

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	1
FED. ROAD DIST. NO. 7		ILLINOIS	CONTRACT NO. 95899	

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES, TYPICAL SECTIONS, DETAILS, TIE POINTS
3	SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES
4	TRAFFIC CONTROL PLAN
5	EROSION CONTROL PLAN
6	PLAN AND PROFILE
7-20	STRUCTURE PLANS
21-27	CROSS SECTIONS

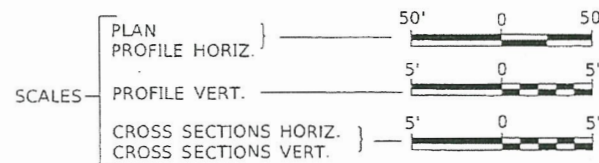
06-11-2021 LETTING ITEM 253

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM-RURAL
CRAWFORD COUNTY
MARTIN ROAD DISTRICT SECTION 18-05120-00-BR
TOWNSHIP ROAD 245 (550N)
OVER FREEPORT CREEK
PROJECT NO. 266D(084)
JOB NUMBER C-97-101-21



HIGHWAY STANDARDS

- 000001-08
- 280001-07
- 515001-04
- 601001-05
- 701901-08
- 725001-01
- BLR 21-9



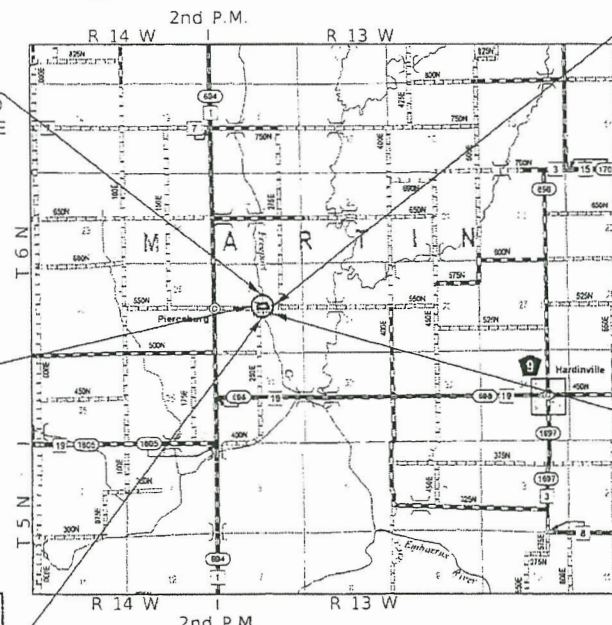
PROPOSED STRUCTURE SN 017-3525
 SINGLE SPAN STEEL W-BEAM WITH A REINFORCED CONCRETE DECK SUPERSTRUCTURE ON CONCRETE INTEGRAL ABUTMENTS, 58'-6" BK TO BK, AND 28'-0" O TO O DECK, NO SKEW.

SECTION 18-05120-00-BR BEGINS STATION 16+00.00

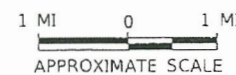
250E IMPROVEMENT BEGINS STATION 30+09.00 ENDS STATION 32+50.00

SECTION 18-05120-00-BR ENDS STATION 24+00.00

EXISTING STRUCTURE SN 017-3510
 SINGLE SPAN CONCRETE THRU GIRDER SUPERSTRUCTURE WITH A REINFORCED CONCRETE DECK ON CONCRETE CLOSED ABUTMENTS, 36'-0" BK TO BK, AND ±19'-2" O TO O DECK, NO SKEW (TO BE REMOVED).



LOCATION MAP



TR 245 IMPROVEMENT:
 NET LENGTH OF PROJECT = 800.00 FEET = 0.152 MILES
 250E IMPROVEMENT:
 NET LENGTH OF PROJECT = 241.00 FEET = 0.046 MILES
 TOTAL LENGTH = 1,041.00 FEET = 0.20 MILES

DESIGN CLASSIFICATION: LOCAL ROAD (NON-URBAN)
 DESIGN ADT = 65 (2021)
 DESIGN SPEED = 30 MPH

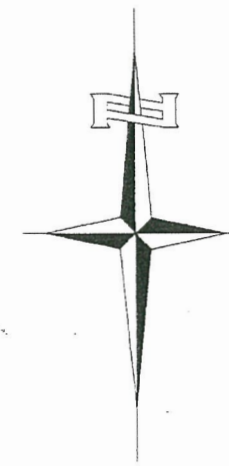
UTILITY COMPANIES

HARONVILLE WATER COMPANY
 ROBINSON, ILLINOIS

CONSOLIDATED COMMUNICATIONS
 MATTOON, ILLINOIS

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

MARTIN ROAD DISTRICT
CONTRACT NO. 95899



APPROVED	<i>March 31</i>	2021
	<i>Donald D. Lisle</i>	
	MARTIN ROAD DISTRICT HIGHWAY COMMISSIONER	
APPROVED	<i>March 31</i>	2021
	<i>Justin R. Cindal</i>	
	CRAWFORD COUNTY ENGINEER	
PASSED	<i>04-12</i>	2021
	<i>Scott J. Wells</i>	
	DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS	
Released For Bid Based on Limited Review	<i>04-12</i>	2021
	<i>Jeffrey Myers/BW</i>	
	REGION FOUR ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	

DATE: *3/31/2021*

JEFFREY MYERS
 REGISTERED PROFESSIONAL ENGINEER
 OF ILLINOIS
 EXP: 11/30/2021
 SIGNATURE

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

2021 JOB #4286 ENGINEERS SEAL

FILE NAME: V14286 - TR 245 over Freeport Creek (Crawford)CADD\CADD_Sheets\18-05120-00-1.dwg

GENERAL NOTES

PLAN QUANTITIES FOR TREE REMOVAL HAVE BEEN BASED ON ALL TREES WITHIN THE PROPOSED RIGHT OF WAY. THIS QUANTITY MAY BE REVISED DURING CONSTRUCTION, AT THE DIRECTION OF THE ENGINEER, BY DELETING FROM THE TREE REMOVAL QUANTITIES, SUCH TREES THAT DO NOT INTERFERE WITH THE PROPOSED CONSTRUCTION.

THE REMOVAL OF EXISTING AGGREGATE SURFACE AND GRAVEL OR CRUSHED STONE 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 BY THE CONTRACTOR THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

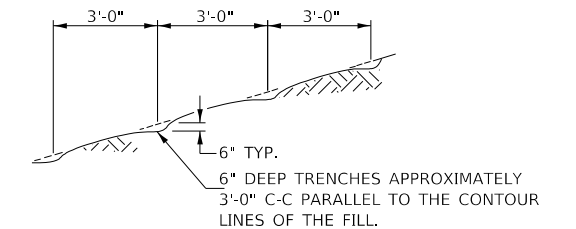
ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

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.

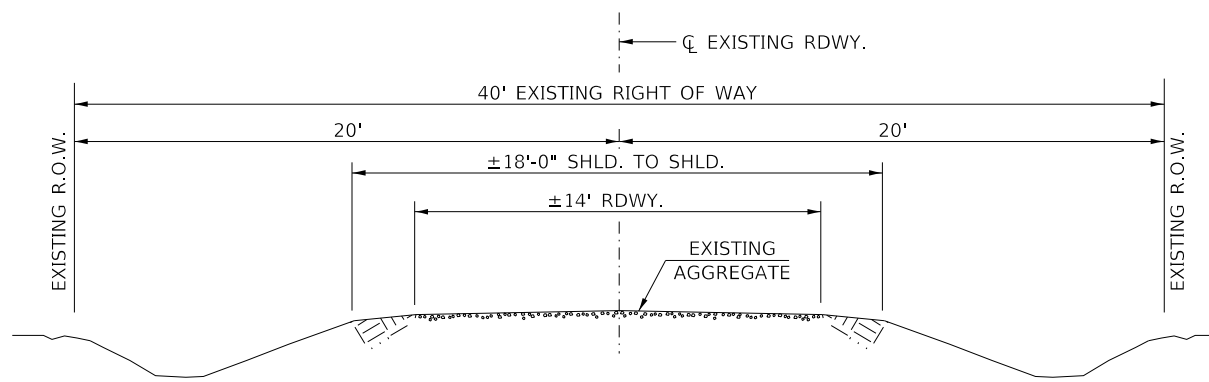
THE CONTRACTOR MAY BE REQUIRED TO CONDUCT SOME OF HIS GRADING AND TRENCHING OPERATIONS AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

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.

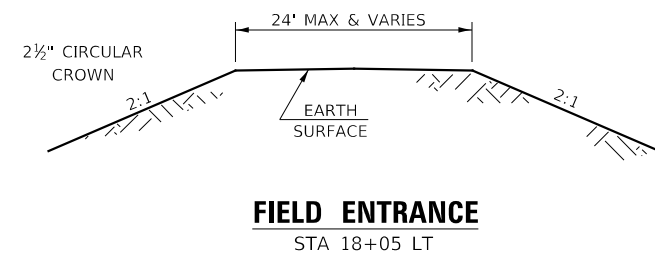
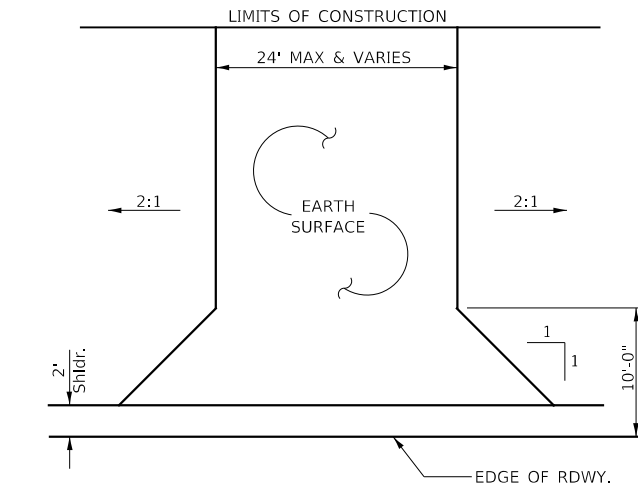
ALL ELEVATIONS SHOWN REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.



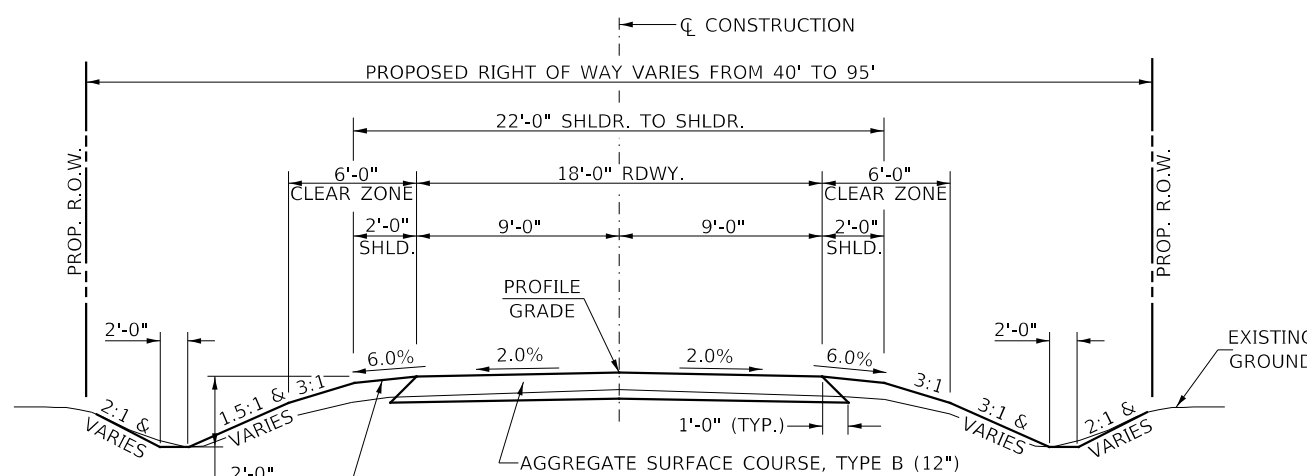
NOTE: ALL SLOPES 3:1 OR STEEPER AND GREATER THAN 5' IN HEIGHT SHALL BE CONTOUR PLOWED AS SHOWN IN DETAIL, COST SHALL BE INCLUDED WITH SEEDING, CLASS 2 (SPECIAL).



EXISTING TYPICAL SECTION
TR 245 & 250E



FIELD ENTRANCE
STA 18+05 LT



PROPOSED TYPICAL SECTION

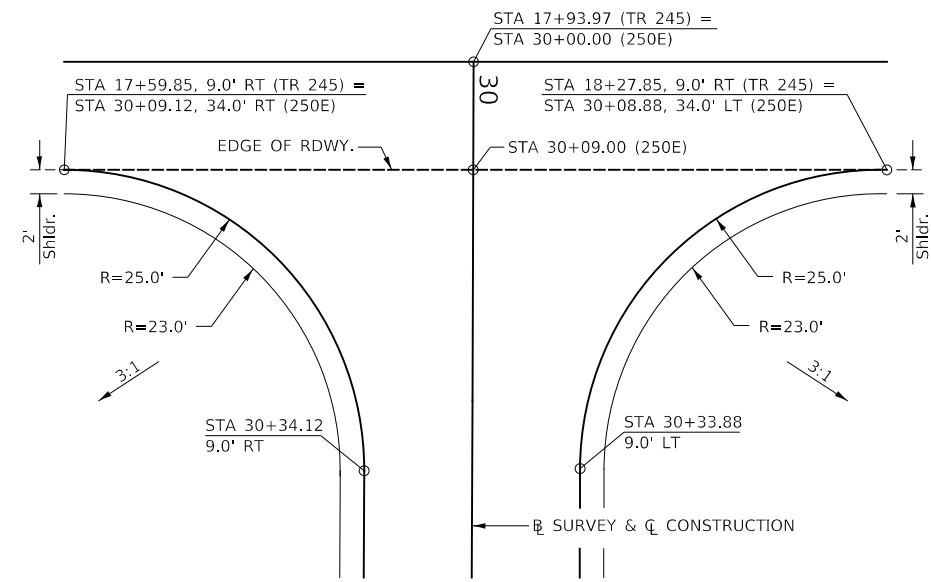
TOWNSHIP ROAD 245
STA. 16+00.00 TO STA. 19+73.75
STA. 20+32.25 TO STA. 24+00.00

EXCEPT TRANSITIONS

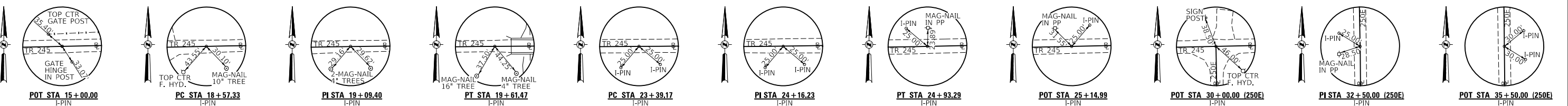
BRIDGE OMISSION
STA. 19+73.75 TO STA. 20+32.25

250E IMPROVEMENT
STA. 30+09.00 TO STA. 32+50.00

EXCEPT TRANSITIONS



PROPOSED 250 EAST ROAD TRANSITION
STA 17+93.97 (TR 245) = STA 30+00.00 (250E)



USER NAME = SMierzwa	DESIGNED JPS	REVISED -
PLOT SCALE = 2,000' / in.	DRAWN JPS	REVISED -
PLOT DATE = 3/30/2021	CHECKED STM	REVISED -
	DATE 3/30/2021	REVISED -

**CRAWFORD COUNTY
TOWNSHIP ROAD 245
OVER FREEPORT CREEK**

**GENERAL NOTES, TYPICAL SECTIONS,
DETAILS, TIE POINTS**

SCALE: NONE	SHEET 1 OF 1 SHEETS	STA. 16+00.00 TO STA. 24+00.00	RT. SECTION COUNTY TOTAL SHEETS SHEET NO.
			TR 245 18-05120-00-BR CRAWFORD 27 2
			CONTRACT NO. 95899
			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT NO. 266D(084)

MODEL: 1409ELNAMES FILE NAME: 031208 - TR 245 over Freeport Creek (C:\cadd\11\11\11\CADD\CADD_Sheets\2286001.dgn)

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	QUANTITY
① 20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	129
① 20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	54
20200100	EARTH EXCAVATION	CU YD	770
20300100	CHANNEL EXCAVATION	CU YD	190
20400800	FURNISHED EXCAVATION	CU YD	830
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	700
28000305	TEMPORARY DITCH CHECKS	FOOT	156
① 28000400	PERIMETER EROSION BARRIER	FOOT	415
① 28000500	INLET AND PIPE PROTECTION	EACH	1
28100209	STONE RIPRAP, CLASS A5	TON	600
① 28200200	FILTER FABRIC	SQ YD	540
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	1,317
① 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	31
50200100	STRUCTURE EXCAVATION	CU YD	130
① 50300225	CONCRETE STRUCTURES	CU YD	33.0
① 50300255	CONCRETE SUPERSTRUCTURE	CU YD	64.4
50300260	BRIDGE DECK GROOVING	SQ YD	169
50300300	PROTECTIVE COAT	SQ YD	202
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
50500505	STUD SHEAR CONNECTORS	EACH	680
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	19,690
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	117
51201600	FURNISHING STEEL HP PILES 12X53	FOOT	252
51202305	DRIVING PILES	FOOT	252
51203600	TEST PILE STEEL HP 12X53	EACH	2
51500100	NAME PLATES	EACH	1
52100520	ANCHOR BOLTS, 1"	EACH	20
① 542D0235	PIPE CULVERTS, CLASS D, TYPE 1 30"	FOOT	34

① SEE SPECIAL PROVISIONS

Δ SPECIALTY ITEMS

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	QUANTITY
① 58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	74
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	46
67100100	MOBILIZATION	L SUM	1
Δ 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
① X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.75
④ X2830495	AGGREGATE DITCH (SPECIAL)	TON	340
① X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
① Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	106

① SEE SPECIAL PROVISIONS

Δ SPECIALTY ITEMS

TREE REMOVAL				
STATION	OFFSET	SIDE	6 TO 15 UNITS	OVER 15 UNITS
19+51	22'	RIGHT	8	
19+52	21'	RIGHT		18
19+53	20'	RIGHT	12	
19+53	36'	RIGHT		16
19+56	22'	RIGHT	14	
19+80	27'	RIGHT	8	
19+81	25'	RIGHT	12	
20+19	25'	RIGHT		20
20+20	22'	RIGHT	10	
20+20	35'	RIGHT	15	
20+30	25'	RIGHT	8	
20+31	42'	RIGHT	10	
20+40	26'	RIGHT	12	
20+49	41'	RIGHT	12	
20+51	45'	LEFT	8	
TOTAL			129	54

PIPE CULVERTS, CLASS D, TYPE 1 30"		
€ STATION	SIDE	FOOT
17+94	RIGHT	34
TOTAL		34

INLET AND PIPE PROTECTION		
STATION	SIDE	EACH
17+77	RIGHT	1
TOTAL		1

PIPE CULVERT REMOVAL			
€ STATION	SIZE	SIDE	FOOT
17+94	34"x24"	RIGHT	31
TOTAL			31

AGGREGATE DITCH (SPECIAL)			
STATION TO STATION	SIDE	WIDTH	TON
18+23 19+73.75	LEFT	VARIES	340
TOTAL			340

EARTHWORK SUMMARY					
STATION TO STATION	EARTH EXCAVATION	CHANNEL EXCAVATION	STRUCTURE EXCAVATION	FILL	WASTE (SHORTAGE)
CU YD					
T.R. 245					
RDWY 16+00.00 - 19+73.75	471			828	(475)
RDWY 20+32.25 - 24+00.00	248			444	(258)
250E					
RDWY 30+09.00 - 32+50.00	50			133	(133)
CHANNEL		190			
STRUCTURE			130		
TOTAL	769	190	130	1,405	(828)
USE	770	190	130	-	(830)*

* CHANNEL AND STRUCTURE EXCAVATION ARE NOT INCLUDED INTO FURNISHED EXCAVATION BUT SUITABLE MATERIAL FROM EXCAVATION FOR CONSTRUCTION OF THE STRUCTURE MAY BE USED AS EMBANKMENT.

