Texas Department of Transportation ®

DALLAS DISTRICT
WILLIAM L. HALE, P.E., DISTRICT ENGINEER

STATE HIGHWAY 114
DESIGN SCHEMATIC
AT FM 156
DENTON COUNTY
PROJECT LENGTH: 1.079 MI.

CONTROL: 0353–02–063
PROJECT LIMIT: AT FM 156
FROM 0.53 Mi. WEST OF FM 156
TO 0.54 Mi. EAST OF FM 156

FUNCTIONAL CLASS: RURAL PRINCIPAL ARTERIAL

DESIGN SPEED SH 114: 70 mph MAINLANES
DESIGN SPEED FM 156: 45 mph DIVIDED ARTERIAL
DESIGN SPEED SH 114: 40 mph FRONTAGE ROADS
DESIGN SPEED SH 114: 50 mph RAMPS
DESIGN SPEED SH 114: 35 mph DIRECT CONNECTORS
DESIGN SPEED SH 114: 30 mph SIDE STREETS

ROLL 3 OF 3

SCALE: 1" = 200' H, 1" = 20' V

JANUARY 18, 2013

HALFF ASSOCIATES, INC.
PRELIMINARY FOR INTERIM REVIEW ONLY

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

NAME	P.E. NO.	DATE
M.E. ROMANOWSKI	56306	1/18/2013

TBPE FIRM #F-312

HALFF
1201 NORTH BOWSER ROAD
RICHARDSON, TEXAS 75081-2275
TEL (214) 346-6200

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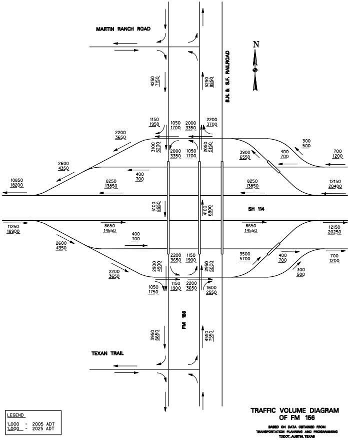
LEGEND

— - - — - - —	EXISTING R.OW.
— - - — - - —	PROPOSED R.OW.
→	DIRECTION OF TRAFFIC
— - · — - · —	EXISTING PROPERTY LINE
———————	EXISTING LOT LINE
— — — — —	FUTURE LOT LINE
▨	ROW AQUISITION
— - — - —	GRADING LIMITS
———————	SURVEY LINE
— - — - —	CITY LIMITS
— - — - —	100 FLOODPLAIN LIMITS
〰 548 〰	100 YR FLOOD ELEVATION
—— 12" W ——	EXISTING WATER LINE
—— GAS ——	EXISTING GAS LINE
— — · 8" SS — —	EXISTING SANITARY SEWER
═══════	EXISTING STORM SEWER
—— FIBER OPTIC ——	EXISTING FIBER OPTICS
•	EXISTING POWER POLE
○MH	EXISTING SANITARY SEWER MANHOLE
- - - - - - -	EXISTING CONTOURS
	EXISTING PAVEMENT EDGES
— — — — —	EXISTING UTILITY EASEMENTS
— - — - —	PROPOSED SH 114 CENTERLINE
— — — — —	PROPOSED DRAINAGE EASEMENT
—‖——‖——‖—	PROPOSED CONTROL OF ACCESS
———————	PROPOSED RETAINING WALL
═══════	PROPOSED STORM SEWER
🟨	PROPOSED MAINLANES PAVEMENT
🟥	PROPOSED FUTURE MAINLANES PAVEMENT
🟩	PROPOSED FUTURE RAMP PAVEMENT
⬜	PROPOSED FRONTAGE ROAD PAVEMENT
🟧	PROPOSED SIDE STREET PAVEMENT
🟨	PROPOSED FM 156 PAVEMENT
🟧	PROPOSED BRIDGE
🟫	PROPOSED FUTURE BRIDGE

NOTES

1.) THE FLOODPLAIN BOUNDARY LIMITS WERE OBTAINED FROM FIRM COMMUNITY-PANEL NUMBERS:

