© 2022

Texas Department
of Transportation

# DALLAS DISTRICT
# DESIGN SCHEMATIC

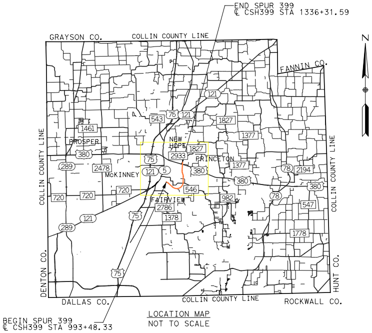
CEASON CLEMENS, P.E.
DALLAS DISTRICT ENGINEER

## 90% DESIGN SCHEMATIC
## SPUR 399 EXTENSION

CSJ: 0364-04-051, 0047-05-058 & 0047-10-002
FROM: US 75
TO: US 380
COLLIN COUNTY
FUNCTIONAL CLASS: URBAN FREEWAY
ORANGE ALTERNATIVE LENGTH: 7.0 MILES

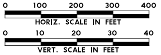
### DESIGN SPEEDS

| | |
|---|---|
| MAINLANES (FREEWAY): | 70 MPH |
| GENERAL RAMPS (PRINCIPAL ARTERIAL): | 40-50 MPH |
| FRONTAGE ROADS (COLLECTOR): | 35-45 MPH |
| CROSS STREETS (MAJOR COLLECTOR): | 30 MPH |


END SPUR 399
℄ CSH399 STA 1336+31.59
N
GRAYSON CO.
COLLIN COUNTY LINE
FANNIN CO.
121
543
75
121
1827
1461
PROSPER
NEW HOPE
1377
1827
380
2933
PRINCETON
289
2478
75
1377
78
2194
COLLIN COUNTY LINE
MCKINNEY
121
5
380
380
380
COLLIN COUNTY LINE
720
720
720
546
FAIRVIEW
982
78
547
2786
121
75
1378
289
1778
DENTON CO.
75
HUNT CO.
DALLAS CO.
COLLIN COUNTY LINE
ROCKWALL CO.
BEGIN SPUR 399
℄ CSH399 STA 993+48.33

LOCATION MAP
NOT TO SCALE

SCALE: HORIZONTAL 1"=100'
SCALE: VERTICAL 1"=10'



© 2022 by Texas Department of Transportation all rights reserved

NOVEMBER 2022

PRELIMINARY
SUBJECT TO REVISIONS

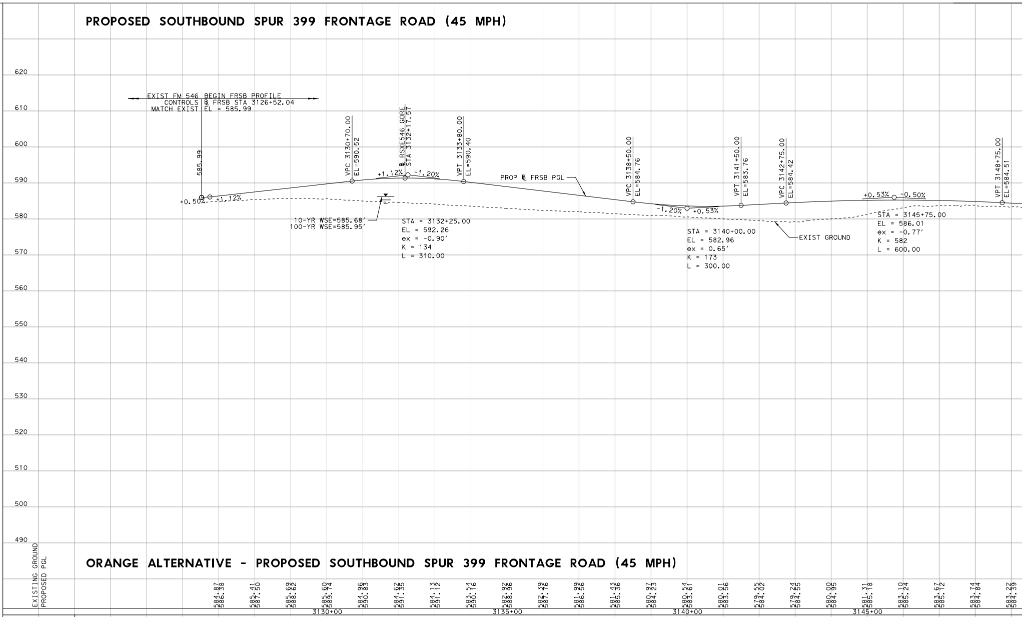
SCHEMATIC PREPARED BY:

