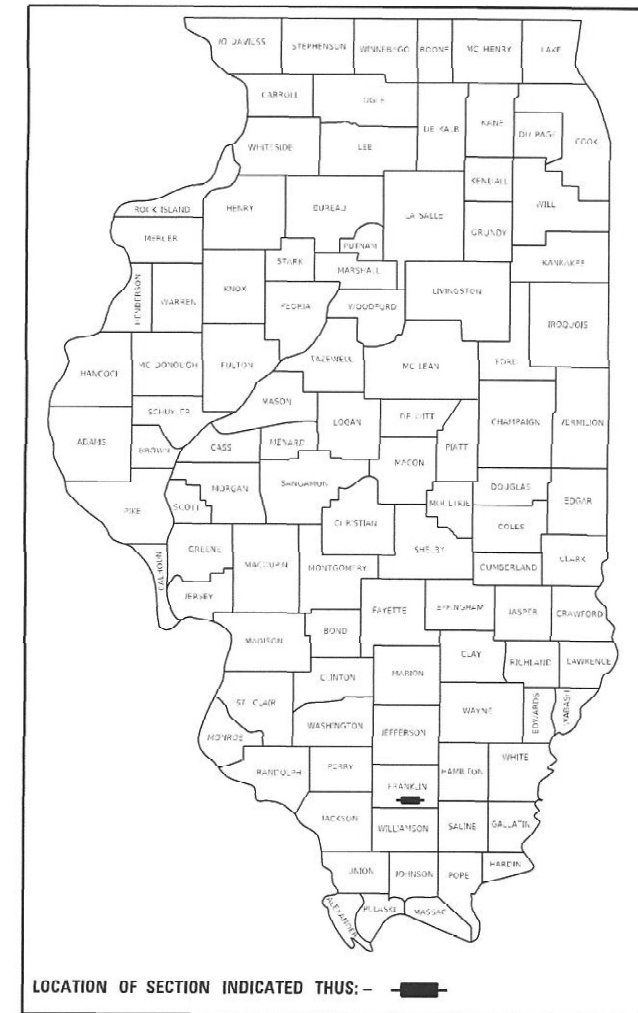


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	1
		ILLINOIS	CONTRACT NO. 78915	

D-99-008-22



INDEX OF SHEETS
SEE SHEET 3 FOR "INDEX OF SHEETS"

DESIGN DESIGNATION: N/A	
EX SN 028-7078 / PR SN 028-7137 IL 149 (OTHER MINOR ARTERIAL) CLASS II TRUCK ROUTE SPEED LIMIT: 55 MPH ADT = 2,450 (2021) P.V. = 2,220 (90.61%) S.U. = 110 (4.49%) M.U. = 120 (4.90%) NAD 1983 STATE PLANE ILLINOIS EAST	EX SN 028-7061 / PR SN 028-7136 IL 149 (MINOR ARTERIAL) CLASS II TRUCK ROUTE SPEED LIMIT: 35 MPH ADT = 2,700 (2021) P.V. = 2,522 (93.4%) S.U. = 108 (4.0%) M.U. = 70 (2.6%) NAD 1983 STATE PLANE ILLINOIS EAST

**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 873 (IL 149)
SECTION 105CR-1;107CR-2
PROJECT NO. HBFP-KMTU(953)
BOX CULVERT REPLACEMENT
FRANKLIN COUNTY



Sean D. Maxwell 4/4/2023
SEAN D. MAXWELL ILLINOIS P.E. 062.071986 DATE
EXPIRES 11/30/2023 PLAN SHEETS: 1-22 & 29-31

QEI 2351 SOUTH DIRKSEN PARKWAY
SPRINGFIELD, ILLINOIS 62703
PROJECT MANAGER: MICHAEL CIMA
www.quiggengineering.com



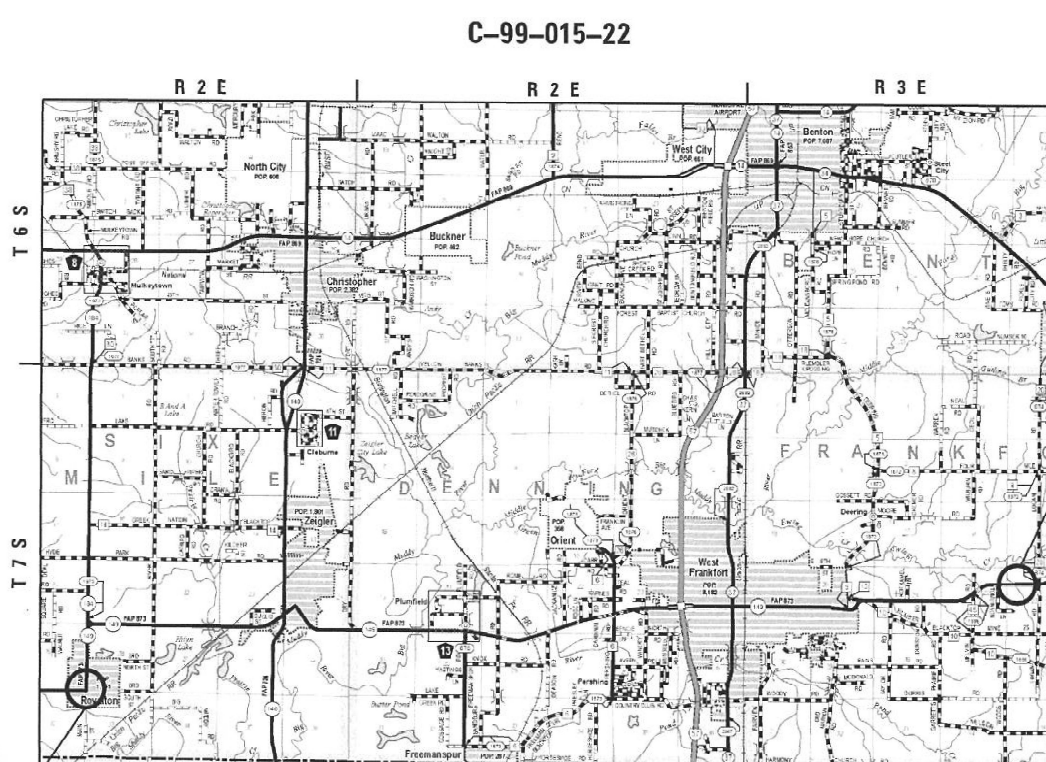
Elizabeth S. Witt 4/4/2023
ILLINOIS PROFESSIONAL ENGINEER NO. 062-061876
EXPIRES 11-30-2023 PLAN SHEETS: 43-45 & 51-60

VOLKERT 1500 EASTPORT PLAZA DRIVE
SUITE 200
COLLINSVILLE, IL 62234
(618) 345-8918

IMPROVEMENT LIMITS - STA 19+81.04 TO STA 20+65.39
EX SN 028-7061 / PR SN 028-7136 - STA 20+36.00

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

PROJECT ENGINEER GRANT DETERDING (618) 351-5226
CONTRACT NO. 78915



LOCATION MAP

TOWNSHIP: SIX MILE SECTION: 28, 29, 32, & 33
TOWNSHIP: FRANKFORT SECTION: 23

PROJECT LENGTH

GROSS LENGTH = 84.35 FT. = 0.016 MILE GROSS LENGTH = 120.00 FT. = 0.023 MILE
NET LENGTH = 219.44 FT. = 0.042 MILE

IMPROVEMENT LIMITS - STA 970+50.00 TO STA 971+70.00
EX SN 028-7078 / PR SN 028-7137 - STA 971+10.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED April 4 2023
Kirk H. Bram
REGIONAL ENGINEER

May 12, 2023 [Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

May 12, 2023 [Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

MODEL: D:\data\...
 FILE NAME: S:\2021\12\11\033 - PTR 199-38 09 - QEI - \various\1\INV0-2 & 10 - IL-149 2-Strip\Box_Culv_PHI162\SN 02827078 PHI-ORICADD\CADD_Sheets\0978915 sht_Gen Notes.dgn



QUIGG ENGINEERING INC

USER NAME = SMAXWELL	DESIGNED - TO	REVISED -
	DRAWN - TO	REVISED -
PLOT SCALE = 0.1667' / in.	CHECKED - SDM	REVISED -
PLOT DATE = 3/16/2023	DATE - 03/16/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DISTRICT SIGNATURE BLOCK

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	2
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

PREPARED BY: Charles Stein
 DISTRICT STUDIES AND PLANS ENGINEER

 EXAMINED BY: Nancy Lee
 DISTRICT LAND ACQUISITION ENGINEER

 EXAMINED BY: Cassie Nelson
 DISTRICT PROGRAM DEVELOPMENT ENGINEER

 EXAMINED BY: [Signature]
 DISTRICT OPERATIONS ENGINEER

 EXAMINED BY: Daryl J. Jezusik
 DISTRICT PROJECT IMPLEMENTATION ENGINEER

 EXAMINED BY: Daryl J. Jezusik
 DISTRICT CONSTRUCTION ENGINEER

 EXAMINED BY: Aam Harg
 DISTRICT MATERIALS ENGINEER

GENERAL NOTES

1. PROPOSED PAVEMENT MARKING SHALL MATCH LOCATIONS OF THE EXISTING PAVEMENT MARKING AS DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL STAGE ALL WORK IN SUCH A WAY AS TO MAINTAIN REASONABLE INGRESS AND EGRESS TO ALL ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.
3. A NOMINAL QUANTITY HAS BEEN PROVIDED TO MAINTAIN TEMPORARY ACCESS TO THE SOUTH LEG OF SOUTH SIMS STREET DURING STAGE CONSTRUCTION.
4. THE CONTRACTOR SHALL PROVIDE POSITIVE AND ADEQUATE DRAINAGE AT ALL TIMES.
5. A CALCIUM CHLORIDE ACCELERATOR WILL BE ALLOWED FOR THE PORTLAND CEMENT CONCRETE PAVEMENT, 10".
6. ALL ELEVATIONS REFER TO THE USGS MEAN SEA LEVEL DATUM. NAVD 88.

HIGHWAY STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420001-10	PAVEMENT JOINTS
420101-07	24' JOINTED PCC PAVEMENT
420701-03	PAVEMENT WELDED WIRE REINFORCEMENT
424001-11	PERPENDICULAR CURB RAMPS FOR SIDEWALKS
515001-04	NAME PLATE FOR BRIDGES
542301-03	PRECAST REINFORCED CONCRETE FLARED END SECTION
542401-04	METAL FLARED END SECTION FOR PIPE CULVERTS
606001-08	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
635001-02	DELINEATORS
701001-02	OFFROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5M) AWAY
701006-05	OFFROAD OPERATIONS, 2L, 2W, 15'(4.5M) TO 24"(600MM) FROM PAVEMENT EDGE
701306-04	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS ≥ 45 MPH
701316-13	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR, FOR SPEEDS ≥ 45 MPH
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701801-06	SIDWALK, CORNER OR CROSSWALK CLOSURE
701901-08	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAILS
720006-04	SIGN PANEL ERECTION DETAILS
780001-05	TYPICAL PAVEMENT MARKINGS
862001-01	UNINTERRUPTABLE POWER SUPPLY (UPS)
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	DISTRICT SIGNATURE BLOCK
3	GENERAL NOTES, HIGHWAY STANDARDS, AND INDEX OF SHEETS
4 - 9	SUMMARY OF QUANTITIES
10 - 11	SCHEDULE OF QUANTITIES - PR SN 028-7137
12	TYPICAL SECTIONS - PR SN 028-7137
13	ALIGNMENT TIES AND BENCHMARKS - PR SN 028-7137
14	ROW - PR SN 028-7137
15	REMOVAL PLAN - PR SN 028-7137
16	PLAN AND PROFILE - PR SN 028-7137
17	DRAINAGE PROFILE - PR SN 028-7137
18	DETOUR MAP - PR SN 028-7137
19	MOT TYPICAL - PR SN 028-7137
20	EROSION CONTROL PLAN - PR SN 028-7137
21	LANDSCAPING PLAN - PR SN 028-7137
22	DETAILS - PR SN 028-7137
23 - 28	STRUCTURES - PR SN 028-7137
29 - 31	CROSS SECTIONS - PR SN 028-7137
32	TYPICAL SECTIONS - PR SN 028-7136
33 - 34	SCHEDULE OF QUANTITIES - PR SN 028-7136
35	ALIGNMENT, TIE POINTS AND BENCHMARKS - PR SN 028-7136
36	PLAN AND PROFILE - PR SN 028-7136
37	SEQUENCE AND STAGING DETAILS - PR SN 028-7136
38 - 39	DETOUR PLAN - PR SN 028-7136
40	RIGHT OF WAY SHEET - PR SN 028-7136
41	LANDSCAPING PLANS - PR SN 028-7136
42	INTERSECTION AND PAVEMENT ELEVATION DETAILS - PR SN 028-7136
43	CURB RAMP DETAILS - PR SN 028-7136
44	REMOVAL PLANS - PR SN 028-7136
45	MISCELLANEOUS DETAILS - PR SN 028-7136
46 - 50	STRUCTURE PLANS - PR SN 028-7136
51 - 60	CROSS SECTIONS - PR SN 028-7136

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

APPLICATION RATES	
SUBBASE GRANULAR MATERIAL.....	= 2.05 TONS / CU YD
RIPRAP.....	= 1.5 TONS / CU YD
NITROGEN FERTILIZER NUTRIENT (SEEDING).....	= 90 LBS / ACRE
PHOSPHORUS FERTILIZER NUTRIENT (SEEDING).....	= 90 LBS / ACRE
POTASSIUM FERTILIZER NUTRIENT (SEEDING).....	= 90 LBS / ACRE
MULCH, METHOD 2.....	= 2 TONS / ACRE
AGRICULTURAL GROUND LIMESTONE.....	= 2 TONS / ACRE
TEMPORARY EROSION CONTROL SEEDING.....	= 100 LBS / ACRE

COMMITMENTS

SN_028-7136

ACCESS TO THE SOUTH LEG OF SOUTH SIMS STREET IS TO BE PROVIDED AT ALL TIMES UNLESS SUITABLE ALTERNATE ACCOMMODATIONS ARE MADE AVAILABLE SHOULD A CLOSURE BE NEEDED.

SN_028-7137

TO KEEP MR. TOMLINSON'S COWS SAFELY CONTAINED, AN ADEQUATE TEMPORARY FENCE NEEDS TO BE INSTALLED IN THE AREAS THAT THE EXISTING FENCE WILL BE REMOVED PRIOR TO COMPLETION OF THE PROJECT. REINSTALL THE CURRENT EXISTING FENCE TO ITS ORIGINAL LOCATION AND STATE.

REV. - MS

MODEL: D:\64bit\... FILE NAME: S:\2021\11\033 - FTB 199-38 D9 - OEL - Various\HWOC-2 & 10 - IL-149 2-Single Box_Culv_Phl\02\SN 028-7078 PH1-OEL\CADD\CADD_Sheets\0978915_sht_Gen_Notes.dgn

 QUIGG ENGINEERING INC	USER NAME = smaxwell	DESIGNED - TO	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES, HIGHWAY STANDARDS, AND INDEX OF SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	PLOT SCALE = 0.1667' / in.	CHECKED - SDM	REVISED -			873	107CR-2	FRANKLIN	60	3	
PLOT DATE = 4/4/2023	DATE - 04/03/2023	REVISED -	SCALE: NONE			SHEET 1 OF 1 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		
										CONTRACT NO. 78915	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE	
				STP 80% FED, 20% STATE	STP 80% FED, 20% STATE
				ROADWAY	ROADWAY
				0004	0004
				S.N. 028-7137	S.N. 028-7136
20200100	EARTH EXCAVATION	CU YD	270	150	120
20700220	POROUS GRANULAR EMBANKMENT	CU YD	526	407	119
20800150	TRENCH BACKFILL	CU YD	2		2
25000110	SEEDING, CLASS 1A	ACRE	0.25		0.25
25000200	SEEDING, CLASS 2	ACRE	0.11	0.11	
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	33	10	23
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	33	10	23
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	33	10	23
25000700	AGRICULTURAL GROUND LIMESTONE	TON	0.8	0.3	0.5
25100115	MULCH, METHOD 2	ACRE	0.2	0.2	
25100630	EROSION CONTROL BLANKET	SQ YD	758	530	228
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	37	12	25
28000305	TEMPORARY DITCH CHECKS	FOOT	73	73	

* SPECIALTY ITEM

REV. - MS

MODEL: D:\6\11
 FILE NAME: S:\2021\12\11\033 - FTB 199-38 D9 - OEI - Various - HWOC-2 & 10 - IL-149 2-Single Box Culv-PH1-S2\SN 028-7078 PH1-OE1\CADD\CADD_Sheet1(D978915)_sht_500.dgn



USER NAME = smaxwell	DESIGNED - TO	REVISED -
PLOT SCALE = 99.9996 ' / in.	DRAWN - TO	REVISED -
PLOT DATE = 4/5/2023	CHECKED - SDM	REVISED -
	DATE - 04/03/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: NONE SHEET 1 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	4
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE	
				STP 80% FED, 20% STATE	STP 80% FED, 20% STATE
				ROADWAY	ROADWAY
				0004	0004
				S.N. 028-7137	S.N. 028-7136
28000500	INLET AND PIPE PROTECTION	EACH	4	1	3
28100107	STONE RIPRAP, CLASS A4	SQ YD	101	86	15
28200200	FILTER FABRIC	SQ YD	101	86	15
31100100	SUBBASE GRANULAR MATERIAL, TYPE A	TON	424	142	282
35101800	AGGREGATE BASE COURSE, TYPE B 6"	SQ YD	62	62	
40201000	AGGREGATE FOR TEMPORARY ACCESS	TON	50		50
42000060	WELDED WIRE REINFORCEMENT	SQ YD	741	374	367
42000500	PORTLAND CEMENT CONCRETE PAVEMENT 10"	SQ YD	741	374	367
42001300	PROTECTIVE COAT	SQ YD	415		415
42300200	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6 INCH	SQ YD	18	18	
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	247		247
42400800	DETECTABLE WARNINGS	SQ FT	16		16
44000100	PAVEMENT REMOVAL	SQ YD	727	367	360

* SPECIALTY ITEM

REV. - MS

MODEL: C:\p6\1\... FILE NAME: S:\2021\11\03... - PFB_199-38 D9 - OEI - Various - HWID-2 & 10 - IL-149 2-Single Box - Curb - PH1-52\SN 028-7078 PH1-OEILCADD\CADD_Sheet\1978915_sht_500.dgn



USER NAME = smaxwell	DESIGNED - TO	REVISED -
PLOT SCALE = 99.9996 ' / in.	DRAWN - TO	REVISED -
PLOT DATE = 4/5/2023	CHECKED - SDM	REVISED -
	DATE - 04/03/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: NONE SHEET 2 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	5
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE	
				STP 80% FED, 20% STATE	STP 80% FED, 20% STATE
				ROADWAY	ROADWAY
				0004	0004
				S.N. 028-7137	S.N. 028-7136
44000200	DRIVEWAY PAVEMENT REMOVAL	SQ YD	23	23	
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	57		57
44000600	SIDEWALK REMOVAL	SQ FT	224		224
44201299	DOWEL BARS 1 1/2"	EACH	52	52	
44213200	SAW CUTS	FOOT	66	66	
48101620	AGGREGATE SHOULDERS, TYPE B 10"	SQ YD	65	65	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1	
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1		1
50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1		1
50104400	CONCRETE HEADWALL REMOVAL	EACH	3		3
50105220	PIPE CULVERT REMOVAL	FOOT	42		42
50200100	STRUCTURE EXCAVATION	CU YD	232	142	90
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	11,200	9,710	1,490

* SPECIALTY ITEM

REV. - MS

MODEL: Default
 FILE NAME: S:\2021\12\11\03 - PTB 199-38 D9 - OEI - Various HWOC-2 & 10 - IL-149 2-Single Box Culv PH1\2\SN 028-7078 PH1-OEILCADD\CADD_Sheet\1978915_sht_500.dgn



USER NAME = smaxwell	DESIGNED - TO	REVISED -
PLOT SCALE = 99.9996 ' / in.	DRAWN - TO	REVISED -
PLOT DATE = 4/5/2023	CHECKED - SDM	REVISED -
	DATE - 04/03/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: NONE SHEET 3 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	6
			CONTRACT NO. 78915	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE	
				STP 80% FED, 20% STATE	STP 80% FED, 20% STATE
				ROADWAY	ROADWAY
				0004	0004
				S.N. 028-7137	S.N. 028-7136
51500100	NAME PLATES	EACH	1	1	
52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	317	317	
54001001	BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	1		1
54001002	BOX CULVERT END SECTION, CULVERT NO. 2	EACH	1		1
54002020	EXPANSION BOLTS 3/4 INCH	EACH	32		32
54003000	CONCRETE BOX CULVERTS	CU YD	65.0	59.3	5.7
54010302	PRECAST CONCRETE BOX CULVERTS 3' X 2'	FOOT	46		46
54011102	PRECAST CONCRETE BOX CULVERTS 11' X 2'	FOOT	48		48
54011206	PRECAST CONCRETE BOX CULVERTS 12' X 6'	FOOT	69	69	
54213663	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 18"	EACH	2		2
542A0223	PIPE CULVERTS, CLASS A, TYPE 1 18"	FOOT	35		35
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	60	60	
54261715	STEEL FLARED END SECTIONS 15"	EACH	1	1	

* SPECIALTY ITEM

REV. - MS

MODEL: C:\p6\11\2021\11\031 - FTB_199-38 D9 - OEI - Various - HWID-2 & 10 - IL-149 2-Single Box Culv.PH1\52\SN 028-7078 PH1-QEILCADD\CADD_Sheet1D978915.dwg_500.dgn



USER NAME = smaxwell	DESIGNED - TO	REVISED -
PLOT SCALE = 99.9996 ' / in.	DRAWN - TO	REVISED -
PLOT DATE = 4/5/2023	CHECKED - SDM	REVISED -
	DATE - 04/03/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: NONE SHEET 4 OF 6 SHEETS STA. TO STA.

F.A.P. RTE. 873	SECTION 107CR-2	COUNTY FRANKLIN	TOTAL SHEETS 60	SHEET NO. 7
			CONTRACT NO. 78915	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE	
				STP 80% FED, 20% STATE	STP 80% FED, 20% STATE
				ROADWAY	ROADWAY
				0004	0004
				S.N. 028-7137	S.N. 028-7136
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	196	144	52
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	0.5		0.5
60600095	CLASS SI CONCRETE (OUTLET)	CU YD	4		4
60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	71		71
63500105	DELINEATORS	EACH	4	4	
63500310	REMOVE AND REINSTALL DELINEATORS	EACH	1	1	
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1	1	
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1		1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	15		15
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6	
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	102	34	68
72400320	REMOVE SIGN PANEL - TYPE 2	SQ FT	27	27	

* SPECIALTY ITEM

REV. - MS

MODEL: C:\p6\11\11033 - FTB_199-38 D9 - OEI - Various - HWID-2 & 10 - IL-149 2-Single Box Curb PH1\2\1\SN 028-7078 PH1-OEILCADD\CADD_Sheet1\078915_sht_500.dgn



USER NAME = smaxwell	DESIGNED - TO	REVISED -
PLOT SCALE = 99.9996 ' / in.	DRAWN - TO	REVISED -
PLOT DATE = 4/5/2023	CHECKED - SDM	REVISED -
	DATE - 04/03/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: NONE SHEET 5 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	8
			CONTRACT NO. 78915	
			ILLINOIS FED. AID PROJECT	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE	
				STP 80% FED, 20% STATE	STP 80% FED, 20% STATE
				ROADWAY	ROADWAY
				0004	0004
				S.N. 028-7137	S.N. 028-7136
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	345	270	75
* 86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1	1	
Z0016702	DETOUR SIGNING	L SUM	1	0.5	0.5
X0900064	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	195.5	143.5	52.0
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	0.5	0.5

* SPECIALTY ITEM

REV. - MS

MODEL: D:\6\11
 FILE NAME: S:\2021\12\11\033 - PTB 199-38 D9 - OEI - Various HWOC-2 & 10 - IL-149 2-Single Box Culv PH1\2\1SN 028-7078 PH1-OE1\CADD\CADD_Sheet\1978915_sht_500.dgn



USER NAME = smaxwell	DESIGNED - TO	REVISED -
	DRAWN - TO	REVISED -
PLOT SCALE = 99.9996 ' / in.	CHECKED - SDM	REVISED -
PLOT DATE = 4/5/2023	DATE - 04/03/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: NONE SHEET 6 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	9
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

SEEDING SCHEDULE												
LOCATION				25000200		25000400	25000500	25000600	25000700	25100115	25100630	28000250
				SEEDING CLASS 2		NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	AGRICULTURAL GROUND LIMESTONE	MULCH METHOD 2	EROSION CONTROL BLANKET	TEMPORARY EROSION CONTROL SEEDING
STA	STA	LT/RT	SLOPE FACTOR	SQ FT	ACRE	POUND	POUND	POUND	TON	ACRE	SQ YD	POUND
970+50.00	971+70.00	LT/RT	1.05	4,536	0.110	9.9	9.9	9.9	0.30	0.20	529.2	11.0
TOTAL					0.110	9.9	9.9	9.9	0.30	0.2	529.2	11.0
USE					0.11	10	10	10	0.3	0.2	530	12

TEMPORARY DITCH CHECKS				
STA	STA	LT/RT	DITCH CHECKS	FOOT
970+50.00		LT	1	11
970+50.00	970+67.00	RT	1	11
971+00.00	971+70.00	LT	2	33
971+70.00		RT	1	18
TOTAL				73

DRAINAGE SCHEDULE					
LOCATION			28000500	542D0220	54261715
			INLET AND PIPE PROTECTION	PIPE CULVERTS, CLASS D, TYPE 1 15"	STEEL FLARED END SECTIONS
STA	STA	LT/RT	EACH	FOOT	EACH
970+70.00	971+30.00	RT	1	60	1
TOTAL			1	60	1

RIPRAP SCHEDULE				
LOCATION			28100107	28200200
			STONE RIPRAP CLASS A4	FILTER FABRIC
STA	STA	LT/RT	SQ YD	POUND
970+50.00	970+92.63	LT	42.8	42.8
971+27.37	971+66.02	RT	42.9	42.9
TOTAL			85.7	85.7
USE			86	86

EARTHWORK SCHEDULE					
LOCATION	(*) EARTH EXCAVATION	STRUCTURE EXCAVATION	EXCAVATION ADJUSTED FOR SHRINKAGE (15%)	(*) EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)
970+50 to 971+70	149.8	142.0	248.0	22.5	225.5
TOTALS	150	142			

MODEL: D:\p4\h\p\199-38-09 - QEI - Various LHMV-2 & 10 - H-149-2-Single Box, Culv, PH1521SN 028-7078 PH1-QE1CADD\CADD_Sheets\0978915_S01_Schedule.sxd
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USER NAME = smaxwell	DESIGNED - TO	REVISED -
	DRAWN - TO	REVISED -
PLOT SCALE = 0.1667' / in.	CHECKED - SDM	REVISED -
PLOT DATE = 4/4/2023	DATE - 04/03/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCHEDULE OF QUANTITIES		
PR SN 028-7137		
SCALE: NONE	SHEET 1 OF 2 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	10
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

PAVING SCHEDULE

LOCATION			31100100	42000500	44000100	42000060	44201299	44213200
			SUBBASE GRANULAR MATERIAL, TYPE A	PORTLAND CEMENT CONCRETE PAVEMENT 10"	PAVEMENT REMOVAL	WELDED WIRE REINFORCEMENT	DOWEL BARS 1 1/2"	SAW CUTS
STA	STA	LT/RT	TON	SQ YD	SQ YD	SQ YD	EACH	FOOT
970+50.00	971+70.00	LT/RT	141.2	373.3	366.7	373.3	52	66.0
TOTAL			141.2	373.3	366.7	373.3	52	66.0
USE			142	374	367	374	52	66

DELINEATOR SCHEDULE

LOCATION		63500105	63500310
		DELINEATORS	REMOVE AND REINSTALL DELINEATORS
STA	LT/RT	EACH	EACH
970+50.00	LT	1	
970+95.00	LT		1
978+70.00	RT	1	
971+25.00	RT	1	
971+70.00	RT	1	
TOTAL		4	1

PAVEMENT MARKING SCHEDULE

LOCATION			78001110
			PAINT PAVEMENT MARKING - LINE 4"
STA	STA	LT/RT	FOOT
970+50.00	971+70.00	LT	120.0
970+50.00	971+70.00	RT	120.0
970+50.00	971+70.00	LT/RT	30.0
TOTAL			270.0

ENTRANCE SCHEDULE

LOCATION		35101800	42300200	44000200
		AGGREGATE BASE COURSE, TYPE B 6"	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6 INCH	DRIVEWAY PAVEMENT REMOVAL
STA	LT/RT	SQ YD	SQ YD	SQ YD
970+86.00	RT	61.8	17.5	22.2
TOTAL		61.8	17.5	22.2
USE		62	18	23

MODEL: D:\p4\h\...
 FILE NAME: S:\2021\12\11\033 - PTB 199-38 D9 - QEI - Various HWY-2 & 10 - H-149 2-Strip...
 Box: C:\p4\h\...
 Plot: PH1-QE1-CADD\CADD_Sheets\0978915_01_Schedule.dwg



USER NAME = smaxwell
 PLOT SCALE = 0.1667' / in.
 PLOT DATE = 4/4/2023

DESIGNED - TO
 DRAWN - TO
 CHECKED - SDM
 DATE - 04/03/2023

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

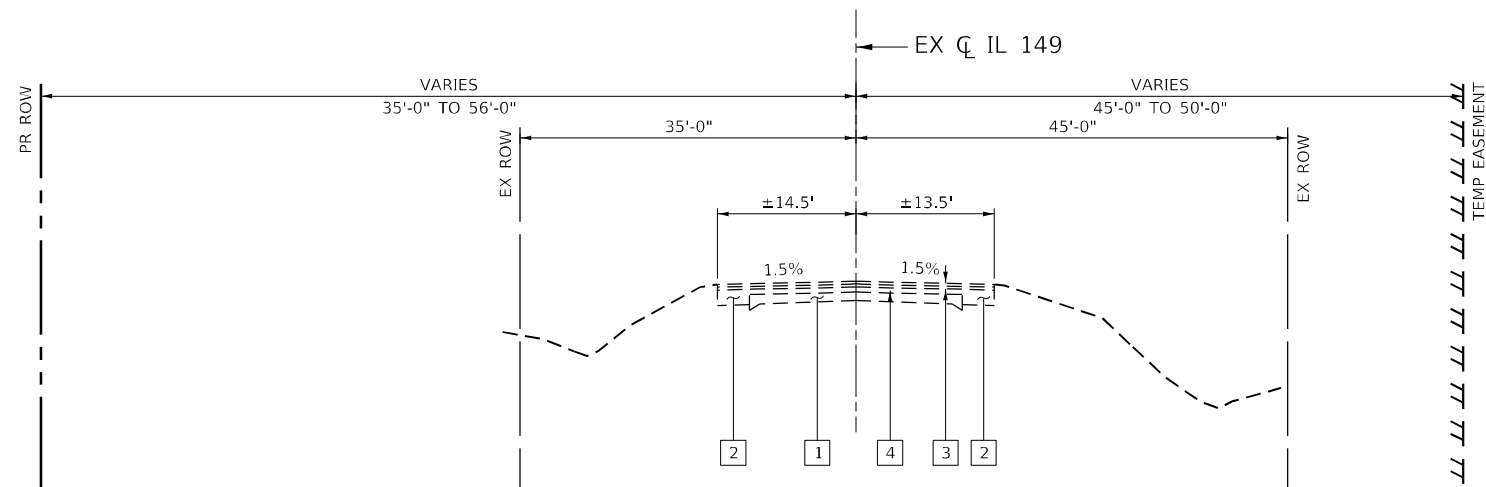
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 PR SN 028-7137**

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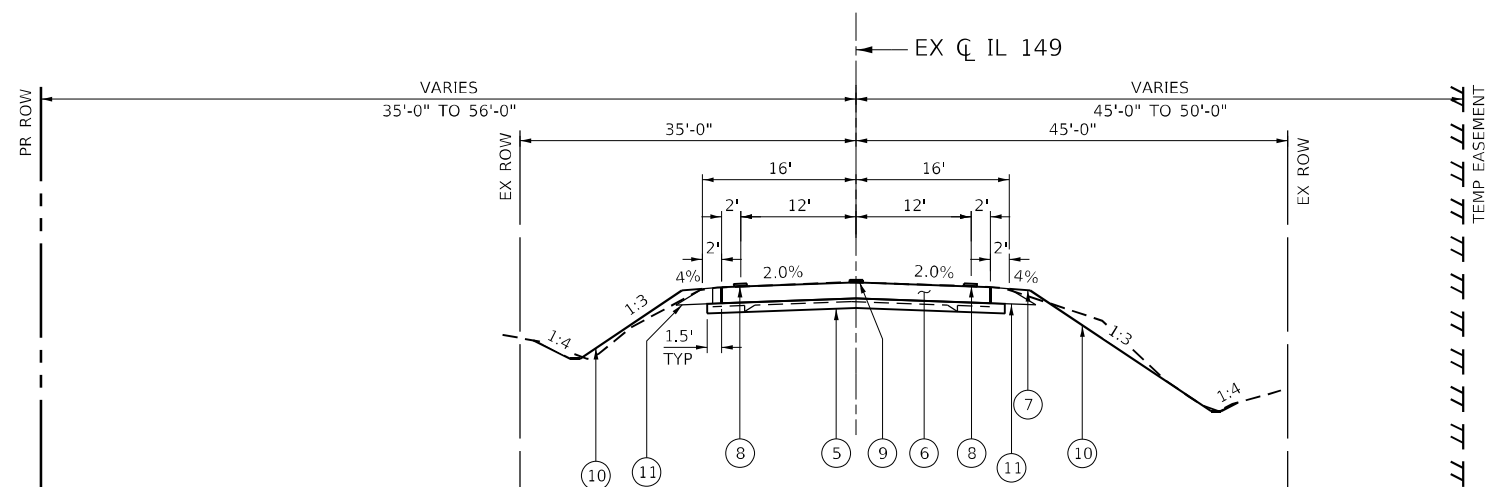
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	11
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

LEGEND

- 1 EX 9-6-9 PCC PAVEMENT
- 2 EX HMA WIDENING
- 3 EX HMA OVERLAY
- 4 EX BITUMINOUS BASE
- 5 PR SUB GRAN MAT A
- 6 PR PCC PVT 10
- 7 PR EARTH SHOULDER
- 8 PR PAINT PVT MK LINE 4 - YELLOW
- 9 PR PAINT PVT MK LINE 4 - WHITE
- 10 PR FINISHED GRADE
- 11 PR AGGREGATE SHLDS B 10"



EXISTING TYPICAL SECTION
(STA 970+50.00 TO STA 971+70.00)



PROPOSED TYPICAL SECTION
(STA 970+50.00 TO STA 971+70.00)

MODEL: D:\p4\h...
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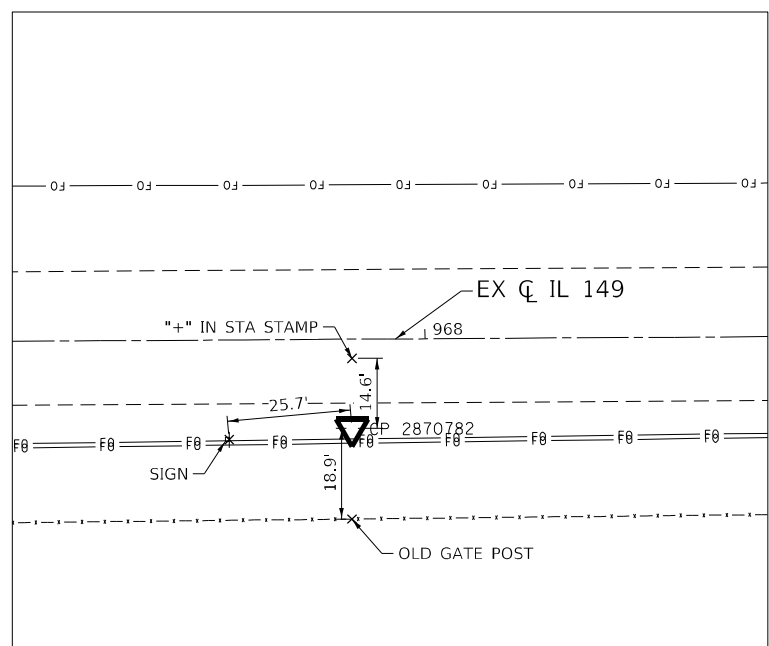
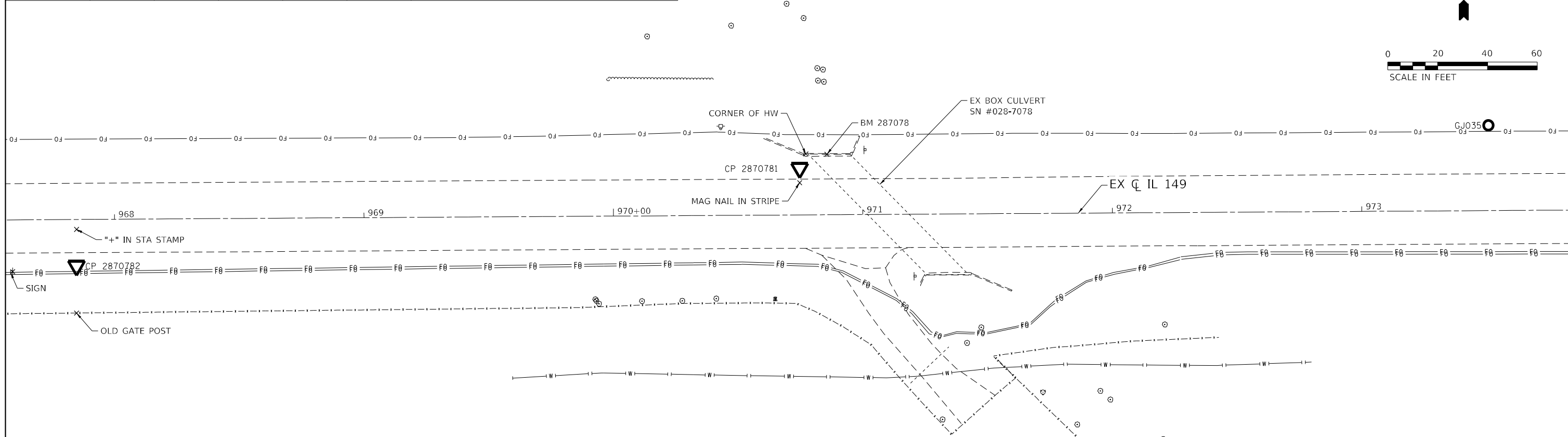
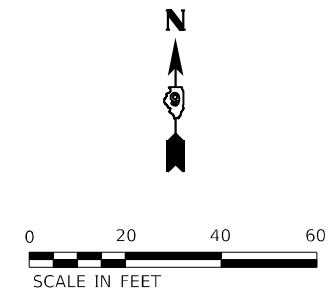
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DRAWN - TO	REVISIONS	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

