Texas Department of Transportation

DALLAS DISTRICT
DESIGN SCHEMATIC

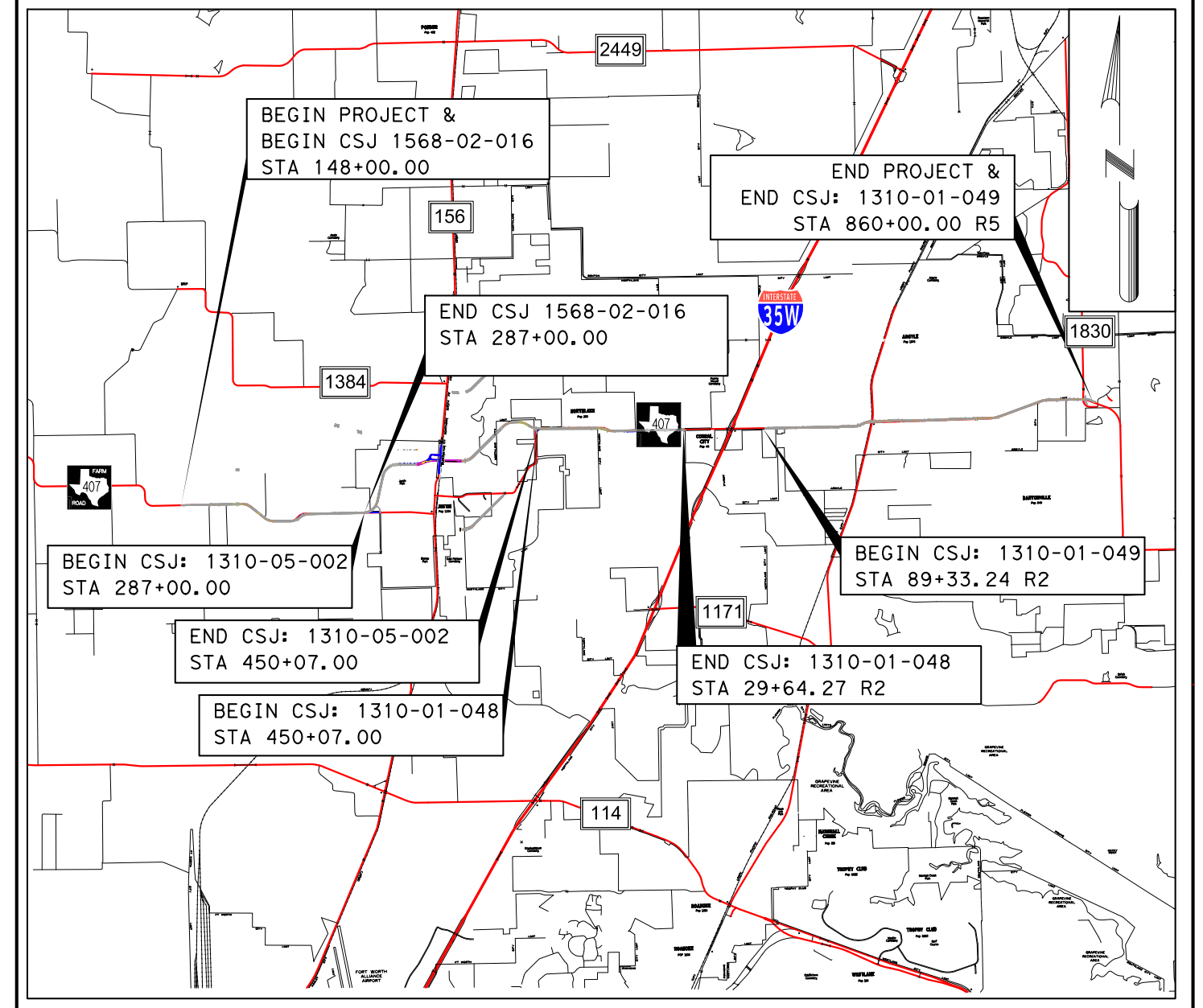
CEASON CLEMENS, P.E.
DISTRICT ENGINEER

FROM: BILL COOK RD
TO: FM 1830
CSJs: 1568-02-016, 1310-05-002, 1310-01-048, 1310-01-049
PROJECT LENGTH: 11.5 MILES

ROADWAY TYPE	FUNCTIONAL CLASSIFICATION	DESIGN SPEED
FM 407 MAINLANE (EAST OF FM 156)	URBAN MINOR ARTERIAL	45 MPH
FM 407 MAINLANE (WEST OF FM 156)	URBAN MAJOR ARTERIAL	45 MPH
BILL COOK RD	LOCAL	35 MPH
7TH STREET	LOCAL	30 MPH
12TH STREET	LOCAL	30 MPH
FM 156	URBAN MINOR ARTERIAL	45 MPH
US 377	URBAN PRINCIPAL ARTERIAL	45 MPH
FM 1830	URBAN MINOR ARTERIAL	55 MPH
FM 407 / FM 156 ACCESS RAMPS	URBAN MINOR ARTERIAL	25 MPH
BOSS RANGE RD	URBAN MINOR ARTERIAL	25 MPH
OLD FM 407	URBAN MINOR ARTERIAL	25 MPH

SURVEY SCALE FACTOR: 1:1.000150630

100% COMPLETION SUBMITTAL


BEGIN PROJECT &
BEGIN CSJ 1568-02-016
STA 148+00.00
END PROJECT &
END CSJ: 1310-01-049
STA 860+00.00 R5
END CSJ 1568-02-016
STA 287+00.00
BEGIN CSJ: 1310-05-002
STA 287+00.00
END CSJ: 1310-05-002
STA 450+07.00
BEGIN CSJ: 1310-01-048
STA 450+07.00
END CSJ: 1310-01-048
STA 29+64.27 R2
BEGIN CSJ: 1310-01-049
STA 89+33.24 R2
2449
156
35W
1830
1384
407
1171
114

DENTON COUNTY

PROJECT LOCATION MAP
NOT TO SCALE
DESIGN WAIVER/DEVIATION: NO

ROLL 4 OF 12

INDEX OF SHEETS:
- ROLL 1: BEGIN PROJECT - STA 191+00
- ROLL 2: STA 191+00 - STA 253+00
- ROLL 3: STA 253+00 - STA 290+00
- ROLL 4: STA 290+00 - STA 334+00
- ROLL 5: STA 334+00 - STA 380+00
- ROLL 6: STA 380+00 - STA 435+00
- ROLL 7: STA 435+00 - STA 510+00
- ROLL 8: STA 510+00 - STA 59+00 R2
- ROLL 9: STA 59+00 R2 - STA 661+00 R3
- ROLL 10: STA 661+00 R3 - STA 735+00 R5
- ROLL 11: STA 735+00 R5 - STA 810+00 R5
- ROLL 12: STA 810+00 R5 - END PROJECT

STATION EQUATIONS:

FM 407_LT:
555+80.06 R1 = 29+64.27 R2
105+07.15 R2 = 631+20.95 R3
689+25.78 R3 = 6+66.54 R4
22+09.14 R4 = 704+76.60 R5

FM407_CL:
555+79.63 R1 = 29+64.27 R2
105+07.94 R2 = 631+20.95 R3
689+44.93 R3 = 6+66.54 R4
21+90.16 R4 = 704+76.60 R5

FM407_RT:
555+79.20 R1 = 29+64.27 R2
105+07.68 R2 = 631+20.95 R3
689+64.09 R3 = 6+66.54 R4
21+70.94 R4 = 704+76.60 R5

MAY 2025

HORIZ SCALE: 1"=100'
0 50 100 200
VERTICAL SCALE: 1"=10'
0 5 10 20

TIMOTHY M. NESBITT, P.E.
(TX PE NO. 66648)