(@ 25% SHRINKAGE)

AGGREGATE SURFACE COURSE, TYPE B 140#/CF				
STATION TO STATION	THICKNESS	WIDTH	LENGTH	TON
T.R. 245				
16+00.00 16+50.00	1.00'	18.06' AVG.	50.00'	63
16+50.00 19+73.75	1.00'	19.00'	323.75	431
20+32.25 23+50.00	1.00'	19.00'	317.75	423
23+50.00 24+00.00	1.00'	18.86' AVG.	50.00'	66
250E				
30+34.00 32+00.00	1.00'	19.00'	166.00'	221
32+00.00 32+50.00	1.00'	17.71' AVG.	50.00'	62
TR 245/250E INTERSECTION	1.00'	40' AVG.	25.00'	51
TOTAL				1,317

PERIMETER EROSION BARRIER			
STATION TO STATION	SIDE	FOOT	
16+00 17+83	LEFT	185	
16+00 17+25	RIGHT	130	
23+00 24+00	LEFT	100	
TOTAL		415	

TEMPORARY DITCH CHECKS		
STATION	SIDE	FOOT
T.R. 245		
19+08	LEFT	12
19+84	RIGHT	12
19+92	LEFT	12
20+28	LEFT	12
20+28	RIGHT	12
21+05	RIGHT	12
21+25	LEFT	12
21+90	RIGHT	12
22+25	LEFT	12
22+75	RIGHT	12
23+38	RIGHT	12
250E		
31+25	LEFT	12
31+25	RIGHT	12
TOTAL		156

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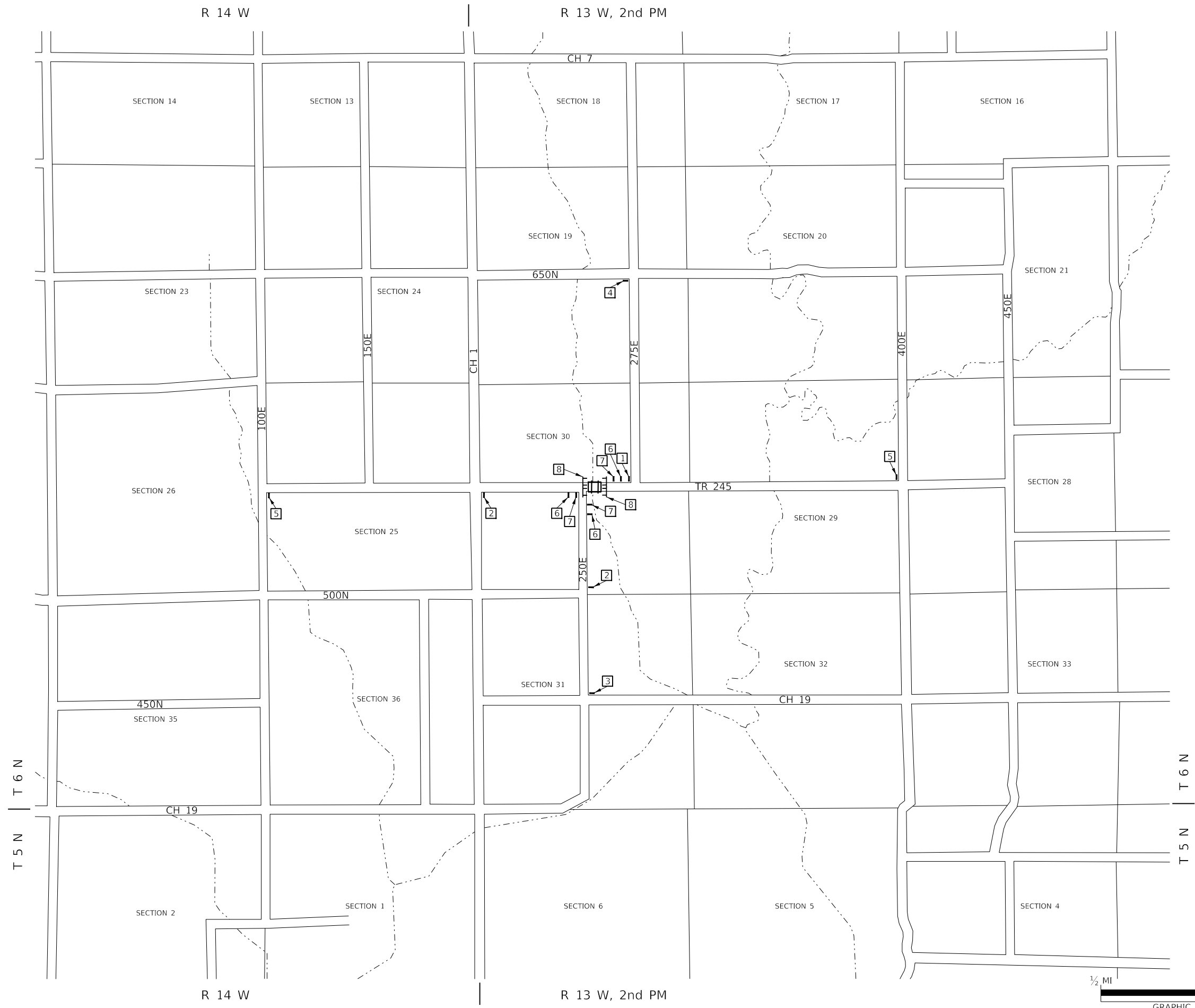
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PLOT SCALE = 100.0000' / in.	DRAWN - JPS	REVISED -
PLOT DATE = 3/30/2021	CHECKED - STM	REVISED -
	DATE - 3/30/2021	REVISED -

**CRAWFORD COUNTY
TOWNSHIP ROAD 245
OVER FREEPORT CREEK**

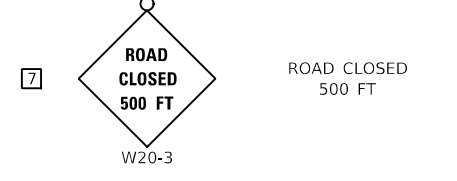
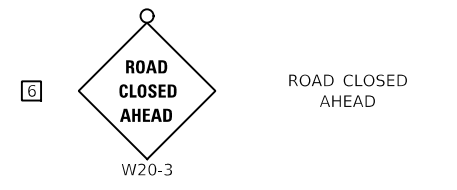
**SUMMARY OF QUANTITIES,
SCHEDULES OF QUANTITIES**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 16+00.00 TO STA. 24+00.00

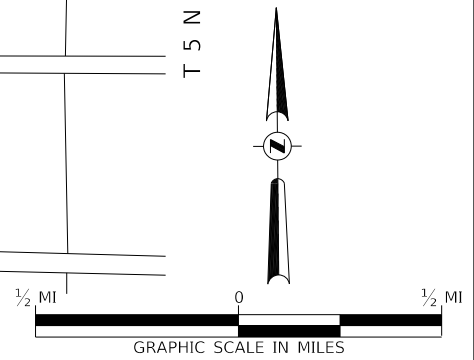
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	3
CONTRACT NO. 95899				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT NO. 266D(084)				



- 1 **ROAD CLOSED**
1/4 MILE AHEAD
LOCAL TRAFFIC ONLY
R11-3a
- 2 **ROAD CLOSED**
1/2 MILE AHEAD
LOCAL TRAFFIC ONLY
R11-3a
- 3 **ROAD CLOSED**
1 MILE AHEAD
LOCAL TRAFFIC ONLY
R11-3a
- 4 **ROAD CLOSED**
1 1/4 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3a
- 5 **ROAD CLOSED**
1 1/2 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3a



SEE STANDARD BLR 21
AND SPECIAL PROVISIONS



MODEL: s:\08\BLR\MFIS FILE NAME: V:\2021 - TR 245 over Freeport Creek (Crawford)\CADD\CADD_Sheets\22868001.dgn

USER NAME = SMierzwa	DESIGNED - CTM	REVISED -
	DRAWN - JPS	REVISED -
PLOT SCALE = 2,000' / in.	CHECKED - CTM	REVISED -
PLOT DATE = 3/30/2021	DATE - 3/30/2021	REVISED -

**CRAWFORD COUNTY
TOWNSHIP ROAD 245
OVER FREEPORT CREEK**

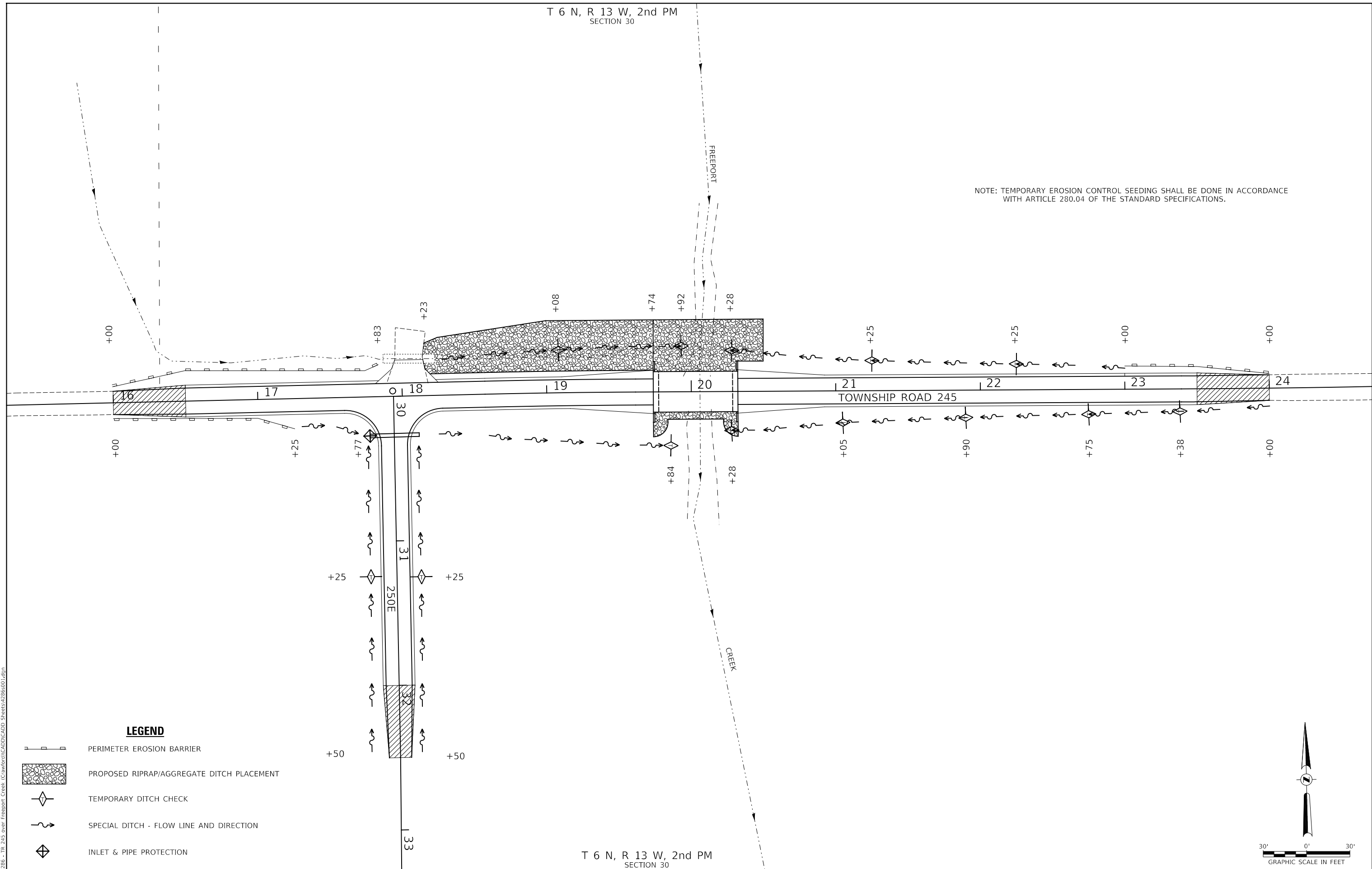
TRAFFIC CONTROL PLAN

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 16+00.00 TO STA. 24+00.00



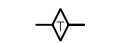
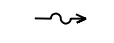

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	4
CONTRACT NO. 95899				
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT NO. 266D(084)	

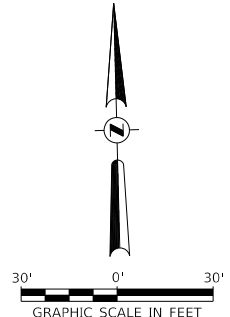
T 6 N, R 13 W, 2nd PM
SECTION 30

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



LEGEND

-  PERIMETER EROSION BARRIER
-  PROPOSED RIPRAP/AGGREGATE DITCH PLACEMENT
-  TEMPORARY DITCH CHECK
-  SPECIAL DITCH - FLOW LINE AND DIRECTION
-  INLET & PIPE PROTECTION



T 6 N, R 13 W, 2nd PM
SECTION 30

MODEL: \\MODEL\NAME\TR_245_Over_Freeport_Creek_Crawford\ICADD\CADD_Sheets\2286\001.dgn
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USER NAME = SMierzwa	DESIGNED - JPS	REVISED - _____
DRAWN - JPS	REVISOR - _____	REVISOR - _____
PLOT SCALE = 60.0000' / in.	CHECKED - STM	REVISOR - _____
PLOT DATE = 3/30/2021	DATE - 3/30/2021	REVISOR - _____

**CRAWFORD COUNTY
TOWNSHIP ROAD 245
OVER FREEPORT CREEK**

EROSION CONTROL PLAN

SCALE: 1"=30' SHEET 1 OF 1 SHEETS STA. 16+00.00 TO STA. 24+00.00

RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	5
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 95899	
FED. AID PROJECT NO. 266D(084)				

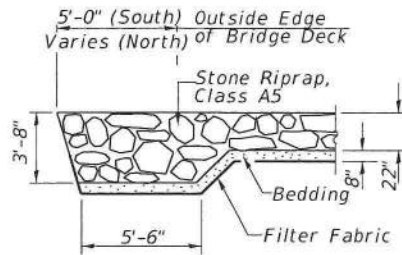
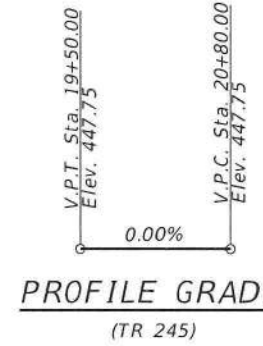
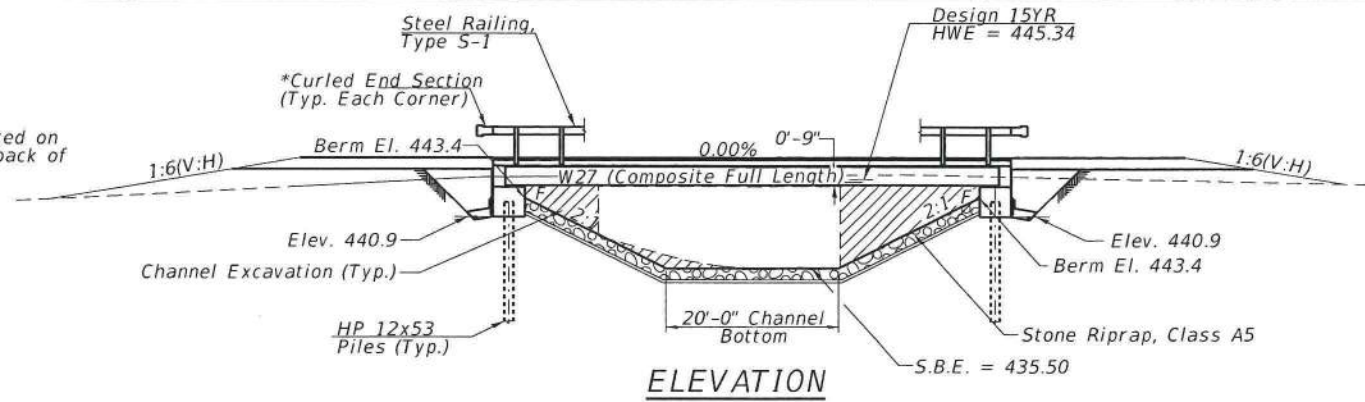
B.M.: N.E. bolt on top flange of fire hydrant
Sta. 18+28, 32' Rt.
Elev. 445.19

Existing Structure:

Single span concrete through girder superstructure supported on concrete closed abutments. The structure is 36'-0" back to back of abutments, ±19'-2" out to out deck, and is not skewed. The structure was built in 1909. Str. No. 017-3510.

Salvage: None

Road to be closed to traffic during construction.



