

01-17-2025 LETTING ITEM 152

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
M.S. 3500	21-00070-00-BR	EDWARDS	15	1
FED. ROAD DIST. NO. 6		ILLINOIS CONTRACT NO. 95968		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
LOCAL BRIDGE FORMULA PROGRAM

PROJECT 785R(503)
SECTION 21-00070-00-BR
ROAD DISTRICT NO. 6
EDWARDS COUNTY
M.S. 3500 / W. TERMINAL ST.
PROPOSED STRUCTURE NO. 024-3147
C-97-083-23



LOCATION OF SECTION INDICATED THIS: -

ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED *[Signature]*
COUNTY ENGINEER

APPROVED _____
MUNICIPAL

PASSED *11/07/24*
[Signature]
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

Released For Bid Based on Limited Review *11/07/24*
[Signature]
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: 10/30/2024

REGISTERED PROFESSIONAL ENGINEER
STATE OF ILLINOIS
[Signature]
184,000,950
ILLINOIS PROFESSIONAL DESIGN FIRM L8 / PE / SE CORPORATION

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS • STRUCTURAL ENGINEERS • LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com

EXPIRES: 11/30/2026 PROJECT NUMBER: 22.0150.130 DATE: 10/30/2024

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES AND GENERAL NOTES
3.	TYPICAL CROSS SECTIONS
4.	PLAN AND PROFILE
5.	GUARDRAIL AND SHOULDER LAYOUT
6-11.	CULVERT PLANS
12-15.	STATION CROSS SECTIONS

HIGHWAY STANDARDS:

280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-04	NAME PLATE FOR BRIDGES
701901-10	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

UTILITIES

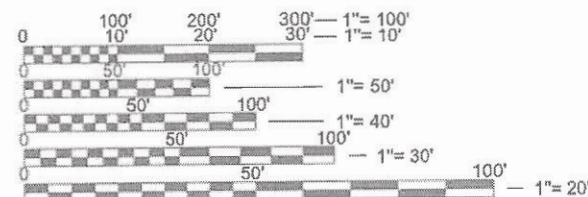
CLEARWAVE COMMUNICATIONS
2 NORTH VINE ST., HARRISBURG, IL 62946
800-913-7254

CONSUMERS GAS COMPANY
30 N. 4TH ST., ALBION, IL 62806
618-445-3012

ELLERY WATER CORP.
ALBION, IL 62806
618-445-8644

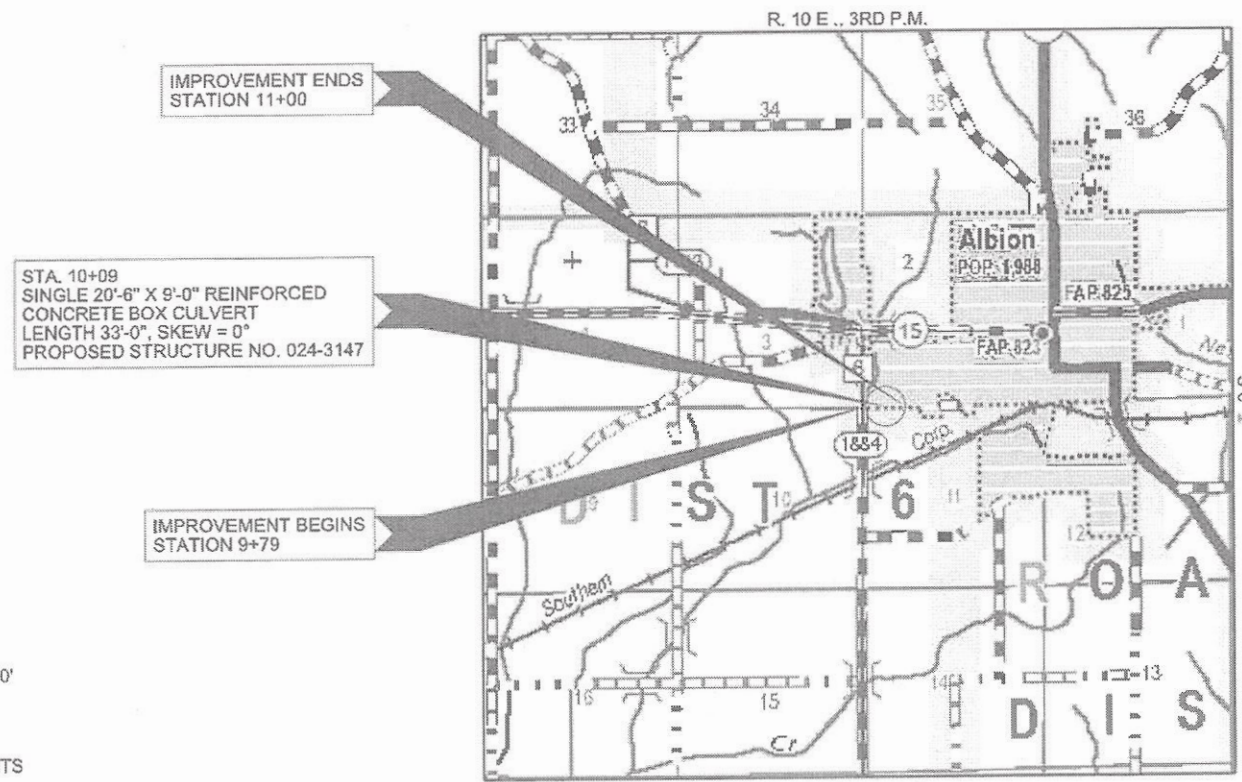
FRONTIER COMMUNICATIONS
F208 W. UNION ST., MARION, IL 62959
618-997-1062

NEW WAVE COMMUNICATIONS
800 W. FERDON ST., LITCHFIELD, IL 62056
888-863-9928



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.

FUNCTIONAL CLASSIFICATION: LOCAL ROAD
DESIGN SPEED: 30 MPH
DESIGN TRAFFIC: 200 ADT



LOCATION MAP

APPROXIMATE SCALE: 0 1/2 MILE

GROSS LENGTH OF SECTION = 121 FEET = 0.023 MILES
OMISSION LENGTH OF SECTION = 22 FEET = 0.004 MILES
NET LENGTH OF SECTION = 99 FEET = 0.018 MILES



WARNING

CALL 811
BEFORE YOU DIG
DIG NO: X220591834

SUMMARY OF QUANTITIES

CODE NO.	ITEM	CONSTRUCTION TYPE CODE 0010	
		UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	65
20700110	POROUS GRANULAR EMBANKMENT	TON	600
20900110	POROUS GRANULAR BACKFILL	CU YD	31
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	235
35101400	AGGREGATE BASE COURSE, TYPE B	TON	84
48101200	AGGREGATE SHOULDERS, TYPE B	TON	54
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	34,560
* 50900205	STEEL RAILING, TYPE S1	FOOT	39
51500100	NAME PLATES	EACH	1
54003000	CONCRETE BOX CULVERTS	CU YD	136.9
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1
63200310	GUARDRAIL REMOVAL	FOOT	96
67100100	MOBILIZATION	L SUM	1
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X5810103	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	83
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.1
* X6311205	TRAFFIC BARRIER TERMINAL, TYPE 5A (SPECIAL)	EACH	1
* X6330725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	12.5
Z0013798	CONSTRUCTION LAYOUT	L SUM	1

* SPECIALTY ITEM

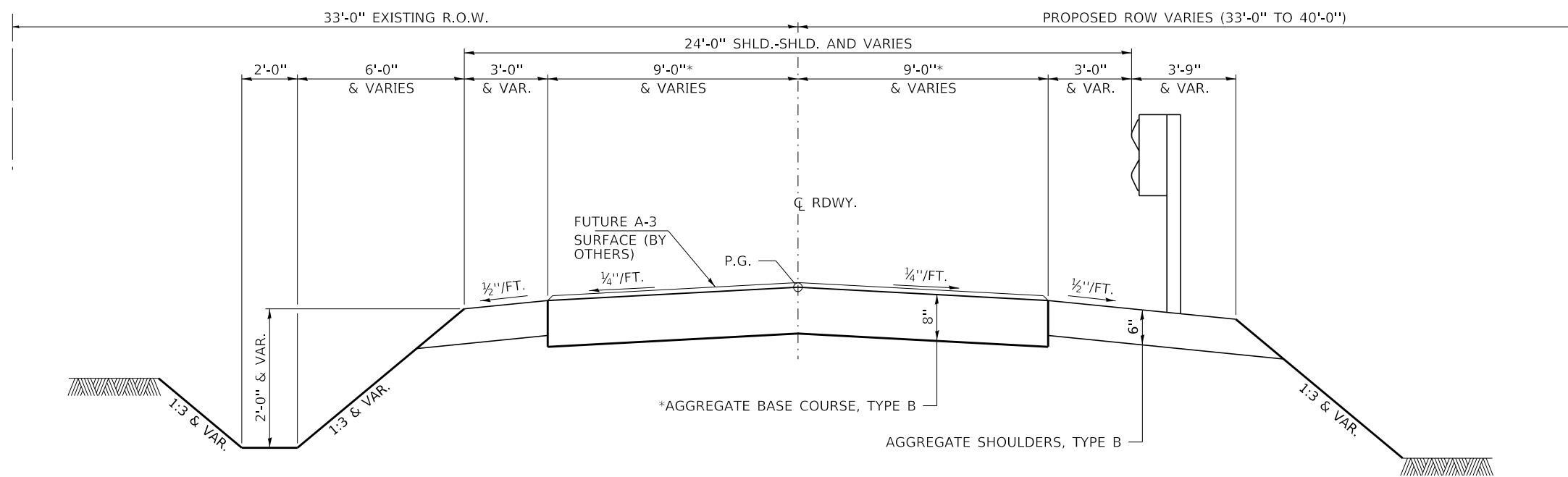
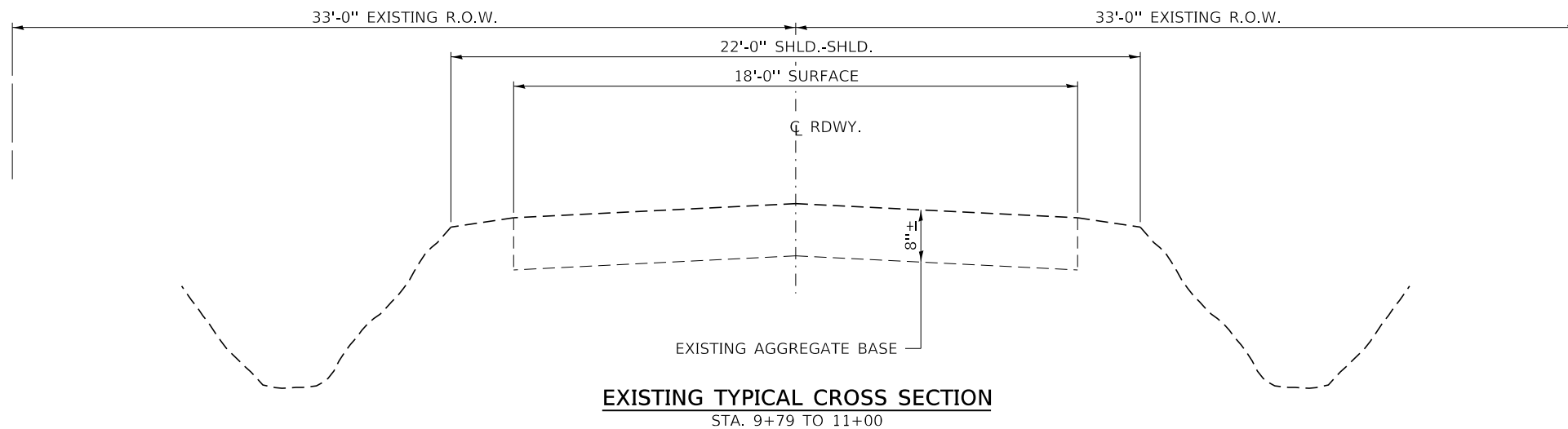
GENERAL NOTES

- 1) ALL CLEARING, GRUBBING, FENCE REMOVAL, PAVEMENT REMOVAL, AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. ALL AGGREGATE AND BITUMINOUS PAVEMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR IN A METHOD APPROVED BY THE ENGINEER. REMOVAL AND DISPOSAL OF PAVEMENT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 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 MARKS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- 3) THE LOCATION ON THE PLANS OF EXISTING DRAINAGE STRUCTURES, TELEPHONE LINES, ELECTRIC LINES, WATER SERVICE LINES, GAS MAINS, AND OTHER UTILITY FACILITIES AS SHOWN ON THE PLANS ARE BASED ON FIELD INVESTIGATIONS AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.
- 4) THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES
 AGGREGATE BASE COURSE 2.05 TON/CU YD
 POROUS GRANULAR EMBANKMENT/BACKFILL 1.50 TON/CU YD
 STONE RIPRAP 1.75 TON/CU YD
- 5) THE FINAL SURFACE OF ALL EMBANKMENT AREAS SHALL BE SEEDED. THE TOP 4 INCHES OF THE SEEDED AREAS SHALL BE TOPSOIL SUBJECT TO THE APPROVAL OF THE ENGINEER. THE COST OF SHAPING THE SLOPES AND PROVIDING TOP SOIL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.
- 6) THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY OR AS DIRECTED BY THE ENGINEER.
 SEEDING, CLASS 2 (SPECIAL) = 0.1 ACRES
- 7) ALL WASTE MATERIAL FROM EXCAVATIONS SHALL BE DISPOSED OF BY THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 8) ALL ELEVATIONS SHOWN REFER TO U.S.G.S DATUM TO MEAN SEA LEVEL UNLESS OTHERWISE NOTED.
- 9) CONTINUOUS PAVING OPERATIONS ON THE MAIN ROADWAY SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION OF THE HOT-MIX ASPHALT SURFACE. NO INTERRUPTIONS FOR SIDE ROADS, ENTRANCES, TURN LANES ECT. WILL BE ALLOWED
- 10) THE CONTRACTOR SHALL SALVAGE THE EXISTING STONE RIPRAP AND PLACE THIS MATERIAL ON FINAL SLOPE AS DIRECTED BY THE
- 12) COMMITMENTS:
 - 1) TREES THREE INCHES OR GREATER IN DIAMTER SHALL NOT BE CLEARED BETWEEN APRIL 1 AND SPETEMBER 30.
 - 2) A BAT ASSESSMENT SHALL BE CONDUCTED IF WORK OCCURS TO EXISTING STRUCTURE AFTER JANUARY 12, 2024.
 - 3) THE CONTRACTOR SHALL COORDINATE WITH SPOON RIVER ELECTRIC AHEAD OF ANY PILE DRIVING OR EARTHWORK ACTIVITIES AROUND POLES. PROVIDE SUFFICIENT TIME FOR TEMPORARY OR PERMANENT RELOCATION OF UTILITIES.

