

FUNCTIONAL CLASSIFICATION-MINOR ARTERIAL

FUNCTIONAL CLASSIFICATION-INTERSTATE

	EXISTING RIGHT OF WAY - CONTROLLED ACCESS
	EXISTING RIGHT OF WAY
	PROPOSED RIGHT OF WAY
	PROPOSED TEMPORARY EASEMENT

(USED IN PLANS)

BENCHMARK

BM

NOTE: DASHED OR OPEN SYMBOLS INDICATE
EXISTING FEATURES

KEY MAP
LOCATION OF BUCHANAN COUNTY

PROJECT LOCATION
LENGTH = 0.084 MILES

BRIDGE REPLACEMENT,
GRADING, PAVING,
SIDEWALK, AND GUARDRAIL



NOT TO SCALE

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

DESCRIPTION	NUMBER
TITLE SHEET -----	1
TYPICAL SECTIONS (TS) (2 SHEETS)---	2
PLAN SHEET (PL)-----	4
PROFILE SHEET (PR)-----	5
REFERENCE POINTS (RP)-----	6
COORDINATE POINTS (CP)-----	7
CROSS SECTIONS (XS)-----	1-9

BRIDGE NO.

DESCRIPTION

DATE _____

EQUATIONS AND EXCEPTIONS:

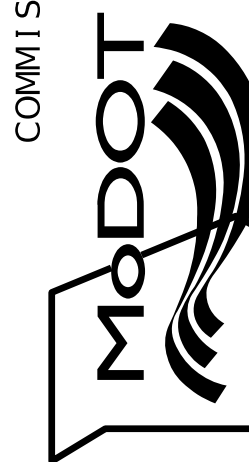
TOTAL CORRECTIONS	0.00	FEET
NET LENGTH OF PROJECT	445.00	FEET
STATE LENGTH	0.084	MILES

FOR INFORMATION ONLY	
ESTIMATED DISTURBED ACRES	0.77 ACRES

BRIDGE NO.

DESCRIPTION

DATE _____

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

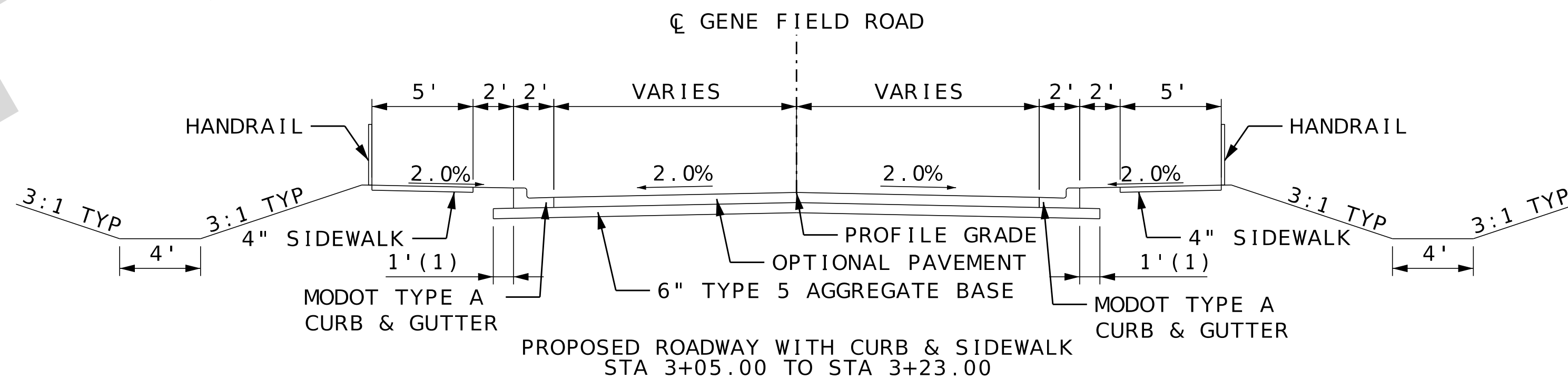
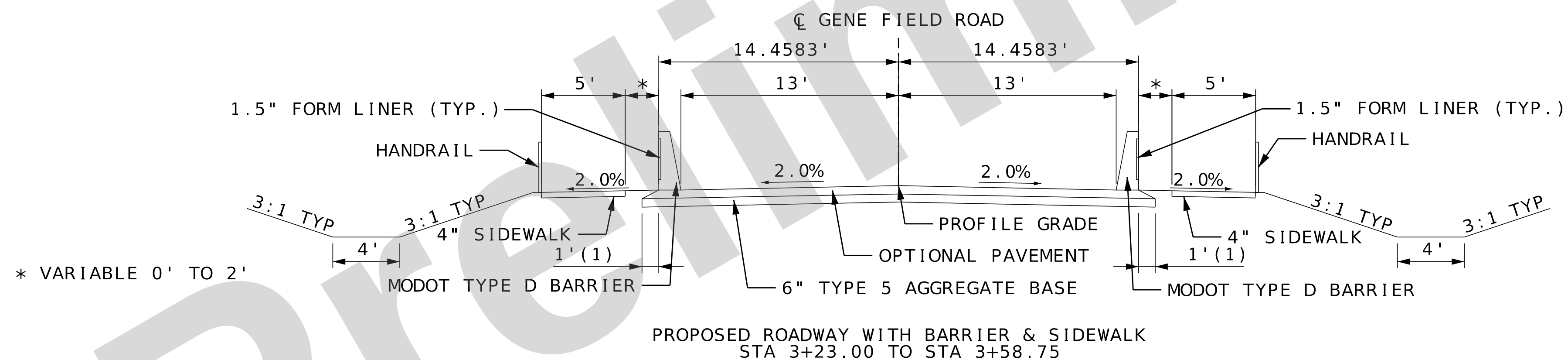
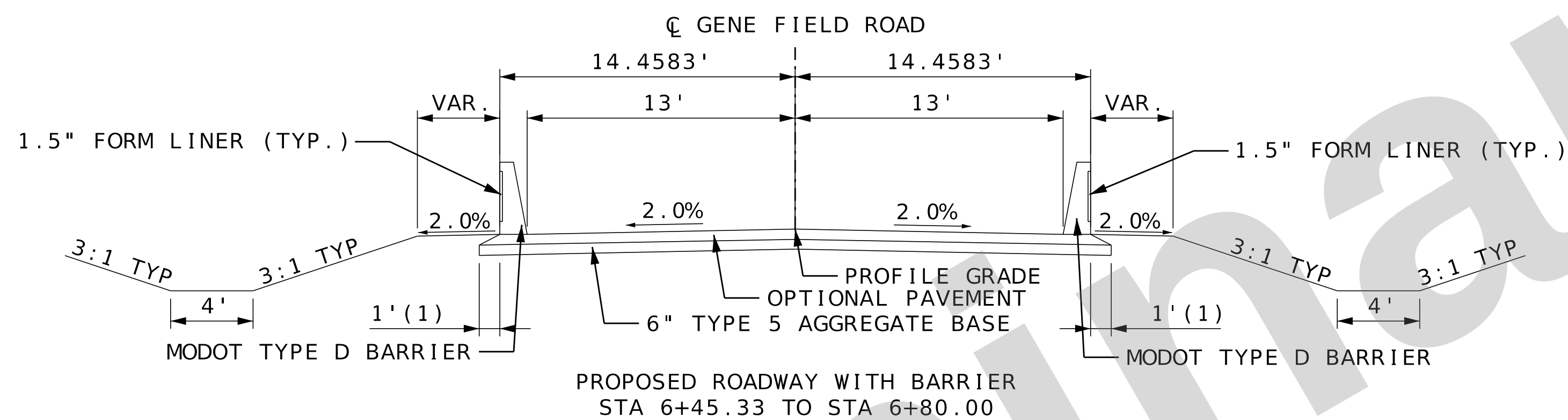
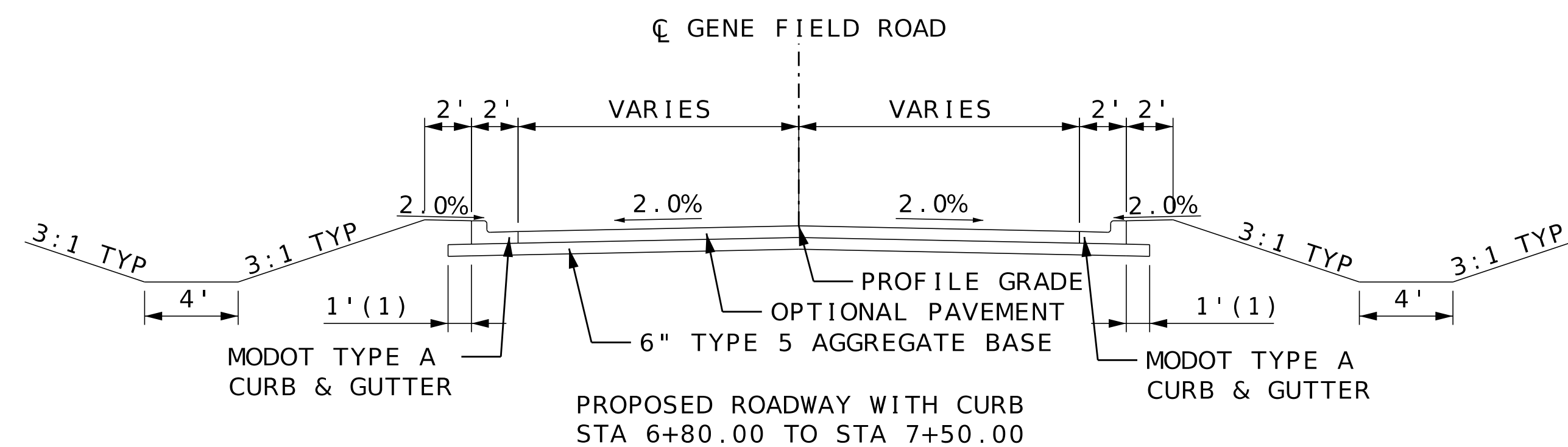
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GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 00013
ARCHITECT 000212
PRO. LAND SURVEYOR 00

SHELBY P. REYNOLDS
PROFESSIONAL
ENGINEER
PE-202301893

REV	0	2 000 000 000000	IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED
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NOTE:

1. SEE CROSS SECTIONS FOR VARIATIONS.

(1) INCIDENTAL BASE (NO DIRECT PAY)

NOT TO SCALE

OPTIONAL PAVEMENT

HMA DESIGN:
10.0" BIT. PAVEMENT
2.0" BP-1 PG 64-22
8.0" BIT. BASE PG 64-22

PCCP DESIGN:
8.5" JPCP WIDENED SLAB (15 FT. JOINTS,
1 1/4" DOWELS)

TYPICAL SECTIONS
SHEET 1 OF 2

RIGHT OF WAY
PLANS
NOT APPROVED
FOR
CONSTRUCTION

DATE PREPARED
10/27/2025

ROUTE	STATE
I 29	MO

DISTRICT NW	SHEET NO. 2
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COUNTY
BUCHANAN

JOB NO.
J113332

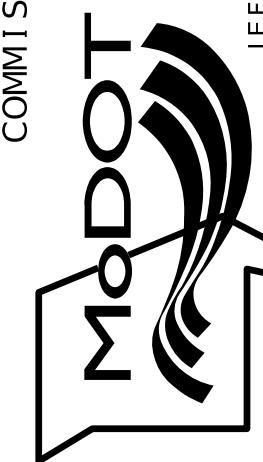
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

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DATE PREPARED	
10/27/2025	
ROUTE	STATE
I 29	MO
DISTRICT	SHEET NO.
NW	2
COUNTY	
BUCHANAN	
JOB NO.	
J113332	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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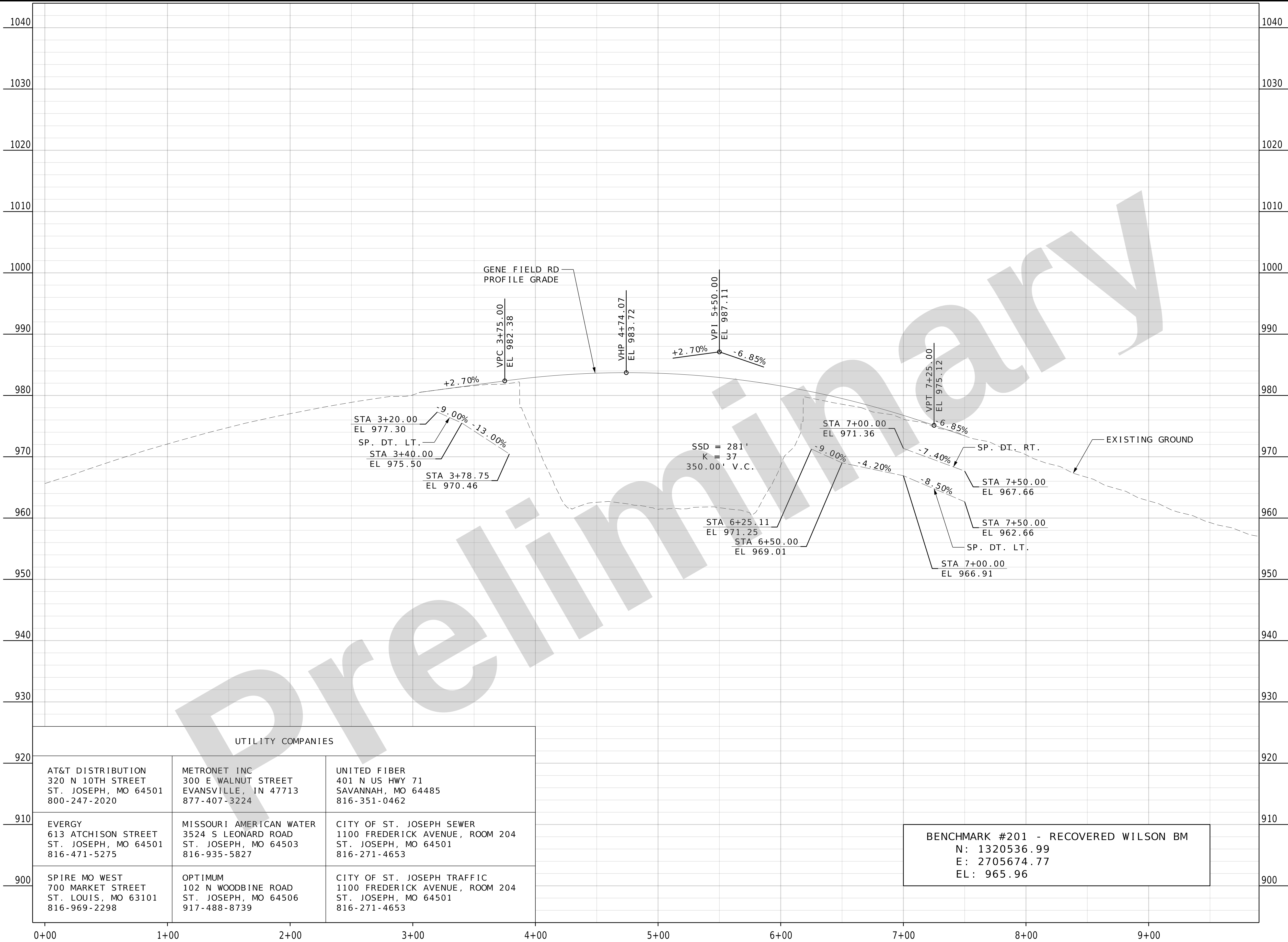
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TYPICAL SECTIONS
SHEET 2 OF 2



