

SR-80/Southern Boulevard Conceptual Access Management Plan

Prepared for:

Town of Loxahatchee Groves

Prepared By:

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1.0 INTRODUCTION AND BACKGROUND

Calvin, Giordano & Associates was commissioned by the Town of Loxahatchee Groves to prepare a Conceptual Access Management Plan for the SR 80/Southern Boulevard corridor within the Town boundaries.

The Town of Loxahatchee Groves is a rural residential and agricultural community encompassing approximately 12.5 square miles in Palm Beach County. The Town is bordered by SR-80/Southern Boulevard on the south and is adjacent to the Village of Royal Palm Beach to the east, the Village of Wellington to the south, and areas of unincorporated Palm Beach County known as the “Acreage” to the north and west.

The Town of Loxahatchee Groves is located within the Loxahatchee Groves Water Control District (LWCD), a special district created in 1917 that shares maintenance responsibilities with the Town for roadways within the Town limits. Most of the roadways within the Town are unpaved dirt roadways consistent with a rural lifestyle.

SR-80/Southern Boulevard is a four-lane, divided highway in the vicinity of Loxahatchee Groves. Widening to six through lanes is programmed in the Palm Beach County Metropolitan Planning Organization (MPO) 2030 Long Range Transportation Plan (LRTP). In anticipation of this future widening project, the Town realized the need for the development of an access management plan to evaluate and plan for potential future development adjacent to this important corridor.

1.1 Proposed Commercial Development

The Town has elected to encourage commercial development adjacent to the SR 80/Southern Boulevard corridor in order to create a centralized commercial

district to meet the needs of the community. This will ultimately promote shorter, internal trips between residential and commercial land uses resulting in fewer vehicle miles traveled both inside and outside the Loxahatchee Groves borders. In addition, the Town is working to incorporate a trail and greenway system as outlined in the recently adopted Master Roadway, Equestrian and Greenway Plan. In accordance with recommendations contained in the MREG, the Town will be working to ensure that future commercial developments along the SR 80/Southern Boulevard corridor include easements to accommodate the proposed trail network.

1.2 Study Area

The study area is bounded to the south by SR 80/Southern Boulevard, to the north from just north of Collecting Canal Road, to the west from just west of B Road and to the east from just east of F Road, as depicted in **Figure 1**.

1.3 Project Scope

The scope of this conceptual access control plan includes an analysis of existing land-uses and access connections along SR-80/Southern Boulevard, estimation of potential future development and corresponding traffic volumes, and an evaluation of future proposed access connections on SR-80/Southern Boulevard compliant with the FDOT access management standards.

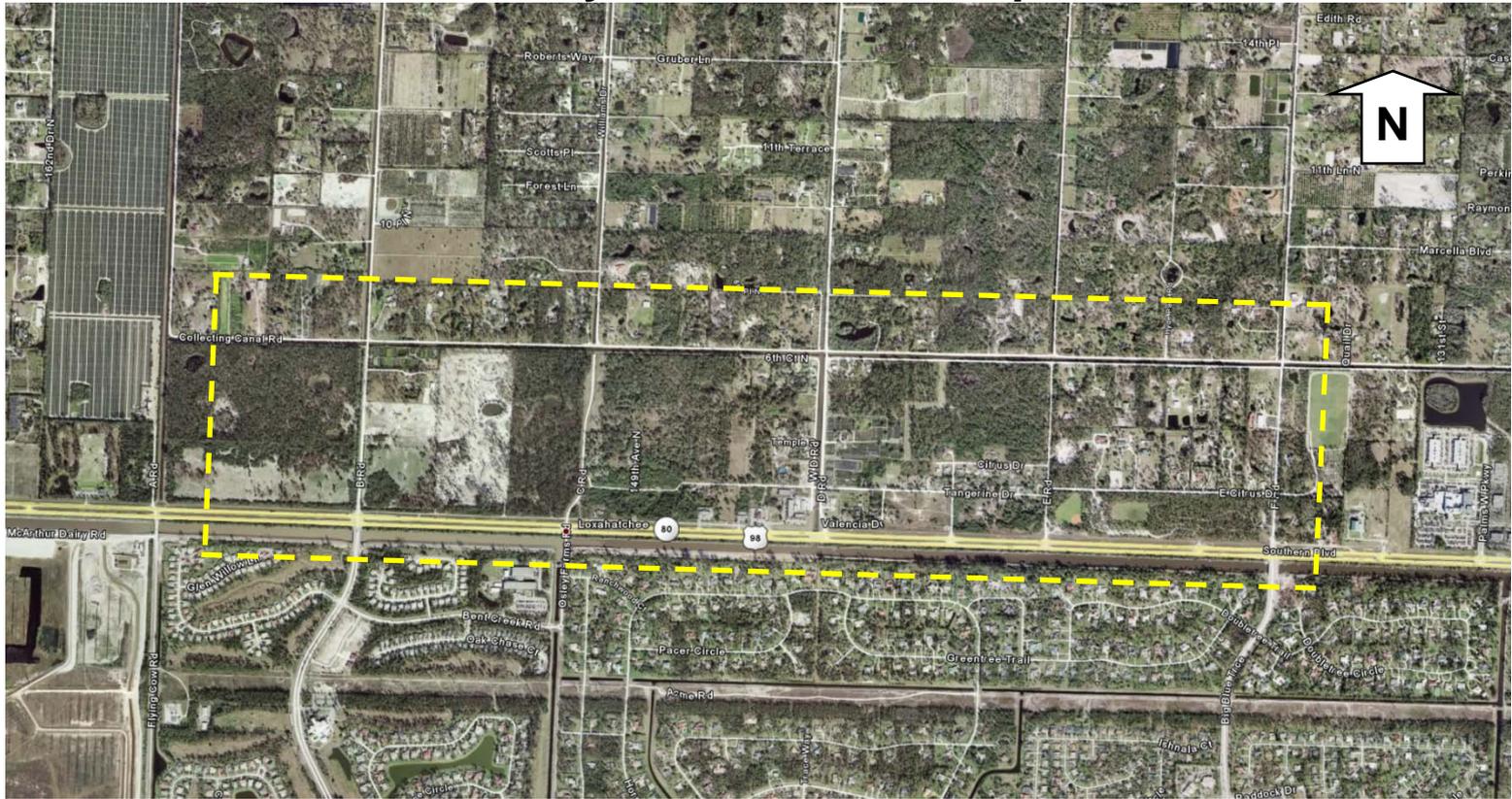
The following scenarios were considered:

- 1) **Alternative 1 - No Build Scenario.** Under this scenario, only existing land-uses are considered and appropriate access driveways are recommended and evaluated.

- 2) **Alternative 2 - Potential Commercial Development Scenario.** Under this scenario, existing non-commercial land-uses adjacent to SR 80/Southern Boulevard are converted to commercial land-uses and the subsequent traffic associated with the land-use change is evaluated. Appropriate access driveways are recommended and evaluated.

SR-80 Conceptual Access Management Plan

Study Area Location Map



Legend

 Study Area Boundary

FIGURE 1

1.4 SR-80/Southern Boulevard Corridor

SR-80/Southern Boulevard is a designated Strategic Intermodal System (SIS) facility and part of the Florida Intrastate Highway System (FIHS). The State has applied higher standards for access connections for these types of facilities in order to maintain regional mobility. The Florida Department of Transportation (FDOT) District IV has classified SR-80 as Access Class 3.

Florida Administrative Code (FAC) Rule Chapter 14-97 defines Access Class 3 in the following manner:

These facilities are controlled access facilities where direct access to abutting land will be controlled to maximize the operation of the through traffic movement. This class will be used where existing land use and roadway sections have not completely built out to the maximum land use or roadway capacity or where the probability of significant land use change in the near future is high. These highways will be distinguished by existing or planned restrictive medians and maximum distance between traffic signals and driveway connections. Local land use planning, zoning and subdivision regulations should be such to support the restrictive spacings of this designation.

Florida Administrative Code Rule Chapter 14-97 for Access Class 3 requires the following:

The distance to the first connection shall be at least 660 feet where the posted speed limit is greater than 45 MPH or 440 feet where the posted speed limit is 45 MPH or less. This distance will be measured from the end of the taper for that particular quadrant of the interchange on the controlled access facility. A single connection per property not meeting this connection spacing standard shall be provided, pursuant to the connection permit process as defined in Rule Chapter 14-96, F.A.C., if no reasonable access to the property exists and if permitting authority review of the connection permit application provided by the applicant determines that the connection does not create a safety, operational or weaving

hazard pursuant to Rule 14-96.007, F.A.C. In such cases, applications for more than a single connection shall be examined as non-conforming connections pursuant to Rule 14-96.009, F.A.C.

The minimum distance to the first median opening shall be at least 1,320 feet as measured from the end of the taper of the egress ramp.

All developments accessing the State Highway System must obtain a permit in accordance with Rule 14-96, Administrative Rules of Department of Transportation, which governs access permitting.

The FDOT Access Classification System is illustrated below in **Table 1**.

TABLE 1
FDOT Access Classification System & Standards

Access Class	Medians	Connection Spacing		Median Opening		Signal Spacing
		>45 mph	<=45 mph	Directional	Full	
2 (FIHS & SIS)	Restrictive with Service Rd	1,320	660	1,320	2,640	2,640
3 (FIHS & SIS)	Restrictive	660	440	1,320	2,640	2,640
4	Non-Restrictive	660	440			2,640
5	Restrictive	440	245	660	2640/1320	2640/1321
6	Non-Restrictive	440	245			1,320
7	Both Median Types	125		330	660	1,320

1.5 Public Involvement-Visioning Process

Public workshops were held in conjunction with the recently adopted Comprehensive Plan and Master Roadway, Equestrian and Greenway (MREG) plan. During these public workshops, several issues pertaining to SR 80 were identified, including the following:

- Need for access regulations and guidelines to address land-use changes
- Need for a buffer between residential and commercial development along the SR 80 corridor
- Need to maintain preserved land and develop greenways
- Need to extend Tangerine Drive west of C Road

1.6 Intergovernmental Coordination

Meetings were held with representatives from the Florida Department of Transportation (FDOT) to discuss specific parameters of this conceptual access management plan. Proposed access spacing, land-use changes and alternatives analyses were presented to FDOT representatives for discussion and comment throughout the development of this conceptual access management plan. Pursuant to the aforementioned Florida Administrative Code Rule 14-96, all developments accessing SR 80 will require an access permit to be issued by the FDOT District IV. It is recommended the Town continue to coordinate with FDOT representatives throughout the implementation of this conceptual access management plan.

1.7 Loxahatchee Groves Comprehensive Plan

The recently adopted Town of Loxahatchee Groves Comprehensive Plan addresses the need for access management provisions through goals, objectives and policies including provisions for driveway spacing and right-of-way protection. This conceptual access management plan is in harmony with the Comprehensive Plan as well as the goal of the Town to *“preserve the existing unique qualities of the community, yet improve the quality of life for the residents”*.

Following are the objectives and policies contained within the Town of Loxahatchee Groves Comprehensive Plan relating to access management standards:

Land Use/Transportation Coordination

2.5 Objective

The Town shall coordinate the transportation system with the future land use map and ensure land uses are consistent with transportation modes and services proposed to serve those areas.

2.5.3 Policy

The Town shall coordinate the transportation system with land uses through implementation of, but not limited to, the following programs, activities or actions:

1. Transportation facilities and services shall be planned and located in a manner which minimizes the potential impacts on adjacent land uses with consideration given specially to existing residential areas.
2. Intermodal facilities shall be located so as to maximize the efficiency of the transportation system.
3. All opportunities to provide adequate bus shelters will be explored.