48121C0490 G, APRIL 18, 2011
48121C0495 G, APRIL 18, 2011

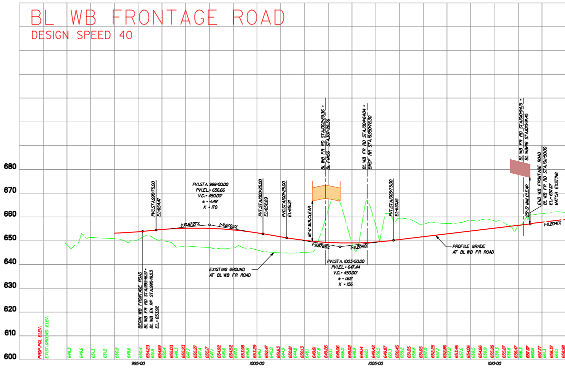

MARTIN RANCH ROAD
B.N. & S.F. RAILROAD
N
SH 114
FM 156
TEXAN TRAIL
4250
7150
5250
8850
1150
1950
1050
1700
2000
3350
2200
3700
2200
3650
3100
5200
2000
3350
1050
1700
2050
5150
3900
6550
300
500
400
700
700
1200
2600
4350
400
700
10850
18200
8250
13850
8250
13850
12150
20400
5100
8550
4100
6900
11250
18900
8650
14550
8650
14550
12150
20250
400
700
2600
4350
2200
3650
1150
1900
2900
4900
2950
5000
3500
5700
400
700
700
1200
300
500
2200
3650
1050
1750
1150
1900
2200
3650
1600
2550
3950
6650
4550
7550
LEGEND
1,000 - 2005 ADT
1,000 - 2025 ADT

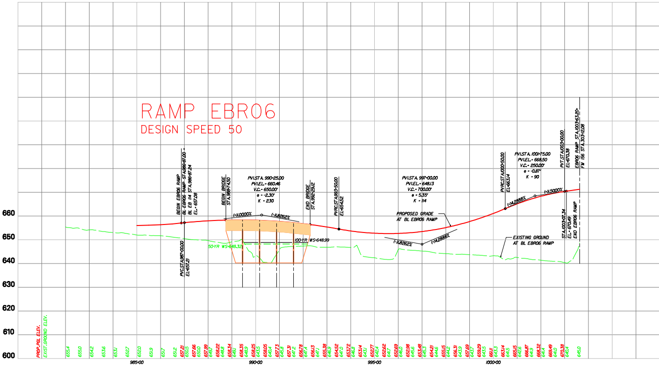
TRAFFIC VOLUME DIAGRAM
OF FM 156

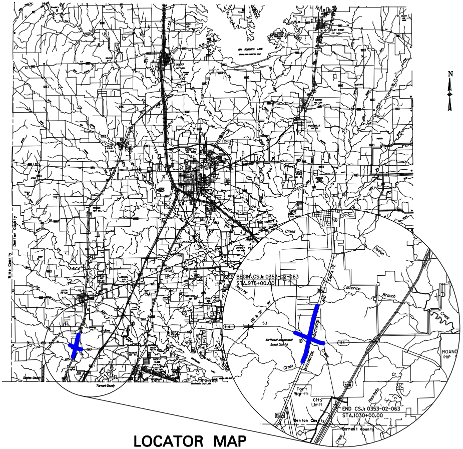
BASED ON DATA OBTAINED FROM
TRANSPORTATION PLANNING AND PROGRAMMING
TXDOT, AUSTIN, TEXAS

TRAFFIC DIAGRAM

N.T.S.

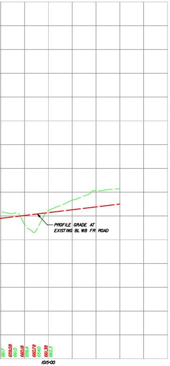

BL WB FRONTAGE ROAD
DESIGN SPEED 40
680
670
660
650
640
630
620
610
600
PROP. PGL ELEV.
EXIST. GROUND ELEV.
995+00
1000+00
1005+00
1010+00
BEGIN WB FRONTAGE ROAD
BL WB FR RD STA.995+18.51 =
BL WB EN RP STA.995+19.53
EL.= 653.92
PVC.STA.995+75.00
EL=654.47
PVI.STA. 998+00.00
PVI.EL.= 656.66
V.C.= 450.00'
e = -1.49'
K = 170
(+)0.9127%
(-)1.6765%
PVT.STA.1000+25.00
EL=652.89
PVC.STA.1001+25.00
EL=651.21
EXISTING GROUND
AT BL WB FR ROAD
16'-1" MIN. CLEAR
BL WB FR RD STA.1002+89.36 =
BL FM156 STA.307+28.36
(-)1.6765%
(+)1.2041%
PVI.STA. 1003+50.00
PVI.EL.= 647.44
V.C.= 450.00'
e = 1.62'
K = 156
BL WB FR RD STA.1004+64.04 =
BNSF RR STA.19350+78.30
PVT.STA.1005+75.00
EL=650.15
PROFILE GRADE
AT BL WB FR ROAD
BL WB FR RD STA.1010+94.15 =
BL WBR16 STA.1010+91.45
25'-5" MIN. CLEAR
END WB FRONTAGE ROAD
BL WB FR RD STA.1011+50.00
EL.= 657.07
MATCH EXISTING
(+)1.2041%

