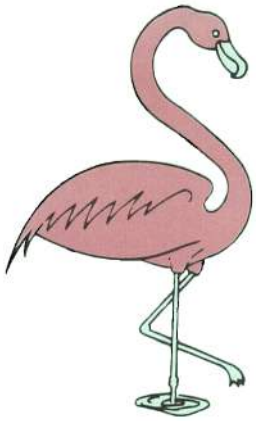
LAKE CITY TRACTOR SUPPLY
TRAFFIC STUDY

COLUMBIA COUNTY, FLORIDA

September 2024



BUCKHOLZ TRAFFIC

BUCKHOLZ TRAFFIC
3585 KORI ROAD
JACKSONVILLE, FLORIDA 32257
(904) 886-2171 jwbuckholz@aol.com

September 30, 2024

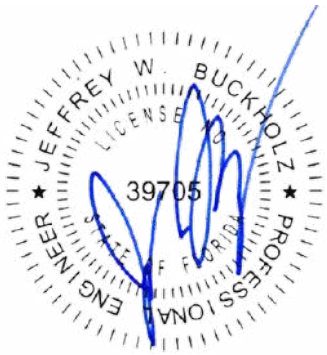
Ms. Johna Forward
Hix Snedeker Companies
Post Office Box 130
Daphne, Alabama 36526

Re: **Lake City Tractor Supply Traffic Study**

Dear Ms. Forward:

Attached is the requested traffic study. If there are any questions or comments regarding this study, please contact me.

Sincerely,



Jeffrey W. Buckholz, P.E., PTOE
Principal

This item was digitally signed and sealed by Jeffrey W. Buckholz, P.E. on 9/30/24. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

INTRODUCTION

The proposed 21,930 sf Tractor Supple store will be located immediately south of the SW CR 242A/SW Chad Place intersection in Columbia County, Florida. Access to the development will be provided via a single existing full access driveway on SW Chad Place. This existing driveway is one of two driveways on SW Chad Place that currently provide access to the GW Hunter Commercial Fuel Service facility. SW CR 242A and SW Chad Place are both two-lane undivided roadways. SW CR 242A is an urban major collector with a posted speed limit of 45 mph and SW Chad Place is a local road with no posted speed limit. Figure 1 shows the site location and surrounding road network while Appendix A contains the proposed site plan.

The development is expected to be complete and open for business in the spring of 2026. Consequently, 2026 was used as the design year for this study.

EXISTING TRAFFIC VOLUMES

Weekday peak period manual turning movement counts were conducted by Buckholz Traffic personnel during September of 2024 with school in session at the SR 47/SW CR 242A/SW Ring Court intersection, at the SW CR 242A/SW Chad Place intersection, and at the SR 47/SW Chad Place intersection. These counts, which are provided in Appendix B, were conducted during the weekday AM peak period (7:00 to 8:30 AM) and during the weekday PM peak period (4:00 to 5:45 PM). The data was recorded at 15-minute intervals and includes a separate tabulation for trucks. No bicycles or pedestrians were observed at the SW CR 242A/SW Chad Place intersection or the SR 47/SW Chad Place intersection during these periods and only 3 pedestrians were observed at the SR 47/SW CR 242A/SW Ring Court intersection. Figures 2 and 3 graphically summarize the AM and PM peak hour counts.

Appendix C provides daily traffic volumes for two nearby FDOT traffic counting stations. Also included in Appendix C are the latest set of FDOT seasonal adjustment factors for Columbia County. Near the site, the daily traffic on CR 242A is about 2200 vehicles per day while the daily traffic on SR 47 is about 13,300 vehicles per day.

TRIP GENERATION

Trip generation calculations were carried out using the 11th edition of ITE's Trip Generation Manual and referencing land use code 810 (Tractor Supply Store) with modifications made to reflect expected store attributes (see Table 1). Hourly trip generation was also estimated using customer and employee information supplied by the client with the results provided in Table 2. The more conservative Table 2 results were used in the analysis (680 daily trips, 34 AM peak hour trips, and 70 PM peak hour trips). All of these trips are considered new trips.

SITE TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

Weekday AM and PM peak hour site trips were directionally distributed based on our peak period counts, a review of the trip distribution used in the recently completed SR 47 at CR242A Commercial Development Traffic Impact Analysis, the location of other area Tractor Supply stores, and engineering judgment. The results are provided in Figures 4 and 5.

FUTURE TRAFFIC VOLUMES

The expected weekday 2026 peak hour background (No Build) traffic volumes and total (Build) traffic volumes at intersections of interest are graphically depicted in Figures 6 through 9. The No Build traffic volumes were obtained by multiplying the existing traffic volumes by the appropriate FDOT seasonal adjustment factor (0.97) and then by a nominal average annual growth rate of 1.0% (see Appendix C linear regression analyses of recent daily traffic counts). Site traffic from the proposed SR 47 at CR242A Commercial Development as detailed in their May 2024 traffic study (see Appendix D) is included as background traffic. The 2026 Build traffic volumes were then obtained by adding the traffic generated by the new development to the 2026 background traffic volumes.

TURN LANE EVALUATION

A formal analysis was conducted to determine if exclusive turn lanes are warranted on SW CR 242A at SW Chad Place. The methodology contained in NCHRP Report 457 was used to conduct both the left and right turn lane evaluations. Figures 10 and 11 contain the evaluations. Expected 2026 Build traffic volumes on CR 242A will not be high enough to warrant either a left or right turn lane at SW Chad Place.

UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS

The SW CR 242A/SW Chad Place intersection and the SR 47/SW Chad Place intersection were analyzed using the two-way stop control methodology contained in the 2024 version of the Highway Capacity Software. Table 3 summarizes the capacity analysis results with the supporting calculations provided in Appendix E. All minor movements at both intersections currently operate at level of service B or better during both weekday peak hours with minimal queuing and with a volume-to-capacity ratio that is well less than one. Under 2026 Build conditions, all minor movements at both intersections are expected to operate at level of service C or better during both weekday peak hours – still with minimal queuing and with a volume-to-capacity ratio that is well less than one.

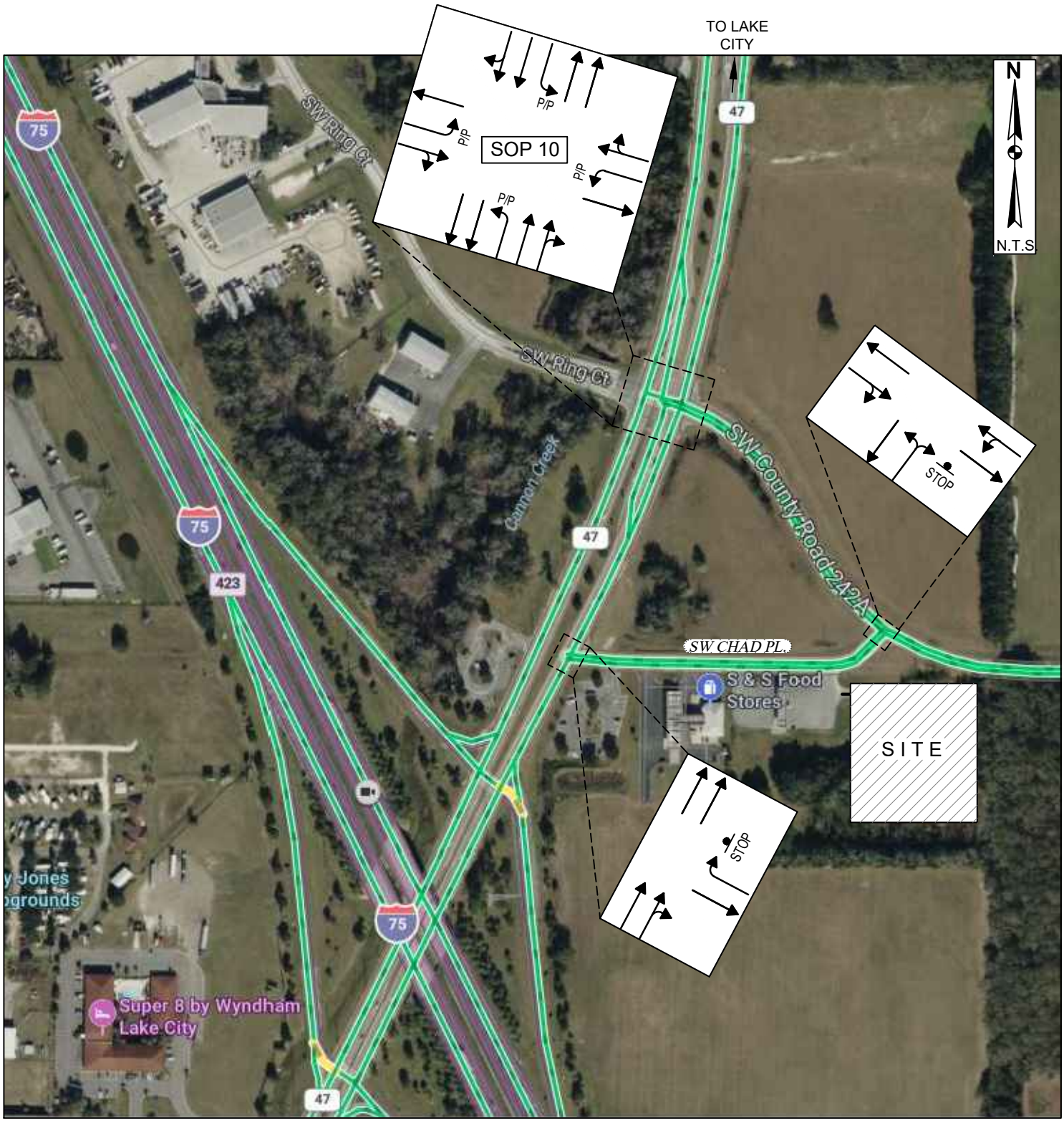
SIGNALIZED INTERSECTION CAPACITY ANALYSIS

The SR 47/SW CR 242A/SW Ring Court intersection was analyzed using the operational methodology contained in the 2024 version of the Highway Capacity Software. Table 4 summarizes the capacity analysis results with the supporting calculations provided in Appendix F. The existing signal timings as provide by FDOT are contained in Appendix G.

This intersection currently operates at level of service B during the weekday AM peak hour and level of service C during the PM Peak hour with all queue storage ratios and volume-to-capacity ratios less than one.

Under 2026 Build conditions the AM peak hour level of service is expected to fall to C with all queue storage ratios and volume-to-capacity ratios remaining below one.

Under 2026 Build conditions the PM peak hour level of service is expected to remain at C with all volume-to-capacity ratios remaining below one. However, the queue storage ratio for the SW CR242A westbound left turn is expected to slightly exceed one.



P/P = PROTECTED/PERMISSIVE LEFT TURN

FIGURE 1

SITE LOCATION

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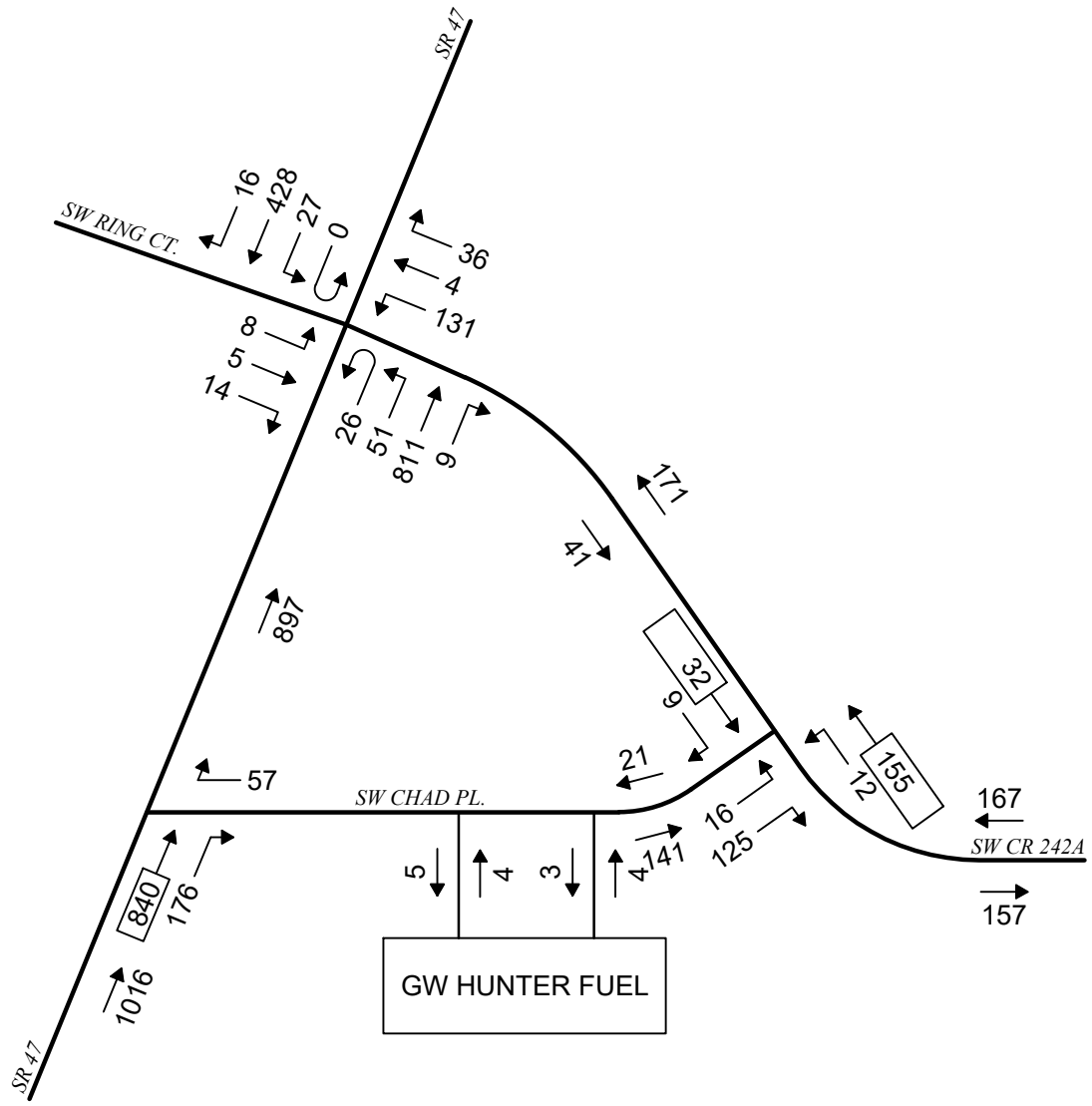
E:\24-1925\CAD\FIG 01.DWG

7:15-8:15 AM

N

N.T.S.



XXX = CALCULATED VALUE

FIGURE 2

TRAFFIC COUNTS

WEEKDAY AM PEAK HOUR

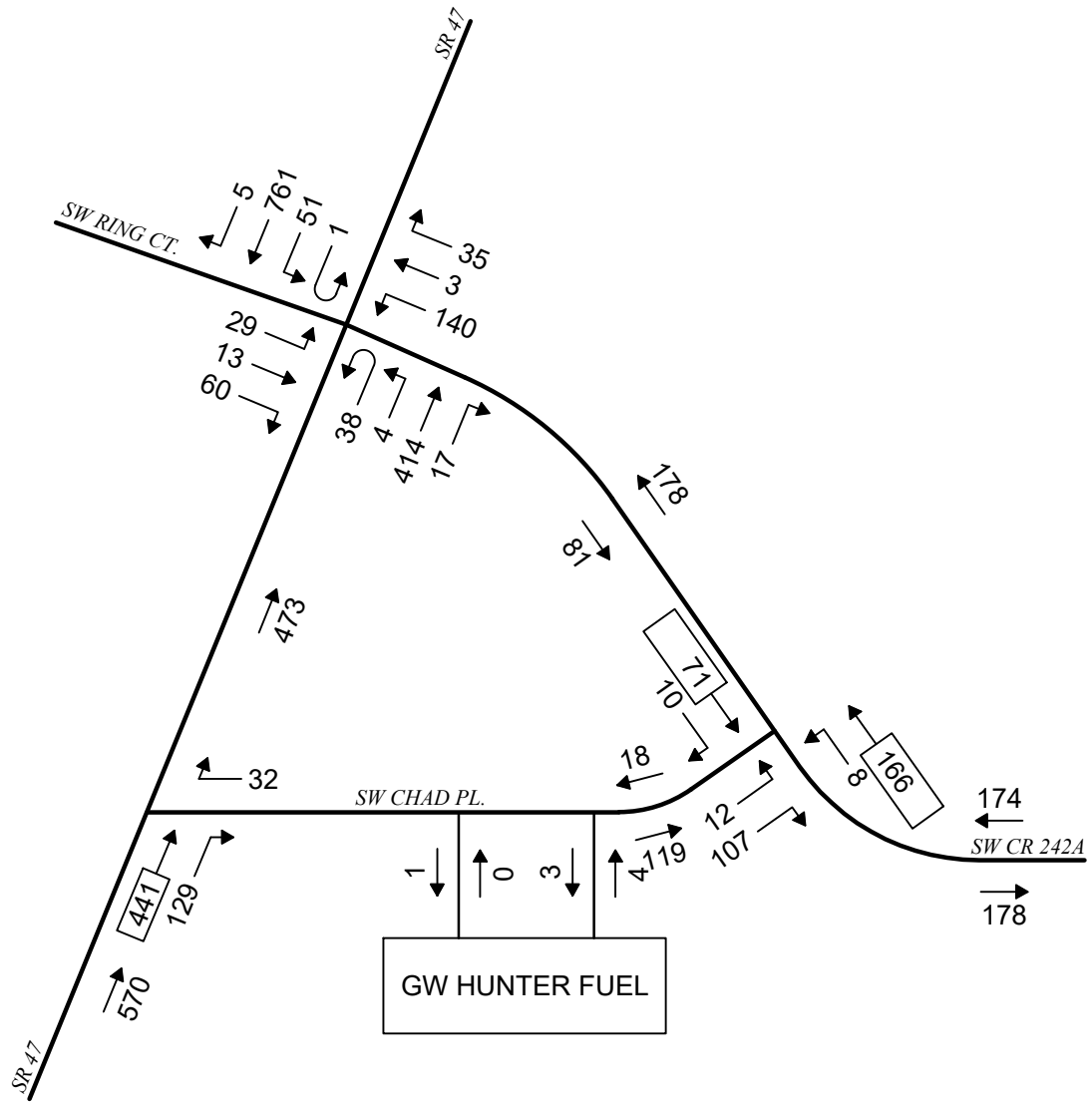
Buckholz Traffic

E:\24-1925\CAD\FIG 02.DWG

4:45-5:45 PM

N

N.T.S.