SECTION A-A

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)			Item 113
	W. Abut.	E. Abut.	
Q100	440.9	440.9	8
Q200	440.9	440.9	
Design	440.9	440.9	
Check	440.9	440.9	

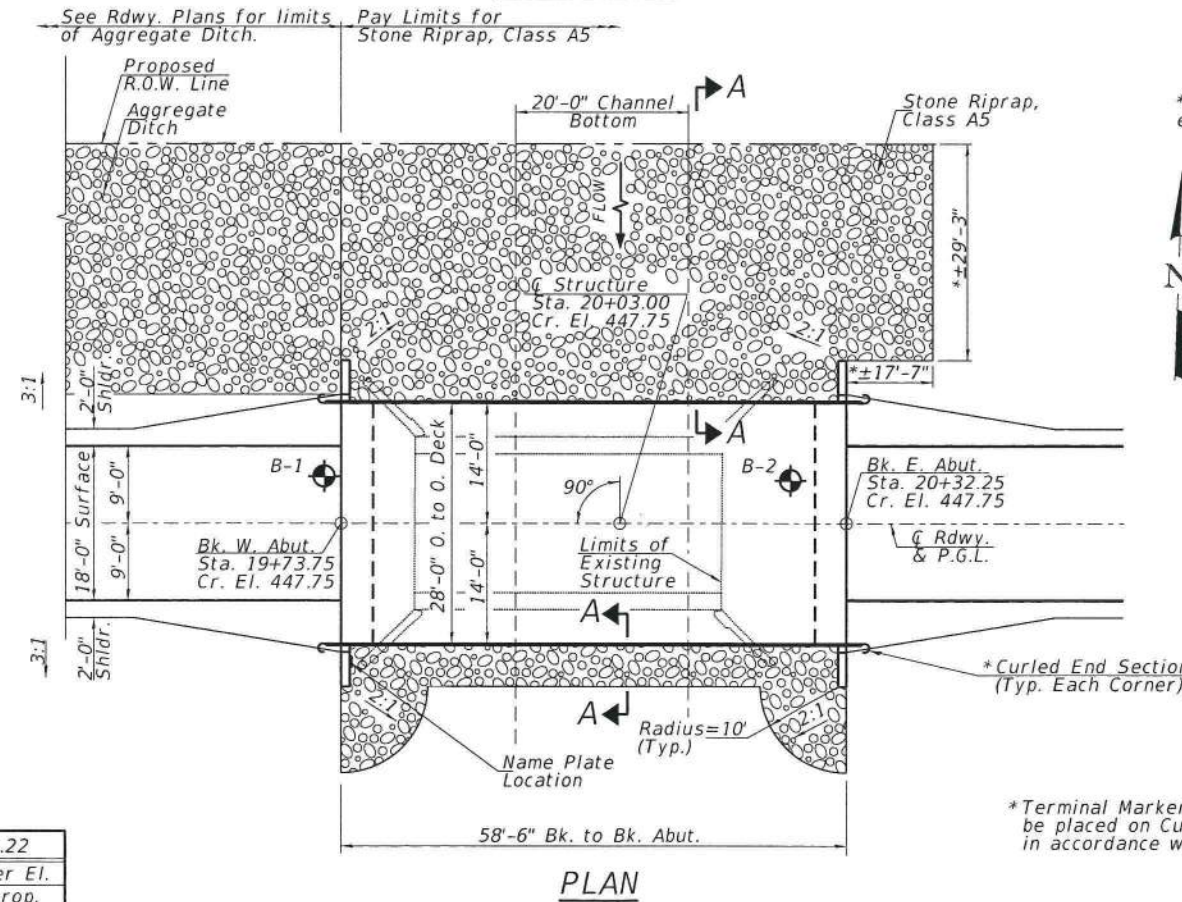
WATERWAY INFORMATION

Drainage Area = 7.61 Sq. Mi. Low Grade Elev. = 443.69 @ Sta. 16+96.22

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	15	2,006	227	342	445.34	0.06	0.42	445.40	445.76	
Base	100	3,258	227	342	446.45	0.03	0.13	446.48	446.58	

OVER-THE-ROAD AREA

Freq. Yr.	Existing	Proposed
15	703	253
100	1,350	552



PLAN

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

DESIGN STRESSES

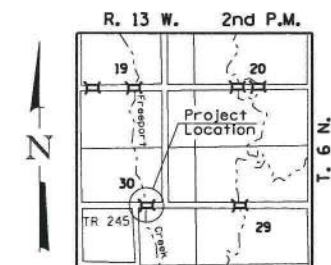
$f'_c = 3,500$ psi (Substructure)
 $f'_c = 5,000$ psi (Superstructure)
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50W)

LOADING HL-93

Allow 50 psf for future wearing surface

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.154g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.388g
 Soil Site Class = C



LOCATION SKETCH

INDEX OF SHEETS

SH. #'s	DESCRIPTION
1	General Plan and Elevation
2	General Notes, Details & Bill of Material
3-4	Top of Deck Elevations
5	Superstructure
6	Superstructure Details
7	Diaphragm Details
8	Steel Railing, Type S1
9	Framing Plan
10	Structural Steel Details
11	Bearing Details
12	Abutments
13	Cantilever Forming Brackets
14	Steel H Pile Details

Note: See sheet 2 of 14 for Total Bill of Material.



Lic. Exp. 11/30/2022

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 Standard Specification for Highway Bridges. This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.

Corey T. Watson
 Illinois Structural No. 7999
 Expires 11/30/2022

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USER NAME =	DESIGNED - Z. L.	REVISED -
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PLOT DATE =	DRAWN - Z. L.	REVISED -
	CHECKED - C. T. M. / B.A.N.	REVISED -

**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

**GENERAL PLAN & ELEVATION
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

SHEET 1 OF 14 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	7
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT NO. 266D(084)	

GENERAL NOTES

Fasteners shall be ASTM F 3125 grade A325 Type 1, mechanically galvanized bolts in painted areas and ASTM F3125 grade A325 Type 3 bolts in unpainted areas.
Bolts 7/8" Ø, holes 1 1/16" Ø, unless otherwise noted.

Calculated weight of Structural Steel = 30,660 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 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.

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

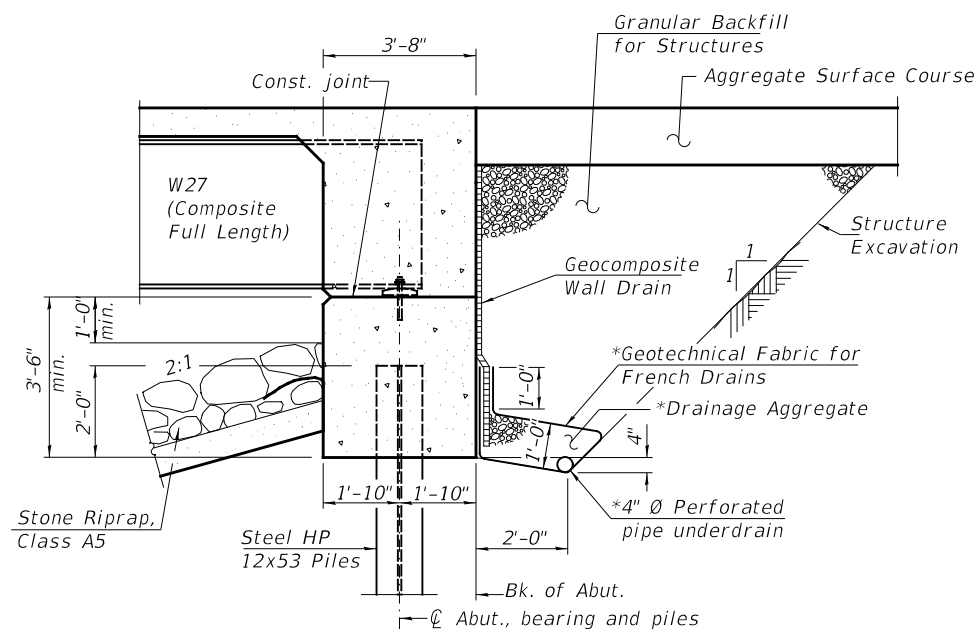
The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

For Soil Boring Logs, See Special Provisions.

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.

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



SECTION THRU INTEGRAL ABUTMENTS

*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 an 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).

FREEPORT CREEK
BUILT 202 BY
MARTIN TOWNSHIP CRAWFORD COUNTY
SEC. 18-05120-00-BR
TOWNSHIP ROAD 245 STATION 20+03.00
F.A. PROJ. 266D(084)
STR. NO. 017-3525 LOADING HL-93

NAME PLATE

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	CU YD	---	190	190
Stone Riprap, Class A5	TON	---	600	600
Filter Fabric	SQ YD	---	540	540
① Granular Backfill for Structures	CU YD	---	74	74
① Removal of Existing Structures	EACH	---	---	1
Structure Excavation	CU YD	---	130	130
Concrete Structures	CU YD	---	33.0	33.0
① Concrete Superstructure	CU YD	64.4	---	64.4
Bridge Deck Grooving	SQ YD	169	---	169
Protective Coat	SQ YD	202	---	202
Furnishing and Erecting Structural Steel	L SUM	1	---	1
Reinforcement Bars, Epoxy Coated	POUND	13,640	6,050	19,690
Stud Shear Connectors	EACH	680	---	680
Anchor Bolts, 1"	EACH	---	20	20
Furnishing Steel HP Piles 12x53	FOOT	---	252	252
Test Pile Steel HP 12x53	EACH	---	2	2
Driving Piles	FOOT	---	252	252
Name Plates	EACH	---	1	1
Geocomposite Wall Drain	SQ YD	---	46	46
① Pipe Underdrains For Structures 4"	FOOT	---	106	106
Steel Railing, Type S1	FOOT	117	---	117
Terminal Markers - Direct Applied	EACH	4	---	4

① See Special Provisions

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3/30/2021

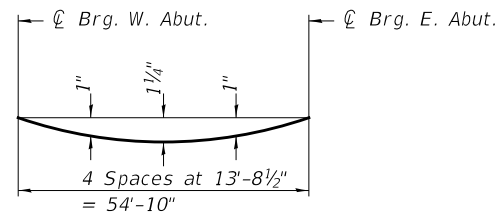
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	CHECKED - C.T.M. / B.A.N.	REVISED - _____

**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

**GENERAL NOTES, DETAILS & BILL OF MATERIAL
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

SHEET 2 OF 14 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	8
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. 266D(084)		

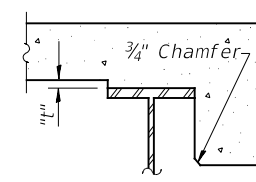


DEAD LOAD DEFLECTION DIAGRAM

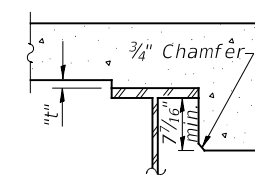
(Includes weight of concrete only.)

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 14.



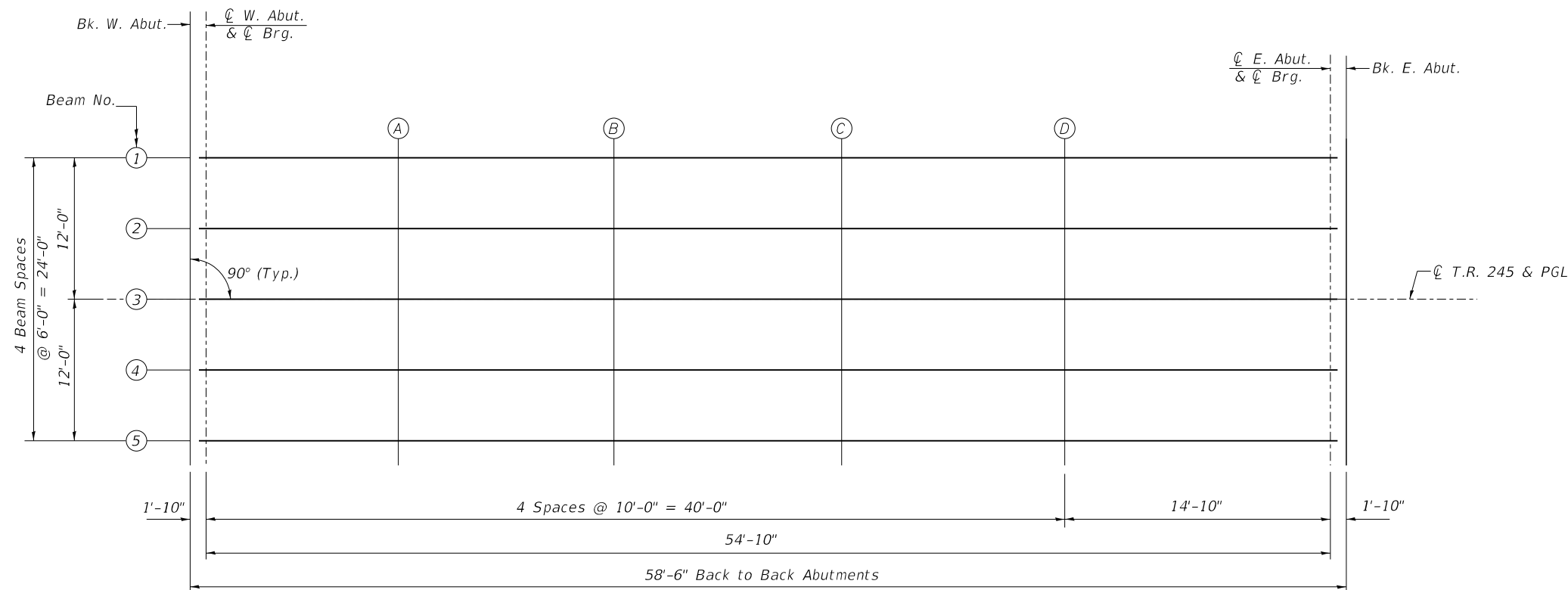
At Minimum Fillet



At Maximum Fillet

FILLET HEIGHTS

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 14, minus slab thickness, equals the fillet height "t" above top flange of beams.



PLAN

FILE NAME: Y:\1386 - TR 245 over Freeport Creek - Crawford\1\CAD\2\286603.dgn

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PLOT SCALE = _____	DRAWN - Z.L.	REVISED - _____
PLOT DATE = _____	CHECKED - C.T.M. / B.A.N.	REVISED - _____

**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

**TOP OF DECK ELEVATIONS
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

SHEET 3 OF 14 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	9
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 266D(084)		

BEAM #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk W. Abutment	19+73.75	-12.00	447.55	447.55
CL Brg W. Abut.	19+75.58	-12.00	447.55	447.55
A	19+85.58	-12.00	447.55	447.61
B	19+95.58	-12.00	447.55	447.65
C	20+05.58	-12.00	447.55	447.65
D	20+15.58	-12.00	447.55	447.63
CL Brg E. Abut.	20+30.42	-12.00	447.55	447.55
Bk E. Abutment	20+32.25	-12.00	447.55	447.55

BEAM #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk W. Abutment	19+73.75	-6.00	447.66	447.66
CL Brg W. Abut.	19+75.58	-6.00	447.66	447.66
A	19+85.58	-6.00	447.66	447.72
B	19+95.58	-6.00	447.66	447.76
C	20+05.58	-6.00	447.66	447.76
D	20+15.58	-6.00	447.66	447.74
CL Brg E. Abut.	20+30.42	-6.00	447.66	447.66
Bk E. Abutment	20+32.25	-6.00	447.66	447.66

BEAM #3 & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk W. Abutment	19+73.75	0.00	447.75	447.75
CL Brg W. Abut.	19+75.58	0.00	447.75	447.75
A	19+85.58	0.00	447.75	447.82
B	19+95.58	0.00	447.75	447.85
C	20+05.58	0.00	447.75	447.86
D	20+15.58	0.00	447.75	447.83
CL Brg E. Abut.	20+30.42	0.00	447.75	447.75
Bk E. Abutment	20+32.25	0.00	447.75	447.75

BEAM #4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk W. Abutment	19+73.75	6.00	447.66	447.66
CL Brg W. Abut.	19+75.58	6.00	447.66	447.66
A	19+85.58	6.00	447.66	447.72
B	19+95.58	6.00	447.66	447.76
C	20+05.58	6.00	447.66	447.76
D	20+15.58	6.00	447.66	447.74
CL Brg E. Abut.	20+30.42	6.00	447.66	447.66
Bk E. Abutment	20+32.25	6.00	447.66	447.66

BEAM #5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk W. Abutment	19+73.75	12.00	447.55	447.55
CL Brg W. Abut.	19+75.58	12.00	447.55	447.55
A	19+85.58	12.00	447.55	447.61
B	19+95.58	12.00	447.55	447.65
C	20+05.58	12.00	447.55	447.65
D	20+15.58	12.00	447.55	447.63
CL Brg E. Abut.	20+30.42	12.00	447.55	447.55
Bk E. Abutment	20+32.25	12.00	447.55	447.55

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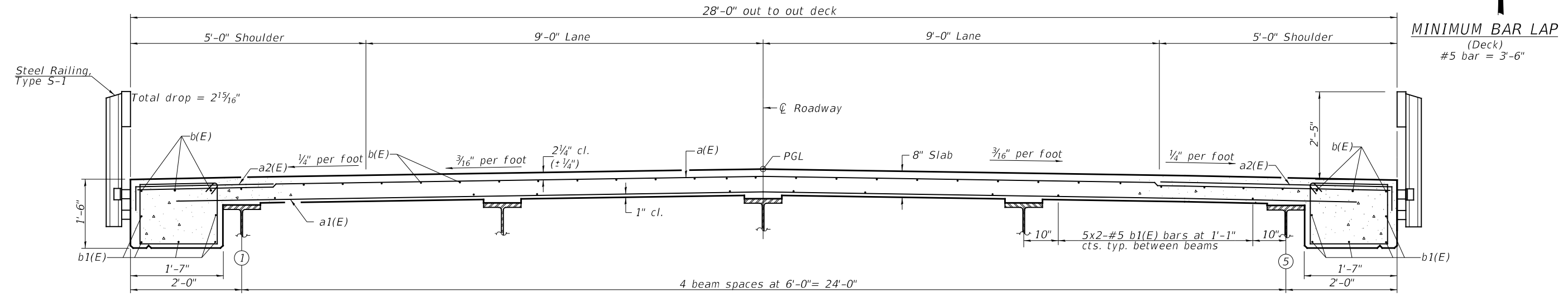
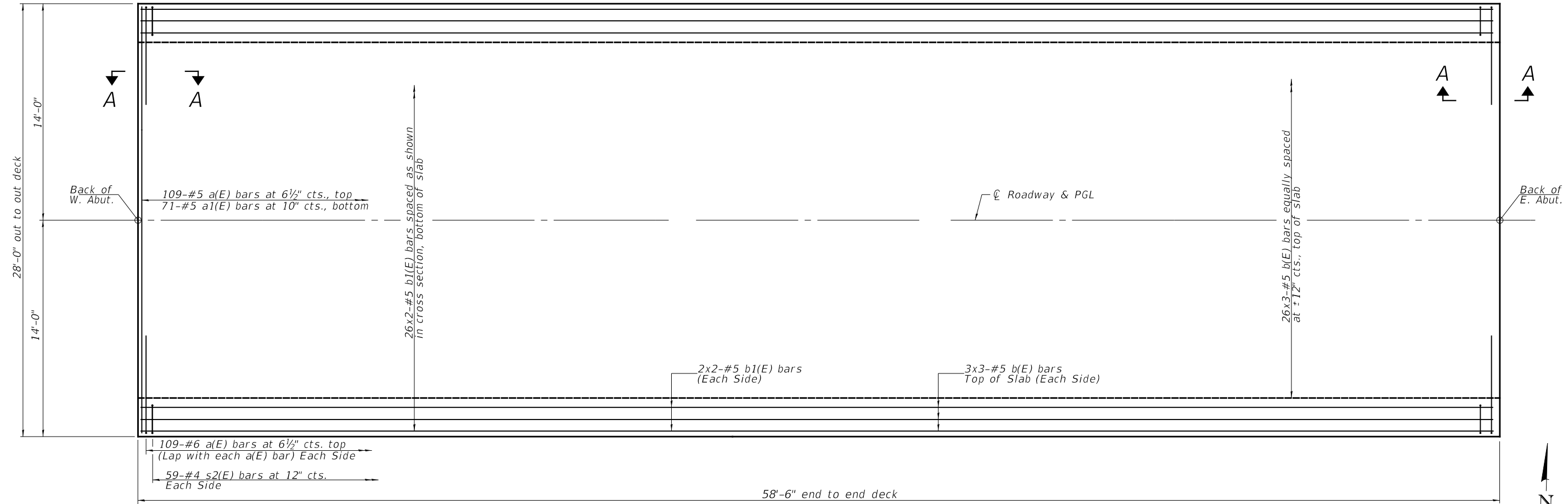
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PLOT DATE =		

**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

**TOP OF DECK ELEVATIONS
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

SHEET 4 OF 14 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	10
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 266D(084)		



Notes:
 Bars indicated thus 26x3-#5 etc. indicates
 26 lines of bars with 3 lengths per line.
 See Sheet 6 of 14 for superstructure details
 and Bill of Material.
 See Sheet 7 of 14 for Section A-A and
 diaphragm details.
 See Sheet 8 of 14 for rail details.

