MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY

CASS COUNTY

SEC. 20 & 29, T46N, R31W

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

DESIGN DESIGNATION ROUTE 291

A.A.D.T. - 2019 = 10,559
A.A.D.T. - 2039 = 15,676
D.H.V. = 10%
T = 7%
V = 55 M.P.H.
D = 50%

FUNCTIONAL CLASSIFICATION-PRINCIPAL ARTERIAL

DESIGN DESIGNATION ROUTE 58

A.A.D.T. - 2019 = 3,064
A.A.D.T. - 2039 = 4,538
D.H.V. = 10%
T = 4%
V = 55 M.P.H.
D = 50%

FUNCTIONAL CLASSIFICATION-MINOR ARTERIAL

DESIGN DESIGNATION HUBACH HILL ROAD

A.A.D.T. - 2019 = 1,597
A.A.D.T. - 2039 = 2,354
D.H.V. = 9%
T = 5%
V = 45 M.P.H.
D = 50%

FUNCTIONAL CLASSIFICATION-MINOR ARTERIAL

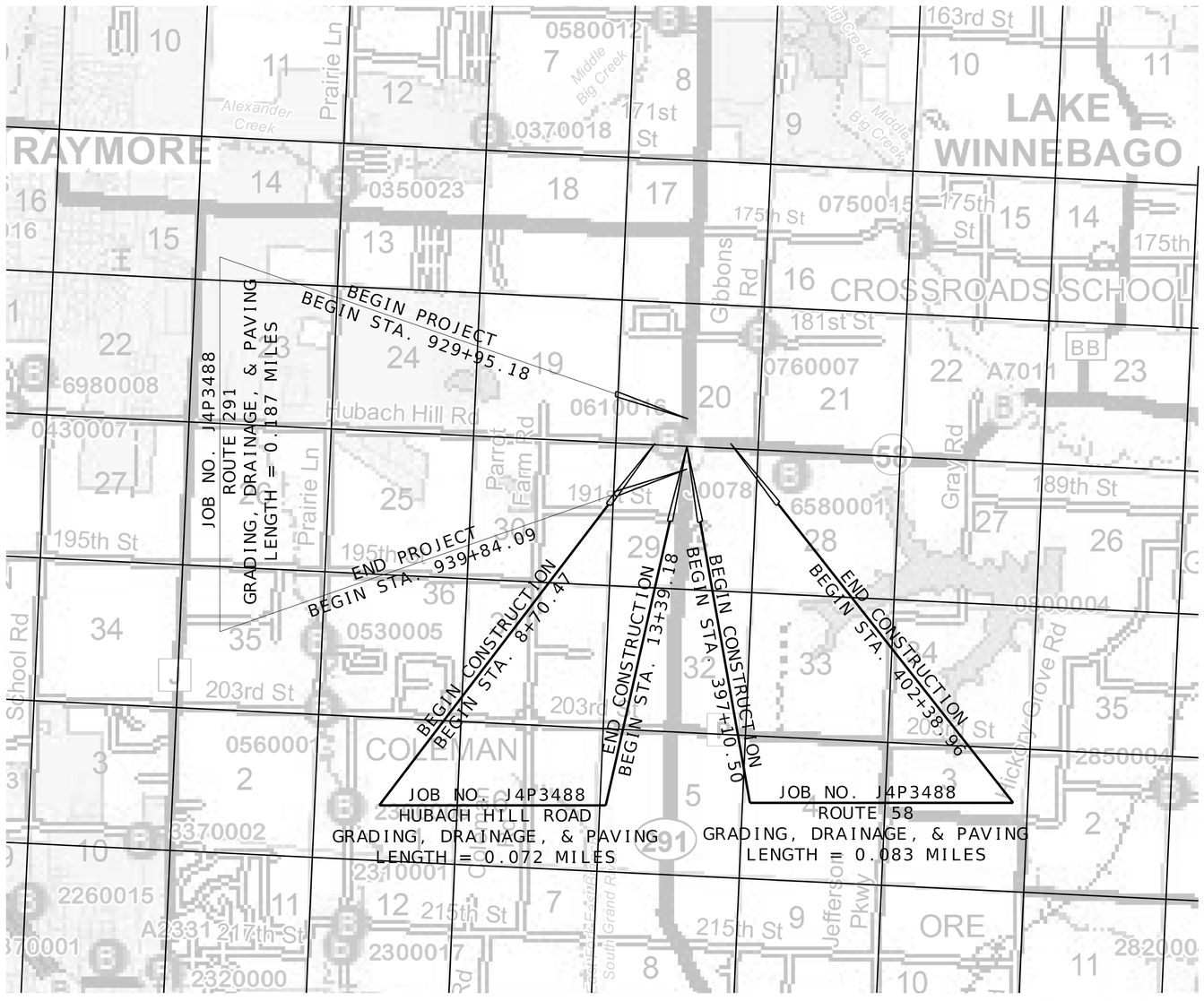
NORMAL RIGHT OF WAY TO BE ACQUIRED

CONVENTIONAL SYMBOLS

(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	—FO—	—FO—
OVERHEAD CABLE TV	—OTV—	—OTV—
UNDERGROUND CABLE TV	—UTV—	—UTV—
OVERHEAD TELEPHONE	—OT—	—OT—
UNDERGROUND TELEPHONE	—UT—	—UT—
OVERHEAD POWER	—OE—	—OE—
UNDERGROUND POWER	—UE—	—UE—
SANITARY SEWER	—S—	—S—
STORM SEWER	—SS—	—SS—
GAS	—G—	—G—
WATER	—W—	—W—
MANHOLE	SAN	
FIRE HYDRANT	HYD	
WATER VALVE	WV	
WATER METER	WM	
DROP INLET	D	
DITCH BLOCK		
GROUND MOUNTED SIGN	SIGN	
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL	PED	
FENCE		
CHAIN LINK	—V—	
WOVEN WIRE	—X—	
GATE POST		
BENCHMARK	BM	

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES



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.

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (7 SHEETS)	2
PLAN-PROFILE (PP)	4-11
COORDINATE POINTS (CP)	12
TRAFFIC CONTROL SHEETS (TC)	13-16
CULVERT SECTIONS (CS)	17-20
UTILITY SHEETS (UT)	21-26
CROSS SECTIONS (XS)	1-30

LENGTH OF PROJECT

ROUTE 291

BEGINNING OF PROJECT	STA.	929+95.18
END OF PROJECT	STA.	939+84.09
APPARENT LENGTH		988.91 FEET

HUBACH HILL ROAD

BEGIN CONSTRUCTION	STA.	8+70.47
END CONSTRUCTION	STA.	13+39.18
APPARENT LENGTH		468.71 FEET

ROUTE 58

BEGIN CONSTRUCTION	STA.	397+10.50
END CONSTRUCTION	STA.	402+38.96
APPARENT LENGTH		528.46 FEET

EQUATIONS AND EXCEPTIONS:

TOTAL CORRECTIONS	0 FEET
NET LENGTH OF PROJECT	1986.08 FEET
STATE LENGTH	0.376 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	4.84 ACRES

DATE PREPARED 8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	1

COUNTY: CASS
JOB NO.: J4P3488
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

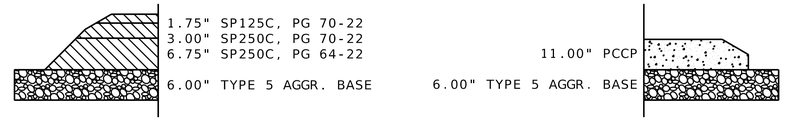
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

NOTE:
CROSS SECTIONS AND EARTHWORK IN THIS PROJECT ARE BASED ON THE CONCRETE OPTIONAL. CONTRACTOR IS RESPONSIBLE FOR MAKING ANY ADJUSTMENTS WITH NO EXTRA PAY IF ASPHALT OPTIONAL IS USED.

SUBGRADE PROFILE AND CROSS SECTIONS SHOULD BE DESIGNED FOR THE THINNER PAVEMENT DESIGN. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE PROFILE GRADE FOR EITHER PAVEMENT DESIGN WITH NO DIRECT PAY. CROSSROAD STRUCTURES SHOULD BE DESIGNED TO ACCOMMODATE A MINIMUM COVER BASED ON THE THICKER PAVEMENT DESIGN.

ROUTE 291 OPTIONAL PAVEMENT DESIGN

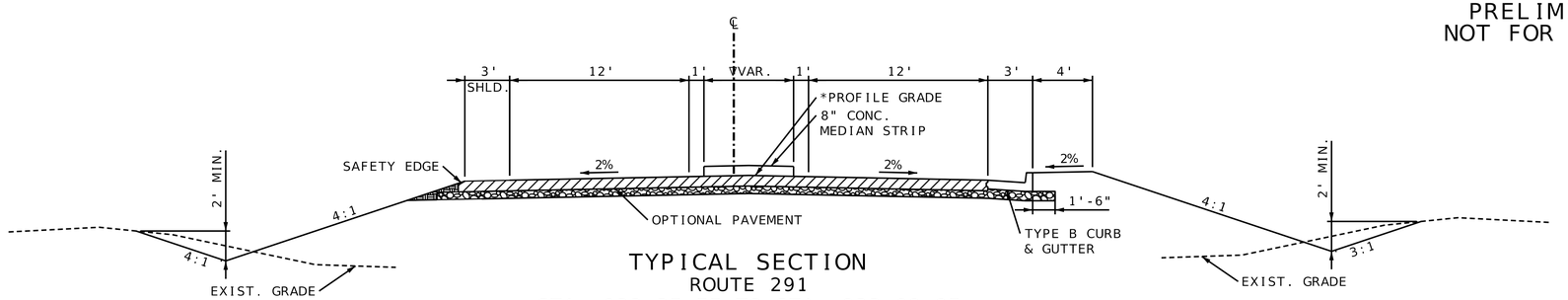


ASPHALT FACTORS	
MATERIAL	TONS/CY
SP125C, PG70-22	1.973
SP250C, PG 70-22	2.001
SP250C, PG 64-22	2.001

TACK COAT APPLICATION RATE
0.10 GAL/YD² (UNDILUTED)

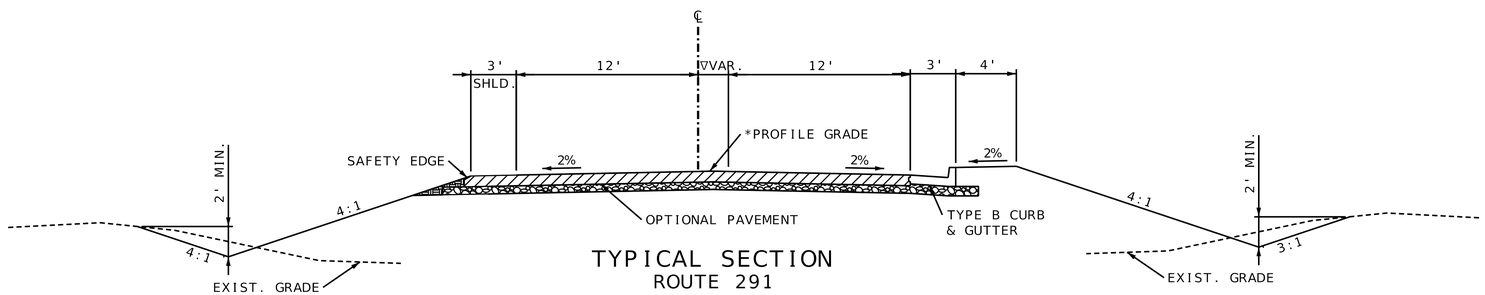
PERMANENT AGGREGATE EDGE TREATMENT FACTOR
1.40 TONS/CY

PRELIMINARY PLANS
NOT FOR CONSTRUCTION



TYPICAL SECTION
ROUTE 291
STA. 932+37.77 TO STA. 933+09.87

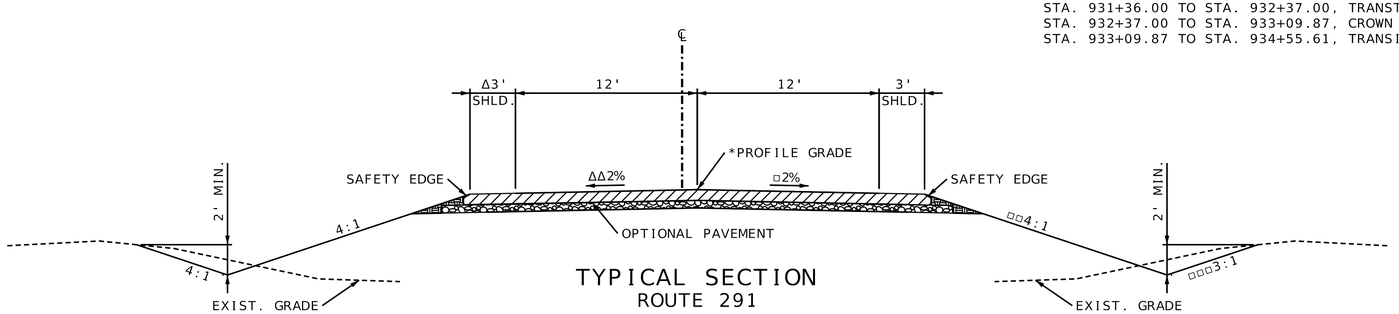
▽ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS



TYPICAL SECTION
ROUTE 291
STA. 931+08.35 TO STA. 932+37.77

▽ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS

* ROUTE 291 CROWN TRANSITION
STA. 929+95.18 TO STA. 931+36.00, CROWN = 1' RT OF ℄
STA. 931+36.00 TO STA. 932+37.00, TRANSTION CROWN FROM 1' RT OF ℄ TO 3' RT
STA. 932+37.00 TO STA. 933+09.87, CROWN = 3' RT OF ℄
STA. 933+09.87 TO STA. 934+55.61, TRANSITION CROWN FROM 3' RT OF ℄ TO 0'



TYPICAL SECTION
ROUTE 291
STA. 929+95.18 TO STA. 931+08.35

Δ STA. 929+95.18 TO STA. 930+80.18, TRANSITION FROM 4.7' TO 3'
ΔΔ STA. 929+95.18 TO STA. 930+15.18, TRANSITION FROM 1.20% TO 2.00%
□ STA. 929+95.18 TO STA. 930+04.18, TRANSITION FROM 1.65% TO 2.00%
□□ STA. 929+95.18 TO STA. 930+95.18, TRANSITION FROM 2.66:1 TO 4:1
□□□ STA. 929+95.18 TO STA. 930+95.18, TRANSITION FROM 1.82% TO 3:1

PERMANENT AGGREGATE EDGE TREATMENT
OPTIONAL PAVEMENT
MAINLINE BASE

NOT TO SCALE

TYPICAL SECTION
SHEET 1 OF 7

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

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

NOTE:
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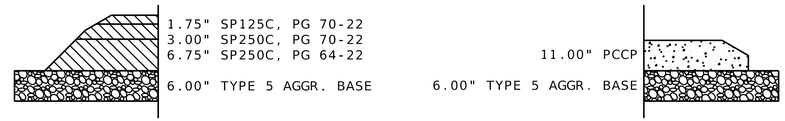
ROUTE 291 OPTIONAL PAVEMENT DESIGN

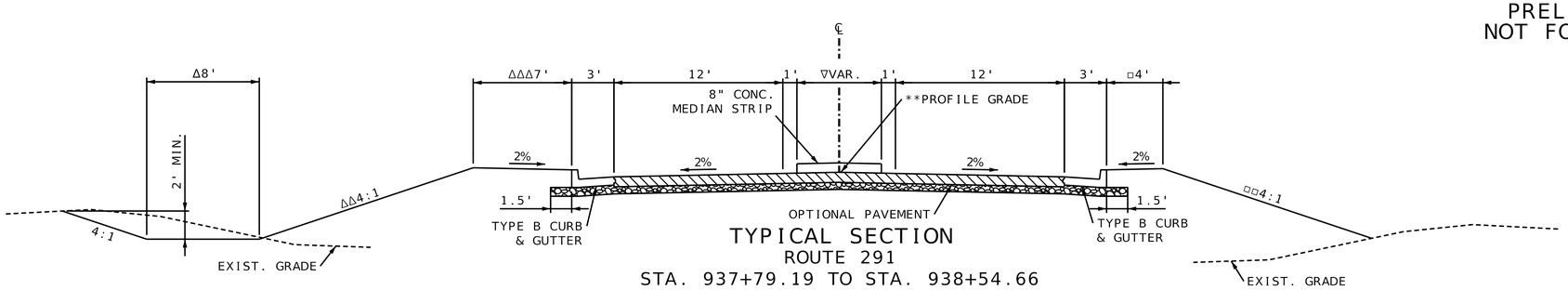


ASPHALT FACTORS	
MATERIAL	TONS/CY
SP125C, PG70-22	1.973
SP250C, PG 70-22	2.001
SP250C, PG 64-22	2.001

TACK COAT APPLICATION RATE
0.10 GAL/YD² (UNDILUTED)

PERMANENT AGGREGATE EDGE TREATMENT FACTOR
1.40 TONS/CY

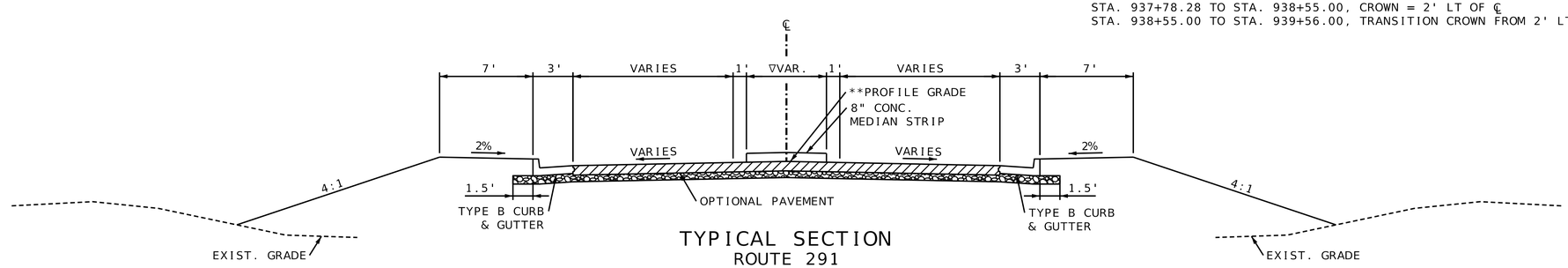
PRELIMINARY PLANS
NOT FOR CONSTRUCTION



TYPICAL SECTION
ROUTE 291
STA. 937+79.19 TO STA. 938+54.66

∇ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS
Δ STA. 938+20.82 TO STA. 938+40.82, TRANSITION FROM 0' TO 8'
ΔΔ STA. 937+79.19 TO STA. 938+20.82, 4:1 FILL SLOPE
STA. 938+20.82 TO STA. 938+54.66, 8' FLAT BOTTOM DITCH
ΔΔΔ STA. 938+34.66 TO STA. 938+54.66, TRANSITION FROM 7' TO 4'
□ STA. 937+79.19 TO STA. 937+99.19, TRANSITION FROM 7' TO 4'
□□ STA. 938+50.00 TO STA. 939+00.00, TRANSITION SLOPE FROM 4:1 TO 1 3/4:1

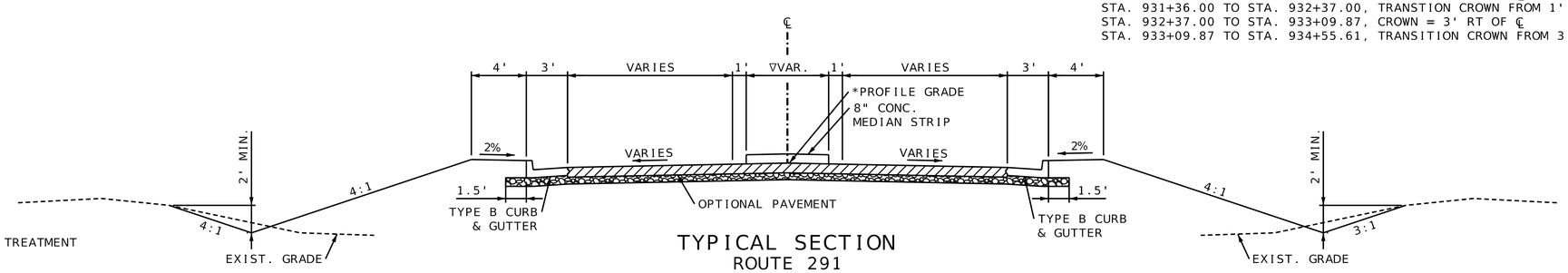
** ROUTE 291 CROWN TRANSITION
STA. 936+35.61 TO STA. 937+78.28, TRANSITION CROWN FROM 0' TO 2' LT OF ℄
STA. 937+78.28 TO STA. 938+55.00, CROWN = 2' LT OF ℄
STA. 938+55.00 TO STA. 939+56.00, TRANSITION CROWN FROM 2' LT OF ℄ TO 0'



TYPICAL SECTION
ROUTE 291
STA. 936+35.61 TO STA. 937+79.19

∇ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS

* ROUTE 291 CROWN TRANSITION
STA. 929+95.18 TO STA. 931+36.00, CROWN = 1' RT OF ℄
STA. 931+36.00 TO STA. 932+37.00, TRANSTION CROWN FROM 1' RT OF ℄ TO 3' RT
STA. 932+37.00 TO STA. 933+09.87, CROWN = 3' RT OF ℄
STA. 933+09.87 TO STA. 934+55.61, TRANSITION CROWN FROM 3' RT OF ℄ TO 0'



TYPICAL SECTION
ROUTE 291
STA. 933+09.87 TO STA. 934+55.61

∇ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS

PERMANENT AGGREGATE EDGE TREATMENT
OPTIONAL PAVEMENT
MAINLINE BASE

NOT TO SCALE

TYPICAL SECTION
SHEET 2 OF 7

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	2
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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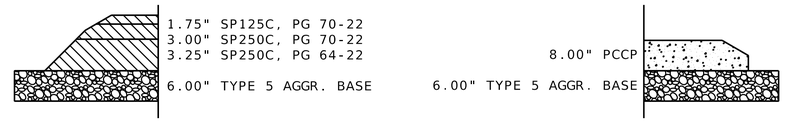
HUBACH HILL ROAD OPTIONAL PAVEMENT DESIGN

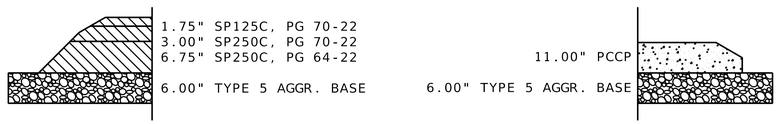


ASPHALT FACTORS	
MATERIAL	TONS/CY
SP125C, PG70-22	1.973
SP250C, PG 70-22	2.001
SP250C, PG 64-22	2.001

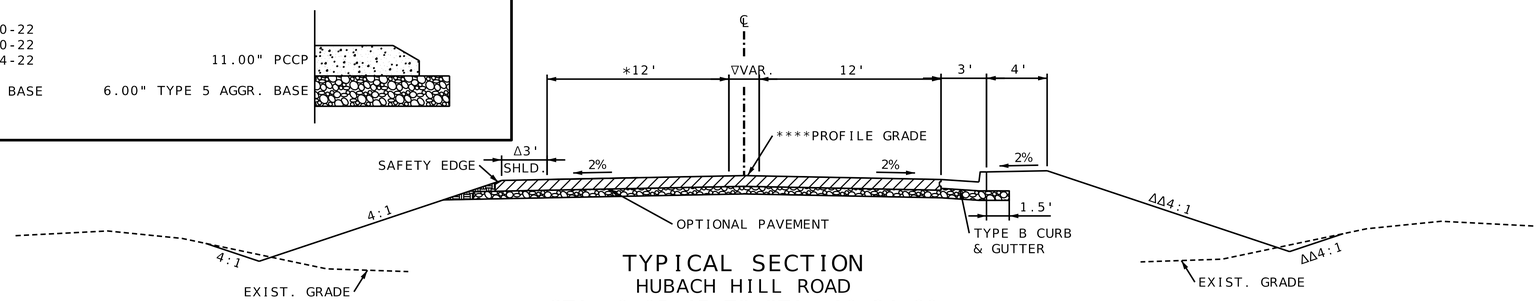
TACK COAT APPLICATION RATE
0.10 GAL/YD² (UNDILUTED)

PERMANENT AGGREGATE EDGE TREATMENT FACTOR
1.40 TONS/CY

ROUTE 291 OPTIONAL PAVEMENT DESIGN



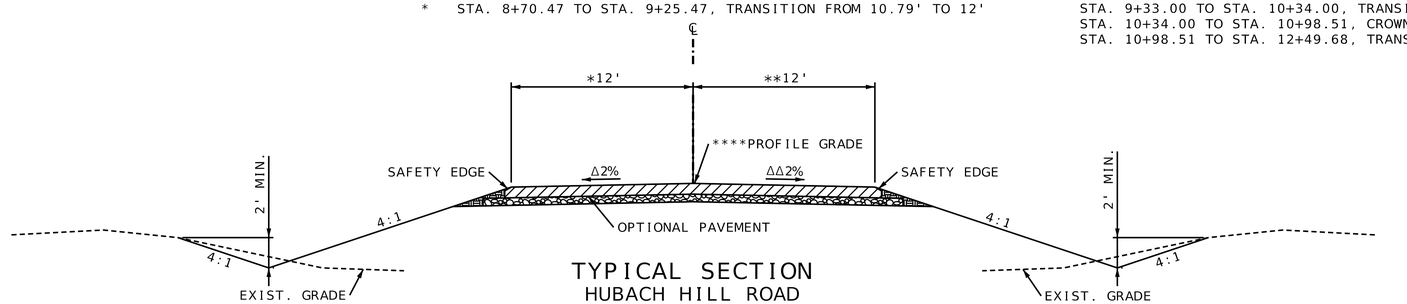
PRELIMINARY PLANS
NOT FOR CONSTRUCTION



TYPICAL SECTION
HUBACH HILL ROAD
STA. 9+05.47 TO STA. 10+34.89

∇ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS
Δ STA. 9+05.47 TO STA. 10+15.63, NO SHOULDER
STA. 10+15.63 TO STA. 10+34.89, 3' SHOULDER
ΔΔ STA. 10+22.79 TO STA. 10+34.89, 4:1 FILL SLOPE
* STA. 8+70.47 TO STA. 9+25.47, TRANSITION FROM 10.79' TO 12'

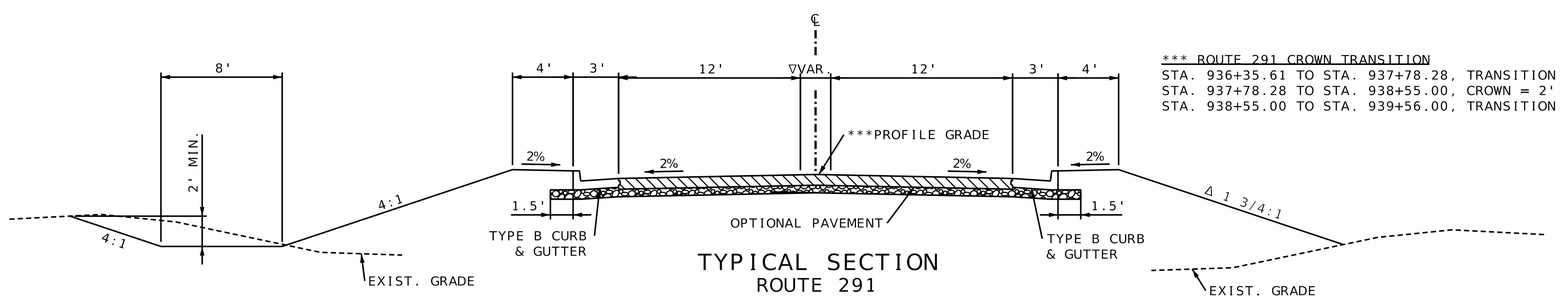
**** HUBACH HILL ROAD CROWN TRANSITION
STA. 9+33.00 TO STA. 10+34.00, TRANSITION CROWN FROM 0' TO 2' RT OF ℄
STA. 10+34.00 TO STA. 10+98.51, CROWN = 2' RT OF ℄
STA. 10+98.51 TO STA. 12+49.68, TRANSITION CROWN FROM 2' RT OF ℄ TO 0'



TYPICAL SECTION
HUBACH HILL ROAD
STA. 8+70.47 TO STA. 9+05.47

* STA. 8+70.47 TO STA. 9+25.47, TRANSITION FROM 10.79' TO 12'
** STA. 8+70.47 TO STA. 9+05.47, TRANSITION FROM 11.38' TO 12'

Δ STA. 8+70.47 TO STA. 8+85.47, TRANSITION FROM 1.43% TO 2.00%
ΔΔ STA. 8+70.47 TO STA. 8+79.47, TRANSITION FROM 1.63% TO 2.00%



*** ROUTE 291 CROWN TRANSITION
STA. 936+35.61 TO STA. 937+78.28, TRANSITION CROWN FROM 0' TO 2' LT OF ℄
STA. 937+78.28 TO STA. 938+55.00, CROWN = 2' LT OF ℄
STA. 938+55.00 TO STA. 939+56.00, TRANSITION CROWN FROM 2' LT OF ℄ TO 0'

TYPICAL SECTION
ROUTE 291
STA. 938+54.66 TO STA. 939+84.09

∇ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS
Δ STA. 938+50.00 TO STA. 939+00.00, TRANSITION SLOPE FROM 4:1 TO 1 3/4:1

PERMANENT AGGREGATE EDGE TREATMENT
OPTIONAL PAVEMENT
MAINLINE BASE

NOT TO SCALE

TYPICAL SECTION
SHEET 3 OF 7

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	2
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
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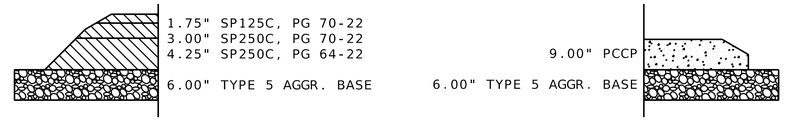
ROUTE 58 OPTIONAL PAVEMENT DESIGN

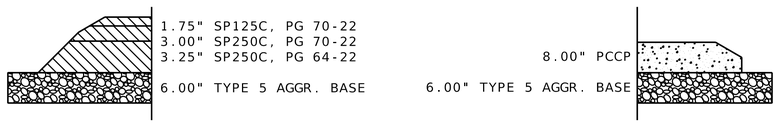


ASPHALT FACTORS	
MATERIAL	TONS/CY
SP125C, PG70-22	1.973
SP250C, PG 70-22	2.001
SP250C, PG 64-22	2.001

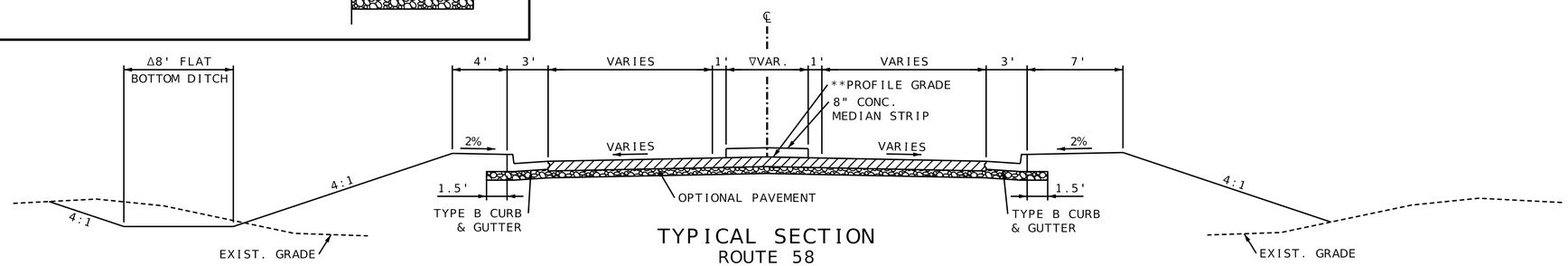
TACK COAT APPLICATION RATE
0.10 GAL/YD² (UNDILUTED)

PERMANENT AGGREGATE EDGE TREATMENT FACTOR
1.40 TONS/CY

HUBACH HILL ROAD OPTIONAL PAVEMENT DESIGN



PRELIMINARY PLANS
NOT FOR CONSTRUCTION

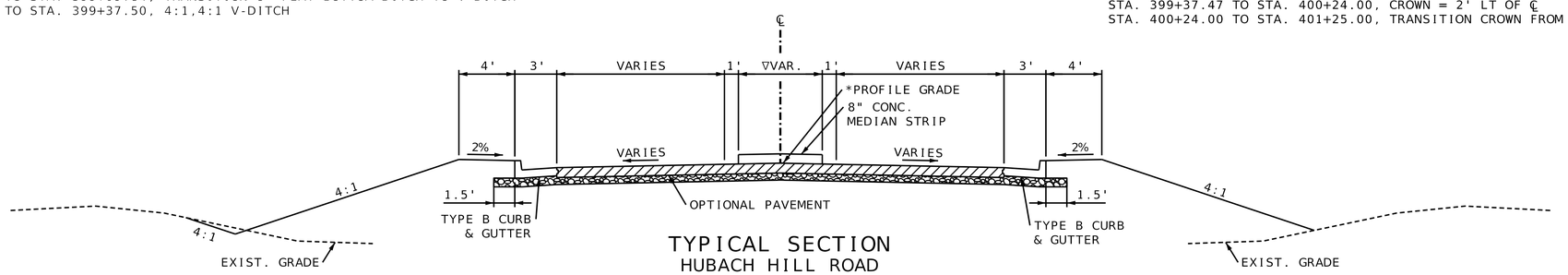


TYPICAL SECTION
ROUTE 58
STA. 398+00.67 TO STA. 399+37.50

∇ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS

Δ STA. 398+00.67 TO STA. 398+65.92, 4:1,4:1 V-DITCH
STA. 398+65.92 TO STA. 398+83.21, TRANSITION V-DITCH TO 8' FLAT BOTTOM DITCH
STA. 398+83.21 TO STA. 398+97.47, 8' FLAT BOTTOM DITCH
STA. 398+97.47 TO STA. 399+09.14, TRANSITION 8' FLAT BOTTOM DITCH TO V-DITCH
STA. 399+09.14 TO STA. 399+37.50, 4:1,4:1 V-DITCH

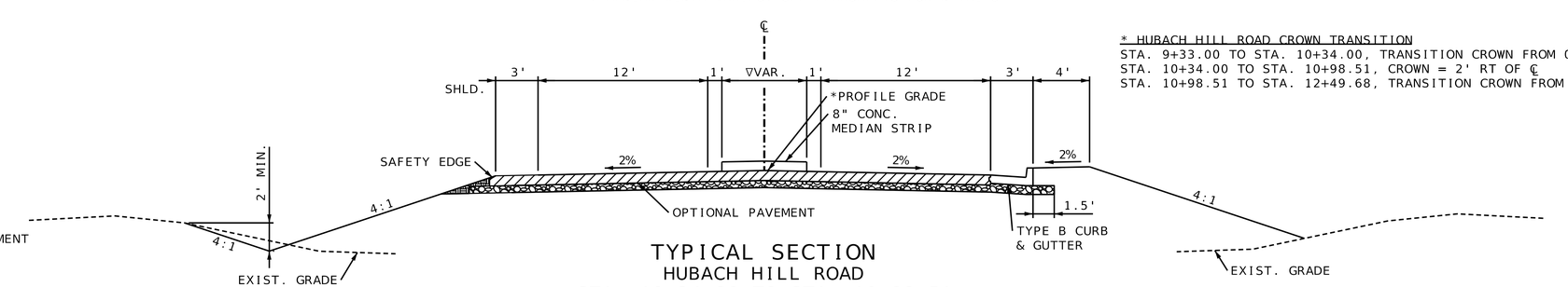
** ROUTE 58 CROWN TRANSITION
STA. 398+00.67 TO STA. 399+37.47, TRANSITION CROWN FROM 0' TO 2' LT OF ℄
STA. 399+37.47 TO STA. 400+24.00, CROWN = 2' LT OF ℄
STA. 400+24.00 TO STA. 401+25.00, TRANSITION CROWN FROM 2' LT OF ℄ TO 0'



TYPICAL SECTION
HUBACH HILL ROAD
STA. 10+98.51 TO STA. 12+49.68

∇ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS

* HUBACH HILL ROAD CROWN TRANSITION
STA. 9+33.00 TO STA. 10+34.00, TRANSITION CROWN FROM 0' TO 2' RT OF ℄
STA. 10+34.00 TO STA. 10+98.51, CROWN = 2' RT OF ℄
STA. 10+98.51 TO STA. 12+49.68, TRANSITION CROWN FROM 2' RT OF ℄ TO 0'



TYPICAL SECTION
HUBACH HILL ROAD
STA. 10+34.89 TO STA. 10+98.51

∇ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS

PERMANENT AGGREGATE EDGE TREATMENT
OPTIONAL PAVEMENT
MAINLINE BASE

NOT TO SCALE

TYPICAL SECTION
SHEET 4 OF 7

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

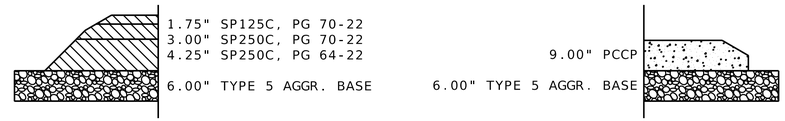
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

NOTE:
CROSS SECTIONS AND EARTHWORK IN THIS PROJECT ARE BASED ON THE CONCRETE OPTIONAL. CONTRACTOR IS RESPONSIBLE FOR MAKING ANY ADJUSTMENTS WITH NO EXTRA PAY IF ASPHALT OPTIONAL IS USED.

