

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE. 322	SECTION 5(CR-1)	COUNTY PERRY	TOTAL SHEETS 12	SHEET NO. 1
ILLINOIS			CONTRACT NO. 78676	

PROPOSED HIGHWAY PLANS

F.A.P. ROUTE 322 (US 51)
SECTION 5(CR-1)
PROJECT STP-QMTB(653)
BOX CULVERT REPLACEMENT
PERRY COUNTY

C-99-099-18

FOR INDEX OF SHEETS, SEE SHEET NO. 2

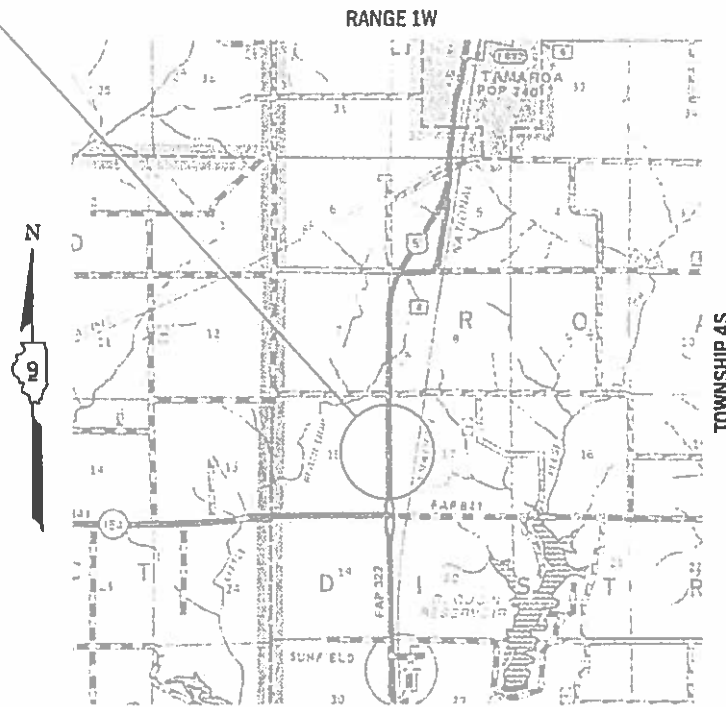
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3-5

TRAFFIC DATA

2017 ADT = 3,400
WITH 6.2% TRUCKS



IMPROVEMENT LOCATION
STRUCTURE 073-7005 (E)
STRUCTURE 073-7090 (P)
US 51 OVER STREAM



COORDINATE SYSTEM: WEST ZONE
POSTED SPEED: 55 MPH

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

PROJECT ENGINEER: DAVID PICHE
DESIGN ENGINEER: ADRIAN ADAMS

CONTRACT NO. 78676

GROSS LENGTH = 40.00 FT. = 0.01 MILES
NET LENGTH = 40.00 FT. = 0.01 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 04-30 20 19
KF 308
REGION FIVE ENGINEER

June 14 20 19
ENGINEER OF DESIGN AND ENVIRONMENT

June 14 20 19
Paul P. [Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

SUMMARY OF QUANTITIES - CONT

PERRY
US 51
NHPP 80% FED, 20% STATE
RURAL
0004

CODE NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
42000500	PORTLAND CEMENT CONCRETE PAVEMENT 10"	SO YD	107
44000100	PAVEMENT REMOVAL	SO YD	107
44004250	PAVED SHOULDER REMOVAL	SO YD	36
48300300	PORTLAND CEMENT CONCRETE SHOULDERS 8"	SO YD	36
50102400	CONCRETE REMOVAL	CU YD	31.3
54001001	BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	2
54010603	PRECAST CONCRETE BOX CULVERTS 6' X 3'	FOOT	48
59100100	GEOCOMPOSITE WALL DRAIN	SO YD	54
67100100	MOBILIZATION	L SUM	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	3
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	34
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	90

* SPECIALTY ITEM

MODEL: Default
FILE NAME: \\p:\planning\dot\illinois.gov\PM\DOT\Documents\DOT_Offices\District_9\Projects\78676\CAD\Drawings\9-78676-Sheets.dgn

SUMMARY OF QUANTITIES - CONT

CODE NUMBER	ITEM DESCRIPTION	UNIT	PERRY US 51 NHPP 80% FED, 20% STATE RURAL 0004
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
X0900064	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SO YD	54

MODEL: Default
 FILE NAME: p:\pbl\pblroom.dwg
 I:\Illinois\gov\PWIDOT\Documents\DOT_Offices\District_9\Projects\78676\CAD\Drawings\78676-Sheets.dgn

USER NAME = adamsam	DESIGNED - _____	REVISED - _____
	DRAWN - _____	REVISED - _____
PLOT SCALE = 100.0000' / in.	CHECKED - _____	REVISED - _____
PLOT DATE = 5/3/2019	DATE - _____	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: _____ SHEET ___ OF ___ SHEETS STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
322	5(CR-1)	PERRY	12	5
CONTRACT NO. 78676				
ILLINOIS FED. AID PROJECT				