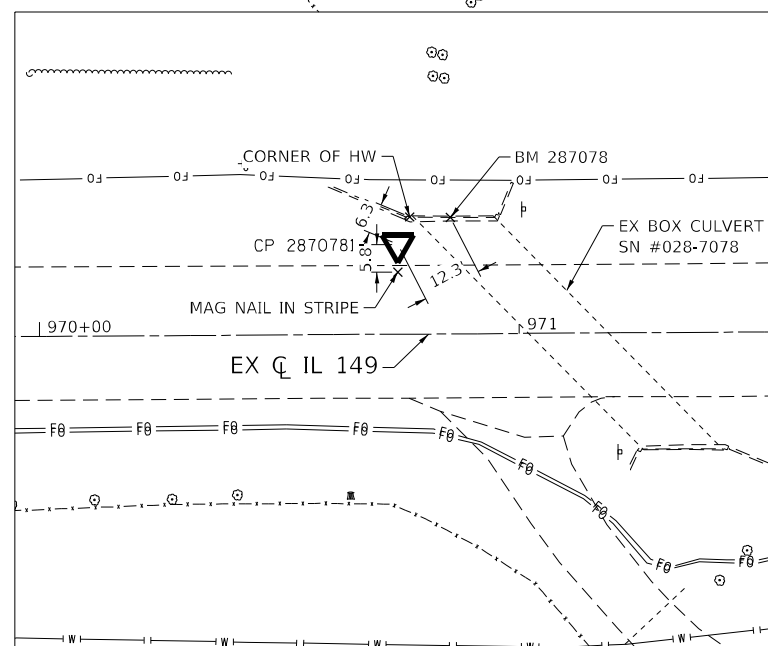
TYPICAL SECTIONS	
PR SN 028-7137	
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	12
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

	ELEVATION	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
BENCHMARK						
287078	404.397	970+85.76	24.27' LT	450807.896	834352.068	SQ CUT ON CENTER OF N HDWL OF EX SN 0287078
PERM SMK						
GJ035	403.210	973+50.95	34.16' LT	450825.092	834628.127	NGS MONUMENT
CONTROL POINT						
2870781	404.284	970+74.79	18.70' LT	450807.896	834352.070	SET IPC NEAR NORTH HEADWALL
2870782	404.424	967+84.69	18.57' RT	450768.804	834062.210	SET IPC LEFT OF STA 968+00 STAMP



CP #2870782



CP #2870781

MODEL: D:\p1\p1...
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 PLOT DATE: 4/4/2023



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PLOT DATE = 4/4/2023	CHECKED - SDM	REVISED -
	DATE - 04/03/2023	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ALIGNMENT TIES AND BENCHMARKS	
PR SN 028-7137	
SCALE: 1" = 20'	SHEET 1 OF 1 SHEETS
STA. 967+56.30 TO STA. 973+86.30	

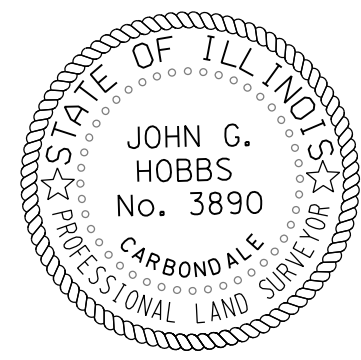
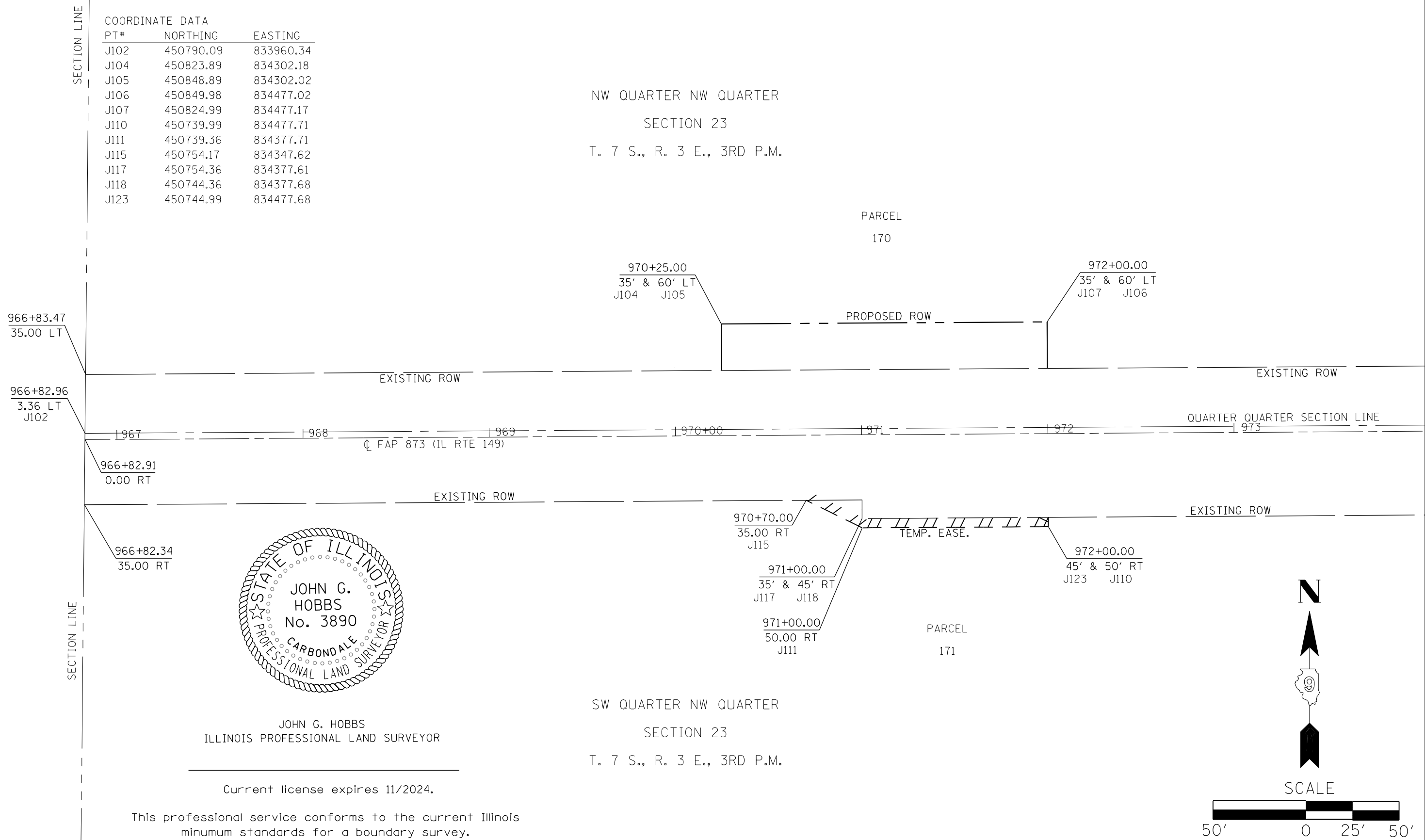
F.A.P. RTE. 873	SECTION 107CR-2	COUNTY FRANKLIN	TOTAL SHEETS 60	SHEET NO. 13
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

ALIGNMENT INFO			
FAP 873 (IL RTE 149)			
POINT#	STATION	NORTHING	EASTING
J100	965+00.00	450785.59	833777.41
J101	985+00.00	450798.16	835777.37

PARCEL#	PROPERTY OWNER	PURPOSE	ACREAGE
170	DUANE L. & PATRICIA J. BALLHAGEN	R.O.W.	0.100 ACRES±
171	TRUST OF GEORGE D. TOMLINSON	T.E.	0.017 ACRES±

COORDINATE DATA		
PT#	NORTHING	EASTING
J102	450790.09	833960.34
J104	450823.89	834302.18
J105	450848.89	834302.02
J106	450849.98	834477.02
J107	450824.99	834477.17
J110	450739.99	834477.71
J111	450739.36	834377.71
J115	450754.17	834347.62
J117	450754.36	834377.61
J118	450744.36	834377.68
J123	450744.99	834477.68

NW QUARTER NW QUARTER
SECTION 23
T. 7 S., R. 3 E., 3RD P.M.



JOHN G. HOBBS
ILLINOIS PROFESSIONAL LAND SURVEYOR

Current license expires 11/2024.

This professional service conforms to the current Illinois minimum standards for a boundary survey.



MODEL: Default FILE: M:\GIS\Projects\78915\CADD\Drawings\CAD\Drawings\DWG\78915-ROW.dwg

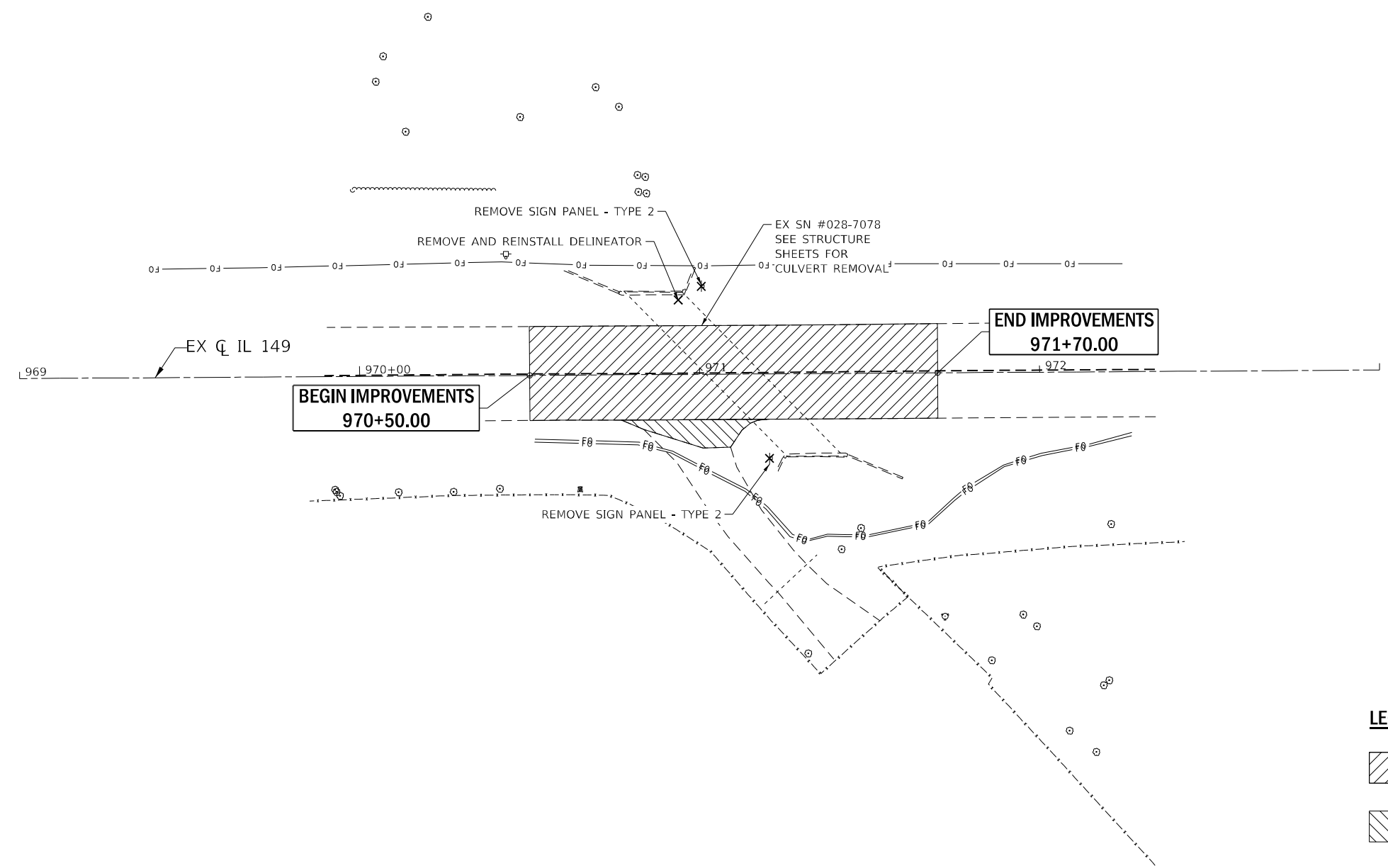
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	DRAWN -	REVISED -
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PLOT DATE = 3/24/2023	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION


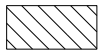

RIGHT OF WAY SHEET
ILLINOIS ROUTE 149 - SNO28-7078

SCALE: 1" = 50' SHEET 2 OF 60 SHEETS STA. 967+00.00 TO STA. 973+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1, 107CR-2	FRANKLIN	60	14
SEC 23 - T.7S. - R.3E.		CONTRACT NO. 78915		
R-99-012-22	ILLINOIS	FED. AID PROJECT		



LEGEND

-  PAVEMENT REMOVAL
-  DRIVEWAY PAVEMENT REMOVAL
-  OBJECT REMOVAL

MODEL Path: \\... FILE NAME: S:\2021\11033 - PTB 199-38 D9 - OFI - Various HWY'S & 10 - IL-149 2-Strip - Box - Culr - PH1-S2-SN 028-7078 PH1-ORF-CADD\CADD_Sheet\0978915.dwg Removal.dgn



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DRAWN - TO	REVISOR -	
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PLOT DATE = 4/4/2023	DATE - 04/03/2023	REVISOR -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**REMOVAL PLAN
PR SN 028-7137**

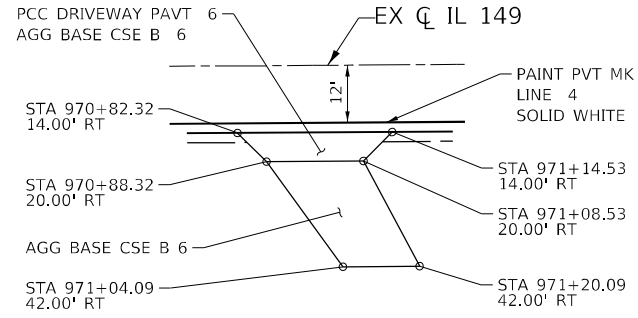
SCALE: 1" = 20' SHEET 1 OF 1 SHEETS STA. 970+50.00 TO STA. 971+70.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	15
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO.	
	FILE NAME	

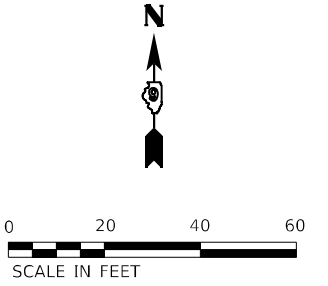
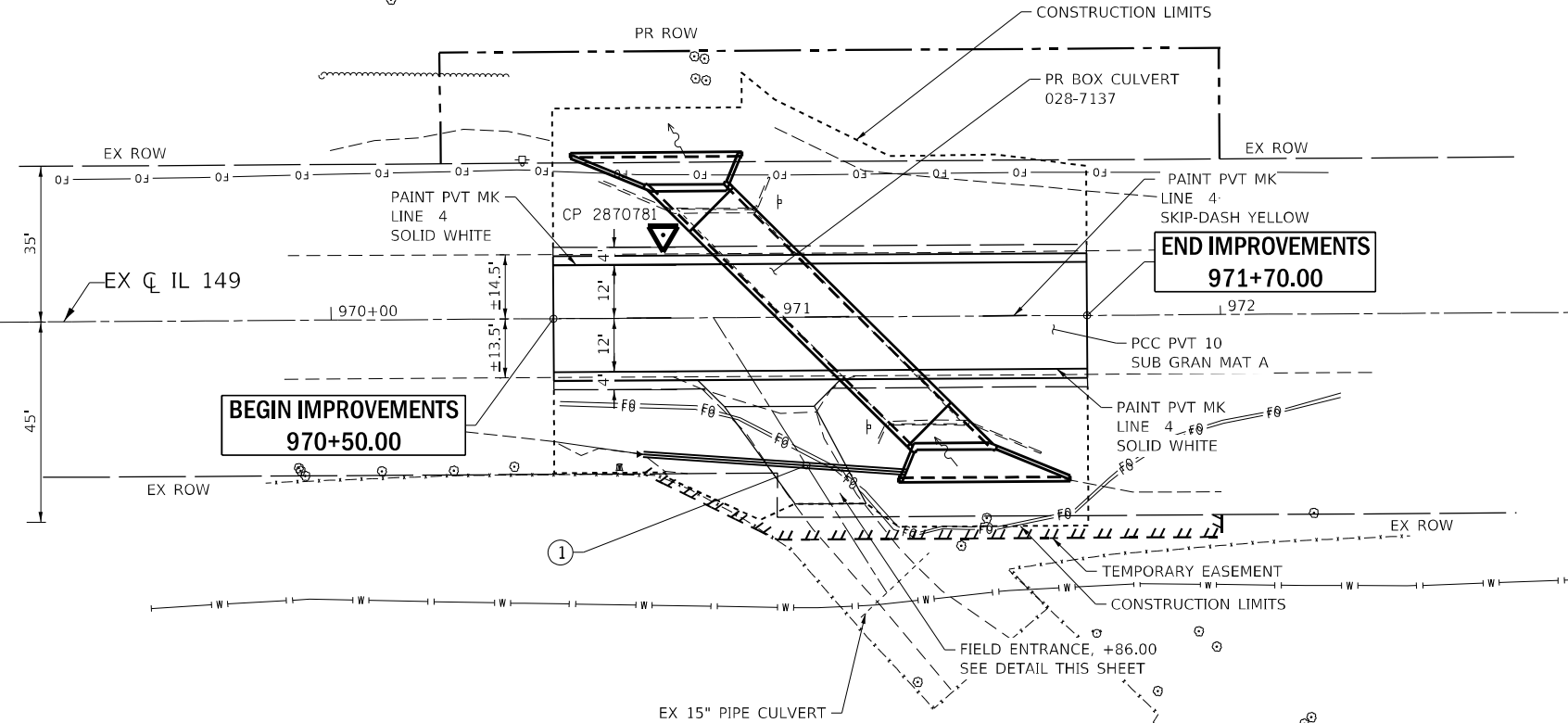
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	PLOTTED	
	CHECKED	
	BY	
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	FILE NAME	

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FIELD ENTRANCE DETAIL

STA 970+86.00, RT
(NOT TO SCALE)



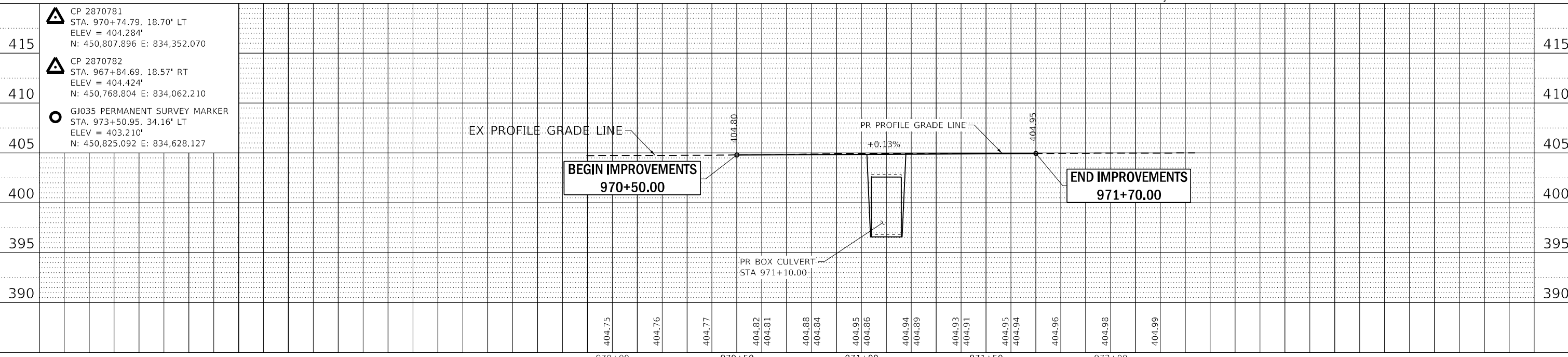
GJ035

BEGIN IMPROVEMENTS
970+50.00

END IMPROVEMENTS
971+70.00

① PIPE CULVERT, CLASS D, TYPE 1
59.1' LENGTH
US ELEV. 400.55'
DS ELEV. 399.06'

PARCEL #12-14-100-001
G&D TOMLINSON TRUST

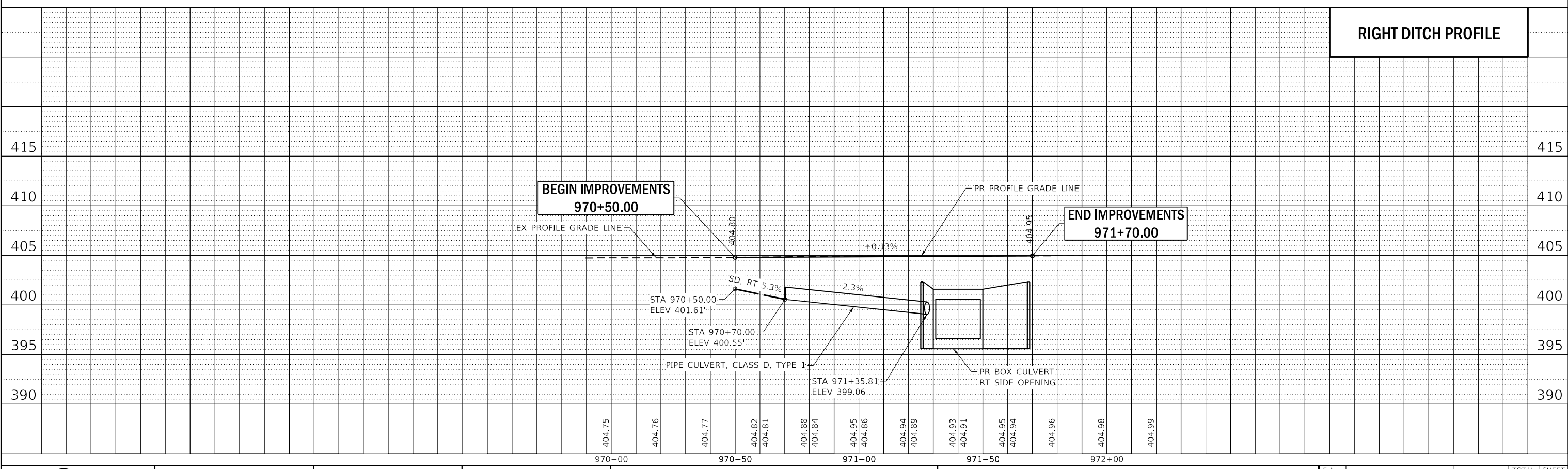
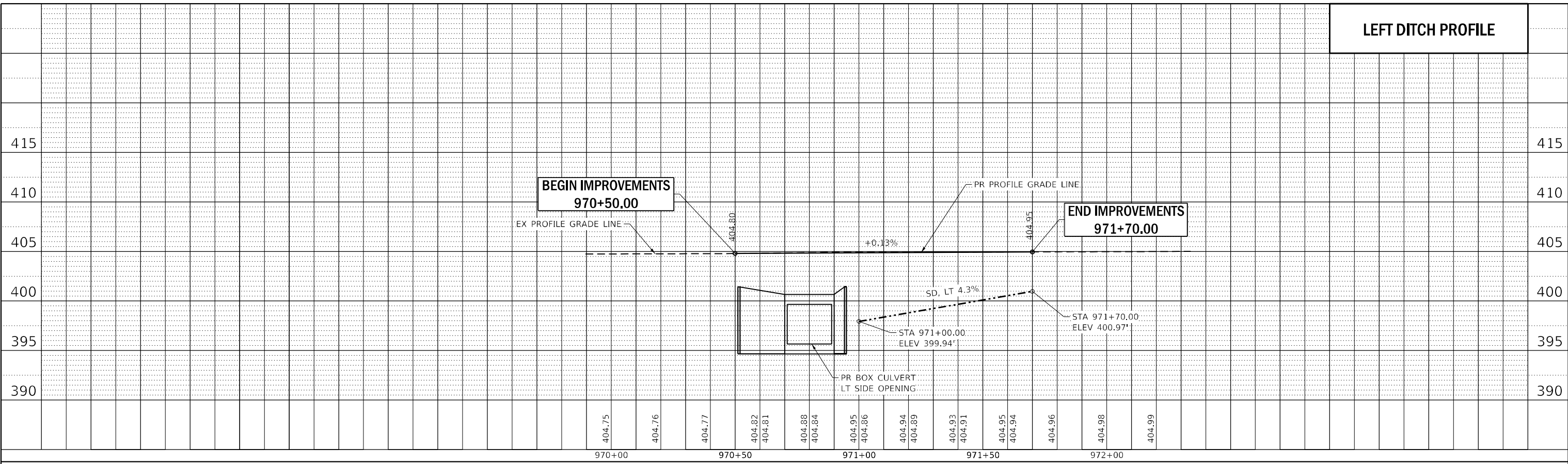


 QUIGG ENGINEERING INC	USER NAME = smaxwell PLOT SCALE = 40,000' / in. PLOT DATE = 4/4/2023	DESIGNED - TO DRAWN - TO CHECKED - SDM DATE - 04/03/2023	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		PLAN AND PROFILE PR SN 028-7137		F.A.P. RTE. = 873 SECTION = 107CR-2 COUNTY = FRANKLIN CONTRACT NO. = 78915	TOTAL SHEETS = 60 SHEET NO. = 16
	SCALE: 1" = 20' SHEET 1 OF 1 SHEETS STA. 970+50.00 TO STA. 971+70.00				ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NOTE BOOK NO.	
	CADD FILE NAME	

PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NOTE BOOK NO.	
	CADD FILE NAME	

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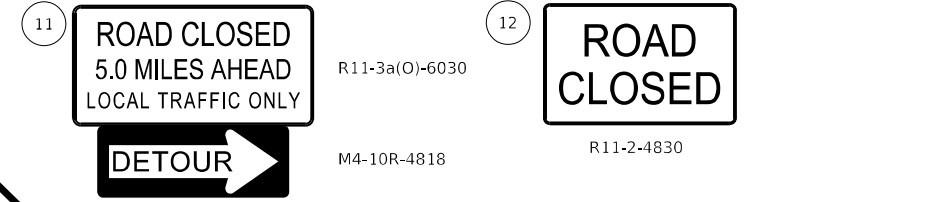
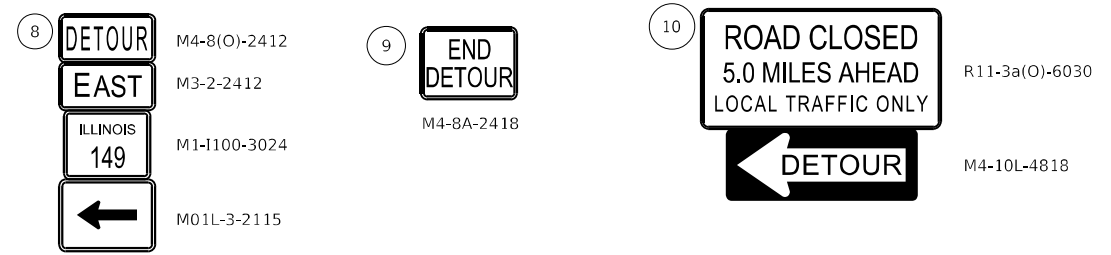
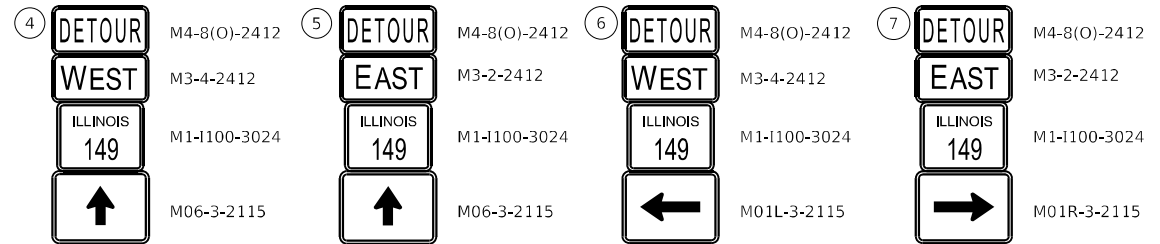
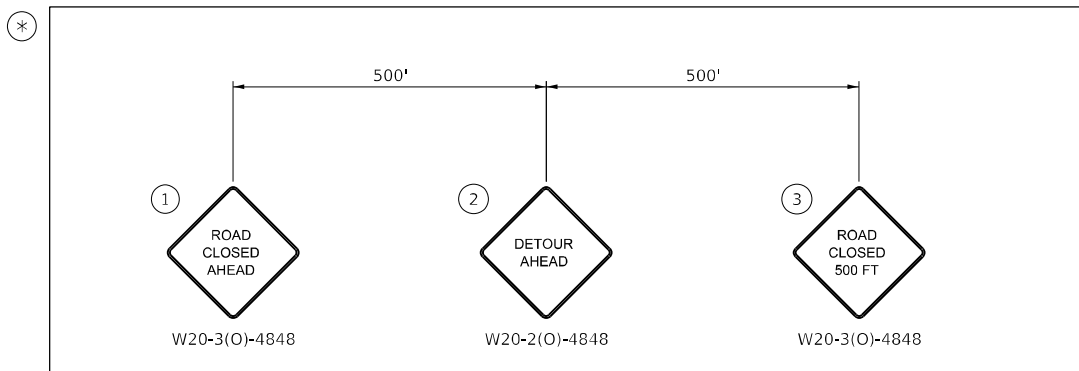
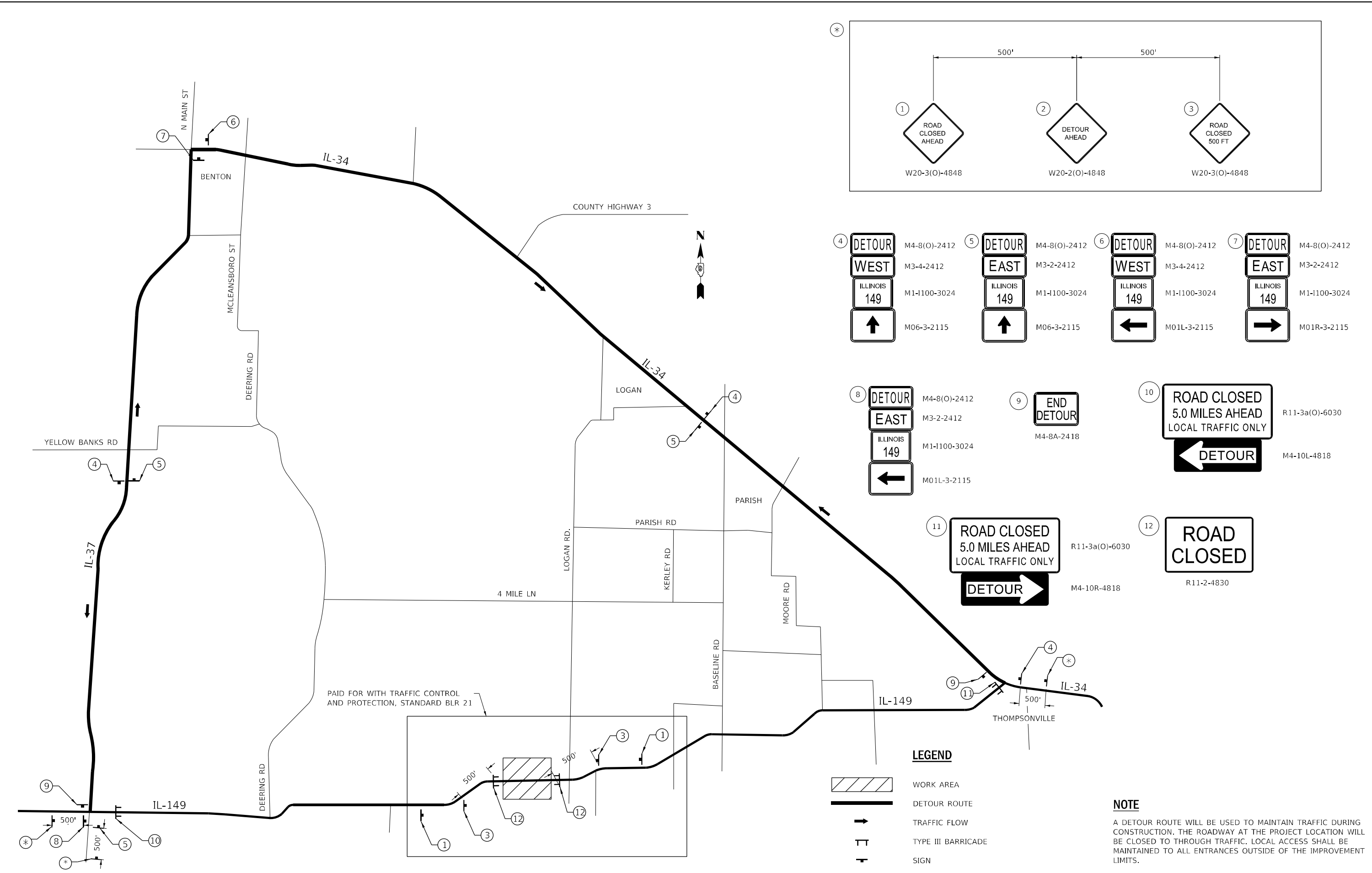
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PLOT DATE = 4/4/2023	CHECKED - SDM	REVISED -
	DATE - 04/03/2023	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

DRAINAGE PROFILE	
PR SN 028-7137	
SCALE: 1" = 20'	SHEET 1 OF 1 SHEETS
STA. 970+50.00 TO STA. 971+70.00	

F.A. RTE. 873	SECTION 107CR-2	COUNTY FRANKLIN	TOTAL SHEETS 60	SHEET NO. 17
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

MODEL: P:\d\4\11\033 - RTE 199-38 D9 - OEI - Various HWY02.3 & 10 - IL-149 2-Signs.dwg
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 PLOT DATE: 4/4/2023



- LEGEND**
- WORK AREA
 - DETOUR ROUTE
 - TRAFFIC FLOW
 - TYPE III BARRICADE
 - SIGN

NOTE
 A DETOUR ROUTE WILL BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION. THE ROADWAY AT THE PROJECT LOCATION WILL BE CLOSED TO THROUGH TRAFFIC. LOCAL ACCESS SHALL BE MAINTAINED TO ALL ENTRANCES OUTSIDE OF THE IMPROVEMENT LIMITS.

