

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
170	23-10121-00-BR	HANCOCK	16	1

ILLINOIS CONTRACT NO. 93822

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
LOCAL BRIDGE FORMULA PROGRAM
HARMONY ROAD DISTRICT
SECTION 23-10121-00-BR
T.R. 170 (1900E)
HANCOCK COUNTY
FEDERAL PROJ. NO.: DEN1(958)
JOB NO.: C-96-007-25

INDEX OF SHEETS

- 1 COVER SHEET
- 2 SUMMARY OF QUANTITIES /GENERAL NOTES
- 3 SCHEDULE OF QUANTITIES
- 4 TYPICAL SECTIONS
- 5 HORIZONTAL CONTROL
- 6 PLAN AND PROFILE
- 7 TRAFFIC CONTROL PLAN
- 8-12 STRUCTURE PLANS
- 13-16 CROSS SECTIONS

ILLINOIS HIGHWAY STANDARDS

000001-08	701006-05	729001-01
280001-07	701011-04	BLR 21-9
515001-04	701901-09	
701001-02	725001-01	

DESIGN DESIGNATION

TR 170 (1900E)
 FUNCTIONAL CLASS: LOCAL ROAD
 ADT = 50 (2018) 50 (2046)
 DESIGN SPEED = 30 MPH

UTILITIES

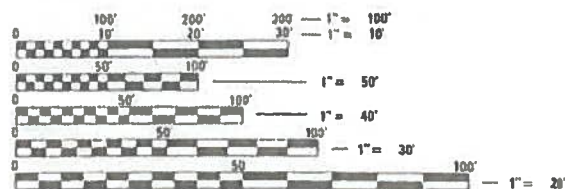
DALLAS RURAL WATER DISTRICT
 RODNEY PENCE
 (309) 337-0435
 RODNEY.PENCE@YAHOO.COM

FRONTIER COMMUNICATIONS
 KALIN HINSHAW
 (815) 895-1515
 KALIN.HINSHAW@FTR.COM

PROJECT DESCRIPTION

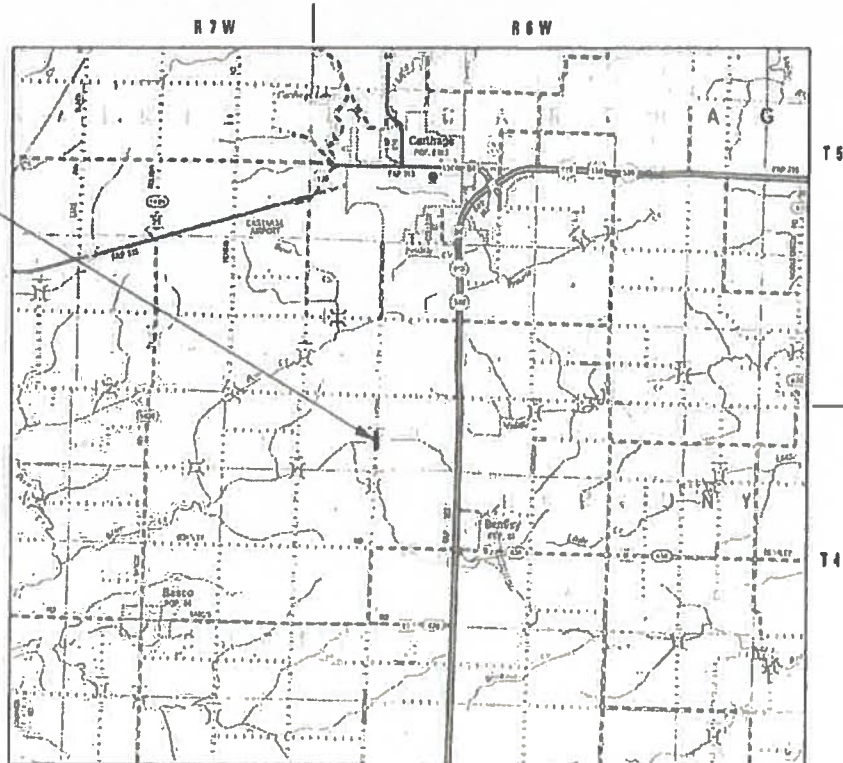
Project consists of removing existing structure number 034-4400, a single-span reinforced concrete slab bridge on closed concrete abutments and concrete footings carrying T.R. 170 over Big Meadow Ditch and constructing a new double barrel 12'x7' reinforced concrete box culvert with horizontal cantilever wingwalls. The back to back length will be 26'-2" and the out to out width will be 32'-0". Additional work includes aggregate pavement removal and replacement, earth excavation, seeding, riprap, and other miscellaneous items.

J.U.L.I.E.
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
 1-800-882-0123
 OR 811



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.

BEGIN STA. 1+60.00
 PROPOSED S.N. 034-4401
 STA. 1+90.00
 PROPOSED DOUBLE 12'x7' REINFORCED CONCRETE BOX CULVERT
 LENGTH IS 32'-0"
 END STA 2+20.00



LOCATION MAP

SCALE: 1" = 8500'
 GROSS /NET LENGTH OF SECTION = 60.00 FT. = 0.011 MILE



RYAN J. PHELPS
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF ILLINOIS NO. 062-063007
 LICENSE EXPIRES NOVEMBER 30, 2025
 DATE: 5-6-2024



LOCATION OF SECTION INDICATED THUS: -

APPROVED 5/14/24
 Elgin Berry COUNTY ENGINEER

APPROVED 5-15/24
 Mark Harmon HARMONY ROAD DISTRICT HIGHWAY COMMISSIONER

APPROVED May 24/24
 District Six Engineer of Local Roads & Streets

Releasing For Bid Based on Limited Review May 24/24
 Region Four Engineer

Plans prepared by:
KLINGNER & ASSOCIATES, P.C.
 Engineers • Architects • Surveyors

Quincy, Illinois
 616 North 24th Street
 217.223.3670
 IL DESIGN FIRM NO.: 1842738

www.klingner.com
 Galena, IL Burlington, IA
 Peña, IA Hannibal, MO Columbia, MO

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	180
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	67
20300100	CHANNEL EXCAVATION	CU YD	60
20400800	FURNISHED EXCAVATION	CU YD	75
20700110	POROUS GRANULAR EMBANKMENT	TON	101
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	110
25000200	SEEDING, CLASS 2	ACRE	0.25
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	23
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	23
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	23
25000700	AGRICULTURAL GROUND LIMESTONE	TON	0.5
25100115	MULCH, METHOD 2	ACRE	0.25
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	50
28000400	PERIMETER EROSION BARRIER	FOOT	280
28000500	INLET AND PIPE PROTECTION	EACH	1
28100207	STONE RIPRAP, CLASS A4	TON	90
28200200	FILTER FABRIC	SQ YD	112
35100100	AGGREGATE BASE COURSE, TYPE A	TON	94
35101400	AGGREGATE BASE COURSE, TYPE B	TON	24
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	28
50200100	STRUCTURE EXCAVATION	CU YD	169
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	26,570
51500100	NAME PLATES	EACH	1
54003000	CONCRETE BOX CULVERTS	CU YD	108.6
542D0229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	50
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	101
67100100	MOBILIZATION	L SUM	1
+ 72500300	OBJECT MARKER - TYPE 3	EACH	4
+ 72900100	METAL POST - TYPE A	FOOT	46
Z0013798	CONSTRUCTION LAYOUT	L SUM	1
Z0054500	ROCK FILL	TON	134
X5810103	MEMBRANE WATERPROOFING FOR BURIED STRUCTURES	SQ YD	101
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1

+ SPECIALTY ITEMS

GENERAL NOTES

1. THE NOMINAL THICKNESS FOR BASE AND SURFACE COURSES ARE SHOWN ON THE TYPICAL SECTIONS, STANDARDS, SCHEDULES, OR SPECIAL DETAILS. THE CONSTRUCTED THICKNESS OF THE ABOVE ITEMS SHALL NOT BE LESS THAN 90 PERCENT OF THE NOMINAL THICKNESS AT ANY LOCATION.
2. WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER AND AN AUTHORIZED SURVEYOR OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
3. UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION, AND THEIR TRUE LOCATION IS NOT GUARANTEED TO BE AS SHOWN ON THE PLANS. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND CARRY OUT HIS OR HER OPERATIONS ACCORDINGLY.
4. ADJUSTMENTS OF UTILITY LOCATIONS SHALL BE MADE BY THE OWNER, UNLESS OTHERWISE NOTED.
5. ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION, AS INDICATED BY THE SUB-NUMBER ON THE COVER SHEET.
6. ALL DETAILS IN THESE PLANS SHALL GOVERN THE CONSTRUCTION OF THIS PROJECT, AND IN CASE OF CONFLICT WITH ANY STANDARD DRAWINGS INCLUDED, THE SAID DETAILS SHALL GOVERN.
7. THE EXISTING ROAD SIGNS THAT INTERFERE WITH CONSTRUCTION SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS PART OF THE CONTRACT AND NO COMPENSATION WILL BE ALLOWED.
8. IN ACCORDANCE WITH STATE OF ILLINOIS P.A. 86-0674, THE CONTRACTOR IS TO NOTIFY ALL UTILITY COMPANIES NOT MORE THAN 14 DAYS NOR LESS THAN 48 HOURS (EXCLUSIVE OF SATURDAYS, SUNDAYS, AND HOLIDAYS) IN ADVANCE OF THE START OF EXCAVATION OR DEMOLITION.

J.U.L.I.E TELEPHONE NUMBER
1-800-892-0123

RATES OF APPLICATION TABLE

AGGREGATE (SURFACE, BASE, BASE, OR BACKFILL)	2.05 TON/CU YD
STONE RIPRAP	1.75 TON/CU YD
POROUS GRANULAR EMBANKMENT	1.80 TON/CU YD

SEEDING AREAS:	
NITROGEN FERTILIZER NUTRIENT	90 LBS/ACRE
PHOSPHOROUS FERTILIZER NUTRIENT	90 LBS/ACRE
POTASSIUM FERTILIZER NUTRIENT	90 LBS/ACRE
AGRICULTURAL GROUND LIMESTONE	2 TON/ACRE
MULCH	2 TON/ACRE
TEMPORARY EROSION CONTROL SEEDING	100 LBS/ACRE

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KLINGNER & ASSOCIATES, P.C.
Engineers • Architects • Surveyors
616 N. 24TH ST. QUINCY, ILLINOIS 62301 217.223.3670
STATE OF ILLINOIS DESIGN FIRM NO. 184-2739

USER NAME = rjp	DESIGNED - RJP	REVISED -
	DRAWN - RJP	REVISED -
PLOT SCALE = 48,0000' / in.	CHECKED - EBB	REVISED -
PLOT DATE = 5/6/2024	DATE -	REVISED -

**HANCOCK COUNTY
HIGHWAY DEPARTMENT**

**TR 170 (1900E) OVER BIG MEADOW DITCH
SUMMARY OF QUANTITIES /GENERAL NOTES**

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

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
170	23-10121-00-BR	HANCOCK	16	2
CONTRACT NO. 93822			ILLINOIS FED. AID PROJECT	

SEEDING SCHEDULE

ITEM	UNIT	TOTAL
SEEDING, CLASS 2	ACRE	0.25
NITROGEN FERTILIZER NUTRIENT	POUND	23
PHOSPHORUS FERTILIZER NUTRIENT	POUND	23
POTASSIUM FERTILIZER NUTRIENT	POUND	23
AGRICULTURAL GROUND LIMESTONE	TON	0.5
MULCH, METHOD 2	ACRE	0.25

EARTH EXCAVATION SCHEDULE

LOCATION STATION TO STATION	SIDE	EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED (25%)	EMBANKMENT	EARTHWORK BALANCE
TR 170 (1900E)					
1+35.0	1+75.0	LT & RT	80	60	96 (36)
2+05.0	2+45.0	LT & RT	100	75	111 (36)
TOTALS			180	135	207 (72)
USE			180	135	210 (75)

ROADWAY SURFACE SCHEDULE

LOCATION STATION TO STATION	SIDE	SURFACE WIDTH	AGG BASE COURSE, TYPE A	
			TON	
TR 170 (1900E)				
1+60.0	1+76.9	LT & RT	18.0	23.1
1+76.9	2+03.1	LT & RT	18.0	47.7
2+03.1	2+20.0	LT & RT	18.0	23.1
TOTAL			93.9	
USE			94	

RIPRAP SCHEDULE

LOCATION STATION TO STATION	SIDE	WIDTH	STONE RIPRAP, CLASS A4	FILTER FABRIC
			TON	SQ YD
TR 170 (1900E)				
1+60.0	2+20.0	LT	VARIES	43.2 55.6
1+60.0	2+20.0	RT	VARIES	43.2 55.6
TOTALS			86	111.2
USE			90	112

EROSION CONTROL SCHEDULE

ITEM	UNIT	TOTAL
TEMPORARY EROSION CONTROL SEEDING	POUND	50
PERIMETER EROSION BARRIER	FOOT	280
INLET AND PIPE PROTECTION	EACH	1

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

PIPE CULVERT SCHEDULE

LOCATION STATION TO STATION	SIDE	PIPE CULVERTS, CLASS D, TYPE 1 24"	
		FOOT	
TR 170 (1900E)			
1+24.4	1+74.4	LT	50.0
TOTAL		50.0	
USE		50	

SIGNING SCHEDULE

STATION	SIDE	OFFSET	OBJECT MARKERS - TYPE 3	METAL POST - TYPE A
			EACH	FOOT
TR 170 (1900E)				
1+75.0	RT	15.0'	1	11.5
1+75.0	LT	15.0'	1	11.5
2+05.0	RT	15.0'	1	11.5
2+05.0	LT	15.0'	1	11.5
TOTALS			4	46.0
USE			4	46

CHANNEL EXCAVATION

LOCATION STATION TO STATION	SIDE	CHANNEL EXCAVATION	
		CU YD	
TR 170 (1900E)			
1+80.0	2+00.0	LT & RT	59.7
TOTAL			59.7
USE			60

THIS SCHEDULE ACCOUNTS FOR THE AREA ABOVE REMOVAL OF UNSUITABLE MATERIAL AND RIPRAP EXCAVATION.

