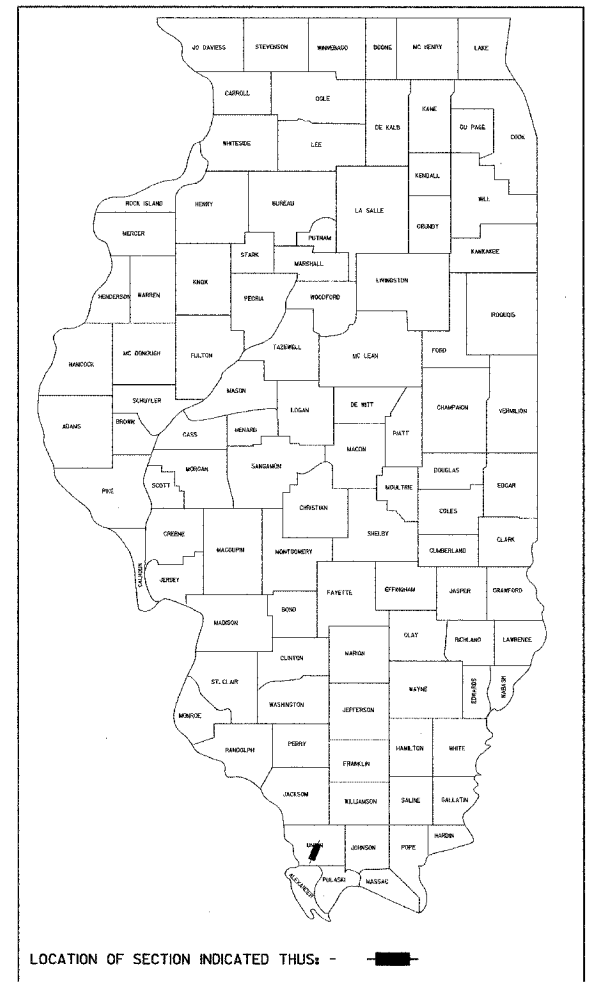


STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED BRIDGE REPLACEMENT AND REHABILITATION PROGRAM

ROUTE NO. T.R. 90	SECTION 02-01175 -00-BR	COUNTY UNION	TOTAL SHEETS 18	SHEET NO. 1
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT - BROS-181(29)	

CONTRACT NO. 99213



- INDEX OF SHEETS**
1. COVER SHEET
 2. SUMMARY OF QUANTITIES AND GENERAL NOTES
 3. TYPICAL SECTIONS
 4. PLAN AND PROFILE
 - 5.-12. STATION CROSS SECTIONS
 - 13.-17. BRIDGE PLANS
 18. BORINGS

SCALES

PLAN	0' = 50'
PROFILE HORIZ.	0' = 50'
PROFILE VERT.	0' = 5'
CROSS SECTIONS	0' = 5'

PROJECT BROS-181(29) SECTION 02-01175-00-BR UNION COUNTY T.R. 90 / LINGLE CREEK ROAD C-99-543-04

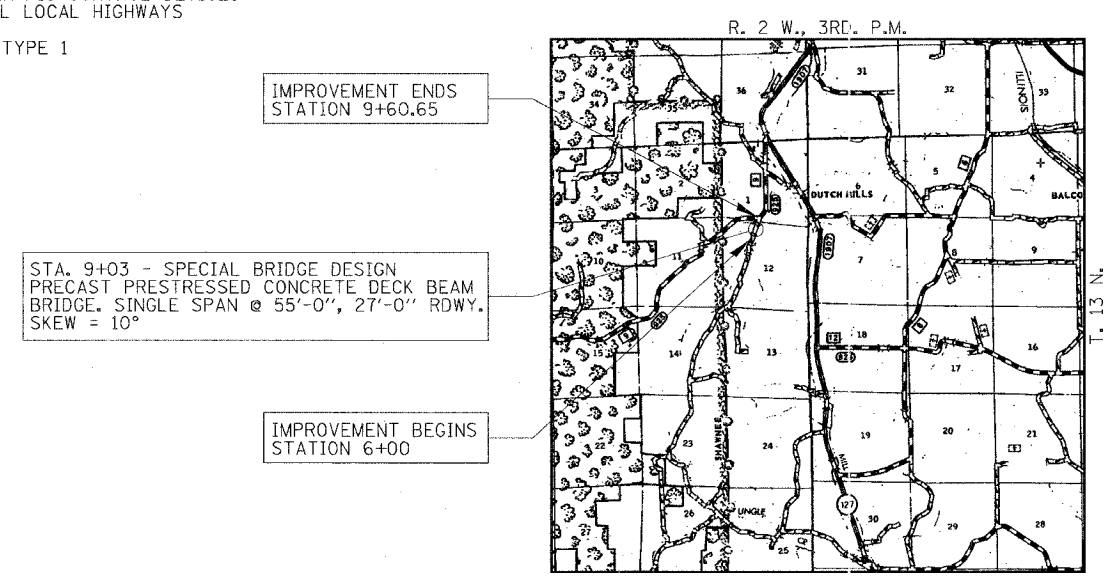
- HIGHWAY STANDARDS:**
- 515001-02 NAME PLATE FOR BRIDGES
 - 630001-05 STEEL PLATE BEAM GUARDRAIL
 - 631026-02 TRAFFIC BARRIER TERMINAL, TYPE 5 & 5A
 - 702001-05 TRAFFIC CONTROL DEVICES
 - BLR 21-6 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
 - BLR 23-1 TRAFFIC BARRIER TERMINAL TYPE 1

UTILITIES

SOUTHERN ILLINOIS ELECTRIC CO-OP
7420 U.S. HIGHWAY 515
DONGOLA, ILLINOIS 62926

VERIZON
608 WEST UNION
MARION, ILLINOIS 62959

DESIGN FUNCTIONAL CLASSIFICATION:
LOCAL ROAD 0-250 ADT
DESIGN TRAFFIC: 200 ADT
DESIGN SPEED: 30 M.P.H.



LAYOUT

APPROXIMATE SCALE: 0 1 MILE

MAINLINE LENGTH OF SECTION = 360.65 FEET = 0.068 MILES
SIDEROAD LENGTH OF SECTION = 400.00 FEET = 0.076 MILES
GROSS LENGTH OF SECTION = 760.65 = 0.144 MILES

DEPT. OF TRANSPORTATION
RECEIVED
FEB 14 2005
CARBONDALE
DISTRICT 9 OFFICE



APPROVED *February 14 2005*
Bruce R. Boyd, P.E.
COUNTY ENGINEER

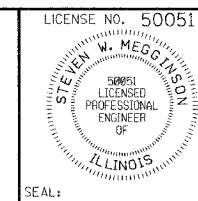
PASSED *February 16 2005*
Demi W. Hillbre
DISTRICT ENGINEER OF LOCAL ROADS & STREETS

APPROVED *Feb. 24 2005*
Mary C. Lamie
MARY C. LAMIE, P.E.
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: *February 2, 2005*

BY: *Steven W. Magnuson*

LICENSE EXPIRES: NOVEMBER 30, 2005



RLR
Rice, Berry and Associates
A Division of Hampton, Lenzini and Renwick, Inc.
Civil & Structural Engineers
801 S. Durkin Drive
Springfield, Illinois 62704
217-546-3400
P.O. Box 1036
DuQuoin, Illinois 62832
618-790-4637

CONTRACT NO. 99213

SUMMARY OF QUANTITIES

CODE NO	ITEM	CONSTRUCTION CODE	
		UNIT	QUANTITY
20100500	TREE REMOVAL, ACRES	ACRE	0.1
20200100	EARTH EXCAVATION	CU YD	245
20300100	CHANNEL EXCAVATION	CU YD	130
20400800	FURNISHED EXCAVATION	CU YD	915
> 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.6
28000300	TEMPORARY DITCH CHECKS	EACH	5
> 28100807	STONE DUMPED RIPRAP, CLASS A4	TON	310
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	725
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	19.0
> 50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1,485
50800105	REINFORCEMENT BARS	POUND	2,620
> 50901305	STEEL RAILING, TYPE S1 (SPECIAL)	FOOT	118
51201400	FURNISHING STEEL PILES HP10X42	FOOT	144
51204315	CONCRETE ENCASEMENT	CU YD	2.0
51500100	NAME PLATES	EACH	1
54200220	PIPE CULVERTS, CLASS D, TYPE 1, 15"	EACH	22
> 63000135	STEEL PLATE BEAM GUARDRAIL, TYPE B (SPECIAL)	FOOT	125
> 63100205	TRAFFIC BARRIER TERMINAL, TYPE 5A (SPECIAL)	EACH	4
> LR631020	TRAFFIC BARRIER TERMINAL TYPE 1	EACH	4
> XX004981	DEGRADING ROADWAY	SQ YD	450
> Z0000990	AGGREGATE FOR TEMPORARY ACCESS	TON	80
> Z0065000	SETTING PILES IN ROCK	EACH	8

SEE SPECIAL PROVISIONS

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2002," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- ALL CLEARING AND GRUBBING AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE CONSIDERED INCIDENTAL TO EARTH EXCAVATION. THE REMOVAL OF THE EXISTING BITUMINOUS SURFACE WILL BE PAID FOR AS EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN A METHOD APPROVED BY THE ENGINEER. PROPER DISPOSAL OF BITUMINOUS MATERIAL SHALL BE CONSIDERED INCIDENTAL TO EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- THE LOCATION OF EXISTING GAS MAINS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.
- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- THE CONTRACTOR SHALL CONSULT THE ENGINEER IN REGARD TO THE EXACT LENGTH OF PIPE CULVERTS BEFORE ORDERING THESE ITEMS.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES.

AGGREGATE SURFACE COURSE	2.05 TON/CU YD
STONE DUMPED RIPRAP	1.75 TON/CU YD
- THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE R.O.W. AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL)	0.6 ACRES
----------------------------	-----------
- TREES WITHIN THE RIGHT-OF-WAY WHICH INTERFERE WITH CONSTRUCTION SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER.
- EXISTING ROADWAY AND BRIDGE SHALL REMAIN OPEN TO LOCAL TRAFFIC AT ALL TIMES UNTIL THE PROPOSED ROADWAY AND BRIDGE ARE OPEN TO TRAFFIC.

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION (CU YD)	SHRINKAGE FACTOR	PERCENT USED	AVAILABLE EXCAVATION (CU YD)	EMBANKMENT REQUIRED (CU YD)	EARTHWORK BALANCE (CU YD)
MAINLINE - LINGLE CREEK ROAD						
STA. 6+00 TO STA. 8+74.82	128	25%	100%	96	848	-752
STA. 8+74.82 TO STA. 9+31.18	-	25%	100%	-	-	-
STA. 9+31.18 TO STA. 9+50.65	0	25%	100%	0	35	-35
SIDEROAD - OLD CAPE ROAD						
STA. 102+00 TO STA. 106+00	114	25%	100%	86	257	-171
CHANNEL EXCAVATION ENTRANCES	130	25%	70%	68	24	68
						-24
TOTAL	242			250	1164	-914
USE:	245					915

* AVAILABLE EXCAVATION = EXC. x (1-SHRINKAGE FACTOR) x % USED (FURN. EXC.)

TRAFFIC BARRIER TERMINAL, TYPE 5A (SPL.)

LOCATION	EACH
14.0' RT. STA. 8+60.2 TO 14.5' RT. STA. 8+72.8	1
14.0' LT. STA. 8+60.8 TO 12.9' LT. STA. 8+74.7	1
12.8' RT. STA. 9+28.8 TO 18.4' RT. STA. 9+40.7	1
14.2' LT. STA. 9+33.6 TO 20.3' LT. STA. 9+44.9	1
TOTAL	4

(SHOP CURVE 25'-0" R)
(SHOP CURVE 16'-0" R)

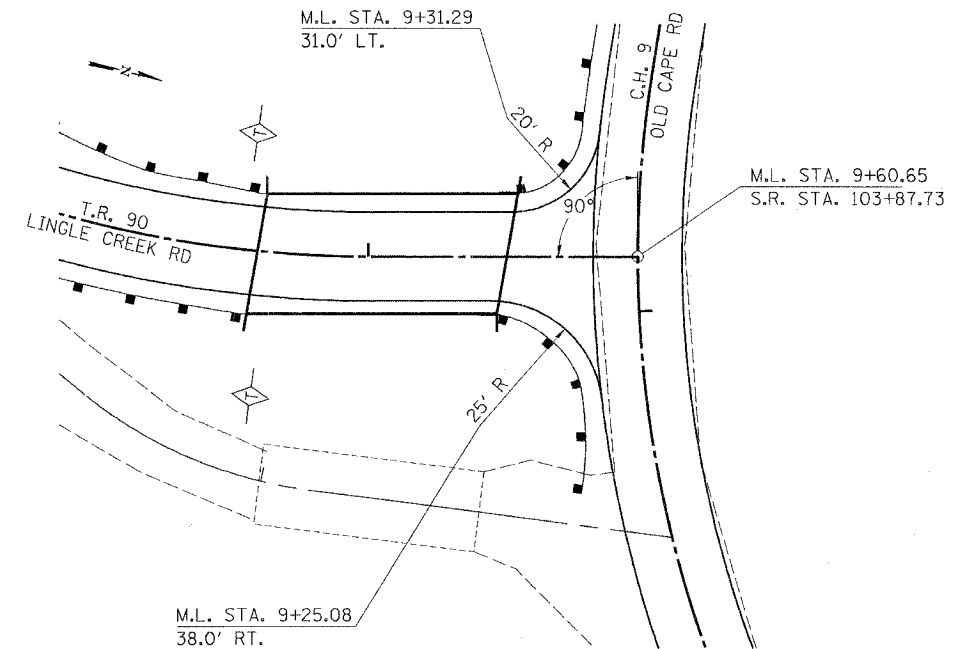
STEEL PLATE BEAM GUARD RAIL, TYPE B (SPL.)