SUBGRADE PROFILE AND CROSS SECTIONS SHOULD BE DESIGNED FOR THE THINNER PAVEMENT DESIGN. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE PROFILE GRADE FOR EITHER PAVEMENT DESIGN WITH NO DIRECT PAY. CROSSROAD STRUCTURES SHOULD BE DESIGNED TO ACCOMMODATE A MINIMUM COVER BASED ON THE THICKER PAVEMENT DESIGN.

ROUTE 58 OPTIONAL PAVEMENT DESIGN

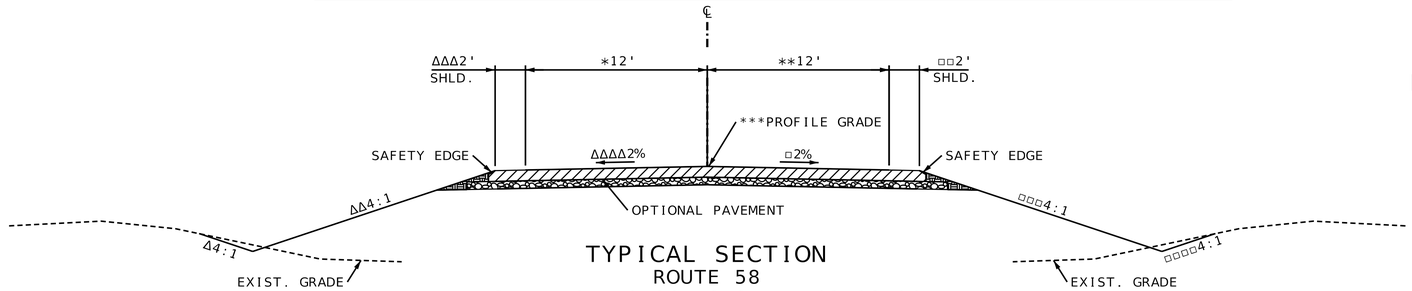


ASPHALT FACTORS	
MATERIAL	TONS/CY
SP125C, PG70-22	1.973
SP250C, PG 70-22	2.001
SP250C, PG 64-22	2.001

TACK COAT APPLICATION RATE
0.10 GAL/YD² (UNDILUTED)

PERMANENT AGGREGATE EDGE TREATMENT FACTOR
1.40 TONS/CY

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

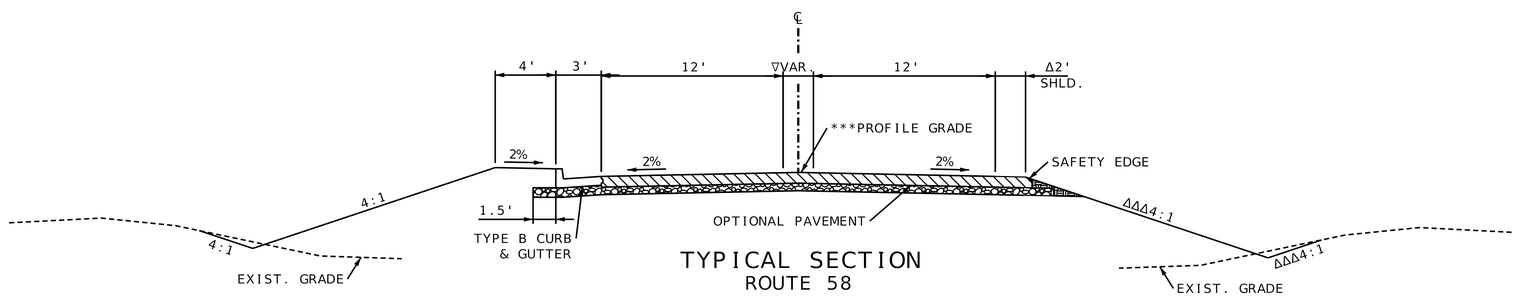


TYPICAL SECTION
ROUTE 58
STA. 401+52.96 TO STA. 402+38.96

* STA. 401+52.93 TO STA. 402+38.93, TRANSITION FROM 12' TO 10.29'
** STA. 401+78.93 TO STA. 402+38.93, TRANSITION FROM 12' TO 10.86'

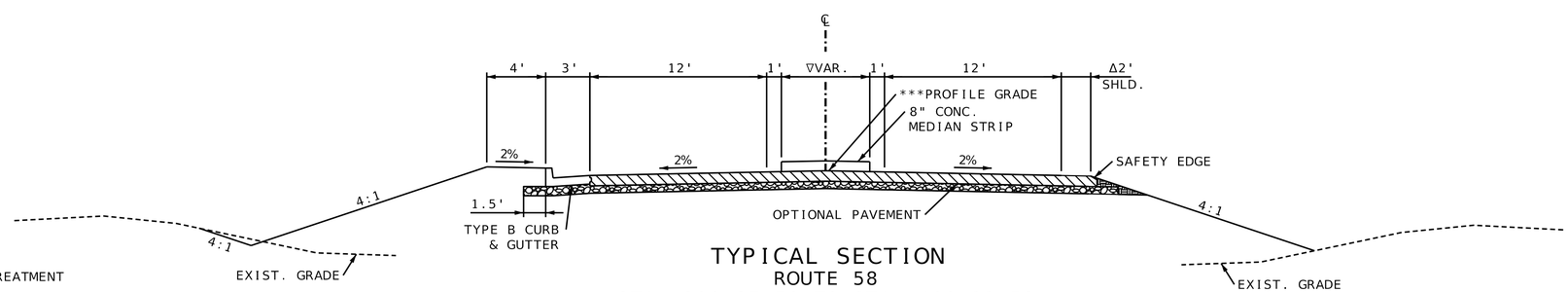
Δ STA. 402+18.96 TO STA. 402+38.96, TRANSITION FROM 4:1 TO 3.6:1
ΔΔ STA. 401+38.96 TO STA. 402+38.96, TRANSITION FROM 4:1 TO 3.1:1
ΔΔΔ STA. 401+52.96 TO STA. 402+02.96, TRANSITION FROM 3' TO 2'
ΔΔΔΔSTA. 402+36.96 TO STA. 402+38.96, TRANSITION FROM 2.00% TO 1.91%
□ STA. 401+61.96 TO STA. 402+38.96, TRANSITION FROM 2.00% TO 5.00%
□□ STA. 401+23.96 TO STA. 402+38.96, TRANSITION FROM 2.00% TO 6.52%
□□□ STA. 401+38.96 TO STA. 402+38.96, TRANSITION FROM 4:1 TO 2.7:1
□□□□STA. 402+18.96 TO STA. 402+38.96, TRANSITION FROM 4:1 TO 4.8:1

*** ROUTE 58 CROWN TRANSITION
STA. 398+00.67 TO STA. 399+37.47, TRANSITION CROWN FROM 0' TO 2' LT OF ℄
STA. 399+37.47 TO STA. 400+24.00, CROWN = 2' LT OF ℄
STA. 400+24.00 TO STA. 401+25.00, TRANSITION CROWN FROM 2' LT OF ℄ TO 0'



TYPICAL SECTION
ROUTE 58
STA. 400+23.53 TO STA. 401+52.96

∇ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS
ΔΔΔ STA. 400+23.53 TO STA. 400+25.00, 4:1 FILL SLOPE
STA. 400+25.00 TO STA. 401+52.96, 4:1 V-DITCH



TYPICAL SECTION
ROUTE 58
STA. 399+37.50 TO STA. 400+23.53

Δ STA. 399+37.50 TO STA. 399+87.50, TRANSITION FROM 3' TO 2'
∇ MEDIAN WIDTH VARIES. SEE PLANSHEETS FOR DETAILS

PERMANENT AGGREGATE EDGE TREATMENT
OPTIONAL PAVEMENT
MAINLINE BASE

NOT TO SCALE

TYPICAL SECTION
SHEET 5 OF 7

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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

NOTE:
CROSS SECTIONS AND EARTHWORK IN THIS PROJECT ARE BASED ON THE CONCRETE OPTIONAL. CONTRACTOR IS RESPONSIBLE FOR MAKING ANY ADJUSTMENTS WITH NO EXTRA PAY IF ASPHALT OPTIONAL IS USED.

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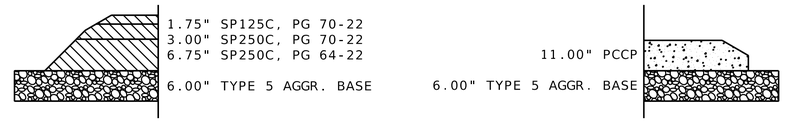
ROUTE 291 OPTIONAL PAVEMENT DESIGN

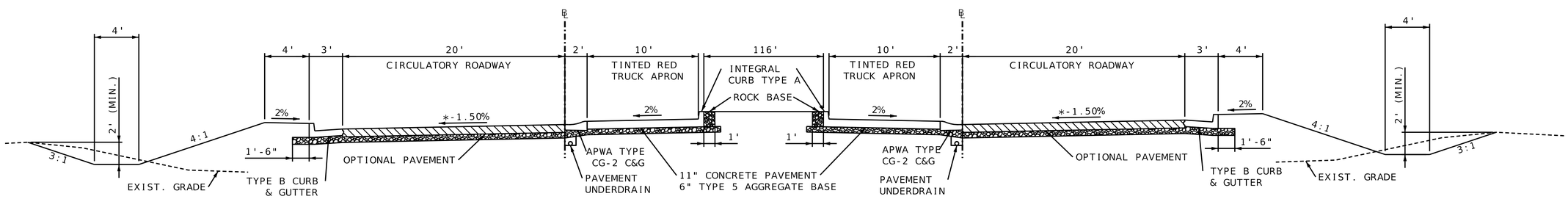


ASPHALT FACTORS	
MATERIAL	TONS/CY
SP125C, PG70-22	1.973
SP250C, PG 70-22	2.001
SP250C, PG 64-22	2.001

TACK COAT APPLICATION RATE
0.10 GAL/YD² (UNDILUTED)

PERMANENT AGGREGATE EDGE TREATMENT FACTOR
1.40 TONS/CY

PRELIMINARY PLANS
NOT FOR CONSTRUCTION



TYPICAL SECTION
ROUNDABOUT
STA. 0+00.00 TO STA. 4+39.82

* STA. 0+00.00 TO STA. 0+54.00, TRANSITION FROM 1.00% TO -1.00%
STA. 0+54.00 TO STA. 0+68.00, TRANSITION FROM -1.00% TO -1.50%
STA. 0+68.00 TO STA. 2+62.00, SLOPE = -1.50%
STA. 2+62.00 TO STA. 3+30.00, TRANSITION FROM -1.50% TO 1.00%
STA. 3+30.00 TO STA. 4+39.82, SLOPE = 1.00%

PERMANENT AGGREGATE EDGE TREATMENT
OPTIONAL PAVEMENT
MAINLINE BASE

NOT TO SCALE

TYPICAL SECTION
SHEET 6 OF 7

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

DATE	DESCRIPTION

DATE PREPARED: 8/2/2022
ROUTE: 291 | STATE: MO
DISTRICT: KC | SHEET NO.: 2
COUNTY: CASS
JOB NO.: J4P3488
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

NOTE:
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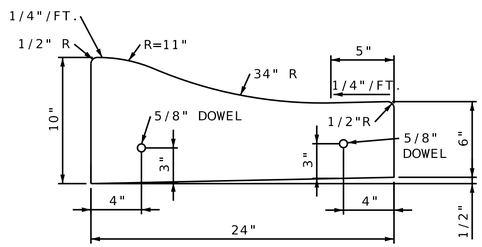
ASPHALT FACTORS	
MATERIAL	TONS/CY
SP125C, PG70-22	1.973
SP250C, PG 70-22	2.001
SP250C, PG 64-22	2.001

TACK COAT APPLICATION RATE
0.10 GAL/YD² (UNDILUTED)

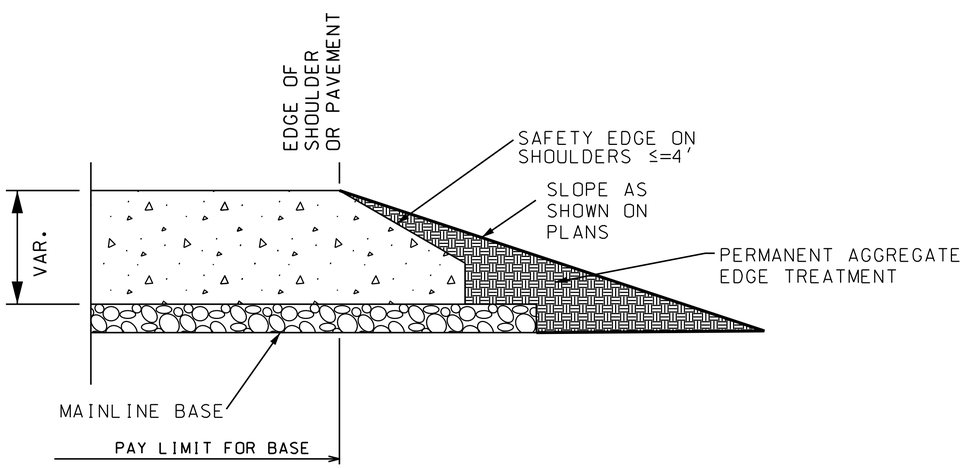
PERMANENT AGGREGATE EDGE TREATMENT FACTOR
1.40 TONS/CY

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

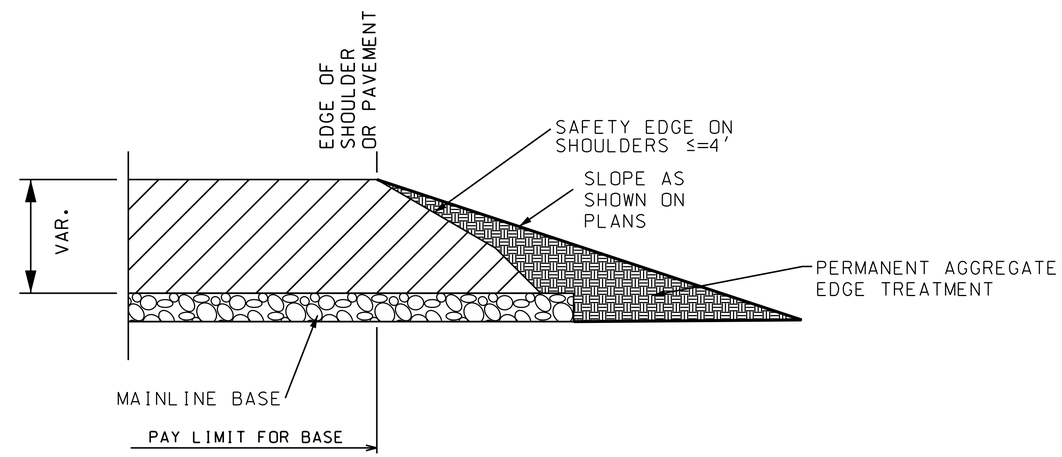


1. 1/2" EXPANSION JOINTS WITH 2' DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWELS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 1" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. FIX DOWELS WITH BAR SUPPORTS.
4. USE 5/8" DIAMETER BY SMOOTH DOWELS AT LOCATIONS SHOWN.

APWA TYPE CG-2 CURB AND GUTTER



PCCP PAVEMENT



HMA PAVEMENT

PERMANENT AGGREGATE EDGE TREATMENT
PCC (PORTLAND CEMENT CONCRETE)
HMA (HOT MIX ASPHALT)
MAINLINE BASE

PERMANENT AGGREGATE EDGE TREATMENT
OPTIONAL PAVEMENT
MAINLINE BASE

NOT TO SCALE

PERMANENT AGGREGATE EDGE TREATMENT

GENERAL NOTE:

1. PERMANENT AGGREGATE EDGE TREATMENT WILL BE PAID FOR UNDER PAY ITEM 3049910 PER TON.
2. SEE STANDARD PLAN 401.00C FOR SAFETY EDGE DETAILS.

TYPICAL SECTION
SHEET 7 OF 7

DATE PREPARED 8/2/2022
ROUTE 291 | STATE MO
DISTRICT KC | SHEET NO. 2
COUNTY CASS
JOB NO. J4P3488
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

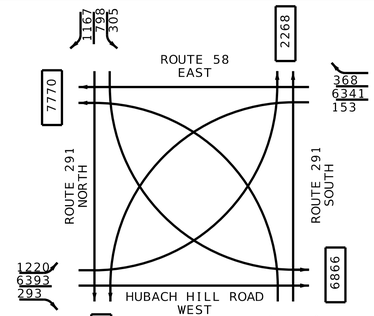
CP# 5015
STA. 929+36.29, 35.06' LT.
CHAIN (ROUTE291)
EL. 964.99

SW1/4 SE1/4
20-46N-31W

1
ROBERT J RIORDAN TRUST
25,962 SF NEW R/W
3,033 SF PERM. WATERLINE ESM'T.
39.5 AC. REMAINING

FES 934F1, ℄ ROUTE 291
STA. 934+27.68, 67.68' LT
1-15" F.E.S.

INLET 934T1, ℄ ROUTE 291
STA. 934+47.77, 20.54' LT
1-5X3 TYPE T INLET
1-15" OPENING



TRAFFIC FLOW DIAGRAM
ESTIMATED - 2039
TRAFFIC VOLUME

930

+70.00 70.05'
+70.00 40.00'
+49.17 80.00'
+50.00 50.00'
+00.00 50.00'
+75.00 80.00'
+00.00 90.00'

PERMANENT WATERLINE EASEMENT
EXIST. 30' WATERLINE ESM'T
LAND SURVEY COPPERWELD MONUMENT
NW CORNER SEC. 29-T46N-R31W
DOCUMENT NO. 600-60382, 600-61422, AND 600-105747
2738.22' N79°53'41"E TO BEGINNING OF PROJECT
PROJECT BEGINS AT A POINT APPROX.
480.43 NORTH & 2695.74 EAST OF THE
NW CORNER SEC. 29-T46N-R31W
PROPOSED R/W
(R)
S.L.
CP #5015
EXIST. EOS
EXIST. EOP
+95.18 15.68'
+80.18 14.00'
(R)
(R)
SPECIAL DITCH LEFT
TRANSITION CURB HEIGHT
FROM 0" TO 8" IN 5 FEET
+09.87 14.00'
R 300'
+73.71 20.94'
CONC. FLUME
EXIST. R/W
ROCK LINING
(R)
+85.49 23.79'
EOP
ROCK LINING
TYPE B C&G
FES 934F1
R 300'
INLET 934T1
EOP
EOS
BEGIN PROJECT
STA 929+95.18
1/4 SECTION LINE
℄ ROUTE 291
8" CONC. MEDIAN STRIP
S01°58'00"W
SAWCUT
(R)
EOP
INLET 931T1
INLET 931T2
INLET 932T1
INLET 932T2
R 100'
R 100'
EXIST. EOP
EXIST. EOS
+95.18 16.00'
EOS
TRANSITION CURB HEIGHT
FROM 0" TO 8" IN 5 FEET
R 800'
(R)
R 812'
EOP
FES 932F1
+72.73 26.75'
(R)
R 362'
R 350'
+08.35 16.00'
+73.06 18.63'
ROCK LINING
+34.39 26.55'
CONC. FLUME
+49.73 24.87'
+83.27 20.48'
+99.73 19.74'
CONC. FLUME
+12.05 21.02'
EOP
(R)
SPECIAL DITCH RIGHT
EXIST. R/W
+00.00 45.00'
S.L.
ROCK LINING
ROCK LINING
TYPE B C&G
EXIST. ESM'T
EXIST. 30' WATERLINE ESM'T
+97.76 75.00'
+00.00 75.00'
PROPOSED R/W
+30.00 75.00'
EXIST. ESM'T
PERMANENT WATERLINE EASEMENT
+97.76 105.00'
+15.64 105.00'

2
JIM R AND LISA A WATKINS TRUST
28,864 SF NEW R/W
22,567 SF PERM. WATERLINE ESM'T.
9,000 SF TEMP. CONST. ESM'T.
6.5 AC. REMAINING

INLET 931T1, ℄ ROUTE 291
STA. 931+43.67, 16.78' RT
1-5X3 TYPE T INLET
1-15" OPENING

INLET 931T2, ℄ ROUTE 291
STA. 931+76.48, 18.91' RT
1-5X3 TYPE T INLET
2-15" OPENINGS

INLET 932T1, ℄ ROUTE 291
STA. 932+09.40, 21.59' RT
1-5X3 TYPE T INLET
2-15" OPENINGS

INLET 932T2, ℄ ROUTE 291
STA. 932+42.31, 24.27' RT
1-5X3 TYPE T INLET
2-15" OPENINGS

FES 932F1, ℄ ROUTE 291
STA. 932+41.20, 38.04' RT
1-15" F.E.S.

SE1/4 SW1/4
20-46N-31W

SCALE
0 20 40 60

GENERAL NOTE:
THE APPROXIMATE LOCATION OF PROPERTY LINES 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.

RIGHT OF WAY LIMITS FOR THIS PROJECT EXTEND FROM STA. 929+70.00 TO STA. 939+63.84, ROUTE 291, A DISTANCE OF 0.19 MILES, FROM STA. 7+25.00 TO STA. 13+39.18, HUBACH HILL ROAD, A DISTANCE OF 0.12 MILES AND FROM STA. 397+10.50 TO STA. 402+50.00, ROUTE 58, A DISTANCE OF 0.10 MILES.

PERMANENT EASEMENT LIMITS FOR THIS PROJECT EXTEND FROM STA. 929+97.76 TO STA. 939+66.63, ROUTE 291, A DISTANCE OF 0.18 MILE, FROM STA. 7+15.00 TO STA. 13+39.18, HUBACH HILL ROAD, A DISTANCE OF 0.12 MILES, AND FROM STA. 397+10.50 TO STA. 402+51.00, ROUTE 58, A DISTANCE OF 0.10 MILES.

TEMPORARY EASEMENT LIMITS FOR THIS PROJECT EXTEND FROM STA. 7+25.00 TO STA. 11+20.00, HUBACH HILL ROAD, A DISTANCE OF 0.07 MILES.

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

ALL BEARINGS ARE BASED ON STATE PLANE BEARINGS, WEST ZONE.

PLAN SHEET
SHEET 1 OF 8

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 4
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

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PRELIMINARY PLANS
NOT FOR CONSTRUCTION

INLET 936T1, ℄ ROUTE 291
STA. 936+48.68, 31.40' LT
1-5X5 TYPE T INLET
1-24" OPENING
1-36" OPENING

INLET 937T1, ℄ ROUTE 291
STA. 937+01.77, 18.81' LT
1-5X5 TYPE T INLET
2-36" OPENINGS

INLET 937T3, ℄ ROUTE 291
STA. 937+68.48, 26.32' LT
1-5X5 TYPE T INLET
1-15" OPENING
2-36" OPENINGS

INLET 938T1, ℄ ROUTE 291
STA. 938+25.45, 25.28' LT
1-5X5 TYPE T INLET
2-36" OPENINGS

FES 938F1, ℄ ROUTE 291
STA. 938+42.73, 55.42' LT
1-36" F.E.S.

INLET 398T4 SEE SHT. 5 OF 8

INLET 398T2 SEE SHT. 5 OF 8

PERM. WATERLINE ESM'T

8" CONC. MEDIAN STRIP

SEE SHEET 5, 6 & 7 OF 8 FOR ROUTE 58 DETAILS

INLET 398T1 SEE SHT. 5 OF 8

FES 398F1 & INLET 398T3 SEE SHT. 5 OF 8

SP. DT. LT.

STA. 397+80.65 ℄ ROUTE 58=
STA. 0+55.79 ℄ CIRCULATORY ROADWAY

STA. 935+50.99 ℄ (ROUTE 291)=
STA. 13+39.18 ℄ (HUBACH HILL ROAD)
STA. 397+10.50 ℄ (ROUTE 58)

1 SEE SHEET 4

℄ CIRCULATORY ROADWAY
BEGIN STA 0+00.00
END STA 4+39.82

PROPOSED R/W

3 RON AND CAROLYN MCCORD ETAL
17,010 SF NEW R/W
14,471 SF PERM. WATERLINE ESM'T.
4,780 SF PERM. TELEPHONE ESM'T
3,413 SF PERM. DRAINAGE ESM'T
2,896 SF PERM. ELECTRIC ESM'T
7.1 AC. REMAINING

NW1/4 NE1/4
29-46N-31W

STA. 938+93.22 TO STA. 939+43.22 ROUTE 291 LT.
BUILD 1-TYPE A CRASHWORTHY END TERMINAL (MASH)

BROWNING, CHARLES H & JACQUELINE B
NO ACQUISITION

EXIST. 50' PERM. DRAINAGE ESM'T

EXIST. 20' WATERLINE ESM'T

PERM. DRAINAGE ESM'T

PERM. WATERLINE ESM'T
PERM. TELEPHONE ESM'T

PERM. DRAINAGE ESM'T

ROCK LINING

EXIST. 20' WATERLINE ESM'T
EXIST. 16' TELEPHONE ESM'T

PROPOSED R/W

EXIST. 16' TELEPHONE ESM'T

EXIST. R/W

STA. 936+15.61 ℄ ROUTE 291=
STA. 1+61.29 ℄ CIRCULATORY ROADWAY

FES 938F1

CONC. FLUME

TYPE B C&G
EOP

INLET 936T1
EXIST. EOS
EXIST. EOP

6" INTEGRAL CURB, TYPE A

EXIST. EOP

℄ ROUTE 58
S88°30'09"E

℄ ROUTE 291

INLET 937T1

INLET 937T3

INLET 938T1

EOS

EOP

(D.N.D.)

EXIST. EOS
EXIST. EOP
1/4 SECTION LINE
S01°58'00"W

END PROJECT
STA 939+84.09

8" CONC. MEDIAN STRIP

SAWCUT

INLET 937T2

EXIST. EOP

INLET 13G1 & 13S1 SEE SHT. 8 OF 8

APWA CURB & GUTTER TYPE CG-2

EOP

INLET 936T2

TRANSITION CURB HEIGHT FROM 0" TO 8" IN 5 FEET

EXIST. EOS

EOP

EOS

(D.N.D.)

℄ HUBACH HILL RD.
S88°23'38"E

EOP
TYPE B C&G

STA. 938+06.74 TO STA. 939+31.74 ROUTE 291 RT.
BUILD 75.0' MGS GUARDRAIL, 1 TYPE A CRASHWORTHY END TERMINAL (MASH)

EXIST. 40' ELECTRIC ESM'T

EXIST. R/W

EXIST. R/W

EOP
TYPE B C&G

SP. DT. RT.

EXIST. 30' WATERLINE ESM'T

PCC STA 2+19.91

PROPOSED R/W

PERM. WATERLINE ESM'T

EXIST. 30' WATERLINE ESM'T

EXIST. 50' PERM. DRAINAGE ESM'T

SEE SHEET 8 OF 8 FOR CIRCULATORY ROADWAY DETAILS

STA. 934+75.61 ℄ (ROUTE 291)=
STA. 3+80.58 ℄ (CIRCULATORY ROADWAY)
STA. 12+69.73 ℄ HUBACH HILL ROAD=
STA. 2+65.11 ℄ CIRCULATORY ROADWAY

4 JOHN A AND IDA SAYEGH TRUST
23,755 SF NEW R/W
17,458 SF PERM. WATERLINE ESM'T.
13,075 SF PERM. ELECTRIC ESM'T
1,050 SF TEMP. CONST. ESM'T
8.4 AC. REMAINING

INLET 12S1 SEE SHT. 5 OF 8

PROPOSED R/W

SEE SHEET 4 & 6 OF 8 FOR HUBACH HILL ROAD DETAILS

1/4 SECTION LINE

8" CONC MEDIAN STRIP

NE1/4 NW1/4
29-46N-31W

PERM. ELECTRIC ESM'T

2 SEE SHEET 4

EXIST. 30' WATERLINE ESM'T

INLET 12T1 SEE SHT. 5 OF 8

PERM. WATERLINE ESM'T

INLET 936T2, ℄ ROUTE 291
STA. 936+61.70, 39.23' RT
1-5X3 TYPE T INLET
1-24" OPENING

INLET 937T2, ℄ ROUTE 291
STA. 937+37.86, 17.89' RT
1-5X3 TYPE T INLET
2-24" OPENINGS

SCALE
0 20 40 60

PLAN SHEET
SHEET 2 OF 8

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 5
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

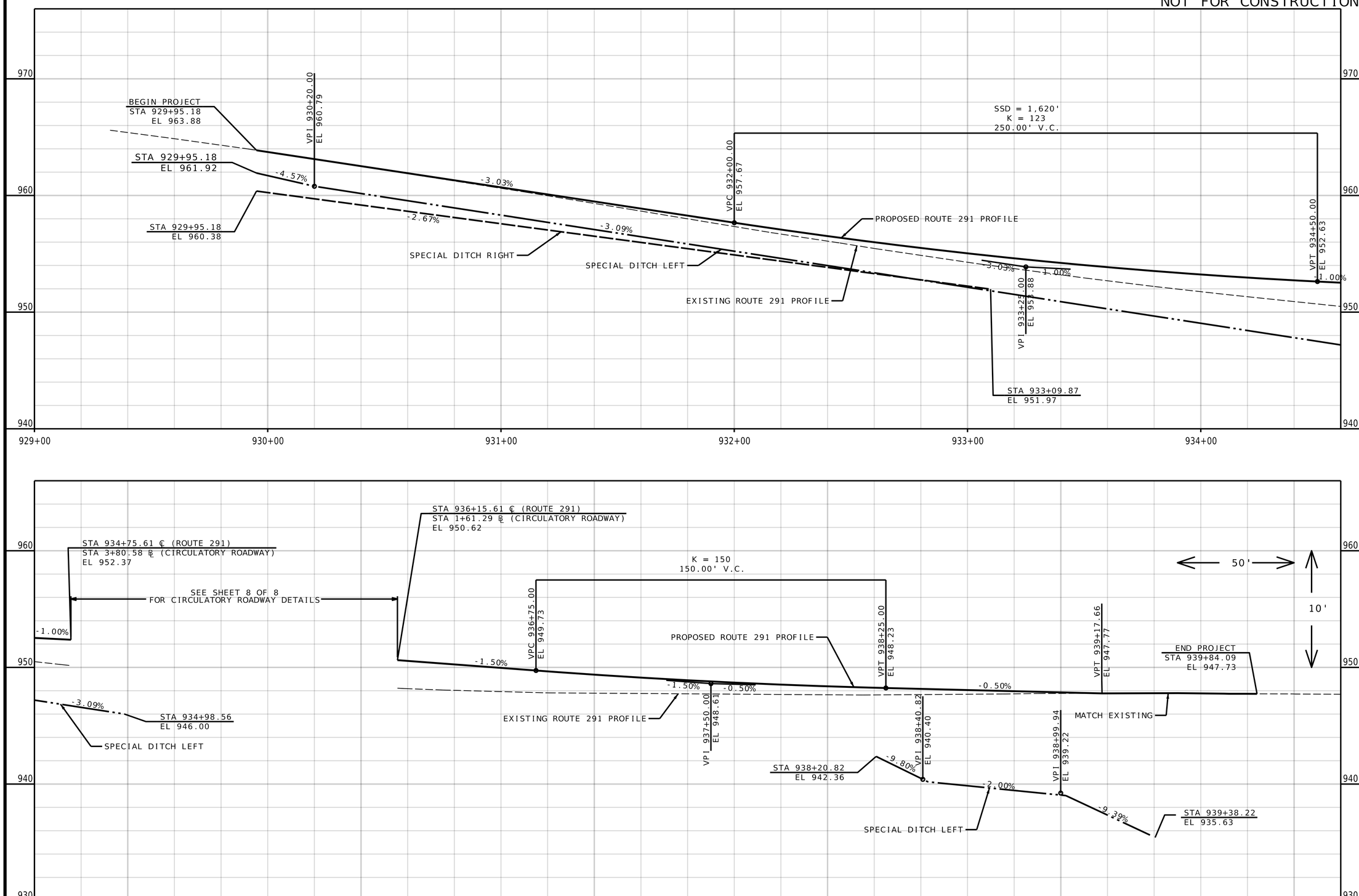
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

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

PRELIMINARY PLANS
NOT FOR CONSTRUCTION



PROFILE SHEET
SHEET 3 OF 8

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	6
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
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PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SE1/4 SW1/4
20-46N-31W

5
LISA A WATKINS TRUST
2,838 SF NEW R/W
3,602 SF NEW PERM. WATERLINE ESM'T.
1,300 SF TEMP. CONST. ESM'T
63.0 AC. REMAINING

2
JIM R AND LISA A WATKINS TRUST
SEE SHEET 4

CP# 5011
STA. 8+59.88, 35.22' LT.
CHAIN (HUBACH)
EL. 946.18

TYPE I DRWY. LT.
8+18.88 HUBACH HILL RD.
WIDTH 16.0'
1.65% GRADE
REMOVE EXIST. 15" CMP
24"X 24' GR. C PIPE
2-24" GROUP C F.E.S.
AGGREGATE SURFACE

TYPE I DRWY. LT.
10+06.79 HUBACH HILL RD.
5.00% GRADE
WIDTH 16.0'
18"X 22' GR. C PIPE
2-18" GROUP C F.E.S.
AGGREGATE SURFACE

PUBLIC
WATER
SUPPLY
DIST. #6
NO ACQUISITION

CHARLES M &
ETHEL M GLOVER
NO ACQUISITION

4
JOHN A AND IDA SAYEGH TRUST
SEE SHEET 5

TYPE I DRWY. RT.
8+18.88 HUBACH HILL RD.
4.56% GRADE
WIDTH 16.0'
18"X 25' GR. C PIPE
2-18" GROUP C F.E.S.
AGGREGATE SURFACE

NE1/4 NW1/4
29-46N-31W

FES 9F1, ℄ HUBACH HILL ROAD
STA. 9+87.95, 33.15' RT
1-15" F.E.S.