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION	MISC. EXCAVATION	SHRINKAGE FACTOR	PERCENT USED	EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT REQUIRED	EARTHWORK BALANCE
	CU.YD.	CU.YD.			CU.YD.	CU.YD.	CU.YD.
MS 3500 / W. TERMINAL STREET							
STA. 9+79.00 TO STA. 9+98.00	10		25.00%	100.00%	7	23	-16
STA. 9+98.00 TO STA. 10+20.00			25.00%	20.00%	0		0
STA. 10+20.00 TO STA. 11+00.00	58		25.00%	100.00%	43	33	10
*EXCAVATION FOR CULVERT/BACKFILL		331	25.00%	10.00%	25		25
TOTAL	67				75	56	19
USE	65						20

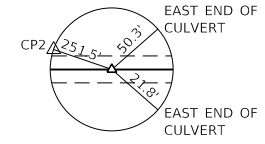
*INCLUDES THE EXCAVATION FOR THE CONCRETE BOX CULVERT. COST OF EXCAVATION IS INCLUDED IN THE POROUS GRANULAR EMBANKMENT AND WASTE 20 CU YDS



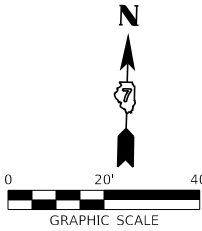
SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

* SEE INTERSECTION DETAIL FOR RADII LAYOUT
** CONSTRUCT FULL DEPTH ACROSS CULVERT

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS



P.O.T. STA. 12+68.55
MAG NAIL (SET)
N. 620714.036
E. 1058446.319

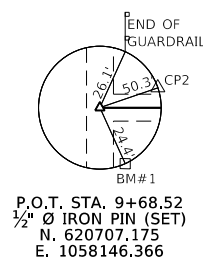


PLAN	REVIEWED	DATE
	BY	
	DATE	
	BY	
	DATE	
	BY	
	DATE	

NW COR. SEC. 11
N. 620736.1435
E. 1058156.4380

IMPROVEMENT BEGINS
STATION 9+79

EXISTING GUARDRAIL REMOVAL
LENGTH = 50'



P.O.T. STA. 9+68.52
1/4" Ø IRON PIN (SET)
N. 620707.175
E. 1058146.366

DIANE PEACH
NE 1/4, SEC 10, T. 2 S., R. 10 E., 3RD P.M.

EXISTING GUARDRAIL REMOVAL
LENGTH = 46'

IMPROVEMENT ENDS
STATION 11+00

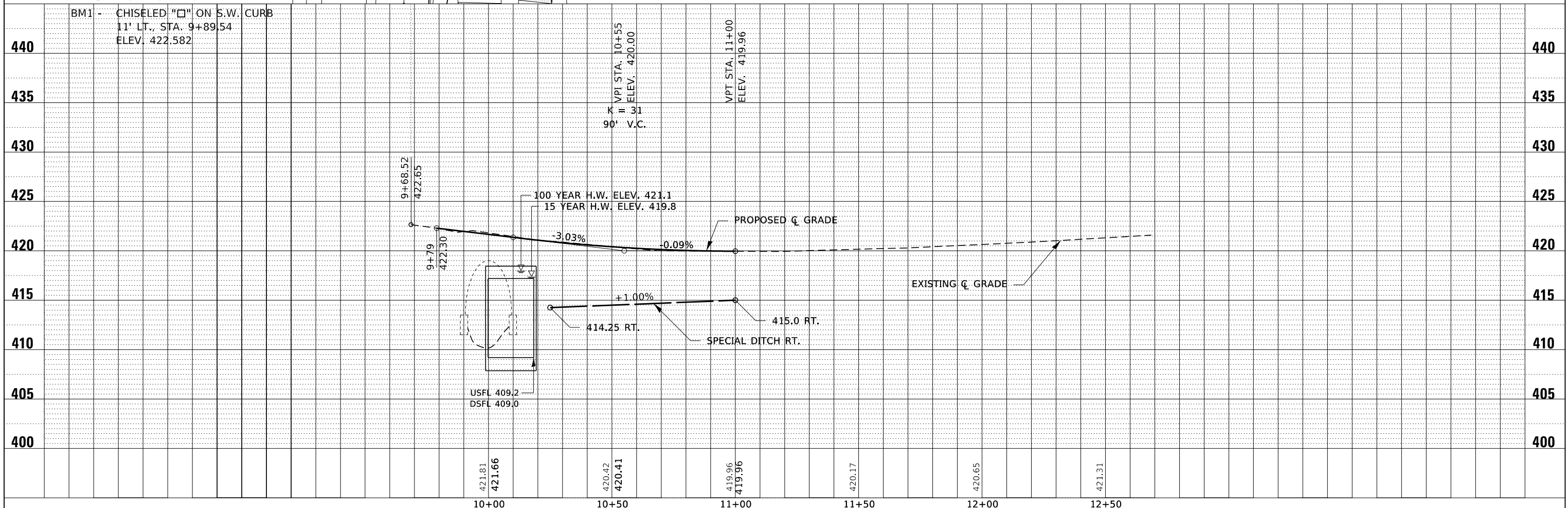
PROPOSED R.O.W. LINE
STA. 10+09
REINFORCED CONCRETE BOX CULVERT
20'-6" SPAN X 9'-0" RISE
LENGTH = 33'; SKEW = 0°
PROPOSED S.N. 024-3147

NOTE: EXISTING SIGNS SHALL BE REMOVED AND RE-ERECTED

EXISTING STRUCTURE NO. 024-3062
STATION 10+00 - CORRUGATED STEEL CULVERT ARCH WITH
CONCRETE FOOTINGS, HEADWALLS AND WINGWALLS
18' SPAN X 5.5' RISE; 24.8' o.-o. HEADWALLS

PATRICIA K LONGBONS TRUST
NW 1/4, SEC 11, T. 2 S., R. 10 E., 3RD P.M.

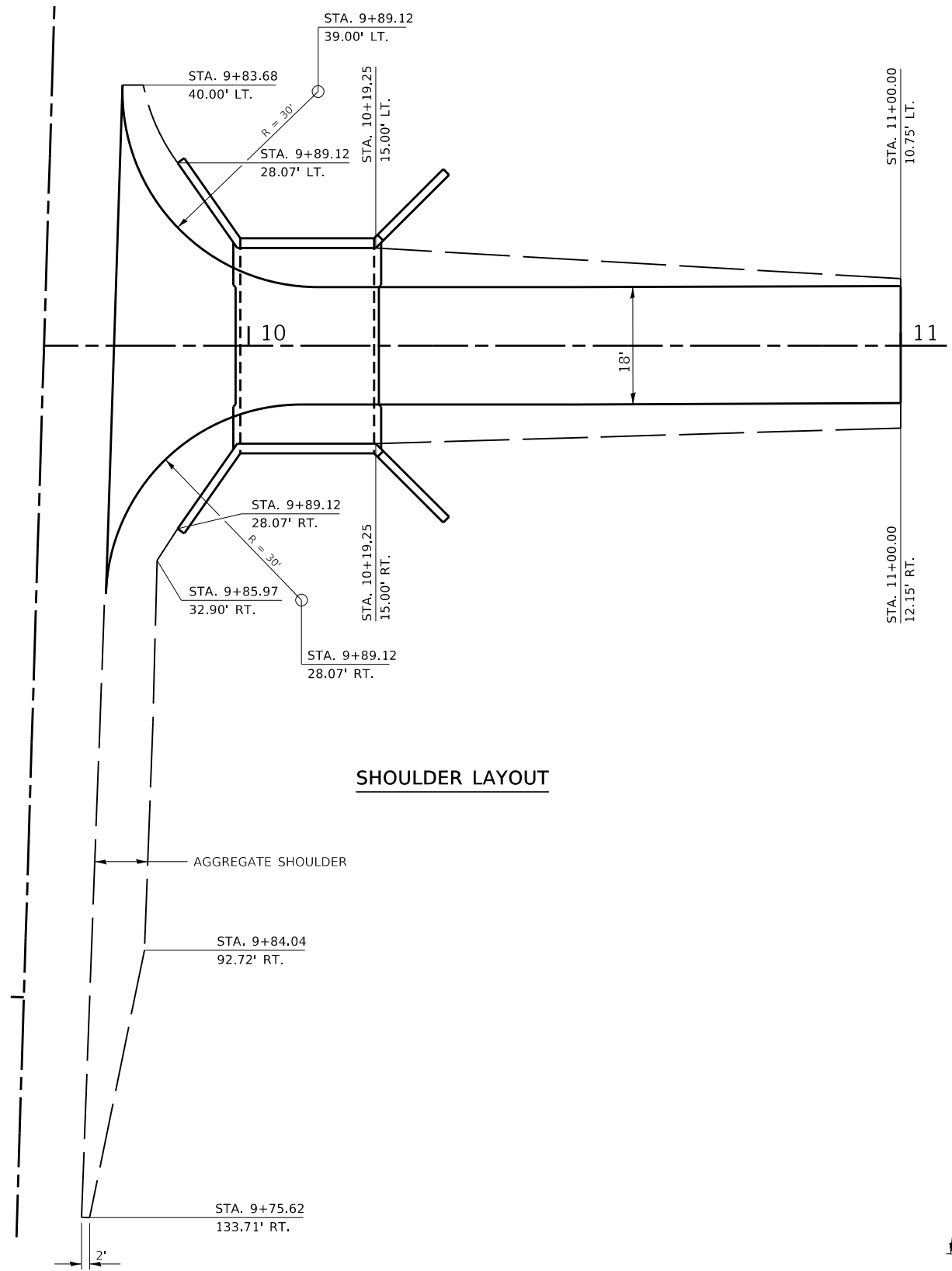
PROFILE	REVIEWED	DATE
	BY	
	DATE	
	BY	
	DATE	
	BY	
	DATE	



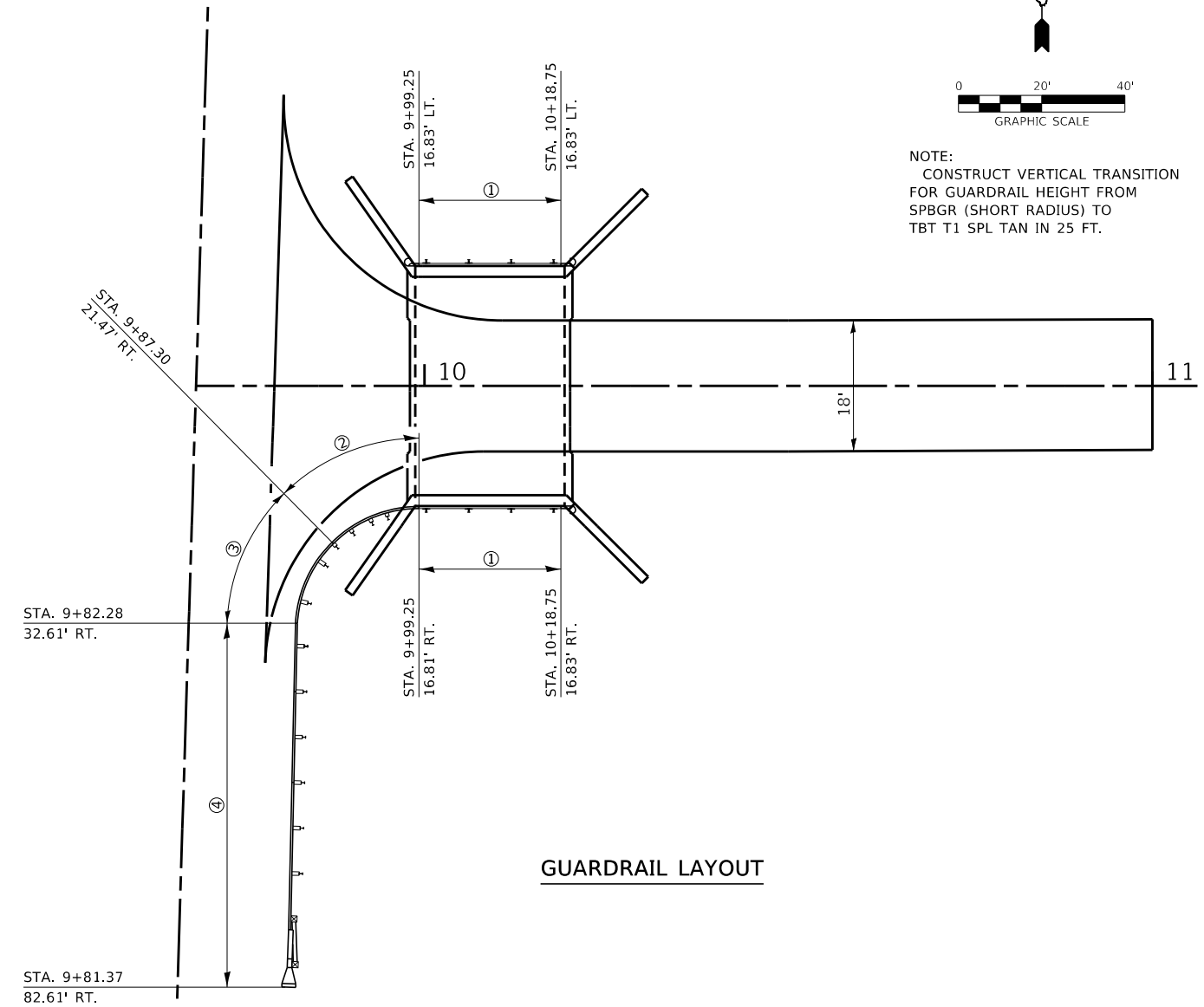
FILE NAME = 220150-eh-planprf.dgn	USER NAME = rmosick	DESIGNED - S.A.A	REVISED -	STATE OF ILLINOIS EDWARDS COUNTY HIGHWAY DEPARTMENT	PLAN & PROFILE	M.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3066 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = \$SCALE\$	DRAWN - J.B.L.	REVISED -			3500	21-00070-00-BR	EDWARDS	15	4	
PLOT DATE = 10/30/2024	DATE = 10/30/2024	CHECKED - J.W.F.	REVISED -			ROAD DISTRICT NO. 6	CONTRACT NO. 95968				
		DATE = 10/30/2024	REVISED -			SCALE: 5V:20H	SHEET NO. 1 OF 1 SHEETS	STA. 9+68.52 TO STA. 12+68.55	C-97-083-23 ILLINOIS FED. AID PROJECT 785R(503)		



