TEXAS DEPARTMENT OF TRANSPORTATION – DALLAS DISTRICT
WILLIAM HALE, P.E. – DISTRICT ENGINEER

DESIGN SCHEMATIC
SH 121/DNT INTERCHANGE, COLLIN COUNTY
SH 121: FROM NORTH OF LEGACY DRIVE TO NORTH OF SH 289 (PRESTON ROAD), 2.16 MILES
DNT: FROM SOUTH OF LEGACY DRIVE TO NORTH OF GAYLORD PARKWAY, 1.84 MILES

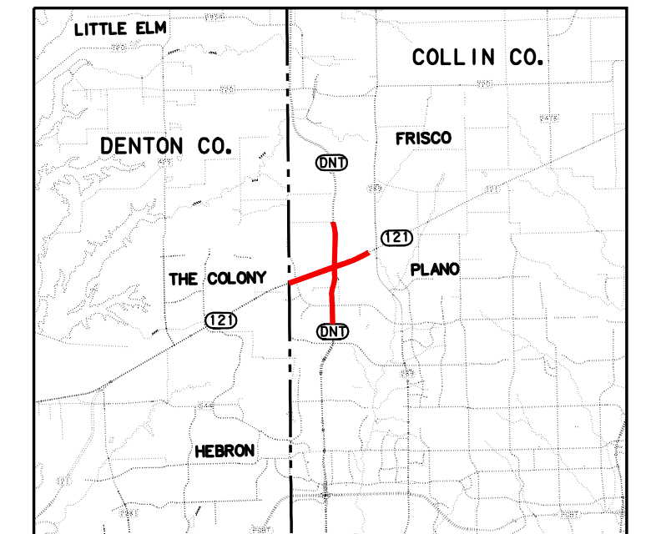
CSJ: 0364–04–047

DESIGN SPEED

MAINLANES – 70 MPH (URBAN FREEWAY)
SLIP RAMPS – 50 MPH (URBAN ARTERIAL)
DIRECT CONNECTORS – 45 MPH
FRONTAGE ROADS – 50 MPH
CROSS STREETS – 45 MPH

HIGHWAY CLASSIFICATION

OTHER URBAN FREEWAY



COLLIN COUNTY
SCALE 0 1 2 3 4 MILES
DALLAS DISTRICT

DATE APPROVED

DATE SUBMITTED

DATE REVISED

0 100 200
HORIZONTAL
0 10 20
VERTICAL
SCALE IN FEET

PREPARED BY HNTB
UNDER THE SUPERVISION OF:
CHRISTOPHER M. BERGERON, P.E.

