Lee County Community Development

APPLICATION FOR A COMPREHENSIVE PLAN AMENDMENT - TEXT

Project Name: The Preserve Sporting Club and Residences at Pepper Place

Project Description: Allow for the development of a private recreational facility with a variety of recreational uses, a hotel and clustered residential development at a total of 250 units.

State Review Process: ☐ State Coordinated Review ■ Expedited State Review ☐ Small-Scale Text*

***Must be directly related to the implementation of small-scale map amendment as required by Florida Statutes.**

APPLICANT – PLEASE NOTE:
A PRE-APPLICATION MEETING IS REQUIRED PRIOR TO THE SUBMITTAL OF THIS APPLICATION.

Submit 3 copies of the complete application and amendment support documentation, including maps, to the Lee County Department of Community Development.

Once staff has determined that the application is sufficient for review, 15 complete copies will be required to be submitted to staff. These copies will be used for Local Planning Agency, Board of County Commissioners hearings, and State Reviewing Agencies. Staff will notify the applicant prior to each hearing or mail out to obtain the required copies.

If you have any questions regarding this application, please contact the Planning Section at (239)533-8585.

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COMMUNITY DEVELOPMENT

1. **Name of Applicant:** MTM Naples Investments, LLC
   Address: PO Box 1464
   City, State, Zip: Coventry, RI, 02816
   Phone Number: (401) 392-3000 E-mail: jd@mtmcorporation.com

2. **Name of Contact:** Daniel DeLisi, AICP
   Address: 520 27th Street
   City, State, Zip: West Palm Beach, FL, 33407
   Phone Number: 239-913-7159 E-mail: dan@delisi-inc.com

3. **Property Information:** Provide an analysis of any property within Unincorporated Lee County that may be impacted by the proposed text amendment. The proposed amendment will change aspects of the Private Recreational Facilities Overlay, Goal 13, an overlay used only once since its creation over 20 years ago. A Map is attached that shows which other properties could be affected. due to the very low intensity of uses and the ability to do many of the uses by right, any impacts are negligible

4a. **Does the proposed change affect any of the following areas?**

If located in one of the following areas, provide an analysis of the change to the affected area.

- ☐ Public Acquisition [Map 1-D]
- ☐ Agricultural Overlay [Map 1-G]
- ☐ Airport Mitigation Lands [Map 1-D]
- ☐ Airport Noise Zones [Map 1-E]
- ☐ Southeast Lee County Residential Overlay [Map 2-D]
- ☐ Mixed Use Overlay [Map 1-C]
- ☐ Community Planning Areas [Map 2-A]
- ☐ Urban Reserve [Map 1-D]
- ☐ Water-Dependent Overlay [Map 1-H]
- ■ Private Recreational Facilities Overlay [Map 1-F]

4b. Planning Communities/Community Plan Area Requirements

If located in one of the following planning communities/community plan areas, provide a meeting summary document of the required public informational session [Lee Plan Goal 17].

☐ N/A	☐ Bayshore [Goal 18]	☐ Boca Grande [Goal 19]	☐ Buckingham [Goal 20]
☐ Caloosahatchee Shores [Goal 21]	☐ Olga [Goal 22]	☐ Captiva [Goal 23]	☐ Greater Pine Island [Goal 24]
☐ Lehigh Acres [Goal 25]	☐ North Captiva [Goal 26]	☐ NE Lee County [Goal 27]	☐ Alva [Goal 28]
☐ North Olga [Goal 29]	☐ North Fort Myers [Goal 30]	☐ Page Park [Goal 31]	☐ San Carlos Island [Goal 32]
■ Southeast Lee County [Goal 33]	☐ Tice [Goal 34]		

Public Facilities Impacts

NOTE: The applicant must calculate public facilities impacts based on a maximum development scenario.

1. **Traffic Circulation Analysis**: Provide an analysis of the effect of the change on the Financially Feasible Transportation Plan/Map 3-A (20-year horizon) and on the Capital Improvements Element (5-year horizon).

2. **Provide an existing and future conditions analysis for the following (see Policy 95.1.3):**
   a. Sanitary Sewer
   b. Potable Water
   c. Surface Water/Drainage Basins
   d. Parks, Recreation, and Open Space
   e. Public Schools

Environmental Impacts

Provide an overall analysis of potential environmental impacts (positive and negative).

Historic Resources Impacts

Provide an overall analysis of potential historic impacts (positive and negative).

Internal Consistency with the Lee Plan

1. Discuss how the proposal affects established Lee County population projections, Lee Plan Table 1(b) and the total population capacity of the Lee Plan Future Land Use Map.
2. List all goals and objectives of the Lee Plan that are affected by the proposed amendment. This analysis should include an evaluation of all relevant policies under each goal and objective.
3. Describe how the proposal affects adjacent local governments and their comprehensive plans.
4. List State Policy Plan goals and policies, and Strategic Regional Policy Plan goals, strategies, actions and policies which are relevant to this plan amendment.

Justify the proposed amendment based upon sound planning principles

Support all conclusions made in this justification with adequate data and analysis.

SUBMITTAL REQUIREMENTS

Clearly label all submittal documents with the exhibit name indicated below.

MINIMUM SUBMITTAL ITEMS

■	Completed application (Exhibit – T1)
■	Filing Fee (Exhibit – T2)
■	Pre-Application Meeting (Exhibit – T3)
■	Proposed text changes (in strike through and underline format) (Exhibit – T4)
■	Analysis of impacts from proposed changes (Exhibit – T5)
■	Lee Plan Analysis (Exhibit – T6)
■	Environmental Impacts Analysis (Exhibit – T7)
■	Historic Resources Impacts Analysis (Exhibit – T8)
■	State Policy Plan Analysis (Exhibit – T9)
■	Strategic Regional Policy Plan Analysis (Exhibit – T10)

Pre-Application Meeting Notes
Exhibit – T3

October 17, 2022, 10am

Attendees from the applicant:

Daniel DeLisi, AICP
Brandon Fry, PE
Norman Trabilcock

Meeting Summary:

Daniel DeLisi presented the project and the proposed text amendment. The goal in the text amendment is to write the text so that it only applies to the subject property. Staff gave comment on sections of the Lee Plan that would likely need to be amended.

Utility staff asked if we intended to extend central water and sewer. The applicant stated that is the intent and staff agreed that would be needed, being located in the DR/GR with the need to project groundwater resources.

The meeting lasted ½ hour and concluded at 10:30am.

GOAL 13: PRIVATE RECREATIONAL FACILITIES IN THE DR/GR. To ensure that the development of Private Recreational Facilities in the DR/GR is compatible with the intent of this future land use category, including recharge to aquifers, development of future wellfields and the reduction of density.

OBJECTIVE 13.1: To ensure that Private Recreation Facilities are located in the most appropriate areas within the DR/GR future land use category.

POLICY 13.1.1: The Private Recreation Facilities Overlay, Map 1-F, shows those locations that are appropriate for the development of Private Recreation Facilities in the DR/GR future land use category. The areas depicted on Map 1-F are consistent with the application of the following locational criteria:

1. Located outside of those areas designated for public acquisition through Florida Forever, ~~the Corkscrew Regional Ecosystem Water Trust (CREW), the SFWMD's Save Our Rivers Program~~, and the County's 20/20 Conservation Program;

   The CREW Trust is not a land acquisition program and the SFWMD's Save Our Rivers Program has long since been incorporated into the Florida Forever land acquisition program and no longer exists.

2. Located in areas characterized as predominantly impacted with agricultural, mining or other permitted uses;

3. Located outside of areas depicted as 100 Year Flood Plains, as illustrated on Map 5-B as amended through June of 1990;

4. Located to minimize impact on "Hot Spots of Biological Resources and Rare Species Occurrence Records," from the Florida ~~Game and Freshwater~~ Fish and Wildlife Conservation Commission's, "Closing the Gaps in Florida Wildlife Habitat Conservation System" published in 1994;

5. Located in areas characterized by large lot single or limited ownership patterns; and,

6. Located in areas with direct access to existing roadways. (Ord. No. 99-16, 18-18, 21-09)

POLICY 13.1.2: Private Recreational Facilities within the DR/GR land use category will only be allowed, subject to the other requirements of this Goal, in the areas depicted on the Private Recreational Facilities Overlay, Map 1-F. (Ord. No. 99-16, 18-18)

OBJECTIVE 13.2: GROWTH MANAGEMENT. Development of Private Recreation Facilities in the DR/GR must be consistent with the growth management principles and practices as provided in the following policies. (Ord. No. 99-16, 18-18)

POLICY 13.2.1: PRIVATE RECREATION FACILITY PLANNED DEVELOPMENT (PRFPD). All Private Recreational Facilities proposed within the DR/GR future land use category must be reviewed as a PRFPD. (Ord. No. 99-16, 18-18, 21-09)

~~**POLICY 13.2.2:** Approved PRFPDs will automatically expire, reverting to the original zoning category, if a Lee County development order is not obtained within five years of zoning approval. (Ord. No. 99-16, 18-18)~~

Planned Developments no longer contain an expiration date in Lee County. This Policy is no longer necessary.

~~**POLICY 13.2.3: RESIDENTIAL USES PRECLUDED.** Residential uses, other than a single bonafide caretaker's residence or a resident manager's unit, or those uses as listed in Policy 13.2.6 are not permitted in conjunction with a PRFPD. Residential density associated with land zoned as PRFPD will be extinguished and cannot be transferred, clustered or otherwise assigned to any property. (Ord. No. 99-16, 10-21, 18-18)~~

~~**POLICY 13.2.4:** Further, the approval of Private Recreational Facilities on any property within the DR/GR will not be considered as justification for approving an amendment to the Future Land Use Map series which would increase residential density in the DR/GR areas. (Ord. No. 99-16, 1818)~~

~~**POLICY 13.2.5:** The boundaries of the PRFPD may not be designed to allow out parcels or enclaves of residential units to be integrated into the golf course perimeter, except as allowed in Policy 13.2.6. (Ord. No. 99-16, 10-21, 18-18)~~

POLICY 13.2.2: RESIDENTIAL USES. For properties located in SE Lee County with direct access to Corkscrew Road and greater than 1,000 acres in gross area, residential uses may be permitted under the following conditions:

1. The PRFPD contains multiple recreational use types.
2. The residential use is part of, and directly associated with the Private Recreational Facilities.
3. The development will be served by central water a sewer.
4. All other applicable requirements in Goal 13 are incorporated into the development plans.

The PRFPD will continue to maintain a very low-density allowance, below that of the Rural land use category and below that of most of the prior approved EEPCO developments located along Corkscrew Road. Given the level of residential development along the entire PRFPD Overlay area there is no longer the same concern that the existence of a PRFPD will be used to justify residential uses and increased density.

POLICY 13.2.~~6~~3: For properties with fewer than 1,000 acres in size, Time share, fractional ownership units, and Bed and Breakfast establishments may be permitted if the property is designated as a Rural Golf Course Community (see Map 2-D). These uses must be ancillary to or in conjunction with uses within the Private Recreational Facility, including a Golf Training Center or similar facility, and must be located adjacent to, or within 1,000 feet of, the principal use that is being supported. Through the PRFPD process, the applicant must demonstrate that external vehicular trips will be reduced from typical single-family residential units due to the ancillary nature of the use. (Ord. No. 10-43, 18-18, 21-09)

> **POLICY 13.2.~~7~~3.1:** Time share, fractional ownership units, or bed and breakfast establishments may only be constructed through transferring density in accordance with the Southeast Lee County TDR Program. Each TDR credit that is eligible to be transferred to a Mixed-Use Community (see Map 2-D) can be redeemed for one timeshare unit, one fractional ownership unit, or two bed and breakfast bedrooms. (Ord. No. 10-43, 17-13, 18-18, 21-09)

POLICY 13.2.~~8~~4: Private Recreational Facilities must have adequate fire protection, transportation facilities, wastewater treatment and water supply, and provided further that they have no adverse effects such as dust, noise, lighting, or odor on surrounding land uses and natural resources. (Ord. No. 99-16, 10-43, 18-18)

POLICY 13.2.~~9~~5: COMMERCIAL USES. Commercial uses may be permitted within PRFPDs as provided in Policy 13.3.9 when ancillary or in conjunction with Private Recreation Facilities. (Ord. No. 99-16, 10-43, 18-18, 19-25)

POLICY 13.2.5.1: Properties located in Southeast Lee County with direct access to Corkscrew Road designed with multiple recreational uses and greater than 1,000 acres in gross area may include up to 20,000 square feet of commercial uses notwithstanding any limitations of total commercial area for Southeast Lee County under Goal 33.

POLICY 13.2.~~10~~6: Applications for Private Recreational Facility development will be reviewed and evaluated as to their impacts on, and will not negatively affect, any adjacent, existing agricultural, mining or conservation activities. (Ord. No. 99-16, 10-43, 18-18)

POLICY 13.2.~~11~~7: Applications for Private Recreational Facility development will be reviewed and evaluated as to their impacts on, and must be compatible with any adjacent publicly owned lands. (Ord. No. 99-16, 10-43, 18-18)

OBJECTIVE 13.3: GENERAL DEVELOPMENT REGULATIONS. The protection of water quality, quantity, natural resources, and compatibility will be addressed by additional development controls that regulate the permitted uses, parcel size, density, intensity and design of Private Recreational Facilities. (Ord. No. 99-16, 18-18)

POLICY 13.3.1: Private Recreational Facilities will submit a Master Concept Plan at the time of planned development ~~submittal~~ that identifies the general location of proposed uses and structures, play fields and golf course routings. Minor adjustments to this Master Concept Plan may be made administratively at the discretion of the Director. (Ord. No. 99-16, 18-18)

POLICY 13.3.2: Applications for Private Recreational Facilities must include an environmental assessment during the zoning approval process. The assessment must include, at a minimum, an analysis of the environment, historical and natural resources and a protected species survey as required by LDC, Chapter 10. (Ord. No. 99-16, 18-18)

~~**POLICY 13.3.3:** In addition to an environmental assessment, the applicant must demonstrate compatibility with nearby land uses (by addressing such things as noise, odor, lighting and visual impacts), and the adequate provision of drainage, fire and safety, transportation, sewage disposal and solid waste disposal. (Ord. No. 99-16, 18-18)~~

This policy is no longer relevant or applicable given the changed conditions of the Corkscrew Road corridor. All of these elements are already submittal requirements for all Planned Developments and the basis for compatibility review.

POLICY 13.3.~~4~~3: The development will incorporate an Integrated Pest Management program for any managed recreational areas. (Ord. No. 99-16, 18-18)

POLICY 13.3.~~5~~4: Where buildings or impervious development is located within twenty-five feet of the property boundary, a buffer 15 feet wide, with 5 trees per 100 linear feet, and a solid double row hedge must be provided, unless a more restrictive buffer is required during the planned development review. (Ord. No. 99-16, 18-18)

POLICY 13.3.~~6~~5: No illumination may be used which creates glare on adjacent properties. All exterior lighting will be designed with downward deflectors to eliminate skyward glare. Parking areas, walkways and paths and maintenance areas may be illuminated for security purposes, provided that light poles do not exceed twelve feet in height. (Ord. No. 99-16, 18-18)

POLICY 13.3.~~7~~6: Native and xeriscape vegetation will be encouraged, such that:

1. 100% of all required trees and 75% of all additional trees must be native.

2. 80% of all required shrubs and 50% of all additional shrubs must be native.

3. A minimum of 70% of all trees and shrubs must be xeriscape varieties.

4. The native and xeriscape requirements do not apply to turf areas.

5. No plant species included in the Florida Exotic Pest Plant Council, 1999 List of Florida's Most Invasive Species, will be planted. (Ord. No. 99-16, 18-18)

POLICY 13.3.~~8~~7: The following site requirements, regulating lot size, setbacks and open space must be equaled or exceeded:

1. Principal uses, other than golf courses, and the ancillary uses listed in Policy 13.2.6, permitted under this subdivision must have a minimum lot size of ten acres.

2. Building Setbacks.
   a. 50 feet from an existing right-of-way line or easement.
   b. 75 feet from any private property line under separate ownership and used for residential dwellings.
   c. 50 feet from any adjacent agricultural or mining operation.
   d. Greater setbacks may be required during the public hearing process to address unique site conditions.

3. Setbacks for accessory buildings or structures. All setbacks for accessory buildings or structures must be shown on the Master Concept Plan required as part of the planned development application. No maintenance area or outdoor storage area~~, irrigation pump or delivery area~~ may be located less than 500 feet from any existing or future residential use outside of the PRFPD, as measured from the edge of the above-listed area to the property line of the residential use. For purposes of this policy, any off-site property that is 10 acres or less in size and is zoned to permit dwelling units will be considered a future residential property. Properties larger than 10 acres may be considered future residential based on the property's size, the ownership pattern of properties in the surrounding area, and the use, zoning and size of surrounding properties. To allow flexibility, the general area of any accessory buildings, structures and maintenance areas must be shown on the site plan with the appropriate setbacks as noted in this subsection listed as criteria for the final placement of these buildings, structures or facilities.

   In addition to the other standards outlined in this policy, any maintenance area or outdoor storage area~~, irrigation pump or delivery area~~ must meet one of the following standards:
   a. be located 500 feet or more from any property line abutting an existing or planned public right-of-way; or
   b. provide visual screening around such facilities, that provides complete opacity, so that the facilities are not visible from any public right-of-way; or
   c. be located within a structure that meets or exceeds the current Lee County architectural standards for commercial structures.

4. Open Space. A minimum of 85% open space must be provided. However, natural and manmade bodies of water may contribute 100% to achieving the minimum requirements. To the extent possible, pervious paving and parking areas, and buildings elevated above ground level will exceed the 85% open space requirement.

5. Security. All entrances to non-commercial or residential portions of Private Recreational Facilities must be restricted from public access during non-use hours. (Ord. No. 99-16, 02-04, 10-21, 18-18)

POLICY 13.3.~~98~~: DENSITY/INTENSITY LIMITATIONS. Uses in a PRFPD are subject to the following limitations:

Clubhouse/ Administrative Area	20,000 SF/18 hole golf course 125,000 SF/multi-use PRFPD over 1,000 acres in area
Golf Course Restrooms	Not to exceed two structures per 18 hole golf course, limited to 150 SF per structure
Maintenance Area	Not to exceed 25,000 SF of enclosed or semi-enclosed building area, on a maximum of 5 acres of land per 18 hole golf course
Fractional Ownership/ Time-share Units	• The maximum allowable units will be calculated based on 1 du/10 acres for the entire area of the PRFPD • All timeshare/fractional ownership units must be transferred in accordance with Goal 33
Bed and Breakfast Establishments	• The maximum number of Bed and Breakfast establishments will be limited to 1 per every 18 holes of golf • Bedrooms within a Bed and Breakfast establishment will be limited to a maximum of 7 per unit, with a maximum of two adult occupants per bedroom
Residential Units	• The maximum allowable units will be calculated based on 1 du/2 acres for the entire PRFPD in accordance with the size and locational criteria of Policy 13.2.3.
Horse Stable	40,000 SF of stable building/10 acres
Camping Restrooms	• 1 toilet per four camp units, clustered in structures not to exceed 500 SF per structure • 1 shower per 4 toilets
Camping Area Office	1,000 SF per campground
Commercial Uses	• Limited to neighborhood commercial development with uses that are in compliance with the Wellfield Protection Ordinance without any exemptions[6] • Total commercial gross floor area for the entire area of the PRFPD may not exceed 100,000 SF, not including clubhouse square footage

(Ord. No. 99-16, 02-02, 10-21, 18-18, 19-25)

6 No uses that would require the storage of any toxic, hazardous substances as identified in the Wellfield Protection Ordinance or sanitary hazards may be permitted.

OBJECTIVE 13.4: WATER QUALITY, QUANTITY, AND SURFACE WATER RESOURCES. Private Recreational Facilities must be located, designed and operated in such a way that they will not degrade the ambient surface or groundwater quality. These facilities must be located, designed and operated in such a way that they will not adversely impact the County's existing and future water supply. The location, design and operation of Private Recreational Facilities must maintain or improve the storage and distribution of surface water resources. (Ord. No. 99-16, 18-18)

POLICY 13.4.1: All applications and documentation for the PRFPD rezoning process must be submitted to the Lee County Department of Natural Resources for their formal review and comment. The Department of Natural Resources Director must make a formal finding that the proposed uses will not have negative impacts on present and future water quality and quantity, and will review and approve modeling submitted to support the PRFPD. Applicant modeling efforts must be evaluated and approved by the Lee County Department of Natural Resources and the Lee County Utilities Department. Issues of well locations, easements and wastewater reuse must be evaluated and approved by the Lee County Department of Natural Resources and the Lee County Utilities

Department during the PRFPD process. Formal agreements addressing these issues will be entered into prior to the issuance of a development order. Co-location of recreational and public facilities is encouraged. (Ord. No. 99-16, 03-04, 18-18)

POLICY 13.4.2: Applications for Private Recreational Facilities in or near existing and proposed wellfields must be designed to minimize the possibility of contamination of the groundwater during construction and operation. (Ord. No. 99-16, 18-18)

POLICY 13.4.3: Private Recreational Facilities must provide a monitoring program to measure impacts to surface and groundwater quality and quantity (see Objective 13.7). (Ord. No. 99-16, 1818)

POLICY 13.4.4: As part of a rezoning request for a Private Recreational Facility in the DR/GR area, a pre-development groundwater and surface water analysis must be conducted and submitted to the County. This analysis is intended to establish baseline data for groundwater and surface water monitoring for the project area. The analysis must be designed to identify those nutrients and chemicals which are anticipated to be associated with the project. Prior to the applicant commencing this baseline study, the methodology of the study must be submitted for review, comment, and approval by the County. (Ord. No. 99-16, 18-18)

POLICY 13.4.5: Any Private Recreational Facility located in any wellfield protection zone must meet the requirements/criteria for protection zone 1, unless updated modeling is provided by the applicant and is approved by Lee County Department of Natural Resources and the Lee County Utilities Department. (Ord. No. 99-16, 03-04, 18-18)

POLICY 13.4.6: The surface water management system design must incorporate natural flow-way corridors, cypress heads, natural lakes, and restore impacted natural flow-way corridors.

1. Stormwater run-off must be pre-treated through an acceptable recreated natural system or dry retention and water retention system, prior to discharging the run-off into existing lake or wetland (any aquatic) systems. Included within these systems must be an average 50 foot wide vegetative setback measured from the edge of managed turf to the wetland jurisdictional wetland line or top of bank of natural water bodies.

2. The development must maintain the function and integrity of local and regional flow-ways. Flow-ways are precluded from being primary surface water treatment areas. Applications for Private Recreational Facilities must demonstrate adequate hydraulic capacity without increasing flood levels. Private Recreational Facilities must participate in the implementation of the Lee County Surface Water Management Plan as well as the SFWMD's South Lee County Watershed Plan.

3. The Historic Flow-way Aerial Map depicts the general flow-way paths that exist in the DR/GR area. The lines shown on this map are not regulatory but show the general boundaries of the main conveyances. During the rezoning process, conceptual surface water management plans must be submitted and approved. Prior to the issuance of a development order, proposed Private Recreation Facilities will provide detailed hydrologic and hydraulic analysis demonstrating the limits of flow for various storm events and the developed sites ability to convey these flows. Where an existing flow-way is not well defined or discontinuous, flexibility will be given to allow different alignments within a site. (Ord. No. 99-16, 18-18)

POLICY 13.4.7: Any Private Recreational Facility proposed within the DR/GR future land use category must cooperate with Lee County and the SFWMD in implementing an overall surface water management plan as outlined in Objective 60.2 and 126.1. Compliance with these policies must be demonstrated during development order approval. (Ord. No. 99-16, 18-18, 21-09)

POLICY 13.4.8: If a proposed Private Recreation Facilities falls within an area identified as an anticipated drawdown zone for existing or future public well development, the project must utilize an alternative water supply such as reuse or withdrawal from a different non-competing aquifer or show that adequate supply is available in excess of that being used for planned public water supply development. (Ord. No. 99-16, 18-18)

OBJECTIVE 13.5: WILDLIFE. The location, design and operation of Private Recreational Facilities will incorporate preservation and/or management activities that restrict the unnecessary loss of wildlife habitat or impact on protected species, species of special concern, threatened or endangered species. (Ord. No. 99-16, 18-18)

POLICY 13.5.1: The development will not have an adverse impact on any existing, viable on-site occupied wildlife habitat for protected species, species of special concern, threatened or endangered species. (Ord. No. 99-16, 18-18)

POLICY 13.5.2: All proposed fencing must be designed to permit wide-ranging animals to traverse the site. (Ord. No. 99-16, 18-18)

POLICY 13.5.3: Through the development review process, Private Recreation Facilities will be designed and operated to conserve critical habitat of protected species. This will be accomplished through regulation, incentives and public acquisition. (Ord. No. 99-16, 18-18)

OBJECTIVE 13.6: NATURAL RESOURCES. Private Recreational Facilities must be located, designed and operated to minimize environmental impacts, and where appropriate, protect, enhance and manage natural resources such as flow-ways, waterways, wetlands, natural water bodies, and indigenous uplands. (Ord. No. 99-16, 18-18)

POLICY 13.6.1: All retained onsite natural areas, must be perpetually managed by the owner(s), or their assignees, with accepted Best Management Practices. The type of management techniques will be determined by the specific plant community. A natural area land management plan must be submitted to the Lee County Department of Community Development prior to the approval of a final local development order. Management techniques addressed in the plan must include, but not be limited to the following: exotic pest plant control; removal of any trash and debris; restoration of appropriate hydrology; prescribed fire; native plant restoration, where appropriate; discussion of flora and fauna; enhancement of wildlife habitat; and, retention of dead trees and snags. (Ord. No. 99-16, 18-18)

POLICY 13.6.2: The development will minimize adverse effects on wetlands and riparian areas, and will result in no net reduction in functional wetland acreage as identified by the SFWMD Wetland Rapid Assessment Procedure (WRAP). (Ord. No. 99-16, 18-18)

POLICY 13.6.3: Private Recreational Facilities must be designed to preserve a minimum of 50% of on-site, indigenous native upland habitat. (Ord. No. 99-16, 18-18)

POLICY 13.6.4: The development will incorporate energy and resource conservation devices, such as low flow water fixtures, and natural skylights. (Ord. No. 99-16, 18-18)

OBJECTIVE 13.7: MONITORING AND ENFORCEMENT. In order to ensure that Private Recreational Facilities do not degrade the ambient condition of water quality, water quantity, vegetation and wildlife, an ongoing monitoring program must be established by the developer. (Ord. No. 99-16, 18-18)

POLICY 13.7.1: Annual surface water and groundwater monitoring must continue in perpetuity. The monitoring requirements will be established utilizing those nutrients and chemicals that are anticipated to be associated with the proposed project that were identified by the pre-development groundwater and surface water analysis required by Policy 13.4.4. This surface and groundwater monitoring is to be conducted, at a minimum, on a quarterly basis by a qualified third party. This monitoring data must be submitted to the County as soon as it is available. A summary report of this monitoring effort must be provided annually to Lee County Department of Natural Resources for their review. (Ord. No. 99-16, 18-18)

POLICY 13.7.2: If surface and/or groundwater monitoring shows degradation of water quality the County will notify the property owner that a plan, to correct the identified problem(s), must be submitted. The property owner must submit a plan of action within 30 days after receipt of written notice from the County. The plan must identify actions that will correct the problem(s) within the shortest possible time frame. This plan will be reviewed and must be found to be acceptable by the County. If the plan is not submitted as required, or is found to be unacceptable by the County, the County will require that all activities on the property cease until a plan is submitted and approved. The approved plan must be implemented by the property owner. If the County determines that the approved plan is not being implemented properly, the County can require that all activities on the property cease until the property owner comes back into compliance. (Ord. No. 99-16, 18-18)

POLICY 13.7.3: The approved Private Recreational Facility must submit an annual monitoring report for a period of five years, addressing the interaction between the use and environment. This report must provide a discussion and documentation on the following activities:

1. Construction Monitoring - the applicant will submit annual reports detailing construction activities, permitting, compliance with Audubon International Signature Standards and percent complete.

2. Land Management Activities - including those used on the golf course, as well as natural and preserve areas.
4. Wildlife Monitoring - the applicant will provide a discussion of wildlife, wildlife activity, and wildlife management activities. Irrigation Monitoring - the applicant will provide a summary of the monthly irrigation withdrawal and irrigation sources.

5. Mitigation/Vegetation Monitoring - the applicant will provide status reports on the viability of any mitigation and/or landscaping conducted on site.

6. Integrated Pest Management Monitoring - the applicant will provide a discussion on the pest management techniques, and any pest problems that have occurred on the project.

Should adverse impacts in any of the above areas be identified, enforcement and mitigation will be provided through the appropriate regulatory agency and enforcement procedures. These procedures will be spelled out during the development order process. If, after five years, no significant adverse impacts are determined, the reporting on these subjects may be terminated. (Ord. No. 99-16, 1818)

OBJECTIVE 13.8: GOLF COURSE PERFORMANCE STANDARDS. The location, design and operation of golf courses located within the Private Recreational Facilities Overlay will minimize their impacts on natural resources, and incorporate Best Management Practices. A maximum of five 18-hole golf courses, for a total of 90 golf holes, will be permitted. (Ord. No. 99-16, 10-21, 18-18, 21-09)

POLICY 13.8.1: Natural waterways located on the site of a proposed golf course must be left in a natural, unaltered condition. Channelization will not be performed. (Ord. No. 99-16, 18-18)

POLICY 13.8.2: An applicant must demonstrate, prior to the issuance of a local development order, that a golf course is designed to minimize adverse effects to waters and riparian areas through the use of such practices as integrated pest management, adequate stormwater management facilities, vegetated buffers, reduced fertilizer use, etc. The facility must have an adequate water quality management plan, such as a stormwater management facility constructed in uplands to ensure that the recreational facility results in no substantial adverse effect to water quality. (Ord. No. 99-16, 18-18)

POLICY 13.8.3: If a waterway crossing is necessary, then it must be designed to minimize the removal of trees and other shading vegetation. Any crossings of existing natural flow-ways and water bodies must be bridged. Created or restored flow-ways and water bodies may be crossed by bridges or culverts or a combination as approved by Lee County and SFWMD. (Ord. No. 99-16, 18-18)

POLICY 13.8.4: Waterway crossings by cart paths will be constructed of permeable material, no wider than 8-feet, and placed on pilings from edge of floodplain to edge of floodplain. (Ord. No. 99-16, 18-18)

POLICY 13.8.5: A new lake or pond should not be located within an existing natural waterway. Upland ponds must not expose stream channels to an increase in either the rate or duration of floodwater, unless required by SFWMD for regional water management objectives. (Ord. No. 99-16, 18-18)

POLICY 13.8.6: For golf course developments, all fairways, greens, and tees must be elevated above the 25 year flood level, and all greens must utilize underdrains. The effluent from these underdrains must be pre-treated prior to discharge into the balance of the project's water management system. (Ord. No. 99-16, 18-18)

POLICY 13.8.7: Where a golf course is proposed, it must comply with the Best Management Practices for Golf Course Maintenance Departments, prepared by the Florida Department of Environmental Protection, May 1995. (Ord. No. 99-16, 18-18)

POLICY 13.8.8: The owners will employ management strategies in and around any golf course to address the potential for pesticide/chemical pollution of the groundwater and surface water receiving areas. The owners will comply with the goals of the Audubon International Signature Program for Golf Courses. The management practices include:

1. The use of slow release fertilizers and/or carefully managed fertilizer applications.

2. The practice of integrated pest management when seeking to control various pests, such as weeds, insects, and nematodes. The application of pesticides will involve only the purposeful and minimal application of pesticides, aimed only at identified targeted species. The regular widespread application of broad-spectrum pesticides is not acceptable. The management program will

minimize, to the extent possible, the use of pesticides, and will include the use of the USDA-SCS Soil Pesticide Interaction Guide to select pesticides for uses that have a minimum potential for leaching or loss due to runoff depending on site specific soil conditions. Application of pesticides within 100 feet of any CREW, or other adjacent public preserve lands, is prohibited.

3. The coordination of the application of pesticides with the irrigation practices (the timing and application rates of irrigation water) to reduce runoff and the leaching of any applied pesticides and nutrients.

4. The utilization of a golf course manager who is licensed by the State to use restricted pesticides and who will perform the required management functions. (Ord. No. 99-16, 18-18)

POLICY 13.8.9: Irrigation systems must utilize computerized irrigation based on weather station information, moisture sensing systems to determine existing soil moisture, evapotranspiration rates, and zone control, to ensure water conservation. For Private Recreation Facilities located outside of the depicted Wellfield Protection zones, reuse water, where available, will be utilized for irrigation. Reuse water within Wellfield Protection zones must be in compliance with the Wellfield Protection Ordinance. (Ord. No. 99-16, 18-18)

POLICY 13.8.10: Golf courses must be designed, constructed, managed and certified in accordance with the Audubon International Signature Program. (Ord. No. 99-16, 18-18)

POLICY 13.8.11: It is the landowner(s) responsibility to notify the County within 10 working days if the status of certification from Audubon changes from being in full compliance. Failure to do so could result in penalties up to and including revocation of golf course use if it is deemed that the violation(s) are a possible threat to the environment. If the golf course loses its certification from Audubon, then the property owner must submit a plan of action acceptable to the County that will achieve re-certification in the shortest possible time. The plan must be submitted within 30 days after receipt of written notice from the County. If the plan is not submitted as required, then all activity on the property must cease until a plan is submitted and approved. An approved plan must be implemented in good faith by the property owner. If the County determines that the plan is not being implemented properly, then all activity on the property must cease until the property owner comes back into full compliance. (Ord. No. 99-16, 18-18)

POLICY 13.8.12: GOLF SITE REQUIREMENTS.

1. The minimum number of golf holes is 18. The minimum size for an 18 hole golf course is 150 acres. In no instance may the golf course impacts exceed 150 acres per 18 holes. Allowable uses within the impact area are greens, tees, fairways, clubhouses, maintenance facilities, cart and pedestrian pathways, parking areas, i.e. all associated support uses.

2. 200 acres of indigenous vegetation preserve is required for every 18 holes. The indigenous vegetation preserve requirement may be provided on-site or off-site. On-site preserves must be a minimum of 1-acre in size; minimum 75-foot wide with an average 100-foot width. Indigenous vegetation preserved on site may utilize a two to one (2:1) credit on a sliding scale based on minimum acreage and width criteria to be included in the LDC. However, the indigenous vegetation preserve requirement must be met with a minimum of 100 actual indigenous acres onsite. Indigenous vegetation preservation requirements must be met outside of the 150 acre golf course impact area.

3. All off-site indigenous vegetation preserves must be located within the DR/GR areas. Unless located within or adjacent to existing or designated public acquisition areas, the minimum parcel size is 50 indigenous acres.

4. The off-site indigenous vegetation preserves must include a management plan that is approved as part of the planned development rezoning. This management plan must include invasive exotic vegetation removal with perpetual management. This does not preclude the transfer of the property to a public entity as long as perpetual maintenance is guaranteed.

5. Additional golf development must be in increments of 9 golf holes. For every additional 9 golf holes, the site area must be increased by 75 acres. Additional golf course impacts are limited to 75 acres per nine holes. The on-site or off-site indigenous preserve area must be increased by 100 acres for each nine holes and is subject to the restrictions above. (Ord. No. 99-16, 02-02, 18-18)

DELISI
Land Use Planning & Water Policy

Analysis of Impacts
Exhibit T-5

Location and Property Description
The subject property is located along the south side of Corkscrew Road adjacent on the west and south sides of the Kingston development and approximately 1 mile east of Verdana Village along Corkscrew Road. The property is in the Density Reduction/Groundwater Resource land use category and is proximate, on both the north, east and west sides of the property to future and existing residential communities. The request is for a text change to Goal 13 to allow for a Private Recreational Facility Planned Development (PRFPD) on the subject property with the programmatic mix of the proposed development – golf, indoor gun range, equestrian facilities, hunting and fishing, along with 500 residential units, a 100-room lodge/hotel and associated commercial area.

Background of the Private Recreational Facilities Overlay
The PRFPD overlay was adopted in 1999, just a decade after the creation of the Density Reduction/Groundwater Resource Area (DR/GR) in order to allow for limited recreational development opportunities in the area, consistent with the water conservation and water quality goals of the land use category. In 1999 residential development along Corkscrew Road extended to Wildcat Run in Estero, and residential communities including Stoneybrook, Grandezza, Bella Terra, were permitted but not yet developed. While Goal 13 includes many of the same water quality and water conservation measures that are also contained in Goal 33 with the Environmental Enhancement and Preservation Overlay, Goal 13 was centered specifically around the development of golf courses and was proposed and created by a golf course developer.

Since its establishment, only 1 development has occurred under the PRFPD overlay, the Old Corkscrew Golf Club (zoned as "The Retreat"). Stand-alone private recreational facilities experienced a decline following the Overlay's adoption in the early 2000s. At the same time, the market for residential development along east Corkscrew Road expanded. With the adoption of the Environmental Enhancement and Preservation Overlay, residential development was offered as an incentive to implement the DR/GR's goals of environmental restoration and conservation of the County's future water supplies.

The recognition that the viability of standalone private recreational facilities was and is very limited led to amendments to the PRFPD overlay, including the allowance for fractional ownership units, and a bed and breakfast on the Old Corkscrew Golf Club site in order to allow for increased usership of the recreational facility by having users stay

on the golf course. Later an amendment to the overlay was approved to allow for Commercial use to meet the demand of the EEPCO neighborhoods that have been developed along Corkscrew Road. The amendment to allow commercial uses recognized the changing character of the Corkscrew Road corridor, while maintaining the environmental protections that the DR/GR necessitates.

This proposed amendment seeks to allow for the development of a multi-use recreational facility, that includes complementary recreational activities along with a single golf course. Similar to the prior amendments to the PRFPD, the proposed amendment recognizes the changing characteristics of the Corkscrew Road community, including the addition of over 15,000 new and future residential units, while focusing on low impact recreational uses that maintain the environmental protections and natural lands restoration goals of prior amendments and the DR/GR.