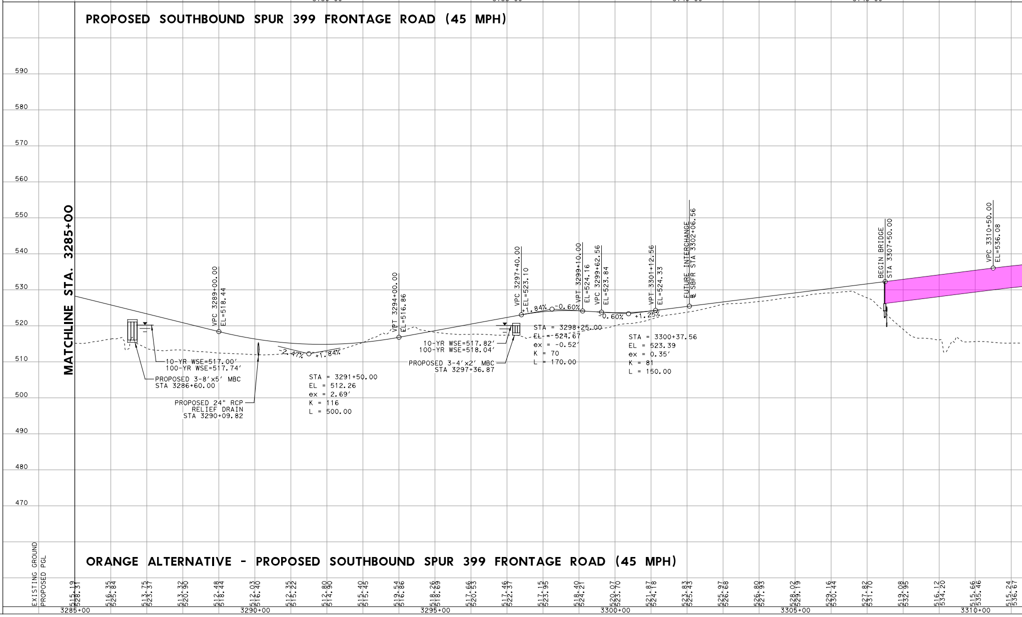
| | |
|---|---|
| DAVID SUTTON | 120142 |
| NAME | P.E. NUMBER |
| NOVEMBER 2022 | |
| DATE | |

