

ROUNDABOUT CAPACITY DESIGN STUDY

PROGRAM USED HCS VERSION 7.7 AREA PEAK HOUR FACTOR 0.92
 INTERSECTION CONTROL DELAY A.M. 5.7 SECONDS P.M. 7.1 SECONDS
 INTERSECTION LEVEL OF SERVICE A.M. A P.M. A

APPROACH	(C) OLD IL 13 (EB)			(D) OLD IL 13 (WB)			(B) IL 148 (NB)			(A) IL 148 (SB)		
	L	T	R	L	T	R	L	T	R	L	T	R
2043 30TH MAX. HOUR TRAFFIC	A.M. 5	69	14	29	79	214	30	294	54	223	155	3
	P.M. 6	69	96	82	83	241	20	238	47	250	246	9
ENTRY FLOW RATE V_{pce} (pc/h)	A.M. 5	79	15	33	91	258	35	345	65	255	200	3
	P.M. 7	79	104	93	96	291	23	279	57	285	318	10
PED/HOUR CROSSING THE APPROACH	A.M. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	P.M. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
LANE MOVEMENTS		LTR		LT		BYPASS		LT		BYPASS		LTR
ENTRY FLOW RATE v_i (vph)	A.M. 95.24	117.58		232.43		352.46		58.56		513.92		
	P.M. 186.24	179.99		262.16		280.03		51.35		548.66		
LANE CAPACITY c_i (vph)	A.M. 807.02	883.58		905.82		1060.48				1060.48		
	P.M. 665.09	958.92		876.47		994.96				994.96		
$x_i / (y / c_i)$ RATIO	A.M. 0.12	0.13		0.39		0.39				0.39		
	P.M. 0.28	0.19		0.32		0.32				0.55		
STORAGE QUEUE LENGTH (FEET OR VEHICLES)	A.M. 0.4	0.5		1.9		1.9				1.9		
	P.M. 1.1	0.7		1.4		3.5				3.5		
LANE DELAY, d (SEC)	A.M. 5.6	5.4		8.4		7.5				7.5		
	P.M. 8.9	5.6		7.6		10.7				10.7		
LANE LEVEL OF SERVICE	A.M. A	A		A		A				A		
	P.M. A	A		A		B				B		
APPROACH CONTROL DELAY, d (SEC)	A.M. 5.6	1.8		7.2		7.5				7.5		
	P.M. 8.9	2.3		6.4		10.7				10.7		
APPROACH LEVEL OF SERVICE	A.M. A	A		A		A				A		
	P.M. A	A		A		A				A		

ELEMENTS CONTROLLING DESIGN

PREFERRED ROUTE:

F.A. ROUTE NUMBER: 726. MARKED ROUTE NUMBER: IL ROUTE 148.
 STREET NAME: PARK AVE./REFUGUE ROAD. SRA ROUTE ?NO
 FUNCTIONAL CLASSIFICATION: MINOR ARTERIAL. OSOW DESIGN ?YES
 EXISTING ADT NORTH LEG: 7800 VPD. DESIGN YEAR ADT NORTH LEG: 9710 VPD.
 EXISTING ADT SOUTH LEG: 5475 VPD. DESIGN YEAR ADT SOUTH LEG: 7340 VPD.
 EXISTING ADT EAST LEG: 5900 VPD. DESIGN YEAR ADT EAST LEG: 7340 VPD.
 EXISTING ADT WEST LEG: 1725 VPD. DESIGN YEAR ADT WEST LEG: 2150 VPD.
 PROPOSED DESIGN SPEED: 40 MPH. PROPOSED POSTED SPEED: 40 MPH. 20 MPH WITHIN ROUNDABOUT

SECONDARY ROUTE:

F.A. ROUTE NUMBER: 9629. MARKED ROUTE NUMBER: OLD IL 13.
 STREET NAME: DEYOUNG STREET. SRA ROUTE ?NO
 FUNCTIONAL CLASSIFICATION: MINOR ARTERIAL. OSOW DESIGN ?YES
 EXISTING ADT: 5900 VPD. DESIGN YEAR ADT: 7340 VPD.
 PROPOSED DESIGN SPEED: 50 MPH. PROPOSED POSTED SPEED: 50 MPH.

F.A. ROUTE NUMBER: 909. MARKED ROUTE NUMBER: OLD IL 13.
 STREET NAME: IL 13. SRA ROUTE ?NO
 FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR. OSOW DESIGN ?NO
 EXISTING ADT: 1725 VPD. DESIGN YEAR ADT: 2150 VPD.
 PROPOSED DESIGN SPEED: 50 MPH. PROPOSED POSTED SPEED: 50 MPH.

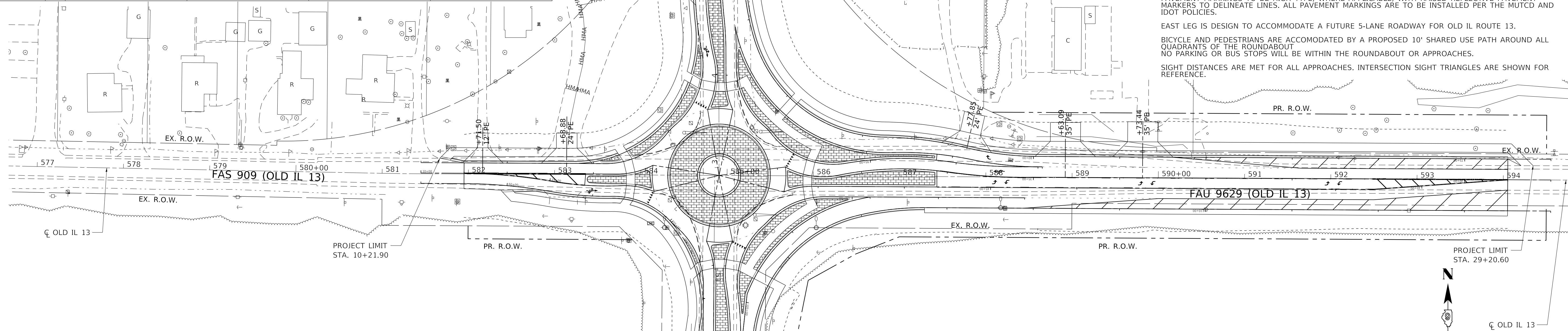
IMPROVEMENT TYPE: RECONSTRUCTION. ANTICIPATED YEAR OF CONSTRUCTION: 2023.
 EXISTING METHOD OF TRAFFIC CONTROL: SIGNALS. PROPOSED METHOD: ROUNDABOUT.
 DESIGN VEHICLE: WB-65 (IL 148 & OLD IL 13 EAST LEG); WB-55 (OLD IL 13 WEST LEG).
 DESIGN YEAR: 2043 WHICH IS A 20 YEAR DESIGN.
 TRUCK ROUTE CLASS II: PREFERRED ROADWAY: IL ROUTE 148.
 SECONDARY ROADWAY: OLD IL ROUTE 13 (EAST LEG).
 DESIGN CRITERIA - BDE CHAPTER 36 AND 49.

GENERAL NOTES

ARE PROFILES PROVIDED ? YES. IF NOT, STATE REASON WHY: N/A
 TYPE B-6.24 CURB AND GUTTER ON THE OUTSIDE OF THE ROADWAY/SHOULDERS.
 TYPE B-6.12 CURB AND GUTTER ON THE APPROACH MEDIAN.
 TYPE M (SPECIAL) TRUCK APRONS AND BIBS.
 ALL DIMENSIONS ARE (E-E, E-F, OR F-F) E-E, UNLESS OTHERWISE NOTED.
 THE RIGHT-OF-WAY LIMITS ARE PRELIMINARY.
 DESIGN VEHICLE TURNING MOVEMENTS ARE ACCOMMODATE PER AUTOTURN SOFTWARE, VERSION 10.2.
 THE SCOPE OF WORK: RECONSTRUCTION OF 4 LEG INTERSECTION INTO ROUNDABOUT WITH BYPASS LANES.
 INTERSECTION DESIGN EXCEPTIONS:
 NONE

ADDITIONAL NOTES:
 PAVEMENT MARKINGS TO BE HIGH TYPE, WHERE APPLICABLE, WITH RAISED REFLECTIVE PAVEMENT MARKERS TO DELINEATE LINES. ALL PAVEMENT MARKINGS ARE TO BE INSTALLED PER THE MUTCD AND IDOT POLICIES.
 EAST LEG IS DESIGN TO ACCOMMODATE A FUTURE 5-LANE ROADWAY FOR OLD IL ROUTE 13.
 BICYCLE AND PEDESTRIANS ARE ACCOMMODATED BY A PROPOSED 10' SHARED USE PATH AROUND ALL QUADRANTS OF THE ROUNDABOUT.
 NO PARKING OR BUS STOPS WILL BE WITHIN THE ROUNDABOUT OR APPROACHES.
 SIGHT DISTANCES ARE MET FOR ALL APPROACHES. INTERSECTION SIGHT TRIANGLES ARE SHOWN FOR REFERENCE.

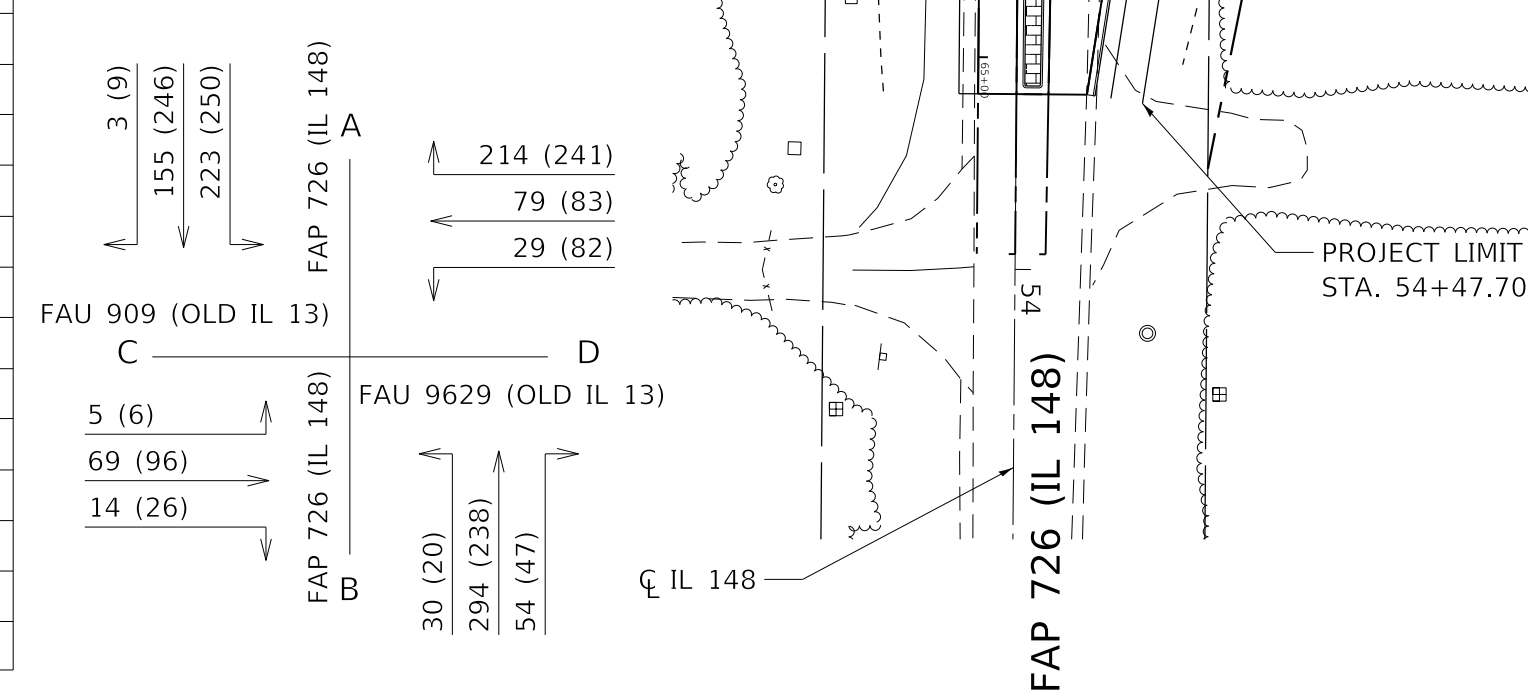
PLOT DATE: 5/21/2022
 FILE NAME: C:\CSC\APP\13047\11530_7\0978633-SH-RD.DWG
 PLOT SCALE: 1"=60'
 USER NAME: PWIC55



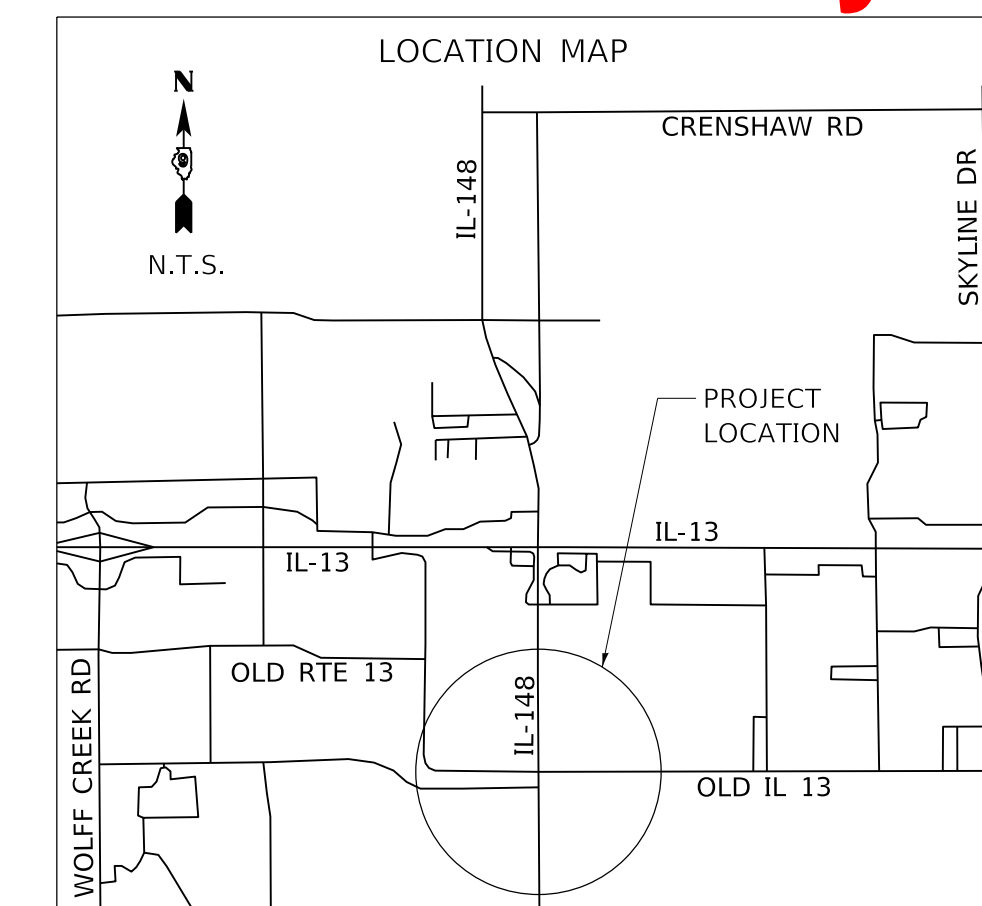
TRAFFIC DATA

MOVEMENT	YEAR 2023 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR		ESTIMATED PERCENT INCREASE BY	YEAR 2043 30TH MAXIMUM HOUR TRAFFIC		ESTIMATED PERCENT INCREASE BY	YEAR 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.		A.M.	P.M.
AD (L)	182	205	5	6		223	250			
AB (T)	127	202	19	9		155	246			
AC (R)	2	7	0	14		3	9			
BC (L)	25	16	0	6		30	20			
BA (T)	241	195	6	8		294	238			
BD (R)	44	38	5	11		54	47			
CA (L)	4	5	0	0		5	6			
CD (T)	57	78	5	1		69	96			
CB (R)	11	22	0	0		14	26			
DB (L)	24	67	4	3		29	82			
DC (T)	65	68	6	1		79	83			
DA (R)	175	198	11	7		214	241			
TOTAL A	732	812	9	8		893	991			
TOTAL B	472	540	9	8		576	659			
TOTAL C	164	197	4	2		200	240			
TOTAL D	547	654	7	5		668	798			

TRAFFIC VOLUMES 2043 AM(PM)



Preliminary



INTERSECTION DESIGN STUDY

FAP ROUTE 726 (IL 148)
 FAU ROUTE 909/9629 WITH (OLD IL 13)

SEC. NO. (130,1)N-3 PROJ. NO. D-99-083-21
 SCALE 1"=60' COUNTY WILLIAMSON
 SIN: _____ REV. NO. _____

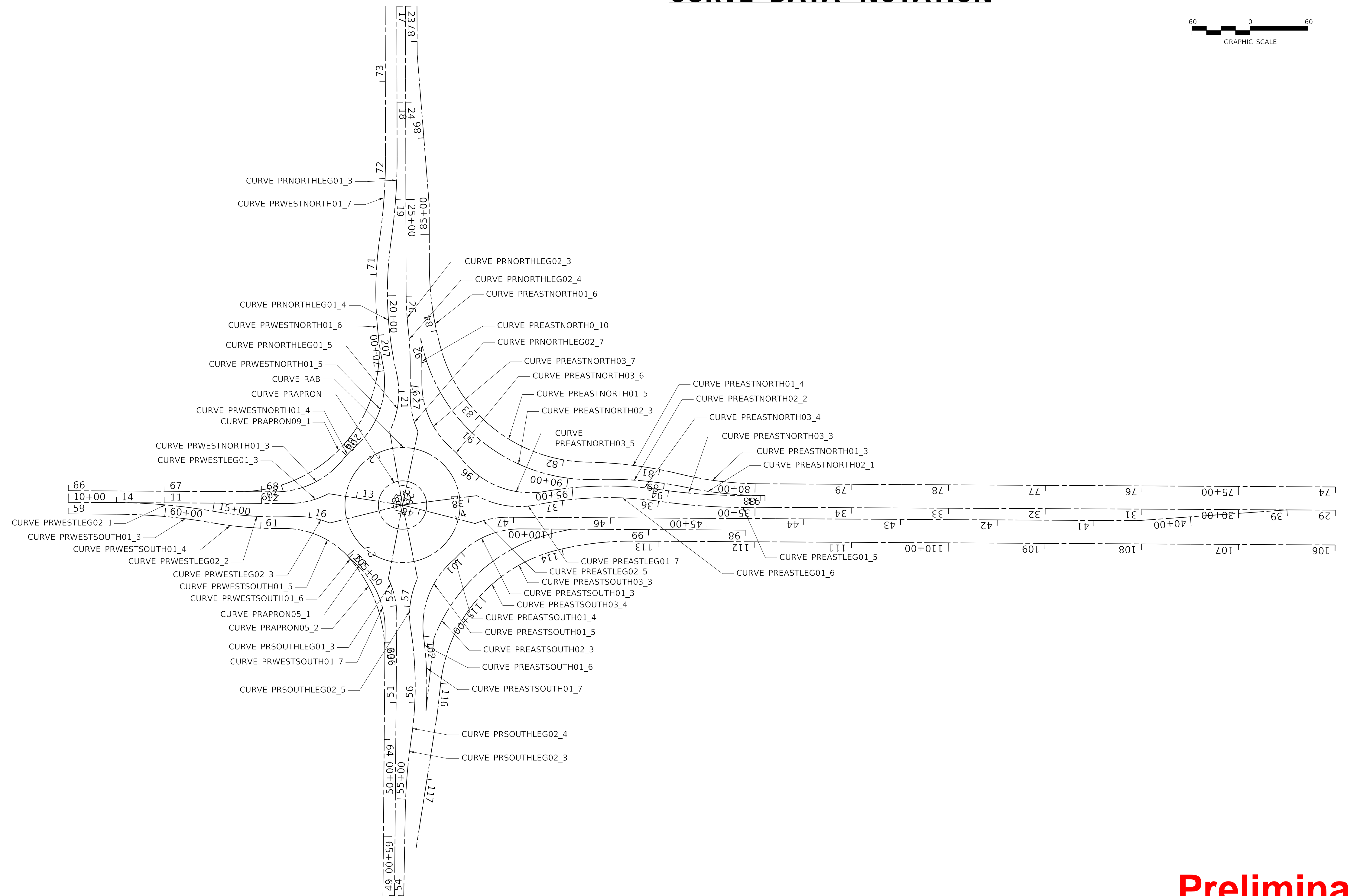
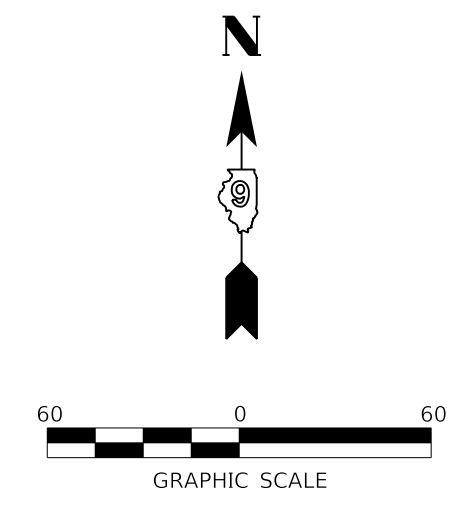
DESIGNED BY DAVID RIECHMANN DATE 4/22/2022
 HORNER & SHIFRIN, INC.

SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER _____ DATE _____
 SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER _____ DATE _____
 SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER _____ DATE _____

APPROVED _____ REGIONAL ENGINEER _____ DATE _____

CADD FILE NAME: [] I.D.S. SHEET 1 OF 15

CURVE DATA NOTATION



PLOT DATE: 5/21/2022
 FILE NAME: C:\CSC499\F1304711530_7\0978633-SH-IDS.dgn
 PLOT SCALE: 59.9999 / in.
 USER NAME: PWIC55

Preliminary

INTERSECTION DESIGN STUDY

FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

SEC. NO. (130.1)N-3

SCALE 1"=60'

SIN :

PROJ. NO. D-99-083-21

I.D.S. SHEET 2 OF 15

BDE-XXXX

WEST LEG

PROP. CURVE PRWESTLEG01_3
 PI STA. = 12+49.32
 $\Delta = 27^\circ 49' 27''$ (LT)
 D = 63° 39' 43"
 R = 90.00'
 T = 22.29'
 L = 43.71'
 E = 2.72'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 12+27.02
 P.T. STA. = 12+70.73

PROP. CURVE PRWESTLEG02_2
 PI STA. = 15+42.50
 $\Delta = 12^\circ 29' 20''$ (LT)
 D = 15° 16' 44"
 R = 375.00'
 T = 41.03'
 L = 81.74'
 E = 2.24'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 15+01.46
 P.T. STA. = 15+83.20

PROP. CURVE PRWESTLEG02_1
 PI STA. = 14+50.85
 $\Delta = 9^\circ 41' 21''$ (RT)
 D = 9° 32' 57"
 R = 600.00'
 T = 50.85'
 L = 101.46'
 E = 2.15'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 14+00.00
 P.T. STA. = 15+01.46

PROP. CURVE PRWESTLEG02_3
 PI STA. = 16+03.02
 $\Delta = 24^\circ 49' 46''$ (RT)
 D = 63° 39' 43"
 R = 90.00'
 T = 19.81'
 L = 39.00'
 E = 2.15'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 15+83.20
 P.T. STA. = 16+22.21

SOUTH LEG

PROP. CURVE PRSOUTHLEG01_3
 PI STA. = 52+09.33
 $\Delta = 25^\circ 49' 08''$ (LT)
 D = 63° 39' 43"
 R = 90.00'
 T = 20.63'
 L = 40.56'
 E = 2.33'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 51+88.70
 P.T. STA. = 52+29.26

PROP. CURVE PRSOUTHLEG02_4
 PI STA. = 56+20.54
 $\Delta = 17^\circ 26' 54''$ (LT)
 D = 15° 16' 44"
 R = 375.00'
 T = 57.54'
 L = 114.20'
 E = 4.39'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 55+63.00
 P.T. STA. = 56+77.20

PROP. CURVE PRSOUTHLEG02_3
 PI STA. = 55+24.61
 $\Delta = 7^\circ 20' 30''$ (RT)
 D = 9° 32' 57"
 R = 600.00'
 T = 38.49'
 L = 76.88'
 E = 1.23'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 54+86.12
 P.T. STA. = 55+63.00

PROP. CURVE PRSOUTHLEG02_5
 PI STA. = 57+04.51
 $\Delta = 33^\circ 45' 40''$ (RT)
 D = 63° 39' 43"
 R = 90.00'
 T = 27.31'
 L = 53.03'
 E = 4.05'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 56+77.20
 P.T. STA. = 57+30.23

WEST LEG TO NORTH LEG

PROP. CURVE PRWESTNORTH01_3
 PI STA. = 68+57.53
 $\Delta = 52^\circ 05' 20''$ (LT)
 D = 63° 39' 43"
 R = 90.00'
 T = 43.98'
 L = 81.82'
 E = 10.17'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 68+13.55
 P.T. STA. = 68+95.37

PROP. CURVE PRWESTNORTH01_4
 PI STA. = 69+03.08
 $\Delta = 11^\circ 22' 10''$ (RT)
 D = 73° 55' 48"
 R = 77.50'
 T = 7.71'
 L = 15.38'
 E = 0.38'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 68+95.37
 P.T. STA. = 69+10.75

PROP. CURVE PRWESTNORTH01_5
 PI STA. = 69+63.53
 $\Delta = 60^\circ 46' 47''$ (LT)
 D = 63° 39' 43"
 R = 90.00'
 T = 52.78'
 L = 95.47'
 E = 14.34'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 69+10.75
 P.T. STA. = 70+06.22

PROP. CURVE PRWESTNORTH01_7
 PI STA. = 71+80.13
 $\Delta = 8^\circ 20' 03''$ (LT)
 D = 9° 44' 39"
 R = 588.00'
 T = 42.84'
 L = 85.53'
 E = 1.56'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 71+37.29
 P.T. STA. = 72+22.82

NORTH LEG

PROP. CURVE PRNORTHLEG01_3
 PI STA. = 18+99.00
 $\Delta = 8^\circ 20' 03''$ (RT)
 D = 9° 32' 57"
 R = 600.00'
 T = 43.72'
 L = 87.28'
 E = 1.59'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 18+55.28
 P.T. STA. = 19+42.56

PROP. CURVE PRNORTHLEG01_4
 PI STA. = 20+12.44
 $\Delta = 21^\circ 06' 40''$ (LT)
 D = 15° 16' 44"
 R = 375.00'
 T = 69.88'
 L = 138.17'
 E = 6.46'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 19+42.56
 P.T. STA. = 20+80.73

PROP. CURVE PRNORTHLEG02_3
 PI STA. = 26+13.32
 $\Delta = 6^\circ 01' 10''$ (LT)
 D = 15° 16' 44"
 R = 90.00'
 T = 19.72'
 L = 39.40'
 E = 0.52'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 25+93.61
 P.T. STA. = 26+33.00

PROP. CURVE PRNORTHLEG02_4
 PI STA. = 26+52.72
 $\Delta = 6^\circ 01' 10''$ (RT)
 D = 15° 16' 44"
 R = 375.00'
 T = 19.72'
 L = 39.40'
 E = 0.52'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 26+33.00
 P.T. STA. = 26+72.40

EAST LEG

PROP. CURVE PREASTLEG01_5
 PI STA. = 35+49.78
 $\Delta = 9^\circ 19' 53''$ (RT)
 D = 9° 32' 57"
 R = 600.00'
 T = 48.97'
 L = 97.72'
 E = 1.99'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 35+00.81
 P.T. STA. = 35+98.53

PROP. CURVE PREASTLEG01_7
 PI STA. = 37+60.17
 $\Delta = 40^\circ 29' 35''$ (RT)
 D = 63° 39' 43"
 R = 90.00'
 T = 33.20'
 L = 63.61'
 E = 5.93'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 37+26.98
 P.T. STA. = 37+90.58

PROP. CURVE PREASTLEG01_6
 PI STA. = 36+63.40
 $\Delta = 19^\circ 43' 49''$ (LT)
 D = 15° 21' 39"
 R = 373.00'
 T = 64.86'
 L = 128.45'
 E = 5.60'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 35+98.53
 P.T. STA. = 37+26.98

PROP. CURVE PREASTLEG02_5
 PI STA. = 47+23.32
 $\Delta = 22^\circ 15' 30''$ (LT)
 D = 63° 39' 43"
 R = 90.00'
 T = 17.70'
 L = 34.96'
 E = 1.72'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 47+05.61
 P.T. STA. = 47+40.58

WEST LEG TO SOUTH LEG

PROP. CURVE PRWESTSOUTH01_3
 PI STA. = 59+99.84
 $\Delta = 9^\circ 41' 21''$ (RT)
 D = 73° 55' 48"
 R = 588.00'
 T = 49.84'
 L = 99.44'
 E = 2.11'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 59+50.00
 P.T. STA. = 60+49.44

PROP. CURVE PRWESTSOUTH01_4
 PI STA. = 60+86.21
 $\Delta = 10^\circ 51' 24''$ (LT)
 D = 9° 44' 39"
 R = 387.00'
 T = 36.77'
 L = 73.33'
 E = 1.74'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 60+49.44
 P.T. STA. = 61+22.77

PROP. CURVE PRWESTSOUTH01_6
 PI STA. = 62+02.57
 $\Delta = 6^\circ 50' 20''$ (LT)
 D = 73° 55' 48"
 R = 77.50'
 T = 4.63'
 L = 9.25'
 E = 0.14'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 61+97.94
 P.T. STA. = 62+07.19

PROP. CURVE PRWESTSOUTH01_7
 PI STA. = 62+49.44
 $\Delta = 50^\circ 17' 26''$ (RT)
 D = 63° 39' 43"
 R = 90.00'
 T = 42.25'
 L = 79.00'
 E = 9.42'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 62+07.19
 P.T. STA. = 62+86.19

EAST LEG TO NORTH LEG

PROP. CURVE PREASTNORTH01_3
 PI STA. = 80+37.24
 $\Delta = 13^\circ 21' 25''$ (RT)
 D = 15° 47' 02"
 R = 363.00'
 T = 42.50'
 L = 84.62'
 E = 2.48'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 79+94.74
 P.T. STA. = 80+79.36

PROP. CURVE PREASTNORTH01_4
 PI STA. = 81+27.39
 $\Delta = 12^\circ 44' 28''$ (LT)
 D = 13° 19' 05"
 R = 430.21'
 T = 48.03'
 L = 95.67'
 E = 2.67'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 80+79.36
 P.T. STA. = 81+75.03

PROP. CURVE PREASTNORTH02_1
 PI STA. = 88+38.31
 $\Delta = 11^\circ 39' 53''$ (RT)
 D = 15° 16' 44"
 R = 375.00'
 T = 38.31'
 L = 76.35'
 E = 1.95'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 88+00.00
 P.T. STA. = 88+76.35

PROP. CURVE PREASTNORTH02_2
 PI STA. = 89+23.99
 $\Delta = 13^\circ 51' 33''$ (LT)
 D = 14° 36' 59"
 R = 392.00'
 T = 47.64'
 L = 94.82'
 E = 2.88'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 88+76.35
 P.T. STA. = 89+71.17

PROP. CURVE PREASTNORTH03_4
 PI STA. = 94+68.59
 $\Delta = 17^\circ 51' 08''$ (LT)
 D = 14° 52' 55"
 R = 385.00'
 T = 60.47'
 L = 119.96'
 E = 4.72'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 94+08.12
 P.T. STA. = 95+28.08

PROP. CURVE PREASTNORTH03_5
 PI STA. = 95+82.03
 $\Delta = 61^\circ 52' 45''$ (RT)
 D = 63° 39' 43"
 R = 90.00'
 T = 53.95'
 L = 97.20'
 E = 14.93'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 95+28.08
 P.T. STA. = 96+25.28

EAST LEG TO SOUTH LEG

PROP. CURVE PREASTSOUTH01_3
 PI STA. = 100+70.96
 $\Delta = 47^\circ 06' 35''$ (LT)
 D = 63° 39' 43"
 R = 90.00'
 T = 39.24'
 L = 74.00'
 E = 8.18'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 100+31.73
 P.T. STA. = 101+05.73

PROP. CURVE PREASTSOUTH01_4
 PI STA. = 101+09.27
 $\Delta = 5^\circ 14' 17''$ (RT)
 D = 73° 55' 48"
 R = 77.50'
 T = 3.55'
 L = 7.09'
 E = 0.08'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 101+05.73
 P.T. STA. = 101+12.81

PROP. CURVE PREASTSOUTH01_6
 PI STA. = 102+14.24
 $\Delta = 4^\circ 03' 06''$ (RT)
 D = 14° 48' 18"
 R = 387.00'
 T = 13.69'
 L = 27.37'
 E = 0.24'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 102+00.55
 P.T. STA. = 102+27.92

PROP. CURVE PREASTSOUTH01_7
 PI STA. = 102+52.46
 $\Delta = 7^\circ 15' 33''$ (RT)
 D = 14° 48' 18"
 R = 387.00'
 T = 24.55'
 L = 49.03'
 E = 0.78'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 102+27.92
 P.T. STA. = 102+76.95

PROP. CURVE PREASTSOUTH02_2
 PI STA. = 104+11.89
 $\Delta = 55^\circ 03' 30''$ (LT)
 D = 32° 11' 19"
 R = 178.00'
 T = 92.78'
 L = 171.05'
 E = 22.73'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 103+19.12
 P.T. STA. = 104+90.16

PROP. CURVE PREASTSOUTH03_3
 PI STA. = 113+65.45
 $\Delta = 14^\circ 03' 08''$ (LT)
 D = 17° 54' 18"
 R = 320.00'
 T = 39.44'
 L = 78.48'
 E = 2.42'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 113+26.01
 P.T. STA. = 114+04.49

PROP. CURVE PREASTSOUTH03_4
 PI STA. = 115+16.48
 $\Delta = 69^\circ 58' 37''$ (LT)
 D = 35° 48' 36"
 R = 160.00'
 T = 111.99'
 L = 195.41'
 E = 35.30'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 114+04.49
 P.T. STA. = 115+99.90

PROP. CURVE PREASTNORTH01_6
 PI STA. = 84+23.51
 $\Delta = 15^\circ 47' 09''$ (RT)
 D = 17° 54' 18"
 R = 320.00'
 T = 44.36'
 L = 88.16'
 E = 3.06'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 83+79.15
 P.T. STA. = 84+67.31

PROP. CURVE PREASTNORTH03_3
 PI STA. = 93+61.70
 $\Delta = 9^\circ 03' 55''$ (RT)
 D = 9° 44' 39"
 R = 178.00'
 T = 46.61'
 L = 93.03'
 E = 1.84'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 93+15.09
 P.T. STA. = 94+08.12

PROP. CURVE PREASTNORTH03_7
 PI STA. = 96+81.14
 $\Delta = 48^\circ 50' 24''$ (RT)
 D = 63° 39' 43"
 R = 90.00'
 T = 40.86'
 L = 15.00'
 E = 8.84'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 96+40.28
 P.T. STA. = 97+17.00

PROP. CURVE PREASTNORTH0_10
 PI STA. = 97+48.21
 $\Delta = 4^\circ 26' 53''$ (LT)
 D = 14° 48' 18"
 R = 387.00'
 T = 15.03'
 L = 30.04'
 E = 0.29'
 e = _____
 T.R. = _____
 S.E. RUN = _____
 P.C. STA. = 97+33.18
 P.T. STA. = 97+63.22

Preliminary

FOR INFORMATION ONLY

INTERSECTION DESIGN STUDY

FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

SEC. NO. (130.1)N-3

SCALE 1"=60'

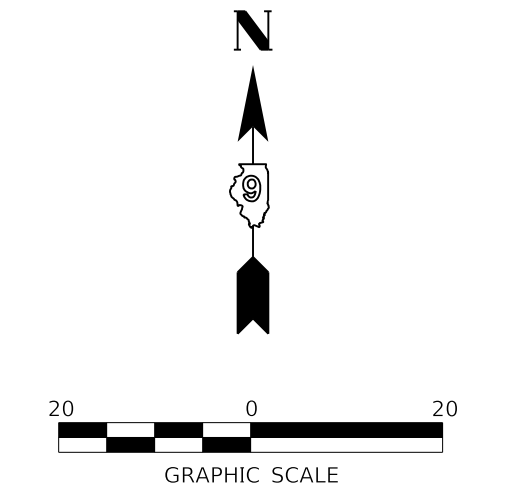
SIN :

PROJ. NO. D-99-083-21

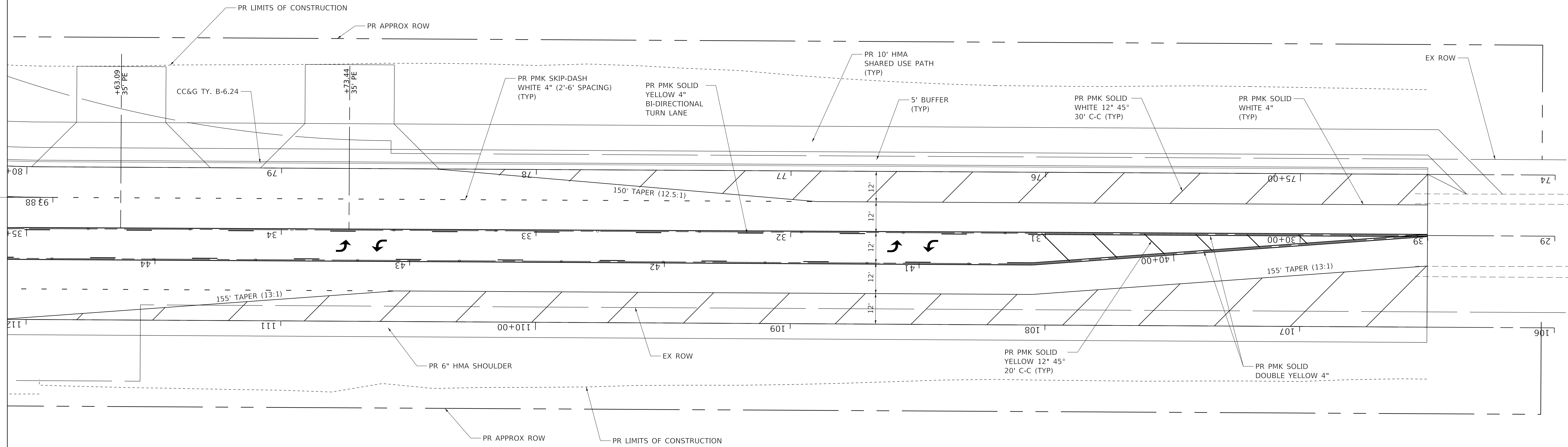
I.D.S. SHEET 3 OF 15

6/21/2002
 C:\CSCAPP\F13047\11530_7\0978633-SIN.DWG
 59.9999 / in.
 PWIC55

EAST LEG



PLOT DATE: 5/21/2022
 FILE NAME: C:\CSAPP\F\13047\1150_7\09\78633-SH-IDS.dgn
 PLOT SCALE: 20.0000' / 1" =
 USER NAME: PWICS5



Preliminary

INTERSECTION DESIGN STUDY

FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

SEC. NO. (130.1)N-3

SCALE 1"=20'

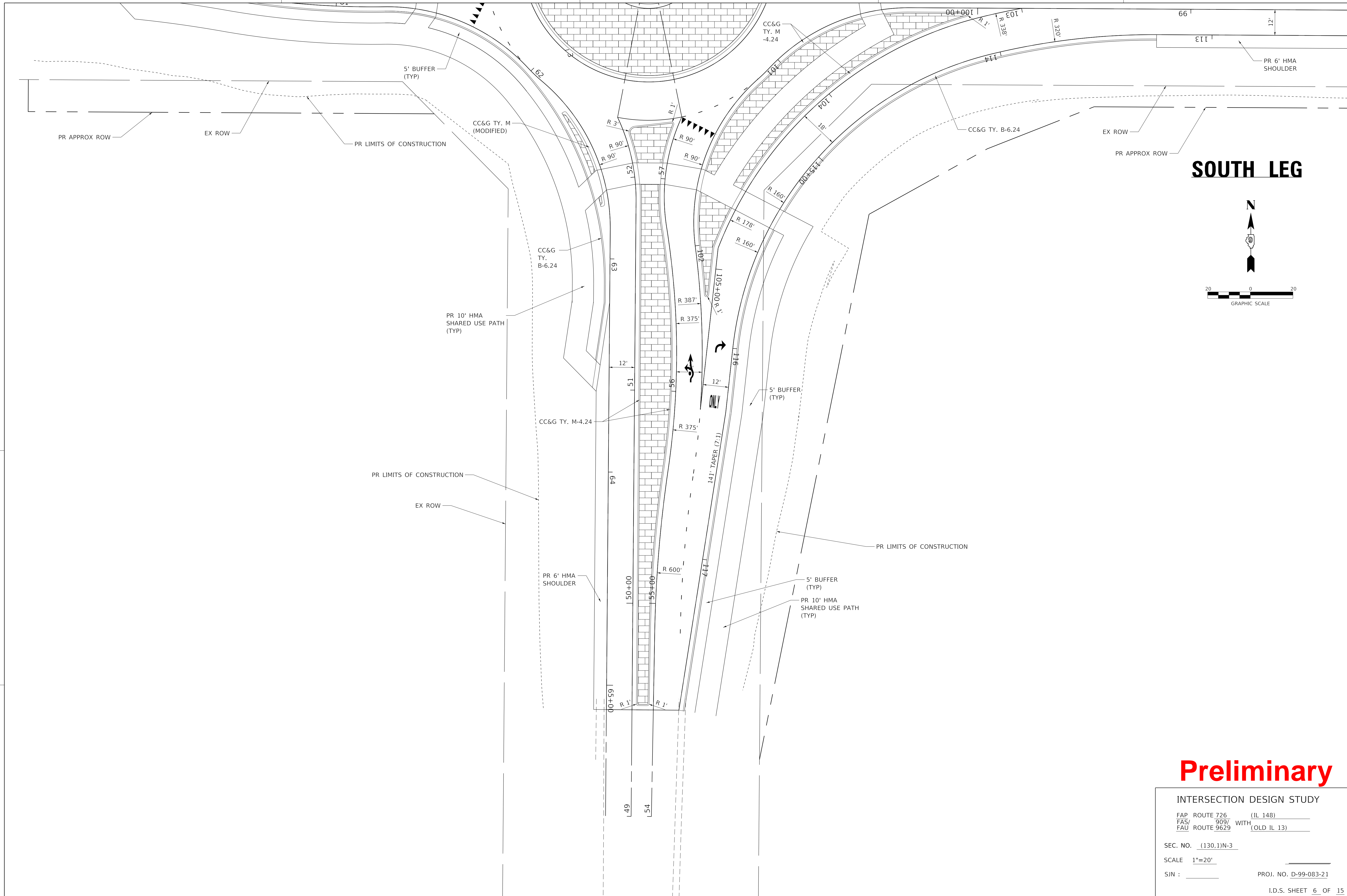
SIN : _____

PROJ. NO. D-99-083-21

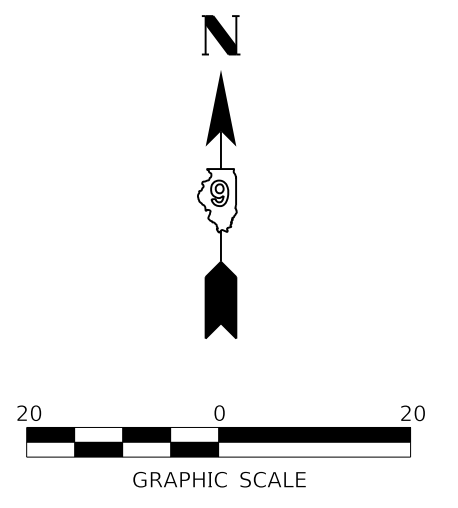
I.D.S. SHEET 4 OF 15

BDE-XXXX

PLOT DATE: 5/21/2022
 FILE NAME: C:\CS496\F1304711530_7\0978633-SH-IDS.dgn
 PLOT SCALE: 20.0000' / 1" / hr.
 USER NAME: PWICS55