Surrounding Uses/Compatibility

The proposed text amendment will effectively be limited to the subject property. The property is located is in an area of existing and proposed development to the north, east and west. The attached regional location map shows the existing and approved residential communities, putting the subject property in context geographically. Immediately adjacent to the subject property on the east is the proposed Kingston development, which has been adopted by the Board of County Commissioners. Directly to the north of the subject property is the Titan mining operation, which appears to be nearing completion. Kingston is also located north of the Titan mine. To the west of the subject property are scattered large lot residential units, and other recreational and residential facilities like The Ultimate Ski Lake Resort and Verdana Village. The Corkscrew Swamp Sanctuary is located to the south of the subject property in Collier County.

Proposed Request

The prosed amendment to the Lee Plan is to amend Goal 13 to allow for the development of a multi-use recreational facility with ancillary hotel units, residential and minor agritourism compatible commercial development. The text amendment is being processed concurrently with a Map amendment to Maps 1F, 4A and 4B to include the subject property within the PRFPD Overlay and within the County's future water and sewer service areas.

Existing and Future Conditions Analysis

In accordance with Policy 95.1.3 below is an analysis on public facilities. In addition, attached are analyses of the impacts to Sanitary Sewer, potable water and surface water by Brandon Frey, PE, JR Evans Engineering and a Transportation Impact Study by

Norman Trebilcock, PE, AICP. In addition, attached are letters of service availability for each County service provider.

The current Lee Plan will allow for the development of 98 residential units as shown below. The proposed amendment would allow for the development of 500, residential units, private recreational facilities, 20,000 square feet of commercial floor area and 100 hotel units.

Current Entitlements

Future Land Use	Acres	Density Allowed	Units
DR/GR	911.32	1 du/10 acres	91
Wetlands	141.15	1 du/20 acres	7
Total	**1,052.47**		**98**

Parks

The level of service for Parks is established in Policy 95.1.3.6 as follows:

NON-REGULATORY STANDARDS

6. Parks and Recreation Facilities:
Minimum Level of Service:

> *(a) Regional Parks - 6 acres of developed regional park land open for public use per 1000 total seasonal county population.*
>
> *(b) Community Parks - 0.8 acres of developed standard community parks open for public use per 1000 permanent population, unincorporated county only.*

The proposed amendment is for a Private Recreational facility, consisting of a golf course, equestrian facilities and other recreational activities on over 1,000 acres. The addition of 402 units proposed (500 minus 98) would create the demand for an additional 6 acres of regional park and .8 acres of Community Park, assuming 2 people per unit. The on-site recreation will more than off-set any additional need.

Lee County Schools

Attached is a letter from the Lee County School District. The Lee County School Board projects student generation by dwelling unit. According to the School Board, the school children generation rate for single family homes is .297 students per unit. This student generation rate is further broken down by grade level into the following, .149 for elementary, .071 for middle and .077 for high. Assuming a total of 500 units, all single family, a total of 148 school-aged children would be generated and utilized for the purpose of determining sufficient capacity to serve the development.

Student Generation Rates		
	Rate	Projected Students
Elementary	.149	74.5
Middle	.071	35.5
High	.077	38.5
Total	.297	148

According to the analysis offered by the School District, "*Capacity is an issue within the Concurrency Service Area (CSA) at the elementary school level, however, capacity is available in the adjacent CSA*."

Environmental Impacts

The proposed amendment will have no impact on environmentally sensitive resources in Lee County as demonstrated in Exhibit T-7 of this application. The subject property has already been mostly cleared and is being used for active agriculture. The criteria of the PRFPD and the attached master concept plan demonstrate that future development will occur on the existing agricultural fields, the existing wetland area will be preserved, and additional lands will be provided for environmental restoration, consistent with the DR/GR and the County's goal of restoring surface and groundwater in the area.

Traffic Impact Statement

Preserve Sporting Club & Residences at Pepper Place
Lee Plan Amendment and Rezone

Lee County, FL
11/4/2022

Prepared for:

JR Evans Engineering
9351 Corkscrew Road, Suite 102
Estero, FL 33928
Phone: 239.405.9148

Prepared by:

Trebilcock Consulting Solutions, PA
2800 Davis Boulevard, Suite 200
Naples, FL 34104
Phone: 239.566.9551
Email: ntrebilcock@trebilcock.biz

Statement of Certification

I certify that this Traffic Impact Statement has been prepared by me or under my immediate supervision and that I have experience and training in the field of Traffic and Transportation Engineering.

This item has been electronically signed and sealed by Norman J. Trebilcock, P.E., State of Florida license 47116, using a *SHA-1* authentication code. Printed copies of this document are not considered signed and sealed, and the *SHA-1* authentication code must be verified on any electronic copies.

Norman J. Trebilcock, AICP, PTOE, PE
FL Registration No. 47116
Trebilcock Consulting Solutions, PA
2800 Davis Boulevard, Suite 200
Naples, FL 34104
Company Cert. of Auth. No. 27796

Table of Contents

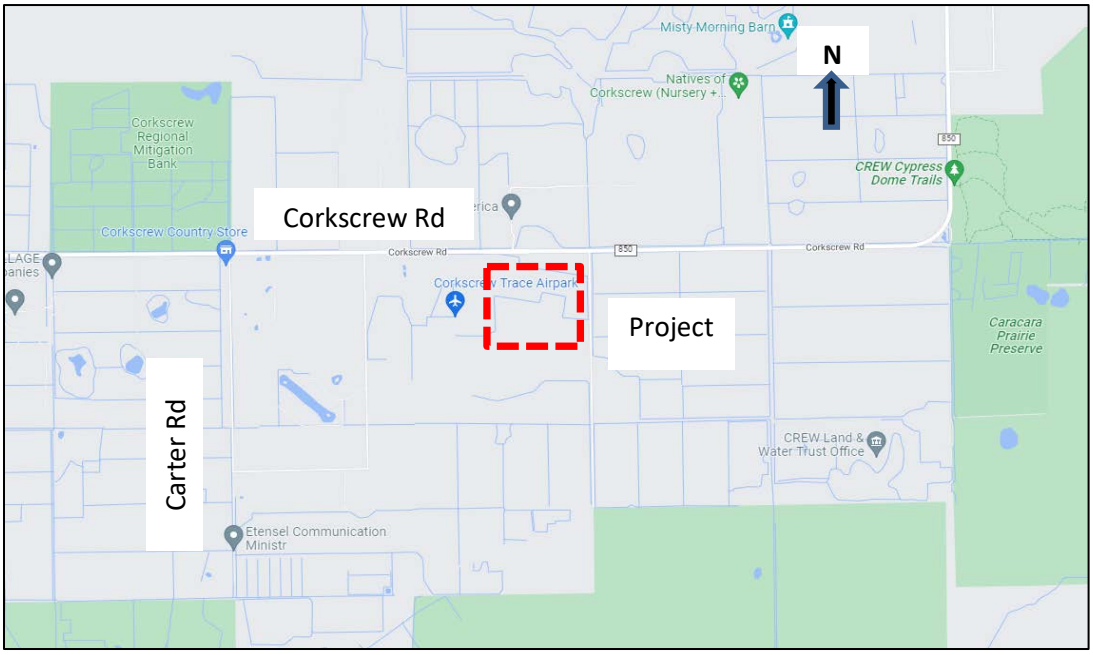
Appendices

Project Description

This report contains analyses intended to satisfy the requirements of a Lee Plan amendment (LPA) and a Rezone from Agricultural to Planned Development.

The Preserve Sporting Club & Residences at Pepper Place project is located south of Corkscrew Road approximately 3.6 miles east of the 6 Ls Farm Road and Corkscrew Road intersection, and lies within Section 27, Township 46 South, Range 27 East, in Lee County, Florida (refer to **Figure 1** and **Appendix A**).

Figure 1 – Project Location Map



The site parcel is currently vacant and is zoned Agriculture. The proposed project is a members only residential/recreational complex. The proposed uses subject to this application include:

- 500 single family homes
- 225,000 square foot (SF) clubhouse containing spa (15,000 SF), health club (10,000 SF), restaurant (7,500 SF) and 100 overnight accommodations.
- 15,000 SF retail shop - open to the public
- 18 hole golf course
- 1000 yard rifle range
- Trap and skeet ranges
- Equestrian Center
- Tennis courts
- Fishing ponds
- Hiking, biking and all terrain trails

Also included in the development plan but not part of this application is a restaurant (10,200 SF/ 314 seats - to include related retail sales) that is allowed under the existing zoning on the parcel.

The Preserve project proposes a full movement connection onto Corkscrew Road directly across from the existing mining operation. The analysis of its operation will be conducted as part of the development order application. The LPA short term and Rezone analysis year is 2027. The LPA long term analysis year is 2045.

A methodology meeting was held with the Lee County Transportation Planning staff (via email) on September 26, 2022 (refer to Appendix B: Initial Meeting Checklist). All level of service estimates in this report use the capacity from the Generalized Service Volumes. There is a published schedule of link specific service volumes. The capacity for Corkscrew Road contained in it (1,140 – see **Appendix E**) is significantly greater than the one used here (860).

Trip Generation

The project's site trip generation is shown in **Table 1** and is based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition.

Table 1 – Trip Generation

Use	ITE LU#	Measure-ment Unit	# of Units	Rate (1) or Eqn. (2)			Daily Traffic	PM Peak Hour			AM Peak Hour		
				Daily	AM	PM		In	Out	Total	In	Out	Total
Strip Retail Plaza <40K	822	1000 SF	15	2	2	2	863	52	52	104	23	15	38
Single-Family Detached Housing	210	Dwelling Units	500	2	2	2	4,436	284	167	451	84	238	322
High Turnover Sit Down Restaurant	932-S	Seats	314	1	1	1	1,372	70	52	122	73	68	141
Resort Hotel	330-O	Occupied Rooms	100		1	1	-	20	27	47	27	10	37
Golf Course	430	Holes	18	1	1	1	547	28	24	52	25	7	32
Project Total								454	322	776	232	338	570
High Turnover Sit Down Restaurant	932-S	Seats	314	1	1	1	1,372	70	52	122	73	68	141
LPA/Rezone Total: Project Total less the By-right Restaurant								384	270	654	159	270	429

Trip Generation Rates from ITE *Trip Generation Manual* 11th Ed.

The proposed trip generation assumes that the source of trips to and from all the recreational uses will be the occupants of either the single-family dwelling units or the 100 rooms in the clubhouse. The retail shop is intended for public access and thus added as a contributing use. The proposed ITE land use code (LUC) (Strip Retail Plaza <40K) appears the most appropriate.

Resort hotel (ITE LUC 330) is proposed for the trip generation of the 100 rooms. Resort hotel's trip generation includes the generation of staff arrivals and departures at a resort that typically includes some

of the recreational uses here. As used here it also assume 100% occupancy (rates are based on occupied room).

Because no separate trip generation estimates are being developed for the various recreational uses (many of which do not have any exact or similar ITE LUC), no internal capture is being proposed. Golf Course was added as a trip generation contributor to provide a conservative estimate of staff related trip generation. No internal capture or pass by reductions are considered for this project.

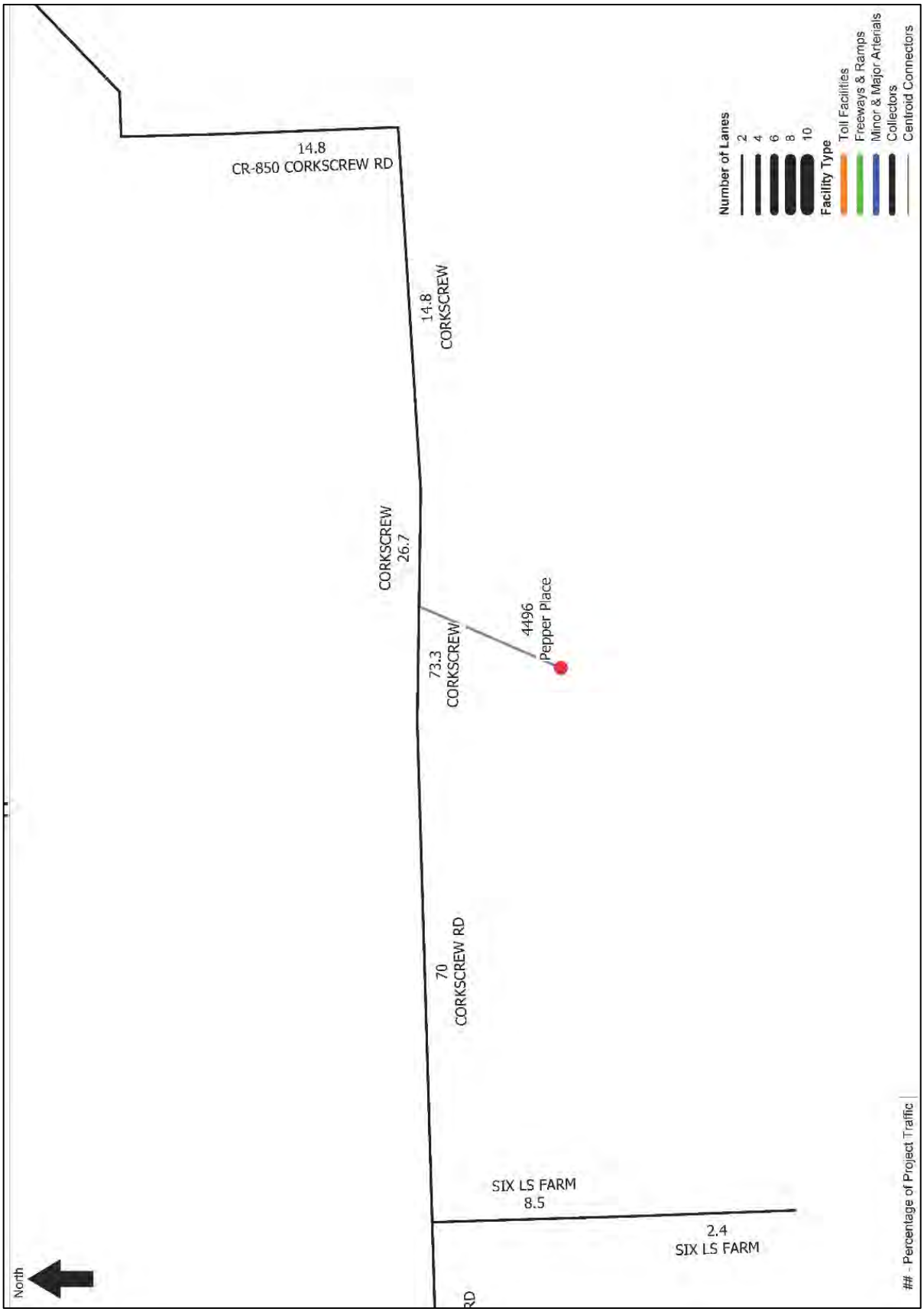
The by-right restaurant is included in the total program, but its traffic contribution is deducted from the program total trips to yield the new trips resulting from the changes proposed by this application. The trip generation for it is based on the number of seats, a conservative estimate compared with using the floor area.

All ITE data pages are provided in **Appendix C**.

LPA - Trip Distribution and Assignment

The traffic generated by the development was assigned to the adjacent road network utilizing the District 1 Regional Planning Model (D1RPM) that is based on the Metropolitan Planning Organization (MPO)'s 2045 Cost Feasible network. A new traffic analysis zone (TAZ) was added to the network at the project location. The attributes of the residential uses within it were averages of those at three other TAZs in the vicinity (See **Appendix D**). The intensities within the project zone reflect the uses in **Table 1.** At the project entrance, the model assignment directional split is 73.3% westbound, 26.7% eastbound (**Figure 2**).

Figure 2 – Project Traffic Percentage Distribution



LPA - Project Traffic Characteristics

This LPA analysis is limited to arterial and collector roadway segments within three miles of the project. That consists of the segments of Corkscrew Road from 6Ls Farm Road to the Project entrance (3.6 mile) and from the Project entrance to the County line. **Table 2** contains the project traffic peak hour directional volumes (AM and PM) for those two segments. The percentage of project traffic on each segment is the average of the values found at the endpoints (1 is S or W end, 2 is N or E end) of the segments as shown in **Figure 2**. The percentages are then multiplied by the total AM and PM peak hour volumes in **Table 1**.

Table 2 – Project Traffic

Link No.	Link	From	To	Percent of Total Project Traffic-1 (1)	Percent of Total Project Traffic-2 (1)	Average Percent of Total Project Traffic	AM Project Traffic N/E	AM Project Traffic S/W	PM Project Traffic N/E	PM Project Traffic S/W
7000	Corkscrew Rd.	6 Ls Farm Rd.	Project Entrance	70	73.3	71.7	114	193	275	194
7000	Corkscrew Rd.	Project Entrance	County Line	26.7	14.8	20.8	56	33	56	80

Notes: 1) Figure 2 and Appendix D

LPA - Background Roadway and Traffic Characteristics

The existing roadway conditions are extracted from the Lee County 2021 Concurrency Report (**Appendix E**). Roadway improvements that are currently under construction or are scheduled to be constructed within the first five years of the current Capital Improvement Program (CIP) are considered to be committed improvements for the purposes of this study. None are programmed either within the CIP or the 2045 Long Range Transportation Plan (LRTP) so all analyses presume the existing configuration.

Table 3 contains the Generalized Peak Hour Peak Direction Service Volumes (**Appendix G**) used for this analysis.

Table 3 – Roadway Information

Link No.	Link	From	To	Existing Road Type (1)	LOS Stand-ard (1)	LOS B Service Volume (2)	LOS C Service Volume (2)	LOS D service Volume (2)	LOS E service Volume (2)
7000	Corkscrew Rd.	6 Ls Farm Rd	Project Entrance	2LN	E	140	800	860	860
7000	Corkscrew Rd.	Project Entrance	County Line	2LN	E	140	800	860	860

Notes: 1) Appendix E
2) Appendix G

Table 4 contains information about the background traffic on the analyzed segments. The directional splits are from Permanent Count Station (PCS) #70 (**Appendix F**). The 2020 existing year volume is from the 2021 Concurrency Report (**Appendix E**). The only count station with sufficient data to deduce a volume trend is also station 70. That five-year trend is downward (see **Appendix F**) so two percent is the assumed short term exponential growth rate. The 2045 Annual Average Daily Traffic (AADT) volumes are from the west and east ends of the segments in order, from the adopted 2045 Cost Feasible network (see **Appendix D**). The K100 to convert AADT to Peak Hour Two-way is from PCS 70 (**Appendix F**). It also is the source of the AM/PM Ratio which divides the total percentage of daily traffic in the AM peak hour (6.17%) by the total percentage in the PM peak hour (7.4%). It is used to convert PM peak hour two-way volume estimates to AM peak hour two- way volume estimates.

Table 4 – Background Traffic Information

Link No.	Link	From	To	AM Directional Split N/E (1)	AM Directional Split S/W (1)	PM Directional Split N/E (1)	PM Directional Split S/W (1)	2020 LOS Report Year Peak Hour Peak Direction Volume (2)	Annual Growth Rate G	2045 AADT1 in 100s (3)	2045 AADT2 in 100s (3)	2045 AADT Average	K 100 (1)	AM/PM Ratio (1)
7000	Corkscrew Rd.	6 Ls Farm Rd.	Project Entrance	0.41	0.59	0.62	0.38	499	2.0%	61	46	53.5	0.098	0.83
7000	Corkscrew Rd.	Project Entrance	County Line	0.41	0.59	0.62	0.38	499	2.0%	46	19	32.5	0.098	0.83

Notes: 1) Appendix F
2) Appendix E
3) Appendix D

LPA - Short Term Analysis

Table 5 displays PM peak period conditions in 2027 under background and total traffic. The Concurrency Report PM peak hour volume is inflated to the analysis year using the exponential growth rate from **Table 4**. The directional components of the background traffic are consistent with the directional splits contained in **Table 4**. PM peak background traffic in 2027 is projected to achieve acceptable level of service using the LOS E capacity from **Table 3**. The PM peak project traffic from **Table 2** is added to the directional components of the background traffic. The resulting peak direction total traffic is projected to achieve acceptable level of service in 2027.

Table 6 displays AM peak period conditions in 2027 under background and total traffic. The analysis year PM peak period two- way volume developed in **Table 5** is converted to AM peak condition using the AM/PM Ratio from **Table 4**. The directional components of the background traffic are consistent with the directional splits contained in **Table 4**. AM peak background traffic in 2027 is projected to achieve acceptable level of service using the LOS E capacity from **Table 3**. The AM peak project traffic from **Table 2** is added to the directional components of the background traffic. The resulting peak direction total traffic is projected to achieve acceptable level of service in 2027.

The calculations that the tables contain are performed with more decimal places than those displayed. Using only the displayed decimals will yield slightly different results.

Table 5 – LPA 2027 PM Peak Period Analysis

Link No.	Link	From	To	2020 LOS Report Year Peak Hour Peak Direct-ion Volume (1)	Annual Growth Rate G (1)	2027 PM Future Year Back-ground Traffic N/E (2)	2027 PM Future Year Back-ground Traffic S/W (2)	2027 PM Future Year Back-ground 2-Way Traffic (2)	LOS E Serv-ice Vol-ume (3)	2027 PM Future Year Back-ground V/C	2027 PM Future Year Back-round Defic-ient Y/N	PM Project Traffic N/E (4)	PM Project Traffic S/W (4)	2027 PM Total Traffic N/E	2027 PM Total Traffic S/W	2027 PM Future Year Total Traffic V/C	2027 PM Future Year Total Traffic Defic-ient Y/N
7000	Corkscrew Rd.	6 Ls Farm Rd.	Project Entrance	499	2.0%	573	351	924	860	0.67	N	275	194	848	545	0.99	N
7000	Corkscrew Rd.	Project Entrance	County Line	499	2.0%	573	351	924	860	0.67	N	56	80	629	431	0.73	N

Notes: 1) Table 4

2) LOS Report Year Volume with exponential growth to analysis year : V(27) = V(20) * (1+G)^7

3) Table 3

4) Table 2

Table 6 – LPA 2027 AM Peak Period Analysis

Link No.	Link	From	To	2027 PM Future Year Back-ground 2-Way Traffic (1)	AM/ PM Ratio (2)	2027 AM Future Year Back-ground 2-Way Traffic	2027 AM Future Year Back-ground Traffic N/E	2027 AM Future Year Back-ground Traffic S/W	LOS E Serv-ice Vol-ume (3)	2027 AM Future Year Back-ground V/C	2027 AM Future Year Back-ground Defic-ient Y/N	AM Project Traffic N/E (4)	AM Project Traffic S/W (4)	2027 AM Total Traffic N/E	2027 AM Total Traffic S/W	2027 AM Future Year Total Traffic V/C	2027 AM Future Year Total Traffic Defic-ient Y/N
7000	Corkscrew Rd.	6 Ls Farm Rd.	Project Entrance	924	0.83	770	316	454	860	0.53	N	114	193	430	647	0.75	N
7000	Corkscrew Rd.	Project Entrance	County Line	924	0.83	770	316	454	860	0.53	N	56	33	372	487	0.57	N

Notes: 1) Table 5
2) Table 4
3) Table 3
4) Table 2

LPA - Long Term Analysis

Table 7 displays PM peak period conditions in 2045 for background and total traffic. The 2045 average AADT **(Table 4**) across each segment is converted to a peak hour two-way volume using the K100 factor from **Table 4**. The directional components of the peak hour background traffic are consistent with the directional splits contained in **Table 4**. PM peak period background traffic in 2045 is projected to achieve acceptable level of service using the LOS E capacity from **Table 3**. The PM peak project traffic from **Table 2** is added to the directional components of the background traffic. The resulting peak direction total traffic is projected to achieve acceptable level of service in 2045.

Table 8 displays AM peak period conditions in 2045 under background and total traffic. The analysis year PM peak period two- way volume developed in **Table 7** is converted to AM peak condition using the AM Peak Modifier from **Table 4**. The directional components of the background traffic are consistent with the directional splits contained in **Table 4**. AM peak background traffic in 2045 is projected to achieve acceptable level of service using the LOS E capacity from **Table 3**. The AM peak project traffic from **Table 2** is added to the directional components of the background traffic. The resulting peak direction total traffic is projected to achieve acceptable level of service in 2045.

The calculations that the tables contain are performed with more decimal places than those displayed. Using only the displayed decimals will yield slightly different results.

Table 7 – LPA 2045 PM Peak Period Analysis

Link No.	Link	From	To	2045 AADT Aver-age in 100s (1)	2045 PM Peak Hour 2-Way Vol-ume (2)	2045 Peak Hour Vol-ume N/E	2045 Peak Hour Vol-ume S/W	LOS E Serv-ice Vol-ume (3)	Peak Hour V/C	Future Back-ground Traffic Defic-ient Y/N	Project Traffic N/E (4)	Project Traffic S/W (4)	2045 Total Traffic N/E	2045 Total Traffic S/W	2045 Future Year Total Traffic V/C	2045 Future Year Total Traffic Defic-ient Y/N
7000	Corkscrew Rd.	6 Ls Farm Rd	Project Entrance	53.5	524	325	199	860	0.38	N	275	194	600	393	0.70	N
7000	Corkscrew Rd.	Project Entrance	County Line	32.5	319	198	121	860	0.23	N	56	80	254	201	0.30	N

Notes: 1) Table 4

2) AADT x K100 (Table 4)

3) Table 3

4) Table 2

Table 8 – LPA 2045 AM Peak Period Analysis

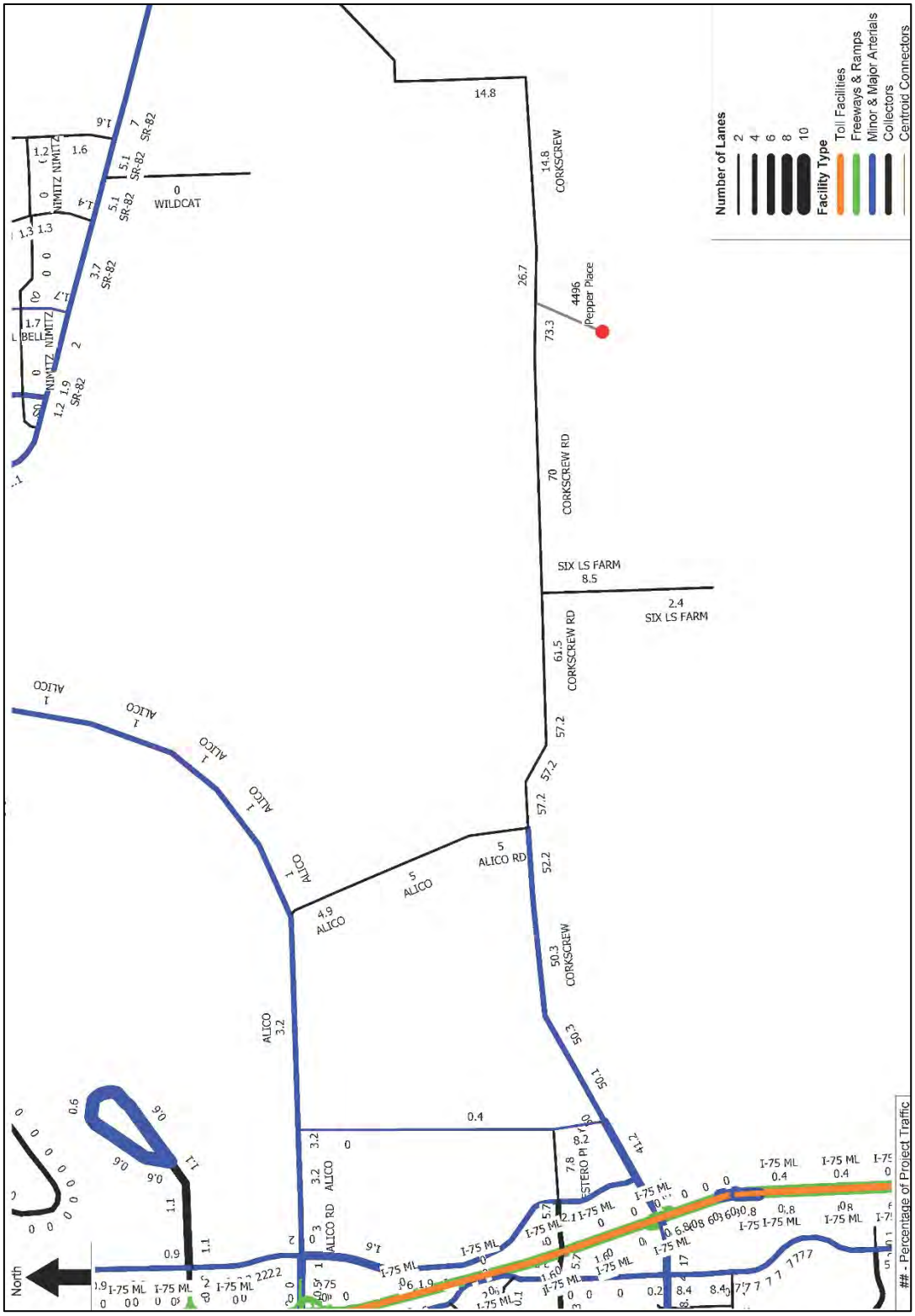
Link No.	Link	From	To	2045 PM Future Year Back-ground 2-Way Traffic (1)	AM/ PM Ratio (2)	2045 AM Future Year Back-ground 2-Way Traffic	2045 AM Future Year Back-ground Traffic N/E	2045 AM Future Year Back-ground Traffic S/W	LOS E Serv-ice Vol-ume (3)	2045 AM Future Year Back-ground V/C	2045 AM Future Year Back-ground Defic-ient Y/N	AM Project Traffic N/E (4)	AM Project Traffic S/W (4)	2045 AM Total Traffic N/E	2045 AM Total Traffic S/W	2045 AM Future Year Total Traffic V/C	2045 AM Future Year Total Traffic Defic-ient Y/N
7000	Corkscrew Rd.	6 Ls Farm Rd.	Project Entrance	524	0.83	434	178	256	860	0.30	N	114	193	292	449	0.52	N
7000	Corkscrew Rd.	Project Entrance	County Line	319	0.83	264	108	156	860	0.18	N	56	33	164	189	0.22	N

Notes: 1) Table 7
2) Table 4
3) Table 3
4) Table 2

Rezone Analysis

Figure 3 shows the percent of project traffic on roads in the project vicinity.

Figure 3 – Project Traffic Percentage Distribution



Rezone – Project Traffic Significance

Table 9 contains the Generalized Peak Hour Peak Direction Service Volumes (**Appendix G**) used for this analysis.

Table 9 – Roadway Information

Link No.	Link	From	To	Existing Road Type (1)	LOS Stand-ard (1)	LOS B Service Volume (2)	LOS C Service Volume (2)	LOS D service Volume (2)	LOS E service Volume (2)
1050	Alico Rd.	Green Meadows Dr.	Corkscrew Rd.	2LN	E	140	800	860	860
6900	Corkscrew Rd.	Ben Hill Griffin Blvd.	Alico Rd.	4LD	E	250	1840	1960	1960
7000	Corkscrew Rd.	Alico Rd.	6 Ls Farm Rd.	2LN	E	140	800	860	860
7000	Corkscrew Rd.	6 Ls Farm Rd.	Project Entrance	2LN	E	140	800	860	860
7000	Corkscrew Rd.	Project Entrance	County Line	2LN	E	140	800	860	860

Notes: 1) Appendix E
2) Appendix G

For the rezone analysis, the segments analyzed are those on which the project traffic exceeds ten percent of the LOS C service volume using the Generalized Service Volume tables. **Table 10** contains the project traffic peak hour directional volumes (AM and PM) on area roadway segments. The percentage of project traffic on each segment is the average of the values found at the endpoints (1 is S or W end, 2 is N or E end) of the segments as shown in **Figure 3**. The averages of those percentages are then multiplied by the total AM and PM peak hour volumes in **Table 1**. The peak directional project traffic volume is expressed as a percentage of the LOS C service volume from **Table 9**. Analyses that follow are confined to those segments on which peak direction project traffic exceeds ten percent.

Table 10 – Project Traffic Significance

Link No.	Link	From	To	Per-cent of Total Project Traffic-1 (1)	Per-cent of Total Project Traffic-2 (1)	Aver-age Per-cent of Total Project Traffic	AM Project Traffic N/E	AM Project Traffic S/W	PM Project Traffic N/E	PM Project Traffic S/W	Exist-ing Road Type (2)	LOS C Serv-ice Vol-ume (3)	Signif-icance Level (4)	Signif-icant Impact Y/N
1050	Alico Rd.	Green Meadows Dr.	Corkscrew Rd.	5.0	4.9	5.0	13	8	13	19	2LN	800	2.4%	N
6900	Corkscrew Rd.	Ben Hill Griffin Blvd.	Alico Rd.	41.2	52.2	46.7	74	126	179	126	4LD	1840	9.7%	N
7000	Corkscrew Rd.	Alico Rd.	6 Ls Farm Rd.	57.2	61.5	59.4	94	161	228	160	2LN	800	28.5%	Y
7000	Corkscrew Rd.	6 Ls Farm Rd.	Project Entrance	70.0	73.3	71.7	114	193	275	194	2LN	800	34.4%	Y
7000	Corkscrew Rd.	Project Entrance	County Line	26.7	14.8	20.8	56	33	56	80	2LN	800	10.0%	Y

Notes: 1) Figure 3 And Appendix D
2) Appendix E
3) Table 9
4) Peak Direction PM Project Traffic as a Percentage of the LOS C Service Volume

Rezone – Background Traffic Characteristics

Table 11 contains information about the background traffic on the analyzed segments. The directional splits are from Permanent Count Station (PCS) #70 (**Appendix F**). The 2020 existing year volume is from the 2021 Concurrency Report (**Appendix E**). The only count station with sufficient data to deduce a volume trend is also station 70. That five-year trend is downward (see **Appendix F**) so two percent is the assumed short term growth rate. It also is the source of the AM/PM Ratio which divides the total percentage of daily traffic in the 7 am to 9 am period (12.15%) by the total percentage in the 4 pm to 6 pm period (14.68%). It is used to convert PM peak hour two-way volume estimates to AM peak hour two- way volume estimates.

Table 11 – Background Traffic Information

Link No.	Link	From	To	AM Direct-ional Split N/E (1)	AM Direct-ional Split S/W (1)	PM Direct-ional Split N/E (1)	PM Direct-ional Split S/W (1)	2020 LOS Report Year Peak Hour Peak Direct-ion Vol-ume (2)	Annual Growth Rate G	AM/ PM Ratio (1)
7000	Corkscrew Rd.	Alico Rd.	6 Ls Farm Rd.	0.41	0.59	0.62	0.38	499	2.0%	0.83
7000	Corkscrew Rd.	6 Ls Farm Rd.	Project Entrance	0.41	0.59	0.62	0.38	499	2.0%	0.83
7000	Corkscrew Rd.	Project Entrance	County Line	0.41	0.59	0.62	0.38	499	2.0%	0.83

Notes: 1) Appendix F
2) Appendix E

Rezone Level of Service Analysis

Table 12 displays PM peak period conditions in 2027 under background and total traffic. The Concurrency Report PM peak hour volume is inflated to the analysis year using the growth rate from **Table 11**. The directional components of the background traffic are consistent with the directional splits contained in **Table 11**. PM peak background traffic in 2027 is projected to achieve acceptable level of service using the LOS E capacity from **Table 9**. The PM peak project traffic from **Table 10** is added to the directional components of the background traffic. The resulting peak direction total traffic is projected to achieve acceptable level of service in 2027.

Table 13 displays AM peak period conditions in 2027 under background and total traffic. The analysis year PM peak period two- way volume developed in **Table 12** is converted to AM peak condition using the AM/PM Ratio from **Table 11**. The directional components of the background traffic are consistent with the directional splits contained in **Table 11**. AM peak background traffic in 2027 is projected to achieve acceptable level of service using the LOS E capacity from **Table 9**. The AM peak project traffic from **Table 10** is added to the directional components of the background traffic. The resulting peak direction total traffic is projected to achieve acceptable level of service in 2027.

The calculations that the tables contain are performed with more decimal places than those displayed. Using only the displayed decimals will yield slightly different results.

Table 12 – Rezone 2027 PM Peak Period Analysis

Link No.	Link	From	To	2020 LOS Report Year Peak Hour Peak Direction Volume (1)	Annual Growth Rate G (1)	2027 PM Future Year Background Traffic N/E (2)	2027 PM Future Year Background Traffic S/W (2)	2027 PM Future Year Background 2-Way Traffic (2)	LOS E Service Volume (3)	2027 PM Future Year Background V/C	2027 PM Future Year Background Deficient Y/N	PM Project Traffic N/E (4)	PM Project Traffic S/W (4)	2027 PM Total Traffic N/E	2027 PM Total Traffic S/W	2027 PM Future Year Total Traffic V/C	2027 PM Future Year Total Traffic Deficient Y/N
7000	Corkscrew Rd.	Alico Rd.	6 Ls Farm Rd.	499	2.0%	573	351	924	860	0.67	N	228	160	801	511	0.93	N
7000	Corkscrew Rd.	6 Ls Farm Rd.	Project Entrance	499	2.0%	573	351	924	860	0.67	N	275	194	848	545	0.99	N
7000	Corkscrew Rd.	Project Entrance	County Line	499	2.0%	573	351	924	860	0.67	N	56	80	629	431	0.73	N

Notes: 1) Table 11

2) LOS Report Year Volume with exponential growth to analysis year : V(27) = V(20) * (1+G)^7

3) Table 9

4) Table 10

Table 13 – Rezone 2027 AM Peak Period Analysis

Link No.	Link	From	To	2027 PM Future Year Back-ground 2-Way Traffic (1)	AM/ PM Ratio (2)	2027 AM Future Year Back-ground 2-Way Traffic	2027 AM Future Year Back-ground Traffic N/E	2027 AM Future Year Back-ground Traffic S/W	LOS E Serv-ice Vol-ume (3)	2027 AM Future Year Back-ground V/C	2027 AM Future Year Back-ground Defic-ient Y/N	AM Project Traffic N/E (4)	AM Project Traffic S/W (4)	2027 AM Total Traffic N/E	2027 AM Total Traffic S/W	2027 AM Future Year Total Traffic V/C	2027 AM Future Year Total Traffic Defic-ient Y/N
7000	Corkscrew Rd.	Alico Rd.	6 Ls Farm Rd.	924	0.83	770	316	454	860	0.53	N	94	161	410	615	0.72	N
7000	Corkscrew Rd.	6 Ls Farm Rd.	Project Entrance	924	0.83	770	316	454	860	0.53	N	114	193	430	647	0.75	N
7000	Corkscrew Rd.	Project Entrance	County Line	924	0.83	770	316	454	860	0.53	N	56	33	372	487	0.57	N

Notes: 1) Table 12
2) Table 11
3) Table 9
4) Table 10

Access Management

Analysis of turn lane requirements per AC-11-4 and connection spacing per LDC Section 10-285 will be included with the development order application.

