APOPKA CITY COUNCIL MEETING AGENDA

September 6, 2023 1:30 PM

Apopka City Hall Council Chambers

APOPKA CITY COUNCIL MEETING WILL BE LIVE-STREAMED ON YOUTUBE. TO WATCH, PLEASE VISIT:
https://www.youtube.com/CityofApopkaFL

CALL TO ORDER

INVOCATION

PLEDGE

APPROVAL OF MINUTES

1. Regular Council Meeting Minutes of August 16, 2023.

AGENDA REVIEW

PUBLIC COMMENT PERIOD

The Public Comment Period is for City-related issues that may or may not be on today's Agenda. If you are here for a matter that requires a public hearing, please wait for that item to come up on the agenda. If you wish to address the Council, you must fill out an Intent to Speak form and provide it to the City Clerk prior to the start of the meeting. If you wish to speak during the Public Comment Period, please fill out a green-colored Intent-to-Speak form. If you wish to speak on a matter that requires a public hearing, please fill out a white-colored Intent-to-Speak form. Speaker forms may be completed up to 48 hours in advance of the Council meeting. Each speaker will have four minutes to give remarks, regardless of the number of items addressed. Please refer to Resolution No. 2016-16 for further information regarding our Public Participation Policy & Procedures for addressing the City Council.

CONSENT (Action Item)

1. Authorize the release of Code Enforcement Lien - 329 Garden Oak Court Apopka, FL

2. Approval of Recreational Professional Services Agreement – Amber-Leigh's Aquatics

3. Notification of Application for Fiscal Year 2023 Edward Byrne Memorial Justice Assistance Grant (JAG) Program

4. Retention Incentive for existing full-time Public Safety Telecommunicators (PST)

5. Authorize the execution of piggyback contracts for the assigned terms: CivicPlus, LLC

6. Extend the current Lease Agreement with Silver Spear Security, LLC in accordance with the original lease.

BUSINESS (Action Item)

1. Acadia Orlando Health – Major Development Plan
   Owner(s): Chu Mu Ching
   Applicant(s): Crunk Engineering, LLC. c/o Adam Crunk, P.E.
   Location: 1452 South Orange Blossom Trail
   Tract Size: 10.34 +/- acres
   Proposed Use: Behavioral Hospital

Density/Intensity: 0.22 Floor Area Ratio
Project Manager: Jean Sanchez
Presented by: Jean Sanchez, Senior Planner

2. Shoppes at East Shore Multifamily – Major Development Plan
   Owner(s): Shoppes At East Shore, LLC
   Applicant(s): Kimley-Horn and Associates, Inc. c/o L. Jordan Draper, P.E.
   Location: Northeast corner of Ocoee Apopka Road and Keene Road
   Project: Mixed-Use (15 dwelling units per acre and 1.0 floor area ratio maximum)
   Density: 7.6 dwelling units per acre
   Project Manager: Jean Sanchez
   Presented by: Jean Sanchez, Senior Planner

3. Floor and Décor Apopka – Major Development Plan
   Owner(s): Mid-Florida Freezer Properties, LLC
   Applicant(s): Kimley-Horn and Associates, Inc. c/o Brian Ashby P.E.
   Location: Southwest corner of Lake View Drive and U.S. 441
   Project: 5.72 +/- acres; Wholesale facility use
   Density/Intensity: 0.31 Floor Area Ratio
   Project Manager: Jean Sanchez
   Presented by: Jean Sanchez, Senior Planner

4. Memorial Park Bench Program

   Presented by: Radley Williams, Recreation Director

5. Best Foot Forward for Pedestrian Safety program in FY23-24
   Project Manager: Pam Richmond
   Presented by: Pamela Richmond, Transportation Coordinator

6. Active Transportation Network Study and Active Transportation Network
   Project Manager: Pam Richmond
   Presented by: Pamela Richmond, Transportation Coordinator

PUBLIC HEARINGS/ORDINANCES/RESOLUTION (Action Item)

1. Ordinance No. 3010 – First Reading – Small-Scale Future Land Use Amendment from Industrial to Commercial – Shake the Nations Property
   Owner(s): Shake the Nations Ministries, Inc.
   Applicant(s): Lowndes Law Firm c/o Jonathan Huels, Esq.
   Location: 333 Semoran Commerce Place
   Tract Size: 2.4 +/- acres
   Project Manager: Jean Sanchez
   Presented by: Jean Sanchez, Senior Planner

2. Ordinance No. 3011 – First Reading – Change of Zoning from I-L (Light Industrial) to C-COR (Corridor Commercial) – Shake the Nations Property
   Owner(s): Shake the Nations Ministries, Inc.
   Applicant(s): Lowndes Law Firm c/o Jonathan Huels, Esq.
   Location: 333 Semoran Commerce Place
   Tract Size: 2.4 +/- acres
   Project Manager: Jean Sanchez
   Presented by: Jean Sanchez, Senior Planner

3. Ordinance No. 3019 - First Reading - Small-Scale Future Land Use Amendment - The Ridge Self-Storage
   Owner(s): The Ridge Self-Storage, LLC
   Applicant(s): Josh Edmondson, Poulos & Bennett, LLC
   Location: West side of Ocoee-Apopka Road, north of SR 414
   Project: The Ridge Self-Storage
   Density: 0.6 maximum FAR

Project Manager: Bobby Howell
Presented by: Bobby Howell, Planning Manager

4. Ordinance No. 3020 - First Reading Rezoning - The Ridge Self-Storage
   Owner(s): The Ridge Self-Storage, LLC
   Applicant(s): Josh Edmondson, Poulos & Bennett, LLC
   Location: West side of Ocoee-Apopka Road, north of SR 414
   Project: The Ridge Self-Storage Rezoning
   Density: 0.6 maximum FAR
   Project Manager: Bobby Howell
   Presented by: Bobby Howell, Planning Manager

5. Ordinance No. 3021 - First Reading - Land Development Code amendments
   Presented by: James Hitt, Community Development Director

6. Ordinance No. 3022 - First Reading -Chapter 18, Buildings and Building Regulations, Article III. – Permit Fees.
   Presented by: James Hitt, Community Development Director

7. Ordinance No. 3024 –First Reading- Annexation – SNP Properties
   Owner(s): SNP Properties, LLC
   Applicant(s): Denny Shiver
   Location: Southeast corner of Plymouth Sorrento Road and Dowman Drive
   Tract Size: 5.0 +/- acres
   Project Manager: Jean Sanchez
   Presented by: Jean Sanchez, Senior Planner

8. Resolution 2023-27 - Sanitation Rate Increase

   Presented by: Josh Robinson

9. Resolution Number 2023-29 establishing the rate increases for services provided by the Water, Wastewater and Reclaimed Water.

   Presented by: Blanche Sherman, Finance Director

CITY COUNCIL REPORTS

CITY ADMINISTRATOR'S REPORT

CITY ATTORNEY'S REPORT

MAYOR’S REPORT

ADJOURNMENT
Individuals with disabilities needing assistance to participate in any of these proceedings should contact the City Clerk at least two (2) working days in advance of the meeting date and time at (407) 703-1704. F.S. 286.0105 If a person decides to appeal any decision or recommendation made by Council with respect to any matter considered at this meeting, he will need record of the proceedings, and that for such purposes he may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

Any opening invocation that is offered before the official start of the Council meeting shall be the voluntary offering of a private person, to and for the benefit of the Council. The views or beliefs expressed by the invocation speaker have not been previously reviewed or approved by the City Council or the city staff, and the City is not allowed by law to endorse the religious or non-religious beliefs or views of such speaker. Persons in attendance at the City Council meeting are invited to stand during the opening ceremony. However, such invitation shall not be construed as a demand, order, or any other type of command. No person in attendance at the meeting shall be required to participate in any opening invocation that is offered or to participate in the Pledge of Allegiance. You may remain seated within the City Council Chambers or exit the City Council Chambers and return upon completion of the opening invocation and/or Pledge of Allegiance if you do not wish to participate in or witness the opening invocation and/or the recitation of the Pledge of Allegiance.

CITY OF APOPKA MINUTES
Minutes of the City Council Meeting held on August 16, 2023 at 7:00 PM, in the City of Apopka Council Chambers.

Present:

- Mayor Bryan Nelson
- Commissioner Kyle Becker
- Commissioner Nick Nesta
- Commissioner Alexander Smith
- Commissioner Diane Velazquez
- Attorney Cliff Shepherd

INVOCATION & PLEDGE OF ALLEGIANCE: Commissioner Smith provided the Invocation, led in the Pledge of Allegiance, and gave the Fact of the Day: On August 17, 1943, U.S. General George S. Patton and his 7th Army arrive in Messina several hours before British Field Marshal Bernard L. Montgomery and his 8th Army, winning the unofficial "Race to Messina" and completing the Allied conquest of Sicily.

APPROVAL OF MINUTES

1. Regular Meeting Minutes of August 2, 2023.
2. Budget Workshop Meeting Minutes of July 24, 2023
3. Budget Workshop Meeting Minutes of July 25, 2023
4. Budget Workshop Meeting Minutes of July 26, 2023
5. Special Budget Hearing Meeting Minutes Setting Proposed Millage Rate

a. **Mayor Nelson** asked if anyone had any questions about either set of minutes.
b. Hearing further questions or comments, he asked for a motion to approve the regular council meeting minutes of August 2, 2023, the budget workshop meeting minutes of July 24, 2023, July 25, 2023, and July 26, 2023, and the special budget hearing meeting minutes setting proposed millage rate.
c. **Motion** by **Commissioner Becker** and seconded by **Commissioner Velazquez** to approve the regular council meeting minutes of August 2, 2023, the budget workshop meeting minutes of July 24, 2023, July 25, 2023, and July 26, 2023, and the special budget hearing meeting minutes setting proposed millage rate.
d. **Motion carried unanimously,** with Mayor Nelson, and Commissioners Becker, Nesta, Smith, & Velazquez voting aye.

PRESENTATION

1. Dog Mayor Contest
   Presented by: Bryan Nelson, Mayor

   Mayor Nelson announced Dog Mayor Asher, advocate for Second Chance Rescue, Vice-Chair Lola, advocate for Bully Up Rescue, Commissioner Kobe, advocate for Husky

Haven of Florida, Commissioner Jarvis, advocate for the Care Foundation, and Murphy, an advocate for the Suncoast Bassett rescue.

Ella Duke, **with Propagate Social House on 5th and Main Street**, stated that the Dog Mayor election was one of the first events that us as Main Street Apopka wanted to put out there; we thought that it was going to be a great way to bring some wholesome positive community fun to Apopka. She thanked her team for all of the help during the event.

Caitlin Kasheta stated that they raised a total of $19,808, for the pet rescues. She stated that they were getting in votes from across the nation, even getting one in from Australia. The city in California that does a Dog Mayor election, on a regular basis, usually raises about $25,000, so Apopka is 'on the map.' She thanked the Commissioner for the participation and support; she gave a special thanks for Commissioner Smith and Commissioner Nesta, stating that they truly went above and beyond any expectations. They did a lot of fundraising and awareness raising themselves.

2. City of Apopka Investment Transaction History 2021-2023
   Presented by: Blanche Sherman, Finance Director

Blanche Sherman, Finance Director (FD), gave a brief presentation in regard to the City of Apopka investment transactions for the past two to three years. Keeping in mind that the goal is to not concentrate all of the City's investments in one bank or deposits, allowing for diversity and maximizing our investment earnings, also while keep in mind the safety and liquidity as the number one priority. She stated that the June 2021 was the $29 million-dollar transfer from Synovus Bank to One Florida Bank; in July 2022 there was a $20 million-dollar transfer from Synovus Bank to Florida Prime; and in June of 2023 we made a $31 million-dollar transfer from One Florida Bank to Seacoast Bank. The One Florida wire that was made on June 8, 2021 in the amount of $29-million, from Synovus Bank to One Florida Bank, at that time the staff determined that the rates being offered by Synovus Bank was lower than the rates that were being offered by One Florida Bank and SBA, as well. That was the rational for them making that particular transfer. In regards to the wire on July 21, 2022 in the amount of $20-million-dollars, from Synovus Bank to SBA, Synovus Bank's interest rates at that time was .35 and One Florida Bank at .5 and SBA's interest 1.8 percent. On June 8th a third wire in the amount of $31.989,177.99 was made from One Florida Bank to Seacoast Bank. At that time, one Florida Bank was at the 4.7 percent and decided that they would not go up to the 5.2 percent. Seacoast Bank's interest rate was 5.2 percent, that was after taking a CD that had matured and converting that to a money market account. They were at the 5.2 percent and Synovus Bank was at the 5.2 percent. We made that transfer to the Seacoast Bank, they offered to go up to the 5.2 percent with a $25 million-dollar deposit, minimum. Because of all of the concerns and comments that have been made about the various transfers we did ask for a legal opinion, on the one from Synovus Bank to One Florida Bank that happened in 2021. That legal opinion is attached. Also, we have our attorney here that can comment on that opinion, if you have any questions.

The PowerPoint presentation is available upon request.

Commissioner Nesta asked FD Sherman who asked her to bring this presentation to the Council and **FD Sherman** responded, the Mayor. **Commissioner Nesta** then asked Attorney Cliff Shepherd who requested his legal opinion on this and **Attorney Shepherd** stated that he does not know in what order, but a combination of the Mayor and Mrs. Sherman. **Commissioner Nesta** asked how much did it cost to get this opinion and Attorney Shepherd stated that he does not know, they have not run the bills yet, it is not at that point in the month, but he can get it for him. **Commissioner Nesta** stated that he would like that information. He went on to state that he does not exclusively work for the Mayor and his legal opinion would usually be under the Attorney's Report, especially if the council had asked for it, but they did not. Additionally, the documents that were provided still show inconsistences. He stated that he will not take a deep dive into it, because he did not ask for it to be done, but the data provided still shows information that is inaccurate. He stated that he feels FD Sherman and Attorney Shepherd are being used as pawns in a game that the Mayor is trying to play. He addressed the Mayor, stating 'Mr. Mayor, to put a finer point on last meeting, you think that we are all trying to get 'gotcha' moments on you, but there would be nothing to get if you wouldn't do sketchy things behind the scenes. Stop trying to hide things, stop trying to be above the residents and the rest of the council and we wouldn't have 'gotcha' moments.' With that being said, I still think there needs to be a forensic audit. **Mayor Nelson** asked Commissioner Nesta to tell him what he sees that he [the Mayor] has done wrong, on these transactions. **Commissioner Nesta** stated that he will not tell him, but I'm sure he knows. He stated that he does not want the Mayor to edit any of the evidence that may be coming up. He also stated that he hopes he is completely wrong and this is a waste of time. Mayor Nelson stated just so you are aware, when we moved the money from Synovus to One Florida, if you go back to when the original transaction was done we made about $150,000 more and since you [Commissioner Nesta] came on to the council it is $110,000 more. So, we've made more money, because moved that $31 million to One Florida. **Commissioner Nesta** stated that it was moved without any approvals, for 0.2 percent. He said that he requested that it was moved for almost a full percentage point, until One Florida said half a percent for $30 million dollars and he was fought tooth and nail until he was finally able to get that approved and help the residents. Mayor Nelson stated that they moved the money based on Attorney Shepherd's opinion and per policy. **Commissioner Nesta** stated that Mrs. Sherman has requested that he read the policy and he has done so, over and over, and that is not what our policy states. Per the policy, every year, the council should be reviewing our investment strategy, not staff. It specially states that, but I have never seen that happen and I've neve been apart of it. **FD Sherman** stated that the three transactions, per the review by legal counsel, are in compliance with the procedures under the policy. They do not require council authority, even though some transactions were brought to council. She stated that she spoke to Mr. Bass, before he passed away, about this particular transaction, because Commissioner Velazquez bought it up to her and she wanted to understand the rational the procedure behind it. She understands that there are some concerns and maybe we want certain levels to come to council for approval. That was something that Commissioner Becker brought up in the briefings; maybe set a threshold, in the policy, where the finance director, Mayor, and City Administrator, can go up to maybe $10 million dollars, but beyond that, it needs to be brought before council. Currently we have the investment advisor under contract and they are reviewing the policy now. They will bring it to this council for input and comm and council will have the

opportunity to change those procedures, at that time. **Commissioner Becker** stated that this is the second legal opinion where the council is not getting the full opinion, until well after the fact. He stated that the council needs to receive the fill opinions, as soon as staff does, so that they can be better prepared for the conversation, behind it. Secondarily, our investment policy is dated 1995 and **Commissioner Nesta** stated that we are still not following that. **Commissioner Becker** stated that the first main point is that there is some inconsistency in its application. Again, as put in the packet that was included today and discussed on Monday, we did as a formal agenda item, back when it was first moved, the $2 million dollars from Iberia at the time, over to One Florida. But then a much larger transaction of $29 million happened, without any council scrutiny. The real question should be why did that happen, because it should be a common application of how you are interpreting the policy and if $2 million dollars is worthy of a council vote, then certainly $29 million dollars is. In the investment policy, there provisions in there and a couple different avenues, by which you can move money. One is going to route of doing formal quotes and presenting the information to the council or there is the more unilateral method by the Investment Officer to act as a fiduciary agent of the City, responsibly. That's where my biggest point of contention is; $29 million dollars as a representation of our entire general fund expenditure is a considerable and material amount, percentage wise. So, having one singular person, within the city, having that level of authority, to make that sort of move is where I disagree with the policy and think we need to update the policy. He went on to state that he is not clear on the specificity of what Commissioner Nesta is bringing up, but he would love to know it, so he can better wrap is head around it. However, the policy is significantly outdated.