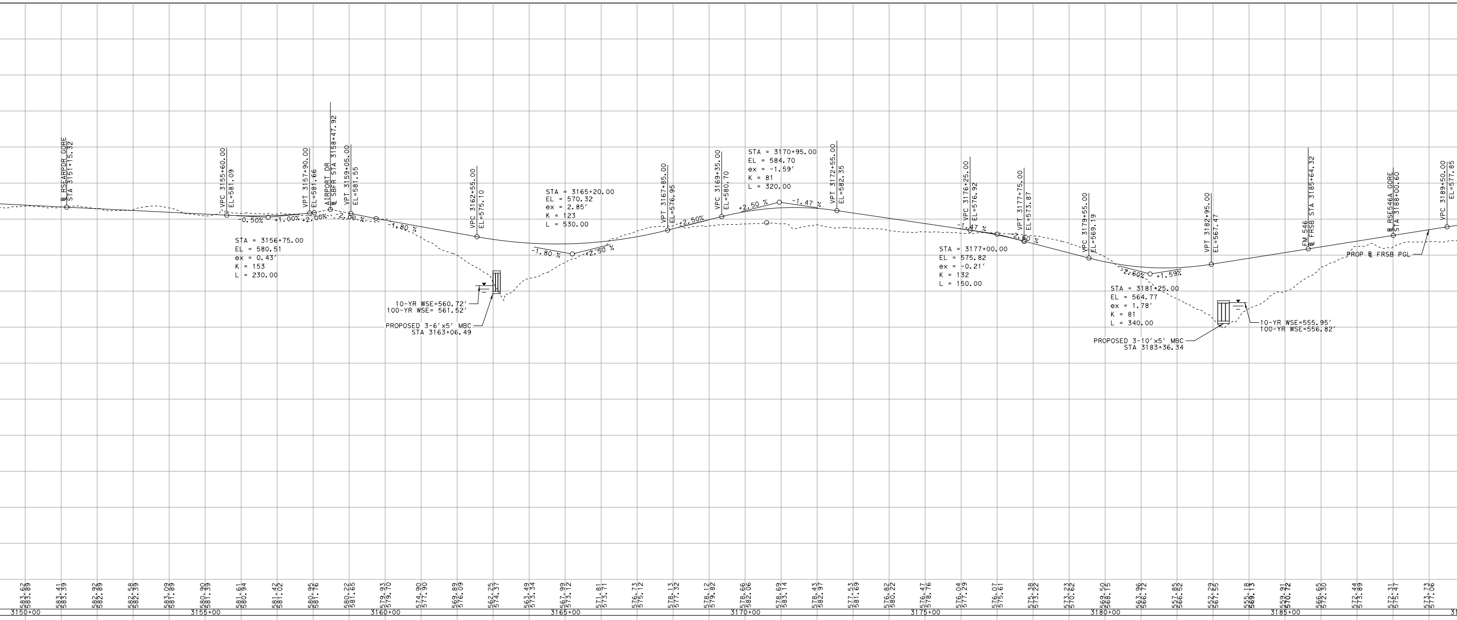
NOT INTENDED FOR CONSTRUCTION,
BIDDING, OR PERMIT PURPOSES

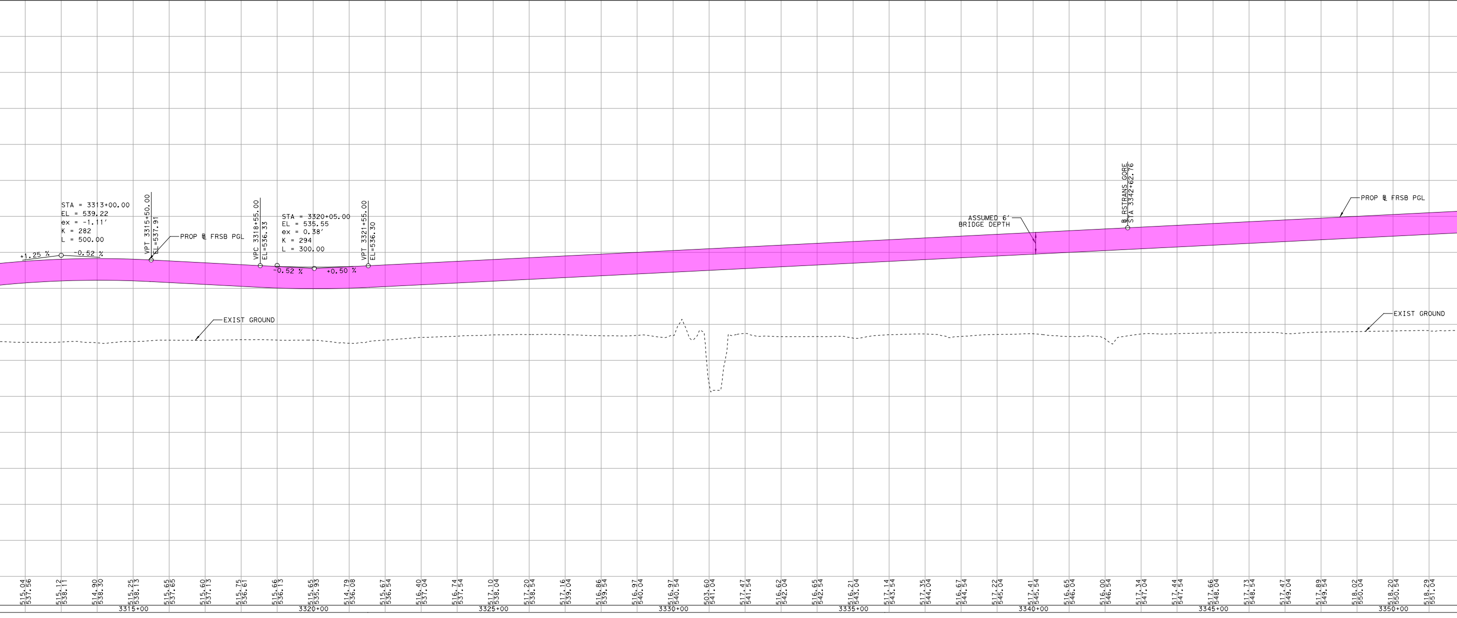
ROLL 6 OF 8

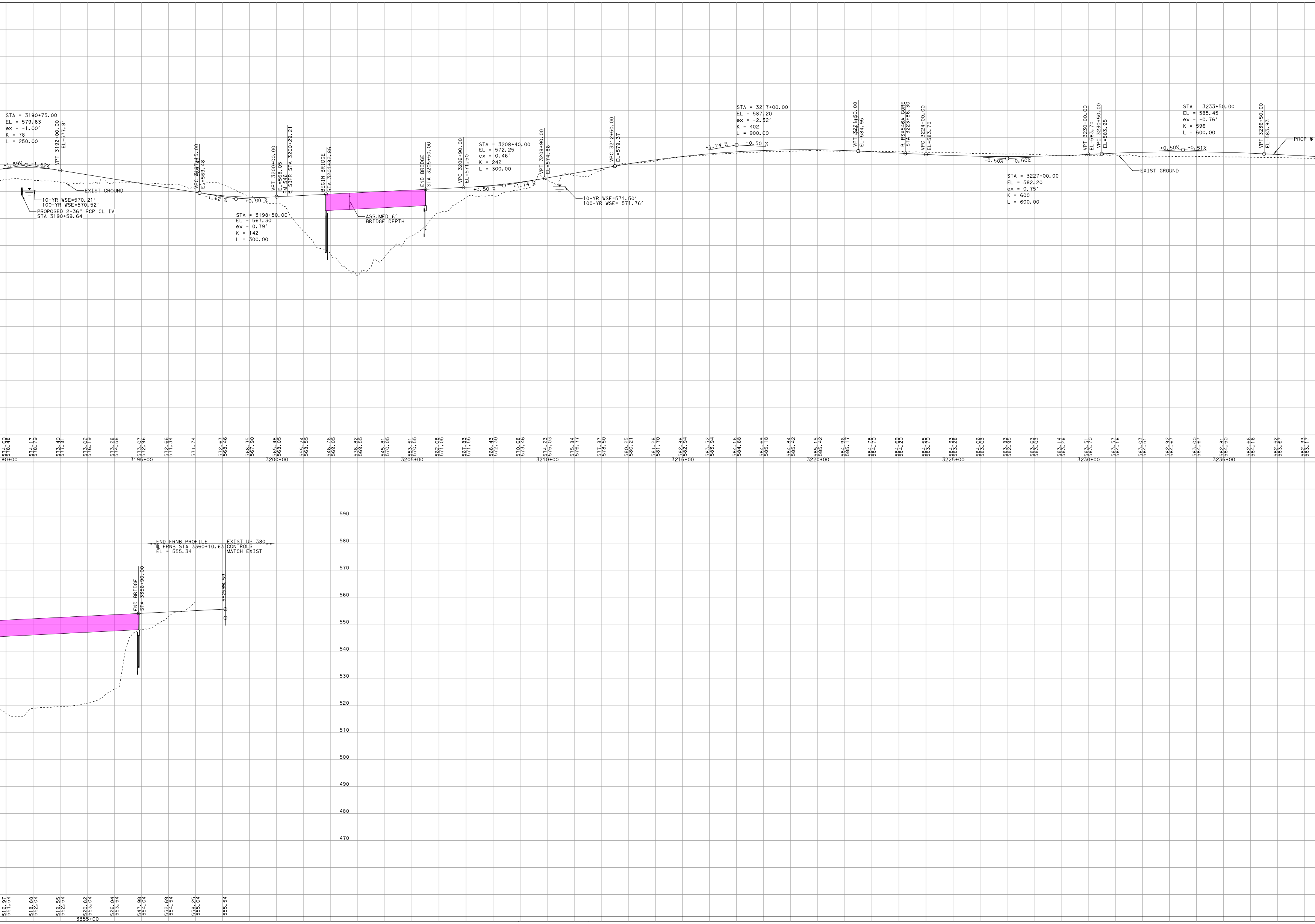
HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248-1229
972.960.4400


PROPOSED SOUTHBOUND SPUR 399 FRONTAGE ROAD (45 MPH)
620
610
600
590
580
570
560
550
540
530
520
510
500
490
EXIST FM 546 BEGIN FRSB PROFILE
CONTROLS ℄ FRSB STA 3126+52.04
MATCH EXIST EL = 585.99
585.99
+0.50%
+1.12%
VPC 3130+70.00
EL=590.52
+1.12%
℄ RSXE546 GORE
STA 3132+17.57
-1.20%
VPT 3133+80.00
EL=590.40
10-YR WSE=585.68'
100-YR WSE=585.95'
STA = 3132+25.00
EL = 592.26
ex = -0.90'
K = 134
L = 310.00
PROP ℄ FRSB PGL
VPC 3138+50.00
EL=584.76
-1.20%
+0.53%
STA = 3140+00.00
EL = 582.96
ex = 0.65'
K = 173
L = 300.00
VPT 3141+50.00
EL=583.76
VPC 3142+75.00
EL=584.42
EXIST GROUND
+0.53%
-0.50%
STA = 3145+75.00
EL = 586.01
ex = -0.77'
K = 582
L = 600.00
VPT 3148+75.00
EL=584.51
EXISTING GROUND
PROPOSED PGL
ORANGE ALTERNATIVE - PROPOSED SOUTHBOUND SPUR 399 FRONTAGE ROAD (45 MPH)
584.87 586.38
585.41 587.50
585.69 588.62
585.60 589.74
584.96 590.83
584.62 591.35
584.13 591.12
583.54 590.16
582.92 588.96
582.39 587.76
581.99 586.56
581.43 585.36
580.97 584.23
580.54 583.61
580.01 583.56
579.55 584.02
579.24 584.55
580.00 584.95
581.31 585.18
583.10 585.24
583.67 585.12
583.74 584.84
583.22 584.39
3130+00
3135+00
3140+00
3145+00