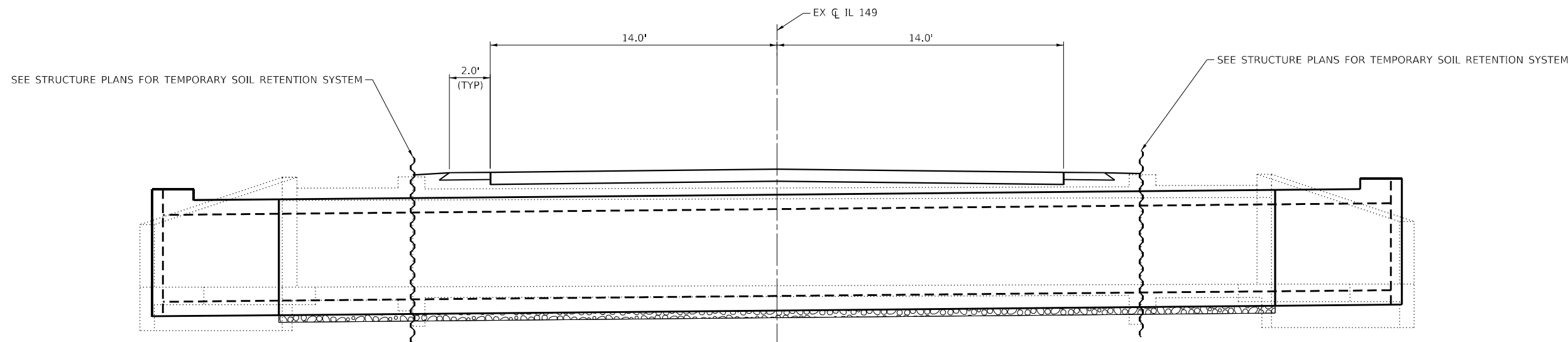


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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

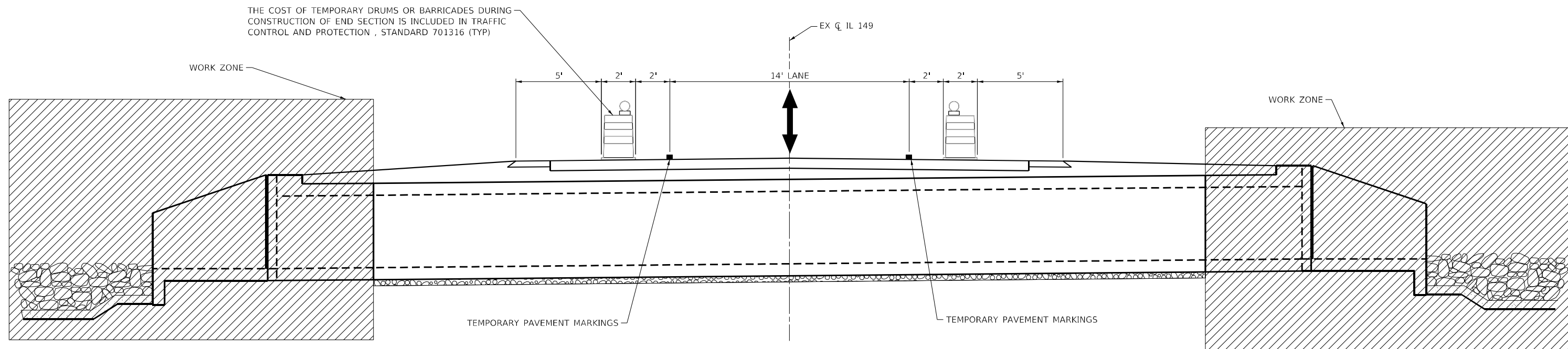
DETOUR MAP			
PR SN 028-7137			
SCALE: NTS	SHEET 1 OF 1 SHEETS	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	18
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				



CONSTRUCTION WITH DETOUR ROUTE

ELEVATION VIEW
SEE STRUCTURE SHEETS FOR ADDITIONAL INFORMATION AND DIMENSIONS



BOX CULVERT END SECTION CONSTRUCTION WITH TRAFFIC

ELEVATION VIEW - UTILIZE HIGHWAY STANDARD 701316 FOR TRAFFIC CONTROL
SEE STRUCTURE SHEETS FOR ADDITIONAL INFORMATION AND DIMENSIONS

MODEL: D:\p\h\... FILE NAME: S:\2023\11\033 - PTB 199-38 09 - QEI - Various - HWOC2 & 10 - IL-149 2-Strip - Box - Cul - PH-152\SN 028-7078 PH-1-08\CAD\CADD_Sheets\0978915.dwg - MOT-Typical.dwg



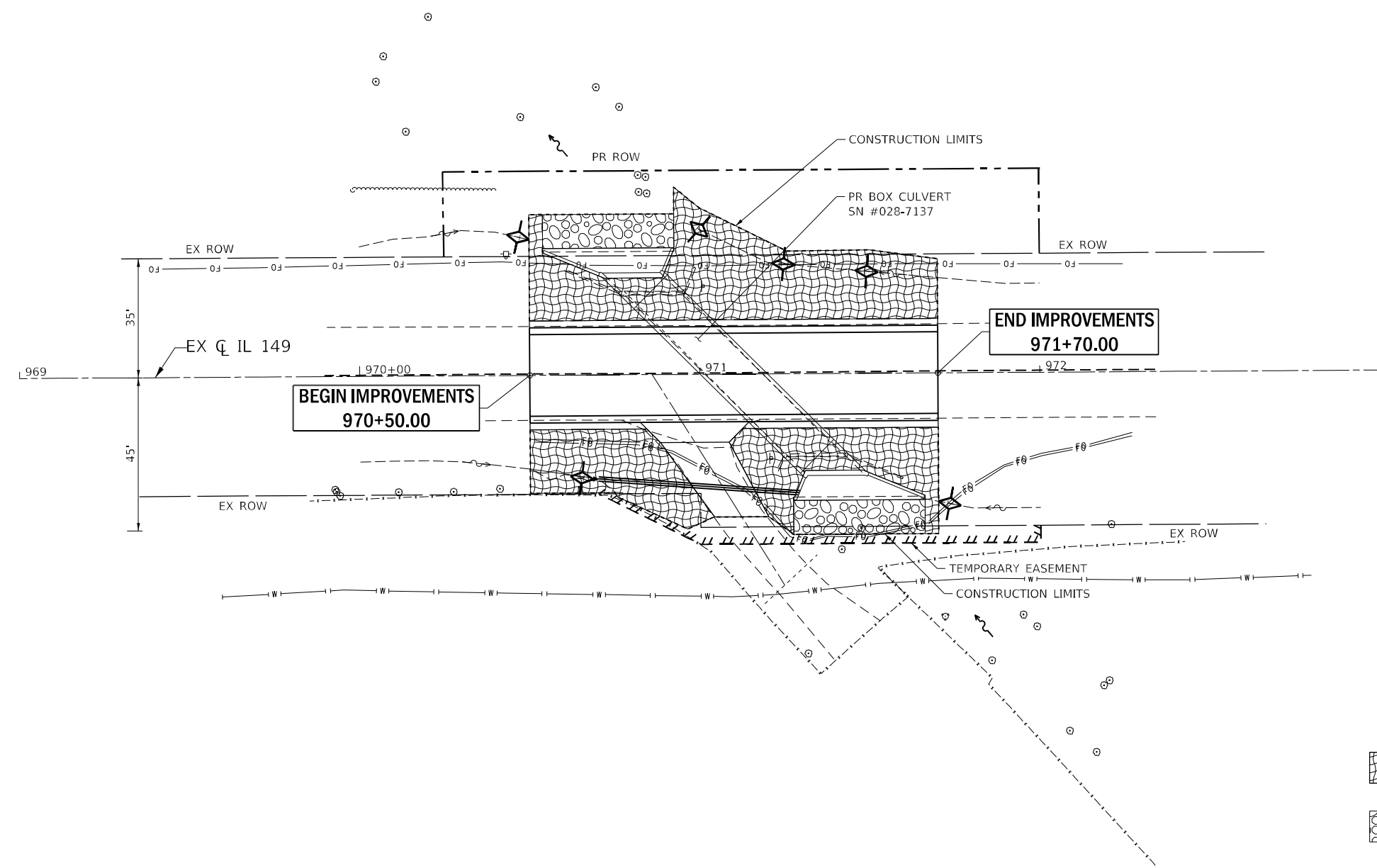
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**





**MOT TYPICAL
PR SN 028-7137**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	19
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				



LEGEND

-  TEMP SEEDING W/ MULCH, METHOD 2
-  STONE RIPRAP, CLASS A4
-  TEMPORARY DITCH CHECK
-  EX FLOWLINE

MODEL: D:\p\h\p\...
 FILE NAME: S:\2023\11\033 - PTB - 199-38 D9 - QEI - Various HWY 2 & 10 - IL-149 2-Strip Box Culr\PHI-028-7137 PH1-028-7137 PH1-028-7137.dwg
 USER: smaxwell



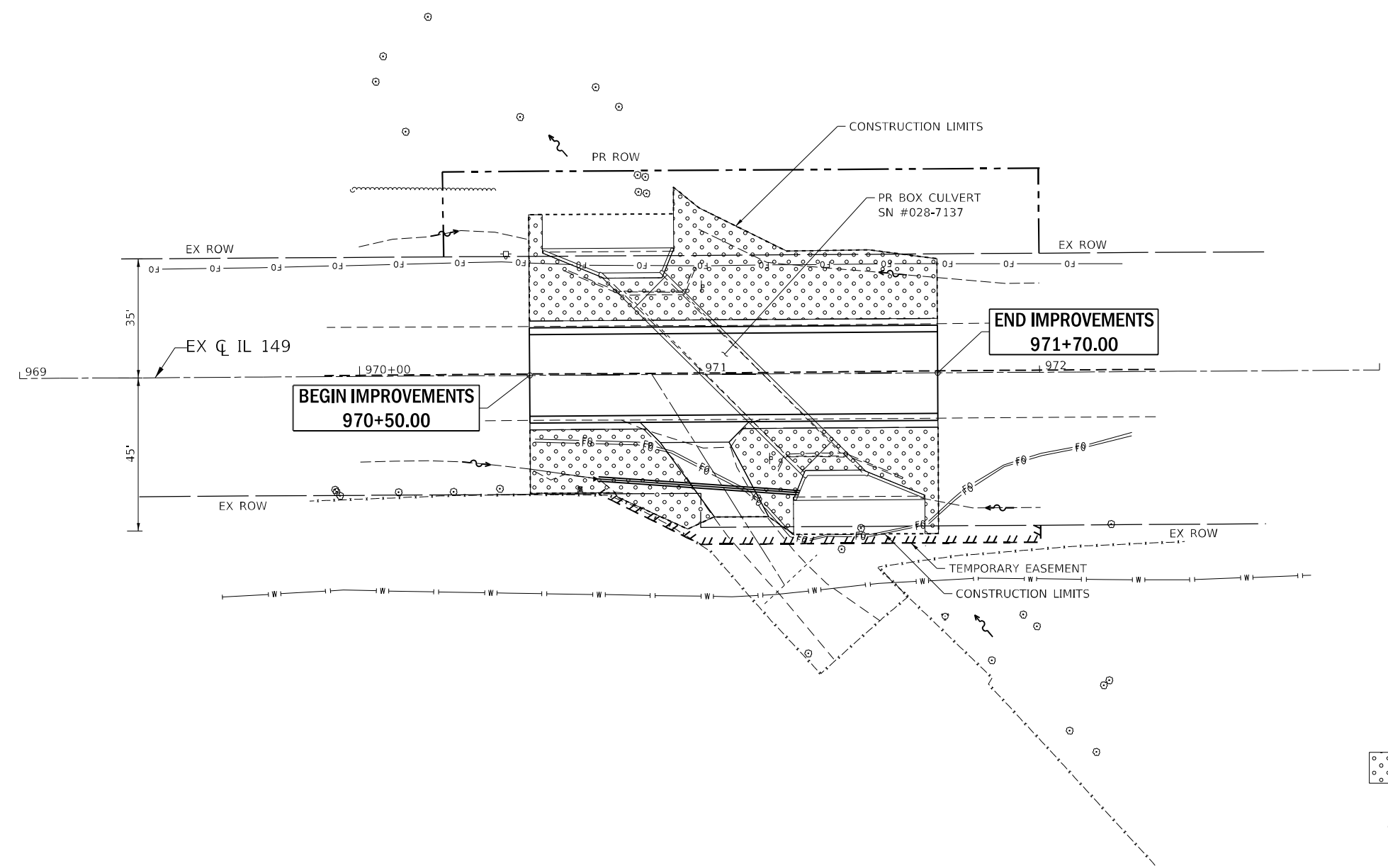
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PLOT DATE = 4/4/2023	CHECKED - SDM	REVISED -
	DATE - 04/03/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

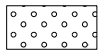

**EROSION CONTROL PLAN
PR SN 028-7137**

SCALE: 1" = 20' SHEET 1 OF 1 SHEETS STA. 970+50.00 TO STA. 971+70.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	20
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				



LEGEND

-  SEEDING, CLASS 2A AND EROSION CONTROL BLANKET
-  PR FLOWLINE

MODEL: D:\p1\11033 - PTB 199-38 D9 - QEI - Various - HWOC-2 & 10 - IL-149 2-Strip - Box - Culv - PH1-S2-SN 028-7137 - PH1-QE1-CADD\CADD_Sheets\0978915_sct_Landscaping.dgn
 FILE NAME: S:\2023\11033 - PTB 199-38 D9 - QEI - Various - HWOC-2 & 10 - IL-149 2-Strip - Box - Culv - PH1-S2-SN 028-7137 - PH1-QE1-CADD\CADD_Sheets\0978915_sct_Landscaping.dgn



USER NAME = smaxwell	DESIGNED - TO	REVISED -
DRAWN - TO	REVISED -	
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PLOT DATE = 4/4/2023	DATE - 04/03/2023	REVISED -

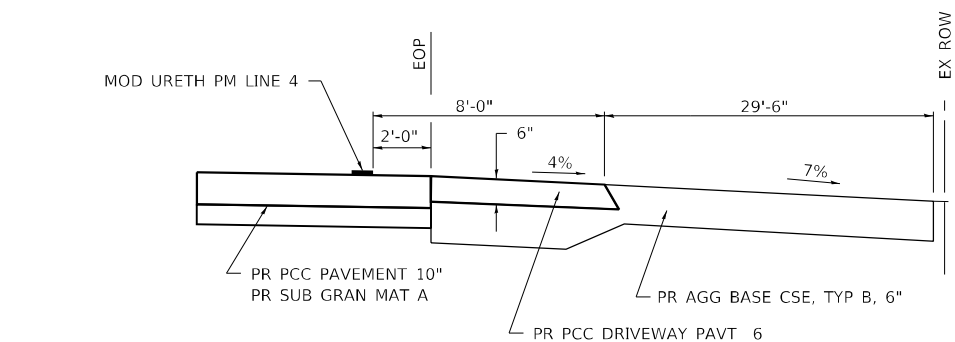
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LANDSCAPING PLAN
PR SN 028-7137

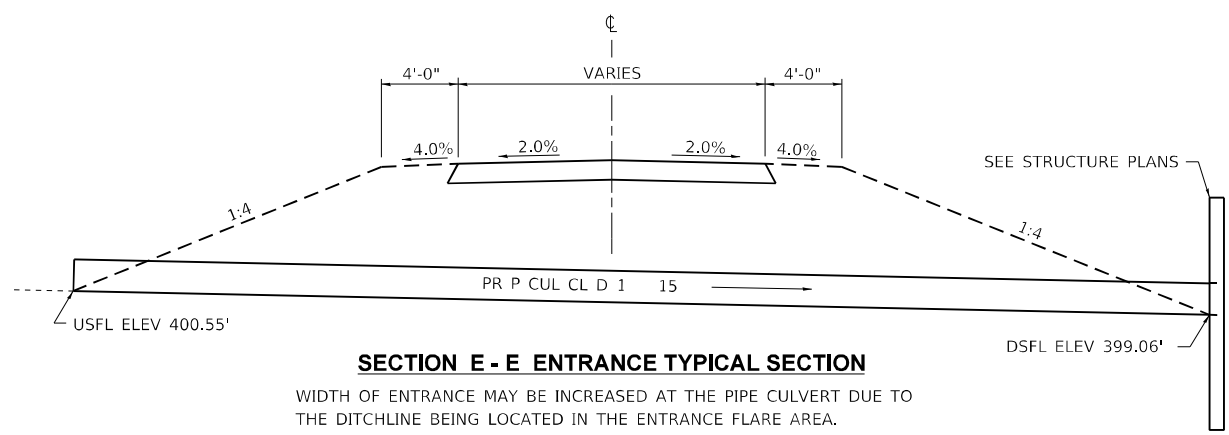
SCALE: 1" = 20' SHEET 1 OF 1 SHEETS STA. 970+50.00 TO STA. 971+70.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	21
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

ENTRANCE DETAILS AT STA 970+86

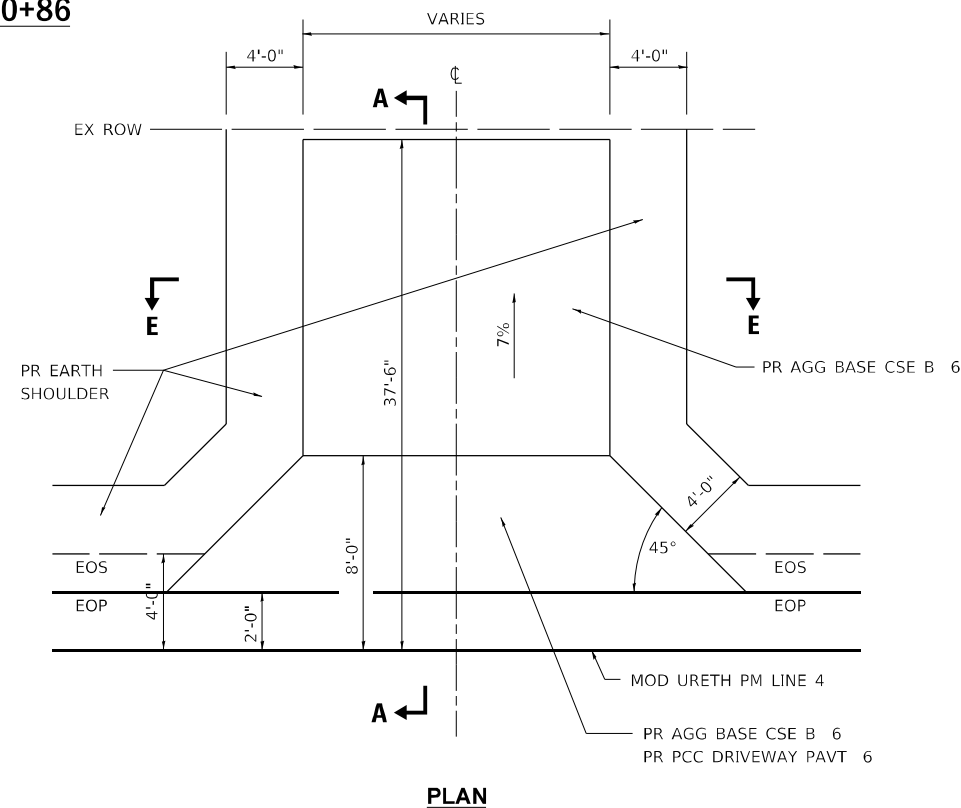


SECTION A-A FOR PR EARTH/AGGREGATE



SECTION E - E ENTRANCE TYPICAL SECTION

WIDTH OF ENTRANCE MAY BE INCREASED AT THE PIPE CULVERT DUE TO THE DITCHLINE BEING LOCATED IN THE ENTRANCE FLARE AREA.



PLAN

GENERAL NOTES

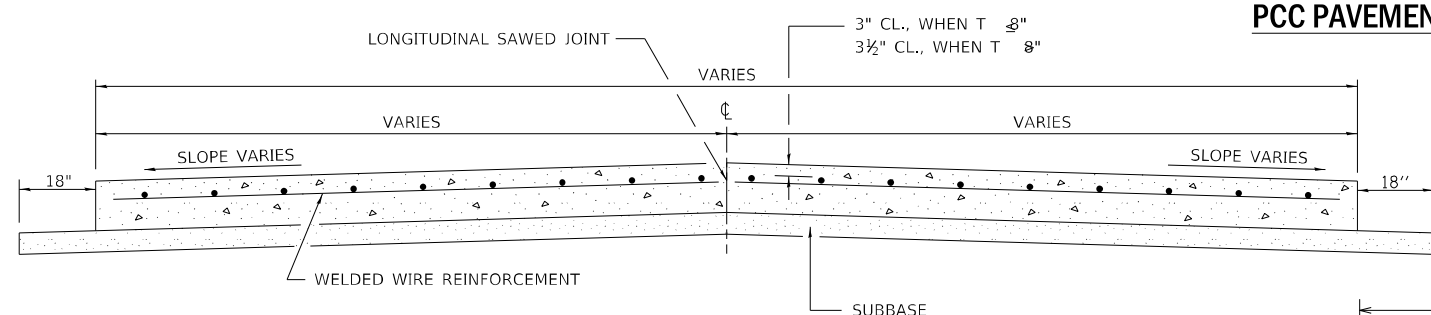
THE RESIDENT ENGINEER WILL DETERMINE THE EXACT TYPE OF IMPROVEMENT TO BE COMPLETED FOR THE ENTRANCE ON THIS PROJECT.

THE PLAN DETAILS AND SCHEDULES SHOULD BE USED AS A GUIDE FOR THE ENGINEER TO IMPLEMENT THE FINAL DESIGN. THE ENGINEER MAY DECIDE TO SALVAGE PORTIONS OF THE EXISTING ENTRANCE PAVEMENT STRUCTURE; THEREFORE, REDUCING PAY ITEM QUANTITIES. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR THIS REDUCTION IN QUANTITIES.

ANY WORK THE ENGINEER REQUIRES WHICH IS NOT COVERED BY A PAY ITEM CONTAINED IN THE PLANS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

THIS WORK WILL BE PAID FOR IN ACCORDANCE WITH SECTIONS 351, 358, 408, 423 AND 440 OF THE STANDARD SPECIFICATIONS.

PCC PAVEMENT OVER BOX CULVERT



SECTION A-A

GENERAL NOTES

SEE STANDARD 420001 FOR DETAILS NOT SHOWN.

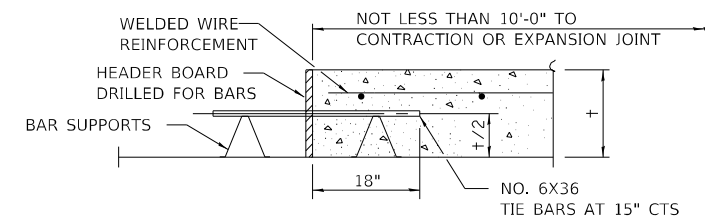
SEE STANDARD 420701 FOR WELDED WIRE REINFORCEMENT DETAILS.

ACTUAL DIMENSIONS TO MATCH FIELD CONDITIONS AND CONSTRUCTION METHODS.

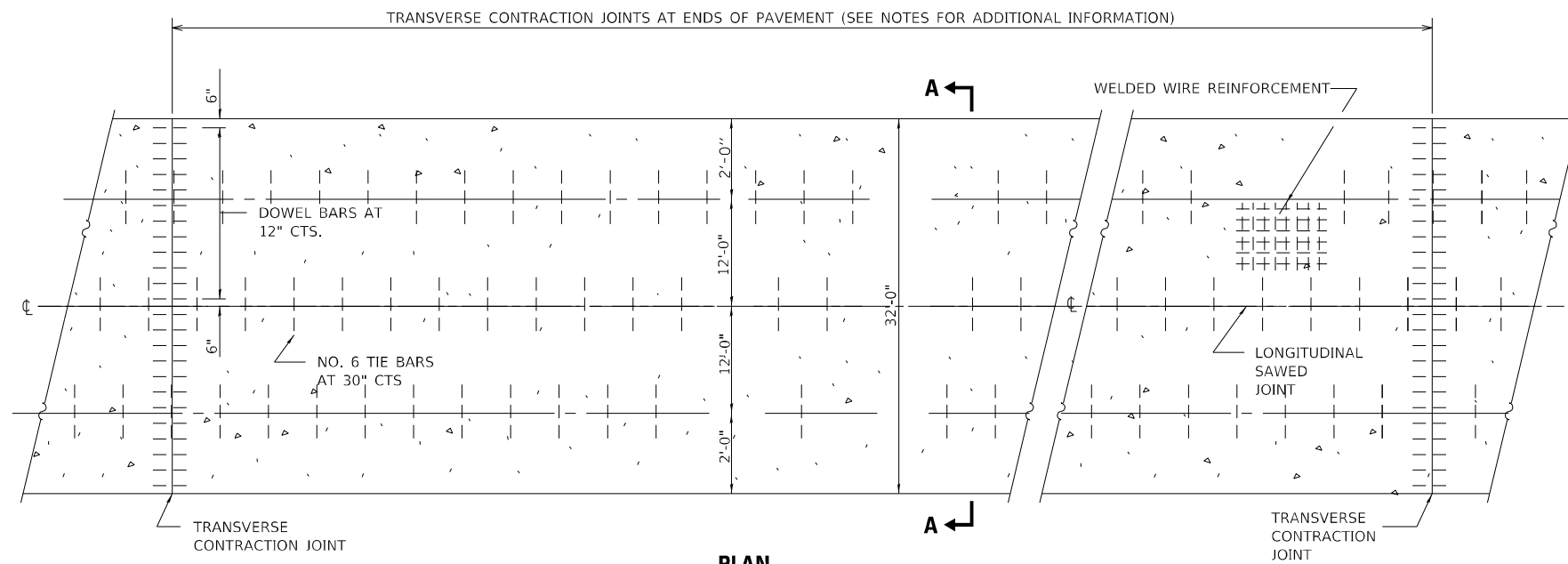
ALL COSTS FOR SAW CUTS, DOWEL BARS, AND TIE BARS INCLUDED IN THE COST OF PCC PAVEMENT 10", WITH THE EXCEPTION OF THE JOINTS AT THE IMPROVEMENT LIMITS WHERE THEY ARE PAID FOR SEPARATELY.

SPACING OF TRANSVERSE CONTRACTION JOINTS FOR 10" THICK PAVEMENT SHALL BE 15', EXCEPT WHEN PLACED ADJACENT TO EXISTING PCC PAVEMENT. USE A SPACING BETWEEN 12' AND 18' SO THE JOINTS ARE IN PROLONGATION WITH EXISTING TRANSVERSE JOINTS.

ADJUST SPACING OF TIE BARS IN THE LONGITUDINAL JOINT(S) TO MAINTAIN A CLEARANCE OF 9" FROM THE END OF DOWEL BARS.



TRANSVERSE CONSTRUCTION JOINT
(IF NEEDED PER STANDARD SPECIFICATIONS)



PLAN

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DETAILS
PR SN 028-7137**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	22
CONTRACT NO. 78915				

ILLINOIS FED. AID PROJECT

MODEL: D:\p\h\... FILE NAME: S:\2021\12\11\033... PFB: 199-38-09... QEI - Various HW02.3 & 10... H-149 2-Sircle Box... PH-152\SN 028-7078 PH-08\CAD\CADD_Sheets\0978915.dwg Details.dgn



USER NAME = smaxwell	DESIGNED - TO	REVISED -
PLOT SCALE = 10,0000 */ in.	DRAWN - TO	REVISED -
PLOT DATE = 4/4/2023	CHECKED - SDM	REVISED -
	DATE - 04/03/2023	REVISED -

Benchmark: NGS Monument GJ 035, permanent survey marker; Station 973+50.95, Offset -34.158', Elevation 403.210.

Existing Structure: The existing structure, SN 028-7078, was originally constructed in 1928 at Station 971+10 as part of SBI Route 149, Section 107. The structure is a single cell 12' x 6' concrete box culvert with a skew of 45 degrees. In 1982 the culvert was extended on both ends resulting in a culvert length of 68'-4" out-to-out headwalls.

Traffic to be detoured during construction of Precast Concrete Box Culvert. Traffic will be on culvert during construction of end sections.

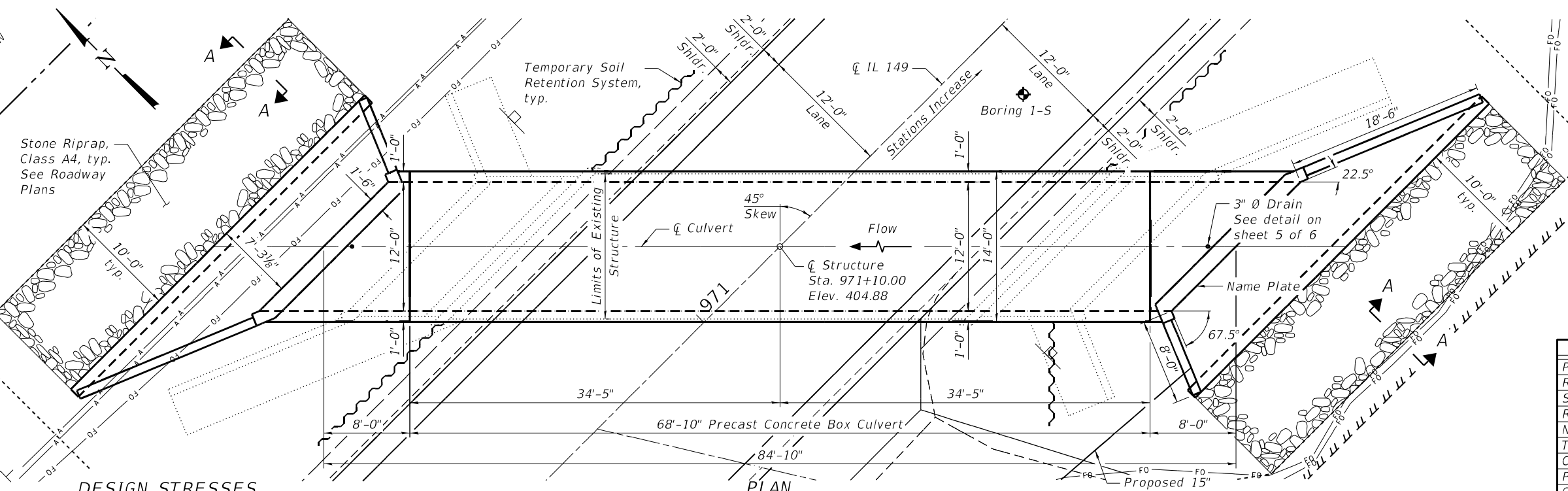
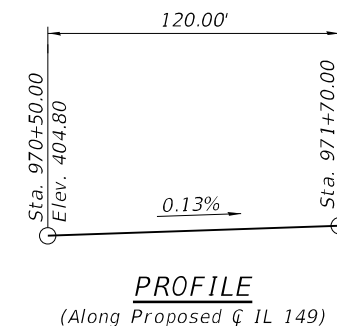
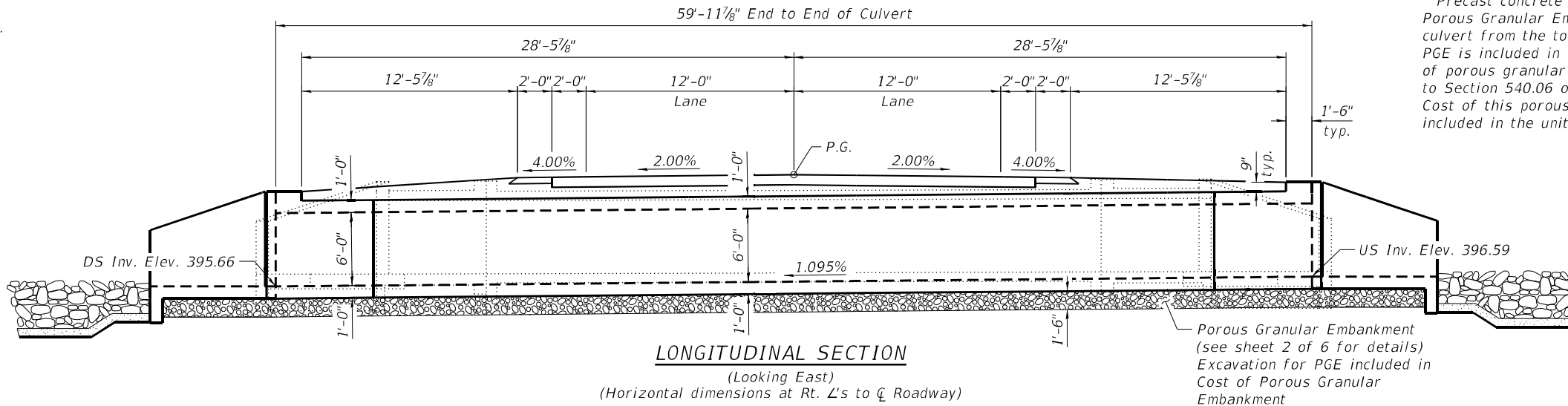
No salvage.

INDEX OF SHEETS

1. General Plan and Elevation
2. Temporary Soil Retention System
3. Culvert End Section Details
4. Wingwall and Apron Details
5. Culvert Details
6. Soil Boring Logs

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.
 The design fill height for this box is 1.75 ft. The precast box culvert sections shall conform to the requirements of ASTM C 1577.
 Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification.
 Precast concrete box culverts and box culvert end sections shall be backfilled with Porous Granular Embankment in the required excavation areas on the sides of the box culvert from the top of the box culvert to the bottom of the box culvert. This area of PGE is included in the Porous Granular Embankment pay item. The 6-inch thick layer of porous granular material required under the precast concrete box culvert, according to Section 540.06 of the standard specifications, shall also apply to the end sections. Cost of this porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.



Keith W. Benting, Illinois S.E. 081-004777
 Expires 11/30/2024
 Date 4/5/2023

TOTAL BILL OF MATERIAL

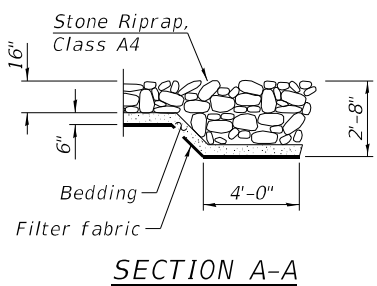
ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	407
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	142
Reinforcement Bars, Epoxy Coated	Pound	9,710
Name Plates	Each	1
Temporary Soil Retention System	Sq. Ft.	317
Concrete Box Culverts	Cu. Yd.	59.3
Precast Concrete Box Culvert 12'x6'	Foot	69
Geocomposite Wall Drain	Sq. Yd.	144
Membrane Waterproofing System for Buried Structures	Sq. Yd.	143.5

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
PRECAST PRESTRESSED UNITS
 $f'_c = 5,000$ psi
 $f_y = 65,000$ psi (Welded Wire Fabric)
 $f_y = 60,000$ psi (Reinforcement)

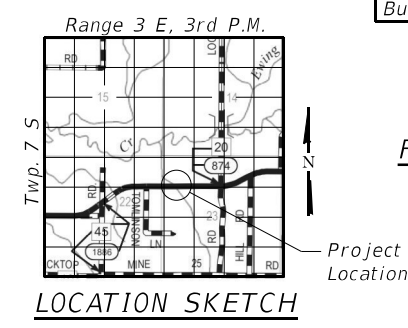
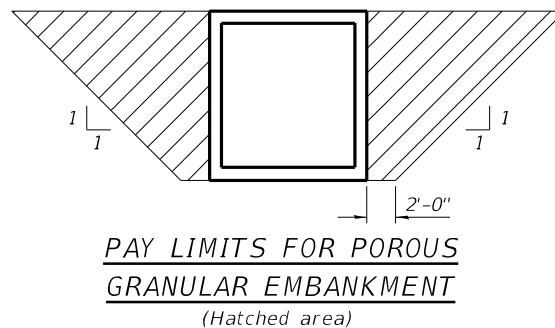
LOADING HL-93
 Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
 2020 AASHTO LRFD Bridge Design Specifications, 9th Edition



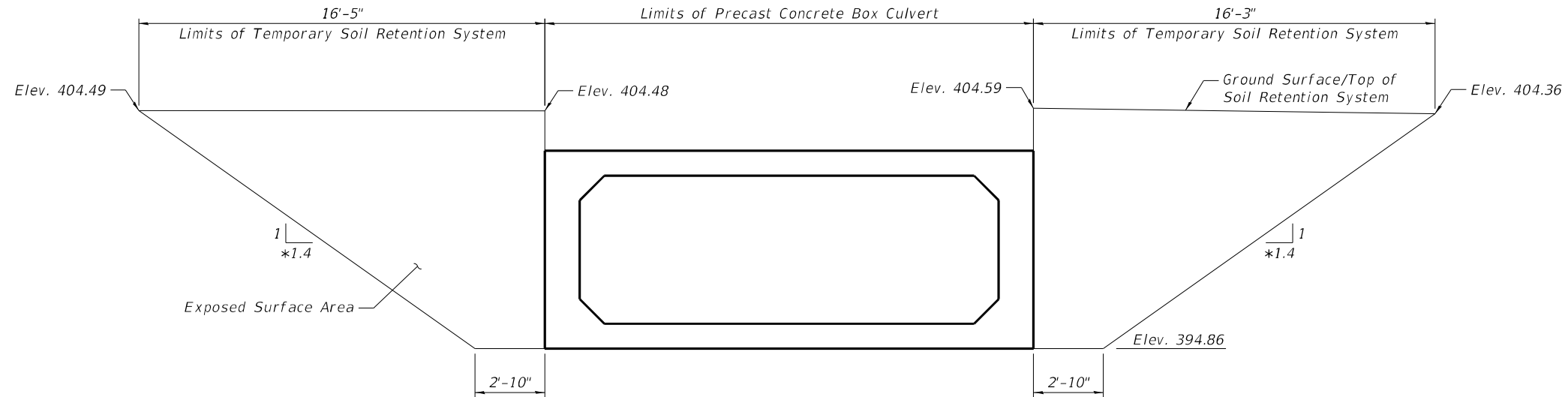
STATION 971+10.00
 BUILT 202_ BY
 STATE OF ILLINOIS
 FAP RT. 873 SEC. 107CR-2
 LOADING HL-93
 STRUCTURE NO. 028-7137

NAME PLATE
 See Std. 515001

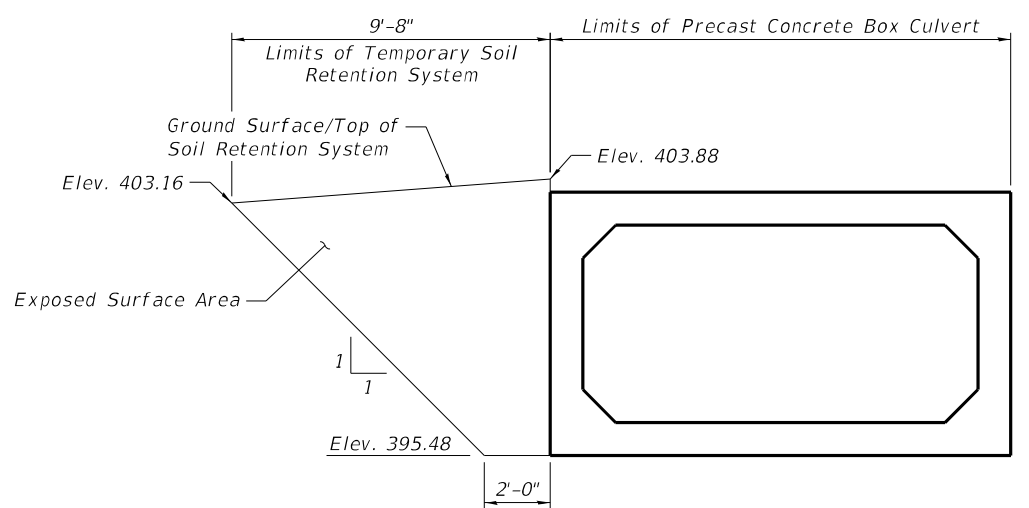


GENERAL PLAN & ELEVATION
FAP ROUTE 873 (IL 149) OVER CREEK
SECTION 107CR-2
FRANKLIN COUNTY
STATION 971+10.00
STRUCTURE NO. 028-7137

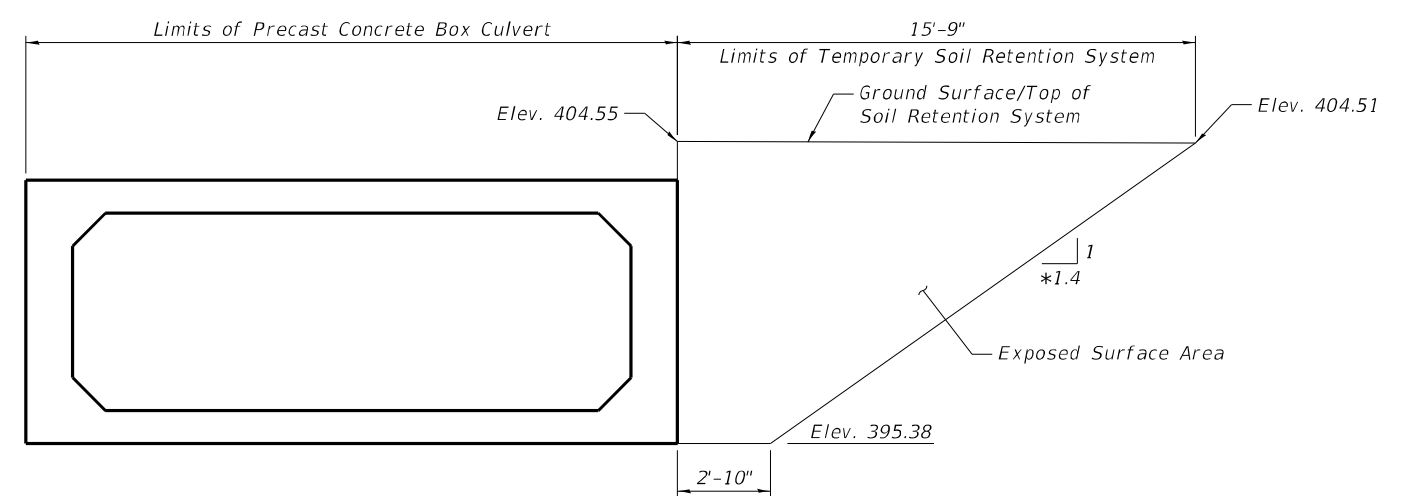
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 4/11/2023 8:57:11 AM



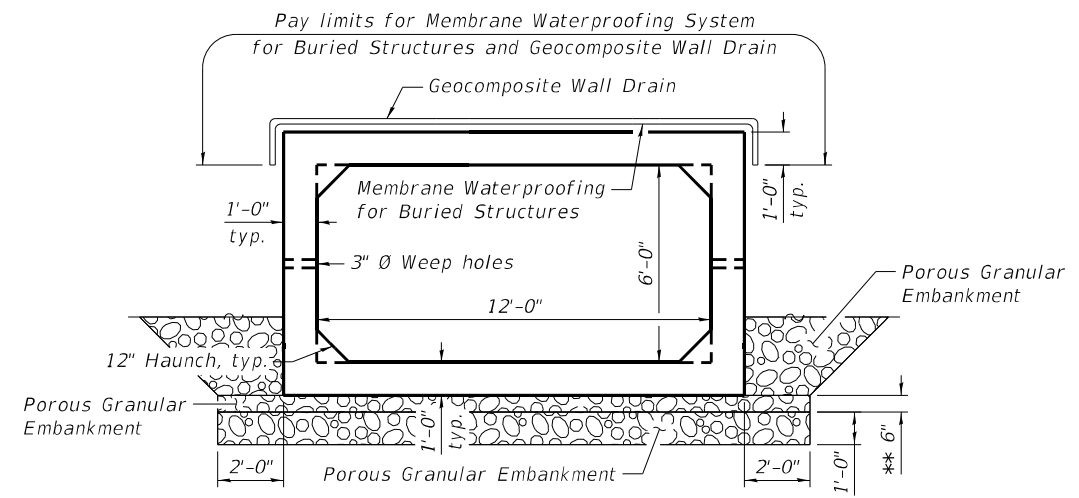
NORTH TEMPORARY SOIL RETENTION SYSTEM
 (Looking South)
 (Horizontal dimensions parallel to \bar{C} roadway)



SOUTH TEMPORARY SOIL RETENTION SYSTEM - WEST PORTION
 (Looking North)
 (Horizontal dimensions at Rt. \angle 's to \bar{C} culvert)



SOUTH TEMPORARY SOIL RETENTION SYSTEM - EAST PORTION
 (Looking North)
 (Horizontal dimensions parallel to \bar{C} roadway)



SECTION THRU PRECAST & CIP BARREL

* Excavation shown is along the face of the Temporary Soil Retention System. The 1:1.4 slope shown is consistent with the 1:1 construction excavation.
 ** Included in the cost of Precast Concrete Box Culvert.

