F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	1
		CONTRACT NO. 87794		
FED ROAD DIST. NO.7	ILLINOIS	FED AID PROJECT NO. 62LM(754)		

04-26-2024 LETTING ITEM 215

INDEX OF SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM–BRIDGE
IROQUOIS COUNTY
SECTION 22–00118–01–BR
F.A.S. 323 (C.H. 40) OVER
POSSUM TROT DITCH
PROJECT NO. 62LM(754)
JOB NUMBER C–93–008–23

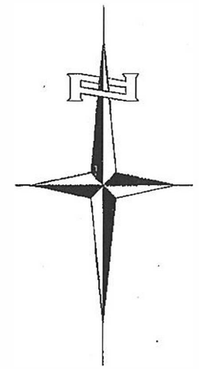
HIGHWAY STANDARDS

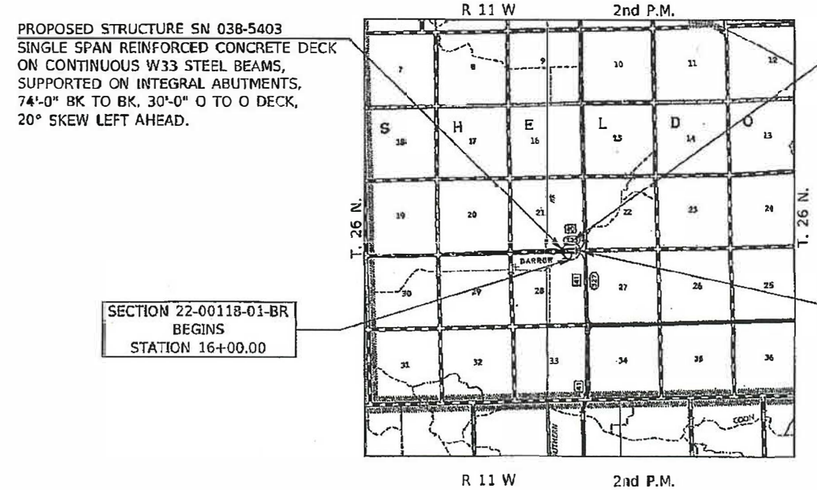
000001–08 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
280001–07 TEMPORARY EROSION CONTROL SYSTEMS
515001–04 NAME PLATE FOR BRIDGES
630301–09 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032–10 TRAFFIC BARRIER TERMINAL, TYPE 6A
701901–09 TRAFFIC CONTROL DEVICES
725001–01 OBJECT AND TERMINAL MARKERS
BLR 21–9 TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

SCALES
- PLAN, PROFILE HORIZ. — 50' 0 50'
- PROFILE VERT. — 5' 0 5'
- CROSS SECTIONS HORIZ., CROSS SECTIONS VERT. — 5' 0 5'

LOCATION OF SECTION INDICATED THUS:– ▬

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS





PROPOSED STRUCTURE SN 038-5403
SINGLE SPAN REINFORCED CONCRETE DECK ON CONTINUOUS W33 STEEL BEAMS, SUPPORTED ON INTEGRAL ABUTMENTS, 74'-0" BK TO BK, 30'-0" O TO O DECK, 20° SKEW LEFT AHEAD.

SECTION 22-00118-01-BR
ENDS
STATION 23+50.00

SECTION 22-00118-01-BR
BEGINS
STATION 16+00.00

EXISTING STRUCTURE SN 038-5400
SINGLE SPAN REINFORCED CONCRETE SLAB BRIDGE ON CLOSED ABUTMENTS WITH CONCRETE WINGWALLS.
±26'-0" BK TO BK, ±27'-4" O TO O DECK, NO SKEW.
(TO BE REMOVED)

LOCATION MAP

1 MI 0 1 MI
APPROXIMATE SCALE

NET LENGTH OF PROJECT = 750.00 FEET = 0.142 MILES

DESIGN CLASSIFICATION: MAJOR COLLECTOR
DESIGN ADT = 590 (2043)
DESIGN SPEED = 50 MPH

UTILITY COMPANIES

FRONTIER COMMUNCATIONS
BLOOMINGTON, ILLINOIS

SETTLERS TRAIL WIND FARM
SHELDON, ILLINOIS

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

CONTRACT NO. 87794

4816C001

Hutchison Engineering, Inc.
JACKSONVILLE-SHOREWOOD
PEORIA-QUAD CITIES-CARBONDALE

2023 JOB#4816

DATE:

BENJAMIN A. NEBEL
080767
REGISTERED PROFESSIONAL ENGINEER
OF ILLINOIS
10/24/23

SIGNATURE

ENGINEERS SEAL

APPROVED OCTOBER 24 2023
IROQUOIS COUNTY ENGINEER

PASSED NOVEMBER 6, 2023
DISTRICT THREE ENGINEER OF
LOCAL ROADS & STREETS

Released For Bid Based on Limited Review NOVEMBER 6, 2023
REGION TWO ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

COMMITMENTS

THERE ARE NO COMMITMENTS FOR THIS PROJECT

GENERAL NOTES

THE REMOVAL OF EXISTING SEALCOAT SURFACE AND CEMENT STABILIZED AGGREGATE BASE COURSE WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE PROJECT SHALL BE REMOVED AS EARTH EXCAVATION AND NO COMPENSATION WILL BE ALLOWED FOR ADDITIONAL LABOR OR EQUIPMENT REQUIRED.

ALL WASTE OR UNDESIRABLE MATERIAL AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTOR'S EXPENSE.

ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.

THE PROFILE GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEETS AND IN THE STATION CROSS SECTIONS ARE TO THE TOP OF THE FINISHED SURFACE.

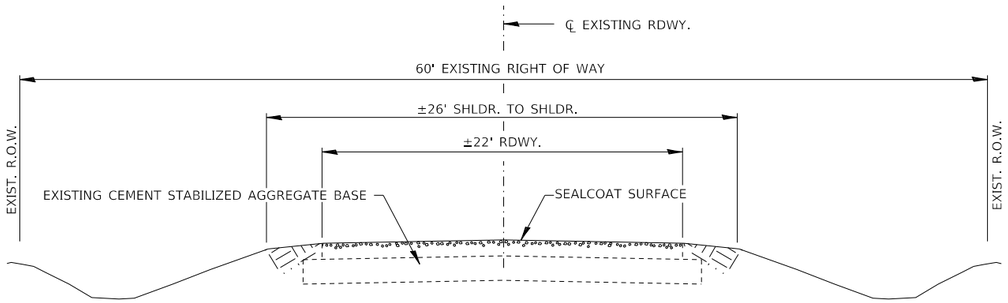
ALL EXISTING DRAINAGE STRUCTURES NOT BEING REMOVED OR ADJUSTED BY THE CONTRACTOR THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

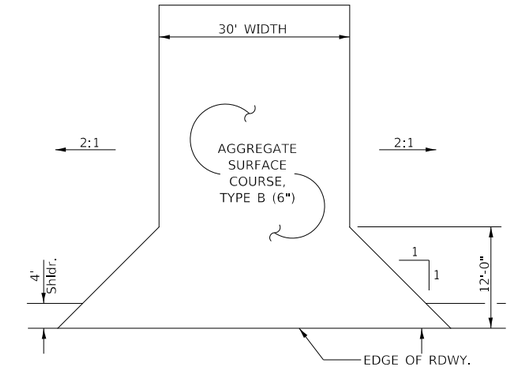
THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.20 AND 107.26 OF THE STANDARD SPECIFICATIONS.

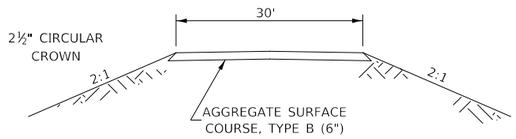
WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

ALL ELEVATIONS SHOWN REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.



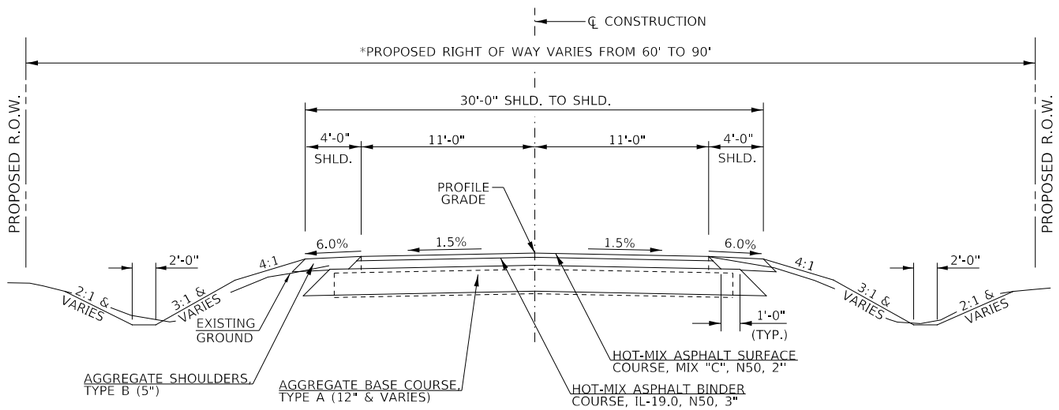
EXISTING TYPICAL SECTION





FIELD ENTRANCES

STA 17+40 LT



PROPOSED TYPICAL SECTION

CONSTRUCT GUARDRAIL SHOULDER WIDENING IN ACCORDANCE WITH STD 630301

STA. 16+00.00 TO STA. 19+63.00
STA. 20+37.00 TO STA. 23+50.00

EXCEPT TRANSITIONS

BRIDGE OMISSION
STA. 19+63.00 TO STA. 20+37.00

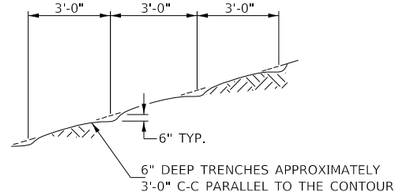
HOT–MIX ASPHALT MIXTURE REQUIREMENTS

	HMA BINDER	HMA SURFACE
PG GRADE:	PG 64-22	PG 64-22
DESIGN AIR VOIDS:	4% @ N50	4% @ N50
MIXTURE COMPOSITION:	IL-19.0	IL-9.5
FRICTION AGGREGATE:		MIXTURE C
DENSITY TEST METHOD:	NUCLEAR DENSITY GAUGE	NUCLEAR DENSITY GAUGE
MIXTURE WEIGHT:	112#/SQ YD/IN	112#/SQ YD/IN
QUALITY MANAGEMENT PROGRAM:	QC/QA	QC/QA
SUBLOT SIZE:	N/A	N/A
LOCATION(S):	STA. 16+00.00-19+63.00 STA. 20+37.00-23+50.00	STA. 16+00.00-19+63.00 STA. 20+37.00-23+50.00

If RAP option is selected, the asphalt cement grade may need to be adjusted. This will be determined by the Engineer.

STRUCTURAL DESIGN INFORMATION
COUNTY HIGHWAY 40

ROAD CLASSIFICATION: CLASS III 80,000 lb./20 YEAR DESIGN
STRUCTURAL DESIGN TRAFFIC:
PV = 519 SU = 41 MU = 30
PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE:
P = 88% S = 7% M = 5%
MINIMUM SUBGRADE SUPPORT RATING: FAIR
FLEXIBLE PAVEMENT DESIGN: MINIMUM TF = 0.161
ASPHALT PAVEMENT THICKNESS: 5"
AGGREGATE BASE COURSE, TYPE A: 12"



NOTE: ALL SLOPES 3:1 OR STEEPER AND GREATER THAN 5' IN HEIGHT SHALL BE CONTOUR PLOWED AS SHOWN IN DETAIL, COST SHALL BE INCLUDED WITH SEEDING, CLASS 2 (SPECIAL).

DETAIL OF CONTOUR PLOWING

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-I001.dgn

USER NAME = JSavage	DESIGNED - YP	REVISED -	
	DRAWN - YP	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - JPS/BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 10/13/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

GENERAL NOTES, TYPICAL SECTIONS, PAVEMENT DESIGN INFORMATION, DETAILS

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. 16+00.00 TO STA. 23+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	2
		CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	QUANTITY
	20200100	EARTH EXCAVATION	CU YD	675
	20300100	CHANNEL EXCAVATION	CU YD	480
	20400800	FURNISHED EXCAVATION	CU YD	1,155
	20700220	POROUS GRANULAR EMBANKMENT	CU YD	77
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	900
	28000305	TEMPORARY DITCH CHECKS	FOOT	108
	28000500	INLET AND PIPE PROTECTION	EACH	1
	28100209	STONE RIPRAP, CLASS A5	TON	410
	28200200	FILTER FABRIC	SQ YD	430
	35100100	AGGREGATE BASE COURSE, TYPE A	TON	2,173
	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	35
	40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	3,858
	40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	380
	40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	285
	40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	187
	48101200	AGGREGATE SHOULDERS, TYPE B	TON	189
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50105220	PIPE CULVERT REMOVAL	FOOT	40
	50200100	STRUCTURE EXCAVATION	CU YD	120
	50300225	CONCRETE STRUCTURES	CU YD	40.0
	50300255	CONCRETE SUPERSTRUCTURE	CU YD	86.9
	50300260	BRIDGE DECK GROOVING	SQ YD	230
	50300300	PROTECTIVE COAT	SQ YD	271
	50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
	50500505	STUD SHEAR CONNECTORS	EACH	960
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	25,310
*	50901050	STEEL RAILING, TYPE SM	FOOT	148
	51201400	FURNISHING STEEL PILES HP10X42	FOOT	456
	51202305	DRIVING PILES	FOOT	456
	51203400	TEST STEEL PILE HP10X42	EACH	2
	51500100	NAME PLATES	EACH	1
	52100520	ANCHOR BOLTS, 1"	EACH	20
	542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	44
	59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	55
	60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	120

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	QUANTITY
*	63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
	63200310	GUARDRAIL REMOVAL	FOOT	300
	67100100	MOBILIZATION	L SUM	1
*	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
	X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.90
	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1

* SPECIALTY ITEMS

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch, Iroquois\CADD\CADD Sheets\4816-d001.dgn

USER NAME = JSavage	DESIGNED - YP	REVISED -
	DRAWN - YP	REVISED -
PLOT SCALE = 100.0000 ' / In.	CHECKED - JPS/BAN	REVISED -
PLOT DATE = 11/2/2023	DATE - 10/13/2023	REVISED -

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S 323)
OVER POSSUM TROT DITCH

SUMMARY OF QUANTITIES,
SCHEDULES OF QUANTITIES

SCALE: NONE | SHEET 1 OF 2 SHEETS | STA. 16+00.00 | TO STA. 23+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	3
		CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 6ZLM(754)		

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT			
STATION TO STATION		SIDE	EACH
18+70.04	19+20.04	RT	1
18+80.96	19+30.96	LT	1
20+69.09	21+19.04	RT	1
20+79.96	21+29.95	LT	1
TOTAL			4

TRAFFIC BARRIER TERMINAL, TYPE 6A			
STATION TO STATION		SIDE	EACH
19+20.09	19+57.54	RT	1
19+30.96	19+68.46	LT	1
20+31.54	20+69.04	RT	1
20+42.46	20+79.96	LT	1
TOTAL			4

GUARDRAIL REMOVAL			
STATION TO STATION		SIDE	FOOT
19+12	19+87	LT	75
19+12	19+87	RT	75
20+13	20+88	LT	75
20+13	20+88	RT	75
TOTAL			300

AGGREGATE SURFACE COURSE, TYPE B 140#/CF				
STATION	SIDE	WIDTH	LENGTH	TON
ENTR. - 17+40.00	LT	30' & VAR.	29.00'	35
TOTAL				35

PIPE CULVERTS, CLASS D, TYPE 1 18"		
℄ STATION	SIDE	FOOT
17+40.00	LT	44
TOTAL		44

PIPE CULVERT REMOVAL			
℄ STATION	SIZE	SIDE	FOOT
19+03.00	18"	LT	40
TOTAL			40

PAVEMENT SCHEDULE								
STATION TO STATION		WIDTH	LENGTH	AGGREGATE BASE CSE, TYPE A 140#/CF	BITUMINOUS MATERIALS (PRIME COAT) 0.25LBS/SQ FT	HOT-MIX ASPHALT BINDER CSE 112#/SQ YD/IN	BITUMINOUS MATERIALS (TACK COAT) 0.025LBS/SQ FT	HOT-MIX ASPHALT SURFACE CSE 112#/SQ YD/IN
				TON	POUND	TON	POUND	TON
16+00.00	16+50.00	26.01'AVG.	50.00'	90				
16+00.00	16+50.00	23.01'AVG.	50.00'		288			
16+00.00	16+50.00	22.76'AVG.	50.00'			21		
16+00.00	16+50.00	22.51'AVG.	50.00'				28	
16+00.00	16+50.00	22.34'AVG.	50.00'					14
16+50.00	19+63.00	25.84'	313.00'	1,032				
16+50.00	19+63.00	22.84'	313.00'		1,787			
16+50.00	19+63.00	22.59'	313.00'			132		
16+50.00	19+63.00	22.34'	313.00'				175	
16+50.00	19+63.00	22.17'	313.00'					86
20+37.00	23+00.00	25.84'	263.00'	962				
20+37.00	23+00.00	22.84'	263.00'		1,502			
20+37.00	23+00.00	22.59'	263.00'			111		
20+37.00	23+00.00	22.34'	263.00'				149	
20+37.00	23+00.00	22.17'	263.00'					73
23+00.00	23+50.00	25.15'AVG.	50.00'	89				
23+00.00	23+50.00	22.50'AVG.	50.00'		281			
23+00.00	23+50.00	22.25'AVG.	50.00'			21		
23+00.00	23+50.00	22.00'AVG.	50.00'				28	
23+00.00	23+50.00	21.83'AVG.	50.00'					14
TOTAL				2,173	3,858	285	380	187

