HOUSTON DISTRICT
PROJECT DEVELOPMENT

SH 242

PRELIMINARY
SUBJECT TO CHANGE

ROADWAY: SH 242
COUNTY: MONTGOMERY
LIMITS FROM: NEEDHAM RD
LIMITS TO: I-69 (US 59)

6 / 6

SCHEMATIC LAYOUT
SH 242

COUNTY: MONTGOMERY
LIMITS FROM: NEEDHAM RD
LIMITS TO: I-69(US 59)

CSJ: 3538-01-032, etc
DATE: 12/27/2016
APPROVED: _/_/__

NOT A BIDDING DOCUMENT
______________________ ,P.E.
TBPE NO. ____________
____

LEGEND

DESCRIPTION	SYMBOLOGY	WEIGHT	COLOR CODE
PROPOSED MAIN LANES	—	2	BLACK -0
PROPOSED TOLL LANES	—	2	PURPLE -60
PROPOSED FRONTAGE ROADS	—	5	BLUE -1
PROPOSED RAMPS	—	2	BLUE -1
PROPOSED DIRECT CONNECTOR	—	2	ORANGE -6
PROPOSED EMBANKMENT	—	2	RED -3
PROPOSED RETAINING WALL	▬	6	RED -3
PROPOSED BRIDGE BENTS	▬	2	RED -3
PROPOSED NOISE WALL	▬	5	MAGENTA -37
PROPOSED SIDEWALKS	—	2	MAGENTA -200
PROPOSED STRIPING	▰▰▰	1	ORANGE -6
PROPOSED LANE INDICATOR	➡	1	BLACK -0
PROPOSED RIGHT-OF-WAY	▬ ╷	5	BLACK -0
CONTROL OF ACCESS	—	2	RED -3
PLANIMETRIC	⌂	1	GREEN -2
EXISTING RIGHT-OF-WAY	— –	1	BLACK -0
EXISTING ROADWAY	—	2	GREEN -2
EXISTING ROADWAY TO BE REMOVED	▰▰▰	1	BLACK -0
EXISTING LANE INDICATOR	⇨	1	BLACK -0
TRAFFIC COUNT YEAR 2016 DHV	(XXX)	1	BLACK -0
TRAFFIC COUNT YEAR 2040 DHV	<XXX>		