MODEL: Default
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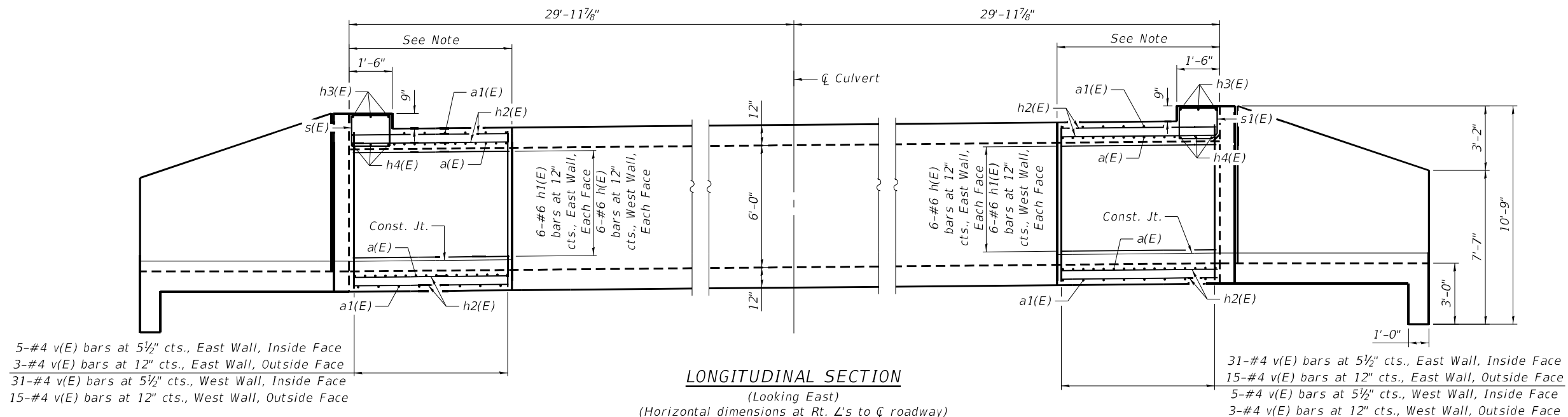
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TEMPORARY SOIL RETENTION SYSTEM
 STRUCTURE NO. 028-7137**

SHEET 2 OF 6 SHEETS

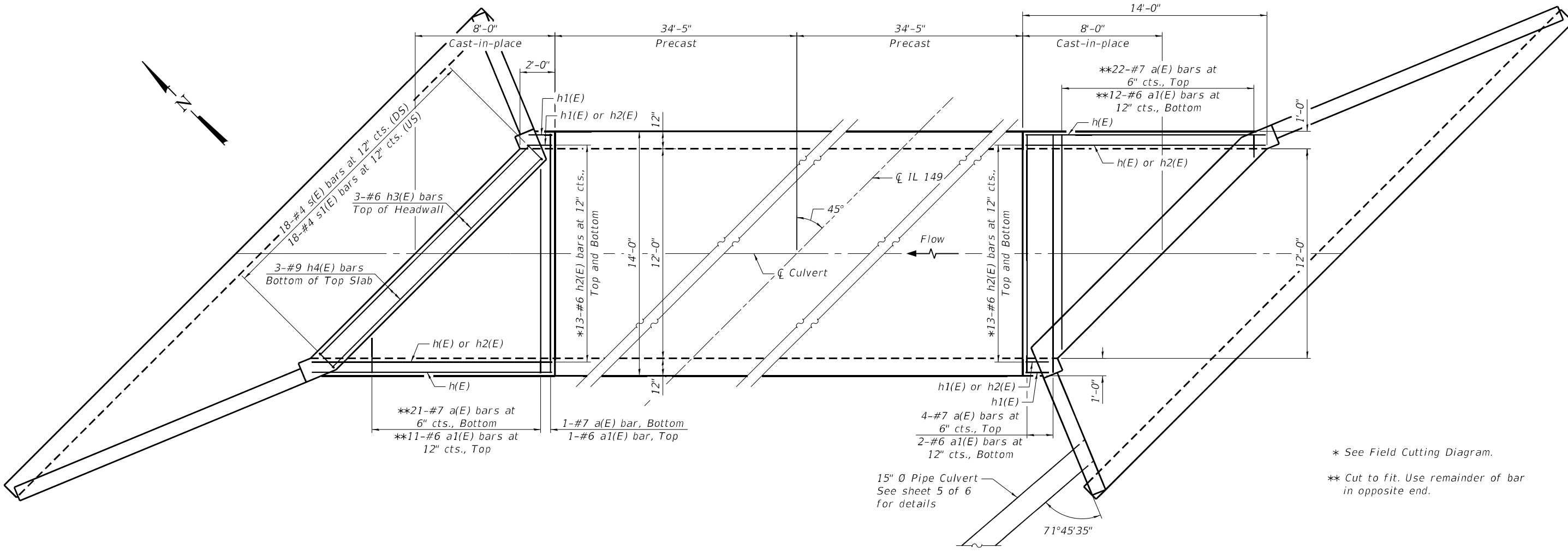
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	24
CONTRACT NO. 78915				
		ILLINOIS	FED. AID PROJECT	



5-#4 v(E) bars at 5 1/2\" cts., East Wall, Inside Face
 3-#4 v(E) bars at 12\" cts., East Wall, Outside Face
 31-#4 v(E) bars at 5 1/2\" cts., West Wall, Inside Face
 15-#4 v(E) bars at 12\" cts., West Wall, Outside Face

31-#4 v(E) bars at 5 1/2\" cts., East Wall, Inside Face
 15-#4 v(E) bars at 12\" cts., East Wall, Outside Face
 5-#4 v(E) bars at 5 1/2\" cts., West Wall, Inside Face
 3-#4 v(E) bars at 12\" cts., West Wall, Outside Face

LONGITUDINAL SECTION
 (Looking East)
 (Horizontal dimensions at Rt. L's to \bar{C} roadway)



SHOWING TOP SLAB REINFORCEMENT

PLAN

SHOWING BOTTOM SLAB REINFORCEMENT

* See Field Cutting Diagram.
 ** Cut to fit. Use remainder of bar in opposite end.

Note:
 Extend precast reinforcement 2'-0\" into each cast-in-place end section.

MODEL: Default
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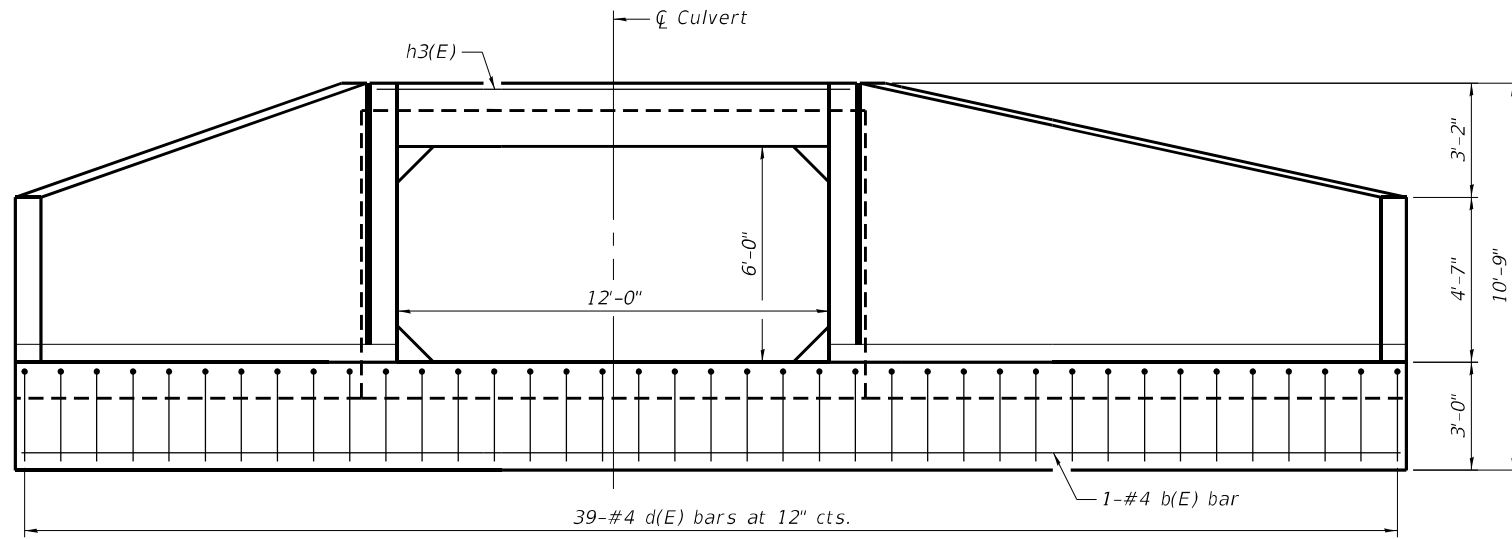
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

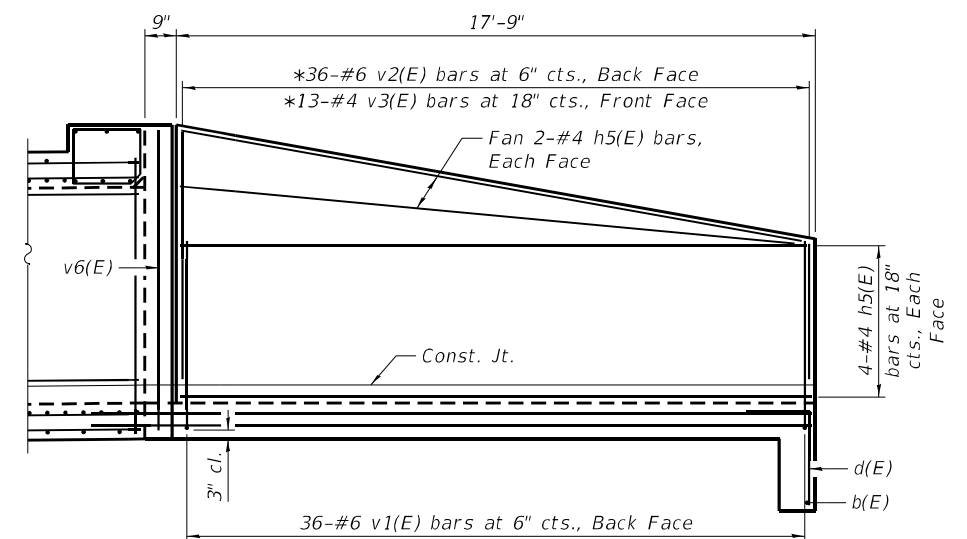
CULVERT END SECTION DETAILS
 STRUCTURE NO. 028-7137

SHEET 3 OF 6 SHEETS

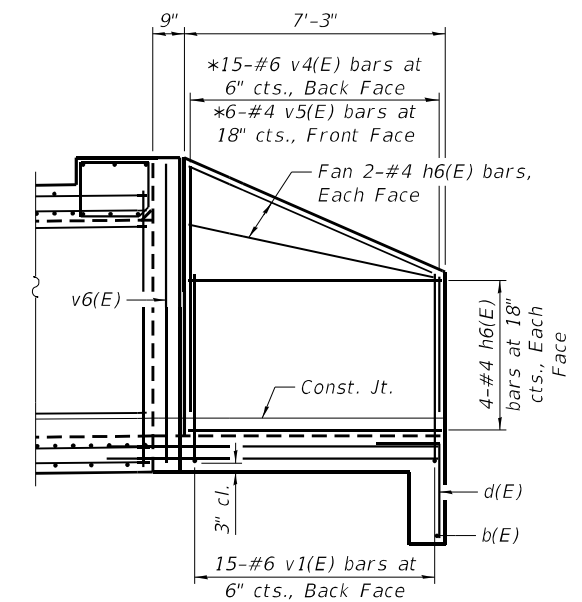
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	25
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				



END ELEVATION

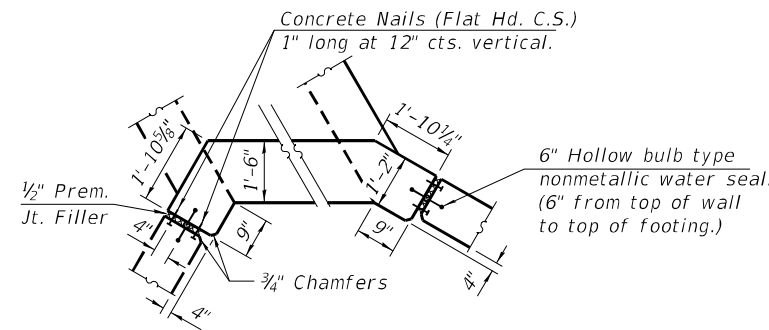


ELEVATION - LONG WING

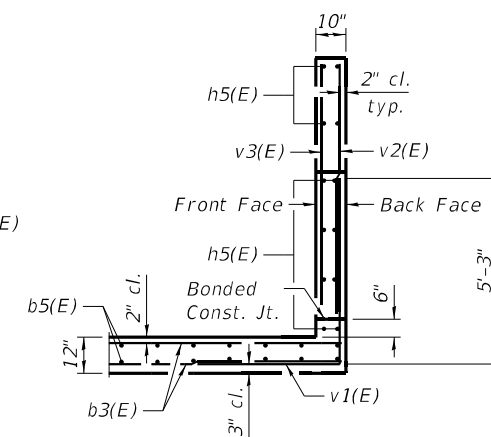


ELEVATION - SHORT WING

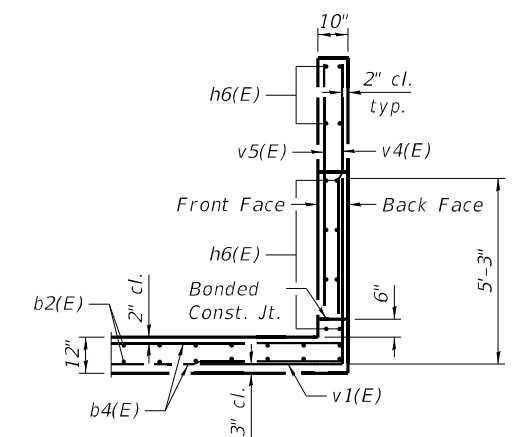
(See sheet 5 of 6 for reinforcement details at pipe culvert passing through southwest wingwall)



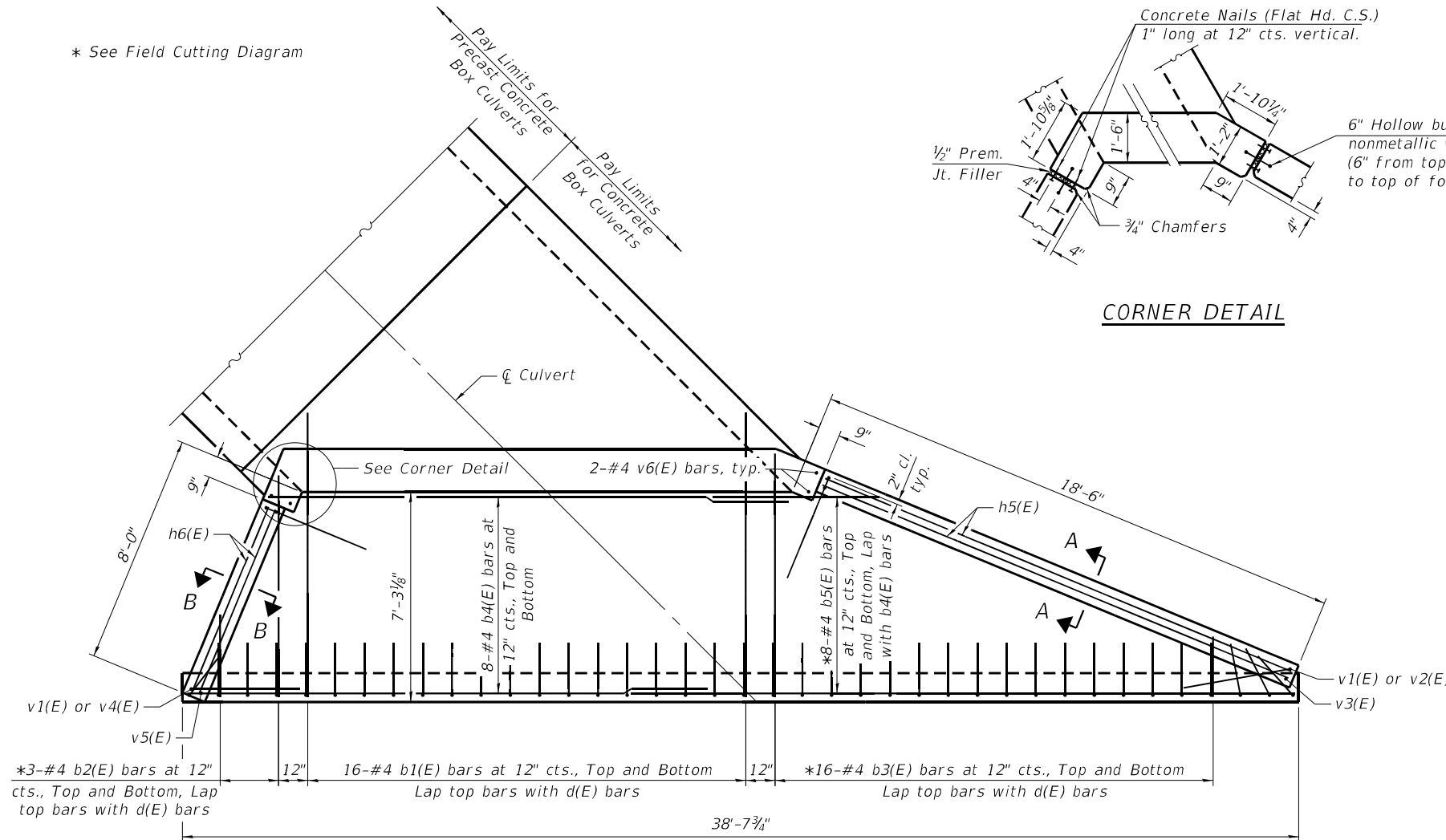
CORNER DETAIL



SECTION A-A



SECTION B-B



PLAN

MINIMUM BAR LAP

- #4 bar = 2'-7"
- #6 bar = 3'-10"

* See Field Cutting Diagram

MODEL: Default
FILE NAME: S:\2022\12\11\033 - PTB 199-38 D9 - QEI - Various HWWO-2 & 10 - IL-149 2-Single Box Culv PH1&2\SN 028-7078 PH1-QEI\CADD\CADD Sheets\0287137-78915-004-Apron and WW\dgn
4/5/2023 2:38:53 PM



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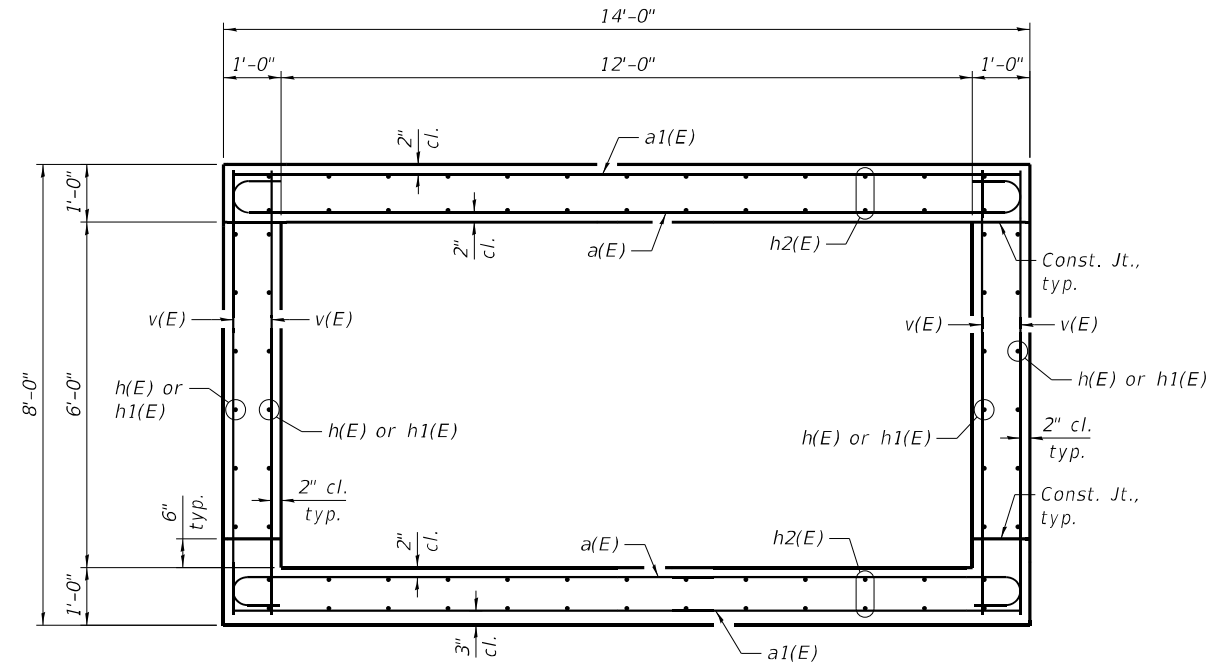
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WINGWALL AND APRON DETAILS
STRUCTURE NO. 028-7137**

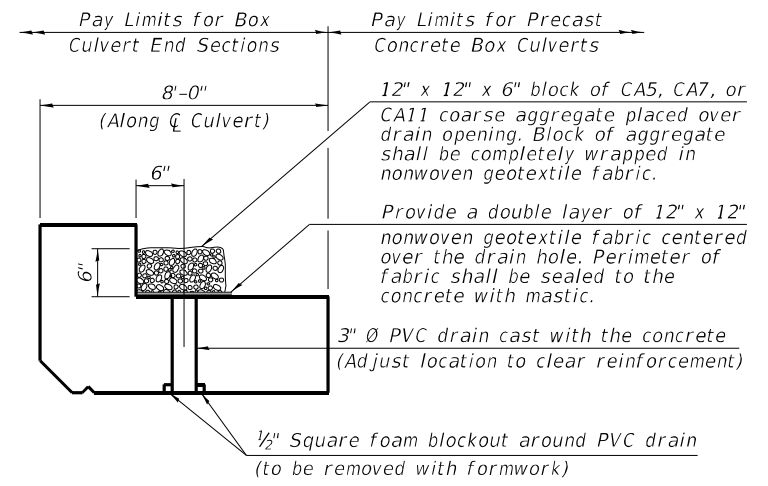
SHEET 4 OF 6 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	26
CONTRACT NO. 78915				
		ILLINOIS	FED. AID PROJECT	

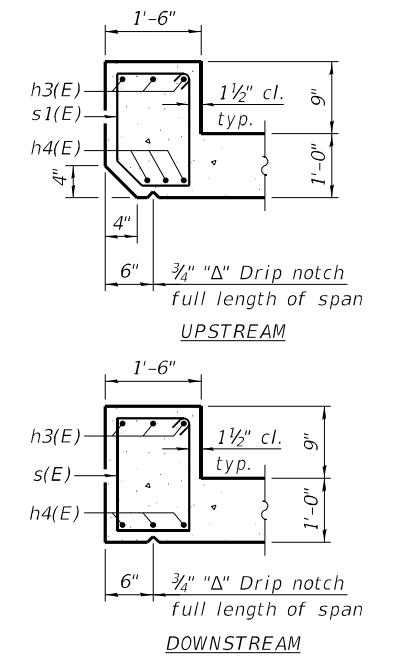
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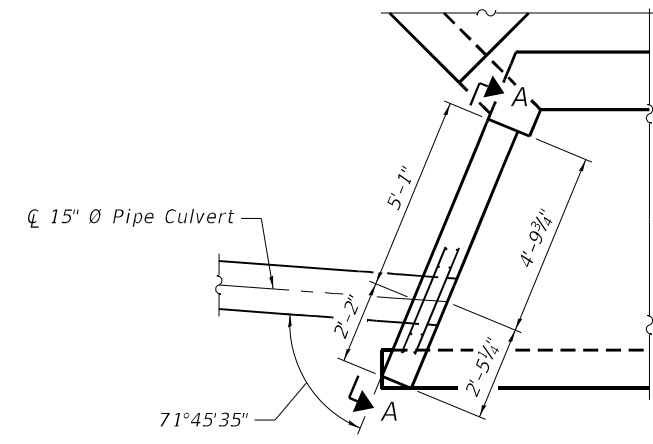
SECTION THRU C.I.P. BARREL
 (Looking North)
 (Horizontal dimensions at Rt. L's to \bar{C} culvert)



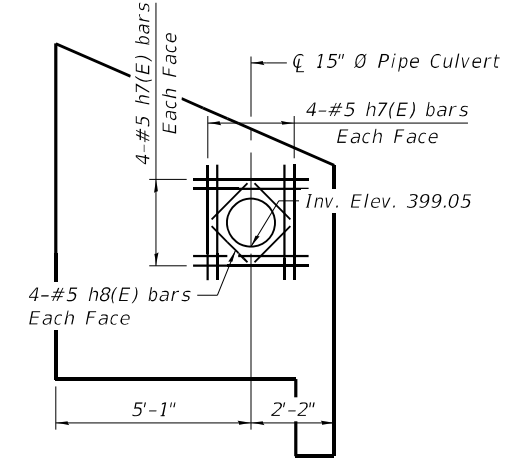
DRAIN DETAIL
 (Horizontal dimensions measured along \bar{C} culvert)
 (All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)



SECTION THRU HEADWALL



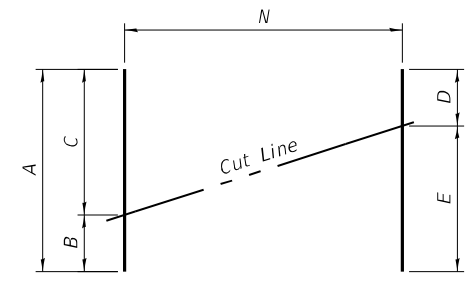
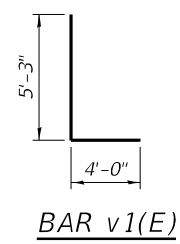
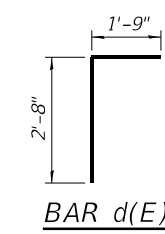
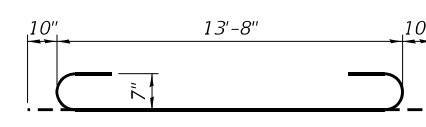
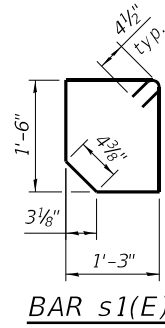
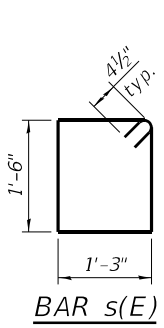
PIPE CULVERT PENETRATION DETAIL - SOUTHWEST WINGWALL



SECTION A-A

BAR CUTTING INFORMATION TABLE

Bar	N	A	B	C	D	E
b2(E)	3	10'-6"	2'-10"	7'-8"	2'-10"	7'-8"
b3(E)	16	10'-6"	2'-1"	8'-5"	2'-1"	8'-5"
b5(E)	8	28'-11"	5'-9"	23'-2"	5'-9"	23'-2"
h2(E)	13	15'-1"	1'-4"	13'-9"	1'-4"	13'-9"
v2(E)	36	10'-7"	3'-9"	6'-10"	3'-9"	6'-10"
v3(E)	13	10'-7"	3'-9"	6'-10"	3'-9"	6'-10"
v4(E)	15	10'-6"	3'-9"	6'-9"	3'-9"	6'-9"
v5(E)	6	10'-6"	3'-9"	6'-9"	3'-9"	6'-9"



FIELD CUTTING DIAGRAM
 Order bars shown full length. Cut as shown and use remainder of b2(E), b3(E), b5(E) and h2(E) bars in bottom of slab. Use remainder of v2(E), v3(E), v4(E) and v5(E) bars in opposite wingwall.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	53	#7	15'-4"	U
a1(E)	29	#6	13'-8"	—
b(E)	2	#4	38'-3"	—
b1(E)	64	#4	9'-10"	—
b2(E)	6	#4	10'-6"	—
b3(E)	32	#4	10'-6"	—
b4(E)	32	#4	18'-0"	—
b5(E)	16	#4	28'-11"	—
d(E)	78	#4	4'-5"	L
h(E)	24	#6	13'-9"	—
h1(E)	24	#6	1'-8"	—
h2(E)	52	#6	15'-1"	—
h3(E)	6	#6	17'-0"	—
h4(E)	6	#9	17'-0"	—
h5(E)	24	#4	17'-5"	—
h6(E)	24	#4	6'-11"	—
h7(E)	16	#5	3'-0"	—
h8(E)	8	#5	1'-4"	—
s(E)	18	#4	6'-3"	□
s1(E)	18	#4	6'-1"	□
v(E)	108	#4	7'-7"	—
v1(E)	102	#6	9'-3"	—
v2(E)	36	#6	10'-7"	—
v3(E)	13	#4	10'-7"	—
v4(E)	15	#6	10'-6"	—
v5(E)	6	#4	10'-6"	—
v6(E)	8	#4	8'-4"	—
Item	Unit	Total		
Reinforcement Bars, Epoxy Coated	Pound	9,710		
Concrete Box Culverts	Cu. Yd.	59.3		



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CULVERT DETAILS
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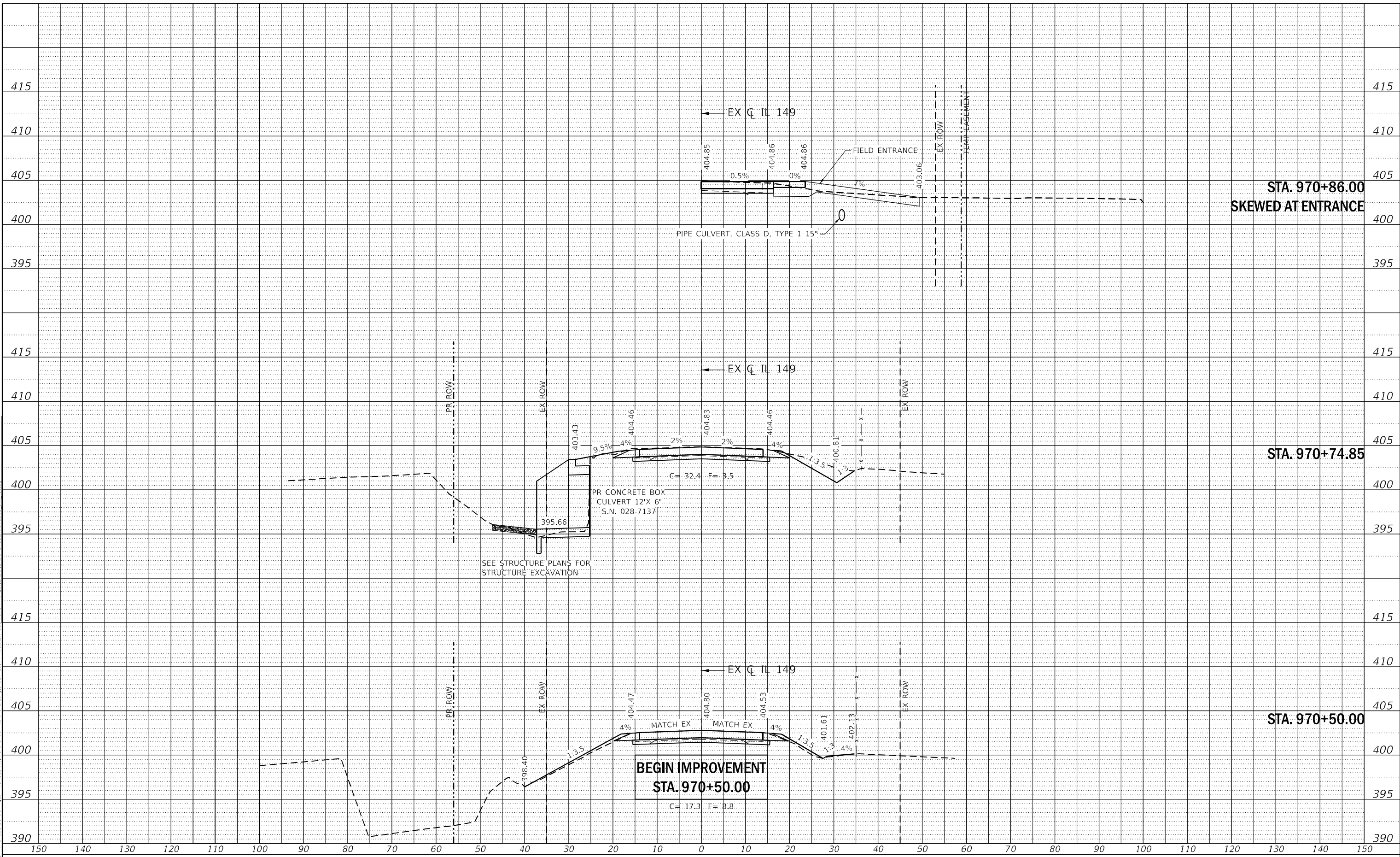
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F.A.P. RTE. 873	SECTION 107CR-2	COUNTY FRANKLIN	TOTAL SHEETS 60	SHEET NO. 27
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

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	PLOTTED	BY
	ALIGNMENT CHECKED	
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DRAWN - TO	
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DATE - 04/03/2023	

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

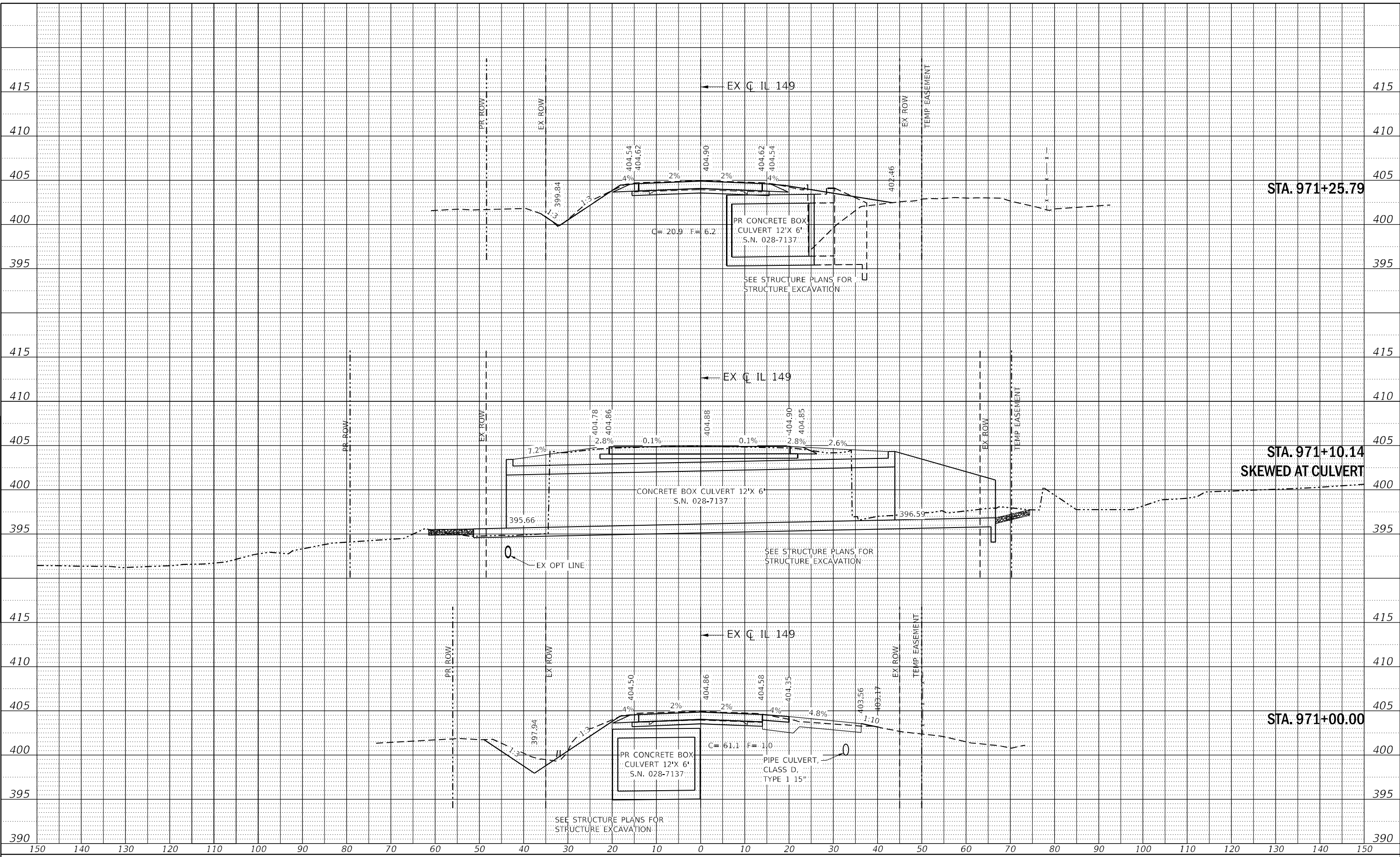
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	29
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
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REVISED -	