Improvement Analysis

Based on the link analysis and trip distribution, the proposed project is a significant traffic generator for the roadway network at this location. There is adequate and sufficient roadway capacity to accommodate the proposed development buildout condition in 2027 and 2045.

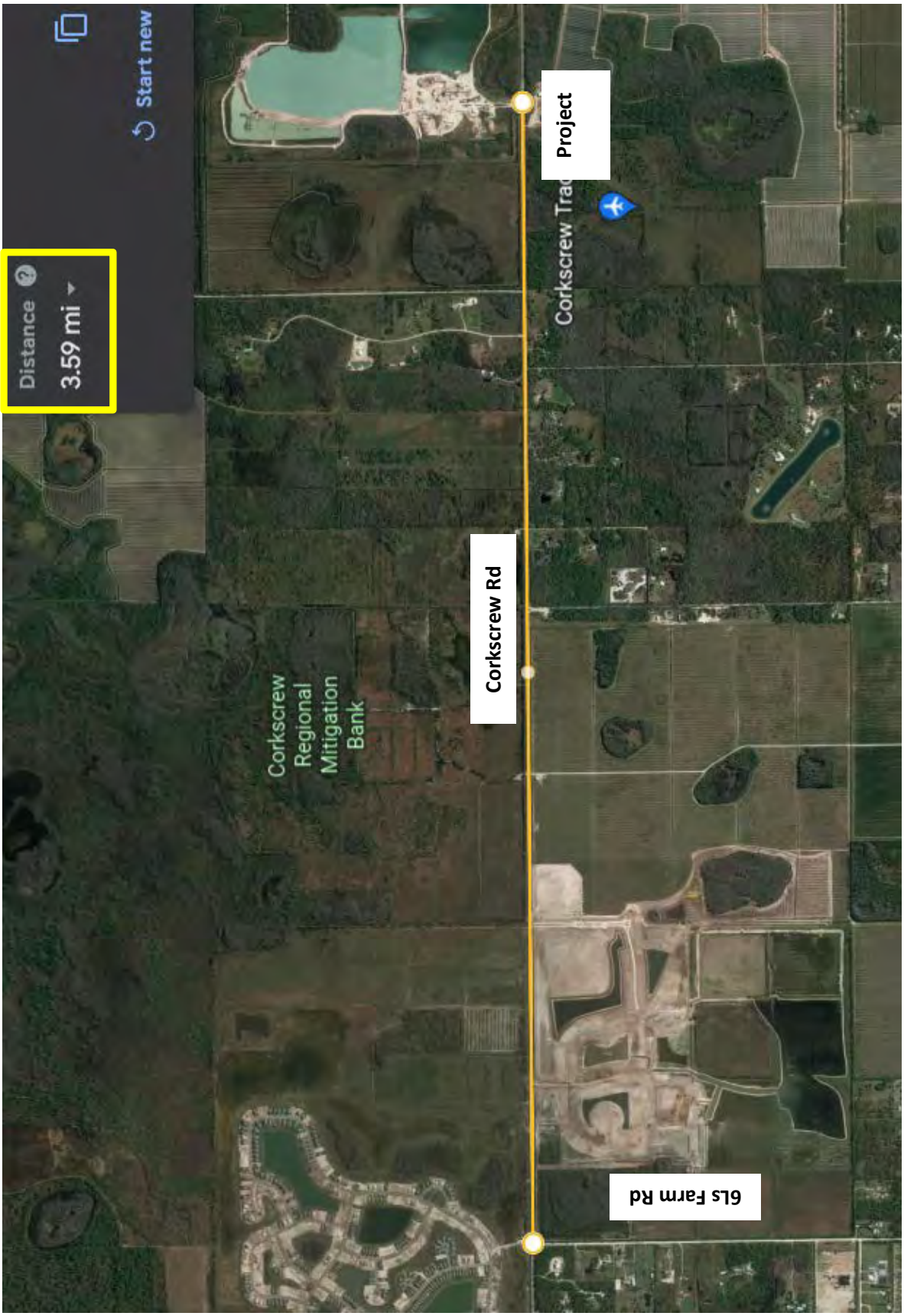
Mitigation of Impact

The developer proposes to pay the appropriate Lee County transportation impact fees as building permits are issued for the project.

Appendix A:

Project Master Site Plan and Location


SITE LOCATION
CORKSCREW ROAD
NAPLES/ESTERO, FL
8 - RANCH STYLE HOMESTEADS
GRAZING FIELDS W/ SUPPORT FACILITES
1,000 YD RANGE & RETAIL
WORLD CLASS EQUINE FACILITY
CORKSCREW RD.
6 MILE BRIDLE TRAIL
OPEN SPACE SANCTUARY
BOAT HOUSE W/ BOAT LAUNCH
GRAND B&B RESTAURANT W/ BANQUET FACILITES
POOL COMPLEX W/ LAZY RIVER
GOLF & RACQUET CLUB HOUSE
TPI RD.
COURT FACILITIES (16 TENNIS COURTS) (12) PICKLEBALL COURTS
92 SINGLE FAMILY HOMES
18 HOLE CHAMPIONSHIP GOLF COURSE & TRAINING FACILITY
3 MILE MAIN CIRCULATION ROAD
HUNTING/FISHING LODGE W/ GAME CENTER & GATHERING SPACE
FISHING POND W/ 1-1/4 MILE TRAIL FOR 20 CABINS
CARTER RD.
SERVICE ROAD
32 ACRE HUNTING/DOG TRAINING FIELD
16 ACRE HUNTING/ DOG TRAINING FIELD
16 ACRE HUNTING/ DOG TRAINING FIELD
TRAINING FIELD
CARTER ROAD SERVICE ENTRY/EXIT
30,000 ACRES OPEN SPACE
HIGH TOWER
MAINTENANCE FACILITY/ SUPPLY STORAGE
LEGEND
401 - TOTAL UNITS
PRESERVE
SPORTING CLUB & RESIDENCES AT PEPPER PLACE
NAPLES, FL
CONCEPTUAL PLAN
SCALE: 1"=500'


Start new
Distance
3.59 mi
Project
Corkscrew Trac
Corkscrew Rd
Corkscrew Regional Mitigation Bank
6Ls Farm Rd

Appendix B:

Initial Meeting Checklist (Methodology Meeting)

METHODOLOGY - INITIAL MEETING CHECKLIST

Date: September 26, 2022

Location: N/A – Via Email

People Attending:
Name, Organization, and Telephone Numbers

1) Marcus Evans, Lee County Department of Community Development
2) Norman Trebilcock, TCS
3) Gavin Jones, TCS

Study Preparer:
Preparer's Name and Title: Norman Trebilcock, AICP, PTOE, PE
Organization: Trebilcock Consulting Solutions, PA
Address & Telephone Number: 2800 Davis Boulevard, Suite 200, Naples, FL 34104; ph.:239-566-9551

Reviewer(s):
Reviewer's Name & Title: Marcus Evans, PE
Organization: Lee County Department of Community Development
Address: 1500 Monroe Street, Fort Myers, FL 33901
Telephone Number: 239-533-8355

Applicant:
Applicant's Name: JR Evans Engineering
Address: 9351 Corkscrew Road, Suite 102, Estero, FL 33928
Telephone Number: 239-405-9148

Proposed Development:
Name: Pepper Place
Location: South of Corkscrew Road, the main entrance approximately 1.6 miles east of the Carter Road and Corkscrew Road intersection, in unincorporated Lee County, Florida – refer to **Figure 1.**
Description: The project site is currently vacant or agricultural. The proposed project is a members only residential/recreational complex. The proposed uses include:

- 250 single family homes
- 225,000 square foot (SF) clubhouse containing spa (15,000 SF), health club (10,000 SF), restaurant (7,500 SF) and 100 overnight accommodations.
- 15,000 SF retail shop -open to the public
- 18 hole golf course

Page **1** of **4**

- 1000 yard rifle range
- Trap and skeet ranges
- Equestrian Center
- Tennis courts
- Fishing ponds
- Hiking, biking and all terrain trails

Figure 1 – Location Map

Findings of the Preliminary Study:
The proposed trip generation assumes that the source of trips to and from all the recreational uses will be the occupants of either the single-family dwelling units or the 100 rooms in the clubhouse. The retail shop is intended for public access and thus added as a contributing use The proposed ITE land ues code (LUC) (Strip Retail Plaza <40K) appears the most appropriate.

Resort hotel (ITE LUC 330) is proposed for the trip generation of the 100 rooms. Resort hotel's trip generation includes the generation of staff arrivals and departures at a resort that typically includes some of the recreational uses here. As used here it also assume 100% occupancy.

Because no separate trip generation estimates are being developed for the various recreational uses (many of which do not have any exact or similar ITE LUC), no internal capture is being proposed. Golf Course will be added as a trip generation contributor to provide a conservative estimate of staff related trip generation.

The estimated net new trip generation for the project is greater than 300 peak hour trips.
Trip Generation – ITE Trip Generation Manual 11th Edition.
Internal capture - No internal capture traffic reductions are considered for this project.
Pass-by Traffic – No pass-by reductions are considered for this project.
Concurrency analysis – based on AM and PM peak hour new external trips within the area of influence. LOS determination based on the Lee County DOT Link Specific Service Volumes and FDOT 2020 Generalized Level of Service tables as needed.
Operational - Site access turn lanes analysis – To be provided at the time of development order approval.

Study Area:
Roadway Links: Corkscrew Road
Additional intersections to be analyzed: N/A
Build Out Year: 2026
Horizon Year: 2027
Analysis Time Period(s): AM/PM Peak Hour,
Future Off-Site Developments: to be determined
Source of Trip Generation Rates: ITE 11th Edition
Reductions in Trip Generation Rates:
None: N/A
Pass-by trips: N/A
Internal trips: N/A
Transit use: N/A
Horizon Year Roadway Network Improvements: 2027

Methodology & Assumptions:
Non-site traffic estimates: Lee County 2021 Concurrency Report Inventory and Projections; 2021 Traffic Count Report
Site-trip generation: ITE Trip Generation Manual 11th Edition
Trip distribution - assignment method: Based on engineering judgment, see **Figure 2**.
Turning Movements: Site access – Based on engineering judgment and consistent with the trip distribution.
Traffic growth rate: 2% minimum or historical growth rate, whichever is greater.

Page **3** of **4**

Figure 2 – Project Traffic Percent Distribution

Special Features: (from preliminary study or prior experience)
Accident locations: N/A
Sight distance: N/A
Queuing: to be determined
Access location & configuration: N/A
Traffic control: MUTCD
Signal system location & progression needs: N/A
On-site parking needs: N/A
Data Sources: ITE Trip Generation Manual 11th Edition
Base maps: N/A
Prior study reports: N/A
Access policy and jurisdiction: N/A
Review process: N/A
Requirements: N/A
Miscellaneous: N/A

SIGNATURES

Norman Trebilcock

Study Preparer—Norman Trebilcock

Trebilcock planning-engineering

Gavin Jones <gjones@trebilcock.biz>

RE: [EXTERNAL] Pepper Place Traffic Impact Methodology

1 message

Evans, Marcus <MEvans@leegov.com> Fri, Oct 21, 2022 at 1:13 PM
To: Gavin Jones <gjones@trebilcock.biz>
Cc: "Wu, Lili" <LWu@leegov.com>, "Butt, Farhan" <FButt@leegov.com>, "Dunn, Brandon" <BDunn@leegov.com>

Gavin,

Just a quick correction to (C) below: the latter portion of the sentence should reference that the model volumes may be used for the long-term analysis. If you have questions regarding this, please let me know. Thanks.

Marcus

From: Evans, Marcus
Sent: Friday, October 21, 2022 7:48 AM
To: 'Gavin Jones' <gjones@trebilcock.biz>
Cc: Wu, Lili <LWu@leegov.com>; Butt, Farhan <FButt@leegov.com>; Dunn, Brandon <BDunn@leegov.com>
Subject: RE: [EXTERNAL] Pepper Place Traffic Impact Methodology

Gavin,

Staff has reviewed the subject project traffic study methodology and provides the following comments for your consideration with respect to a proposed comprehensive plan amendment:

(A) study area: all arterials and collectors within a 3-mile radius of the project shall be included in the analysis

(B) analysis horizon year: a short-term (5-year) and long-term (year 2045) analysis is required

(C) background traffic: historical growth rates may be used for the short-term analysis and growth rates derived from the current 2045 FSUTMS model traffic volumes may be used for long-term analysis

(D) service volumes: Lee County's generalized service volumes shall be used for the both the short-term and long-term analyses

(E) trip generation: ITE's 11th Edition *Trip Generation Manual* shall be used for the analysis

(F) trip distribution: the FSUTMS model should be used to determine project trip distributions

(G) analysis time period(s): AM/PM peak hour; the appropriate Lee County K-100 and D-factors shall be used for the analysis

Staff has reviewed the subject project zoning traffic study methodology and provides the following comments for your consideration with respect to a proposed rezoning:

(1) Lee County's current generalized service volume tables must be used for determining future roadway levels of service

(2) project trip distribution should be determined by use of the Florida Department of Transportation's FSUTMS travel demand model

(3) the AM/PM peak hour trip generation calculations for ITE Land Use Code 330 appear incorrect

(4) the traffic study must comply with the requirements of the current Lee County Land Development Code and related codes/policies (including Lee County Administrative Code AC-13-17)

Hopefully, the above proves useful. If you have questions regarding any of the comments, please let me know. Thanks.

Marcus

Marcus Evans

Lee County Department of Community Development

(239) 533-8355

From: Gavin Jones <gjones@trebilcock.biz>
Sent: Tuesday, October 11, 2022 4:59 PM
To: Evans, Marcus <MEvans@leegov.com>
Cc: Norman Trebilcock <ntrebilcock@trebilcock.biz>; Ciprian Malaescu <cmalaescu@trebilcock.biz>
Subject: [EXTERNAL] Pepper Place Traffic Impact Methodology

Good afternoon Marcus,

Attached for your review is a methodology memo for the traffic analysis of a residential/recreation complex along with the estimated trip generation reflecting the current thinking on the uses involved, and a conceptual plan of the complex.

Thank you,

Gavin Jones, PE, AICP

Trebilcock Consulting Solutions, PA

2800 Davis Blvd, Suite 200

Naples, FL 34104

O 239.566.9551 / F 239.566.9553 / M 239.775.6026

www.trebilcock.biz

Appendix C:

ITE Trip Generation Manual 11th Ed.

Land Use: 210
Single-Family Detached Housing

Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates based on a small sample of sites are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 251), and higher than those for senior adult housing -- single-family (Land Use 251). Further analysis of this housing type will be conducted in a future edition of *Trip Generation Manual*.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

For 30 of the study sites, data on the number of residents and number of household vehicles are available. The overall averages for the 30 sites are 3.6 residents per dwelling unit and 1.5 vehicles per dwelling unit.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Arizona, California, Connecticut, Delaware, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Jersey, North Carolina, Ohio, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, Virginia, and West Virginia.

Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077,1078, 1079

Single-Family Detached Housing
(210)

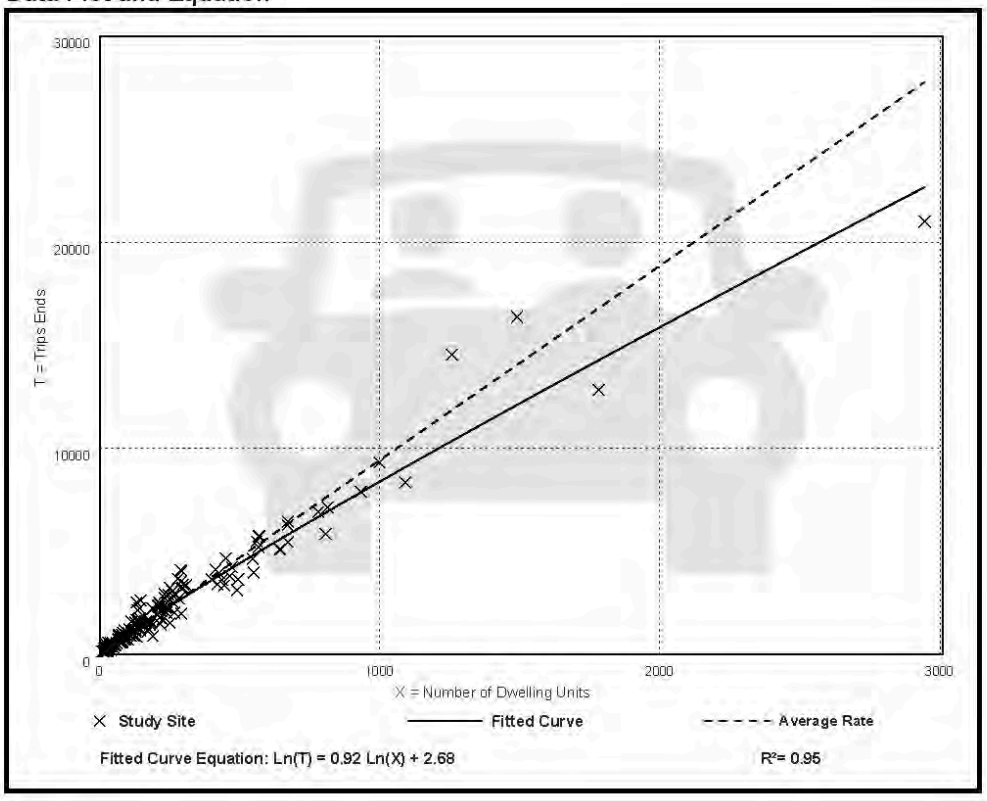
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 174
Avg. Num. of Dwelling Units: 246
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

Data Plot and Equation



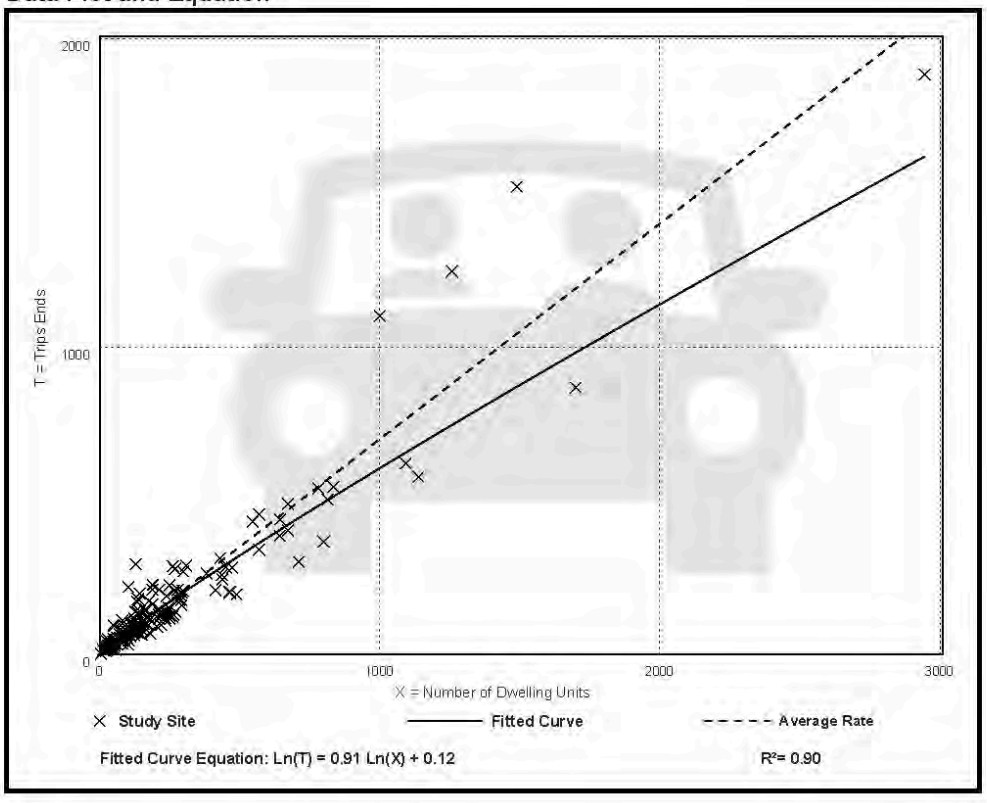
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 192
Avg. Num. of Dwelling Units: 226
Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



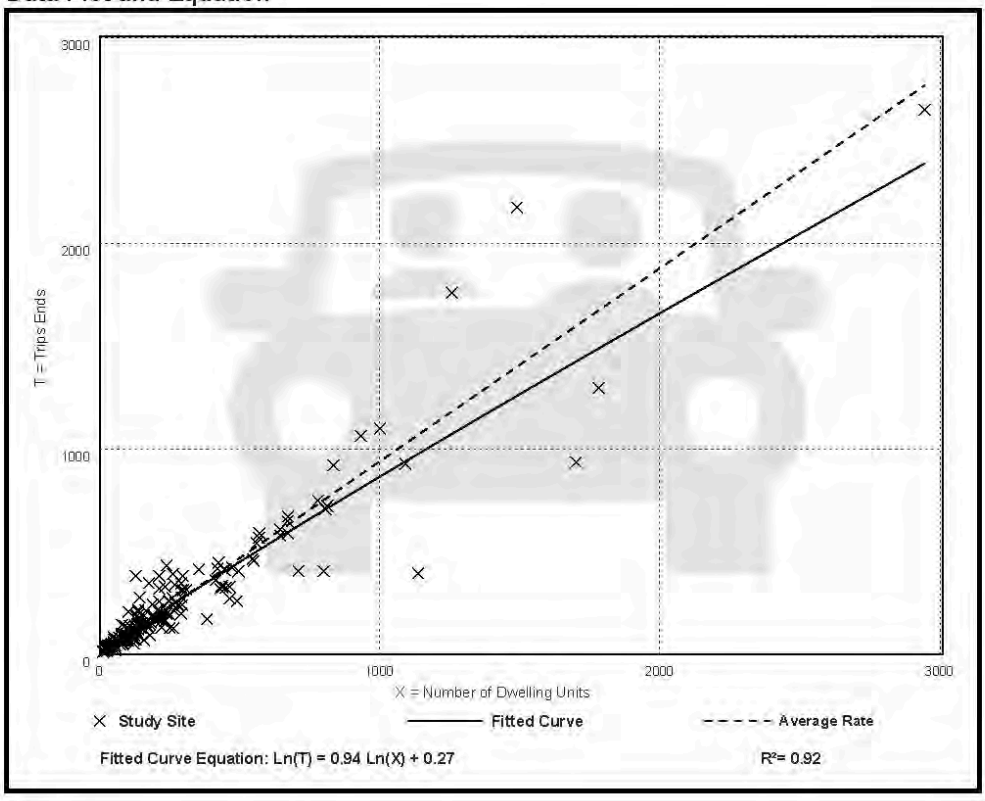
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 208
Avg. Num. of Dwelling Units: 248
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



Land Use: 330
Resort Hotel

Description

A resort hotel is similar to a hotel (Land Use 310) in that it provides sleeping accommodations, full-service restaurants, cocktail lounges, retail shops, and guest services. The primary difference is that a resort hotel caters to the tourist and vacation industry, often providing a wide variety of recreational facilities/programs (e.g., golf courses, tennis courts, beach access, or other amenities) rather than convention and meeting business. Hotel (Land Use 310), all suites hotel (Land Use 311), business hotel (Land Use 312), and motel (Land Use 320) are related uses.

Additional Data

It is recognized that some resort hotels cater to convention business as well as the tourist and vacation industry. The sites in the database do not have convention facilities. A resort hotel with convention facilities is likely to have a different level and pattern of trip generation than is presented in the data plots.

Nine studies provided information on room occupancy at the time of data collection. The average occupancy rate for these sites was approximately 88 percent.

Some properties in this land use provide guest transportation services (e.g., airport shuttle, limousine service, golf course shuttle service) which may have an impact on the overall trip generation rates.

The sites were surveyed in the 1980s and the 1990s in California, Florida, and South Carolina.

For all lodging uses, it is important to collect data on occupied rooms as well as total rooms in order to accurately predict trip generation characteristics for the site.

Source Numbers

270, 381, 436

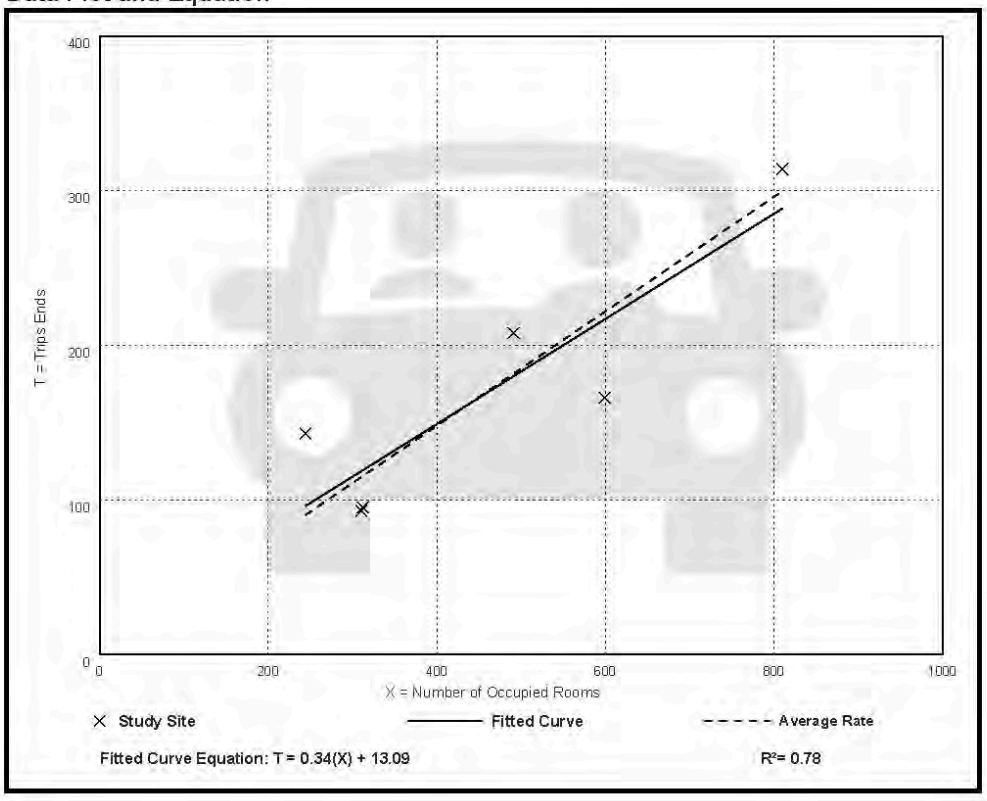
Resort Hotel
(330)

Vehicle Trip Ends vs: Occupied Rooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 6
Avg. Num. of Occupied Rooms: 461
Directional Distribution: 72% entering, 28% exiting

Vehicle Trip Generation per Occupied Room

Average Rate	Range of Rates	Standard Deviation
0.37	0.28 - 0.59	0.10

Data Plot and Equation



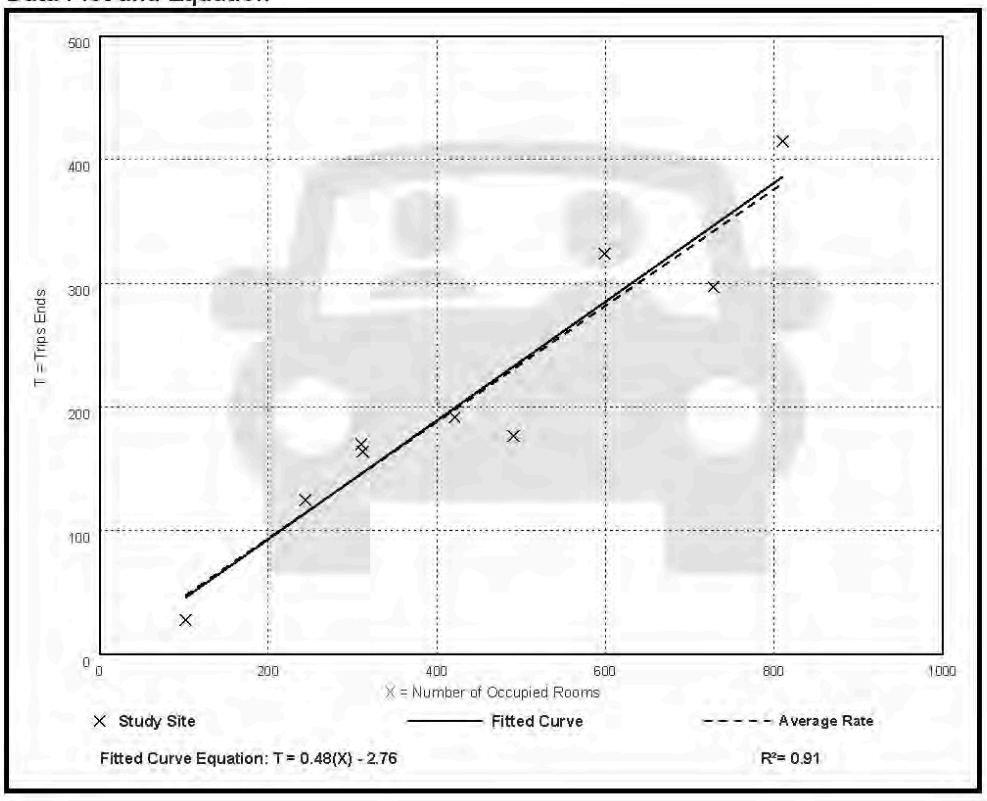
Resort Hotel
(330)

Vehicle Trip Ends vs: Occupied Rooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 9
Avg. Num. of Occupied Rooms: 446
Directional Distribution: 43% entering, 57% exiting

Vehicle Trip Generation per Occupied Room

Average Rate	Range of Rates	Standard Deviation
0.47	0.27 - 0.55	0.08

Data Plot and Equation



Land Use: 430
Golf Course

Description

A golf course is an expansive landscaped area that includes a series of golf holes, each consisting of a tee, fairway, and putting green. The site may have a driving range, clubhouse with a pro shop, restaurant, lounge, or banquet facility. Miniature golf course (Land Use 431), golf driving range (Land Use 432), and multipurpose recreational facility (Land Use 435) are related uses.

Additional Data

The golf courses in this land use are 9-, 18-, and 36-hole municipal courses.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, New Jersey, New York, Oregon, Pennsylvania, and Vermont.

Source Numbers

378, 407, 440, 629, 728, 925, 940, 970

Golf Course
(430)

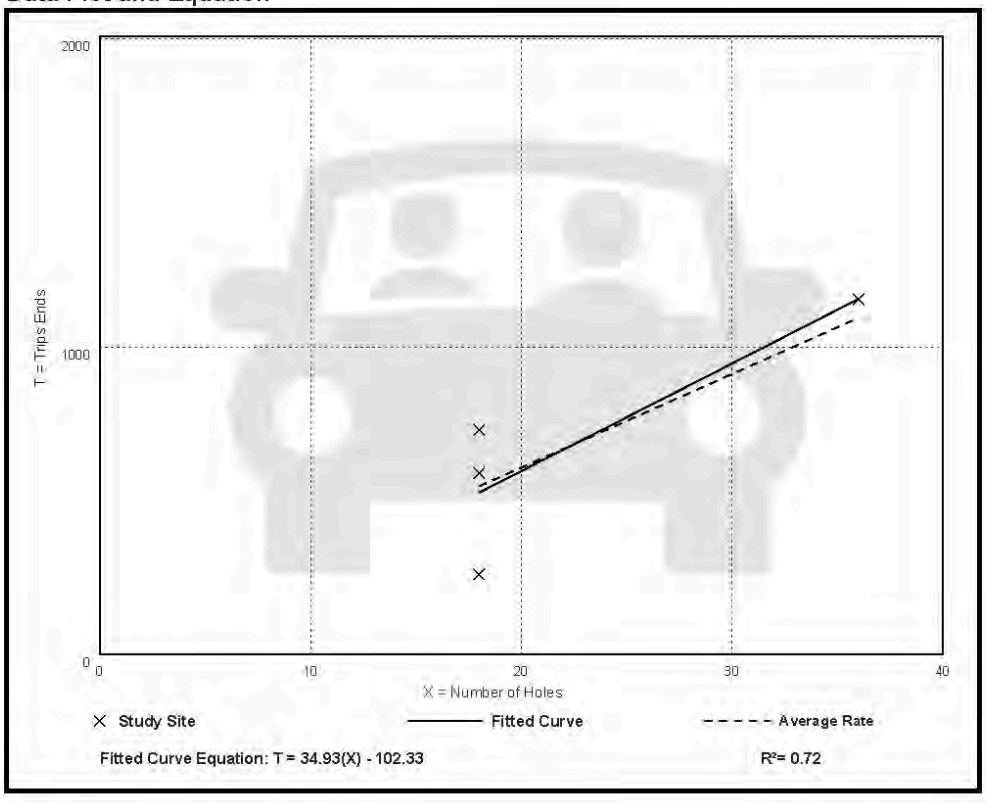
Vehicle Trip Ends vs: Holes
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. Num. of Holes: 23
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Hole

Average Rate	Range of Rates	Standard Deviation
30.38	14.50 - 40.50	9.88

Data Plot and Equation



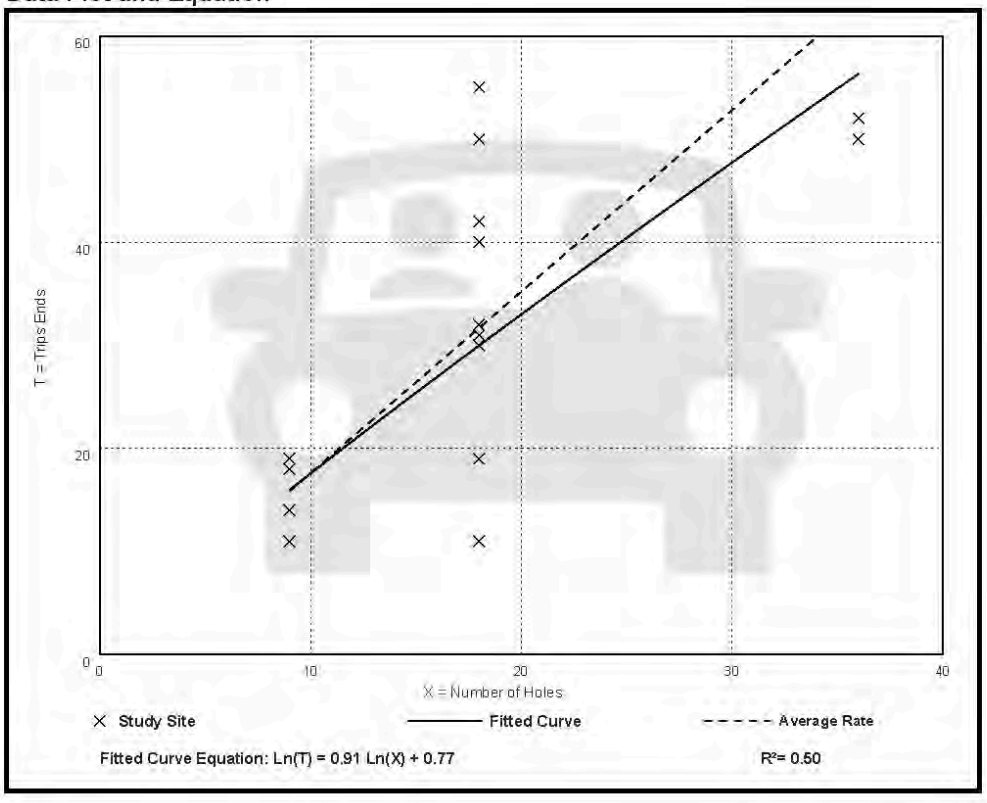
Golf Course
(430)

Vehicle Trip Ends vs: Holes
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 15
Avg. Num. of Holes: 18
Directional Distribution: 79% entering, 21% exiting

Vehicle Trip Generation per Hole

Average Rate	Range of Rates	Standard Deviation
1.76	0.61 - 3.06	0.64

Data Plot and Equation



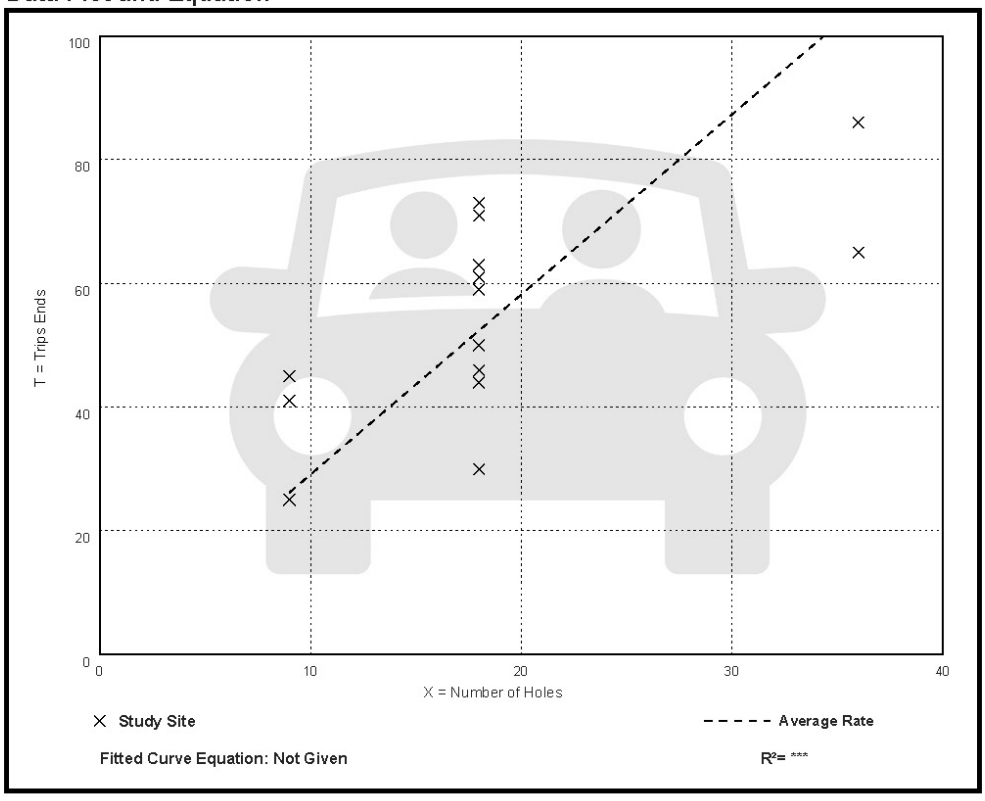
Golf Course
(430)

Vehicle Trip Ends vs: Holes
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 14
Avg. Num. of Holes: 19
Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Hole

Average Rate	Range of Rates	Standard Deviation
2.91	1.67 - 5.00	0.93

Data Plot and Equation



Land Use: 822
Strip Retail Plaza (<40k)

Description

A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, the GLA is the same as the gross floor area of the building.

