

JMB TRANSPORTATION ENGINEERING, INC.
TRAFFIC/TRANSPORTATION ENGINEERING & PLANNING SERVICES

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VILLAGE OF ESTERO

TRAFFIC IMPACT STATEMENT

For

CORKSCREW CROSSING (Corkscrew Road, Estero, Florida)

August 10, 2018

Prepared by:

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CERTIFICATE OF AUTHORIZATION NO. 27830

(PROJECT NO. 140711)

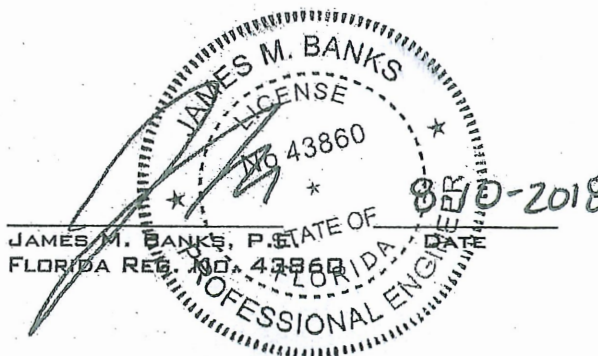


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Conclusions

The applicant has submitted an application to rezone a project formerly known as Monte Cristo, which is now referred to as Corkscrew Crossing. The application proposes to reduce the total number of dwelling units and changes the product mix. The change will increase the number of single family and decrease the number of multi-family units.

More specifically, the zoning request will reduce the number of dwelling units from 724 dwelling units (i.e., 130 single-family and 594 multi-family units) to allow a maximum of 625 dwelling units of varying types as listed in the schedule of uses. However, multi-family dwelling units shall be limited to no more than 70 units, and may only be constructed in the area identified on the Master Concept Plan as “SF/Two-family Attached/MF Development Area”.

**Table A
Existing vs. Proposed Land Use**

Land Use	Existing Zoning	Proposed Zoning
Single-Family	130 d.u.'s	up to 625 d.u.'s
Multi-Family	594 d.u.'s	up to 70 d.u.'s
Totals	724 d.u.'s	Max = 625 d.u.'s

As noted above, the applicant is seeking a reduction in the total number of units, but there will be more single family units. The current road impact fee ordinance adopted by the Village of Estero, effective October 9, 2018, imposes a higher rate on single family dwelling units, and will be assessed at the full rate (i.e., 100% of Lee County's road impact fee rates). Thus, the total amount of impact fees projected for the subject development will be increased. If developed based upon the existing zoning and the Village's 100% road impact fee rate, the project would pay approximately \$5.90 Million vs. the proposed land use assessment which could be as much as \$6.25 Million, if developed as all single-family.

**Table B
Impact Fees**

Existing Land Use Road Impact Fees	Proposed Land Use Road Impact Fees
\$5.90 Million	\$6.25 Million <i>(If developed as 625 single-family units)</i>

As set forth by the Lee County 2017 Concurrency Report, Corkscrew Road (between Ben Hill Griffin Parkway and Wildcat Run) has a 100th highest hour peak direction demand of 839 vphpd. The adopted level of service capacity for that segment of Corkscrew Road is 1,200 vphpd. Therefore, it can be concluded that currently there is adequate capacity on Corkscrew Road to accommodate the traffic generated by Corkscrew Crossing.

However, in late 2017, the Village of Estero adopted the results of a study entitled "Area Wide Traffic Study", that based on the assumptions in the study, and without the improvements expected as a result of the forthcoming Lee County study, anticipates that Corkscrew Road will fail. The results of the study were accepted by Lee County Department of Transportation (LDOT). Lee County Government has commissioned a study of Corkscrew Road for the purpose of evaluating the need to widen the road and to identify the costs and funding methods. It is expected that the study will be finalized by late 2018. Also, Lee County Government has a RFP due on 8-21-2018 for the 4-lane design and it has been indicated by staff that the widening of Corkscrew Road will be reprioritized as a Tier 1 project on the 5-year CIP, effective September, 2018.