UTILITY COMPANIES		
AT&T DISTRIBUTION 320 N 10TH STREET ST. JOSEPH, MO 64501 800-247-2020	METRONET INC 300 E WALNUT STREET EVANSVILLE, IN 47713 877-407-3224	UNITED FIBER 401 N US HWY 71 SAVANNAH, MO 64485 816-351-0462
EVERGY 613 ATCHISON STREET ST. JOSEPH, MO 64501 816-471-5275	MISSOURI AMERICAN WATER 3524 S LEONARD ROAD ST. JOSEPH, MO 64503 816-935-5827	CITY OF ST. JOSEPH SEWER 1100 FREDERICK AVENUE, ROOM 204 ST. JOSEPH, MO 64501 816-271-4653
SPIRE MO WEST 700 MARKET STREET ST. LOUIS, MO 63101 816-969-2298	OPTIMUM 102 N WOODBINE ROAD ST. JOSEPH, MO 64506 917-488-8739	CITY OF ST. JOSEPH TRAFFIC 1100 FREDERICK AVENUE, ROOM 204 ST. JOSEPH, MO 64501 816-271-4653

BENCHMARK #201 - RECOVERED WILSON BM
N: 1320536.99
E: 2705674.77
EL: 965.96

RIGHT OF WAY
PLANS
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DATE PREPARED 12/1/2025	
ROUTE I 29	STATE MO
DISTRICT NW	SHEET NO. 5
COUNTY BUCHANAN	
JOB NO. J113332	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

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COMMISSION

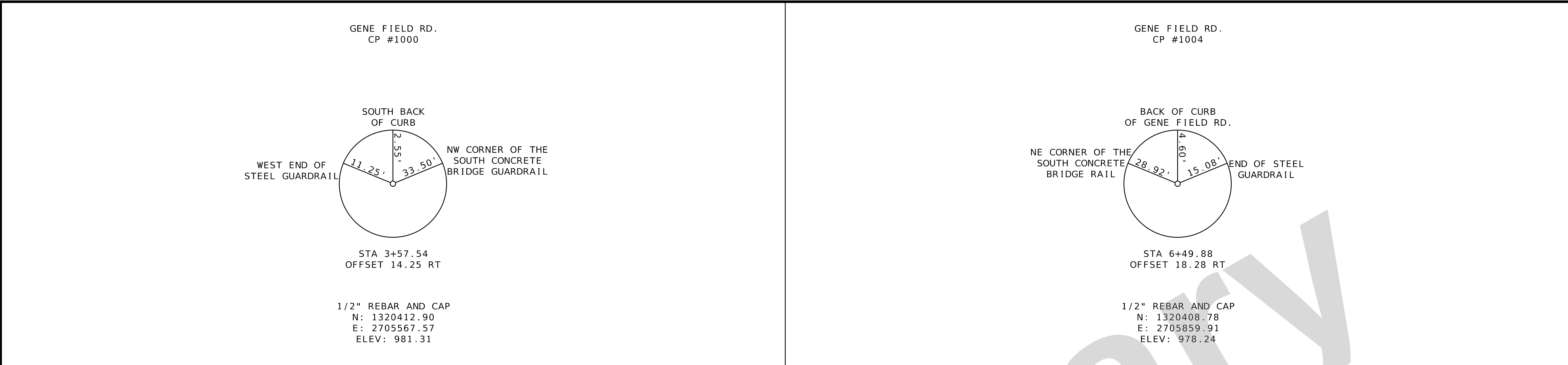
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RIGHT OF WAY
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DATE PREPARED
10/27/2025

ROUTE
I 29

STATE
MO

DISTRICT
NW

SHEET NO.
6

COUNTY
BUCHANAN

JOB NO.
J113332

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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REFERENCE POINTS
SHEET 1 OF 1

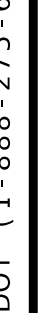
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PROJECT COORDINATE INFORMATION	
COORDINATE SYSTEM	MODIFIED STATE PLANE
HORIZONTAL DATUM	NAD83
VERTICAL DATUM	NAVD88
GEOID MODEL	GEOID 18
ELEVATIONS DETERMINED BY	R12i GNSS UNIT
PROJECT PROJECTION FACTOR	1.0000921
REFERENCE CONTROL INFORMATION	
COORDINATE SYSTEM	MISSOURI COORDINATE SYSTEM 1983 (WEST ZONE)
CONTROL STATION	MODOT GNSS CONTINUOUSLY OPERATING REFERENCE STATION
DESIGNATION	MODOT PLATTE CITY CORS ARP
CORS_ID	MOPL
PID	DN5836
LATITUDE	39°23'04.07194" N
LONGITUDE	94°47'00.04266" W
NORTHING (M)	357,168.095
EASTING (M)	825,589.628
ZONE	MISSOURI WEST 2403
PROJECT AVERAGE GRID FACTOR	0.9999079
EXAMPLE OF PROJECT COORDINATE TO S.P.C.	
PROJECT NORTHING X AVERAGE GRID FACTOR = STATE PLANE NORTHING	
PROJECT EASTING X AVERAGE GRID FACTOR = STATE PLANE EASTING	
EXAMPLE: CONTROL POINT #105 N 1320609.32 X 0.9999079 = N 1320487.692 SP E 2705655.88 X 0.9999079 = E 2705406.689 SP	
LINEAR UNIT CONVERSION	
1 METER = 3.280833333 US SURVEY FEET (USFT)	

[illegible]

DATE PREPARED	
10/27/2025	
ROUTE	STATE
I 29	MO
DISTRICT	SHEET NO.
NW	7
COUNTY	
BUCHANAN	
JOB NO.	
J113332	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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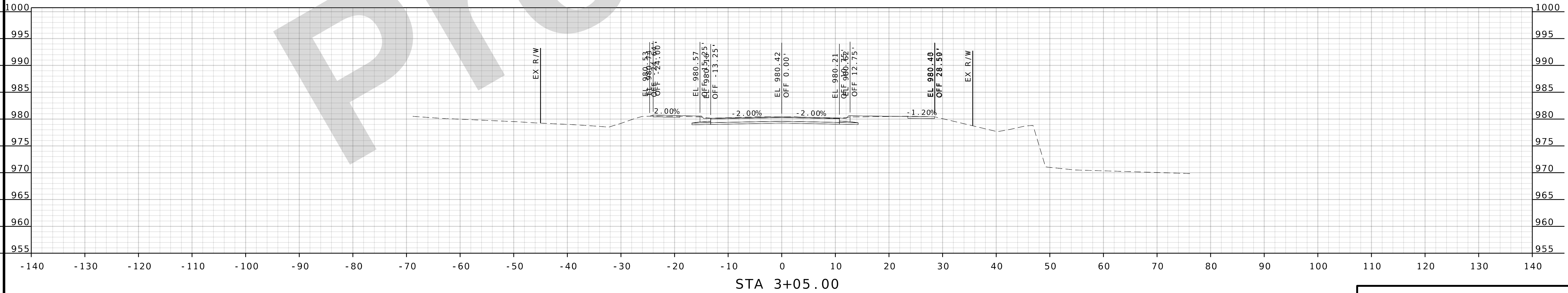
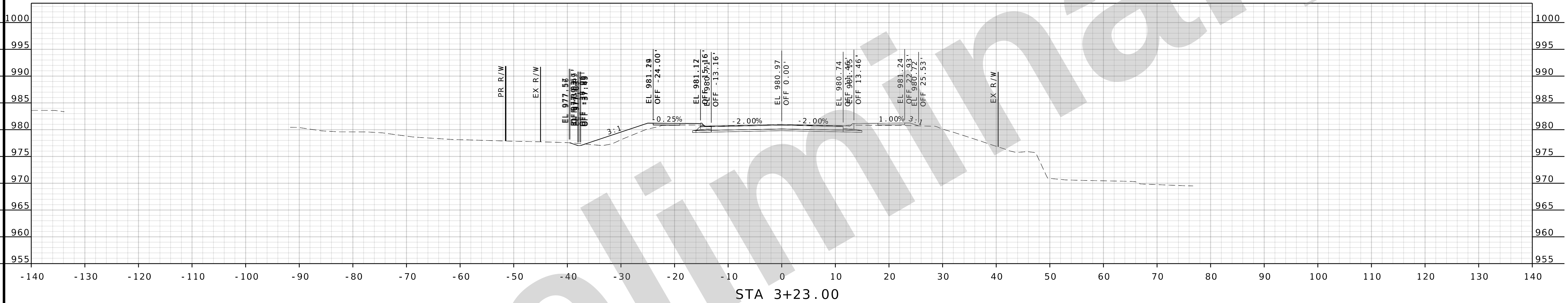
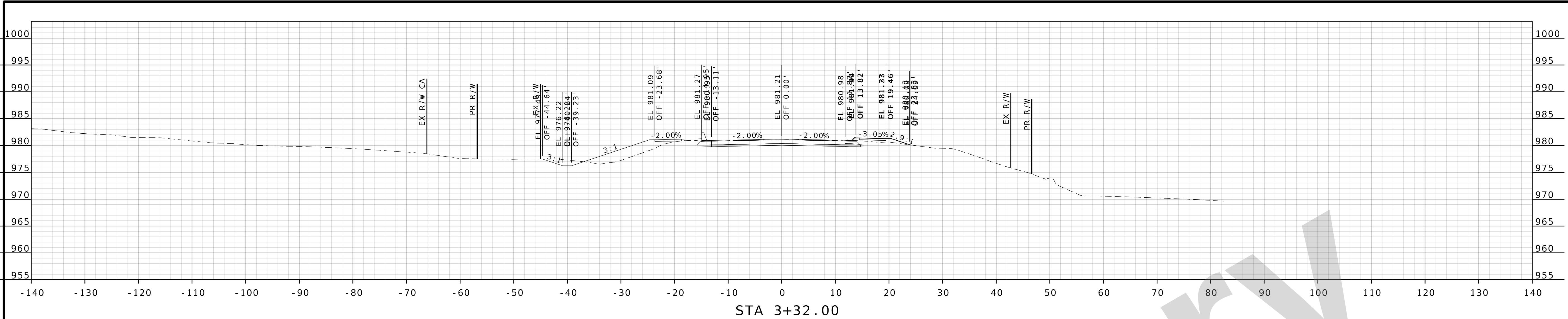
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REV. IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

COORDINATE POINTS
SHEET 1 OF 1



RIGHT OF WAY
PLANS
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FOR
CONSTRUCTION

DATE PREPARED
10/27/2025

ROUTE
I 29

STATE
MO

DISTRICT
NW

SHEET NO.
1

COUNTY
BUCHANAN

JOB NO.
J113332

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

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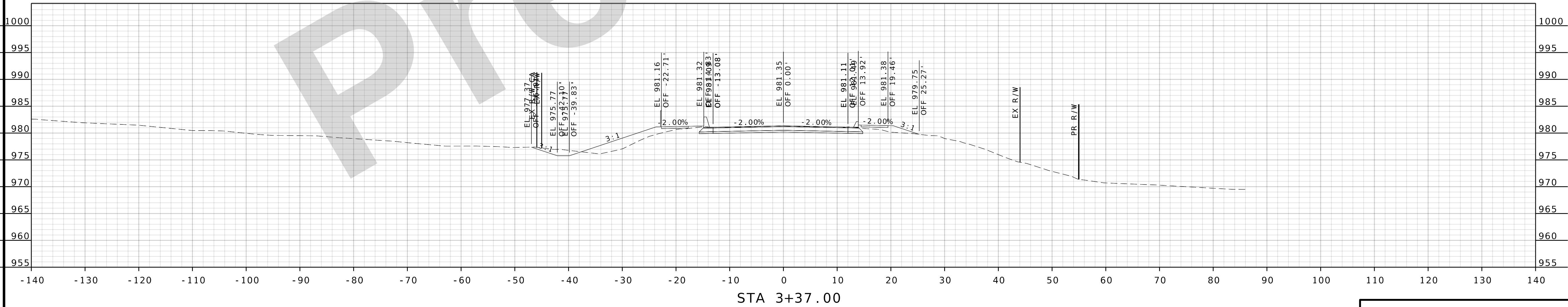
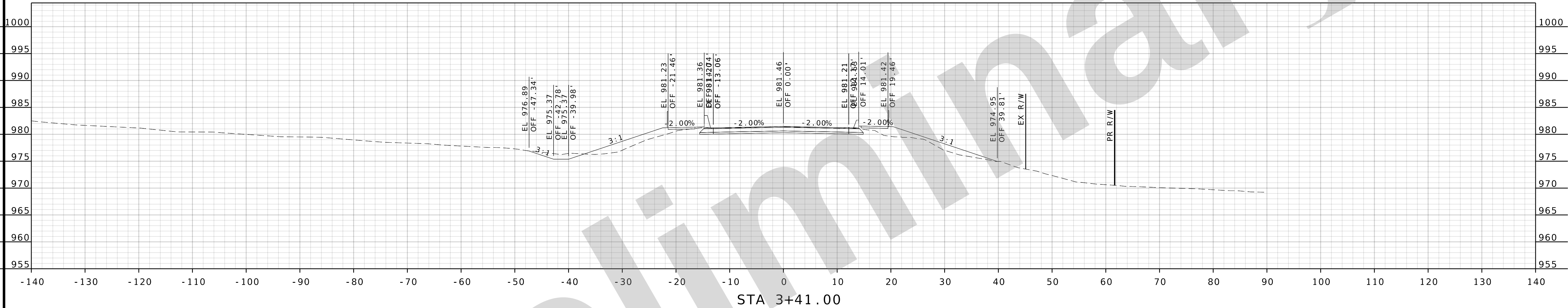
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CROSS SECTIONS
SHEET 1 OF 9



CROSS SECTIONS
SHEET 2 OF 9

RIGHT OF WAY
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10/27/2025

ROUTE
I 29

STATE
MO

DISTRICT
NW

SHEET NO.
2

COUNTY
BUCHANAN

JOB NO.
J113332

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
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1-888-ASK-MODOT (1-888-275-6636)