SOUTH LEG

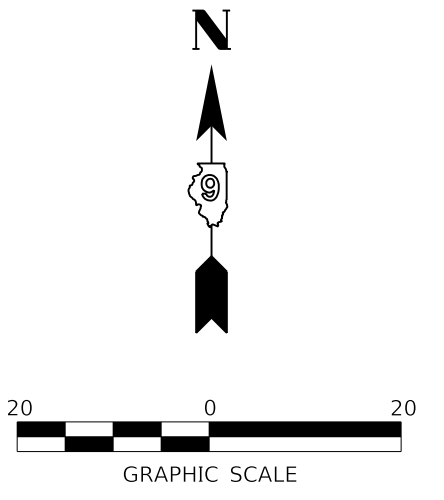


Preliminary

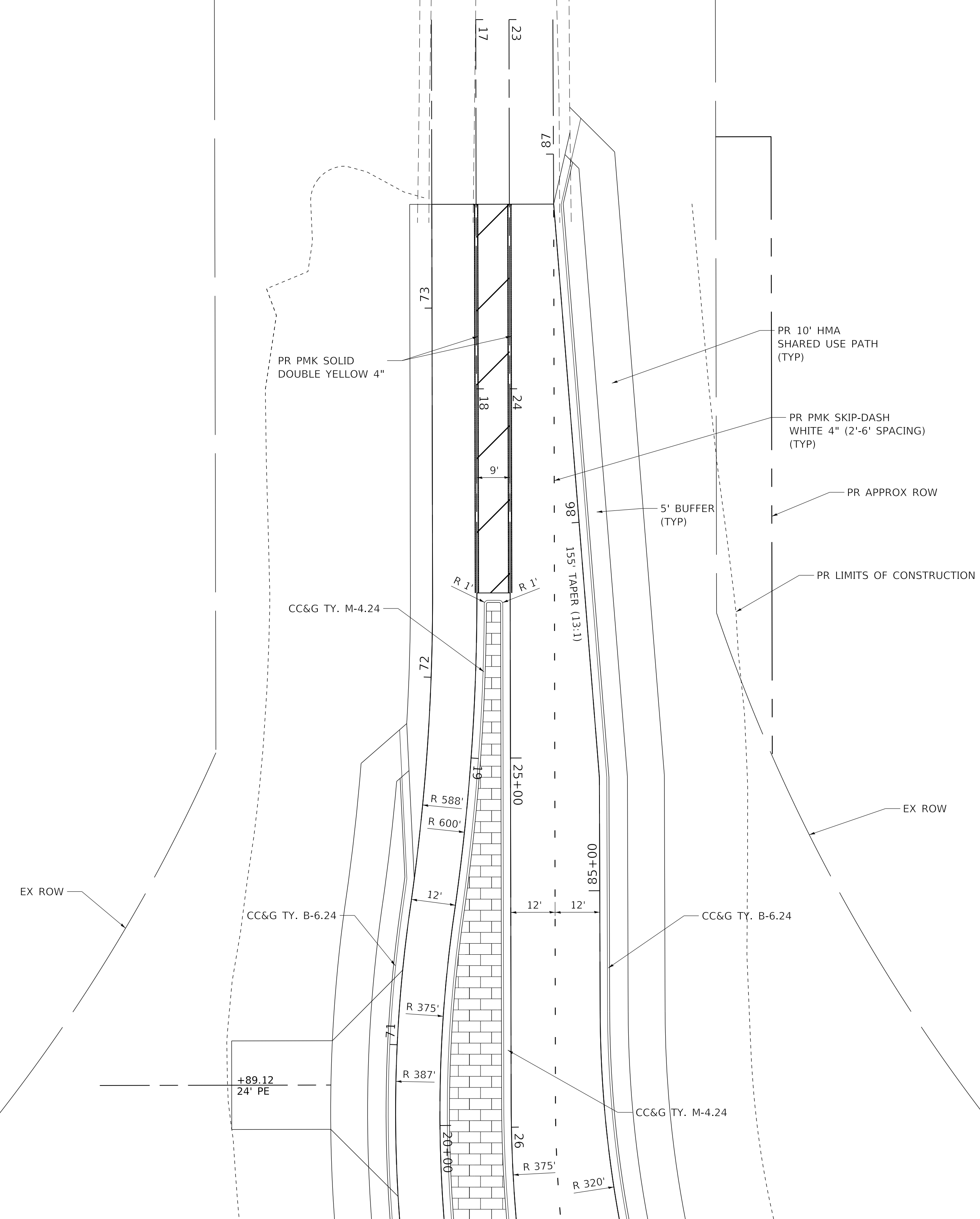
INTERSECTION DESIGN STUDY
 FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

SEC. NO. (130.1)N-3
 SCALE 1"=20'
 SIN : _____ PROJ. NO. D-99-083-21
 I.D.S. SHEET 6 OF 15

NORTH LEG



PLOT DATE: 5/21/2022
 FILE NAME: C:\CS4\PR\F\13047\11530_7\0978633-SH-IDS.dgn
 PLOT SCALE: 20.0000' / 1" =
 USER NAME: PWIC55



Preliminary

INTERSECTION DESIGN STUDY

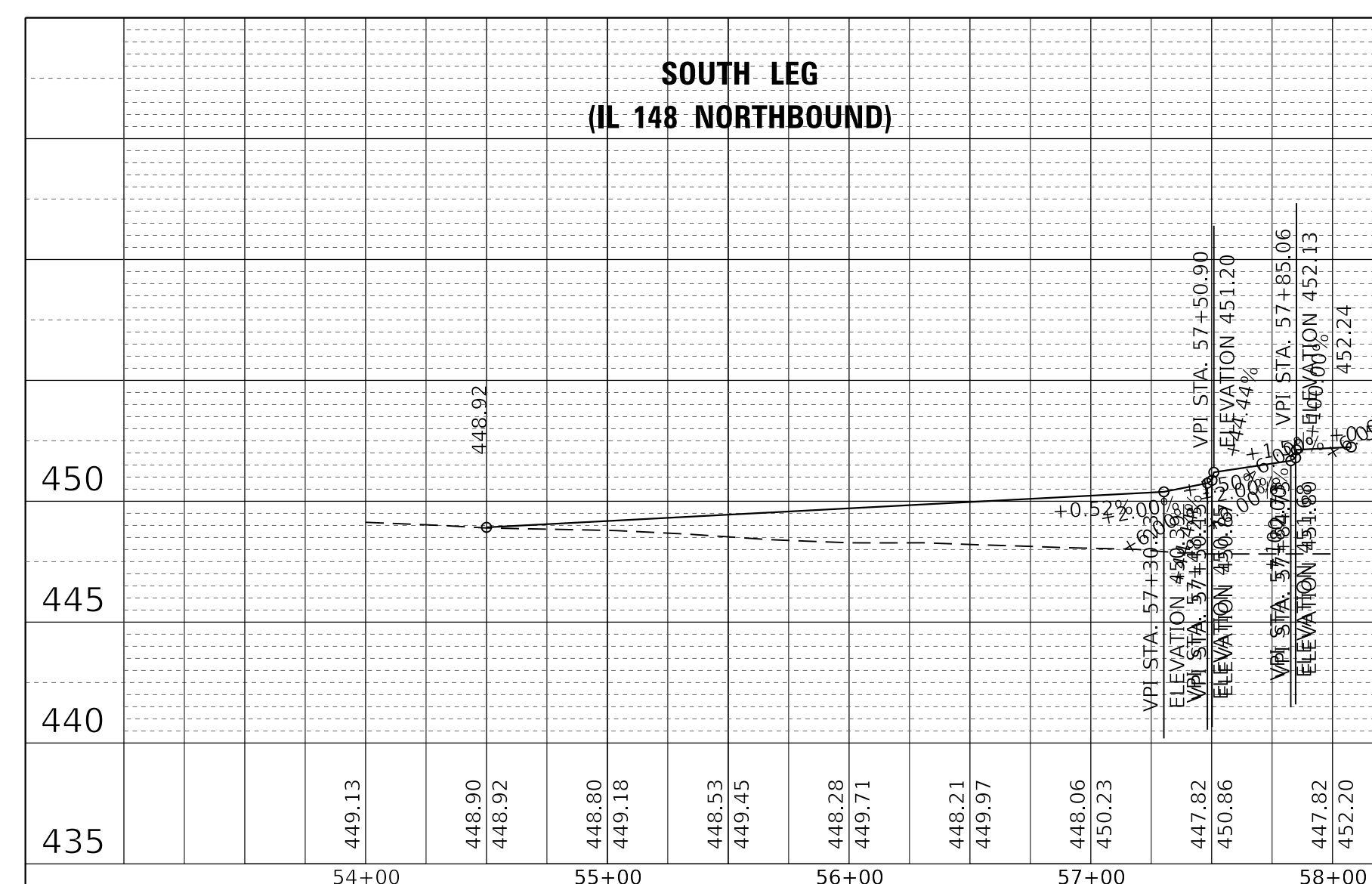
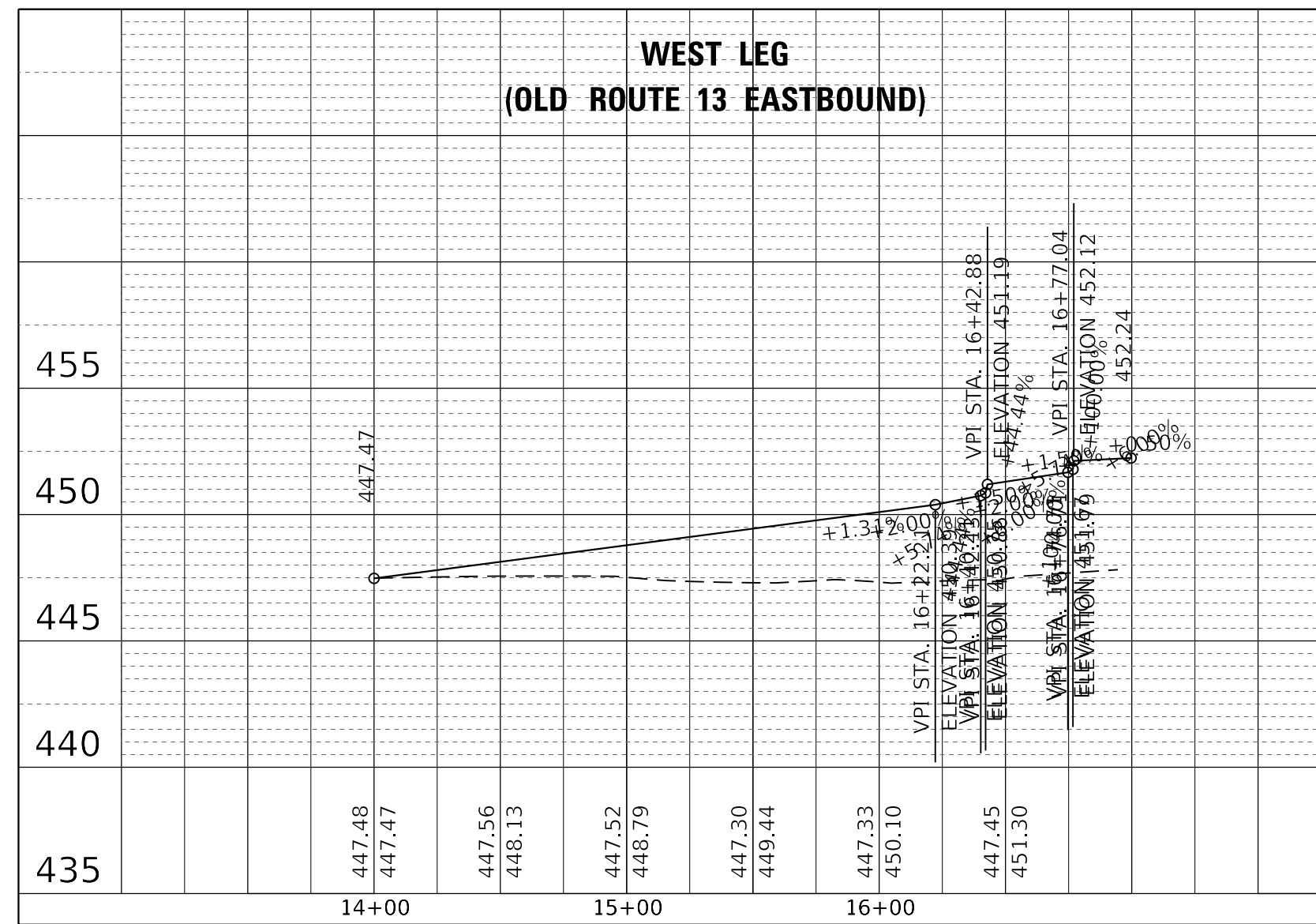
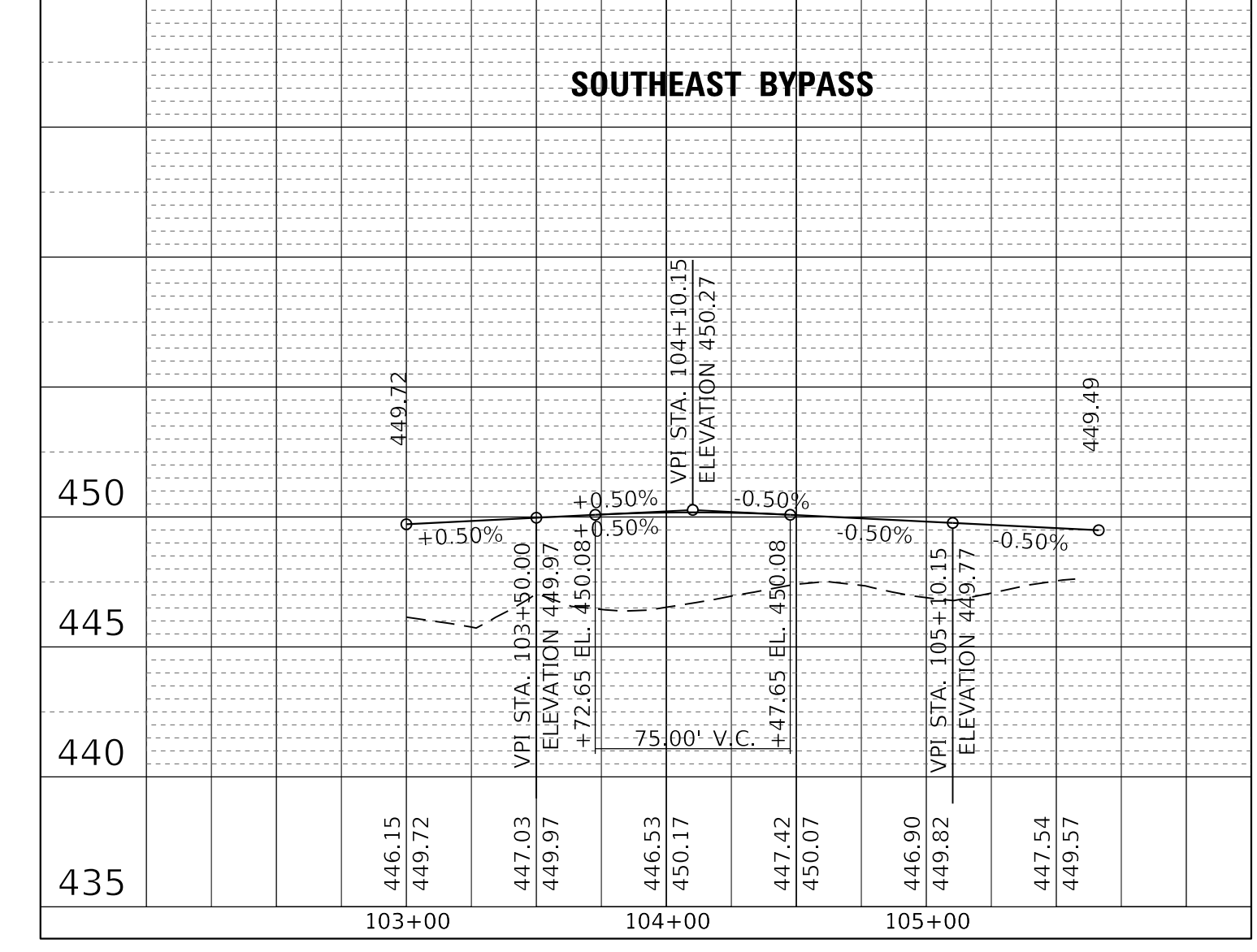
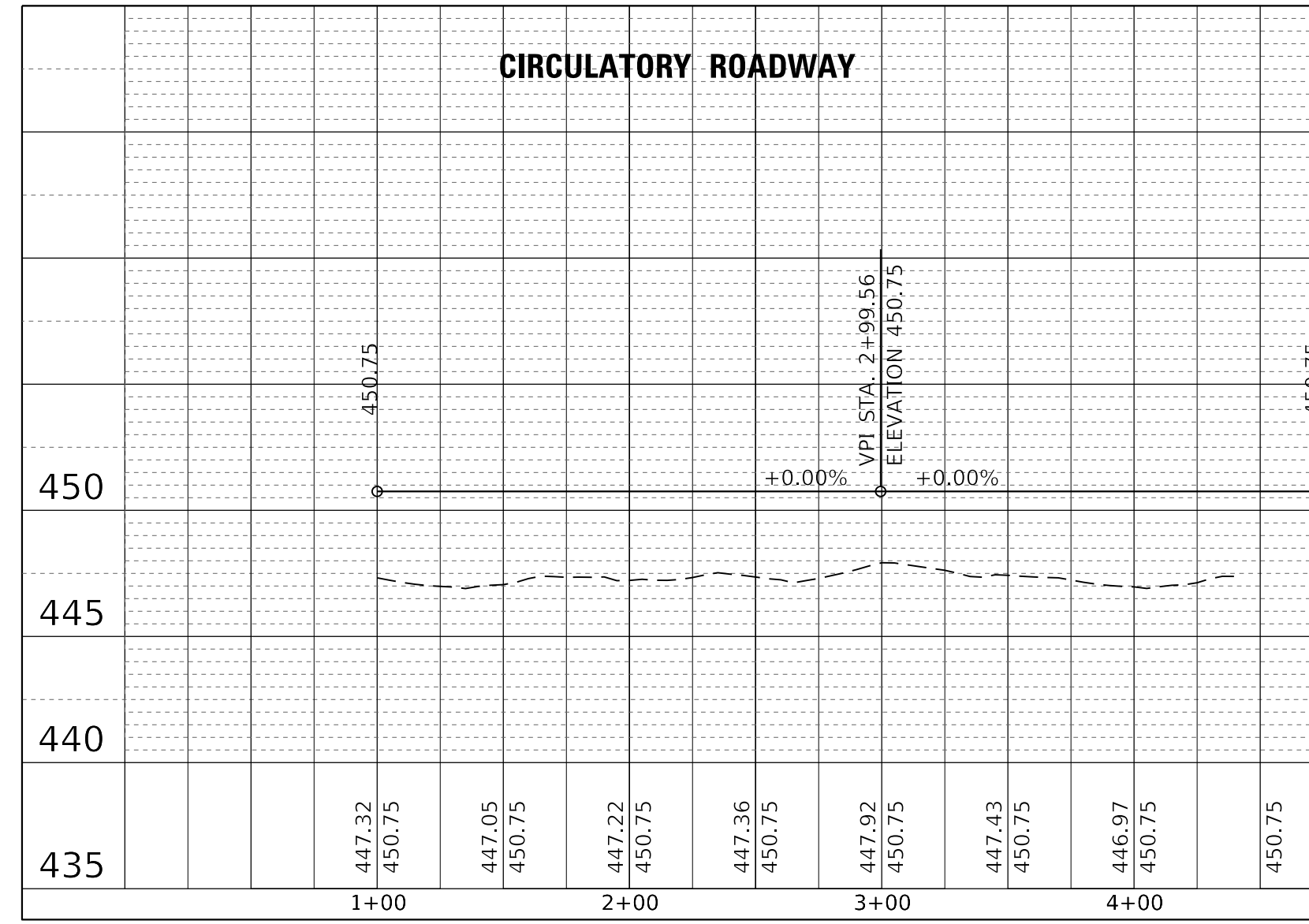
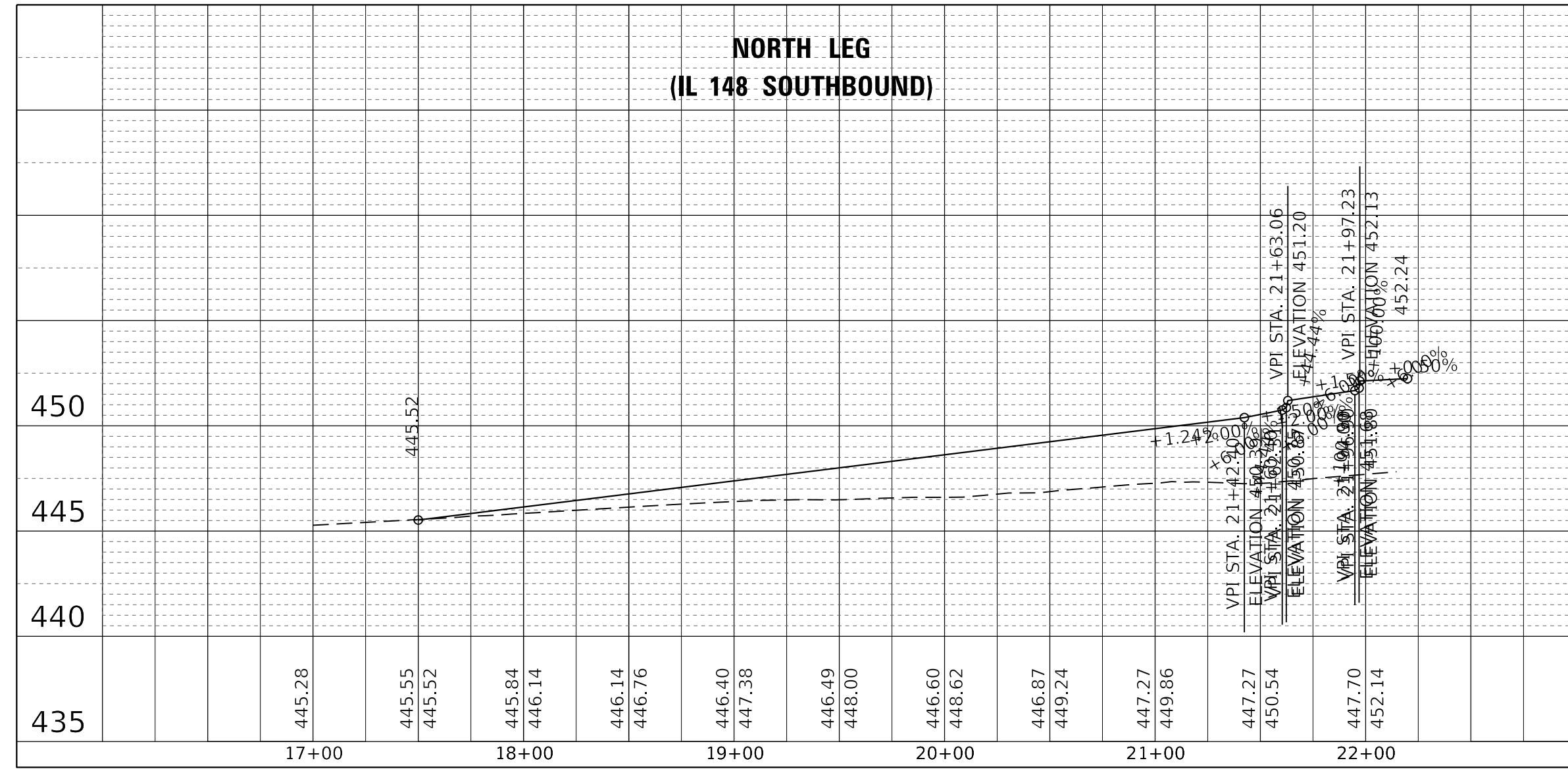
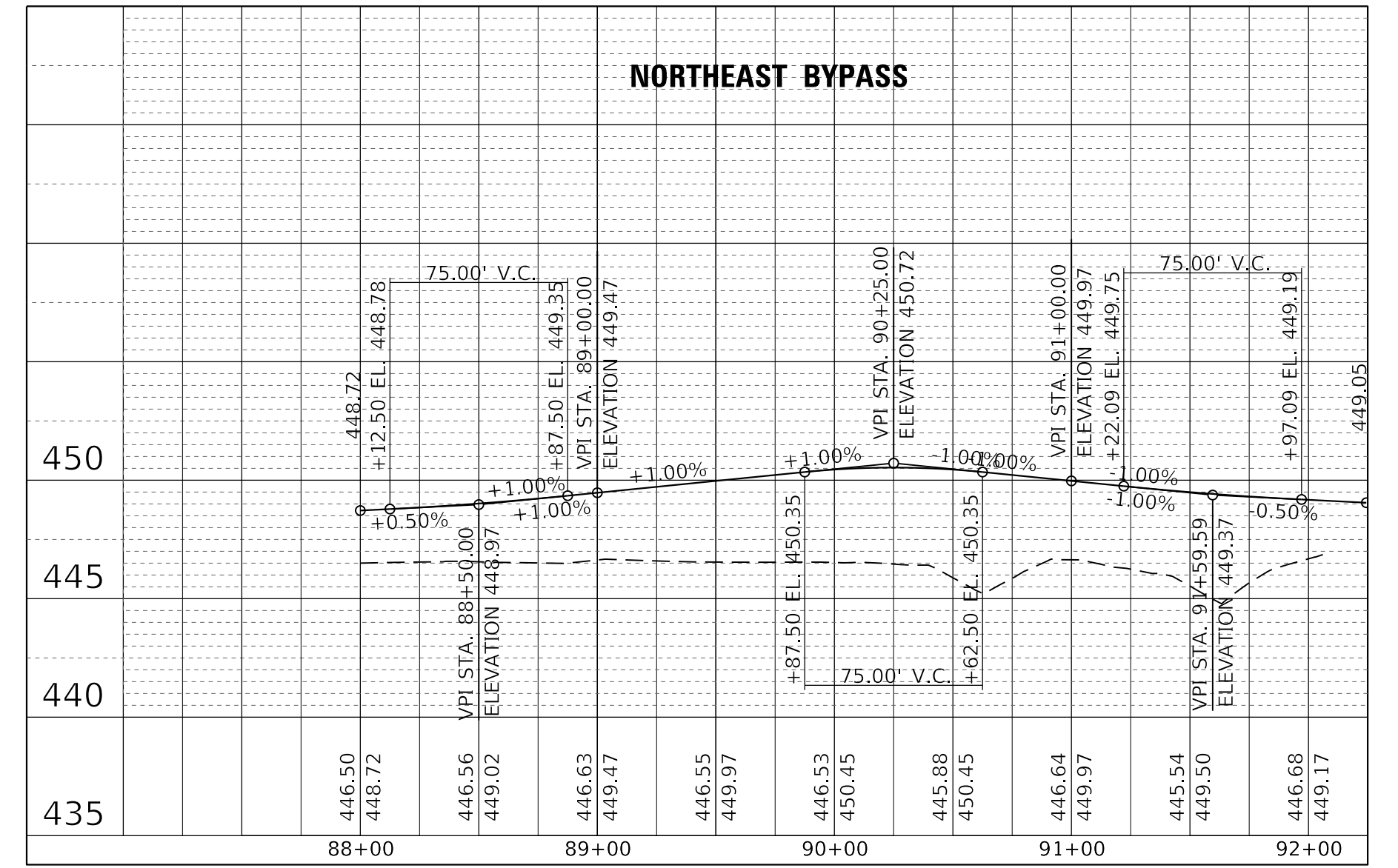
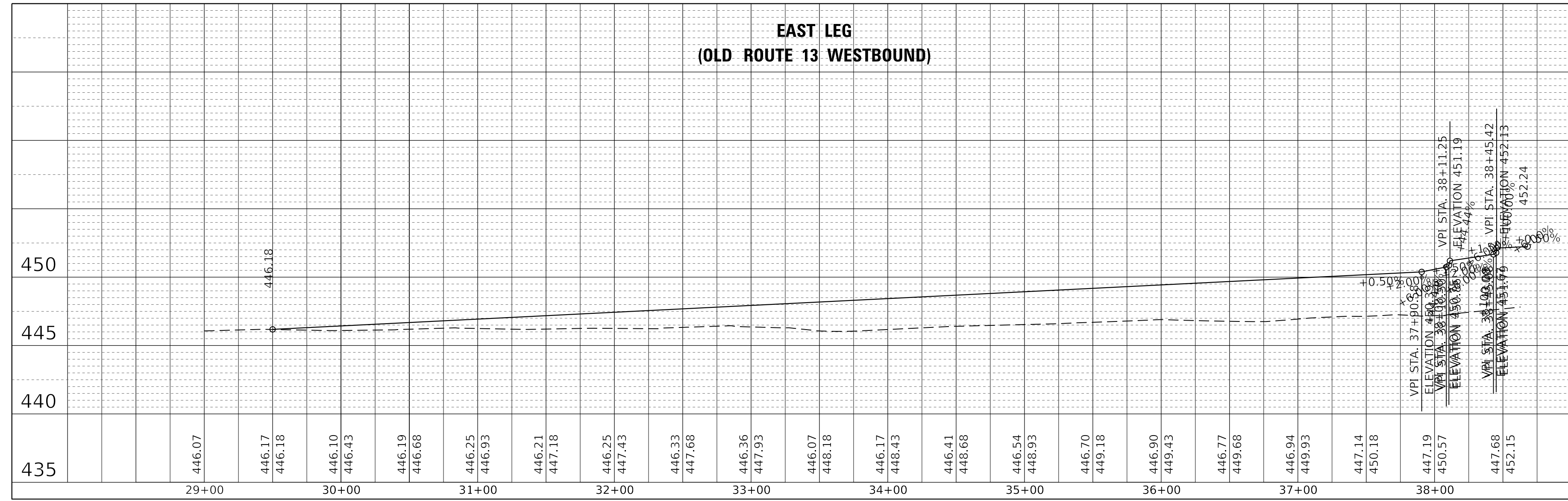
FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

