

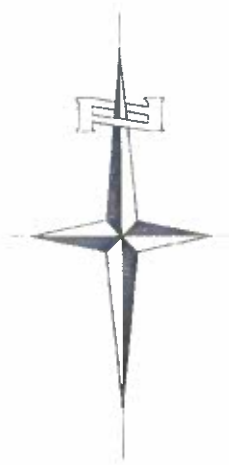
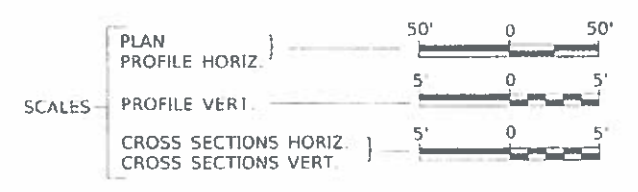
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	1
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 99670	

INDEX OF SHEETS 03/11/2022 Letting Item 129

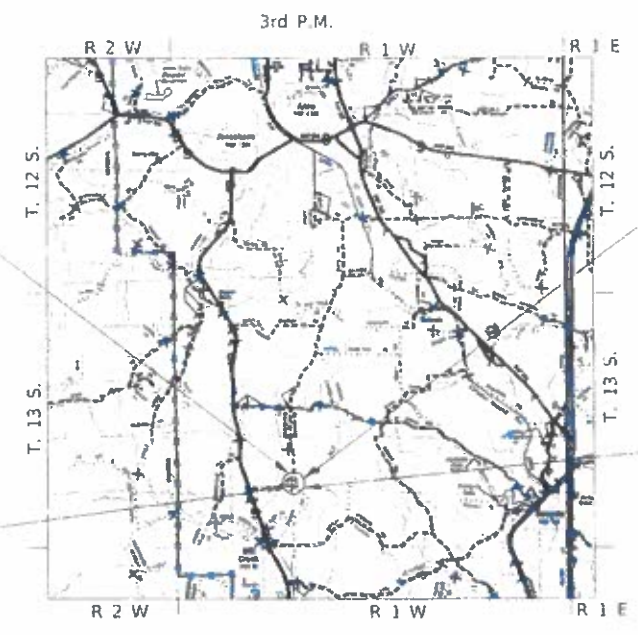
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES, TYPICAL SECTIONS, DETAILS
3	SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES
4	TRAFFIC CONTROL PLAN
5	EROSION CONTROL PLAN
6	PLAN AND PROFILE
7-10	STRUCTURE PLANS
11-16	CROSS SECTIONS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
**PLANS FOR PROPOSED  
SURFACE TRANSPORTATION PROGRAM-BRIDGE  
UNION COUNTY**  
COUNTY UNIT ROAD DISTRICT SECTION 14-01207-00-BR  
TOWNSHIP ROAD 112 OVER MILL CREEK TRIBUTARY  
PROJECT NO. 09T5(280)  
JOB NUMBER C-99-511-15

**HIGHWAY STANDARDS (INCLUDED IN PROPOSAL)**  
000001-08 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS  
280001-07 TEMPORARY EROSION CONTROL SYSTEMS  
515001-04 NAME PLATE FOR BRIDGES  
701901-08 TRAFFIC CONTROL DEVICES  
BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

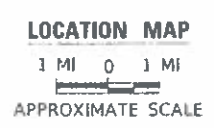


PROPOSED STRUCTURE SN 091-3249  
TRIPLE 12'x5' CAST-IN-PLACE REINFORCED  
CONCRETE BOX CULVERT, 32'-0" O. TO O.  
HEADWALLS, NO SKEW.



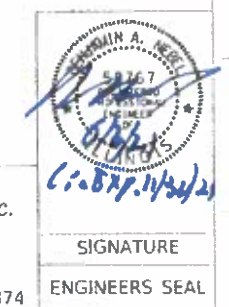
- UTILITY COMPANIES**
- FRONTIER COMMUNICATIONS  
BLOOMINGTON, ILLINOIS
  - SOUTHERN ILLINOIS POWER COOPERATIVE  
MARION, ILLINOIS
  - SOUTHERN ILLINOIS ELECTRIC COOPERATIVE  
DONGOLA, ILLINOIS
  - VILLAGE OF TAMMS  
TAMMS, ILLINOIS

SECTION 14-01207-00-BR  
BEGINS  
STATION 18+25.00



NET LENGTH OF PROJECT = 325.00 FEET = 0.062 MILES  
DESIGN CLASSIFICATION: LOCAL ROAD (NON-URBAN)  
DESIGN ADT = 10 (2020)  
DESIGN SPEED = 30 MPH

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



APPROVED JUNE 2 2021  
*[Signature]*  
UNION COUNTY ENGINEER

PASSED 7-6 2021  
*[Signature]*  
DISTRICT ENGINEER OF LOCAL ROADS & STREETS

Released For Bid Based on Limited Review 7-6 2021  
*[Signature]*  
REGION FIVE ENGINEER  
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123 OR 811  
www.illinois1call.com

4374E001

## GENERAL NOTES

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.

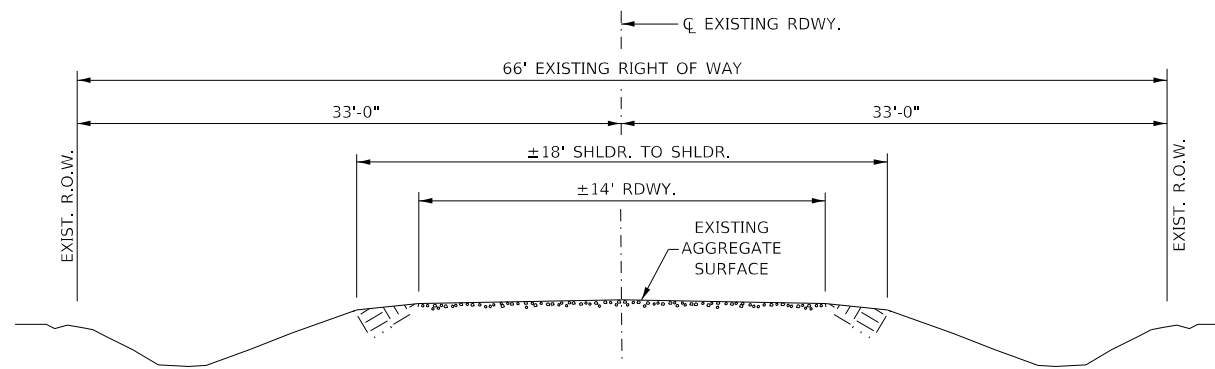
THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES 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.

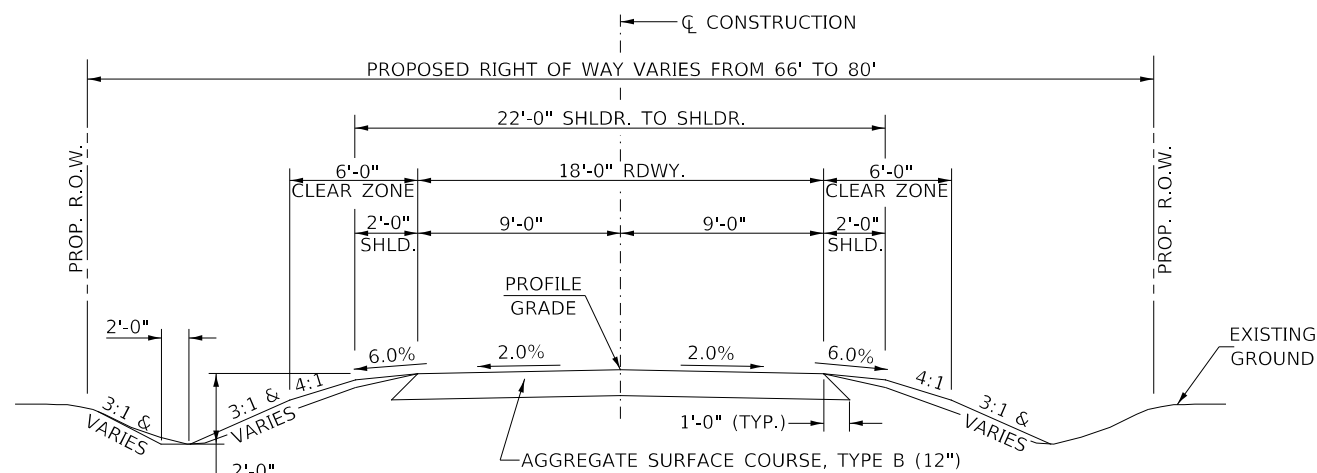
WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

THE FINAL SURFACE OF ALL DISTURBED/EMBANKMENT AREAS SHALL BE SEEDED. THE TOP 4 INCHES OF THE SEEDED AREAS SHALL BE COHESIVE VEGETATION SUSTAINING SOIL SUBJECT TO THE APPROVAL OF THE ENGINEER. THE COST OF SHAPING THE SLOPES AND PROVIDING VEGETATION SUSTAINING SOIL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF FURNISHED EXCAVATION. TOPSOIL MAY BE STRIPPED AND STOCKPILED FROM THE SITE OR HAULED IN FROM AN ALTERNATE LOCATION AS APPROVED BY THE ENGINEER.

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



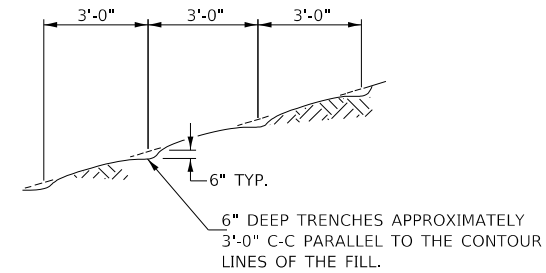
**EXISTING TYPICAL SECTION**



**PROPOSED TYPICAL SECTION**

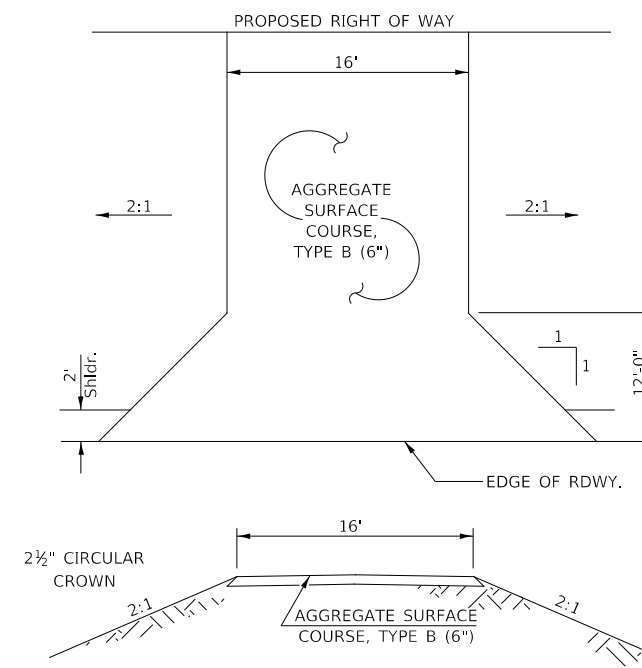
STA. 18+25.00 TO STA. 21+50.00

EXCEPT TRANSITIONS



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**



**FIELD ENTRANCE**

STA 18+95 LT

**UNION COUNTY  
TOWNSHIP ROAD 112 OVER  
MILL CREEK TRIBUTARY**

**GENERAL NOTES, TYPICAL SECTIONS, DETAILS**

USER NAME = BNeibel	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 2,000' / in.	CHECKED -	REVISED -
PLOT DATE = 6/1/2021	DATE -	REVISED -

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 18+25.00 TO STA. 21+50.00

RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	2
CONTRACT NO. 99670				
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID, PROJECT NO. 09T5(280)