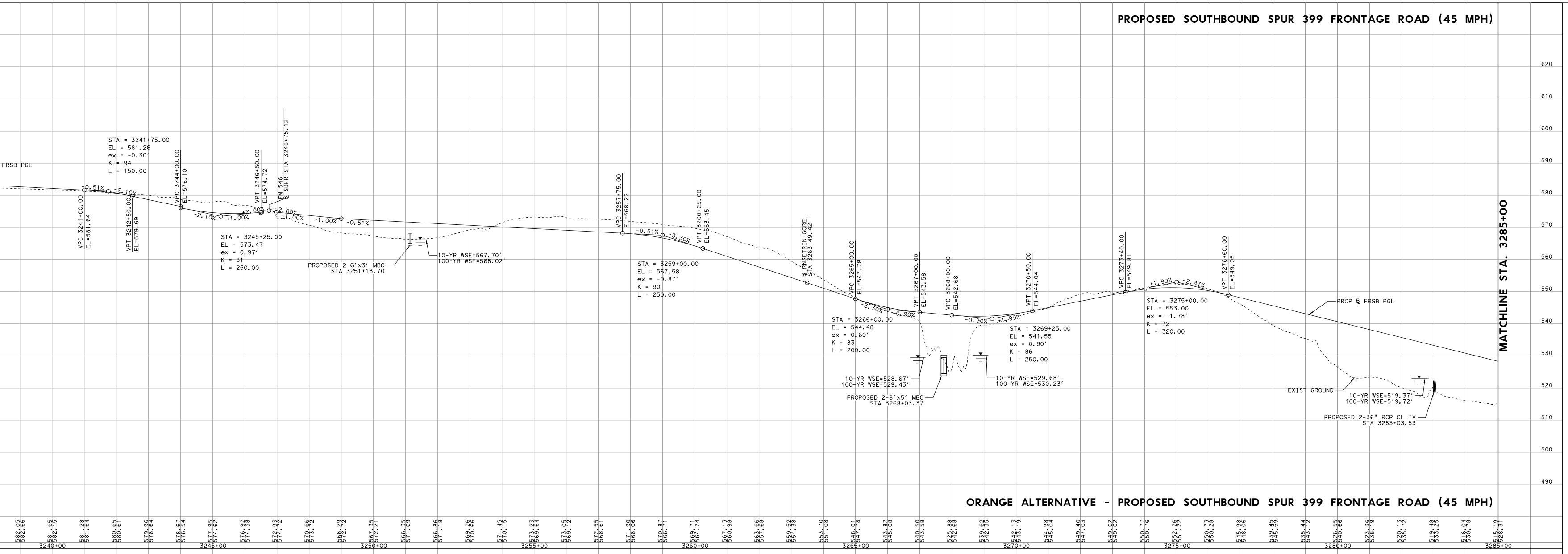

PROPOSED SOUTHBOUND SPUR 399 FRONTAGE ROAD (45 MPH)
590
580
570
560
550
540
530
520
510
500
490
480
470
MATCHLINE STA. 3285+00
10-YR WSE=517.00'
100-YR WSE=517.74'
PROPOSED 3-8'x5' MBC
STA 3286+60.00
VPC 3289+00.00
EL=518.44
PROPOSED 24" RCP
RELIEF DRAIN
STA 3290+09.82
-2.47%
+1.84%
STA = 3291+50.00
EL = 512.26
ex = 2.69'
K = 116
L = 500.00
VPT 3294+00.00
EL=516.86
10-YR WSE=517.82'
100-YR WSE=518.04'
PROPOSED 3-4'x2' MBC
STA 3297+36.87
VPC 3297+40.00
EL=523.10
+1.84%
-0.60%
STA = 3298+25.00
EL = 524.67
ex = -0.52'
K = 70
L = 170.00
VPT 3299+10.00
EL=524.16
VPC 3299+62.56
EL=523.84
-0.60%
+1.25%
STA = 3300+37.56
EL = 523.39
ex = 0.35'
K = 81
L = 150.00
VPT 3301+12.56
EL=524.33
FUTURE INTERCHANGE
℄ SBFR STA 3302+06.56
BEGIN BRIDGE
STA 3307+50.00
VPC 3310+50.00
EL=536.08
EXISTING GROUND
PROPOSED PGL
ORANGE ALTERNATIVE - PROPOSED SOUTHBOUND SPUR 399 FRONTAGE ROAD (45 MPH)
515.19 528.31
516.35 525.84
513.75 523.37
513.32 520.90
512.48 518.44
512.03 516.40
512.35 515.22
512.80 514.90
515.40 515.45
519.54 516.86
518.26 518.69
517.66 520.53
517.46 522.37
517.15 523.95
518.40 524.21
520.07 523.70
521.87 524.18
523.83 525.43
525.97 526.68
526.80 527.93
528.02 529.19
529.16 530.44
527.82 531.70
519.08 532.95
516.12 534.20
515.66 535.46
515.24 536.67
3285+00
3290+00
3295+00
3300+00
3305+00
3310+00