LOCATION	FOOT
14.0' RT. STA. 8+12.8 TO 14.0' RT. STA. 8+60.2	50
14.0' LT. STA. 8+47.6 TO 14.0' LT. STA. 8+60.8	12.5
M.L. 18.4' RT. STA. 9+40.7 TO S.R. 14.4' RT. STA. 104+14.8	12.5
M.L. 20.3' LT. STA. 9+44.9 TO S.R. 14.0' RT. STA. 103+60.0	8.6
S.R. 14.0' RT. STA. 103+60.0 TO 14.0' RT. STA. 103+20.5	41.4
TOTAL	125

(SHOP CURVE 21'-0" R)
(SHOP CURVE 16'-0" R)

TRAFFIC BARRIER TERMINAL, TYPE 1

LOCATION	EACH
18.0' RT. STA. 7+89.5 TO 14.0' RT. STA. 8+12.8	1
18.0' LT. STA. 8+21.3 TO 14.0' LT. STA. 8+47.6	1
S.R. 14.4' RT. STA. 104+14.8 TO 17.9' RT. STA. 104+38.1	1
S.R. 18.0' RT. STA. 102+96.0 TO 14.0' RT. STA. 103+20.5	1
TOTAL	4



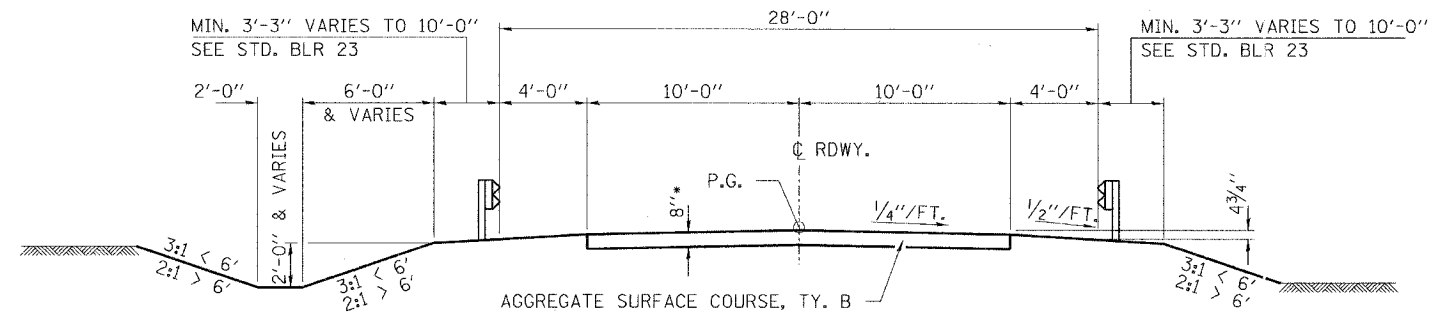
INTERSECTION DETAIL

HLR
 Rice, Berry and Associates
 A Division of Hampton, Lenzini and Renwick, Inc.
 Civil & Structural Engineers
 801 S. Durkin Drive
 Springfield, Illinois 62704
 217-546-3400
 P.O. Box 1036
 DuQuoin, Illinois 62832
 618-190-4637
 Account Number 12-92-0006-1
 Date: 02/02/05
 DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

SUMMARY OF QUANTITIES AND QUANTITY SCHEDULES
 SECTION 02-01175-00-BR
 COUNTY UNIT ROAD DISTRICT
 UNION COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
T.R. 90	02-01175-00-BR	UNION	18	3
FED. ROAD DIST. NO.	ILL. PROJ. NO.	FED. AID PROJECT NO.	BROS-181(29)	

CONTRACT NO. 99213



SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

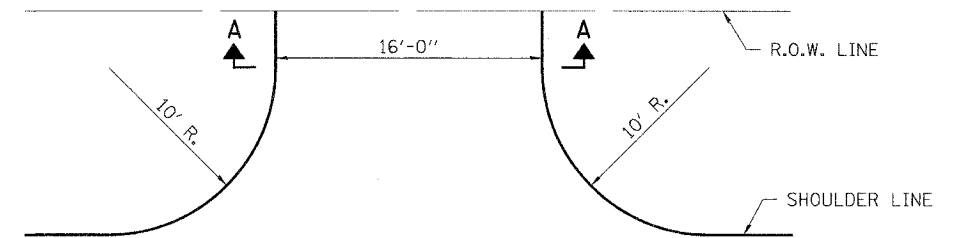
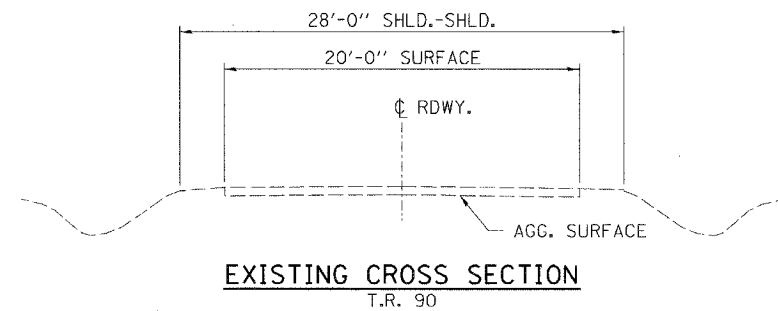
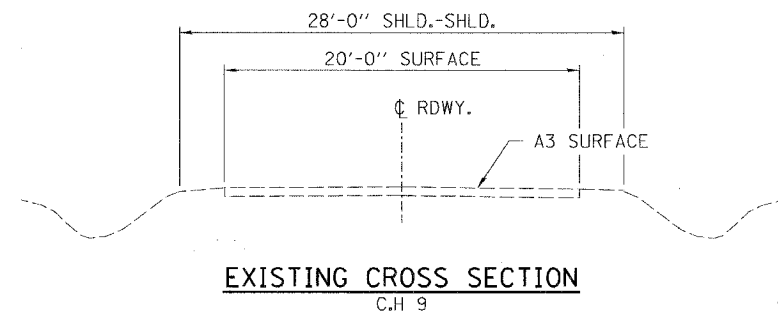
ROAD CLASSIFICATION - LOCAL ROAD ADT 0-250
CURRENT ADT 0-150
DESIGN SPEED: 30 M.P.H.

TYPICAL CROSS SECTION

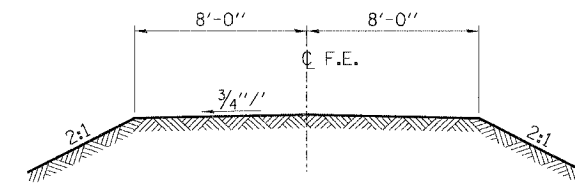
M.L. STA. 6+00 TO 8+75.01
M.L. STA. 9+31.18 TO 9+60.65
(SEE INTERSECTION DETAIL SHEET 2)
*S.R. STA. 102+00 TO STA. 106+00

TRANSITION FROM PROPOSED ROADWAY TO THE
EXISTING ROADWAY IS TO BE CONSTRUCTED FROM
M.L. STA. 6+00 TO STA. 6+50
S.R. STA. 102+00 TO STA. 102+50 AND FROM
S.R. STA. 105+50 TO STA. 106+00

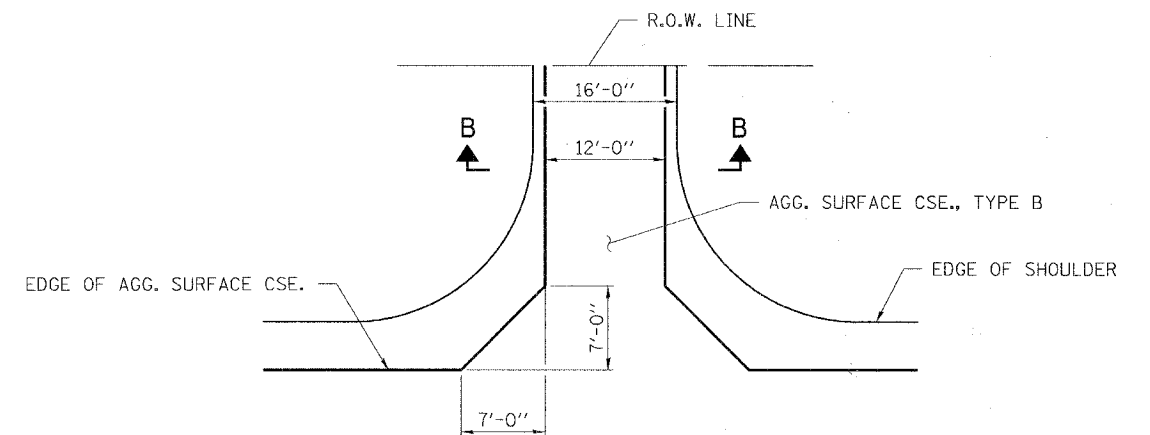
* AGGREGATE SURFACE THICKNESS VARIES TO
12"± ON SIDEROAD. SURFACE COURSE SHALL
BE PLACED TO ALLOW LOCAL TRAFFIC ACCESS.



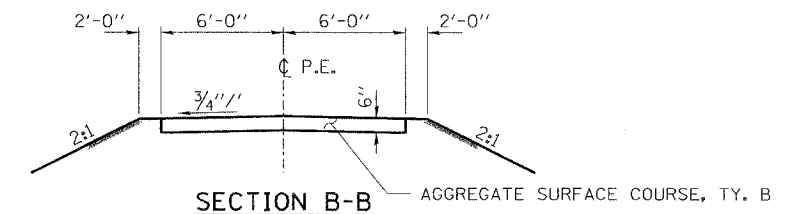
FIELD ENTRANCE DETAIL



SECTION A-A



PRIVATE ENTRANCE DETAIL



SECTION B-B

HLR

Rice, Berry and Associates
A Division of Hampton,
Lenzini and Renwick, Inc.
Civil & Structural Engineers
801 S. Durkin Drive
Springfield, Illinois 62704
217-546-3400