The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA.

Shopping center (>150k) (Land use 820), shopping plaza (40-150k) (Land Use 821), and factory outlet center (Land Use 823) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Delaware, Florida, New Jersey, Ontario (CAN), South Dakota, Vermont, Washington, and Wisconsin.

Source Numbers

304, 358, 423, 428, 437, 507, 715, 728, 936, 960, 961, 974, 1009

Strip Retail Plaza (<40k)
(822)

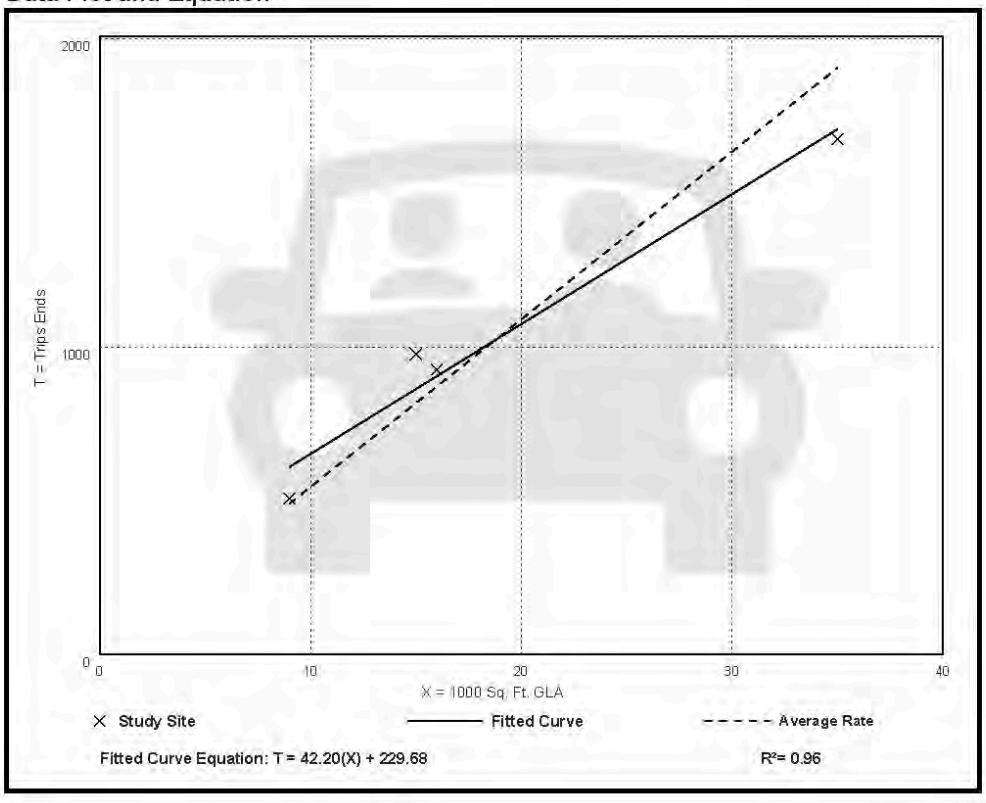
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. 1000 Sq. Ft. GLA: 19
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation



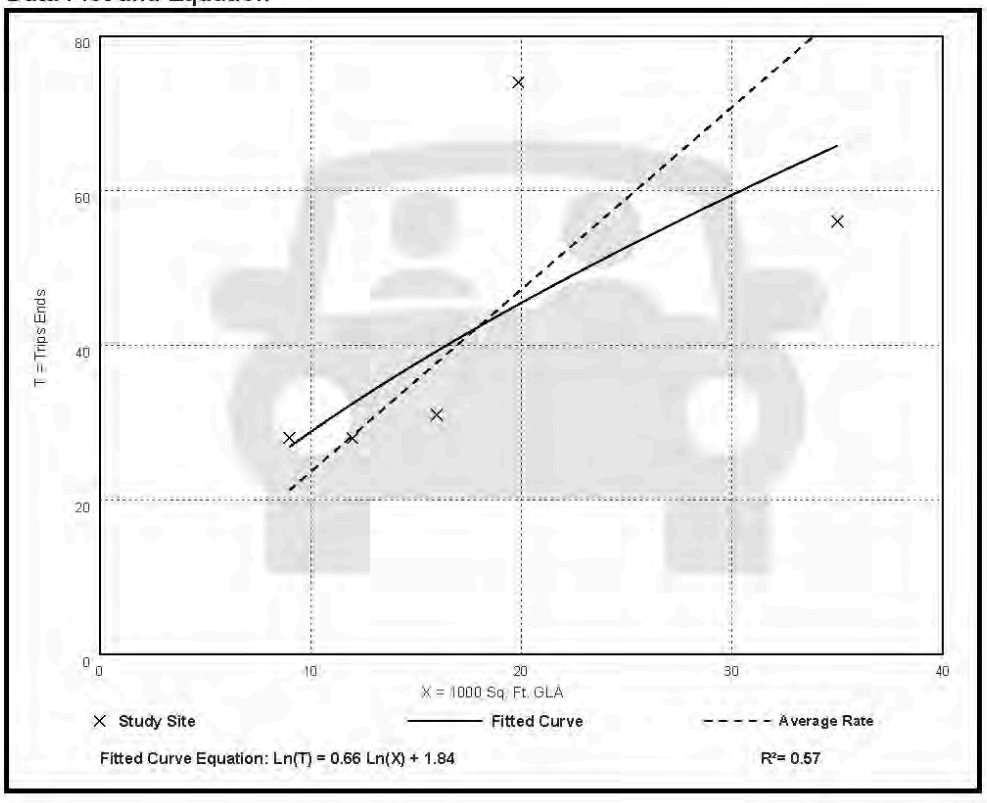
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 18
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation



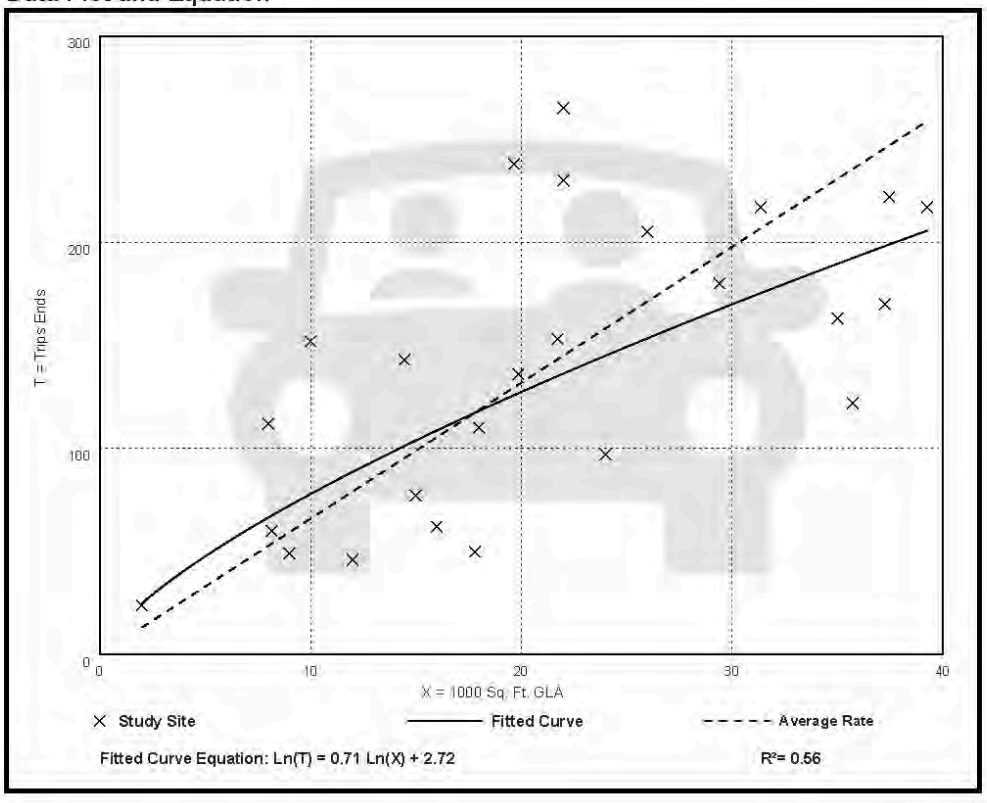
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 25
Avg. 1000 Sq. Ft. GLA: 21
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Land Use: 932
High-Turnover (Sit-Down) Restaurant

Description

This land use consists of sit-down, full-service eating establishments with a typical duration of stay of 60 minutes or less. This type of restaurant is usually moderately priced, frequently belongs to a restaurant chain, and is commonly referred to as casual dining. Generally, these restaurants serve lunch and dinner; they may also be open for breakfast and are sometimes open 24 hours a day. These restaurants typically do not accept reservations. A patron commonly waits to be seated, is served by wait staff, orders from a menu, and pays after the meal.

Some facilities offer carry-out for a small proportion of its customers. Some facilities within this land use may also contain a bar area for serving food and alcoholic drinks.

Fast casual restaurant (Land Use 930), fine dining restaurant (Land Use 931), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window (Land Use 934) are related uses.

Additional Data

Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not be open for breakfast. In cases where it was confirmed that the sites were not open for breakfast, data for the AM peak hour of the adjacent street traffic were removed from the database.

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Florida, Georgia, Indiana, Kentucky, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Vermont, and Wisconsin.

Source Numbers

126, 269, 275, 280, 300, 301, 305, 338, 340, 341, 358, 384, 424, 432, 437, 438, 444, 507, 555, 577, 589, 617, 618, 728, 868, 884, 885, 903, 927, 939, 944, 961, 962, 977, 1048

High-Turnover (Sit-Down) Restaurant (932)

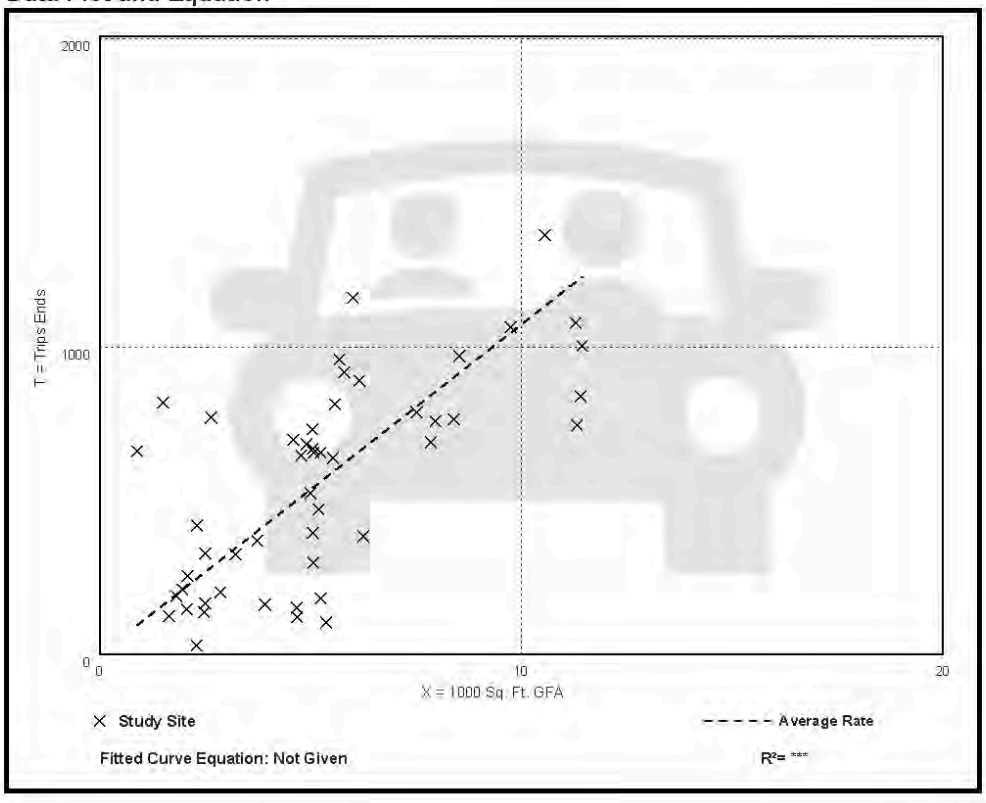
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 50
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
107.20	13.04 - 742.41	66.72

Data Plot and Equation



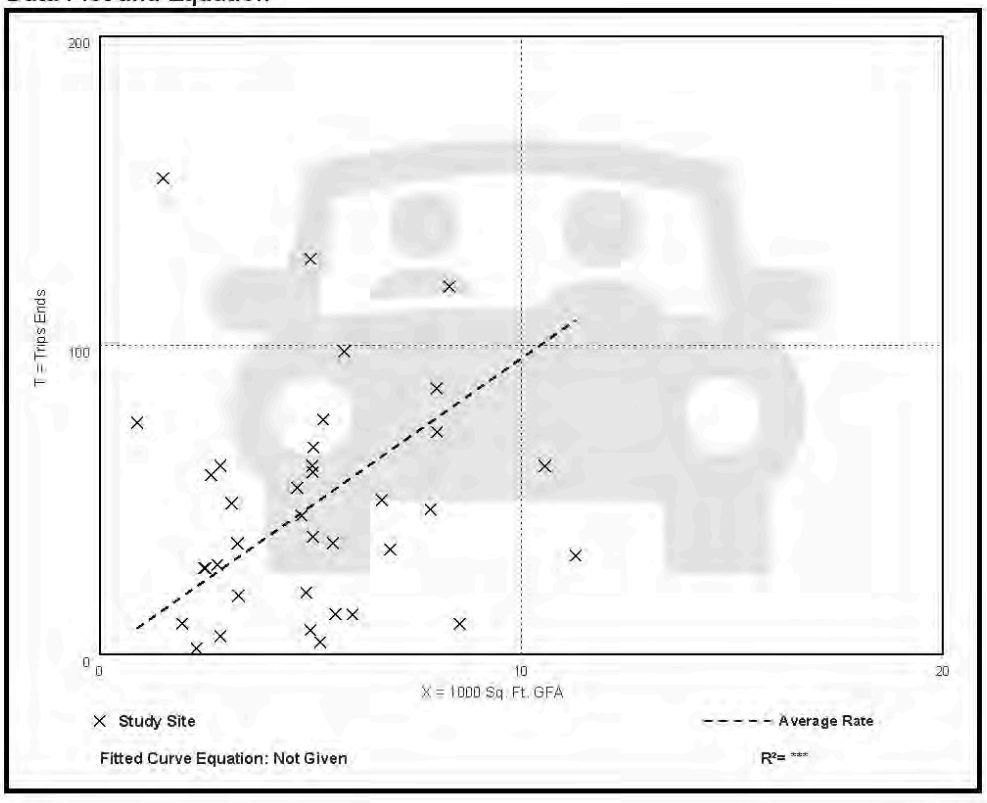
High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 37
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.57	0.76 - 102.39	11.61

Data Plot and Equation



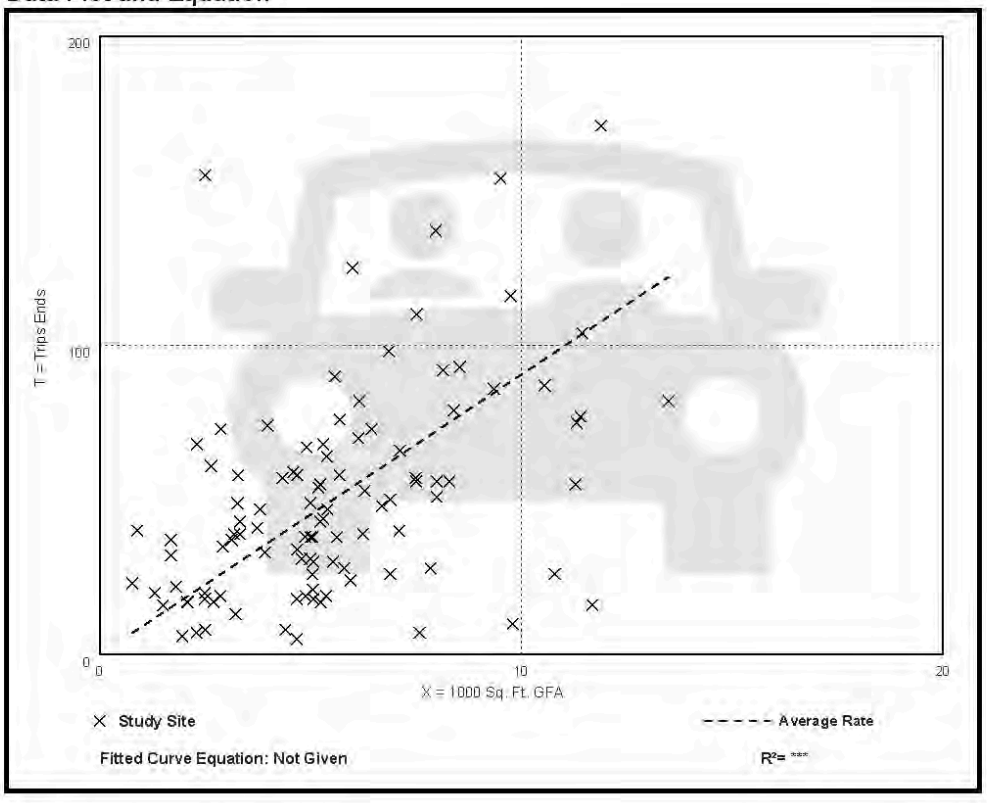
High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 104
Avg. 1000 Sq. Ft. GFA: 6
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.05	0.92 - 62.00	6.18

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats
On a: Weekday

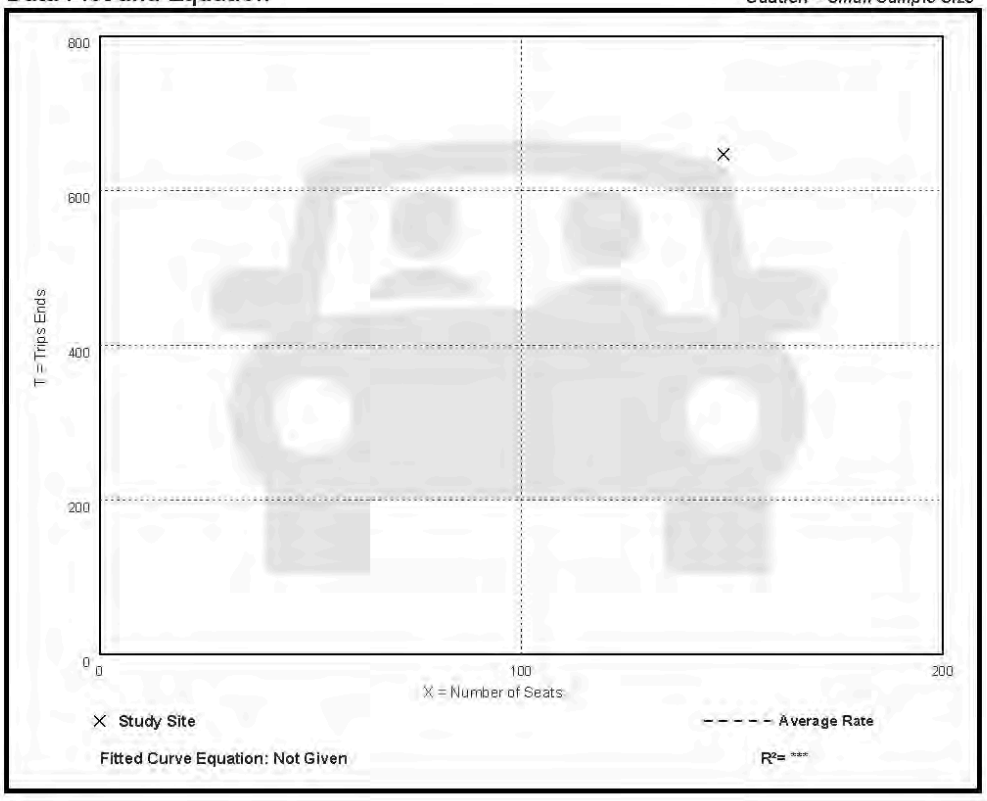
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. Num. of Seats: 148
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
4.37	4.37 - 4.37	***

Data Plot and Equation

Caution – Small Sample Size



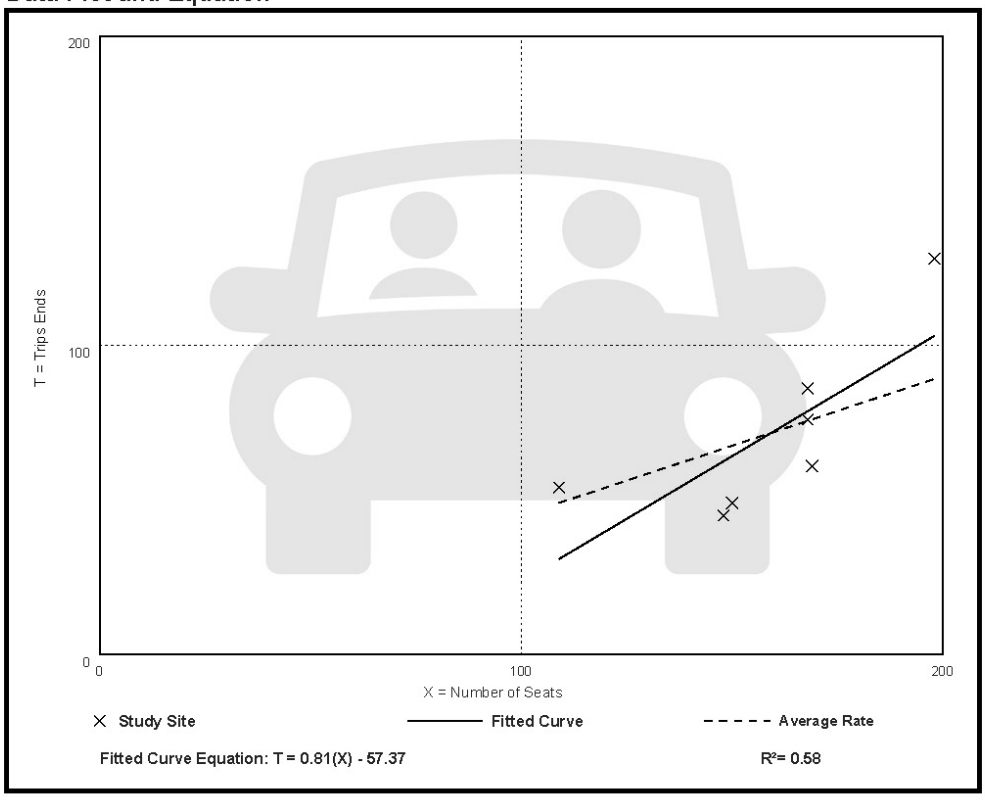
High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 7
Avg. Num. of Seats: 159
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.45	0.30 - 0.65	0.13

Data Plot and Equation



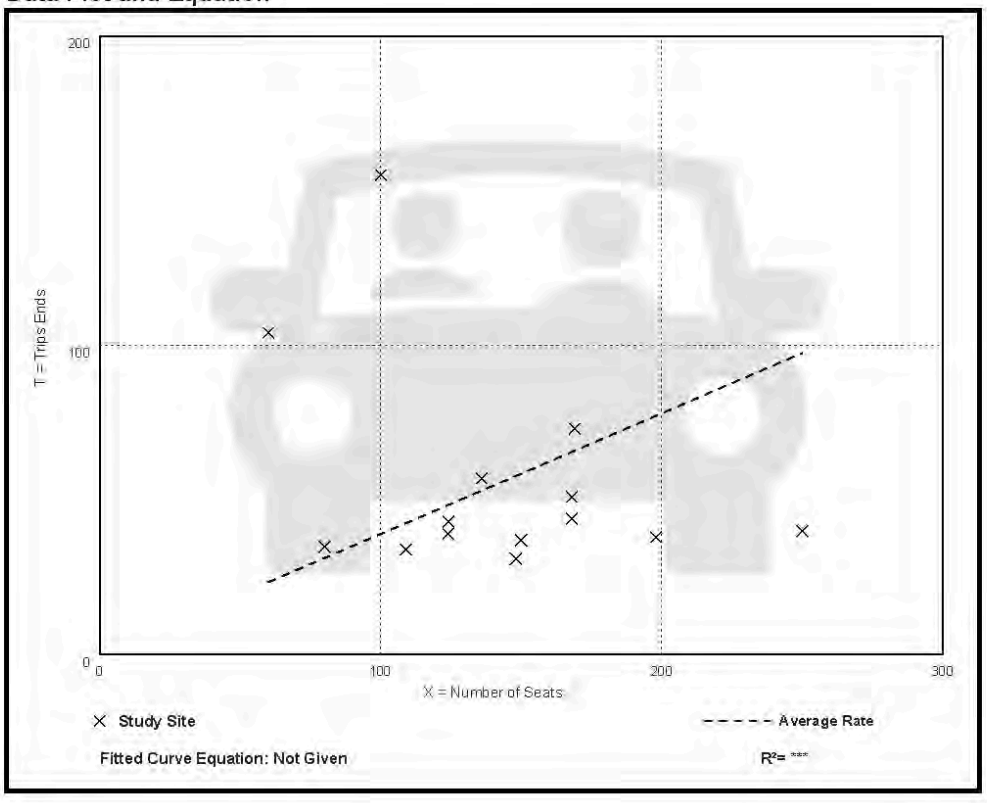
High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 14
Avg. Num. of Seats: 142
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Seat

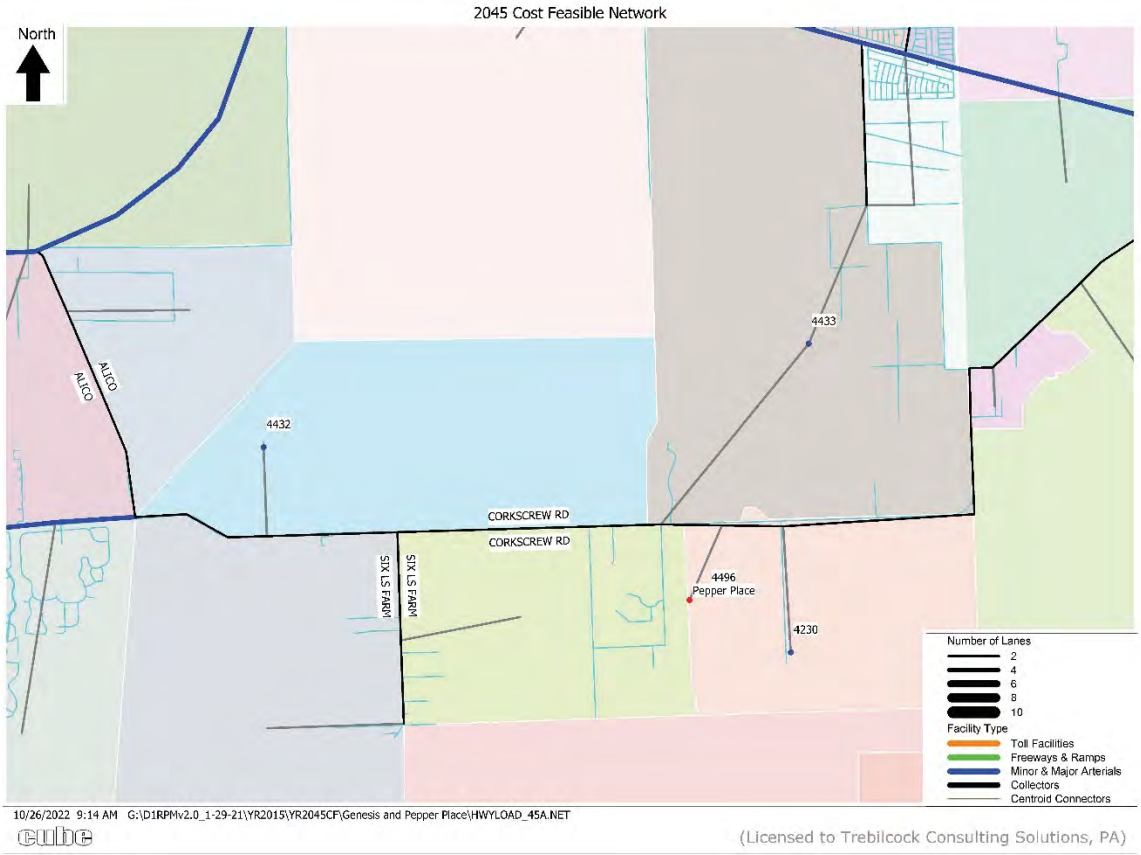
Average Rate	Range of Rates	Standard Deviation
0.39	0.16 - 1.73	0.39

Data Plot and Equation



Appendix D:

D1RPM Inputs and Outputs


2045 Cost Feasible Network
North
ALICO
ALICO
4432
4433
CORKSCREW RD
CORKSCREW RD
SIX LS FARM
SIX LS FARM
4496
Pepper Place
4230
Number of Lanes
2
4
6
8
10
Facility Type
Toll Facilities
Freeways & Ramps
Minor & Major Arterials
Collectors
Centroid Connectors
10/26/2022 9:14 AM G:\D1RPMv2.0_1-29-21\YR2015\YR2045CF\Genesis and Pepper Place\HWYLOAD_45A.NET
cube
(Licensed to Trebilcock Consulting Solutions, PA)

Land Use	Total Size	Units	Employees per Unit	SF	MF	Industrial Employees	Commercial Employees	Service Employees	Students
Single Family Detached Dus	500	DUs		500					
Retail	15,000	SF	3				45		
Resort Hotel	100	Rooms	1					100	
Golf Course	18	Holes	1					18	
			Total	500	0	0	45	118	0
Employees per Unit from FDOT Transportation Site Impact Handbook Exhibit 19									

9) Factor the total number of ITE external project trips by the link distribution percentages calculated earlier for each link in the loaded network
10) Resulting ITE trips times link distribution percentages can be plotted link by link
11) Adjust trips to commercial properties on site to account for agreed upon pass-by trip percentages
12) Factor the total number of ITE external trips (with Internal Capture and Pass by subtracted) by the link distribution percentages)

Exhibit 19

Land Use Conversion Rates for Traffic Impact Assessments

Land Use	Conversion Rate*
Single-Family Dwelling Unit	3 persons per DU
Multi-Family Dwelling Unit	2 persons per DU
Office	4 service employees per 1,000 sq ft
Hospital	3 service employees per 1,000 sq ft
Retail <200k sq ft	2 - 3 commercial employees per 1,000 sq ft
Large Retail	1.5 - 2 commercial employees per 1,000 sq ft
Industrial	2 industrial employees per 1,000 sq ft
Warehousing	1 industrial employee per 1,000 sq ft
Hotel	.5 - 1 service employee per room

*This data is a compilation of "Rules of Thumb" and calculations using the ITE *Trip Generation Manual*. These conversion rates should only be considered when local data, FDOT District guidance or more specific knowledge is not available.

Justification and documentation of all adjustments to the model generated distribution should be included in the traffic analysis.

Model methods are commonly used with manual assignment processes when determining distribution percentages of vehicles. A blended methodology (using manual adjustments to model trip assignments) should be approved by FDOT or another reviewing agency prior to use.

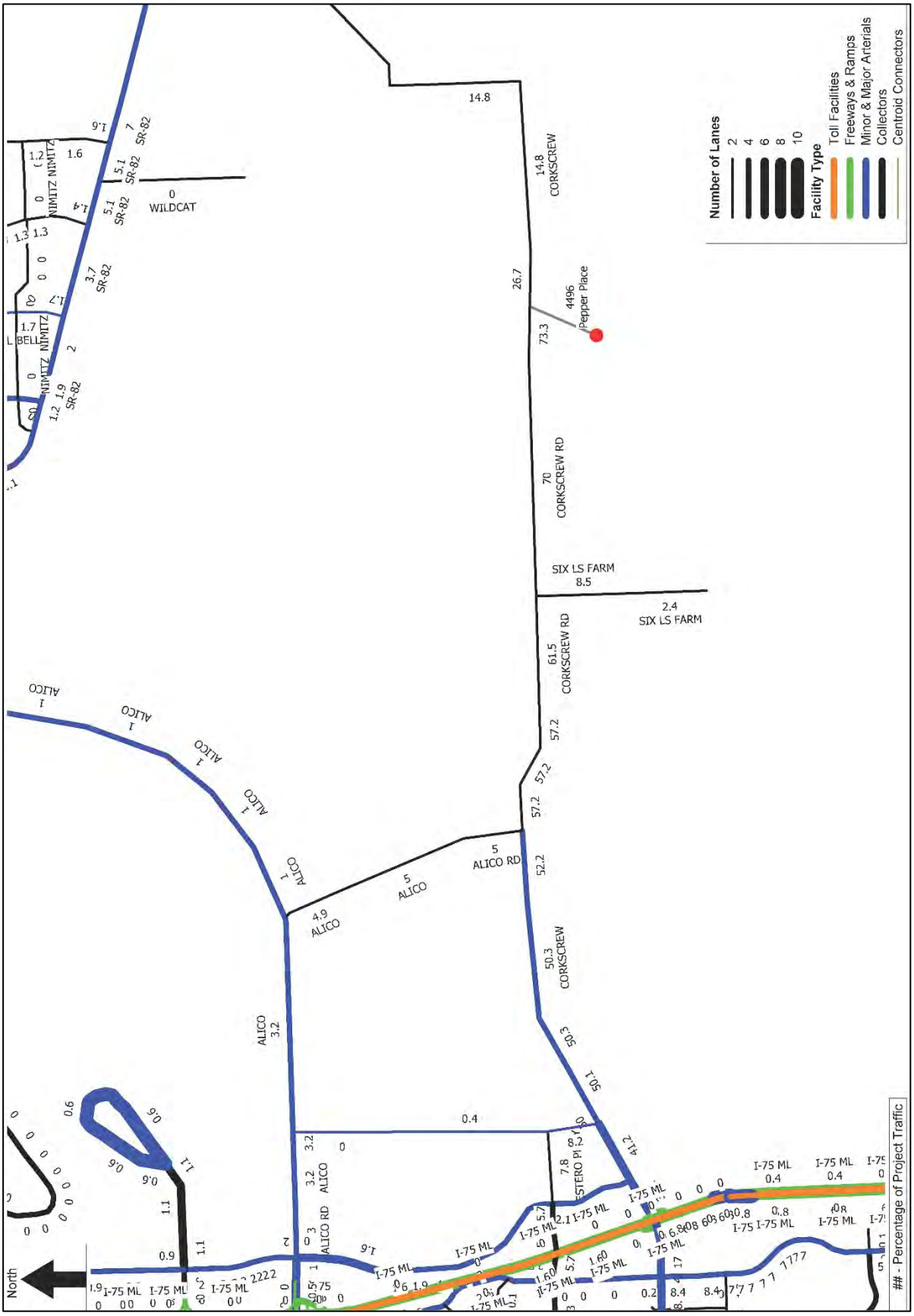
Manual trip distribution results and model outputs can be compared to provide reasonableness checks. Model methods may be used to determine an initial trip distribution and then manual adjustments may be made based on professional judgment and familiarity with the transportation network. Justification and documentation of all adjustments to the model generated distribution should be included in the traffic analysis. The model adjustments must be documented and approved by FDOT.