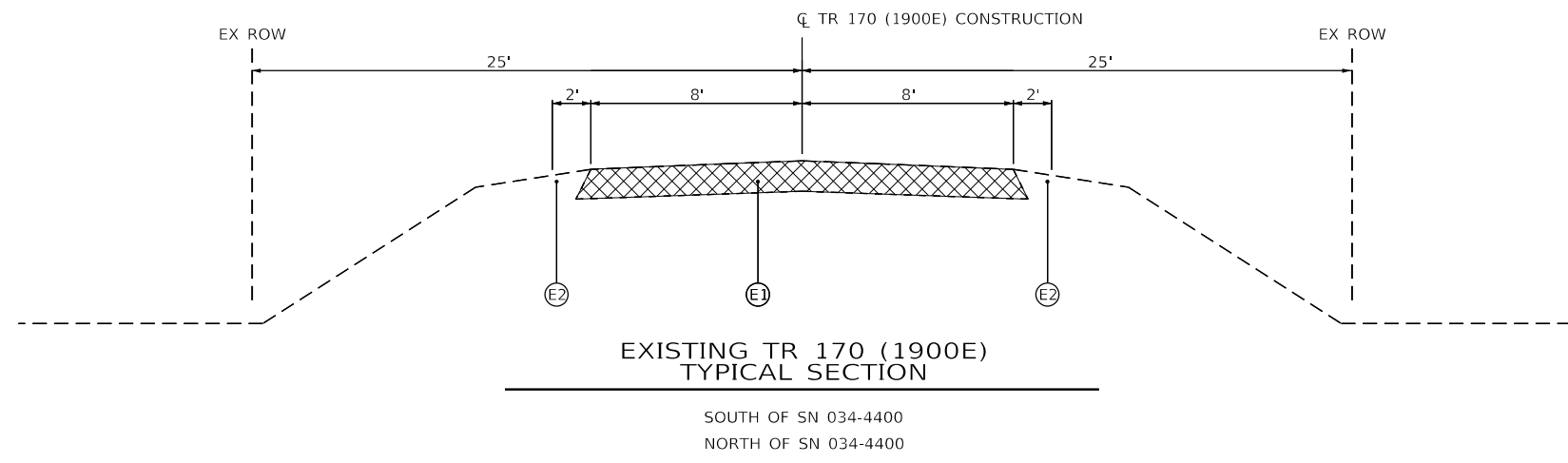
ENTRANCE SCHEDULE

LOCATION STATION	SIDE	SURFACE WIDTH	AGG BASE COURSE, TYPE B	
			TON	
TR 170 (1900E)				
1+44.7	LT	20.0	23.2	
TOTAL			23.2	
USE			24	

PIPE CULVERT REMOVAL

STATION	SIDE	DESCRIPTION	FOOT
TR 170 (1900E)			
1+43	LT	24" CMP	28.0
TOTAL			28

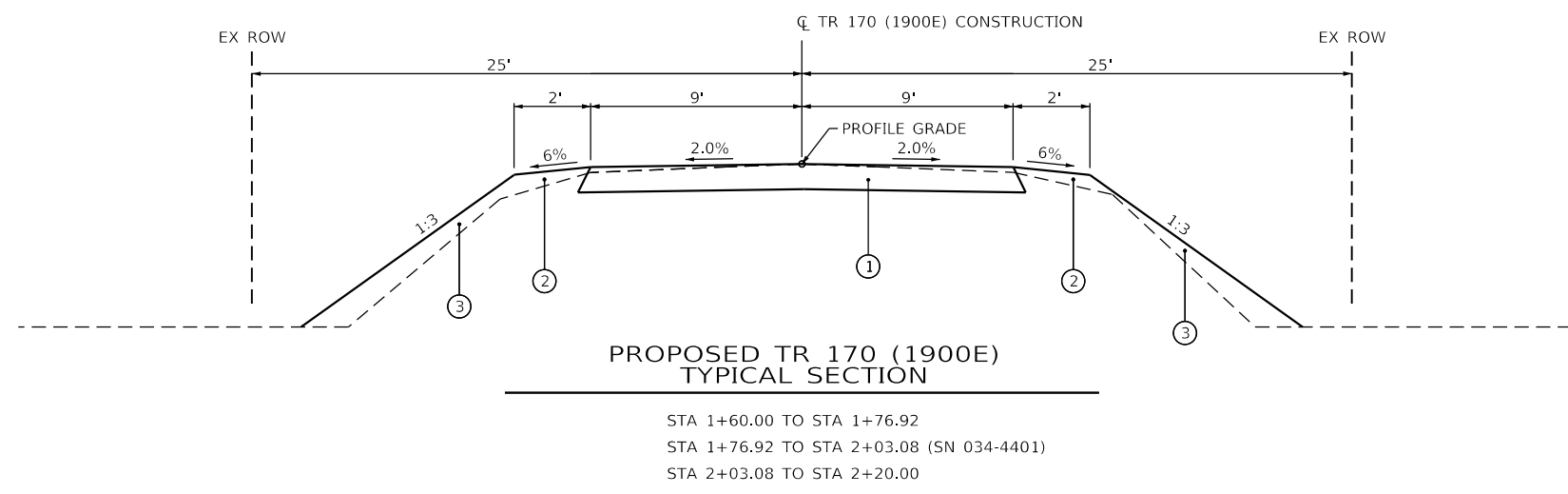
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EXISTING TR 170 (1900E)
TYPICAL SECTION

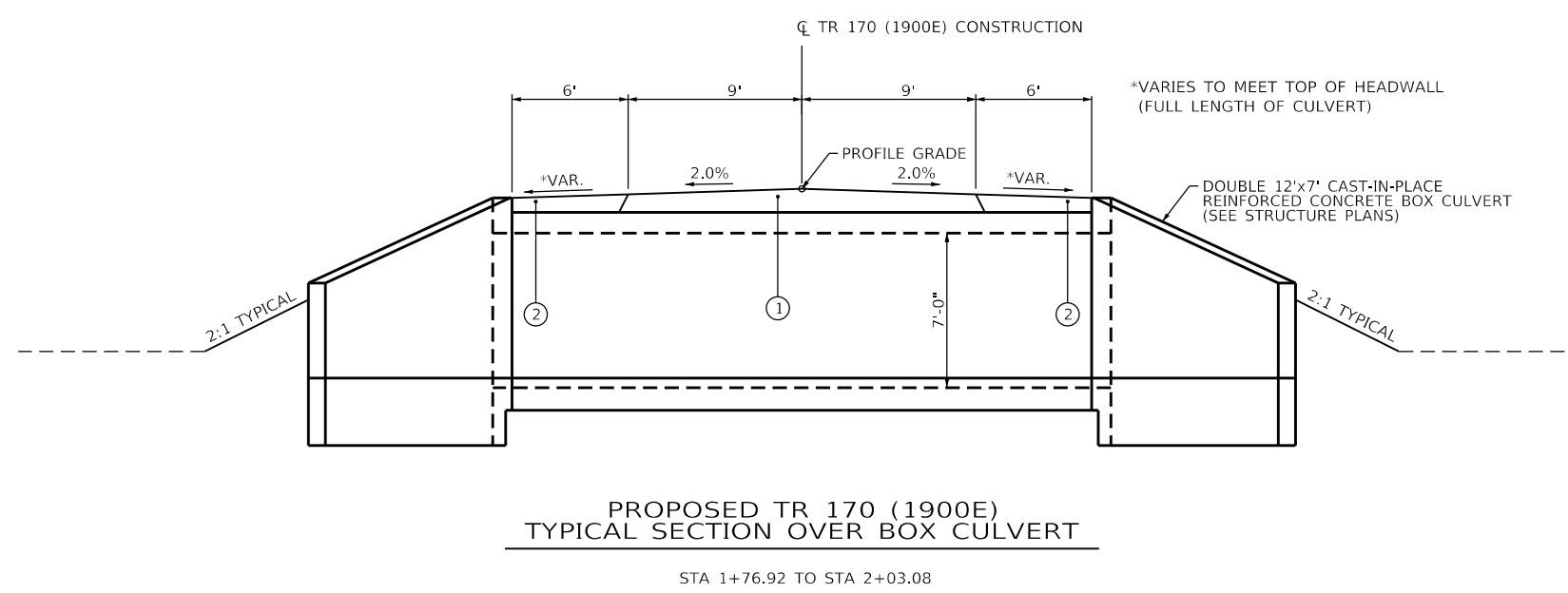
SOUTH OF SN 034-4400
NORTH OF SN 034-4400

- LEGEND**
- Ⓔ1 EXISTING AGG BSE CSE, 12"
 - Ⓔ2 EXISTING EARTH SHOULDER
 - ① PROPOSED AGGREGATE BASE COURSE, TYPE A 12" (& VARIES OVER SN 034-4401)
 - ② PROPOSED EARTH SHOULDER
 - ③ PROPOSED EARTH EMBANKMENT
 - ⊠ EXISTING AGGREGATE SURFACE TO BE REMOVED (INCLUDED IN COST OF EARTH EXCAVATION)



PROPOSED TR 170 (1900E)
TYPICAL SECTION

STA 1+60.00 TO STA 1+76.92
STA 1+76.92 TO STA 2+03.08 (SN 034-4401)
STA 2+03.08 TO STA 2+20.00



PROPOSED TR 170 (1900E)
TYPICAL SECTION OVER BOX CULVERT

STA 1+76.92 TO STA 2+03.08

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KLINGNER & ASSOCIATES, P.C.
Engineers • Architects • Surveyors
616 N. 24TH ST. QUINCY, ILLINOIS 62301 217.223.3670
STATE OF ILLINOIS DESIGN FIRM NO. 184-2738