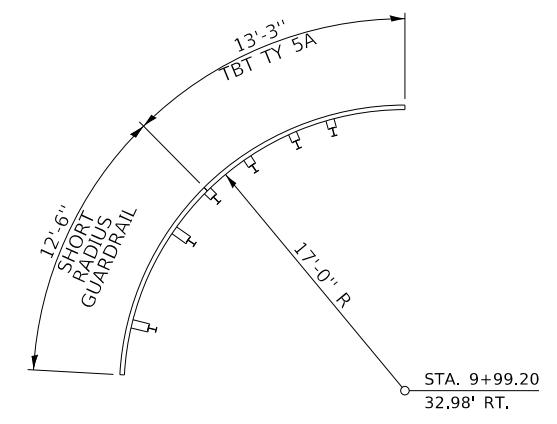
NOTE:
CONSTRUCT VERTICAL TRANSITION
FOR GUARDRAIL HEIGHT FROM
SPBGR (SHORT RADIUS) TO
TBT T1 SPL TAN IN 25 FT.



SHOULDER LAYOUT



GUARDRAIL LAYOUT



GUARDRAIL DETAIL
NO SCALE
SOUTHWEST BRIDGE APPROACH

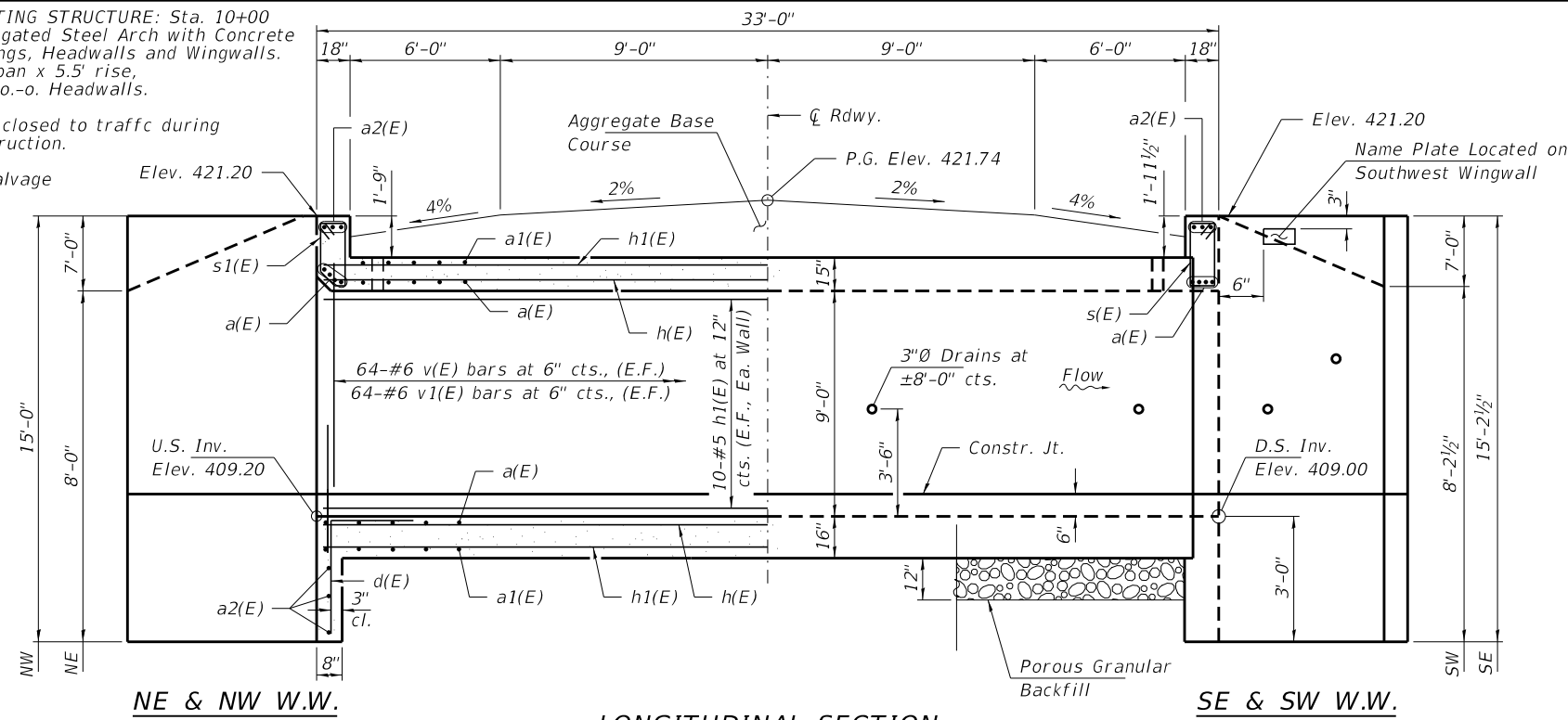
- ① STEEL RAILING, TYPE S-1
- ② TBT TY 5A, SPECIAL
- ③ SPBGR (SHORT RADIUS)
- ④ TBT TY1 SPL, TAN.

FILE NAME = 220150-shrt-el1dr-gr1.dgn	USER NAME = rmosck	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS EDWARDS COUNTY HIGHWAY DEPARTMENT	GUARDRAIL AND SHOULDER LAYOUT		M.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3068 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		DRAWN - G.D.M.	REVISED -		3500	21-00070-00-BR	EDWARDS	15	5		
	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -		ROAD DISTRICT NO. 6		CONTRACT NO. 95968				
	PLOT DATE = 10/30/2024	DATE - 10/30/2024	REVISED -		SCALE:	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	C-97-083-23	ILLINOIS	FED. AID PROJECT 785R(503)

EXISTING STRUCTURE: Sta. 10+00
Corrugated Steel Arch with Concrete
Footings, Headwalls and Wingwalls.
18' span x 5.5' rise,
24.8' o.-o. Headwalls.

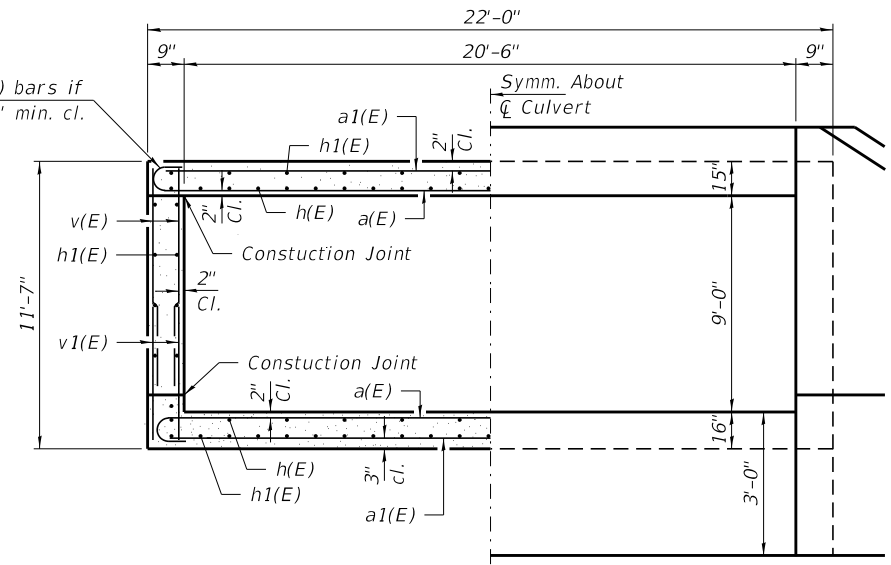
Road closed to traffic during
construction.

No Salvage



LONGITUDINAL SECTION

Tilt hook of a(E) bars if
necessary for 2" min. cl.



HALF END ELEVATION
Showing Outlines

NOTES

- Exposed edges shall be beveled 3/4".
- For backfilling and embankment, see Standard Specifications, except that Porous Granular Embankment shall be placed as shown in backfill detail for the full length of the culvert.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60. See Special Provisions.
- It shall be the responsibility of the Contractor to divert flow and dewater during construction in order to keep construction areas free of water. The method of water diversion and dewatering shall be subject to the approval of the Engineer and shall be included in the cost of Concrete Box Culverts.
- All construction joints shall be bonded.
- Precast concrete box culverts alternate will not be allowed.
- All bars shall be epoxy coated.
- 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.

INDEX OF STRUCTURE SHEETS

- 1-5. Culvert Details
- 6. Boring

MIN. BAR LAP

#6 = 3'-10"

DESIGN STRESSES

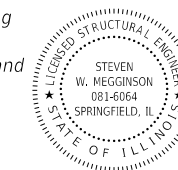
f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2020 AASHTO LRFD
Bridge Design Specifications, 9th Edition
with all interims.

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

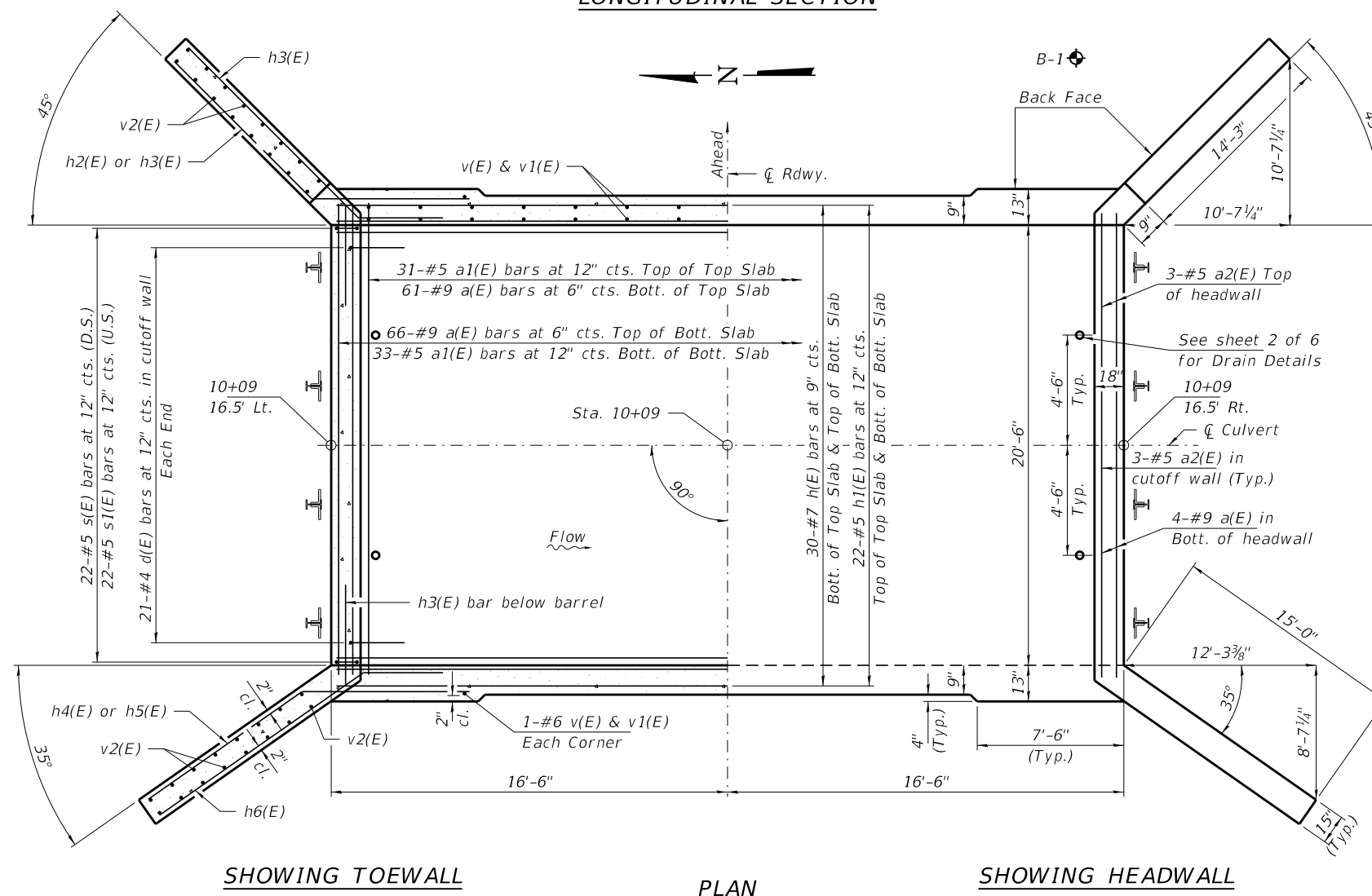
Steven W. Megginson 10/30/2024
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



