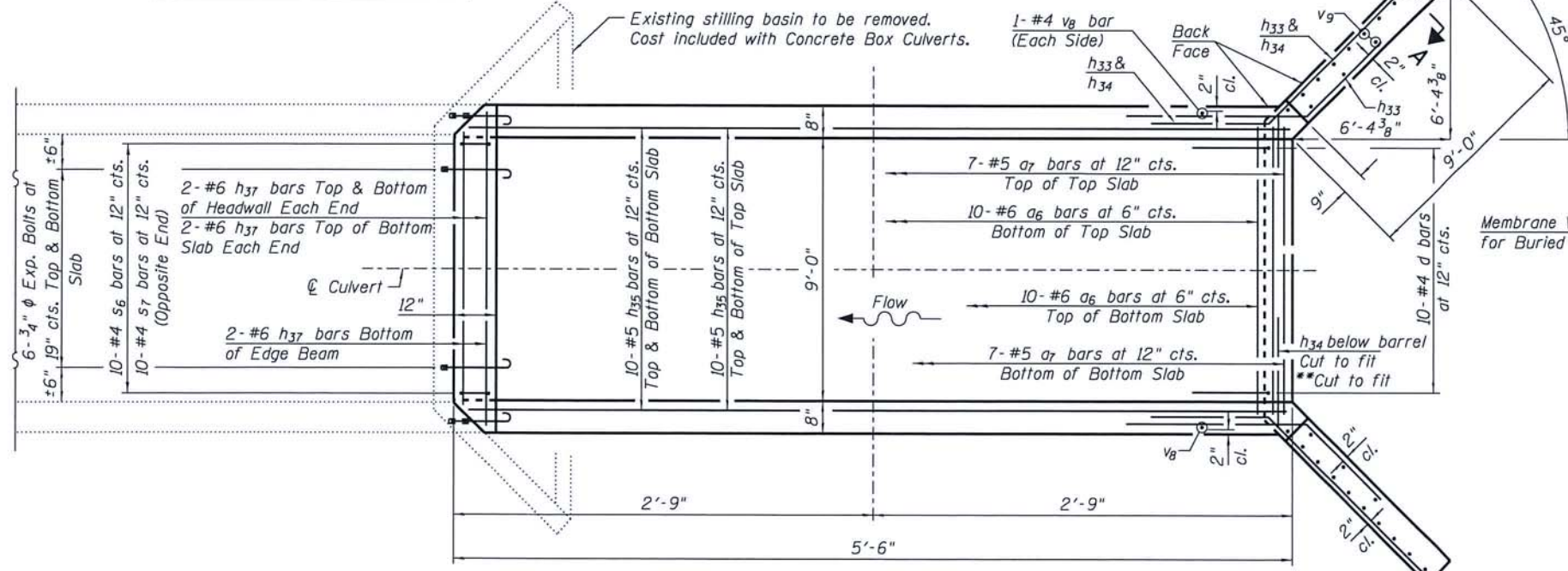


SECTION THRU BARREL

Unsuitable Material and Rock Fill Limits not shown

BILL OF MATERIAL

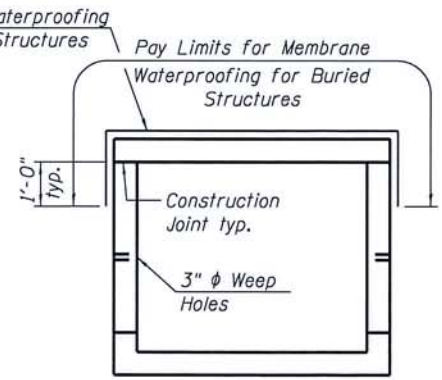
Bar No.	Size	Length	Shape
a6	20 #6	11'-4"	U
a7	15 #5	10'-0"	—
d	10 #4	4'-5"	L
h33	24 #6	8'-0"	U
h34	20 #6	12'-3"	U
h35	40 #5	5'-2"	—
h36	12 #4	5'-2"	—
h37	14 #6	10'-0"	—
s6	10 #4	4'-7"	U
s7	10 #4	4'-5"	U
v8	28 #4	6'-10"	U
v9	26 #4	9'-2"	—
Porous Granular Embankment			Ton 7
*** Removal and Disposal of Unsuitable Material for Structures			Cu. Yd. 2.5
Reinforcement Bars			Pound 2,000
Expansion Bolts 3/4"			Each 20
Concrete Box Culverts			Cu. Yd. 10.7
Membrane Waterproofing System for Buried Structures			Sq. Yd. 13
*** Rock Fill (Special)			Cu. Yd. 2.5



SHOWING HEADWALL & EDGE BEAM

PLAN

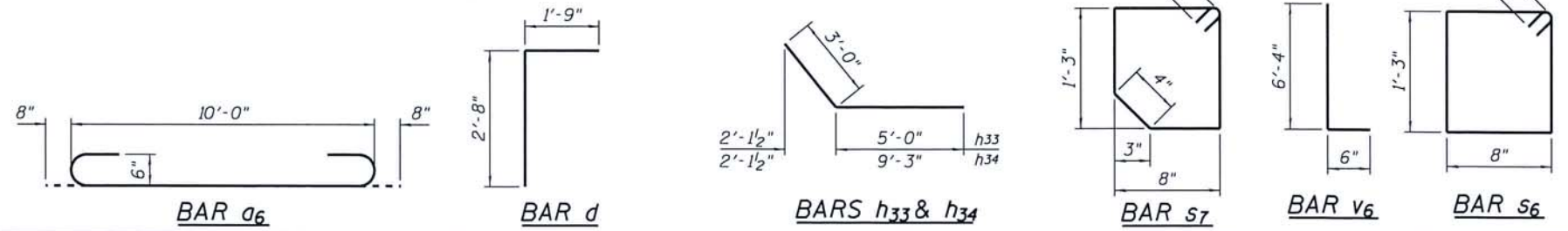
SHOWING TOEWALL



MEMBRANE WATERPROOFING FOR CAST-IN-PLACE BOX CULVERTS

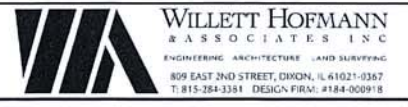
SECTION A-A

NOTES:
A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
Expansion bolts shall be 3/4" φ hooked bolts.
PRECAST OPTION NOT ALLOWED.
*** See Special Provisions.



MERCER COUNTY (C.H. 9) JOY ROAD SEGMENT 2 CULVERT EXTENSIONS

EAST CULVERT EXTENSION DETAILS STATION 867 + 50



DESIGNED - MCW	REVISED -
CHECKED - MAC	REVISED -
DRAWN - DAN	REVISED -
CHECKED - BKC	REVISED -

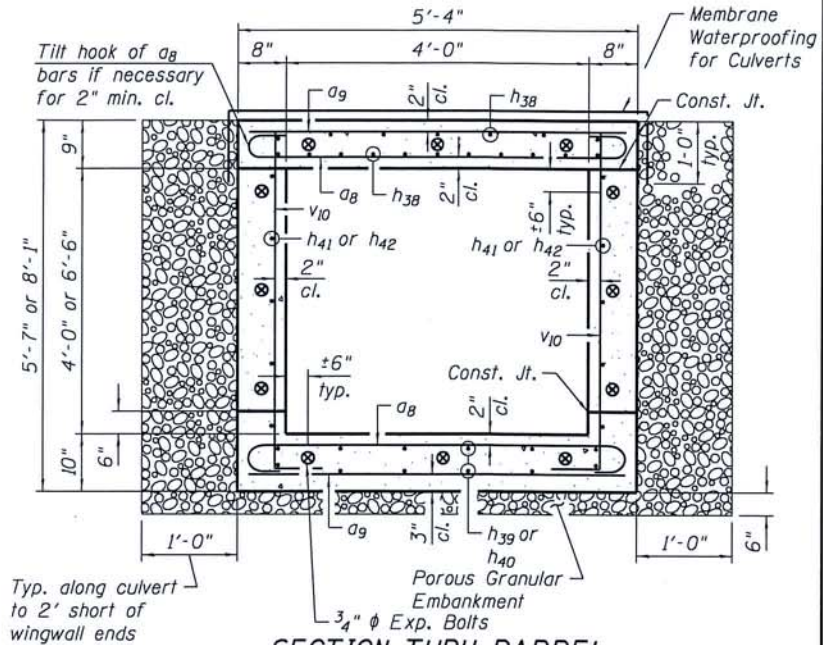
F.A.S. RTE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 40
WHA# 1055M16		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT PA6K19761				

FILE: S:\PROJECTS\2018\1055M16-MCH\DESIGN\STRUCT\2D\Drawings\Culvert.ctb 867+50\1055M16_Culvert.dwg Drawing: 867+50.dwg



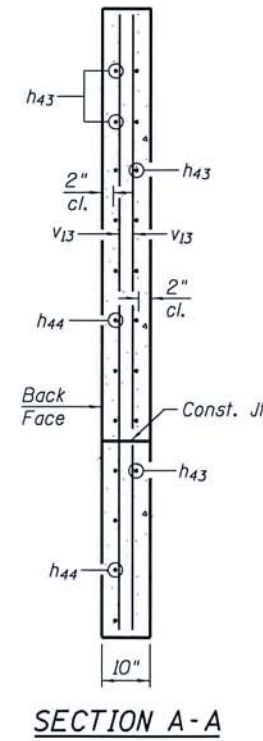
Brian K. Conner
 DATE: 5/3/2018
 EXPIRES 11/30/18

"I certify that to the best of my knowledge, information and belief, this Culvert 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 LRFD Bridge Design Specifications."

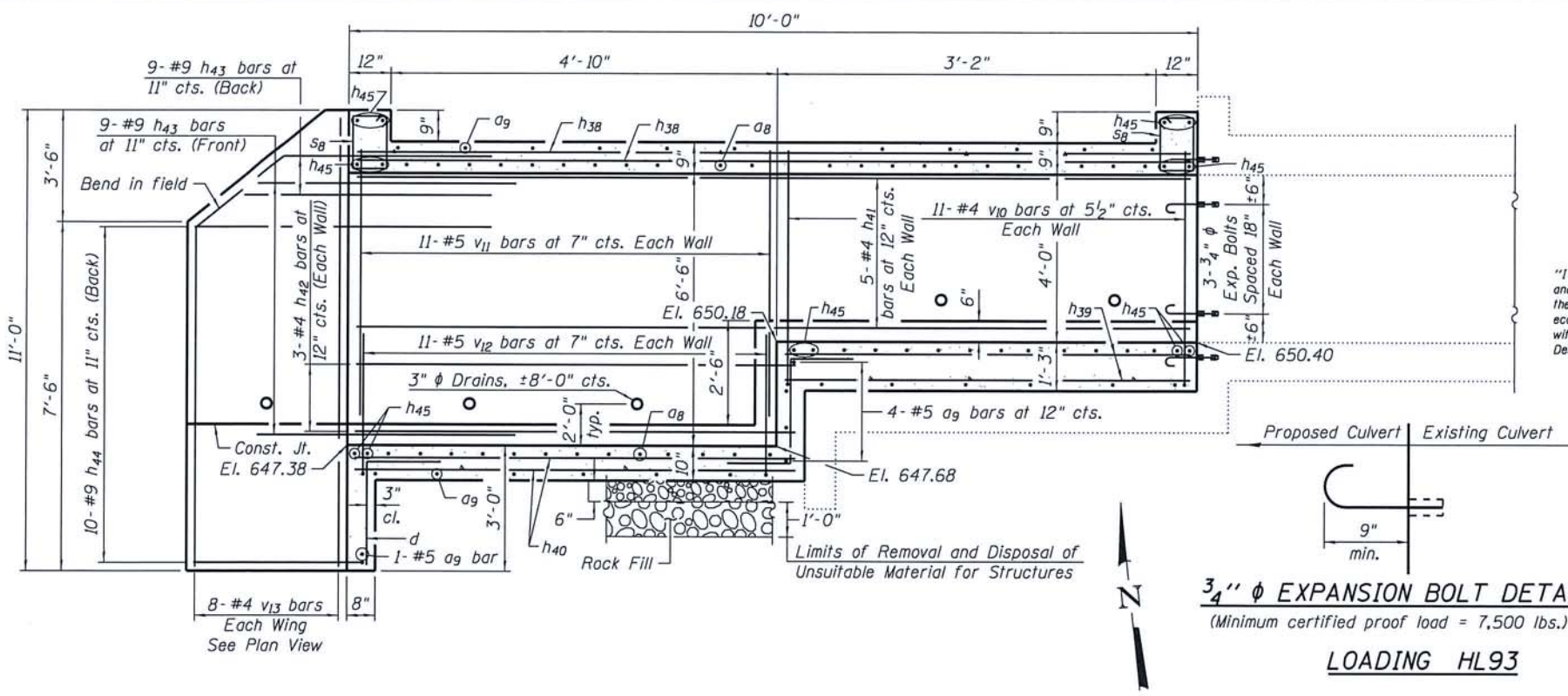


SECTION THRU BARREL
 Unsuitable Material and Rock Fill Limits not shown
BILL OF MATERIAL

Bar No.	Size	Length	Shape	
a8	30	#6	6'-4"	
a9	25	#5	4'-10"	
d	6	#4	4'-5"	
h38	14	#5	9'-8"	
h39	14	#5	3'-10"	
h40	14	#5	5'-6"	
h41	10	#4	9'-8"	
h42	6	#4	5'-6"	
h43	26	#9	8'-0"	
h44	20	#9	14'-0"	
h45	14	#6	4'-10"	
s8	12	#4	4'-5"	
v10	22	#4	5'-8"	
v11	24	#5	6'-5"	
v12	24	#5	4'-11"	
z	7	#5	4'-11"	
Porous Granular Embankment			Ton	5
*** Removal and Disposal of Unsuitable Material for Structures			Cu. Yd.	1.6
Reinforcement Bars			Pound	2,990
Expansion Bolts 3/4"			Each	12
Concrete Box Culverts			Cu. Yd.	12.6
Membrane Waterproofing System for Buried Structures			Sq. Yd.	7
*** Rock Fill (Special)			Cu. Yd.	1.6

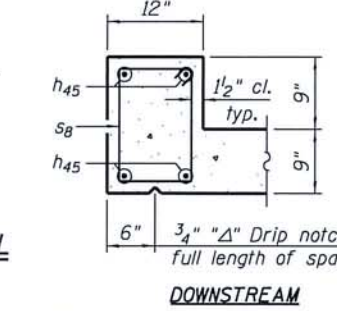


SECTION A-A



LONGITUDINAL SECTION

3/4" φ EXPANSION BOLT DETAIL
 (Minimum certified proof load = 7,500 lbs.)



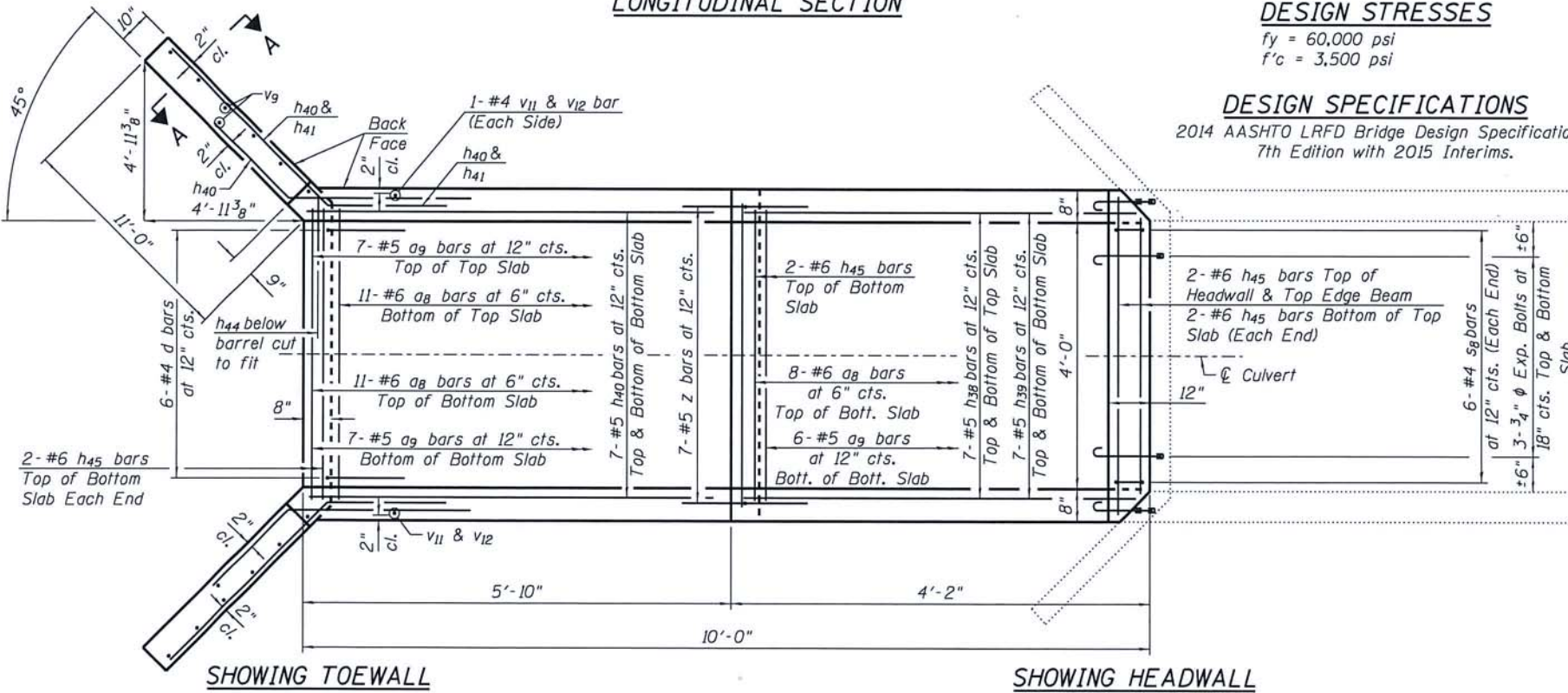
SECTION THRU HEADWALL

DESIGN STRESSES

fy = 60,000 psi
 f'c = 3,500 psi

DESIGN SPECIFICATIONS

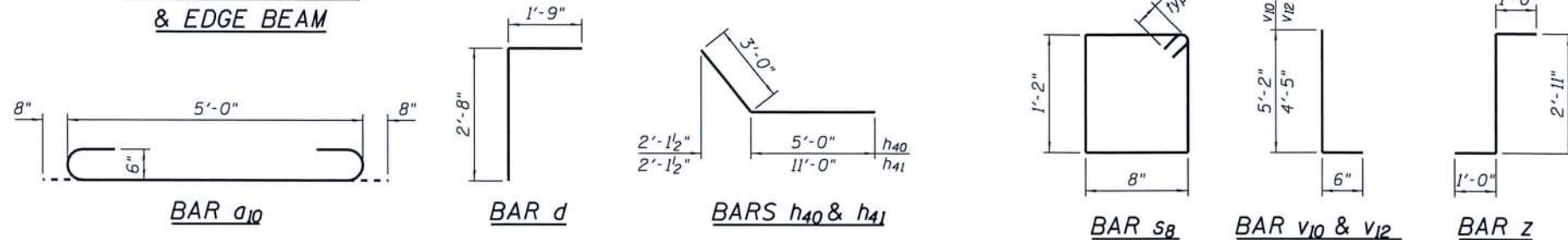
2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims.