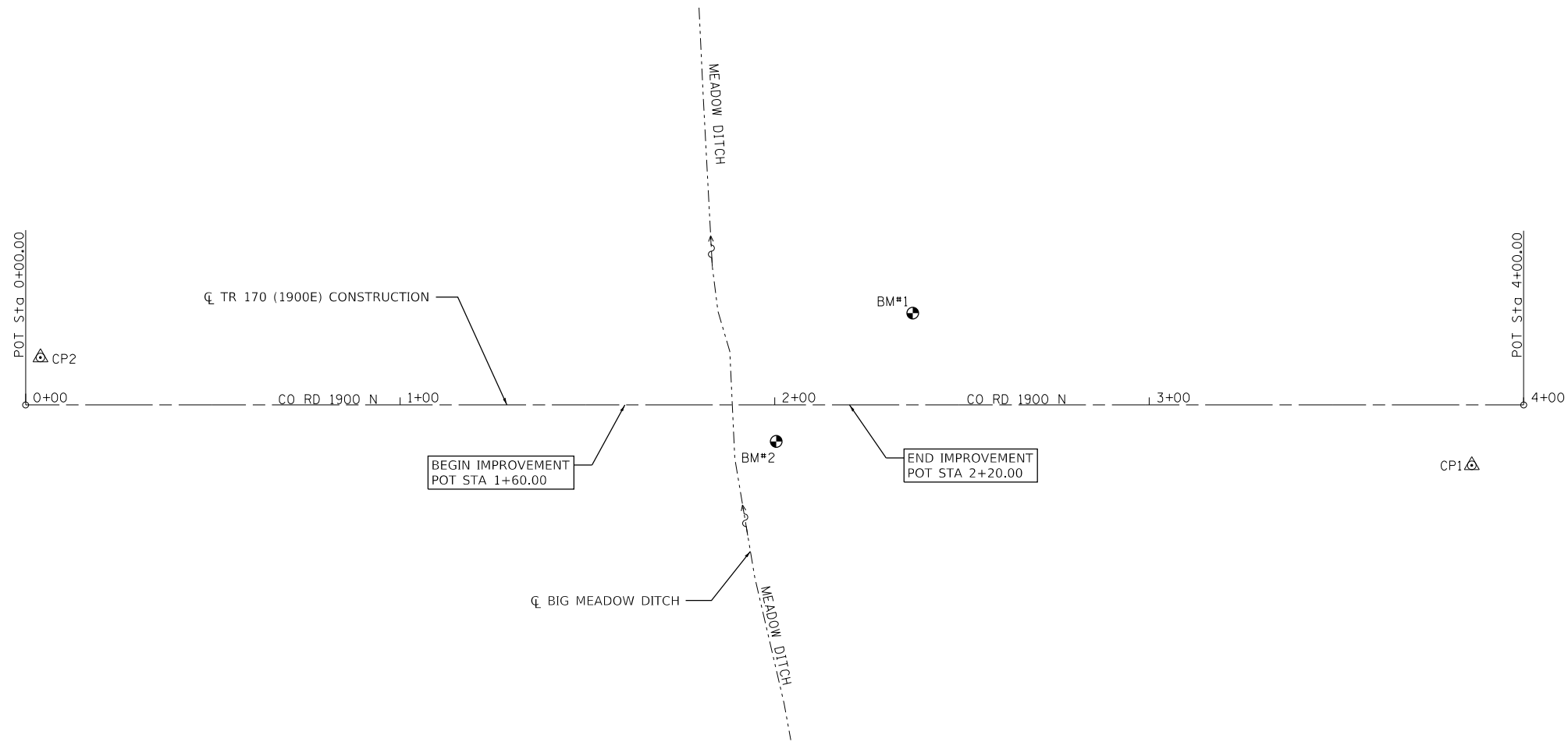
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PLOT SCALE = 48.0000' / in.	DRAWN - RJP	REVISED -
PLOT DATE = 5/6/2024	CHECKED - EBB	REVISED -
	DATE -	REVISED -

**HANCOCK COUNTY
HIGHWAY DEPARTMENT**

**TR 170 (1900E) OVER BIG MEADOW DITCH
TYPICAL SECTIONS**

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

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
170	23-10121-00-BR	HANCOCK	16	4
CONTRACT NO. 93822			ILLINOIS FED. AID PROJECT	

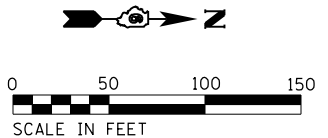


BM#2 - CHISELED "X" TOP NORTHEAST
CORNER WINGWALL OF BRIDGE
STA 2+00.8, 11.5' RT ELEV = 610.75

BM#1 - RAILROAD SPIKE IN 1ST POWERPOLE
NORTHWEST OF BRIDGE
STA 2+36.8, 24.5' LT ELEV = 608.45

ALIGNMENT COORDINATES - TR 170 (1900E)			
	STATION	NORTHING	EASTING
POT	0+00.00	1,347,428.3703	2,024,923.8327
POT	4+00.00	1,347,828.1259	2,024,937.8144

CONTROL POINT COORDINATES - TR 170 (1900E)		
CONTROL POINT #	NORTHING	EASTING
1	1,347,813.6980	2,024,953.4460
2	1,347,432.7620	2,024,911.2950



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Engineers • Architects • Surveyors
616 N. 24TH ST. QUINCY, ILLINOIS 62301 217.223.3670
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USER NAME = rjp	DESIGNED - RJP	REVISED -
PLOT SCALE = 100.0000' / in.	DRAWN - RJP	REVISED -
PLOT DATE = 5/6/2024	CHECKED - EBB	REVISED -
	DATE -	REVISED -

**HANCOCK COUNTY
HIGHWAY DEPARTMENT**

**TR 170 (1900E) OVER BIG MEADOW DITCH
HORIZONTAL CONTROL**

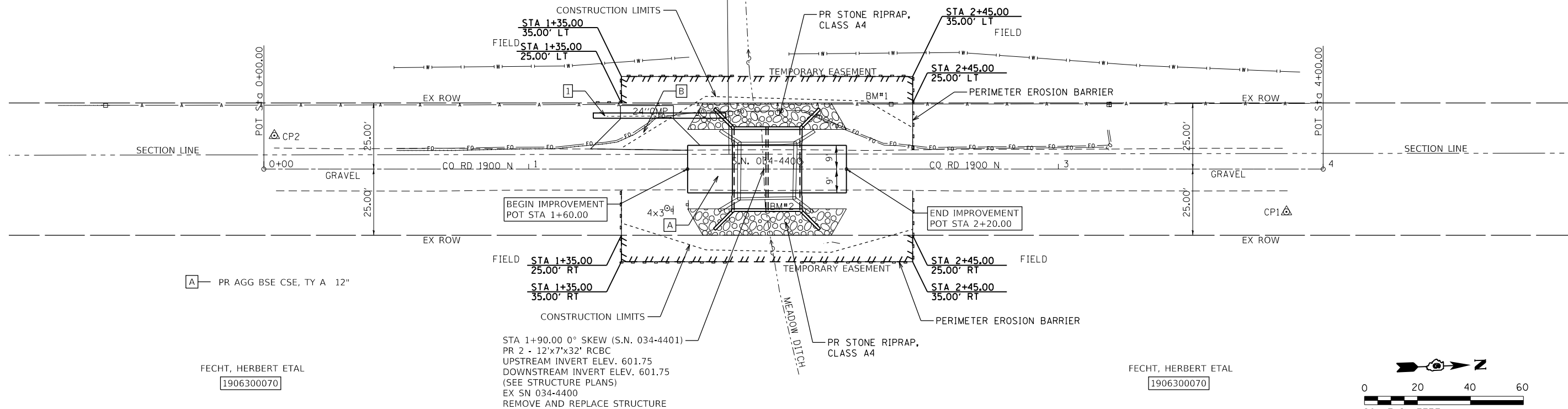
SCALE: 1"=50' SHEET 1 OF 1 SHEETS STA. 0+00.00 TO STA. 4+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
170	23-10121-00-BR	HANCOCK	16	5
CONTRACT NO. 93822			ILLINOIS FED. AID PROJECT	

MARTENS, FLORENCE
1801400004

LIMKEMANN, DEBRA
1801000007

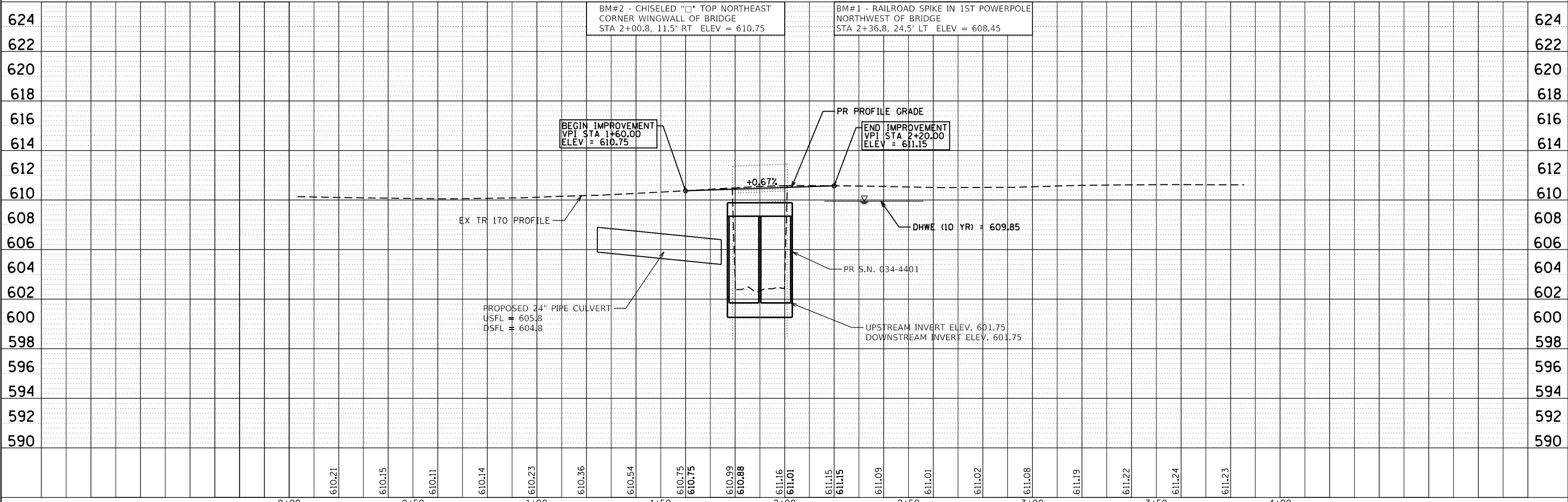
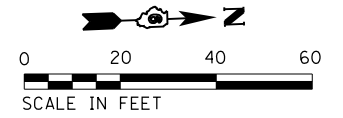
- 1 PR PIPE CULVERT (CL D), TY 1, 24" X 50'
USFL = 605.8, STA 1+24.4, 20.2' LT
DSFL = 604.8, STA 1+74.4, 20.2' LT
(SEE ALSO STRUCTURE PLANS)
SLOPE = 1.9%
- B STA 1+44.7 LT (FE)
20' WIDE W/ 10' FLARES
PR AGG BSE CSE, TY B - 8"



FECHT, HERBERT ETAL
1906300070

STA 1+90.00 0° SKEW (S.N. 034-4401)
PR 2 - 12'x7'x32" RCBC
UPSTREAM INVERT ELEV. 601.75
DOWNSTREAM INVERT ELEV. 601.75
(SEE STRUCTURE PLANS)
EX SN 034-4400
REMOVE AND REPLACE STRUCTURE

FECHT, HERBERT ETAL
1906300070



FILE NAME =	USER NAME = rjp	DESIGNED -	REVISED -	HANCOCK COUNTY HIGHWAY DEPARTMENT	TR 170 (1900E) OVER BIG MEADOW DITCH PLAN & PROFILE SHEET		T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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Default	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -		CONTRACT NO. 93822						
	PLOT DATE = 5/6/2024	DATE -	REVISED -		SCALE: 1" = 20'			SHEET 1 OF 1 SHEETS		STA. 0+00 TO STA. 4+00	

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	NOTE BOOK		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	NO.		
	STRUCTURE		
	NOT AT THIS OFFICE		

GENERAL NOTES

- 1) ROAD CLOSURE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARD BLR-21 ALONG WITH THE DETAILS AND SPECIAL PROVISIONS.
- 2) ALL SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED BY THE CONTRACTOR.
- 3) THE LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
- 4) ALL SIGNS SHALL BE REMOVED WHEN NOT REQUIRED FOR FUTURE USE.
- 5) THIS TRAFFIC CONTROL AND PROTECTION SHALL BE PAID FOR ACCORDING TO THE CONTRACT UNIT COST PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21.
- 6) THE EXACT LOCATIONS OF ALL TRAFFIC CONTROL ITEMS SHALL BE APPROVED BY THE ENGINEER.
- 7) PRIOR TO THE CLOSURE OF T.R. 170 (1900E), THE CONTRACTOR SHALL NOTIFY LOCAL EMERGENCY SERVICES, HANCOCK COUNTY ENGINEER, TOWNSHIP ROAD DISTRICT, US POSTAL SERVICE, AND LOCAL SCHOOL DISTRICTS.

