THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY

DRAFT MASTER PLANS

ELGIN O'HARE WEST BYPASS

PROJECT B1

PLUM GROVE ROAD TO SALT CREEK

STATION 900+00.00 TO STATION 1095+02.18

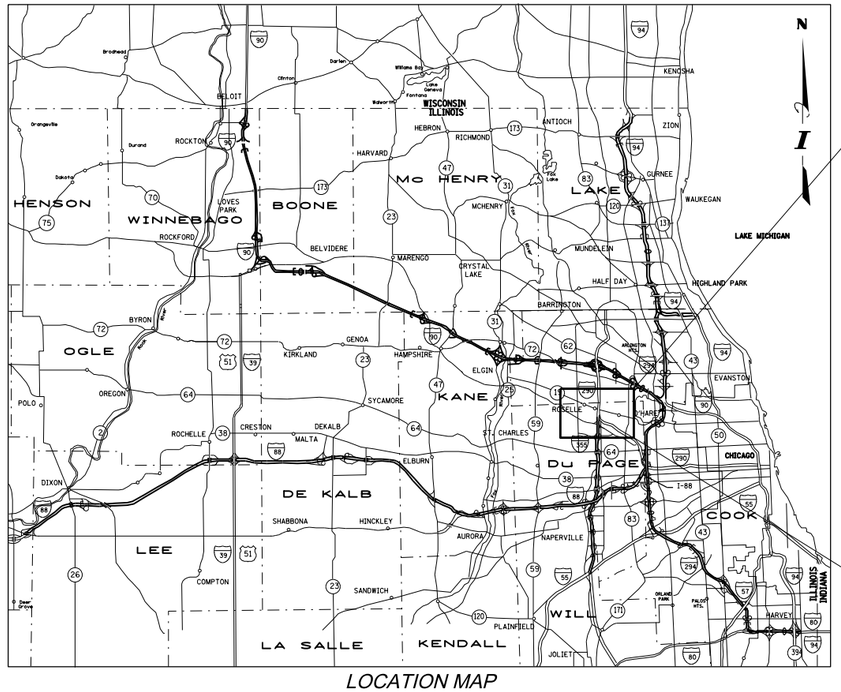
VOLUME 6

JULY 2012

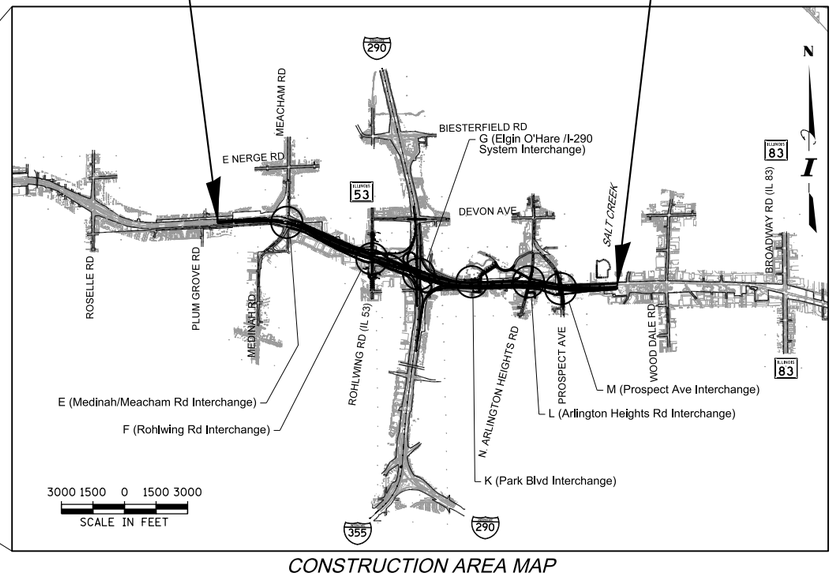
INDEX:

BEGIN PROJECT STA 900+00.00

END PROJECT STA 1095+02.18



LOCATION MAP



CONSTRUCTION AREA MAP

GROSS LENGTH: 19502.18 FT = 3.694 MI
NET LENGTH: 18341.37 FT = 3.474 MI

SEAL

SIGNATURE:

DATE SIGNED:

LICENSE EXPIRATION DATE:

THIS SEAL APPLIES TO SHEETS: XXX – XXX

SEAL

SIGNATURE:

DATE SIGNED:

LICENSE EXPIRATION DATE:

THIS SEAL APPLIES TO SHEETS: XXX – XXX

SEAL

SIGNATURE:

DATE SIGNED:

LICENSE EXPIRATION DATE:

THIS SEAL APPLIES TO SHEETS: XXX – XXX

FILE NAME = DIEOWB-PBI-sht-Cover-600.dgn	USER NAME = tphillip	DESIGNED - CH2MHILL	REVISED -
CH2MHILL		DRAWN - CH2MHILL	REVISED -
	PLOT SCALE = 7200.0000 ' / in.	CHECKED - CH2MHILL	REVISED -
	PLOT DATE = 7/18/2012	DATE -	REVISED -

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE, ILLINOIS 60515

TITLE SHEET

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

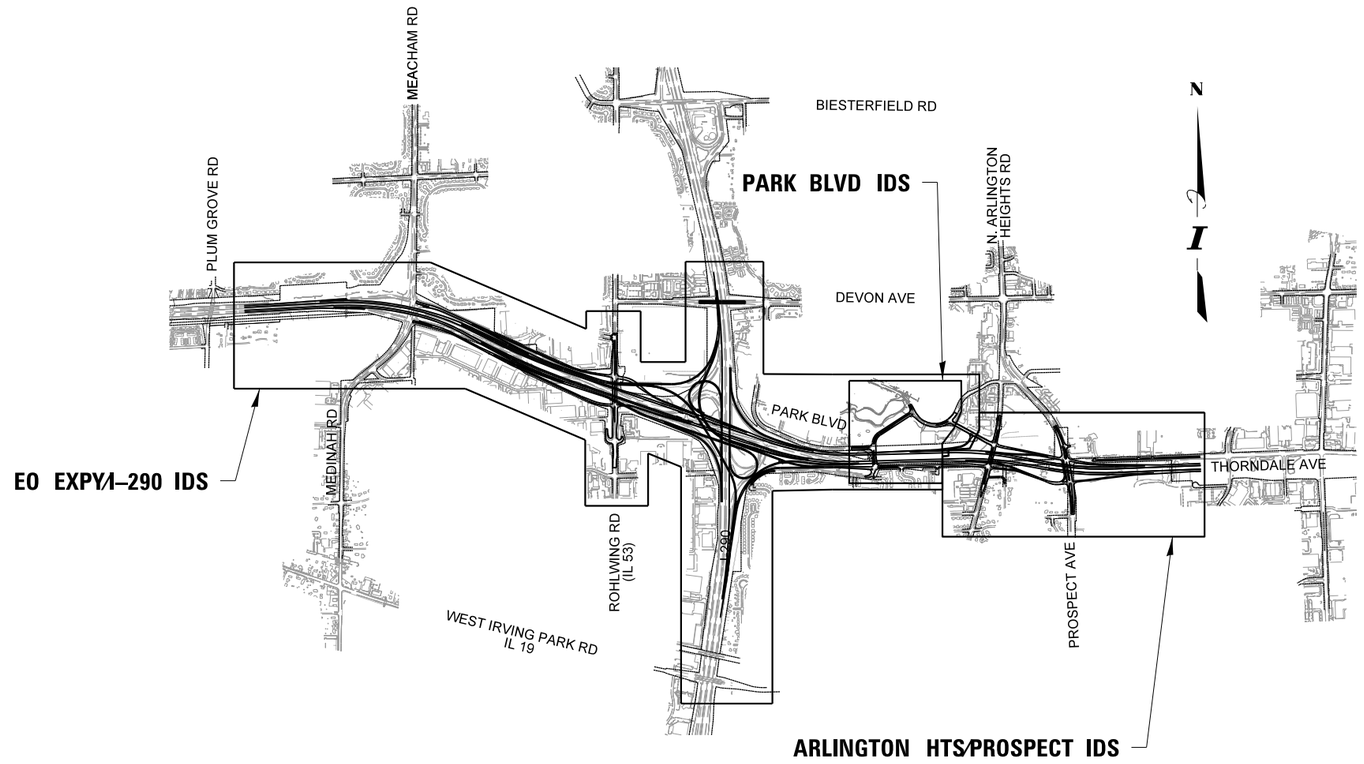
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			1	2
DRAWING NO. GEF-1		CONTRACT NO.		
PROJECT B1	ILLINOIS	FED. AID PROJECT		

INDEX OF SHEETS

SHEET NO.	DRAWING NO.	SHEET DESCRIPTION
1	GEF-1	TITLE SHEET
2	GEF-2	INDEX OF SHEETS AND IDS PACKAGE LAYOUT
1-57		EO EXPY/I-290 INTERCHANGE DESIGN STUDY PLANS
1-20		ARLINGTON HTS/PROSPECT INTERCHANGE DESIGN STUDY PLANS
1-10		PARK BLVD INTERSECTION DESIGN STUDY PLANS

GENERAL NOTES

1. THESE INTERSECTION AND INTERCHANGE DESIGN STUDIES (IDS) HAVE GENERALLY BEEN PREPARED IN ACCORDANCE WITH IDOT AND ISTHA PROCEDURE. HOWEVER, THESE ARE CONSIDERED PRELIMINARY AS CERTAIN DESIGN ELEMENTS HAVE NOT BEEN FULLY DEVELOPED. WHILE HORIZONTAL GEOMETRY, TRAFFIC CAPACITY ANALYSIS AND RAMP GORE DESIGN IS COMPLETE, ELEMENTS RELATED TO VERTICAL GEOMETRY (PROFILES)ARE INCLUDED BY REFERENCE TO THE PROJECT B1 MASTER PLANS AND DETAILED INTERSECTION GEOMETRY IS PROVIDED ONLY AT ROHLWING ROAD (IL 53). UNDER THE FINAL IDS SUBMITTAL, PROFILES AND REMAINING INTERSECTION GEOMETRY AT PARK BOULEVARD, ARLINGTON HEIGHTS ROAD, AND PROSPECT AVENUE WILL BE FURTHER DETAILED AND INCLUDED AS ADDITIONAL SHEETS WHERE APPROPRIATE.



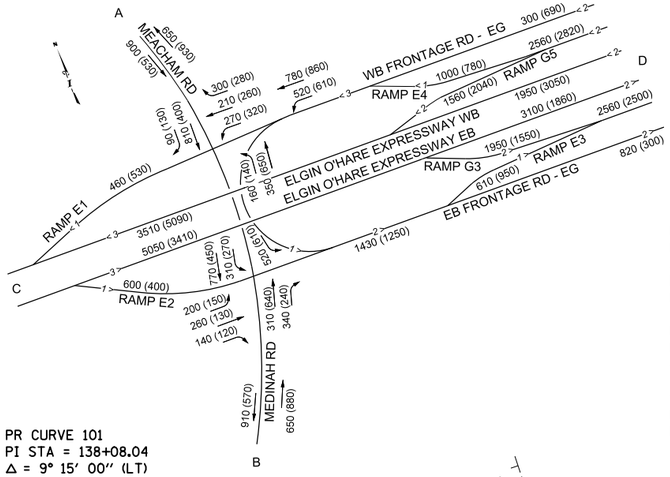
FILE NAME = DIEOWB-PB1-sht-GenNote-600.dgn	USER NAME = tphillip	DESIGNED - CH2MHILL	REVISED -	THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY	INDEX OF SHEETS AND IDS PACKAGE LAYOUT	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH2MHILL		DRAWN - CH2MHILL	REVISED -	2700 OGDEN AVENUE					2	2
	PLOT SCALE = 3000.0000 ' / in.	CHECKED - CH2MHILL	REVISED -	DOWNERS GROVE, ILLINOIS 60515		DRAWING NO. GEF-2		CONTRACT NO.		
	PLOT DATE = 7/17/2012	DATE -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.	PROJECT B1	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-001.dgn
PLOT SCALE = 400.0000 ' / in.
USER NAME = tphillip

ENTRANCE AND EXIT RAMP TERMINAL CAPACITY TABLE

RAMP		G5 TO C	G3 FROM C	E4 FROM G5	E3 TO G3
RAMP TYPE		MAJOR MERGE	MAJOR DIVERGE	STD EXIT	STD ENTRANCE
PEAK-HOUR FACTOR (PHF)		0.95	0.95	0.95	0.95
% OF TRUCKS ON FREEWAY (AM/PM)		8/8	8/8	8/8	8/8
% TRUCKS ON RAMP (AM/PM)		8/8	8/8	8/8	8/8
NUMBER OF LANES ON FREEWAY		2	3	2	2
NUMBER OF LANES ON RAMP		2	2	1	1
DESIGN SPEED OF FREEWAY/RAMP (MPH)*		60/50	60/50	50/45	50/45
TYPE/DISTANCE TO ADJACENT UPSTREAM RAMP (FT)		NA	NA	NA	NA
TYPE/DISTANCE TO ADJACENT DOWNSTREAM RAMP (FT)		NA	NA	NA	NA
UNADJUSTED FREEWAY VOLUME (VPH)	A.M.	1950	5050	2560	1950
	P.M.	3050	3410	2820	1550
UNADJUSTED RAMP VOLUME (VPH)	A.M.	1560	1950	1000	610
	P.M.	2040	1550	780	950
DENSITY (PC/MI/LN)	A.M.	NA	32.2	25.7	22.0
	P.M.	NA	21.8	28.1	21.3
LEVEL OF SERVICE (LOS)	A.M.	B	D	C	C
	P.M.	D	C	D	C

*AT RAMP-RAMP JUNCTIONS, "FREEWAY" DENOTES THE MORE MAJOR RAMP.



PR CURVE 10
PI STA = 926+55.43
Δ = 18° 17′ 41″ (RT)
D = 1° 00′ 00″
R = 5,729.58′
T = 922.59′
L = 1,829.49′
E = 73.80′
e = 2.8%
TR = _____
SE RUN = _____
PC STA = 917+32.84
PT STA = 935+62.32

PR CURVE 11
PI STA = 939+66.52
Δ = 11° 32′ 25″ (RT)
D = 1° 25′ 57″
R = 4,000.00′
T = 404.20′
L = 805.67′
E = 20.37′
e = 3.6%
TR = _____
SE RUN = _____
PC STA = 935+62.32
PT STA = 943+67.99

PR CURVE 12
PI STA = 959+12.05
Δ = 7° 45′ 00″ (LT)
D = 0° 28′ 39″
R = 12,000.00′
T = 812.82′
L = 1,623.16′
E = 27.50′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 950+99.23
PT STA = 967+22.39

PR CURVE 101
PI STA = 138+08.04
Δ = 9° 15′ 00″ (LT)
D = 3° 34′ 52″
R = 1,600.00′
T = 129.44′
L = 258.31′
E = 5.23′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 136+78.61
PT STA = 139+36.92

PR CURVE 116
PI STA = 411+23.24
Δ = 2° 01′ 22″ (LT)
D = 0° 40′ 27″
R = 8,500.00′
T = 150.07′
L = 300.10′
E = 1.32′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 409+73.18
PT STA = 412+73.28

PR CURVE 115
PI STA = 403+91.15
Δ = 4° 06′ 24″ (RT)
D = 0° 31′ 31″
R = 10,910.00′
T = 391.15′
L = 781.97′
E = 7.01′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 400+00.00
PT STA = 407+81.97

PR CURVE 157
PI STA = 599+09.51
Δ = 4° 58′ 29″ (LT)
D = 0° 59′ 26″
R = 5,783.58′
T = 251.24′
L = 502.16′
E = 5.45′
e = 2.0%
TR = _____
SE RUN = _____
PC STA = 596+58.27
PT STA = 601+60.43

PR CURVE 156
PI STA = 594+15.25
Δ = 6° 55′ 44″ (LT)
D = 1° 25′ 26″
R = 4,024.00′
T = 243.61′
L = 486.63′
E = 7.37′
e = 2.6%
TR = _____
SE RUN = _____
PC STA = 591+71.64
PT STA = 596+58.27

PR CURVE 155
PI STA = 576+98.15
Δ = 6° 18′ 48″ (RT)
D = 0° 31′ 26″
R = 10,938.00′
T = 603.23′
L = 1,205.23′
E = 16.62′
e = 1.5%
TR = _____
SE RUN = _____
PC STA = 570+94.92
PT STA = 583+00.16

ELEMENTS CONTROLLING DESIGN

FAP 345 - ELGIN O'HARE EXPRESSWAY

1. HIGHWAY DESIGN CLASSIFICATION FAU 2585 - MEACHAM RD MAJOR ARTERIAL
   SRA: YES_____NO__X___
2. AVERAGE DAILY TRAFFIC (ADT) DATA: EO EXPY: EXISTING 103,500 DESIGN 101,900
   MEDINAH RD/MEACHAM RD: EXISTING 12,200 DESIGN 14,300
3. ELGIN O'HARE EXPRESSWAY IS THE PREFERENCE ROUTE
4. ANTICIPATED YEAR OF CONSTRUCTION 2014 DESIGN YEAR 2030
5. TRAFFIC CONTROL TO BE MODERNIZED SIGNALS WARRANTS MET EXISTING
6. DESIGN CRITERIA: ISTHA DESIGN CRITERIA, IDOT BDE, IDOT BLRS
7. DESIGN VEHICLE: WB-65 TRUCK ROUTE DESIGNATION CL II
8. DESIGN SPEED EO EXPY 60 MPH POSTED SPEED EO EXPY 55 MPH
   RAMPS: SERVICE - 45 MPH RAMPS: SERVICE - 40 MPH
   SYSTEM - 50 MPH SYSTEM - 45 MPH
   MEACHAM RD 45 MPH MEACHAM RD 40 MPH

GENERAL NOTES

1. PROFILES *ARE* PROVIDED, SINCE APPROACH GRADES ARE >1% SEE MASTER PLAN - PROJECT B1
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT
3. TYPE B-6.24 CURB AND GUTTER TO BE USED ON CHANNELIZING ISLAND
4. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT EXCEPT WHERE NOTED OTHERWISE
5. INTERSECTION *IS NOT* A HIGH ACCIDENT LOCATION YEAR
6. INTERSECTION *IS* PART OF INTERCONNECTED SYSTEM FROM EB FRONTAGE RD TO WB FRONTAGE RD
7. ALL SIDEWALKS AND RAMPS AS SHOWN ARE IN COMPLIANCE WITH THE AMERICAN DISABILITIES ACT.
8. EXPECTED PEDESTRIAN/BICYCLE USAGE LOW PED/BIKES
9. ALL ENTRANCES AS SHOWN *ARE* IN COMPLIANCE WITH IDOT "POLICIES ON ACCESS TO STATE HIGHWAYS".
   NOTED EXCEPTIONS:
10. SCOPE OF WORK: RECONSTRUCTION OF INTERCHANGE RAMPS AND MAINLINE
11. DESIGN EXCEPTIONS:

PR CURVE 80
PI STA = 107+80.11
Δ = 12° 16′ 07″ (RT)
D = 3° 47′ 22″
R = 1,512.00′
T = 162.50′
L = 323.76′
E = 8.71′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 106+17.61
PT STA = 109+41.37

PR CURVE 81
PI STA = 122+14.04
Δ = 2° 49′ 12″ (LT)
D = 1° 25′ 41″
R = 4,012.00′
T = 98.75′
L = 197.46′
E = 1.22′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 121+15.29
PT STA = 123+12.75

END RECONSTRUCTION
STA 142+22.25 PR ℄ WB FR EG
MATCH EXISTING

STA 42+26.80 EX ℄ MEACHAM =
STA 142+85.65 PR ℄ WB FR EG

STA 601+60.43 PR ℄ RAMP G5=
STA 934+97.14 PR ℄ EO EXPY, 54.0′ LT

END RECONSTRUCTION
STA 113+43.00 EX ℄ RAMP E1
MATCH EXISTING

STA 933+26.95 PR ℄ EO EXPY =
STA 40+32.85 EX ℄ MEDINAH/MEACHAM

STA 100+00.00 EX ℄ RAMP E1 =
STA 906+94.82 PR ℄ EO EXPY, 66.0′ LT

BEGIN RECONSTRUCTION
STA 900+00.00 PR ℄ EO EXPY
MATCH EXISTING

STA 38+43.18 EX ℄ MEDINAH =
STA 100+00.00 PR ℄ EB FR EG

BEGIN RECONSTRUCTION
STA 100+77.10 PR ℄ EB FR EG
MATCH EXISTING

END RECONSTRUCTION
STA 209+08.39 EX ℄ RAMP E2
MATCH EXISTING

STA 200+00.00 EX ℄ RAMP E2 =
STA 914+73.68 PR ℄ EO EXPY, 66.0′ RT

STA 300+00.00 PR ℄ RAMP G3 =
STA 944+56.83 PR ℄ EO EXPY, 63.40′ RT

STA 417+23.25 PR ℄ RAMP E4 =
STA 131+60.54 PR ℄ WB FR EG, 24.00′ LT

STA 300+00.00 PR ℄ RAMP E3 =
STA 114+88.99 PR ℄ EB FR EG, 12.00′ LT

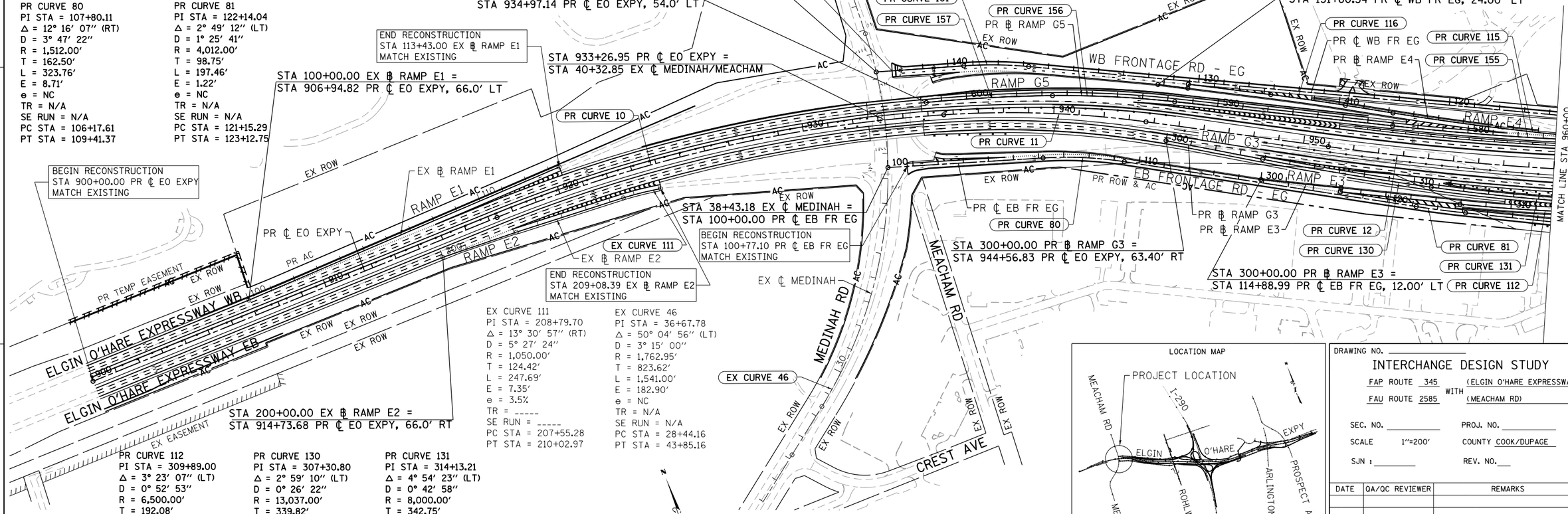
EX CURVE 111
PI STA = 208+79.70
Δ = 13° 30′ 57″ (RT)
D = 5° 27′ 24″
R = 1,050.00′
T = 124.42′
L = 247.69′
E = 7.35′
e = 3.5%
TR = _____
SE RUN = _____
PC STA = 207+55.28
PT STA = 210+02.97

EX CURVE 46
PI STA = 36+67.78
Δ = 50° 04′ 56″ (LT)
D = 3° 15′ 00″
R = 1,762.95′
T = 823.62′
L = 1,541.00′
E = 182.90′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 28+44.16
PT STA = 43+85.16

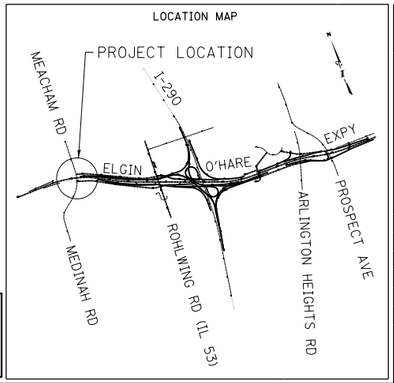
PR CURVE 112
PI STA = 309+89.00
Δ = 3° 23′ 07″ (LT)
D = 0° 52′ 53″
R = 6,500.00′
T = 192.08′
L = 384.04′
E = 2.84′
e = RC
TR = _____
SE RUN = _____
PC STA = 307+96.92
PT STA = 311+80.96

PR CURVE 130
PI STA = 307+30.80
Δ = 2° 59′ 10″ (LT)
D = 0° 26′ 22″
R = 13,037.00′
T = 339.82′
L = 679.48′
E = 4.43′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 303+90.99
PT STA = 310+70.46

PR CURVE 131
PI STA = 314+13.21
Δ = 4° 54′ 23″ (LT)
D = 0° 42′ 58″
R = 8,000.00′
T = 342.75′
L = 685.08′
E = 7.34′
e = RC
TR = _____
SE RUN = _____
PC STA = 310+70.46
PT STA = 317+55.54



LOCATION MAP



DRAWING NO. _____

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2585 WITH (MEACHAM RD)

SEC. NO. _____ PROJ. NO. _____
SCALE 1"=200′ COUNTY COOK/DUPAGE
SJN : _____ REV. NO. ___

DATE	QA/QC REVIEWER	REMARKS

CADD FILE NAME *DIEOWB-804-sht-ids-001.dgn*
REF FILE NAME _____
I.D.S. SHEET 1 OF 57

PREPARED BY:
CH2MHILL®
PROJ. MGR._____ PROJ. ENG._____

GRAPHIC SCALE 200′ 0 200′

BDF-9409

SIGNALIZED INTERSECTION

CAPACITY ANALYSIS

HIGHWAY CAPACITY SOFTWARE

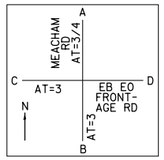
PROGRAM NAME HCS+

VERSION 5.5

BASIC CONDITIONS

AREA: CBD (OTHER) PHF 0.95 (CIRCLE ONE)

SIGNAL TYPE ACTUATED ARRIVAL TYPE 3/4



C = SIGNAL CYCLE = 100 SEC. (AM) ΣA/C 19.5 / 100 = 0.195

C = SIGNAL CYCLE = 100 SEC. (PM) ΣA/C 19.5 / 100 = 0.195

	PHASE 1	AMBER + ALL RED	PHASE 2	AMBER + ALL RED	PHASE 3	AMBER + ALL RED
A.M.						
	G/C= 0.23 G =22.5 Sec.	6.5 Sec.	G/C= 0.19 G = 19 Sec.	7 Sec.	G/C= 0.39 G = 39 Sec.	6 Sec.
P.M.						
	G/C= 0.20 G =19.5 Sec.	6.5 Sec.	G/C= 0.21 G = 21 Sec.	7 Sec.	G/C= 0.40 G = 40 Sec.	6 Sec.

APPR. A GR= 0 % A.M. T= 2.1% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

P.M. T= 1.3% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	AB	2 /12'	770	0.95	2000	0.22	0.65	2403	0.340	3.5	A	13.0	B	130	193
	AD	2 /12'	310	0.95	1900	0.09	0.19	666	0.490	36.6	D			218	174
P.M.	AB	2 /12'	450	0.95	2000	0.13	0.68	2538	0.190	2.0	A	14.1	B	50	102
	AD	2 /12'	270	0.95	1900	0.08	0.21	736	0.390	34.3	C			185	148

APPR. B GR= 0 % A.M. T= 5.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

P.M. T= 3.5% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	BD	1 /12'	340	0.95	1900	0.23	0.39	594	0.600	26.1	C	23.4	C	408	305
	BA	2 /12'	310	0.95	2000	0.09	0.39	1428	0.230	20.5	C			168	137
P.M.	BD	1 /12'	240	0.95	1900	0.17	0.40	587	0.430	22.3	C	22.2	C	268	220
	BA	2 /12'	640	0.95	2000	0.18	0.40	1508	0.450	22.1	C			363	269

APPR. C GR= 0 % A.M. T= 2.4% R= 0 % L= 43 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

P.M. T= 2.8% R= 0 % L= 54 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	CB	1 /12'	140	0.95	1900	0.09	0.22	356	0.410	33.9	C	33.6	C	188	154
	CA+CD	2 /12'	310	0.95	1900	0.09	0.22	785	0.420	33.5	C			215	172
	CA	1 /12'	150	0.95	1900	0.09	0.22	389	0.400	33.6	C			198	165
P.M.	CB	1 /12'	120	0.95	1900	0.08	0.19	292	0.430	36.4	D	35.1	D	168	145
	CA+CD	2 /12'	188	0.95	1900	0.06	0.19	692	0.290	34.6	C			133	105
	CA	1 /12'	92	0.95	1900	0.05	0.19	348	0.280	34.7	C			123	103

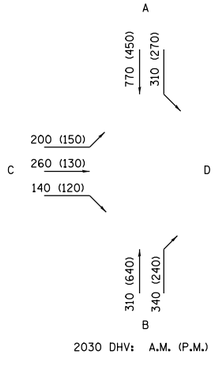
INTERSECTION DELAY 21.2 (A.M.), 21.9 (P.M.)

INTERSECTION LOS C (A.M.), C (P.M.)

NOTE:
25%/39% (AM/PM) OF THE EB LEFT TURN VOLUME
IS ASSUMED TO USE THE SHARED THRU/LEFT LANE.

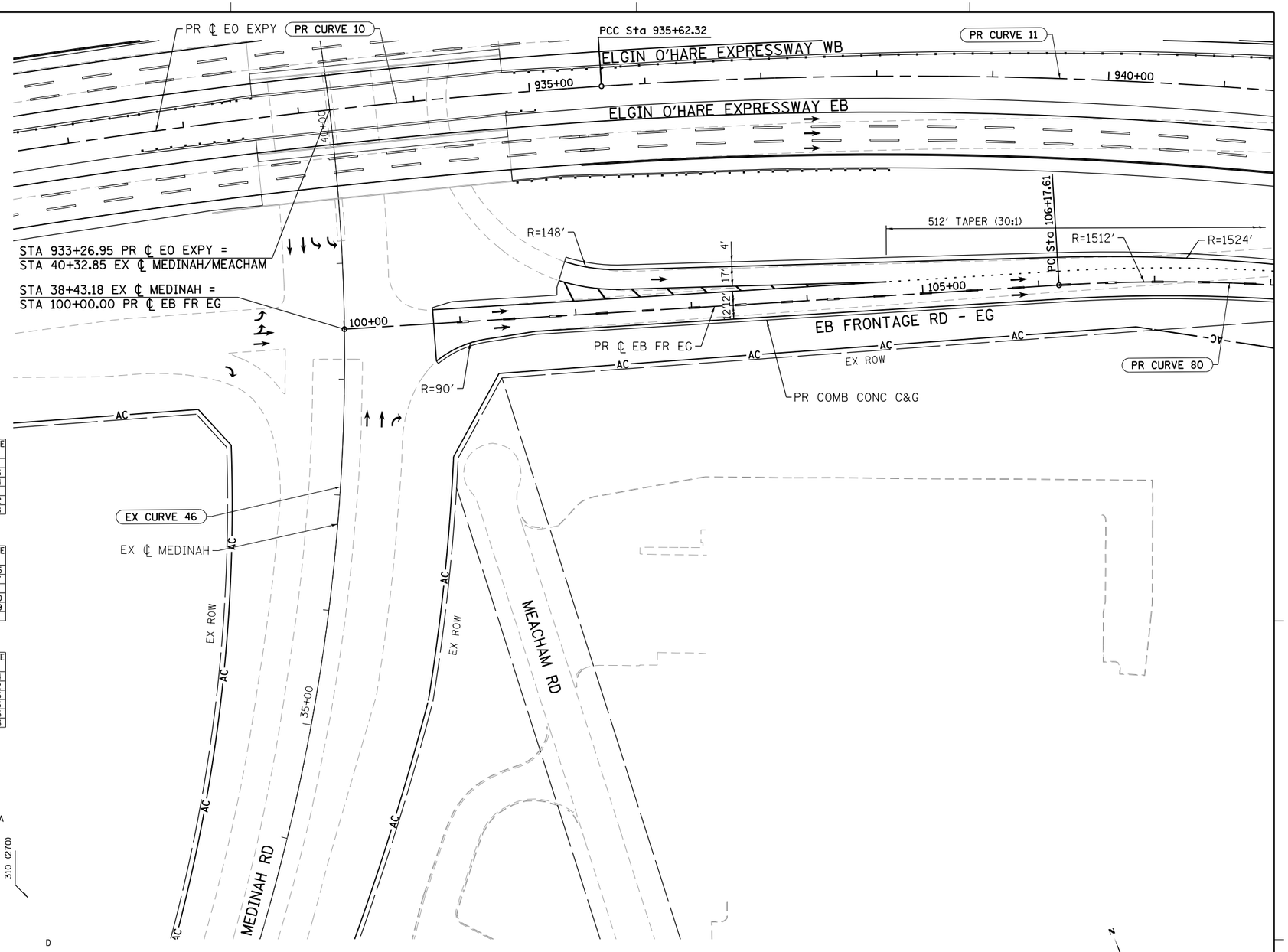
TRAFFIC DATA

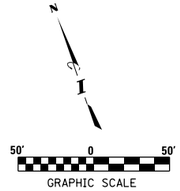
MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC A.M.	YEAR 2010 PEAK HOUR TRAFFIC P.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR A.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR (P.M.)	ESTIMATED PERCENT INCREASE BY 2030 A.M.	ESTIMATED PERCENT INCREASE BY 2030 P.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC A.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC P.M.
AB	640	960	3	2	20%	-53%	770	450
AD	260	170	0	0	19%	59%	310	270
AC								
BA	430	450	4	1	-28%	42%	310	640
BC								
BD	180	180	6	10	89%	33%	340	240
CD	30	10	3	0	767%	1200%	260	130
CA	560	260	2	1	-64%	-42%	200	150
CB	200	100	2	8	-30%	20%	140	120
DC								
DB								
DA								
TOTAL A	1890	1840	-	-	-	-	1590	1510
TOTAL B	1450	1690	-	-	-	-	1560	1450
TOTAL C	790	370	-	-	-	-	600	400
TOTAL D	470	360	-	-	-	-	910	640



2030 DHV: A.M. (P.M.)

APPROACH	YEAR 2010 8TH MAX HOUR TRAFFIC
A (NORTH)	1040
B (SOUTH)	930
C (WEST)	435
D (EAST)	259





INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)

FAU ROUTE 2595 WITH (MEACHAM RD)

SEC. NO. _____

SCALE 1"=50' COUNTY COOK/DUPAGE

SJN : _____ PROJ. NO. _____

I.D.S. SHEET 2 OF 57

BDE-9908

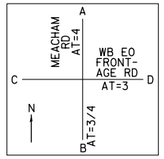
PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-002.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphilip

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-003.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

SIGNALIZED INTERSECTION

CAPACITY ANALYSIS

HIGHWAY CAPACITY SOFTWARE
PROGRAM NAME HCS+
VERSION 5.5



BASIC CONDITIONS

AREA: CBD (OTHER) PHF 0.95 (CIRCLE ONE)

SIGNAL TYPE ACTUATED ARRIVAL TYPE 3/4

C = SIGNAL CYCLE = 100 SEC. (AM) ΣA/C 19.5 / 100 = 0.195
C = SIGNAL CYCLE = 100 SEC. (PM) ΣA/C 19.5 / 100 = 0.195

	PHASE 1	AMBER + ALL RED	PHASE 2	AMBER + ALL RED	PHASE 3	AMBER + ALL RED
A.M.	G/C= 0.32 G =31.5 Sec.	6.5 Sec.	G/C= 0.22 G = 22 Sec.	7 Sec.	G/C= 0.27 G = 27 Sec.	6 Sec.
P.M.	G/C= 0.41 G = 41 Sec.	6.5 Sec.	G/C= 0.20 G = 20 Sec.	7 Sec.	G/C= 0.20 G =19.5 Sec.	6 Sec.

APPR. A GR= 0 % A.M. T= 1.2% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 1.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	% RED-TIME QUEUE
A.M.	AC	1 /12′	90	0.95	1900	0.06	0.27	423	0.220	28.6	C	31.9	C	100	94
	AB	3 /12′	810	0.95	2000	0.16	0.27	1456	0.590	32.3	C			365	276
P.M.	AC	1 /12′	130	0.95	1900	0.09	0.19	312	0.440	36.4	D	35.6	D	173	147
	AB	3 /12′	400	0.95	2000	0.08	0.19	1052	0.400	35.4	D			190	151

APPR. B 0GR= 0 % A.M. T= 3.9% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 1.4% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	% RED-TIME QUEUE
A.M.	BA	2 /12′	350	0.95	2000	0.10	0.56	2090	0.180	7.1	A	15.8	B	88	109
	BC	1 /12′	160	0.95	1900	0.10	0.22	368	0.460	34.7	C			215	187
P.M.	BA	2 /12′	650	0.95	2000	0.18	0.47	1753	0.390	14.4	B	18.2	B	263	244
	BC	1 /12′	140	0.95	1900	0.08	0.20	350	0.420	35.7	D			190	160

APPR. D GR= 0 % A.M. T=10.0% R= 74 % L= 56 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 3.7% R= 68 % L= 55 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

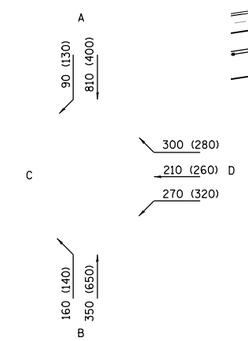
	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	% RED-TIME QUEUE
A.M.	DA+DB+DC	2 /12′	545	0.95	1900	0.19	0.31	947	0.610	30.1	C	29.6	C	368	285
	DB	1 /12′	235	0.95	1900	0.15	0.31	517	0.480	28.3	C			288	246
P.M.	DA+DB+DC	2 /12′	575	0.95	1900	0.19	0.41	1305	0.460	21.8	C	21.6	C	330	248
	DB	1 /12′	285	0.95	1900	0.17	0.41	733	0.410	21.3	C			305	236

INTERSECTION DELAY 27.3 (A.M.), 23.8 (P.M.)
INTERSECTION LOS C (A.M.), C (P.M.)

NOTE:
13%/11% (AM/PM) OF THE WB LEFT TURN VOLUME IS ASSUMED TO USE THE SHARED THRU/LEFT LANE.

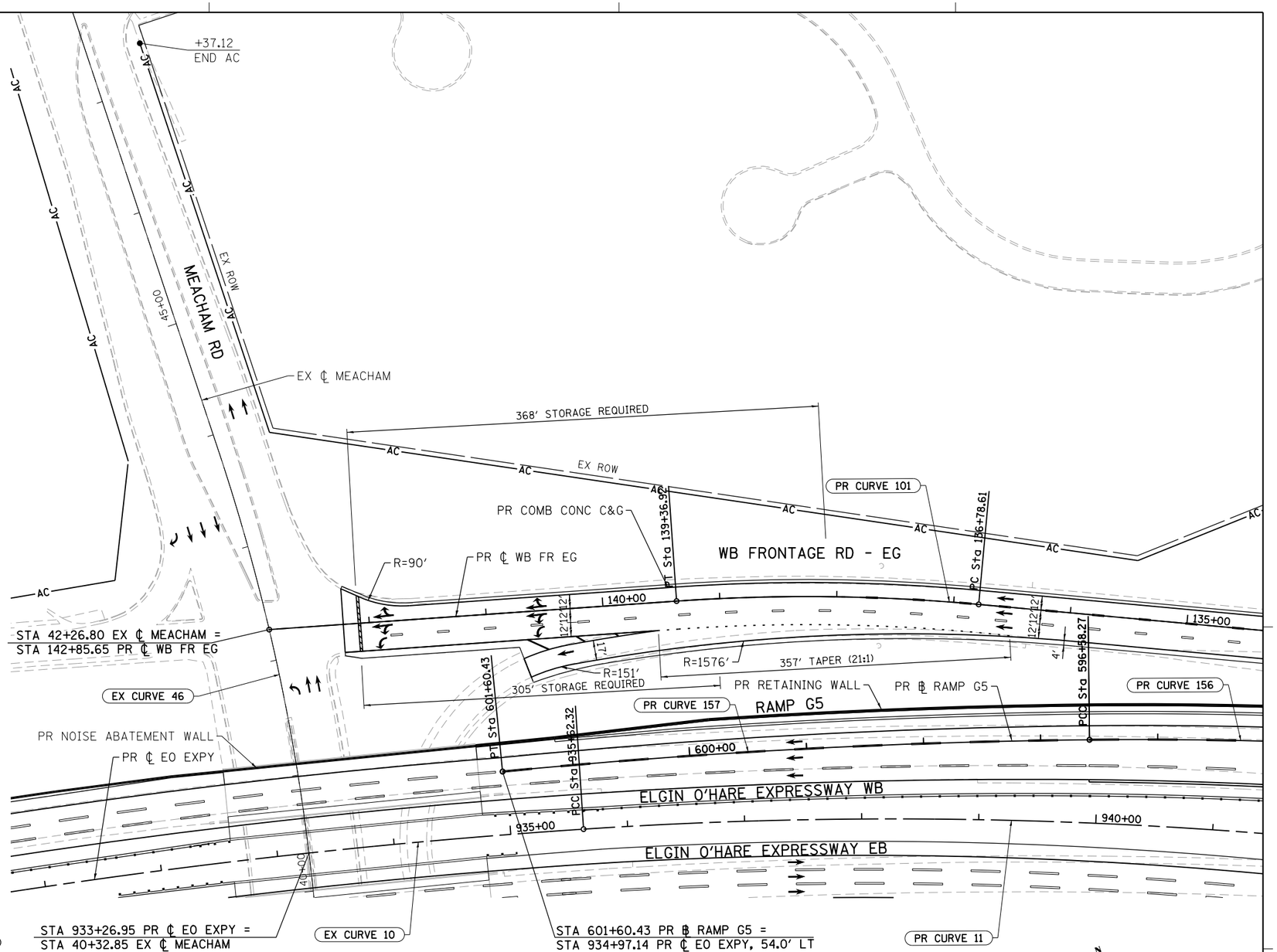
TRAFFIC DATA

MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN PEAK HOUR		ESTIMATED PERCENT INCREASE BY 2030		YEAR 2030 DESIGN PEAK HOUR TRAFFIC	
	A.M.	P.M.	A.M. (P.M.)		A.M.	P.M.	A.M.	P.M.
AB	690	650	1	1	17%	-38%	810	400
AD								
AC	130	420	3	1	-31%	-69%	90	130
BA	930	580	2	1	-62%	12%	350	650
BC	60	130	8	3	167%	8%	160	140
BD								
CD								
CA								
CB								
DC	10	10	10	10	2000%	2500%	210	260
DB	210	480	10	10	29%	-33%	270	320
DA	100	270	10	10	200%	4%	300	280
TOTAL A	1850	1920	-	-	-	-	1550	1460
TOTAL B	1890	1840	-	-	-	-	1590	1510
TOTAL C	200	560	-	-	-	-	460	530
TOTAL D	320	760	-	-	-	-	780	860



2030 DHV: A.M. (P.M.)

APPROACH	YEAR 2010 8TH MAX HOUR TRAFFIC
A (NORTH)	1056
B (SOUTH)	1040
C (WEST)	308
D (EAST)	418



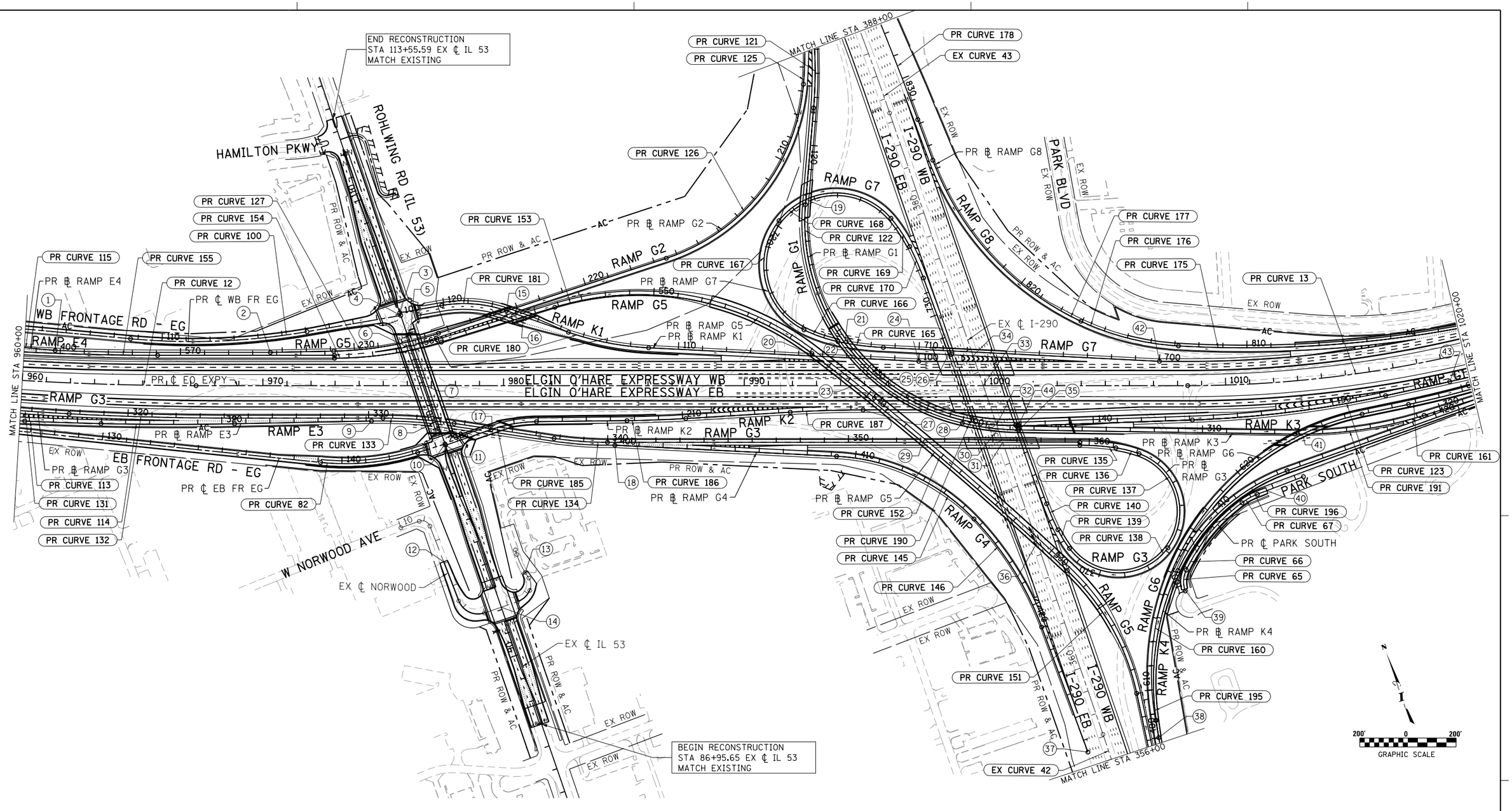
INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2595 WITH (MEACHAM RD)

SEC. NO. _____
SCALE 1″=50′ COUNTY COOK/DUPAGE
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 3 OF 57

BDE-9908



PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-xds-004.dgn
PLOT SCALE = 400.0000 ' / in.
USER NAME = tphillip

1. STA 400+00.00 PR ℄ RAMP E4 = STA 575+21.15 PR ℄ RAMP G5, 12.00′ RT
2. STA 233+49.39 PR ℄ RAMP G2 = STA 566+26.45 PR ℄ RAMP G5, 12.00′ RT
3. STA 121+86.27 PR ℄ RAMP K1 = STA 105+03.63 EX ℄ IL 53
4. STA 100+00.00 PR ℄ WB FR EG = STA 104+91.47 EX ℄ IL 53
5. STA 227+67.38 PR ℄ RAMP G2 = STA 103+77.46 EX ℄ IL 53
6. STA 560+33.27 PR ℄ RAMP G5 STA 103+41.06 EX ℄ IL 53 =
7. STA 976+73.13 PR ℄ EO EXPY = STA 101+83.23 EX ℄ IL 53
8. STA 100+27.01 EX ℄ IL 53 = STA 332+85.35 PR ℄ RAMP G3
9. STA 326+21.87 EX ℄ RAMP E3 = STA 330+11.87 PR ℄ RAMP G3, 12.00′ RT
10. STA 144+38.90 PR ℄ EB FR EG = STA 99+26.85 EX ℄ IL 53
11. STA 200+00.00 PR ℄ RAMP K2 = STA 99+21.14 EX ℄ IL 53
12. STA 12+93.69 EX ℄ NORWOOD = STA 94+66.06 EX ℄ IL 53, 164.86′ LT
13. STA 18+95.21 EX ℄ NORWOOD = STA 93+13.06 EX ℄ IL 53, 141.09′ RT
14. STA 92+09.53 EX ℄ IL 53 = STA 16+72.26 EX ℄ NORWOOD
15. STA 223+44.70 PR ℄ RAMP G2 = STA 117+35.75 PR ℄ RAMP K1
16. STA 555+50.76 PR ℄ RAMP G5 = STA 116+60.09 PR ℄ RAMP K1
17. STA 202+06.03 PR ℄ RAMP K2 = STA 335+17.01 PR ℄ RAMP G3
18. STA 400+00.00 PR ℄ RAMP G4 = STA 340+29.73 PR ℄ RAMP G3, 12.00′ RT
19. STA 122+25.51 PR ℄ RAMP G1 = STA 721+64.59 PR ℄ RAMP G7
20. STA 542+71.24 PR ℄ RAMP G5 = STA 104+30.38 PR ℄ RAMP K1
21. STA 713+09.82 PR ℄ RAMP G7 = STA 128+57.88 PR ℄ RAMP G1
22. STA 129+39.94 PR ℄ RAMP G1 = STA 102+55.49 PR ℄ RAMP K1
23. STA 994+51.88 PR ℄ EO EXPY = STA 540+72.17 PR ℄ RAMP G5
24. STA 997+24.80 PR ℄ EO EXPY = STA 100+00.00 PR RAMP K1, 101.00′ LT
25. STA 995+95.38 PR ℄ EO EXPY = STA 131+09.79 PR ℄ RAMP G1
26. STA 731+75.21 PR ℄ RAMP G7 = STA 374+06.47 EX ℄ I-290, 83.00′ LT
27. STA 994+93.49 PR ℄ EO EXPY = STA 217+50.73 PR ℄ RAMP K2, 101.00′ RT
28. STA 300+00.00 PR ℄ RAMP K3 = STA 134+56.71 PR ℄ RAMP G1, 12.00′ RT
29. STA 353+08.39 PR ℄ RAMP G3 = STA 536+99.28 PR ℄ RAMP G5
30. STA 301+50.69 PR ℄ RAMP K3 = STA 370+51.18 EX ℄ I-290
31. STA 356+41.00 PR ℄ RAMP G3 = STA 369+92.04 EX ℄ I-290
32. STA 135+98.75 PR ℄ RAMP G1 = STA 370+68.03 EX ℄ I-290
33. STA 999+92.83 PR ℄ EO EXPY = STA 372+40.94 EX ℄ I-290
34. STA 707+81.03 PR ℄ RAMP G7 = STA 373+88.97 EX ℄ I-290
35. STA 376+96.52 PR ℄ RAMP G3 = STA 302+40.33 PR ℄ RAMP K3
36. STA 530+67.02 PR ℄ RAMP G5 = STA 365+51.67 EX ℄ I-290
37. STA 426+52.33 PR ℄ RAMP G4 = STA 356+59.49 EX ℄ I-290, 83.00′ LT
38. STA 400+00.00 PR ℄ RAMP K4 = STA 608+00.65 PR ℄ RAMP G6
39. STA 100+07.88 EX ℄ PARK SOUTH = STA 406+48.62 PR ℄ RAMP K4, 56.26′ RT
40. STA 105+71.27 EX ℄ PARK SOUTH = STA 412+27.53 ℄ RAMP K4, 41.48′ RT
41. STA 623+10.35 PR ℄ RAMP G6 = STA 314+16.09 PR ℄ RAMP K3
42. STA 700+00.00 PR ℄ RAMP G7 = STA 1007+24.80 PR ℄ EO EXPY, 101.00′ LT
43. STA 154+94.87 PR ℄ RAMP G1 = STA 1019+17.77 PR ℄ EO EXPY, 101.00′ RT
44. STA 377+02.95 PR ℄ RAMP G3 = STA 370+24.13 EX ℄ I-290, 83.00′ RT

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2578 WITH (ROHLWING RD IL 53/I-290)

SEC. NO. _____
SCALE 1"=200' COUNTY DUPAGE
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 4 OF 57

BDE-9908

PR CURVE 12
PI STA = 959+12.05
Δ = 7° 45′ 00″ (LT)
D = 0° 28′ 39″
R = 12,000.00′
T = 812.82′
L = 1,623.16′
E = 27.50′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 950+99.23
PT STA = 967+22.39

PR CURVE 13
PI STA = 1017+46.33
Δ = 20° 30′ 00″ (LT)
D = 1° 08′ 45″
R = 5,000.00′
T = 904.15′
L = 1,788.96′
E = 81.09′
e = 3.0%
TR = _____
SE RUN = _____
PC STA = 1008+42.18
PT STA = 1026+31.14

EX CURVE 42
PI STA = 349+62.80
Δ = 7° 28′ 34″ (LT)
D = 0° 30′ 00″
R = 11,459.16′
T = 748.67′
L = 1,495.22′
E = 24.43′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 342+14.13
PT STA = 357+09.35

EX CURVE 43
PI STA = 397+91.69
Δ = 13° 28′ 20″ (LT)
D = 0° 30′ 00″
R = 11,459.16′
T = 1,353.46′
L = 2,694.45′
E = 79.65′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 384+38.23
PT STA = 411+32.67

PR CURVE 100
PI STA = 107+65.37
Δ = 15° 03′ 31″ (RT)
D = 2° 02′ 47″
R = 2,800.00′
T = 370.08′
L = 735.90′
E = 24.35′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 103+95.28
PT STA = 111+31.18

PR CURVE 82
PI STA = 141+18.40
Δ = 23° 22′ 36″ (LT)
D = 5° 43′ 46″
R = 1,000.00′
T = 206.88′
L = 408.00′
E = 21.18′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 139+11.52
PT STA = 143+19.52

PR CURVE 112
PI STA = 309+89.00
Δ = 3° 23′ 07″ (LT)
D = 0° 52′ 53″
R = 6,500.00′
T = 192.08′
L = 384.04′
E = 2.84′
e = 2.0%
TR = _____
SE RUN = _____
PC STA = 307+96.92
PT STA = 311+80.96

PR CURVE 113
PI STA = 313+39.49
Δ = 1° 12′ 40″ (LT)
D = 0° 22′ 55″
R = 15,000.00′
T = 158.53′
L = 317.05′
E = 0.84′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 311+80.96
PT STA = 314+98.01

PR CURVE 114
PI STA = 317+75.56
Δ = 2° 25′ 50″ (LT)
D = 0° 26′ 17″
R = 13,083.00′
T = 277.55′
L = 555.01′
E = 2.94′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 314+98.01
PT STA = 320+53.02

PR CURVE 115
PI STA = 403+91.15
Δ = 4° 06′ 24″ (RT)
D = 0° 31′ 31″
R = 10,910.00′
T = 391.15′
L = 781.97′
E = 7.01′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 400+00.00
PT STA = 407+81.97

PR CURVE 121
PI STA = 114+34.80
Δ = 26° 20′ 33″ (RT)
D = 3° 09′ 43″
R = 1,812.00′
T = 424.04′
L = 833.09′
E = 48.96′
e = 4.6%
TR = _____
SE RUN = _____
PC STA = 110+10.75
PT STA = 118+43.85

PR CURVE 122
PI STA = 132+00.31
Δ = 96° 49′ 35″ (LT)
D = 6° 46′ 21″
R = 846.00′
T = 953.32′
L = 1,429.69′
E = 428.57′
e = 6.0%
TR = _____
SE RUN = _____
PC STA = 122+47.00
PT STA = 136+76.68

PR CURVE 123
PI STA = 148+18.08
Δ = 10° 18′ 57″ (LT)
D = 1° 16′ 24″
R = 4,500.00′
T = 406.19′
L = 810.19′
E = 18.30′
e = 2.6%
TR = _____
SE RUN = _____
PC STA = 144+11.88
PT STA = 152+22.08

PR CURVE 125
PI STA = 203+39.45
Δ = 21° 21′ 33″ (RT)
D = 3° 10′ 59″
R = 1,800.00′
T = 339.45′
L = 671.02′
E = 31.73′
e = 4.6%
TR = _____
SE RUN = _____
PC STA = 200+00.00
PT STA = 206+71.02

PR CURVE 126
PI STA = 212+23.41
Δ = 67° 05′ 59″ (RT)
D = 6° 52′ 42″
R = 833.00′
T = 552.39′
L = 975.54′
E = 166.51′
e = 6.0%
TR = _____
SE RUN = _____
PC STA = 206+71.02
PT STA = 216+46.55

PR CURVE 127
PI STA = 228+66.24
Δ = 17° 04′ 26″ (RT)
D = 3° 51′ 02″
R = 1,488.00′
T = 223.37′
L = 443.42′
E = 16.67′
e = 5.2%
TR = _____
SE RUN = _____
PC STA = 226+42.88
PT STA = 230+86.30

PR CURVE 65
PI STA = 100+47.19
Δ = 45° 41′ 47″ (RT)
D = 51° 09′ 25″
R = 112.00′
T = 47.19′
L = 89.33′
E = 9.54′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 100+00.00
PT STA = 100+89.33

PR CURVE 66
PI STA = 102+76.33
Δ = 28° 00′ 02″ (RT)
D = 7° 38′ 22″
R = 750.00′
T = 187.00′
L = 366.53′
E = 22.96′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 100+89.33
PT STA = 104+55.85

PR CURVE 67
PI STA = 104+92.95
Δ = 16° 52′ 45″ (RT)
D = 22° 55′ 06″
R = 250.00′
T = 37.09′
L = 73.65′
E = 2.74′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 104+55.85
PT STA = 105+29.50

PR CURVE 131
PI STA = 314+13.21
Δ = 4° 54′ 23″ (LT)
D = 0° 42′ 58″
R = 8,000.00′
T = 342.75′
L = 685.08′
E = 7.34′
e = RC
TR = _____
SE RUN = _____
PC STA = 310+70.46
PT STA = 317+55.54

PR CURVE 132
PI STA = 320+99.36
Δ = 3° 00′ 49″ (LT)
D = 0° 26′ 18″
R = 13,071.00′
T = 343.82′
L = 687.48′
E = 4.52′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 317+55.54
PT STA = 324+43.02

PR CURVE 133
PI STA = 332+08.42
Δ = 8° 29′ 37″ (RT)
D = 2° 51′ 53″
R = 2,000.00′
T = 148.51′
L = 296.49′
E = 5.51′
e = 4.4%
TR = _____
SE RUN = _____
PC STA = 330+59.91
PT STA = 333+56.39

PR CURVE 134
PI STA = 338+87.69
Δ = 8° 29′ 37″ (LT)
D = 3° 49′ 11″
R = 1,500.00′
T = 111.39′
L = 222.36′
E = 4.13′
e = 5.4%
TR = _____
SE RUN = _____
PC STA = 337+76.30
PT STA = 339+98.67

PR CURVE 135
PI STA = 360+36.60
Δ = 8° 25′ 33″ (RT)
D = 5° 37′ 02″
R = 1,020.00′
T = 75.14′
L = 150.00′
E = 2.76′
e = 3.6%
TR = _____
SE RUN = _____
PC STA = 359+61.46
PT STA = 361+11.46

PR CURVE 136
PI STA = 361+61.63
Δ = 11° 14′ 04″ (RT)
D = 11° 14′ 04″
R = 510.00′
T = 50.16′
L = 100.00′
E = 2.46′
e = 4.8%
TR = _____
SE RUN = _____
PC STA = 361+11.46
PT STA = 362+11.46

PR CURVE 137
PI STA = 365+54.15
Δ = 106° 41′ 32″ (RT)
D = 22° 28′ 08″
R = 255.00′
T = 342.68′
L = 474.84′
E = 172.15′
e = 6.0%
TR = _____
SE RUN = _____
PC STA = 362+11.46
PT STA = 366+86.31

PR CURVE 138
PI STA = 370+28.99
Δ = 106° 41′ 32″ (RT)
D = 22° 28′ 08″
R = 255.00′
T = 342.68′
L = 474.84′
E = 172.15′
e = 6.0%
TR = _____
SE RUN = _____
PC STA = 366+86.31
PT STA = 371+61.15

PR CURVE 139
PI STA = 372+06.93
Δ = 10° 15′ 34″ (RT)
D = 11° 14′ 04″
R = 510.00′
T = 45.78′
L = 91.32′
E = 2.05′
e = 4.8%
TR = _____
SE RUN = _____
PC STA = 371+61.15
PT STA = 372+52.47

PR CURVE 140
PI STA = 373+11.27
Δ = 6° 35′ 56″ (RT)
D = 5° 37′ 02″
R = 1,020.00′
T = 58.80′
L = 117.47′
E = 1.69′
e = 3.5%
TR = _____
SE RUN = _____
PC STA = 372+52.47
PT STA = 373+69.95

PR CURVE 145
PI STA = 412+59.77
Δ = 43° 18′ 56″ (RT)
D = 6° 44′ 26″
R = 850.00′
T = 337.53′
L = 642.60′
E = 64.56′
e = 6.0%
TR = _____
SE RUN = _____
PC STA = 409+22.24
PT STA = 415+64.84

PR CURVE 146
PI STA = 418+35.57
Δ = 23° 31′ 39″ (RT)
D = 4° 24′ 27″
R = 1,300.00′
T = 270.72′
L = 533.82′
E = 27.89′
e = 5.4%
TR = _____
SE RUN = _____
PC STA = 415+64.84
PT STA = 420+98.66

PR CURVE 155
PI STA = 576+98.15
Δ = 6° 18′ 48″ (RT)
D = 0° 31′ 26″
R = 10,938.00′
T = 603.23′
L = 1,205.23′
E = 16.62′
e = 1.5%
TR = _____
SE RUN = _____
PC STA = 570+94.92
PT STA = 583+00.16

PR CURVE 154
PI STA = 561+36.61
Δ = 17° 04′ 26″ (RT)
D = 3° 47′ 22″
R = 1,512.00′
T = 226.97′
L = 450.57′
E = 16.94′
e = 5.0%
TR = _____
SE RUN = _____
PC STA = 559+09.64
PT STA = 563+60.21

PR CURVE 153
PI STA = 548+99.30
Δ = 54° 34′ 15″ (LT)
D = 4° 50′ 21″
R = 1,184.00′
T = 610.73′
L = 1,127.69′
E = 148.23′
e = 5.6%
TR = _____
SE RUN = _____
PC STA = 542+88.57
PT STA = 554+16.26

PR CURVE 152
PI STA = 535+92.81
Δ = 5° 42′ 34″ (LT)
D = 0° 24′ 36″
R = 13,976.00′
T = 696.92′
L = 1,392.68′
E = 17.37′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 528+95.89
PT STA = 542+88.57

PR CURVE 151
PI STA = 526+07.83
Δ = 34° 38′ 28″ (LT)
D = 5° 49′ 22″
R = 984.00′
T = 306.87′
L = 594.93′
E = 46.74′
e = 6.0%
TR = _____
SE RUN = _____
PC STA = 523+00.97
PT STA = 528+95.89

PR CURVE 160
PI STA = 619+44.27
Δ = 88° 27′ 45″ (RT)
D = 5° 12′ 31″
R = 1,100.00′
T = 1,070.87′
L = 1,698.36′
E = 435.18′
e = 5.8%
TR = _____
SE RUN = _____
PC STA = 608+73.39
PT STA = 625+71.75

PR CURVE 161
PI STA = 631+14.17
Δ = 9° 51′ 53″ (LT)
D = 1° 25′ 57″
R = 4,000.00′
T = 345.19′
L = 688.68′
E = 14.87′
e = 2.8%
TR = _____
SE RUN = _____
PC STA = 627+68.97
PT STA = 634+57.65

PR CURVE 165
PI STA = 712+43.64
Δ = 9° 04′ 19″ (RT)
D = 4° 46′ 29″
R = 1,200.00′
T = 95.20′
L = 190.00′
E = 3.77′
e = 2.3%
TR = _____
SE RUN = _____
PC STA = 711+48.44
PT STA = 713+38.44

PR CURVE 166
PI STA = 714+13.83
Δ = 14° 19′ 26″ (RT)
D = 9° 32′ 57″
R = 600.00′
T = 75.39′
L = 150.00′
E = 4.72′
e = 4.6%
TR = _____
SE RUN = _____
PC STA = 713+38.44
PT STA = 714+88.44

PR CURVE 167
PI STA = 718+56.70
Δ = 101° 39′ 54″ (RT)
D = 19° 05′ 55″
R = 300.00′
T = 368.26′
L = 532.32′
E = 174.99′
e = 5.8%
TR = _____
SE RUN = _____
PC STA = 714+88.44
PT STA = 720+20.76

PR CURVE 168
PI STA = 723+89.02
Δ = 101° 39′ 54″ (RT)
D = 19° 05′ 55″
R = 300.00′
T = 368.26′
L = 532.32′
E = 174.99′
e = 5.8%
TR = _____
SE RUN = _____
PC STA = 720+20.76
PT STA = 725+53.07

PR CURVE 169
PI STA = 726+24.09
Δ = 13° 30′ 06″ (RT)
D = 9° 32′ 57″
R = 600.00′
T = 71.02′
L = 141.39′
E = 4.19′
e = 4.6%
TR = _____
SE RUN = _____
PC STA = 725+53.07
PT STA = 726+94.46

PR CURVE 170
PI STA = 727+65.89
Δ = 6° 48′ 48″ (RT)
D = 4° 46′ 29″
R = 1,200.00′
T = 71.43′
L = 142.70′
E = 2.12′
e = 3.2%
TR = _____
SE RUN = _____
PC STA = 726+94.46
PT STA = 728+37.16

PR CURVE 175
PI STA = 806+46.10
Δ = 15° 01′ 34″ (RT)
D = 1° 10′ 10″
R = 4,899.00′
T = 646.10′
L = 1,284.79′
E = 42.42′
e = 2.4%
TR = _____
SE RUN = _____
PC STA = 800+00.00
PT STA = 812+84.79

PR CURVE 176
PI STA = 814+97.47
Δ = 21° 53′ 07″ (RT)
D = 5° 12′ 31″
R = 1,100.00′
T = 212.68′
L = 420.17′
E = 20.37′
e = 5.8%
TR = _____
SE RUN = _____
PC STA = 812+84.79
PT STA = 817+04.96