℄ RSEARPDR GORE STA 3151+15.32
VPC 3155+60.00 EL=581.09
-0.50%
+1.00%
+2.00%
STA = 3156+75.00
EL = 580.51
ex = 0.43′
K = 153
L = 230.00
VPT 3157+90.00 EL=581.66
AIRPORT DR ℄ SBFR STA 3158+47.92
VPT 3159+05.00 EL=581.55
-2.00 %
-1.80 %
VPC 3162+55.00 EL=575.10
10-YR WSE=560.72′
100-YR WSE= 561.52′
PROPOSED 3-6′x5′ MBC STA 3163+06.49
STA = 3165+20.00
EL = 570.32
ex = 2.85′
K = 123
L = 530.00
-1.80 %
+2.50 %
VPT 3167+85.00 EL=576.95
+2.50%
VPC 3169+35.00 EL=580.70
+2.50 %
STA = 3170+95.00
EL = 584.70
ex = -1.59′
K = 81
L = 320.00
-1.47 %
VPT 3172+55.00 EL=582.35
VPC 3176+25.00 EL=576.92
-1.47 %
STA = 3177+00.00
EL = 575.82
ex = -0.21′
K = 132
L = 150.00
VPT 3177+75.00 EL=573.87
-2.60 %
VPC 3179+55.00 EL=569.19
-2.60%
+1.59%
STA = 3181+25.00
EL = 564.77
ex = 1.78′
K = 81
L = 340.00
VPT 3182+95.00 EL=567.47
PROPOSED 3-10′x5′ MBC STA 3183+36.34
10-YR WSE=555.95′
100-YR WSE=556.82′
FM 546 ℄ FRSB STA 3185+64.32
℄ RSE546A GORE STA 3188+00.60
PROP ℄ FRSB PGL
VPC 3189+50.00 EL=577.85
583.62 583.89
583.41 583.39
582.92 582.89
582.58 582.39
583.09 581.89
580.90 581.39
581.61 580.94
581.42 581.02
580.95 581.76
580.22 581.65
579.93 579.70
574.90 577.90
569.89 576.09
562.25 574.37
563.49 573.34
567.99 573.12
571.81 573.71
576.73 575.12
578.13 577.32
578.12 579.82
578.66 582.06
578.69 583.14
578.43 582.97
577.53 581.69
576.82 580.22
576.47 578.76
576.04 577.29
576.07 575.61
575.38 573.22
573.23 570.62
569.50 568.15
563.96 566.72
557.85 566.52
552.29 567.55
555.18 569.13
559.91 570.72
566.65 572.30
572.44 573.89
572.31 575.47
573.73 577.06
3150+00
3155+00
3160+00
3165+00
3170+00
3175+00
3180+00
3185+00


+1.25 %
STA = 3313+00.00
EL = 539.22
ex = -1.11′
K = 282
L = 500.00
-0.52 %
VPT 3315+50.00 EL=537.91
PROP ℄ FRSB PGL
VPC 3318+55.00 EL=536.33
-0.52 %
STA = 3320+05.00
EL = 535.55
ex = 0.38′
K = 294
L = 300.00
+0.50 %
VPT 3321+55.00 EL=536.30
EXIST GROUND
ASSUMED 6′ BRIDGE DEPTH
℄ RSTRANS GORE STA 3342+62.76
PROP ℄ FRSB PGL
EXIST GROUND
515.04 537.56
515.12 538.11
514.90 538.30
515.25 538.13
515.65 537.65
515.60 537.13
515.75 536.61
515.66 536.13
515.65 535.93
514.79 536.08
515.67 536.54
516.40 537.04
516.74 537.54
517.10 538.04
517.20 538.54
517.16 539.04
516.86 539.54
516.97 540.04
516.97 540.54
503.60 541.04
517.47 541.54
516.62 542.04
516.65 542.54
516.21 543.04
517.14 543.54
517.35 544.04
516.67 544.54
517.22 545.04
517.41 545.54
516.65 546.04
516.00 546.54
517.34 547.04
517.44 547.54
517.66 548.04
517.73 548.54
517.47 549.04
517.89 549.54
518.02 550.04
518.20 550.54
518.29 551.04
3315+00
3320+00
3325+00
3330+00
3335+00
3340+00
3345+00
3350+00


