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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED
HIGHWAY PLANS

F.A.P. ROUTE 673 (IL 116)
SECTION (112X)CLV-2
CMP ENTRANCE CULVERT REMOVAL
REPLACE WITH PRECAST CONCRETE BOX CULVERT
LIVINGSTON COUNTY
C-93-125-25

PROPOSED STRUCTURE

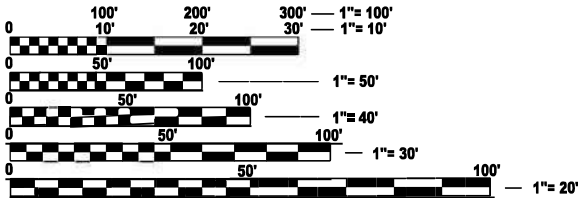
STRUCTURE NO. 053-2595
STA. 142+60 TO STA. 145+70
PRECAST CONCRETE BOX CULVERT 10' X 4'
CARRYING 1450E RD. AT STA. 142+88 (COUNTRYSIDE LANE),
P.E. AT STA. 144+10 (700 COUNTRYSIDE LANE)
AND P.E. AT STA. 145+44 OVER A DRAINAGE DITCH
APPROXIMATELY 1.03 MI. EAST IF I-55
LENGTH 310'-0" O. TO O. OF END SECTIONS

IMPROVEMENT ENDS

±170' EAST OF P.E.
(1304 W. REYNOLDS ST.)
STA. 145+44

IMPROVEMENT BEGINS

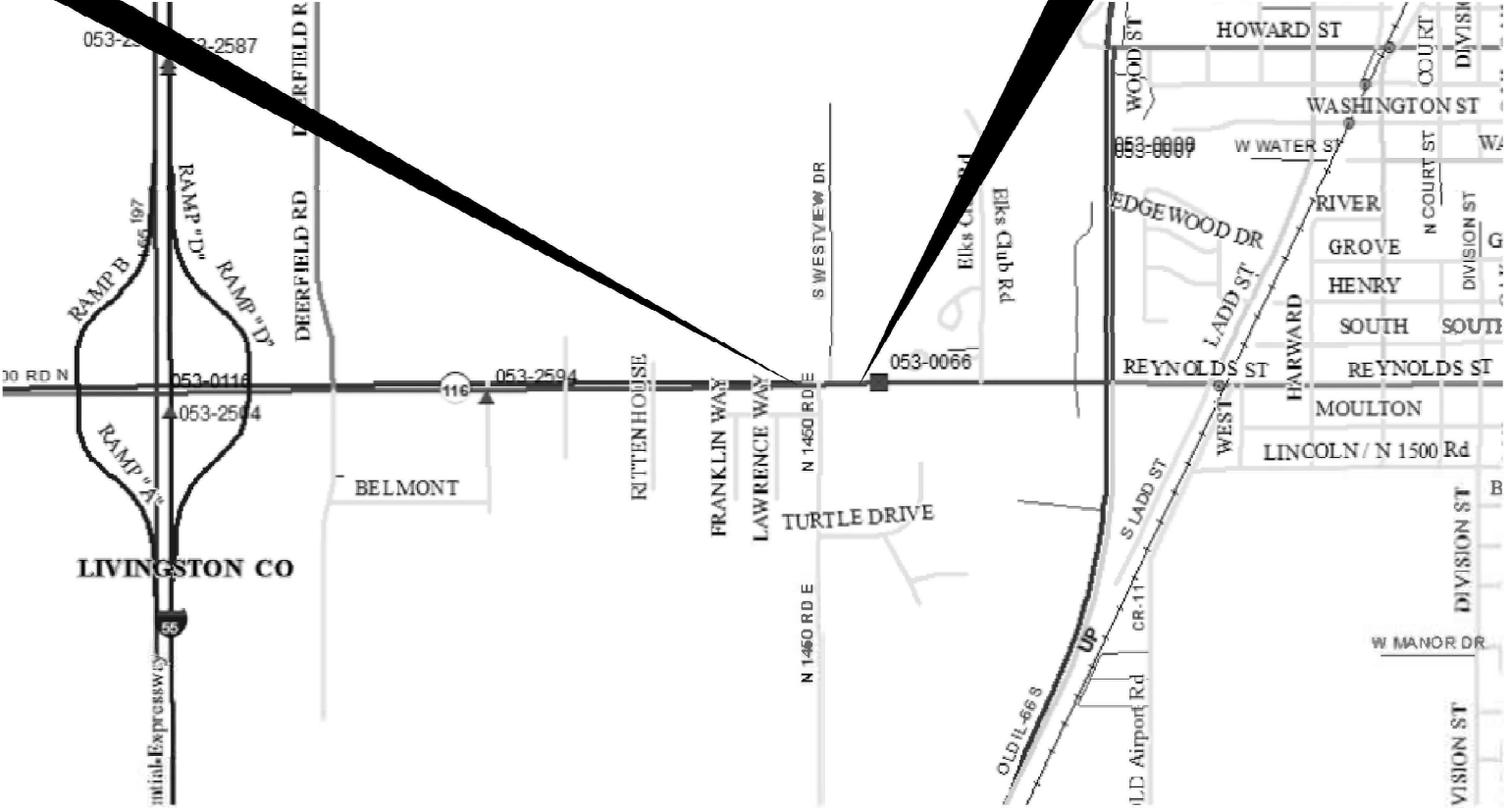
±138' WEST OF N. 1450E RD.
(COUNTRYSIDE LANE)
STA. 141+50



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

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

PROJECT ENGINEER JUNIOR SENAT P.E.
UNIT CHIEF RON WOODSHANK
DISTRICT 3 (815) 228-6131
CONTRACT NO. 66R58



GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

ADDITIONAL CONSTRUCTION PROJECTS MAY BE UNDER CONTRACT WITHIN OR NEAR THE LIMITS OF THIS PROJECT WHEN IT IS IN FORCE. THE CONTRACTOR FOR THIS PROJECT SHALL COOPERATE WITH THE CONTRACTORS ON THE OTHER PROJECTS ACCORDING TO ARTICLE 105.08 OF THE STANDARD SPECIFICATIONS. CONTRACTS ANTICIPATED TO BE IN THE VICINITY OF THIS CONTRACT ARE:

CONTRACT 66E54: IMPROVEMENT BEGINS AT EWING DR. (EAST OF I-55) AND END AT O.R. 66

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

BEFORE ORDERING BOX CULVERTS, THE CONTRACTOR SHALL CONSULT THE ENGINEER FOR EXACT LENGTHS.

THE ENGINEER WILL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HMA LIFTS.

THE FINISHED EARTHWORK SHALL HAVE A VEGETATION SUSTAINING SOIL COVERING THE TOP FOUR INCHES (100 MILLIMETERS) IN AREAS TO BE SEEDED OR SODDED. THE VEGETATION SUSTAINING SOIL REQUIRED WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF FURNISHED EXCAVATION.

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

GRANULAR MATERIALS	2.05	TONS / CU YD
HMA RESURFACING	112	LBS / SQ YD / IN
BITUMINOUS MATERIALS	0.025	LBS / SQ FT
(TACK COAT)	0.05	LBS / SQ FT

KNOWN UTILITIES TO BE WITHIN THE PROJECT LIMITS

CAMPUS COMMUNICATIONS	COMED
FRONTIER	CIRBN LLC
NICOR	IL - AMERICAN WATER
PONTIAC, CITY OF	MEDIACOM

COMMITMENTS

THE ENGINEER SHALL NOTIFY ADJACENT BUSINESSES, EMERGENCY SERVICES, COUNTY ENGINEER A MINIMUM OF 72 HOURS IN ADVANCE OF CLOSING A SIDE ROAD OR COMMERCIAL ENTRANCES. THE ENGINEER SHALL ALSO SUPPLY AN APPROXIMATE LENGTH OF CLOSURE

HMA MIXTURE REQUIREMENT TABLE

LOCATION(S):	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT
MIXTURE USE(S):	CLASS D PATCH SURFACE LIFT 1½"	CLASS D PATCH INTERMEDIATE LIFT 2½"	CLASS D PATCH BOTTOM LIFT 3"
BINDER GRADE (PG):	PG 64-22	PG 64-22	PG 64-22
DESIGN AIR VOIDS:	4.0% @ N50	4.0% @ N50	4.0% @ N50
MIXTURE COMPOSITION: (MIXTURE GRADATION)	IL 9.5	IL 19.0	IL 19.0
FRICTION AGGREGATE:	MIXTUREC		
MIXTURE WEIGHT:	112.0 LB/SY//IN	112.0 LB/SY//IN	112.0 LB/SY//IN
QUALITY MANAGEMENT PROGRAM:	QC/QA	QC/QA	QC/QA
SUBLOT SIZE:	N/A	N/A	N/A
DENSITY TEST METHOD:	NUCLEAR / CORES	NUCLEAR / CORES	NUCLEAR / CORES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE
AS BUILT INFORMATION

SUPERVISING CONSTRUCTION FIELD ENGINEER

RESIDENT ENGINEER / TECHNICIAN

START & END DATES
OF CONSTRUCTION:

INSPECTORS:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
673	(112X)CLV-2	LIVINGSTON	23	2
			CONTRACT NO. 66R58	
		ILLINOIS	FED. AID PROJECT	

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE
				100% STATE
				BOX CULVERT
				0004 URBAN
20200100	EARTH EXCAVATION	CU YD	1397.7	1397.7
20400800	FURNISHED EXCAVATION	CU YD	669	669
20700220	POROUS GRANULAR EMBANKMENT	CU YD	1358	1358
21400100	GRADING AND SHAPING DITCHES	FOOT	215	215
25000210	SEEDING, CLASS 2A	ACRE	1.05	1.05
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	95	95
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	95	95
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	95	95
25100630	EROSION CONTROL BLANKET	SQ YD	5056	5056
28100105	STONE RIPRAP, CLASS A3	SQ YD	12	12
28200200	FILTER FABRIC	SQ YD	12	12
31101100	SUBBASE GRANULAR MATERIAL, TYPE B	CU YD	386	386
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	176	176
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	152	152

	USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RW	REVISED -					673	(112X)CLV-2	LIVINGSTON	23	3
		CHECKED - JS	REVISED -		SCALE:			CONTRACT NO. 66R58				
	PLOT DATE = 6/21/2025	DATE - 4/5/2025	REVISED -		SHEET 1 OF 3 SHEETS			ILLINOIS FED. AID PROJECT				

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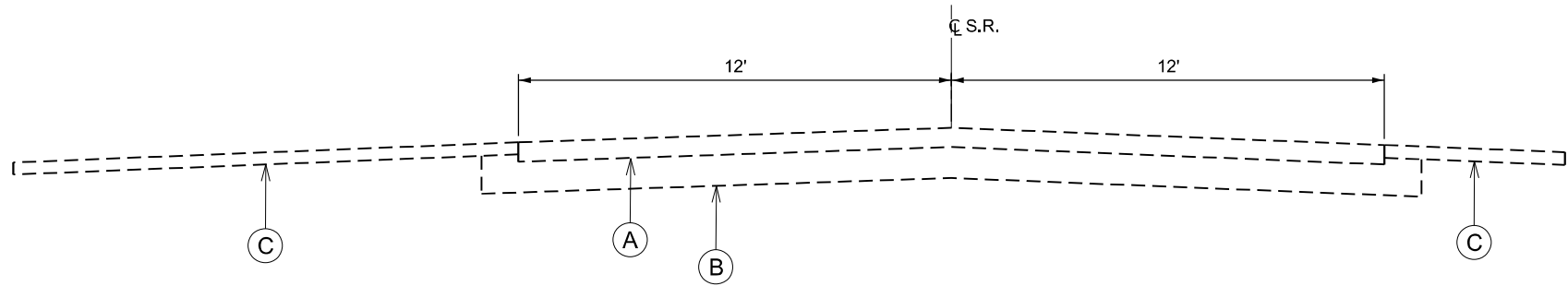
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE
				100% STATE
				BOX CULVERT
				0004 URBAN
44004250	PAVED SHOULDER REMOVAL	SQ YD	64	64
44201796	CLASS D PATCHES, TYPE IV, 12 INCH	SQ YD	194	194
48203025	HOT-MIX ASPHALT SHOULDERS, 7"	SQ YD	66	66
50104650	SLOPE WALL REMOVAL	SQ YD	318	318
50105220	PIPE CULVERT REMOVAL	FOOT	422	422
51500100	NAME PLATES	EACH	1	1
54001001	BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	2	2
54011004	PRECAST CONCRETE BOX CULVERTS 10' X 4'	FOOT	272	272
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	452	452
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	152	152
67100100	MOBILIZATION	L SUM	1	1
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	1
X4021000	TEMPORARY ACCESS (PRIVATE ENTRANCE)	EACH	2	2
X4023000	TEMPORARY ACCESS (ROAD)	EACH	1	1

	USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RW	REVISED -					673	(112X)CLV-2	LIVINGSTON	23	4
		CHECKED - JS	REVISED -					CONTRACT NO. 66R58				
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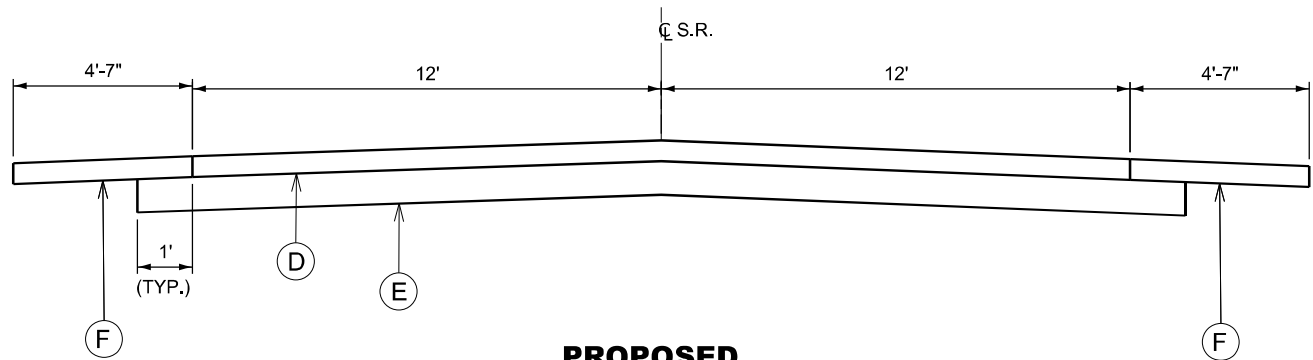
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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE
				100% STATE
				BOX CULVERT
				0004 URBAN
X5401005	PRECAST CONCRETE BOX CULVERTS 10' X 4' (SPECIAL)	FOOT	16	16
X5810103	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	452	452
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1

	USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RW	REVISED -					673	(112X)CLV-2	LIVINGSTON	23	5
		CHECKED - JS	REVISED -					CONTRACT NO. 66R58				
	PLOT DATE = 6/21/2025	DATE - 4/5/2025	REVISED -		SCALE:	SHEET 3 OF 3 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT				

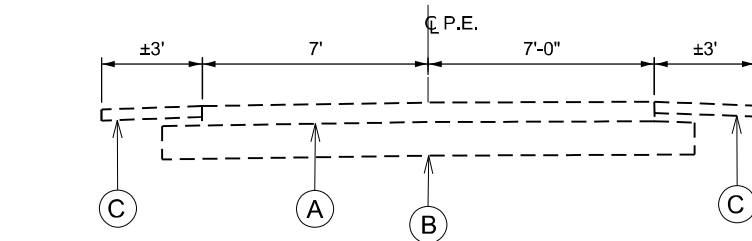


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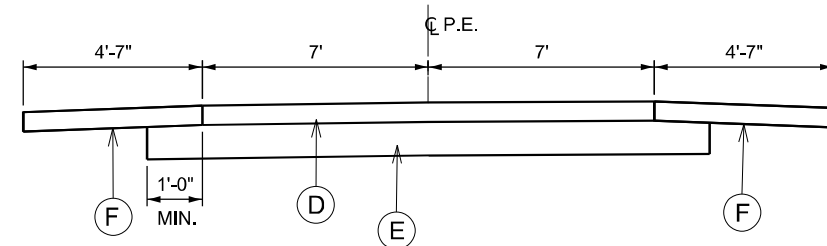


PROPOSED

TYPICAL SECTION 2
1450E RD (COUNTRYSIDE LANE)
STA. 142+88 RT.



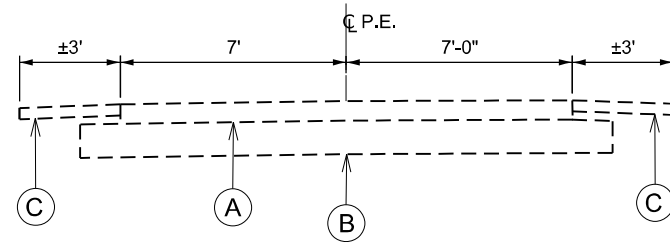
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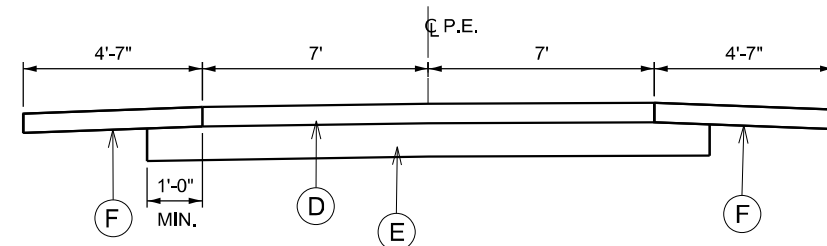
PROPOSED

TYPICAL SECTION 3
P.E. STA. 144+10 RT.
(700 COUNTRYSIDE LN.)

NOTE: TYPICAL SECTION SHOWN DEPICT EXISTING CONDITIONS
C.L. OF S.R. OR ENTRANCE ALONG C.L. OF CULVERTS



EXISTING



PROPOSED

TYPICAL SECTION 4
P.E. STA. 145+44 RT.
(1304 W. REYNOLDS ST. / IL 116))

EXISTING LEGEND

- (A) 7" HOT-MIX ASPHALT PAVEMENT**
- (B) AGGREGATE BASE COURSE**
- (C) 4" HOT-MIX ASPHALT SURFACE**
- (D) CLASS D PATCH 7"**
- (E) SUBBASE GRANULAR MATERIAL**
- (F) HOT-MIX ASPHALT SHOULDER 7"**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING TYPICAL SECTIONS

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
673	(112X)CLV-2	LIVINGSTON	23	6
CONTRACT NO. 66R58				
ILLINOIS FED. AID PROJECT				

USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -
	DRAWN - RW	REVISED -
	CHECKED - JS	REVISED -
PLOT DATE = 6/21/2025	DATE - 4/5/2025	REVISED -

SCHEDULE - GRADING AND SHAPING DITCHES

STATION	CUT	FILL	DISTANCE	AVE. END AREAS		SECTION TOTAL		GRADING AND SHAPING DITCHES
				CUT	FILL	CUT	FILL	
	(SQ FT)	(SQ FT)	(FT)	(SQ YD)	(SQ YD)	(CU YD)	(CU YD)	FOOT
141+50	0	0	25	1.1	0.0	9.4	0.0	25
141+75	20.35			2.9	0.0	24.4	0.0	25
142+00	32.37		25	2.6	0.0	21.4	0.0	25
142+25	13.94		35	5.6	0.0	65.6	0.0	35
142+60	87.31							
145+70	17.74		30	2.4	0.0	23.9	0.0	30
146+00	25.33			2.9	1.5	24.3	12.6	25
146+25	27.18	27.18	25	2.7	2.4	22.7	20.2	25
146+50	21.93	16.44	25	1.2	0.9	10.2	7.6	25
146+75	0	0						
TOTALS								215

Cut:(Earth Excavation) 202.0 cu yds

Fill:(Embankment) 40.4 cu yds

*Excess/Shortage: -161.6 cu yds

*Note: Negative number implies Excess exists.

SCHEDULE - EARTH EXCAVATION

STATION	CUT	DISTANCE	AVE. END AREAS	SECTION TOTAL	EARTH EXCAVATION
			CUT	CUT	
	(SQ FT)	(FT)	(SQ YD)	(CU YD)	CU YD
142+50	87.31	25	16.2	135.2	135.2
142+75	204.64		22.7	188.9	188.9
143+00	203.46	25	16.7	139.1	139.1
143+25	96.94	25	8.4	70.2	70.2
143+50	54.71	25	9.1	75.9	75.9
143+75	109.32	25	15.2	126.8	126.8
144+00	164.52	25	18.3	152.4	152.4
144+25	164.75	25	11.8	98.4	98.4
144+50	47.78	25	5.1	42.2	42.2
144+75	43.38	25	4.9	40.8	40.8
145+00	44.80	25	10.3	85.7	85.7
145+25	140.41	25	19.2	159.7	159.7
145+50	204.50	20	12.3	82.3	82.3
145+70	17.74				
				TOTAL	1397.7

SCHEDULE - REMOVAL

LOCATION		PAVED SHOULDER REMOVAL		COMBINATION CURB AND GUTTER REMOVAL		SLOPE WALL REMOVAL		PIPE CULVERT REMOVAL	
		SQ YD		FOOT		SQ YD		FOOT	
	STA.	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT
1450E RD.	142+88 RT	16	26	36	32	53	53	89	89
P.E.	144+10 RT	6	6	34	34	53	53	61	61
P.E.	145+44 RT	5	5	34	34	53	53	61	61
TOTAL		64		204		318		422	

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SCHEDULE - POROUS GRANULAR EMBANKMENT

STATION	FILL	DISTANCE	FILL	FILL	POROUS GRANULAR EMBANKMENT
	(SQ FT)		CU FT	CU YD	TON
142+60	0				
		15	409.4	15.2	31
142+75	54.59				
		25	1365.1	50.6	104
143+00	54.62				
		25	1378.3	51.0	105
143+25	55.64				
		25	1541.0	57.1	117
143+50	67.64				
		25	1700.1	63.0	129
143+75	68.37				
		25	1537.4	56.9	117
144+00	54.62				
		25	1362.6	50.5	103
144+25	54.39				
		25	1538.3	57.0	117
144+50	68.67				
		25	1766.5	65.4	134
144+75	72.65				
		25	1810.6	67.1	137
145+00	72.2				
		25	1580.1	58.5	120
145+25	54.21				
		25	1355.1	50.2	103
145+50	54.2				
		20	542.0	20.1	41
145+70	0				
TOTAL					1358

SCHEDULE - FURNISHED EXCAVATION

STATION	FILL	AVE. END AREAS			FURNISHED EXCAVATION
		DISTANCE	FILL	FILL	
	(SQ FT)	(FT)	(SQ YD)	(CU YD)	CU YD
142+60	0.00				
		15	4.2	21.1	21.1
142+75	75.95				
		27	4.2	38.0	38.0
143+02	0.00				
		23	5.4	41.4	41.4
143+25	97.20				
		25	9.7	81.2	81.2
143+50	78.23				
		25	10.4	86.7	86.7
143+75	109.32				
		26	6.1	52.6	52.6
144+01	0.00				
		18	0.0	0.0	0.0
144+19	0.00				
		31	6.1	62.5	62.5
144+50	109.10				
		25	9.8	81.6	81.6
144+75	67.18				
		25	9.8	81.8	81.8
145+00	109.78				
		25	11.2	93.1	93.1
145+25	91.27				
		10	5.1	16.9	16.9
145+35	0.00				
		18	0.0	0.0	0.0
145+53	0.00				
		17	2.1	12.0	12.0
145+70	38.26				
TOTALS					669

SCHEDULE - LANDSCAPING

LOCATION			STONE RIPRAP CLASS A3	FILTER FABRIC	SEEDING CLASS 2A	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	EROSION CONTROL BLANKET
			SQ YD	SQ YD	ACRE	POUND	POUND	POUND	SQ YD
140+40	TO	142+60			0.39	35	35	35	1882
PRECAST END SECTION					0.01	1	1	1	30
143+05	TO	143+98	6	6	0.16	15	15	15	796
144+22	TO	145+34	6	6	0.20	18	18	18	958
PRECAST END SECTION					0.01	1	1	1	30
145+56	TO	147+15			0.28	25	25	25	1360
TOTAL			12	12	1.05	95	95	95	5056

SCHEDULE - PRECAST CONCRETE BOX CULVERT

LOCATION		NAME PLATE	PRECAST BOX CULVERT END SECTION	PRECAST CONCRETE BOX CULVERTS 10' X 4'		PRECAST CONCRETE BOX CULVERTS 10' X 4' (SPECIAL)	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	GEOCOMPOSITE WALL DRAIN
				6' SECTION	8' SECTION			
STA.	STA.	EACH	EACH	FOOT	FOOT	FOOT	SQ YD	SQ YD
142+60	142+71	1	1				8	8
142+71	143+37			66			100	100
143+37	143+45				8		12	12
143+45	143+53					8	12	12
143+53	143+61				8		12	12
143+61	144+63			102			155	155
144+63	144+71				8		12	12
144+71	144+79					8	12	12
144+79	144+87				8		12	12
144+87	145+59			72			109	109
145+59	145+70		1				8	8
TOTAL		1	2	272		16	452	452