INLET 10T1, ℄ HUBACH HILL ROAD
STA. 10+09.32, 20.82' RT
1-5X3 TYPE T INLET
2-15" OPENINGS

INLET 11T1, ℄ HUBACH HILL ROAD
STA. 11+22.08, 26.25' RT
1-5X3 TYPE T INLET
2-15" OPENINGS

SCALE
0 20 40 60

PLAN SHEET
SHEET 4 OF 8

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	7
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

2
JIM R AND LISA A WATKINS TRUST
SEE SHEET 4

SE1/4 SW1/4
20-46N-31W

SEE SHEET 1 OF 8
FOR ROUTE 291 DETAILS

INLET 12S1, ℄ HUBACH HILL ROAD
STA. 12+29.75, 77.50' LT
1-5X3 TYPE S-1 INLET
1-24" OPENING

STA. 934+75.61 ℄ (ROUTE 291)=
STA. 3+80.58 ℄ (CIRCULATORY ROADWAY)

SEE SHEET 8 OF 8
FOR CIRCULATORY ROADWAY DETAILS

STA. 935+50.99 ℄ (ROUTE 291)=
STA. 13+39.18 ℄ (HUBACH HILL ROAD)
STA. 397+10.50 ℄ (ROUTE 58)

PERM. WATERLINE ESM'T

TCE

PROPOSED R/W

TYPE A GUTTER

ROCK LINING

TYPE B C&G

EOP

EXIST. R/W

EXIST. 30' WATERLINE ESM'T

EXIST. 40' ELECTRIC ESM'T

℄ HUBACH HILL ROAD

SECTION LINE

8" CONC. MEDIAN STRIP

EXIST. EOP

INLET 12T1

INLET 11T1 SEE SHT. 1 OF 8

INLET 12T1, ℄ HUBACH HILL ROAD
STA. 12+16.17, 21.67' RT
1-5X3 TYPE T INLET
1-15" OPENING

STA. 12+69.73 ℄ (HUBACH HILL ROAD)=
STA. 2+65.11 ℄ (CIRCULATORY ROADWAY)

STA. 936+15.61 ℄ (ROUTE 291)=
STA. 1+61.29 ℄ (CIRCULATORY ROADWAY)

PERM. ELECTRIC ESM'T

4
JOHN A AND IDA SAYEGH TRUST
SEE SHEET 5

NE1/4 NW1/4
29-46N-31W

PERM. WATERLINE ESM'T

CONC. FLUME

INLET 934T1
SEE SHT. 1 OF 8

INLET 13S1 SEE SHT. 8 OF 8

INLET 13G1 SEE SHT. 8 OF 8

EXIST. EOS

APWA CURB & GUTTER TYPE CG-2

6" INTEGRAL CURB, TYPE A

S01°58'00"W

S88°23'38"E

S88°30'09"E

1/4 SECTION LINE

℄ ROUTE 291

PCC STA 2+19.91

INLET 936T2
SEE SHT. 2 OF8

INLET 937T2
SEE SHT. 2 OF 8

INLET 936T1 SEE SHT. 2 OF 8

8" CONC. MEDIAN STRIP

INLET 937T1 SEE SHT. 2 OF 8

START STA 4+39.82
END STA 0+00.00

935

PERM. ESM'T

EXIST. 30' WATERLINE ESM'T

1
ROBERT J RIORDAN TRUSTEE
SEE SHEET 4

SW1/4 SE1/4
20-46N-31W

INLET 398T3, ℄ ROUTE 58
STA. 398+64.13, 1.02' LT
1-5X3 TYPE T INLET
2-24" OPENINGS

FES 934F1 SEE SHT. 1 OF 8

INLET 398T4, ℄ ROUTE 58
STA. 398+70.43, 18.84' LT
1-5X3 TYPE T INLET
2-24" OPENINGS

FES 398F1, ℄ ROUTE 58
STA. 398+44.27, 50.34' LT
1-24" F.E.S.

STA. 398+84.36 ℄ ROUTE 58
29"X45"X70' HERCP ELLIPTICAL PIPE
2-29"X45"" ELLIPTICAL FES

STA. 398+90.37 ℄ ROUTE 58
29"X45"X70' HERCP ELLIPTICAL PIPE
2-29"X45" ELLIPTICAL FES

STA. 397+80.65 ℄ (ROUTE 58)=
STA. 0+55.84 ℄ (CIRCULATORY ROADWAY)

SP.DT.LT.

FES 398F1

INLET 398T4

INLET 398T3

℄ ROUTE 58

INLET 398T1

INLET 398T2

PERM. WATERLINE ESM'T & PERM. ELECTRIC ESM'T

PERM. DRAINAGE ESM'T

INLET 398T1, ℄ ROUTE 58
STA. 398+47.34, 29.03' RT
1-5X5 TYPE T INLET
2-24" OPENINGS

INLET 398T2, ℄ ROUTE 58
STA. 398+62.27, 24.68' RT
1-5X5 TYPE T INLET
2-24" OPENINGS

3
RON AND CAROLYN MCCORD ETAL
SEE SHEET 5

NW1/4 NE1/4
29-46N-31W

PERM. WATERLINE ESM'T

PERM. TELEPHONE ESM'T

SEE SHEET 2 OF 8
FOR ROUTE 291 DETAILS

SCALE
0 20 40 60

PLAN SHEET
SHEET 5 OF 8

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	8
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

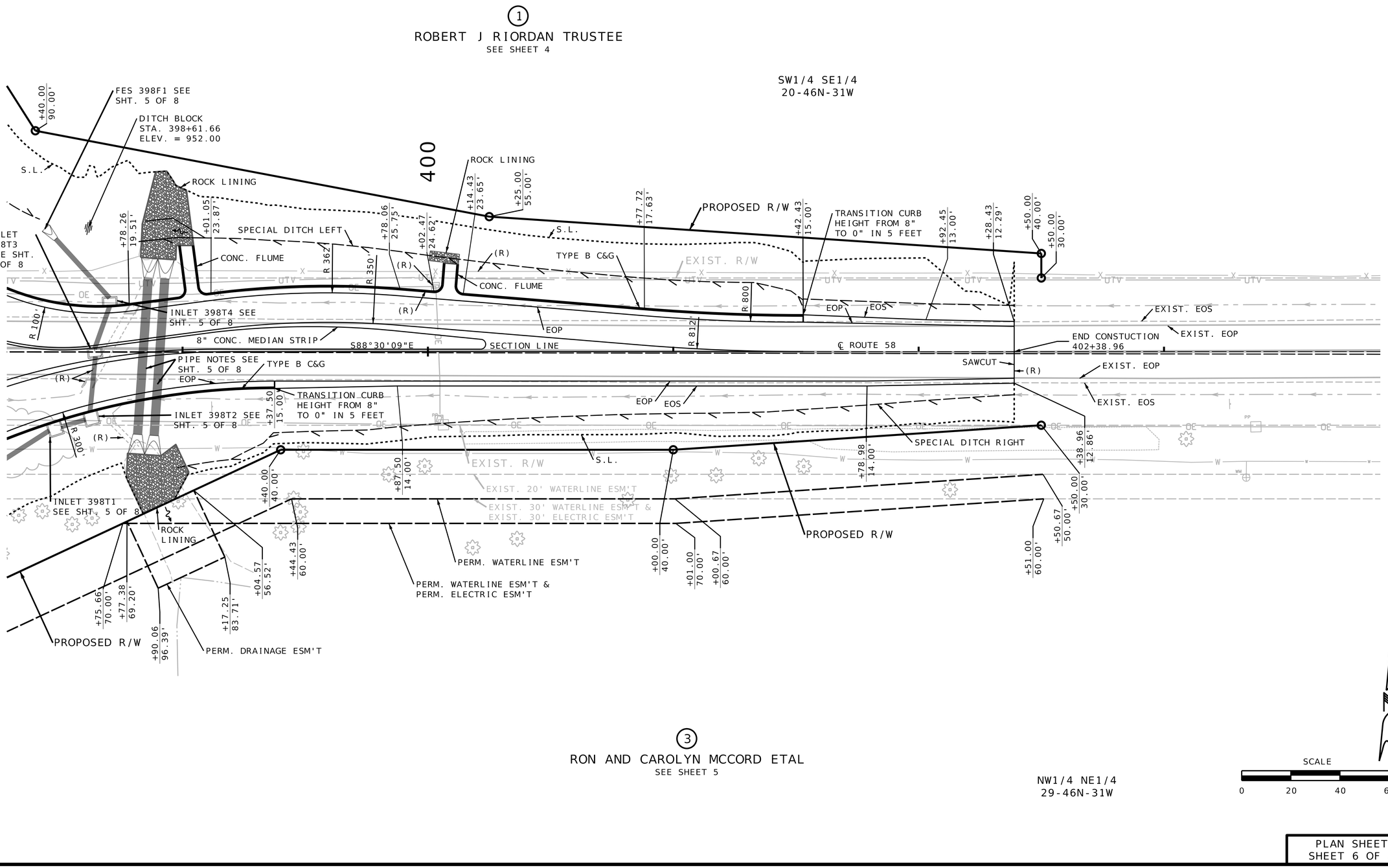
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

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

PRELIMINARY PLANS
NOT FOR CONSTRUCTION



PLAN SHEET
SHEET 6 OF 8

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	9
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

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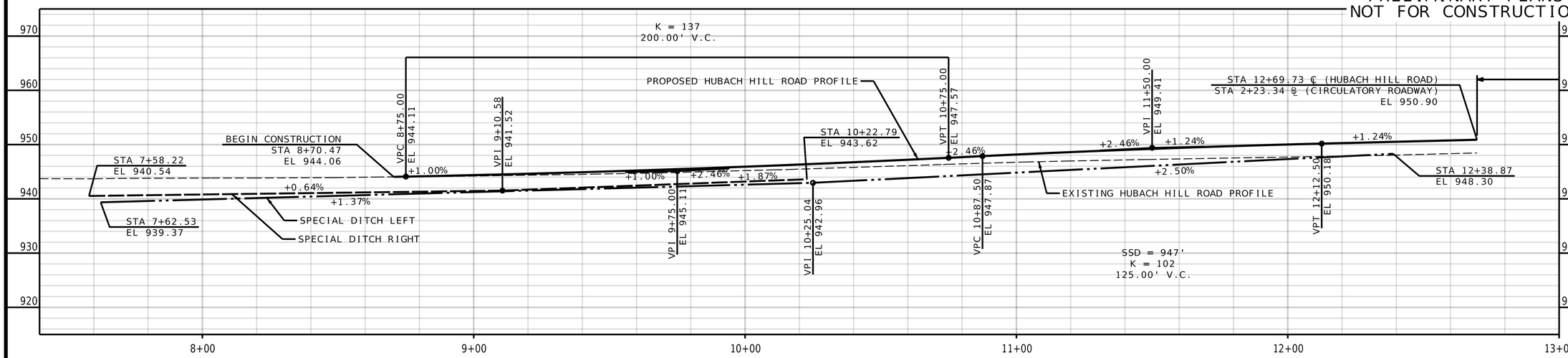
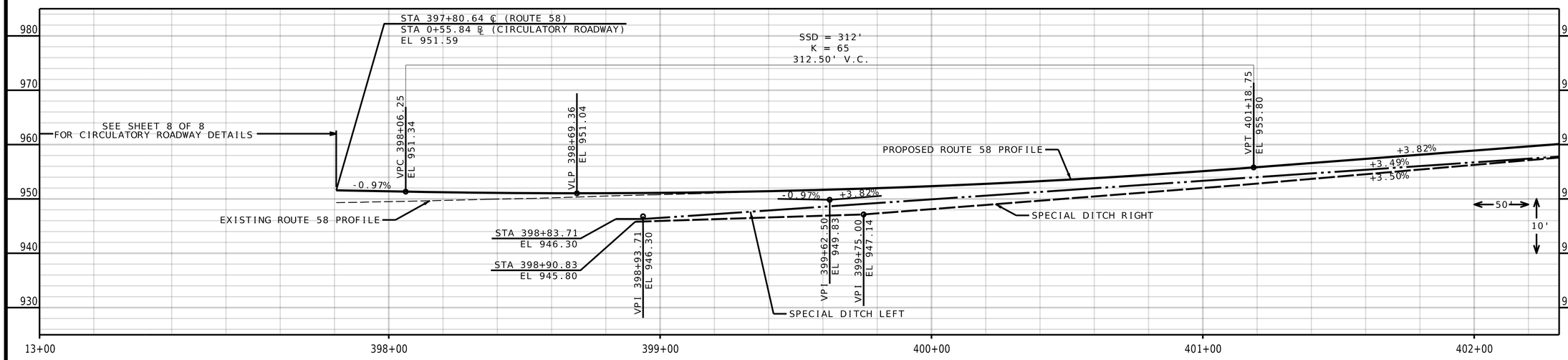
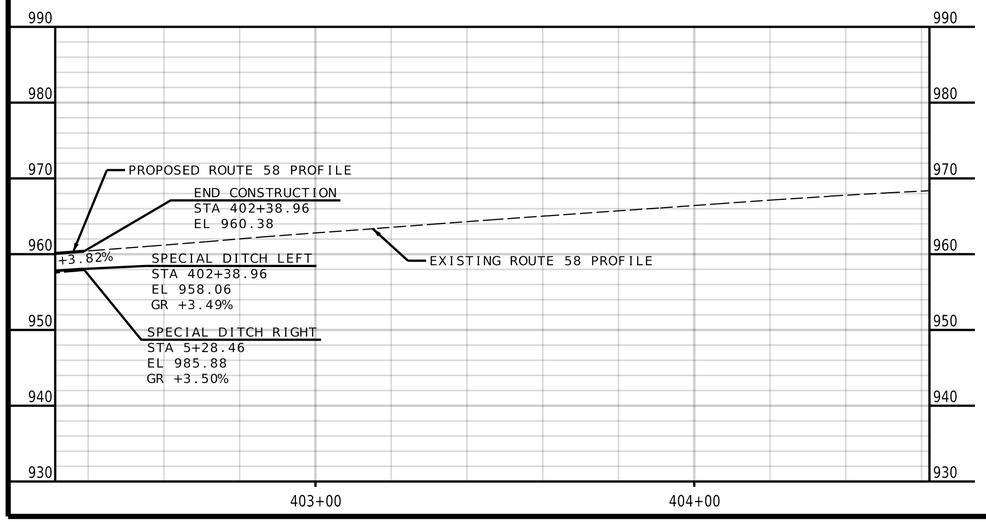
PRELIMINARY PLANS
NOT FOR CONSTRUCTION







PLAN SHEET
SHEET 7 OF 8

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 10
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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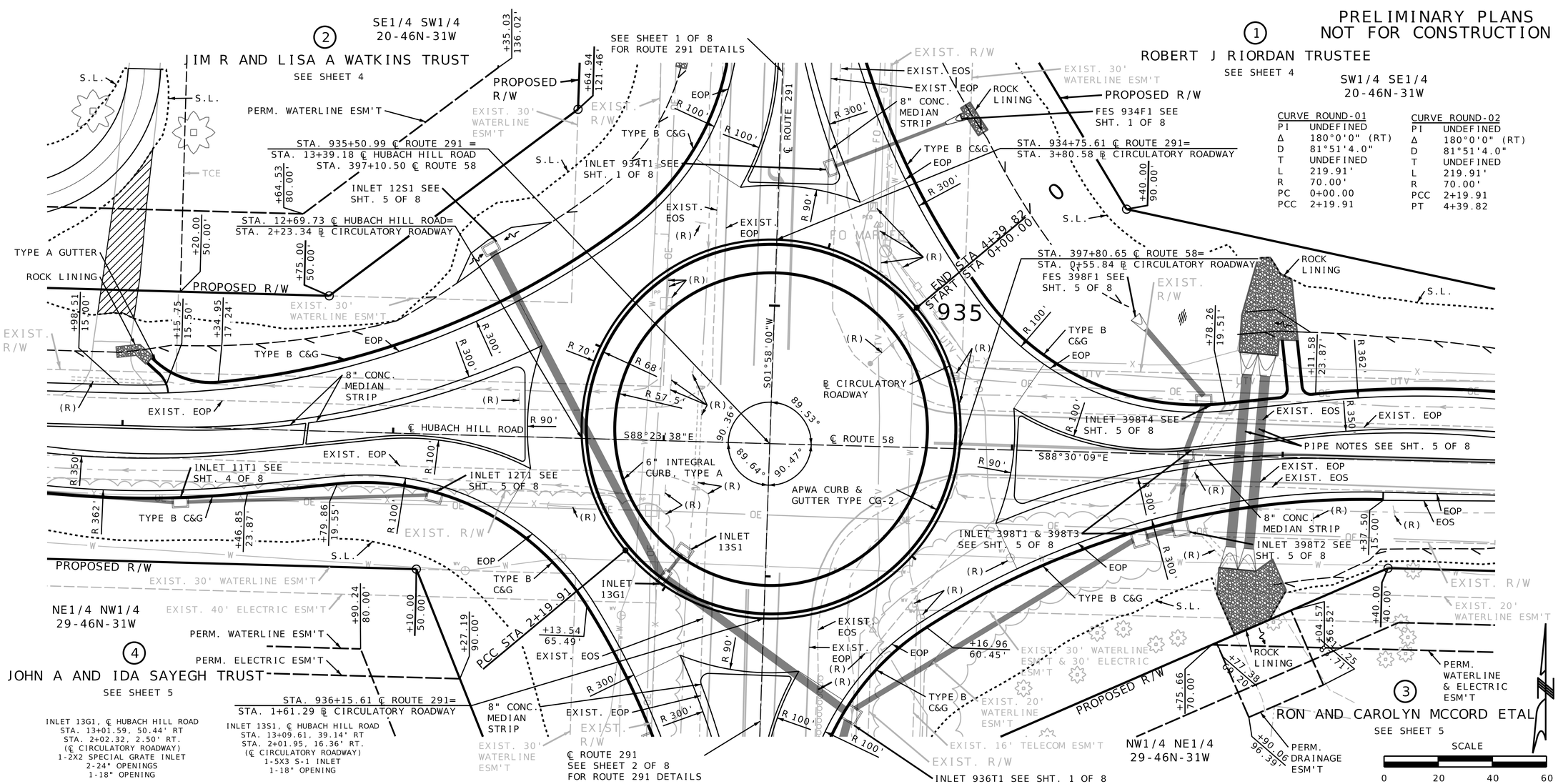
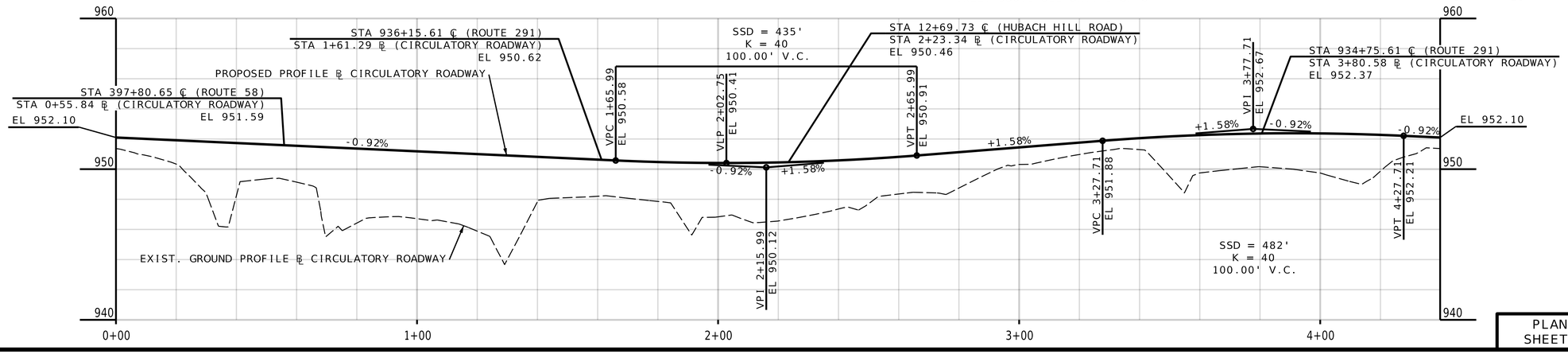
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

PRELIMINARY PLANS
NOT FOR CONSTRUCTION





PLAN SHEET
SHEET 8 OF 8

CURVE ROUND-01	
PI	UNDEFINED
Δ	180°0'0" (RT)
D	81°51'4.0"
T	UNDEFINED
L	219.91'
R	70.00'
PC	0+00.00
PCC	2+19.91

CURVE ROUND-02	
PI	UNDEFINED
Δ	180°0'0" (RT)
D	81°51'4.0"
T	UNDEFINED
L	219.91'
R	70.00'
PCC	2+19.91
PT	4+39.82

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 11
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

ALL PROJECT COORDINATES HAVE BEEN PROJECTED FROM THE MISSOURI STATE PLANE COORDINATE (SPC) SYSTEM OF 1983 USING AN AVERAGE PROJECT PROJECTION (GRID TO GROUND) FACTOR. TO GET BACK TO STATE PLANE COORDINATES MULTIPY THE PROJECT COORDINATES BY THE AVERAGE GRID FACTOR AS SHOWN IN THE "REFERENCE CONTROL INFORMATION" PORTION OF THIS TABLE.

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	STATE PLANE, MISSOURI WEST
HORIZONTAL DATUM	NAD 1983
VERTICAL DATUM	NAVD 1988
GEOID MODEL	CASS COUNTY
ELEVATIONS DETERMINED BY	GPS OBSERVATIONS
PROJECT PROJECTION FACTOR	1.00009761

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	NAD 1983
CONTROL STATION	CA-34
DESIGNATION	CA-34
CORS_ID	
PID	37034
LATITUDE	38°46'47.81567"
LONGITUDE	94°22'29.79124"
NORTHING (M)	290029.6280
EASTING (M)	860866.1620
ZONE	WEST
PROJECT AVERAGE GRID FACTOR	0.99990240

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 #5015
N 951739.22 X 0.99990240 = N 951646.33
E 2824192.19 X 0.99990240 = E 2823977.55

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND) NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION	GPK POINT ID
PROJECT CONTROL POINTS								
		ROUTE 58		951,689.77	2,825,482.49	968.03	CONTROL-GPS #5007	
		HUBACH		952,303.71	2,824,726.44	946.18	CONTROL-GPS #5011	
		ROUTE291		951,739.22	2,824,192.19	964.99	CONTROL-GPS #5015	
ALIGNMENTS								
ROUTE 291								
	900+00.00	℄		955,239.24	2,824,798.68		BEGIN CHAIN ROUTE 291	
	914+00.00	℄		953,840.30	2,824,744.13		PI POINT	
	934+75.61	℄		951,765.92	2,824,672.90		INTERSECTION POINT	
	935+50.99	℄		951,690.58	2,824,670.31		INTERSECTION POINT	
	936+15.61	℄		951,626.00	2,824,668.09		INTERSECTION POINT	
	990+00.00	℄		946,244.78	2,824,483.31		END CHAIN ROUTE 291	
ROUTE 58								
	397+10.50	℄		951,690.58	2,824,670.31		BEGIN CHAIN ROUTE 58	
	397+80.65	℄		951,688.74	2,824,740.43		INTERSECTION POINT	
	420+00.00	℄		951,630.75	2,826,959.03		END CHAIN ROUTE 58	
HUBACH								
	0+00.00	℄		951,728.11	2,823,331.66		BEGIN CHAIN HUBACH HILL ROAD	
	12+69.73	℄		951,692.52	2,824,600.89		INTERSECTION POINT	
	13+39.18	℄		951,690.58	2,824,670.31		END CHAIN HUBACH HILL ROAD	
ROUNDABOUT								
	0+00.00	℞		951,740.76	2,824,724.59		BEGIN CHAIN CIRCULATORY ROADWAY	
	0+55.79	℞		951,688.74	2,824,740.43		INTERSECTION POINT	
	1+61.29	℞		951,626.00	2,824,668.09		INTERSECTION POINT	
	2+19.91	℞		951,651.14	2,824,617.03		PCC POINT	
	2+65.11	℞		951,692.52	2,824,600.89		INTERSECTION POINT	
	3+80.58	℞		951,765.92	2,824,672.90		INTERSECTION POINT	
	4+39.82	℞		951,740.76	2,824,724.59		END CHAIN CIRCULATORY ROADWAY	
				951,695.95	2,824,670.81		CENTER OF CURVE	

COORDINATE POINT SHEET
SHEET 1 OF 1

DATE PREPARED 8/2/2022
ROUTE | STATE MO
DISTRICT KC | SHEET NO. 12
COUNTY CASS
JOB NO. J4P3488
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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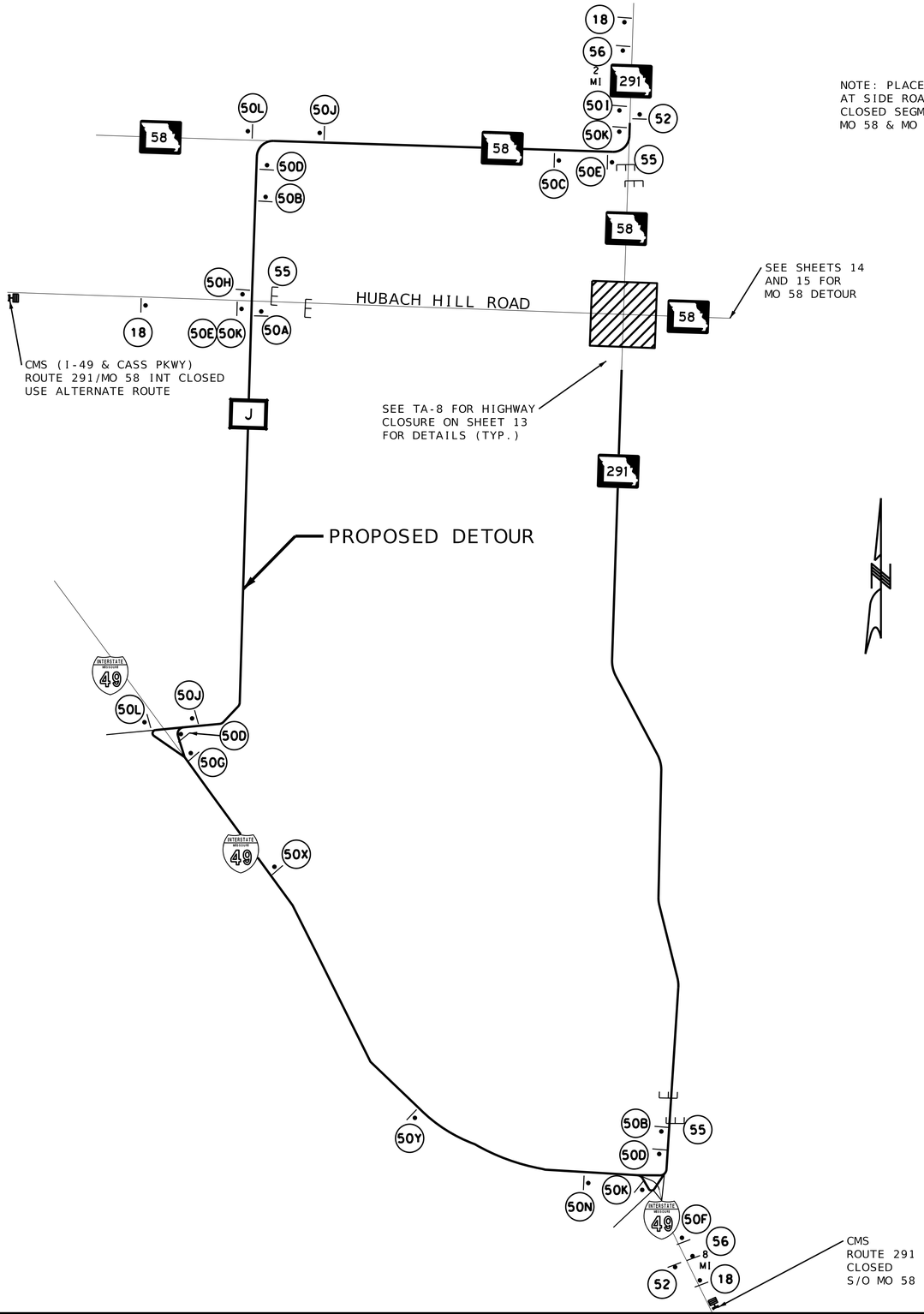
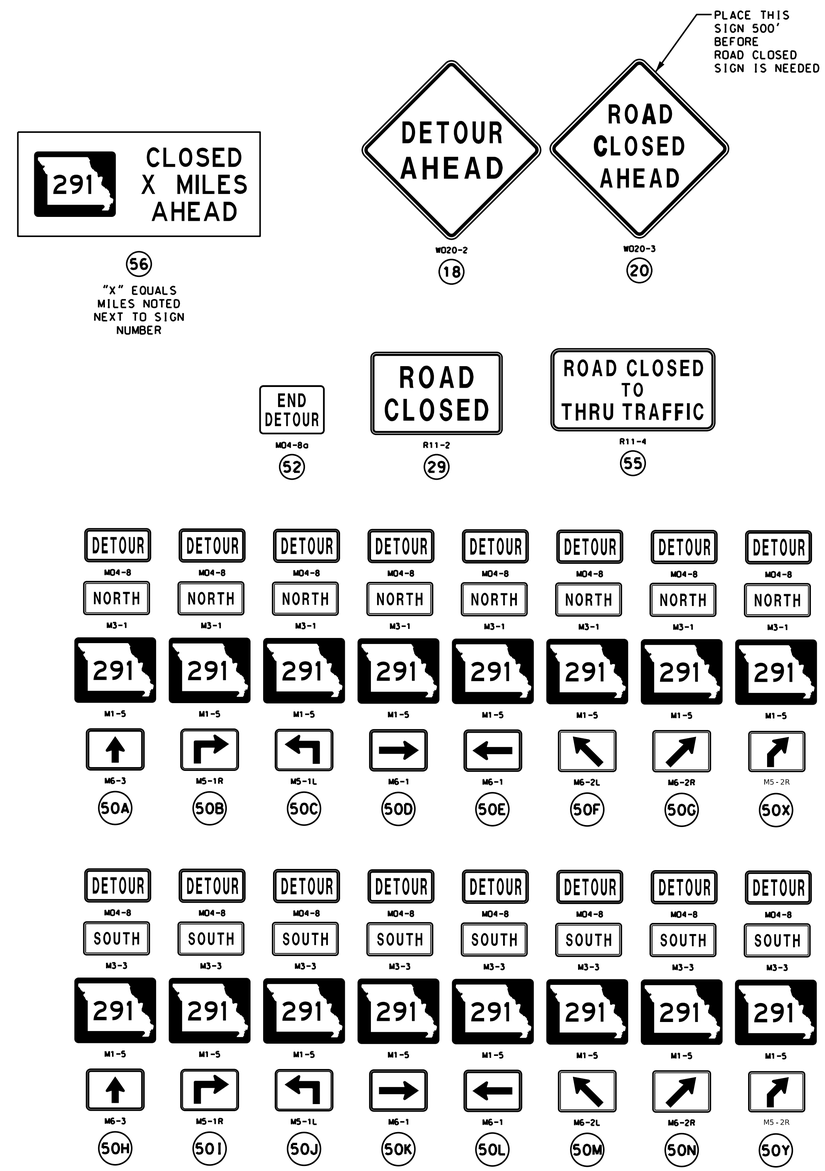


NOTE: PLACE (55) AT SIDE ROADS ALONG CLOSED SEGMENTS OF MO 58 & MO 291



TRAFFIC CONTROL
ROUTE 291 DETOUR
SHEET 1 OF 4

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	13
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

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JEFFERSON CITY, MO 65102
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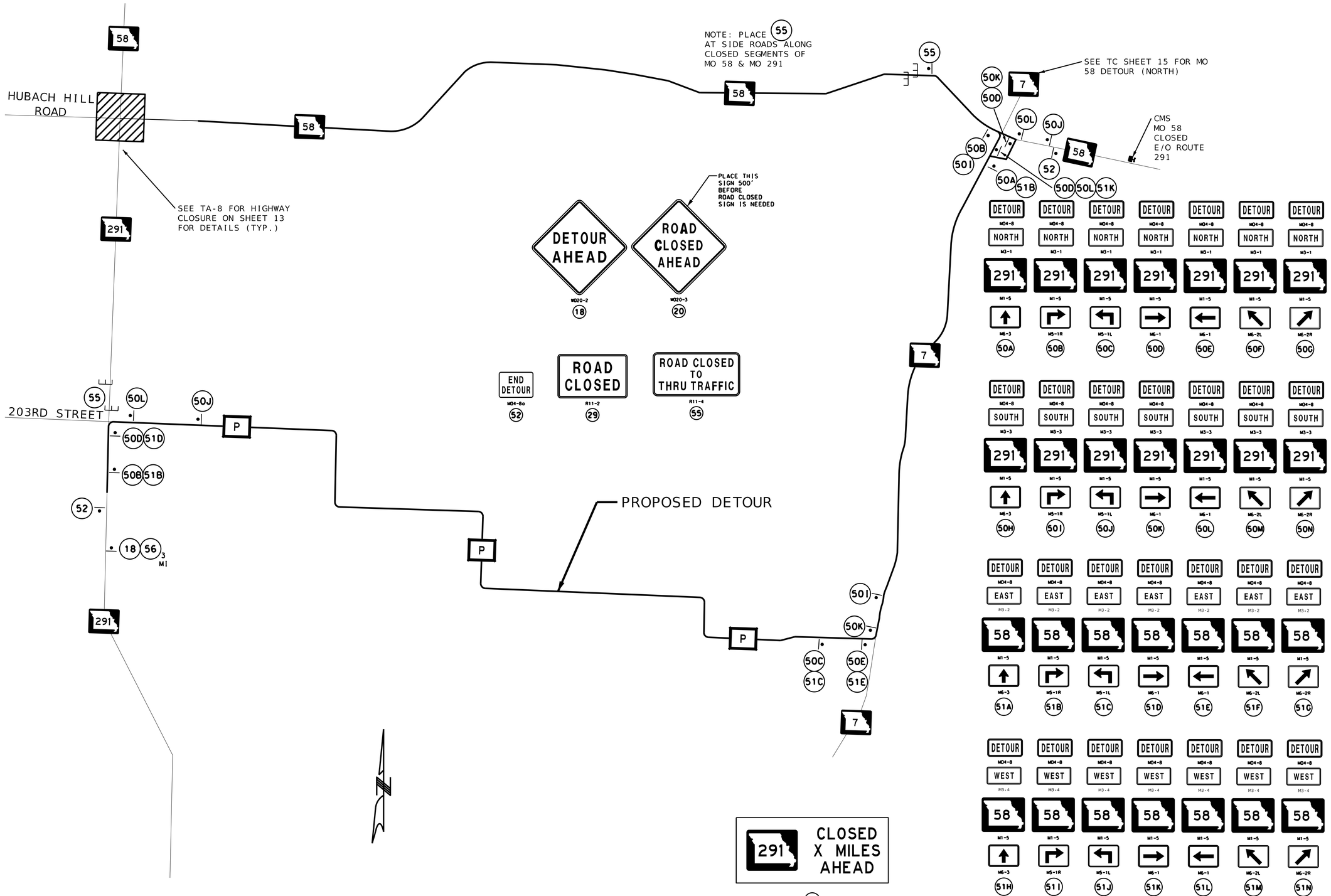
AUTHORITY NO. 001592

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

F:\2021\06501-07000\021-06622\40-Design\Microstation\J4P3488\plan_sheets\9 Traffic Control\013-015_TC_01-03_J4P3488_I1.dgn



TRAFFIC CONTROL
MO 58 DETOUR (SOUTH)
SHEET 2 OF 4

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	14
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

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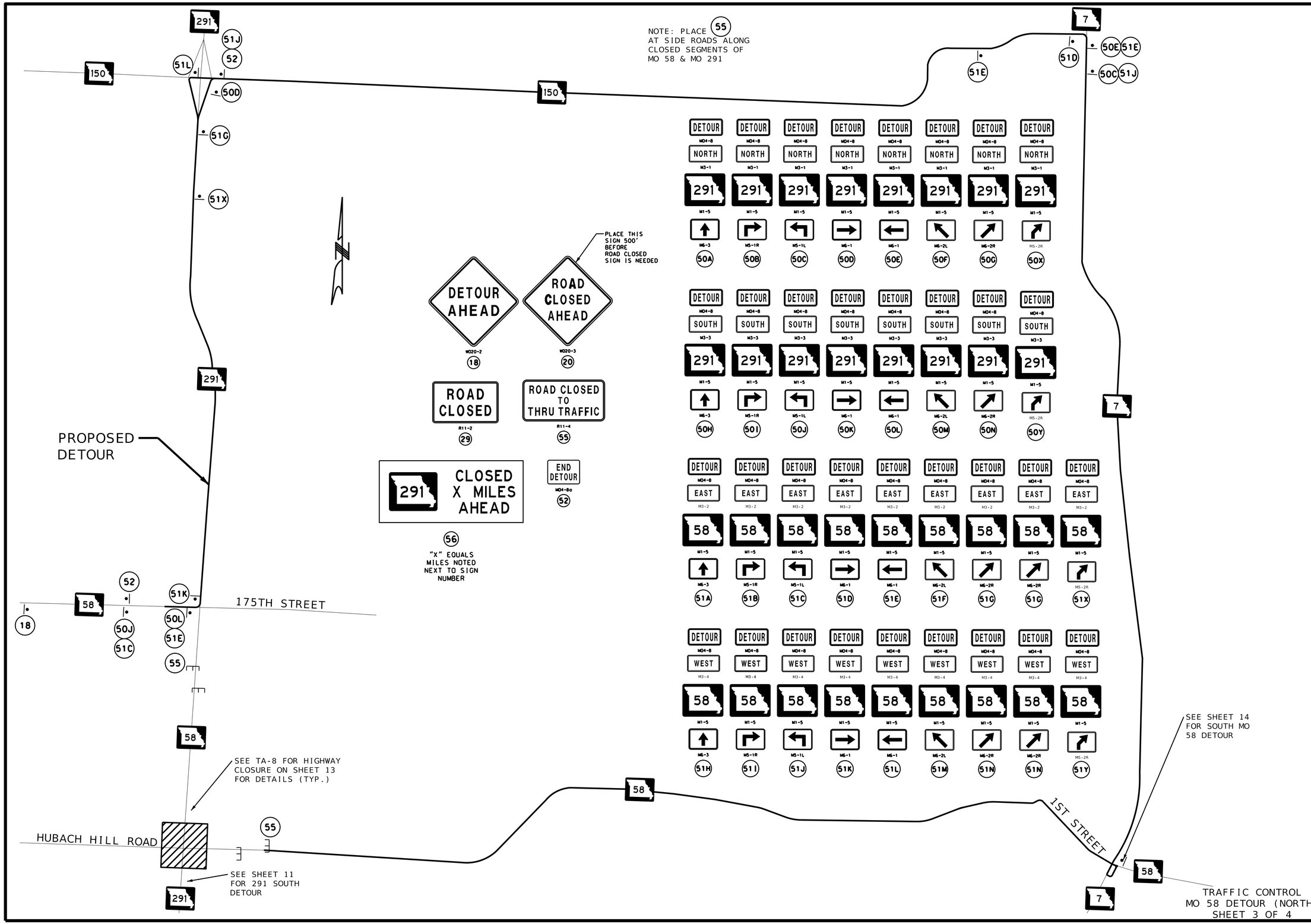
F:\2021\06501-07000\021-06622\40-Design\Microstation\J4P3488\plan_sheets\9 Traffic Control\013-015_TC_01-03_J4P3488_I1.dgn



DATE PREPARED 8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	15

COUNTY: CASS

JOB NO. J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

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www.invarion.com

616.8.8 (TA-8) Highway Closure - DE/CM

SPEED	SIGN SPACING (ft.)		TAPER LENGTH (ft.)		OPTIONAL	CHANNELIZER SPACING (ft.)	
Normal Posted (mph)	Undivided (S)	Divided (S)	Shoulder (1) (T1)	Lane (2) (T2)	BUFFER LENGTH (ft.) (B)	Tapers	Buffer/ Work Areas
0-35	200	200	-	-	250	-	-
40-45	350	500	-	-	360	-	-
50-55	500	1000	-	-	495	-	-
60-70	1000	SA - 1000 SB - 1500 SC - 2640	-	-	730	-	-

1 Shoulder taper length based on 10 ft. (standard shoulder width) offset. 2. Lane taper length based on 12 ft. (standard lane width) offset.