COLORFILL LEGEND

MAIN LANES	🟨
FRONTAGE ROAD/RAMPS	🟦
SIDEWALK	▨
BRIDGE	🟪
GRASS MEDIAN	🟩
CONCRETE MEDIAN	▨

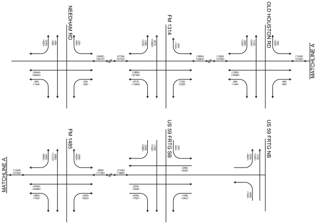
SCALE

0 100 200 300 400

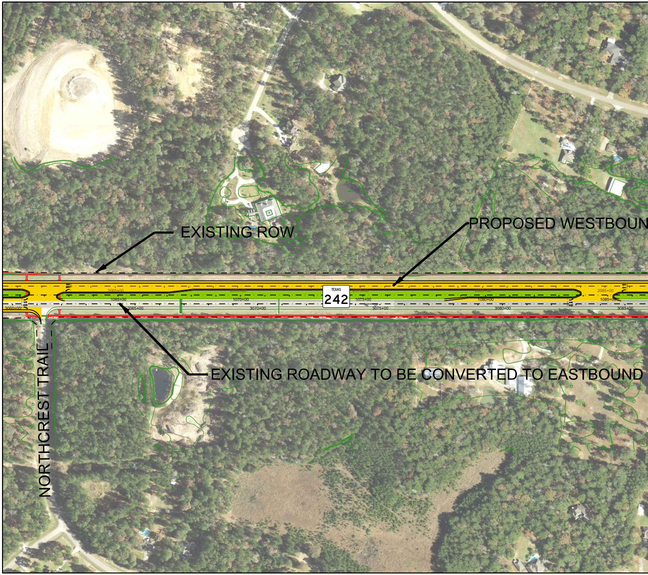
DESIGN CRITERIA

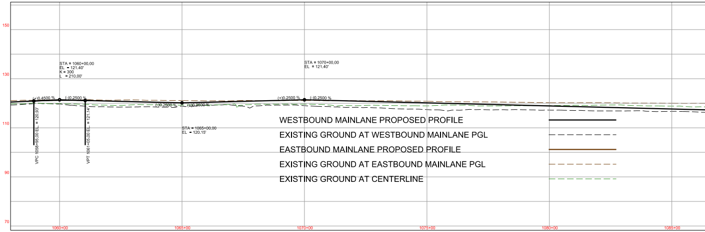
FUNCTIONAL CLASSIFICATION: URBAN ARTERIAL
MAIN LANE DESIGN CRITERIA: HIGH SPEED URBAN (STA 420+00 TO 1151+30)
MAIN LANE DESIGN SPEED: 60 MPH
MAIN LANE DESIGN CRITERIA: LOW SPEED URBAN (STA 1151+30 TO 1211+85)
MAIN LANE DESIGN SPEED: 45 MPH

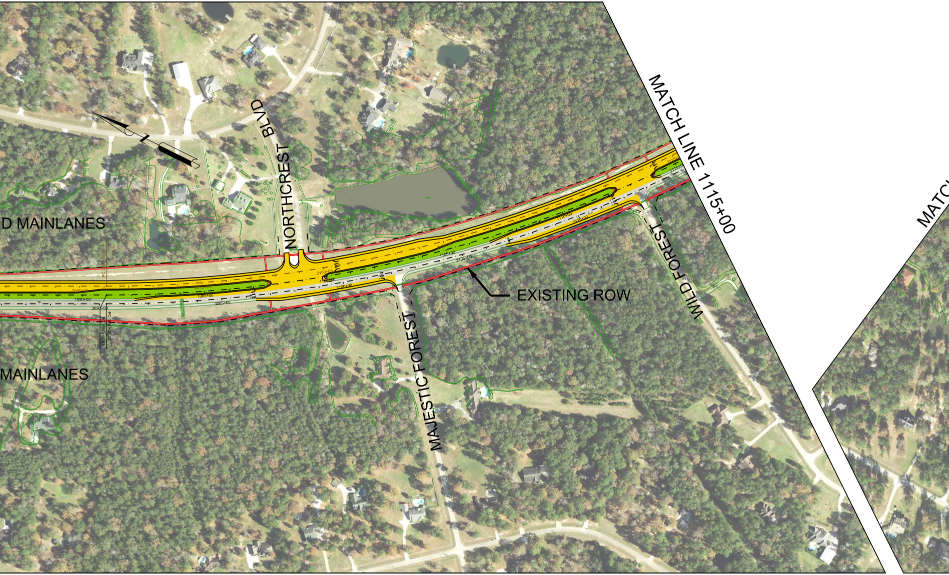
TRAFFIC DATA

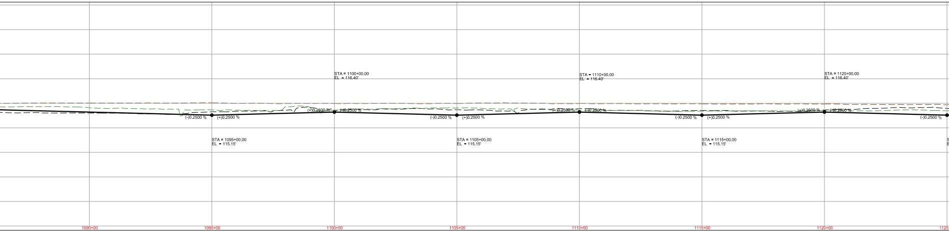

NEEDHAM RD
FM 1314
OLD HOUSTON RD
MATCHLINE A
(3492) <6072>
(2736) <4752>
(1884) <3264>
(1560) <2700>
(1248) <2160>
(3444) <5952>
(84) <144>
(24) <60>
(912) <1584>
(132) <228>
(48) <96>
FM 1485
US 59 FRTG SB
US 59 FRTG NB
MATCHLINE A

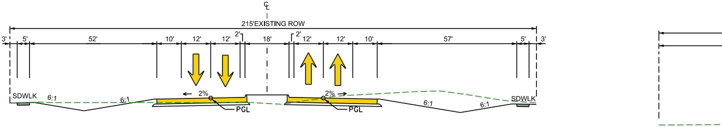
MATCH LINE 1060+00


EXISTING ROW
PROPOSED WESTBOUN
EXISTING ROADWAY TO BE CONVERTED TO EASTBOUND
NORTHCREST TRAIL
TEXAS
242
1065+00
1070+00
1075+00
1080+00
1085+00
3060+00
3065+00
3070+00
3075+00
3080+00
3085+00