PR CURVE 177
PI STA = 821+96.15
Δ = 44° 31′ 16″ (RT)
D = 4° 46′ 29″
R = 1,200.00′
T = 491.19′
L = 932.45′
E = 96.64′
e = 5.6%
TR = _____
SE RUN = _____
PC STA = 817+04.96
PT STA = 826+37.41

PR CURVE 178
PI STA = 834+21.05
Δ = 4° 58′ 45″ (LT)
D = 0° 24′ 46″
R = 13,882.00′
T = 603.57′
L = 1,206.38′
E = 13.12′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 828+17.48
PT STA = 840+23.86

PR CURVE 180
PI STA = 112+95.09
Δ = 16° 15′ 43″ (RT)
D = 4° 46′ 29″
R = 1,200.00′
T = 171.45′
L = 340.59′
E = 12.19′
e = 7.0%
TR = _____
SE RUN = _____
PC STA = 111+23.64
PT STA = 114+64.23

PR CURVE 181
PI STA = 118+76.06
Δ = 28° 55′ 58″ (LT)
D = 10° 36′ 37″
R = 540.00′
T = 139.32′
L = 272.68′
E = 17.68′
e = 3.8%
TR = _____
SE RUN = _____
PC STA = 117+36.74
PT STA = 120+09.43

PR CURVE 185
PI STA = 202+97.50
Δ = 18° 21′ 00″ (RT)
D = 9° 32′ 57″
R = 600.00′
T = 96.91′
L = 192.16′
E = 7.78′
e = 4.0%
TR = _____
SE RUN = _____
PC STA = 202+00.59
PT STA = 203+92.75

PR CURVE 186
PI STA = 208+91.00
Δ = 2° 48′ 00″ (LT)
D = 1° 08′ 45″
R = 5,000.00′
T = 122.19′
L = 244.33′
E = 1.49′
e = 2.4%
TR = _____
SE RUN = _____
PC STA = 207+68.81
PT STA = 210+13.15

PR CURVE 187
PI STA = 215+99.40
Δ = 3° 28′ 10″ (RT)
D = 1° 08′ 45″
R = 5,000.00′
T = 151.43′
L = 302.76′
E = 2.29′
e = 2.4%
TR = _____
SE RUN = _____
PC STA = 214+47.97
PT STA = 217+50.73

PR CURVE 190
PI STA = 301+18.65
Δ = 12° 18′ 47″ (LT)
D = 5° 12′ 31″
R = 1,100.00′
T = 118.65′
L = 236.39′
E = 6.38′
e = 5.8%
TR = _____
SE RUN = _____
PC STA = 300+00.00
PT STA = 302+36.39

PR CURVE 191
PI STA = 316+58.77
Δ = 18° 11′ 50″ (LT)
D = 3° 20′ 20″
R = 1,716.00′
T = 274.82′
L = 545.01′
E = 21.87′
e = 4.8%
TR = _____
SE RUN = _____
PC STA = 313+83.95
PT STA = 319+28.96

PR CURVE 195
PI STA = 404+00.73
Δ = 33° 12′ 09″ (RT)
D = 5° 12′ 31″
R = 1,100.00′
T = 327.95′
L = 637.44′
E = 47.85′
e = 5.8%
TR = _____
SE RUN = _____
PC STA = 400+72.78
PT STA = 407+10.22

PR CURVE 196
PI STA = 410+43.56
Δ = 45° 29′ 46″ (RT)
D = 7° 12′ 25″
R = 795.00′
T = 333.34′
L = 631.28′
E = 67.06′
e = 8.0%
TR = _____
SE RUN = _____
PC STA = 407+10.22
PT STA = 413+41.50

INTERCHANGE DESIGN STUDY

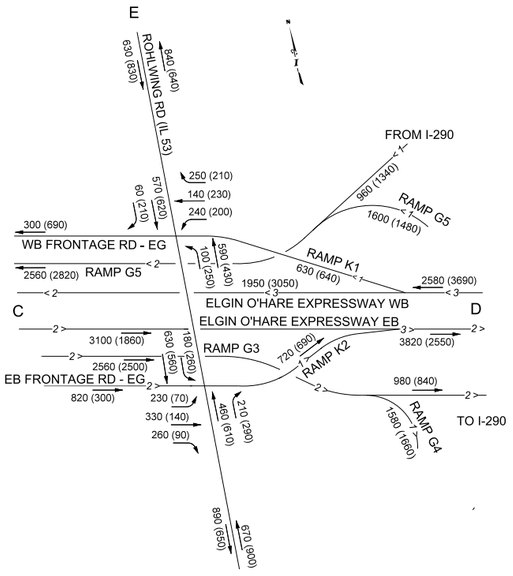
FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2578 WITH (ROHLWING RD IL 53/I-290)

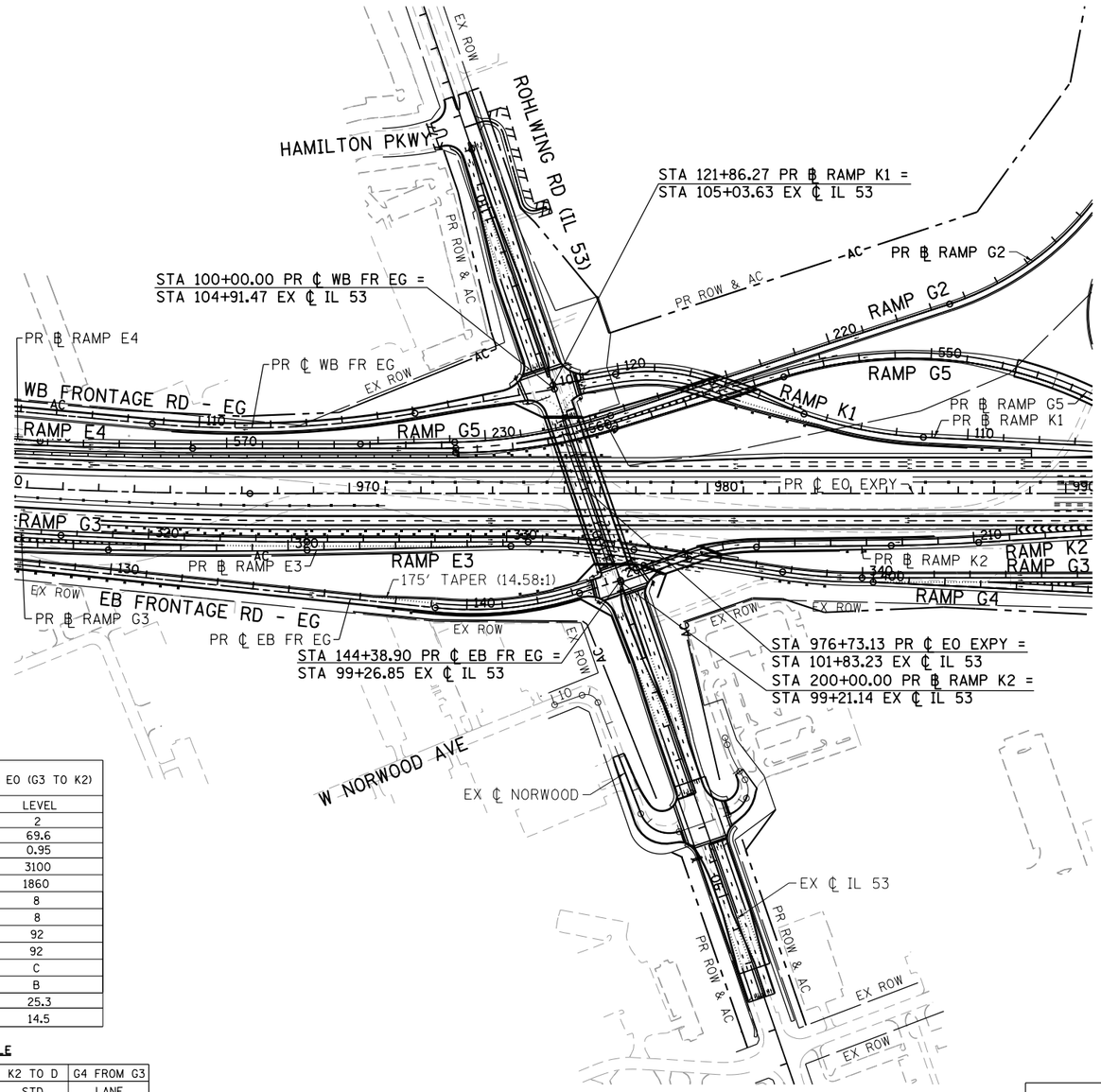
SEC. NO. _____
SCALE
COUNTY DUPAGE
SJN : _____
PROJ. NO. _____

I.D.S. SHEET 5 OF 57

BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOVB-804-sht-ids-005.dgn
PLOT SCALE = 400.0000 ' / in.
USER NAME = tphilip





ELEMENTS CONTROLLING DESIGN

1. HIGHWAY DESIGN CLASSIFICATION FAP 345 - ELGIN O'HARE EXPRESSWAY
   FAU 2578 - ROHLWING RD (IL 53) MAJOR ARTERIAL
   SRA: YES_____ NO _X_
2. AVERAGE DAILY TRAFFIC (ADT) DATA: EO EXPY EXISTING 103,500 DESIGN 101,900
   IL 53 EXISTING 27,100 DESIGN 24,700
3. ELGIN O'HARE EXPRESSWAY IS THE PREFERENCE ROUTE
4. ANTICIPATED YEAR OF CONSTRUCTION 2014 DESIGN YEAR 2030
5. TRAFFIC CONTROL TO BE MODERNIZED SIGNALS WARRANTS MET EXISTING
6. DESIGN CRITERIA: IDOT BDE CH 47, CH 48; ISTHA DESIGN CRITERIA
7. DESIGN VEHICLE: WB-65 TRUCK ROUTE DESIGNATION CL II
8. DESIGN SPEED EO EXPY 60 MPH POSTED SPEED EO EXPY 55 MPH

RAMPS: SERVICE - 45 MPH	RAMPS: SERVICE - 40 MPH
SYSTEM - 50 MPH	SYSTEM - 45 MPH
ROHLWING RD (IL53) 45 MPH	ROHLWING RD (IL53) 40 MPH

GENERAL NOTES

1. PROFILES *ARE* PROVIDED, SINCE APPROACH GRADES ARE >1%
   SEE MASTER PLAN - PROJECT B1
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT
3. TYPE B-6.24 CURB AND GUTTER TO BE USED ON CHANNELIZING ISLAND
4. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT EXCEPT WHERE NOTED OTHERWISE
5. INTERSECTION *IS NOT* A HIGH ACCIDENT LOCATION YEAR
6. INTERSECTION *WILL BE* PART OF INTERCONNECTED SYSTEM
   FROM IL 19 TO ELGIN O'HARE EXPRESSWAY WB RAMP
7. ALL SIDEWALKS AND RAMPS AS SHOWN ARE IN COMPLIANCE WITH THE AMERICAN DISABILITIES ACT.
8. EXPECTED PEDESTRIAN/BICYCLE USAGE LOW PED/BIKES
9. ALL ENTRANCES AS SHOWN *ARE* IN COMPLIANCE WITH IDOT "POLICIES ON ACCESS TO STATE HIGHWAYS".
   NOTED EXCEPTIONS:
10. SCOPE OF WORK: RECONSTRUCTION OF INTERCHANGE AND TRAFFIC SIGNAL MODERNIZATION
11. DESIGN EXCEPTIONS: ROHLWING/EB FR - EG LOS: LOS E VS D: AM - NB RT; PM - SB LT; LOS F VS D: PM - NB RT.
    GEOMETRICS: SB LT - 388' VS 443', NB RT - 250' VS 538'.
    ROHLWING/WB FR - EG GEOMETRICS: SB RT - 275' VS 295'.
    NB LT - 400' VS 525'

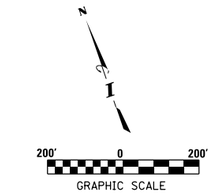
MAINLINE SEGMENT ANALYSIS

MAINLINE SEGMENT		WB EO (K1 TO G5)	EB EO (G3 TO K2)
TERRAIN/GRADE		LEVEL	LEVEL
NUMBER OF TOTAL LANES		2	2
FREE-FLOW SPEED (MPH)		69.6	69.6
PEAK-HOUR FACTOR (PHF)		0.95	0.95
VOLUME (VPH)	A.M.	1950	3100
	P.M.	3050	1860
% TRUCKS	A.M.	8	8
	P.M.	8	8
% OTHER VEHICLES	A.M.	92	92
	P.M.	92	92
LEVEL OF SERVICE (LOS)	A.M.	B	C
	P.M.	C	B
DENSITY (PC/MI/LN)	A.M.	15.2	25.3
	P.M.	24.7	14.5

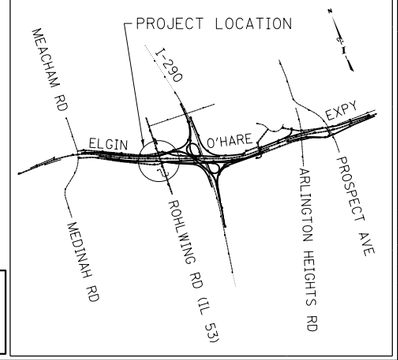
ENTRANCE AND EXIT RAMP TERMINAL CAPACITY TABLE

RAMP		G2 TO G5	K1 FROM D	K2 TO D	G4 FROM G3
RAMP TYPE		LANE ADD	STD EXIT	STD ENTRANCE	LANE DROP
PEAK-HOUR FACTOR (PHF)		0.95	0.95	0.95	0.95
% OF TRUCKS ON FREEWAY (AM/PM)		8/8	8/8	8/8	8/8
% TRUCKS ON RAMP (AM/PM)		8/8	8/8	8/8	8/8
NUMBER OF LANES ON FREEWAY		1	3	2	2
NUMBER OF LANES ON RAMP		1	1	1	1
DESIGN SPEED OF FREEWAY/RAMP (MPH)*		50/50	60/45	60/45	40/50
TYPE/DISTANCE TO ADJACENT UPSTREAM RAMP (FT)		NA	OFF/1100	NA	NA
TYPE/DISTANCE TO ADJACENT DOWNSTREAM RAMP (FT)		NA	NA	NA	NA
UNADJUSTED FREEWAY VOLUME (VPH)	A.M.	960	2580	3100	2560
	P.M.	1340	3690	1860	2500
UNADJUSTED RAMP VOLUME (VPH)	A.M.	1600	630	720	1580
	P.M.	1480	640	690	1660
DENSITY (PC/MI/LN)	A.M.	NA	19.6	32.7	NA
	P.M.	NA	25.6	21.9	NA
LEVEL OF SERVICE (LOS)	A.M.	D	B	D	D
	P.M.	D	C	C	E

*AT RAMP-RAMP JUNCTIONS, "FREEWAY" DENOTES THE MORE MAJOR RAMP



LOCATION MAP



PREPARED BY:
CH2MHILL®
PROJ. MGR._____ PROJ. ENG._____

DRAWING NO. _____

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
WITH
FAU ROUTE 2578 (ROHLWING RD IL 53)

SEC. NO. _____ PROJ. NO. _____
SCALE 1"=200' COUNTY DUPAGE
SJN : _____ REV. NO.___

DATE	QA/QC REVIEWER	REMARKS

CADD FILE NAME *DIEOWB-804-sht-lds-006.dgn*
REF FILE NAME _____
I.D.S. SHEET 6 OF 57

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-lds-006.dgn
PLOT SCALE = 400.0000 ' / in.
USER NAME = tphillip

BDF-9409

SIGNALIZED INTERSECTION

CAPACITY ANALYSIS

HIGHWAY CAPACITY SOFTWARE

PROGRAM NAME HCS+

VERSION 5.5

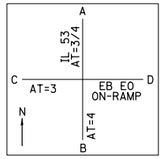
BASIC CONDITIONS

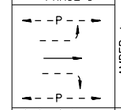
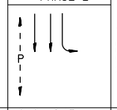
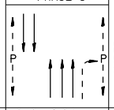
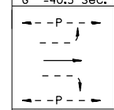
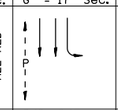
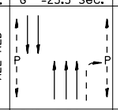
AREA: CBD (OTHER) (CIRCLE ONE) PHF 0.95

SIGNAL TYPE ACTUATED ARRIVAL TYPE 3/4

C = SIGNAL CYCLE = 100 SEC. (AM) ΣA/C 19 / 100 = 0.19

C = SIGNAL CYCLE = 100 SEC. (PM) ΣA/C 19 / 100 = 0.19



	PHASE 1		PHASE 2		PHASE 3	
A.M.		AMBER + ALL RED		AMBER + ALL RED		AMBER + ALL RED
	G/C= 0.41 G =40.5 Sec.	7 Sec.	G/C= 0.17 G = 17 Sec.	6 Sec.	G/C= 0.24 G =23.5 Sec.	6 Sec.
P.M.		AMBER + ALL RED		AMBER + ALL RED		AMBER + ALL RED
	G/C= 0.41 G =40.5 Sec.	7 Sec.	G/C= 0.17 G = 17 Sec.	6 Sec.	G/C= 0.24 G =23.5 Sec.	6 Sec.

APPR. A GR= -2 % A.M. T= 6.4% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50* BIKES/HR 0

P.M. T= 4.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50* BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	%RED-TIME QUEUE
A.M.	AB	2 /12′	630	0.95	2000	0.18	0.47	1687	0.390	14.4	B	20.9	C	255	248
	AD	1 /12′	180	0.95	1900	0.11	0.17	287	0.660	43.8	D			268	224
P.M.	AB	2 /12′	560	0.95	2000	0.16	0.47	1720	0.340	14.0	B	31.8	C	220	216
	AD	1 /12′	260	0.95	1900	0.16	0.17	298	0.920	69.9	E			443	312

APPR. B GR= 3 % A.M. T=13.1% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0

P.M. T= 6.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	%RED-TIME QUEUE
A.M.	BD	1 /12′	210	0.95	1900	0.20	0.23	255	0.870	62.2	E	41.9	D	348	292
	BA	3 /12′	460	0.95	2000	0.09	0.23	1201	0.400	32.5	C			205	171
P.M.	BD	1 /12′	290	0.95	1900	0.23	0.23	309	0.990	85.6	F	50.6	D	538	333
	BA	3 /12′	610	0.95	2000	0.13	0.23	1201	0.530	33.9	C			285	227

APPR. C GR= 2 % A.M. T= 4.1% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0

P.M. T= 4.9% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	%RED-TIME QUEUE
A.M.	CB	1 /12′	260	0.95	1900	0.19	0.41	583	0.470	22.4	C	21.8	C	290	230
	CD	1 /12′	330	0.95	2000	0.18	0.41	786	0.440	21.9	C			353	278
	CA	1 /12′	230	0.95	1900	0.14	0.41	696	0.350	20.9	C			240	198
P.M.	CB	1 /12′	90	0.95	1900	0.07	0.41	567	0.170	19.1	B	19.1	B	90	82
	CD	1 /12′	140	0.95	2000	0.08	0.41	786	0.190	19.3	B			140	118
	CA	1 /12′	70	0.95	1900	0.04	0.41	696	0.110	18.6	B			70	60

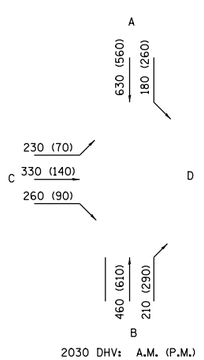
INTERSECTION DELAY 27.3 (A.M.), 38.3 (P.M.)

INTERSECTION LOS C (A.M.), D (P.M.)

*PEDESTRIANS DO NOT CREATE CONFLICT FOR THIS APPROACH.

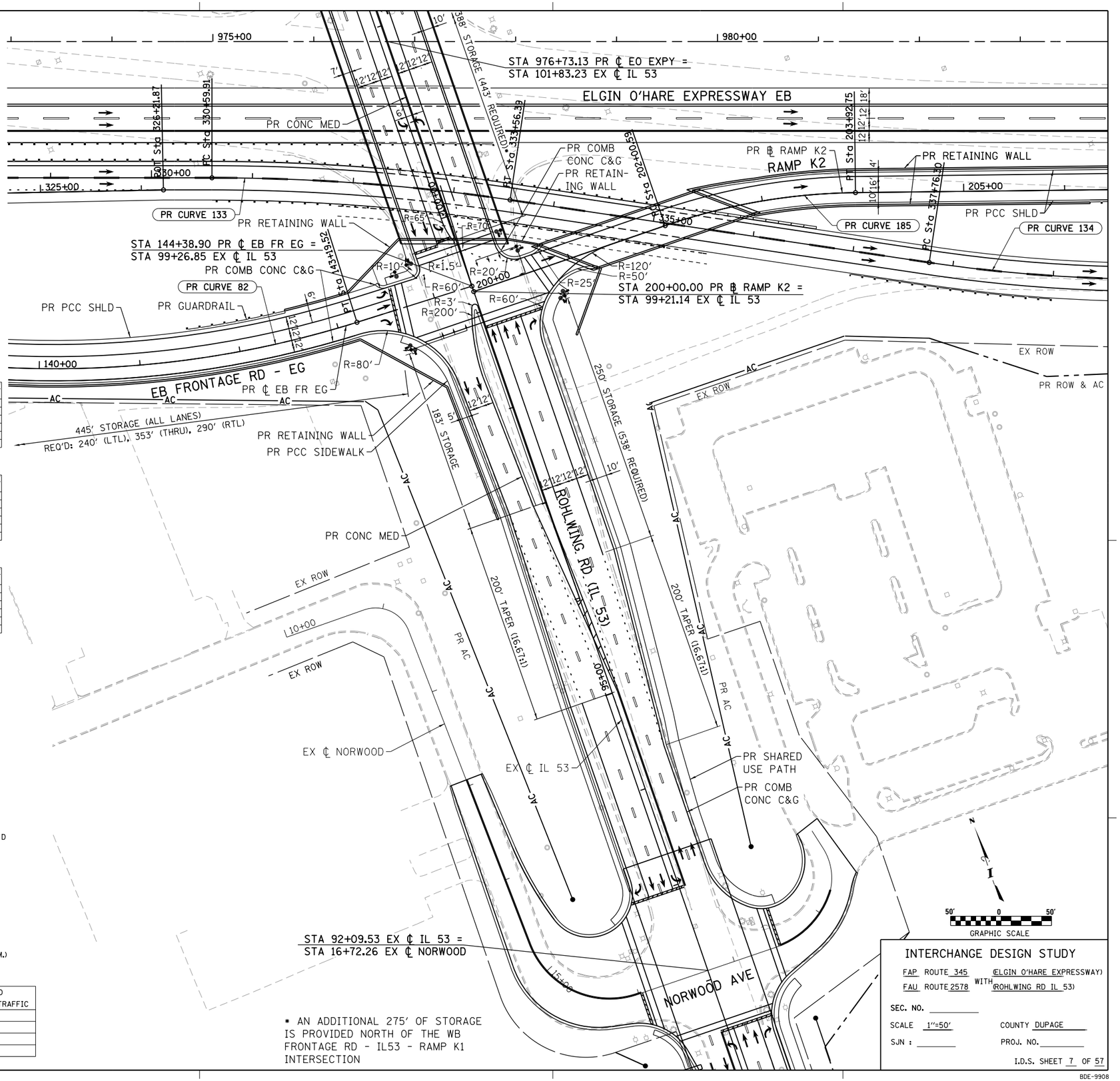
TRAFFIC DATA

MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC A.M.	YEAR 2010 PEAK HOUR TRAFFIC P.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR A.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR (P.M.)	ESTIMATED PERCENT INCREASE BY 2030 A.M.	ESTIMATED PERCENT INCREASE BY 2030 P.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC A.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC P.M.
AB	600	570	6	4	5%	-2%	630	560
AD	110	300	8	4	64%	-13%	180	260
AC								
BA	455	455	5	5	1%	34%	460	610
BC								
BD	120	380	31	8	75%	-24%	210	290
CD	3730	2300	2	2	-91%	-94%	330	140
CA	N/A	N/A	4	4			230	70
CB	300	120	7	10	-13%	-25%	260	90
DC								
DB								
DA								
TOTAL A	1165	1325	-	-	-	-	1500	1500
TOTAL B	1475	1525	-	-	-	-	1560	1550
TOTAL C	4030	2420	-	-	-	-	820	300
TOTAL D	3960	2980	-	-	-	-	720	690



2030 DHV: A.M. (P.M.)

APPROACH	YEAR 2030 8TH MAX HOUR TRAFFIC
A (NORTH)	825
B (SOUTH)	858
C (WEST)	451
D (EAST)	396



• AN ADDITIONAL 275' OF STORAGE IS PROVIDED NORTH OF THE WB FRONTAGE RD - IL53 - RAMP K1 INTERSECTION

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)

FAU ROUTE 2578 WITH (ROHLWING RD IL 53)

SEC. NO. _____

SCALE 1"=50' COUNTY DUPAGE

SJN : _____ PROJ. NO. _____

I.D.S. SHEET 7 OF 57

BDE-9908

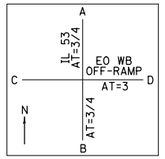
PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-007.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ds-008.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

SIGNALIZED INTERSECTION

CAPACITY ANALYSIS

HIGHWAY CAPACITY SOFTWARE
PROGRAM NAME HCS+
VERSION 5.5



BASIC CONDITIONS

AREA: CBD (OTHER) PHF 0.95 (CIRCLE ONE)

SIGNAL TYPE ACTUATED ARRIVAL TYPE 3/4

C = SIGNAL CYCLE = 100 SEC. (AM) ΣA/C 21 / 100 = 0.21
C = SIGNAL CYCLE = 100 SEC. (PM) ΣA/C 21 / 100 = 0.21

	PHASE 1		PHASE 2		PHASE 3	
A.M.	G/C= 0.37 G = 37 Sec.	7 Sec.	G/C= 0.19 G = 19 Sec.	7 Sec.	G/C= 0.23 G = 23 Sec.	7 Sec.
P.M.	G/C= 0.37 G =36.5 Sec.	7 Sec.	G/C= 0.20 G = 20 Sec.	7 Sec.	G/C= 0.23 G =22.5 Sec.	7 Sec.

APPR. A GR= 2 % A.M. T= 6.4% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0
P.M. T= 3.7% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	%RED-TIME QUEUE
A.M.	AC	1 /12′	60	0.95	1900	0.05	0.23	313	0.200	31.4	C	33.8	C	70	92
	AB	3 /12′	570	0.95	2000	0.12	0.23	1170	0.510	34.0	C			268	215
P.M.	AC	1 /12′	210	0.95	1900	0.15	0.22	326	0.680	41.0	D	36.5	D	295	233
	AB	3 /12′	620	0.95	2000	0.13	0.22	1167	0.560	35.0	C			295	231

APPR. B GR= -1 % A.M. T= 5.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 4.6% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

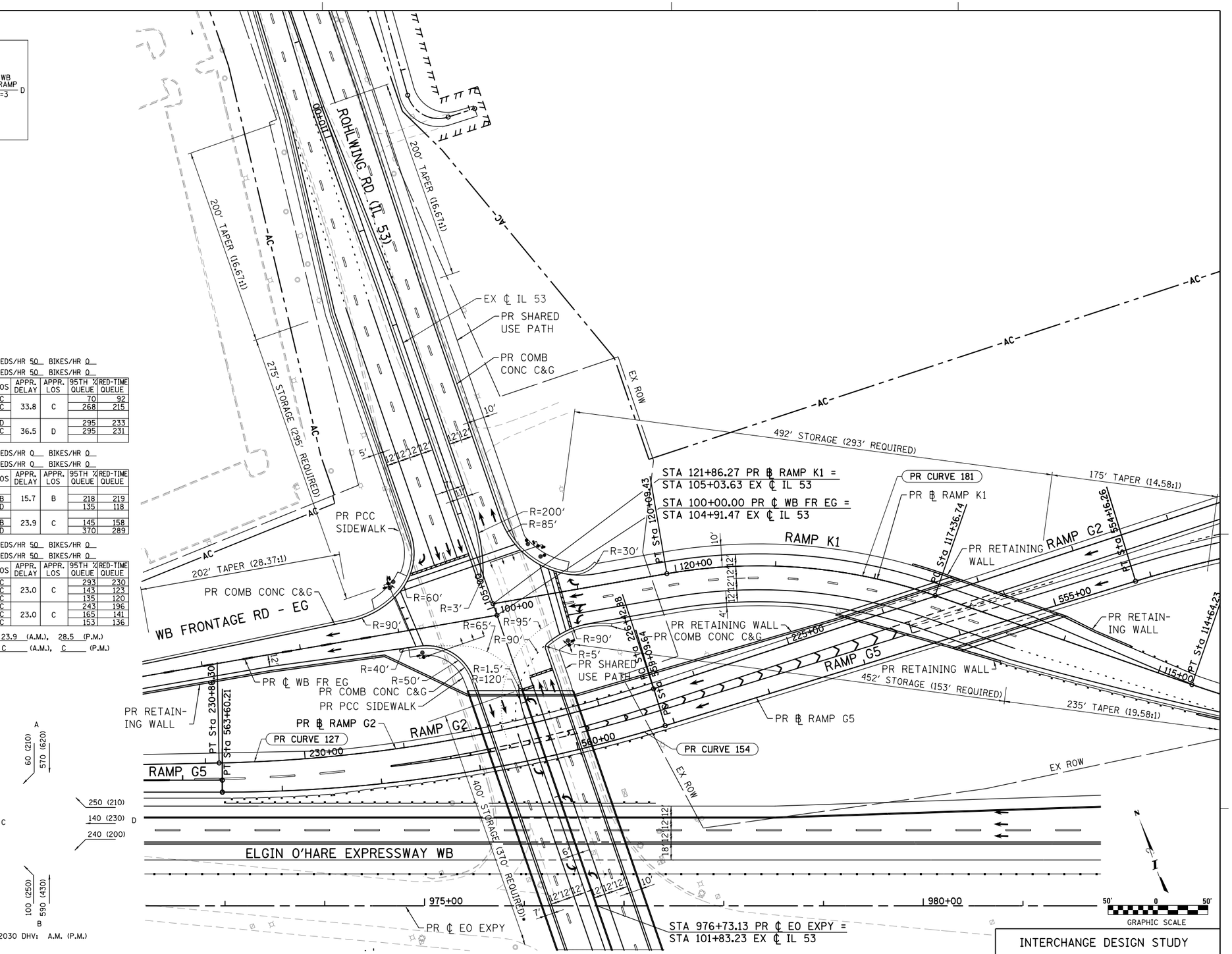
	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	%RED-TIME QUEUE
A.M.	BA	2 /12′	590	0.95	2000	0.17	0.49	1786	0.350	12.4	B	15.7	B	218	219
	BC	1 /12′	100	0.95	1900	0.06	0.19	328	0.320	35.5	D			135	118
P.M.	BA	2 /12′	430	0.95	2000	0.12	0.50	1804	0.250	11.3	B	23.9	C	145	158
	BC	1 /12′	250	0.95	1900	0.20	0.20	349	0.750	45.7	D			370	289

APPR. D GR= 2 % A.M. T= 8.0% R= 0 % L= 64% PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0
P.M. T= 8.7% R= 0 % L= 55% PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	%RED-TIME QUEUE
A.M.	DA	1 /12′	250	0.95	1900	0.18	0.37	541	0.490	24.9	C	23.0	C	293	230
	DB+DC	2 /12′	255	0.95	1900	0.08	0.37	1178	0.230	21.8	C			143	123
	DB	1 /12′	125	0.95	1900	0.08	0.37	601	0.220	21.8	C			135	120
P.M.	DA	1 /12′	210	0.95	1900	0.15	0.37	528	0.420	24.3	C	23.0	C	243	196
	DB+DC	2 /12′	290	0.95	1900	0.09	0.37	1176	0.260	22.4	C			165	141
	DB	1 /12′	140	0.95	1900	0.09	0.37	593	0.250	22.4	C			153	136

NOTE:
48%/30% (AM/PM) OF THE WESTBOUND LEFT TURN VOLUME IS ASSUMED TO USE THE SHARED THRU/LEFT LANE.

INTERSECTION DELAY 23.9 (A.M.), 28.5 (P.M.)
INTERSECTION LOS C (A.M.), C (P.M.)



TRAFFIC DATA

MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC A.M.	YEAR 2010 PEAK HOUR TRAFFIC P.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR A.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR P.M.	ESTIMATED PERCENT INCREASE BY 2030 A.M.	ESTIMATED PERCENT INCREASE BY 2030 P.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC A.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC P.M.
AB	710	870	6	4	-20%	-29%	570	620
AD								
AC	150	390	10	3	-60%	-46%	60	210
BA	455	455	5	5	30%	-5%	590	430
BC	60	190	5	4	67%	32%	100	250
BD								
CD								
CA								
CB								
DC	2040	3900	10	10	-93%	-94%	140	230
DB	NA	NA	10	10			240	200
DA	160	130	5	6	56%	62%	250	210
TOTAL A	1475	1845	-	-	-	-	1470	1470
TOTAL B	1225	1515	-	-	-	-	1500	1500
TOTAL C	2250	4480	-	-	-	-	300	690
TOTAL D	2200	4030	-	-	-	-	630	640

2030 DHV: A.M. (P.M.)

APPROACH	YEAR 2030 8TH MAX HOUR TRAFFIC
A (NORTH)	808
B (SOUTH)	825
C (WEST)	380
D (EAST)	352

NOTE:
48%/30% (AM/PM) OF THE WB LEFT TURN VOLUME IS ASSUMED TO USE THE SHARED THRU/LEFT LANE.

* AN ADDITIONAL 183′ OF STORAGE IS PROVIDED SOUTH OF THE EB FRONTAGE RD - IL53 - RAMP K2 INTERSECTION

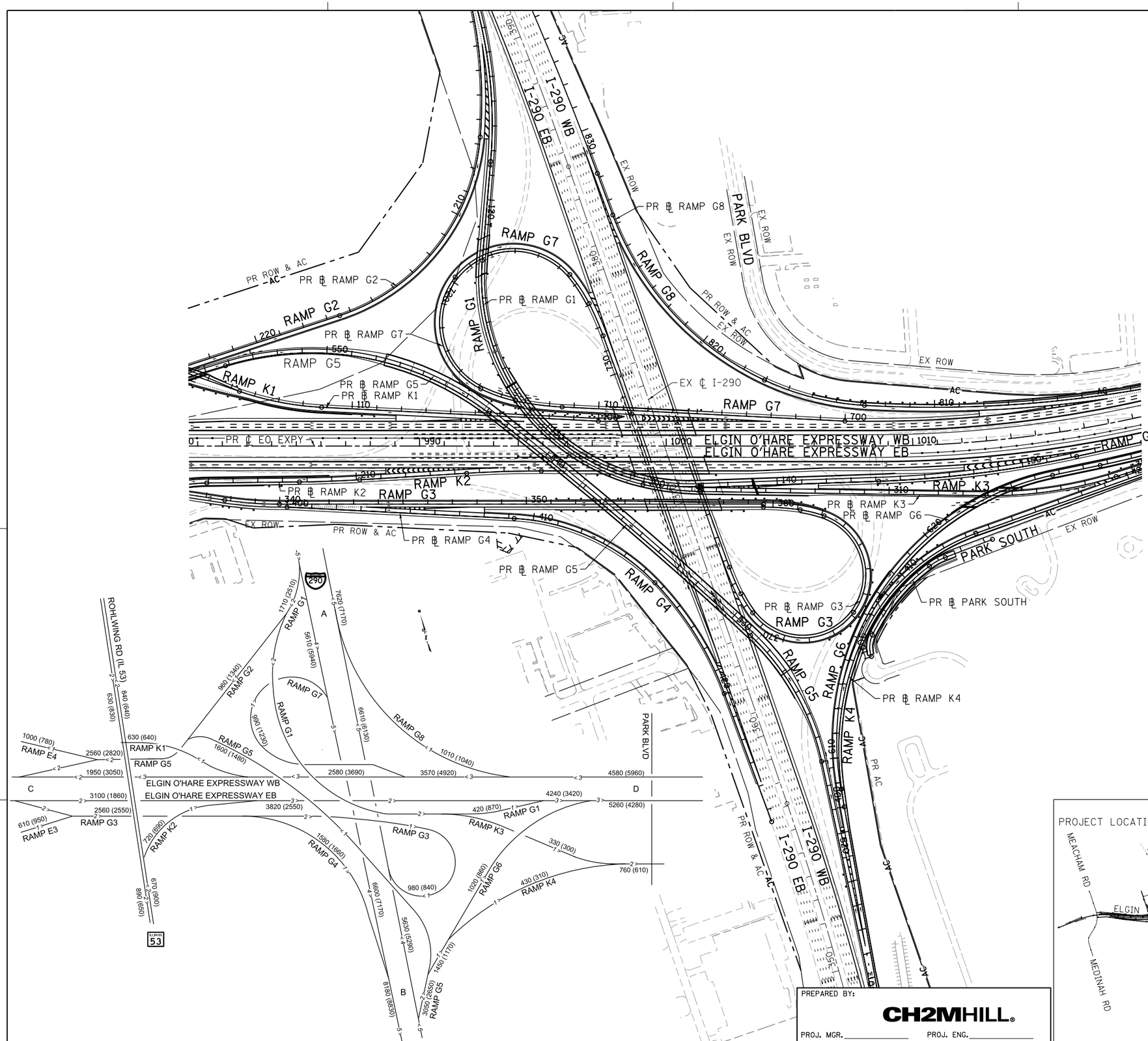
INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2578 WITH (ROHLWING RD IL 53)

SEC. NO. _____
SCALE 1″=50′ COUNTY DUPAGE
SJN : _____ PROJ. NO. _____
I.D.S. SHEET 8 OF 57

BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-lds-009.dgn
PLOT SCALE = 400.0000 ' / in.
USER NAME = tphillip



ELEMENTS CONTROLLING DESIGN

1. HIGHWAY DESIGN CLASSIFICATION FAP 345 - ELGIN O'HARE EXPRESSWAY
   SRA: YES_____NO__X__ FAI 290 - I-290
2. AVERAGE DAILY TRAFFIC (ADT) DATA: EO EXPY EXISTING 103,500 DESIGN 101,900
   I-290 EXISTING 208,300 DESIGN 217,300
3. I-290 IS THE PREFERENCE ROUTE
4. ANTICIPATED YEAR OF CONSTRUCTION 2014 DESIGN YEAR 2030
5. TRAFFIC CONTROL TO BE FREEWAY RAMP JUNCTIONS WARRANTS MET N/A
6. DESIGN CRITERIA: IDOT BDE CH 37; ISTHA DESIGN CRIERIA I-290 CLASS I
7. DESIGN VEHICLE: WB-65 TRUCK ROUTE DESIGNATION EO EXPY CLASS II
8. DESIGN SPEED EO EXPY 60 MPH POSTED SPEED EO EXPY 55 MPH
   I-290 60 MPH I-290 55 MPH
   RAMPS: SERVICE - 45 MPH RAMPS: SERVICE - 40 MPH
   SYSTEM - 50 MPH SYSTEM - 45 MPH

GENERAL NOTES

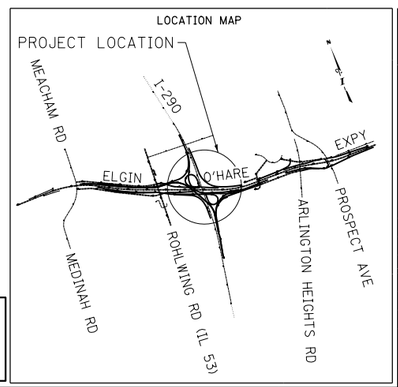
1. PROFILES *ARE* PROVIDED, SINCE APPROACH GRADES ARE >1%
   SEE MASTER PLAN - PROJECT B1
2. TYPE N/A CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT
3. TYPE N/A CURB AND GUTTER TO BE USED ON CHANNELIZING ISLAND
4. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT EXCEPT WHERE NOTED OTHERWISE
5. INTERSECTION *IS NOT* A HIGH ACCIDENT LOCATION YEAR
6. INTERSECTION *IS/WILL BE/IS NOT* PART OF INTERCONNECTED SYSTEM
   FROM N/A TO N/A
7. ALL SIDEWALKS AND RAMPS AS SHOWN ARE IN COMPLIANCE WITH THE AMERICAN DISABILITIES ACT.
8. EXPECTED PEDESTRIAN/BICYCLE USAGE LOW PED/BIKES
9. ALL ENTRANCES AS SHOWN *ARE* IN COMPLIANCE WITH IDOT "POLICIES ON ACCESS TO STATE HIGHWAYS".
   NOTED EXCEPTIONS:
10. SCOPE OF WORK: RECONSTRUCTION OF SYSTEM INTERCHANGE
11. DESIGN EXCEPTIONS:

N

200' 0 200'
GRAPHIC SCALE

PREPARED BY:
CH2MHILL®
PROJ. MGR._____ PROJ. ENG._____

LOCATION MAP



DRAWING NO. _____

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____ PROJ. NO. _____
SCALE 1"=200' COUNTY DUPAGE
SJN : _____ REV. NO. ___

DATE	QA/QC REVIEWER	REMARKS

CADD FILE NAME *DIEOWB-804-sht-lds-009.dgn*
REF FILE NAME _____
I.D.S. SHEET 9 OF 57

BDF-9409

PLOT DATE = 7/18/2012
FILE NAME = DIE0WB-804-sht-ids-010.dgn
PLOT SCALE = 400.0000 ' / in.
USER NAME = tphilip

ELGIN O'HARE EXPRESSWAY AT I-290 ENTRANCE AND EXIT RAMP TERMINAL CAPACITY TABLE

RAMP		G7 FROM D	G8 FROM D	G1 TO D	G6 TO D
RAMP TYPE		STD EXIT	STD EXIT	LANE ADD	STD ENTRANCE
PEAK-HOUR FACTOR (PHF)		0.95	0.95	0.95	0.95
% OF TRUCKS ON FREEWAY (AM/PM)		8/8	8/8	8/8	8/8
% TRUCKS ON RAMP (AM/PM)		8/8	8/8	8/8	8/8
NUMBER OF LANES ON FREEWAY		3	3	2	3
NUMBER OF LANES ON RAMP		1	1	1	1
DESIGN SPEED OF FREEWAY/RAMP (MPH)*		60/30	60/50	60/50	60/50
TYPE/DISTANCE TO ADJACENT UPSTREAM RAMP (FT)		NA	ON/920	NA	NA
TYPE/DISTANCE TO ADJACENT DOWNSTREAM RAMP (FT)		OFF/1100	OFF/1550	NA	OFF/1100
UNADJUSTED FREEWAY VOLUME (VPH)	A.M.	3570	4580	3820	4240
	P.M.	4920	5960	2550	3420
UNADJUSTED RAMP VOLUME (VPH)	A.M.	990	1010	420	1020
	P.M.	1230	1040	870	860
DENSITY (PC/MI/LN)	A.M.	25.8	41.1	NA	34.6
	P.M.	33.3	57.7	NA	27.1
LEVEL OF SERVICE (LOS)	A.M.	C	E	A	D
	P.M.	D	E	C	C

ELGIN O'HARE EXPRESSWAY AT I-290 ENTRANCE AND EXIT RAMP TERMINAL CAPACITY TABLE

RAMP		G2 FROM G1	G5 FROM G6	G6 FROM K4	G1 FROM K3	K3 / K4
RAMP TYPE		LANE DROP	LANE DROP	STD RAMP SPLIT	LANE DROP	LANE ADD
PEAK-HOUR FACTOR (PHF)		0.95	0.95	0.95	0.95	0.95
% OF TRUCKS ON FREEWAY (AM/PM)		8/8	8/8	8/8	8/8	8/8
% TRUCKS ON RAMP (AM/PM)		8/8	8/8	8/8	8/8	8/8
NUMBER OF LANES ON FREEWAY		2	2	1	2	1
NUMBER OF LANES ON RAMP		1	1	1	1	1
DESIGN SPEED OF FREEWAY/RAMP (MPH)*		50/50	50/50	50/45	50/45	40/40
TYPE/DISTANCE TO ADJACENT UPSTREAM RAMP (FT)		NA	NA	NA	NA	NA
TYPE/DISTANCE TO ADJACENT DOWNSTREAM RAMP (FT)		NA	NA	NA	NA	NA
UNADJUSTED FREEWAY VOLUME (VPH)	A.M.	1710	3050	1450	750	330
	P.M.	2510	2650	1170	1170	300
UNADJUSTED RAMP VOLUME (VPH)	A.M.	960	1600	1020	420	430
	P.M.	1340	1480	860	870	310
DENSITY (PC/MI/LN)	A.M.	NA	NA	NA	NA	NA
	P.M.	NA	NA	NA	NA	NA
LEVEL OF SERVICE (LOS)	A.M.	B	D	C	A	••
	P.M.	C	D	C	C	••

**ANALYSIS NOT APPLICABLE AT RAMP TO FRONTAGE ROAD LOCATION.

ELGIN O'HARE EXPRESSWAY AT I-290 ENTRANCE AND EXIT RAMP TERMINAL CAPACITY TABLE

RAMP		G4 TO B	G3 TO A	G7 TO B	G8 TO A	G2 FROM A	G5 FROM B
RAMP TYPE		LANE ADD	LANE ADD	STD ENTRANCE	LANE ADD	MAJOR DIVERGE	MAJOR DIVERGE
PEAK-HOUR FACTOR (PHF)		0.95	0.95	0.95	0.95	0.95	0.95
% OF TRUCKS ON FREEWAY (AM/PM)		8/8	8/8	8/8	8/8	8/8	8/8
% TRUCKS ON RAMP (AM/PM)		8/8	8/8	8/8	8/8	8/8	8/8
NUMBER OF LANES ON FREEWAY		4	4	4	4	5	5
NUMBER OF LANES ON RAMP		1	1	1	1	2	2
DESIGN SPEED OF FREEWAY/RAMP (MPH)*		60/50	60/30	60/35	60/50	60/50	60/50
TYPE/DISTANCE TO ADJACENT UPSTREAM RAMP (FT)		NA	NA	NA	NA	NA	NA
TYPE/DISTANCE TO ADJACENT DOWNSTREAM RAMP (FT)		NA	NA	NA	NA	NA	NA
UNADJUSTED FREEWAY VOLUME (VPH)	A.M.	6600	5630	5610	6610	7320	8680
	P.M.	7170	5290	5940	6130	8450	7940
UNADJUSTED RAMP VOLUME (VPH)	A.M.	1580	980	990	1010	1710	3050
	P.M.	1660	840	1230	1040	2510	2650
DENSITY (PC/MI/LN)	A.M.	NA	27.6	27.6	NA	28.0	33.2
	P.M.	NA	25.3	30.6	NA	32.4	30.4
LEVEL OF SERVICE (LOS)	A.M.	D	C	C	C	D	D
	P.M.	E	C	D	C	D	D

*ON RAMP TERMINAL CAPACITY TABLES, AT RAMP-RAMP JUNCTIONS, "FREEWAY" DENOTES THE MORE MAJOR RAMP.

ELGIN O'HARE EXPRESSWAY MAINLINE SEGMENT ANALYSIS

MAINLINE SEGMENT		L1 TO G8 (WB EO)	G8 TO G7 (WB EO)	G7 TO K1 (WB EO)	K2 TO G1 (EB EO)	G1 TO G6 (EB EO)	G6 TO M2 (EB EO)
TERRAIN/GRADE		LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL
NUMBER OF TOTAL LANES		3	3	3	2	3	3
FREE-FLOW SPEED (MPH)		69.6	69.6	69.6	69.6	69.6	69.6
PEAK-HOUR FACTOR (PHF)		0.95	0.95	0.95	0.95	0.95	0.95
VOLUME	A.M.	4580	3570	2580	3820	4240	5260
	P.M.	5960	4920	3690	2550	3420	4280
% TRUCKS	A.M.	8	8	8	8	8	8
	P.M.	8	8	8	8	8	8
% OTHER VEHICLES	A.M.	92	92	92	92	92	92
	P.M.	92	92	92	92	92	92
LEVEL OF SERVICE (LOS)	A.M.	C	C	B	D	C	D
	P.M.	E	D	C	C	B	C
DENSITY	A.M.	24.8	18.6	13.4	34.4	22.5	30
	P.M.	36.8	27.2	19.3	20.1	17.8	22.8

I-290 MAINLINE SEGMENT ANALYSIS

MAINLINE SEGMENT		G5 TO G3 (NB 290)	G3 TO G8 (NB 290)	G8 TO DEVON (NB 290)	G2 TO G7 (SB 290)	G7 TO G4 (SB 290)	G4 TO I290/355 SPLIT (SB 290)
TERRAIN/GRADE		LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL
NUMBER OF TOTAL LANES		4	5	5	4	4	5
FREE-FLOW SPEED (MPH)		69.6	69.6	69.6	69.6	69.6	69.6
PEAK-HOUR FACTOR (PHF)		0.95	0.95	0.95	0.95	0.95	0.95
VOLUME	A.M.	5630	6610	7620	5610	6600	8180
	P.M.	5290	6130	7170	5940	7170	8830
% TRUCKS	A.M.	8	8	8	8	8	8
	P.M.	8	8	8	8	8	8
% OTHER VEHICLES	A.M.	92	92	92	92	92	92
	P.M.	92	92	92	92	92	92
LEVEL OF SERVICE (LOS)	A.M.	C	C	C	C	D	D
	P.M.	C	C	C	C	D	D
DENSITY	A.M.	22.4	20.9	24.7	22.3	27.5	27.1
	P.M.	20.9	19.2	22.9	23.9	31.0	30.3

ELGIN O'HARE EXPRESSWAY WEAVING ANALYSIS

WEAVING SECTION LOCATION		G6 TO M2 (EB EO)
PEAK HOUR FACTOR (PHF)		0.95
% OF TRUCKS		8
V/C RATIO	A.M.	0.928
	P.M.	0.830
ONE-SIDED OR TWO-SIDED WEAVE		ONE-SIDED
MAXIMUM WEAVING LENGTH (FT) (AM/PM)		5896/6965
PROPOSED WEAVING LENGTH (FT) (S)		1570
UNADJUSTED FREEWAY VOLUME (VPH)	A.M.	3355
	P.M.	2265
UNADJUSTED FREEWAY TO RAMP VOLUME (VPH)	A.M.	465
	P.M.	285
UNADJUSTED RAMP TO FREEWAY VOLUME (VPH)	A.M.	1265
	P.M.	1535
UNADJUSTED RAMP TO RAMP VOLUME (VPH)	A.M.	175
	P.M.	195
AVERAGE WEAVING SPEED (MPH)	A.M.	61.1
	P.M.	62.2
AVERAGE NON-WEAVING SPEED (MPH)	A.M.	60.8
	P.M.	62.5
DENSITY (PC/MI/LN)	A.M.	31.5
	P.M.	25.0
LEVEL OF SERVICE (LOS)	A.M.	D
	P.M.	C

INTERCHANGE DESIGN STUDY

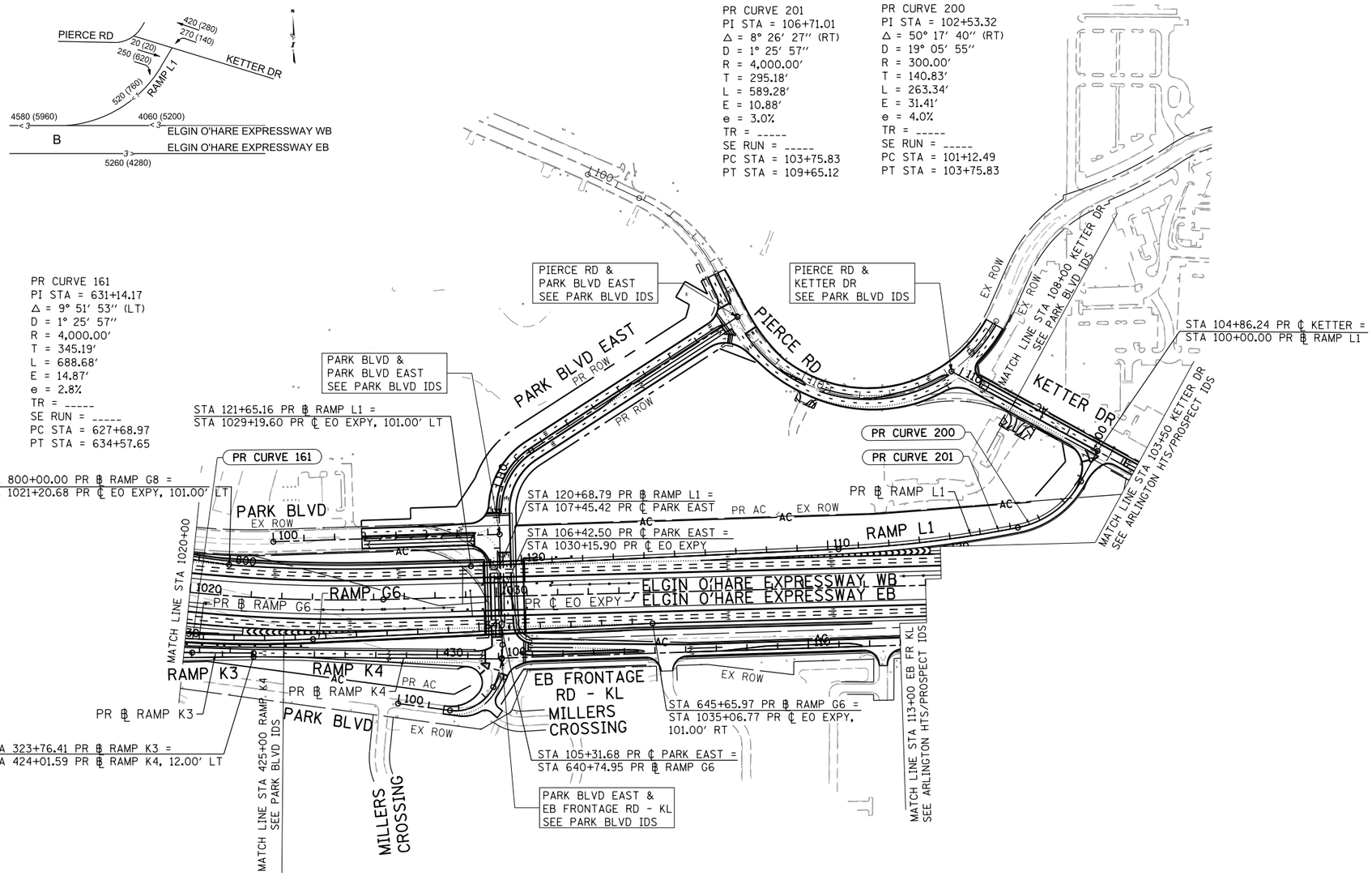
FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE N/A COUNTY DUPAGE

SJN : _____ PROJ. NO. _____

BDE-9908



ELEMENTS CONTROLLING DESIGN

1. HIGHWAY DESIGN CLASSIFICATION FAP 345 - ELGIN O'HARE EXPRESSWAY
   SRA: YES ____ NO X
2. AVERAGE DAILY TRAFFIC (ADT) DATA: EO EXPY EXISTING 53,000 DESIGN 122,100
   EXISTING ____ DESIGN ____
3. ELGIN O'HARE EXPRESSWAY IS THE PREFERENCE ROUTE
4. ANTICIPATED YEAR OF CONSTRUCTION 2014 DESIGN YEAR 2030
5. TRAFFIC CONTROL TO BE COORDINATED SIGNALS WARRANTS MET EXISTING
6. DESIGN CRITERIA: IDOT BDE CH 37, ISTHA DESIGN CRIERIA
7. DESIGN VEHICLE: WB-65 TRUCK ROUTE DESIGNATION CL II
8. DESIGN SPEED EO EXPY 60 MPH POSTED SPEED EO EXPY 55 MPH
   RAMPS 45 MPH RAMPS 40 MPH

GENERAL NOTES

1. PROFILES *ARE* PROVIDED, SINCE APPROACH GRADES ARE >1%
   SEE MASTER PLAN - PROJECT B1
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT
3. TYPE B-6.24 CURB AND GUTTER TO BE USED ON CHANNELIZING ISLAND
4. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT EXCEPT WHERE NOTED OTHERWISE
5. INTERSECTION *IS NOT* A HIGH ACCIDENT LOCATION YEAR
6. INTERSECTION *WILL BE* PART OF INTERCONNECTED SYSTEM
   FROM EB FRONTAGE RD TO PIERCE RD
7. ALL SIDEWALKS AND RAMPS AS SHOWN ARE IN COMPLIANCE WITH THE AMERICAN DISABILITIES ACT.
8. EXPECTED PEDESTRIAN/BICYCLE USAGE LOW PED/BIKES
9. ALL ENTRANCES AS SHOWN *ARE* IN COMPLIANCE WITH IDOT "POLICIES ON ACCESS TO STATE HIGHWAYS".
   NOTED EXCEPTIONS:
10. SCOPE OF WORK: RECONSTRUCTION OF MAINLINE AND RAMPS, TRAFFIC SIGNAL MODERNIZATION
11. DESIGN EXCEPTIONS:

N

200′ 0 200′
GRAPHIC SCALE

ENTRANCE AND EXIT RAMP TERMINAL CAPACITY TABLE

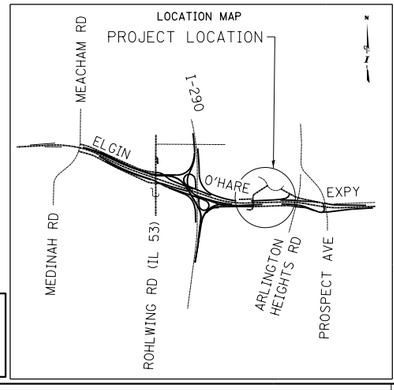
RAMP		L1 TO C
RAMP TYPE		STD ENTRANCE
PEAK-HOUR FACTOR (PHF)		0.95
% OF TRUCKS ON FREEWAY (AM/PM)		8/8
% TRUCKS ON RAMP (AM/PM)		8/8
NUMBER OF LANES ON FREEWAY		3
NUMBER OF LANES ON RAMP		1
DESIGN SPEED OF FREEWAY/RAMP (MPH)		60/45
TYPE/DISTANCE TO ADJACENT UPSTREAM RAMP (FT)		-
TYPE/DISTANCE TO ADJACENT DOWNSTREAM RAMP (FT)		OFF/1800
UNADJUSTED FREEWAY VOLUME (VPH)	A.M.	4060
	P.M.	5200
UNADJUSTED RAMP VOLUME (VPH)	A.M.	520
	P.M.	760
DENSITY (PC/MI/LN)	A.M.	29.3
	P.M.	38.3
LEVEL OF SERVICE (LOS)	A.M.	D
	P.M.	E

MAINLINE SEGMENT ANALYSIS

MAINLINE SEGMENT		M1 TO L1 (WB EOE)
TERRAIN/GRADE		LEVEL
NUMBER OF TOTAL LANES		3
FREE-FLOW SPEED (MPH)		69.6
PEAK-HOUR FACTOR (PHF)		0.95
VOLUME	A.M.	4060
	P.M.	5200
% TRUCKS	A.M.	8
	P.M.	8
% OTHER VEHICLES	A.M.	92
	P.M.	92
LEVEL OF SERVICE (LOS)	A.M.	C
	P.M.	D
DENSITY	A.M.	21.4
	P.M.	29.5

PREPARED BY:
CH2MHILL®
PROJ. MGR. ____ PROJ. ENG. ____

LOCATION MAP



DRAWING NO. ____

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (KETTER DR)

SEC. NO. ____ PROJ. NO. ____
SCALE 1"=200′ COUNTY DUPAGE
SJN : ____ REV. NO. ___

DATE	QA/QC REVIEWER	REMARKS

CADD FILE NAME *DIEOWB-804-sht-ids-01l.dgn*
REF FILE NAME ____

I.D.S. SHEET 11 OF 57

BDF-9409

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-01l.dgn
PLOT SCALE = 400.0000 ' / in.
USER NAME = tphillip

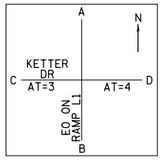
SIGNALIZED INTERSECTION

CAPACITY ANALYSIS

HIGHWAY CAPACITY SOFTWARE

PROGRAM NAME HCS+

VERSION 5.5

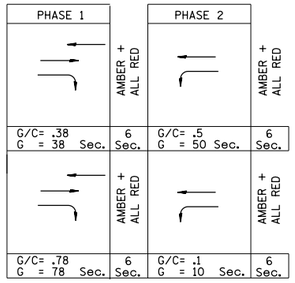


BASIC CONDITIONS

AREA: CBD (OTHER) PHF 0.95 (CIRCLE ONE)

SIGNAL TYPE ACTUATED ARRIVAL TYPE 3/4

C = SIGNAL CYCLE = 100 SEC. ΣA/C 12 / 100 = 0.12



APPR. C GR= 0 % A.M. T= 8.6 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

P.M. T= 2 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	CD	1/12'	20	.95	2000	.01	.38	731	.03	19.4	B	23.6	C	20	18
	CB	1/12'	250	.95	1900	.18	.38	563	.47	24.0	C			288	235
P.M.	CD	1/12'	20	.95	2000	.01	.78	1530	.01	2.4	A	4.5	A	8	6
	CB	1/12'	620	.95	1900	.41	.78	1235	.53	4.6	A			365	193

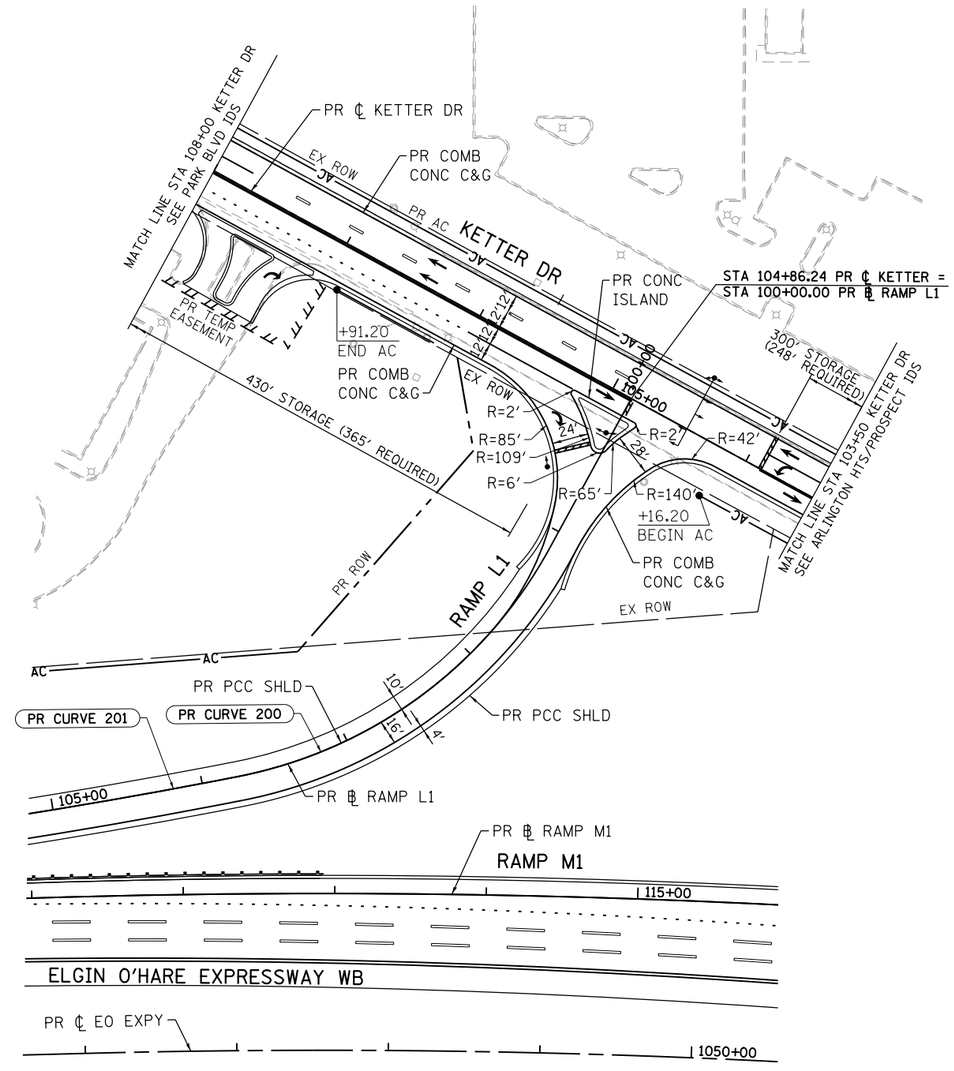
APPR. D GR= 0 % A.M. T= 2 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

P.M. T= 3 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	DB	1/12'	270	.95	1900	.16	.50	885	.32	15.1	B	5.9	A	245	191
	DC	1/12'	420	.95	2000	.23	1.0	1961	.23	.1	A			15	0
P.M.	DB	1/12'	140	.95	1900	.08	.1	175	.84	72.8	E	24.2	C	248	180
	DC	1/12'	280	.95	2000	.15	1.0	1942	.15	0.0	A			10	0

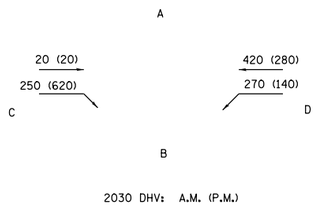
INTERSECTION DELAY 10.9 (A.M.), 12.3 (P.M.)

INTERSECTION LOS B (A.M.), B (P.M.)