XXX = CALCULATED VALUE

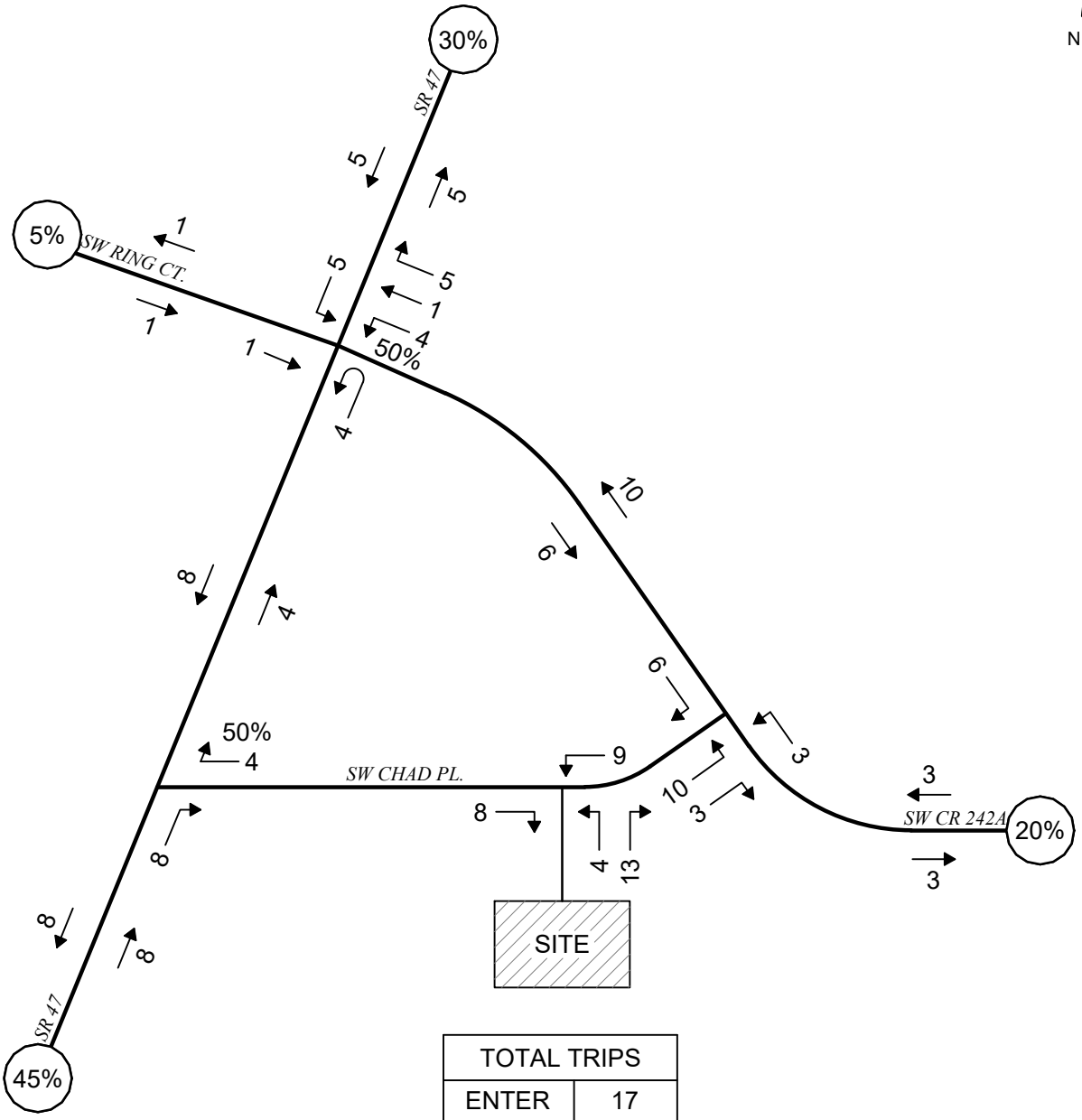
FIGURE 3

TRAFFIC COUNTS

WEEKDAY PM PEAK HOUR

Buckholz Traffic

E:\24-1925\CAD\FIG 03.DWG



TOTAL TRIPS	
ENTER	17
EXIT	17

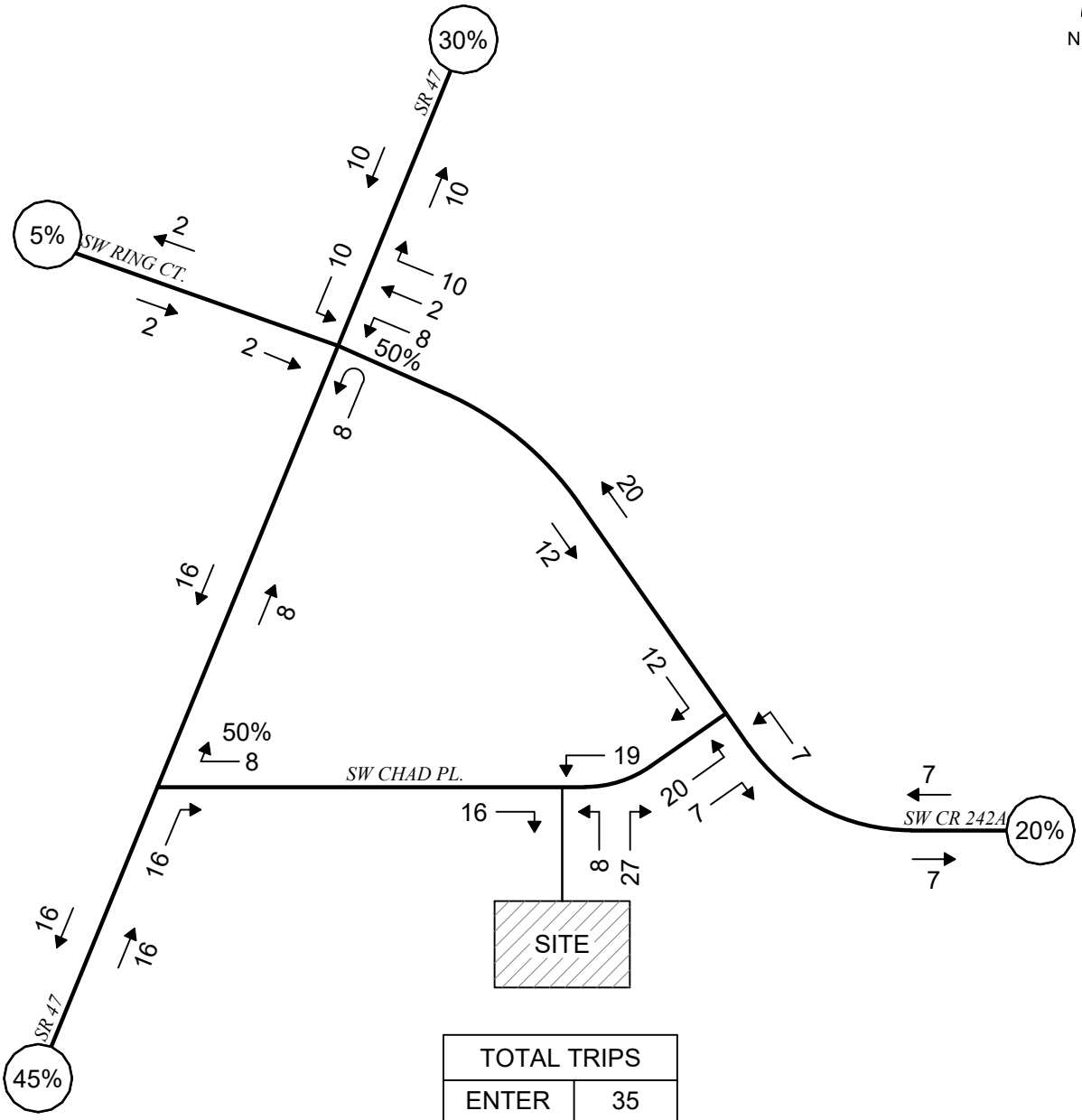
FIGURE 4

SITE TRAFFIC ASSIGNMENT

WEEKDAY AM PEAK HOUR

Buckholz Traffic

E:\24-1925\CAD\FIG 04.DWG



TOTAL TRIPS	
ENTER	35
EXIT	35

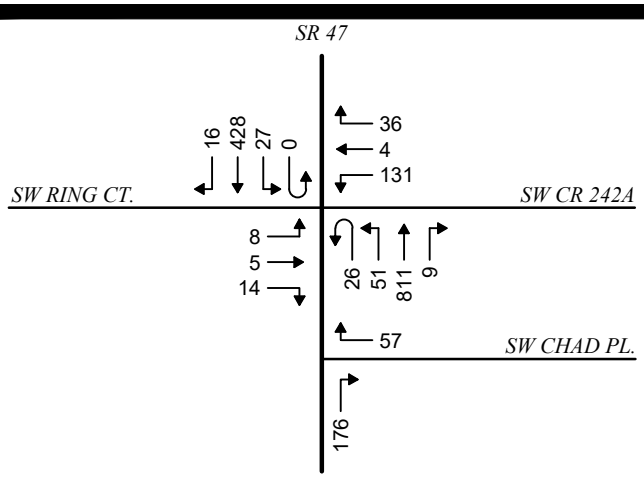
FIGURE 5

SITE TRAFFIC ASSIGNMENT

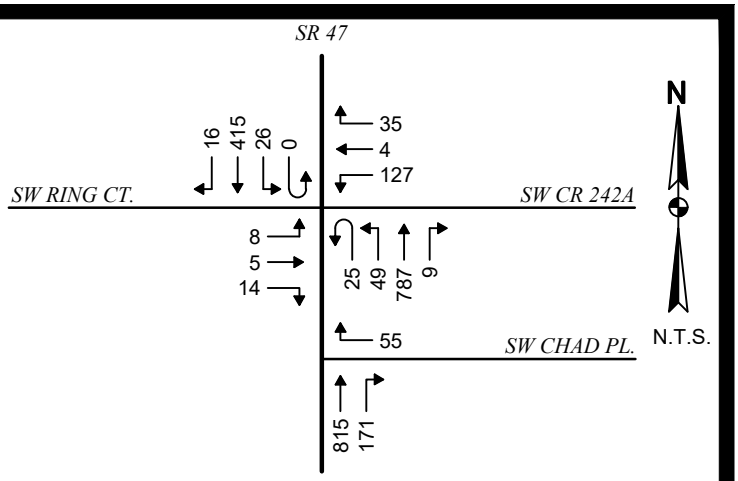
WEEKDAY PM PEAK HOUR

Buckholz Traffic

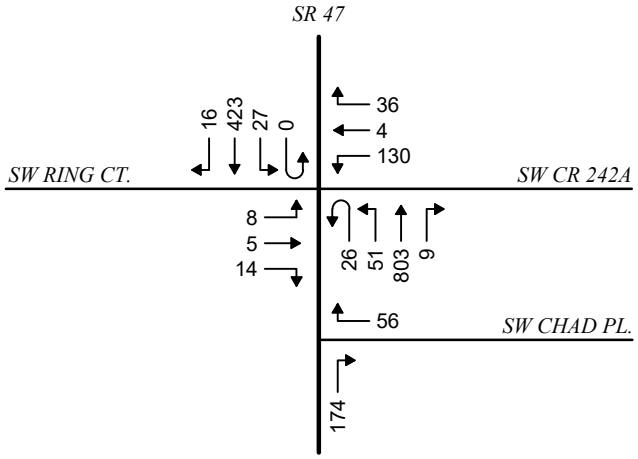
E:\24-1925\CAD\FIG 05.DWG



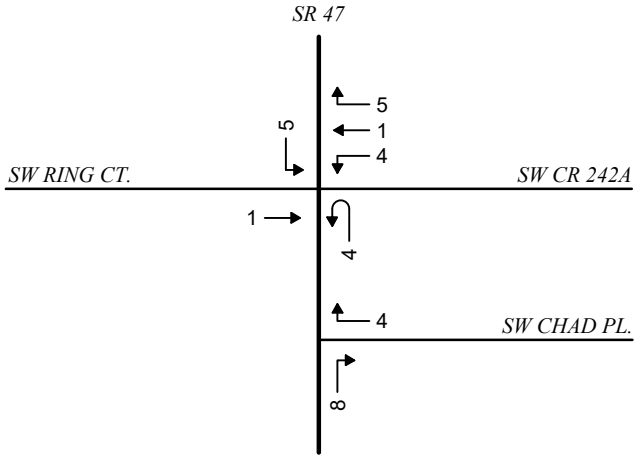
EXISTING TRAFFIC
09/25/24
7:15-8:15 AM



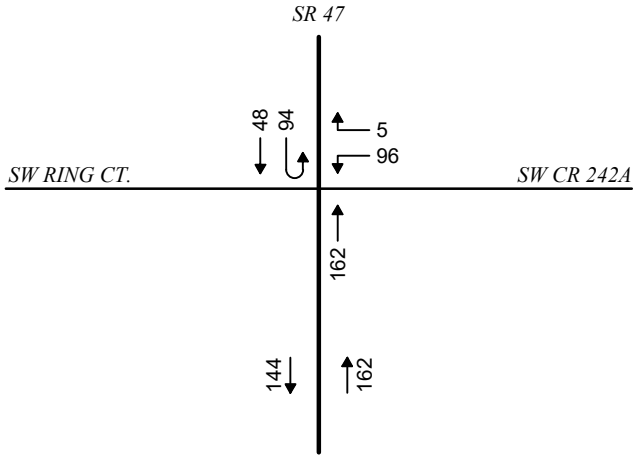
2024 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 0.97



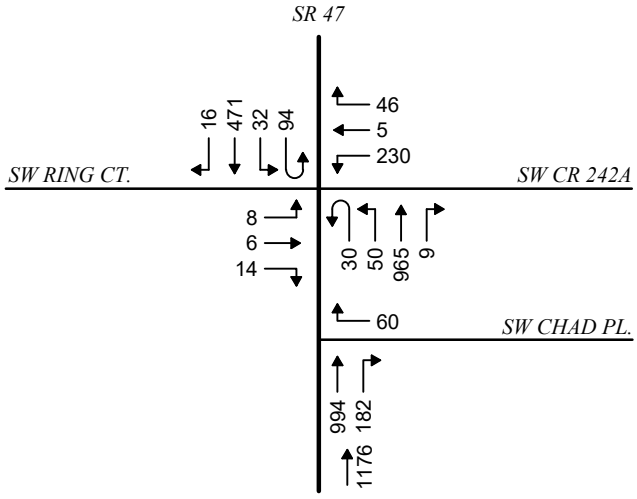
2026 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 1.0% (GF=1.02)



SITE TRAFFIC



2026 SR 47 & CR 242A COMM. DEV. TRAFFIC



2026 BUILD TRAFFIC

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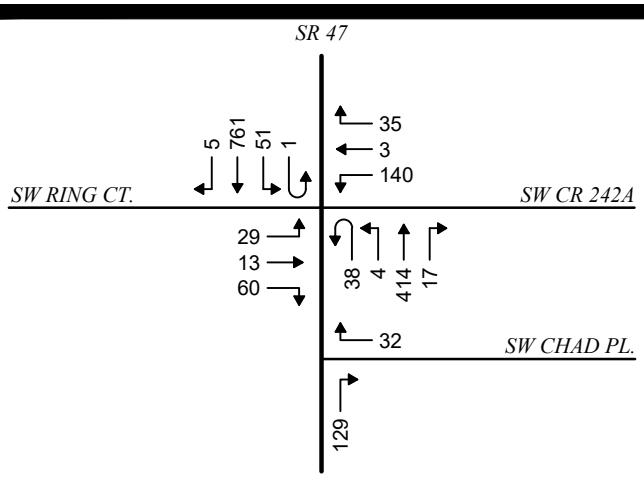
FIGURE 6