SEC. NO. (130.1)N-3

SCALE 1"=20'

SIN : PROJ. NO. D-99-083-21

PLOT DATE: 5/21/2022
 FILE NAME: C:\CSCAPP\F130471130_7\0978633-SH-IDS.dgn
 PLOT SCALE: 59.9999' / in.
 USER NAME: PWICS55



Preliminary

INTERSECTION DESIGN STUDY

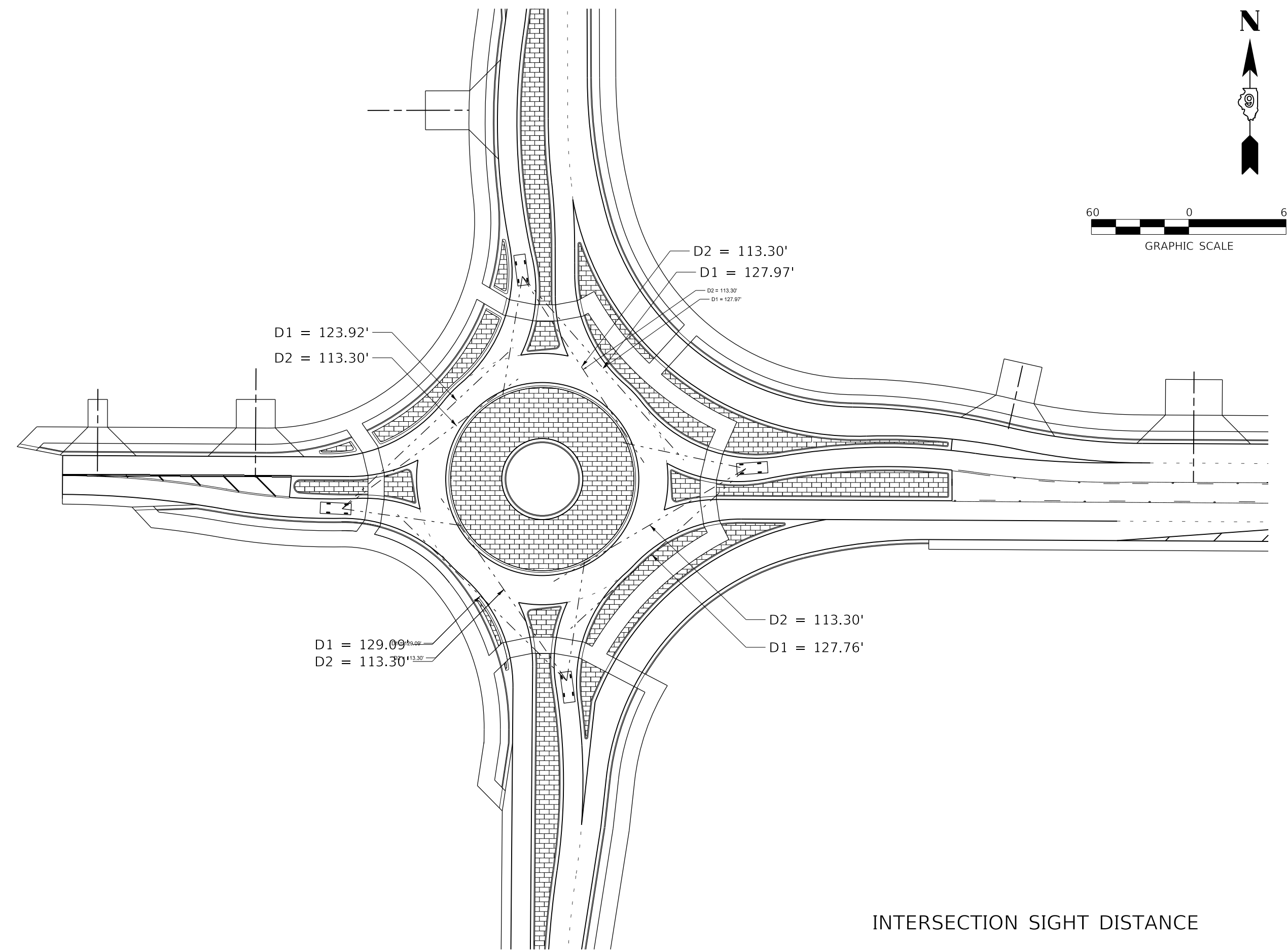
FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

SEC. NO. (130.1)N-3

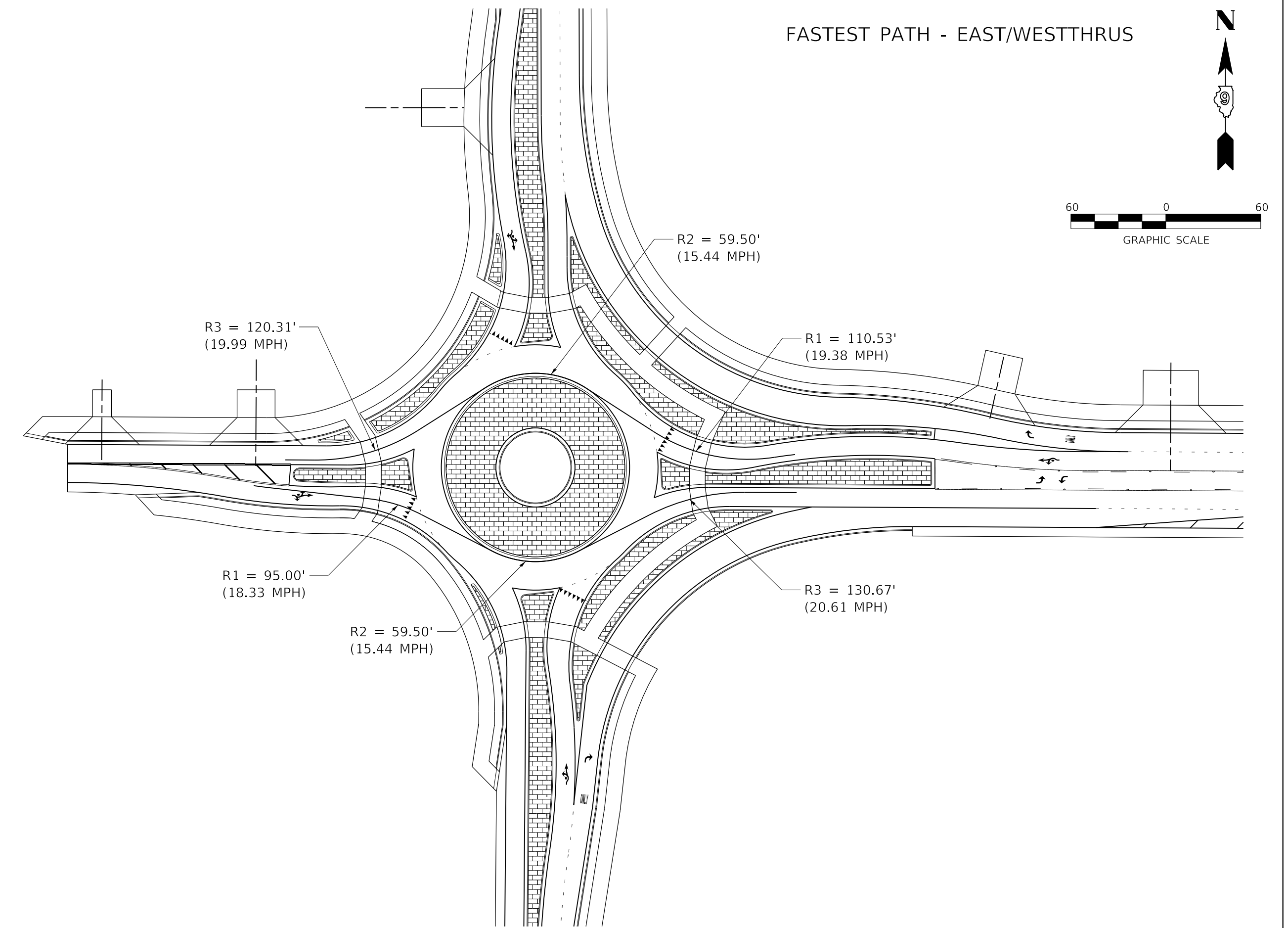
SCALE 1"=60'

SIN : PROJ. NO. D-99-083-21

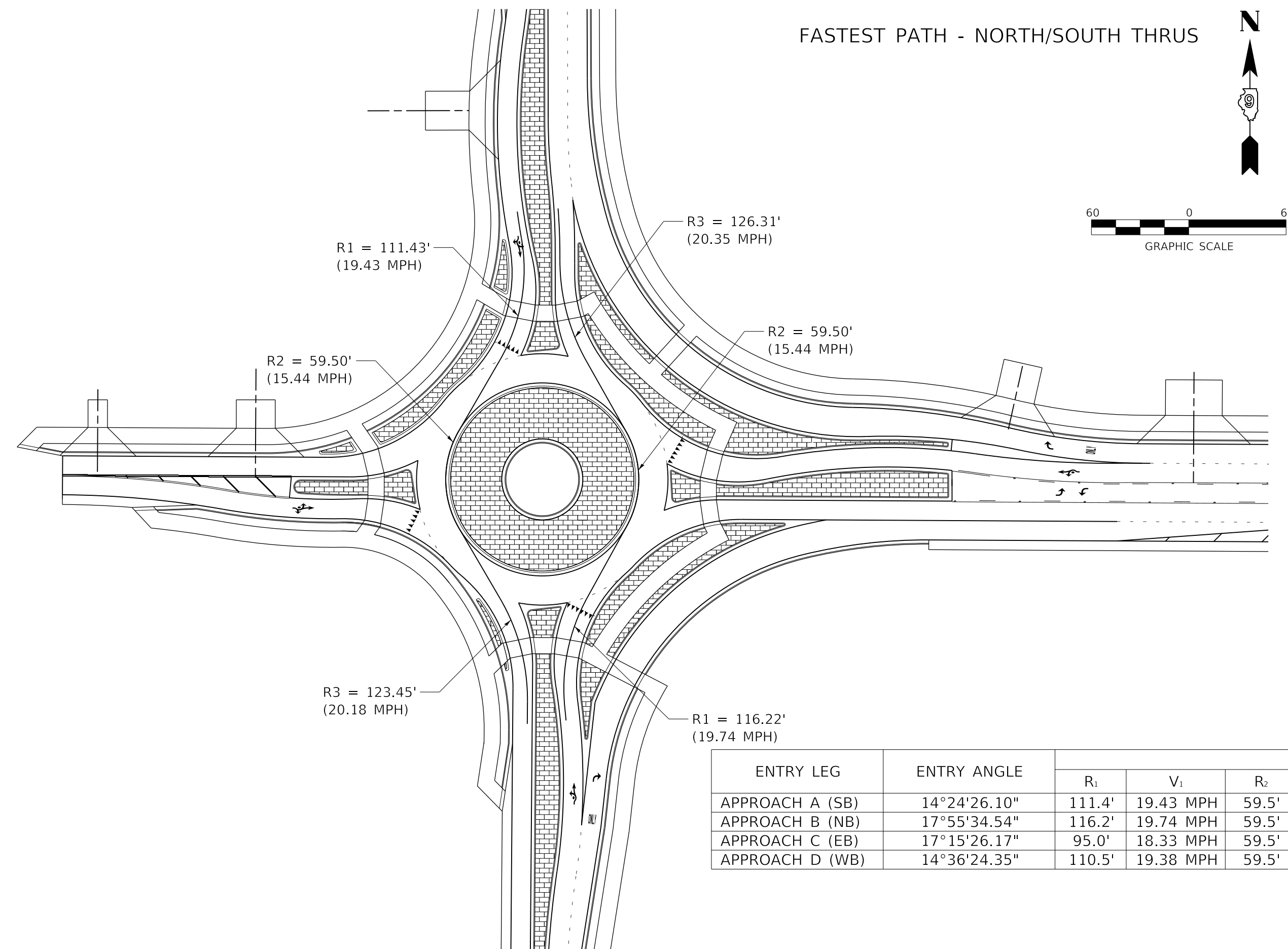
PLOT DATE 5/21/2022
 FILE NAME C:\CS499\F13047\11530_7\0978633-S\H-ID5.dgn
 PLOT SCALE 59.9999' / 1" / hr.
 USER NAME PWICS5



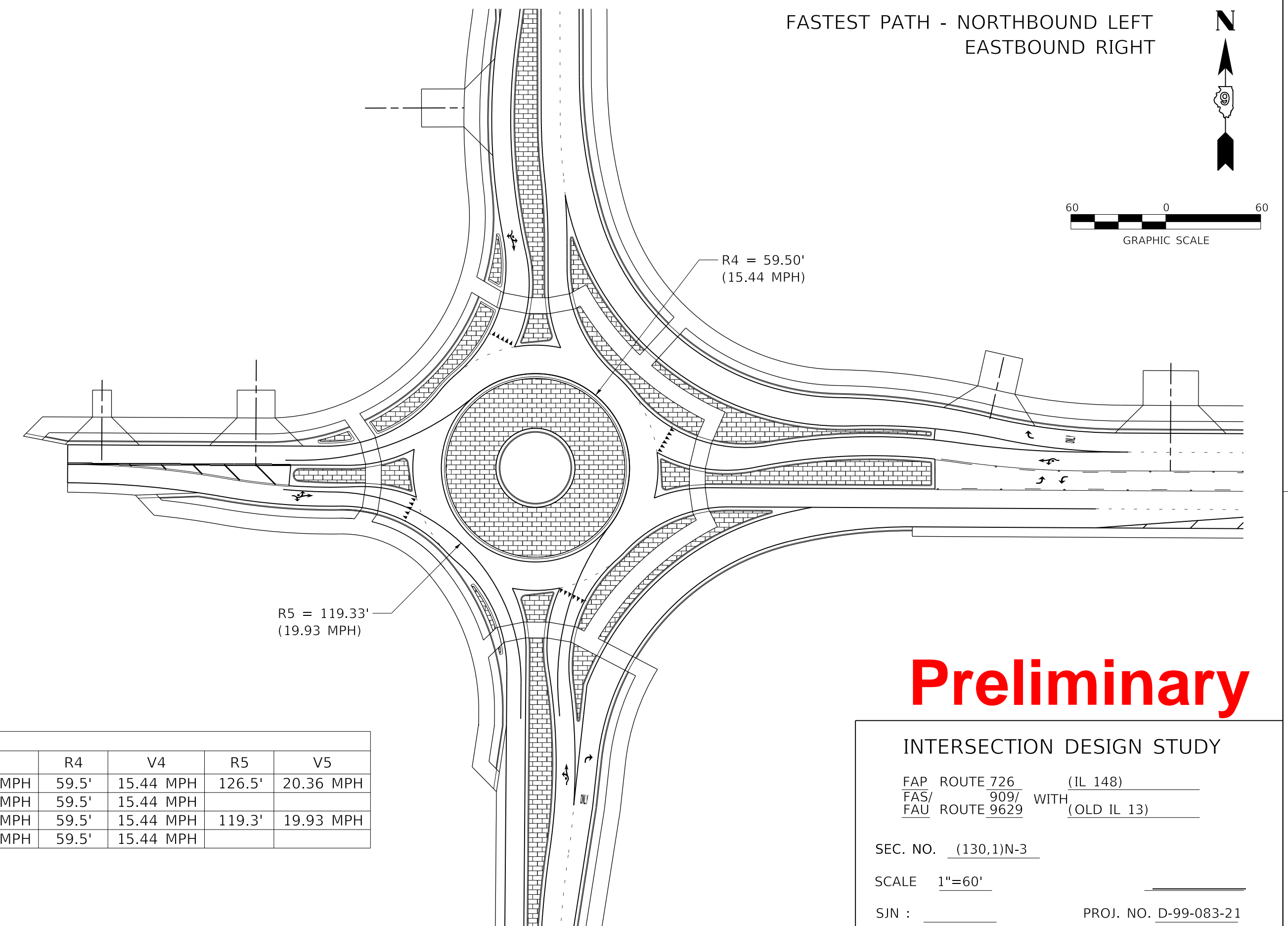
INTERSECTION SIGHT DISTANCE



FASTEST PATH - EAST/WEST THRUS



FASTEST PATH - NORTH/SOUTH THRUS



FASTEST PATH - NORTHBOUND LEFT
EASTBOUND RIGHT

ENTRY LEG	ENTRY ANGLE	FASTEST PATH									
		R ₁	V ₁	R ₂	V ₂	R ₃	V ₃	R ₄	V ₄	R ₅	V ₅
APPROACH A (SB)	14°24'26.10"	111.4'	19.43 MPH	59.5'	15.44 MPH	123.5'	20.18 MPH	59.5'	15.44 MPH	126.5'	20.36 MPH
APPROACH B (NB)	17°55'34.54"	116.2'	19.74 MPH	59.5'	15.44 MPH	126.3'	20.35 MPH	59.5'	15.44 MPH	119.3'	19.93 MPH
APPROACH C (EB)	17°15'26.17"	95.0'	18.33 MPH	59.5'	15.44 MPH	130.7'	20.61 MPH	59.5'	15.44 MPH	119.3'	19.93 MPH
APPROACH D (WB)	14°36'24.35"	110.5'	19.38 MPH	59.5'	15.44 MPH	120.3'	19.99 MPH	59.5'	15.44 MPH	119.3'	19.93 MPH