Expires 11-30-2024

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	135	#9	24'-2"	U
a1(E)	64	#5	21'-8"	—
a2(E)	12	#6	21'-8"	—
d(E)	42	#4	4'-5"	L
h(E)	60	#7	32'-8"	—
h1(E)	84	#5	32'-8"	—
h2(E)	36	#7	16'-9"	—
h3(E)	66	#7	17'-4"	—
h4(E)	24	#7	17'-10"	—
h5(E)	36	#7	16'-6"	—
h6(E)	40	#7	19'-0"	—
s(E)	22	#5	10'-3"	U
s1(E)	22	#5	9'-3"	U
v(E)	260	#6	9'-5"	—
v1(E)	260	#6	5'-10"	—
v2(E)	112	#4	13'-8"	—
Porous Granular Embankment			Ton	600
Porous Granular Backfill			Cu. Yd.	31
Stone Dumped Riprap, Class A4			Ton	235
Removal of Existing Structures			Each	1
Reinf. Bars, Epoxy Coated			Pound	34,560
Name Plates			Each	1
Concrete Box Culverts			Cu. Yd.	136.9
Membrane Waterproofing System for Buried Structures			Sq. Yd.	83



SHOWING TOEWALL

PLAN

SHOWING HEADWALL

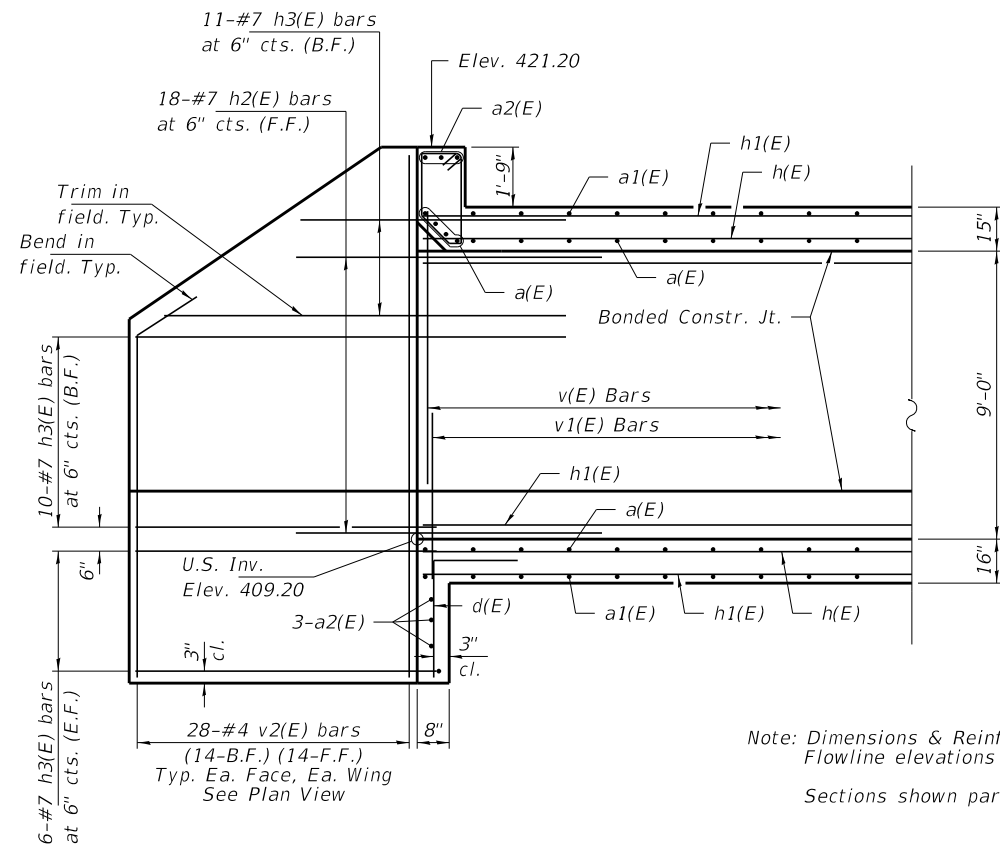
FILE NAME = 220150-shi-culvert.dgn	USER NAME = rtholck	DESIGNED - J.R.B.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 10/30/2024	DRAWN - G.D.M.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
EDWARDS COUNTY HIGHWAY DEPARTMENT

CULVERT DETAILS
STRUCTURE NO. 024-3147

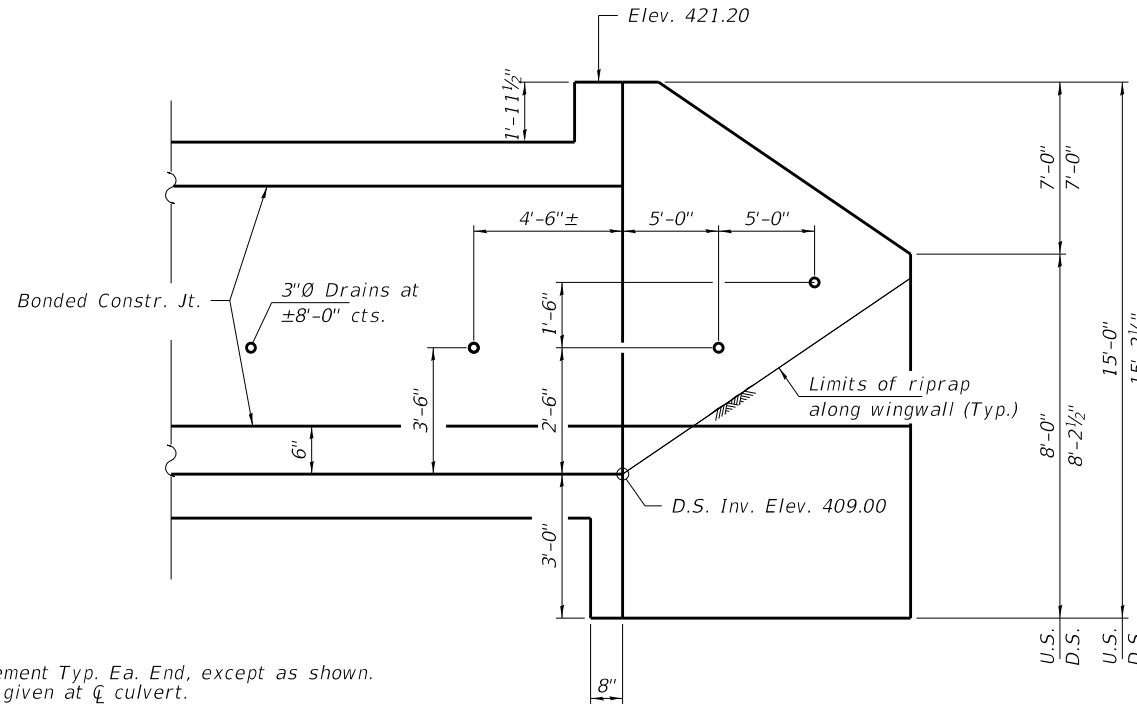
SHEET NO. 1 OF 6 SHEETS

M.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3500	21-00070-00-BR	EDWARDS	15	6
ROAD DISTRICT NO. 6		CONTRACT NO. 95968		
C-97-083-23		ILLINOIS FED. AID PROJECT 785R(503)		



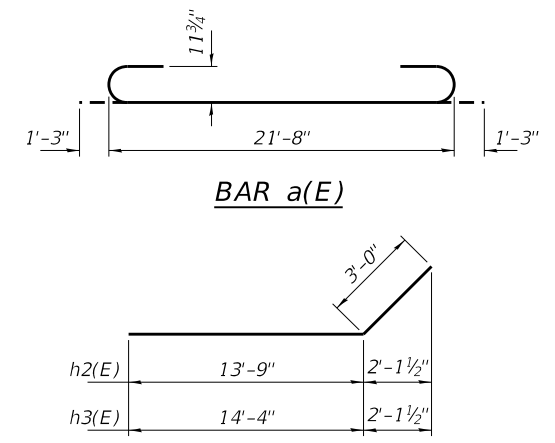
WINGWALL ELEVATION - SHOWING REINFORCEMENT

N.E. & S.E. Wingwalls

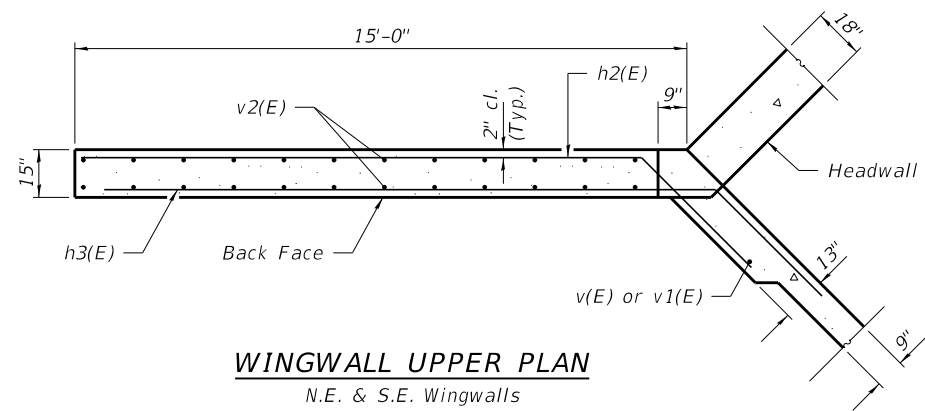


WINGWALL ELEVATION

N.E. & S.E. Wingwalls

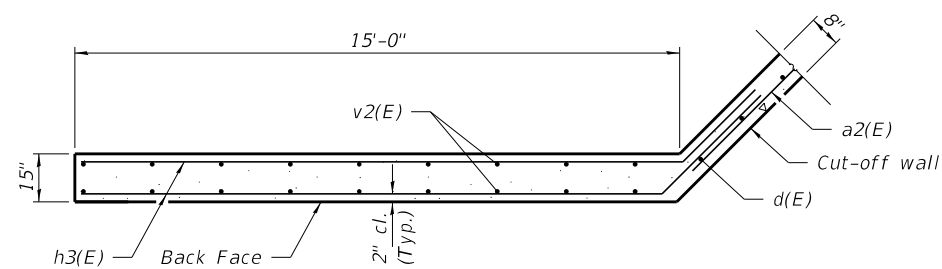


BARS h2(E) & h3(E)



WINGWALL UPPER PLAN

N.E. & S.E. Wingwalls



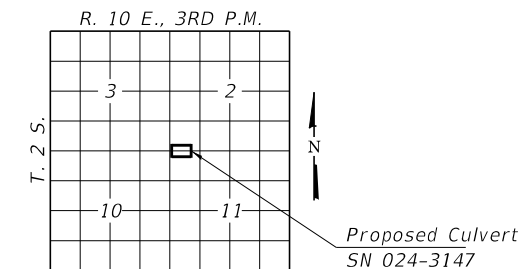
WINGWALL LOWER PLAN

N.E. & S.E. Wingwalls

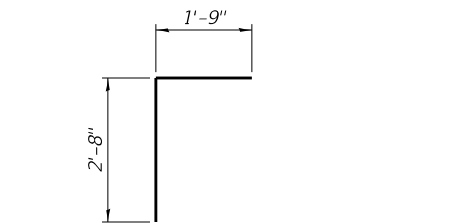
BUTTER CREEK
BUILT 202_ BY
EDWARDS COUNTY
SEC. 21-00070-00-BR
M.S. 3500
STR. NO. 024-3147
LOADING HL-93

NAME PLATE

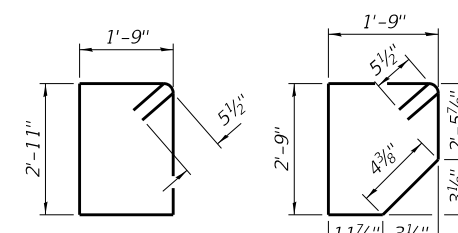
See Std. 515001



LOCATION SKETCH



BAR d(E)



BAR s(E)

BAR s1(E)

WATERWAY INFORMATION

Drainage Area = 1.7 sq. mi.		Existing Low Grade Elev. 419.9 at Sta. 11+00 Proposed Low Grade Elev. 421.0 at Sta. 11+00							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Ten-Year	10	1,320	85	185	419.3	1.7	0.3	421.0	419.6
Design	15	1,520	85	185	419.8	1.4	0.7	421.2	420.5
Base	100	2,510	85	185	421.2	1.0	0.9	422.2	422.1
Max Calc	200	2,820	85	185	421.4	0.7	0.8	422.1	422.2

10 Year Velocity through Existing Bridge = 9.4 fps 10 Year Velocity through Proposed Bridge = 6.6 fps

NOTES

- For Bill of Material and reinforcement bars summary see sheet 1 of 6.
- B.F. denotes Back Face, F.F. denotes Front Face and E.F. denotes Each Face.