MODOT

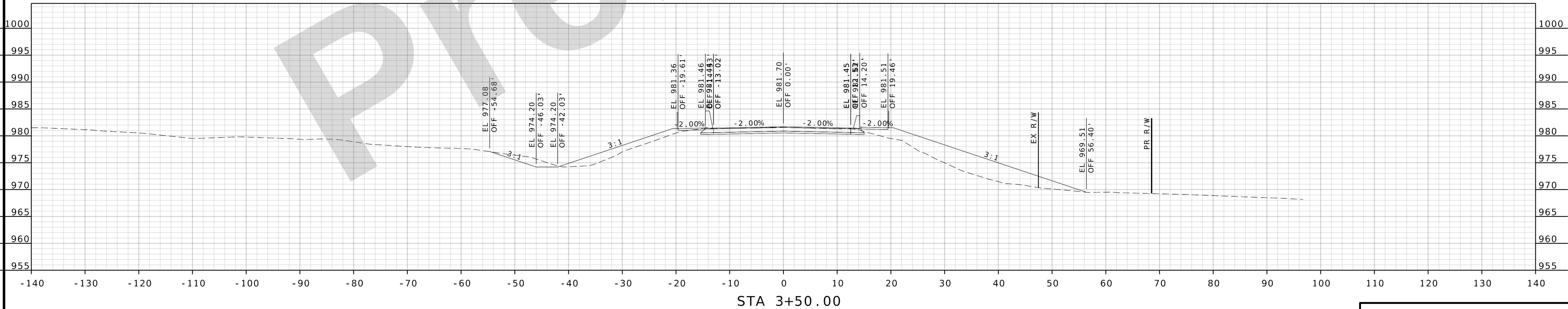
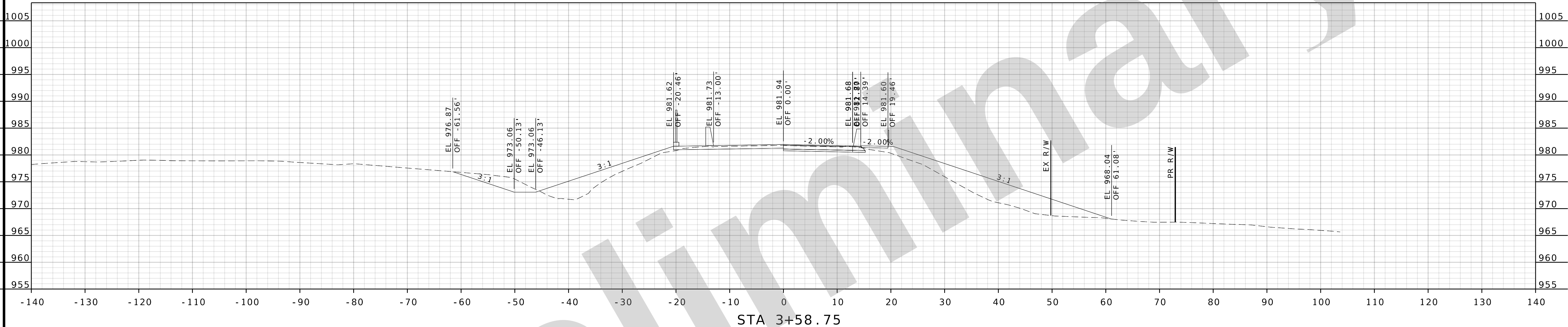
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REV.



CROSS SECTIONS
SHEET 3 OF 9

RIGHT OF WAY
PLANS
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FOR
CONSTRUCTION

DATE PREPARED
10/27/2025

ROUTE 129 STATE MO

DISTRICT NW SHEET NO. 3

COUNTY
BUCHANAN

JOB NO.
J113332

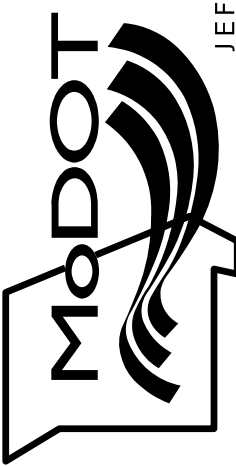
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PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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COMMISSION



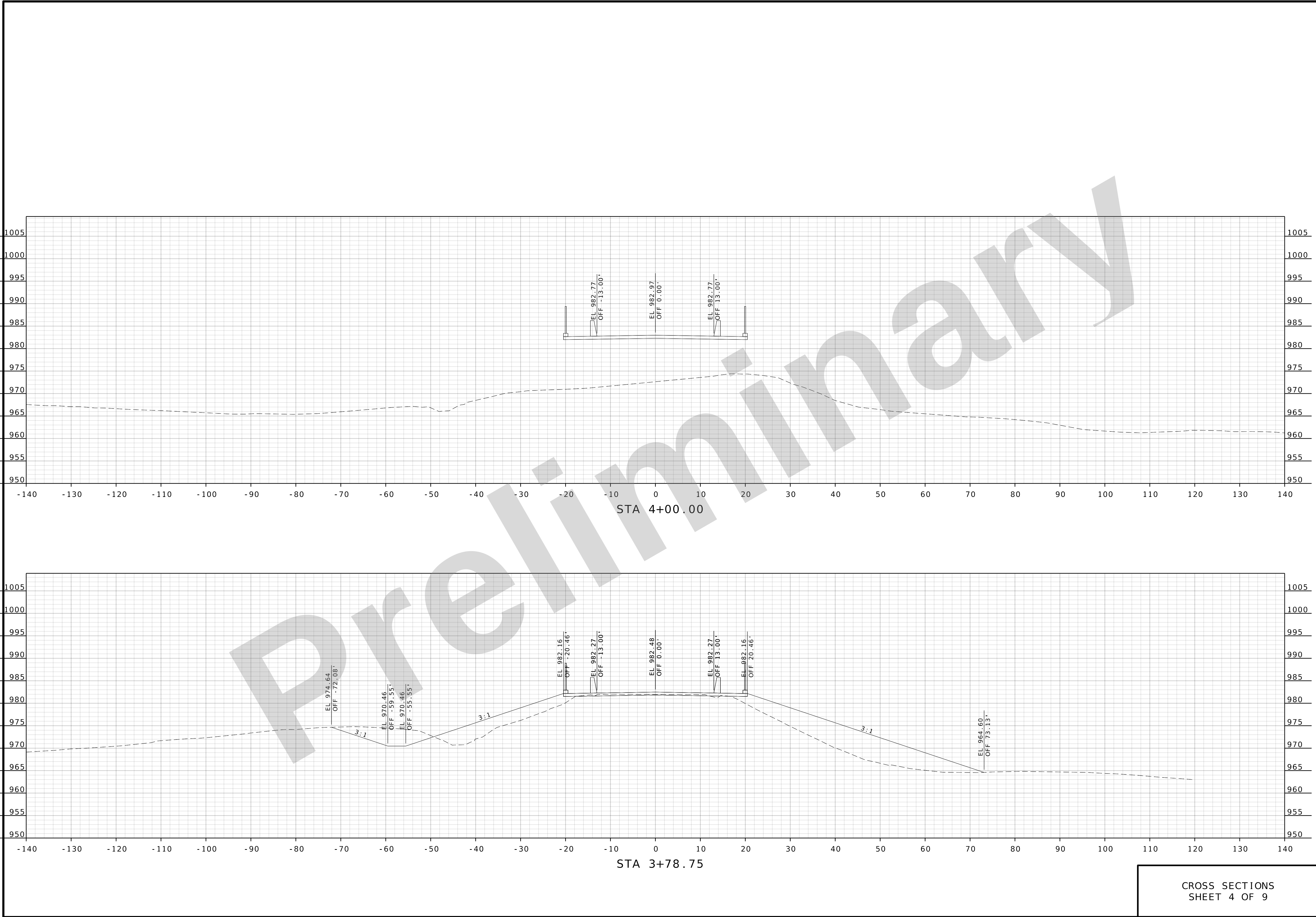
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RIGHT OF WAY
PLANS
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DATE PREPARED
10/27/2025

ROUTE
I 29

STATE
MO

DISTRICT
NW

SHEET NO.
4

COUNTY
BUCHANAN

JOB NO.
J113332

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

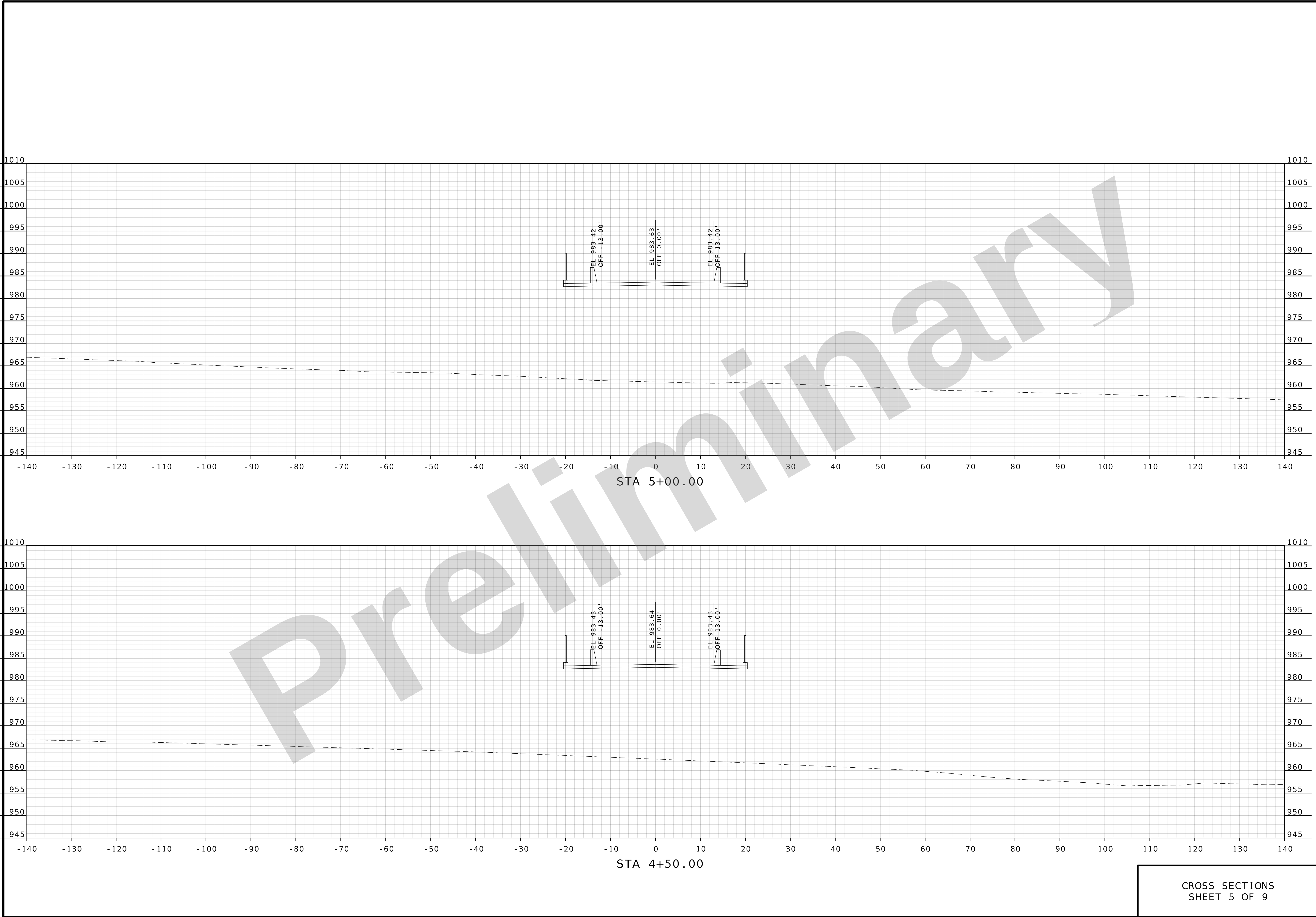
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CROSS SECTIONS
SHEET 4 OF 9

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RIGHT OF WAY
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DATE PREPARED
10/27/2025

ROUTE
I 29

STATE
MO

DISTRICT
NW

SHEET NO.
5

COUNTY
BUCHANAN

JOB NO.
J113332

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

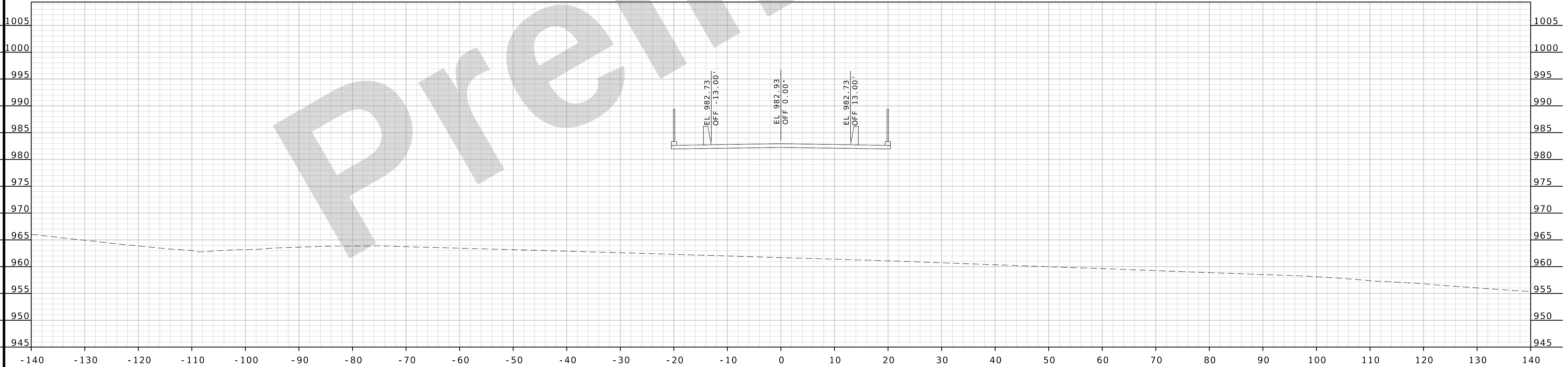
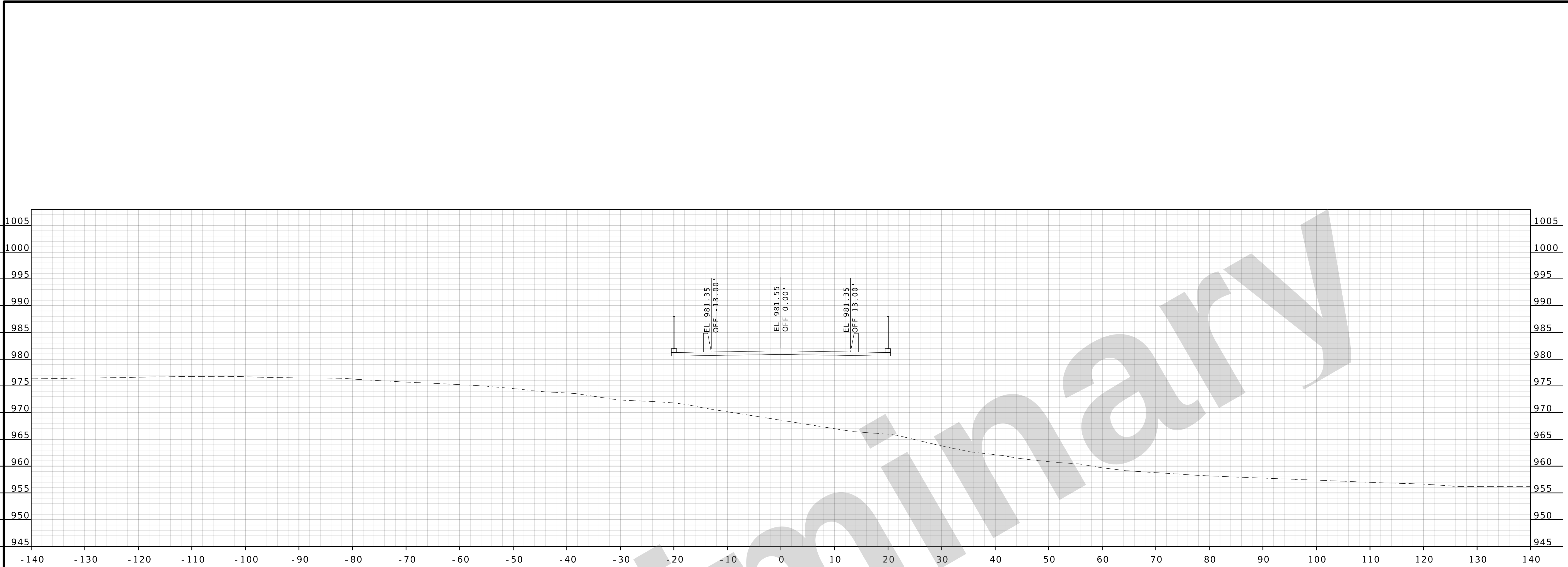
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CROSS SECTIONS
SHEET 5 OF 9