*EARTHWORK SUMMARY					
STATION TO STATION	EARTH EXCAVATION	CHANNEL EXCAVATION	STRUCTURE EXCAVATION	FILL	WASTE (SHORTAGE)
	CU YD				
RDWY 16+00.00 - 19+36.00	416			892	(580)
RDWY 20+37.00 - 23+50.00	259			769	(575)
CHANNEL		480			
STRUCTURE			120		
TOTAL	675	480	120	1,661	(1,155)
USE	675	480	120	-	(1,155)

(@ 25% SHRINKAGE)

TEMPORARY DITCH CHECKS		
STATION	SIDE	FOOT
18+00	RIGHT	12
18+65	LEFT	12
19+68	RIGHT	12
19+75	LEFT	12
20+20	RIGHT	12
20+40	LEFT	12
21+30	RIGHT	12
22+00	LEFT	12
22+40	RIGHT	12
TOTAL		108

INLET AND PIPE PROTECTION		
STATION	SIDE	EACH
17+24	LEFT	1
TOTAL		1

AGGREGATE SHOULDERS, TYPE B 140#/CF				
STATION TO STATION		SIDE	WIDTH	LENGTH	TON
16+00.00	16+50.00	LT	2.84' AVG.	50.00'	4
16+00.00	16+50.00	RT	2.95' AVG.	50.00'	4
16+50.00	17+21.00	LT	4.00'	71.00'	8
17+59.00	18+46.96	LT	4.00'	87.96'	10
16+50.00	18+36.04	RT	4.00'	186.04'	22
18+36.04	18+60.04	RT	6.00' AVG.	24.00'	4
18+46.96	18+70.96	LT	6.00' AVG.	24.00'	4
18+60.04	18+95.04	RT	8.00'	35.00'	8
18+70.96	19+05.96	LT	8.00'	35.00'	8
18+95.04	19+35.04	RT	7.88' AVG.	40.00'	9
19+05.96	19+45.96	LT	7.88' AVG.	40.00'	9
19+35.04	19+57.04	RT	5.88' AVG.	22.50'	4
19+45.96	19+68.46	LT	5.88' AVG.	22.50'	4
20+31.54	20+54.04	RT	5.88' AVG.	22.50'	4
20+42.46	20+64.96	LT	5.88' AVG.	22.50'	4
20+54.04	20+94.04	RT	7.88' AVG.	40.00'	9
20+64.96	21+04.96	LT	7.88' AVG.	40.00'	9
20+94.04	21+29.04	RT	8.00'	35.00'	8
21+04.96	21+39.96	LT	8.00'	35.00'	8
21+29.04	21+53.04	RT	6.00' AVG.	24.00'	4
21+39.96	21+63.96	LT	6.00' AVG.	24.00'	4
21+53.04	23+00.00	RT	4.00'	146.96'	17
21+63.96	23+00.00	LT	4.00'	136.04'	16
23+00.00	23+50.00	RT	2.78' AVG.	50.00'	4
23+00.00	23+50.00	LT	3.07' AVG.	50.00'	4
TOTAL					189

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-q002.dgn

USER NAME = JSavage	DESIGNED - YP	REVISED -	**IROQUOIS COUNTY**	**SUMMARY OF QUANTITIES,**
	DRAWN - YP	REVISED -	**COUNTY HIGHWAY 40 (F.A.S 323)**	**SCHEDULES OF QUANTITIES**
PLOT SCALE = 100.0000 ' / in.	CHECKED - JPS/BAN	REVISED -	**OVER POSSUM TROT DITCH**	SCALE: NONE SHEET 2 OF 2 SHEETS STA. 16+00.00 TO STA. 23+50.00
PLOT DATE = 10/16/2023	DATE - 10/13/2023	REVISED -		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT NO. 62LM(754)

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	4
		CONTRACT NO. 87794		

R 12 W, 2nd PM | R 11 W, 2nd PM

SECTION 11 | SECTION 12 | SECTION 7 | SECTION 8 | SECTION 9 | SECTION 10

E 1600 N

SECTION 14 | SECTION 13 | SECTION 18 | SECTION 17 | SECTION 16 | SECTION 15

E 1550 N

E 1520 N

E 1500 N

T 26 N

IL RT 1

N 2400 E

N 2500 E

N 2700 E

N 2800 E

N 2900 E

SECTION 23 | SECTION 24 | SECTION 19 | SECTION 20 | SECTION 21 | SECTION 22

E 1400 N (CH 40)

SECTION 26 | SECTION 25 | SECTION 30 | SECTION 29 | SECTION 28 | SECTION 27

N 2420 E

N 2600 E

E 1300 N

SECTION 36 | SECTION 31 | SECTION 32 | SECTION 33

R 12 W, 2rd PM | R 11 W, 2rd PM

1	ROAD CLOSED 1 MILE AHEAD LOCAL TRAFFIC ONLY R11-3	ROAD CLOSED 1 MILE AHEAD LOCAL TRAFFIC ONLY
2	ROAD CLOSED 4¾ MILES AHEAD LOCAL TRAFFIC ONLY R11-3	ROAD CLOSED 4¾ MILES AHEAD LOCAL TRAFFIC ONLY
3	ROAD CLOSED AHEAD W20-3	ROAD CLOSED AHEAD
4	ROAD CLOSED 500 FT W20-3	ROAD CLOSED 500 FT
5		TYPE III BARRICADES

SEE STANDARD BLR 21
AND SPECIAL PROVISIONS

½ MI 0 ½ MI

GRAPHIC SCALE IN MILES

MODEL: $MODELNAMES
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-h001.dgn

USER NAME = JSavage	DESIGNED - YP	REVISED -	
	DRAWN - YP	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - JPS/BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 10/12/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S 323)
OVER POSSUM TROT DITCH

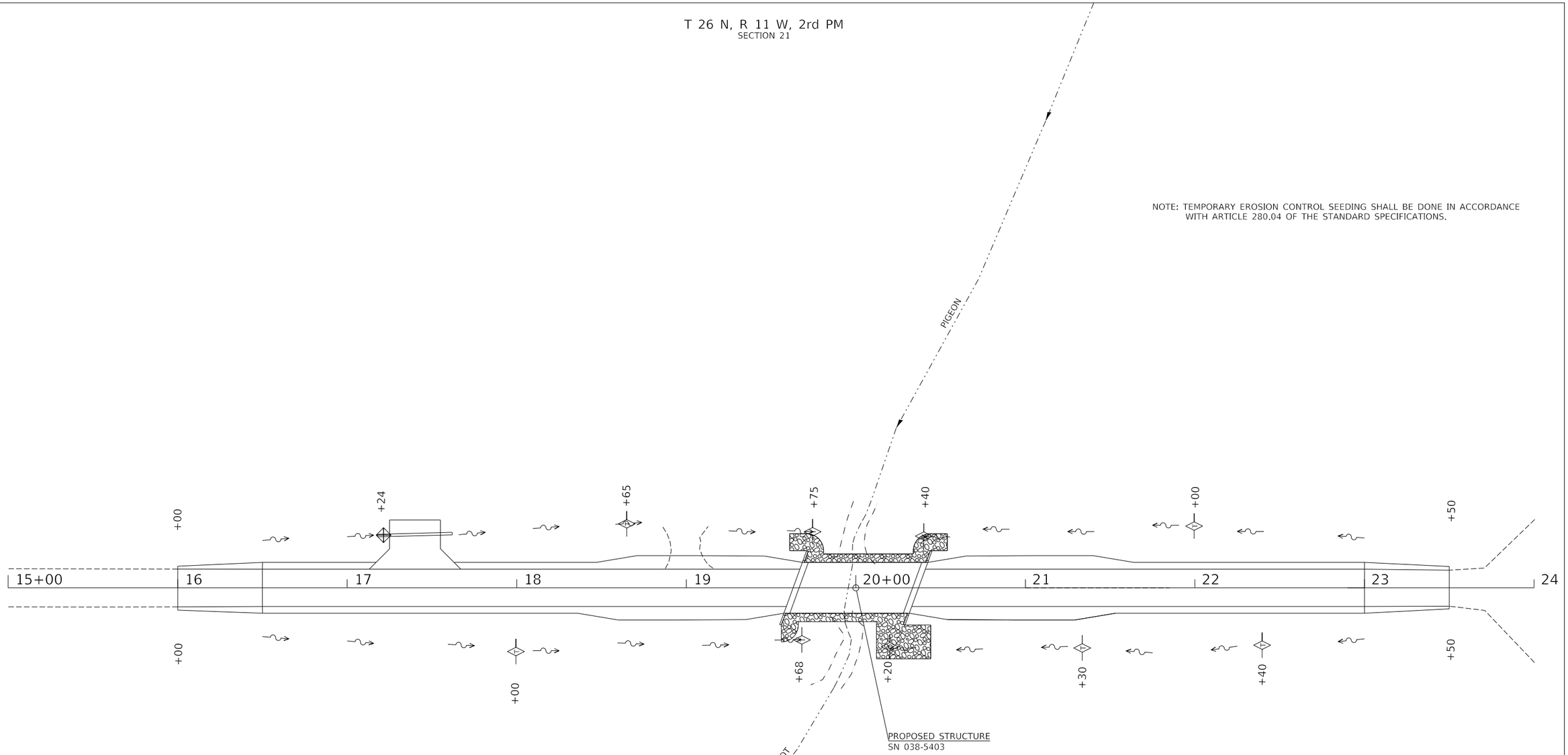
TRAFFIC CONTROL PLAN

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. 16+00.00 | TO STA. 23+50.00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	5
		CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

T 26 N, R 11 W, 2rd PM
SECTION 21

NOTE: TEMPORARY EROSION CONTROL SEEDING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 280.04 OF THE STANDARD SPECIFICATIONS.



LEGEND

TEMPORARY DITCH CHECK

SPECIAL DITCH - FLOW LINE AND DIRECTION

INLET & PIPE PROTECTION

T 26 N, R 11 W, 2rd PM
SECTION 28

50' 0' 50'
GRAPHIC SCALE IN FEET

MODEL: SMODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-s001.dgn

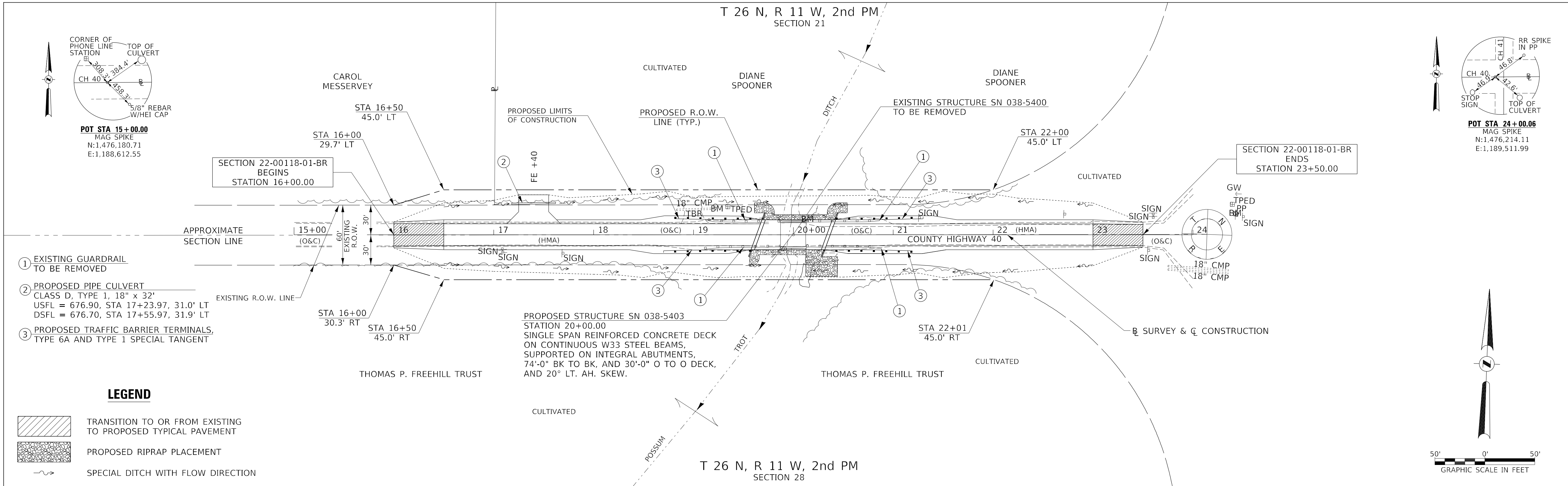
USER NAME = JSavage	DESIGNED - YP	REVISED -	
	DRAWN - YP	REVISED -	
PLOT SCALE = 60.0000 ' / in.	CHECKED - JPS/BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 10/13/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S 323)
OVER POSSUM TROT DITCH

EROSION CONTROL PLAN

SCALE: 1"=50' | SHEET 1 OF 1 SHEETS | STA. 16+00.00 | TO STA. 23+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	6
		CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		



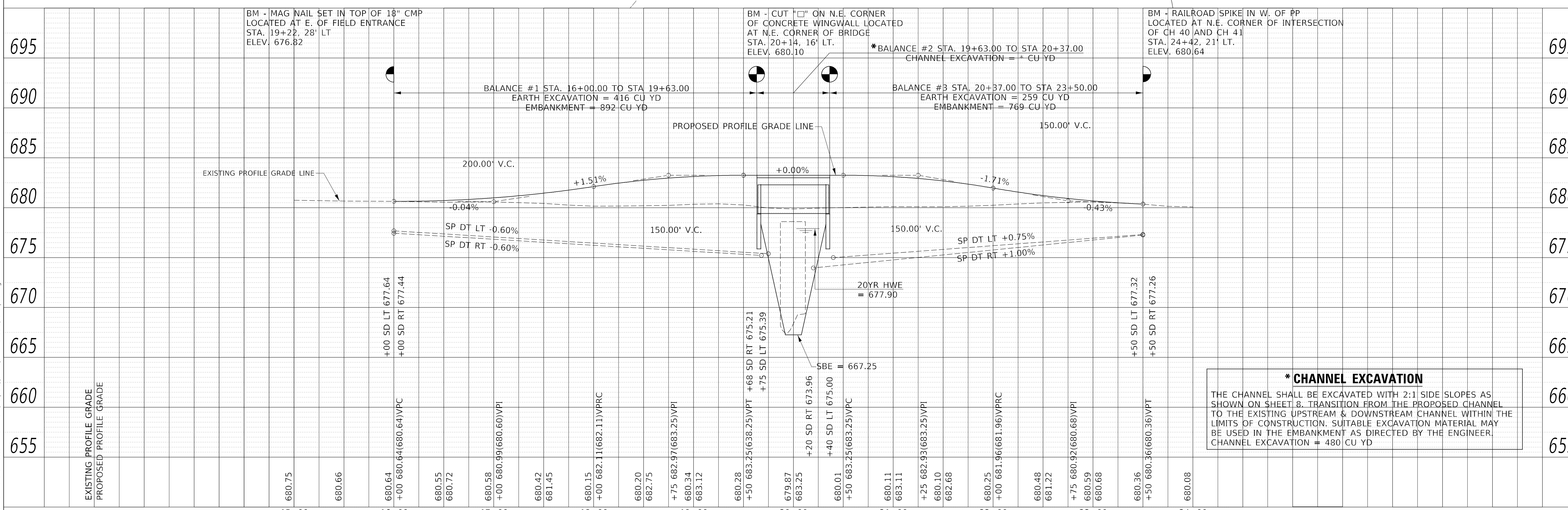
① EXISTING GUARDRAIL TO BE REMOVED

② PROPOSED PIPE CULVERT
CLASS D, TYPE 1, 18" x 32'
USFL = 676.90, STA 17+23.97, 31.0' LT
DSFL = 676.70, STA 17+55.97, 31.9' LT

③ PROPOSED TRAFFIC BARRIER TERMINALS, TYPE 6A AND TYPE 1 SPECIAL TANGENT

LEGEND

- TRANSITION TO OR FROM EXISTING TO PROPOSED TYPICAL PAVEMENT
- PROPOSED RIPRAP PLACEMENT
- SPECIAL DITCH WITH FLOW DIRECTION



* CHANNEL EXCAVATION

THE CHANNEL SHALL BE EXCAVATED WITH 2:1 SIDE SLOPES AS SHOWN ON SHEET 8. TRANSITION FROM THE PROPOSED CHANNEL TO THE EXISTING UPSTREAM & DOWNSTREAM CHANNEL WITHIN THE LIMITS OF CONSTRUCTION. SUITABLE EXCAVATION MATERIAL MAY BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.
CHANNEL EXCAVATION = 480 CU YD

PLAN: NOTE BOOK NO. ___ | SURVEYED | PLOTTED | ALIGNMENT CHECKED | RT. OF WAY CHECKED | CADD FILE NAME | BY | DATE

PROFILE: NOTE BOOK NO. ___ | SURVEYED | PLOTTED | GRADES CHECKED | B.M. NOTED | STRUCTURE NOTAT'NS CH'KD | BY | DATE

$MODELNAME$
V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-p001.dgn

USER NAME = JSavage	DESIGNED - YP	REVISED - ________	
	DRAWN - YP	REVISED - ________	
PLOT SCALE = 100.0000 ' / in.	CHECKED - JPS/BAN	REVISED - ________	
PLOT DATE = 10/16/2023	DATE - 10/13/2023	REVISED - ________	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S 323)
OVER POSSUM TROT DITCH

PLAN AND PROFILE

SCALE: 1"=50' | SHEET 1 OF 1 SHEETS | STA. 16+00.00 TO STA. 23+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	7

CONTRACT NO. 87794

FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT NO. 62LM(754)

B.M.: Mag Nail set in Top of 18" CMP
Sta. 19+22, 28' Lt.
Elev. 676.82

Cut "□" on N.E. Corner
of Concrete Wingwall
Sta. 20+14, 16' Lt.
Elev. 680.10

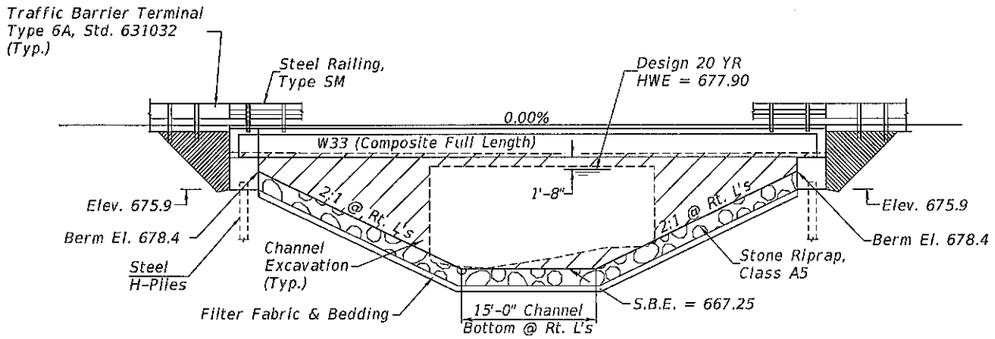
RR Spike in Power Pole
Sta. 24+42, 21' Lt.
Elev. 680.64

Existing Structure:

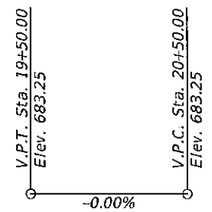
Single span reinforced concrete slab bridge on concrete closed abutments. The structure is 26'-0" back to back of abutments, 27'-4" out to out of deck, and is not skewed.
The structure was constructed in 1938.
Str. No. 038-5400

Salvage: None

Road to be closed to traffic during construction.