Account Number
12-92-0006-1
Date: 02/02/05

P.O. Box 1036
DuQuoin, Illinois 62832
618-790-4637

DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

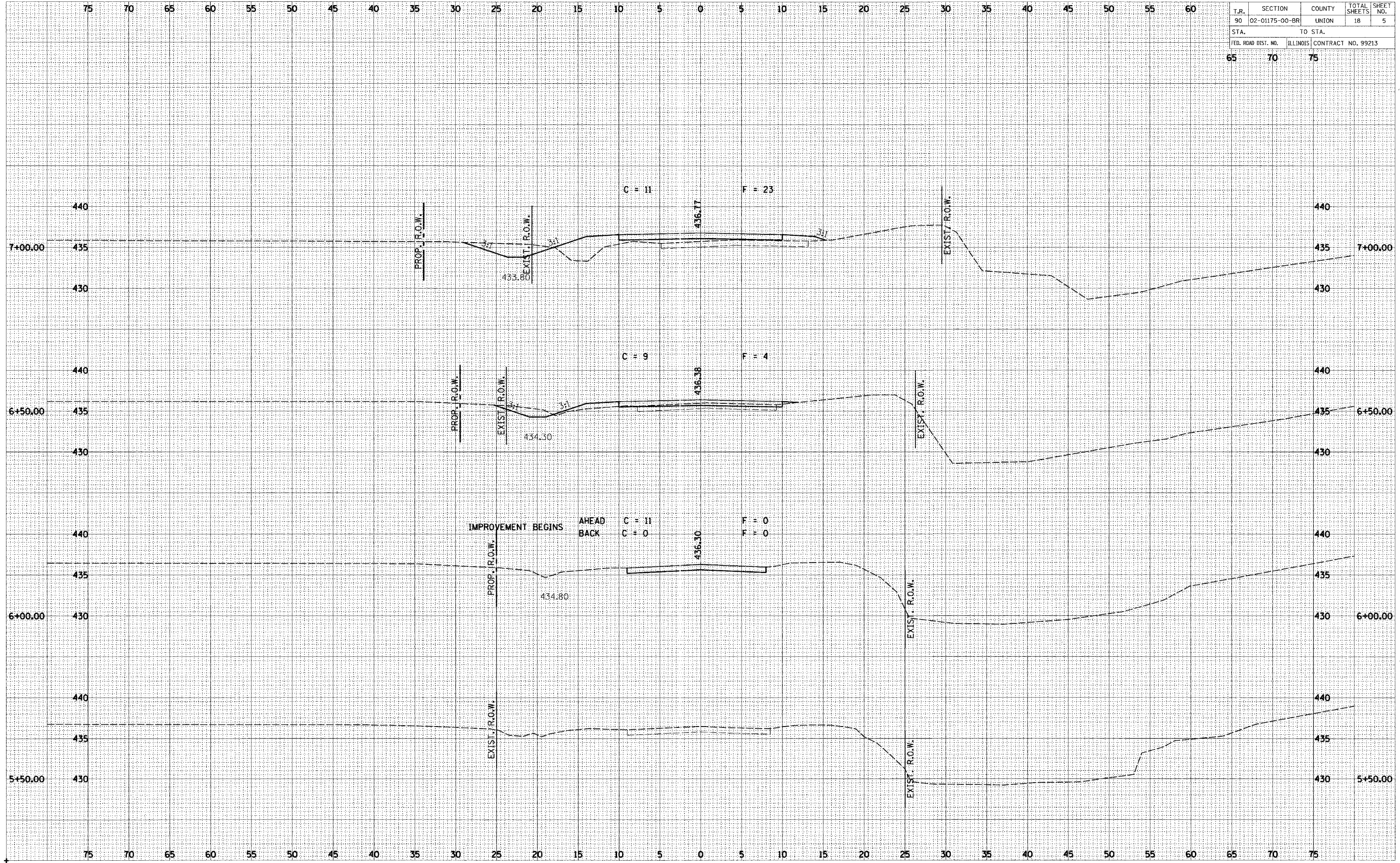
TYPICAL CROSS SECTIONS

SECTION 02-01175-00-BR
COUNTY UNIT ROAD DISTRICT
UNION COUNTY

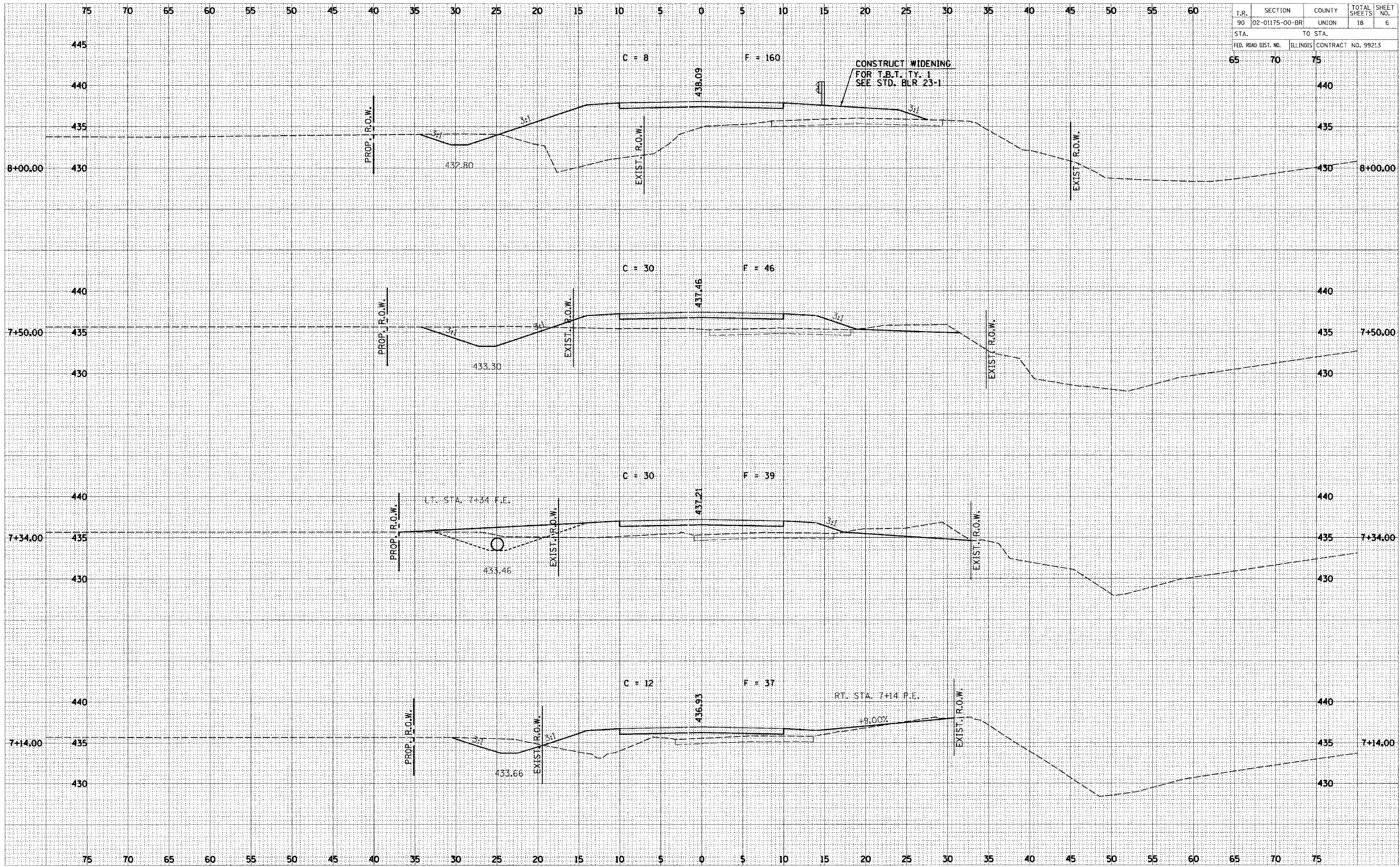
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	02-01175-00-BR	UNION	18	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 99213		
65	70	75		

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 FINAL SURVEY _____
 NOTE BOOK _____
 NO. _____

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 ORIGINAL SURVEY _____
 NOTE BOOK _____
 NO. _____



T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	02-01175-00-BR	UNION	18	6
STA.		TO STA.		
65		75		
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 99213		



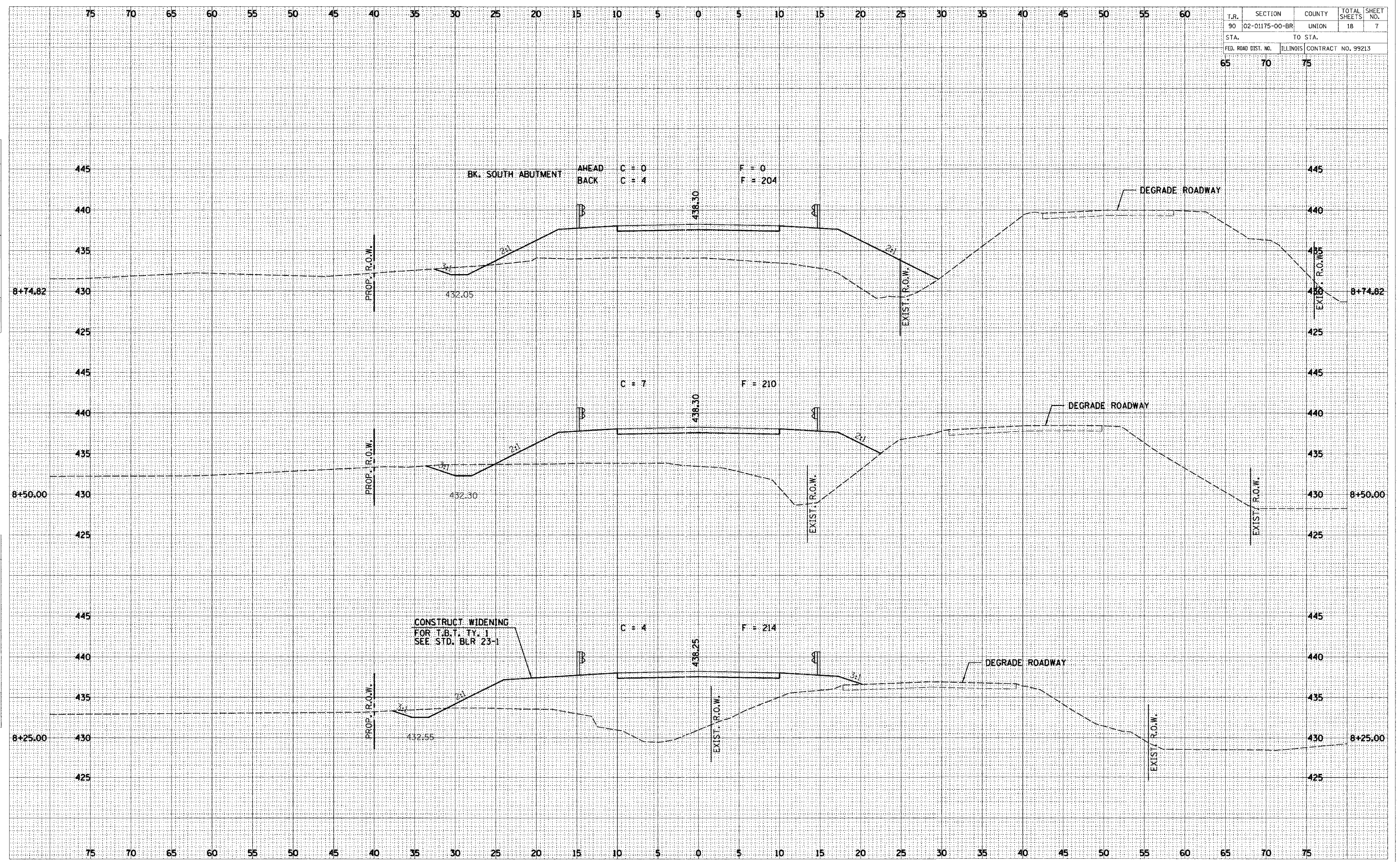
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 SURVEYED: _____ PLOTTED: _____
 CHECKED: _____ NOTE BOOK: _____
 AREAS CHECKED: _____

BY: _____ DATE: _____
 SURVEYED: _____ PLOTTED: _____
 CHECKED: _____ NOTE BOOK: _____
 AREAS CHECKED: _____

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	02-01175-00-BR	UNION	18	7
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 99213	
65	70	75		

BY _____ DATE _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____

BY _____ DATE _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____

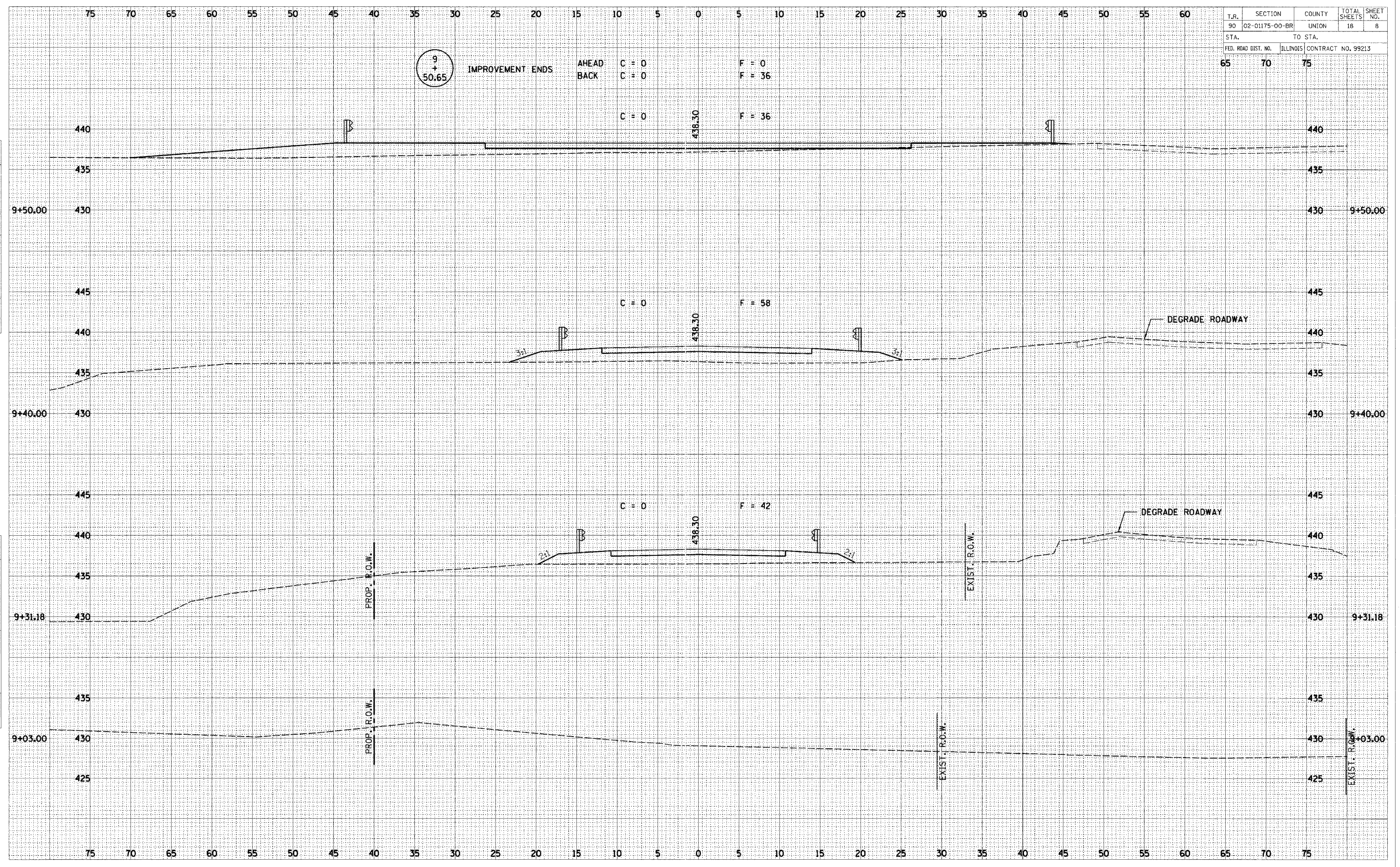


T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	02-01175-00-BR	UNION	18	8
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 99213	
65	70	75		