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	QUANTITY
① 20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	177
① 20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	103
20200100	EARTH EXCAVATION	CU YD	610
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	100
① 20700220	POROUS GRANULAR EMBANKMENT	CU YD	250
25100630	EROSION CONTROL BLANKET	SQ YD	87
28000305	TEMPORARY DITCH CHECKS	FOOT	96
28000400	PERIMETER EROSION BARRIER	FOOT	135
28000500	INLET AND PIPE PROTECTION	EACH	1
28100809	STONE DUMPED RIPRAP, CLASS A5	TON	220
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	435
① 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	24
50800105	REINFORCEMENT BARS	POUND	20,880
51500100	NAME PLATES	EACH	1
54003000	CONCRETE BOX CULVERTS	CU YD	146.5
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	155
① 542D0241	PIPE CULVERTS, CLASS D, TYPE 1 36"	FOOT	34
67100100	MOBILIZATION	L SUM	1
① X0900064	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	155
① X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.3
① X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1

① SEE SPECIAL PROVISIONS  
 Δ SPECIALTY ITEMS

PERIMETER EROSION BARRIER			
STATION TO STATION		SIDE	FOOT
18+25	19+00	RIGHT	78
18+83	19+08	LEFT	27
21+25	21+50	LEFT	30
TOTAL			135

INLET AND PIPE PROTECTION		
STATION	SIDE	EACH
18+78	LEFT	1
TOTAL		1

PIPE CULVERT REMOVAL			
STATION	SIZE	SIDE	FOOT
18+95	36"	LEFT	24
TOTAL			24

PIPE CULVERTS, CLASS D, TYPE 1 36"		
STATION	SIDE	FOOT
18+95	LEFT	34
TOTAL		34

EROSION CONTROL BLANKET					
STATION TO STATION	SIDE	WIDTH	LENGTH	SQ YD	
19+00	19+75	RIGHT	6'	75'	50
18+25	18+78	LEFT	6'	54'	37
TOTAL				87	

AGGREGATE SURFACE COURSE, TYPE B					
STATION TO STATION	THICKNESS	WIDTH	LENGTH	TON	
18+25.00	18+75.00	1.00'	15.60' AVG.	50.00'	55
18+75.00	19+81.00	1.00'	19.00'	106.00'	141
19+81.00	20+19.00	1.08'	19.00'	38.00'	55
20+19.00	21+00.00	1.00'	19.00'	81.00'	108
21+00.00	21+50.00	1.00'	16.00' AVG.	50.00'	56
ENTR. 19+95 LT.		0.50'	16.00' & VAR.	33.81'	20
TOTAL				435	

EARTHWORK SUMMARY			
STATION TO STATION	EARTH EXCAVATION	FILL	WASTE (SHORTAGE)
CU YD			
RDWY 18+25.00 - 19+81.00	391	127	166
FILL OVER CULVERT	-	13	(13)
RDWY 20+19.00 - 21+50.00	220	114	51
TOTAL	611	254	204
USE	610	-	205

(@ 25% SHRINKAGE)

TEMPORARY DITCH CHECKS		
STATION	SIDE	FOOT
18+50	LEFT	12
19+38	RIGHT	12
19+75	LEFT	12
19+75	RIGHT	12
20+25	LEFT	12
20+25	RIGHT	12
20+62	LEFT	12
20+62	RIGHT	12
TOTAL		96

TREE REMOVAL				
STATION	OFFSET	SIDE	6 TO 15 UNITS	OVER 15 UNITS
19+34	19'	RIGHT		22
19+55	27'	RIGHT	10	
19+56	25'	RIGHT	9	
19+58	26'	RIGHT	8	
19+69	30'	RIGHT	12	
19+74	24'	RIGHT		20
19+78	26'	RIGHT		22
19+90	27'	RIGHT	8	
19+93	30'	RIGHT	14	
19+94	36'	RIGHT		20
20+25	22'	RIGHT	14	
20+26	26'	RIGHT	8	
20+28	22'	RIGHT	15	
20+28	38'	RIGHT	10	
20+30	22'	RIGHT	14	
20+31	31'	RIGHT	9	
20+35	38'	RIGHT	13	
20+39	34'	RIGHT		19
20+56	37'	RIGHT	7	
20+62	31'	RIGHT	10	
20+74	25'	RIGHT	6	
20+81	34'	RIGHT	10	
TOTAL			177	103

MODEL: S:\MODEL\NAMES  
 FILE NAME: X:\1374 - TR 112 over Mill Creek Trib. (Union)\CADD\CADD Sheets\374q001.dgn

USER NAME = BNebel	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 2.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 10/21/2021	DATE -	REVISED -

**UNION COUNTY  
 TOWNSHIP ROAD 112 OVER  
 MILL CREEK TRIBUTARY**

**SUMMARY OF QUANTITIES,  
 SCHEDULES OF QUANTITIES**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 18+25.00 TO STA. 21+50.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	3
CONTRACT NO. 99670				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID. PROJECT NO. 09T5(280)				

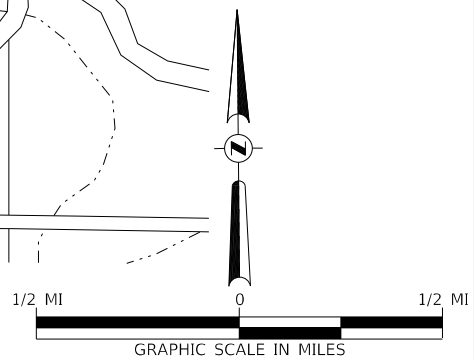
R 2 W, 3rd PM

R 1 W, 3rd PM



- 1 **ROAD CLOSED 650 FEET AHEAD LOCAL TRAFFIC ONLY**  
R11-3
- 2 **ROAD CLOSED 1.5 MILES AHEAD LOCAL TRAFFIC ONLY**  
R11-3
- 3 **ROAD CLOSED AHEAD**  
W20-3
- 4 **ROAD CLOSED 500 FT**  
W20-3
- 5 **TYPE III BARRICADES**

SEE STANDARD BLR 21 AND SPECIAL PROVISIONS



MODEL: 140921.MXD  
FILE NAME: V:\1374 - TR 112 over Mill Creek Trib. Union\CAD\CADD\_Sheets\1374\1374.dgn

USER NAME = BNebe1	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 6/1/2021	DATE -	REVISED -

**UNION COUNTY  
COUNTY ROAD 112 OVER  
MILL CREEK TRIBUTARY**

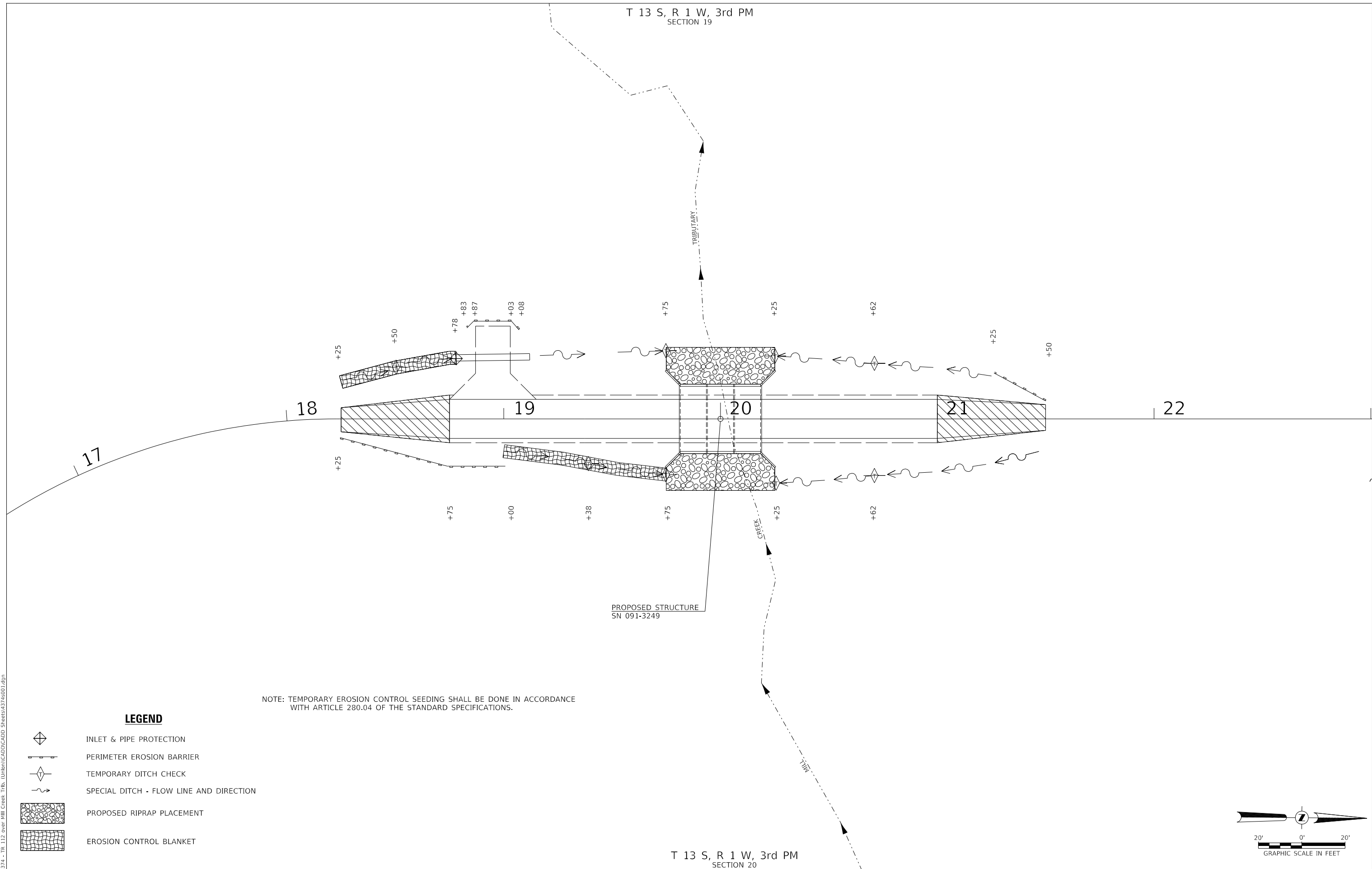
**TRAFFIC CONTROL PLAN**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 18+25.00 TO STA. 21+50.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	4
CONTRACT NO. 99670				
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID, PROJECT NO. 09T5(280)







T 13 S, R 1 W, 3rd PM  
SECTION 19

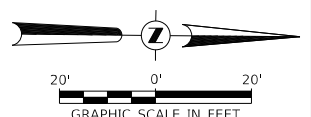
T 13 S, R 1 W, 3rd PM  
SECTION 20



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

**LEGEND**

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



MODEL: 140921\BMM\MS TR 112 over Mill Creek Trib. (Union)\CADD\CADD Sheets\4374\4001.dgn  
FILE NAME: 031324 - TR 112 over Mill Creek Trib. (Union)\CADD\CADD Sheets\4374\4001.dgn

USER NAME = BNebe1	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 6/1/2021	DATE -	REVISED -