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PLOT DATE = _____		

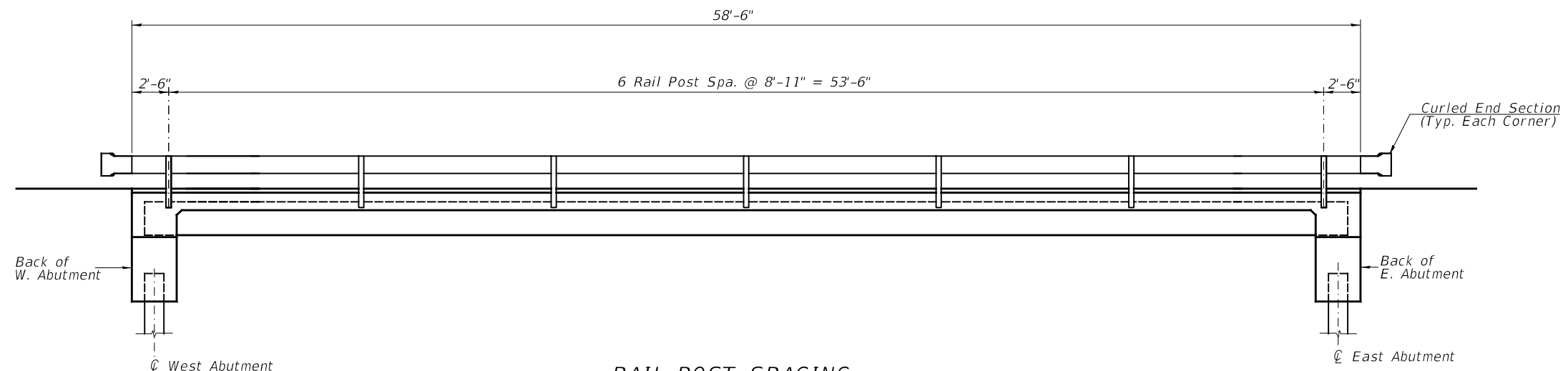
**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

**SUPERSTRUCTURE
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

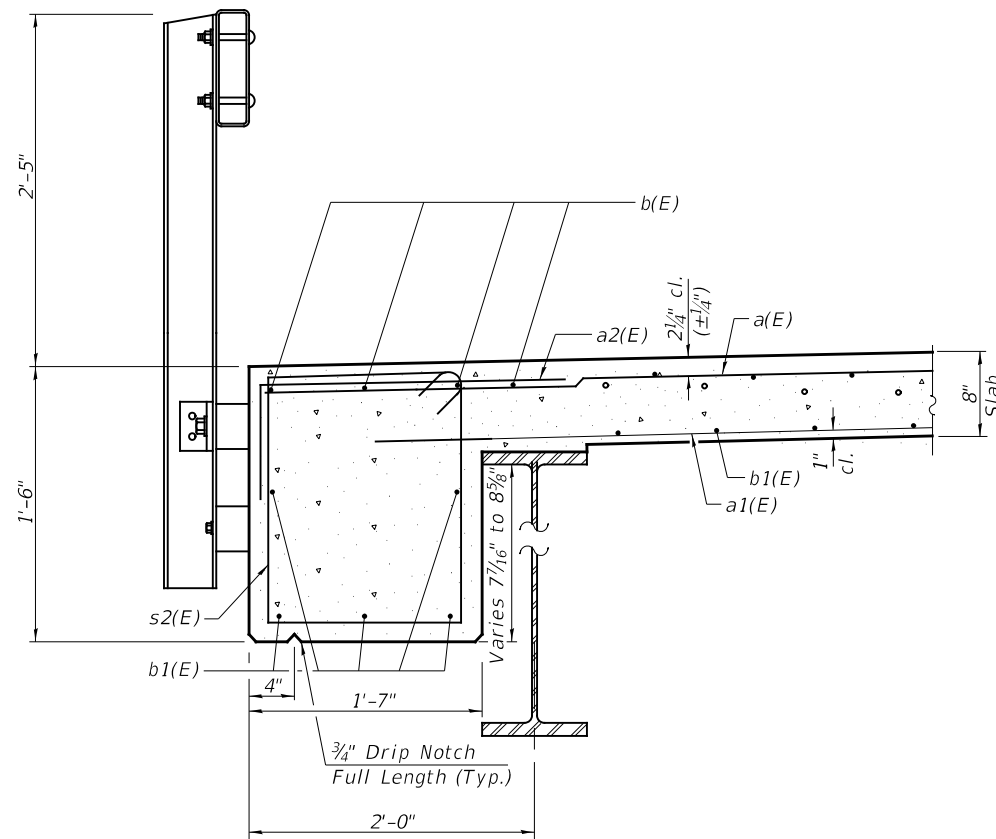
SHEET 5 OF 14 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	11
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 266D(084)		

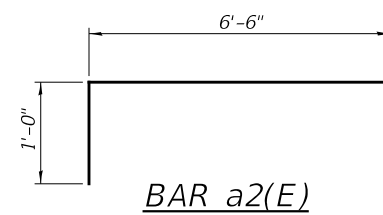
3/30/2021



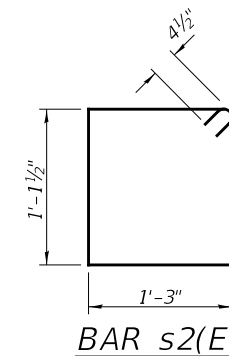
RAIL POST SPACING
(South Rail Shown, North Rail Mirrored)



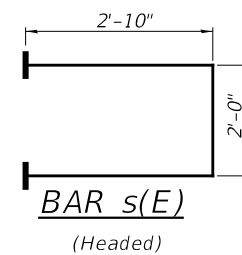
SECTION THRU DECK OVERHANG
See Sheet 8 of 14 for Rail Post Anchor Details.



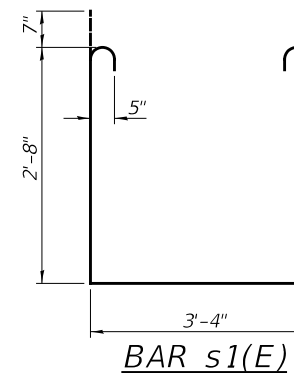
BAR a2(E)



BAR s2(E)



BAR s(E)
(Headed)



BAR s1(E)

**SUPERSTRUCTURE
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	109	#5	27'-9"	—
a1(E)	71	#5	26'-9"	—
a2(E)	218	#6	7'-6"	—
b(E)	96	#5	21'-9"	—
b1(E)	60	#5	30'-10"	—
m(E)	6	#6	27'-9"	—
m1(E)	24	#6	5'-9"	—
m2(E)	12	#6	1'-9"	—
s(E)	56	#5	7'-8"	⊞
s1(E)	56	#5	9'-10"	⊞
s2(E)	118	#4	5'-6"	⊞
Reinforcement Bars, Epoxy Coated			POUND	13,640
① Concrete Superstructure			CU YD	64.4

① See Special Provisions

Notes:

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.

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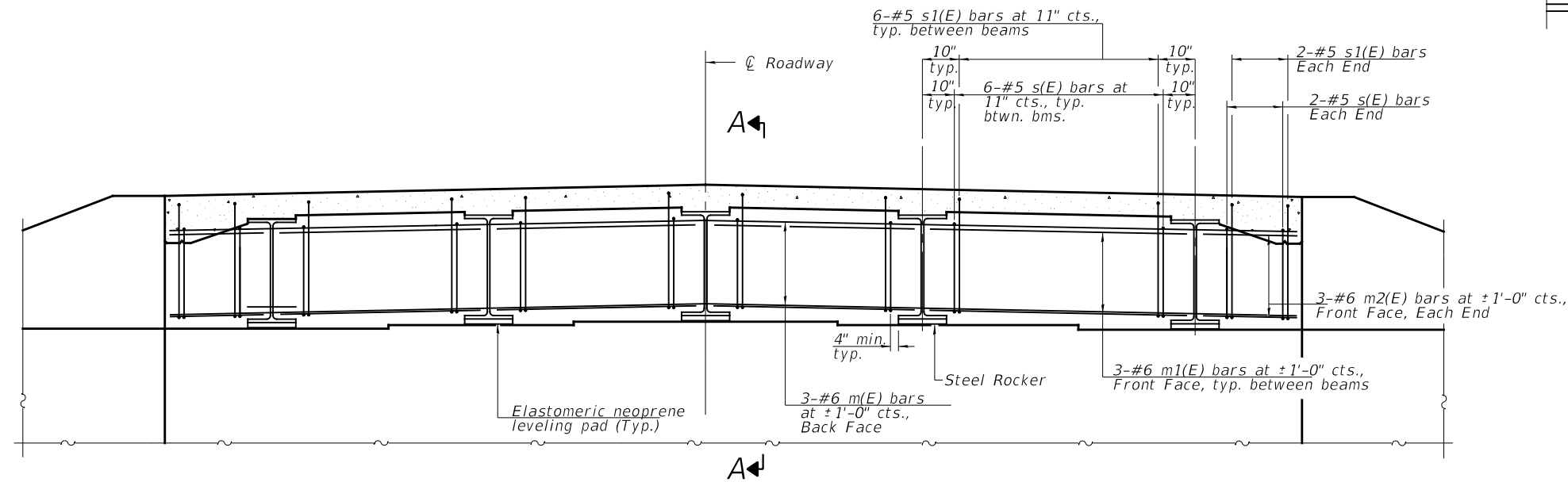
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**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

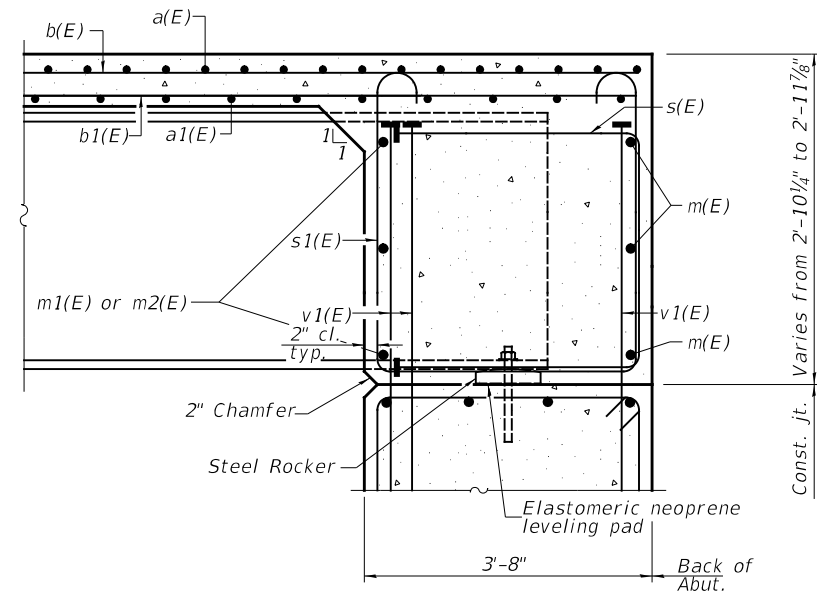
**SUPERSTRUCTURE DETAILS
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

SHEET 6 OF 14 SHEETS

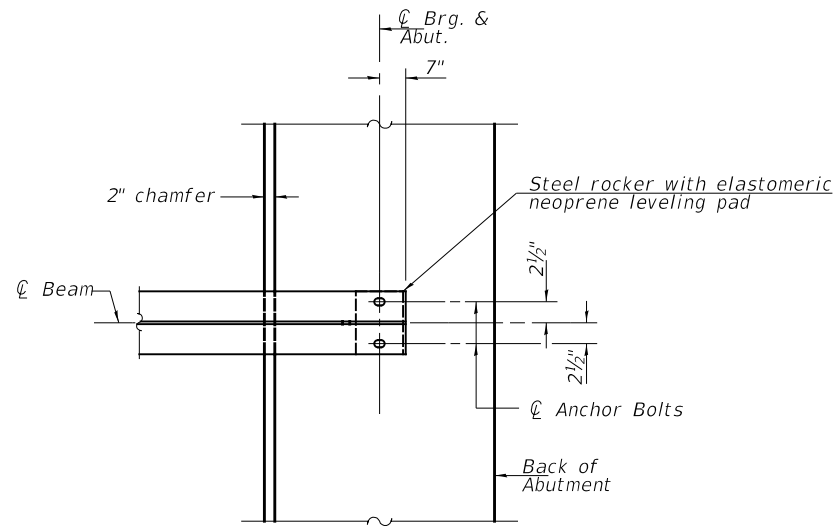
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TR 245	18-05120-00-BR	CRAWFORD	27	12
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 266D(084)		



DIAPHRAM ELEVATION AT ABUTMENT
(West Abut. Looking West, East Abut. Looking East)



SECTION A-A



PARTIAL PLAN AT ABUTMENT
(Showing bottom flange of beam)

Notes:
Reinforcement bars in diaphragm are billed with superstructure on Sheet 6 of 14.
Concrete in diaphragm is included with Concrete Superstructure on Sheet 6 of 14.
See Sheet 6 of 14 for details of bars s(E) and s1(E).
See Sheet 11 of 14 for bearing details.

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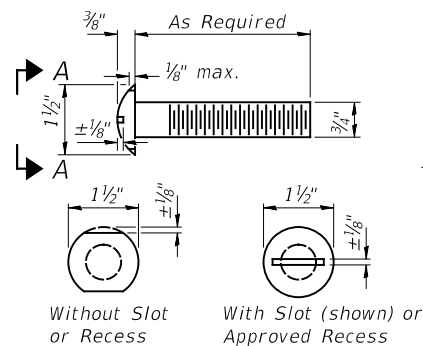
**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

**DIAPHRAM DETAILS
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

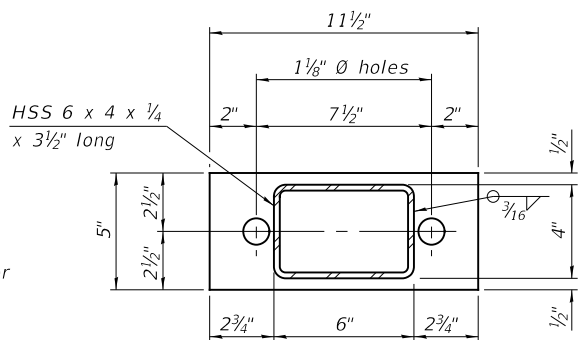
SHEET 7 OF 14 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	13
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 266D(084)		

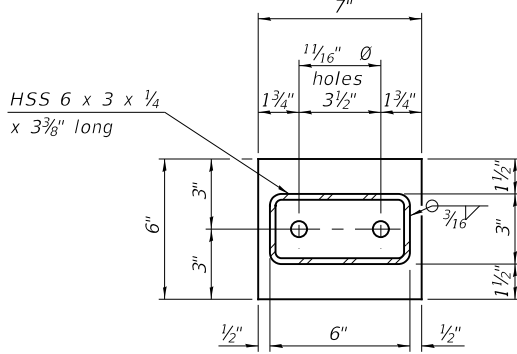
SEE SHEET 6 OF 14 FOR RAIL POST SPACING.