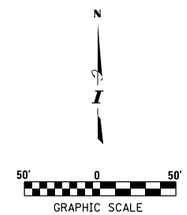
TRAFFIC DATA

MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC A.M.	YEAR 2010 PEAK HOUR TRAFFIC P.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR A.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR (P.M.)	ESTIMATED PERCENT INCREASE BY 2030	YEAR 2030 DESIGN PEAK HOUR TRAFFIC A.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC P.M.
AB	-	-	-	-	-	-	-
AD	-	-	-	-	-	-	-
AC	-	-	-	-	-	-	-
BA	-	-	-	-	-	-	-
BC	-	-	-	-	-	-	-
BD	-	-	-	-	-	-	-
CD	-	-	4	2	-	20	20
CA	-	-	-	-	-	-	-
CB	-	-	9	2	-	250	620
DC	-	-	2	3	-	420	280
DB	-	-	2	3	-	270	140
DA	-	-	-	-	-	-	-
TOTAL A	-	-	-	-	-	-	-
TOTAL B	-	-	-	-	-	520	760
TOTAL C	-	-	-	-	-	690	920
TOTAL D	-	-	-	-	-	710	440



2030 DHV: A.M. (P.M.)

APPROACH	8TH MAX. HOUR TRAFFIC
A (NORTH)	-
B (SOUTH)	418
C (WEST)	506
D (EAST)	391



INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)

___ ROUTE ___ WITH (RAMP L1 & KETTER DR)

SEC. NO. _____

SCALE 1"=50' COUNTY DUPAGE

SJN : _____ PROJ. NO. _____

I.D.S. SHEET 12 OF 57

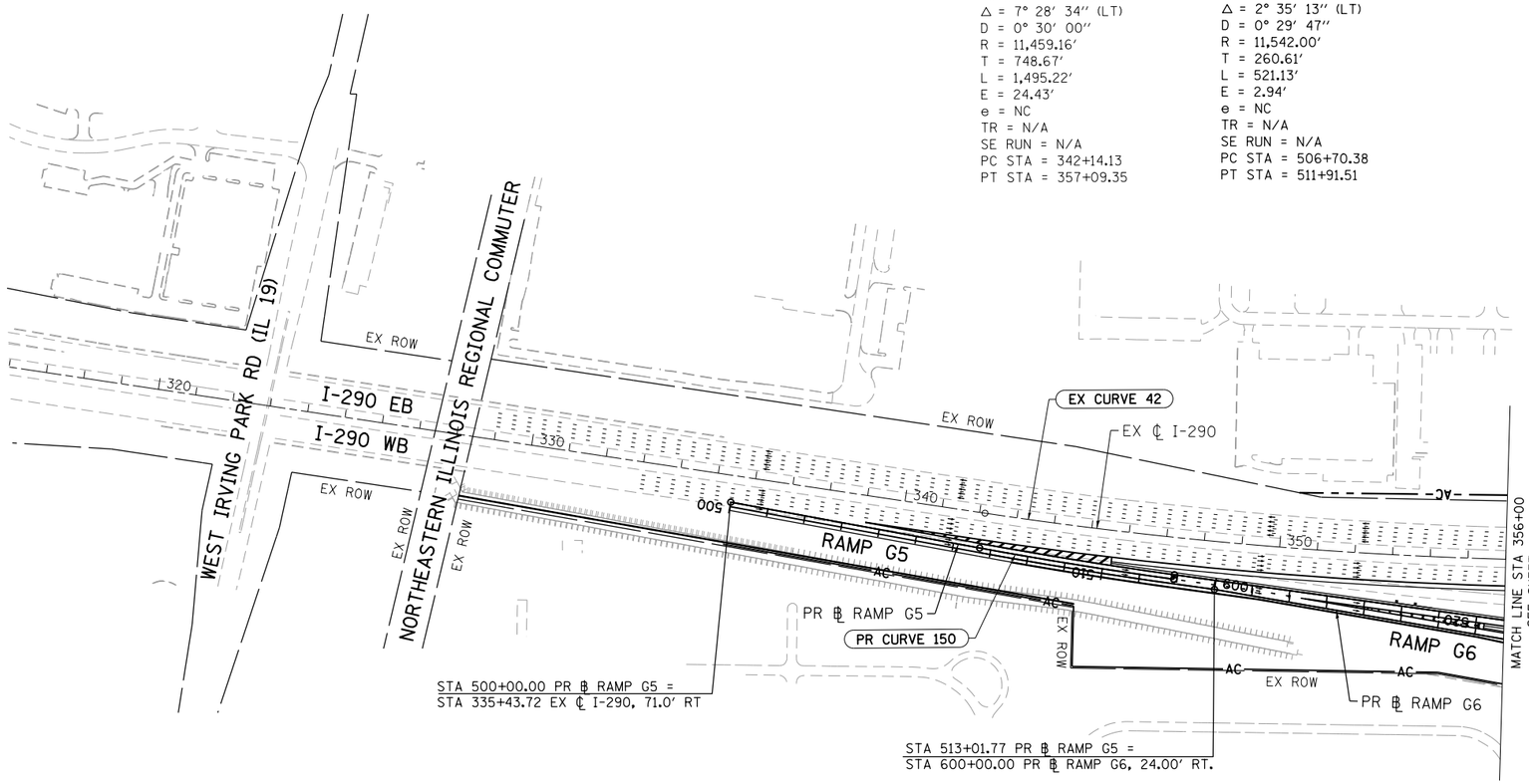
BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-012.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-013.dgn
PLOT SCALE = 400.0000 ' / in.
USER NAME = tphillip

EX CURVE 42
PI STA = 349+62.80
Δ = 7° 28′ 34″ (LT)
D = 0° 30′ 00″
R = 11,459.16′
T = 748.67′
L = 1,495.22′
E = 24.43′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 342+14.13
PT STA = 357+09.35

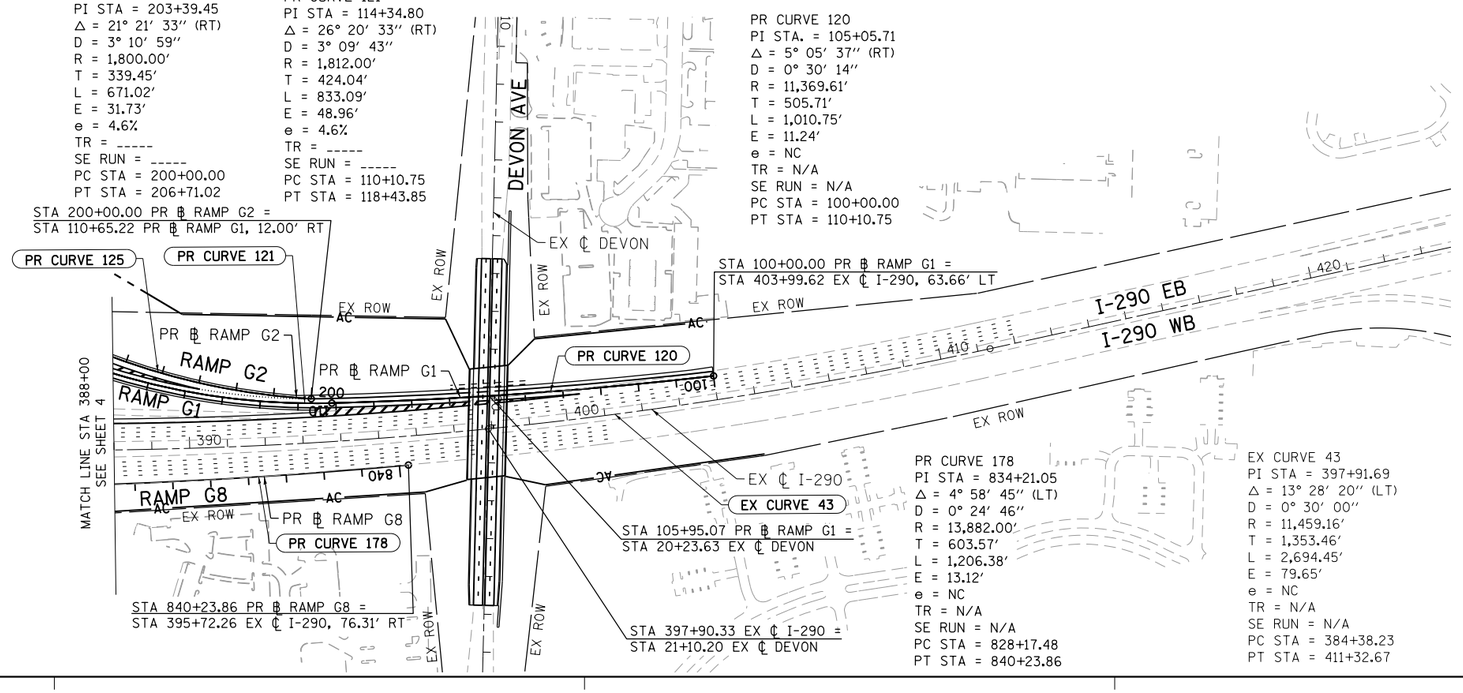
PR CURVE 150
PI STA = 509+30.99
Δ = 2° 35′ 13″ (LT)
D = 0° 29′ 47″
R = 11,542.00′
T = 260.61′
L = 521.13′
E = 2.94′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 506+70.38
PT STA = 511+91.51



PR CURVE 125
PI STA = 203+39.45
Δ = 21° 21′ 33″ (RT)
D = 3° 10′ 59″
R = 1,800.00′
T = 339.45′
L = 671.02′
E = 31.73′
e = 4.6%
TR = -----
SE RUN = -----
PC STA = 200+00.00
PT STA = 206+71.02

PR CURVE 121
PI STA = 114+34.80
Δ = 26° 20′ 33″ (RT)
D = 3° 09′ 43″
R = 1,812.00′
T = 424.04′
L = 833.09′
E = 48.96′
e = 4.6%
TR = -----
SE RUN = -----
PC STA = 110+10.75
PT STA = 118+43.85

PR CURVE 120
PI STA. = 105+05.71
Δ = 5° 05′ 37″ (RT)
D = 0° 30′ 14″
R = 11,369.61′
T = 505.71′
L = 1,010.75′
E = 11.24′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 100+00.00
PT STA = 110+10.75



PR CURVE 178
PI STA = 834+21.05
Δ = 4° 58′ 45″ (LT)
D = 0° 24′ 46″
R = 13,882.00′
T = 603.57′
L = 1,206.38′
E = 13.12′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 828+17.48
PT STA = 840+23.86

EX CURVE 43
PI STA = 397+91.69
Δ = 13° 28′ 20″ (LT)
D = 0° 30′ 00″
R = 11,459.16′
T = 1,353.46′
L = 2,694.45′
E = 79.65′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 384+38.23
PT STA = 411+32.67

200′ 0 200′
GRAPHIC SCALE

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____
SCALE 1″=200′ COUNTY COOK/DUPAGE
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 13 OF 57

BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-014.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

TYPICAL TOLLWAY TWO-LANE
ENTRANCE RAMP TERMINAL

STANDARD IDOT MINOR
CONVERGENCE RAMP TERMINAL

PR ℄ WB FR EG

WB FRONTAGE RD - EG

4' GORE

11 GORE'

18' GORE
NOSE

PR ℄ RAMP E4

6' GORE

12' GORE

RAMP E4

PR ℄ RAMP G5

23' GORE
NOSE

RAMP G5

ELGIN O'HARE EXPRESSWAY WB

PR ℄ EO EXPY

PR ℄ RAMP G3

ELGIN O'HARE EXPRESSWAY EB

RAMP G3

PR ℄ EB FR EG

PR ℄ RAMP E3

RAMP E3

EB FRONTAGE RD - EG

135+00 130+00 125+00
415+00 410+00
595+00 590+00 585+00
940+00 945+00 950+00
300+00 305+00 310
110+00 115+00 120+00

36' 24' 16' 12' 27' 37' VARIES

GRAPHIC SCALE
50' 0 50'

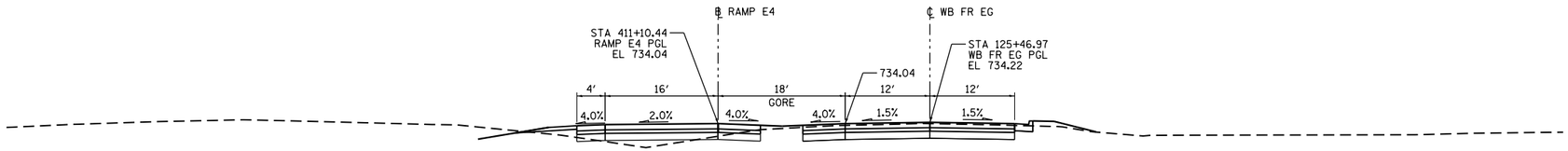
INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2595 WITH (MEACHAM RD)

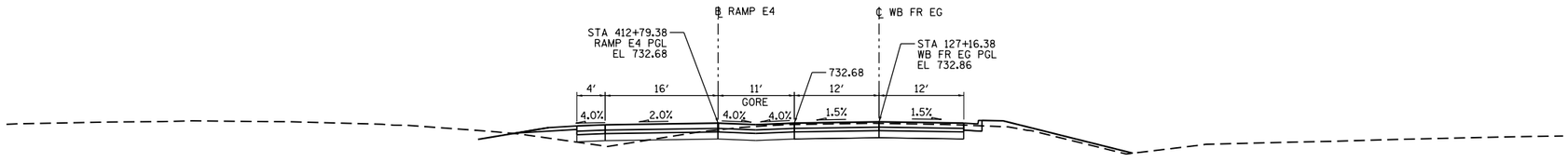
SEC. NO. _____
SCALE 1"=50' COUNTY COOK/DUPAGE
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 14 OF 57

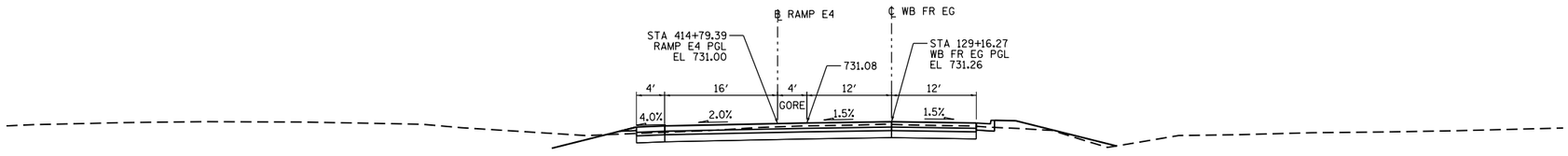
BDE-9908



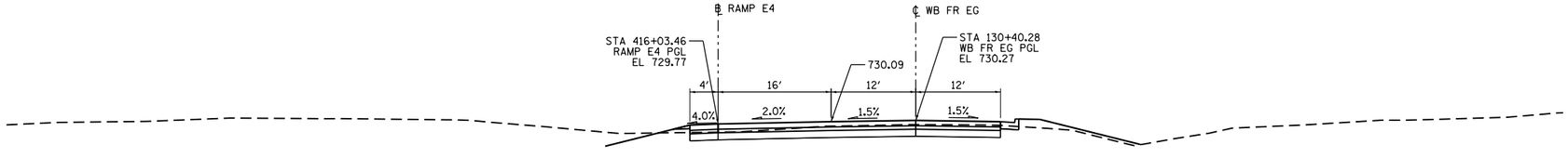
PROPOSED TYPICAL SECTION A-A
RAMP E4 STA 411+10.44
WB FR EG STA 125+46.97



PROPOSED TYPICAL SECTION B-B
RAMP E4 STA 412+79.38
WB FR EG STA 127+16.38



PROPOSED TYPICAL SECTION C-C
RAMP E4 STA 414+79.39
WB FR EG STA 129+16.27



PROPOSED TYPICAL SECTION D-D
RAMP E4 STA 416+03.46
WB FR EG STA 130+40.28

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2595 WITH (MEACHAM RD)

SEC. NO. _____

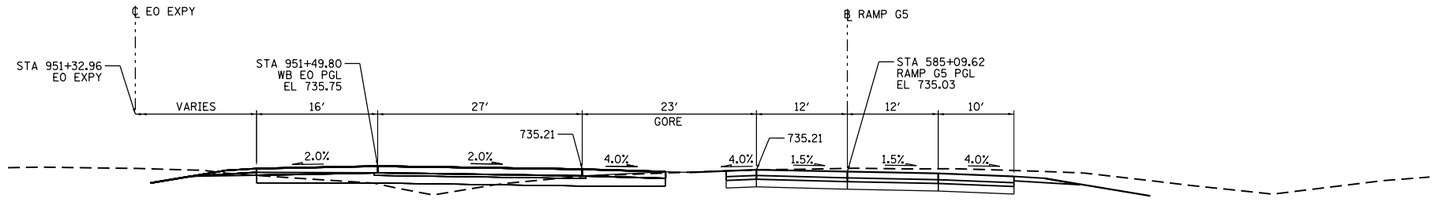
SCALE 1"=10' H
1"=10' V

COUNTY COOK/DUPAGE

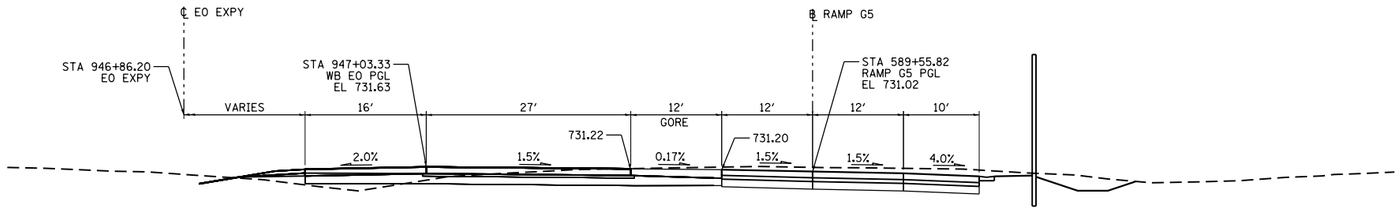
SJN : _____

PROJ. NO. _____

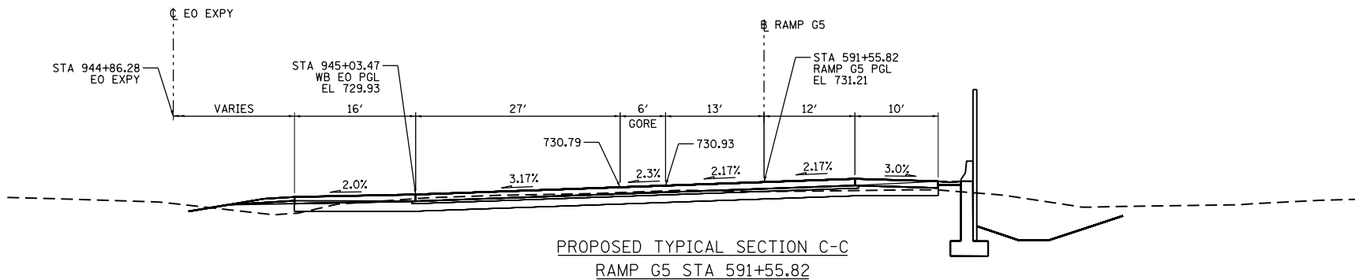
I.D.S. SHEET 15 OF 57



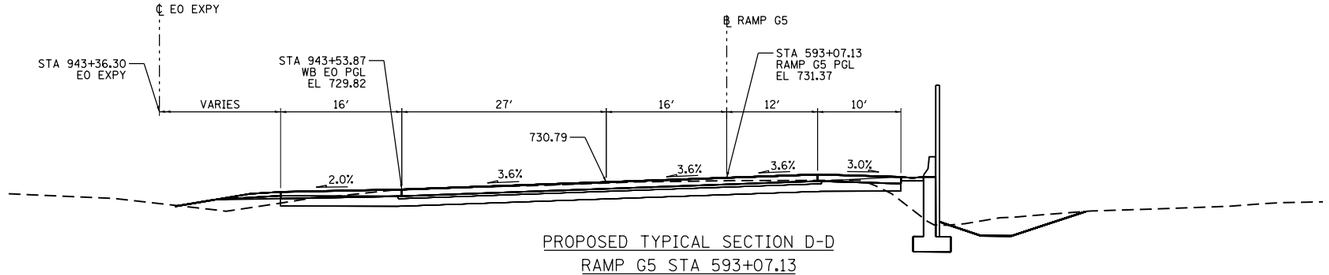
PROPOSED TYPICAL SECTION A-A
RAMP G5 STA 585+09.62
WB EO STA 951+49.80
EO EXPY STA 951+32.96



PROPOSED TYPICAL SECTION B-B
RAMP G5 STA 589+55.82
WB EO STA 947+03.33
EO EXPY STA 946+86.20



PROPOSED TYPICAL SECTION C-C
RAMP G5 STA 591+55.82
WB EO STA 945+03.47
EO EXPY STA 944+86.28



PROPOSED TYPICAL SECTION D-D
RAMP G5 STA 593+07.13
WB EO STA 943+53.87
EO EXPY STA 943+36.30

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2595 WITH (MEACHAM RD)

SEC. NO. _____

SCALE 1"=10' H
1"=10' V

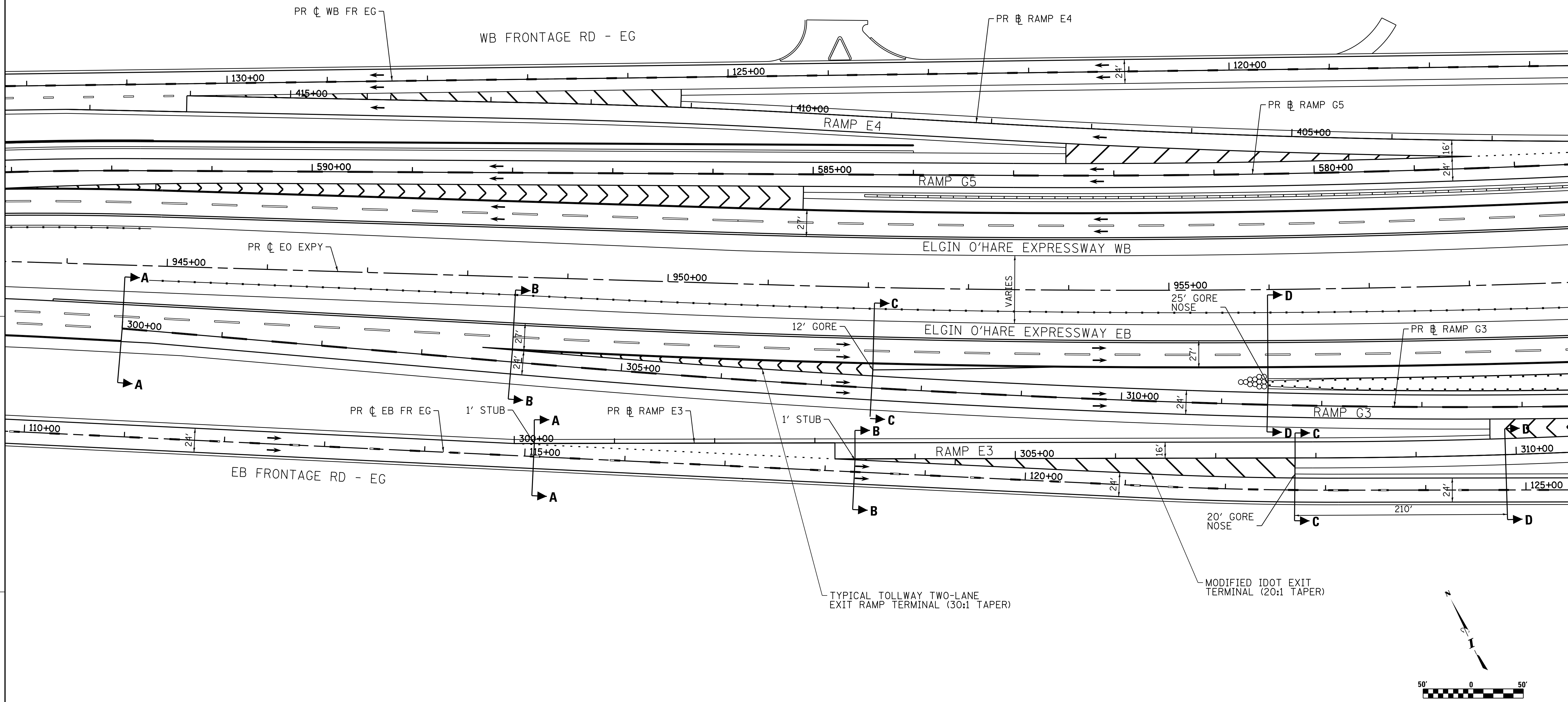
COUNTY COOK/DUPAGE

SJN : _____

PROJ. NO. _____

I.D.S. SHEET 16 OF 57

PLOT DATE = 7/18/2012
FILE NAME = D1EOWB-804-sht-ids-017.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip



PR ℄ WB FR EG
WB FRONTAGE RD - EG
PR ℄ RAMP E4
130+00
125+00
120+00
415+00
410+00
405+00
RAMP E4
PR ℄ RAMP G5
590+00
585+00
580+00
RAMP G5
ELGIN O'HARE EXPRESSWAY WB
PR ℄ EO EXPY
945+00
950+00
955+00
VARIES
25' GORE NOSE
300+00
12' GORE
ELGIN O'HARE EXPRESSWAY EB
PR ℄ RAMP G3
305+00
310+00
RAMP G3
PR ℄ EB FR EG
1' STUB
PR ℄ RAMP E3
1' STUB
110+00
300+00
115+00
RAMP E3
305+00
120+00
310+00
125+00
EB FRONTAGE RD - EG
210'
20' GORE NOSE
TYPICAL TOLLWAY TWO-LANE EXIT RAMP TERMINAL (30:1 TAPER)
MODIFIED IDOT EXIT TERMINAL (20:1 TAPER)
N
50'
0
50'
GRAPHIC SCALE

INTERSECTION DESIGN STUDY

FAP ROUTE 345 WITH (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2595 (MEACHAM RD)

SEC. NO. ____________

SCALE 1"=50'

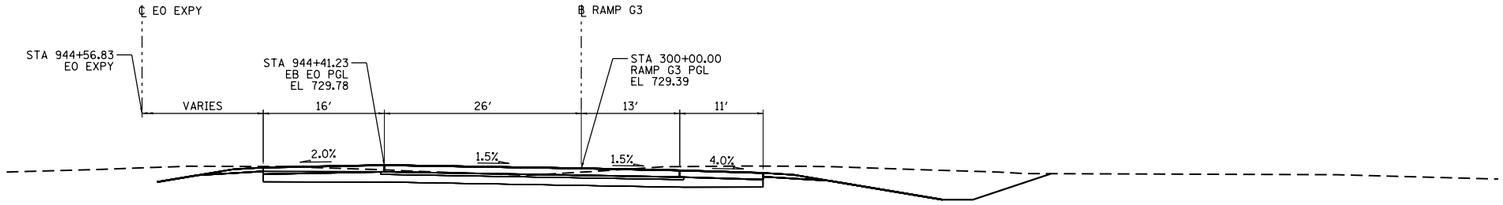
COUNTY COOK/DUPAGE

SJN : __________

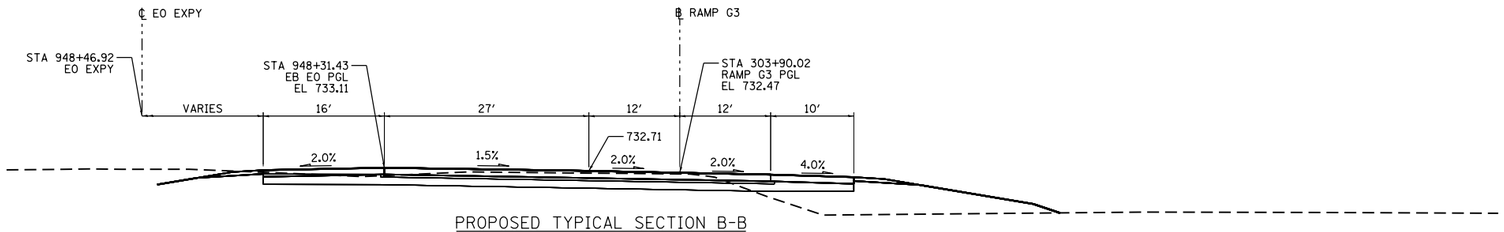
PROJ. NO. ____________

I.D.S. SHEET 17 OF 57

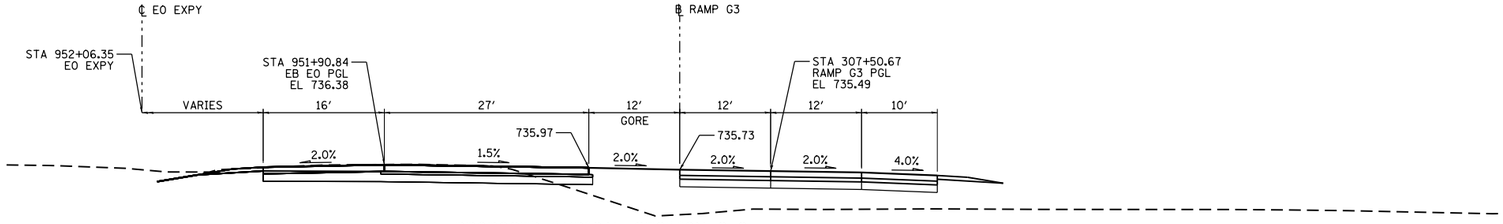
BDE-9908



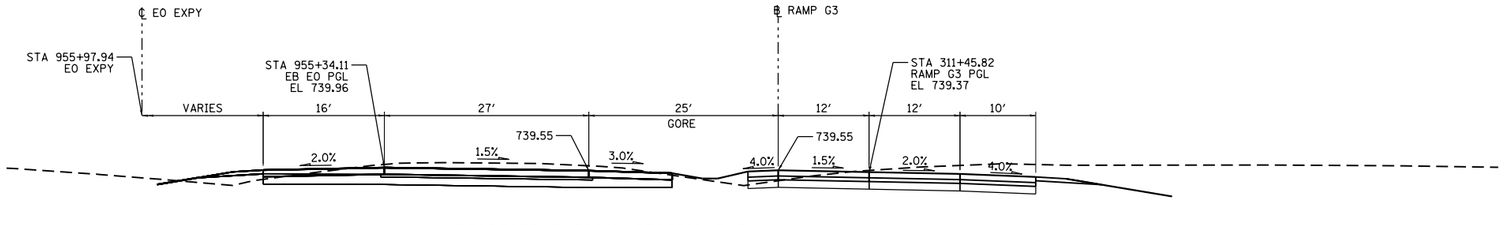
PROPOSED TYPICAL SECTION A-A
RAMP G3 STA 300+00.00
EB EO STA 944+41.23
EO EXPY STA 944+56.83



PROPOSED TYPICAL SECTION B-B
RAMP G3 STA 303+90.02
EB EO STA 948+31.43
EO EXPY STA 948+46.92



PROPOSED TYPICAL SECTION C-C
RAMP G3 STA 307+50.67
EB EO STA 951+90.84
EO EXPY STA 952+06.35



PROPOSED TYPICAL SECTION D-D
RAMP G3 STA 311+45.82
EB EO STA 955+34.11
EO EXPY STA 955+97.94

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2595 WITH (MEACHAM RD)

SEC. NO. _____

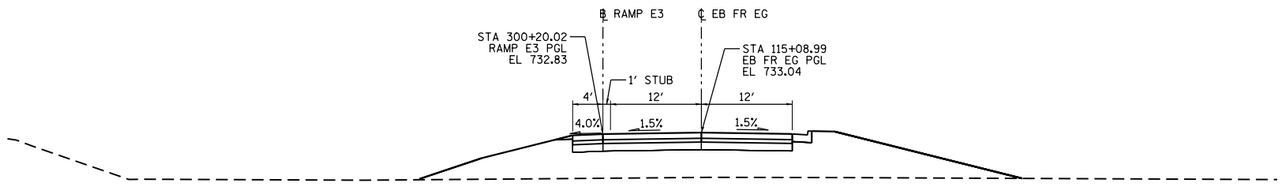
SCALE 1"=10' H
1"=10' V

COUNTY COOK/DUPAGE

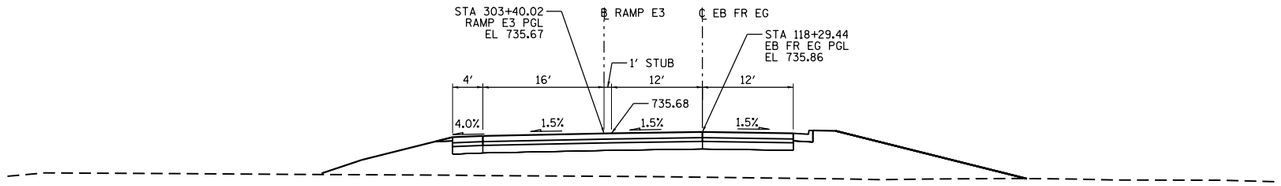
SJN : _____

PROJ. NO. _____

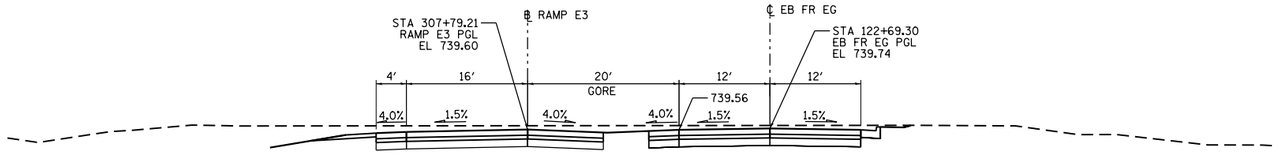
I.D.S. SHEET 18 OF 57



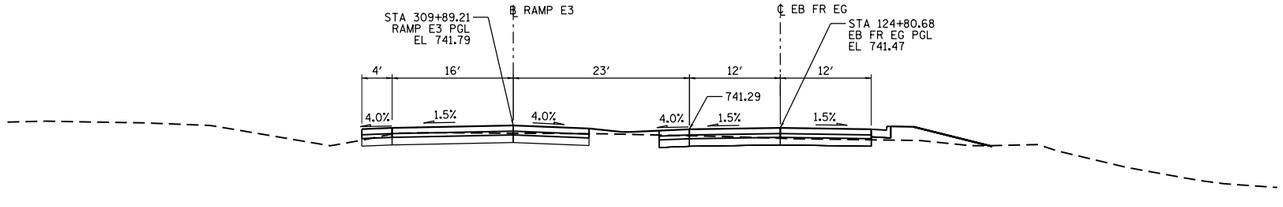
PROPOSED TYPICAL SECTION A-A
RAMP E3 STA 300+20.02
EB FR EG STA 115+08.99



PROPOSED TYPICAL SECTION B-B
RAMP E3 STA 303+40.02
EB FR EG STA 118+29.44



PROPOSED TYPICAL SECTION C-C
RAMP E3 STA 307+79.21
EB FR EG STA 122+69.30



PROPOSED TYPICAL SECTION D-D
RAMP E3 STA 309+89.21
EB FR EG STA 124+80.68

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2595 WITH (MEACHAM RD)

SEC. NO. _____

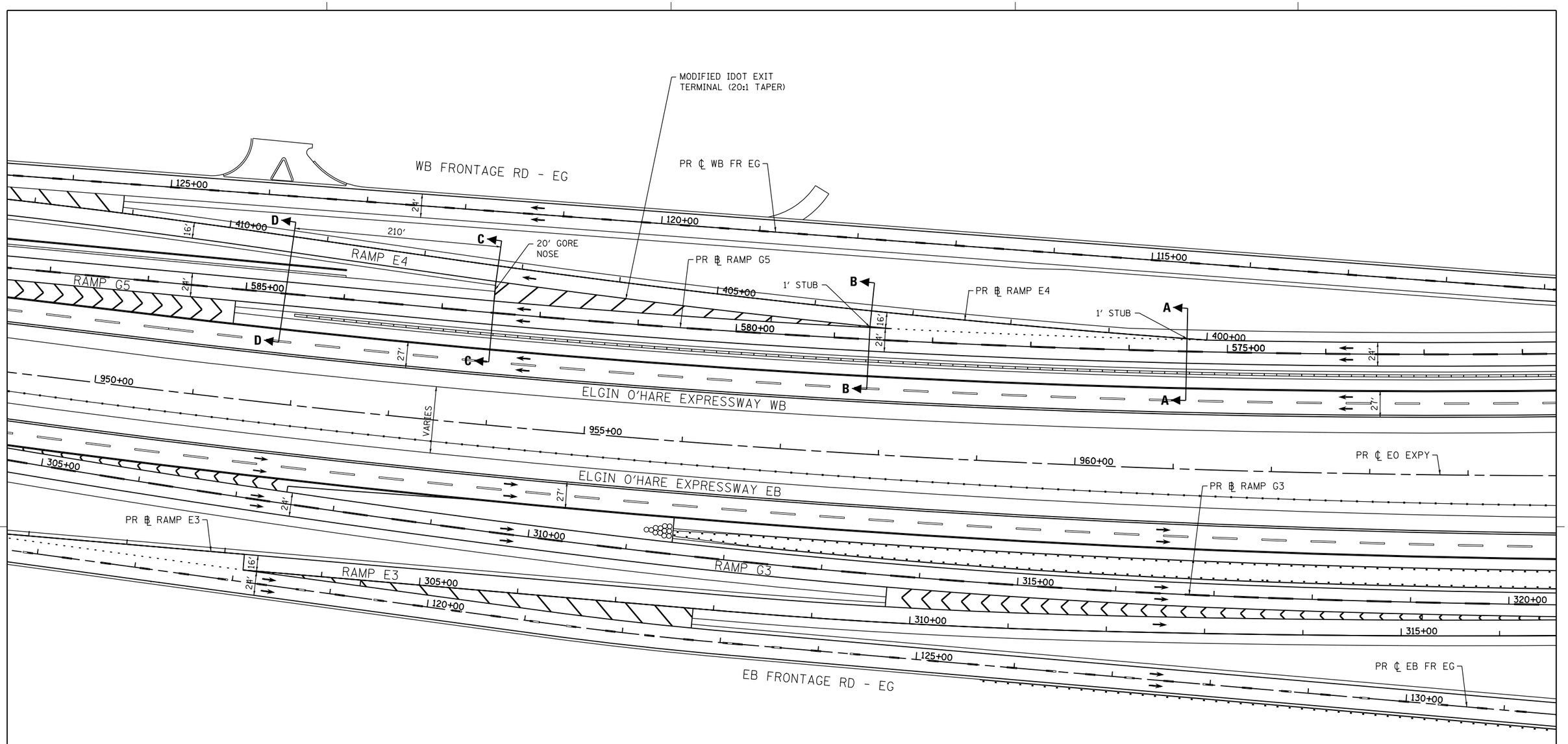
SCALE 1"=10' H / 1"=10' V

COUNTY COOK/DUPAGE

SJN : _____

PROJ. NO. _____

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-020.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip



INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2595 WITH (MEACHAM RD)

SEC. NO. _____

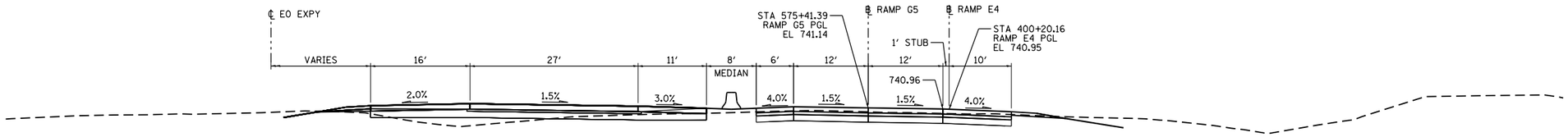
SCALE 1"=50' COUNTY COOK/DUPAGE

SJN : _____ PROJ. NO. _____

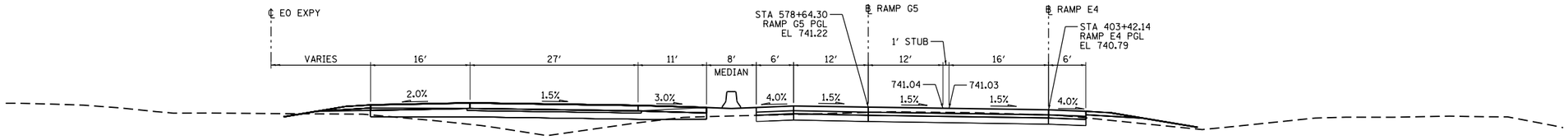
I.D.S. SHEET 20 OF 57

BDE-9908

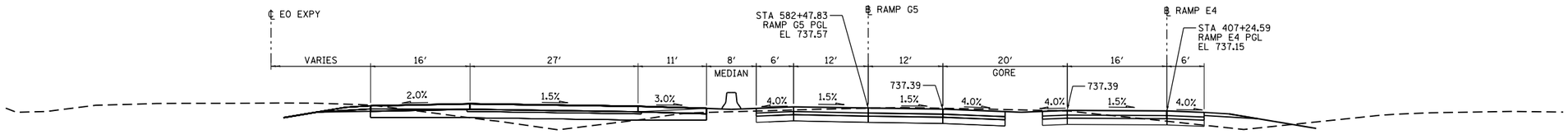
PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-021.dgn
PLOT SCALE = 20.0000 ' / in.
USER NAME = tphilip



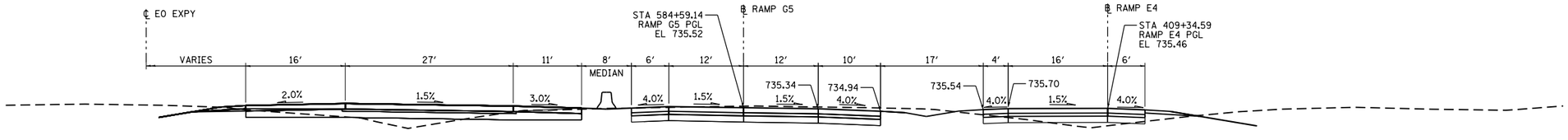
PROPOSED TYPICAL SECTION A-A
RAMP E4 STA 400+20.16
RAMP G5 STA 575+41.39



PROPOSED TYPICAL SECTION B-B
RAMP E4 STA 403+42.14
RAMP G5 STA 578+64.30



PROPOSED TYPICAL SECTION C-C
RAMP E4 STA 407+24.59
RAMP G5 STA 582+47.83



PROPOSED TYPICAL SECTION D-D
RAMP E4 STA 409+34.59
RAMP G5 STA 584+59.14

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2595 WITH (MEACHAM RD)

SEC. NO. _____

SCALE 1"=10' H / 1"=10' V
SJN : _____

COUNTY COOK/DUPAGE
PROJ. NO. _____

I.D.S. SHEET 21 OF 57

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-022.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PR ℄ WB FR EG

WB FRONTAGE RD - EG

120+00

115+00

110+00

PR ℄ RAMP G5

RAMP E4

405+00

PR ℄ RAMP E4

RAMP G5

580+00

400+00

575+00

570+00

24'

16'

27'

ELGIN O'HARE EXPRESSWAY WB

955+00

960+00

965+00

VARIES

PR ℄ EO EXPY

PR ℄ RAMP G3

ELGIN O'HARE EXPRESSWAY EB

27'

310+00

RAMP G3

RAMP E3

315+00

320+00

325+00

A

B

C

D

24'

16'

310+00

315+00

320+00

PR ℄ RAMP E3

8' GORE

6' GORE

20' GORE NOSE

125+00

EB FRONTAGE RD - EG

24'

130+00

PR ℄ EB FR EG

135+00

TYPICAL TOLLWAY ENTRANCE RAMP TERMINAL

N

50' 0 50'

GRAPHIC SCALE

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)

FAU ROUTE 2595 WITH (MEACHAM RD)

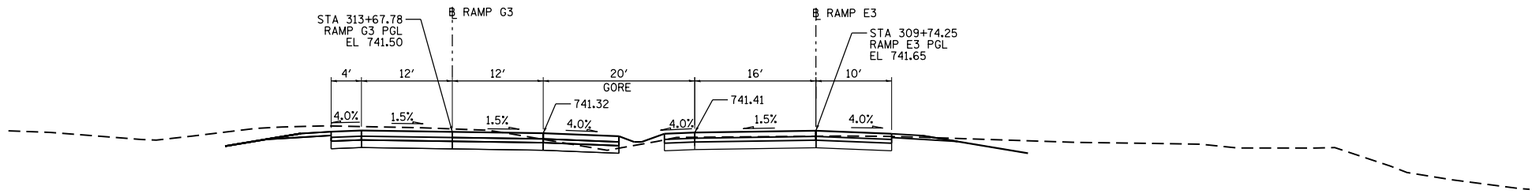
SEC. NO. _____

SCALE 1"=50' COUNTY COOK/DUPAGE

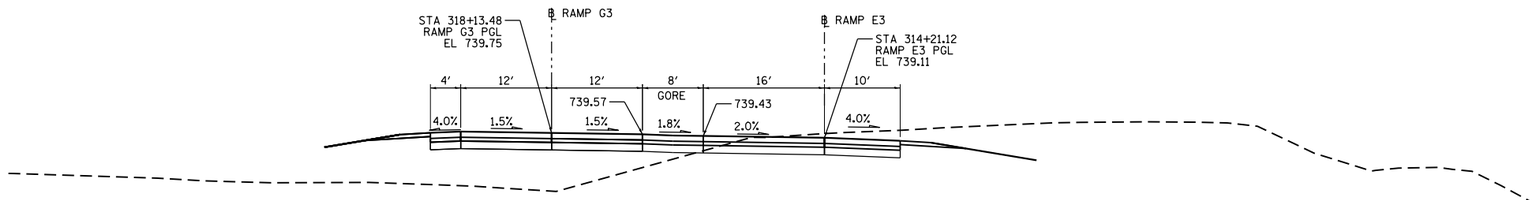
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 22 OF 57

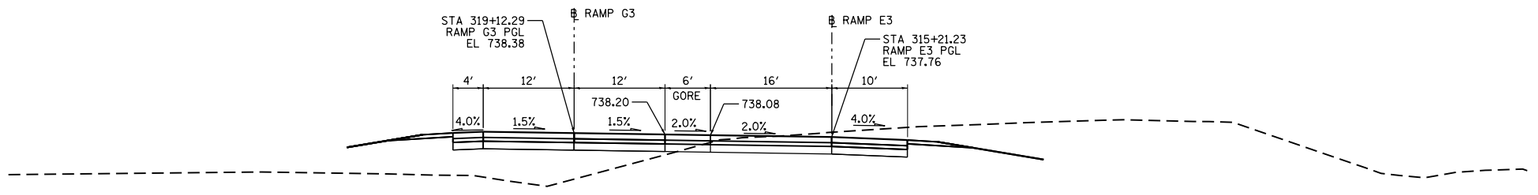
BDE-9908



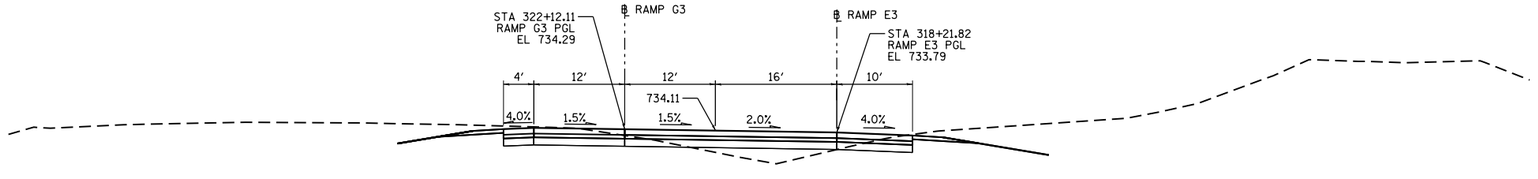
PROPOSED TYPICAL SECTION A-A
RAMP E3 STA 309+74.25
RAMP G3 STA 313+67.78



PROPOSED TYPICAL SECTION B-B
RAMP E3 STA 314+21.12
RAMP G3 STA 318+13.48



PROPOSED TYPICAL SECTION C-C
RAMP E3 STA 315+21.23
RAMP G3 STA 319+12.29



PROPOSED TYPICAL SECTION D-D
RAMP E3 STA 318+21.82
RAMP G3 STA 322+12.11

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2595 WITH (MEACHAM RD)

SEC. NO. _____

SCALE 1"=10' H / 1"=10' V

COUNTY COOK/DUPAGE

SJN : _____

PROJ. NO. _____

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-024.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PR ℄ WB FR EG
WB FRONTAGE RD - EG
105+00
100+00
105+00
PR ℄ RAMP K1
120+00
RAMP G2
RAMP G5
16'
555+00
225+00
115+00
RAMP K1
A
B
8' GORE
12' GORE NOSE
STANDARD IDOT ENTRANCE RAMP TERMINAL
C
4' GORE
2' STUB
D
PR ℄ RAMP G5
PR ℄ RAMP G2
230+00
560+00
565+00
ELGIN O'HARE EXPRESSWAY WB
PR ℄ EO EXPY
970+00
975+00
980+00
985+00
46'
PR ℄ RAMP G3
ELGIN O'HARE EXPRESSWAY EB
RAMP G3
330+00
325+00
RAMP E3
PR ℄ RAMP K2
RAMP K2
205+00
335+00
340+00
400+00
PR ℄ RAMP E3
PR ℄ EB FR EG
200+00
140+00
EB FRONTAGE RD - EG
IL 53
PR ℄ IL 53

N

50' 0 50'
GRAPHIC SCALE

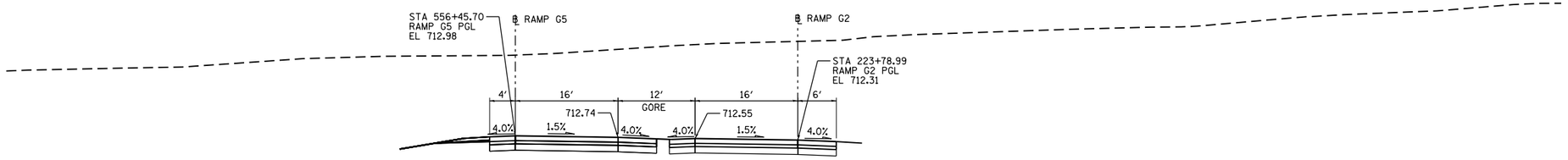
INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2578 WITH (ROHLWING RD IL 53)

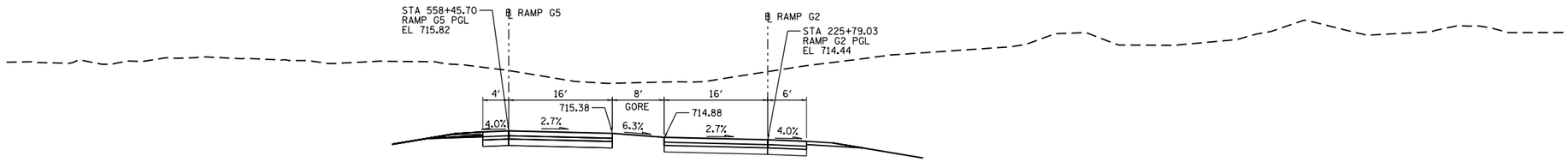
SEC. NO. _____
SCALE 1"=50' COUNTY DUPAGE
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 24 OF 57

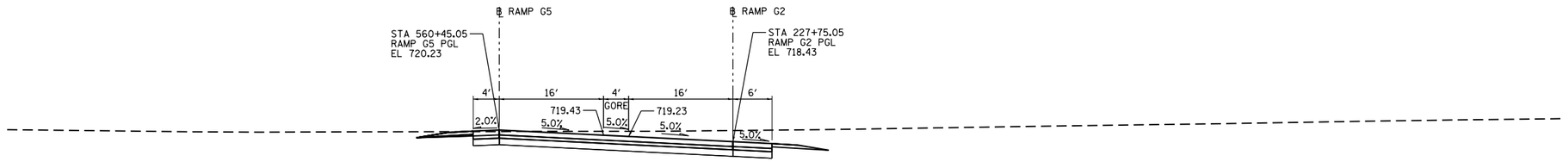
BDE-9908



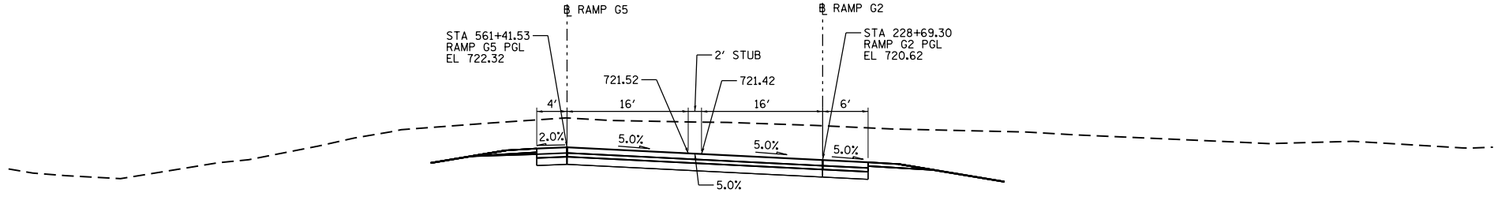
PROPOSED TYPICAL SECTION A-A
RAMP G2 STA 223+78.99
RAMP G5 STA 556+45.70



PROPOSED TYPICAL SECTION B-B
RAMP G2 STA 225+79.03
RAMP G5 STA 558+45.70



PROPOSED TYPICAL SECTION C-C
RAMP G2 STA 227+75.05
RAMP G5 STA 560+45.05



PROPOSED TYPICAL SECTION D-D
RAMP G2 STA 228+69.30
RAMP G5 STA 561+41.53

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2578 WITH (ROHLWING RD IL 53)

SEC. NO. _____

SCALE 1"=10' H
1"=10' V

COUNTY DUPAGE

SJN : _____

PROJ. NO. _____

I.D.S. SHEET 25 OF 57

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-026.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PR ℄ RAMP K1
RAMP K1
16'
110+00
25' GORE NOSE
D
PR ℄ RAMP G5
RAMP G5
545+00
PR ℄ RAMP G7
715+00
PR ℄ RAMP G1
730+00
RAMP G7
PR ℄ RAMP G7
TYPICAL TOLLWAY EXIT RAMP TERMINAL
C
12' GORE
105+00
B
RAMP G7
710+00
A
100+00
39'
ELGIN O'HARE EXPRESSWAY WB
PR ℄ EO EXPY
985+00
46'
990+00
B
C
995+00
RAMP G1
A
130+00
46'
ELGIN O'HARE EXPRESSWAY EB
27'
A
B
C
D
510+00
39'
215+00
RAMP K2
16'
210+00
16' GORE
8' GORE
4' GORE
A
B
C
D
PR ℄ RAMP K2
PR ℄ RAMP G3
MODIFIED TOLLWAY PARALLEL ENTRANCE RAMP TERMINAL
A
B
C
D
24'
340+00
400+00
345+00
RAMP G3
350+00
24'
405+00
RAMP G4
410+00
16'
A
B
12' GORE
C
24' GORE NOSE
D
PR ℄ RAMP G4
TYPICAL TOLLWAY EXIT RAMP TERMINAL

N
1
50' 0 50'
GRAPHIC SCALE

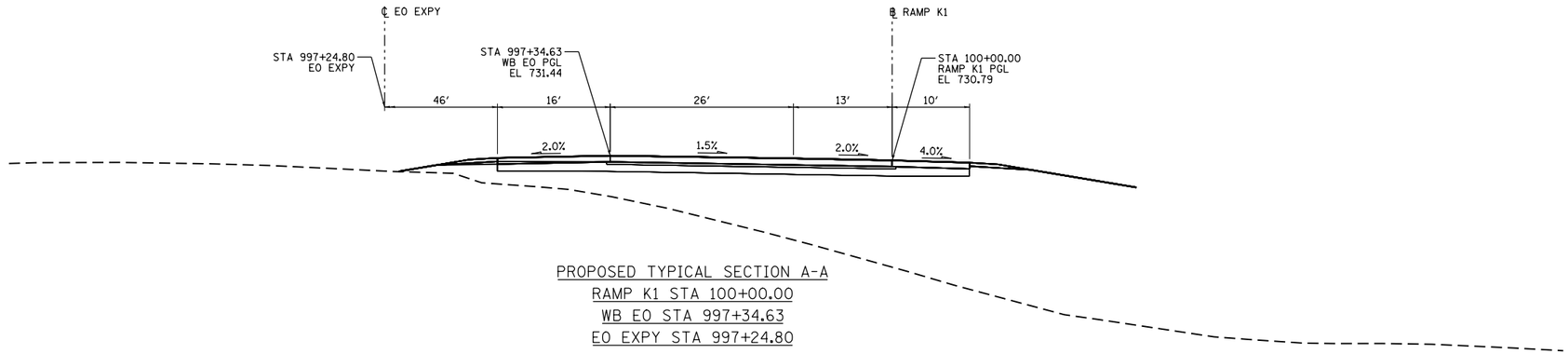
INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2578 WITH (ROHLWING RD IL 53)

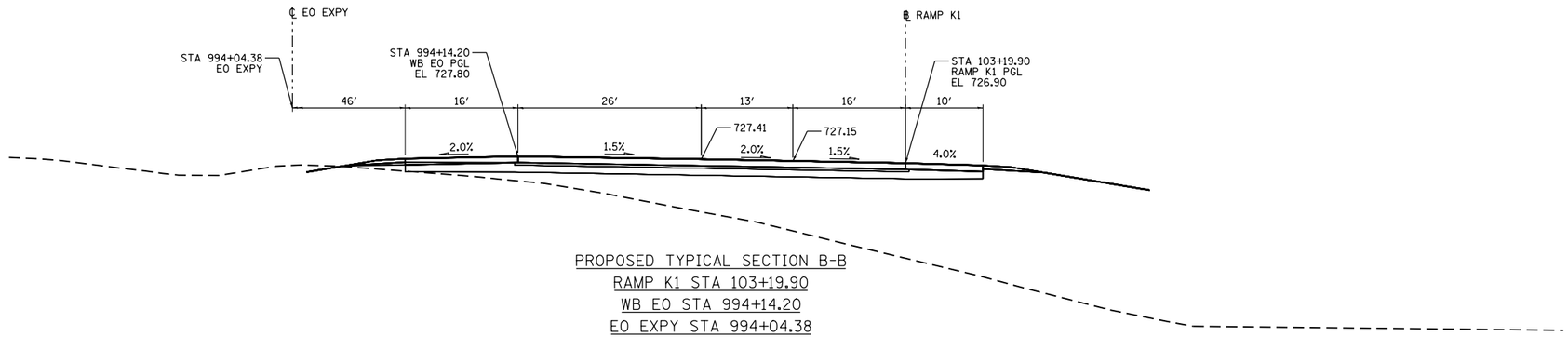
SEC. NO. _____
SCALE 1"=50'
COUNTY DUPAGE
SJN : _____
PROJ. NO. _____

I.D.S. SHEET 26 OF 57

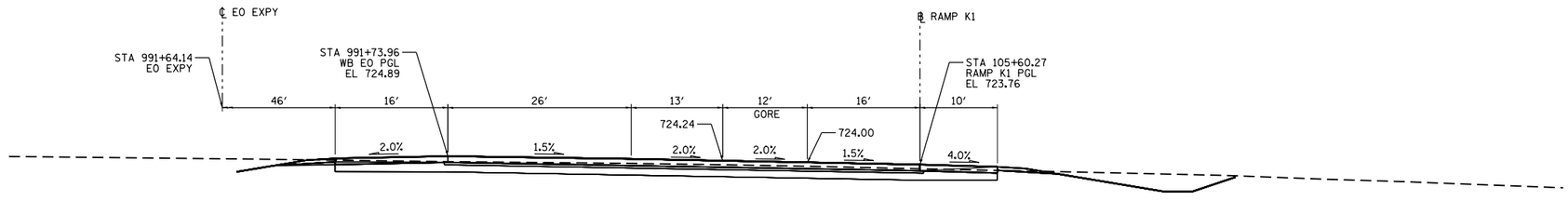
BDE-9908



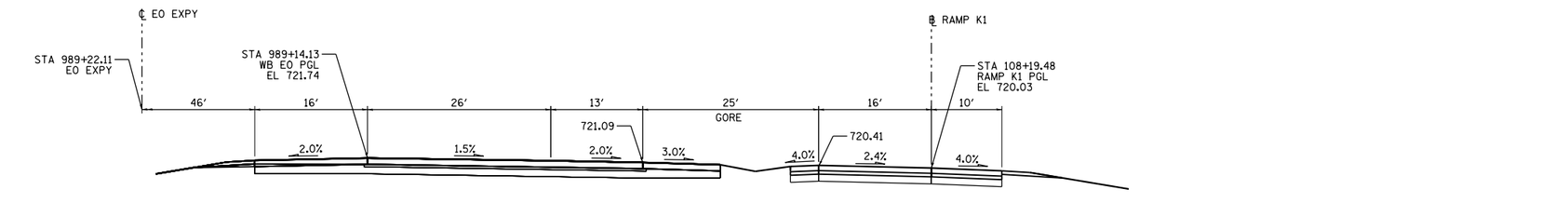
PROPOSED TYPICAL SECTION A-A
RAMP K1 STA 100+00.00
WB EO STA 997+34.63
EO EXPY STA 997+24.80



PROPOSED TYPICAL SECTION B-B
RAMP K1 STA 103+19.90
WB EO STA 994+14.20
EO EXPY STA 994+04.38



PROPOSED TYPICAL SECTION C-C
RAMP K1 STA 105+60.27
WB EO STA 991+73.96
EO EXPY STA 991+64.14



PROPOSED TYPICAL SECTION D-D
RAMP K1 STA 108+19.48
WB EO STA 989+14.13
EO EXPY STA 989+22.11

INTERSECTION DESIGN STUDY

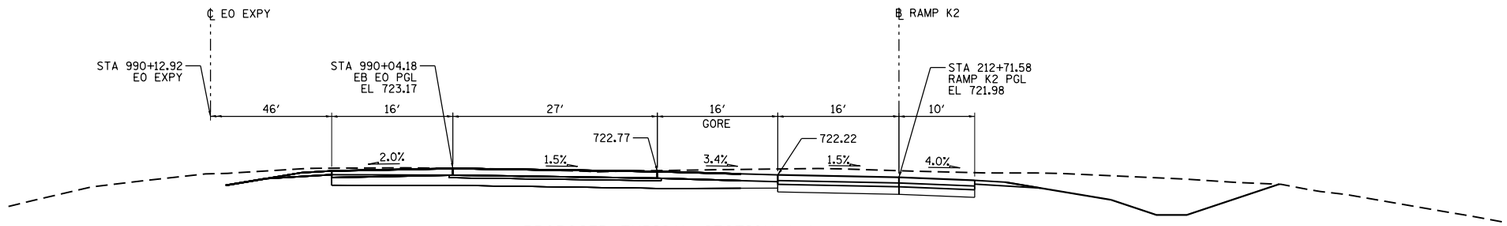
FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2578 WITH (ROHLWING RD IL 53)

SEC. NO. _____

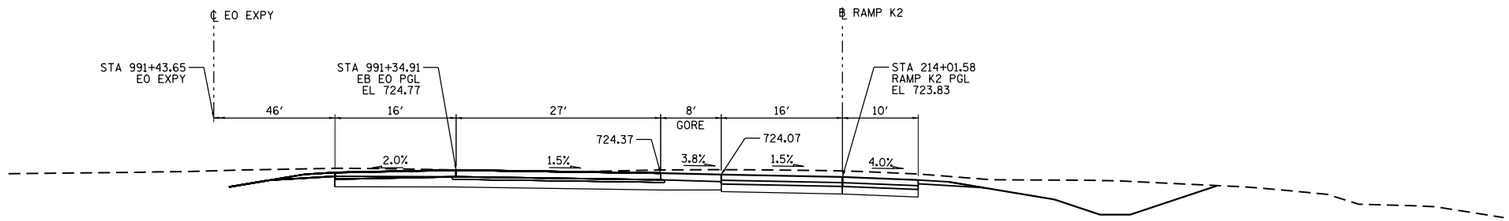
SCALE 1"=10' H / 1"=10' V
SJN : _____

COUNTY DUPAGE
PROJ. NO. _____

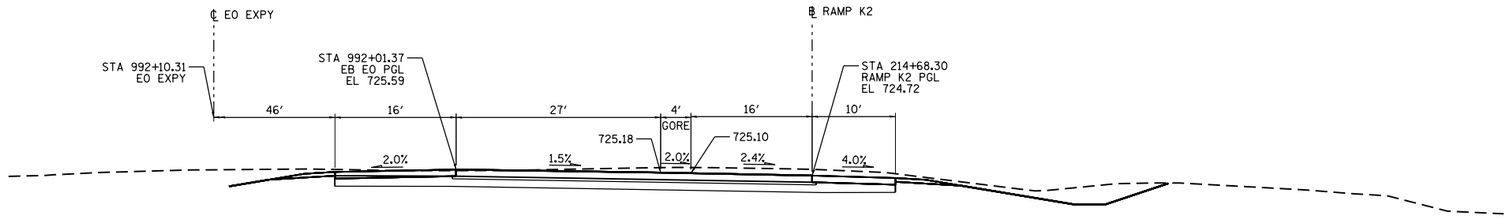
I.D.S. SHEET 27 OF 57



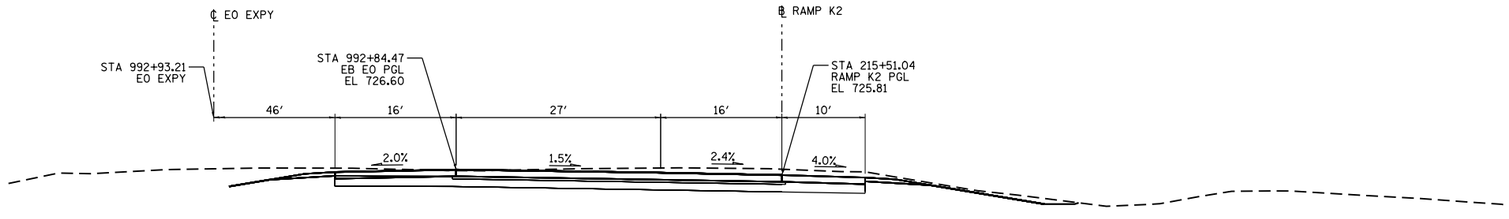
PROPOSED TYPICAL SECTION A-A
RAMP K2 STA 212+71.58
EB EO STA 990+04.18
EO EXPY STA 990+12.92



PROPOSED TYPICAL SECTION B-B
RAMP K2 STA 214+01.58
EB EO STA 991+34.91
EO EXPY STA 991+43.65



PROPOSED TYPICAL SECTION C-C
RAMP K2 STA 214+68.30
EB EO STA 992+01.37
EO EXPY STA 992+10.31



PROPOSED TYPICAL SECTION D-D
RAMP K2 STA 215+51.04
EB EO STA 992+84.47
EO EXPY STA 992+93.21

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2578 WITH (ROHLWING RD IL 53)

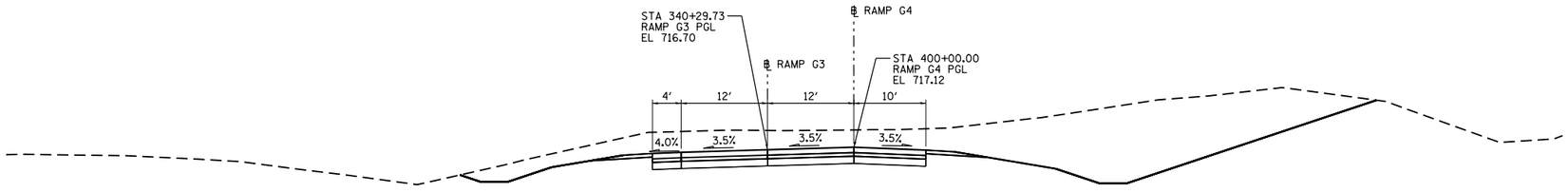
SEC. NO. _____

SCALE 1"=10' H / 1"=10' V
SJN : _____

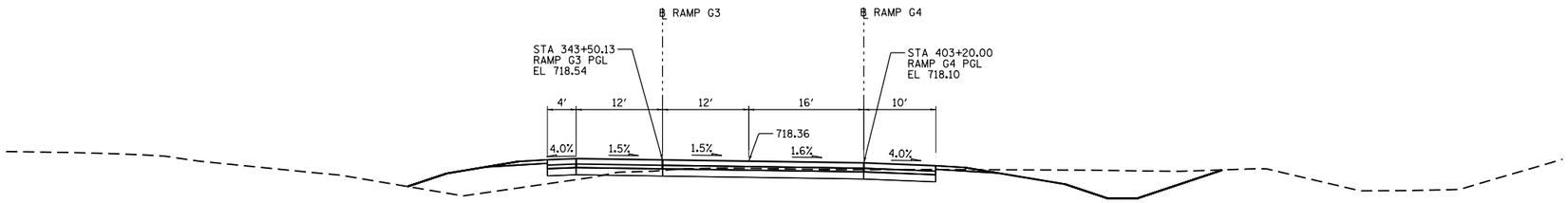
COUNTY DUPAGE

PROJ. NO. _____

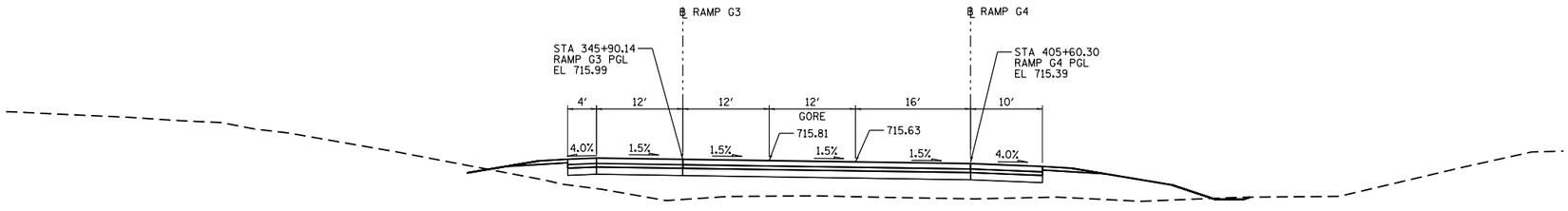
PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-029.dgn
PLOT SCALE = 20.0000 ' / in.
USER NAME = tphilip



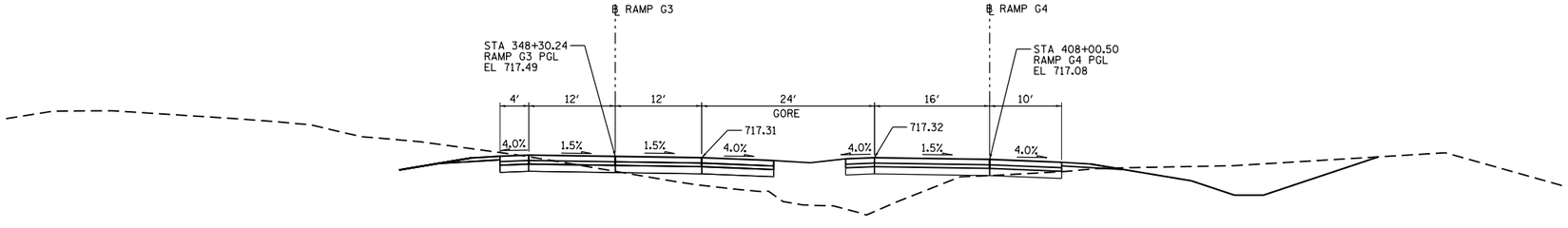
PROPOSED TYPICAL SECTION A-A
RAMP G3 STA 340+29.73
RAMP G4 STA 400+00.00



PROPOSED TYPICAL SECTION B-B
RAMP G3 STA 343+50.13
RAMP G4 STA 403+20.00



PROPOSED TYPICAL SECTION C-C
RAMP G3 STA 345+90.14
RAMP G4 STA 405+60.30



PROPOSED TYPICAL SECTION D-D
RAMP G3 STA 348+30.24
RAMP G4 STA 408+00.50

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2578 WITH (ROHLWING RD IL 53)

SEC. NO. _____

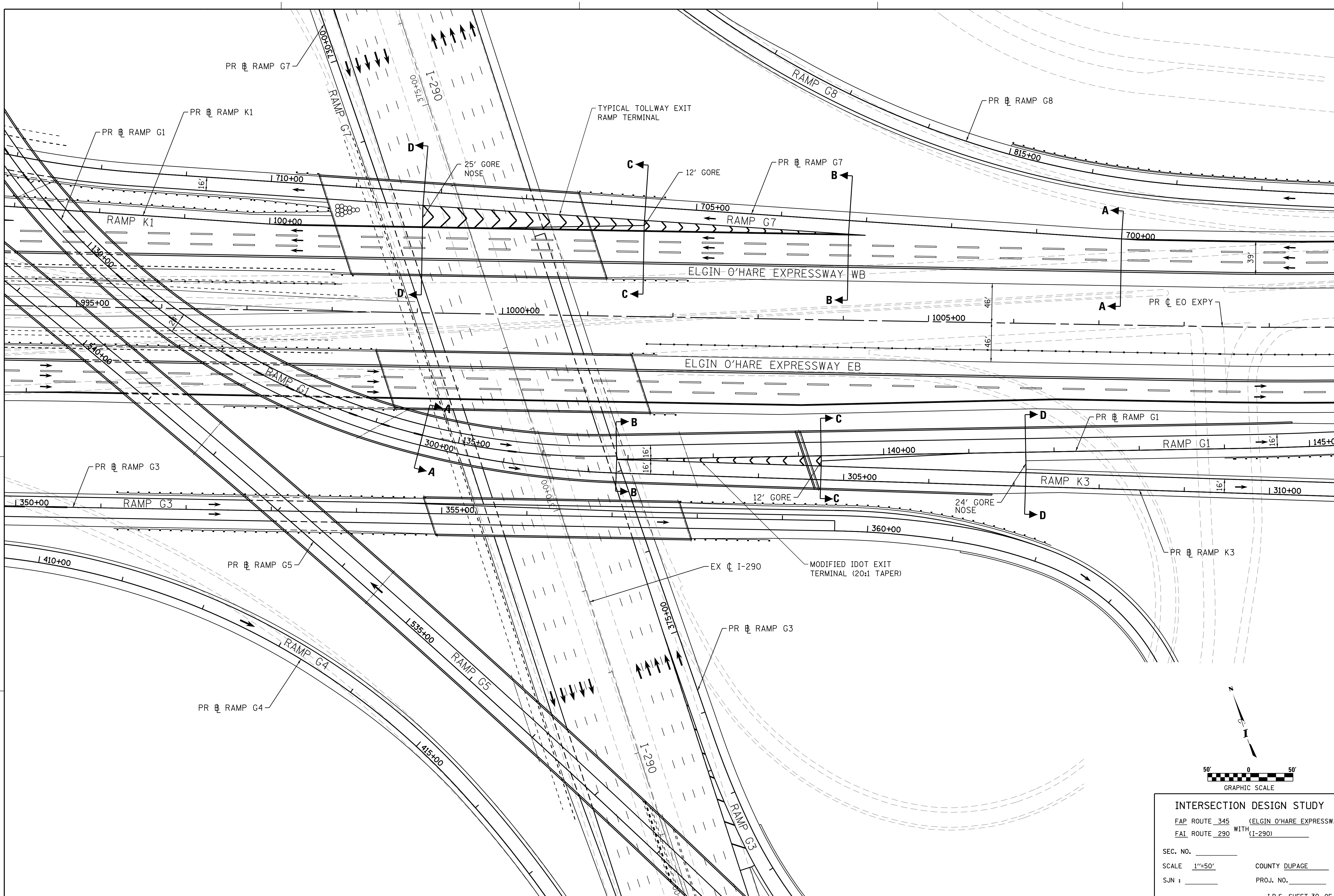
SCALE 1"=10' H
1"=10' V

COUNTY DUPAGE

SJN : _____

PROJ. NO. _____

I.D.S. SHEET 29 OF 57



PR ℄ RAMP G7
PR ℄ RAMP K1
PR ℄ RAMP G1
TYPICAL TOLLWAY EXIT RAMP TERMINAL
25' GORE NOSE
12' GORE
PR ℄ RAMP G7
PR ℄ RAMP G8
RAMP G8
815+00
RAMP G7
I-290
375+00
730+00
710+00
705+00
700+00
100+00
RAMP K1
RAMP G7
ELGIN O'HARE EXPRESSWAY WB
130+00
995+00
1000+00
1005+00
PR ℄ EO EXPY
540+00
RAMP G1
ELGIN O'HARE EXPRESSWAY EB
PR ℄ RAMP G1
RAMP G1
135+00
140+00
145+00
300+00
305+00
310+00
RAMP K3
12' GORE
24' GORE NOSE
PR ℄ RAMP G3
350+00
RAMP G3
355+00
360+00
PR ℄ RAMP K3
PR ℄ RAMP G5
EX ℄ I-290
MODIFIED IDOT EXIT TERMINAL (20:1 TAPER)
410+00
PR ℄ RAMP G3
375+00
535+00
RAMP G5
RAMP G4
PR ℄ RAMP G4
415+00
I-290
RAMP G3
50' 0 50'
GRAPHIC SCALE

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-004-sht-ids-030.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

INTERSECTION DESIGN STUDY

FAP ROUTE 345 WITH (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 (I-290)

SEC. NO.