DATE SUBMITTED: 5/22/2025
DATE APPROVED:
DATE REVISED:

PRELIMINARY
FOR INTERIM REVIEW ONLY. NOT FOR PERMITTING, BIDDING, OR CONSTRUCTION. Prepared by or under the Direct Supervision of TIMOTHY M. NESBITT, P.E. 66648
5/22/2025

NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

Bartlett&West
9330 LBJ FREEWAY, STE 1150 - DALLAS, TX 75243
PHONE 888-200-6464
TBPE FIRM REGISTRATION NO. 6499

© 2025 by Texas Department of Transportation, All Rights Reserved

LEGEND:
🟨	PROPOSED MAINLANES
🟥	PROPOSED CROSS STREETS
🟪	PROPOSED DRIVEWAYS
🟩	FEASIBLE DRIVEWAY LOCATION
▬	PROPOSED SIDEWALKS
▬	PROPOSED BRIDGE STRUCTURES
🟧	PROPOSED SHARED USE PATHS
▬	PROPOSED MEDIANS
🟩	TEMPORARY PAVEMNENT (ASPHALT TRANSITION)
▨	PAVEMENT REMOVAL
▨	DISPLACEMENTS
—	PROPOSED RETAINING WALL/NOISE WALL
—	PROPOSED C223 RAIL
—	METAL BEAM GUARD FENCE
- - - ——	APPARENT EXISTING RIGHT OF WAY (ROW)
— - - -	PROPOSED ROW
— - — - —	PROPOSED CENTERLINE/BASELINE
- - - - -	EXISTING EASEMENT
▬	100 YR FLOODPLAIN LIMITS
▨	FLOODWAY LIMITS
▨	RIPRAP
- - - - -	FUTURE PROJECT (BY OTHERS)
→	STREAM FLOW
→	DITCH FLOW
→	TRAVEL LANE
● ● ●	EXISTING SIGNAL
- - - - -	EXISTING CULVERT
——	EXISTING APPROXIMATE PROPERTY LINE
——	PROPOSED CULVERT
XXX-X	CURVE NUMBER
XX	PROPERTY OWNERSHIP LABELS

NOTES:
1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED ON EXISTING PLANS AND AERIAL SURVEYS DATED APRIL 2020 AND RECORD PLANS.
2. FINAL LOCATION OF MEDIAN OPENINGS WILL BE DETERMINED IN THE PS&E DEVELOPMENT PHASE IN COORDINATION WITH THE LOCAL GOVERNMENTS.
3. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
4. DIMENSIONS ARE TO THE EDGE OF PAVEMENT OR NOMINAL FACE OF CURB UNLESS NOTED OTHERWISE.
5. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE RATE.
6. EXISTING CULVERT LOCATIONS, SIZE, AND ELEVATIONS OBTAINED FROM FIELD SURVEY FOR INFORMATIONAL PURPOSES ONLY.
7. EXISTING DRIVEWAYS WILL REMAIN UNLESS IT IS DETERMINED DURING DETAILED DESIGN STAGE AND COORDINATION WITH LOCAL GOVERNMENT THAT THE DRIVEWAY IS A SAFETY ISSUE AND/OR IS LOCATED WITHIN ACCESS DENIAL LIMITS SHOWN.
8. ALL CURBS ARE TYPE II (8") (UNLESS NOTED OTHERWISE).
9. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
10. WB-62 DESIGN VEHICLE WAS USED IN EVALUATION OF TURNING MOVEMENTS.
11. TRAFFIC VOLUMES BASED ON DATA PROVIDED BY TP&P (JANUARY 2022 AND MARCH 2022).
12. AS PER MUTCD REQUIREMENTS, A TRAFFIC SIGNAL WARRANT ANALYSIS WILL BE REQUIRED BEFORE INTERSECTIONS ARE CONSTRUCTED TO JUSTIFY THE INSTALLATION OF TRAFFIC SIGNALS.
13. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM DENTON COUNTY APPRAISAL DISTRICT (AUGUST 2022).
14. ADA RAMPS AND SIDEWALKS ARE DIAGRAMMATIC ONLY AND WILL BE DESIGNED DURING FINAL DESIGN PHASE (PS&E).
15. BUILDINGS ARE SHOWN AS POTENTIAL DISPLACEMENT IF THE PROPOSED ROW PHYSICALLY INTERSECTS THE EXISTING BUILDING STRUCTURE.
16. ALL CORNER RADII ARE R=30' UNLESS NOTED OTHERWISE ON EACH SCHEMATIC ROLL.
17. FEASIBLE DRIVEWAYS MUST ABIDE BY TxDOT PERMITTING PROCESS.
18. FEASIBLE DRIVEWAYS MUST ADHERE TO TxDOT DRIVEWAY PERMITTING PROCESS.

UTILITY LEGEND
- ABANDONED UTILITY
- PROPOSED UTILITY
- UNKNOWN UTILITY

COMMUNICATIONS	QL "B"	QL "C"/QL "D"
FRONTIER (FO/DUCT)	C1	C1
FRONTIER (TELE)	C2	C2
WINDSTREAM (FO/DUCT)	C3	C3
1 SOURCE/ MILLENNIUM (FO/DUCT)	C4	C4
ZAYO (FO/DUCT)	C5	C5
ASTOUND (FO/DUCT)	C6	C6
FIBERLIGHT (FO/DUCT)	C7	C7
CENTURYLINK (FO/DUCT)	C8	C8
ASTOUND (TELE)	C9	C9
ASTOUND (CTV)	C10	C10

ELECTRIC / POWER	QL "B"	QL "C"/QL "D"
COSERV	E1	E1
RAILROAD	E2	E2
PRIVATE	E3	E3
ONCOR	E4	E4

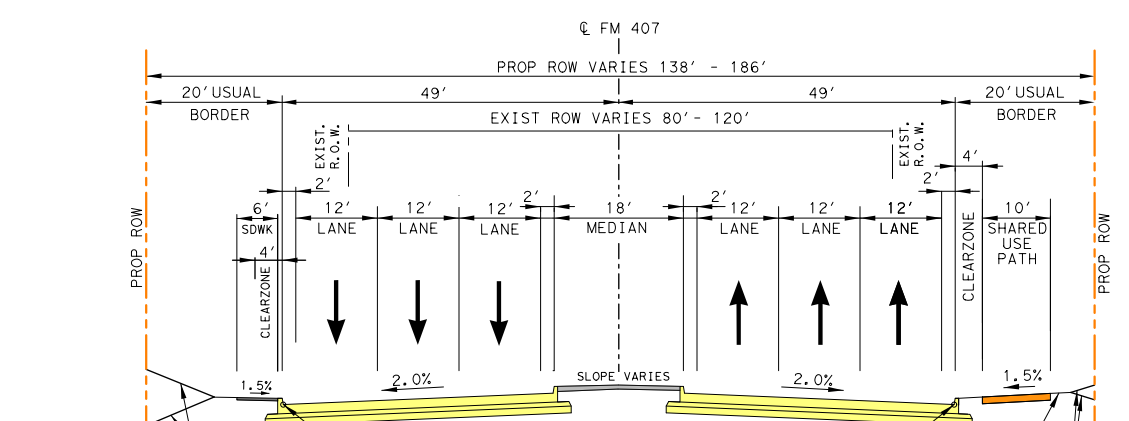
GAS / PETROLEUM	QL "B"	QL "C"/QL "D"
ATMOS	G1	G1
COSERV	G2	G2
EAGLE RIDGE	PL1	PL1
COLT MIDSTREAM	PL2	PL2
ENLINK MIDSTREAM	PL3	PL3
ENTERPRISE	PL4	PL4
ENERGY TRANSFER	PL5	PL5
ATMOS	PL6	PL6
BEDROCK	PL7	PL7