**UNION COUNTY  
COUNTY ROAD 112 OVER  
MILL CREEK TRIBUTARY**

**EROSION CONTROL PLAN**

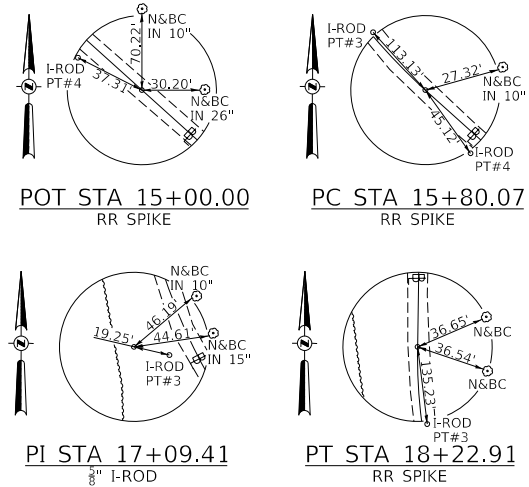
SCALE: 1"=20'    SHEET 1 OF 1 SHEETS    STA. 18+25.00 TO STA. 21+50.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	5
CONTRACT NO. 99670				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID, PROJECT NO. 09T5(280)		

DATE	
BY	
PLAN	SURVEYED PLOTTED ALIGNMENT CHECKED NOTE BOOK NO. CADD FILE NAME

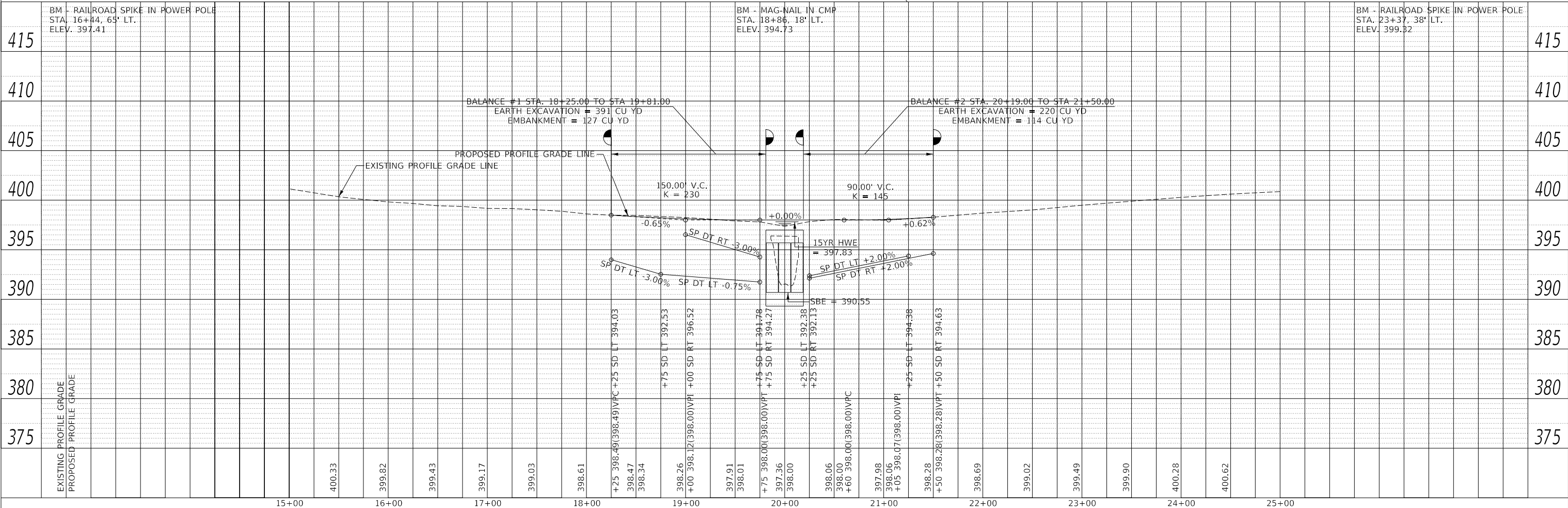
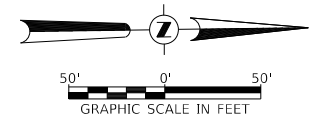
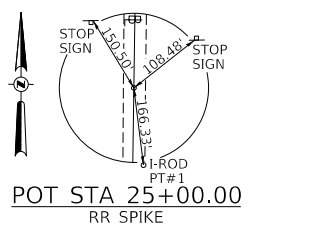
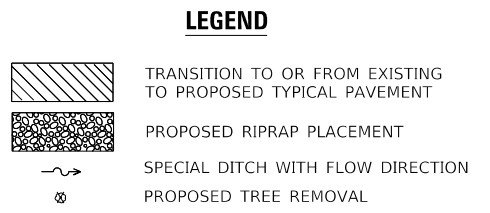
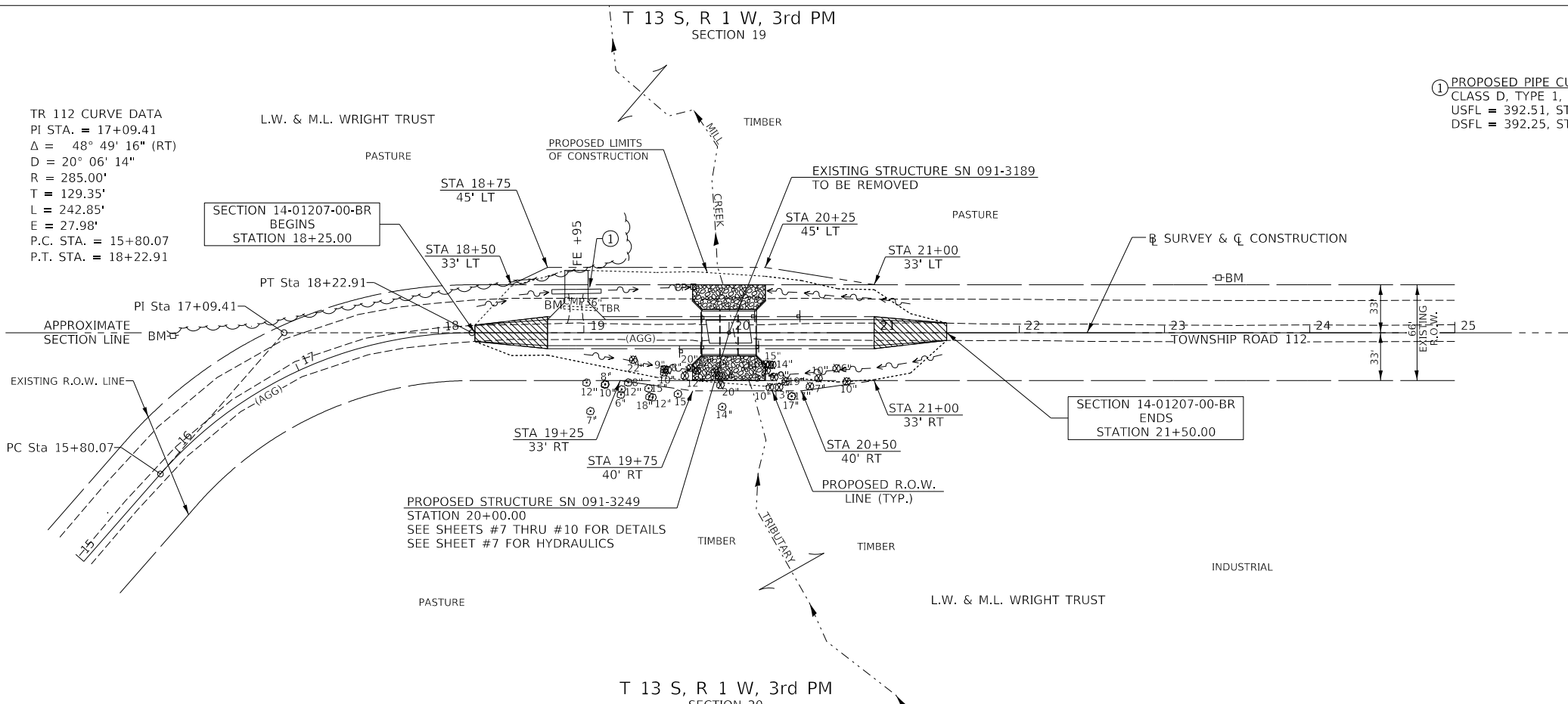
DATE	
BY	
PROFILE	SURVEYED PLOTTED GRADES CHECKED NOTE BOOK NO. STRUCTURE NOTATION SHEET

MODEL: SPODELMAMES  
FILE NAME: V:\371 - TR 112 over Mill Creek Trib. Union\CAD\CADD Sheets\371ap001.dgn



TR 112 CURVE DATA  
PI STA. = 17+09.41  
Δ = 48° 49' 16" (RT)  
D = 20° 06' 14"  
R = 285.00'  
T = 129.35'  
L = 242.85'  
E = 27.98'  
P.C. STA. = 15+80.07  
P.T. STA. = 18+22.91

① PROPOSED PIPE CULVERT  
CLASS D, TYPE 1, 36" x 34"  
USFL = 392.51, STA 18+78.00, 28.1' LT  
DSFL = 392.25, STA 19+12.00, 28.6' LT



USER NAME = BNebe1	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 6/1/2021	DATE -	REVISED -

**UNION COUNTY  
TOWNSHIP ROAD 112  
OVER MILL CREEK TRIBUTARY**

SCALE: 1"=50'  
SHEET 1 OF 1 SHEETS  
STA. 18+25.00 TO STA. 21+50.00

RT#	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	6
CONTRACT NO. 99670				
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. 09T5(280)		

B.M.: RR Spike in Power Pole Sta. 16+44, 65' Lt. Elev. 397.41  
 Mag-nail in C.M.P. Sta. 18+86, 18' Lt. Elev. 394.73  
 RR Spike in Power Pole Sta. 23+37, 38' Lt. Elev. 399.32

Existing Structure:  
 Single span steel stringer superstructure with timber decking supported on closed concrete abutments.  
 The structure is ~30'-0" back to back of abutments, 16'-0" out to out of deck and is not skewed.  
 Str. No. 091-3189

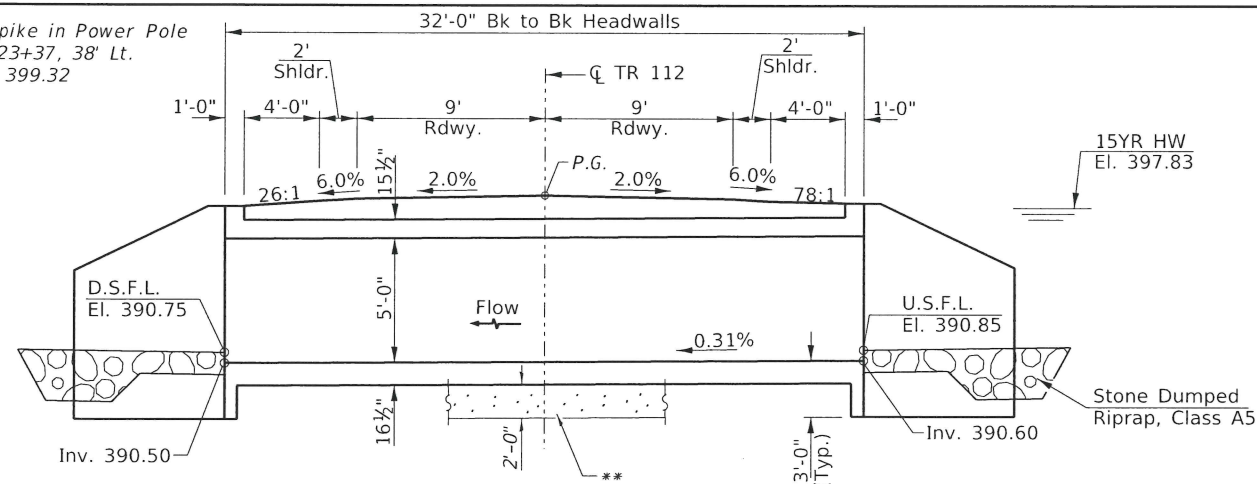
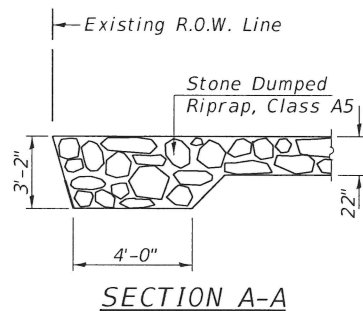
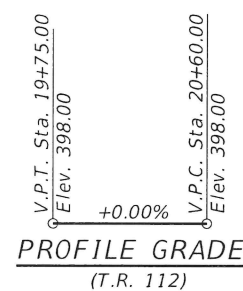
Salvage: The existing steel stringers shall be salvaged.  
 (See Special Provisions)

Road to be closed to traffic during construction.