Right of Way Protection

2.6 Objective

The Town of Loxahatchee Groves shall ensure that future development does not encroach upon existing rights of-way.

2.6.1 Policy

Existing rights-of-way will be identified and the Town shall ensure that future development does not encroach upon rights-of-way.

2.6.2 Policy

Future Right-Of-Way needs for State and County roads shall be established in conformance with FDOT and Palm Beach County Standards.

2.7.2 Policy

The Town shall continue to encourage joint use of driveways and cross access agreements among adjoining property owners to allow circulation between sites and reduce the number of vehicular trips along roadways.

The goals, objectives and policies of the Comprehensive Plan for a safe and efficient transportation system can be achieved through active access management practices, and continued inter-coordination of land use and transportation planning.

2.0 EXISTING CONDITIONS

2.1 Roadway Characteristics

Functional Classification

Roadways are classified based on the purpose they serve, speed of travel, access needs and mobility needs. The major thoroughfares, categorized into four functional classification groups common to rural and urban roads, are major arterials, minor arterials, collectors, and local streets. The rural or urban designation is part of the complete functional classification based on population. The study area for the conceptual access management plan includes one major arterial and several local streets. Descriptions of these roadway classifications are as follows:

Major Arterial Road

This roadway provides service primarily through high speed and high volume traffic. Major Arterials usually provide service that is relatively continuous and for longer trip lengths. Typical major arterials include interstates, freeways, and other limited access facilities. SR-80/Southern Boulevard is classified as a major arterial in the study area with an adopted level of service of D.

Local Street

This roadway permits direct access to abutting property and connections to a higher order roadway. A local street provides service to low-volume and short average trip length or minimal through traffic movements. All the other roadways in the study area are classified as local roads with an adopted level of service of D.

2.2 Crash Data Collection

To evaluate the existing conditions and to identify safety issues within the study area, crash data information was obtained from Palm Beach County Traffic Division and summarized in **Figure 2**. It is noted that crashes are concentrated at

the signalized intersections of SR-80/Southern Boulevard with B Road and F Road. Crash data sheets are included in Appendix A.

2.3 Existing Roadway Network

Within the study area, SR 80/Southern Boulevard is the most heavily traveled east-west roadway. SR 80/Southern Boulevard is a State Highway that connects western Palm Beach County to eastern Palm Beach County. The roadway transitions from an eight-lane, divided highway to a four-lane divided highway east of the Town of Loxahatchee Groves.

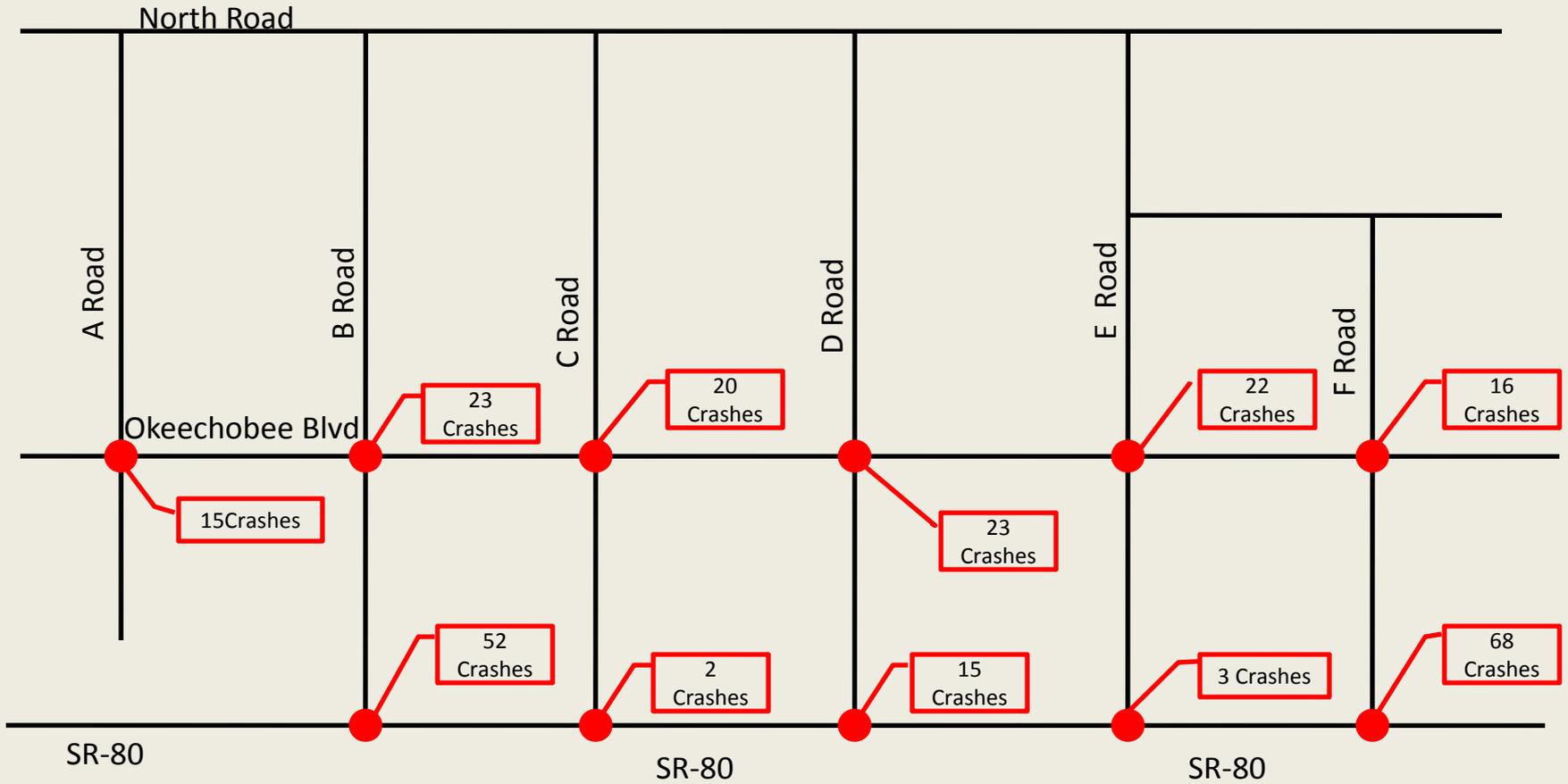
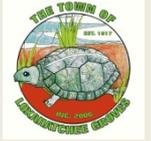
Other primary east-west roadways within the study area include Collecting Canal Road, 6th Court North Road, Tangerine Drive, and Citrus Drive. 6th Court North Road and Collecting Canal Road are adjacent roadways separated by a canal. The primary north-south roadways within study area include B Road, C Road, D Road, E Road, F Road, Orange Avenue and Loxahatchee Avenue.

There are two signalized intersections within the study area located at the intersections of SR-80/Southern Boulevard with B Road and with F Road. These signalized intersections are approximately 2-miles apart. The intersections of SR-80/Southern Boulevard with C Road, D Road, E Road, and Loxahatchee Avenue operate with Stop control on the minor approach.

The existing roadway network is illustrated in **Figure 3**.

SR-80 Conceptual Access Management Plan

Intersection Crash Diagram

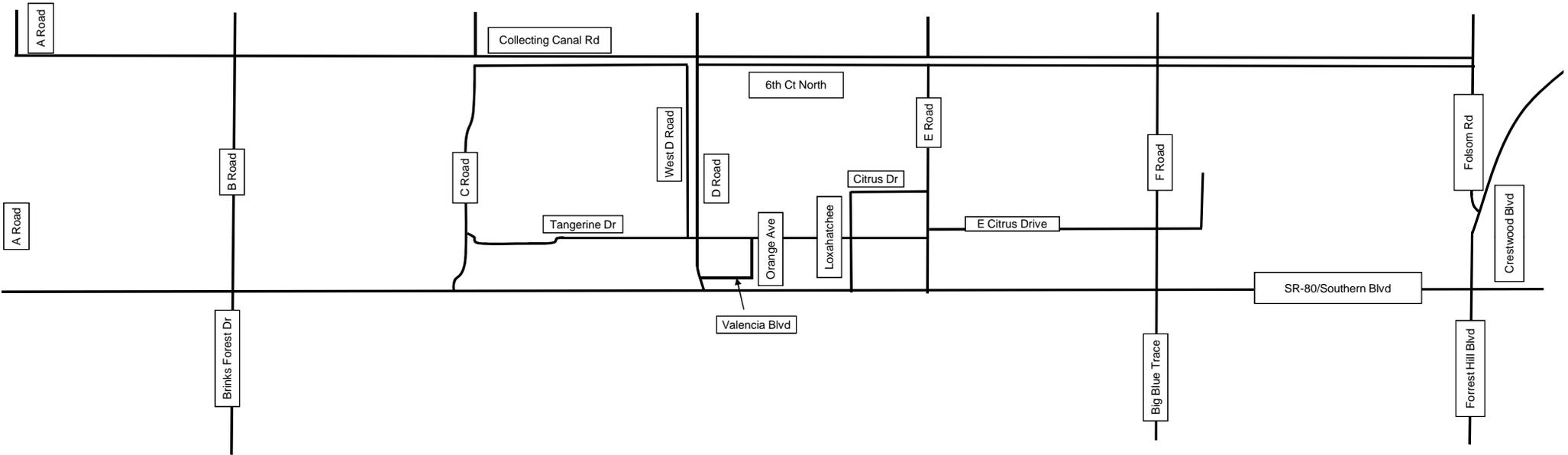


Legend
 Intersection

FIGURE 2

FIGURE 3

Loxahatchee Groves - Existing Roadway Network



2.4 Existing Traffic Volumes

Turning movement counts were collected on a typical weekday (Tuesday through Thursday) during the AM and PM peak hours from April 30, 2008 to May 7, 2008 at the following 23 locations.

1. B Road and SR-80;
2. B Road and Collecting Canal Road;
3. C Road and SR-80;
4. C Road and Tangerine Drive;
5. C Road and Collecting Canal Road;
6. D Road and SR-80;
7. D Road and Tangerine Drive;
8. West D Road and Tangerine Drive;
9. D Road and 6th Court North;
10. D Road and Collecting Canal Road;
11. Loxahatchee Avenue and SR-80;
12. Loxahatchee Avenue and Tangerine Drive;
13. Loxahatchee Avenue and Citrus Drive;
14. E Road and SR-80;
15. E Road and East Citrus Drive;
16. E Road and Tangerine Drive;
17. E Road and Citrus Drive;
18. E Road and 6th Court North Road;
19. E Road and Collecting Canal Road;
20. F Road and SR-80;
21. F Road and East Citrus Drive;
22. F Road and 6th Court North Road;
23. F Road and Collecting Canal Road.

The turning movement counts were balanced along the SR 80/Southern Boulevard corridor to determine the existing (Year 2008) AM and PM peak-hour link volumes. The location of the turning movement counts is provided in **Figure 4** and the turning movement counts are included in **Appendix B**. The existing AM

and PM bi-directional link volumes for studied roadways are summarized in **Figure 5A** and **5B**.