(1) ROAD CLOSED sign may be placed 7-10 feet behind the barricades and at a sign height appropriate to the type of roadway. One barricade should be required to completely close each 8-feet of pavement. Paved shoulders shall be included in the area to be closed.

(2) If used, the ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY or ROAD CLOSED TO THRU TRAFFIC sign should be located at the first state route or, at the discretion of the engineer, any other intersection in advance of the closure. Additional barricades may be used and offset to facilitate access for work vehicles, local traffic, etc.

Traffic control should be removed as soon as practical after condition for the closure no longer exists.

For long-term operations, refer to EPG 616.6.2.2 Flags and Advance Warning Rail System (AWRS).

Additional warning signs should be erected at each intersection within the work zone.

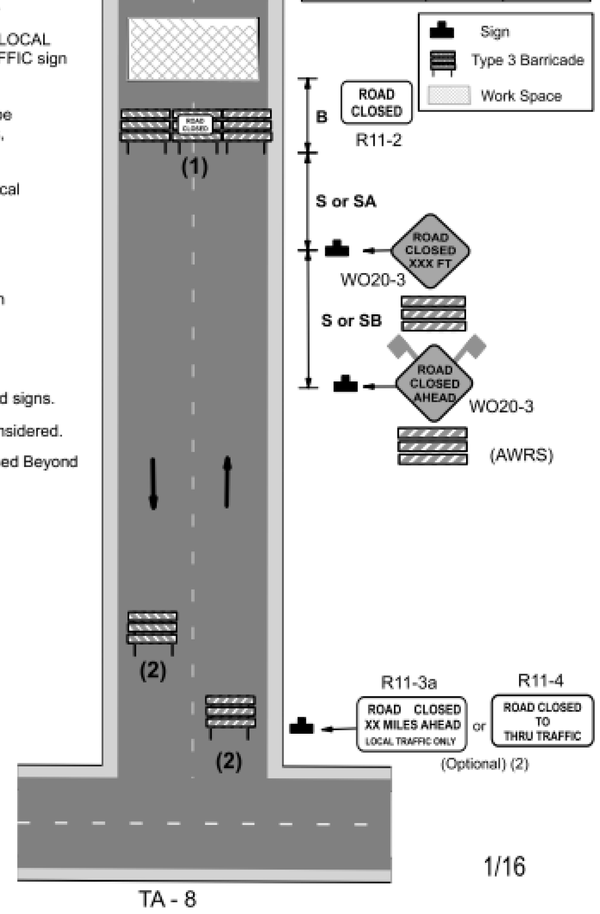
Supplemental warning methods may be used to call attention to the work zone.

See Standard Plan 616.10 for use of barricades and signs.

For long-term closure, detour signing should be considered.

For detour signing, review EPG 616.8.9 Road Closed Beyond Junction Detour.

TYPE OF ROADWAY	SIGN HEIGHT	MAXIMUM WORK ZONE LENGTH (L)
URBAN	1' Portable 7' Post	1 Mi.
RURAL UNDIVIDED	1' Portable 5' Post	3 Mi.

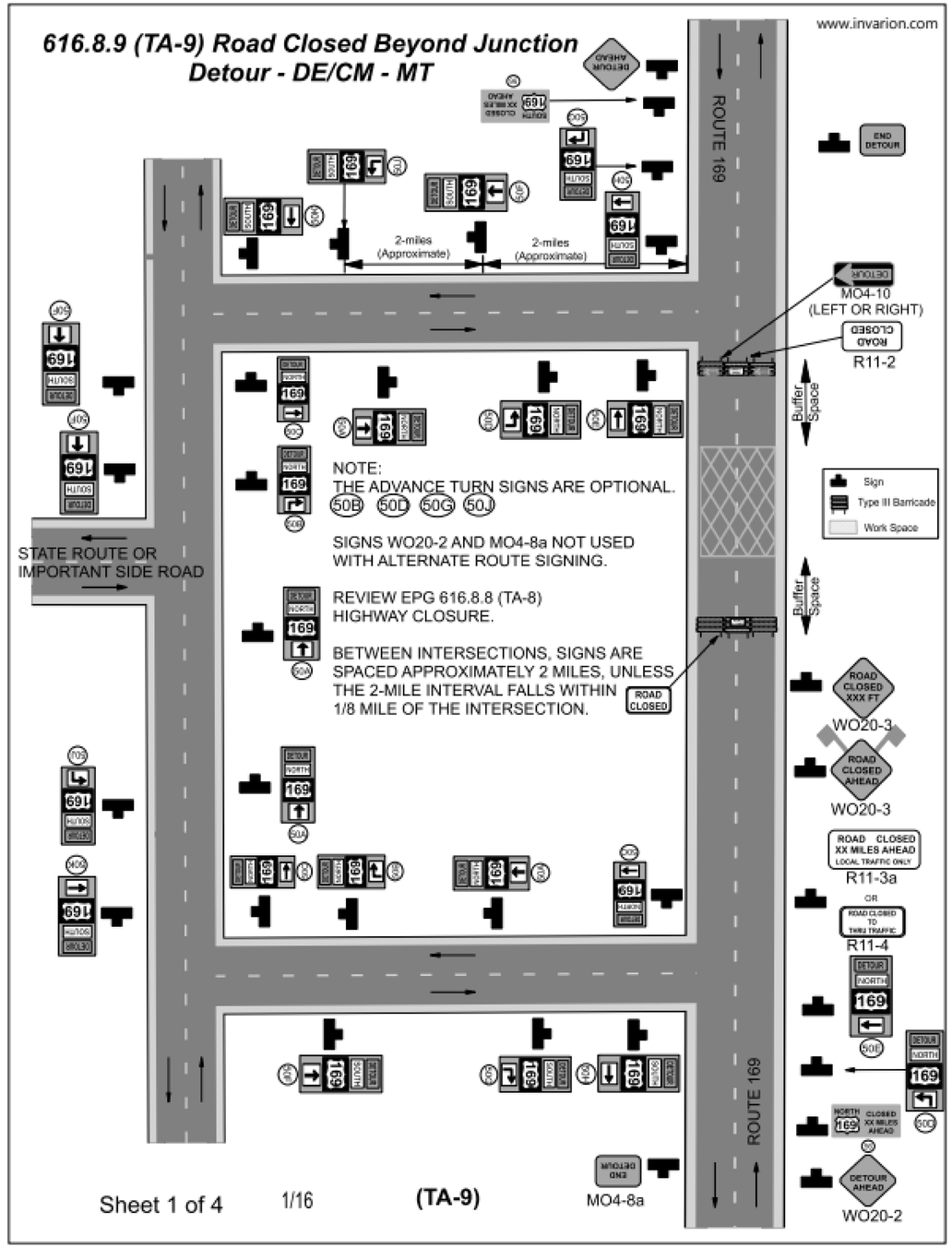


1/16

TA - 8

www.invarion.com

616.8.9 (TA-9) Road Closed Beyond Junction Detour - DE/CM - MT



Sheet 1 of 4 1/16 (TA-9)

TRAFFIC CONTROL
SHEET 4 OF 4

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	16
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

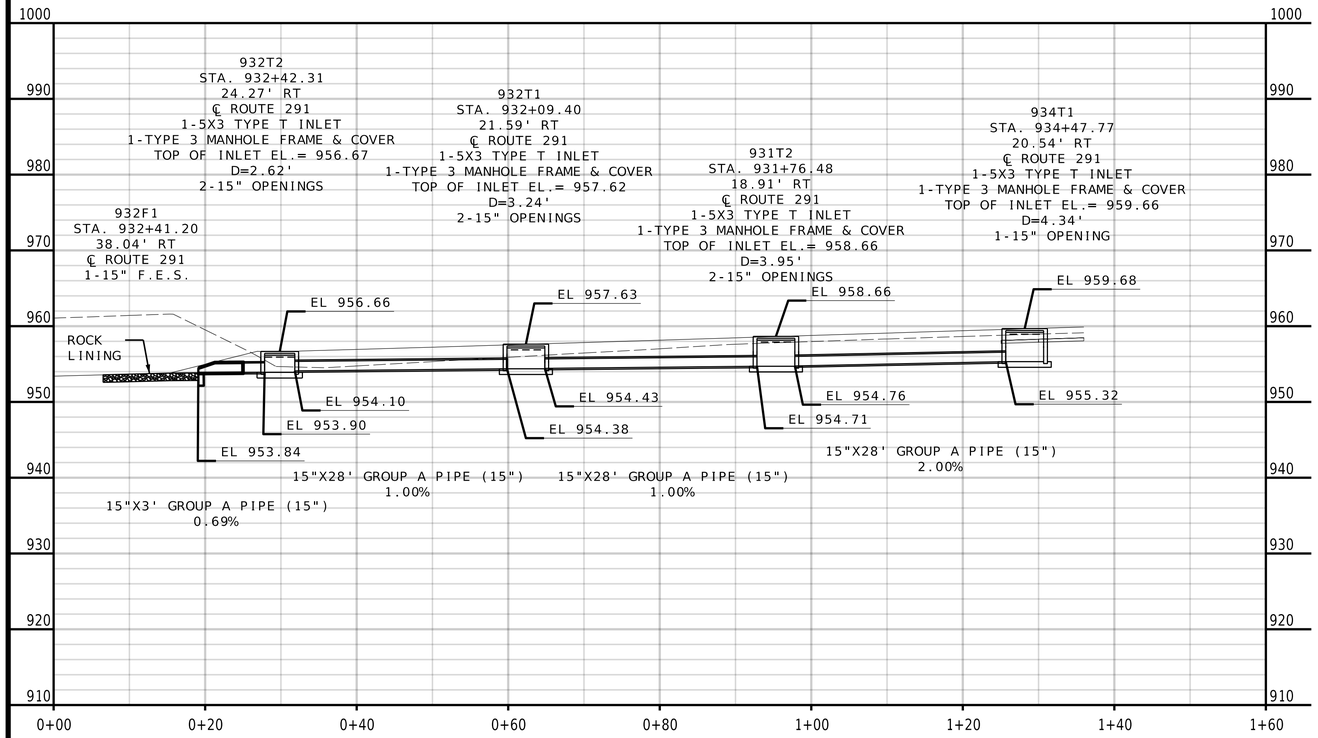
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

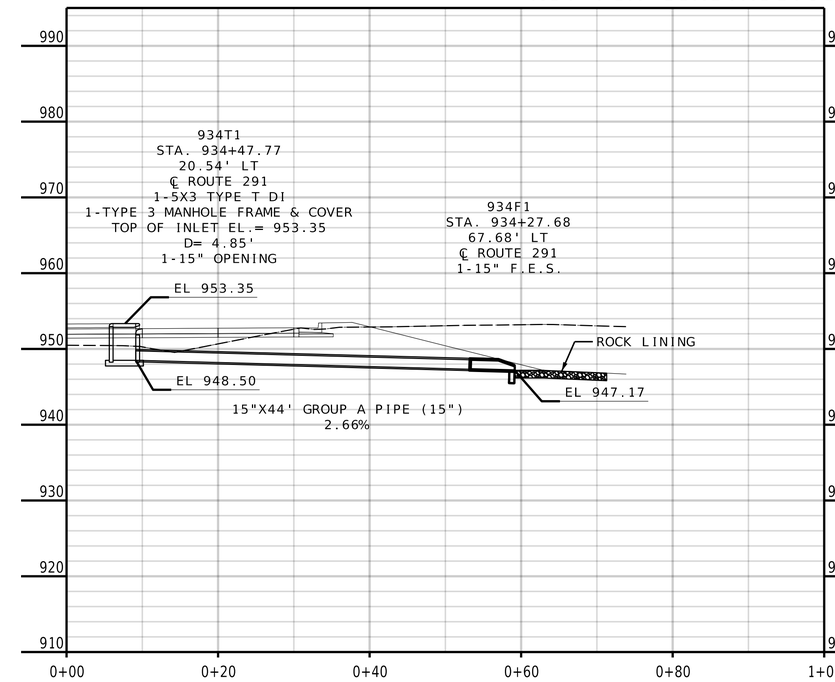
olsson

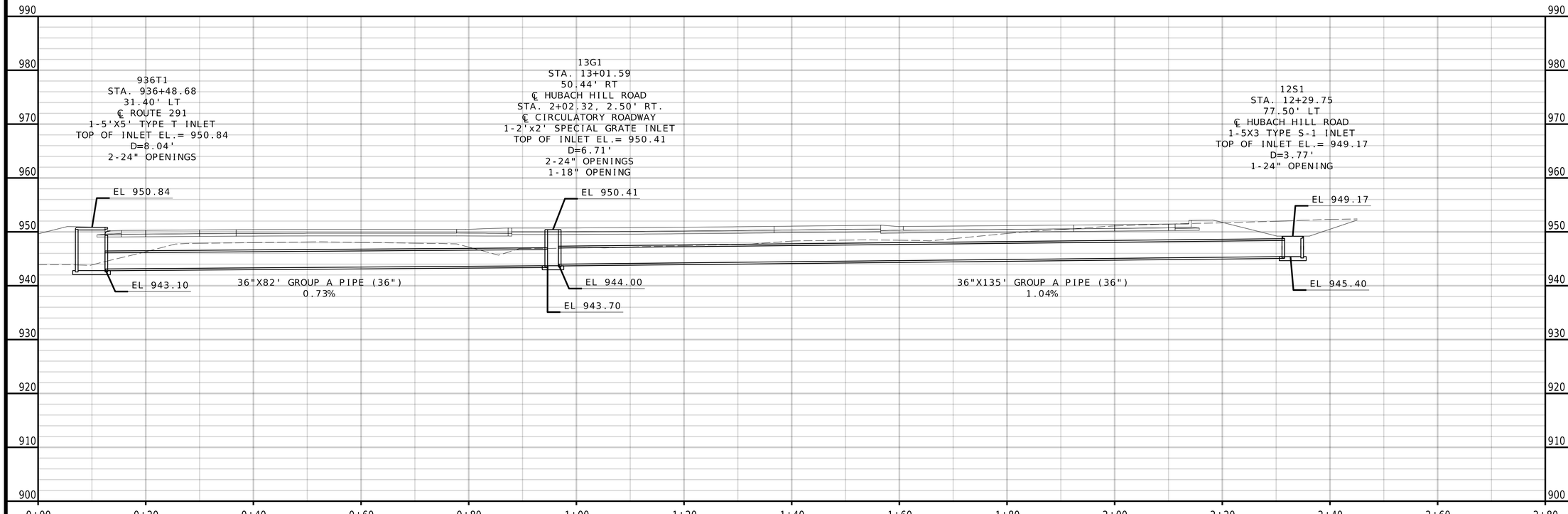
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

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

PRELIMINARY PLANS
NOT FOR CONSTRUCTION







CULVERT SECTION
SHEET 1 OF 4

DATE PREPARED	$DATE$
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	17
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

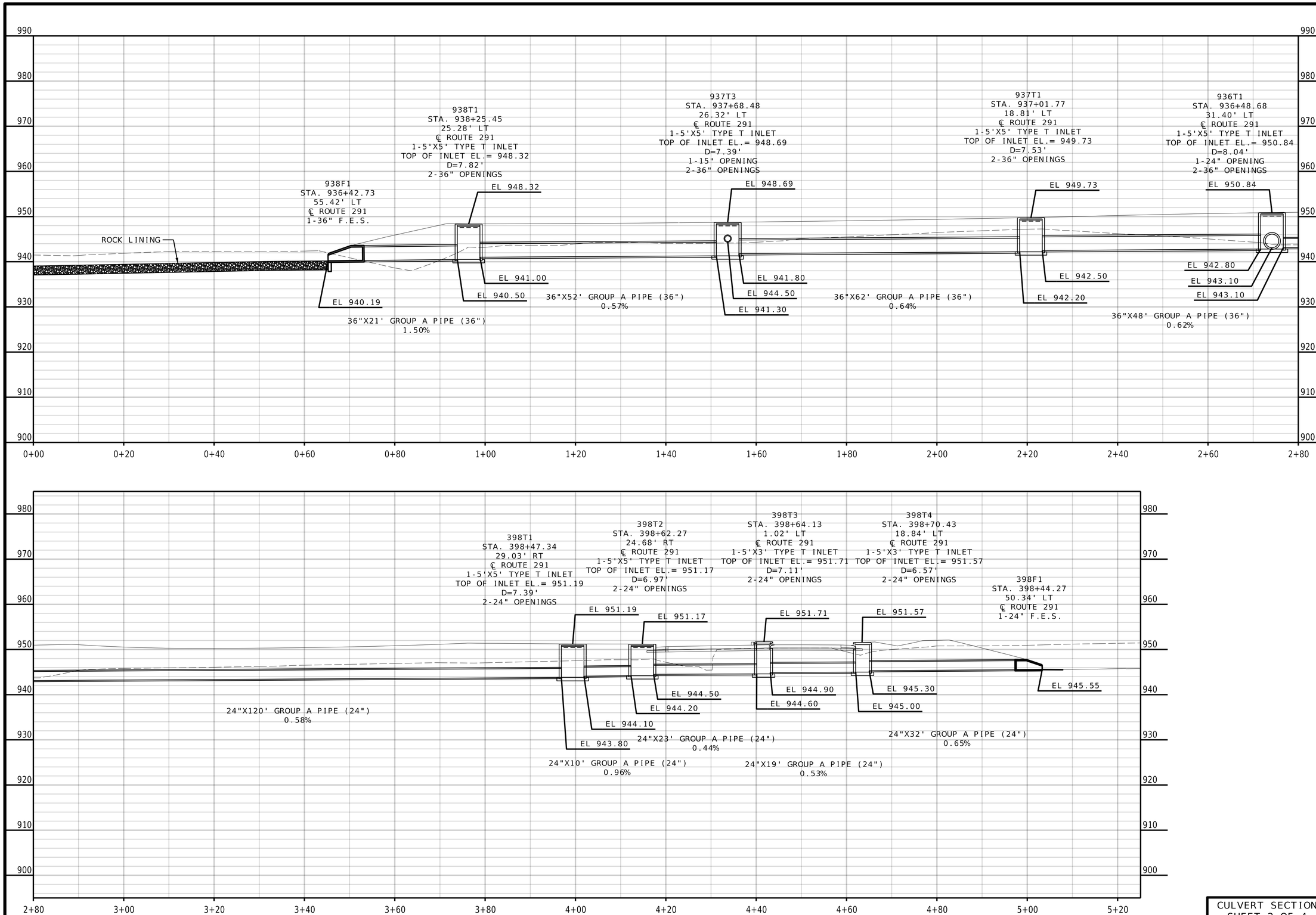
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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

REV.

$FILE$ $TIME$ $DATE$



CULVERT SECTION
SHEET 2 OF 4

$FILE$ $TIME$ $DATE$

DATE PREPARED
$DATE$

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	18

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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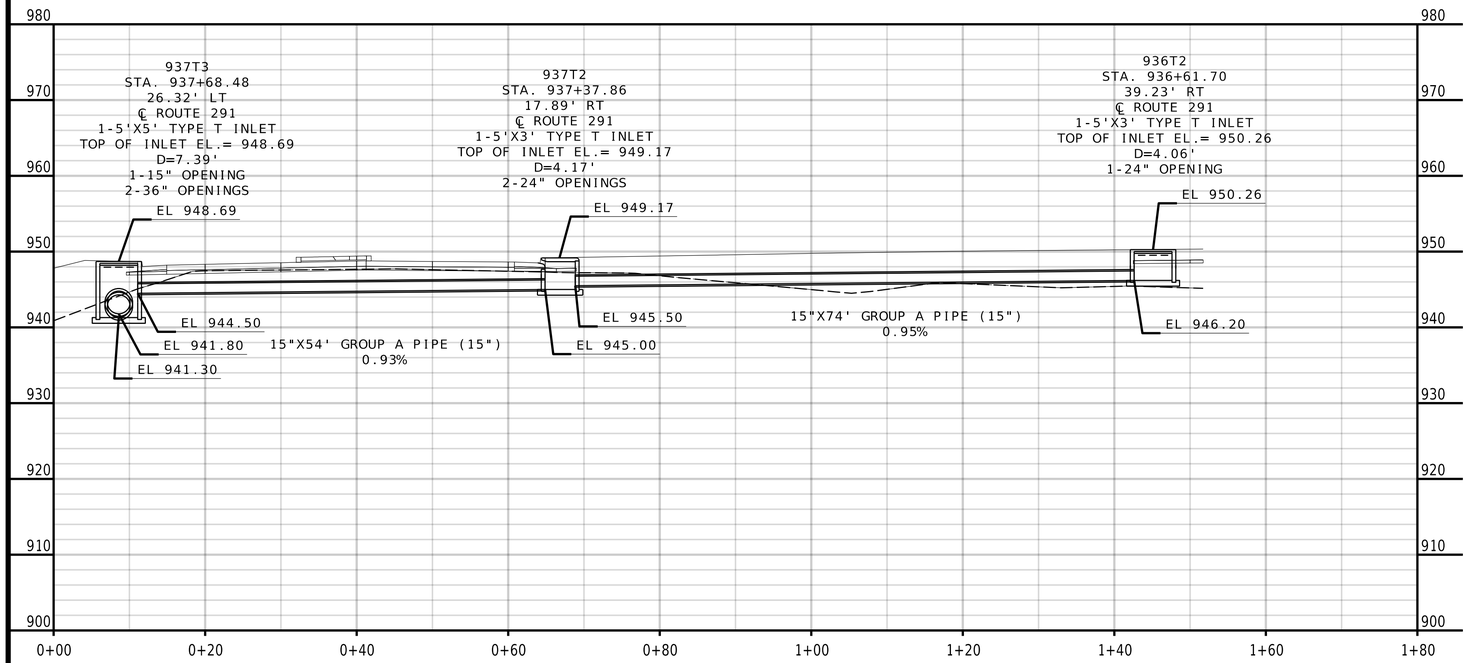
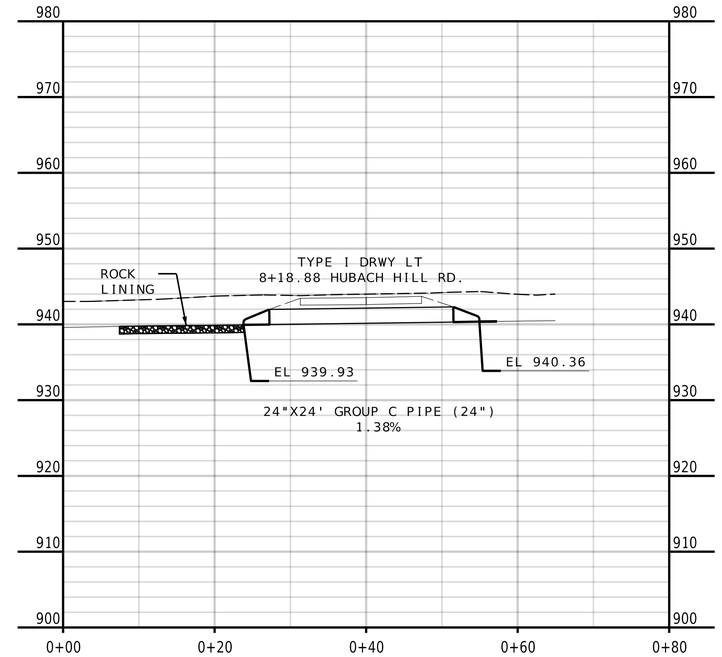
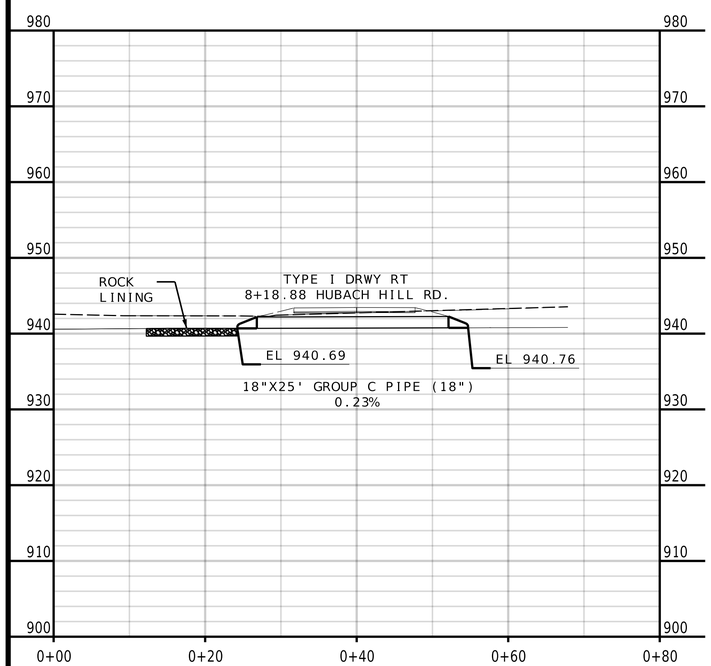
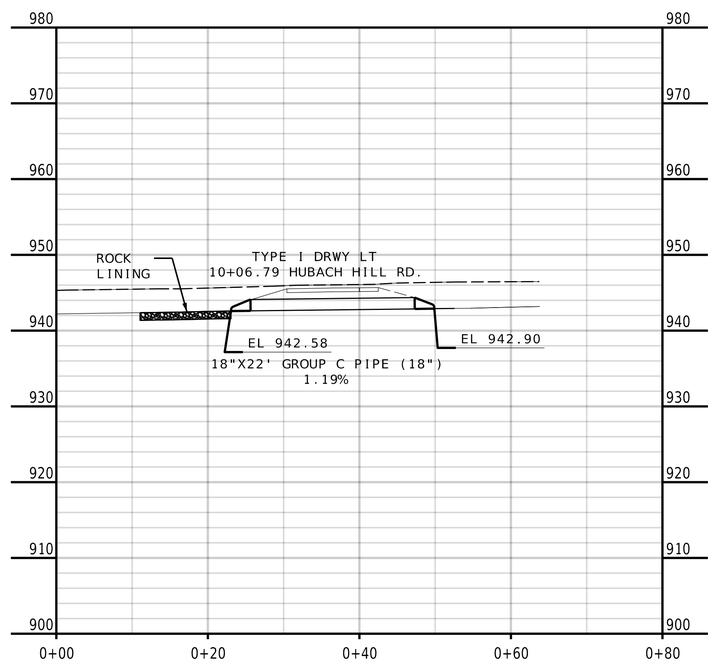
REV.

PRELIMINARY PLANS
NOT FOR CONSTRUCTION









CULVERT SECTION
SHEET 3 OF 4

DATE PREPARED
$DATE$

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	19

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
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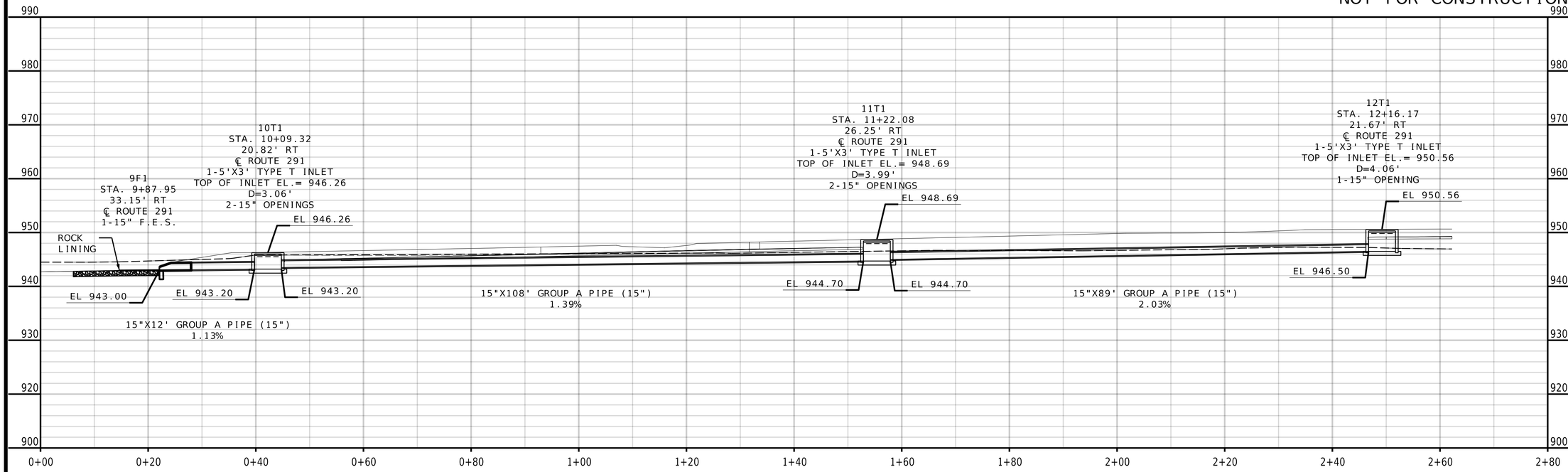
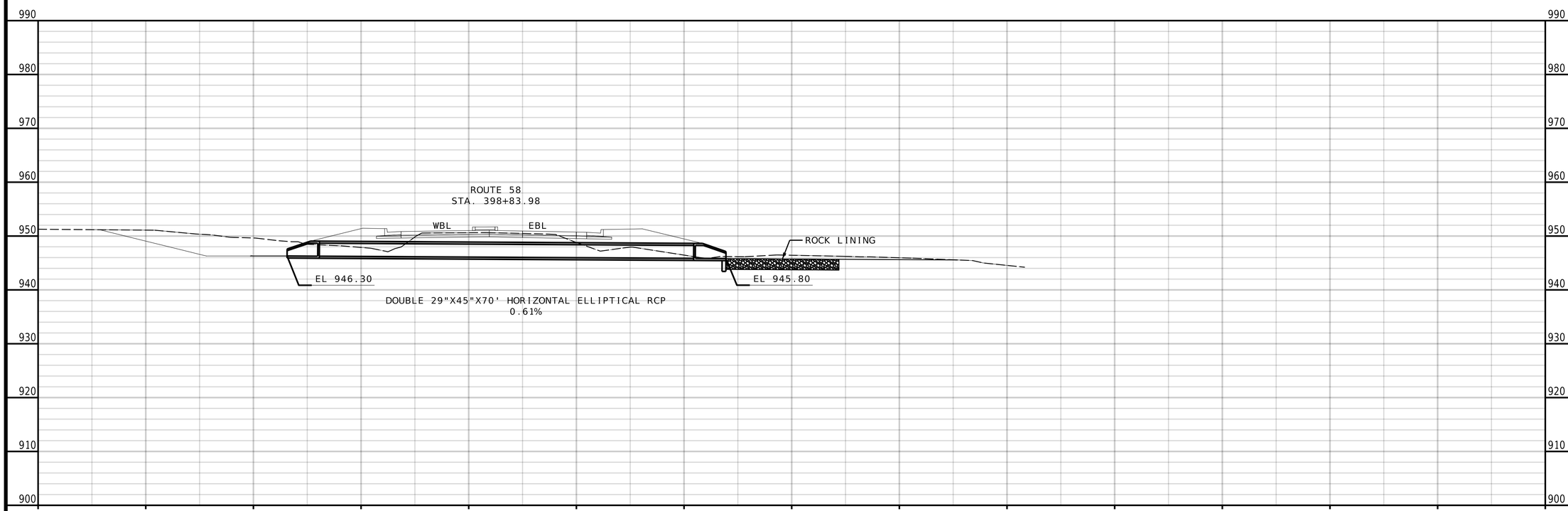
REV.

$FILE$ $TIME$ $DATE$

PRELIMINARY PLANS
NOT FOR CONSTRUCTION





CULVERT SECTION
SHEET 4 OF 4

DATE PREPARED	$DATE$
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	20
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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REV.