SERIAL NO. 72895
DATE: ______________

NOT INTENDED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

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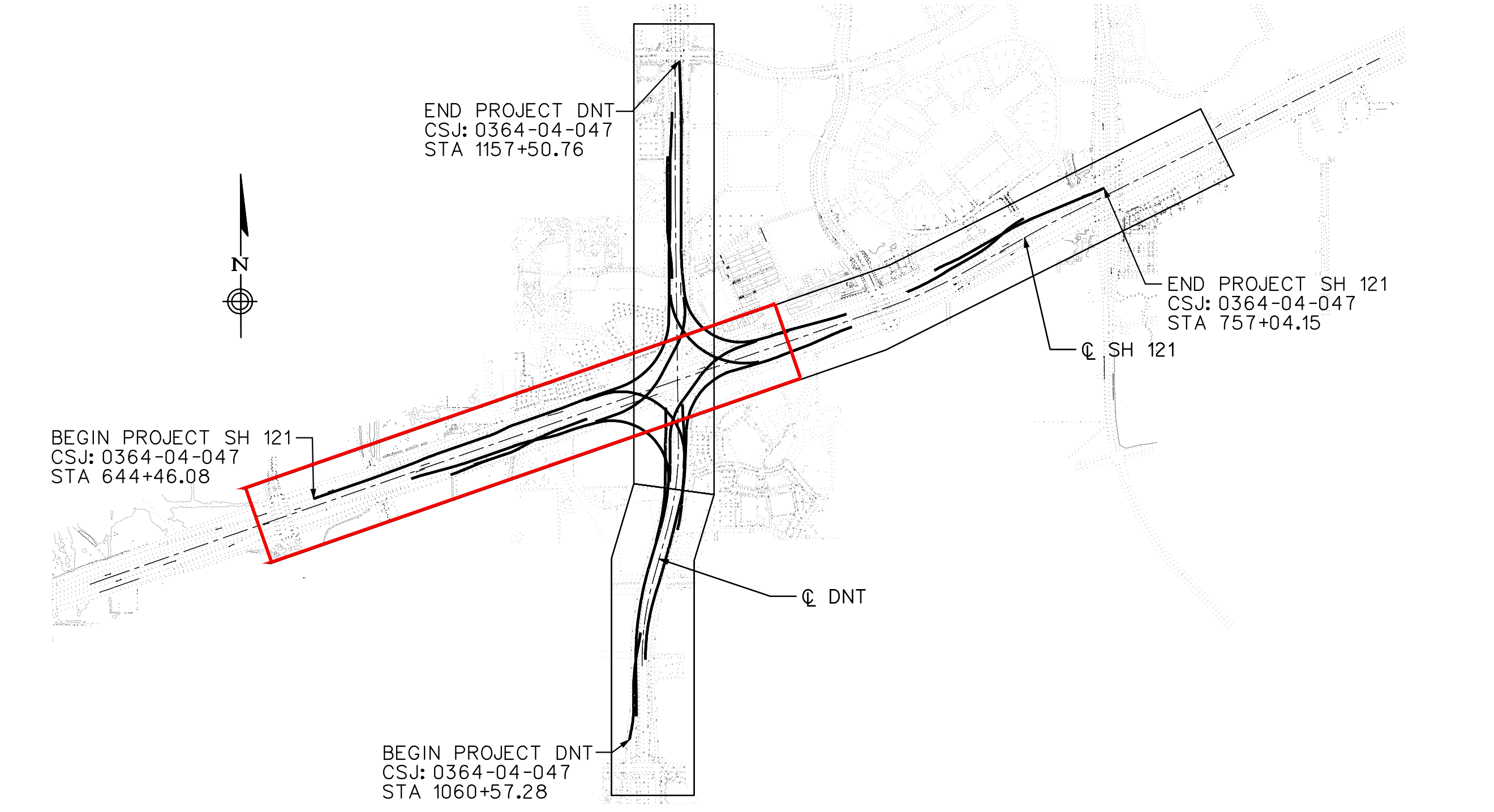

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

PLAN /PROFILE 1 of 4

MAY 2008
ROLL 1 OF 11

14-AUG-2008
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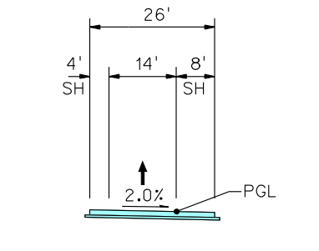
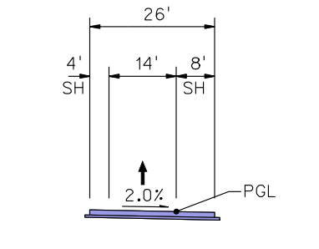
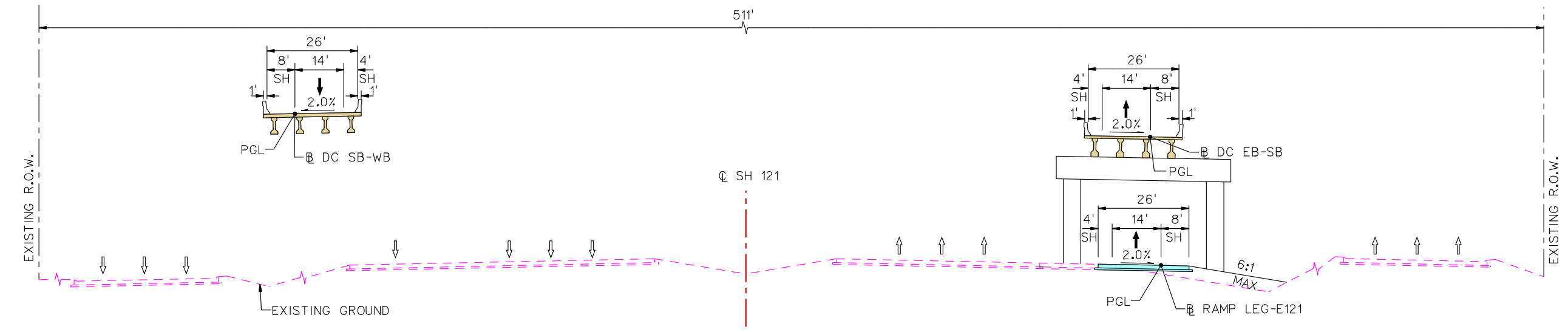