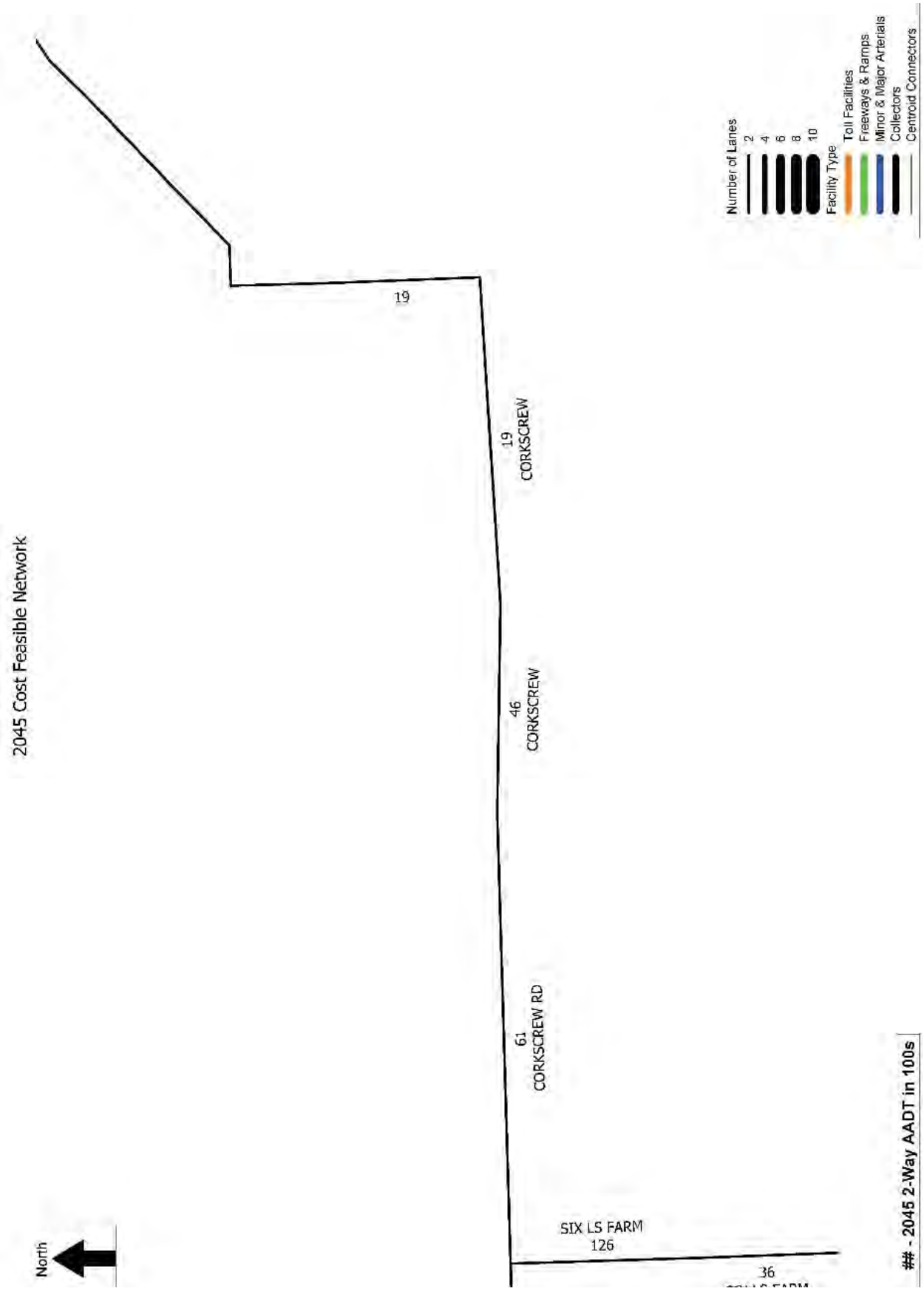
Understand the model's strengths and limitations

It is essential that the model user has a thorough understanding of a given model's analysis strengths and limitations so that model output can be properly interpreted and used.

Year	TAZ 15	TAZ 10	CC	COUNTY NAME	ZONE	ST CNTY	SFDU	SF PCT VAC	SF PCT VNP	SF POP	SF POP DU	SF 0 AUTO	SF 1 AUTO	SF 2 AUTO	MF DU	MF PCT VAC	MF PCT VNP	MF POP	MF POP DU	MF 0 AUTO	MF 1 AUTO	MF 2 AUTO
2045	4432	4007	9	LEE	4432	12071	1571	15	17	3284	2.09	5	30	65	0	17	21	0	1	0	29	71
2045	4433	4007	9	LEE	4433	12071	387	15	17	818	2.11	5	30	65	2	17	21	6	3	0	29	71
2045	4230	3728	9	LEE	4230	12071	668	7	7	1393	2.09	0	53	47	0	0	0	0	2	8	43	49
Source AVERAGE						12071		12	14		2.1	3	38	59		11	14		2	3	34	64
New	4496		9	LEE	4496	12071	500	12	14	1050	2.1	3	38	59	0	11	14	0	2	3	34	64

Year	TAZ 15	RESD HHLD	RESD POP	POP P HHLD	HH IN-COME	HH INC INDEX	HHLD SIZE	WRKR P HHLD	WORK-ERS	IND EMP	COMM EMP	SERV EMP	TOT EMP	HM DU	HM OCC	HM POP	SCHOOL	UNI-VERS-ITY	SHORT PARK	LONG PARK	NOTES
2045	4432	1571	3284	2.09	40027	1023	1.5	0.76	1194	0	0	31	31	0	0	0	0	0	0	0	0
2045	4433	389	824	2.12	40027	1023	2.1	1.2	467	22	7	17	46	0	0	0	0	0	0	0	0
2045	4230	668	1393	2.09	47014	760	1.73	0.85	568	0	0	16	16	0	0	0	0	0	0	0	
Source AVERAGE					42356	935	1.78	0.94													
New	4496	500	1050	2.1	42356	935	1.78	0.94	470	0	45	118	163	100	87	174	0	0	0	0	0


Number of Lanes
2
4
6
8
10
Facility Type
Toll Facilities
Freeways & Ramps
Minor & Major Arterials
Collectors
Centroid Connectors
14.8
CORKSCREW
WILDCAT
SR-82
NIMITZ
4496
Pepper Place
26.7
73.3
70
CORKSCREW RD
SIX LS FARM
8.5
2.4
SIX LS FARM
61.5
CORKSCREW RD
57.2
ALICO
5
ALICO RD
52.2
4.9
50.3
CORKSCREW
ALICO
3.2
0.4
I-75 ML
I-75
North
- Percentage of Project Traffic


2045 Cost Feasible Network
Number of Lanes
2
4
6
8
10
Facility Type
Toll Facilities
Freeways & Ramps
Minor & Major Arterials
Collectors
Centroid Connectors
19
19
CORKSCREW
46
CORKSCREW
61
CORKSCREW RD
SIX LS FARM
126
36
North
- 2045 2-Way AADT in 100s

Appendix E:

Lee County 2021 Concurrency Report (Excerpts)

9/23/2021

LEE COUNTY Road Link Volumes (County- and State-Maintained Roadways)

LINK NO.	ROADWAY LINK NAME	FROM	TO	ROAD TYPE	PERFORMANCE STANDARD LOS	CAPACITY	2020 100TH HIGHEST HOUR LOS	VOLUME	FORECAST FUTURE LOS	VOLUME	NOTES
00100	A & W BULB RD	GLADIOLUS DR	McGREGOR BLVD	2LN	E	860	C	410	C	431	
00200	ALABAMA RD	SR 82	MILWAUKEE BLVD	2LN	E	990	C	270	C	284	
00300	ALABAMA RD	MILWAUKEE BLVD	HOMESTEAD RD	2LN	E	990	C	355	C	373	
00400	ALEXANDER BELL	SR 82	MILWAUKEE BLVD	2LN	E	990	D	571	D	600	
00500	ALEXANDER BELL	MILWAUKEE BLVD	LEELAND HEIGHTS	2LN	E	990	D	571	E	664	Shadow Lakes
00590	ALICO RD	US 41	DUSTY RD	4LD	E	1,980	B	1,171	B	1,230	
00600	ALICO RD	DUSTY RD	LEE RD	6LD	E	2,960	B	1,171	B	1,532	Alico Business Park
00700	ALICO RD	LEE RD	THREE OAKS PKWY	6LD	E	2,960	B	1,171	B	1,419	Three Oaks Regional Center
00800	ALICO RD	THREE OAKS PKWY	I-75	6LD	E	2,960	B	2,051	B	2,156	EEPCO Study
00900	ALICO RD	I-75	BEN HILL GRIFFIN BLVD	6LD	E	2,960	B	1,061	B	1,208	EEPCO Study
01000	ALICO RD	BEN HILL GRIFFIN BLVD	GREEN MEADOW DR	2LN	E	1,100/1,840	C	378	B	782	4 Ln constr 2018, EEPCO Study*
01050	ALICO RD	GREEN MEADOW DR	CORKSCREW RD	2LN	E	1,100	B	131	B	224	EEPCO Study
01200	BABCOCK RD	US 41	ROCKEFELLER CIR	2LN	E	860	C	55	C	162	old count
01400	BARRETT RD	PONDELLA RD	PINE ISLAND RD	2LN	E	860	C	103	C	116	old count projection(2009)
01500	BASS RD	SUMMERLIN RD	GLADIOLUS DR	4LN	E	1,790	C	607	C	865	
01600	BAYSHORE RD (SR 78)	BUS 41	NEW POST RD/HART RD	4LD	D	2,100	C	1,750	C	1,925	
01700	BAYSHORE RD (SR 78)	HART RD	SLATER RD	4LD	D	2,100	C	1,774	F	2,236	
01800	BAYSHORE RD (SR 78)	SLATER RD	I-75	4LD	D	2,100	C	1,191	C	1,462	
01900	BAYSHORE RD (SR 78)	I-75	NALLE RD	2LN	D	924	C	691	C	877	
02000	BAYSHORE RD (SR 78)	NALLE RD	SR 31	2LN	D	924	C	532	C	673	
02100	BEN HILL GRIFFIN PKWY	CORKSCREW RD	FGCU ENTRANCE	4LD	E	2,000	B	1,403	B	1,475	
02200	BEN HILL GRIFFIN PKWY	FGCU BOULEVARD S	COLLEGE CLUB DR	4LD	E	2,000	B	1,403	B	1,475	
02250	BEN HILL GRIFFIN PKWY	COLLEGE CLUB DR	ALICO RD	6LD	E	3,000	A	1,129	A	1,221	
26950	BEN HILL GRIFFIN PKWY	ALICO RD	TERMINAL ACCESS RD	4LD	E	1,980	A	985	A	1,035	
02300	BETH STACEY BLVD	23RD ST	HOMESTEAD RD	2LN	E	860	C	346	C	548	
02400	BONITA BEACH RD	HICKORY BLVD	VANDERBILT DR	4LD	E	1,900	C	651	C	685	Constrained In City Plan *
02500	BONITA BEACH RD	VANDERBILT DR	US 41	4LD	E	1,900	C	1,494	C	1,571	Constrained In City Plan
02600	BONITA BEACH RD	US 41	OLD 41	4LD	E	1,860	C	1,532	C	1,610	Constrained, old count projection(2010)
02700	BONITA BEACH RD	OLD 41	IMPERIAL ST	6LD	E	2,800	C	1,818	C	1,910	Constrained In City Plan(2010)
02800	BONITA BEACH RD	IMPERIAL ST	W OF I-75	6LD	E	2,800	C	1,995	C	2,097	Constrained In City Plan
02900	BONITA BEACH RD	E OF I-75	BONITA GRAND DR	4LD	E	2,020	B	667	B	701	Constrained In City Plan
02950	BONITA BEACH RD	BONITA GRANDE DR	END OF CO. MAINTAINED	4LD	E	2,020	B	667	B	701	Constrained In City Plan
03100	BONITA GRANDE DR	BONITA BEACH RD	E TERRY ST	2LN	E	860	D	692	E	782	old count projection(2009)
03200	BOYSCOUT RD	SUMMERLIN RD	US 41	6LN	E	2,520	E	1,766	E	1,856	
03300	BRANTLEY RD	SUMMERLIN RD	US 41	2LN	E	860	C	275	C	289	
03400	BRIARCLIFF RD	US 41	TRIPLE CROWN CT	2LN	E	860	C	157	C	165	
03500	BROADWAY RD (ALVA)	SR 80	N. RIVER RD	2LN	E	860	C	299	C	314	old count projection(2009)
03700	BUCKINGHAM RD	SR 82	GUNNERY RD	2LN	E	990	D	477	D	501	
03730	BUCKINGHAM RD	GUNNERY RD	ORANGE RIVER BLVD	2LN	E	990	C	383	C	403	
03800	BUCKINGHAM RD	ORANGE RIVER BLVD	SR 80	2LN	E	990	D	529	E	884	Buckingham 345, Portico
03900	BURNT STORE RD	SR 78	VAN BUREN PKWY	4LD	E	2,950	B	923	B	970	
04000	BURNT STORE RD	VAN BUREN PKWY	COUNTY LINE	2LN	E	1,140	C	506	C	604	
04200	BUS 41 (N TAMIAMI TR, SR 7	CITY LIMITS (N END EDIS	PONDELLA RD	6LD	D	3,171	C	1,249	C	1,554	
04300	BUS 41 (N TAMIAMI TR, SR 7	PONDELLA RD	SR 78	6LD	D	3,171	C	1,249	C	1,554	
04400	BUS 41 (N TAMIAMI TR, SR 7	SR 78	LITTLETON RD	4LD	D	2,100	C	1,000	C	1,275	
04500	BUS 41 (N TAMIAMI TR, SR 7	LITTLETON RD	US 41	4LD	D	2,100	C	614	C	827	
04600	CAPE CORAL BRIDGE	DEL PRADO BLVD	McGREGOR BLVD	4LB	E	4,000	D	3,053	D	3,209	
04700	CAPTIVA DR	BLIND PASS	SOUTH SEAS	2LN	E	860	C	267	C	302	Constrained, old count(2010)
04800	CEMETERY RD	BUCKINGHAM RD	HIGGINS AVE	2LN	E	860	C	328	C	345	
04900	CHAMBERLIN PKWY	AIRPORT ENT	DANIELS PKWY	4LN	E	1,790	C	105	C	150	Port Authority maintained
05000	COCONUT RD	WEST END	VIA VENETTO BLVD	2LN	E	860	C	268	C	420	Estero maintains to east
05100	COLLEGE PKWY	McGREGOR BLVD	WINKLER RD	6LD	E	2,980	D	2,292	D	2,409	*
05200	COLLEGE PKWY	WINKLER RD	WHISKEY CREEK DR	6LD	E	2,980	D	2,059	D	2,164	
05300	COLLEGE PKWY	WHISKEY CREEK DR	SUMMERLIN RD	6LD	E	2,980	D	2,059	D	2,164	
05400	COLLEGE PKWY	SUMMERLIN RD	US 41	6LD	E	2,980	D	1,815	D	1,907	
05500	COLONIAL BLVD	McGREGOR BLVD	SUMMERLIN RD	6LD	E	2,840	F	3,049	F	3,204	*
05600	COLONIAL BLVD	SUMMERLIN RD	US 41	6LD	E	2,840	D	2,821	F	2,965	
06200	COLONIAL BLVD	DYNASTY DR	SR 82	6LD	D	3,040	B	2,241	C	2,355	*
06300	COLUMBUS BLVD	SR 82	MILWAUKEE BLVD	2LN	E	860	C	100	C	105	old count
06400	CONSTITUTION BLVD	US 41	CONSTITUTION CIR	2LN	E	860	C	217	C	245	old count projection(2010)
06500	CORBETT RD	SR 78 (PINE ISLAND RD)	LITTLETON RD	2LN	E	860	C	22	C	226	old count, added VA clinic(2009)
06600	CORKSCREW RD	US 41	THREE OAKS PKWY	4LD	E	1,900	C	1,007	C	1,272	Galleria at Corkscrew
06700	CORKSCREW RD	THREE OAKS PKWY	W OF I-75	4LD	E	1,900	F	2,129	F	2,238	
06800	CORKSCREW RD	E OF I-75	BEN HILL GRIFFIN BLVD	4LD	E	1,900	C	1,022	C	1,234	
06900	CORKSCREW RD	BEN HILL GRIFFIN BLVD	ALICO RD	4LD	E	1,900	C	1,181	C	1,393	
07000	CORKSCREW RD	ALICO RD	COUNTY LINE	2LN	E	1,140	C	499	E	978	EEPCO Study, The Place, Verdana Village
07100	COUNTRY LAKES BLVD	LUCKETT RD	TICE ST	2LN	E	860	C	143	C	293	old count projection(2010)
07200	CRYSTAL DR	US 41	METRO PKWY	2LN	E	860	C	336	C	353	
07300	CRYSTAL DR	METRO PKWY	PLANTATION RD	2LN	E	860	C	225	C	237	

Appendix F:

Lee County 2021 Traffic Count Report (Excerpts)

Updated 3/31/22			Daily Traffic Volume (AADT)									
STREET	LOCATION	Station #	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
COLLEGE PKWY	W OF SOUTH POINTE BLVD	83				38000	40900					
COLLEGE PKWY	E OF WINKLER RD	43	30400	31700	32300	36100	37600	37100	37200	37500		
COLLEGE PKWY	W OF NEW BRITTANY	87				33500	33300			32200	28900	
COLLEGE PKWY	E OF KENWOOD LN	237			26900							
COLONIAL BLVD	E OF SUMMERLIN RD	14	51500	52500	53100	54600	55600	55900	56900	56500	51100	57700
COLONIAL BLVD	W OF WINKLER AVE	78				56000						
COLONIAL BLVD	W OF TREELINE AVE	91				45100	45500			48300	53400	
COLONIAL BLVD	W OF IMMOKALEE RD	246		35400	39500	41500		43000				44500
CORKSCREW RD	E OF US 41	247		14300		16600		17000		20000		20800
CORKSCREW RD	W OF I - 75	15	29500	28800	30600	31600	33400	34200	36500	39500		
CORKSCREW RD	E OF I - 75			13000								
CORKSCREW RD	E OF I-75	70		21900	21900	22000	22200	22000	22900	20300	16900	17600
CORKSCREW RD	E OF BEN HILL GRIFFIN PKWAY	249				15600		18900		20900		
CORKSCREW RD	W OF ALICO RD	248		3800								
CORKSCREW RD	E OF ALICO RD	250			3100		4400		6700			
CRYSTAL DR	E OF US 41	254		8600	11200		12300		12100		8200	
CRYSTAL DR	E OF METRO PKWY	255			6100		6400		7900		5500	
CYPRESS LAKE DR	E OF SOUTH POINTE BLVD	81				20300	22300	22300		20900	18200	20000
CYPRESS LAKE DR	E OF OVERLOOK DR	73		29400	24700	25800	24200	27100	27200	27100	22600	25400
CYPRESS LAKE DR	W OF SUMMERLIN RD	259	27900	27800				27700		29000		28900
CYPRESS LAKE DR	E OF REFLECTION PKWY	82				42300	38900	39900	40700		35100	39800
CYPRESS LAKE DR	W OF US 41	258	31700	34000	35900	35200				36000		35400
DANIELS PKWY	W OF METRO PKWY	30	40500	40100	46400	47400	48300	48300	49400	49900	41900	49300
DANIELS PKWY	W OF PLANTATION RD	263			48000		47600					
DANIELS PKWY	E OF SIX MILE PKWY	31	52200	53200	51800	53200	59700		60700	62500	54100	63100

PCS 70 - Corkscrew Rd west of Ben Hill Griffin Pkwy

2021 AADT = 17,600 VPD

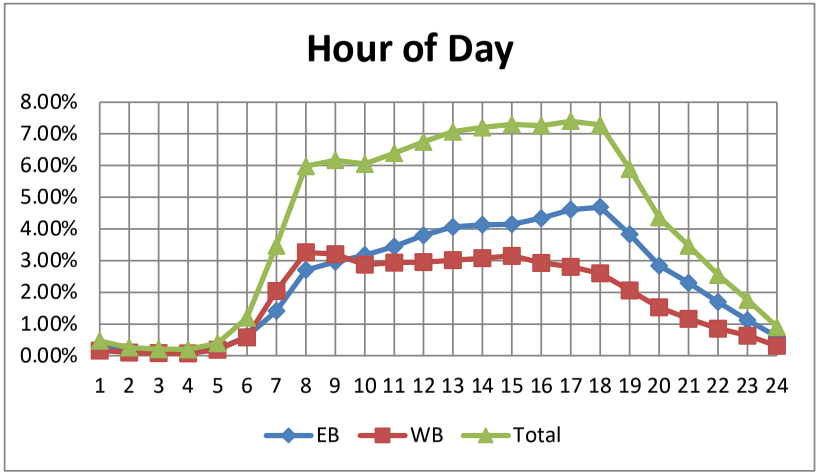
Hour	EB	WB	Total
0	0.31%	0.17%	0.47%
1	0.16%	0.10%	0.26%
2	0.13%	0.08%	0.21%
3	0.13%	0.07%	0.20%
4	0.20%	0.19%	0.39%
5	0.61%	0.58%	1.20%
6	1.41%	2.05%	3.47%
7	2.70%	3.26%	5.98%
8	2.96%	3.20%	6.17%
9	3.17%	2.87%	6.05%
10	3.44%	2.94%	6.39%
11	3.80%	2.95%	6.75%
12	4.06%	3.01%	7.07%
13	4.13%	3.08%	7.20%
14	4.15%	3.15%	7.30%
15	4.34%	2.93%	7.26%
16	4.61%	2.81%	7.40%
17	4.69%	2.60%	7.28%
18	3.83%	2.06%	5.89%
19	2.84%	1.53%	4.36%
20	2.30%	1.17%	3.47%
21	1.69%	0.86%	2.55%
22	1.12%	0.63%	1.76%
23	0.60%	0.31%	0.91%

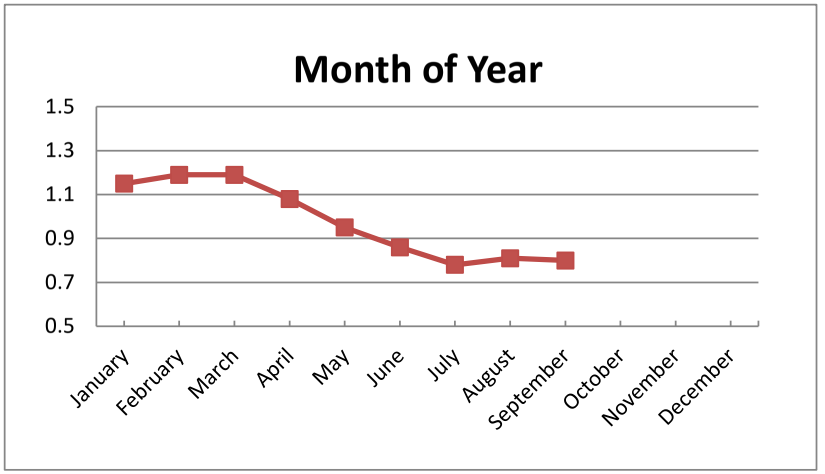
Month of Year	Fraction
January	1.15
February	1.19
March	1.19
April	1.08
May	0.95
June	0.86
July	0.78
August	0.81
September	0.8
October	
November	
December	

Directional Factor		
AM	0.59	WB
PM	0.62	EB

Day of Week	Fraction
Sunday	0.71
Monday	1.01
Tuesday	1.05
Wednesday	1.08
Thursday	1.11
Friday	1.12
Saturday	0.91

Design Hour Volume		
#	Volume	Factor
5	1885	0.107
10	1867	0.106
20	1844	0.105
30	1820	0.103
50	1780	0.101
100	1731	0.098
150	1693	0.096
200	1664	0.095





Appendix G:

Lee County Generalized Peak Hour Directional Service Volumes

Lee County
Generalized Peak Hour Directional Service Volumes
Urbanized Areas

April 2016 c:\input5

Uninterrupted Flow Highway

Level of Service

Lane	Divided	A	B	C	D	E
1	Undivided	130	420	850	1,210	1,640
2	Divided	1,060	1,810	2,560	3,240	3,590
3	Divided	1,600	2,720	3,840	4,860	5,380

Arterials

Class I (40 mph or higher posted speed limit)

Level of Service

Lane	Divided	A	B	C	D	E
1	Undivided	*	140	800	860	860
2	Divided	*	250	1,840	1,960	1,960
3	Divided	*	400	2,840	2,940	2,940
4	Divided	*	540	3,830	3,940	3,940

Class II (35 mph or slower posted speed limit)

Level of Service

Lane	Divided	A	B	C	D	E
1	Undivided	*	*	330	710	780
2	Divided	*	*	710	1,590	1,660
3	Divided	*	*	1,150	2,450	2,500
4	Divided	*	*	1,580	3,310	3,340

Controlled Access Facilities

Level of Service

Lane	Divided	A	B	C	D	E
1	Undivided	*	160	880	940	940
2	Divided	*	270	1,970	2,100	2,100
3	Divided	*	430	3,050	3,180	3,180

Collectors

Level of Service

Lane	Divided	A	B	C	D	E
1	Undivided	*	*	310	660	740
1	Divided	*	*	330	700	780
2	Undivided	*	*	730	1,440	1,520
2	Divided	*	*	770	1,510	1,600

Note: the service volumes for I-75 (freeway), bicycle mode, pedestrian mode, and bus mode should be from FDOT's most current version of LOS Handbook.

The Preserve Sporting Club & Residences at Pepper Place

Private Recreational Facilities Planned Development

Potable Water Summary

The Preserve Sporting Club & Residences at Pepper Place is a proposed Private Recreational Facilities Planned Development that covers approximately 1,052 acres within Southeastern Lee County. Currently, the land is split into a number of parcels that are used primarily as farming and other agricultural production. These properties will be merged into a single parcel and PRFPD, with a unified potable water distribution system. This application proposes to eliminate the need for 98 residential wells, and proposes to connect the various uses onsite with a centralized potable water distribution system. This project proposes to properly cap/abandon the existing wells, and serve the proposed uses via a central potable water distribution system, with potable water being provide by Lee County Utilities. Included within this submittal is a letter of availability from Lee County Utilities outlining not only the ability to serve, but the capacity to serve the proposed project and its proposed uses. The existing uses require an approximate 17 Gallons Per Minute (GPM), whereas the proposed uses require an approximate 100 GPM.

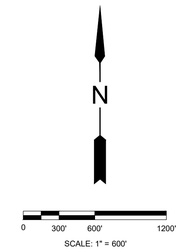
The Preserve Sporting Club & Residences at Pepper Place

Private Recreational Facilities Planned Development

Wastewater Summary

The Preserve Sporting Club & Residences at Pepper Place is a proposed Private Recreational Facilities Planned Development that covers approximately 1,052 acres within Southeastern Lee County. Currently, the land is split into a number of parcels that are used primarily as farming and other agricultural production. These properties will be merged into a single parcel and PRFPD, with a unified wastewater collection and transmission system.

Currently the generated wastewater is treated and discharged to a number of septic systems within the project area. This project proposes to properly remove the existing septic systems, as well as the potential for 98 additional septic systems within the environmentally sensitive DR/GR, and serve the proposed uses via a central wastewater collection and transmission system, with treatment being provide by Lee County Utilities. Included within this submittal is a letter of availability from Lee County Utilities outlining not only the ability to serve, but the capacity to serve the proposed project and its proposed uses. The existing uses are anticipated to generate approximately 17 Gallons Per Minute (GPM) in wastewater flow, whereas the proposed uses will generate an approximate 100 GPM.



LEGEND

- PROPOSED FLOW PATTERN
- PROPOSED STORM WATER PIPES
- EXISTING OUTFALL STRUCTURE
- PROPOSED PRESERVE
- EXISTING WETLAND
- PROPOSED LAKE

NOTE: SITE PLAN IS PRELIMINARY AND SUBJECT TO CHANGE. FINAL SITE PLAN TO BE DETERMINED WITH DEVELOPMENT ORDER(S).

J.R. EVANS ENGINEERING

THE PRESERVE CLUB & RESIDENCES AT PEPPER PLACE

STORM WATER DRAINAGE PATTERN

November 2, 2022

Water Resources Report
Preserve at Pepper Place, Lee County, Florida

MTM Naples Investments, LLC
87 Kingstown Road
Richmond, Rhode Island 02898

NOVEMBER 2022

13620 Metropolis Avenue, Suite 110
Fort Myers, Florida 33912
O 239.204.5300 - F 866.398.2426
www.waterscienceassociates.com

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FIGURES

TABLES

SECTION A

EXECUTIVE SUMMARY

The Preserve Sporting Club & Residences at Pepper Place project (Preserve at Pepper Place) is a proposed mixed-use development located on the south side of Corkscrew Road approximately two miles west of the Collier County line in portions of Sections 27, 33, and 34, Township 46 South, Range 27 East in, Lee County Florida. The project is situated between Titan Aggregates Mine to the north across Corkscrew Road, existing agricultural and vacant areas to the east and west, and the undeveloped vacant land that is part of the Panther Island Mitigation Bank Expansion area to the south. The site consists of approximately 1,000 +/- acres of predominantly farm fields that have been heavily drained through an extensive network of ditches that have lowered surface and groundwater levels on the site. The fields also have a historic agricultural irrigation water use extending from the 1960's through present with permitted water use exceeding 3.5 million gallons per day from the Surficial Aquifer System and Sandstone Aquifer.

Projected irrigation water demands for the Preserve at Pepper Place are significantly lower than the historic agricultural use and proposed irrigation supplies will be developed from a combination of stormwater harvesting of the project stormwater management system with supplements from freshwater aquifers underlying the site. Lee County Utilities (LCU) currently utilizes groundwater sources from the Water Table and Sandstone Aquifers and maintains a public water supply wellfield located approximately three miles west of the project site. Potable water supplies and wastewater utility services for the project are anticipated to be provided by Lee County Utilities with privately funded extension of services to the project site.

The project currently lies within the Density Reduction Groundwater Resource (DRGR) land use designation of Lee County which is intended to provide protections to groundwater resources through restrictions on residential density and to maintain surface and groundwater levels at their historic levels. The proposed project can contribute to the County's water resource improvement initiatives through enhanced onsite water management design, including provision for coordinating stormwater management facilities to take advantage of regional connectivity opportunities. Site stormwater discharges can be routed to proposed flow-ways adjacent to the site to enhance water flows from north of the project to adjacent preserve lands to the south. In addition, improved water storage within the project boundaries can be managed to augment restoration on the Panther Island Mitigation Bank. The project also acknowledges the present character of the project site as severely impacted by agricultural uses. The project specifically recognizes the subject property's strategic location proximate to large conservation areas and its ability to implement and further the County's long-term goals of protecting groundwater and improving surface water management in eastern Lee County.

SECTION B
INTRODUCTION

Project Overview

The Preserve at Pepper Place project is an approximately 1,000 acre proposed mixed-use development located on the south side of Corkscrew Road approximately two miles west of the Collier County line in portions of Sections 27, 33, and 34, Township 46 South, Range 27 East in, Lee County Florida (**Figure 1**) within the Density Reduction Groundwater Recharge (DRGR) area. The property is currently used for agricultural purposes and consists of multiple active farm fields and heavily impacted wetland areas. The project is located on five parcels that currently maintain agricultural water use permits, including the Pepperplace North, Pepperplace South, Keystone-Lee Grove, Carter Road Citrus, and Corkscrew Tree, LLC projects.

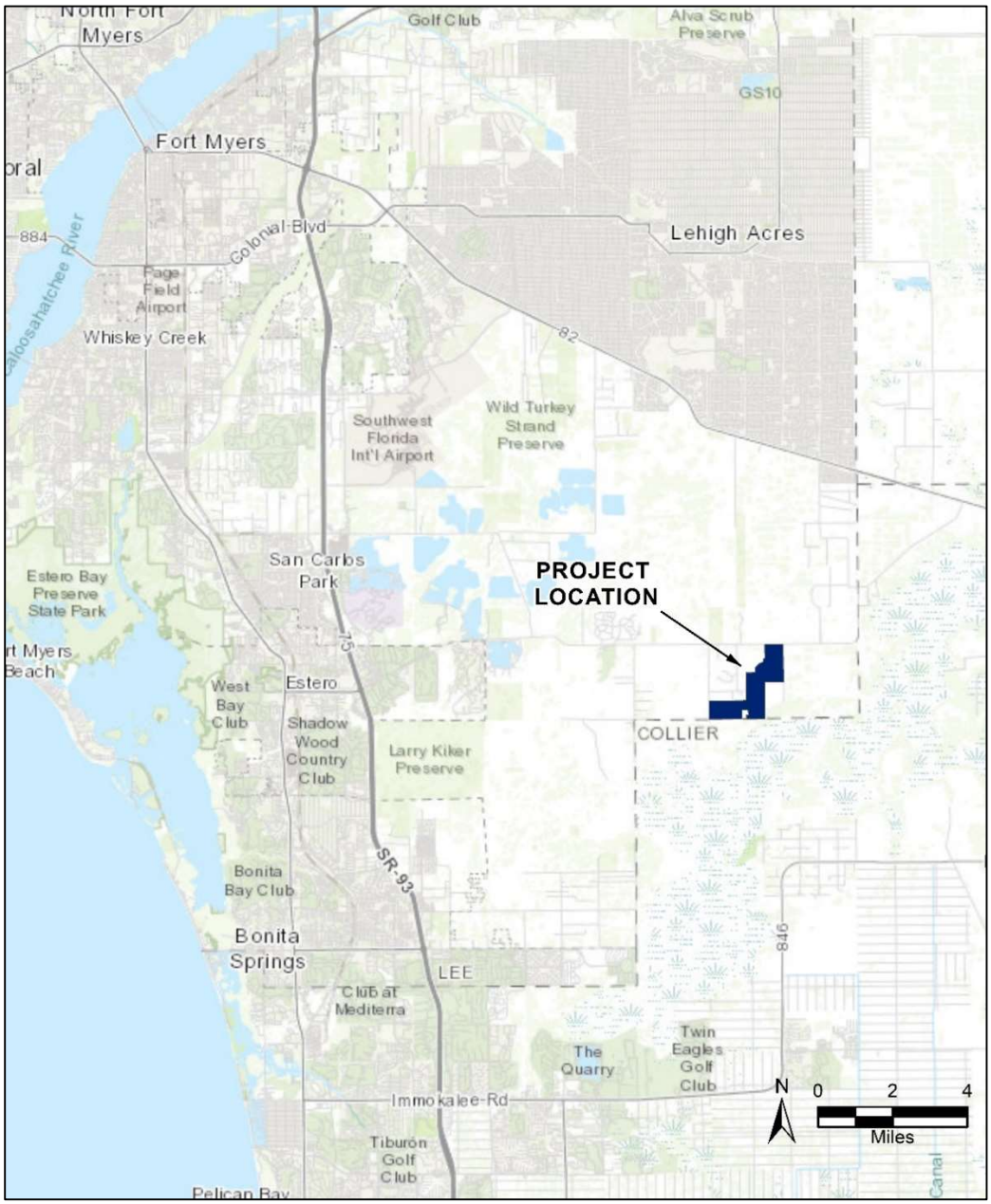

Figure 1. Location of the Preserve at Pepper Place Project

The project is bordered to the north by the Titan Aggregates Mine across Corkscrew Road, to the east and west by existing agricultural and vacant areas, and to the south by undeveloped conservation lands that are part of the Panther Island Mitigation Bank Expansion area. The project is located approximately two miles east of the 10-year Travel Time of the Lee County wellfield protection zone and approximately two and a half miles from the nearest public water supply well. Lee County Utilities (LCU) currently utilizes groundwater sources from the Water Table and Sandstone Aquifers and maintains a public water supply wellfield located approximately three miles west of the project site. The project lies within the Trafford watershed and namely within the Corkscrew – West sub-watershed (**Figure 2**). East of the Preserve at Pepper Place project lies the regionally extensive Corkscrew - East watershed.

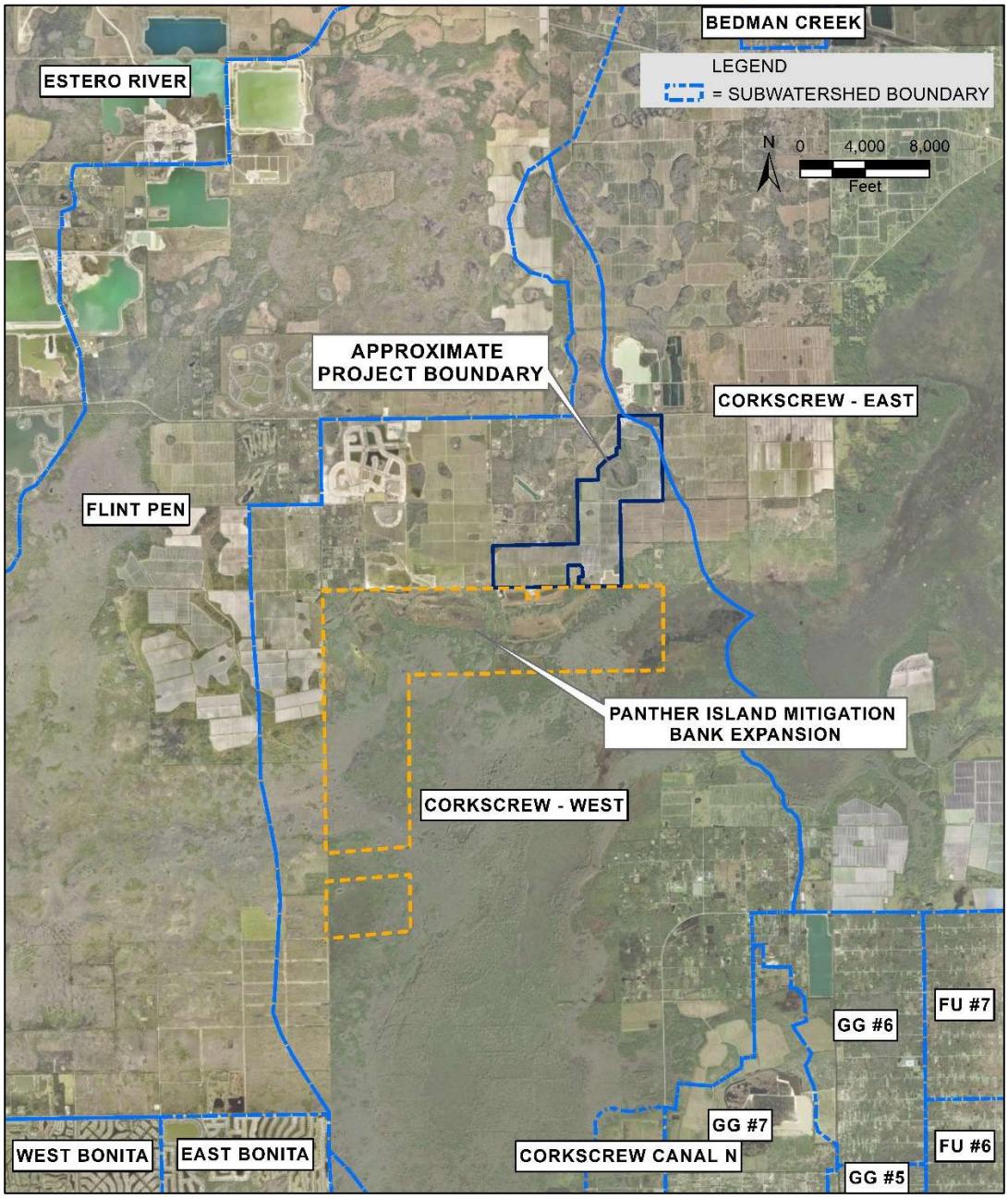

Figure 2. Pepper Place Project Site, Regional Watershed Setting

Past Land Use and Water Use

The Preserve at Pepper Place project falls within five permitted parcels that are currently used for agricultural production, including the Pepperplace North, Pepperplace South, Keystone-Lee Grove, Carter Road Citrus, and Corkscrew Tree, LLC projects. The project site was partially logged and undisturbed land until the late 1960's when it was largely converted to agricultural use. Review of aerial photography indicates that active agricultural activity has continued from the late 1960's to present. The earliest water use permit (WUP No. 36-0094-W/Carter Road Citrus) was issued by the South Florida Water Management District for the irrigation of 60 acres of citrus in 1979. Subsequently, in 1980, the Pepperplace and Keystone-Lee Grove parcels obtained a water use permit (WUP No. 36-00201-W) for the irrigation of approximately 426 acres of citrus. At its peak permitted use in 2007, the project area included the addition of the Pepperplace North water use permit (WUP No. 36-06587-W) for the irrigation of 237 acres of small vegetables with a total irrigated area of approximately 717 acres of small vegetables and citrus. Irrigation water supply was permitted for withdrawals from the Sandstone Aquifer and Surficial Aquifer system with an allocation of approximately 641 million gallons per year (about 1.75 mgd) on an annual average basis and approximately 115 million gallons per month (about 3.70 mgd) on a maximum monthly basis.