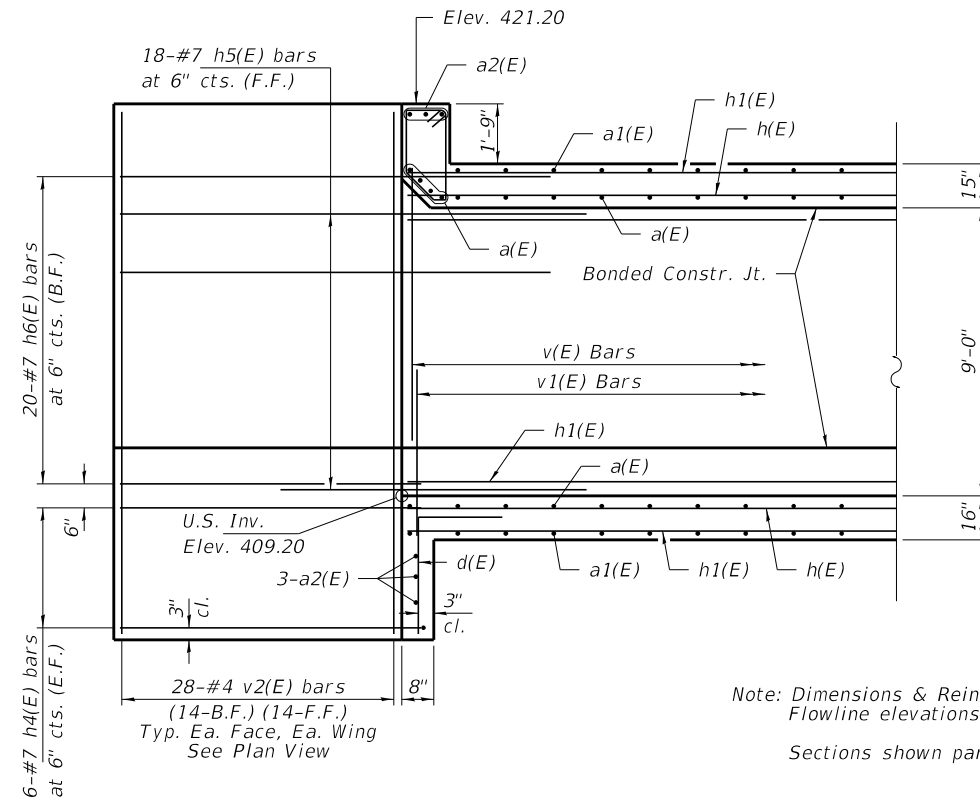
FILE NAME = 220150-shi-culvert.dgn	USER NAME = rthosck	DESIGNED - J.R.B.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -
PLOT DATE = 10/30/2024		DRAWN - G.D.M.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
EDWARDS COUNTY HIGHWAY DEPARTMENT

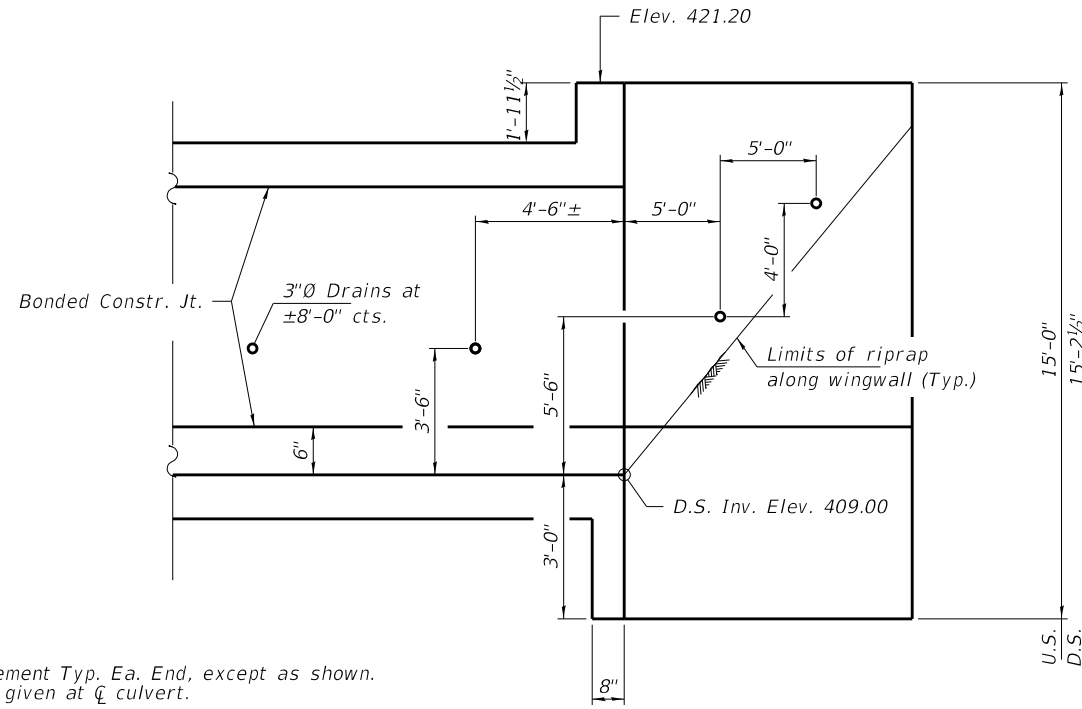
CULVERT DETAILS
STRUCTURE NO. 024-3147

SHEET NO. 2 OF 6 SHEETS

M.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3500	21-00070-00-BR	EDWARDS	15	7
ROAD DISTRICT NO. 6		CONTRACT NO. 95968		
C-97-083-23	ILLINOIS FED. AID PROJECT 785R(503)			

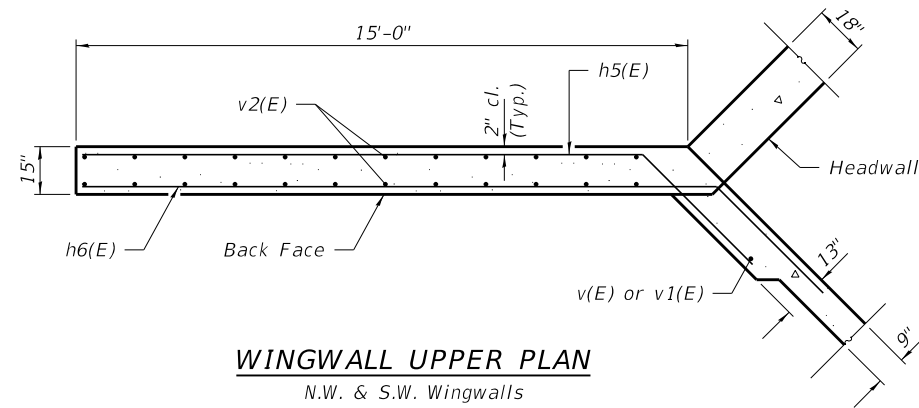


WINGWALL ELEVATION - SHOWING REINFORCEMENT
N.W. & S.W. Wingwalls

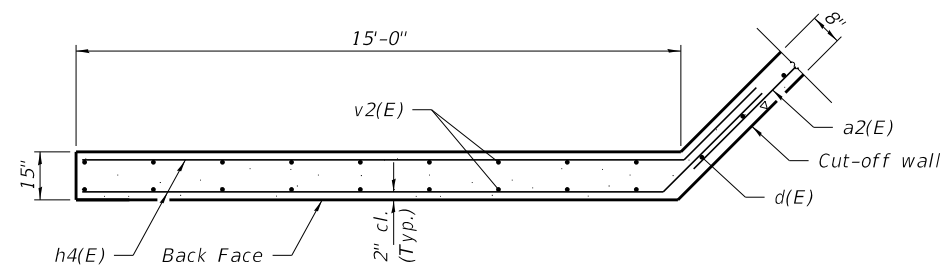


WINGWALL ELEVATION
N.W. & S.W. Wingwalls

Note: Dimensions & Reinforcement Typ. Ea. End, except as shown.
Flowline elevations are given at \bar{c} culvert.
Sections shown parallel with \bar{c} culverts.



WINGWALL UPPER PLAN
N.W. & S.W. Wingwalls



WINGWALL LOWER PLAN
N.W. & S.W. Wingwalls

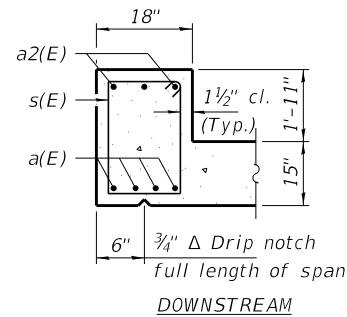
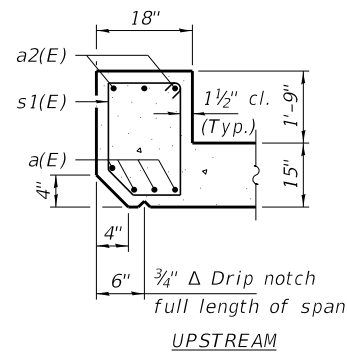
h4(E)	14'-10"	1'-8 ⁵ / ₈ "
h5(E)	13'-6"	2'-5 ¹ / ₂ "
h6(E)	16'-0"	2'-5 ¹ / ₂ "

BARS h4(E), h5(E) & h6(E)

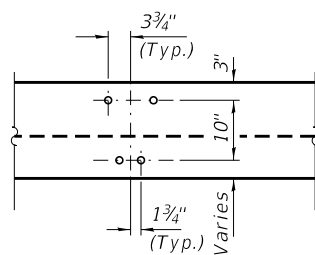
NOTES

- For Bill of Material and reinforcement bars summary see sheet 1 of 6.
- B.F. denotes Back Face, F.F. denotes Front Face and E.F. denotes Each Face.

FILE NAME = 220150-shi-culvert.dgn	USER NAME = rthosick	DESIGNED - J.R.B.	REVISIONS -	STATE OF ILLINOIS EDWARDS COUNTY HIGHWAY DEPARTMENT	CULVERT DETAILS STRUCTURE NO. 024-3147	M.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E./S.E. CORP. 184.000959	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISIONS -			3500	21-00070-00-BR	EDWARDS	15	8	
	PLOT DATE = 10/30/2024	DRAWN - G.D.M.	REVISIONS -			ROAD DISTRICT NO. 6		CONTRACT NO. 95968			
		CHECKED - S.W.M.	REVISIONS -			SHEET NO. 3 OF 6 SHEETS		C-97-083-23 ILLINOIS FED. AID PROJECT 785R(503)			

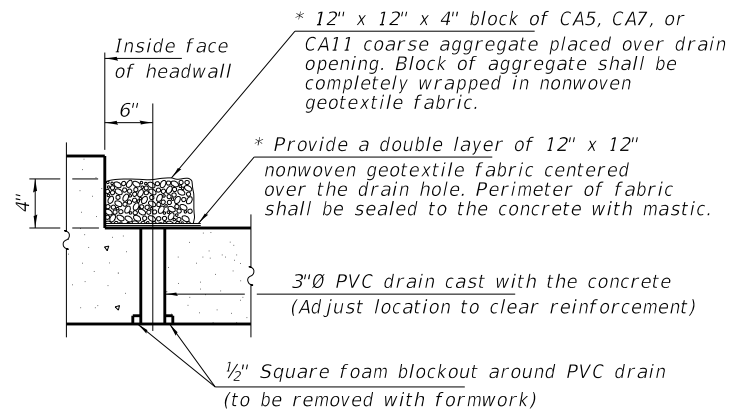


SECTION THRU HEADWALL



DETAIL A

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

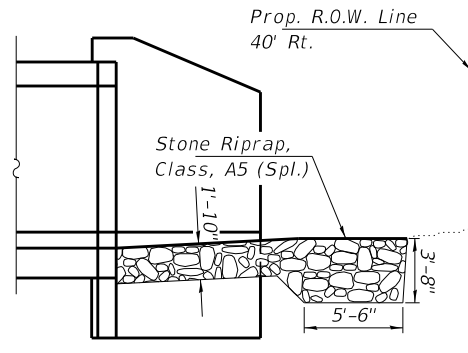


DRAIN DETAIL

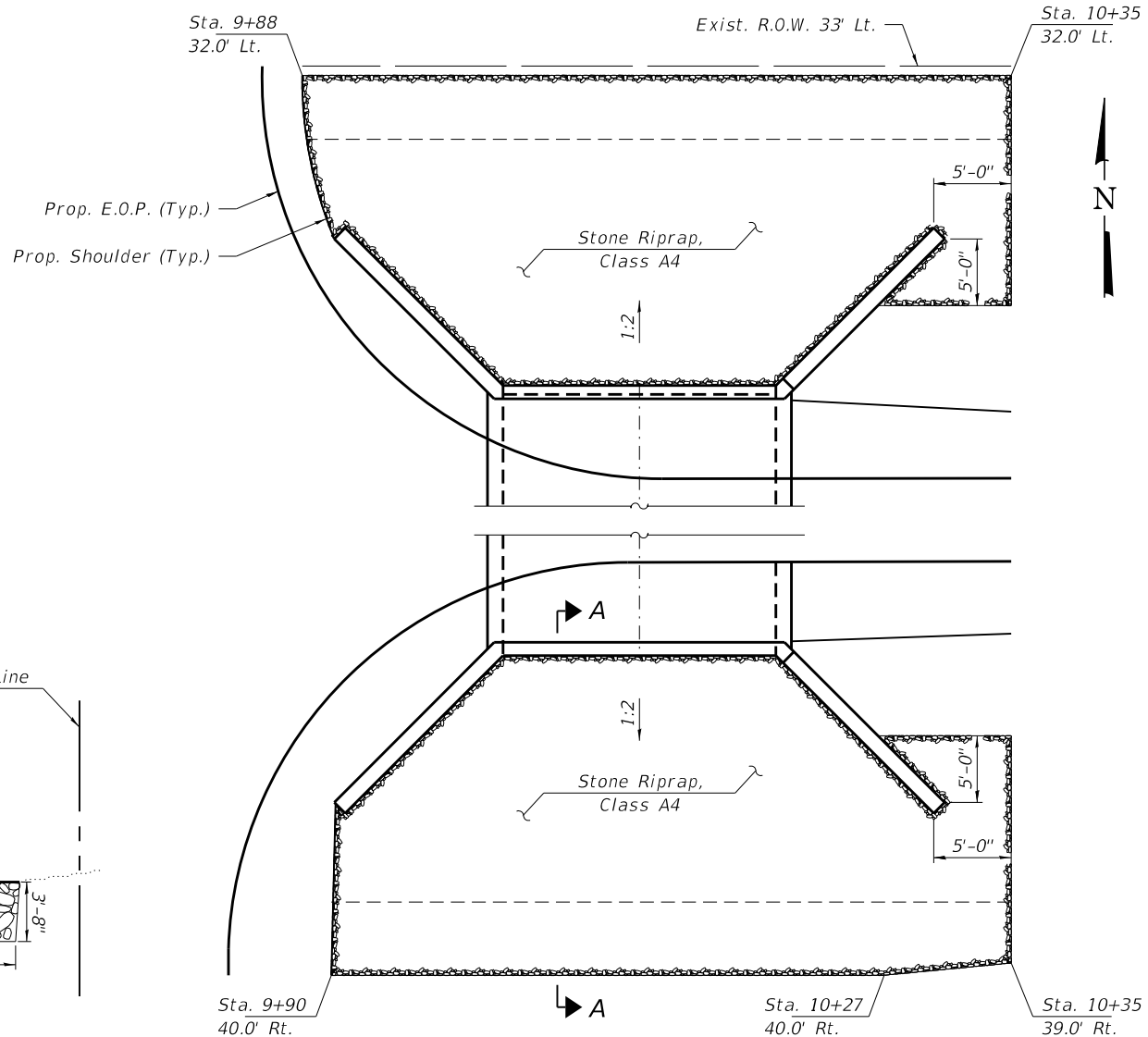
(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for Concrete Box Culverts.)