Commissioner Velazquez stated that she is along the same lines; this is something that she brought up over and over when FD Sherman first come to the City. She stated that it is the procedure; the $2 million was bought before the council, but not the $29 million. She also stated that FD Sherman suggested, now that JP Morgan is now going through all of our investments, that we should suggest that, so that in the future we don't have this type of issue come up. She also stated that she did speak with the City Attorney and asked that if he makes an opinion and it is done at the request of the Chair, that the council gets notified at the same time. He stated that according to the attorney, when he does provide an opinion, he does state 'for distribution' meaning that each of us should get it.

Commissioner Smith stated he looked at the policy that was sent to him and the opinion from the City Attorney and based on the policy, the procedures were followed. If the council feels the policy is outdated and needs to be changed, then we just need to do that. Make the change and move forward. Both Mayor Nelson and Commissioner Becker agreed with him.

FD Sherman stated that JP Morgan is working on the update now. They will come before the council with proposed changes and take in the comments.

AGENDA REVIEW

No Changes.

PUBLIC COMMENT

Albert McKimmie, 3603 Golden Gem Rd Apopka, FL 32712 stated that he has numerous concerns that the City is not doing its best for the employees or the residents. In his opinion there are discrepancies on how mental health is treated, within the City. It recently came to him that one of the police officers had her contract terminated, because she applied to get some help. He stated that he does not understand what we are doing; national statistics state that 16.26 percent of the national US population, over the age of 12 suffer from some sort of substance abuse. That means 1 in 6 people have some issue substance abuse.

Bobbie Boeh, 2317 Boy Scout Rd, Apopka, FL 32783 stated that she is looking forward to the concerts at the Amphitheatre. She would also like to thank Commissioner Nesta for helping and supporting her on several issues that have come into her life lately. Next, she stated that Boy Scout Rd has a lot of construction going on and those on that road were promised to have the materials in their driveways replaced. She is looking for those jobs to be complete with something that will not have to be bothered, when further construction comes. She stated that Pam Richmond stated that she did a drive by and did not see anything major, but you cannot just drive by and look. Lastly, she stated that the parking lot of the new Winn-Dixie is a 'disaster;' customers will be trying to get out and emergency vehicles will be trying to get in. She also feels that the grand opening was premature because they had nine pieces of heavy equipment driving around while customers were waiting in line to get inside, for the grand opening.

Shaunte Jemison and School Board Member Melissa Byrd, Tallow Rd Apopka, FL 32703 stated that they are doing Read Around the City in all the School Board District, District 7, which goes all through the Ocoee, Winter Garden, and the Apopka area. This year the community members will be able to read and log their own minutes and assign those minutes to the school of their choice. There will be competition amongst the schools to see who gets the most reading minutes. The competition will be from September 1st to January 31st and the goal is 1 million minutes, in District 7. The readers do not have to be in the district or within the State of Florida, anyone in the US can log into the app and log their reading. Also, the reading does not have to be only books; it can be emails, newspapers, magazines, etc. as long as you are reading. Thanks went to Commissioner Nesta for purchasing the app, for the next two years and Commissioner Velazquez for helping get the marketing and videos out.

Rod Olsen, 3156 Rolling Hills Lane, Apopka, FL 32712 stated that he was very disappointed with the budget workshops, because of the inconsistencies in the numbers. He went on to state that the fees charged for the Central Florida Soccer Club is substantially different for what is charged for other sports teams. When looking at annual fees, the Apopka Rapters is $1,200 for five months, Pop Warner is $2,500 for five months, and Apopka Little League is $3,500 for five months. This is based on $100 per team. The Central Florida Soccer Club pays $51,000 for eight months. When you break it down to a monthly fee, the Rapters is $240, Pop Warner is $500, Little League is $292, and Central Florida Soccer Club is $6,375 per month. Right now, Central Florida Soccer Club is paying thirteen to twenty-seven times more than what the other youth programs are paying. When you break it down to cost per hour for fields the Rapters are paying .53 cents per hour, Pop Warner is paying $1.11, Apopka Little League is paying .65 cents and Central Florida Soccer Club is paying $98 per hour. All the three programs a program agreement

and calling the Central Florida Soccer Club a rental agreement is circumventing what should be done for all these programs that serve the youth of Apopka. All these programs offer scholarships for the families that cannot afford, recreational and completive play, and all the players are exposed to some outstanding training. Mr. Olson stated that Central Florida Soccer Club should not be treated different and he suggested that Central Florida Soccer pay the $500, as does Pop Warner, the highest of the other groups, at this point. The field utilization for the regular games, not tournaments, should be incorporated, as well as with the other organizations.

Sylvester Hall, 3091 Rolling Hills Lane Apopka, FL 32712 stated that everything we talk about can be done with simple leadership doing what they are supposed to do. He went on discuss the racists remarks spray painted on the cars in The Overlooks; he stated that there is a video that has not been released to the public, of people of interest. He stated that if that video is released there will be a greater chance of solving the crime.

Garreth Leslie, 2277 Windsor Crest Loop, Apopka, FL 32712 expressed his disappointed with the tennis courts being leased out and the changes happening at the courts.

Michael Duran, 11504 Almo Ct Clermont, FL 34711 thanked the Commissioners and stated that he thinks we are making some headway; we did get the staff that was needed at the Fire Department. He continued to thank members of the public and the commissioners for the steps they have taken so far and urged the commissioner to approve consent agenda item number five.

CONSENT (Action Item)

1. Execute Release of Code Enforcement Lien for 131 Summerset Drive
2. Execute Release of Code Enforcement Lien for 219 E 8TH Street Page 1 of 193
3. Authorize the acceptance of Department of Transportation (DOT) grant for Pedestrian and Bicycle Safety High Visibility Enforcement and Support Program
4. Authorize the execution of piggyback contracts for the assigned terms: Herc Rentals, Sweeping Corp. of America, Chuck Robinson Concrete and Bob Cat Service, Inc., White Cap, L.P. and LumenServe, Inc.
5. Award a contract for RFP 2023-A-83: Project Manager: Fire Department Health and Safety Implementation
6. City of Apopka FY2023 Budget-to-Actual Report for the Ten-Months Ending July 31, 2023
7. Accept the disbursement report for July 2023.

    a. **Mayor Nelson** asked if anyone had any questions about any of the items on Consent.
    b. Hearing further questions or comments, he asked for a motion to approve the seven (7) consent agenda items.
    c. **Motion** by **Commissioner Becker** and seconded by **Commissioner Smith** to approve the seven (7) consent agenda items.
    d. **Motion carried unanimously,** with Mayor Nelson, and Commissioners Becker, Nesta, Smith, & Velazquez voting aye.

BUSINESS (Action Item)

PUBLIC HEARINGS/ORDINANCES/RESOLUTION (Action Item)

1. Ordinance Number 3017 - Second Reading - Small-Scale Future Land Use Amendment - Community Health Centers
   Owner(s): Community Health Centers, Inc.
   Applicant(s): Erika Hughes, VHB
   Location: 225 E. 7th Street
   Project: Community Health Centers Small-Scale Future Land Use Amendment
   Density: Maximum 2.0 FAR
   Project Manager: Bobby Howell
   Presented by: Bobby Howell, Planning Manager

   No Changes.

   a. **Mayor Nelson** asked if anyone had any questions about this item.
   b. Hearing no further questions or comments, he asked for a motion to adopt Ordinance Number 3017.
   c. **Motion** by **Commissioner Smith** and seconded by **Commissioner Nesta** to adopt Ordinance Number 3017.
   d. **Motion carried unanimously,** with Mayor Nelson, and Commissioners Becker, Nesta, Smith & Velazquez voting aye

2. Ordinance Number 3018 – Second Reading - Annexation - Word of Life Church
   Owner(s): Word of Life Church of Apopka
   Applicant(s): Darrell or Lisa Morgan
   Location: 1853 Vick Road
   Project: Word of Life Church of Apopka
   Density: N/A
   Project Manager: Bobby Howell
   Presented by: Bobby Howell, Planning Manager

   No Changes.

   a. **Mayor Nelson** asked if anyone had any questions about this item.
   b. Hearing no further questions or comments, he asked for a motion to adopt Ordinance Number 3018.
   c. **Motion** by **Commissioner Velazquez** and seconded by **Commissioner Nesta** to adopt Ordinance Number 3018.
   d. **Motion carried unanimously,** with Mayor Nelson, and Commissioners Becker, Nesta, Smith, & Velazquez voting aye

CITY COUNCIL REPORTS

Commissioner Velazquez stated that today was the grand opening for Winn-Dixie; there were some snags along the way, but we got it done. She thanked the staff for their hard work and dedication. She is looking forward to the store anchoring the City Center. Next, she stated that she attended the meeting at the Next Step Foundation, in regard to the homeless issues. They all attended the Florida League of Cities this past week and Saturday there was a huge paid concert with over almost 10,000 concert goers. She also acknowledged a young Boy Scout who helped save a life, in the parking area of the concert and she would like o acknowledge him, at a later date. Next, we had two well known residents pass away, this pass week: 1) Mr. Edward Bowman, who is a Vietnam Veteran and his son is a Firefighter here. His service will be held this weekend, and 2) Mr. Tony Hurst (Mr. Anthony). Also, Commissioner Nesta's wife's grandfather passes away this week and Commissioner Becker had a very close aunt pass away this week, so she gave her condolences to both of them and their families.

Commissioner Becker stated that the young man who helped save the life is now a Life Scout and he does agree that he should be honored and all those who gave assistance. Next, he stated that regarding the Resource Center, there are meetings that are happening. He stated that we need to get this on our calendar because people are going to have sidebar conversations and its going to end up right where we were the first time we talked about the Apopka Resource Center. On Social Media she saw that the meeting is on the 29th of this month at 6:00pm, at the First Presbyterian Church, and asked that the meeting be put on each commissioner's calendar and the meeting gets noticed, so they do not violate the Sunshine Law, when they all show up there. **Mayor Nelson** stated that he is fine noticing it, but we have to be very careful with what we say. **Commissioner Becker** stated that he just does not want the same thing happening this time, that happened last time. It was the Duke Energy money that was originally earmarked for $150K, for this purpose. It got to Council, at one point it was loosely earmarked and never formally voted on and there was never a real in-depth conversation. People were coming to City Council meetings with false expectations. We need to understand the problem we are trying to solve, we need to have an inventory of how big that problem is, we need to know the solution we are trying to implement and whether or not $150K is even going to address it. Next, he stated, to address Mr. Leslie's remarks earlier, tennis is in a very precarious position right now and he does not think any of the parties involved are happy, at this point. Facts of the matter is, there is one party that does have a firm contract, at this point, we can't change that right now, it is a binding contract. However, we can address this outside of the heat of the moment. We have to get everyone in the room, when we all have a level held, and discuss this. There are solutions available, but we have to sit down and talk through those. Next, in terms of Charter, Mr. Mckimmie brought this to everyone's attention, as some point, but in Section 1.01 there was a sentence that was truncated that omitted a pretty critical piece of the charter and the fact that we are a strong mayor form of government, so one of the very first things that is note-worthy in our charted had been truncated out of it. Through your research due to Municode or CivicPlus, erroneous truncating that sentence, so that led him to wander what other things are wrong within Municode, as it relates to our charter. We've talked about having a charter review, which we have not had in over a decade; it is always relevant to go over it and refresh it over time. He stated that his recommendation would to be to go with the recommendation of the attorney and have a council led charter review, in which we can incorporate articles one through three, in a two-hour session, prior to the next meeting, as well as articles four through six, the two hours before the October meeting. That gives the November

meetings for public comment. December 12th is the deadline to get it on the ballot for the upcoming election. **Commissioner Velazquez** stated that she agrees with Commissioner Becker, due to the timeline. **Mayor Nelson** asked if we are going to drop the Annexation discuss and pick this up or are we going to finish the annexation. **Commissioner Becker** stated that they are mutually exclusive and he stated that the annexation workshops have been a nightmare, because there has been so much misinformation around the City's intent to enter into these conversations. **Commissioner Smith** asked if we can have both items on the ballot at the same time and **Commissioner Velazquez** stated that we do not have a consensus on the annexation. The community was very divided. **Commissioner Nesta** stated that he does want to make sure that we have a substantial amount of public input and it is not rushed, to get on the ballot.

Commissioner Becker made a motion to have a charter review performed by this council, in September and October, the two hours proceeding the normal city Council Meetings, from 5pm to 7pm, on those two days.

Mayor Nelson asked Attorney Shepherd if they should have public comment on that and **Attorney Shepherd** stated that they can if they want, but they don't have to. **Mayor Nelson** asked if they would agree to put it on, as a formal action item, at the next council meeting and then get public input and **Commissioner Becker** said that's fine. **Commissioner Nesta** asked if either of the councilmembers change their opinion, based on the public comment and **Commissioner Becker** stated yes, but he will vigorously argue his opinion. **Attorney Shepherd** stated to just make sure whatever time table we are on, it has enough time to come as a first and a second reading, because it will come as an ordinance. **Mayor Nelson** stated that we also have the August primary and the November election; we have plenty of opportunities to put something on the ballot. We have to go back to the annexation, we have been at this, but have not brought it forward, as to any kind of resolution of whether we are going to put it on the ballot or not. **Commissioner Nesta** stated that those are two different topic s to discuss. **Commissioner Becker** stated that he would like to have it on the next meeting, so that they can discuss it formally and get the public's feel on it. **Commissioner Smith** asked Attorney Shepherd if that same deadline apply, in reference to the annexation being on the ballot and **Attorney Shepherd** stated that anything that is going on this ballot, for this presidential primary, is December 12th. **Commissioner Becker** asked if that change is formally accepted and **Mayor Nelson** stated yes.

Commissioner Smith stated that he was at the Winn-Dixie opening and the sneak peak and he feels it will be a great addition to the community. Also, at the Florida League of Cities conference, it was mentioned that there is plenty money available for infrastructure grants, so he would like the City to look into that. However, he did not see the youth council there and he would like to see that start happening, the youth council attending the FLC Conventions. Lastly, he stated that he is in favor of the Charter review.

Commissioner Nesta thanked Commissioner Velazquez for acknowledging his wife's grandfather Robert Smith. Next, he asked the attorney who has the power to lease properties within the City and **Attorney Shepherd** stated that it depends on where the property is located, for example, if it is in the CRA, any kind of ability to depose of it, has to be done through a 163.380 notice process**,** for a minimum of 30-days. If it is outside of the CRA property, it comes under a different set of rules, for fair market value. **Commissioner Nesta** stated that we have a lot of distressed property that the city owns and we have a lot of groups that are ready to put in

hundreds of thousands of dollars into those properties, so he needs direction on that. Next, he spoke on emails that they've received regards Columbus Day vs. Indigenous Day; he asked the council to put some thought into that and let him know.

CITY ATTORNEY'S REPORT

In regard to the sentence left out of the charter, he spoke to Municode and their only answer was 'we screwed up.' They did make the changes to the charter today, but it leads him to issue number two, his understanding of his role is that he can be requested to give opinions from any of the Councilmembers, any Department Head, or the CAO. Also, if the person is under any one of those persons (i.e. the Assistant CAO) and acting in accordance to what their supervisor told them to do, they are able to request and opinion, as well. He also stated that if the council wants him to send his opinion to all councilmembers, at the same time, and not just the person that asked for the opinion, he is more than happen to do that.

MAYOR'S REPORT

- We need students to apply for the Youth Council, for he Resource Center.
- The reason we had the $150K earmarked because we had a vision and location, but in the end the location did not work out. The seller decided to sell for more money.
- Winn-Dixie had a great opening day
- The Shade Meeting will be September 20th.
- The Parks and Recreation Team knocked it out the park, with the last concert, with over 9K people, even with soccer and baseball going on, they did a flawless job.
- We are still waiting for the attorneys at the school board to sign off on the joint agreement with the use of the pool at Camp Wewa
- Big shout out to the building department helping with the Winn-Dixie grand opening
- Tomorrow at Central Ave and Orange, they are fixing that intersection and it should be completed tomorrow

ADJOURNMENT

The meeting adjourned at 8:49PM.

All video recordings of City Council Meetings are always posted on the City of Apopka's YouTube page, for viewing.

_____

Bryan Nelson, Mayor

Attest: _____
Susan M. Bone, City Clerk

Minutes Transcribed by: _____
Victoria Parks, Deputy City Clerk

City of Apopka
CITY COUNCIL STAFF REPORT

Section: CONSENT (Action Item)
Item #: 1.
Meeting Date: September 6, 2023
Department: Police Department

SUBJECT:
Authorize the release of Code Enforcement Lien - 329 Garden Oak Court Apopka, FL

REQUEST:
Execute Release of Lien - 329 Garden Oak Court Apopka, FL.

SUMMARY:
On June 20, 2023, the City of Apopka rendered an Order Finding Bridge SFR IV Borrower 3 LLC, the owner of the property at 329 Garden Oak Court ("Subject Property") in violation of International Property Maintenance Code, Chapter 3, Sections 304.13 as adopted by Article 5, Section 18-108 of the Apopka Municipal Code. A fine in the amount of five hundred ($500.00) dollars per day was imposed starting on July 5, 2023.