SCALE 1"=50'

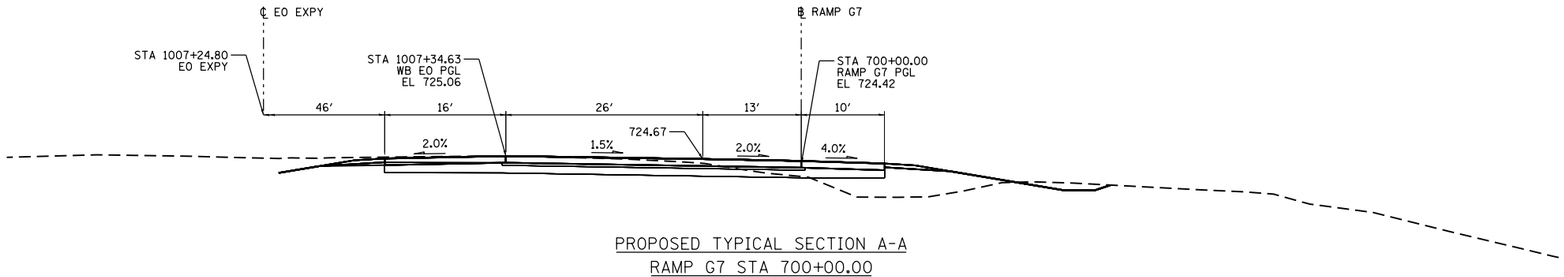
COUNTY DUPAGE

SJN :

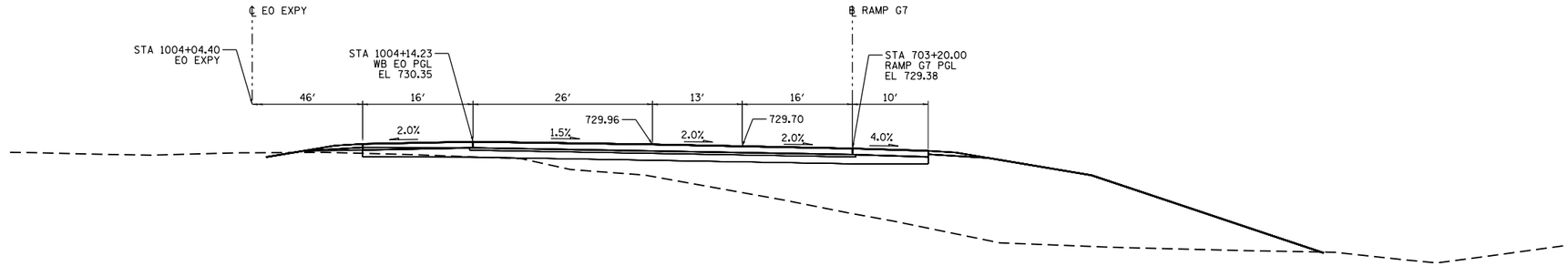
PROJ. NO.

I.D.S. SHEET 30 OF 57

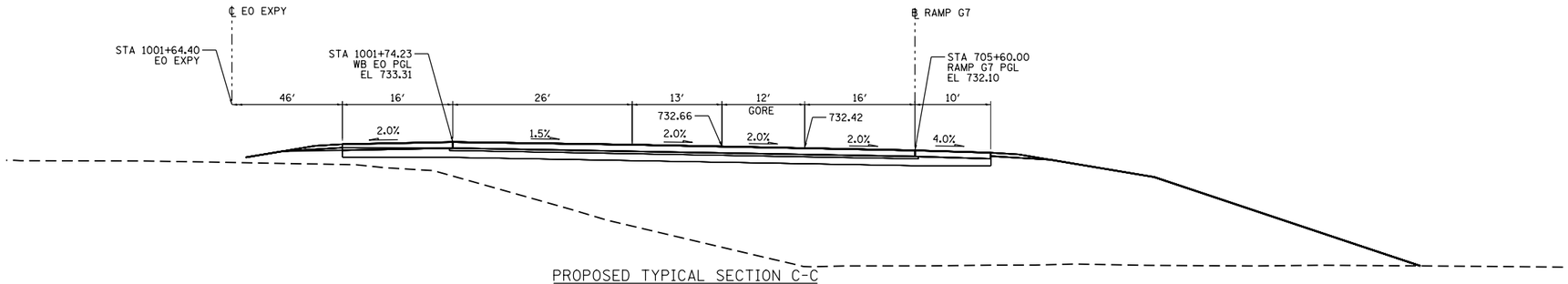
BDE-9908



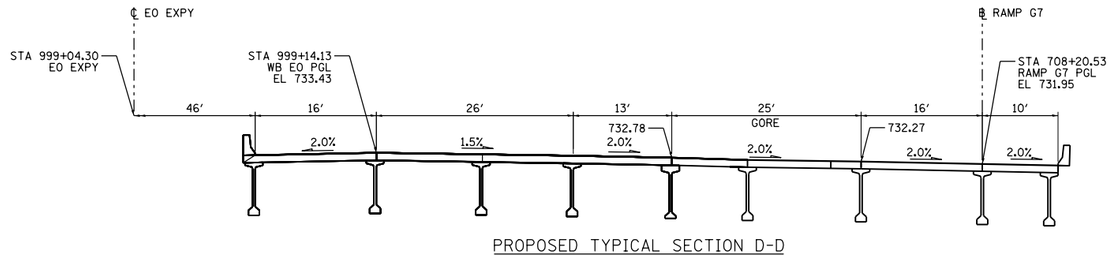
PROPOSED TYPICAL SECTION A-A
RAMP G7 STA 700+00.00
WB EO STA 1007+34.63
EO EXPY STA 1007+24.80



PROPOSED TYPICAL SECTION B-B
RAMP G7 STA 703+20.00
WB EO STA 1004+14.23
EO EXPY STA 1004+04.40



PROPOSED TYPICAL SECTION C-C
RAMP G7 STA 705+60.00
WB EO STA 1001+74.23
EO EXPY STA 1001+64.40



PROPOSED TYPICAL SECTION D-D
RAMP G7 STA 708+20.53
WB EO STA 999+14.13
EO EXPY STA 999+04.30

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

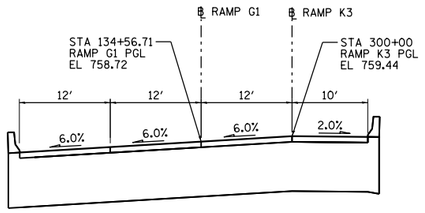
SCALE 1"=10' H / 1"=10' V

COUNTY DUPAGE

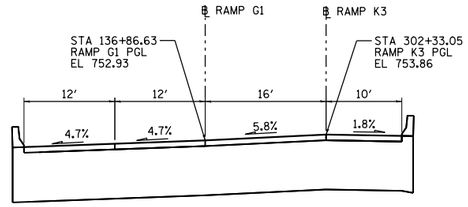
SJN : _____

PROJ. NO. _____

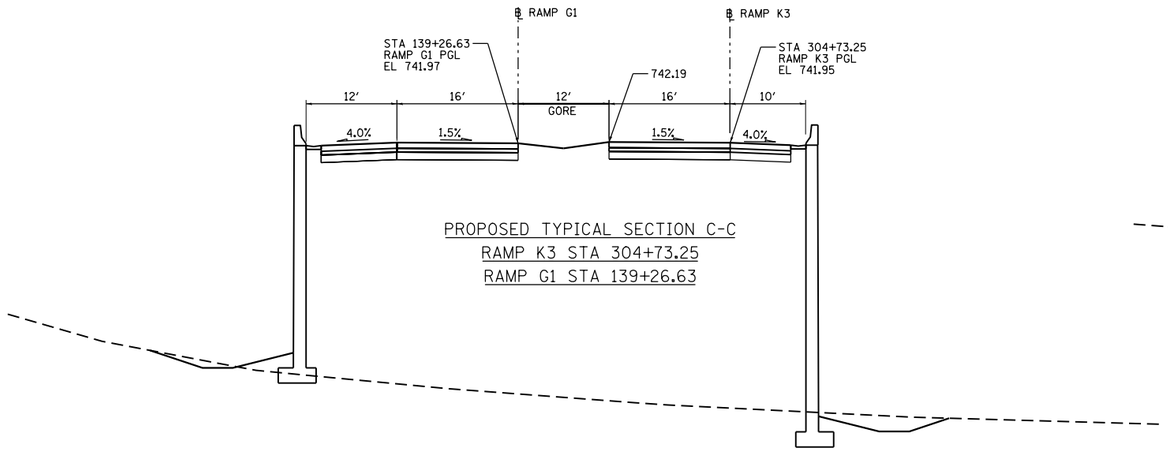
I.D.S. SHEET 31 OF 57



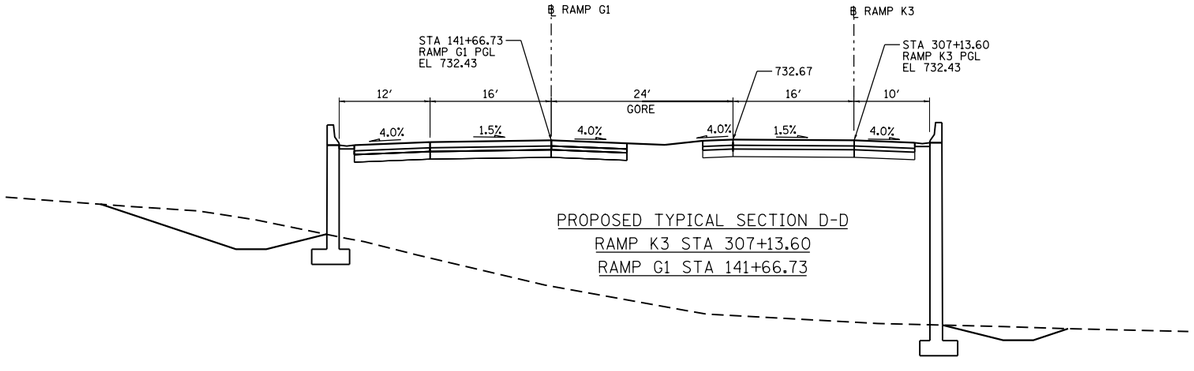
PROPOSED TYPICAL SECTION A-A
RAMP K3 STA 300+00.00
RAMP G1 STA 134+56.71



PROPOSED TYPICAL SECTION B-B
RAMP K3 STA 302+33.05
RAMP G1 STA 136+86.63



PROPOSED TYPICAL SECTION C-C
RAMP K3 STA 304+73.25
RAMP G1 STA 139+26.63



PROPOSED TYPICAL SECTION D-D
RAMP K3 STA 307+13.60
RAMP G1 STA 141+66.73

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE 1"=10' H / 1"=10' V
COUNTY COOK/DUPAGE

SJN : _____
PROJ. NO. _____

I.D.S. SHEET 32 OF 57

PLOT DATE = 7/18/2012
FILE NAME = DIE0WB-804-ant-uds-033.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PR ℄ RAMP G8
16'
810+00
RAMP G8
39'
25' GORE NOSE
D
C
12' GORE
TYPICAL TOLLWAY EXIT RAMP TERMINAL
B
805+00
PR ℄ PARK
100+00
A
ELGIN O'HARE EXPRESSWAY WB
800+00
1015+00
25' GORE NOSE
27'
16'
ELGIN O'HARE EXPRESSWAY EB
8' GORE
4' GORE
46'
46'
1020+00
PR ℄ EO EXPY
1025+00
RAMP G1
150+00
ADD LANE
RAMP K3
PR ℄ RAMP K3
PR ℄ RAMP G1
39'
625+00
315+00
16'
630+00
RAMP G6
635+00
PR ℄ RAMP G6
320+00
24'
16'
415+00
RAMP K4
420+00
425+00
PR ℄ PARK SOUTH
16' GORE NOSE
10' GORE
6' GORE
PR ℄ RAMP K4
STANDARD IDOT MINOR CONVERGENCE RAMP TERMINAL

N

50' 0 50'
GRAPHIC SCALE

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

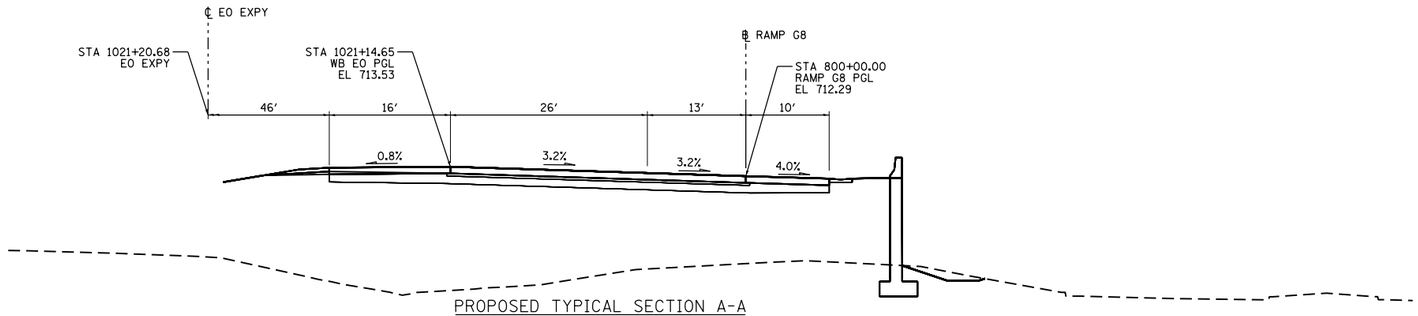
SEC. NO. _____

SCALE 1"=50' COUNTY DUPAGE

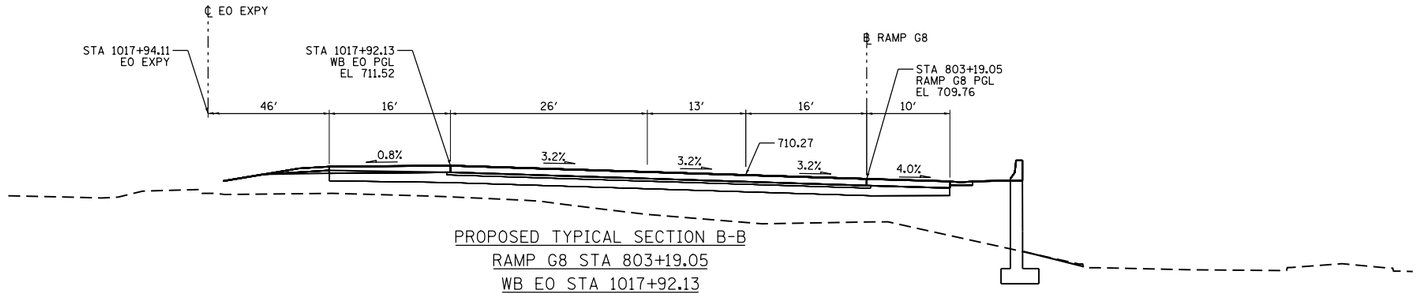
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 33 OF 57

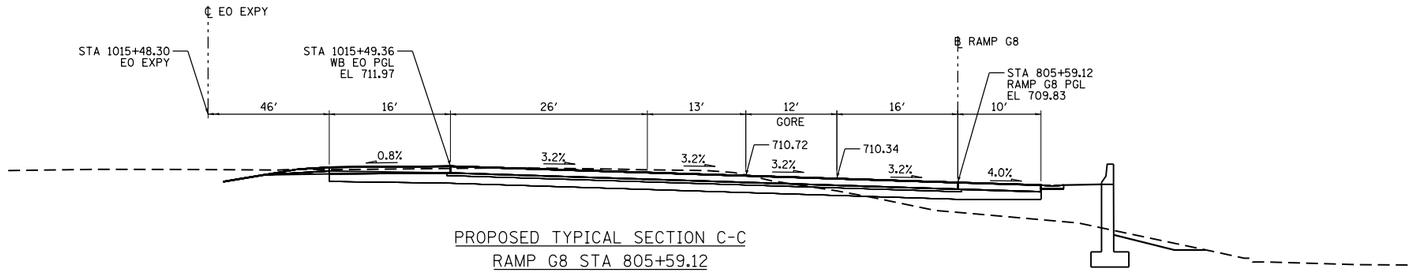
BDE-9908



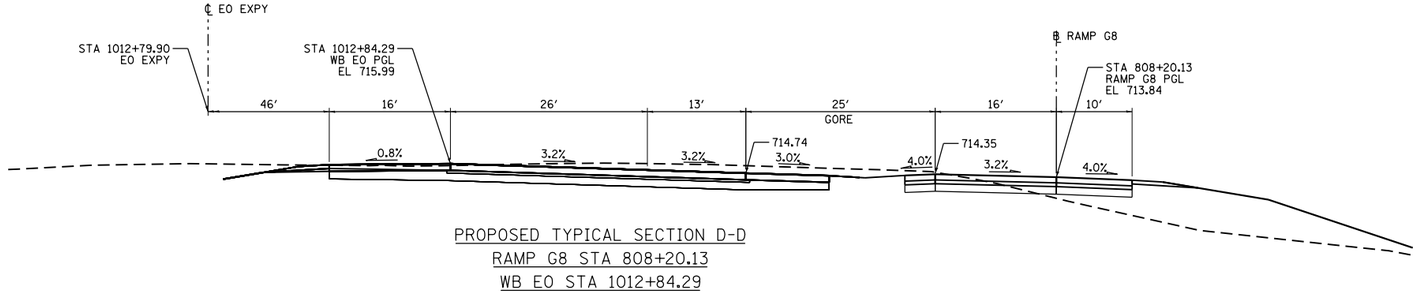
PROPOSED TYPICAL SECTION A-A
RAMP G8 STA 800+00
WB EO STA 1021+14.65
EO EXPY STA 1021+20.68



PROPOSED TYPICAL SECTION B-B
RAMP G8 STA 803+19.05
WB EO STA 1017+92.13
EO EXPY STA 1017+94.11



PROPOSED TYPICAL SECTION C-C
RAMP G8 STA 805+59.12
WB EO STA 1015+49.36
EO EXPY STA 1015+48.30



PROPOSED TYPICAL SECTION D-D
RAMP G8 STA 808+20.13
WB EO STA 1012+84.29
EO EXPY STA 1012+79.90

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

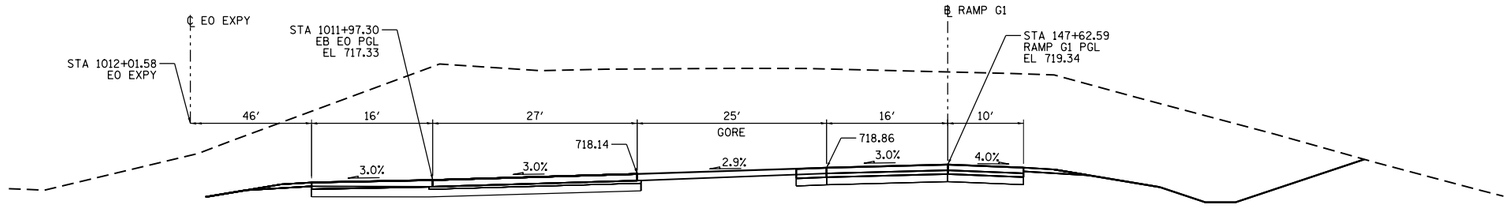
SCALE 1"=10' H
1"=10' V

COUNTY DUPAGE

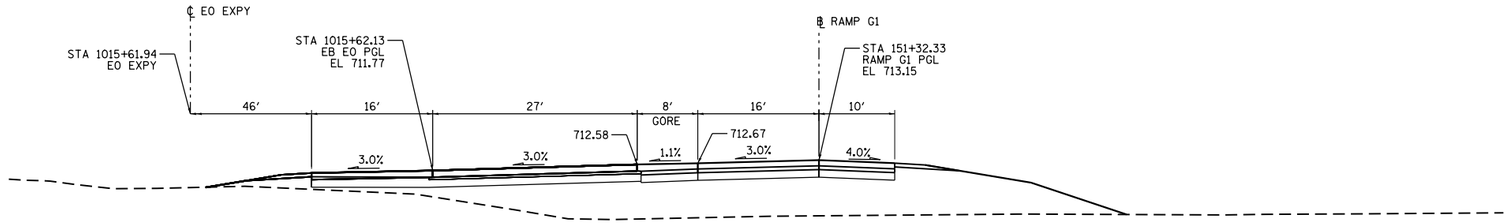
SJN : _____

PROJ. NO. _____

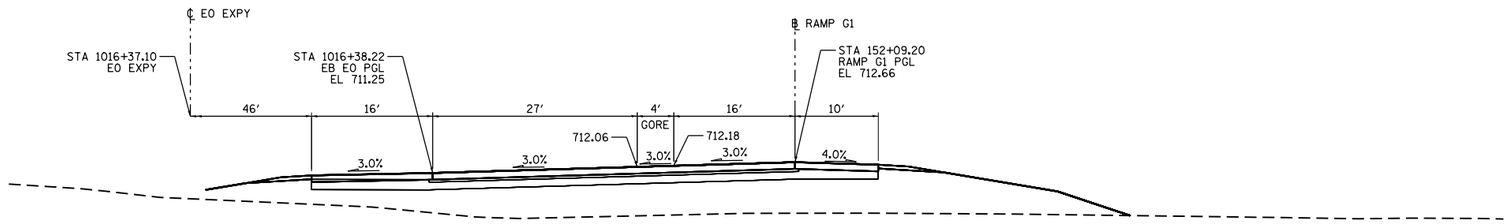
I.D.S. SHEET 34 OF 57



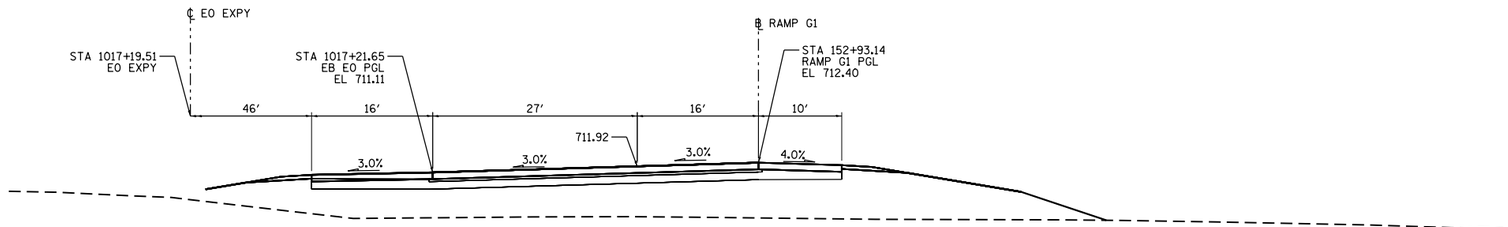
PROPOSED TYPICAL SECTION A-A
RAMP G1 STA 147+62.59
EB EO STA 1011+97.30
EO EXPY STA 1012+01.58



PROPOSED TYPICAL SECTION B-B
RAMP G1 STA 151+32.33
EB EO STA 1015+62.13
EO EXPY STA 1015+61.94



PROPOSED TYPICAL SECTION C-C
RAMP G1 STA 152+09.20
EB EO STA 1016+38.22
EO EXPY STA 1016+37.10



PROPOSED TYPICAL SECTION D-D
RAMP G1 STA 152+93.14
EB EO STA 1017+21.65
EO EXPY STA 1017+19.51

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

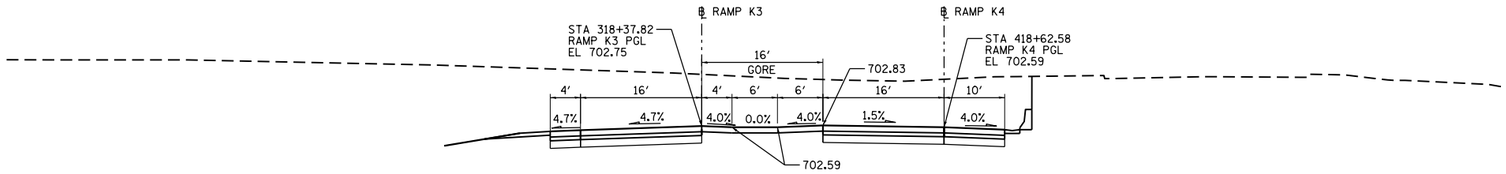
SCALE 1"=10' H
1"=10' V

COUNTY DUPAGE

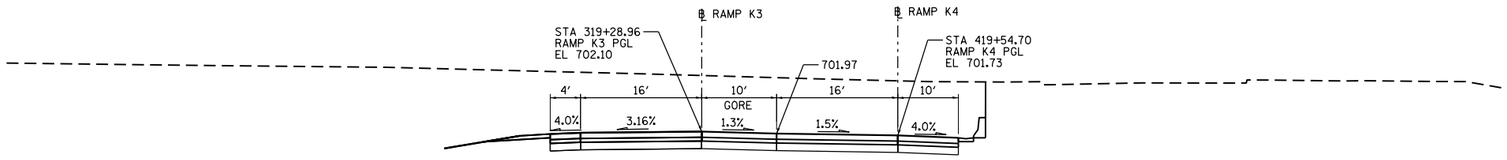
SJN : _____

PROJ. NO. _____

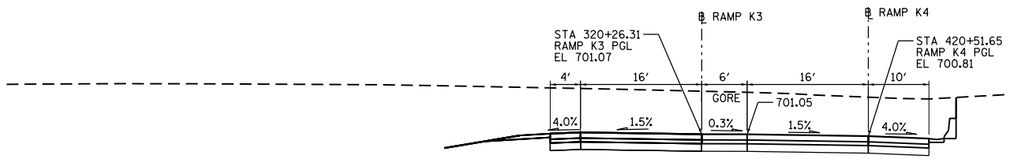
I.D.S. SHEET 35 OF 57



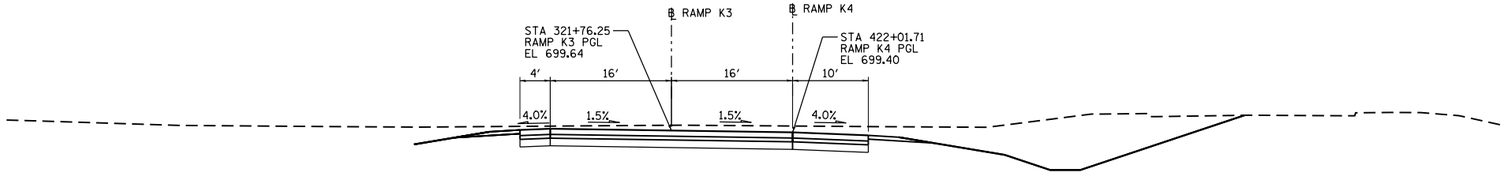
PROPOSED TYPICAL SECTION D-D
RAMP K3 STA 318+37.82
RAMP K4 STA 418+62.58



PROPOSED TYPICAL SECTION C-C
RAMP K3 STA 319+28.96
RAMP K4 STA 419+54.70



PROPOSED TYPICAL SECTION B-B
RAMP K3 STA 320+26.31
RAMP K4 STA 420+51.65



PROPOSED TYPICAL SECTION A-A
RAMP K3 STA 321+76.25
RAMP K4 STA 422+01.71

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE 1"=10' H / 1"=10' V

COUNTY DUPAGE

SJN : _____

PROJ. NO. _____

I.D.S. SHEET 36 OF 57

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-037.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PR ℄ RAMP G8
RAMP G8
800+00
ELGIN O'HARE EXPRESSWAY WB
46'
PR ℄ EO EXPY
46'
1020+00
25' GORE NOSE
ELGIN O'HARE EXPRESSWAY EB
1025+00
8' GORE
A
B
C
D
6' GORE
39'
RAMP G6
630+00
16'
635+00
RAMP K3
320+00
420+00
RAMP K4
425+00
430+00
PR ℄ RAMP K3
PR ℄ RAMP K4
TYPICAL TOLLWAY ENTRANCE RAMP TERMINAL
PR ℄ PARK BLVD
100+00
PARK BLVD
105+00
PR ℄ PARK EAST
PARK BLVD EAST
110+00
PR ℄ RAMP L1
RAMP L1
120+00
1030+00
640+00
16'
PR ℄ RAMP G6
EB FRONTAGE RD - KL
100+00
PR ℄ EB FR KL
PARK BLVD EAST
100+00
PR ℄ PARK EAST

N

50' 0 50'
GRAPHIC SCALE

INTERSECTION DESIGN STUDY

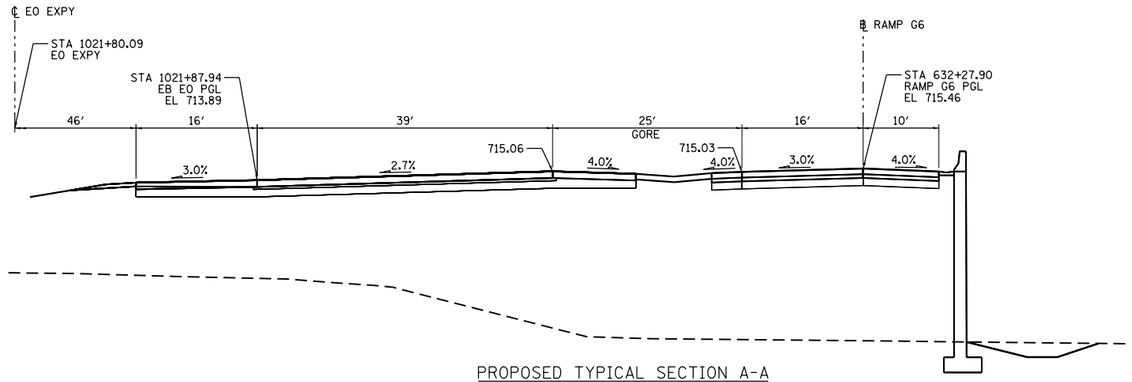
FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____
SCALE 1"=50' COUNTY COOK/DUPAGE
SJN : _____ PROJ. NO. _____

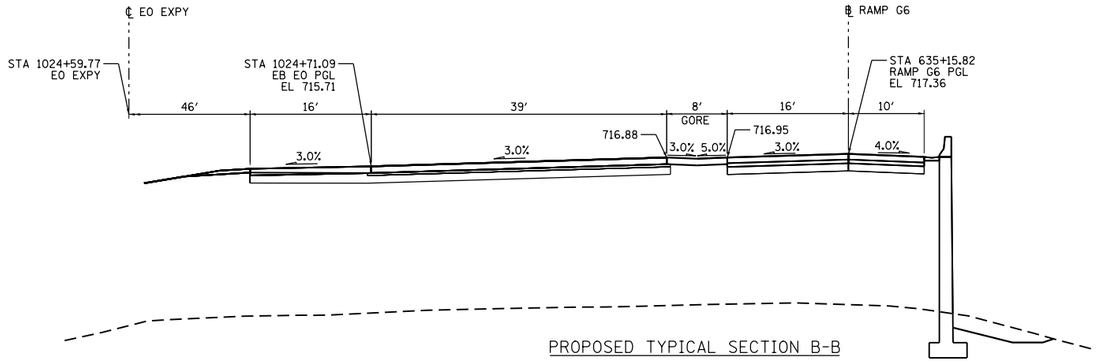
I.D.S. SHEET 37 OF 57

BDE-9908

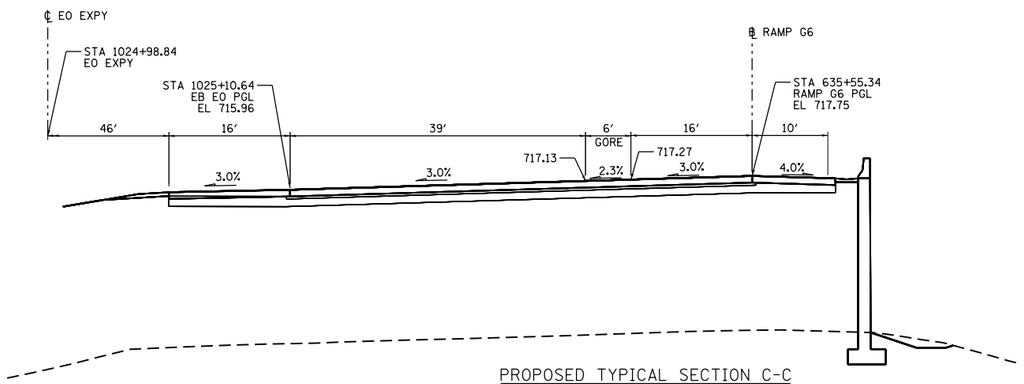
PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-038.dgn
PLOT SCALE = 20.0000 ' / in.
USER NAME = tphilip



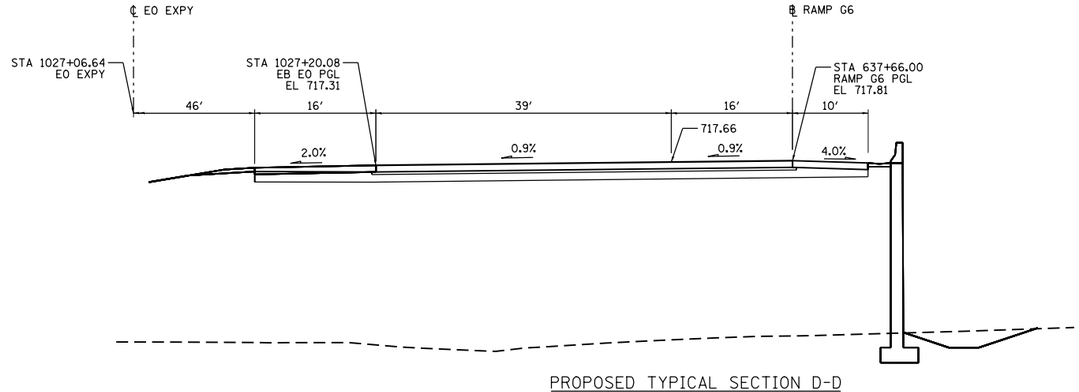
PROPOSED TYPICAL SECTION A-A
RAMP G6 STA 632+27.90
EB EO STA 1021+87.94
EO EXPY STA 1021+80.09



PROPOSED TYPICAL SECTION B-B
RAMP G6 STA 635+15.82
EB EO EXPY STA 1024+71.09
EO EXPY STA 1024+59.77



PROPOSED TYPICAL SECTION C-C
RAMP G6 STA 635+55.34
EB EO STA 1025+10.64
EO EXPY STA 1024+98.84



PROPOSED TYPICAL SECTION D-D
RAMP G6 STA 637+66.00
EB EO STA 1027+20.08
EO EXPY STA 1027+06.64

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE 1"=10' H / 1"=10' V
SJN : _____

COUNTY DUPAGE
PROJ. NO. _____

I.D.S. SHEET 38 OF 57

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-039.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

TYPICAL TOLLWAY ENTRANCE RAMP TERMINAL

PR ℄ RAMP L1

115+00

D

C

B

6' GORE

8' GORE

110+00

A

25' GORE NOSE

105+00

16'

PR ℄ RAMP M1

RAMP L1

RAMP M1

120+00

39'

ELGIN O'HARE EXPRESSWAY WB

PR ℄ EO EXPY

46'

1035+00

1040+00

1045+00

46'

SEE PROSPECT/ARLINGTON HTS IDS SHEET 8 OF 20 FOR RAMP M1 AND M2 GORE CROSS SECTION LOCATIONS

ELGIN O'HARE EXPRESSWAY EB

39'

645+00

200+00

RAMP M2

PR ℄ RAMP M2

105+00

110+00

115+00

EB FRONTAGE RD - KL

PR ℄ EB FR KL

N

50' 0 50'

GRAPHIC SCALE

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)

FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE 1"=50'

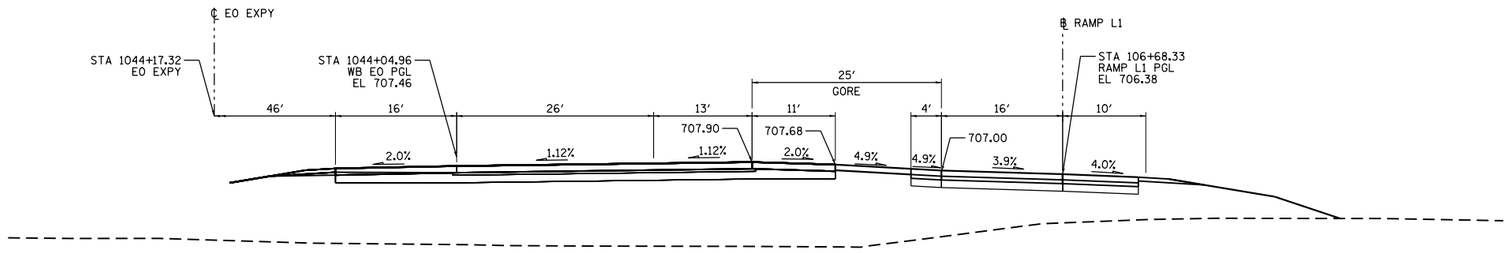
COUNTY DUPAGE

SJN : _____

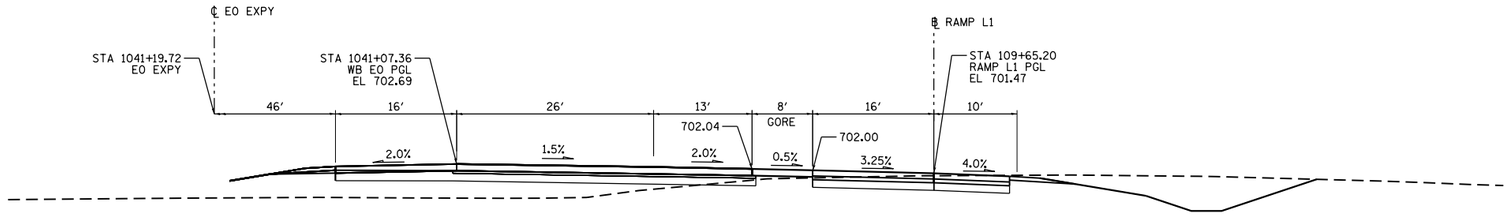
PROJ. NO. _____

I.D.S. SHEET 39 OF 57

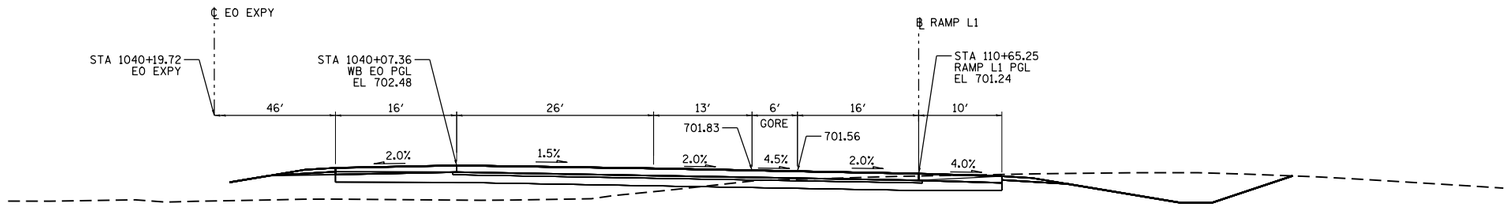
BDE-9908



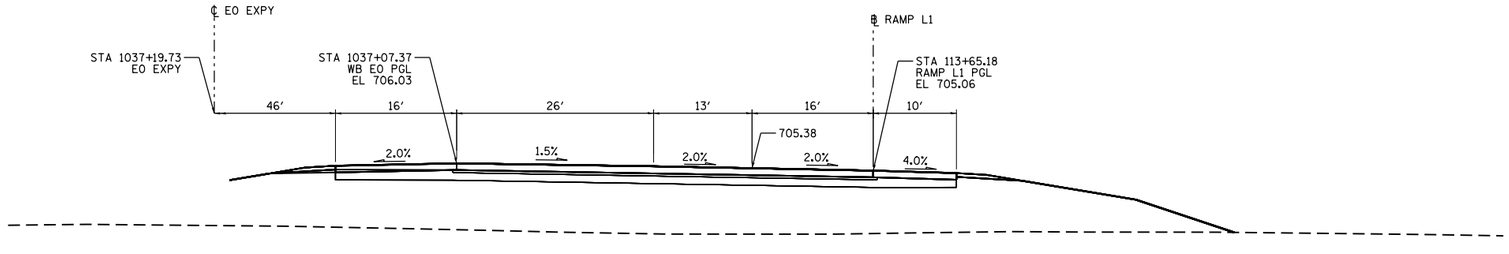
PROPOSED TYPICAL SECTION A-A
RAMP L1 STA 106+68.33
WB EO STA 1044+04.96
EO EXPY STA 1044+17.32



PROPOSED TYPICAL SECTION B-B
RAMP L1 STA 109+65.20
WB EO STA 1041+07.36
EO EXPY STA 1041+19.72



PROPOSED TYPICAL SECTION C-C
RAMP L1 STA 110+65.25
WB EO STA 1040+07.36
EO EXPY STA 1040+19.72



PROPOSED TYPICAL SECTION D-D
RAMP L1 STA 113+65.18
WB EO STA 1037+07.37
EO EXPY STA 1037+19.73

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE 1"=10' H / 1"=10' V
COUNTY DUPAGE

SJN : _____
PROJ. NO. _____

I.D.S. SHEET 40 OF 57

PLOT DATE = 7/18/2012
FILE NAME = DIE0WB-804-sht-uds-041.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

335+00
340+00
345+00
I-290 EB
I-290 WB
EX ℄ I-290
A
B
C
D
6' GORE
RAMP G5
500+00
505+00
510+00
22'
PR ℄ RAMP G5
22' GORE NOSE
PR NOISE WALL
PR NOISE WALL
MODIFIED IDOT TWO-LANE EXIT TERMINAL (30:1 TAPER)

N

50' 0 50'
GRAPHIC SCALE

INTERSECTION DESIGN STUDY

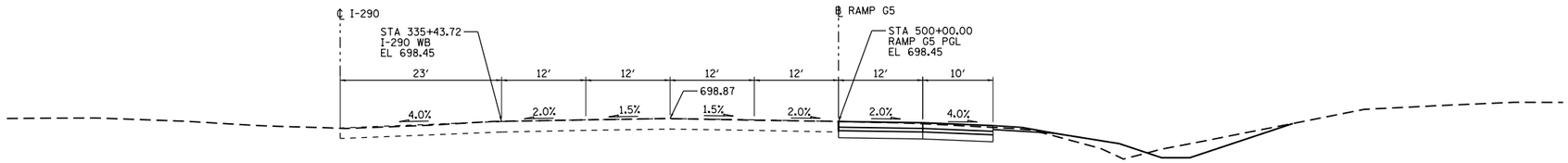
FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____
SCALE 1"=50'
COUNTY DUPAGE
SJN : _____
PROJ. NO. _____

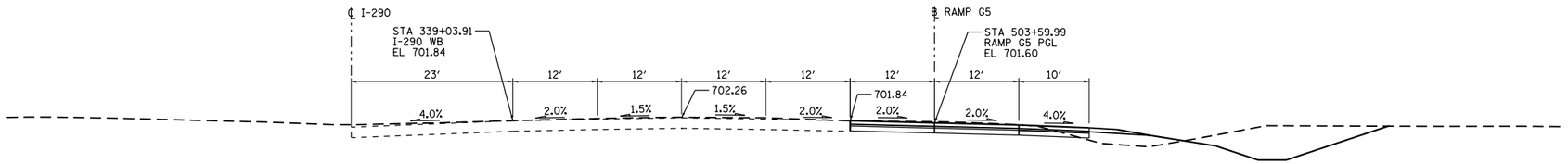
I.D.S. SHEET 41 OF 57

BDE-9908

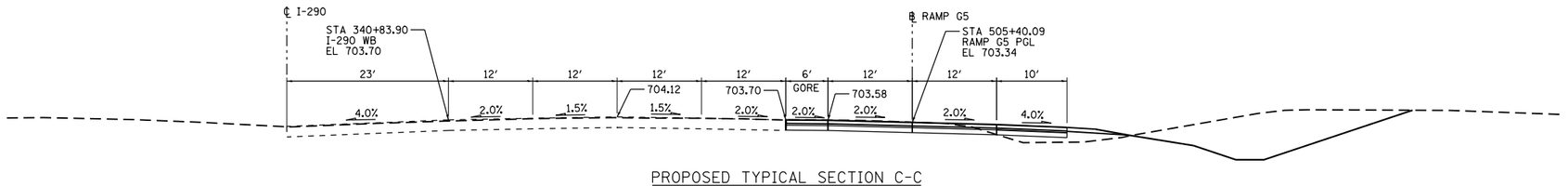
PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-042.dgn
PLOT SCALE = 20.0000 ' / in.
USER NAME = tphilip



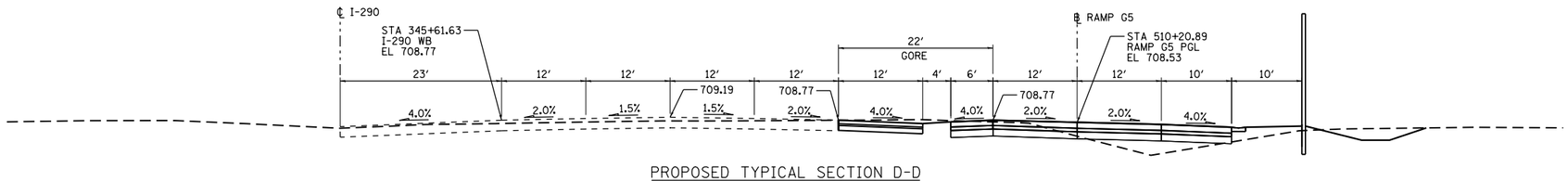
PROPOSED TYPICAL SECTION A-A
RAMP G5 STA 500+00.00
I-290 STA 335+43.72



PROPOSED TYPICAL SECTION B-B
RAMP G5 STA 503+59.99
I-290 STA 339+03.91



PROPOSED TYPICAL SECTION C-C
RAMP G5 STA 505+40.09
I-290 STA 340+83.90



PROPOSED TYPICAL SECTION D-D
RAMP G5 STA 510+20.89
I-290 STA 345+61.63

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE 1″=10′ H
1″=10′ V

COUNTY DUPAGE

SJN : _____

PROJ. NO. _____

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-043.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PR ℄ RAMP G4

RAMP G4

425+00

360+00

355+00

EX ℄ I-290

350+00

I-290 EB

I-290 WB

PR ℄ RAMP G5

RAMP G5

525+00

520+00

515+00

600+00

24'

RAMP G6

16'

16'

605+00

400+00

610+00

RAMP K4

A

B

C

D

PR NOISE WALL

PR ℄ RAMP G6

6' GORE

11' GORE

16' GORE NOSE

STANDARD IDOT MINOR DIVERGENCE RAMP TERMINAL

PR ℄ RAMP K4

PR RETAINING WALL

50' 0 50'

GRAPHIC SCALE

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

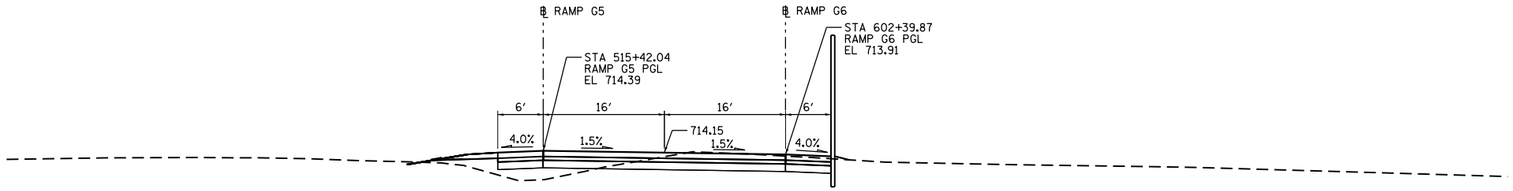
SEC. NO. _____

SCALE 1"=50' COUNTY DUPAGE

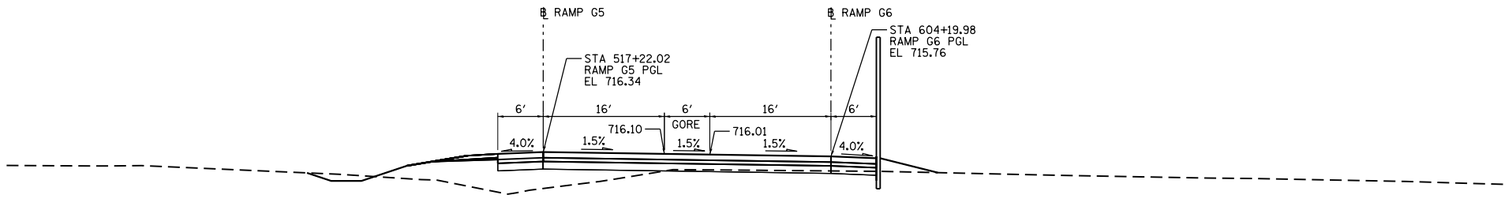
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 43 OF 57

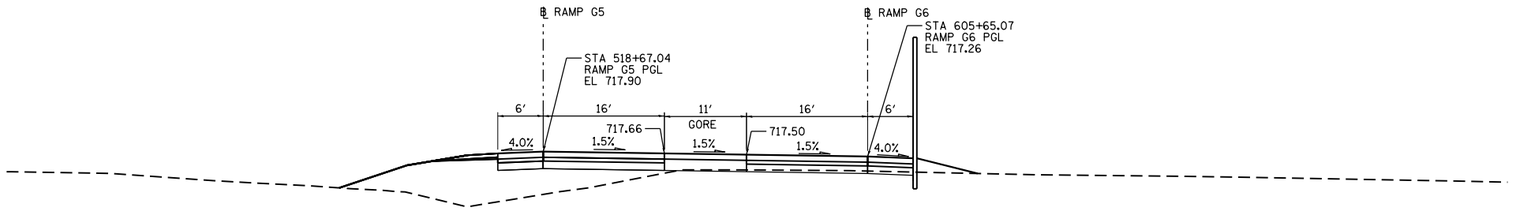
BDE-9908



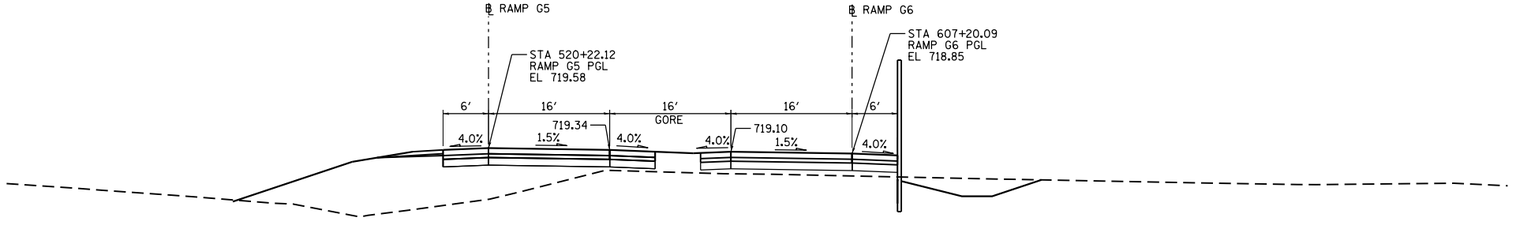
PROPOSED TYPICAL SECTION A-A
RAMP G5 STA 515+42.04
RAMP G6 STA 602+39.87



PROPOSED TYPICAL SECTION B-B
RAMP G5 STA 517+22.02
RAMP G6 STA 604+19.98



PROPOSED TYPICAL SECTION C-C
RAMP G5 STA 518+67.04
RAMP G6 STA 605+65.07



PROPOSED TYPICAL SECTION D-D
RAMP G5 STA 520+22.12
RAMP G6 STA 607+20.09

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE 1"=10' H / 1"=10' V
COUNTY DUPAGE

SJN : _____
PROJ. NO. _____

I.D.S. SHEET 44 OF 57

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-045.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillp

PR ℄ RAMP G4
PR ℄ RAMP G3
RAMP G4
RAMP G3
425+00
420+00
415+00
535+00
335+00
300+00
435+00
EX ℄ I-290
360+00
I-290 EB
I-290 WB
365+00
370+00
A
B
C
D
530+00
375+00
16'
11.4' GORE
4' GORE
PR ℄ RAMP G5
RAMP G5
525+00
400+00
610+00
PR ℄ RAMP K4
PR NOISE WALL
PR ℄ RAMP G6
RAMP G3
370+00
PR ℄ RAMP G3
18'
PR ℄ RAMP K3
PR ℄ RAMP G1
RAMP K3
RAMP G1
MODIFIED IDOT ENTRANCE RAMP TERMINAL (WITH AUXILIARY LANE)
405+00
PR RETAINING WALL
RAMP G6
RAMP K4
615+00
100+00

50' 0 50'
GRAPHIC SCALE

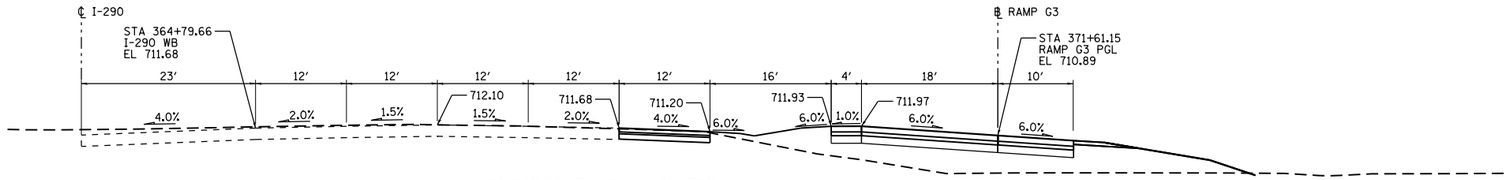
INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

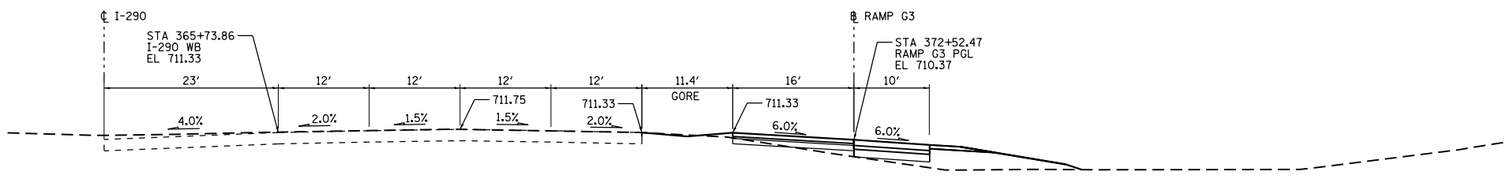
SEC. NO. _____
SCALE 1"=50' COUNTY DUPAGE
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 45 OF 57

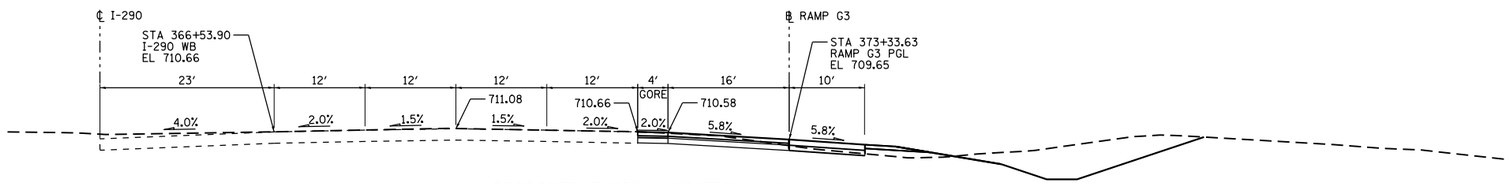
BDE-9908



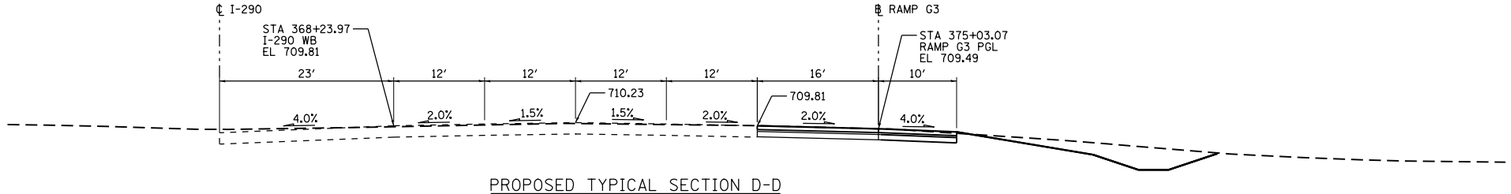
PROPOSED TYPICAL SECTION A-A
RAMP G3 STA 371+61.15
I-290 STA 364+79.66



PROPOSED TYPICAL SECTION B-B
RAMP G3 STA 372+52.47
I-290 STA 365+73.86



PROPOSED TYPICAL SECTION C-C
RAMP G3 STA 373+33.63
I-290 STA 366+53.90



PROPOSED TYPICAL SECTION D-D
RAMP G3 STA 375+03.07
I-290 STA 368+23.97

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

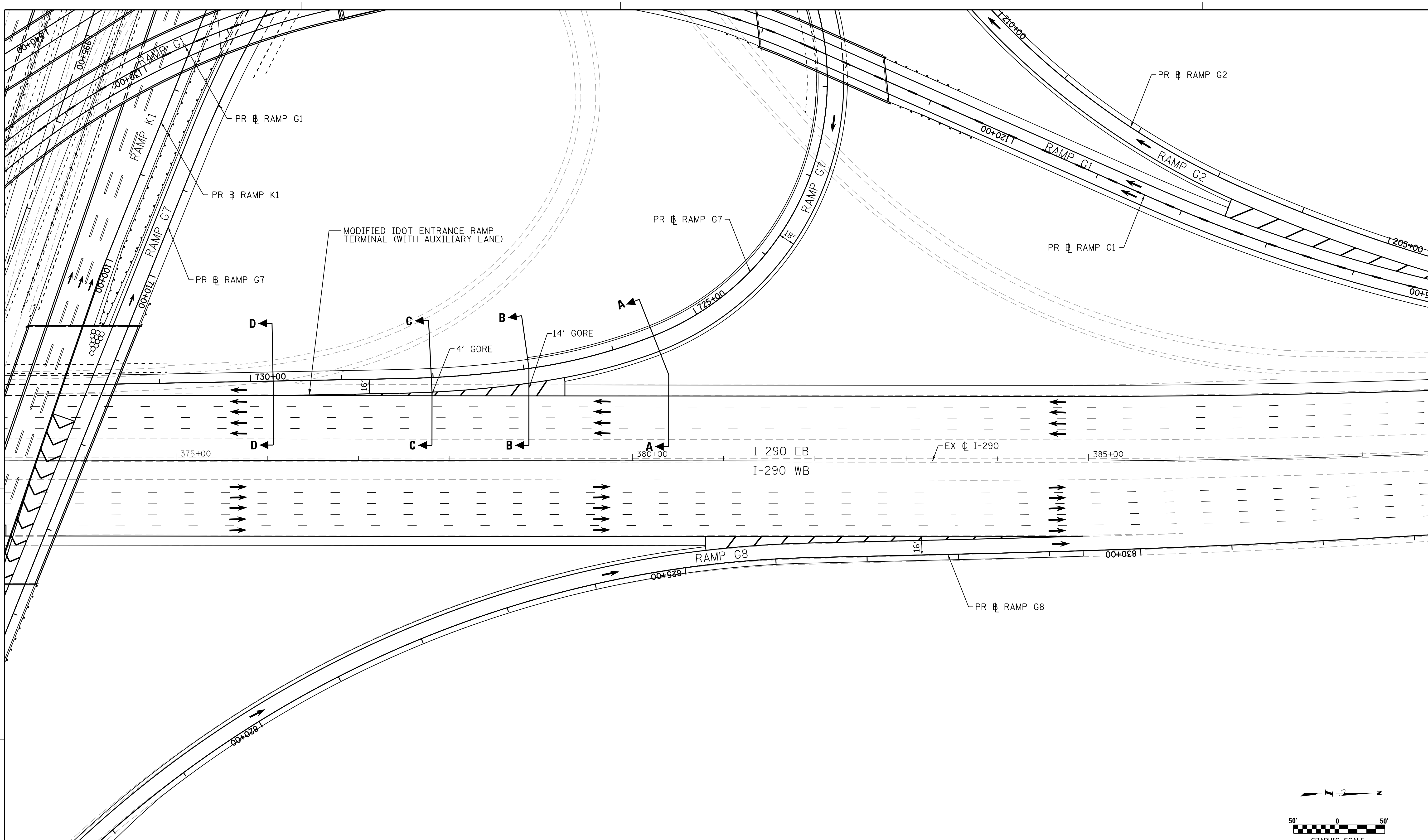
SCALE 1"=10' H
1"=10' V

COUNTY DUPAGE

SJN : _____

PROJ. NO. _____

PLOT DATE = 7/18/2012
FILE NAME = D1EOWB-804-sht-ids-047.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip



INTERSECTION DESIGN STUDY

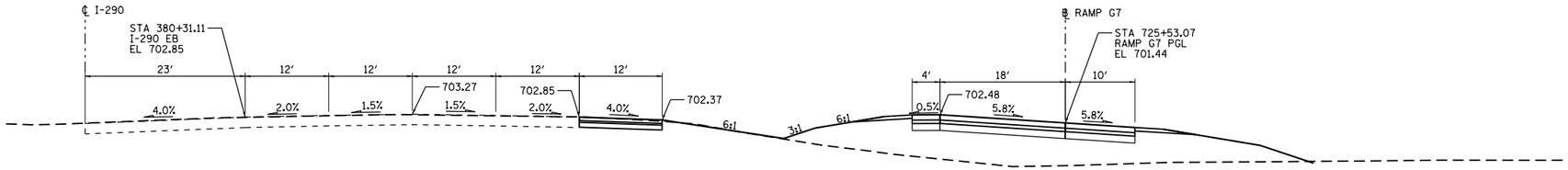
FAP ROUTE 345 WITH (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 (I-290)

SEC. NO. ____

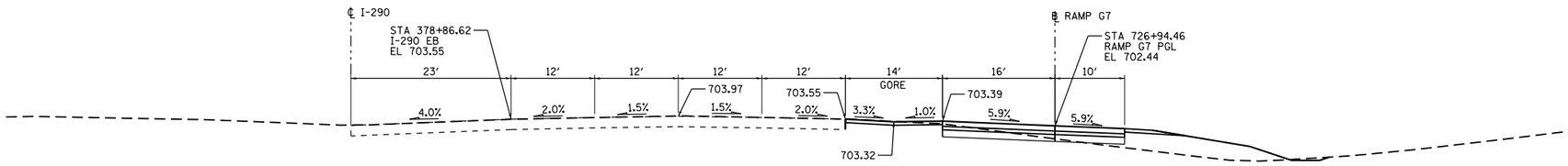
SCALE 1"=50' COUNTY COOK/DUPAGE

SJN : ____ PROJ. NO. ____

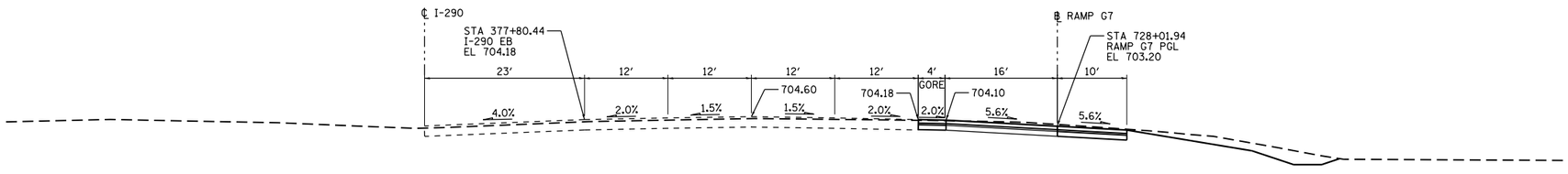
BDE-9908



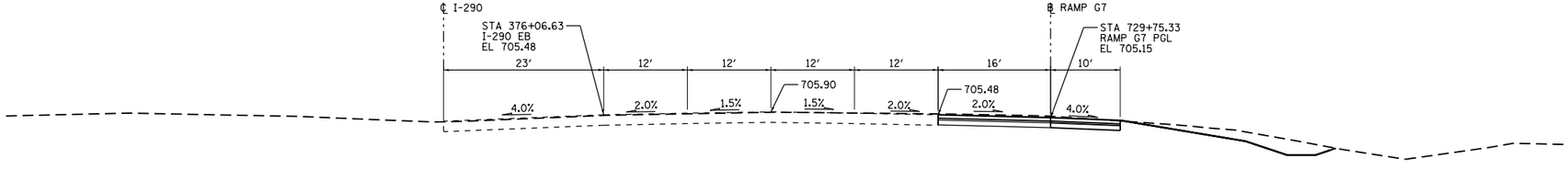
PROPOSED TYPICAL SECTION A-A
RAMP G7 STA 725+53.07
I-290 STA 380+31.11



PROPOSED TYPICAL SECTION B-B
RAMP G7 STA 726+94.46
I-290 STA 378+86.62



PROPOSED TYPICAL SECTION C-C
RAMP G7 STA 728+01.94
I-290 STA 377+80.44



PROPOSED TYPICAL SECTION D-D
RAMP G7 STA 729+75.33
I-290 STA 376+06.63

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE 1"=10' H / 1"=10' V
SJN : _____

COUNTY DUPAGE
PROJ. NO. _____

I.D.S. SHEET 48 OF 57

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-049.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PR ℄ RAMP G7

RAMP G7

210+00

RAMP G1

120+00

24'

PR ℄ RAMP G1

D

140'

16'

C

20' GORE NOSE

PR ℄ RAMP G2

STANDARD IDOT EXIT RAMP TERMINAL

RAMP G2

205+00

B

1' STUB

115+00

24'

16'

A

1' STUB

200+00

110+00

24'

B

A

I-290 EB

I-290 WB

395+00

390+00

EX ℄ I-290

385+00

840+00

835+00

RAMP G8

830+00

PR ℄ RAMP G8

N

50' 0 50'

GRAPHIC SCALE

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

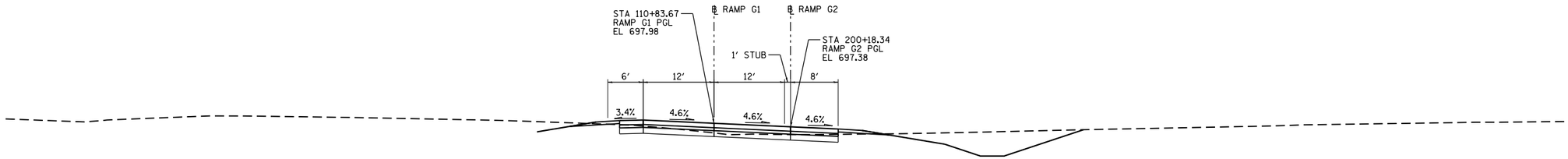
SEC. NO. _____

SCALE 1"=50' COUNTY COOK/DUPAGE

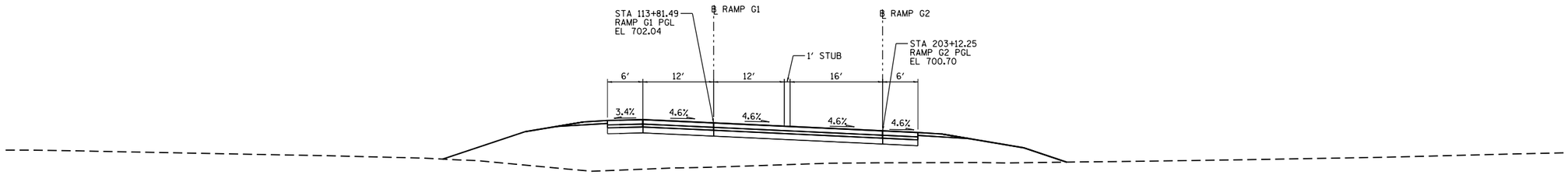
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 49 OF 57

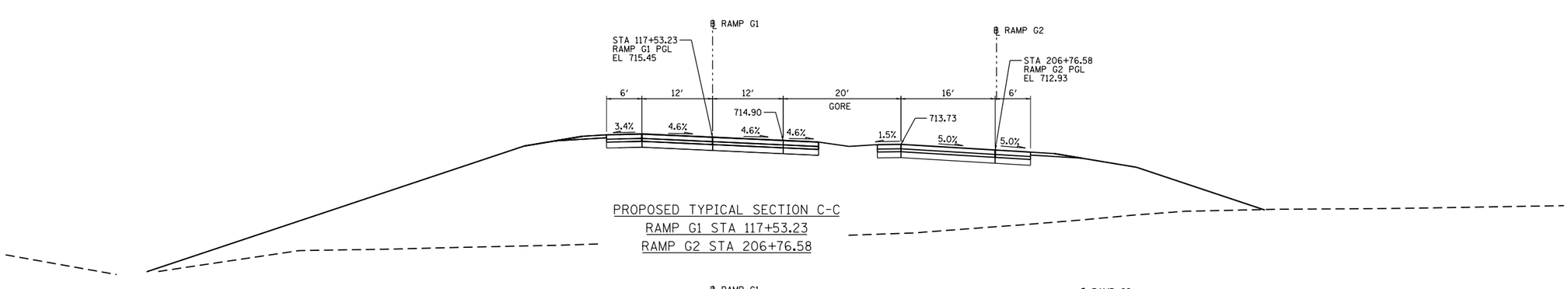
BDE-9908



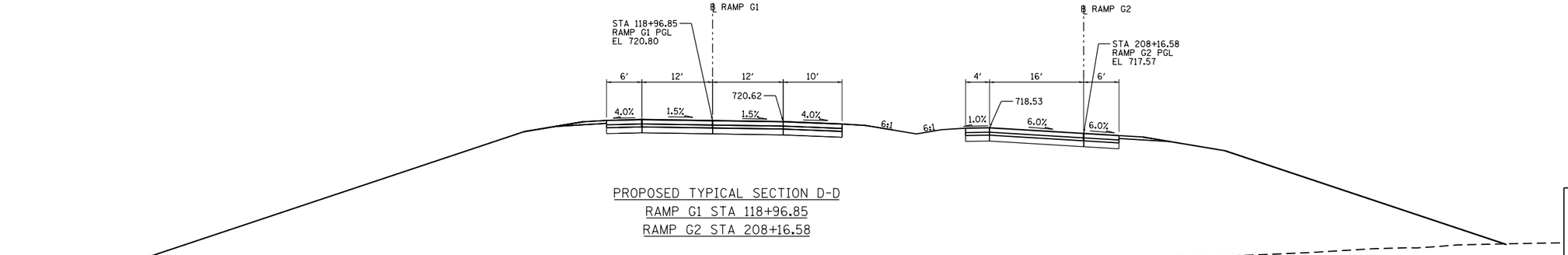
PROPOSED TYPICAL SECTION A-A
RAMP G1 STA 110+83.67
RAMP G2 STA 200+18.34



PROPOSED TYPICAL SECTION B-B
RAMP G1 STA 113+81.49
RAMP G2 STA 203+12.25



PROPOSED TYPICAL SECTION C-C
RAMP G1 STA 117+53.23
RAMP G2 STA 206+76.58



PROPOSED TYPICAL SECTION D-D
RAMP G1 STA 118+96.85
RAMP G2 STA 208+16.58

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE 1"=10' H / 1"=10' V

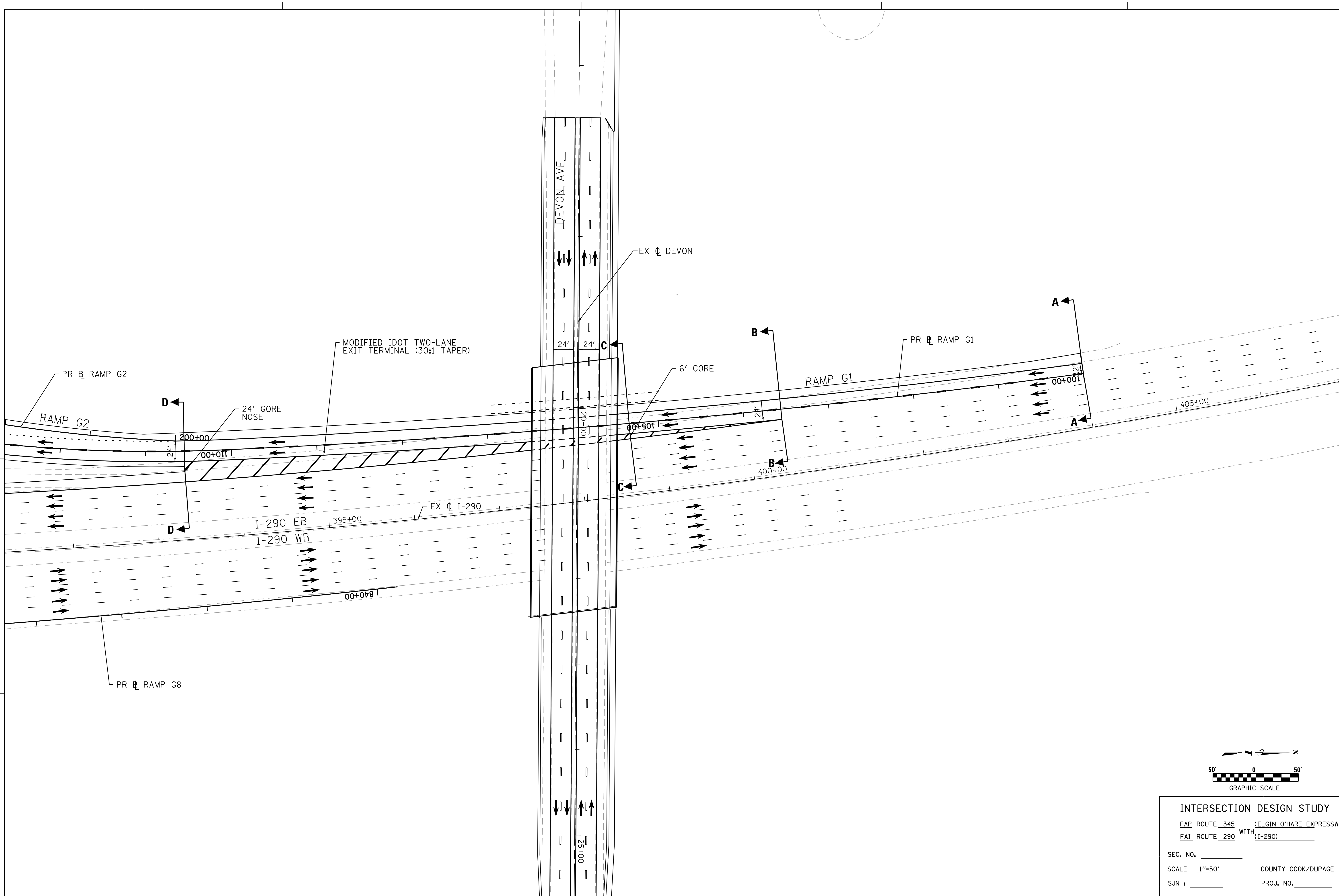
COUNTY DUPAGE

SJN : _____

PROJ. NO. _____

I.D.S. SHEET 50 OF 57

PLOT DATE = 7/18/2012
FILE NAME = D1EOWB-804-sht-ids-051.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip



INTERSECTION DESIGN STUDY

FAP ROUTE 345 WITH (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 (I-290)

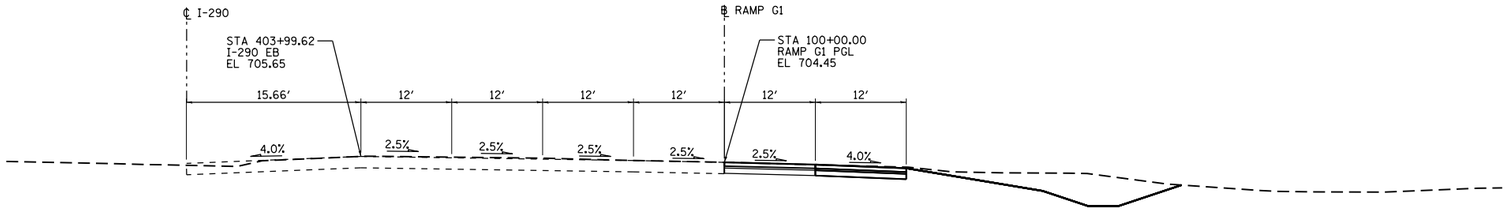
SEC. NO. ____

SCALE 1"=50' COUNTY COOK/DUPAGE

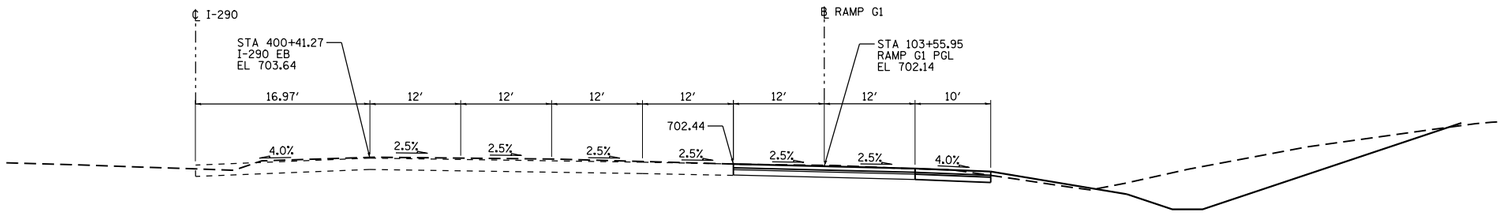
SJN : ____ PROJ. NO. ____

I.D.S. SHEET 51 OF 57

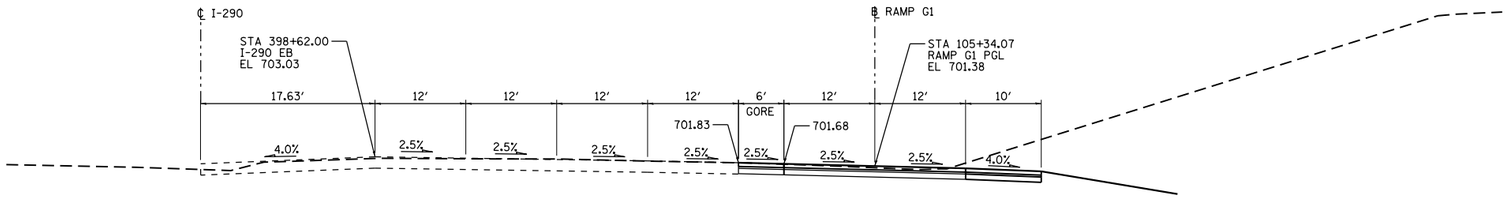
BDE-9908



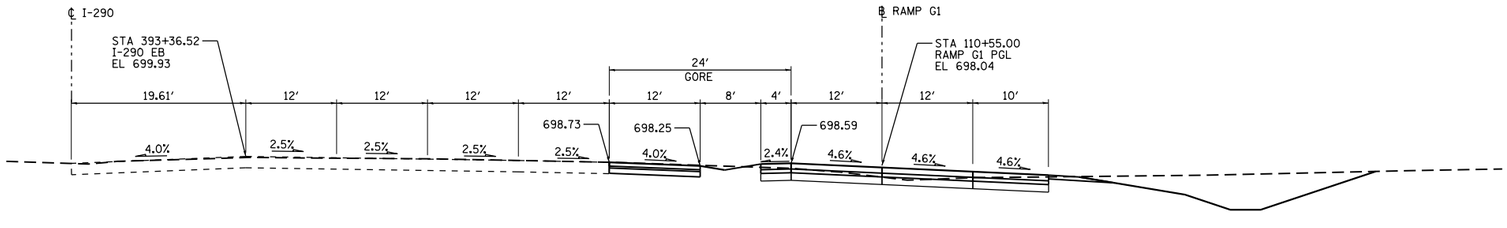
PROPOSED TYPICAL SECTION A-A
RAMP G1 STA 100+00.00
I-290 STA 403+99.62



PROPOSED TYPICAL SECTION B-B
RAMP G1 STA 103+55.95
I-290 STA 400+41.27



PROPOSED TYPICAL SECTION C-C
RAMP G1 STA 105+34.07
I-290 STA 398+62.00



PROPOSED TYPICAL SECTION D-D
RAMP G1 STA 110+55.00
I-290 STA 393+36.52

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE 1″=10′ H
1″=10′ V

COUNTY DUPAGE

SJN : _____

PROJ. NO. _____

I.D.S. SHEET 52 OF 57

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-053.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PR ℄ RAMP G4
RAMP G4
I-290 EB
I-290 WB
420+00
360+00
EX ℄ I-290
PR ℄ RAMP G5
RAMP G5
525+00
530+00
370+00
PR ℄ RAMP G3
RAMP G3
365+00
6' GORE
A
B
615+00
405+00
610+00
PR RETAINING WALL
PR ℄ RAMP K4
PR ℄ RAMP G6
STANDARD IDOT MINOR DIVERGENCE RAMP TERMINAL
13' GORE
C
D
16' GORE NOSE
PR RETAINING WALL
PR NOISE WALL
PR RETAINING WALL
410+00
RAMP G6
620+00
PARK SOUTH
105+00
RAMP K4
PR ℄ PARK SOUTH
PR ℄ RAMP K3
RAMP K3
310+00
PR ℄ RAMP G1
RAMP G1
305+00
140+00
360+00
ELGIN OHARE EXPRESSWAY EB
ELGIN OHARE EXPRESSWAY WB
1005+00
145+00
1010+00
PR ℄ EO EXPY
PR ℄ RAMP G8
RAMP G8
815+00
700+00
PR RETAINING WALL

50' 0 50'
GRAPHIC SCALE

INTERSECTION DESIGN STUDY

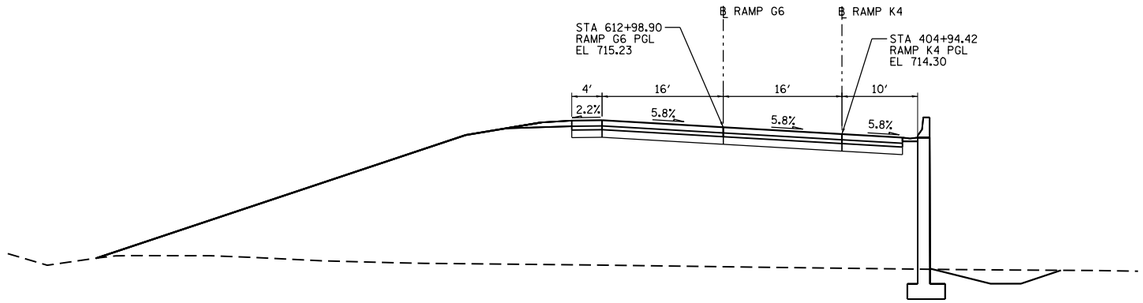
FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____
SCALE 1"=50' COUNTY DUPAGE
SJN : _____ PROJ. NO. _____

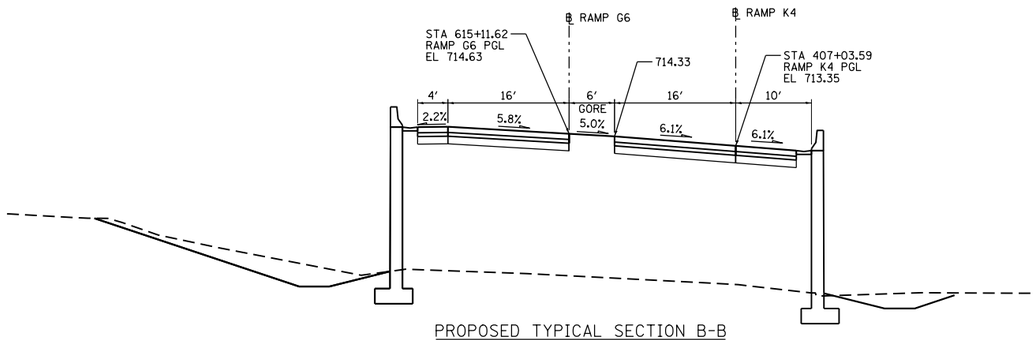
I.D.S. SHEET 53 OF 57

BDE-9908

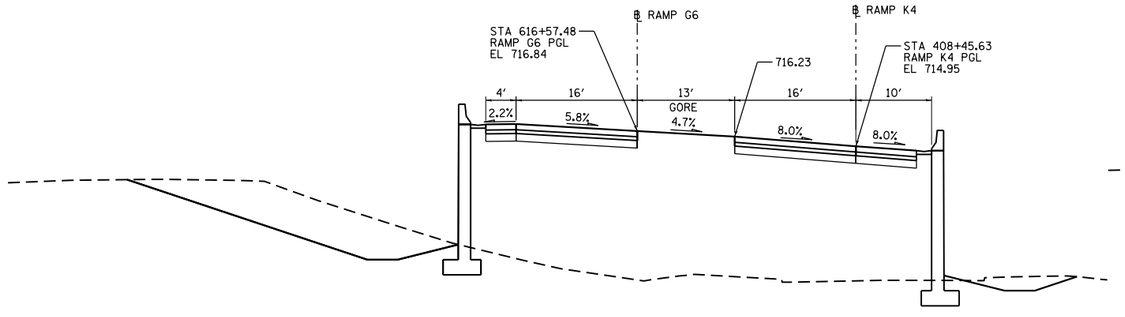
PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-054.dgn
PLOT SCALE = 20.0000 ' / in.
USER NAME = tphilip



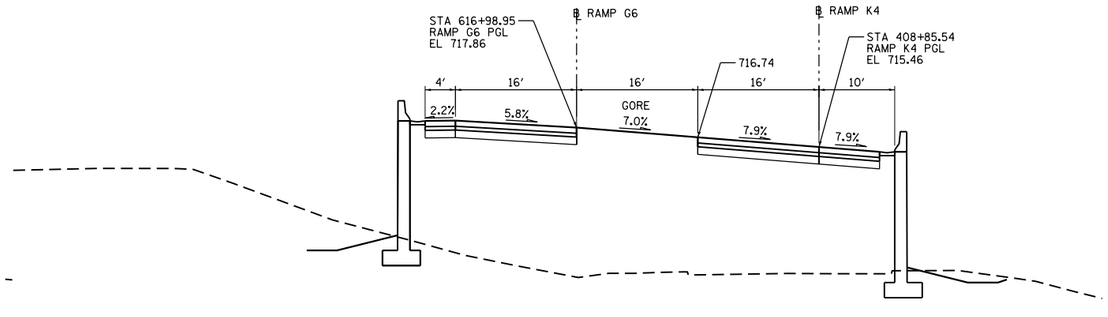
PROPOSED TYPICAL SECTION A-A
RAMP K4 STA 404+94.42
RAMP G6 STA 612+98.90



PROPOSED TYPICAL SECTION B-B
RAMP K4 STA 407+03.59
RAMP G6 STA 615+11.62



PROPOSED TYPICAL SECTION C-C
RAMP K4 STA 408+45.63
RAMP G6 STA 616+57.48



PROPOSED TYPICAL SECTION D-D
RAMP K4 STA 408+85.54
RAMP G6 STA 616+98.95

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAI ROUTE 290 WITH (I-290)

SEC. NO. _____

SCALE 1"=10' H
1"=10' V

COUNTY DUPAGE

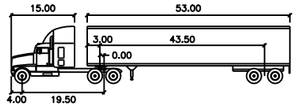
SJN : _____

PROJ. NO. _____

I.D.S. SHEET 54 OF 57

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-ids-055.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

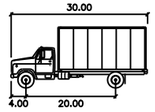
DESIGN VEHICLE - INTERSECTION



WB–65

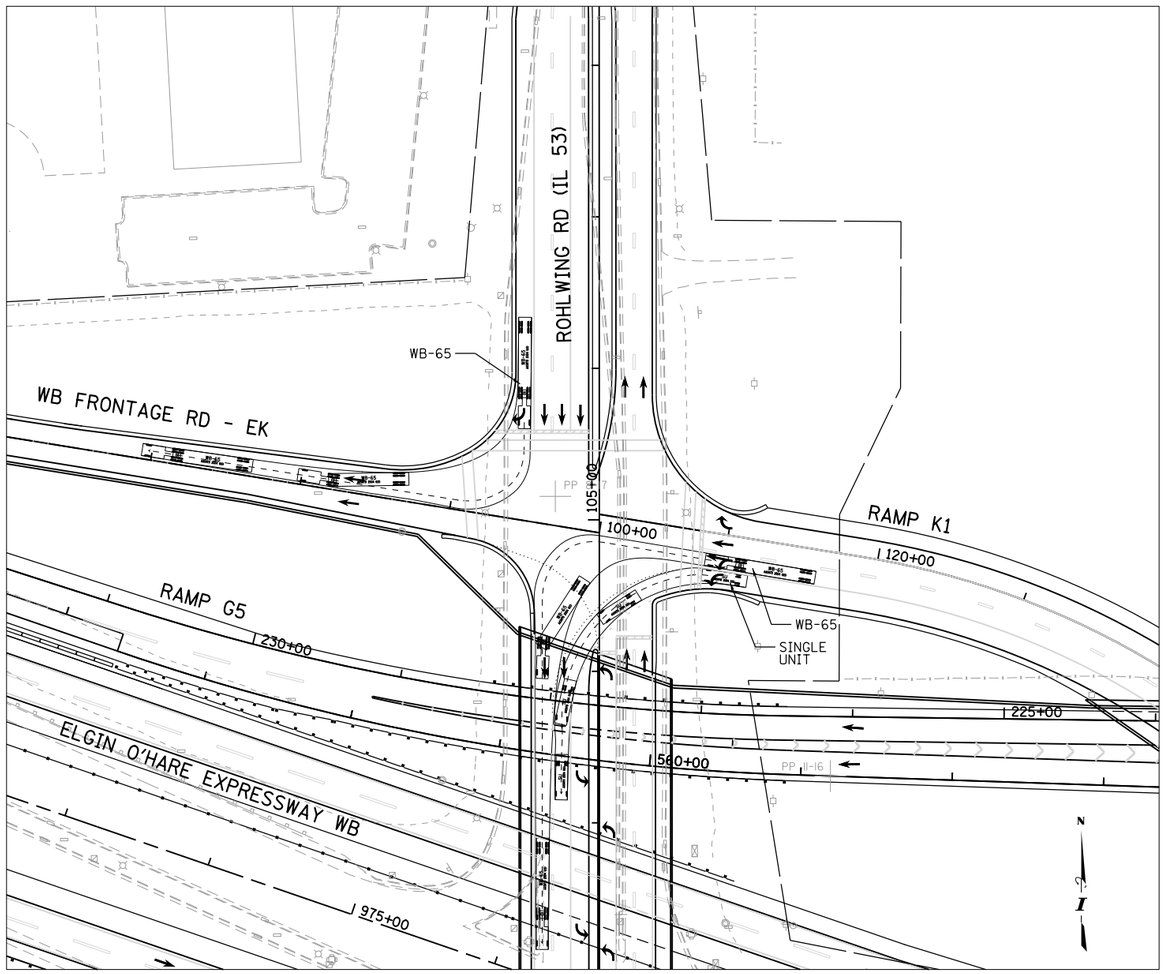
	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

DESIGN VEHICLE - DUAL LEFT (INSIDE LANE)

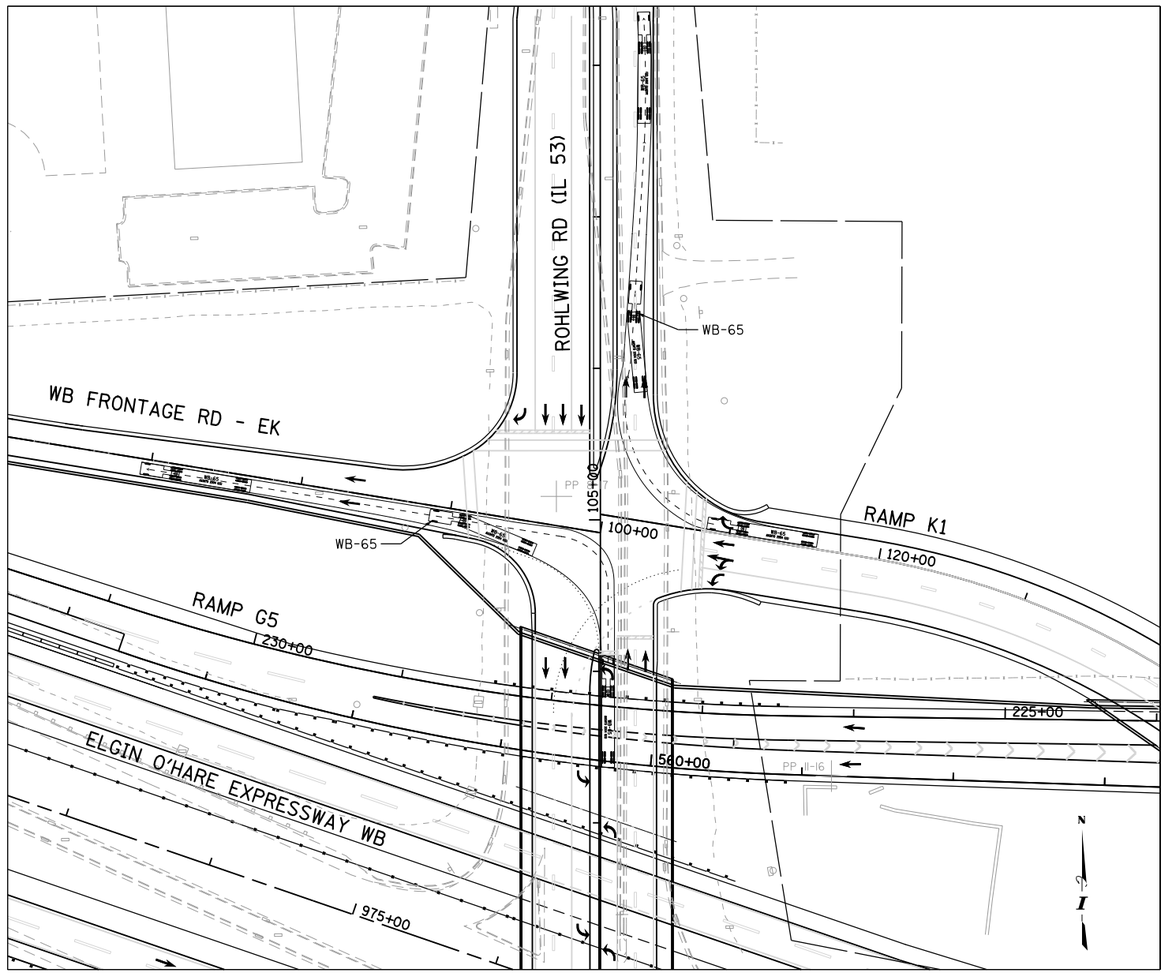


SU

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8



WB LEFT TURNS & SB RIGHT TURN



WB RIGHT TURN, NB LEFT TURN

50' 0 50'
GRAPHIC SCALE

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2578 WITH (ROHLWING RD IL 53)

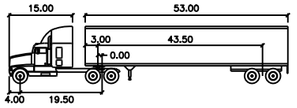
SEC. NO. _____
SCALE 1"=50' COUNTY COOK
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 55 OF 57

BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-056.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

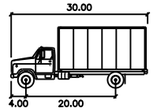
DESIGN VEHICLE - INTERSECTION



WB-65 feet

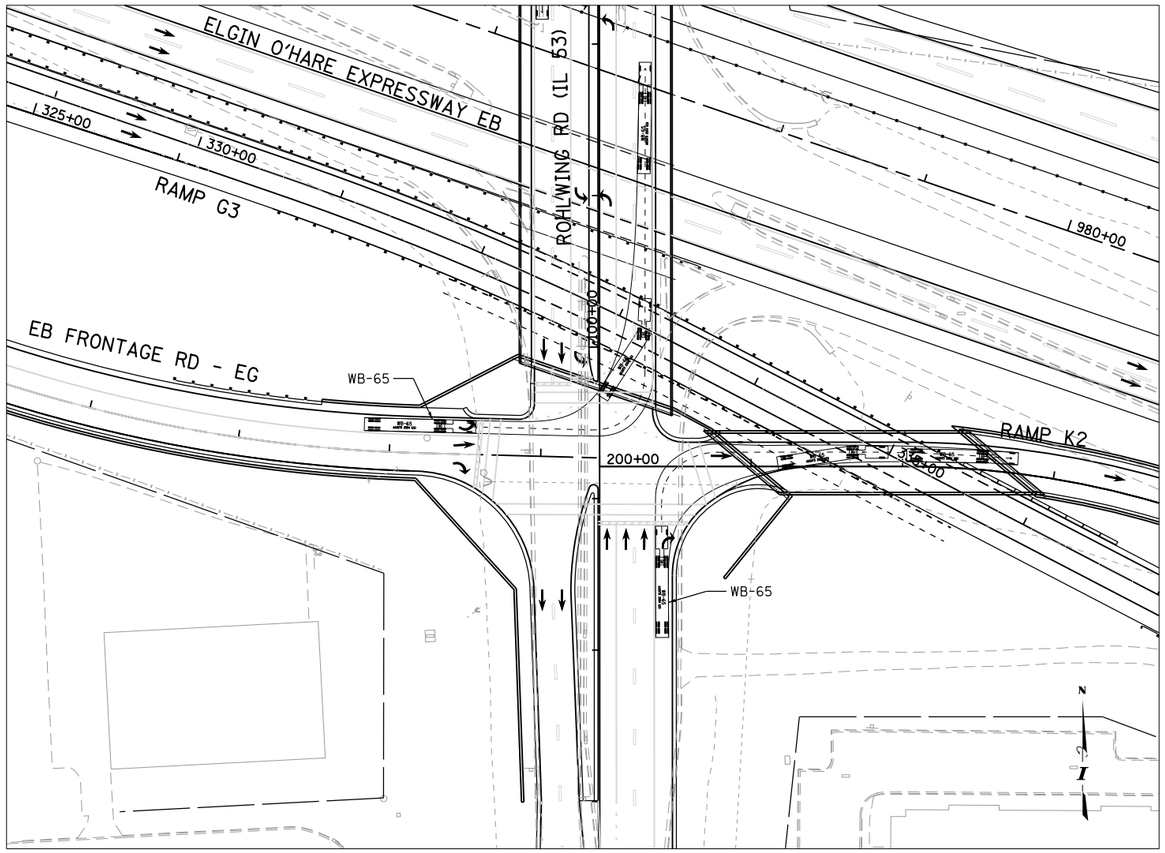
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

DESIGN VEHICLE - DUAL LEFT (INSIDE LANE)

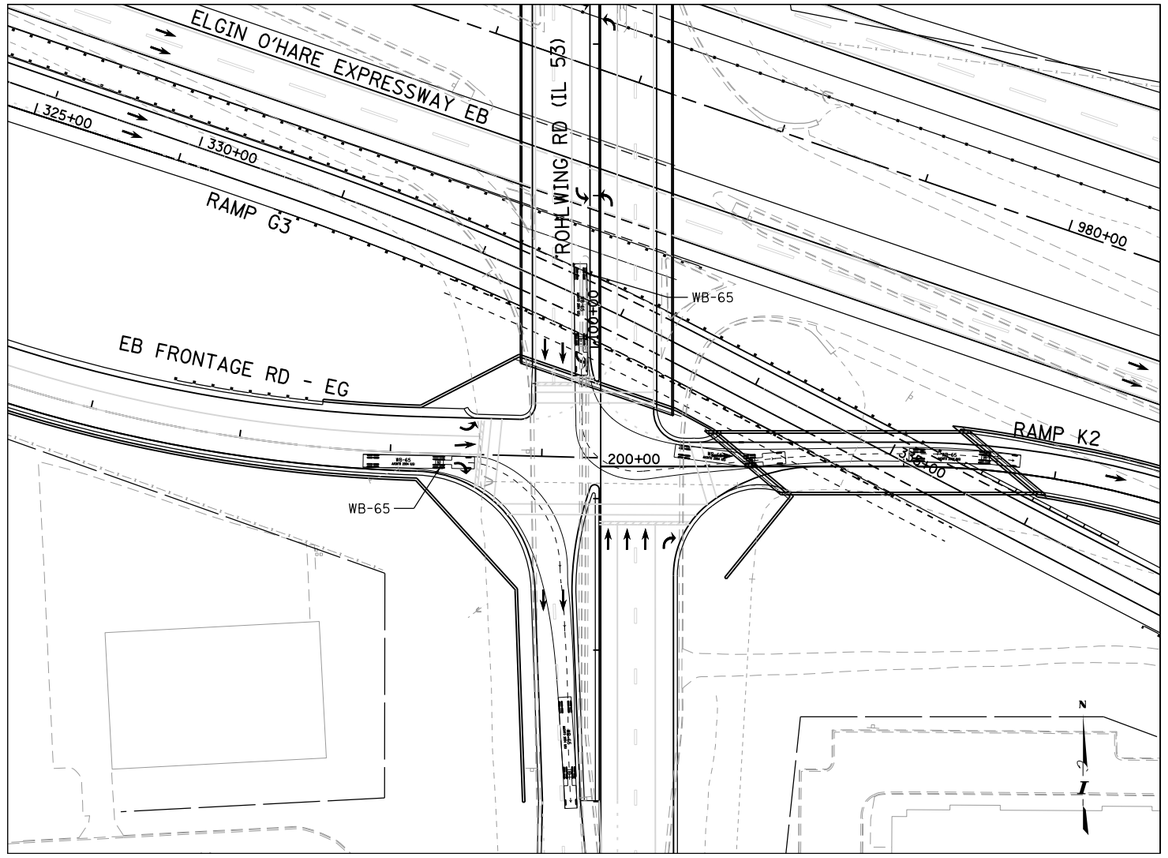


SU feet

Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8



EB LEFT TURN & NB RIGHT TURN



EB RIGHT TURN, SB LEFT TURN

50' 0 50'
GRAPHIC SCALE

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
FAU ROUTE 2578 WITH (ROHLWING RD IL 53)

SEC. NO. _____

SCALE 1"=50' COUNTY COOK

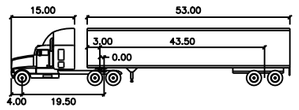
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 56 OF 57

BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-804-sht-uds-057.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillp

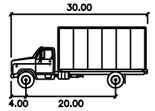
DESIGN VEHICLE - INTERSECTION



WB-65 feet

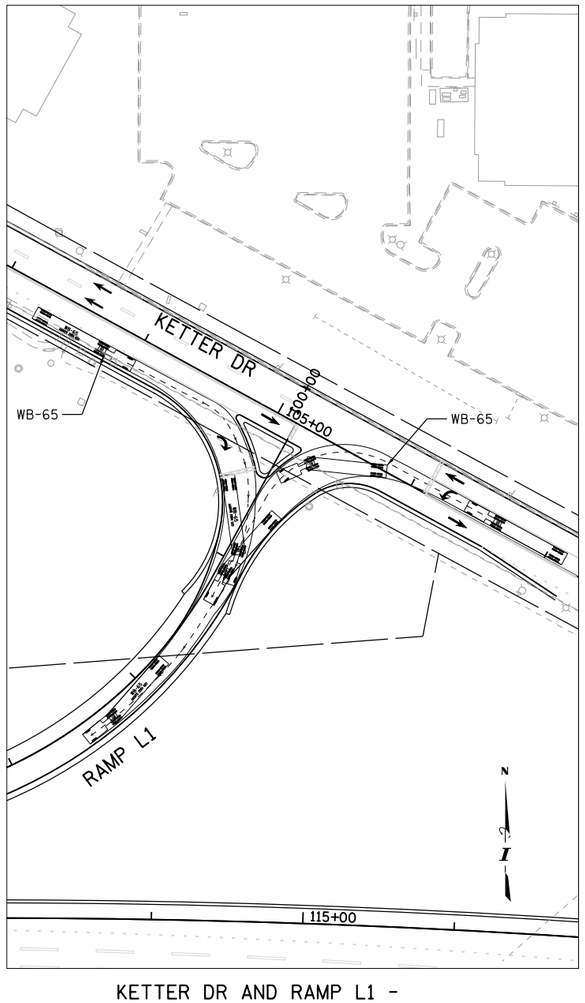
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

DESIGN VEHICLE - DUAL LEFT (INSIDE LANE)

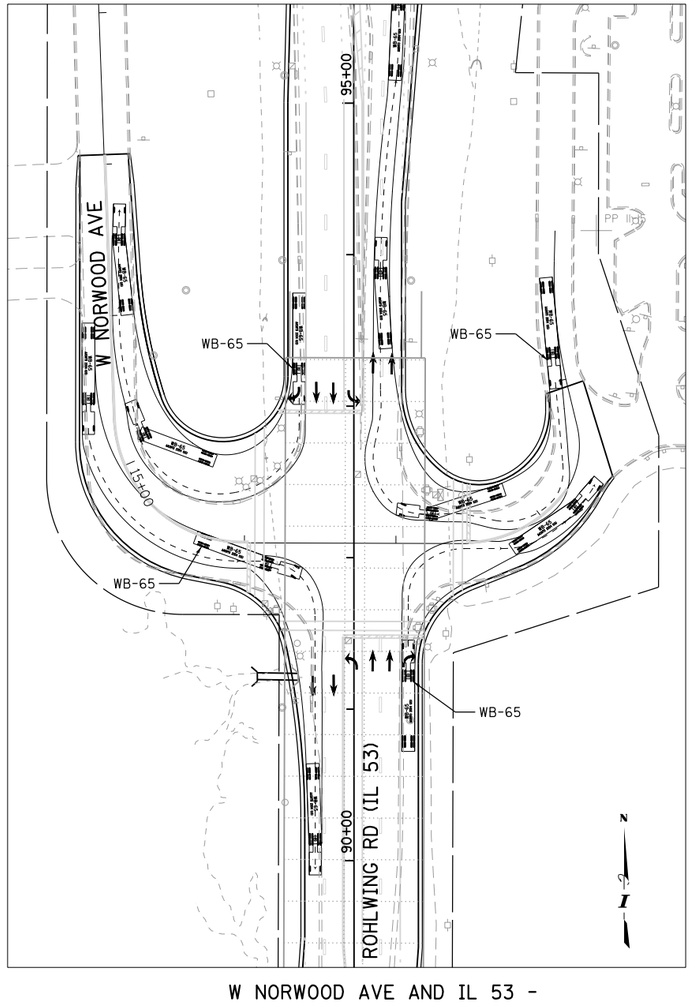


SU feet

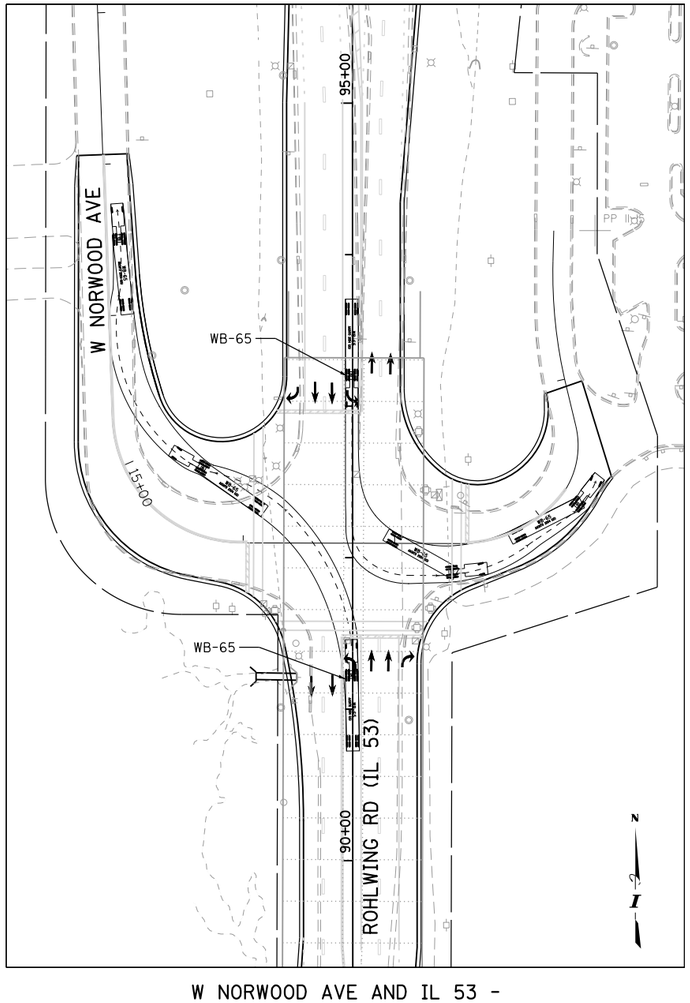
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8



KETTER DR AND RAMP L1 -
WB LEFT TURN & EB RIGHT TURN



W NORWOOD AVE AND IL 53 -
NB & SB RIGHT TURNS



W NORWOOD AVE AND IL 53 -
NB & SB LEFT TURNS

50' 0 50'
GRAPHIC SCALE

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (_____

SEC. NO. _____

SCALE 1"=50' COUNTY COOK

SJN : _____ PROJ. NO. _____

I.D.S. SHEET 57 OF 57

BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-ids-001.dgn
PLOT SCALE = 400.0000 ' / in.
USER NAME = tphilip

EX CURVE 75
PI STA = 508+37.53
Δ = 13° 09′ 00″ (LT)
D = 1° 20′ 37″
R = 4,264.38′
T = 491.52′
L = 978.71′
E = 28.23′
e = NC
TR = _____
SE RUN = _____
PC STA = 503+46.01
PT STA = 513+24.73

PR CURVE 73
PI STA = 101+17.37
Δ = 8° 50′ 34″ (RT)
D = 3° 46′ 28″
R = 1,518.00′
T = 117.37′
L = 234.28′
E = 4.53′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 100+00.00
PT STA = 102+34.28

PR CURVE 105
PI STA = 113+44.44
Δ = 8° 02′ 33″ (RT)
D = 3° 49′ 11″
R = 1,500.00′
T = 105.45′
L = 210.55′
E = 3.70′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 112+38.99
PT STA = 114+49.55

PR CURVE 206
PI STA = 107+38.18
Δ = 4° 03′ 04″ (RT)
D = 1° 25′ 57″
R = 4,000.00′
T = 141.47′
L = 282.82′
E = 2.50′
e = 3.0%
TR = _____
SE RUN = _____
PC STA = 105+96.71
PT STA = 108+79.53

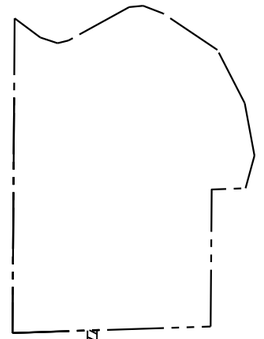
PR CURVE 205
PI STA = 102+49.74
Δ = 7° 58′ 01″ (LT)
D = 5° 43′ 46″
R = 1,000.00′
T = 69.64′
L = 139.05′
E = 2.42′
e = 3.6%
TR = _____
SE RUN = _____
PC STA = 101+80.10
PT STA = 103+19.15

PR CURVE 96
PI STA = 104+99.11
Δ = 68° 52′ 18″ (LT)
D = 95° 29′ 35″
R = 60.00′
T = 41.14′
L = 72.12′
E = 12.75′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 104+57.98
PT STA = 105+30.10

PR CURVE 207
PI STA = 115+41.40
Δ = 8° 28′ 12″ (LT)
D = 0° 56′ 56″
R = 6,038.00′
T = 447.11′
L = 892.58′
E = 16.53′
e = 2.0%
TR = _____
SE RUN = _____
PC STA = 110+94.29
PT STA = 119+86.88

EX CURVE 77
PI STA = 112+67.50
Δ = 33° 27′ 25″ (LT)
D = 2° 59′ 45″
R = 1,912.59′
T = 574.84′
L = 1,116.83′
E = 84.52′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 106+92.66
PT STA = 118+09.48

PR CURVE 220
PI STA = 413+84.33
Δ = 11° 02′ 11″ (RT)
D = 2° 17′ 31″
R = 2,500.00′
T = 241.53′
L = 481.56′
E = 11.64′
e = 3.2%
TR = _____
SE RUN = _____
PC STA = 411+42.80
PT STA = 416+24.36



END RECONSTRUCTION
STA 510+20.00 EX ℄ ARLINGTON HTS
MATCH EXISTING

END RECONSTRUCTION
STA 113+50.00 EX ℄ PROSPECT
MATCH EXISTING

EX ℄ ARLINGTON HTS
EX CURVE 75
STA 504+37.89 EX ℄ ARLINGTON HTS = STA 114+49.55 PR ℄ WB FR LM
STA 111+05.09 PR ℄ RAMP M1 = STA 502+81.54 EX ℄ ARLINGTON HTS
STA 100+00.00 PR ℄ KETTER DR = STA 504+26.37 EX ℄ ARLINGTON HTS
PR ℄ KETTER DR
PR CURVE 105
PR CURVE 206
PR CURVE 96
EX ℄ PROSPECT
EX CURVE 77
STA 418+91.10 PR ℄ RAMP M4 = STA 106+53.26 EX ℄ PROSPECT
STA 106+40.40 EX ℄ PROSPECT = STA 100+00.00 PR ℄ WB FR LM
STA 1067+73.30 PR ℄ EO EXY = STA 103+32.06 PR ℄ UTURN M
STA 1068+64.03 PR ℄ EO EXY = STA 104+55.49 EX ℄ PROSPECT
STA 1053+32.57 PR ℄ EO EXPY = STA 501+77.02 EX ℄ ARLINGTON HTS
STA 207+88.83 PR ℄ RAMP M2 = STA 500+48.14 EX ℄ ARLINGTON HTS
STA. 120+49.39 PR ℄ RAMP M1 = STA 1044+17.98 PR ℄ EO EXPY, 101.00′ LT
MATCH LINE STA 103+50 KETTER DR SEE EO EXPY/I-290 IDS
KETTER DR
STA. 105+30.10 PR ℄ UTURN M = STA 101+25.13 PR ℄ WB FR LM, 24.00′ LT
STA 100+00.00 PR ℄ RAMP M1 = STA 103+60.56 PR ℄ WB FR LM, 12.00′ LT
PR CURVE 207
PR CURVE 73
PR CURVE 205
PR ℄ WB FR LM
PR CURVE 14
PR ℄ EO EXPY
PR ℄ RAMP M1
WB FRONTAGE RD - LM
RAMP M1
STA 173+25.83 EX ℄ WB FR MN = STA 1073+17.00 PR ℄ EO EXPY, 201.33′ LT
EX ℄ WB FR MN
PR ℄ RAMP M4
WB FRONTAGE RD - MN
STA 400+00.00 PR ℄ RAMP M4 = STA 1087+18.78 PR ℄ EO EXPY, 76.00′ LT
STA 200+00.00 PR ℄ RAMP M2 = STA 1045+08.83 PR ℄ EO EXPY, 101.00′ RT
PR ℄ RAMP M2
ELGIN O'HARE EXPRESSWAY WB
ELGIN O'HARE EXPRESSWAY EB
RAMP M2
RAMP M4
EB FRONTAGE RD - KL
PR ℄ EB FR KL
EB FRONTAGE RD - LM
PR ℄ RAMP M2
PR CURVE 85
PR CURVE 210
PR CURVE 211
PR CURVE 95
UTURN M
PARKSIDE AVE
PR CURVE 74
PR CURVE 90
PR CURVE 212
PR ℄ EB FR LM
RAMP M3
PR ℄ RAMP M3
PR CURVE 215
PR CURVE 15
STA 224+43.68 PR ℄ RAMP M2 = STA 101+94.80 EX ℄ PROSPECT
STA 300+00.00 PR ℄ RAMP M3 = STA 101+78.79 EX ℄ PROSPECT
STA 324+69.55 PR ℄ RAMP M3 = STA 1093+67.66 PR ℄ EO EXPY, 76.00′ RT
STA 122+61.51 PR ℄ EB FR KL = STA 499+64.02 EX ℄ ARLINGTON HTS
STA 125+00.00 PR ℄ EB FR LM = STA 499+51.88 EX ℄ ARLINGTON HTS
STA 497+57.94 ℄ ARLINGTON HTS = STA 10+00.00 PR ℄ PARKSIDE
MATCH LINE STA 113+00 EB FR KL SEE EO EXPY/I-290 IDS
STA 14+68.65 PR ℄ PARKSIDE, 389.78′ RT = STA 497+33.77 EX ℄ ARLINGTON
STA 100+00.00 PR ℄ UTURN M = STA 222+23.27 PR ℄ RAMP M2, 24.00′ LT
STA 1067+73.30 PR ℄ EO EXPY = STA 103+32.06 PR ℄ UTURN M
STA 218+23.99 PR ℄ RAMP M2 = STA 135+36.37 PR ℄ EB FR LM, 12.44′ RT
PR ℄ PARKSIDE
EX ℄ PROSPECT
EX CURVE 76
BEGIN RECONSTRUCTION
STA 493+59.49 EX ℄ ARLINGTON HTS
MATCH EXISTING
BEGIN RECONSTRUCTION
STA 95+50.00 EX ℄ PROSPECT
MATCH EXISTING
N ARLINGTON HEIGHTS RD
EX ROW
PROSPECT AVE
PR ROW & AC

PR CURVE 14
PI STA = 1052+03.80
Δ = 11° 30′ 00″ (RT)
D = 0° 57′ 18″
R = 6,000.00′
T = 604.17′
L = 1,204.28′
E = 30.34′
e = 2.6%
TR = _____
SE RUN = _____
PC STA = 1045+99.64
PT STA = 1058+03.91

PR CURVE 85
PI STA = 118+04.15
Δ = 7° 44′ 21″ (RT)
D = 3° 34′ 52″
R = 1,600.00′
T = 108.22′
L = 216.12′
E = 3.66′
e = N.C.
TR = _____
SE RUN = _____
PC STA = 116+95.93
PT STA = 119+12.05

PR CURVE 210
PI STA = 205+62.18
Δ = 6° 45′ 29″ (RT)
D = 0° 57′ 50″
R = 5,945.00′
T = 351.02′
L = 701.23′
E = 10.35′
e = 5.6%
TR = _____
SE RUN = _____
PC STA = 202+11.16
PT STA = 209+12.39

PR CURVE 211
PI STA = 211+25.75
Δ = 13° 31′ 11″ (RT)
D = 3° 10′ 59″
R = 1,800.00′
T = 213.36′
L = 424.73′
E = 12.60′
e = 5.6%
TR = _____
SE RUN = _____
PC STA = 209+12.39
PT STA = 213+37.12

PR CURVE 212
PI STA = 221+28.97
Δ = 27° 28′ 36″ (LT)
D = 11° 27′ 33″
R = 500.00′
T = 122.24′
L = 239.78′
E = 14.73′
e = 4.0%
TR = _____
SE RUN = _____
PC STA = 220+06.73
PT STA = 222+46.51

PR CURVE 74
PI STA = 13+70.01
Δ = 91° 31′ 26″ (RT)
D = 71° 37′ 11″
R = 80.00′
T = 82.16′
L = 127.79′
E = 34.67′
e = RC
TR = _____
SE RUN = _____
PC STA = 12+87.85
PT STA = 14+15.64

PR CURVE 90
PI STA = 130+46.51
Δ = 13° 32′ 50″ (RT)
D = 7° 09′ 43″
R = 800.00′
T = 95.02′
L = 189.15′
E = 5.62′
e = NC
TR = _____
SE RUN = _____
PC STA = 129+51.49
PT STA = 131+40.65

PR CURVE 95
PI STA = 101+31.51
Δ = 95° 14′ 20″ (LT)
D = 47° 44′ 47″
R = 120.00′
T = 131.51′
L = 199.47′
E = 58.03′
e = NC
TR = _____
SE RUN = _____
PC STA = 100+00.00
PT STA = 101+99.47

EX CURVE 76
PI STA = 98+42.45
Δ = 9° 32′ 48″ (LT)
D = 2° 16′ 59″
R = 2,509.53′
T = 209.56′
L = 418.14′
E = 8.73′
e = NC
TR = N/A
SE RUN = N/A
PC STA = 96+32.89
PT STA = 100+51.04

PR CURVE 15
PI STA = 1071+49.13
Δ = 12° 15′ 00″ (LT)
D = 0° 57′ 18″
R = 6,000.00′
T = 643.86′
L = 1,282.82′
E = 34.45′
e = 2.6%
TR = _____
SE RUN = _____
PC STA = 1065+05.27
PT STA = 1077+88.09

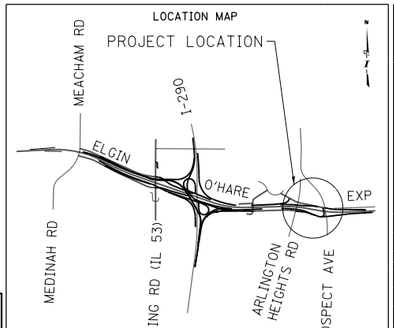
PR CURVE 215
PI STA = 312+77.48
Δ = 3° 30′ 29″ (RT)
D = 1° 54′ 35″
R = 3,000.00′
T = 91.87′
L = 183.68′
E = 1.41′
e = 3.8%
TR = _____
SE RUN = _____
PC STA = 311+85.61
PT STA = 313+69.29

N

200′ 0 200′
GRAPHIC SCALE

PREPARED BY:
CH2MHILL®
PROJ. MGR._____ PROJ. ENG._____

LOCATION MAP



DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ____ WITH (ARLINGTON HEIGHTS RD)

SEC. NO. _____ PROJ. NO. _____
SCALE 1"=200′ COUNTY DUPAGE
SJN : _____ REV. NO. ___

DATE	QA/QC REVIEWER	REMARKS

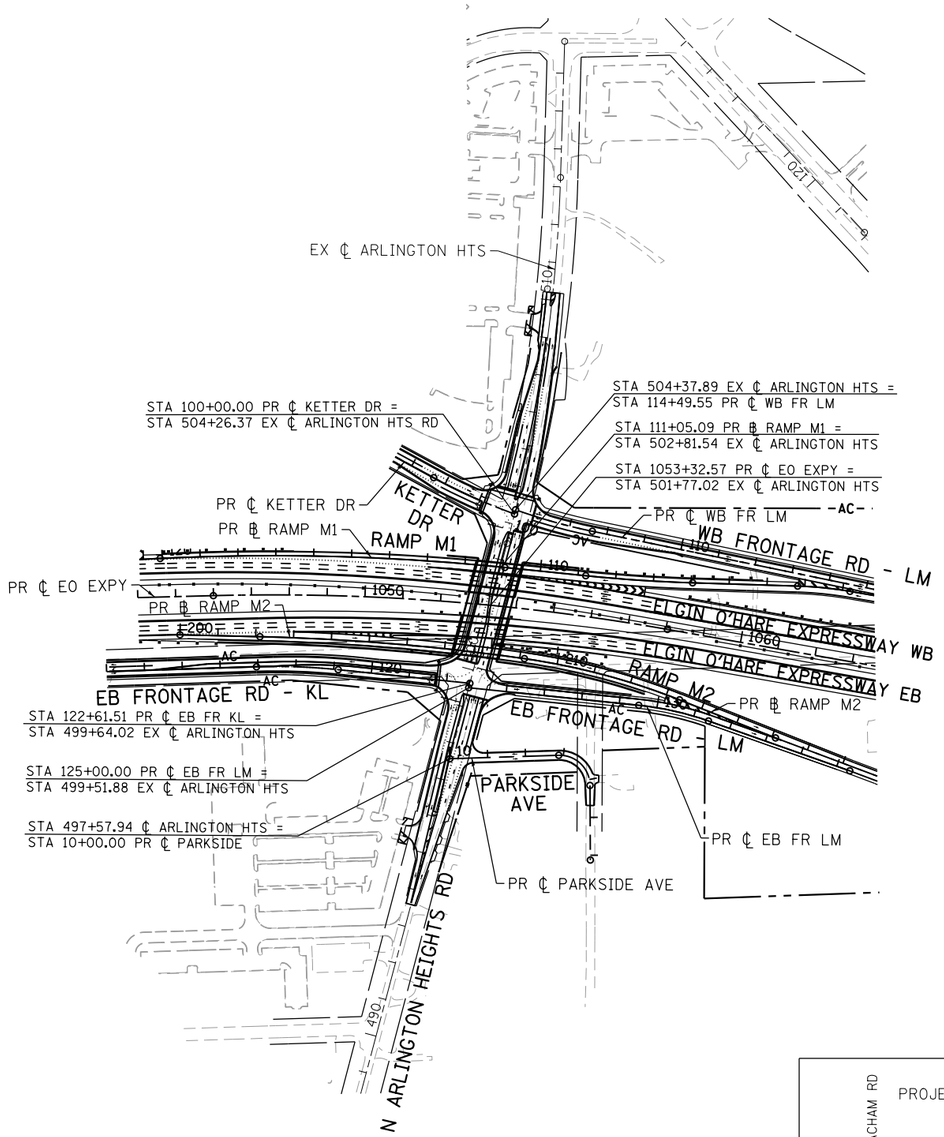
CADD FILE NAME *DIEOWB-805-sht-ids-001.dgn*
REF FILE NAME _____

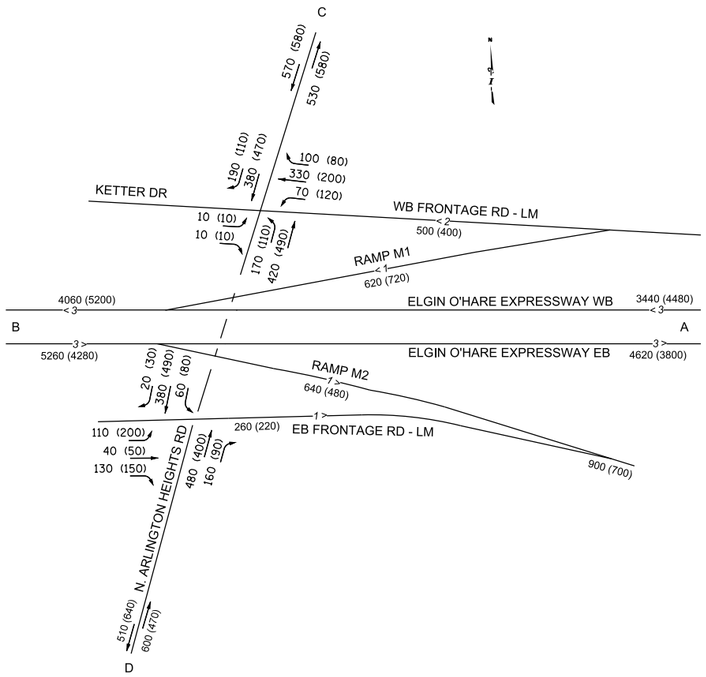
I.D.S. SHEET 1 OF 20

BDF-9409

ENTRANCE AND EXIT RAMP TERMINAL CAPACITY TABLE

RAMP		M2 FROM EO	M3 TO EO	M4 FROM EO	M1 TO EO
RAMP TYPE		STD EXIT	STD ENTRANCE	STD EXIT	STD ENTRANCE
PEAK-HOUR FACTOR (PHF)		0.95	0.95	0.95	0.95
TERRAIN/GRADE		LEVEL	LEVEL	LEVEL	LEVEL
TRUCK TYPES		TYP	TYP	TYP	TYP
% OF TRUCKS ON FREEWAY		8/8	8/8	8/8	8/8
% TRUCKS ON RAMP		8/8	8/8	8/8	8/8
NUMBER OF LANES ON FREEWAY		3	3	3	3
NUMBER OF LANES ON RAMP		1	1	1	1
DESIGN SPEED OF FREEWAY/RAMP (MPH)		60/45	60/45	60/45	60/45
TYPE/DISTANCE TO ADJACENT UPSTREAM RAMP		ON/2100	OFF/3860	ON/1660	OFF/3960
TYPE/DISTANCE TO ADJACENT DOWNSTREAM RAMP		-	OFF/1300	-	-
UNADJUSTED FREEWAY VOLUME (VPH)(V_F)	A.M.	5260	4620	4050	3440
	P.M.	4280	3800	5000	4480
UNADJUSTED RAMP VOLUME (VPH)(V_R)	A.M.	640	580	610	620
	P.M.	480	700	520	720
DENSITY (PC/MI/LN)/(D)	A.M.	43.0	34.3	30.9	23.1
	P.M.	34.9	28.6	40.5	29.2
LEVEL OF SERVICE (LOS)	A.M.	E	D	D	C
	P.M.	D	D	E	D





ELEMENTS CONTROLLING DESIGN

FAP 345 - ELGIN O'HARE EXPRESSWAY

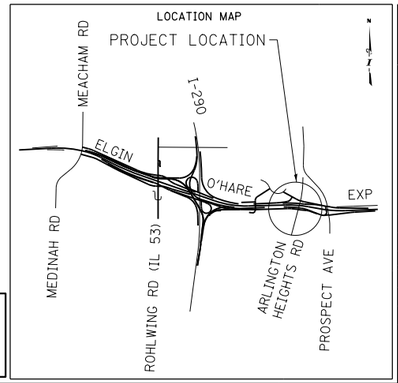
1. HIGHWAY DESIGN CLASSIFICATION ARLINGTON HEIGHTS RD - MAJOR COLLECTOR
   SRA: YES ____ NO X
2. AVERAGE DAILY TRAFFIC (ADT) DATA: EO EXPY: EXISTING 44,000 DESIGN 113,000
   ARLINGTON HTS: EXISTING 9,600 DESIGN 15,700
3. ELGIN O'HARE EXPRESSWAY IS THE PREFERENCE ROUTE
4. ANTICIPATED YEAR OF CONSTRUCTION 2014 DESIGN YEAR 2030
5. TRAFFIC CONTROL TO BE MODERNIZED SIGNALS WARRANTS MET EXISTING
6. DESIGN CRITERIA: IDOT BLRS, ISTHA DESIGN CRIERIA
7. DESIGN VEHICLE: WB-65 TRUCK ROUTE DESIGNATION CL II
8. DESIGN SPEED EO EXPY - 60 MPH POSTED SPEED EO EXPY - 55 MPH
   RAMPS - 45 MPH RAMPS - 35 MPH
   ARLINGTON HTS RD: 45 MPH-SOUTH ARLINGTON HTS RD: 40 MPH-SOUTH
   40 MPH-NORTH 35 MPH-NORTH
   FRONTAGE ROADS - 45 MPH FRONTAGE ROADS - 40 MPH
   KETTER DR - 40 MPH KETTER DR - 30 MPH

GENERAL NOTES

1. PROFILES *ARE NOT* PROVIDED, SINCE NEW CONSTRUCTION
   SEE MASTER PLAN - PROJECT B1
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT
3. TYPE B-6.24 CURB AND GUTTER TO BE USED ON CHANNELIZING ISLAND
4. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT EXCEPT WHERE NOTED OTHERWISE
5. INTERSECTION *IS NOT* A HIGH ACCIDENT LOCATION YEAR
6. INTERSECTION *WILL BE* PART OF INTERCONNECTED SYSTEM ALONG EO EXPY FROM KETTER DR/ARLINGTON HTS RD TO PROSPECT AVE
7. ALL SIDEWALKS AND RAMPS AS SHOWN ARE IN COMPLIANCE WITH THE AMERICAN DISABILITIES ACT.
8. EXPECTED PEDESTRIAN/BICYCLE USAGE LOW PED/BIKES
9. ALL ENTRANCES AS SHOWN *ARE* IN COMPLIANCE WITH IDOT "POLICIES ON ACCESS TO STATE HIGHWAYS".
   NOTED EXCEPTIONS:
10. SCOPE OF WORK: RECONSTRUCTION OF INTERCHANGE AND TRAFFIC SIGNAL MONDERNIZATION
11. DESIGN EXCEPTIONS: ARLINGTON HTS/EB FR LM-GEOMETRICS: NB RT-145' VS 153'
    ARLINGTON HTS/WB FR LM-GEOMETRICS: SB RT-175' VS 213',
    EB RT-102' VS 145'; NB LT TAPER-100' (8.3:1) VS 175',
    EB RT TAPER 145' (12:1) VS 175'

GRAPHIC SCALE 200' 0 200'

LOCATION MAP



PREPARED BY:
CH2MHILL®
PROJ. MGR. _____ PROJ. ENG. _____

DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
WITH
___ ROUTE ___ (ARLINGTON HEIGHTS RD)

SEC. NO. _____ PROJ. NO. _____
SCALE 1"=200' COUNTY DUPAGE
SJN : _____ REV. NO. ___

DATE	QA/QC REVIEWER	REMARKS

CADD FILE NAME *DIEOWB-805-sht-ids-002.dgn*
REF FILE NAME _____
I.D.S. SHEET 2 OF 20

BDF-9409

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-ids-002.dgn
PLOT SCALE = 400.0000 ' / in.
USER NAME = tphillip

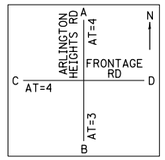
SIGNALIZED INTERSECTION

CAPACITY ANALYSIS

HIGHWAY CAPACITY SOFTWARE

PROGRAM NAME HCS+

VERSION 5.5



BASIC CONDITIONS

AREA: CBD (OTHER) PHF 0.95 (CIRCLE ONE)

SIGNAL TYPE ACTU-COORD ARRIVAL TYPE 3/4

C = SIGNAL CYCLE = 100 SEC. (AM) ΣA/C 19 / 100 = .19

C = SIGNAL CYCLE = 100 SEC. (PM) ΣA/C 19 / 100 = .19

PHASE 1	AMBER + ALL RED	PHASE 2	AMBER + ALL RED	PHASE 3	AMBER	PHASE 4	AMBER + ALL RED
G/C= .22 G = 22 Sec.	6 Sec.	G/C= .06 G = 6 Sec.	4 Sec.	G/C= .08 G = 8 Sec.	3 Sec.	G/C= .45 G = 45 Sec.	6 Sec.
G/C= .33 G = 33 Sec.	6 Sec.	G/C= .06 G = 6 Sec.	4 Sec.	G/C= .15 G = 15 Sec.	3 Sec.	G/C= .27 G = 27 Sec.	6 Sec.