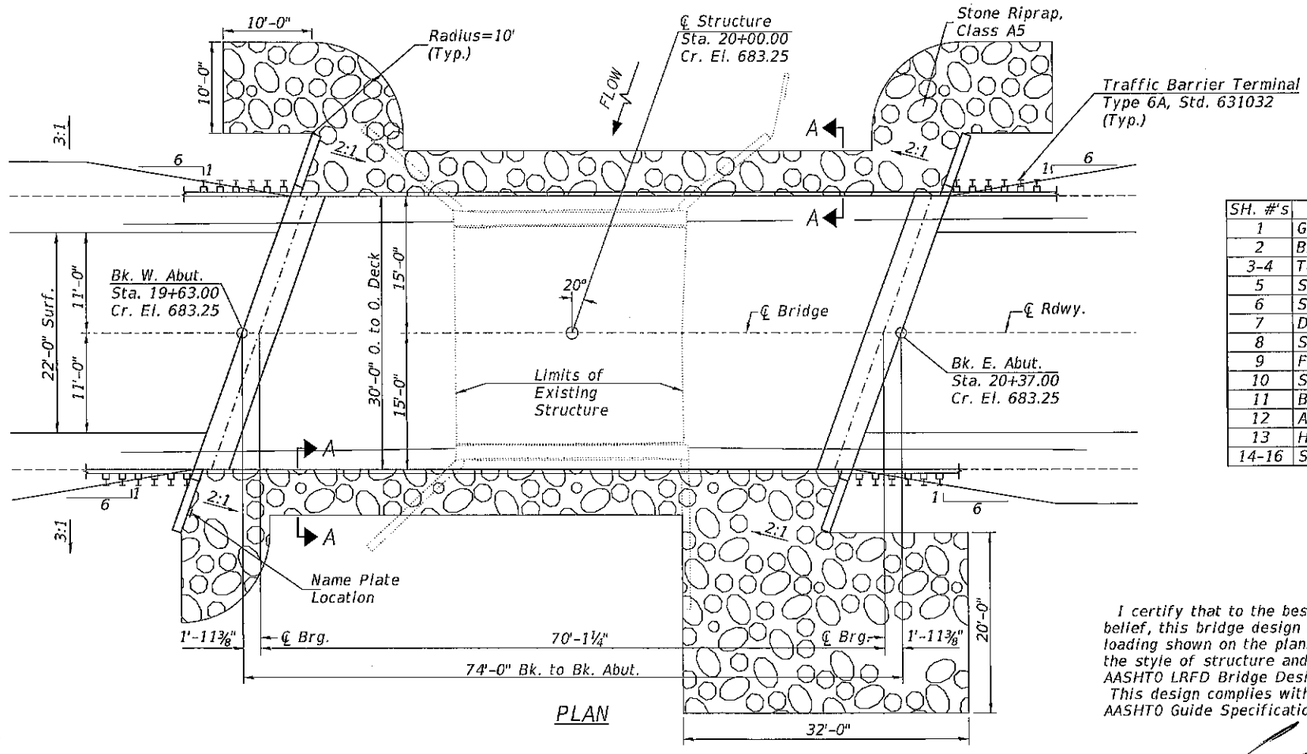


ELEVATION



PROFILE GRADE

County Highway 40



PLAN

Note:
See Sheet 2 of 16 for Section A-A and Total Bill of Material.

INDEX OF SHEETS

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)			Item 113
	W. Abut.	E. Abut.	
Q100	675.9	675.9	8
Q200	675.9	675.9	
Design	675.9	675.9	
Check	675.9	675.9	

WATERWAY INFORMATION

Drainage Area = 6.29 Sq. Mi. — Low Grade Elev. = 680.08 @ Sta. 24+00.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	20	1,272	246	444	677.90	0.62	0.25	678.52	678.15
Base	100	1,895	254	520	678.58	0.92	0.43	679.50	679.01

DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

DESIGN STRESSES

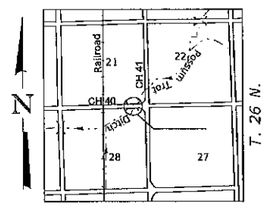
f'c = 3,500 psi (Substructure)
f'c = 5,000 psi (Superstructure)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50W)

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.132g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.176g
Soil Site Class = D



LOCATION SKETCH

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 Bridge Design Specifications.
This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.

10/23/23

Illinois Structural No. 6527
Expires 11/30/2024

BENJAMIN A. NEBEL
062-006527
LICENSED
STRUCTURAL
ENGINEER
OF
ILLINOIS
11/30/24

USER NAME = JSavage	DESIGNED - JPS	REVISED -	IROQUOIS COUNTY COUNTY HIGHWAY 40 (F.A.S. 323) OVER POSSUM TROT DITCH	GENERAL PLAN & ELEVATION	
	DRAWN - JPS	REVISED -			
PLOT SCALE = 100.0000 ' / In.	CHECKED - BAN	REVISED -		SCALE: NONE	SHEET NO. 1 OF 16 SHEETS
PLOT DATE = 10/20/2023	DATE - 8/4/2023	REVISED -			

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	8
	S.N. 038-5403	CONTRACT NO. 87794		
FED. RD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

MODEL: SMODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-e001.dgn

GENERAL NOTES

Fasteners shall be ASTM F 3125 Grade A325 Type 1, mechanically galvanized bolts in painted or coated metallized areas. Fasteners shall be ASTM F 3125 Grade A325 Type 1, hot-dipped galvanized in uncoated areas. Fasteners shall be ASTM F 3125 Grade A325 Type 3 weathering steel bolts in unpainted areas. Bolts $\frac{7}{8}$ in. diameter, holes $1\frac{5}{16}$ in. diameter, unless otherwise noted.

Calculated weight of Structural Steel = 56,870 lb (AASHTO M270 Gr. 50W)

All structural steel shall be AASHTO M270 Gr. 50W.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 18 inches. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

Granular Backfill behind the abutments shall be compacted according to Article 205.06 of the Standard Specifications.

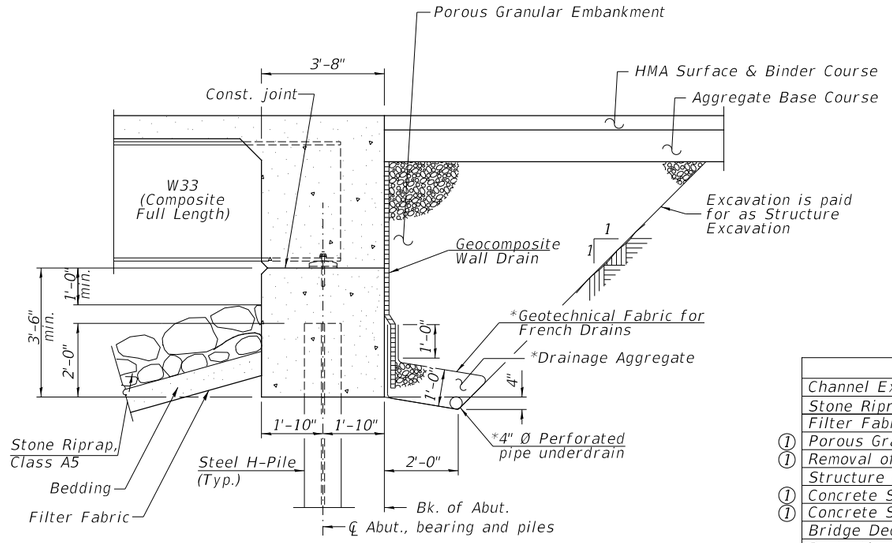
Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

For Soil Boring Logs, See Sheets #14 Thru #16 of 16.

Protective Coat shall be applied to the top and sides of the bridge deck.

Bridge Deck Grooving is figured 1'-0" from the face of the rail. It shall be applied to the bridge deck.

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.



SECTION THRU INTEGRAL ABUTMENTS

(Horizontal Dim. @ Rt. L's)

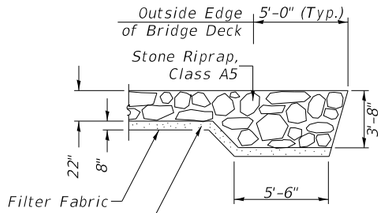
*Included in the cost of Pipe Underdrains for Structures.

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except and outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into *concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
	Channel Excavation	CU YD	——	480	480
	Stone Riprap, Class A5	TON	——	410	410
	Filter Fabric	SQ YD	——	430	430
(1)	Porous Granular Embankment	CU YD	——	77	77
(1)	Removal of Existing Structures	EACH	——	——	1
	Structure Excavation	CU YD	——	120	120
(1)	Concrete Structures	CU YD	——	40.0	40.0
(1)	Concrete Superstructure	CU YD	86.9	——	86.9
	Bridge Deck Grooving	SQ YD	230	——	230
	Protective Coat	SQ YD	271	——	271
	Furnishing and Erecting Structural Steel	L SUM	1	——	1
	Reinforcement Bars, Epoxy Coated	POUND	18,230	7,080	25,310
	Stud Shear Connectors	EACH	960	——	960
	Anchor Bolts, 1"	EACH	——	20	20
	Furnishing Steel Piles HP10x42	FOOT	——	456	456
	Driving Piles	FOOT	——	456	456
	Test Steel Pile HP10x42	EACH	——	2	2
	Name Plates	EACH	——	1	1
	Geocomposite Wall Drain	SQ YD	——	55	55
	Pipe Underdrains For Structures 4"	FOOT	——	120	120
	Steel Railing, Type SM	FOOT	148	——	148

(1) See Special Provisions



SECTION A-A

POSSUM TROT DITCH
BUILT 202_ BY
IROQUOIS COUNTY
SEC. 22-00118-01-BR
C.H. 40 STATION 20+00.00
F.A. PROJ. NO. 62LM(754)
STR. NO. 038-5403 LOADING HL-93

NAME PLATE

Locate Name Plate at S.W. Wingwall Corner of Bridge (See Std. 515001)

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-b002.dgn

USER NAME = JSavage	DESIGNED - JPS	REVISED -	
	DRAWN - JPS	REVISED -	
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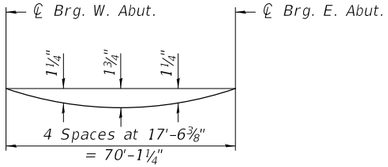
PLOT DATE = 10/20/2023	DATE - 8/7/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

GENERAL NOTES, DETAILS & BILL OF MATERIALS

SCALE: NONE | SHEET NO. 2 OF 16 SHEETS

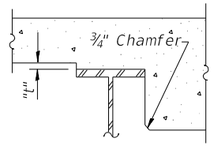
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	9
	S.N. 038-5403	CONTRACT NO. 87794		
	FED. RD DIST. NO. 7 | ILLINOIS	FED. AID PROJECT NO. 62LM(754)		



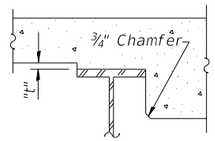
DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete & rail only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheet 4 of 16.



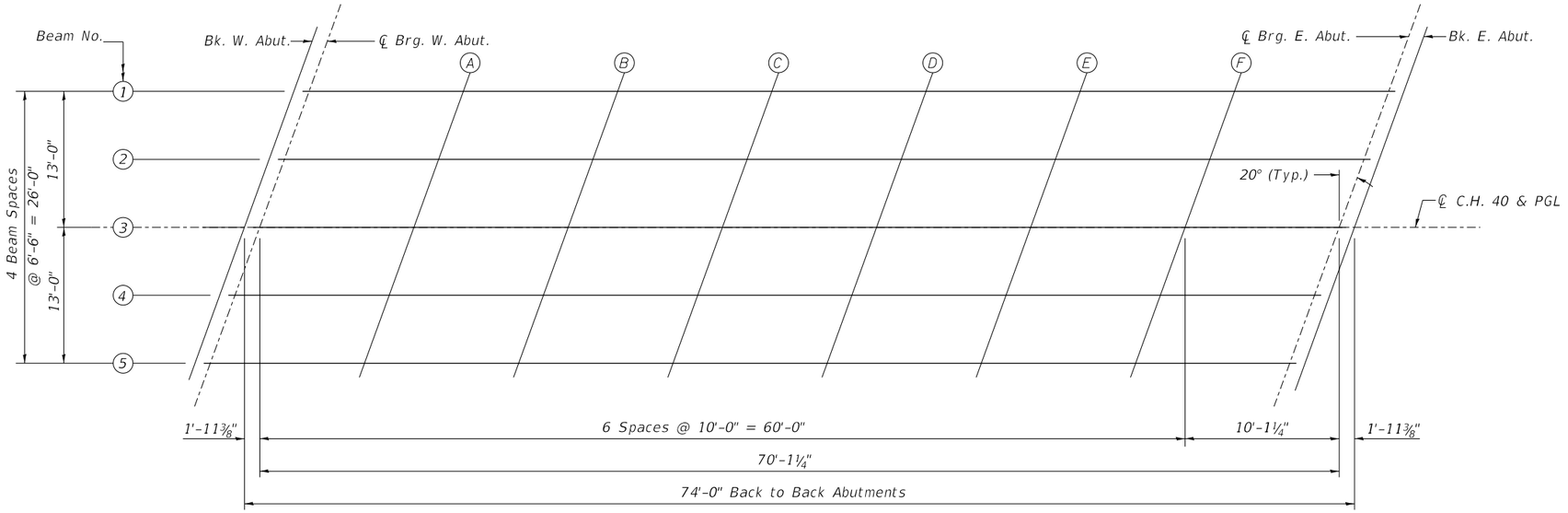
At Minimum Fillet



At Maximum Fillet

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown in the tables on Sheet 4 of 16, minus slab thickness, equals the fillet height "t" above top flange of beams.