Preliminary

INTERSECTION DESIGN STUDY

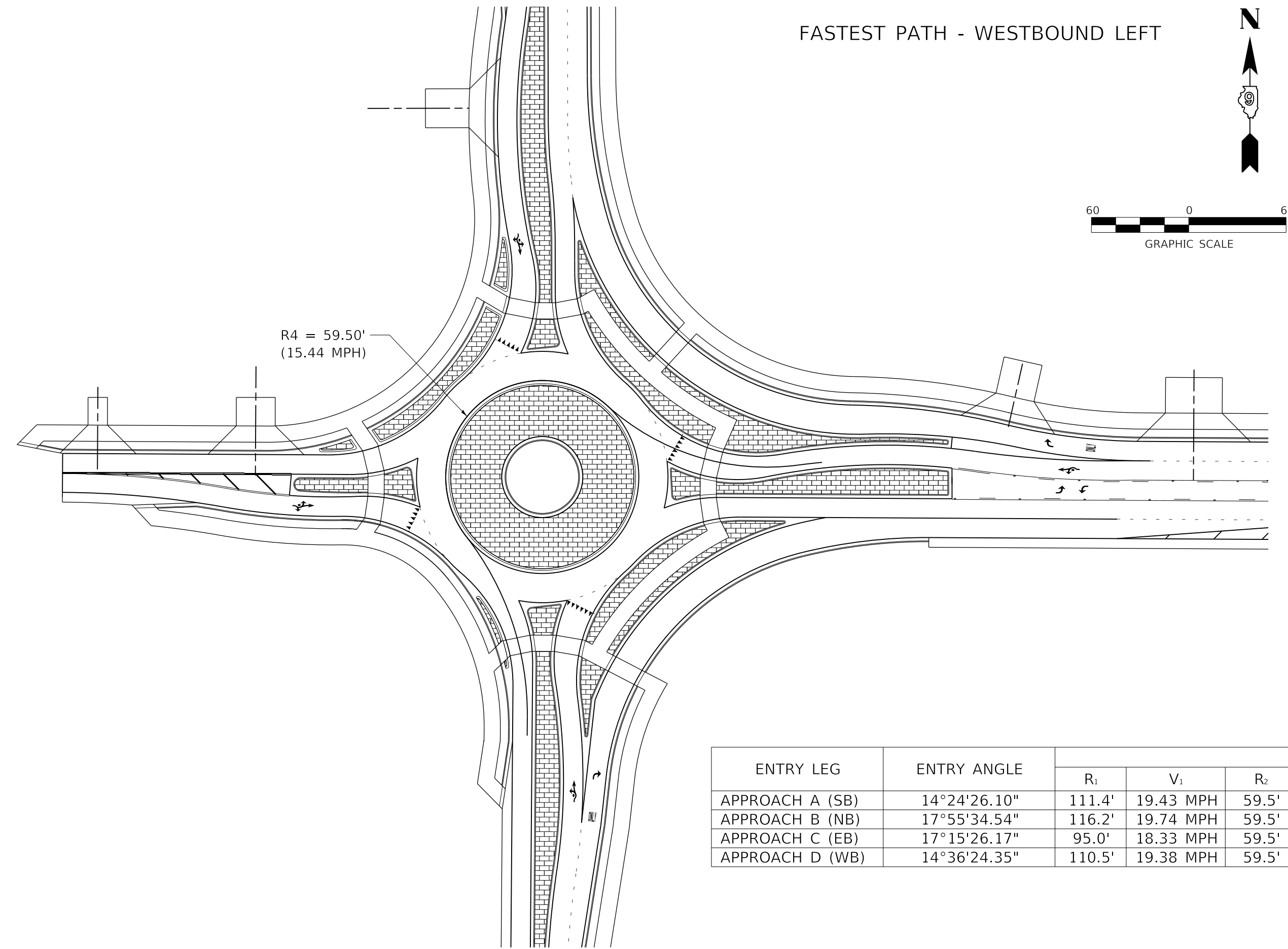
FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

SEC. NO. (130.1)N-3

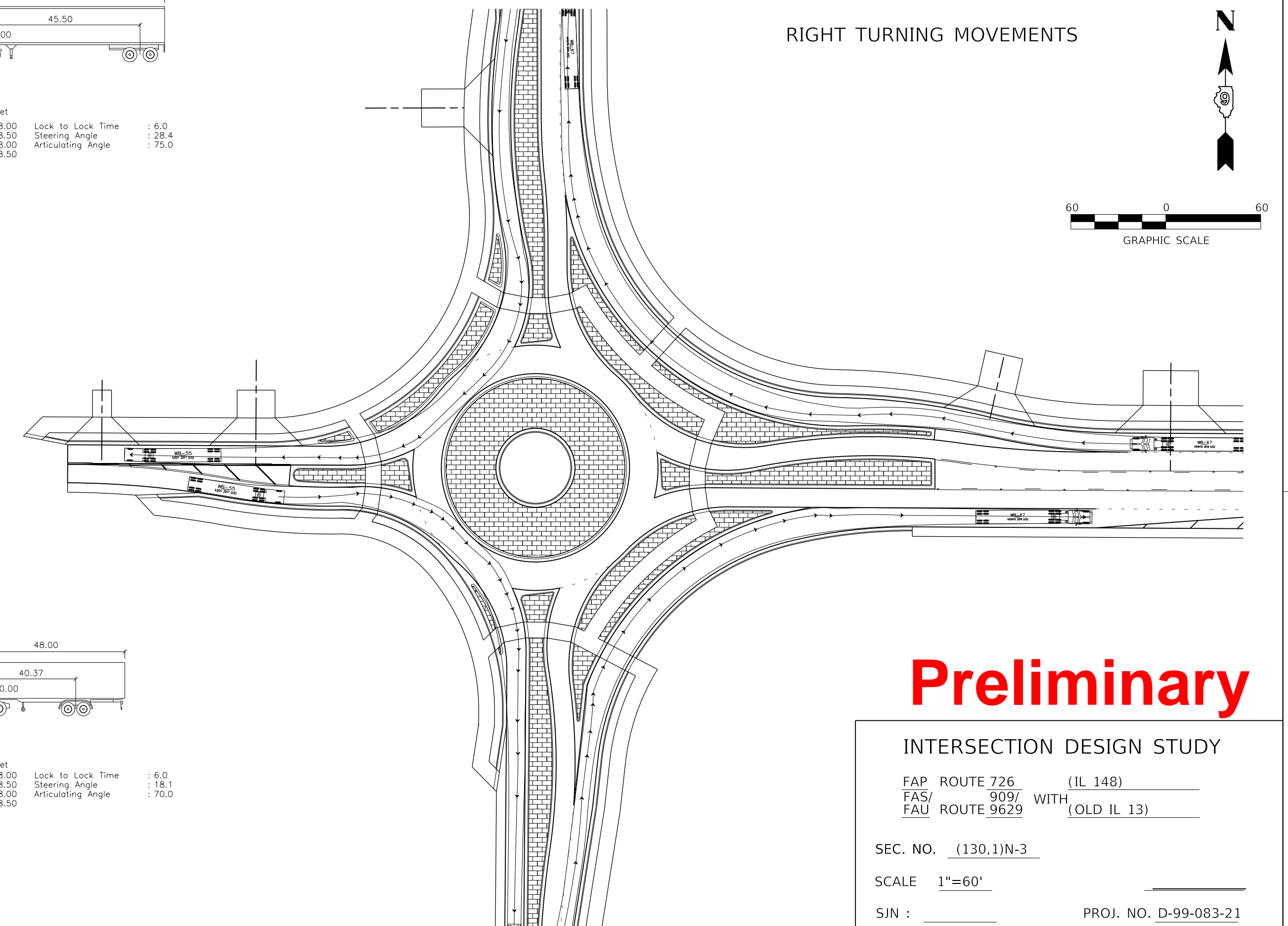
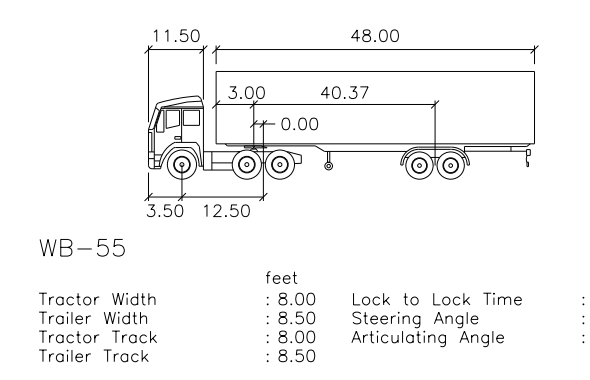
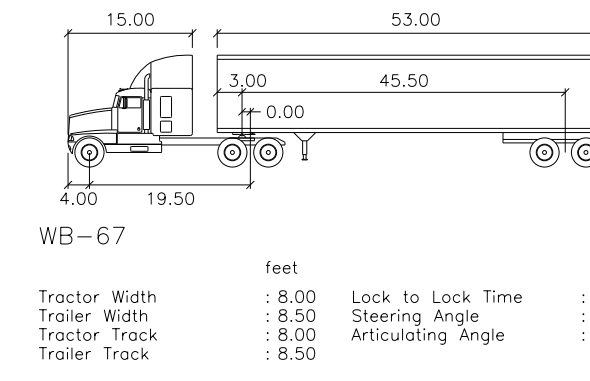
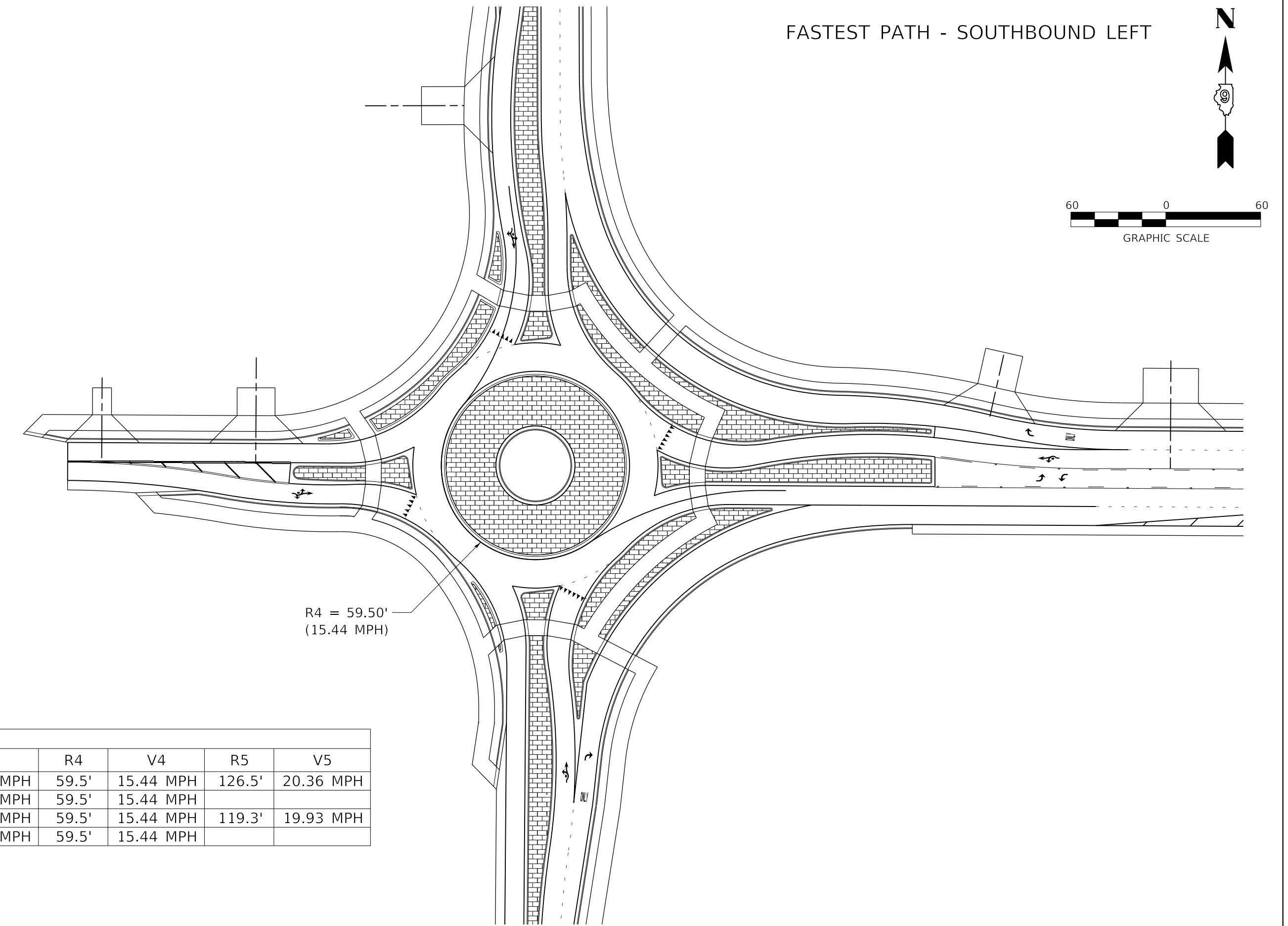
SCALE 1"=60'

SIN : PROJ. NO. D-99-083-21

PLOT DATE : 5/21/2022
 FILE NAME : C:\CSCS\APP\1304711530_7\0978633-SIN-IDS.dgn
 PLOT SCALE : 59.9999 / in.
 USER NAME : PWIC55



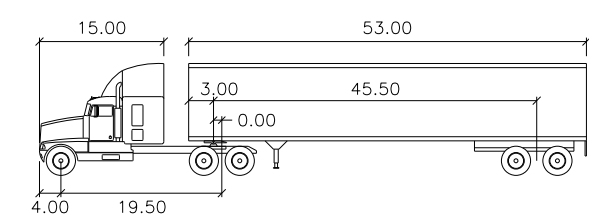
ENTRY LEG	ENTRY ANGLE	FASTEST PATH									
		R _i	V _i	R _e	V _e	R _i	V _i	R ₄	V ₄	R ₅	V ₅
APPROACH A (SB)	14°24'26.10"	111.4'	19.43 MPH	59.5'	15.44 MPH	123.5'	20.18 MPH	59.5'	15.44 MPH	126.5'	20.36 MPH
APPROACH B (NB)	17°55'34.54"	116.2'	19.74 MPH	59.5'	15.44 MPH	126.3'	20.35 MPH	59.5'	15.44 MPH	126.5'	20.36 MPH
APPROACH C (EB)	17°15'26.17"	95.0'	18.33 MPH	59.5'	15.44 MPH	130.7'	20.61 MPH	59.5'	15.44 MPH	119.3'	19.93 MPH
APPROACH D (WB)	14°36'24.35"	110.5'	19.38 MPH	59.5'	15.44 MPH	120.3'	19.99 MPH	59.5'	15.44 MPH		



Preliminary

INTERSECTION DESIGN STUDY
 FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

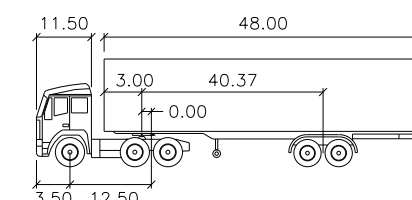
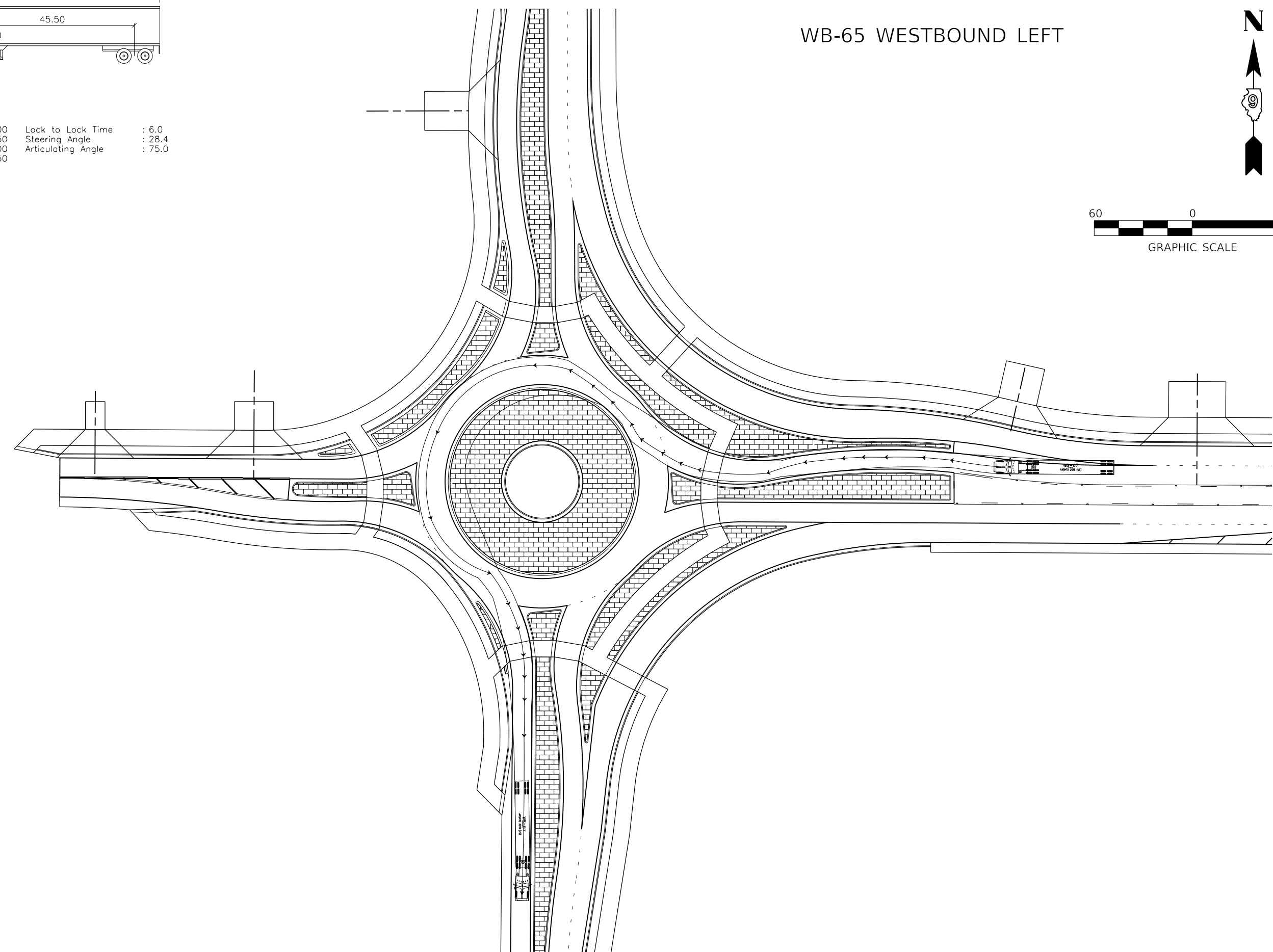
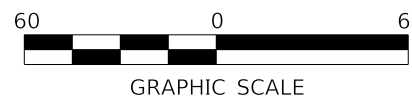
SEC. NO. (130.1)N-3
 SCALE 1"=60'
 SIN : _____ PROJ. NO. D-99-083-21



WB-67

feet	
Tractor Width	: 8.00
Tractor Track	: 8.00
Trailer Width	: 8.50
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 28.4
Articulating Angle	: 75.0