SANITARY SEWER	QL "B"	QL "C"/QL "D"
CITY OF ARGYLE	WW1	WW1
CITY OF JUSTIN	WW2	WW2

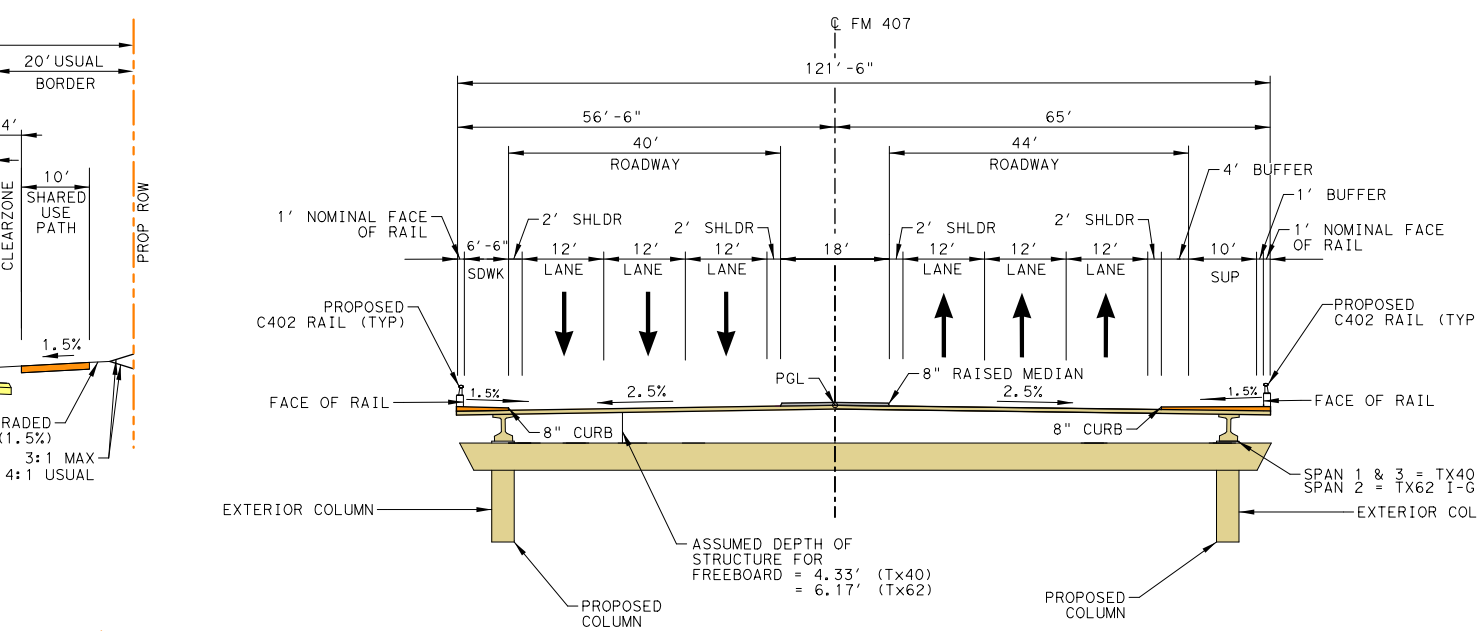
POTABLE WATER	QL "B"	QL "C"/QL "D"
CITY OF NORTHLAKE	W1	W1
UPPER TRINITY REGIONAL WATER DISTRICT (UTRWD)	W2	W2
ARGYLE WSC	W3	W3
AQUA	W4	W4
CITY OF JUSTIN	W5	W5
CITY OF COUMBUS	W6	W6

TRAFFIC SIGNALS	QL "B"	QL "C"/QL "D"
TxDOT	TS1	TS1

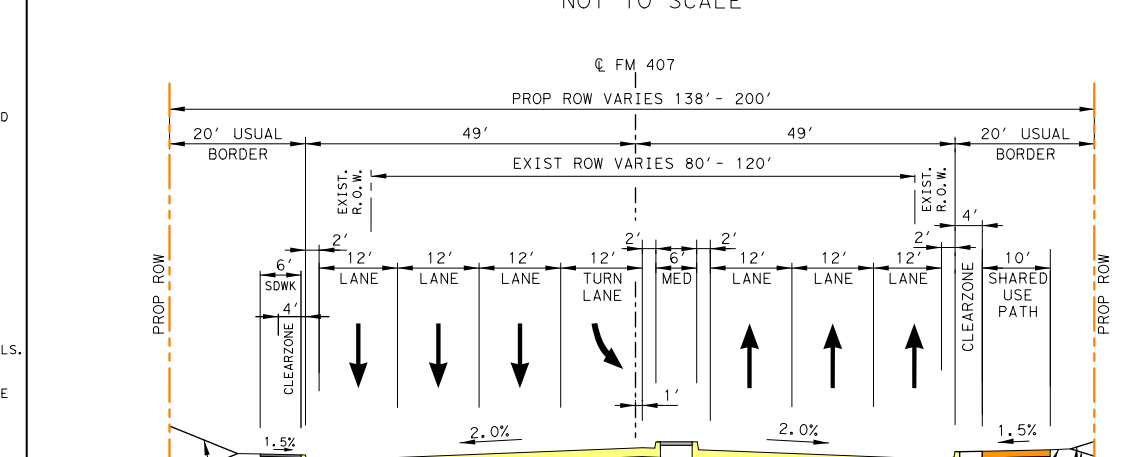
OVERHEAD UTILITY	QL "C"/QL "D"
1-COSERV	OH 1
2-FRONTIER	OH 2
3-SPECTRUM	OH 3
4-ONCOR	OH 4
5-FIBERLIGHT	OH 5
6-ZAYO	OH 6
7-PRIVATE ELEC	OH 7
8-ASTOUND	OH 8
9-ASTOUND TELE	OH 9


℄ FM 407
PROP ROW VARIES 138' - 186'
20' USUAL BORDER
49'
49'
EXIST ROW VARIES 80' - 120'
6' SDWK
4' CLEARZONE
12' LANE
18' MEDIAN
10' SHARED USE PATH
1.5%
2.0%
SLOPE VARIES
PGL
3:1 MAX 4:1 USUAL
3' GRADED AREA (1.5%)
PROP ROW