In addition, the Area Wide Traffic Study identifies that the segment of Corkscrew Road between Three Oaks Parkway and I-75, which is not significantly impacted by the project, is expected to operate at LOS F during PM peak hour peak season conditions by 2021. More specifically, that segment of Corkscrew Road is a four-lane road having an adopted maximum peak direction service volume capacity of 1,900 vphpd, and it is expected that by the year 2021 the traffic demand will exceed the road's adopted service capacity, during PM peak hour peak season conditions. There is adequate right-of-way to widen Corkscrew Road to six-lanes, but Lee County Government has not yet funded the improvements.

The Florida Department of Transportation (FDOT) has funded improvements to the Corkscrew Road & I-75 Interchange that should substantially improve traffic flow along Corkscrew Road (between Three Oaks Parkway and Ben Hill Griffin Road). The "on-ramp" Interchange improvements will be completed by the year 2019/2020 which include constructing eastbound and westbound dual left turn lanes and extending the eastbound and westbound right turn lanes. These Interchange improvements should significantly reduce the frequency of "on-ramp" queuing that encroaches into the eastbound and westbound thru lanes during peak season conditions. As acknowledged by the Area Wide study, FDOT has determined that these improvements will result in LOS C and LOS D traffic conditions for AM and PM peak hours, respectively.

It should also be noted that the ingress turn lanes for Pinewoods Elementary School (located to the west of Wildcat Run) were recently extended, which appears to have eliminated the recurring queuing conflicts that, in the past, disrupted east/west traffic flow along Corkscrew Road.

Site-Related Roadway Improvements

Turn Lane - It was determined that a right-ingress and left-ingress turn lane will be warranted at the site's access on Corkscrew Road. *Turn lane warrants were based upon the criteria set forth by Lee County's Turn Lane Policy AC-11-13.*

Ingress/egress to the site will be provided via one access on Corkscrew Road, which will be aligned with WildBlue's western access. The location of the full access meets Lee County DOT's intersection separation criteria and avoids creating an offset intersection with WildBlue's access. At that location, drivers will have a clear line of sight of oncoming vehicles (eastbound/westbound traffic) at a distance that exceeds minimum standards. In summary, the proposed location is preferred because it meets intersection separation criteria, avoids creating offsetting intersections and provides a clear line of sight for drivers, and therefore, creates no heightened inherent safety issues.

An analysis of the site's access was performed and it was determined that Corkscrew Road (east/west traffic flow) will operate at acceptable levels of service for project build-out conditions, but the northbound left turn movements (i.e., motorists exiting the site) will incur delay during the AM and PM peak hours. The installation of a traffic signal may be necessary to accommodate the side-street demand. Signal warrants will be evaluated at the time of acquiring development permits and also signal warrants will be reviewed as the development proceeds.

Scope of Project

Corkscrew Crossing is a proposed residential community that was previously approved for the development of 130 single-family dwelling units and 594 multi-family units. It is being requested to downzone the project to allow a maximum of 625 dwelling units of varying types as listed in the schedule of uses. However, multi-family dwelling units shall be limited to no more than 70 units, and may only be constructed in the area identified on the Master Concept Plan as "SF/Two-family Attached/MF Development Area". The site is located on the south side of Corkscrew Road and approximately one mile east of Ben Hill Griffin Boulevard. The project will have one full access on Corkscrew Road, which will be aligned with the westernmost entrance into a project known as Wild Blue. For additional details, refer to the site plan prepared by Grady Minor.

Table C
Existing vs. Proposed Land Use

Land Use	Existing	Proposed
Single-Family	130 d.u.'s	up to 625 d.u.'s
Multi-Family	594 d.u.'s	up to 70 d.u.'s
Totals	724 d.u.'s	Max = 625 d.u.'s

Project Generated Traffic

Traffic that can be expected to be generated by the project was estimated based upon the guidelines established by the Institute of Transportation Engineers, Trip Generation Manual, 10th Edition. That is, historical traffic data collected at similar land uses was relied upon in estimating the project's traffic. In referencing the Trip Generation Manual, it was concluded land use code Single-Family Residential (LUC 210) was representative of the most-intense development scenario being proposed (refer to Table 1A). Also, LUC 210 and Multi-Family (LUC 220) were found to be most appropriate in estimating the previously approved land uses (see Table 1B).

In order to determine the net new trips based upon the proposed land use changes vs. the previously approved land uses, the estimated trips for the existing land use entitlements were subtracted from the estimated total trips for the proposed land uses.