SR-80 Conceptual Access Management Plan

Locations for Turning Movement Counts



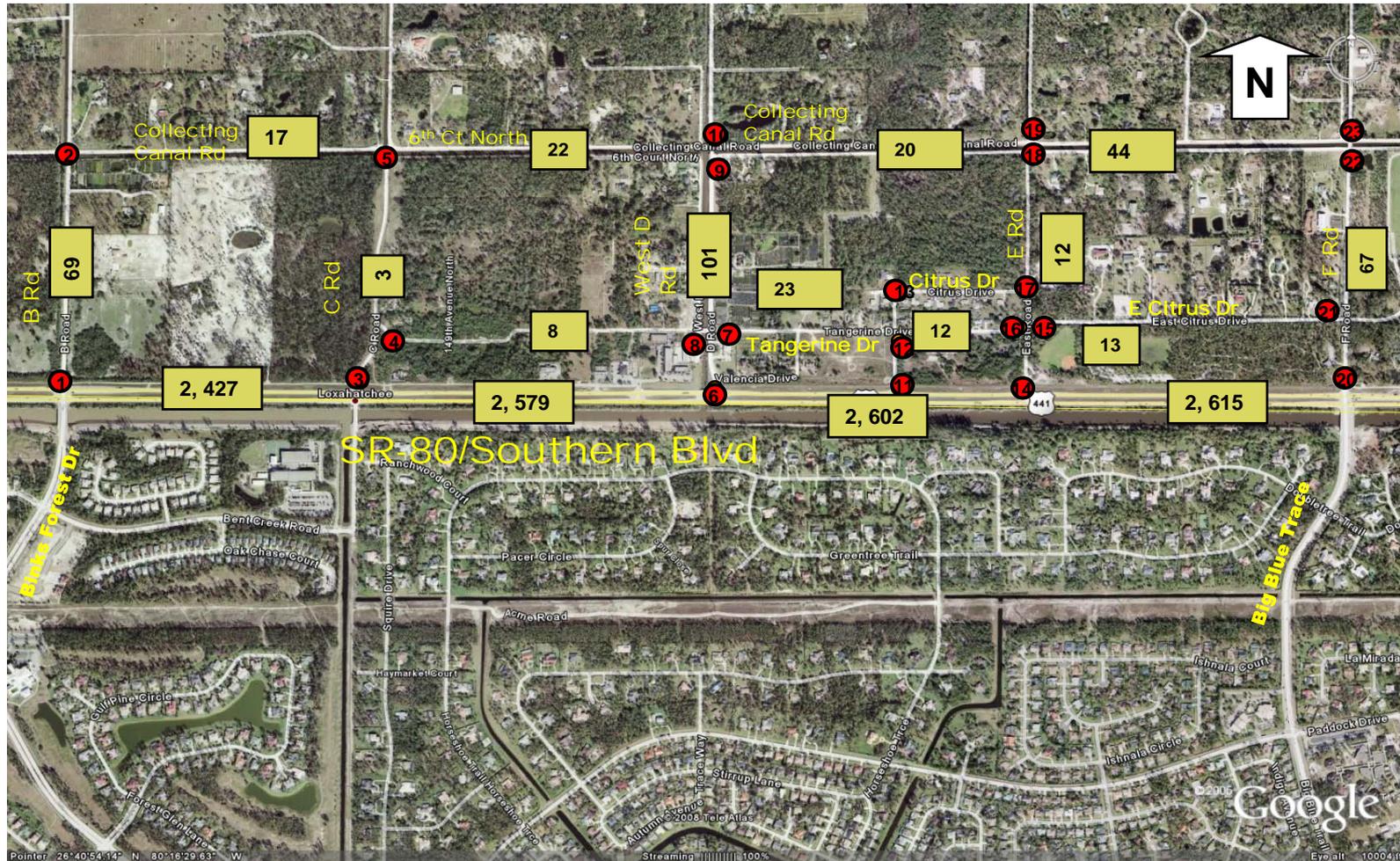
LEGEND

5 Study Intersections

FIGURE 4

SR-80 Conceptual Access Management Plan

2008 AM Peak hour bi-directional volumes



LEGEND

- Study Intersections
- 2008 AM Peak Hour 2-Way Volume

FIGURE 5A

SR-80 Conceptual Access Management Plan

2008 PM Peak Hour bi-directional volumes



LEGEND

- 5 Study Intersections
- 28 2008 PM Peak Hour 2-Way Volume

FIGURE 5B

2.5 Existing (Year 2008) Conditions Analysis

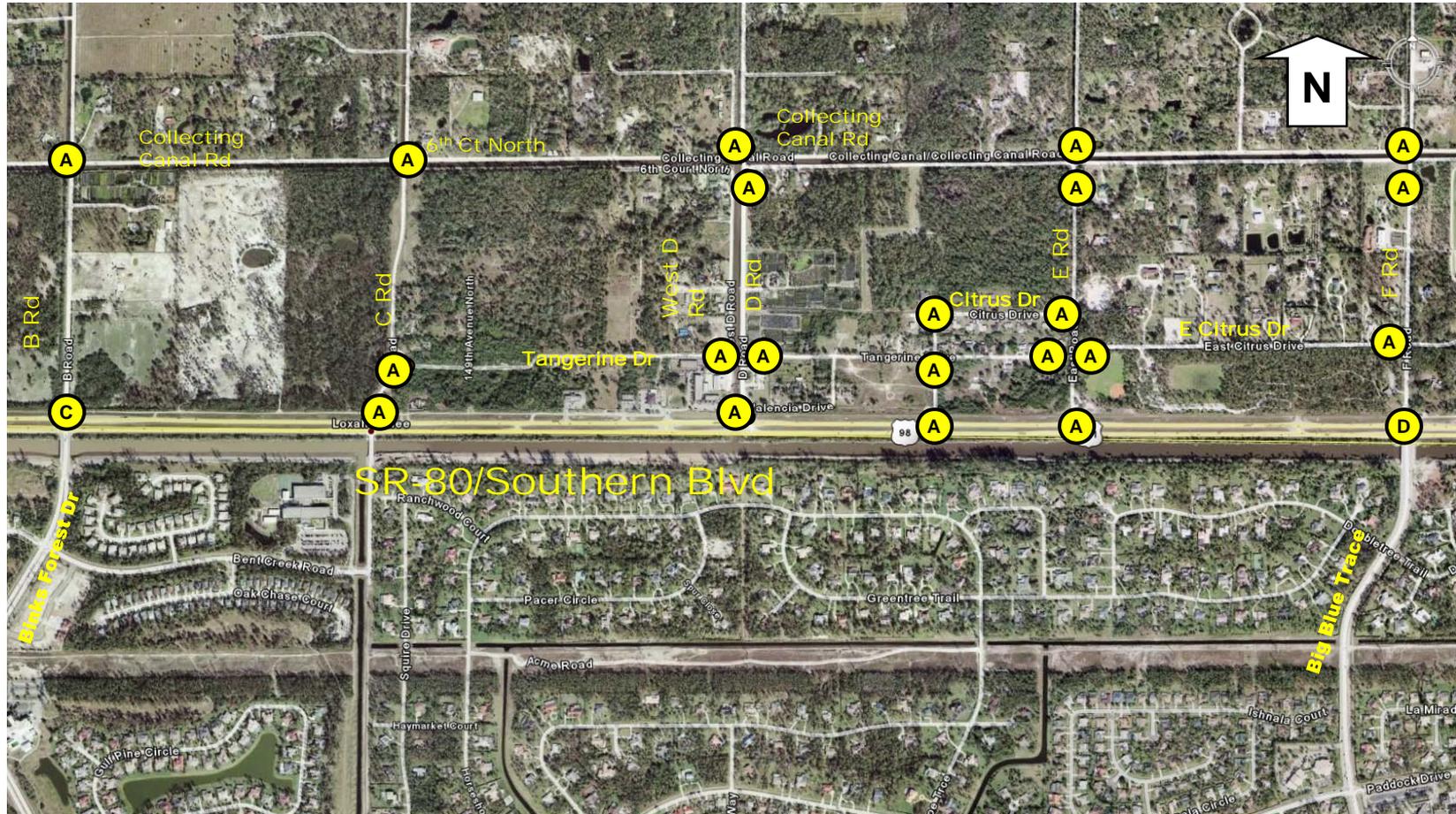
To determine the operational conditions of existing roadways, the existing roadway network was modeled in SYNCHRO 7.0 and SimTraffic software, and operational analyses were performed for all twenty-three intersections within the study area.

The analysis illustrates that all the intersections within the study area are operating within adopted level of service standards. The levels of service for all intersections within study area are depicted in **Figure 6**. The intersection analysis for existing conditions is included in **Appendix C**.

The arterial analysis of the corridor during existing conditions revealed that SR-80/Southern Boulevard corridor both in eastbound and westbound direction will be operating above the adopted level of service standards. The results of arterial analysis are summarized in **Table 2**.

SR-80 Conceptual Access Management Plan

Existing 2008 -Intersection LOS



LEGEND

(A) Intersection LOS

FIGURE 6

TABLE 2
EXISTING 2008 -PM PEAK HOUR ARTERIAL ANALYSIS

Arterial Level of Service: EB SR-80

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterail LOS
B Rd/Binks Forest Dr	I	55	49.4	19.1	68.5	0.75	39.7	B
F Rd/Big Blue Trace	I	55	131.1	22.6	153.7	2.00	46.9	A
Total	I		180.5	41.7	222.2	2.75	44.6	A

Arterial Level of Service: WB SR-80

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterail LOS
F Rd/Big Blue Trace	I	55	35.5	9.4	44.9	0.46	36.5	B
B Rd/Binks Forest Dr	I	55	131.1	10.9	142	2.00	50.7	A
Total	I		166.6	20.3	186.9	2.46	47.3	A

3.0 FUTURE TRANSPORTATION SYSTEM

3.1 Cost Feasible Roadway Projects

Widening of SR-80/Southern Boulevard within the study area is programmed in the Palm Beach County Metropolitan Planning Organization (MPO) 2030 Long Range Transportation Plan (LRTP). In addition, a Project Development & Environment study for the widening of SR-80/Southern Boulevard is programmed in the FDOT Five Year Work Program. The existing roadway right-of-way width for SR 80 Southern Boulevard is 220 feet, which will accommodate the proposed roadway widening.

3.2 Background Traffic Growth

The traffic forecasting methodology used for each study segment was chosen after reviewing all applicable forecast methodologies. The forecast methodologies that were reviewed include:

- Regression analysis of 7 years of the most recent historical daily traffic volumes from Palm Beach County
- Regression analysis of 7 years of the most recent historical daily traffic volumes from Palm Beach County along with the Palm Beach County MPO 2030 model volumes without the extension of E Road
- Growth between the validation year 2000 and the 2030 Palm Beach County MPO model without the extension of E Road
- Zonal analysis of adjacent TAZ employment data from the year 2000 validation and 2030 Palm Beach County MPO model.

The regression analyses of the historical Average Annual Daily Traffic (AADT) alone, and the historical AADT combined with the 2030 Palm Beach County MPO model volumes without the E Road extension were completed using the “Traffic Trends” spreadsheet for SR-80/Southern Boulevard, Big Blue Trace and Binks Forest Drive. A linear, exponential, and decaying exponential trend line was fit to the data, and the trend analysis printouts for each traffic monitoring site are provided in **Appendix D**. The growth rate methodology table provided in

Table 3 explains the specifics of why each traffic forecasting methodology was chosen.