9
+
50.65

IMPROVEMENT ENDS

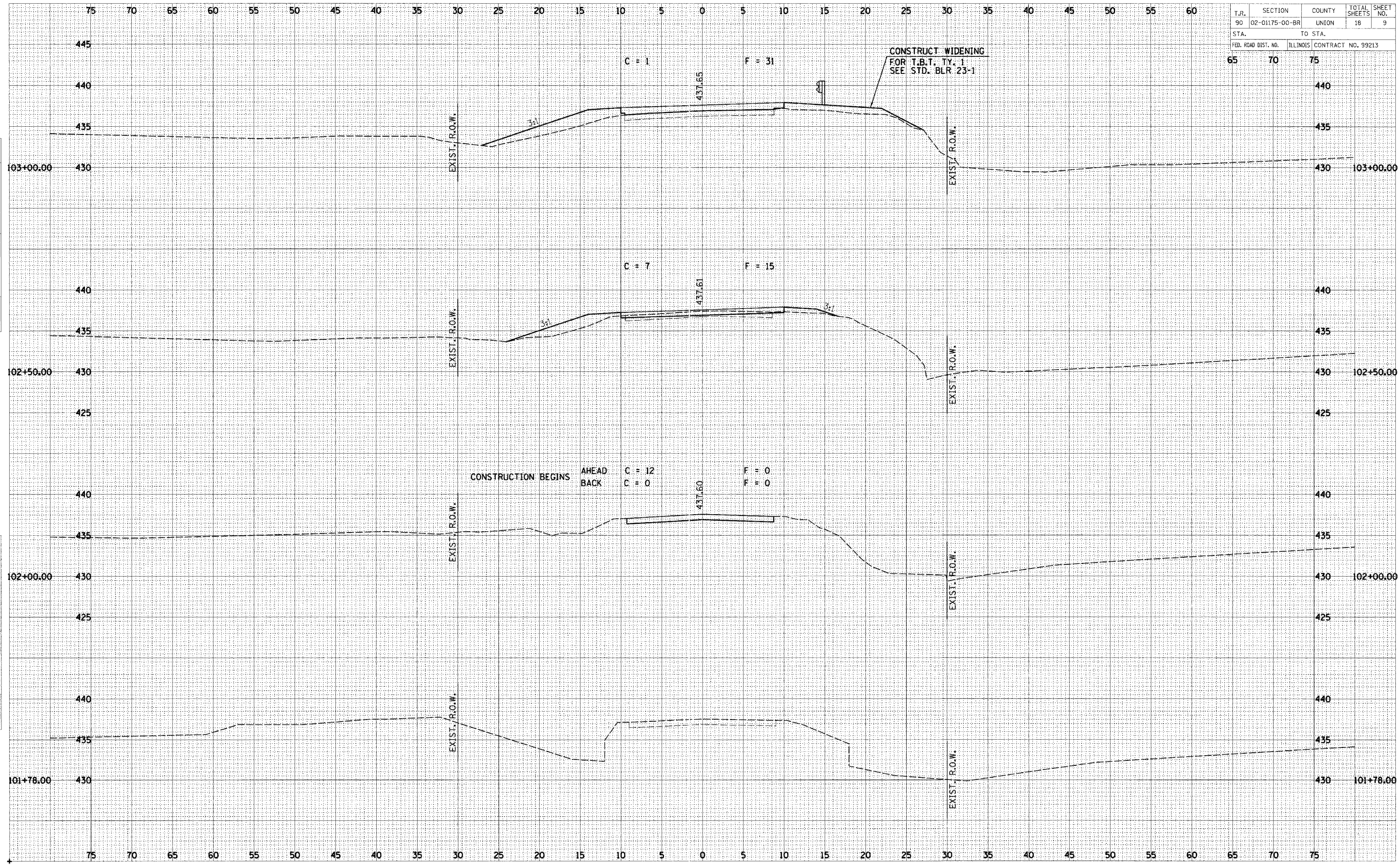
AHEAD C = 0 F = 0
BACK C = 0 F = 36
C = 0 F = 36



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

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

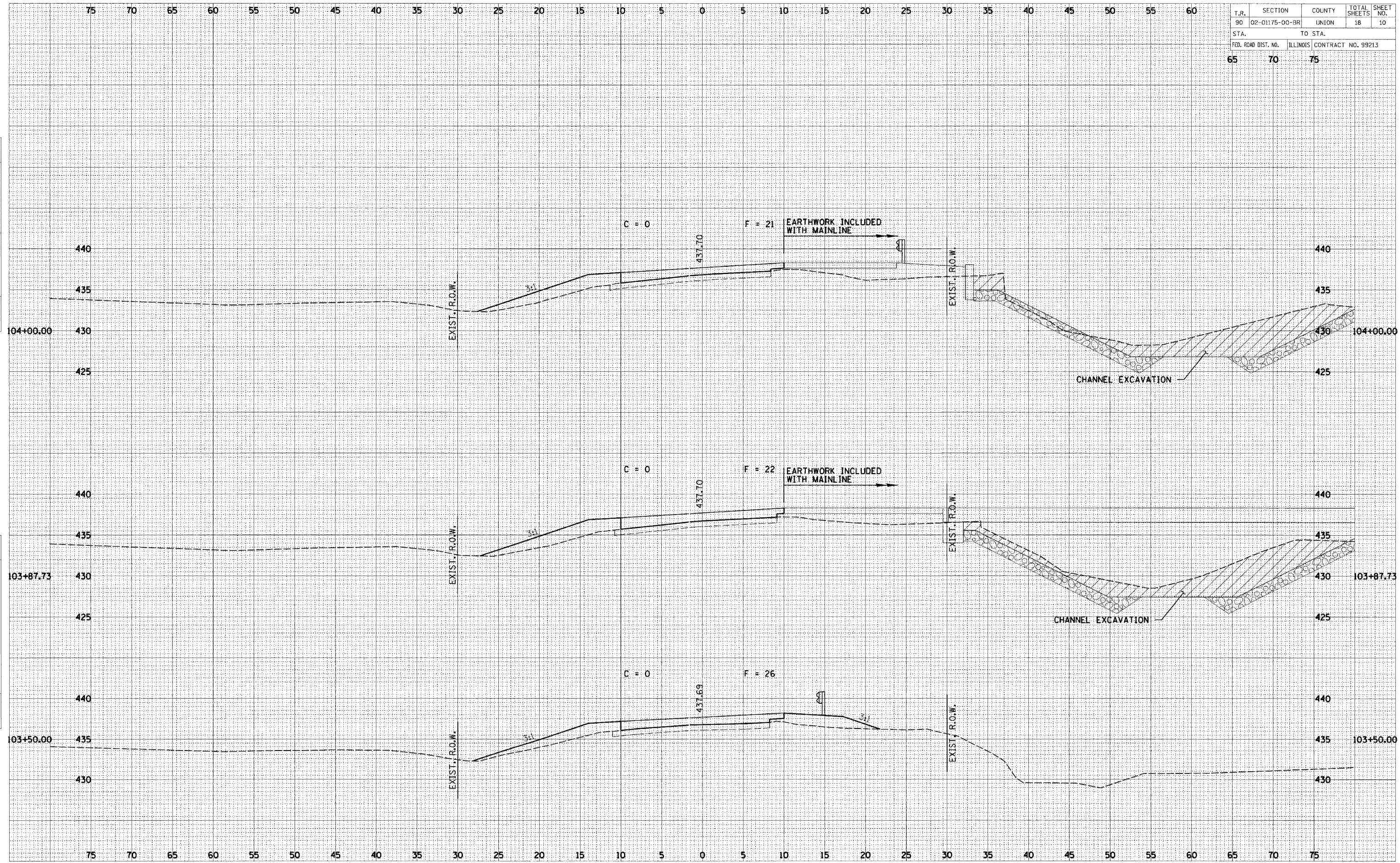
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90	02-01175-00-BR	UNION	18	9
STA.		TO STA.		
65		75		
FED. ROAD DIST. NO.	ILLINOIS CONTRACT NO.		99213	



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

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

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	02-01175-00-BR	UNION	18	10
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 99213		
65	70	75		



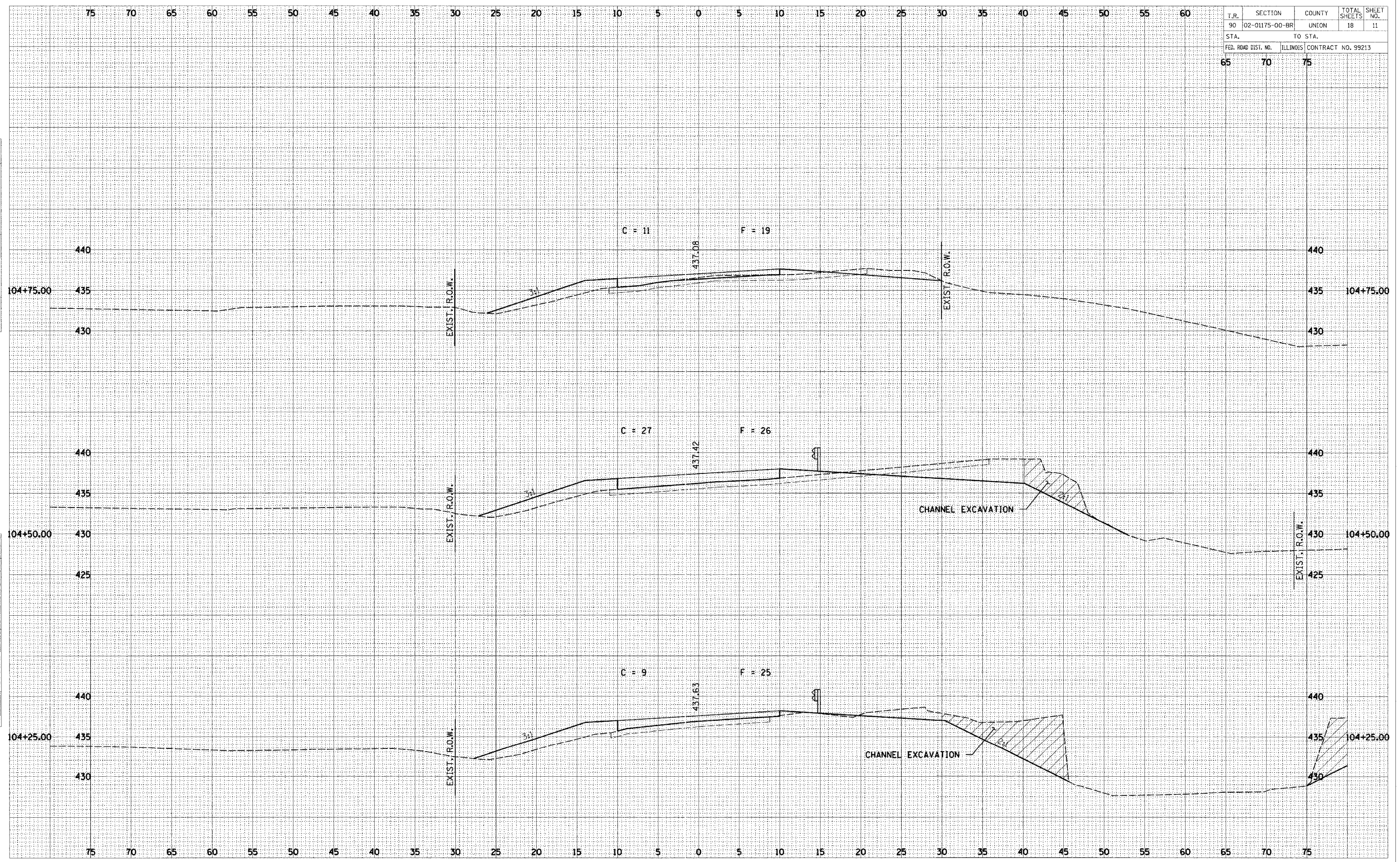
DATE	BY
DATE	BY
DATE	BY

DATE	BY
DATE	BY
DATE	BY

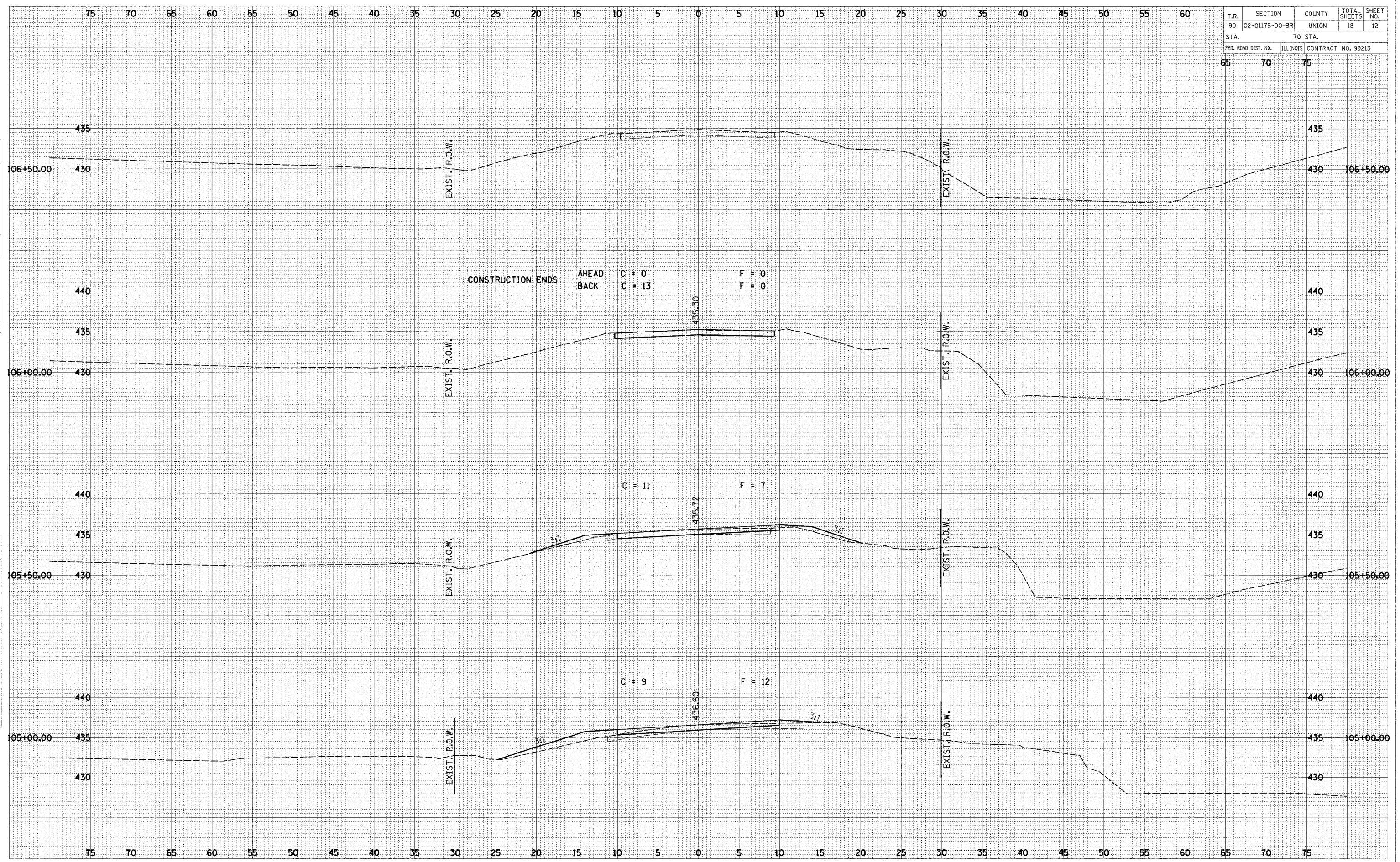
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90	02-01175-00-BR	UNION	18	11
STA.		TO STA.		
65		75		
FED. ROAD DIST. NO.	ILLINOIS CONTRACT NO.		99213	