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

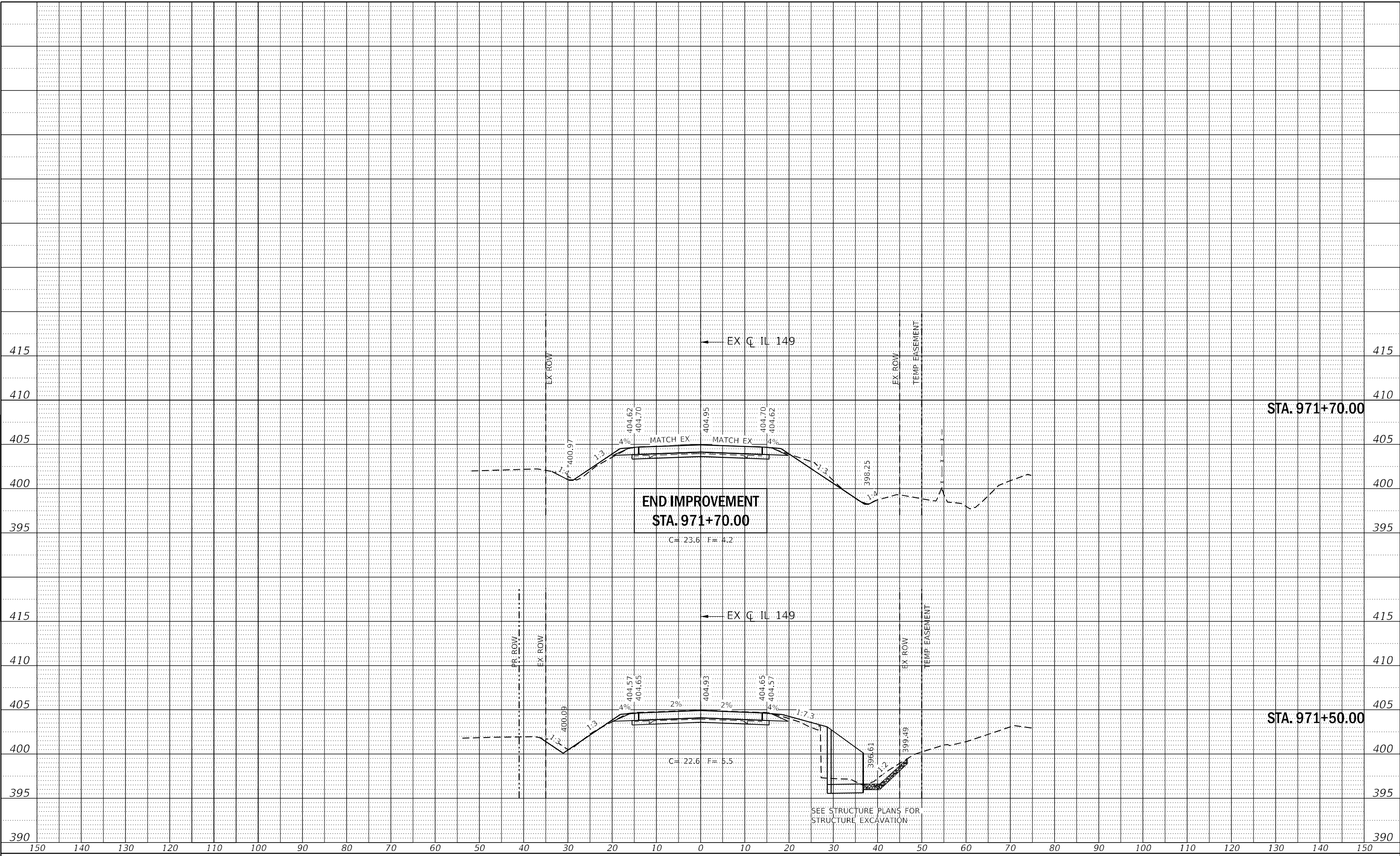
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STA. 971+00.00 TO STA. 971+26.79	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	30
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
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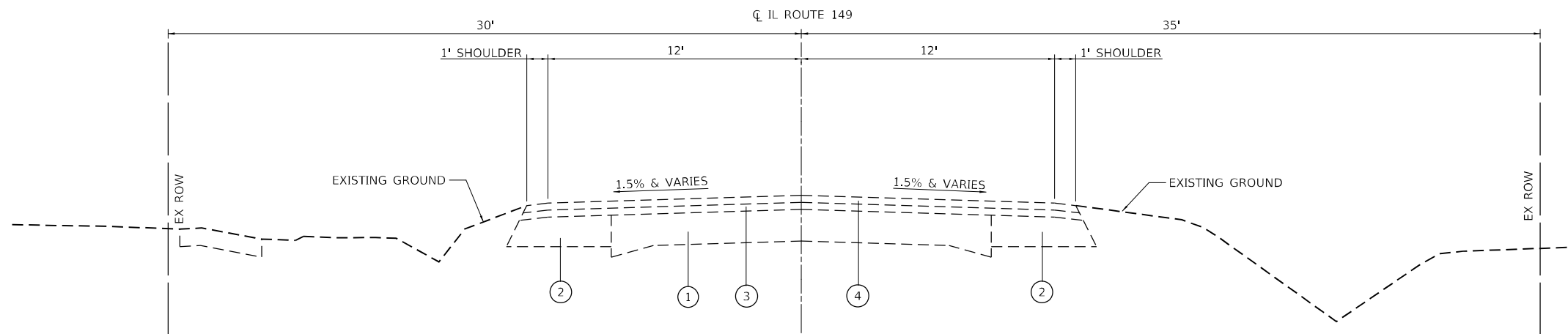


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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

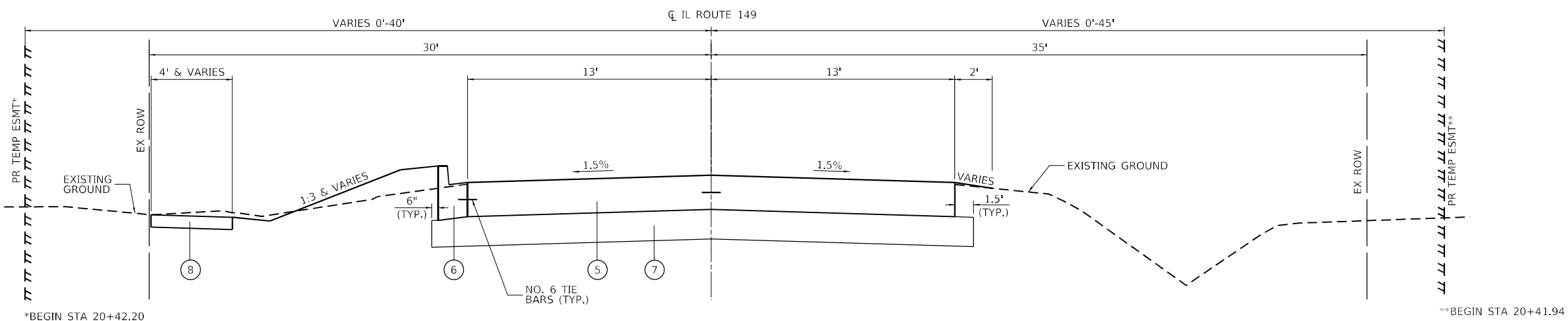
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STA. 971+50.00 TO STA. 971+70.00	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	107CR-2	FRANKLIN	60	31
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				



EXISTING IL ROUTE 149

STA 19+81.04 TO STA 20+80.48



PROPOSED IL ROUTE 149

STA 19+81.04 TO STA 20+80.48

LEGEND

- ① EXISTING PAVEMENT
- ② EXISTING BASE COURSE WIDENING
- ③ EXISTING HOT-MIX ASPHALT BINDER COURSE
- ④ EXISTING HOT-MIX ASPHALT SURFACE COURSE
- ⑤ PROPOSED PORTLAND CEMENT CONCRETE PAVEMENT 10"
- ⑥ PROPOSED COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
- ⑦ PROPOSED SUBBASE GRANULAR MATERIAL, TYPE A 12"
- ⑧ PROPOSED PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH

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 SHEET: 0873



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PLOT DATE = 4/3/2023	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TYPICAL SECTIONS - PR SN 028-7136
IL ROUTE 149**

SCALE: 1"=10' SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	32
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

SIDEWALK AND CURB SCHEDULE

LOCATION		PROTECTIVE COAT	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	DETECTABLE WARNINGS	CLASS SI CONCRETE (OUTLET)	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
STATION TO STATION	ROADWAY	(SQ YD)	(SQ FT)	(SQ FT)	(CU YD)	(FOOT)
19+81.04 TO 20+01.65	IL ROUTE 149	12.18	109.64	8.00		
20+32.13 TO 20+53.91	IL ROUTE 149	15.17	136.54	8.00		
20+53.39 TO 20+65.39	IL ROUTE 149	4.20			3.33	
10+14.00 TO 10+36.47	S SIMS STREET	8.26				35.73
10+14.00 TO 10+36.47	S SIMS STREET	8.08				34.96
SUBTOTAL		47.89	246.18	16.00	3.33	70.69
PAY TOTAL		48*	247	16	4	71

* NOT A TOTAL QUANTITY

PAVING SCHEDULE

LOCATION		SUBBASE GRANULAR MATERIAL, TYPE A (TON)	WELDED WIRE REINFORCEMENT (SQ YD)	PORTLAND CEMENT CONCRETE PAVEMENT 10" (SQ YD)	PROTECTIVE COAT (SQ YD)
STATION TO STATION	ROADWAY				
19+81.04 TO 20+65.39	IL ROUTE 149	195.45	263.35	263.35	263.35
9+71.44 TO 9+85.50	S SIMS STREET	22.37	25.64	25.64	26
10+15.11 TO 10+36.47	S SIMS STREET	64.16	77.20	77.20	77
SUBTOTAL		281.97	366.19	366.19	366.19
PAY TOTAL		282	367	367	367*

* NOT A TOTAL QUANTITY

REMOVAL SCHEDULE

LOCATION		PAVEMENT REMOVAL	COMBINATION CURB AND GUTTER REMOVAL	SIDEWALK REMOVAL	REMOVAL OF EXISTING STRUCTURES NO. 1	REMOVAL OF EXISTING STRUCTURES NO. 2	CONCRETE HEADWALL REMOVAL	PIPE CULVERT REMOVAL
STATION TO STATION	ROADWAY	(SQ YD)	(FOOT)	(SQ FT)	(EACH)	(EACH)	(EACH)	(FOOT)
19+81.04 TO 20+65.39	IL ROUTE 149	243		224				
20+35.70	IL ROUTE 149				1		1	
9+71.44 TO 9+87.11	S SIMS STREET	26						
9+74.47	S SIMS STREET							32
10+15.18 TO 10+36.47	S SIMS STREET	91	57					
10+20.46	S SIMS STREET					1	2	
10+21.76	S SIMS STREET							10
SUBTOTAL		360	57	224	1	1	3	42
PAY TOTAL		360	57	224	1	1	3	42

PAVEMENT MARKING SCHEDULE

LOCATION		PAINT PAVEMENT MARKING - LINE 4"	
STATION TO STATION	ROADWAY	SOLID WHITE (FOOT)	SKIP DASH YELLOW (FOOT)
19+81.04 TO 20+65.39	IL ROUTE 149	54	21
SUBTOTAL		75	
PAY TOTAL		75	

DRAINAGE SCHEDULE

LOCATION			POROUS GRANULAR EMBANKMENT	TRENCH BACKFILL	STONE RIPRAP, CLASS A4	FILTER FABRIC	STRUCTURE EXCAVATION	BOX CULVERT END SECTIONS, CULVERT NO. 1	PRECAST CONCRETE BOX CULVERTS 3' X 2' (FOOT)	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 18" (EACH)	PIPE CULVERTS, CLASS A, TYPE 1 18" (FOOT)	GEOCOMPOSITE WALL DRAIN	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES
STATION	ROADWAY	SIDE	(CU YD)	(CU YD)	(SQ YD)	(SQ YD)	(CU YD)	(EACH)	(FOOT)	(EACH)	(FOOT)	(SQ YD)	(SQ YD)
20+36.00	IL ROUTE 149	RT			15	15							
9+74.90	S SIMS ST	LT/RT		2						1	29		
10+20.55	S SIMS STREET	LT/RT	40				27	1	46			8	8
10+21.73	S SIMS STREET	RT								1	6		
SUBTOTAL			40	2	15	15	27	1	46	2	35	8	8
PAY TOTAL			40*	2	15	15	27*	1	46	2	35	8*	8*

* NOT A TOTAL QUANTITY

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SCHEDULE OF QUANTITIES - PR SN 028-7136
IL ROUTE 149**

SCALE: SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	33
			CONTRACT NO. 78915	
			ILLINOIS FED. AID PROJECT	

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION (CU YD)	FOR INFORMATION ONLY			REMARKS
		EARTH EXCAVATION ADJUSTED FOR SHRINKAGE 20% (CU YD)	EMBANKMENT (CU YD)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (CU YD)	
IL ROUTE 149	85.0	65.0	10.0	55.0	
S SIMS ST (SOUTH LEG)	20.0	20.0	5.0	15.0	
S SIMS ST (NORTH LEG)	15.0	10.0	5.0	5.0	
SUBTOTAL	120.0	95.0	20.0	75.0	
PAY TOTAL	120	95	20	75	DISPOSE OF EXCESS IN ACCORDANCE WITH 202.03

SEEDING SCHEDULE

LOCATION	SEEDING, CLASS 1A (ACRE)	NITROGEN FERTILIZER NUTRIENT (POUND)	PHOSPHORUS FERTILIZER NUTRIENT (POUND)	POTASSIUM FERTILIZER NUTRIENT (POUND)	AGRICULTURAL GROUND LIMESTONE (TON)
IL ROUTE 149	0.25	23	23	23	0.5
SUBTOTAL	0.25	23	23	23	0.5
PAY TOTAL	0.25	23	23	23	0.5

EROSION CONTROL SCHEDULE

LOCATION		EROSION CONTROL BLANKET (SQ YD)	TEMPORARY EROSION CONTROL SEEDING (POUND)	INLET AND PIPE PROTECTION (EACH)
STATION TO STATION	SIDE			
19+79.04 TO 20+70.00	LT/RT	228	25	
19+81.26	LT			1
19+98.48	RT			1
20+50.68	LT			1
SUBTOTAL		228	25	3
PAY TOTAL		228	25	3

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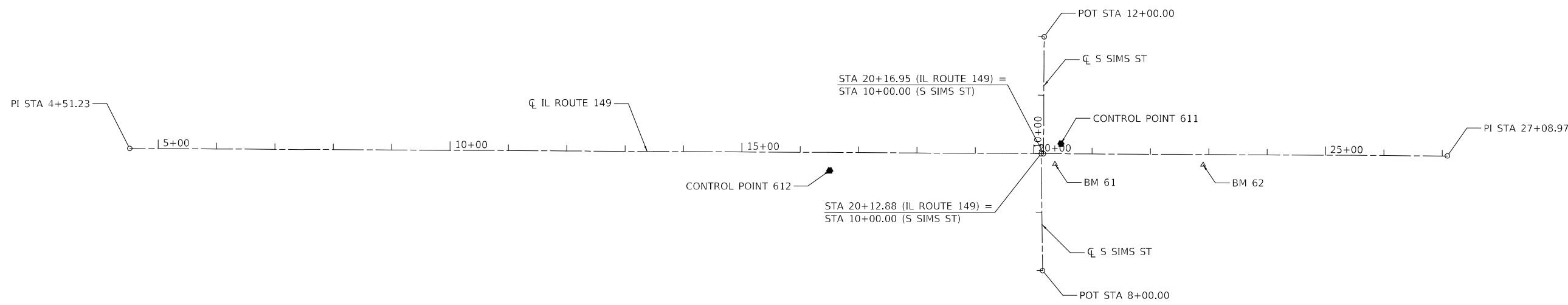
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SCHEDULE OF QUANTITIES - PR SN 028-7136
IL ROUTE 149**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	34
			CONTRACT NO. 78915	
ILLINOIS FED. AID PROJECT				



BENCHMARK "BM 61"
 "□" CUT ON CENTER
 OF SOUTH HEADWALL
 OF SN 028-7061
 ELEV. 389.56

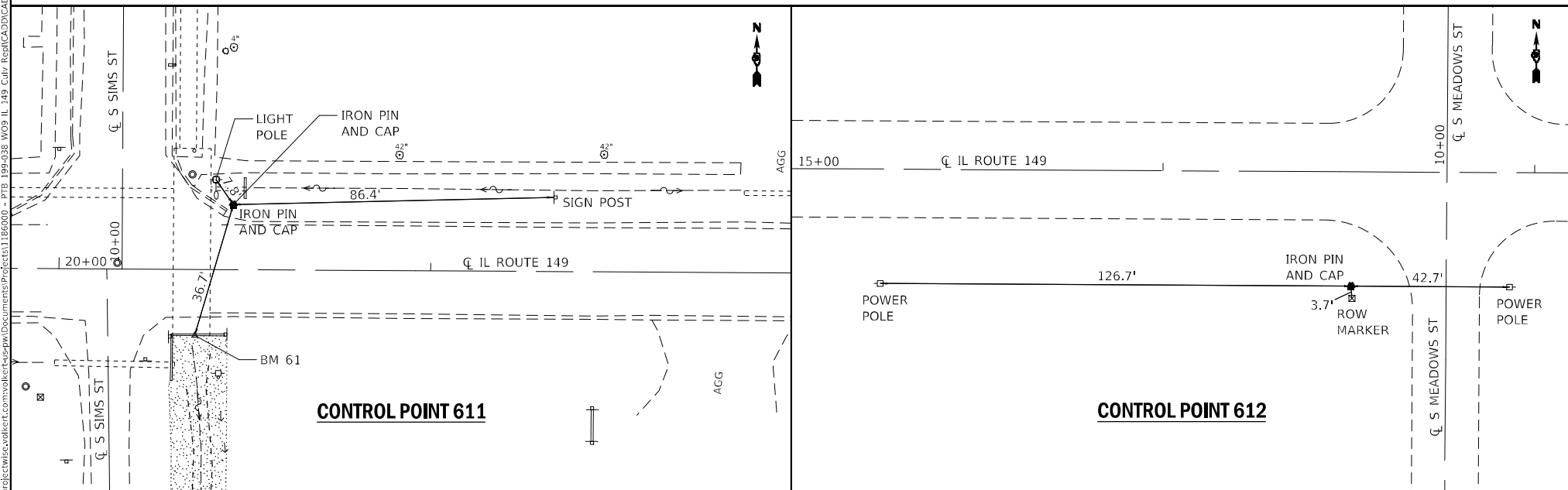
BENCHMARK "BM 62"
 "□" CUT ON CENTER
 OF SOUTH HEADWALL
 OF SN 028-7062
 ELEV. 389.60

EXISTING IL ROUTE 149			
DESCRIPTION	STATION	COORDINATES	
		NORTHING	EASTING
PI	4+51.23	441,640.10	756,582.45
PI	27+08.97	441,627.20	758,840.16

EXISTING S SIMS ST			
DESCRIPTION	STATION	COORDINATES	
		NORTHING	EASTING
POT	8+00.00	441,431.19	758,146.55
POT	10+00.00	441,631.17	758,144.07

EXISTING S SIMS ST			
DESCRIPTION	STATION	COORDINATES	
		NORTHING	EASTING
POT	10+00.00	441,631.15	758,148.14
POT	12+00.00	441,831.15	758,149.32

CONTROL POINTS AND BENCHMARKS					
POINT	STATION	OFFSET	NORTHING	EASTING	ELEV.
611	20+46.81	17.53	441,648.51	758,178.10	389.00
612	16+50.79	30.78	441,602.46	757,781.82	390.18
BM 61	20+36.64	17.75	441,613.29	758,167.74	389.56
BM 62	22+90.52	17.45	441,612.14	758,421.61	389.60



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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**ALIGNMENTS, TIE POINTS AND BENCHMARKS - PR SN 028-7136
 IL ROUTE 149**

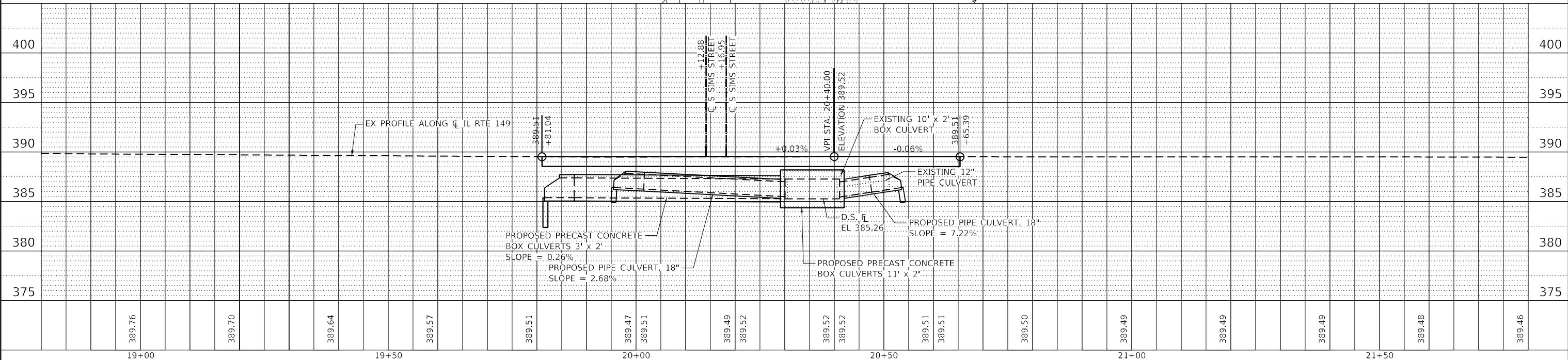
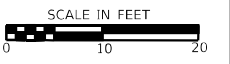
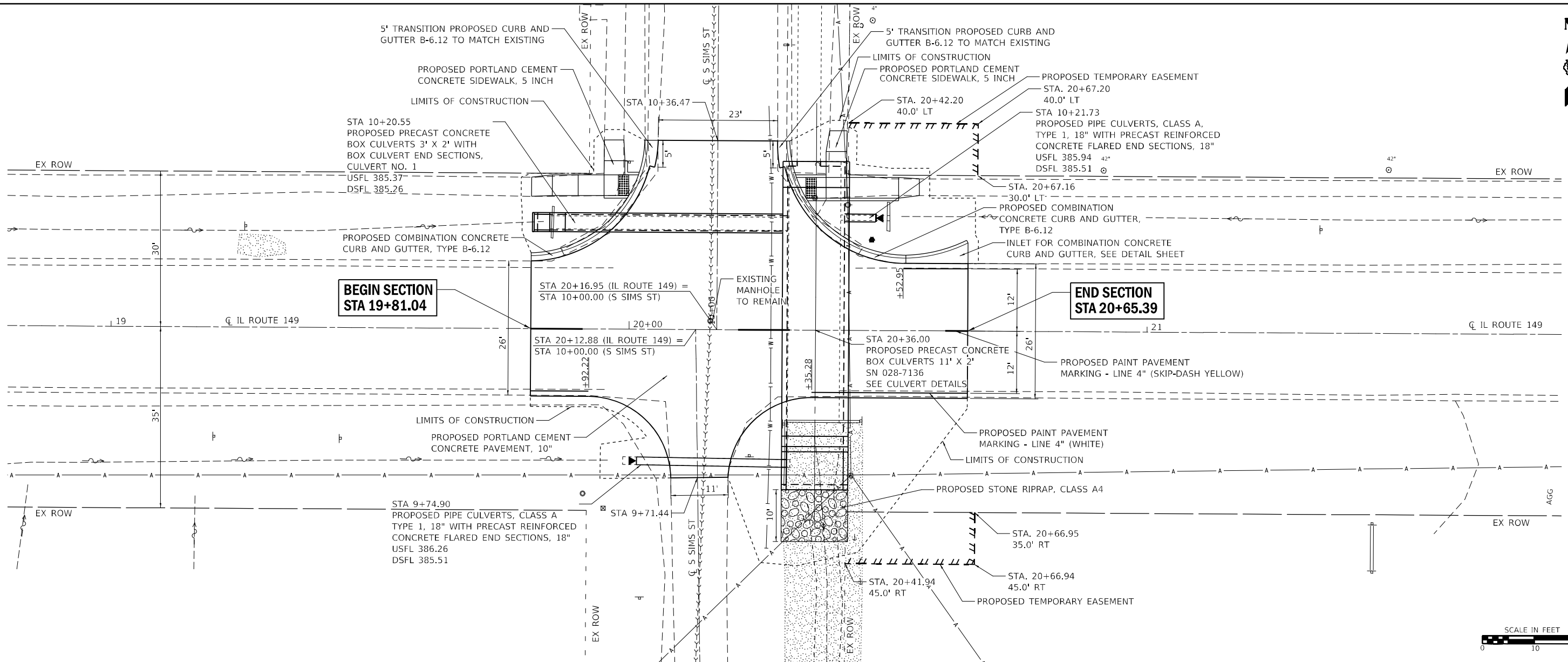
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	35
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

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19+00	19+50	20+00	20+50	21+00	21+50
389.76	389.70	389.64	389.57	389.51	389.46
389.47	389.51	389.49	389.52	389.52	389.52
389.51	389.51	389.51	389.51	389.51	389.51
389.50	389.49	389.49	389.49	389.49	389.48
389.49	389.48	389.46			



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	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PLAN AND PROFILE - PR SN 028-7136
 IL ROUTE 149**

SCALE: 1"=10' SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	36
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

SUGGESTED SEQUENCE OF CONSTRUCTION

THE FOLLOWING IS THE SUGGESTED SEQUENCE OF CONSTRUCTION FOR THIS PROJECT. DEVIATIONS FROM THE SUGGESTED SEQUENCE OF CONSTRUCTION AS HEREIN SPECIFIED WILL NOT BE PERMITTED WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.

PRE-STAGE 1

MAINTENANCE OF TRAFFIC

1. MAINTAIN TRAFFIC ON IL ROUTE 149.
2. MAINTAIN TRAFFIC ON SIMS STREET.

CONSTRUCTION THIS STAGE

1. REMOVE A PORTION OF THE EXISTING CURB AND GUTTER AND SIDEWALK IN THE RADIUS RETURNS ON THE NORTH SIDE OF IL ROUTE 149 AT THE SIMS STREET INTERSECTION.
2. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
3. TRAFFIC CONTROL AND PROTECTION SHALL BE IN ACCORDANCE WITH STANDARDS 701001, 701006, 701501, AND 701801 FOR ALL CONSTRUCTION ACTIVITIES IN THIS STAGE.

STAGE 1

MAINTENANCE OF TRAFFIC

1. TEMPORARILY CLOSE THE INTERSECTION OF IL ROUTE 149 AND SIMS STREET IN ACCORDANCE WITH BLR 21 AND THE DETOUR PLANS AS SHOWN IN THE PLANS.
2. IL ROUTE 149 SHALL BE CLOSED FOR A WEEKEND CLOSURE EXTENDING FROM 6:00PM FRIDAY EVENING TO 6:00AM MONDAY MORNING.
3. ACCESS MUST BE MAINTAINED TO LOCAL TRAFFIC ON SOUTH LEG OF SOUTH SIMS STREET AT ALL TIMES BY PLACING TEMPORARY AGGREGATE IN A MANNER MEETING THE APPROVAL OF THE ENGINEER.
4. SIDEWALK TO REMAIN CLOSED UNDER STANDARD 701801.

CONSTRUCTION THIS STAGE

1. CONTRACTOR SHALL UTILIZE THE ROAD CLOSURE TO RECONSTRUCT THE CROSSROAD BOX CULVERT AT STA. 20+36.00. CONSTRUCTION ACTIVITIES WILL BE SEQUENCED AS FOLLOWS:
 - A. IMPLEMENT ROAD CLOSURE ON IL ROUTE 149 AND NORTH LEG OF SIMS STREET TO TRAFFIC PER BLR 21 AND DETOUR PLANS AS SHOWN IN THE PLANS.
 - B. SAWCUT AND REMOVE EXISTING PAVEMENT, EXISTING CULVERTS AND END SECTIONS.
 - C. CONSTRUCT PROPOSED 11' X 2' PRECAST CONCRETE BOX CULVERT AND PROPOSED 18H PIPE CULVERT ON THE SOUTH LEG OF SIMS STREET.
 - D. COMPLETE EARTH EXCAVATION, TRENCH BACKFILL, CONSTRUCT PROPOSED SUBBASE GRANULAR MATERIAL, TYPE A AND CONSTRUCT PROPOSED PORTLAND CEMENT CONCRETE PAVEMENT ON IL ROUTE 149 AND SOUTH LEG OF SIMS STREET AS SHOWN IN THE PLANS AND ALLOW TO CURE.
 - E. RE-OPEN IL ROUTE 149 TO TRAFFIC. NORTH LEG OF SIMS STREET SHALL REMAIN CLOSED ACCORDING TO BLR 21.
2. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

STAGE 2

MAINTENANCE OF TRAFFIC

1. MAINTAIN TRAFFIC ON IL ROUTE 149 IN EXISTING TRAFFIC PATTERNS EXCEPT WHEN CONSTRUCTION OPERATIONS REQUIRE LANE CLOSURES. LANE CLOSURES MAY BE REQUIRED FOR THE COMBINATION CONCRETE CURB AND GUTTER CONSTRUCTION AND PAVING OPERATIONS.
2. TEMPORARILY CONTINUE TO CLOSE THE NORTH LEG OF SIMS STREET IN ACCORDANCE WITH BLR 21. THE NORTH LEG OF SIMS STREET SHALL BE CLOSED FOR A MAXIMUM OF EIGHT (8) CONSECUTIVE CLOSURE DAYS IN ADDITION TO THE STAGE 1 CLOSURE.
3. SIDEWALK TO REMAIN CLOSED UNDER STANDARD 701801.

CONSTRUCTION THIS STAGE

1. CONTRACTOR SHALL UTILIZE DAILY LANE CLOSURES TO FACILITATE CURB AND GUTTER CONSTRUCTION ON NORTH SIDE OF IL ROUTE 149 AT THE INTERSECTION WITH SIMS STREET. LANE CLOSURES (WHEN NEEDED) SHALL BE ACCORDING TO HIGHWAY STANDARD 701501.

CLOSE WB LANE ON IL ROUTE 149 (AS NEEDED) AND MAINTAIN TRAFFIC WITH FLAGGERS USING IDENTIFIED HIGHWAY STANDARD. CONSTRUCTION ACTIVITIES IN THIS STAGE SHALL BE SEQUENCED AS FOLLOWS:

- A. COMPLETE CONSTRUCTION OF CAST-IN-PLACE COLLAR ON NORTH END OF PROPOSED 11' X 2' PRECAST CONCRETE BOX CULVERT TO CONNECT TO THE EXISTING 54H X 2' BOX CULVERT AND ALLOW TO CURE.
- B. COMPLETE CONSTRUCTION OF PROPOSED 3' X 2' PRECAST CONCRETE BOX CULVERT AND PROPOSED 18H PIPE CULVERT AND CONNECT TO PROPOSED 11' X 2' PRECAST BOX CULVERT.
- C. CONSTRUCT PROPOSED CURB AND GUTTER ON NORTHERN RADIUS RETURNS OF THE INTERSECTION.
- D. CONSTRUCT REMAINDER OF EARTH EXCAVATION, TRENCH BACKFILL, PROPOSED SUBBASE GRANULAR MATERIAL, TYPE A AND PROPOSED PORTLAND CEMENT CONCRETE PAVEMENT ON NORTH LEG OF SIMS STREET.
- E. RE-OPEN NORTH LEG OF SIMS STREET WHEN ABOVE CONSTRUCTION OPERATIONS COMPLETE.

RE-OPEN WB LANE ON IL ROUTE 149 TO EXISTING TRAFFIC PATTERNS AT CONCLUSION OF EACH WORK DAY.

POST CONSTRUCTION

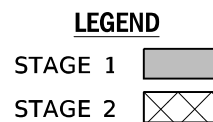
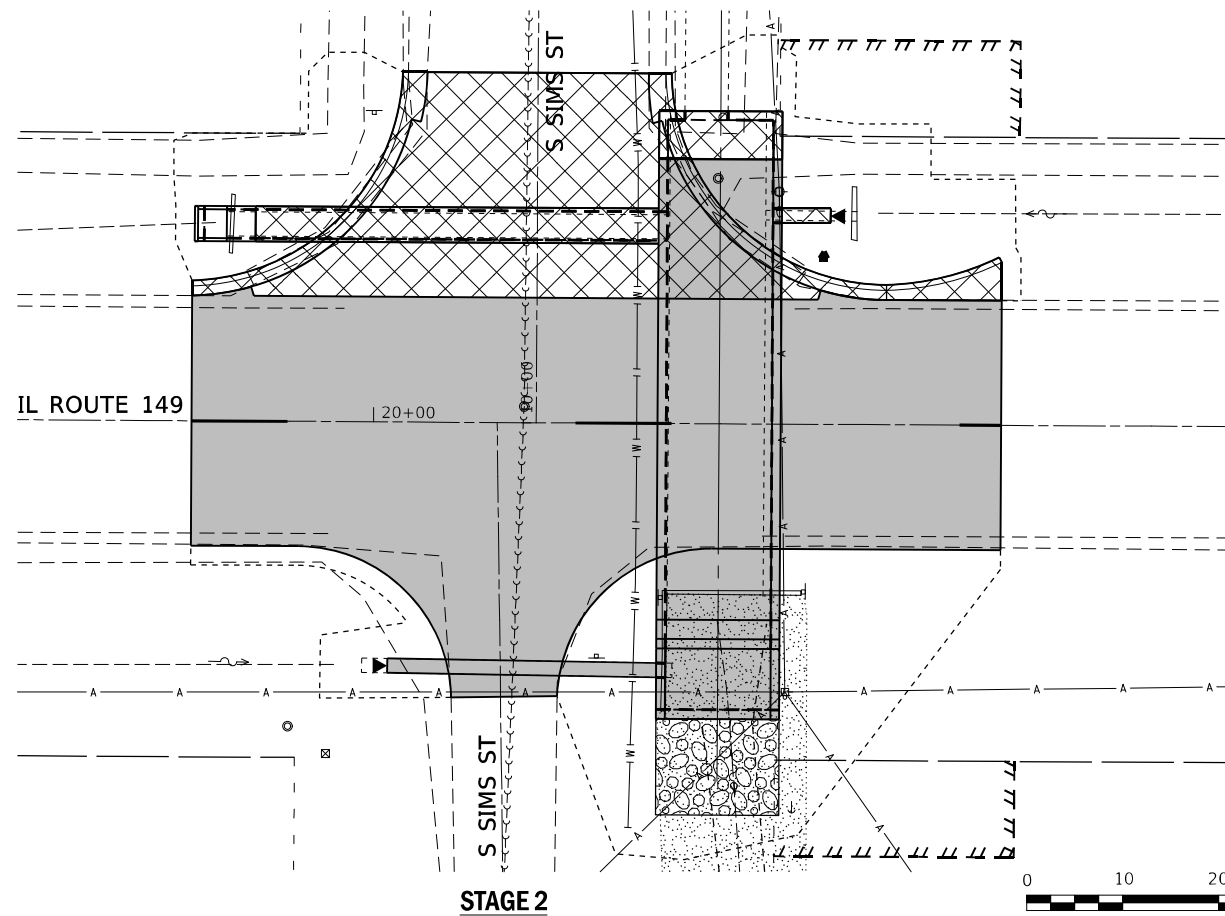
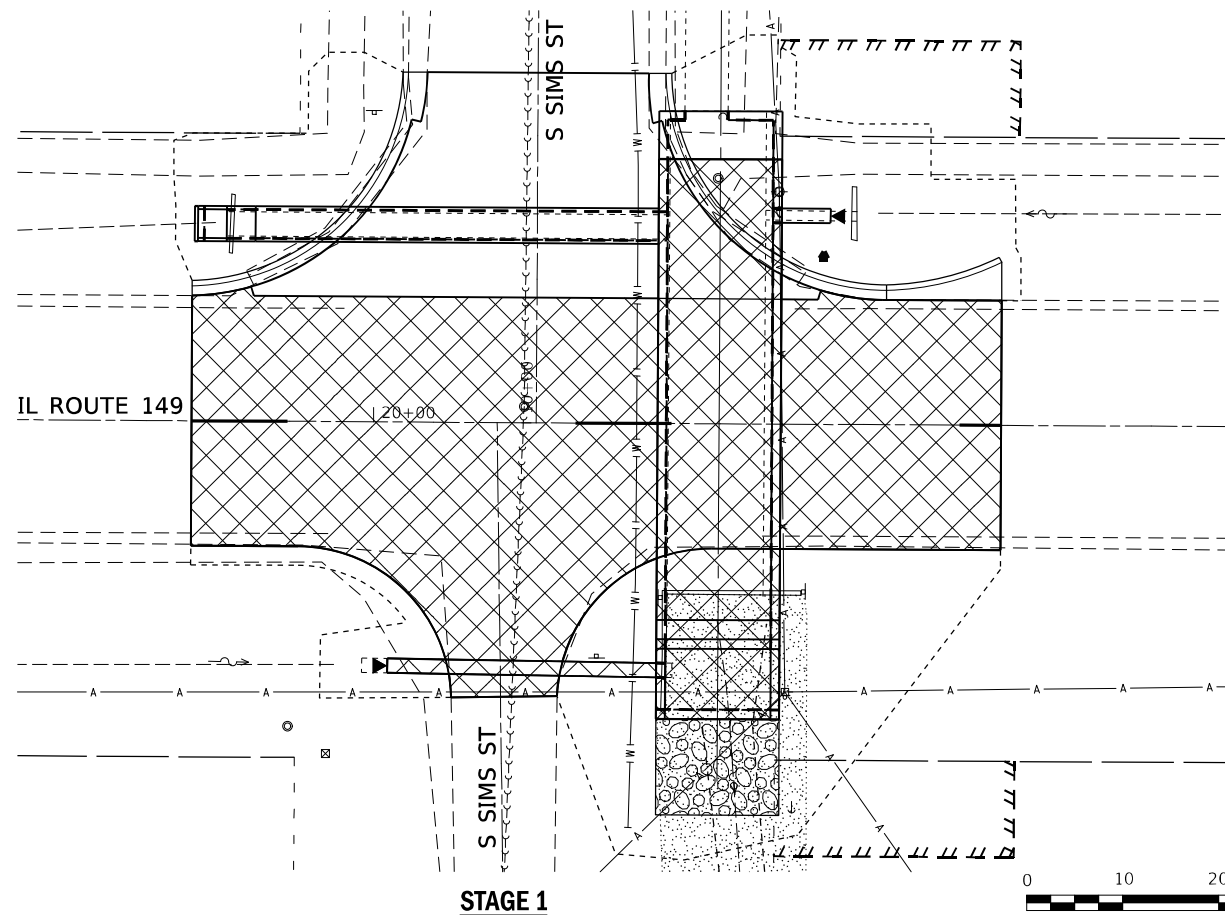
MAINTENANCE OF TRAFFIC

1. MAINTAIN TRAFFIC ON IL ROUTE 149.
2. MAINTAIN TRAFFIC ON SIMS STREET.

CONSTRUCTION THIS STAGE

1. CONTRACTOR SHALL COMPLETE PROPOSED SIDEWALK CONSTRUCTION AND ANY OTHER REMAINING WORK ITEMS OUTSIDE THE PROPOSED CURB AND GUTTER.
2. CONTRACTOR SHALL INSTALL PERMANENT SEEDING AND RIPRAP (STANDARDS 701001 AND 701006).
3. CONTRACTOR SHALL RE-OPEN SIDEWALK AND PERFORM FINAL CLEAN-UP.