HANCOCK COUNTY ENGINEER:

MR. ELGIN BERRY, P.E.
P.O. BOX 379
101 SOUTH FIRST STREET
CARTHAGE, IL 62621

PHONE: 217-357-3155

HARMONY TOWNSHIP ROAD DISTRICT:

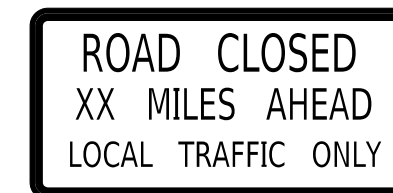
MR. MARK HARRISON
2126 EAST COUNTY ROAD 1000N
CARTHAGE, IL 62321

PHONE: 217-357-1388

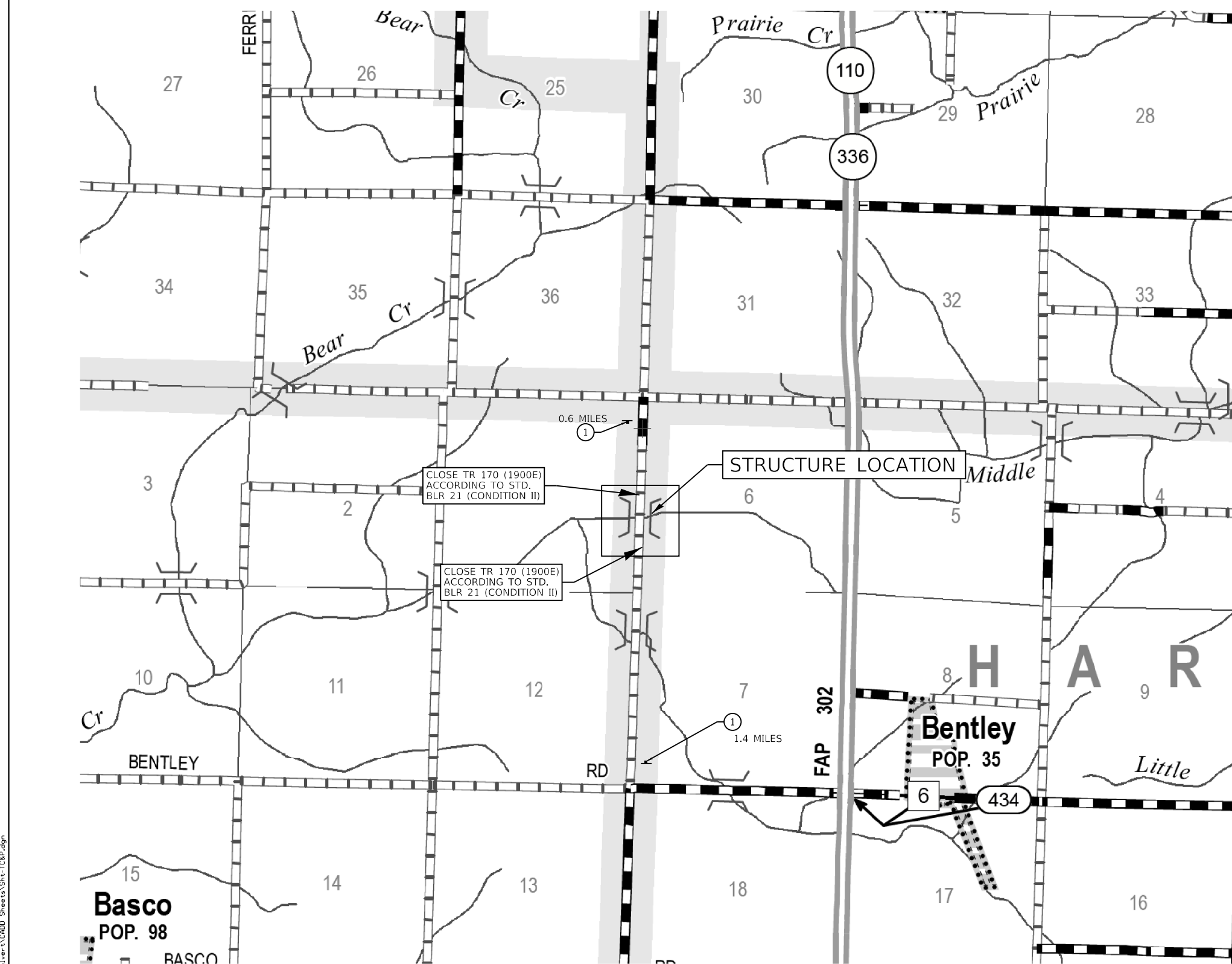
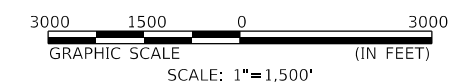
ILLINI WEST COMMUNITY UNIT SCHOOL DISTRICT 307:

SUPERINTENDANT
JAY HARNACK
600 MILLER STREET
CARTHAGE, IL 62321

PHONE: 217-357-9609



1 R11-3a (6030) (O)



TRAFFIC CONTROL PLAN

KLINGNER & ASSOCIATES, P.C.
Engineers • Architects • Surveyors
616 N. 24TH ST. QUINCY, ILLINOIS 62301 217.223.3670
STATE OF ILLINOIS DESIGN FIRM NO. 184-2738

USER NAME = rjp	DESIGNED - RJP	REVISED -
PLOT SCALE = 10.0000' / in.	DRAWN - RJP	REVISED -
PLOT DATE = 5/6/2024	CHECKED - EBB	REVISED -
	DATE -	REVISED -

HANCOCK COUNTY HIGHWAY DEPARTMENT

TR 170 (1900E) OVER BIG MEADOW DITCH TRAFFIC CONTROL PLAN
SCALE: 1"=1500' SHEET 1 OF 1 SHEETS STA. TO STA.

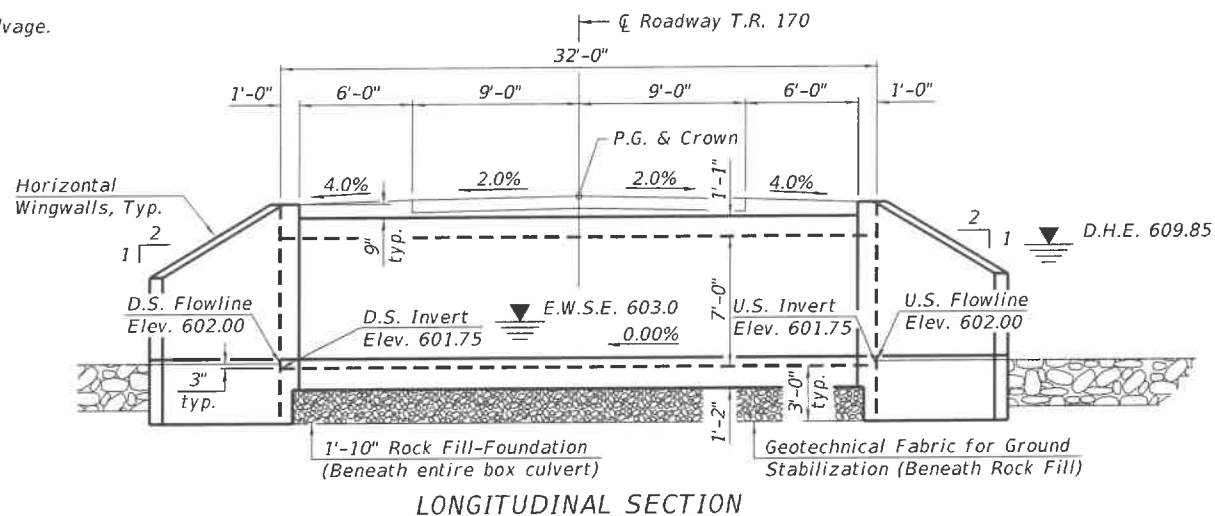
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
170	23-10121-00-BR	HANCOCK	16	7
CONTRACT NO. 93822			ILLINOIS FED. AID PROJECT	

Bench Mark: Chiseled square on top of northeast corner wingwall of SN 034-4400, NAVD 88 Elev. 610.75.

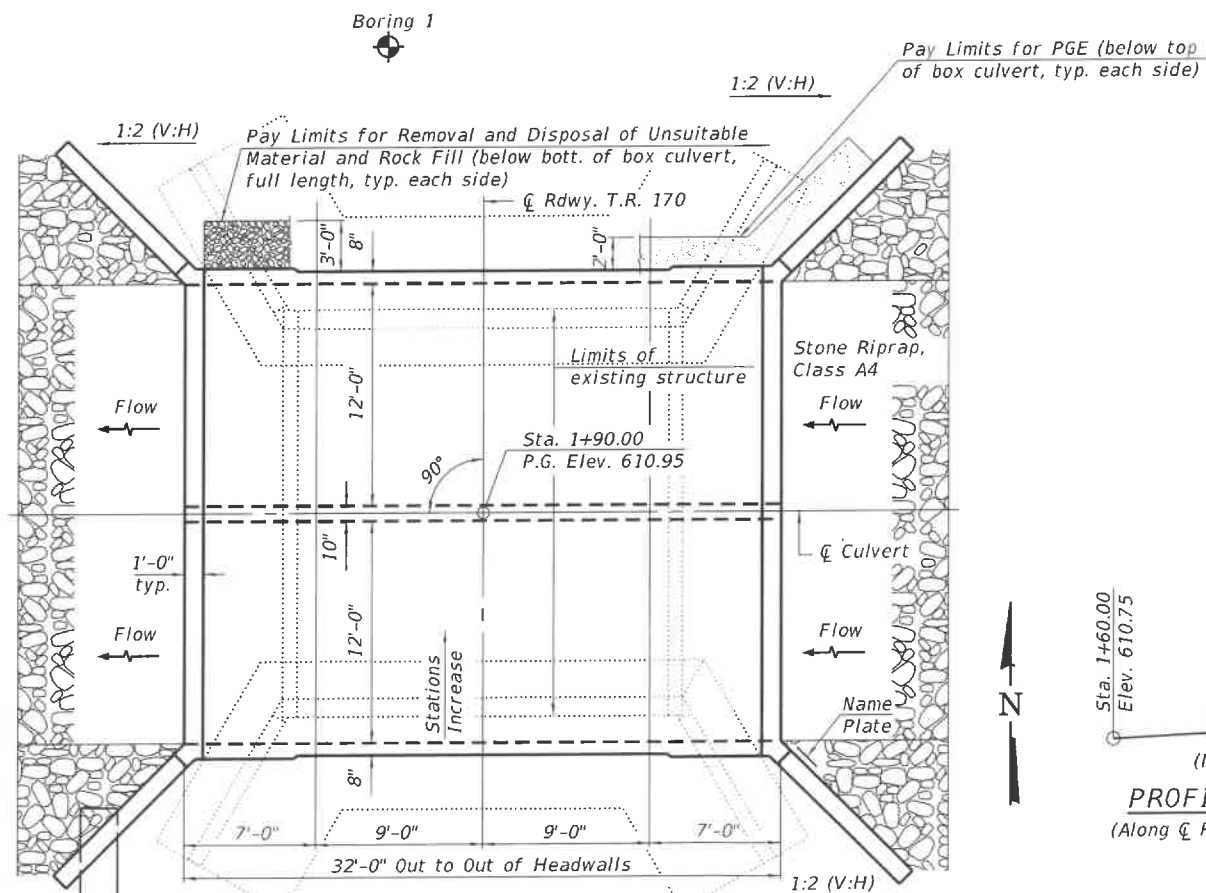
Existing Structure: Structure Number 034-4400 was originally built in 1929 in Hancock County. The structure consists of a single span reinforced concrete slab superstructure on closed concrete abutments and concrete footings. The back-to-back abutment length is 22'-0" and the out to out bridge width is 21'-6".

The existing structure shall be removed and replaced. The roadway will be closed and traffic detoured during construction. Precast Box Culvert option is not allowed.

No salvage.