$FILE$ $TIME$ $DATE$

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

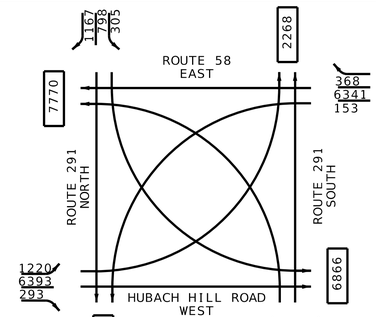
CP# 5015
STA. 929+36.29, 35.06' LT.
CHAIN (ROUTE291)
EL. 964.99

SW1/4 SE1/4
20-46N-31W

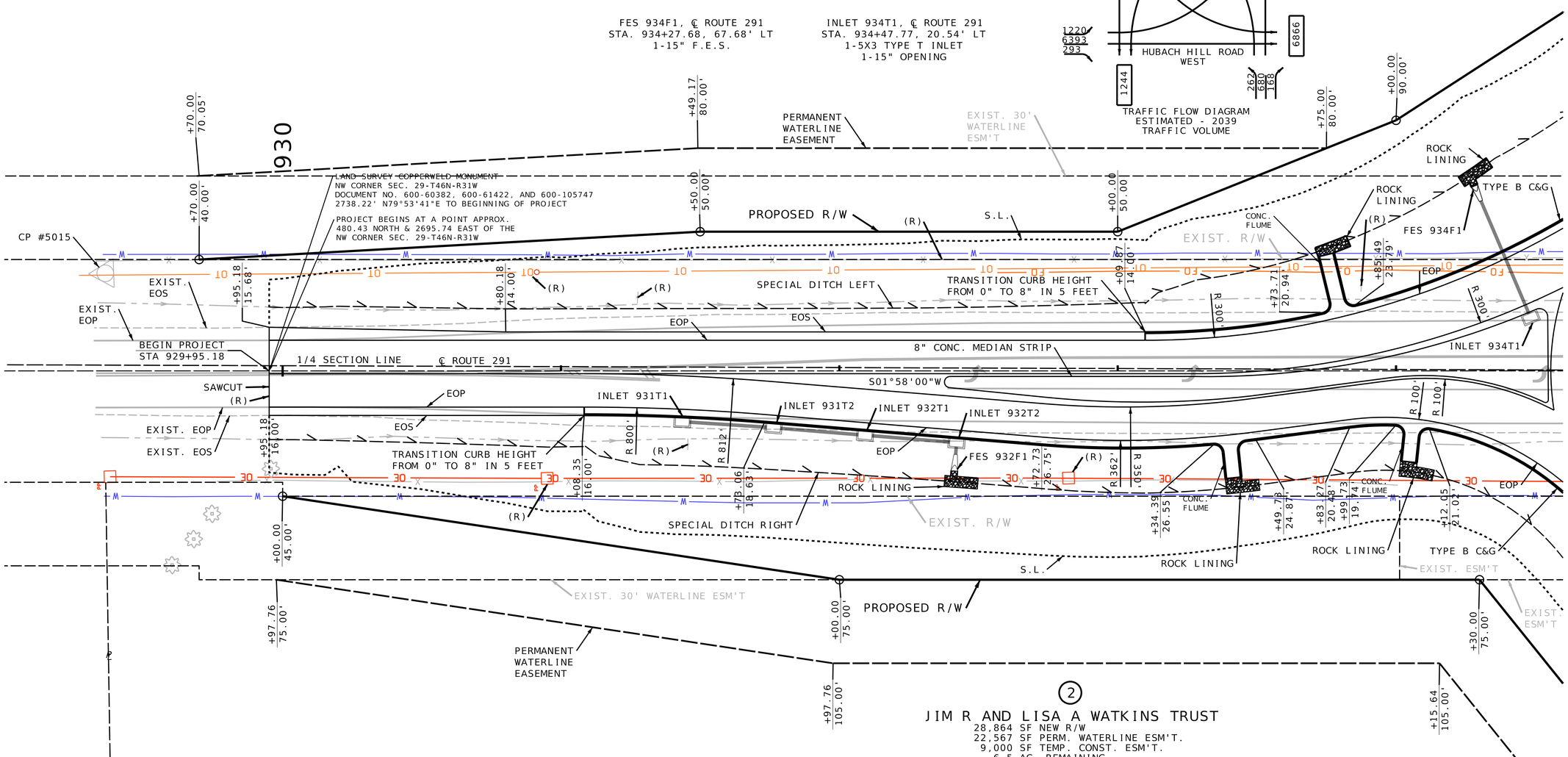
① ROBERT J RIORDAN TRUST
25,962 SF NEW R/W
3,033 SF PERM. WATERLINE ESM'T.
39.5 AC. REMAINING

FES 934F1, ℄ ROUTE 291
STA. 934+27.68, 67.68' LT
1-15" F.E.S.

INLET 934T1, ℄ ROUTE 291
STA. 934+47.77, 20.54' LT
1-5X3 TYPE T INLET
1-15" OPENING



TRAFFIC FLOW DIAGRAM
ESTIMATED - 2039
TRAFFIC VOLUME



② JIM R AND LISA A WATKINS TRUST
28,864 SF NEW R/W
22,567 SF PERM. WATERLINE ESM'T.
9,000 SF TEMP. CONST. ESM'T.
6.5 AC. REMAINING

INLET 931T1, ℄ ROUTE 291
STA. 931+43.67, 16.78' RT
1-5X3 TYPE T INLET
1-15" OPENING

INLET 931T2, ℄ ROUTE 291
STA. 931+76.48, 18.91' RT
1-5X3 TYPE T INLET
2-15" OPENINGS

INLET 932T1, ℄ ROUTE 291
STA. 932+09.40, 21.59' RT
1-5X3 TYPE T INLET
2-15" OPENINGS

INLET 932T2, ℄ ROUTE 291
STA. 932+42.31, 24.27' RT
1-5X3 TYPE T INLET
2-15" OPENINGS

FES 932F1, ℄ ROUTE 291
STA. 932+41.20, 38.04' RT
1-15" F.E.S.

SE1/4 SW1/4
20-46N-31W

SCALE
0 20 40 60

GENERAL NOTE:
THE APPROXIMATE LOCATION OF PROPERTY LINES 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.

RIGHT OF WAY LIMITS FOR THIS PROJECT EXTEND FROM STA. 929+70.00 TO STA. 939+63.84, ROUTE 291, A DISTANCE OF 0.19 MILES, FROM STA. 7+25.00 TO STA. 13+39.18, HUBACH HILL ROAD, A DISTANCE OF 0.12 MILES AND FROM STA. 397+10.50 TO STA. 402+50.00, ROUTE 58, A DISTANCE OF 0.10 MILES.

PERMANENT EASEMENT LIMITS FOR THIS PROJECT EXTEND FROM STA. 929+97.76 TO STA. 939+66.63, ROUTE 291, A DISTANCE OF 0.18 MILE, FROM STA. 7+15.00 TO STA. 13+39.18, HUBACH HILL ROAD, A DISTANCE OF 0.12 MILES, AND FROM STA. 397+10.50 TO STA. 402+51.00, ROUTE 58, A DISTANCE OF 0.10 MILES.

TEMPORARY EASEMENT LIMITS FOR THIS PROJECT EXTEND FROM STA. 7+25.00 TO STA. 11+20.00, HUBACH HILL ROAD, A DISTANCE OF 0.07 MILES.

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

ALL BEARINGS ARE BASED ON STATE PLANE BEARINGS, WEST ZONE.

UTILITY SHEET
SHEET 1 OF 6

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 21
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

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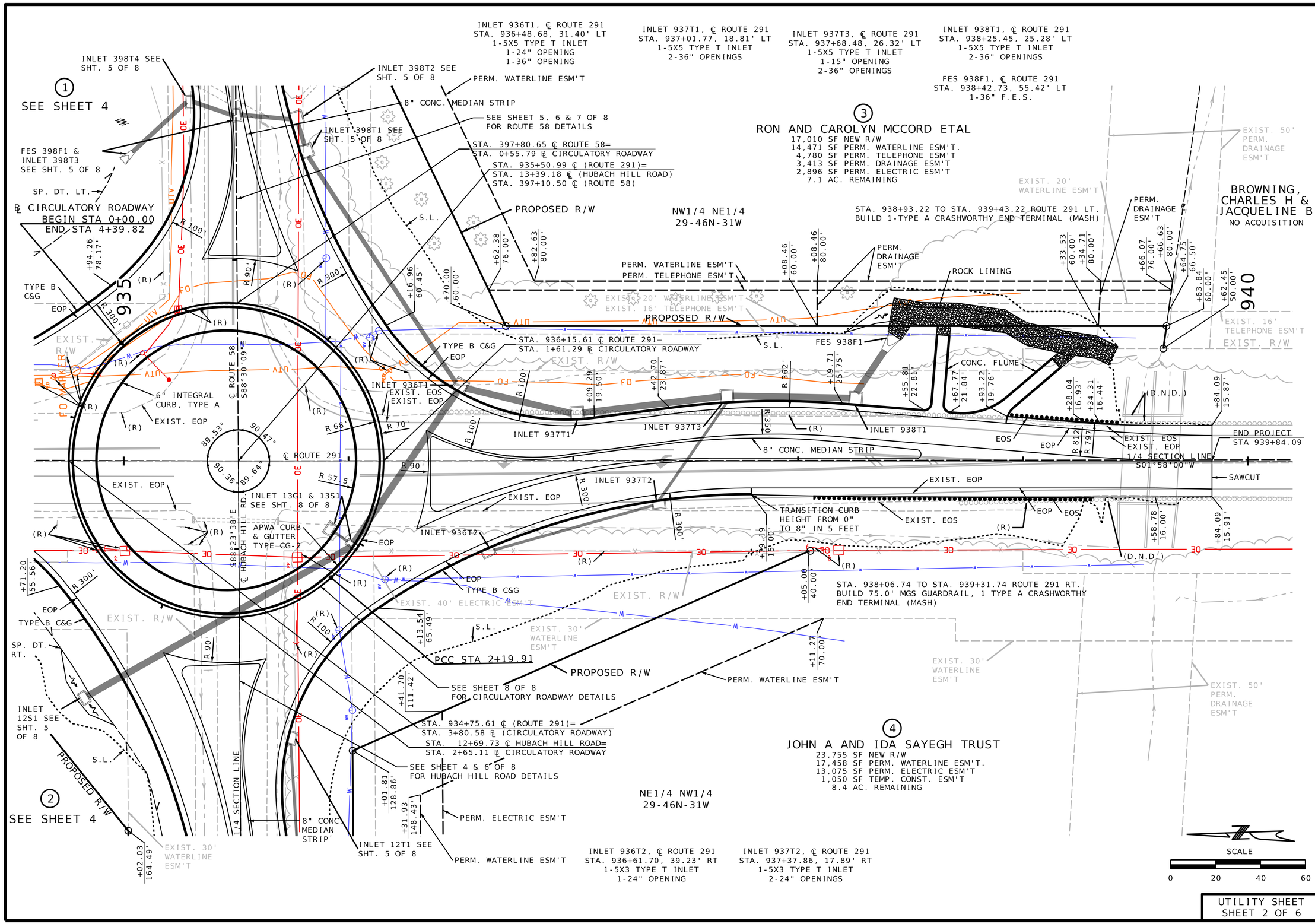

UTILITY SHEET
SHEET 2 OF 6

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 22
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SE1/4 SW1/4
20-46N-31W

5
LISA A WATKINS TRUST
2,838 SF NEW R/W
3,602 SF NEW PERM. WATERLINE ESM'T.
1,300 SF TEMP. CONST. ESM'T
63.0 AC. REMAINING

2
JIM R AND LISA A WATKINS TRUST
SEE SHEET 4

CP# 5011
STA. 8+59.88, 35.22' LT.
CHAIN (HUBACH)
EL. 946.18

TYPE I DRWY. LT.
8+18.88 HUBACH HILL RD.
WIDTH 16.0'
1.65% GRADE
REMOVE EXIST. 15" CMP
24"X 24' GR. C PIPE
2-24" GROUP C F.E.S.
AGGREGATE SURFACE

TYPE I DRWY. LT.
10+06.79 HUBACH HILL RD.
5.00% GRADE
WIDTH 16.0'
18"X 22' GR. C PIPE
2-18" GROUP C F.E.S.
AGGREGATE SURFACE

PUBLIC
WATER
SUPPLY
DIST. #6
NO ACQUISITION

CHARLES M &
ETHEL M GLOVER
NO ACQUISITION

4
JOHN A AND IDA SAYEGH TRUST
SEE SHEET 5

TYPE I DRWY. RT.
8+18.88 HUBACH HILL RD.
4.56% GRADE
WIDTH 16.0'
18"X 25' GR. C PIPE
2-18" GROUP C F.E.S.
AGGREGATE SURFACE

NE1/4 NW1/4
29-46N-31W

FES 9F1, ℄ HUBACH HILL ROAD
STA. 9+87.95, 33.15' RT
1-15" F.E.S.

INLET 10T1, ℄ HUBACH HILL ROAD
STA. 10+09.32, 20.82' RT
1-5X3 TYPE T INLET
2-15" OPENINGS

INLET 11T1, ℄ HUBACH HILL ROAD
STA. 11+22.08, 26.25' RT
1-5X3 TYPE T INLET
2-15" OPENINGS

SCALE
0 20 40 60

UTILITY SHEET
SHEET 3 OF 6

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 23
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

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

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

2
JIM R AND LISA A WATKINS TRUST
SEE SHEET 4

SE1/4 SW1/4
20-46N-31W

SEE SHEET 1 OF 8
FOR ROUTE 291 DETAILS

INLET 12S1, ℄ HUBACH HILL ROAD
STA. 12+29.75, 77.50' LT
1-5X3 TYPE S-1 INLET
1-24" OPENING

STA. 934+75.61 ℄ (ROUTE 291)=
STA. 3+80.58 ℄ (CIRCULATORY ROADWAY)

SEE SHEET 8 OF 8
FOR CIRCULATORY ROADWAY DETAILS

STA. 935+50.99 ℄ (ROUTE 291)=
STA. 13+39.18 ℄ (HUBACH HILL ROAD)
STA. 397+10.50 ℄ (ROUTE 58)

PERM. WATERLINE ESM'T

TCE

PROPOSED R/W

TYPE A GUTTER

SP.DT.LT.

ROCK LINING

TYPE B C&G

EOP

EXIST. R/W

EXIST. 30' WATERLINE ESM'T

EXIST. 40' ELECTRIC ESM'T

℄ HUBACH HILL ROAD

SECTION LINE

8" CONC. MEDIAN STRIP

EXIST. EOP

INLET 12T1

INLET 11T1 SEE
SHT. 1 OF 8

S.L.

PERM. WATERLINE ESM'T

PERM. ELECTRIC ESM'T

STA. 12+69.73 ℄ (HUBACH HILL ROAD)=
STA. 2+65.11 ℄ (CIRCULATORY ROADWAY)

STA. 936+15.61 ℄ (ROUTE 291)=
STA. 1+61.29 ℄ (CIRCULATORY ROADWAY)

INLET 12T1, ℄ HUBACH HILL ROAD
STA. 12+16.17, 21.67' RT
1-5X3 TYPE T INLET
1-15" OPENING

NE1/4 NW1/4
29-46N-31W

4
JOHN A AND IDA SAYEGH TRUST
SEE SHEET 5

PERM. WATERLINE ESM'T

8" CONC. MEDIAN STRIP

CONC. FLUME

ROCK LINING

EXIST. R/W

INLET 934T1
SEE SHT
1 OF 8

PROPOSED R/W

INLET 12S1

EXIST. 30' WATERLINE ESM'T

EXIST. EOP

6" INTEGRAL CURB, TYPE A

S01°58'00"W

1/4 SECTION LINE

S88°23'38"E

S88°30'09"E

APWA CURB &
GUTTER TYPE CG-2

EXIST. EOP

INLET 13S1 SEE
SHT. 8 OF 8

EXIST. EOS

INLET 13G1 SEE
SHT. 8 OF 8

PCC STA 2+19.91

INLET 936T2
SEE SHT. 2
OF8

INLET 937T2
SEE SHT. 2
OF 8

1/4 SECTION LINE

℄ ROUTE 291

8" CONC.
MEDIAN STRIP

INLET 937T1 SEE
SHT. 2 OF 8

INLET 936T1 SEE
SHT. 2 OF 8

EXIST. 16'
TELECOM
ESM'T

EXIST. 20'
WATERLINE
ESM'T

PERM. WATERLINE
ESM'T
PERM. TELEPHONE ESM'T

SEE SHEET 2 OF 8
FOR ROUTE 291 DETAILS

1
ROBERT J RIORDAN TRUSTEE
SEE SHEET 4

SW1/4 SE1/4
20-46N-31W

INLET 398T3, ℄ ROUTE 58
STA. 398+64.13, 1.02' LT
1-5X3 TYPE T INLET
2-24" OPENINGS

INLET 398T4, ℄ ROUTE 58
STA. 398+70.43, 18.84' LT
1-5X3 TYPE T INLET
2-24" OPENINGS

FES 398F1, ℄ ROUTE 58
STA. 398+44.27, 50.34' LT
1-24" F.E.S.

STA. 398+84.36 ℄ ROUTE 58
29"X45"X70' HERCP ELLIPTICAL PIPE
2-29"X45"" ELLIPTICAL FES

STA. 398+90.37 ℄ ROUTE 58
29"X45"X70' HERCP ELLIPTICAL PIPE
2-29"X45" ELLIPTICAL FES

FES 934F1 SEE
SHT. 1 OF 8

STA. 397+80.65 ℄ (ROUTE 58)=
STA. 0+55.84 ℄ (CIRCULATORY ROADWAY)

START STA 4+39.82
END STA 0+00.00

935

FES 398F1

INLET 398T4

INLET 398T3

℄ ROUTE 58

INLET 398T1

INLET
398T2

INLET 398T1, ℄ ROUTE 58
STA. 398+47.34, 29.03' RT
1-5X5 TYPE T INLET
2-24" OPENINGS

INLET 398T2, ℄ ROUTE 58
STA. 398+62.27, 24.68' RT
1-5X5 TYPE T INLET
2-24" OPENINGS

PERM. DRAINAGE ESM'T

PERM. WATERLINE
ESM'T & PERM.
ELECTRIC ESM'T

3
RON AND CAROLYN MCCORD ETAL
SEE SHEET 5

NW1/4 NE1/4
29-46N-31W

SCALE
0 20 40 60

UTILITY SHEET
SHEET 4 OF 6

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	24
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

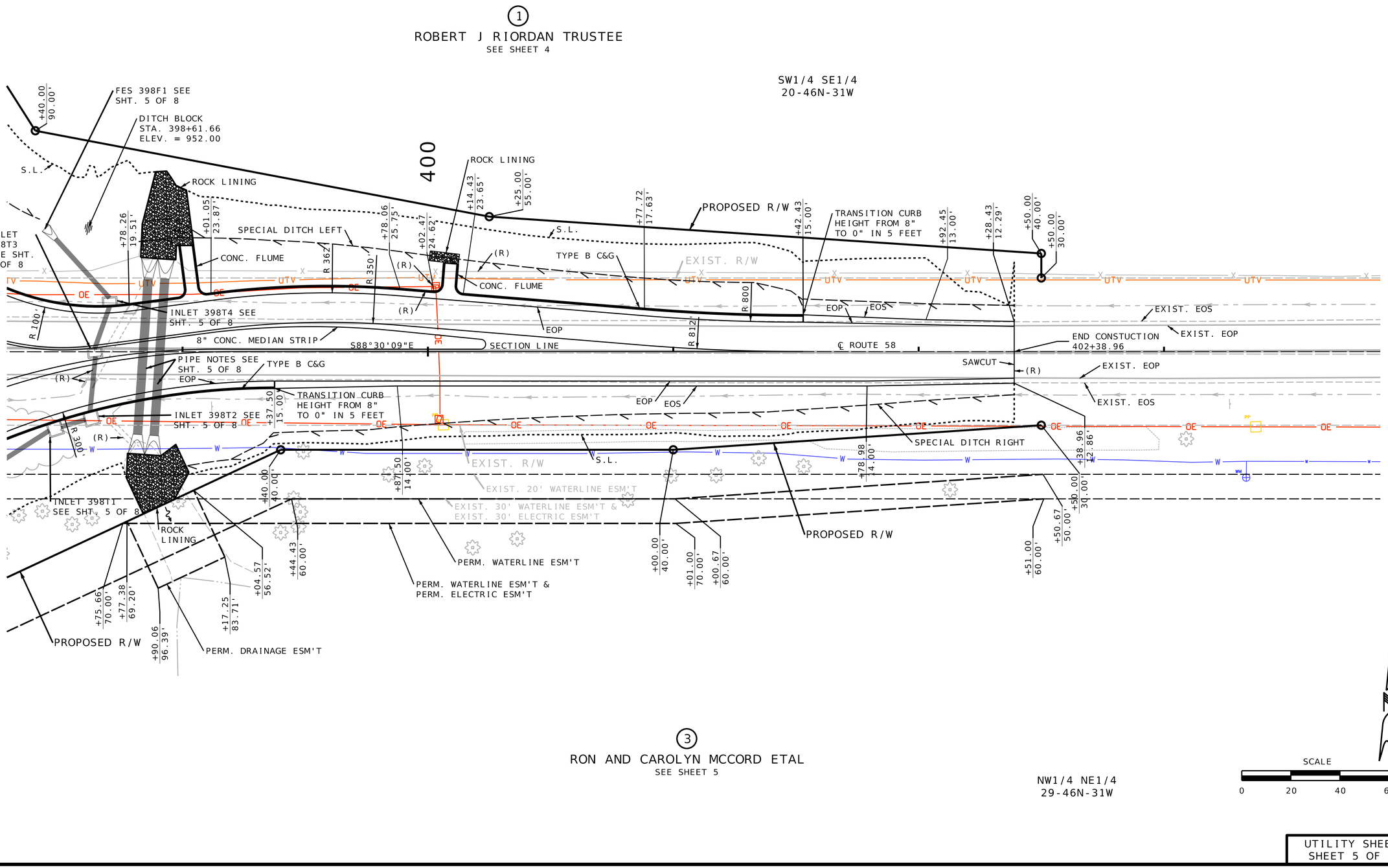
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

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

PRELIMINARY PLANS
NOT FOR CONSTRUCTION



UTILITY SHEET
SHEET 5 OF 6

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	25
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

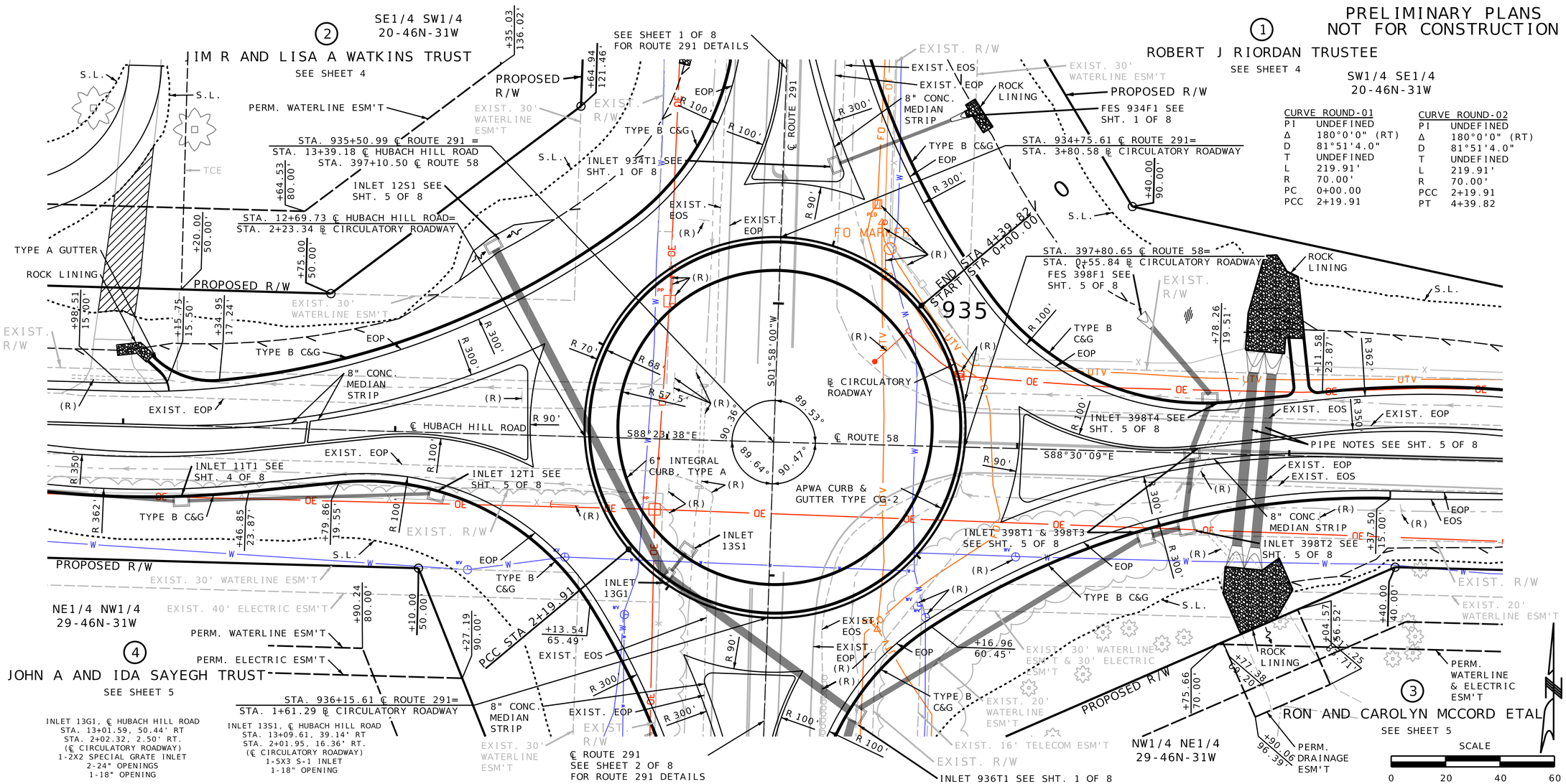
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

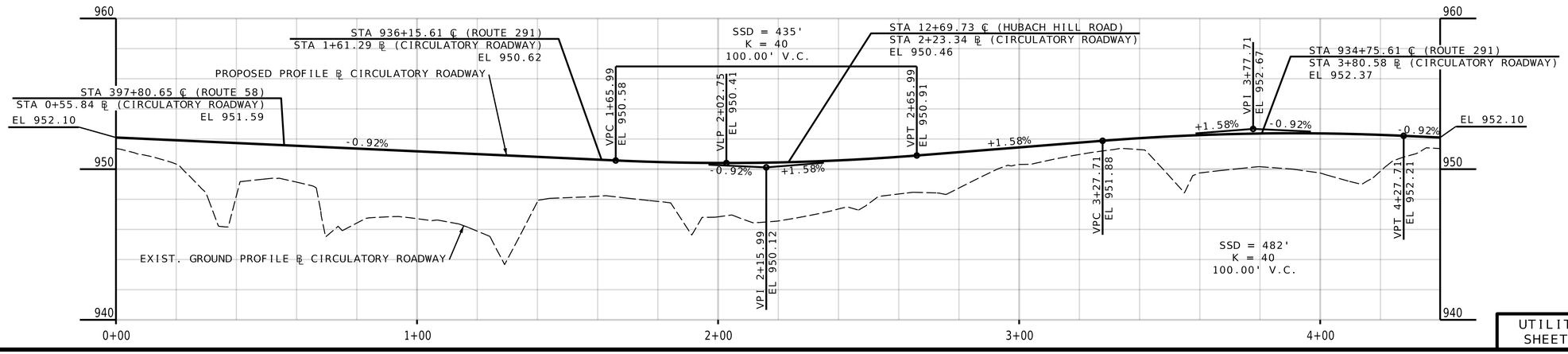
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

PRELIMINARY PLANS
NOT FOR CONSTRUCTION



CURVE ROUND-01	
PI	UNDEFINED
Δ	180°0'0" (RT)
D	81°51'4.0"
T	UNDEFINED
L	219.91'
R	70.00'
PC	0+00.00
PCC	2+19.91

CURVE ROUND-02	
PI	UNDEFINED
Δ	180°0'0" (RT)
D	81°51'4.0"
T	UNDEFINED
L	219.91'
R	70.00'
PCC	2+19.91
PT	4+39.82



UTILITY SHEET
SHEET 6 OF 6

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 26
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

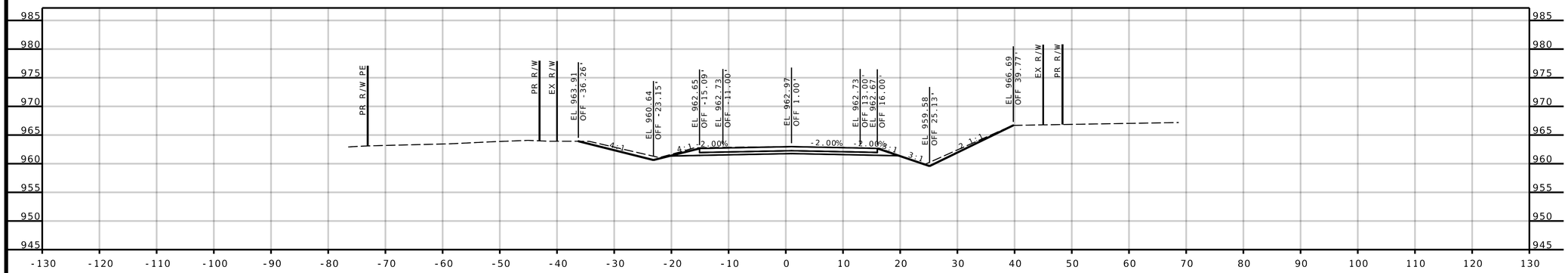
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

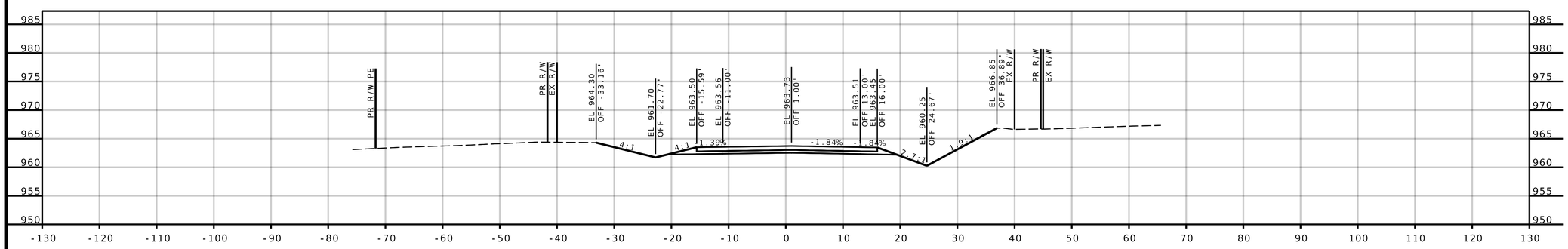
NOTES:

1. PAVEMENT, SHOULDER, & CURB ELEVATIONS ARE APPROXIMATE. CONTRACTOR SHALL ADJUST TO MATCH EXISTING CONDITIONS AND MAINTAIN DESIGNED CROSS SLOPES.

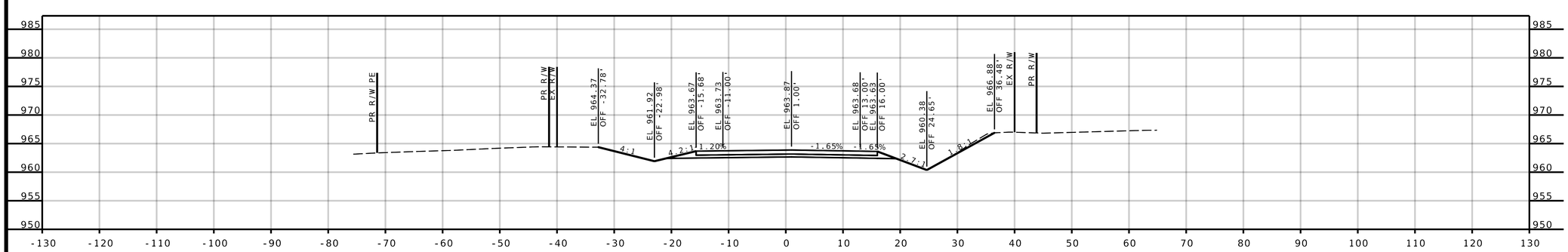
2. TIE-DOWN POINT OFFSETS & ELEVATIONS ARE APPROXIMATE. CONTRACTOR SHALL ADJUST TO MATCH EXISTING CONDITIONS AND MAINTAIN DESIGNED CUT OR FILL SLOPES AND DITCH ELEVATIONS.



STA 930+25.00



STA 930+00.00



STA 929+95.20

ROUTE 291

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	1

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

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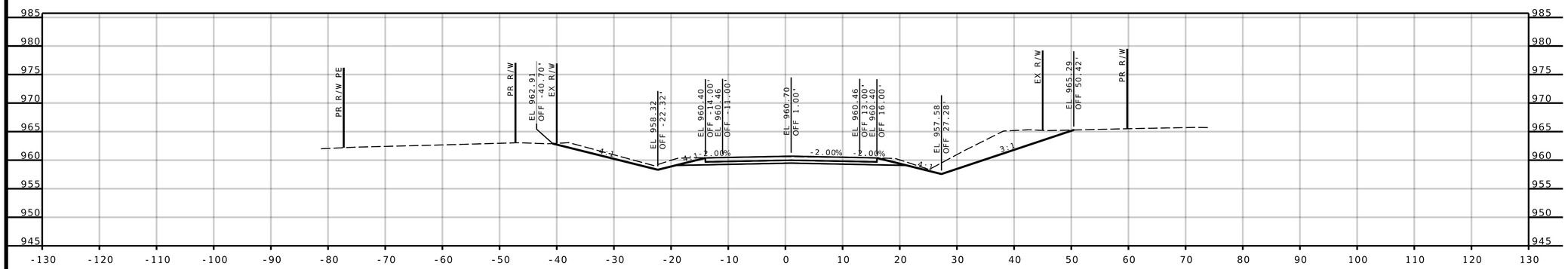
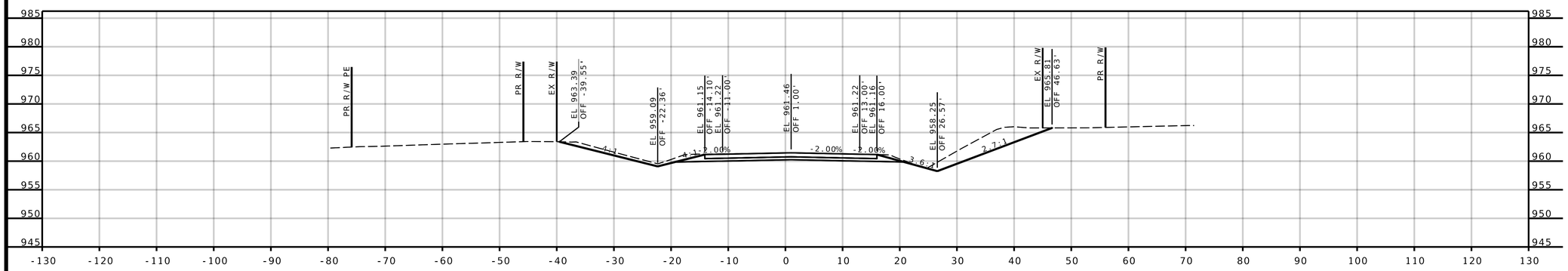
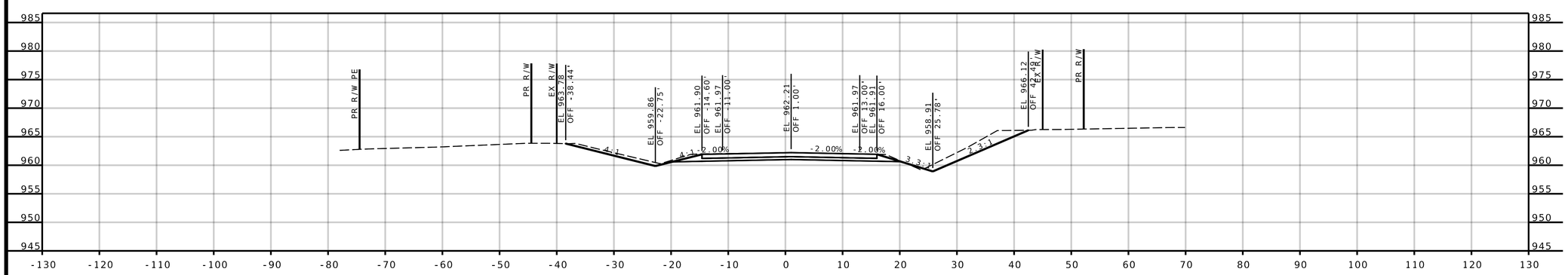