STA = 3190+75.00
EL = 579.83
ex = -1.00′
K = 78
L = 250.00
+1.59%
-1.62%
VPT 3192+00.00
EL=577.81
EXIST GROUND
10-YR WSE=570.21′
100-YR WSE=570.52′
PROPOSED 2-36" RCP CL IV
STA 3190+59.64
VPC 3197+45.00
EL=569.48
-1.62 %
+0.50 %
STA = 3198+50.00
EL = 567.30
ex = 0.79′
K = 142
L = 300.00
VPT 3200+00.00
EL=568.05
FM 546
℄ SBFR STA 3200+29.21
BEGIN BRIDGE
STA 3201+82.86
ASSUMED 6′
BRIDGE DEPTH
END BRIDGE
STA 3205+50.00
VPC 3206+90.00
EL=571.50
+0.50 %
STA = 3208+40.00
EL = 572.25
ex = 0.46′
K = 242
L = 300.00
+1.74 %
VPT 3209+90.00
EL=574.86
10-YR WSE=571.50′
100-YR WSE= 571.76′
VPC 3212+50.00
EL=579.37
STA = 3217+00.00
EL = 587.20
ex = -2.52′
K = 402
L = 900.00
+1.74 %
-0.50 %
VPT 3221+50.00
EL=584.95
℄ RSX546A GORE
STA 3223+86.30
VPC 3224+00.00
EL=583.70
-0.50%
+0.50%
STA = 3227+00.00
EL = 582.20
ex = 0.75′
K = 600
L = 600.00
VPT 3230+00.00
EL=583.70
VPC 3230+50.00
EL=583.95
EXIST GROUND
STA = 3233+50.00
EL = 585.45
ex = -0.76′
K = 596
L = 600.00
+0.50%
-0.51%
VPT 3236+50.00
EL=583.93
PROP ℄
574.60 578.48
574.17 578.79
573.40 577.81
573.02 576.19
573.28 574.58
573.07 572.96
572.66 571.34
571.74
572.63 568.46
568.35 567.90
565.48 568.05
555.24 568.55
546.76 569.05
538.82 569.55
545.81 570.05
553.51 570.55
562.08 571.05
567.83 571.55
568.43 572.30
570.68 573.46
574.23 575.03
575.84 576.77
577.87 578.50
580.25 580.21
581.28 581.70
582.88 582.94
583.52 583.94
584.16 584.68
584.69 585.18
584.84 585.42
585.15 585.42
584.96 585.17
584.78 584.70
584.69 584.20
584.55 583.70
584.33 583.28
584.06 583.03
583.83 582.95
583.63 583.03
583.14 583.28
583.51 583.70
583.57 584.18
583.03 584.51
582.92 584.67
583.00 584.67
582.81 584.50
582.66 584.16
582.52 583.67
582.33 583.17
90+00
3195+00
3200+00
3205+00
3210+00
3215+00
3220+00
3225+00
3230+00
3235+00
END FRNB PROFILE
℄ FRNB STA 3360+10.63
EL = 555.34
EXIST US 380
CONTROLS
MATCH EXIST
END BRIDGE
STA 3356+90.00
552.59
555.54
590
580
570
560
550
540
530
520
510
500
490
480
470
516.97 551.54
518.88 552.04
519.55 552.54
520.82 553.04
526.04 553.54
547.98 554.04
552.69 554.54
558.25 555.04
555.54
3355+00