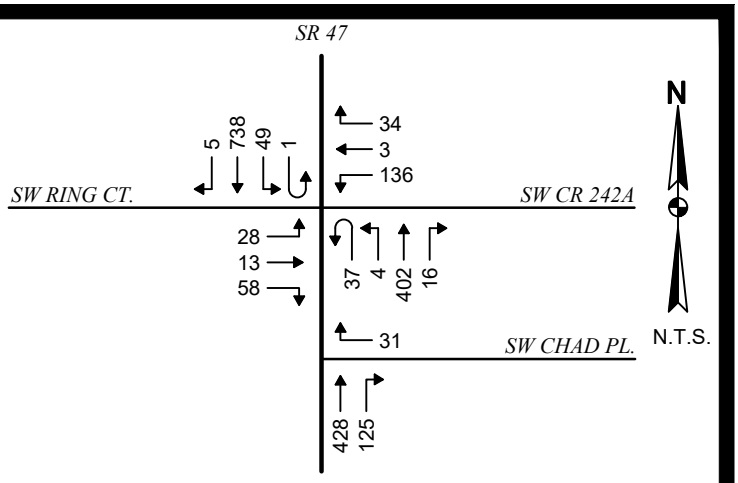
2026 BUILD TRAFFIC
SR 47 / CR 442A

WEEKDAY AM PEAK HOUR

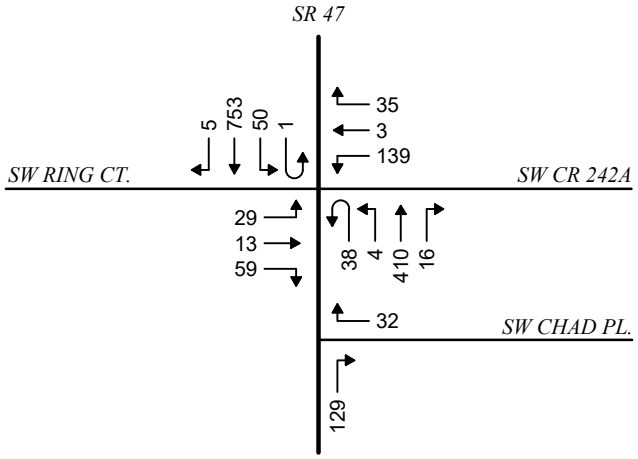
E:\24-1925\CAD\FIG 06.DWG



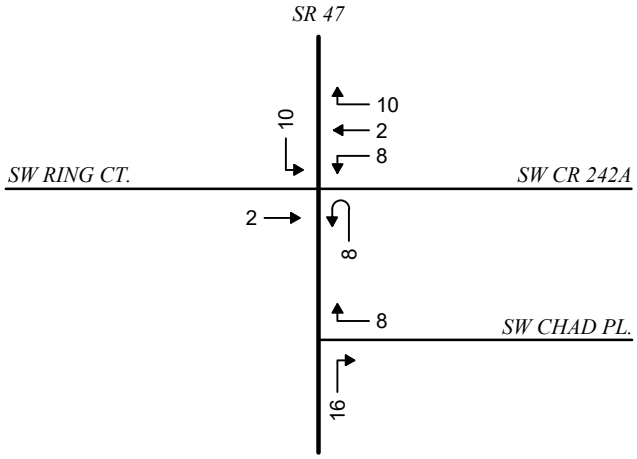
EXISTING TRAFFIC
09/23/24
4:45-5:45 PM



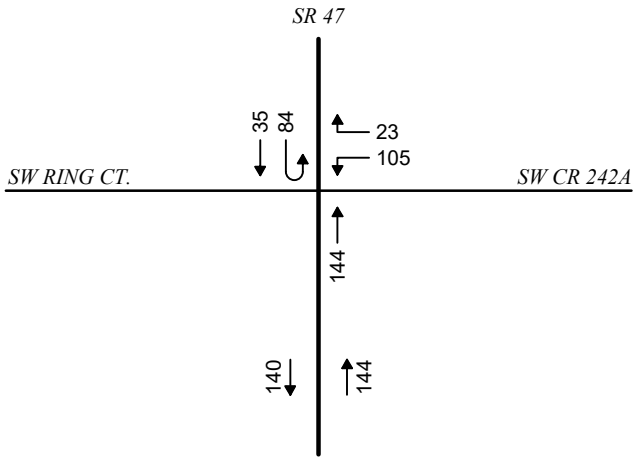
2024 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 0.97



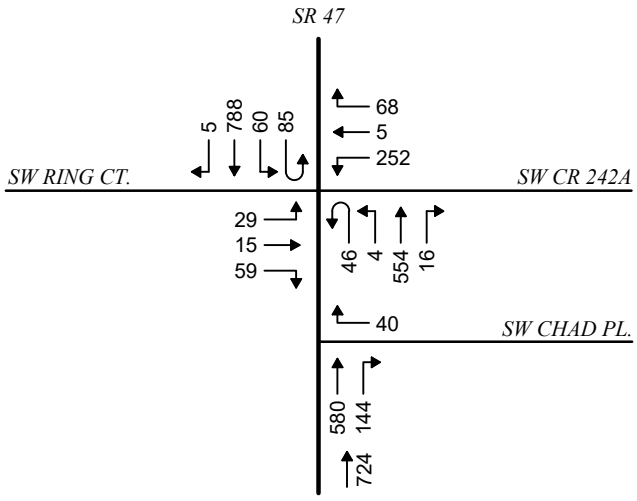
2026 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 1.0% (GF=1.02)



SITE TRAFFIC



2026 SR 47 & CR 242A COMM. DEV. TRAFFIC



2026 BUILD TRAFFIC

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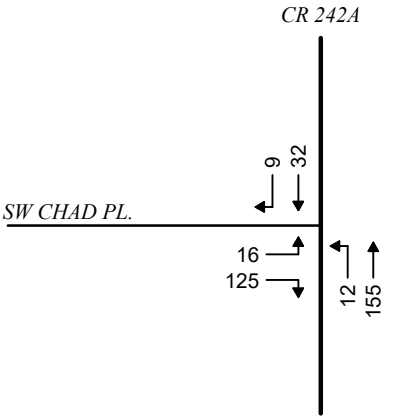
FIGURE 7

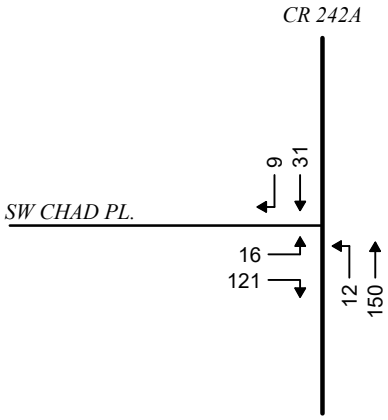
2026 BUILD TRAFFIC
SR 47 / CR 442A

WEEKDAY PM PEAK HOUR

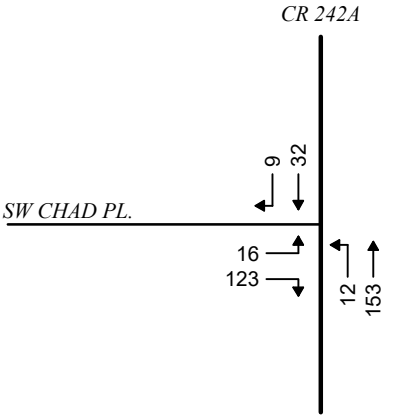
E:\24-1925\CAD\FIG 07.DWG



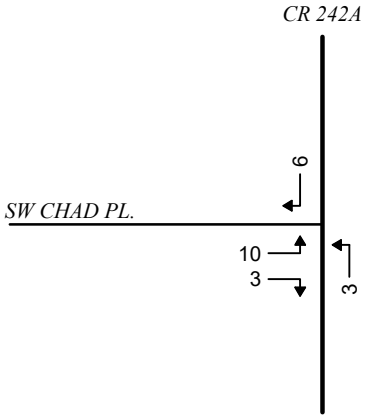
EXISTING TRAFFIC
09/25/24
7:15-8:15 AM



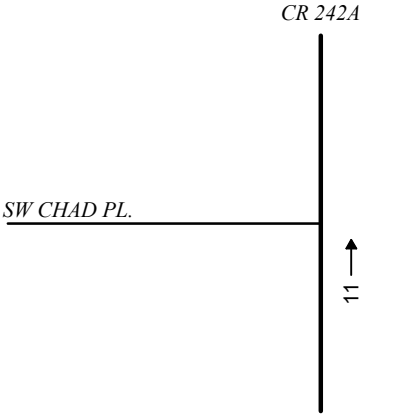
2024 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 0.97



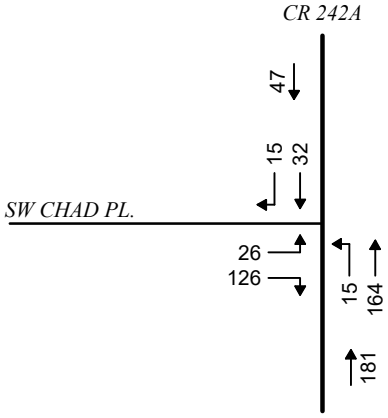
2026 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 1.0% (GF=1.02)



SITE TRAFFIC



2026 SR 47 & CR 242A COMM. DEV. TRAFFIC



2026 BUILD TRAFFIC

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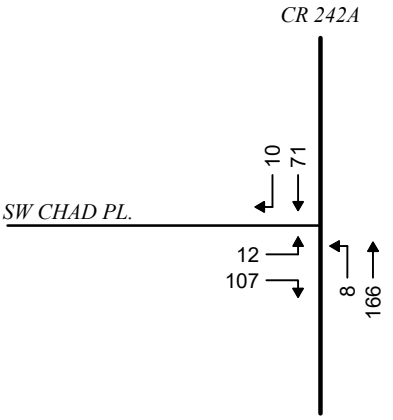
FIGURE 8

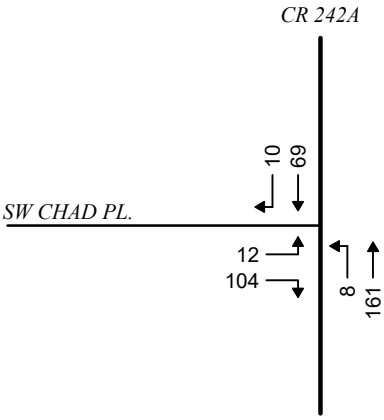
2026 BUILD TRAFFIC
CR 242A / SW CHAD PL.

WEEKDAY AM PEAK HOUR

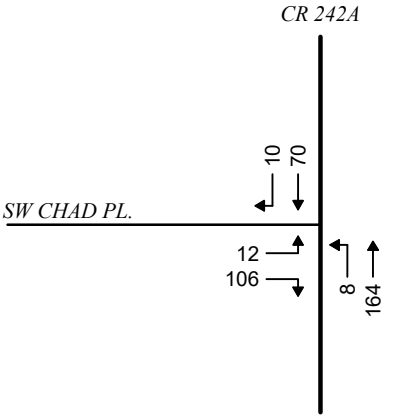
E:\24-1925\CAD\FIG 08.DWG



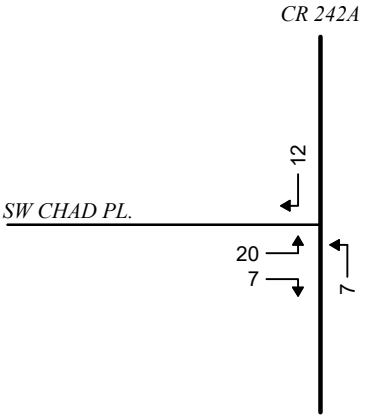
EXISTING TRAFFIC
09/23/24
4:45-5:45 PM



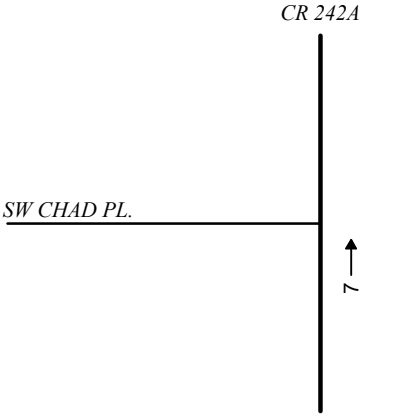
2024 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 0.97



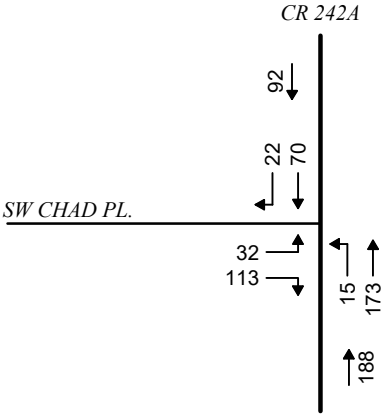
2026 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 1.0% (GF=1.02)



SITE TRAFFIC



2026 SR 47 & CR 242A COMM. DEV. TRAFFIC



2026 BUILD TRAFFIC

Buckholz Traffic

FIGURE 9

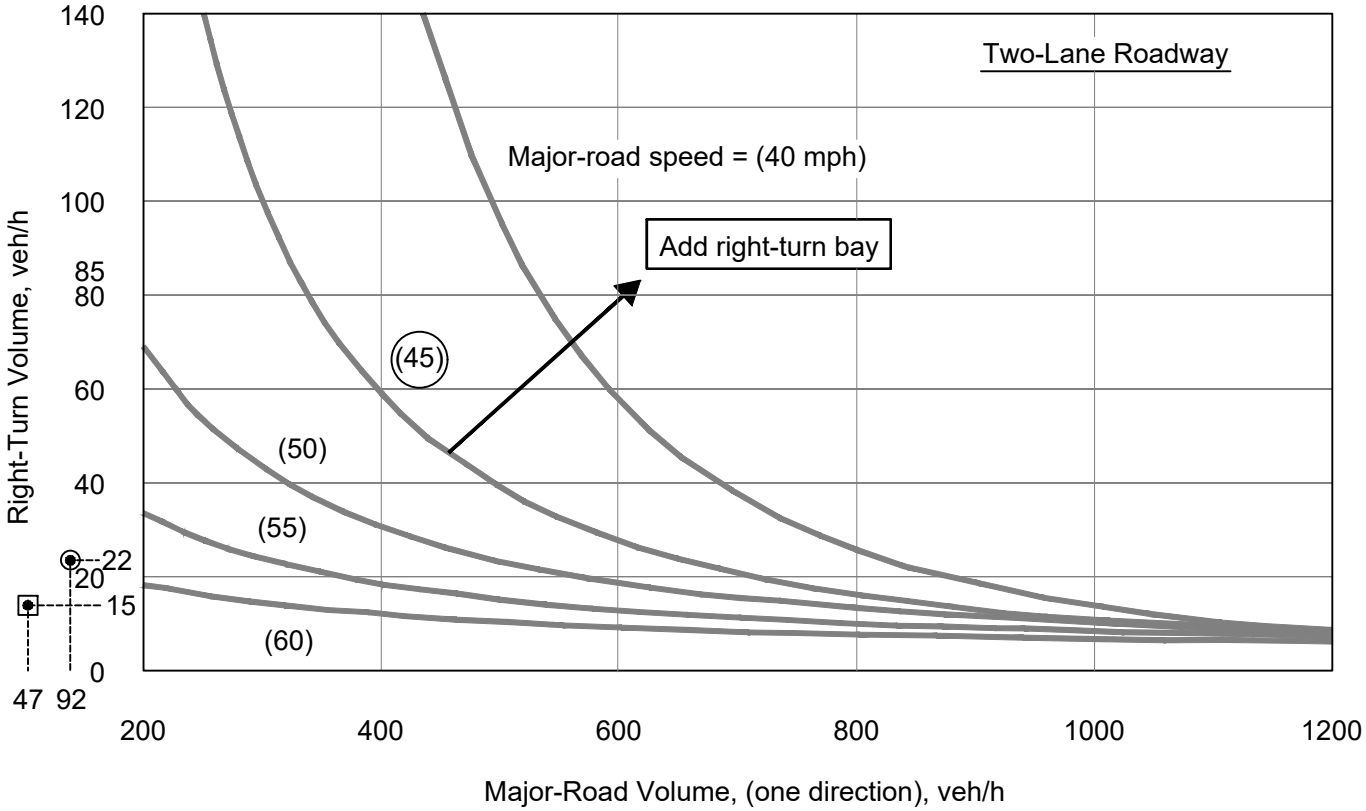
2026 BUILD TRAFFIC
CR 242A / SW CHAD PL.

WEEKDAY PM PEAK HOUR

E:\24-1925\CAD\FIG 09.DWG

Buckholz Traffic

SW CR 242A @ SW CHAD PL.