STA 931+00.00



STA 930+75.00



STA 930+50.00

ROUTE 291

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	2
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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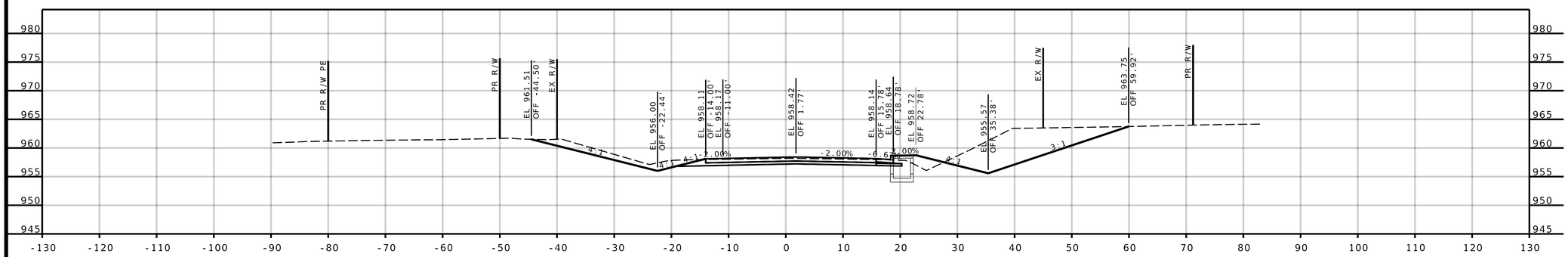
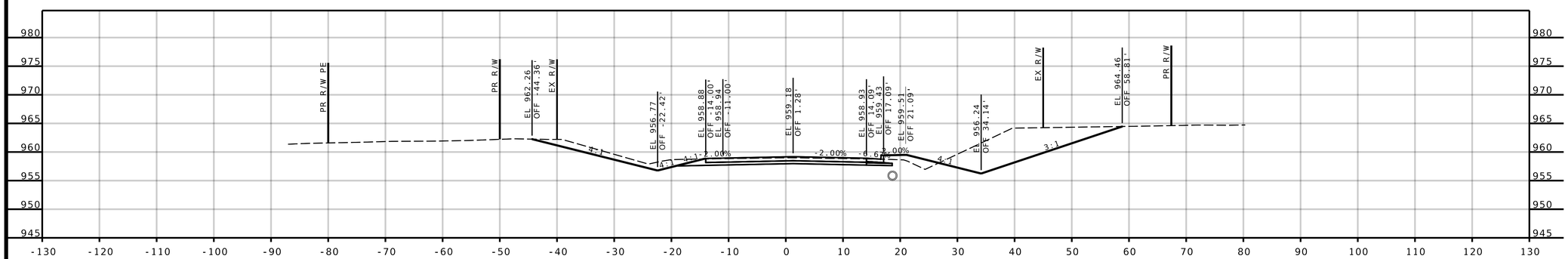
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

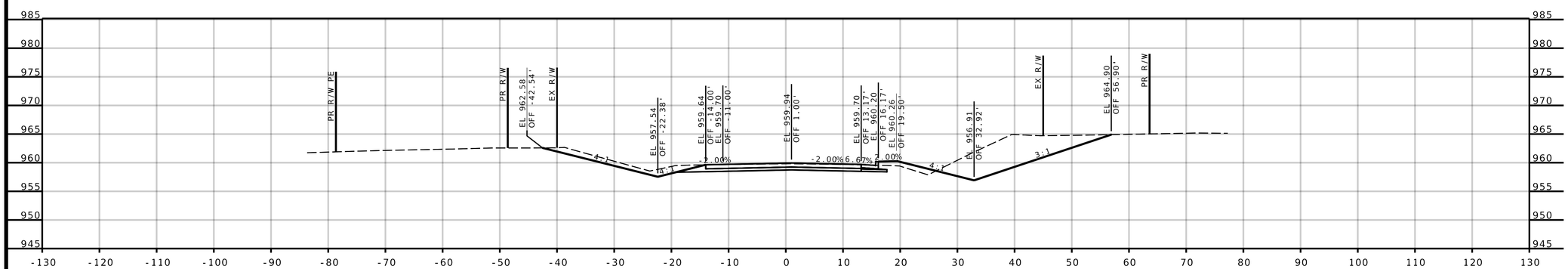
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



STA 931+75.00



STA 931+50.00



STA 931+25.00

ROUTE 291

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

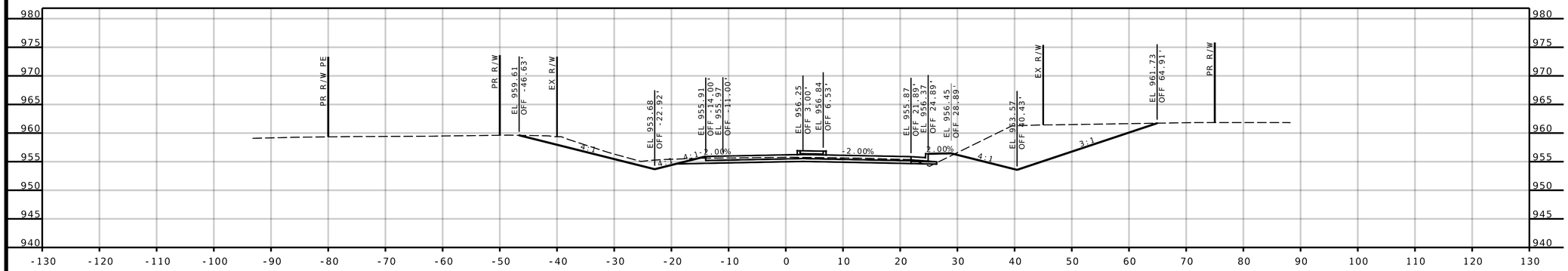
DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	3
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

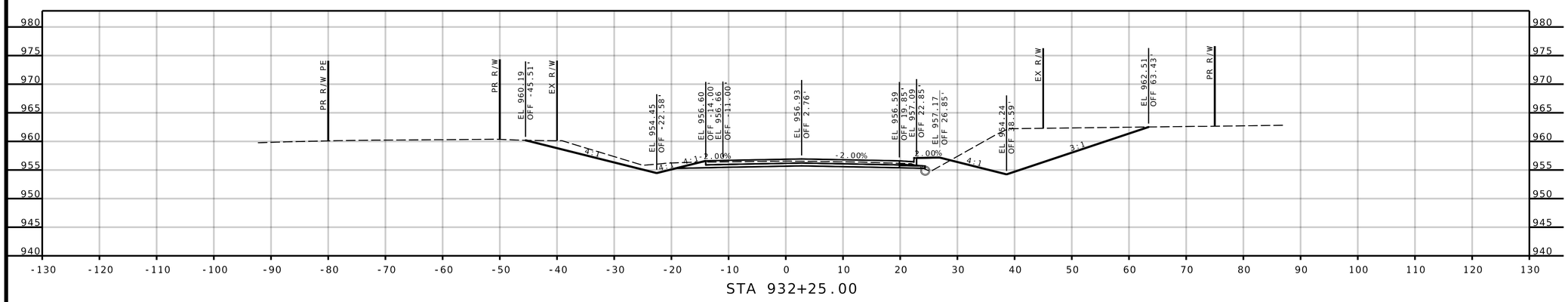
DATE	DESCRIPTION

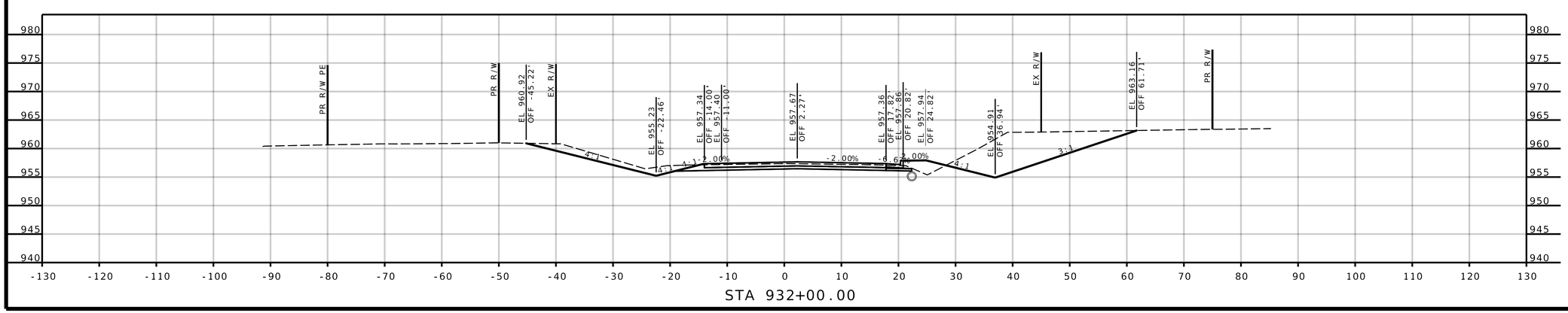
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592







ROUTE 291

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	4

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

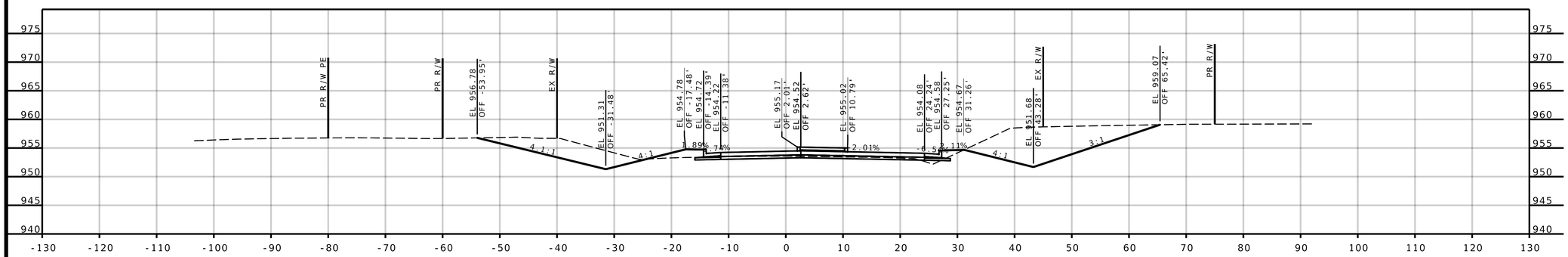
BRIDGE NO.

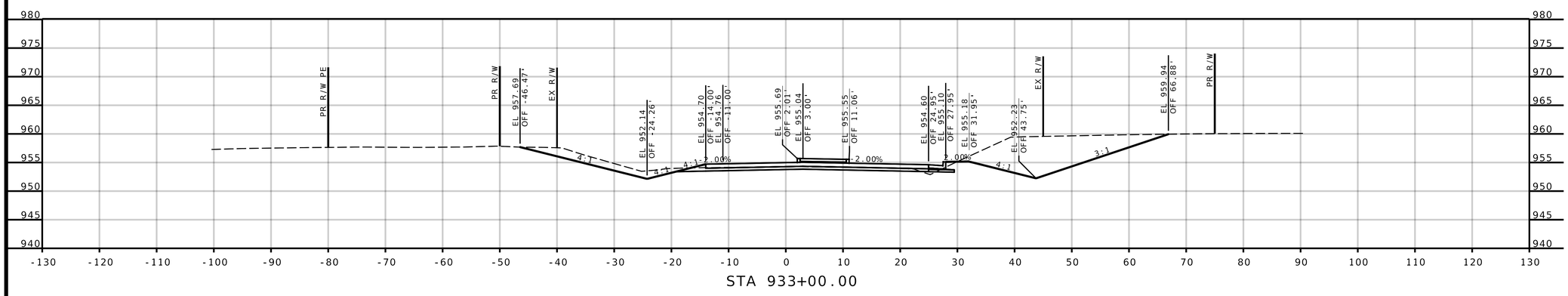
DATE	DESCRIPTION

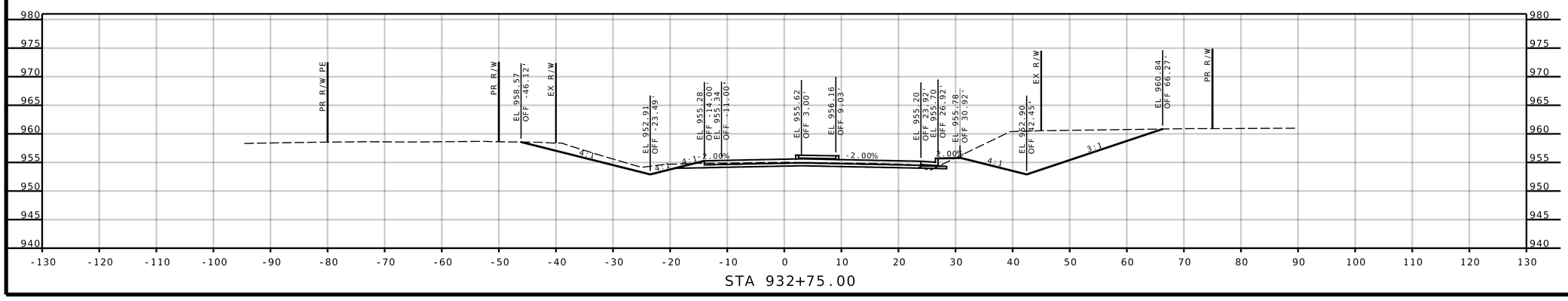
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592







ROUTE 291

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	5

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

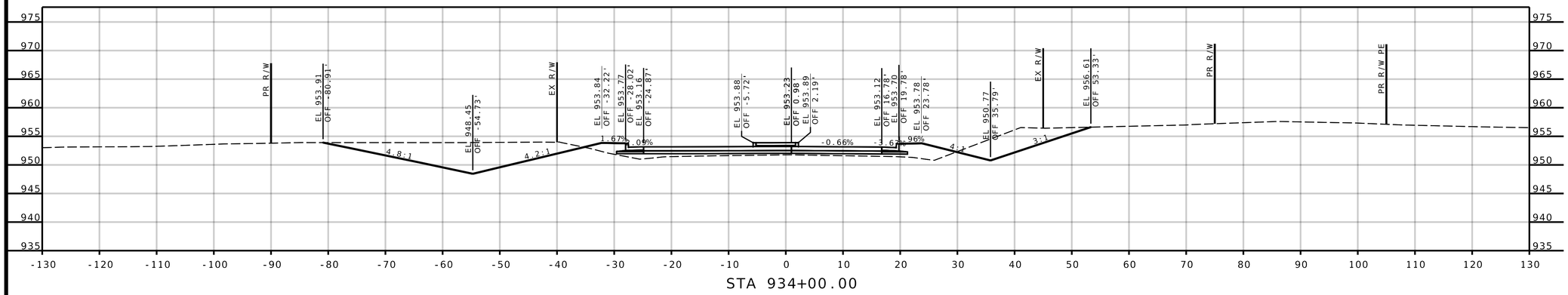
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

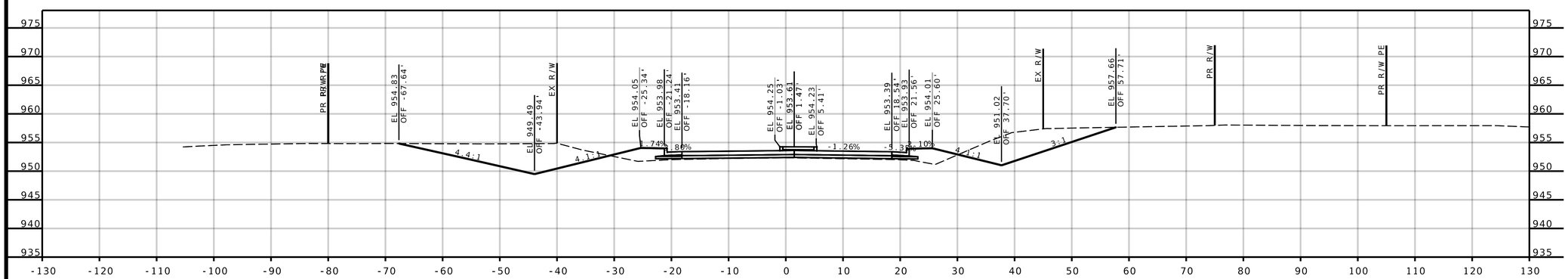
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

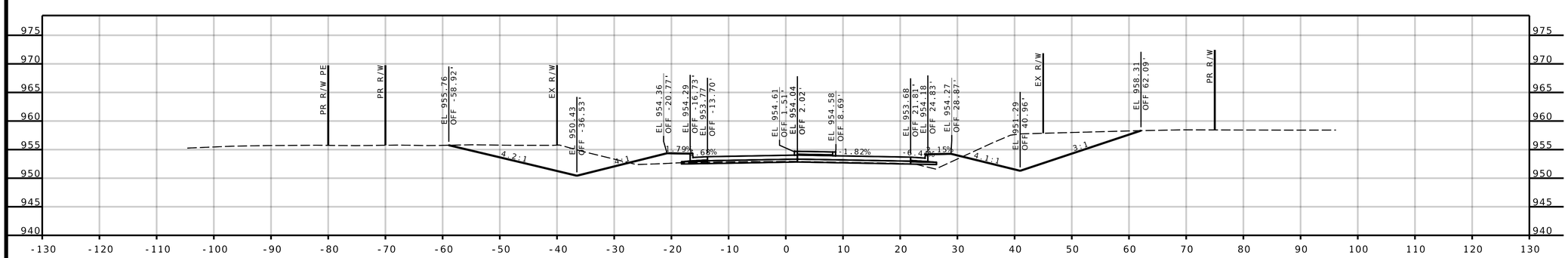
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



STA 934+00.00



STA 933+75.00



STA 933+50.00

ROUTE 291

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

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	6
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

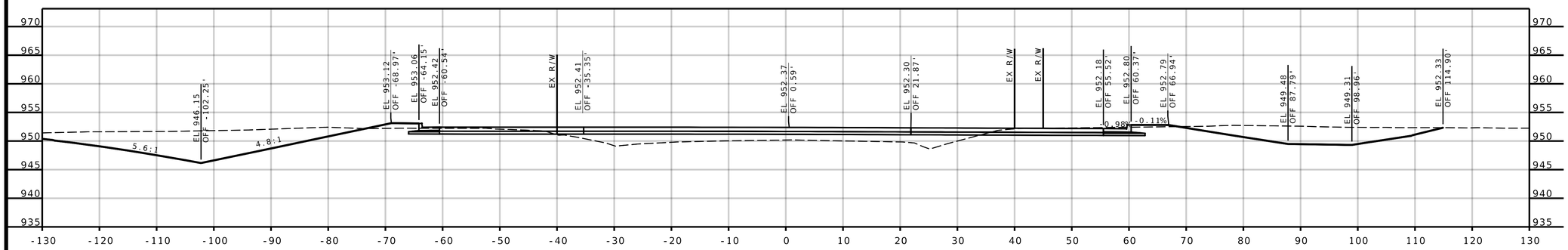
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

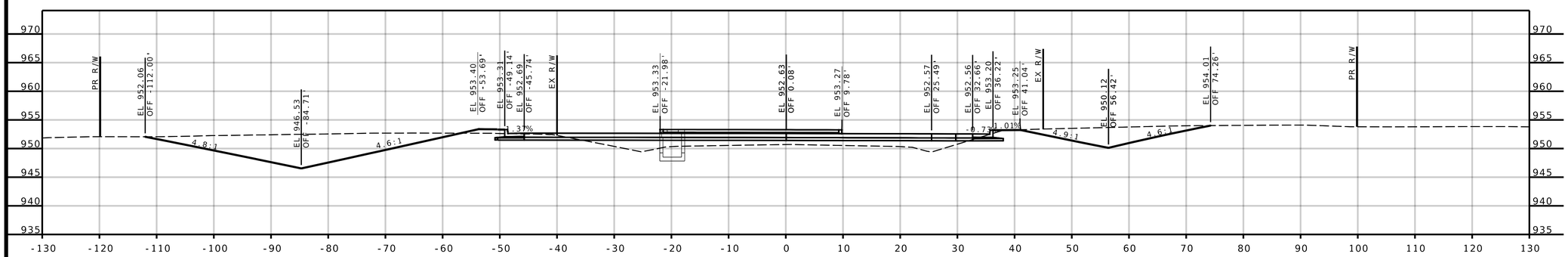
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson

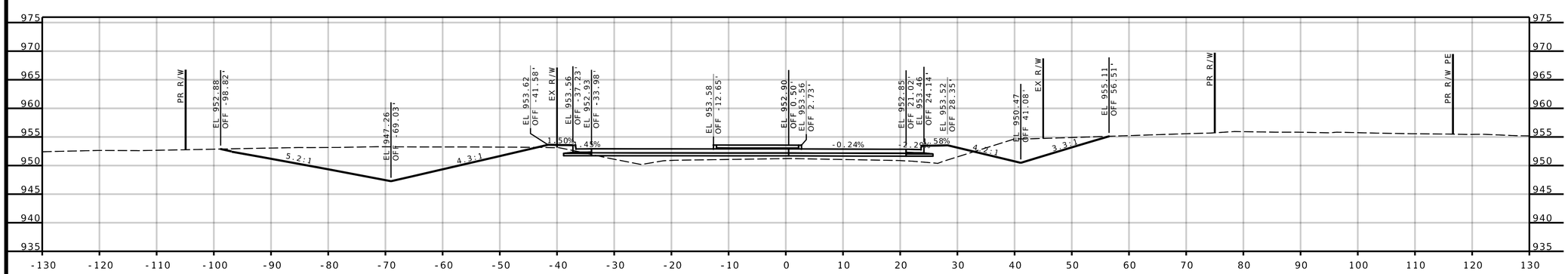
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592



STA 934+75.00



STA 934+50.00



STA 934+25.00

ROUTE 291

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	7
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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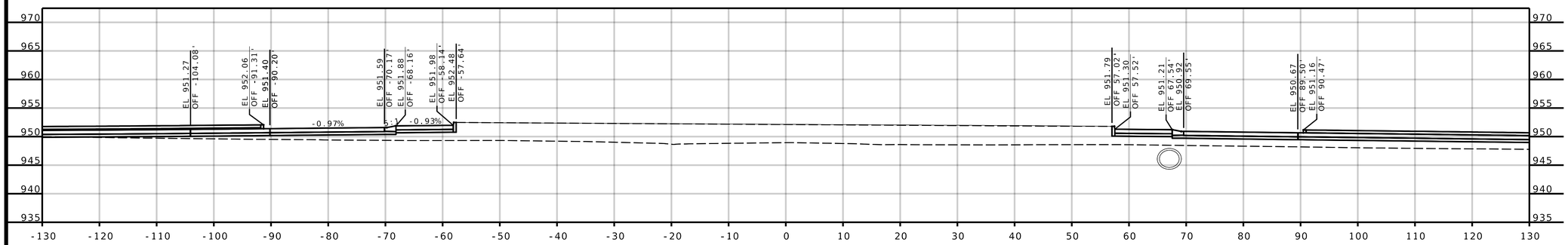
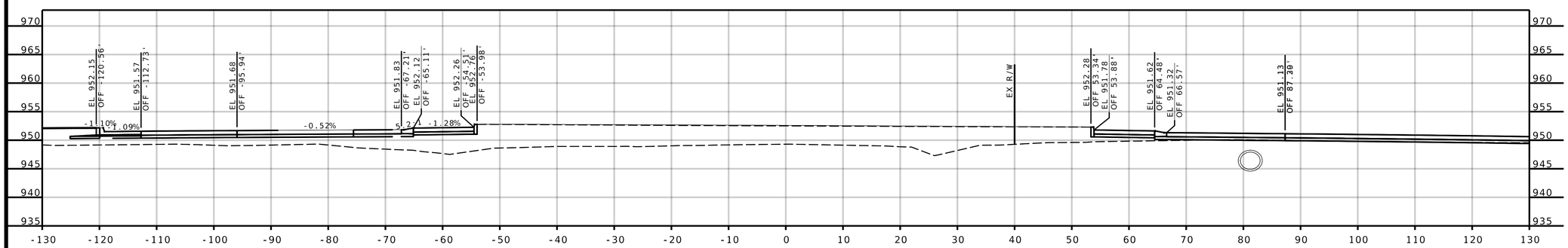
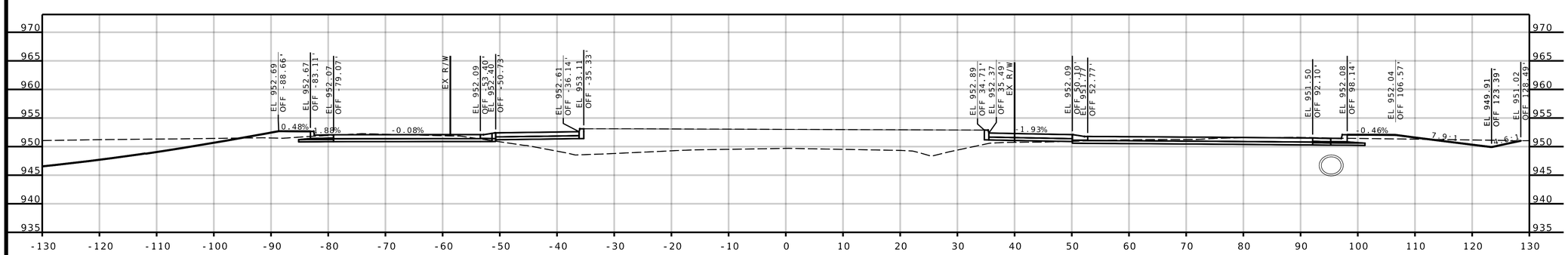


STA 935+50.00



STA 935+25.00



STA 935+00.00

ROUTE 291

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	8

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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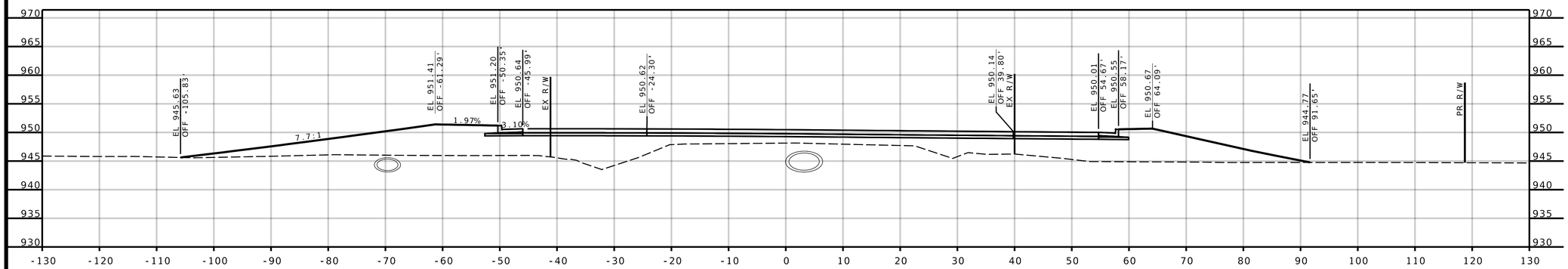
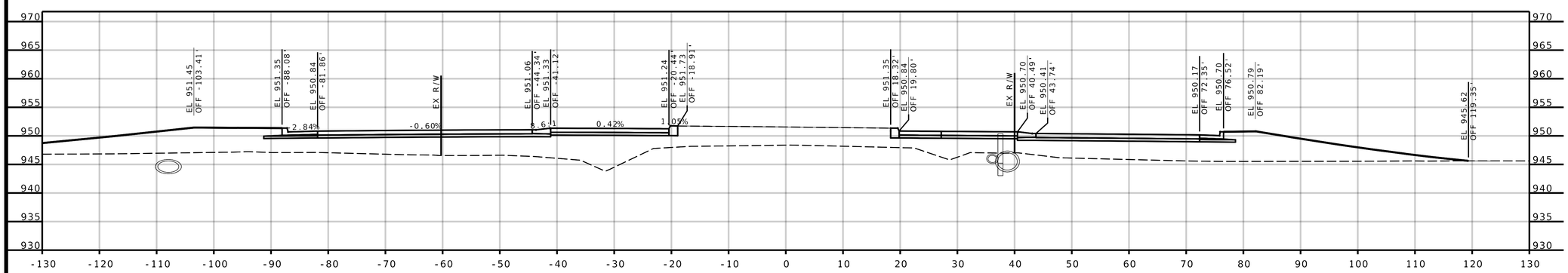
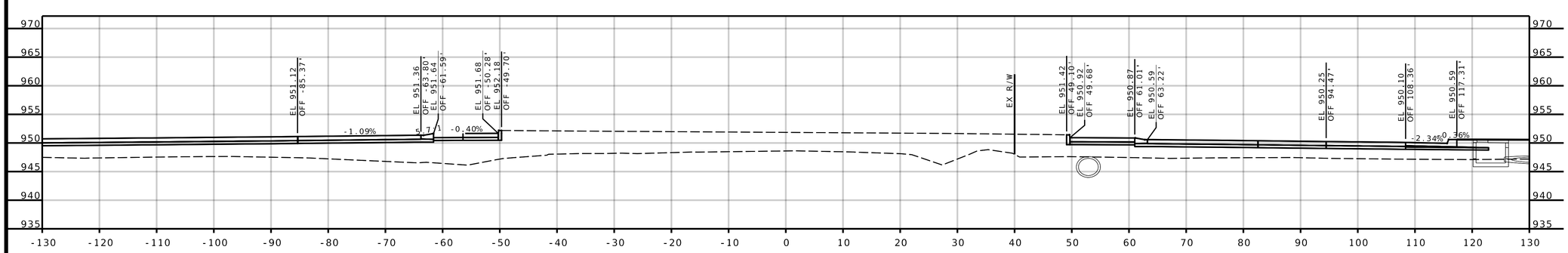


STA 936+25.00



STA 936+00.00



STA 935+75.00

ROUTE 291

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	9
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

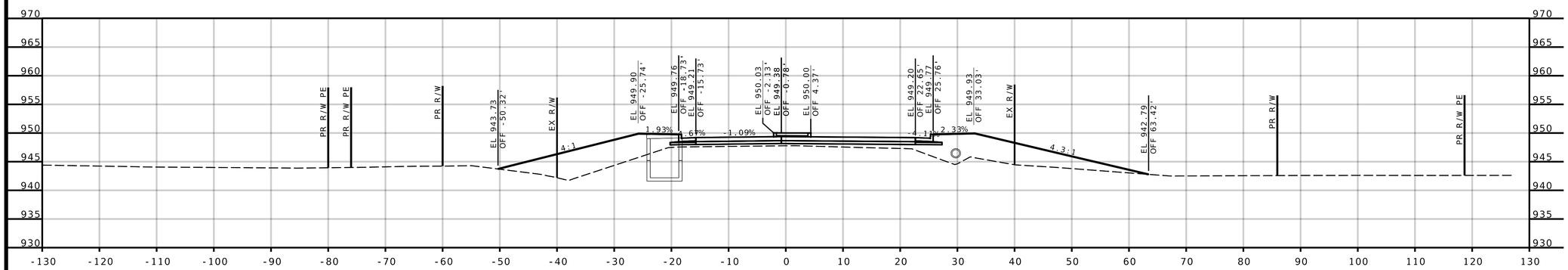
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

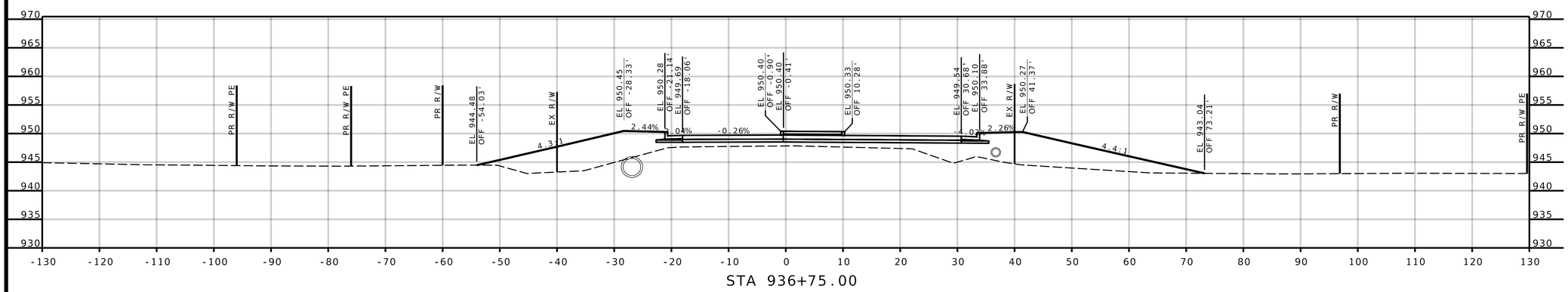
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

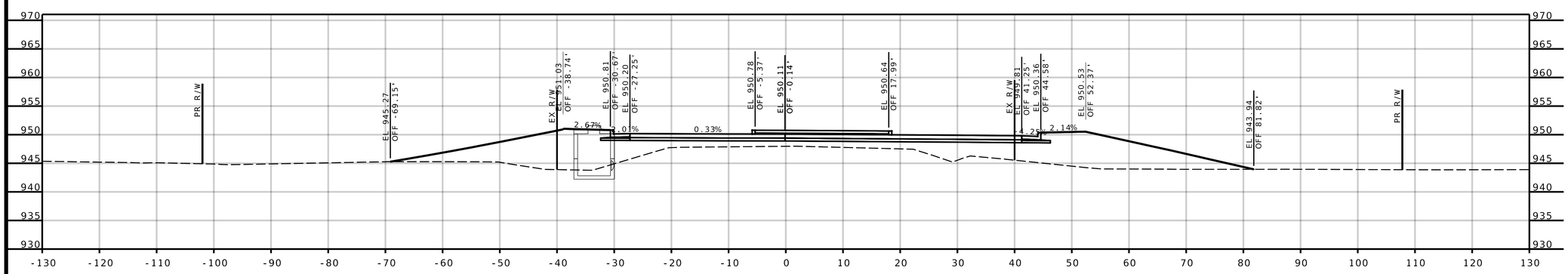
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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







ROUTE 291

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	10

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

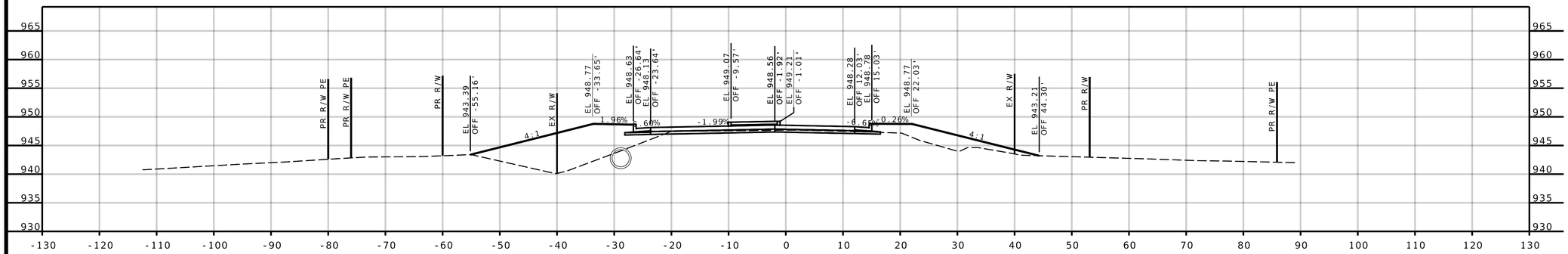
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

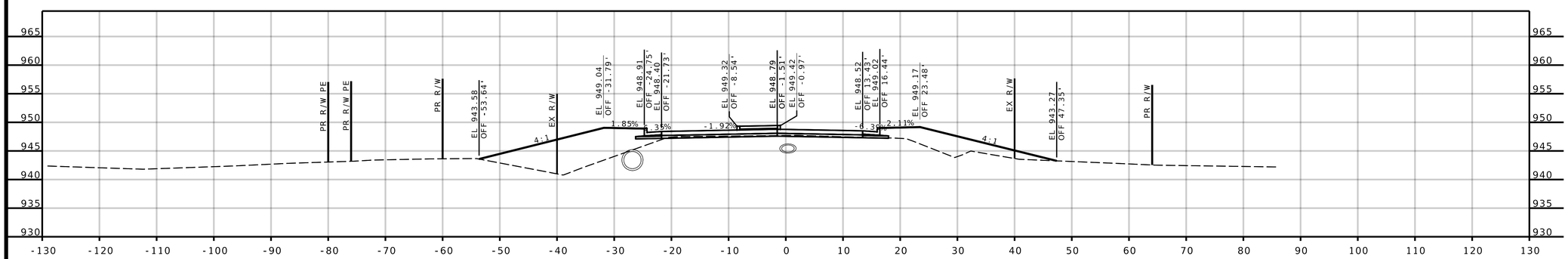
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

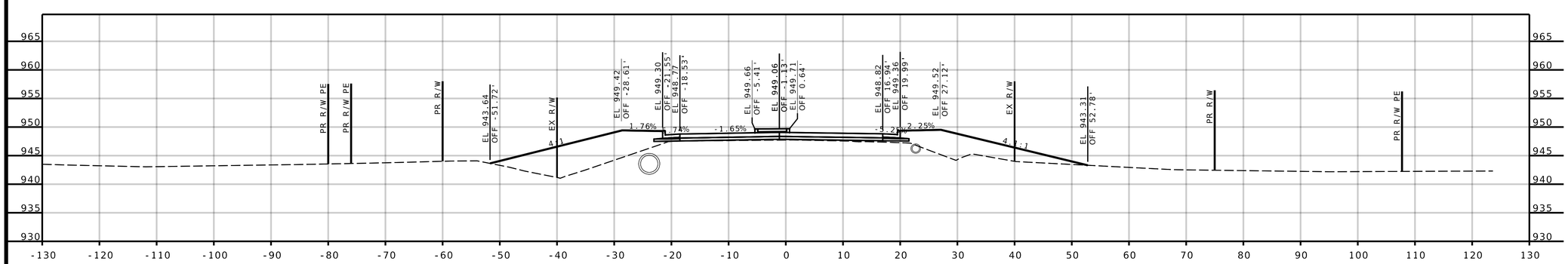
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