MILL CREEK TRIBUTARY BUILT 202\_ BY COUNTY UNIT ROAD DISTRICT UNION COUNTY SEC. 14-01207-00-BR T.R. 112 STATION 20+00.00 F.A. PROJ. NO. 09T5(280) STR. NO. 091-3249 LOADING HL-93

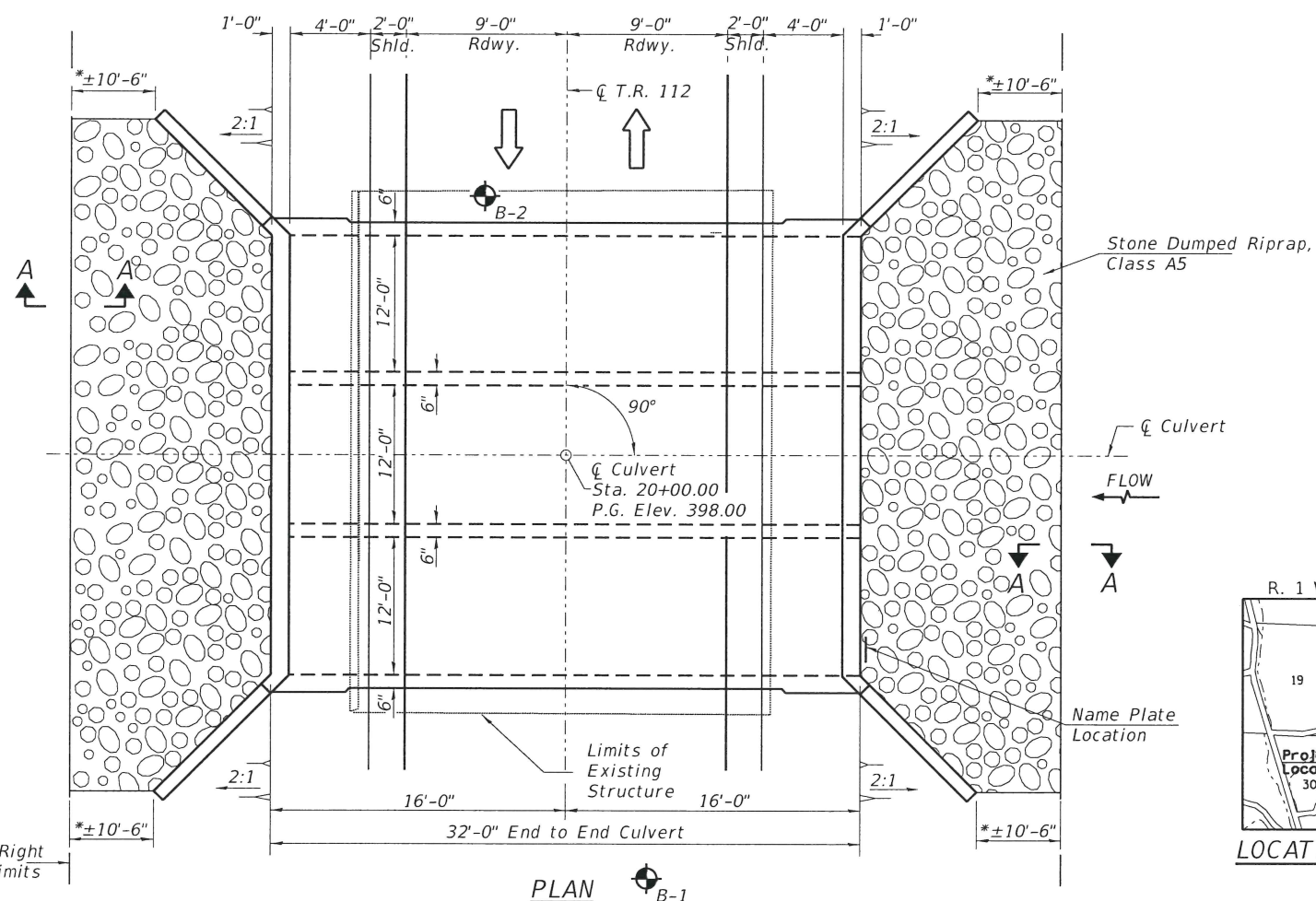
**NAME PLATE**

Locate Name Plate at East Headwall S.E. Corner of Culvert (See Std. 515001)

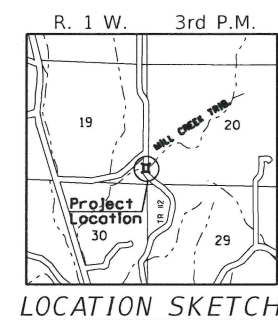


**LONGITUDINAL SECTION**

\*\*Unsuitable Material Removal and Replacement with P.G.E. Limits are 2' outside the bottom slab and extends the length of the barrel.



**PLAN**



LOCATION SKETCH

**GENERAL NOTES**

For backfilling and embankment see Standard Specifications.  
 Precast culvert option will not be allowed.  
 All construction joints shall be bonded.  
 Exposed concrete edges shall have a 3/8" chamfer unless otherwise noted.  
 Layout of the stone riprap/slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.  
 A distance of half the length of the wingwall, but not less than 6 feet of the barrel shall be poured monolithically with the wingwall.  
 All excavation required for construction of the existing structure or construction of the culvert as shown in these plans and in accordance with the Standard Specifications shall be included in the cost of Concrete Box Culverts.  
 Areas of excavation required for construction of the new culvert shall be backfilled with Porous Granular Embankment up to the top of slab elevation. See Special Provisions for more detailed information.  
 The required depth of removal and replacement of unsuitable materials may be adjusted by the Engineer to account for variable subsurface conditions.

**DESIGN SPECIFICATIONS**

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

**LOADING HL-93**

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

**DESIGN STRESSES**

**FIELD UNITS**

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

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Concrete Box Culverts	CU YD	146.5
Reinforcement Bars	POUND	20,880
① Removal of Existing Structures	EACH	1
Name Plates	EACH	1
Stone Dumped Riprap, Class A5	TON	220
Removal & Disposal of Unsuitable Material	CU YD	100
① Membrane Waterproofing System for Buried Structures	SQ. YD.	155
Geocomposite Wall Drain	SQ. YD.	155
① Porous Granular Embankment	CU YD	250
① See Special Provisions		

**WATERWAY INFORMATION**

Drainage Area = 2.56 Sq. Mi. Low Grade Elev. = 398.00 @ Sta. 20+00.00

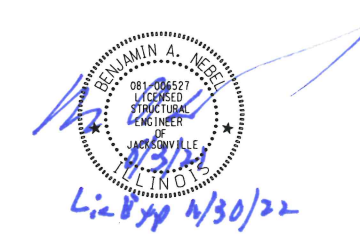
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	15	1,615	107	180	397.83	1.04	0.46	398.87	398.29
Base	100	2,530	107	180	398.31	1.05	0.61	399.36	398.92

**OVER-THE-ROAD AREA**

Freq. Yr.	Existing	Proposed
15	12	0
100	91	71

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

*[Signature]* 6/3/21  
 Illinois Structural No. 6527 Expires 11/30/2022



DESIGNED	Z.L.
CHECKED	C.T.M.
DRAWN	Z.L.
CHECKED	C.T.M./B.A.N.

Hutchinson Engineering, Inc.  
 Jacksonville - Pearis - Quad Cities - Shorewood Since 1945

USER NAME = BNeel	DESIGNED ZL	REVISED -
PLOT SCALE = 2.0000' / in.	DRAWN ZL	REVISED -
PLOT DATE = 6/3/2021	CHECKED - CTM/BAN	REVISED -
	DATE -	REVISED -

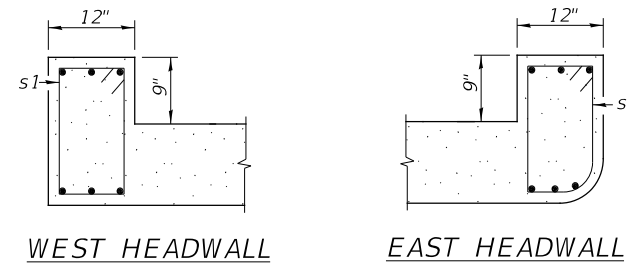
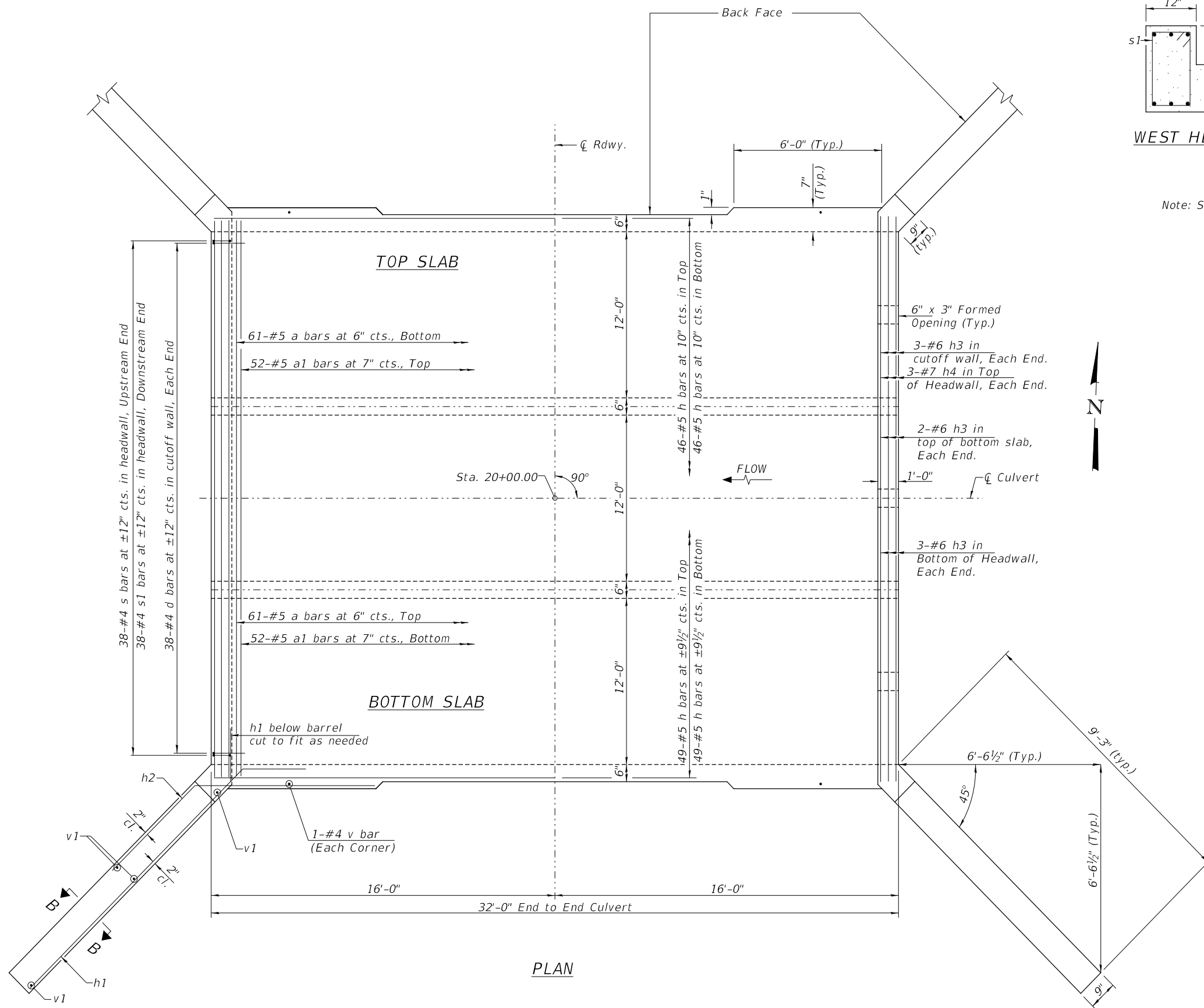
UNION COUNTY HIGHWAY DEPARTMENT