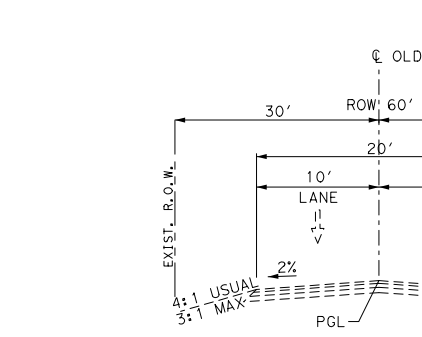
PROPOSED FM 407
TYPICAL SECTION
STA 290+00.00 TO 292+87.68
STA 302+07.66 TO 306+55.84
STA 317+01.42 TO 330+00.00
STA 332+66.00 TO 334+00.00
NOT TO SCALE


℄ FM 407
121'-6"
56'-6"
65'
40' ROADWAY
44' ROADWAY
1' NOMINAL FACE OF RAIL
6'-6" SDWK
2' SHLDR
12' LANE
18'
8" RAISED MEDIAN
4' BUFFER
1' BUFFER
1' NOMINAL FACE OF RAIL
10' SUP
PROPOSED C402 RAIL (TYP)
FACE OF RAIL
1.5%
2.5%
PGL
8" CURB
SPAN 1 & 3 - TX40 I-GIRDERS
SPAN 2 - TX62 I-GIRDERS
EXTERIOR COLUMN
PROPOSED COLUMN
ASSUMED DEPTH OF STRUCTURE FOR FREEBOARD = 4.33' (Tx40) = 6.17' (Tx62)

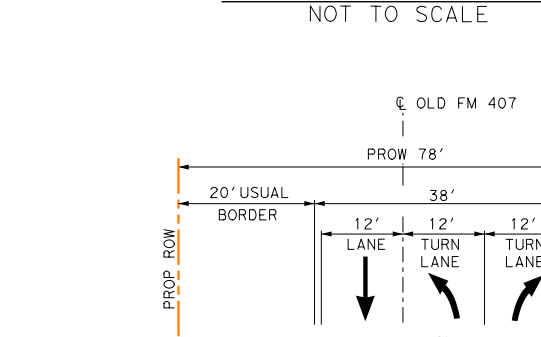
PROPOSED FM 407
BRIDGE TYPICAL SECTION
STA. 330+00.00 TO 332+66.00
NOT TO SCALE


℄ FM 407
PROP ROW VARIES 138' - 200'
20' USUAL BORDER
49'
49'
EXIST ROW VARIES 80' - 120'
6' SDWK
12' LANE
12' TURN LANE
6' MED
10' SHARED USE PATH
1.5%
2.0%
PGL
3:1 MAX 4:1 USUAL
3' GRADED AREA (1.5%)

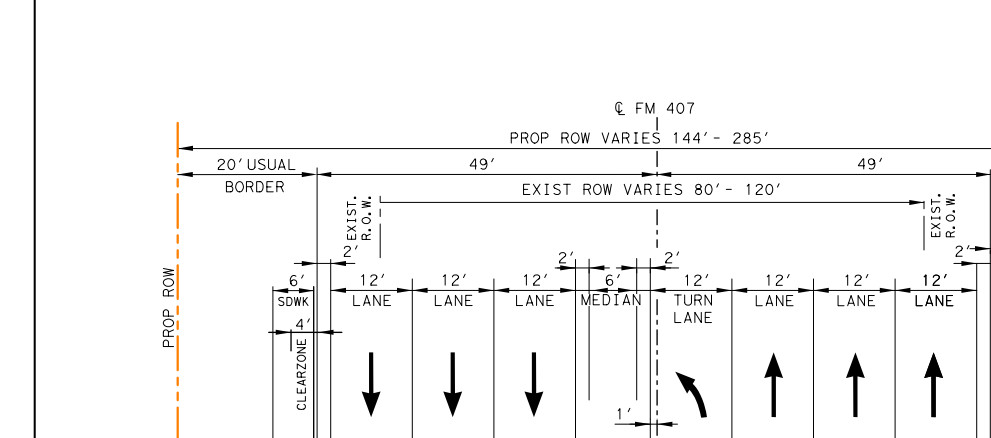
PROPOSED FM 407
TYPICAL SECTION
STA 297+00.00 TO 302+07.66
STA 312+00.00 TO 317+01.42
NOT TO SCALE


℄ OLD FM 407
ROW 60'
30'
30'
20'
10' LANE
10' LANE
2%
PGL
EXIST. R.O.W.
4:1 USUAL 3:1 MAX

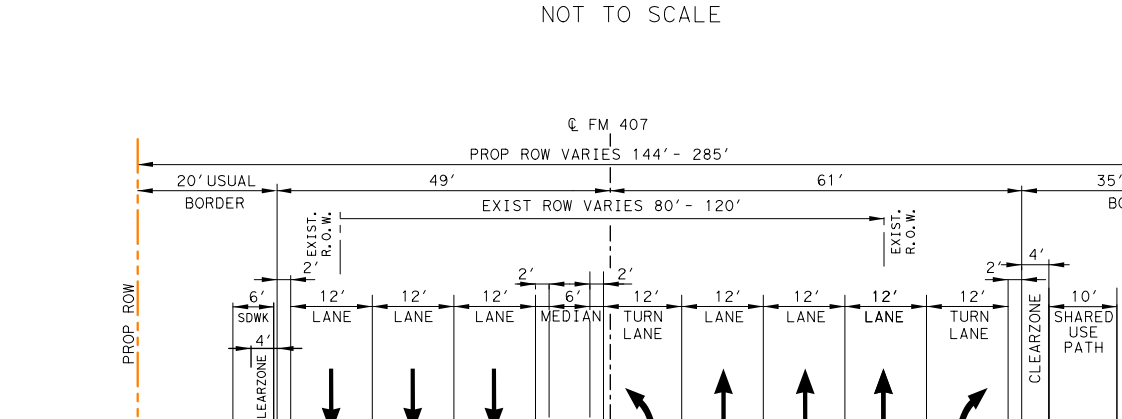
EXISTING BOSS RANGE RD.
NOT TO SCALE


℄ OLD FM 407
PROW 78'
20' USUAL BORDER
38'
12' LANE
12' TURN LANE
12' TURN LANE
2%
PGL
4:1 USUAL 3:1 MAX
PROP ROW

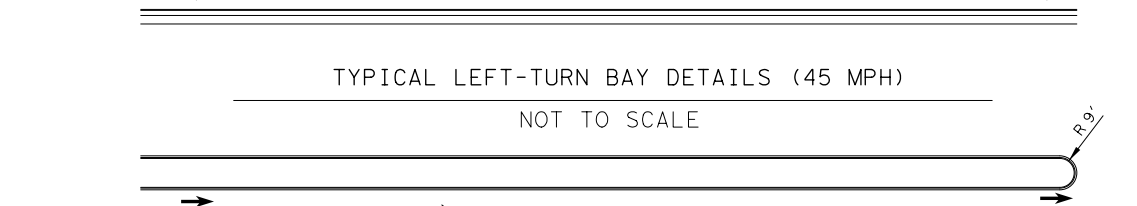
PROPOSED BOSS RANGE RD.
NOT TO SCALE


℄ FM 407
PROP ROW VARIES 144' - 285'
20' USUAL BORDER
49'
49'
EXIST ROW VARIES 80' - 120'
6' SDWK
12' LANE
6' MEDIAN
12' TURN LANE
10' SHARED USE PATH
1.5%
2.0%
PGL
3:1 MAX 4:1 USUAL
3' GRADED AREA (1.5%)