THE CONTRACTOR MAY SUBMIT AN ALTERNATE SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL PLAN THAT WOULD EXPEDITE CONSTRUCTION AND STILL MAINTAIN ACCEPTABLE TRAFFIC CONTROL. ANY AND ALL CHANGES TO THESE PLANS MUST BE SUBMITTED IN WRITING AND APPROVED IN ADVANCE BY THE ENGINEER. NO ADDITIONAL COMPENSATION WILL BE ALLOWED IF ALTERNATE PLANS ARE APPROVED.



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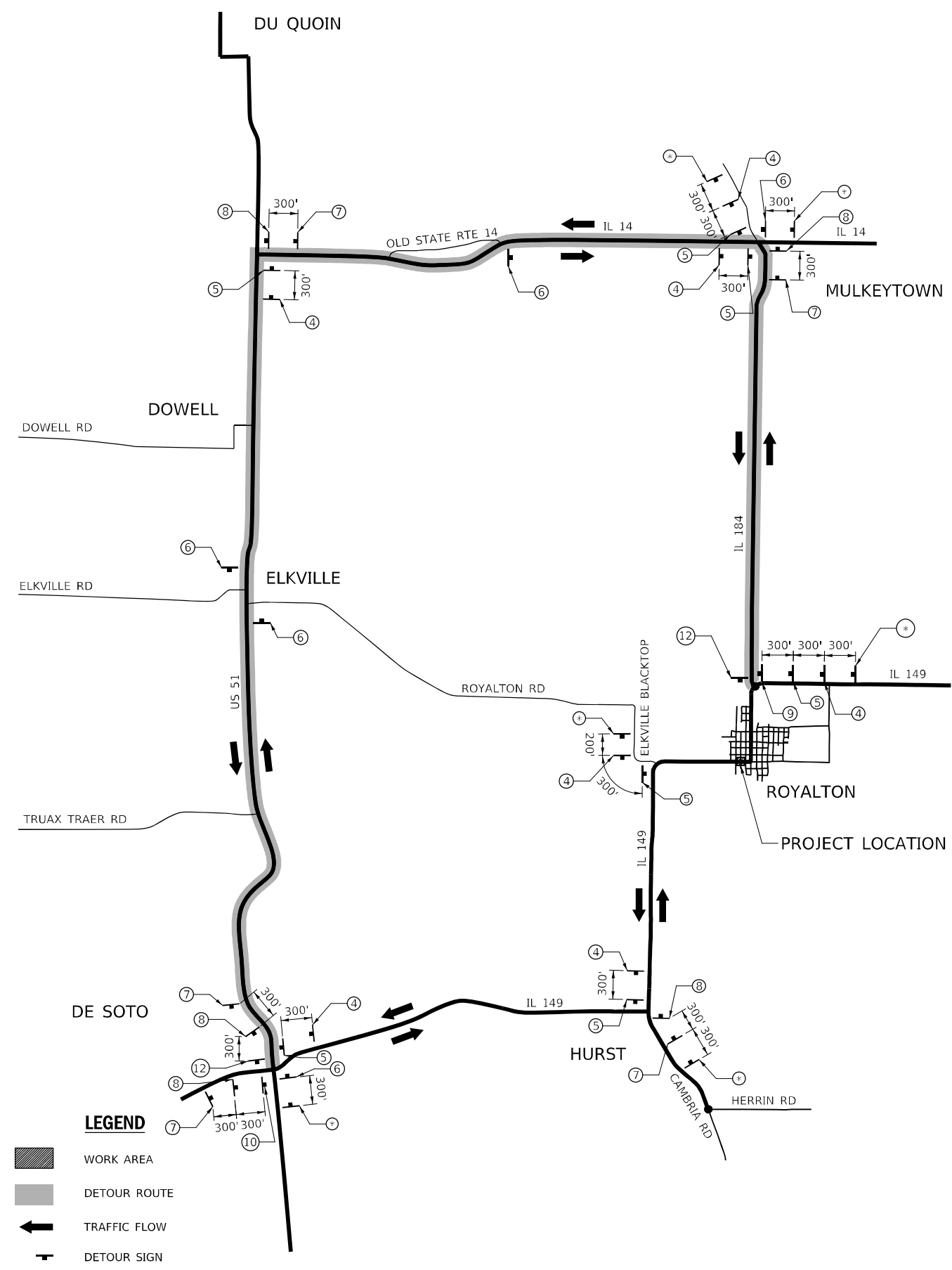
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SEQUENCE AND STAGING DETAILS - PR SN 028-7136
IL ROUTE 149**

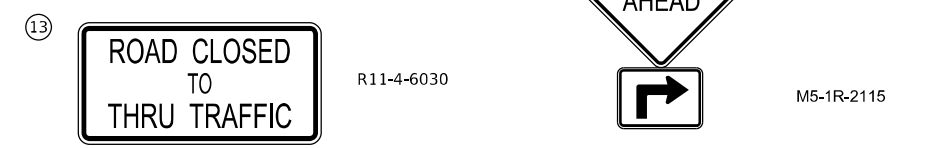
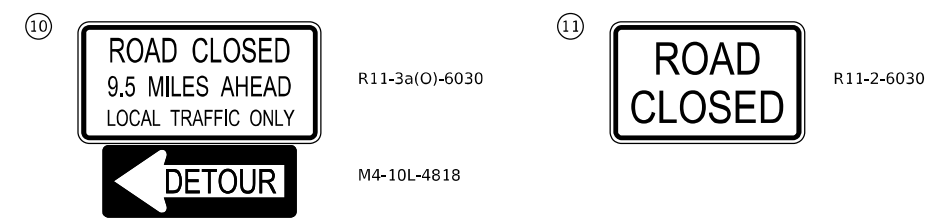
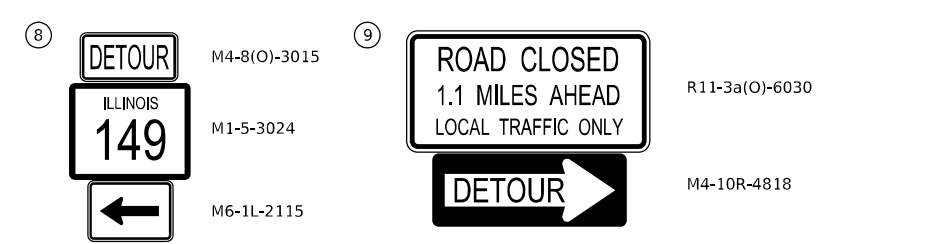
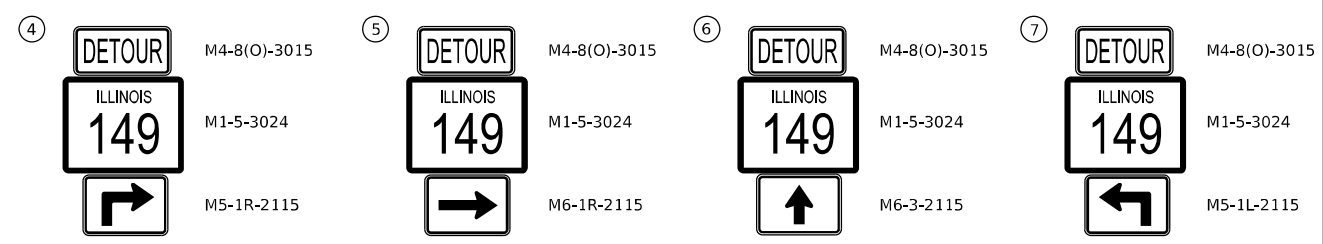
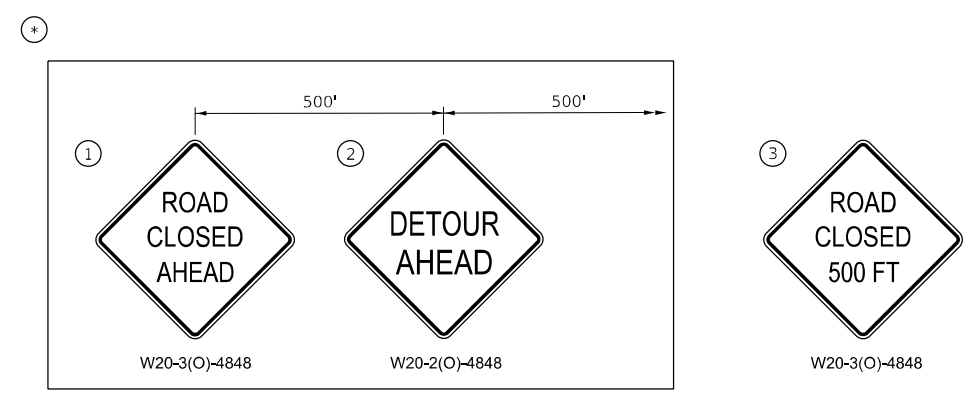
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	37
			CONTRACT NO. 78915	
		ILLINOIS FED. AID PROJECT		



LEGEND

- WORK AREA
- DETOUR ROUTE
- TRAFFIC FLOW
- DETOUR SIGN



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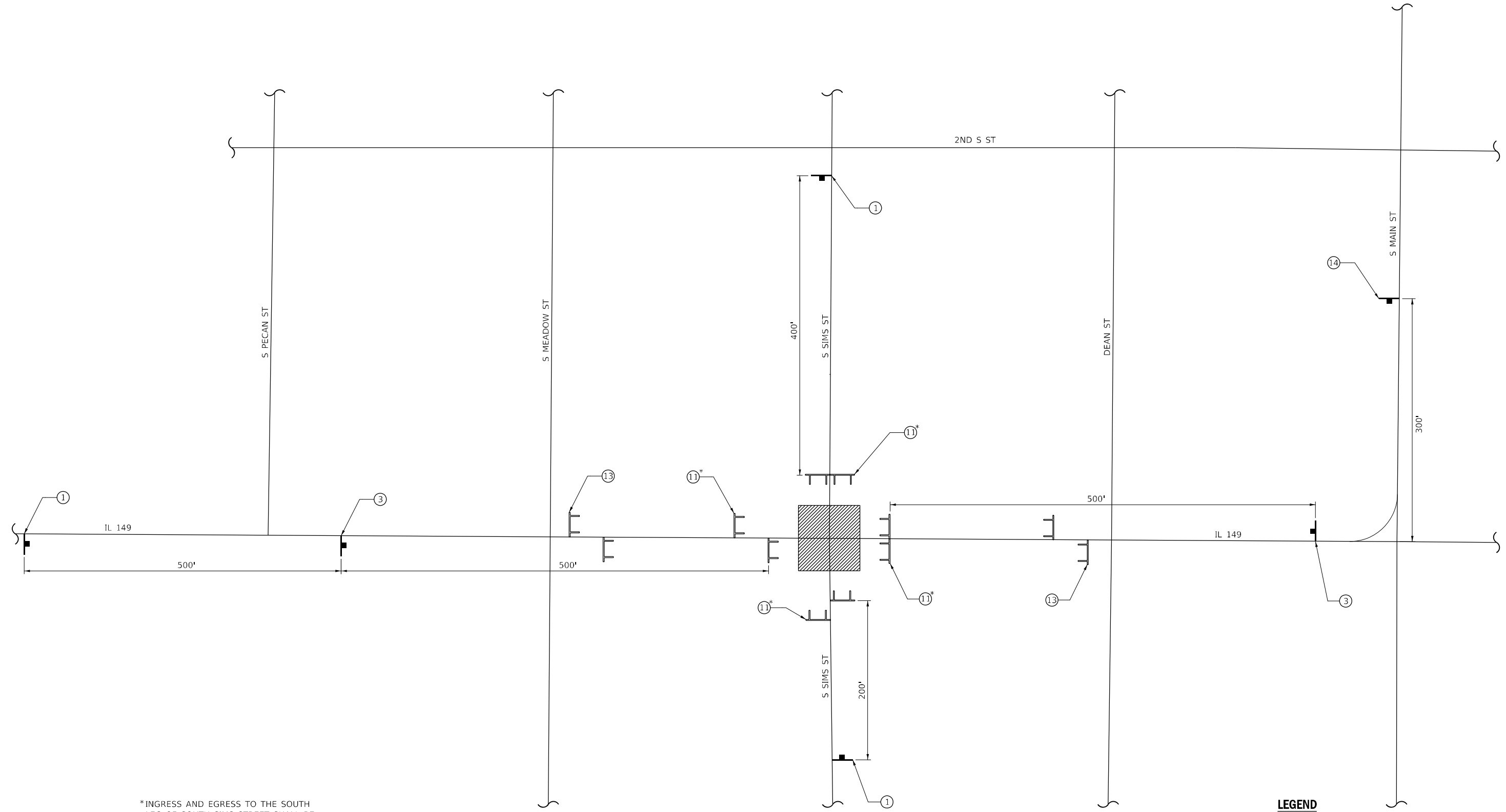
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DETOUR PLAN - PR SN 028-7136
IL ROUTE 149**

SCALE: NTS	SHEET 1 OF 2 SHEETS	STA. _____	TO STA. _____
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
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	38
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				


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*INGRESS AND EGRESS TO THE SOUTH
 LEG OF SOUTH SIMS STREET SHALL BE
 PROVIDED AT ALL TIMES

LEGEND

 WORK AREA

 TYPE III BARRICADE
 CONFORMING
 TO STD. 701901



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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**DETOUR PLAN - PR SN 028-7136
 IL ROUTE 149**

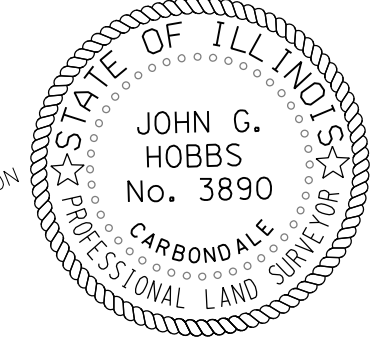
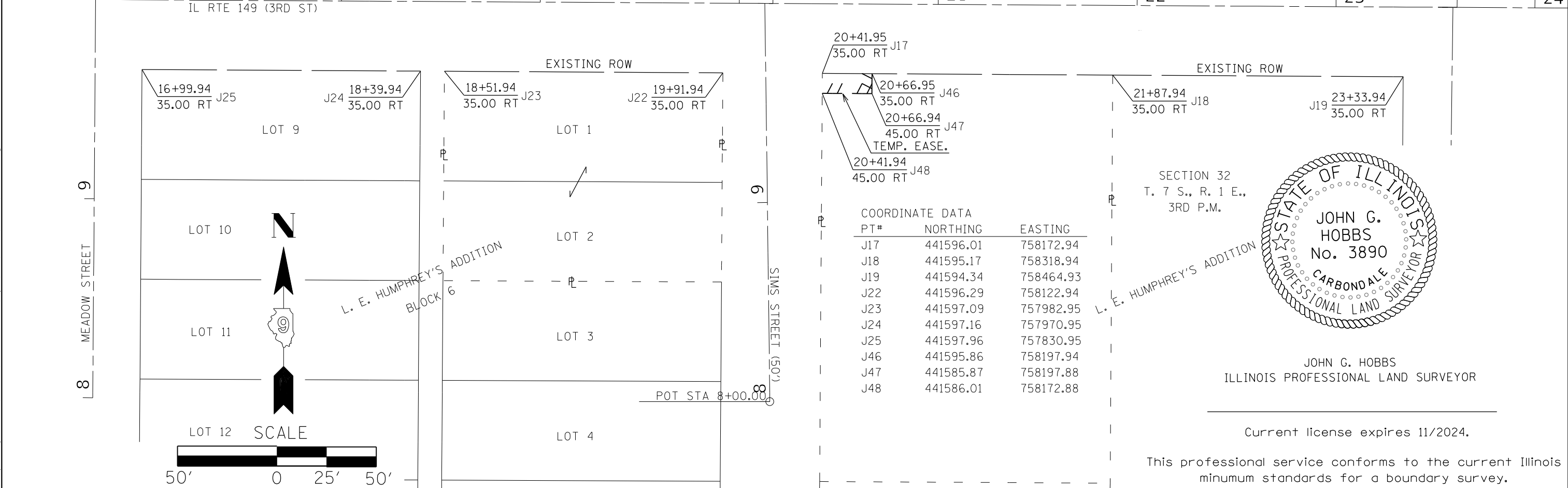
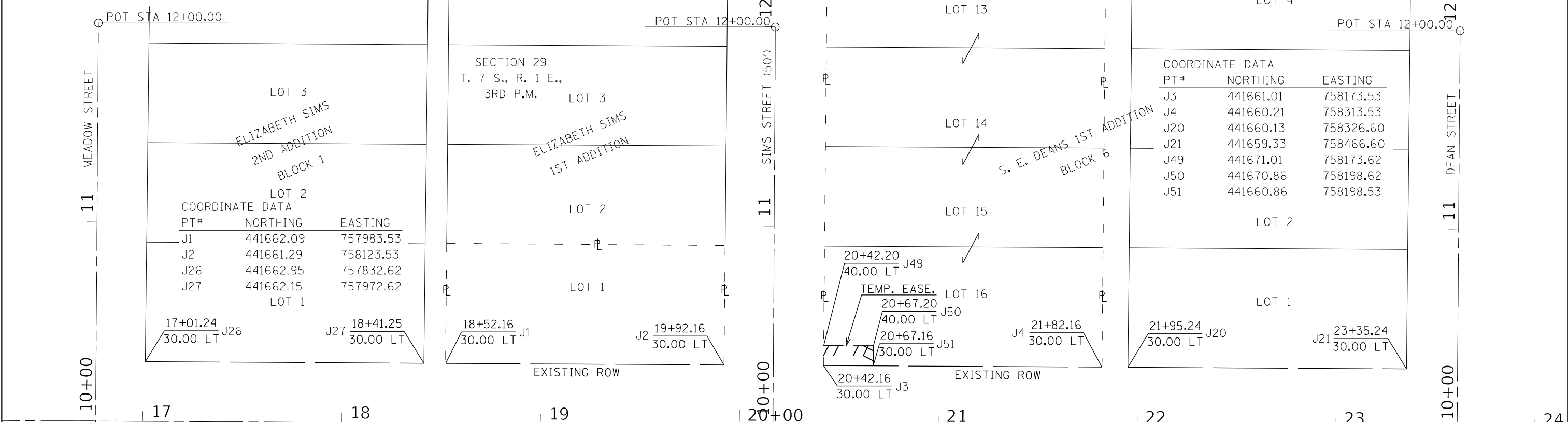
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	39
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78915	

ALIGNMENT INFO
FAP 873 (IL RTE 149)

POINT#	STATION	NORTHING	EASTING
J5	4+51.23	441640.10	756582.45
J28	27+08.97	441627.20	758840.16

PARCEL #	OWNERS NAME	PURPOSE	ACREAGE
161	JOHN R. MIZE	T.E.	0.006 ACRES±
163	ROYALTON LODGE NUMBER 1047	T.E.	0.006 ACRES±



JOHN G. HOBBS
ILLINOIS PROFESSIONAL LAND SURVEYOR

Current license expires 11/2024.

This professional service conforms to the current Illinois minimum standards for a boundary survey.

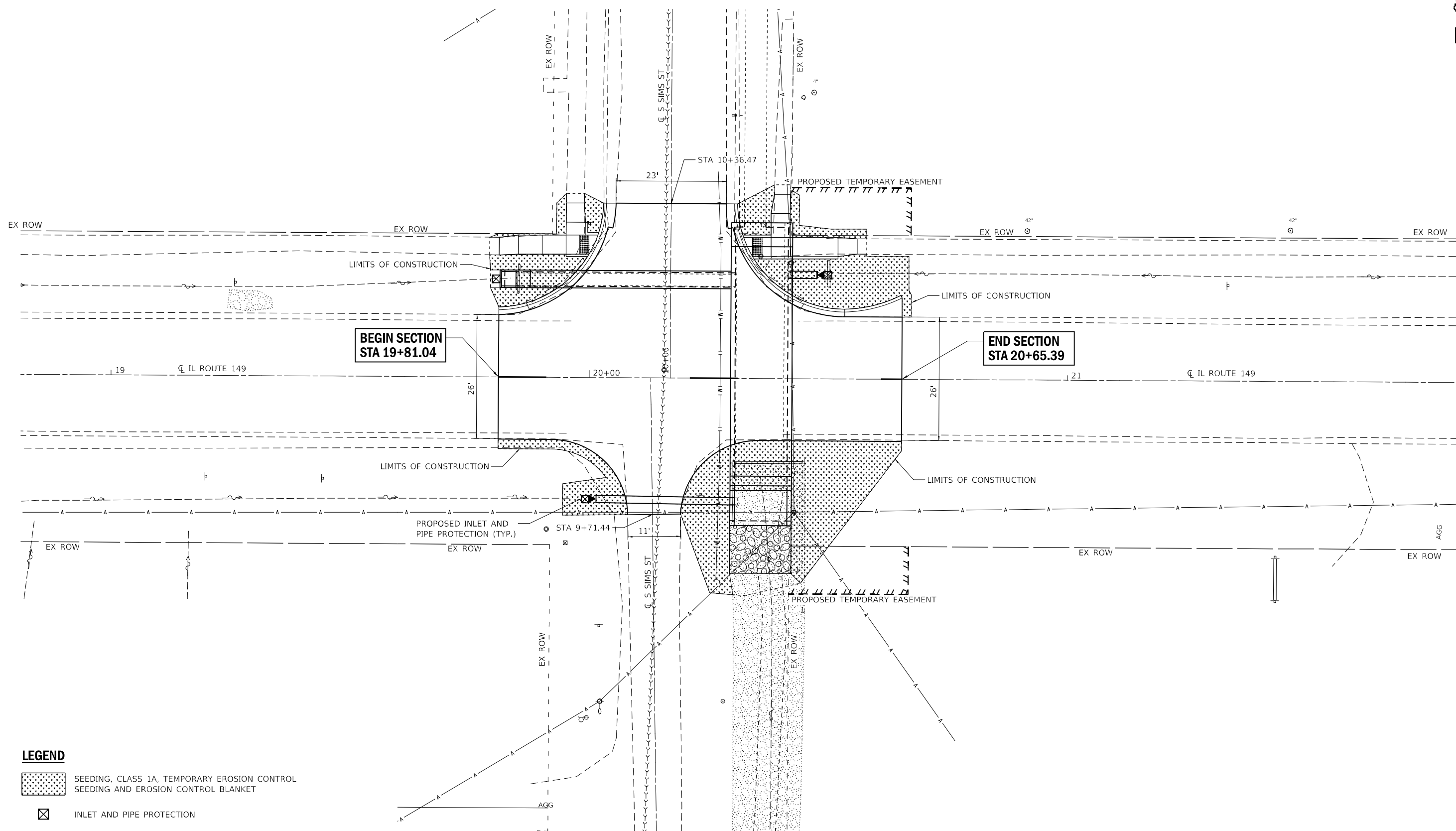
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY SHEET
ILLINOIS ROUTE 149 & SIMS STREET




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873	105CR-1, 107CR-2	FRANKLIN	60	40
SEC 29 & 32; T.7S., R.1E.		CONTRACT NO. 78915		
R-99-012-22		ILLINOIS FED. AID PROJECT		

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LEGEND

-  SEEDING, CLASS 1A, TEMPORARY EROSION CONTROL SEEDING AND EROSION CONTROL BLANKET
-  INLET AND PIPE PROTECTION
-  STONE RIPRAP, CLASS A4



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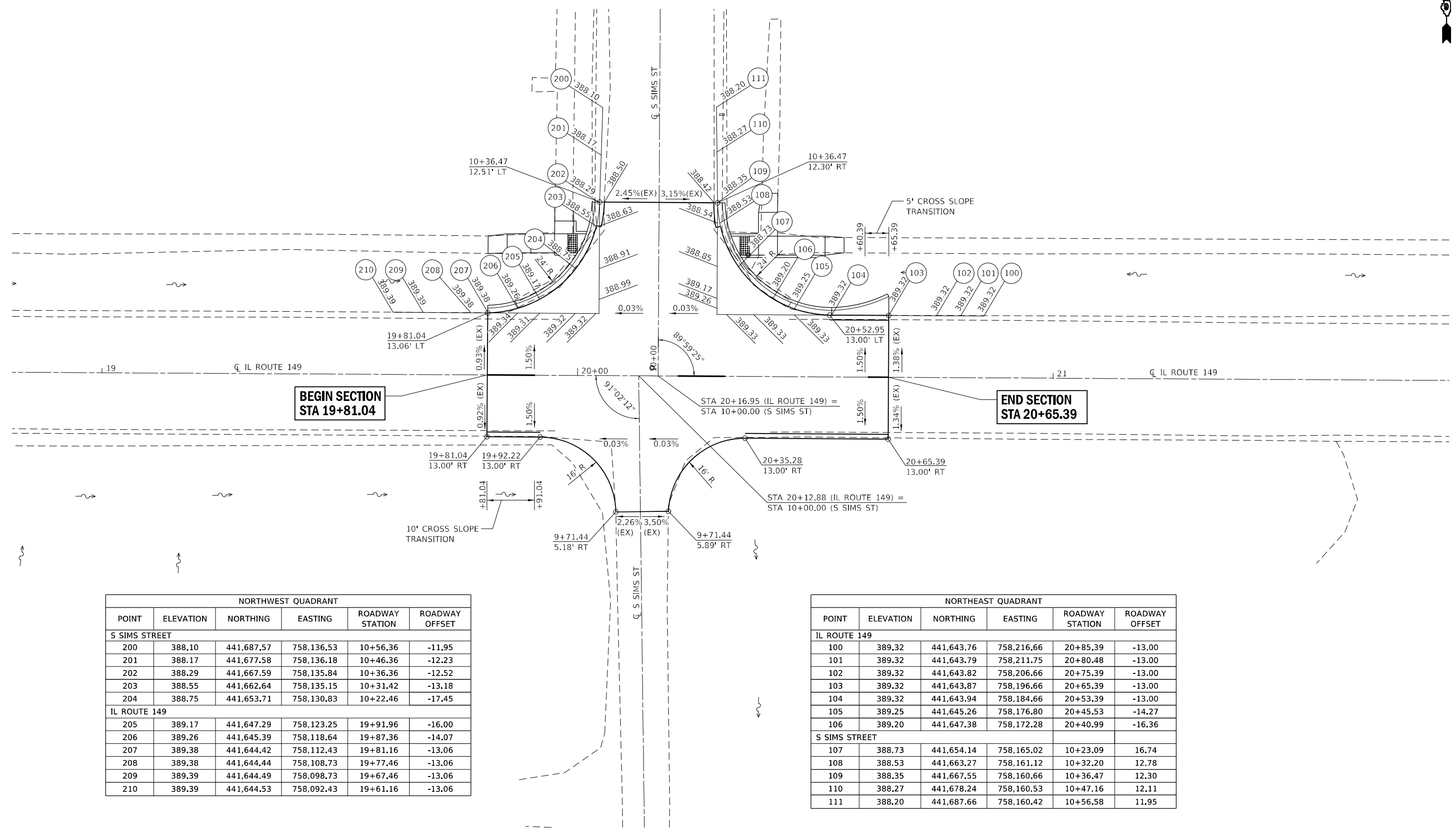
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TEMPORARY EROSION CONTROL AND LANDSCAPING PLANS - PR SN 028-7136
IL ROUTE 149

SCALE: 1"=10' SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	41
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				



**BEGIN SECTION
STA 19+81.04**

**END SECTION
STA 20+65.39**

NORTHWEST QUADRANT					
POINT	ELEVATION	NORTHING	EASTING	ROADWAY STATION	ROADWAY OFFSET
S SIMS STREET					
200	388.10	441,687.57	758,136.53	10+56.36	-11.95
201	388.17	441,677.58	758,136.18	10+46.36	-12.23
202	388.29	441,667.59	758,135.84	10+36.36	-12.52
203	388.55	441,662.64	758,135.15	10+31.42	-13.18
204	388.75	441,653.71	758,130.83	10+22.46	-17.45
IL ROUTE 149					
205	389.17	441,647.29	758,123.25	19+91.96	-16.00
206	389.26	441,645.39	758,118.64	19+87.36	-14.07
207	389.38	441,644.42	758,112.43	19+81.16	-13.06
208	389.38	441,644.44	758,108.73	19+77.46	-13.06
209	389.39	441,644.49	758,098.73	19+67.46	-13.06
210	389.39	441,644.53	758,092.43	19+61.16	-13.06

NORTHEAST QUADRANT					
POINT	ELEVATION	NORTHING	EASTING	ROADWAY STATION	ROADWAY OFFSET
IL ROUTE 149					
100	389.32	441,643.76	758,216.66	20+85.39	-13.00
101	389.32	441,643.79	758,211.75	20+80.48	-13.00
102	389.32	441,643.82	758,206.66	20+75.39	-13.00
103	389.32	441,643.87	758,196.66	20+65.39	-13.00
104	389.32	441,643.94	758,184.66	20+53.39	-13.00
105	389.25	441,645.26	758,176.80	20+45.53	-14.27
106	389.20	441,647.38	758,172.28	20+40.99	-16.36
S SIMS STREET					
107	388.73	441,654.14	758,165.02	10+23.09	16.74
108	388.53	441,663.27	758,161.12	10+32.20	12.78
109	388.35	441,667.55	758,160.66	10+36.47	12.30
110	388.27	441,678.24	758,160.53	10+47.16	12.11
111	388.20	441,687.66	758,160.42	10+56.58	11.95



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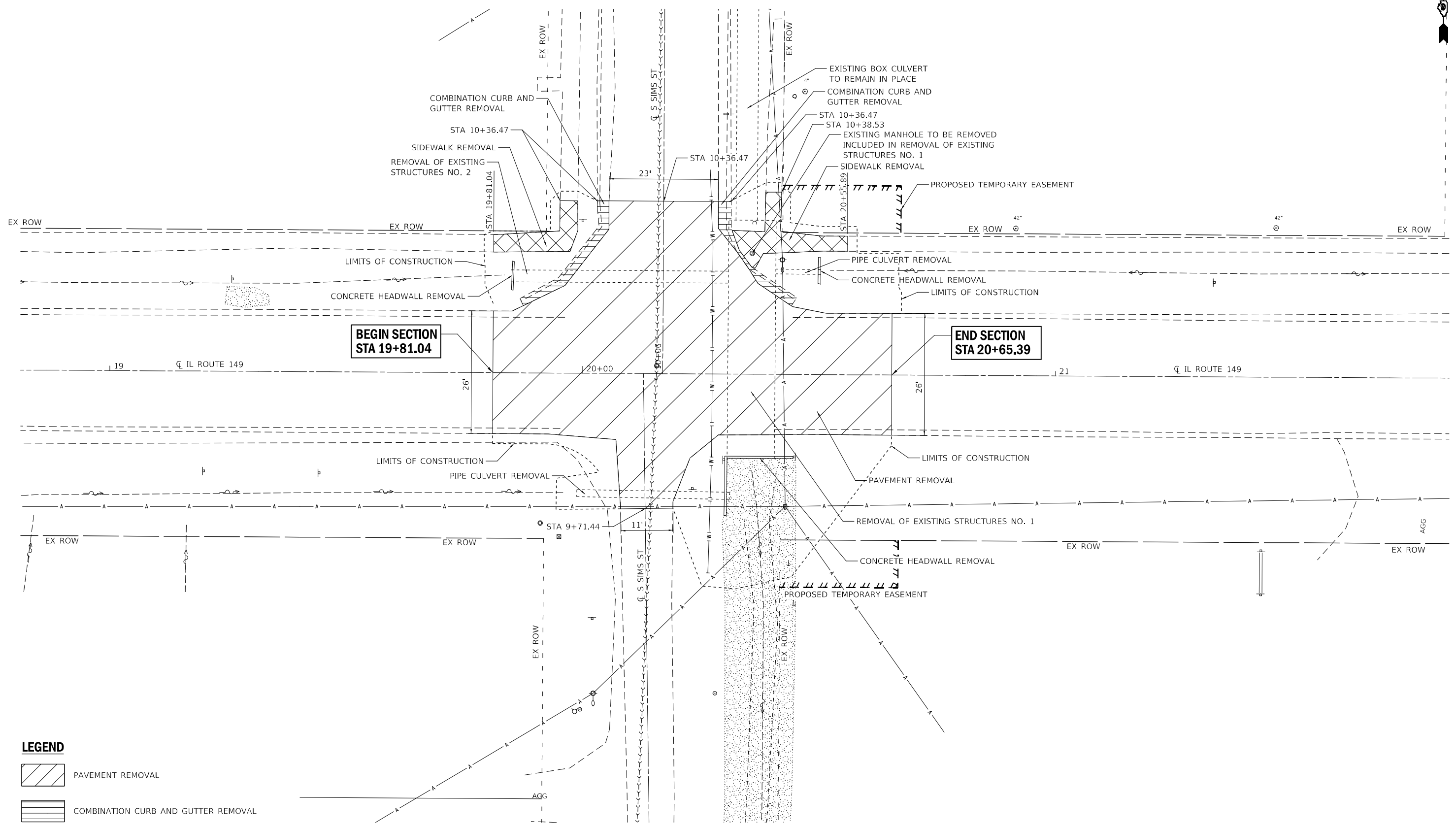
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**INTERSECTION AND PAVEMENT ELEVATION DETAILS - PR SN 028-7136
IL ROUTE 149**

SCALE: 1"=10' SHEET 1 OF 1 SHEETS STA. TO STA.




F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	42
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				



**BEGIN SECTION
STA 19+81.04**

**END SECTION
STA 20+65.39**

LEGEND

-  PAVEMENT REMOVAL
-  COMBINATION CURB AND GUTTER REMOVAL
-  SIDEWALK REMOVAL



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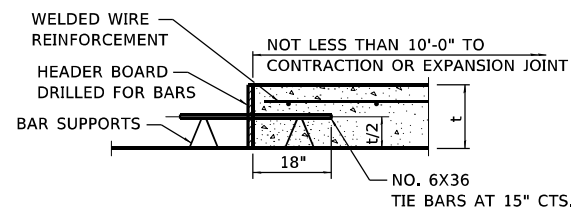
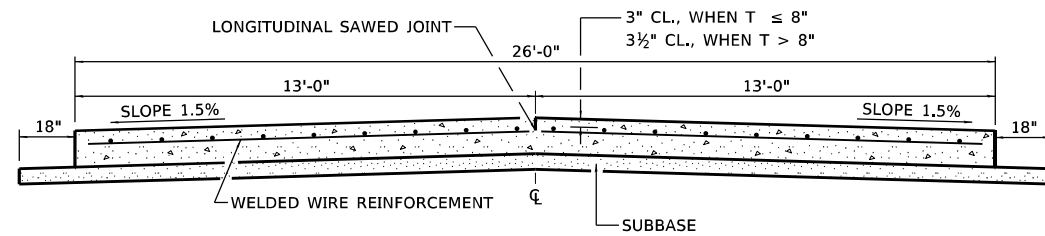
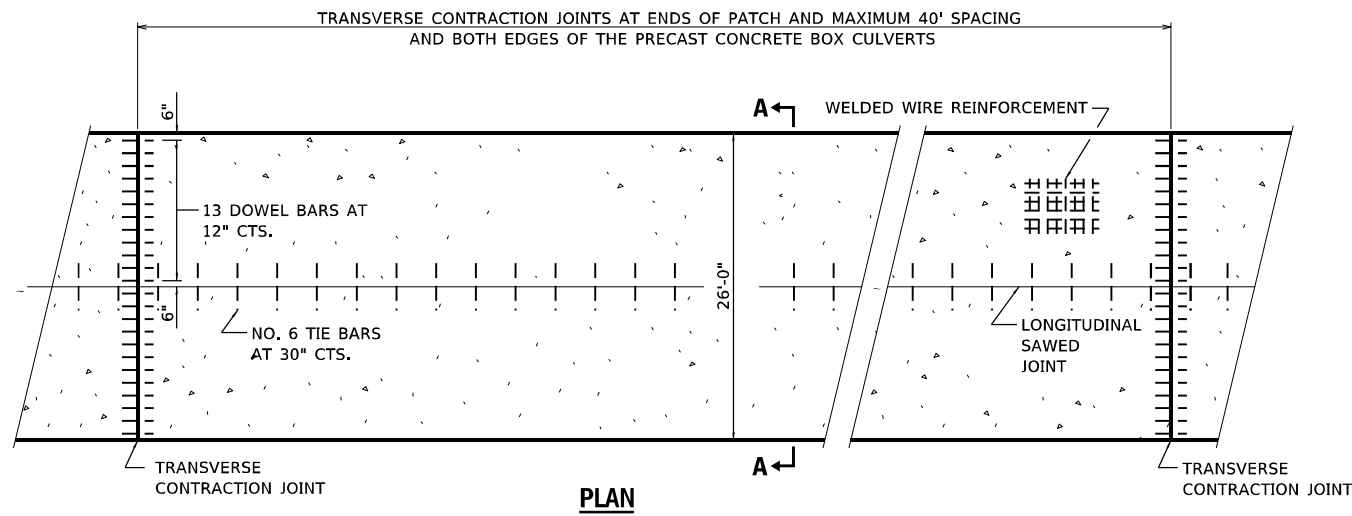
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

REMOVAL PLANS - PR SN 028-7136	
IL ROUTE 149	
SCALE: 1"=10'	SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	44
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

26' PCC PAVEMENT OVER BOX CULVERT



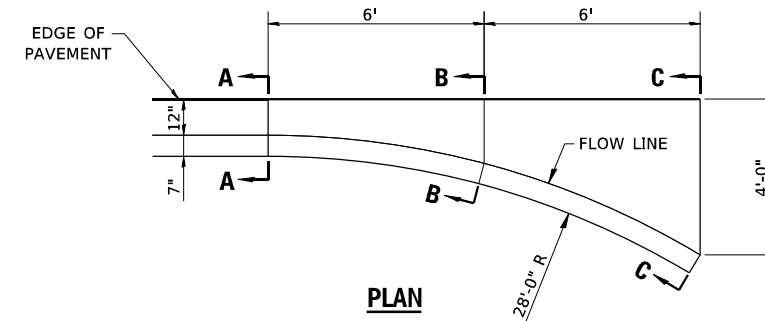
GENERAL NOTES

SEE STANDARD 420001 FOR DETAILS NOT SHOWN.