▣ = AM PEAK HOUR

◉ = PM PEAK HOUR

SOURCE: NCHRP REPORT 457, TDOT HIGHWAY SYSTEM ACCESS MANUAL

FIGURE 10

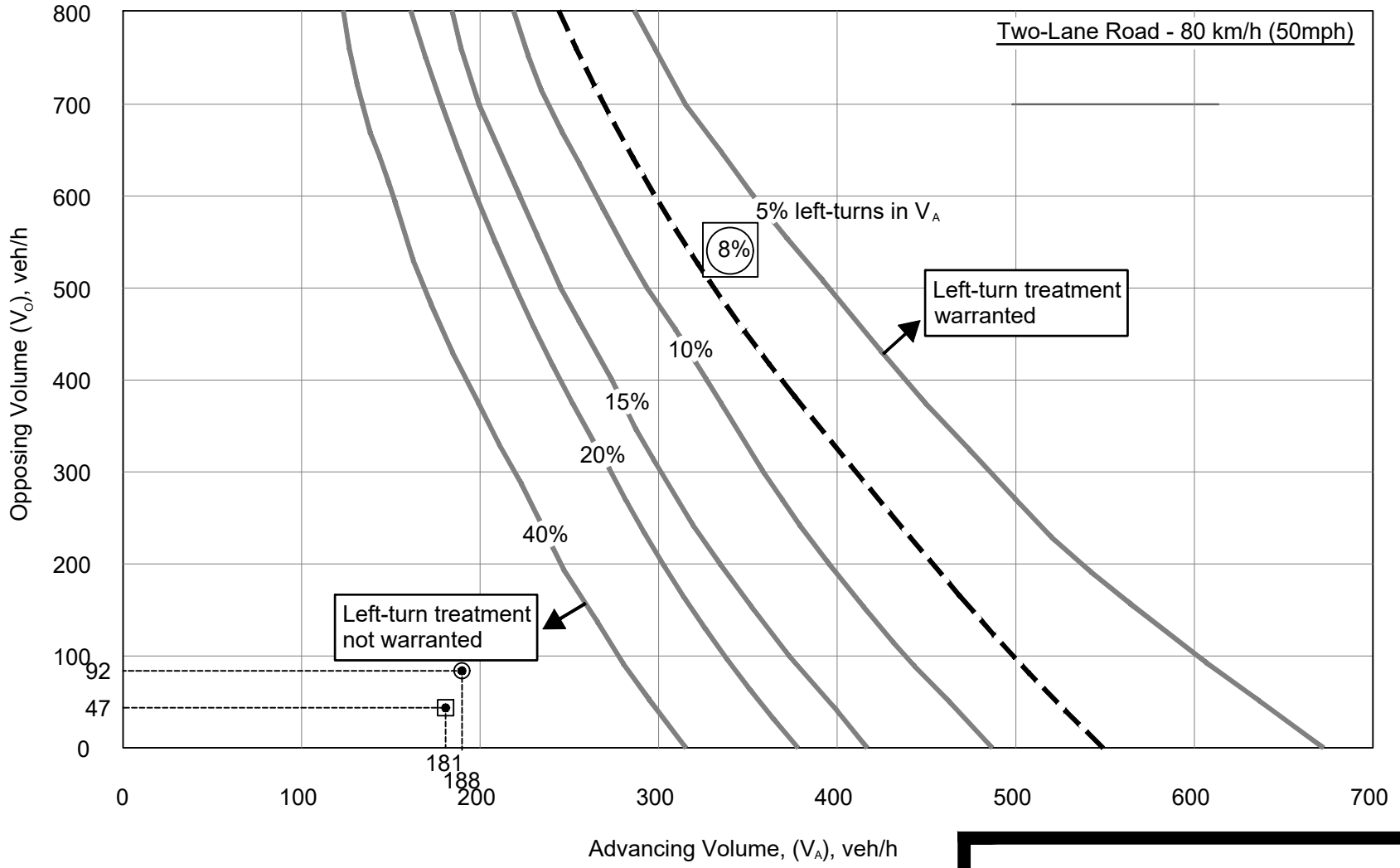
RIGHT TURN
LANE EVALUATION
2026 BUILD TRAFFIC

E:\24-1925\CAD\FIG 10.DWG

E:\24-1925\CAD\FIG_11.DWG

Buckholz Traffic

SW CR 242A @ SW CHAD PL.



▣ = AM PEAK HOUR

◉ = PM PEAK HOUR

SOURCE: *NCHRP REPORT 457*

FIGURE 11

LEFT TURN
LANE EVALUATION
2026 BUILD TRAFFIC

TABLE 1

TRIP GENERATION CALCULATIONS

TRACTOR SUPPLY STORE

Land Use Code 810

T = Number of Vehicle Trip Ends

Size of Building = 21,930 gsf (X = 21.93)

TIME PERIOD	TRIP GENERATION EQUATION	TOTAL TRIP ENDS	PERCENT ENTERING	PERCENT EXITING	TOTAL TRIP ENDS ENTERING	TOTAL TRIP ENDS EXITING
WEEKDAY						
Daily	**T = 17.05/2.25 x 1.40 = 10.6 X**	232	50%	50%	116	116
AM Peak Hour	**T = 0.70 X**	15	**53%**	**47%**	8	7
PM Peak Hour	T = 1.40 X	31	47%	53%	15	16

SOURCE: Institute of Transportation Engineers, "Trip Generation", 11th Edition (2021)

Derived from LUC 812

Estimated (50% of PM)

BUCKHOLZ TRAFFIC

TABLE 2

TRACTOR SUPPLY ESTIMATED TRIPS
COLUMBIA COUNTY, FLORIDA

	Customers			Employees			TOTAL TRIPS		
	In	Out	BOTH	In	Out	BOTH	In	Out	BOTH
Midnight - 1 AM	0	0	0	0	0	0	0	0	0
1 - 2 AM	0	0	0	0	0	0	0	0	0
2 - 3 AM	0	0	0	0	0	0	0	0	0
3 - 4 AM	0	0	0	0	0	0	0	0	0
4 -5 AM	0	0	0	0	0	0	0	0	0
5 - 6 AM	0	0	0	0	0	0	0	0	0
6 - 7 AM	0	0	0	0	0	0	0	0	0
7 - 8 AM	0	0	0	8	0	8	8	0	8
8 - 9 AM	17	17	34	0	0	0	**17**	**17**	**34**
9 - 10 AM	22	22	44	0	0	0	22	22	44
10 - 11 AM	26	26	52	0	0	0	26	26	52
11 AM - Noon	**35**	**35**	70	0	0	0	35	35	70
Noon - 1 PM	**35**	**35**	70	0	0	0	35	35	70
1 - 2 PM	26	26	52	6	6	12	32	32	64
2 - 3 PM	17	17	34	0	0	0	17	17	34
3 - 4 PM	17	17	34	0	0	0	17	17	34
4 - 5 PM	26	26	52	0	0	0	26	26	52
5 - 6 PM	**35**	**35**	70	0	0	0	**35**	**35**	**70**
6 - 7 PM	**35**	**35**	70	0	0	0	35	35	70
7 - 8 PM	**35**	**35**	70	0	0	0	35	35	70
8 - 9 PM	0	0	0	0	8	8	0	8	8
9- 10 PM	0	0	0	0	0	0	0	0	0
10 - 11 PM	0	0	0	0	0	0	0	0	0
11 PM - Midnight	0	0	0	0	0	0	0	0	0
TOTAL	326	326	**652**	14	14	**28**	**340**	**340**	**680**

Weekday Store Hours: 8 am - 8 pm

BUCKHOLZ TRAFFIC

TABLE 3
UNSIGNALIZED INTERSECTION CAPACITY RESULTS

SW CR242A / SW CHAD PLACE

EXISTING CONDITIONS	WEEKDAY AM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
SW CR 242A Left Turn	A	7.4 sec/veh	0.01	1
SW Chad Place Approach	A	9.4 sec/veh	0.15	1
	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
SW CR 242A Left Turn	A	7.4 sec/veh	0.01	1
SW Chad Place Approach	A	9.6 sec/veh	0.15	1

2026 BUILD CONDITIONS	WEEKDAY AM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
SW CR 242A Left Turn	A	7.4 sec/veh	0.01	1
SW Chad Place Approach	A	9.6 sec/veh	0.17	1
	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
SW CR 242A Left Turn	A	7.4 sec/veh	0.01	1
SW Chad Place Approach	B	10.3 sec/veh	0.21	1

SR 47 / SW CHAD PLACE

EXISTING CONDITIONS	WEEKDAY AM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
SW Chad Place Approach	B	13.7 sec/veh	0.13	1
	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
SW Chad Place Approach	B	11.0 sec/veh	0.06	1

2026 BUILD CONDITIONS	WEEKDAY AM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
SW Chad Place Approach	C	15.6 sec/veh	0.16	1
	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	v/c Ratio	95th % Queue (vehicles)
SW Chad Place Approach	B	12.2 sec/veh	0.09	1

TABLE 4
SUMMARY OF SIGNALIZED INTERSECTION CAPACITY RESULTS

SR 47 / CR 242A / SW RING COURT

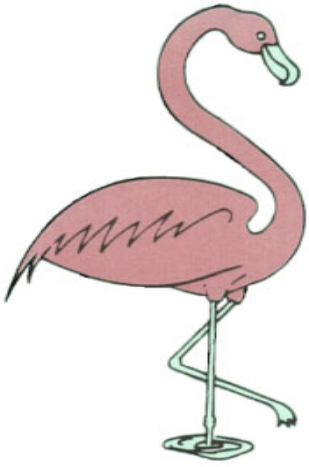
	EXISTING CONDITIONS					
	Highest v/c Ratio	Highest Queue Storage Ratio	Worst Movement Delay & LOS	Approach LOS	Intersection Delay & LOS	Cycle Length
AM PEAK HOUR	0.48 NBThru	0.46 WBLT	EBThru 42.6 sec/veh LOS D	NB/SB: B EB/WB: D	19.2 sec/veh LOS B	97 sec
PM PEAK HOUR	0.58 EBThru	0.55 WBLT	EBThru 47.5 sec/veh LOS D	NB/SB: B/C EB/WB: D	23.1 sec/veh LOS C	99 sec

	2026 BUILD CONDITIONS					
	Highest v/c Ratio	Highest Queue Storage Ratio	Worst Movement Delay & LOS	Approach LOS	Intersection Delay & LOS	Cycle Length
AM PEAK HOUR	0.68 NBThru	0.85 WBLT	EBThru 45.6 sec/veh LOS D	NB/SB: C EB/WB: D/C	25.8 sec/veh LOS C	103 sec
PM PEAK HOUR	0.72 WBLT	**1.02** WBLT	EBThru 53.5 sec/veh LOS D	NB/SB: C EB/WB: D	29.1 sec/veh LOS C	106 sec

BUCKHOLZ TRAFFIC

APPENDIX A

SITE PLAN



JADE CONSULTING
Jinright & Associates Development Engineers
208 Greeno Road N., Ste. C Fairhope, Alabama 36532
P.O. Box 1929 Fairhope, Alabama 36533
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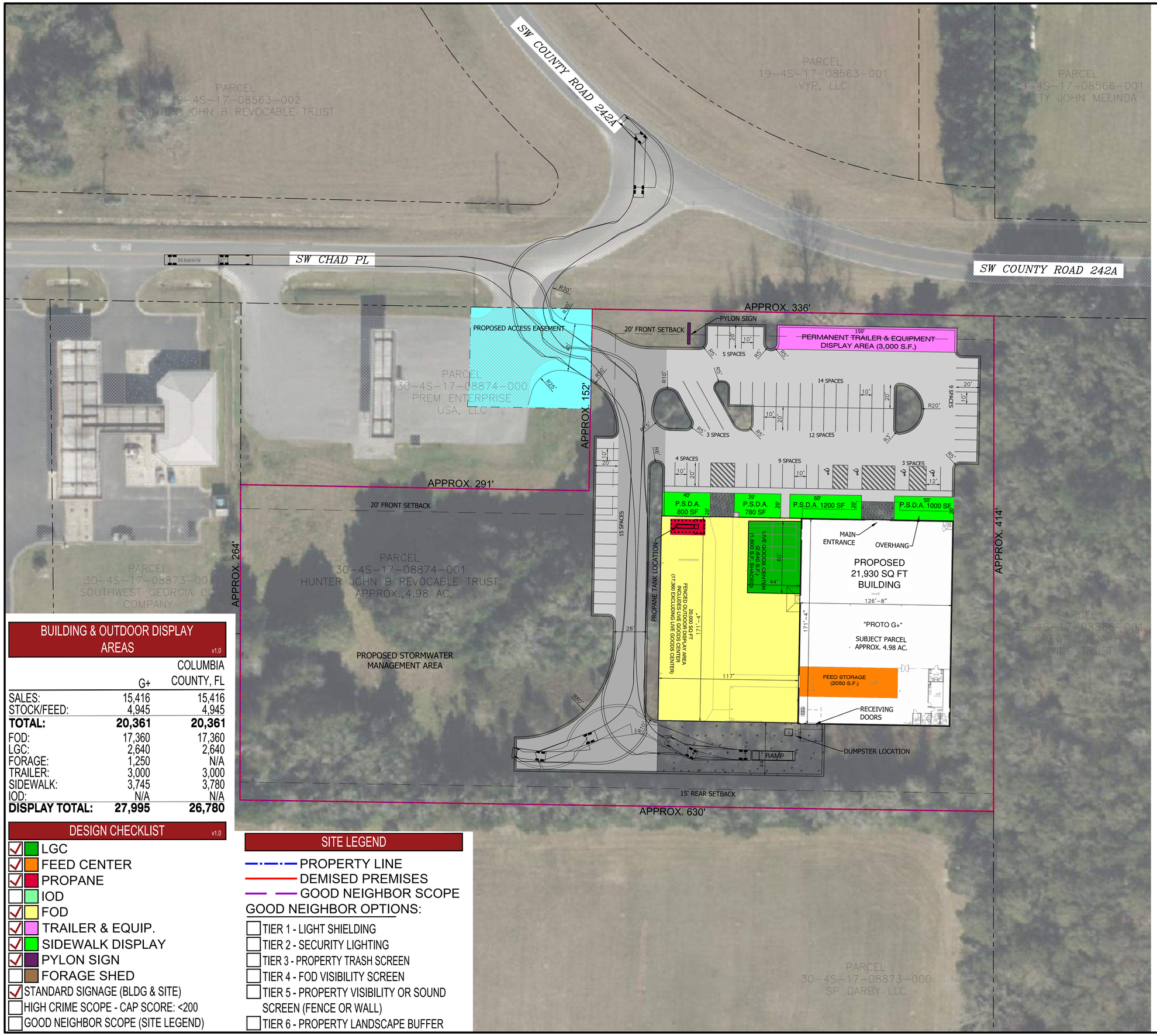
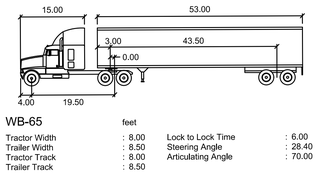
jadengineers.com

DRAFT

DATE: 07/30/2024



SITE DATA TABLE		
STATE OF FLORIDA COUNTY OF COLUMBIA		
EXIST. TAX PARCEL ID:	30-4S-17-08874-001	
EXISTING ZONING:	CI	
YARD SETBACKS:		
FRONT:	20'	
SIDE:	0'	
REAR:	15'	
LANDSCAPE BUFFERS:		
FRONT:	N/A	
SIDE:	N/A	
REAR:	N/A	
PARKING STANDARDS:		
	REQUIRED:	PROVIDED:
VEHICLE PARKING:	21,930 SF/ 350 SF + 26,813 SF/1000 SF = 89 SPACES	74 SPACES (INC. 4 H/C) *VARIANCE REQUIRED



WB-65 feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.00
Trailer Width	: 8.50	Steering Angle	: 28.40
Tractor Track	: 8.00	Articulating Angle	: 70.00
Trailer Track	: 8.50		

GRAPHIC SCALE
30 0 30
(IN FEET)
1 inch = 30 ft.

BUILDING & OUTDOOR DISPLAY AREAS v1.0

	G+	COLUMBIA COUNTY, FL
SALES:	15,416	15,416
STOCK/FEED:	4,945	4,945
TOTAL:	**20,361**	**20,361**
FOD:	17,360	17,360
LGC:	2,640	2,640
FORAGE:	1,250	N/A
TRAILER:	3,000	3,000
SIDEWALK:	3,745	3,780
IOD:	N/A	N/A
DISPLAY TOTAL:	**27,995**	**26,780**

DESIGN CHECKLIST v1.0

- [x] LGC
- [x] FEED CENTER
- [x] PROPANE
- [ ] IOD
- [x] FOD
- [x] TRAILER & EQUIP.
- [x] SIDEWALK DISPLAY
- [x] PYLON SIGN
- [ ] FORAGE SHED
- [x] STANDARD SIGNAGE (BLDG & SITE)
- [ ] HIGH CRIME SCOPE - CAP SCORE: <200
- [ ] GOOD NEIGHBOR SCOPE (SITE LEGEND)

SITE LEGEND

- PROPERTY LINE
- DEMISED PREMISES
- GOOD NEIGHBOR SCOPE

GOOD NEIGHBOR OPTIONS:

- [ ] TIER 1 - LIGHT SHIELDING
- [ ] TIER 2 - SECURITY LIGHTING
- [ ] TIER 3 - PROPERTY TRASH SCREEN
- [ ] TIER 4 - FOD VISIBILITY SCREEN
- [ ] TIER 5 - PROPERTY VISIBILITY OR SOUND SCREEN (FENCE OR WALL)
- [ ] TIER 6 - PROPERTY LANDSCAPE BUFFER

LEGEND

- DEMISED PROPERTY LINE
- (APPROX. 38,215 S.F.) PROPOSED LIGHT DUTY ASPHALT
- (APPROX. 17,913 S.F.) PROPOSED HEAVY DUTY ASPHALT
- (APPROX. 21,711 S.F.) PROPOSED LIGHT DUTY CONCRETE (BROOM FINISH)
- (APPROX. 6,113 S.F.) PROPOSED HEAVY DUTY CONCRETE (BROOM FINISH)
- FENCED OUTDOOR DISPLAY AREA
- LIVE GOODS CENTER AREA
- PERMANENT SIDEWALK DISPLAY AREA
- PERMANENT TRAILER & EQUIPMENT DISPLAY AREA
- EASEMENTS/SHARED/OTHER PROTECTED AREAS
- PYLON SIGN
- PROPANE AREA
- FEED STORAGE AREA

PRELIMINARY SITE PLAN
APPROX. 4.98 ACRES
PROPOSED COMMERCIAL DEVELOPMENT
SW COUNTY ROAD 242A
AND
SW CHAD PL
COLUMBIA COUNTY, FLORIDA