TOWNSHIP ROAD 112 OVER MILL CREEK TRIBUTARY GENERAL PLAN AND ELEVATION

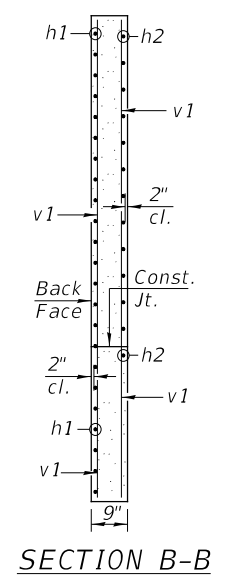
SCALE: N/A SHEET 1 OF 4 SHEETS STA. N/A TO STA. N/A

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	7
S.N. 091-3249		CONTRACT NO. 99670		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID. PROJECT NO. 09T5(280)		

MODEL: Default TR 112 over Mill Creek Trib. (Union)CADDDCADP Sheets374c001.dgn FILE NAME: V:\M374\_



**DETAIL A**  
 Note: See Sheet 4 of 4 for Detail A location.



**PLAN**

MODEL: s:\09BELMAME  
 FILE NAME: V:\1374 - TR 112 over Mill Creek Trib. (Union)\CADD\CADD Sheets\4374c003.dgn

**Hutchinson Engineering, Inc.**  
 Jacksonville • Peoria • Quad Cities • Shawnee  
 Since 1945

USER NAME = BNebe1	DESIGNED ZL	REVISED -
PLOT SCALE = 2,000' / in.	DRAWN ZL	REVISED -
PLOT DATE = 6/1/2021	CHECKED CTM/BAN	REVISED -
	DATE -	REVISED -

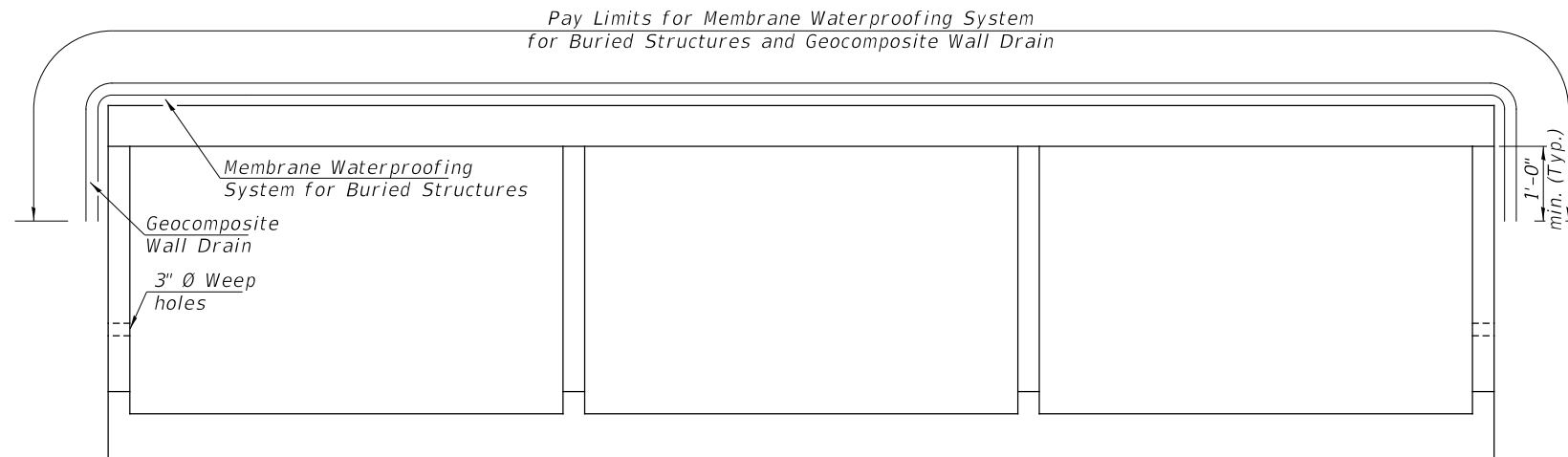
**UNION COUNTY  
 HIGHWAY DEPARTMENT**

**TOWNSHIP ROAD 112 OVER MILL CREEK TRIBUTARY  
 CULVERT DETAILS**

SCALE: N/A	SHEET 2 OF 4 SHEETS	STA. N/A	TO STA. N/A
------------	---------------------	----------	-------------

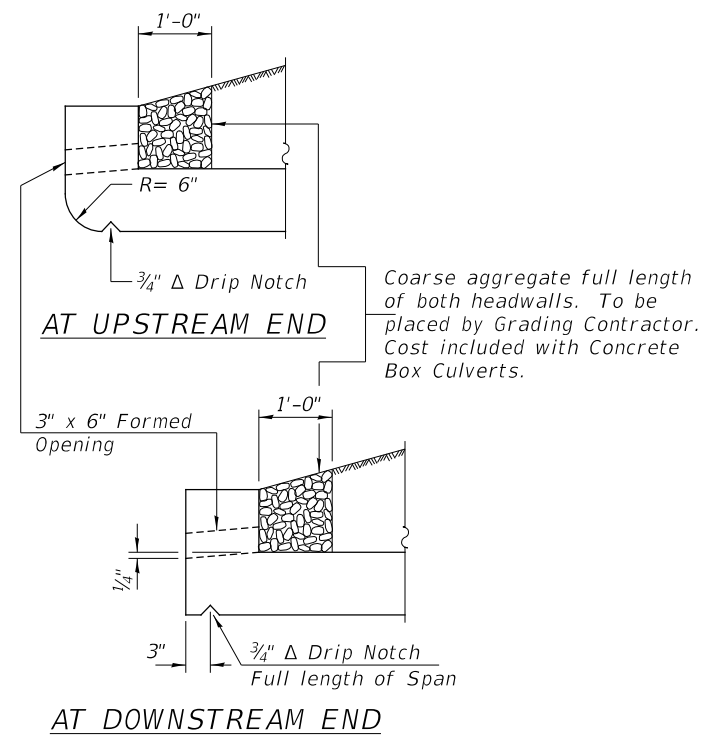
RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	8
S.N. 091-3249		CONTRACT NO. 99670		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID. PROJECT NO. 09T5(280)		



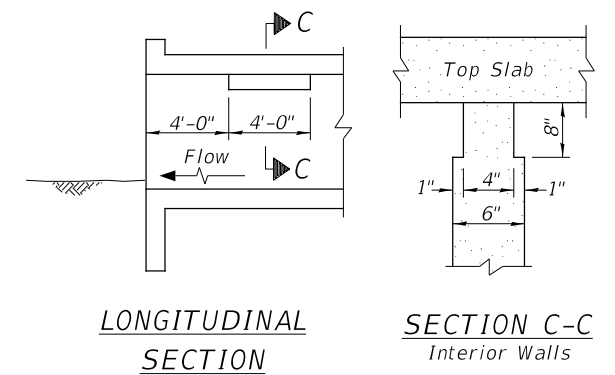


Pay Limits for Membrane Waterproofing System  
for Buried Structures and Geocomposite Wall Drain

MEMBRANE WATERPROOFING FOR BURIED STRUCTURES  
AND GEOCOMPOSITE WALL DRAIN DETAIL



DRAIN DETAIL



LONGITUDINAL  
SECTION

SECTION C-C  
Interior Walls

Note: Notch by rough-finished board attached to and removed with formwork, each interior wall. (Do not chamfer)

PHOEBE NESTING SITE DETAIL  
(Downstream End Only - Cost included with Concrete Box Culverts)

MODEL: s:\09EL\NAMES  
FILE NAME: V:\1274 - TR 112 over Mill Creek Trib. (Union)\CADD\CADD\_Sheets\4374c003.dgn

**Hutchison Engineering, Inc.**  
Jacksonville - Pearis - Ovid Cities - Shorewood  
Since 1945

USER NAME = BNeibel	DESIGNED ZL	REVISED -
	DRAWN ZL	REVISED -
PLOT SCALE = 2,000' / in.	CHECKED CTM/BAN	REVISED -
PLOT DATE = 6/1/2021	DATE -	REVISED -