PAVING SCHEDULE									
STATION				COMMENTS	PAVEMENT REMOVAL	PORTLAND CEMENT CONCRETE PAVEMENT, 10''	WELDED WIRE REINF.	PCC SHOULDERS - 8''	PAVED SHOULDER REMOVAL
					SQ YD	SQ YD	SQ YD	SQ YD	SQ YD
226+80.0	LT	TO	227+20.0	LT	53.5	53.5	53.5	18	18
226+80.0	RT	TO	227+20.0	RT	53.5	53.5	53.5	18	18
TOTALS					107	107	107	36	36

PAVEMENT MARKING SCHEDULE									
STATION				NOTES	PAINT PAVEMENT MARKING - LINE				
					SOLID WHITE		YELLOW SKIP DASH		
					FOOT		FOOT		
226+80.00	RT	TO	227+20.00	RT		40			
226+80.00		TO	227+20.00		ALONG CENTERLINE			10	
226+80.00	LT	TO	227+20.00	LT		40			
SUBTOTAL						80		10	
TOTAL								90	

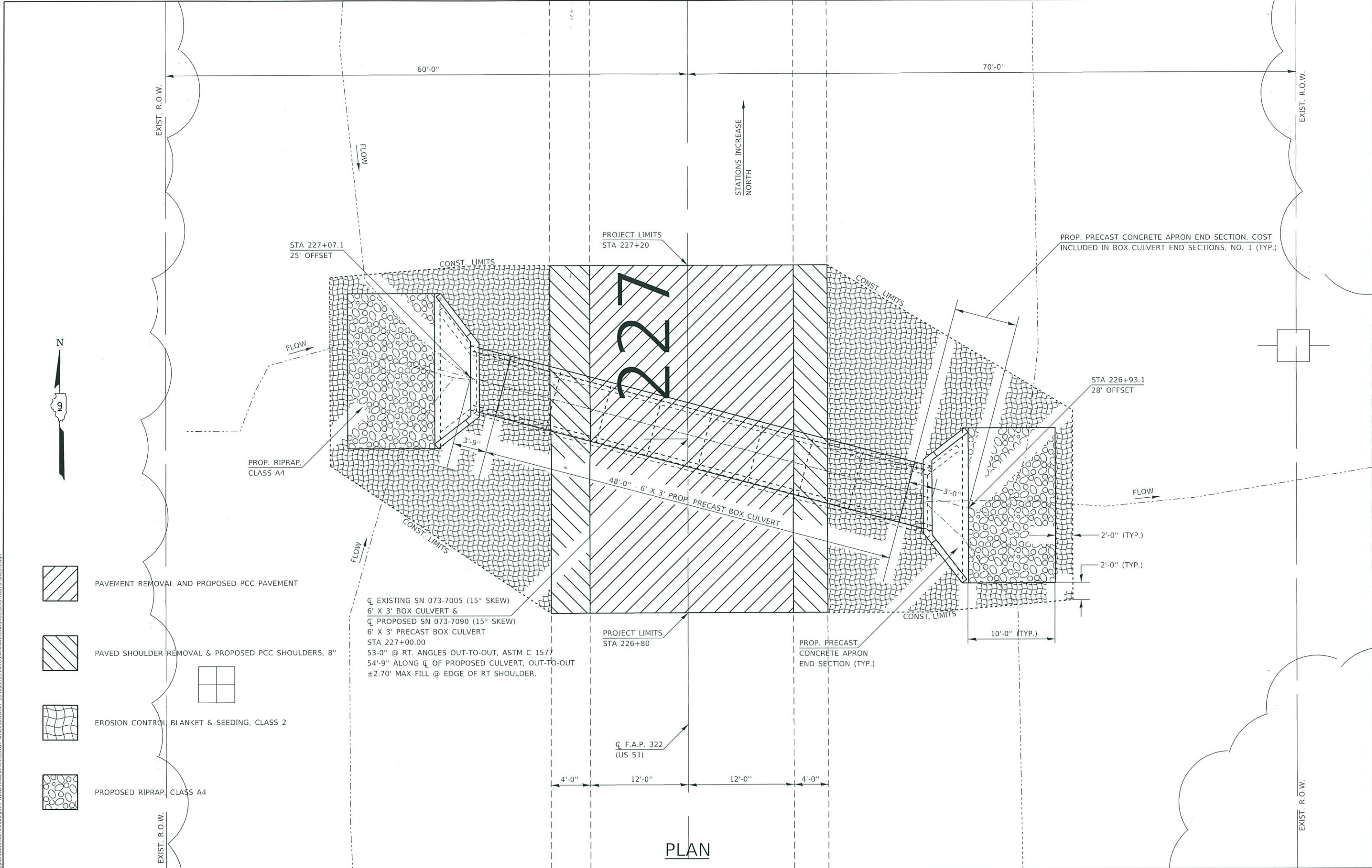
MODEL: Default
 FILE NAME: P:\Urbanroom.dwg
 ILLINOIS DOT
 PROJECTS\78676\CADD\Drawings\09-78676-Sheets.dgn

USER NAME = adamsam	DESIGNED - _____	REVISED - _____
	DRAWN - _____	REVISED - _____
PLOT SCALE = 100.0000' / in.	CHECKED - _____	REVISED - _____
PLOT DATE = 4/26/2019	DATE - _____	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULES			
SCALE:	SHEET	OF	SHEETS
_____	___	___	___
STA. _____	TO STA. _____		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
322	5(CR-1)	PERRY	12	6
CONTRACT NO. 78676				
ILLINOIS FED. AID PROJECT				