STA 937+75.00



STA 937+50.00



STA 937+25.00

ROUTE 291

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	11
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

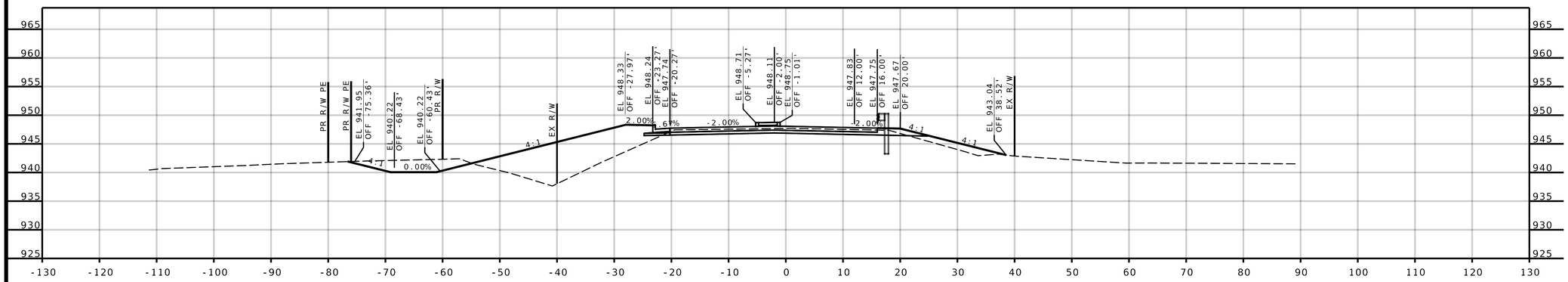
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

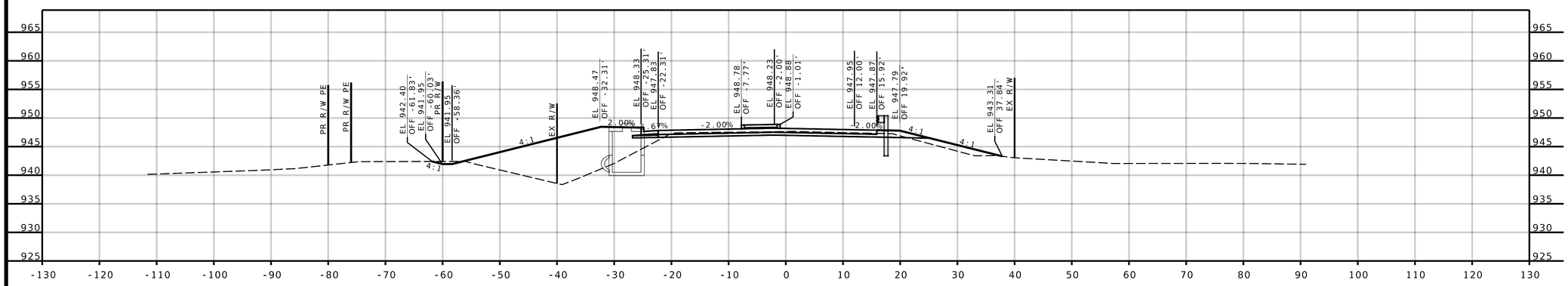
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

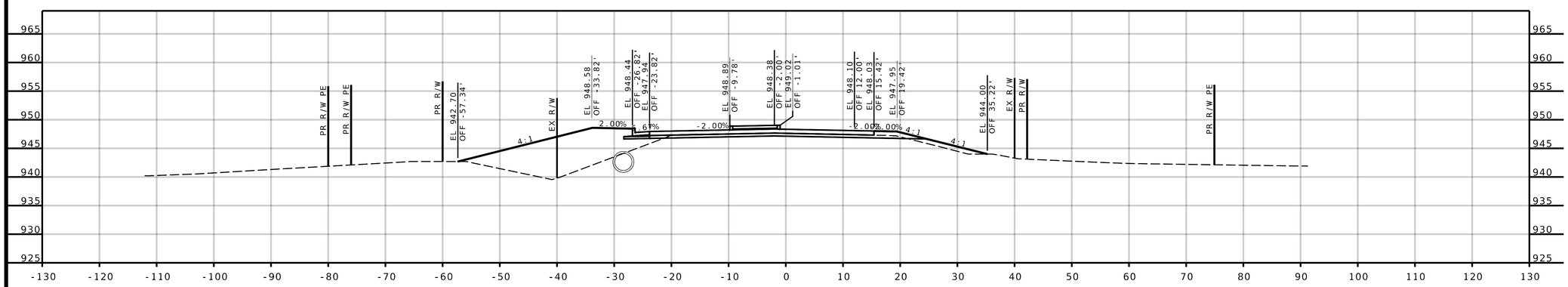
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



STA 938+50.00



STA 938+25.00



STA 938+00.00

ROUTE 291

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	12

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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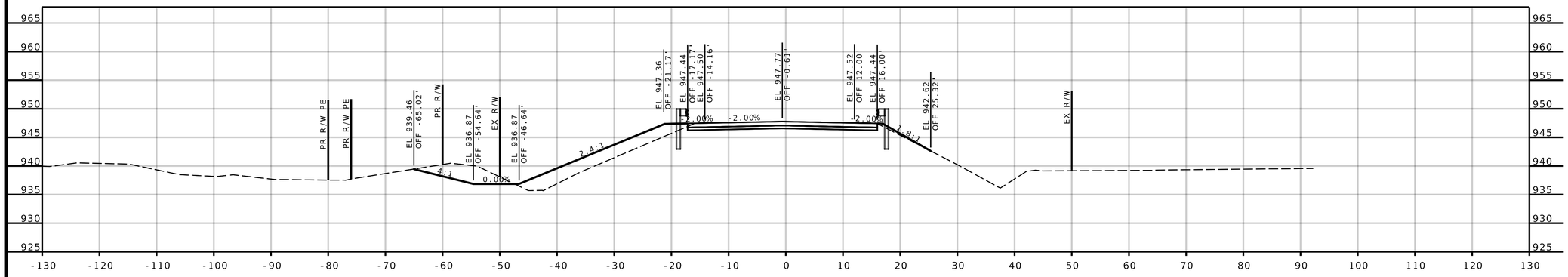
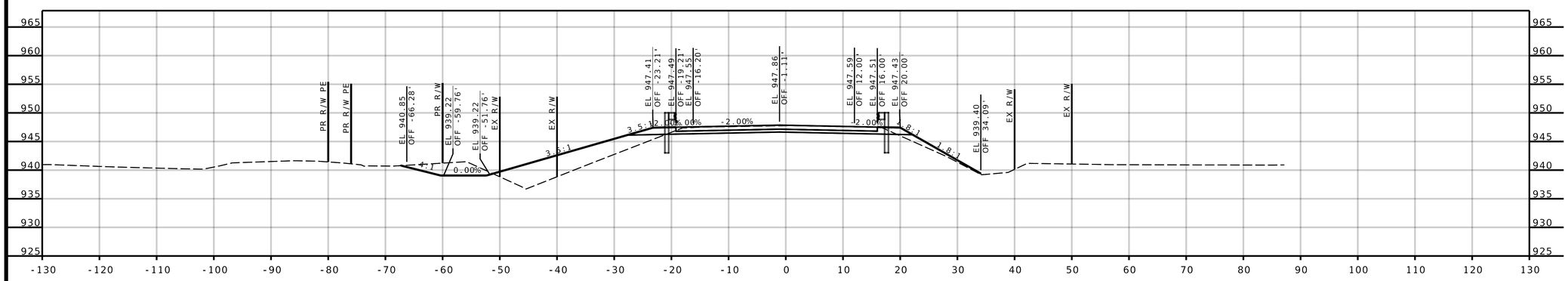
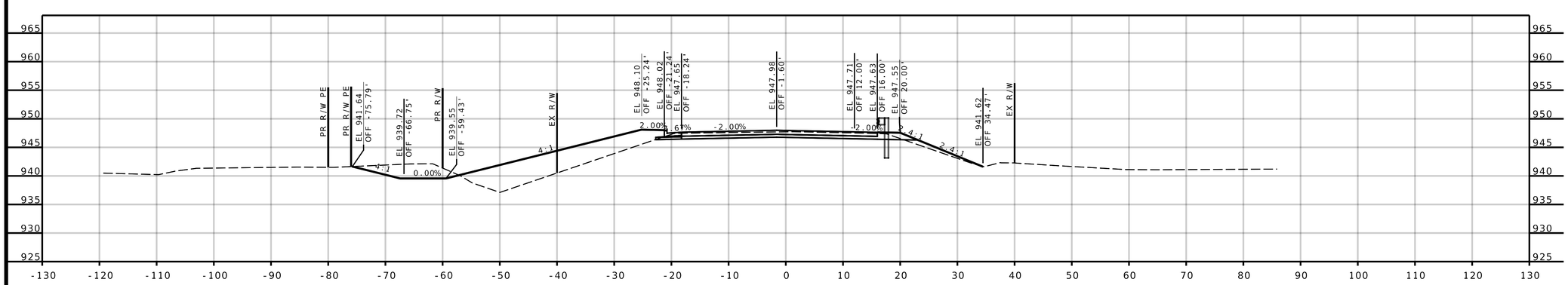


STA 939+25.00



STA 939+00.00



STA 938+75.00

ROUTE 291

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	13

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

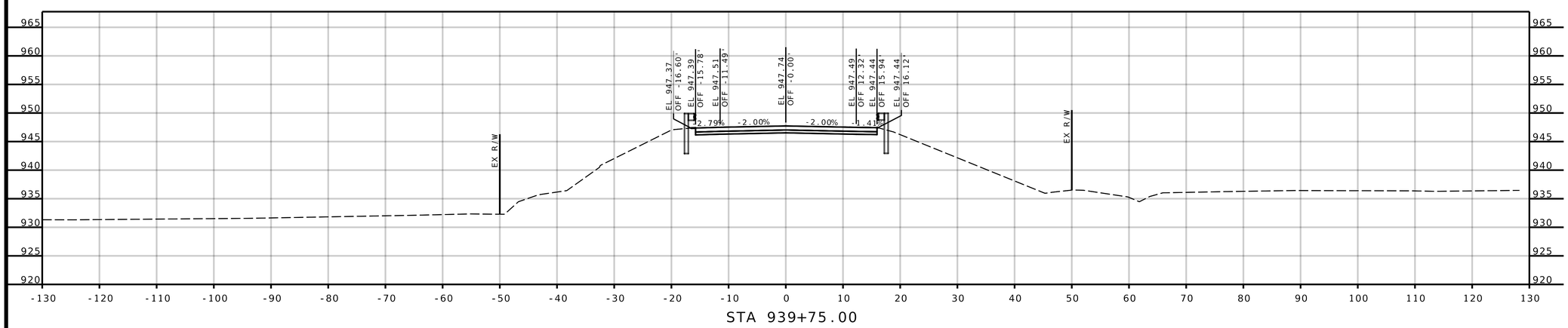
DATE	DESCRIPTION

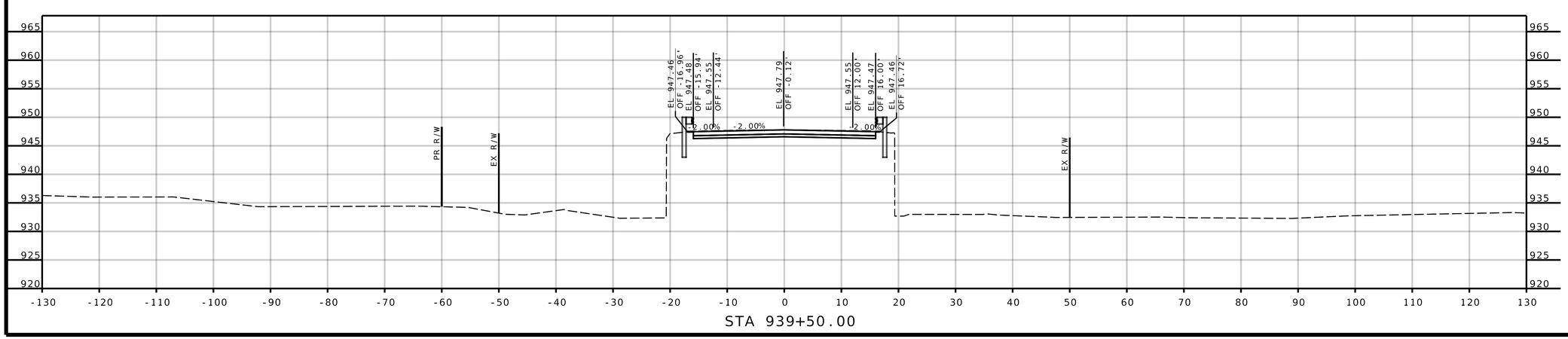
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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





ROUTE 291

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	14

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

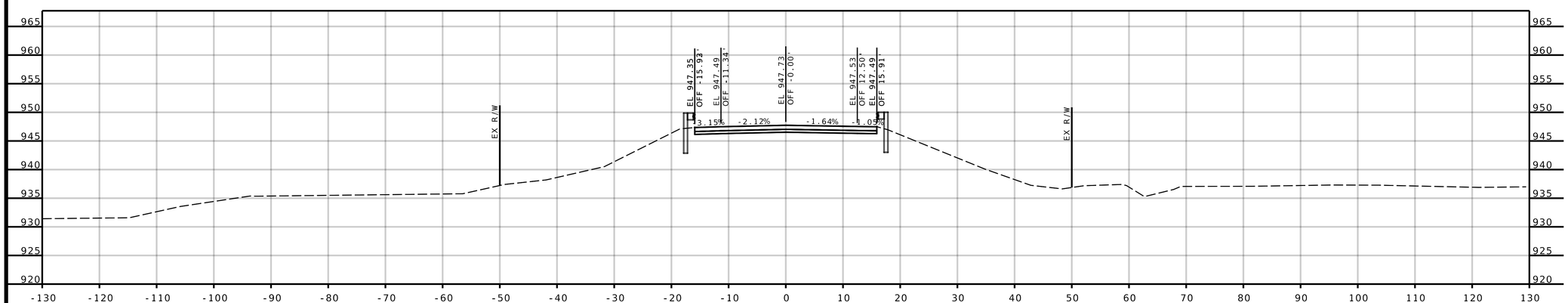
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

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



STA 939+84.00

ROUTE 291

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	15
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

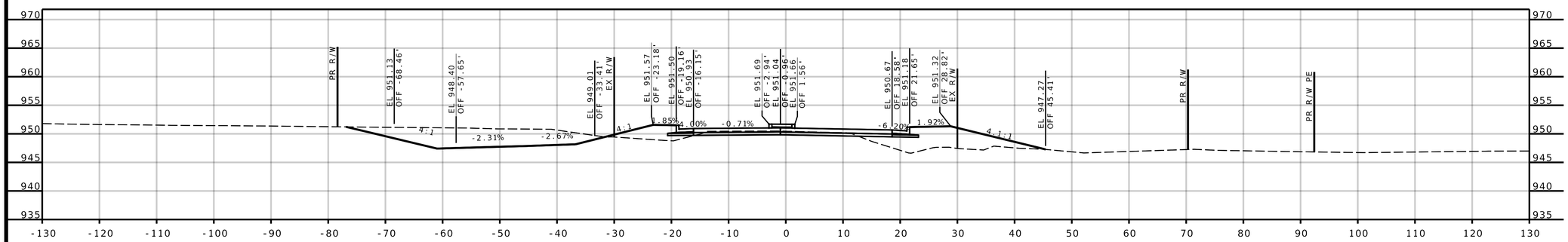
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

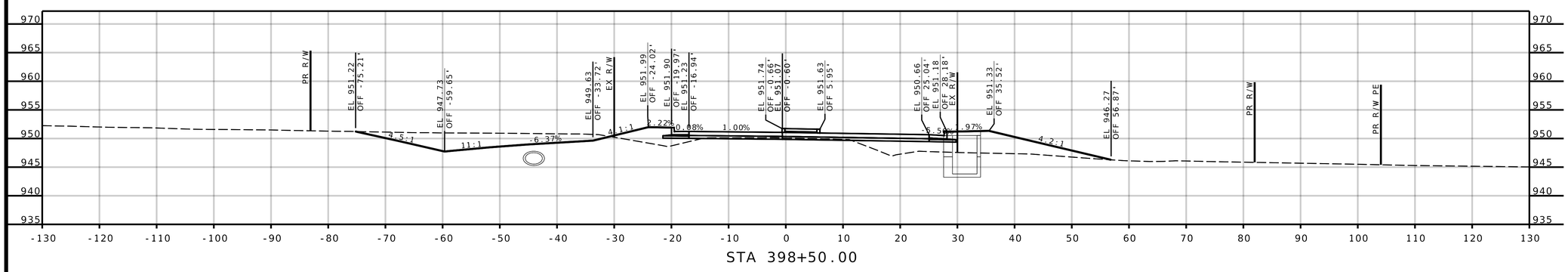
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

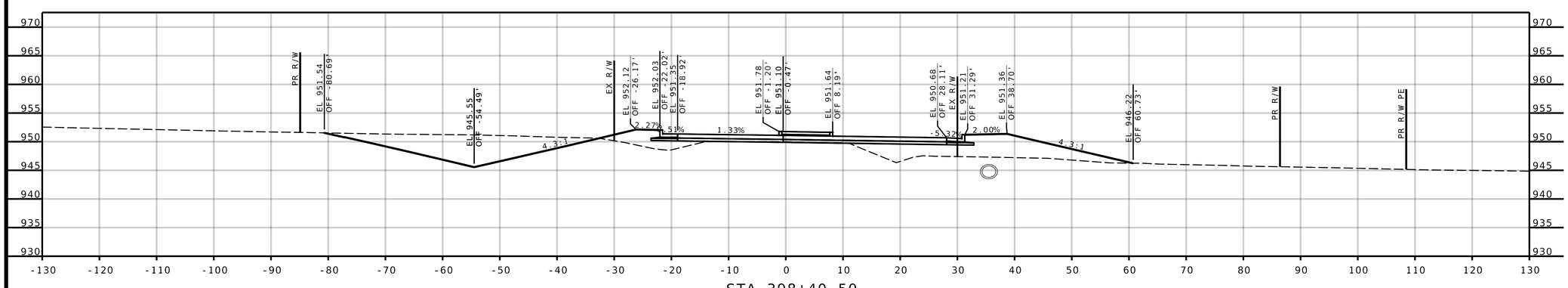
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592







ROUTE 58

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	16
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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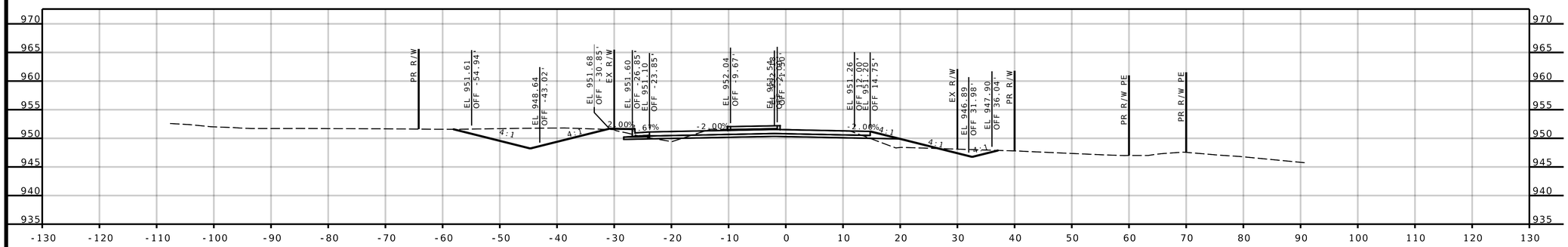
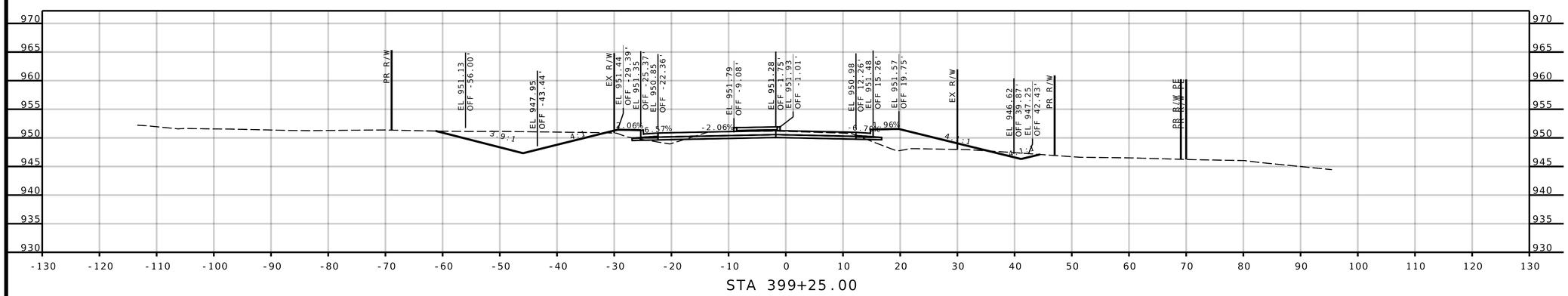
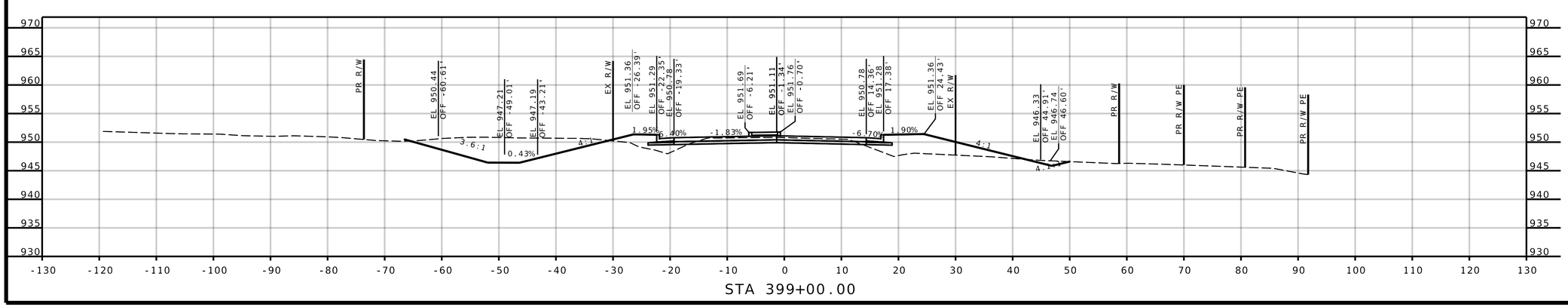






ROUTE 58

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	17
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

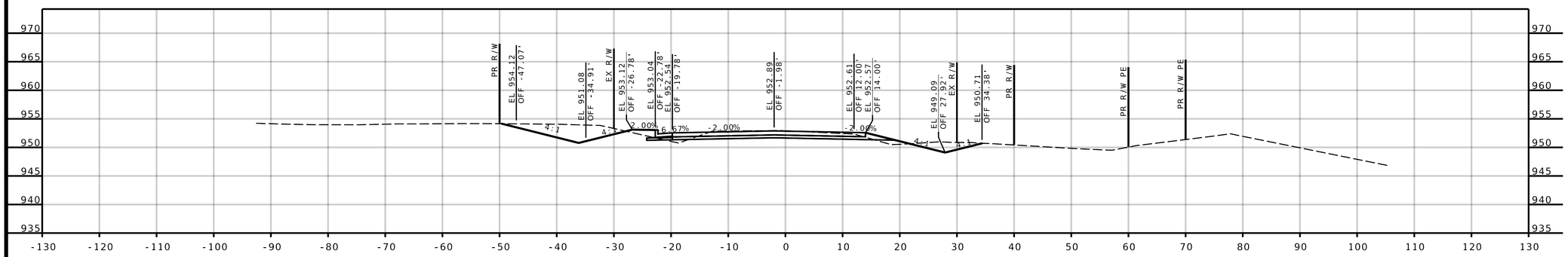
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

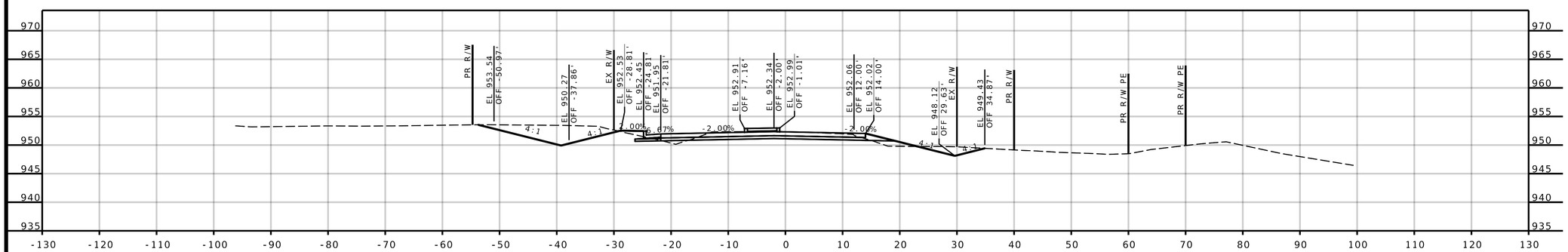
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

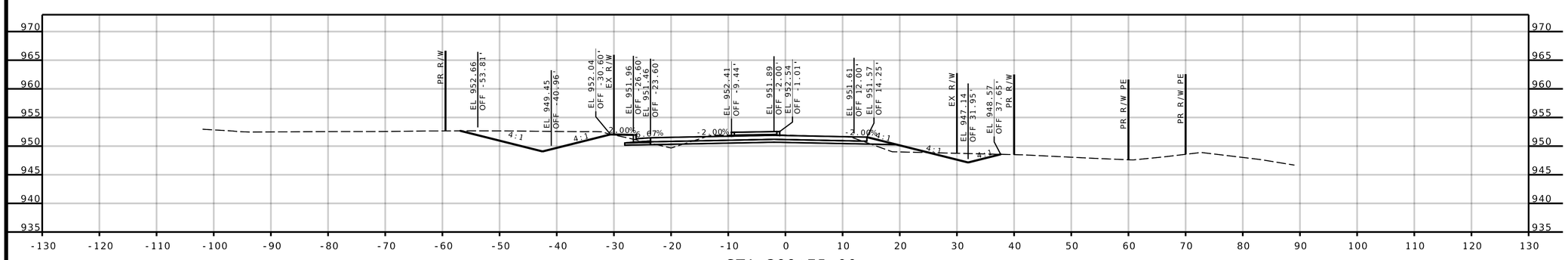
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



STA 400+25.00



STA 400+00.00



STA 399+75.00

ROUTE 58

DATE PREPARED	
8/2/2022	
ROUTE 291	STATE MO
DISTRICT KC	SHEET NO. 18
COUNTY CASS	
JOB NO. J4P3488	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

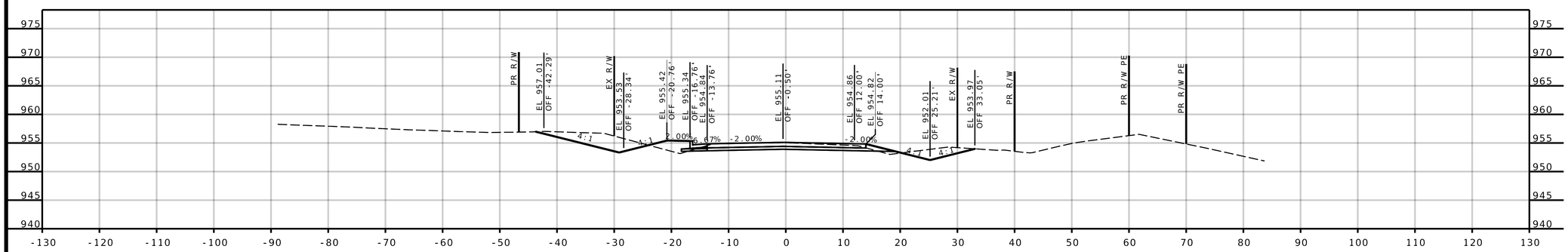
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

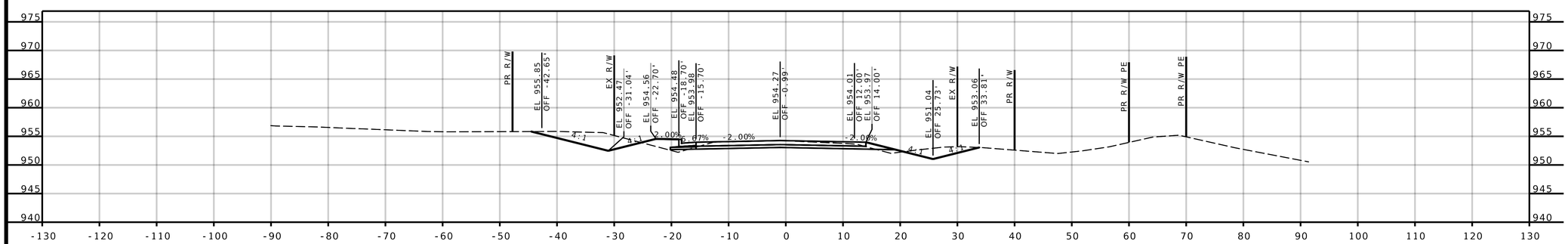
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

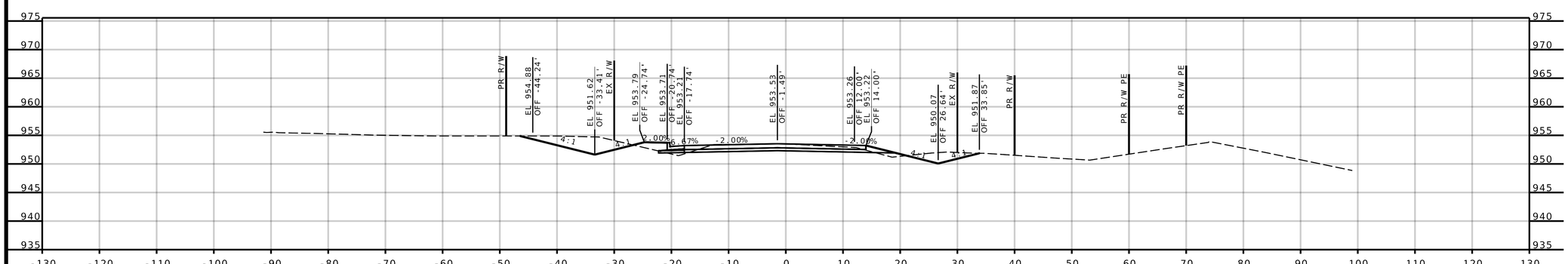
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



STA 401+00.00



STA 400+75.00



STA 400+50.00

ROUTE 58

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	19

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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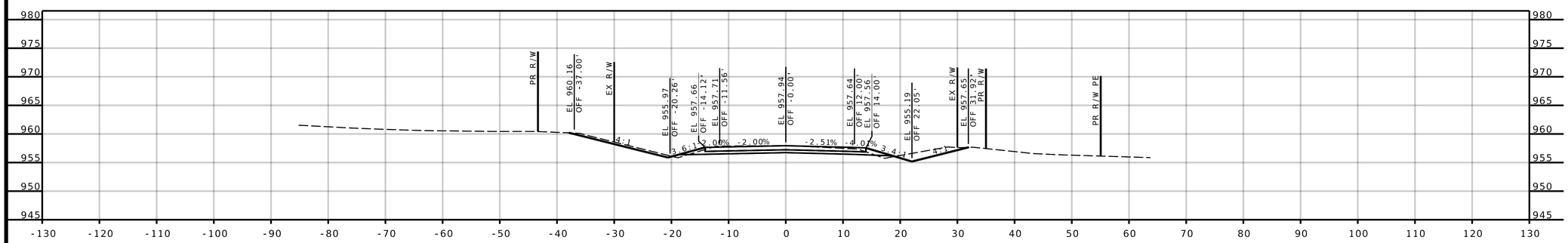

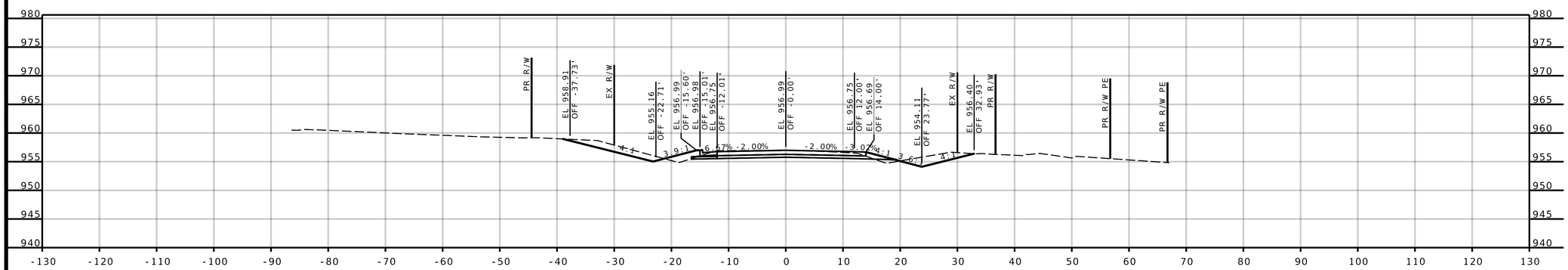

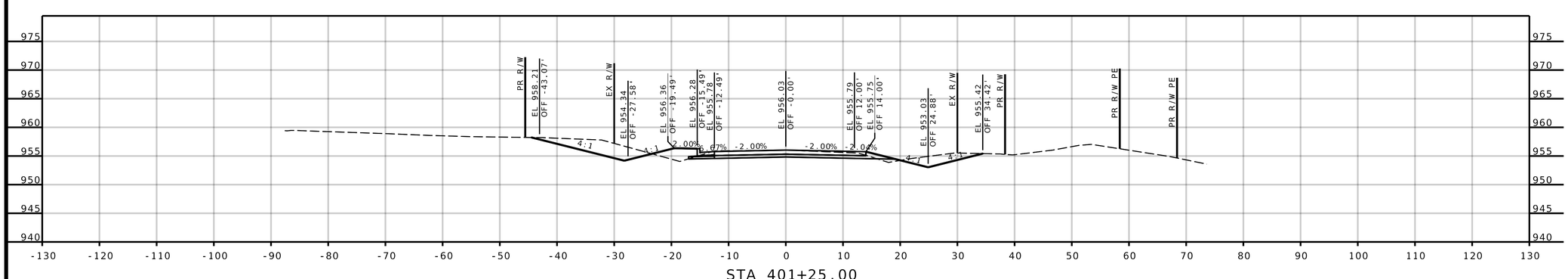

ROUTE 58

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	20

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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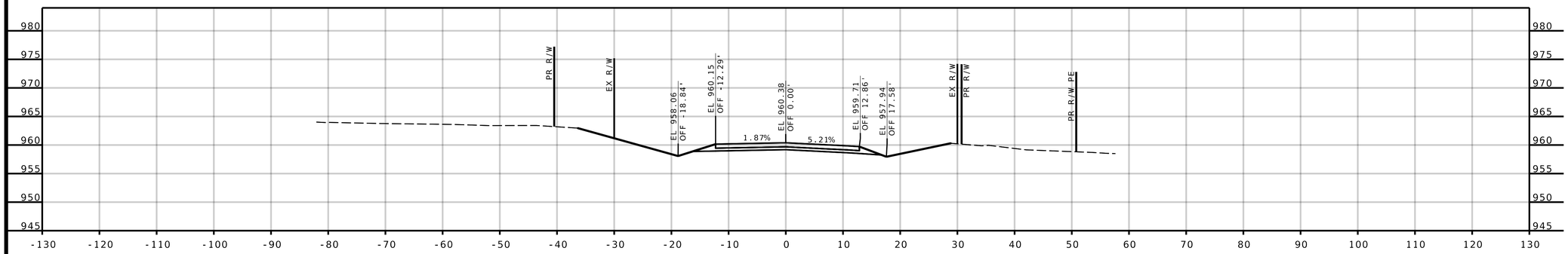
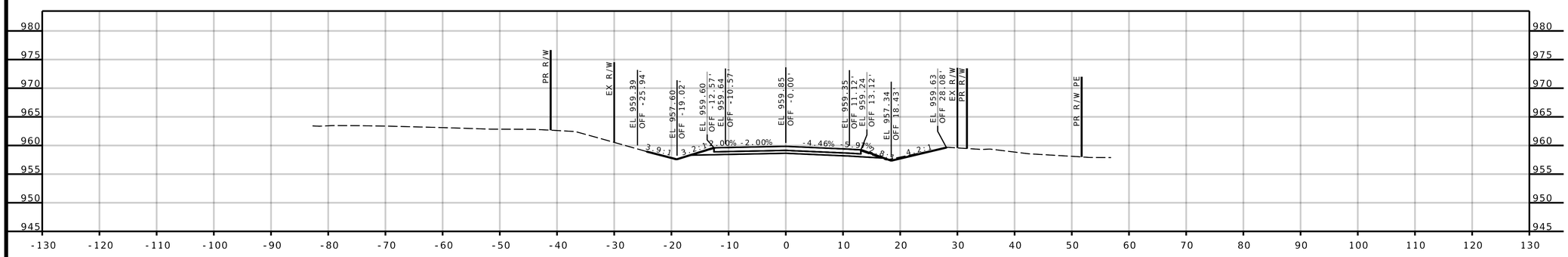
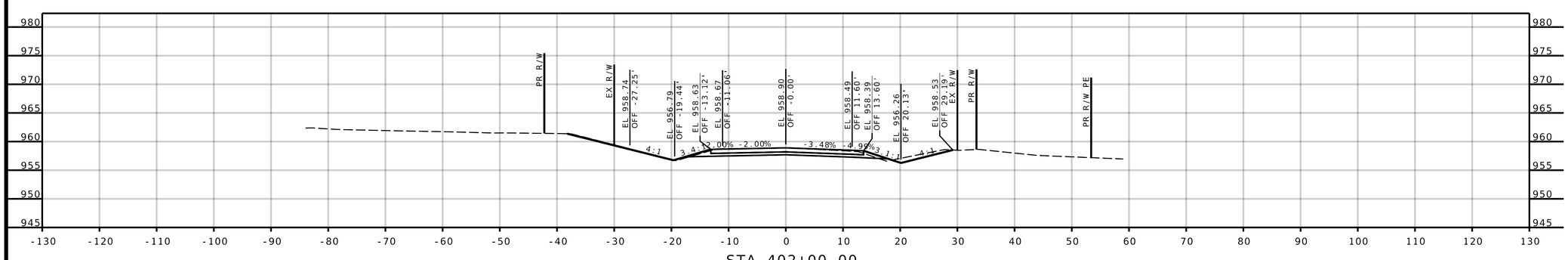