On August 31, 2023, Julie York, Attorney for Bridge SFR IV Borrower 3 LLC, and the City entered into a Settlement Stipulation to reduce the unpaid code enforcement lien to a settlement amount of Three Thousand ($3,000.00) Dollars, paid to the City. The property is currently in compliance with the International Property Maintenance Code.

FUNDING SOURCE:

RECOMMENDED MOTION:
Execute Release of Code Enforcement Lien for recordation in Public Records of Orange County, Florida upon receipt of settlement amount.

ATTACHMENTS:
1. Case Number.Code Enforcement 23-00069-329 Garden Oak Court, Apopka, FL 32703

DOC# 20230399956
07/18/2023 07:43:48 AM Page 1 of 3
Rec Fee: $27.00
Phil Diamond, Comptroller
Orange County, FL
MB - Ret To: APOPKA POLICE DEPARTMENT

CERTIFICATION

STATE OF FLORIDA }
COUNTY OF ORANGE }

I, **JODI WRIGLEY,** Code Enforcement Recording Secretary, do hereby certify that the attached is a true and correct copy of:

FINDINGS OF FACT, CONCLUSIONS OF LAW
CE 23-00069
329 GARDEN OAK COURT, APOPKA, FL 32703
OWNER: BRIDGE SFR IV BORROWER 3 LLC

IN WITNESS WHEREOF, I have hereunto set my hand this the 11th day of July 2023.

CITY OF APOPKA

JODI WRIGLEY
MY COMMISSION # HH 206009
EXPIRES: January 8, 2026
Bonded Thru Notary Public Underwriters

Jodi Wrigley
Code Enforcement Recording Secretary

BEFORE THE CODE ENFORCEMENT HEARING OFFICER
CITY OF APOPKA, FLORIDA

COMPLAINT NO.: 23-00069

CITY OF APOPKA

Petitioner,

vs.

BRIDGE SFR IV BORROWER 3 LLC,

Respondents.
_____/

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

THIS CAUSE came on for Public Hearing before the City of Apopka Code Enforcement Hearing Officer on the 20th day of June 2023, after due notice to the Respondent, and the Hearing Officer having heard testimony under oath, received evidence, and heard argument of counsel (if any), thereupon issues this Findings of Fact, Conclusions of Law, and Order, as follows:

I. FINDINGS OF FACT:

A. The Respondent, BRIDGE SFR IV BORROWER 3 LLC is the owner /person in charge of property located 329 Garden Oak Court in Apopka, Florida; Parcel I.D. No.: 10-21-28-1315-00-280.

B. The Respondent was issued a notice of violation of IPMC, Chapter 3, Sections 304.13 as adopted by Article 5, Section 18-108 of the Apopka Municipal Code.

C. The alleged violation did exist on the property past the time required in the notices for cure and continued to exist as of the date of this hearing.

II CONCLUSIONS OF LAW:

That the above-named Respondent is in violation of the foregoing sections of the Apopka Code and said violations are continuing as of the date of this order.

ORDER:

Based upon the foregoing Findings of Fact and Conclusions of Law, it is hereby ORDERED THAT:

Respondent is in violation of the foregoing section of the Apopka Code and shall have until July 5, 2023 to cure said violations, after which time a fine in the amount of $500.00 per day will begin to run.

The Respondent must contact the Code Enforcement Officer at (407) 703-1738 before July 5, 2023 to arrange for re-inspection to obtain verification of compliance.

DONE AND ORDERED this 20th day of June, 2023, at Apopka, Orange County, Florida.

By: _____
Alison M. Yurko
City of Apopka
Code Enforcement Hearing Officer

STATE OF FLORIDA)
COUNTY OF ORANGE)

The foregoing instrument was acknowledged before me this 20th day of June, 2023, by Alison M. Yurko, City of Apopka Code Enforcement Hearing Officer who is personally known to me and did not take an oath.

_____
Notary Public
Commission No._____
My Commission Expires: _____

AFFIX NOTARY SEAL

JODI WRIGLEY
MY COMMISSION # HH 206009
EXPIRES: January 8, 2026
Bonded Thru Notary Public Underwriters

COMPLAINT NO.: 23-00069

CODE ENFORCEMENT
CITY OF APOPKA, FLORIDA

CITY OF APOPKA,

Petitioner,

v.

BRIDGE SFR IV BORROWER 3 LLC

Respondents,
_____/

Complaint No. 23-F01385

Address: 329 GARDEN OAK CT

SETTLEMENT STIPULATION

Petitioner CITY OF APOPKA and BRIDGE SFR IV BORROWER 3 LLC enter into this Settlement Stipulation ("Stipulation") in the above-styled action as follows,

1. This Stipulation is meant to be absolute.

2. Petitioner and Respondents have entered into this Stipulation as a result of an agreement to pay a reduced total unpaid code enforcement fine in the amount of Three Thousand ($3,000.00) Dollars in full satisfaction of said fines.

3. Each party represents and warrants to the other party that it has the requisite authority to enter into this Stipulation.

4. In exchange for the mutual covenants and mutual release set forth herein, upon clearance of the funds in the payment in full of the agreed upon amount set forth hereinabove and the approval of this Stipulation, the City of Apopka will record a Satisfaction of Lien for property addresses 329 GARDEN OAK CT.

5. The Parties hereby irrevocably and unconditionally release, acquit, and forever discharge each other. The Parties also hereby waive all rights to file any claim or a lawsuit against the other party relating to the above styled action. The releases herein do not release and acquit Petitioner from initiating code enforcement actions for subsequent violations (either new or repeat) of the Land Development Code

or other authorized City codes and ordinances by Respondents occurring subsequent to the execution of this Stipulation.

6. Upon full execution of this Stipulation by both parties and payment of the agreed settlement amount, the City of Apopka will schedule approval of this Agreement at the next City Council Public Hearing.

Dated this 31 day of August, 2023.

Petitioner:

CITY OF APOPKA
Acting City Administrator
120 East Main Street
Apopka, Florida 32703-5346
T: 407.703.1649
F: 407.703.1780
E: cvavrek@apopka.net

Charles Vavrek
Acting City Administrator

Respondent

BROCK & SCOTT, PLLC
Julie York, Partner
4919 Memorial Hwy Ste 135
Tampa, Florida 33634

Signature

Julie York FBN 55337
Attorney For Bridge SFR IV Borrower 3 LLC

City of Apopka
CITY COUNCIL STAFF REPORT

Section: CONSENT (Action Item)
Item #: 2.
Meeting Date: September 6, 2023
Department: Parks and Recreation

SUBJECT:
Approval of Recreational Professional Services Agreement – Amber-Leigh's Aquatics

REQUEST:
Authorize the Mayor to execute the Professional Services Agreement with Amber-Leigh's Aquatics to provide aquatic programming at the Camp Wewa pool.

SUMMARY:
To help increase and improve the recreational, cultural, and educational opportunities and offerings to City of Apopka residents and visitors, the Parks and Recreation Department seeks out partners in programming who are interested in operating high quality programming at City of Apopka Parks and Recreation facilities. Staff have identified Amber-Leigh's Aquatics as an organization that provides aquatic programming, to include youth swim lessons, water safety instruction, and adult/senior swim programming. The agreement provides for a revenue share of 80% split to the programmer / 20% split to the City on any program fees charged by the programmer. Parks and Recreation staff see this as a great opportunity to partner with a group to bring aquatic programming to the Camp Wewa pool. The proposed agreement would expire on December 31, 2024, with renewals brought back to the Council for approval annually, if desired, by the Parks and Recreation Department.

FUNDING SOURCE:
N/A

RECOMMENDED MOTION:
Staff recommend approval and authorization for the Mayor to execute the Professional Services Agreement with Amber-Leigh's Aquatics to provide aquatic programming at the Camp Wewa pool.

ATTACHMENTS:
1. Professional Services Agreement - Amber-Leigh's Aquatics 2023-2024

PROFESSIONAL SERVICES AGREEMENT
BETWEEN THE CITY OF APOPKA, FLORIDA
AND
AMBER-LEIGH'S AQUATICS

THIS AGREEMENT ("Agreement") is entered into this 6th day of September, 2023, between the CITY OF APOPKA, a municipal corporation of the State of Florida ("City"), and Amber-Leigh's Aquatics, ("Provider"). That for and in consideration of the covenants of the parties hereafter set forth and for other good and valuable considerations, the parties hereto mutually agreed as follows:

1. Provider acknowledges that it is an independent contractor and is not an employee of the City and that as such, the Provider will not look to the City for workers' compensation insurance coverage or any other employee benefit provided by the City to its employees.

2. This Agreement shall commence on the 6th day of September, 2023, and shall continue until the 31st day of December, 2024, unless terminated by either party pursuant to the terms of this Agreement.

3. Provider will provide aquatic instruction classes and clinics ("Classes/Clinics") at various Parks and Recreation facilities of the City. Classes/Clinics will be held at the determination of mutually agreed upon City owned locations, dates, and times between the Provider and the City.

4. The term of payment by the Provider to City, in consideration of this Agreement, shall be in the amount of twenty (20%) percent of total program fees collected by the Provider, for programming provided for this agreement at City owned facilities. Payment will be delivered via check, cash, or credit card to the City of Apopka Parks and Recreation Department by no later than fifteen (15) days after the completion of each program season. **Initial**: _____

5. The Provider will assume responsibility for the following:

   a) The Provider shall make all necessary pre-class arrangements such as preparing and assembling needed materials and equipment.

   b) The Provider shall keep accurate records of attendance and report same to the City as requested or as required by this Agreement.

   c) Provide specific program dates and times for approval by the Parks and Recreation Director. Dates are subject to change at the sole discretion of the City. If requested by the City, the Provider will relinquish all rights to the facility for any and all City functions or private rentals of the facility.

d) The Provider may provide a scholarship program, to be administered at their sole discretion and expense, which may provide financial assistance to those participants who otherwise would not be able to participate.

6. The Provider shall supply a Certificate of Insurance no later than fourteen (14) days prior to program date or expiration of existing Certificate. See Exhibit A for insurance requirements.

7. Prior to the execution of this Agreement, Provider shall have all instructors/coaches fingerprint and background check through the City of Apopka Police Department including a criminal background check for Provider and Provider's officials, agents, employees, or subcontractors providing instructor/coaching services under this Agreement. The Provider shall be responsible for updating the City in writing with any additions and deletions of the individuals authorized to provide instructor/coaching services under this Agreement. In the event that additional individuals are authorized to perform such instructor/coaching services, the Provider shall inform the City so they will be scheduled for fingerprint and background check, prior to such individual commencing such instructor/coaching services. It shall be in the City's complete and sole discretion as to whether the individual's results are acceptable.

8. The Provider shall indemnify and hold harmless City from and against all claims, damages, losses and expenses, including reasonable attorney's fees, arising out of, or resulting from the conduct of Classes/Clinics, delivery of services, or conduct of other activities contemplated by this Agreement or the occupancy of the City facilities by Provider, its agents, invitees and/or guests under this Agreement. City expressly retains all rights, benefits and immunities of sovereign immunity in accordance with Section 768.28, Florida Statutes. Notwithstanding anything set forth in any section, article or paragraph of the original government contract or this Agreement to the contrary, nothing in these agreements shall be deemed as a waiver of sovereign immunity or limits of liability which may have been adopted by the Florida Legislature or may be adopted by the Florida Legislature, and the cap on the amount and liability of City for damages, attorney fees and costs, regardless of the number or nature of claims in tort, equity, or contract, shall not exceed the dollar amount set by the Florida Legislature for tort. Nothing in this Agreement shall inure to the benefit of any third party for the purpose of allowing any claims against City which would otherwise be barred under the Doctrine of Sovereign Immunity or operation of law.

9. The Provider shall take all reasonable precautions for the safety of, and will provide reasonable protection to prevent damage, injury or loss to all persons and property on City facilities.

10. Provider understands and agrees that by virtue of this Agreement, all of its documents, records, and materials of any kind, relating to the relationship created hereby, shall be open

to the public for inspection in accordance with Florida's Public Records law. If Provider will act on behalf of City as provided under Section119.011(2), Florida Statutes, Provider, subject to the terms of Chapter 119, Florida Statutes, and any other applicable legal and equitable remedies, shall:

a. Keep and maintain public records required by City to perform the service.

b. Upon request from City's custodian of public records, provide City with a copy of the requested records or allow the records to be inspected or copies within a reasonable time at a cost that does not exceed the cost provided by Florida law.

c. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract term if Provider does not transfer the records to City.

d. Upon completion of the contract, transfer, at no cost, to City all public records in possession of Provider or keep and maintain public records required by City to perform the service. If Provider transfers all public records to City upon completion of the contract, Provider shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirement. If Provider keeps and maintains public records upon completion of contract, Provider shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to City, upon request from City's custodian of public records, in a format that is compatible with the information technology of City.

e. If Provider does not comply with a public record request timely, City shall enforce the contract provisions in accordance with the contract.

11. The undersigned agrees to abide by the regulations governing use of City facilities and is responsible for charges incurred per Exhibit B, attached hereto and incorporated herein.

12. The Provider and its agents, representatives, employees, and subcontractors, further agree and ensure to conduct themselves in such a manner as to advance good relations for the City and its citizens.

13. Either party may terminate this Agreement at any time upon thirty (30) days written notice to the other party.

14. All notices to be given hereunder shall be in writing and shall be deemed to have been given if sent by hand delivery, recognized overnight courier (such as FedEx), or by certified U.S. Mail, with return receipt requested, addressed to the party for whom it is intended, at the place specified. For the present, the Parties designate the following as the respective places for notice purposes:

City City of Apopka
120 East Main Street
Apopka, FL 32703
Attn: Radley Williams
Recreation Director

Provider: Amber-Leigh's Aquatics
2157 Panoramic Circle
Apopka, FL 32703

15. This instrument contains the entire Agreement between the parties and supersedes any prior understanding or agreement, either written or oral. No prior or present agreements or representation shall be binding on any of the parties hereto unless incorporated in the Agreement. This Agreement may not be changed, extended or renewed orally, but only by agreement in writing signed by the party against whom enforcement of any waiver, change, modification, discharge or extension is sought.

CITY OF APOPKA, FLORIDA

ATTEST

_____
Susan Bone, City Clerk

_____
Bryan Nelson, Mayor

Approved as to form

_____
Cliff Shepard, City Attorney

Witnesses:

Amber-Leigh's Aquatics:

_____
Signature

_____
Signature

_____
Print Name

_____
Print Name

_____
Signature

_____
Title

_____
Print Name

STATE OF FLORIDA

COUNTY OF ORANGE

The foregoing instrument was acknowledged before me by means of □ physical presence OR □ online notarization, this _____ day of ____, 2023, by ___, who is □ personally known to me OR □ who has produced _____ as identification.

_____
Notary Public

Exhibit A
City of Apopka
Recreation Insurance Requirements

The original insurance certificate and all extensions to the insurance certificate should be sent to:
City of Apopka, Human Resources, 120 East Main Street, Apopka, FL 32703
or E-mailed to riskmanagement@apopka.net
Phone: 407-703-1805
Certificate Holder: City of Apopka

Day Care Services/Exercise Classes

1. City of Apopka endorsed as an Additional Insured in the amount of $1,000,000 per occurrence with regard to General Liability.

2. Businesses having more than 4 employees must provide a Certificate of Worker's Compensation Liability insurance in the amount of $1,000,000/1,000,000/1,000,000

3. Name the City of Apopka, its officers, representatives, employees, agents, Providers and volunteers as additional insured and provide Primary and Non-Contributory coverage with respect to the city.

4. Waiver of Subrogation in favor of the City of Apopka regarding General Liability and Worker's Compensation Liability

Description may read:
City of Apopka, its officers, representatives, employees, agents, Providers and volunteers are named as additional insured with respect to general liability. Coverage afforded to the additional insured is Primary and Non-Contributory. Waiver of Subrogation in favor of the City of Apopka is added to the General Liability and the Workers Compensation policies.

NOTES

- Please make sure that the description section of the certificate explicitly states that the City of Apopka is named as an additional insured.
- We cannot accept certificates that have an, "if required by written contract" clause unless we do have a contract in place listing our insurance requirements.
- The Certificate Holder must read: City of Apopka

Exhibit B

City of Apopka Code of Ordinances

Chapter 58 - PARKS AND RECREATION

- **Sec. 58-5. - General requirements for use of grounds and facilities.**

Each person shall clean up all debris, extinguish all fires when such fires are permitted, and leave the premises in good order, and the facilities in a neat and sanitary condition.

(Code 1983, § 15-2)

City of Apopka
CITY COUNCIL STAFF REPORT

Section: CONSENT (Action Item)
Item #: 3.
Meeting Date: September 6, 2023
Department: Police Department

SUBJECT:
Notification of Application for Fiscal Year 2023 Edward Byrne Memorial Justice Assistance Grant (JAG) Program

REQUEST:
The Police Department is applying to receive $20,650.00 in funds to put towards the purchase of a multi-use radar speed measurement / messaging sign trailer for the Patrol and Support Services Divisions.

SUMMARY:
Attached, you will find a memorandum of our intended use of the awarded grant funds in accordance with the grant application requirements.

FUNDING SOURCE:
2023 Edward Byrne Memorial Justice Assistance Grant (JAG). No match required.