In 2008 the Pepperplace and Keystone-Lee Grove farms projects were bifurcated with approximately 151 acres of citrus remaining on the Pepperplace project (WUP No. 36-00201-W) and approximately 268 acres of citrus for the Keystone Lee Grove farm permitted under WUP No. 36-07002-W. The most recently added water use permit was issued in 2019 (WUP No. 36-09164-W) for the irrigation of 13 acres of nursery plants on the Corkscrew Tree, LLC project area. **Figure 3** provides a project area map showing current agricultural water use permits and groundwater well facilities.

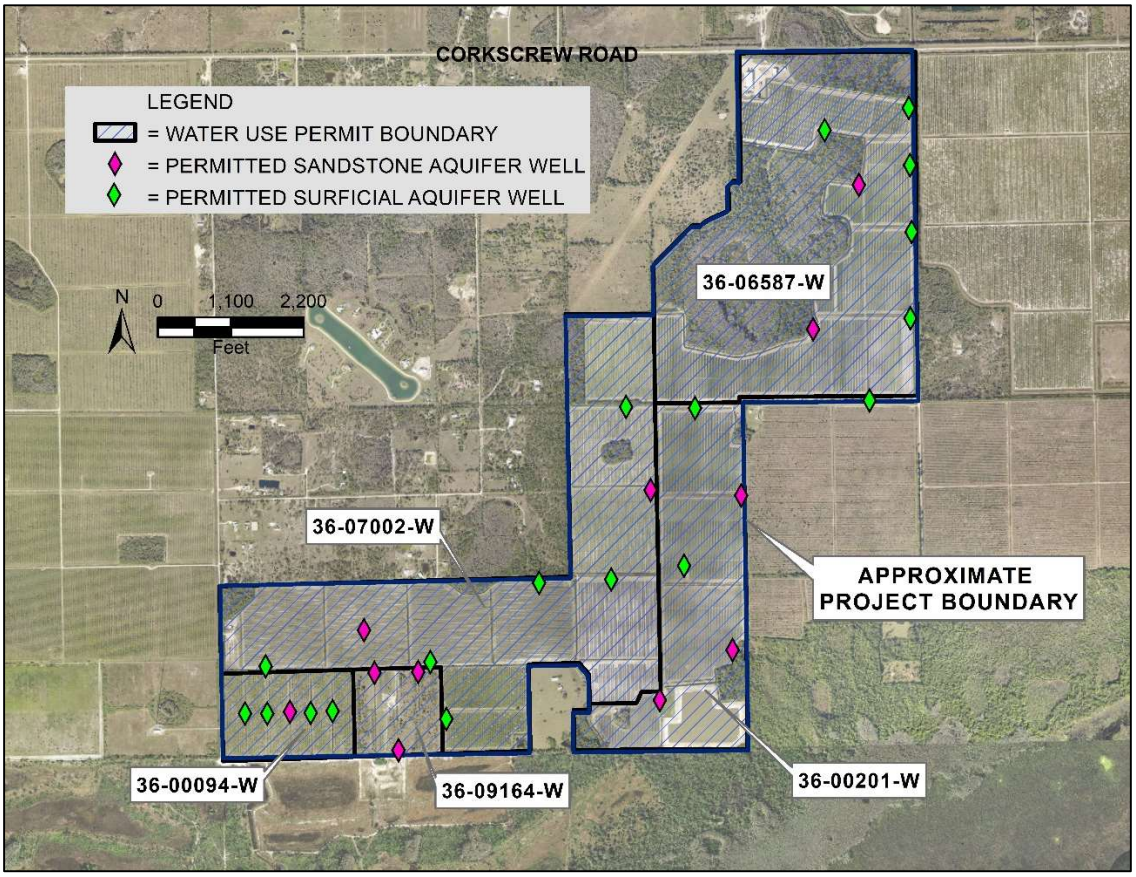

Figure 3. Preserve at Pepper Place Project Site, Existing Agricultural Water Use Permits

SECTION C
GROUNDWATER RESOURCES

Introduction

The hydrostratigraphy underlying the Preserve at Pepper Place project is typical for southern Lee County with a series of aquifers and confining beds occupying the Surficial, Intermediate, and Floridan Aquifer Systems. **Figure 4** provides a schematic showing the groundwater sources in Lee County. In general, freshwater sources are the Water Table and the Lower Tamiami Aquifers of the Surficial Aquifer System. The underlying Sandstone and Hawthorn Zone 1 Aquifers of the Intermediate Aquifer System are fresh to moderately brackish respectively. Brackish and saline water sources include the Lower Hawthorn Aquifer and underlying zones of the Upper Floridan Aquifer.

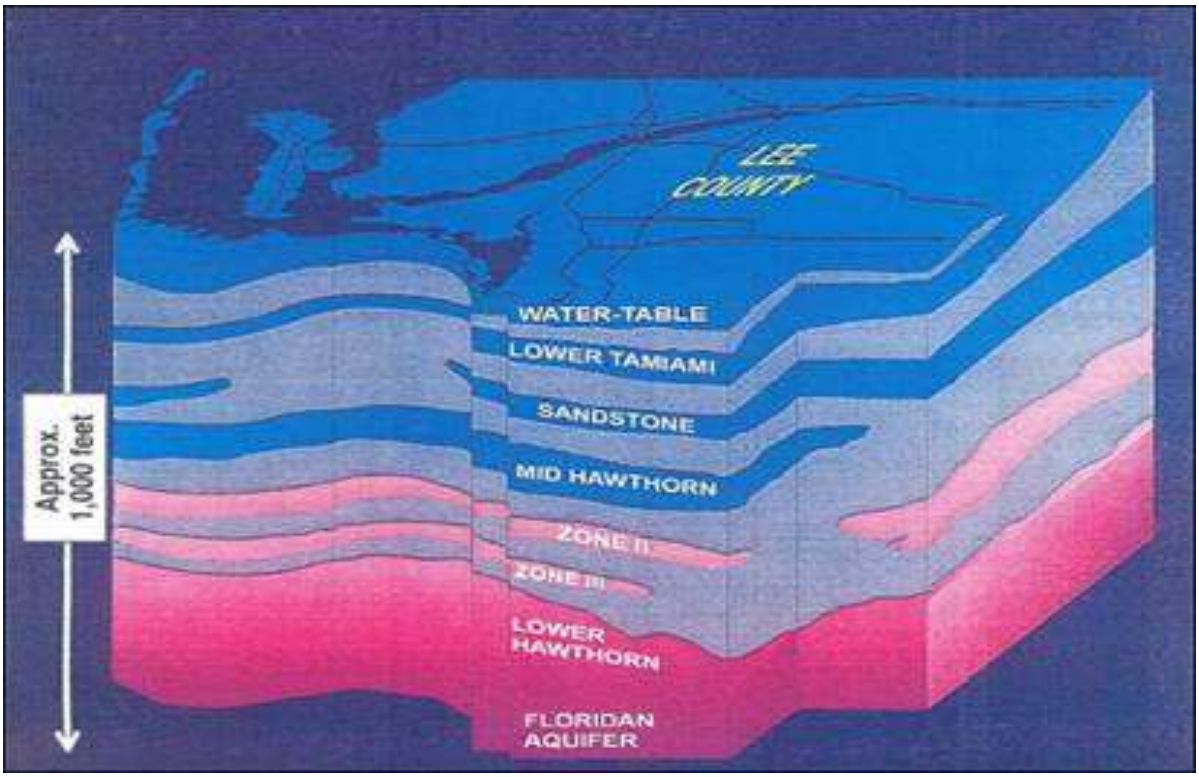

Figure 4. Aquifer System Underlying Lee County

Four primary aquifers are of significance beneath the Preserve at Pepper Place site and are described below in order of increasing depth. These are the Water Table, the Sandstone, the Mid-Hawthorn, and the Lower Hawthorn Aquifers. The Lower Tamiami aquifer is unconfined at this location and therefore considered a part of the Water Table Aquifer or Surficial Aquifer System. Deeper underlying aquifers are generally too saline for direct use at the site. The primary sources of information used to characterize the groundwater resources include information from Lee County, South Florida Water Management District, and U. S. Geological Society.

Surficial Aquifer System

The Water Table aquifer is an unconfined aquifer that covers all of Lee County. The aquifer is defined as occurring at or near land surface downward to the top of the first regional confining bed. Beneath the Preserve at Pepper Place project site, the aquifer occurs within

an upper section of unconsolidated sand and shells and an underlying lower section of limestone. Beneath the Preserve at Pepper Place project, the thickness of the aquifer is approximately 100 feet. The aquifer generally consists of sand, shell and limestone. The limestone portions of the aquifer typically have a moderate to high permeability making the aquifer suitable for medium to large capacity water production wells. The aquifer is used for public water supply, domestic self-supply, and irrigation of agricultural and landscaping foliage. Use of the aquifer is typically limited by the potential for impacts to natural wetland areas from drawdown in the aquifer water level. The aquifer is recharged directly by rainfall. Discharge from the aquifer generally occurs through the transpiration of plants, evaporation of soils, drainage to surface water bodies, and pumpage from wells. Groundwater flow and levels in the aquifer fluctuate seasonally in response to climatic conditions but are also impacted by local and regional drainage features. Water quality in the aquifer is generally very good and useful for both drinking water and irrigation water needs although high concentrations of naturally occurring iron and organic material are common. Lake extraction is the most efficient use of this aquifer for irrigation purposes, which also typically results in less iron and organic staining, as well as reduced impact to area water levels. Confining beds consisting of low permeable clays and silts of the Bonita Springs Marl are generally absent in the vicinity of the project site so that the Water Table Aquifer includes the Tamiami Limestone beds that make the Lower Tamiami Aquifer south of Preserve at Pepper Place. Beneath the project site, the base of the Surficial Aquifer System extends to about 110 feet below land surface. Productivity of the aquifer is moderate to high.

The Surficial Aquifer System is primarily used in the area of the project site for public water supply by Lee County, for agricultural irrigation, livestock, and by private residences for domestic self-supply. To prevent potential interference with these users, the Preserve at Pepper Place project proposes to significantly reduce the use of groundwater from the Water Table Aquifer below that amount currently used for irrigation of crops (see discussion in Section E). In addition, the project will include a surface water management system that provides for improved management of water levels in the Water Table Aquifer that will increase overall groundwater recharge to the aquifer in the vicinity of the project site. Use of the Surficial Aquifer System to supplement stormwater from the onsite lake system is proposed to meet a portion of the irrigation demands at the Preserve at Pepper Place project.

Sandstone Aquifer

The Sandstone Aquifer is the uppermost aquifer in the Intermediate Aquifer system which underlies approximately 100 feet of regional confining beds that create a hydraulic separation from the overlying Water Table Aquifer. Review of hydrostratigraphy data of nearby wells indicates that the top of the Sandstone Aquifer in the area of the Preserve at Pepper Place project site is expected to occur between about 190 to 215 feet below land surface. The Sandstone Aquifer and consists of unconsolidated sands and poorly consolidated sandstone. The unit varies in thickness in the area of the project site, ranging from about 40 to 80 feet.

The Sandstone Aquifer is considered a freshwater source although there are large areas, especially in the southwestern portions of Lee County and areas near and parallel to the Caloosahatchee River where there are elevated salinity levels which may limit the usefulness of the aquifer for public supply. Salinities however, are generally low enough for either general irrigation supply or blending with fresher water sources for irrigation supply. Productivity of the aquifer is moderate to low but it does provide large quantities of water for public water supply by Lee County Utilities, for domestic self-supply in eastern Lee County,

and for agricultural irrigation in eastern Lee and western Hendry Counties. The aquifer is recharged where overlying confining beds are thin or absent in Hendry and Glades County. Discharge from the aquifer generally occurs as pumpage from wells. Large fluctuations in seasonal water levels are common further north of the project site due to the heavy use of the aquifer in those areas with wet season levels near their historic highs but dry season water levels often at depths of 50 feet or more. To prevent potential interference with existing public and private water supply wells, the project proposes to significantly reduce the use of groundwater from the Sandstone Aquifer below that amount currently used for irrigation of crops (see discussion in Section E). Use of the Sandstone Aquifer to supplement stormwater from the onsite lake system is proposed to meet a portion of the irrigation demands at the Preserve at Pepper Place project.

Mid Hawthorn Aquifer

The Hawthorn Zone 1 Aquifer, also referred to the Mid Hawthorn Aquifer in south Lee and Collier counties, is the lowermost aquifer in the Intermediate Aquifer System in Lee County. It consists of moderately permeable limestones of the Arcadia Formation and is separated from the overlying Sandstone Aquifer and underlying Lower Hawthorn Aquifer by thick clay confining beds of the Peace River and Arcadia Formations. Based upon reports by the USGS and Florida Geological Survey, there is little viable yield from the limestones of the upper part of the Arcadia Formation in this part of Lee County. Test drilling has indicated that the limestone section is marly and that the aquifer is not present in the vicinity of the Preserve at Pepper Place project site. At the Corkscrew Water Treatment Plant, located about seven miles northwest of the project site, Lee County uses a permeable portion of the Mid Hawthorn Aquifer for aquifer storage and recovery (ASR) to store seasonally available water in wet summer months to meet peak season demands in dryer winter and spring periods.

Where present, the Mid Hawthorn Aquifer is a generally a lower yield, discontinuous water bearing unit that has utility as a limited supply resource or for seasonal storage in an ASR system. This aquifer is recharged north of Charlotte County where the aquifer is much nearer to land surface and overlying confinement is thin or nonexistent. The Mid-Hawthorn Aquifer is typically brackish in southern Lee County and salinity increases considerably to the south into Collier County. Review of data from wells that tap into this aquifer within about a mile of the project site indicates dissolved chloride concentrations between about 250 and 1,600 mg/l. Use of the Mid-Hawthorn Aquifer to supplement stormwater from the onsite lake system is not proposed to meet irrigation demands at the Preserve at Pepper Place project.

Lower Hawthorn Aquifer

The Lower Hawthorn Aquifer is the uppermost water bearing unit in the Upper Floridan Aquifer System. The aquifer has good yield potential but contains brackish water that is only useful for irrigation if blended with other freshwater resources and is only useful for public water supply using reverse osmosis or other desalination technologies. The top of this aquifer is anticipated to be encountered at depths between about 500 and 600 feet below grade at the Preserve at Pepper Place project site. The aquifer is separated from the overlying Mid-Hawthorn Aquifer by the Lower Hawthorn Confining Zone which consists of marine silts and clays of very low permeability. The Lower Hawthorn Confining Zone has a thickness of about 100 feet.

The aquifer is recharged in the central Florida highlands area between Tampa and Orlando where the aquifer beds are near land surface and confining beds are thin or absent. In general, the South Florida Water Management District supports increased use of the Lower Hawthorn/Upper Floridan aquifer especially for public water supply use. Use of the Lower Hawthorn Aquifer to supplement stormwater from the onsite lake system is not proposed to meet irrigation demands at the Preserve at Pepper Place project.

SECTION D

SURFACE WATER RESOURCES

Onsite Lakes

The development will include stormwater management lakes to provide flood control and water quality treatment of runoff. A number of design and control features are planned for the Preserve at Pepper Place project to protect and enhance the quality of water in the lakes and adjacent watersheds and provide for hydrological improvements on the project site (refer to **Figure 6** for a conceptual site plan). These elements include collection, treatment, and conveyance of stormwater within the project water management system, future drainage conveyance/restoration areas, and other water treatment BMP's, and centralized control over the application of irrigation water.

Figure 5. Typical Stormwater Management Lake

Centralized control of the operation of the irrigation system results in improved adherence to Best Management Practices and water use compliance. Application of fertilizers and pesticides within the common areas will be controlled and managed by the Property Owners Association.

The stormwater management system will include the collection and detention of all stormwater generated on the site and will provide stormwater treatment through various dry and wet detention elements within the development footprint that meet or exceed water quality requirements of the South Florida Water Management District, the Florida Department of Environmental Protection, and Lee County.

Figure 6. Conceptual Site Plan

The Preserve at Pepper Place stormwater management system will incorporate multiple required best management practices to ensure a maximum potential treatment of stormwater. Details and goals of the Preserve at Pepper Place stormwater management system are provided in the Surface Water Management / Drainage Report included in the Comprehensive Plan Amendment. Additional polishing of the water quality and nutrient uptake will occur in the future Pepper Place restoration area further reducing downstream nutrient loading and improve stormwater quality and regional flows.

The project is adjacent to a proposed north south future drainage conveyance/restoration area located east of the Preserve at Pepper Place property boundary that will allow for flow augmentation from the project if needed to facilitate regional watershed restoration and improvement initiatives. Due to treatment within the Pepper Place stormwater management system and further polishing within restored natural lands in Pepper Place, any discharges to adjacent regional flow-ways or mitigation lands will have nutrient concentration that will be at background levels.

SECTION E

WATER DEMANDS

Water demands at the project site will consist of in-house potable water and outside irrigation uses. Amendments to Lee County's Future Water Service Area map (Lee Plan Map 4-A) and Lee County's Future Sewer Service Area map (Lee Plan Map 4-B) are proposed to include the Preserve at Pepper Place project to allow for privately funded extension of water and sanitary sewer services to the development. Irrigation demands will be met with onsite sources including harvesting stormwater from the onsite stormwater lake system with re-supply by groundwater withdrawals when needed. The lake withdrawals will provide an efficient and low impact method for tapping the Water Table Aquifer underlying the project site and effectively harvest available stormwater supplies. Lake volume storage will minimize potential impacts to surface and groundwater levels. The project has a long history of permitted agricultural withdrawals from the Surficial Aquifer System and Sandstone Aquifer that are larger than the proposed irrigation demands for the Preserve at Pepper Place project. Analysis of potential impacts attributed to proposed irrigation withdrawals for the Preserve at Pepper Place project are presented in Section E.

Potable Water and Wastewater

Lee County Utilities (LCU) will provide potable water and wastewater services to the project. This will eliminate the need for individual domestic self-supply wells and individual onsite sewage treatment and disposal systems (septic tanks) which are common for many areas of Lee County. Provision of central public utilities to the Pepper Place project will provide a number of desirable environmental and hydrological advantages. Supplying potable water to the project from the nearby LCU Corkscrew Water Treatment Plant water treatment facility will remove a potentially competing water use from the freshwater aquifers and allow for improved planning and control of area water resources. Similarly, provision of a central sewer system will eliminate septic tank discharges in the area providing a higher level of protection to the adjacent wetland mitigation properties and existing Lee County wellfields to the west.

Irrigation Water

The project was historically permitted for Surficial and Sandstone Aquifer withdrawals for agricultural production. The current total permitted withdrawals of groundwater within the Preserve at Pepper Place project allocates about 2.82 MGD on a maximum monthly basis and about 1.47 MGD on an average annual basis for agricultural irrigation.

The Preseve at Pepper Place project will include stormwater management lakes that will be located within the Water Table Aquifer. The proposed irrigation system will consist of stormwater harvesting from the stormwater lake management system with these withdrawals re-supplied by a combination of groundwater from the Surficial Aquifer System and Sandstone Aquifer. Actual percentages of lake and groundwater withdrawals will be determined during the water use permitting process with the SFWMD. Use of stormwater as a primary irrigation resource reduces use of potable water supplies, provides additional stormwater treatment, reduces offsite discharges of stormwater, reduces nutrient levels of the stormwater outfalls, and reduces reliance on groundwater systems being used to supply potable water to Lee County Utilities and home sites on individual wells.

Irrigated area for the Preserve at Pepper Place project is estimated to include 230 acres of turf grass and landscaping. Using standard Blaney-Criddle calculations used by the SFWMD for irrigation supply permitting, this acreage will result in irrigation water demands of 37.75 million gallons per month (MGM) on a maximum monthly basis (or about 1.22 million gallons per day) and 300.2 million gallons per year (MGY) on an average annual basis (or about 0.82 million gallons per day). **Table 1** provides a summary of historic/current water use on the property and proposed allocations for the Preserve at Pepper Place project. Projected irrigation demands for the project indicate a reduction in the historic maximum monthly use by approximately 57%.

Table 1. Summary of Historic and Proposed Allocations.

Allocation	Existing Permit					Current Total Allocations	Proposed Total Allocations	Change from Current Allocations
	36-06587-W	36-00201-W	36-07002-W	36-00094-W	36-09164-W			
Maximum Monthly (MGM)	17.4 MG	13.0 MG	46.3 MG	8.9 MG	1.9 MG	87.5	37.75 MG	-49.75 MG
Annual Average (MGY)	116.3 MG	86.8 MG	267.4 MG	51.2 MG	15.4 MG	537.1	300.2 MG	-236.9 MG

The proposed project will also explore the use of computerized irrigation systems that incorporate onsite data and conditions to provide irrigation on an as-needed bases rather than simply on a scheduled basis. Such systems have been shown to result in reductions in irrigation water use by over 30% in Southwest Florida. In general, these systems operate based on computer software that accounts for soil moisture, rainfall, and elements that influence evaporation and transpiration to determine which locations require irrigation, how much irrigation is needed, and when to apply irrigation water.

SECTION F

IRRIGATION IMPACT ASSESSMENT

Water Levels

Water Science Associates reviewed hydrographs of nearby monitoring wells maintained by Lee County Division of Natural Resources (LCDNR) as well as data from a monitoring well on the Panther Island Mitigation Bank that was utilized in a recent hydrologic modeling study conducted for the Coastal & Heartlands National Estuary Partnership (CHNEP) (**Figure 7)**. The nearest Water Table Aquifer wells with long term water level data (1990 to present) are 49-GW23, located on the northern border of the Preserve at Pepper Place project and 49-GW24, located about one mile north of the project site. Monitoring well PIMB MW-9 is located less than one mile south of the project site. The Preserve at Pepper Place and these three monitoring stations are in the Panther Island E sub-basin that discharges to Corkscrew Swamp Sanctuary. The Panther Island E sub-basin is part of the Trafford Basin.

The upstream monitoring wells have water levels ranging seasonally between 21 and 28 feet NAVD88 with 49-GW23 showing slightly lower water levels between 2010 and 2018 and 49-GW24 showing relatively consistent dry and wet season water levels starting from 2007 to present. The ground elevation at 49-GW23 is 28.5 ft-NAVD, 1.5 to 2.5 feet above measured water levels at 49-GW23. The ground elevation at 49-GW24 is 27.8 ft-NAVD, 1 – 2 feet above measured water levels at 49-GW24. The downstream monitoring well PIMB MW-9 has a shorter period of record and shows water levels ranging between approximately 14 and 18 feet NAVD88. Measured water levels at PIMB MW-9 were above ground during the wet seasons of 2016 and 2017 at PIMB MW-9, which has a ground elevation of 17.8 ft-NAVD.

Irrigation withdrawals from the stormwater management system will be partially re-supplied with groundwater from the Water Table Aquifer and/or the Sandstone Aquifer. Projected irrigation demands for the Preserve at Pepper Place project indicate a reduction in the historic maximum monthly use by approximately 57% based on the proposed land use changes and reduction from more than 770 irrigated agricultural acres to 230 irrigated acres associated with the proposed development. The proposed augmentation rate will be less than prior permitted demands from the Water Table and Sandstone aquifers. Additionally, the project's water management system will provide enhanced water quality treatment and storage thereby providing a positive impact to groundwater recharge and regional water quality.

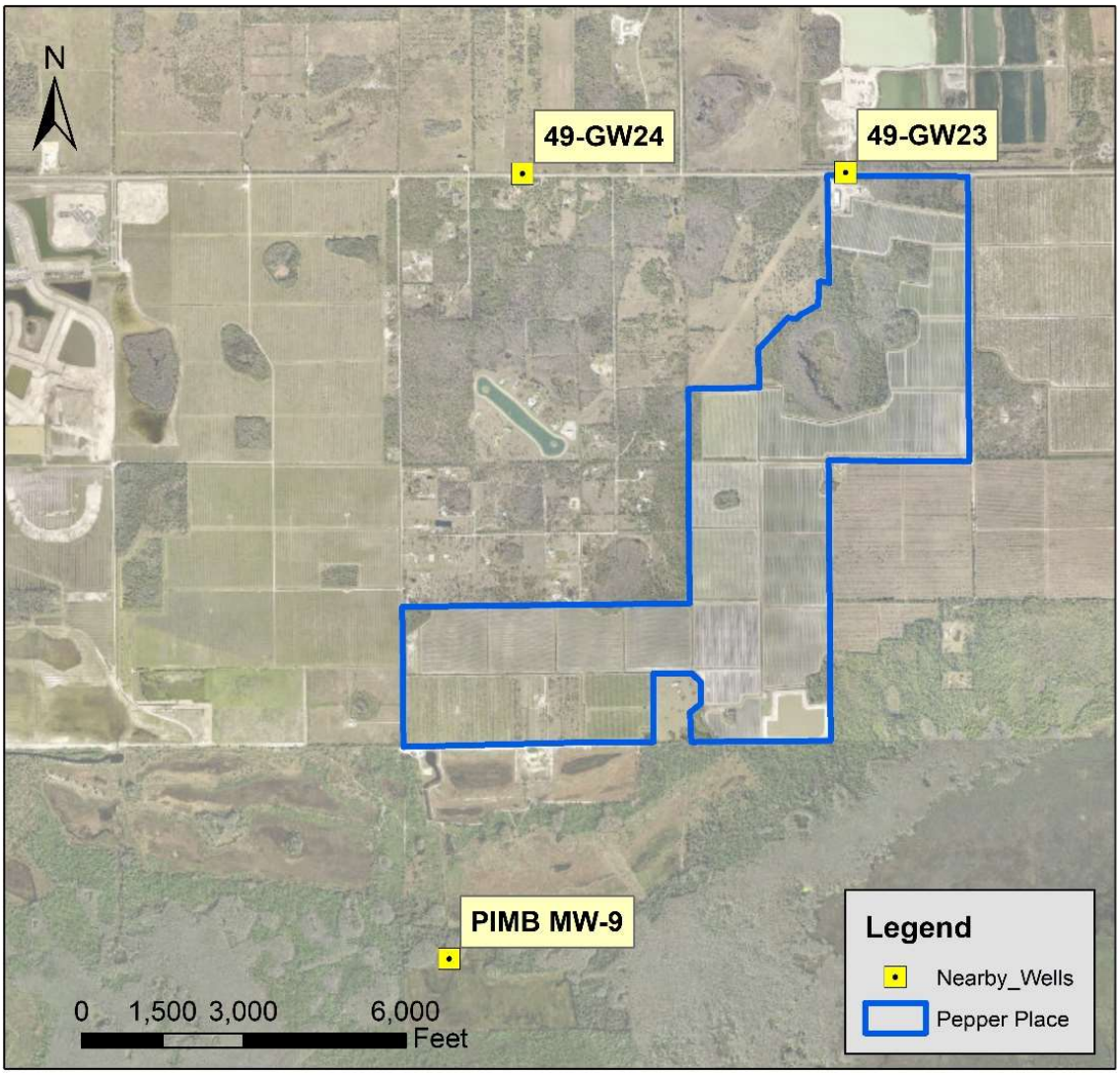

Figure 7. Location of Nearby Monitoring Wells

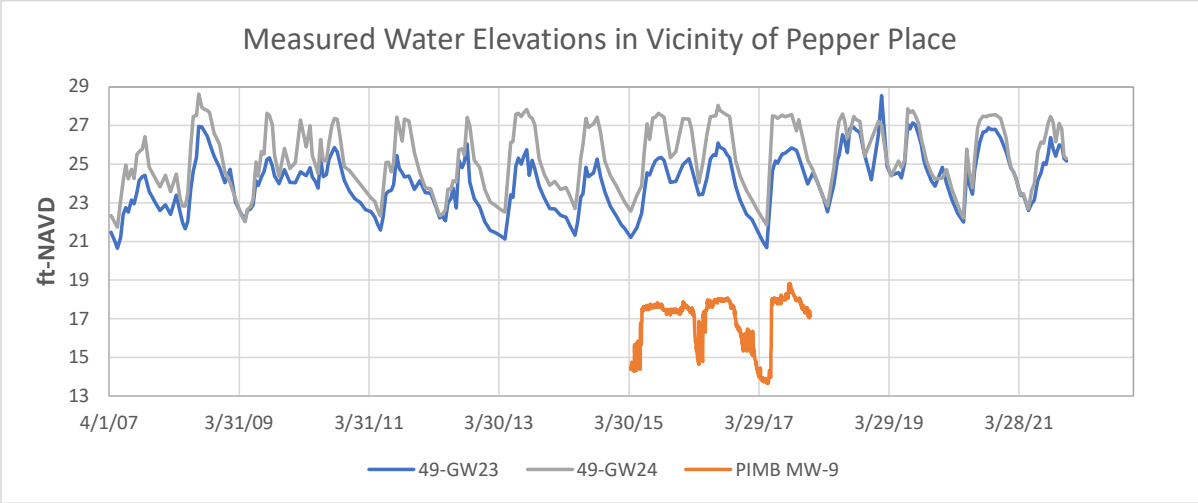

Figure 8. Water Table Aquifer Hydrographs of Nearby Monitoring Wells

SECTION G

SURFACE WATER AND GROUNDWATER MONITORING PLAN

Purpose

A Surface Water and Groundwater Monitoring Plan will be initiated to establish baseline conditions for the Preserve at Pepper Place project site and to quantify the potential adverse impacts as a result of the proposed development. The Surface Water and Groundwater Monitoring Plan includes sampling locations, sampling frequency, reporting requirements, and evaluations of the water level and water quality within the project site. The proposed monitoring plan may be further refined during the Development Order process that may include additional or removal of groundwater and/or surface water sampling locations.

Monitoring

The Surface Water and Groundwater Monitoring Plan will include the installation of two shallow monitor wells tapping the upper portion of the Water Table Aquifer (WT-1 & WT-2), located upstream and downstream within the project area, a deeper monitor well tapping the upper portion of the Sandstone Aquifer (SS-1), various surface water sample locations (to be located at the designated outfall locations), and staff gauge(s) installed within the irrigation withdrawal lake(s). All monitor wells and the staff gauge(s) will be equipped with electronic water level transducers set to record water levels every 6 hours. Proposed surface water and groundwater quality monitoring parameters are provided in **Table 2** and include contaminant target levels where applicable for surface water and groundwater.

Table 2. Summary of Surface Water and Groundwater Sampling Parameters

PARAMETER	Sample Source (SW/GW)	UNITS	Groundwater Target Level	Surface Water Target Levels	ANALYSIS TYPE
Total Kjeldahl Nitrogen (TKN)	SW & GW	mg/L as N	NA	NON-NUMERIC	Laboratory
Chloride	SW & GW	mg/L	250	250	Laboratory
Arsenic	SW & GW	µg/L	10	10	Laboratory
Lead	SW & GW	mg/L	0.015	NON-NUMERIC	Laboratory
Temperature	SW & GW	C	NA	NA	Field
Specific Conductance	SW & GW	umhos/cm	NA	1275 or <50% Increase	Field
pH	SW & GW	S.U.	6.5-8.5	1 unit from background	Field
Nitrite	SW	mg/L as N	1	NON-NUMERIC	Laboratory
Nitrate	SW	mg/L as N	10	10	Laboratory
Total Phosphorus	SW	mg/L as P	NA	NON-NUMERIC	Laboratory
E. coli	SW	MPN/100mL	NA	200 Average	Laboratory
Chlorophyll A	SW	mg/m^3	NA	NA	Laboratory
Dissolved Oxygen (DO)	SW	mg/L	NA	>5.0	Field
Discharge Condition	SW	Yes or No			Field
Lake Stage	SW	Feet (NAVD)	NA	NA	Field/Recorder
Groundwater Elevations	GW	Feet (NAVD)	NA	NA	Field/Recorder

NA=Not Applicable

Note - Groundwater Target Levels per Chapter 62-550 and Rule 62-520.420, FAC. Surface Water Target Levels per Chapter 62-302.

The proposed Surface Water and Groundwater Monitor Plan includes a baseline sampling event prior to construction commencement followed by subsequent semi-annual events. The semi-annual sampling events are proposed to occur twice per year during the wet season (June through October). The early wet season monitoring event is proposed to occur in June while the late we season event is proposed to occur in October. The monitoring will include stage measurements of the stormwater management system and the discharge condition will be recorded noting whether or not water is flowing through the control structure at the time of sampling.

Quality Assurance

Water samples will be collected and handled following protocols contained in Florida Department of Environmental Protection (FDEP) Quality Assurance Rule F.A.C. 62-160 and adopted as the 2014 FDEP Standard Operating Procedures for Field Activities (DEP-SOP-001/01), effective 7/30/2014. Water Quality samples will be collected from both monitor wells and the staff gauge monitoring station. One field blank and a field duplicate will be collected during each sampling event for quality assurance purposes. Chain of custody forms and laboratory analysis reports will be provided in corresponding quarterly reports.

Water samples will be tested by a certified laboratory under the National Environmental Laboratory Accreditation Program (NELAP) using approved test methods and QA testing requirements (i.e. blanks, sample duplicates, surrogates, matrix spikes etc.) as contained in F.A.C 62-160 QA Rules.

Water Monitoring Reporting and Analysis

An annual report which will include a comparison of State water quality standards, plots of parameters, and any conclusions or recommendations will be provided to the Lee County Division of Natural Resources annually for a minimum of 5 years. The monitoring reports will include a continuous hydrograph of the recorded water levels and updated tables of quarterly water quality sampling results. The monitoring reports will be submitted once per year as an Electric Data Deliverable (EDD) in a comma delimited text format approved by the Lee County Division of Natural Resources (LCDNR) in their approved format within 60 days of receipt of laboratory reports from two wet season monitoring events during the reporting period. Conclusions and recommendations will be based on applicable target levels and statistical analyses and trends of measured constituents. Statistical methods to be used may include determination of standard deviations, linear regressions, and calculation of confidence intervals.

Results of water sampling will be compared to applicable target levels, if listed and deviation from the initial baseline sampling. Parameters that do not have numeric target levels will be evaluated for trends. The surface water laboratory results will undergo statistical analyses for the development of conclusions and recommendations within the annual reports.

Should indications of water level or water quality concerns be identified by exceeding target levels or through statistical trend analyses, site conditions will be reviewed and assessed and if indicated, additional samples will be collected. Following any re-sampling event, the LCDNR will be notified of necessary corrective actions. Should potential areas of concern be identified, the Applicant will coordinate with the LCDNR to aid in identifying potential causes and potential needs to modify monitoring parameters, frequency, and/or reporting.

Water Quality Monitoring will continue for a minimum of 5 years from the date of completion of the stormwater management system. After 5 years of meeting or exceeding state water quality monitoring standards, the developer may amend or discontinue water quality monitoring and reporting after written request, review, and approval by Lee County Division of Natural Resources.

DELISI
Land Use Planning & Water Policy

Lee Plan Consistency

Exhibit T-6

The proposed amendment is consistent with the Lee Plan. An analysis of how the proposed amendment is consistent with the following Lee Plan policies is described below:

> **POLICY 1.4.5:** The Density Reduction/Groundwater Resource (DR/GR) land use category includes upland areas that provide substantial recharge to aquifers most suitable for future wellfield development. These areas also are the most favorable locations for physical withdrawal of water from those aquifers. Only minimal public facilities exist or are programmed.
>
> 1. New land uses in these areas that require rezoning or a development order must demonstrate compatibility with maintaining surface and groundwater levels at their historic levels (except as provided in Policies 33.1.3 and 33.3.5) utilizing hydrologic modeling, the incorporation of increased storage capacity, and inclusion of green infrastructure. The modeling must also show that no adverse impacts will result to properties located upstream, downstream, as well as adjacent to the site. Offsite mitigation may be utilized, and may be required, to demonstrate this compatibility. Evidence as to historic levels may be submitted during the rezoning or development review processes.

In accordance with #1 above, a groundwater analysis has been submitted demonstrating the proposed development is compatible with maintaining surface and groundwater levels. The analysis demonstrates there are no adverse impacts to groundwater or surface water resources for the property and there is a projected rebound of water levels with the removal of agricultural activities.

> 2. Permitted land uses include agriculture, natural resource extraction and related facilities, conservation uses, public and private recreation facilities, and residential uses at a maximum density of one dwelling unit per ten acres (1 du/10 acres). See Policies 33.3.2, 33.3.3, 33.3.4, 33.3.5 and 33.3.6 for potential density adjustments resulting from concentration or transfer of development rights.
>
> a. For residential development, also see Objective 33.3 and following policies. Commercial and civic uses can be incorporated into Mixed-Use Communities to the extent specifically provided in those policies.

b. Individual residential parcels may contain up to two acres of Wetlands without losing the right to have a dwelling unit, provided that no alterations are made to those wetland areas.
c. The Future Limerock Mining overlay (Map 14) identifies sufficient land near the traditional Alico Road industrial corridor for continued limerock mining to meet regional demands through the Lee Plan's planning horizon (currently 2030). See Objective 33.1 and following policies.

3. Private Recreational Facilities may be permitted in accordance with the site locational requirements and design standards, as further defined in Goal 13. No Private Recreational Facilities may occur within the DR/GR land use category without a rezoning to an appropriate planned development zoning category, and compliance with the Private Recreation Facilities performance standards, contained in Goal 13 of the Lee Plan.