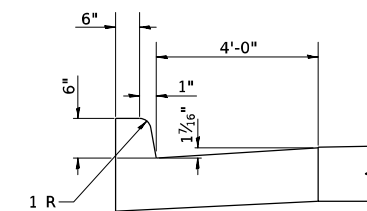
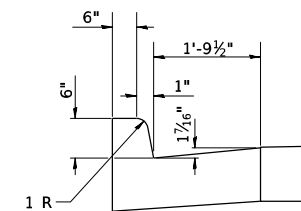
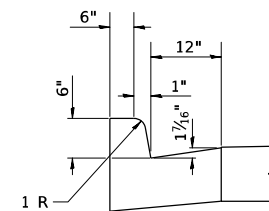
SEE STANDARD 420701 FOR WELDED WIRE REINFORCEMENT DETAILS.

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

ACTUAL DIMENSIONS TO MATCH FIELD CONDITIONS AND CONSTRUCTION METHODS.



INLET FOR COMBINATION CONCRETE CURB AND GUTTER



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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MISCELLANEOUS DETAILS - PR SN 028-7136
IL ROUTE 149**

SCALE: 1"=20' SHEET 1 OF 1 SHEETS STA. TO STA.

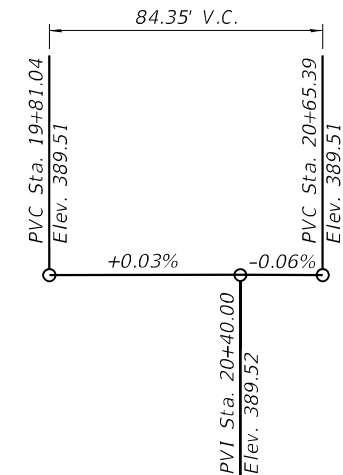
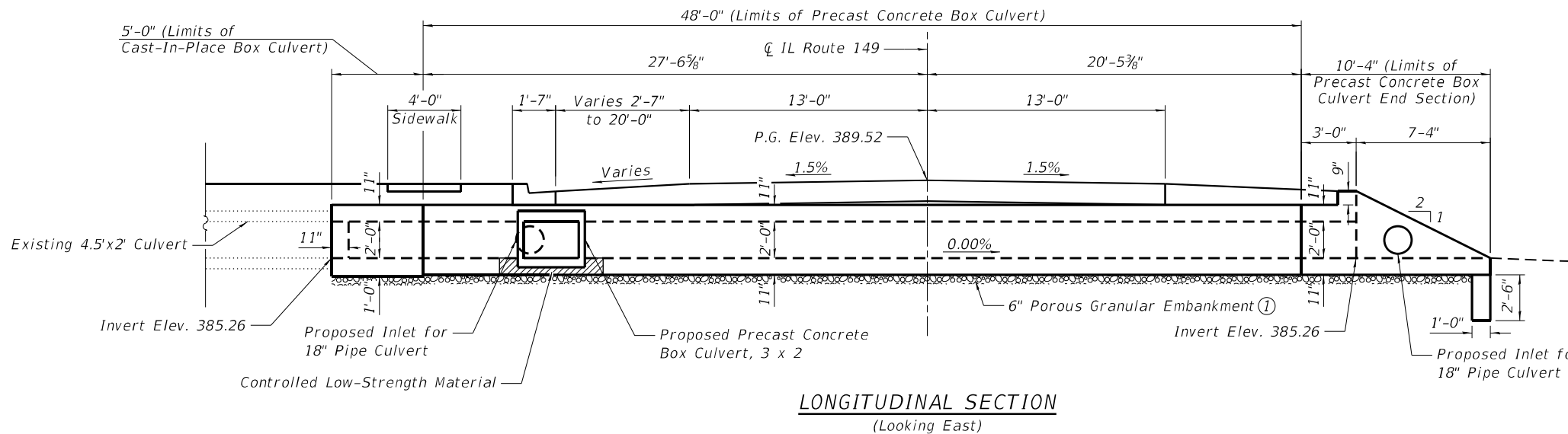
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	45
			CONTRACT NO. 78915	
ILLINOIS FED. AID PROJECT				

Benchmark: TBM RR Spike in Power Pole, Sta. 20+38.12, 99.64' LT, Elev. 389.37

Existing Structure: SN 028-7061 is a 50'-11" long 10'x2' reinforced concrete box culvert built in 1928. The culvert will be completely replaced using road closure and a detour to maintain traffic.

WATERWAY INFORMATION

Drainage Area = 0.09 sq. mi.		Low Grade Elev. = 389.50						
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	-	20.0	22.0	-	-	389.40	388.95
Base	100	-	20.0	22.0	-	-	389.57	389.51



INDEX OF SHEETS

1. General Plan and Elevation
- 2.-3. Culvert Details
- 4.-5. Single Cell Precast Concrete Box Culvert Tapered End Sections

DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications
Customary U.S. Units, 9th Edition

DESIGN STRESSES

PRECAST UNITS

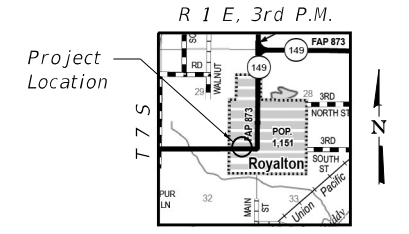
$f'_c = 5,000$ psi
 $f_y = 65,000$ psi (Welded Wire Reinforcement)

FIELD UNITS

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

LOADING HL-93

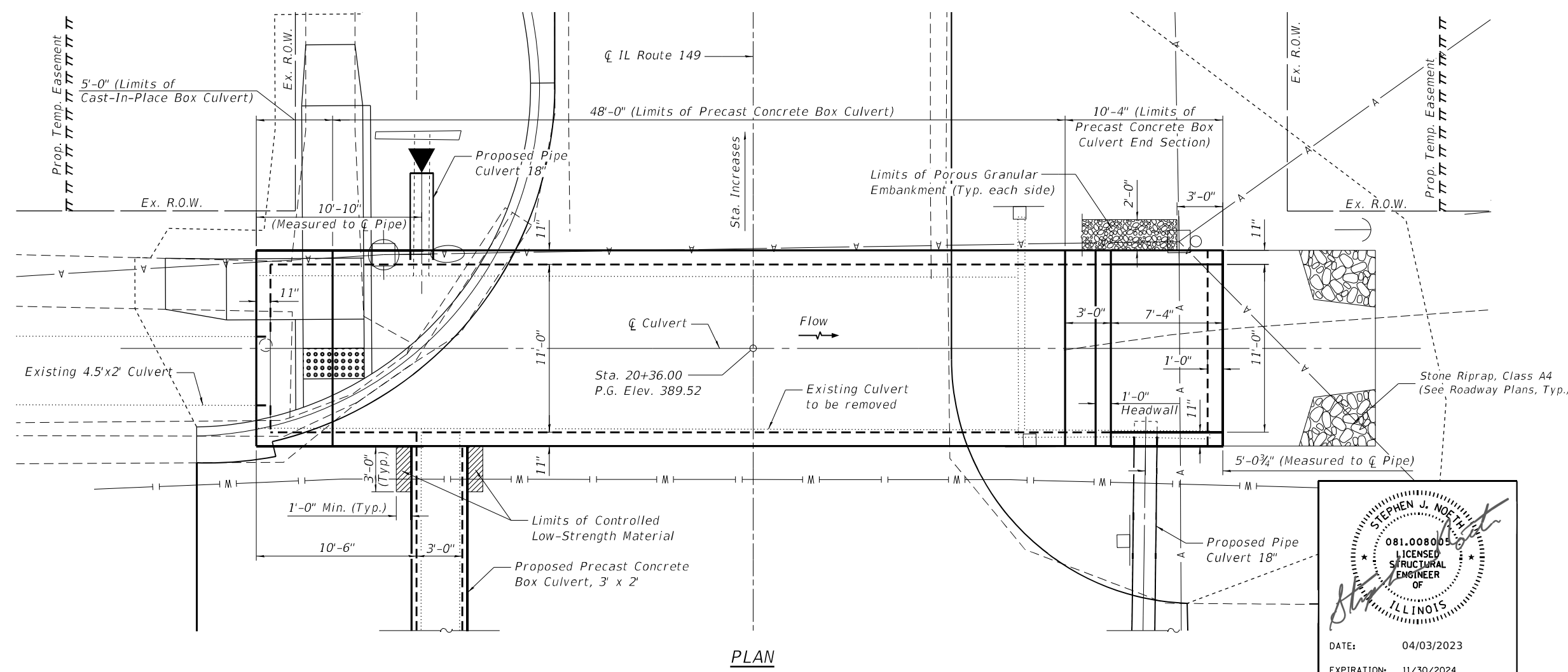
Allow 50#/sq. ft. for future wearing surface.



LOCATION SKETCH

Notes:

- ① Included in cost of Precast Concrete Box Culvert 11'x2'



STEPHEN J. NOETH
081.008005
LICENSED STRUCTURAL ENGINEER OF ILLINOIS
DATE: 04/03/2023
EXPIRATION: 11/30/2024

GENERAL PLAN & ELEVATION
IL 149 (3RD STREET)
OVER UNNAMED STREAM
F.A.P. 873 SECTION 105CR-1
FRANKLIN COUNTY
STATION 20+36.00
STRUCTURE NO. 028-7136

FILE NAME: p:\projects\wise\volkert\us-pw\Documents\Projects\1186000 - PTB 199-038 WO9 IL 149 Culv Rep\ICADD\CAD_Sheets\Structures\0287136-78915-001-GPE.dgn



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PLOT SCALE =	CHECKED - SJN	REVISED -
PLOT DATE = 4/3/2023	DRAWN - SJC	REVISED -
	CHECKED - SJN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 028-7136
SHEET 1 OF 5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	46
CONTRACT NO. 78915				

ILLINOIS FED. AID PROJECT

GENERAL NOTES

The design fill height for this box is 0.5 ft. The precast box culvert sections shall conform to the requirements of ASTM C 1577.

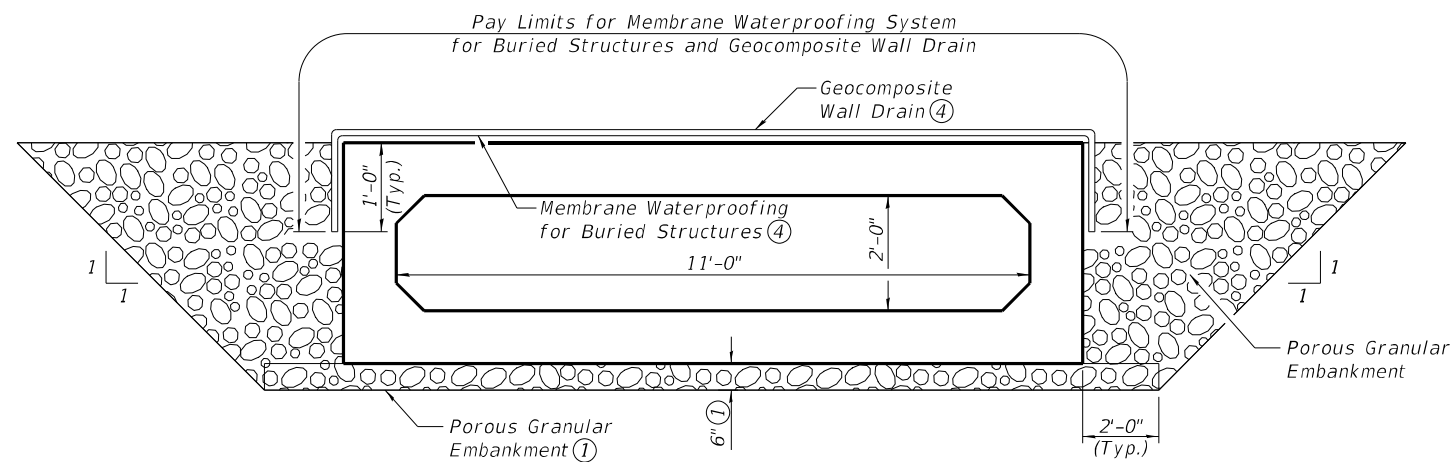
Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.

Precast concrete box culverts and box culvert end sections shall be backfilled with Porous Granular Embankment in the required excavation areas on the sides of the box culvert from the top of the box culvert to the bottom of the box culvert. This area of PGE is included in the Porous Granular Embankment pay item. The 6-inch thick layer of porous granular material required under the precast concrete box culvert, according to Section 540.06 of the standard specifications, shall also apply to the end sections. Cost of this porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.

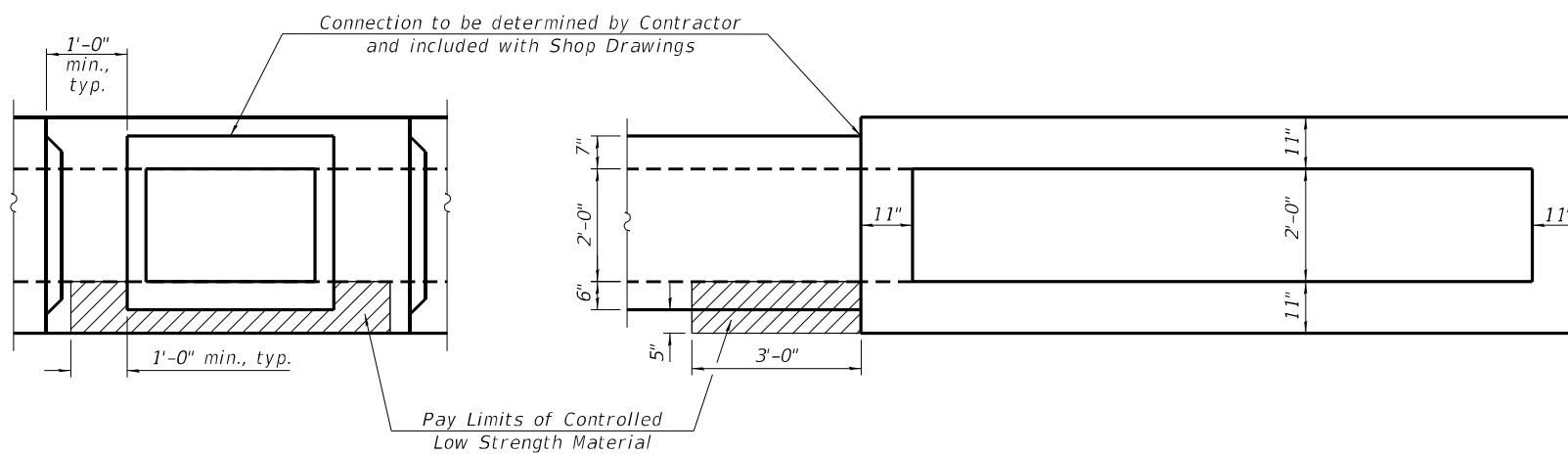
Reinforcement bars designated (E) shall be epoxy coated.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
② Porous Granular Embankment	Cu. Yd.	79
Removal of Existing Structures	Each	1
② Structure Excavation	Cu. Yd.	63
Reinforcement Bars, Epoxy Coated	Pound	1,490
Box Culvert End Sections, Culvert No. 2	Each	1
Expansion Bolts 3/4 Inch	Each	32
Concrete Box Culverts	Cu. Yd.	5.7
Precast Concrete Box Culverts 11'x2'	Foot	48
② Geocomposite Wall Drain	Sq. Yd.	44
Controlled Low-Strength Material	Cu. Yd.	0.5
② Membrane Waterproofing System for Buried Structures	Sq. Yd.	44



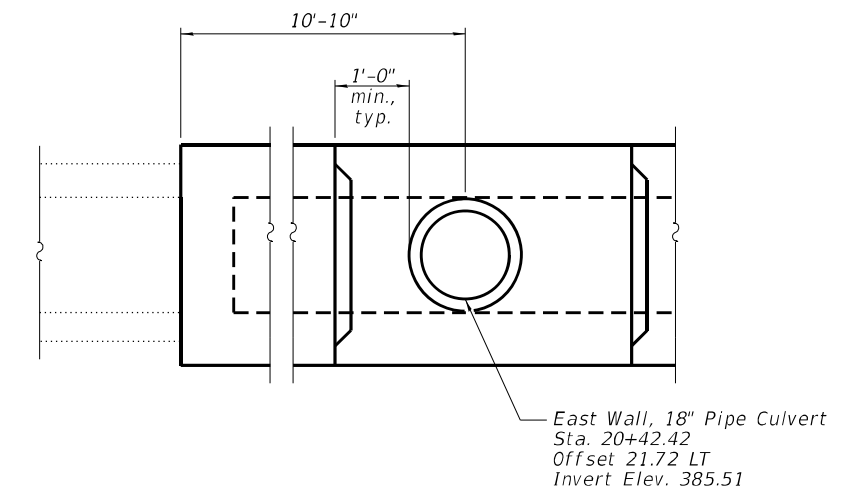
SECTION THRU PRECAST BOX CULVERT
(11'x2' box culvert shown, 3'x2' box culvert similar ②)



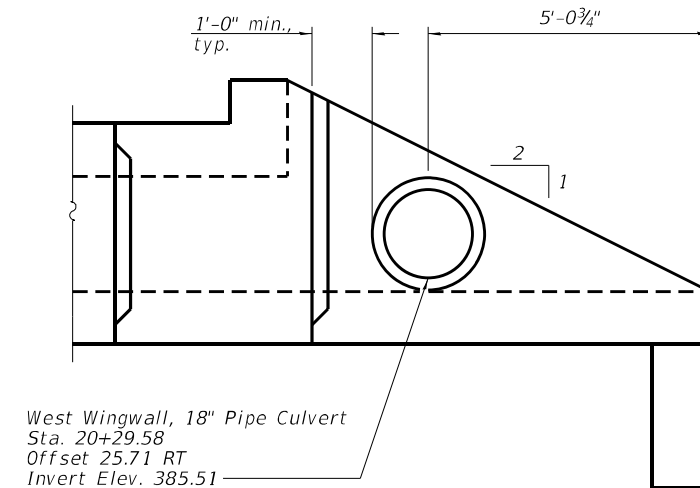
SECTION THRU 3'X2' BARREL

SECTION THRU 11'X2' BARREL

PRECAST CULVERT CONNECTION



PIPE INLET FOR PRECAST CULVERT ELEVATION



**PIPE INLET FOR BOX CULVERT
END SECTION ELEVATION**

- Notes:
- ① Included in the cost of Precast Concrete Box Culvert 11'x2'.
 - ② See roadway plans for Membrane Waterproofing System for Buried Structures, Geocomposite Wall Drain, Structure Excavation, and Porous Granular Embankment quantities along the 3'x2' box culvert.
 - ③ The Membrane Waterproofing System for Buried Structures and Geocomposite Wall Drain shall only be applied to areas where all or a portion of the box culvert does not have concrete pavement or curb located directly above.

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USER NAME =	DESIGNED - SJC	REVISED -
	CHECKED - SJN	REVISED -
PLOT SCALE =	DRAWN - SJC	REVISED -
PLOT DATE = 4/3/2023	CHECKED - SJN	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

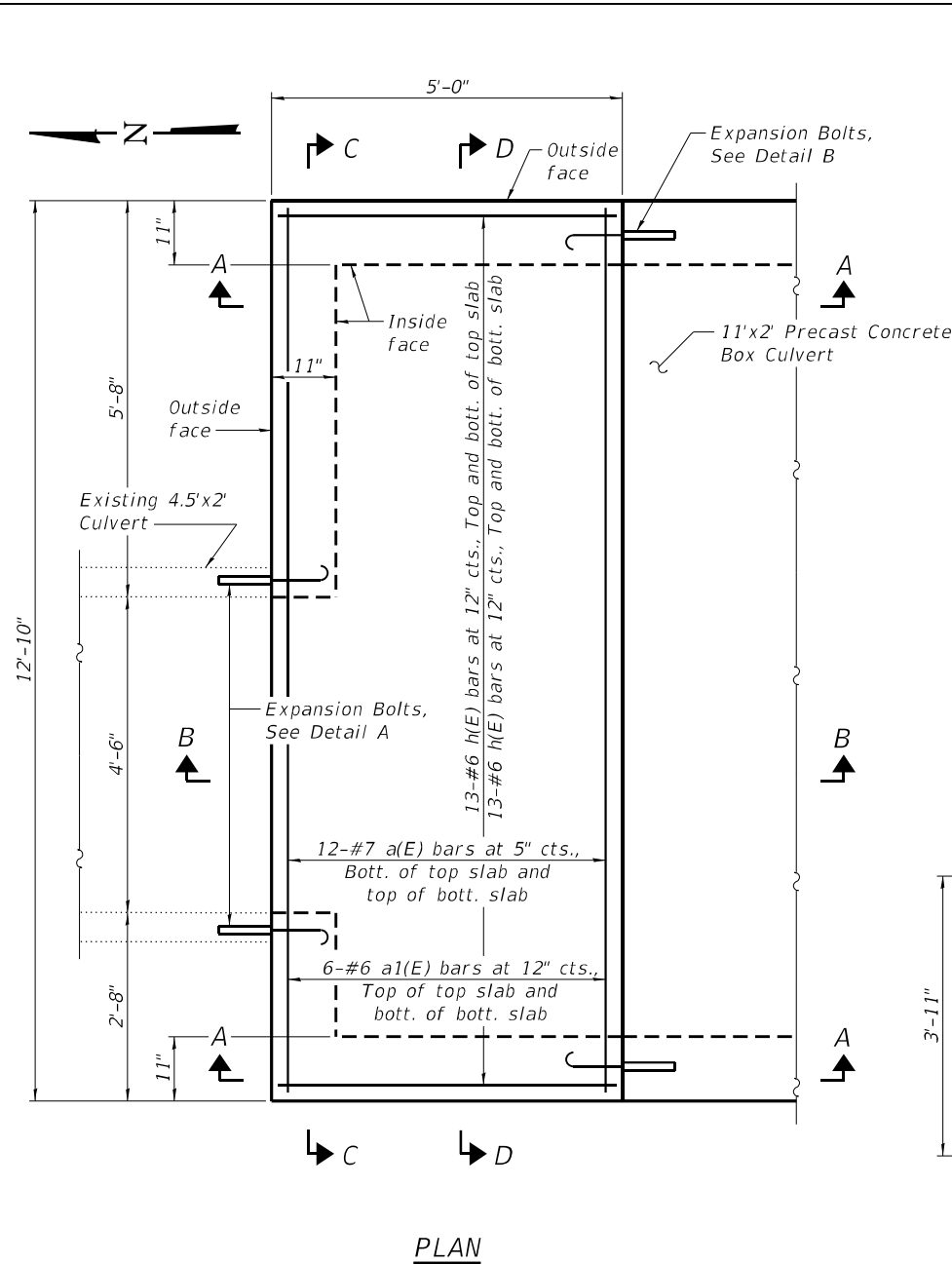
**CULVERT DETAILS
STRUCTURE NO. 028-7136**

SHEET 2 OF 5 SHEETS

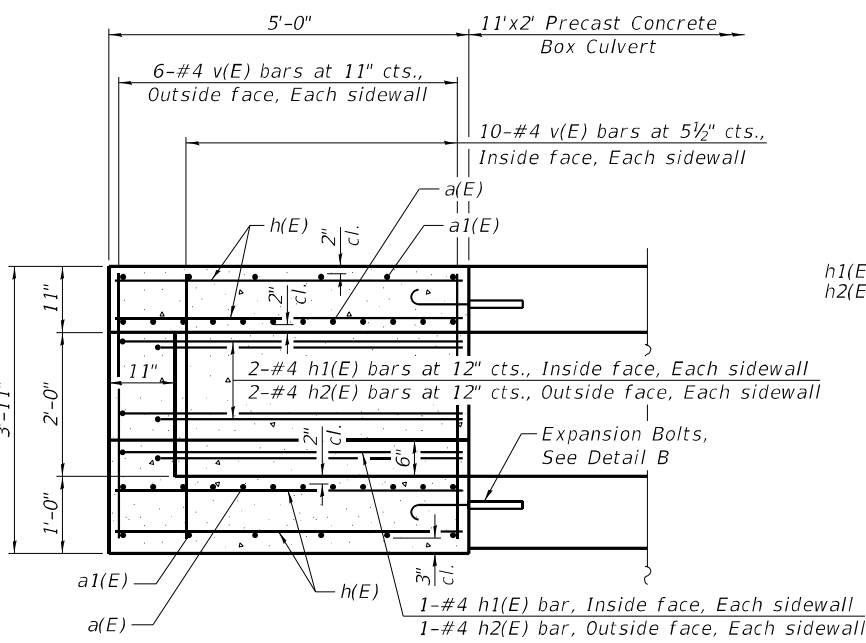
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	47
CONTRACT NO. 78915				

ILLINOIS FED. AID PROJECT

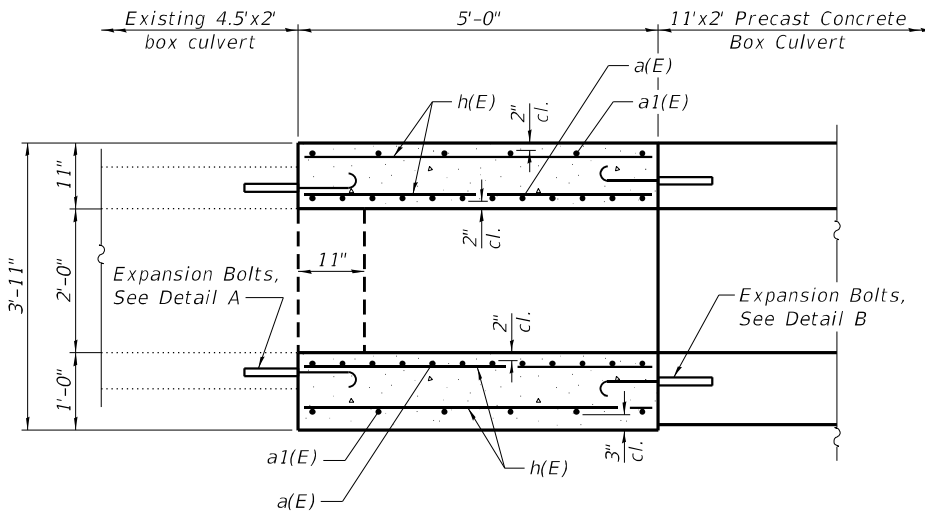
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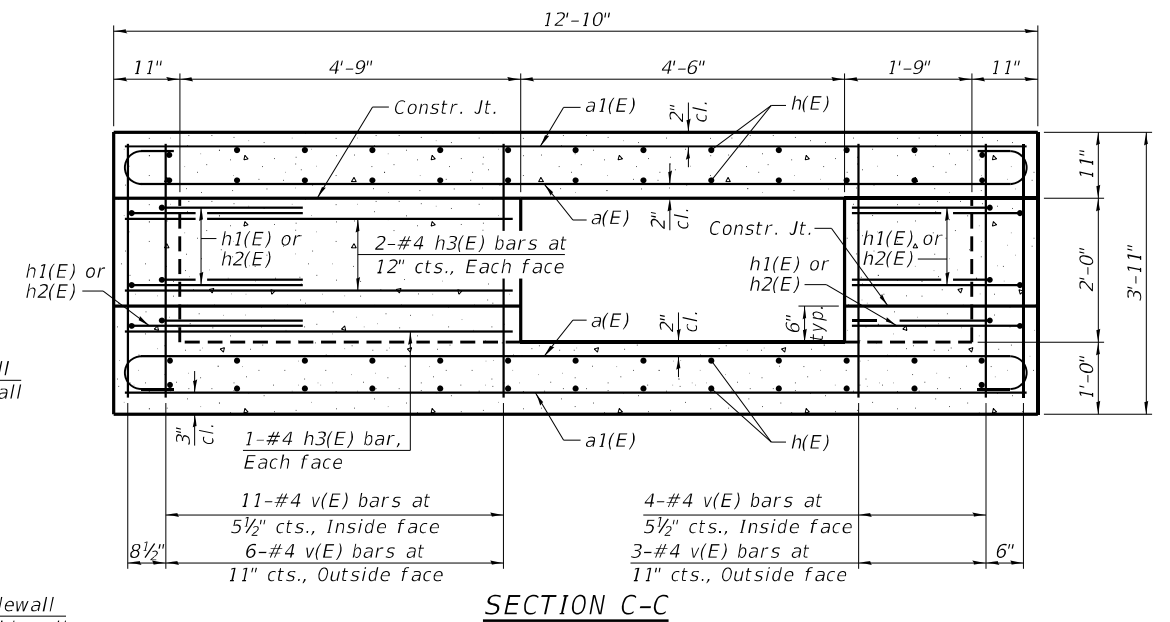
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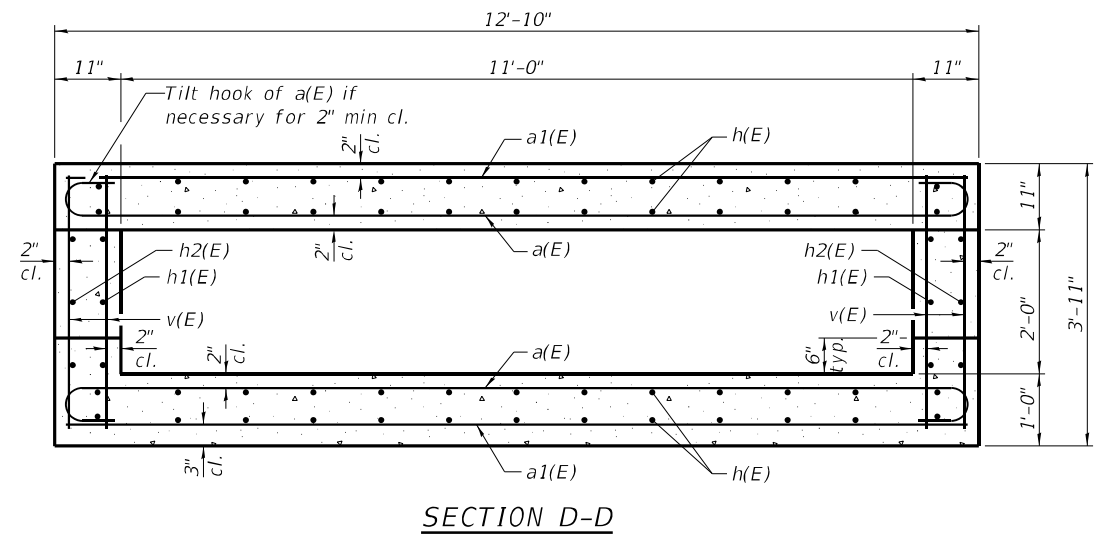
SECTION A-A



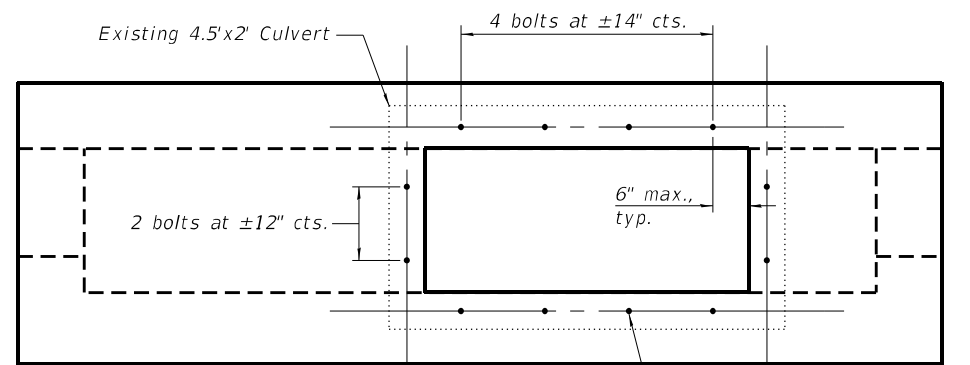
SECTION B-B



SECTION C-C

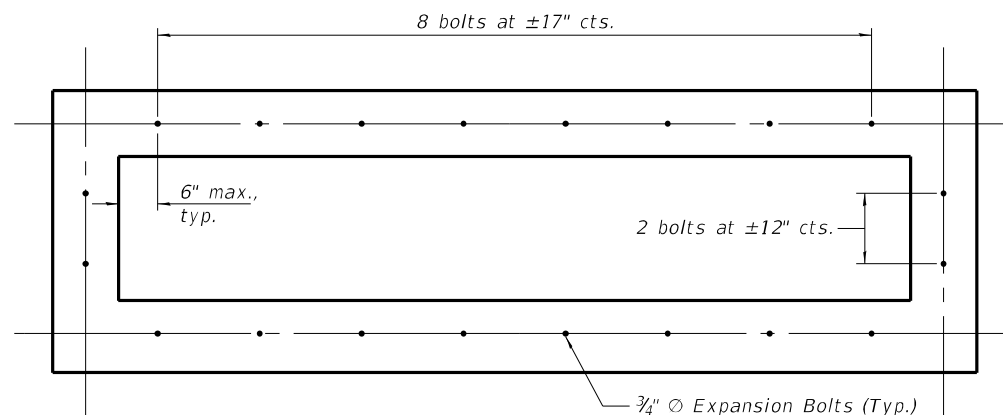


SECTION D-D



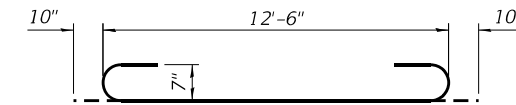
DETAIL A ①

(Showing Expansion Bolts - 12 Total, Looking South)

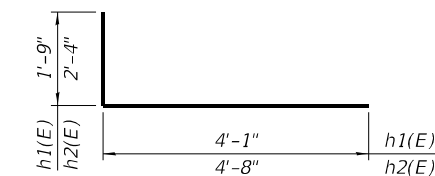


DETAIL B ①

(Showing Expansion Bolts - 20 Total)



BAR a(E)



BAR h1(E) & h2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	24	#7	14'-2"	U
a1(E)	12	#6	12'-6"	—
h(E)	52	#6	4'-8"	—
h1(E)	6	#4	5'-10"	—
h2(E)	6	#4	7'-0"	—
h3(E)	6	#4	5'-4"	—
v(E)	56	#4	3'-7"	—
Concrete Box Culverts		Cu. Yd.		5.7
Reinforcement Bars, Epoxy Coated		Pound		1,490

Notes:
 ① Expansion bolts shall be 3/4" diameter hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete.