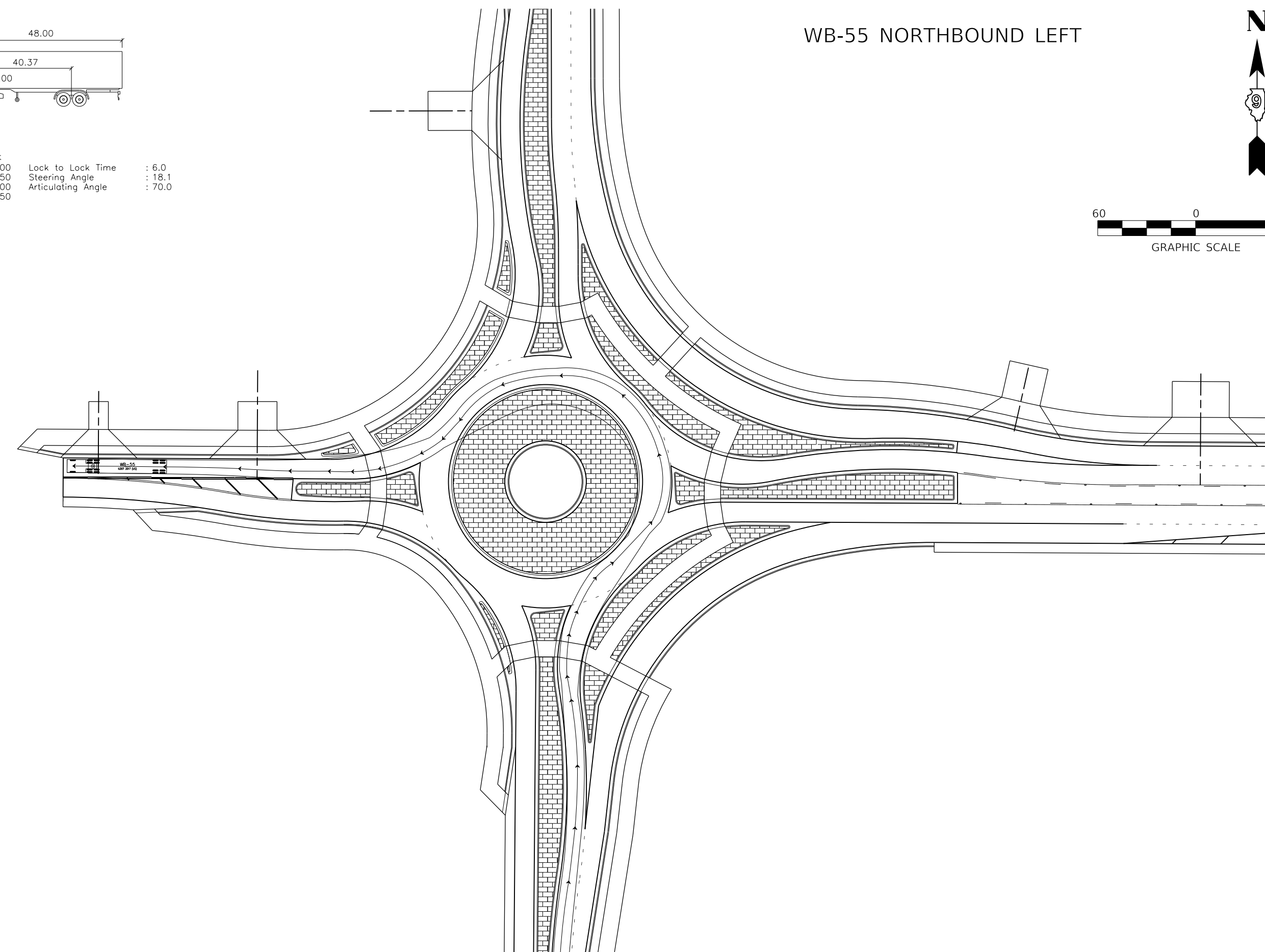
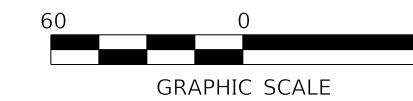
WB-65 WESTBOUND LEFT



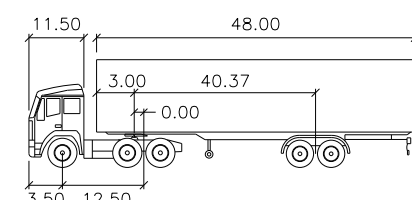
WB-55

feet	
Tractor Width	: 8.00
Tractor Track	: 8.00
Trailer Width	: 8.50
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 18.1
Articulating Angle	: 70.0

WB-55 NORTHBOUND LEFT



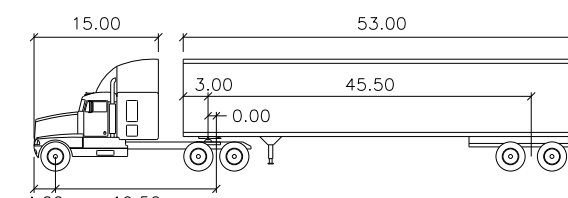
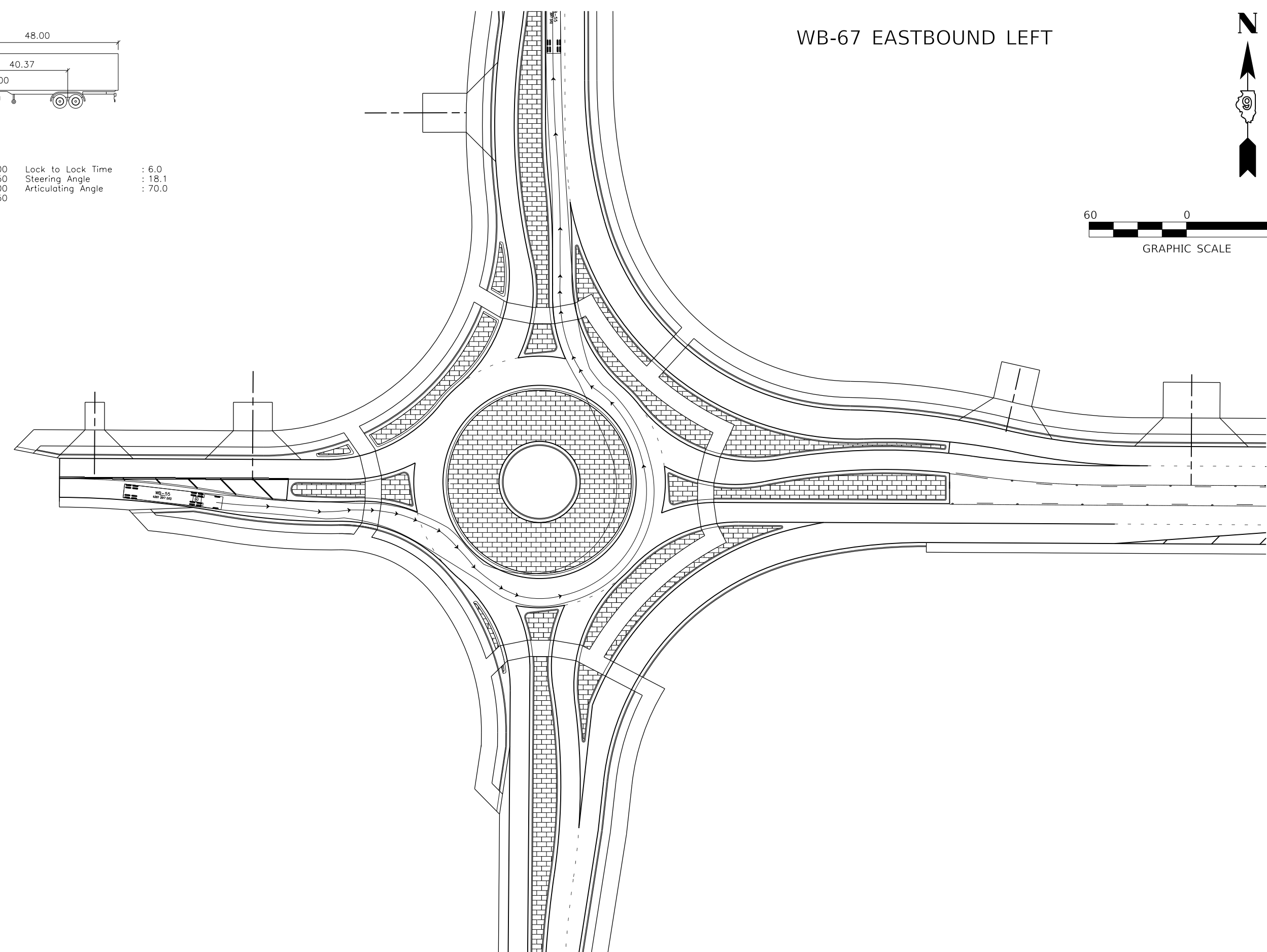
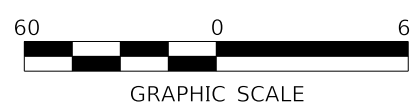
PLOT DATE : 5/21/2022
 FILE NAME : C:\CSC499\F1\3047\11530_7\0978633-S\H-ID5.dgn
 PLOT SCALE : 50.9999 / 1" = 60'
 USER NAME : PWIC55



WB-55

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

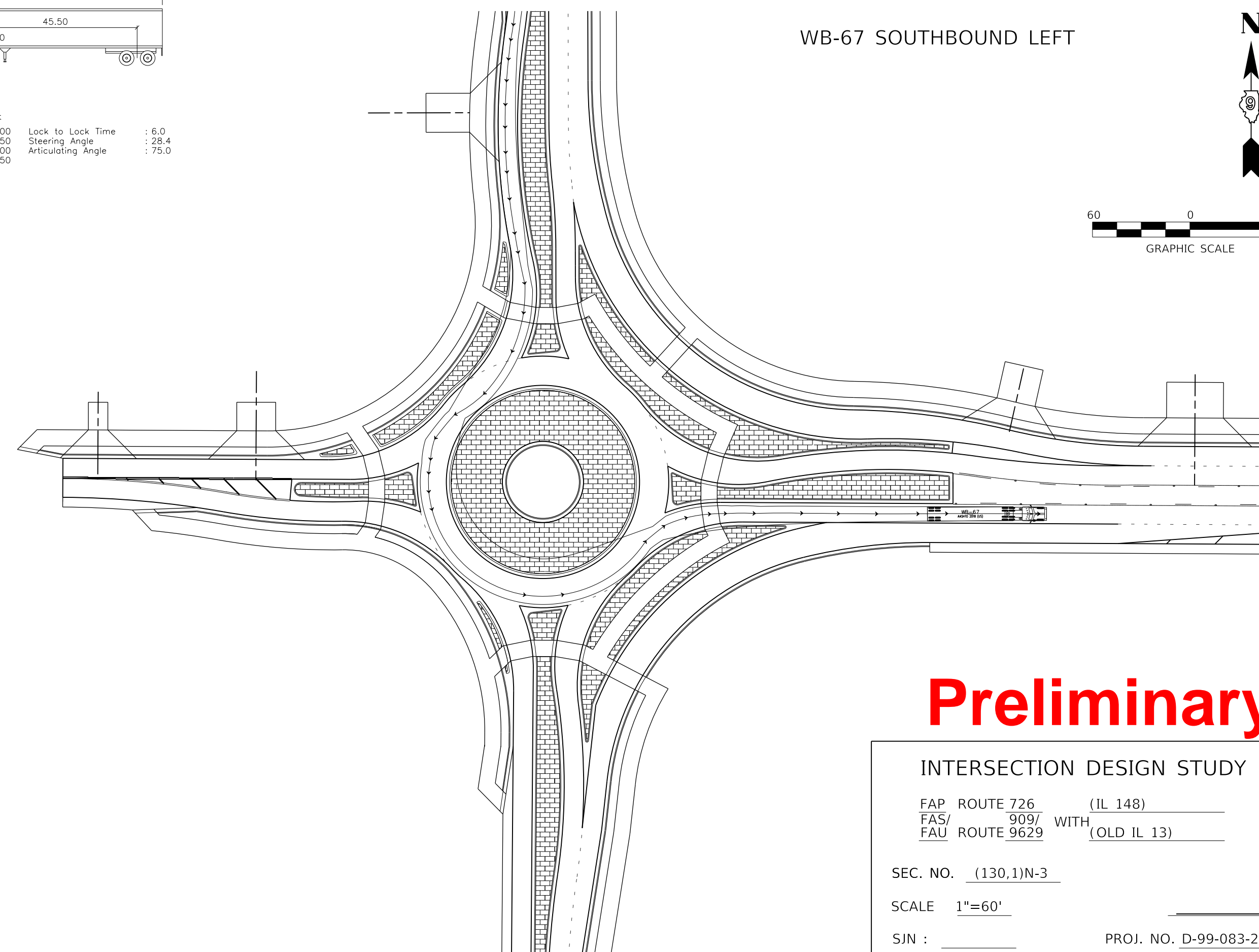
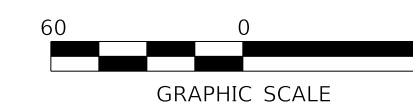
WB-67 EASTBOUND LEFT



WB-67

feet	
Tractor Width	: 8.00
Tractor Track	: 8.00
Trailer Width	: 8.50
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 28.4
Articulating Angle	: 75.0

WB-67 SOUTHBOUND LEFT



Preliminary

INTERSECTION DESIGN STUDY

FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

SEC. NO. (130.1)N-3

SCALE 1"=60'

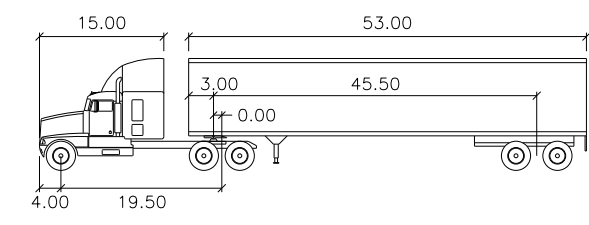
SIN :

PROJ. NO. D-99-083-21

I.D.S. SHEET 12 OF 15

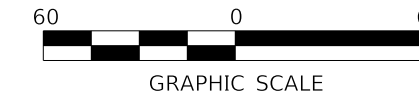
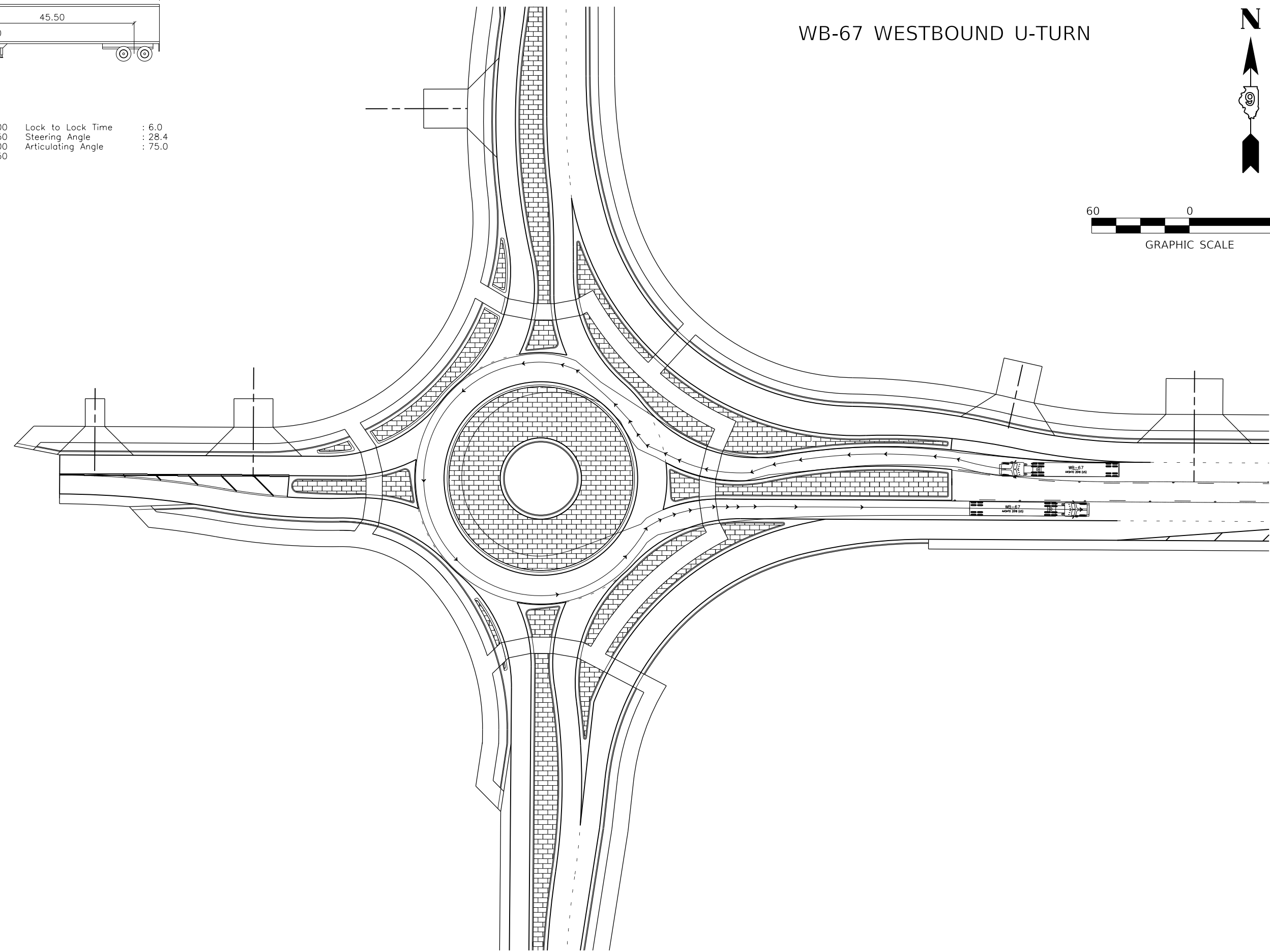
BDE-XXXX

PLOT DATE : 5/21/2022
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 PLOT SCALE : 59.9999 / 1" = 60'
 USER NAME : PWIC55

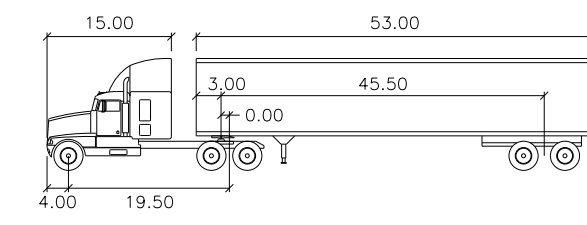


WB-67

feet	
Tractor Width	: 8.00
Tractor Track	: 8.00
Trailer Width	: 8.50
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 28.4
Articulating Angle	: 75.0

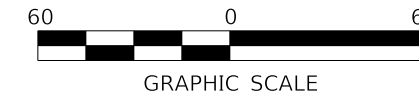
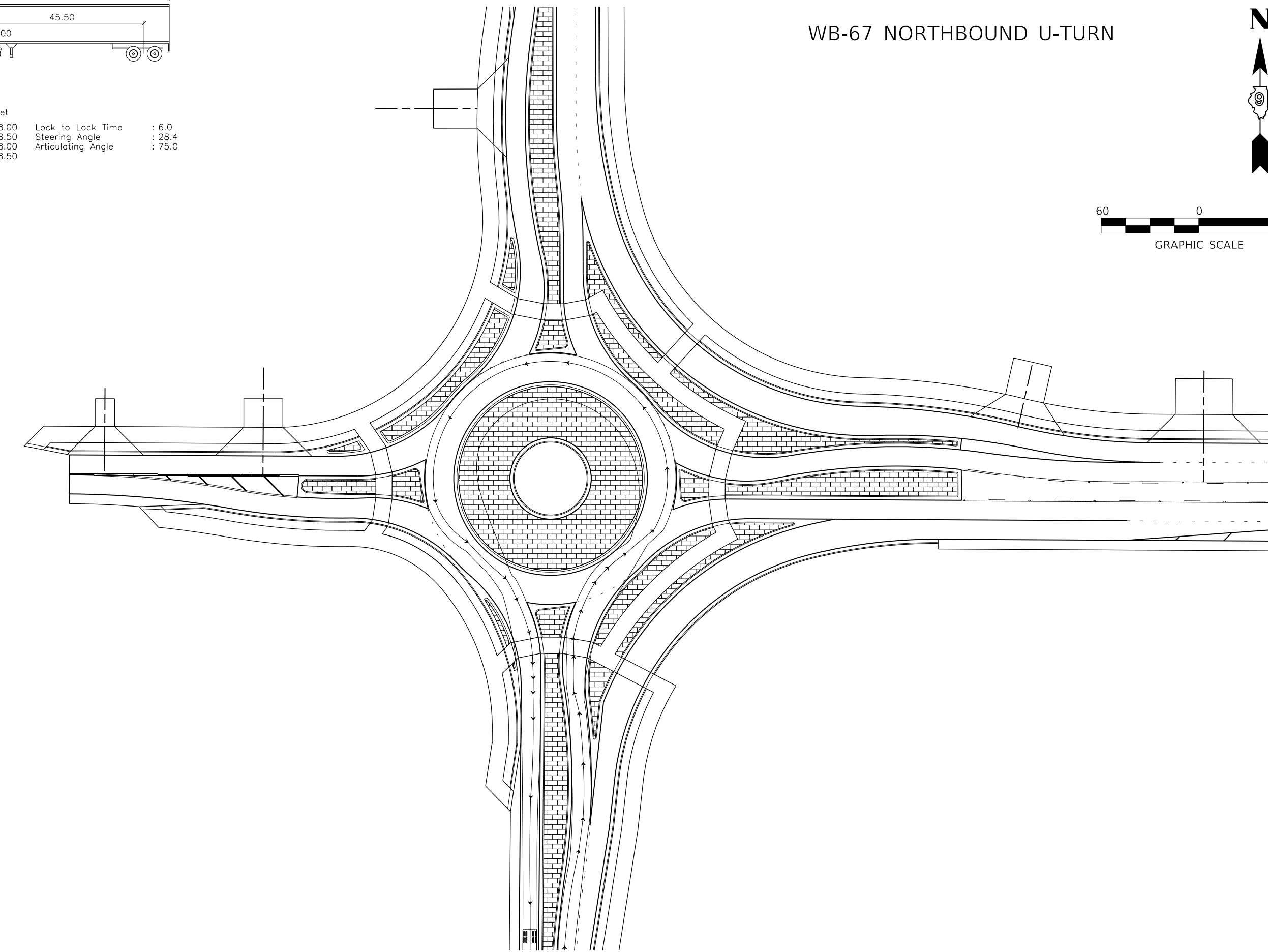


WB-67 WESTBOUND U-TURN

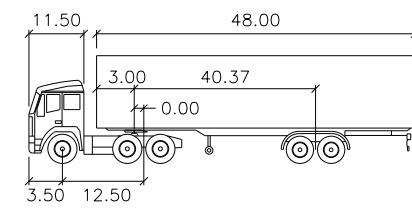


WB-67

feet	
Tractor Width	: 8.00
Tractor Track	: 8.00
Trailer Width	: 8.50
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 28.4
Articulating Angle	: 75.0