LONGITUDINAL SECTION



PLAN

DESIGN STRESSES

FIELD UNITS

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

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.
Design Earth Cover = 1.0 Feet

DESIGN SPECIFICATIONS

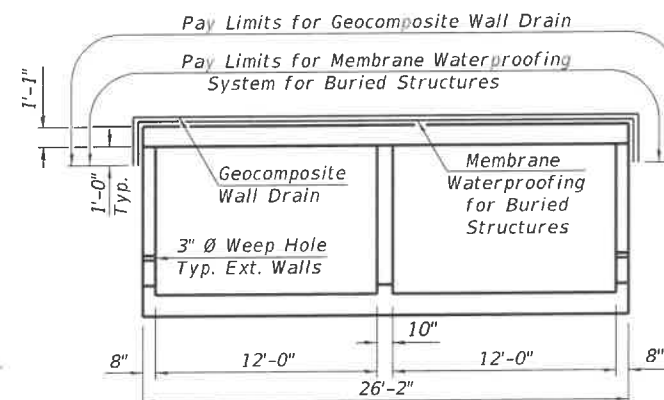
INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 Culvert Plan
- 3 Culvert Details
- 4-5 Boring Logs

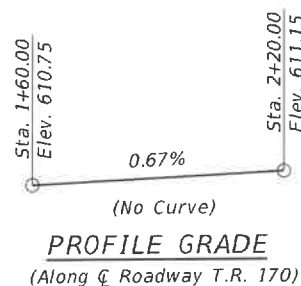
BIG MEADOW DITCH
BUILT 202_ BY
HARMONY ROAD DISTRICT
SEC. 23-10121-00-BR
STATION 1+90.00
STR. NO. 034-4401 LOADING HL-93

NAME PLATE

See Std. 515001

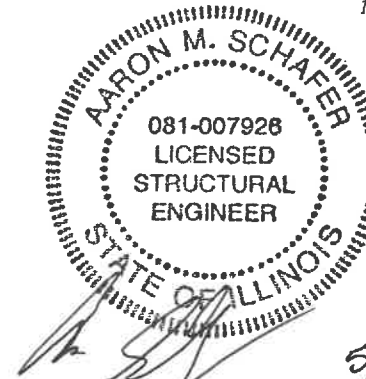


SECTION THRU BARREL



PROFILE GRADE

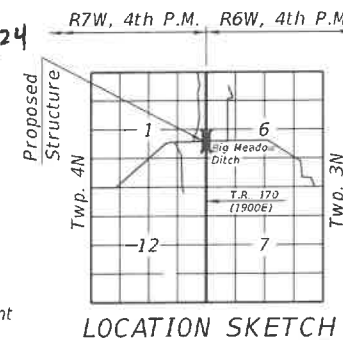
(Along C Roadway T.R. 170)



Aaron M. Schaffer
Licensed Structural Engineer
State of Illinois No. 081-007928
License Expires 11/30/2024

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

5/6/2024 Date



LOCATION SKETCH

GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- 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.
- The Rock Fill shall be capped with 6 inches of CA7 or CA 11. Cost included with Rock Fill.
- See Roadway Plans for full riprap layout and quantity.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	67
Porous Granular Embankment	Ton	101
Geotechnical Fabric for Ground Stabilization	Sq. Yd.	110
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	169
Reinforcement Bars, Epoxy Coated	Pound	26,570
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	108.6
Geocomposite Wall Drain	Sq. Yd.	101
Rock Fill	Ton	134
Membrane Waterproofing System for Buried Structures	Sq. Yd.	101

WATERWAY INFORMATION

Flood Event	Freq. Yr.	Discharge C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E. Ft.		Head - Ft.		Headwater El. Ft.	
					Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	184	140	168	609.85	0.06	0.04	609.91	609.89	
Base	100	413	140	168	610.57	0.11	0.08	610.68	610.65	
Scour Design	200	389	140	168	610.79	0.04	0.03	610.83	610.82	
Overtop Prop.	25	262	140	168	610.14	0.11	0.07	610.25	610.21	
Max. Calc.	500	593	140	168	611.13	0.03	0.03	611.16	611.16	

10 year velocity through proposed bridge = 1.2 ft./sec.

GENERAL PLAN & ELEVATION

T.R. 170 (1900E)
OVER BIG MEADOW DITCH
SECTION 23-10121-00-BR
HANCOCK COUNTY
STATION 1+90.00
STRUCTURE NO. 034-4401

GENERAL PLAN & ELEVATION
STRUCTURE NO. 034-4401

SHEET NO. 1 OF 5 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
170	23-10121-00-BR	HANCOCK	16	8

CONTRACT NO. 93822
ILLINOIS FED. AID PROJECT

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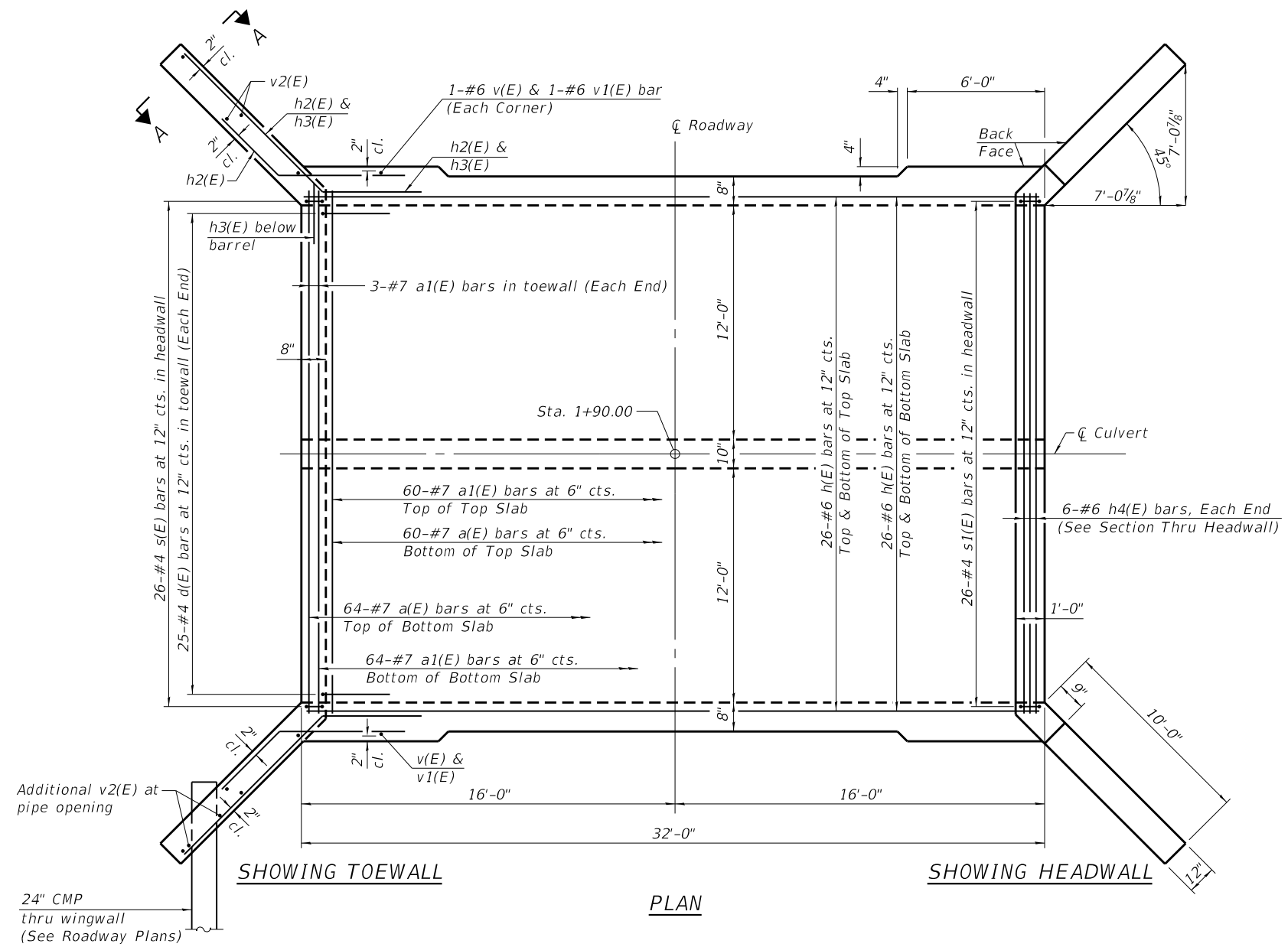
KLINGNER & ASSOCIATES, P.C.
Engineers - Architects - Surveyors
616 N. 24TH ST., QUINCY, ILLINOIS 62301-2123-3676
STATE OF ILLINOIS DESIGN FIRM NO. 184-2738

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PLOT DATE = 5/6/2024

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CHECKED - AMS
DRAWN - RJP
CHECKED - AMS

REVISED -
REVISED -
REVISED -
REVISED -

HANCOCK COUNTY
HIGHWAY DEPARTMENT



Notes:

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls. See Sheet 3 of 5 for Section A-A.

For details of reinforcement bars at opening in southwest wingwall for pipe opening, see Sheet 3 of 5.

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 STATE OF ILLINOIS DESIGN FIRM NO. 184-2738

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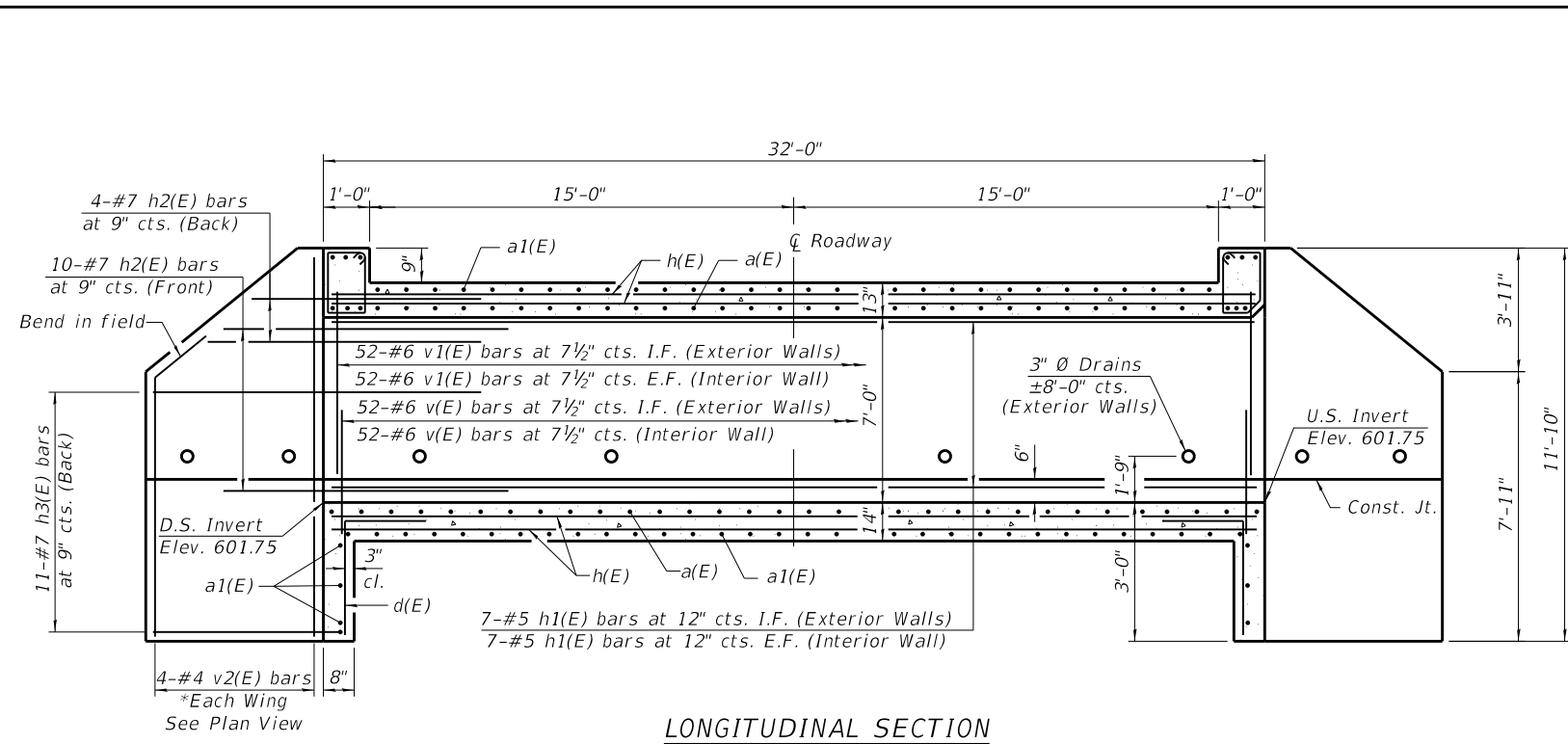
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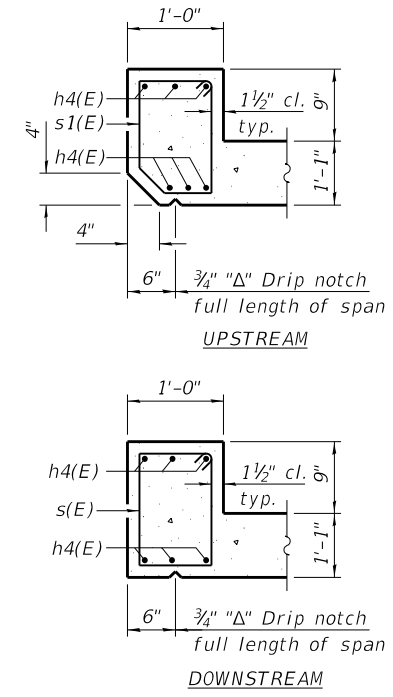
HANCOCK COUNTY
 HIGHWAY DEPARTMENT