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ROUTE
I 29

STATE
MO

DISTRICT
NW

SHEET NO.
6

COUNTY
BUCHANAN

JOB NO.
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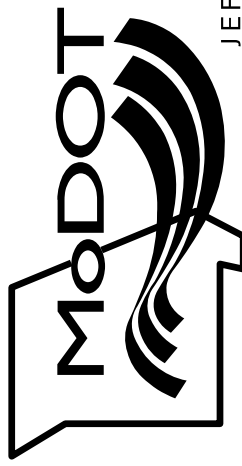
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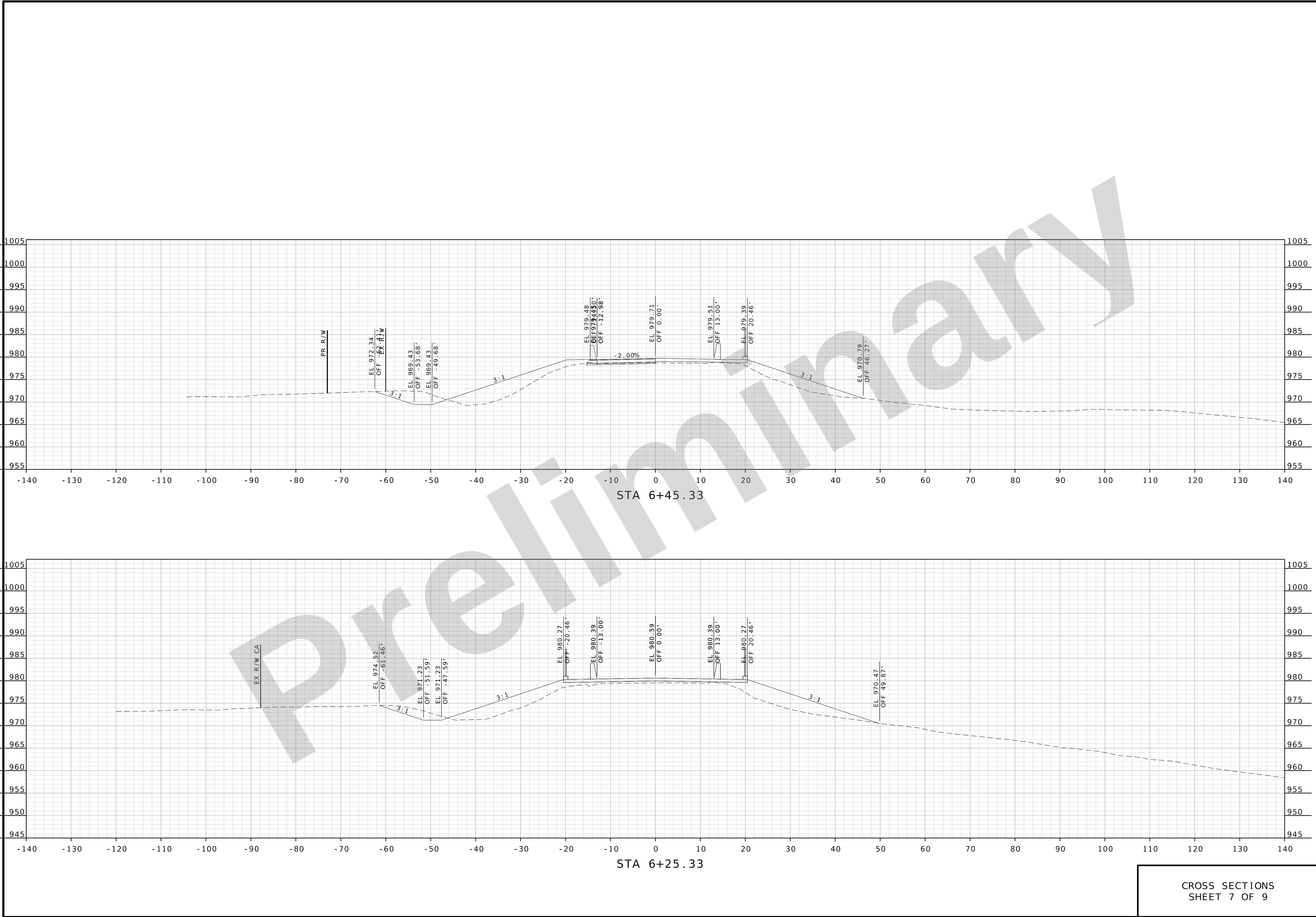
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CROSS SECTIONS
SHEET 6 OF 9

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ROUTE
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STATE
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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

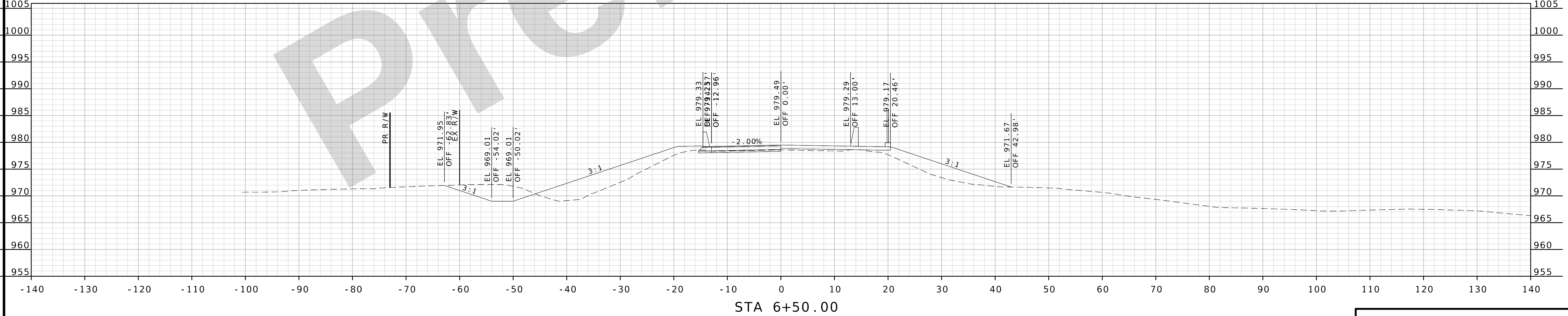
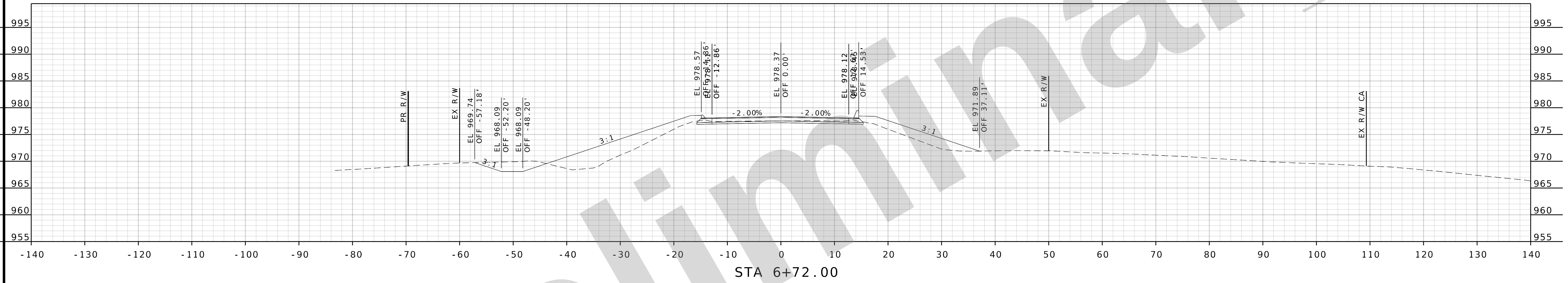
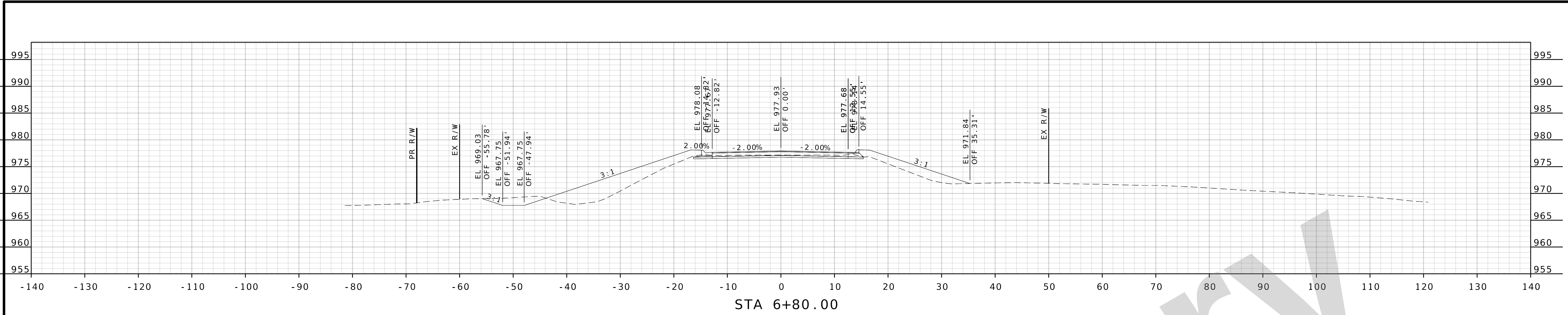
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CROSS SECTIONS
SHEET 7 OF 9



RIGHT OF WAY
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DATE PREPARED
10/27/2025

ROUTE
I 29

STATE
MO

DISTRICT
NW

SHEET NO.
8

COUNTY
BUCHANAN

JOB NO.
J113332

CONTRACT ID.

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MISSOURI HIGHWAYS AND TRANSPORTATION
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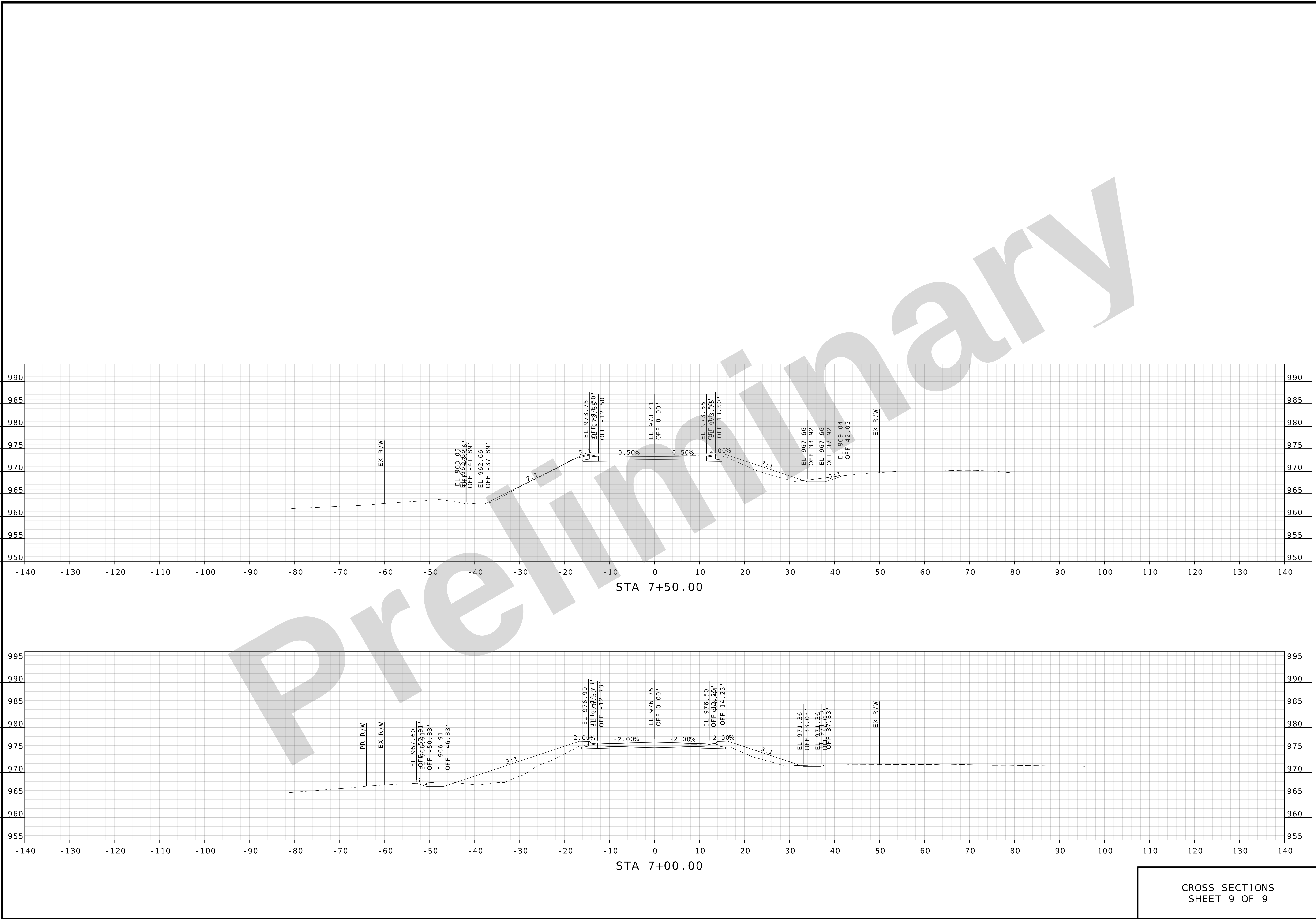
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CROSS SECTIONS
SHEET 8 OF 9