Private and public recreation facilities, along with residential, agricultural and conservation uses are allowed in the DR/GR land use category. The proposed application is being submitted consistent with the PRFPD guidelines and performance standards and the overall intent of the Lee Plan. The proposed text amendment expands on the uses within Goal 13, consistent with the developing character of the east Corkscrew Road corridor, while maintaining the environmental and water resource protections of Goal 13.

OBJECTIVE 1.5: WETLANDS. Designate on the Future Land Use Map those lands that are identified as Wetlands in accordance with F.S. 373.019(17) through the use of the unified state delineation methodology described in FAC Chapter 17-340, as ratified and amended in F.S. 373.4211.

The subject property has areas that have been designated as wetlands in accordance with F.S. 373.019(17) through the use of the unified state delineation methodology. The wetland areas are generally intended for preservation in accordance with the attached zoning application.

POLICY 1.5.1: Permitted land uses in Wetlands consist of very low density residential uses and recreational uses that will not adversely affect the ecological functions of wetlands. All development in Wetlands must be consistent with Goal 114 of this plan. The maximum density is one dwelling unit per twenty acres (1 du/20 acre) except as otherwise provided in Table 1(a) and Chapter XIII of this plan.

The proposed development will need to obtain an environmental resource permit from the South Florida Water Management District. To the extent that wetland areas are impacted directly or have secondary impacts, which would be minimal, mitigation will be provided in accordance with State guidelines. All wetland areas that will remain in accordance with the environmental resource permit process will contain uses consistent with Policy 1.5.1.

OJECTIVE 2.1: DEVELOPMENT LOCATION. Contiguous and compact growth patterns will be promoted through the rezoning process to contain urban sprawl, minimize energy costs, conserve land, water, and natural resources, minimize the cost of services, prevent development patterns where large tracts of land are by-passed in favor of development more distant from services and existing communities.

The proposed rezoning is in a location where large-scale residential development is occurring or in place directly to or in close proximity to the west, east and north. There is proposed residential development immediately contiguous to the east. The PRFPD proposed will conserve significant portions of existing natural vegetation, including wetlands, and promote lower impact recreational activities in this development. The proposed rezoning would allow for the development of an appropriate use for the subject property in an appropriate location.

POLICY 2.1.1: Most residential, commercial, industrial, and public development is expected to occur within the designated Future Urban Areas on the Future Land Use Map through the assignment of very low densities to the non-urban categories.

The subject property is located in a rural area on the future land use map. The total density of the residential development proposed is less than 1 du per 2 acres, a distinctly rural density. However, central water and sewer is being proposed for the subject property, based on the private recreational facilities focused design, the other uses ancillary to the recreational facilities and the surrounding uses.

OBJECTIVE 2.2: DEVELOPMENT TIMING. Direct new growth to those portions of the Future Urban Areas where adequate public facilities exist or are assured and where compact and contiguous development patterns can be created. Development orders and permits (as defined in F.S. 163.3164(7)) will be granted only when consistent with the provisions of Sections 163.3202(2)(g) and 163.3180, Florida Statutes and the county's Concurrency Management Ordinance.

The subject property is located in an area where public services already exist, or are planned for, to meet the demands of existing and future development. Utility service will be extended simultaneously with the development adjacent to the east of the subject property or as those facilities on the subject property get developed. Letters of availability are being submitted with the PRFPD Map amendment application.

POLICY 6.1.4: Commercial development will be approved only when compatible with adjacent existing and proposed land uses and with existing and programmed public services and facilities.

The proposed recreational facility based and agritourism related commercial development will be internal to the property and ancillary to the private recreational use. The location and the design of any commercial use will complement the surrounding recreational development. The use of central water and sewer service is anticipated for the commercial uses on the property.

> **GOAL 13: PRIVATE RECREATIONAL FACILITIES IN THE DR/GR.** To ensure that the development of Private Recreational Facilities in the DR/GR areas is compatible with the intent of this Future Land Use category, including recharge to aquifers, development of future wellfields and the reduction of density.

The proposed private recreational facility planned development submitted concurrently with this Plan Amendment meets the purpose and intent of Goal 13 while recognizing and being consistent with the changes that have occurred on east Corkscrew Road over the last 20 years. The proposal is for a large acreage, multi-recreational-uses, private membership recreational facility that incorporates very low density residential and overnight accommodations. All environmental design requirements of the RPFPD will continue to apply.

> **OBJECTIVE 13.1:** To ensure that Private Recreation Facilities are located in the most appropriate areas within the DR/GR future land use category.
>
> **POLICY 13.1.1:** The Private Recreation Facilities Overlay, Map 1-F, shows those locations that are appropriate for the development of Private Recreation Facilities in the DR/GR future land use category. The areas depicted on Map 1-F are consistent with the application of the following locational criteria:

The attached application is being submitted with an amendment to the comprehensive plan to add the subject property to Map 1-F. The subject property is contiguous to the overlay on Map 1-F and meets the locational requirements of Policy 13.1.1 as follows:

> 1. Located outside of those areas designated for public acquisition through Florida Forever, the Corkscrew Regional Ecosystem Water Trust (CREW), the SFWMD's Save Our Rivers Program, and the County's 20/20 Conservation Program;
>
> *The Florida Forever program and Lee County 20/20 are both volunteer land acquisition programs. The Save Our Rivers program no longer exists. The "Corkscrew Regional Ecosystem Water Trust" is an organization, not an acquisition program. The CREW watershed encompasses many areas on the existing Map 1-F, but the subject property is not targeted for acquisition by either Lee County or the South Florida Water Management District (the two entities that conduct land acquisition in the CREW watershed).*

2. Located in areas characterized as predominantly impacted with agricultural, mining or other permitted uses;

The subject property is almost entirely being used for active agricultural operations. The only portion that is not in active agricultural use is a wetland that is designated for preservation through this application.

3. Located outside of areas depicted as 100 Year Flood Plains, as illustrated on Map 5-B as amended through June of 1990;

The subject property is not located on Map 5-B.

4. Located to minimize impact on "Hot Spots of Biological Resources and Rare Species Occurrence Records," from the Florida Game and Freshwater Fish Commission's, "Closing the Gaps in Florida Wildlife Habitat Conservation System" published in 1994;

As described in the environmental impact assessment, the subject property is not considered a hot spot for biological resources. The subject property has been heavily impacted by active agricultural activities. It should be noted that the "Hot Spots" report is nearly 30 years old and has very little applicability to the changing conditions along east Corkscrew Road.

5. Located in areas characterized by large lot single or limited ownership patterns; and,

There are large lot residential areas immediately to the west and north of the subject property.

6. Located in areas with direct access to existing roadways.

The subject property has direct access to Corkscrew Road.

OBJECTIVE 13.2: GROWTH MANAGEMENT. Development of Private Recreation Facilities in the DR/GR areas must be consistent with the growth management principles and practices as provided in the following policies.

The proposed zoning is consistent with the following policies as described below.

POLICY 13.2.1: PRIVATE RECREATION FACILITY PLANNED DEVELOPMENT. By the end of December, 2000, Lee County will amend the Lee County Land Development Code (LDC) to include provisions for a new Private Recreation Facilities Planned Development zoning category. All Private

Recreational Facilities proposed within the Density Reduction Groundwater Resource land use category must be reviewed as a Development of County Impact, Private Recreation Facilities Planned Development.

Concurrent with the comprehensive plan amendment, the applicant is submitting a PRFPD rezoning request, consistent with this policy. The applicant will work with Lee County staff to process any required amendments to LDC Section 34, consistent with the proposed text amendments.

POLICY 13.2.8: Private Recreational Facilities must have adequate fire protection, transportation facilities, wastewater treatment and water supply, and provided further that they have no adverse effects such as dust, noise, lighting, or odor on surrounding land uses and natural resources.

The proposed amendment includes letters of service availability from Estero Fire District and Lee County Utilities. The transportation impact analysis demonstrates that the proposed development will not cause level of service issues on Corkscrew Road but may positively contribute to the expansion of capacity. The proposed recreational, residential and commercial uses do not create dust. The policies under Goal 13, as well as the land development code will protect surrounding land uses from light pollution. Given the surrounding uses, residential to the east, a mining operation to the north, conservation to the south and large lot residential to the west, as well as the site plan being submitted with the concurrent rezoning, noise and odor will not be a concern based on distance to adjacent uses, buffers and the nature of the uses themselves. Noise and lighting standards will also prevent impacts on nearby natural resources.

Policy 13.2.9: COMMERCIAL USES. Commercial uses may be permitted within Private Recreational Facility Planned Development as provided in Policy 13.3.9 when ancillary or in conjunction with Private Recreation Facilities.

The proposed amendment includes minor commercial development that will be ancillary or in conjunction with the proposed private recreation facilities and will be located internal to the property.

POLICY 13.2.10: Applications for Private Recreational Facility development will be reviewed and evaluated as to their impacts on, and will not negatively affect, any adjacent, existing agricultural, mining or conservation activities.

POLICY 13.2.11: Applications for Private Recreational Facility development will be reviewed and evaluated as to their impacts on, and must be compatible with any adjacent publicly owned lands.

Agricultural operations in the immediate area have nearly disappeared. The mining operation to the north is nearly complete. The proposed amendment will have no adverse or negative impact

on either. The Master Concept Plan demonstrates a design that located the more passive recreational activities, hunting and fishing, along the southern area that is compatible with preserving and restoring naturally vegetated lands. These activities are consistent with conservation uses.

THE PRESERVE CLUB & RESIDENCES AT PEPPER PLACE

Sections 27, 33, & 34, Township 46 South, Range 27 East
Lee County, Florida

Protected Species Assessment

November 2022

Prepared for:

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INTRODUCTION

The 1,052.47± acre project is located within a portion of Sections 27, 33, & 34, Township 46 South, Range 27 East, Lee County, Florida. The parcel is bordered to the north by Corkscrew Road. Undeveloped lands and scattered single family homes are present to the west. The properties to the east consist primarily of agricultural lands. Undeveloped lands are present to the south.

SITE CONDITIONS

The majority of this site consists of active agricultural operations including row crops and citrus. Exotic invaded uplands and wetlands are also present. Most of the onsite habitats have been physically and hydrologically disturbed by past agricultural activities including ditching, berming, and pumping.

VEGETATIVE CLASSIFICATIONS

The predominant vegetation associations were mapped in the field on 2022 digital 1" = 400' scale aerial photography. The project boundary was obtained from MTM Development Corporation and inserted into the digital aerial. The property boundary was not staked in the field at the time of our site inspection and was, therefore, estimated based on the overlay of the approximate boundary on the aerial photography. Forty-three vegetation associations were identified using the Florida Land Use, Cover and Forms Classification System (FLUCCS). The Protected Species Assessment Maps (Appendix A) depict the approximate location and configuration of these vegetation associations and Table 1 summarizes the acreages by FLUCCS Code. A brief description of each FLUCCS Code is provided below. In order to minimize redundancy only the base FLUCCS Codes are described (i.e. description provided for FLUCCS Code 411DE1 but not for FLUCCS Codes 411DE2, 411DE3, or 411DE4). In general, as the density of exotics increases the density and diversity of native plants in the canopy, midstory, and ground cover strata decreases. Habitats containing more than 75 percent cover by exotics contain only scattered native plant species.

Table 1. Acreage Summary by FLUCCS Code

FLUCCS CODE	DESCRIPTION	ACREAGE
210AH	Hydric Abandoned Cropland and Pastureland	7.34
214	Row Crops	565.52
221	Citrus Groves	89.41
221A	Abandoned Citrus Grove	27.97
241	Tree Nurseries	8.88
321DE2	Disturbed Palmetto Prairie Invaded by Exotics (26-50%)	0.57

FLUCCS CODE	DESCRIPTION	ACREAGE
411DE1	Disturbed Pine Flatwoods Invaded by Exotics (10-25%)	0.48
411DE2	Disturbed Pine Flatwoods Invaded by Exotics (26-50%)	107.68
411DE3	Disturbed Pine Flatwoods Invaded by Exotics (51-75%)	11.41
411DE4	Disturbed Pine Flatwoods Invaded by Exotics (76-90%)	1.35
415DE2	Disturbed Pine Invaded by Exotics (26-50%)	2.92
415DE3	Disturbed Pine Invaded by Exotics (51-75%)	0.24
422	Brazilian Pepper	1.10
427DE	Disturbed Live Oak Invaded by Exotics (5-9%)	2.74
428DE2	Disturbed Cabbage Palm Invaded by Exotics (26-50%)	0.46
510D	Ditches	44.76
618DE4	Disturbed Willow Invaded by Exotics (76-90%)	0.38
621	Cypress	1.67
621DE1	Disturbed Cypress Invaded by Exotics (10-25%)	28.18
621DE2	Disturbed Cypress Invaded by Exotics (26-50%)	19.93
621DE3	Disturbed Cypress Invaded by Exotics (51-75%)	3.90
621DE4	Disturbed Cypress Invaded by Exotics (76-90%)	3.12
624DE1	Disturbed Cypress - Pine Invaded by Exotics (10-25%)	4.75
624DE2	Disturbed Cypress - Pine Invaded by Exotics (26-50%)	23.75
624DE3	Disturbed Cypress - Pine Invaded by Exotics (51-75%)	10.13
624DE4	Disturbed Cypress - Pine Invaded by Exotics (76-90%)	2.27
625DE1	Disturbed Hydric Pine Flatwoods Invaded by Exotics (10-25%)	0.26
625DE2	Disturbed Hydric Pine Flatwoods Invaded by Exotics (26-50%)	10.00
625DE3	Disturbed Hydric Pine Flatwoods Invaded by Exotics (51-75%)	1.27
630DE	Disturbed Wetland Forest Invaded by Exotics (5-9%)	0.65
630DE2	Disturbed Wetland Forest Invaded by Exotics (26-50%)	0.62
630DE3	Disturbed Wetland Forest Invaded by Exotics (51-75%)	0.54
641DE1	Disturbed Freshwater Marsh Invaded by Exotics (10-25%)	13.66
641DE2	Disturbed Freshwater Marsh Invaded by Exotics (26-50%)	0.99
641DE3	Disturbed Freshwater Marsh Invaded by Exotics (51-75%)	0.18
641DE4	Disturbed Freshwater Marsh Invaded by Exotics (76-90%)	0.65
643DE3	Disturbed Wet Prairie Invaded by Exotics (51-75%)	5.49
643DE4	Disturbed Wet Prairie Invaded by Exotics (76-90%)	3.53

FLUCCS CODE	DESCRIPTION	ACREAGE
740	Disturbed Land	0.92
740H	Disturbed Hydric Land	5.23
742	Borrow Areas	15.11
747	Berm	18.67
814	Roads and Highways	3.79
	Total	**1,052.47**

FLUCCS Code 210AH, Hydric Abandoned Cropland and Pastureland
Vegetation present in this association includes willow (*Salix caroliniana*), primrose willow (*Ludwigia* spp.), dog fennel (*Eupatorium capillifolium*), saltbush (*Baccharis halimifolia*), wax myrtle (*Myrica cerifera*), broomsedge (*Andropogon* sp.), and Brazilian pepper (*Schinus terebinthifolius*).

FLUCCS Code 214, Row Crops
This FLUCCS Code was used to denote the active croplands and surrounding associated disturbed areas. Planted crops include bell pepper (*Capsicum annuum*) and squash (*Cucurbita* sp.) in varies stages of production. Naturally recruited vegetation present in the adjacent disturbed areas, including interior berms, includes Bermuda grass (*Cynodon dactylon*), whitehead broom (*Spermacoce verticillata*), camphorweed (*Heterotheca subaxillaris*), Caesarweed (*Urena lobata*), beggar ticks (*Bidens alba*), natal grass (*Rhynchelytrum repens*), fox-tail grass (*Seteria geniculata*), para grass (*Urochloa mutica*), Bahia grass (*Paspalum notatum*), ragweed (*Ambrosia artemisiifolia*), grapevine (*Vitis* sp.), sandspur (*Cenchrus incertus*), dog fennel, and smutgrass (*Sporobolus indicus*).

FLUCCS Code 221, Citrus Groves
Planted and maintained citrus (*Citrus* sp.) trees are present in this association. Dog fennel, natal grass, rattlepod (*Crotolaria* sp.), sandspur, whitehead broom, smutgrass, Caesarweed, beggar ticks, scattered tassel flower (*Emelia* sp.), and balsam apple (*Momordica charantaria*) also occur in these areas.

FLUCCS Code 221A, Abandoned Citrus Groves
These areas contain remnant citrus trees but do not appear to be actively managed. Many of the species described above for the active citrus groves (FLUCCS Code 221) are present here along with ragweed, flatsedge (*Cyperus* sp.), broomsedge, scattered Brazilian pepper, cabbage palm (*Sabal palmetto*), live oak (*Quercus virginiana*), and laurel oak (*Quercus laurifolia*).

FLUCCS Code 241, Tree Nurseries
This FLUCCS Code was used to denote the tree nursery located in the southern end of the site. Container grown trees present in this area include silver buttonwood (*Conocarpus erectus var. sericeus*), seagrape (*Coccoloba uvifera*), mahogany (*Swietenia mahagoni*), magnolia (*Magnolia grandiflora*), and various ornamental palms.

FLUCCS Code 321DE2, Disturbed Palmetto Prairies Invaded by Exotics (26-50%)
Saw palmetto, myrsine (*Rapanea punctata*), lyonia (*Lyonia* sp.), Brazilian pepper, widely scattered slash pine, laurel oak, live oak, and wiregrass (*Aristida* sp.) are present in this area which is dominated by midstory and groundcover vegetation.

FLUCCS Code 411DE1, Disturbed Pine Flatwoods Invaded by Exotics (10-25%)
Vegetative species present this habitat include slash pine, saw palmetto, ear-leaf acacia, grapevine, laurel oak, live oak, gallberry (*Ilex glabra*), lyonia, cabbage palm, Brazilian pepper, and widely scattered sumac (*Rhus copallinum*).

FLUCCS Code 415DE2, Disturbed Pine Invaded by Exotics (26-50%)
These areas include a canopy and midstory of slash pine but lack significant coverage by saw palmetto in the groundcover stratum. Laurel oak, wax myrtle, Brazilian pepper, cabbage palm, saltbush, myrsine, rosary pea (*Abrus precatorius*), grapevine, and greenbrier (*Smilax* sp.) are also present.

FLUCCS Code 422, Brazilian Pepper
Brazilian pepper dominates this association. Widely scattered native vegetation includes grapevine, cabbage palm, and beggar ticks.

FLUCCS Code 427DE, Disturbed Live Oak Invaded by Exotics (5-9%)
Live oak, slash pine, cabbage palm, laurel oak, greenbrier, and scattered saw palmetto are present in these areas.

FLUCCS Code 428DE2, Disturbed Cabbage Palm Invaded by Exotics (26-50%)
The midstory and canopy of this association are comprised primarily of cabbage palm. Additional vegetative species include dog fennel, grapevine, and Brazilian pepper.

FLUCCS Code 510D, Ditches
Numerous ditches have been constructed on the subject parcel as part of the ongoing agricultural activities. The ditches are vegetated by species such as para grass (*Urochloa mutica*), willow, Brazilian pepper, primrose willow, West Indian marsh grass (*Hymenachne amplexicaulis*), duckweed (*Lemna* sp.), mosquito fern (*Azolla* sp.), and cattail (*Typha* sp.).

FLUCCS Code 618DE4, Disturbed Willow Invaded by Exotics (76-90%)
Native vegetation in this habitat consists primarily of willow and scattered swamp fern. Exotic vegetation coverage is extensive and includes Brazilian pepper and old world climbing fern (*Lygodium microphyllum*).

FLUCCS Code 621, Cypress
Cypress (*Taxodium* sp.) is the dominant canopy vegetation in this association. Additional vegetative species include cabbage palm, melaleuca (*Melaleuca quinquenervia*), wax myrtle, Brazilian pepper, grapevine, chainfern (*Woodwardia virginica*), swampfern (*Blechnum serrulatum*), false nettle (*Boehmeria cylindrica*), old world climbing fern,

hempvine (*Mikania scandens*), scattered Strangler fig (*Ficus aurea*), red maple (*Acer rubrum*), widely scattered Caesarweed, and bamboo (*Bambusa vulgaris*).

FLUCCS Code 624DE1, Disturbed Cypress – Pine Invaded by Exotics (10-25%)
The canopy of this habitat contains a mixture of cypress and slash pine. Strangler fig cabbage palm, Brazilian pepper, old world climbing fern, grapevine, red maple, laurel oak, and swamp fern are also present.

FLUCCS Code 625DE1, Disturbed Hydric Pine Flatwoods Invaded by Exotics (10-25%)
This association is characterized by a canopy dominated by slash pine and a relatively open groundcover stratum. Additional vegetative species include laurel oak, wax myrtle, scattered Brazilian pepper, cabbage palm, and widely scattered cypress.

FLUCCS Code 630DE, Disturbed Wetland Forest Invaded by Exotics (5-9%)
The canopy and midstory of these areas include a mixture of laurel oak, slash pine, and cabbage palm. Swamp fern, Caesarweed, greenbrier, and grapevine, are also present.

FLUCCS Code 641DE1, Disturbed Freshwater Marshes Invaded by Exotics (10-25%)
Vegetative species present in these herbaceous wetlands include fire flag (*Thalia geniculata*), West Indian marsh grass, hempvine, climbing aster (*Aster carolinianus*), pickerel weed (*Pontederia cordata*), bladderwort (*Utricularia* sp.), arrowhead (*Sagittaria* spp.), spikerush (*Eleocharis* spp.), scattered willow, and widely scattered Brazilian pepper.

FLUCCS Code 643DE3, Disturbed Wet Prairies Invaded by Exotics (51-75%)
Historically, this wetland association lacked significant canopy or midstory vegetation. However, it has become invaded by melaleuca which currently forms a dense midstory and canopy within portions of this habitat. Additional vegetative species include torpedo grass (*Panicum repens*), dollar weed (*Hydrocotyle umbellata*), nutrush (*Scleria* sp.), bladderwort, fox-tail grass (*Seteria geniculata*), lovegrass (*Eragrostis* sp.), flat-top goldenrod (*Euthamia minor*), scattered dog fennel, whitehead broom, tickseed (*Coreopsis* sp.), wax myrtle, broomsedge, widely scattered cypress, Brazilian pepper, and laurel oak.

FLUCCS Code 740, Disturbed Land
Bahia grass, smutgrass, Caesarweed, pusley, beggar ticks, balsam apple, ragweed, scattered paragrass, and Guinea grass (*Panicum maximum*) are present in these disturbed areas located outside of the active row crops.

FLUCCS Code 740H, Hydric Disturbed Land
These disturbed wetland areas are vegetated by species such as yellow-eyed grass (*Xyris* sp.), flat-top goldenrod, carpetgrass (*Axonopus* sp.), St. John's wort (*Hypericum* spp.), chocolate weed (*Melochia* sp.), scattered swamp fern, and Brazilian pepper.

FLUCCS Code 742, Borrow Areas
Vegetation present along the edges of these mostly open-water habitats includes scattered swamp fern, spikerush, cabbage palm, laurel oak, Brazilian pepper, flatsedge (*Cyperus* sp.), and wax myrtle.

FLUCCS Code 747, Berm
This FLUCCS Code was used to denote the berms located along the perimeter of the agricultural operations. Caesarweed, crows foot grass (*Dactyloctenium aegyptium*), beggar ticks, torpedo grass, sand spur, dog fennel, pusley, broomsedge, Brazilian pepper, frog-fruit (*Phyla nodiflora*), and widely scattered slash pine are present.

FLUCCS Code 814, Roads and Highways
Portions of Corkscrew Road and TPI Road as well as their adjacent vegetated shoulders are located within the project boundary. Species present in the vegetated areas include torpedo grass, Bahia grass, lovegrass, broomsedge, dollarweed, whitehead broom, beggar ticks, scattered ragweed, and primrose willow.

SURVEY METHOD

Lee County Protected Species Ordinance No. 89-34 lists several protected species of animals that could potentially occur on-site based on the general vegetative associations found on the subject parcel. Each habitat type within the development footprint or directly adjacent was surveyed for the occurrence of these and any other listed species likely to occur in the specific habitat types. The survey was conducted using meandering linear pedestrian and vehicular transects. This survey methodology is based on the Lee County administratively approved Meandering Transect Methodology. As part of this survey live trees and snags were inspected for the evidence of cavities that could potentially be used as roosts by the Florida bonneted bat (*Eumops floridanus*). Transects were spaced in a manner that provided visual coverage of habitats listed in Ordinance No. 89-34 and that are within the proposed development areas. The approximate locations of all direct sighting or signs (such as tracks, nests, and droppings) of a listed species were denoted on the aerial photography. The 1" = 400’ scale aerial Protected Species Assessment Maps (Appendix A) depict the approximate location of the survey transects and the results of the survey. The listed species survey was conducted during the morning and mid-day hours of August 31, September 22, and October 31, 2022. During the surveys the weather was warm and sunny.

Species listed as endangered, threatened, or species of special concern by the Florida Fish and Wildlife Conservation Commission (FWC) or the United States Fish and Wildlife Service (FWS) that could potentially occur on the subject parcel according to the Lee County Protected Species Ordinance are shown in Table 2. This list from the Lee County Protected Species Ordinance is general in nature, contains species that were subsequently delisted by the state, does not necessarily reflect existing conditions within or adjacent to the 1,052.47± acre property, and is provided for general informational purposes only. The bald eagle (*Haliaeetus leucocephalus*) (which has been delisted by

the FWC and FWS but is still protected by other regulations), the Florida black bear (*Ursus americanus floridanus*) (delisted in 2012 and still protected by the Florida Black Bear Management Plan), and the Florida bonneted bat (*Eumops floridanus*) (which was listed by the FWS after Ordinance No. 89-34 was adopted by Lee County) were also included in the survey.

Prior to conducting the protected species survey, a search of the FWC listed species database was conducted to determine the known occurrence of listed species in the project area. This search revealed the following: A Florida black bear was documented on the subject parcel in 2018. Two Florida panther have been recorded on the subject parcel (in 2012 and 2013) and numerous panthers have been recorded adjacent to the property.

Table 2. Listed Species That Could Potentially Occur On-site

FLUCCS CODE	Percent Survey Coverage	Species Name	Present	Absent
210AH	10	None		
214	80	Audubon's Crested Caracara (*Polyborus plancus audubonii*)**	√	
		Florida Sandhill Crane (*Grus canadensis pratensis*)**	√	
		Roseate Spoonbill (*Ajaia ajaja*)**	√	
		Wood Stork (*Mycteria americana*)**	√	
221	20	None		
221A	20	None		
241	10	None		

FLUCCS CODE	Percent Survey Coverage	Species Name	Present	Absent
321DE2	10	Eastern Indigo Snake (*Drymarchon corais couperi*)		√
		Gopher Tortoise (*Gopherus polyphemus*)		√
		Audubon's Crested Caracara (*Polyborus plancus audubonii*)		√
		Burrowing Owl (*Athene cunicularia floridana*)		√
		Florida Sandhill Crane (*Grus canadensis pratensis*)		√
		Southeastern American Kestrel (*Falco sparverius paulus*)		√
		Florida Black Bear (*Ursus americanus floridanus*)		√
		Beautiful Pawpaw (*Deeringothamnus pulchellus*)		√
		Curtis Milkweed (*Asclepias curtisii*)		√
		Fakahatchee Burmannia (*Burmannia flava*)		√
		Florida Coontie (*Zamia floridana*)		√
411DE1 411DE2 411DE3 411DE4	10	Eastern Indigo Snake (*Drymarchon corais couperi*)		√
		Gopher Tortoise (*Gopherus polyphemus*)		√
		Red-cockaded Woodpecker (*Picoides borealis*)		√
		Southeastern American Kestrel (*Falco sparverius paulus*)		√
		Big Cypress Fox Squirrel (*Sciurus niger avicennia*)		√
		Florida Black Bear (*Ursus americanus floridanus*)*		√
		Florida Panther (*Felis concolor coryi*)		√
		Beautiful Pawpaw (*Deeringothamnus pulchellus*)		√
		Fakahatchee Burmannia (*Burmannia flava*)		√
		Florida Coontie (*Zamia floridana*)		√
		Satinleaf (*Chrysophyllum olivaeforme*)		√
415DE2 415DE3	20	Eastern Indigo Snake (*Drymarchon corais couperi*)		√
		Florida Black Bear (*Ursus americanus floridanus*)*		√
		Florida Panther (*Felis concolor coryi*)		√

FLUCCS CODE	Percent Survey Coverage	Species Name	Present	Absent
422	10	None		
427DE	80	Eastern Indigo Snake (*Drymarchon corais couperi*)		√
		Gopher Tortoise (*Gopherus polyphemus*)		√
		Florida Black Bear (*Ursus americanus floridanus*)*		√
		Florida Panther (*Felis concolor coryi*)		√
		Hand Adder's Tongue Fern (*Ophioglossum palmatum*)		√
		Simpson's Stopper (*Myrcianthes frangrans* var. *simpsonii*)		√
		Twisted Air Plant (*Tillandsia flexuosa*)		√
428DE2	10	Eastern Indigo Snake (*Drymarchon corais couperi*)		√
		Audubon's Crested Caracara (*Polyborus plancus audubonii*)		√
		Florida Black Bear (*Ursus americanus floridanus*)*		√
		Florida Panther (*Felis concolor coryi*)		√
		Simpson's Stopper (*Myrcianthes frangrans* var. *simpsonii*)		√
510D 742	80	American Alligator (*Alligator mississippiensis*)	√	
		Limpkin (*Aramus guarauna*)*		√
		Little Blue Heron (*Egretta caerulea*)		√
		Reddish Egret (*Egretta rufescens*)		√
		Roseate Spoonbill (*Ajaia ajaja*)		√
		Snowy Egret (*Egretta thula*)*		√
		Tricolored Heron (*Egretta tricolor*)		√
		Everglades Mink (*Mustela vison evergladensis*)		√
618DE4	10	American Alligator (*Alligator mississippiensis*)		√
		Little Blue Heron (*Egretta caerulea*)		√
		Reddish Egret (*Egretta rufescens*)		√
		Snowy Egret (*Egretta thula*)*		√
		Tricolored Heron (*Egretta tricolor*)		√
		Wood Stork (*Mycteria americana*)		√
		Big Cypress Fox Squirrel (*Sciurus niger avicennia*)		√
		Everglades Mink (*Mustela vison evergladensis*)		√

FLUCCS CODE	Percent Survey Coverage	Species Name	Present	Absent
621 621DE1 621DE2 621DE3 621DE4	20	Gopher Frog (*Rana areolata*)* American Alligator (*Alligator mississippiensis*) Arctic Peregrine Falcon (*Falco peregrinus tundrius*)* Limpkin (*Aramus guarauna*)* Little Blue Heron (*Egretta caerulea*) Snowy Egret (*Egretta thula*)* Tricolored Heron (*Egretta tricolor*) Wood Stork (*Mycteria americana*) Big Cypress Fox Squirrel (*Sciurus niger avicennia*) Everglades Mink (*Mustela vison evergladensis*) Florida Black Bear (*Ursus americanus floridanus*)* Florida Panther (*Felis concolor coryi*) Twisted Air Plant (*Tillandsia flexuosa*)		√ √ √ √ √ √ √ √ √ √ √
624DE1 624DE2 624DE3 624DE4	20	Gopher Frog (*Rana areolata*)* Arctic Peregrine Falcon (*Falco peregrinus tundrius*)* Little Blue Heron (*Egretta caerulea*) Snowy Egret (*Egretta thula*)* Tricolored Heron (*Egretta tricolor*) Big Cypress Fox Squirrel (*Sciurus niger avicennia*) Everglades Mink (*Mustela vison evergladensis*) Florida Black Bear (*Ursus americanus floridanus*)* Florida Panther (*Felis concolor coryi*)		√ √ √ √ √ √ √ √

FLUCCS CODE	Percent Survey Coverage	Species Name	Present	Absent
625DE1 625DE2 625DE3	10	Gopher Frog (*Rana areolata*)* Eastern Indigo Snake (*Drymarchon corais couperi*) Arctic Peregrine Falcon (*Falco peregrinus tundrius*)* Little Blue Heron (*Egretta caerulea*) Red-cockaded Woodpecker (*Picoides borealis*) Snowy Egret (*Egretta thula*)* Tricolored Heron (*Egretta tricolor*) Big Cypress Fox Squirrel (*Sciurus niger avicennia*) Everglades Mink (*Mustela vison evergladensis*) Florida Black Bear (*Ursus americanus floridanus*)* Florida Panther (*Felis concolor coryi*)		√ √ √ √ √ √ √ √ √ √ √
630DE 630DE2 630DE3	20	Gopher Frog (*Rana areolata*)* American Alligator (*Alligator mississippiensis*) Limpkin (*Aramus guarauna*)* Little Blue Heron (*Egretta caerulea*) Snowy Egret (*Egretta thula*)* Tricolored Heron (*Egretta tricolor*) Wood Stork (*Mycteria americana*) Everglades Mink (*Mustela vison evergladensis*) Florida Black Bear (*Ursus americanus floridanus*)* Florida Panther (*Felis concolor coryi*)		√ √ √ √ √ √ √ √ √ √
641DE1 641DE2 641DE3 641DE4	5	American Alligator (*Alligator mississippiensis*) Florida Sandhill Crane (*Grus canadensis pratensis*) Limpkin (*Aramus guarauna*)* Little Blue Heron (*Egretta caerulea*) Reddish Egret (*Egretta rufescens*) Snail Kite (*Rostrhamus sociabilis*) Snowy Egret (*Egretta thula*)* Tricolored Heron (*Egretta tricolor*) Wood Stork (*Mycteria americana*) Everglades Mink (*Mustela vison evergladensis*)		√ √ √ √ √ √ √ √ √ √

FLUCCS CODE	Percent Survey Coverage	Species Name	Present	Absent
643DE3 643DE4	50	Florida Sandhill Crane (*Grus canadensis pratensis*)		√
		Limpkin (*Aramus guarauna*)*		√
		Little Blue Heron (*Egretta caerulea*)		√
		Reddish Egret (*Egretta rufescens*)		√
		Snail Kite (*Rostrhamus sociabilis*)		√
		Snowy Egret (*Egretta thula*)*		√
		Tricolored Heron (*Egretta tricolor*)		√
		Wood Stork (*Mycteria americana*)		√
		Everglades Mink (*Mustela vison evergladensis*)		√
740	50	None		
740H	25	None		
747	50	None		
814	80	None		

* Species delisted subsequent to adoption of Lee County Protected Species Ordinance No. 89-34.

** Lee County Protected Species Ordinance No. 89-34 does not list this species for this FLUCCS Code but it was observed on-site.

SURVEY RESULTS

The locations of the listed species sightings described below are depicted on the attached Protected Species Assessment Maps (Appendix A).

American Alligator

Two American alligators were observed in the existing agricultural ditches and one was observed in the west central borrow area.

Audubon's Crested Caracara

Three Audubon's crested caracara were observed perched on the ground in the central row crops.

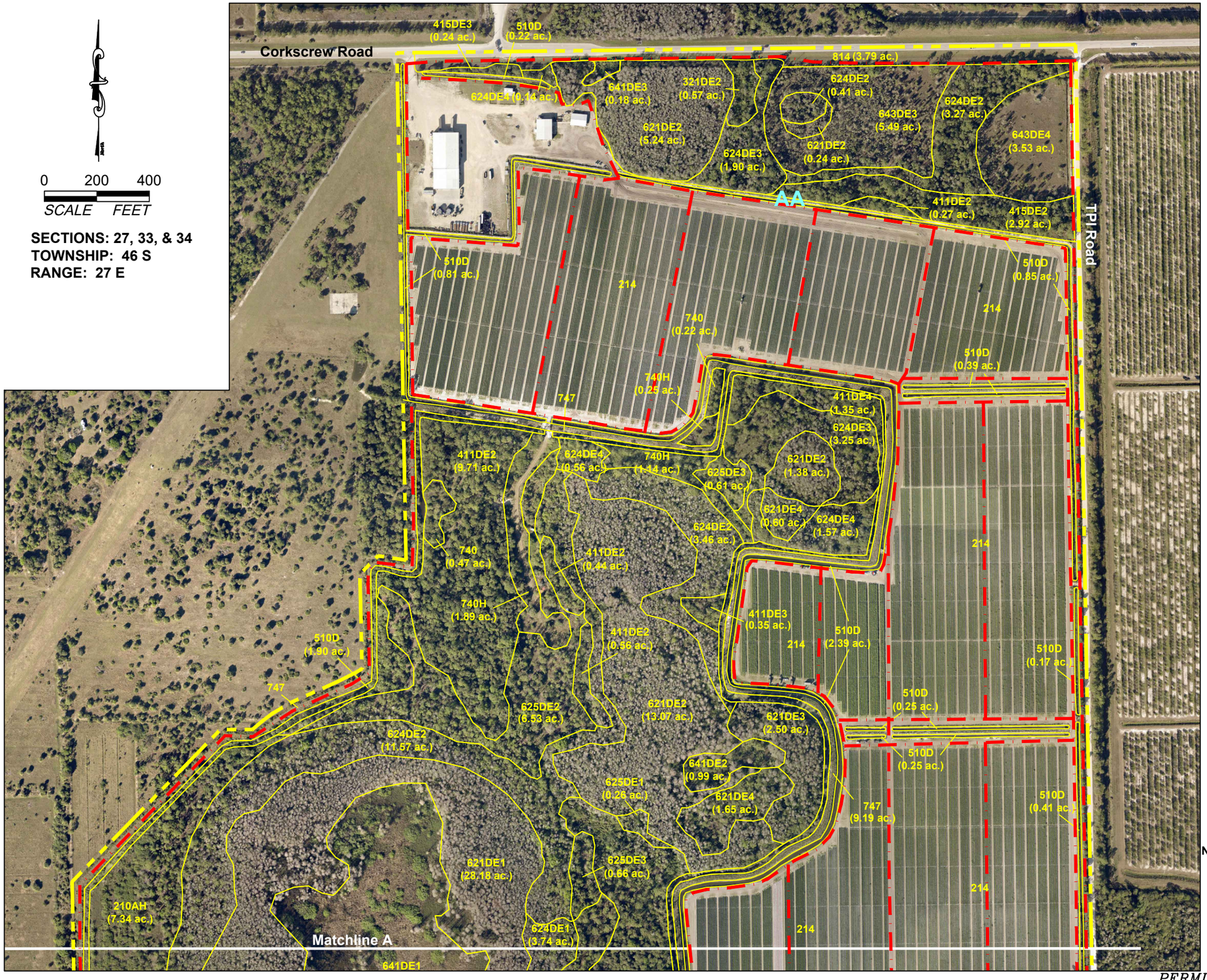
Florida Bonneted Bat

Two dead slash pine trees containing potential cavities entrances were identified. The identified potential cavity entrances are less than approximately two inches in diameter, very shallow, and do not penetrate the heartwood of the snag. No evidence of bat utilization (bat vocalization/chatter from within the potential cavities or guano on or around the snags) was observed. No live trees with cavities were observed on-site.

