

March 4, 2022

Mr. Thomas Washburn, P.E.
Transportation Division Director
Pinellas County Public Works
22211 US 19 N
Clearwater, FL 33765

*RE: Innisbrook Residential Redevelopment
Updated Traffic Impact Study (TIS)
Pinellas County, Florida*

Dear Mr. Washburn,

Based upon the Development Review Committee meeting on January 10, 2022, comments from Pinellas County and Forward Pinellas staff on February 28, 2022, the pre-application meeting with Pinellas County staff on October 7, 2021, and the traffic impact methodology dated October 20, 2021, this updated analysis is provided for the redevelopment of the project site generally located south of Klosterman Road and west of Belcher Road in Pinellas County, Florida. The site location is illustrated in the attached concept plan. The project site currently consists of a golf course, conference center, and office use. The site is currently zoned as Residential Planned Development (RPD) with a mix of various Future Land Use designations (Recreation/Open Space, Residential Suburban, and Residential Low Medium). The project proposes to redevelop a portion of the current golf course, 32,000 square feet of conference center use, and 11,000 square feet of office use to develop up to 186 residential dwelling units (128 single-family detached units and 58 townhome units). This traffic impact study is part of the Future Land Use Map Amendment application to change the Future Land Use of the development site to Residential Low Category.

Project Description

The project proposes to redevelop a portion of the current golf course, 32,000 square feet of conference center use, and 11,000 square feet of office use to develop up to 186 residential dwelling units (128 single-family detached units and 58 townhome units).

As indicated in the attached concept plan, direct access to the project site is proposed via three (3) direct, internal connections along the private roadway, Millridge Road. An emergency-only driveway is proposed approximately 550 feet east of the intersection of Klosterman Road & Millridge Road.

According to the *Forward Pinellas Level of Service Report (2020)* and the *Pinellas County Transportation Design Manual*, Klosterman Road adjacent to the project site is a Class 4 collector roadway with a spacing standard of 240 feet; therefore, the proposed emergency-only driveway east of the intersection of Klosterman Road & Millridge Road meets spacing standards.

Project Trip Generation

Trip generation for the proposed redevelopment was calculated based on rates provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition, for the following land use codes (LUC):

- LUC 210 (Single-Family Detached Housing)
- LUC 220 (Multifamily Housing (Low-Rise))

Internal capture reduction was not considered in order to provide a conservative analysis.

The trip generation potential of the existing uses (32,000 square feet of conference center use and 11,000 square feet of office use for a total of 43,000 square feet of single tenant office use per LUC 715 of the *ITE Trip Generation Manual*, 11th Edition) and the trip differential between the proposed redevelopment and the existing development were calculated for informational purposes. The change in trips anticipated from the redevelopment of a portion of the current golf course was not calculated as a portion of the golf course is proposed to remain as a short course.

The total trip generation potential of the proposed redevelopment, provided in **Table 1** and **Table 2**, was utilized for a conservative analysis. As indicated in **Table 1** and **Table 2**, the results of these calculations indicate that the proposed redevelopment is expected to generate a total of 134 two-way trip-ends (34 entering/100 exiting) during the a.m. peak hour and 170 two-way trip-ends (107 entering/63 exiting) during the p.m. peak hour. The trip generation potential of the proposed redevelopment is higher in the p.m. peak hour; therefore, the p.m. peak hour was utilized to provide a conservative analysis.

Table 1: A.M. Peak-Hour Trip Generation Potential

ITE TRIP GENERATION				DIRECTIONAL DISTRIBUTION		GROSS TRIPS		
Scenario	Land Use	ITE Edition	ITE Code	Percent		In	Out	Total
				In	Out			
Existing Development to be Demolished	43,000 Single Tenant Office Building (32,000 Square Feet of Conference Center and 11,000 Square Feet of Office)	11	715	89%	11%	66	8	74
	Total Existing Development Trips					66	8	74
Proposed Redevelopment	128 Dwelling Units of Single-Family Detached Housing	11	210	26%	74%	24	69	93
	58 Dwelling Units of Multifamily Housing (Low-Rise)	11	220	23%	77%	10	31	41
	Total Proposed Redevelopment Trips*					34	100	134
Proposed - Existing	Trip Differential (Proposed Redevelopment Trips – Existing Development Trips)					-32	92	60

*Total proposed redevelopment trips used for a conservative analysis

Table 2: P.M. Peak-Hour Trip Generation Potential

ITE TRIP GENERATION				DIRECTIONAL DISTRIBUTION		GROSS TRIPS		
Scenario	Land Use	ITE Edition	ITE Code	Percent		In	Out	Total
				In	Out			
Existing Development to be Demolished	43,000 Single Tenant Office Building (32,000 Square Feet of Conference Center and 11,000 Square Feet of Office)	11	715	15%	85%	12	70	82
	Total Existing Development Trips					12	70	82
Proposed Redevelopment	128 Dwelling Units of Single-Family Detached Housing	11	210	63%	37%	79	46	125
	58 Dwelling Units of Multifamily Housing (Low-Rise)	11	220	63%	37%	28	17	45
	Total Proposed Redevelopment Trips*					107	63	170
Proposed - Existing	Trip Differential (Proposed Redevelopment Trips – Existing Development Trips)					95	-7	88

*Total proposed redevelopment trips used for a conservative analysis

Project Trip Distribution and Assignment

New traffic expected to be generated by the proposed redevelopment was distributed and assigned to the adjacent roadway network based upon the Florida Standard Urban Transportation Model Structure (FSUTMS) for District 7. Project trip assignment at the project driveways is shown in **Figure 1**. **Figure 2** indicates the anticipated net, new project trips for the p.m. peak-hour period.

Study Area

Table 3 below indicates the impacted roadway links, the project traffic impacts on the impacted links, and the service volume of the links, per the *Forward Pinellas Level of Service Report (2020)*. The study area roadway segments were those with the project traffic representing 5.0% or greater of the roadway capacity up to a maximum radius of two miles from the project site.

As indicated in **Table 3**, no roadway segments are anticipated to be significantly impacted (i.e. project traffic representing 5.0% or greater of the roadway capacity); however, the following study roadway segments were included in this analysis:

- Klosterman Road from Alt US 19 to US 19
- Belcher Road from Alderman Road to Klosterman Road

Based on the *Forward Pinellas Level of Service Report (2020)*, the study roadway segments currently operate at LOS D or better (with volume to capacity ratios less than 0.90). A review of the Pinellas County and FDOT Capital Improvement Programs indicates that there are no construction improvements planned for these roadways in the next five years.

Table 3: Study Area Determination

ROADWAY	FROM	TO	SERVICE VOLUMES		PROJECT VOLUMES			STUDY NETWORK DETERMINATION	
			EXISTING LANEAGE	PEAK-HOUR DIRECTIONAL LOS SERVICE VOLUME ¹	DIRECTION	PROJECT TRAFFIC ASSIGNMENT	PROJECT TRAFFIC VOLUME	PROJECT TRAFFIC % OF SERVICE VOLUME	WITHIN STUDY NETWORK?
Klosterman Road	Carlton Road	Alt US 19	2	1,440	Eastbound	5%	5	0.37%	No
					Westbound	5%	3	0.22%	No
	Alt US 19	Project Driveways	4	1,764	Eastbound	19%	20	1.15%	No
					Westbound	19%	12	0.68%	No
	Project Driveways	US 19	4	1,764	Eastbound	24%	15	0.86%	No
					Westbound	24%	26	1.46%	No
Belcher Road	Alderman Road	Innisbrook Drive	4	1,764	Northbound	53%	57	3.21%	No
					Southbound	53%	33	1.89%	No
	Innisbrook Drive	Klosterman Road	4	1,764	Northbound	4%	4	0.24%	No
					Southbound	4%	3	0.14%	No
Alt US 19	Alderman Road	Klosterman Road	2	924	Northbound	3%	3	0.35%	No
					Southbound	3%	2	0.20%	No
	Klosterman Road	Meres Boulevard	2	880	Northbound	9%	6	0.64%	No
					Southbound	9%	10	1.09%	No
US 19	Alderman Road	Klosterman Road	6	2,940	Northbound	9%	10	0.33%	No
					Southbound	9%	6	0.19%	No
	Klosterman Road	Tarpon Avenue	6	2,940	Northbound	8%	5	0.17%	No
					Southbound	8%	9	0.29%	No
Alderman Road	Alt US 19	Belcher Road	4	1,764	Eastbound	8%	9	0.49%	No
					Westbound	8%	5	0.29%	No
	Belcher Road	US 19	4	1,764	Eastbound	23%	14	0.82%	No
					Westbound	23%	25	1.40%	No

1. Source: Forward Pinellas Level of Service Report (2020)

Future Traffic Volume Development

For the purposes of this analysis, 2024 was considered the buildout year and, thus, 2024 conditions were evaluated as the “future” year scenario. Future traffic volumes consist of two components: project traffic and background (non-project traffic) traffic estimates.

Future background traffic is defined as non-project traffic on the roadway network in the future year at buildout of the proposed project. The growth rate was calculated as -2.85% based upon historical traffic volumes provided by the *Forward Pinellas Level of Service Reports* for existing volume year 2015 to 2019. As indicated in the traffic impact study methodology, the existing (2019) peak-hour directional volumes in the *Forward Pinellas Level of Service Report (2020)* were grown to the year 2024 using a conservative growth rate of 2.0% percent per year. Documentation of the growth rate calculation and the total background traffic are provided as an attachment.