FILLET HEIGHTS



PLAN

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	DRAWN - JPS	REVISED -	
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PLOT DATE = 10/13/2023	DATE - 8/3/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

TOP OF DECK ELEVATIONS

SCALE: NONE | SHEET NO. 3 OF 16 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	10
	S.N. 038-5403	CONTRACT NO. 87794		
FED. RD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

BEAM #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	1967.73	-13.00	683.04	683.04
CL Brg. W. Abut.	1969.68	-13.00	683.04	683.04
A	1979.68	-13.00	683.04	683.10
B	1989.68	-13.00	683.04	683.15
C	1999.68	-13.00	683.04	683.18
D	2009.68	-13.00	683.04	683.18
E	2019.68	-13.00	683.04	683.15
F	2029.68	-13.00	683.04	683.10
CL Brg. E. Abut.	2039.78	-13.00	683.04	683.04
Bk. E. Abutment	2041.73	-13.00	683.04	683.04

BEAM #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	1965.37	-6.50	683.15	683.15
CL Brg. W. Abut.	1967.32	-6.50	683.15	683.15
A	1977.32	-6.50	683.15	683.21
B	1987.32	-6.50	683.15	683.26
C	1997.32	-6.50	683.15	683.29
D	2007.32	-6.50	683.15	683.29
E	2017.32	-6.50	683.15	683.26
F	2027.32	-6.50	683.15	683.21
CL Brg. E. Abut.	2037.41	-6.50	683.15	683.15
Bk. E. Abutment	2039.37	-6.50	683.15	683.15

BEAM #3, ℄ ROADWAY, & PROFILE GRADE LINE

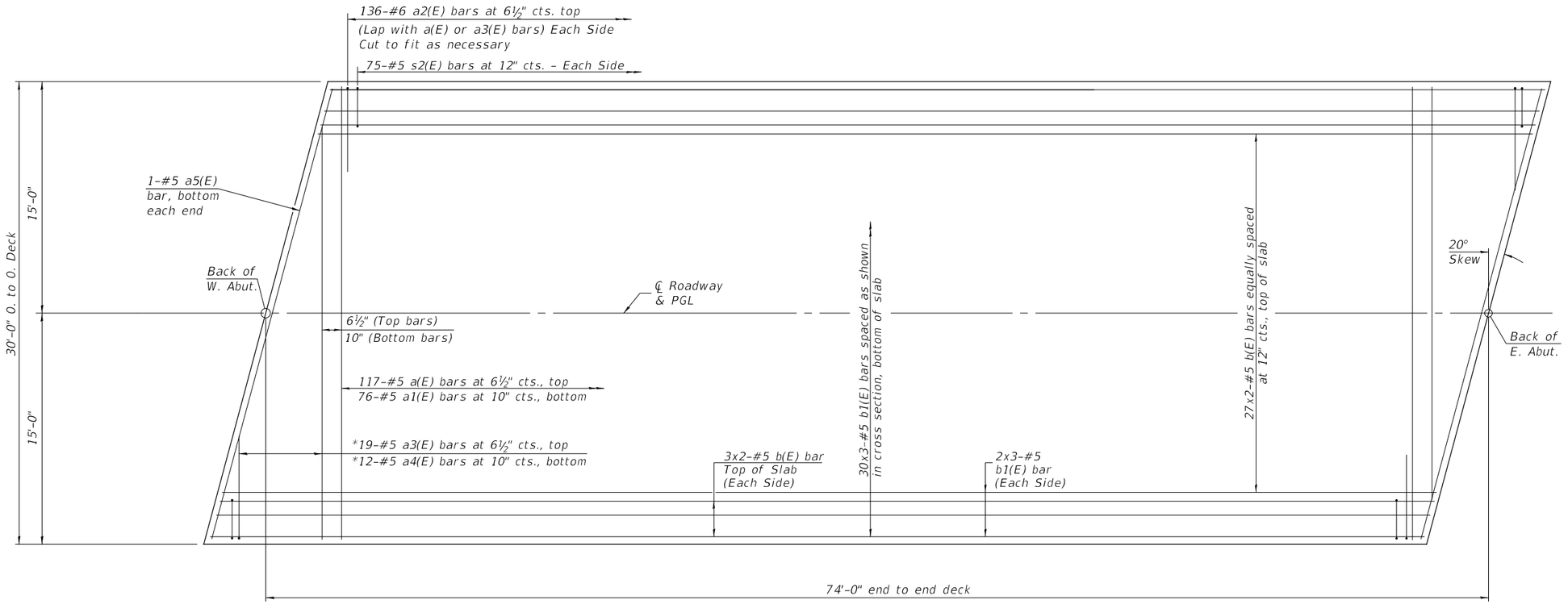
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	1963.00	0.00	683.25	683.25
CL Brg. W. Abut.	1964.95	0.00	683.25	683.25
A	1974.95	0.00	683.25	683.31
B	1984.95	0.00	683.25	683.36
C	1994.95	0.00	683.25	683.39
D	2004.95	0.00	683.25	683.39
E	2014.95	0.00	683.25	683.36
F	2024.95	0.00	683.25	683.31
CL Brg. E. Abut.	2035.05	0.00	683.25	683.25
Bk. E. Abutment	2037.00	0.00	683.25	683.25

BEAM #4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	1960.63	6.50	683.15	683.15
CL Brg. W. Abut.	1962.59	6.50	683.15	683.15
A	1972.59	6.50	683.15	683.21
B	1982.59	6.50	683.15	683.26
C	1992.59	6.50	683.15	683.29
D	2002.59	6.50	683.15	683.29
E	2012.59	6.50	683.15	683.26
F	2022.59	6.50	683.15	683.21
CL Brg. E. Abut.	2032.68	6.50	683.15	683.15
Bk. E. Abutment	2034.63	6.50	683.15	683.15

BEAM #5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	1958.27	13.00	683.04	683.04
CL Brg. W. Abut.	1960.22	13.00	683.04	683.04
A	1970.22	13.00	683.04	683.10
B	1980.22	13.00	683.04	683.15
C	1990.22	13.00	683.04	683.18
D	2000.22	13.00	683.04	683.18
E	2010.22	13.00	683.04	683.15
F	2020.22	13.00	683.04	683.10
CL Brg. E. Abut.	2030.32	13.00	683.04	683.04
Bk. E. Abutment	2032.27	13.00	683.04	683.04

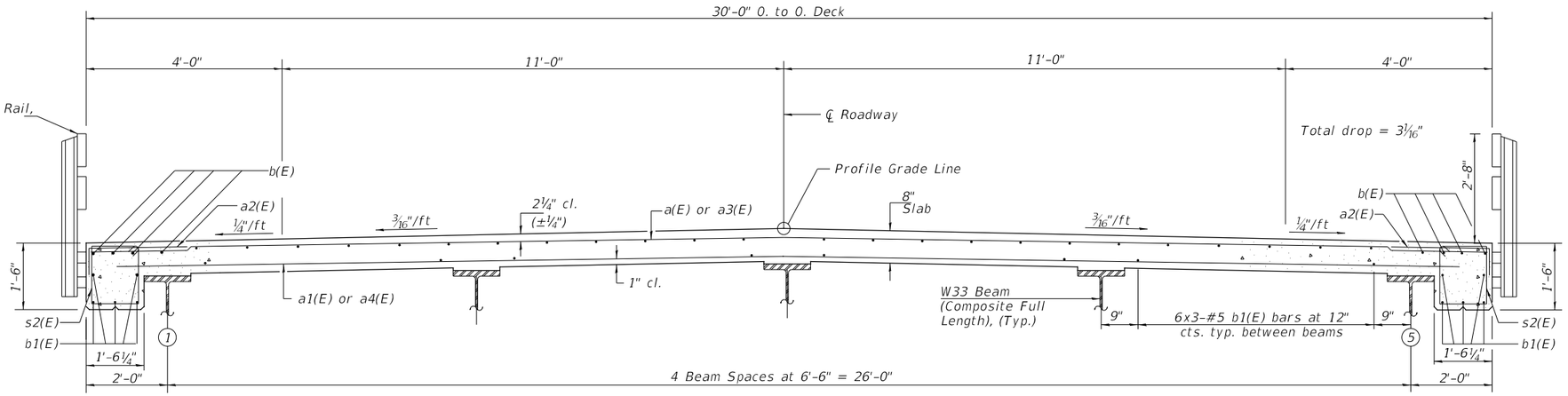


PLAN

MINIMUM BAR LAP

(Deck)
#5 bar = 3'-6"

*See Field Cutting Diagram on sheet 6 of 16.
**See Section Thru South Deck Overhang on sheet 6 of 16.



CROSS SECTION

(Looking East)

MODEL: $MODELNAME$
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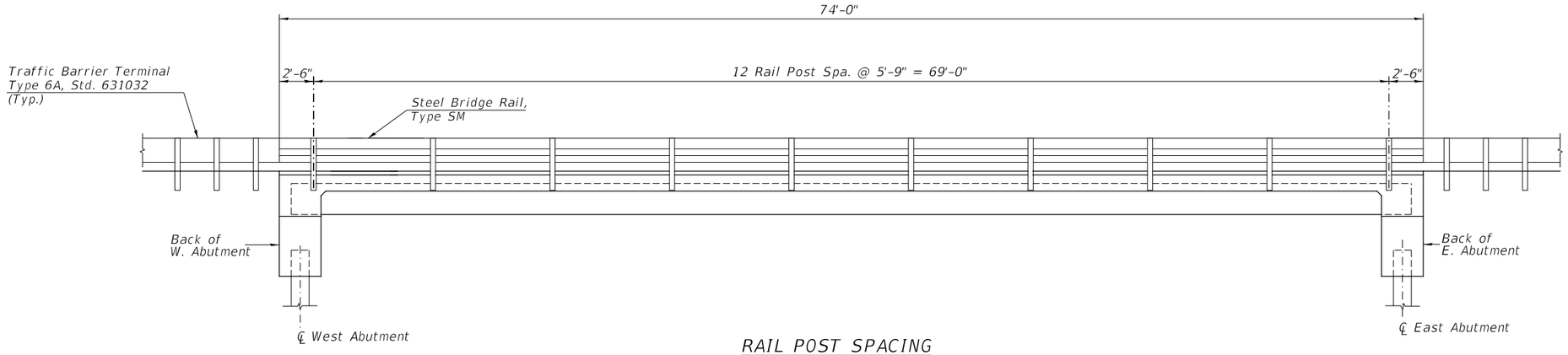
USER NAME = JSavage	DESIGNED - JPS	REVISED -	
	DRAWN - JPS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 8/1/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

SUPERSTRUCTURE

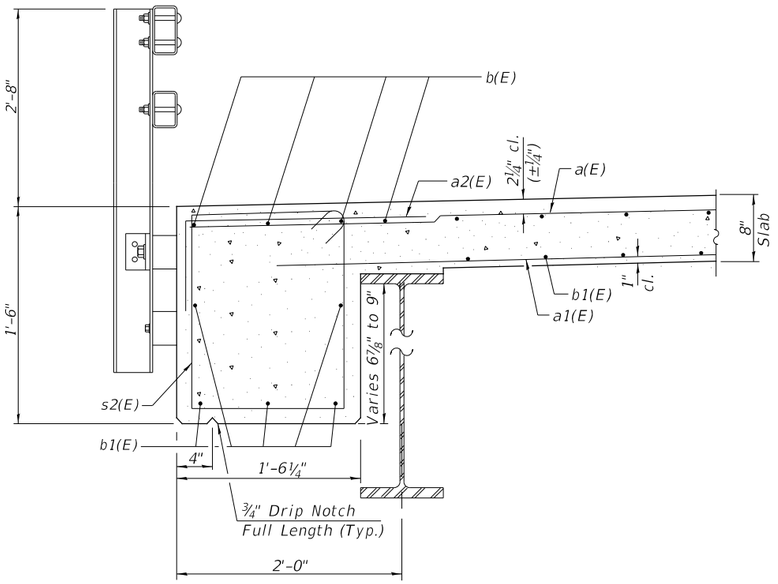
SCALE: NONE | SHEET NO. 5 OF 16 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	12
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		



RAIL POST SPACING

(South Rail Shown, North Rail Mirrored)



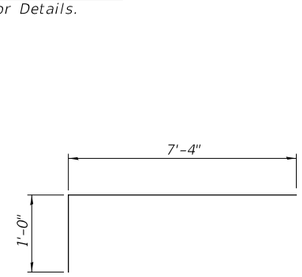
SECTION THRU SOUTH DECK OVERHANG

See Sheet 8 of 16 for Rail Post Anchor Details.

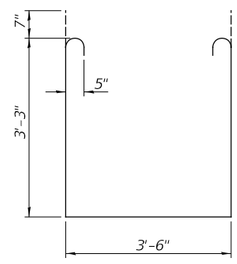
SUPERSTRUCTURE BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	117	#5	29'-9"	
a1(E)	76	#5	28'-9"	
a2(E)	272	#6	8'-4"	
a3(E)	19	#5	29'-8"	
a4(E)	12	#5	30'-6"	
a5(E)	2	#5	31'-7"	
b(E)	66	#5	38'-8"	
b1(E)	102	#5	26'-11"	
m(E)	6	#6	31'-7"	
m1(E)	24	#6	6'-7"	
m2(E)	12	#6	1'-8"	
s(E)	60	#5	11'-2"	
s1(E)	60	#5	9'-2"	
s2(E)	150	#4	5'-4"	
Reinforcement Bars, Epoxy Coated			POUND	18,230
① Concrete Superstructure			CU YD	86.9

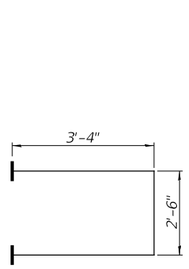
① See Special Provisions



BAR a2(E)

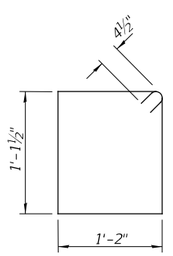


BAR s(E)

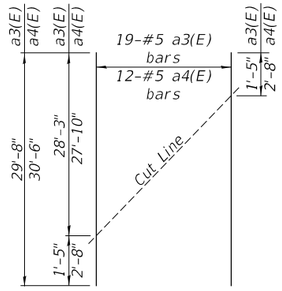


BAR s1(E)

(Headed)



BAR s2(E)



FIELD CUTTING DIAGRAM

Order a3(E) and a4(E) bars full length.
Cut as shown and use remainder of
bars in opposite end of deck.

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\s4816-b001.dgn

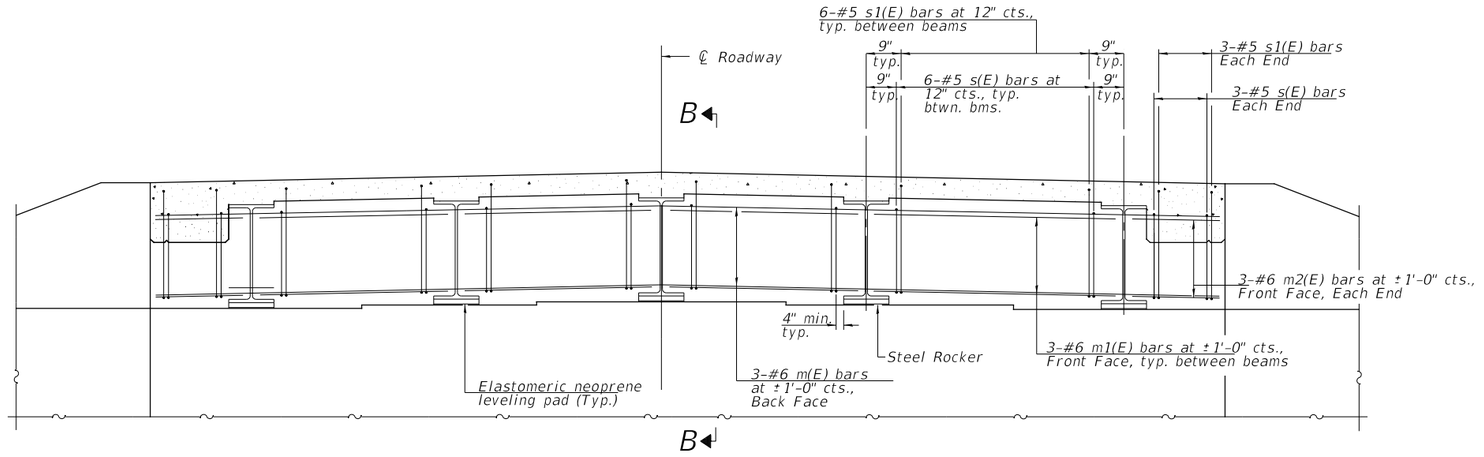
USER NAME = JSavage	DESIGNED - JPS	REVISED -
	DRAWN - JPS	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED - BAN	REVISED -
PLOT DATE = 10/13/2023	DATE - 8/3/2023	REVISED -

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

SUPERSTUCTURE DETAILS

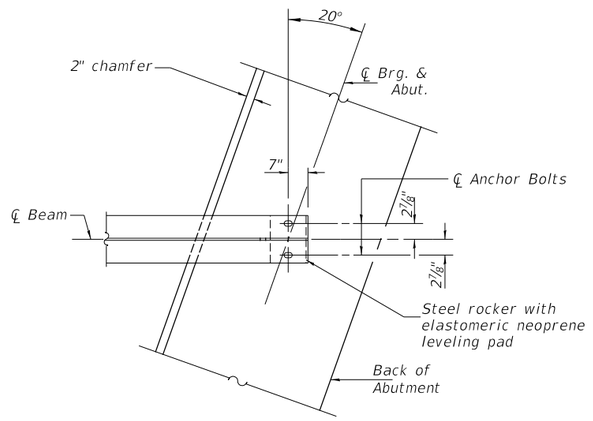
SCALE: NONE | SHEET NO. 6 OF 16 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	13
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		



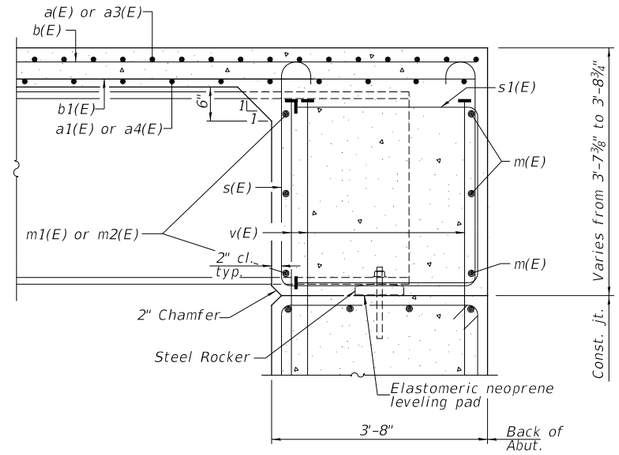
DIAPHRAGM ELEVATION AT ABUTMENT

(East Abut. Looking East, West Abut. Looking West)



PARTIAL PLAN AT ABUTMENTS

(Showing bottom flange of beam)



SECTION B-B

Notes:

See Sheet 6 of 16 for superstructure details and Bill of Material.
See Sheet 11 of 16 for bearing details.
The s(E) and s1(E) bars shall be placed parallel to the beams.
Spacing for these bars shall be at right angles to the beams.