MODEL: D:\p\p\planroom.dwg
 FILE NAME: p\planroom.dwg
 I:\Projects\78676\CA\Drawings\9-78676-Sheets.dgn

USER NAME = adamsam	DESIGNED - _____	REVISED - _____
PLOT SCALE = 10:0000' / in.	DRAWN - _____	REVISED - _____
PLOT DATE = 4/30/2019	CHECKED - _____	REVISED - _____
	DATE - _____	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
SN 073-7090 (P)

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

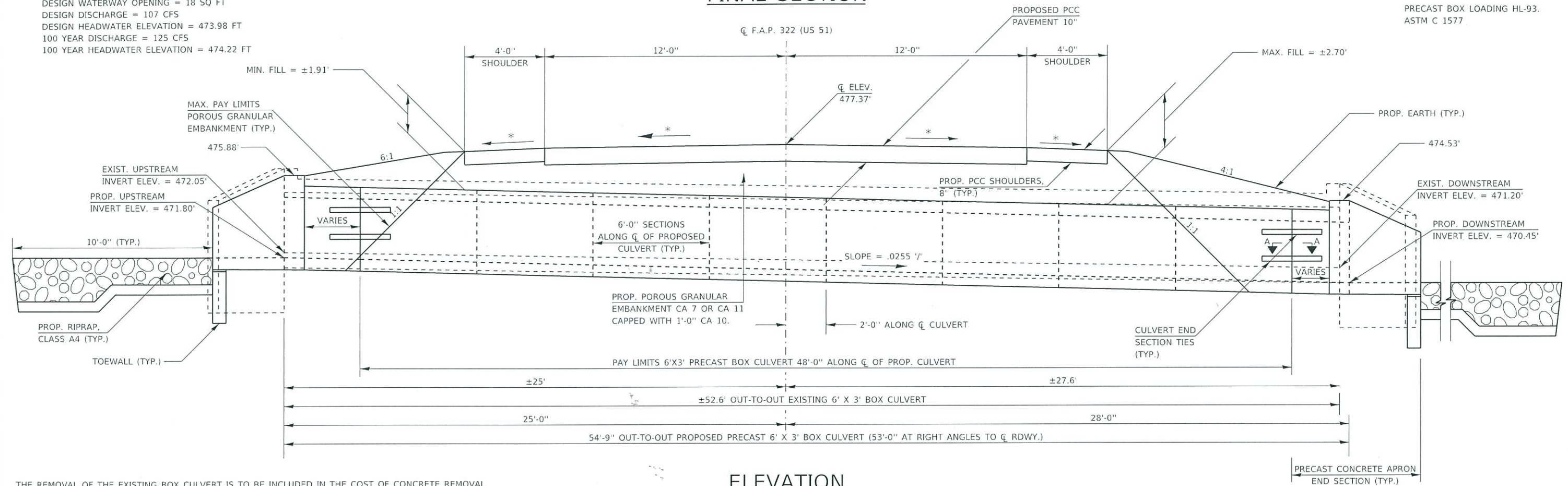
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
322	5(CR-1)	PERRY	12	7
CONTRACT NO. 78676				
ILLINOIS FED. AID PROJECT				

HYDRAULIC DATA
 DRAINAGE AREA = 0.10 SQ MI
 DESIGN WATERWAY OPENING = 18 SQ FT
 DESIGN DISCHARGE = 107 CFS
 DESIGN HEADWATER ELEVATION = 473.98 FT
 100 YEAR DISCHARGE = 125 CFS
 100 YEAR HEADWATER ELEVATION = 474.22 FT

FINAL SECTION

* MATCH EXISTING CROSS SLOPES

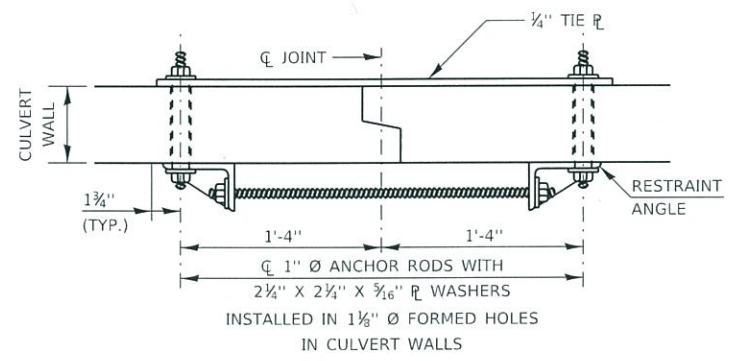
PRECAST BOX LOADING HL-93, ASTM C 1577



ELEVATION

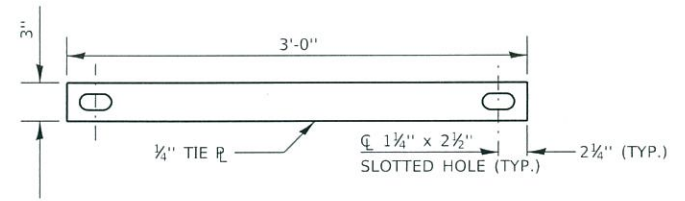
(LOOKING NORTH)

THE REMOVAL OF THE EXISTING BOX CULVERT IS TO BE INCLUDED IN THE COST OF CONCRETE REMOVAL.
 THE COST OF THE TOEWALL, WHETHER CAST-IN-PLACE OR PRECAST, SHALL BE INCLUDED IN THE COST OF BOX CULVERT END SECTIONS, CULVERT NO. 1 (TYP.)