As indicated in **Table 4**, the study roadway segments are anticipated to have adequate capacity for the project. Based upon the above information, the proposed redevelopment is expected to have a minimal impact on the operating conditions of the surrounding public roadway system.

Table 4: Roadway Segment Capacity Analysis

ROADWAY	FROM	TO	SERVICE VOLUMES		EXISTING			BACKGROUND	PROJECT VOLUMES		FUTURE TOTAL
			EXISTING LANEAGE	PEAK-HOUR DIRECTIONAL LOS SERVICE VOLUME ¹	DIRECTION	2019 PEAK SEASON PEAK-HOUR VOLUME ¹	2021 PEAK SEASON PEAK-HOUR VOLUME (INCREASED 2019 VOLUME BY 2.0% FOR 2 YEARS)	2024 BACKGROUND PEAK-HOUR VOLUME (INCREASED 2021 VOLUME BY 2.0% FOR 3 YEARS)	PROJECT TRAFFIC ASSIGNMENT	PROJECT TRAFFIC VOLUME	2025 FUTURE TOTAL PEAK-HOUR VOLUME
Klosterman Road	Alt US 19	Project Driveways	4	1,764	Eastbound	966	1,005	1,067	19%	20	1,087
					Westbound	966	1,005	1,067	19%	12	1,079
	Project Driveways	US 19	4	1,764	Eastbound	966	1,005	1,067	24%	15	1,082
					Westbound	966	1,005	1,067	24%	26	1,093
Belcher Road	Alderman Road	Innisbrook Drive	4	1,764	Northbound	1,003	1,044	1,108	53%	57	1,165
					Southbound	1,003	1,044	1,108	53%	33	1,141
	Innisbrook Drive	Klosterman Road	4	1,764	Northbound	1,003	1,044	1,108	4%	4	1,112
					Southbound	1,003	1,044	1,108	4%	3	1,111

1. Source: Forward Pinellas Level of Service Report (2020)

Supplemental Intersection Operational Analysis

An operational analysis of the intersection of Klosterman Road & Millridge Road was conducted using Synchro version 11 software. To determine the existing and future volumes at intersection of Klosterman Road & Millridge Road, existing turning movement volumes were collected on Thursday, November 18, 2021 during the p.m. peak period (4:00 p.m. to 6:00 p.m.). The FDOT seasonal factor for Pinellas County was applied to adjust the existing volumes to peak season conditions. The peak season existing turning movement counts were grown to year 2024 using a conservative growth rate of 2.0% percent per year. Project traffic was then added to determine future total traffic volumes following buildout of the proposed redevelopment.

As indicated in the attached Synchro output reports, the intersection is anticipated to operate with volume to capacity ratios less than 1.0 and with LOS C or better per approach. In addition, the westbound left-turn lane 95th percentile queue (estimated using *Highway Capacity Manual*, 6th Edition, methodologies) is not anticipated to exceed 25 feet (1 vehicle) following buildout of the proposed redevelopment.

Peak-Hour Signal Warrant Analysis

Based upon the comments from Pinellas County and Forward Pinellas staff on February 28, 2022, a signal warrant analysis was conducted for the intersection of Klosterman Road & Millridge Road.

The Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD) defines nine (9) warrants or justifying set of conditions. At least one of these warrants should be satisfied before signalization is considered as an option for traffic control. Warrant 3, Peak-Hour Warrant, was reviewed for the future (2024) conditions. The northbound approach of Millridge Road was evaluated as a one-lane, minor street approach. The eastbound and westbound approaches of Klosterman Road were evaluated as two-lane, major street approaches.

Warrant 3, Peak-Hour Warrant, is intended for use at a location where traffic conditions are such that for a minimum of one (1) hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. The MUTCD defines the volumes required for the major and minor street approaches. The intersection of Klosterman Road & Millridge Road is not anticipated to warrant a signal per Warrant 3, Peak-Hour Warrant, following buildout of the proposed redevelopment.

Turn Lane Analysis

As shown in **Figure 2**, the westbound left-turning volumes at the intersection of Klosterman Road & Millridge Road are anticipated to increase by 26 project trips per hour following buildout of the proposed redevelopment. A 210-foot westbound left-turn lane currently exists at this location. Turn lanes are not anticipated to be required at the internal connections along Millridge Road.

Multimodal Facilities

As part of the evaluation of the proposed project, multi-modal considerations were reviewed for this development. These considerations included existing facilities for pedestrians, bicyclists, and transit users.

Pedestrians

Sidewalks currently exist on the north and south sides of Klosterman Road. Sidewalks do not exist along Millridge Road. Sidewalks currently exist on the east and west sides of Belcher Road.

Bicyclists

Bicycle lanes currently exist on the north and south sides of Klosterman Road. Bicycle lanes do not exist along Millridge Road. Bicycle lanes currently exist on the east and west sides of Belcher Road.

Transit

According to the most recent Pinellas Suncoast Transit Authority (PSTA) System Map, there is not a transit route along Klosterman Road or Belcher Road adjacent to the project site.

Conclusion

The project site, generally located south of Klosterman Road and west of Belcher Road in Pinellas County, Florida, is proposed to be redeveloped. The project site currently consists of a golf course and one conference center. The site is currently zoned as Residential Planned Development (RPD) with a mix of various Future Land Use designations (Recreation/Open Space, Residential Suburban, and Residential Low Medium). The project proposes to remove a portion of the current golf course, 32,000 square feet of conference center use, and 11,000 square feet of office use to develop up to 186 residential dwelling units (128 single-family detached units and 58 townhome units). This traffic study is part of the Future Land Use Map Amendment application to change the Future Land Use of the development site to Residential Low Category.

As indicated in the attached concept plan, access to the site is proposed via three (3) direct, internal connections along the private roadway, Millridge Road. An emergency-only driveway is proposed approximately 550 feet east of the intersection of Klosterman Road & Millridge Road.

The future redevelopment is anticipated to have a minimal impact on the operating conditions of the surrounding public roadway system. In addition, based upon the roadway analysis of Klosterman Road and Belcher Road, the surrounding roadways are anticipated to have adequate capacity following buildout of the proposed redevelopment.

Turn lanes are not anticipated to be required at the internal connections along Millridge Road. A 210-foot westbound left-turn lane currently exists at the intersection of Klosterman Road & Millridge Road.

The intersection of Klosterman Road & Millridge Road is not anticipated to warrant a signal per Warrant 3, Peak-Hour Warrant, following buildout of the proposed redevelopment.

After your review of this Traffic Impact Study (TIS), please let us know if you have any questions or comments.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.



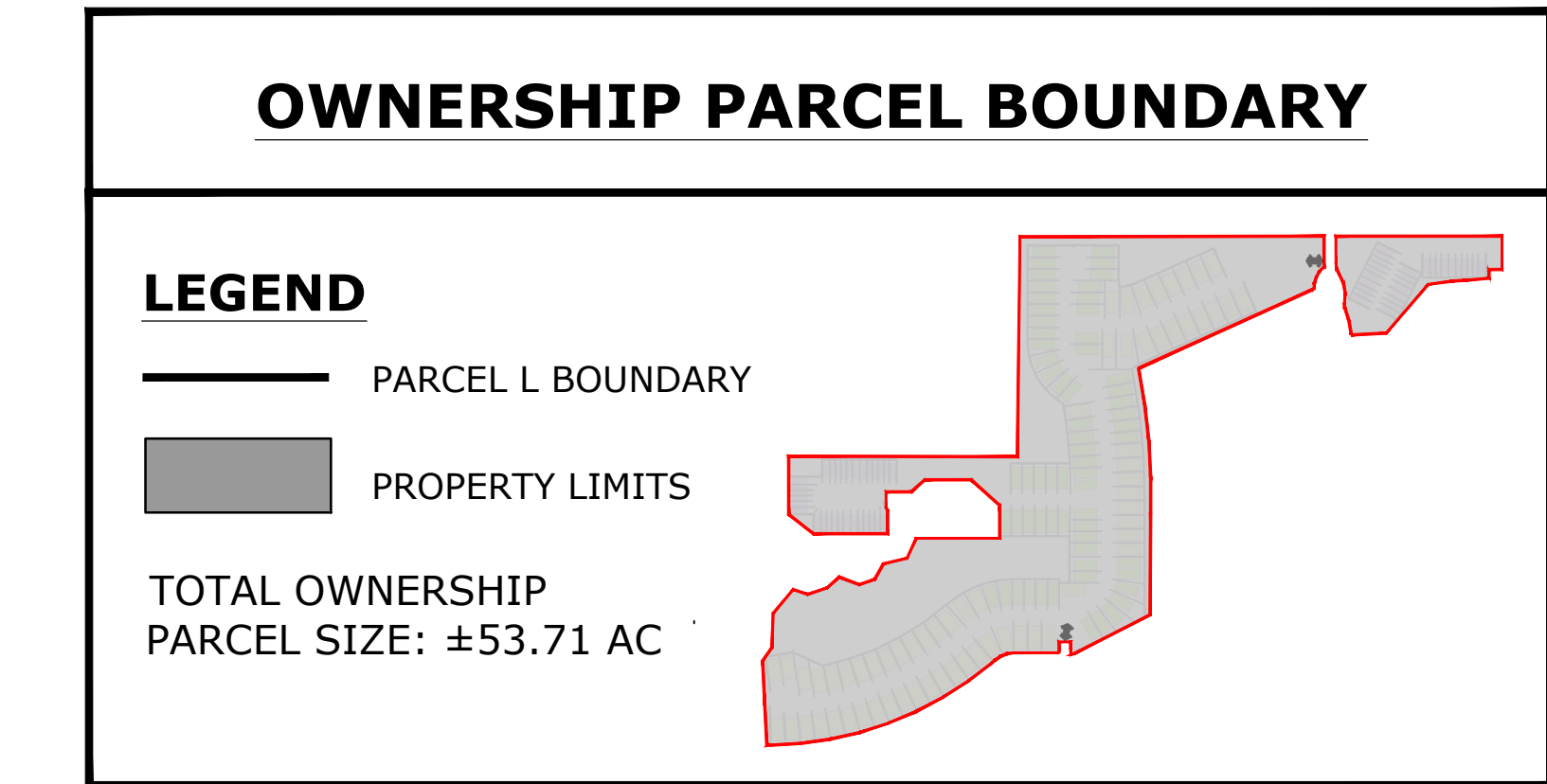
Christopher Hatton, P.E.
Principal



Addie K. Clark, P.E.
Transportation Engineer

Attachments: Concept Plan
 Figure 1: Project Traffic Assignment
 Figure 2: Project Traffic Volumes
 Forward Pinellas Level of Service Report (2020) Excerpts
 FSUTMS Select Zone Output
 Growth Rate Information