## PROPOSED SOUTHBOUND SPUR 399 FRONTAGE ROAD (45 MPH)


FRSB PGL
STA = 3241+75.00
EL = 581.26
ex = -0.30'
K = 94
L = 150.00
VPC 3241+00.00
EL=581.64
-0.51%
-2.10%
VPT 3242+50.00
EL=579.69
VPC 3244+00.00
EL=576.10
-2.10%
+1.00%
VPT 3246+50.00
EL=574.72
FM 546
℄ SBFR STA 3246+75.12
+2.00%
-2.00%
-1.00%
-1.00%
-0.51%
STA = 3245+25.00
EL = 573.47
ex = 0.97'
K = 81
L = 250.00
PROPOSED 2-6'x3' MBC
STA 3251+13.70
10-YR WSE=567.70'
100-YR WSE=568.02'
VPC 3257+75.00
EL=568.22
-0.51%
-3.30%
VPT 3260+25.00
EL=563.45
STA = 3259+00.00
EL = 567.58
ex = -0.87'
K = 90
L = 250.00
℄ RNSETRIN GORE
STA 3263+49.42
VPC 3265+00.00
EL=547.78
-3.30%
-0.90%
STA = 3266+00.00
EL = 544.48
ex = 0.60'
K = 83
L = 200.00
VPT 3267+00.00
EL=543.58
VPC 3268+00.00
EL=542.68
-0.90%
+1.99%
VPT 3270+50.00
EL=544.04
STA = 3269+25.00
EL = 541.55
ex = 0.90'
K = 86
L = 250.00
10-YR WSE=528.67'
100-YR WSE=529.43'
PROPOSED 2-8'x5' MBC
STA 3268+03.37
10-YR WSE=529.68'
100-YR WSE=530.23'
VPC 3273+40.00
EL=549.81
+1.99%
-2.47%
VPT 3276+60.00
EL=549.05
STA = 3275+00.00
EL = 553.00
ex = -1.78'
K = 72
L = 320.00
PROP ℄ FRSB PGL
EXIST GROUND
10-YR WSE=519.37'
100-YR WSE=519.72'
PROPOSED 2-36" RCP CL IV
STA 3283+03.53
MATCHLINE STA. 3285+00
620
610
600
590
580
570
560
550
540
530
520
510
500
490
582.05 582.66
581.65 582.15
581.28 581.64
580.65 580.61
579.96 578.64
578.67 576.54
577.95 574.62
576.92 574.38
572.93 574.72
570.66 573.72
568.29 572.72
567.35 572.21
566.35 571.69
566.86 571.18
569.26 570.66
571.45 570.15
573.23 569.64
573.05 569.12
572.55 568.61
571.90 568.06
570.87 566.71
569.71 564.24
567.13 560.98
563.66 557.68
559.52 554.38
553.70 551.08
548.01 547.78
543.82 545.08
540.50 543.58
525.88 542.68
539.62 542.35
542.13 543.19
544.98 545.04
549.40 547.03
549.62 549.02
550.77 550.76
552.26 551.22
550.73 550.28
545.98 548.06
539.45 545.59
535.44 543.12
526.55 540.66
523.36 538.19
520.13 535.72
519.48 533.25
516.04 530.78
515.19 528.31
3240+00
3245+00
3250+00
3255+00
3260+00
3265+00
3270+00
3275+00
3280+00
3285+00

## ORANGE ALTERNATIVE - PROPOSED SOUTHBOUND SPUR 399 FRONTAGE ROAD (45 MPH)

© 2022

Texas Department of Transportation

# DALLAS DISTRICT DESIGN SCHEMATIC

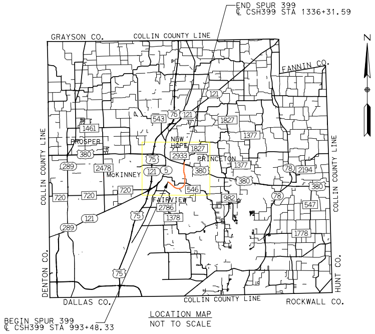
CEASON CLEMENS, P.E.
DALLAS DISTRICT ENGINEER

# 90% DESIGN SCHEMATIC SPUR 399 EXTENSION

CSJ: 0364-04-051, 0047-05-058 & 0047-10-002
FROM: US 75
TO: US 380
COLLIN COUNTY
FUNCTIONAL CLASS: URBAN FREEWAY
ORANGE ALTERNATIVE LENGTH: 7.0 MILES

## DESIGN SPEEDS

| | |
|---|---|
| MAINLANES (FREEWAY): | 70 MPH |
| GENERAL RAMPS (PRINCIPAL ARTERIAL): | 40-50 MPH |
| FRONTAGE ROADS (COLLECTOR): | 35-45 MPH |
| CROSS STREETS (MAJOR COLLECTOR): | 30 MPH |


END SPUR 399
℄ CSH399 STA 1336+31.59
GRAYSON CO.
COLLIN COUNTY LINE
FANNIN CO.
N
121
543
75
121
1827
1461
1377
PROSPER
NEW HOPE
1827
2933
PRINCETON
380
75
1377
78
2194
289
2478
121
5
380
McKINNEY
380
380
720
720
720
546
FAIRVIEW
982
78
547
2786
121
75
1378
1778
289
75
COLLIN COUNTY LINE
DENTON CO.
HUNT CO.
DALLAS CO.
COLLIN COUNTY LINE
ROCKWALL CO.
BEGIN SPUR 399
℄ CSH399 STA 993+48.33

LOCATION MAP
NOT TO SCALE

SCALE: HORIZONTAL 1"=100'
SCALE: VERTICAL 1"=10'

0 100 200 300 400
HORIZ. SCALE IN FEET

0 10 20 30 40
VERT. SCALE IN FEET

© 2022 by Texas Department of Transportation all rights reserved

NOVEMBER 2022

PRELIMINARY
SUBJECT TO REVISIONS

SCHEMATIC PREPARED BY:
DAVID SUTTON 120142
NAME P.E. NUMBER
NOVEMBER 2022
DATE

NOT INTENDED FOR CONSTRUCTION,
BIDDING, OR PERMIT PURPOSES

ROLL 6 OF 8

HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248-1229
972.960.4400