PLAN

SHOWING HEADWALL & EDGE BEAM

SHOWING TOEWALL



BAR a10

BAR d

BARS h40 & h41

BAR s8

BAR v10 & v12

BAR z

NOTES:

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

Expansion bolts shall be 3/4" φ hooked bolts.

PRECAST OPTION NOT ALLOWED.

*** See Special Provisions.



DESIGNED - MCW
 CHECKED - MAC
 DRAWN - DAN
 CHECKED - BKC

REVISED -
 REVISED -
 REVISED -
 REVISED -

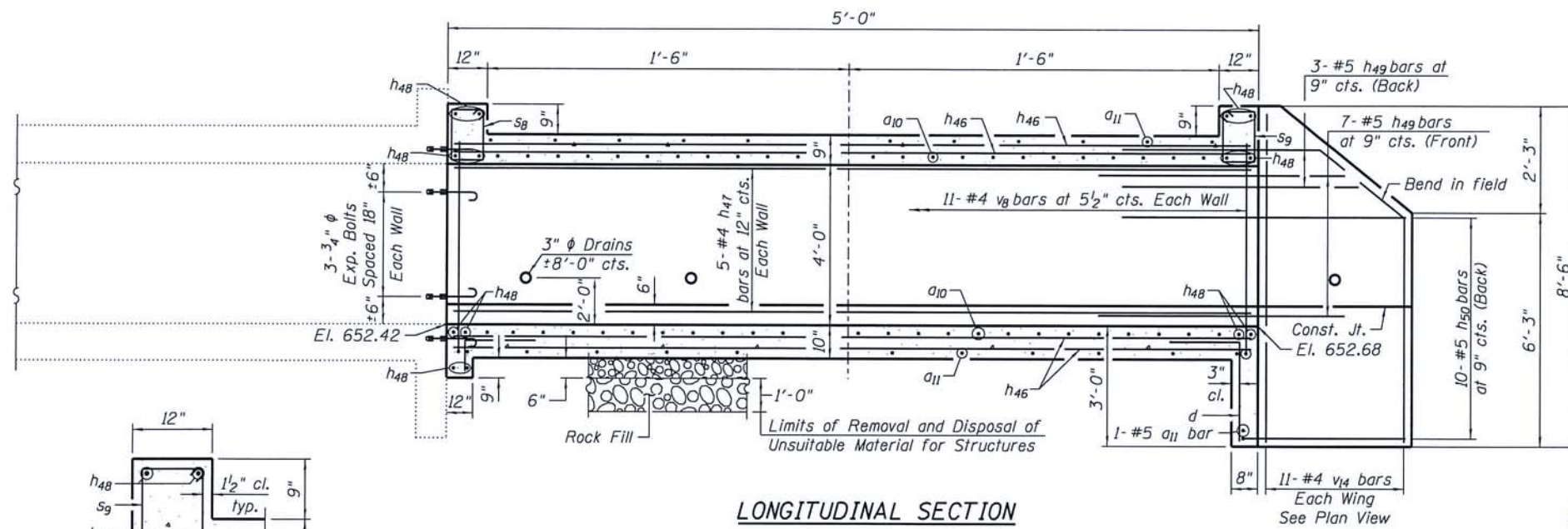
**MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSIONS**

**WEST CULVERT EXTENSION DETAILS
 STATION 877 + 12**

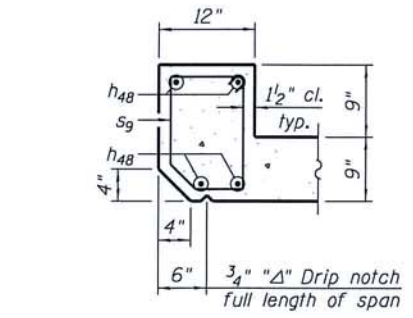
STRUCTURAL SHEET NO. 1 OF 2 SHEETS

F.A.S. RTE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 41
WHA# 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PAK919761				

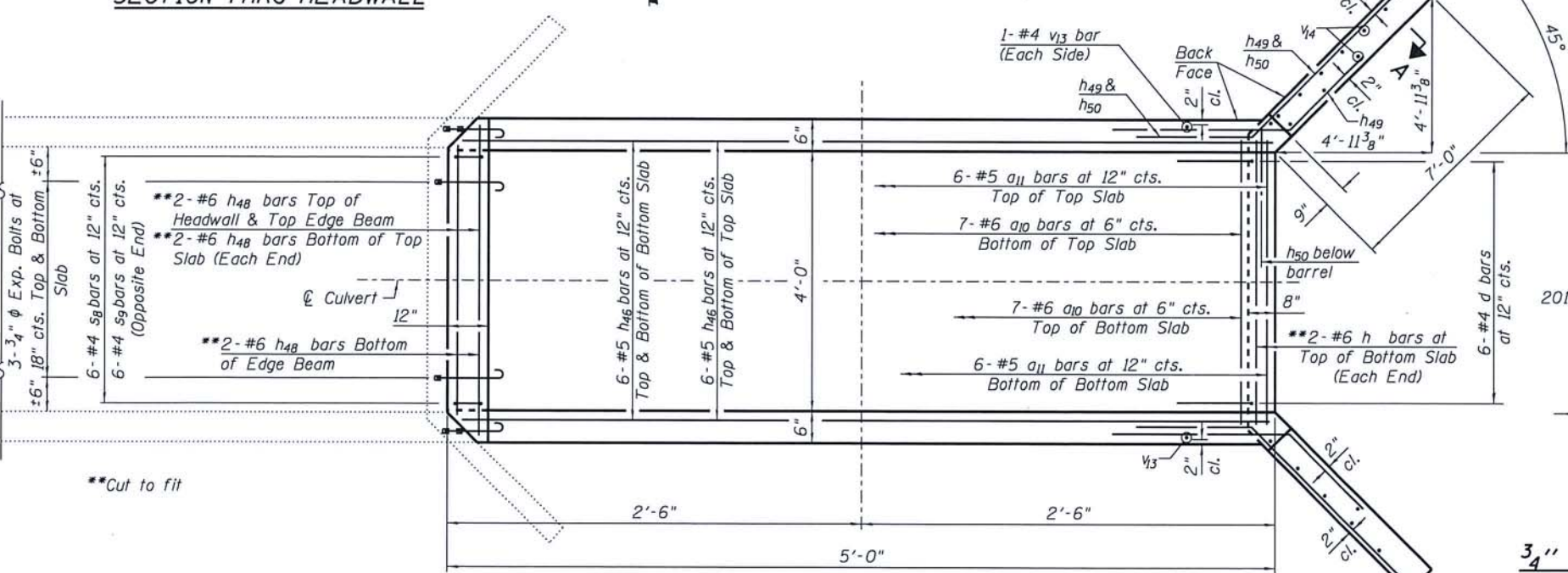
FILE: S:\PROJECTS\2016\UBS5M16.MCH\DESIGN\STRUCT\2D\Drawings\Culvert.ctb. 8/7/18 10:55:46 AM. Culvert - Drawing 8/7/18.dgn



LONGITUDINAL SECTION



SECTION THRU HEADWALL



PLAN



Brian K. Conner
 DATE: 5/3/2014
 EXPIRES 11/30/18

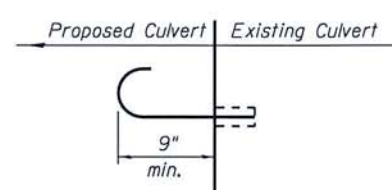
"I certify that to the best of my knowledge, information and belief, this Culvert Design is structurally adequate for the design loading shown on the plans, the design is an economical one for the style of structure and complies with requirements of the current 'AASHTO LRFD Bridge Design Specifications'."

LOADING HL93

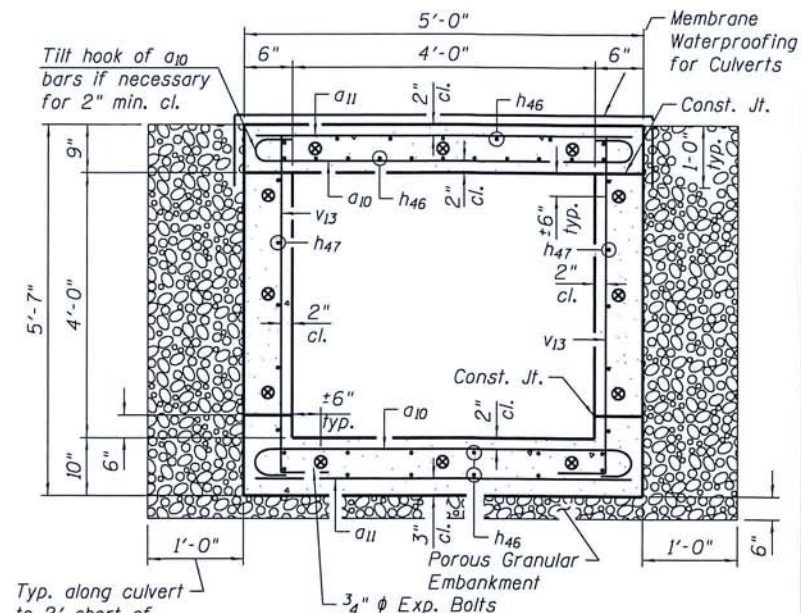
DESIGN STRESSES
 fy = 60,000 psi
 f'c = 3,500 psi

DESIGN SPECIFICATIONS

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



3/4" EXPANSION BOLT DETAIL
 (Minimum certified proof load = 7,500 lbs.)



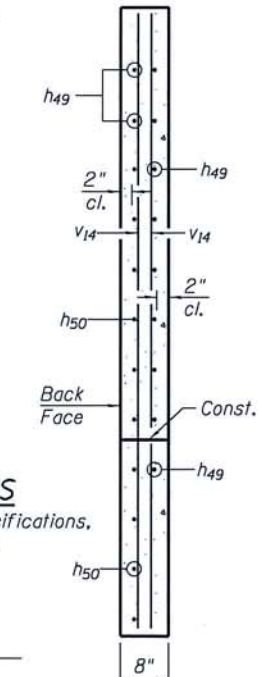
SECTION THRU BARREL

Typ. along culvert to 2' short of wingwall ends

Unsuitable Material and Rock Fill Limits not shown

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10	14	#6	6'-0"	
a11	13	#5	4'-8"	
d	6	#4	4'-5"	
h46	24	#5	4'-8"	
h47	10	#4	4'-8"	
h48	14	#6	4'-8"	
h49	20	#5	8'-0"	
h50	20	#5	10'-1"	
s8	6	#4	4'-5"	
s9	6	#4	4'-3"	
v13	24	#4	5'-8"	
v14	22	#4	8'-1"	
Porous Granular Embankment			Ton	4
Removal and Disposal of Unsuitable Material for Structures			Cu. Yd.	1.3
Reinforcement Bars			Pound	1,060
Expansion Bolts 3/4"			Each	12
Concrete Box Culverts			Cu. Yd.	5.3
Membrane Waterproofing System for Buried Structures			Sq. Yd.	2
Rock Fill (Special)			Cu. Yd.	1.3



SECTION A-A

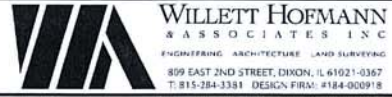
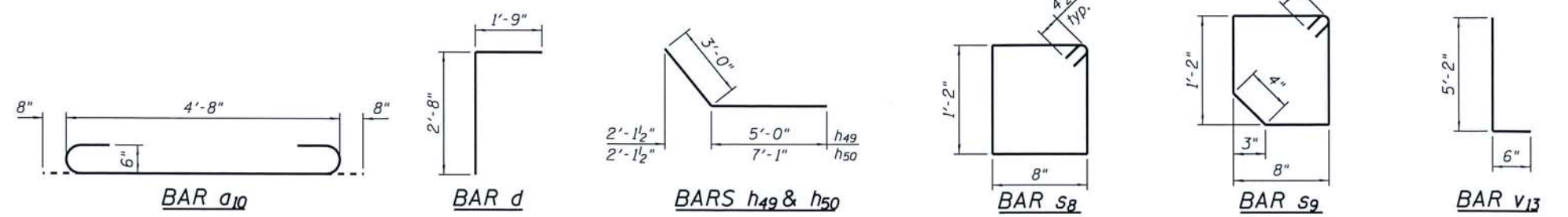
NOTES:

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

Expansion bolts shall be 3/4" hooked bolts.

PRECAST OPTION NOT ALLOWED.

*** See Special Provisions.



DESIGNED - MCW	REVISED -
CHECKED - MAC	REVISED -
DRAWN - DAN	REVISED -
CHECKED - BKC	REVISED -

MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSIONS

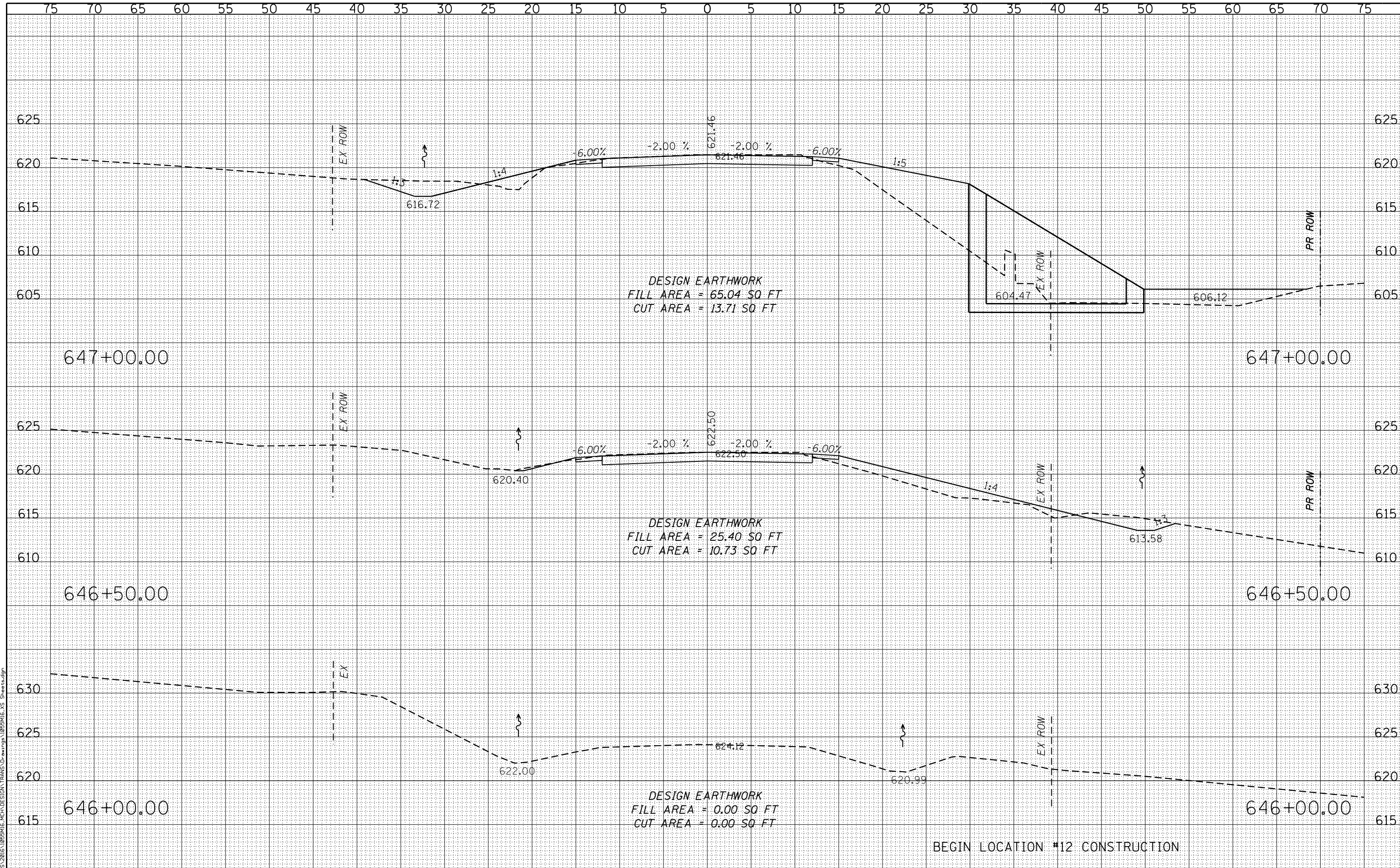
EAST CULVERT EXTENSION DETAILS
 STATION 877 + 12
 STRUCTURAL SHEET NO. 2 OF 2 SHEETS

F.A.S. RTE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 42
WHA* 1055M16		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT P6K19761				

FILE: S:\PROJECTS\2016\1055M16\MCH\DESIGN\STRUCT\202_Drawing\Culvert at 877+12\1055M16_Culvert Drawing 877+12.dwg

DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
NO.	