BY: _____ DATE: _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____

BY: _____ DATE: _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____



T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	02-01175-00-BR	UNION	18	12
STA.		TO STA.		
65		75		
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 99213		

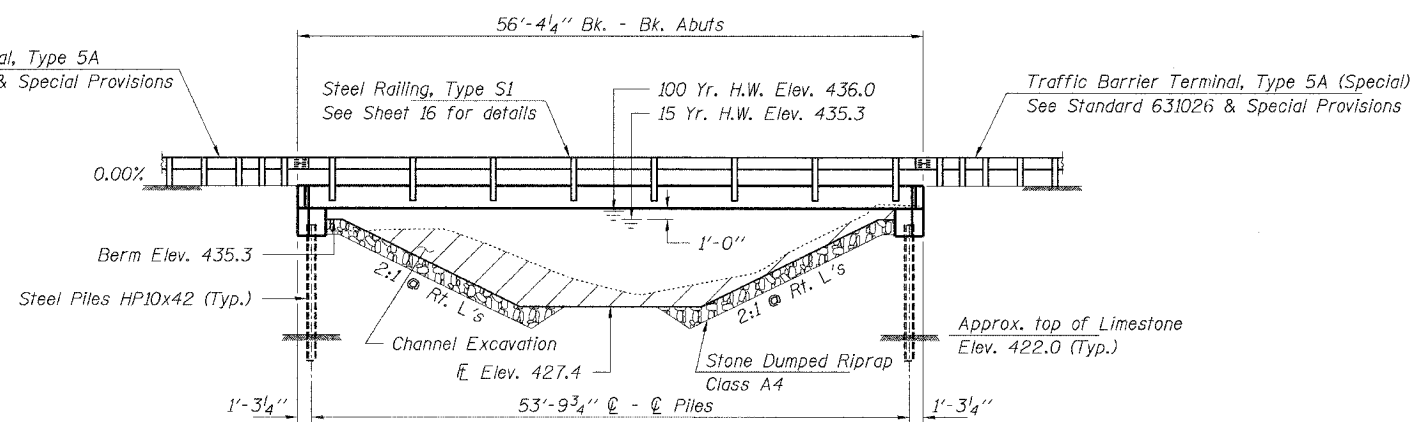


BY: _____ DATE: _____
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 PLOTTED: _____
 CHECKED: _____
 FINAL SURVEY: _____
 NOTE BOOK NO.: _____
 AREAS CHECKED: _____

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

ROUTE NO.	SECTION	COUNTY	SHEET
T.R. 90	02-01175-00-BR	UNION	18 13
FED. ROAD DIST. NO.	ILL. STATE PROJECT	CONTRACT NO. 99213	

Traffic Barrier Terminal, Type 5A
See Standard 631026 & Special Provisions



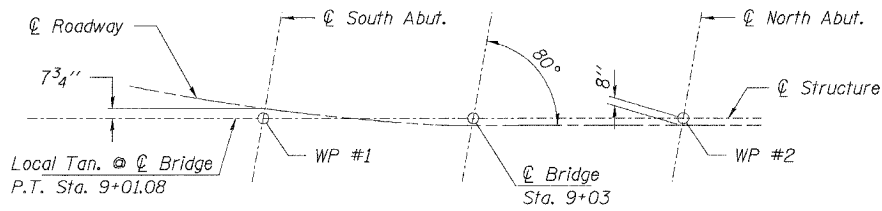
ELEVATION

GENERAL NOTES

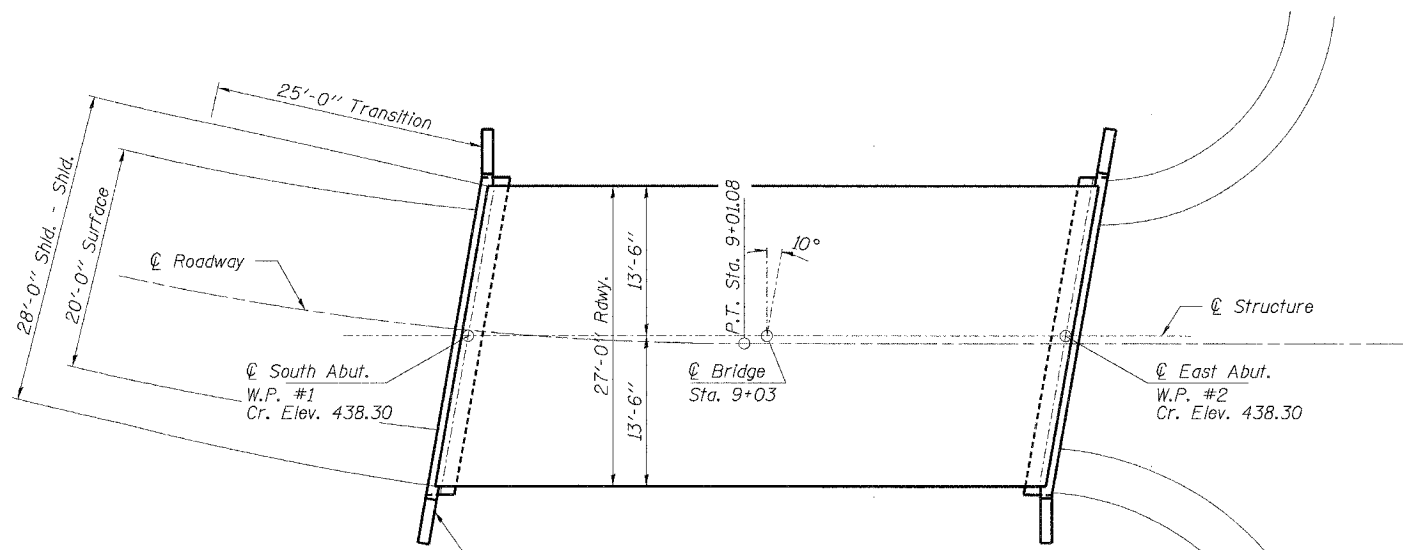
Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.
All proposed construction activity shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act.
The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.
Structure Excavation will not be paid for separately and shall be included in the cost of the item specified.
See Sheet 18 for Borings.

BUILT 200_ BY
COUNTY UNIT ROAD DISTRICT
UNION COUNTY
SEC. 02-01175-00-BR
LOADING HS 20-44
STR. NO. 091-3217

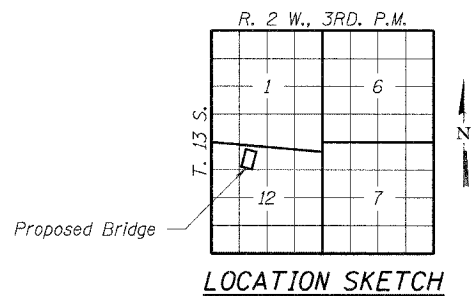
NAME PLATE
See Std. 515001



OFFSET SKETCH



PLAN



DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

f'c = 5,000 psi
f'ci = 4,000 psi
f's = 270,000 psi (1/2" low lax. strands)
f'si = 201,960 psi (1/2" low lax. strands)
fy = 60,000 psi (Reinf.)

Loading HS 20-44
Design Specifications: 2002 AASHTO & all applicable interims.
25#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.15g
Site Coefficient (S) = 1.0

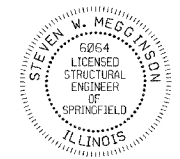
WATERWAY INFORMATION

Drainage Area = 1.65 Sq. Mi.		Low Grade Elev. 436.3 @ Sta. 6+00							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Natural H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.	
Design	15	1140	205	250	435.3	0.1	0.0	435.4	435.3
Base	100	1860	225	285	436.0	0.3	0.1	436.3	436.1
Overtopping	100								
Max. Calc.	500	2450	235	300	436.4	0.9	0.8	437.3	437.2

① Approach Rdwy. 150 sq. ft.

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 Specifications for Highway Bridges".

Steven W. McGinnis 1/2/05
ILLINOIS STRUCTURAL NO. 6064



Expires 11-30-05

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,485		1,485
Concrete Structures	Cu. Yd.		19.0	19.0
Reinforcement Bars	Pound		2,620	2,620
Steel Railing, Type S1, Special	Foot	118		118
Name Plates	Each		1	1
Stone Dumped Riprap, Class A4	Ton			310
Steel Piles HP10x42	Foot		144	144
Concrete Encasement	Cu. Yd.		2.0	2.0
Setting Piles in Rock	Each		8	8

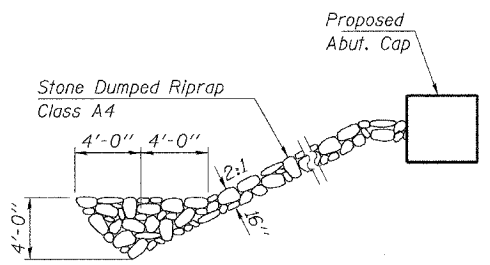
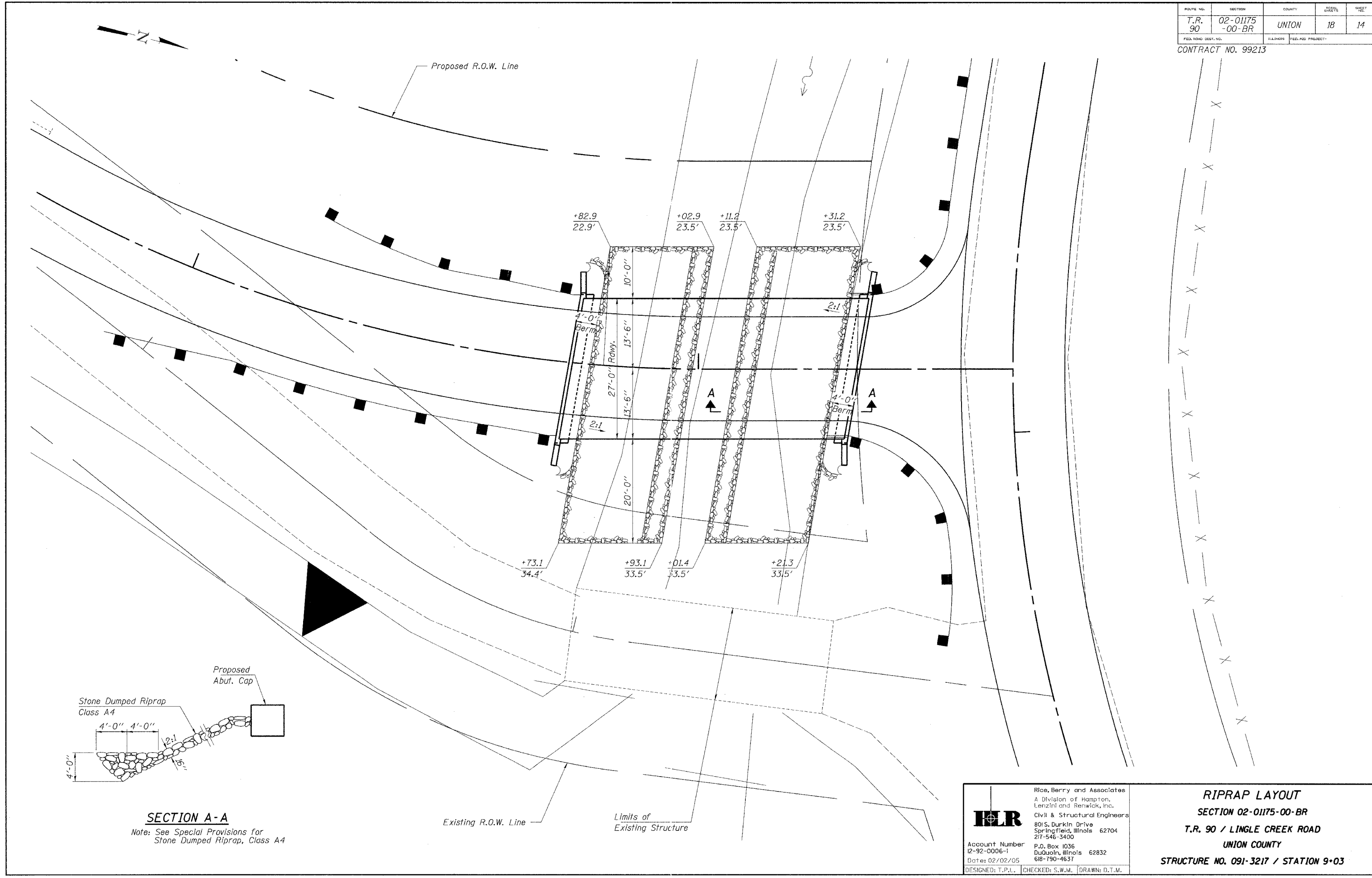
HLR
Rice, Berry and Associates
A Division of Hampton, Lenzini and Renwick, Inc.
Civil & Structural Engineers
801 S. Durkin Drive
Springfield, Illinois 62704
217-546-3400

Account Number 12-92-0006-1
Date: 02/02/05
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