CULVERT PLAN
 STRUCTURE NO. 034-4401
 SHEET NO. 2 OF 5 SHEETS

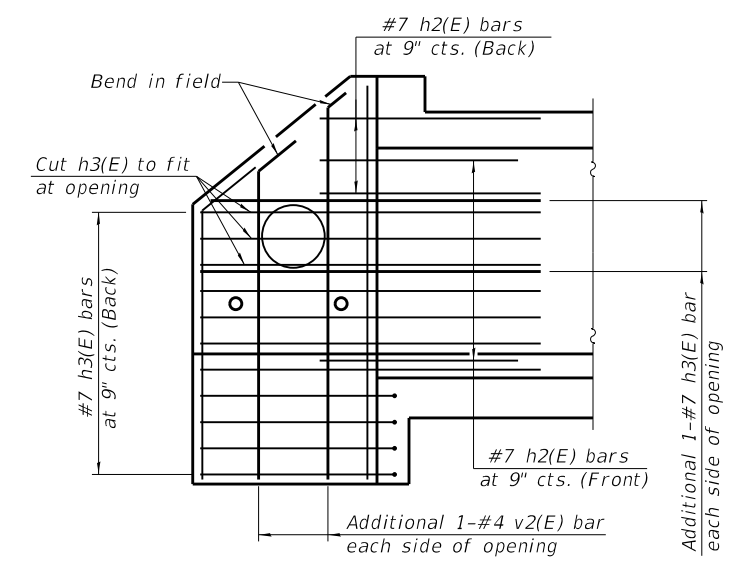
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170	23-10121-00-BR	HANCOCK	16	9
			CONTRACT NO. 93822	
ILLINOIS FED. AID PROJECT				



LONGITUDINAL SECTION

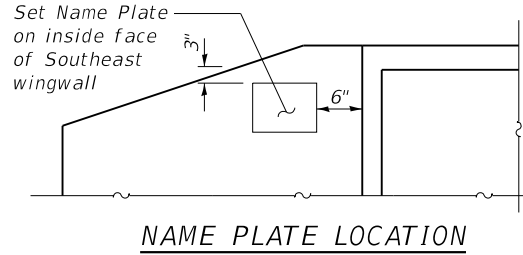


SECTION THRU HEADWALL

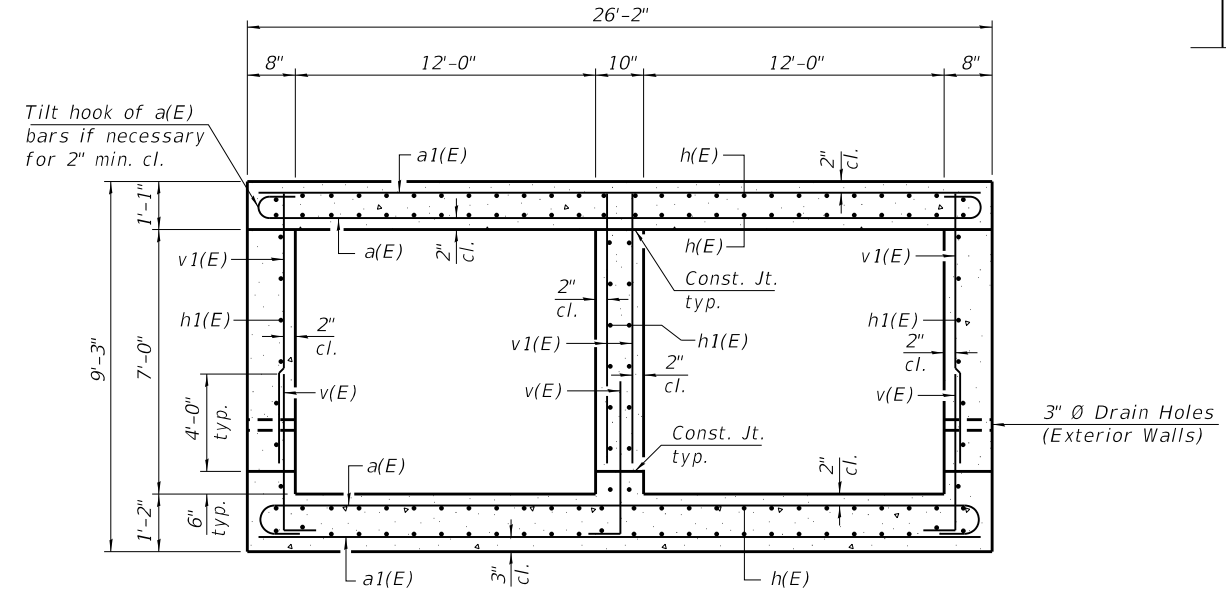


SOUTHWEST WINGWALL PIPE OPENING DETAIL

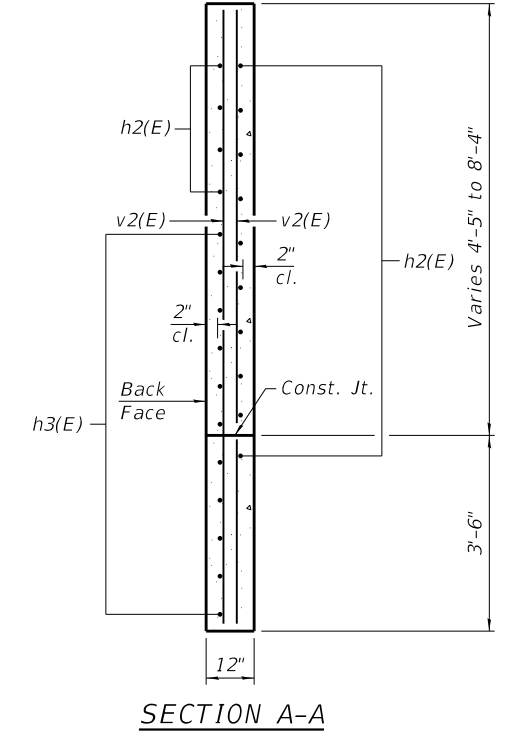
*See Southwest Wingwall Pipe Opening Detail for additional h3(E) & v2(E) bars around pipe



NAME PLATE LOCATION



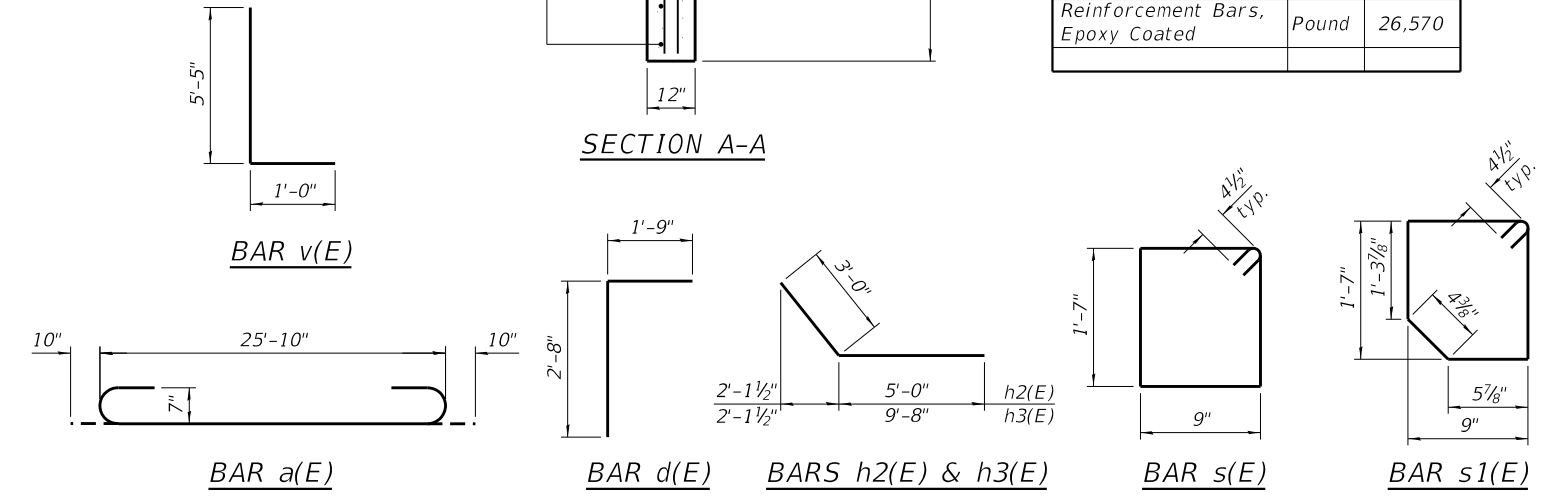
SECTION THRU BARREL



SECTION A-A

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	124	#7	27'-6"	U
a1(E)	130	#7	25'-10"	—
d(E)	50	#4	4'-5"	L
h(E)	104	#6	31'-6"	—
h1(E)	28	#5	31'-8"	—
h2(E)	56	#7	8'-0"	—
h3(E)	46	#7	12'-8"	—
h4(E)	12	#6	25'-6"	—
s(E)	26	#4	5'-5"	□
s1(E)	26	#4	5'-3"	□
v(E)	160	#6	6'-5"	—
v1(E)	212	#6	7'-3"	—
v2(E)	18	#4	11'-6"	—
Concrete Box Culverts		Cu. Yd.	108.6	
Reinforcement Bars, Epoxy Coated		Pound	26,570	



Notes:
At the Contractor's option, a longer v(E) bar may be ordered to replace the v1(E) bar.
No reduction in quantities shall be made for this substitution.