TABLE 3
Growth Rate Comparison Table
 Southern Boulevard Traffic Forecast
 Florida Department of Transportation District IV - Systems Planning

Location	METHOD 1 Historic Trend Analysis	METHOD 2 Historic+2030 FSUTMS	METHOD 3 2000 - 2030 FSUTMS Forecasts			METHOD 4 2000 - 2030 FSUTMS TAZ Data	Recommended Growth Rate	Notes
			2000	2030	Compd Growth			
Southern Blvd east of F Rd	1.11% LGR	1.1% CGR	32,147	58,100	1.99%		1.00%	A growth rate of 1% was utilized since committed development along SR 80 is available.
Southern Blvd b/w B Rd and F Rd	2.84% CGR	0.95% CGR	18,832	38,967	2.45%		1.00%	
Southern Blvd b/w Seminole Pratt Whitney Rd and B Rd	3.53% CGR	1.44% CGR	19,988	44,350	2.69%		1.00%	
Binks Forest S. of Southern Blvd	0.41% CGR	1.41% CGR	7,257	14,574	2.35%		1.50%	Good Correlation between historical and model conditions.
Big Blue Trace S. of Southern Blvd	0.39% CGR	2.68% CGR	16,393	21,791	0.95%		1.00%	The 2008 data from PBC shows an AADT of 11,000. PBC 2030 model volume is unrealistically high.
D Rd N. of Southern Blvd			1,080	1,475	1.04%		1.50%	Utilized same growth rate as all roadways within Loxahatchee Groves.
Ousley Farms Rd S. of SR 80						0.15% CGR	0.50%	Minimum growth rate utilized.
All roadways within Loxahatchee Groves						1.59% CGR	1.50%	Averaged population TAZ data for all centroids within study limits north of SR 80.

3.3 Approved Committed Development

The Palm Beach County Traffic Performance database was utilized to obtain committed developments within the study area. Future committed developments within the Town of Loxahatchee Groves along SR-80 include:

- Loxahatchee Retail, between C Road and D Road
- Southern Crossing, between E Road and D Road
- Groves Medical Plaza, west of F Road

Other committed developments located outside the Town of Loxahatchee Groves but within the vicinity of study area include:

- Crestwood Middle School Expansion
- Binks Forest Residential
- Wellington Elementary School
- Everglades Farm Equipment
- Highland Dunes
- Cypress Key
- Southern Palm Crossing
- Palms West Hospital
- Taheri

3.4 Year 2030 Traffic Projections

Year 2030 traffic volumes were calculated employing the preferred growth rate as a compound growth rate for each roadway from Year 2008 to Year 2030. It is recognized that after a certain time period growth may begin to slow down, however using a compound growth rate up to Year 2030 will result in more conservative estimates. For Alternative 1, Year 2030 volumes are the sum of existing Year 2008 traffic volumes, Year 2030 background traffic volumes and Palm Beach County approved committed trip volumes. Alternative 2

4.0 FUTURE CONDITIONS

4.1 Alternative 1-No Build Scenario

Alternative 1 serves as the baseline alternative. This alternative takes into consideration the existing land uses, future planned roadway improvements and future volumes based on the combination of existing and committed development traffic.

4.2 Alternative 2 – Potential Commercial Development Scenario

Alternative 2 considers the Year 2030 roadway network which includes the extension of Tangerine Drive east of C Road to just east of B Road. The traffic resulting from potential commercial developments along SR-80/Southern Boulevard is evaluated in this scenario.

To determine the future traffic volumes that could result from potential commercial development along SR-80/Southern Boulevard, information was obtained from the Palm Beach County's Property Appraiser Public Access (PAPA) website regarding existing land uses, property owners, and lot sizes. The assumptions for proposed land uses, size of developments and maximum allotted building sizes are provided in **Table 4**.

A trip generation analysis was performed to determine the trips generated by potential commercial developments using Palm Beach County Trip Generation Rates and Equations. The trip generation analysis for these future conditions is summarized in **Table 5**.

Detailed descriptions of the assumptions for proposed land uses follows in the next section.

TABLE 4
Loxahatchee Groves Assumed Development

Location Limits	Current Owner OR Future Developer	Total Available Land (SF)	Total Available Land (Acres)	Land Use	Maximum Development %	Total Building SF	Notes
A Rd to B Rd	Simon	2,178,000	50.00	Preserve			97 Acres of total land. 50 Acres on the northern portion of the property reserved for Preserve. The remaining 47 Acres to be split among commercial and office developments .
		1,023,660	23.50	General Commercial	10%	102,366	
		1,023,660	23.50	General Office	10%	102,366	
	TOTAL A Rd to B Rd	4,225,320	97.00			204,732	
B Rd to C Rd	Lox Equestrian Partners LLC	217,800	5.00	Preserve			5 Acres on the Northern portion of the property reserved for Preserve to buffer the commercial area from the residential area.
		495,277	11.37	General Commercial	10%	49,528	
	Southern Lox Groves	538,692	12.37	Preserve			1/3 of the property reserved for Preserve on the northern portion of the property to buffer the commercial and office areas from the residential area.
		538,692	12.37	General Commercial	10%	53,869	
		538,692	12.37	General Office	10%	53,869	
	Wellington Presbyterian Church	526,925	12.10	Preserve			1/3 of the property reserved for Preserve on the northern portion of the property to buffer the commercial and office areas from the residential area.
		526,925	12.10	General Commercial	10%	52,692	
		526,925	12.10	General Office	10%	52,692	
	TOTAL B Rd to C Rd	3,909,928	89.77			262,651	
	C Rd to D Rd	Gaspar	115,329	2.65	General Commercial	10%	11,533
Merkert		59,939	1.38	General Commercial	10%	5,994	
FMM 1 LLC		76,666	1.76	General Commercial	10%	7,667	
Lox Retail		107,158	2.46	General Commercial		11,400	PBC Committed Development
TOTAL C Rd to D Rd		359,091	8			36,593	
D Rd to E Rd	Drysdale	226,948	5.21	General Commercial	10%	22,695	
	Southern Crossing MUPD			Medical Office		29,856	PBC Committed Development
		397,267	9.12	General Commercial		7,552	
TOTAL D Rd to E Rd	624,215	14			60,103		
E Rd to F Rd	Palm Beach County			General Office		5,640	Palms West Chamber Expansion. Assumed 3-Story building of similar size to existing facility.
	TOTAL E Rd to F Rd					5,640	
East of F Road	Grove Medical	161,172	3.70	Medical Office		22,300	PBC Committed Development
	TOTAL F Rd to Municipal Boundary	161,172	3.70			22,300	
East of F Road	Everglades Farm Equipment						Currently owned by Columbia Palms West Hospital. Assumed Everglades Farm Equipment Expansion of an additional building of similar size as existing building.
	75,000	1.72	General Commercial		4,000		
	Columbia Palms West Hospital	746,833	17.14	Medical Office	10%	74,683	
TOTAL Municipal Boundary to Folsom Rd	821,833	18.87			78,683		
TOTAL		10,101,559	232			670,703	
				General Commercial		329,296	
				General Office		214,568	
				Medical Office		126,839	

**TABLE 5
LOXAHATCHEE GROVES TRIP GENERATION ANALYSIS**

A Rd to B Rd

Owner	Land Use	ITE Land	Intensity	ITE 7th Edition Equation	Daily Trips	AM Peak Hour of Adjacent Street					PM Peak Hour of Adjacent Street						
						Trips	%	In	%	Out	Trips	%	In	%	Out		
Simon	General Commercial	820	102	1000 SF	$LN(T) = 0.64LN(X) + 5.87$	6,852	105	61%	64	39%	41	636	48%	305	52%	331	
	Passby %					40.75%	2,792	43		26		17	259		124		135
	TOTAL SITE TRIPS - GENERAL COMMERCIAL					4,060	62		38		24	377		181		196	
	General Office	710	102	1000 SF	$LN(T) = 0.77LN(X) + 3.65$	1,358	191	88%	168	12%	23	192	17%	33	83%	159	
	Passby %					10.00%	136	19		17		2	19		3		16
TOTAL SITE TRIPS - GENERAL OFFICE					1,222	172		151		21	172		30		143		
Total trips from A Road to B Road					5,282	234		189		45	549		210		339		

B Rd to C Rd

Owner	Land Use	ITE Land Use	Intensity	ITE 7th Edition Equation	Daily Trips	AM Peak Hour of Adjacent Street					PM Peak Hour of Adjacent Street						
						Trips	%	In	%	Out	Trips	%	In	%	Out		
Loxahatchee Equestrian Partners LLC	General Commercial	820	50	1000 SF	$LN(T) = 0.64LN(X) + 5.87$	4,305	51	61%	31	39%	20	394	48%	189	52%	205	
	Passby %					49.18%	2,117	25		15		10	194		93		101
	TOTAL SITE TRIPS - GENERAL COMMERCIAL					2,188	26		16		10	200		96		104	
Southern Loxahatchee Groves	General Commercial	820	54	1000 SF	$LN(T) = 0.64LN(X) + 5.87$	4,543	55	61%	34	39%	22	416	48%	200	52%	216	
	Passby %					48.21%	2,190	27		16		11	201		96		104
	TOTAL SITE TRIPS - GENERAL COMMERCIAL					2,353	29		18		11	216		104		112	
	General Office	710	54	1000 SF	$LN(T) = 0.77LN(X) + 3.65$	829	114	88%	101	12%	14	119	17%	20	83%	99	
	Passby %					10.00%	83	11		10		1	12		2		10
TOTAL SITE TRIPS - GENERAL OFFICE					746	103		91		13	107		18		89		
Wellington Presbyterian Church	General Commercial	820	53	1000 SF	$LN(T) = 0.64LN(X) + 5.87$	4,474	54	61%	33	39%	21	410	48%	197	52%	213	
	Passby %					48.48%	2,169	26		16		10	199		96		103
	TOTAL SITE TRIPS - GENERAL COMMERCIAL					2,305	28		17		11	211		101		110	
	General Office	710	53	1000 SF	$LN(T) = 0.77LN(X) + 3.65$	813	112	88%	99	12%	13	117	17%	20	83%	97	
	Passby %					10.00%	81	11		10		1	12		2		10
TOTAL SITE TRIPS - GENERAL OFFICE					732	101		89		12	105		18		87		
Total trips from B Road to C Road					8,324	286		230		57	839		337		502		

C Rd to D Rd

Owner	Land Use	ITE Land Use	Intensity	ITE 7th Edition Equation	Daily Trips	AM Peak Hour of Adjacent Street					PM Peak Hour of Adjacent Street						
						Trips	%	In	%	Out	Trips	%	In	%	Out		
Gaspar	General Commercial	820	12	1000 SF	$LN(T) = 0.64LN(X) + 5.87$	1,694	12	61%	7	39%	5	150	48%	72	52%	78	
	Passby %					66.10%	1,120	8		5		3	99		48		52
	TOTAL SITE TRIPS - GENERAL COMMERCIAL					574	4		2		2	51		24		26	
Merkert	General Commercial	820	6	1000 SF	$T = 155.09^{(1)}$	930	6	61%	4	39%	2	82	48%	39	52%	43	
	Passby %					73.70%	685	5		3		1	61		29		32
	TOTAL SITE TRIPS - GENERAL COMMERCIAL					244	2		1		1	22		10		11	
FMM 1 LLC	General Commercial	820	8	1000 SF	$T = 155.09^{(1)}$	1,189	8	61%	5	39%	3	105	48%	50	52%	55	
	Passby %					70.84%	842	6		4		2	74		35		39
	TOTAL SITE TRIPS - GENERAL COMMERCIAL					347	2		1		1	31		15		16	
Loxahatchee Retail ⁽²⁾	General Commercial	820	11	1000 SF		928	7	61%	4	39%	3	82	48%	39	52%	43	
Total trips from C Road to D Road					2,094	15		9		6	185		88		97		

D Rd to E Rd

5.0 CONCEPTUAL ACCESS MANAGEMENT PLAN

For an efficient access management plan, it is necessary to investigate the existing land uses and proposed land uses within the study area. This section discusses the existing land uses, proposed land uses, trip generation for proposed developments, existing driveways, and proposed driveways associated with Alternative 1 – No Build Scenario and Alternative 2 – Potential Commercial Development Scenario.