Copy to: Mike Williams, Innisbrook Resort
Jim Busch, Innisbrook Resort
Larry Franks, Toll Brothers



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PRELIMINARY ILLUSTRATIVE SITE PLAN FOR DISCUSSION PURPOSES ONLY. FINAL LAYOUT SUBJECT TO FINAL DESIGN AND PERMITTING.

TYPICAL LOT LAYOUT

NOTES:
1. MAXIMUM BUILDING HEIGHTS: 35' FOR SINGLE FAMILY

TOWNHOUSE LOTS

3. SIDE AND REAR SETBACKS FOR ACCESSORY STRUCTURES SHALL BE A MINIMUM OF 5'.

8 _____ 9 _____ 10 _____ 11 _____ 12 _____

[illegible]

E. KLOSTERMAN ROAD

EXISTING GATE HOUSE

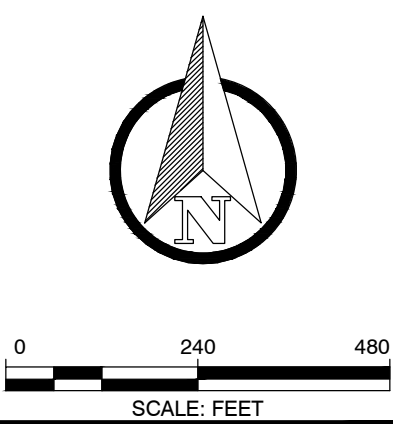
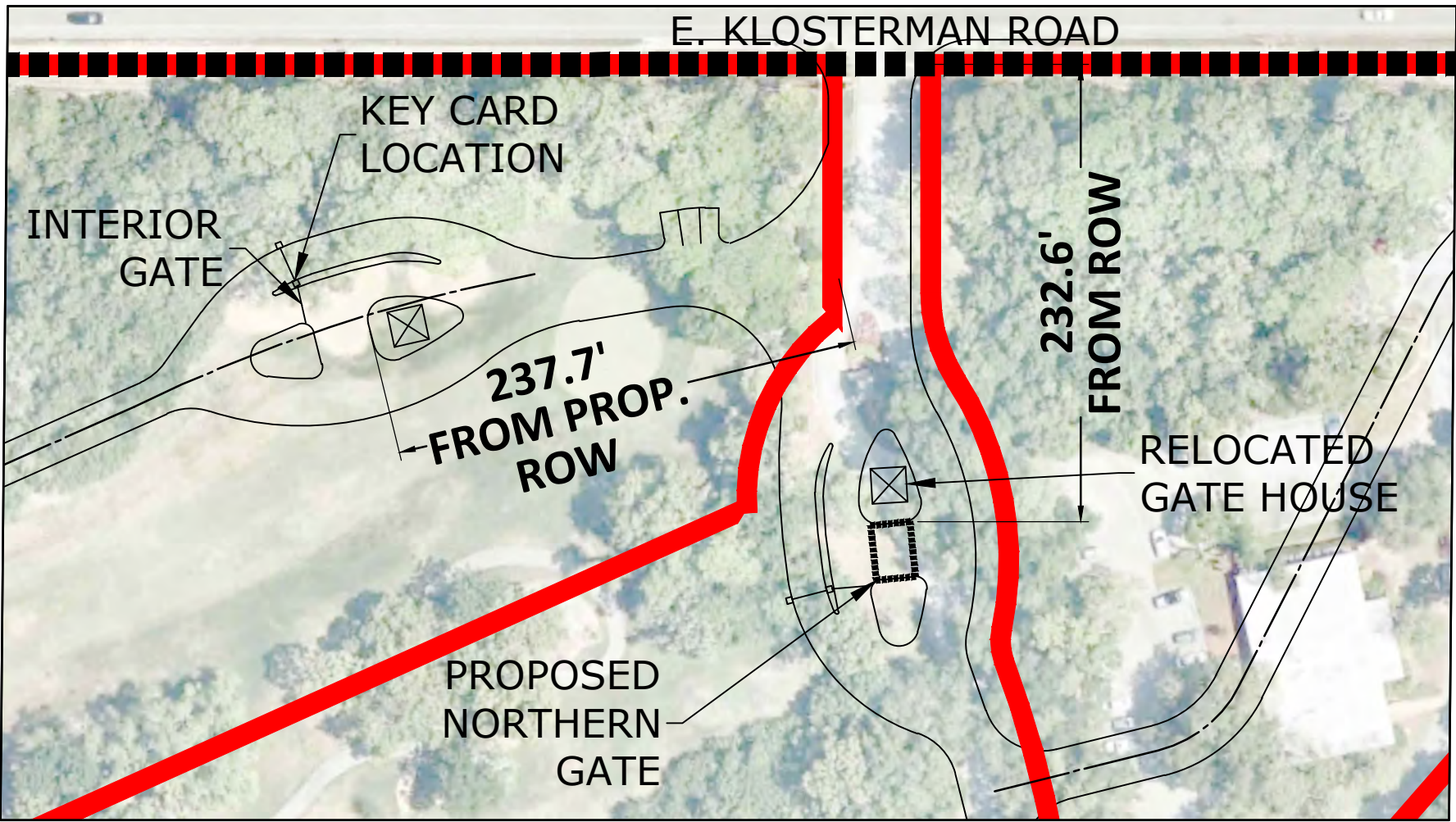
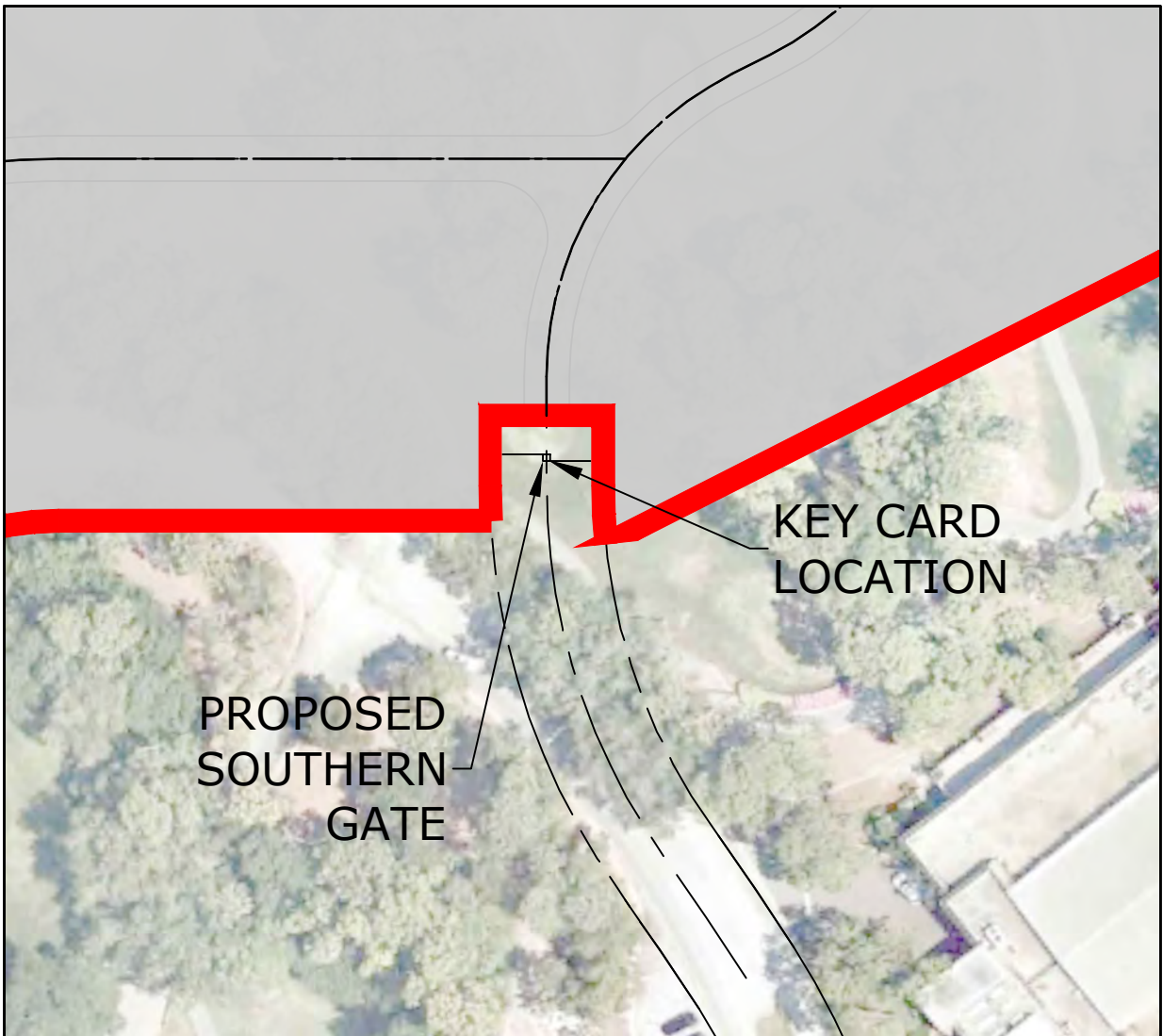
EXISTING NORTHERN GATE