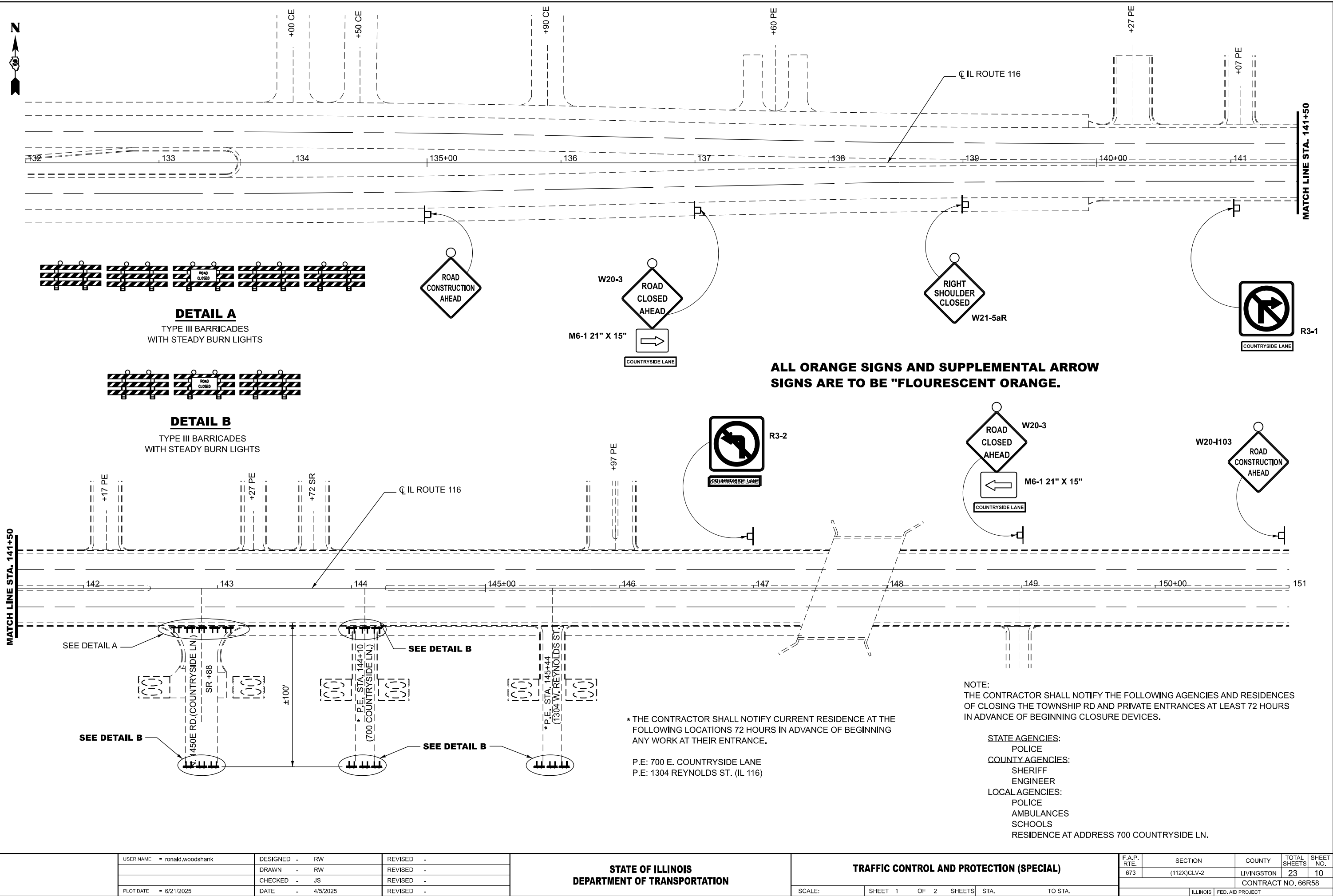
SCHEDULE - PAVEMENT

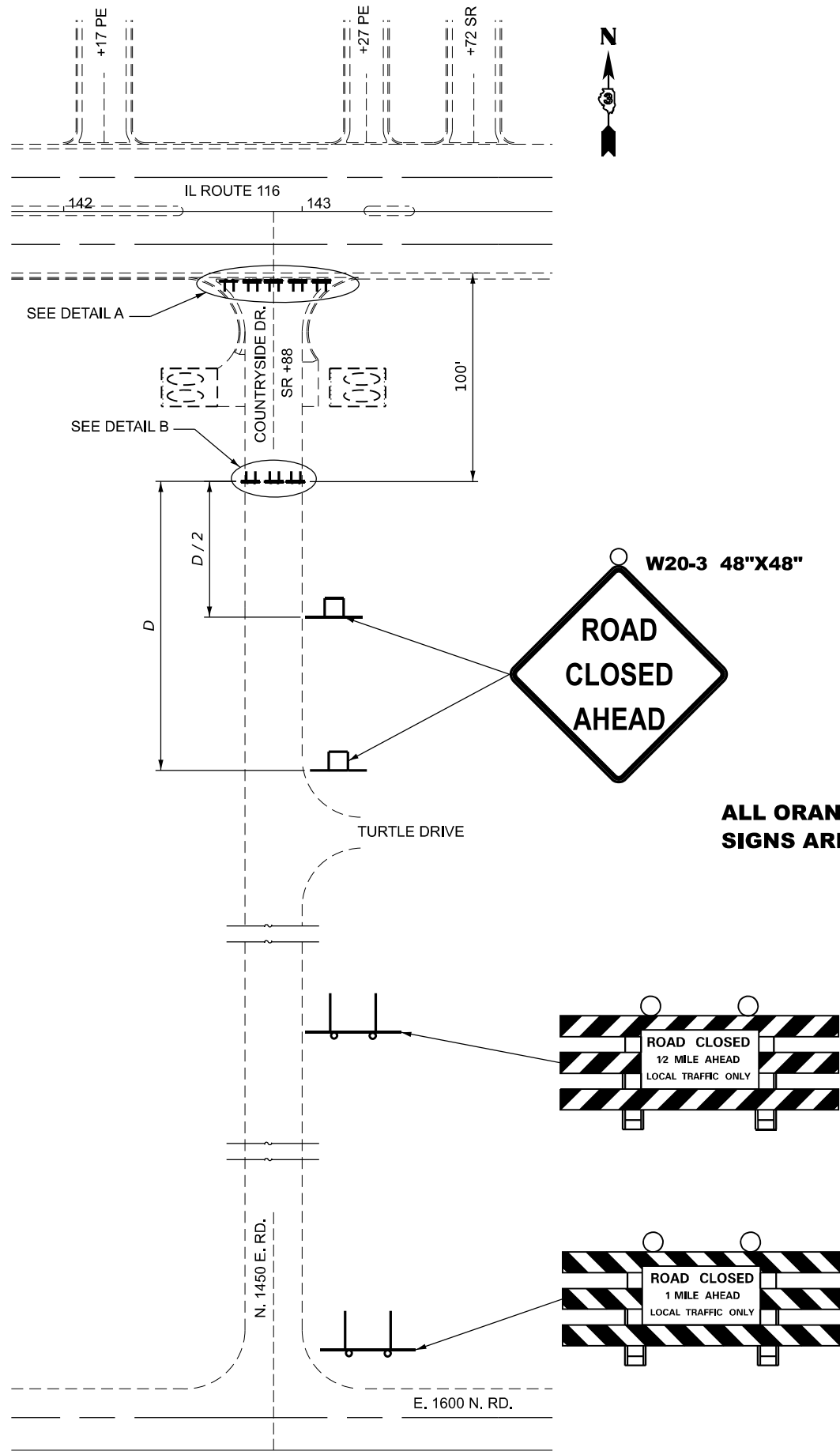
LOCATION		SUBBASE GRANULAR MATERIAL TYPE B	COMBINATION CONCRETE CURB AND GUTTER TYPE B-6.24	BITUMINOUS MATERIAL TACK COAT	HOT-MIX ASPHALT SHOULDER 7"	CLASS D PATCH TYPE IV 7 INCH
STA.	STA.	TON	FOOT	POUND	SQ YD	SQ YD
1450E RD.	142+88 RT	175	24	76	22	90
P.E.	144+10 RT	104	64	50	22	52
P.E.	145+44 RT	107	64	50	22	52
TOTAL		386	152	176	66	194

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	USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCHEDULES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RW	REVISED -					673	(112X)CLV-2	LIVINGSTON	23	9
		CHECKED - JS	REVISED -		SCALE: SHEET 3 OF 3 SHEETS STA. TO STA.			CONTRACT NO. 66R58				
	PLOT DATE = 6/21/2025	DATE - 4/5/2025	REVISED -					ILLINOIS FED. AID PROJECT				

MODEL: Default
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ALL ORANGE SIGNS AND SUPPLEMENTAL ARROW
SIGNS ARE TO BE "FLOURESCENT ORANGE."

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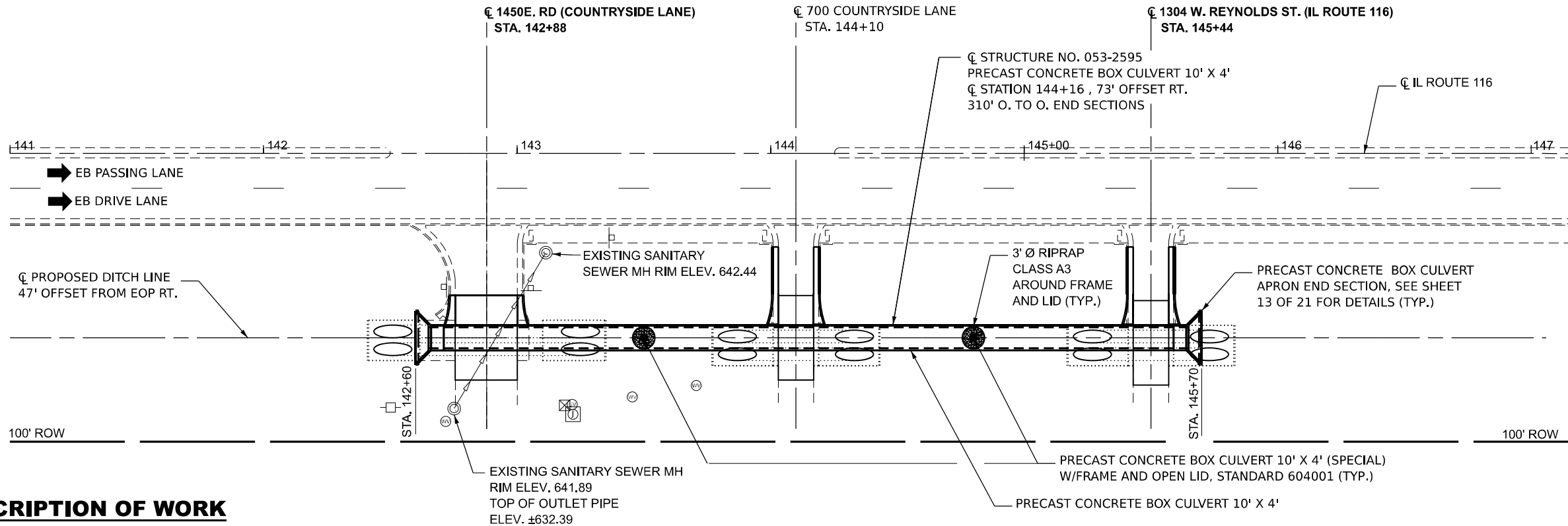
USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -
	DRAWN - RW	REVISED -
	CHECKED - JS	REVISED -
PLOT DATE = 6/21/2025	DATE - 4/5/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION (SPECIAL)

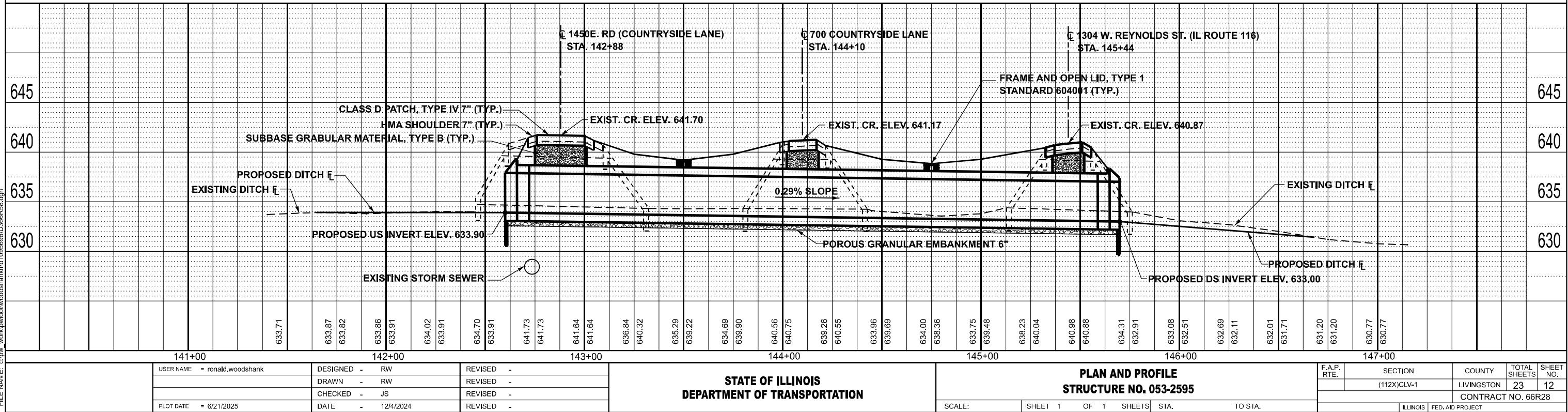
SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
673	(112X)CLV-2	LIVINGSTON	23	11
CONTRACT NO. 66R58				
ILLINOIS FED. AID PROJECT				



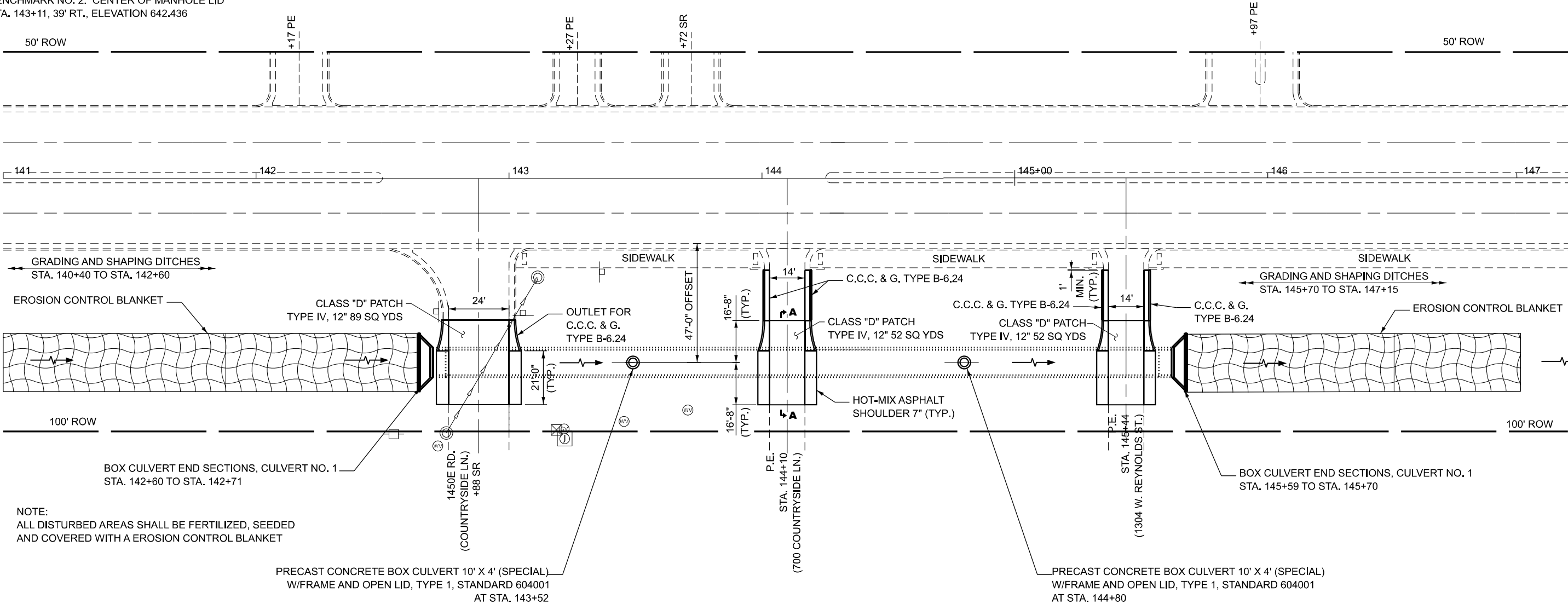
DESCRIPTION OF WORK

1. REMOVE AND REPLACE HMA PAVEMENT (CLASS D PATCH)
2. EXCAVATE FOR CULVERT REMOVAL / INSTALLATION
3. REMOVE EXISTING CONCRETE SLOPE WALL AND FOOTINGS
4. REMOVE TWIN 60" Ø CORRUGATED METAL PIPE CULVERT (CMP)
5. REMOVE AND REPLACE CONCRETE CURB AND GUTTER
6. CONSTRUCT POROUS GRANULAR BEDDING
7. INSTALL PRECAST CONCRETE BOX CULVERT 10' X 4'
8. INSTALL PRECAST CONCRETE BOX CULVERT 10' X 4' (SPECIAL)
9. GRADE AND SHAPE DITCHES
10. FURNISH AND INSTALL FURNISHED EXCAVATION
11. SEED AND FERTILIZE ALL DISTURBED AREAS