APPENDIX B

TURNING MOVEMENT COUNTS

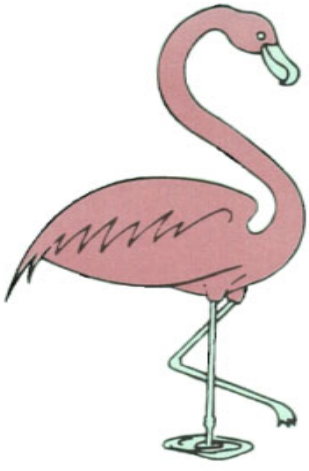


TABLE B-1
SR 47 / SW CR242A / SW RING COURT
TURNING MOVEMENT COUNTS - WEEKDAY AM PEAK PERIOD
9/25/2024

	AUTOS															
	FROM NORTH				FROM EAST				FROM SOUTH				FROM WEST			
TIME	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT
7:00 - 7:15 AM	0	1	85	7	0	5	1	29	7	2	121	13	0	2	1	1
7:15 - 7:30 AM	0	4	119	4	0	9	2	38	1	4	169	10	0	2	2	0
7:30 - 7:45 AM	0	0	107	6	0	8	0	38	5	0	217	10	0	3	1	2
7:45 - 8:00 AM	0	5	71	11	0	6	1	27	7	1	231	14	0	0	1	1
8:00 - 8:15 AM	0	5	111	5	0	11	0	18	3	2	161	14	0	2	1	2
8:15 - 8:30 AM	0	3	71	5	0	9	3	18	4	6	136	6	0	1	0	5

	TRUCKS																
	FROM NORTH				FROM EAST				FROM SOUTH				FROM WEST				
TIME	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT	ALL
7:00 - 7:15 AM	0	0	7	0	0	0	1	5	2	0	5	1	0	1	0	0	22
7:15 - 7:30 AM	0	1	5	1	0	1	0	2	4	0	7	1	0	0	0	0	22
7:30 - 7:45 AM	0	1	6	0	0	1	1	2	2	0	7	1	0	3	0	0	24
7:45 - 8:00 AM	0	0	6	0	0	0	0	2	2	1	8	1	0	1	0	2	23
8:00 - 8:15 AM	0	0	3	0	0	0	0	4	2	1	11	0	0	3	0	1	25
8:15 - 8:30 AM	0	1	4	1	0	0	0	1	2	3	9	1	0	3	0	2	27
PEAK HOUR	**0**	**1**	**13**	**1**	**0**	**0**	**0**	**7**	**6**	**5**	**28**	**2**	**0**	**7**	**0**	**5**	**75**
Percent Trucks		**3%**		**4%**		**0%**		**5%**		**4%**		**10%**		**37%**		**63%**	**5%**

	ALL VEHICLES																
	SR 47				SW CR242A				SR 47				SW RING COURT				
	FROM NORTH				FROM EAST				FROM SOUTH				FROM WEST				
TIME	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT	ALL
7:00 - 7:15 AM	0	1	92	7	0	5	2	34	9	2	126	14	0	3	1	1	297
7:15 - 7:30 AM	**0**	**5**	**124**	**5**	**0**	**10**	**2**	**40**	**5**	**4**	**176**	**11**	**0**	**2**	**2**	**0**	**386**
7:30 - 7:45 AM	**0**	**1**	**113**	**6**	**0**	**9**	**1**	**40**	**7**	**0**	**224**	**11**	**0**	**6**	**1**	**2**	**421**
7:45 - 8:00 AM	**0**	**5**	**77**	**11**	**0**	**6**	**1**	**29**	**9**	**2**	**239**	**15**	**0**	**1**	**1**	**3**	**399**
8:00 - 8:15 AM	**0**	**5**	**114**	**5**	**0**	**11**	**0**	**22**	**5**	**3**	**172**	**14**	**0**	**5**	**1**	**3**	**360**
8:15 - 8:30 AM	0	4	75	6	0	9	3	19	6	9	145	7	0	4	0	7	294
																	PHF
PEAK HOUR	**0**	**16**	**428**	**27**	**0**	**36**	**4**	**131**	**26**	**9**	**811**	**51**	**0**	**14**	**5**	**8**	**1566**	**0.93**
7:15 - 8:15 AM																	

BUCKHOLZ TRAFFIC

TABLE B-2
SR 47 / SW CR242A / SW RING COURT
TURNING MOVEMENT COUNTS - WEEKDAY PM PEAK PERIOD
9/23/2024

	AUTOS															
	FROM NORTH				FROM EAST				FROM SOUTH				FROM WEST			
TIME	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT
4:00 - 4:15 PM	0	0	145	6	0	8	1	24	6	5	106	2	0	8	2	2
4:15 - 4:30 PM	0	1	160	6	0	4	1	24	5	2	70	4	0	7	2	2
4:30 - 4:45 PM	0	0	136	10	0	8	1	28	10	6	103	1	0	8	3	5
4:45 - 5:00 PM	0	1	149	13	0	6	2	22	11	10	94	0	0	8	5	7
5:00 - 5:15 PM	0	1	216	11	0	8	1	36	9	2	104	1	0	41	7	13
5:15 - 5:30 PM	0	0	194	9	0	8	0	43	8	1	102	1	0	6	0	3
5:30 - 5:45 PM	1	2	169	10	0	9	0	37	9	3	86	1	0	2	0	5

	TRUCKS																
	FROM NORTH				FROM EAST				FROM SOUTH				FROM WEST				
TIME	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT	ALL
4:00 - 4:15 PM	0	1	12	1	0	1	0	4	1	1	8	2	0	2	0	0	33
4:15 - 4:30 PM	0	0	9	2	0	0	0	2	0	1	5	3	0	1	0	1	24
4:30 - 4:45 PM	0	0	6	1	0	1	0	5	2	0	14	0	0	1	0	0	30
4:45 - 5:00 PM	**0**	**0**	**7**	**2**	**0**	**1**	**0**	**1**	**0**	**1**	**14**	**0**	**0**	**0**	**0**	**0**	**26**
5:00 - 5:15 PM	**0**	**0**	**10**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**7**	**0**	**0**	**2**	**0**	**0**	**21**
5:15 - 5:30 PM	**0**	**1**	**6**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**15**
5:30 - 5:45 PM	**0**	**0**	**10**	**2**	**0**	**2**	**0**	**0**	**1**	**0**	**4**	**1**	**0**	**1**	**0**	**1**	**22**
PEAK HOUR	**0**	**1**	**33**	**8**	**0**	**4**	**0**	**2**	**1**	**1**	**28**	**1**	**0**	**3**	**1**	**1**	**84**
Percent Trucks		**4%**		**15%**		**11%**		**1%**		**7%**		**5%**		**5%**		**3%**	**5%**

	ALL VEHICLES																
	SR 47				SW CR242A				SR 47				SW RING COURT				
	FROM NORTH				FROM EAST				FROM SOUTH				FROM WEST				
TIME	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT	U	RT	THRU	LT	ALL
4:00 - 4:15 PM	0	1	157	7	0	9	1	28	7	6	114	4	0	10	2	2	348
4:15 - 4:30 PM	0	1	169	8	0	4	1	26	5	3	75	7	0	8	2	3	312
4:30 - 4:45 PM	0	0	142	11	0	9	1	33	12	6	117	1	0	9	3	5	349
4:45 - 5:00 PM	**0**	**1**	**156**	**15**	**0**	**7**	**2**	**23**	**11**	**11**	**108**	**0**	**0**	**8**	**5**	**7**	**354**
5:00 - 5:15 PM	**0**	**1**	**226**	**12**	**0**	**8**	**1**	**37**	**9**	**2**	**111**	**1**	**0**	**43**	**7**	**13**	**471**
5:15 - 5:30 PM	**0**	**1**	**200**	**12**	**0**	**9**	**0**	**43**	**8**	**1**	**105**	**1**	**0**	**6**	**1**	**3**	**390**
5:30 - 5:45 PM	**1**	**2**	**179**	**12**	**0**	**11**	**0**	**37**	**10**	**3**	**90**	**2**	**0**	**3**	**0**	**6**	**356**
																	PHF
PEAK HOUR	**1**	**5**	**761**	**51**	**0**	**35**	**3**	**140**	**38**	**17**	**414**	**4**	**0**	**60**	**13**	**29**	**1571**	**0.83**
4:45-5:45 PM																	

BUCKHOLZ TRAFFIC

TABLE B-3
SW CR 242A / SW Chad Place
TURNING MOVEMENT COUNTS - ALL VEHICLES

Wednesday, September 25, 2024

	SW CHAD PLACE				GW HUNTER FUEL				
	Left Turn IN	Right Turn OUT	Left Turn OUT	Right Turn IN	West Drive IN	West Drive OUT	East Drive IN	East Drive OUT	All
7:00-7:15 AM	6	9	2	2	1	1	1	2	24
7:15-7:30 AM	**2**	**18**	**4**	**2**	**2**	**1**	**1**	**0**	**30**
7:30-7:45 AM	**2**	**26**	**5**	**3**	**0**	**1**	**0**	**1**	**38**
7:45-8:00 AM	**1**	**50**	**3**	**4**	**1**	**1**	**2**	**0**	**62**
8:00-8:15 AM	**7**	**31**	**4**	**0**	**2**	**1**	**0**	**3**	**48**
8:15-8:30 AM	8	17	2	0	0	0	2	0	29
PM PEAK PERIOD:	**26**	**151**	**20**	**11**	**6**	**5**	**6**	**6**	**231**
AM PEAK HOUR: 7:15-8:15 AM	**12**	**125**	**16**	**9**	**5**	**4**	**3**	**4**	**178**

Monday, September 23, 2024

	SW CHAD PLACE				GW HUNTER FUEL				
	Left Turn IN	Right Turn OUT	Left Turn OUT	Right Turn IN	West Drive IN	West Drive OUT	East Drive IN	East Drive OUT	All
4:00-4:15 PM	1	20	4	2	0	0	0	0	27
4:15-4:30 PM	1	13	3	2	0	0	3	3	25
4:30-4:45 PM	2	12	3	2	0	0	2	2	23
4:45-5:00 PM	**2**	**31**	**3**	**4**	**0**	**0**	**1**	**1**	**42**
5:00-5:15 PM	**4**	**39**	**3**	**3**	**0**	**0**	**1**	**1**	**51**
5:15-5:30 PM	**2**	**16**	**0**	**2**	**0**	**0**	**0**	**0**	**20**
5:30-5:45 PM	**0**	**21**	**6**	**1**	**1**	**0**	**1**	**2**	**32**
PM PEAK PERIOD:	**12**	**152**	**22**	**16**	**1**	**0**	**8**	**9**	**220**
PM PEAK HOUR: 4:45-5:45 PM	**8**	**107**	**12**	**10**	**1**	**0**	**3**	**4**	**145**

BUCKHOLZ TRAFFIC

TABLE B-4
SW CR 242A / SW Chad Place
TURNING MOVEMENT COUNTS - TRUCKS

Wednesday, September 25, 2024

	SW CHAD PLACE				GW HUNTER FUEL				
	Left Turn IN	Right Turn OUT	Left Turn OUT	Right Turn IN	West Drive IN	West Drive OUT	East Drive IN	East Drive OUT	All
7:00-7:15 AM	0	1	0	1	0	0	0	1	3
7:15-7:30 AM	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**3**
7:30-7:45 AM	**1**	**0**	**2**	**0**	**0**	**1**	**0**	**1**	**5**
7:45-8:00 AM	**0**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**5**
8:00-8:15 AM	**0**	**3**	**1**	**0**	**1**	**0**	**0**	**1**	**6**
8:15-8:30 AM	1	1	1	0	0	0	0	0	3
PM PEAK PERIOD:	**2**	**10**	**4**	**2**	**3**	**1**	**0**	**3**	**25**
AM PEAK HOUR:	**1**	**8**	**3**	**1**	**3**	**1**	**0**	**2**	**19**
Percent Trucks	**8%**	**6%**	**19%**	**11%**			**40%**		**11%**

Monday, September 23, 2024

	SW CHAD PLACE				GW HUNTER FUEL				
	Left Turn IN	Right Turn OUT	Left Turn OUT	Right Turn IN	West Drive IN	West Drive OUT	East Drive IN	East Drive OUT	All
4:00-4:15 PM	0	0	1	0	0	0	0	0	1
4:15-4:30 PM	0	2	0	0	0	0	1	1	4
4:30-4:45 PM	0	2	0	0	0	0	2	2	6
4:45-5:00 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**
5:00-5:15 PM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:15-5:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30-5:45 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**3**
PM PEAK PERIOD:	**0**	**8**	**3**	**0**	**1**	**0**	**3**	**4**	**19**
PM PEAK HOUR:	**0**	**4**	**2**	**0**	**1**	**0**	**0**	**1**	**8**
Percent Trucks	**0%**	**4%**	**17%**	**0%**			**29%**		**6%**

BUCKHOLZ TRAFFIC

TABLE B-5
SR 47 / SW Chad Place
TURNING MOVEMENT COUNTS - ALL VEHICLES

Wednesday, September 25, 2024

	SW CHAD PLACE	
	Right Turn IN	Right Turn OUT
7:00-7:15 AM	21	8
7:15-7:30 AM	**29**	**9**
7:30-7:45 AM	**40**	**14**
7:45-8:00 AM	**66**	**15**
8:00-8:15 AM	**41**	**19**
8:15-8:30 AM	18	8
PM PEAK PERIOD:	**215**	**73**
AM PEAK HOUR: **7:15-8:15 AM**	**176**	**57**

Monday, September 23, 2024

	SW CHAD PLACE	
	Right Turn IN	Right Turn OUT
4:00-4:15 PM	18	6
4:15-4:30 PM	24	7
4:30-4:45 PM	22	11
4:45-5:00 PM	**34**	**9**
5:00-5:15 PM	**34**	**9**
5:15-5:30 PM	**26**	**8**
5:30-5:45 PM	**35**	**6**
PM PEAK PERIOD:	**193**	**56**
PM PEAK HOUR: **4:45-5:45 PM**	**129**	**32**

BUCKHOLZ TRAFFIC

APPENDIX C

FDOT TRAFFIC DATA

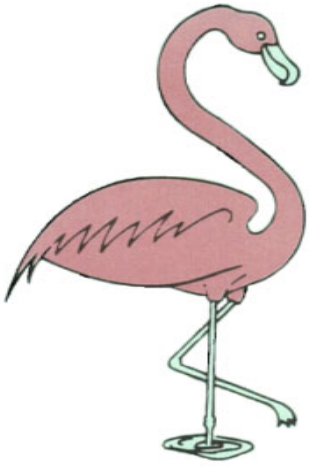


TABLE C-1
LINEAR REGRESSION ANALYSIS

SR 47, North of CR 242A

Year	X	Actual AADT (Y)	**Predicted AADT**
2019	0	12200	**11840**
2020	1	11600	11980
2021	2	11800	12120
2022	3	12600	12260
2023	4	13100	12400
2024	5		12540
2025	6		12680
2026	7		**12820**

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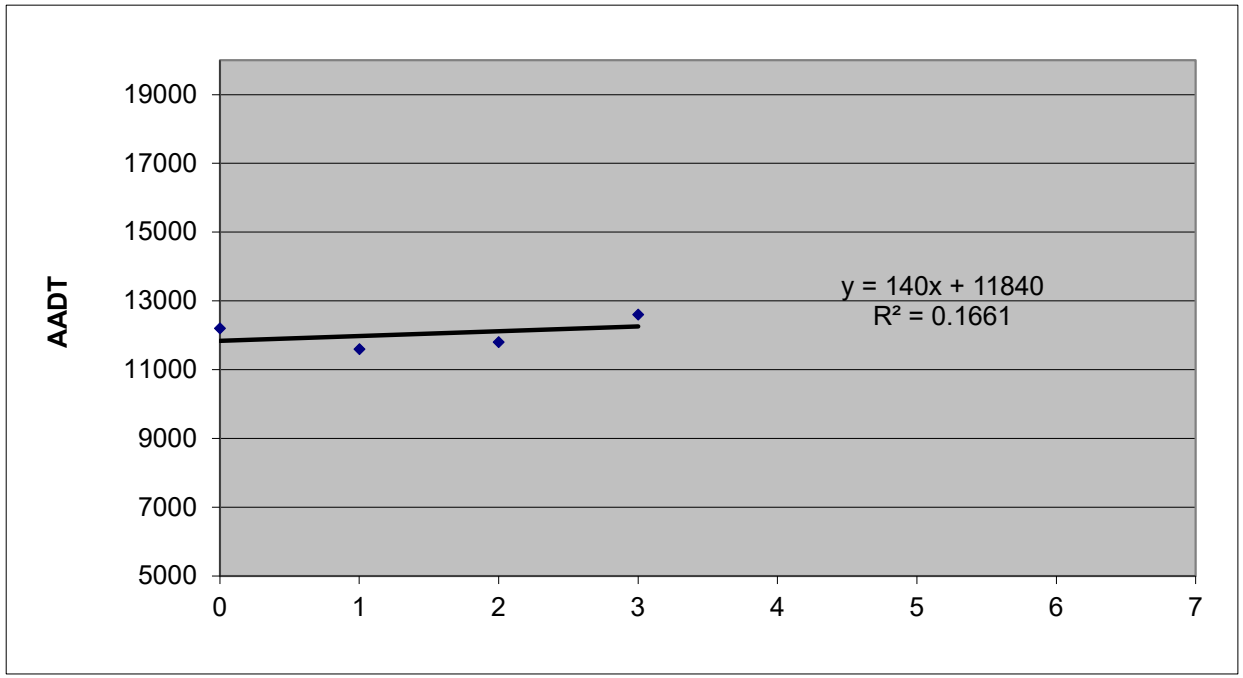


BUCKHOLZ TRAFFIC

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2023 HISTORICAL AADT REPORT

COUNTY: 29 - COLUMBIA

SITE: 0234 - SR 47 .2 MI. N. OF CR 242 TO E.