156.7'
FROM ROW

<u>TRANSPORTATION DATA</u>	
INTERNAL STREET CLASSES	MINOR LOCAL
INTERNAL ROW WIDTH	50 FEET
SITE ACCESS POINTS	UP TO 2 TOTAL (2 PRIMARY, 1 SECONDARY AT COUNTY DIRECTION)
TRANSIT STOPS	NONE
BICYCLE/PEDESTRIAN FACILITIES	NEW SIDEWALKS WITHIN PARCEL L

Legend:

- RPD BOUNDARY
- PARCEL L BOUNDARY
- MINOR ARTERIAL
- LOCAL MINOR STREET
- PROPOSED LOCAL MINOR STREET
- EXISTING VEHICULAR ACCESS
- PROPOSED VEHICULAR ACCESS

[illegible]

INNISBROOK RESORT
PINELLAS COUNTY, FLORIDA

DEVELOPMENT MASTER PLAN PARCEL L

JOB NO:	2021-0646-00
DATE:	11/01/2021



NOT TO SCALE

Legend

- XX% Entering Net, New Traffic
- (XX)% Exiting Net, New Traffic
- - - - Direct Access to Project Site

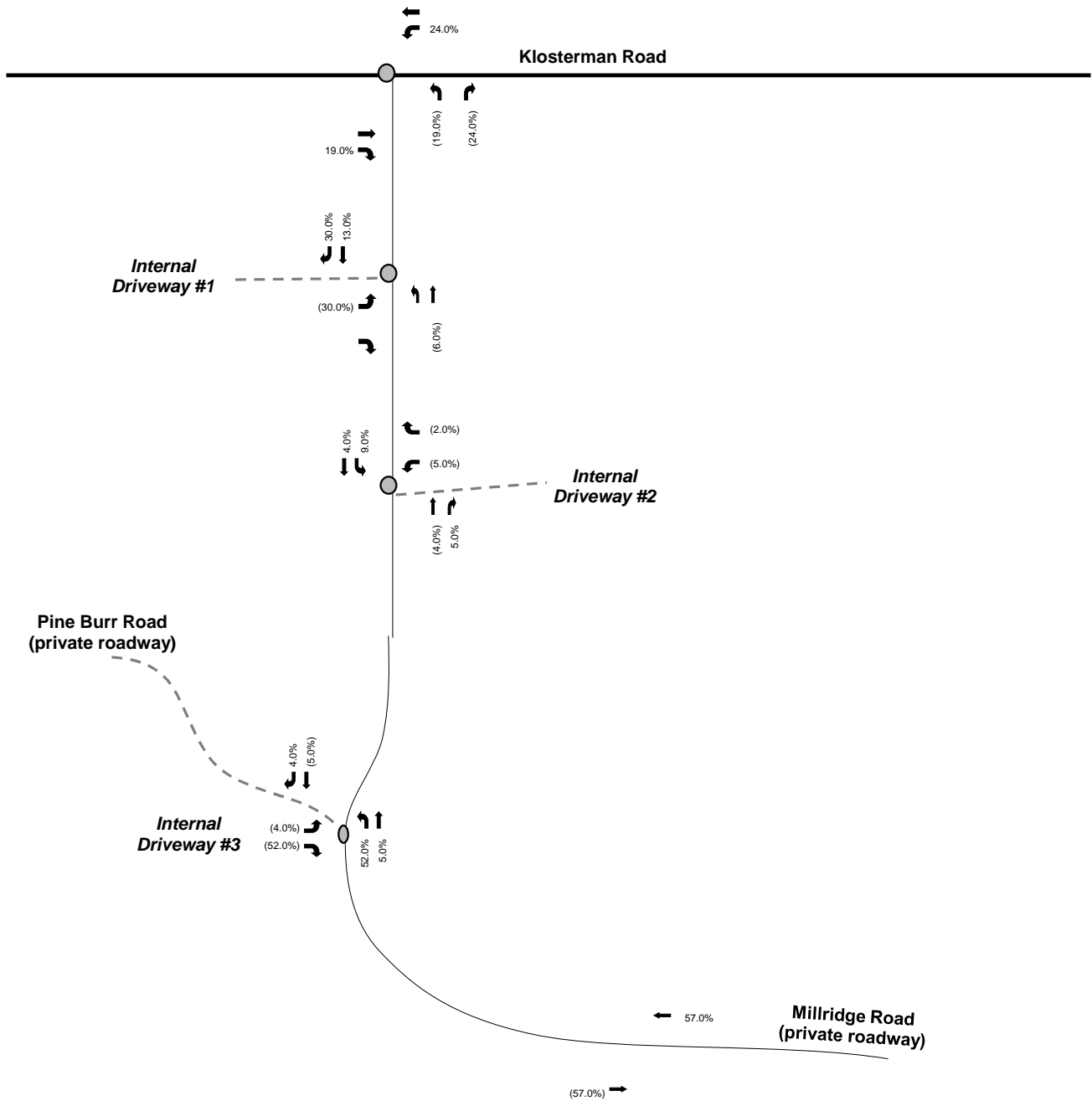


Figure 1
Project Traffic Assignment
Innisbrook Residential
Pinellas County, Florida