Drains shall be installed in each span near head walls. See Plan view

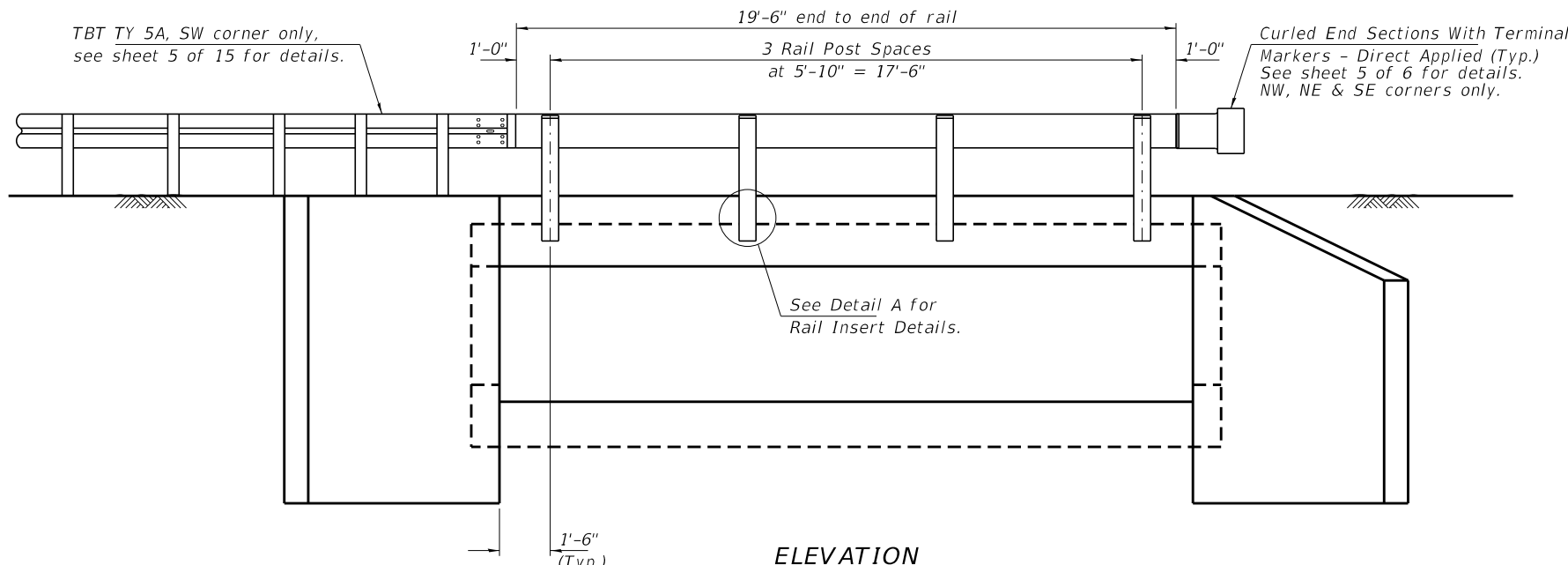
Membrane waterproofing shall be omitted for the fabric, drain and aggregate block.



SECTION A-A

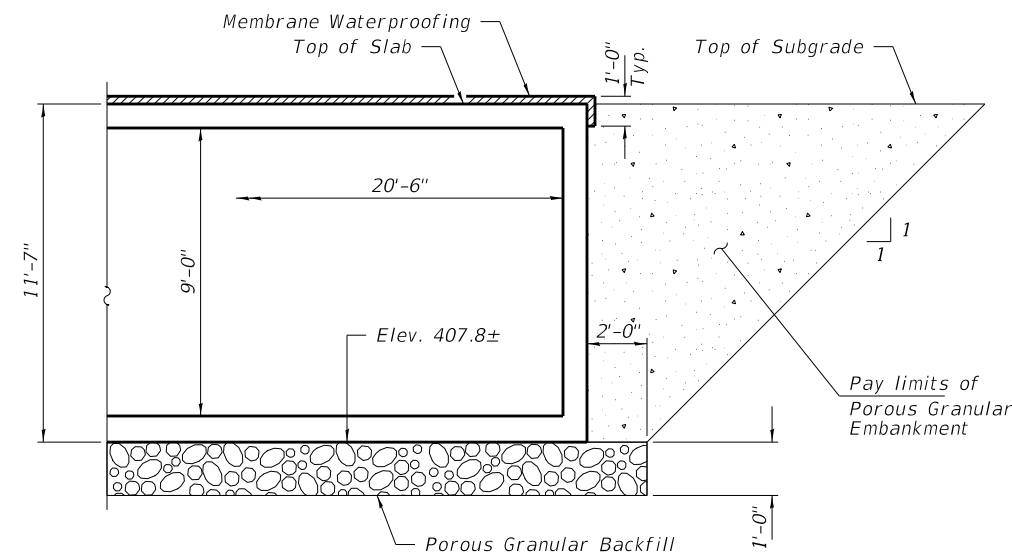


RIPRAP LAYOUT



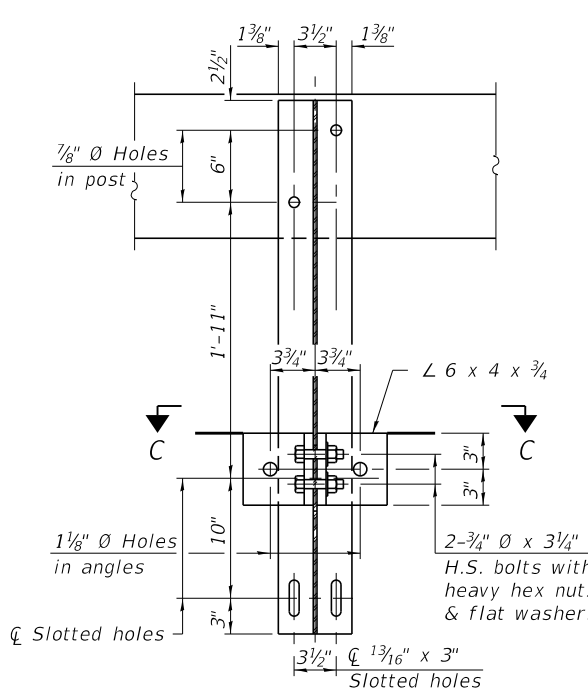
ELEVATION

Showing Rail Post Spaces. See sheet 5 of 6 for Railing Details.

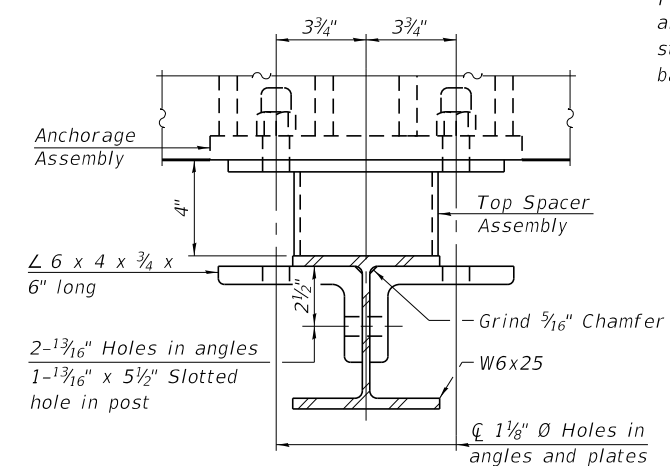


BACKFILL DETAIL

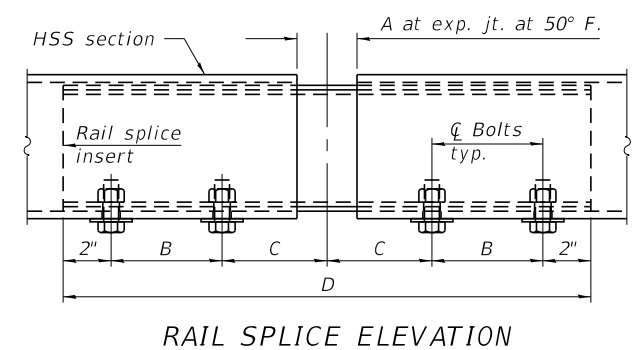
FILE NAME = 220150-shi-culvert.dgn	USER NAME = rthosick	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS EDWARDS COUNTY HIGHWAY DEPARTMENT	CULVERT DETAILS STRUCTURE NO. 024-3147	M.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E./S.E. CORP. 184.000959	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -			3500	21-00070-00-BR	EDWARDS	15	9	
	PLOT DATE = 10/30/2024	DRAWN - G.D.M.	REVISED -			ROAD DISTRICT NO. 6	CONTRACT NO. 95968				
		CHECKED - S.W.M.	REVISED -			C-97-083-23	ILLINOIS FED. AID PROJECT 785R(503)				



SECTION B-B



SECTION C-C

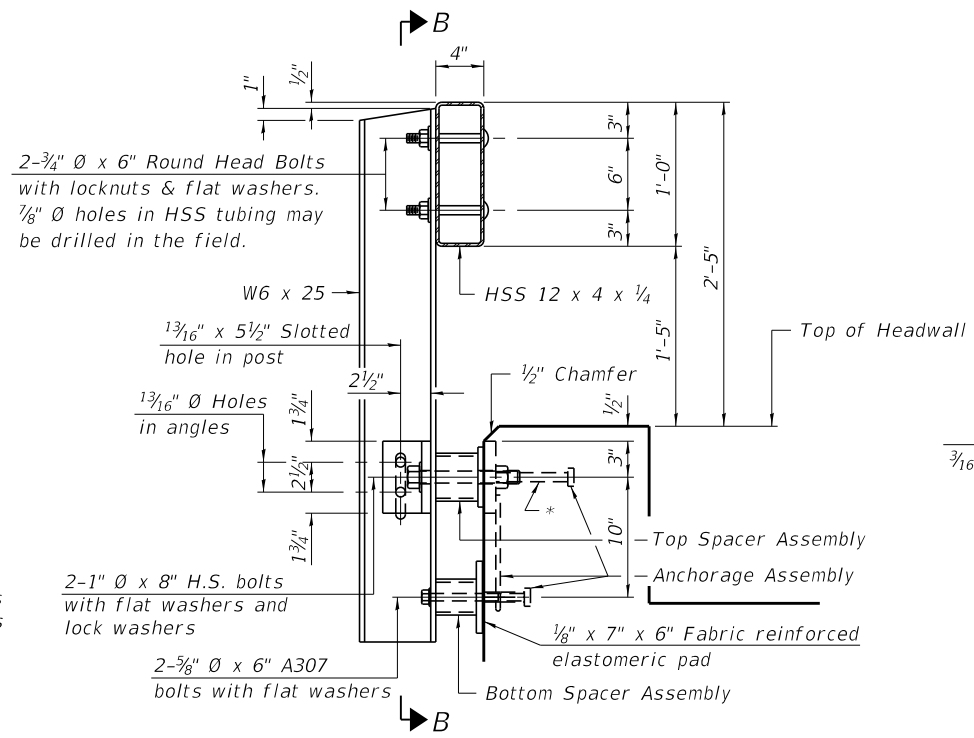


RAIL SPLICE ELEVATION

RAILING CRITERIA

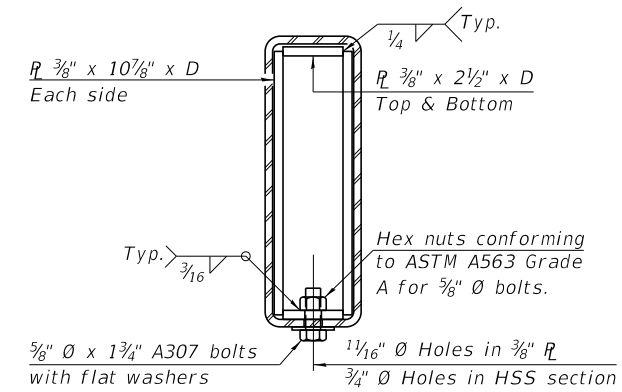
NCHRP 350 Test Level	2
Railing Weight (plf)	50
Max Post Spacing	10'-9"
HMA thickness range (in)	1 1/4 - 3 1/8

R-23A 10-12-2021

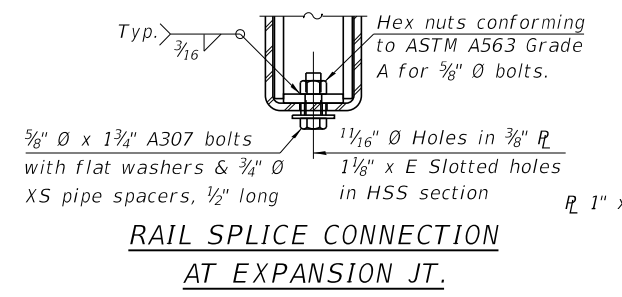


SECTION AT RAILING POST

* The outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchorage assembly. The anchorage studs may be bent down 1/2 inch to accommodate the top reinforcement bar placement.



SECTION AT RAIL SPLICE

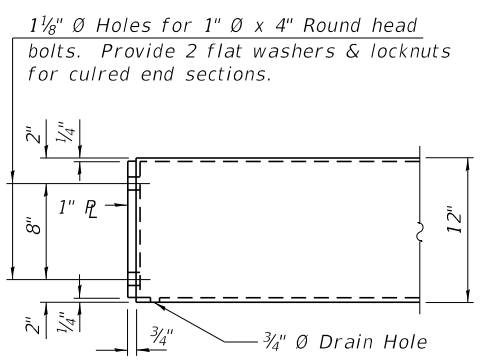


RAIL SPLICE CONNECTION AT EXPANSION JT.