5.1 ALTERNATIVE 1 - No Build Scenario

5.1.1 West of B Road

Just west of B Road, there are four vacant parcels of land adjacent to SR-80/Southern Boulevard, all of which are owned by Simon Properties and zoned as Agricultural Residential. FDOT has approved two driveway connections on SR-80/Southern Boulevard west of B Road. As stipulated in the FDOT permit, the first approved driveway will be located approximately 650 feet west of B Road and the second driveway will be located approximately 700 feet east of the first driveway. A copy of the FDOT approved permit is included in **Appendix E**. It is recommended that these two access driveways be relocated to coincide with the existing parcel boundaries to ensure access to all four parcels independently. Under this proposed access scenario, the first driveway would be located approximately 808 feet west of B Road and the second driveway would be located approximately 826 feet west of the first driveway. The proposed access driveways will comply with FDOT access spacing requirements. The proposed Conceptual Access Management Plan for Alternative 1 west of B Road is illustrated in the figure labeled **Alternative 1, Sheet 1**.

5.1.2 B Road to C Road

There are three vacant parcels adjacent to SR-80/Southern Boulevard between B Road and C Road. Including a 16.37 acre parcel owned Loxahatchee Equestrian Partners, LLC, a 37-acre parcel owned by

Southern Loxahatchee Groves and a 37-acre parcel owned by Wellington Presbyterian Church. The subject parcels are currently zoned as agricultural residential. Two access driveways are recommended between B Road and C Road; the first located approximately 660 feet west of C Road and the second located approximately 813 feet west of the first driveway. These proposed driveway locations will coincide with the existing parcel boundaries, providing access to all three parcels independently. The proposed access driveways will comply with FDOT access spacing requirements. The proposed Conceptual Access Management Plan for Alternative 1 from B Road to C Road is illustrated in the figure labeled **Alternative 1, Sheet 2**.

5.1.3 C Road to D Road

The existing parcels of land adjacent to SR-80/Southern Boulevard between C Road and D Road are mostly developed. There are a total of six undeveloped lots including Loxahatchee Retail which is a Palm Beach County approved committed development. All of the vacant lots are zoned as commercial except for the corner lot just east of C Road, which is currently zoned as agriculture residential.

The FDOT has approved a right-in/right-out driveway connection 1,000 feet west of D Road for the approved Loxahatchee Retail development. This access approval is conditional on the removal of the existing adjacent access driveway into the convenience store parcel. The Town has approved the site plan with the above mentioned condition that the existing access to the convenience store parcel be relocated to coincide with the Loxahatchee Retail access. A copy of the FDOT approved permit is attached in **Appendix E**.

One additional access driveway is recommended between C Road and D Road located approximately 675 feet east of C Road and 401 feet east of the first access driveway east of C Road. This proposed driveway location will coincide with an existing parcel boundary, providing access to two separate parcels independently. **It should be noted that the proposed**

access driveway is not compliant with FDOT access spacing requirements and may likely not be permitted if there are land use changes on the two subject parcels. The proposed Conceptual Access Management Plan for Alternative 1 from C Road to D Road is illustrated in the figure labeled **Alternative 1, Sheet 3.**

5.1.4 D Road to E Road

There are two vacant parcels adjacent to SR-80/Southern Boulevard between D Road and E Road. The 5.21-acre vacant parcel located just west of Loxahatchee Avenue is currently zoned as agriculture residential. The 9.12-acre vacant parcel located just east of Loxahatchee Avenue is an approved medical office development known as Southern Crossing. This development has been granted a driveway permit by FDOT for a right-in only connection onto SR-80/Southern Boulevard located approximately 500 feet west of E Road. A copy of the FDOT approved permit is included in **Appendix E.**

One additional access driveway is recommended between C Road and D Road to coincide with the current location of Orange Avenue. Orange Avenue is located approximately 605 feet east of D Road. Although this proposed access is not compliant with FDOT access spacing requirements, it may likely be permitted as it serves the most property interests and is relatively close to meeting access spacing requirements. This was discussed with FDOT access management representatives throughout the coordination efforts conducted in association with this report. The proposed Conceptual Access Management Plan for Alternative 1 from D Road to E Road is illustrated in the figure labeled **Alternative 1, Sheet 4.**

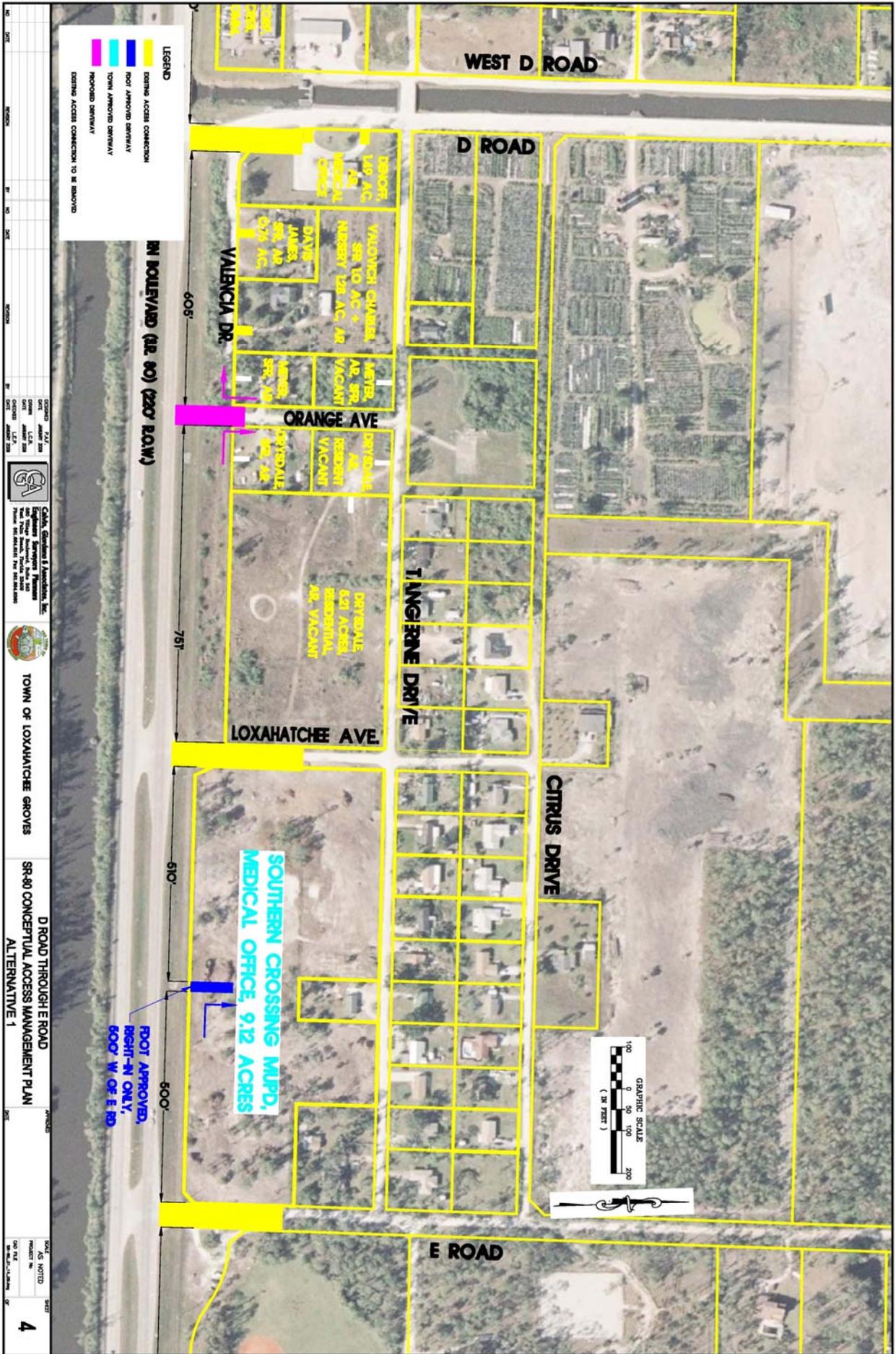
5.1.5 E Road to F Road

The Loxahatchee Groves Park is located between E Road and F Road adjacent to SR 80/Southern Boulevard. There is currently one access driveway to SR 80/Southern Boulevard between E Road and F Road and it is located approximately 799 feet west of F Road. No additional access

driveways are proposed between E Road and F Road. The proposed Conceptual Access Management Plan for Alternative 1 from E Road to F Road is illustrated in the figure labeled **Alternative 1, Sheet 5**.

5.1.6 East of F Road

Currently, there are two access driveways to SR 80/Southern Boulevard located east of F Road. The first driveway is located approximately 514 feet east of F Road and the second driveway is located approximately 695 feet east of the first driveway. No additional access driveways are proposed east of F Road. The proposed Conceptual Access Management Plan for Alternative 1 east of F Road is illustrated in the figure labeled **Alternative 1, Sheet 6**.



LEGEND

- EXISTING ACCESS CONNECTION
- RIGHT APPROVED DRIVEWAY
- TOWN APPROVED DRIVEWAY
- PROPOSED DRIVEWAY
- EXISTING ACCESS CONNECTION TO BE REMOVED

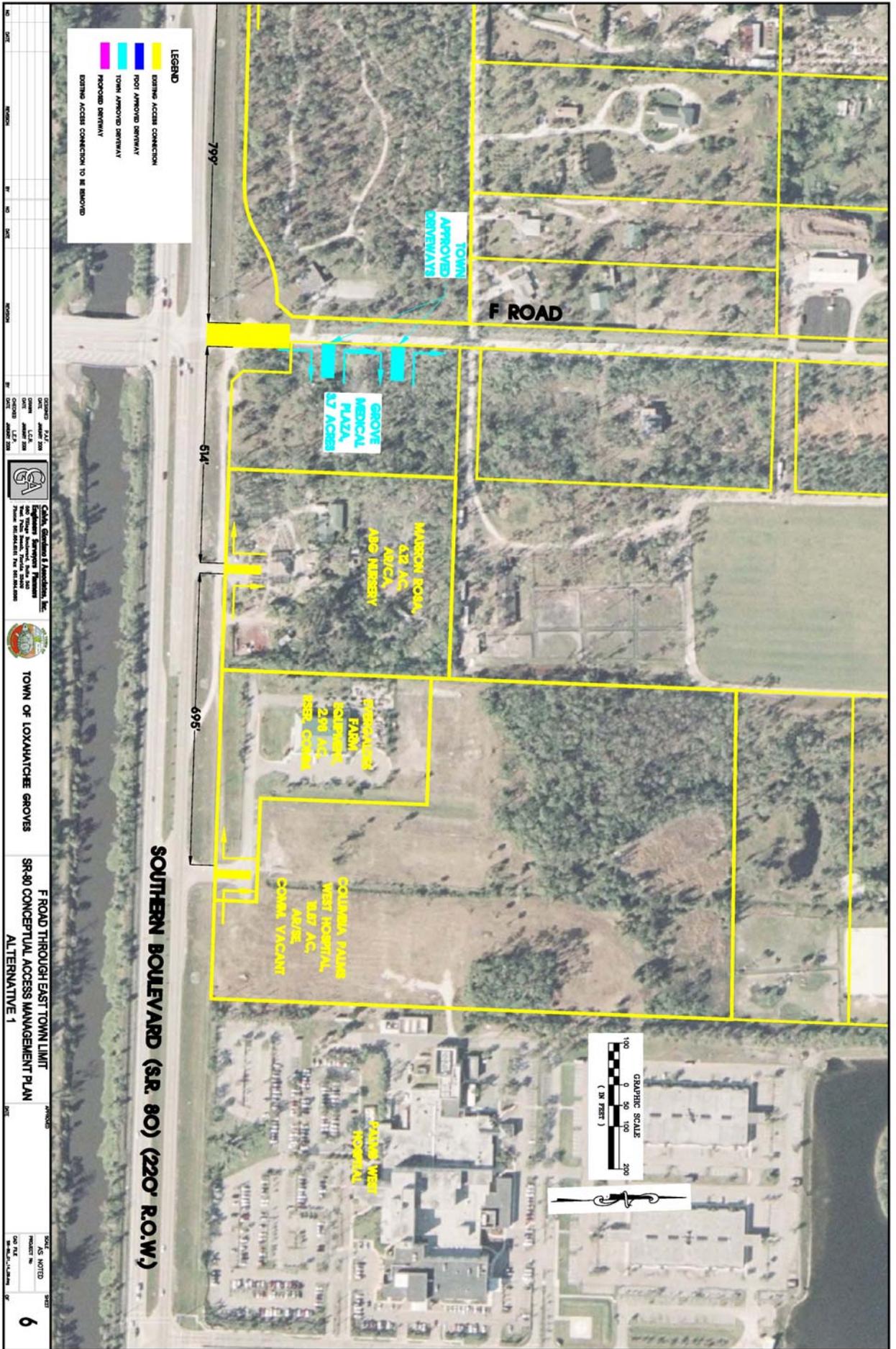
SHEET NO. 4
 PROJECT NO. SR-80 CONCEPTUAL ACCESS MANAGEMENT PLAN ALTERNATIVE 1
 DATE: JAN 2024
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 SCALE: AS NOTED
 DATE: [Date]