BENCHMARK NO. 1: CENTER OF MANHOLE LID
STA. 142+75.100' RT., ELEVATION 641.889

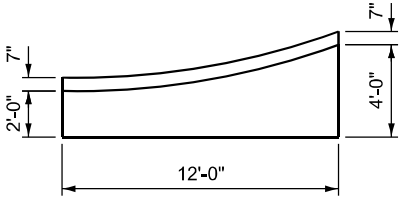
BENCHMARK NO. 2: CENTER OF MANHOLE LID
STA. 143+11.39' RT., ELEVATION 642.436



PROPOSED ROADWAY PLAN

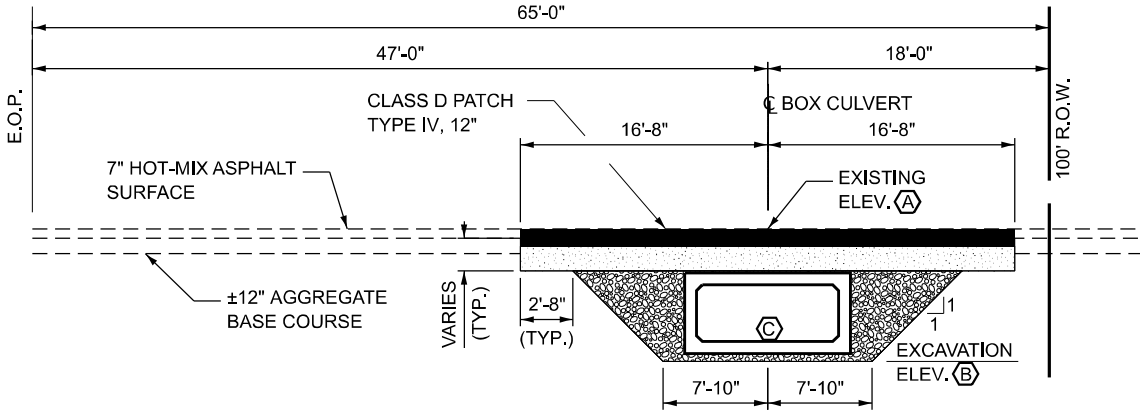
LOCATION	ELEVATION A	ELEVATION B	ELEVATION C
1450E RD. RT.	641.70	632.66	633.99
P.E. STA. 144+10 RT.	641.18	632.21	633.54
P.E. STA. 145+44 RT.	640.86	631.75	633.08

ELEVATIONS ARE AT C S.R. OR ENTRANCE AND C OF BOX CULVERT



C.C.C. & G, TYPE B OUTLET

COST TO BE INCLUDED WITH C.C.C. & G. TYPE B-6.24



PROPOSED SECTION A-A

ALONG C OF CULVERTS

NOTE:
POROUS GRANULAR MATERIAL USED FOR BEDDING
MATERIAL SHALL NOT BE MEASURED FOR PAYMENT
BUT SHALL BE INCLUDED IN THE COST OF THE PRECAST
CONCRETE BOX CULVERT.

LEGEND

- SUBBASE GRANULAR MATERIAL, TYPE B
- POROUS GRANULAR EMBANKMENT
- EROSION CONTROL BLANKET

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

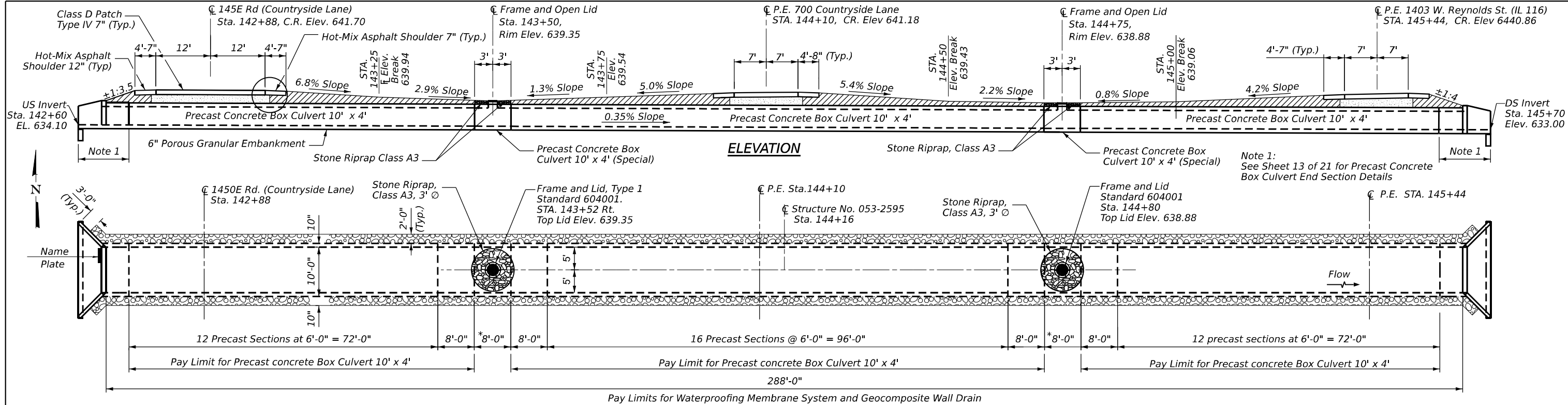
GENERAL PLAN - CONSTRUCTION DETAILS

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
673	(112X)CLV-2	LIVINGSTON	23	14
CONTRACT NO. 66R58				
ILLINOIS FED. AID PROJECT				

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MODEL: Default
FILE NAME: c:\pwworking\woodshank\td1056608\0366R55.dgn



PLAN
STRUCTURE NO. 053-2595

- LEGEND**
- Furnished Excavation**
 - Subbase Granular Material, Type B**
 - Porous Granular Embankment**
 -

GENERAL NOTES

THE DESIGN FILL HEIGHT FOR THIS BOX IS ± 3.0 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.

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.

** SUITABLE EXCAVATED MATERIALS SHALL BE USED TO RECONSTRUCT EMBANKMENT SLOPES (TYP.).

IN THE EVENT THAT ADDITIONAL MATERIAL IS REQUIRED TO RECONSTRUCT THE EMBANKMENT ADJACENT TO THE NEW BOX CULVERT STRUCTURES, THE CONTRACTOR SHALL FURNISH AND PLACE MATERIAL ACCORDING TO SECTION 204 OF THE STANDARD SPECIFICATIONS AND AS APPROVED BY THE ENGINEER. COST OF FURNISHING, PLACING AND COMPACTING THE MATERIAL SHALL BE ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

WATERWAY INFORMATION

DRAINAGE AREA = 0.7 SQ. MI.		LOW GRADE ELEV. 641.73 @ STA. 142+88							
FLOOD EVENT	FREQ. YR.	Q C.F.S.	OPENING FT ² EXIST.	PROP.	NAT. H.W.E.	HEAD - FT. EXIST.	PROP.	EXIST.	PROP.
TEN-YEAR	10	113	23	34	637.6	1.1	0.0	638.7	637.6
DESIGN	50	178	27	38	638.1	2.2	0.0	640.3	638.1
BASE	100	206	29	39	638.2	2.9	0.0	641.2	638.2
SCOUR CHECK	200	236	31	39	638.4	3.8	0.0	642.3	638.4
OVERTOP EXISTING	214	239	31	--	638.4	3.9	--	642.4	--
MAX. CALC.	500	275	33	39	638.7	4.2	0.3	642.9	638.9

DESIGN SPECIFICATIONS

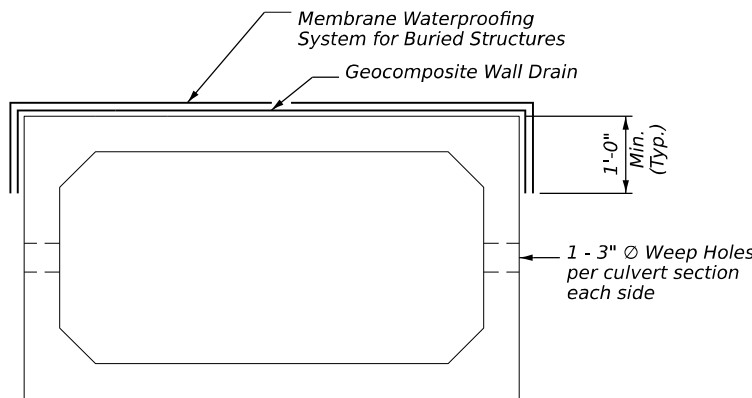
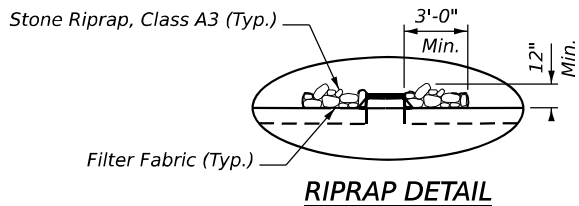
2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
CUSTOMARY U.S. UNITS, 9TH EDITION

LOADING HL-93

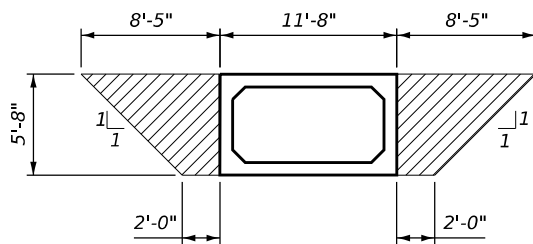
DESIGN STRESSES

PRECAST UNITS

f'_c = 5,000 psi
 f_y = 65,000 PSI (WELDED WIRE REINFORCEMENT)



MEMBRANE WATERPROOFING FOR BURIED STRUCTURE



PAY LIMITS FOR "PGE"

STATION 144+16
BUILT BY
STATE OF ILLINOIS
F.A.P. RT. 673 SEC. (112X)CLV-2
LOADING HL-93
STRUCTURE NO. 053-2595

NAME PLATE
SEE STD. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
NAME PLATES	EACH	1
BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	2
PRECAST CONCRETE BOX CULVERTS, 10' X 4"	FOOT	276
PRECAST CONCRETE BOX CULVERTS, 10' X 4" (SPECIAL)	FOOT	16
POROUS GRANULAR EMBANKMENT	TONS	546
MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	452
GEOCOMPOSITE WALL DRAIN	SQ YD	452

GENERAL PLAN AND ELEVATION

STRUCTURE NO. 053-2595

STATION 144+16

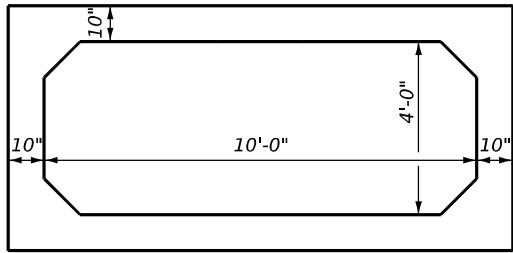
1450E RD., P.E. STA. 144+10, P.E. STA. 145+44

OVER A DRAINAGE DITCH

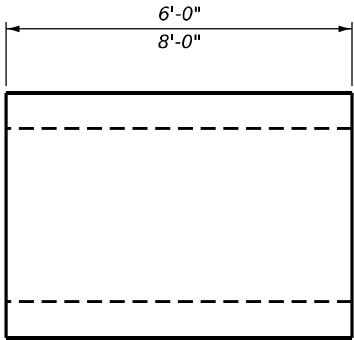
F.A.P. RTE. 673 SEC. (112X)CLV-2

LIVINGSTON COUNTY

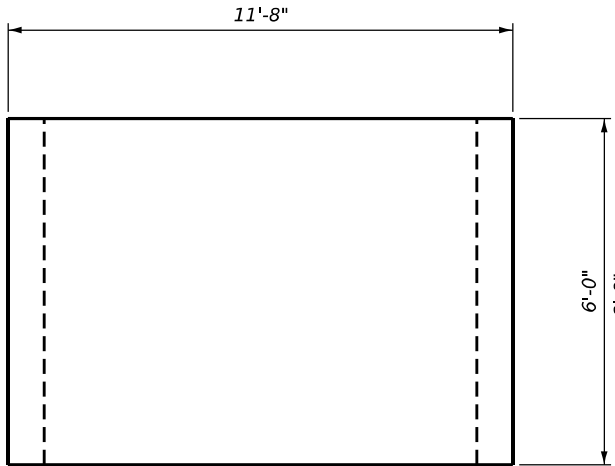
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			DRAWN - RW		REVISED -								(112X)CLV-1		LIVINGSTON	23	15				
			CHECKED - JS		REVISED -																
	PLOT DATE = 6/21/2025		DATE - 12/4/2024		REVISED -							SCALE:		SHEET 1 OF 1 SHEETS		STA.		TO STA.		ILLINOIS FED. AID PROJECT	
																				CONTRACT NO. 66R58	