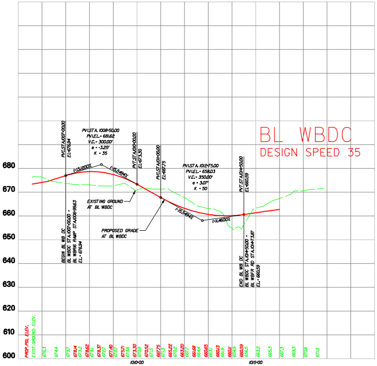

RAMP EBR06
DESIGN SPEED 50
660
650
640
630
620
610
600
PROP. PGL ELEV.
EXIST. GROUND ELEV.
985+00
990+00
995+00
1000+00
BEGIN EBR06 RAMP
BL EBR06 RAMP STA.986+87.00 =
BL EB 114 STA.986+87.24
EL.= 657.08
PVC.STA.987+00.00
EL=657.21
BEGIN BRIDGE
STA.988+74.50
PVI.STA. 990+25.00
PVI.EL.= 660.46
V.C.= 650.00'
e = -2.30'
K = 230
(+)1.0000%
(-)1.8262%
50-YR WS=648.32
100-YR WS=648.99
END BRIDGE
STA.992+29.12
PVRC.STA.993+50.00
EL=654.52
PVI.STA. 997+00.00
PVI.EL.= 648.13
V.C.= 700.00'
e = 5.35'
K = 114
PROPOSED GRADE
AT BL EBR06 RAMP
(-)1.8262%
(+)4.2888%
PVRC.STA.1000+50.00
EL=663.14
(+)4.2888%
PVI.STA. 1001+75.00
PVI.EL.= 668.50
V.C.= 250.00'
e = -0.87'
K = 90
(+)1.5000%
PVT.STA.1003+00.00
EL=670.38
EXISTING GROUND
AT BL EBR06 RAMP
STA.1003+07.34
EL.= 670.49
END EBR06 RAMP
EBR06 RAMP STA.1003+63.20=
FM 156 STA.303+12.08

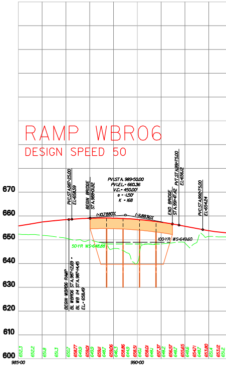

N
BEGIN CSJ: 0353-02-063
STA.975+00.00
END CSJ: 0353-02-063
STA.1030+00.00
DENTON
Denton County
Tarrant County
Wise County
ROANOKE
Fort Worth City Limit
Northwest Independent School District
Catherine Branch
Creek
114
156
NORTHERN
SANTA FE
BN & SF RY

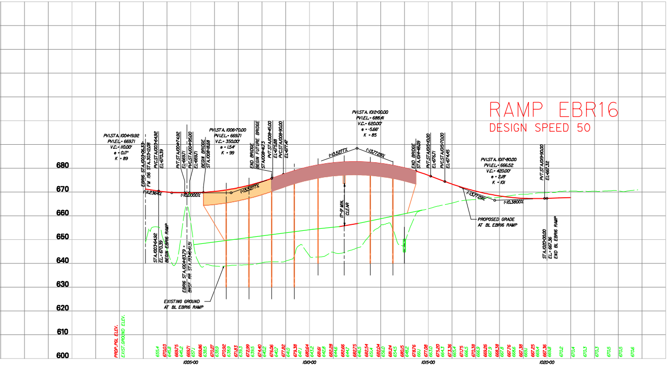
LOCATOR MAP

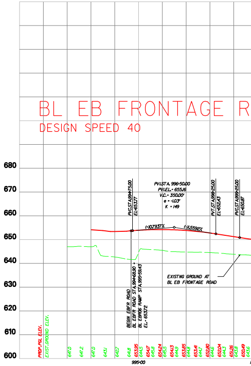
N.T.S.