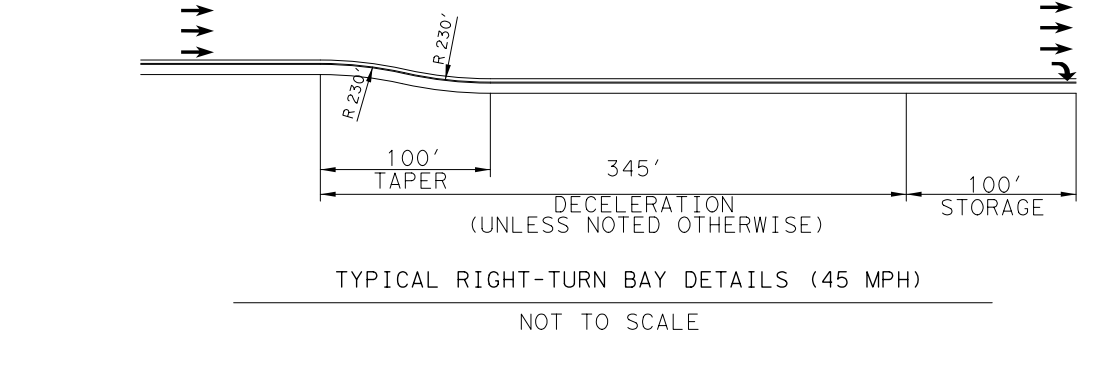
PROPOSED FM 407
TYPICAL SECTION
STA 306+55.84 TO 312+00.00
NOT TO SCALE


℄ FM 407
PROP ROW VARIES 144' - 285'
20' USUAL BORDER
49'
61'
35' USUAL BORDER
EXIST ROW VARIES 80' - 120'
6' SDWK
12' LANE
6' MEDIAN
12' TURN LANE
10' SHARED USE PATH
1.5%
2.0%
PGL
3:1 MAX 4:1 USUAL
3' GRADED AREA (1.5%)

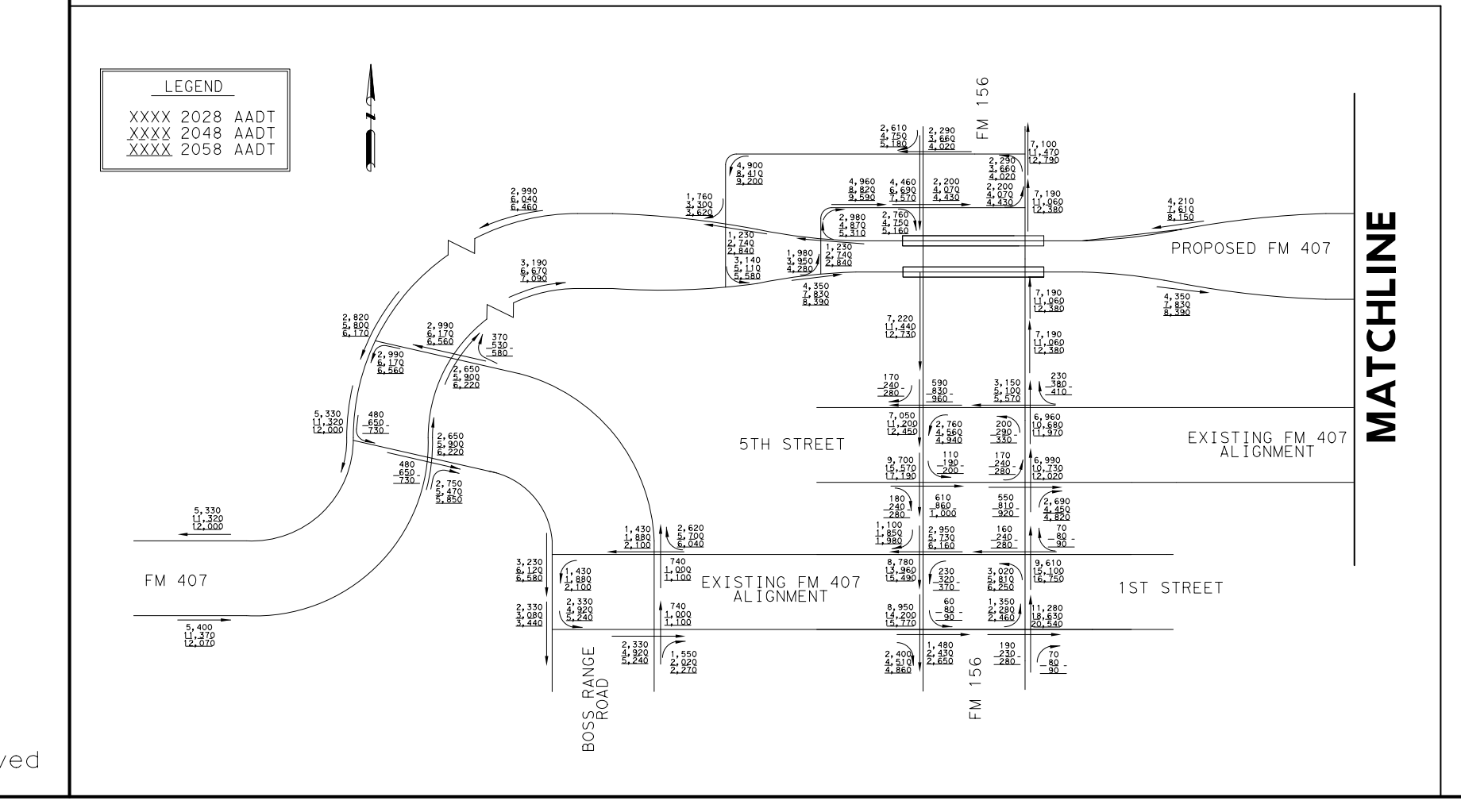
PROPOSED FM 407
TYPICAL SECTION
STA 292+87.68 TO 297+00.00
NOT TO SCALE

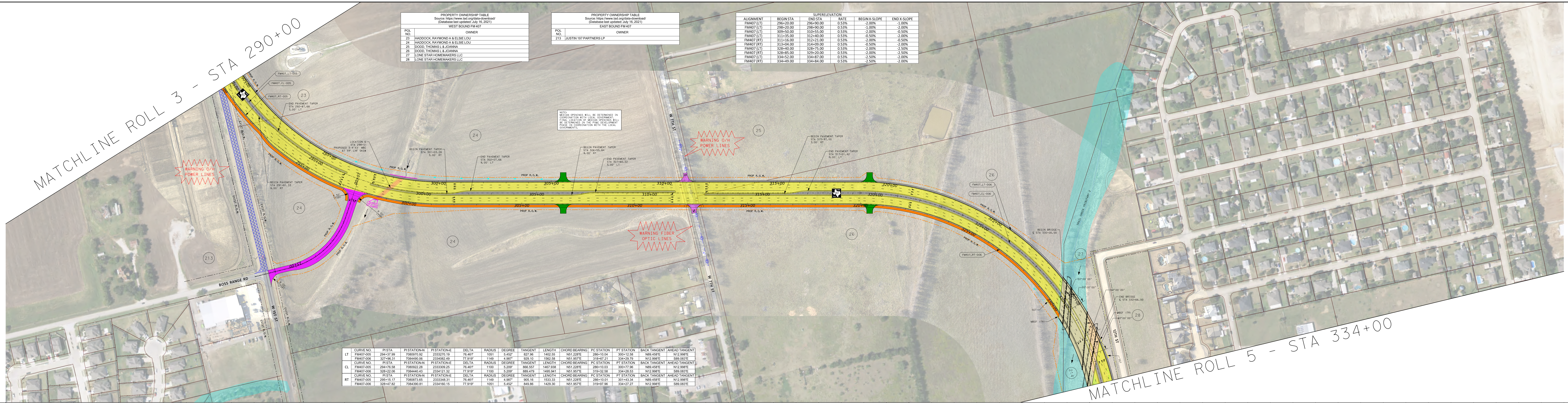

340'
100' TAPER
DECELERATION (UNLESS NOTED OTHERWISE)
100' STORAGE
R 230'
R 3'