FRONT ELEVATION



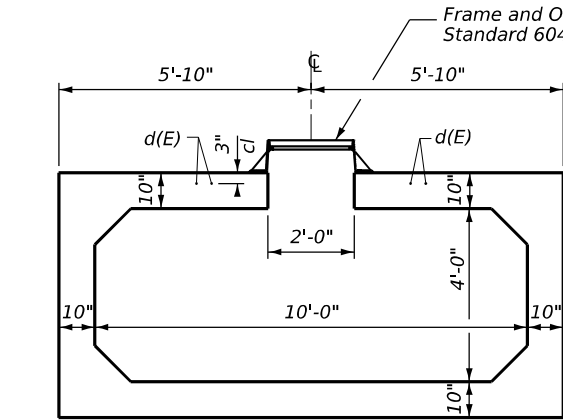
SIDE ELEVATION



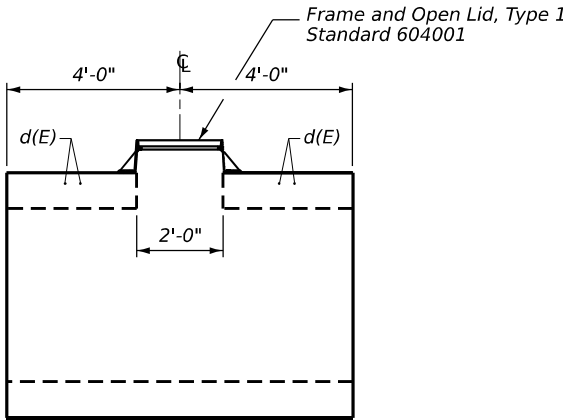
PLAN

PRECAST CONCRETE BOX CULVERT, 10' X 4'

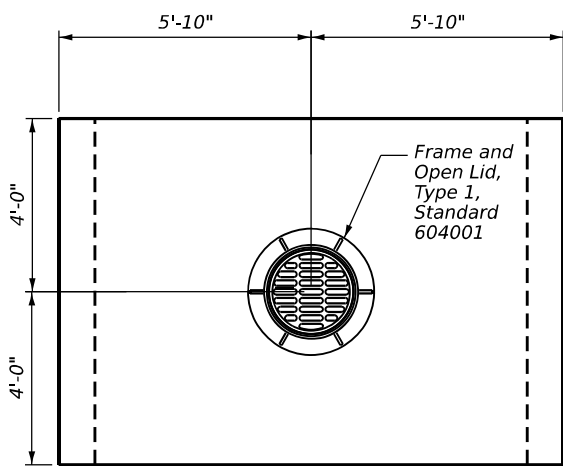
Notes.
Precast Concrete Box Culvert 10' x 4' (Special) shall be according to Sections 540 AND 1042.05 of the Standard Specifications.



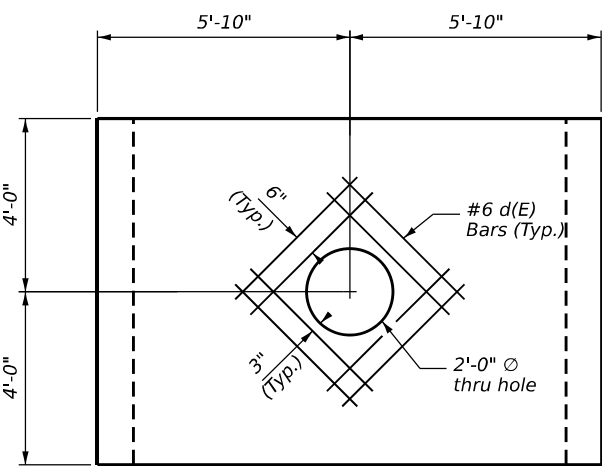
FRONT ELEVATION



SIDE ELEVATION



PLAN



PLAN SHOWING REINFORCEMENT

PRECAST CONCRETE BOX CULVERT, 10' X 4' (SPECIAL)

Notes.
Precast Concrete Box Culvert 10' x 4' (Special) shall be according to Sections 540 AND 1042.05 of the Standard Specifications.

In the addition to the reinforcement requirements specified in Article 1042.05 of the Standard Specifications the additional reinforcement shown shall not be paid for separately but shall be included in the cost of the PRECAST CONCRETE BOX CULVERT 10' X 4' (SPECIAL).

Frame and Lid, Type 1 shall not be paid for separately but shall be included in the cost of the PRECAST CONCRETE BOX CULVERT 10' X 4' (SPECIAL).

BILL OF MATERIAL
FOR INFORMATION ONLY

BAR	NO.	SIZE	LENGTH	SHAPE
d(E)	8	#6	4'-0"	—
Frame and Lid, Type 1			Each	2

MODEL: Default
FILE NAME: c:\pwork\woodshank\rd1095666\0366R56.dgn

USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -
	DRAWN - RW	REVISED -
	CHECKED - JS	REVISED -
PLOT DATE = 6/21/2025	DATE - 4/5/2025	REVISED -

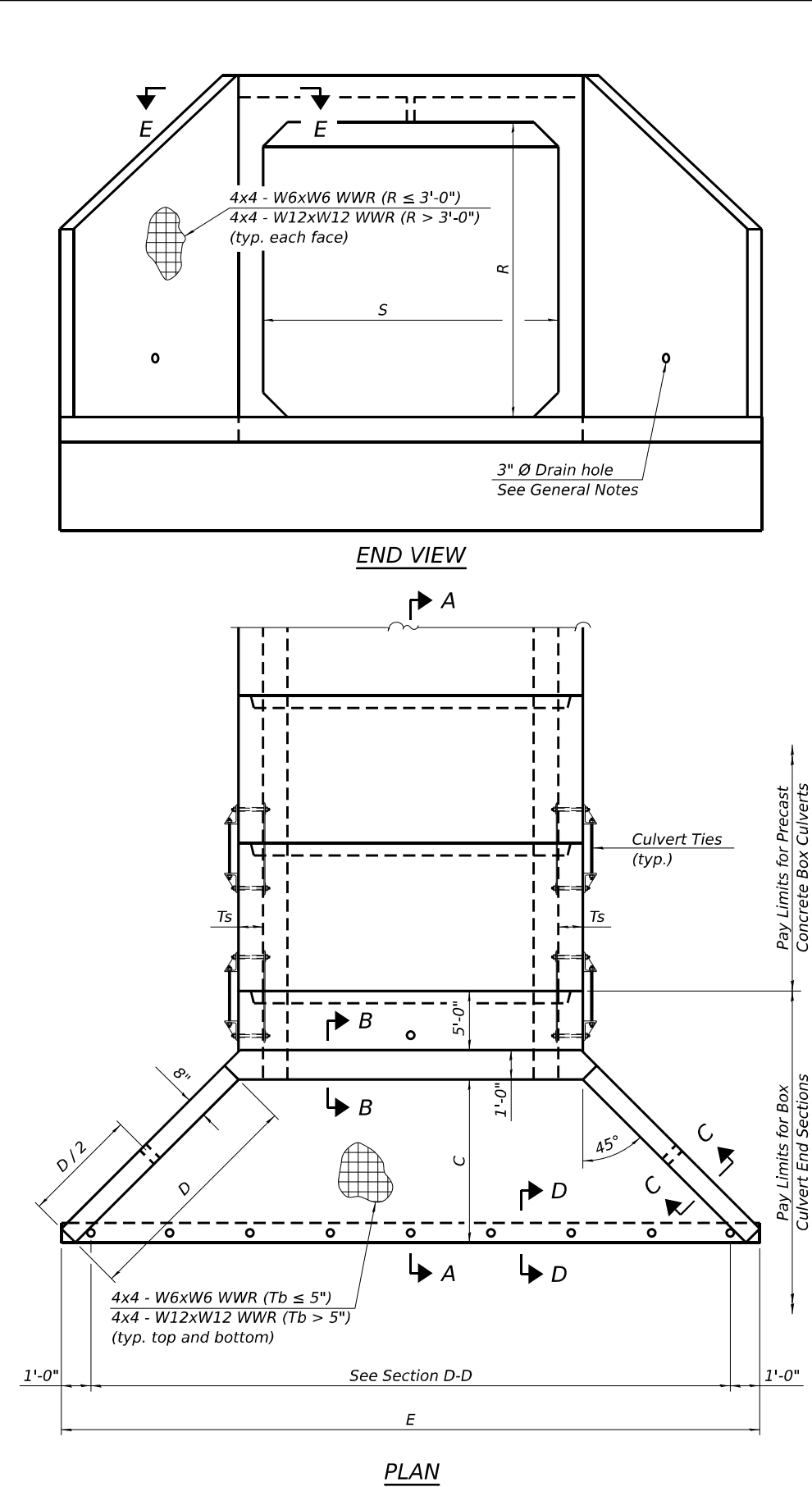
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE BOX CULVERT 10' X 4'

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

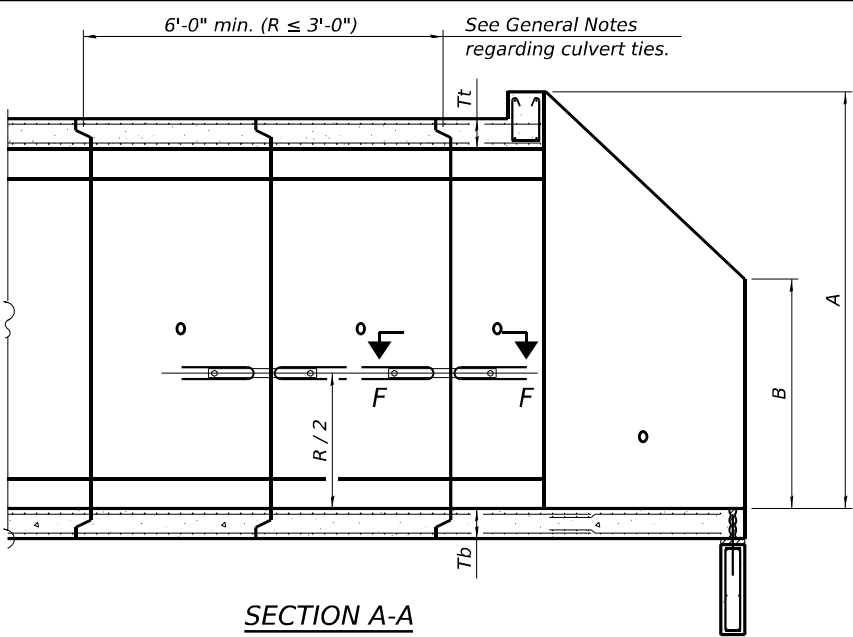
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
673	(112X)CLV-2	LIVINGSTON	23	16
				CONTRACT NO. 66R58
ILLINOIS FED. AID PROJECT				

MODEL: Default
FILE NAME: c:\pwwork\woodshank\td1095696\0366R56.dgn



SCB-AES

5-15-2023



SECTION A-A

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. End sections will be paid for at the contract unit price per each for Box Culvert End Sections.

The Contractor may furnish the end section as a single precast concrete piece or construct the end section in the field using cast-in-place (CIP) construction. For CIP construction, the bottom slab thickness shall be increased by 2" and the clear cover to the bottom mat of reinforcement shall be increased to 3".

Box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements for 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.

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 (R) less than or equal to 3 ft and a span (S) 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.

Shop drawings that detail slab thickness and reinforcement layout for the Box Culvert End Sections shall be provided to the Engineer for review and approval. Reinforcement bars not detailed herein shall be detailed with a clear distance at the end of the reinforcement not less than 1/2" nor more than 2". For the precast option, it shall be the Contractor's responsibility for determining a method of handling and a construction procedure shall be included on the shop drawings. The Contractor shall determine and detail in the shop drawings any necessary strengthening or stiffening provisions necessary to handle the precast segment. Any required modifications shall be at no extra charge.

The Contractor may use reinforcement bars in lieu of welded wire reinforcement (WWR). Reinforcement bars shall be limited to the sizes of #3 through #5 bars, a maximum spacing of the lesser of 8" or the member thickness, and shall result in an area of reinforcement equal to or greater than that provided by the WWR. Minimum lap lengths detailed herein are applicable to WWR and reinforcement bars.

Reinforcement (circumferential and longitudinal) in the culvert barrel portion of the end section being lapped with reinforcement from the wingwalls or bottom slab of the end section shall not be less than that required by ASTM C 1577 for the design fill height or the reinforcement detailed for the end section, whichever is greater.