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\s4816-b003.dgn

USER NAME = JSavage	DESIGNED - JPS	REVISED -	
	DRAWN - JPS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 8/3/2023	REVISED -	

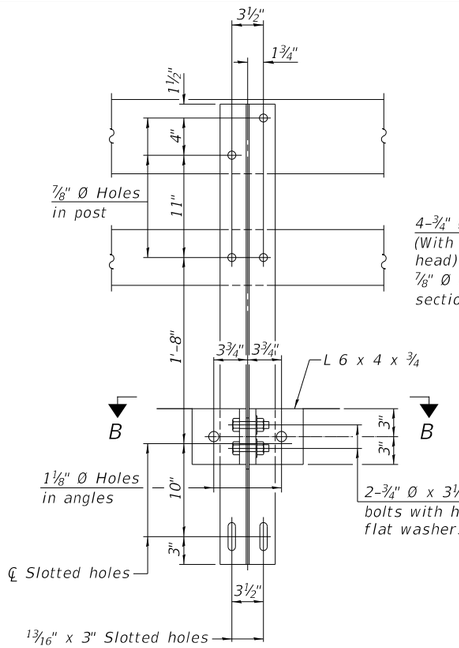
IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

DIAPHRAGM DETAILS

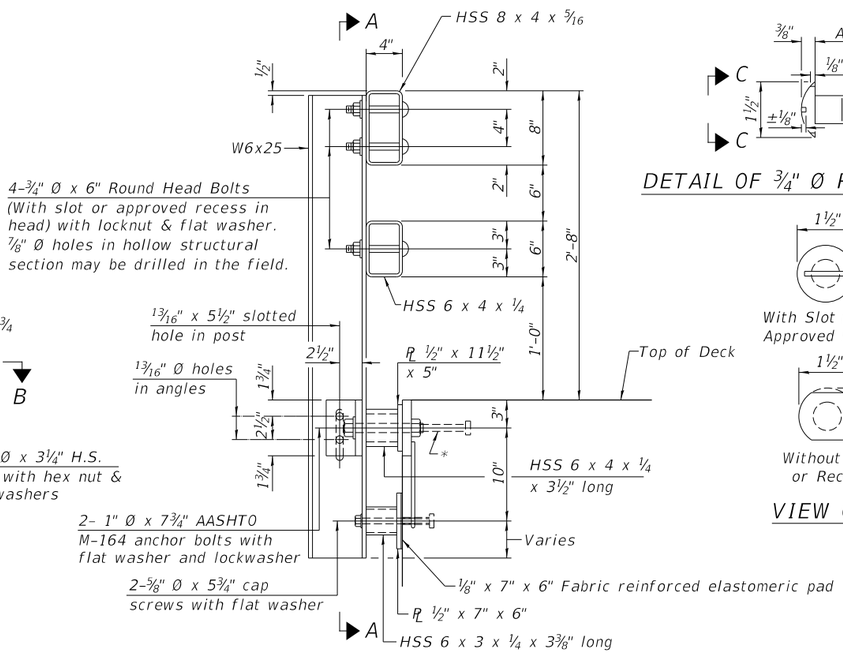
SCALE: NONE | SHEET NO. 7 OF 16 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	14
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

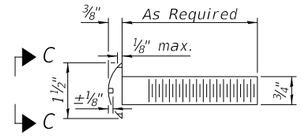
SEE SHEET NO. 6 OF 16 FOR RAIL POST SPACING.



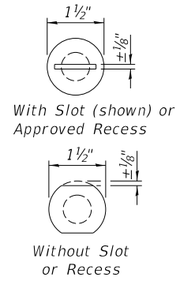
SECTION A-A



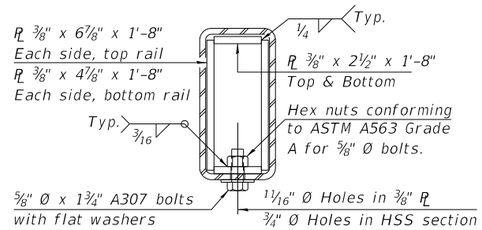
SECTION AT RAIL POST



DETAIL OF ¾" Ø ROUND HEAD BOLT



VIEW C-C



SECTION AT RAIL SPLICE

NOTES

A sufficient number of shims of various thicknesses, sized to fit behind the top spacer assembly, 5" x 11½", and bottom spacer assembly, 6" x 7", shall be provided to adjust posts for proper alignment. If the summation of shims is greater than ¼" (top) or ½" (bottom), longer bolts are required. Cost included with Steel Railing, Type SM.

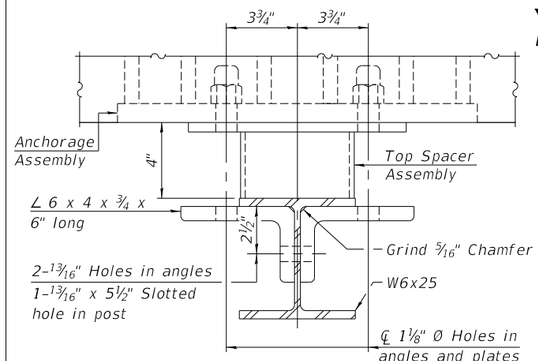
All steel rail elements including shims shall be galvanized according to Article 509.05 of the Standard Specifications.

All HSS tubing serving as railing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.

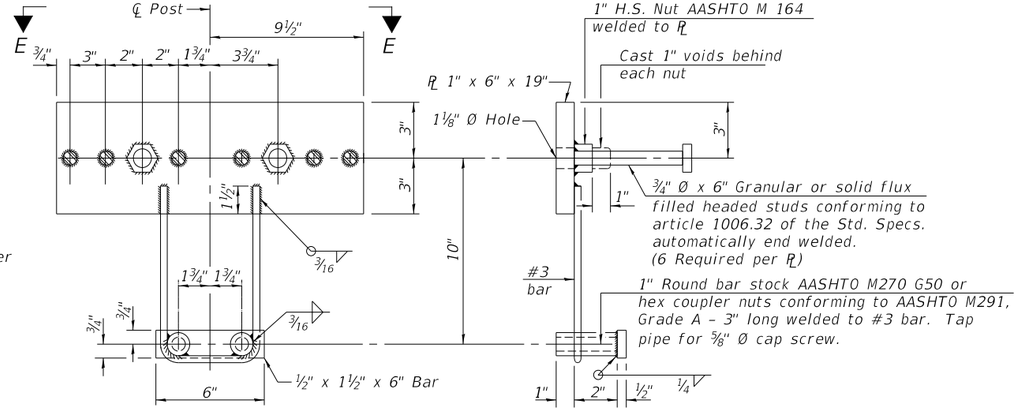
Rail splice inserts may be built out of 2' -⅜" bent plates in lieu of the 4 plate rail splice inserts shown, provided the outside dimensions are matched.

All round head bolts shall be ASTM A307 with locknuts according to ASTM A563 grade A.

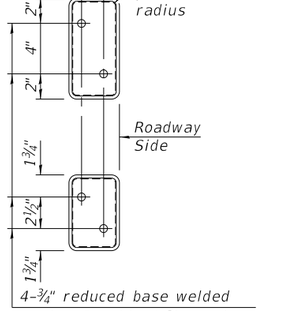
* The outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchorage assembly. The anchorage studs may be bent down ½" to accommodate the top reinforcement bar placement.



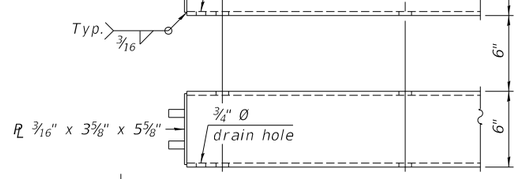
SECTION B-B



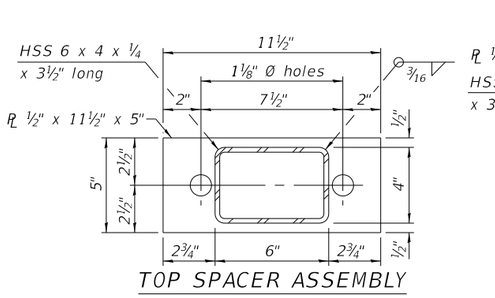
ANCHORAGE ASSEMBLY



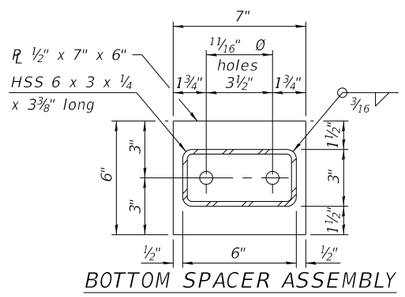
VIEW D-D



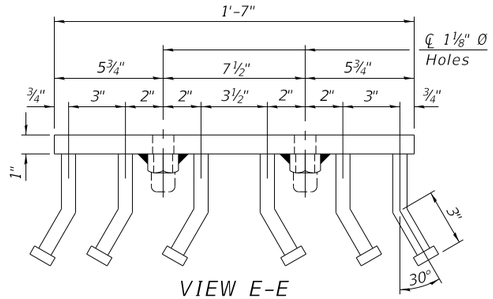
END OF RAIL DETAILS



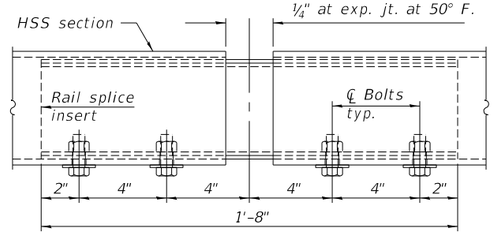
TOP SPACER ASSEMBLY



BOTTOM SPACER ASSEMBLY



VIEW E-E



RAIL SPLICE ELEVATION

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Steel Railing, Type SM	FOOT	148

MODEL: SMODELNAME5
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-it001.dgn

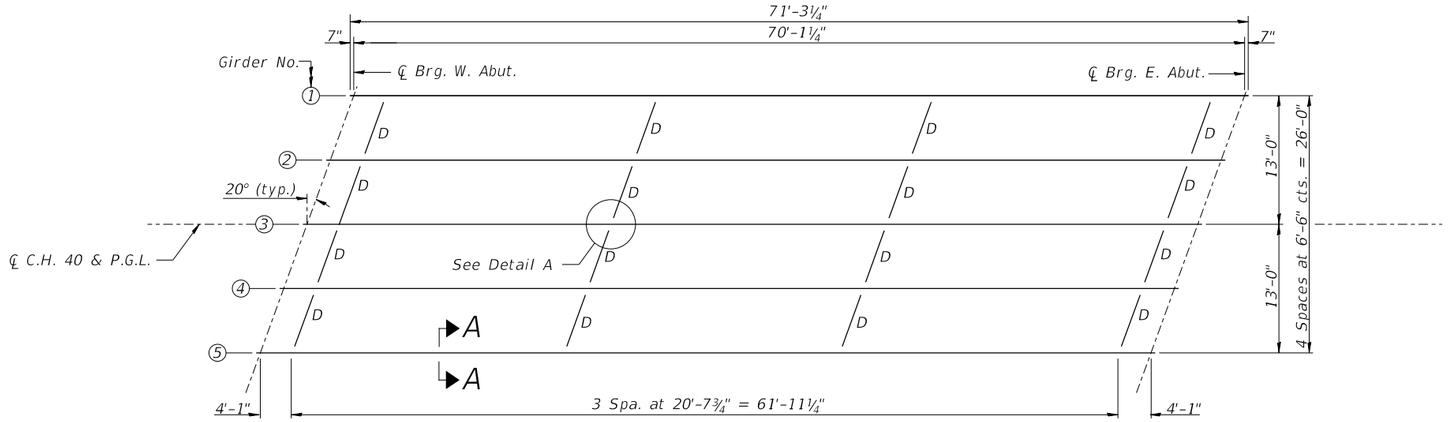
USER NAME = JSavage	DESIGNED - JPS	REVISED -	
	DRAWN - JPS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 8/1/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

STEEL RAILING, TYPE SM

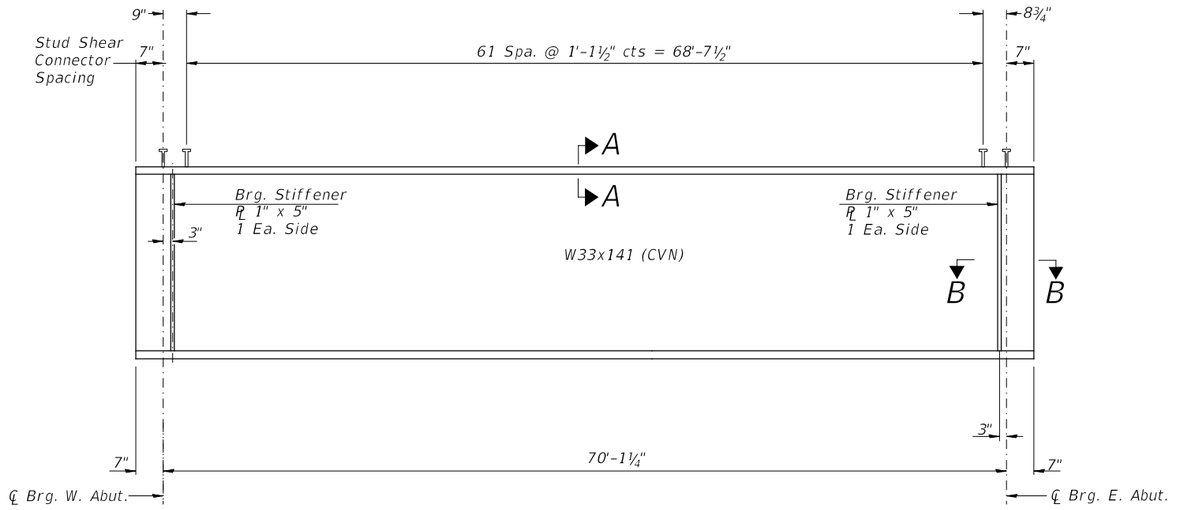
SCALE: NONE | SHEET NO. 8 OF 16 SHEETS

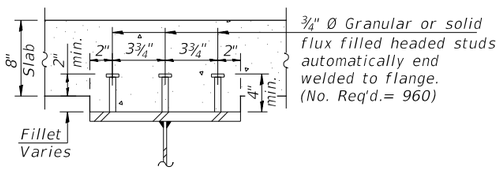
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	15
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		



FRAMING PLAN

Note:
See sheet 10 of 16 for Structural Steel Details and Detail A.



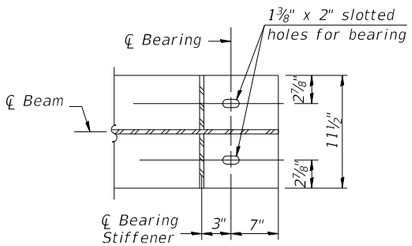


¾" Ø Granular or solid flux filled headed studs automatically end welded to flange. (No. Req'd.= 960)

SECTION A-A

BEAM ELEVATION

All beams and bearing stiffeners shall be AASHTO M270, Grade 50W.
"CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.



SECTION B-B

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-b001.dgn

USER NAME = JSavage	DESIGNED - JPS	REVISED -	
	DRAWN - JPS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 8/4/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

FRAMING PLAN

SCALE: NONE | SHEET NO. 9 OF 16 SHEETS

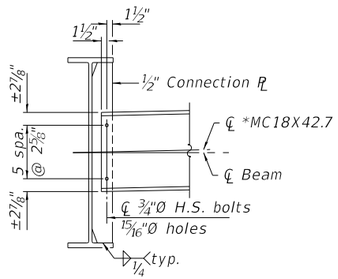
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	16
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

***

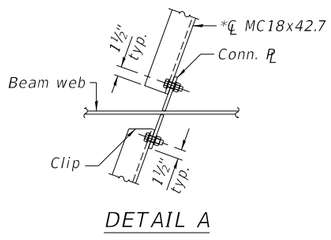
TOP OF BEAM ELEVATION

LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
℄ Brg. at W. Abut.	682.32	682.43	682.53	682.43	682.32
℄ Brg. at E. Abut.	682.32	682.43	682.53	682.43	682.32

***For fabrication only

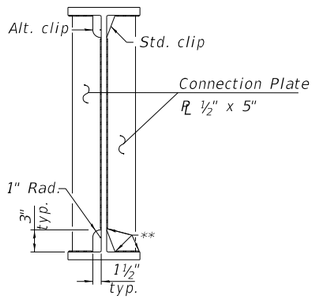


INTERIOR DIAPHRAGM



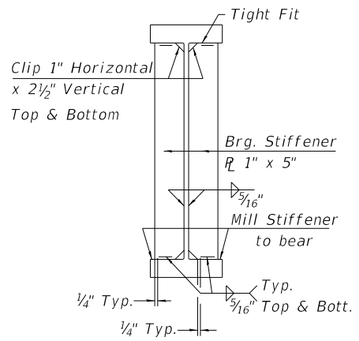
DETAIL A

Note:
Two hardened washers required for each set of oversized holes.
*Alternate channels MC18x45.8 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the MC18x42.7 sections. The alternate, if utilized, shall be provided at no additional cost to the County.



CONNECTION PLATE WELD LIMITS AND CLIP DETAILS

** Stop welds 5/16" (±⅛") from edges as shown. Typical.



SECTION AT ABUTMENTS

INTERIOR GIRDER MOMENT TABLE		
		0.47 Sp.
I_s	(in^4)	7,450
$I_c(n)$	(in^4)	20,932
$I_c(3n)$	(in^4)	15,077
$I_c(cr)$	(in^4)	———
S_s	(in^3)	448
$S_c(n)$	(in^3)	673
$S_c(3n)$	(in^3)	600
$S_c(cr)$	(in^3)	———
DC1	(k/')	0.814
M_{DC1}	('k)	500
DC2	(k/')	0.036
M_{DC2}	('k)	22
DW	(k/')	0.325
M_{DW}	('k)	199
LLDF		0.579
M_{L+IM}	('k)	985
M_u	('k)	2,752
$\phi_f M_n$	('k)	3,761
f_s DC1	(ksi)	13.39
f_s DC2	(ksi)	0.44
f_s DW	(ksi)	3.98
f_s (L+IM)	(ksi)	17.56
f_s (Service II)	(ksi)	42.28
Service II Resistance	(ksi)	47.50
f_s (Strength I)	(ksi)	–
$\phi_f F_n$	(ksi)	–
V_f	(k)	38.7

GIRDER REACTION TABLE		
		Abut.
LLDF		0.707
OCF		1.073
R_{DC1}	(k)	28.5
R_{DC2}	(k)	1.3
R_{DW}	(k)	11.4
R_L	(k)	64.1
R_{Im}	(k)	15.6
R_{Total} (Strength I)(Impact)	(k)	198.2
R_{Total} (Strength I)(No Impact)	(k)	170.9

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s(Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

S_x : Section modulus about the major axis of a section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange ($in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1} : Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2} : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW} : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

LLDF: Live Load Distribution Factor for moment and shear computed according to Article 4.6.2.2 and further IDOT provisions.