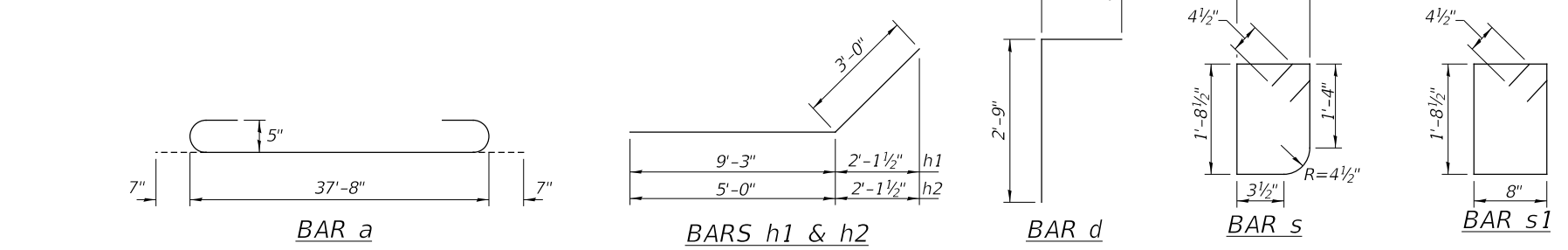
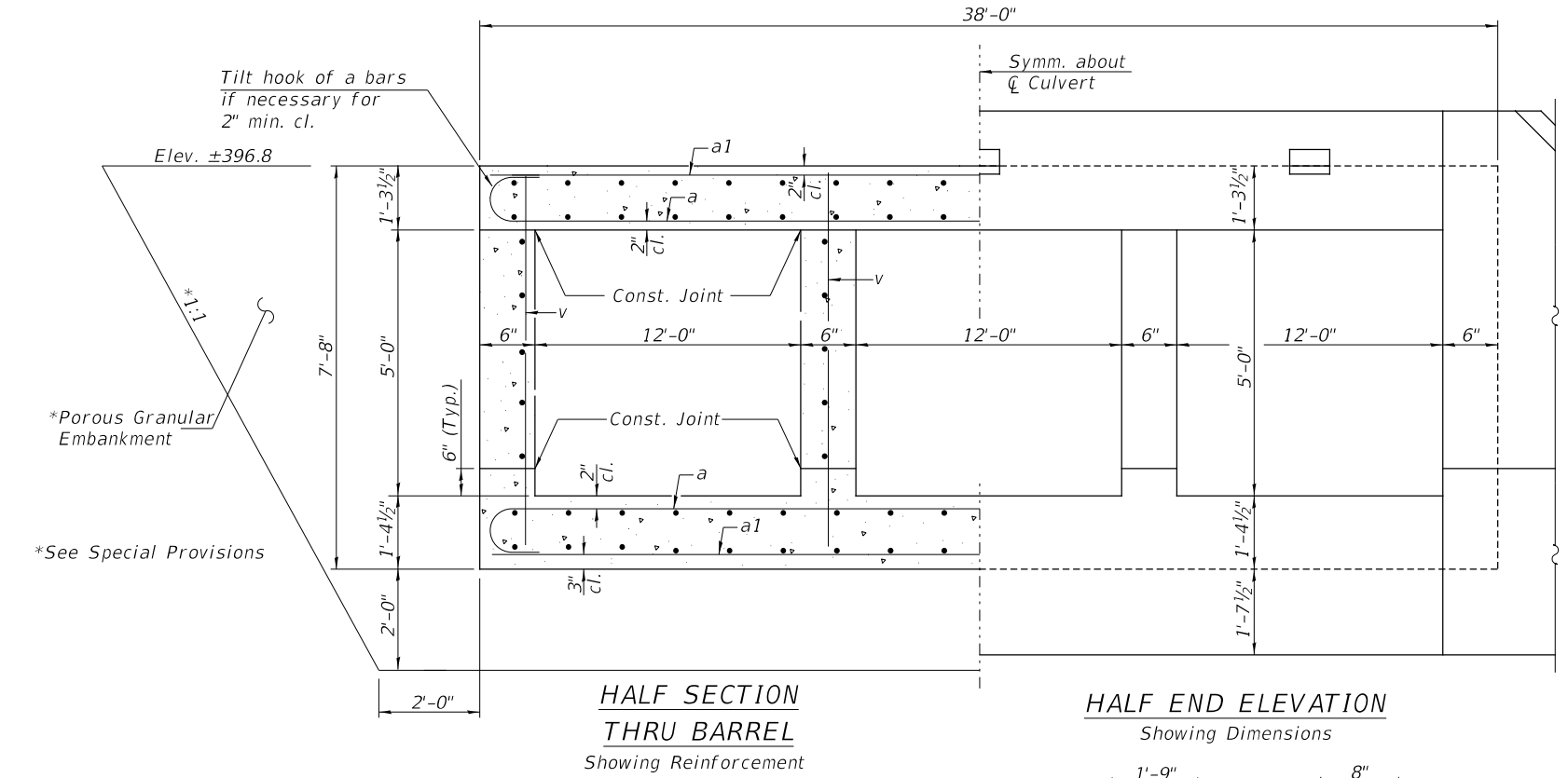
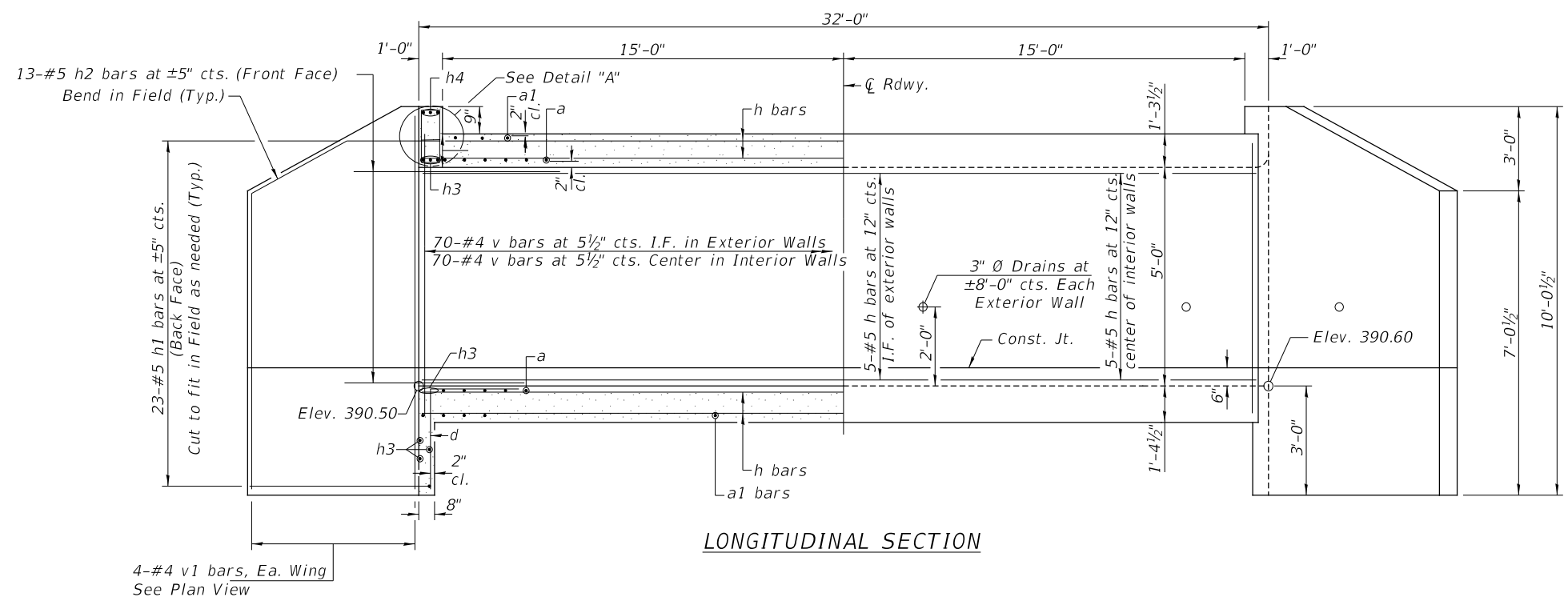
**UNION COUNTY  
HIGHWAY DEPARTMENT**

**TOWNSHIP ROAD 112 OVER MILL CREEK TRIBUTARY  
CULVERT DETAILS**

SCALE: N/A SHEET 3 OF 4 SHEETS STA. N/A TO STA. N/A

RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	9
S.N. 091-3249		CONTRACT NO. 99670		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID. PROJECT NO. 09T5(280)		

Notes:  
See Sheet 2 of 4 for Detail A.  
I.F. = Inner Face



**BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
a	122	#5	38'-10"	U
a1	104	#5	37'-8"	—
d	76	#4	4'-6"	L
h	210	#5	31'-8"	—
h1	92	#5	12'-3"	—
h2	52	#5	8'-0"	—
h3	16	#6	37'-0"	—
h4	6	#7	37'-0"	—
s	38	#4	5'-4"	D
s1	38	#4	5'-6"	□
v	284	#4	7'-2"	—
v1	16	#4	9'-8"	—
Concrete Box Culverts			CU YD	146.5
Reinforcement Bars			POUND	20,880

MODEL: 1400BELMAME  
 FILE NAME: V:\1274 - TR 112 over Mill Creek Trib. (Union)\CADD\CADD Sheets\4374c004.dgn

**Hutchinson Engineering, Inc.**  
 Jacksonville - Pearis - Quad Cities - Shorewood  
 Since 1945

USER NAME = BNebe1	DESIGNED ZL	REVISED -
PLOT SCALE = 2,000' / in.	DRAWN ZL	REVISED -
DATE = 6/1/2021	CHECKED CTM/BAN	REVISED -
	DATE -	REVISED -

**UNION COUNTY  
HIGHWAY DEPARTMENT**

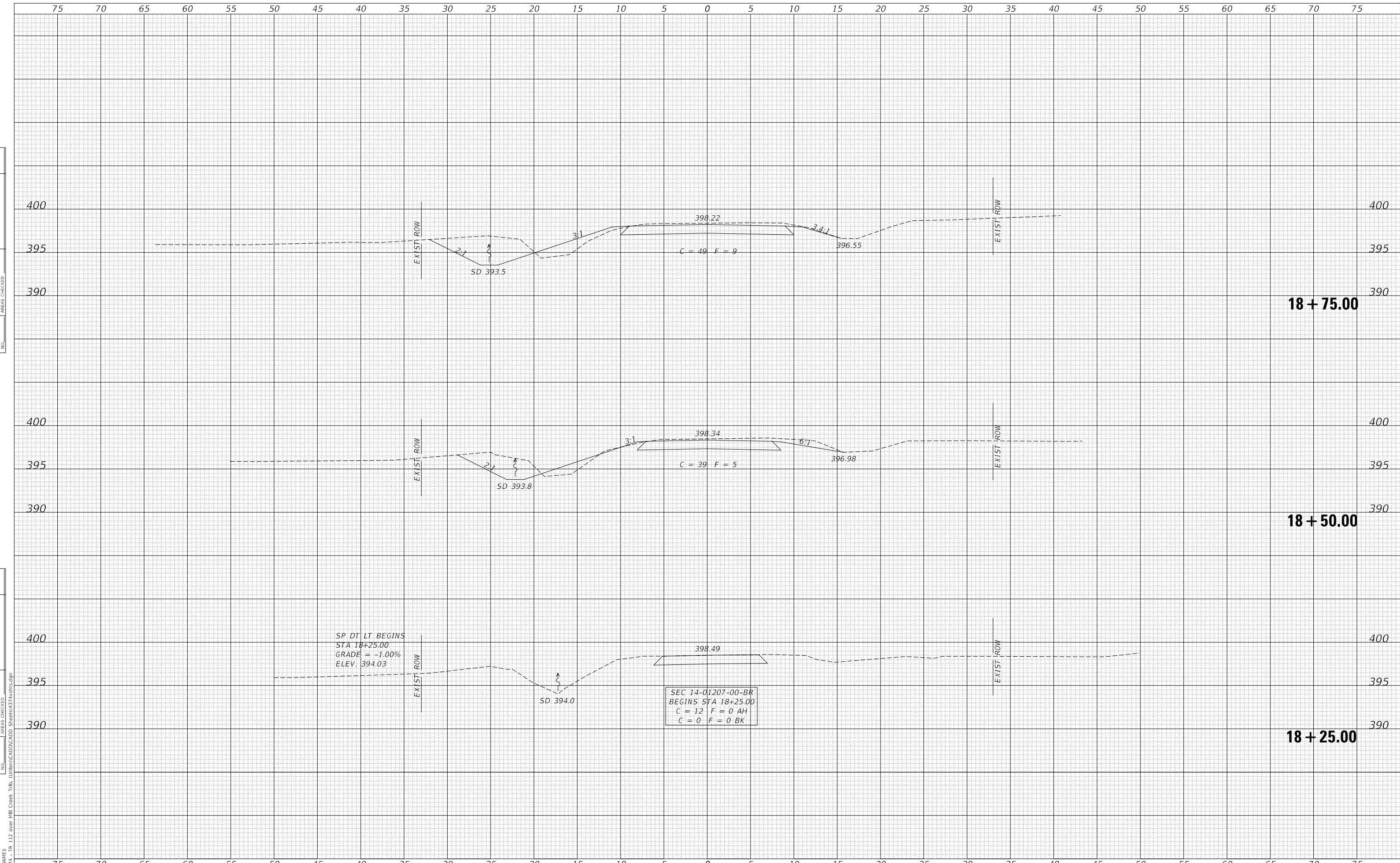
**TOWNSHIP ROAD 112 OVER MILL CREEK TRIBUTARY  
CULVERT DETAILS**

SCALE: N/A SHEET 4 OF 4 SHEETS STA. N/A TO STA. N/A

RT. TR 112	SECTION 14-01207-00-BR	COUNTY UNION	TOTAL SHEETS 16	SHEET NO. 10
S.N. 091-3249		CONTRACT NO. 99670		
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID. PROJECT NO. 09T5(280)

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: SPODELNAME\$  
 FILE NAME: V:\1371 - TR 112 over Mill Creek Trib. Union\CADD\CADD SHEETS\1371x8r1b.dgn

USER NAME = BNebe1	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 6/1/2021	DATE -	REVISED -