DATE	
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ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
NO.	



BEGIN LOCATION #12 CONSTRUCTION



DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

CROSS SECTIONS

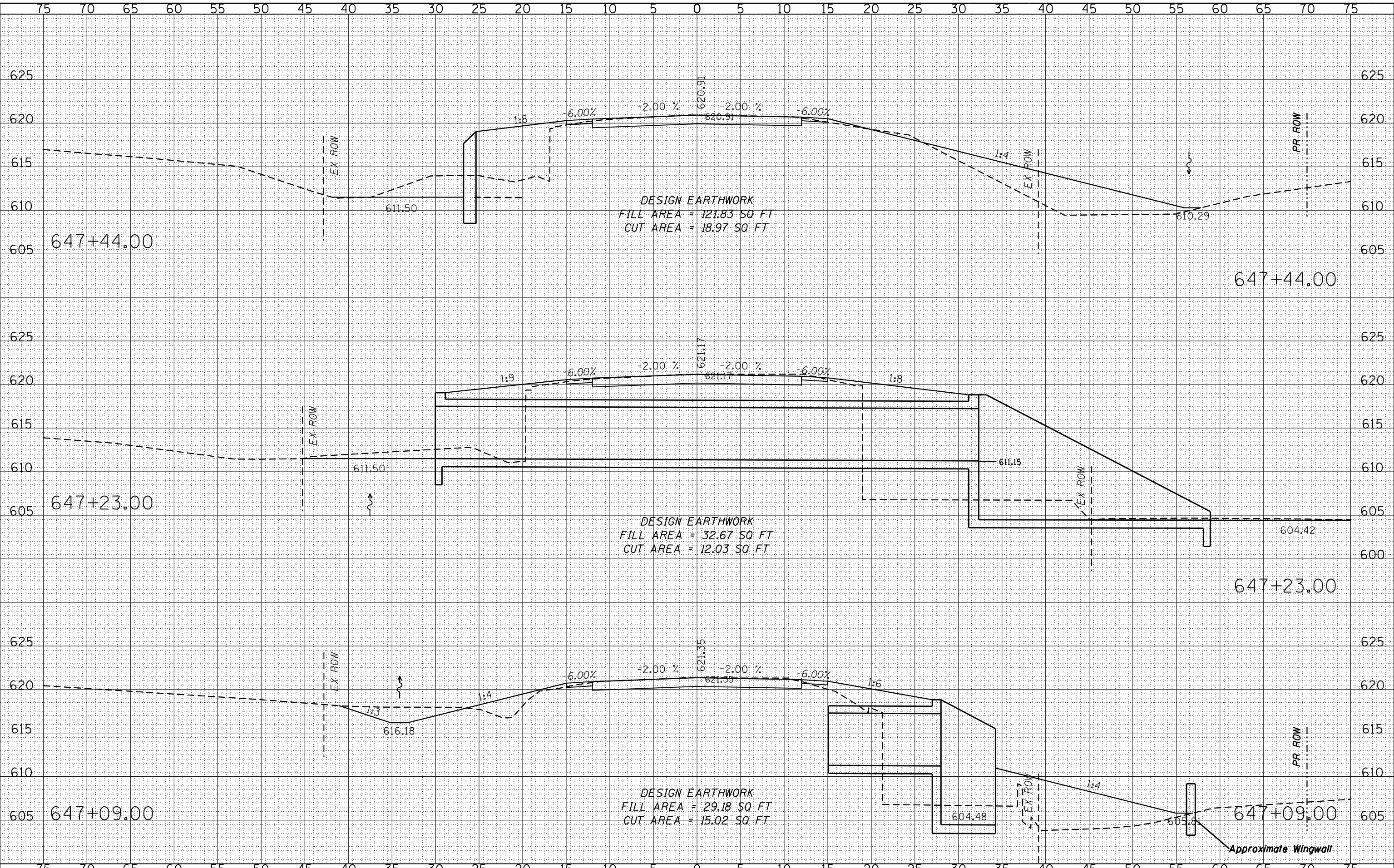
SCALE: 1" = 5'-0" SHEET NO. 01 OF 26 SHEETS STA. 646+00.00 TO STA. 647+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	43
WHA* 1055M16		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT PA6K976				

DATE	
BY	
FINISHED SURVEY	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
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DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
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AREAS CHECKED	
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FILE : S:\PROJECTS\2016\1055MI6\MCH\DESIGN\TRANS\DWG\1055MI6.XS Sheet.dgn



DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

CROSS SECTIONS

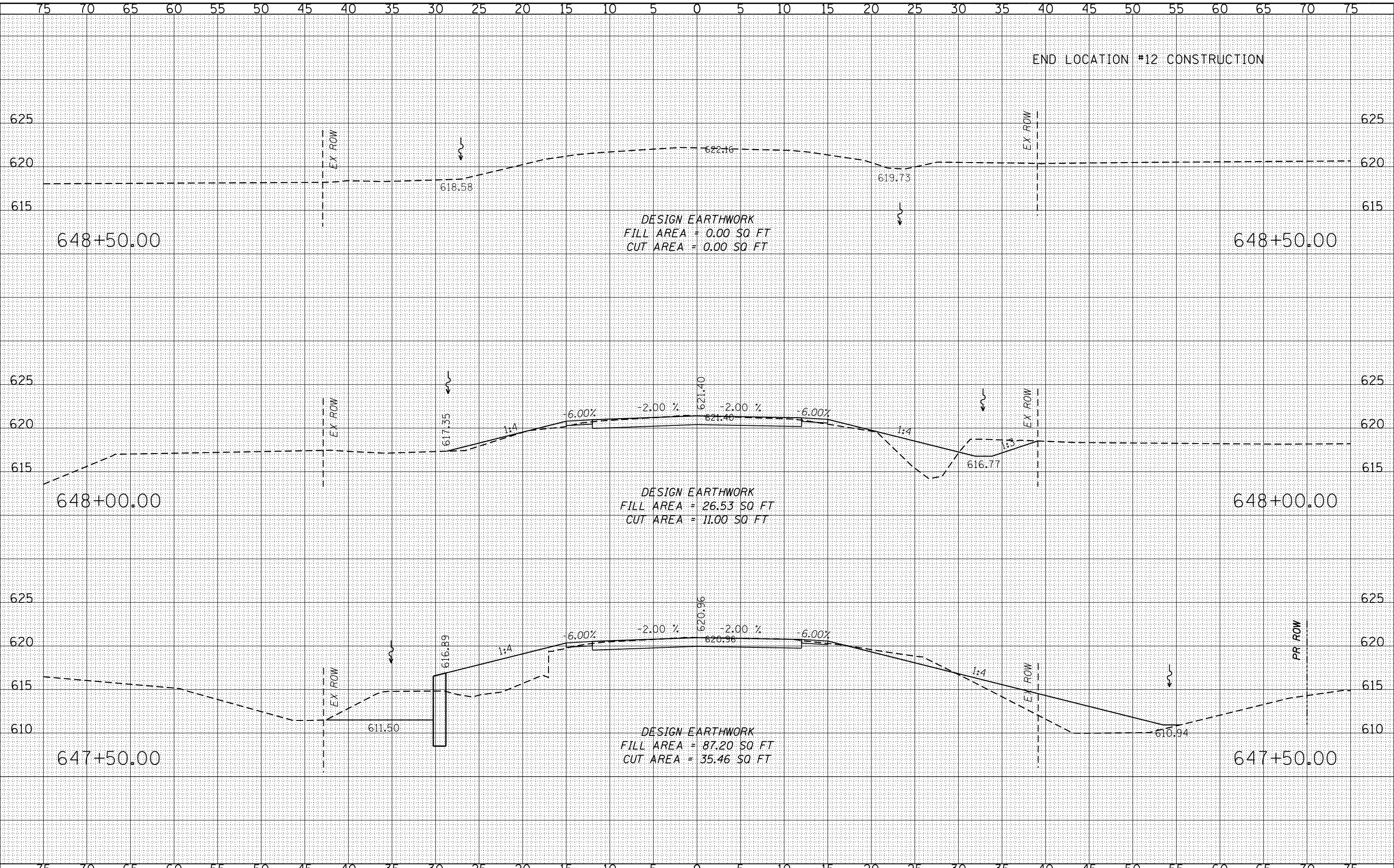
SCALE: 1" = 5'-0" SHEET NO. 02 OF 26 SHEETS STA. 647+09.00 TO STA. 647+44.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	44
WHA* 1055MI6			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K1976				

DATE	
BY	
FINAL SURVEY	
NO.	
DESIGNED	
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DRAWN	
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DATE	
BY	
ORIGINAL SURVEY	
NO.	
DESIGNED	
CHECKED	
DRAWN	
NOTED	

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END LOCATION #12 CONSTRUCTION

DESIGN EARTHWORK
 FILL AREA = 0.00 SQ FT
 CUT AREA = 0.00 SQ FT

DESIGN EARTHWORK
 FILL AREA = 26.53 SQ FT
 CUT AREA = 11.00 SQ FT

DESIGN EARTHWORK
 FILL AREA = 87.20 SQ FT
 CUT AREA = 35.46 SQ FT

648+50.00

648+50.00

648+00.00

648+00.00

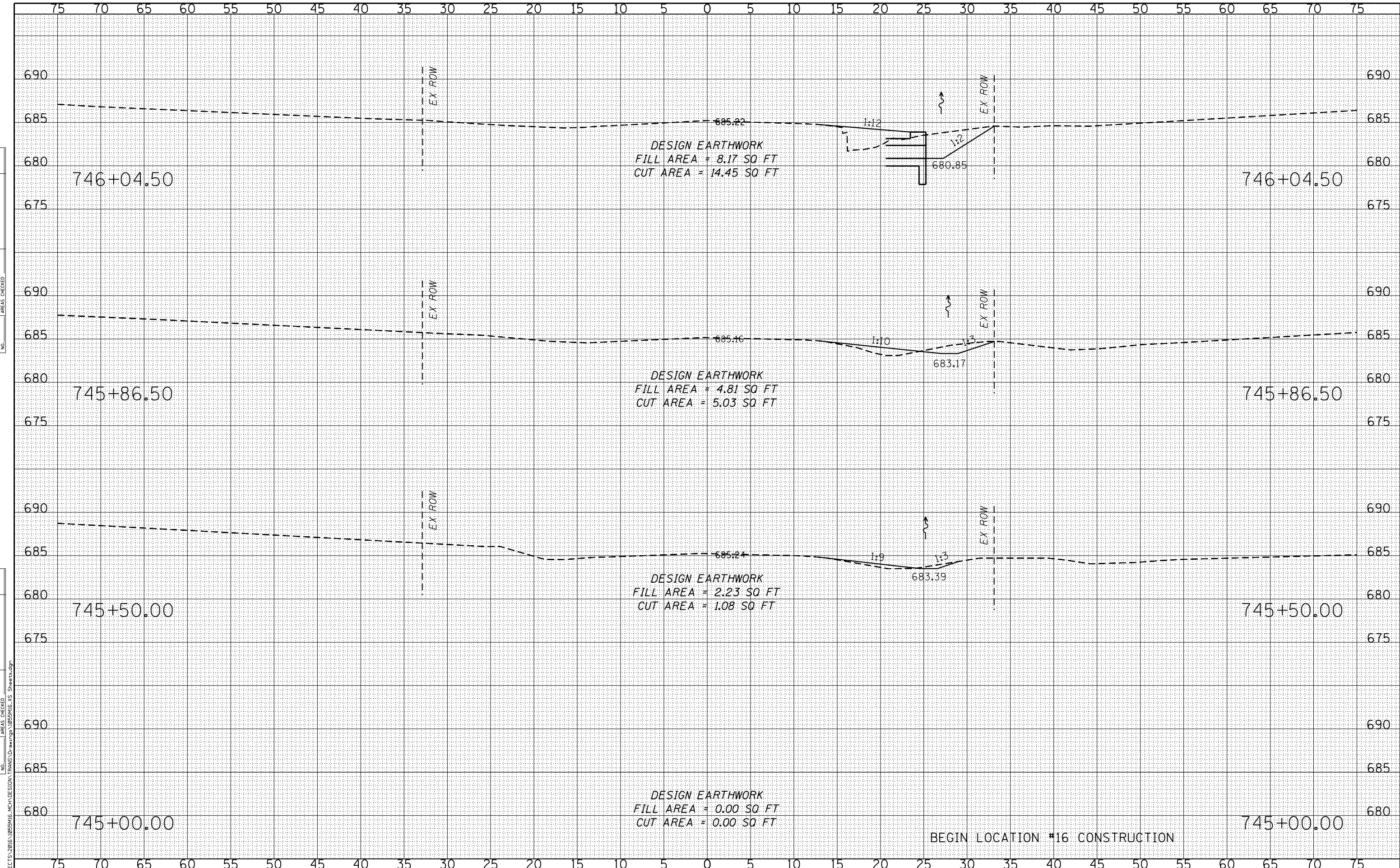
647+50.00

647+50.00

<p>WILLET HOFMANN & ASSOCIATES INC ENGINEERING ARCHITECTURE LAND SURVEYING 809 EAST 2ND STREET, DIXON, IL 61021-0367 T: 815-284-3381 DESIGN FIRM: #184-000918</p>	DESIGNED - LGN	REVISED -	<p>MERCER COUNTY (C.H. 9) JOY ROAD SEGMENT 2 CULVERT EXTENSIONS</p>	CROSS SECTIONS		F.A.S. RTE. 212	SECTION 14-00103-02-DR	COUNTY MERCER	TOTAL SHEETS 68	SHEET NO. 45	
	CHECKED - GFS	REVISED -		SCALE: 1" = 5'-0"	SHEET NO. 03 OF 26 SHEETS	STA. 647+50.00 TO STA. 648+50.00	WHA* 1055M16	CONTRACT NO. 89741	ILLINOIS FED. AID PROJECT PA6K976		
	DRAWN - TBS	REVISED -									
	CHECKED - LGN	REVISED -									

DATE
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SURVEYED
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TEMPLATE
AREAS CHECKED
FINAL
SURVEY
NOTE BOOK
NO.

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



FILE: S:\PROJECTS\2016\1055MI6\MCH\DESIGN\MCH\DESIGN\TRANSDRAWING\1055MI6.XS Sheet4.dgn

WILLET HOFMANN & ASSOCIATES INC.
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY (C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

SCALE: 1" = 5'-0" SHEET NO. 04 OF 26 SHEETS STA. 745+00.00 TO STA. 746+04.50

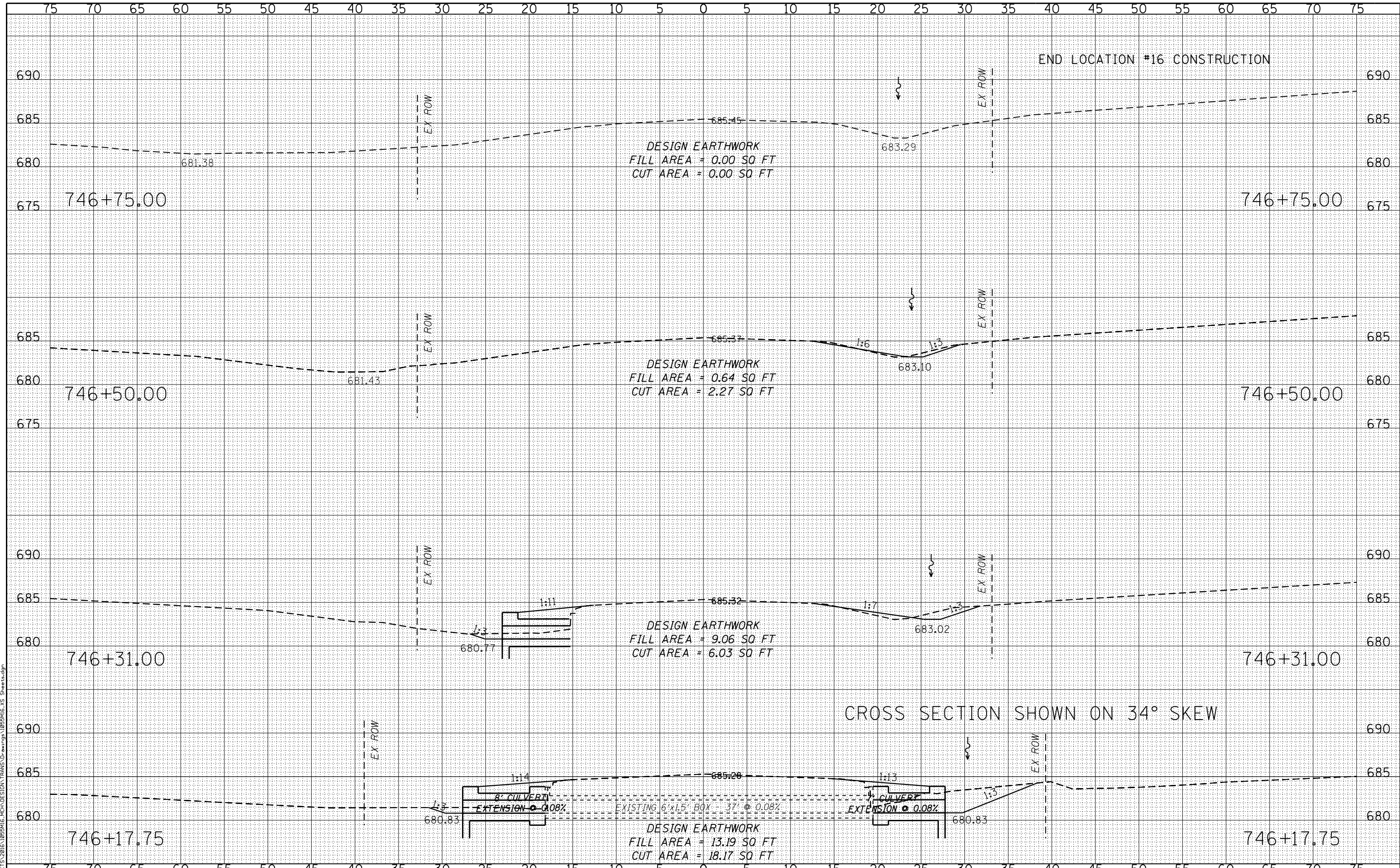
CROSS SECTIONS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	46
WHA* 1055MI6			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT				PA6K(976)