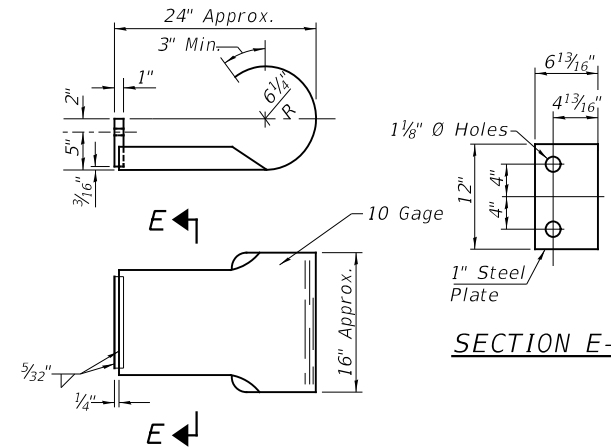
VIEW A-A
ROUND HEAD BOLT



L 1/2" x 11 1/2" x 5"

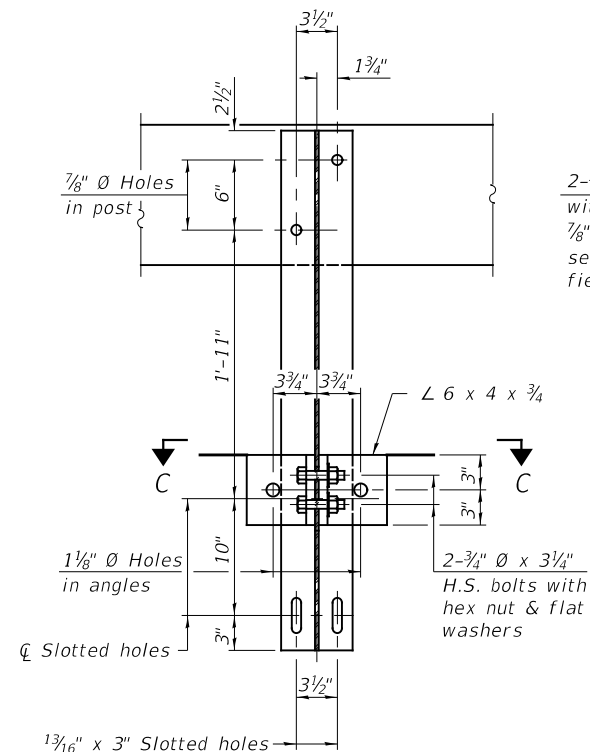


L 1/2" x 7" x 6"



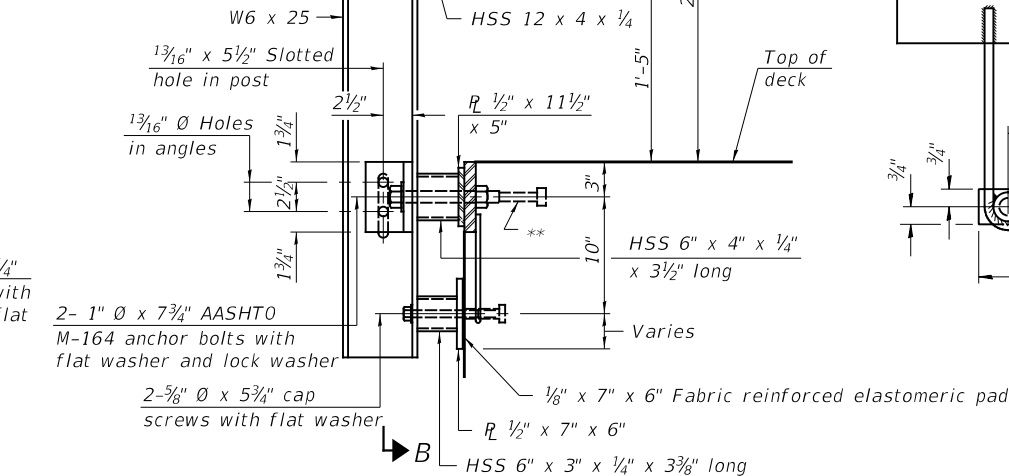
SECTION E-E
CURLED END SECTION

(4 Req'd) Cost Included with Steel Railing, Type S-1.
Terminal Markers - Direct Applied shall be placed on end of each Curled End Section. (Typ. Each Corner)

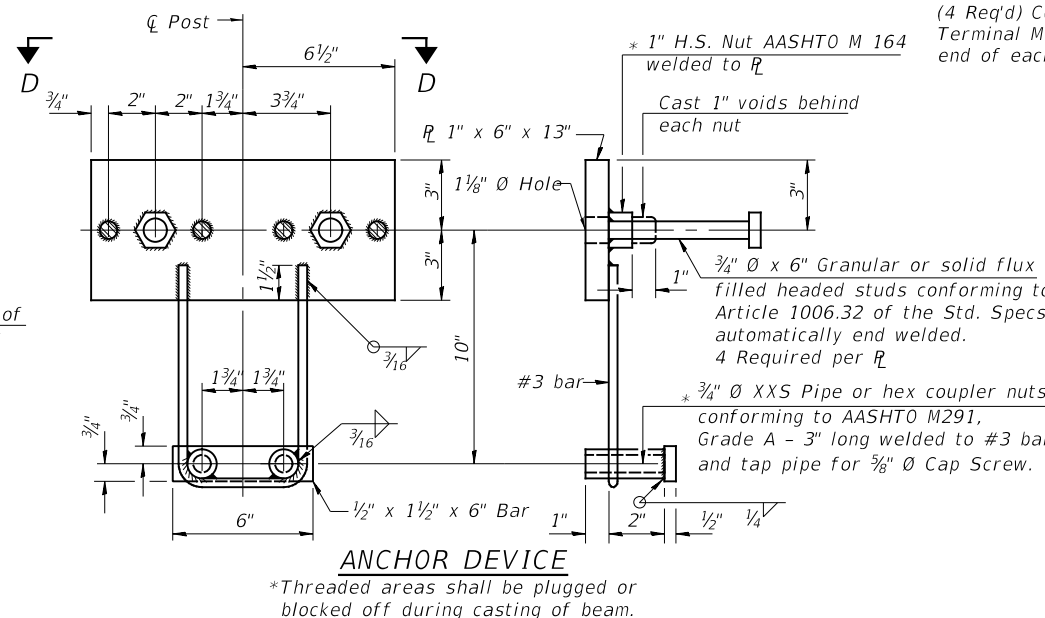


SECTION B-B

2-3/4" \emptyset x 6" Round Head Bolts with locknut & flat washer.
7/8" \emptyset holes in hollow structural section may be drilled in the field.

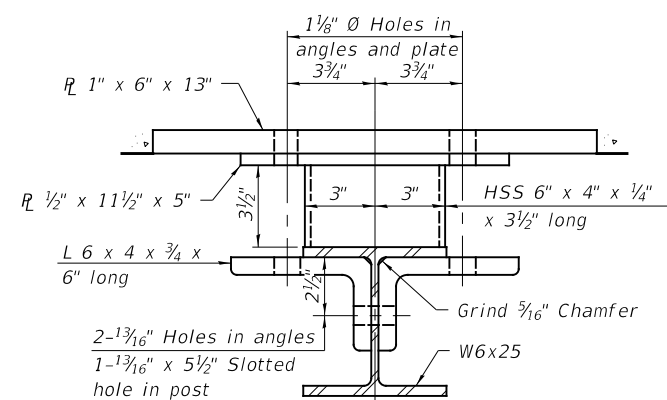


SECTION AT RAILING POST

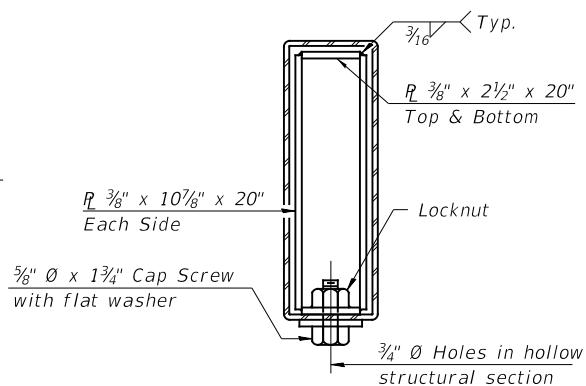


ANCHOR DEVICE

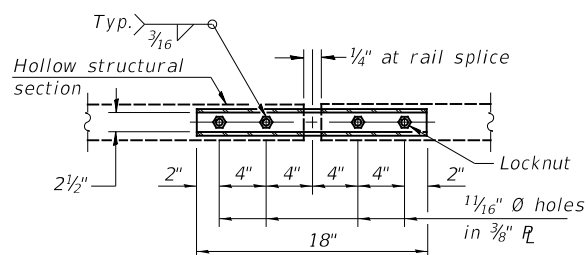
*Threaded areas shall be plugged or blocked off during casting of beam.



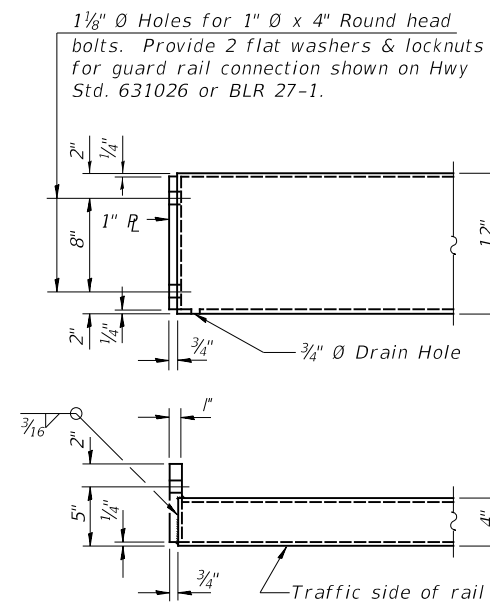
SECTION C-C



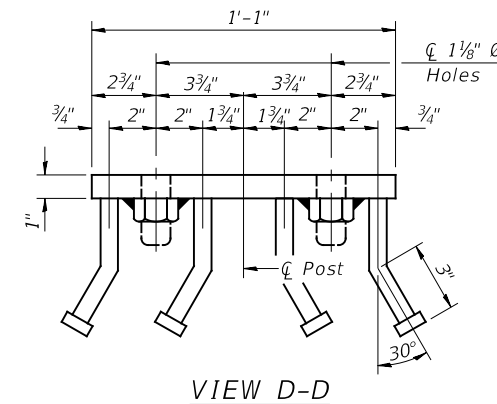
SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE R
TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	117

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	14
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7		ILLINOIS		
		FED. AID PROJECT NO. 2660(084)		

USER NAME	DESIGNED	REVISIONS
	Z.L.	
	C.T.M.	
	Z.L.	
	C.T.M./B.A.N.	

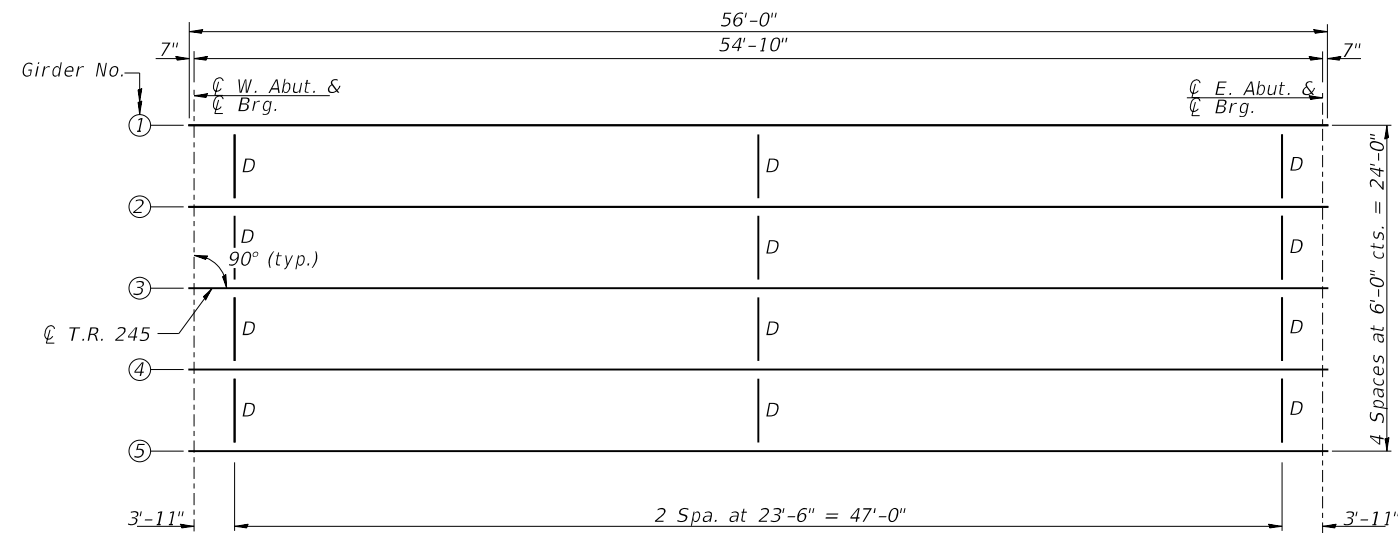
CRAWFORD COUNTY
HIGHWAY DEPARTMENT

STEEL RAILING, TYPE S1
TOWNSHIP ROAD 245 OVER FREEPORT CREEK

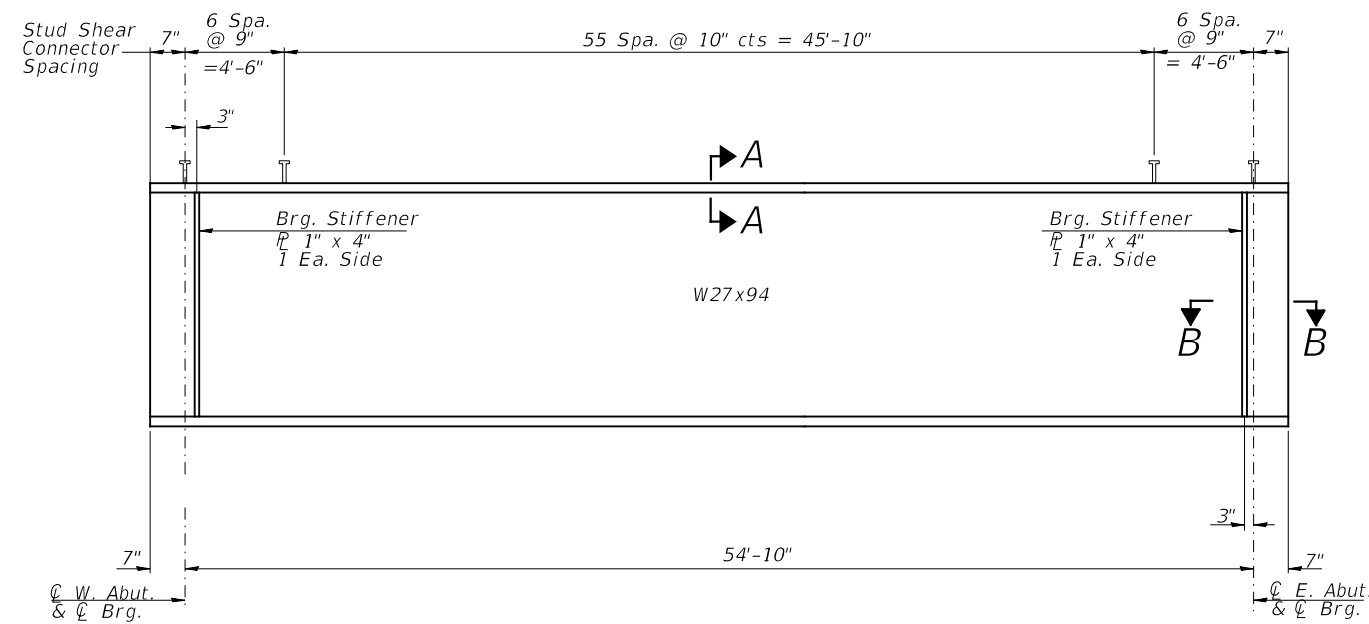
SHEET 8 OF 14 SHEETS

FILE NAME: Y:\1386 - TR 245 over Freeport Creek (Crawford)\CADD\CADD_Sheets\266008.dgn

3/30/2021

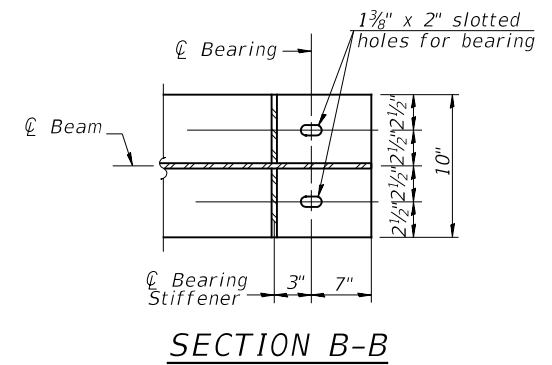


FRAMING PLAN

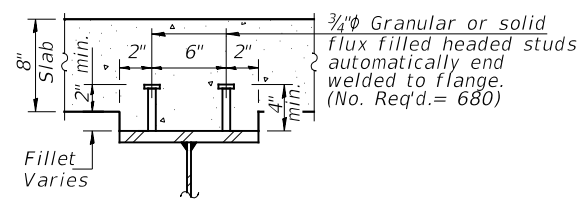


BEAM ELEVATION

All beams and bearing stiffeners shall be AASHTO M270, Grade 50W (CVN).



SECTION B-B



SECTION A-A

Notes:
 "CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.
 See Sheet 10 of 14 for Structural Steel Details.

FILE NAME: Y:\1386 - TR 245 over Freeport Creek - Crawford County - Sheets\2866009.dgn

3/30/2021

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PLOT DATE =	CHECKED - C.T.M. / B.A.N.	REVISED -

**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

**FRAMING PLAN
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

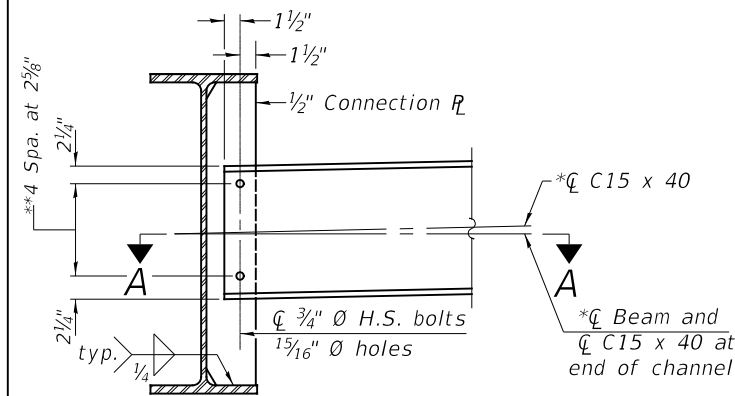
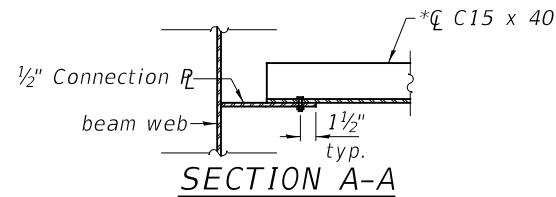
SHEET 9 OF 14 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	15
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 266D(084)		

***TOP OF BEAM ELEVATION

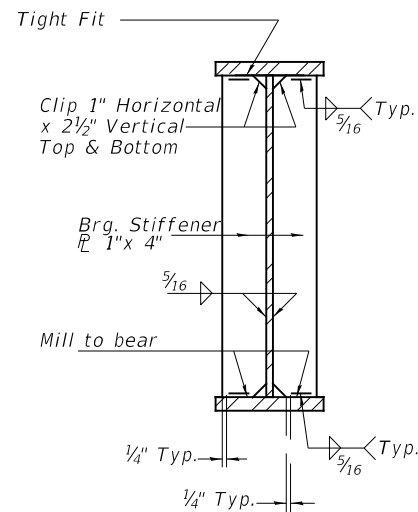
LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
☉ Brg. at W. Abut.	446.83	446.94	447.04	446.94	446.83
☉ Brg. at E. Abut.	446.83	446.94	447.04	446.94	446.83

***For fabrication only



DIAPHRAM D
(12 Required)

Note:
Two hardened washers required for each set of oversized holes.
*Alternate channels of equal depth and larger weight are permitted to facilitate material acquisition. Alternate channels, if utilized, shall be provided at no additional cost to the Department.
The alternate, if utilized, shall be provided at no additional cost to the County.
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.