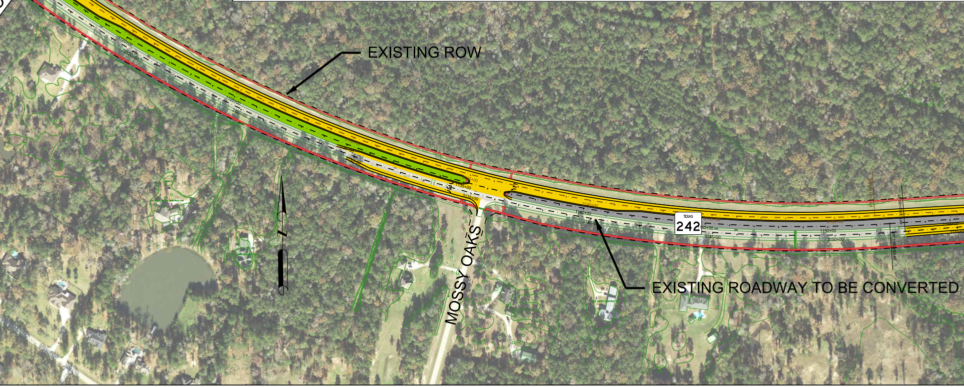


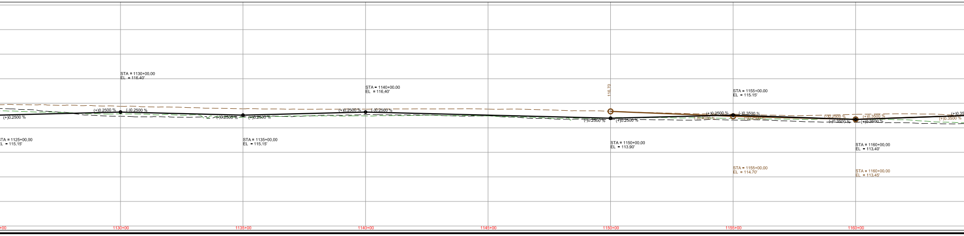

D MAINLANES
MAINLANES
NORTHCREST BLVD
MAJESTIC FOREST
WILD FOREST
EXISTING ROW
MATCH LINE 1115+00
MATC
PC 2091+09.50
PC 3090+26.72
PC 1090+98.67
2090+00
2095+00
2100+00
2105+00
2110+00
2115+00
1090+00
1095+00
1100+00
1105+00
1110+00
1115+00
3090+00
3095+00
3100+00
3105+00
3110+00