SLIP RAMP PROPOSED TYPICAL SECTION



DIRECT CONNECTOR RAMP PROPOSED TYPICAL SECTION



℄ SH 121 STA 671+50
PROPOSED SECTION

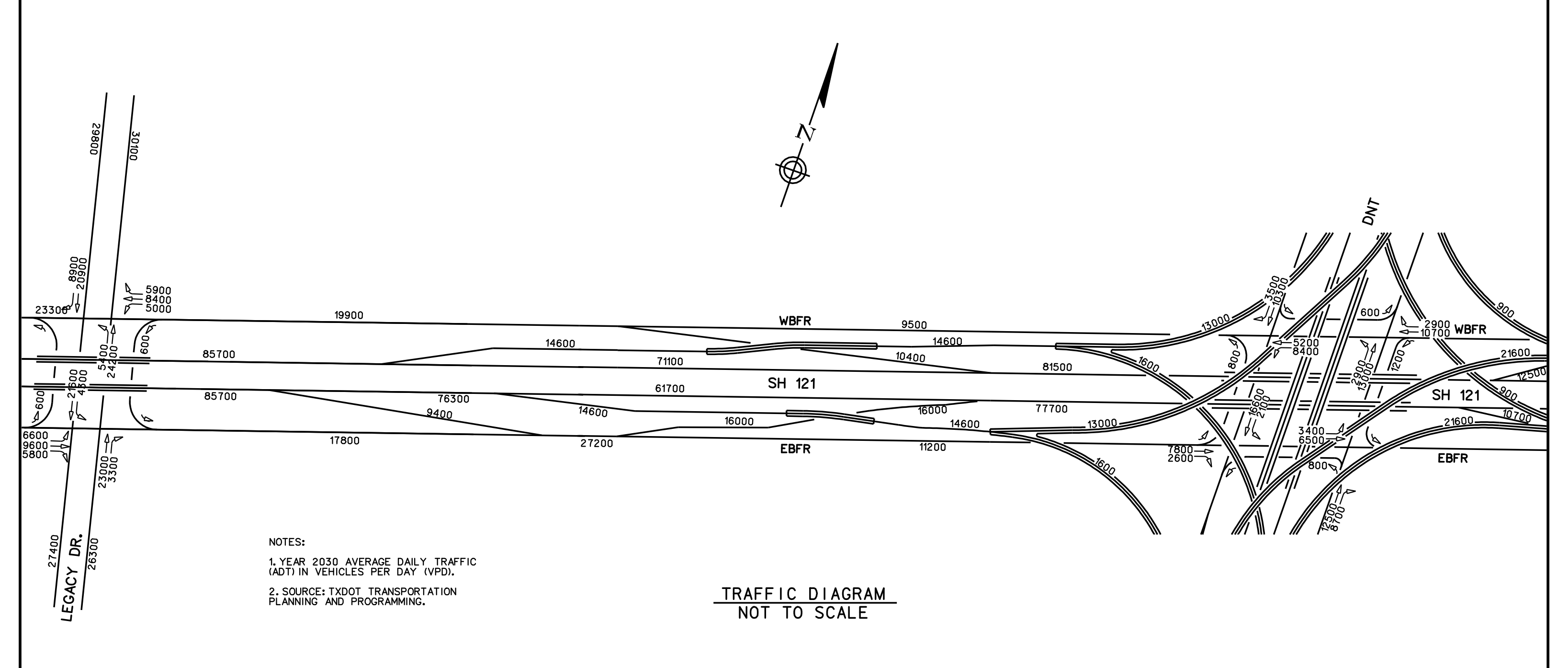
CURVE NO.	STATION	COORDINATE N	COORDINATE E	BEARING/ DELTA	LENGTH (FT)	TANGENT (FT)	RADIUS (FT)
℄ DC EB-NB							
	PC 12+87.21	7,084,658.6758	2,481,735.8052	N 72° 41' 08.7" E			
DCEBNB-1	PI 16+57.62	7,084,768.9146	2,482,089.4318	44° 44' 27.5" LT	702.79'	370.41'	900.00'
	PT 19+90.00	7,085,096.1357	2,482,263.0140	N 27° 56' 41.2" E			
	PC 23+98.58	7,085,457.0795	2,482,454.4852	N 27° 56' 41.2" E			
DCEBNB-2	PI 26+60.78	7,085,688.7070	2,482,577.3575	32° 29' 06.7" LT	510.28'	262.20'	900.00'
	PT 29+08.86	7,085,950.0841	2,482,556.6011	N 4° 32' 25.6" W			
℄ DC EB-SB							
	PC 10+00.00	7,083,863.3414	2,479,254.6879	N 70° 50' 38.0" E			
DCEBSB-1	PI 11+46.54	7,083,911.4282	2,479,393.1155	5° 59' 30.6" RT	292.82'	146.54'	2,800.00'
	PT 12+92.82	7,083,944.8022	2,479,535.8065	N 76° 50' 08.6" E			
	PC 13+73.27	7,083,963.1250	2,479,614.1459	N 76° 50' 08.6" E			
DCEBSB-2	PI 15+19.31	7,083,996.3858	2,479,756.3526	5° 58' 17.6" LT	291.82'	146.04'	2,800.00'
	PT 16+65.10	7,084,044.2605	2,479,894.3275	N 70° 51' 51.0" E			
	PC 22+77.74	7,084,245.0910	2,480,473.1209	N 70° 51' 51.0" E			
DCEBSB-3	PI 24+36.72	7,084,297.2047	2,480,623.3125	1° 49' 17.7" RT	317.93'	158.98'	10,000.00'
	PT 25+95.67	7,084,344.5179	2,480,775.0848	N 72° 41' 08.7" E			
	PC 33+19.14	7,084,559.8329	2,481,465.7767	N 72° 41' 08.7" E			
DCEBSB-4	PI 44+59.22	7,084,899.1353	2,482,554.1979	116° 54' 03.2" RT	1,428.21'	1,140.08'	700.00'
	PT 47+47.35	7,083,774.9747	2,482,364.3297	S 9° 35' 12.0" W			
℄ DC WB-NB							
	PC 23+76.52	7,085,540.6689	2,483,491.6368	S 70° 04' 35.1" W			
DCWBNB-3	PI 32+95.13	7,085,227.6404	2,482,628.0164	105° 22' 59.2" RT	1,287.50'	918.60'	700.00'
	PT 36+64.02	7,086,143.3581	2,482,555.2969	N 4° 32' 25.7" W			
℄ DC WB-SB							
	PC 13+11.75	7,085,407.0630	2,483,164.1120	S 70° 04' 34.8" W			