TYPICAL LEFT-TURN BAY DETAILS (45 MPH)
NOT TO SCALE


R 230'
100' TAPER
345'
DECELERATION (UNLESS NOTED OTHERWISE)
100' STORAGE
R 3'

TYPICAL RIGHT-TURN BAY DETAILS (45 MPH)
NOT TO SCALE


LEGEND
XXXX 2028 AADT
XXXX 2048 AADT
XXXX 2058 AADT
FM 156
PROPOSED FM 407
5TH STREET
EXISTING FM 407 ALIGNMENT
1ST STREET
FM 407
BOSS RANGE ROAD
MATCHLINE


MATCHLINE ROLL 3 - STA 290+00
MATCHLINE ROLL 5 - STA 334+00
FM407_LT-005
FM407_CL-005
FM407_RT-005
FM407_LT-006
FM407_CL-006
FM407_RT-006
END PAVEMENT TAPER STA 292+87.68 3.00' LT
LOCATION 6 STA 298+51 PROPOSED 3-4'X3' MBC AT 39° LHF SKEW
BEGIN PAVEMENT TAPER STA 291+81.33 9.00' RT
BEGIN PAVEMENT TAPER STA 301+03.28 3.00' RT
END PAVEMENT TAPER STA 302+07.66 9.00' LT
BEGIN PAVEMENT TAPER STA 306+55.84 9.00' RT
END PAVEMENT TAPER STA 307+60.22 3.00' LT
BEGIN PAVEMENT TAPER STA 315+97.00 3.00' LT
END PAVEMENT TAPER STA 317+01.42 9.00' LT
BEGIN BRIDGE ℄ STA 330+00.00
END BRIDGE ℄ STA 332+66.00
WARNING O/H POWER LINES
WARNING FIBER OPTIC LINES
PROP R.O.W.
EXIST R.O.W.
BOSS RANGE RD
W 1ST ST
W 7TH ST
12TH ST
TRAIL CREEK TRIBUTARY 2
R 50' (TYP)
SGT
MBGF (TR)
50°00'00"
55°00'00"
60°00'00"
23
24
25
26
27
28
213
214
295+00
300+00
305+00
310+00
315+00
320+00
325+00
330+00

NOTE:
MEDIAN OPENINGS WILL BE DETERMINED IN COORDINATION WITH LOCAL GOVERNMENT. FINAL LOCATION OF MEDIAN OPENINGS WILL BE DETERMINED IN THE PS&E DEVELOPMENT PHASE IN COORDINATION WITH THE LOCAL GOVERNMENTS.

PROPERTY OWNERSHIP TABLE
Source: https://www.tad.org/data-download/
(Database last updated: July 16, 2021)
WEST BOUND FM 407

POL NO.	OWNER
23	HADDOCK, RAYMOND A & ELSIE LOU
24	HADDOCK, RAYMOND A & ELSIE LOU
25	DODD, THOMAS L & JOANNA
26	DODD, THOMAS L & JOANNA
27	LONE STAR HOMEMAKERS LLC
28	LONE STAR HOMEMAKERS LLC

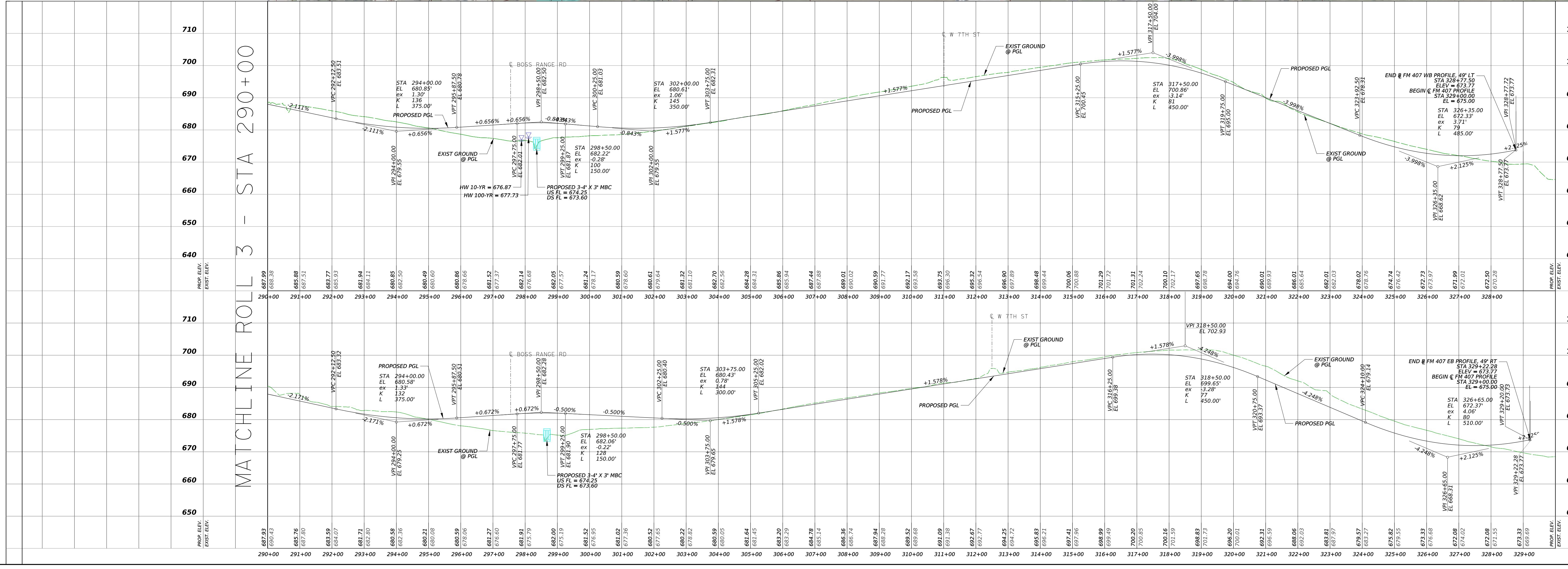
PROPERTY OWNERSHIP TABLE
Source: https://www.tad.org/data-download/
(Database last updated: July 16, 2021)
EAST BOUND FM 407