Listed Wading Birds
Sandhill cranes, wood storks, and roseate spoonbills were observed foraging in portions of the row crops.

Other Listed Species
No other species listed by either the FWS or the FWC were observed on the site during the protected species survey or during other site visits. There is the potential for periodic opportunistic foraging by both listed and non-listed species of wading birds within the onsite ditches, borrow areas, and preserved wetlands.

Appendix A
Protected Species Assessment Maps



0 200 400
SCALE FEET

SECTIONS: 27, 33, & 34
TOWNSHIP: 46 S
RANGE: 27 E

FLUCCS	Description	Acreage
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221	Citrus Groves	89.41
221A	Abandoned Citrus Grove	27.97
241	Tree Nurseries	8.88
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814	Roads and Highways	3.79
	Total	**1,052.47**

AA - American Aligator
WS - Wood Stork
CC - Audubon's Crested Caracara
SHC - Sandhill Crane
TWC - Tree with Cavity
RSB - Roseate Spoonbill

Vehicular and Meandering Pedestrian Transects

Notes:

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2. Vegetation mapping based on information from SFWMD Permit No. 36-102431-P, aerial interpretation of 1986 and 2022 aerial photography, review of SFWMD LIDAR, and ground truthing in August, September, and October 2022.
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4. See Sheet 1 for FLUCCS legend. FLUCCS legend reflects overall site acreages.

November 03, 2022 10:04:18 a.m.
Drawing: MTM1PLAN.DWG

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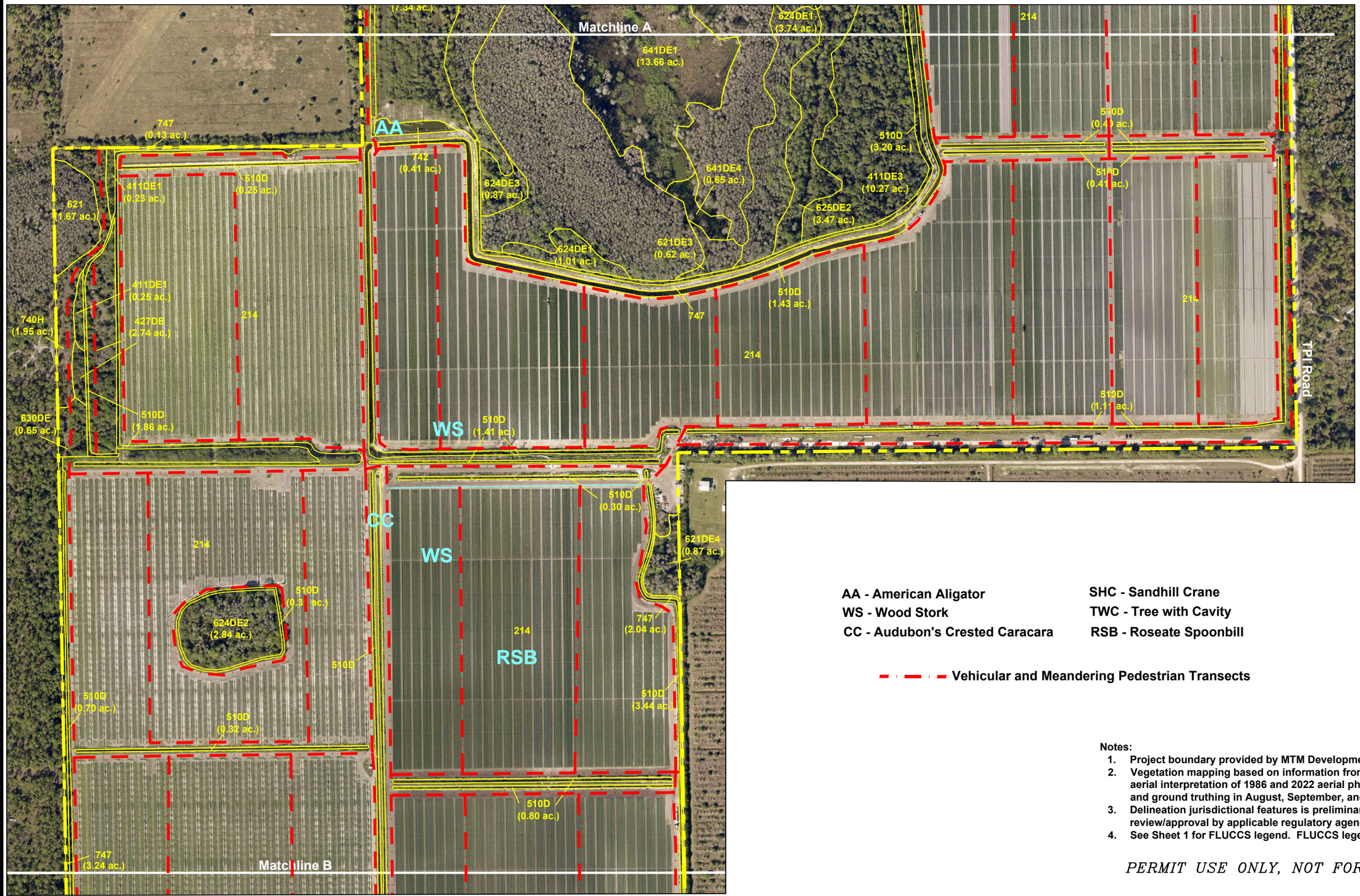
Protected Species Assessment Map - Sheet 1

The Preserve Club & Residences
At Pepper Place

DexBender Environmental Consulting
Fort Myers 239-334-3680



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SCALE FEET

SECTIONS: 27, 33, & 34
TOWNSHIP: 46 S
RANGE: 27 E

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Protected Species Assessment Map - Sheet 2

Preserve

Sporting Club & Residences
At Pepperplace

DEXBENDER ENVIRONMENTAL CONSULTING
FORT MYERS 239-334-3680

0 200 400

SCALE FEET

SECTIONS: 27, 33, & 34
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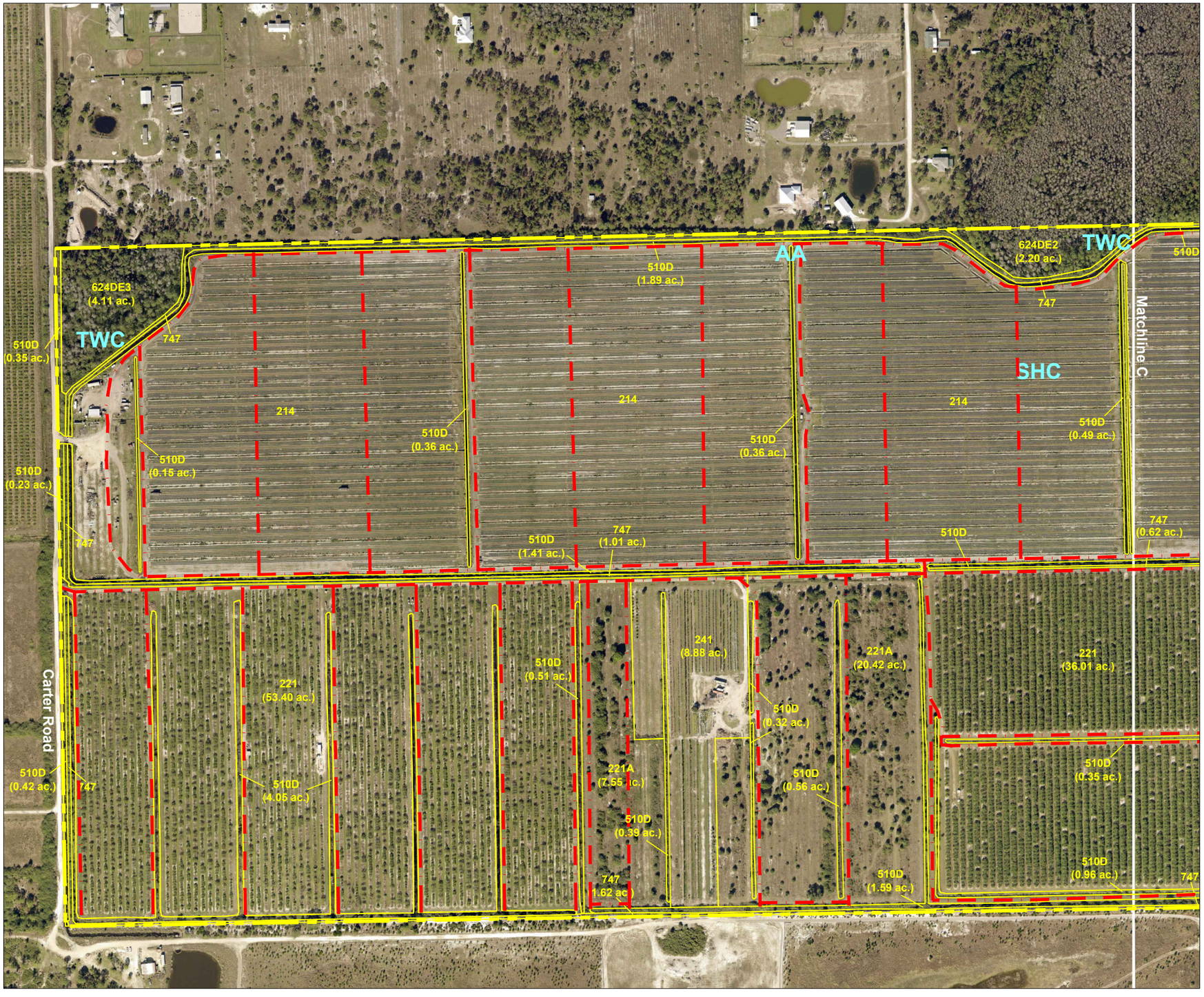
Protected Species Assessment Map - Sheet 3

The Preserve Club & Residences
At Pepper Place

DEXBENDER ENVIRONMENTAL CONSULTING
FORT MYERS 239-334-3680



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SCALE FEET

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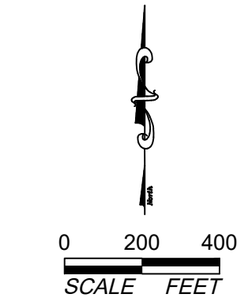
Drawing: MTM1PLAN.DWG

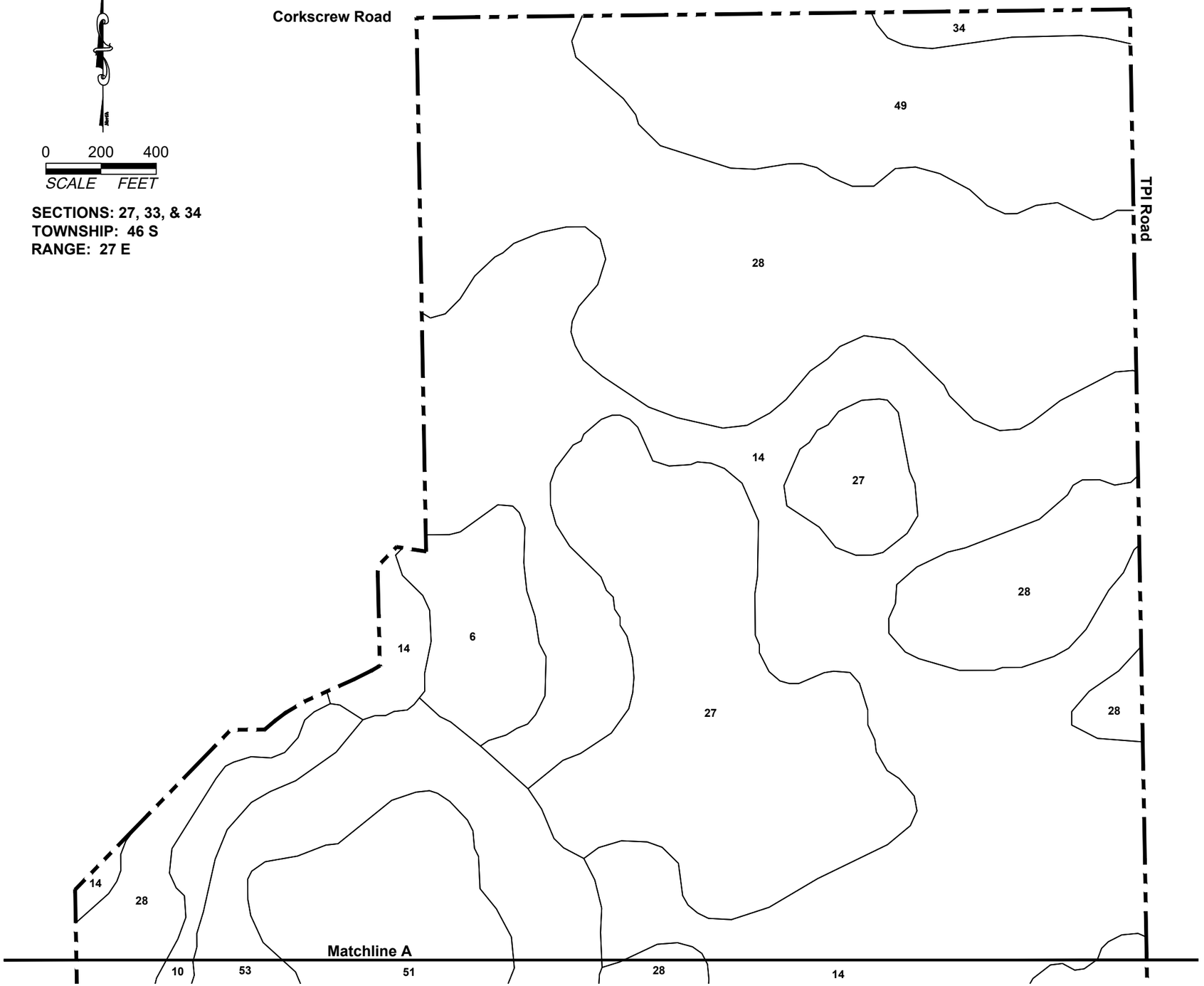
Protected Species Assessment Map - Sheet 4

The Preserve Club & Residences
At Pepper Place

DEXBENDER
ENVIRONMENTAL CONSULTING
FORT MYERS 239-334-3680



SECTIONS: 27, 33, & 34
TOWNSHIP: 46 S
RANGE: 27 E



Map Unit	Soil Name
6	Brynwood fine sand, wet
10	Pompano fine sand
11	Myakka fine sand
14	Valkaria fine sand
26	Pineda-Pineda, wet, fine sand
27	Pompano fine sand, frequently ponded
28	Immokalee sand
33	Oldsmar sand
34	Malabar fine sand
40	Ancloste sand, frequently ponded
49	Felda fine sand, frequently ponded
51	Floridana sand, frequently ponded
53	Myakka fine sand, frequently ponded

Notes:
1. **Project boundary provided by MTM Development Corporation.**
2. **Soils information obtained from the NRCS Web Soil Survey.**

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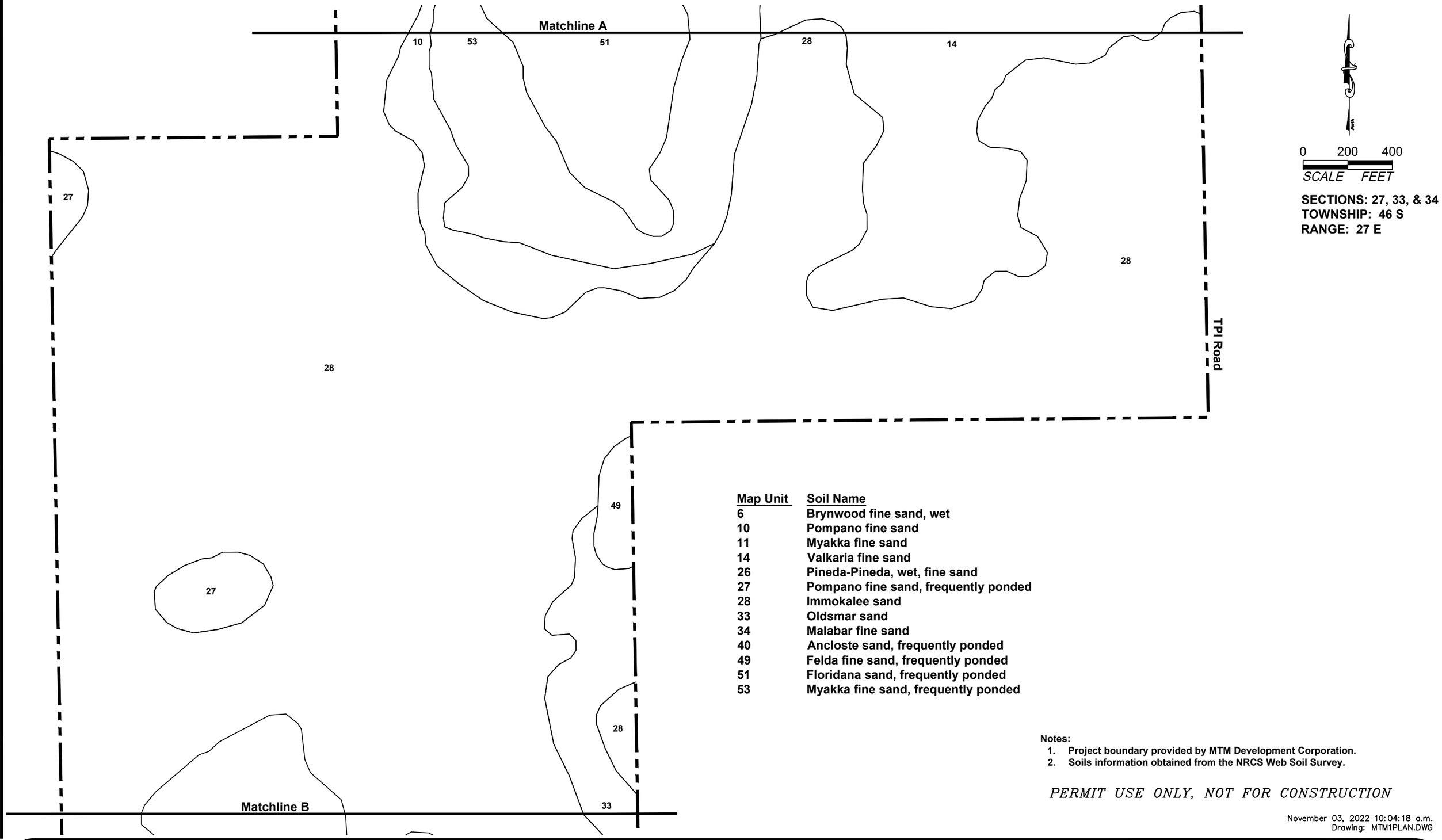
Drawing: MTM1PLAN.DWG

Soils Map - Sheet 1

The Preserve Club & Residences
At Pepper Place

DEXBENDER
ENVIRONMENTAL CONSULTING
FORT MYERS 239-334-3680



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SCALE FEET

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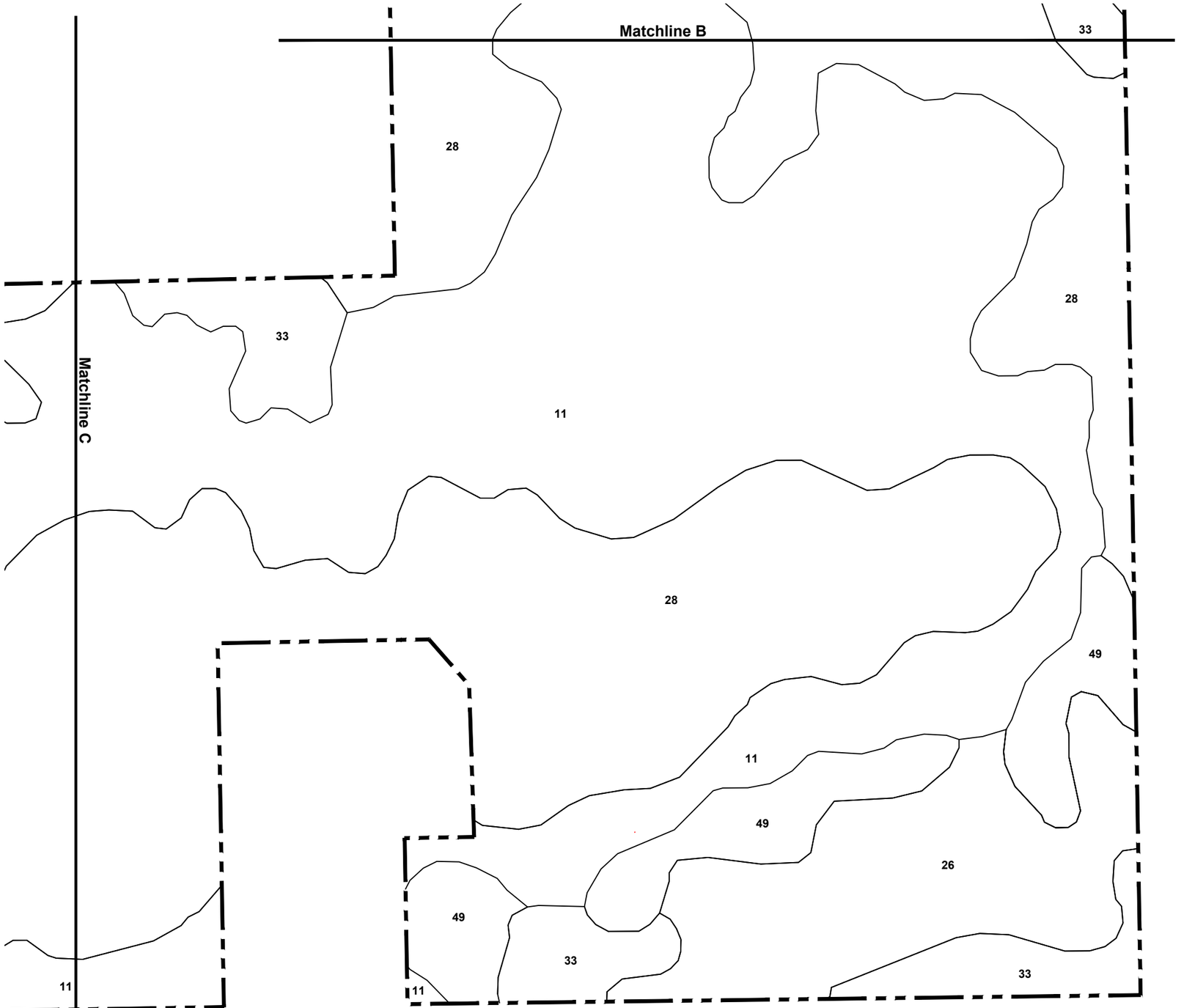
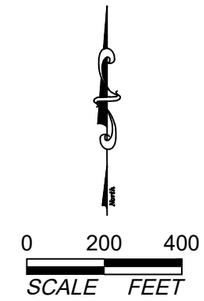
Drawing: MTM1PLAN.DWG

Soils Map - Sheet 2

The Preserve Club & Residences
At Pepper Place

DEXBENDER
ENVIRONMENTAL CONSULTING
FORT MYERS 239-334-3680





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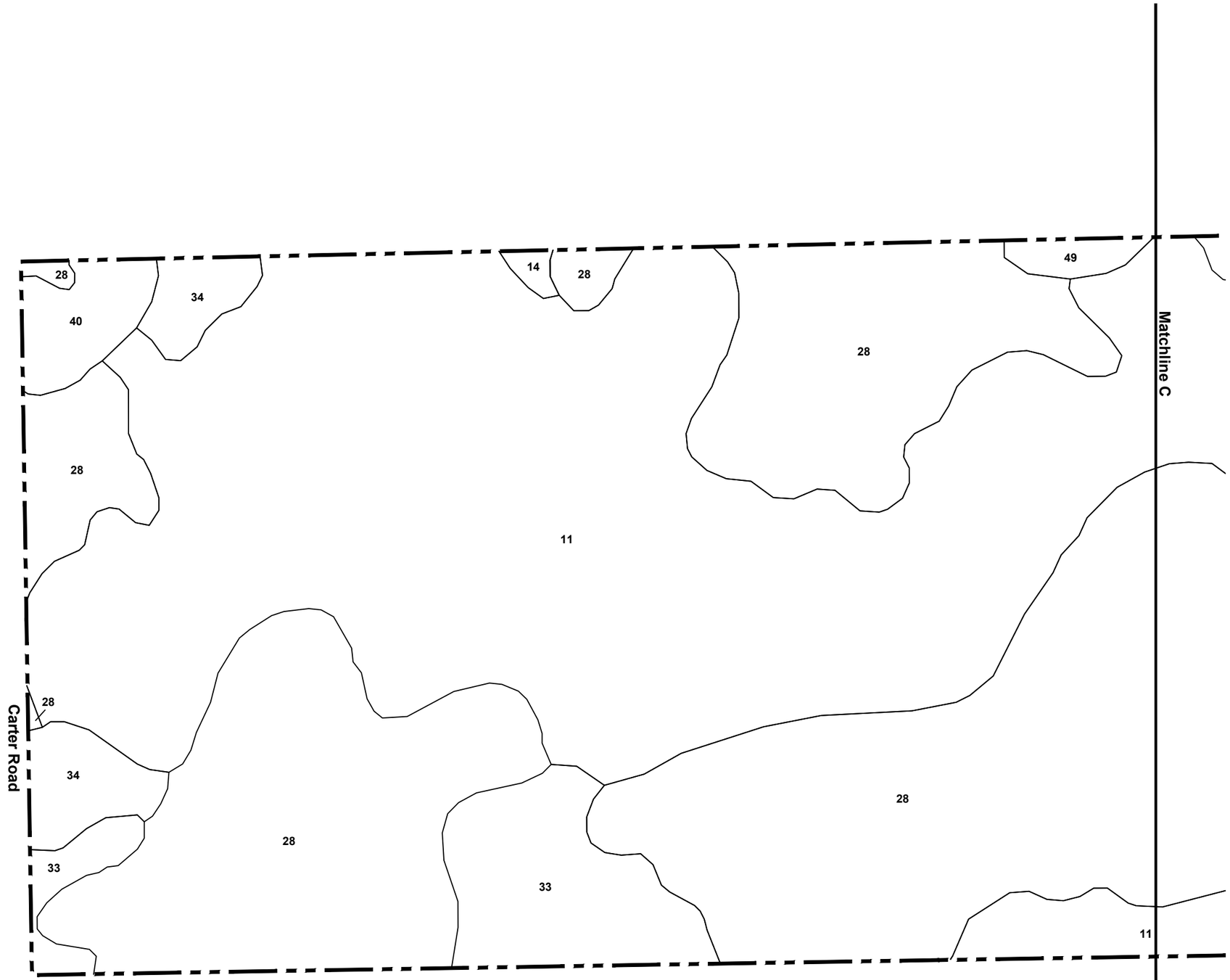
Soils Map - Sheet 3

The Preserve Club & Residences
At Pepper Place

DEXBENDER
ENVIRONMENTAL CONSULTING
FORT MYERS 239-334-3680



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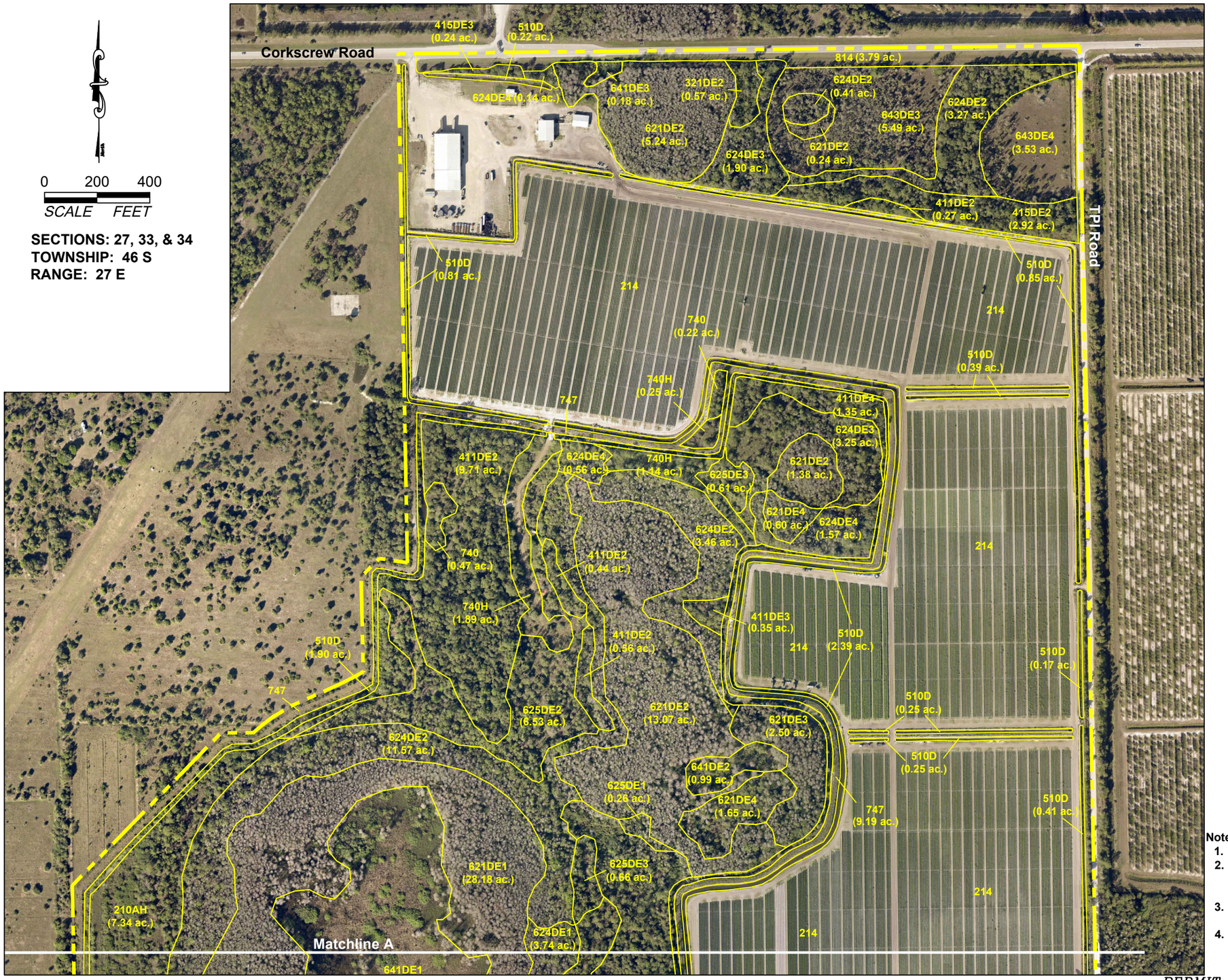
Drawing: MTM1PLAN.DWG

Soils Map - Sheet 4

The Preserve Club & Residences
At Pepper Place

DEXBENDER
ENVIRONMENTAL CONSULTING
FORT MYERS 239-334-3680



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November 03, 2022 10:04:18 a.m.
Drawing: MTM1PLAN.DWG

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Vegetation Map - Sheet 1

The Preserve Club & Residences
At Pepper Place

DEXBENDER ENVIRONMENTAL CONSULTING
FORT MYERS 239-334-3680

0 200 400

SCALE FEET

SECTIONS: 27, 33, & 34
TOWNSHIP: 46 S
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November 03, 2022 10:04:18 a.m.
Drawing: MTM1PLAN.DWG

Vegetation Map - Sheet 2

The Preserve Club & Residences
At Pepper Place

DEXBENDER ENVIRONMENTAL CONSULTING
FORT MYERS 239-334-3680

0 200 400
SCALE FEET

SECTIONS: 27, 33, & 34
TOWNSHIP: 46 S
RANGE: 27 E

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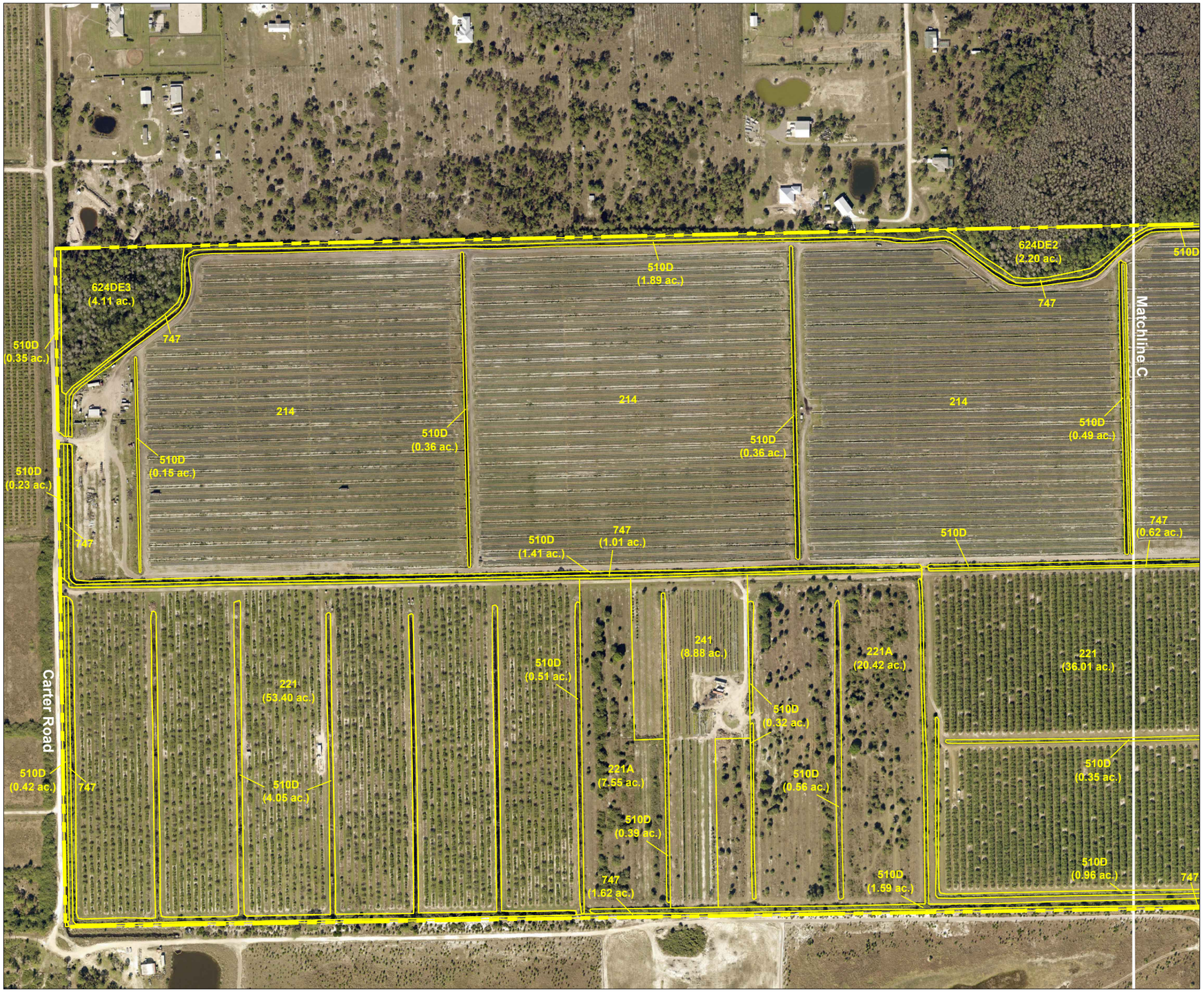
Drawing: MTM1PLAN.DWG

Vegetation Map - Sheet 3

The Preserve Club & Residences
At Pepper Place

DEXBENDER
ENVIRONMENTAL CONSULTING
FORT MYERS 239-334-3680



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SCALE FEET

SECTIONS: 27, 33, & 34
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Vegetation Map - Sheet 4

The Preserve Club & Residences
At Pepper Place

DEXBENDER ENVIRONMENTAL CONSULTING
FORT MYERS 239-334-3680

Impacts on Historic Resources
Exhibit T-8

In accordance with the attached letter from the Division of Historic Resources, the subject property contains no know historic resources. The attached Archeological Sensitivity Map shows the property as being located partially within the Archeologically Sensitive 2 Zone, which covers areas largely intended for preservation.

Daniel DeLisi

From: Vovsi, Eman M. <Eman.Vovsi@DOS.MyFlorida.com>
Sent: Thursday, October 27, 2022 2:20 PM
To: Daniel DeLisi
Subject: RE: Letter on Historic Resources
Attachments: Template_102.pdf

Completed; no cultural resources detected

From: Daniel DeLisi <dan@delisi-inc.com>
Sent: Thursday, October 27, 2022 12:58 PM
To: FMSFILE <FMSFILE@dos.myflorida.com>
Subject: Letter on Historic Resources

Greetings,

The attached is a request to search for previously recorded cultural resources on the subject property. I have attached the appropriate form, and a property boundary overlaid on an aerial. If you should require any additional information, please do not hesitate to contact me.

Best regards.

Daniel DeLisi, AICP
DeLisi, Inc.
dan@delisi-inc.com
www.delisi-inc.com

State Policy Plan and Strategic Regional Policy Plan Analyses
Exhibits T-9 and T-10

There are no State or Regional Policy Plan goals or policies that are relevant to the proposed amendment.