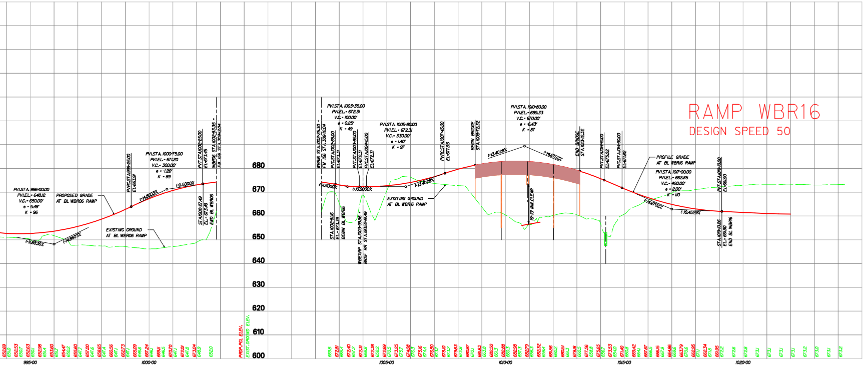

PROFILE GRADE AT
EXISTING BL WB FR ROAD
1015+00

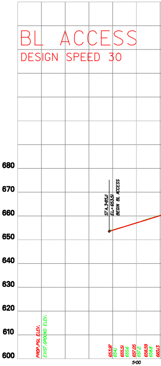

BL WBDC
DESIGN SPEED 35
680
670
660
650
640
630
620
610
600
PROP. PGL ELEV.
EXIST. GROUND ELEV.
PVC.STA.1007+00.00
EL=676.94
PVI.STA. 1008+50.00
PVI.EL.= 681.62
V.C.= 300.00'
e = -3.25'
K = 35
(+)3.1200%
(-)15.5494%
PVT.STA.1010+00.00
EL=673.30
PVC.STA.1011+00.00
EL=667.75
PVI.STA. 1012+75.00
PVI.EL.= 658.03
V.C.= 350.00'
e = 3.07'
K = 50
(-)15.5494%
(+)1.4600%
PVT.STA.1014+50.00
EL=660.59
EXISTING GROUND
AT BL WBDC
PROPOSED GRADE
AT BL WBDC
BEGIN BL WB DC
BL WBDC STA.1007+00.00 =
BL WBR16 RAMP STA.1006+99.63
EL.= 676.94
END BL WB DC
BL WBDC STA.1014+50.00 =
BL WBFR RD STA.1014+73.87
EL.= 660.59
1010+00
1015+00

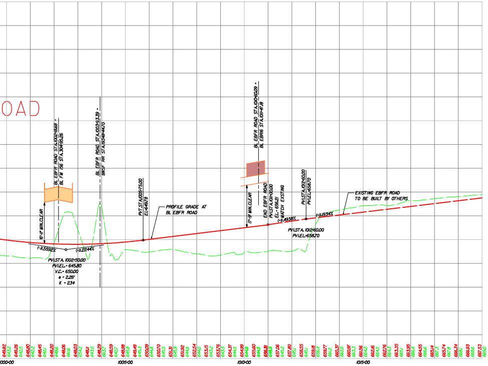

RAMP WBR06
DESIGN SPEED 50
670
660
650
640
630
620
610
600
PVC.STA.987+25.00
EL=658.59
BEGIN BRIDGE
STA.988+01.92
PVI.STA. 989+50.00
PVI.EL.= 660.36
V.C.= 450.00'
e = -1.50'
K = 168
(+)0.7880%
(-)1.8836%
END BRIDGE
STA.991+47.42
PVT.STA.991+75.00
EL=656.12
PVC.STA.992+75.00
EL=654.24
100-YR WS=649.60
50-YR WS=648.88
BEGIN WBR06 RAMP
BL WBR06 STA.987+12.69 =
BL WB 114 STA.987+14.45
EL.= 658.49
985+00
990+00