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ROUTE
I 29

STATE
MO

DISTRICT
NW

SHEET NO.
9

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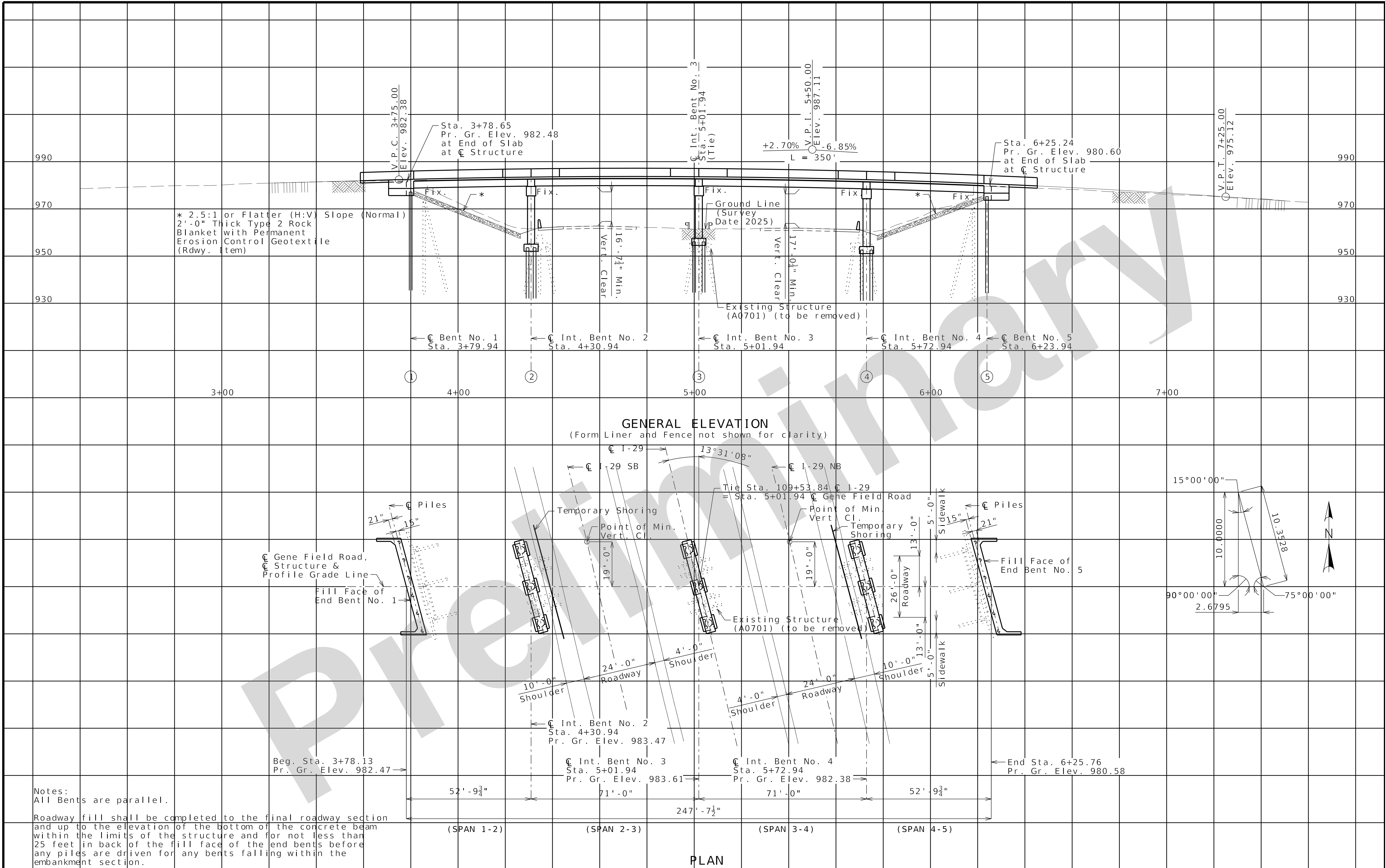
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SHELBY P. REYNOLDS
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ENGINEER
PE-2023018931

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED. REV.



Notes:
All Bents are parallel.
Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.

(51' - 71' - 71' - 51') PRESTRESSED CONCRETE SPREAD BOX BEAM SPANS ON INTEGRAL END BENTS

Detailed Aug 2025
Checked Aug 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 2

PRELIMINARY
PLANS
NOT APPROVED
FOR
CONSTRUCTION

DATE PREPARED
9/12/2025

ROUTE
I-29

STATE
MO

DISTRICT
BR

SHEET NO.
1

COUNTY
BUCHANAN

JOB NO.
J113332

CONTRACT ID.

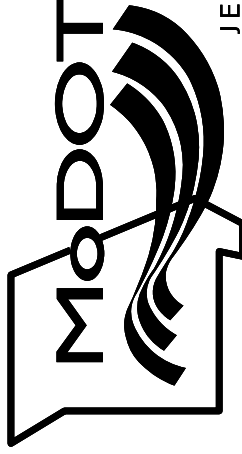
PROJECT NO.

BRIDGE NO.
A9735

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION


105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6366)


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DUSTIN TREGNAGO
PROFESSIONAL
ENGINEER
PE-2016012977

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General Notes:

Design Specifications:
2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
Seismic Design Category = A (Nonseismic)
Design earthquake response spectral acceleration coefficient at 1.0 second period, $S_{D1} = 0.077$
Acceleration Coefficient (effective peak ground accerelation coefficient), $A_s = 0.049$

Design Loading:
Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf
 $\phi = 32^\circ$
Superstructure: Simply Supported, Non-Composite for dead load.
Continuous Composite for live load.

Design Unit Stresses:
Class B Concrete (Substructure) $f'c = 3,000$ psi
Class B-1 Concrete (Barrier, Pedestrian Curb and CIP Piles) $f'c = 4,000$ psi
Class B-2 Concrete (Superstructure, except Prestressed Girders, Barrier and Pedestrian Curb) $f'c = 4,000$ psi
Reinforcing Steel (ASTM A615 Grade 60) $f_y = 60,000$ psi
Welded or Seamless steel shell (pipe) for CIP pile (ASTM A252 Modified Grade 3) $f_y = 50,000$ psi
For Prestressed Girder Stresses, See Sheets No. ___-___.

Neoprene Pads:
Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:
All joint filler shall be in accordance with Section 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Traffic Handling:
Vertical clearance for I-29 traffic during construction shall be 16'-6" minimum over a 22' wide horizontal opening of the roadway in each direction. See roadway plans for traffic control.

Foundation Data						
Type	Design Data	Bent Number				
		1	2	3	4	5
Load Bearing Pile	Pile Type and Size	CECIP 14"	CECIP 14" or 16"	CECIP 14" or 16"	CECIP 14" or 16"	CECIP 14"
	Number	ea 6	12	12	12	6
	Approximate Length Per Each	ft 60	-	-	-	60
	Pile Point Reinforcement	ea All	All	All	All	All
	Min. Galvanized Penetration (Elev.)	ft 956.04	-	-	-	954.09
	Minimum Tip Penetration (Elev.)	ft -	-	-	-	-
	Criteria for Min. Tip Penetration	*	*	*	*	*
	Pile Driving Verification Method	DT	DT	DT	DT	DT
	Resistance Factor	0.65	0.65	0.65	0.65	0.65
	Minimum Nominal Axial Compressive Resistance	kip 324	-	-	-	324

* Penetration of anticipated soft geotechnical layers

DT = Dynamic Testing

CECIP = Closed Ended Cast-In-Place concrete pile

Load Bearing Pile:
Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor

All piles shall be galvanized to the minimum galvanized penetration (elevation).

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

Estimated Quantities			
Item	Substr.	Superstr.	Total
Class 1 Excavation	cu. yard		
Temporary Shoring	lump sum		1
Removal of Bridges (A0701)	lump sum		1
Bridge Approach Slab (Minor)	sq. yard	170	170
(72 in.) Decorative Pedestrian Fence (Structures)	linear foot	573	573
Galvanized Cast-in-Place Concrete Piles (14 in.)	linear foot		
Dynamic Pile Testing	each	5	5
Pile Point Reinforcement	each	48	48
Class B Concrete (Substructure)	cu. yard		
Type D Barrier	linear foot	573	573
Slab On Concrete Beam	sq. yard	1121	1121
Form Liners	sq. yard	191	191
Pedestrian Curb	linear foot	573	573
27 in., Prestressed Concrete Spread Box Beam	linear foot	1214	1214
Reinforcing Steel (Bridges)	pound		
Reinforcing Steel (Epoxy Coated)	pound		
Vertical Drain at End Bents	each	2	2
Plain Neoprene Bearing Pad	each	5	5
Laminated Neoprene Bearing Pad	each	25	25
Laminated Neoprene Bearing Pad (Tapered)	each	10	10

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete Beam.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete Beam.

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete Beam.

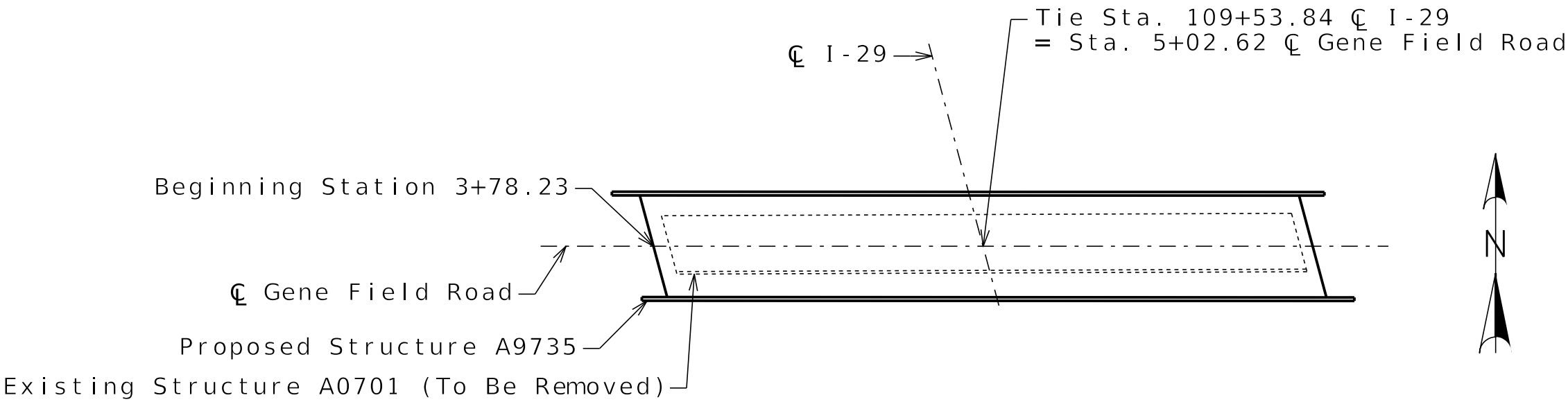
All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete Beam.

Estimated Quantities for Slab on Concrete Beam		
Item		Total
Class B-2 Concrete	cu. yard	--
Reinforcing Steel (Epoxy Coated)	pound	--

The Table of Estimated Quantities for Slab On Concrete Beam represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II, or III.

Slab shall be cast-in-place with conventional forms or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.



LOCATION SKETCH

PRELIMINARY
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DATE PREPARED
11/30/2025

ROUTE
I-29

STATE
MO

DISTRICT
BR

SHEET NO.
\$GNQ\$

COUNTY
BUCHANAN

JOB NO.
J113332

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9735

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

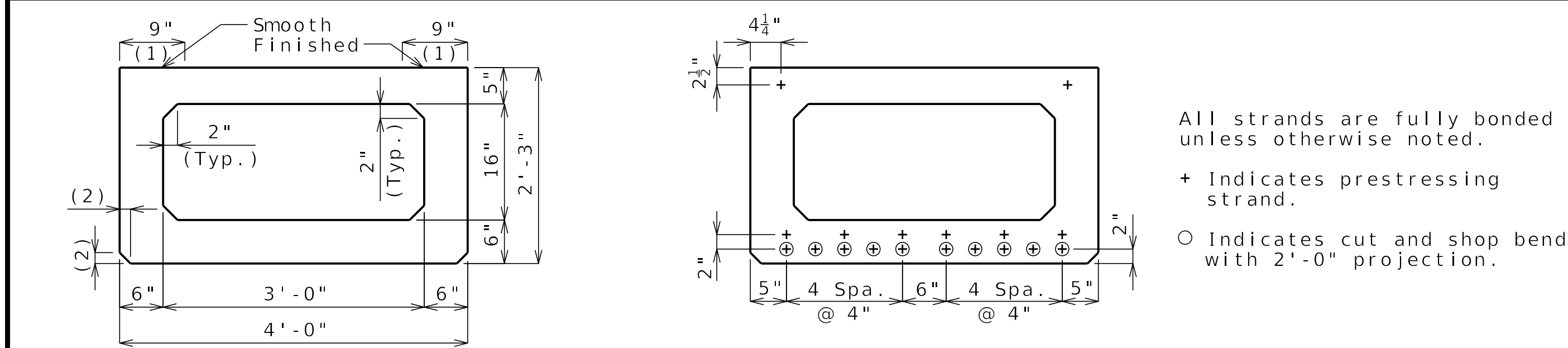
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PROFESSIONAL
ENGINEER
PE-2016012977



DIMENSIONS

(1) Fabricator shall apply a bond breaker to this region.