STA 402+39.00



STA 402+25.00



STA 402+00.00

ROUTE 58

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	21
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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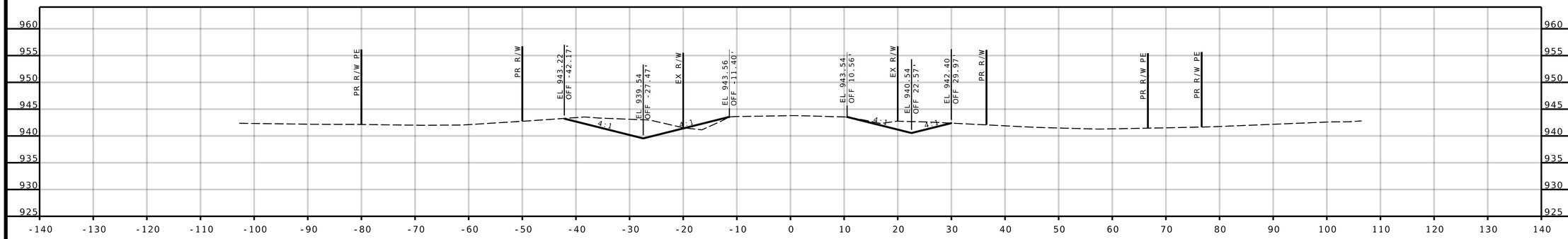
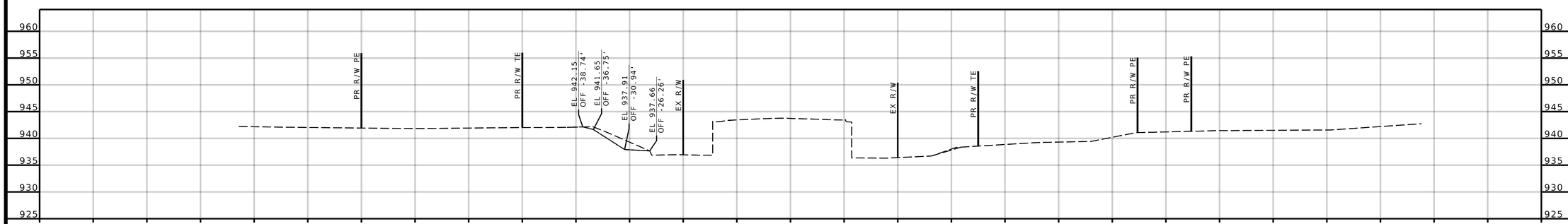
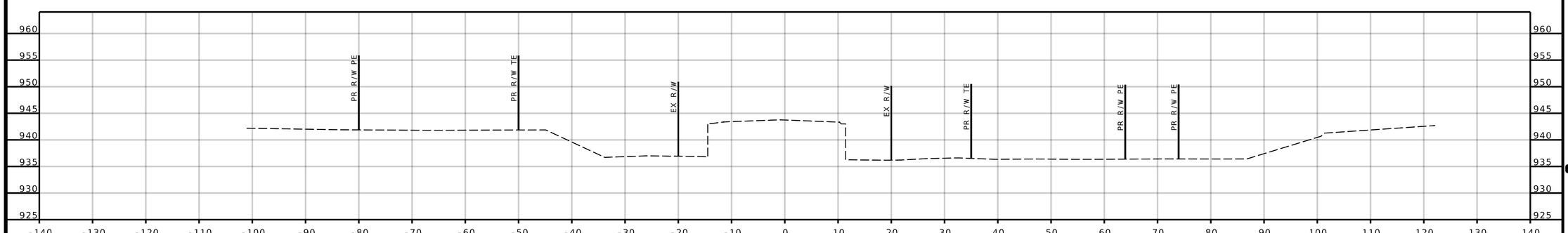


STA 7+75.00



STA 7+50.00



STA 7+39.91

HUBACH HILL ROAD

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	22

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

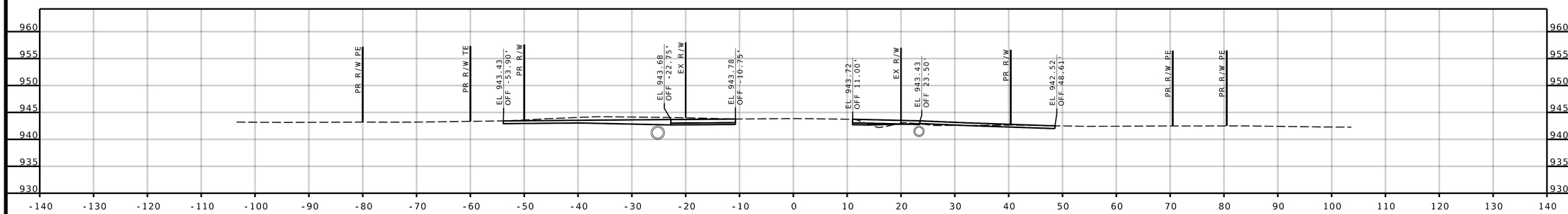
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

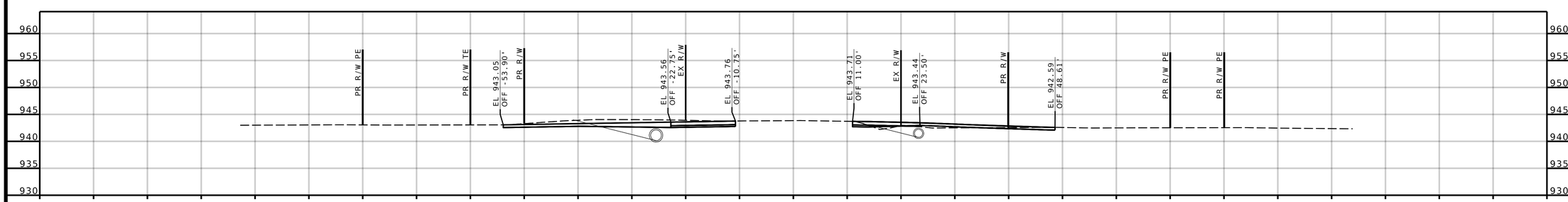
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

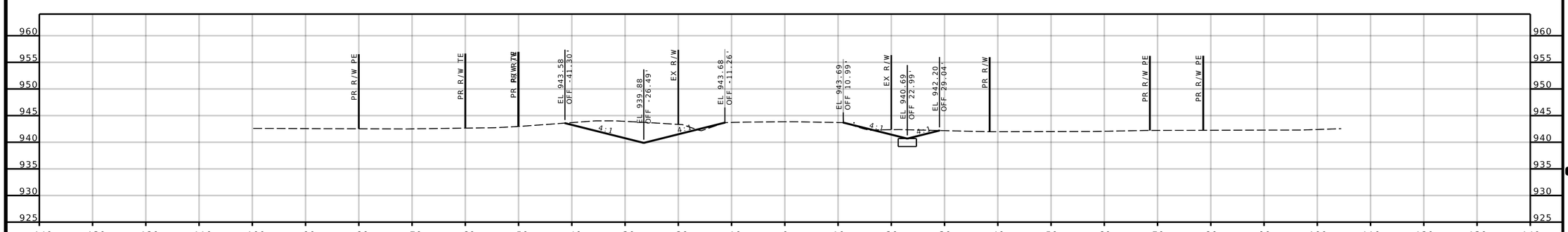
F:\2021\06501-07000\021-06622\40-Design\Microstation\J4P3488\data\XS_HUBACH_J4P3488.dgn 4:22:38 PM 8/2/2022



STA 8+25.00



STA 8+18.88



STA 8+00.00

HUBACH HILL ROAD

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	23

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
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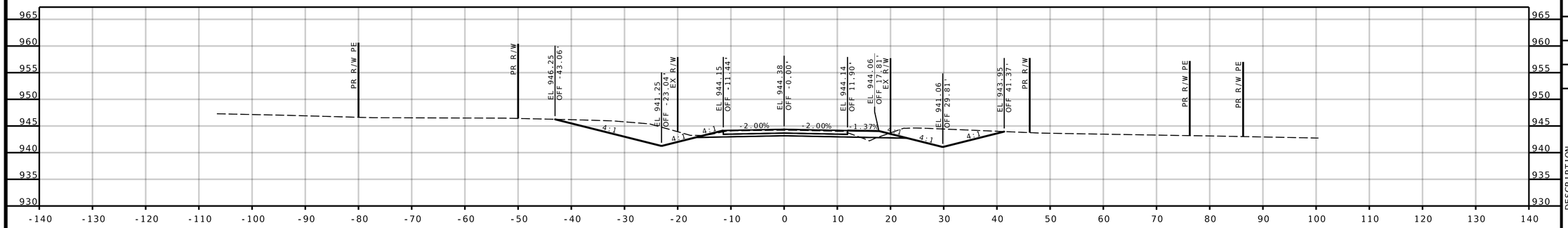
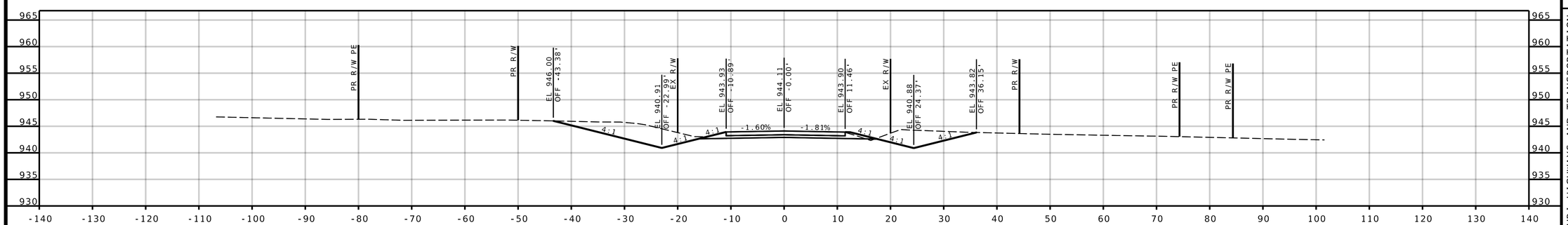
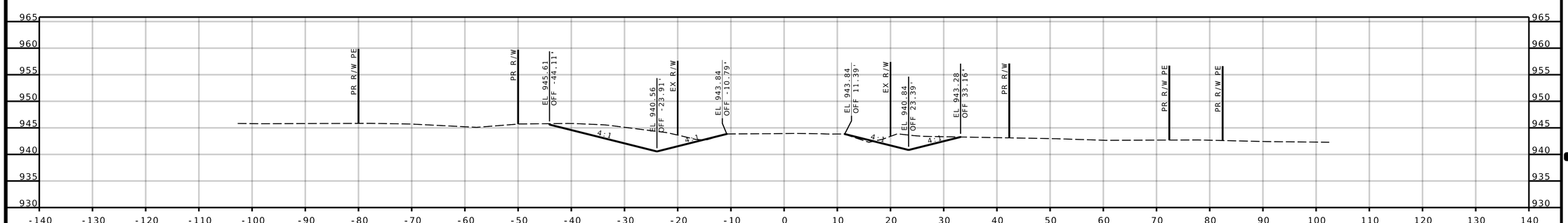


STA 9+00.00



STA 8+75.00



STA 8+50.00

HUBACH HILL ROAD

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	24

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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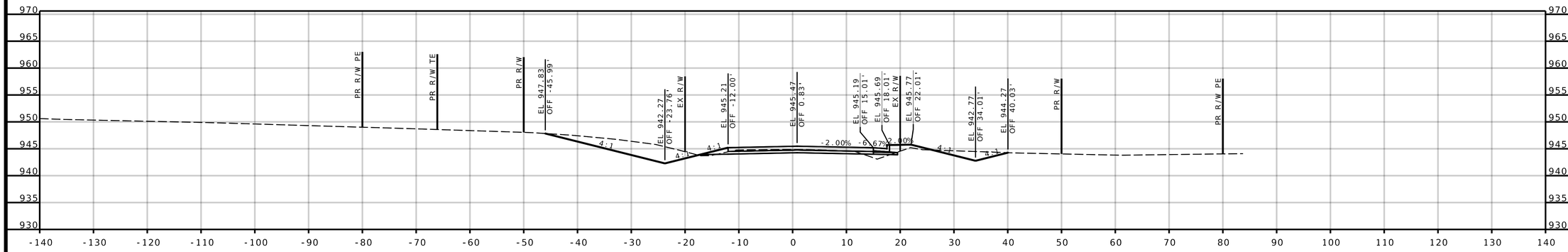

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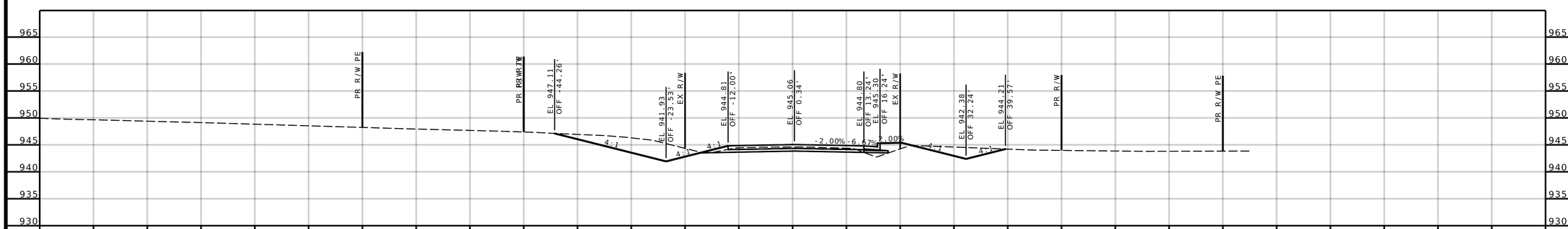

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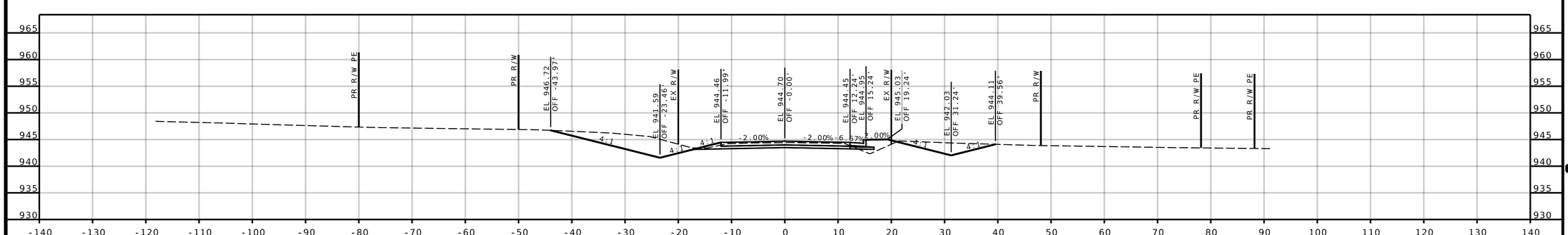

STA 9+25.00

HUBACH HILL ROAD

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	25

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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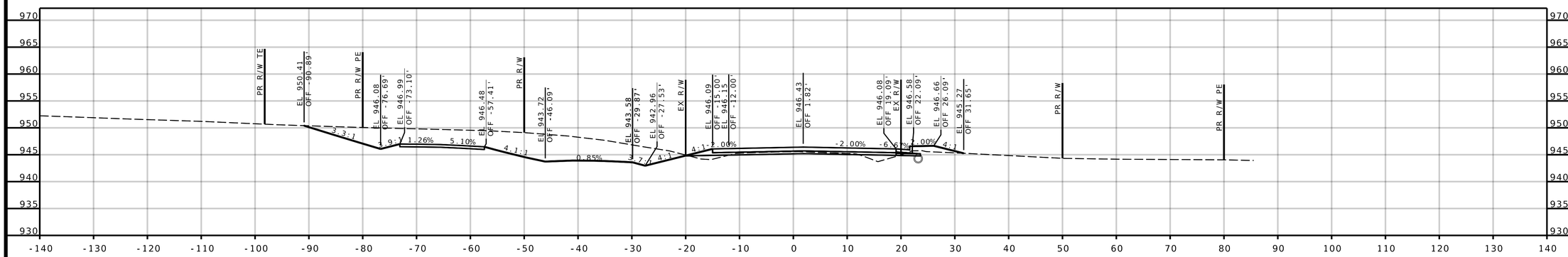
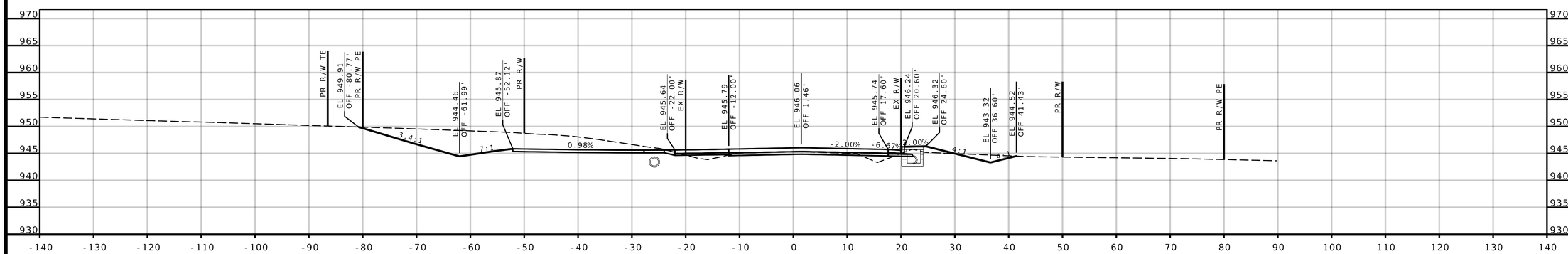
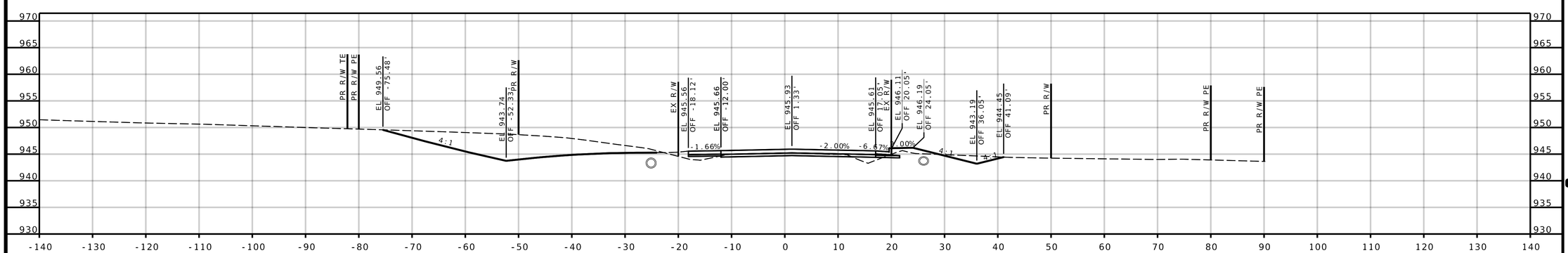


STA 10+25.00



STA 10+06.79



STA 10+00.00

HUBACH HILL ROAD

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	26

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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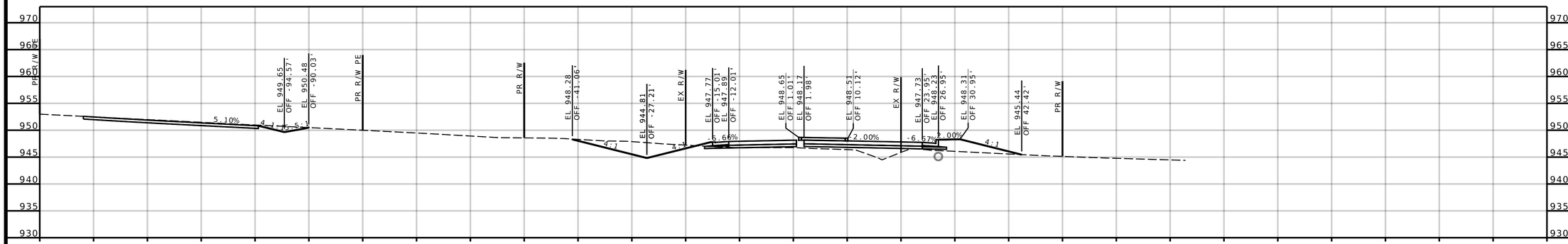

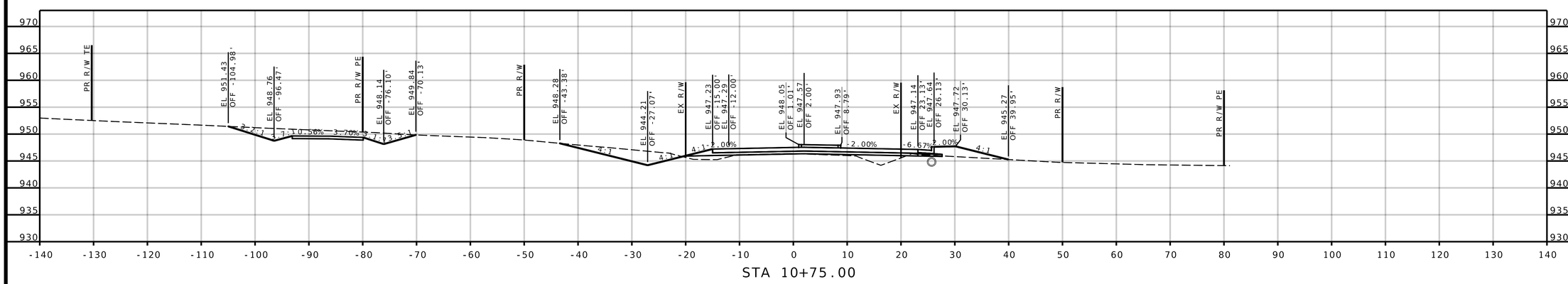

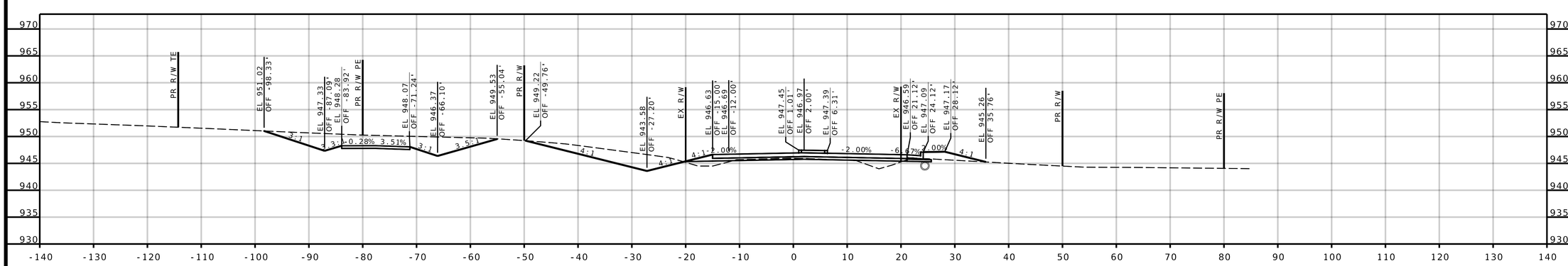

HUBACH HILL ROAD

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	27
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
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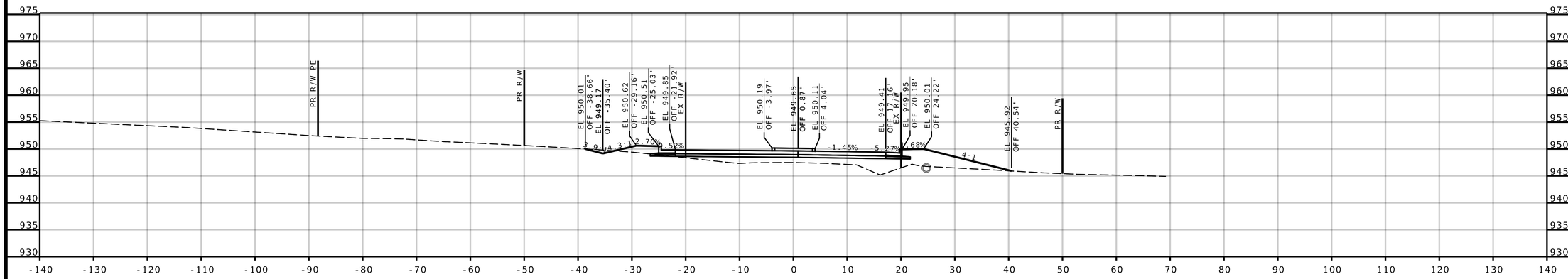
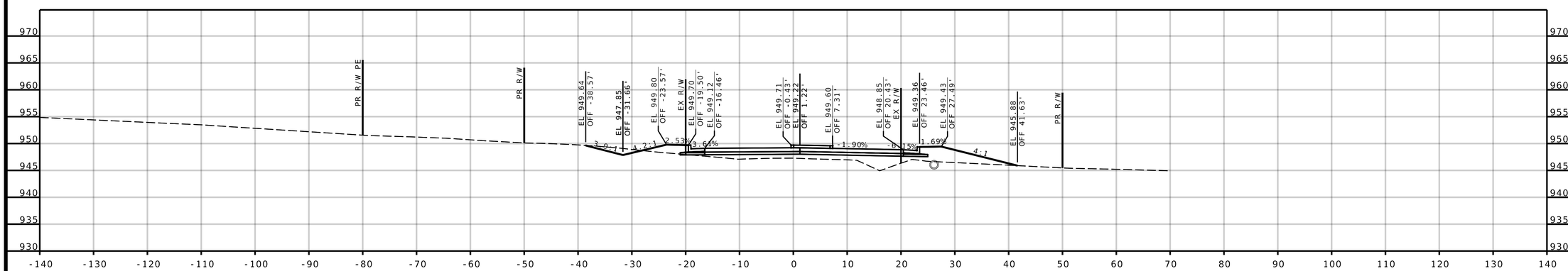


STA 11+75.00



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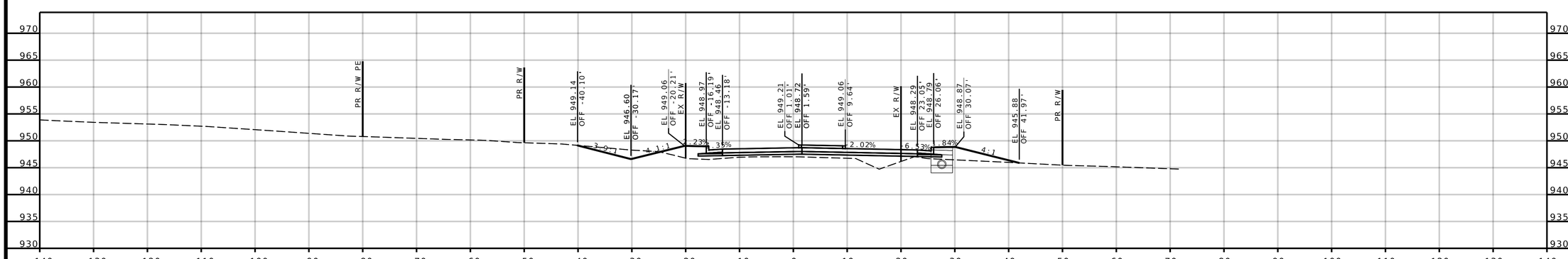

STA 11+25.00

HUBACH HILL ROAD

DATE PREPARED	8/2/2022
ROUTE	291
STATE	MO
DISTRICT	KC
SHEET NO.	28
COUNTY	CASS
JOB NO.	J4P3488
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

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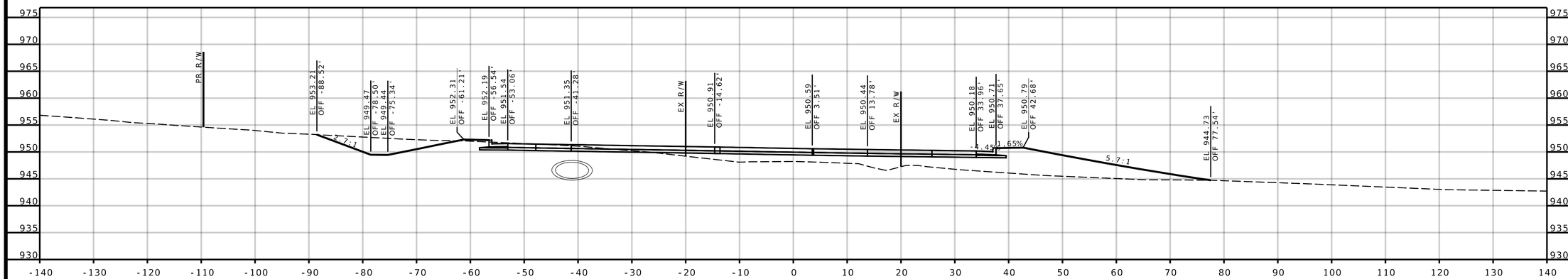
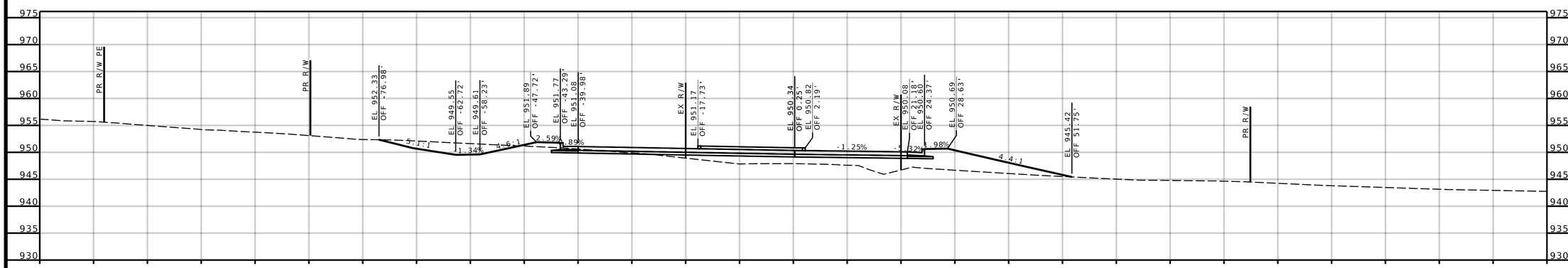


STA 12+50.00



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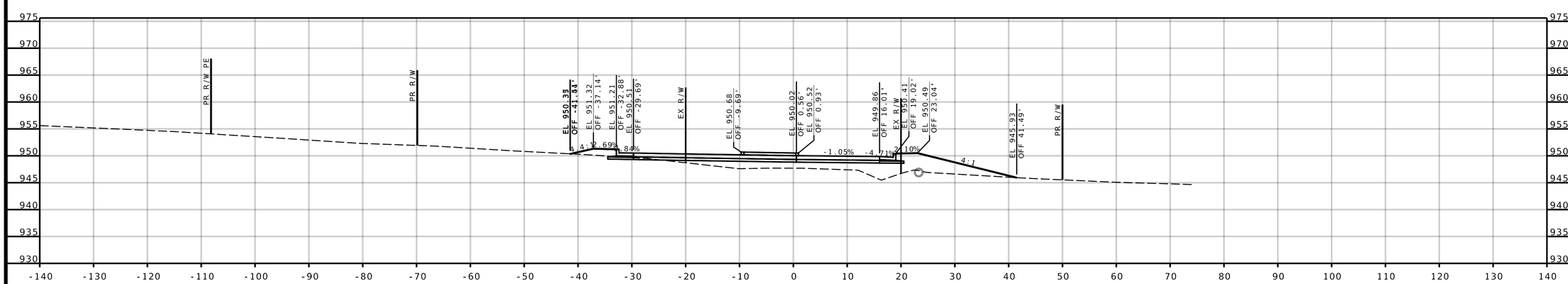

STA 12+00.00

HUBACH HILL ROAD

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	29

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

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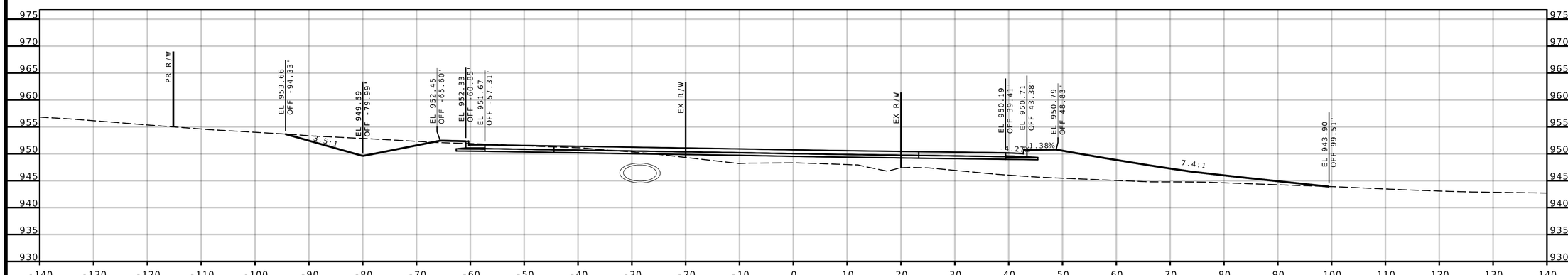

STA 12+57.04

HUBACH HILL ROAD

DATE PREPARED
8/2/2022

ROUTE	STATE
291	MO
DISTRICT	SHEET NO.
KC	30

COUNTY
CASS

JOB NO.
J4P3488

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
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