DCWBSB-1	PI 15+88.34	7,085,312.8097	2,482,904.0760	34° 10' 00.4" LT	536.69'	276.59'	900.00'
	PT 18+48.44	7,085,088.7868	2,482,741.8536	S 35° 54' 34.3" W			
	PC 21+67.67	7,084,830.2228	2,482,554.6189	S 35° 54' 34.3" W			
DCWBSB-2	PI 24+33.63	7,084,614.8136	2,482,398.6340	36° 46' 41.6" LT	513.52'	265.96'	800.00'
	PT 26+81.19	7,084,348.8886	2,482,402.6660	S 0° 52' 07.2" E			
℄ DC NB-EB							
	PC 38+81.62	7,084,442.7692	2,482,608.1939	N 0° 10' 50.0" E			
DCNBEB-3	PI 43+56.16	7,084,917.3086	2,482,609.6894	68° 16' 04.8" RT	834.05'	474.54'	700.00'
	PT 47+15.67	7,085,091.6250	2,483,051.0550	N 68° 26' 54.8" E			
℄ DC NB-WB							
	PC 10+00.00	7,084,065.5125	2,482,590.8106	N 2° 35' 17.1" E			
DCNBWB-1	PI 21+70.95	7,085,235.2646	2,482,643.6851	111° 19' 03.3" LT	1,554.29'	1,170.95'	800.00'
	PT 25+54.29	7,084,859.2729	2,481,534.7461	S 71° 16' 13.8" W			
℄ DC SB-EB							
	PC 10+00.00	7,086,150.3860	2,482,374.5008	S 0° 46' 27.4" E			
DCSBEB-1	PI 23+04.06	7,084,846.4415	2,482,392.1232	110° 46' 37.1" LT	1,740.08'	1,304.06'	900.00'
	PT 27+40.08	7,085,325.4677	2,483,605.0188	N 68° 26' 55.5" E			
℄ DC SB-WB							
	PC 35+66.42	7,085,776.5895	2,482,365.5510	S 0° 46' 27.4" E			
DCSBWB-5	PI 41+84.49	7,085,158.5771	2,482,373.9032	72° 02' 41.2" RT	1,068.81'	618.07'	850.00'
	PT 46+35.23	7,084,960.1148	2,481,788.5643	S 71° 16' 13.8" W			
	PC 51+97.71	7,084,779.4995	2,481,255.8631	S 71° 16' 13.8" W			
DCSBWB-6	PI 52+89.35	7,084,750.0737	2,481,169.0755	1° 03' 00.3" LT	183.28'	91.64'	10,000.00'
	PT 53+80.99	7,084,719.0623	2,481,082.8417	S 70° 13' 13.4" W			
	PC 77+80.72	7,083,906.9851	2,478,824.6880	S 70° 13' 13.4" W			
DCSBWB-7	PI 79+00.14	7,083,866.5756	2,478,712.3208	1° 22' 05.9" LT	238.81'	119.41'	10,000.00'
	PT 80+19.54	7,083,823.4943	2,478,600.9505	S 68° 51' 07.6" W			
	PC 84+03.04	7,083,685.1364	2,478,243.2781	S 68° 51' 07.6" W			
DCSBWB-8	PI 84+90.82	7,083,653.4655	2,478,161.4049	2° 00' 42.1" RT	175.55'	87.79'	5,000.00'
	PT 85+78.59	7,083,624.6882	2,478,078.4705	S 70° 51' 49.6" W			