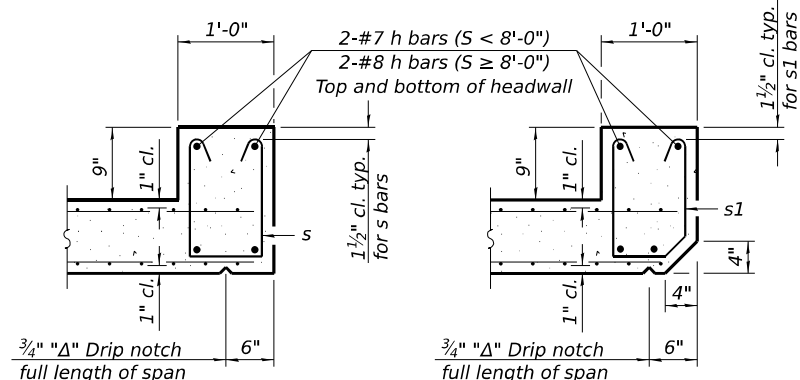
One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

APRON END SECTION DIMENSIONS

Span (S)	Rise (R)	Tt	Tb	Ts	A	B	C	D	E	Concrete Cu. Yd.	Culvert Ties Required
3'-0"	2'-0"	7"	6"	4"	3'-4"	2'-2"	2'-10 ⁵ / ₈ "	4'-1"	10'-4 ⁵ / ₈ "	2.8	Yes
3'-0"	2'-0"	4"	4"	4"	3'-1"	2'-1"	2'-7 ⁷ / ₈ "	3'-9"	9'-11"	2.3	Yes
3'-0"	3'-0"	7"	6"	4"	4'-4"	2'-8"	3'-10 ⁵ / ₈ "	5'-6"	12-4 ⁵ / ₈ "	3.7	Yes
3'-0"	3'-0"	4"	4"	4"	4'-1"	2'-7"	3'-7 ⁷ / ₈ "	5'-2"	11'-11"	3.1	Yes
4'-0"	2'-0"	7.5"	6"	5"	3'-4 ¹ / ₂ "	2'-2 ¹ / ₂ "	2'-11 ³ / ₈ "	4'-2"	11'-8"	3.3	Yes
4'-0"	2'-0"	5"	5"	5"	3'-2"	2'-1"	2'-8 ¹ / ₂ "	3'-10"	11'-2 ³ / ₈ "	2.8	Yes
4'-0"	3'-0"	7.5"	6"	5"	4'-4 ¹ / ₂ "	2'-8 ¹ / ₂ "	3'-11 ³ / ₈ "	5'-7"	13'-8 ¹ / ₈ "	4.2	Yes
4'-0"	3'-0"	5"	5"	5"	4'-2"	2'-7"	3'-8 ¹ / ₂ "	5'-3"	13'-2 ³ / ₈ "	3.7	Yes
4'-0"	4'-0"	7.5"	6"	5"	5'-4 ¹ / ₂ "	3'-2 ¹ / ₂ "	4'-11 ³ / ₈ "	7'-0"	15'-8 ¹ / ₈ "	5.3	Yes
4'-0"	4'-0"	5"	5"	5"	5'-2"	3'-1"	4'-8 ⁵ / ₈ "	6'-8"	15'-2 ¹ / ₂ "	4.7	Yes
5'-0"	2'-0"	8"	7"	6"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	12'-10"	3.9	Yes
5'-0"	2'-0"	6"	6"	6"	3'-3"	2'-2"	2'-10"	4'-0"	12'-7 ¹ / ₄ "	3.5	Yes
5'-0"	3'-0"	8"	7"	6"	4'-5"	2'-9"	3'-11 ³ / ₈	5'-7"	14'-10 ¹ / ₈ "	4.9	Yes
5'-0"	3'-0"	6"	6"	6"	4'-3"	2'-8"	3'-10"	5'-5"	14'-7 ¹ / ₄ "	4.5	Yes
5'-0"	4'-0"	8"	7"	6"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	16'-10 ¹ / ₈ "	6.1	Yes
5'-0"	4'-0"	6"	6"	6"	5'-3"	3'-2"	4'-9 ¹ / ₄ "	6'-9"	16'-5 ⁷ / ₈ "	5.5	Yes
5'-0"	5'-0"	8"	7"	6"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	18'-10 ¹ / ₈ "	7.4	Yes
5'-0"	5'-0"	6"	6"	6"	6'-3"	3'-8"	5'-9 ¹ / ₄ "	8'-2"	18'-5 ⁷ / ₈ "	6.8	Yes
6'-0"	2'-0"	8"	7"	7"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	14'-0"	4.3	Yes
6'-0"	2'-0"	7"	7"	7"	3'-4"	2'-2"	2'-10 ⁵ / ₈ "	4'-1"	13'-10 ⁵ / ₈ "	4.2	Yes
6'-0"	3'-0"	8"	7"	7"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	16'-0 ¹ / ₈ "	5.4	Yes
6'-0"	3'-0"	7"	7"	7"	4'-4"	2'-8"	3'-10 ⁵ / ₈ "	5'-6"	15'-10 ⁵ / ₈ "	5.2	Yes
6'-0"	4'-0"	8"	7"	7"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	18'-0 ¹ / ₈ "	6.5	Yes
6'-0"	4'-0"	7"	7"	7"	5'-4"	3'-2"	4'-10 ³ / ₄ "	6'-11"	17'-10 ³ / ₄ "	6.5	Yes
6'-0"	5'-0"	8"	7"	7"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	20'-0 ¹ / ₈ "	8.0	Yes
6'-0"	5'-0"	7"	7"	7"	6'-4"	3'-8"	5'-10 ³ / ₄ "	8'-4"	19'-10 ³ / ₄ "	7.8	Yes
6'-0"	6'-0"	8"	7"	7"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	22'-0 ¹ / ₄ "	9.5	Yes
6'-0"	6'-0"	7"	7"	7"	7'-4"	4'-2"	6'-10 ³ / ₄ "	9'-9"	21'-10 ³ / ₄ "	9.3	Yes
7'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	15'-2"	4.9	Yes
7'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	17'-2 ¹ / ₈ "	6.1	Yes
7'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	19'-2 ¹ / ₈ "	7.4	Yes
7'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	21'-2 ¹ / ₈ "	8.9	Yes
7'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	23'-2 ¹ / ₄ "	10.6	Yes
8'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	16'-2"	5.3	Yes
8'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	18'-2 ¹ / ₈ "	6.5	Yes
8'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	20'-2 ¹ / ₈ "	7.8	Yes
8'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	22'-2 ¹ / ₈ "	9.3	Yes
8'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	24'-2 ¹ / ₄ "	11.0	Yes
9'-0"	2'-0"	9"	9"	9"	3'-6"	2'-3"	3'-0 ³ / ₄ "	4'-4"	17'-6 ⁷ / ₈ "	6.2	Yes
9'-0"	3'-0"	9"	9"	9"	4'-6"	2'-9"	4'-0 ³ / ₄ "	5'-9"	19'-6 ⁷ / ₈ "	7.5	Yes
9'-0"	4'-0"	9"	9"	9"	5'-6"	3'-3"	5'-0 ³ / ₄ "	7'-2"	21'-6 ⁷ / ₈ "	9.0	Yes
9'-0"	5'-0"	9"	9"	9"	6'-6"	3'-9"	6'-0 ⁷ / ₈ "	8'-7"	23'-7"	10.6	Yes
9'-0"	6'-0"	9"	9"	9"	7'-6"	4'-3"	7'-0 ¹ / ₈ "	9'-11"	25'-5 ⁵ / ₈ "	12.4	Yes
10'-0"	2'-0"	10"	10"	10"	3'-7"	2'-4"	3'-1 ¹ / ₂ "	4'-5"	18'-10 ¹ / ₄ "	7.1	No
10'-0"	3'-0"	10"	10"	10"	4'-7"	2'-10"	4'-1 ¹ / ₂ "	5'-10"	20'-10 ¹ / ₄ "	8.6	No
10'-0"	4'-0"	10"	10"	10"	5'-7"	3'-4"	5'-1 ¹ / ₂ "	7'-3"	22'-10 ³ / ₈ "	10.2	Yes
10'-0"	5'-0"	10"	10"	10"	6'-7"	3'-10"	6'-1 ¹ / ₂ "	8'-8"	24'-10 ³ / ₈ "	12.0	Yes
10'-0"	6'-0"	10"	10"	10"	7'-7"	4'-4"	7'-1 ¹ / ₂ "	10'-1"	26'-10 ³ / ₈ "	13.9	Yes
11'-0"	2'-0"	11"	11"	11"	3'-8"	2'-4"	3'-2 ¹ / ₈ "	4'-7"	20'-3 ¹ / ₈ "	8.2	No
11'-0"	3'-0"	11"	11"	11"	4'-8"	2'-10"	4'-2 ¹ / ₈ "	6'-0"	22'-3 ¹ / ₈ "	9.8	No
11'-0"	4'-0"	11"	11"	11"	5'-8"	3'-4"	5'-2 ¹ / ₄ "	7'-4"	24'-1 ³ / ₄ "	11.5	Yes
11'-0"	5'-0"	11"	11"	11"	6'-8"	3'-10"	6'-2 ¹ / ₄ "	8'-9"	26'-1 ³ / ₄ "	13.3	Yes
11'-0"	6'-0"	11"	11"	11"	7'-8"	4'-4"	7'-2 ¹ / ₄ "	10'-2"	28'-1 ⁷ / ₈ "	15.5	Yes
12'-0"	2'-0"	12"	12"	12"	3'-9"	2'-5"	3'-3 ⁵ / ₈ "	4'-8"	21'-6 ¹ / ₂ "	9.3	No
12'-0"	3'-0"	12"	12"	12"	4'-9"	2'-11"	4'-3 ⁵ / ₈ "	6'-1"	23'-6 ¹ / ₂ "	11.1	No
12'-0"	4'-0"	12"	12"	12"	5'-9"	3'-5"	5'-3 ⁵ / ₈ "	7'-6"	25'-6 ⁵ / ₈ "	13.0	Yes
12'-0"	5'-0"	12"	12"	12"	6'-9"	3'-11"	6'-3 ⁵ / ₈ "	8'-11"	27'-6 ⁵ / ₈ "	14.1	Yes
12'-0"	6'-0"	12"	12"	12"	7'-9"	4'-5"	7'-3 ⁵ / ₈ "	10'-4"	29'-6 ⁵ / ₈ "	17.4	Yes

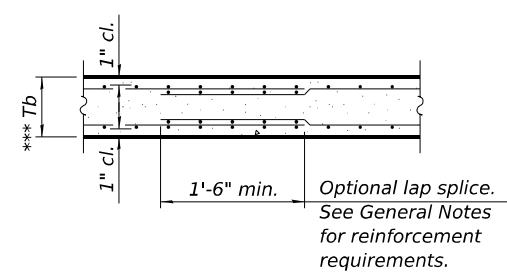
Note:
Two sets of apron end section dimensions are shown above for some box culvert sizes due to the top and bottom slabs having different thicknesses per ASTM C 1577 for design fill heights less than 2 ft.

	USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PRECAST CONCRETE BOX CULVERT APRON END SECTION				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RW	REVISED -						673	(112X)CLV-2	LIVINGSTON	23	17
		CHECKED - JS	REVISED -		CONTRACT NO. 66R58								
	PLOT DATE = 6/21/2025	DATE - 4/5/2025	REVISED -										
					SCALE:	SHEET 1	OF 2	SHEETS	STA.	TO STA.			
									ILLINOIS FED. AID PROJECT				



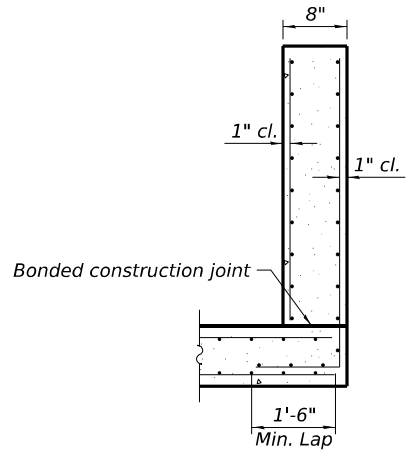
SECTION B-B
(Top slab at downstream end)

SECTION B-B
(Top slab at upstream end)

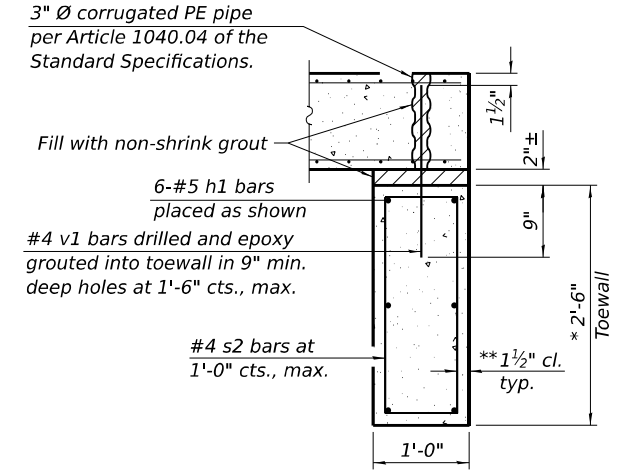


SECTION B-B
(Bottom Slab)

*** This dimension shall be increased by 2" for CIP construction.



SECTION C-C



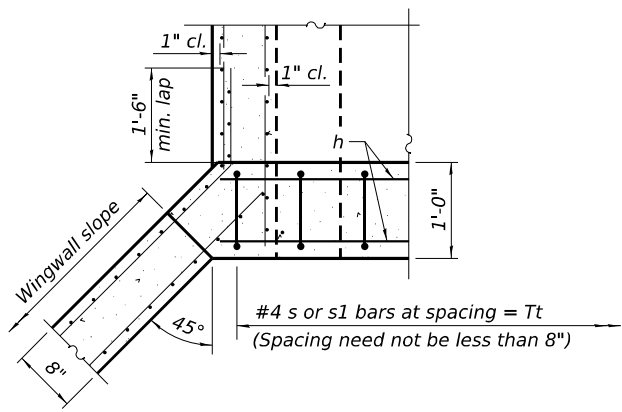
SECTION D-D

TOEWALL CONSTRUCTION SEQUENCE

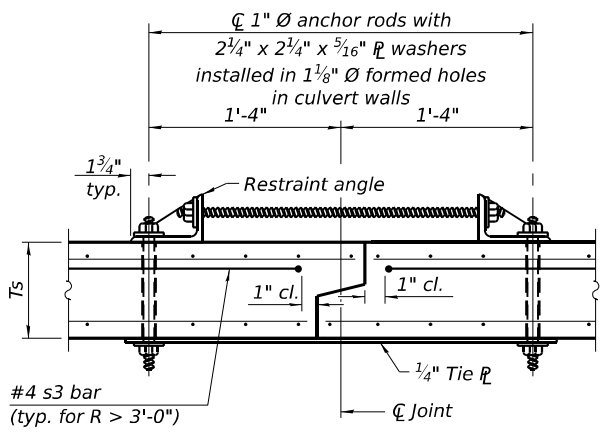
1. Perform excavation and construct toewall.
2. Backfill accordingly and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids 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 method.