CHALK, GEORGE & ASSOCIATES, INC.
 ENGINEERS & ARCHITECTS
 1000 N. W. 10th Ave, Suite 100
 Fort Lauderdale, FL 33304
 TOWN OF LOXAHATCHEE GROVES

D ROAD THROUGH E ROAD
 SR-80 CONCEPTUAL ACCESS MANAGEMENT PLAN
 ALTERNATIVE 1





5.2 ALTERNATIVE 2 – Potential Commercial Development Scenario

5.2.1 West of B Road

Based on discussions with the Town, it is assumed that the four vacant parcels west of B Road will be divided into three land use categories including commercial, general office and preserve/open space. Under this scenario, 23.5 acres will be developed as commercial, 23.5 acres as office and 50.0 acres will be used for preservation/open space. A trip generation analysis was performed for these land uses and trips were assigned on the surrounding roadway network. Based on the maximum development potential, the proposed land uses just west of B Road will generate a total of 5, 282 daily trips, 234 AM and 549 PM peak hour trips as shown in **Table 5**. Two access driveways are recommended just west of B Road; the first located approximately 670 feet west of B Road and the second located approximately 680 feet west of the first driveway. The proposed access driveways will comply with FDOT access spacing requirements. Access to the proposed office land use parcel is recommended via the proposed extension of Tangerine Drive. The proposed Conceptual Access Management Plan for Alternative 2 just west of B Road is illustrated in the figure labeled **Alternative 2, Sheet 1**.

5.2.2 B Road to C Road

Based on discussions with the Town, it is assumed that the vacant parcels between B Road and C Road will be developed into commercial, general office and preserved/open space land uses. The proposed preserved/open space and office land uses will serve to maintain the rural character of the area and provide a buffer between rural residential land uses and commercial development. Overall, it is assumed that a total of 36.11 acres will be developed as commercial, 24.74 acres as office and the remaining 29.52 acres as preservation/open space between B Road and C Road. A trip generation analysis was performed for the proposed land uses. The

proposed land uses will generate a total of 8,324 daily trips, 286 AM and 839 PM peak hour trips as shown in **Table 5**. Two access driveways are recommended between B Road and C Road; the first located approximately 660 feet west of C Road and the second located approximately 813 feet west of the first driveway. The proposed access driveways will comply with FDOT access spacing requirements. Access to the proposed office land use parcels and the preserve parcel is recommended via the proposed extension of Tangerine Drive through a cross access agreement. The proposed Conceptual Access Management Plan for Alternative 2 just west of B Road is illustrated in the figure labeled **Alternative 2, Sheet 2**.

5.2.3 C Road to D Road

Based on discussions with the Town, it is assumed that the five vacant parcels belonging to Gasper, Merkert and FMM LLC will be developed for a commercial land use. This land use will generate a total of 1,166 daily trips with 8 AM and 103 PM peak hour trips as shown in **Table 5**. One new access driveway is recommended between B Road and C Road to service this proposed land use change. The proposed access driveway is located approximately 673 feet east of C Road. It is recommended that the existing access driveways currently servicing these five parcels be removed to comply with FDOT access spacing requirements. The proposed Conceptual Access Management Plan for Alternative 2 between C Road and D Road is illustrated in the figure labeled **Alternative 2, Sheet 3**.

5.2.4 D Road to E Road

The 5.21-acre vacant parcel located just east of Loxahatchee Avenue is currently zoned as agriculture residential and is expected to be developed as a commercial land use. Based on the maximum development potential,

the development will generate a total of 1, 091 daily trips, 10 AM and 98 PM peak hour trips as shown in **Table 5**.

The proposed Southern Crossing development, a Palm Beach County approved committed development, is located just west of E Road. The 9.12-acre medical office development will generate 1, 650 daily trips, 80 AM peak hour trips and 249 PM peak hour trips. Southern Crossing has been granted a driveway permit by the FDOT for a right-in only connection on SR-80/Southern approximately 500 feet west of E Road. A copy of the FDOT approved permit is included in **Appendix E**.

One additional access driveway is recommended between C Road and D Road to coincide with the current location of Orange Avenue. Orange Avenue is located approximately 605 feet east of D Road. While this access is not compliant with FDOT access spacing requirements, it may likely be permitted as it serves the most property interests and is relatively close to meeting access spacing requirements. This was discussed with FDOT access management representatives throughout the coordination efforts associated with this report. The proposed Conceptual Access Management Plan for Alternative 2 from D Road to E Road is illustrated in the figure labeled **Alternative 2, Sheet 4**.

5.2.5 E Road to F Road

The Loxahatchee Groves Park is located between E Road and F Road adjacent to SR 80/Southern Boulevard. There is a potential for development of approximately 5,640 square feet of office land use within the Park. The development will generate a total of 115 daily trips, 17 AM and 20 PM peak hour trips as shown in **Table 5**. There is currently one access driveway to SR 80/Southern Boulevard located approximately 799 feet west of F Road. No additional access driveways are proposed between E Road and F Road. The proposed Conceptual Access

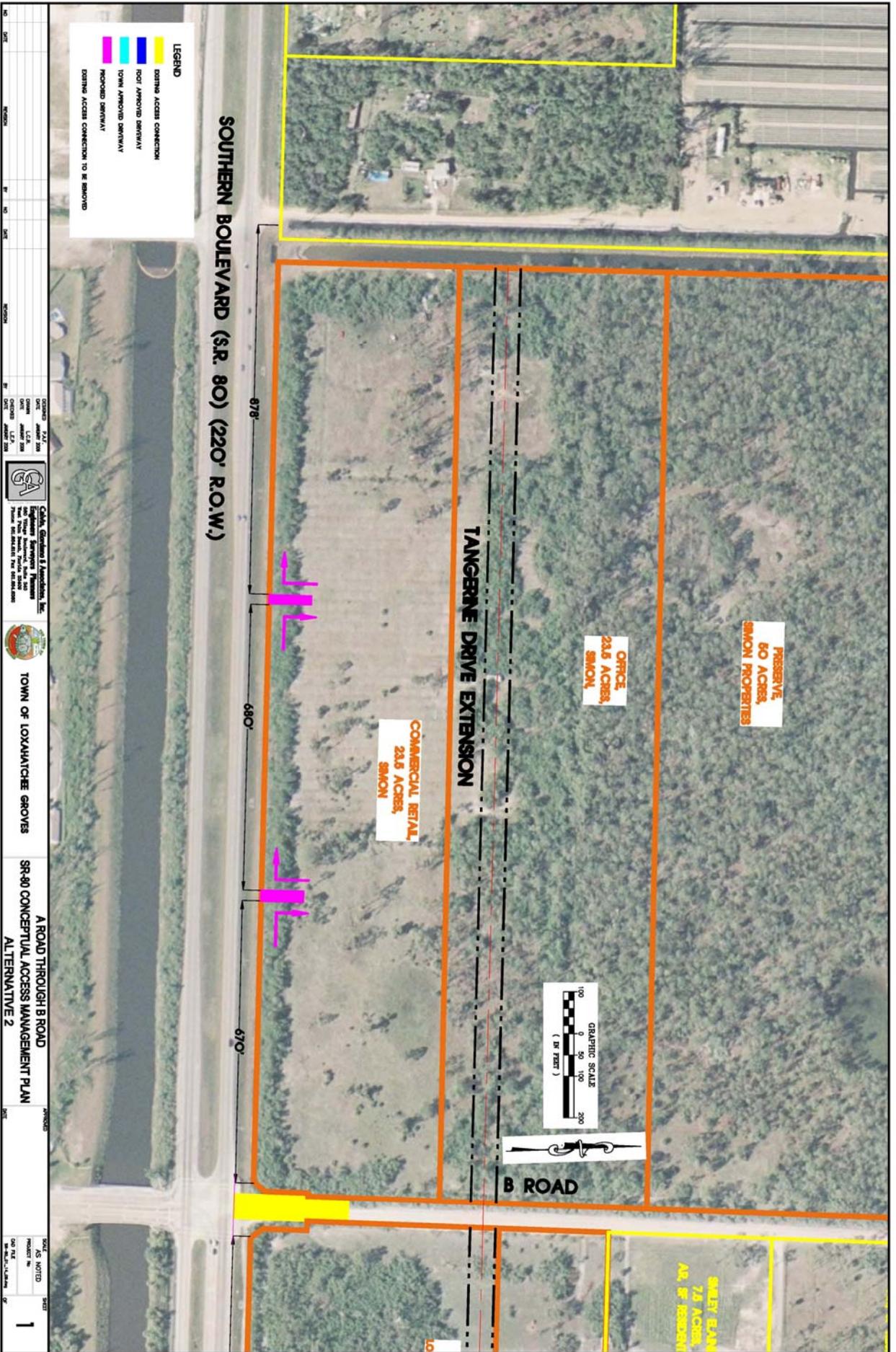
Management Plan for Alternative 2 from E Road to F Road is illustrated in the figure labeled **Alternative 2, Sheet 5**.

5.2.6 East of F Road

Just east of F Road, there is one Palm Beach County approved committed development of approximately 3.7 acres, known as Groves Medical Plaza. There is a vacant parcel of approximately 18 acres owned by Columbia Palms West Hospital next to Palms West Hospital anticipated to develop as medical office land use. Given the location and use of the proposed development, a cross access agreement is recommended. East of F Road, another small scale commercial development of approximately 4,000 square feet is proposed within the Everglades Farm Equipment parcel.

Columbia Palms West Hospital medical office will generate 2, 428 daily, 167 AM and 216 PM peak hour trips. The Everglades Farm Equipment addition will generate 134 daily, 1 AM and 12 PM peak hour trips. The trip generation analysis is shown in **Table 5**.