M_{L+IM} : Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u : Strength I load combination of factored design moments (kip-ft.). $1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Factored nominal flexural resistance of the section determined as specified in Article 6.10.7.1 or A6 as applicable (kip-ft.).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_s

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (L + IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{L+IM} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (L + IM)

Service II Resistance: Composite ($0.95R_h F_{yf}$) or noncomposite ($0.80R_h F_{yf}$) stress capacity according to Article 6.10.4.2 (ksi).

f_s(Strength I): Sum of stresses as computed below on non-compact sections (ksi).
$1.25\ (f_s$ DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s (L + IM)

$\phi_f F_n$: Factored nominal flexural resistance of the section as specified in Article 6.10.7.2 or 6.10.8 as applicable (ksi).

V_f: Maximum factored shear range in span computed according to Article 6.10.10.

OCF: Obtuse Correction Factor according to Article 4.6.2.2.3c or as further simplified by IDOT provisions.

R_{DC1} : Un-factored reaction due to non-composite dead load (kip).

R_{DC2} : Un-factored reaction due to long-term composite (superimposed excluding future wearing surface) dead load (kip).

R_{DW} : Un-factored reaction due to long-term composite (superimposed future wearing surface only) dead load (kip).

R_L : Un-factored live load reaction (kip).

R_{IM} : Un-factored dynamic load allowance (impact) (kip).

R_{Total} (Strength I)(Impact): Strength I load combination of factored design reactions (kip).
$1.25\ (R_{DC1} + R_{DC2}) + 1.5R_{DW} + 1.75\ (R_L + R_{IM})$

R_{Total} (Strength I)(No Impact): Strength I load combination of factored design reactions, not including dynamic load allowance (Impact) (kip).
$1.25\ (R_{DC1} + R_{DC2}) + 1.5R_{DW} + 1.75\ (R_L)$

MODEL: \$MODELNAME\$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-0001.dgn

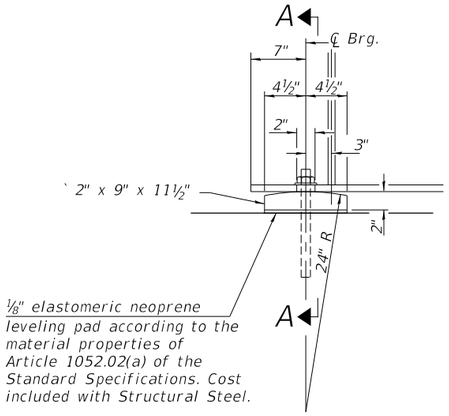
USER NAME = JSavage	DESIGNED - JPS	REVISED -		
	DRAWN - JPS	REVISED -		
PLOT SCALE = 100.0000 ' / in.	CHECKED - BAN	REVISED -		
PLOT DATE = 10/13/2023	DATE - 8/3/2023	REVISED -		

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

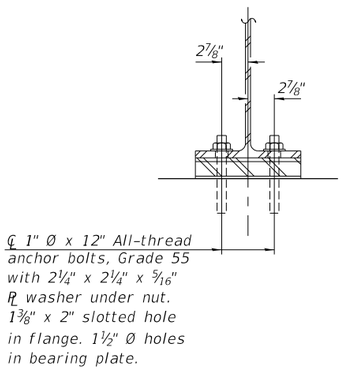
STRUCTURAL STEEL DETAILS

SCALE: NONE | SHEET NO. 10 OF 16 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	17
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		



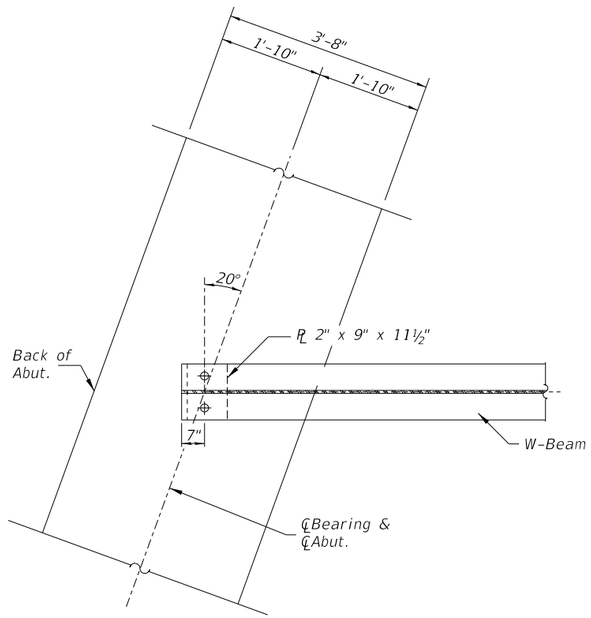
ELEVATION AT ABUTMENTS



SECTION A-A

FIXED BEARING AT ABUTMENTS

(10 Required)



PARTIAL PLAN AT ABUTMENTS

Notes:
Anchor bolts shall be according to Article 521.06 of the Standard Specifications.
Beams shall be braced for stability during erection and remain braced until deck is poured and cured.
Anchor bolts at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Anchor Bolts, 1"	EACH	20

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-b001.dgn

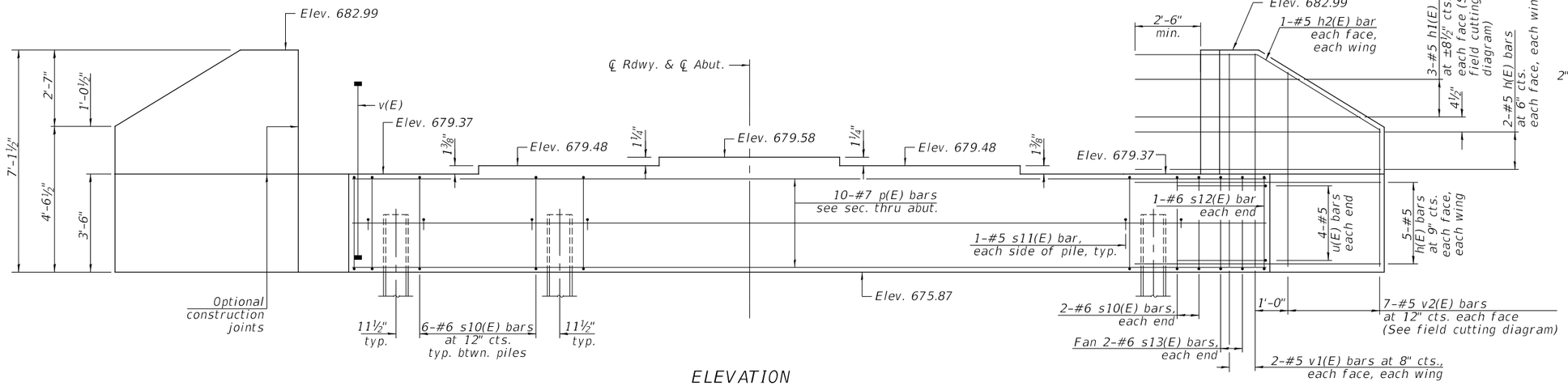
USER NAME = JSavage	DESIGNED - JPS	REVISED -	
	DRAWN - JPS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 8/2/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

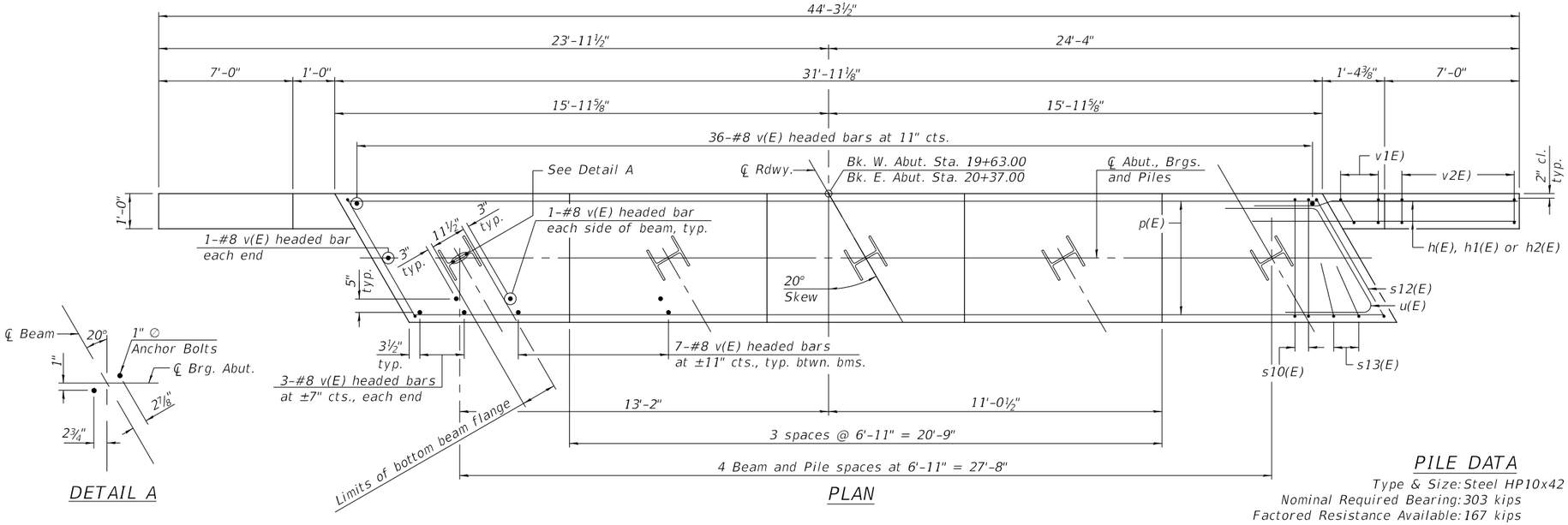
BEARING DETAILS

SCALE: NONE | SHEET NO. 11 OF 16 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	18
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

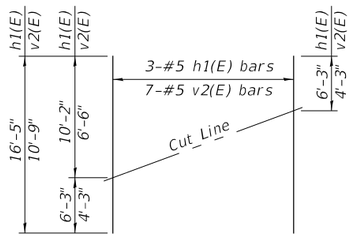


ELEVATION



PLAN

DETAIL A

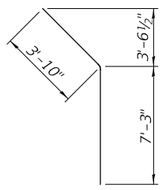


FIELD CUTTING DIAGRAM

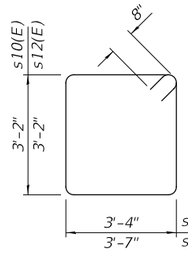
Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.

BAR v(E)

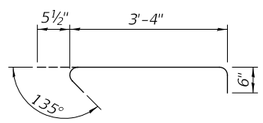
(Headed)



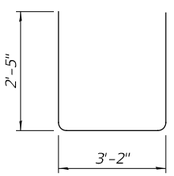
BAR h2(E)



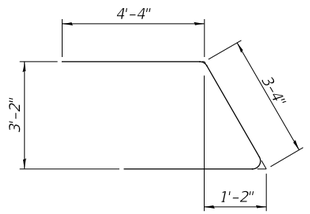
BAR s10(E) & s12(E)



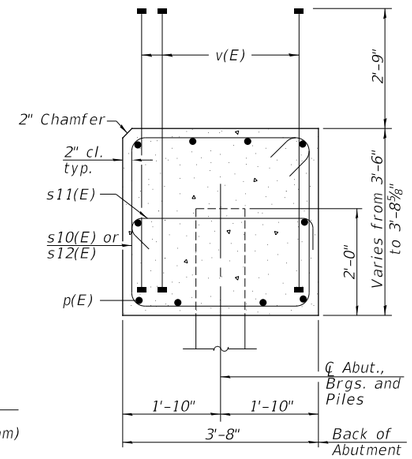
BAR s11(E)



BAR s13(E)



BAR u(E)



SEC. THRU ABUT.

(Dimensions at right angles to Abutments)

TWO ABUTMENTS BILL OF MATERIALS

Bar	No.	Size	Length	Shape
h(E)	56	#5	10'-9"	
h1(E)	12	#5	16'-5"	
h2(E)	8	#5	11'-1"	
p(E)	20	#7	31'-7"	
s10(E)	56	#6	14'-4"	
s11(E)	20	#5	4'-4"	
s12(E)	4	#6	14'-10"	
s13(E)	8	#6	8'-0"	
u(E)	16	#6	12'-0"	
v(E)	164	#8	6'-1"	
v1(E)	16	#5	6'-9"	
v2(E)	28	#5	10'-9"	
Structure Excavation		Cu. Yd.	120	
Concrete Structures		Cu. Yd.	40.0	
Reinforcement Bars, Epoxy Coated		Pound	7,080	
Furnishing Steel Piles HP10x42		Foot	456	
Driving Piles		Foot	456	
Test Pile Steel HP10x42		Each	2	

PILE DATA

Type & Size: Steel HP10x42
Nominal Required Bearing: 303 kips
Factored Resistance Available: 167 kips
Est. Length: 58' E. Abutment
56' W. Abutment
No. Production Piles: 8
No. Test Piles: 2 (1 Each Abut.)

Notes:
Pour steps monolithically with cap.
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
For details of piles see sheet 13 of 16.

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-b012.dgn

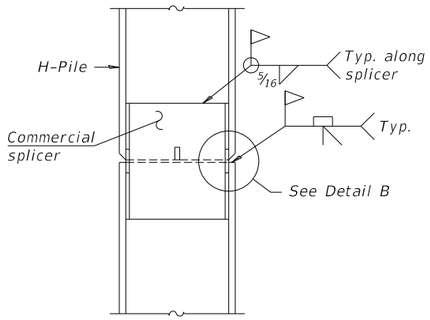
USER NAME = JSavage	DESIGNED - JPS	REVISED -	
	DRAWN - JPS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BAN	REVISED -	
PLOT DATE = 10/20/2023	DATE - 8/4/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

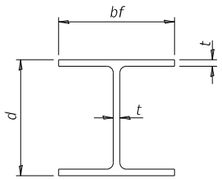
ABUTMENTS

SCALE: NONE | SHEET NO. 12 OF 16 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	19
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

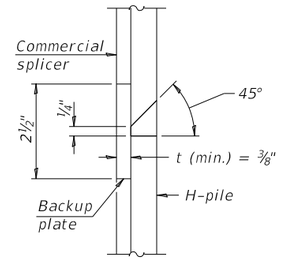


ELEVATION

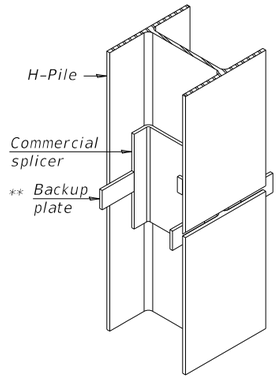


STEEL PILE TABLE

Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14¼"	14⅞"	13/16"	30"
x102	14"	14¾"	11/16"	30"
x89	13⅞"	14¾"	⅝"	30"
x73	13⅝"	14⅝"	½"	30"
HP 12x84	12¼"	12¼"	11/16"	24"
x74	12⅛"	12¼"	⅝"	24"
x63	12"	12⅛"	½"	24"
x53	11¾"	12"	7/16"	24"
HP 10x57	10"	10¼"	9/16"	24"
x42	9¾"	10⅛"	7/16"	24"
HP 8x36	8"	8⅛"	7/16"	18"

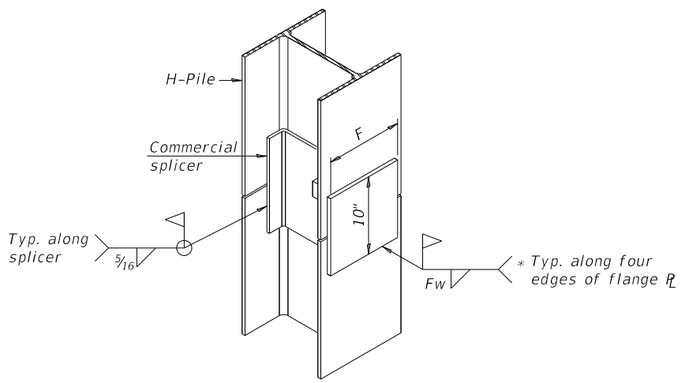


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW

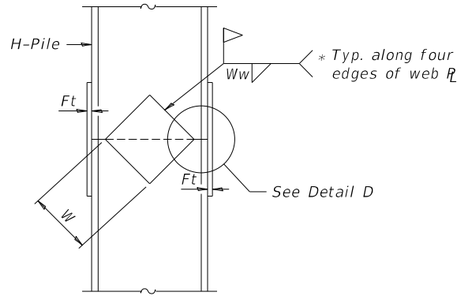
WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds ¼" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

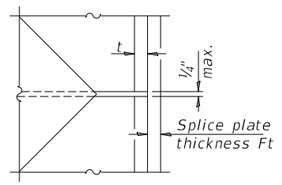
*** Weld size per pile shoe manufacturer (5/16" min.).

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.