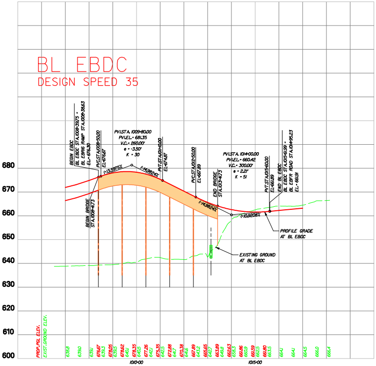

RAMP EBR16
DESIGN SPEED 50
680
670
660
650
640
630
620
610
600
PROP. PGL ELEV.
EXIST. GROUND ELEV.
PVI.STA. 1004+19.92
PVI.EL.= 669.71
V.C.= 110.00'
e = 0.17'
K = 89
EBR16 STA.1003+06.33=
FM 156 STA.303+12.08
PVC.STA.1003+64.92
EL=670.39
(-)1.2364%
PVT.STA.1004+74.92
EL=669.71
PVC.STA.1004+95.00
EL=669.71
(+)0.0000%
BEGIN BRIDGE
STA.1008+18.68
PVI.STA. 1006+70.00
PVI.EL.= 669.71
V.C.= 350.00'
e = 1.54'
K = 99
(+)3.5277%
END BRIDGE
BEGIN FUTURE BRIDGE
STA.1008+41.73
PVT.STA.1008+45.00
EL=675.88
PVC.STA.1008+90.00
EL=677.47
PVI.STA. 1012+00.00
PVI.EL.= 688.41
V.C.= 620.00'
e = -5.66'
K = 85
(+)3.5277%
(-)3.7729%
17'-9" MIN.
CLEAR
END BRIDGE
STA.1014+48.09
PVT.STA.1015+10.00
EL=676.71
PVC.STA.1015+70.00
EL=674.45
PVI.STA. 1017+80.00
PVI.EL.= 666.52
V.C.= 420.00'
e = 2.18'
K = 101
(-)3.7729%
(+)0.3800%
PVT.STA.1019+90.00
EL=667.32
PROPOSED GRADE
AT BL EBR16 RAMP
STA.1003+64.92
EL.= 670.39
BEGIN EBR16 RAMP
EBR16 STA.1004+83.79 =
BNSF RR STA.19346+61.51
EXISTING GROUND
AT BL EBR16 RAMP
STA.1020+00.00
EL.= 667.36
END BL EBR16 RAMP
1005+00
1010+00
1015+00
1020+00

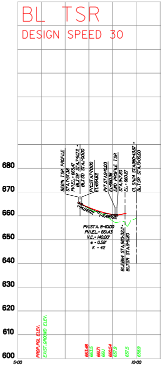

BL EB FRONTAGE R
DESIGN SPEED 40
680
670
660
650
640
630
620
610
600
PROP. PGL ELEV.
EXIST. GROUND ELEV.
PVC.STA.994+75.00
EL=653.77
PVI.STA. 996+50.00
PVI.EL.= 655.16
V.C.= 350.00'
e = -1.03'
K = 149
(+)0.7937%
(-)1.5592%
PVT.STA.998+25.00
EL=652.43
PVC.STA.999+25.00
EL=650.87
EXISTNG GROUND AT
BL EB FRONTAGE ROAD
BEGIN EBFR ROAD
BL EBFR ROAD STA.994+68.90 =
BL EBR06 RAMP STA.995+59.43
EL.= 653.72
995+00