NOT TO SCALE

Legend
XX PM Peak-Hour Project Traffic
- - - - Direct Access to Project Site

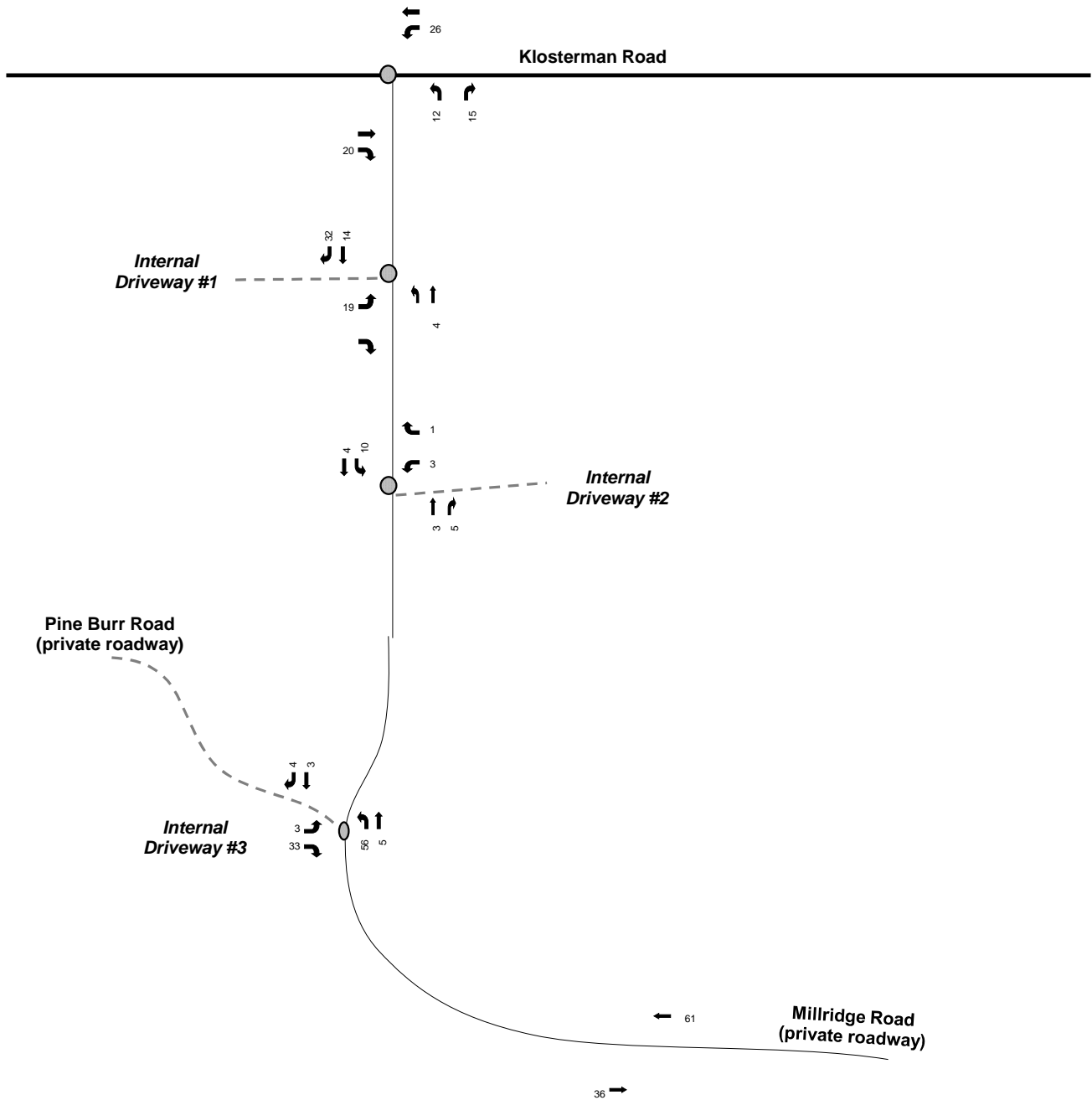
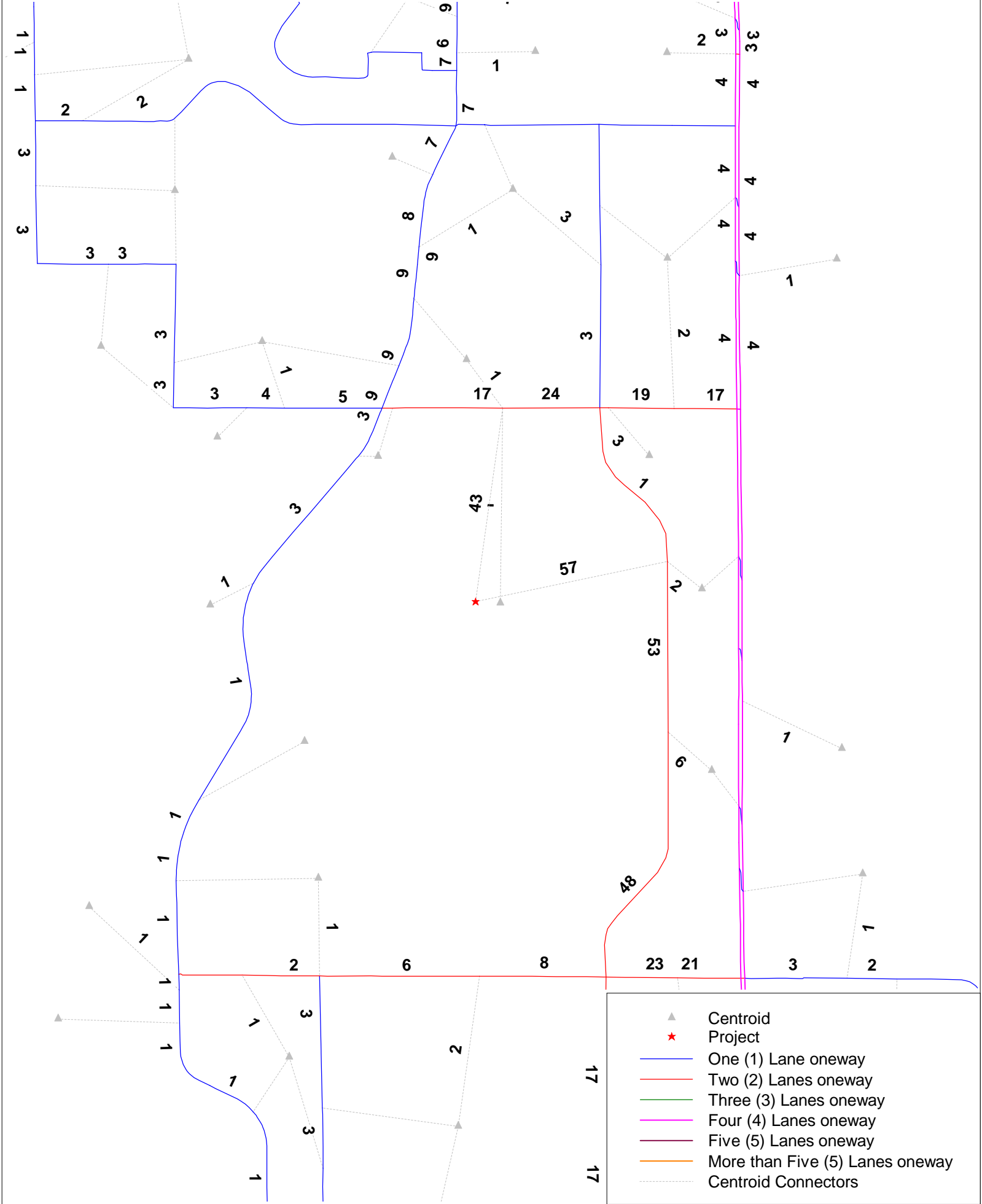


Figure 2
PM Peak-Hour Project Traffic
Innisbrook Residential
Pinellas County, Florida

HIGHLAND AVE: (DRUID ST -to- GULF-TO-BAY BLVD)	CR	SA	4U	D	0.253	3.956	T	8300	433	1599	0.271	0	C
HIGHLAND AVE: (EAST BAY DR -to- BELLEAIR RD)	CR	SA	2U	D	1.527	2.591	T	9994	522	792	0.659	0	D
HIGHLAND AVE: (GULF-TO-BAY -to- DREW ST)	CL	SA	2D	D	0.506	4.364	T	11500	600	813	0.738	0	D
HIGHLAND AVE: (SUNSET POINT RD -to- UNION ST)	CL	SA	2U	D	0.504	1.984	T	8550	446	792	0.563	0	D
HIGHLAND ST N: (9TH AVE N -to- DR ML KING JR ST N)	SP	NMC	2O	D	0.083	0	T	8017	761	4512	0.169	0	D
HIGHLANDS BLVD: (US 19 -to- ALDERMAN RD)	CR	NMC	2U	D	2.335	0	T	11000	574	1440	0.399	0	D
I-175: (I-275 -to- 4TH ST S)	SR	F	4F	D	1.303	0	T	35750	1150	4020	0.286	0	B
I-275: (22ND AVE N -to- I-375)	SR	F	8F	D	1.314	0	T	179500	9181	8400	1.093	0	F
I-275: (22ND AVE S -to- 54TH AVE S)	SR	F	6F	D	2.013	0	T	102000	5217	6200	0.841	0	D
I-275: (38TH AVE N -to- 22ND AVE N)	SR	F	6F	D	1.017	0	T	180000	9207	6200	1.485	0	F
I-275: (4TH ST N -to- SR 686 ROOSEVELT BLVD)	SR	F	8F	D	2.038	0	T	133750	6086	8400	0.725	0	D
I-275: (54TH AVE N -to- 38TH AVE N)	SR	F	8F	D	1.001	0	T	173500	8874	8400	1.056	0	F
I-275: (54TH AVE S -to- PINELLAS SHORELINE)	SR	F	4F	D	5.41	0	T	63607	3253	4020	0.809	0	D
I-275: (GANDY BLVD -to- 54TH AVE N)	SR	F	6F	D	2.184	0	T	166500	8516	6200	1.374	0	F
I-275: (I-175 -to- 22ND AVE S)	SR	F	6F	D	1.932	0	T	118000	5933	6200	0.957	0	E
I-275: (I-375 -to- I-175)	SR	F	6F	D	0.441	0	T	127000	6496	6200	1.048	0	F
I-275: (PINELLAS SHORELINE -to- 4TH ST N)	SR	F	8F	D	2.203	0	T	169500	8669	8400	1.032	0	F
I-275: (SR 686/ROOSEVELT BLVD -to- GANDY BLVD)	SR	F	6F	D	1.851	0	T	137500	7033	6200	1.134	0	F
I-375: (I-275 -to- 7TH ST N)	SR	F	6F	D	1.093	0	T	37000	1892	6200	0.305	0	B
INDIAN ROCKS RD: (BELLEVUE BLVD -to- MEHLENBACHER RD)	BL	SA	2U	D	1.514	0.574	T	8476	442	792	0.558	0	D
INDIAN ROCKS RD: (MEHLENBACHER RD -to- SUNSET BLVD)	CR	NA	2D	D	0.431	0	T	8476	442	1512	0.292	0	D
INDIAN ROCKS RD: (SUNSET BLVD -to- W BAY DR)	CR	SA	4D	D	0.142	7.042	T	15089	788	1530	0.515	0	D
INDIAN ROCKS RD: (W BAY DR -to- WALSHINGHAM RD)	CR	SA	2U	D	2.766	1.758	T	15089	788	792	0.995	0	F
KEENE RD: (BELLEAIR RD -to- DRUID RD)	CR	SA	4D	D	1.256	2.659	T	24000	1254	1683	0.745	0	C
KEENE RD: (DREW ST -to- SUNSET POINT RD)	CR	SA	4D	D	1.517	0.759	T	25500	1332	1764	0.755	0	C
KEENE RD: (DRUID RD -to- GULF-TO-BAY BLVD)	CR	SA	6D	D	0.251	3.986	T	24000	1254	2547	0.492	0	C
KEENE RD: (E BAY DR -to- BELLEAIR DR)	CR	SA	4D	D	1.526	1.312	T	24000	1254	1764	0.711	0	C
KEENE RD: (GULF-TO-BAY BLVD -to- DREW ST)	CR	SA	6D	D	0.511	4.317	T	24000	1254	2313	0.542	0	C
KEENE RD: (SUNSET POINT RD -to- SR 580)	CR	SA	4D	D	2.031	1.97	T	25410	1326	1764	0.752	0	C
KEYSTONE RD: (HILLSBOROUGH CL -to- WOODFIELD BLVD)	CR	NA	2U	D	2.296	0	T	15000	757	1440	0.526	0	D
KEYSTONE RD: (US 19 -to- EAST LAKE RD)	CR	SA	4D	D	2.898	1.2	T	26329	1105	1764	0.626	0	C
KEYSTONE RD: (WOODFIELD BLVD -to- EAST LAKE RD)	CR	SA	2U	D	0.542	1.844	T	15500	809	792	1.021	0	F
KLOSTERMAN RD: (ALT US 19 -to- CARLTON RD)	CR	NA	2U	D	0.745	0	T	11500	600	1440	0.417	0	D
KLOSTERMAN RD: (ALT US 19 -to- US 19)	CR	SA	4D	D	1.275	1.652	T	18500	966	1764	0.548	0	C
LAKE AVE: (BELLEAIR RD -to- GULF-TO-BAY BLVD)	CR	SC	2U	D	1.508	1.988	T	3100	161	572	0.281	0	C
LAKE AVE: (EAST BAY DR -to- BELLEAIR RD)	CR	SC	2U	D	1.528	0.432	T	3100	161	572	0.281	0	C
LAKE ST GEORGE DR: (HIGHLANDS BLVD -to- TAMPA RD)	CR	NMC	2U	D	0.371	0	T	5200	271	1440	0.188	0	C
LAKE ST GEORGE DR: (TAMPA RD -to- COUNTRYSIDE BLVD)	CR	SMC	2U	D	1.135	0.881	T	5200	271	572	0.474	0	C
LAKEVIEW RD: (MISSOURI AVE -to- KEENE RD)	CR	SA	2U	D	1.532	2.391	T	8200	428	792	0.54	0	D
LIVE OAK ST: (ALT 19 -to- US 19)	CR	SC	2D	D	1.048	1.287	T	3250	169	572	0.295	0	C
MAIN ST: (BROADWAY AVE -to- SKINNER BLVD)	DN	SC	2U	D	0.594	5.415	T	3362	175	514	0.34	0	C
MAIN ST: (MCMULLEN BOOTH RD -to- BAYSHORE DR)	CR	NA	2U	D	1.274	0	T	7448	389	1440	0.27	0	D
MCMULLEN BOOTH RD: (CURLEW RD -to- SOUTH SPLIT)	CR	NA	6D	D	0.541	0	T	46016	2142	5650	0.379	0	C
MCMULLEN BOOTH RD: (GULF-TO-BAY BLVD -to- SUNSET PT RD/MAIN ST)	CR	SA	6D	D	2.075	1.995	T	61319	3143	2646	1.188	0	F
MCMULLEN BOOTH RD: (SR 580 -to- CURLEW RD)	CR	SA	6D	D	1.768	2.994	T	51033	2666	2646	1.008	0	D
MCMULLEN BOOTH RD: (SUNSET PT RD MAIN ST -to- SR 580)	CR	SA	6D	D	2.233	2.505	T	57485	3003	2646	1.135	0	F
MEHLENBACHER/8TH AVE NW: (CLEARWATER-LARGO RD -to- INDIAN ROCKS RD)	CR	SC	2U	D	1.008	0.992	T	4666	243	572	0.425	0	C
MEMORIAL CSWY: (CHESTNUT ST CONNECTION -to- MEMORIAL CSWY WB/EB SF	SR	NA	2O	D	0.163	0	T	15500	1472	3400	0.433	0	C
MEMORIAL CSWY: (CLEARWATER BEACH ROUNDABOUT -to- ISLAND WAY)	CL	SA	4D	D	0.565	0.97	T	38500	2011	1870	1.075	0	F
MEMORIAL CSWY: (ISLAND WAY -to- MEMORIAL CSWY WB/EB SPLIT)	SR	NA	4D	D	1.156	0	T	38500	2011	3760	0.535	0	F
MEMORIAL CSWY: (MEMORIAL CSWY WB/EB SPLIT -to- COURT ST CONNECTION	SR	NA	2O	D	0.167	0	T	19000	1805	3400	0.531	0	C
MERES BLVD: (ALT 19 -to- FLORIDA AVE)	CR	NMC	2U	D	1.594	0	T	7700	402	1440	0.279	0	D
MICHIGAN BLVD: (CR 1 -to- ALT 19)	DN	SMC	2U	D	1.535	1.303	T	4602	178	572	0.311	0	C
MILWAUKEE AVE: (VIRGINIA ST -to- UNION ST)	DN	SMC	2U	D	1.02	3.28	T	4771	249	572	0.435	0	C
MISSOURI AVE: (COURT ST -to- CLEVELAND ST)	CL	SA	4D	D	0.328	3.051	T	10500	548	1683	0.326	0	C