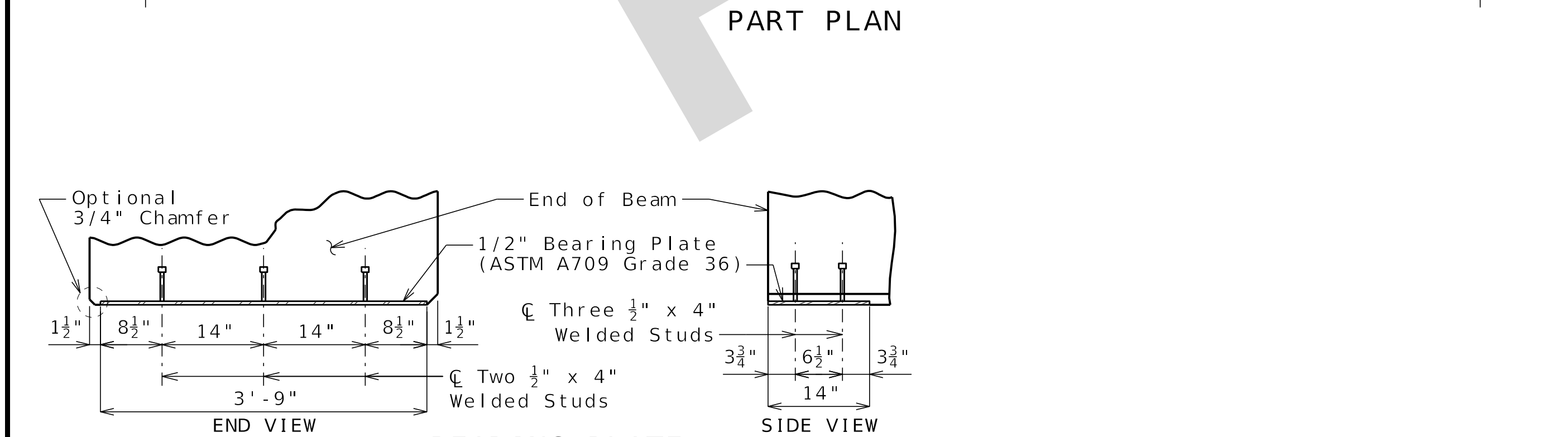
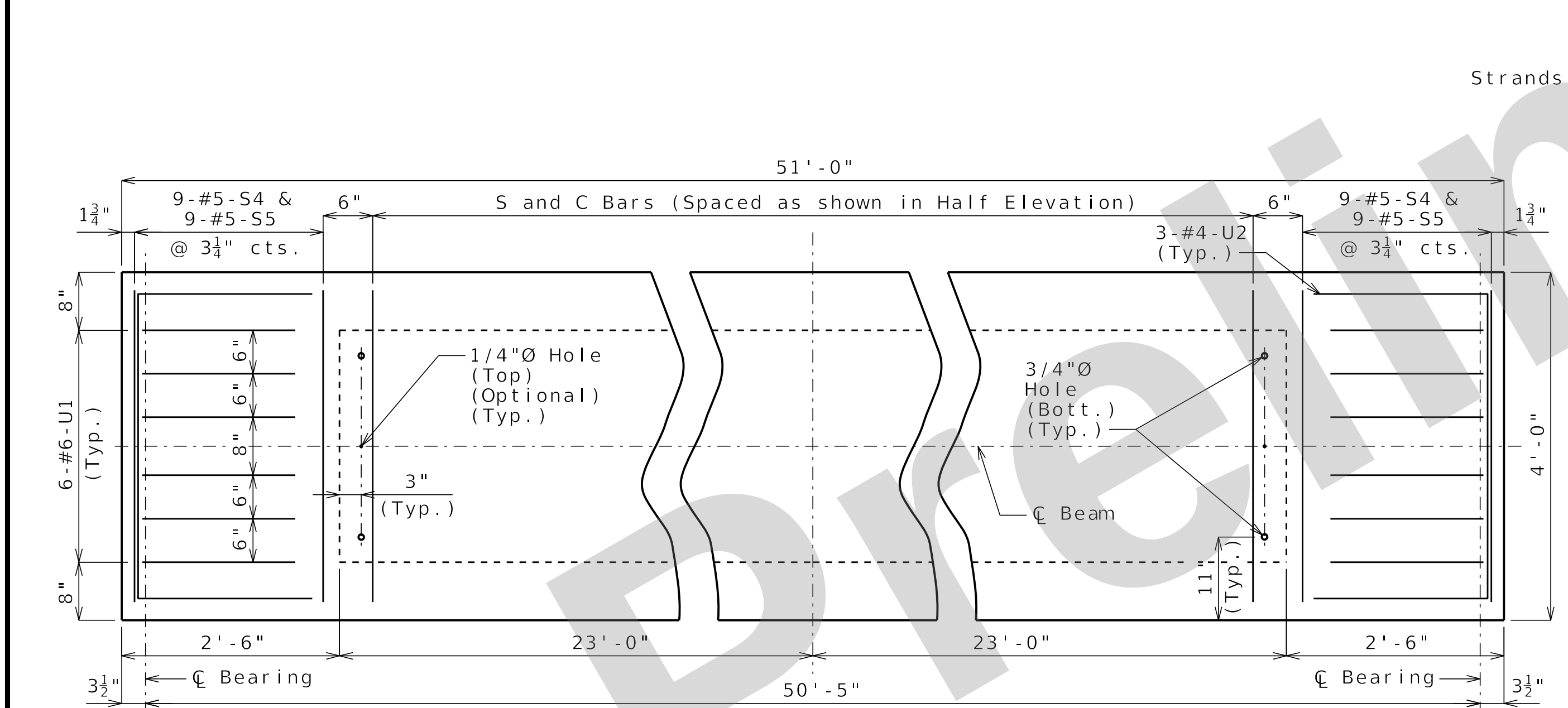
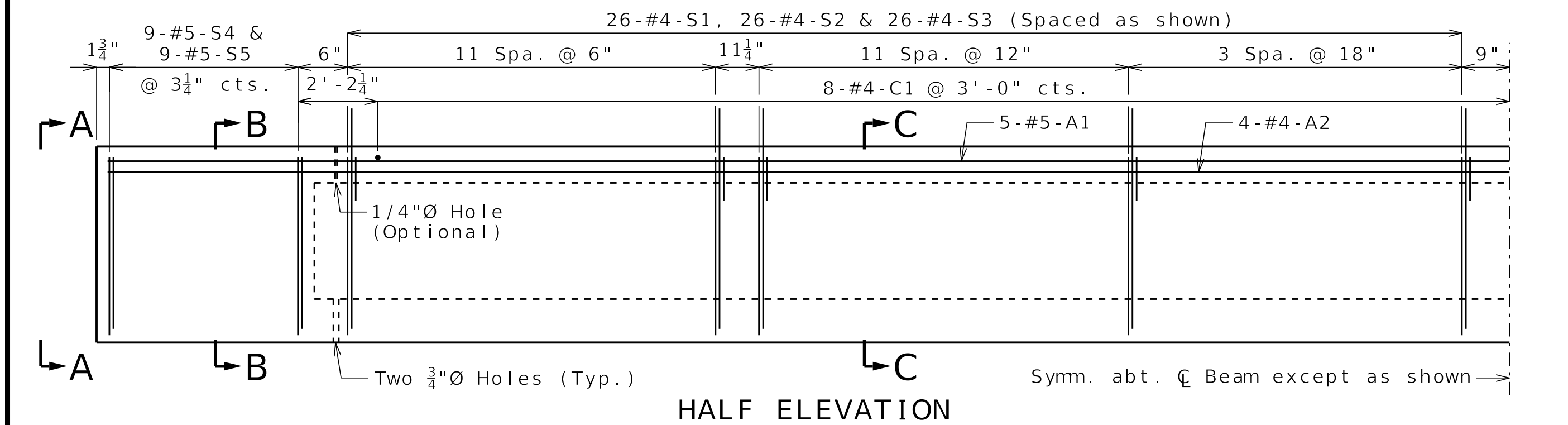
(2) 1½" (Typ.) (¾" Optional)

STRAND ARRANGEMENT

All strands are fully bonded unless otherwise noted.

+ Indicates prestressing strand.

○ Indicates cut and shop bend with 2'-0" projection.



BEARING PLATE

End of Beam

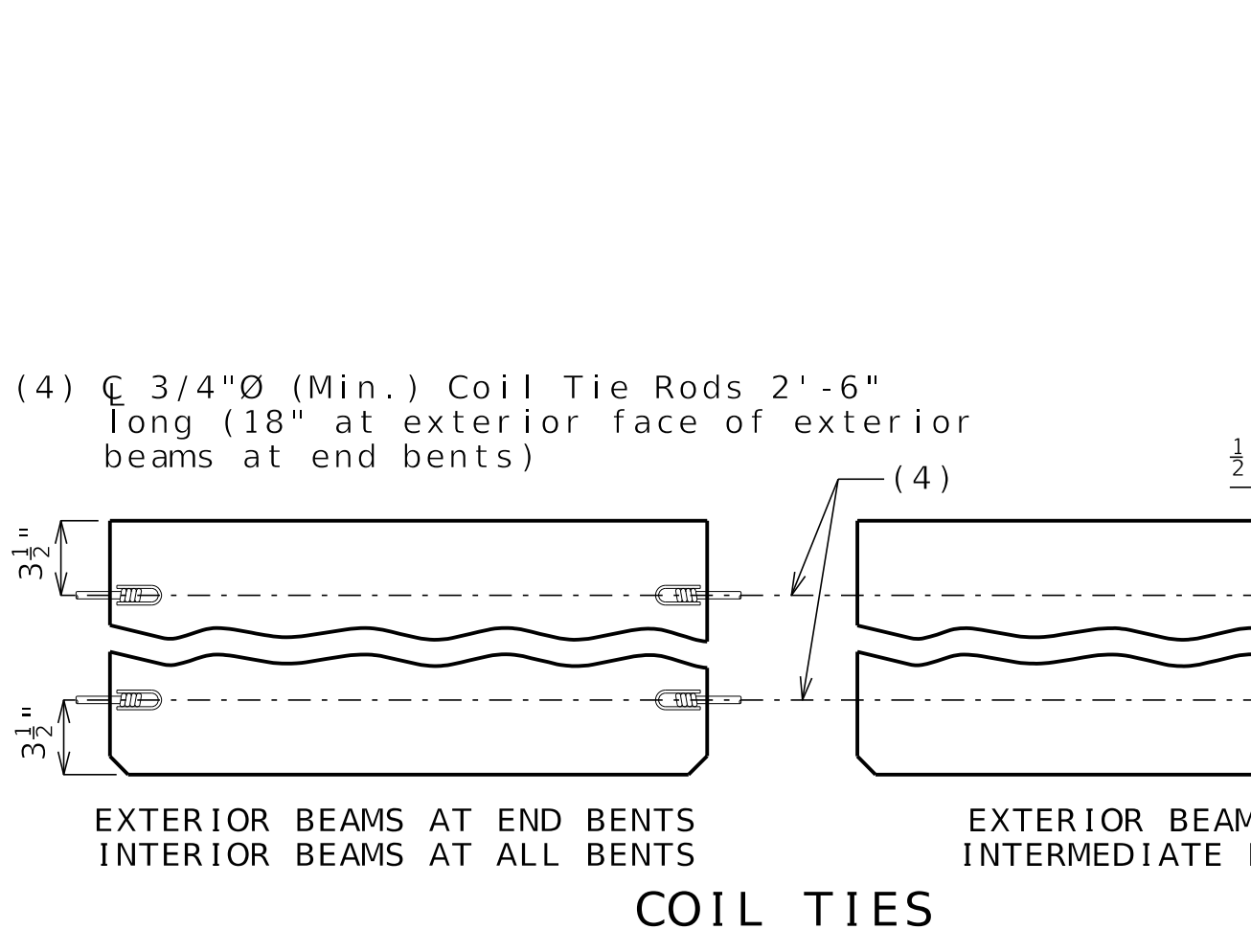
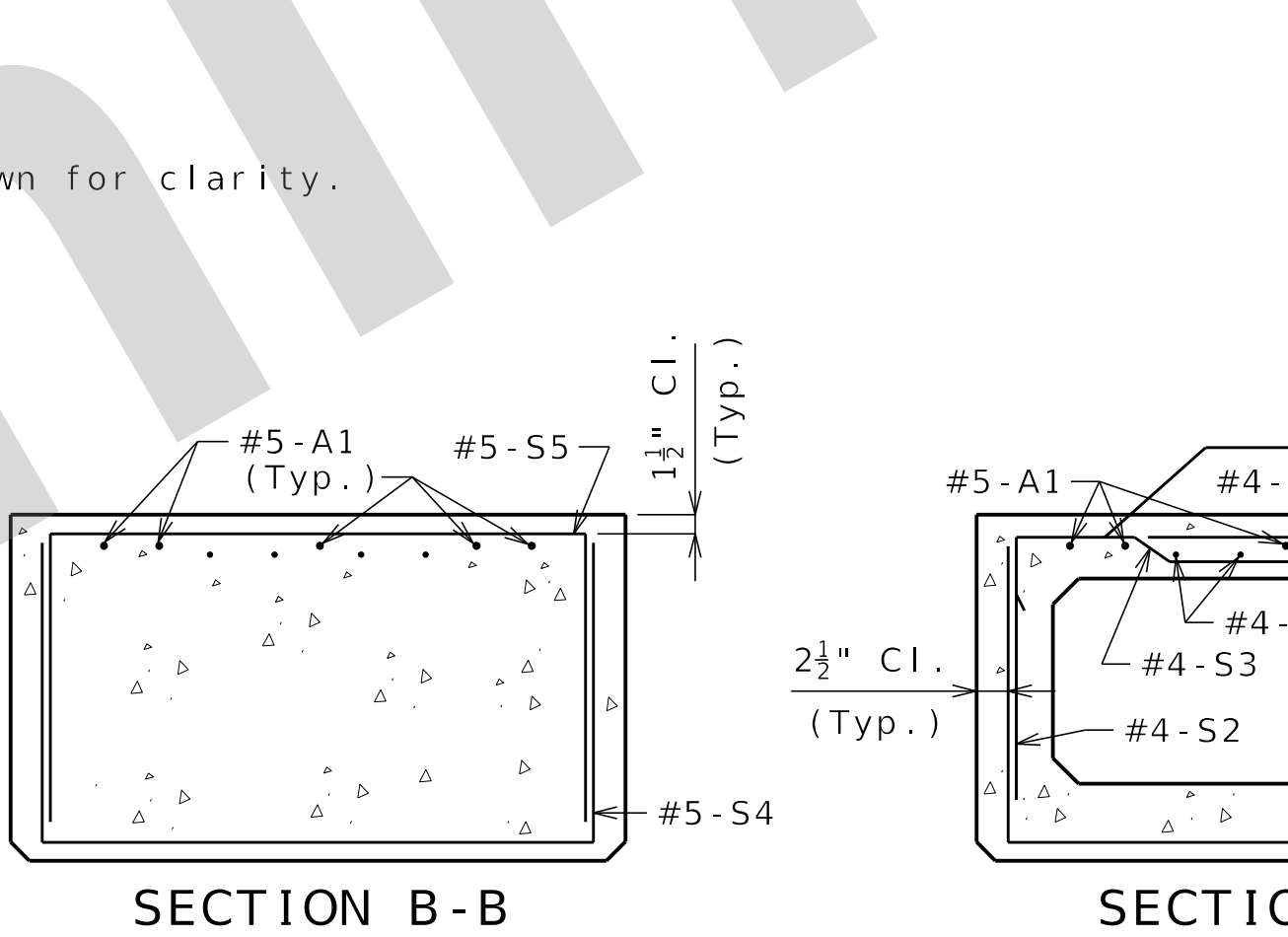
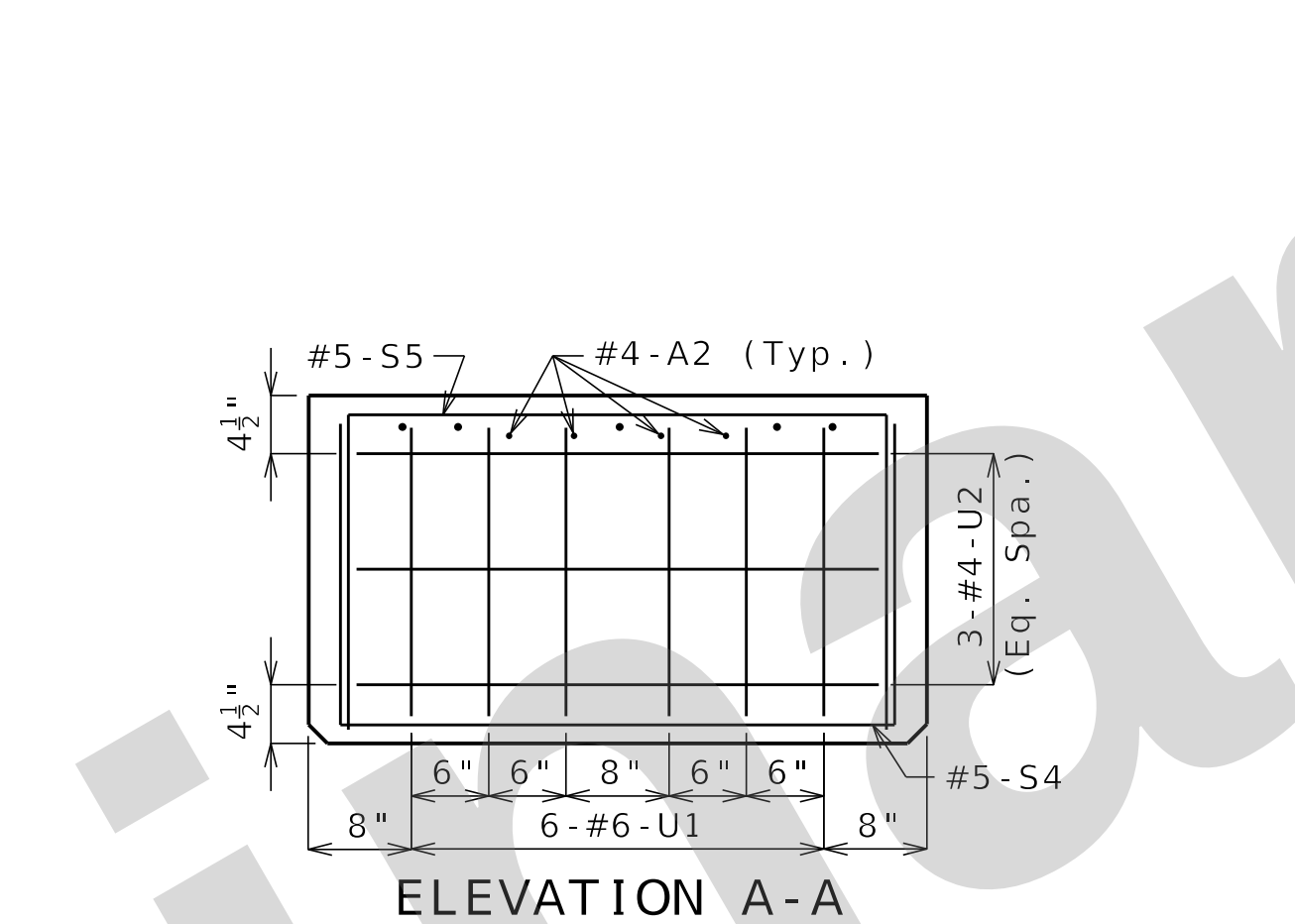
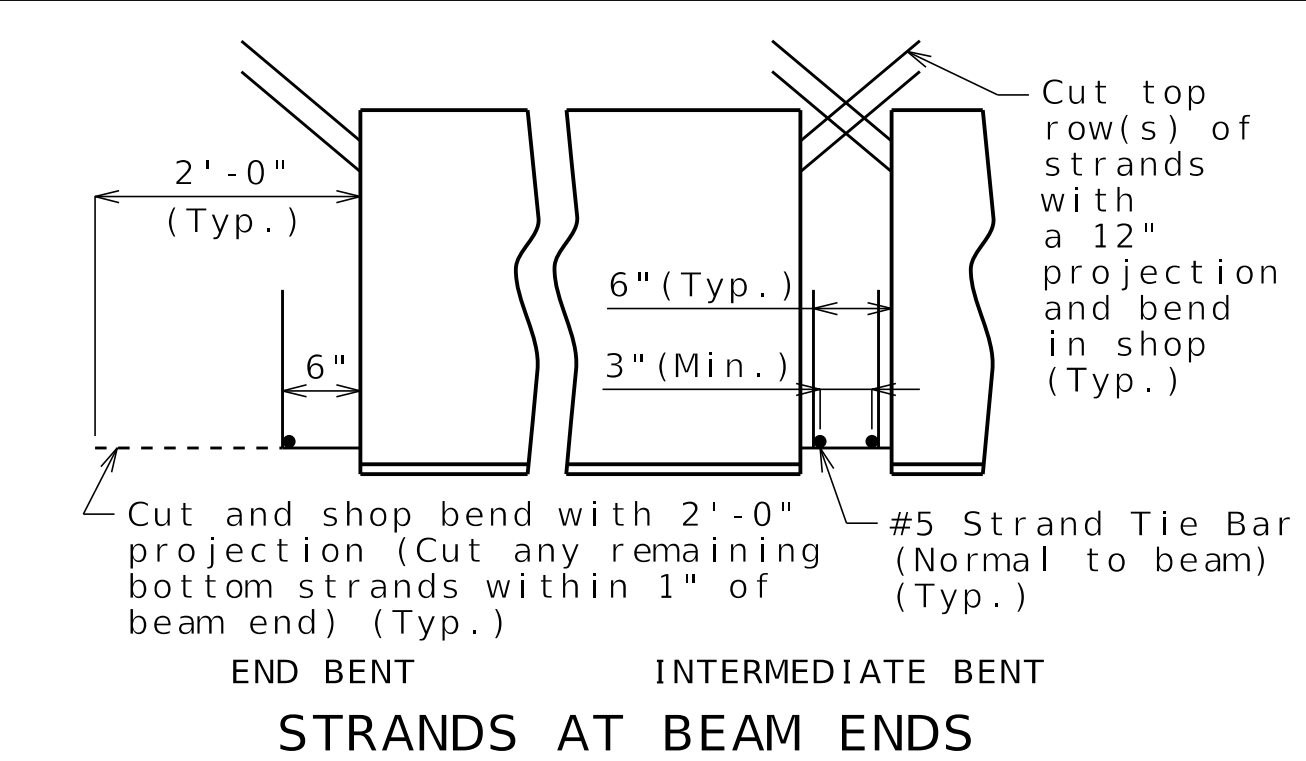
1½" Bearing Plate (ASTM A709 Grade 36)