**UNION COUNTY  
 TOWNSHIP ROAD 112 OVER  
 MILL CREEK TRIBUTARY**

**CROSS SECTIONS  
 TOWNSHIP ROAD 112**

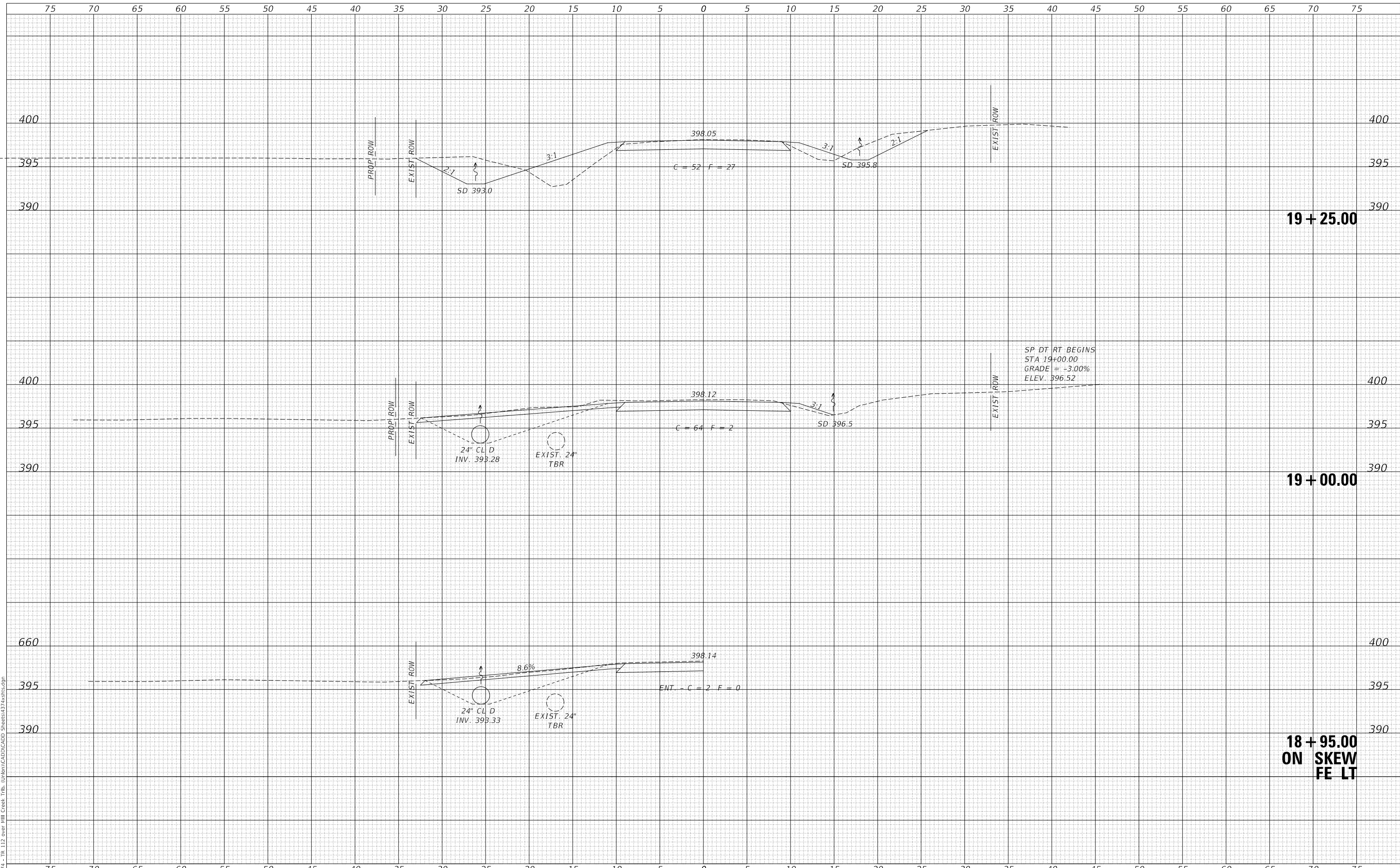
SCALE: 1"=5' SHEET 1 OF 6 SHEETS STA. 18+25.00 TO STA. 18+75.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	11
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 99670	
			FED. AID PROJECT NO. 09T5(280)	

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:\MODEL\MAMES  
 FILE NAME: V:\1374 - TR 112 over Mill Creek Trib. Union\CADD\CADD SHEETS\1374x1815.dgn



**19 + 25.00**

**19 + 00.00**

**18 + 95.00  
ON SKEW  
FE LT**

USER NAME = BNebe1	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 6/1/2021	DATE -	REVISED -

**UNION COUNTY  
 TOWNSHIP ROAD 112 OVER  
 MILL CREEK TRIBUTARY**

**CROSS SECTIONS  
 TOWNSHIP ROAD 112**

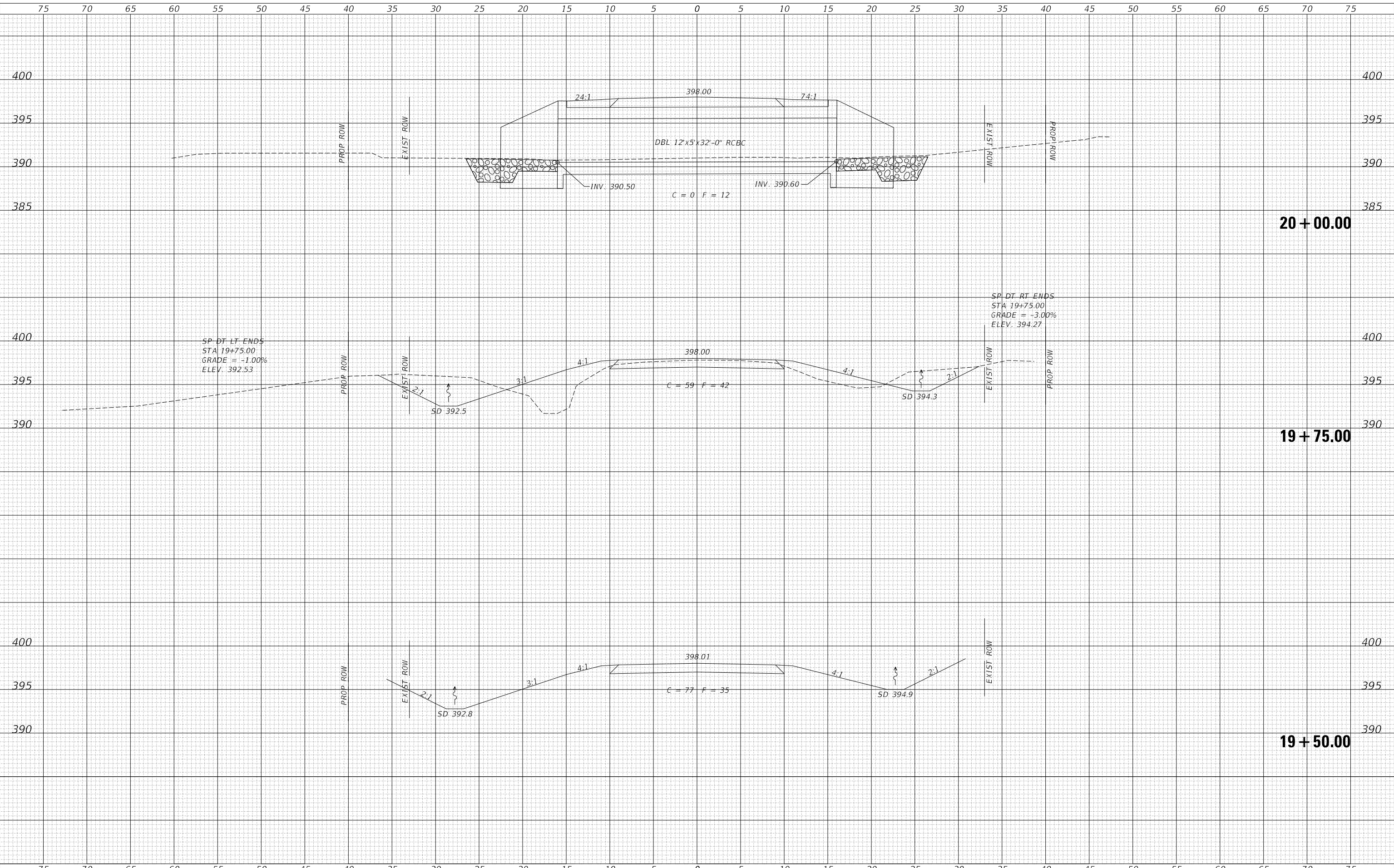
SCALE: 1"=5' SHEET 2 OF 6 SHEETS STA. 18+95.00 TO STA. 19+25.00

RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	12
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 99670	
			FED. AID PROJECT NO. 09T5(280)	

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: S:\MODEL\MAMES  
FILE NAME: V:\1371 - TR 112 over Mill Creek Trib. Union\CADD\CADD SHEETS\1371x8r1b.dgn



USER NAME = BNeibel	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 6/1/2021	DATE -	REVISED -

**UNION COUNTY  
TOWNSHIP ROAD 112 OVER  
MILL CREEK TRIBUTARY**

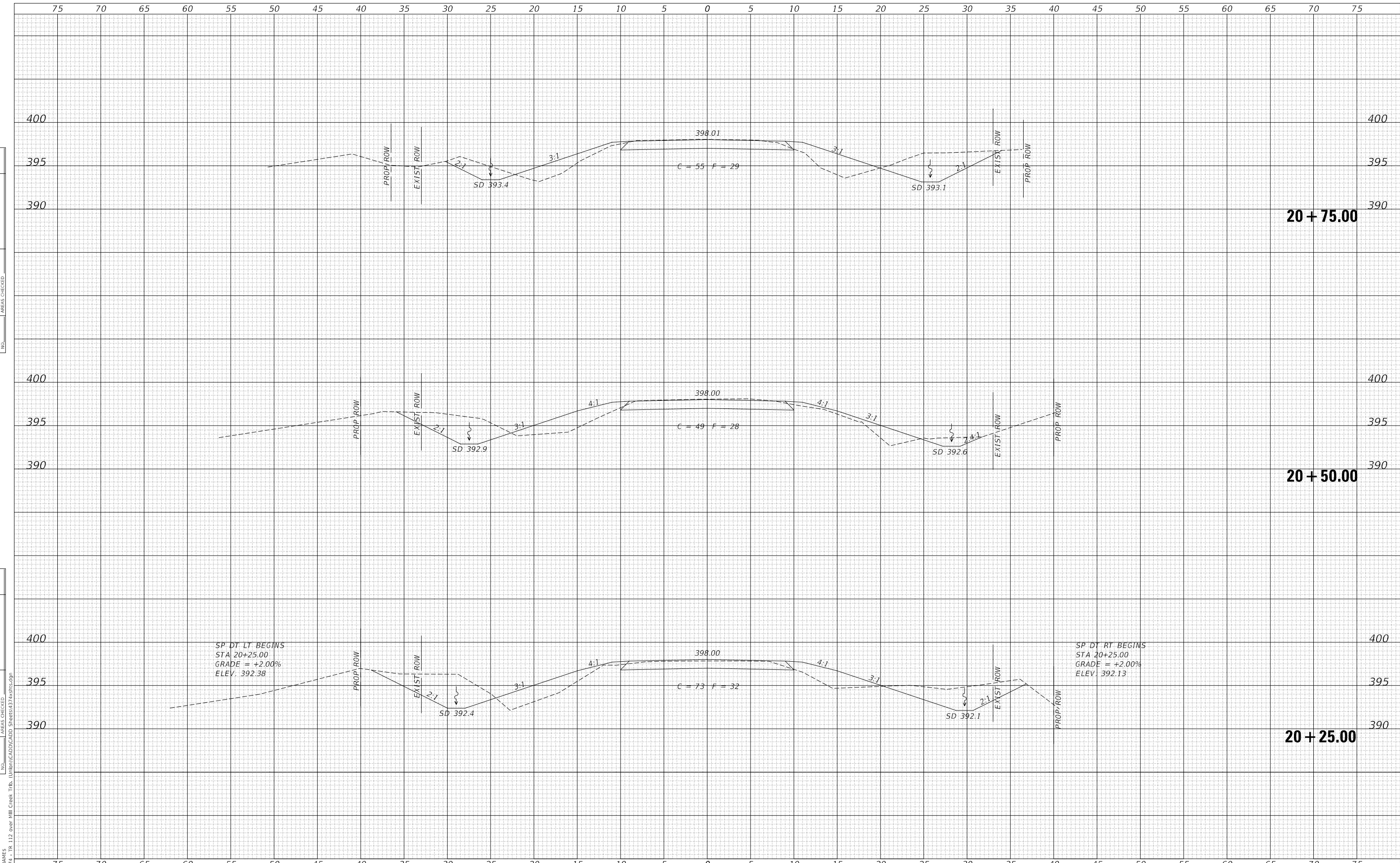
**CROSS SECTIONS  
TOWNSHIP ROAD 112**

SCALE: 1"=5'      SHEET 3 OF 6 SHEETS      STA. 19+50.00 TO STA. 20+00.00

RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	13
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 99670	
FED. AID PROJECT NO. 09T5(280)				