Currently, there are two access driveways to SR 80/Southern Boulevard located east of F Road. The first driveway is located approximately 514 feet east of F Road and the second driveway is located approximately 695 feet east of the first driveway. No additional access driveways are proposed east of F Road. The proposed Conceptual Access Management Plan for Alternative 2 east of F Road is illustrated in the figure labeled **Alternative 2, Sheet 6**.



SOUTHERN BOULEVARD (SR. 80) (220' R.O.W.)

TOWNSHIP OF LOXAHATCHEE GROVES

SR-80 CONCEPTUAL ACCESS MANAGEMENT PLAN ALTERNATIVE 2

A ROAD THROUGH B ROAD

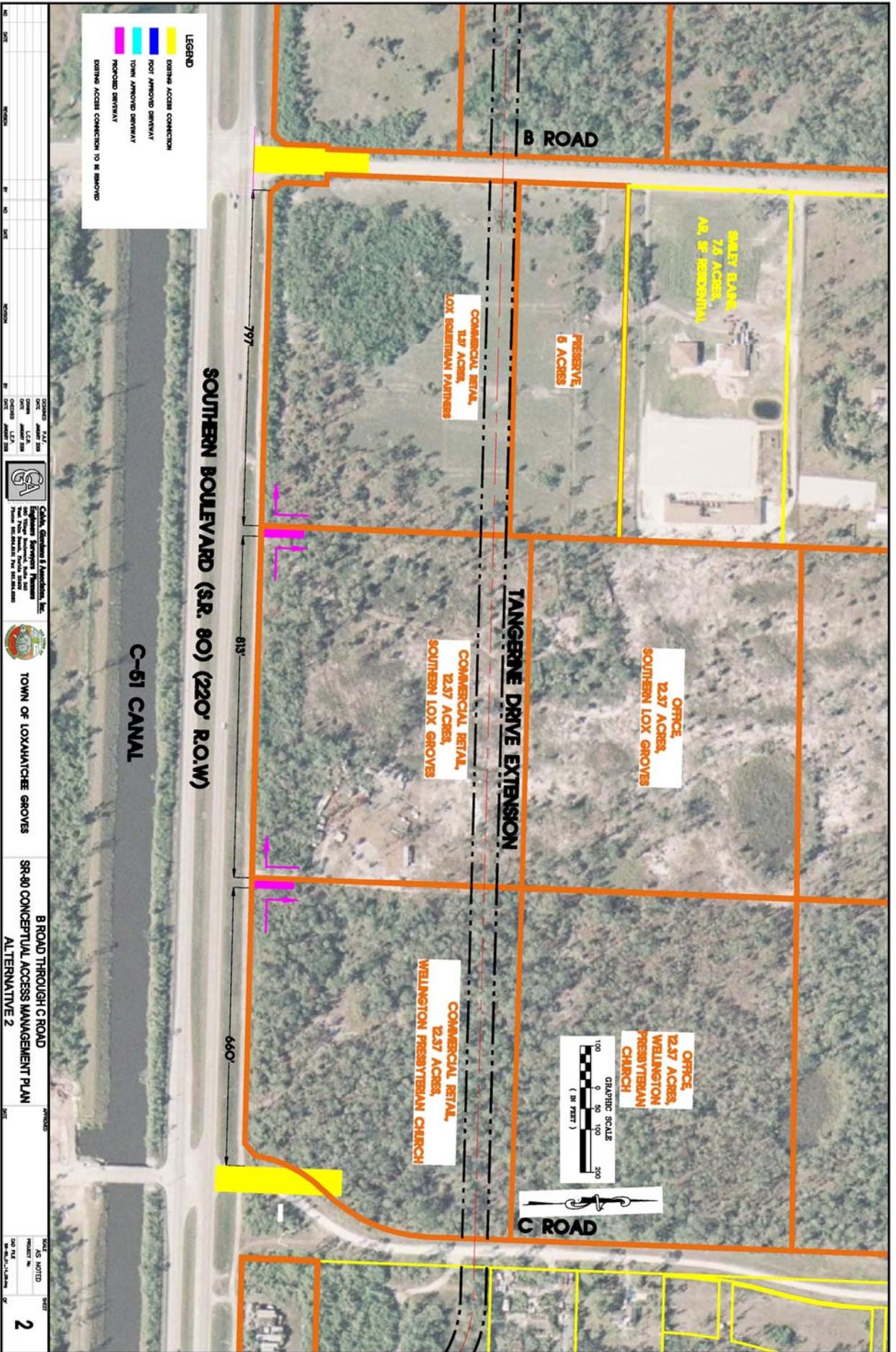
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SCALE: AS NOTED

PROJECT NO.: [Redacted]

CITY FILE: [Redacted]

SHEET: 1



LEGEND

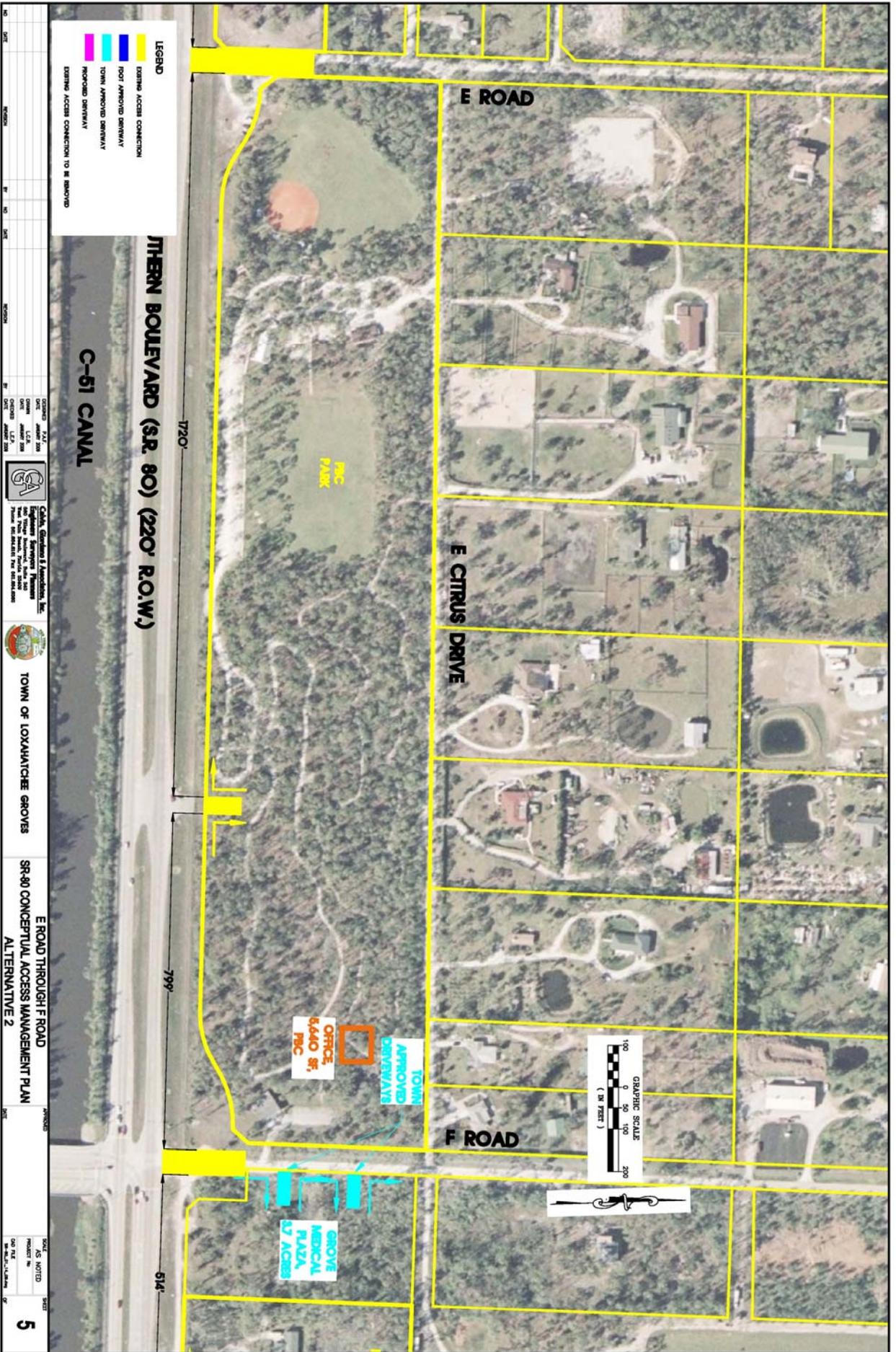
- EXISTING ACCESS CONNECTION
- FOOT APPROVED DERIVATIVE
- TOWN APPROVED DERIVATIVE
- PROPOSED DERIVATIVE
- EXISTING ACCESS CONNECTION TO BE REMOVED

CONTRACT NO. 212	DATE JANUARY 2008	PROJECT NO. SR-80	SCALE AS NOTED
OWNER L.O.G.	DESIGNER L.O.G.	CITY L.O.G.	PROJECT NAME SR-80 CONCEPTUAL ACCESS MANAGEMENT PLAN
PROJECT NAME SR-80 CONCEPTUAL ACCESS MANAGEMENT PLAN	PROJECT NO. SR-80	DATE JANUARY 2008	SCALE AS NOTED
 C-61 CANAL TOWN OF LOXVANTCHEE GROVES			2

CONTRACT NO. 212
DATE JANUARY 2008
OWNER L.O.G.
DESIGNER L.O.G.
CITY L.O.G.
PROJECT NAME SR-80 CONCEPTUAL ACCESS MANAGEMENT PLAN

PROJECT NO. SR-80
SCALE AS NOTED
PROJECT NAME SR-80 CONCEPTUAL ACCESS MANAGEMENT PLAN

SCALE AS NOTED
PROJECT NO. SR-80
SCALE AS NOTED
2



LEGEND

- EXISTING ACCESS CONNECTION
- ROAD APPROVED DRIVEWAY
- TOWN APPROVED DRIVEWAY
- PROPOSED DRIVEWAY
- EXISTING ACCESS CONNECTION TO BE REMOVED

1720'

799'

514'

THERN BOULEVARD (SR. 80) (220' R.O.W.)