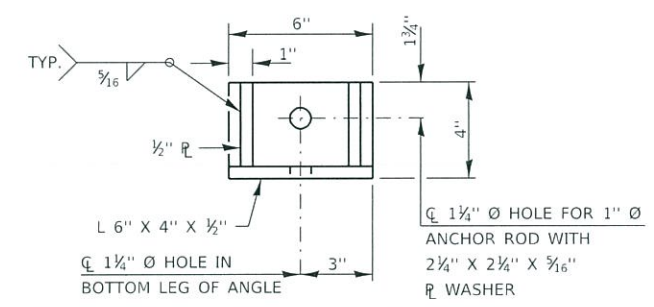
SECTION A-A TIE PLATE DETAIL

(SHOWING END SECTION TIE DETAILS)
 NOT TO SCALE



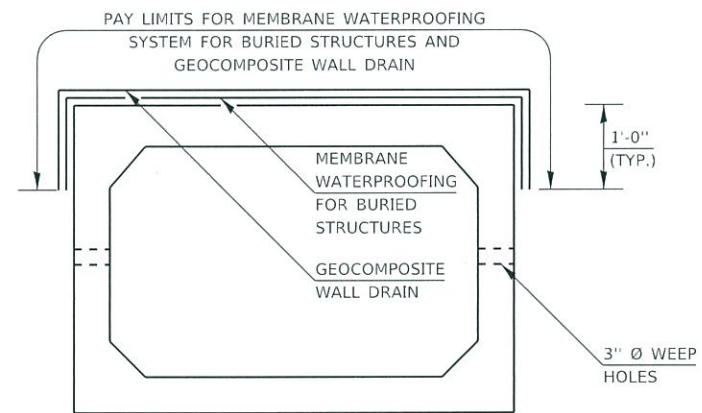
TIE PLATE DETAIL

NOT TO SCALE



RESTRAINT ANGLE DETAIL

NOT TO SCALE



PRECAST CONCRETE BOX CULVERT

NOTE:
 GEOCOMPOSITE WALL DRAIN SHALL BE ACCORDING TO SECTION 591 OF THE STANDARD SPECIFICATIONS, EXCEPT THAT CONCRETE NAILS SHALL NOT BE USED IN AREAS WHERE IT OVERLAPS MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES.

PRECAST BOX CULVERT SCHEDULE (ASTM C 1577)						
STATION	SIZE	SKEW	DESIGN FILL (FT.)		PGE BACKFILL REQUIRED	
			MINIMUM	MAXIMUM		
226+92.58 TO 227+07.42	6' X 3'	15°	± 1.91'	± 2.70'	93 CU YD	

THE NUMBER OF CULVERT TIES SHALL BE SUFFICIENT TO ENGAGE THE MINIMUM LENGTH OF CULVERT BARREL SHOWN WITHIN THE PAY LIMITS FOR PRECAST CONCRETE BOX CULVERTS AND WILL BE DEPENDENT UPON THE LENGTH OF BOX CULVERT SEGMENTS FURNISHED BY THE CONTRACTOR. CULVERT TIES ARE NOT REQUIRED FOR BOX CULVERTS HAVING A RISE LESS THAN OR EQUAL TO 3FT AND A SPAN GREATER THAN OR EQUAL TO 10 FT.
 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 UNIT PRICE FOR BOX CULVERT END SECTIONS OF THE CULVERT NUMBER SPECIFIED.

MODEL: Defaul
 FILE NAME: \\p\planningroom\dot\illinois\pov\p\p\DOT\Documents\DOT - Office\District - 9\Projects\78676\CAD\Drawings\DOT-78676-Sheets.dgn