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2023	13100 C	N 6500	S 6600	9.00	54.30	5.90
2022	12600 C	N 6200	S 6400	9.00	54.70	5.20
2021	11800 F	N 5800	S 6000	9.00	54.20	5.50
2020	11600 C	N 5700	S 5900	9.00	54.80	5.80
2019	12200 C	N 6200	S 6000	9.00	54.80	4.70
2018	13600 C	N 6800	S 6800	9.00	54.70	4.40
2017	12900 C	N 6500	S 6400	9.00	55.50	4.70
2016	12000 C	N 6100	S 5900	9.00	53.90	3.70
2015	11600 C	N 5900	S 5700	9.00	54.50	3.80
2014	10700 C	N 5400	S 5300	9.00	54.40	4.20
2013	9900 C	N 5100	S 4800	9.00	55.30	4.30
2012	10400 C	N 5300	S 5100	9.00	54.70	3.80
2011	11000 C	N 5600	S 5400	9.00	53.70	4.50
2010	10400 C	N 5300	S 5100	9.94	54.40	3.80
2009	10600 C	N 5600	S 5000	9.78	54.18	3.90
2008	10800 C	N 5500	S 5300	9.82	54.63	4.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

COUNTY: 29
STATION: 0234
DESCRIPTION: SR 47 .2 MI. N. OF CR 242 TO E.
START DATE: 07/27/2023
START TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	10	18	14	9	51	20	13	6	12	51	102
0100	8	13	8	6	35	10	14	8	3	35	70
0200	14	5	6	8	33	9	4	5	4	22	55
0300	6	12	11	11	40	2	8	14	6	30	70
0400	10	14	26	11	61	7	10	11	10	38	99
0500	26	28	69	65	188	10	21	24	27	82	270
0600	58	71	85	110	324	40	60	41	57	198	522
0700	119	124	191	196	630	69	82	77	94	322	952
0800	141	128	130	132	531	80	77	71	71	299	830
0900	104	87	127	128	446	87	85	93	76	341	787
1000	111	92	88	88	379	78	87	97	89	351	730
1100	95	109	120	86	410	108	100	101	107	416	826
1200	98	102	116	108	424	113	127	93	115	448	872
1300	94	98	94	91	377	109	121	133	104	467	844
1400	102	109	97	98	406	105	102	116	118	441	847
1500	110	105	103	126	444	147	127	138	135	547	991
1600	93	106	130	109	438	157	162	153	173	645	1083
1700	105	77	118	114	414	216	204	157	116	693	1107
1800	107	88	85	75	355	139	109	118	94	460	815
1900	56	69	55	43	223	77	62	66	62	267	490
2000	44	56	34	34	168	74	51	44	48	217	385
2100	34	29	29	25	117	45	47	45	39	176	293
2200	26	44	20	22	112	48	36	19	24	127	239
2300	21	17	14	9	61	14	21	21	24	80	141
24-HOUR TOTALS:					6667					6753	13420

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	656	845	336	715	985
P.M.	1545	455	1645	750	1630	1167
DAILY	730	656	1645	750	1630	1167

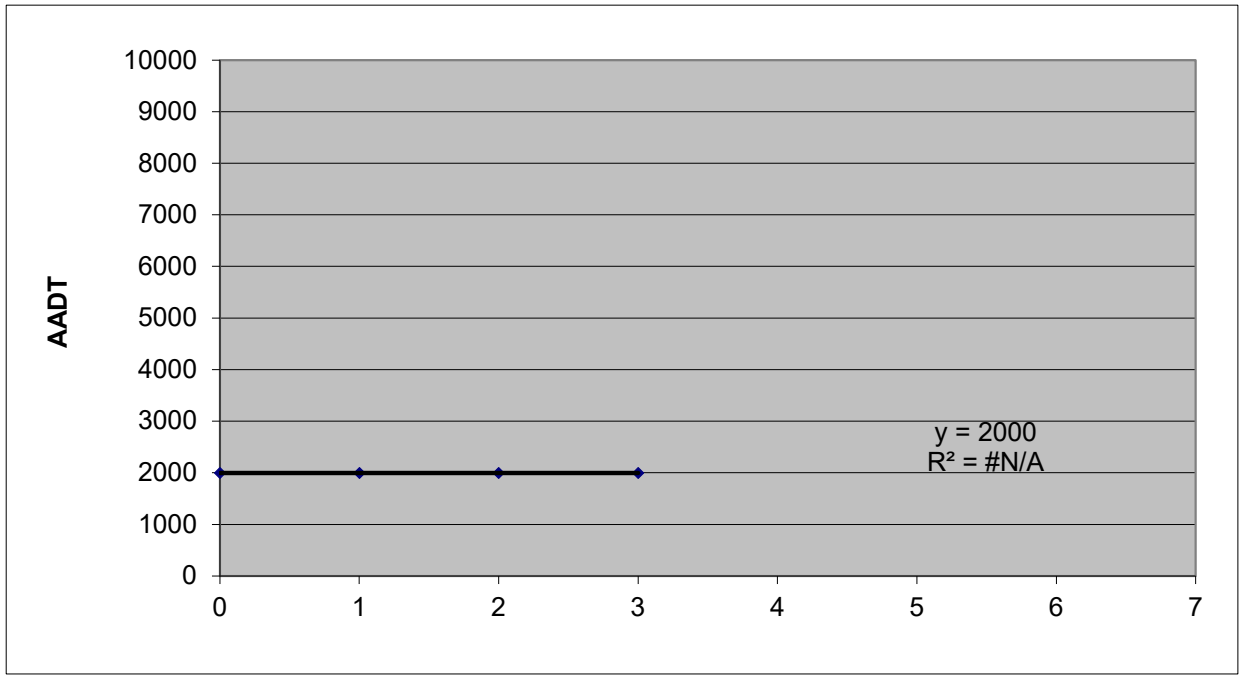
GENERATED BY SPS 5.0.0.61

TABLE C-2
LINEAR REGRESSION ANALYSIS

CR 242A, West of US 441

Year	X	Actual AADT (Y)	**Predicted AADT**
2019	0	2000	**2000**
2020	1	2000	2000
2021	2	2000	2000
2022	3	2000	2000
2023	4	2200	2000
2024	5		2000
2025	6		2000
2026	7		**2000**

i = 0.0%



BUCKHOLZ TRAFFIC

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2023 HISTORICAL AADT REPORT

COUNTY: 29 - COLUMBIA

SITE: 9122 - CR 242A .1 MI. W. OF US 441

YEAR	AADT	DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2023	2200 C	E	0	W	0	9.00	54.30	3.60
2022	2000 V		0		0	9.00	54.70	3.40
2021	2000 R		0		0	9.00	54.20	3.60
2020	2000 T		0		0	9.00	54.80	3.70
2019	2000 S		0		0	9.00	54.80	3.40
2018	2000 F		0		0	9.00	54.70	3.90
2017	2000 C	E	0	W	0	9.00	55.50	2.90
2016	2000 R		0		0	9.00	53.90	3.20
2015	1900 T		0		0	9.00	54.50	4.30
2014	1900 S					9.00	54.40	3.10
2013	1900 F		0		0	9.00	55.30	3.00
2012	1900 C	E	0	W	0	9.00	54.70	3.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

COUNTY: 29
STATION: 9122
DESCRIPTION: CR 242A .1 MI. W. OF US 441
START DATE: 08/16/2023
START TIME: 0000

DIRECTION: B

TIME	1ST	2ND	3RD	4TH	TOTAL
0000	3	2	3	4	12
0100	5	2	0	1	8
0200	0	0	2	2	4
0300	0	2	0	1	3
0400	4	8	6	11	29
0500	5	11	9	16	41
0600	17	20	30	31	98
0700	37	49	54	34	174
0800	27	42	39	33	141
0900	28	24	29	28	109
1000	31	22	28	32	113
1100	17	22	25	28	92
1200	18	29	33	23	103
1300	32	40	36	30	138
1400	26	34	53	39	152
1500	50	45	33	45	173
1600	29	45	35	54	163
1700	61	54	37	48	200
1800	56	50	38	24	168
1900	33	27	43	22	125
2000	23	21	23	13	80
2100	21	16	11	7	55
2200	11	10	8	5	34
2300	4	3	9	3	19
24-HOUR TOTALS:					2234

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	700	174
P.M.	1645	206
DAILY	1645	206

GENERATED BY SPS 5.0.0.61

2023 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 2900 COLUMBIA COUNTYWIDE

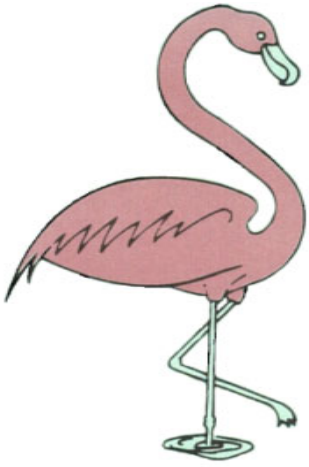
MOCF: 0.98

WEEK	DATES	SF	PSCF
1	01/01/2023 - 01/07/2023	1.04	1.06
2	01/08/2023 - 01/14/2023	1.06	1.08
3	01/15/2023 - 01/21/2023	1.08	1.10
4	01/22/2023 - 01/28/2023	1.06	1.08
5	01/29/2023 - 02/04/2023	1.05	1.07
6	02/05/2023 - 02/11/2023	1.03	1.05
7	02/12/2023 - 02/18/2023	1.02	1.04
8	02/19/2023 - 02/25/2023	1.01	1.03
9	02/26/2023 - 03/04/2023	1.00	1.02
10	03/05/2023 - 03/11/2023	0.99	1.01
11	03/12/2023 - 03/18/2023	0.99	1.01
12	03/19/2023 - 03/25/2023	0.99	1.01
13	03/26/2023 - 04/01/2023	0.99	1.01
14	04/02/2023 - 04/08/2023	0.99	1.01
15	04/09/2023 - 04/15/2023	0.99	1.01
16	04/16/2023 - 04/22/2023	0.99	1.01
17	04/23/2023 - 04/29/2023	0.98	1.00
18	04/30/2023 - 05/06/2023	0.98	1.00
19	05/07/2023 - 05/13/2023	0.98	1.00
20	05/14/2023 - 05/20/2023	0.97	0.99
21	05/21/2023 - 05/27/2023	0.98	1.00
22	05/28/2023 - 06/03/2023	0.98	1.00
23	06/04/2023 - 06/10/2023	0.99	1.01
24	06/11/2023 - 06/17/2023	1.00	1.02
25	06/18/2023 - 06/24/2023	1.00	1.02
26	06/25/2023 - 07/01/2023	1.01	1.03
27	07/02/2023 - 07/08/2023	1.01	1.03
28	07/09/2023 - 07/15/2023	1.02	1.04
29	07/16/2023 - 07/22/2023	1.02	1.04
30	07/23/2023 - 07/29/2023	1.02	1.04
31	07/30/2023 - 08/05/2023	1.02	1.04
32	08/06/2023 - 08/12/2023	1.02	1.04
33	08/13/2023 - 08/19/2023	1.02	1.04
34	08/20/2023 - 08/26/2023	1.01	1.03
*35	08/27/2023 - 09/02/2023	0.99	1.01
*36	09/03/2023 - 09/09/2023	0.98	1.00
*37	09/10/2023 - 09/16/2023	0.97	0.99
*38	09/17/2023 - 09/23/2023	0.97	0.99
*39	09/24/2023 - 09/30/2023	0.97	0.99
*40	10/01/2023 - 10/07/2023	0.97	0.99
*41	10/08/2023 - 10/14/2023	0.97	0.99
*42	10/15/2023 - 10/21/2023	0.97	0.99
*43	10/22/2023 - 10/28/2023	0.98	1.00
*44	10/29/2023 - 11/04/2023	0.99	1.01
*45	11/05/2023 - 11/11/2023	0.99	1.01
*46	11/12/2023 - 11/18/2023	1.00	1.02
*47	11/19/2023 - 11/25/2023	1.01	1.03
48	11/26/2023 - 12/02/2023	1.02	1.04
49	12/03/2023 - 12/09/2023	1.03	1.05
50	12/10/2023 - 12/16/2023	1.04	1.06
51	12/17/2023 - 12/23/2023	1.05	1.07
52	12/24/2023 - 12/30/2023	1.07	1.09
53	12/31/2023 - 12/31/2023	1.08	1.10

* PEAK SEASON

APPENDIX D

OTHER DEVELOPMENT TRAFFIC



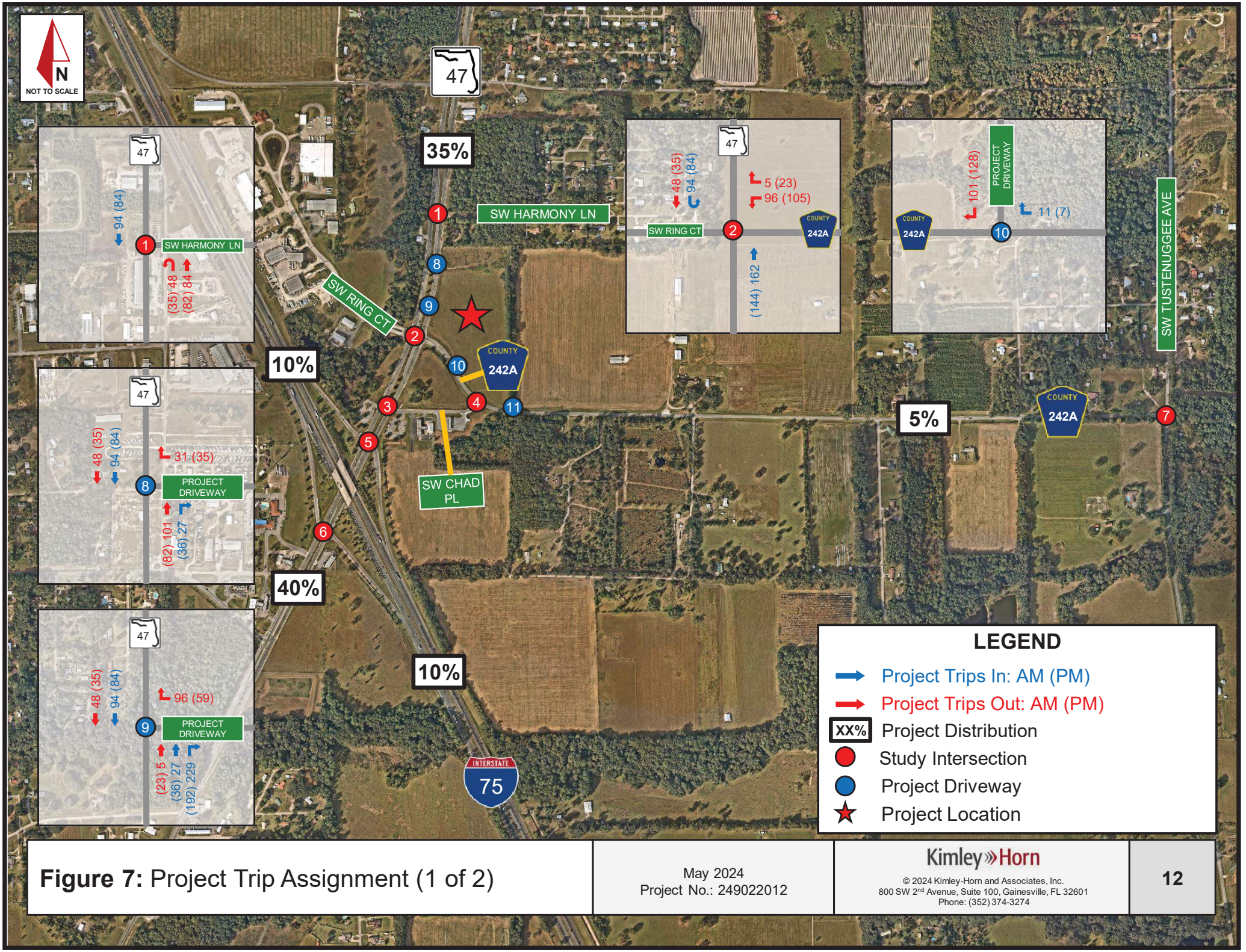


Figure 7: Project Trip Assignment (1 of 2)