ALT US 19 MISSOURI AVE: (COURT ST -to- BELLEAIR RD)	SR	SA	6D	D	1.511	3.975	T	26250	1332	2830	0.471	0	C
ALT US 19 MYRTLE AVE: (CHESTNUT ST -to- DREW ST)	SR	SA	4U	D	0.5	7.039	T	15600	815	1577	0.517	0	D
ALT US 19 MYRTLE AVE: (DREW ST -to- FAIRMONT ST)	SR	SA	4U	D	0.981	5.681	T	12500	642	1776	0.361	0	C
ALT US 19 MYRTLE AVE: (FAIRMONT ST -to- EDGEWATER DR)	SR	NA	2U	D	0.098	0	T	12700	663	1440	0.46	0	D
ALT US 19 PALM HARBOR BLVD: (TAMPA RD -to- ALDERMAN RD)	SR	SA	2D	D	1.812	0.604	T	21000	1097	924	1.187	0	F
ALT US 19 PINELLAS AVE: (KLOSTERMAN RD -to- MERES BLVD)	SR	SA	2U	D	1.043	0.976	T	16300	851	880	0.967	0	D
ALT US 19 PINELLAS AVE: (MERES BLVD -to- TARPON AVE)	SR	SA	2D	D	0.595	7.141	T	16300	851	830	1.025	0	F
ALT US 19 SEMINOLE BLVD: (102ND AVE N -to- ULMERTON RD)	SR	SA	6D	D	2.027	2.777	T	34600	1724	2830	0.609	0	C
ALT US 19 SEMINOLE BLVD: (BAY PINES BLVD -to- PARK BLVD)	SR	SA	6D	D	1.651	2.96	T	38500	2011	2830	0.711	0	C
ALT US 19 SEMINOLE BLVD: (PARK BLVD -to- 102ND AVE N)	SR	SA	6D	D	1.766	2.934	T	37833	1854	2940	0.631	0	C
ALT US 19 SEMINOLE BLVD: (ULMERTON RD -to- E BAY DR)	SR	SA	6D	D	1.517	1.323	T	34166	1724	2940	0.586	0	C
ALT US 19 TYRONE BLVD: (38TH AVE N -to- PARK ST)	SR	SA	6D	D	0.36	2.776	T	39500	2063	2830	0.729	0	C
ALT US 19 TYRONE BLVD: (5TH AVE N -to- 9TH AVE N)	SR	SA	4D	D	0.253	3.96	T	20500	1071	1870	0.573	0	C
ALT US 19 TYRONE BLVD: (66TH ST N -to- 38TH AVE N)	SR	SA	4D	D	1.586	1.63	T	35000	1828	1960	0.933	0	C
ALT US 19/BAY PINES BLVD: (W END OF BRIDGE -to- 100TH WY)	SR	SA	6D	D	0.64	3.721	T	42000	2194	2830	0.775	0	C
ALT US 19/BAY PINES BLVD: (W END OF BRIDGE -to- PARK ST)	SR	SA	4D	D	0.92	0.984	T	49000	2560	1960	1.306	0	F
ALT US 19/COURT ST: (CHESTNUT ST -to- FT HARRISON AVE)	SR	SA	4D	D	0.454	4.469	T	15500	1472	4536	0.325	0	C
ALT US 19/COURT ST: (CHESTNUT ST -to- MISSOURI AVE)	SR	SA	4D	D	0.318	1.972	T	35500	1854	1870	0.991	0	F
ALT US 19/PALM HARBOR BLVD: (ALDERMAN RD -to- KLOSTERMAN RD)	SR	SA	2D	D	2.203	0.247	T	16900	883	924	0.956	0	F
ALT US 19/PINELLAS AVE: (TARPON AVE -to- ANCLOTE AVE)	SR	SA	2U	D	1.98	3.52	T	15820	773	880	0.878	0	E
ANCLOTE BLVD: (ANCLOTE RD -to- ALT US 19)	CR	SMC	2U	D	2.051	0.354	T	7700	402	572	0.703	0	C
ANCLOTE RD: (ALT US 19 -to- ANCLOTE BLVD)	CR	NC	2U	D	1.897	0	T	4400	229	1440	0.159	0	C
BAYSHORE BLVD: (SR 60 -to- MAIN ST)	CL	NMC	2U	D	2.345	0	T	7849	410	1440	0.285	0	D
BAYSIDE BRIDGE: (SR 686 ROOSEVELT BLVD -to- GULF-TO-BAY BLVD)	CR	NA	6D	D	3.564	0	T	60165	3143	5650	0.556	0	F
BECKETT WAY: (US 19 -to- OLD DIXIE HWY)	CR	SC	2U	D	0.501	1.998	T	4500	235	559	0.42	0	C
BELCHER RD: (ALDERMAN RD -to- KLOSTERMAN RD)	CR	SA	4D	D	2.135	0.455	T	19210	1003	1764	0.569	0	C
BELCHER RD: (BELLEAIR RD -to- GULF-TO-BAY BLVD)	CR	SA	4D	D	1.516	4.886	T	23410	1223	1683	0.727	0	D
BELCHER RD: (BRYAN DAIRY RD -to- PARK BLVD)	CR	SA	6D	D	1.516	2.477	T	19543	1021	2547	0.401	0	C
BELCHER RD: (BRYAN DAIRY RD -to- ULMERTON RD)	CR	SA	6D	D	2.434	1.597	T	19543	1021	2646	0.386	0	C
BELCHER RD: (COUNTRYSIDE BLVD -to- CURLEW RD)	CR	SA	4D	D	2.946	1.452	T	18009	757	1764	0.429	0	C
BELCHER RD: (CURLEW RD -to- TAMPA RD)	CR	SA	4D	D	1.291	0.645	T	18990	992	1764	0.562	0	C
BELCHER RD: (EAST BAY DR -to- BELLEAIR RD)	CR	SA	4D	D	1.522	1.469	T	23410	1223	1764	0.693	0	C
BELCHER RD: (GULF-TO-BAY BLVD -to- NE COACHMAN RD)	CR	SA	4U	D	0.805	4.018	T	19500	1018	1599	0.637	0	D
BELCHER RD: (NE COACHMAN RD -to- SUNSET POINT RD)	CR	SA	4D	D	1.222	1.034	T	23250	1018	1764	0.577	0	C
BELCHER RD: (SUNSET POINT RD -to- COUNTRYSIDE BLVD)	CR	SA	6D	D	1.349	2.463	T	27000	1410	2547	0.554	0	C
BELCHER RD: (TAMPA RD -to- ALDERMAN RD)	CR	SA	4D	D	1.805	1.121	T	22827	1192	1764	0.676	0	C
BELCHER RD: (ULMERTON RD -to- EAST BAY DR)	CR	SA	6D	D	1.526	1.474	T	23734	1240	2646	0.469	0	C
BELLEAIR BEACH CSWY: (INDIAN ROCKS RD -to- GULF BLVD)	CR	SA	2D	D	1.675	0.597	T	15938	832	832	1	0	F
BELLEAIR RD: (CLEARWATER LARGO RD -to- MISSOURI AVE)	CR	SMC	2U	D	0.626	2.63	T	9100	475	559	0.85	0	D
BELLEAIR RD: (MISSOURI AVE -to- KEENE RD)	CR	SMC	2U	D	1.523	2.402	T	9100	475	572	0.83	0	D
BELLEAIR RD: (US 19 -to- KEENE RD)	CR	SA	2U	D	1.969	1.016	T	15000	783	792	0.989	0	F
BELLEVIEW BLVD: (CLWTR-LARGO RD -to- INDIAN ROCKS RD)	BL	NMC	2U	D	0.249	0	T	7299	381	1440	0.265	0	D
BELTREES ST SCOTSDALE ST: (KEENE RD -to- PATRICIA AVE)	DN	SC	2U	D	0.858	1.166	T	1275	66	572	0.115	0	C
BELTREES ST: (EDGEWATER DR -to- PATRICIA AVE)	DN	SC	2U	D	1.027	3.193	T	2243	117	559	0.209	0	C
BLIND PASS RD: (75TH AVE/COREY AVE -to- W GULF BL)	SR	SA	4D	D	1.392	1.705	T	15966	804	1960	0.41	0	D
BRYAN DAIRY RD 118TH AVE N: (34TH ST N -to- 40TH ST N)	CR	NA	4D	D	0.493	0	T	31500	1645	3760	0.438	0	C
BRYAN DAIRY RD 118TH AVE N: (40TH ST N -to- 49TH ST N)	CR	SA	6D	D	0.764	1.139	T	43000	2246	2646	0.849	0	C
BRYAN DAIRY RD/118TH AVE N: (28TH ST N -to- 34TH ST N)	CR	SA	4D	D	0.5	4.005	T	14603	763	1683	0.453	0	C
BRYAN DAIRY RD/118TH AVE N: (US 19 -to- BELCHER RD)	CR	SA	6D	D	2.15	0.43	T	47445	1645	2646	0.622	0	C
BRYAN DAIRY RD: (98TH ST N -to- ALT 19)	CR	SA	4D	D	0.755	1.325	T	37693	1969	1764	1.116	0	F
BRYAN DAIRY RD: (BELCHER RD -to- STARKEY RD)	CR	SA	6D	D	1.026	4.566	T	48428	2530	2547	0.993	0	C
BRYAN DAIRY RD: (STARKEY RD -to- 98TH ST N)	CR	SA	6D	D	0.964	2.163	T	37693	1969	2646	0.744	0	C
CENTRAL AVE: (31ST ST N -to- 3RD ST N)	SP	SA	2U	D	2.341	5.987	T	5670	263	774	0.34	0	C
CENTRAL AVE: (34TH ST N -to- 31ST ST N)	SP	SA	4U	D	0.252	8.41	T	8182	427	1454	0.294	0	C
CENTRAL AVE: (34TH ST N -to- 58TH ST N)	CR	SA	4D	D	2.009	2.669	T	12182	636	1683	0.378	0	C