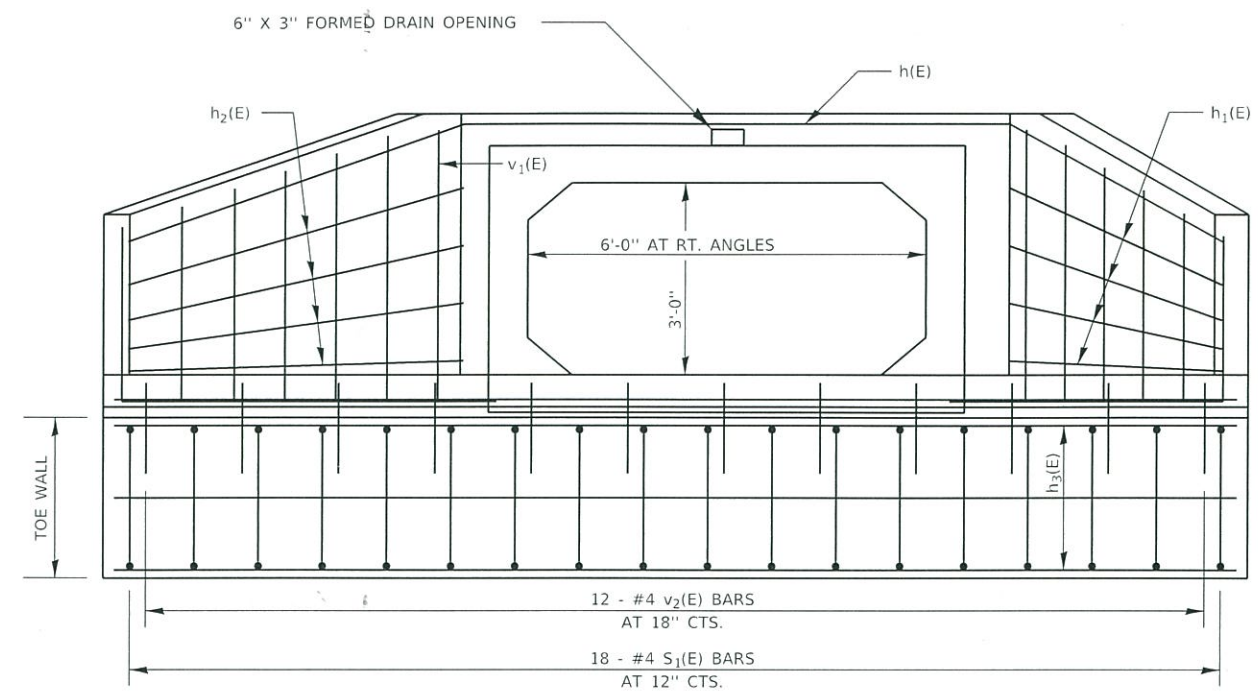
USER NAME = adamsam	DESIGNED -	REVISED -
PLOT SCALE = 5 0000' / in.	DRAWN -	REVISED -
PLOT DATE = 6/18/2019	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DETAIL AND FINAL SECTION
 SN 073-7090 (P)

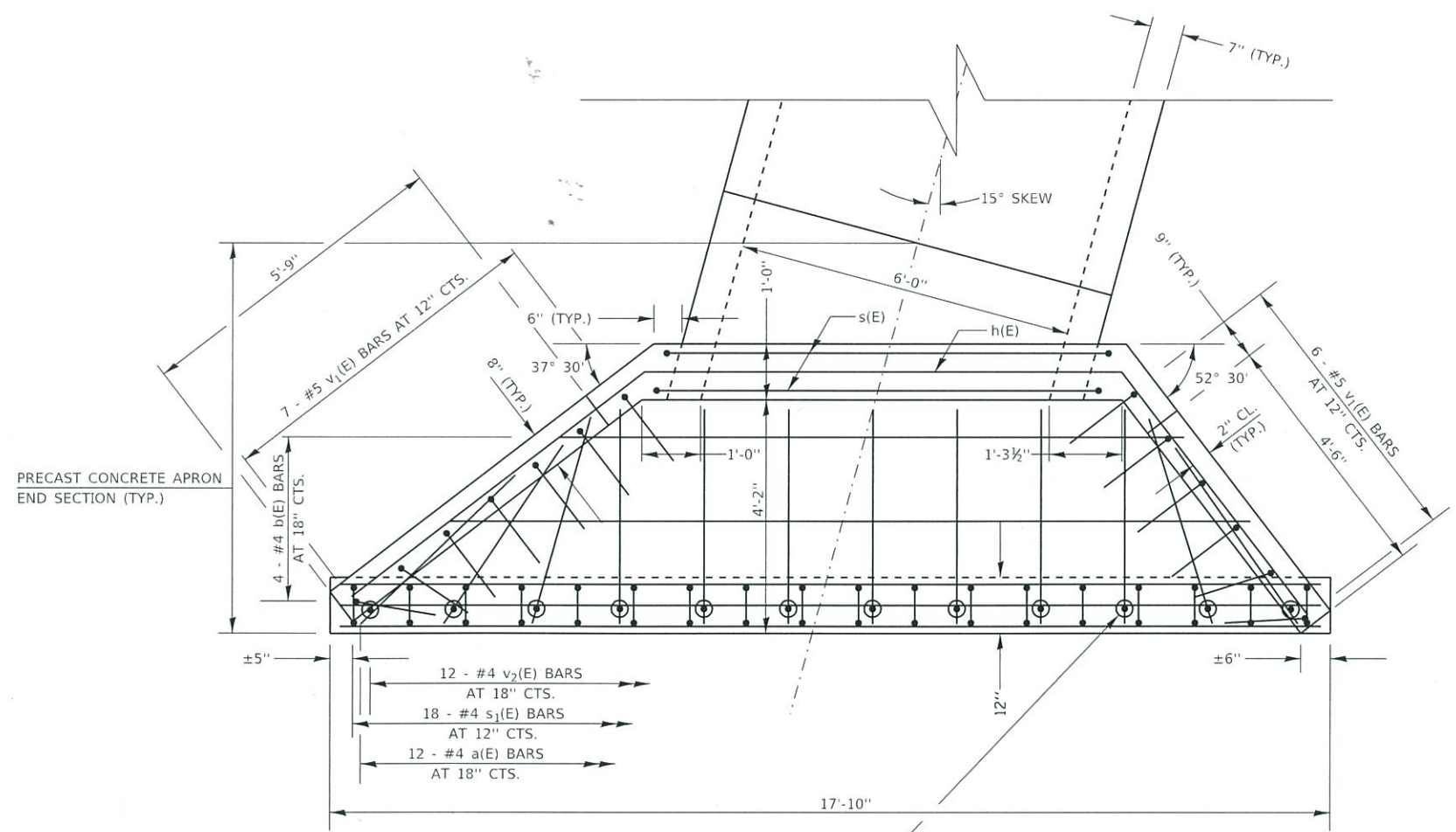
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
322	5(CR-1)	PERRY	12	8
CONTRACT NO. 78676				
ILLINOIS FED. AID PROJECT				