May 2024
Project No.: 249022012

Kimley»Horn

800 SW 2nd Avenue, Suite 100, Gainesville, FL 32601
Phone: (352) 374-3274

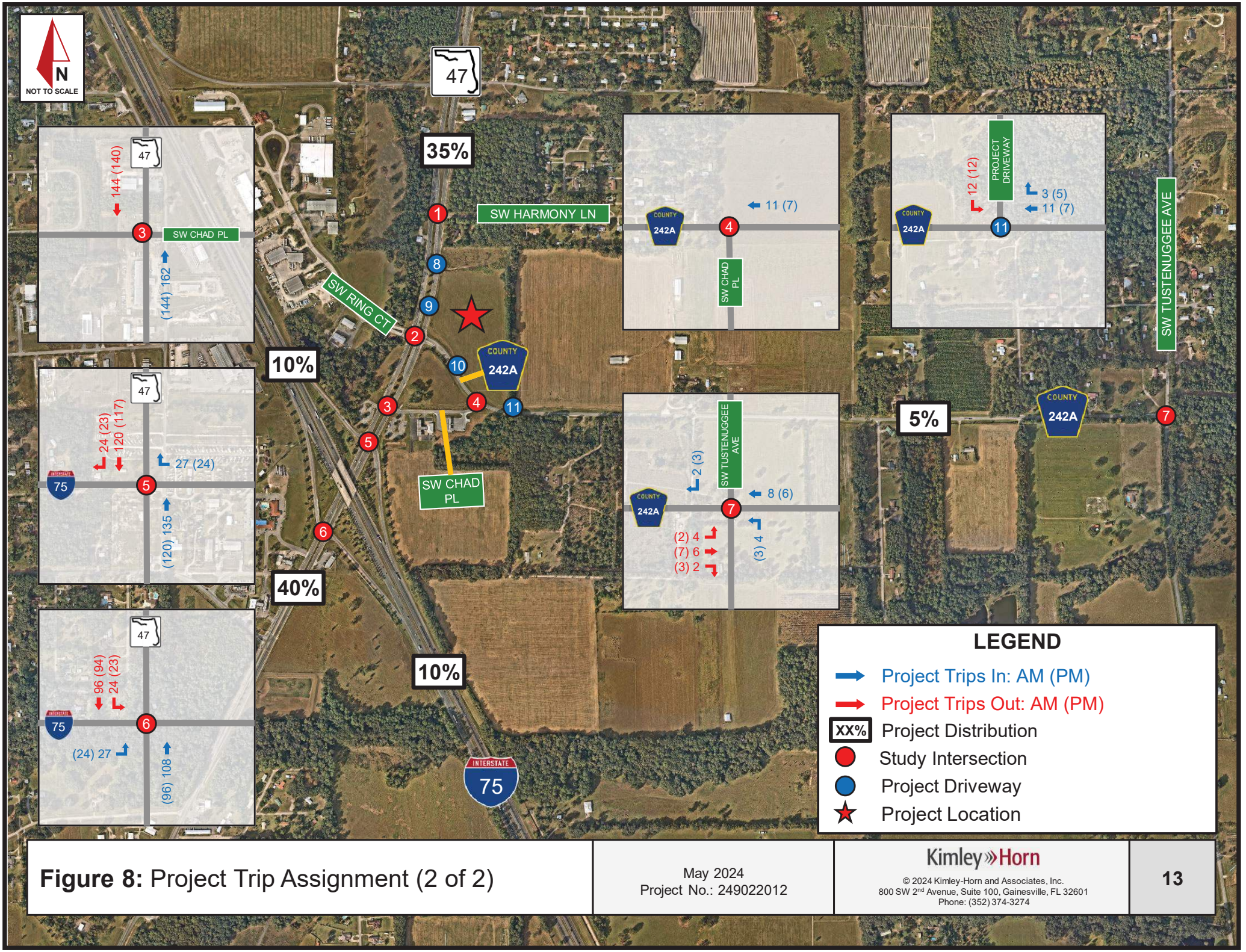


Figure 8: Project Trip Assignment (2 of 2)

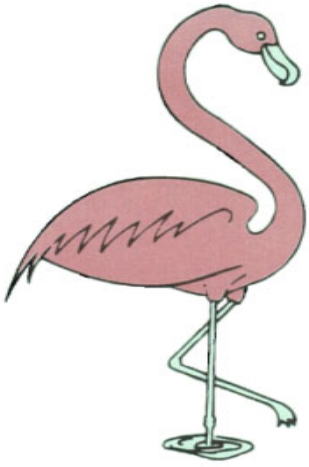
May 2024
Project No.: 249022012

Kimley»Horn

800 SW 2nd Avenue, Suite 100, Gainesville, FL 32601
Phone: (352) 374-3274

APPENDIX E

UNSIGNALIZED INTERSECTION CAPACITY CALCULATIONS



HCS Two-Way Stop-Control Report

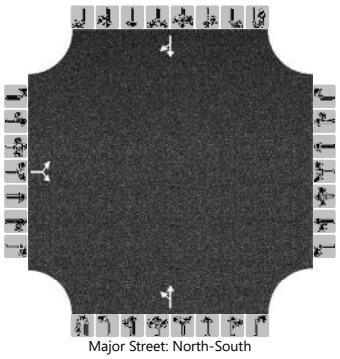
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/27/2024
Analysis Year	2024
Time Analyzed	AM Peak Hour Traffic
Intersection Orientation	North-South
Project Description	#24-1925

Site Information

Intersection	SW CR 242A / SW Chad Pl.
Jurisdiction	Columbia County
East/West Street	SW Chad Place
North/South Street	SW CR242A
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		16		121						12	150				31	9
Percent Heavy Vehicles (%)		19		6						8						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.59		6.26						4.18						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.67		3.35						2.27						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			147							13						
Capacity, c (veh/h)			975							1528						
v/c Ratio			0.15							0.01						
95% Queue Length, Q_{95} (veh)			0.5							0.0						
95% Queue Length, Q_{95} (ft)			13.3							0.0						
Control Delay (s/veh)			9.4							7.4	0.1					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		9.4								0.6						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

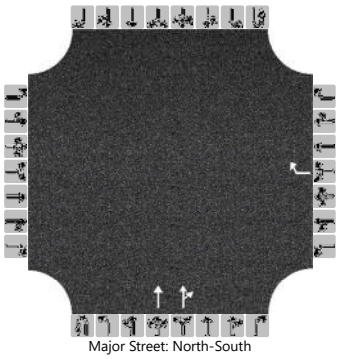
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/27/2024
Analysis Year	2024
Time Analyzed	AM Peak Hour Traffic
Intersection Orientation	North-South
Project Description	#24-1925

Site Information

Intersection	SR 47 / SW Chad Pl.
Jurisdiction	Columbia County
East/West Street	SW Chad Place
North/South Street	SR 47
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	0	0	2	0	0	0	0	0
Configuration								R			T	TR				
Volume (veh/h)								55			815	171				
Percent Heavy Vehicles (%)								10								
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						No										
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)								6.9								
Critical Headway (sec)								7.10								
Base Follow-Up Headway (sec)								3.3								
Follow-Up Headway (sec)								3.40								

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								59								
Capacity, c (veh/h)								473								
v/c Ratio								0.13								
95% Queue Length, Q_{95} (veh)								0.4								
95% Queue Length, Q_{95} (ft)								10.8								
Control Delay (s/veh)								13.7								
Level of Service (LOS)								B								
Approach Delay (s/veh)						13.7										
Approach LOS						B										

HCS Two-Way Stop-Control Report

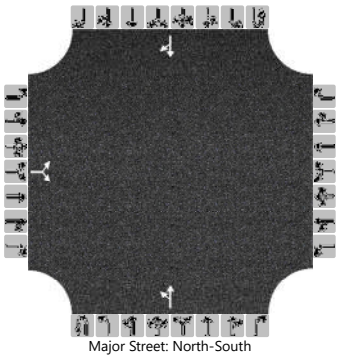
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/27/2024
Analysis Year	2024
Time Analyzed	PM Peak Hour Traffic
Intersection Orientation	North-South
Project Description	#24-1925

Site Information

Intersection	SW CR 242A / SW Chad Pl.
Jurisdiction	Columbia County
East/West Street	SW Chad Place
North/South Street	SW CR242A
Peak Hour Factor	0.83
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		12		104						8	161				69	10
Percent Heavy Vehicles (%)		17		4						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.57		6.24						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.65		3.34						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			140							10						
Capacity, c (veh/h)			918							1511						
v/c Ratio			0.15							0.01						
95% Queue Length, Q_{95} (veh)			0.5							0.0						
95% Queue Length, Q_{95} (ft)			13.0							0.0						
Control Delay (s/veh)			9.6							7.4	0.1					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		9.6								0.4						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

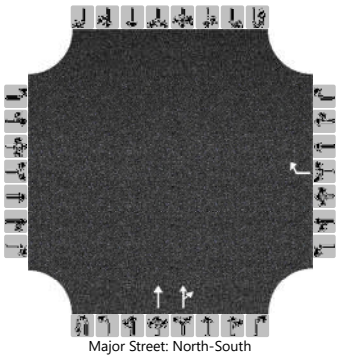
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/27/2024
Analysis Year	2024
Time Analyzed	PM Peak Hour Traffic
Intersection Orientation	North-South
Project Description	#24-1925

Site Information

Intersection	SR 47 / SW Chad Pl.
Jurisdiction	Columbia County
East/West Street	SW Chad Place
North/South Street	SR 47
Peak Hour Factor	0.83
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	0	0	2	0	0	0	0	0
Configuration								R			T	TR				
Volume (veh/h)								31			428	125				
Percent Heavy Vehicles (%)								10								
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						No										
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)								6.9								
Critical Headway (sec)								7.10								
Base Follow-Up Headway (sec)								3.3								
Follow-Up Headway (sec)								3.40								

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								37								
Capacity, c (veh/h)								640								
v/c Ratio								0.06								
95% Queue Length, Q_{95} (veh)								0.2								
95% Queue Length, Q_{95} (ft)								5.4								
Control Delay (s/veh)								11.0								
Level of Service (LOS)								B								
Approach Delay (s/veh)						11.0										
Approach LOS						B										

HCS Two-Way Stop-Control Report

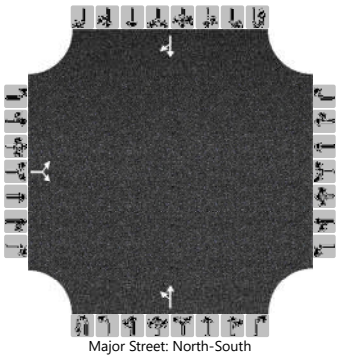
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/28/2024
Analysis Year	2026
Time Analyzed	AM Peak Hr BUILD Traffic
Intersection Orientation	North-South
Project Description	#24-1925

Site Information

Intersection	SW CR 242A / SW Chad Pl.
Jurisdiction	Columbia County
East/West Street	SW Chad Place
North/South Street	SW CR242A
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		26		126						15	164				32	15
Percent Heavy Vehicles (%)		19		6						8						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.59		6.26						4.18						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.67		3.35						2.27						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			163							16						
Capacity, c (veh/h)			942							1518						
v/c Ratio			0.17							0.01						
95% Queue Length, Q_{95} (veh)			0.6							0.0						
95% Queue Length, Q_{95} (ft)			16.0							0.0						
Control Delay (s/veh)			9.6							7.4	0.1					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		9.6								0.7						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

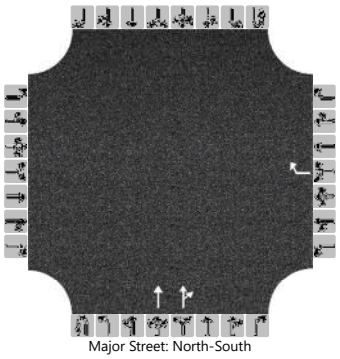
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/28/2024
Analysis Year	2026
Time Analyzed	AM Peak Hr BUILD Traffic
Intersection Orientation	North-South
Project Description	#24-1925

Site Information

Intersection	SR 47 / SW Chad Pl.
Jurisdiction	Columbia County
East/West Street	SW Chad Place
North/South Street	SR 47
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	0	0	2	0	0	0	0	0
Configuration								R			T	TR				
Volume (veh/h)								60			994	182				
Percent Heavy Vehicles (%)								10								
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						No										
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)								6.9								
Critical Headway (sec)								7.10								
Base Follow-Up Headway (sec)								3.3								
Follow-Up Headway (sec)								3.40								

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								65								
Capacity, c (veh/h)								404								
v/c Ratio								0.16								
95% Queue Length, Q_{95} (veh)								0.6								
95% Queue Length, Q_{95} (ft)								16.2								
Control Delay (s/veh)								15.6								
Level of Service (LOS)								C								
Approach Delay (s/veh)						15.6										
Approach LOS						C										

HCS Two-Way Stop-Control Report

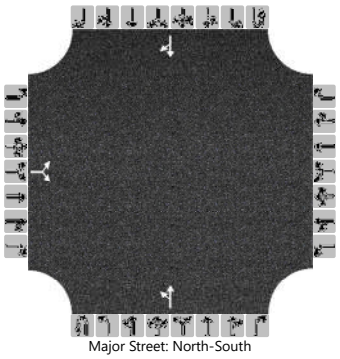
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/28/2024
Analysis Year	2026
Time Analyzed	PM Peak Hr BUILD Traffic
Intersection Orientation	North-South
Project Description	#24-1925

Site Information

Intersection	SW CR 242A / SW Chad Pl.
Jurisdiction	Columbia County
East/West Street	SW Chad Place
North/South Street	SW CR242A
Peak Hour Factor	0.83
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		32		113						15	173				70	22
Percent Heavy Vehicles (%)		17		4						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.57		6.24						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.65		3.34						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			175							18						
Capacity, c (veh/h)			850							1492						
v/c Ratio			0.21							0.01						
95% Queue Length, Q_{95} (veh)			0.8							0.0						
95% Queue Length, Q_{95} (ft)			21.1							0.0						
Control Delay (s/veh)			10.3							7.4	0.1					
Level of Service (LOS)			B							A	A					
Approach Delay (s/veh)		10.3								0.7						
Approach LOS		B								A						

HCS Two-Way Stop-Control Report

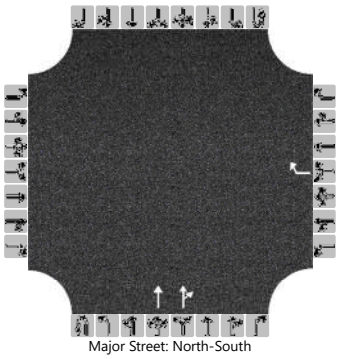
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/28/2024
Analysis Year	2026
Time Analyzed	PM Peak Hr BUILD Traffic
Intersection Orientation	North-South
Project Description	#24-1925

Site Information

Intersection	SR 47 / SW Chad Pl.
Jurisdiction	Columbia County
East/West Street	SW Chad Place
North/South Street	SR 47
Peak Hour Factor	0.83
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	0	0	2	0	0	0	0	0
Configuration								R			T	TR				
Volume (veh/h)								40			580	144				
Percent Heavy Vehicles (%)								10								
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						No										
Median Type | Storage		Undivided														

Critical and Follow-up Headways

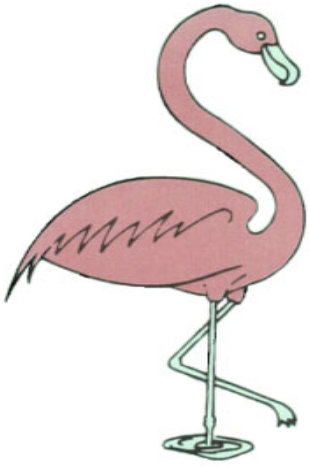
Base Critical Headway (sec)								6.9								
Critical Headway (sec)								7.10								
Base Follow-Up Headway (sec)								3.3								
Follow-Up Headway (sec)								3.40								

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								48								
Capacity, c (veh/h)								547								
v/c Ratio								0.09								
95% Queue Length, Q_{95} (veh)								0.3								
95% Queue Length, Q_{95} (ft)								8.1								
Control Delay (s/veh)								12.2								
Level of Service (LOS)								B								
Approach Delay (s/veh)						12.2										
Approach LOS						B										

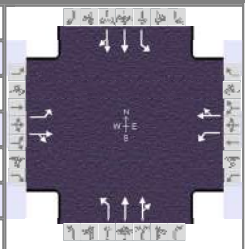
APPENDIX F

SIGNALIZED INTERSECTION CAPACITY CALCULATIONS



HCS Signalized Intersection Results Summary

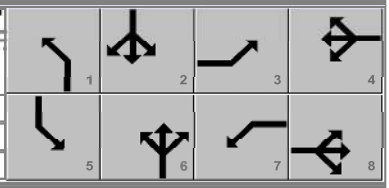
General Information				Intersection Information	
Agency	BUCKHOLZ TRAFFIC			Duration, h	0.250
Analyst	J. Buckholz	Analysis Date	Sep 27, 2024	Area Type	Other
Jurisdiction	Columbia County	Time Period	AM Peak Hour	PHF	0.93
Urban Street	SR 47	Analysis Year	2024	Analysis Period	1> 7:15
Intersection	SW CR 242A / SW Ring…	File Name	2024_AM_SR47_CR242A.xus		
Project Description	2024 AM Peak Hour Traffic				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	8	5	14	127	4	35	74	787	9	26	415	16

Signal Information			
Cycle, s	96.7	Reference Phase	2
Offset, s	110	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	Off

Green	2.6	1.8	45.0	1.0	7.1	10.9
Yellow	4.8	0.0	4.8	3.4	0.0	3.4
Red	2.0	0.0	2.0	4.2	0.0	3.6