C-51 CANAL

PWC PARK

E ROAD

E CITRUS DRIVE

F ROAD

TOWN APPROVED DRIVEWAY

OFFICE

5440 SR.

PWC

GROVE MEDICAL PLAZA TV ACSES



Chad R. Gentry, P.E., P.S.
 CHAD R. GENTRY, INC.
 10000 W. US HWY 1
 SUITE 100
 TAMPA, FL 33613
 TEL: 813.888.8888
 FAX: 813.888.8888

TOWN OF LOXLEY GROVES

SR-80 CONCEPTUAL ACCESS MANAGEMENT PLAN

ALTERNATIVE 2

E ROAD THROUGH F ROAD

PROJECT NO. 2023-001

DATE: 05/15/2023

SCALE: AS NOTED

5

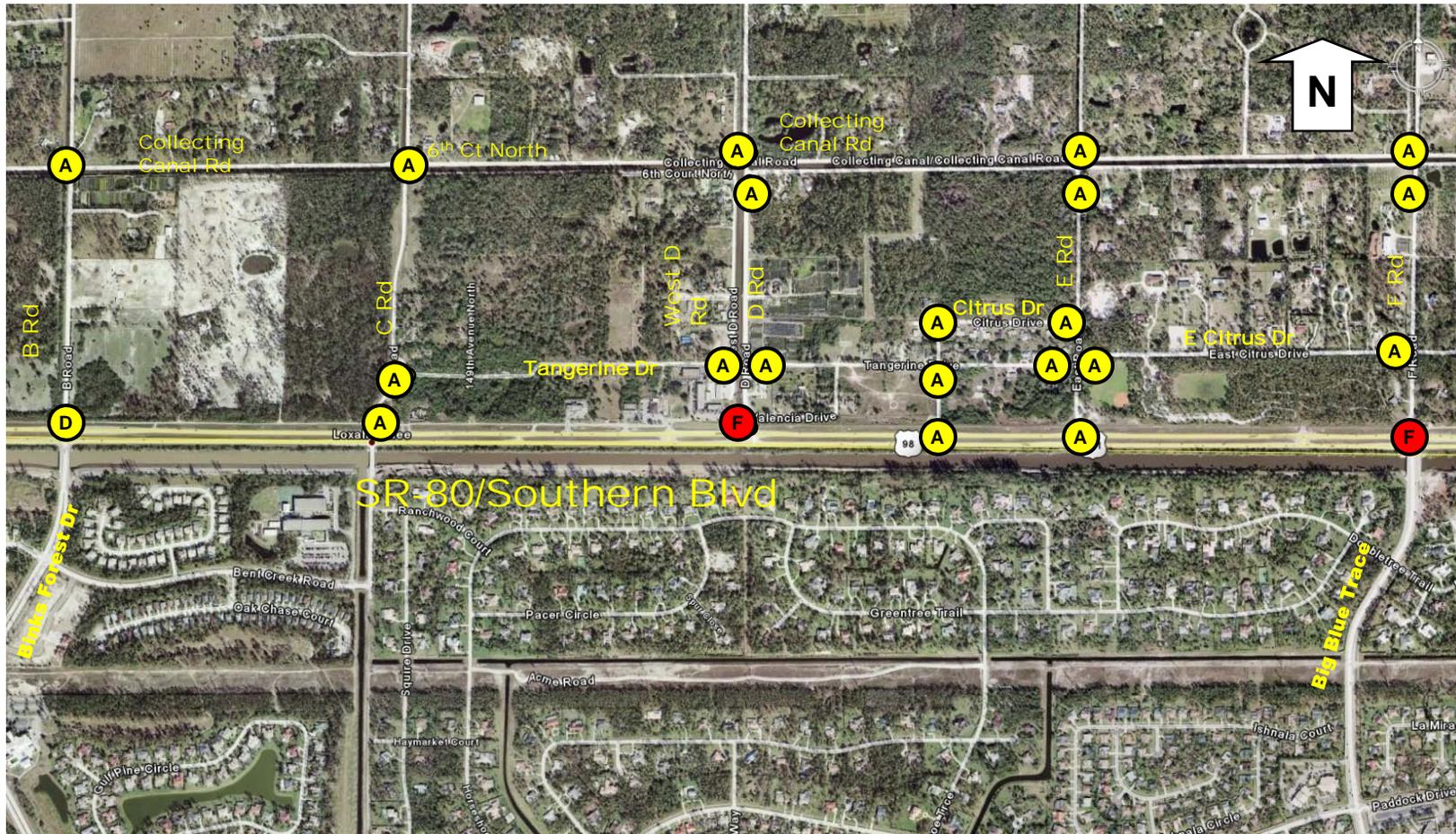
6.0 FUTURE CONDITION ANALYSIS

6.1 Alternative 1-No Build Condition Scenario

All the intersections in the study area were analyzed using SYNCHRO 7.0 and SimTraffic software for Alternative 1-No Build Condition during the PM peak hour. The analysis illustrates that the signalized intersection of SR-80/Southern Boulevard at F Road will operate below the adopted level of service standards. The analysis for unsignalized intersections revealed that all the unsignalized intersections, except for the intersection of SR-80/Southern Boulevard at D Road, are expected to operate above adopted level of service standards. The arterial analysis of the corridor revealed that the SR-80/Southern Boulevard corridor, both in the eastbound and westbound directions, will be operating within the adopted level of service standards. The results of the arterial analysis are summarized in **Table 6**.

The levels of service for all the intersections in the study area for Alternative 1 - No Build Conditions are depicted in **Figure 7**. The results of the Synchro analysis for all twenty-three intersections in the study area are included in **Appendix C**.

SR-80 Conceptual Access Management Plan Alternative 1 No Build Scenario-Intersection LOS



LEGEND

(A) Intersection LOS

FIGURE 7

TABLE 6
2030 FUTURE CONDITIONS-PM PEAK HOUR
ARTERIAL (NO BUILD) ANALYSIS

Arterial Level of Service: EB SR-80

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterail LOS
B Rd/Binks Forest Dr	I	55	49.4	31.3	80.7	0.75	33.7	C
F Rd/Big Blue Trace	I	55	131.1	21.2	152.3	2.00	47.3	A
Total	I		180.5	52.5	233	2.75	42.6	A

Arterial Level of Service: WB SR-80

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterail LOS
F Rd/Big Blue Trace	I	55	35.5	14	49.5	0.46	33.1	C
B Rd/Binks Forest Dr	I	55	131.1	18.1	149.2	2.00	48.3	A
Total	I		166.6	32.1	198.7	2.46	44.5	A

6.2 Alternative 2-Potential Commercial Development Scenario

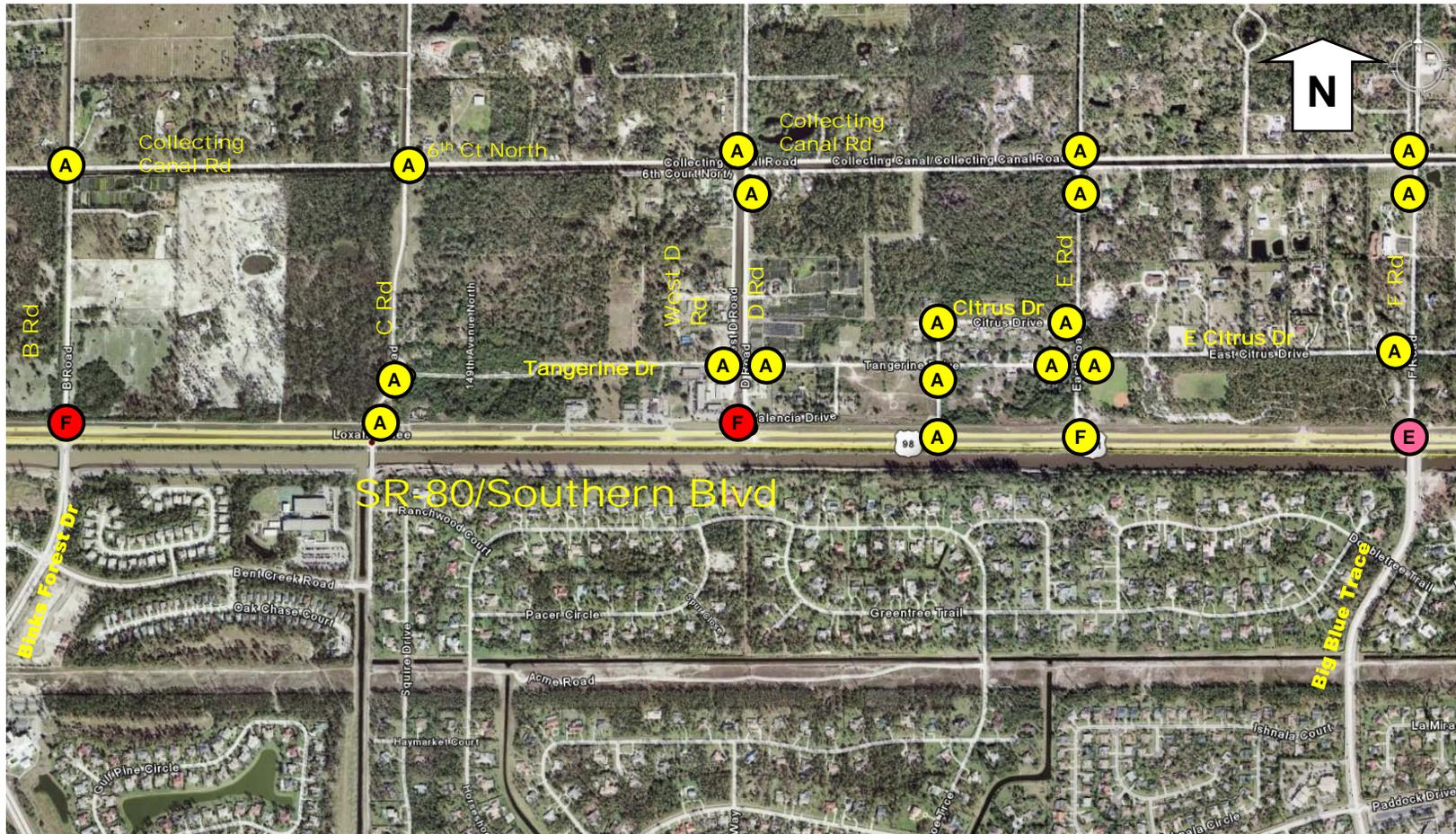
All the intersections in the study area were analyzed using SYNCHRO 7.0 and SimTraffic software for future proposed conditions during the PM peak hour. The analysis illustrates that the signalized intersections of SR-80/Southern Boulevard at F Road and at B Road will operate below the adopted level of service standards. The analysis for unsignalized intersections revealed that the unsignalized intersections are expected to operate within adopted level of service standards with the exception of the intersections of SR-80/Southern Boulevard at D Road and E Road. However, the arterial analysis of the corridor revealed that the SR-80/Southern Boulevard corridor, both in eastbound and westbound directions, will be operating within the adopted level of service standards. The results of arterial analysis are summarized in **Table 7**.

The levels of service for all the intersections in the study area analyzed for Alternative 2 are depicted in **Figure 8**. The results of the Synchro analysis for all twenty-three intersections in the study area are included in **Appendix C**.



SR-80 Conceptual Access Management Plan

Alternative 2 Commercial Development-Intersection LOS



LEGEND

A Intersection LOS

FIGURE 8

TABLE 7B
2030 PROPOSED CONDITIONS-PM PEAK HOUR
ARTERIAL ANALYSIS

Arterial Level of Service: EB SR-80

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterail LOS
B Rd/Binks Forest Dr	I	55	49.4	71.3	120.7	0.75	22.5	D
F Rd/Big Blue Trace	I	55	131.1	38.1	169.2	2.00	42.6	A
Total	I		180.5	109.4	289.9	2.75	34.2	B

Arterial Level of Service: WB SR-80

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterail LOS
F Rd/Big Blue Trace	I	55	35.5	45.4	80.9	0.46	20.3	E
B Rd/Binks Forest Dr	I	55	131.1	21.2	152.3	2.00	47.3	A
Total	I		166.6	66.6	233.2	2.46	37.9	B

TABLE 7A
2030 PROPOSED CONDITIONS WITH IMPROVEMENTS-PM PEAK HOUR
ARTERIAL ANALYSIS

Arterial Level of Service: EB SR-80

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterail LOS
B Rd/Binks Forest Dr	I	55	49.4	98.0	147.4	0.75	18.4	E
F Rd/Big Blue Trace	I	55	131.1	79.3	210.4	2.00	34.2	B
Total	I		180.5	177.3	357.8	2.75	27.7	C

Arterial Level of Service: WB SR-80

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterail LOS
F Rd/Big Blue Trace	I	55	35.5	27.4	62.9	0.46	20.3	D
B Rd/Binks Forest Dr	I	55	131.1	24.1	155.2	2.00	46.4	A
Total	I		166.6	51.5	218.1	2.46	40.5	B