RECOMMENDED MOTION:
Authorize the department's application for funding in accordance with the 2023 Edward Byrne Memorial Justice Assistance Grant (JAG) Program.

ATTACHMENTS:
1. 2023 Justice Assistance Grant (JAG) Memorandum - Notice to Commission

City of Apopka

Police Department

112 E. 6th Street Apopka, Florida 32703

Memorandum

Date: August 25, 2023

To: Honorable Bryan Nelson and Commissioners

RE: 2023 Justice Assistance Grant

This letter is to give notice the police department is applying for Federal Funding available from the Department of Justice, Bureau of Justice Assistance. The funding being requested is for a grant to purchase new equipment designed to encourage safer driving, display important messages to the public, and enhancing intelligence gathering efforts.

The department would like to purchase a multi-use radar speed measurement / messaging sign trailer that has the optional capability to house an automated License Plate Recognition (LPR) device. This multi-use trailer combines these two platforms and will allow the capability to conduct both directed traffic calming enforcement as well as directing messages to the public for community awareness situations such as upcoming events or road closures. The trailer will also have the ability to collect traffic data in problem areas and also is capable of deploying one of the departments LPR's for collecting intelligence data via license plate recognition technology.

In keeping with the requirements of the grant, the City is required to notify the public through a public posting, which has been done by placing notice in the lobby of City Hall. Additionally, the Police Department is required to notify the Commission of its intent to obtain funds and make the application available. This is to permit for both public and commission feedback. Should we receive the grant funding, there is no requirement for matching funds.

If you have any questions, please feel free to contact me or Lieutenant Jason Woertman.

Respectfully,

Michael McKinley
Chief of Police

City of Apopka
CITY COUNCIL STAFF REPORT

Section: CONSENT (Action Item)
Item #: 4.
Meeting Date: September 6, 2023
Department: Police Department

SUBJECT:
Retention Incentive for existing full-time Public Safety Telecommunicators (PST)

REQUEST:
Due to an extreme staffing shortage within the Apopka Police Department's Communication Center, the Police Department is requesting approval to provide each full-time, fully trained PST with a $5000.00 retention incentive.

SUMMARY:
Due to an extreme staffing shortage within the Apopka Police Department's Communication Center, the Police Department is requesting approval to provide each full-time, fully trained PST with a $5000.00 retention incentive. The retention incentive will be paid in one lump sum to each of the Twelve (12) Full-Time PSTs. In order to receive the retention incentive, each PST will be required to sign a Two-Year retention incentive reimbursement agreement. By signing the retention incentive reimbursement agreement, the PST will agree to work as a PST for a Two-Year period or reimburse the City the full amount of the retention incentive ($5,000.00). The purpose of the retention incentive is to show our appreciation for the existing PST's hard work and long hours during the current staffing issues within the Communications Center. It will also help retain these hard-working, dedicated employees for at least the next two years. The total cost of the retention incentive will be $60,000.00.

FUNDING SOURCE:
Personnel Savings from FY22/23 Police Department Budget due to existing vacancies.

RECOMMENDED MOTION:
Approve the $ 5,000.00 retention incentive for all Full-Time PSTs who sign the retention incentive reimbursement agreement.

ATTACHMENTS:
1. Communication Technician Retention Incentive Agreement

COMMUNICATION TECHNICIAN RETENTION INCENTIVE
REIMBURSEMENT AGREEMENT

THIS AGREEMENT is entered into between, the City of Apopka, hereinafter referred to as CITY and _____, hereinafter referred to as EMPLOYEE, who, in exchange for the mutual covenants and promises contained herein, agree as follows:

1. **AGREEMENT AND EMPLOYMENT STATUS**. CITY agrees to pay EMPLOYEE in the position of **Communication Technician** for CITY a retention incentive to ensure that the EMPLOYEE remains employed with the CITY for at least two years after receiving the retention incentive. It is further understood that no contract or agreement of employment of any kind other than "terminable at will" has been expressed, promised or implied by CITY's entering into this Agreement, and that no circumstances whatsoever arising out of EMPLOYEE's current, past or continued employment with EMPLOYER, will alter EMPLOYEE's "terminable at will" relationship.

2. **PAYMENT OF COMMUNICATION TECHNICIAN RETENTION INCENTIVE**. CITY agrees, in conjunction with the execution of this agreement and as consideration of EMPLOYEE's satisfactory performance of their job duties as contemplated herein, to pay a total sum of five thousand dollars ($5,000.00) as a retention incentive. This incentive will be distributed in one (1) installment of five thousand dollars ($5000.00). The payment will be within the next two pay periods after the Employee signing this agreement.

3. **REPAYMENT OF RETENTION INCENTIVE AMOUNT IF EMPLOYEE DOES NOT REMAIN EMPLOYED FOR TWO YEARS AFTER RECEIPT**.
EMPLOYEE agrees that EMPLOYEE will, within thirty (30) days of written notification from CITY, repay to CITY any distributed retention incentive funds in accordance with the following:

a. If Employee fails, for whatever reason, to complete two full years of service to the CITY, to include, but not limited to, resignation or termination, from the date this agreement was signed by the EMPLOYEE, EMPLOYEE shall reimburse CITY one hundred percent (100%) of the retention incentive amount that was distributed pursuant to this agreement.

b. Upon completion of two full years of service after receiving the retention incentive amount, EMPLOYEE shall be relieved of any obligation to reimburse the CITY hereunder.

Notwithstanding the foregoing and except as may be otherwise provided by law, EMPLOYEE expressly agrees and acknowledges that CITY shall have the right to deduct the reimbursement amount from any final payment owed to EMPLOYEE as of the effective date of any termination and/or separation. The EMPLOYEE will remain liable for any outstanding amount not able to be deducted from the final payment owed.

4. **DISPUTES**. Any dispute that arises between the parties hereto shall be governed by the law of the State of Florida and, if legal action is necessary, venue for any action shall be in Orange County, Florida. EMPLOYEE expressly waives any right to trial by jury of any issue in dispute hereunder. The prevailing party in any action brought hereunder, whether at the trial level or on appeal, shall be entitled to full recovery of reasonable attorney fees and costs incurred.

5. **TERM**. This Agreement shall remain in effect until such time as the reimbursement period described above expires, whereupon it will automatically terminate. Provided, however, that the terms of Sections 3 and 4 shall survive termination of this Agreement. This Agreement may be terminated at anytime, with or without cause by either party, upon written notice to the non-terminating party. If such termination is by EMPLOYEE, EMPLOYEE shall reimburse CITY as set forth in Section 3a above. If the CITY terminates this agreement, EMPLOYEE shall be released from the reimbursement obligation set forth herein.

6. **ENTIRE AGREEMENT**. This agreement represents the entire agreement between the parties and shall not be modified, altered, changed or amended in any manner unless in writing executed by the parties hereto.

By _____, Employee

DATE: _____

City of Apopka,

By _____ By _____

Michael McKinley, Chief of Police City Manager

DATE: _____ DATE: _____

City of Apopka
CITY COUNCIL STAFF REPORT

Section: CONSENT (Action Item)
Item #: 5.
Meeting Date: September 6, 2023
Department: Finance Department

SUBJECT:
Authorize the execution of piggyback contracts for the assigned terms: CivicPlus, LLC

REQUEST:
Authorize the execution of piggyback contract for the assigned terms.

SUMMARY:
The department purchases various commodities in its daily operations, including equipment, tooling, and services throughout the year. A piggyback contract can be executed via another entity's agreement when the items or services have already been bid by other governmental agencies or special co-operative agreements, provided such contracts are the result of a competitive bidding process and all terms and conditions are the same. This method provides for the most efficient method of purchase or best cost savings for the quantities that are being utilized. These contracts are also encouraged when applicable for operational proficiencies and to minimize staff processing time. Contractual information is kept on record with each purchase order issued.

Per Purchasing Policy 107.3.17 - Piggyback Contracts:
Piggyback contracts will only be authorized during the period of time that the original contract is active and has not expired (if the original contract expires or terminates, so shall the piggyback contract). The Department Director or designee must review and confirm potential piggyback contracts for applicability and scope. The request for utilizing a piggyback contract must be submitted to the Finance Department for purchasing review. Upon approval, the Purchasing Administrator or designee shall submit their review to the City Attorney for final approval. Contracts that are over $50,000 will also require City Council approval. Multi-Year Piggybacks: if determined to be over $50,000 and once authorized by City Council, if the dollar amount allotted in the fiscal year budget is available for the services or commodities, it will not require additional City Council approval.

Below is a full listing of the piggyback contracts that are being requested by; department submittal, vendor, description, source, and expiration dates.

Department:	Information Technology
Vendor:	CivicPlus, LLC
Description:	Technology Solutions, Products and Services
Source:	The Interlocal Purchasing System (TIPS)
Bid/Contract #:	220105
Expiration Date:	May 31, 2027
Renewals:	Yes

FUNDING SOURCE:
As authorized, adopted, and per the appropriated fiscal year budgetary funding within each departmental budget.

RECOMMENDED MOTION:
Authorize the execution of piggyback contracts per the assigned terms.

ATTACHMENTS:
None

City of Apopka
CITY COUNCIL STAFF REPORT

Section: CONSENT (Action Item)
Item #: 6.
Meeting Date: September 6, 2023
Department: Administration

SUBJECT:
Extend the current Lease Agreement with Silver Spear Security, LLC in accordance with the original lease.

REQUEST:
Request to extend the lease agreement between Silver Spear Security and the City of Apopka for property located at 405 S. Park Avenue.

SUMMARY:
The City and the tenant entered into an agreement on September 11th, 2020 to lease property owned by the City of Apopka at 405 S. Park Avenue. Whereby in accordance with the lease, the tenant is requesting to exercise the first two year extension in accordance with Paragraph 2 of the lease. The City Administrators Office request Council approval to extend the lease in accordance with the originals lease agreement.

FUNDING SOURCE:
No Applicable

RECOMMENDED MOTION:
Authorize the Interium Chief Administrative Officer to sign extending the lease for an additional 2 years.

ATTACHMENTS:
1. SILVER SPEAR SECURITY LEASE EXTENSION AGREEMENT
2. Lease Agreement - Silver Spear Security LLC 2020

LEASE EXTENSION AGREEMENT

This Lease Extension Agreement ("Lease"), made and executed this____ day of _____, 2023, by and between the **CITY OF APOPKA,** a municipal corporation ("Landlord"), and **SILVER SPEAR SECURITY, LLC,** a Florida limited liability company ("Tenant"), which term shall include their heirs and assigns, executors, and administrators, wherever the context so requires or admits.

In consideration of the mutual covenants and agreements herein contained, it is agreed by and between Landlord and Tenant as follows:

1. That the Tenant is hereby requesting to extend the lease for said property as outlined in the original lease agreement dated September 11th, 2020 for a period of 2 year in accordance with provision two (2) of the original lease.

2. That in accordance with provision two (2) of the original lease, the Landlord hereby exercises their right to increase said rent by the five (5%) percent per month to a rate of one thousand fifty dollars and no cents (@1050.00) not inclusive of sales tax.

3. That all remaining articles and provisions of the original lease remain in full force upon both parties executing the requested extension.

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Lease Agreement and have intended the same to be and become effective as of the day and year first above written.

LANDLORD:

ATTEST:

CITY OF APOPKA, a municipal corporation,

_____
Susan Bone
City Clerk

_____
Charles W. Vavrek
Interim City Administrator

WITNESSES:

_____
Signature

_____
Print Name

_____
Signature

_____
Print Name

TENANT:

SILVER SPEAR SECURITY, LLC a Florida Limited liability company,

_____
Signature

_____
Print Name

_____
Title

LEASE

This Lease Agreement ("Lease"), made and executed this 11th day of September, 2020, by and between the **CITY OF APOPKA**, a municipal corporation ("Landlord"), and **SILVER SPEAR SECURITY, LLC**, a Florida limited liability company ("Tenant"), which term shall include their heirs and assigns, executors, and administrators, wherever the context so requires or admits.

In consideration of the mutual covenants and agreements herein contained, it is agreed by and between Landlord and Tenant as follows:

1. **Premises**. Landlord does hereby lease, demise, and let unto Tenant, and Tenant does hereby rent, lease, hire, and take from Landlord that certain real property in Orange County, Florida, identified to wit:

   THE FIRST FLOOR OF THAT CERTAIN REAL PROPERTY DESCRIBED AS THE SOUTH 29 FEET OF THE SOUTH 24 FEET OF THE NORTH 57 FEET OF LOTS 35 & 36, BLOCK F, TOWN OF APOPKA AS RECORDED IN PLAT BOOK A, PAGE 87, PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, COMMONLY KNOWN AS 405 SOUTH PARK AVENUE, APOPKA, FLORIDA 32703

   The Parties agree that Landlord is the owner of the Premises and that Landlord has proprietary ownership rights and control over the Premises. The Parties further agree that Landlord may also require all health, welfare, and safety regulations, requirements, or orders be met as required by Landlord in its discretion.

2. **Term**. The term of the Lease shall be for an initial period of three (3) years commencing on October 1, 2020. The Lease may be renewed for successive two (2) year terms pursuant to mutual agreement between Landlord and Tenant. Lease renewals are subject to modification of any of the terms of this Lease including required rental payments. After initial three-year lease term expires, Landlord may increase rent no more than five (5%) percent of the monthly rent on the additional two-year lease.

3. **Rent**. Tenant shall pay to Landlord a monthly rental amount of One Thousand ($1,000.00) Dollars ("Rent"), plus Florida sales taxes. Rent shall be paid on the first day of each month that this Lease is in effect. No security deposit is required. Due to renovations Landlord agrees the first rent payment will be due on December 1, 2020.

4. **Late Charge**. Tenant agrees to pay a late charge of $25.00 if any payment of Rent, additional rent, or other charges or sums required hereunder, or any portion thereof, are not paid more than ten (10) days from and after the due date thereof. Such late charge shall be in addition to any interest chargeable to Tenant upon a default resulting from Tenant's failure to pay an installment of Rent, additional rent, or any other charge or sum due hereunder.

5. **Use of Premises**. Tenant shall use and occupy the Premises solely for the operation of a security office, security business, security agency, security training and a security school and associated commercial applications, and for no other use unless agreed to in advance by Landlord in writing. Any other use shall constitute a default under the terms of this Lease.

Tenant shall keep the Premises continually in a neat, clean, and respectable condition, garbage and refuse of any kind to be removed at Tenant's expense. Tenant shall return the Premises to the same condition as delivered to Tenant, reasonable wear and tear excepted. Tenant shall remove any and all fixtures or cabinets Tenant has installed upon the Premises at the termination of the Lease, and restore the Premises following such removal to its original condition unless otherwise agreed in writing between Landlord and Tenant.

Tenant shall pay for all electricity used on the Premises, including any alarm or security system, and shall be responsible for all plumbing repairs costing less than or equal to Two Hundred Fifty ($250.00) Dollars.

Tenant shall comply with all Federal, State, County and City laws, ordinances, rules and regulations affecting or respecting the use or occupancy of the Premises by the Tenant. Tenant shall comply with all rules which have been or may be adopted hereafter by Landlord for the health, safety, protections, welfare and orderly management of the building and the surrounding neighborhood. The Tenant will not use or permit any disturbance, noise, or annoyance whatsoever, detrimental to the premises or to the comfort of its neighbors. Tenant shall insure that its equipment and uses by any agents of the Premises complies with all applicable laws and regulations. Tenant agrees to comply with all federal, state, and local laws and regulations concerning waste or disposal. In no event shall Tenant use the Premises for any unlawful purpose or in any unlawful manner. In no event will Tenant use or access any portion of the Premises for any lewd or improper purpose. Tenant shall not use the Premises for any purpose not set forth in this Lease. In no event shall Tenant exceed the limitations of use as set forth in this Lease.

Landlord shall be responsible to pay real estate taxes and assessments from time to time levied or charged against the Premises. All sales, use or rental tax on rents due hereunder and on personal property taxes charged or levied against Tenant's furniture, fixtures and equipment in the Premises shall be timely paid by Tenant.

6. **Maintenance and Repair**. Except for the obligations of Tenant under this Lease, Landlord agrees to maintain and repair the Premises, including but not limited to structural, roofs, the heating and air conditioning system, and the yard of the Premises. Tenant shall not suffer or permit any waste or nuisance on the Premises, or anything which interferes with the operations of Landlord in connection with the use of portions of the property not leased to Tenant hereunder.

Tenant shall not alter the Premises without permission in writing from Landlord. Altering, damaging, or destroying the building situated on the above-described property shall be a trespass both civil and criminal, and may be restrained by injunction, and shall also subject Tenant to an action for damages, and at the option of Landlord, shall immediately terminate the Lease.

Tenant agrees to remodel property at its own cost, a remodeling quote has been presented and may be a considered a part of this lease agreement. Upon Tenant's completion of the Lease, attached items will remain in the property Leased Premises to including but not limited to, paint, flooring, baseboard, light fixtures, bathroom vanities, toilets, sinks, faucets.

7. **Assignment and Subletting**. Tenant shall not voluntarily or involuntarily assign, hypothecate or transfer this Lease or any interest herein without the prior written consent of Landlord. Tenant shall not sublet the leased premises without the prior written consent of Landlord, provided that, in the event of any assignment of this Lease or subletting of the Premises with the prior written consent of Landlord, such permitted assignee or sublessee shall assume, in writing, in form and content acceptable to Landlord, all of the obligations, promises and covenants imposed upon Tenant hereunder and Tenant shall remain fully responsible and liable for the payment of Rent, additional rent, and any and all other sums or charges required hereunder and for the performance of all other obligations, promises and covenants imposed upon Tenant hereunder.