Project: Innisbrook
Location: Pinellas County
Notes: Pinellas County LOS Reports

Volume Source #1: Klosterman Road: Alt US 19 to US 19
Volume Source #2:
Volume Source #3:
Volume Source #4:
Volume Source #5:

Line	Month	Year	Volume Source #1	Volume Source #2	Volume Source #3	Volume Source #4	Volume Source #5	Average Volume
1		2016	19400					19400
2		2017	19688					19688
3		2018	17000					17000
4		2019	18500					18500
5								
6								
7								
8								
9								
10								

INPUT DATA

Line	Month	Year	Aggregate Traffic Volume
1		2016	19400
2		2017	19688
3		2018	17000
4		2019	18500
5			
6			
7			
8			
9			
10			

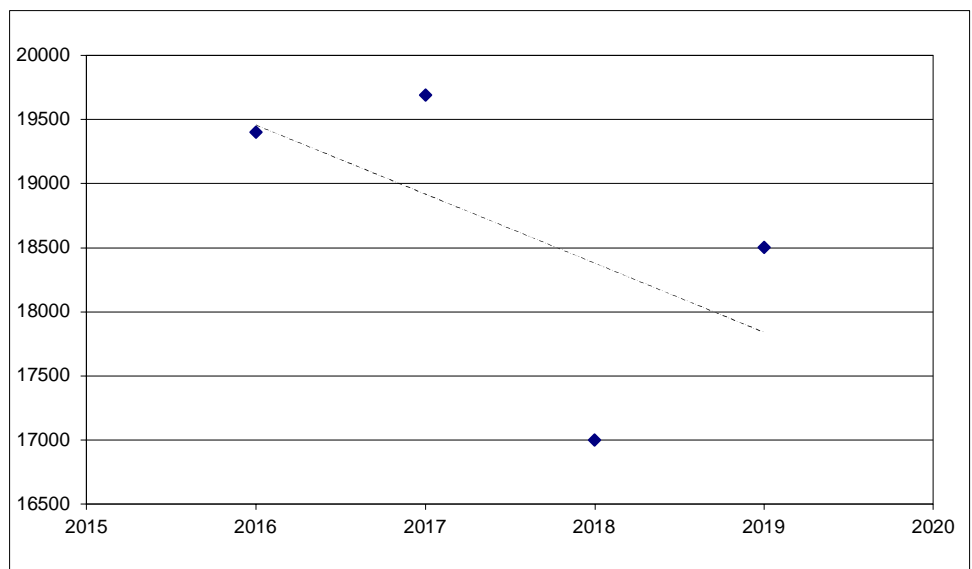
OUTPUT DATA

Line	Month	Year	Best Fit Volume Trend
1		2016	19455.2
2		2017	18916.4
3		2018	18377.6
4		2019	17838.8
5			
6			
7			
8			
9			
10			

Slope: -538.8
Intercept: 1105676
R²: 0.331027971
Standard Error: 1211.06994

Exponential
Growth Rate:
 Future = Existing (1+Growth)^N

Linear
Growth Rate:
 Future = Existing (1+Growth*N)



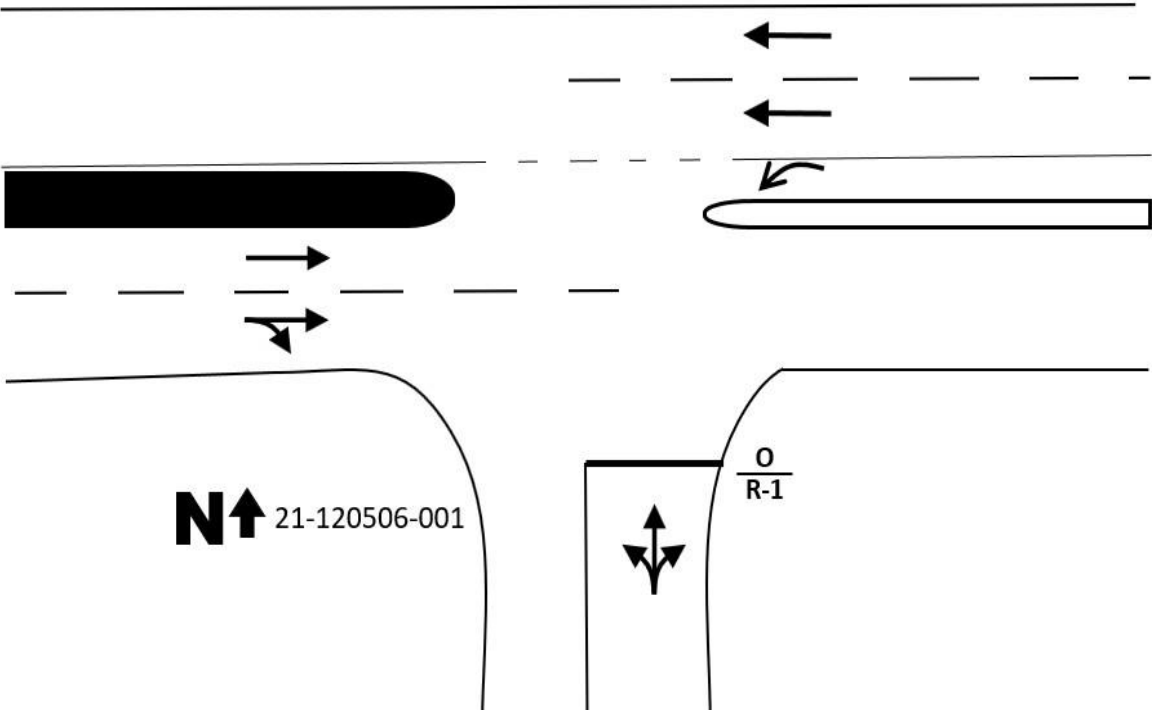


National Data & Surveying Services

Site Code: 21-120506-001
Date: 11/18/2021
Weather: Sunny
City: Palm Harbor
County: Pinellas
Count Times: 16:00 - 18:00
Control: 1-Way Stop (NB)