BEGIN LOCATION #16 CONSTRUCTION

DATE	
BY	
FINAL SURVEY	
NO. _____	
NOTE BOOK	
NO. _____	
AREAS CHECKED	

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



END LOCATION #16 CONSTRUCTION

CROSS SECTION SHOWN ON 34° SKEW



DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

MERCER COUNTY (C.H. 9) JOY ROAD SEGMENT 2 CULVERT EXTENSIONS

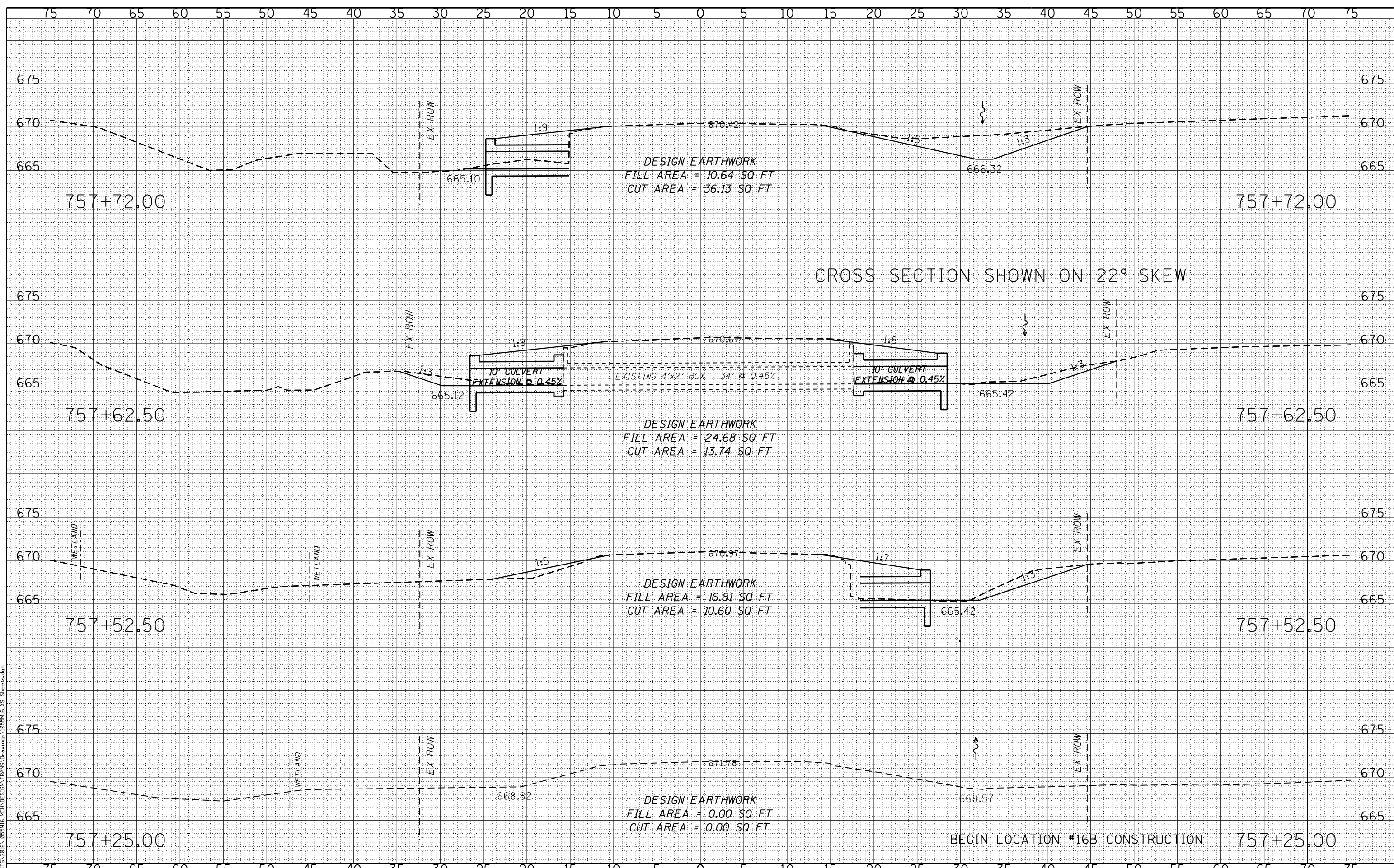
CROSS SECTIONS	
SCALE: 1" = 5'-0"	SHEET NO. 05 OF 26 SHEETS
STA. 746+17.75 TO STA. 746+75.00	

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	47
WHA* 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K(976)				

DATE	
BY	
FINAL SURVEY	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
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DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
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CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

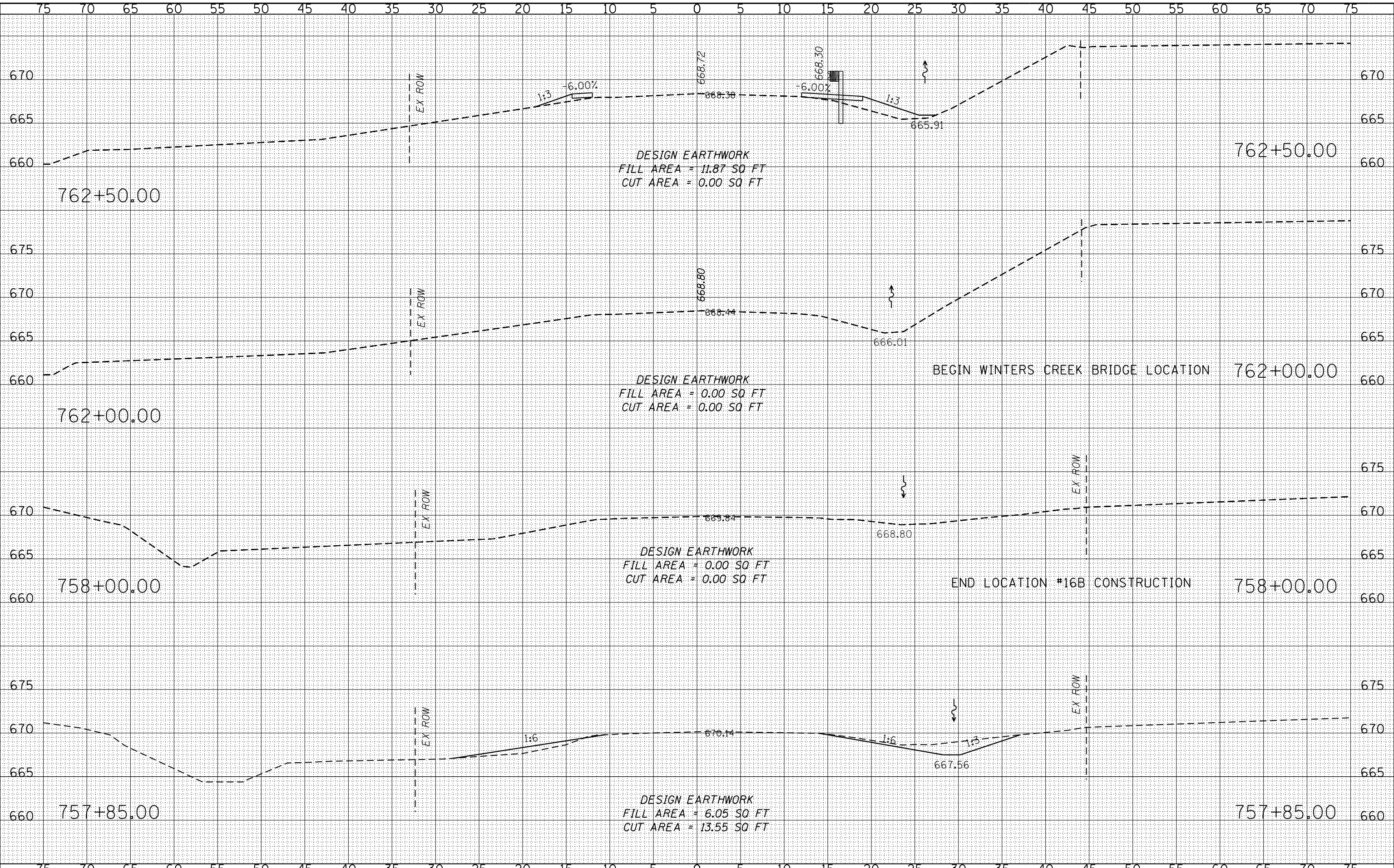
CROSS SECTIONS
 SCALE: 1" = 5'-0" SHEET NO. 06 OF 26 SHEETS STA. 757+25.00 TO STA. 757+72.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	48
WHA* 1055MI6			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K976				

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
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TEMPLATE	
AREAS CHECKED	
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DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

CROSS SECTIONS

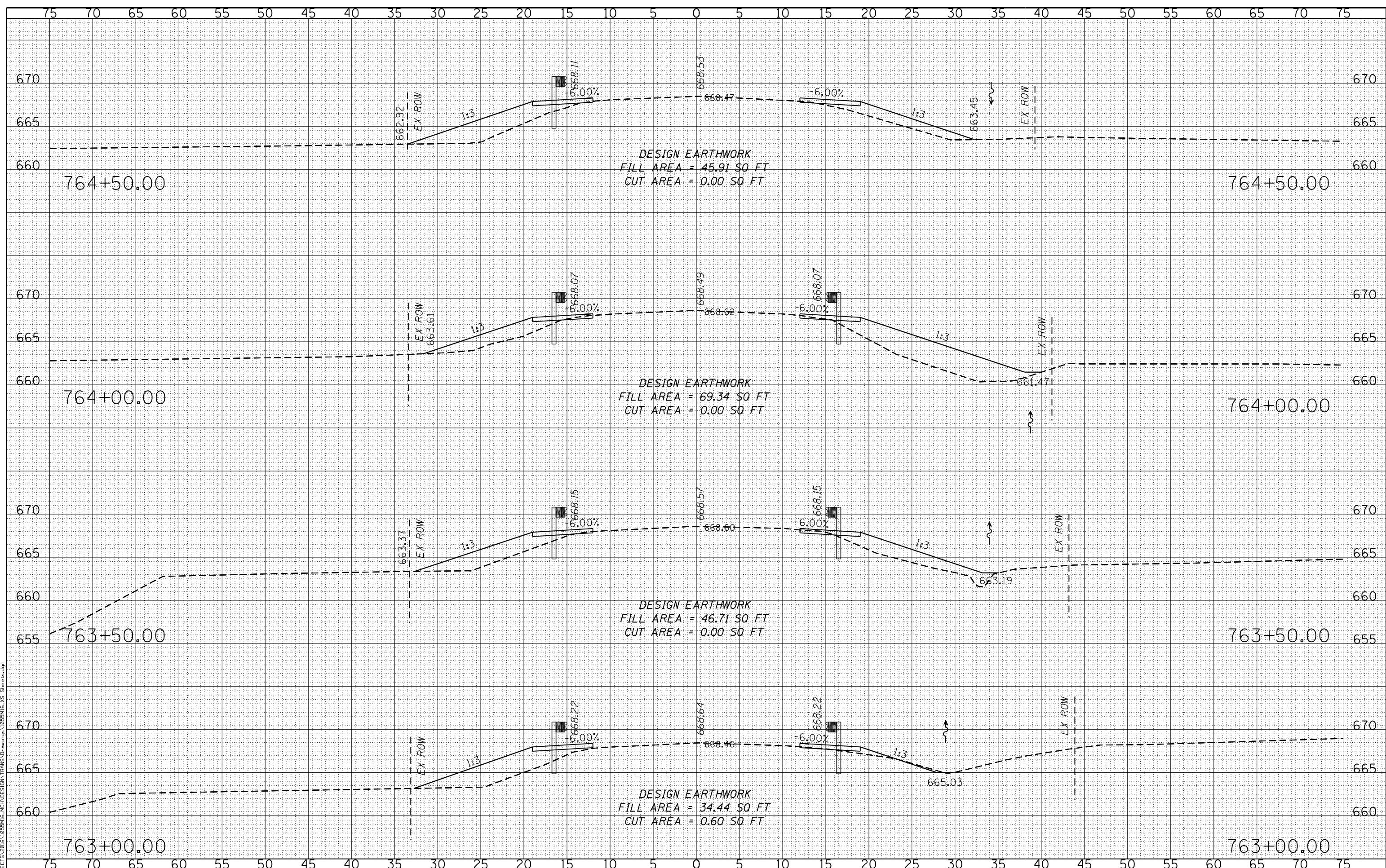
SCALE: 1" = 5'-0" SHEET NO. 07 OF 26 SHEETS STA. 757+85.00 TO STA. 762+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	49
WHA* 1055MI6			CONTRACT NO. 89741	

ILLINOIS FED. AID PROJECT PA6K1976

BY	DATE

BY	DATE



DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

CROSS SECTIONS

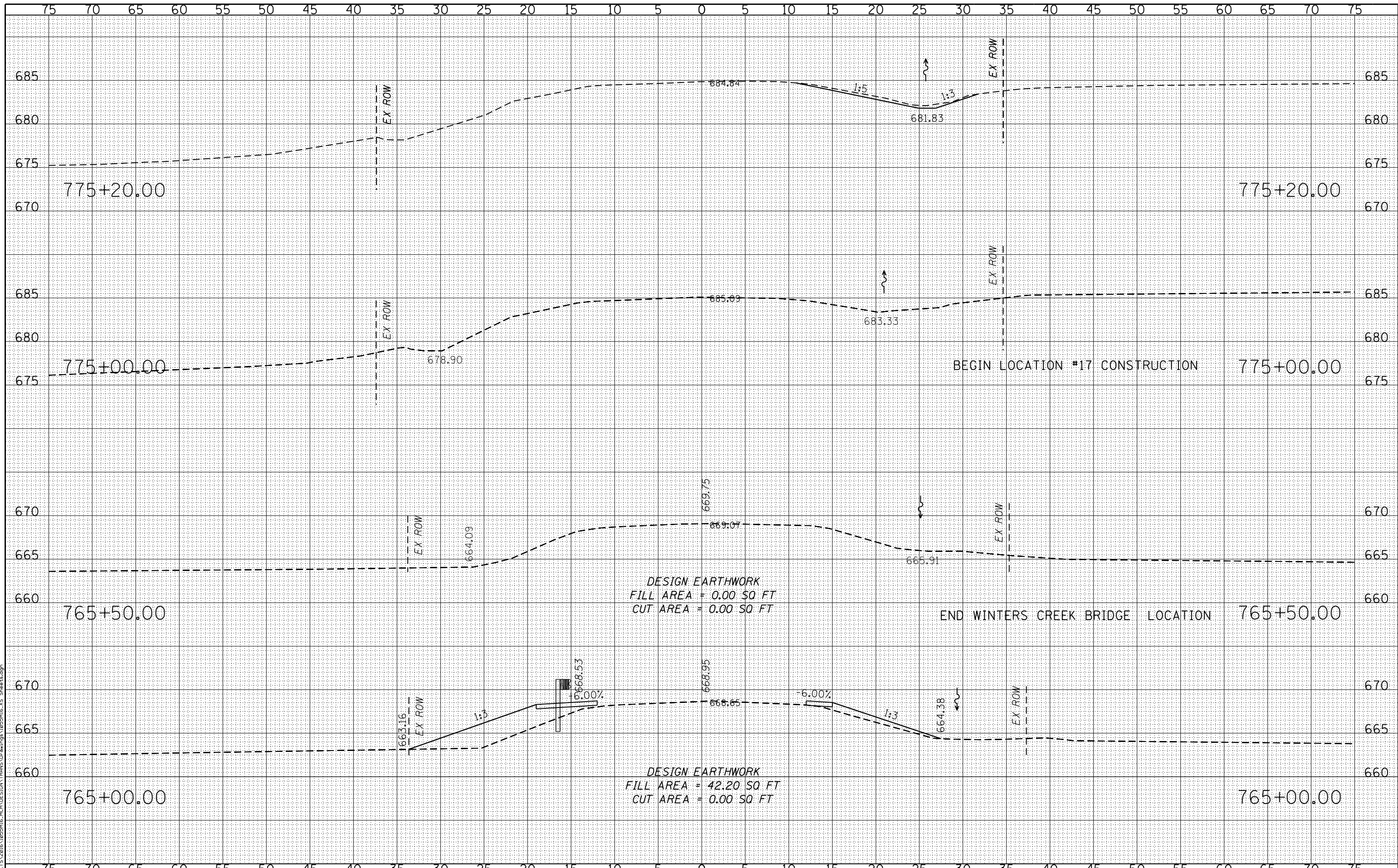
SCALE: 1" = 5'-0" SHEET NO. 08 OF 26 SHEETS STA. 763+00.00 TO STA. 764+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	50
WHA* 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K1976				

FILE : S:\PROJECTS\2016\1055M16\MCH\DESIGN\MCH\DESIGN\TRANS\DWG\1055M16.XS Sheet:08.dgn

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FINAL SURVEY NO.	
SURVEYED PLOTTED	
NOTE BOOK TEMPLATE AREAS CHECKED	