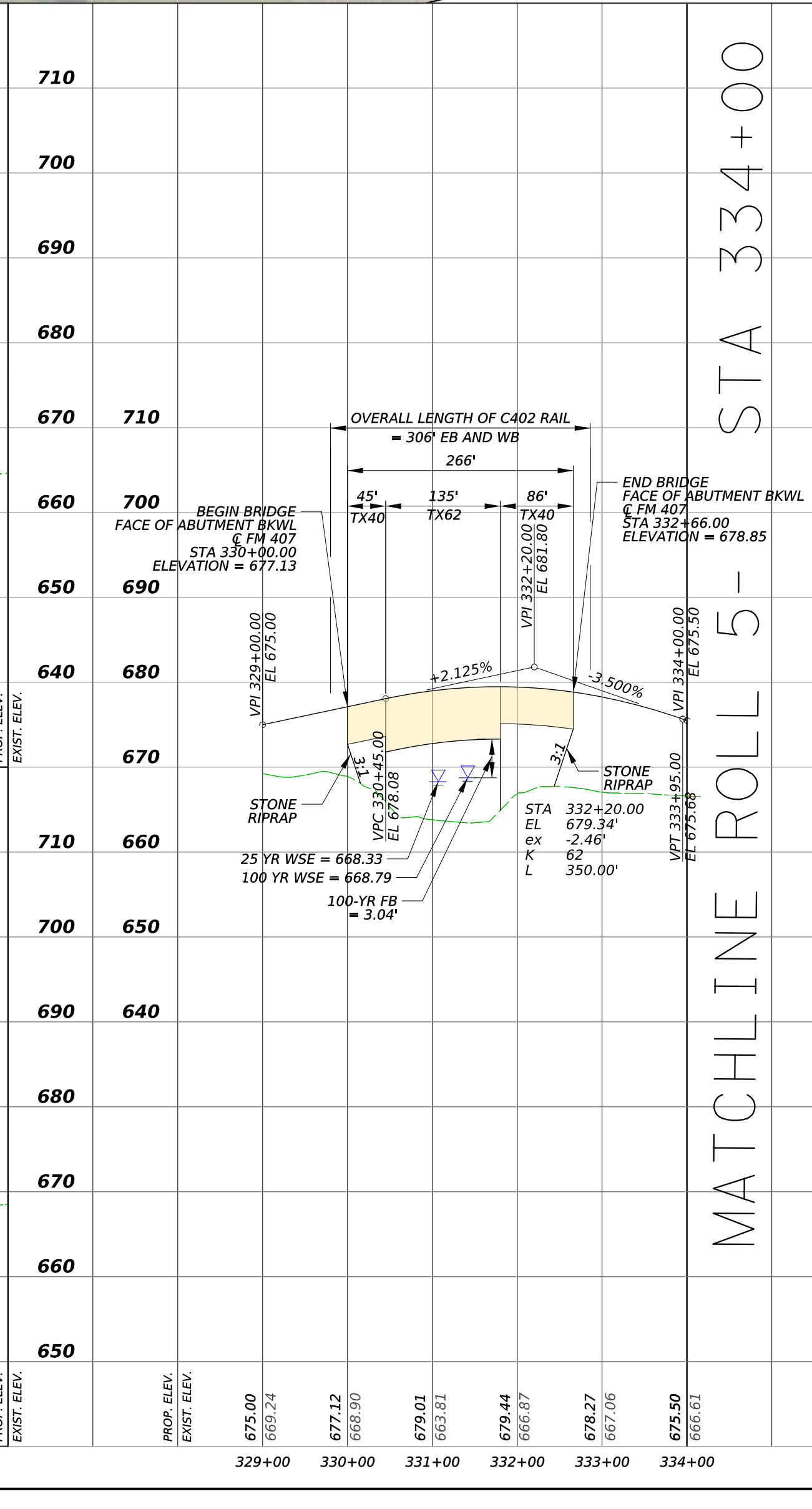
POL NO.	OWNER
213	JUSTIN 197 PARTNERS LP

SUPERELEVATION

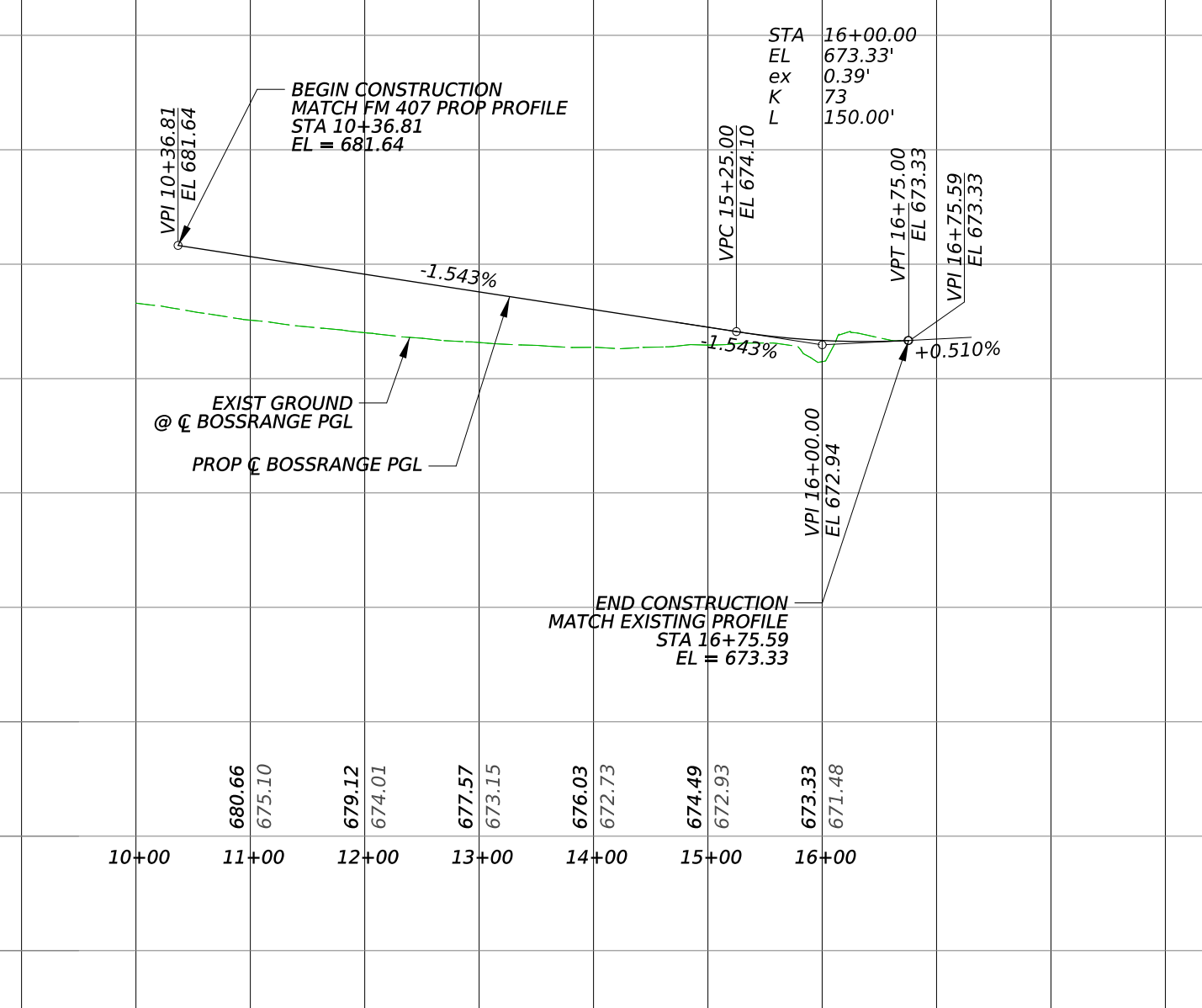
ALIGNMENT	BEGIN STA	END STA	RATE	BEGIN X-SLOPE	END X-SLOPE
FM407 (LT)	296+20.00	296+90.00	0.53%	-2.00%	-1.00%
FM407 (LT)	298+20.00	298+90.00	0.53%	-1.00%	-2.00%
FM407 (LT)	309+50.00	310+55.00	0.53%	-2.00%	-0.50%
FM407 (LT)	311+35.00	312+40.00	0.53%	-0.50%	-2.00%
FM407 (RT)	311+16.00	312+21.00	0.53%	-2.00%	-0.50%
FM407 (RT)	313+04.00	314+09.00	0.53%	-0.50%	-2.00%
FM407 (LT)	328+40.00	328+75.00	0.53%	-2.00%	-2.50%
FM407 (RT)	328+85.00	329+20.00	0.53%	-2.00%	-2.50%
FM407 (LT)	334+52.00	334+87.00	0.53%	-2.50%	-2.00%
FM407 (RT)	334+49.00	334+84.00	0.53%	-2.50%	-2.00%