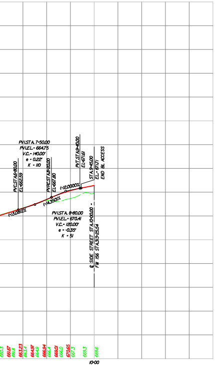

PVI.STA. 996+00.00
PVI.EL.- 648.12
V.C.- 650.00'
e - 5.48'
K - 96
(-)1.8836%
(+)4.8603%
PROPOSED GRADE AT BL WBR06 RAMP
EXISTING GROUND AT BL WBR06 RAMP
PVRC.STA.999+25.00 EL-663.91
(+)4.8603%
PVI.STA. 1000+75.00
PVI.EL.- 671.20
V.C.- 300.00'
e - -1.26'
K - 89
(+)1.5000%
PVT.STA.1002+25.00 EL-673.45
STA.1002+27.49 EL.- 673.49 END BL WBR06
WBR06 STA.1002+83.35 - FM 156 STA.309+12.04
680
670
660
650
640
630
620
610
600
PROP. PGL ELEV.
EXIST. GROUND ELEV.
995+00
1000+00
WBR16 STA.1002+25.30 - FM 156 STA.309+12.04
PVC.STA.1002+85.00 EL-673.31
STA.1002+81.16 EL.- 673.39 BEGIN BL WBR16
PVI.STA. 1003+35.00
PVI.EL.- 672.31
V.C.- 100.00'
e - 0.25'
K - 49
(-)1.5000%
(+)0.0000%
PVT.STA.1003+85.00 EL-672.31
PVC.STA.1004+15.00 EL-672.31
WBEXRP STA.1003+99.96 - BNSF RR STA.19352+61.49
PVI.STA. 1005+80.00
PVI.EL.- 672.31
V.C.- 330.00'
e - 1.40'
K - 97
(+)3.4028%
EXISTING GROUND AT BL WBR16 RAMP
PVRC.STA.1007+45.00 EL-677.93
BEGIN BRIDGE STA.1008+72.32
(+)3.4028%
PVI.STA. 1010+80.00
PVI.EL.- 689.33
V.C.- 670.00'
e - -6.43'
K - 87
(-)4.2702%
16'-10" MIN.CLEAR
END BRIDGE STA.1013+12.32
PVT.STA.1014+15.00 EL-675.02
PVC.STA.1014+90.00 EL-671.82
PROFILE GRADE AT BL WBR16 RAMP
PVI.STA. 1017+00.00
PVI.EL.- 662.85
V.C.- 420.00'
e - 2.00'
K - 110
(-)4.2702%
(-)0.4529%
PVT.STA.1019+10.00 EL-661.90
STA.1019+10.26 EL.- 661.90 END BL WBR16
RAMP WBR16
DESIGN SPEED 50
1005+00
1010+00
1015+00
1020+00

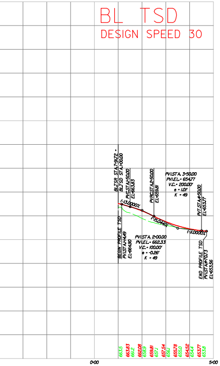

BL ACCESS
DESIGN SPEED 30
680
670
660
650
640
630
620
610
600
PROP. PGL ELEV.
EXIST. GROUND ELEV.
STA.3+85.11 EL.- 653.51 BEGIN BL ACCESS
5+00


OAD
16'-11" MIN.CLEAR
BL EBFR ROAD STA.1002+18.68 - BL FM 156 STA.304+95.26
BL EBFR ROAD STA.1003+93.39 - BNSF RR STA.19348+44.70
(-)1.5592%
(+)1.2244%
PVI.STA. 1002+50.00
PVI.EL.- 645.80
V.C.- 650.00
e - 2.26'
K - 234
PVT.STA.1005+75.00 EL-649.78
PROFILE GRADE AT BL EBFR ROAD
17'-9" MIN.CLEAR
BL EBFR ROAD STA.1010+60.09 - BL EBR16 STA.1011+47.18
END EBFR ROAD
PVI.STA.1011+00.00
EL.- 656.21
MATCH EXSTING
(+)1.4938%
PVI.STA.1012+60.00 PVI.EL.-658.70
PVI.STA. 1012+60.00
PVI.EL.-658.70
(+)1.1934%
EXISTING EBFR ROAD TO BE BUILT BY OTHERS
1000+00
1005+00
1010+00
1015+00


BL EBDC
DESIGN SPEED 35
680
670
660
650
640
630
620
610
600
PROP. PGL ELEV.
EXIST. GROUND ELEV.
BEGIN EBDC
BL EBDC STA.1008+39.75 - BL EBR16 RAMP STA.1008+38.63 EL.- 676.30
PVC.STA.1008+50.00 EL-676.67
BEGIN BRIDGE STA.1008+41.73
(+)3.5975%
PVI.STA. 1009+80.00
PVI.EL.- 681.35
V.C.- 260.00'
e - -3.50'
K - 30
(-)4.9824%
PVT.STA.1011+10.00 EL-674.87
PVC.STA.1012+50.00 EL-667.89
(-)4.9824%
END BRIDGE STA.1013+41.73
PVI.STA. 1014+00.00
PVI.EL.- 660.42
V.C.- 300.00'
e - 2.21'
K - 51
(+)0.9208%
PVT.STA.1015+60.00 EL-661.89
END BL EBDC
BL EBDC STA.1015+61.99 - BL EBFR ROAD STA.1014+95.23 EL.- 661.91
PROFILE GRADE AT BL EBDC
EXISTING GROUND AT BL EBDC
1010+00
1015+00