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



<p>WILLETT HOFMANN & ASSOCIATES INC. ENGINEERING ARCHITECTURE LAND SURVEYING 809 EAST 2ND STREET, DIXON, IL 61021-0367 T: 815-284-3381 DESIGN FIRM: #184-000918</p>	<table border="0"> <tr><td>DESIGNED -</td><td>LGN</td><td>REVISED -</td><td></td></tr> <tr><td>CHECKED -</td><td>GFS</td><td>REVISED -</td><td></td></tr> <tr><td>DRAWN -</td><td>TBS</td><td>REVISED -</td><td></td></tr> <tr><td>CHECKED -</td><td>LGN</td><td>REVISED -</td><td></td></tr> </table>	DESIGNED -	LGN	REVISED -		CHECKED -	GFS	REVISED -		DRAWN -	TBS	REVISED -		CHECKED -	LGN	REVISED -	
DESIGNED -	LGN	REVISED -															
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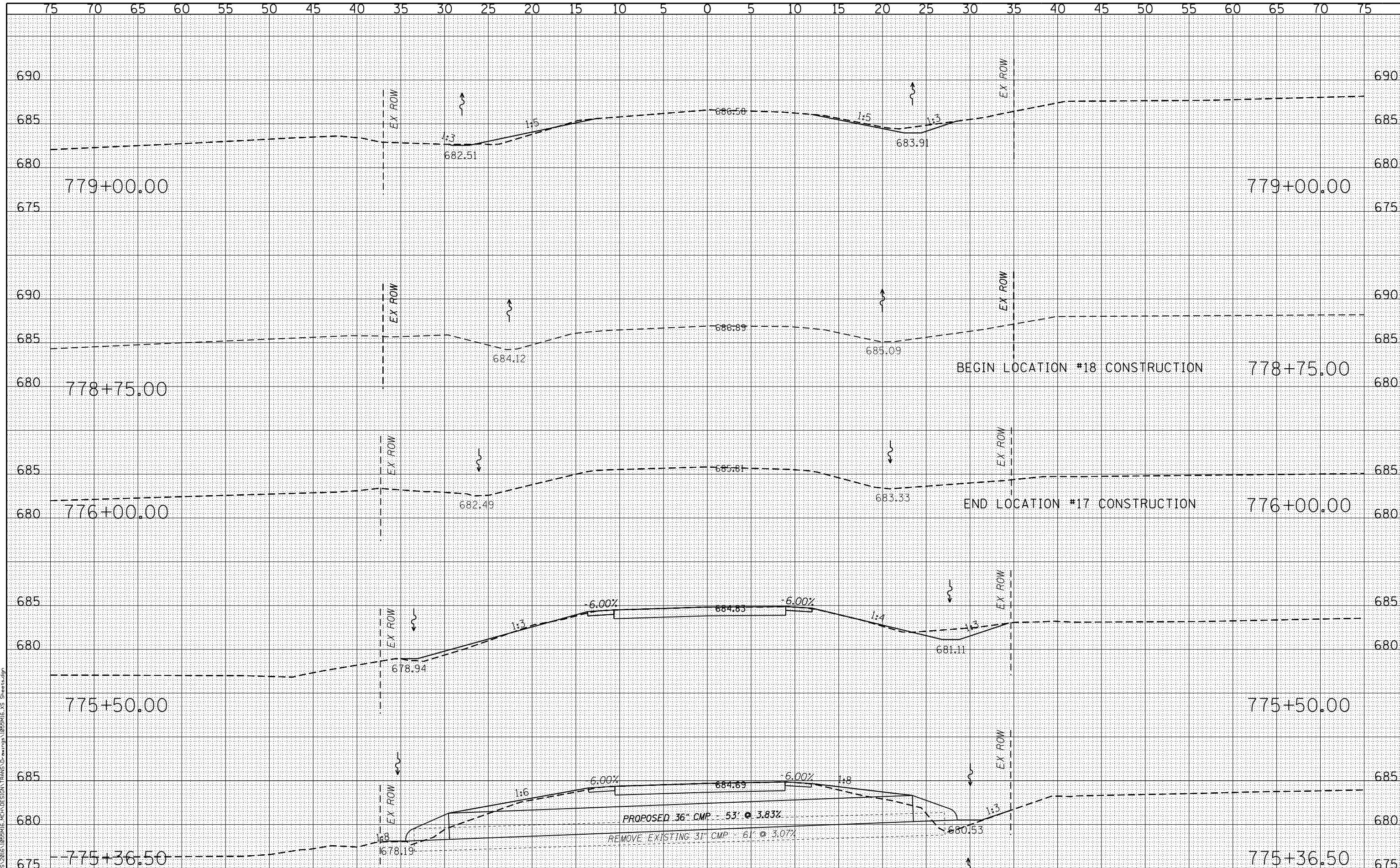
MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS

CROSS SECTIONS
 SCALE: 1" = 5'-0" | SHEET NO. 09 OF 26 SHEETS | STA. 765+00.00 TO STA. 775+20.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	51
WHA* 1055M16		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT PA6K1976				

DATE	
BY	
FINAL SURVEY	
NO.	
NO. OF SHEETS	
NO. OF SHEETS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
NO.	
NO. OF SHEETS	
NO. OF SHEETS CHECKED	



DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

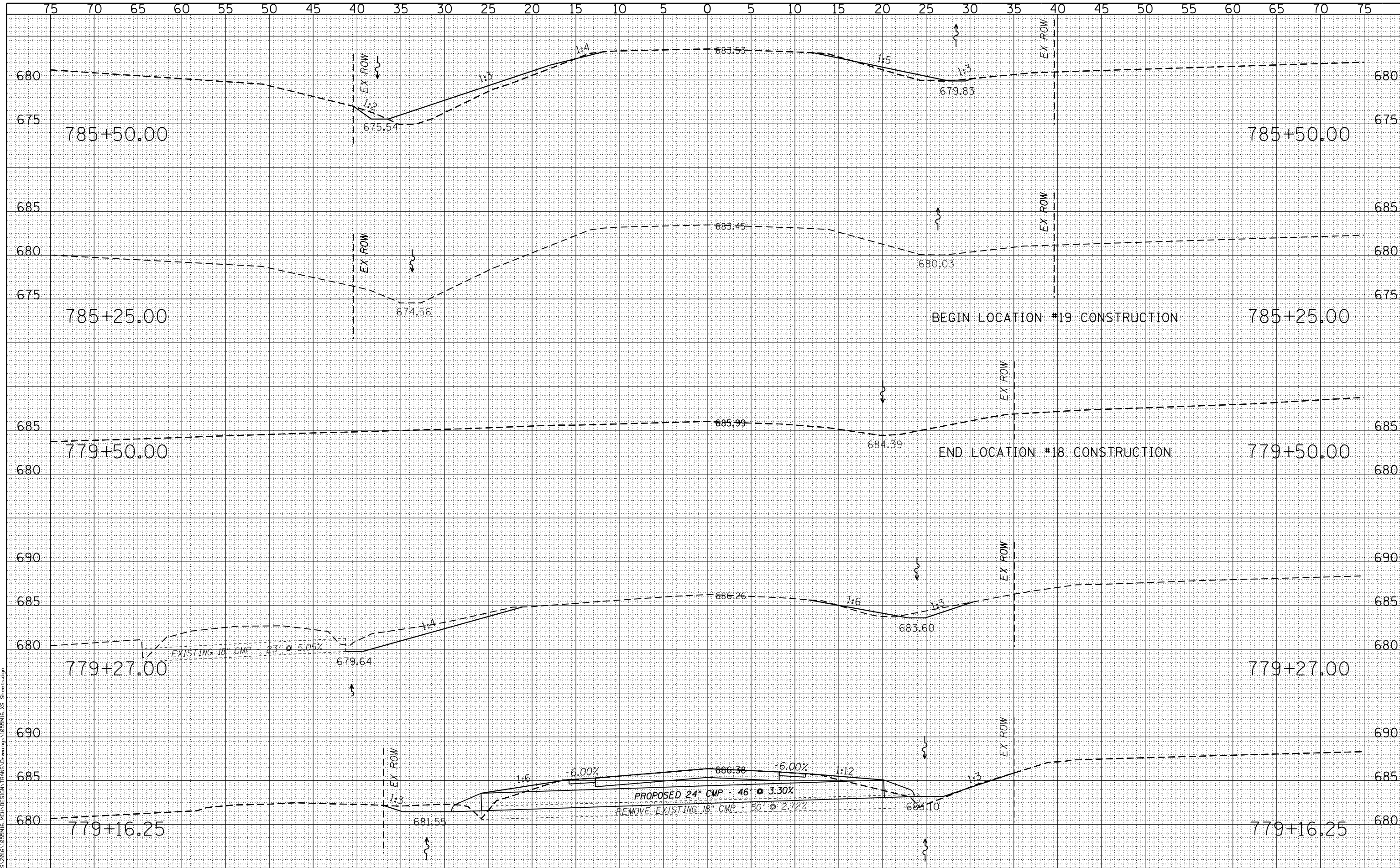
**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

CROSS SECTIONS
SCALE: 1" = 5'-0" SHEET NO. 10 OF 26 SHEETS STA. 775+36.50 TO STA. 779+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	52
WHA* 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K(976)				

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

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



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 SHEET NO. 11 OF 26 SHEETS



DESIGNED	- LGN	REVISED	-
CHECKED	- GFS	REVISED	-
DRAWN	- TBS	REVISED	-
CHECKED	- LGN	REVISED	-

MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS

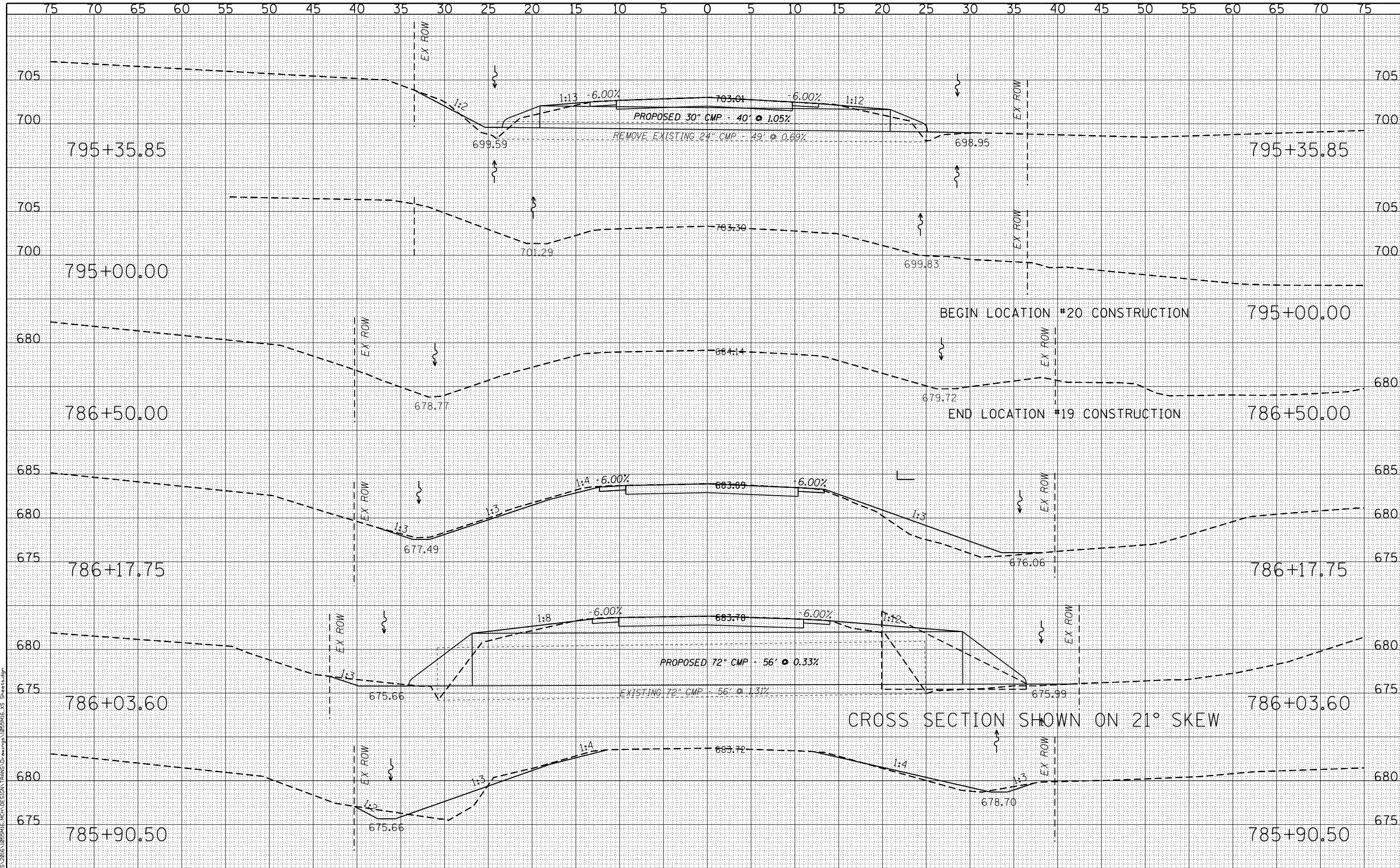
CROSS SECTIONS

SCALE: 1" = 5'-0" SHEET NO. 11 OF 26 SHEETS STA. 779+16.25 TO STA. 785+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	53
WHA* 1055MI6			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K976				

DATE	
BY	
FINAL SURVEY	
NOTED SURVEY	
NO. OF AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
NOTED SURVEY	
NO. OF AREAS CHECKED	



DESIGNED - LGN	REVISED -
CHECKED - GFS	REVISED -
DRAWN - TBS	REVISED -
CHECKED - LGN	REVISED -

**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

CROSS SECTIONS

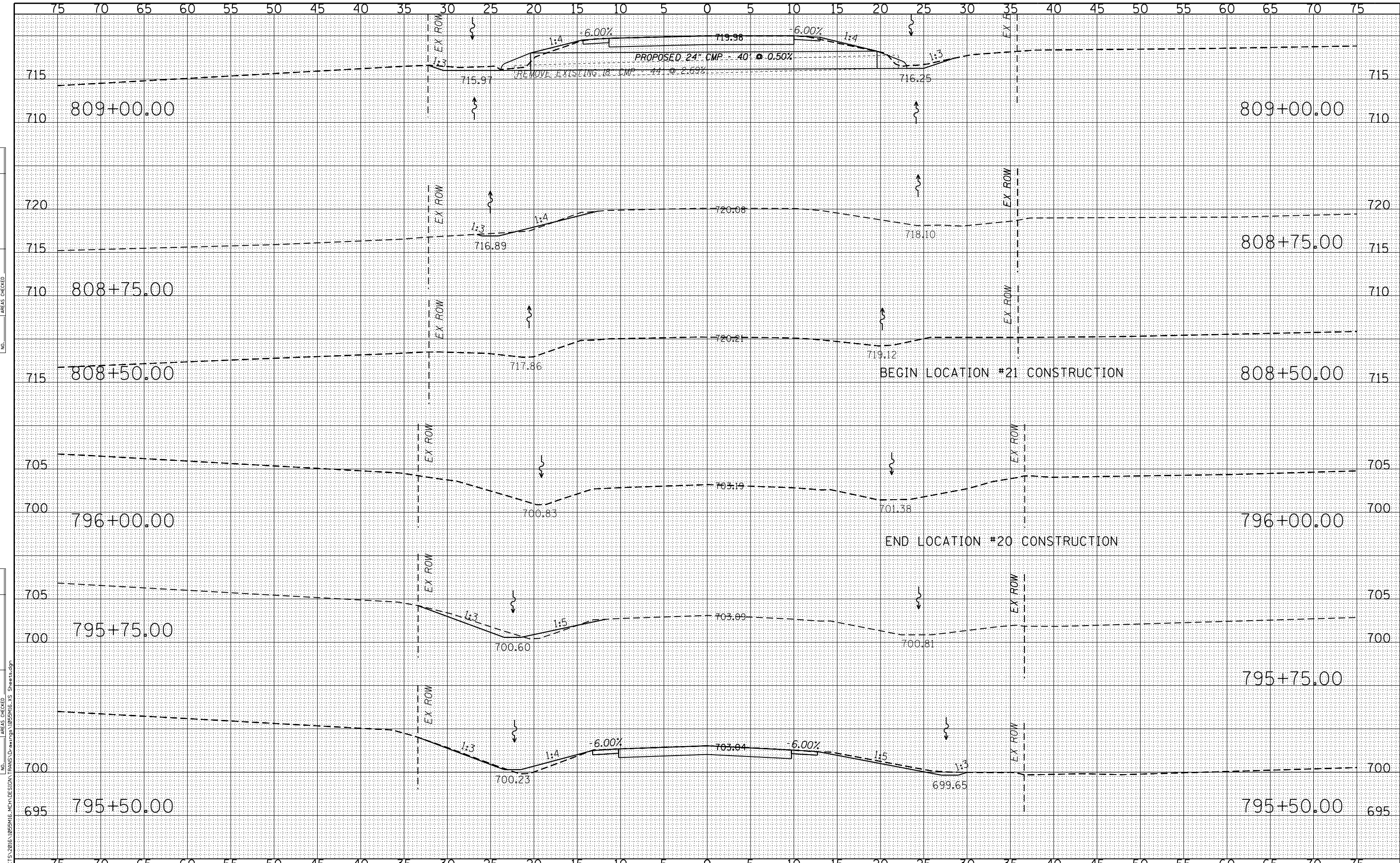
SCALE: 1" = 5'-0" SHEET NO. 12 OF 26 SHEETS STA. 785+90.50 TO STA. 795+35.85

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	54
WHA* 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K(976)				