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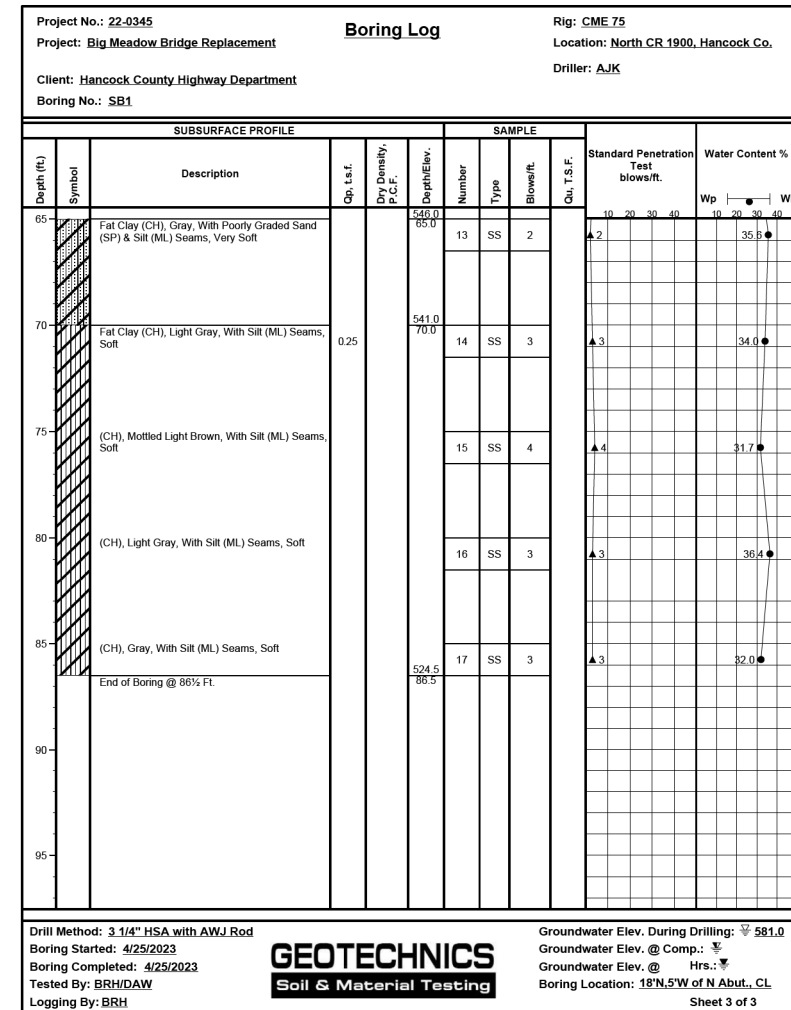
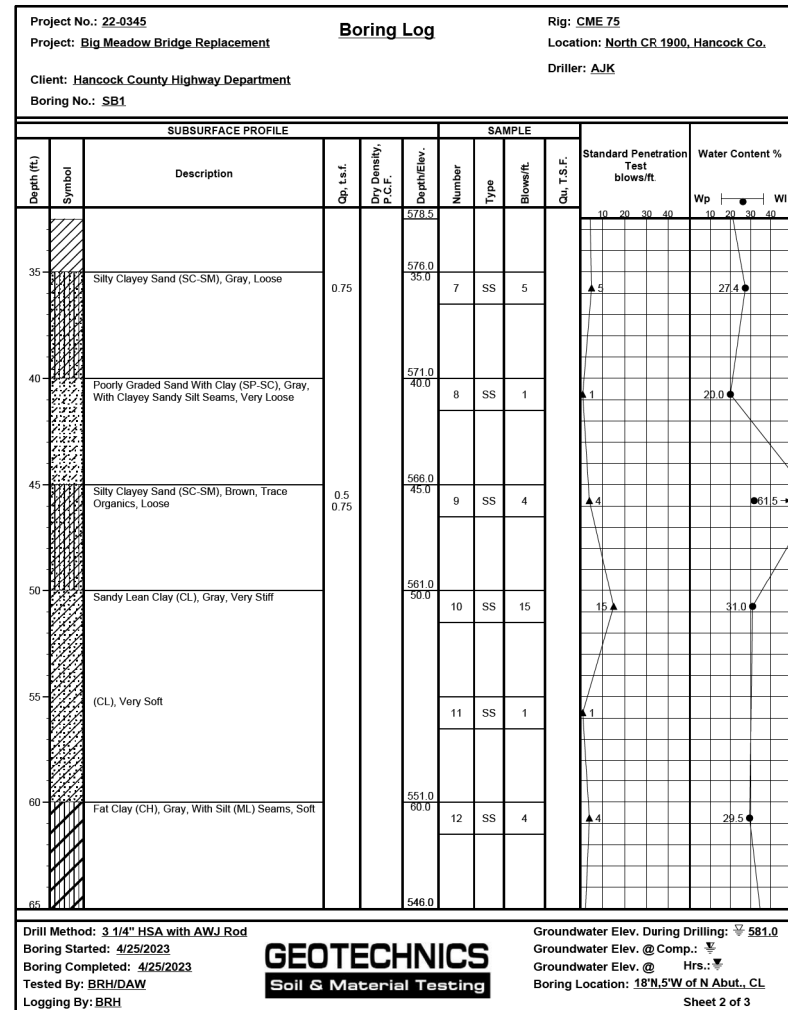
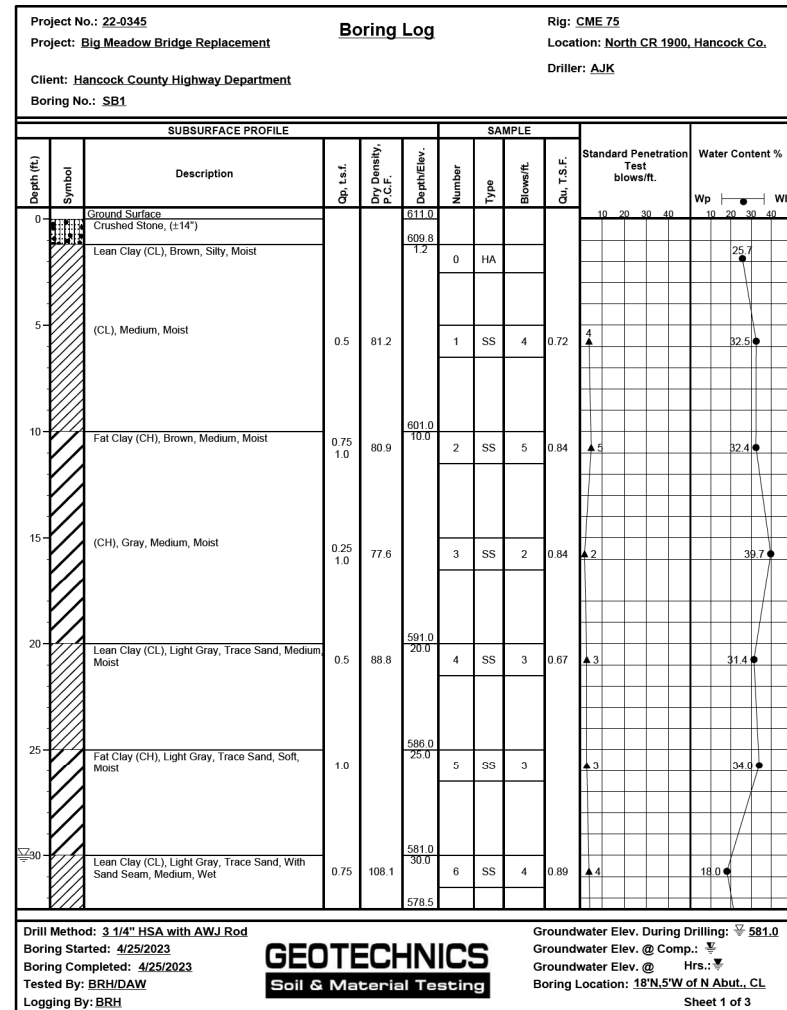
HANCOCK COUNTY
HIGHWAY DEPARTMENT

CULVERT DETAILS
STRUCTURE NO. 034-4401

SHEET NO. 3 OF 5 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
170	23-10121-00-BR	HANCOCK	16	10
CONTRACT NO. 93822				

ILLINOIS FED. AID PROJECT

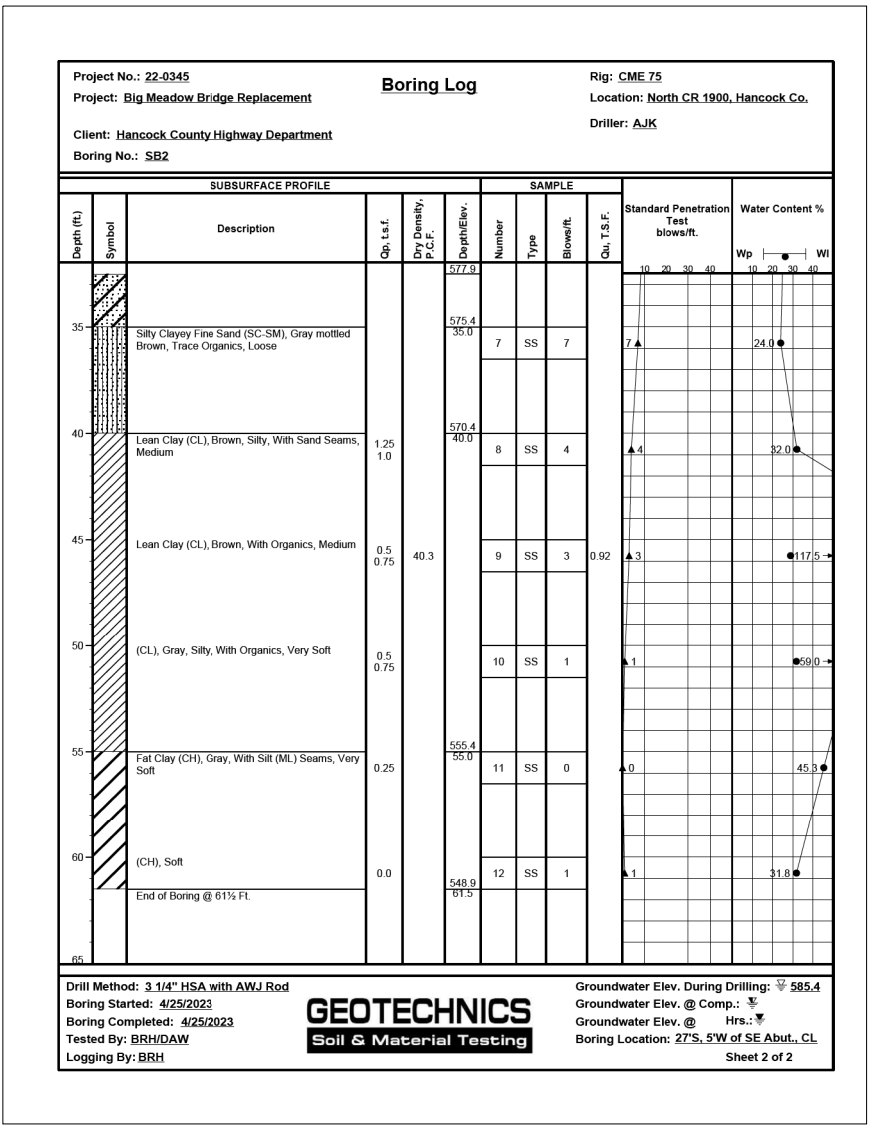
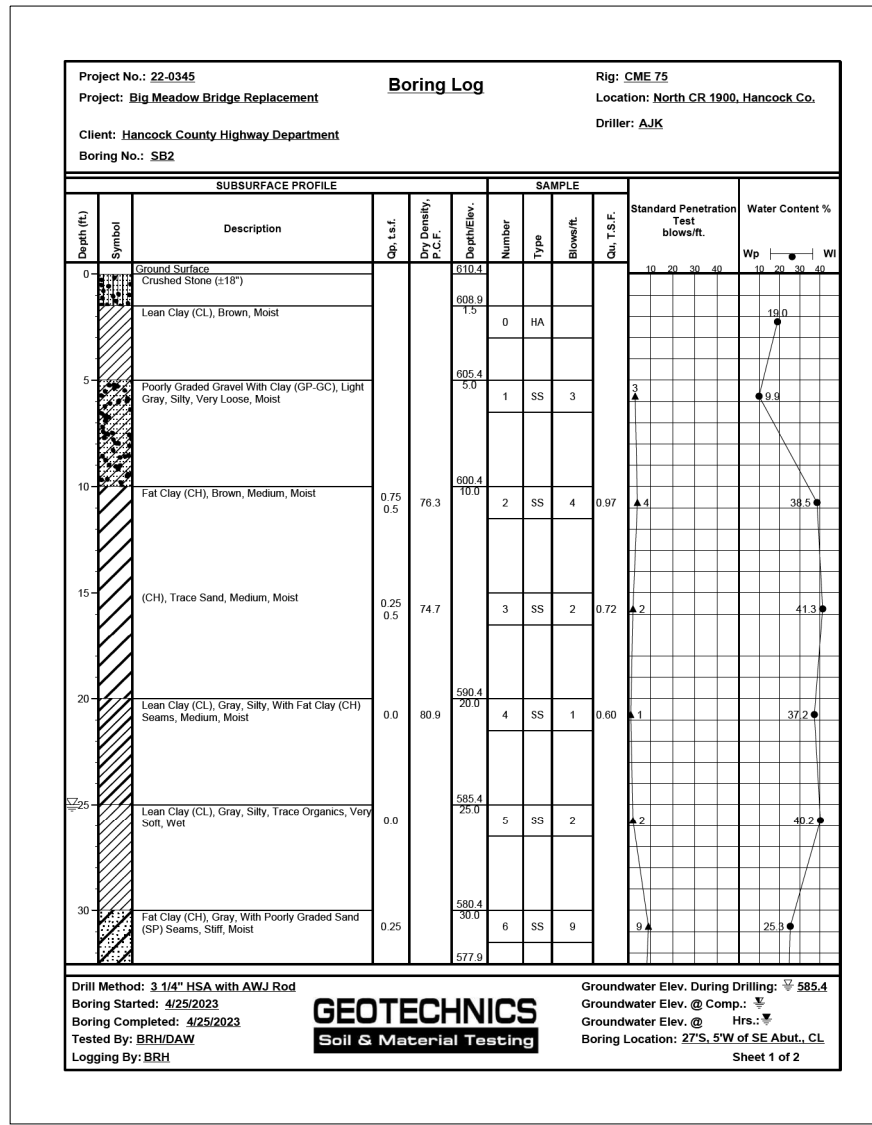


BORING #1

Sheet 1 of 2

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T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
170	23-10121-00-BR	HANCOCK	16	11
			CONTRACT NO. 93822	



BORING #2

Sheet 2 of 2

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PLOT DATE = 5/6/2024	DRAWN - RJP	REVISED -
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HANCOCK COUNTY
HIGHWAY DEPARTMENT