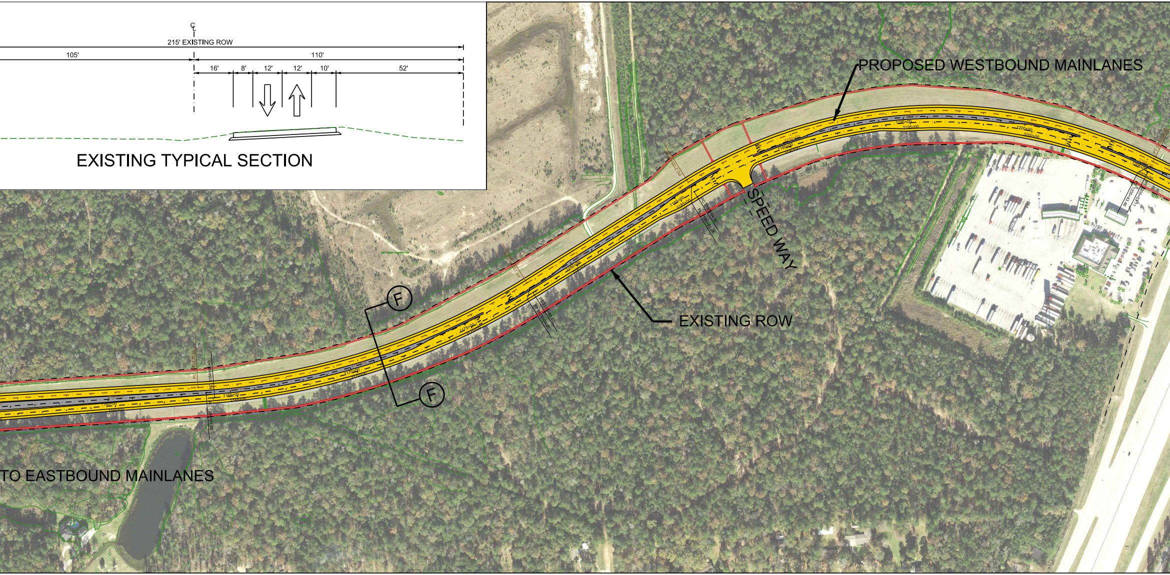

STA = 1100+00.00
EL = 116.40'
STA = 1110+00.00
EL = 116.40'
STA = 1120+00.00
EL = 116.40'
(-)0.2500 %
(+)0.2500 %
(+)0.2500 %
(-)0.2500 %
(-)0.2500 %
(+)0.2500 %
(+)0.2500 %
(-)0.2500 %
(-)0.2500 %
(+)0.2500 %
(+)0.2500 %
(-)0.2500 %
(-)0.2500 %
STA = 1095+00.00
EL = 115.15'
STA = 1105+00.00
EL = 115.15'
STA = 1115+00.00
EL = 115.15'
1090+00
1095+00
1100+00
1105+00
1110+00
1115+00
1120+00
1125

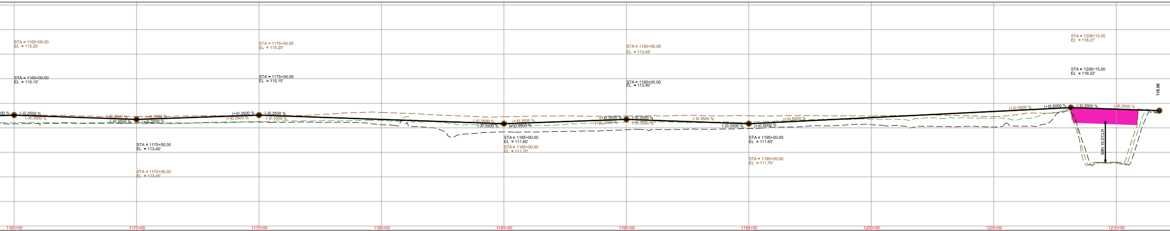

℄
215'EXISTING ROW
3'
5'
52'
10'
12'
12'
2'
18'
2'
12'
12'
10'
57'
5'
3'
SDWLK
6:1
6:1
2%
PGL
2%
PGL
6:1
6:1
SDWLK

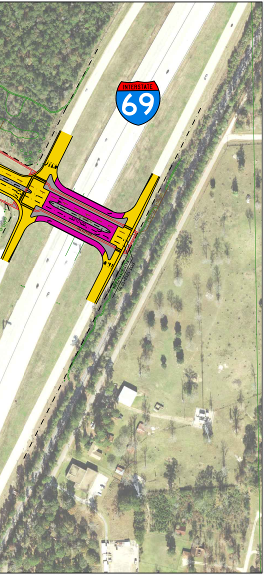
TYPICAL SECTION
F-F


CH LINE 1115+00
EXISTING ROW
MOSSY OAKS
TEXAS
242
EXISTING ROADWAY TO BE CONVERTED

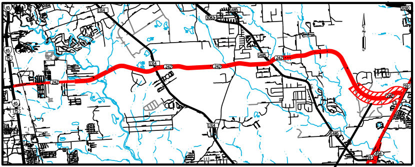

STA = 1130+00.00
EL = 116.40'
STA = 1140+00.00
EL = 116.40'
116.70
STA = 1155+00.00
EL = 115.15'
(+)0.2500 %
(+)0.2500 %
(-)0.2500 %
(-)0.2500 %
(+)0.2500 %
(+)0.2500 %
(-)0.2500 %
(-)0.2500 %
(+)0.2500 %
(+)0.2500 %
(-)0.3500 %
(-)0.4080 %
(-)0.2500 %
(-)0.2500 %
(+)0.3500 %
(-)0.3500 %
(+)0.3500 %
(+)0.3500 %
STA = 1125+00.00
EL = 115.15'
STA = 1135+00.00
EL = 115.15'
STA = 1150+00.00
EL = 113.90'
STA = 1160+00.00
EL = 113.40'
STA = 1155+00.00
EL = 114.70'
STA = 1160+00.00
EL = 113.45'
1130+00
1135+00
1140+00
1145+00
1150+00
1155+00
1160+00