8. **Landlord's Right to Enter the Premises**. Upon Landlord's reasonable prior notice to Tenant, Tenant shall permit Landlord, and any agents, employees, or independent contractors of Landlord to have access to and to enter upon the Premises at all reasonable or necessary times to inspect the Premises. If during the term of this Lease, Landlord is required at any time to perform maintenance, repair, or construction on the Premises or any portion of the Premises, as determined by Landlord in its reasonable discretion, Tenant agrees to cooperate with Landlord so that Landlord can complete said maintenance, repair, or construction in a timely and cost-effective manner.

At any time within two (2) months prior to the Expiration Date, Landlord, or its agents, employees, or independent contractors, may show the Premises to prospective purchasers or lessees, and may, within said time, place the Premises with a broker or brokers, advertise the Premises in newspapers, multiple listing services, or otherwise offer the Premises or sale or rent, and Landlord shall be permitted to place or maintain a notice of "FOR SALE" or "FOR RENT" upon the Premises. In addition, Landlord may at any reasonable time during the term of the Lease show the Premises to prospective purchasers. Such right of entry, except in cases of emergency, shall at all times, be upon reasonable prior notice to Tenant.

9. **Liability; Insurance**. Tenant shall indemnify and agrees to defend and hold harmless Landlord from and against all claims, costs, and expenses including but not limited to reasonable attorneys' fees, damages, and liabilities of any nature whatsoever that may be imposed on, incurred by, or asserted against Landlord by any person for any act or omission of Tenant, its agents, employees, subsidiaries, licensees, or invitees. This section will survive the expiration or earlier termination of this Agreement, until all claims against Landlord are fully and finally barred by applicable statutes of limitations.

Nothing contained in this section or elsewhere in this Lease is in any way intended to be a waiver of the limitation placed upon Landlord's liability as set forth in Section 768.28, Florida Statutes.

Tenant shall at all times and at its sole expense maintain commercial general liability insurance on the Premises with limits of a least Five Million ($5,000,000.00) Dollars for personal injury, death and property damage with waiver of subrogation in favor of the Landlord. Landlord shall be entitled to increase the coverage limits required under this subparagraph by written notice to Tenant. Said commercial general liability policy shall carry both the names of the Landlord and Tenant as named insureds as Tenant's respective interests may appear. Tenant shall provide Landlord with a certificate

evidencing the commercial general liability and insurance coverage at the time this Lease is entered into and shall provide such certificate annually thereafter upon the renewal dates of said policies. Tenant shall keep all receipts showing payment of premiums were made on or before each premium due date. All policies required to be obtained by Tenant shall contain a provision that the company writing said policy will provide the Landlord thirty (30) days' notice in writing in advance of any cancellation or lapse or the effective date of any reduction in the amounts of insurance. All policies should be written as primary policies, not contributing with and not in excess of coverage which Landlord may carry.

10. **Default or Breach**. If Tenant fails to pay rent due hereunder within ten (10) days after the date due, or if Tenant shall, by act or omission, violate any other terms, covenant or condition of this Lease, and shall fail to correct such violation within thirty (30) days after notice in writing to Tenant of demand therefore, or if Tenant shall be declared insolvent or adjudicated bankrupt, or make a general assignment for the benefit of the creditors, or if a receiver or trustee of Tenant's property shall be appointed by any Court; or if the Premises shall be abandoned; then and in any such events, Landlord may, with further notice or demand to Tenant:

a. Immediately, or at any time thereafter, use the Premises and take possession thereof without such use working as a forfeiture of rents or other charges to be paid and of the terms, covenants and conditions to be performed by Tenant for the full term of the Lease, and in the event of such use, Landlord may proceed for the collection of the rents or other charges to be paid under this Lease or for such other proper measure of damages; or

b. Terminate this Lease by written notice and use the Premises, and Tenant covenants in case of such termination to indemnify Landlord against all loss of rent and expense which Landlord has suffered or paid by reason of such termination, during the residue of the term.

Landlord shall have all other rights and remedies, including injunctive relief, ejection, or summary proceedings in unlawful detainer, and any other legal remedies, actions and proceedings. All such rights and remedies are cumulative.

11. **Hazardous Substances**. No hazardous materials of any type shall be stored within Premises except for standard cleaners, solvents and medical supplies which are to be stored in a cabinet specifically designed and certified for the purpose of storing such items and provided by Tenant. Tenant shall not use, generate, store, or dispose of Hazardous Substances on the Premises except those customarily utilized in connection with Tenant's operations, and then only in amounts reasonably necessary to perform Tenant's operations. Such Hazardous Substances shall be used, generated, stored, and disposed of in accordance with applicable laws. For the purposes of this Lease, "Hazardous Substances" means substances regulated under federal law or by the laws of the state or municipality in which the Premises are located, and including but not limited to asbestos, radioactive, and petroleum-related products.

12. **No Warranties**. Neither Landlord nor any other person makes any warranty or representation regarding the Premises, and LANDLORD EXPRESSLY DISCLAIMS ALL WARRANTIES AND REPRESENTATIONS, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE,

OR THAT LEASED PREMISES IS SUITABLE FOR PERMITTED USE. Tenant has satisfied itself with respect to the Premises and needs no warranties or representations from the Landlord. Tenant acknowledges and agrees that it has had and will have an opportunity to inspect the Premises and that it is taking the Premises and using the Premises "As Is." Tenant acknowledges and agrees that neither Landlord nor any other person has made any representation or warranty as to the condition of the Leased Premises that TENANT is relying upon its own inspection of the Leased Premises in entering into this Agreement.

13. **Waivers**. The failure by either party to insist on the strict performance of any of the terms and conditions hereof shall be deemed a waiver of the rights or remedies that either party may have regarding that specific instance only, and shall not be deemed a waiver of any subsequent breach or default in any terms and conditions hereof.

14. **Notice**. All notices provided by law or by this Lease to be given to Tenant or to Landlord must be in writing. Notice of Landlord shall be directed to: City of Apopka, 120 East Main Street, Apopka, Florida 32703. Notice to Tenant shall be sent to: Silver Spear Security, LLC, c/o Christopher Louden, Manager; 2301 Ocoee-Apopka Road, Apopka, Florida 32703. Landlord or Tenant may designate a new address by written notice as provided herein. Notice shall be deemed given as of the date such notice is deposited, postage paid, in the United States Mail.

15. **Force Majeure**. Except as otherwise expressly provided in this Lease, no Party shall be liable for any breach of this Lease for any delay or failure of performance resulting from any cause beyond such Party's reasonable control, including but not limited to the weather, strikes or labor disputes, adverse rulings in third-party lawsuits, casualty, war, terrorist acts, riots or civil disturbances, acts of civil or military authorities, pandemics or measures of any governmental authority in response to a pandemic, or acts of God (individually, a "force majeure") provided the Party affected takes all reasonably necessary steps to resume full performance; provided however, that if any such force majeure shall continue for three hundred sixty-five (365) consecutive days, any Party shall have the right to terminate this Lease without incurring any penalty.

16. **Entire Agreement**. This Lease constitutes the entire agreement between the parties and supersedes all prior oral or written agreements. No waiver, modifications, additions or addendum to this Lease shall be valid unless in writing and signed by both Landlord and Tenant.

17. **Severability**. If any provision of this Lease shall be declared invalid or unenforceable, if reasonably possible, taking into consideration the intent and purpose of the parties in entering into this Lease, the remainder of this Lease shall continue in full force and effect.

18. **Captions**. The captions at the beginning of the several paragraphs of this Lease are not a part of this Lease but are merely labels to assist in locating and reading the respective paragraphs hereof. Such captions shall be ignored in construing this instrument.

19. **Governing Law**. All questions concerning the meaning, execution, construction, effect and validity of this Lease shall be governed by the laws of the State of Florida.

20. **Counterparts**. This Lease may be executed in one or more counterparts, each of which shall constitute an original, and all of which taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Lease Agreement and have intended the same to be and become effective as of the day and year first above written.

LANDLORD:

ATTEST:

Susan Bone
Deputy City Clerk

CITY OF APOPKA, a municipal corporation,

Edward Bass
City Administrator

WITNESSES:

Signature

Print Name

Signature

Print Name

TENANT:

SILVER SPEAR SECURITY, LLC, a Florida limited liability company,

Signature

Print Name

Title

City of Apopka
CITY COUNCIL STAFF REPORT

Section: BUSINESS (Action Item)
Item #: 1.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Acadia Orlando Health – Major Development Plan

REQUEST:
Approve the Acadia Orlando Health – Major Development Plan

SUMMARY:
Owner(s): Chu Mu Ching
Applicant: Crunk Engineering, LLC. c/o Adam Crunk, P.E.
Parcel Number(s): 13-21-28-0000-00-019
Location: 1452 South Orange Blossom Trail
Future Land Use (FLU): Commercial (floor area ratio maximum of 0.20)
Zoning: C-R (Regional Commercial)
Existing Use: Vacant
Proposed Use(s): Behavioral Hospital
Tract Size: 10.34 +/- acres
Density/Intensity: 0.22 Floor Area Ratio

Zoning Report:

Direction	Future Land Use	Zoning	Present Use
North	County Low Density, City Commercial	County A-1 (Citrus Rural District), City C-C (Community Commercial)	Vacant
East	County Low Density	A-1 (Citrus Rural District)	Vacant
South	Commercial	C-R Regional Commercial)	Sam's Club
West	Institutional/Public Use	O (Office)	Place of worship

PROJECT SUMMARY:

The Acadia Orlando Health – Major Development Plan (MDP) proposes the development of a two-story building with 99,497 square feet of area and 144-bed behavioral health hospital on approximately 10.3 acres. The City's Land Development Code (LDC) Section 10.4 defines hospital as "An institution receiving inpatients and rendering medical care on a 24-hours-per-day basis. The term includes general hospitals, sanitariums, sanatoriums, and institutions in which service is limited to special fields, such as cardiac, eye, ear, nose and throat, pediatric, orthopedic, skin, cancer, mental, tuberculosis, chronic disease, and obstetrics. The facilities may also include outpatient care, ambulatory care, offices of medical practitioners, adult day care, respite care, medical day care and day care for sick children, gift shops, restaurants, and other accessory uses." And, per LDC Table 4.2.2.C Principal Use Table, hospital is permitted within the C-R (Regional Commercial) Zoning District, in which the

subject property is located.

While 36 parking spaces for the 144 beds plus one parking space for every four employees are required, the applicant is proposing a total of 162 parking spaces plus six accessible spaces. The maximum permitted building height is 35 feet. There will be security walls along sections of the perimeter that are attached to the building.

The site is wooded and has a wetland area on the eastern portion of the property that will remain undeveloped. The landscape plan proposes a combination of Oak, Magnolia, and Bald Cypress trees within landscaped parking islands and the perimeter of the project area. Bald Cypress trees embellish the frontage along U.S. 441.

ACCESS/TRANSPORTATION:

Two access points on U.S. 441 are proposed for this development. The northerly ingress on U.S. 441 is right-in only and the southerly access is right-in and right-out.

ORANGE COUNTY NOTIFICATION:

Orange County was notified at the time of the site plan submittal for this property through the DRC agenda distribution.

PUBLIC HEARING SCHEDULE:

July 11, 2023 – Planning Commission (5:30 P.M.)
September 6, 2023 – City Council (1:30 P.M.)

FUNDING SOURCE:
Not applicable.

RECOMMENDED MOTION:

Development Review Committee:

Recommends approval of the Acadia Orlando Health – Major Development Plan, subject to the findings in the staff report.

Planning Commission:

At its meeting on July 11, 2023, the Planning Commission voted 3 -1 to recommend approval of the Acadia Orlando Health – Major Development Plan, subject to the findings in the staff report.

Recommended Motion – City Council:

Approve the Acadia Orlando Health – Major Development Plan, subject to the findings in the staff report.

ATTACHMENTS:
1. Acadia Orlando Health – TIA

2. Maps
3. Acadia Orlando Health – Building Elevations
4. Acadia Orlando Health – MDP

HOSPITAL PROJECT - APOPKA
Project № 22246
February 2023

TRAFFIC IMPACT ANALYSIS
CITY OF APOPKA
FLORIDA

Prepared by:

Traffic & Mobility Consultants
3101 Maguire Boulevard, Suite 265
Orlando, Florida 32803
www.trafficmobility.com
(407) 531-5332

Prepared for:
Acadia Healthcare
6100 Tower Circle, Suite 1000
Franklin, Tennessee 37067

EXECUTIVE SUMMARY

Project Information

Name:	Hospital Project - Apopka
Location:	South of Orange Blossom Trail and west of Hiawassee Road
Jurisdiction:	City of Apopka, Florida
Description:	144-bed behavioral health facility

Findings

Trip Generation:	374 New Daily Trips / 26 AM Peak Hour / 35 PM Peak Hour
Access Plan:	One (1) full access driveway and one (1) right-in/right-out (RI/RO) on Orange Blossom Trail
Roadway Capacity:	All segments operate at an adequate LOS and are projected to continue to do so at the project buildout.
Intersection Capacity:	The intersection of US 441 and Hiawassee Road operates below the adopted LOS for the existing conditions and is projected to do so at project buildout. The intersection of Apopka Boulevard and Hiawassee Road operates at an adequate LOS for the existing conditions and is projected to do so at project buildout. The project access driveways are projected to operate at acceptable LOS at the project buildout.

Recommendations

Turn Lane:	A 265-foot westbound left turn lane is recommended at the intersection of Orange Blossom Trail and the project full-access driveway A. Eastbound right turn lanes are not required at the project access driveways on Orange Blossom Trail.

PROFESSIONAL ENGINEERING CERTIFICATION

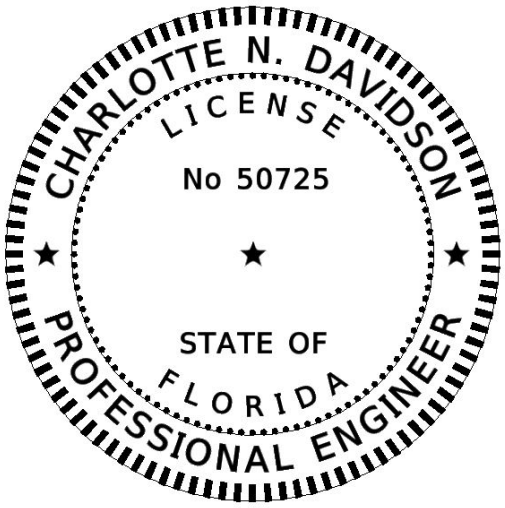
I hereby certify that I am a Professional Engineer properly registered in the State of Florida practicing with Traffic & Mobility Consultants LLC, a corporation authorized to operate as an engineering business, CA-30024, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluations, findings, opinions, conclusions, or technical advice attached hereto for:

PROJECT: Hospital Project - Apopka

LOCATION: City of Apopka, Florida

CLIENT: Acadia Healthcare

I hereby acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of Transportation Engineering as applied through professional judgment and experience.