SCALE: _____ SHEET ___ OF ___ SHEETS STA. _____ TO STA. _____



END ELEVATION

FOR INFORMATION ONLY
AS NEEDED FOR THE FABRICATION
OF THE PRECAST APRON END SECTION



PLAN

WORK THIS SHEET WITH SHEET 11 OF 12

CAST-IN-PLACE END SECTION DETAILS
PERRY COUNTY
SN 073-7090 (P)

MODEL: D:\c\aut FILE NAME: p:\v\l\mroom\dal\illinois.gov\p\p\DOT\Documents\DOT_Offices\District_9\Projects\78676\CADD\Drawings\9-78676-Sheets.dgn

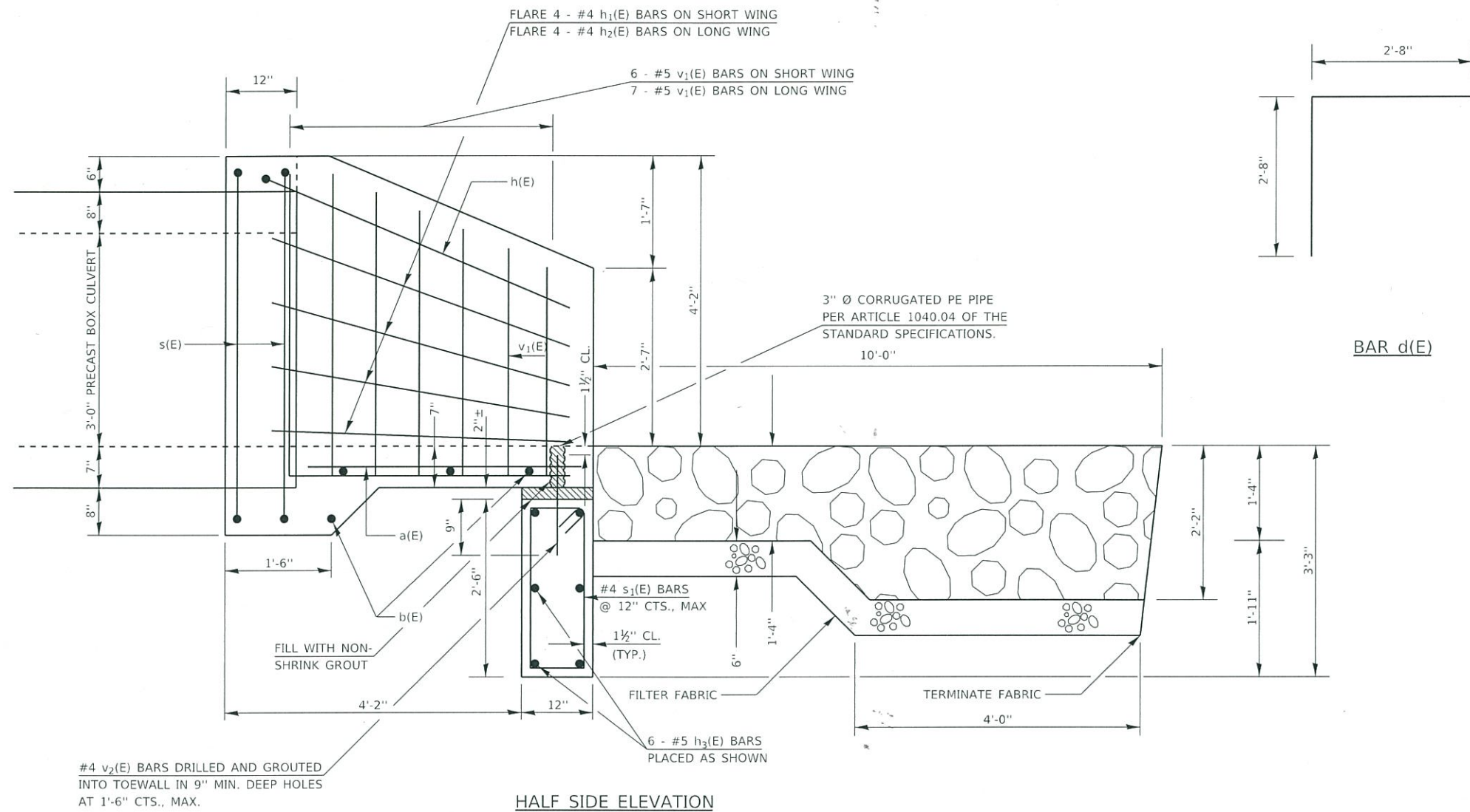
USER NAME = adamsam	DESIGNED - _____	REVISED - _____
PLOT SCALE = 3.0000' / in.	DRAWN - _____	REVISED - _____
PLOT DATE = 6/18/2019	CHECKED - _____	REVISED - _____
	DATE - _____	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APRON END SECTION DETAILS