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WILLET HOFMANN & ASSOCIATES INC.
 ENGINEERING ARCHITECTURE LAND SURVEYING
 809 EAST 2ND STREET, DIXON, IL 61021-0367
 T: 815-284-3381 DESIGN FIRM: #184-000918

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**MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSIONS**

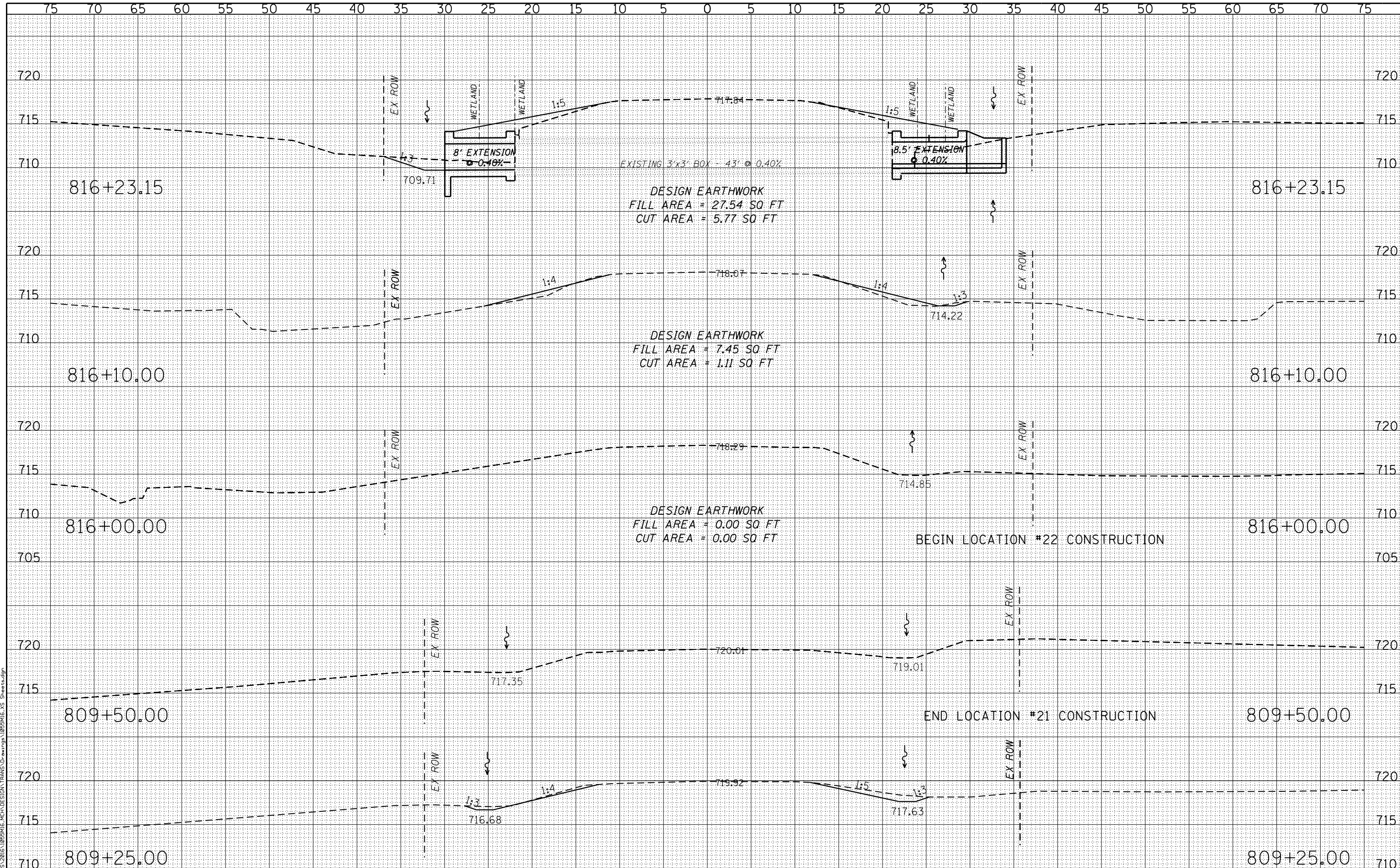
CROSS SECTIONS

SCALE: 1" = 5'-0" SHEET NO. 13 OF 26 SHEETS STA. 795+50.00 TO STA. 809+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	55
WHA* 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K1976				

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**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

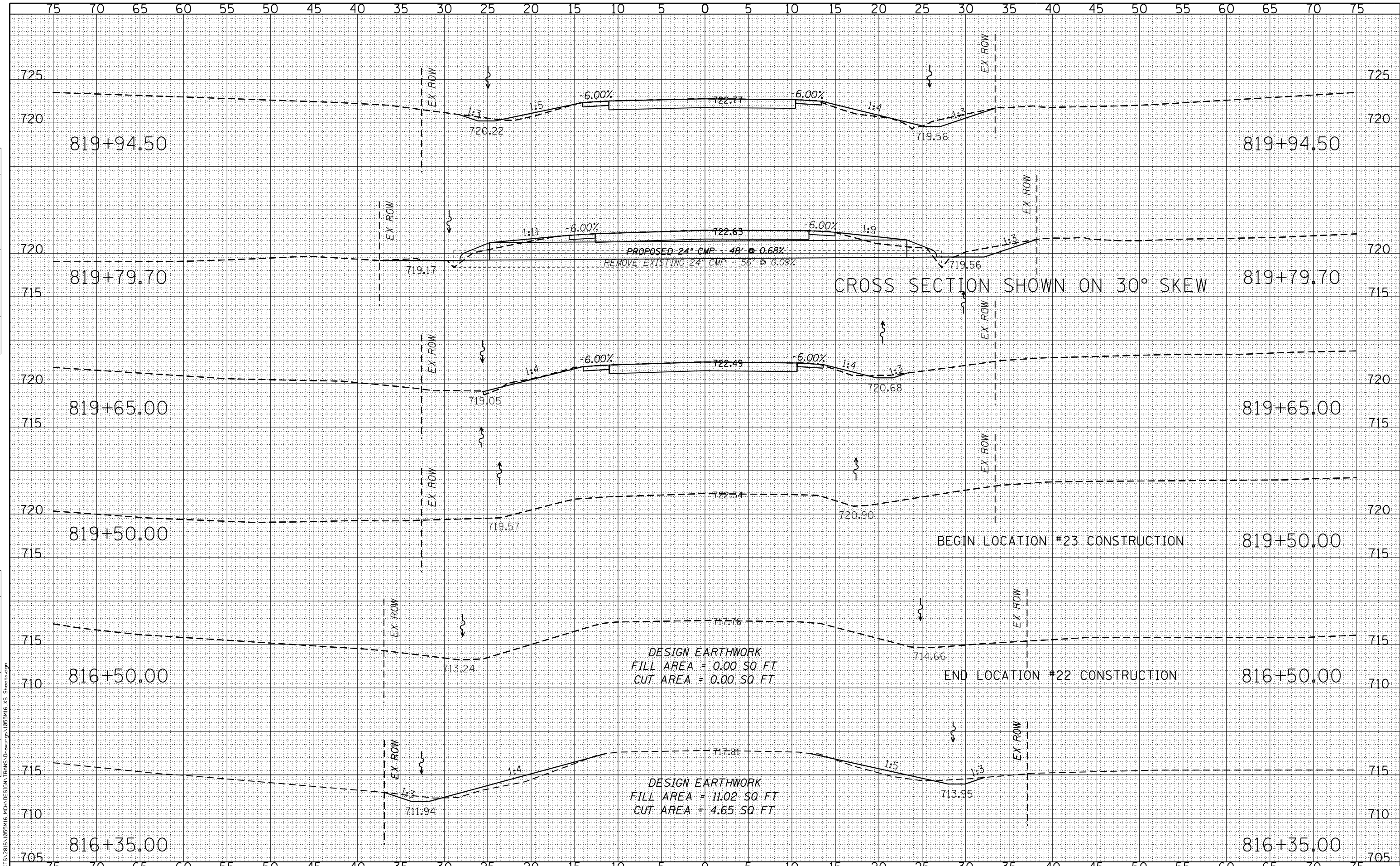
CROSS SECTIONS

SCALE: 1" = 5'-0" SHEET NO. 14 OF 26 SHEETS STA. 809+25.00 TO STA. 816+23.15

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	56
WHA* 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K976J				

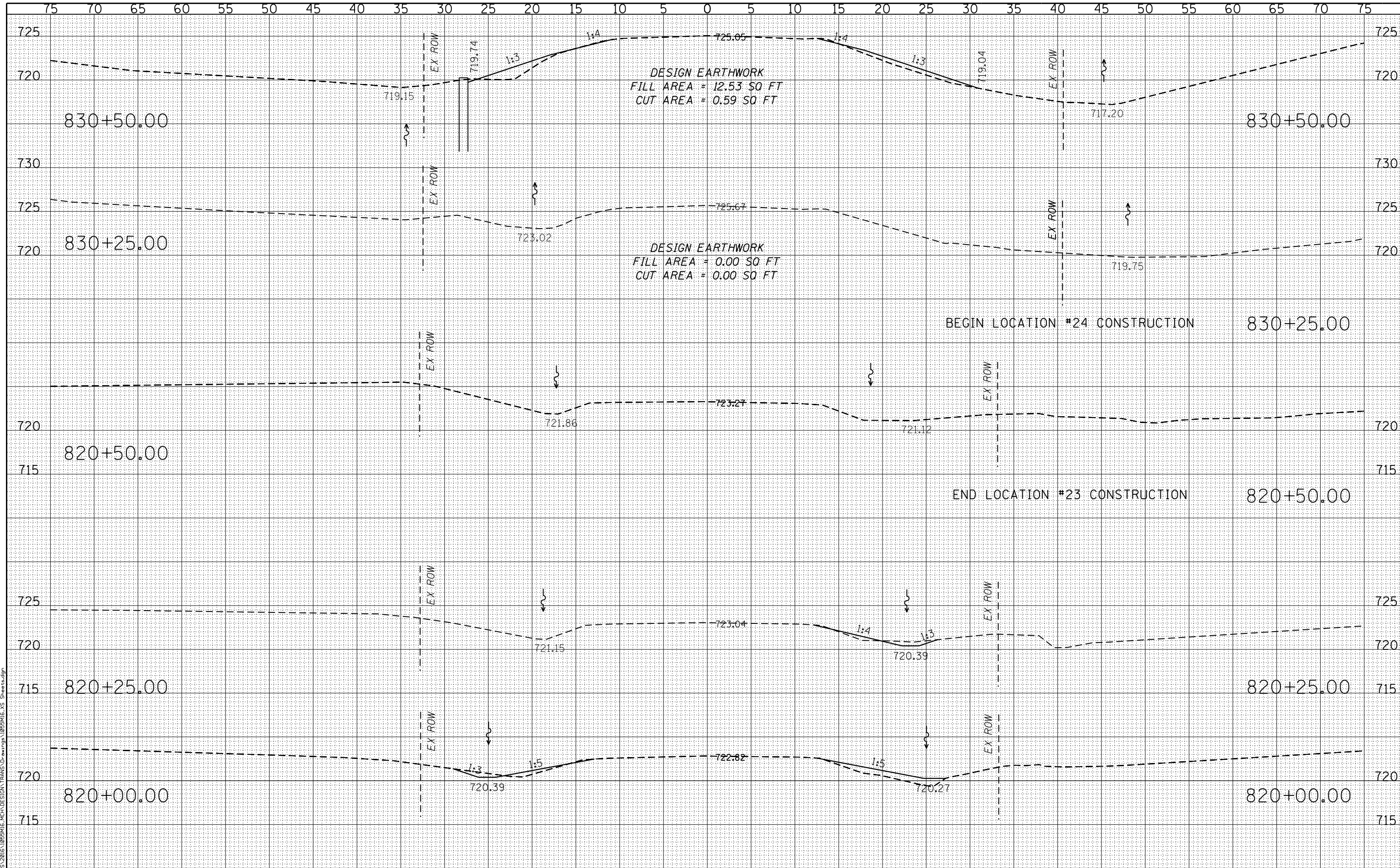
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**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

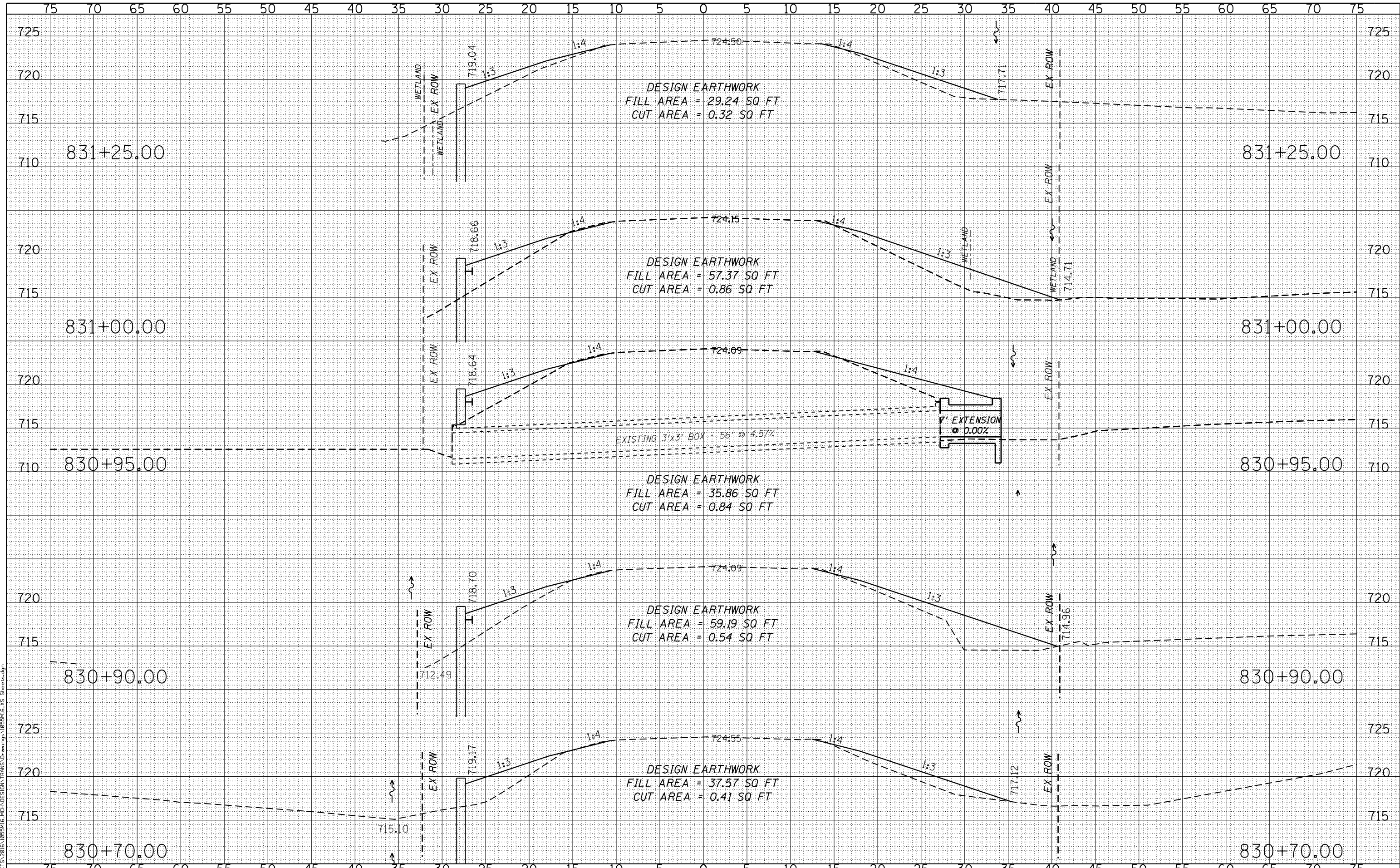
SCALE: 1" = 5'-0" SHEET NO. 16 OF 26 SHEETS STA. 820+00.00 TO STA. 830+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	58
WHA* 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K1976				

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**MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSIONS**