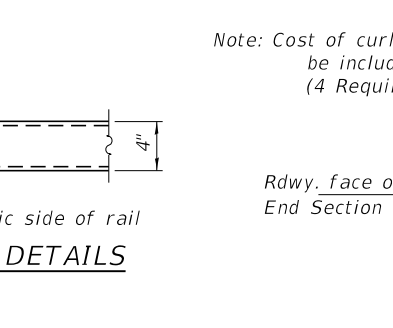
SPLICE DIMENSIONS

Location	T	A	B	C	D	E
All locs. not over exp. jts.	0	1/4"	4"	4"	1'-8"	-
Over Strip Seal Jt.	≤4"	2 1/2"	4 7/8"	4 3/8"	1'-10"	3 1/16"
Over Finger or Modular Jt.	≤9 1/2"	5 1/2"	7 3/8"	7 1/4"	2'-9 1/4"	5 1 3/16"
Over Finger or Modular Jt.	≤15"	8 1/4"	10 1/8"	10"	3'-8 1/4"	8 9/16"

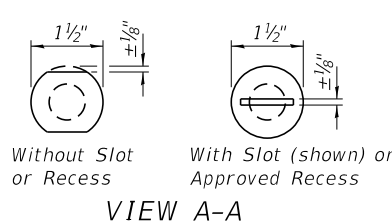
T = ; total movement along centerline of roadway at expansion joint.



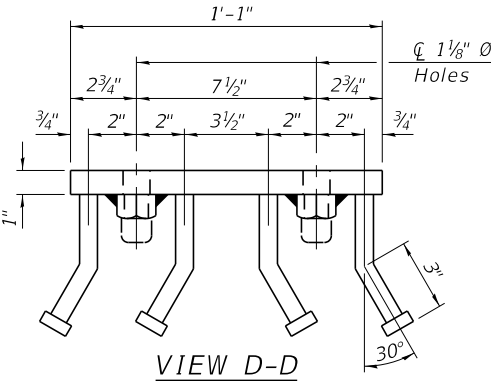
END OF RAIL DETAILS



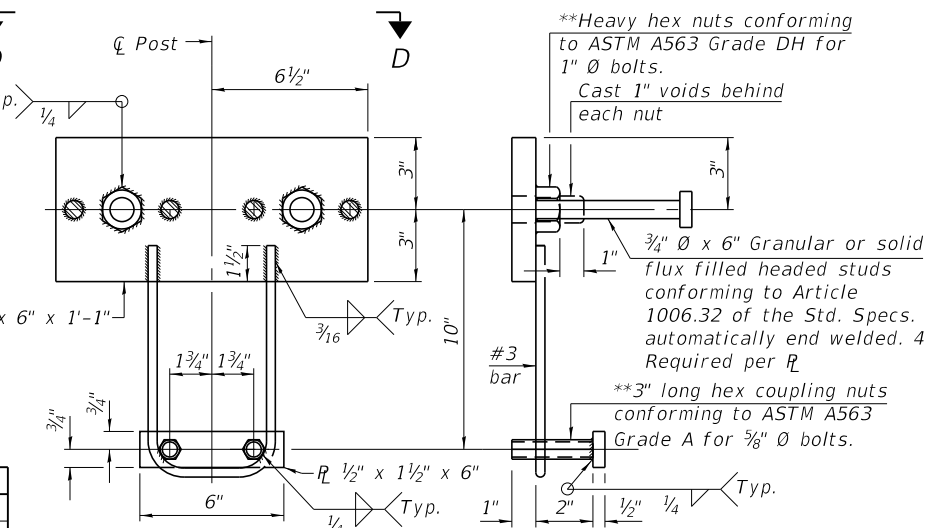
ROUND HEAD BOLT DETAIL



VIEW A-A



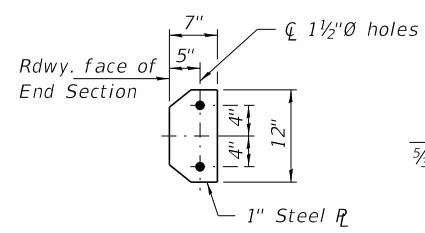
VIEW D-D



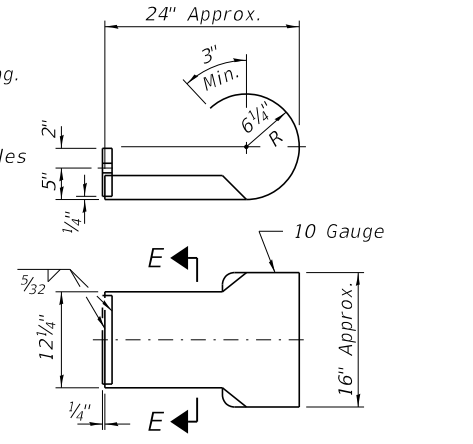
ANCHORAGE ASSEMBLY

** Threaded areas shall be plugged or blocked off during casting of concrete.

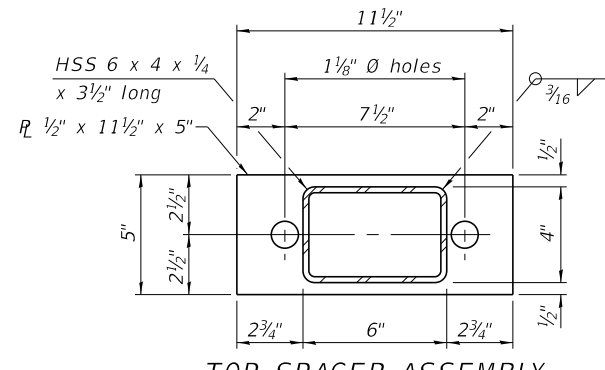
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



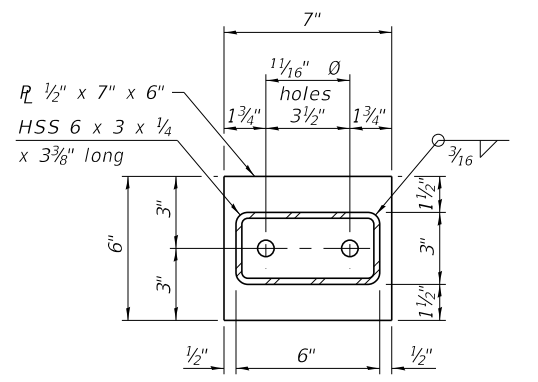
SECTION E-E



CURLED END SECTION DETAILS



TOP SPACER ASSEMBLY



BOTTOM SPACER ASSEMBLY

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	39
Terminal Marker Direct Applied	Each	4

NOBLE

BORING No. B-1

water level reading

ENGINEERING CONSULTANTS	County: Edwards, IL	Sheet No. 1 of 2	1st encounter: 13'
Client: HLR	Weather: Sunny	Temperature: 70's	water level reading
Driller: Noble Engineering Consultants	Date Started: 6-7-22	Surface Elevation: ~99 ^{mm} (420.8)	At completion Dry Cave
Location: Sec. #21-00070-00-BR	Date Finished: 6-7-22	Driller: Tony Schocker	Backfill: Soil Cuttings

Depth	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qp (tsf)*	Soil Description	Moisture %	USC Class.	Elev.**
1										96
2	SS-1	1.0'-2.5'	10	11-7-3	70	-	0.0'-4.1' Silt, Clay, Sand, Etc. FILL			97 (418.8)
3										96
4	SS-2	3.5'-5.0'	11	5-5-6	80	3.0				95 (416.8)
5										94
6	SS-3	6.0'-7.5'	12	4-5-7	100	2.0		14.8	CL	93 (414.8)
7										92
8										91
9	SS-4	8.5'-10.0'	11	4-5-6	100	3.1	4.1'-13.0' SILTY CLAY, trace to some sand, trace gravel, occ. dense thin sand seams, very stiff, brown	14.1	CL	90 (411.8)
10										89
11										88
12										87
13										86
14	SS-5	13.5'-15.0'	3	1-1-2	100	0.0		24.2	CH	85 (408.8)
15										84
16										83
17										82
18										81
19	SS-6	18.5'-20.0'	5	2-2-3	100	0.0	13.0'-22.0' CLAY, trace to some sand, medium stiff, gray	27.4	CH	80 (401.8)
20										79
21										78
22										77
23										76
24	SS-7	23.5'-25.0'	35	14-16-19	100	3.0	22.0'-38.0' CLAYEY SILT(TILL), trace to some sand, trace to some gravel, very stiff to hard, gray	12.7	CL-ML	75 (398.8)
25										74
26										73
27										72
28										71
29										70
30	SS-8	28.5'-30.0'	44	15-20-24	100	4.5+		17.2	CL-ML	69 (396.8)

Drilling Method: HSA (2-1/4" Id)	comments	* Qp test is an estimate of the unconfined compressive strength performed by a compact calibrated spring loaded cylinder
Depth: 0' to 42.0'		** ground surface elevation is estimated based upon CL bridge at mid-span being 100'
Drill Rig: Mobile B-47		
Sampling: split-spoon (SS)		

NOBLE

BORING No. B-1

water level reading

ENGINEERING CONSULTANTS	County: Edwards, IL	Sheet No. 2 of 2	1st encounter: 13'
Client: HLR	Weather: Sunny	Temperature: 70's	water level reading
Driller: Noble Engineering Consultants	Date Started: 6-7-22	Surface Elevation: ~99 ^{mm} (420.8)	At completion Dry Cave
Location: Sec. #21-00070-00-BR	Date Finished: 6-7-22	Driller: Tony Schocker	Backfill: Soil Cuttings

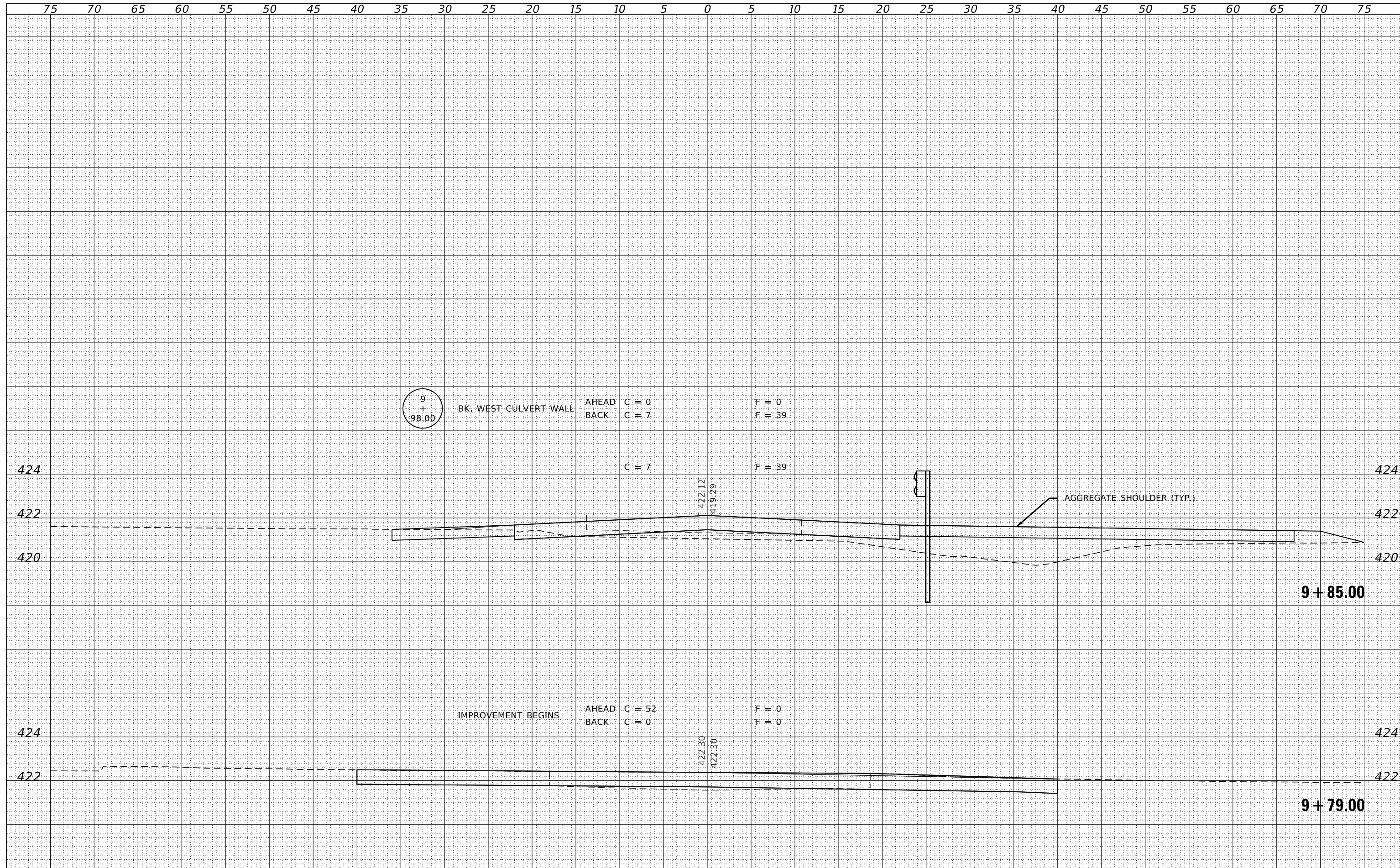
Depth	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qp (tsf)*	Soil Description	Moisture %	USC Class.	Elev.**
31										68
32										67
33										66
34	SS-9	33.5'-35.0'	44	17-21-23	70	4.5+	22.0'-38.0' CLAYEY SILT(TILL), trace to some sand, trace to some gravel, very stiff to hard, gray	16.7	CL-ML	65 (386.8)
35										64
36										63
37										62
38										61
39	SS-10	38.5'-40.0'	138	28-51-71	100	-	38.0'-46.2' WEATHERED CLAY SHALE, gray			60 (381.8)
40										59
41										58
42										57
43										56
44	SS-11	43.5'-45.0'	100+	22-100/5"	100	-				55 (378.8)
45										54
46										53
47							AR 46.2'			52
48										
49										
50										
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

Drilling Method: HSA (2-1/4" Id)	comments	* Qp test is an estimate of the unconfined compressive strength performed by a compact calibrated spring loaded cylinder
Depth: 0' to 46.2'		** ground surface elevation is estimated based upon CL bridge at mid-span being 100'
Drill Rig: Mobile B-47		
Sampling: split-spoon (SS)		