GENERAL PLAN AND ELEVATION
SECTION 02-01175-00-BR
T.R. 90 / LINGLE CREEK ROAD
UNION COUNTY
STRUCTURE NO. 091-3217 / STATION 9+03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 90	02-01175-00-BR	UNION	18	14
FED. ROAD DIST. NO.	ILLINOIS FEDERAL PROJECT			

CONTRACT NO. 99213

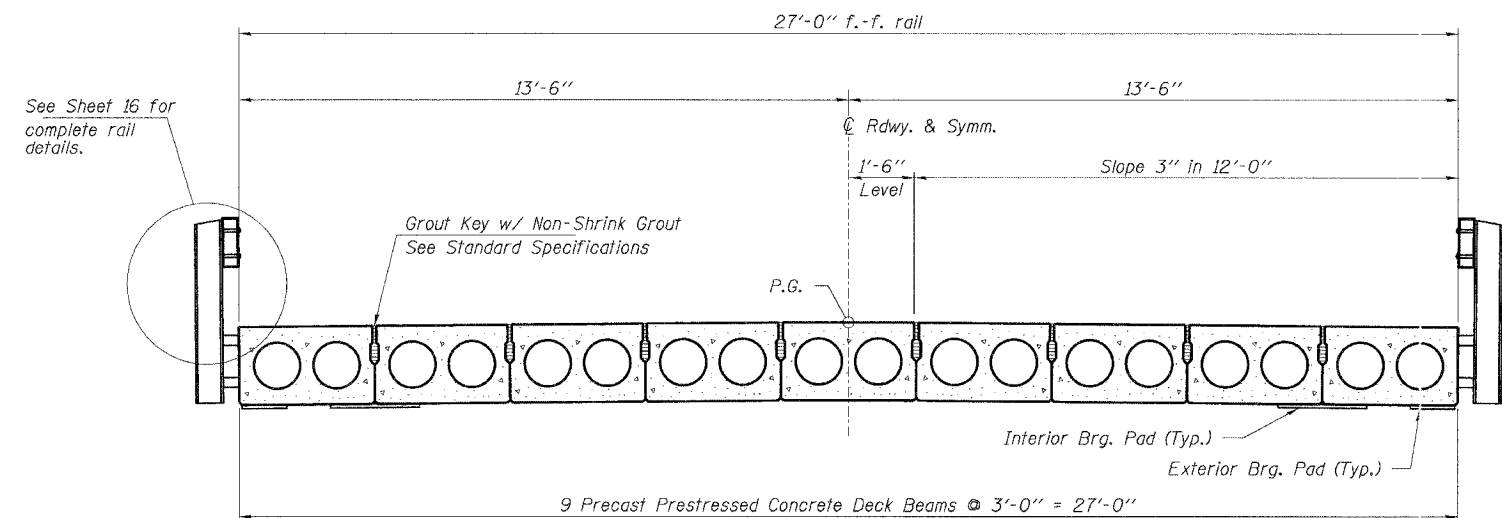


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 Springfield, Illinois 62704
 217-546-3400
 P.O. Box 1036
 DuQuoin, Illinois 62832
 618-190-4637
 Account Number 12-92-0006-1
 Date: 02/02/05
 DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

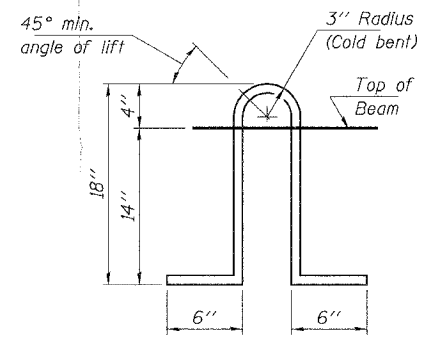
RIPRAP LAYOUT
SECTION 02-01175-00-BR
T.R. 90 / LINGLE CREEK ROAD
UNION COUNTY
STRUCTURE NO. 091-3217 / STATION 9+03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 90	02-01175-00-BR	UNION	18	15
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

CONTRACT NO. 99213



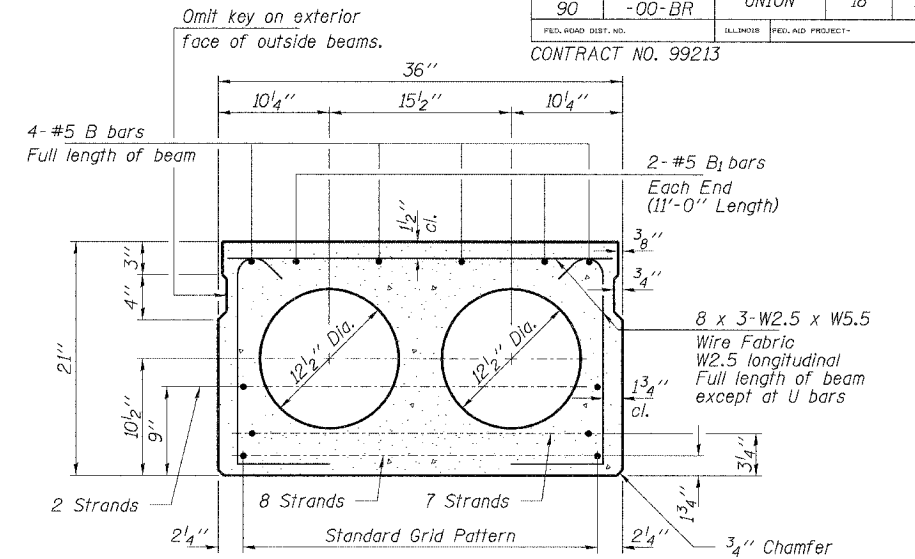
CROSS SECTION



LIFTING LOOP DETAIL

Approved alternate may be substituted for the above.
Weight of 1 Beam = 30,250 lbs.

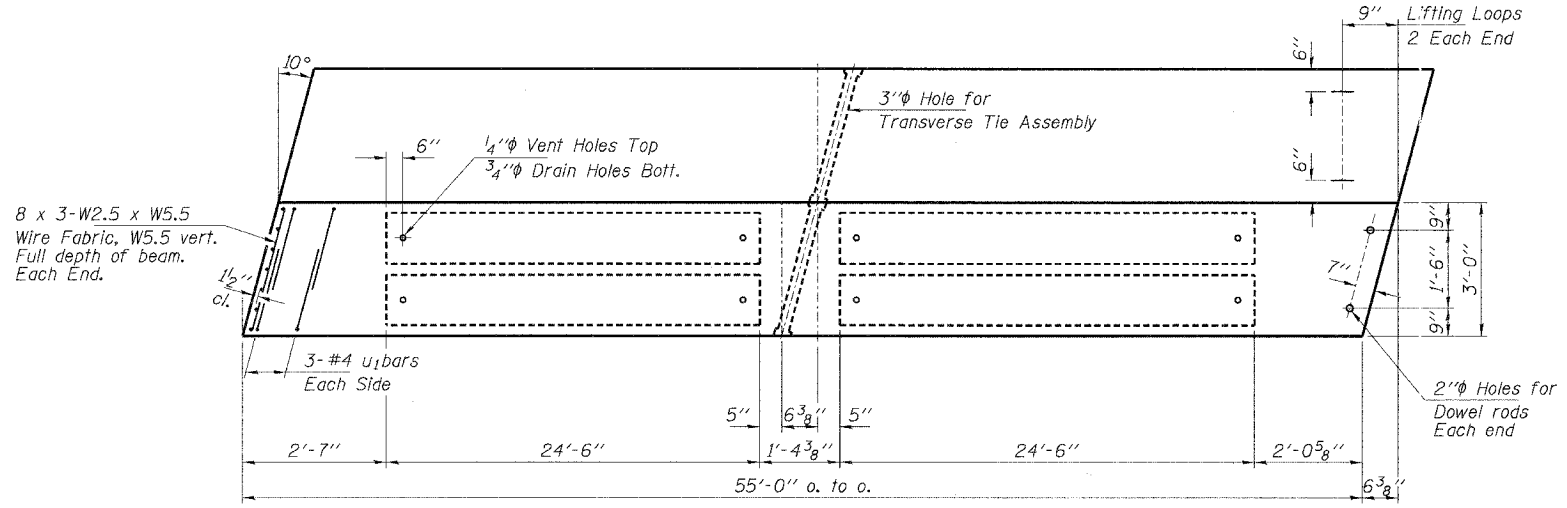
Note: The loop shall be formed in a manner such that all strands are engaged during lifting. Lifting Loops shall be cut off after the beams have been erected.



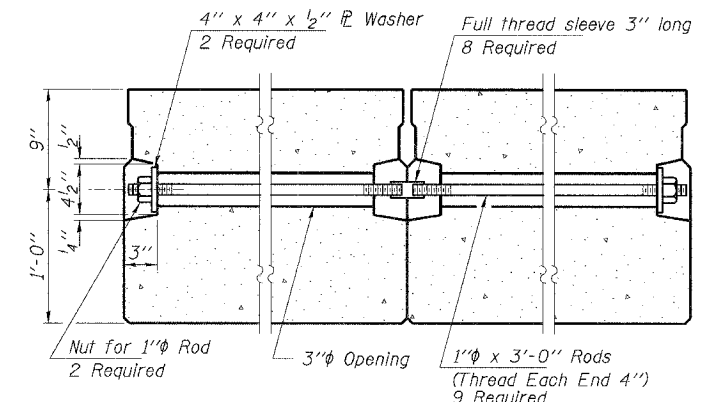
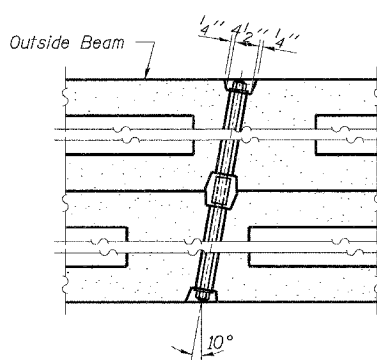
TYPICAL SECTION

16-1/2" dia Strands, Each Strand Stressed to 30,900 Lbs.
6-Strands 1 3/4" up, 8-Strands 3/4" up, 2 Strands 9" up
Expected Camber = 1 1/2"

Note: Place strands symmetrically about center of beam.



PLAN



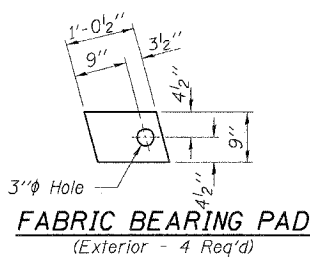
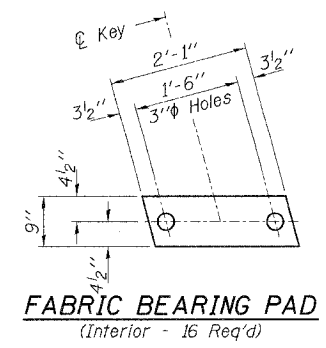
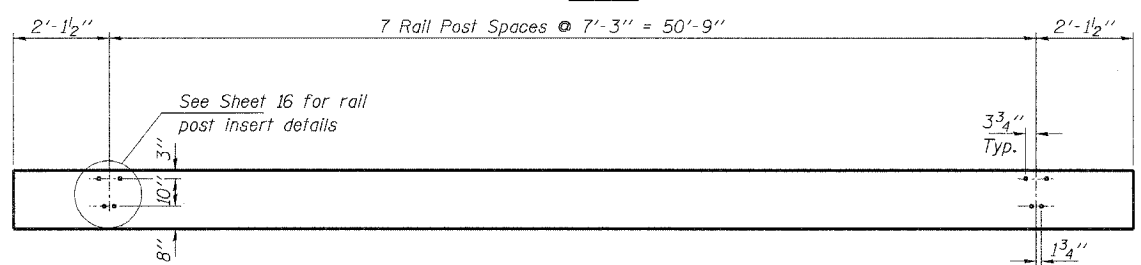
TYPICAL TRANSVERSE TIE ASSEMBLY

NOTES

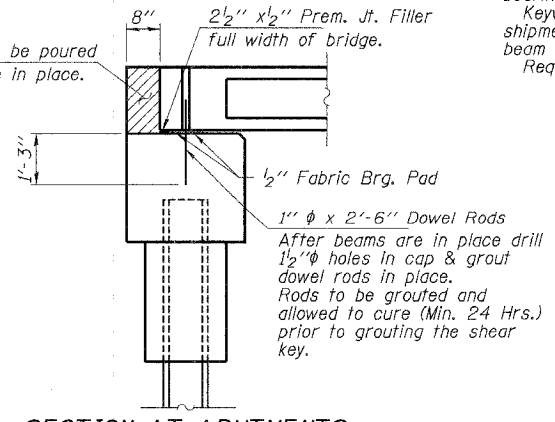
Prestressing steel shall be uncoated high strength, low-relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2" dia-270 ksi strands, as shown. The 1" dia rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Required Release Strength, f'ci, shall be 4,000 p.s.i.