BL TSR
DESIGN SPEED 30
680
670
660
650
640
630
620
610
600
PROP. PGL ELEV.
EXIST. GROUND ELEV.
BEGIN TSR PROFILE
STA.7+57.38
PVI.EL.- 665.47
BLTSR STA.7+91.72 - BLTSD STA.1+00.00
PVC.STA.7+70.00 EL-664.82
PVT.STA.9+10.00 EL-660.38
END PROFILE TSR
STA.9+17.80 EL.- 660.27
CL SH114 STA.980+43.67 - BLTSR STA.10+00.00
(-)4.8410%
(-)1.4999%
PVI.STA. 8+40.00
PVI.EL.- 661.43
V.C.- 140.00'
e - 0.58'
K - 42
BLEB114 STA.980+32.11 - BLTSR STA.9+51.80
5+00
10+00


PVI.STA. 7+50.00
PVI.EL.- 664.75
V.C.- 140.00'
e - 0.22'
K - 110
PVC.STA.6+80.00
EL-662.59
PVRC.STA.8+20.00
EL-667.80
PVT.STA.9+40.00
EL-671.61
STA.9+45.00
EL.- 671.71
END BL ACCESS
(+)3.0812%
(+)4.3501%
(+)2.0000%
PVI.STA. 8+80.00
PVI.EL.- 670.41
V.C.- 120.00'
e - -0.35'
K - 51
℄ SIDE STREET STA.10+00.00 -
FM 156 STA.313+25.54
661.67
661.8
663.23
663.4
664.97
664.9
666.94
666.4
669.01
666.0
670.65
667.3
669.3
669.6
10+00


BL TSD
DESIGN SPEED 30
BL TSR STA.7+91.72 -
BL TSD STA.1+00.00
PVC.STA.1+50.00
EL-663.83
PVRC.STA.2+50.00
EL-659.81
PVI.STA. 3+50.00
PVI.EL.- 654.77
V.C.- 200.00'
e - 1.01'
K - 49
PVT.STA.4+50.00
EL-653.77
(-)3.0000%
(-)5.0441%
(-)1.0000%
BEGIN PROFILE TSD
PVI.STA.1+14.49
EL-664.90
PVI.STA. 2+00.00
PVI.EL.- 662.33
V.C.- 100.00'
e - -0.26'
K - 49
END PROFILE TSD
PVI.STA.4+70.73
EL-653.56
663.5
663.83
661.2
662.08
658.9
659.81
657.1
657.54
656.1
655.78
655.0
654.52
654.4
653.77
653.8
0+00
5+00

Texas Department of Transportation®

DALLAS DISTRICT
WILLIAM L. HALE, P.E., DISTRICT ENGINEER

STATE HIGHWAY 114
DESIGN SCHEMATIC
AT FM 156
DENTON COUNTY
PROJECT LENGTH: 1.079 MI.

CONTROL: 0353–02–063
PROJECT LIMIT: AT FM 156
FROM 0.53 Mi. WEST OF FM 156
TO 0.54 Mi. EAST OF FM 156

FUNCTIONAL CLASS: RURAL PRINCIPAL ARTERIAL

DESIGN SPEED SH 114: 70 mph MAINLANES
DESIGN SPEED FM 156: 45 mph DIVIDED ARTERIAL
DESIGN SPEED SH 114: 40 mph FRONTAGE ROADS
DESIGN SPEED SH 114: 50 mph RAMPS
DESIGN SPEED SH 114: 35 mph DIRECT CONNECTORS
DESIGN SPEED SH 114: 30 mph SIDE STREETS

ROLL 3 OF 3

SCALE: 1" = 200' H, 1" = 20' V

JANUARY 18, 2013

HALFF ASSOCIATES, INC.
PRELIMINARY FOR INTERIM REVIEW ONLY

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

NAME	P.E. NO.	DATE
M.E. ROMANOWSKI	56306	1/18/2013

TBPE FIRM #F-312

HALFF

1201 NORTH BOWSER ROAD
RICHARDSON, TEXAS 75081-2275
TEL (214) 346-6200

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FILE = h:\22000s\22015\W011A - State Highway 156\CADD\Schematic\22015 W011A SCHEM 03.dgn
DATE = 1/18/2013 TIME = 11:01:27 AM USERNAME = Melanie Waltman
AVO = 22015 PROJECT = 22015_W011A