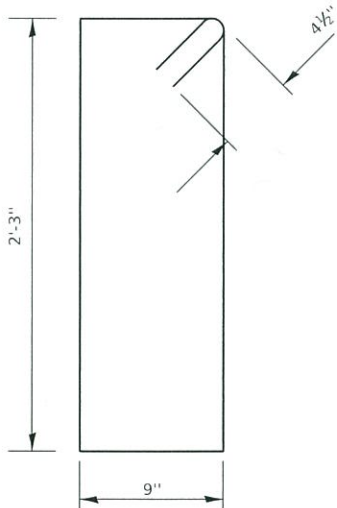
SCALE: _____ SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
322	5(CR-1)	PERRY	12	10
CONTRACT NO. 78676				
ILLINOIS FED. AID PROJECT				

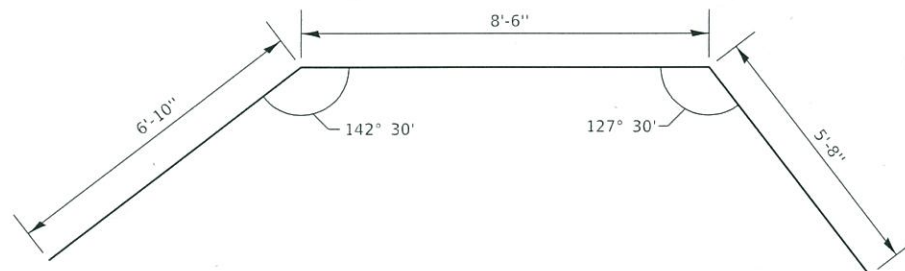


HALF SIDE ELEVATION

#4 v₂(E) BARS DRILLED AND GROUTED INTO TOEWALL IN 9" MIN. DEEP HOLES AT 1'-6" CTS., MAX.



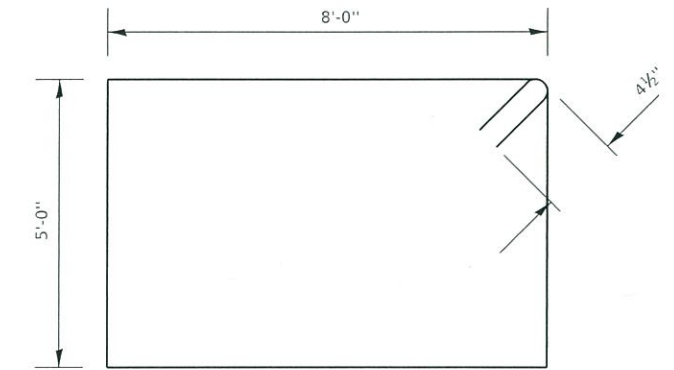
BAR s₁(E)



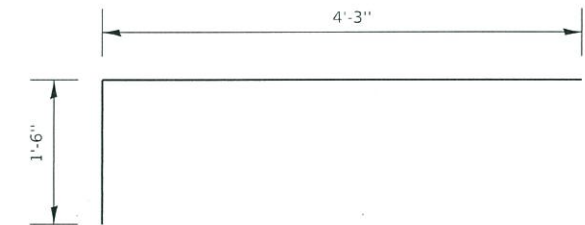
BAR h(E)

FOR INFORMATION ONLY
AS NEEDED FOR THE FABRICATION
OF THE PRECAST APRON END SECTION

DESIGN STRESSES
f_y = 60,000 PSI
f_c' = 3,500 PSI



BAR s(E)



BAR v₁(E)

BILL OF MATERIAL - 2 APRONS

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	24	#4	3'-10"	—
b(E)	8	#4	17'-6"	—
h(E)	2	#4	21'-0"	—
h ₁ (E)	8	#4	6'-10"	—
h ₂ (E)	8	#4	5'-8"	—
h ₃ (E)	12	#5	17'-6"	—
s(E)	4	#4	26'-9"	□
s ₁ (E)	36	#4	6'-9"	□
v ₁ (E)	26	#5	5'-9"	—
v ₂ (E)	24	#4	1'-5"	—
CONCRETE BOX CULVERTS			CU. YD.	14.4
REINFORCEMENT BARS, EPOXY COATED			POUND	890

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

* CUT OR BEND TO FIT

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 706.

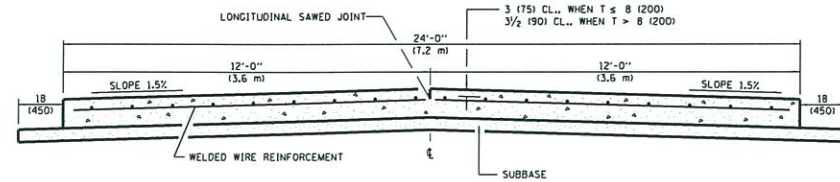
EXPOSED EDGES SHALL BE BEVELED 3/4"

CAST-IN-PLACE END SECTION DETAILS

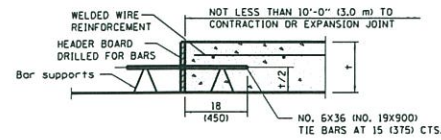
PERRY COUNTY
SN 073-7090 (P)