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

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



USER NAME = BNebe1	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 6/1/2021	DATE -	REVISED -

**UNION COUNTY  
TOWNSHIP ROAD 112 OVER  
MILL CREEK TRIBUTARY**

**CROSS SECTIONS  
TOWNSHIP ROAD 112**

SCALE: 1"=5'      SHEET 4 OF 6 SHEETS      STA. 20+25.00 TO STA. 20+75.00

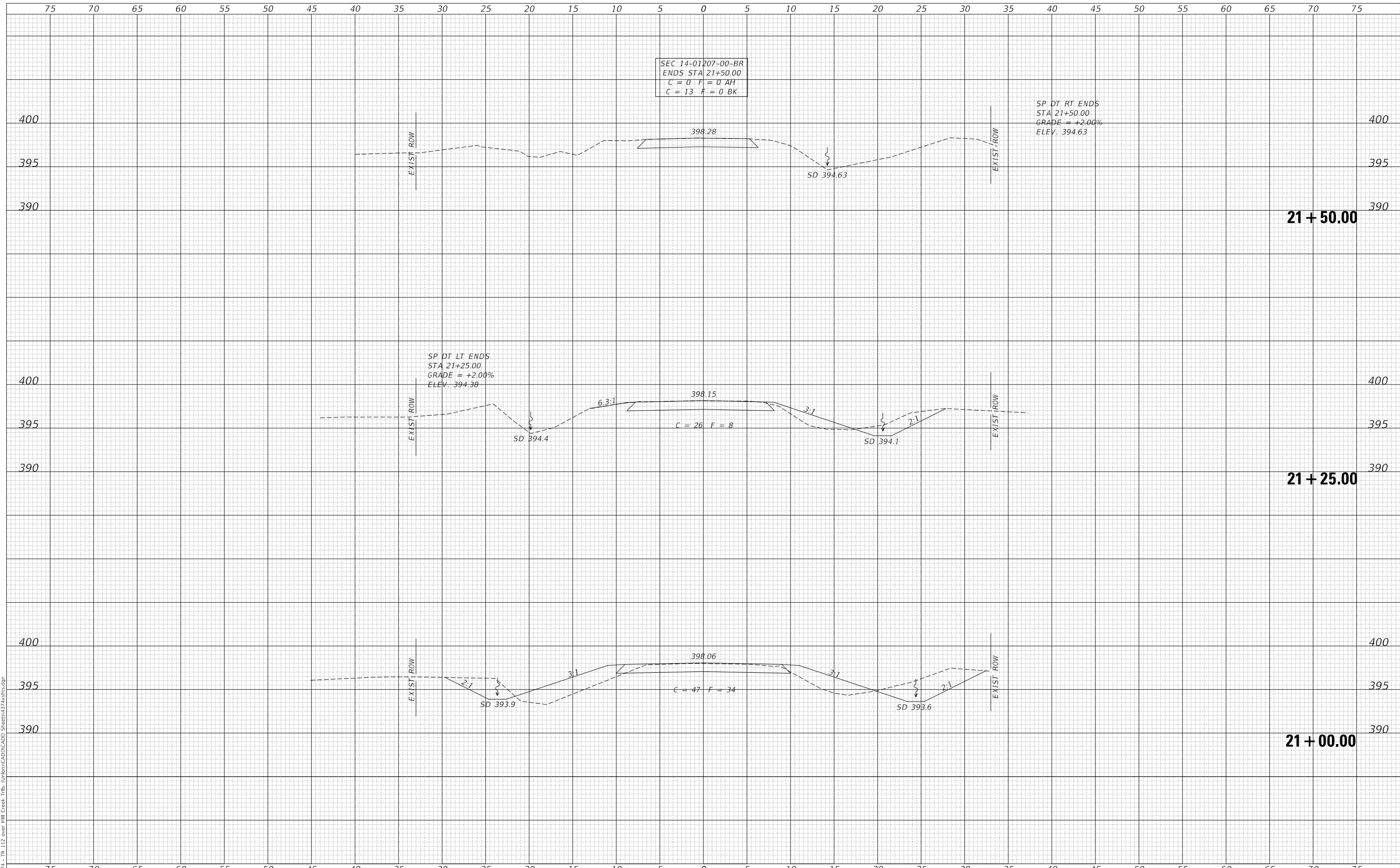
RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	14
FED. ROAD DIST. NO. 7      ILLINOIS			CONTRACT NO. 99670	
			FED. AID PROJECT NO. 09T5(280)	

MODEL: SPODELNAME\$  
FILE NAME: V:\1371 - TR 112 over Mill Creek Trib. Union\CADD\CADD SHEETS\1371x1816.dgn

DATE	
BY	
FINAL SURVEY	
NO. _____	
NOTE BOOK	
NO. _____	
TEMPLE	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
NO. _____	
NOTE BOOK	
NO. _____	
TEMPLE	
AREAS CHECKED	

MODEL: \$MODELNAME\$  
 FILE NAME: V:\1371 - TR 112 over Mill Creek Trib. Union\CADD\CADD SHEETS\1371x8r1b.dgn



SEC. 14-01207-00-BR  
 ENDS STA 21+50.00  
 C = 0 F = 0 AH  
 C = 13 F = 0 BK

SP DT RT ENDS  
 STA 21+50.00  
 GRADE = +2.00%  
 ELEV. 394.63

SP DT LT ENDS  
 STA 21+25.00  
 GRADE = +2.00%  
 ELEV. 394.38

**UNION COUNTY  
 TOWNSHIP ROAD 112 OVER  
 MILL CREEK TRIBUTARY**

**CROSS SECTIONS  
 TOWNSHIP ROAD 112**

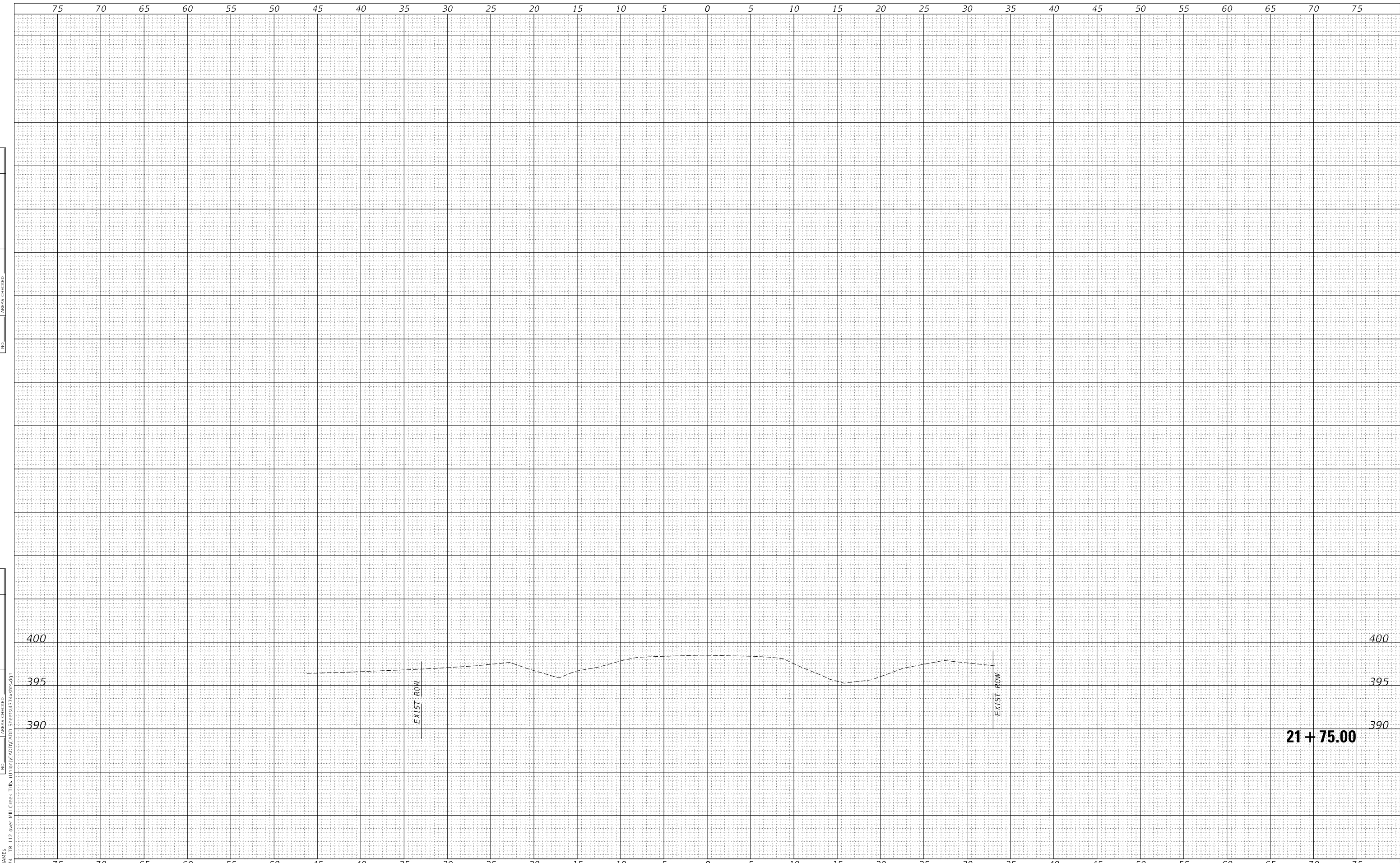
USER NAME = BNebe1	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 6/1/2021	DATE -	REVISED -

SCALE: 1"=5' SHEET 5 OF 6 SHEETS STA. 21+00.00 TO STA. 21+50.00

RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	15
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 99670	
FED. AID PROJECT NO. 09T5(280)				

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

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



21 + 75.00

USER NAME =	BNebe1
DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -

PLOT SCALE =	10.0000 ' / in.
PLOT DATE =	6/1/2021

**UNION COUNTY  
TOWNSHIP ROAD 112 OVER  
MILL CREEK TRIBUTARY**

**CROSS SECTIONS  
TOWNSHIP ROAD 112**

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

RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	14-01207-00-BR	UNION	16	16
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 99670	
FED. AID PROJECT NO. 09T5(280)				