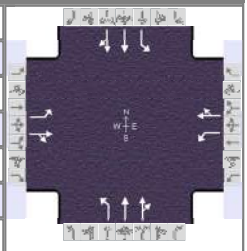
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.6	17.9	15.8	25.0	11.2	53.6	9.4	51.8
Change Period, ($Y+R_c$), s	7.6	9.4	7.8	9.4	6.8	6.8	6.8	6.8
Max Allow Headway (*MAH*), s	3.0	5.1	2.9	5.1	2.9	4.8	2.9	4.8
Queue Clearance Time (g_s), s	3.0	3.7	8.0	4.1	4.4	17.2	2.8	9.4
Green Extension Time (g_e), s	0.0	0.1	0.1	0.2	0.1	4.9	0.0	2.4
Phase Call Probability	0.21	0.85	0.97	1.00	0.88	1.00	0.53	1.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	9	20		137	42		80	429	427	28	233	231
Adjusted Saturation Flow Rate (*s*), veh/h/ln	780	1063		1925	1625		1668	1841	1833	1753	1856	1831
Queue Service Time (g_s), s	1.0	1.7		6.0	2.1		2.4	15.2	15.2	0.8	7.4	7.4
Cycle Queue Clearance Time (g_c), s	1.0	1.7		6.0	2.1		2.4	15.2	15.2	0.8	7.4	7.4
Green Ratio (*g/C*)	0.10	0.09		0.18	0.16		0.51	0.48	0.48	0.49	0.47	0.47
Capacity (*c*), veh/h	135	94		339	263		488	890	887	317	864	852
Volume-to-Capacity Ratio (*X*)	0.064	0.218		0.403	0.160		0.163	0.482	0.482	0.088	0.270	0.271
Back of Queue (*Q*), ft/ln (95 th percentile)	13	29		127	38		39	255	246	13	141	151
Back of Queue (*Q*), veh/ln (95 th percentile)	0.3	0.9		4.9	1.5		1.4	9.9	9.9	0.5	5.5	5.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.07	0.00		0.46	0.00		0.17	0.00	0.00	0.06	0.00	0.00
Uniform Delay (d_1), s/veh	39.7	41.0		34.7	34.9		12.5	16.8	16.8	13.9	15.8	15.8
Incremental Delay (d_2), s/veh	0.1	1.6		0.3	0.4		0.1	0.6	0.6	0.0	0.8	0.8
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	39.8	42.6		35.0	35.3		12.5	17.4	17.4	14.0	16.6	16.6
Level of Service (LOS)	D	D		C	D		B	B	B	B	B	B
Approach Delay, s/veh / LOS	41.8	D		35.1	D		17.0	B		16.4	B	
Intersection Delay, s/veh / LOS	19.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS Signalized Intersection Results Summary

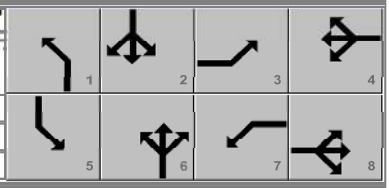
General Information				Intersection Information	
Agency	BUCKHOLZ TRAFFIC			Duration, h	0.250
Analyst	J. Buckholz	Analysis Date	Sep 27, 2024	Area Type	Other
Jurisdiction	Columbia County	Time Period	PM Peak Hour	PHF	0.83
Urban Street	SR 47	Analysis Year	2024	Analysis Period	1> 16:45
Intersection	SW CR 242A / SW Ring…	File Name	2024_PM_SR47_CR242A.xus		
Project Description	2024 PM Peak Hour Traffic				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	28	13	58	136	3	34	41	402	16	50	738	5

Signal Information			
Cycle, s	98.6	Reference Phase	2
Offset, s	110	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	Off

Green	3.7	0.3	44.7	3.0	6.4	12.3	
Yellow	4.8	0.0	4.8	3.4	0.0	3.4	
Red	2.0	0.0	2.0	4.2	0.0	3.6	



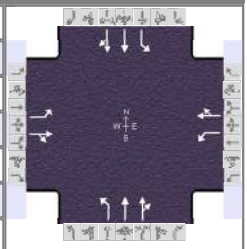
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.6	19.3	17.0	25.6	10.5	51.5	10.8	51.8
Change Period, ($Y+R_c$), s	7.6	9.4	7.8	9.4	6.8	6.8	6.8	6.8
Max Allow Headway (*MAH*), s	3.0	5.2	2.9	5.1	2.9	4.8	2.9	4.8
Queue Clearance Time (g_s), s	3.8	7.5	9.1	4.5	3.5	10.9	4.0	19.2
Green Extension Time (g_e), s	0.0	0.4	0.2	0.2	0.0	2.6	0.1	5.1
Phase Call Probability	0.60	0.99	0.99	1.00	0.74	1.00	0.81	1.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	34	86		164	45		49	253	250	60	448	447
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1627	1463		1983	1492		1739	1796	1772	1598	1841	1836
Queue Service Time (g_s), s	1.8	5.5		7.1	2.5		1.5	8.8	8.9	2.0	17.2	17.2
Cycle Queue Clearance Time (g_c), s	1.8	5.5		7.1	2.5		1.5	8.8	8.9	2.0	17.2	17.2
Green Ratio (*g/C*)	0.13	0.10		0.20	0.16		0.49	0.45	0.45	0.49	0.46	0.46
Capacity (*c*), veh/h	248	147		323	246		297	814	803	430	840	838
Volume-to-Capacity Ratio (*X*)	0.136	0.583		0.508	0.181		0.166	0.311	0.312	0.140	0.533	0.533
Back of Queue (*Q*), ft/ln (95 th percentile)	33	102		150	45		25	163	153	33	302	322
Back of Queue (*Q*), veh/ln (95 th percentile)	1.3	3.9		6.0	1.7		1.0	6.2	6.1	1.2	11.7	11.7
Queue Storage Ratio (*RQ*) (95 th percentile)	0.19	0.00		0.55	0.00		0.11	0.00	0.00	0.15	0.00	0.00
Uniform Delay (d_1), s/veh	38.0	42.4		34.7	35.4		15.1	17.2	17.2	13.5	19.2	19.2
Incremental Delay (d_2), s/veh	0.1	5.1		0.5	0.5		0.1	0.3	0.3	0.1	2.4	2.4
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	38.1	47.5		35.1	35.9		15.2	17.5	17.5	13.6	21.7	21.7
Level of Service (LOS)	D	D		D	D		B	B	B	B	C	C
Approach Delay, s/veh / LOS	44.8	D		35.3	D		17.3	B		21.2	C	
Intersection Delay, s/veh / LOS	23.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS Signalized Intersection Results Summary

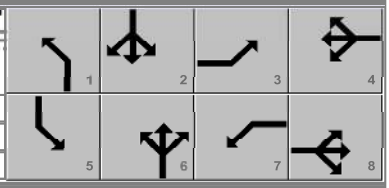
General Information				Intersection Information	
Agency	BUCKHOLZ TRAFFIC			Duration, h	0.250
Analyst	J. Buckholz	Analysis Date	Sep 27, 2024	Area Type	Other
Jurisdiction	Columbia County	Time Period	AM Peak Hour	PHF	0.93
Urban Street	SR 47	Analysis Year	2026	Analysis Period	1> 7:15
Intersection	SW CR 242A / SW Ring…	File Name	2026_B_AM_SR47_CR242A.xus		
Project Description	2024 AM Peak Hour BUILD Traffic				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	8	6	14	230	5	46	80	965	9	126	471	16

Signal Information			
Cycle, s	103.4	Reference Phase	2
Offset, s	110	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	Off

Green	4.7	1.8	43.2	1.1	5.1	11.5	
Yellow	4.8	0.0	4.8	3.4	5.8	3.4	
Red	2.0	0.0	2.0	4.2	2.0	3.6	



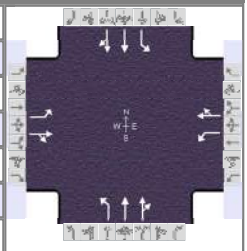
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.7	18.5	21.6	31.4	11.5	50.0	13.3	51.8
Change Period, ($Y+R_c$), s	7.6	9.4	7.8	9.4	6.8	6.8	6.8	6.8
Max Allow Headway (*MAH*), s	3.0	5.1	2.9	5.1	2.9	4.8	2.9	4.8
Queue Clearance Time (g_s), s	3.0	3.9	13.6	4.8	5.0	26.0	6.5	11.7
Green Extension Time (g_e), s	0.0	0.1	0.2	0.2	0.1	5.7	0.1	2.8
Phase Call Probability	0.22	0.91	1.00	1.00	0.92	1.00	0.98	1.00
Max Out Probability	0.00	0.00	0.03	0.00	0.00	0.16	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	9	22		247	55		86	525	523	135	263	261
Adjusted Saturation Flow Rate (*s*), veh/h/ln	780	1070		1925	1623		1668	1841	1835	1753	1856	1834
Queue Service Time (g_s), s	1.0	1.9		11.6	2.8		3.0	24.0	24.0	4.5	9.6	9.7
Cycle Queue Clearance Time (g_c), s	1.0	1.9		11.6	2.8		3.0	24.0	24.0	4.5	9.6	9.7
Green Ratio (*g/C*)	0.10	0.09		0.24	0.21		0.46	0.42	0.42	0.48	0.44	0.44
Capacity (*c*), veh/h	130	94		431	346		410	769	766	278	808	798
Volume-to-Capacity Ratio (*X*)	0.066	0.228		0.574	0.159		0.210	0.682	0.682	0.487	0.326	0.326
Back of Queue (*Q*), ft/ln (95 th percentile)	14	32		233	50		53	399	386	79	190	203
Back of Queue (*Q*), veh/ln (95 th percentile)	0.4	1.0		9.0	2.0		2.0	15.5	15.4	3.1	7.4	7.4
Queue Storage Ratio (*RQ*) (95 th percentile)	0.08	0.00		0.85	0.00		0.23	0.00	0.00	0.35	0.00	0.00
Uniform Delay (d_1), s/veh	42.4	43.8		34.3	33.1		16.3	24.5	24.5	18.9	19.2	19.2
Incremental Delay (d_2), s/veh	0.1	1.7		0.5	0.3		0.1	2.6	2.6	0.5	1.1	1.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	42.5	45.6		34.7	33.4		16.3	27.1	27.1	19.4	20.3	20.3
Level of Service (LOS)	D	D		C	C		B	C	C	B	C	C
Approach Delay, s/veh / LOS	44.7	D		34.5	C		26.3	C		20.1	C	
Intersection Delay, s/veh / LOS	25.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

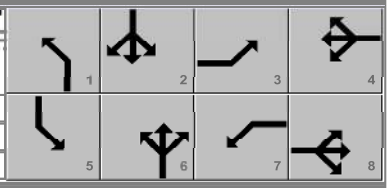
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	BUCKHOLZ TRAFFIC			Duration, h	0.250
Analyst	J. Buckholz	Analysis Date	Sep 27, 2024	Area Type	Other
Jurisdiction	Columbia County	Time Period	PM Peak Hour	PHF	0.83
Urban Street	SR 47	Analysis Year	2026	Analysis Period	1> 16:45
Intersection	SW CR 242A / SW Ring…	File Name	2026_B_PM_SR47_CR242A.xus		
Project Description	2026 PM Peak Hour BUILD Traffic				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	15	59	252	5	68	50	554	16	145	788	5

Signal Information			
Cycle, s	106.2	Reference Phase	2
Offset, s	110	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	Off



Green	4.2	5.0	40.0	3.2	5.5	12.4
Yellow	4.8	0.0	4.8	3.4	5.8	3.4
Red	2.0	0.0	2.0	4.2	2.0	3.6

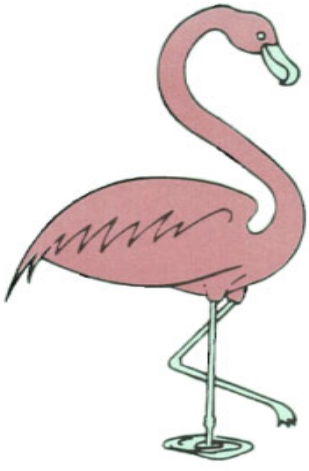
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.8	19.4	24.1	32.7	11.0	46.8	15.9	51.8
Change Period, ($Y+R_c$), s	7.6	9.4	7.8	9.4	6.8	6.8	6.8	6.8
Max Allow Headway (*MAH*), s	3.0	5.2	2.9	5.1	2.9	4.8	2.9	4.8
Queue Clearance Time (g_s), s	4.0	8.2	16.1	7.2	4.2	17.8	9.0	23.5
Green Extension Time (g_e), s	0.0	0.4	0.2	0.4	0.1	3.7	0.2	5.3
Phase Call Probability	0.64	1.00	1.00	1.00	0.83	1.00	0.99	1.00
Max Out Probability	0.00	0.00	0.39	0.00	0.00	0.01	0.00	0.09

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	35	89		304	88		60	345	342	175	478	477
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1627	1468		1983	1489		1739	1796	1778	1598	1841	1837
Queue Service Time (g_s), s	2.0	6.2		14.1	5.2		2.2	15.7	15.8	7.0	21.5	21.5
Cycle Queue Clearance Time (g_c), s	2.0	6.2		14.1	5.2		2.2	15.7	15.8	7.0	21.5	21.5
Green Ratio (*g/C*)	0.12	0.09		0.27	0.22		0.42	0.38	0.38	0.46	0.42	0.42
Capacity (*c*), veh/h	229	138		424	326		252	677	670	360	780	778
Volume-to-Capacity Ratio (*X*)	0.152	0.646		0.717	0.270		0.239	0.510	0.510	0.486	0.613	0.613
Back of Queue (*Q*), ft/ln (95 th percentile)	38	118		280	92		40	282	265	123	374	400
Back of Queue (*Q*), veh/ln (95 th percentile)	1.5	4.6		11.1	3.4		1.6	10.7	10.6	4.4	14.5	14.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.22	0.00		1.02	0.00		0.18	0.00	0.00	0.55	0.00	0.00
Uniform Delay (d_1), s/veh	41.6	46.4		34.2	34.4		20.6	25.5	25.5	18.7	23.8	23.8
Incremental Delay (d_2), s/veh	0.1	7.0		3.1	0.6		0.2	0.8	0.9	0.4	3.6	3.6
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	41.7	53.5		37.3	35.1		20.8	26.4	26.4	19.1	27.4	27.4
Level of Service (LOS)	D	D		D	D		C	C	C	B	C	C
Approach Delay, s/veh / LOS	50.2	D		36.8	D		25.9	C		26.2	C	
Intersection Delay, s/veh / LOS	29.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

APPENDIX G

EXISTING SIGNAL TIMINGS



STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION - DISTRICT TWO
Signal Retiming - SR 47 AND US 41
FIN 211083-2-32

Designed By:	AC
Date:	12/2/2014
Checked By:	RAA
Date:	12/2/2014

Section		Mile Post		Node	6
Sig ID		Controller	Econolite 2070 ATC	System ID	
Maj. Street	SR 47	Orientation	N-S	SOP	10
Min. Street	SW Ring Ct/ CR 242	Orientation	E-W		

Pedestrians									
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	NBL	SB	EBL	WB	SBL	NB	WBL	EB	
Speed Limit (mph)	45	45	25	45	45	45	45	25	
Vehicle Traversed Width	144	170	171	149	156	165	176	148	
Slope of Approach Google	0.00%	0.00%	0.00%	-5.45%	0.00%	0.00%	-5.45%	0.00%	
Ped-X (curb to curb)		113		113		89		113	
Crossing Time		33		33		26		33	
Max Ped-X (max ped det to curb)		21		12		24		13	
Crossing Time	/	45	/	42	/	38	/	42	
Slope of Approach (smart level)	0.00%	-0.50%	0.00%	-7.60%	-0.50%	0.00%	-7.60%	0.00%	

Timing Bank 1 (seconds)									
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	NBL	SB	EBL	WB	SBL	NB	WBL	EB	
Turn Type	Prot/Perm		Prot/Perm		Prot/Perm		Prot/Perm		
Min Green	5	~~4~~ 20	5	~~8~~ 10	5	~~8~~ 20	5	~~8~~ 10	
Ext	~~4~~ 2	4.0	~~4~~ 2	4.0	~~4~~ 2	4.0	~~4~~ 2	4.0	
Yellow	4.8	4.8	3.4	5.8	4.8	4.8	5.8	3.4	
All Red	2.0	2.0	4.2	3.6	2.0	2.0	2.0	3.6	
Max I	~~8~~ 20	~~8~~ 45	~~8~~ 20	~~8~~ 35	~~8~~ 20	~~8~~ 45	~~8~~ 20	~~8~~ 35	
Max II	~~8~~ 50	~~8~~ 50	~~8~~ 50	~~8~~ 50	~~8~~ 50	~~8~~ 50	~~8~~ 50	~~8~~ 50	
Timing Bank 2 Max II	~~8~~	~~8~~	~~8~~	~~8~~	~~8~~	~~8~~	~~8~~	~~8~~	
Walk		7		7		7		7	
Flashing Don't Walk		33		33		26		33	
Min Splits	12.0	47.0	13.0	50.0	12.0	40.0	13.0	47.0	
Detector Memory		On				On			
Det. Cross Switch.	Yes				Yes				
Recall		Min				Min			
CNA									
Coord Phase		Yes				Yes			

Notes:
1) 0:00 to 6:00 –> ~~FREE Timing Bank 1 with Max I M-F~~
2) 6:00 to 9:30 –> ~~FREE Timing Bank 2 with Max II M-F~~
3) 9:30 to 19:00 –> ~~FREE Timing Bank 1 with Max II M-F~~
4) 19:00 to 0:00 –> ~~FREE Timing Bank 1 with Max I M-F~~

1) 0:00 to 8:00 –> ~~FREE Timing Bank 1 with Max I Sat/Sun~~
2) 8:00 to 20:00 –> ~~FREE Timing Bank 1 with Max II Sat/Sun~~
3) 20:00 to 0:00 –> ~~FREE Timing Bank 1 with Max I Sat/Sun~~

Signal Phasing - All Plans

1	2	3	4
5	6	7	8