APPR. C GR= 0 % A.M. T= 5 % R= 76 % L= 0 % PKG 0 MNV/HR) BUS 0 TOP/HR) PEDS/HR 0 BIKES/HR 0

P.M. T= 3.3 % R= 75 % L= 0 % PKG 0 (MNV/HR)BUS 0 TOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	CA	1/12′	110	.95	1900	.07	.22	389	.30	33.0	C	34.6	C	145	122
	CD+CB	1/12′	170	.95	1900	.11	.22	346	.52	35.7	D			223	197
P.M.	CA	1/12′	200	.95	1900	.12	.33	584	.36	25.9	C	25.4	C	233	170
	CD+CB	1/12′	200	.95	1900	.12	.33	577	.37	24.9	C			208	172

APPR. B GR= 0 % A.M. T= 2 % R= 0 % L= 0 % PKG 0 MNV/HR) BUS 0 TOP/HR) PEDS/HR 0 BIKES/HR 0

P.M. T= 2.3 % R= 0 % L= 0 % PKG 0 (MNV/HR)BUS 0 TOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	BC	1/12′	20	.95	1900	.01	.51	514	.04	12.2	B	17.3	B	15	15
	BA	2/12′	480	.95	2000	.14	.45	1680	.30	17.6	B			243	184
	BD	1/12′	160	.95	1900	.11	.45	712	.24	17.1	B			153	122
P.M.	BC	1/12′	20	.95	1900	.01	.33	317	.07	22.8	C	29.7	C	23	19
	BA	2/12′	400	.95	2000	.11	.27	1008	.42	30.3	C			263	190
	BD	1/12′	90	.95	1900	.06	.27	419	.23	28.7	C			110	87

APPR. A GR= 0 % A.M. T= 4.7 % R= 9.5 % L= 0 % PKG 0 MNV/HR) BUS 0 TOP/HR) PEDS/HR 50 BIKES/HR 0

P.M. T= 2 % R= 11 % L= 0 % PKG 0 (MNV/HR)BUS 0 TOP/HR) PEDS/HR 50 BIKES/HR 0

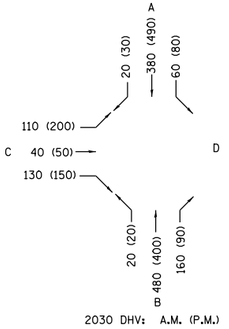
	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	AD	1/12′	60	.95	1900	.04	.69	618	.10	5.6	A	7.1	A	33	53
	AB+AC	2/12′	400	.95	1900	.12	.56	1911	.22	7.4	A			105	125
P.M.	AD	1/12′	80	.95	1900	.05	.58	658	.13	9.9	A	14.4	B	58	79
	AB+AC	2/12′	520	.95	1900	.16	.45	1577	.35	15.1	B			215	192

INTERSECTION DELAY 17.4 (A.M.), 22.5 (P.M.)

INTERSECTION LOS B (A.M.), C (P.M.)

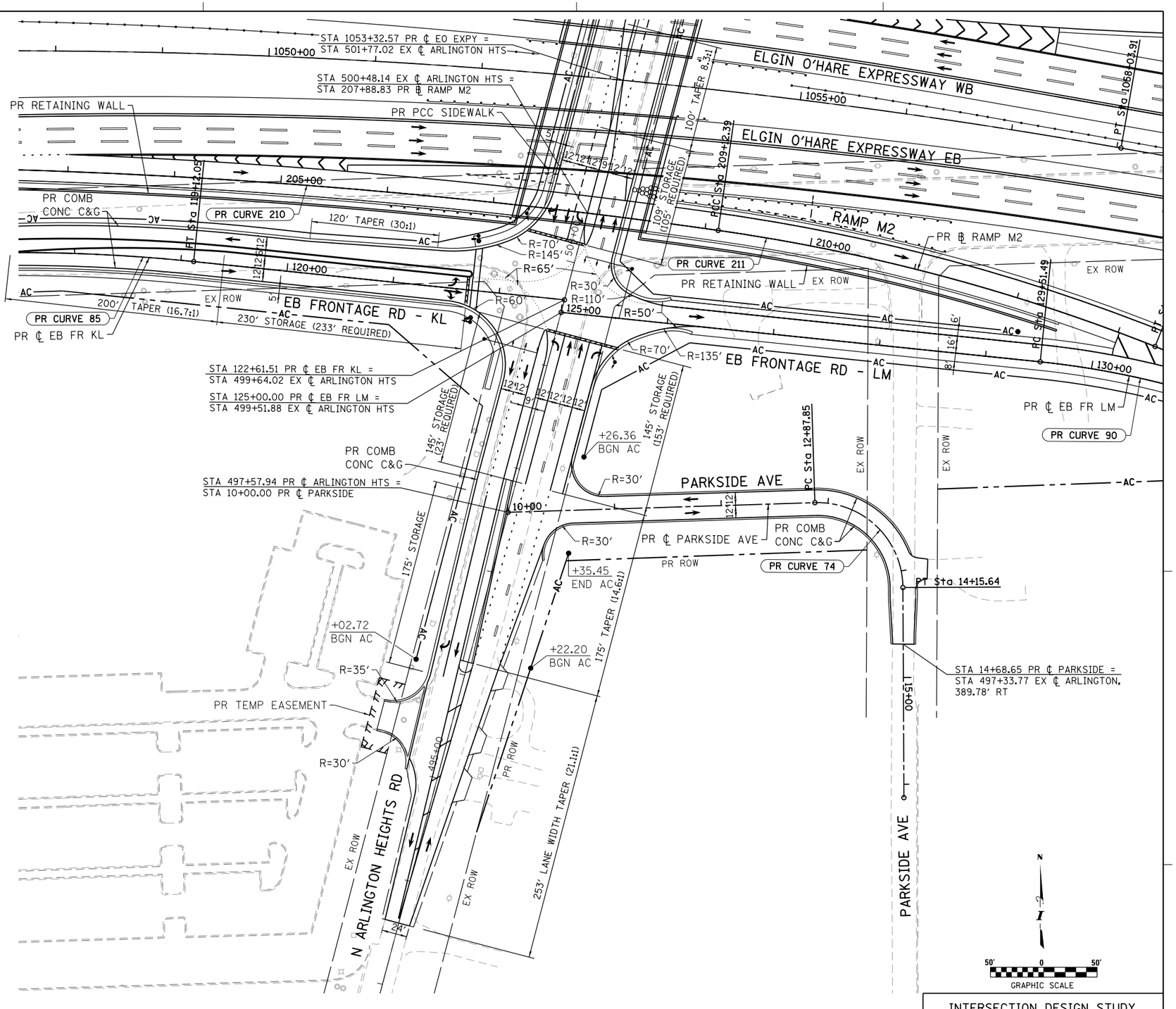
TRAFFIC DATA

MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN PEAK HOUR		ESTIMATED % INCREASE BY 2030		YEAR 2030 DESIGN PEAK HOUR TRAFFIC	
	A.M.	P.M.	A.M.	(P.M.)	A.M.	P.M.	A.M.	P.M.
AB	-	-	5	2	-	-	380	490
AD	40	80	12	2	50%	0%	60	80
AC	-	-	5	2	-	-	20	30
BA	120	100	2	2	300%	300%	480	400
BC	-	-	2	2	-	-	20	20
BD	130	30	2	4	23%	200%	160	90
CD	1970	1050	7	3	-98%	-95	40	50
CA	370	120	2	2	-70%	67%	110	200
CB	100	100	7	3	30%	50%	130	150
DC	-	-	-	-	-	-	-	-
DB	-	-	-	-	-	-	-	-
DA	-	-	-	-	-	-	-	-
TOTAL A	530	300	-	-	-	-	1050	1200
TOTAL B	350	230	-	-	-	-	1170	1150
TOTAL C	2440	1270	-	-	-	-	320	450
TOTAL D	2140	1160	-	-	-	-	260	220



2030 DHV: A.M. (P.M.)

APPROACH	8TH MAX. HOUR TRAFFIC
A (NORTH)	660
B (SOUTH)	622
C (WEST)	248
D (EAST)	-



INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)

___ ROUTE ___ WITH (ARLINGTON HEIGHTS RD)

SEC. NO. _____

SCALE 1″=50′ COUNTY DUPAGE

SJN : _____ PROJ. NO. _____

I.D.S. SHEET 3 OF 20

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-ids-003.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-ant-ids-004.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

SIGNALIZED INTERSECTION

CAPACITY ANALYSIS

HIGHWAY CAPACITY SOFTWARE

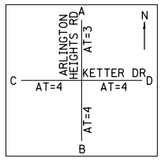
PROGRAM NAME HCS+
VERSION 5.5

BASIC CONDITIONS

AREA: CBD (OTHER) (CIRCLE ONE)

PHF 0.95

SIGNAL TYPE ACTU-COORD ARRIVAL TYPE 3/4



C = SIGNAL CYCLE = 100 SEC. (AM) ΣA/C 21 / 100 = 0.21
C = SIGNAL CYCLE = 100 SEC. (PM) ΣA/C 21 / 100 = 0.21

	PHASE 1	AMBER + ALL RED	PHASE 2	AMBER + ALL RED	PHASE 3	AMBER	PHASE 4	AMBER + ALL RED
A.M.	G/C= .06 G = 6 Sec.	6 Sec.	G/C= .22 G = 22 Sec.	6 Sec.	G/C= .13 G = 13 Sec.	3 Sec.	G/C=.38 G = 38 Sec.	6 Sec.
P.M.	G/C=0.06 G = 6 Sec.	6 Sec.	G/C= .26 G = 26 Sec.	6 Sec.	G/C=0.12 G = 12 Sec.	3 Sec.	G/C=0.35 G = 35 Sec.	6 Sec.

APPR. C GR= 0 % A.M. T= 2% R= 0% L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 4% R= 0% L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	CA	1 /12'	10	0.95	1900	.01	.06	92	.12	45.1	D	45.1	D	18	13
	CB	1 /12'	10	0.95	1900	.01	.06	95	.12	45.0	D			15	13
P.M.	CA	1 /12'	10	0.95	1900	.01	.06	85	.13	45.2	D	45.1	D	18	14
	CB	1 /12'	10	0.95	1900	.01	.06	95	.12	45.0	D			15	13

APPR. D GR= 0 % A.M. T= 2.6% R= 38% L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0
P.M. T= 2% R= 44% L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	DB	1 /12'	70	0.95	1900	.04	.22	375	0.2	32.1	C	36.0	D	90	80
	DC+DA	2 /12'	430	0.95	1900	.13	.22	741	.61	36.6	D			315	238
P.M.	DB	1 /12'	120	0.95	1900	0.07	.26	460	.27	29.8	C	30.1	C	150	126
	DC+DA	2 /12'	280	0.95	1900	0.09	.26	868	.34	30.3	C			170	147

APPR. B GR= 0 % A.M. T= 2% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 1.2% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	BC	1 /12'	170	0.95	1900	0.10	.57	563	.32	11.0	B	9.2	A	125	154
	BA	2 /12'	420	0.95	2000	0.12	.54	2016	.22	8.5	A			120	137
P.M.	BC	1 /12'	110	0.95	1900	0.07	.53	468	.25	12.8	B	11.5	B	88	109
	BA	2 /12'	490	0.95	2000	0.14	.50	1885	.27	11.2	B			168	172

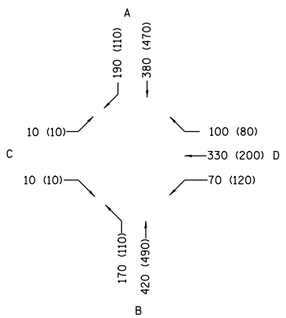
APPR. A GR= 0 % A.M. T= 2% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0
P.M. T= 2% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	AB	2 /12'	380	0.95	2000	.11	.38	1419	.28	21.6	C	21.9	C	215	167
	AC	1 /12'	190	0.95	1900	.13	.38	578	.35	22.5	C			213	167
P.M.	AB	2 /12'	470	0.95	2000	.13	.35	1307	.38	24.5	C	24.3	C	278	216
	AC	1 /12'	110	0.95	1900	.08	.35	531	.22	23.1	C			123	101

INTERSECTION DELAY 21.9 (A.M.), 21.2 (P.M.)
INTERSECTION LOS C (A.M.), C (P.M.)

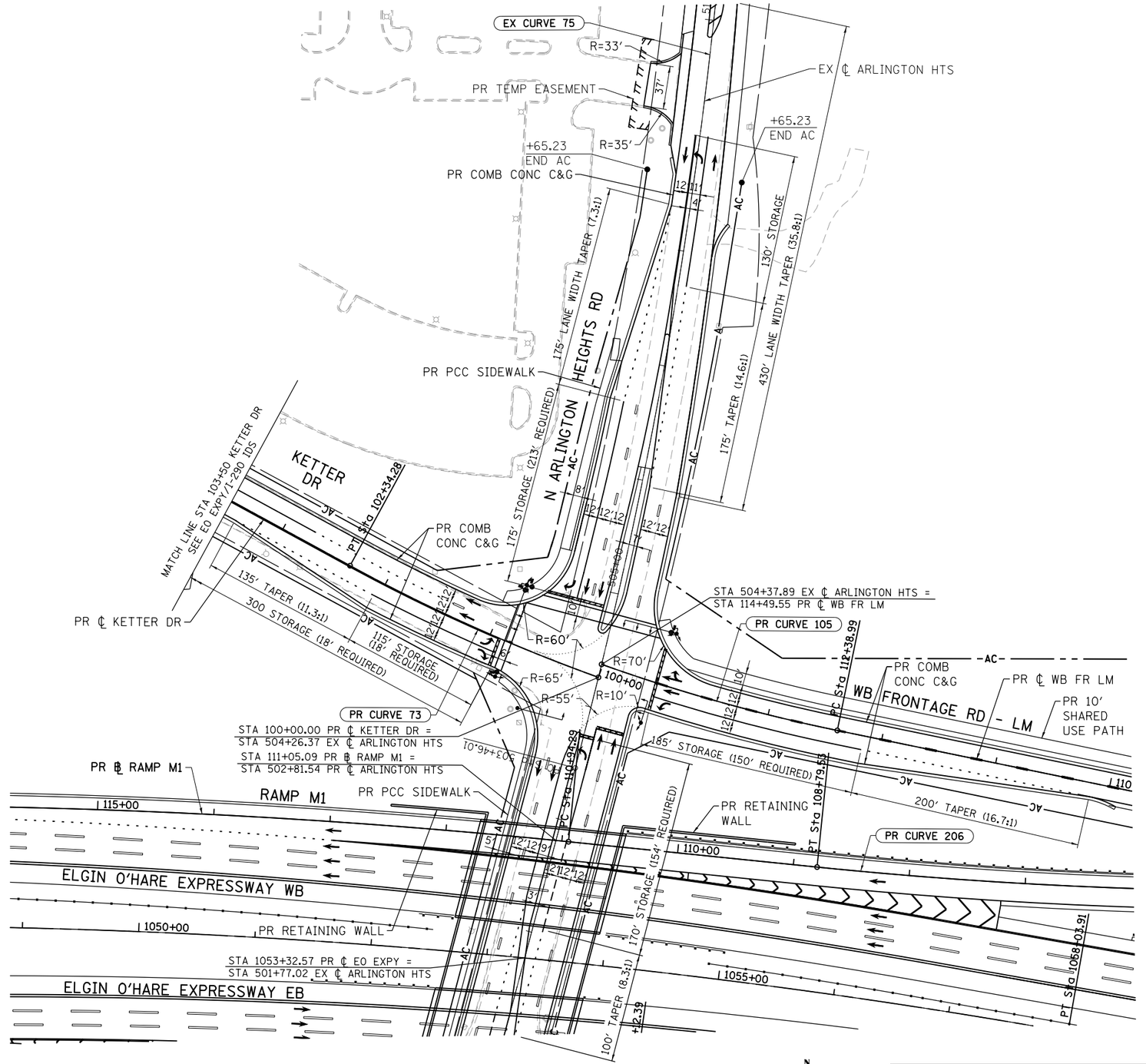
TRAFFIC DATA

MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN PEAK HOUR A.M. (P.M.)		ESTIMATED % INCREASE BY 2030		YEAR 2030 DESIGN PEAK HOUR TRAFFIC	
	A.M.	P.M.			A.M.	P.M.	A.M.	P.M.
AB	100	220	2	2	280%	114%	380	470
AD	-	-	-	-	-	-	-	-
AC	100	380	2	2	90%	-71%	190	110
BA	-	-	2	1	-	-	420	490
BC	100	90	2	2	70%	22%	170	110
BD	-	-	-	-	-	-	-	-
CD	-	-	-	-	-	-	-	-
CA	-	-	2	6	-	-	10	10
CB	-	-	2	2	-	-	10	10
DC	860	1570	2	2	-62%	-87%	330	200
DB	30	50	6	2	133%	140%	70	120
DA	70	40	-	-	43%	100%	100	80
TOTAL A	270	640	-	-	-	-	1100	1160
TOTAL B	230	360	-	-	-	-	1050	1200
TOTAL C	1060	2040	-	-	-	-	710	440
TOTAL D	960	1660	-	-	-	-	500	400



2030 DHV: A.M. (P.M.)

APPROACH	8TH MAX. HOUR TRAFFIC
A (NORTH)	638
B (SOUTH)	660
C (EAST)	390
D (WEST)	275



INTERSECTION DESIGN STUDY

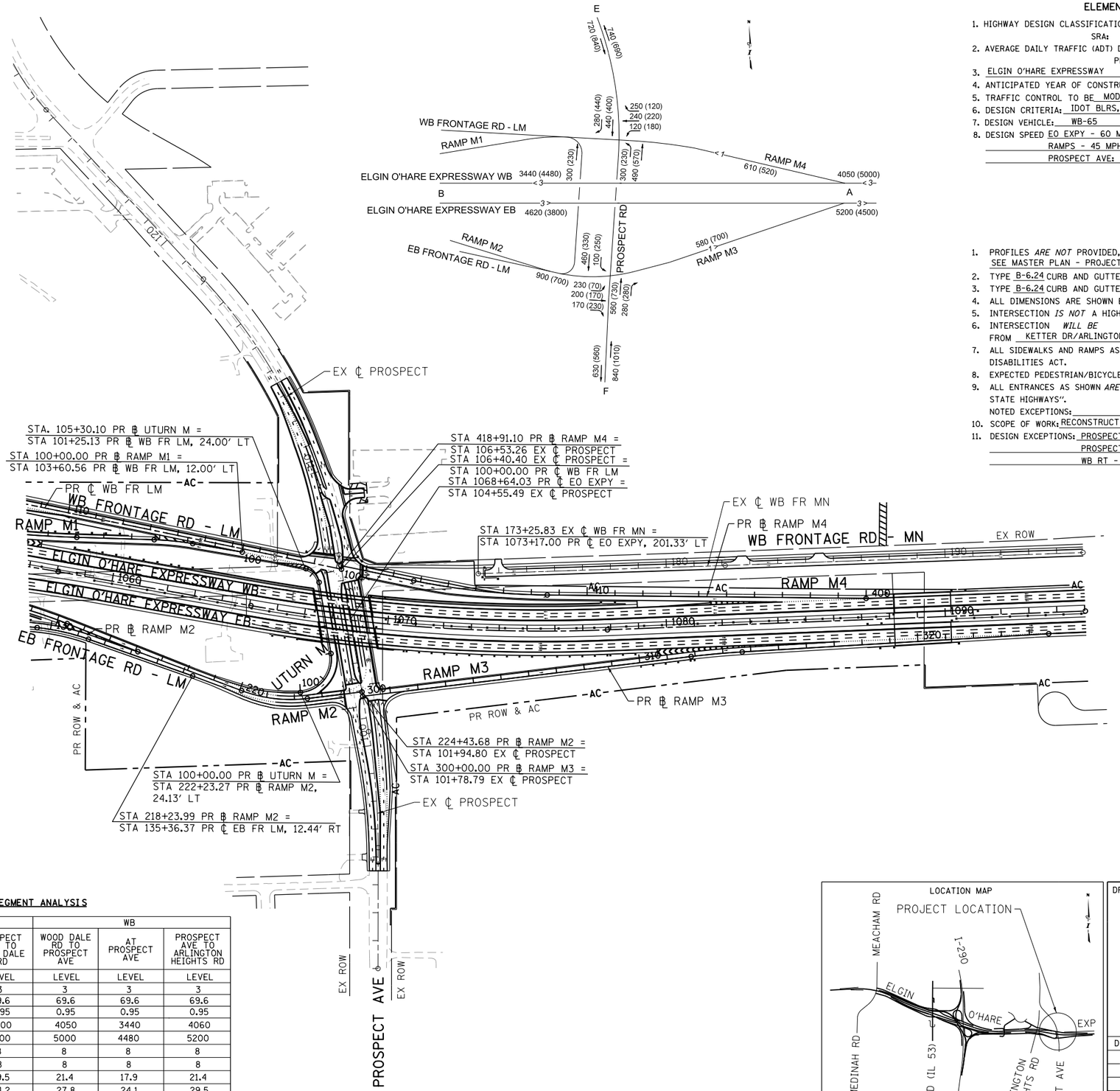
FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
ROUTE WITH (ARLINGTON HEIGHTS RD)

SEC. NO.
SCALE 1"=50' COUNTY DUPAGE
SJN : PROJ. NO.

I.D.S. SHEET 4 OF 20

BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-ids-005.dgn
PLOT SCALE = 400.0000 ' / in.
USER NAME = tphillip



ELEMENTS CONTROLLING DESIGN

FAP 345 - ELGIN O'HARE EXPRESSWAY

1. HIGHWAY DESIGN CLASSIFICATION PROSPECT AVE - MINOR ARTERIAL
   SRA: YES ____ NO X
2. AVERAGE DAILY TRAFFIC (ADT) DATA: EO EXPY EXISTING 44,300 DESIGN 113,000
   PROSPECT EXISTING 14,200 DESIGN 19,700
3. ELGIN O'HARE EXPRESSWAY IS THE PREFERENCE ROUTE
4. ANTICIPATED YEAR OF CONSTRUCTION 2013 DESIGN YEAR 2030
5. TRAFFIC CONTROL TO BE MODERNIZED SIGNALS WARRANTS MET EXISTING
6. DESIGN CRITERIA: IDOT BLRS, ISTHA DESIGN CRIERIA
7. DESIGN VEHICLE: WB-65 TRUCK ROUTE DESIGNATION CL II
8. DESIGN SPEED EO EXPY - 60 MPH POSTED SPEED EO EXPY - 55 MPH
   RAMPS - 45 MPH RAMPS - 35 MPH
   PROSPECT AVE: 40 MPH - NORTH PROSPECT AVE: 35 MPH - NORTH
   45 MPH - SOUTH 40 MPH - SOUTH

GENERAL NOTES

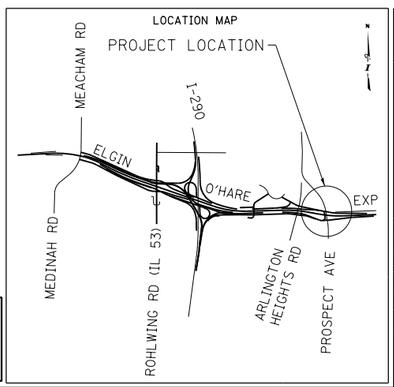
1. PROFILES *ARE NOT* PROVIDED, SINCE NEW CONSTRUCTION
   SEE MASTER PLAN - PROJECT B1
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT
3. TYPE B-6.24 CURB AND GUTTER TO BE USED ON CHANNELIZING ISLAND
4. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT EXCEPT WHERE NOTED OTHERWISE
5. INTERSECTION *IS NOT* A HIGH ACCIDENT LOCATION YEAR
6. INTERSECTION *WILL BE* PART OF INTERCONNECTED SYSTEM ALONG EO EXPY
   FROM KETTER DR/ARLINGTON HTS RD TO PROSPECT AVE
7. ALL SIDEWALKS AND RAMPS AS SHOWN ARE IN COMPLIANCE WITH THE AMERICAN DISABILITIES ACT.
8. EXPECTED PEDESTRIAN/BICYCLE USAGE LOW PED/BIKES
9. ALL ENTRANCES AS SHOWN *ARE* IN COMPLIANCE WITH IDOT "POLICIES ON ACCESS TO STATE HIGHWAYS".
   NOTED EXCEPTIONS:
10. SCOPE OF WORK: RECONSTRUCTION OF INTERCHANGE AND TRAFFIC SIGNAL MODERNIZATION
11. DESIGN EXCEPTIONS: PROSPECT/RAMP M2 - GEOMETRICS: NB RT - 325' VS 388'
    PROSPECT/RAMP M4 - GEOMETRICS: SB RT - 400' VS 653';
    WB RT - 299' VS 308'

ELGIN O'HARE EXPRESSWAY MAINLINE SEGMENT ANALYSIS

MAINLINE SEGMENT		EB			WB		
		PARK BLVD TO PROSPECT AVE	AT PROSPECT AVE	PROSPECT AVE TO WOOD DALE RD	WOOD DALE RD TO PROSPECT AVE	AT PROSPECT AVE	PROSPECT AVE TO ARLINGTON HEIGHTS RD
TERRAIN/GRADE		LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL
NUMBER OF TOTAL LANES		3	3	3	3	3	3
FREE-FLOW SPEED (MPH)		69.6	69.6	69.6	69.6	69.6	69.6
PEAK-HOUR FACTOR (PHF)		0.95	0.95	0.95	0.95	0.95	0.95
VOLUME	A.M.	5260	4620	5200	4050	3440	4060
	P.M.	4280	3800	4500	5000	4480	5200
% TRUCKS	A.M.	8	8	8	8	8	8
	P.M.	8	8	8	8	8	8
DENSITY	A.M.	30.0	25.0	29.5	21.4	17.9	21.4
	P.M.	22.8	19.9	24.2	27.8	24.1	29.5
V/C RATIO	A.M.	0.80	0.70	0.79	0.62	0.52	0.62
	P.M.	0.65	0.58	0.69	0.76	0.68	0.79
LEVEL OF SERVICE (LOS)	A.M.	D	C	D	C	B	C
	P.M.	C	C	C	D	C	D

PREPARED BY:
CH2MHILL®
PROJ. MGR. ____ PROJ. ENG. ____

LOCATION MAP



DRAWING NO. ____

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
ROUTE ____ WITH (PROSPECT AVE)

SEC. NO. ____ PROJ. NO. ____
SCALE 1"=200' COUNTY DUPAGE
SJN : ____ REV. NO. ____

DATE	QA/QC REVIEWER	REMARKS

CADD FILE NAME *DIEOWB-805-sht-ids-005.dgn*
REF FILE NAME ____
I.D.S. SHEET 5 OF 20

BDF-9409

SIGNALIZED INTERSECTION

CAPACITY ANALYSIS

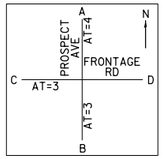
HIGHWAY CAPACITY SOFTWARE

PROGRAM NAME HCS+
VERSION 5.5

BASIC CONDITIONS

AREA: CBD (OTHER) PHF 0.95 (CIRCLE ONE)

SIGNAL TYPE ACTU-COORD ARRIVAL TYPE 3/4



C = SIGNAL CYCLE = 100 SEC. (AM) ΣA/C 16 / 100 = 0.16
C = SIGNAL CYCLE = 100 SEC. (PM) ΣA/C 16 / 100 = 0.16

PHASE 1		PHASE 2		PHASE 3	
G/C= .40 G = 40 Sec.	6 Sec.	G/C= .10 G = 10 Sec.	4 Sec.	G/C= .34 G = 34 Sec.	6 Sec.
G/C= .24 G = 24 Sec.	6 Sec.	G/C= .29 G = 29 Sec.	4 Sec.	G/C= .31 G = 31 Sec.	6 Sec.

APPR. C GR= 0 % A.M. T= 3 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 3 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	CA	1/12′	230	.95	1900	.14	.40	708	.34	21.1	C	20.7	C	243	196
	CD	1/12′	200	.95	2000	.11	.40	769	.27	20.4	C			208	173
	CB	1/12′	170	.95	1900	.11	.40	627	.29	20.6	C			178	146
P.M.	CA	1/12′	70	.95	1900	.04	.24	397	.19	30.5	C	34.6	C	88	81
	CD	1/12′	170	.95	2000	.09	.24	471	.38	32.3	C			218	183
	CB	1/12′	230	.95	1900	.15	.24	380	.64	37.6	D			323	248

APPR. B GR= 0 % A.M. T= 3.7 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50• BIKES/HR 0
P.M. T= 6 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50• BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	BA	3/12′	560	.95	2000	.11	.34	1781	.33	24.6	C	26.2	C	233	178
	BD	1/12′	280	.95	1900	.20	.34	494	.60	29.3	C			355	264
P.M.	BA	3/12′	730	.95	2000	.15	.31	1624	.47	28.1	C	30.3	C	325	243
	BD	1/12′	280	.95	1900	.22	.31	415	.71	36.1	D			388	298

APPR. A GR= 0 % A.M. T= 2.2 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 2 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

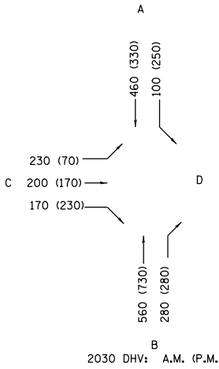
	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	AD	1/12′	100	.95	1900	.06	.10	175	.60	48.6	D	18.9	B	158	129
	AB	2/12′	460	.95	2000	.13	.48	1792	.27	12.4	B			168	169
P.M.	AD	1/12′	250	.95	1900	.15	.29	513	.51	30.5	C	15.1	B	315	251
	AB	2/12′	330	.95	2000	.09	.64	2389	.15	3.4	A			50	84

INTERSECTION DELAY 22.5 (A.M.), 27.0 (P.M.)
INTERSECTION LOS C (A.M.), C (P.M.)

• NOTE: CAPACITY ANALYSIS ACCOMMODATES A FUTURE CROSSWALK ACROSS RAMP M3.

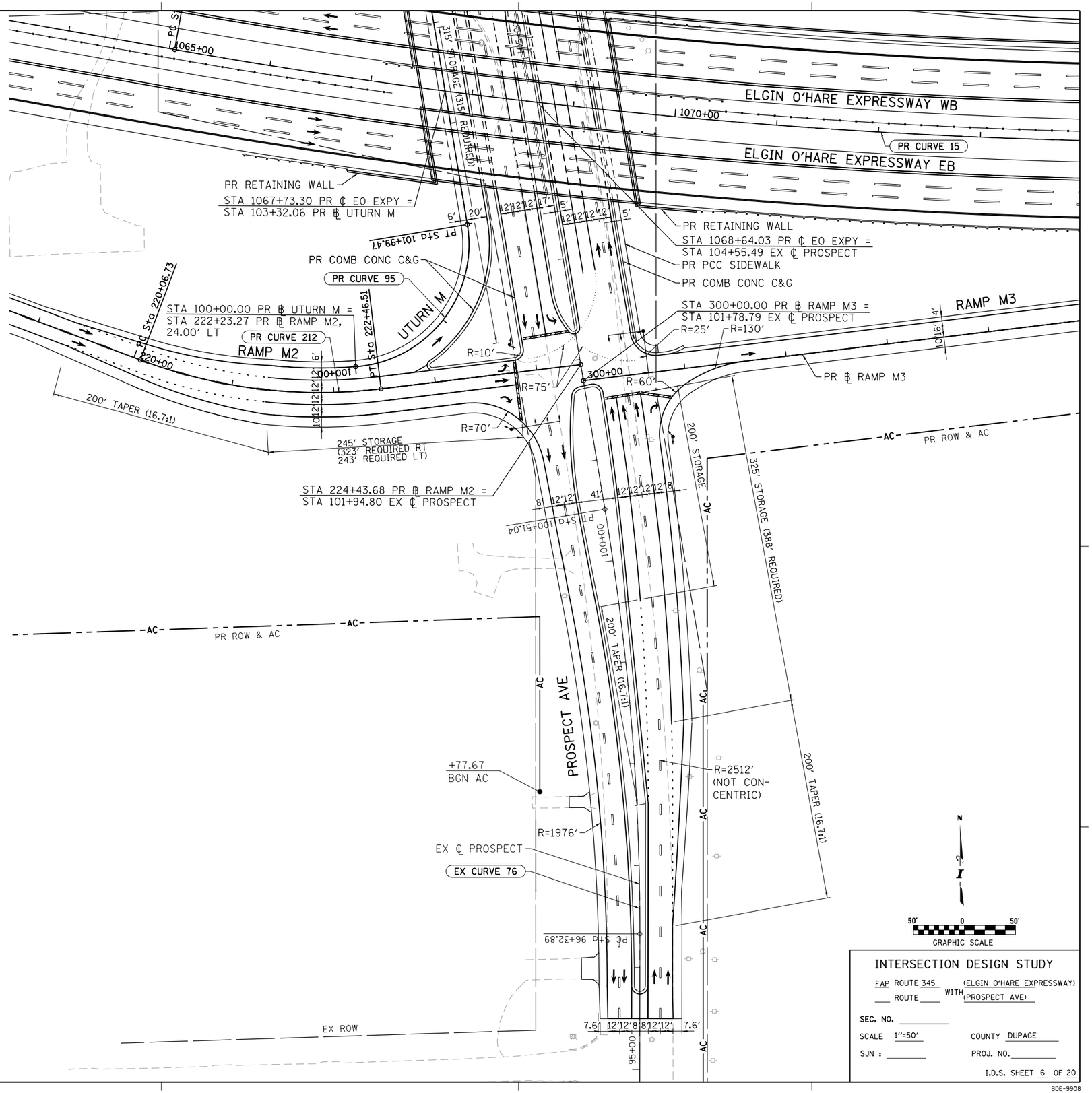
TRAFFIC DATA

MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC A.M.	YEAR 2010 PEAK HOUR TRAFFIC P.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR A.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR (P.M.)	ESTIMATED PERCENT INCREASE BY 2030	YEAR 2030 DESIGN PEAK HOUR TRAFFIC A.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC P.M.
AB	-	-	2	2	-	460	330
AD	130	60	3	2	-	100	250
AC	-	-	-	-	-	-	-
BA	240	210	4	4	-	560	730
BC	-	-	-	-	-	-	-
BD	270	40	3	11	-	280	280
CD	1980	920	4	2	-	200	170
CA	50	40	2	9	-	230	70
CB	110	200	3	2	-	170	230
DC	-	-	-	-	-	-	-
DB	-	-	-	-	-	-	-
DA	-	-	-	-	-	-	-
TOTAL A	420	310	-	-	-	1350	1380
TOTAL B	620	450	-	-	-	1470	1570
TOTAL C	2140	1160	-	-	-	600	470
TOTAL D	2380	1020	-	-	-	580	700



2030 DHV: A.M. (P.M.)

APPROACH	8TH MAX. HOUR TRAFFIC
A (NORTH)	759
B (SOUTH)	864
C (WEST)	330
D (EAST)	385



GRAPHIC SCALE

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
ROUTE ___ WITH (PROSPECT AVE)

SEC. NO. ___

SCALE 1″=50′ COUNTY DUPAGE

SJN : ___ PROJ. NO. ___

I.D.S. SHEET 6 OF 20

BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-ant-uds-006.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

SIGNALIZED INTERSECTION

CAPACITY ANALYSIS

HIGHWAY CAPACITY SOFTWARE

PROGRAM NAME HCS+

VERSION 5.5

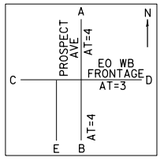
BASIC CONDITIONS

AREA: CBD (OTHER) PHF 0.95 (CIRCLE ONE)

SIGNAL TYPE ACTU-COORD ARRIVAL TYPE 3/4

C = SIGNAL CYCLE = 100 SEC. (AM) ΣA/C 20 / 100 = .20

C = SIGNAL CYCLE = 100 SEC. (PM) ΣA/C 20 / 100 = .20



PHASE 1		PHASE 2		PHASE 3		PHASE 4	
G/C= .17	6 Sec.	G/C= .12	4 Sec.	G/C= .28	6 Sec.	G/C= .23	4 Sec.
G = 17 Sec.	AMBER + ALL RED	G = 12 Sec.	AMBER + ALL RED	G = 28 Sec.	AMBER + ALL RED	G = 23 Sec.	AMBER + ALL RED
G/C= .19	6 Sec.	G/C= .10	4 Sec.	G/C= .33	6 Sec.	G/C= .18	4 Sec.
G = 19 Sec.	AMBER + ALL RED	G = 10 Sec.	AMBER + ALL RED	G = 33 Sec.	AMBER + ALL RED	G = 18 Sec.	AMBER + ALL RED

APPR. D GR= 0 % A.M. T= 0 % R= 0 % L= 50 % PKG 0 (MNV/HR) BUS 0 TOP/HR) PEDS/HR 50 BIKES/HR 0

P.M. T= 0 % R= 0 % L= 62 % PKG 0 (MNV/HR) BUS 0 TOP/HR) PEDS/HR 50 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	% RED-TIME QUEUE
A.M.	DB+DC	2/12′	360	.95	1900	.11	.17	565	.67	42.0	D			283	222
	DA	1/12′	250	.95	1900	.19	.35	491	.54	27.2	C	35.9	D	308	237
P.M.	DB+DC	2/12′	400	.95	1900	.12	.19	659	.64	39.4	D			303	230
	DA	1/12′	120	.95	1900	.09	.35	510	.25	23.4	C	35.7	D	133	114

APPR. B GR= 0 % A.M. T= 3 % R= 0 % L= 0 % PKG 0 MNV/HR) BUS 0 TOP/HR) PEDS/HR 50 BIKES/HR 0

P.M. T= 3.2 % R= 0 % L= 0 % PKG 0 (MNV/HR)BUS 0 TOP/HR) PEDS/HR 50 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	% RED-TIME QUEUE
A.M.	BC	2/12′	300	.95	1900	.09	.12	404	.78	51.5	D			253	191
	BA	2/12′	490	.95	2000	.14	.28	1035	.50	30.5	C	38.4	D	300	252
P.M.	BC	2/12′	230	.95	1900	.07	.10	331	.73	51.0	D			193	152
	BA	2/12′	570	.95	2000	.16	.33	1232	.49	26.0	C	33.2	C	320	271

APPR. A GR= 0 % A.M. T= 2 % R= 0 % L= 0 % PKG 0 MNV/HR) BUS 0 TOP/HR) PEDS/HR 0 BIKES/HR 0

P.M. T= 3 % R= 0 % L= 0 % PKG 0 (MNV/HR)BUS 0 TOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	% RED-TIME QUEUE
A.M.	AB	3/12′	440	.95	2000	.09	.28	1495	.31	28.5	C			175	150
	AC	1/12′	280	.95	1900	.19	.28	443	.67	35.3	D	31.1	C	360	286
P.M.	AB	3/12′	400	.95	2000	.08	.33	1763	.24	23.5	C			143	127
	AC	1/12′	440	.95	1900	.30	.33	512	.90	48.7	D	36.7	D	653	426

APPR. E GR= 0 % A.M. T= 2 % R= 0 % L= 0 % PKG 0 MNV/HR) BUS 0 TOP/HR) PEDS/HR 0 BIKES/HR 0

P.M. T= 2.3 % R= 0 % L= 0 % PKG 0 (MNV/HR)BUS 0 TOP/HR) PEDS/HR 0 BIKES/HR 0

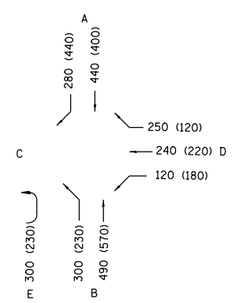
	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH QUEUE	% RED-TIME QUEUE
A.M.	EC	1/12′	300	.95	1900	.18	.23	399	.79	46.7	D	46.7	D	448	334
P.M.	EC	1/12′	230	.95	1900	.14	.18	307	.79	52.1	D	52.1	D	360	278

INTERSECTION DELAY 36.6 (A.M.), 36.8 (P.M.)

INTERSECTION LOS D (A.M.), D (P.M.)

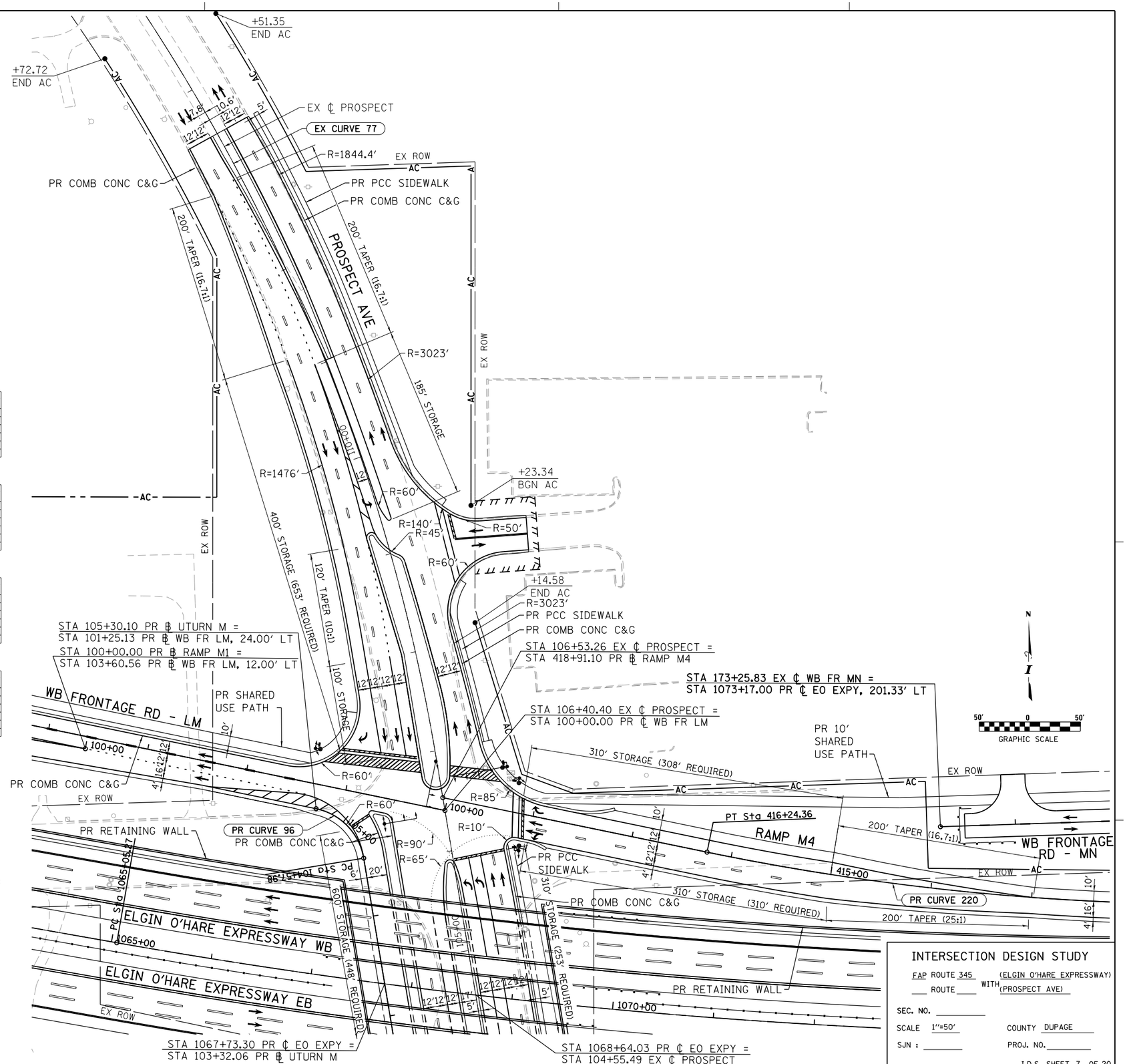
TRAFFIC DATA

MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC A.M.	YEAR 2010 PEAK HOUR TRAFFIC P.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR A.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR (P.M.)	ESTIMATED % INCREASE BY 2030		YEAR 2030 DESIGN PEAK HOUR TRAFFIC A.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC P.M.
AB	160	350	2%	2%	175	-14%	440	400
AD	-	-	-	-	-	-	-	-
AC	20	20	2%	4%	1300	2100	280	440
BA	-	-	3%	2%	-	-	490	570
BC	230	110	4%	6%	30%	109%	300	230
BD	-	-	-	-	-	-	-	-
CD	-	-	-	-	-	-	-	-
CA	-	-	-	-	-	-	-	-
CB	-	-	-	-	-	-	-	-
DC	710	1530	7%	2%	-66.%	-86%	240	220
DB	120	180	-	-	-	-	120	180
DA	50	120	5%	2%	400%	-	250	120
TOTAL A	230	490	-	-	-	-	1460	1530
TOTAL B	510	640	-	-	-	-	1350	1380
TOTAL C	960	1660	-	-	-	-	820	890
TOTAL D	880	1830	-	-	-	-	610	520



2030 DHV: A.M. (P.M.)

APPROACH	8TH MAX HOUR TRAFFIC
A (NORTH)	842
B (SOUTH)	759
C (WEST)	490
D (EAST)	336



INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)

ROUTE WITH (PROSPECT AVE)

SEC. NO.

SCALE 1″=50′ COUNTY DUPAGE

SJN : PROJ. NO.

I.D.S. SHEET 7 OF 20

BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-ids-007.dgn
PLOT SCALE = 100.0000 ′ / in.
USER NAME = tphillip

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-ids-008.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PR ℄ KETTER DR
KETTER DR
505+00
PR ℄ RAMP L1
105+00
RAMP L1
TYPICAL TOLLWAY ENTRANCE RAMP TERMINAL
EX ℄ ARLINGTON HTS
100+00
PR ℄ WB FR LM
WB FRONTAGE RD - LM
D
C
B
A
6' GORE
8' GORE
PR ℄ RAMP M1
25' GORE NOSE
110+00
RAMP M1
16'
39'
1055+00
VARIES
120+00
115+00
69'
ELGIN O'HARE EXPRESSWAY WB
46'
PR ℄ EO EXPY
1045+00
1050+00
46'
ELGIN O'HARE EXPRESSWAY EB
12' GORE
200+00
39'
16'
205+00
PR ℄ EB FR KL
115+00
EB FRONTAGE RD - KL
120+00
50'
25' GORE NOSE
210+00
RAMP M2
PR ℄ RAMP M2
TYPICAL TOLLWAY EXIT RAMP TERMINAL
125+00
EB FRONTAGE RD - LM
130+00
PR ℄ EB FR LM
PR ℄ PARKSIDE
N. ARLINGTON HEIGHTS RD
10+00
PARKSIDE AVE
151'
N
50' 0 50'
GRAPHIC SCALE

INTERSECTION DESIGN STUDY

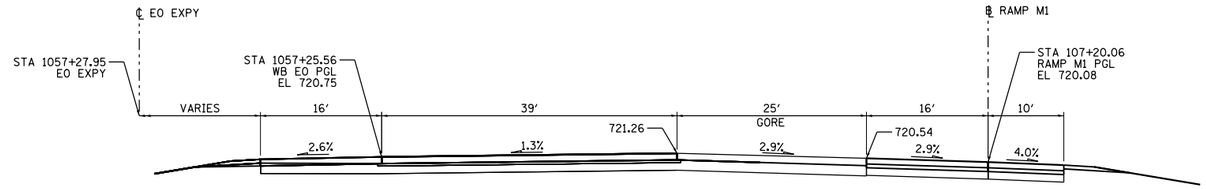
FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (ARLINGTON HEIGHTS RD)

SEC. NO. _____
SCALE 1"=50'
COUNTY DUPAGE
SJN : _____
PROJ. NO. _____

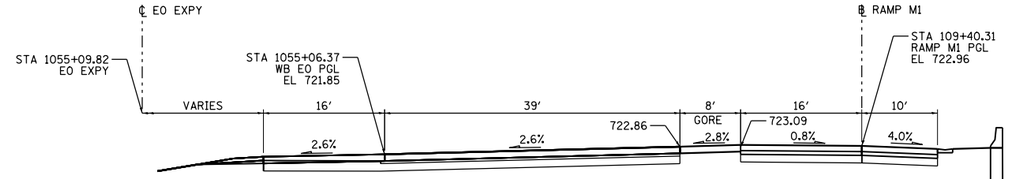
I.D.S. SHEET 8 OF 20

BDE-9908

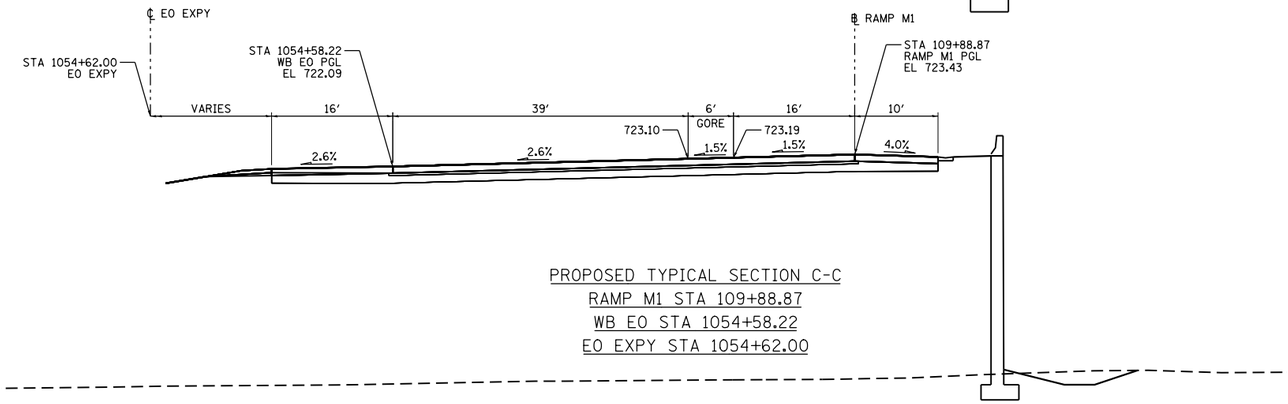
PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-ids-009.dgn
PLOT SCALE = 20.0000 ' / in.
USER NAME = tphilip



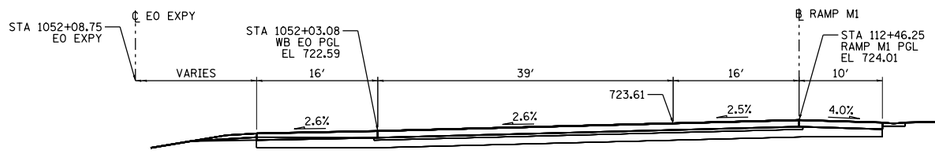
PROPOSED TYPICAL SECTION A-A
RAMP M1 STA 107+20.06
WB EO STA 1057+25.56
EO EXPY STA 1057+27.95



PROPOSED TYPICAL SECTION B-B
RAMP M1 STA 109+40.31
WB EO STA 1055+06.37
EO EXPY STA 1055+09.82



PROPOSED TYPICAL SECTION C-C
RAMP M1 STA 109+88.87
WB EO STA 1054+58.22
EO EXPY STA 1054+62.00



PROPOSED TYPICAL SECTION D-D
RAMP M1 STA 112+46.25
WB EO STA 1052+03.08
EO EXPY STA 1052+08.75

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ____ WITH (ARLINGTON HEIGHTS RD)

SEC. NO. _____

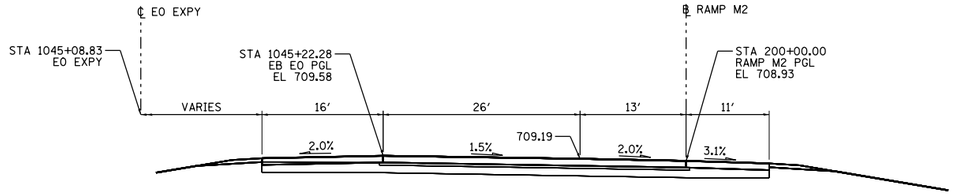
SCALE 1"=10' H
1"=10' V

COUNTY DUPAGE

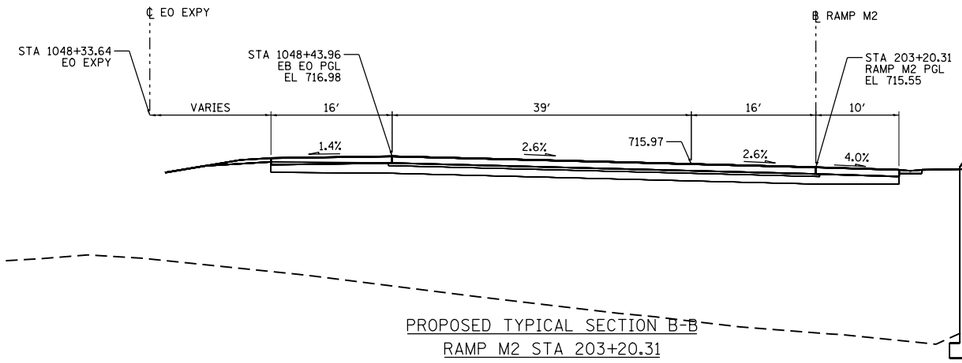
SJN : _____

PROJ. NO. _____

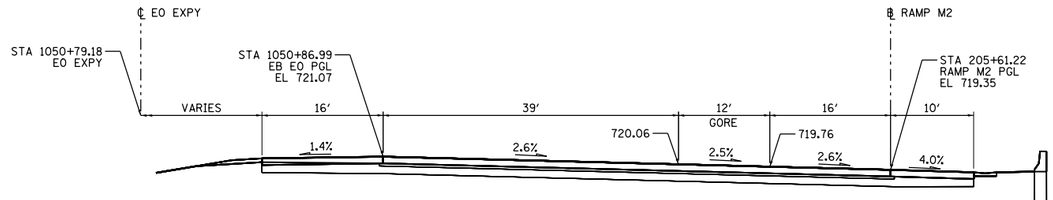
I.D.S. SHEET 9 OF 20



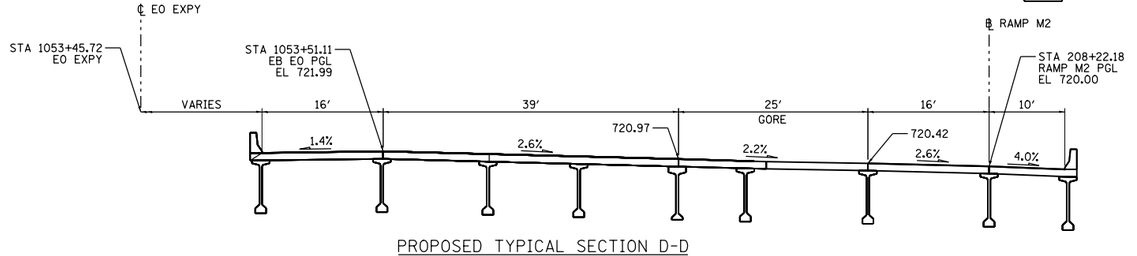
PROPOSED TYPICAL SECTION A-A
RAMP M2 STA 200+00.00
EB EO STA 1045+22.28
EO EXPY STA 1045+08.83



PROPOSED TYPICAL SECTION B-B
RAMP M2 STA 203+20.31
EB EO STA 1048+43.96
EO EXPY STA 1048+33.64



PROPOSED TYPICAL SECTION C-C
RAMP M2 STA 205+61.22
EB EO STA 1050+86.99
EO EXPY STA 1050+79.18



PROPOSED TYPICAL SECTION D-D
RAMP M2 STA 208+22.18
EB EO STA 1053+51.11
EO EXPY STA 1053+45.72

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (ARLINGTON HEIGHTS RD)

SEC. NO. _____

SCALE 1"=10' H
1"=10' V

COUNTY DUPAGE

SJN : _____

PROJ. NO. _____

I.D.S. SHEET 10 OF 20

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-uds-011.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

PR ℄ KETTER DR
KETTER DR
505+00
100+00
WB FRONTAGE RD - LM
110+00
PR ℄ WB FR LM
24'
20' GORE NOSE
18' GORE
6' GORE
STANDARD IDOT MINOR DIVERGENCE RAMP TERMINAL
105+00
100+00
36'
EX ℄ ARLINGTON HTS
PR ℄ RAMP M1
105+00
16'
RAMP M1
110+00
ELGIN O'HARE EXPRESSWAY WB
PR ℄ EO EXPY
1055+00
1060+00
1065+00
42'
VARIES
ELGIN O'HARE EXPRESSWAY EB
22' GORE NOSE
210+00
RAMP M2
16'
50'
6' GORE
EB FRONTAGE RD - LM
16'
130+00
125+00
215+00
15' GORE
135+00
24'
220+00
100+00
PR ℄ EB FR KL
PR ℄ EB FR LM
PR ℄ PARKSIDE
STANDARD IDOT MINOR CONVERGENCE RAMP TERMINAL
PR ℄ RAMP M2
PARKSIDE AVE
10+00
N. ARLINGTON HEIGHTS RD
115+00
A
B
C
D

N

50' 0 50'
GRAPHIC SCALE

INTERSECTION DESIGN STUDY

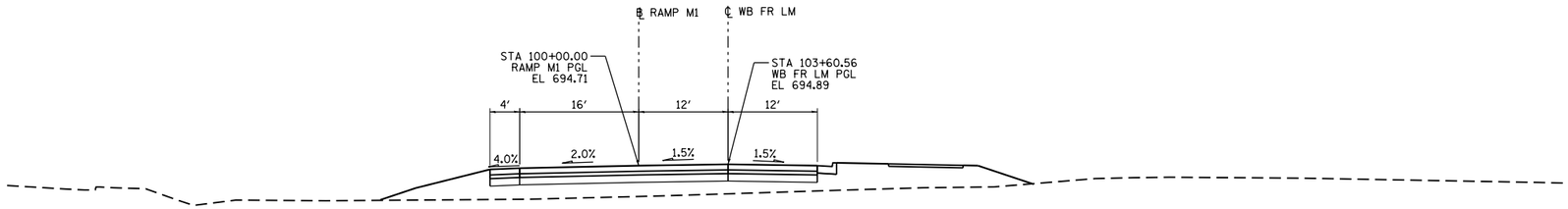
FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (ARLINGTON HEIGHTS RD)

SEC. NO. _____
SCALE 1"=50' COUNTY DUPAGE
SJN : _____ PROJ. NO. _____

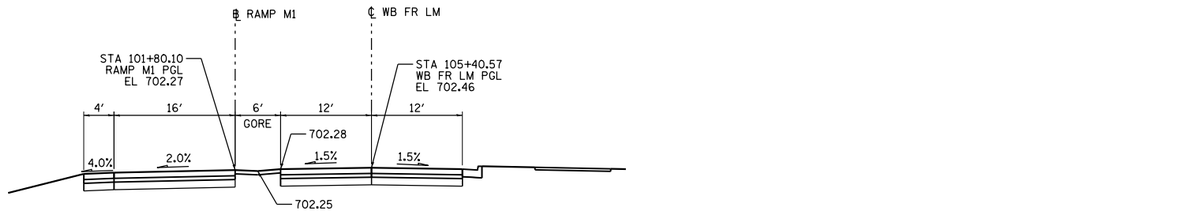
I.D.S. SHEET 11 OF 20

BDE-9908

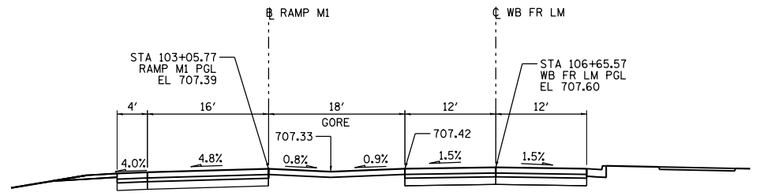
PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-ids-012.dgn
PLOT SCALE = 20.0000 ' / in.
USER NAME = tphilip