CURVE NO.	STATION	COORDINATE N	COORDINATE E	BEARING/ DELTA	LENGTH (FT)	TANGENT (FT)	RADIUS (FT)
℄ RAMP LEG-E121							
	PC 10+00.00	7,084,055.2537	2,480,146.9902	N 71° 11' 27.9" E			
LEGE121-1	PI 11+42.66	7,084,101.2477	2,480,282.0277	8° 35' 15.5" LT	284.78'	142.66'	1,900.00'
	PT 12+84.78	7,084,166.8901	2,480,408.6834	N 62° 36' 12.4" E			
	PC 15+81.36	7,084,303.3628	2,480,672.0047	N 62° 36' 12.4" E			
LEGE121-2	PI 17+67.91	7,084,389.2037	2,480,837.6329	7° 06' 59.6" RT	372.62'	186.55'	3,000.00'
	PT 19+53.98	7,084,453.8638	2,481,012.6198	N 69° 43' 12.0" E			
	PC 22+78.21	7,084,566.2437	2,481,316.7486	N 69° 43' 12.0" E			
LEGE121-3	PI 23+05.65	7,084,575.7553	2,481,342.4895	1° 07' 23.0" RT	54.88'	27.44'	2,800.00'
	PT 23+33.09	7,084,584.7606	2,481,368.4118	N 70° 50' 35.0" E			