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

Charlotte N Davidson

Digitally signed by Charlotte N Davidson
DN: c=US, o=Florida, dnQualifier=A01410C00000184E927C0040006C54A, cn=Charlotte N Davidson
Date: 2023.02.28 17:27:43 -05'00'

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

TRAFFIC & MOBILITY CONSULTANTS LLC
3101 MAGUIRE BOULEVARD, SUITE 265
ORLANDO, FLORIDA 32803
CERTIFICATE OF AUTHORIZATION CA-30024
CHARLOTTE N. DAVIDSON, P.E. NO 50725

TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1

1.1 Study Area 3

2.0 EXISTING CONDITIONS ANALYSIS 4

2.1 Roadway Segment Capacity 4
2.2 Intersection Capacity 5

3.0 PROJECT TRAFFIC 7

3.1 Trip Generation 7
3.2 Trip Distribution 7

4.0 PROJECTED CONDITIONS ANALYSIS 9

4.1 Planned and Programmed Improvements 9
4.2 Roadway Segment Capacity 9
4.3 Intersection Capacity Analysis 11

5.0 ACCESS REVIEW 13

5.1 Turn Lane Review 13

6.0 STUDY CONCLUSIONS 14

APPENDICES

Appendix A Preliminary Site Plan
Appendix B Approved Study Methodology
Appendix C City of Apopka CMS 2020 PH/PD LOS Worksheets
Appendix D Turning Movement Counts & Seasonal Factor Data
Appendix E HCM Analysis Worksheets – Existing Conditions & Signal Timing Information
Appendix F ITE Trip Generation Sheets
Appendix G Model Output Plots
Appendix H City of Apopka CMS 2020 PH/PD Encumbered Traffic Allocation Worksheets
Appendix I Historical Counts and Growth Rate
Appendix J Projected Intersection Volume Calculations
Appendix K HCM Analysis Worksheets – Projected Conditions
Appendix L FDOT Driveway Information Guide – Exhibit 44
Appendix M City of Apopka Land Development Code, Section 5.16.5
Appendix N FDOT Deisgn Manual, Exhibit 212-1

LIST OF TABLES

Table 1 Existing Roadway Segment Capacity Analysis 4
Table 2 Existing Intersection Capacity Analysis 5
Table 3 Trip Generation Analysis 7
Table 4 Projected Roadway Segment Capacity Analysis 10
Table 5 Projected Intersection Capacity Analysis 11

LIST OF FIGURES

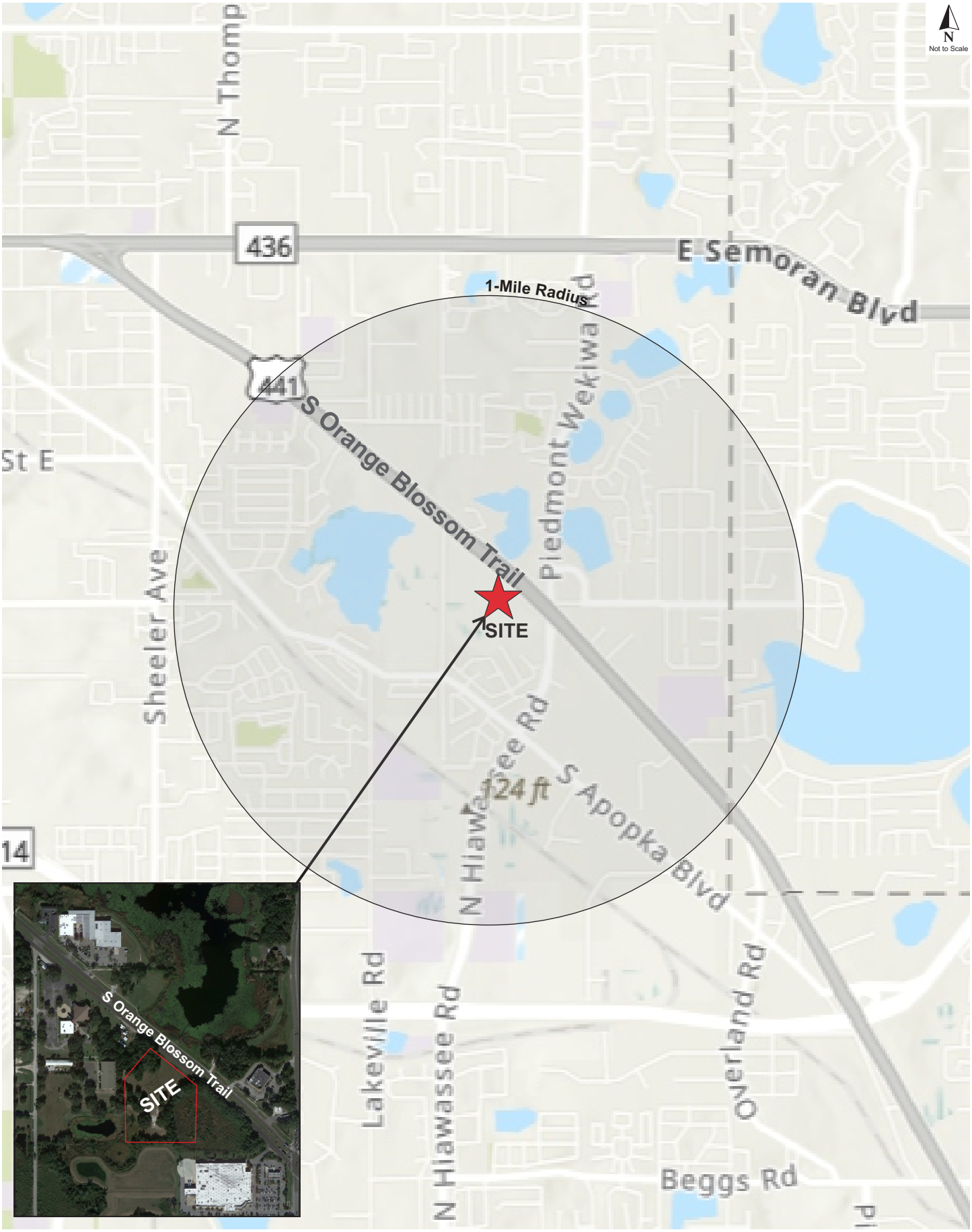
Figure 1 Site Location Map 2
Figure 2 Existing PM Peak Hour Intersection Volumes 6
Figure 3 Project Trip Distribution 8
Figure 4 Projected PM Peak Hour Intersection Volumes 12

1.0 INTRODUCTION

This Traffic Impact Analysis (TIA) was conducted to assess the impact of the proposed Hospital Project - Apopka, which consists of a 144-bed behavioral health facility with an anticipated build out year of 2025. The site is located south of Orange Blossom Trail and west of Hiawassee Road in the City of Apopka, Florida. **Figure 1** depicts the site location and the surrounding transportation network. The preliminary development site plan is provided in **Appendix A**.

The development is proposed to be accessed via two (2) access driveways; one (1) full access driveway and one (1) right-in/right-out (RI/RO) access driveway on Orange Blossom Trail. The study was conducted in accordance with the approved methodology, included in **Appendix B**.

Data used in the analysis consisted of site plan/development information provided by the project engineers, PM peak hour intersection traffic counts obtained by Traffic & Mobility Consultants LLC (TMC), road segment data obtained from the City of Apopka, and seasonal data obtained from Florida Department of Transportations (FDOT).



Site Location Map
Hospital Project - Apopka
22246

Figure
1

1.1 Study Area

The study area includes roadway segments and major intersections that are impacted by the proposed development within a 1-mile radius. Therefore, the TIA analyzes the project's impacts on the following roadways and intersections:

Study Roadways

- US 441
    - Sheeler Road to Roger Williams Road
    - Roger Williams Road to Piedmont - Wekiva Road
    - Piedmont - Wekiva Road to Seminole County Line
- Wekiva Springs Road / Piedmont-Wekiva Road / Hiawassee Road
    - Piedmont Lakes Boulevard to US 441
    - US 441 to CR 424 (Apopka Boulevard)

Study Intersections

- US 441 and Hiawassee Road (Signalized)
- Apopka Boulevard and Hiawassee Road (Signalized)
- Site Access Driveways (Unsignalized)

2.0 EXISTING CONDITIONS ANALYSIS

Existing conditions were analyzed to establish a baseline for the traffic conditions prevailing in the vicinity of the proposed development. The analysis included a review of existing roadway segment and intersection capacities.

2.1 Roadway Segment Capacity

A roadway segment capacity analysis was conducted by comparing existing traffic volumes and their respective service volumes according to the level of service (LOS) standard. The existing traffic volumes, LOS standards, and roadway segment service volumes by LOS category were obtained from the City of Apopka *Concurrency Management System (CMS) 2020 Peak Hour/Direction (PH/PD) LOS Worksheets*, excerpts of which are included in **Appendix C**. **Table 1** summarizes the roadway segment capacity analysis, which indicates that the study segments currently operate at an adequate LOS.

Table 1
Existing Roadway Segment Capacity Analysis

Description	# Lns	LOS Std	Daily				PM Peak Hour				
			Cap	Vol	LOS	V/C	Cap	Dir	Vol	LOS	V/C
US 441											
Sheeler Rd to Roger Williams Rd	4	D	39,800	23,514	C	0.59	2,000	NB/EB	1,082	C	0.54
Roger Williams Rd to Piedmont Wekiva Rd	4	D	39,800	27,613	C	0.69	2,000	SB/WB	1,242	C	0.62
Piedmont Wekiva Rd to Seminole County Ln	4	D	39,800	33,753	C	0.85	2,000	NB/EB	1,789	C	0.89
Wekiva Springs Rd / Piedmont-Wekiva Rd / Hiawassee Rd											
Piedmont Lakes Boulevard to US 441	5	E	39,800	28,984	C	0.73	2,000	NB/EB	1,454	C	0.73
US 441 to CR 424 (Apopka Boulevard)	4	E	39,800	24,716	C	0.62	2,000	SB/WB	1,182	C	0.59

City of Apopka CMS 2020 PH/PD LOS

2.2 Intersection Capacity

Intersection capacity analysis was conducted using *Synchro* software and the methods of the *Highway Capacity Manual (HCM)*. The capacity analysis was performed using existing intersection geometry and traffic counts for the PM peak hour. The counts for the study intersections were collected outside of the peak season, therefore a seasonal factor of 1.05 was used to adjust the volumes. The PM peak hour intersection volumes are displayed in **Figure 2**. The raw intersection volume counts and seasonal factor data are provided in **Appendix D**.

Results of the intersection capacity analysis, summarized in **Table 2**, reveal that the intersection of US 441 and Hiawassee Road currently operates below the adopted LOS and the intersection of Apopka Boulevard and Hiawassee Road currently operates at an adequate overall LOS. Detailed *HCM* analysis worksheets and relevant signal timing information are included in **Appendix E**.

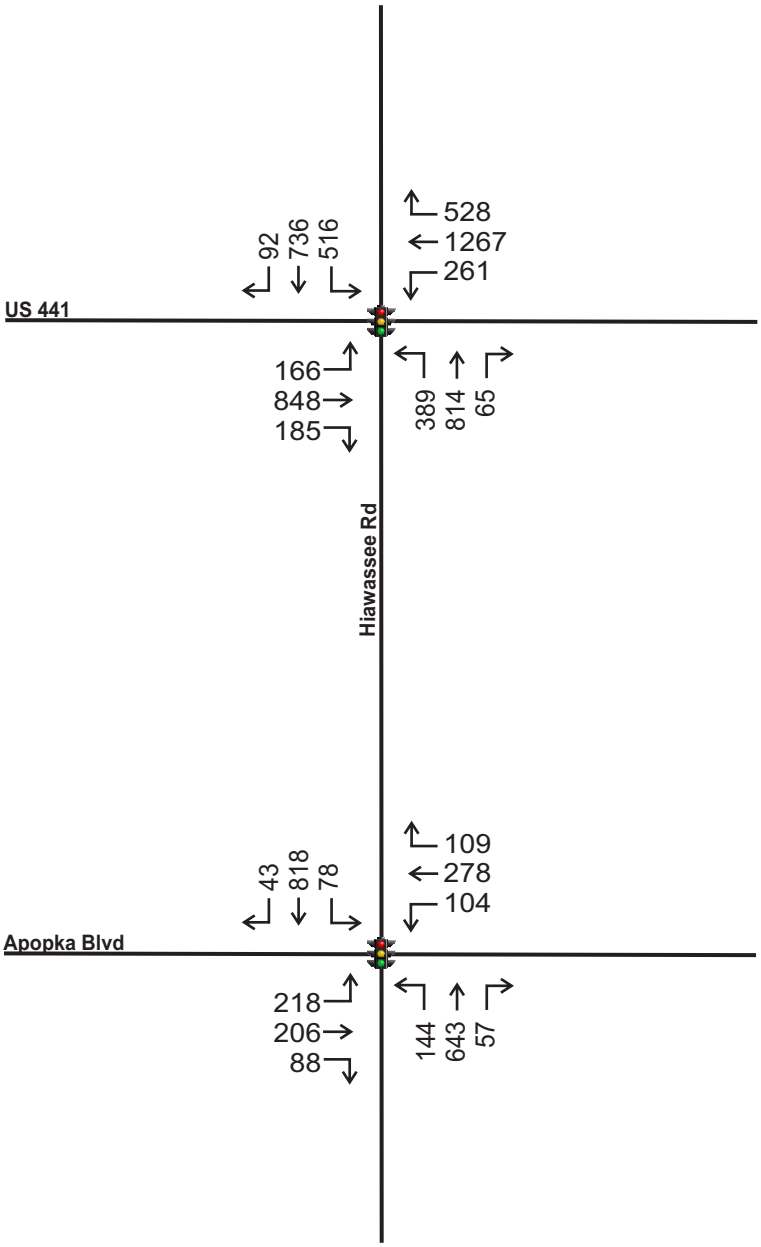
Table 2
Existing Intersection Capacity Analysis

Intersection	Traffic Control	Time Period	EB		WB		NB		SB			
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Total Delay	LOS
US 441 & Hiawassee Rd	Signal	PM	79.9	E	143.4	**F**	104.0	**F**	92.4	**F**	109.5	**F**
Apopka Blvd & Hiawassee Rd	Signal	PM	53.4	D	137.7	**F**	29.0	C	29.2	C	52.7	D

Delay expressed in seconds/vehicle

TWSC denotes Two-Way-Stop-Controlled intersection

N
Not to Scale



Existing PM Peak Hour Intersection Volumes
Hospital Project - Apopka
22246

Figure
2

3.0 PROJECT TRAFFIC

3.1 Trip Generation

Trip generation of the proposed development was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. A behavioral health facility does not function as a traditional hospital. Per the applicant, the development's trip generation is more representative of an assisted living or nursing home facility. Supporting information is included in **Appendix F**. The assisted living ITE code was referenced for the trip generation. **Table 3** summarizes the resulting trip generation analysis. The ITE information sheets are provided in **Appendix F**

Table 3
Trip Generation Analysis

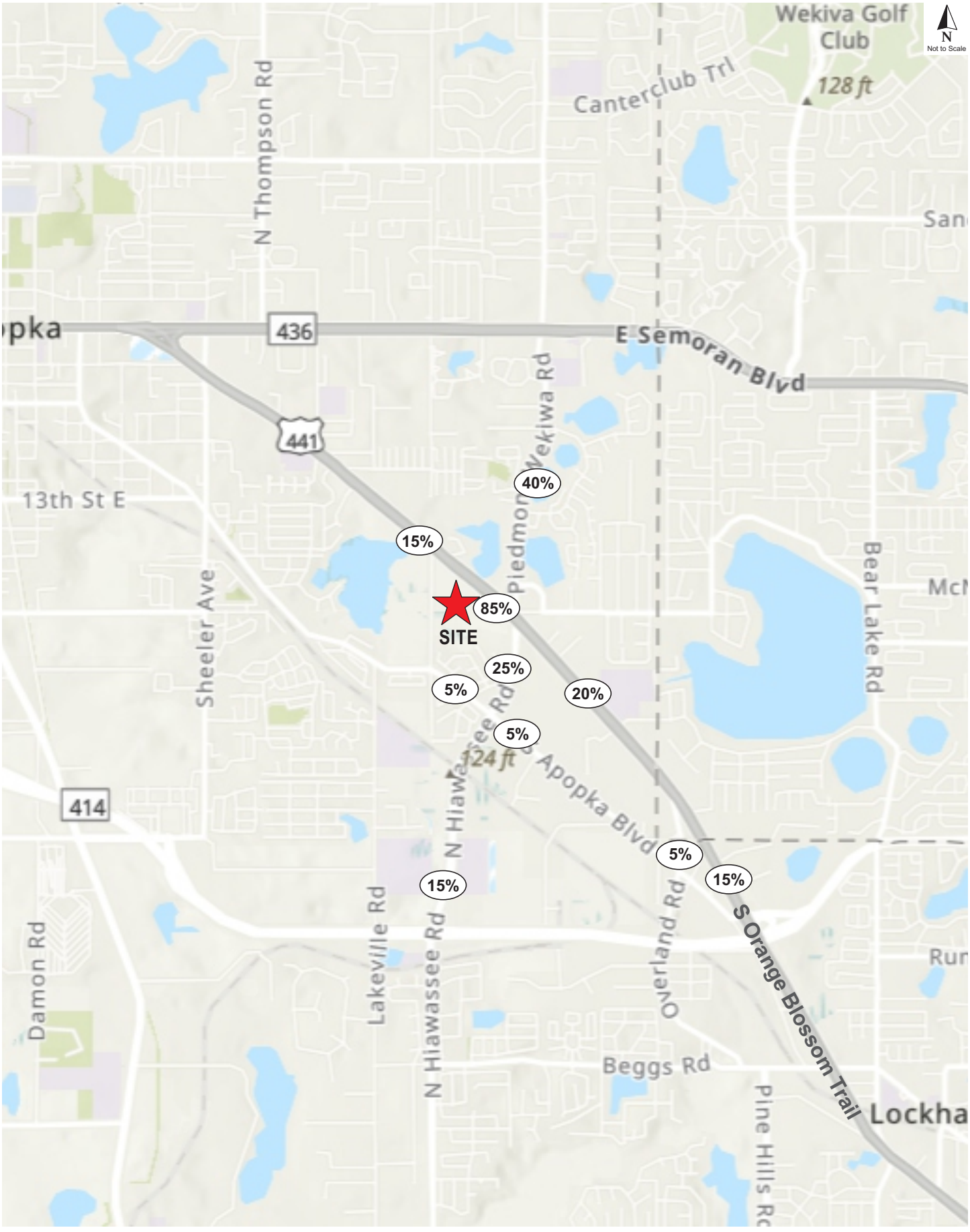
ITE			Daily		AM Peak Hour				PM Peak Hour			
Code	Land Use	Size	Rate	Trips	Rate	Total	Enter	Exit	Rate	Total	Enter	Exit
254	Assisted Living Facility	144 Beds	2.60	374	0.18	26	16	10	0.24	35	14	21

Trip Generation analysis based on ITE Trip Generation Manual, 11th Edition.

The proposed development is projected to generate 374 trips per day, of which 26 trips occur during the AM peak hour and 35 trips occur during the PM peak hour.