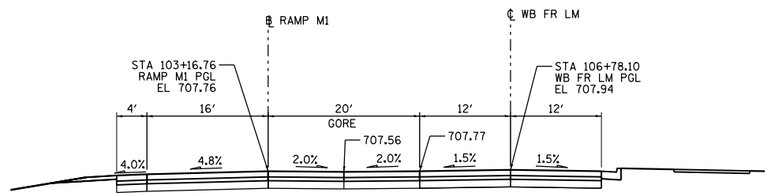
PROPOSED TYPICAL SECTION A-A
RAMP M1 STA 100+00.00
WB FR LM STA 103+60.56



PROPOSED TYPICAL SECTION B-B
RAMP M1 STA 101+80.10
WB FR LM STA 105+40.57



PROPOSED TYPICAL SECTION C-C
RAMP M1 STA 103+05.77
WB FR LM STA 106+65.57



PROPOSED TYPICAL SECTION D-D
RAMP M1 STA 103+16.76
WB FR LM STA 106+78.10

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (ARLINGTON HEIGHTS RD)

SEC. NO. _____

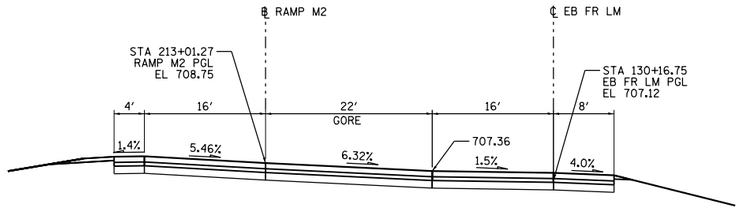
SCALE 1"=10' H / 1"=10' V

COUNTY DUPAGE

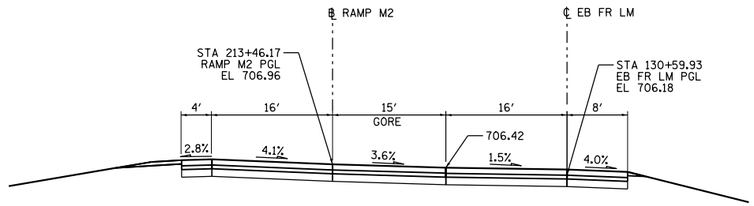
SJN : _____

PROJ. NO. _____

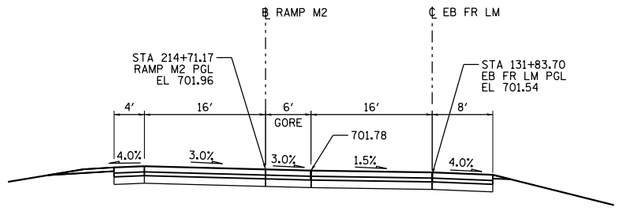
I.D.S. SHEET 12 OF 20



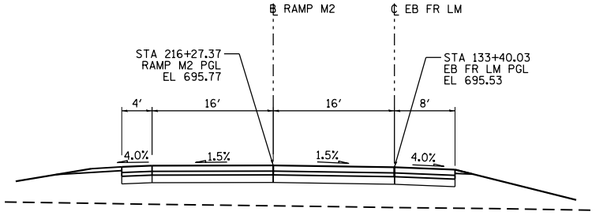
PROPOSED TYPICAL SECTION D-D
RAMP M2 STA 213+01.27
EB FR LM STA 130+16.75



PROPOSED TYPICAL SECTION C-C
RAMP M2 STA 213+46.17
EB FR LM STA 130+59.93



PROPOSED TYPICAL SECTION B-B
RAMP M2 STA 214+71.17
EB FR LM STA 131+83.70



PROPOSED TYPICAL SECTION A-A
RAMP M2 STA 216+27.37
EB FR LM STA 133+40.03

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
ROUTE ____ WITH (ARLINGTON HEIGHTS RD)

SEC. NO. _____

SCALE 1"=10' H
1"=10' V

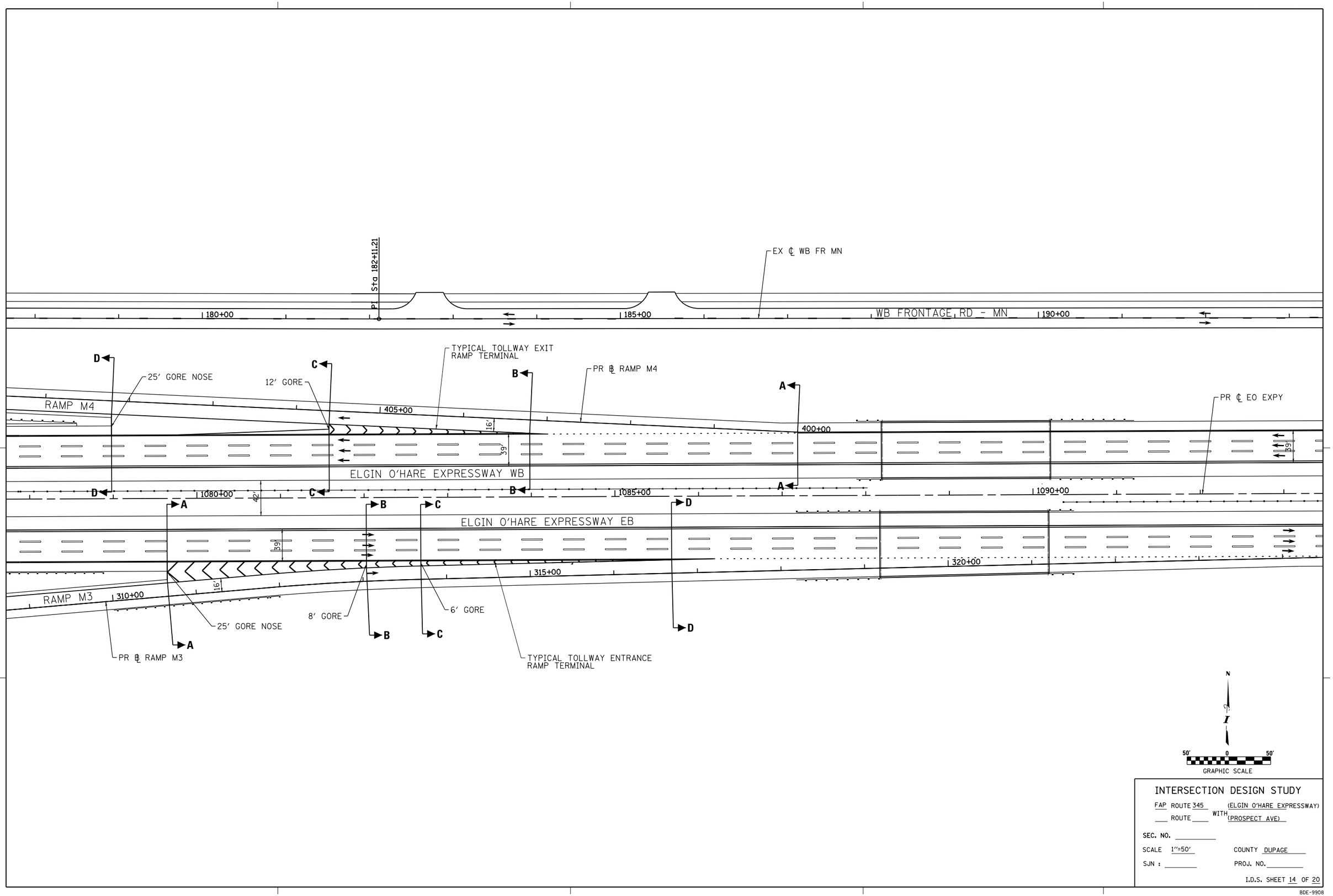
COUNTY DUPAGE

SJN : _____

PROJ. NO. _____

I.D.S. SHEET 13 OF 20

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-uds-014.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip



N

50' 0 50'

GRAPHIC SCALE

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (PROSPECT AVE)

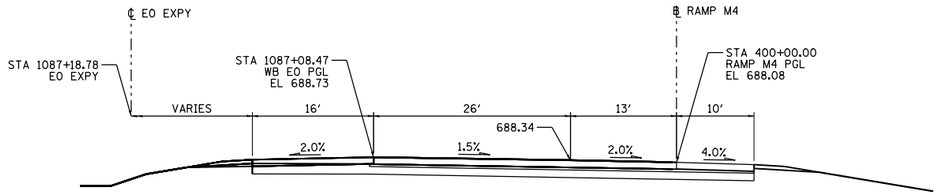
SEC. NO. _____

SCALE 1"=50' COUNTY DUPAGE

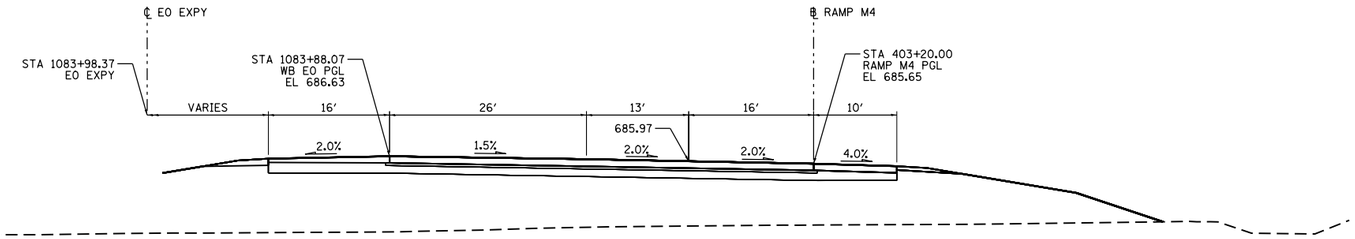
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 14 OF 20

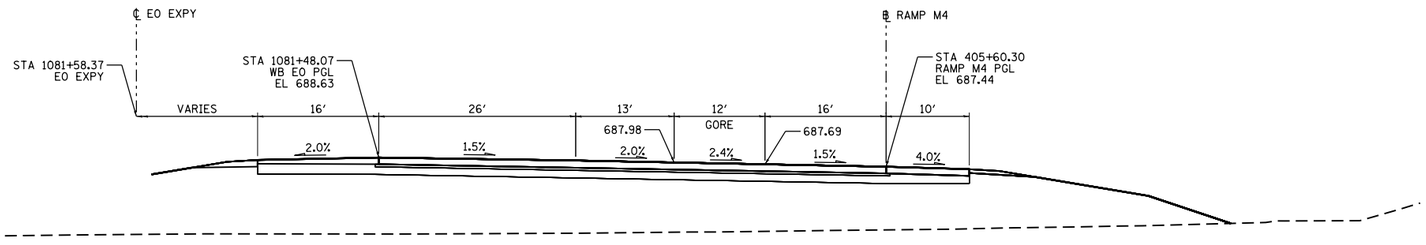
BDE-9908



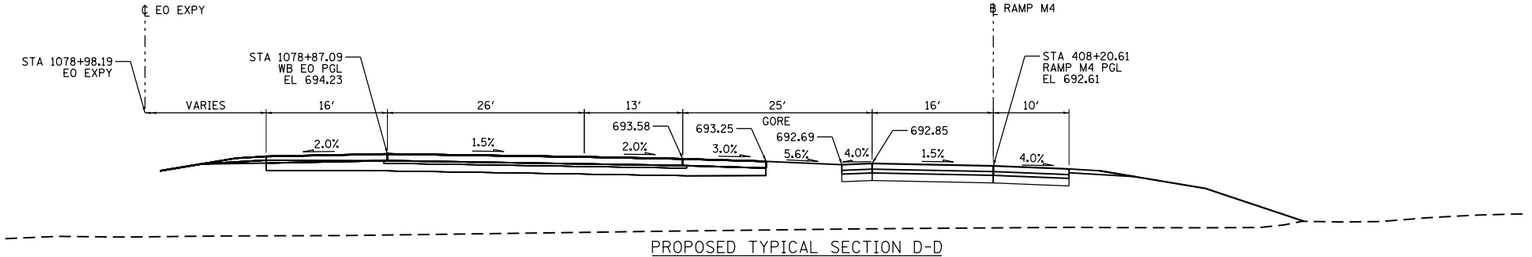
PROPOSED TYPICAL SECTION A-A
RAMP M4 STA 400+00.00
WB EO STA 1087+08.47
EO EXPY STA 1087+18.78



PROPOSED TYPICAL SECTION B-B
RAMP M4 STA 403+20.00
WB EO STA 1083+88.07
EO EXPY STA 1083+98.37



PROPOSED TYPICAL SECTION C-C
RAMP M4 STA 405+60.30
WB EO STA 1081+48.07
EO EXPY STA 1081+58.37



PROPOSED TYPICAL SECTION D-D
RAMP M4 STA 408+20.61
WB EO STA 1078+87.09
EO EXPY STA 1078+98.19

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (PROSPECT AVE)

SEC. NO. _____

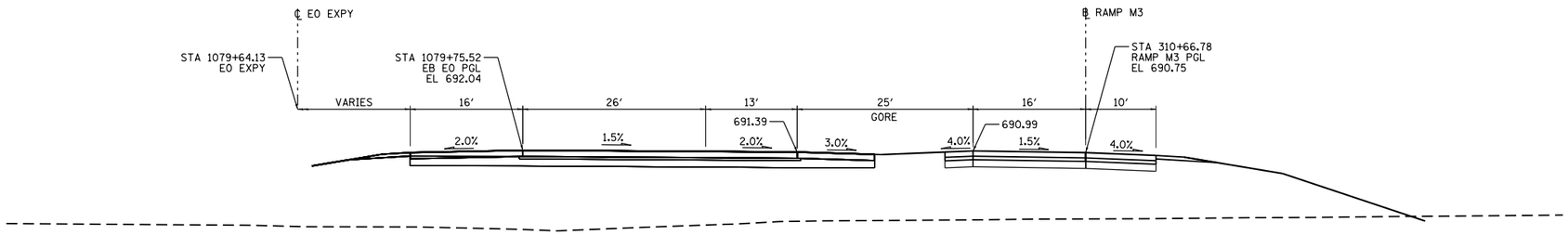
SCALE 1"=10' H
1"=10' V

COUNTY DUPAGE

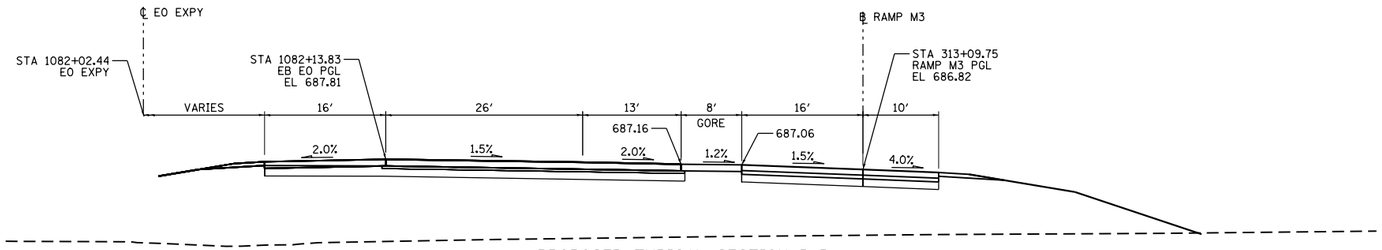
SJN : _____

PROJ. NO. _____

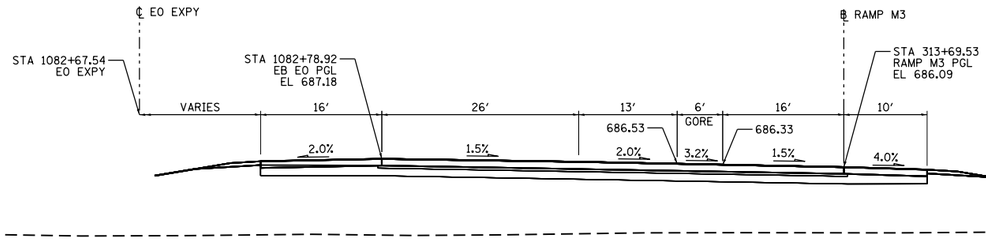
I.D.S. SHEET 15 OF 20



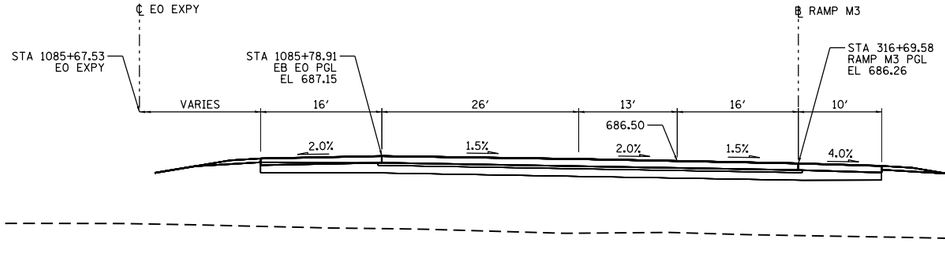
PROPOSED TYPICAL SECTION A-A
RAMP M3 STA 310+66.78
EB EO STA 1079+75.52
EO EXPY STA 1079+64.13



PROPOSED TYPICAL SECTION B-B
RAMP M3 STA 313+09.75
EB EO STA 1082+13.83
EO EXPY STA 1082+02.44



PROPOSED TYPICAL SECTION C-C
RAMP M3 STA 313+69.53
EB EO STA 1082+78.92
EO EXPY STA 1082+67.54



PROPOSED TYPICAL SECTION D-D
RAMP M3 STA 316+69.58
EB EO STA 1085+78.91
EO EXPY STA 1085+67.53

INTERSECTION DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (PROSPECT AVE)

SEC. NO. _____

SCALE 1″=10′ H
1″=10′ V

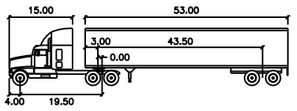
COUNTY DUPAGE

SJN : _____

PROJ. NO. _____

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-uds-017.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

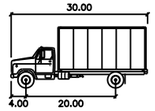
DESIGN VEHICLE - INTERSECTION



WB-65 feet

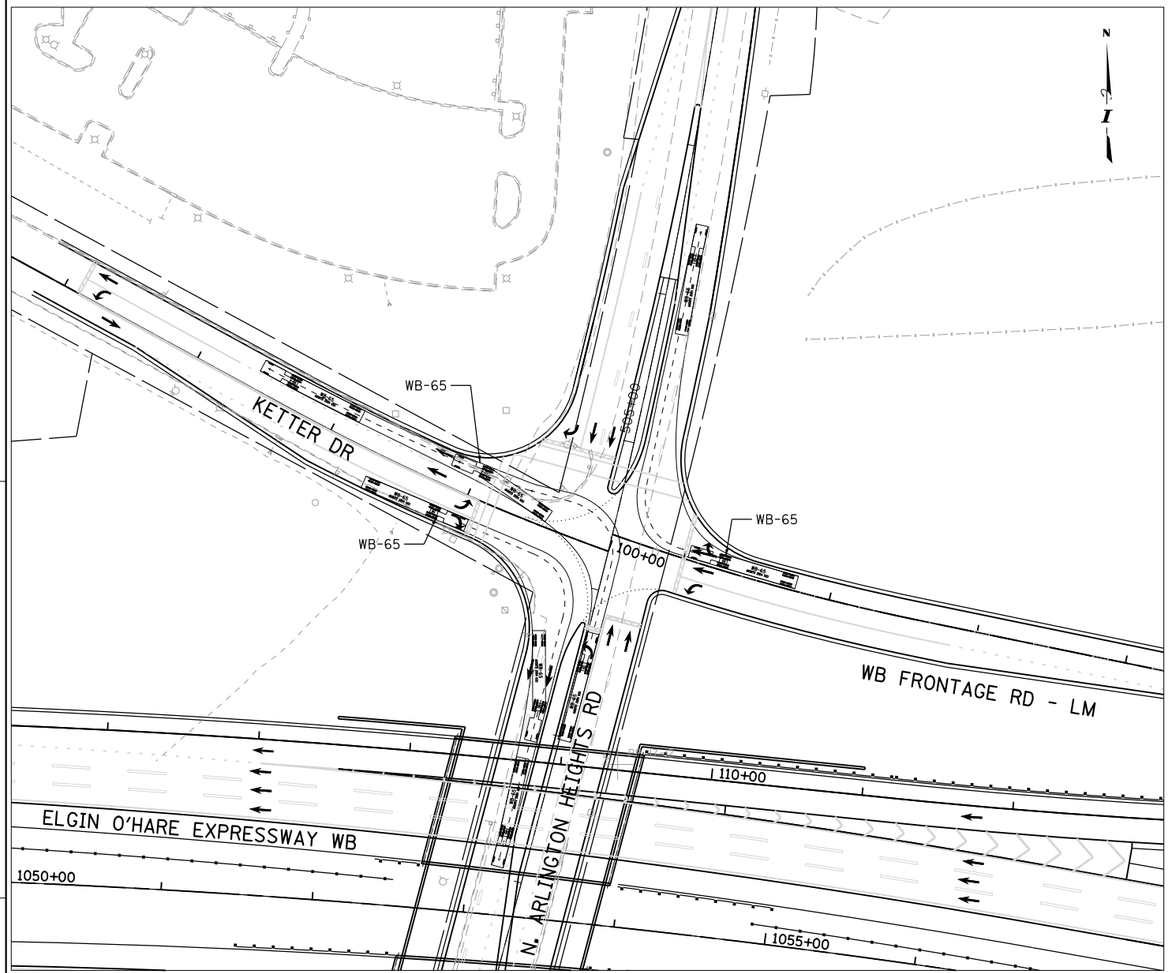
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

DESIGN VEHICLE - DUAL LEFT (INSIDE LANE)

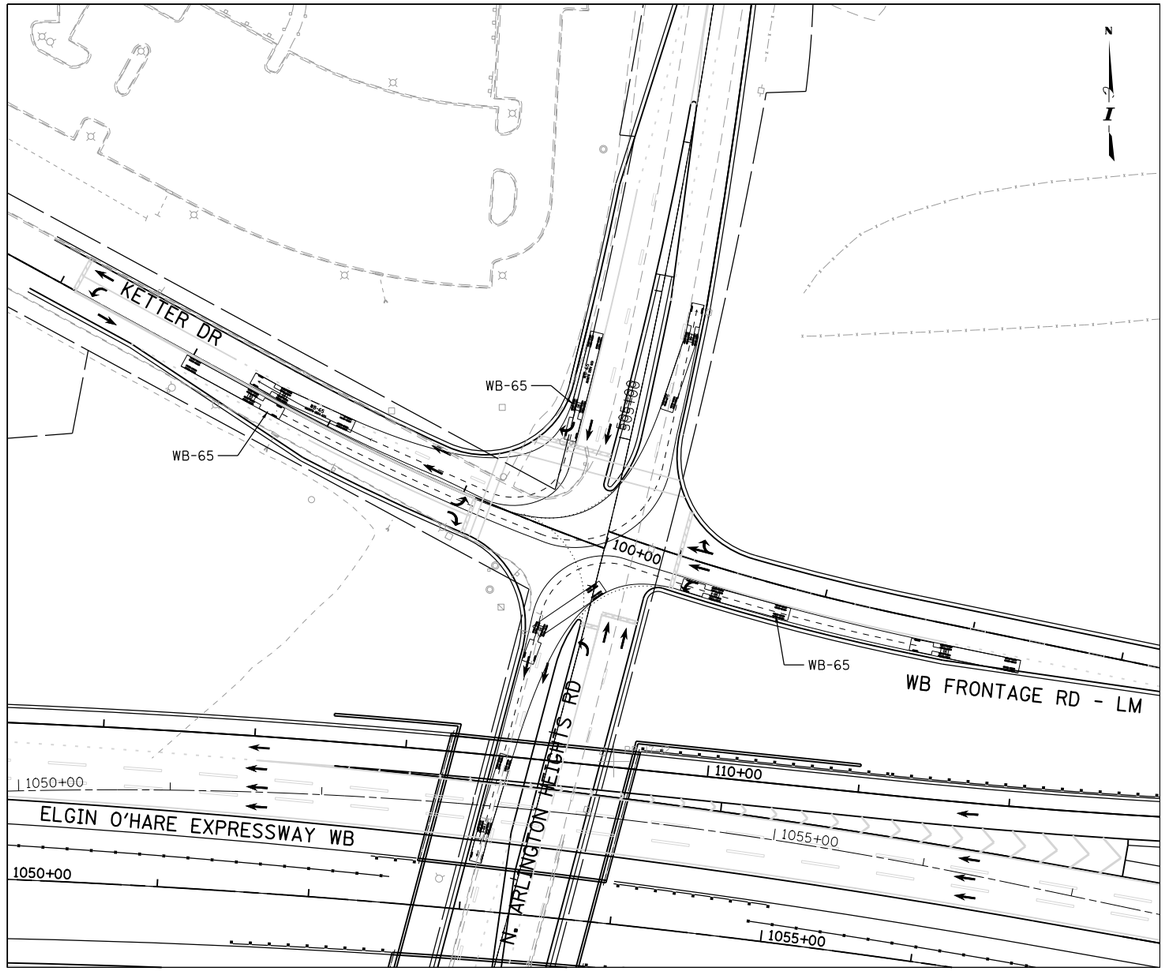


SU feet

Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8



NB LEFT TURN, EB & WB RIGHT TURNS



SB RIGHT TURN, EB & WB LEFT TURNS

50' 0 50'
GRAPHIC SCALE

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (ARLINGTON HEIGHTS RD)

SEC. NO. _____

SCALE 1"=50' COUNTY COOK

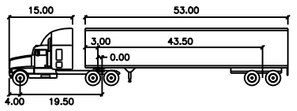
SJN : _____ PROJ. NO. _____

I.D.S. SHEET 17 OF 20

BDE-9908

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-uds-018.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

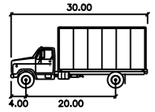
DESIGN VEHICLE - INTERSECTION



WB-65 feet

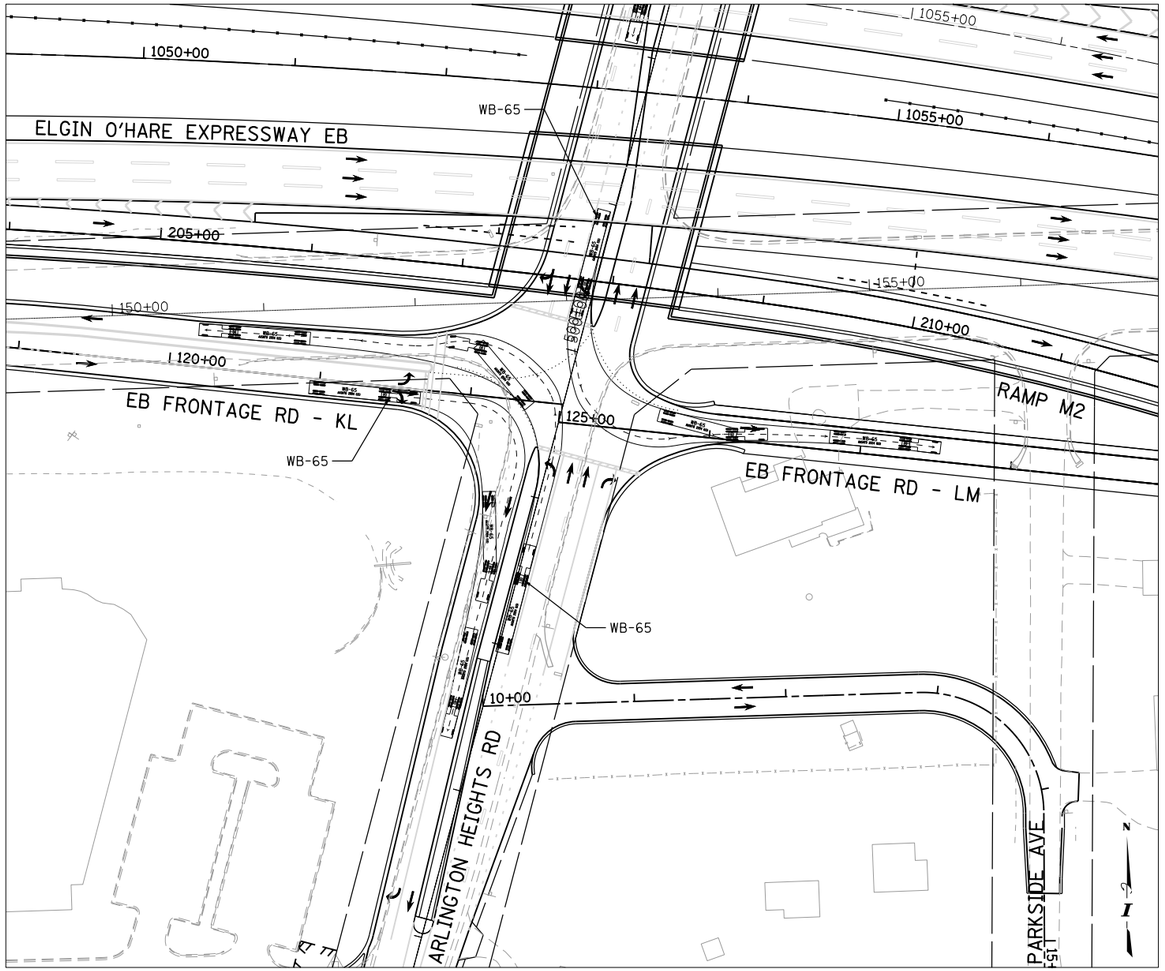
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

DESIGN VEHICLE - DUAL LEFT (INSIDE LANE)

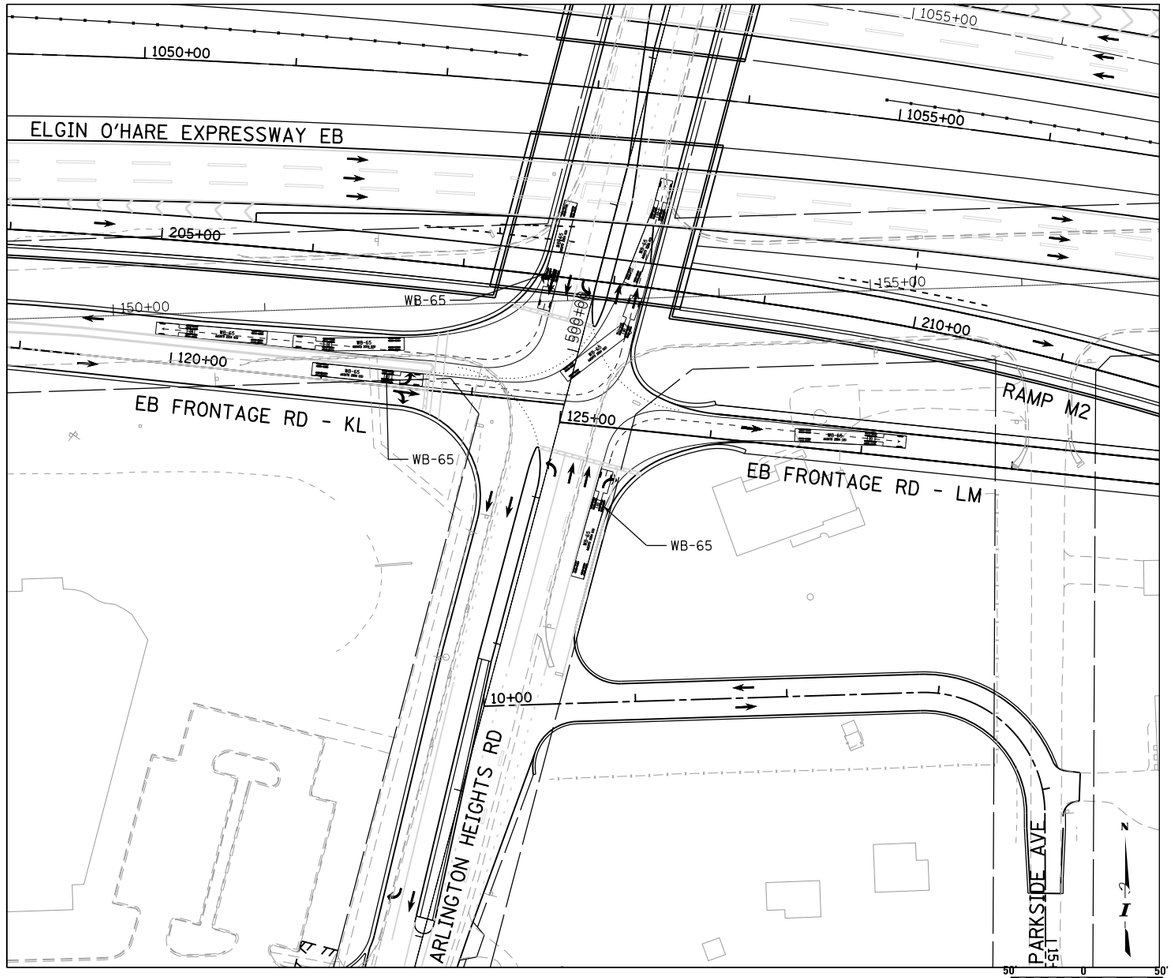


SU feet

Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8



NB & SB LEFT TURNS, EB RIGHT TURN



GRAPHIC SCALE

SB RIGHT TURN, NB RIGHT TURN, EB LEFT TURN

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (ARLINGTON HEIGHTS RD)

SEC. NO. _____

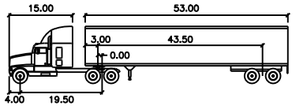
SCALE 1"=50' COUNTY COOK

SJN : _____ PROJ. NO. _____

I.D.S. SHEET 18 OF 20

BDE-9908

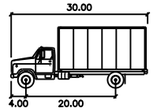
DESIGN VEHICLE - INTERSECTION



WB-65 feet

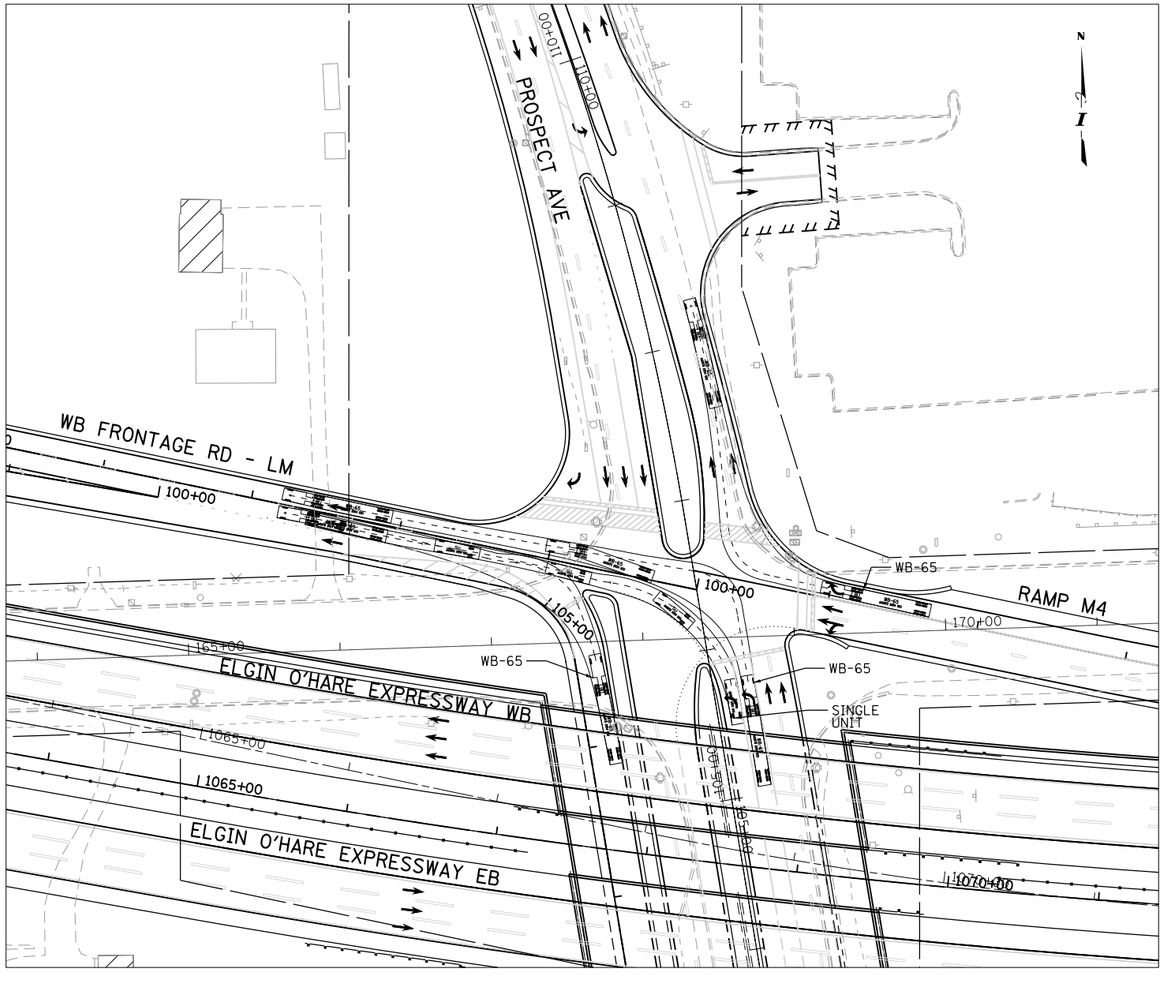
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

DESIGN VEHICLE - DUAL LEFT (INSIDE LANE)

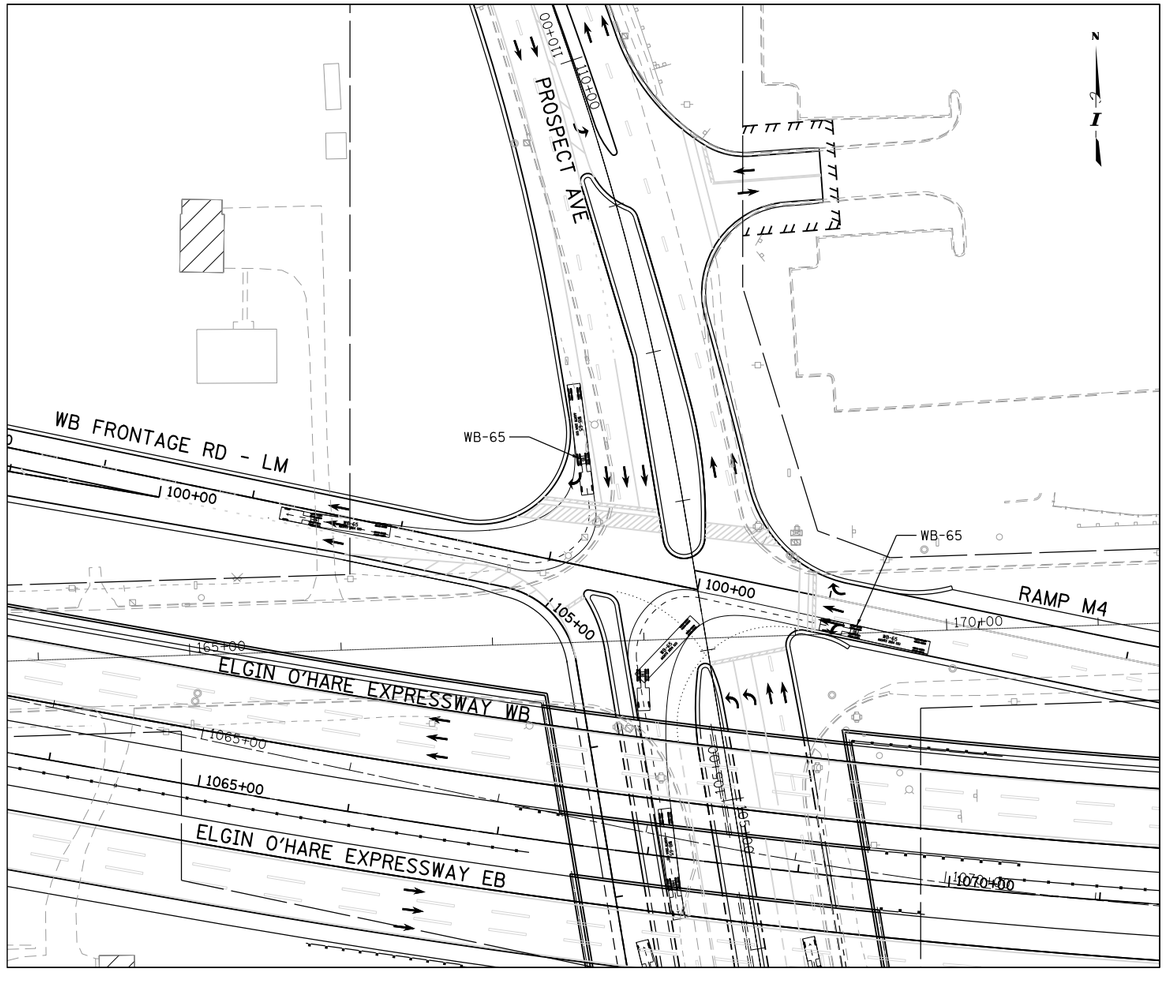


SU feet

Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8



NB LEFT TURNS, EB & WB RIGHT TURNS



SB RIGHT TURN, WB LEFT TURN

50' 0 50'
GRAPHIC SCALE

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
___ ROUTE ___ WITH (PROSPECT AVE)

SEC. NO. _____

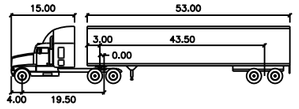
SCALE 1"=50' COUNTY COOK

SJN : _____ PROJ. NO. _____

I.D.S. SHEET 19 OF 20

PLOT DATE = 7/18/2012
FILE NAME = DIEOWB-805-sht-uds-020.dgn
PLOT SCALE = 100.0000 ' / in.
USER NAME = tphillip

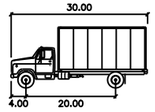
DESIGN VEHICLE - INTERSECTION



WB-65 feet

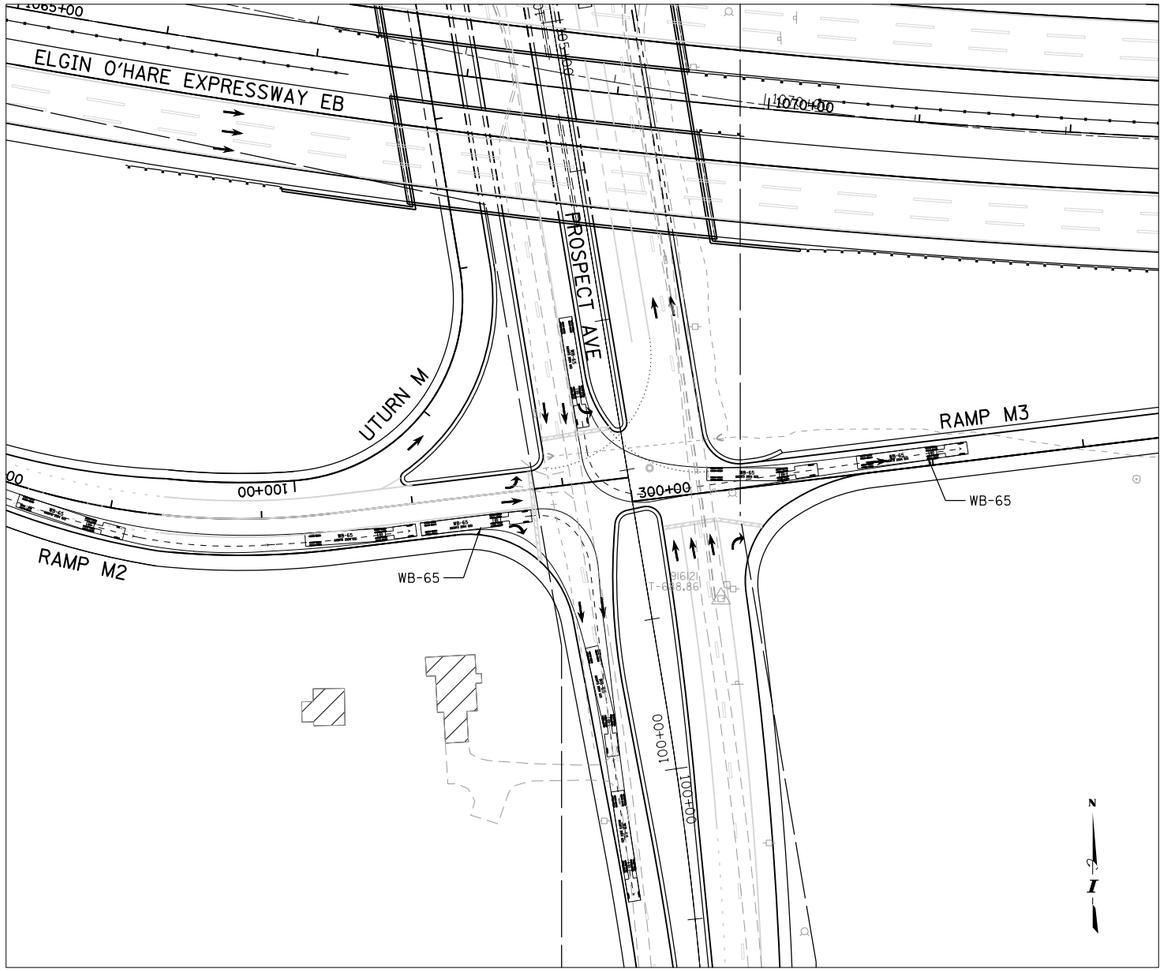
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

DESIGN VEHICLE - DUAL LEFT (INSIDE LANE)

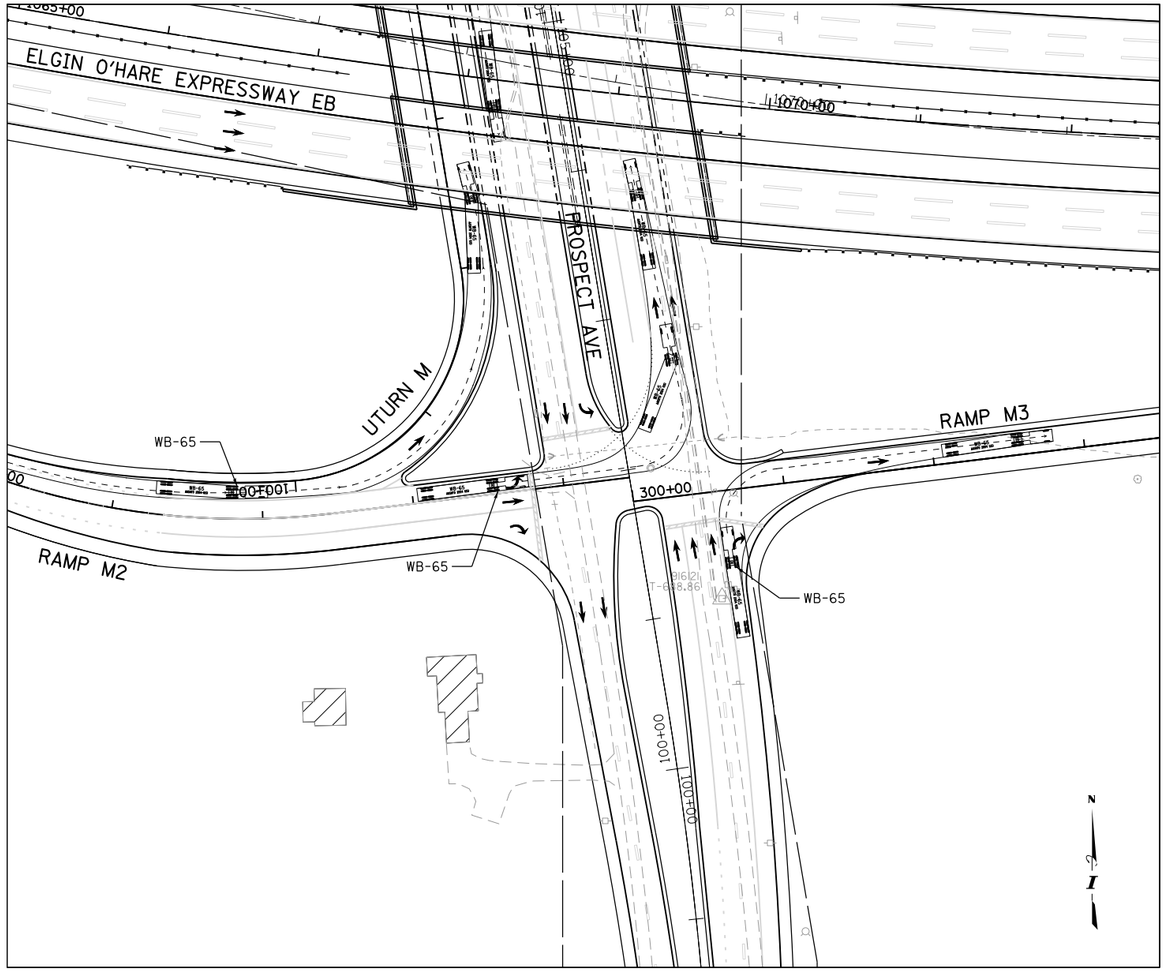


SU feet

Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8



SB LEFT TURN & EB RIGHT TURN



NB RIGHT TURN, EB LEFT TURNS

50' 0 50'
GRAPHIC SCALE

INTERCHANGE DESIGN STUDY

FAP ROUTE 345 (ELGIN O'HARE EXPRESSWAY)
ROUTE WITH (PROSPECT AVE)

SEC. NO.

SCALE 1"=50' COUNTY COOK

SJN : PROJ. NO.

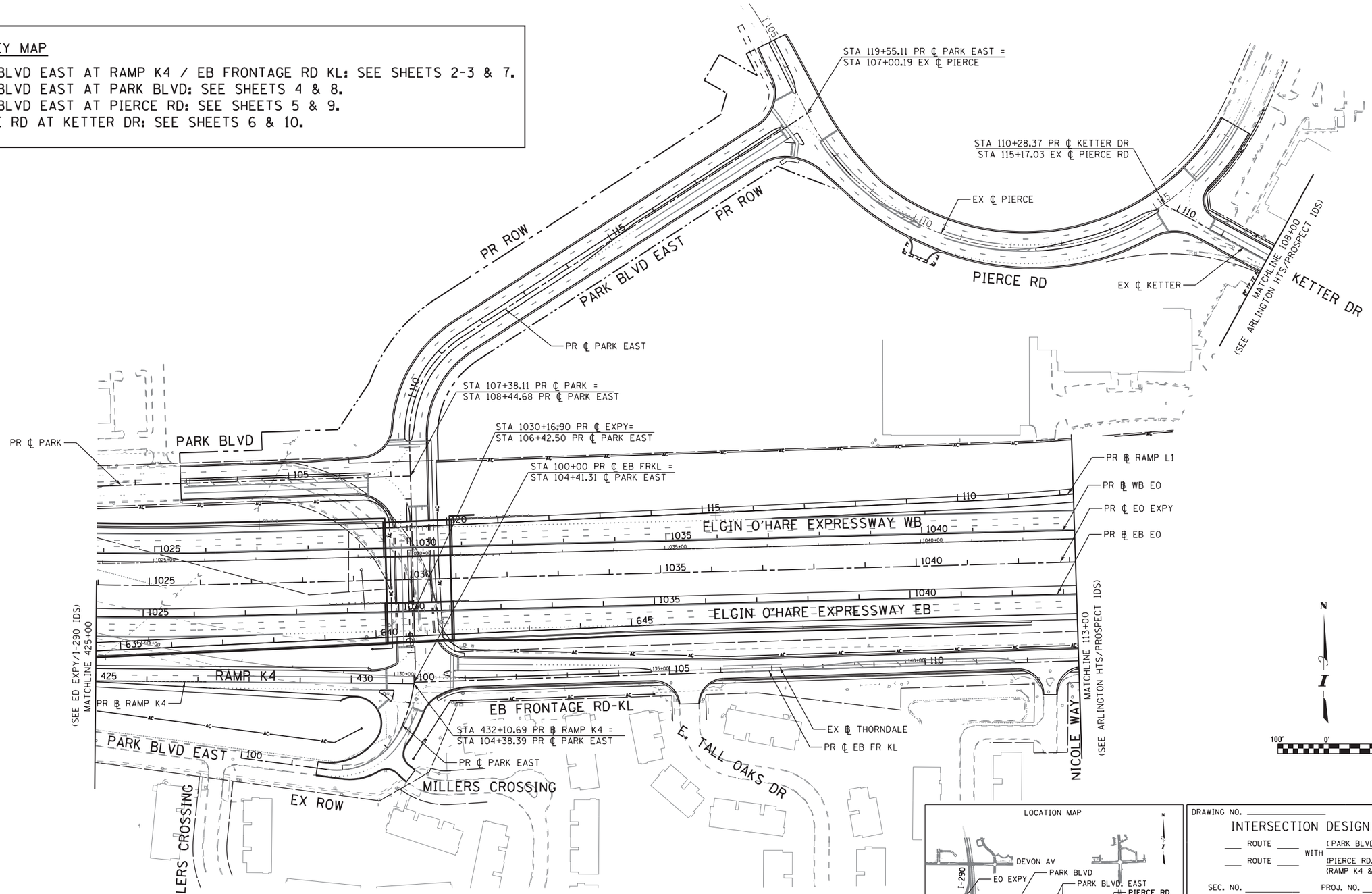
I.D.S. SHEET 20 OF 20

BDE-9908

PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USER$

IDS KEY MAP

PARK BLVD EAST AT RAMP K4 / EB FRONTAGE RD KL: SEE SHEETS 2-3 & 7.
PARK BLVD EAST AT PARK BLVD: SEE SHEETS 4 & 8.
PARK BLVD EAST AT PIERCE RD: SEE SHEETS 5 & 9.
PIERCE RD AT KETTER DR: SEE SHEETS 6 & 10.

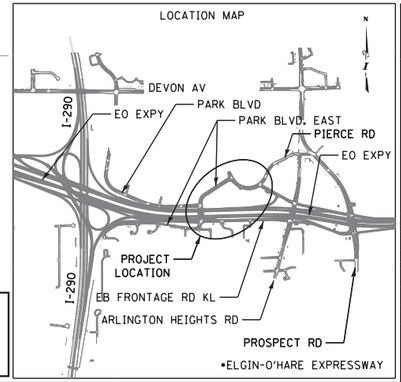


EO = ELGIN O'HARE

PREPARED BY:
CIVIL ENGINEERING CONSULTANTS
RWA
Regina Webster & Associates, Inc.
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-7600 Fax: 773-283-7602
www.RWAengineers.com

PROJ. MGR. KMM PROJ. ENG. JDH

LOCATION MAP



DRAWING NO. _____

INTERSECTION DESIGN STUDY

___ ROUTE ____ (PARK BLVD EAST)
___ ROUTE ____ WITH (PIERCE RD, PARK BLVD,) (RAMP K4 & FRONTAGE RD KL)

SEC. NO. _____ PROJ. NO. _____
SCALE 1"=100' COUNTY DUPAGE
SJN : _____ REV. NO. ___

DATE	QA/QC REVIEWER	REMARKS
7/20/12	KMM	INITIAL SUBMITTAL

CADD FILE NAME *DGN-SPEC*
REF FILE NAME _____

I.D.S. SHEET 1 OF 10

BDE-9409

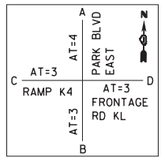
SIGNALIZED INTERSECTION

CAPACITY ANALYSIS

HIGHWAY CAPACITY SOFTWARE

PROGRAM NAME HCS+

VERSION 5.5



BASIC CONDITIONS

AREA: CBD (OTHER) PHF 0.95 (CIRCLE ONE)

SIGNAL TYPE ACTUATED-COORD ARRIVAL TYPE 3/4

C = SIGNAL CYCLE = 100 SEC. ΣA/C 21 / 100 = 0.21

	PHASE 1		PHASE 2		PHASE 3		PHASE 4	
A.M.		AMBER + ALL RED		AMBER + ALL RED		AMBER	P	AMBER + ALL RED
	G/C= 0.12 G = 12 Sec.	6 Sec.	G/C= 0.35 G = 35 Sec.	6 Sec.	G/C= 0.07 G = 7 Sec.	3 Sec.	G/C= 0.25 G = 25 Sec.	6 Sec.
P.M.		AMBER + ALL RED		AMBER + ALL RED		AMBER	P	AMBER + ALL RED
	G/C= 0.08 G = 8 Sec.	6 Sec.	G/C= .39 G = 39 Sec.	6 Sec.	G/C= .07 G = 7 Sec.	3 Sec.	G/C= .25 G = 25 Sec.	6 Sec.

APPR. A GR= 0 % A.M. T= 8.2 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 6.8 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	AD	1/ 12'	70	0.95	1900	0.05	0.38	396	0.19	20.5	C	20.4	C	70	70
	AB	1/ 12'	20	0.95	2000	0.01	0.35	686	0.03	20.2	C			18	18
P.M.	AD	1/ 12'	90	0.95	1900	0.06	0.38	425	0.22	20.8	C	20.7	C	90	86
	AB	1/ 12'	40	0.95	2000	0.02	0.35	686	0.06	20.4	C			35	37

APPR. B GR= 0 % A.M. T= 2 % R= 78 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0
P.M. T= 2 % R= 80 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	BA+BD	2/ 12'	140	0.95	1900	0.05	0.25	750	0.20	29.7	C	29.7	C	93	74
P.M.	BA+BD	2/ 12'	90	0.95	1900	0.03	0.25	746	0.13	29.1	C	29.1	C	58	48

APPR. C GR= 0 % A.M. T= 2.9 % R= 14 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 2.0 % R= 25 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	CA	2/ 12'	620	0.95	1900	0.19	0.35	1203	0.54	26.6	C	26.0	C	383	285
	CD+CB	1/ 12'	140	0.95	1900	0.08	0.35	607	0.24	23.3	C			155	137
P.M.	CA	2/ 12'	250	0.95	1900	0.08	0.39	1340	0.20	20.2	C	22.7	C	133	108
	CD+CB	1/ 12'	360	0.95	1900	0.21	0.39	699	0.54	24.5	C			413	311

APPR. D GR= 0 % A.M. T= 2.0 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 2.0 % R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

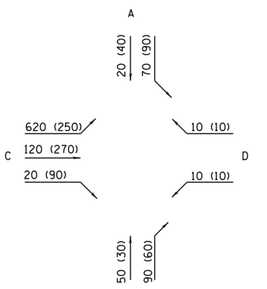
	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	DB	1/ 12'	10	0.95	1900	0.01	0.12	212	0.05	39.1	D	39.1	D	15	12
	DA	1/ 12'	10	0.95	1900	0.01	0.12	190	0.06	39.1	D			15	12
P.M.	DB	1/ 12'	10	0.95	1900	0.01	0.08	142	0.08	42.8	D	42.9	D	15	13
	DA	1/ 12'	10	0.95	1900	0.01	0.08	127	0.09	42.9	D			15	13

INTERSECTION DELAY 26.3 (A.M.), 23.6 (P.M.)

INTERSECTION LOS C (A.M.), C (P.M.)

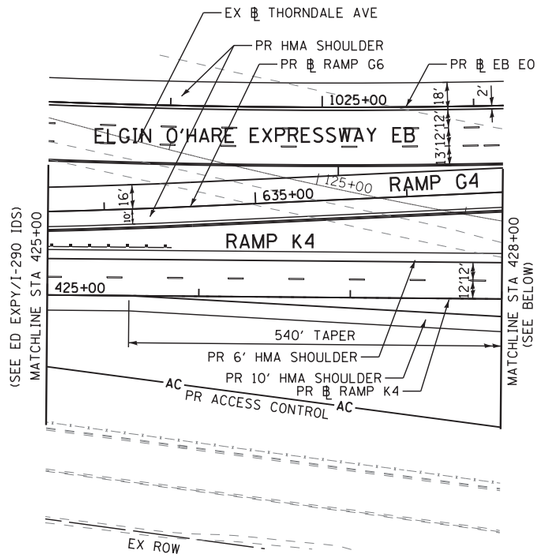
TRAFFIC DATA

MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC A.M.	YEAR 2010 PEAK HOUR TRAFFIC P.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR A.M. (P.M.)		ESTIMATED PERCENT INCREASE BY 2030		YEAR 2030 DESIGN PEAK HOUR TRAFFIC A.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC P.M.
AB	10	20	2%	2%	100%	100%	20	40
AD	-	-	10%	9%	-	-	70	90
AC	-	-	-	-	-	-	-	-
BA	80	70	2%	2%	-38%	-57%	50	30
BC	-	-	-	-	-	-	-	-
BD	40	10	2%	2%	125%	500%	90	60
CD	-	-	8%	2%	-	-	120	270
CA	540	120	2%	2%	15%	108%	620	250
CB	10	50	2%	2%	100%	80%	20	90
DC	-	-	-	-	-	-	-	-
DB	20	10	2%	2%	-50%	0%	10	10
DA	-	-	2%	2%	-	-	10	10
TOTAL A	--	--	--	--	--	--	770	420
TOTAL B	--	--	--	--	--	--	190	230
TOTAL C	--	--	--	--	--	--	760	610
TOTAL D	--	--	--	--	--	--	300	440



2030 DHV: A.M. (P.M.)

	YEAR 2030
APPROACH	8TH MAX. HOUR TRAFFIC
A (NORTH)	425
B (SOUTH)	125
C (WEST)	420
D (EAST)	240



PR CURVE 70

PI STA. = 102+70.06
Δ = 71° 53′ 40″ (LT)
D = 41° 49′ 18″
R = 137.00′
T = 99.34′
L = 171.91′
E = 32.23′
e = 4.0%
P.C. STA. = 101+70.71
P.C.C. STA. = 103+42.62

PR CURVE 71

PI STA. = 104+15.14
Δ = 27° 10′ 50″ (LT)
D = 19° 05′ 55″
R = 300.00′
T = 72.52′
L = 142.32′
E = 8.64′
e = 4.0%
P.C.C. STA. = 103+42.62
P.T. STA. = 104+84.94

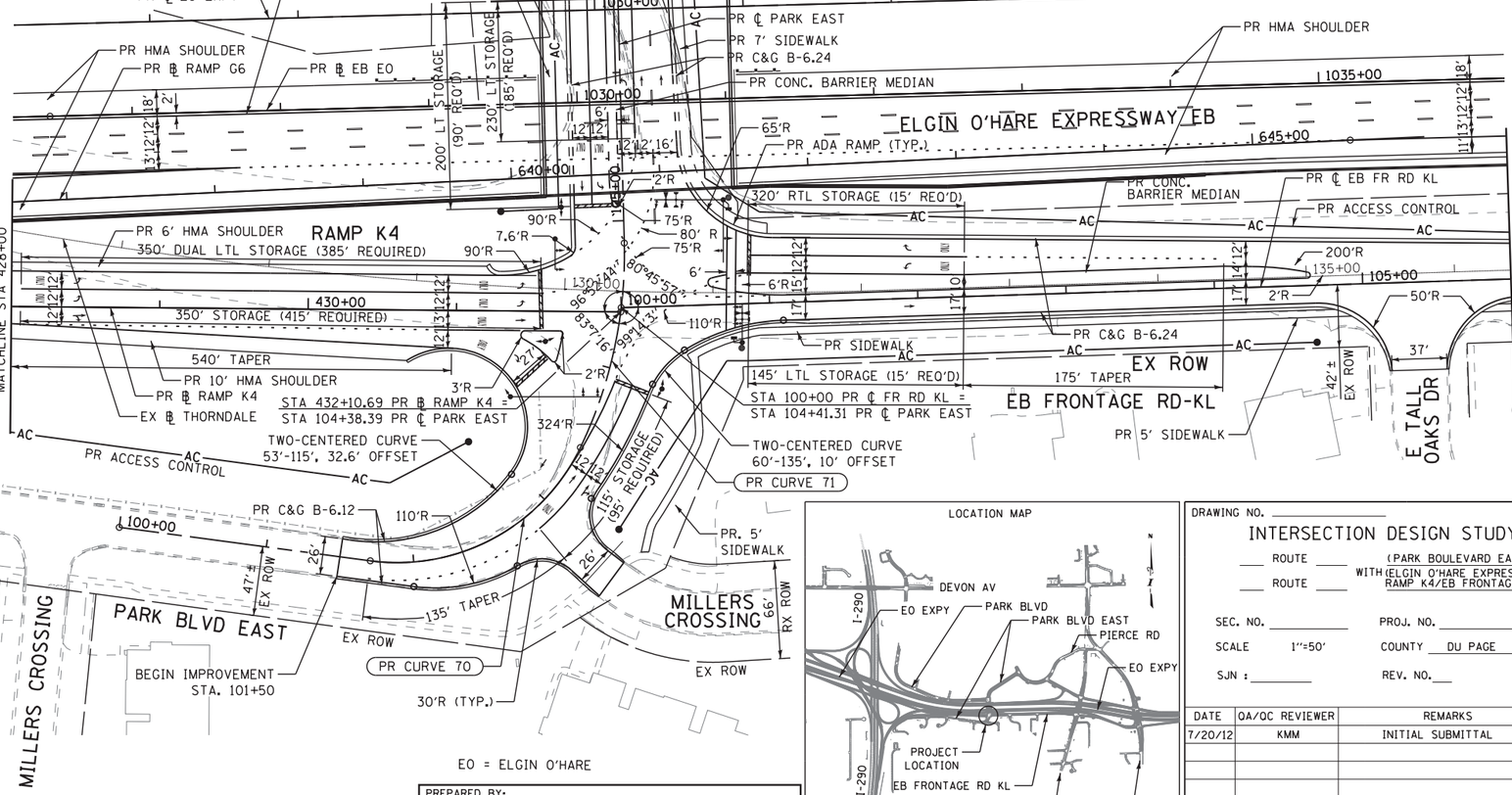
PARK BLVD EAST

ELEMENTS CONTROLLING DESIGN

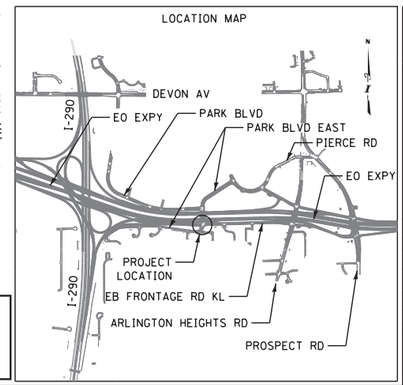
1. HIGHWAY DESIGN CLASSIFICATION PARK BLVD EAST - LOCAL, EOE RAMP K4 - EXPRESSWAY RAMP EB FRONTAGE RD KL - LOCAL
   SRA: YES ____ NO X
2. AVERAGE DAILY TRAFFIC (ADT) DATA:
   RAMP K4 EXISTING 0 DESIGN 10,100
   EB FR KL EXISTING 0 DESIGN 5,400
   PARK EAST (SLEG) EXISTING 1200 DESIGN 3,100
   PARK EAST (NLEG) EXISTING 1200 DESIGN 8,800
3. EO RAMP K4 RAMP K4 IS THE PREFERENCE ROUTE
4. ANTICIPATED YEAR OF CONSTRUCTION 2014 DESIGN YEAR 2030
5. TRAFFIC CONTROL TO BE NEW TRAFFIC SIGNALS WARRANTS MET SAFETY/INTERSECTION SPACING
6. DESIGN CRITERIA: BDE CHAPTERS 36, 37, 48
7. DESIGN VEHICLE: WB-65 TRUCK ROUTE DESIGNATION
8. DESIGN SPEED PARK BLVD EAST-30MPH POSTED SPEED PARK BLVD EAST - 25 MPH (S. LEG), 30 MPH (N. LEG)
   EOE RAMP K4 - 40MPH EOE RAMP K4 - 35 MPH
   EB EOE FRONTAGE RD - 45 MPH EB EOE FRONTAGE RD - 40 MPH

GENERAL NOTES

1. PROFILES *ARE* PROVIDED SINCE NEW CONSTRUCTION
   SEE MASTER PLAN-PROJECT BI
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT
3. TYPE B-6.12 CURB AND GUTTER TO BE USED ON CHANNELIZING ISLAND
4. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT
5. INTERSECTION *IS NOT* A 5% LOCATION OR SEGMENT YEAR
6. INTERSECTION *WILL BE* PART OF INTERCONNECTED SYSTEM ON PARK BLVD. EAST FROM EO RAMP K4/EB EO FRONTAGE RD KL TO PIERCE RD
7. ALL SIDEWALKS AND RAMPS AS SHOWN ARE IN COMPLIANCE WITH THE AMERICAN DISABILITIES ACT.
8. EXPECTED PEDESTRIAN/BICYCLE USAGE LOW PEDESTRIAN / BIKE TRAFFIC
9. ALL ENTRANCES AS SHOWN *ARE* IN COMPLIANCE WITH IDOT "POLICIES ON ACCESS TO STATE HIGHWAYS".
   NOTED EXCEPTIONS:
10. SCOPE OF WORK: RAMP AND FRONTAGE ROAD CONSTRUCTION, NEW TRAFFIC SIGNAL
11. DESIGN EXCEPTIONS: EB DUAL LT LANE STORAGE: 350' VS. 415' REQD
    SB LT LANE TAPER: 0' VS. 135' REQD



EO = ELGIN O'HARE



PREPARED BY:
CIVIL ENGINEERING CONSULTANTS
RWA
Regina Webster & Associates, Inc.
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-7600 Fax: 773-283-7602
www.RWAengineers.com

PROJ. MGR. KMM PROJ. ENG. JDH

DRAWING NO.