℄
215' EXISTING ROW
105'
110'
16'
8'
12'
12'
10'
52'
EXISTING TYPICAL SECTION
PROPOSED WESTBOUND MAINLANES
SPEED WAY
EXISTING ROW
F
F
TO EASTBOUND MAINLANES
1165+00
1170+00
1175+00
1180+00
1185+00
1190+00
1195+00
1200+00




INTERSTATE
69

VICINITY MAP


45
1314
1485
3083
2090
242
1314
242
242
1485
242
45
75
45
75
1314
1485
59
242
494

SECTION 6

WESTBOUND CURVE DATA (PROPOSED)

PI STATION = 2125+23.06
DELTA = 66° 02' 08.18" (LT)
DEGREE OF CURVE = 1° 05' 26.72"
TANGENT = 3,413.56
LENGTH = 6,054.11
RADIUS = 5,252.85
PC STATION = 2091+09.50
PT STATION = 2151+63.62
SUPERELEVATION RATE 2.88%

PI STATION = 2170+65.90
DELTA = 28° 42' 49.82" (LT)
DEGREE OF CURVE = 2° 00' 58.30"
TANGENT = 727.37
LENGTH = 1,424.16
RADIUS = 2,841.78
PC STATION = 2163+38.53
PT STATION = 2177+62.69
NO SUPERELEVATION REQUIRED

PI STATION = 2196+29.52
DELTA = 58° 52' 17.64" (RT)
DEGREE OF CURVE = 2° 57' 51.49"
TANGENT = 1,090.70
LENGTH = 1,986.02
RADIUS = 1,932.86
PC STATION = 2185+38.82
PT STATION = 2205+24.83
NO SUPERELEVATION REQUIRED

CENTER LINE CURVE DATA

PI STATION = 1125+77.88
DELTA = 66° 40' 37.00" (LT)
DEGREE OF CURVE = 1° 04' 59.99"
TANGENT = 3,479.21
LENGTH = 6,154.81
RADIUS = 5,288.85
PC STATION = 1090+98.67
PT STATION = 1152+53.48

PI STATION = 1171+17.52
DELTA = 28° 04' 21.00" (LT)
DEGREE OF CURVE = 2° 00' 00.02"
TANGENT = 716.20
LENGTH = 1,403.62
RADIUS = 2,864.78
PC STATION = 1164+01.33
PT STATION = 1178+04.95

PI STATION = 1196+58.80
DELTA = 58° 52' 17.64" (RT)
DEGREE OF CURVE = 3° 00' 00.00"
TANGENT = 1,077.72
LENGTH = 1,962.39
RADIUS = 1,909.86
PC STATION = 1185+81.08
PT STATION = 1205+43.46

EASTBOUND CURVE DATA (EXISTING)

PI STATION = 3125+75.51
DELTA = 67° 20' 01.73" (LT)
DEGREE OF CURVE = 1° 04' 33.63"
TANGENT = 3,546.79
LENGTH = 6,257.75
RADIUS = 5,324.85
PC STATION = 3090+28.72
PT STATION = 3152+86.47
SUPERELEVATION RATE: MATCH EXISTING

(EXISTING)

PI STATION = 3171+10.83
DELTA = 27° 24' 56.27" (LT)
DEGREE OF CURVE = 1° 59' 02.68"
TANGENT = 704.38
LENGTH = 1,381.78
RADIUS = 2,887.78
PC STATION = 3164+06.45
PT STATION = 3177+88.23
NO SUPERELEVATION REQUIRED

PI STATION = 3196+29.10
DELTA = 58° 52' 17.64" (RT)
DEGREE OF CURVE = 3° 02' 11.65"
TANGENT = 1,064.74
LENGTH = 1,938.75
RADIUS = 1,886.86
PC STATION = 3185+64.36
PT STATION = 3205+03.11
NO SUPERELEVATION REQUIRED

HOUSTON DISTRICT
PROJECT DEVELOPMENT

SH 242

PRELIMINARY
SUBJECT TO CHANGE

ROADWAY: SH 242
COUNTY: MONTGOMERY
LIMITS FROM: NEEDHAM RD
LIMITS TO: I-69(US 59)