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	CHECKED - SJN	REVISED -

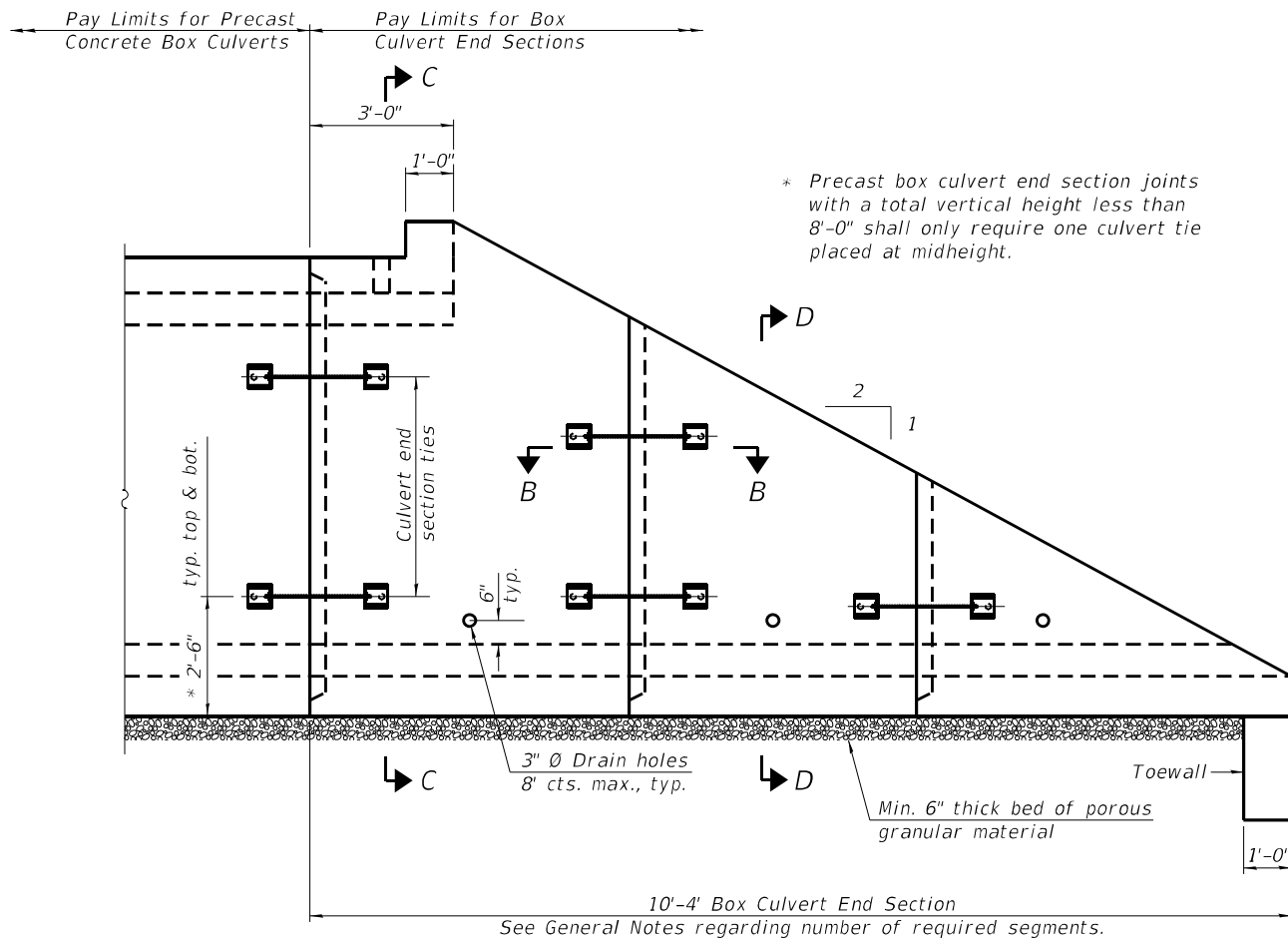
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CULVERT DETAILS
 STRUCTURE NO. 028-7136

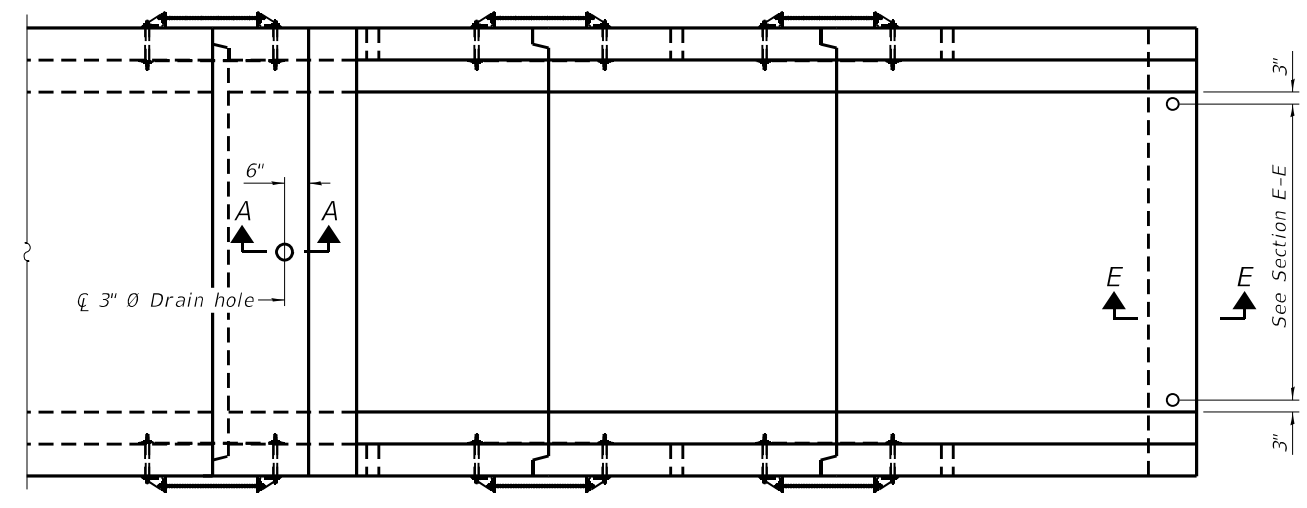
SHEET 3 OF 5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

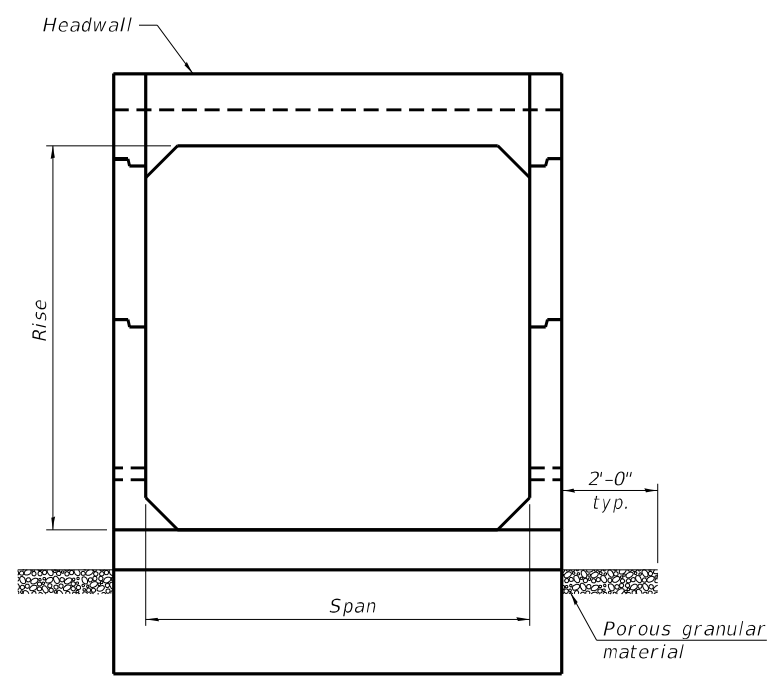
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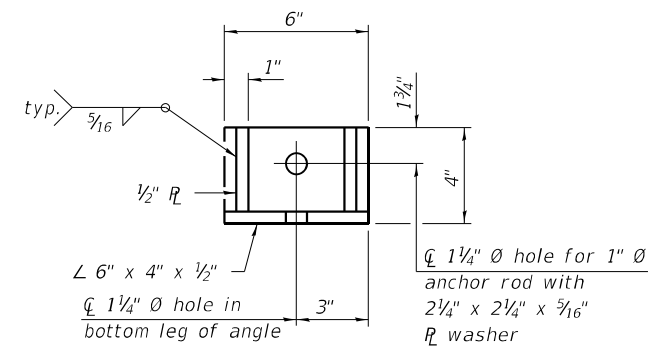
ELEVATION



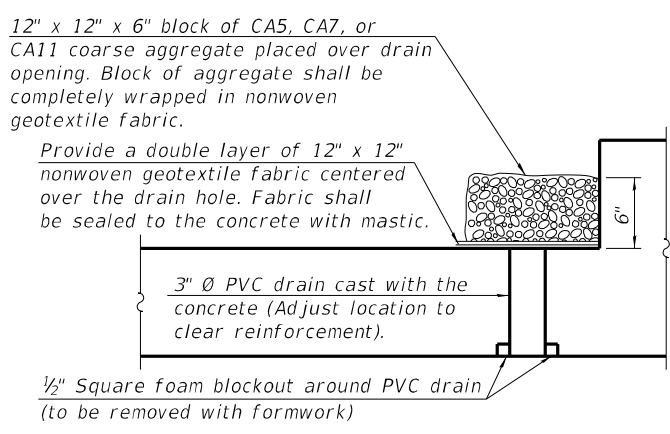
PLAN



END VIEW



RESTRAINT ANGLE DETAIL



SECTION A-A

(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 associated work.) (Sheet 1 of 2)

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. This work will be measured for payment as each, with each end of each culvert being one each. End sections will be paid for at the contract unit price per each for Box Culvert End Sections of the culvert number specified.

Typical box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements of ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

Number of segments shown in Elevation is for example only. Number of precast box sections required to construct Box Culvert End Sections shall be determined by the Contractor.

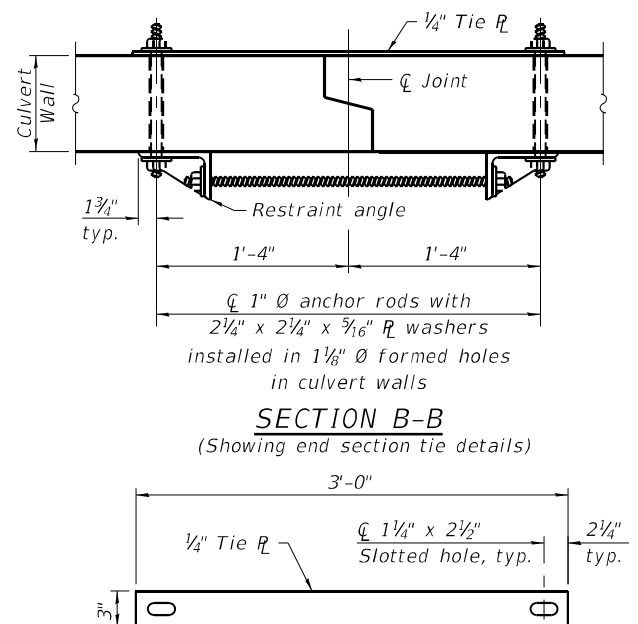
1" Ø anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2 1/4" x 2 1/4" x 5/16" plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 1/2 turn on one of the nuts for anchor rods installed in the walls. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the contract unit price for Box Culvert End Sections of the culvert number specified.

Drain holes shall conform to the requirements of Article 503.11 of the Standard Specifications unless noted otherwise.

Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01. The minimum weight of the fabric shall be 6 oz. / sq. yd.

For end sections with traversable pipe grate systems, see grate detail sheet for required modifications.



TIE PLATE DETAIL



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PLOT DATE = 4/3/2023	DRAWN -	REVISED -
	CHECKED -	REVISED -

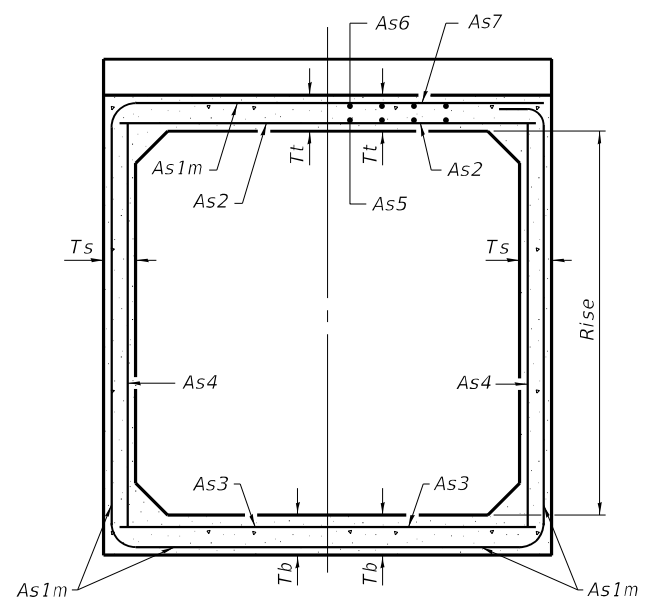
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SINGLE CELL PRECAST BOX CULVERT TAPERED END SECTIONS
STRUCTURE NO. 028-7136**

SHEET 4 OF 5 SHEETS

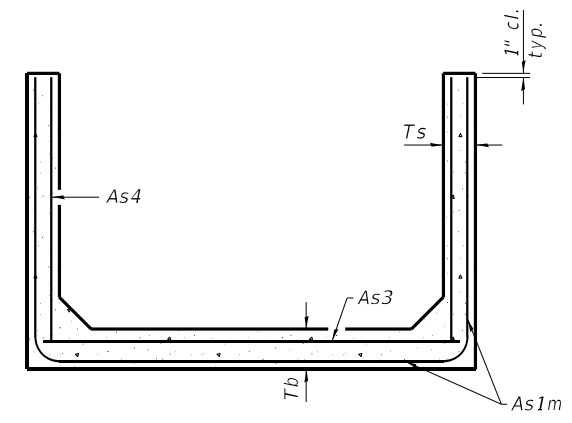
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	49
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

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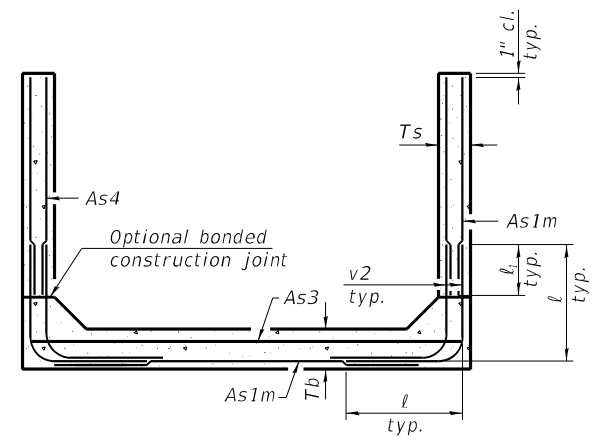


(Design Earth Cover \geq 2 ft) (Design Earth Cover < 2 ft)

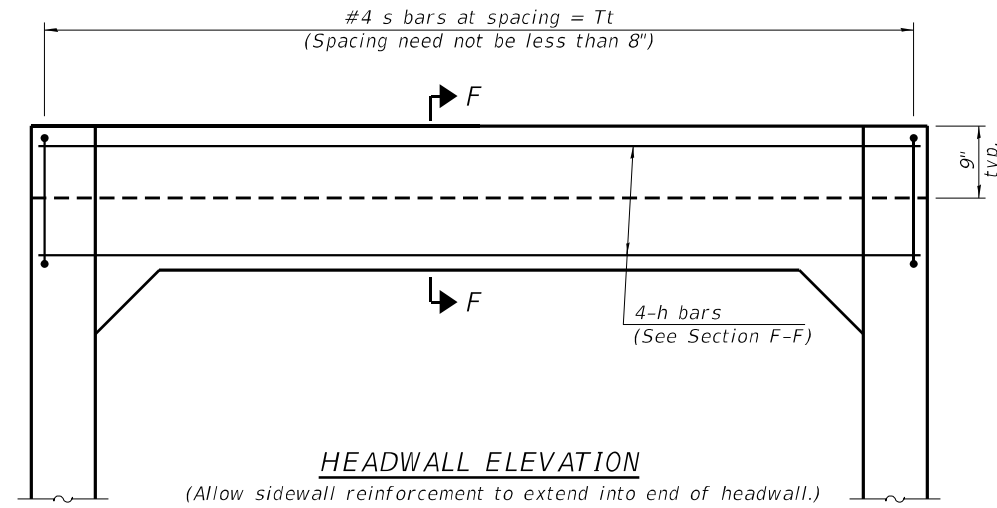
SECTION C-C



SECTION D-D



ALTERNATE SECTION D-D



HEADWALL ELEVATION

(Allow sidewall reinforcement to extend into end of headwall.)

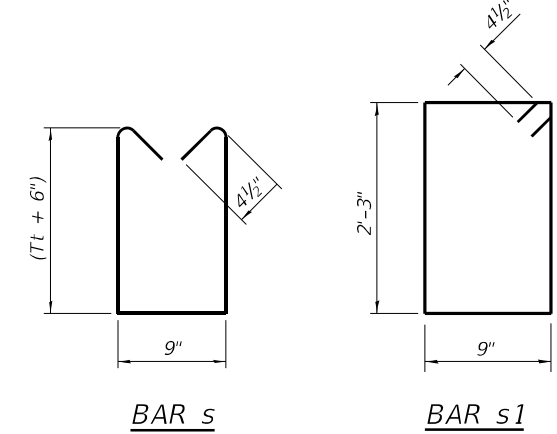
		As1m REINFORCEMENT										
		(in. ² /ft)										
Ts (in.)	Rise (ft)	2	3	4	5	6	7	8	9	10	11	12
4	0.19	0.17										
5	0.26	0.21	0.18									
6	0.22	0.26	0.23	0.22								
7	0.25	0.33	0.59	0.27	0.28							
8	0.40	0.35	0.43	0.39	0.36	0.34	0.40					
9	0.44	0.39	0.35	0.43	0.40	0.37	0.36	0.48				
10	0.48	0.42	0.38	0.47	0.44	0.41	0.38	0.42	0.56			
11	0.52	0.45	0.54	0.50	0.46	0.44	0.41	0.46	0.50	0.65		
12	0.55	0.49	0.58	0.54	0.50	0.48	0.45	0.46	0.46	0.61	0.75	

(As1m reinforcement based upon welded wire reinforcement conforming to AASHTO M 55 or M 221).

l₁ DIMENSION

- #3 bar = 2'-0"
- #4 bar = 2'-8"
- #5 bar = 3'-4"
- #6 bar = 3'-11"

Notes:
 Alternate Section D-D is provided to allow the Contractor the option of casting the bottom slab of the end section first followed by construction of the sidewalls using conventional forming methods. Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval when using Alternate Section D-D.
 The size and spacing of the v2 bars shall provide a minimum reinforcement area along each face of the walls (in.²/ft.) equal to 1.10*(As1m). v2 bars may consist of #3 thru #6 size reinforcement bars and the longitudinal spacing shall not exceed the lesser of the wall thickness or 8 inches.
 Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.



BAR s

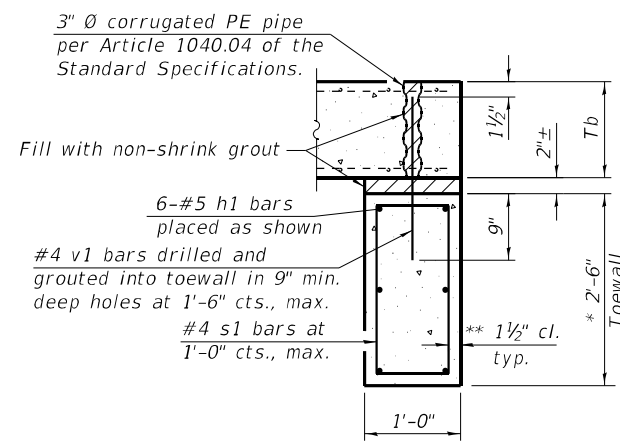
BAR s1

TOEWALL CONSTRUCTION SEQUENCE

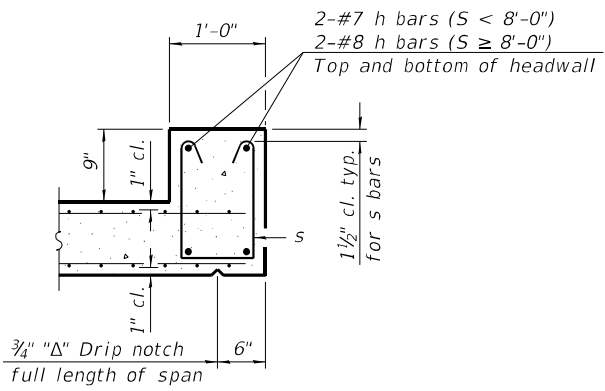
1. Perform excavation and construct toewall.
2. Backfill according to the applicable paragraphs of Article 502.10 of the Standard Specifications and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling the method.

** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.



SECTION E-E



SECTION F-F

SCB-TES 2-17-2017



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PLOT SCALE =	CHECKED -	REVISED -
PLOT DATE = 4/3/2023	DRAWN -	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SINGLE CELL PRECAST BOX CULVERT TAPERED END SECTIONS
STRUCTURE NO. 028-7136

SHEET 5 OF 5 SHEETS

F.A.P. RTE. 873	SECTION 105CR-1	COUNTY FRANKLIN	TOTAL SHEETS 60	SHEET NO. 50
CONTRACT NO. 78915				

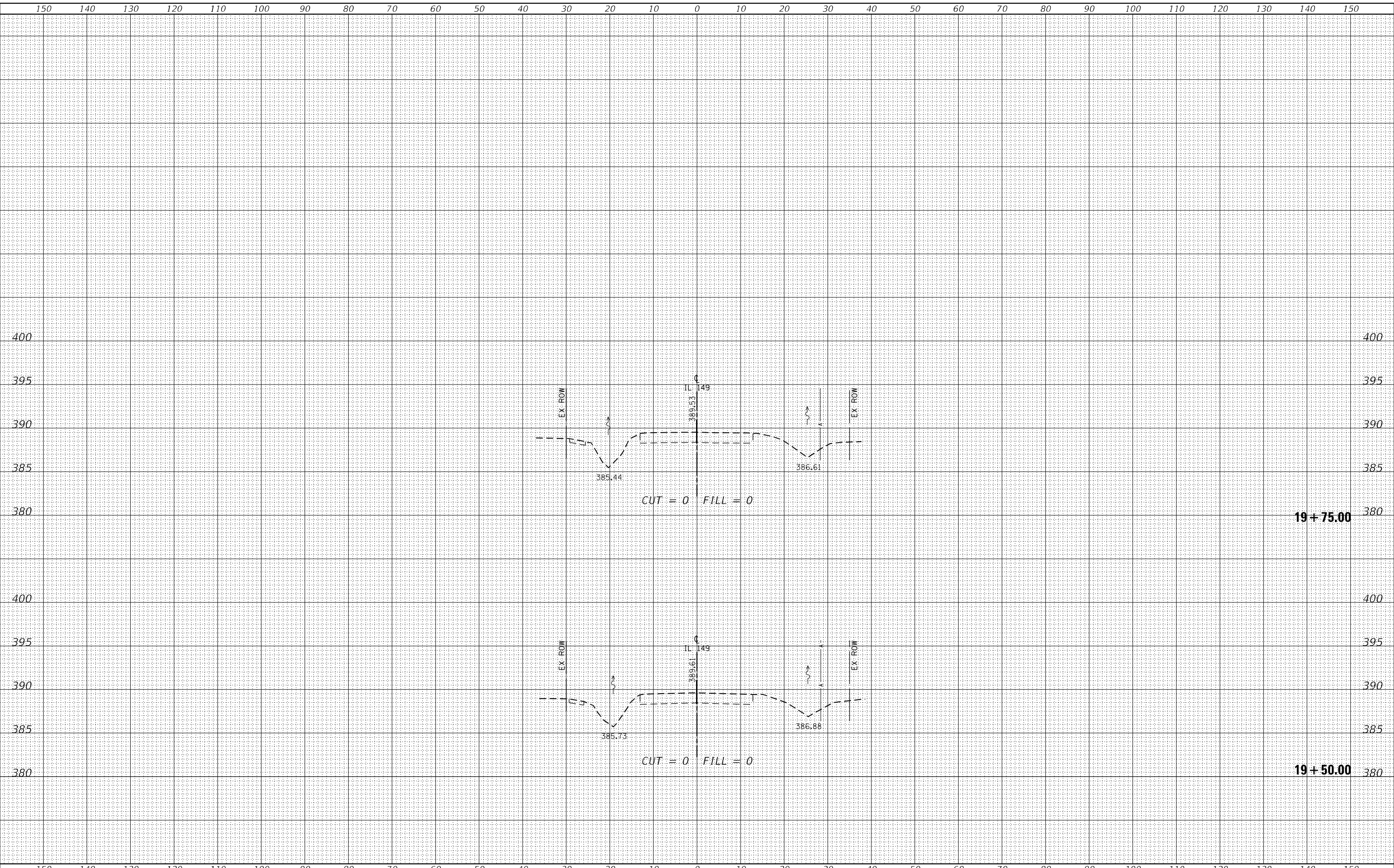
ILLINOIS FED. AID PROJECT

(Sheet 2 of 2)

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AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS - PR SN 028-7136
IL ROUTE 149

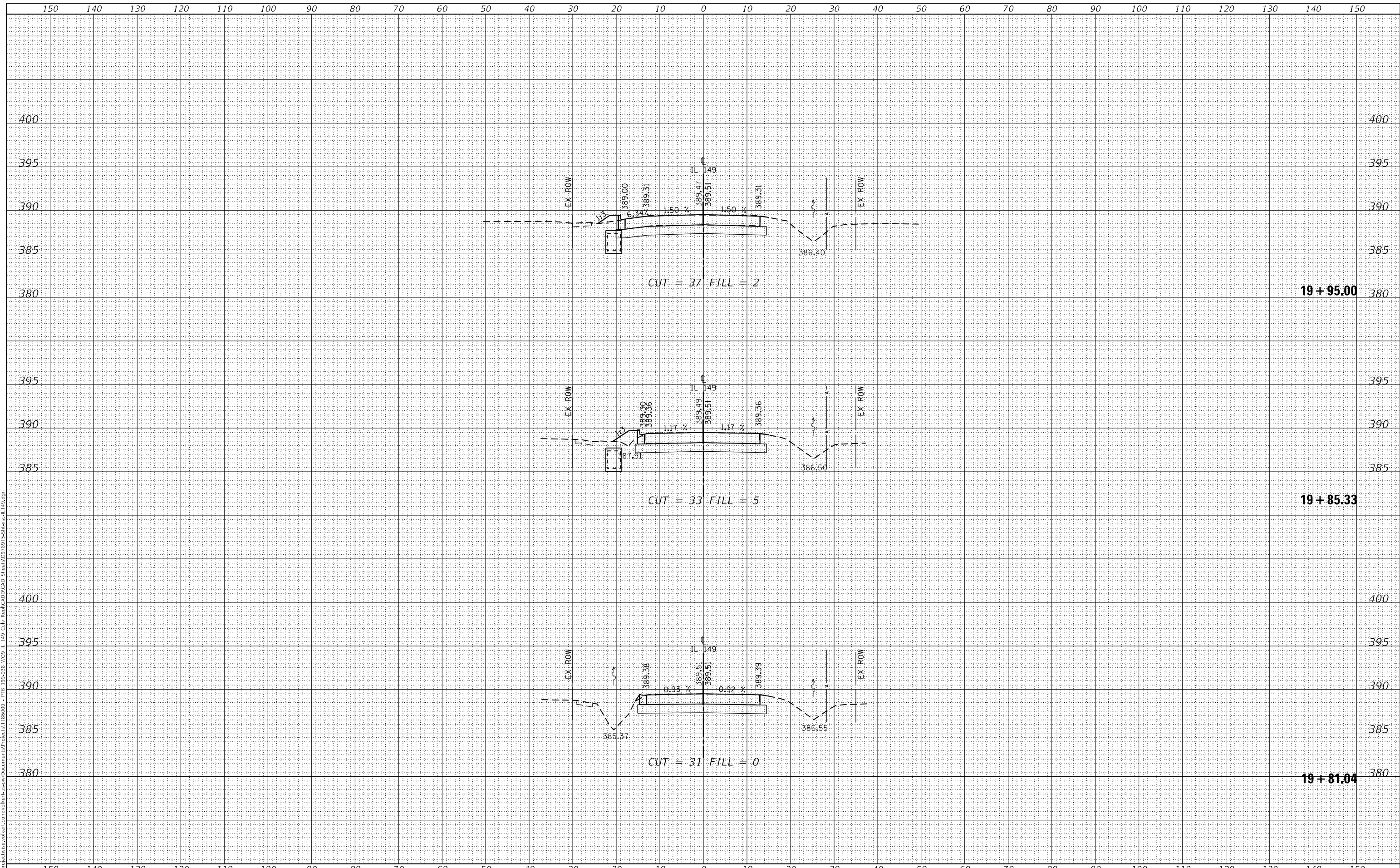
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	51
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS - PR SN 028-7136
 IL ROUTE 149**

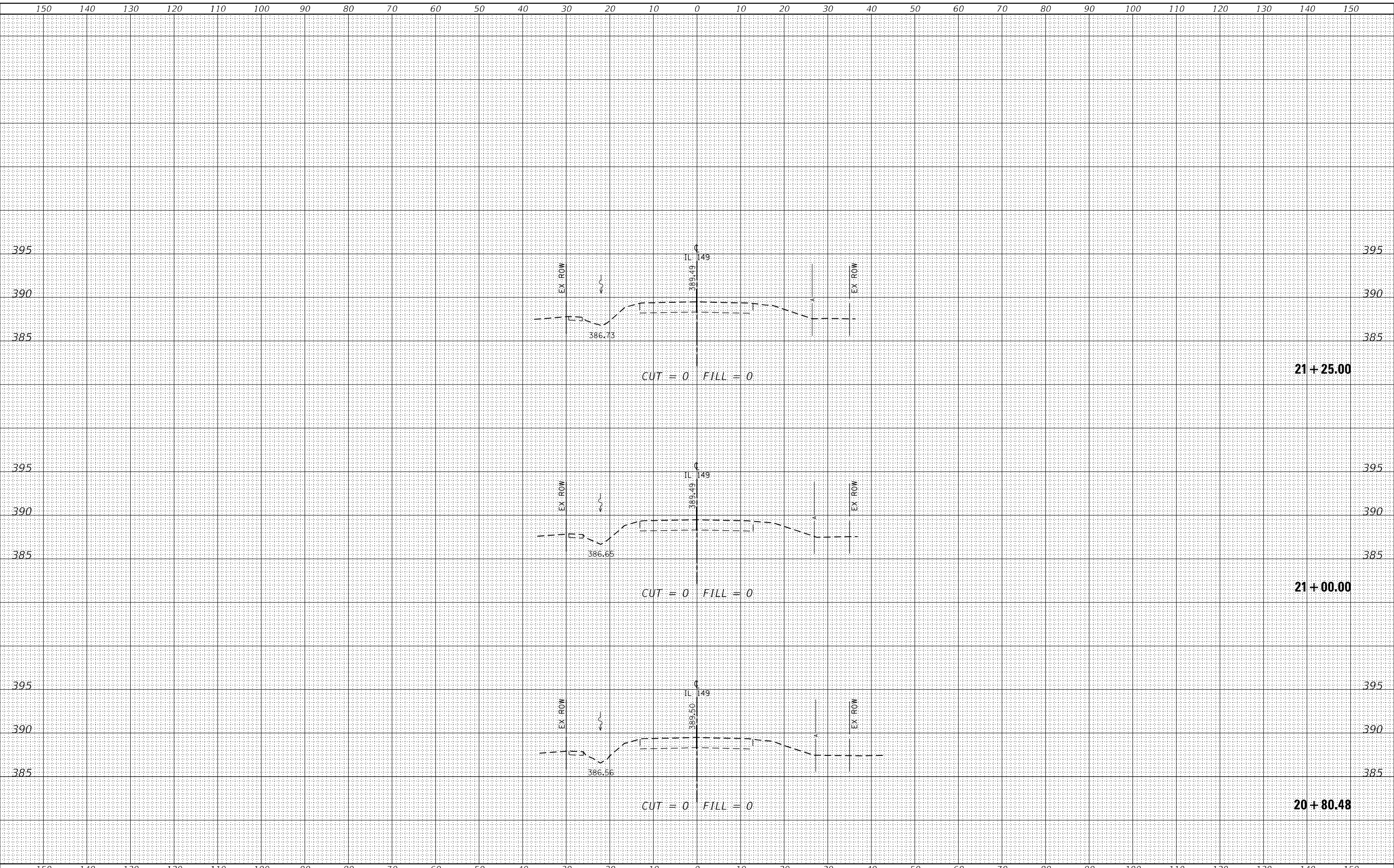
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	52
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

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VOLKERT

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS - PR SN 028-7136
 IL ROUTE 149**

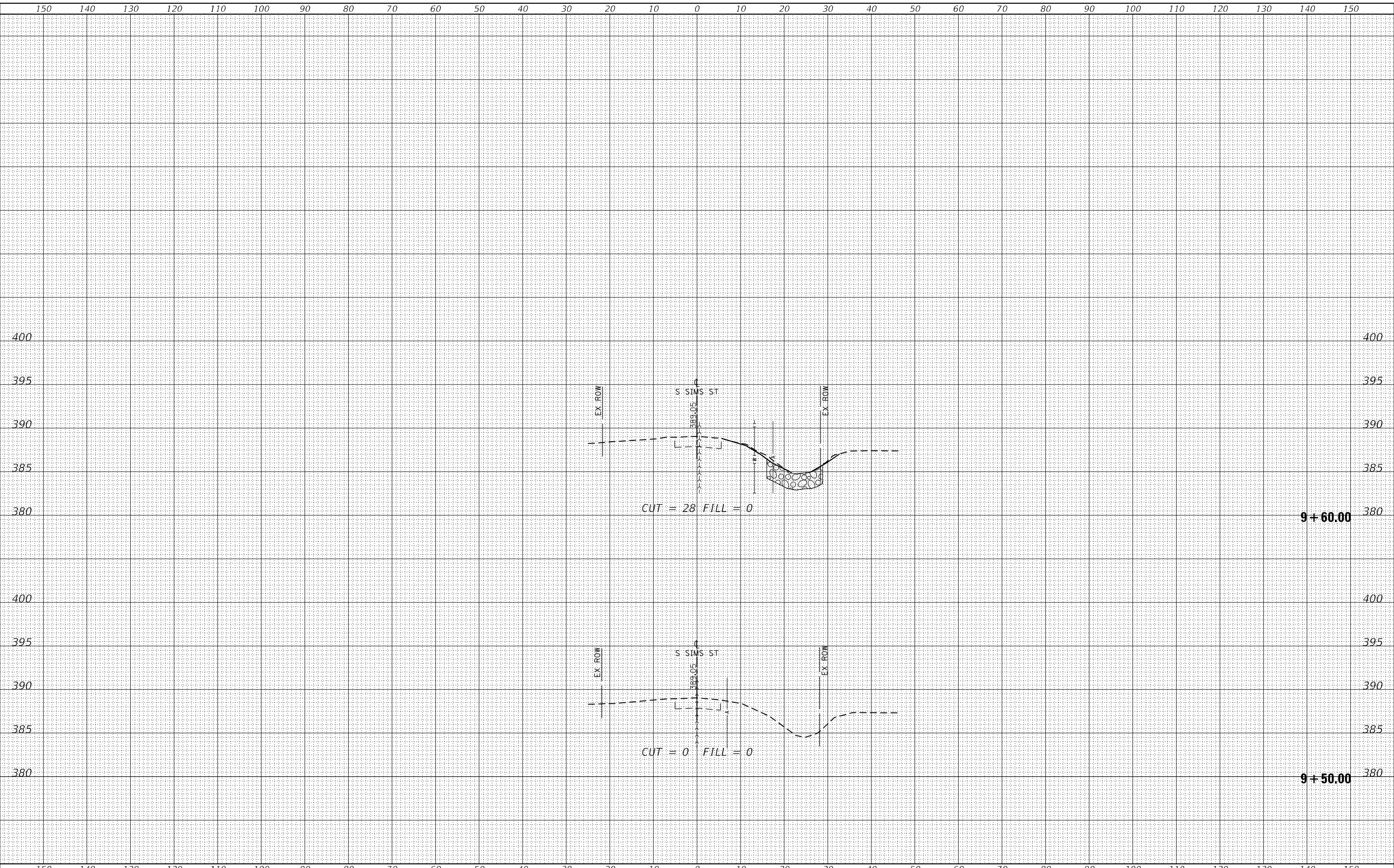
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				CONTRACT NO. 78915
		ILLINOIS	FED. AID PROJECT	

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	TEMPLATE		
	AREAS CHECKED		

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

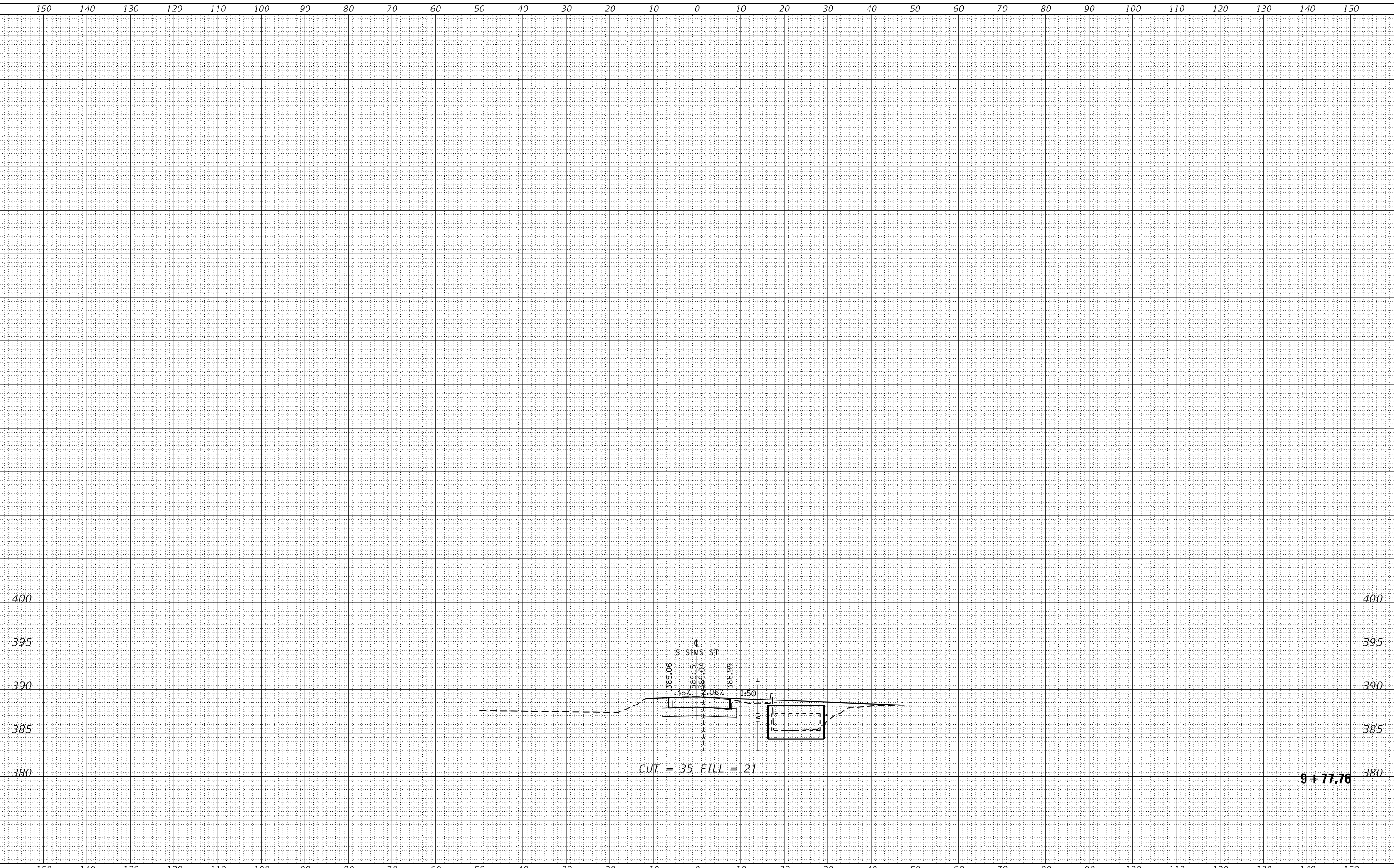
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S SIMS STREET - SOUTH LEG**
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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				CONTRACT NO. 78915
ILLINOIS FED. AID PROJECT				

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DESIGNED -
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CHECKED -
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REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS - PR SN 028-7136
 S SIMS STREET - SOUTH LEG**

SCALE: SHEET 3 OF 3 SHEETS STA. 9+77.76 TO STA. 9+77.76

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	105CR-1	FRANKLIN	60	58
CONTRACT NO. 78915				
ILLINOIS FED. AID PROJECT				