INTERSECTION DESIGN STUDY

___ ROUTE ___ (PARK BOULEVARD EAST)
___ ROUTE ___ WITH (ELGIN O'HARE EXPRESSWAY RAMP K4/EB FRONTAGE RD. KL)

SEC. NO. PROJ. NO.

SCALE 1"=50' COUNTY DU PAGE

SJN : REV. NO.

DATE	QA/QC REVIEWER	REMARKS
7/20/12	KMM	INITIAL SUBMITTAL

CADD FILE NAME *DGN-SPEC*

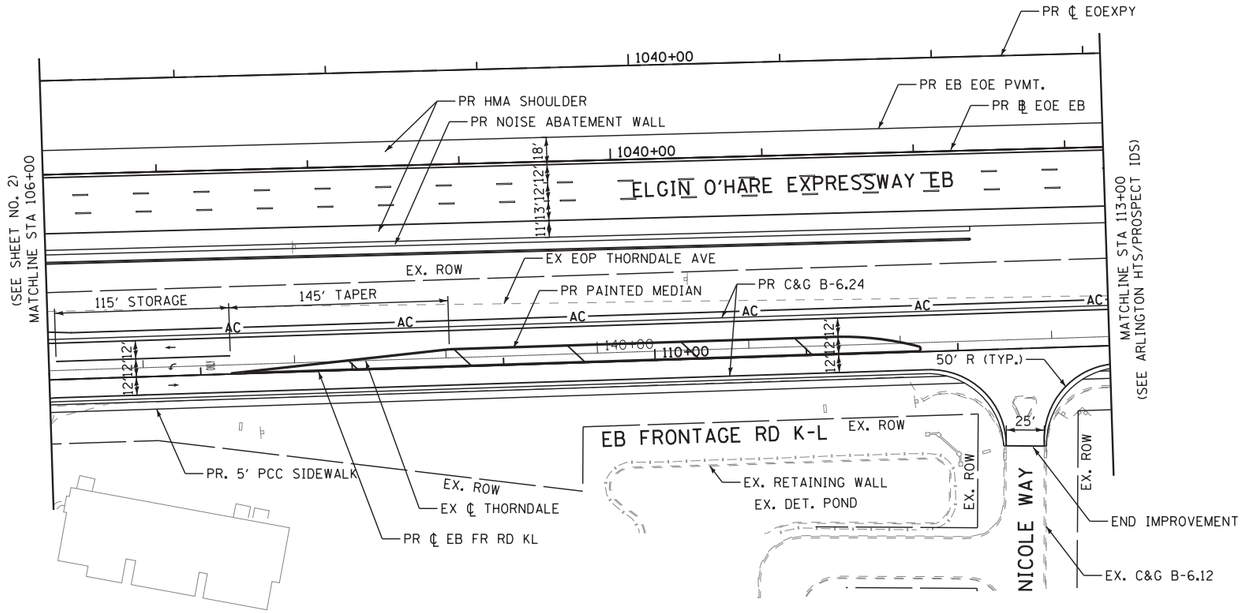
REF FILE NAME

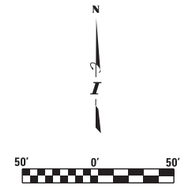
I.D.S. SHEET 2 OF 10

BDE-9409

PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USER$

PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USER$





PREPARED BY:
CIVIL ENGINEERING CONSULTANTS
RWA
Regina Webster & Associates, Inc.
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-2600 Fax: 773-283-2602
www.RWAengineers.com
PROJ. MGR. KMM PROJ. ENG. JDH

INTERSECTION DESIGN STUDY

___ ROUTE ____ (PARK BLVD EAST)
___ ROUTE ____ WITH (ELGIN O'HARE EXPRESSWAY RAMP K4 EB FRONTAGE KL)

SEC. NO. _____
SCALE 1"=50' COUNTY DUPAGE
SJN : _____ PROJ. NO. _____
I.D.S. SHEET 3 OF 10

BDE-9908

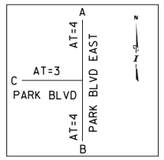
PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USER$

SIGNALIZED INTERSECTION

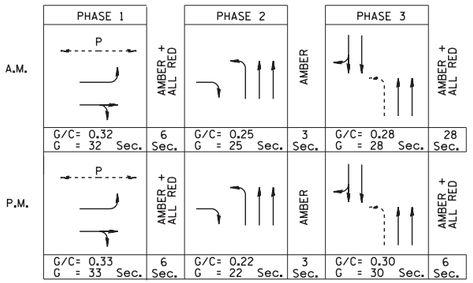
CAPACITY ANALYSIS

HIGHWAY CAPACITY SOFTWARE
PROGRAM NAME HCS+
VERSION 5.5

BASIC CONDITIONS
AREA: CBD (OTHER) (CIRCLE ONE)
PHF 0.95
SIGNAL TYPE ACTUATED-COORD ARRIVAL TYPE 3/4



C = SIGNAL CYCLE = 100 SEC.
ΣA/C 15 / 100 = 0.15



APPR. A GR= 0 % A.M. T= 2.9% R= 94 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50* BIKES/HR 0
P.M. T= 3.0% R= 92 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50* BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	AB+AC	2/12'	180	0.95	1900	0.06	0.28	853	0.22	27.8	C	27.8	C	103	93
P.M.	AB+AC	2/12'	140	0.95	1900	0.05	0.30	918	0.16	25.4	C	25.4	C	75	70

APPR. B GR= 0 % A.M. T= 2.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 3.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

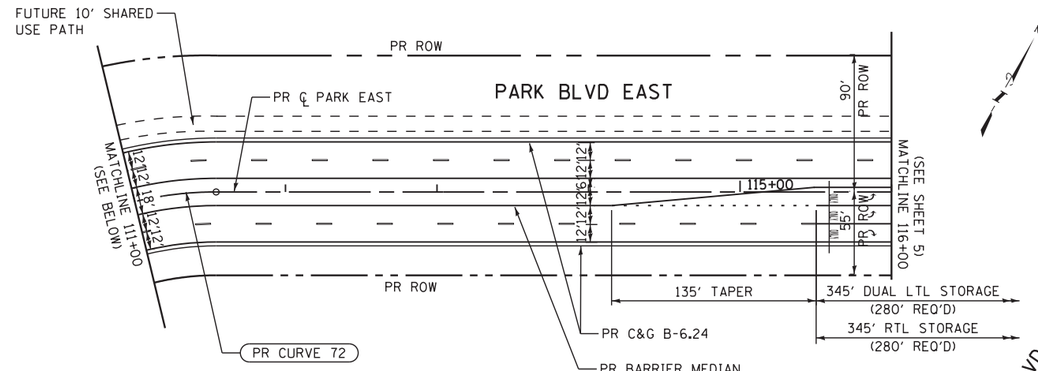
	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	BC	1/12'	260	0.95	1900	0.15	0.59	800	0.34	10.3	B	8.4	A	185	166
	BA+BD	2/12'	420	0.95	2000	0.12	0.56	2090	0.21	7.3	A			108	131
P.M.	BC	1/12'	110	0.95	1900	0.07	0.58	789	0.15	9.6	A	8.2	A	78	71
	BA+BD	2/12'	180	0.95	2000	0.05	0.55	2033	0.09	7.3	A			45	58

APPR. C GR= 0 % A.M. T= 6.7% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 4.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

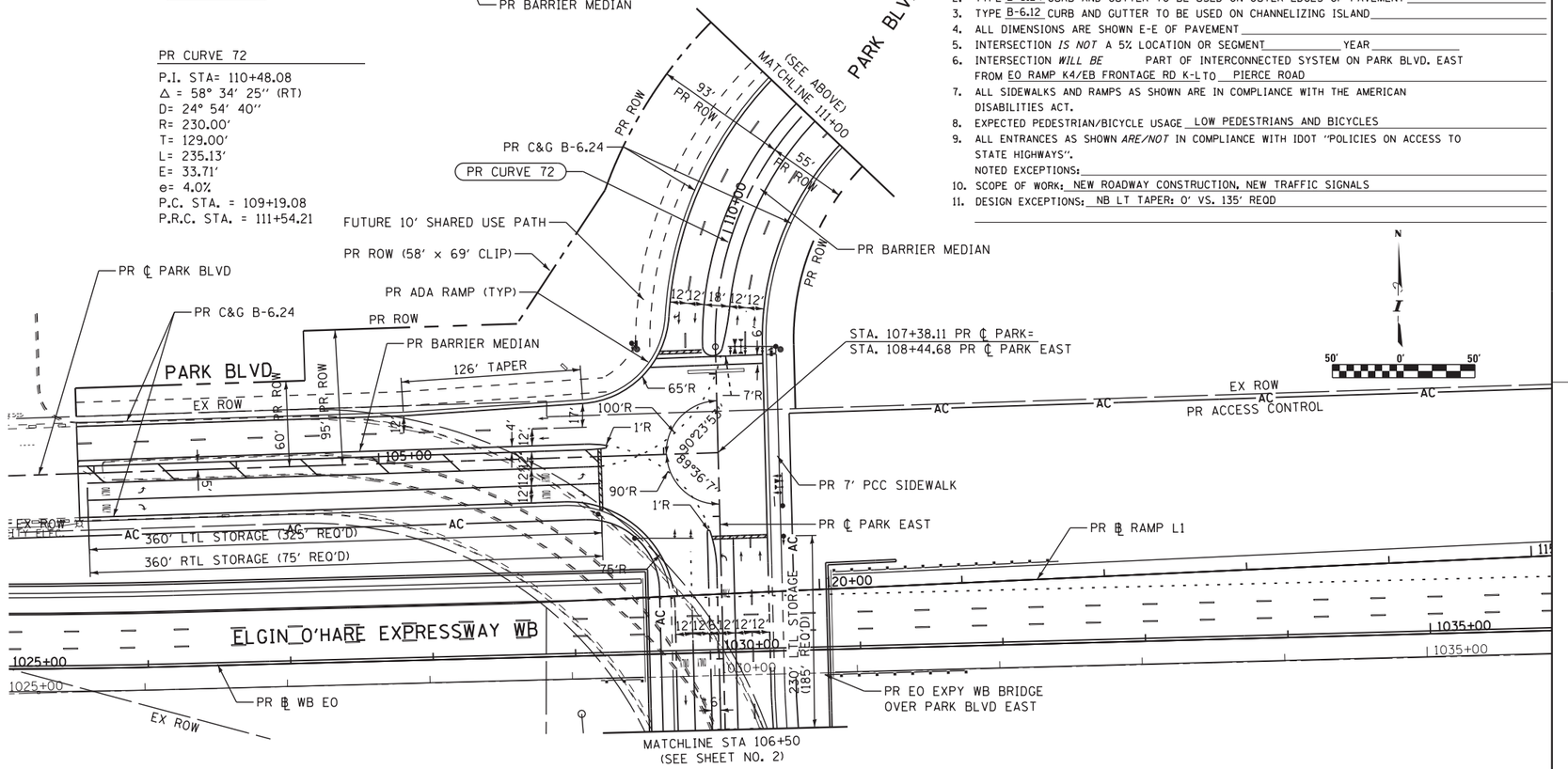
	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	CA	1/12'	140	0.95	1900	0.09	0.32	550	0.27	25.5	C	19.4	B	163	139
	CB	1/12'	70	0.95	1900	0.05	0.63	925	0.08	7.2	A			45	40
P.M.	CA	1/12'	270	0.95	1900	0.16	0.33	599	0.47	27.2	C	21.7	C	323	256
	CB	1/12'	110	0.95	1900	0.08	0.61	904	0.13	8.3	A			75	65

* PEDS CROSS APPROACH A

INTERSECTION DELAY 13.8 (A.M.), 17.5 (P.M.)
INTERSECTION LOS B (A.M.), B (P.M.)



PR CURVE 72
P.I. STA= 110+48.08
Δ = 58° 34' 25" (RT)
D= 24° 54' 40"
R= 230.00'
T= 129.00'
L= 235.13'
E= 33.71'
e= 4.0%
P.C. STA. = 109+19.08
P.R.C. STA. = 111+54.21



ELEMENTS CONTROLLING DESIGN

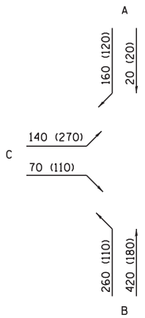
1. HIGHWAY DESIGN CLASSIFICATION PARK BLVD EAST - LOCAL, PARK BLVD - LOCAL
   SRA: YES ____ NO X
2. AVERAGE DAILY TRAFFIC (ADT) DATA: PARK BLVD EXISTING 11,300 DESIGN 9,100
   PARK EAST (SLEG) EXISTING 11,300 DESIGN 8,800
   PARK EAST (NLEG) EXISTING 0 DESIGN 9,800
3. PARK BLVD EAST IS THE PREFERENCE ROUTE
4. ANTICIPATED YEAR OF CONSTRUCTION 2014 DESIGN YEAR 2030
5. TRAFFIC CONTROL TO BE NEW TRAFFIC SIGNALS WARRANTS MET SAFETY/INTERSECTION SPACING
6. DESIGN CRITERIA: BDE CHAPTERS 36, 48
7. DESIGN VEHICLE: WB-65 TRUCK ROUTE DESIGNATION
8. DESIGN SPEED PARK BLVD, EAST, 30 MPH POSTED SPEED PARK BLVD, EAST, 30 MPH
   PARK BLVD, 30 MPH PARK BLVD, 30 MPH

GENERAL NOTES

1. PROFILES *ARE* PROVIDED SINCE NEW CONSTRUCTION
   SEE MASTER PLAN-PROJECT B1
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT
3. TYPE B-6.12 CURB AND GUTTER TO BE USED ON CHANNELIZING ISLAND
4. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT
5. INTERSECTION *IS NOT* A 5% LOCATION OR SEGMENT YEAR
6. INTERSECTION *WILL BE* PART OF INTERCONNECTED SYSTEM ON PARK BLVD. EAST
   FROM EO RAMP K4/EB FRONTAGE RD K-L TO PIERCE ROAD
7. ALL SIDEWALKS AND RAMPS AS SHOWN ARE IN COMPLIANCE WITH THE AMERICAN DISABILITIES ACT.
8. EXPECTED PEDESTRIAN/BICYCLE USAGE LOW PEDESTRIANS AND BICYCLES
9. ALL ENTRANCES AS SHOWN *ARE/NOT* IN COMPLIANCE WITH IDOT "POLICIES ON ACCESS TO STATE HIGHWAYS".
   NOTED EXCEPTIONS:
10. SCOPE OF WORK: NEW ROADWAY CONSTRUCTION, NEW TRAFFIC SIGNALS
11. DESIGN EXCEPTIONS: NB LT TAPER: 0' VS. 135' REQD

TRAFFIC DATA

MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC A.M.	YEAR 2010 PEAK HOUR TRAFFIC P.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR A.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR P.M.	ESTIMATED PERCENT INCREASE BY 2030 A.M.	ESTIMATED PERCENT INCREASE BY 2030 P.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC A.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC P.M.
AB	20	10	10%	9%	0%	100%	20	20
AD	-	-	-	-	-	-	-	-
AC	-	-	2%	2%	-	-	160	120
BA	-	-	2%	3%	-	-	420	180
BC	620	140	2%	3%	-58%	-21%	260	110
BD	-	-	-	-	-	-	-	-
CD	-	-	-	-	-	-	-	-
CA	-	-	5%	2%	-	-	140	270
CB	140	630	10%	9%	-50%	-83%	70	110
DC	-	-	-	-	-	-	-	-
DB	-	-	-	-	-	-	-	-
DA	-	-	-	-	-	-	-	-
TOTAL A	--	--	--	--	--	--	740	590
TOTAL B	--	--	--	--	--	--	770	420
TOTAL C	--	--	--	--	--	--	630	610
TOTAL D	--	--	--	--	--	--	-	-



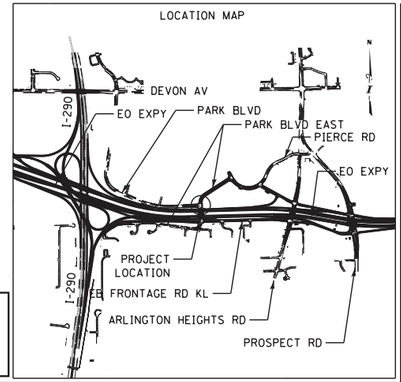
2030 DHV: A.M. (P.M.)

	YEAR 2030
APPROACH	8TH MAX. HOUR TRAFFIC
A (NORTH)	405
B (SOUTH)	425
C (WEST)	345

EO = ELGIN O'HARE

PARK BLVD EAST

LOCATION MAP



PREPARED BY:
CIVIL ENGINEERING CONSULTANTS
RWA
Regina Webster & Associates, Inc.
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-2600 Fax: 773-283-2602
www.RWAengineers.com
PROJ. MGR. KMM PROJ. ENG. JDH

DRAWING NO.

INTERSECTION DESIGN STUDY

ROUTE (PARK BLVD EAST)
WITH
ROUTE (PARK BLVD)

SEC. NO. PROJ. NO.
SCALE 1"=50' COUNTY DU PAGE
SJN : REV. NO.

DATE	QA/QC REVIEWER	REMARKS
7/20/12	KMM	INITIAL SUBMITTAL

CADD FILE NAME *DGN-SPEC*
REF FILE NAME

I.D.S. SHEET 4 OF 10

BDE-9409

PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USERS$

SIGNALIZED INTERSECTION

CAPACITY ANALYSIS

HIGHWAY CAPACITY SOFTWARE
PROGRAM NAME HCS+
VERSION 5.5

BASIC CONDITIONS

AREA: CBD (OTHER) PHF 0.95 (CIRCLE ONE)

SIGNAL TYPE ACTUATED-COORD ARRIVAL TYPE 3/4

C = SIGNAL CYCLE = 100 SEC. ΣA/C 16 / 100 = 0.16

	PHASE 1		PHASE 2		PHASE 3	
A.M.		AMBER + ALL RED	P	AMBER + ALL RED		AMBER + ALL RED
	G/C= 0.21 G = 21 Sec.	4 Sec.	G/C= 0.36 G = 36 Sec.	6 Sec.	G/C= 0.27 G = 27 Sec.	6 Sec.
P.M.		AMBER + ALL RED	P	AMBER + ALL RED		AMBER + ALL RED
	G/C= 0.22 G = 22 Sec.	4 Sec.	G/C= 0.36 G = 36 Sec.	6 Sec.	G/C= 0.26 G = 26 Sec.	6 Sec.

APPR. B GR= 0 % A.M. T= 5.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 2.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	BC	2/12'	420	0.95	1900	0.13	0.27	901	0.490	31.1	C	16.3	B	278	224
	BD	1/12	140	0.95	1900	0.10	0.54	831	0.180	8.3	A			75	94
P.M.	BC	2/12'	160	0.95	1900	0.05	0.26	894	0.190	28.9	C	25.4	C	100	84
	BD	1/12'	290	0.95	1900	0.19	0.54	855	0.360	9.4	A			178	189

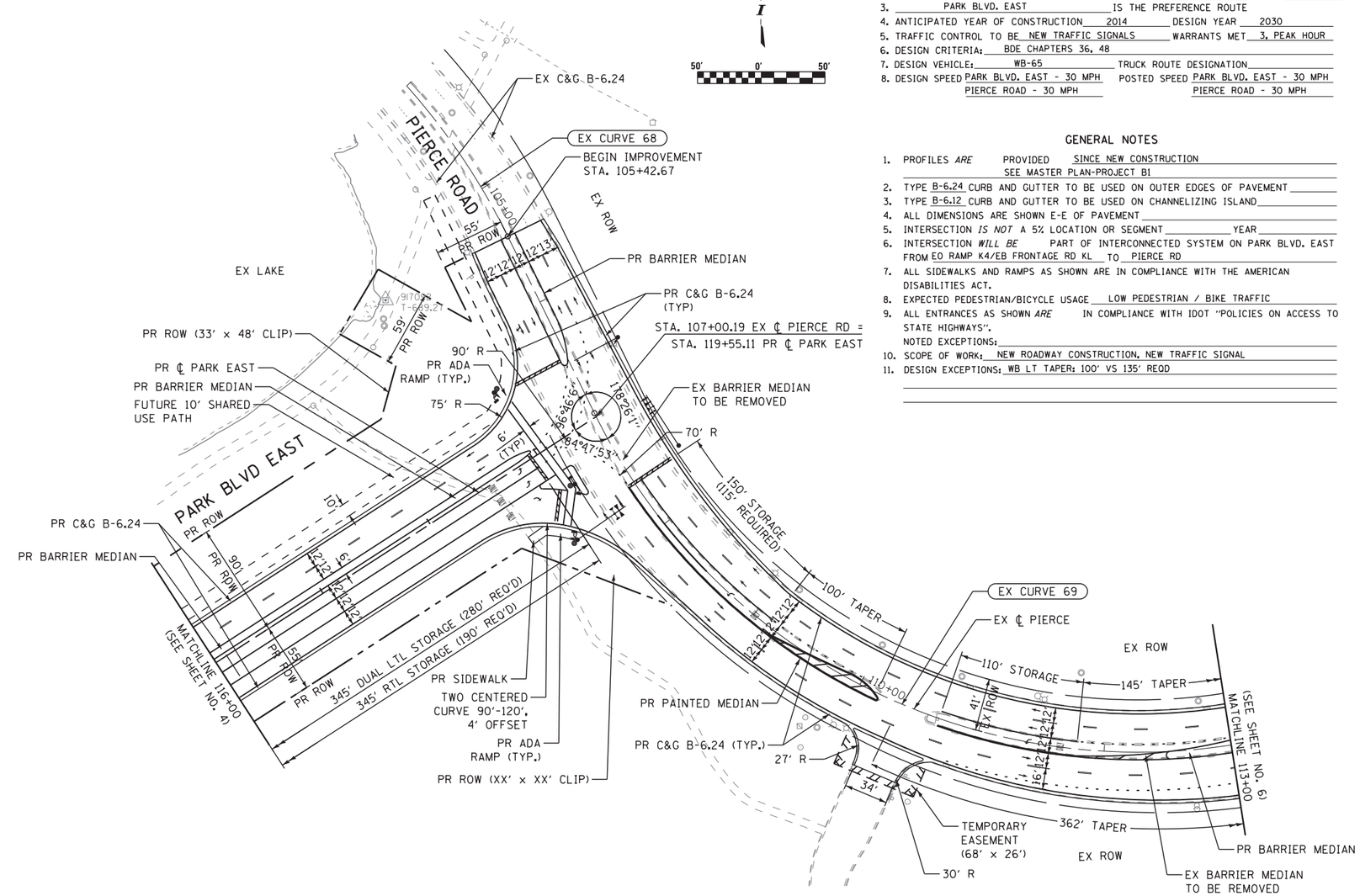
APPR. C GR= 0 % A.M. T= 9.0% R= 38 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0
P.M. T= 3.0% R= 15 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 50 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	CD+CB+CA	2/12'	210	0.95	1900	0.07	0.36	1133	0.200	22.1	C	22.1	C	120	102
P.M.	CD+CB+CA	2/12'	500	0.95	1900	0.15	0.36	1242	0.420	24.4	C	24.4	C	298	229

APPR. D GR= 0 % A.M. T= 4.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0
P.M. T= 3.0% R= 0 % L= 0 % PKG 0 (MNV/HR) BUS 0 (STOP/HR) PEDS/HR 0 BIKES/HR 0

	MOVEMENT	L/W	DHV	PHF	BASE SAT.	V/S	USED G/C	CAP C	V/C	DELAY d	LOS	APPR. DELAY	APPR. LOS	95TH % QUEUE	RED-TIME QUEUE
A.M.	DB	1/12'	130	0.95	1900	0.08	0.63	749	0.180	7.7	A	7.7	A	83	77
	DC+DA	2/12'	380	0.95	2000	0.11	0.61	2234	0.180	8.6	A			138	107
P.M.	DB	1/12'	100	0.95	1900	0.06	0.64	624	0.170	7.8	A	8.4	A	63	69
	DC+DA	2/12'	170	0.95	2000	0.05	0.62	2292	0.080	7.6	A			58	46

INTERSECTION DELAY 18.1 (A.M.), 17.7 (P.M.)
INTERSECTION LOS B (A.M.), B (P.M.)



ELEMENTS CONTROLLING DESIGN

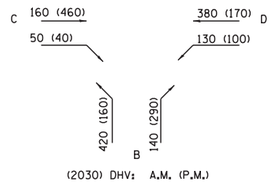
1. HIGHWAY DESIGN CLASSIFICATION PARK BLVD. EAST - LOCAL
   PIERCE ROAD - LOCAL
   SRA: YES ____ NO X
2. AVERAGE DAILY TRAFFIC (ADT) DATA: PARK EAST EXISTING 0 DESIGN 9,800
   PIERCE EXISTING 3,500 DESIGN 13,500
3. PARK BLVD. EAST IS THE PREFERENCE ROUTE
4. ANTICIPATED YEAR OF CONSTRUCTION 2014 DESIGN YEAR 2030
5. TRAFFIC CONTROL TO BE NEW TRAFFIC SIGNALS WARRANTS MET 3, PEAK HOUR
6. DESIGN CRITERIA: BDE CHAPTERS 36, 48
7. DESIGN VEHICLE: WB-65 TRUCK ROUTE DESIGNATION
8. DESIGN SPEED PARK BLVD. EAST - 30 MPH POSTED SPEED PARK BLVD. EAST - 30 MPH
   PIERCE ROAD - 30 MPH PIERCE ROAD - 30 MPH

GENERAL NOTES

1. PROFILES *ARE* PROVIDED SINCE NEW CONSTRUCTION
   SEE MASTER PLAN-PROJECT B1
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT
3. TYPE B-6.12 CURB AND GUTTER TO BE USED ON CHANNELIZING ISLAND
4. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT
5. INTERSECTION *IS NOT* A 5% LOCATION OR SEGMENT YEAR
6. INTERSECTION *WILL BE* PART OF INTERCONNECTED SYSTEM ON PARK BLVD. EAST FROM EO RAMP K4/EB FRONTAGE RD KL TO PIERCE RD
7. ALL SIDEWALKS AND RAMPS AS SHOWN ARE IN COMPLIANCE WITH THE AMERICAN DISABILITIES ACT.
8. EXPECTED PEDESTRIAN/BICYCLE USAGE LOW PEDESTRIAN / BIKE TRAFFIC
9. ALL ENTRANCES AS SHOWN *ARE* IN COMPLIANCE WITH IDOT "POLICIES ON ACCESS TO STATE HIGHWAYS".
   NOTED EXCEPTIONS:
10. SCOPE OF WORK: NEW ROADWAY CONSTRUCTION, NEW TRAFFIC SIGNAL
11. DESIGN EXCEPTIONS: WB LT TAPER: 100' VS 135' REQD

TRAFFIC DATA

MOVEMENT	YEAR 2010 PEAK HOUR TRAFFIC A.M.	YEAR 2010 PEAK HOUR TRAFFIC P.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR A.M.	PERCENT TRUCK TRAFFIC IN PEAK HOUR (P.M.)	ESTIMATED PERCENT INCREASE BY 2030 A.M.	ESTIMATED PERCENT INCREASE BY 2030 P.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC A.M.	YEAR 2030 DESIGN PEAK HOUR TRAFFIC P.M.
AB	-	-	-	-	-	-	-	-
AD	-	-	-	-	-	-	-	-
AC	-	-	-	-	-	-	-	-
BA	-	-	-	-	-	-	-	-
BC	-	-	5	2	-	-	420	160
BD	-	-	5	2	-	-	140	290
CD	135	145	9	3	19%	217%	160	460
CA	-	-	-	-	-	-	-	-
CB	-	-	9	3	-	-	50	40
DC	75	115	4	3	407%	48%	380	170
DB	-	-	4	3	-	-	130	100
DA	-	-	-	-	-	-	-	-
TOTAL A	-	-	-	-	-	-	-	-
TOTAL B	-	-	-	-	-	-	740	590
TOTAL C	-	-	-	-	-	-	1010	830
TOTAL D	-	-	-	-	-	-	810	1020



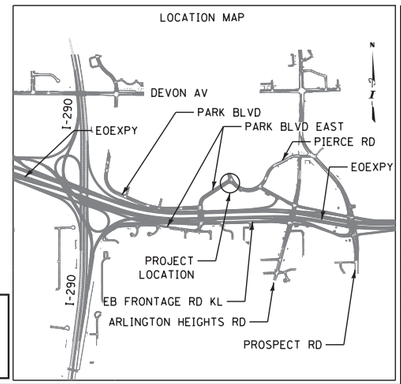
(2030) DHV: A.M. (P.M.)

APPROACH	YEAR 2030 8TH MAX. HOUR TRAFFIC
B (SOUTH)	405
C (WEST)	555
D (EAST)	560

EX CURVE 68
PI STA. = 103+70.84
Δ = 39° 05' 47" (RT)
D = 10° 54' 49"
R = 525.00'
T = 186.41'
L = 358.24'
E = 32.11'
e = R.C.
P.C. STA. = 101+84.43
P.T. STA. = 105+42.67

EX CURVE 69
PI STA. = 116+21.32
Δ = 125° 36' 02" (RT)
D = 12° 03' 44"
R = 475.00'
T = 924.26'
L = 1041.27'
E = 564.18'
e = R.C.
P.C. STA. = 106+97.06
P.T. STA. = 117+38.33

LOCATION MAP



PREPARED BY:
CIVIL ENGINEERING CONSULTANTS
RWA
Regina Webster & Associates, Inc.
8689 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-2600 Fax: 773-283-2602
www.RWAengineers.com
PROJ. MGR. KMM PROJ. ENG. JDH

DRAWING NO. ____

INTERSECTION DESIGN STUDY

___ ROUTE ___ (PARK BLVD EAST)
WITH
___ ROUTE ___ (PIERCE ROAD)

SEC. NO. ____ PROJ. NO. ____
SCALE 1"=50' COUNTY DU PAGE
SJN : ____ REV. NO. ___

DATE	QA/QC REVIEWER	REMARKS
7/20/12	KMM	INITIAL SUBMITTAL

CADD FILE NAME *DGN-SPEC*
REF FILE NAME ____

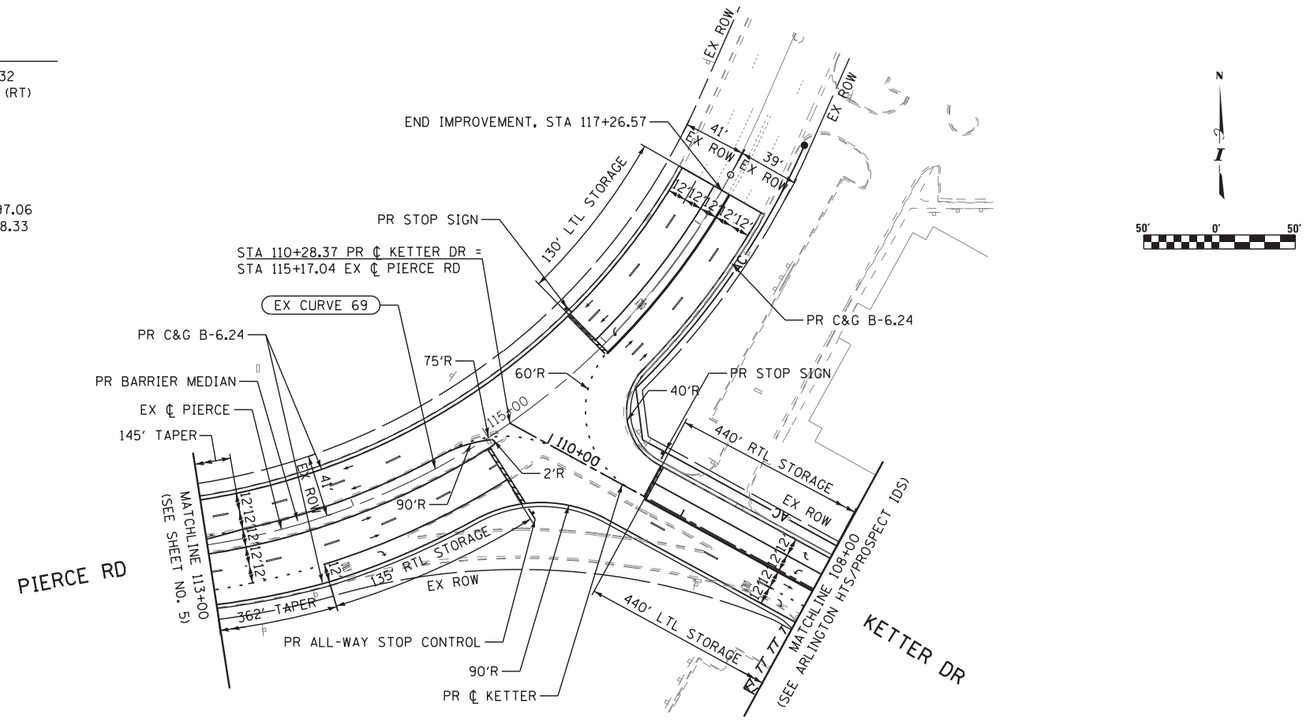
I.D.S. SHEET 5 OF 10

BDE-9409

PLOT DATE = $DATE$
FILE NAME = $FILE$
PLOT SCALE = $SCALE$
USER NAME = $USER$

EX CURVE 69

PI STA. = 116+21.32
Δ = 125° 36′ 02″ (RT)
D = 12° 03′ 44″
R = 475.00′
T = 924.26′
L = 1041.27′
E = 564.18′
e = R.C.
P.C. STA. = 106+97.06
P.T. STA. = 117+38.33



INTERSECTION DESIGN STUDY

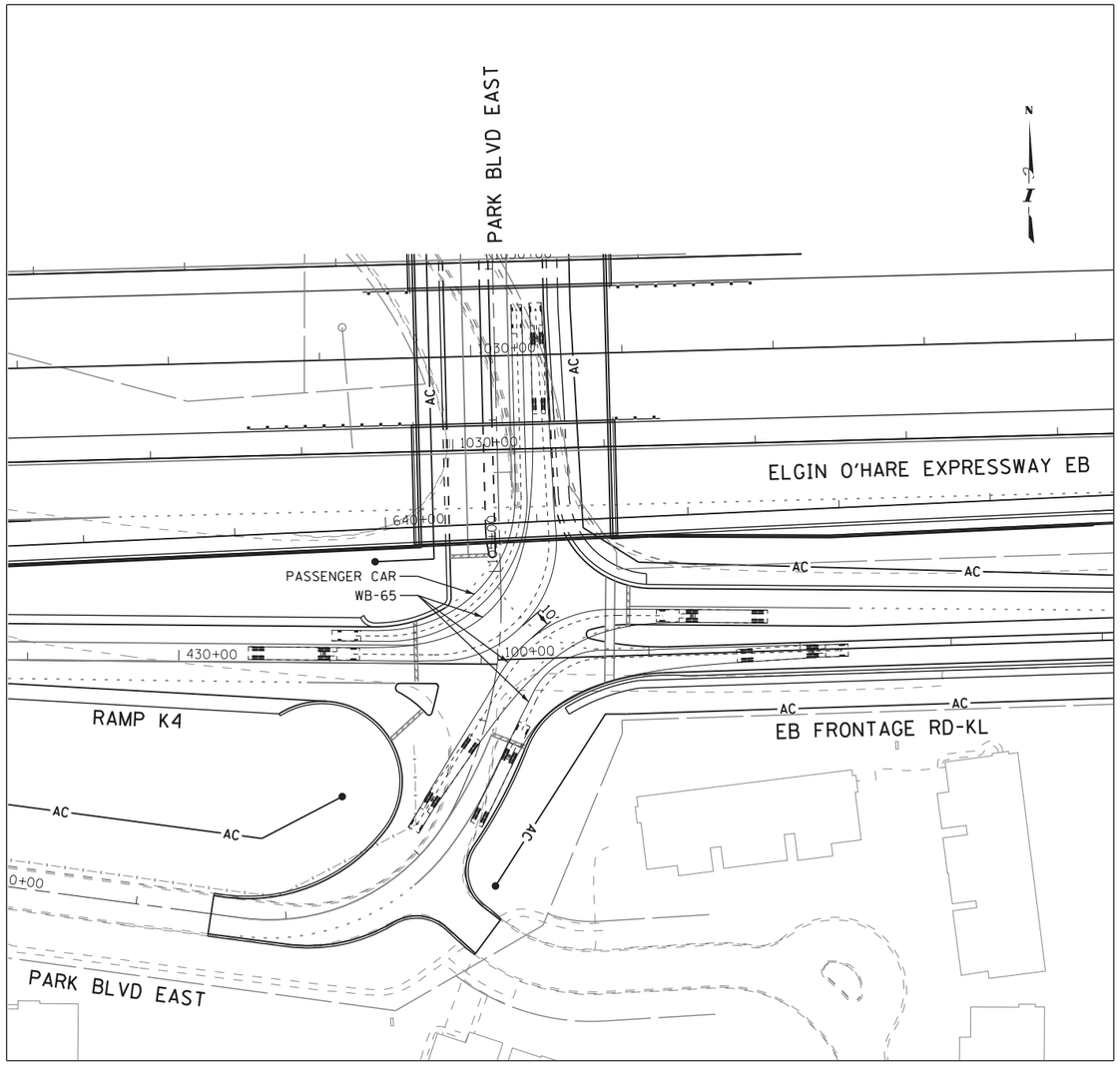
___ ROUTE ____ (PIERCE RD)
___ ROUTE ____ WITH (KETTER DR)

SEC. NO. _____
SCALE 1″=50′ COUNTY COOK
SJN : _____ PROJ. NO. _____
I.D.S. SHEET 6 OF 10

PREPARED BY:
CIVIL ENGINEERING CONSULTANTS
RWA
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-2600 Fax: 773-283-2602
www.RWAengineers.com
Regina Webster & Associates, Inc.
PROJ. MGR. KMM PROJ. ENG. JDH

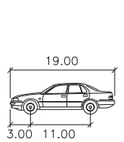
BDE-9908

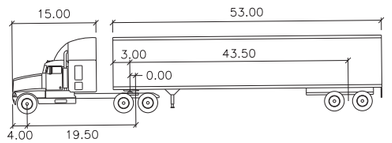
PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USER$



EB LEFT TURNS, WB LEFT TURN & NB RIGHT TURN

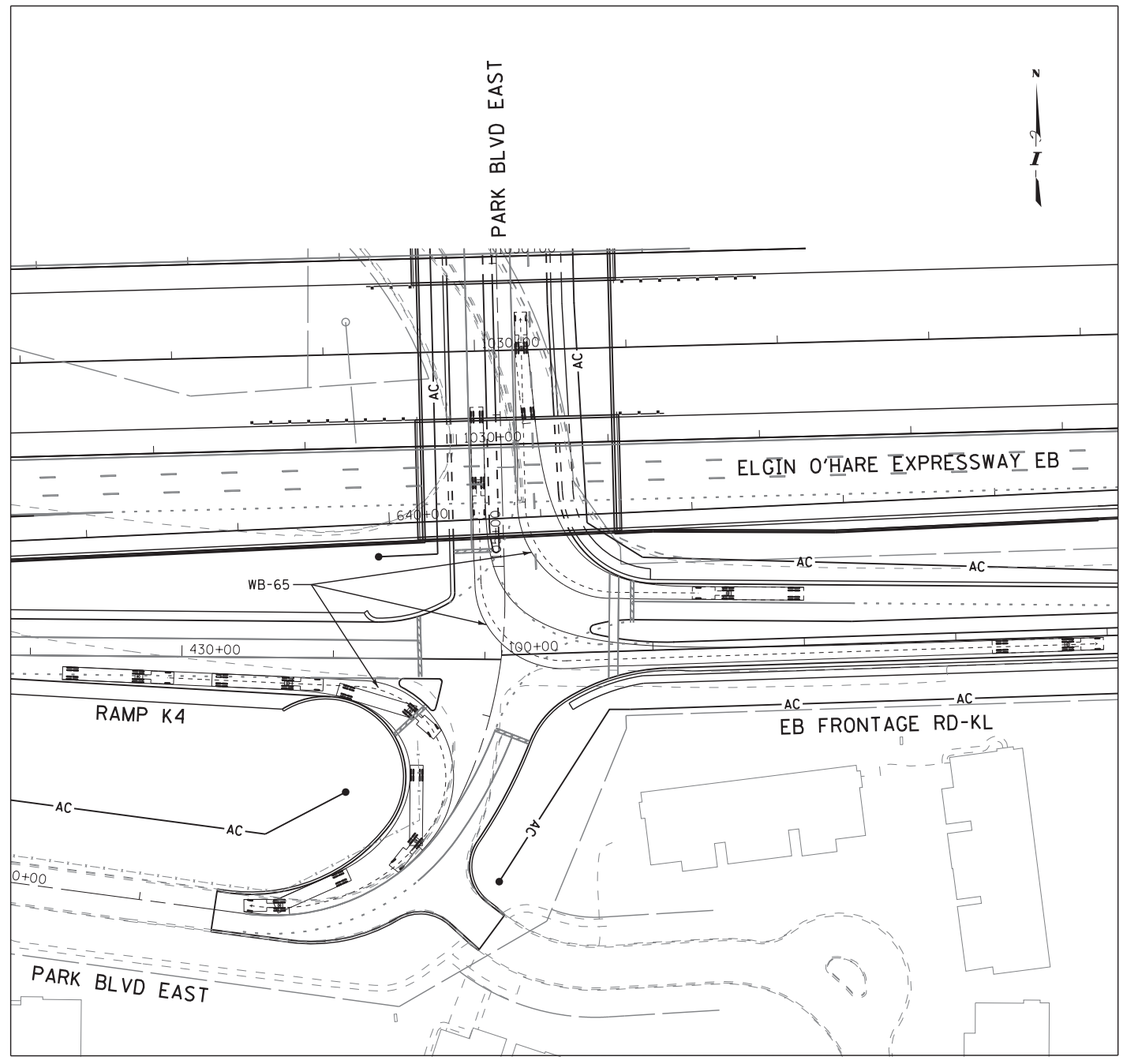
SINGLE LANE RIGHT & LEFT TURNS: DESIGN VEHICLE: WB-65
DUAL LEFT TURNS: DESIGN VEHICLES: WB-65 & P





P	feet
Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.6

WB-65	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		



EB RIGHT TURN, SB LEFT TURN & WB RIGHT TURN

DESIGN VEHICLE: WB-65

50' 0' 50'

INTERSECTION DESIGN STUDY

___ ROUTE ____ (PARK BLVD EAST)
___ ROUTE ____ WITH (EOE RAMP K4 &)
(EB FRONTAGE RD KL)

SEC. NO. _____

SCALE 1"=50' COUNTY DUPAGE

SJN : _____ PROJ. NO. _____

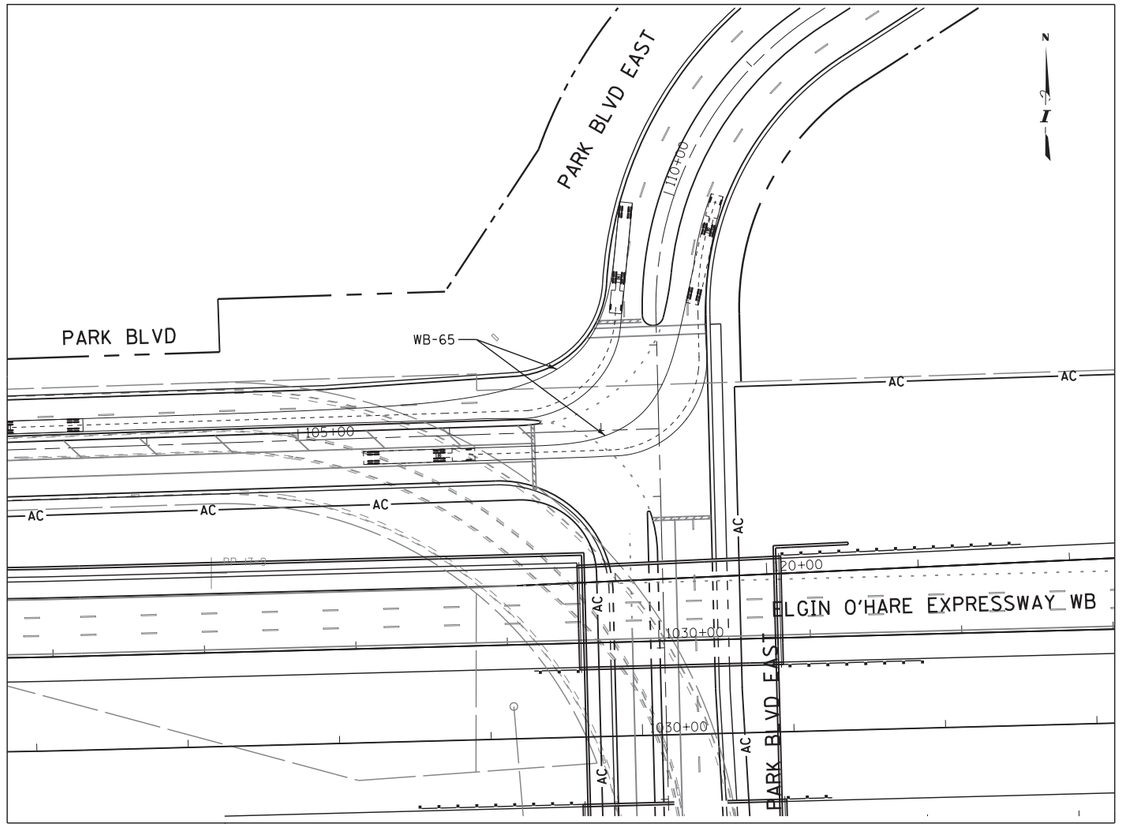
I.D.S. SHEET 7 OF 10

PREPARED BY:
CIVIL ENGINEERING CONSULTANTS
RWA
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-7600 Fax: 773-283-7602
www.RWAengineers.com
Regina Webster & Associates, Inc.

PROJ. MGR. KMM PROJ. ENG. JDH

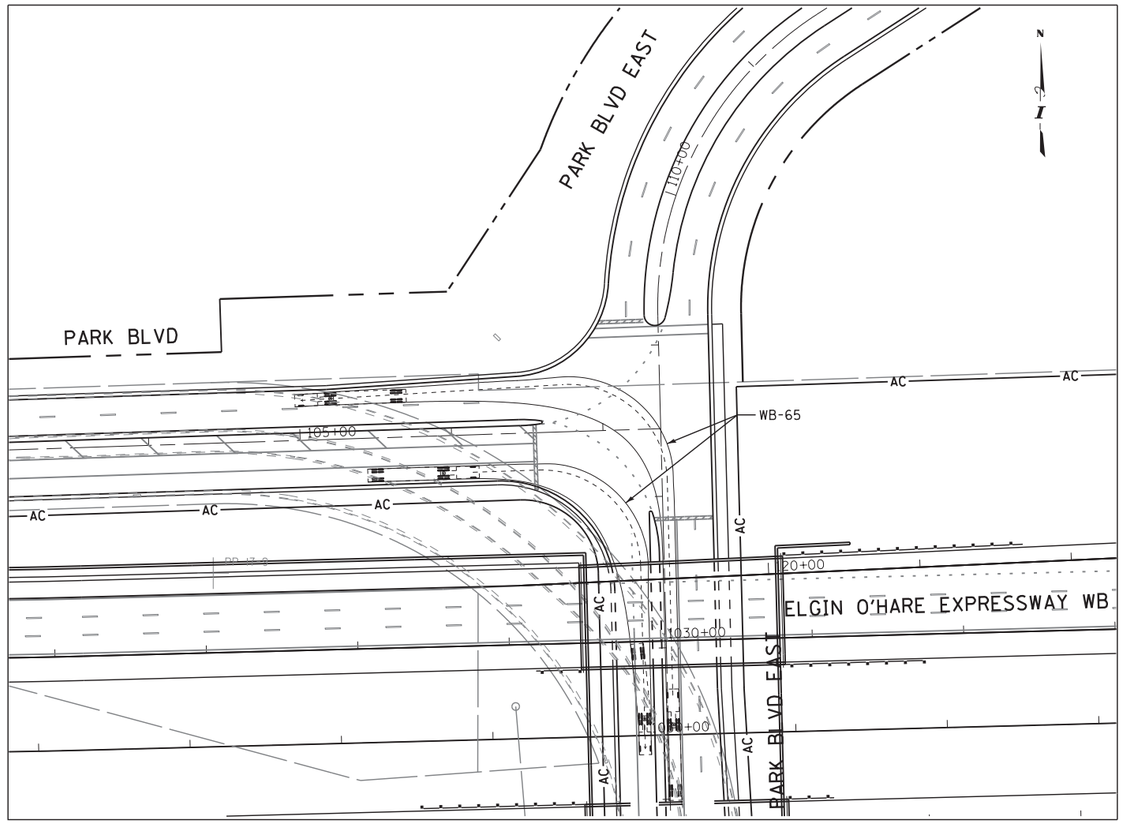
BDE-9908

PLOT DATE = $DATE$
FILE NAME = $FILE$
PLOT SCALE = $SCALE$
USER NAME = $USER$



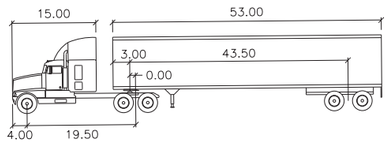
EB LEFT TURN & SB RIGHT TURN

SINGLE LANE RIGHT TURN: DESIGN VEHICLE: WB-65
SINGLE LANE TURNS: DESIGN VEHICLE: WB-65



EB RIGHT TURN & NB LEFT TURN

DESIGN VEHICLE: WB-65



WB-65 feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

50' 0' 50'

INTERSECTION DESIGN STUDY

___ ROUTE ____ (PARK BLVD EAST)
WITH
___ ROUTE ____ (PARK BLVD)

SEC. NO. _____

SCALE 1"=50' COUNTY DUPAGE

SJN : _____ PROJ. NO. _____

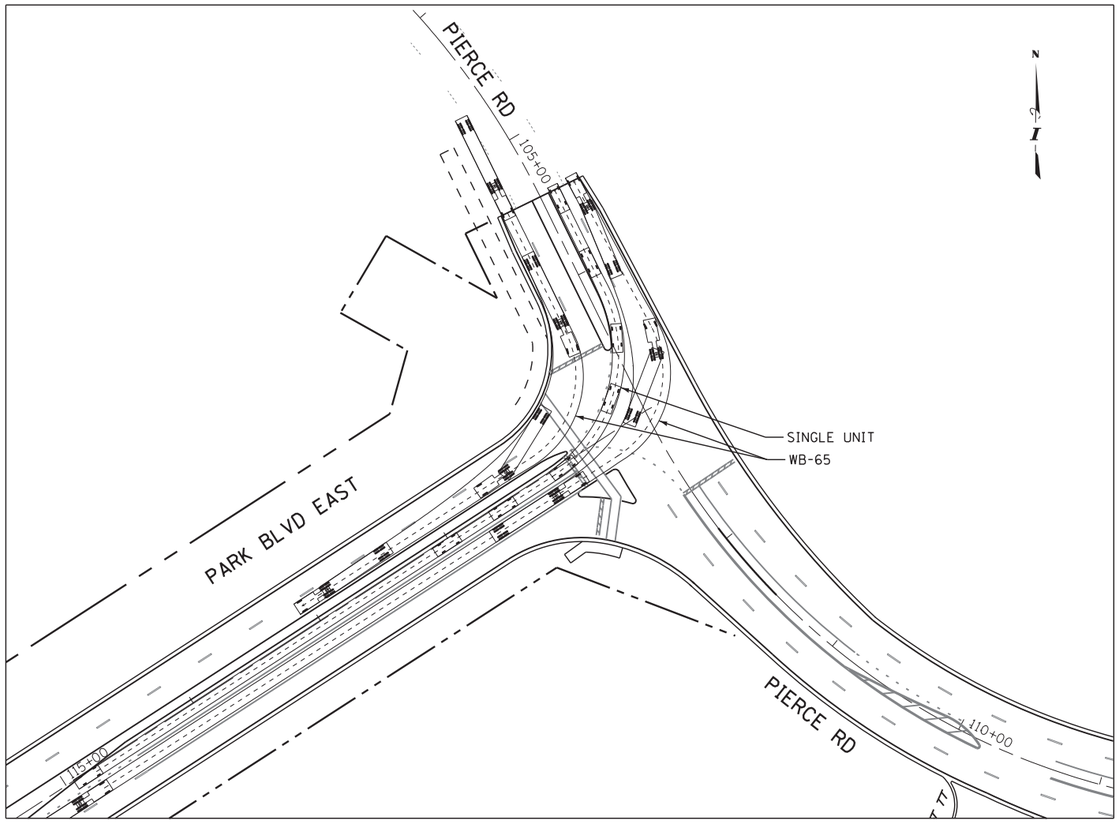
I.D.S. SHEET 8 OF 10

PREPARED BY:
CIVIL ENGINEERING CONSULTANTS
RWA
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-2600 Fax: 773-283-2602
www.RWAengineers.com
Regina Webster & Associates, Inc.

PROJ. MGR. KMM PROJ. ENG. JDH

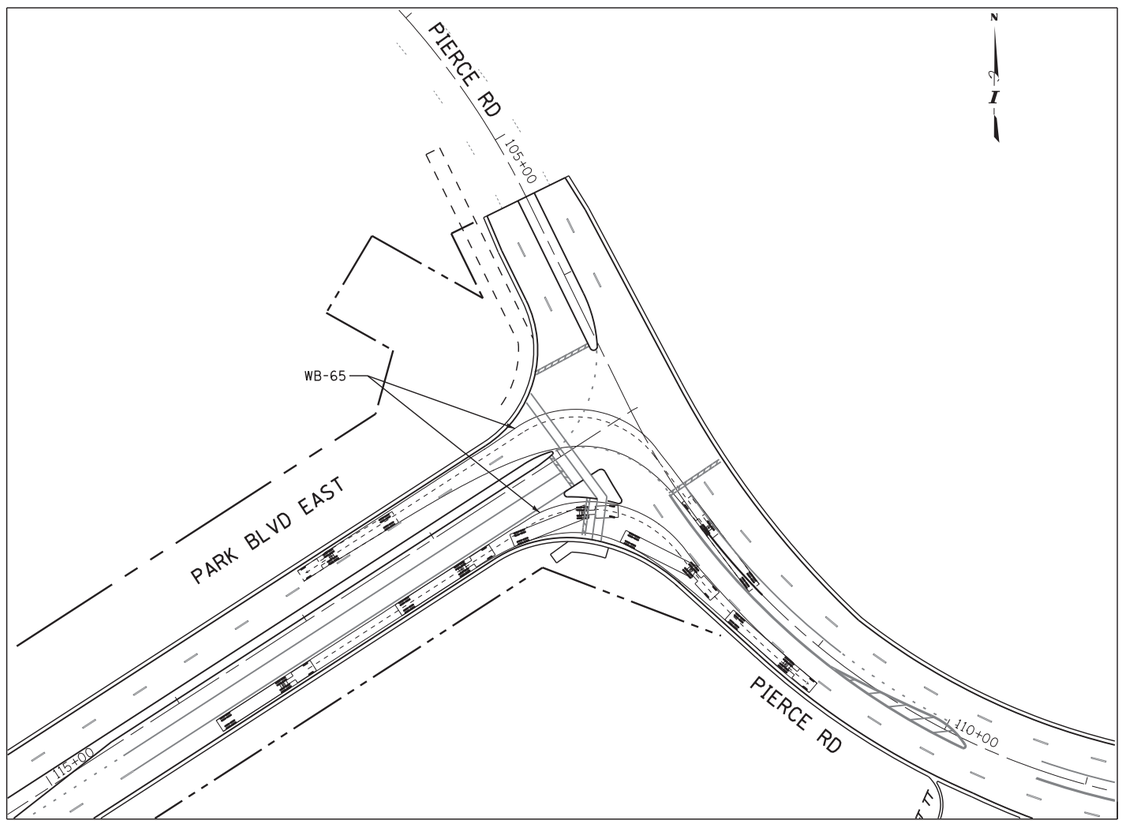
BDE-9908

PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USER$



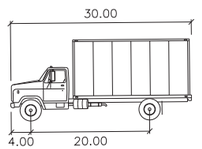
NB LEFT TURNS & EB RIGHT TURN

SINGLE LANE RIGHT TURN: DESIGN VEHICLE: WB-65
DUAL LEFT TURNS: DESIGN VEHICLES: WB-65 & SU



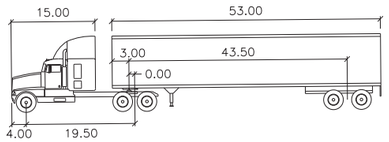
NB RIGHT TURN & WB LEFT TURN

DESIGN VEHICLE: WB-65



SU — feet

Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8



WB-65 — feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

50' 0' 50'

INTERSECTION DESIGN STUDY

___ ROUTE ____ (PARK BLVD EAST)
___ ROUTE ____ WITH (PIERCE RD)

SEC. NO. _____

SCALE 1"=50' COUNTY DUPAGE

SJN : _____ PROJ. NO. _____

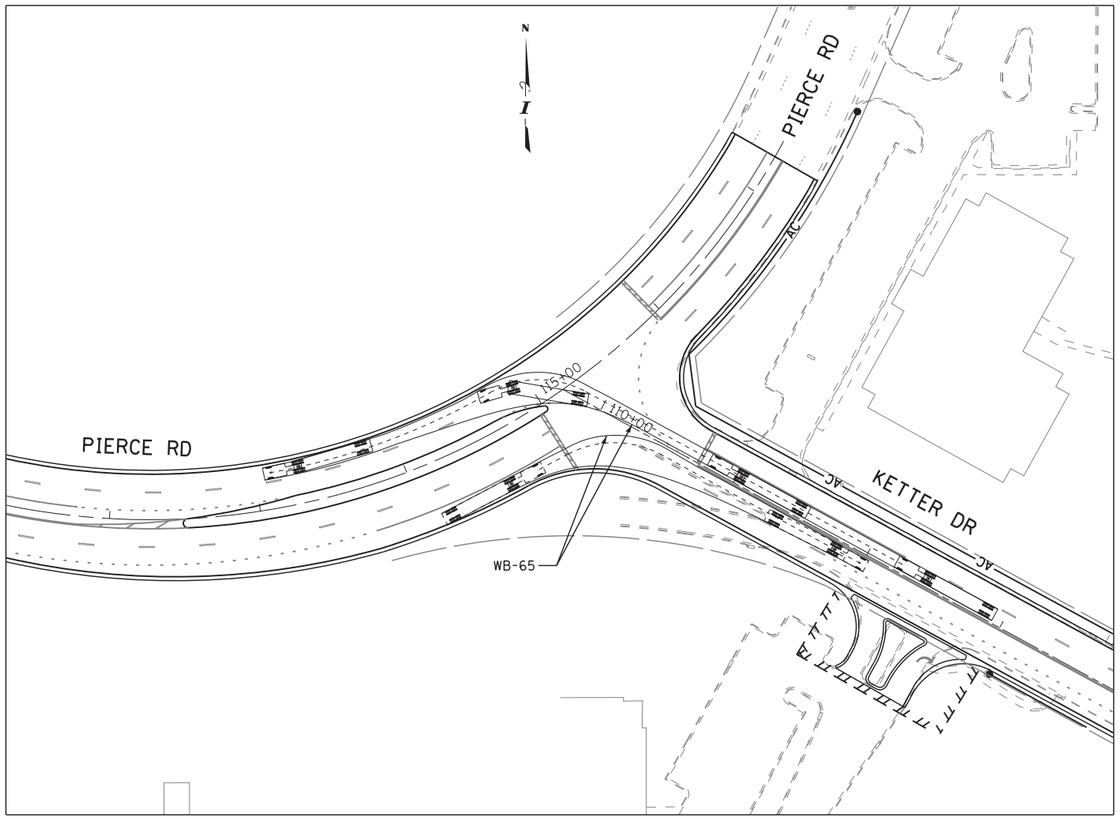
I.D.S. SHEET 9 OF 10

PREPARED BY:
CIVIL ENGINEERING CONSULTANTS
RWA
Regina Webster & Associates, Inc.
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-2600 Fax: 773-283-2602
www.RWAengineers.com

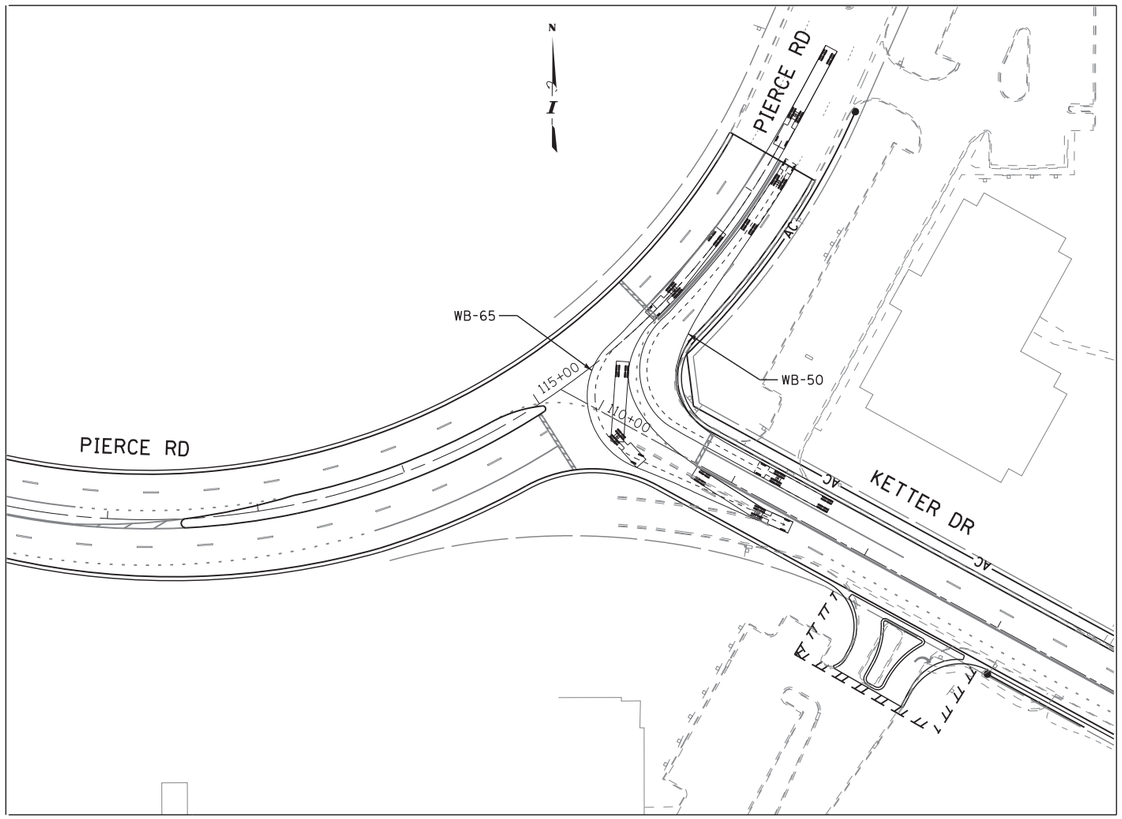
PROJ. MGR. KMM PROJ. ENG. JDH

BDE-9908

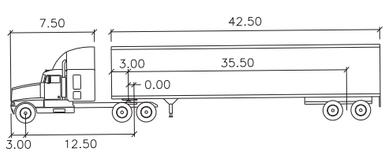
PLOT DATE = $DATE$
FILE NAME = $FILE$
PLOT SCALE = $SCALE$
USER NAME = $USER$



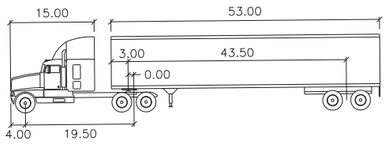
EB RIGHT TURN & WB LEFT TURN
DESIGN VEHICLE: WB-65



WB RIGHT TURN & SB LEFT TURN
LEFT TURN: DESIGN VEHICLE: WB-65
RIGHT TURN: DESIGN VEHICLE: WB-50



WB-50	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		



WB-65	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

50' 0' 50'

INTERSECTION DESIGN STUDY

___ ROUTE ____ (PARK BLVD EAST)
___ ROUTE ____ WITH (PIERCE RD)

SEC. NO. _____

SCALE 1"=50' COUNTY DUPAGE

SJN : _____ PROJ. NO. _____

I.D.S. SHEET 10 OF 10

PREPARED BY:
CIVIL ENGINEERING CONSULTANTS
RWA
Regina Webster & Associates, Inc.
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3558
773-283-2600 Fax: 773-283-2602
www.RWAengineers.com

PROJ. MGR. KMM PROJ. ENG. JDH

BDE-9908