ELEVATION OF OUTSIDE BEAMS

Showing Rail Post Spacing



BAR U



SECTION AT ABUTMENTS

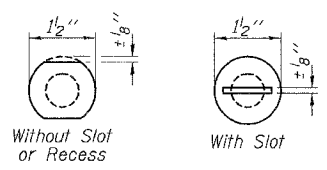
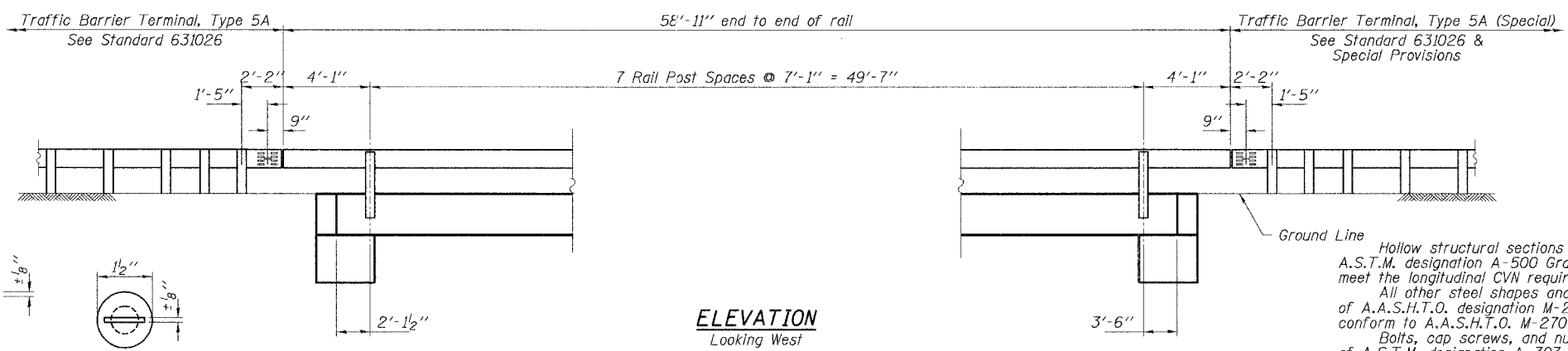
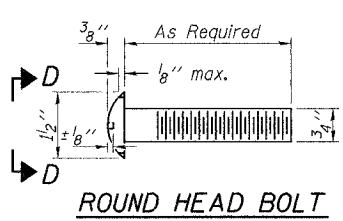
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (21' Depth)	Sq. Ft.	1,485

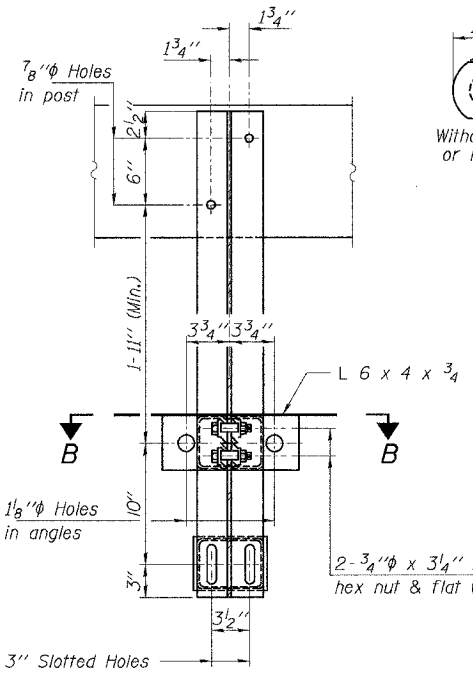
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A Division of Hampton, Lenzini and Renwick, Inc.
Civil & Structural Engineers
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Springfield, Illinois 62704
217-546-3400
P.O. Box 1036
DuQuoin, Illinois 62832
618-790-4637
Account Number 12-92-0006-1
Dates 02/02/05
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

SUPERSTRUCTURE
SECTION 02-01175-00-BR
T.R. 90 / LINGLE CREEK ROAD
UNION COUNTY
STRUCTURE NO. 091-3217 / STATION 9+03

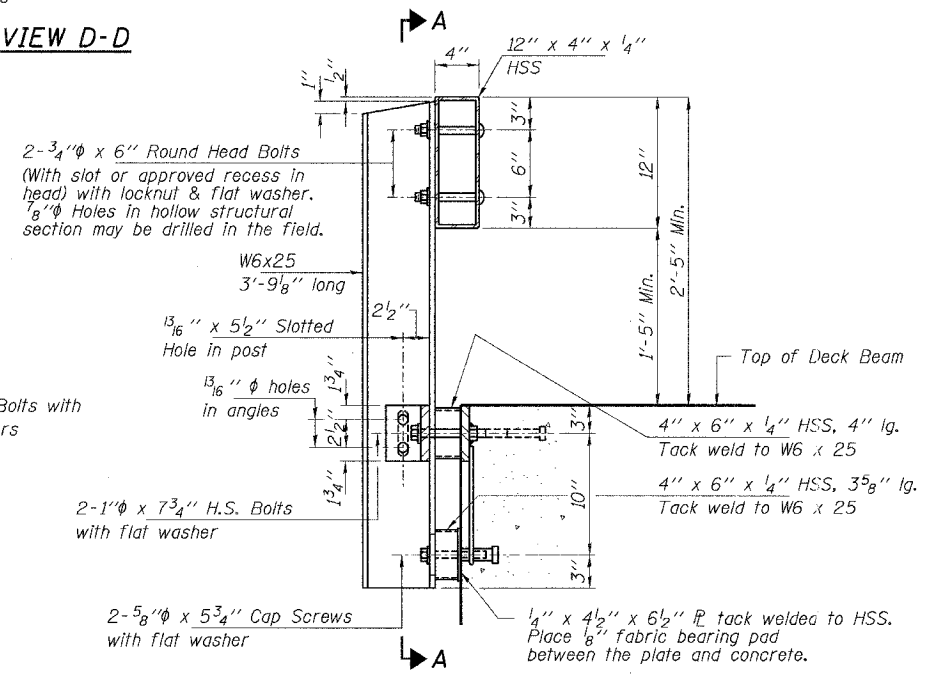
ROUTE NO.	SECTION	COUNTY	INVERT	SHEET
T.R. 90	02-01175-00-BR	UNION	18	16
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 99213				



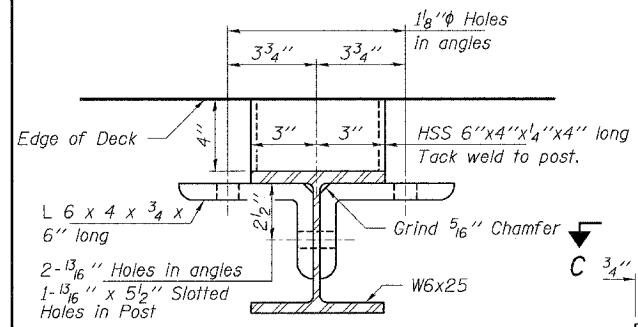
VIEW D-D



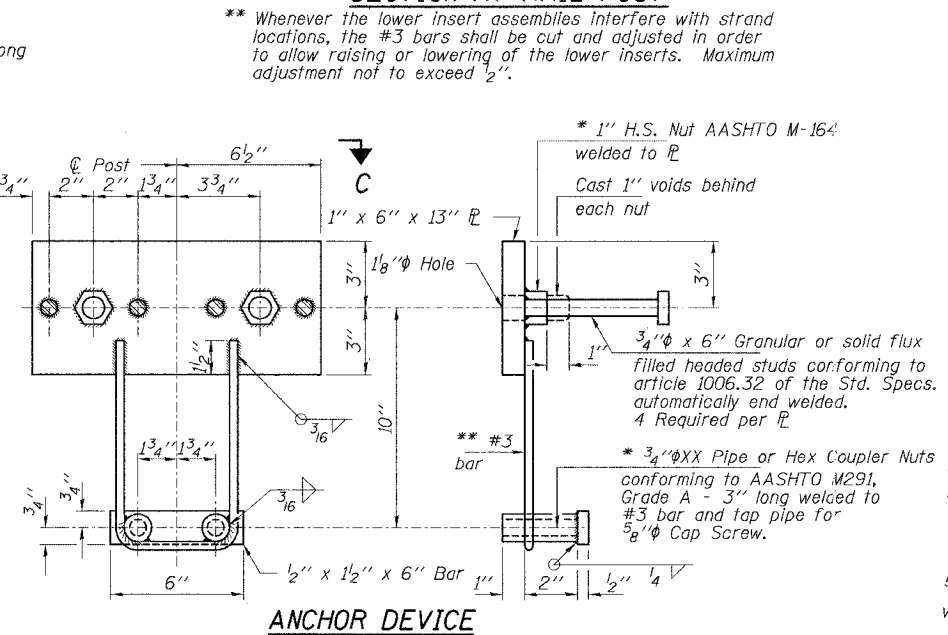
SECTION A-A



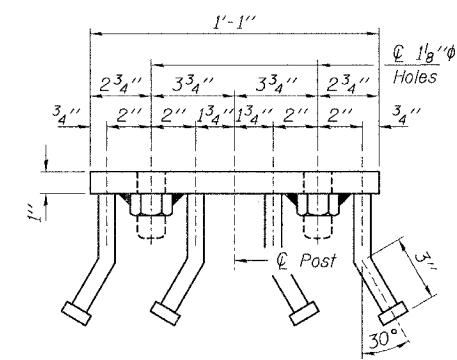
SECTION AT RAIL POST



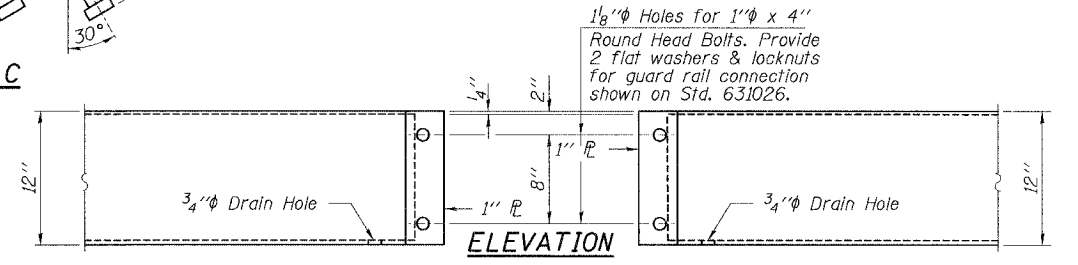
SECTION B-B



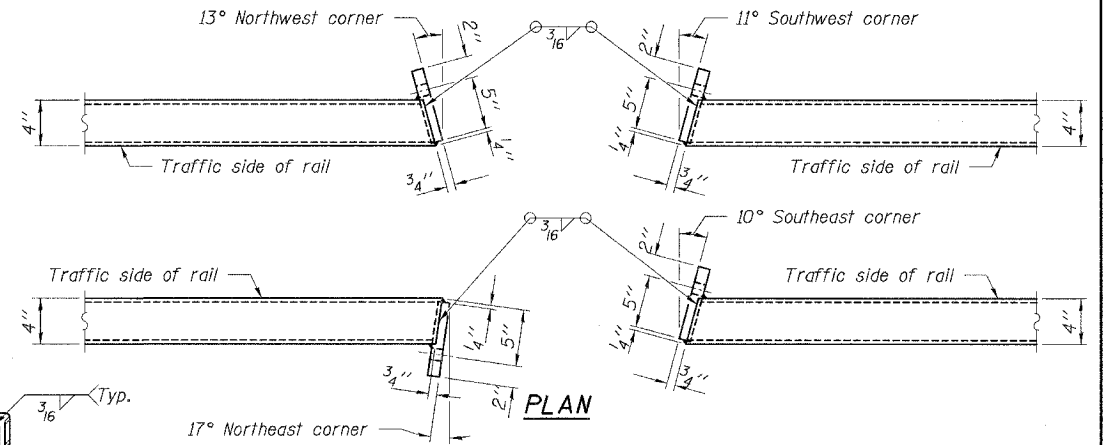
ANCHOR DEVICE



VIEW C-C



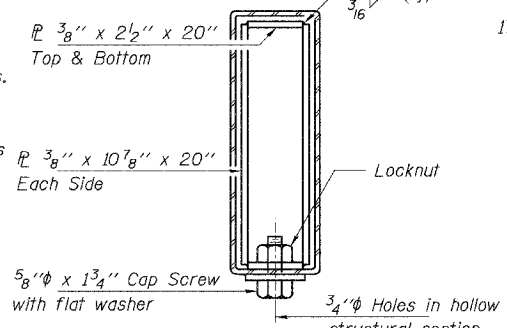
ELEVATION



PLAN

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type St, Special	Foot	118



SECTION AT RAIL SPLICE

NOTES

Hollow structural sections shall conform to the requirements of A.S.T.M. designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of A.A.S.H.T.O. designation M-270 Grade 36 except posts and angles shall conform to A.A.S.H.T.O. M-270 Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of A.S.T.M. designation A-307 except for high strength bolts, nuts and washers noted which shall conform to A.A.S.H.T.O. designation M-164.

All bolts, nuts, cap screws, washers and lockwashers shall be galvanized in accordance with A.A.S.H.T.O. designation M-232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with A.S.T.M. A-385 and A.A.S.H.T.O. M-111. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per foot for STEEL RAILING, TYPE St, SPECIAL.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

The 3/4 inch diameter high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Art. 505.04(FX2) of the Standard Specifications. The 1 inch diameter high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8 inch diameter cap screws in bottom of posts shall be tightened to a snug fit only.