That is,

$$\text{Proposed Land Use Trips less Existing Land Use Trips} = \text{Net New Trips}$$

Table 1A provides a detail of the estimated total trips for the proposed land uses, and Table 1B provides the total trips for the approved land use entitlements. Table D summarizes the results.

**Table D
Net New Trips Generated**

(Proposed Land Use Trips Less Previously Approved Land Use Trips)

Development Scenario	AM Peak Hour (vph)	PM Peak Hour (vph)
Most-Intense Proposed Land Use <i>(Single Family = 625 units)</i>	449	590
Previously Approved Land Use <i>(Single Family = 130 units & Multi-Family = 594 units) Refer to Table 1B</i>	356	419
Net New Trips	93	171

The report finds that the project will generate more than 300 trip ends during the highest peak hour. As such, the Report investigated the traffic impacts associated with the project based upon the criteria set forth by the Village of Estero Traffic Impact Statement Guidelines for developments generating “more than 300 trips”.

Existing + Committed Roadway Conditions

Corkscrew Road (east of Ben Hill Griffin Boulevard) is classified as a two-lane arterial having a performance standard of level of service LOS E. A maximum service volume capacity of 1,200 vph for the 100th highest hour peak direction has been established for

this road. Corkscrew Road has a posted speed limit of 45 MPH. As set forth by the Lee County 2017 Concurrency Report, Corkscrew Road (between Ben Hill Griffin Parkway and Wildcat Run) has a 100th highest hour peak direction demand of 839 vphpd. The adopted level of service capacity for that segment of Corkscrew Road is 1,200 vphpd. Therefore, it can be concluded that currently there is adequate capacity on Corkscrew Road to accommodate the traffic generated by Corkscrew Crossing.

Corkscrew Road (between I-75 & Ben Hill Griffin Boulevard) is classified as a four-lane divided arterial having an adopted performance standard of level of service LOS E and a maximum service volume capacity of 1,900 vphpd.

At this time, the only committed roadway improvements are to the Corkscrew Road & I-75 interchange and the access conditions for Pinewoods Elementary School. That is, the Florida Department of Transportation (FDOT) has funded "on-ramp" Interchange improvements which will be completed by the year 2019/2020. The Interchange improvements include constructing eastbound and westbound dual left turn lanes and extending the eastbound and westbound right turn lanes. These improvements are expected to significantly reduce the frequency of "on-ramp" queuing that encroaches into the eastbound and westbound thru lanes during peak season conditions.

It should also be noted that the ingress turn lanes for Pinewoods Elementary School (located to the west of Wildcat Run) were recently extended, which appears to have eliminated the recurring queuing conflicts that, in the past, disrupted east/west traffic flow along Corkscrew Road.

In addition to the funded improvements, Lee County has entered into development agreements where a proportionate share is being charged for the improvements to Corkscrew Road and it is expected based on the forthcoming study that Corkscrew Road will become a committed improvement before the project build-out.

Project Generated Traffic Distribution

The project's traffic was distributed to the surrounding roadway network based upon a professional assessment of the current and future traffic patterns in the area; location of surrounding businesses and commercial centers. Figure 2A & 2B and Table 2A provide a detail of the traffic distributions based on a percentage basis and by volume.

Area of Significant Impact

The area of significant impact was determined based upon Lee County's 10% criteria (i.e., if the project's traffic is 10% or more of a roadway's adopted level of service LOS C capacity, then the project has a significant impact upon that link). Table 2A describes the project traffic distributions and the level of impact on the surrounding roadways. As shown, only Corkscrew Road (between Ben Hill Griffin Parkway and the site) will be impacted by 10% or greater than its adopted level of service.

2021 Traffic Conditions

The Village of Estero requested that the project's impacts be based upon the traffic forecasts provided in by the Area Wide Traffic Study, which based on the assumptions in the study, and without the improvements expected as a result of the forthcoming Lee County study, anticipates that Corkscrew Road will fail. The results of the study were accepted by Lee County DOT. Lee County has commissioned a study of Corkscrew Road for the purpose of evaluating the need to widen the road and to identify the costs and funding methods. It is expected that the study will be finalized by late 2018. Also, Lee County Government has a RFP due on 8-21-2018 for the 4-lane design and it has been indicated by staff that the widening of Corkscrew Road will be reprioritized as a Tier 1 project on the 5-year CIP, effective September, 2018.