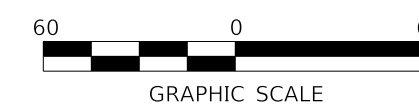
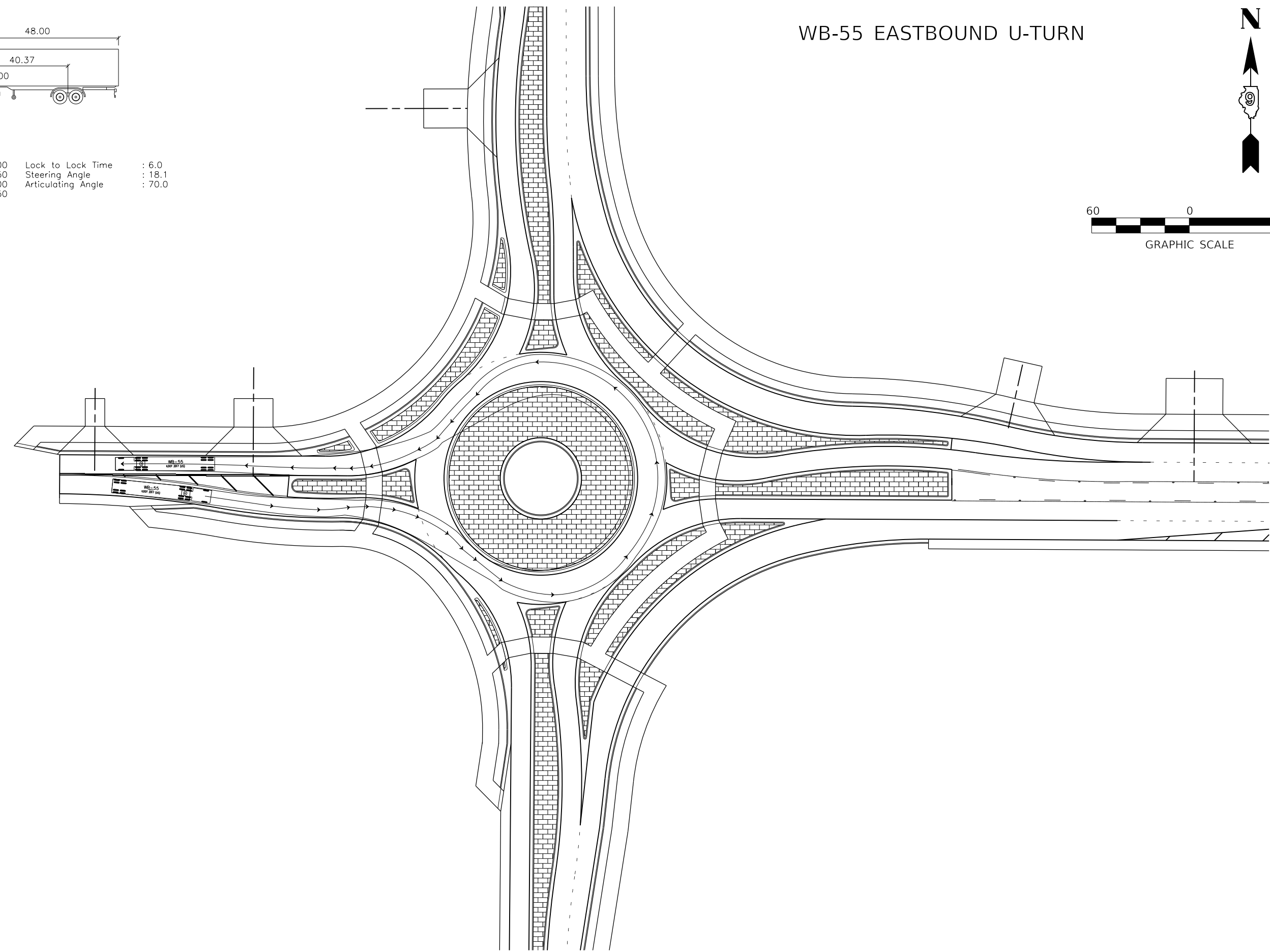


WB-67 NORTHBOUND U-TURN

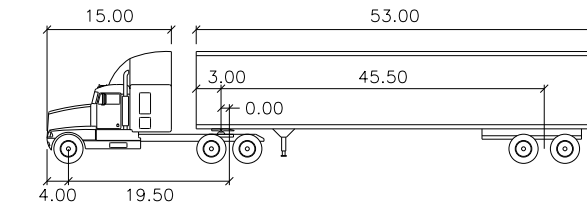


WB-55

feet	
Tractor Width	: 8.00
Tractor Track	: 8.00
Trailer Width	: 8.50
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 18.1
Articulating Angle	: 70.0

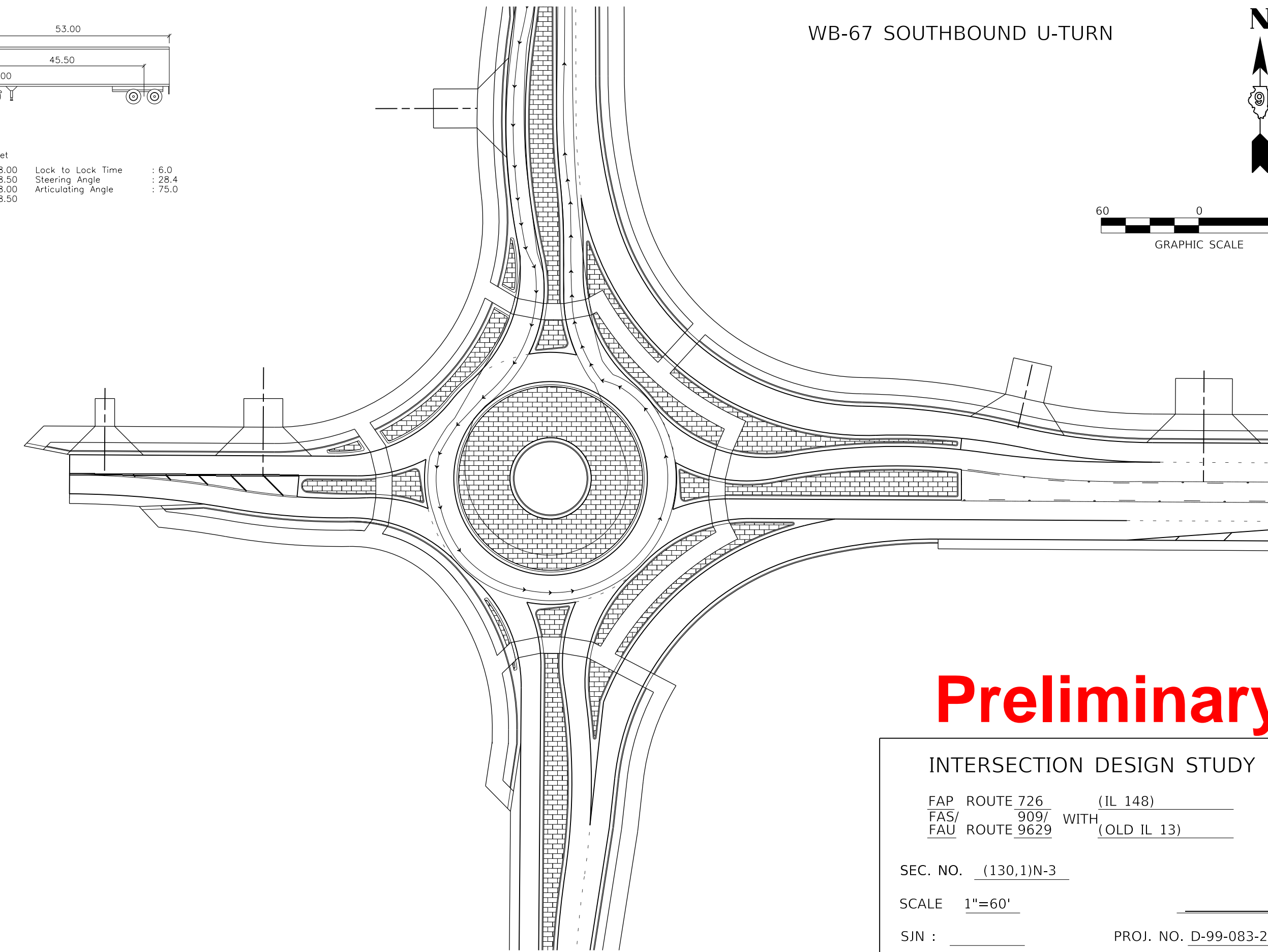


WB-55 EASTBOUND U-TURN



WB-67

feet	
Tractor Width	: 8.00
Tractor Track	: 8.00
Trailer Width	: 8.50
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 28.4
Articulating Angle	: 75.0



WB-67 SOUTHBOUND U-TURN

Preliminary

INTERSECTION DESIGN STUDY

FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

SEC. NO. (130.1)N-3

SCALE 1"=60'

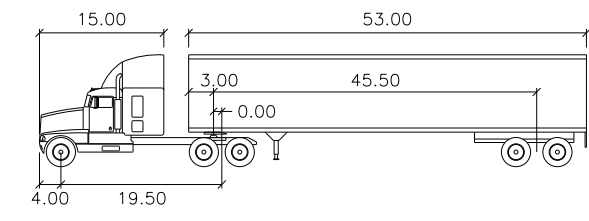
SIN :

PROJ. NO. D-99-083-21

I.D.S. SHEET 13 OF 15

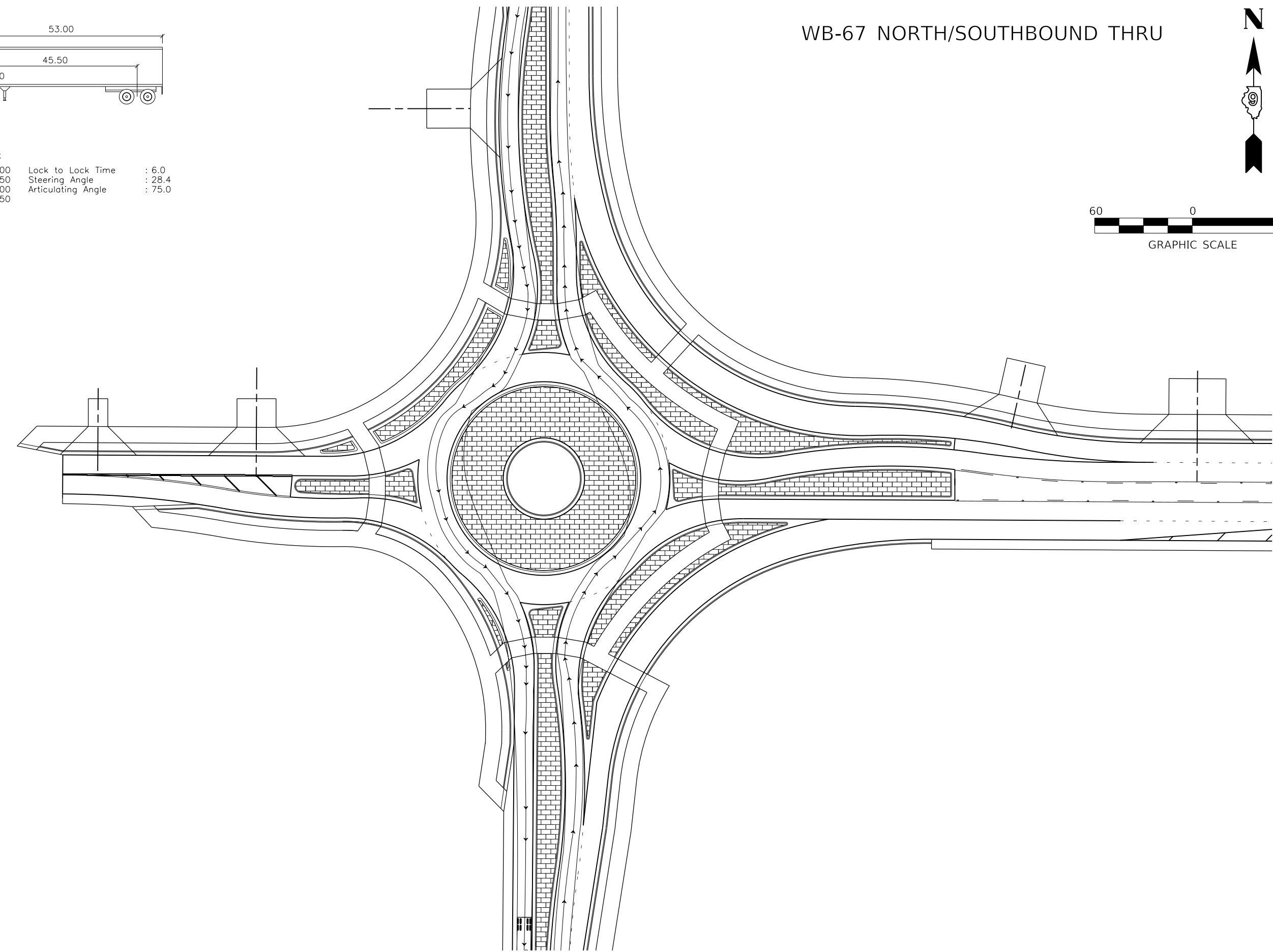
BDE-XXXX

PLOT DATE : 5/21/2022
 FILE NAME : C:\CSC499\F13047\11530_7\0978633-SH-IDS.dgn
 PLOT SCALE : 59.9999 / 1" = 60'
 USER NAME : PWIC55

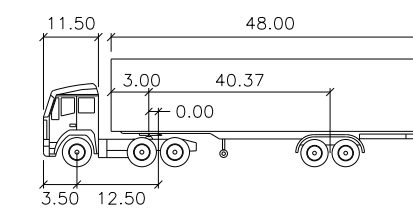
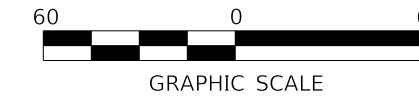


WB-67

feet	
Tractor Width	: 8.00
Trailer Width	: 8.50
Tractor Track	: 8.00
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 28.4
Articulating Angle	: 75.0

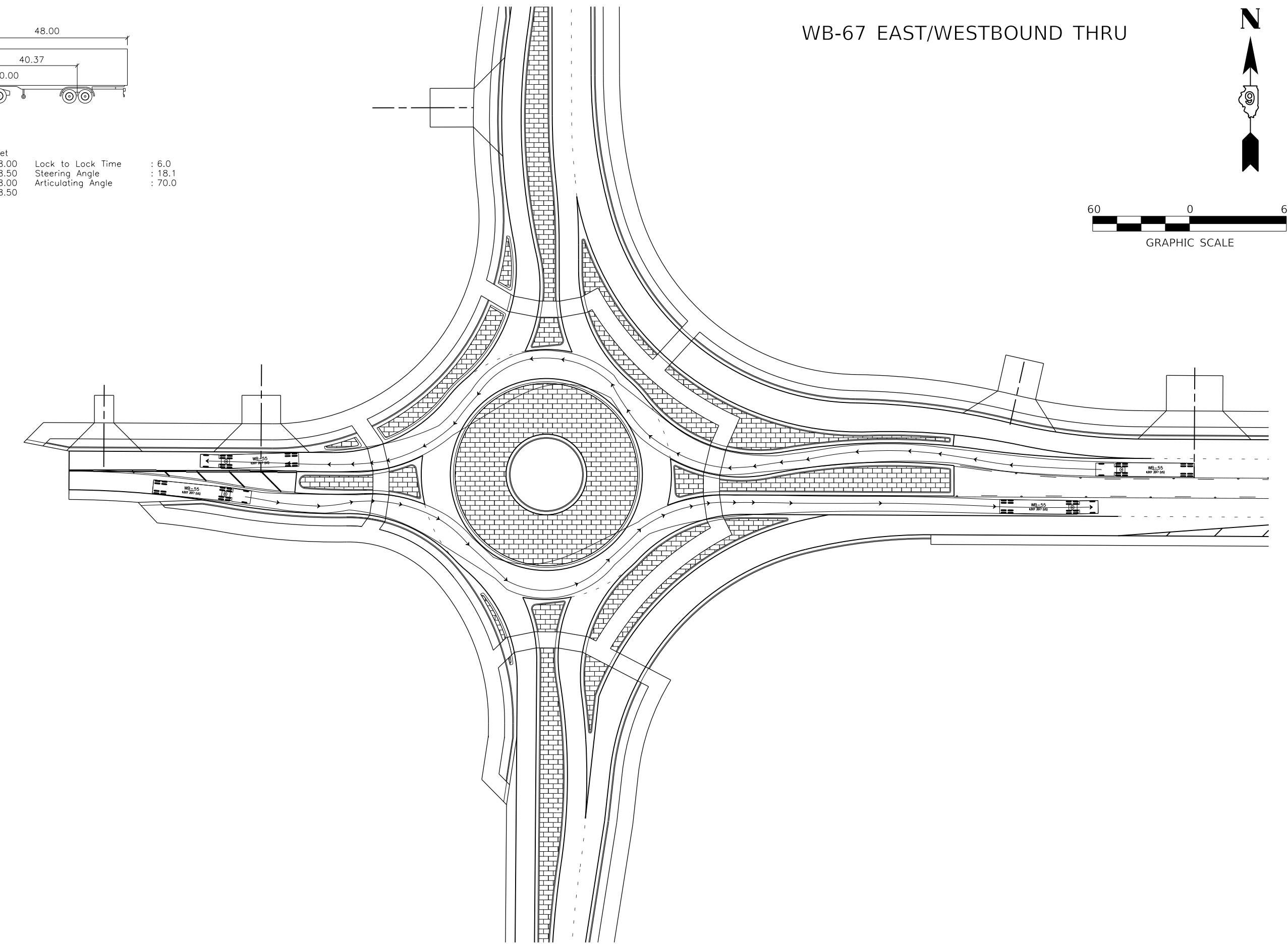


WB-67 NORTH/SOUTHBOUND THRU

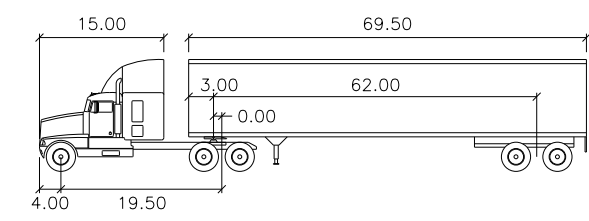


WB-55

feet	
Tractor Width	: 8.00
Trailer Width	: 8.50
Tractor Track	: 8.00
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 18.1
Articulating Angle	: 70.0

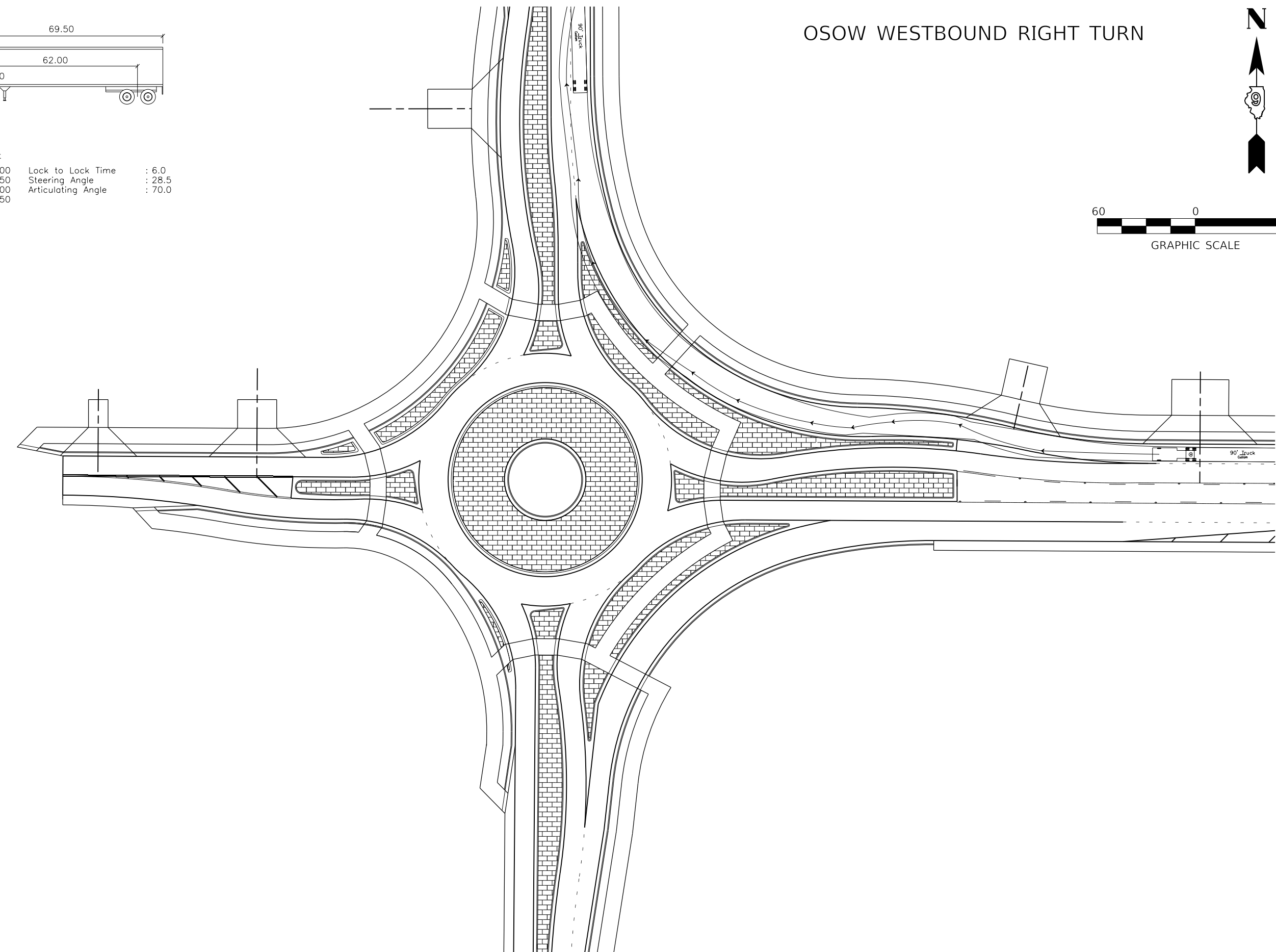


WB-67 EAST/WESTBOUND THRU

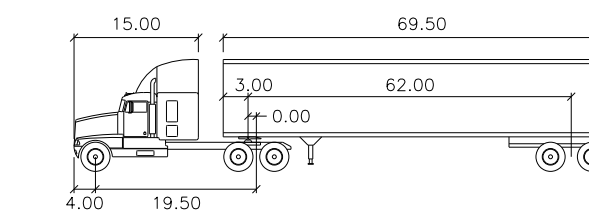
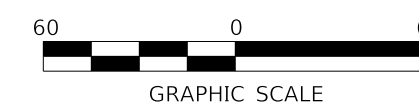


90° Truck

feet	
Tractor Width	: 8.00
Trailer Width	: 8.50
Tractor Track	: 8.00
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 28.5
Articulating Angle	: 70.0