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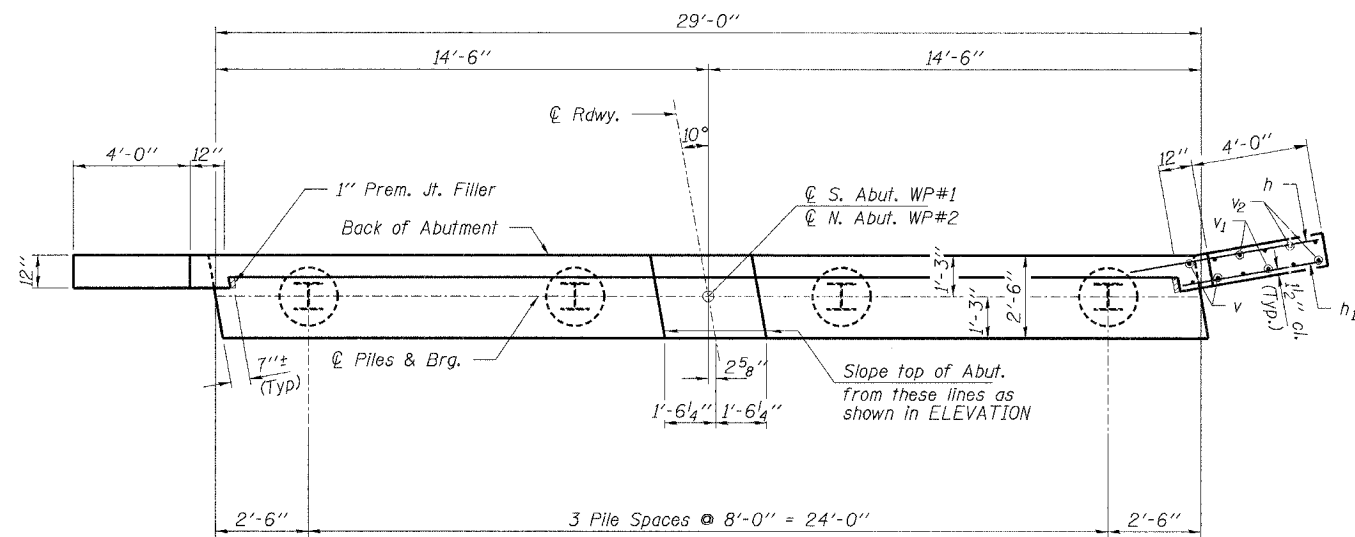
P.O. Box 1036
DuQuoin, Illinois 62832
618-790-4637

Account Number 12-92-0006-1
Date: 02/02/05
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

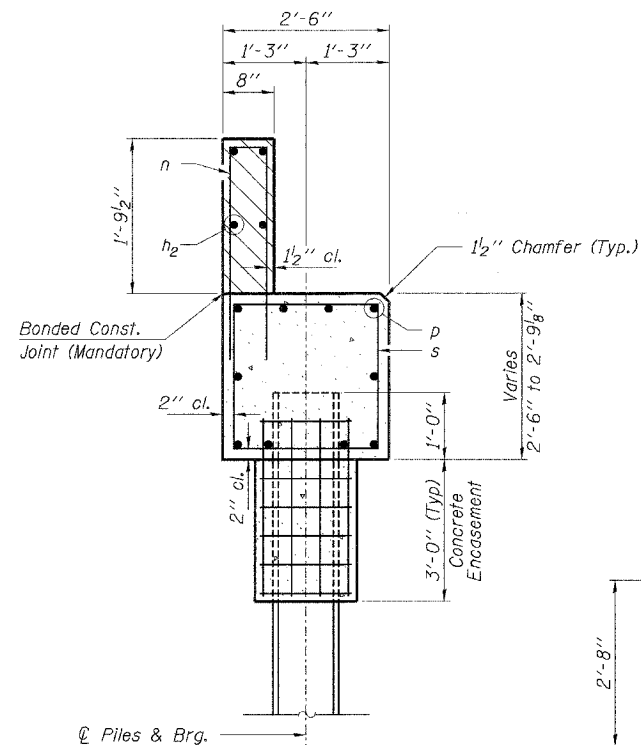
RAILING DETAILS
SECTION 02-01175-00-BR
T.R. 90 / LINGLE CREEK ROAD
UNION COUNTY
STRUCTURE NO. 091-3217 / STATION 9+03

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
T.R. 90	02-01175-00-BR	UNION	18	17
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 99213

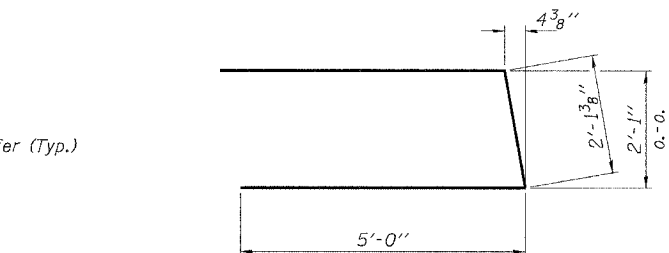


PLAN

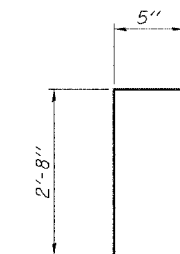


SECTION A-A

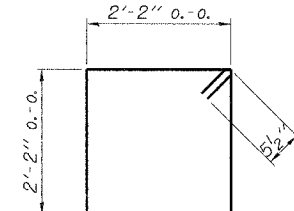
Hatched area to be poured after beams are in place.



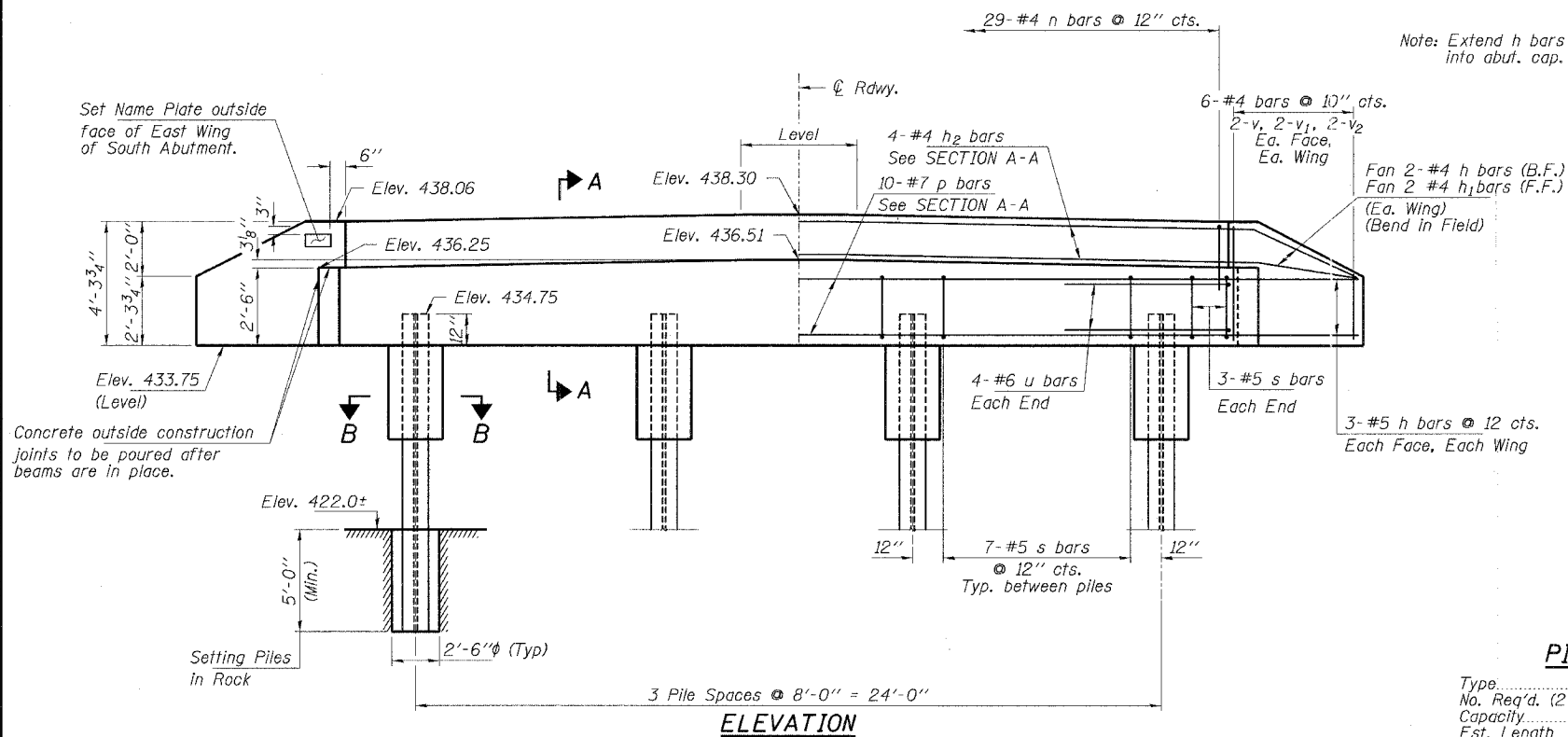
BAR u



BAR n

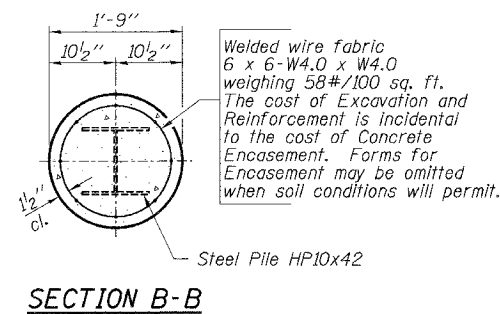


BAR s



ELEVATION

Note: Extend h bars into abut. cap.



SECTION B-B

BILL OF MATERIAL - 2 ABUTS.

BAR NO.	NO.	SIZE	LENGTH	SHAPE
h	32	#4	5'-9"	—
h1	8	#4	4'-9"	—
h2	8	#4	27'-6"	—
n	58	#4	5'-9"	▭
p	20	#7	28'-9"	—
s	54	#5	9'-7"	▭
u	16	#6	12'-2"	▭
v	16	#4	4'-0"	—
v1	16	#4	3'-0"	—
v2	16	#4	2'-0"	—
Concrete Structures		Cu. Yd.	19.0	
Reinforcement Bars		Pound	2,620	
Steel Piles HP10x42		Foot	144	
Name Plates		Each	1	
Class SI Concrete Encasement		Cu. Yd.	2.0	
Setting Piles in Rock		Each	8	

PILE DATA

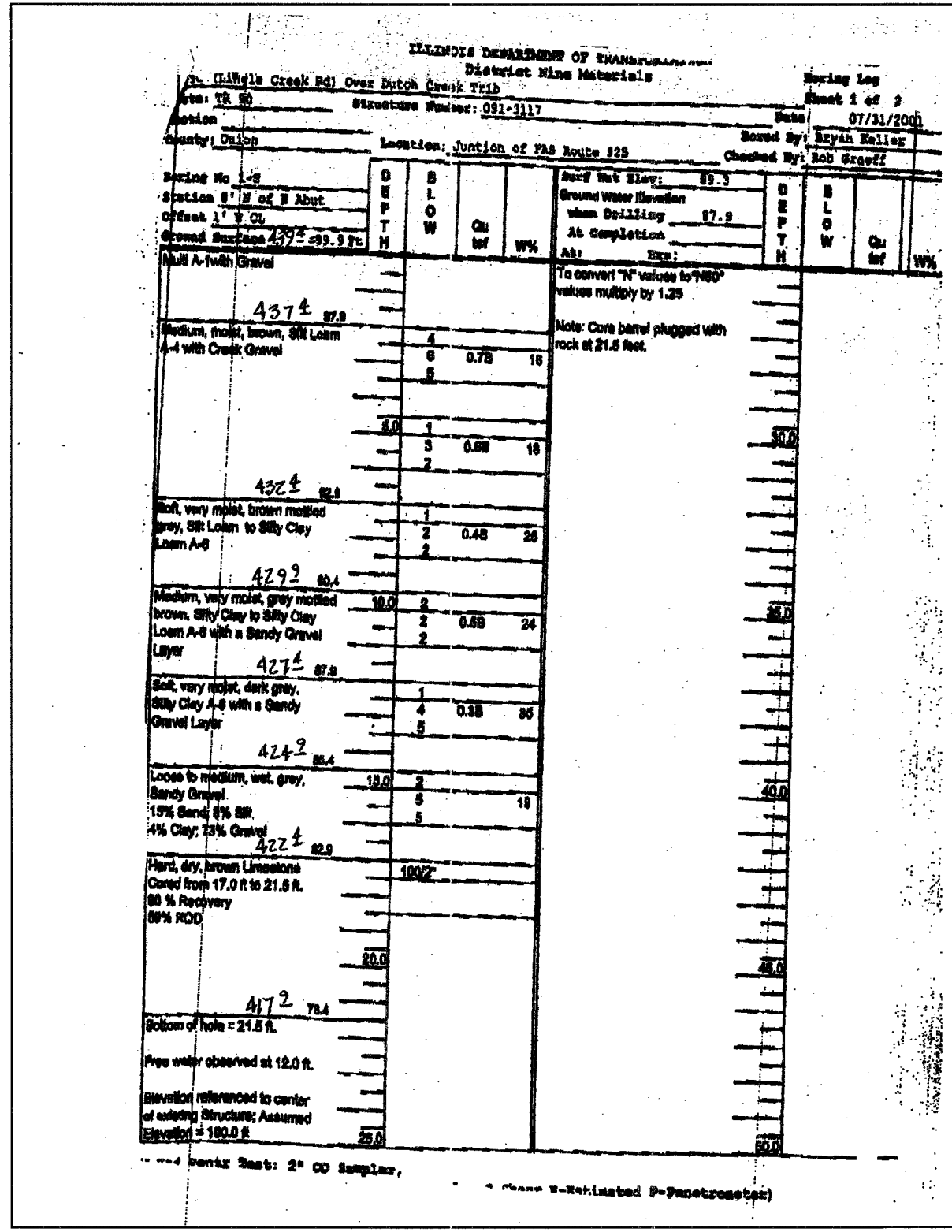
Type.....Steel HP10x42
 No. Req'd. (2 Abutments).....8
 Capacity.....40 Tons/Pile
 Est. Length.....18 Feet/Pile

* To be set in Sound Rock a minimum 5'-0" depth. See Special Provisions.


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ABUTMENTS
 SECTION 02-01175-00-BR
 T.R. 90 / LINGLE CREEK ROAD
 UNION COUNTY
 STR. NO. 091-3217 / STATION 9+03

CONTRACT NO. 99213



BORING

	Rice, Berry and Associates A Division of Hampton, Lenzini and Renwick, Inc. Civil & Structural Engineers 801 S. Durkin Drive Springfield, Illinois 62704 217-546-3400	BORINGS SECTION 02-01175-00-BR T.R. 90 / LINGLE CREEK ROAD UNION COUNTY STR. NO. 091-3217 / STATION 9-03
	Account Number 02-92-0006-1 Date: 02/02/05	
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.		