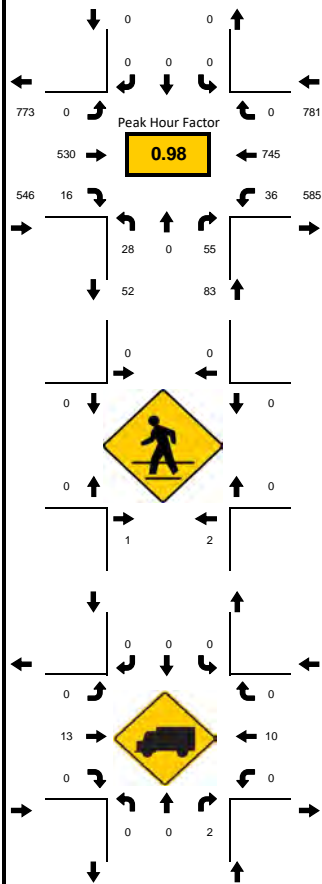


N/S Street: Millridge Rd	Speed: N/A
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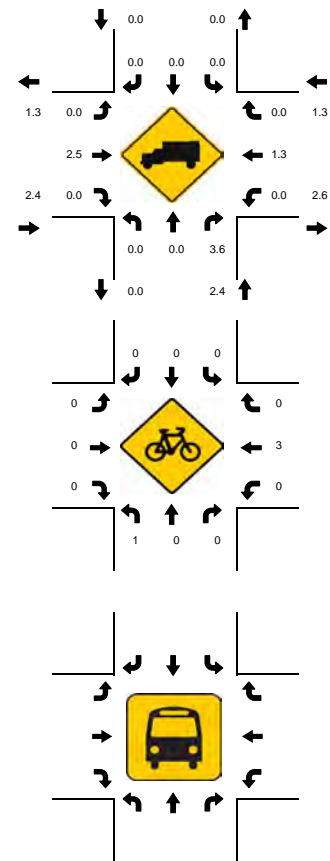
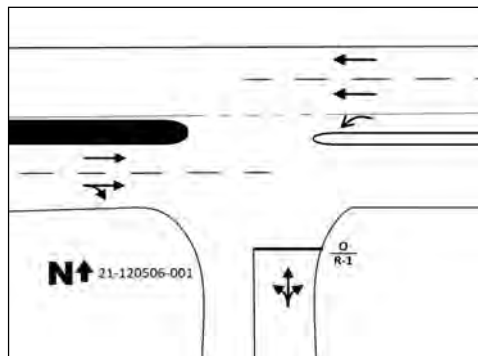


E/W Street: CR 880 / E Klosterman Rd	Speed: 40 MPH
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PROJECT ID: 21-120506-001
DATE: 11/18/2021



Peak-Hour: 04:15 PM - 05:15 PM
Peak 15-Minute: 04:45 PM - 05:00 PM

[illegible]

2020 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 1500 PINELLAS COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.90 PSCF
=====			
* 1	01/01/2020 - 01/04/2020	1.02	1.13
* 2	01/05/2020 - 01/11/2020	0.94	1.04
* 3	01/12/2020 - 01/18/2020	0.85	0.94
* 4	01/19/2020 - 01/25/2020	0.84	0.93
* 5	01/26/2020 - 02/01/2020	0.82	0.91
* 6	02/02/2020 - 02/08/2020	0.81	0.90
* 7	02/09/2020 - 02/15/2020	0.79	0.88
* 8	02/16/2020 - 02/22/2020	0.83	0.92
* 9	02/23/2020 - 02/29/2020	0.86	0.96
*10	03/01/2020 - 03/07/2020	0.90	1.00
*11	03/08/2020 - 03/14/2020	0.94	1.04
*12	03/15/2020 - 03/21/2020	0.97	1.08
*13	03/22/2020 - 03/28/2020	1.11	1.23
14	03/29/2020 - 04/04/2020	1.25	1.39
15	04/05/2020 - 04/11/2020	1.39	1.54
16	04/12/2020 - 04/18/2020	1.53	1.70
17	04/19/2020 - 04/25/2020	1.42	1.58
18	04/26/2020 - 05/02/2020	1.32	1.47
19	05/03/2020 - 05/09/2020	1.21	1.34
20	05/10/2020 - 05/16/2020	1.10	1.22
21	05/17/2020 - 05/23/2020	1.08	1.20
22	05/24/2020 - 05/30/2020	1.06	1.18
23	05/31/2020 - 06/06/2020	1.04	1.16
24	06/07/2020 - 06/13/2020	1.02	1.13
25	06/14/2020 - 06/20/2020	1.00	1.11
26	06/21/2020 - 06/27/2020	1.01	1.12
27	06/28/2020 - 07/04/2020	1.02	1.13
28	07/05/2020 - 07/11/2020	1.02	1.13
29	07/12/2020 - 07/18/2020	1.03	1.14
30	07/19/2020 - 07/25/2020	1.03	1.14
31	07/26/2020 - 08/01/2020	1.03	1.14
32	08/02/2020 - 08/08/2020	1.02	1.13
33	08/09/2020 - 08/15/2020	1.02	1.13
34	08/16/2020 - 08/22/2020	1.02	1.13
35	08/23/2020 - 08/29/2020	1.02	1.13
36	08/30/2020 - 09/05/2020	1.02	1.13
37	09/06/2020 - 09/12/2020	1.02	1.13
38	09/13/2020 - 09/19/2020	1.02	1.13
39	09/20/2020 - 09/26/2020	1.01	1.12
40	09/27/2020 - 10/03/2020	1.00	1.11
41	10/04/2020 - 10/10/2020	0.99	1.10
42	10/11/2020 - 10/17/2020	0.98	1.09
43	10/18/2020 - 10/24/2020	0.99	1.10
44	10/25/2020 - 10/31/2020	0.99	1.10
45	11/01/2020 - 11/07/2020	1.00	1.11
46	11/08/2020 - 11/14/2020	1.00	1.11
47	11/15/2020 - 11/21/2020	1.01	1.12
48	11/22/2020 - 11/28/2020	1.01	1.12
49	11/29/2020 - 12/05/2020	1.01	1.12
50	12/06/2020 - 12/12/2020	1.02	1.13
51	12/13/2020 - 12/19/2020	1.02	1.13
52	12/20/2020 - 12/26/2020	0.94	1.04
53	12/27/2020 - 12/31/2020	0.85	0.94

* PEAK SEASON

27-FEB-2021 10:30:07

830UPD

7_1500_PKSEASON.TXT

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

INTERSECTION: East Klosterman Road & Millridge Road/Driveway 1
 COUNT DATE: November 18, 2021
 PM PEAK HOUR FACTOR: 0.98

"PM EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Raw Turning Movements	0		530	16	2	34	745			28		55				
Peak Season Correction Factor	1.120	1.120	1.120	1.000	1.120	1.000	1.120	1.120	1.120	1.000	1.120	1.000	1.120	1.120	1.120	1.120

PM EXISTING CONDITIONS	0		594	16	2	34	834			28		55				
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"PM BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Years To Buildout	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
PM BACKGROUND TRAFFIC GROWTH	0		36	1	0	2	51			2		3				

PM NON-PROJECT TRAFFIC	0		630	17	2	36	885			30		58				
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"PROJECT DISTRUBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By Distribution	Entering																
	Exiting																
Net New Distribution	Entering				19.0%		24.0%										
	Exiting									19.0%		24.0%					

"PM PROJECT TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trips	Pass - By																
	Net New				20		26				12		15				
PM TOTAL PROJECT TRAFFIC					20		26				12		15				

PM TOTAL TRAFFIC	0		630	37	2	62	885			42		73				
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HCM 6th TWSC

3: Millridge Road & Klosterman Road

03/02/2022

Intersection

Int Delay, s/veh 1.5

Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	630	37	2	62	885	42	73
Future Vol, veh/h	630	37	2	62	885	42	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	160	-	0	-
Veh in Median Storage, #	0	-	-	-	0	1	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	2	3	3	3	4
Mvmt Flow	685	40	2	67	962	46	79

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	725
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.44
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.52
Pot Cap-1 Maneuver	-	-	498
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	841
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	17.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	420	-	-	841	-
HCM Lane V/C Ratio	0.298	-	-	0.083	-
HCM Control Delay (s)	17.2	-	-	9.7	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.2	-	-	0.3	-