SECTION AT ABUTMENTS

INTERIOR GIRDER MOMENT TABLE		0.5 SP. 1
I_s	(in ⁴)	3,270
$I_c(n)$	(in ⁴)	10,090
$I_c(3n)$	(in ⁴)	7,692
$I_c(cr)$	(in ⁴)	-
S_s	(in ³)	243
$S_c(n)$	(in ³)	379
$S_c(3n)$	(in ³)	345
$S_c(cr)$	(in ³)	-
DC1	(k/ft)	0.718
M _{DC1}	(k)	270
DC2	(k/ft)	0.030
M _{DC2}	(k)	11
DW	(k/ft)	0.300
M _{DW}	(k)	113
M _{L + IM}	(k)	680
M _u (Strength I)	(k)	1,708
$\phi_f M_n$	(k)	2,204
f_s DC1	(ksi)	13.58
f_s DC2	(ksi)	0.38
f_s DW	(ksi)	3.93
f_s (L+IM)	(ksi)	21.53
f_s (Service II)	(ksi)	45.88
$0.95R_n F_{yr}$	(ksi)	47.50
f_s (Total)(Strength I)	(ksi)	-
$\phi_r F_n$	(ksi)	-
V_r	(k)	20.7

INTERIOR GIRDER REACTION TABLE		ABUTMENTS
RDC1	(k)	19.7
RDC2	(k)	0.7
RDW	(k)	8.2
R _{L + IM}	(k)	65.3
RTotal	(k)	93.9

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 (in⁴ and in³).

$I_c(n), S_c(n)$: 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) due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: 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 (in⁴ and in³).

$I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in⁴ and in³).

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.).
M_{L + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{L + IM}$
 $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (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_{nc}
 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 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).
 $f_{SDC1} + f_{SDC2} + f_{SDW} + 1.3 f_s (L + IM)$
 $0.95R_n F_{yr}$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
 f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
 $1.25 (f_{SDC1} + f_{SDC2}) + 1.5 f_{SDW} + 1.75 f_s (L + IM)$
 $\phi_r F_n$: Non-compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
 V_r : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

FILE NAME: Y:\1386 - TR 245 over Freeport Creek - Crawford County\1386\10.dwg

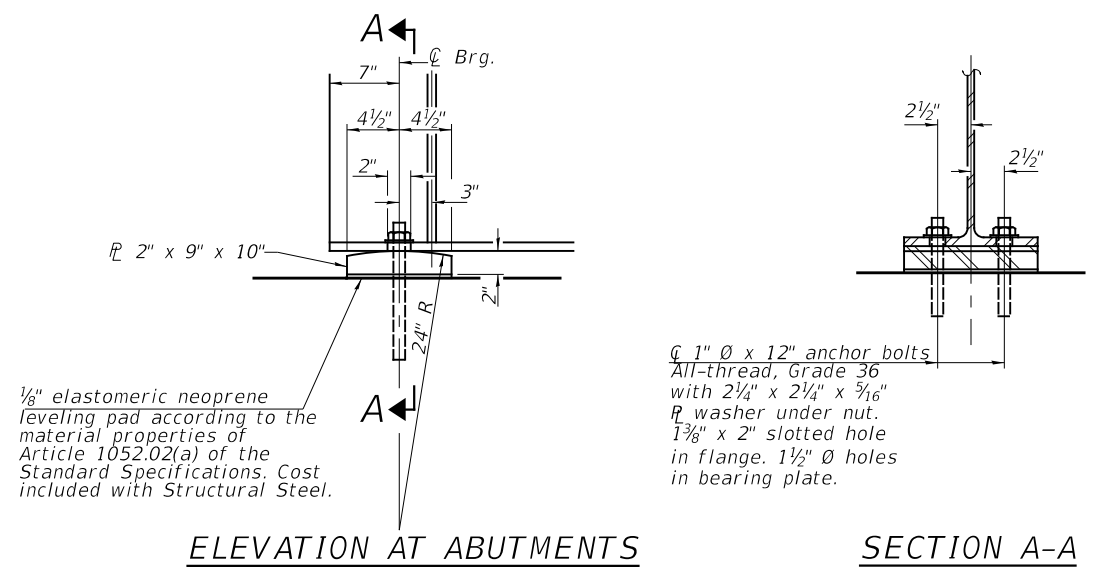
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CHECKED - C.T.M.	REVISED -	
PLOT SCALE =	DRAWN - Z.L.	REVISED -
PLOT DATE =	CHECKED - C.T.M. / B.A.N.	REVISED -

CRAWFORD COUNTY
HIGHWAY DEPARTMENT

STRUCTURAL STEEL DETAILS
TOWNSHIP ROAD 245 OVER FREEPORT CREEK

SHEET 10 OF 14 SHEETS

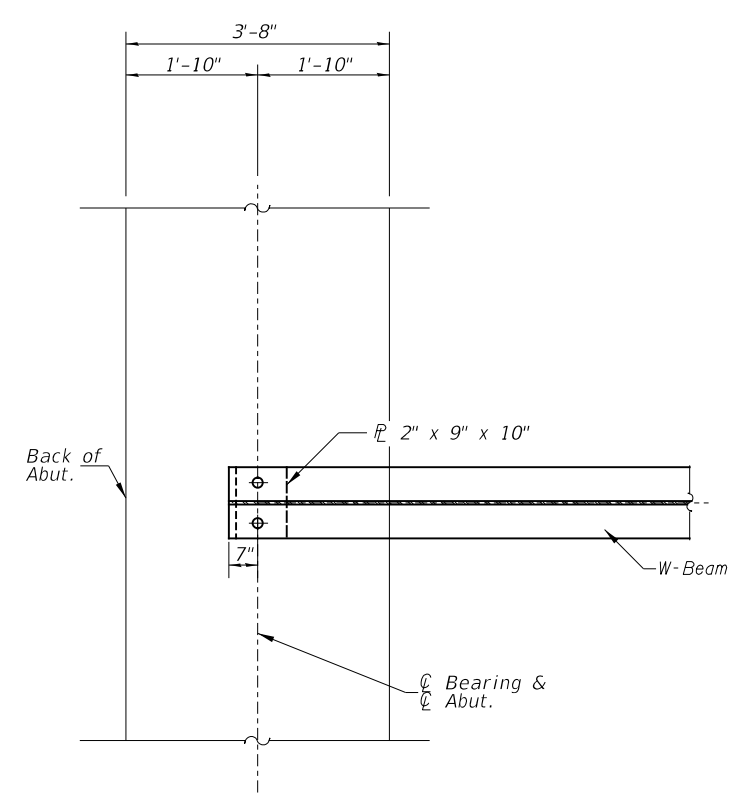
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	16
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 266D(084)		



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.
 The structural steel bearing plates shall conform to the requirements of AASHTO M270 Grade 50W.
 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.
 See sheet 10 of 14 for bearing stiffener dimensions and details.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Anchor Bolts, 1"	EACH	20

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3/30/2021

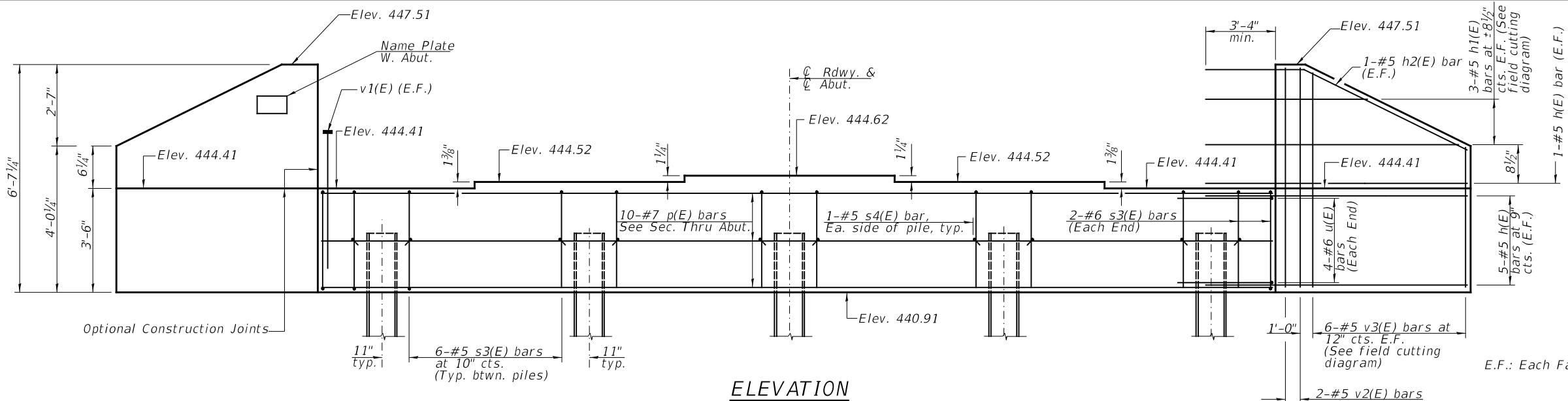
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CHECKED - C.T.M.	REVISED -	
PLOT SCALE =	DRAWN - Z.L.	REVISED -
PLOT DATE =	CHECKED - C.T.M. / B.A.N.	REVISED -

**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

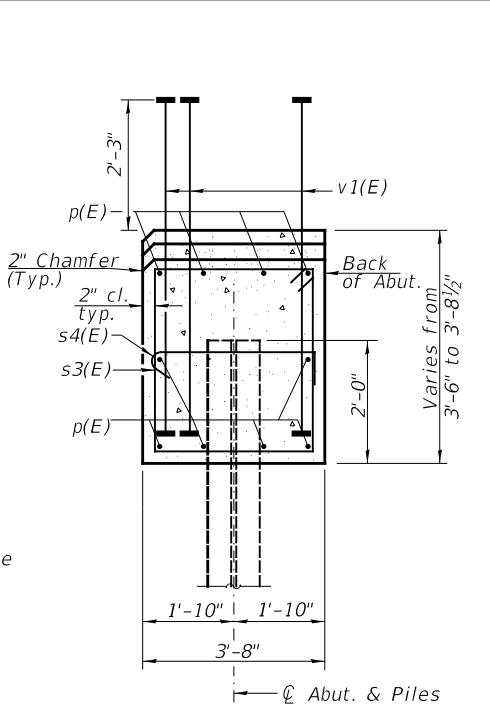
**BEARING DETAILS
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

SHEET 11 OF 14 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	17
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 266D(084)		



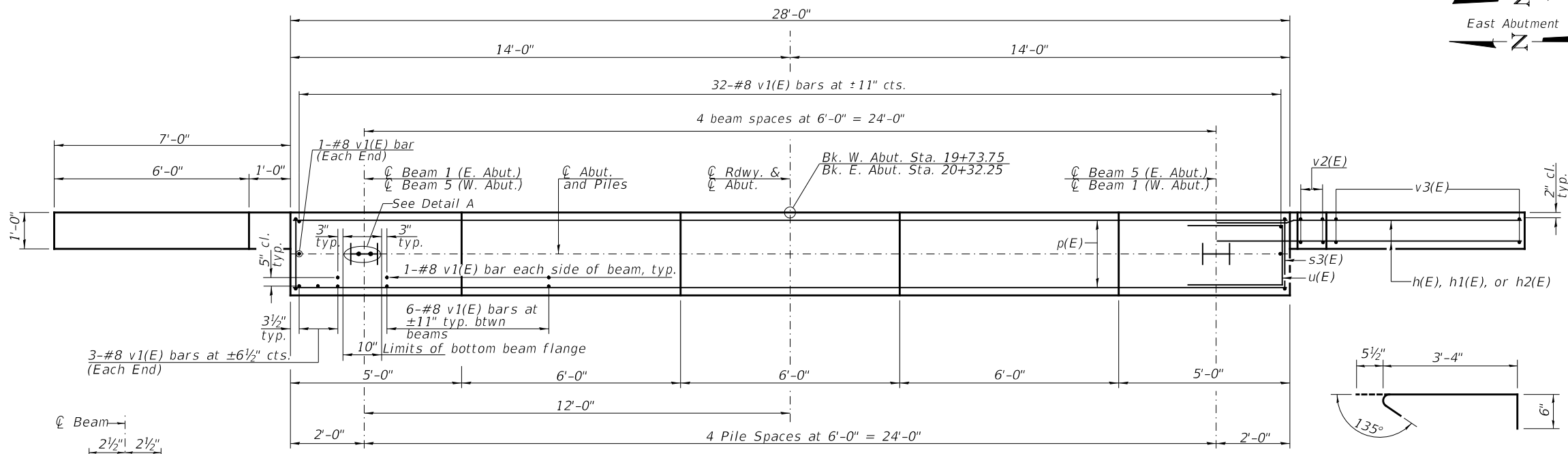
ELEVATION



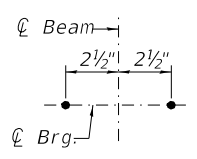
SEC. THRU ABUT.

**TWO ABUTMENTS
BILL OF MATERIAL**

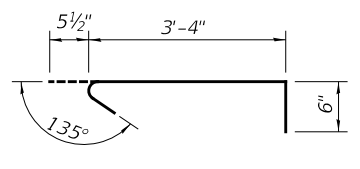
BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	48	#5	10'-2"	—
h1(E)	12	#5	14'-11"	—
h2(E)	8	#5	10'-8"	—
p(E)	20	#7	27'-9"	—
s3(E)	56	#6	14'-4"	□
s4(E)	20	#5	4'-4"	◁
u(E)	16	#6	11'-10"	□
v1(E)	148	#8	5'-7"	—
v2(E)	16	#5	6'-3"	—
v3(E)	24	#5	9'-7"	—
Structure Excavation		CU YD	130	
Concrete Structures		CU YD	33.0	
Reinforcement Bars, Epoxy Coated		POUND	6,050	
Name Plates		EACH	1	
Furnishing Steel Piles HP12x53		FOOT	252	
Driving Piles		FOOT	252	
Test Pile Steel HP12x53		EACH	2	



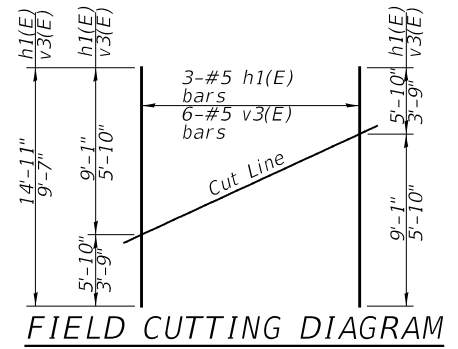
PLAN



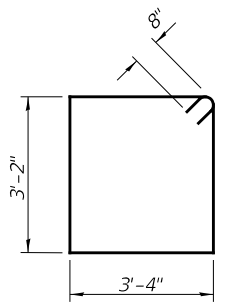
DETAIL A



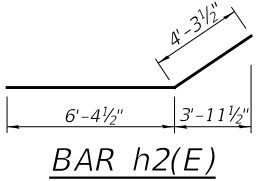
BAR s4(E)



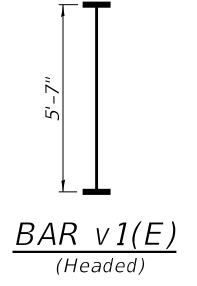
FIELD CUTTING DIAGRAM



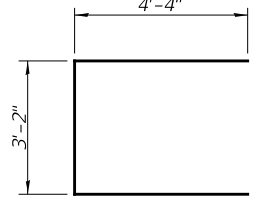
BAR s3(E)



BAR h2(E)



**BAR v1(E)
(Headed)**



BAR u(E)

Notes:
 Pour steps monolithically with cap.
 All edges shall have standard 3/4" chamfer.
 For details of H-Piles, see sheet 14 of 14.
 Space reinforcement to miss anchor bolts.
 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.

FILE NAME: Y:\3286 - TR 245 over Freeport Creek - Crawford\CAD\DD_Sheets\286012.dgn

PILE DATA
 Type: Steel HP12x53
 Nominal Required Bearing: 245 kips
 Factored Resistance Available: 135 kips
 Est. Length: 38' W. Abutment
 25' E. Abutment
 No. Required: 10 (Includes 1 Test Pile at Each Abut.)

USER NAME =	DESIGNED - Z.L.	REVISED -
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PLOT SCALE =	DRAWN - Z.L.	REVISED -
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**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

**ABUTMENTS
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

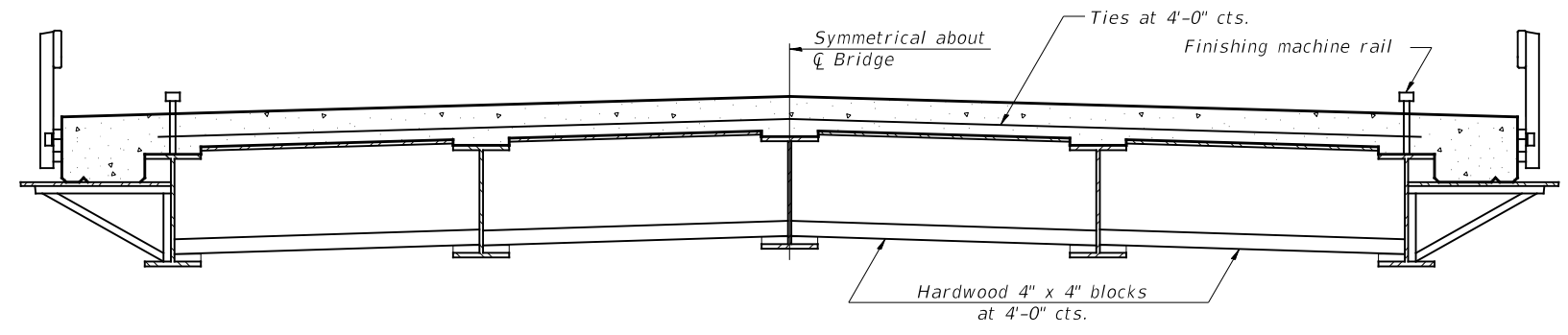
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	18
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 266D(084)		

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



FORM BRACES FOR
STANDARD CONSTRUCTION

FILE NAME: Y:\1386 - TR 245 over Freeport Creek - Crawfords Creek - CADD\CADD_Sheets\2866013.dgn

USER NAME =	DESIGNED - Z.L.	REVISED -
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PLOT DATE =	CHECKED - C.T.M. / B.A.N.	REVISED -

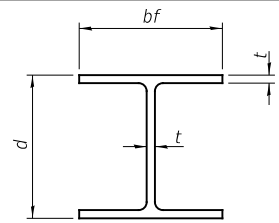
**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

**CANTILEVER FORMING BRACKETS
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

SHEET 13 OF 14 SHEETS

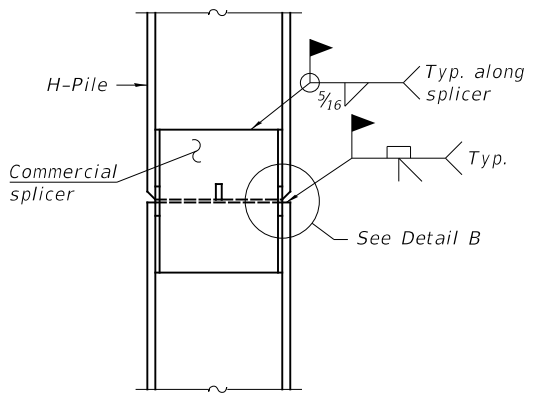
RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	19
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 266D(084)		