SUPERELEVATION RATES

	STATION	CROSS SLOPE (FT/FT)
DC EB-NB	11+89	-0.060
	14+95	+0.057
	19+20	+0.057
	21+25	-0.020
	22+65	-0.020
	24+70	+0.057
	26+30	+0.057
	29+34	-0.060
DC EB-SB	32+30	-0.020
	33+65	-0.060
	44+10	-0.060
	45+44	-0.040
DC WB-NB	22+85	-0.020
	24+25	-0.060
	36+20	-0.060
	37+55	-0.020
DC WB-SB	11+37	-0.060
	14+50	+0.057
	17+80	+0.057
	19+85	-0.020
	20+30	-0.020
	22+40	+0.059
	26+10	+0.059
	28+15	-0.020
DC NB-EB	37+90	-0.020
	39+30	-0.060
	46+70	-0.060
	48+05	-0.020
DC NB-WB	12+26	-0.020
	14+35	+0.059
	21+70	+0.059
	23+76	-0.020
DC SB-EB	12+08	-0.020
	14+10	+0.057
	23+50	+0.057
	25+52	-0.020
DC SB-WB	34+75	-0.020
	36+15	-0.058
	45+90	-0.058
	47+25	-0.020

℄
(-) (+)
(+) (-)
SIGN CONVENTION

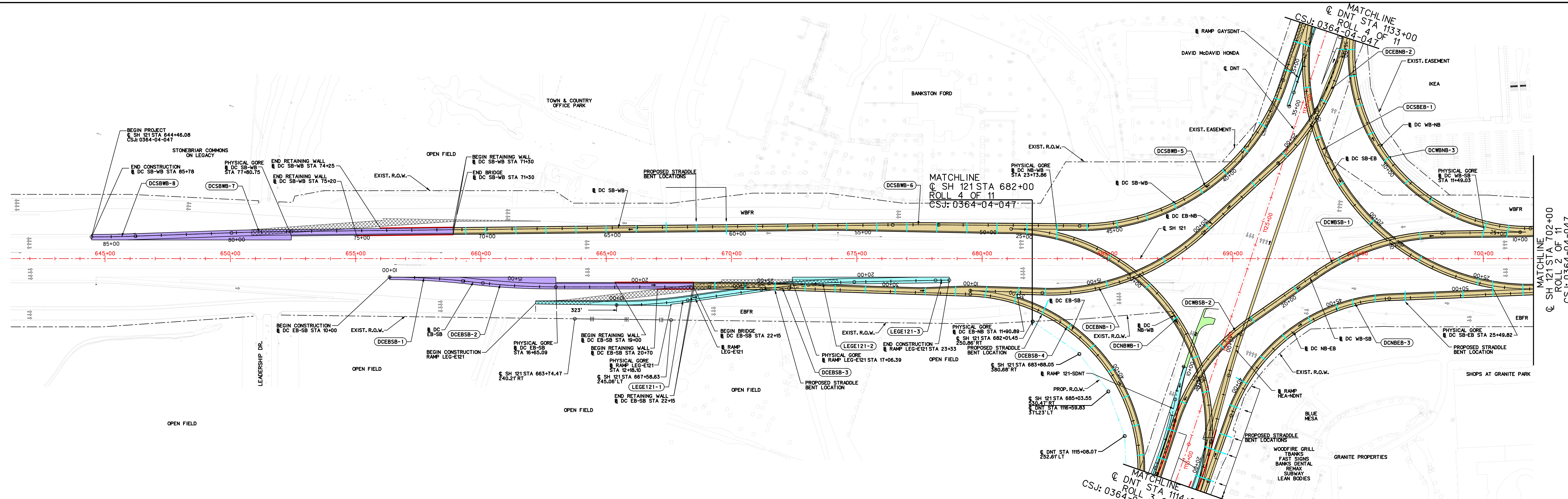


NOTES:

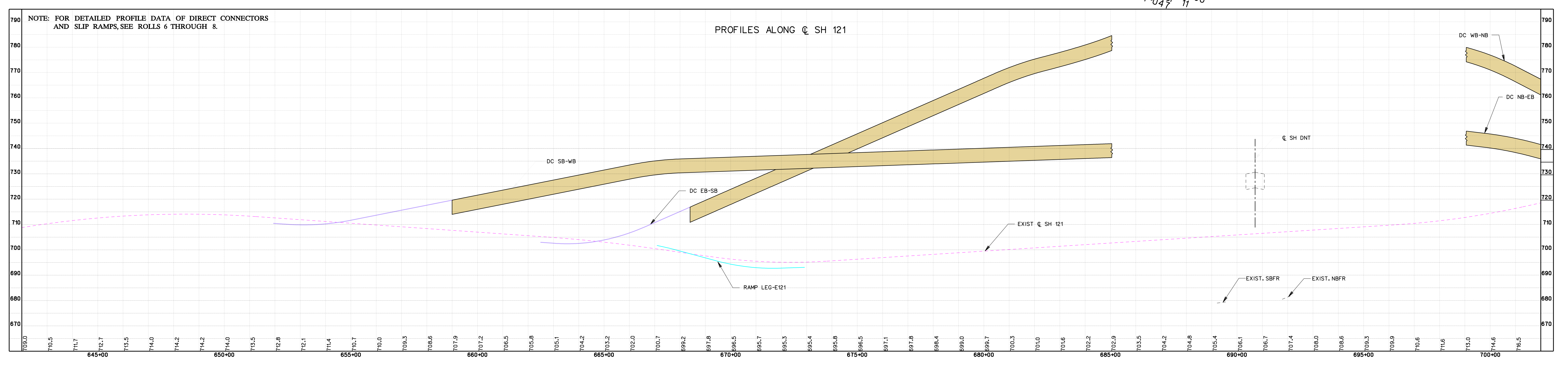
1. YEAR 2030 AVERAGE DAILY TRAFFIC (ADT) IN VEHICLES PER DAY (VPD).

2. SOURCE: TXDOT TRANSPORTATION PLANNING AND PROGRAMMING.

TRAFFIC DIAGRAM
NOT TO SCALE



THESE ARE PRELIMINARY DESIGN CONCEPTS
Subject to change based on further developments resulting from public input and technical review.



NOTE: FOR DETAILED PROFILE DATA OF DIRECT CONNECTORS AND SLIP RAMPS, SEE ROLLS 6 THROUGH 8.

LEGEND

🟨	Main Lane
🟪	Direct Connector
🟩	Frontage Road/Cross Street
🟦	Ramp
🟫	Bridge Structure
— - -	Existing ROW
— - -	Proposed ROW
— - —	Existing Centerline
— - —	Proposed Baseline
▨	Pavement Removal
—III—	Control of Access
—	Proposed Retaining Wall
—	Column / Bent

NOTES:

1. IN COLLIN COUNTY, DESIGN BASED ON NAD 83 SURFACE COORDINATES WITH A SCALE FACTOR OF 1.000152710.

2. FACILITY WILL BE CONTINUOUSLY LIGHTED.

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ROLL 1 OF 11