ELEVATION

END VIEW



DETAIL D

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12½"	1"	⅞"	7¾"	⅝"	½"
x102	12½"	⅞"	¾"	7¾"	⅝"	½"
x89	12½"	¾"	11/16"	7¾"	⅝"	½"
x73	12½"	⅝"	9/16"	7¾"	⅝"	½"
HP 12x84	10"	⅞"	11/16"	6½"	⅝"	½"
x74	10"	⅞"	11/16"	6½"	⅝"	½"
x63	10"	⅝"	½"	6½"	½"	⅜"
x53	10"	⅝"	½"	6½"	½"	⅜"
HP 10x57	8"	¾"	9/16"	5¼"	½"	⅜"
x42	8"	⅝"	9/16"	5¼"	½"	⅜"
HP 8x36	7"	⅝"	7/16"	4¼"	½"	⅜"

WELDED PLATE FIELD SPLICE

MODEL: sMODELNAME5
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-b013.dgn

USER NAME = JSavage	DESIGNED - JPS	REVISED -	
	DRAWN - JPS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BAN	REVISED -	
PLOT DATE = 10/23/2023	DATE - 10/20/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

HP STEEL PILES

SCALE: NONE | SHEET NO. 13 OF 16 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	20
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 1 of 3

Client: Hutchison Engineering Inc.
Project Name: County Highway 40 Over Possum Trot Ditch
Project Site: Section 22-00118-01-BR Iroquois Cnty. IL.

Boring No. B-1
Surface Elev. 680.00
Auger Depth 63Ft. Rotary Depth NA
Start Date 09/17/22 Finish Date 09/17/22

Location: 7' Right of Station 19+45

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
680.00											
679.00	Existing Pavement Bituminous Over Stone		1								
678.00			2								
677.00	Stiff Black And Brown Clay (Fill)		3	1	SS	1.5	6	B	24		
676.00			4								
675.00			5	2	SS	1.7	7	B	22		
674.00			6								
673.00			7								
672.00			8	3	SS	---	21	---	---		
671.00			9								
670.00			10	4	SS	---	24	---	---		
669.00	Medium Brown To Dark Gray Fine Sand To Coarse Gravel		11								
668.00			12								
667.00			13	5	SS	---	18	---	---		
666.00			14								
665.00			15								
664.00			16	6	SS	---	15	---	---		
663.00			17								
662.00			18	7	SS	---	12	---	---		
661.00			19								
660.00			20								Water
				8	SS	---	16	---	---		

Groundwater Data: Static water level at elevation 660.5.
Comments: Auger Refusal 63 feet

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 2 of 3

Client: Hutchison Engineering Inc.
Project Name: County Highway 40 Over Possum Trot Ditch
Project Site: Section 22-00118-01-BR Iroquois Cnty. IL.

Boring No. B-1
Surface Elev. 680.00
Auger Depth 63Ft. Rotary Depth NA
Start Date 09/17/22 Finish Date 09/17/22

Location: 7' Right of Station 19+45

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
659.00											
658.00			22								
657.00			23	9	SS	1.8	9	B	23		
656.00			24								
655.00	Stiff Gray Clay		25	10	SS	1.9	9	B	23		
654.00			26								
653.00			27								
652.00			28	11	SS	1.7	8	B	25		
651.00			29								
650.00			30								
649.00			31	12	SS	2.0	10	B	23		
648.00			32								
647.00			33								
646.00			34								
645.00	Very Stiff Gray Clay		35								
644.00			36	13	SS	2.5	13	B	22		
643.00			37								
642.00			38								
641.00			39								
640.00			40								
639.00			41	14	SS	2.3	12	B	22		

Groundwater Data: Static water level at elevation 660.5.
Comments: Auger Refusal 63 feet

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-b014.dgn

USER NAME = JSavage	DESIGNED - JPS	REVISED -	
	DRAWN - JPS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 8/2/23	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

SOIL BORINGS

SCALE: NONE | SHEET NO. 14 OF 16 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	21
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 3 of 3

Client: Hutchison Engineering Inc.
Project Name: County Highway 40 Over Possum Trot Ditch
Project Site: Section 22-00118-01-BR Iroquois Cnty. IL.

Boring No. B-1
Surface Elev. 680.00
Auger Depth 63Ft. Rotary Depth NA
Start Date 09/17/22 Finish Date 09/17/22

Location: 7' Right of Station 19+45

Drilled By: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
638.00											
637.00			43								
636.00			44								
635.00			45	15	SS	2.6	12	B	22		
634.00	Very Stiff Gray Clay		46								
633.00			47								
632.00			48								
631.00			49								
630.00			50	16	SS	---	2	---	---		
629.00	Very Loose Gray Loam		51								
628.00			52								
627.00			53								
626.00			54								
625.00			55								
624.00	Dense Gray Loam		56	17	SS	---	36	---	---		
623.00			57								
622.00			58								
621.00			59								
620.00			60								
619.00	Very Dense Reddish Brown Shale		61	18	SS	---	100/2"	---	10		
618.00			62								

Groundwater Data: Static water level at elevation 660.5.
Comments: Auger Refusal 63 feet

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 1 of 3

Client: Hutchison Engineering Inc.
Project Name: County Highway 40 Over Possum Trot Ditch
Project Site: Section 22-00118-01-BR Iroquois Cnty. IL.

Boring No. B-2
Surface Elev. 680.0
Auger Depth 61ft. Rotary Depth NA
Start Date 09/17/22 Finish Date 09/17/22

Location: 4' Left Station 20+55

Drilled By: Randy Safranski, Diedrich D-120

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
680.00											
679.00	Existing Pavement Bituminous Over Stone		1								
678.00			2								
677.00			3	1	SS	1.6	8	B	22		
676.00	Stiff Brownish Gray Clay (Fill)		4								
675.00			5	2	SS	1.2	5	B	25		
674.00			6								
673.00			7	3	SS	---	19	---	---		
672.00			8								
671.00	Medium Gray Coarse Gravel		9								
670.00			10	4	SS	---	28	---	---		
669.00			11								
668.00			12								
667.00			13	5	SS	---	16	---	---		
666.00			14								
665.00	Medium Gray Fine To Coarse Sand		15	6	SS	---	14	---	---		
664.00			16								
663.00			17								
662.00			18	7	SS	---	14	---	---		
661.00			19								
660.00	Very Stiff Gray Clay		20	8	SS	2.3	12	B	---		Water

Groundwater Data: Static water level at elevation 660.5.
Comments:

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-0015.dgn

USER NAME = JSavage	DESIGNED - JPS	REVISED -	
	DRAWN - JPS	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 8/2/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

SOIL BORINGS

SCALE: NONE | SHEET NO. 15 OF 16 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	22
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 2 of 3

Client: Hutchison Engineering Inc.
Project Name: County Highway 40 Over Possum Trot Ditch
Project Site: Section 22-00118-01-BR Iroquois Cnty. IL.

Boring No. B-2
Surface Elev. 680.00
Auger Depth 61ft. Rotary Depth NA
Start Date 09/17/22 Finish Date 09/17/22

Location: 4' Left Station 20+55

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
659.00											
658.00			22								
657.00	Stiff Gray Clay		23	9	SS	1.7	8	B	24		
656.00			24								
655.00			25								
654.00			26	10	SS	1.9	9	B	23		
653.00			27								
652.00			28	11	SS	1.9	9	B	23		
651.00			29								
650.00			30								
649.00	Medium Gray Fine To Coarse Sand		31	12	SS	---	16	---	---		
648.00			32								
647.00			33								
646.00			34								
645.00			35								
644.00			36	13	SS	1.8	12	B	23		
643.00	Stiff Gray Clay		37								
642.00			38								
641.00			39								
640.00			40								
639.00			41	14	SS	1.5	8	B	25		

Groundwater Data: Static water level at elevation 660.5.
Comments:

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Peru, IL 61354

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BORING LOG

Sheet 3 of 3

Client: Hutchison Engineering Inc.
Project Name: County Highway 40 Over Possum Trot Ditch
Project Site: Section 22-00118-01-BR Iroquois Cnty. IL.

Boring No. B-2
Surface Elev. 680.00
Auger Depth 61ft. Rotary Depth NA
Start Date 09/17/22 Finish Date 09/17/22

Location: 4' Left Station 20+55

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
638.00											
637.00			43								
636.00			44								
635.00	Very Stiff Gray Clay		45	15	SS	2.3	11	B	23		
634.00			46								
633.00			47								
632.00			48								
631.00			49								
630.00	Very Loose Gray Loam		50	16	SS	---	3	---	---		
629.00			51								
628.00			52								
627.00			53								
626.00			54								
625.00	Dense Gray Loam		55								
624.00			56	17	SS	---	32	----	----		
623.00			57								
622.00			58								
621.00	Very Dense Reddish Brown Shale		59								
620.00			60								
619.00			61	18	SS	---	100/2"	---	9		
618.00	Boring Terminated		62								

Groundwater Data: Static water level at elevation 660.5.
Comments:

MODEL: $MODELNAME$
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois)\CADD\CADD Sheets\4816-b016.dgn

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	DRAWN - JPS	REVISED -	
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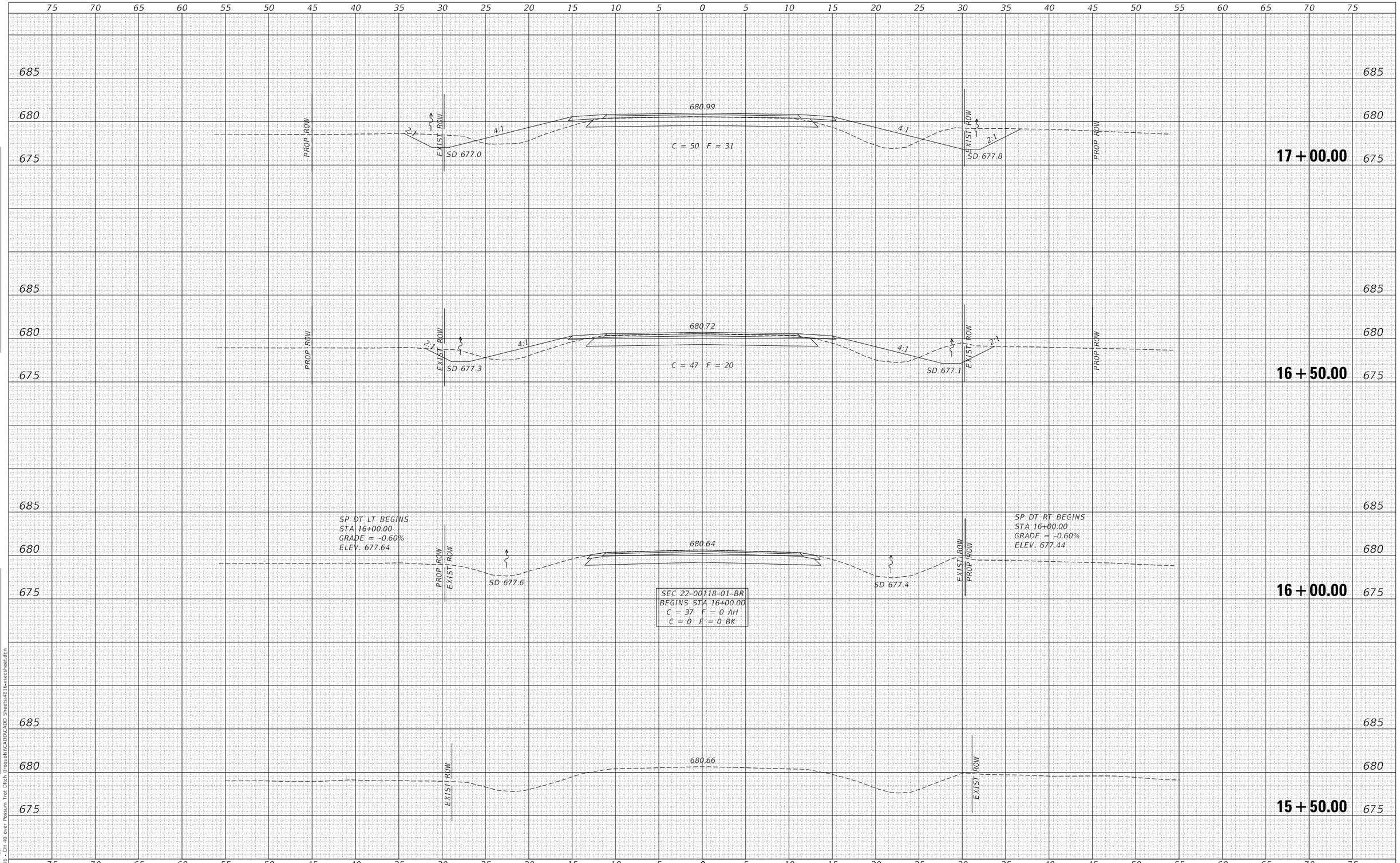
PLOT DATE = 10/13/2023	DATE - 8/2/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S. 323)
OVER POSSUM TROT DITCH

SOIL BORINGS

SCALE: NONE | SHEET NO. 16 OF 16 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	23
	S.N. 038-5403	CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		



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

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

MODEL: $MODELNAME$
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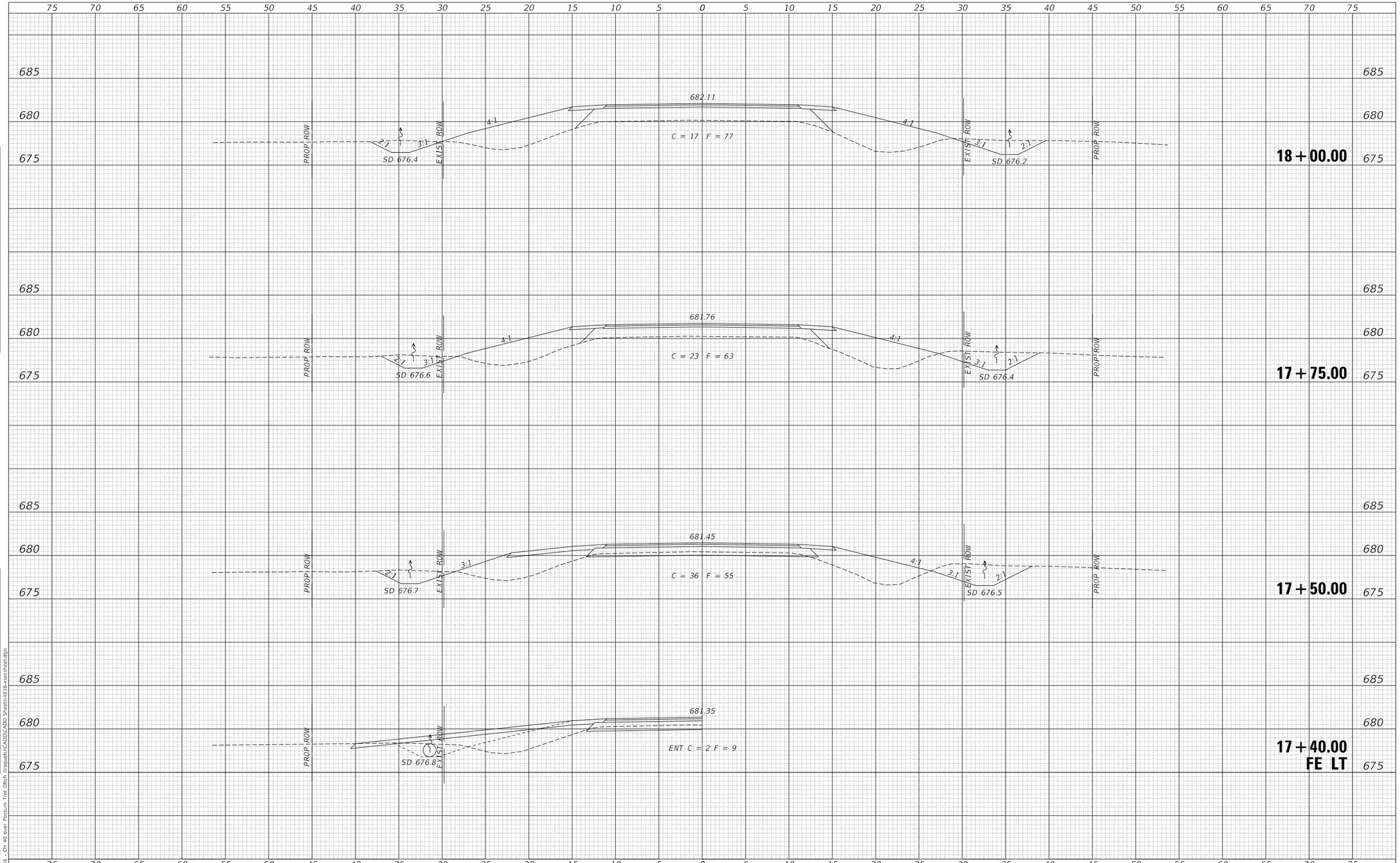
	DRAWN - YP	REVISED -	
PLOT SCALE = 10.0000 ' / in.	CHECKED - JPS/BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 8/1/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S 323)
OVER POSSUM TROT DITCH

CROSS SECTIONS

SCALE: 1"=5' | SHEET 1 OF 7 SHEETS | STA. 15+50.00 | TO STA. 17+00.00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	24
		CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		