3/30/2021

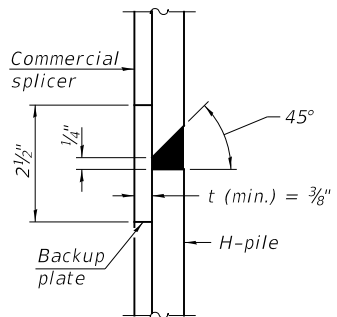


STEEL PILE TABLE

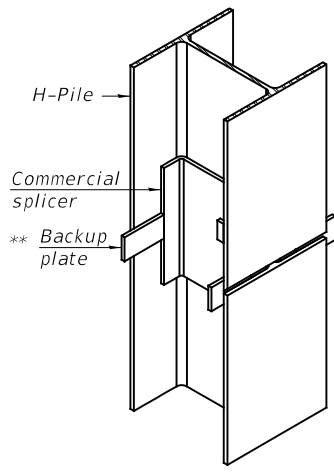
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

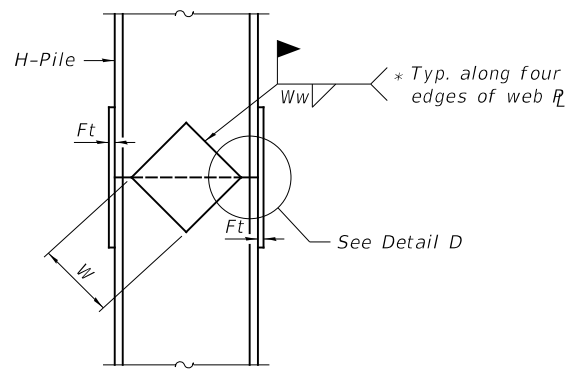


DETAIL "B"

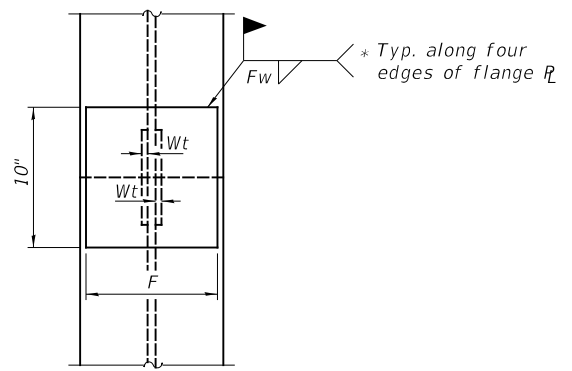


ISOMETRIC VIEW

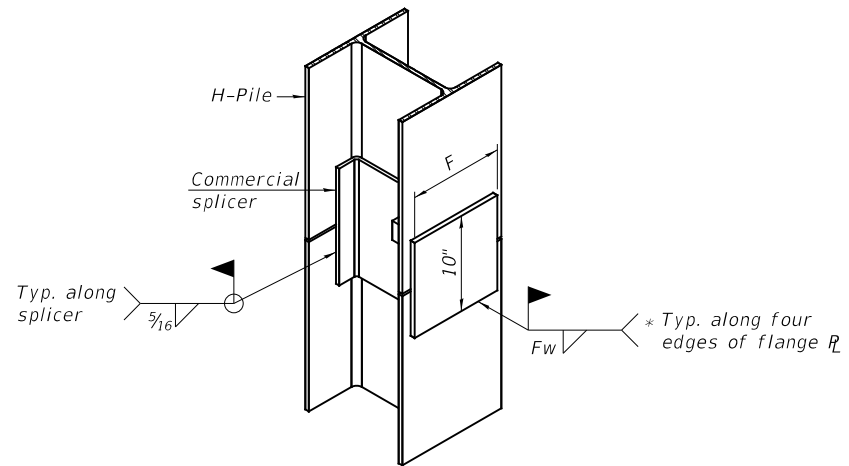
WELDED COMMERCIAL SPLICE



ELEVATION

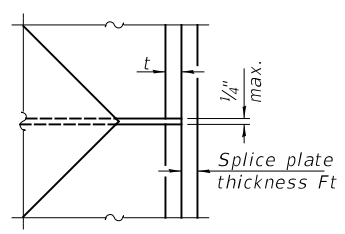


END VIEW



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE



DETAIL D

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

* Interrupt welds 1/4" 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.).

FILE NAME: Y:\1386 - TR 245 over Freeport Creek - Crawford County Sheets\2866014.dgn

USER NAME =	DESIGNED - Z.L.	REVISED -
PLOT SCALE =	CHECKED - C.T.M.	REVISED -
PLOT DATE =	DRAWN - Z.L.	REVISED -
	CHECKED - C.T.M./B.A.N.	REVISED -

**CRAWFORD COUNTY
HIGHWAY DEPARTMENT**

**HP PILE DETAILS
TOWNSHIP ROAD 245 OVER FREEPORT CREEK**

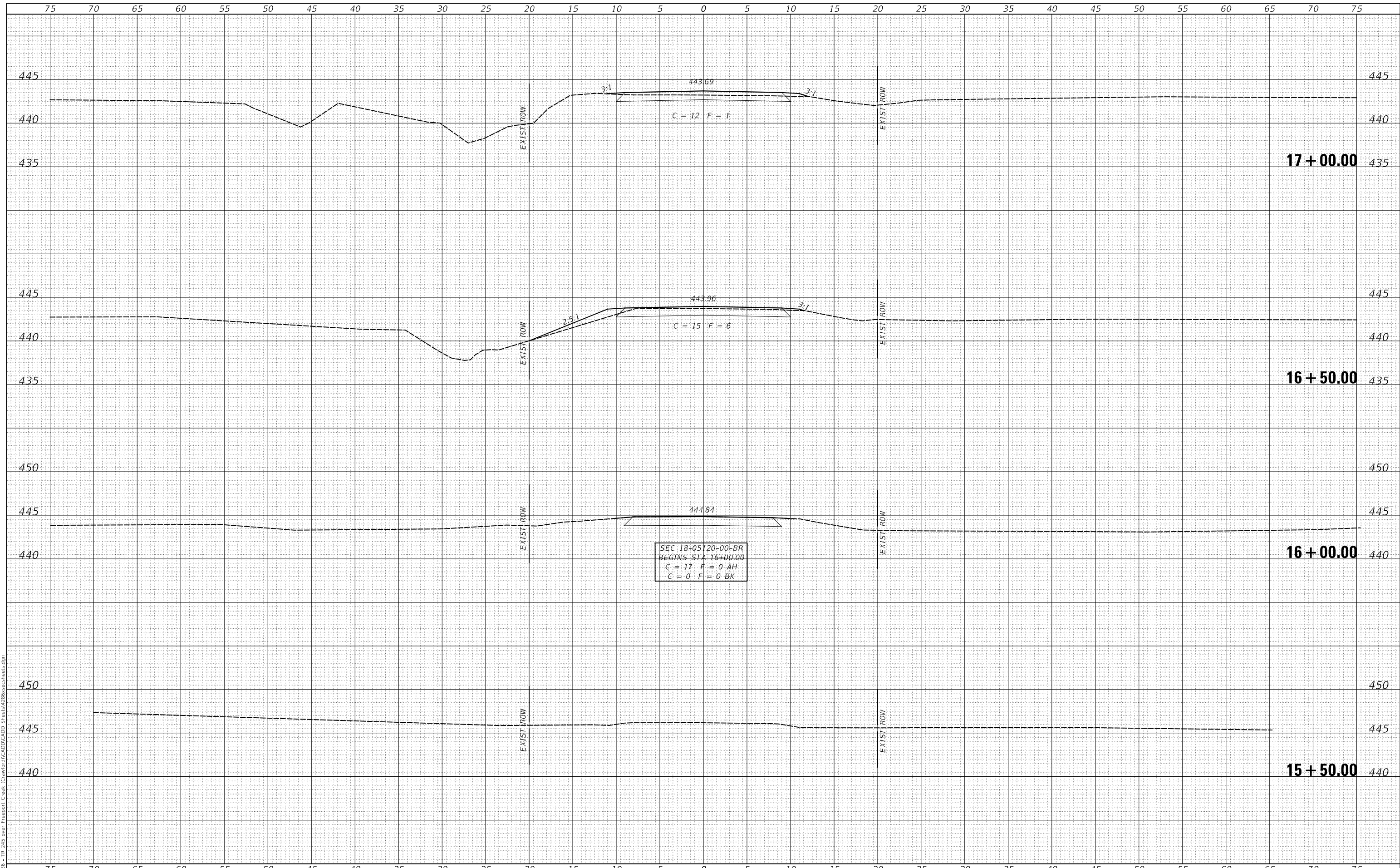
SHEET 14 OF 14 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	20
S.N. 017-3525		CONTRACT NO. 95899		
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT NO. 266D(084)

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

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

MODEL: \$MODELNAME\$
FILE NAME: V:\228 - TR 245 over Freeport Creek - Crawford\CADD\CADD Sheets\228-sec-18-05120.dgn



USER NAME = smierzwa	DESIGNED - CTM	REVISED - _____
	DRAWN - JPS	REVISED - _____
PLOT SCALE = 10.0000' / in.	CHECKED - CTM	REVISED - _____
PLOT DATE = 3/30/2021	DATE - 3/30/2021	REVISED - _____

**CRAWFORD COUNTY
TOWNSHIP ROAD 245
OVER FREEPORT CREEK**

CROSS SECTIONS

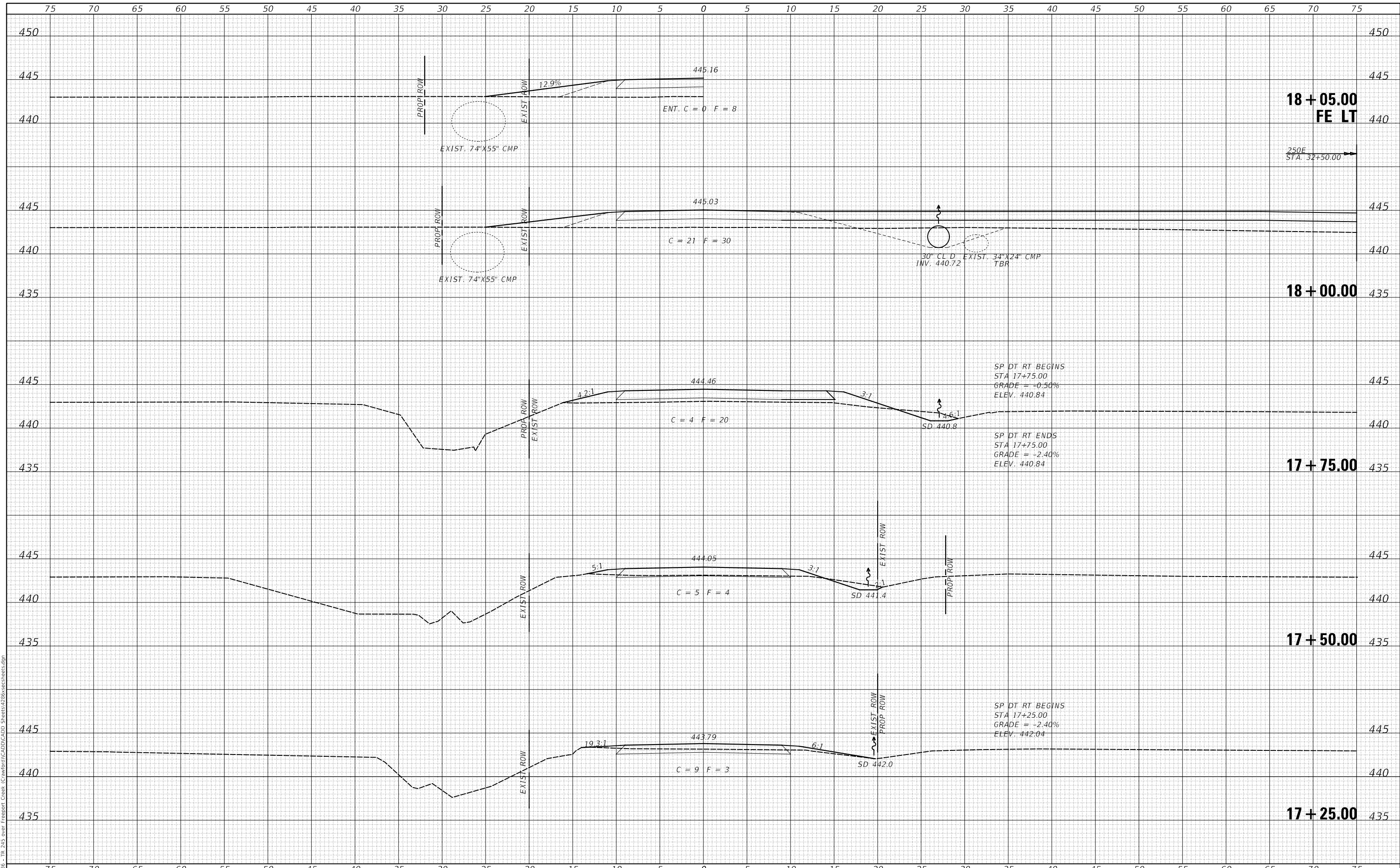
SCALE: 1"=5' SHEET 1 OF 7 SHEETS STA. 15+50.00 TO STA. 17+00.00

RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	21
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 95899	
FED. AID PROJECT NO. 266D(084)				

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

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

MODEL: SP06LNAME1
FILE NAME: V:\228 - TR 245 over Freeport Creek - Crawford\ICADD\CADD Sheets\228-sec-18-18-25.dgn



USER NAME = smierzwa	DESIGNED - CTM	REVISED - _____
	DRAWN - JPS	REVISED - _____
PLOT SCALE = 10.0000' / in.	CHECKED - CTM	REVISED - _____
PLOT DATE = 3/30/2021	DATE - 3/30/2021	REVISED - _____

**CRAWFORD COUNTY
TOWNSHIP ROAD 245
OVER FREEPORT CREEK**

CROSS SECTIONS

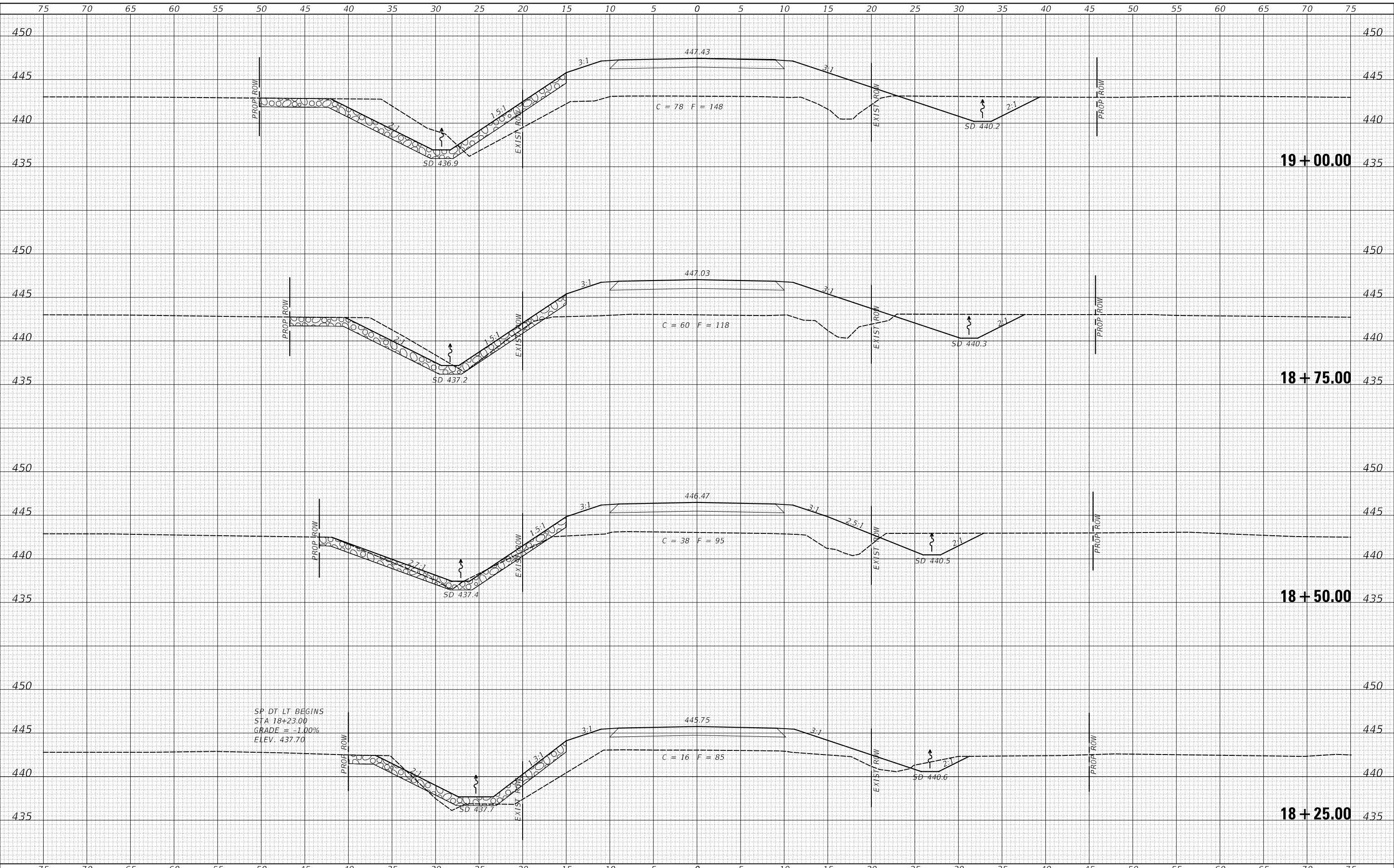
SCALE: 1"=5' SHEET 2 OF 7 SHEETS STA. 17+25.00 TO STA. 18+05.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	22
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 95899	
FED. AID PROJECT NO. 266D(084)				

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

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

MODEL: \$MODELNAME\$
 FILE NAME: V:\228 - TR 245 over Freeport Creek - Crawford\ICADD\CADD Sheets\228-sec-18-25.dgn



SP DT LT BEGINS
 STA 18+23.00
 GRADE = -1.00%
 ELEV. 437.70

USER NAME = smierzwa	DESIGNED - CTM	REVISED - _____
PLOT SCALE = 10.0000' / in.	DRAWN - JPS	REVISED - _____
PLOT DATE = 3/30/2021	CHECKED - CTM	REVISED - _____
	DATE - 3/30/2021	REVISED - _____