BORING LOGS
STRUCTURE NO. 034-4401

SHEET NO. 5 OF 5 SHEETS

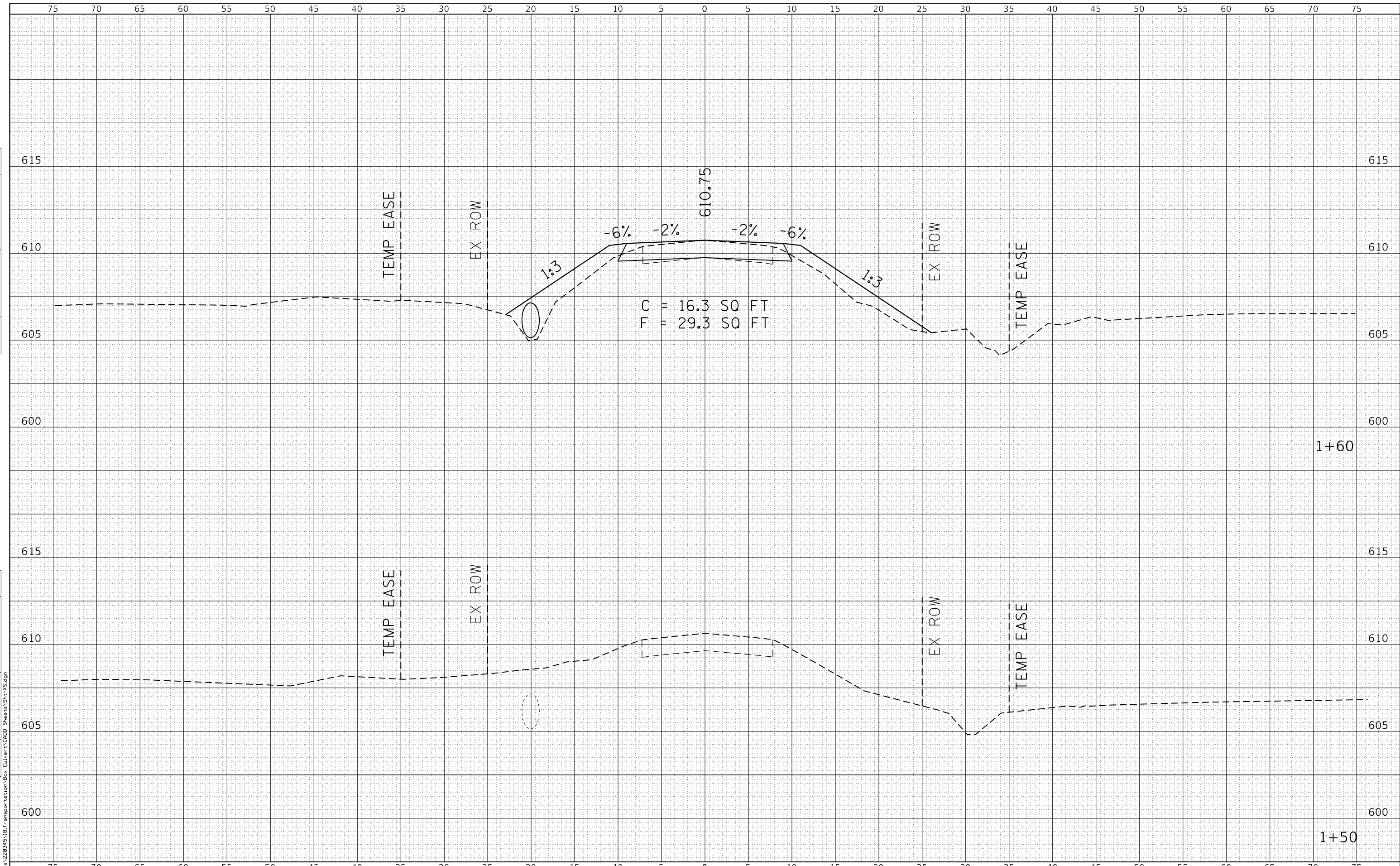
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170	23-10121-00-BR	HANCOCK	16	12
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ILLINOIS FED. AID PROJECT

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



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 STATE OF ILLINOIS DESIGN FIRM NO. 194-2736

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**HANCOCK COUNTY
HIGHWAY DEPARTMENT**

**TR 170 (1900E) OVER BIG MEADOW DITCH
CROSS SECTIONS**

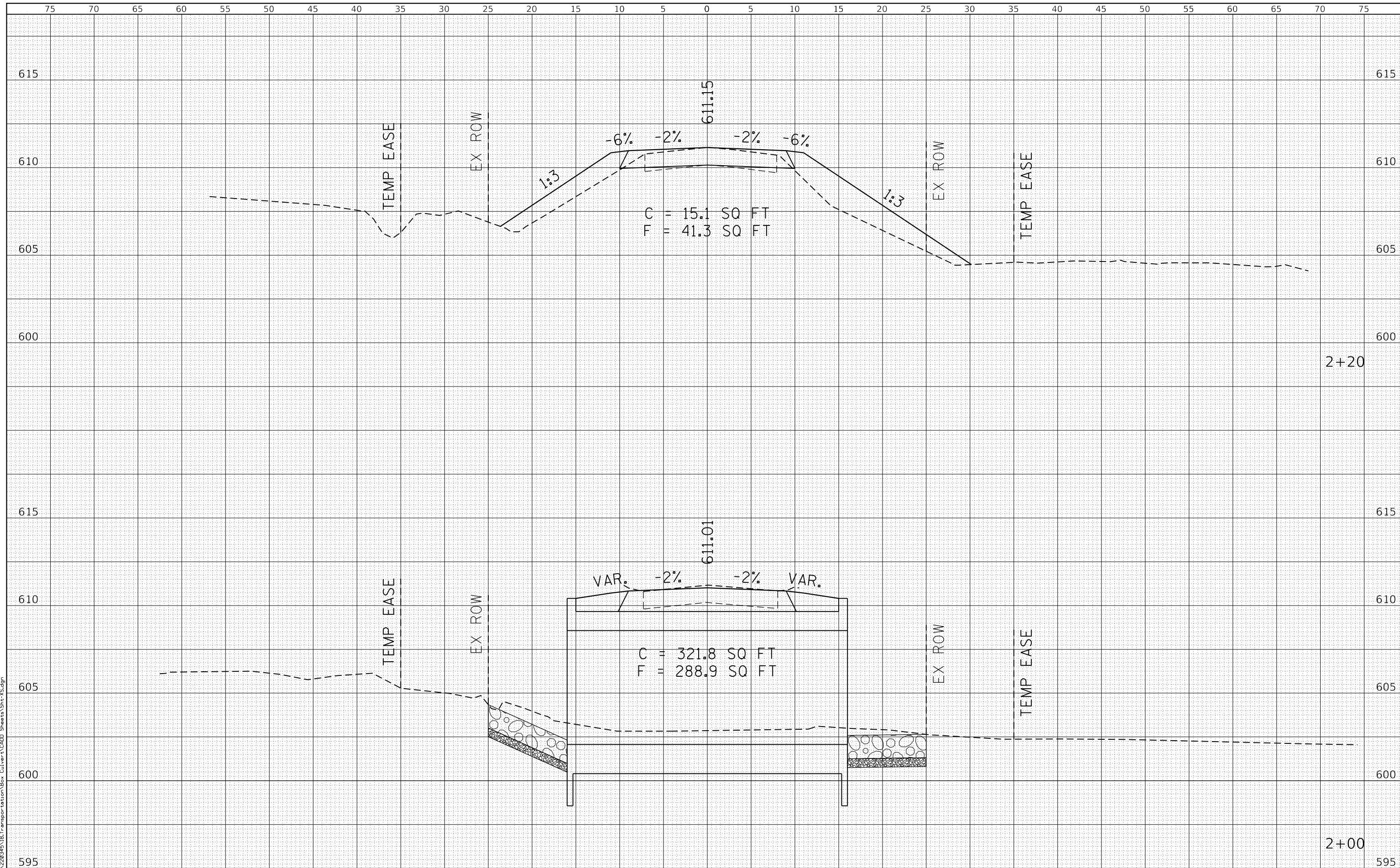
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1"=25'V

SHEET 1 OF 4 SHEETS STA. 1+50 TO STA. 1+60

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CONTRACT NO. 93822				
ILLINOIS FED. AID PROJECT				

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 CHECKED - EBB
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 PLOT DATE = 5/6/2024

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 STATE OF ILLINOIS DESIGN FIRM NO. 194-2736

DESIGNED - RJP	REVISED -
DRAWN - RJP	REVISED -
CHECKED - EBB	REVISED -
DATE - 5/6/2024	REVISED -

**HANCOCK COUNTY
 HIGHWAY DEPARTMENT**

**TR 170 (1900E) OVER BIG MEADOW DITCH
 CROSS SECTIONS**

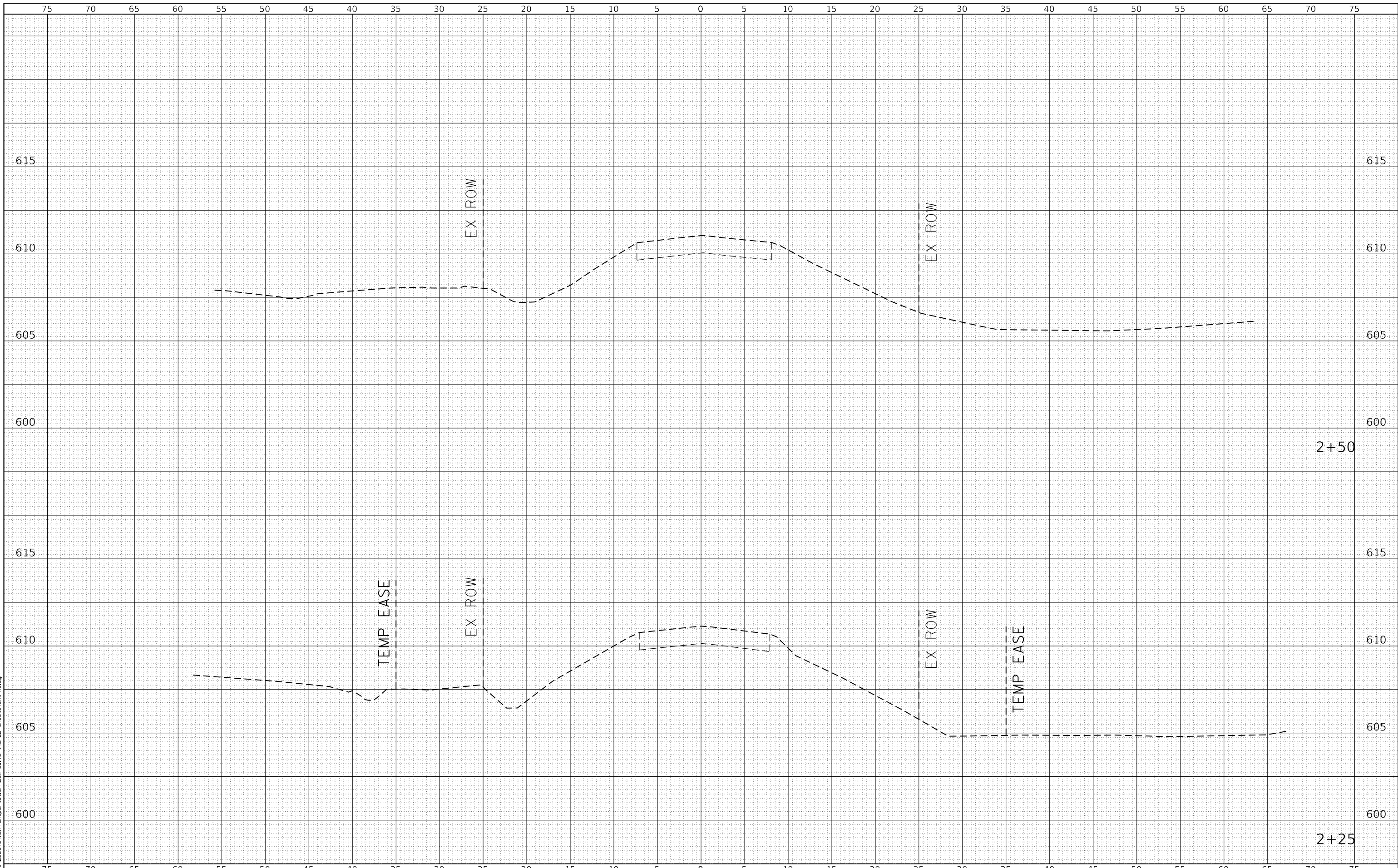
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 STA. 2+00 TO STA. 2+20

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CONTRACT NO. 93822			ILLINOIS FED. AID PROJECT	

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PLOT DATE = 5/6/2024	DATE -	REVISED -

**HANCOCK COUNTY
HIGHWAY DEPARTMENT**

**TR 170 (1900E) OVER BIG MEADOW DITCH
CROSS SECTIONS**

SCALE: 1"=5'H
1"=25'V

SHEET 4 OF 4 SHEETS STA. 2+25 TO STA. 2+50

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
170	23-10121-00-BR	HANCOCK	16	16
CONTRACT NO. 93822				
ILLINOIS FED. AID PROJECT				