	CURVE NO.	PI STA	PI STATION-N	PI STATION-E	DELTA	RADIUS	DEGREE	TANGENT	LENGTH	CHORD BEARING	PC STATION	PT STATION	BACK TANGENT	AHEAD TANGENT
LT	FM407-005	294+37.99	7080970.92	2333270.19	76.461°	1051	5.452°	827.96	1402.55	N51.228°E	286+10.04	300+12.58	N89.458°E	N12.998°E
	FM407-006	327+96.31	7084490.06	2334082.49	77.919°	1149	4.987°	929.10	1562.58	N51.957°E	318+67.21	334+29.79	N12.998°E	S89.083°E
CL	FM407-005	294+76.58	7080922.28	2333309.25	76.461°	1100	5.209°	866.557	1467.938	N51.228°E	286+10.03	300+77.96	N89.458°E	N12.998°E
	FM407-006	328+22.06	7084440.43	2334121.32	77.919°	1100	5.209°	889.479	1495.941	N51.957°E	319+32.58	334+28.53	N12.998°E	S89.083°E
RT	FM407-005	295+15.17	7080873.65	2333348.31	76.461°	1149	4.987°	905.16	1533.33	N51.228°E	286+10.01	301+43.34	N89.458°E	N12.998°E
	FM407-006	328+47.82	7084390.81	2334160.15	77.919°	1051	5.452°	849.86	1429.30	N51.957°E	319+97.96	334+27.27	N12.998°E	S89.083°E



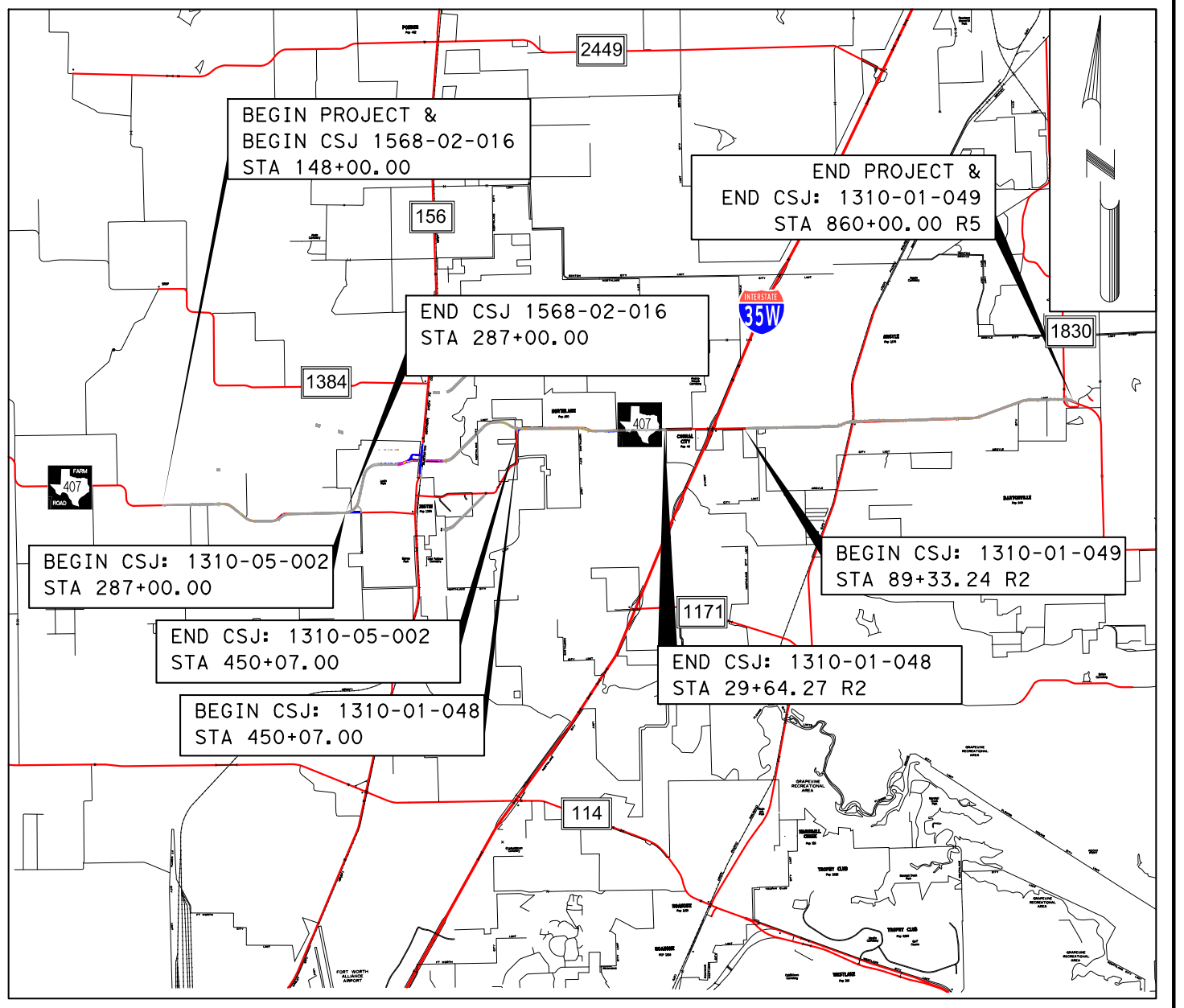


BOSS RANGE PROFILE



Texas Department of Transportation

DALLAS DISTRICT
DESIGN SCHEMATIC
CEASON CLEMENS, P.E.
DISTRICT ENGINEER
FROM: BILL COOK RD
TO: FM 1830
CSJs: 1568-02-016, 1310-05-002, 1310-01-048, 1310-01-049
PROJECT LENGTH: 11.5 MILES
SURVEY SCALE FACTOR: 1:1.000150630
100% COMPLETION SUBMITTAL



DENTON COUNTY
PROJECT LOCATION MAP
NOT TO SCALE
DESIGN WAIVER/DEVIATION: NO
ROLL 4 OF 12
MAY 2025
TIMOTHY M. NESBITT, P.E. (TX PE NO. 66648)
DATE SUBMITTED 5/22/2025
PRELIMINARY
NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
Bartlett&West
© 2025 by Texas Department of Transportation, All Rights Reserved