**CRAWFORD COUNTY
 TOWNSHIP ROAD 245
 OVER FREEPORT CREEK**

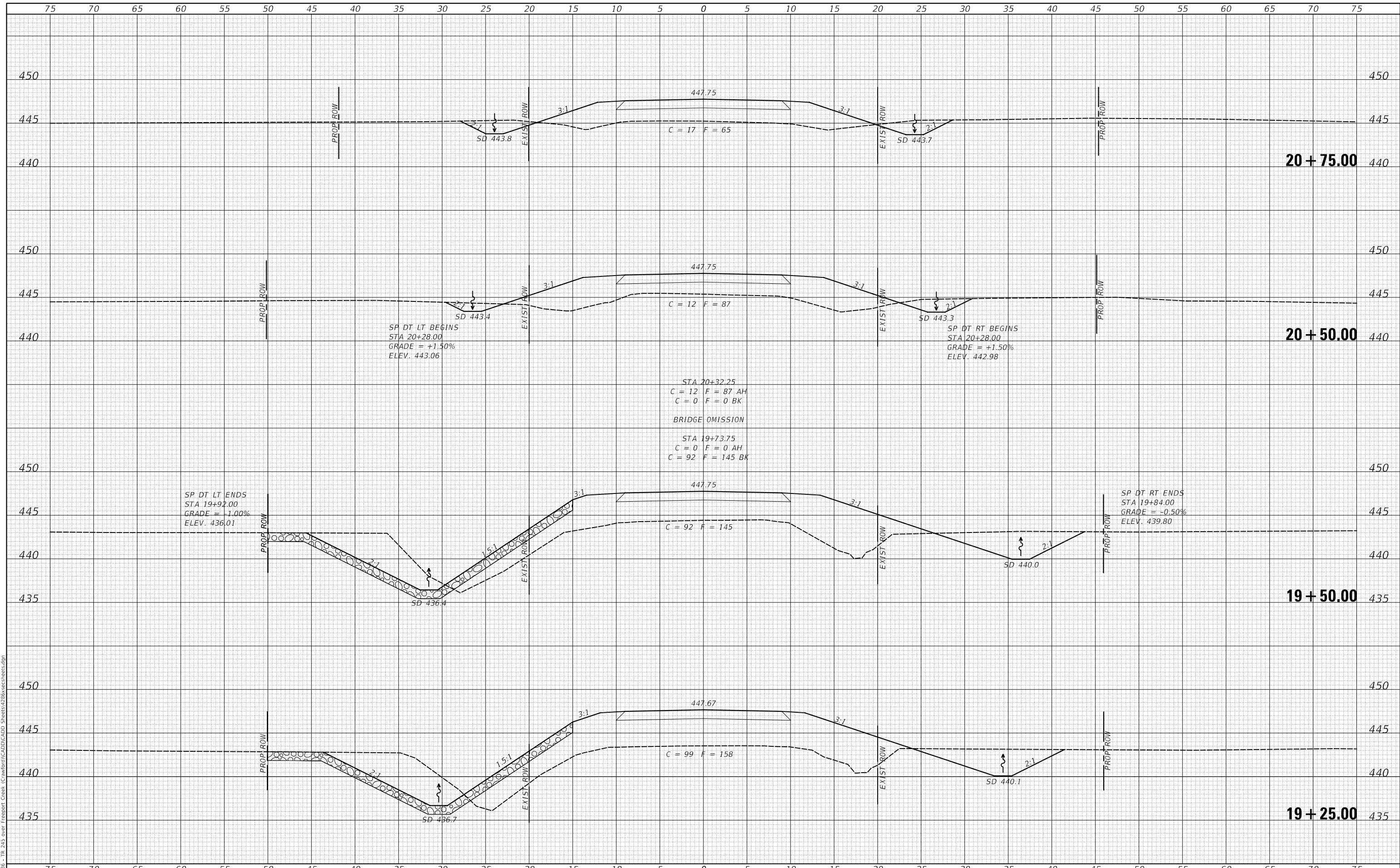
CROSS SECTIONS
 SCALE: 1"=5'
 SHEET 3 OF 7 SHEETS
 STA. 18+25.00 TO STA. 19+00.00

RT. 245	SECTION 18-05120-00-BR	COUNTY CRAWFORD	TOTAL SHEETS 27	SHEET NO. 23
FED. ROAD DIST. NO. 7		ILLINOIS	CONTRACT NO. 95899	
FED. AID PROJECT NO. 266D(084)				

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

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

MODEL: S:\MODELNAME1
FILE NAME: V:\228 - TR 245 over Freeport Creek - Crawford\ICADD\CADD Sheets\228-sec-18-25.dgn



USER NAME = SMierzwa	DESIGNED - CTM	REVISED - _____
	DRAWN - JPS	REVISED - _____
PLOT SCALE = 10.0000' / in.	CHECKED - CTM	REVISED - _____
PLOT DATE = 3/30/2021	DATE - 3/30/2021	REVISED - _____

**CRAWFORD COUNTY
TOWNSHIP ROAD 245
OVER FREEPORT CREEK**

CROSS SECTIONS

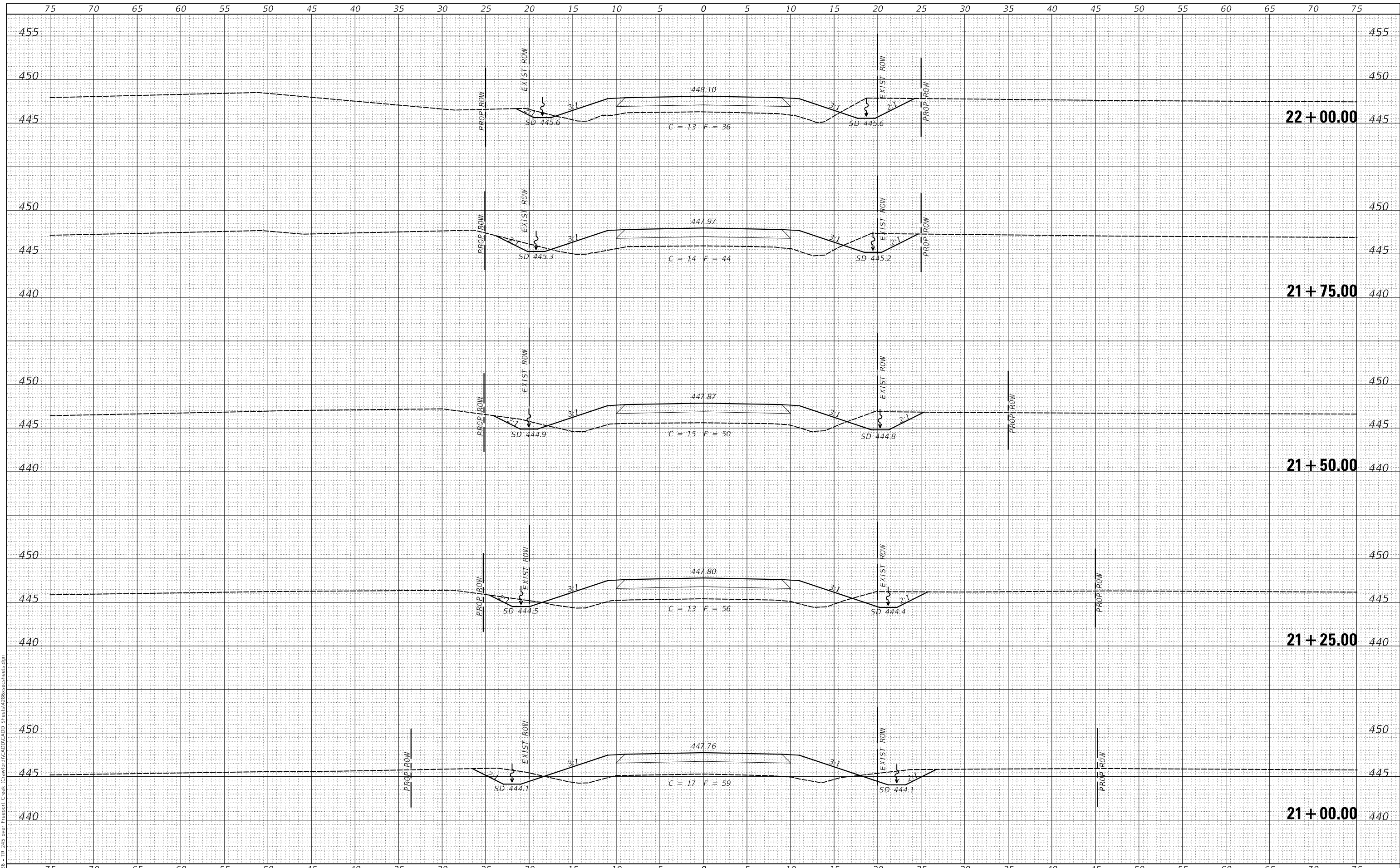
SCALE: 1"=5' SHEET 4 OF 7 SHEETS STA. 19+25.00 TO STA. 20+75.00

RT. 245	SECTION 18-05120-00-BR	COUNTY CRAWFORD	TOTAL SHEETS 27	SHEET NO. 24
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 95899	
FED. AID PROJECT NO. 2660(084)				

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

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

MODEL: \$PDMNAME\$
FILE NAME: V:\228 - TR 245 over Freeport Creek - Crawford\CADD\CADD Sheets\228-sec-18-1.dgn



USER NAME =	SMierzwa	DESIGNED -	CTM	REVISED -	_____
		DRAWN -	JPS	REVISED -	_____
PLOT SCALE =	10.0000' / in.	CHECKED -	CTM	REVISED -	_____
PLOT DATE =	3/30/2021	DATE -	3/30/2021	REVISED -	_____

**CRAWFORD COUNTY
TOWNSHIP ROAD 245
OVER FREEPORT CREEK**

CROSS SECTIONS

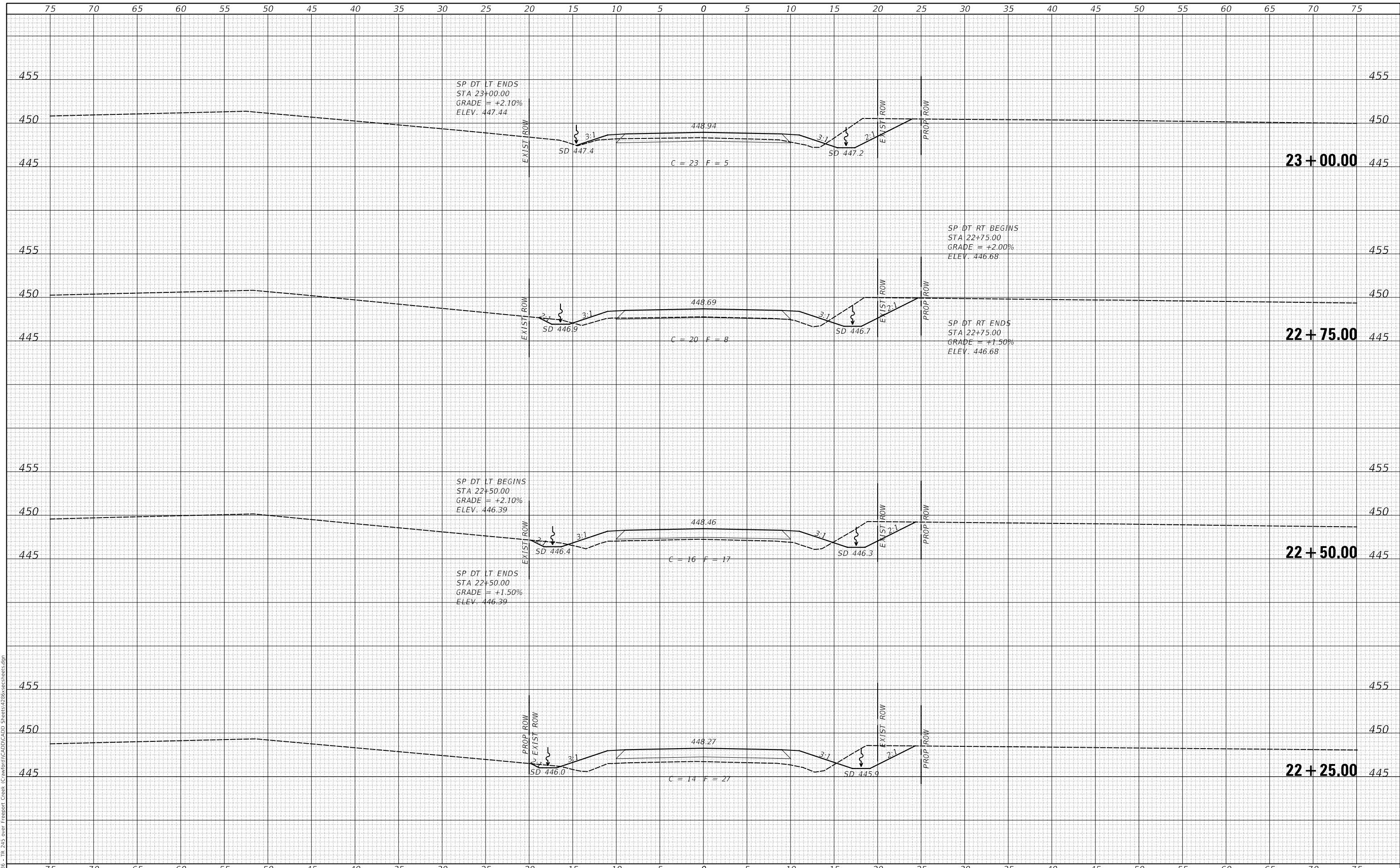
SCALE: 1"=5' SHEET 5 OF 7 SHEETS STA. 21+00.00 TO STA. 22+00.00

RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	25
CONTRACT NO. 95899				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. 266D(084)		

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

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

MODEL: \$MODELNAME\$
 FILE NAME: V:\228 - TR 245 over Freeport Creek - Crawford\CADD\CADD Sheets\228-sec-18-18-25.dgn



USER NAME = smierzwa	DESIGNED - CTM	REVISED - _____
	DRAWN - JPS	REVISED - _____
PLOT SCALE = 10.0000' / in.	CHECKED - CTM	REVISED - _____
PLOT DATE = 3/30/2021	DATE - 3/30/2021	REVISED - _____

**CRAWFORD COUNTY
 TOWNSHIP ROAD 245
 OVER FREEPORT CREEK**

CROSS SECTIONS

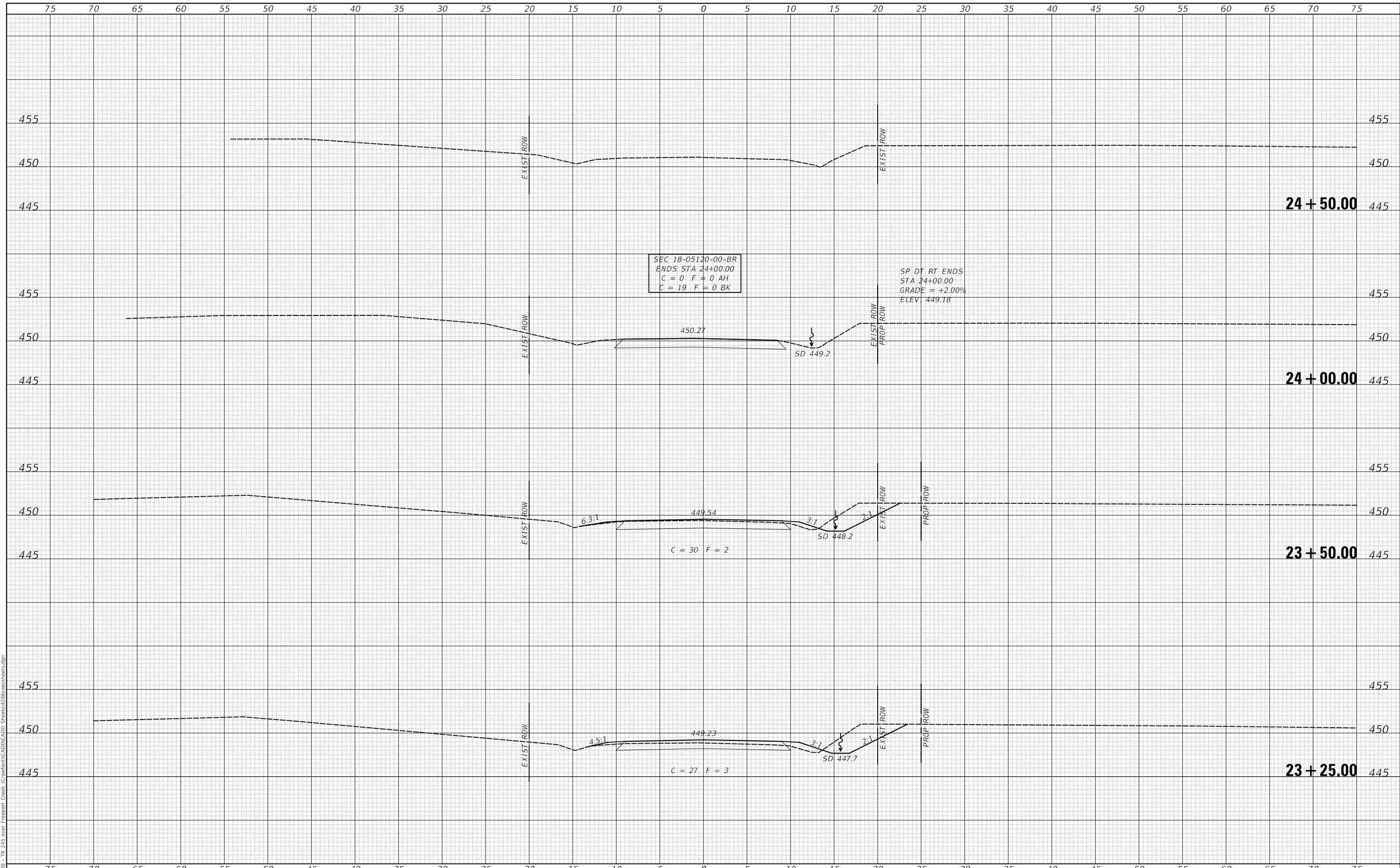
SCALE: 1"=5' SHEET 6 OF 7 SHEETS STA. 22+25.00 TO STA. 23+00.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	26
CONTRACT NO. 95899				
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT NO. 266D(084)	

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

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

MODEL: \$MODELNAME\$
 FILE NAME: V:\228 - TR 245 over Freeport Creek - Crawford\CADD\CADD Sheets\228-sec-18-05120.dgn



USER NAME = smierzwa	DESIGNED - CTM	REVISED - _____
	DRAWN - JPS	REVISED - _____
PLOT SCALE = 10.0000' / in.	CHECKED - CTM	REVISED - _____
PLOT DATE = 3/30/2021	DATE - 3/30/2021	REVISED - _____

**CRAWFORD COUNTY
 TOWNSHIP ROAD 245
 OVER FREEPORT CREEK**

CROSS SECTIONS

SCALE: 1"=5' SHEET 7 OF 7 SHEETS STA. 23+25.00 TO STA. 24+50.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 245	18-05120-00-BR	CRAWFORD	27	27
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 95899	
FED. AID PROJECT NO. 2660(084)				