In addition, the Area Wide Traffic Study identifies that the segment of Corkscrew Road between Three Oaks Parkway and I-75, which is not significantly impacted by the project, is expected to operate at LOS F during PM peak hour peak season conditions by 2021. More specifically, that segment of Corkscrew Road is a four-lane road having an adopted maximum peak direction service volume capacity of 1,900 vphpd, and it is expected that by the year 2021 the traffic demand will exceed the road's adopted service capacity, during PM peak hour peak season conditions. There is adequate right-of-way to widen Corkscrew Road to six-lanes, and Lee County is working on the timing of the needed improvements and funding.

The Florida Department of Transportation (FDOT) has funded improvements to the Corkscrew Road & I-75 Interchange that should substantially improve traffic flow along Corkscrew Road (between Three Oaks Parkway and Ben Hill Griffin Road). The "on-ramp" Interchange improvements will be completed by the year 2019/2020 which include constructing eastbound and westbound dual left turn lanes and extending the eastbound and westbound right turn lanes. These Interchange improvements should significantly reduce the frequency of "on-ramp" queuing that encroaches into the eastbound and westbound thru lanes during peak season conditions. As acknowledged by the Area Wide study, FDOT has determined that these improvements will result in LOS C and LOS D traffic conditions for AM and PM peak hours, respectively.

Site Access Evaluation

Ingress/egress to the site will be provided via one access on Corkscrew Road, which will be aligned with WildBlue's western access. The location of the full access meets Lee County DOT's intersection separation criteria and avoids creating an offset intersection with WildBlue's access. At that location, drivers will have a clear line of sight of oncoming vehicles (eastbound/westbound traffic) at a distance that exceeds minimum standards. In summary, the proposed location is preferred because it meets intersection separation criteria, avoids creating offsetting intersections and provides a clear line of sight for drivers, and therefore, creates no heightened inherent safety issues.

An operational evaluation of the site's access on Corkscrew Road was performed based upon the criteria set forth by the Highway Capacity Manual. The use of the HCM software was used for the evaluation. A copy of the results are included in the appendix. As determined, Corkscrew Road (east/west traffic flow) will operate at acceptable levels of service, but the northbound left turn movements (i.e., motorists exiting the site) will incur delay during the AM and PM peak hours. The installation of a traffic signal may be necessary in order to accommodate side street traffic demands. Signal warrants will be evaluated at the time of acquiring development permits and also warrants will be monitored as development proceeds. The following turn lane warrant analysis was performed for the project's access on Corkscrew Road pursuant to the guidelines set forth by the Lee County Turn Lane Policy.

Site Access @ Corkscrew Road

Left Decel/Turn Lane Warrants for an Arterial

		<u>Yes</u>	<u>No</u>
IV.A.1.	Posted speed warrant is 35 MPH or greater <i>(Posted speed on Corkscrew is 45 MPH)</i>	X	
IV.A.2.	Left turn volume is equal to or greater than 20 vph <i>(Left turn volume is more than 20 vph)</i>	X	
IV.A.3.	Available Sight Distance <i>(There are no sight distance constraints)</i>		X
IV.A.4.	Designated Controlled Access Facility <i>(Corkscrew Road is not a controlled access facility)</i>		X
IV.A.5.	Traffic Signal Devices <i>(There are no traffic signal devices)</i>		X

Two or more left turn lane warrants satisfied: **YES**

Site Access @ Corkscrew Road

Right Decel/Turn Lane Warrants for an Arterial

		<u>Yes</u>	<u>No</u>
V.A.1.	Posted speed warrant is 35 MPH or greater <i>(Posted speed on Corkscrew is 45 MPH)</i>	X	
V.A.2.	Right turn volume is equal to or greater than 30 vph <i>(Right turn volume is more than 30 vph)</i>	X	
V.A.3.	Available Sight Distance <i>(There are no sight distance constraints)</i>		X

V.A.4. Designated Controlled Access Facility
(Corkscrew Road is not a controlled access facility) X

V.A.5. Traffic Signal Devices
(There are no traffic signal devices) X

Two or more right turn lane warrants satisfied: **YES**