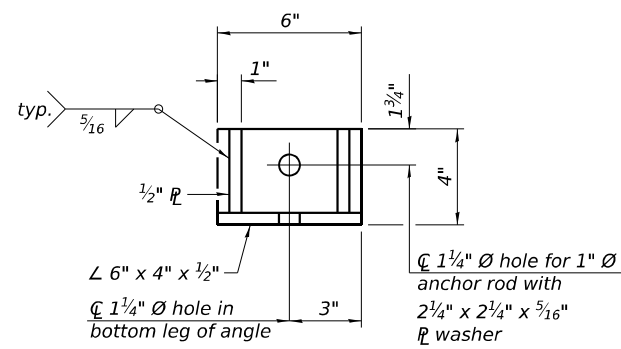
** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.



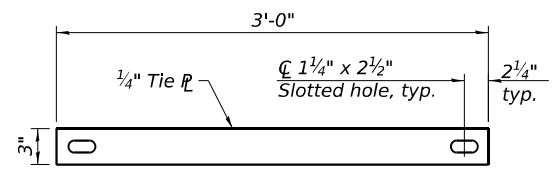
SECTION E-E



SECTION F-F
(Showing culvert tie details)

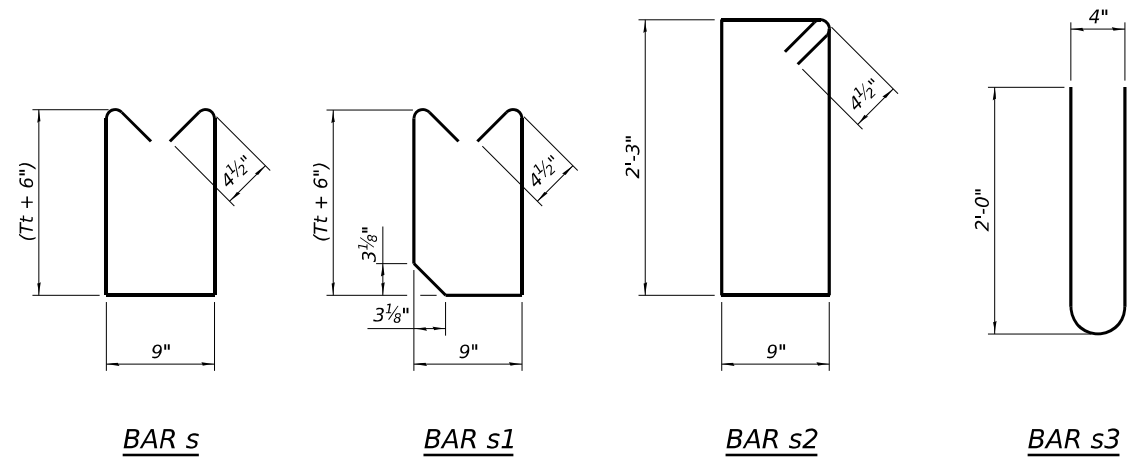


RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL

Notes:
1" Ø anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for the 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"x2 1/4"x5/16" 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.



BAR s

BAR s1

BAR s2

BAR s3

SCB-AES

5-15-2023

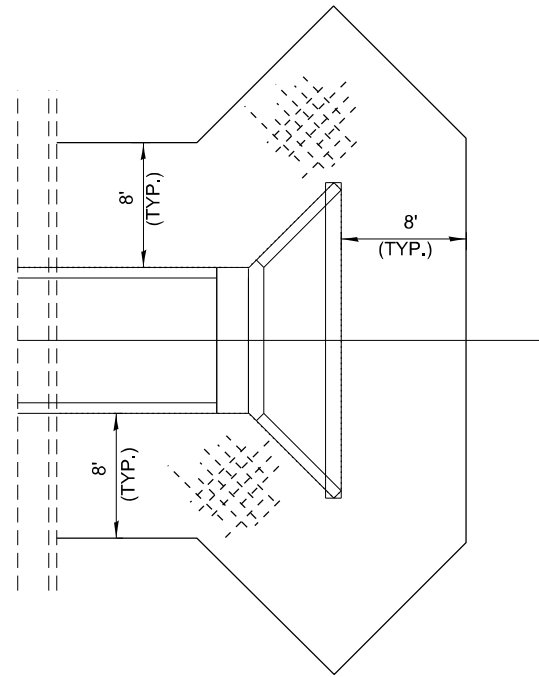
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE BOX CULVERT APRON END SECTION

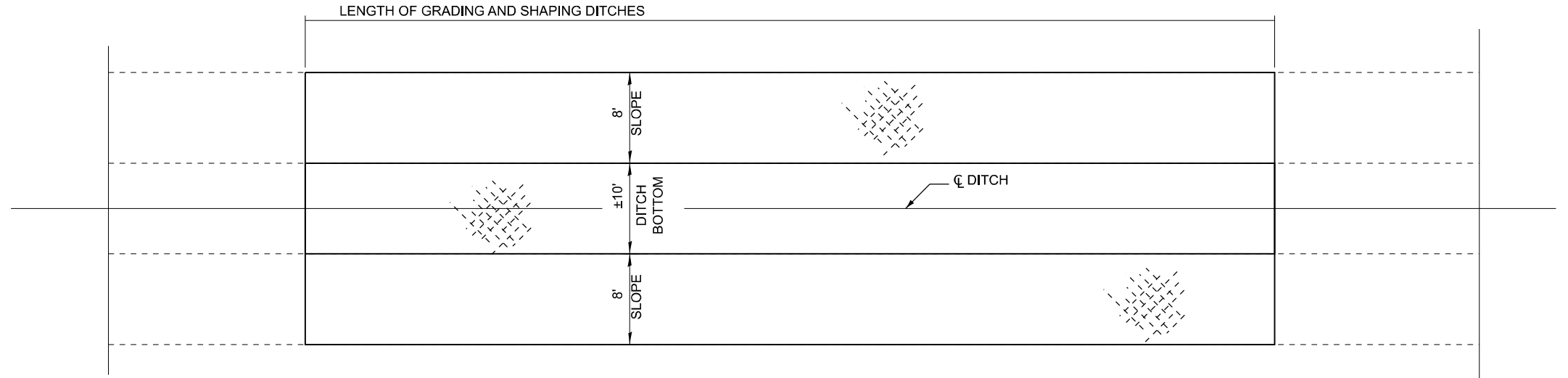
SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
673	(112X)CLV-2	LIVINGSTON	23	18
CONTRACT NO. 66R58				
ILLINOIS FED. AID PROJECT				

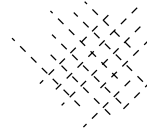
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AT END SECTION



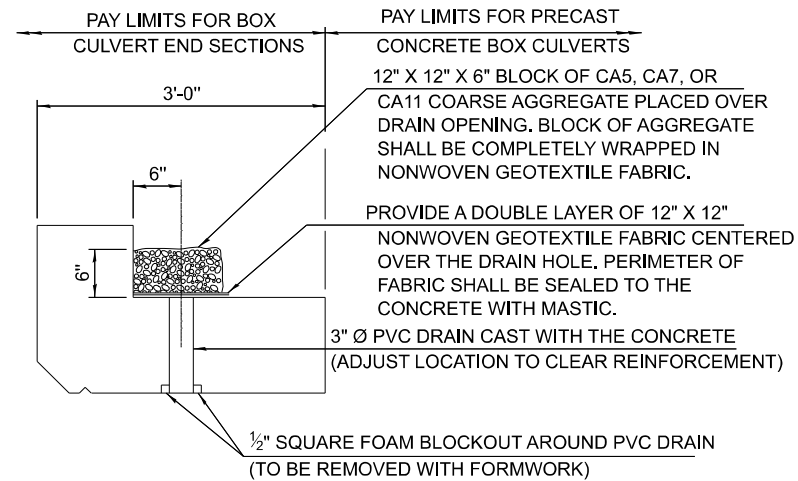
LEGEND



HEAVY DUTY EROSION CONTROL BLANKET

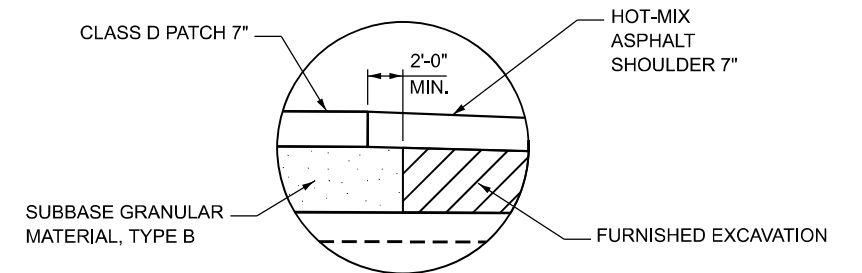
AT GRADING AND SHAPING DITCH LOCATIONS

EROSION CONTROL BLANKET AT PRECAST CONCRETE BOX CULVERTS END SECTIONS AND DITCH CLEANING AREAS

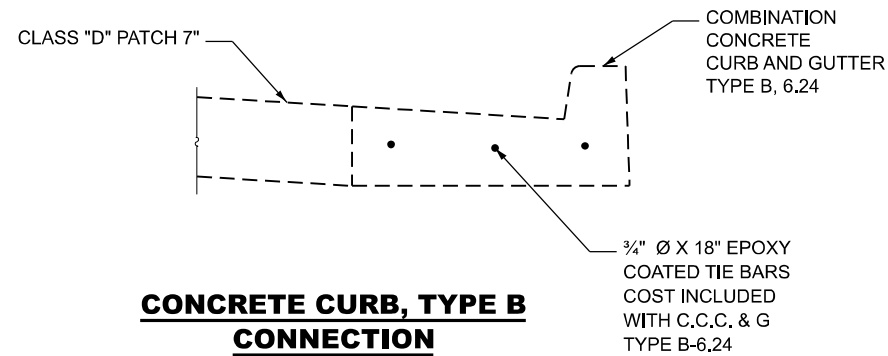


DRAIN DETAIL

(ALL COSTS ASSOCIATED WITH FURNISHING AND CONSTRUCTING THE ABOVE DRAIN DETAIL WILL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE ASSOCIATED WORK.)



SHOULDER DETAIL



CONCRETE CURB, TYPE B CONNECTION

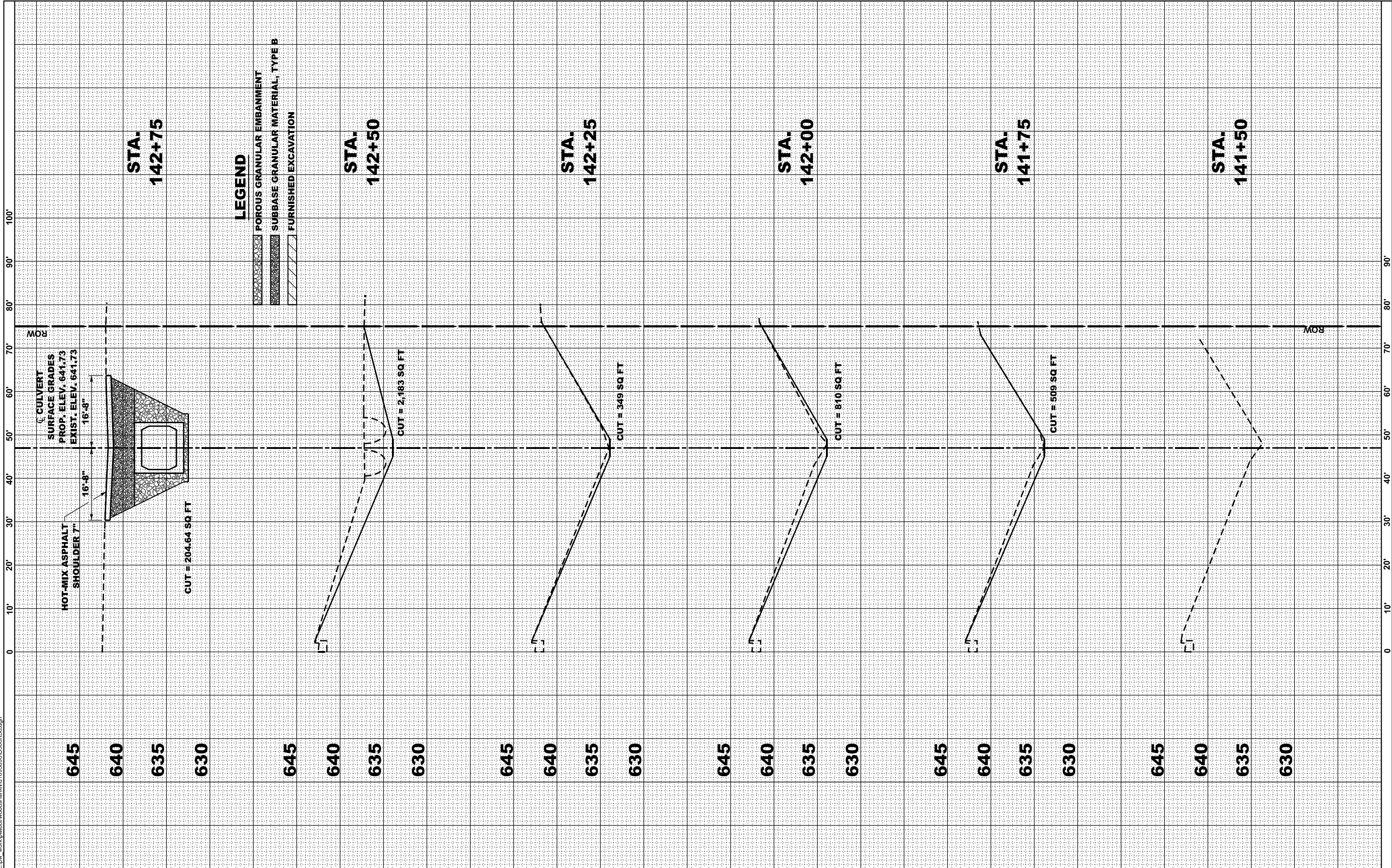
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	USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MISCELLANEOUS DETAILS			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RW	REVISED -					673	(112X)CLV-2	LIVINGSTON	23	19
		CHECKED - JS	REVISED -					CONTRACT NO. 66R58				
	PLOT DATE = 6/21/2025	DATE - 4/5/2025	REVISED -		SCALE:	SHEET 1 OF 1 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE

ORIGINAL SURVEY	NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE

MODEL: Default
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PLOT DATE	USER NAME = ronald.woodshank		DESIGNED - RW	REVISED -
			DRAWN - RW	REVISED -
			CHECKED - JS	REVISED -
	DATE = 6/21/2025		DATE - 4/5/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

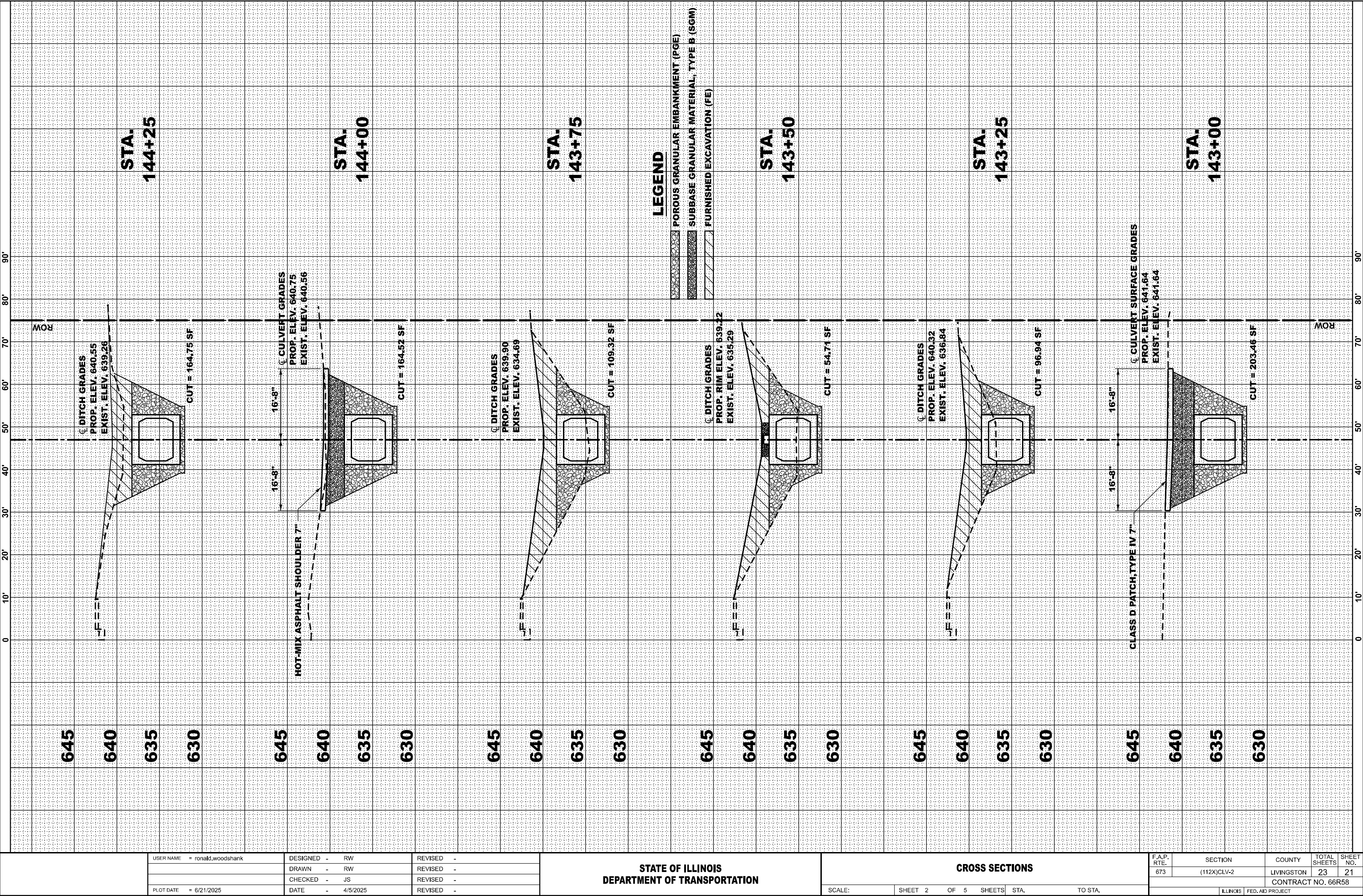
SCALE: SHEET 1 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
673	(112X)CLV-2	LIVINGSTON	23	20
CONTRACT NO. 66R58				
ILLINOIS		FED. AID PROJECT		

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

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

MODEL: Default
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USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -
	DRAWN - RW	REVISED -
	CHECKED - JS	REVISED -
PLOT DATE = 6/21/2025	DATE - 4/5/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

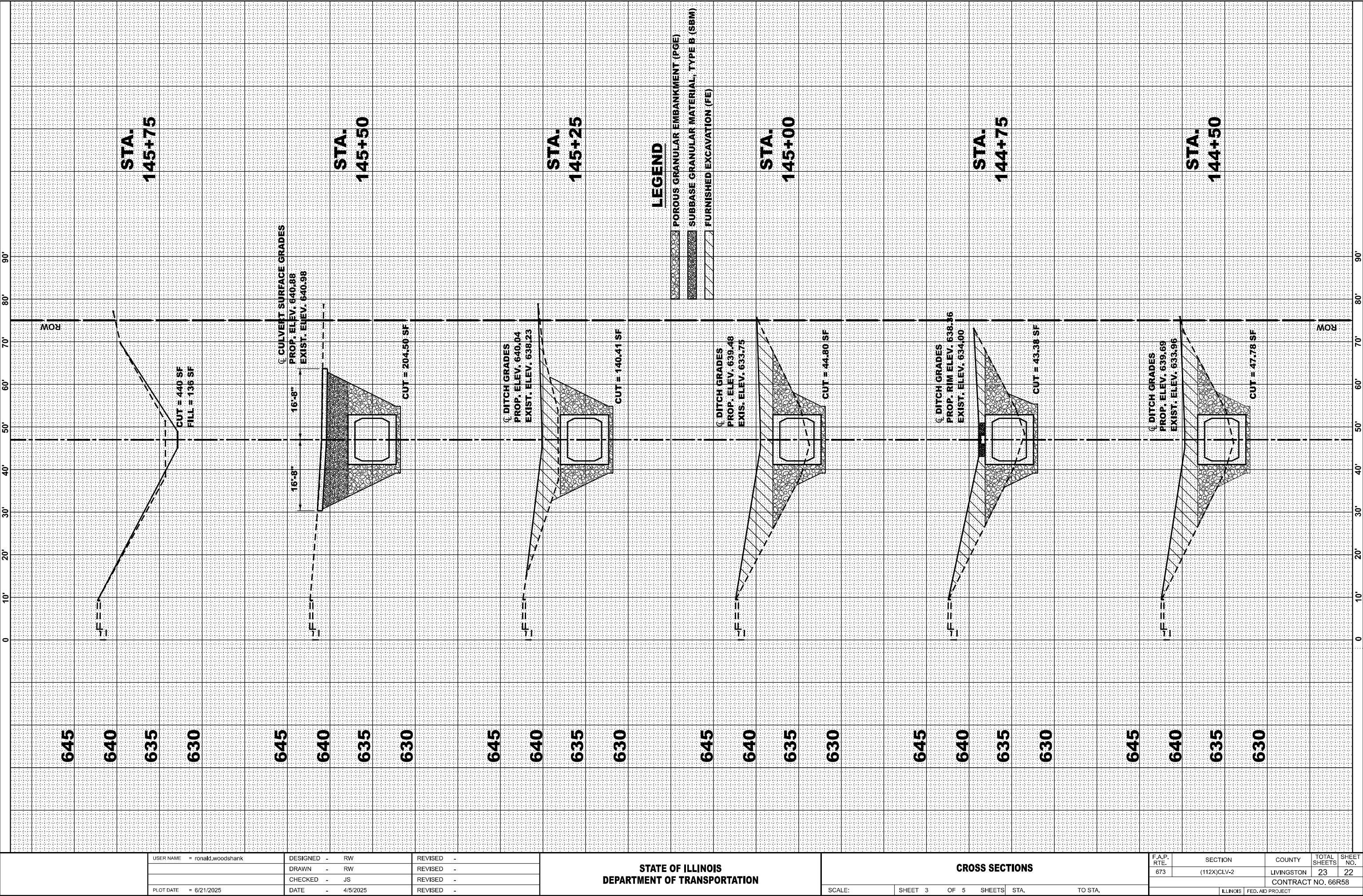
SCALE: SHEET 2 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
673	(112X)CLV-2	LIVINGSTON	23	21
CONTRACT NO. 66R58				
ILLINOIS FED. AID PROJECT				

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

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

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USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -
	DRAWN - RW	REVISED -
	CHECKED - JS	REVISED -
	DATE - 4/5/2025	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
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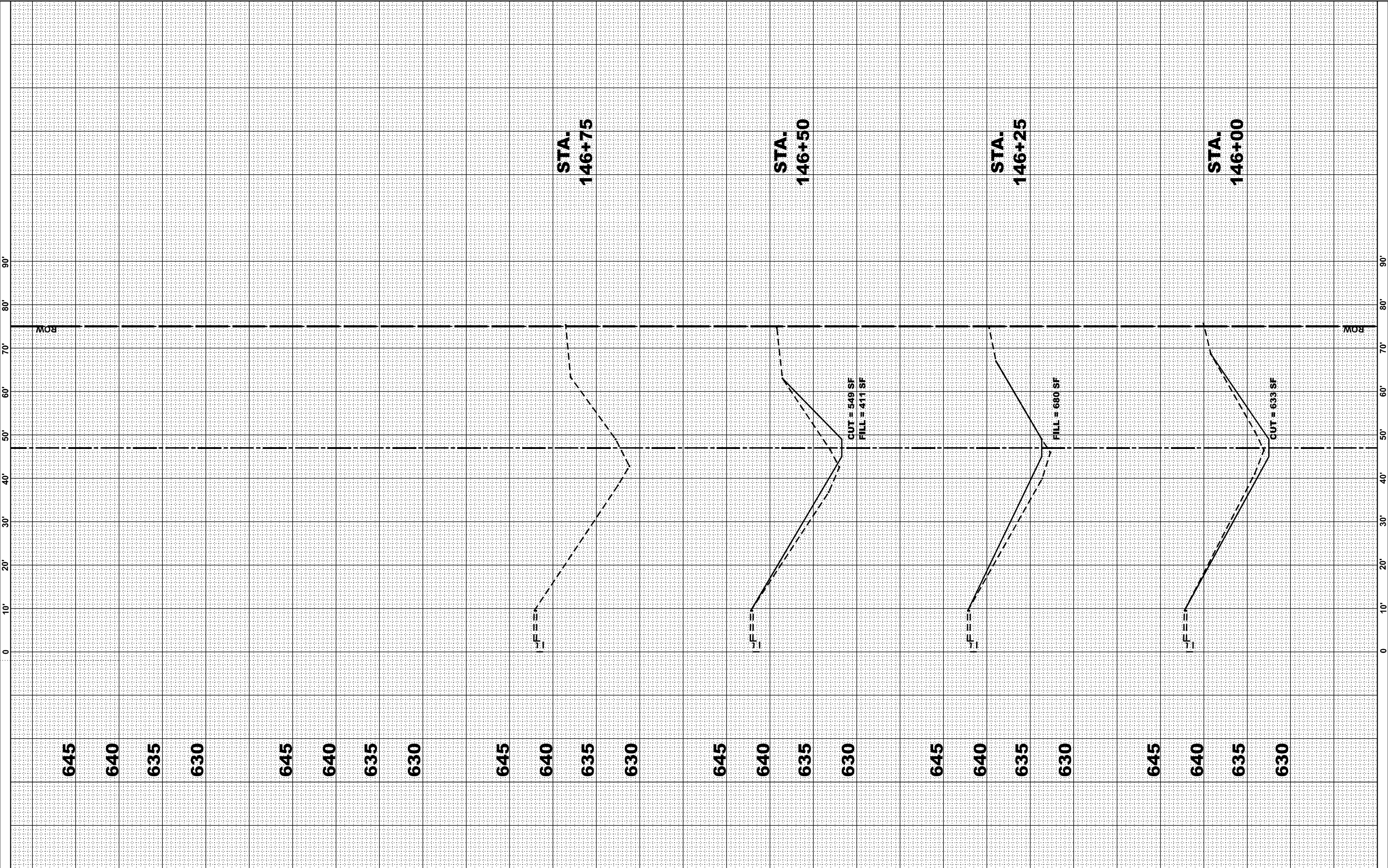
CROSS SECTIONS			
SCALE:	SHEET 3	OF 5	SHEETS
STA.		TO STA.	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
673	(112X)CLV-2	LIVINGSTON	23	22
CONTRACT NO. 66R58				
ILLINOIS FED. AID PROJECT				

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

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

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PLOT DATE = 6/21/2025	USER NAME = ronald.woodshank	DESIGNED - RW	REVISED -
		DRAWN - RW	REVISED -
		CHECKED - JS	REVISED -
		DATE - 4/5/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: SHEET 4 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
673	(112X)CLV-2	LIVINGSTON	23	23
CONTRACT NO. 66R58				
ILLINOIS		FED. AID PROJECT		

LIVINGSTON CONTRACT NO. 66R58

ILLINOIS FED. AID PROJECT