WORK THIS SHEET WITH PAGE 10 OF 12

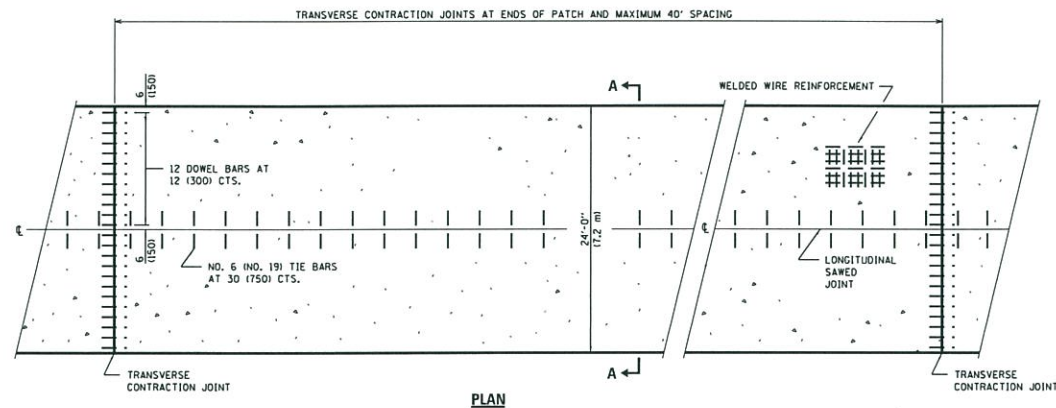
**24' (7.2 m) PCC PAVEMENT
OVER BOX CULVERT**



SECTION A-A
(TYPICAL 2-LANE WITH SHOULDERS)



TRANSVERSE CONSTRUCTION JOINT
(IF NEEDED PER STANDARD SPECIFICATIONS)



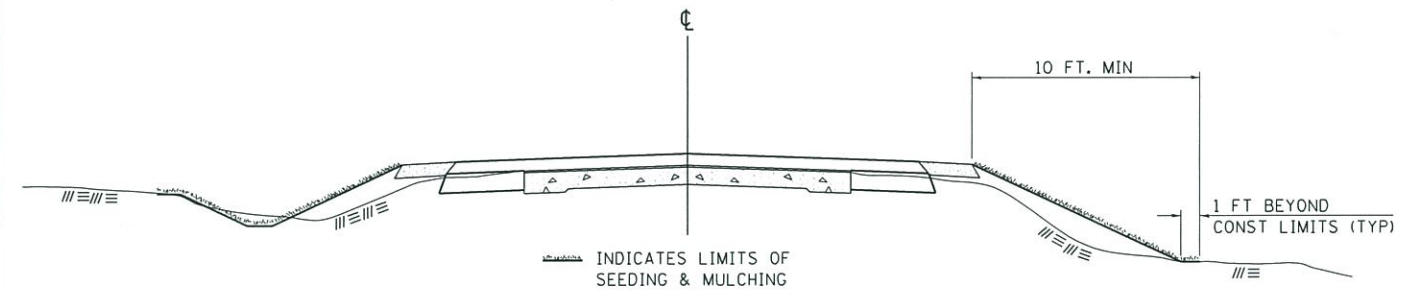
PLAN

GENERAL NOTES
SEE STANDARD 42000 FOR DETAILS NOT SHOWN.
SEE STANDARD 42070 FOR WELDED WIRE REINFORCEMENT DETAILS.
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
ACTUAL DIMENSIONS TO MATCH FIELD CONDITIONS AND CONSTRUCTION METHODS.

REVISIONS	
DRAWN	11-9-17
REVISED	7-23-18

STD. 9-25

SEEDING & MULCHING



GENERAL NOTES

IN GENERAL, ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDED AND MULCHED UPON COMPLETION OF ALL GRADING OPERATIONS.

ON DETOUR ROADS, SLOPES SHALL BE SEEDED IMMEDIATELY UPON COMPLETION OF ANY GIVEN STAGE GRADING. TEMPORARY SEEDED SHALL BE CLASS 7.

FERTILIZER NUTRIENTS SHALL BE APPLIED TO ALL SEEDED AREAS. LIMESTONE SHALL BE APPLIED TO ALL AREAS OF FINAL SEEDED.

THE RATES OF APPLICATION OF FERTILIZER, MULCH AND LIMESTONE SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR ROAD AND BRIDGE CONSTRUCTION.

SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-15-94
REVISED	6-3-99
REVISED	3-27-08
REVISED	5-16-13

STD. 9-12

MODEL: Default
FILE NAME: P:\planroom\dir\illinois.gov\p\p\DOT\Documents\DOT - Offices\District 9\Projects\78676\CADD\at\CAD\Sheets\09-78676-Sheets.dgn

USER NAME = adamsam	DESIGNED - _____	REVISED - _____
PLOT SCALE = 100.0000' / in.	DRAWN - _____	REVISED - _____
PLOT DATE = 4/26/2019	CHECKED - _____	REVISED - _____
	DATE - _____	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DISTRICT STANDARDS

SCALE: _____ SHEET ____ OF ____ SHEETS STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
322	5(CR-1)	PERRY	12	12
CONTRACT NO. 78676				ILLINOIS FED. AID PROJECT