3.2 Trip Distribution

A trip distribution pattern was estimated using the *Central Florida Regional Planning Model (CFRPMv7)*. The model distribution was slightly adjusted based on local knowledge, professional engineering judgement, and the location of the development with respect to the study area attractions and activity centers to reflect the prevailing travel patterns in the vicinity of the site and the surrounding transportation network. The final trip distribution is presented in **Figure 3**. The model output plots are included in **Appendix G**.



Project Trip Distribution
Hospital Project - Apopka
22246

Figure 3

4.0 PROJECTED CONDITIONS ANALYSIS

An analysis of projected conditions was conducted to determine the impact of the proposed development on the study roadway segments and intersections, as well as the proposed access connections to the site. The project buildout year for the analysis is 2025.

4.1 Planned and Programmed Improvements

The MetroPlan Orlando *Transportation Improvement Plan (TIP)*, Orange County *Capital Improvement Plan (CIP)* and City of Apopka *CIP* were reviewed to determine if any roadway or intersection capacity improvements are planned and funded for construction. No capacity improvements were identified within the study area.

4.2 Roadway Segment Capacity

A projected roadway capacity analysis was conducted by comparing projected traffic volumes on the study roadway segments to their services volumes. The total buildout traffic volume is composed of projected background traffic and project trips. Projected background traffic consists of existing traffic and encumbered/vested trips, which were obtained using the City of Apopka *Concurrency Management System (CMS) 2020 Peak Hour/Direction (PH/PD) Encumbered Traffic Allocation Worksheets*, provided in **Appendix H**. The project trips were estimated based on trips generated by the proposed development and the project distribution.

Table 4 summarizes the roadway segment capacity analysis, which reveals that all the study segments are projected to operate at an adequate LOS under the buildout conditions.

Table 4
Projected Roadway Segment Capacity Analysis

Description	# Lns	LOS Std	Daily								PM Peak Hour								
			Cap	Vol	Vested	% Dist	Project	Total	LOS	V/C	Cap	Dir	Vol	Vested	% Dist	Project	Total	LOS	V/C
US 441																			
Sheeler Rd to Roger Williams Rd	4	D	39,800	23,514	0	15%	56	23,570	C	0.59	2,000	NB/EB	1,082	0	15%	2	1084	C	0.54
Roger Williams Rd to Piedmont Wekiva Rd	4	D	39,800	27,613	0	85%	318	27,931	C	0.70	2,000	SB/WB	1,242	0	85%	12	1254	C	0.63
Piedmont Wekiva Rd to Seminole County Ln	4	D	39,800	33,753	0	20%	75	33,828	C	0.85	2,000	NB/EB	1,789	0	20%	4	1793	C	0.90
Wekiva Springs Rd / Piedmont-Wekiva Rd / Hiawassee Rd																			
Piedmont Lakes Boulevard to US 441	5	E	39,800	28,984	0	40%	150	29,134	C	0.73	2,000	NB/EB	1,454	0	40%	8	1462	C	0.73
US 441 to CR 424 (Apopka Boulevard)	4	E	39,800	24,716	0	25%	94	24,810	C	0.62	2,000	SB/WB	1,182	0	25%	5	1187	C	0.59

City of Apopka CMS 2020 PH/PD LOS
City of Apopka CMS 2020 PH/PD Encumbered Traffic

4.3 Intersection Capacity Analysis

Projected volumes for the intersection analysis were calculated based on the trip generation projections, the project's trip distribution pattern, vested trips, and projected background traffic volumes at the study intersections. Since there are no vested trips, the projected background traffic was estimated by applying a conservative annual growth rate, which was calculated based on trends analysis using historical counts on Orange Blossom Trail (US 441) and Hiawassee Road. Since the calculated growth rate was less than 2%, a minimum of 2% was used. The projected PM peak hour volumes are illustrated in **Figure 4**. Historical counts and growth rate information are included in **Appendix I**. The projected intersection volume calculation worksheet is included in **Appendix J**.

Results of the intersection capacity analysis, summarized in **Table 5**, reveal that all the study intersections are projected to operate at an adequate LOS under the buildout conditions except the intersection of US 441 and Hiawassee Road, which is projected to continue to operate below the adopted LOS. Detailed *HCM* analysis worksheets are included in **Appendix K**.

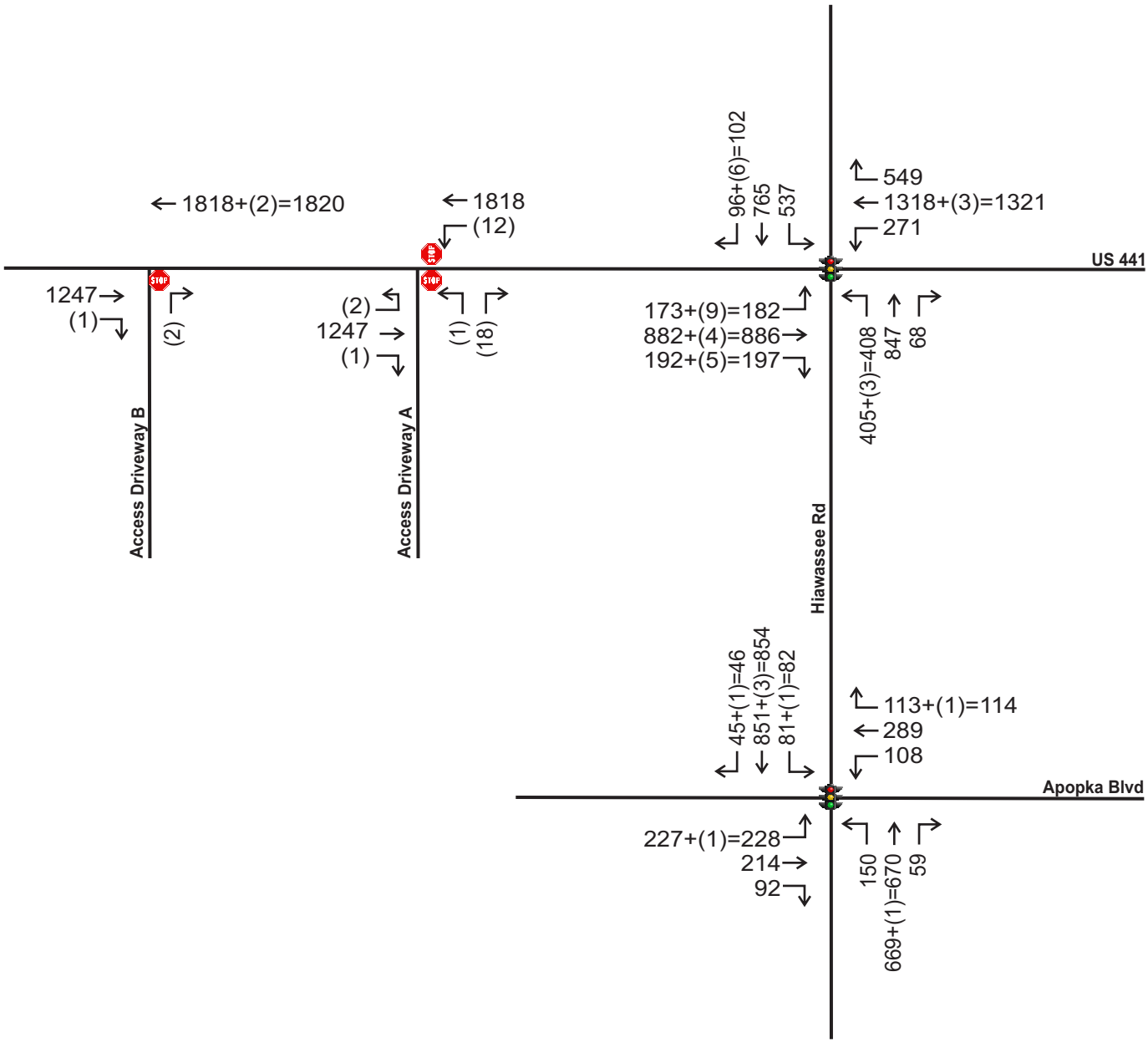
Table 5
Projected Intersection Capacity Analysis

Intersection	Traffic Control	Time Period	EB		WB		NB		SB			
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Total Delay	LOS
US 441 & Hiawassee Rd	Signal	PM	84.8	**F**	177.1	**F**	108.8	**F**	93.6	**F**	123.1	**F**
Apopka Blvd & Hiawassee Rd	Signal	PM	58.6	E	154.4	**F**	30.3	C	29.5	C	57.1	E
US 441 & Access Driveway A	TWSC	PM	2.9	A	12.3	B	15.9	C	--	--	--	--
US 441 & Access Driveway B	TWSC	PM	--	--	--	--	14.2	B	--	--	--	--

Delay expressed in seconds/vehicle

TWSC denotes Two-Way-Stop-Controlled intersection

The intersection of US 441 and Hiawassee Road has an existing deficiency and the project trips will only contribute 0.5 % of the overall intersection volume. The westbound approach of the intersection of Apopka Boulevard and Hiawassee Road experiences delays in the existing conditions and the project trips contribute 0.2 % of the approach volume.



Legend:
Background + (Project) = Total

Projected PM Peak Hour Intersection Volumes
Hospital Project - Apopka
22246

Figure **4**

5.0 ACCESS REVIEW

The development is proposed to be accessed via two (2) access driveways; one (1) full access driveway and one (1) right-in/right-out (RI/RO) access driveway on Orange Blossom Trail. Orange Blossom Trail is a 4-lane divided facility with a posted speed limit of 45 miles per hour.

5.1 Turn Lane Review

Right turn lane warrants for the project entrances on Orange Blossom Trail were conducted in accordance with the *Exhibit 44* of *FDOT Driveway Information Guide,* which is included in **Appendix L**. *Exhibit 44* warrants a deceleration lane based on right turn volume and posted speed limit. For the roadway segments with 45 mph speed limit, the volume threshold is 80 vehicles per hour. The projected right turn volume at the RI/RO driveway and at the full access driveway is 1 vph at each. Therefore, eastbound right turn lanes are not warranted at the project driveways on Orange Blossom Trail.

Based on the *City of Apopka Land Development Code, Section 5.16.5*, an excerpt of which is included in **Appendix M**, a left turn lane shall be required for all residential and nonresidential developments, and a right turn lane shall be required at any driveway where the posted speed limit is greater than or equal to 35 mph or the development generates 100 or more right-turning movements during the peak hour. Therefore, a westbound left turn lane is required on Orange Blossom Trail at the project full-access driveway A. Due to minimal right turn volume on Orange Blossom Trail and that right turn lanes are not warranted based on *FDOT Information Guide*, eastbound right turn lanes are not required at the project access driveways on Orange Blossom Trail.

Per *Exhibit 212-1* of *FDOT Design Manual* (FDM), which is included in **Appendix N,** the total length required for the westbound left turn lane was calculated as follows:

Deceleration length for a design speed of 50 mph = 240 feet
Queue storage length = 1*25 ft = 25 ft (95th percentile Q = 1 vehicle)
Total left turn lane length = deceleration length + queue storage length
Total left turn lane length = 240 + 25 = 265 feet (including a 50-foot taper)

Accordingly, the westbound left turn deceleration lane at the project access A on Orange Blossom Trail should be 265 feet long including a 50-foot taper.

6.0 STUDY CONCLUSIONS

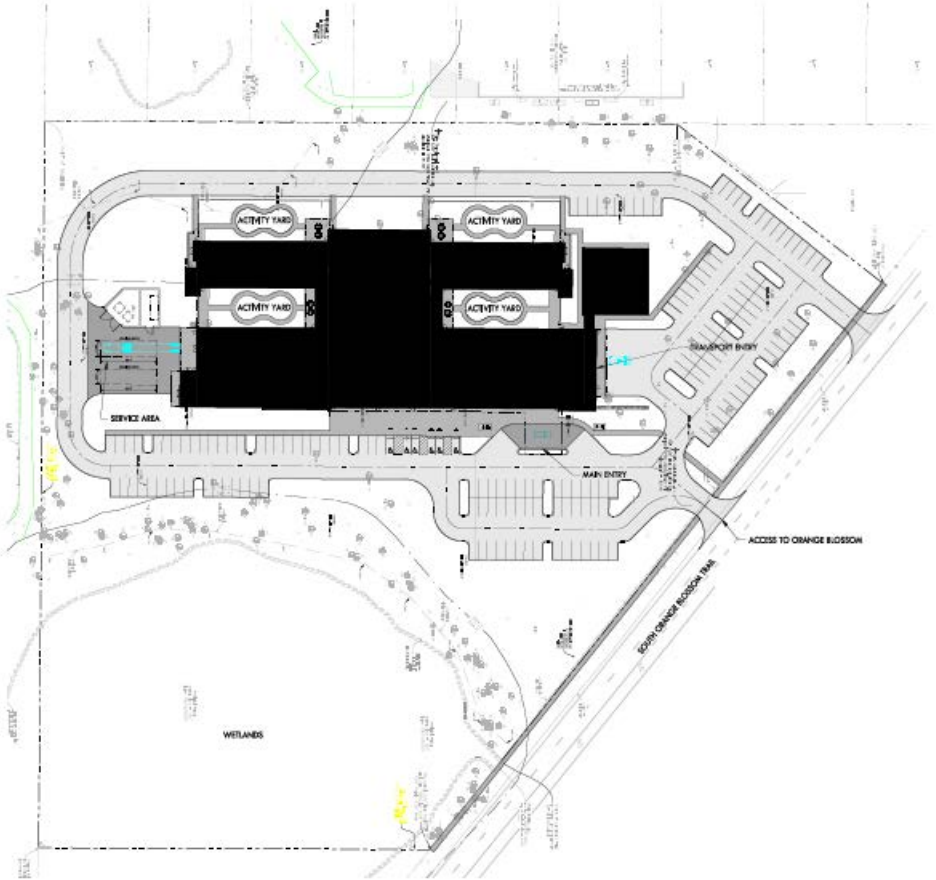
This TIA was performed to assess the impact of the proposed Hospital Project - Apopka. The development consists of 144-bed behavioral health facility with an anticipated buildout year of 2025. The proposed development is located south of Orange Blossom Trail and west of Hiawassee Road in the City of Apopka, Florida.

The study reviewed the impact of the proposed development on roadway segments and intersections within the site's influence area and provided an access review. The results of the analysis as documented herein are summarized below:

- The proposed development is projected to generate 374 new daily trips, of which 26 trips occur during the AM peak hour, and 35 trips occur during the PM peak hour.
- All study roadway segments currently operate at an adequate LOS and are projected to continue to do so under the buildout conditions.
- The intersection of US 441 and Hiawassee Road currently operates below the adopted LOS and is projected to do so at project buildout.
- The intersection of Apopka Boulevard and Hiawassee Road currently operates at an adequate LOS and is projected to do so at project buildout.
- The project access driveways are projected to operate at acceptable LOS at the project buildout.
- A 265-foot westbound left turn lane is recommended at the intersection of Orange Blossom Trail and the project access driveway A.
- Eastbound right turn lanes are not required at the project access driveways on Orange Blossom Trail.

APPENDICES

Appendix A
Preliminary Site Plan



LEGEND

PROPOSED LAYOUT LEGEND

PARKING PROVIDED = 173 SPACES

NOT FOR CONSTRUCTION

SITE PLAN

SITE PLAN

Appendix B
Approved Study Methodology

MEMORANDUM

February 8, 2023

Re: Hospital Project - Apopka
Traffic Impact Analysis Methodology
City of Apopka, Florida
Project № 22246

This methodology was prepared to support the preparation of a Traffic Impact Analysis (TIA) for the proposed Hospital Project - Apopka.