Three ½" x 4" Welded Studs

Two ½" x 4" Welded Studs

SPREAD BOX BEAMS - SPANS (1-2) AND (4-5)

Note: This drawing is not to scale. Follow dimensions.



BILL OF REINFORCING STEEL - EACH BEAM					BENDING DIAGRAM	
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE			
10	5 A1	49'-10"	20		3'-7"	3'-7"
8	4 A2	49'-10"	20		23 3/4"	23 3/4"
15	4 C1	3'-7"	20		(S1, S4)	(S5)
52	4 S1	7'-5"	10S		21"	3'-5 3/4"
52	4 S2	7'-10"	51S		23"	2'-0"
52	4 S3	4'-6"	50S		(U1)	(U2)
18	5 S4	7'-4"	10S		SHAPE 10S	
18	5 S5	7'-4"	10S		SHAPE 20	
12	6 U1	5'-1"	10S		10"	2 1/2"
6	4 U2	7'-4"	10S		6"	18"
					SHAPE 50S	
					7 3/4"	7 3/4"
					SHAPE 51S	

All dimensions are out to out. Use symmetry for dimensions not shown.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.

All S2 bars shall be epoxy coated.

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 18 strands, 0.6"Ø Grade 270, with an initial prestress force of 790.92 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior beams are the same except: coil ties.

For Beam Camber Diagram, see Sheet No. __.

For location of coil ties at concrete bent diaphragms, see Sheets No. __ and __.

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DATE PREPARED
11/30/2025

ROUTE
I-29

DISTRICT
BR

COUNTY
BUCHANAN

JOB NO.
J113332

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9735

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102
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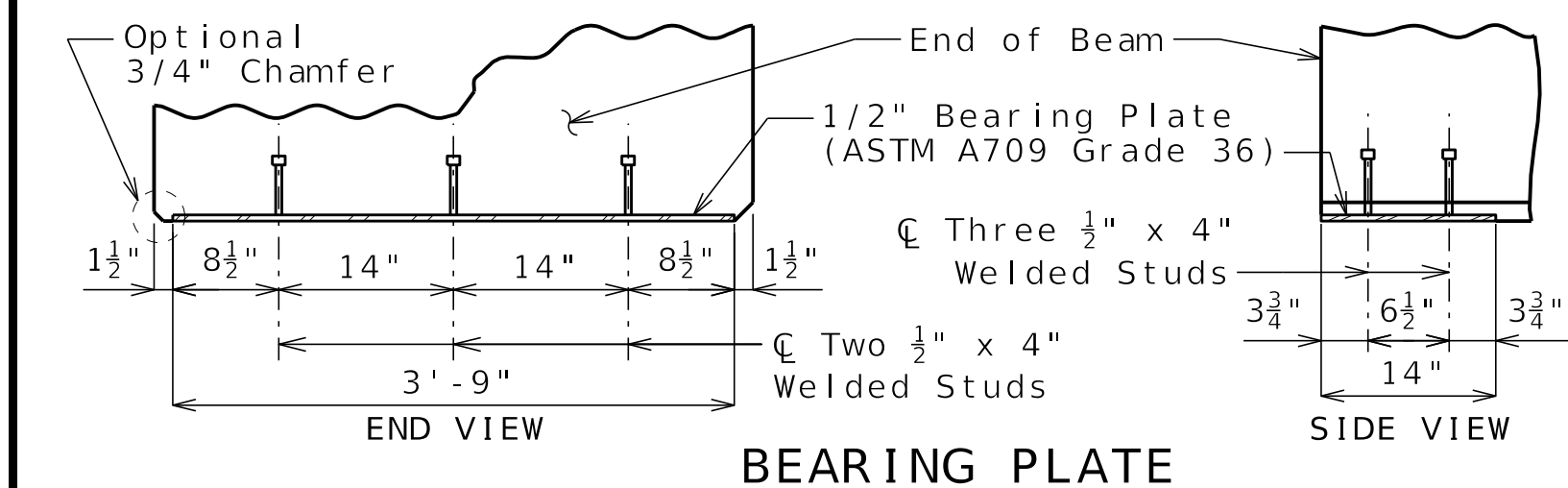
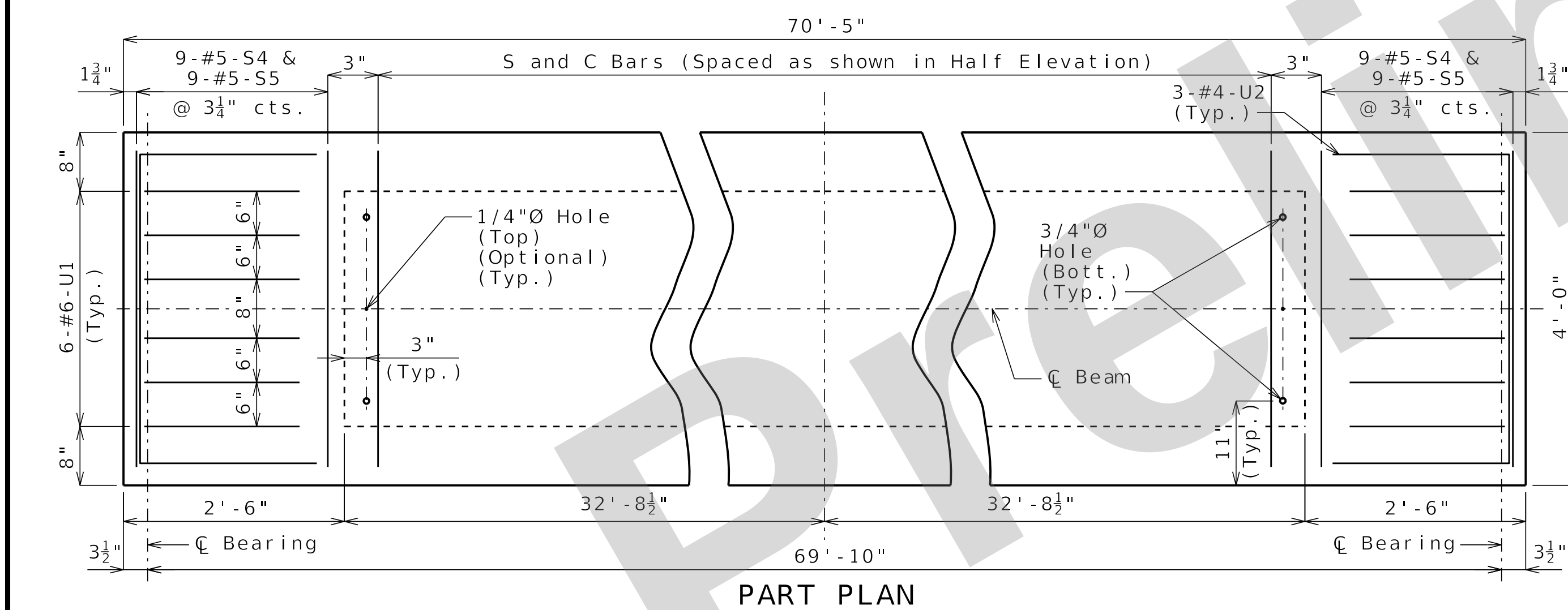
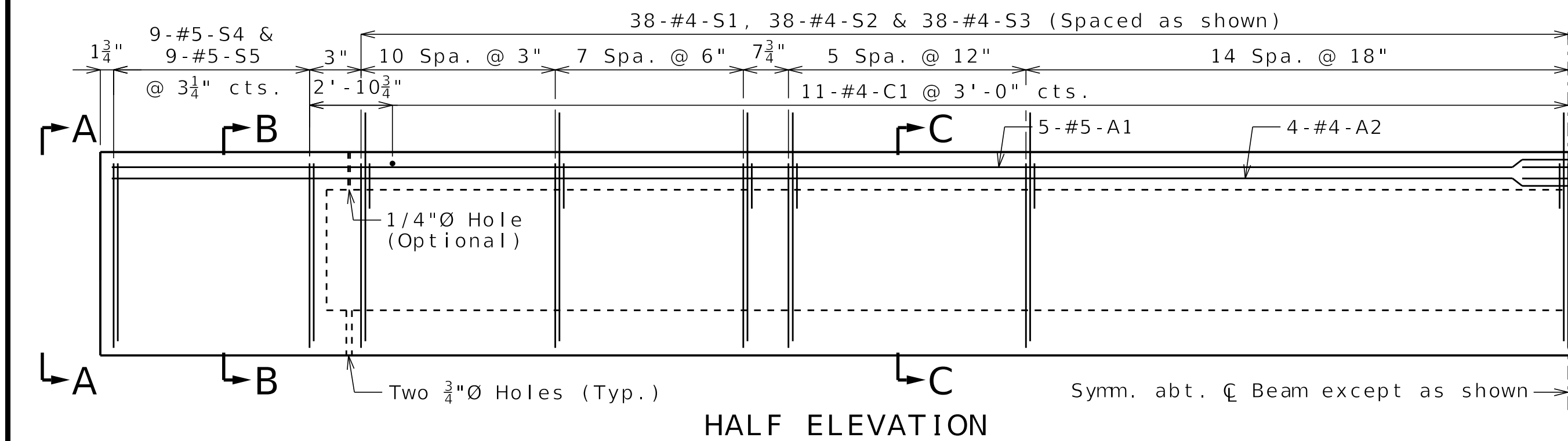
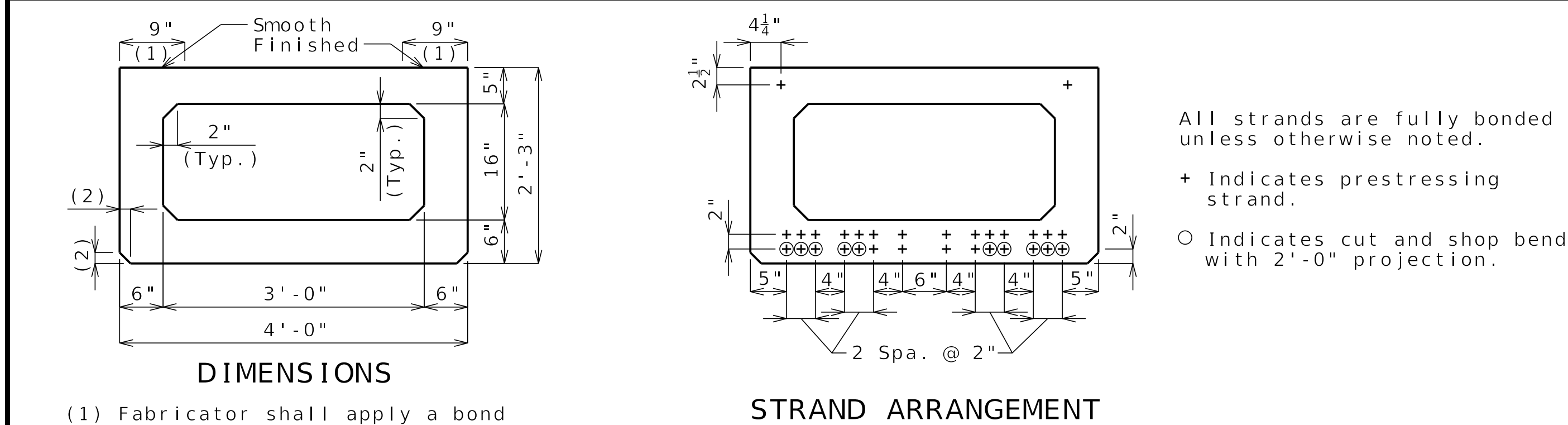
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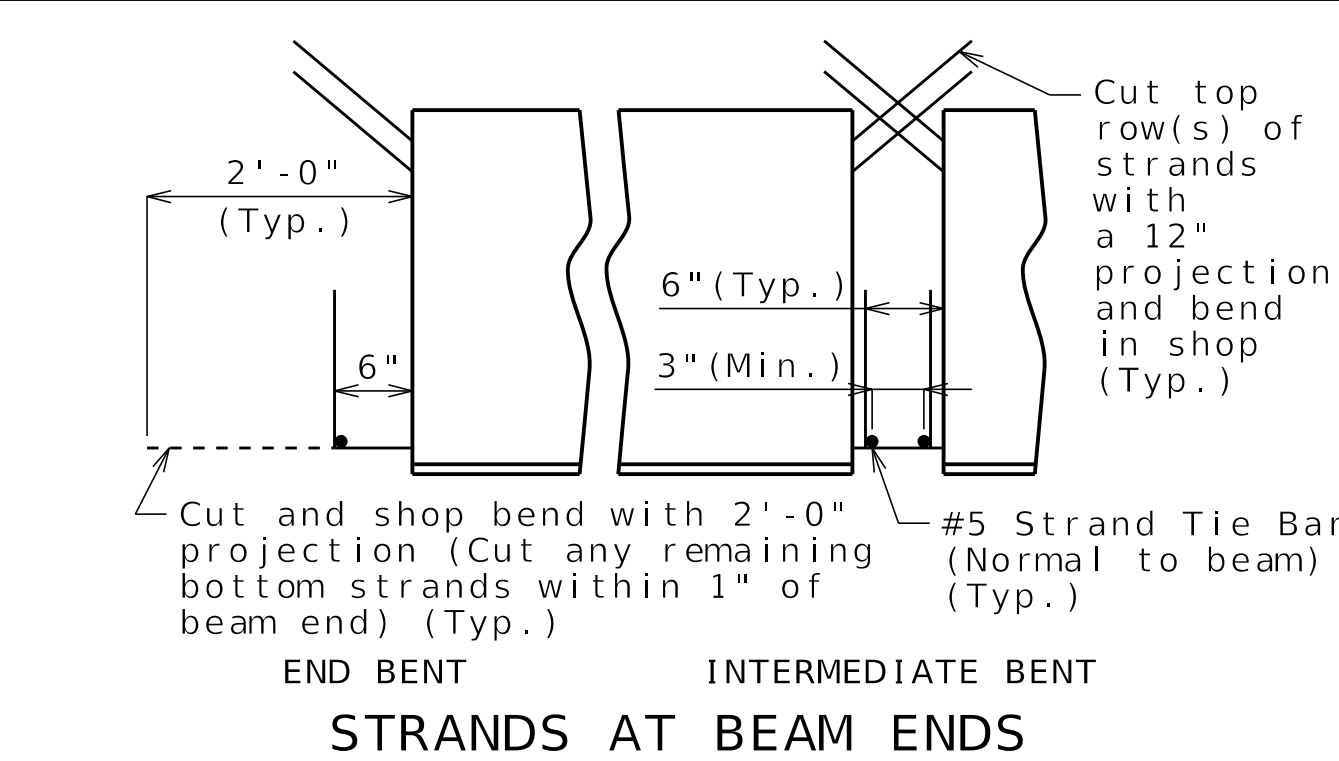
DUSTIN TREGNAGO
PROFESSIONAL
ENGINEER
PE-2016012977