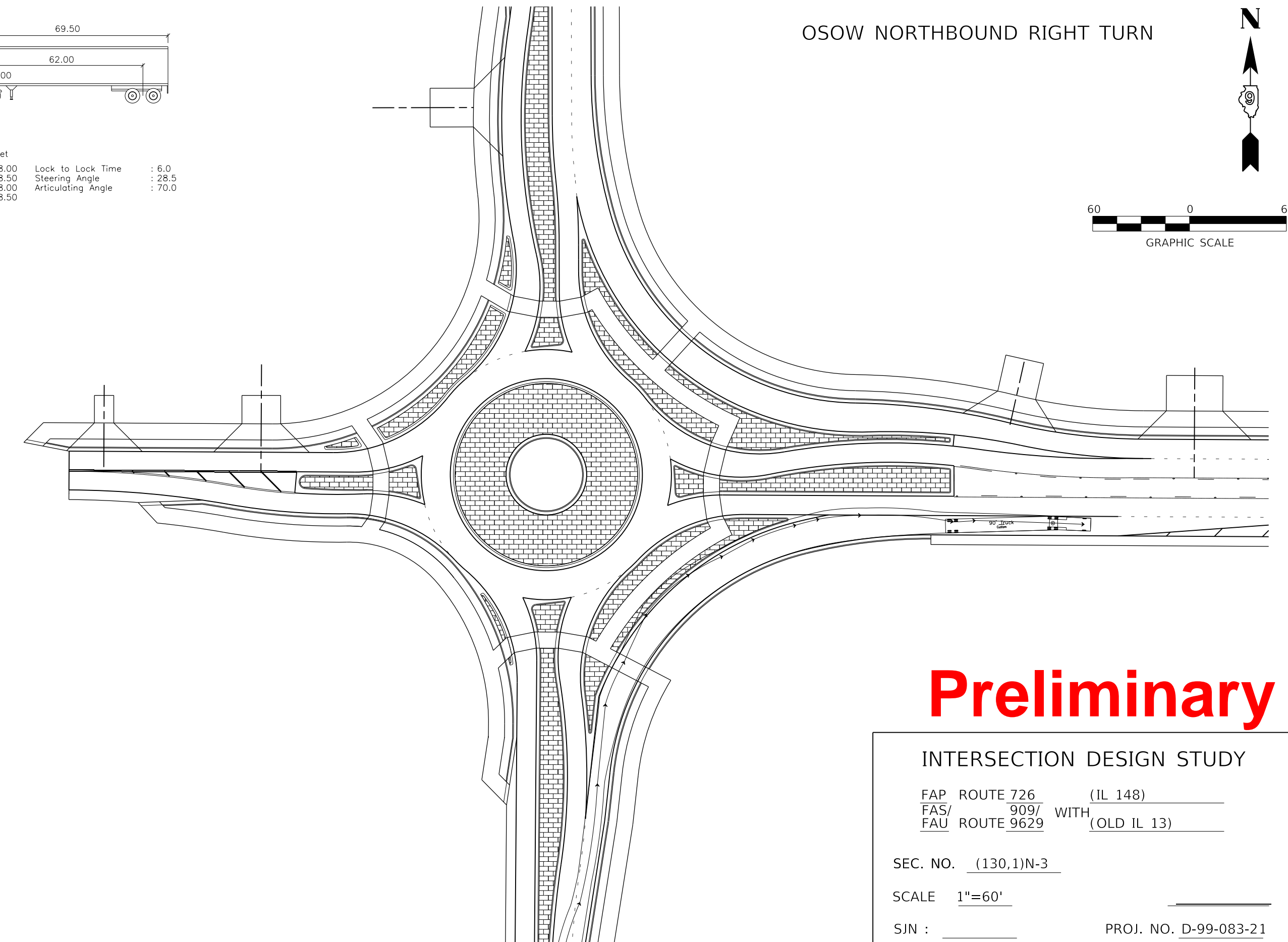


OSOW WESTBOUND RIGHT TURN



90° Truck

feet	
Tractor Width	: 8.00
Trailer Width	: 8.50
Tractor Track	: 8.00
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 28.5
Articulating Angle	: 70.0



OSOW NORTHBOUND RIGHT TURN



Preliminary

INTERSECTION DESIGN STUDY

FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

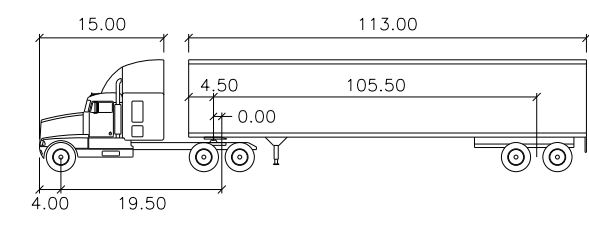
SEC. NO. (130.1)N-3

SCALE 1"=60'

SIN :

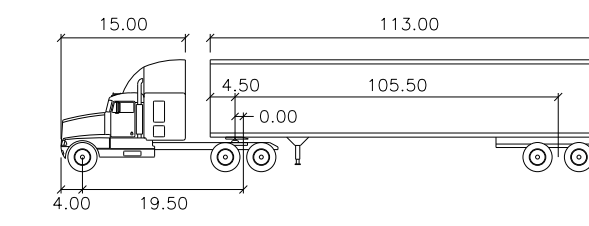
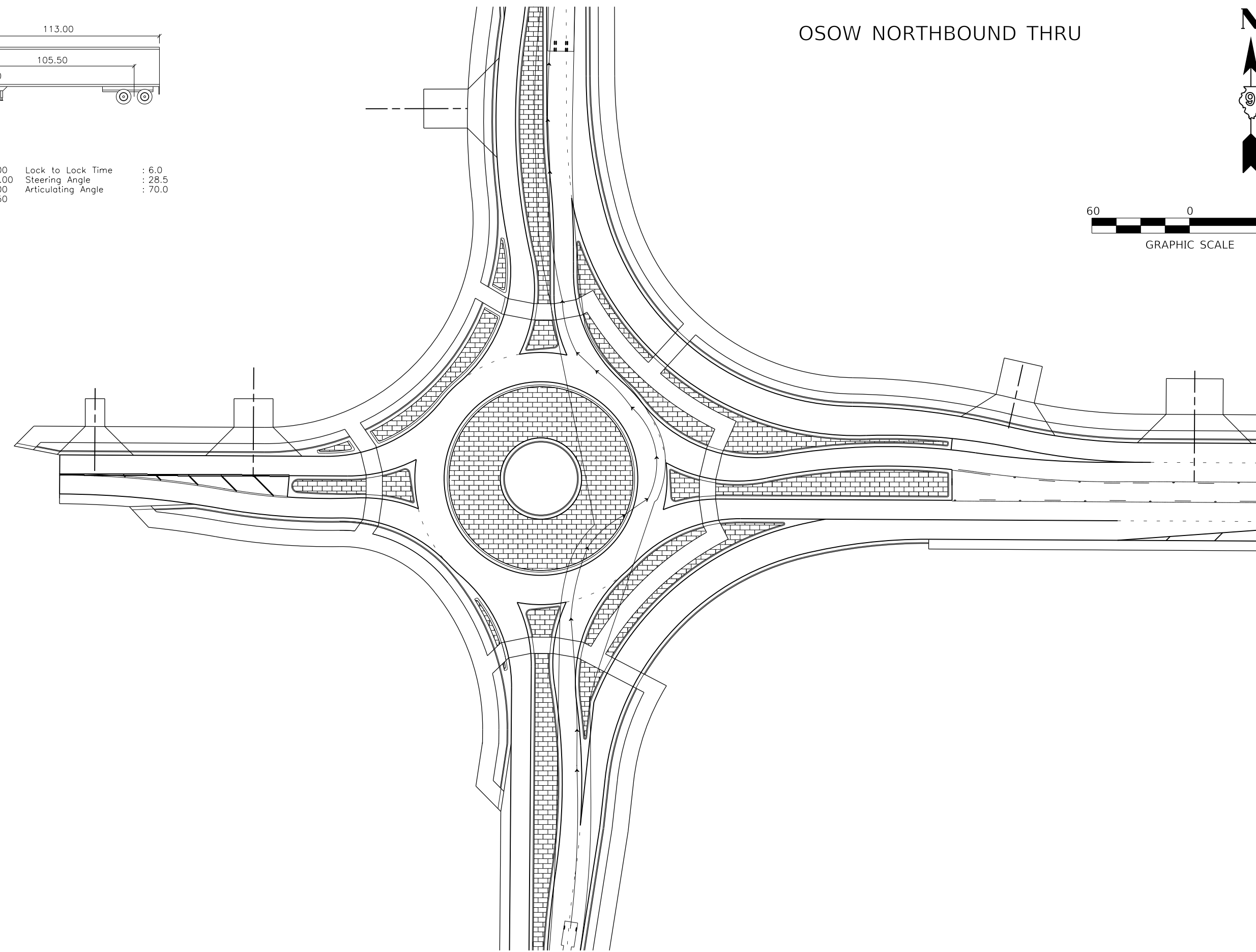
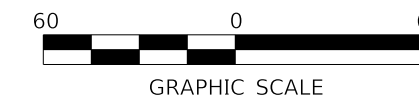
PROJ. NO. D-99-083-21

PLOT DATE : 5/21/2022
 FILE NAME : C:\CSC499\F13047\11530_7\0978633-SH-IDS.dgn
 PLOT SCALE : 59.9999 / in.
 USER NAME : PWIC55



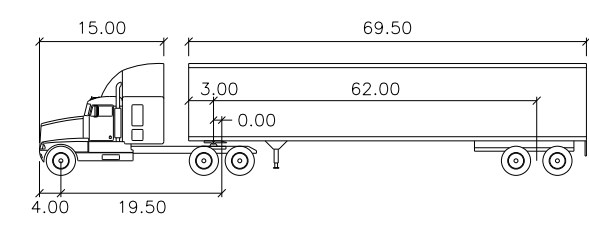
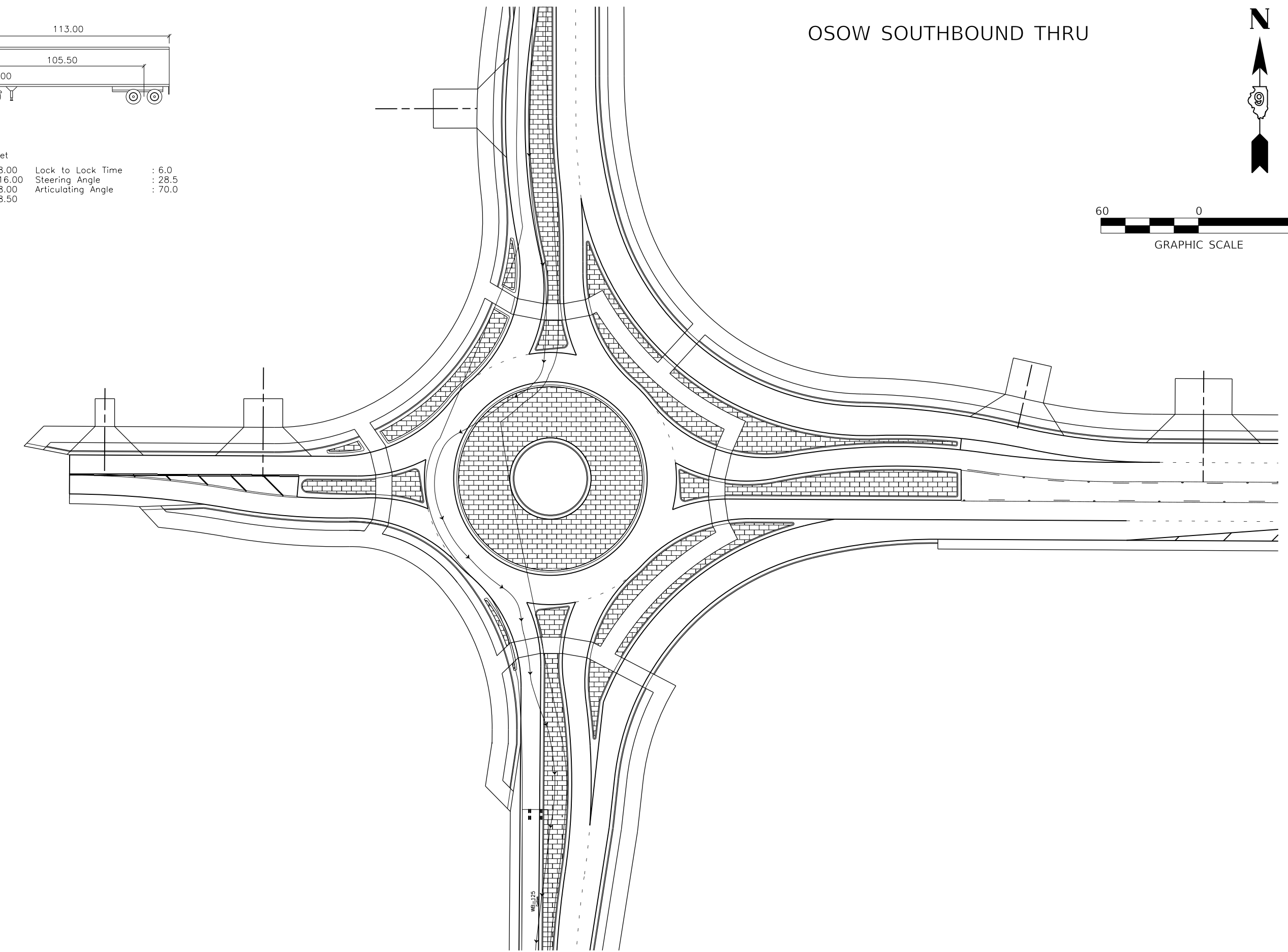
WB-125
 feet
 Tractor Width : 8.00 Lock to Lock Time : 6.0
 Trailer Width : 16.00 Steering Angle : 28.5
 Tractor Track : 8.00 Articulating Angle : 70.0
 Trailer Track : 8.50

OSOW NORTHBOUND THRU



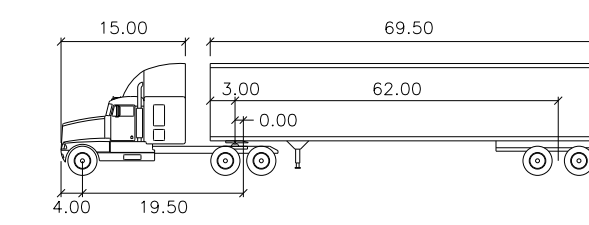
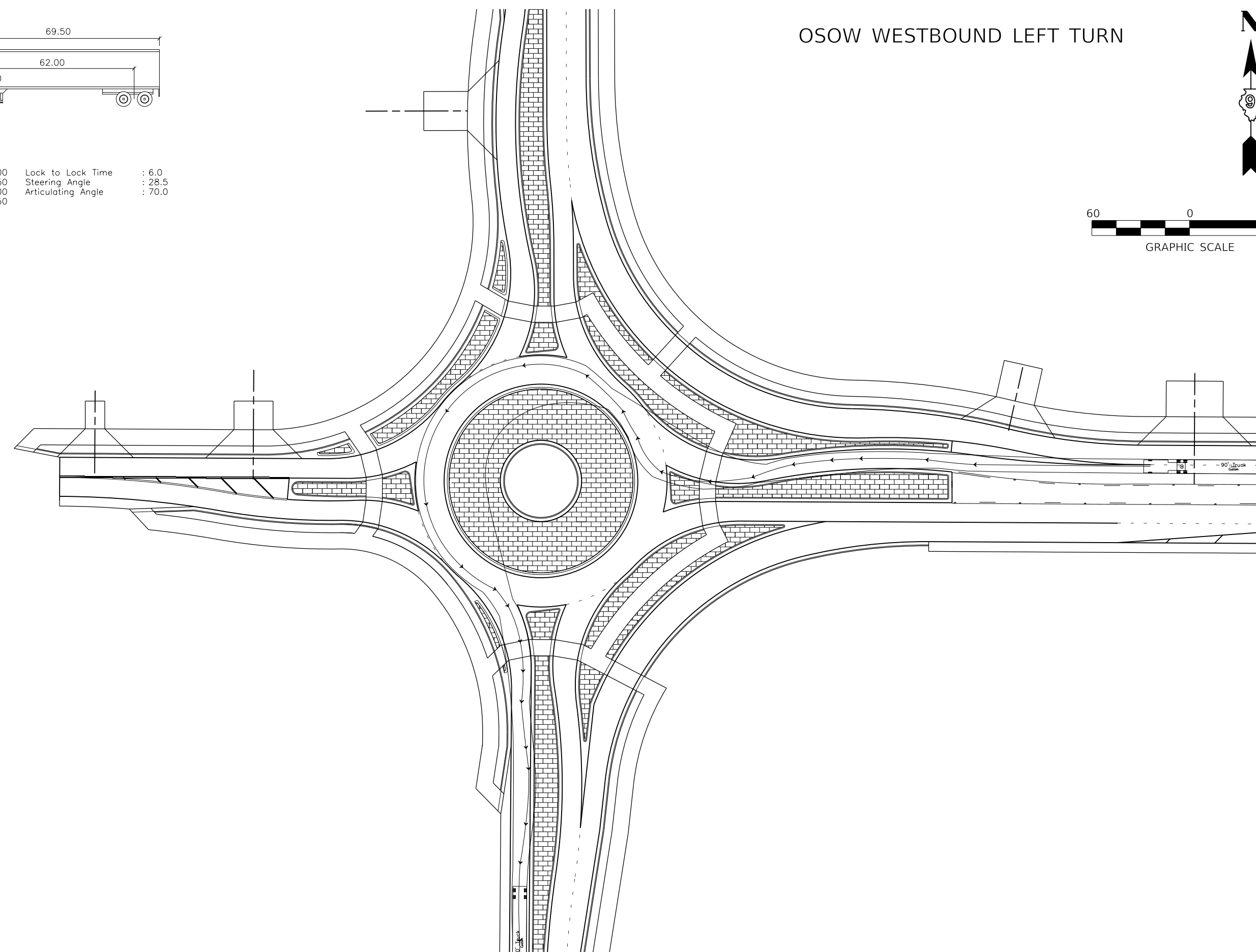
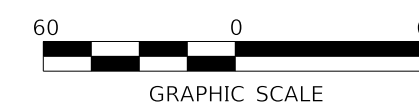
WB-125
 feet
 Tractor Width : 8.00 Lock to Lock Time : 6.0
 Trailer Width : 16.00 Steering Angle : 28.5
 Tractor Track : 8.00 Articulating Angle : 70.0
 Trailer Track : 8.50

OSOW SOUTHBOUND THRU



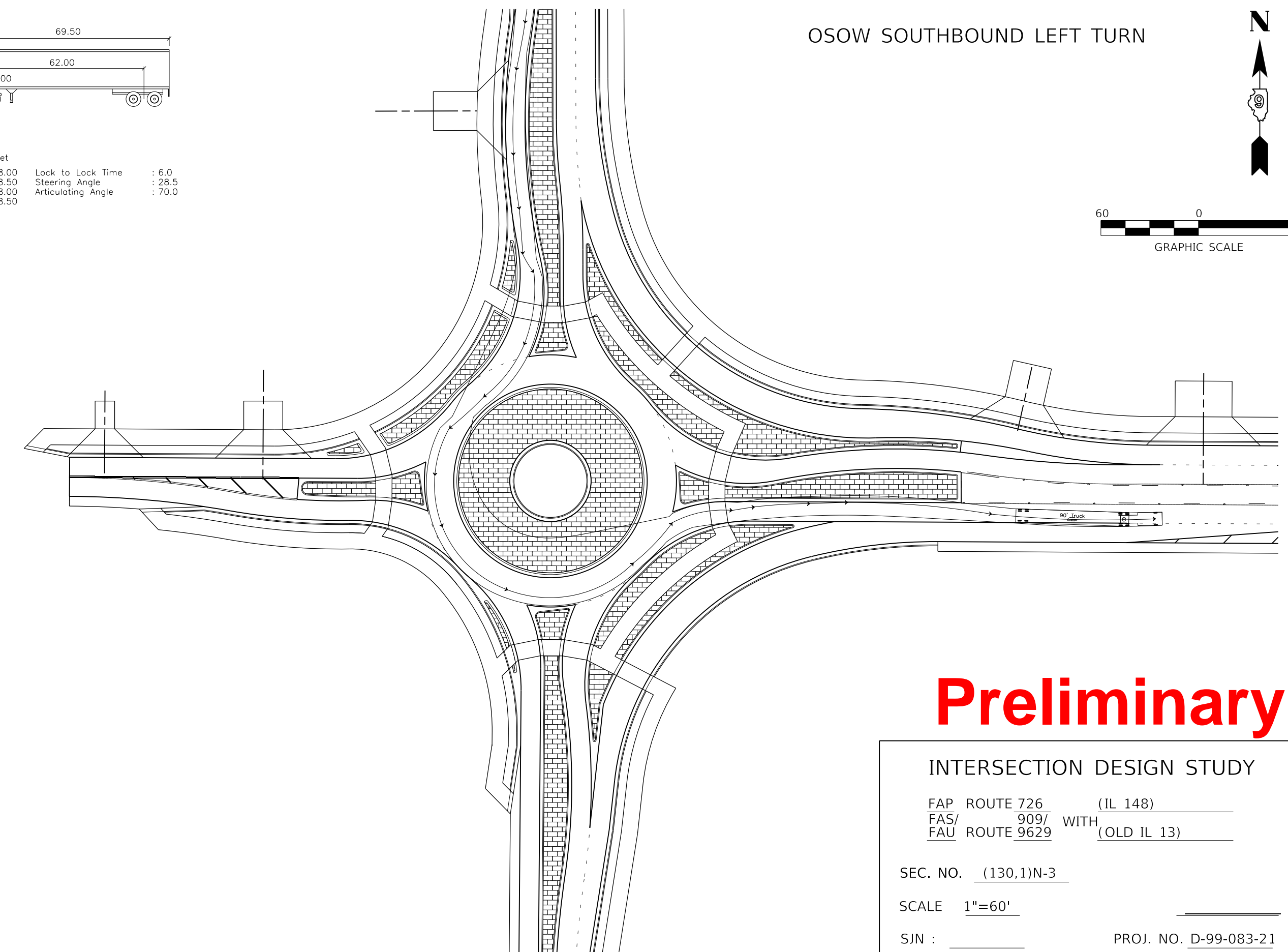
90° Truck
 feet
 Tractor Width : 8.00 Lock to Lock Time : 6.0
 Trailer Width : 8.50 Steering Angle : 28.5
 Tractor Track : 8.00 Articulating Angle : 70.0
 Trailer Track : 8.50

OSOW WESTBOUND LEFT TURN



90° Truck
 feet
 Tractor Width : 8.00 Lock to Lock Time : 6.0
 Trailer Width : 8.50 Steering Angle : 28.5
 Tractor Track : 8.00 Articulating Angle : 70.0
 Trailer Track : 8.50

OSOW SOUTHBOUND LEFT TURN



Preliminary

INTERSECTION DESIGN STUDY

FAP ROUTE 726 (IL 148)
 FAS/ 909/ WITH
 FAU ROUTE 9629 (OLD IL 13)

SEC. NO. (130.1)N-3

SCALE 1"=60'

SIN : PROJ. NO. D-99-083-21