BORING

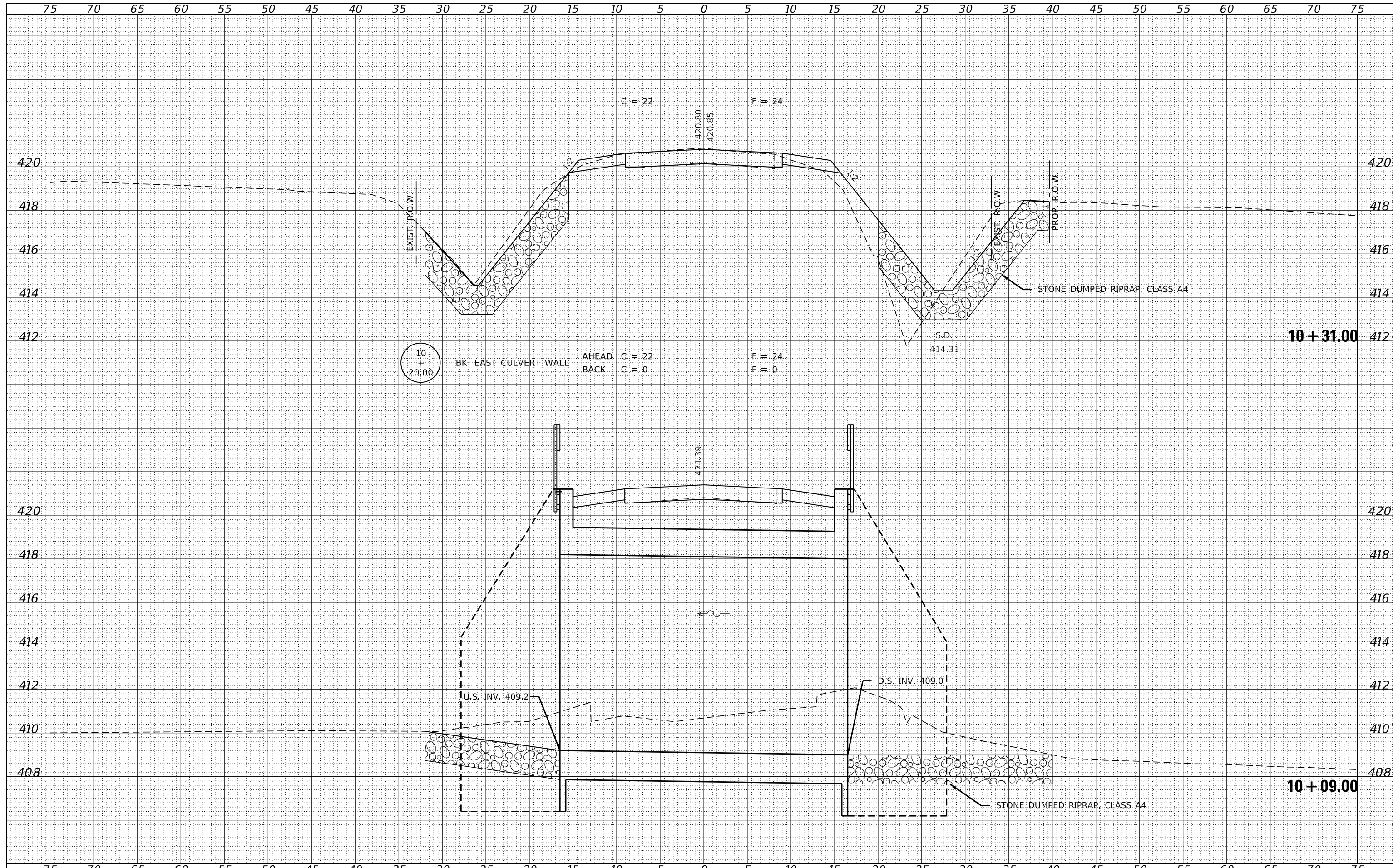
FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS CHECKED		
	AREAS CHECKED		

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

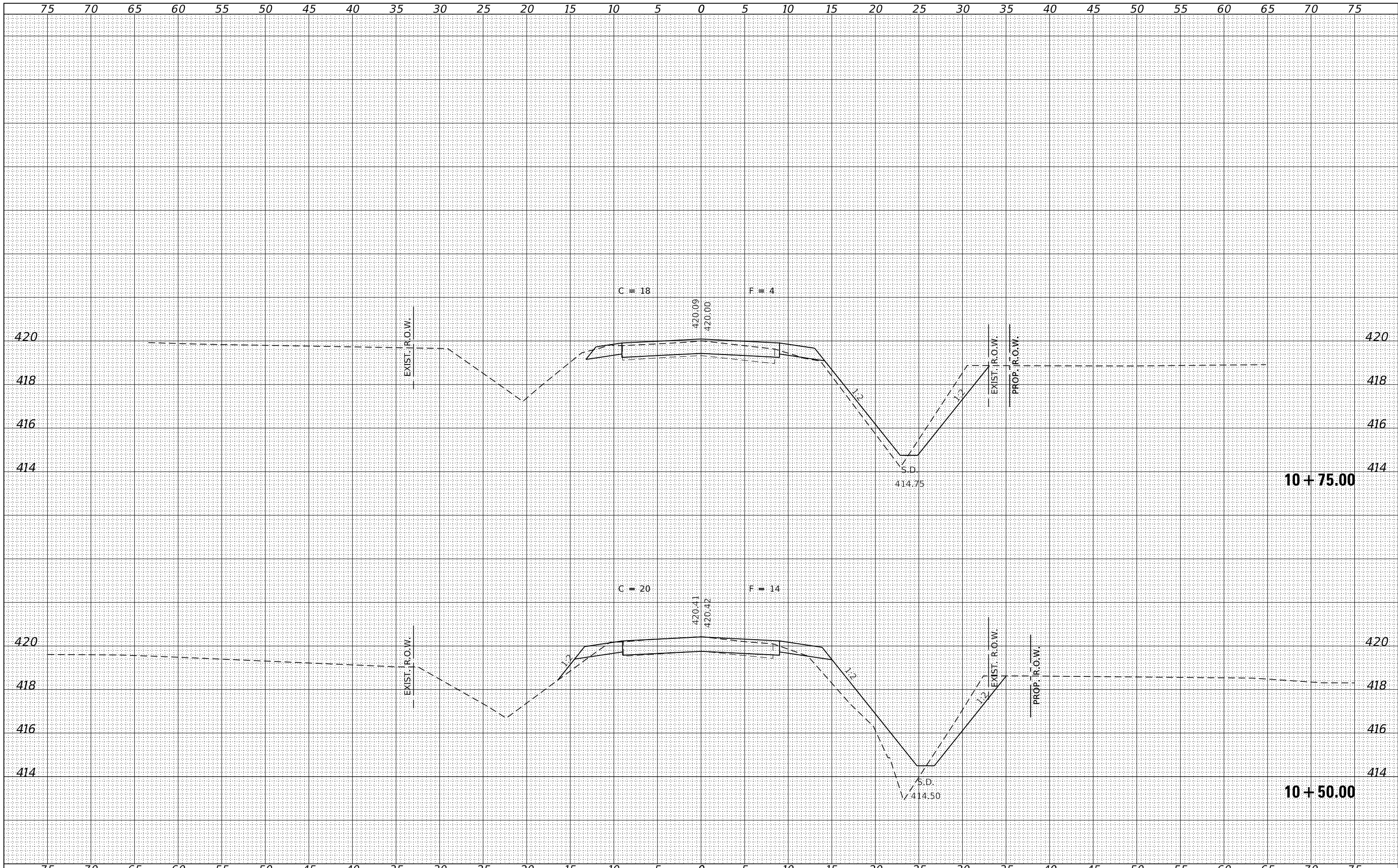


DATE	
BY	
FINAL SURVEY	
SURVEYED	
NOTE BOOK	
NO.	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
NOTE BOOK	
NO.	
AREAS CHECKED	



FILE NAME = 220150-shl-vs-sheets.dgn	USER NAME = rnosck	DESIGNED - S.A.A.	REVISD -	STATE OF ILLINOIS EDWARDS COUNTY HIGHWAY DEPARTMENT	STATION CROSS SECTIONS			M.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000958		DRAWN - J.B.L.	REVISD -		3500	21-00070-00-BR	EDWARDS	15	13			
PLOT SCALE = \$SCALE\$		CHECKED - J.W.F.	REVISD -		ROAD DISTRICT NO. 6			CONTRACT NO. 95968				
PLOT DATE = 10/30/2024		DATE - 10/30/2024	REVISD -		SCALE: 5V:20H	SHEET NO. 2 OF 4 SHEETS	STA. 10+09.00 TO STA. 10+31.00	C-97-083-23 ILLINOIS FED. AID PROJECT 785R(503)				



DATE	
BY	
FINISHED SURVEY	
NOTED SURVEY	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
NOTED SURVEY	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	

FILE NAME = 220150-shl-vs-sheets.dgn
 USER NAME = rmosck
 DESIGNED - S.A.A.
 DRAWN - J.B.L.
 CHECKED - J.W.F.
 DATE - 10/30/2024
 PLOT SCALE = \$SCALE\$
 PLOT DATE = 10/30/2024

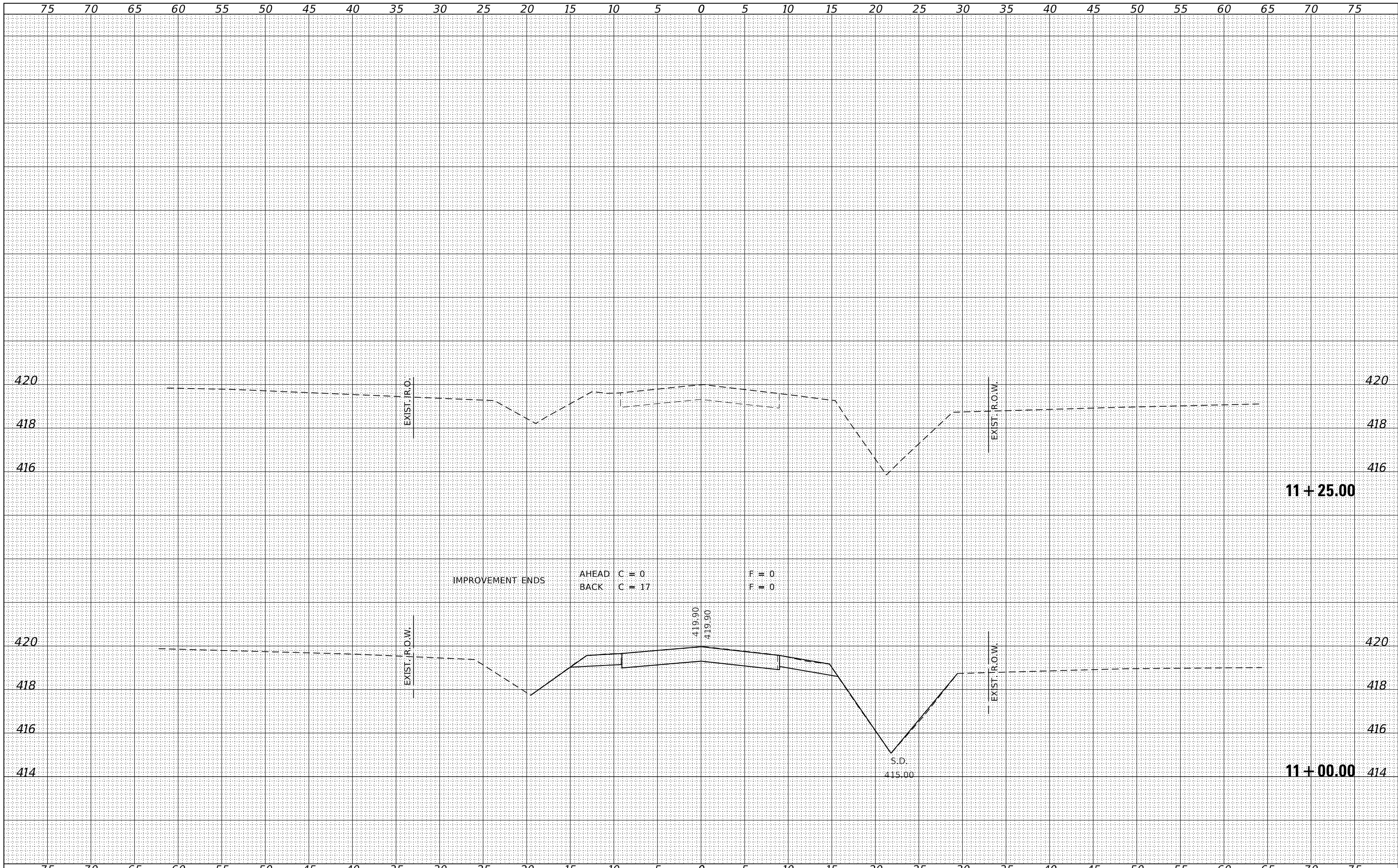
REVISIONS:
 REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
EDWARDS COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

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

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



FILE NAME = 220150-shl-vs-sheets.dgn
 USER NAME = rmosck
 DESIGNED - S.A.A.
 DRAWN - J.B.L.
 CHECKED - J.W.F.
 DATE - 10/30/2024
 PLOT SCALE = \$SCALE\$
 PLOT DATE = 10/30/2024

DESIGNED - S.A.A.
 DRAWN - J.B.L.
 CHECKED - J.W.F.
 DATE - 10/30/2024
 REVISIONS:
 REVISION NO. DATE BY DESCRIPTION

STATE OF ILLINOIS
 EDWARDS COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

SCALE: 5V:20H SHEET NO. 4 OF 4 SHEETS STA. 11+00.00 TO STA. 11+25.00

M.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3500	21-00070-00-BR	EDWARDS	15	15
ROAD DISTRICT NO. 6			CONTRACT NO. 95968	
C-97-083-23		ILLINOIS FED. AID PROJECT 785R(503)		