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

MODEL: $MODELNAME$
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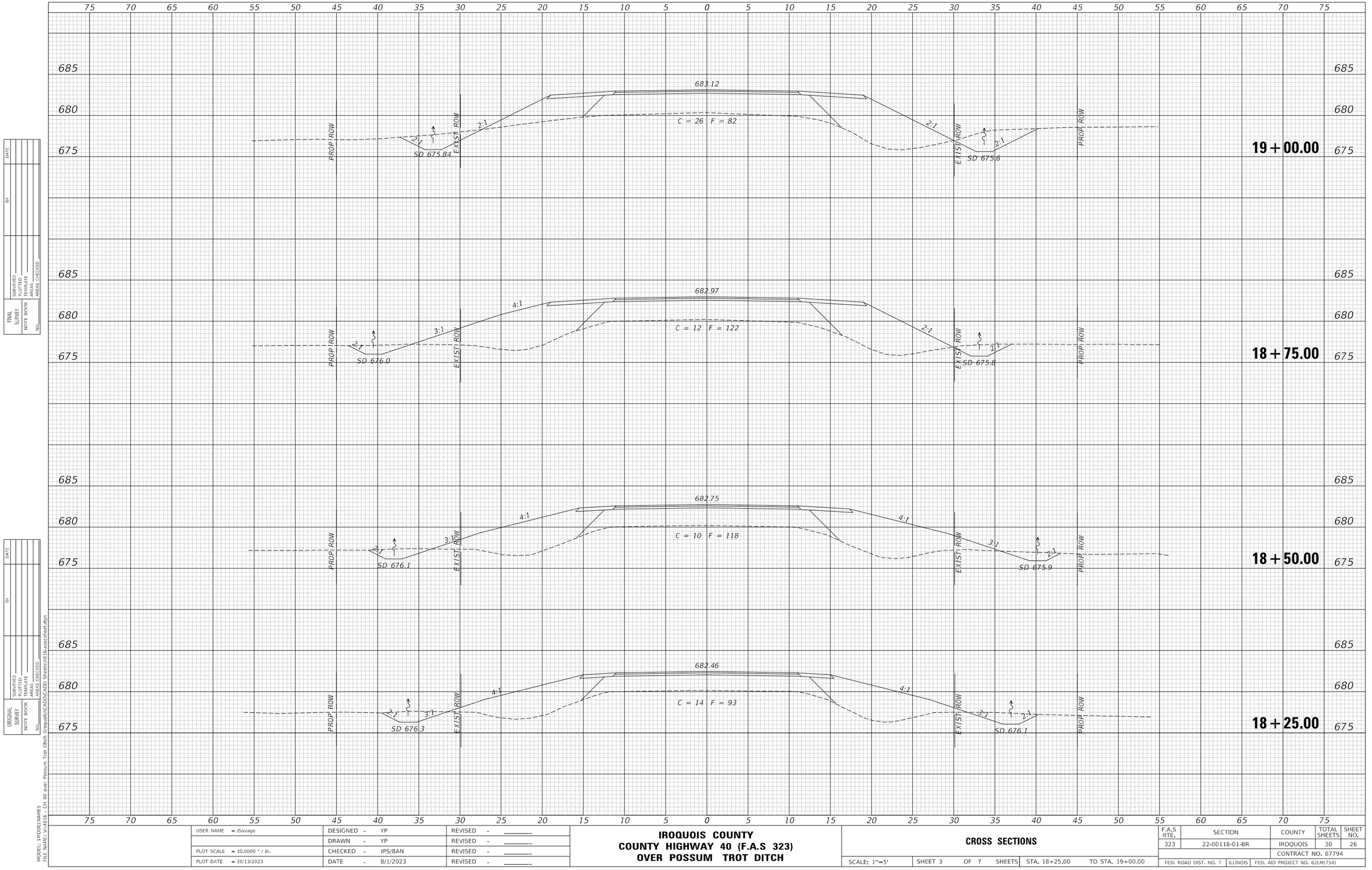
	DRAWN - YP	REVISED -	
PLOT SCALE = 10.0000 ' / in.	CHECKED - JPS/BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 8/1/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S 323)
OVER POSSUM TROT DITCH

CROSS SECTIONS

SCALE: 1"=5' | SHEET 2 OF 7 SHEETS | STA. 17+40.00 TO STA. 18+00.00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	25
		CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		



FINAL SURVEY / ORIGINAL SURVEY

NOTE BOOK
NO.

BY	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
AREAS CHECKED	

MODEL: SMODELNAME5
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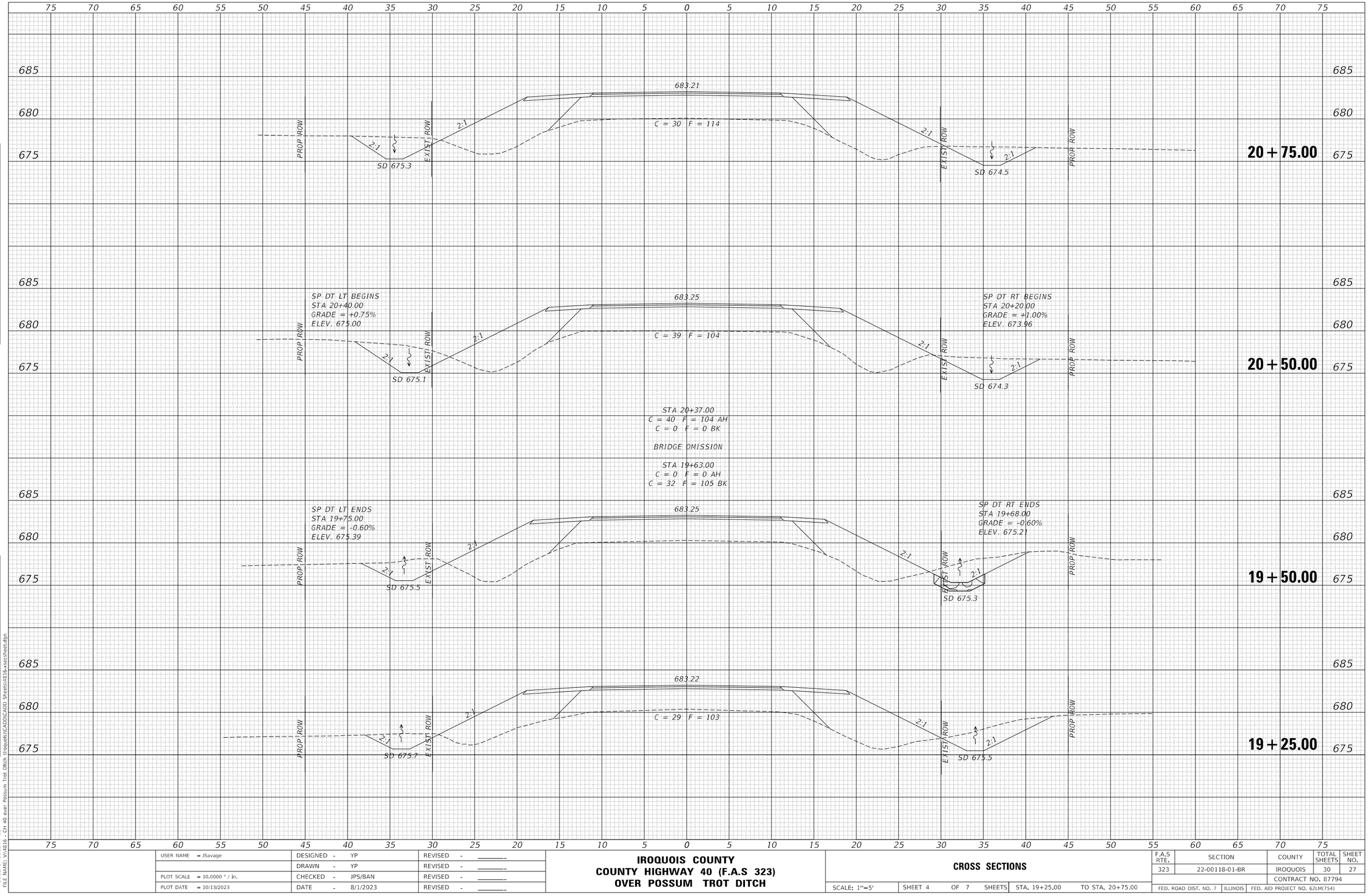
PLOT DATE = 10/13/2023	DATE - 8/1/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S 323)
OVER POSSUM TROT DITCH

CROSS SECTIONS

SCALE: 1"=5' | SHEET 3 OF 7 SHEETS | STA. 18+25.00 | TO STA. 19+00.00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	26
		CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		



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

MODEL: $MODELNAME$
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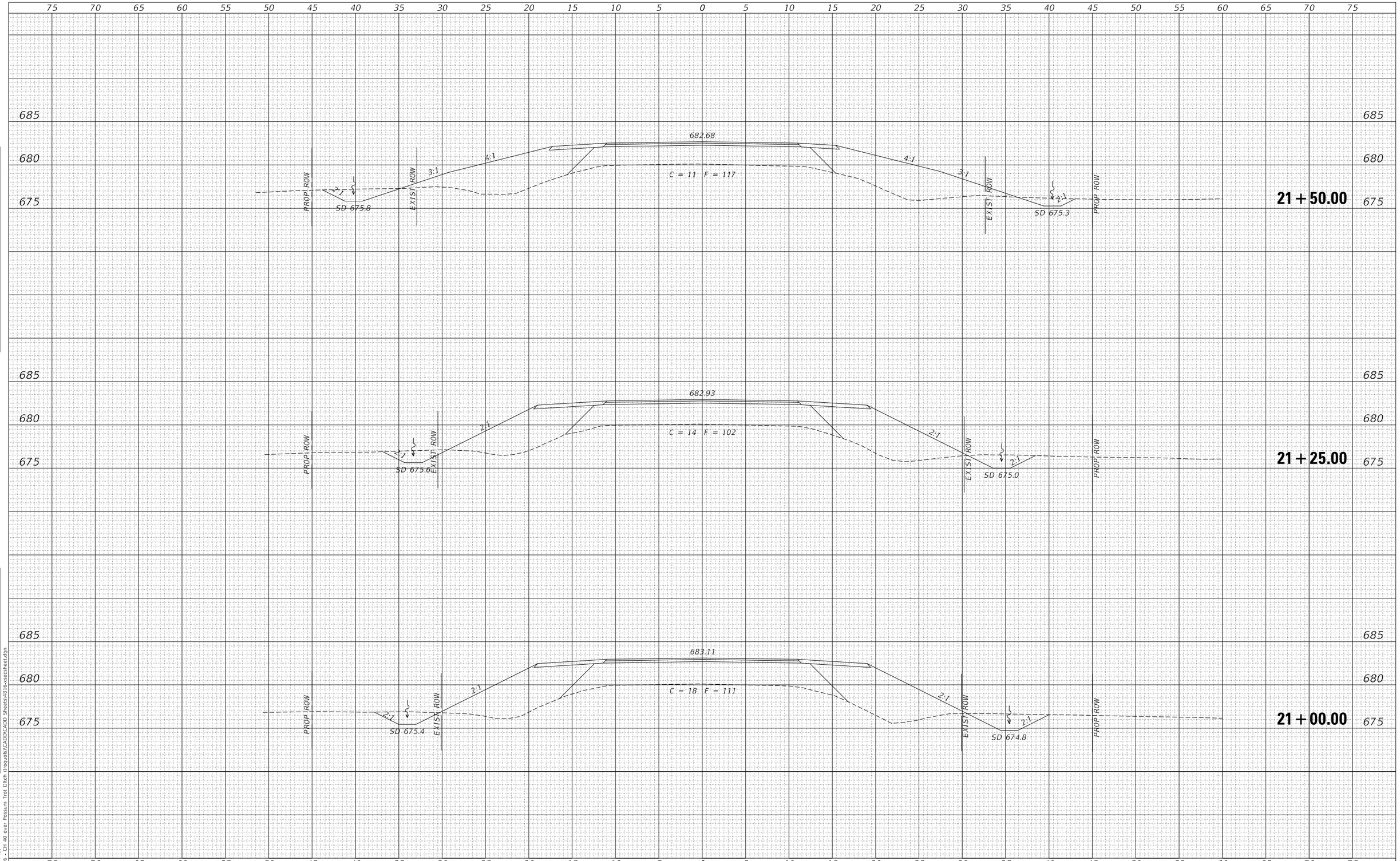
	DRAWN - YP	REVISED -
PLOT SCALE = 10.0000 ' / in.	CHECKED - JPS/BAN	REVISED -
PLOT DATE = 10/13/2023	DATE - 8/1/2023	REVISED -

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S 323)
OVER POSSUM TROT DITCH

CROSS SECTIONS

SCALE: 1"=5' | SHEET 4 OF 7 SHEETS | STA. 19+25.00 TO STA. 20+75.00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	27
		CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		



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

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

MODEL: $MODEL NAME$
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PLOT SCALE = 10.0000 ' / in.	CHECKED - JPS/BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 8/1/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S 323)
OVER POSSUM TROT DITCH

CROSS SECTIONS

SCALE: 1"=5' | SHEET 5 OF 7 SHEETS | STA. 21+00.00 TO STA. 21+50.00

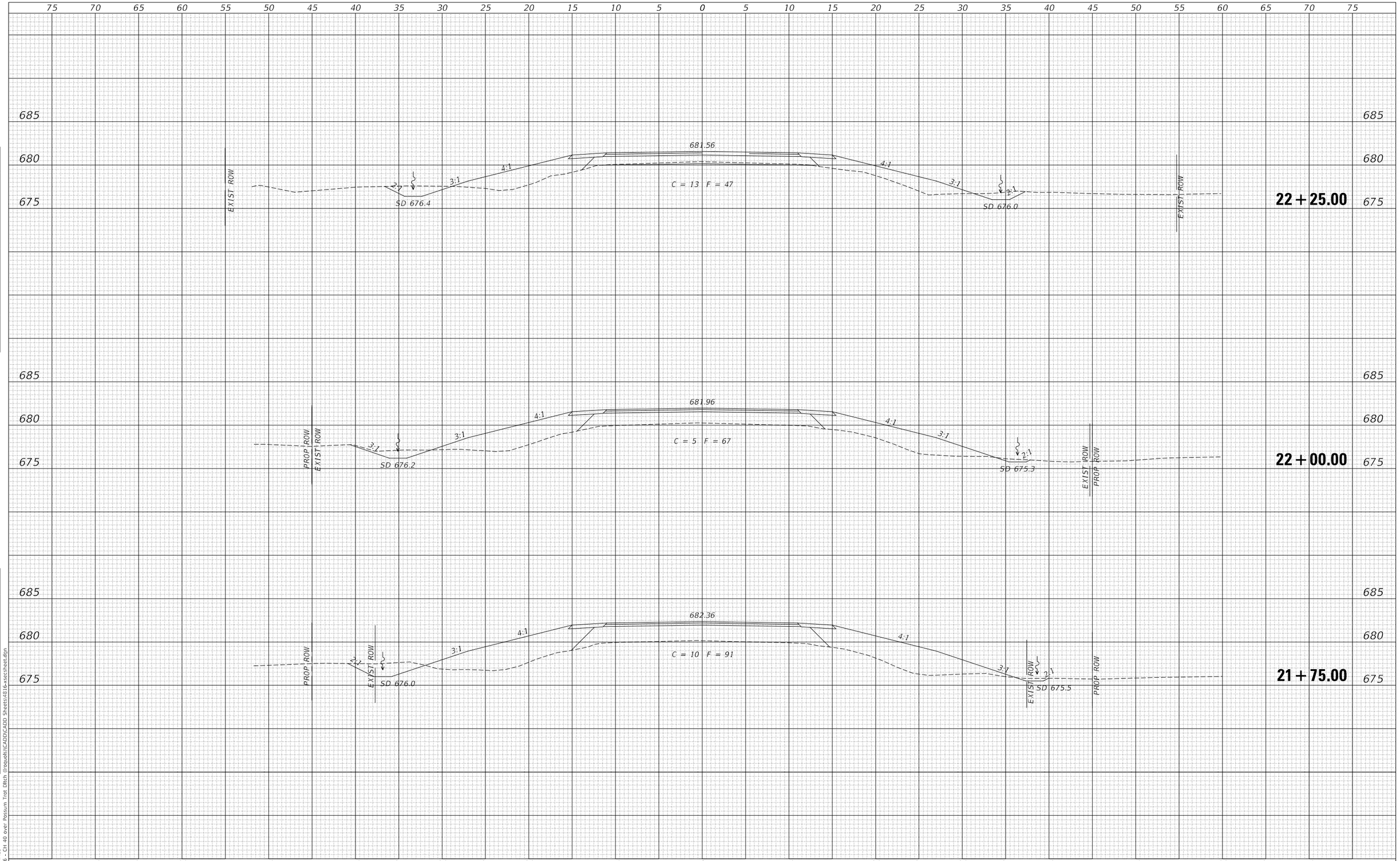
F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	28
		CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

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

BY	DATE

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

BY	DATE



MODEL: $MODELNAME$
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PLOT SCALE = 10.0000 ' / in.	CHECKED - JPS/BAN	REVISED -
PLOT DATE = 10/13/2023	DATE - 8/1/2023	REVISED -

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S 323)
OVER POSSUM TROT DITCH

CROSS SECTIONS

SCALE: 1"=5' | SHEET 6 OF 7 SHEETS | STA. 21+75.00 TO STA. 22+25.00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	29
		CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

685 680 675

680.19

23+75.00

SEC 22-00118-01-BR
ENDS STA 23+50.00
C = 0 F = 0 AH
C = 35 F = 0 BK

SP DT LT ENDS
STA 23+50.00
GRADE = +0.75%
ELEV. 677.32

680.36

SP DT RT ENDS
STA 23+50.00
GRADE = +1.00%
ELEV. 677.26

SD 677.3

SD 677.3

23+50.00

680.68

2:1 4:1 4:1 2:1

SD 676.9

C = 34 F = 14

SD 676.8

23+00.00

681.22

2:1 3:1 4:1 4:1 3:1 2:1

SD 676.6

C = 23 F = 32

SD 676.3

22+50.00

USER NAME = JSavage	DESIGNED - YP	REVISED -	
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PLOT SCALE = 10.0000 ' / in.	CHECKED - JPS/BAN	REVISED -	
PLOT DATE = 10/13/2023	DATE - 8/1/2023	REVISED -	

IROQUOIS COUNTY
COUNTY HIGHWAY 40 (F.A.S 323)
OVER POSSUM TROT DITCH

CROSS SECTIONS

SCALE: 1"=5' | SHEET 7 OF 7 SHEETS | STA. 22+50.00 | TO STA. 23+75.00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	22-00118-01-BR	IROQUOIS	30	30
		CONTRACT NO. 87794		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 62LM(754)		

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

MODEL: SMODELNAME5
FILE NAME: V:\4816 - CH 40 over Possum Trot Ditch (Iroquois\CADD\CADD Sheets\4816-xsecsheet.dgn