CROSS SECTIONS

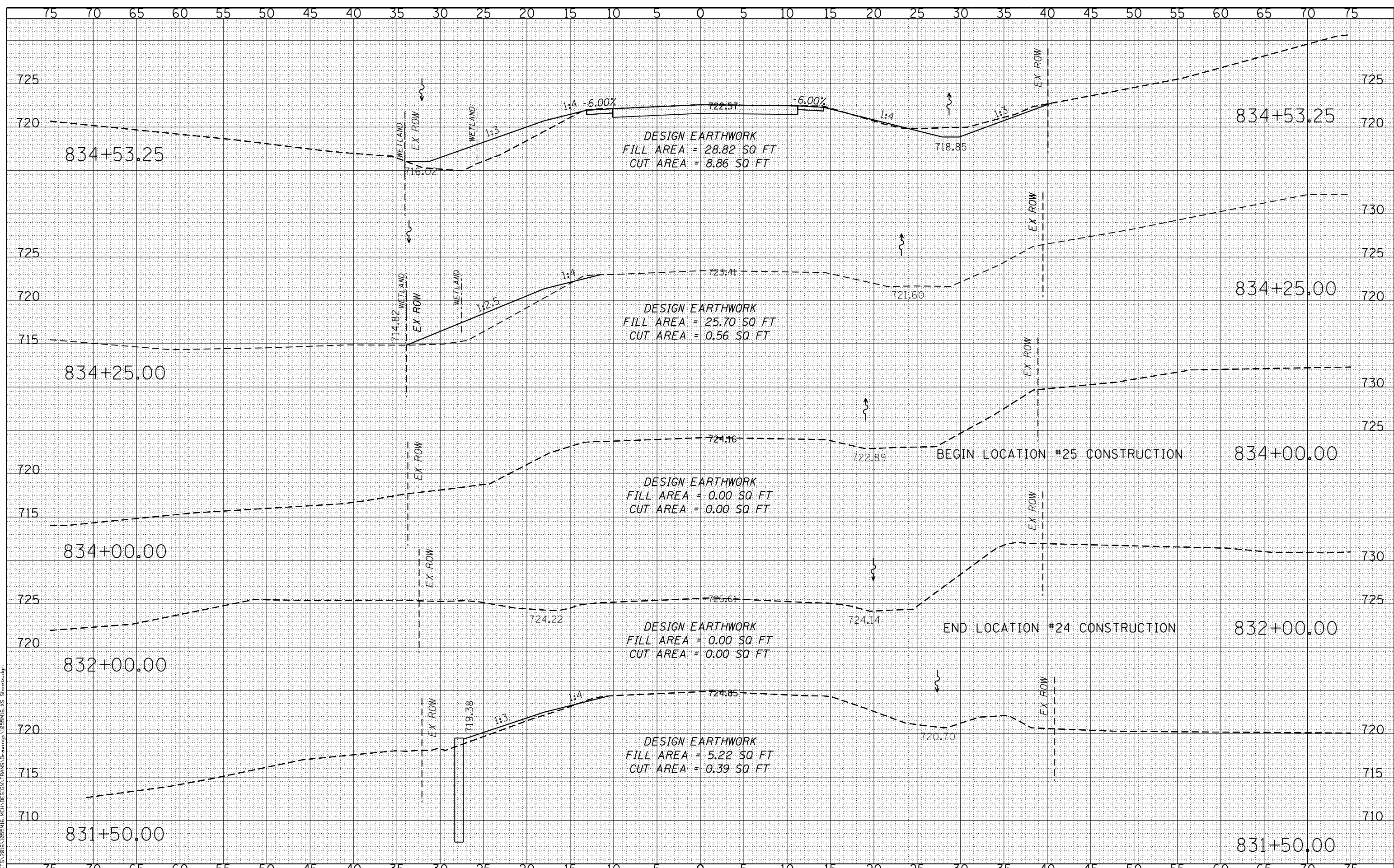
SCALE: 1" = 5'-0" SHEET NO. 17 OF 26 SHEETS STA. 830+70.00 TO STA. 831+25.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	59
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT				PA6K(976)

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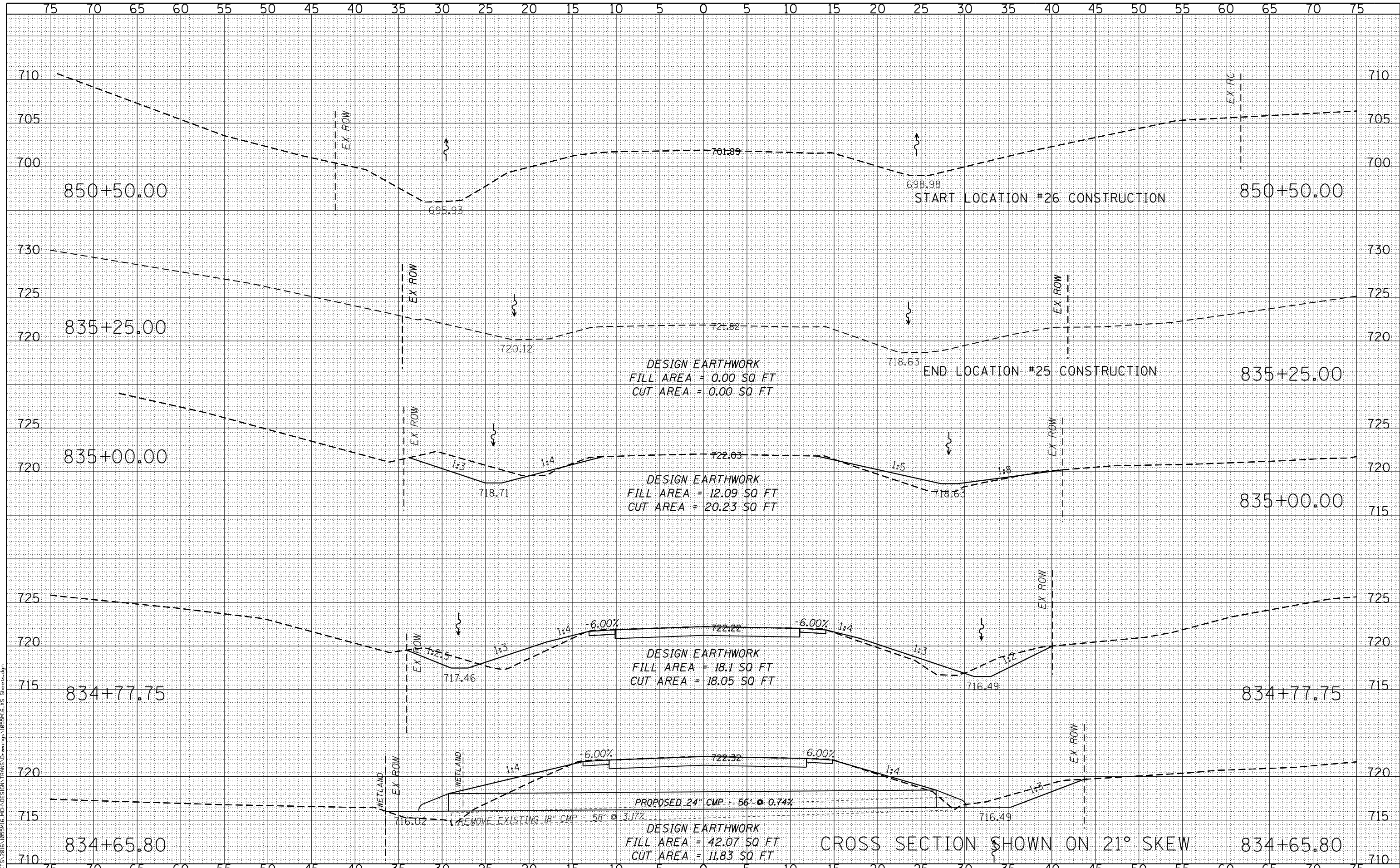
**MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSIONS**

CROSS SECTIONS
 SCALE: 1" = 5'-0"
 SHEET NO. 18 OF 26 SHEETS
 STA. 831+50.00 TO STA. 834+53.25

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	60
WHA* 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K976				

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**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

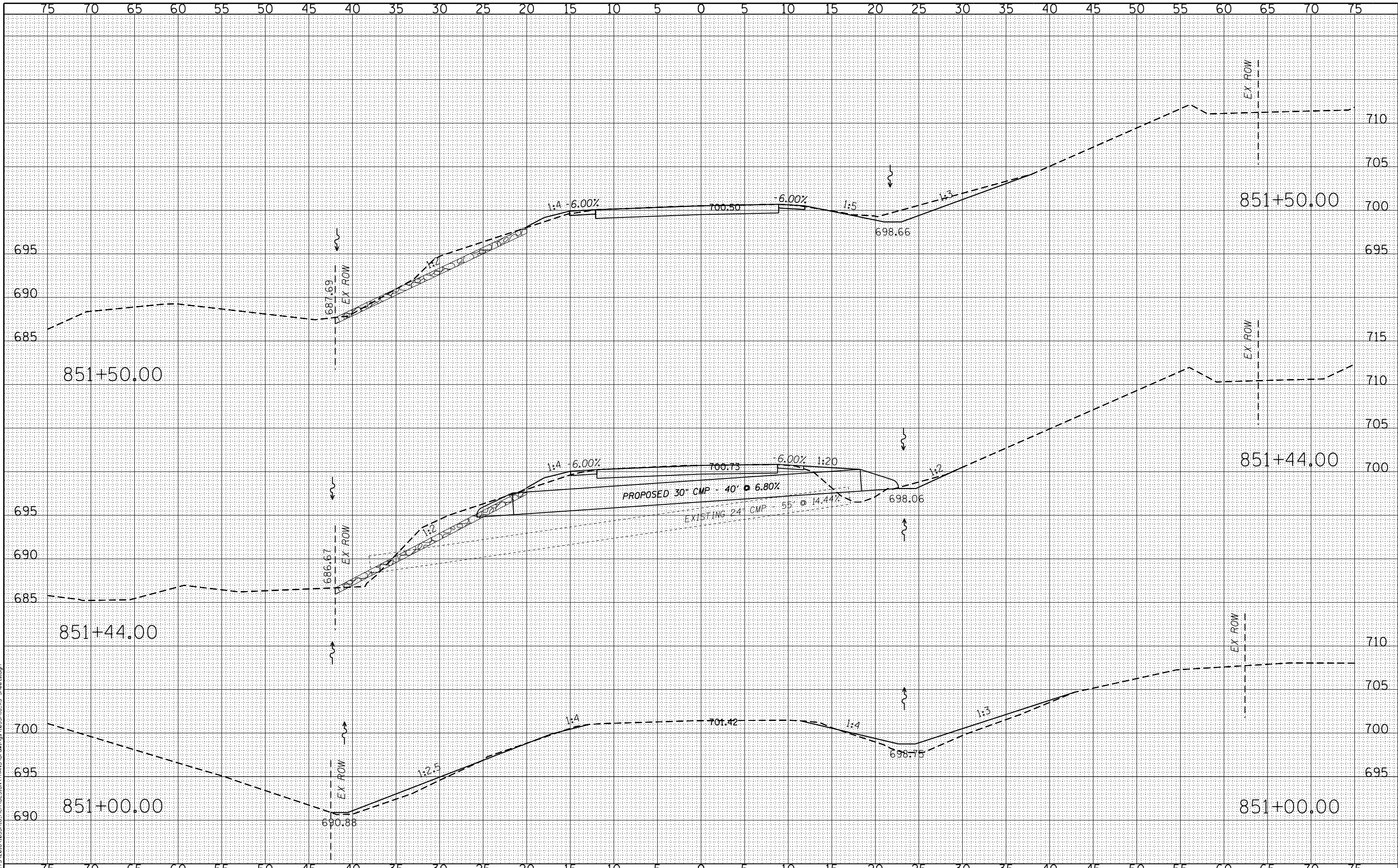
CROSS SECTIONS
 SCALE: 1" = 5'-0" SHEET NO. 19 OF 26 SHEETS STA. 834+65.80 TO STA. 850+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	61
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT PA6K976				

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**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

CROSS SECTIONS

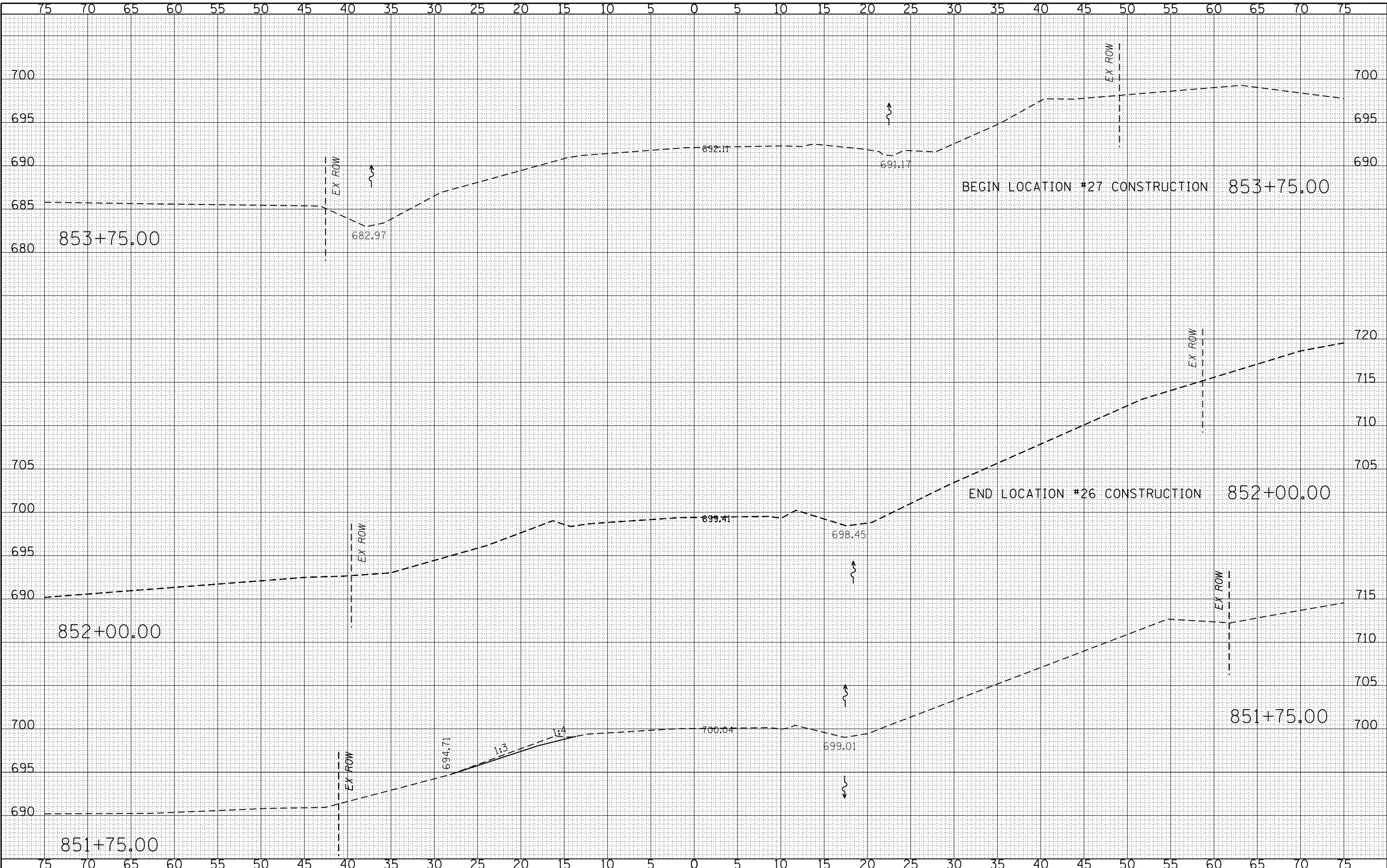
SCALE: 1" = 5'-0" SHEET NO. 20 OF 26 SHEETS STA. 851+00.00 TO STA. 851+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	62
WHA* 1055MI6			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT				PA6K976

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WILLETT HOFMANN & ASSOCIATES INC.
 ENGINEERING ARCHITECTURE LAND SURVEYING
 809 EAST 2ND STREET, DIXON, IL 61021-0367
 T: 815-284-3381 DESIGN FIRM: #184-000918

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MERCER COUNTY (C.H. 9) JOY ROAD SEGMENT 2 CULVERT EXTENSIONS

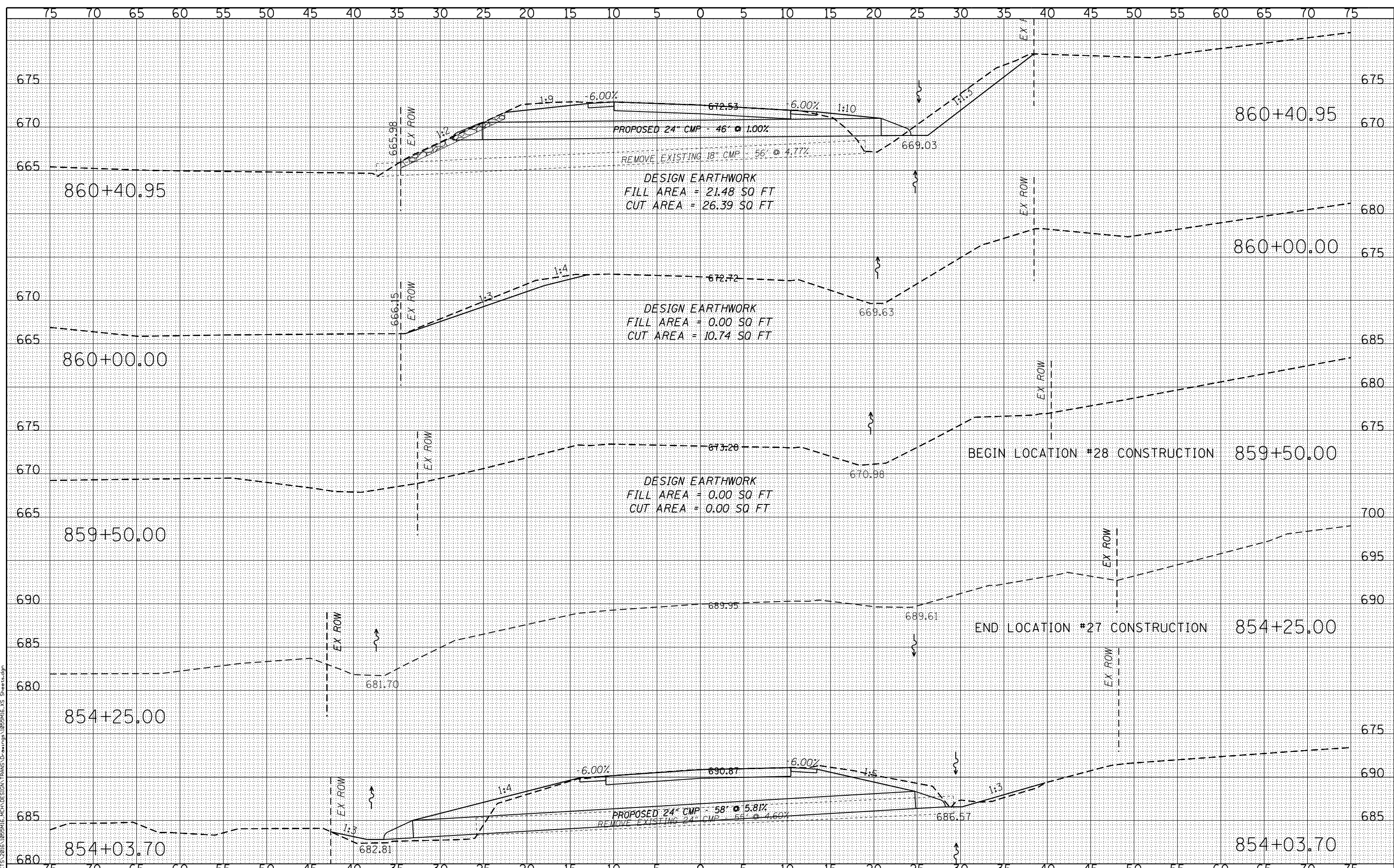
CROSS SECTIONS

SCALE: 1" = 5'-0" SHEET NO. 21 OF 26 SHEETS STA. 851+75.00 TO STA. 853+75.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	63
WHA* 1055MI6			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K(976)				