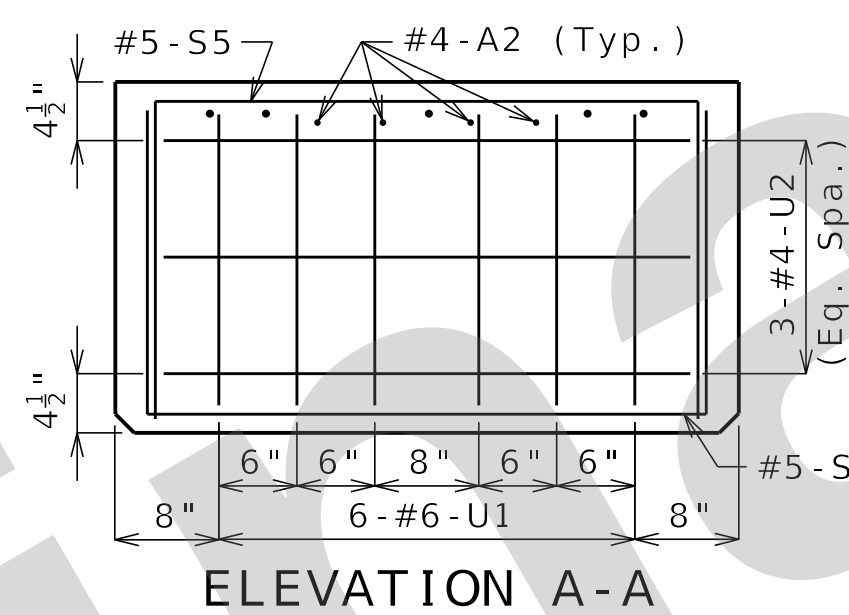
Detailed Jan. 2026
Checked Jan. 2026

Note: This drawing is not to scale. Follow dimensions.

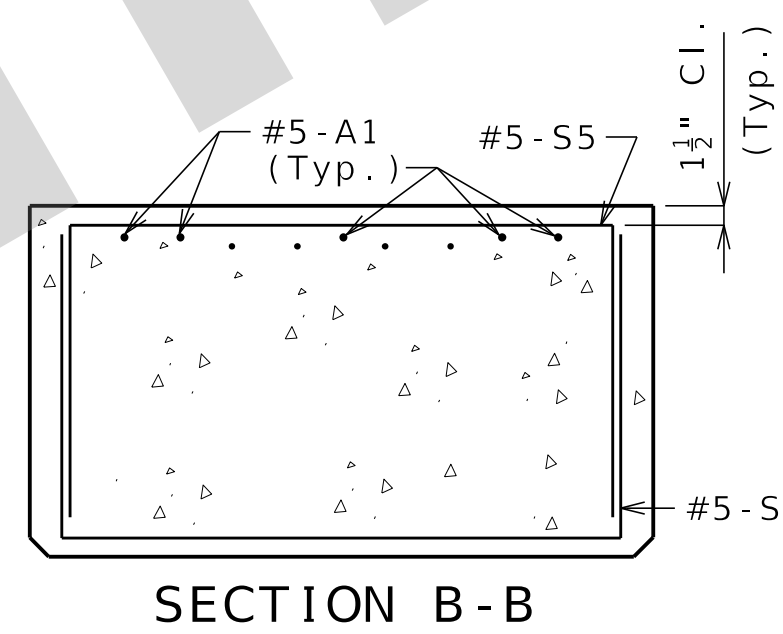
SPREAD BOX BEAMS - SPANS (2-3) AND (3-4)



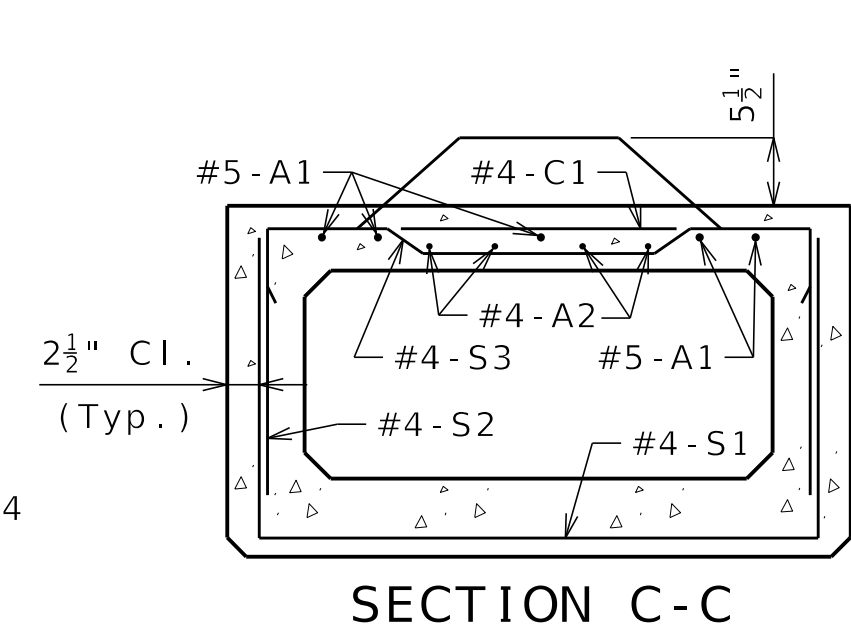
STRANDS AT BEAM ENDS



ELEVATION A-A

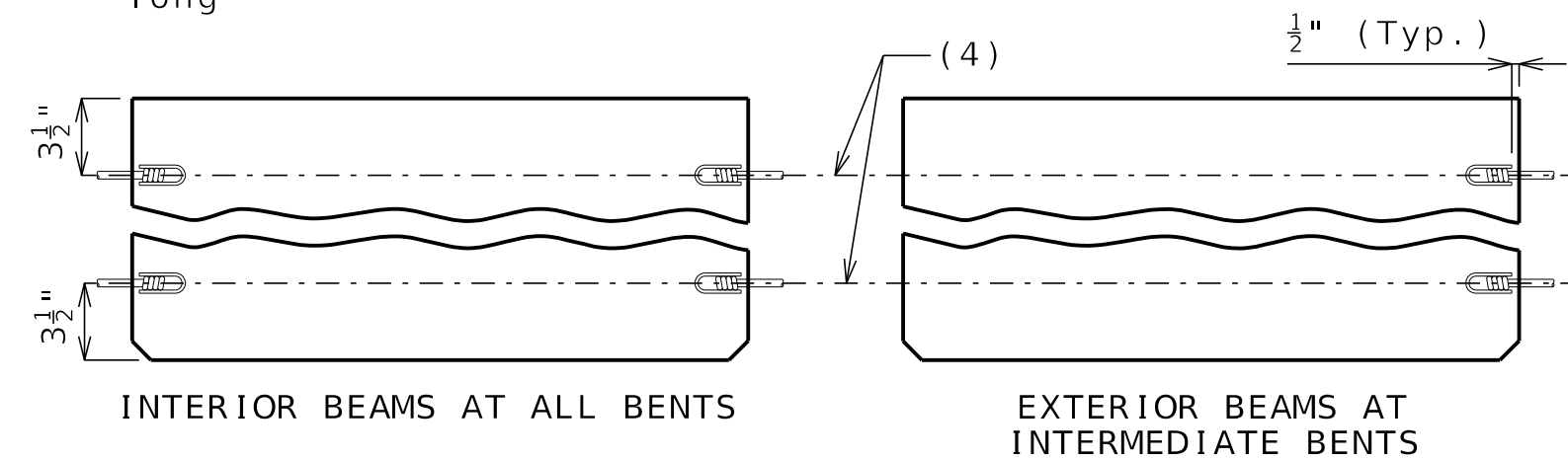


SECTION B-B



SECTION C-C

(4) C 3/4"Ø (Min.) Coil Tie Rods 2'-6" Long



COIL TIES

BILL OF REINFORCING STEEL - EACH BEAM					
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM	
20	5 A1	36'-2"	20		
16	4 A2	35'-11"	20		
21	4 C1	3'-7"	20		
75	4 S1	7'-5"	10S		
75	4 S2	7'-10"	51S		
75	4 S3	4'-6"	50S		
18	5 S4	7'-4"	10S		
18	5 S5	7'-4"	10S		
12	6 U1	5'-1"	10S		
6	4 U2	7'-4"	10S		

All dimensions are out to out. Use symmetry for dimensions not shown.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.
All S2 bars shall be epoxy coated.

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 30 strands, 0.6"Ø Grade 270, with an initial prestress force of 1318.2 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior beams are the same except: coil ties.

For Beam Camber Diagram, see Sheet No. __.

For location of coil ties at concrete bent diaphragms, see Sheets No. __ and __.

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