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**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

CROSS SECTIONS

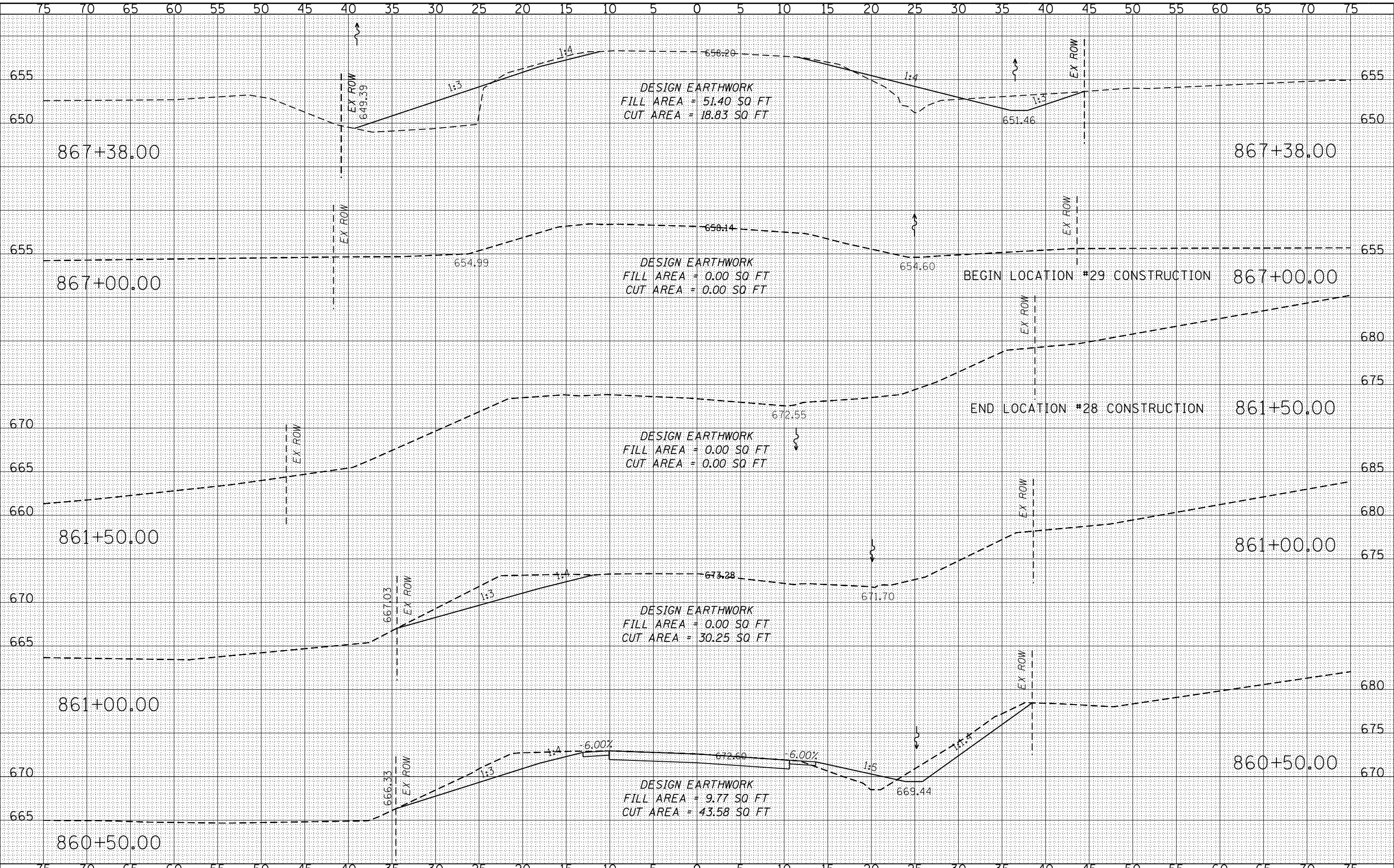
SCALE: 1" = 5'-0" SHEET NO. 22 OF 26 SHEETS STA. 854+03.70 TO STA. 860+40.95

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	64
WHA* 1055MI6			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K976				

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**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

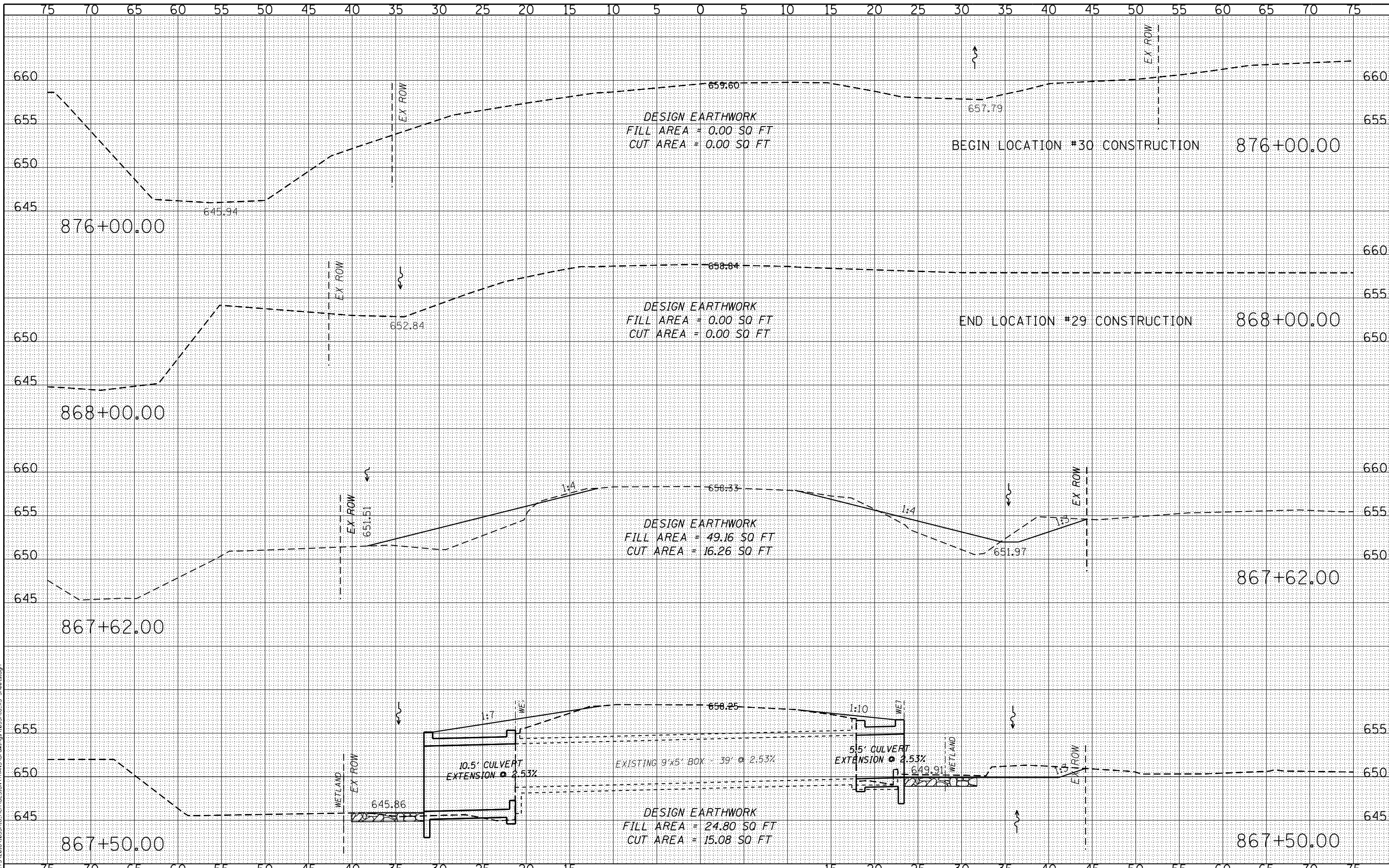
CROSS SECTIONS
SCALE: 1" = 5'-0" SHEET NO. 23 OF 26 SHEETS STA. 860+50.00 TO STA. 867+38.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	65
WHA* 1055MI6			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K1976				

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WILLET HOFMANN & ASSOCIATES INC.
 ENGINEERING ARCHITECTURE LAND SURVEYING
 809 EAST 2ND STREET, DIXON, IL 61021-0367
 T: 815-284-3381 DESIGN FIRM: #184-0009'18

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**MERCER COUNTY
 (C.H. 9) JOY ROAD
 SEGMENT 2 CULVERT EXTENSIONS**

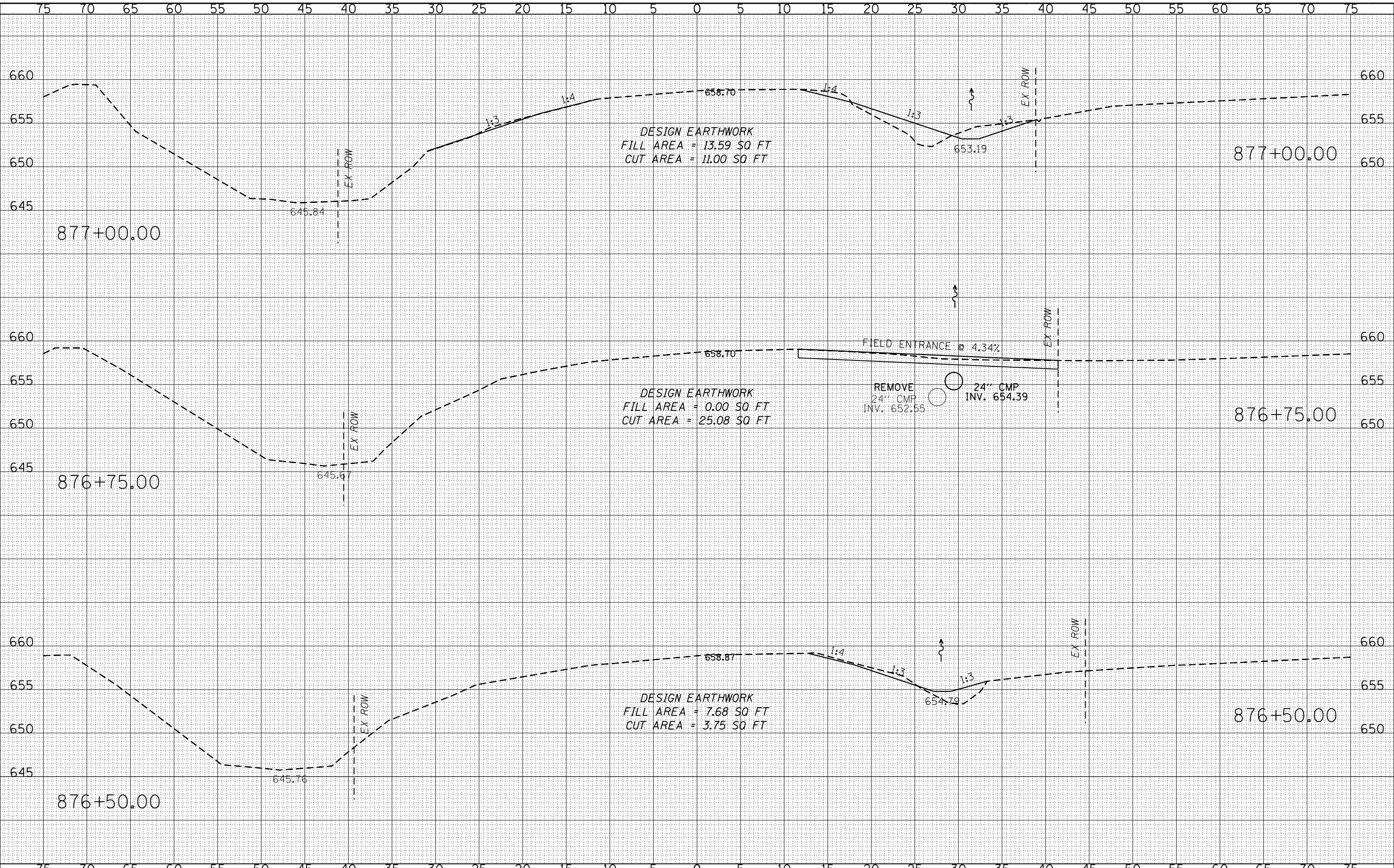
CROSS SECTIONS
 SCALE: 1" = 5'-0" SHEET NO. 24 OF 26 SHEETS STA. 867+50.00 TO STA. 876+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	66
WHA* 1055MI6		CONTRACT NO. 89741		
ILLINOIS FED. AID PROJECT				PA6K(976)

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**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

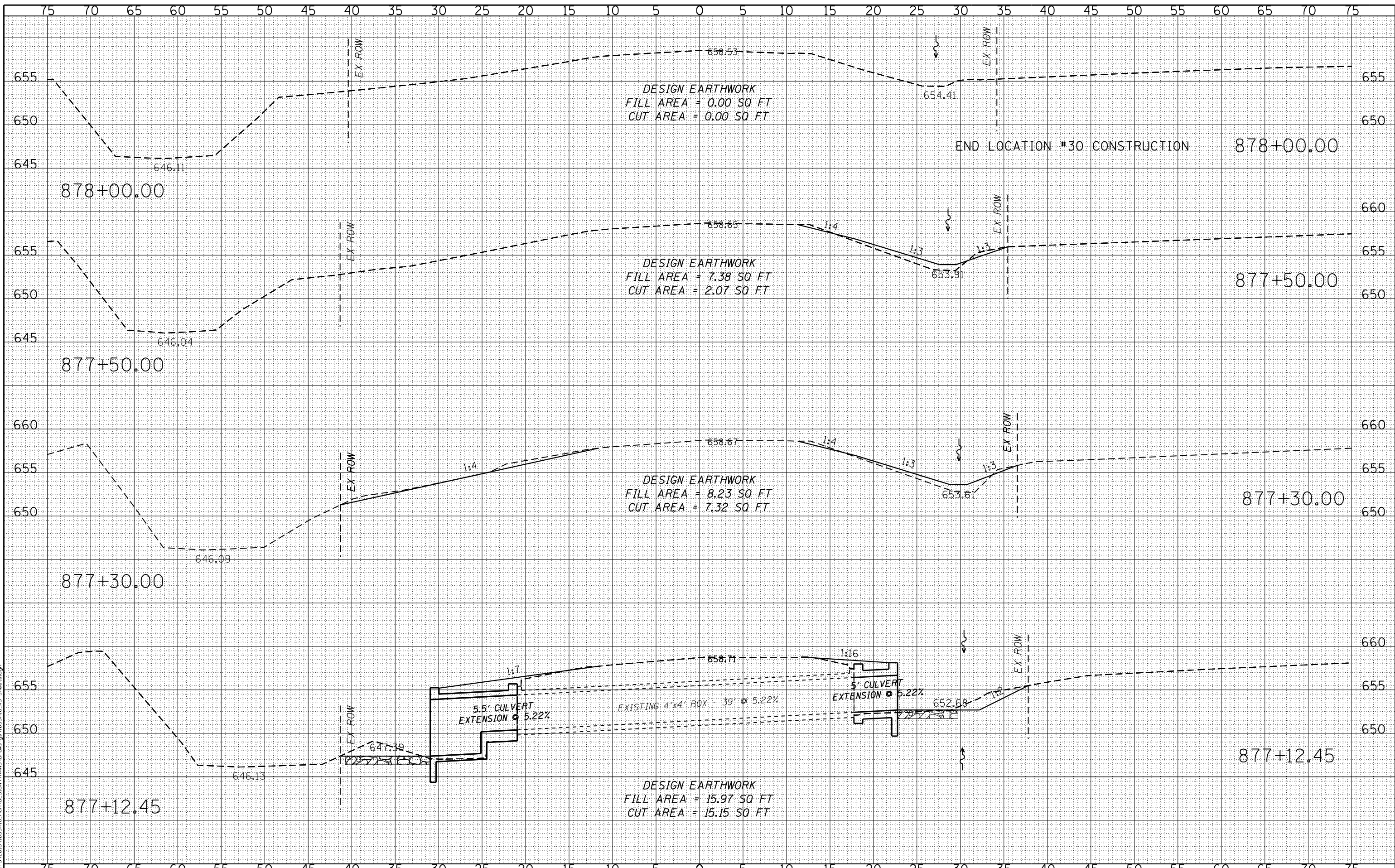
SCALE: 1" = 5'-0" SHEET NO. 25 OF 26 SHEETS STA. 876+50.00 TO STA. 877+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	67
WHA* 1055M16			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K(976)				

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**MERCER COUNTY
(C.H. 9) JOY ROAD
SEGMENT 2 CULVERT EXTENSIONS**

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CROSS SECTIONS

SCALE: 1" = 5'-0" SHEET NO. 26 OF 26 SHEETS STA. 877+12.45 TO STA. 878+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
212	14-00103-02-DR	MERCER	68	68
WHA* 1055MI6			CONTRACT NO. 89741	
ILLINOIS FED. AID PROJECT PA6K976				

**WILLETT HOFMANN
& ASSOCIATES INC.**
ENGINEERING ARCHITECTURE LAND SURVEYING
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