Project Description

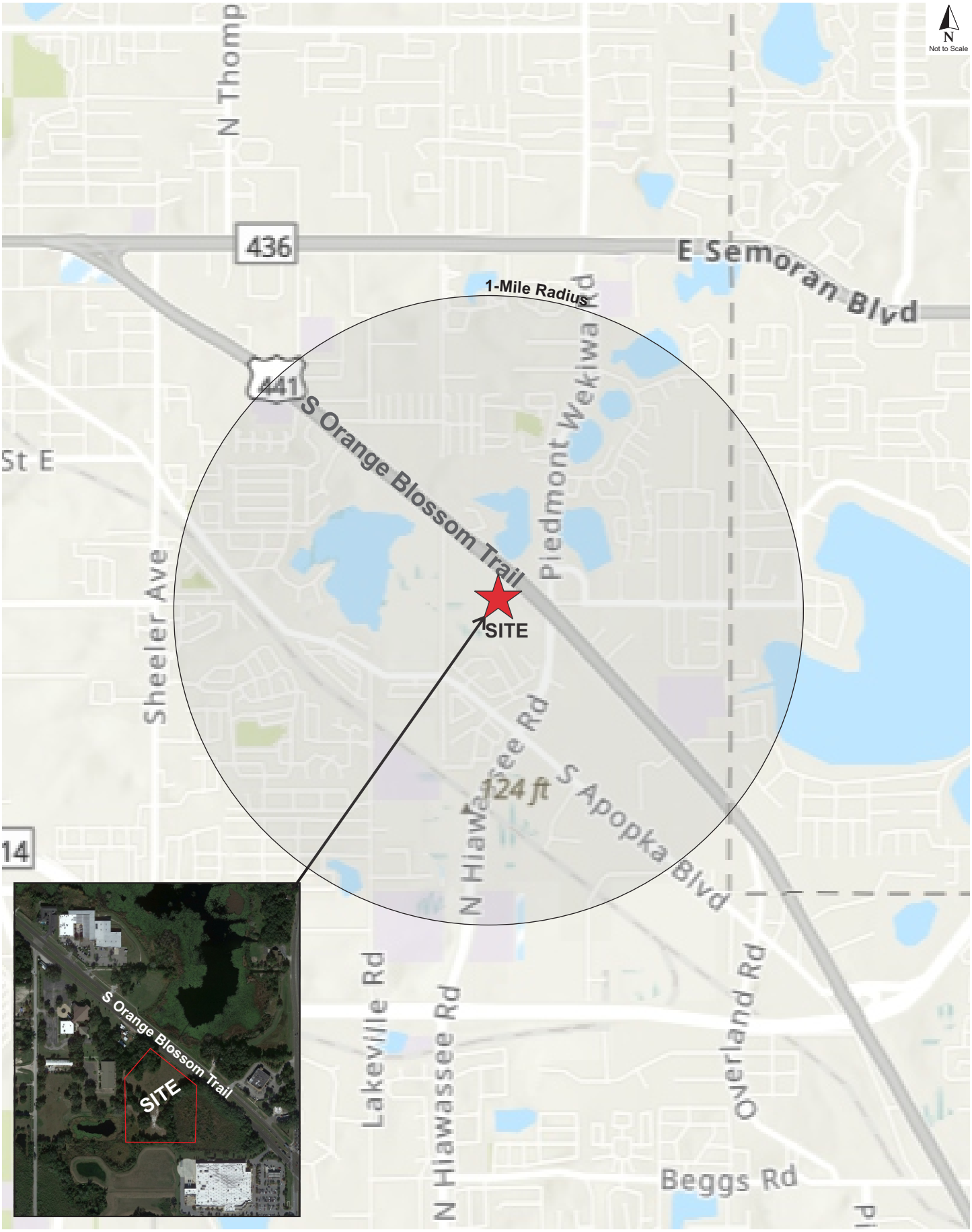
The proposed project consists of a 144-bed behavioral health facility with an anticipated build out year of 2025. The site consists of parcel 13-21-28-0000-00-019, located in the City of Apopka, Florida. The proposed site plan is provided in the **Attachments**.

Project Location

The ±31-acre site is located south of Orange Blossom Trail and west of Hiawassee Road in the City of Apopka, Florida, as shown in **Figure 1.**

Project Access

Access to the site is proposed via two (2) access driveways, one (1) full access driveway and one (1) right-in/right-out (RI/RO) access driveway on Orange Blossom Trail.



Site Location Map
Hospital Project - Apopka
22246

Figure
1

Trip Generation

The trip generation analysis was conducted using information published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual, 11th Edition*. A behavioral health facility does not function as a traditional hospital. Per the applicant, the development's trip generation is more representative of an assisted living or nursing home facility. Supporting information is furnished in the **Attachments**. The assisted living ITE code was referenced for the trip generation. **Table 1** summarizes the resulting trip generation analysis. The ITE trip generation information sheets are included in the **Attachments**.

Table 1
Trip Generation

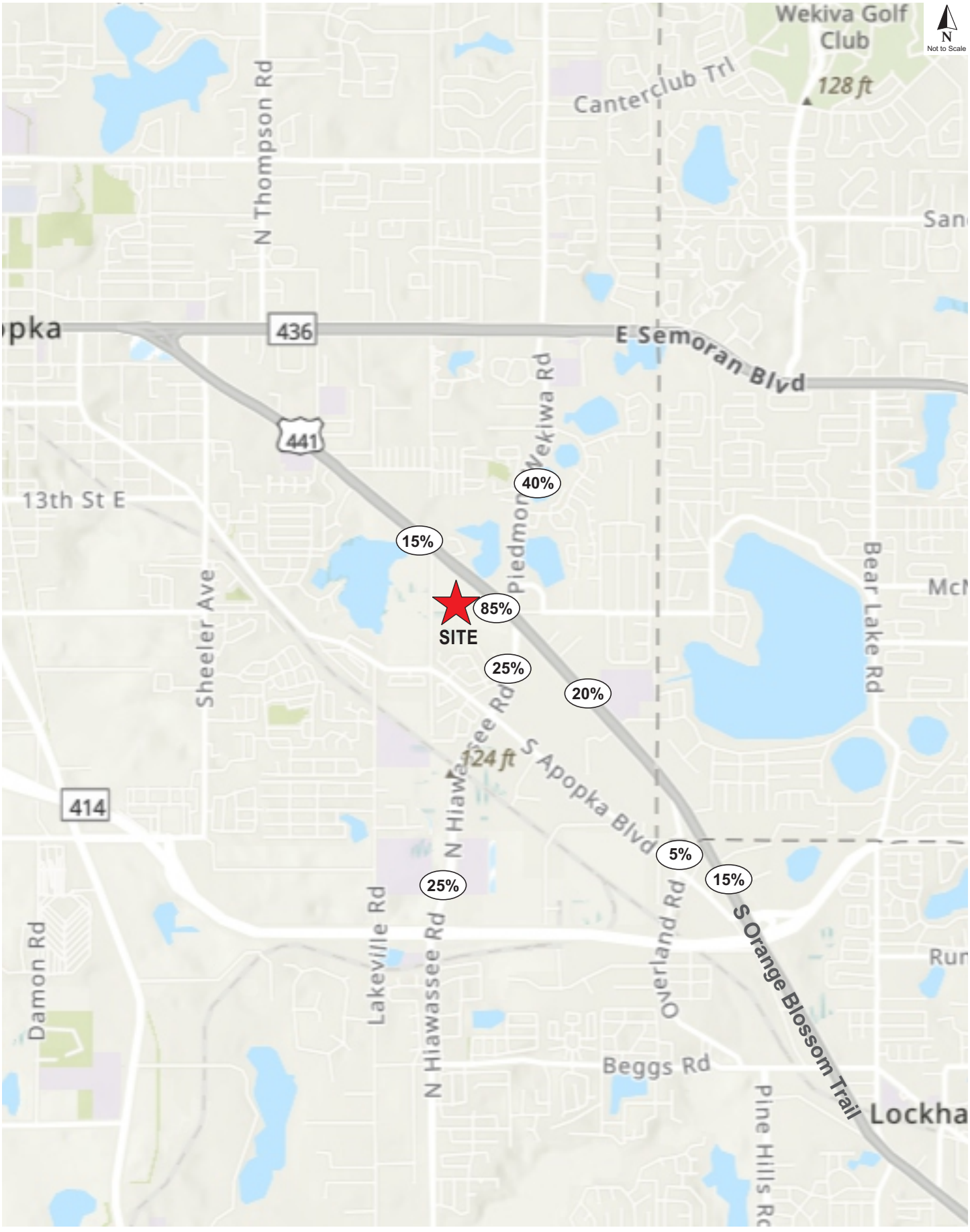
ITE			Daily		AM Peak Hour				PM Peak Hour			
Code	Land Use	Size	Rate	Trips	Rate	Total	Enter	Exit	Rate	Total	Enter	Exit
254	Assisted Living Facility	144 Beds	2.60	374	0.18	26	16	10	0.24	35	14	21

Trip Generation analysis based on ITE Trip Generation Manual, 11th Edition.

The proposed development is projected to generate 374 new daily trips of which 26 trips occur during the AM peak hour, and 35 trips occur during the PM peak hour.

Trip Distribution

A trip distribution pattern was estimated using the *Central Florida Regional Planning Model* (*CFRPM V7.0*). The model distribution was slightly adjusted based on local knowledge, professional engineering judgement and the location of the development with respect to the study area attractions and activity centers to reflect prevailing travel patterns in the vicinity of the site and the surrounding transportation network. The raw model plots are provided in the **Attachments**, and the adjusted trip distribution is shown in **Figure 2**.



Project Trip Distribution
Hospital Project - Apopka
22246

Figure **2**

Study Area

The following roadway segments will be analyzed for the PM peak hour, and the intersections will be analyzed for the ~~AM~~ and PM peak hour, as part of this study:

Per Pam Richmond's request, intersections will be only analyzed for PM Peak hour

Study Roadway Segments (within a 1-mile radius):

- US 441
  - Sheeler Road to Roger Williams Road
  - Roger Williams Road to Piedmont - Wekiva Road
  - Piedmont - Wekiva Road to Seminole County Lane
- Wekiva Springs Road / Piedmont-Wekiva Road / Hiawassee Road
  - Piedmont Lakes Boulevard to US 441
  - US 441 to CR 424 (Apopka Boulevard)

Study Intersections:

- US 441 and Hiawassee Road
- Apopka Boulevard and Hiawassee Road
- Site Access Driveways

Capacity Analysis

Roadway segment capacity will be analyzed for existing traffic and the new project peak hour directional traffic. The analysis will be based on City of Apopka's adopted service volumes and capacities obtained from the City's latest available traffic data tables. A copy of *the City of Apopka Concurrency Management System (CMS) 2020 Daily and PM Peak Hour/Peak Direction (PH/PD) Encumbered Traffic Allocation Worksheets* and *2020 Traffic Count Program Peak Hour/Direction Level of Service* spreadsheets are included in the **Attachments**. The project trips from completed developments that are included in the encumbered worksheets will be excluded from the calculation of the total projected segment volumes.

The study intersections will be analyzed for PM peak hour conditions using the methods of the *Highway Capacity Manual (HCM)*. The analysis will be performed for existing and buildout traffic conditions.

Right and left turn lane warrants for the project entrances on Orange Blossom Trail will be conducted in accordance with the FDOT *Driveway Information Guide*.

Report

A traffic study report will be prepared outlining and summarizing the methods, findings, and recommendations of the analysis for submittal to the City of Apopka.

Appendix C
City of Apopka CMS 2020 PH/PD LOS Worksheets

City of Apopka
2020 Traffic Count Program
Peak Hour/Direction Level of Service

Class Roadway Segment	Count Location Number	Type of Count	No. of Lanes	LOS Std.	Daily Volume	AM Peak Hour (7-9 AM Peak Period)						PM Peak Hour (4-6 PM Peak Period)					
						NB/EB	SB/WB	Time	K	D	LOS [1]	NB/EB	SB/WB	Time	K	D	LOS [1]
Major Arterial																	
SR 436 (Semoran Boulevard)																	
US 441 to Sheeler Rd	607A	72 Hour	8LD	D	25,690	879	737	07:30	0.063	0.544	C	1,121	928	17:00	0.080	0.547	C
Sheeler Rd to Thompson Rd	620A	72 Hour	8LD	D	36,022	1,099	1,076	07:15	0.060	0.505	C	1,508	1,525	17:00	0.084	0.503	C
Thompson Rd to Roger Williams Rd	608A	72 Hour	8LD	D	46,529	1,748	1,155	07:15	0.062	0.602	C	1,972	2,075	17:00	0.087	0.513	C
Roger Williams Rd to Piedmont-Wekiva Rd	621A/295	72 Hour	8LD	D	38,910	1,231	1,151	07:15	0.061	0.517	C	1,507	1,925	17:00	0.088	0.561	C
Piedmont-Wekiva Rd to Seminole County Ln	622A/5	72 Hour	6LD	D	54,962	1,969	1,523	07:30	0.064	0.564	C	2,200	2,553	17:00	0.086	0.537	C
US 441 (Orange Blossom Trail)																	
Ponkan Rd to Church Dr/Yothers Rd	2.1	72 Hour	4LD	D	34,231	1,175	1,487	07:00	0.078	0.559	C *	1,572	1,226	16:30	0.082	0.562	C *
Church Dr/Yothers Rd to SR 429 Connector Rd	530A	72 Hour	4LD	D	35,066	1,558	1,156	07:00	0.077	0.574	A *	1,296	1,689	16:45	0.085	0.566	A *
SR 429 Connector Rd to Plymouth Sorrento Rd (CR 437)	940A	72 Hour	4LD	D	26,827	1,062	830	07:00	0.071	0.561	A *	1,081	1,186	16:30	0.084	0.523	A *
Plymouth Sorrento Rd (CR 437) to Boy Scout Blvd	550A	72 Hour	4LD	D	25,487	970	770	07:00	0.068	0.558	A *	978	1,090	16:45	0.081	0.527	A *
Boy Scout Blvd to Errol Pkwy	82.1	72 Hour	4LD	D	29,327	871	1,078	07:00	0.066	0.553	A *	1,200	1,158	16:45	0.080	0.509	A *
Errol Pkwy to SR 451	551A	72 Hour	4LD	D	42,841	1,586	1,087	07:15	0.062	0.593	A *	1,654	1,839	16:45	0.082	0.527	A *
SR 451 to Bradshaw Rd	531A	72 Hour	4LD	D	37,662	1,304	1,111	07:30	0.064	0.540	A *	1,469	1,681	16:45	0.084	0.534	A *
Bradshaw Rd to Hawthorne Ave	552A	72 Hour	5L	D	41,335	1,488	1,129	07:30	0.063	0.569	A *	1,560	1,655	17:00	0.078	0.515	A *
Hawthorne Ave to Central Ave	5099	72 Hour	5L	D	46,312	1,320	1,614	07:15	0.063	0.550	A *	1,835	1,763	16:30	0.078	0.510	A *
Central Ave to Park Ave	553A	72 Hour	5L	D	41,089	1,420	1,078	07:15	0.061	0.569	A *	1,673	1,432	17:15	0.076	0.539	A *
Park Ave to Highland Ave	5098	72 Hour	5L	D	56,621	1,973	1,557	07:15	0.062	0.559	A *	2,041	2,060	17:15	0.072	0.502	B *
Highland Ave to Alabama Ave	609A	72 Hour	5L	D	45,851	1,595	1,234	07:15	0.062	0.564	A *	1,754	1,724	16:45	0.076	0.504	A *
Alabama Ave to SR 436	5096A	72 Hour	4LD	D	46,209	1,717	1,220	07:15	0.064	0.585	A *	1,684	1,885	16:15	0.077	0.528	A *
SR 436 to Sheeler Rd	661A	72 Hour	4LD	D	25,982	672	985	07:00	0.064	0.595	C	1,102	771	16:15	0.072	0.588	C
Sheeler Rd to Roger Williams Rd	7075	72 Hour	4LD	D	23,514	712	984	07:15	0.072	0.580	C	1,082	765	16:00	0.079	0.586	C
Roger Williams Rd to Piedmont-Wekiva Rd	660A	72 Hour	4LD	D	27,613	995	687	07:45	0.061	0.591	C	899	1,242	16:45	0.078	0.580	C
Piedmont-Wekiva Rd to Seminole County Ln	33	72 Hour	4LD	D	33,753	1,041	1,212	07:15	0.067	0.538	C	1,789	896	16:30	0.080	0.666	C
Minor Arterial																	
CR 424 (Alabama Avenue/Apopka Boulevard)																	
US 441 to 8th St	670A	24 Hour	2L	E	2,657	57	93	08:00	0.056	0.619	C	89	172	17:00	0.098	0.658	C
8th St to Sheeler Rd	651A	24 Hour	2L	E	4,259	84	126	07:00	0.049	0.600	C	203	234	17:00	0.102	0.536	C
Sheeler Rd to Lakeville Rd	653A	24 Hour	2L	E	8,389	249	174	07:00	0.050	0.588	C	345	465	17:15	0.097	0.574	C
Lakeville Rd to Hiawassee Rd	658a	24 Hour	3L	E	10,801	172	351	07:00	0.048	0.671	C	590	401	17:00	0.092	0.595	C
Hiawassee Rd to Overland Rd	33.1	24 Hour	2L	E	6,455	314	127	07:15	0.068	0.711	C	235	355	16:45	0.091	0.602	C
Overland Rd to US 441	671A	24 Hour	2L	E	4,986	199	179	07:00	0.076	0.526	C	129	218	16:45	0.070	0.628	C
CR 435 (Rock Spring Road/Park Avenue/Clarcona Road)																	
Kelly Park Rd to Ponkan Rd	18.1	72 Hour	4LD	E	17,577	424	920	07:00	0.076	0.685	C	955	579	17:00	0.087	0.623	C
Ponkan Rd to Welch Rd	19	72 Hour	5L	E	27,779	759	1,234	07:00	0.072	0.619	C	1,471	1,012	17:00	0.089	0.592	C
Welch Rd to Sandpiper Rd	21	72 Hour	5L	E	23,766	530	1,017	07:00	0.065	0.657	C	1,360	914	17:00	0.096	0.598	C
Sandpiper Rd to Votaw Rd	516A	24 Hour	5L	E	20,693	428	681	08:45	0.054	0.614	C	1,037	771	16:30	0.087	0.574	D
Votaw Rd to Orange St	426	72 Hour	5L	E	22,661	459	936	07:00	0.062	0.671	D	1,098	842	17:00	0.086	0.566	D
Orange St to US 441	580A	24 Hour	5L	E	22,501	926	531	07:00	0.065	0.635	D	994	872	16:45	0.083	0.533	D
US 441 to M. Gladden Blvd	563A	24 Hour	2L	E	13,948	445	469	07:00	0.066	0.513	D	619	512	17:15	0.081	0.547	D
M. Gladden Blvd to Cleveland St	328.1	72 Hour	2L	E	10,791	323	315	07:15	0.059	0.506	C	472	411	17:00	0.082	0.534	D
Cleveland St to Keene Rd	564A	24 Hour	2L	E	9,420	355	252	07:15	0.065	0.585	C	351	423	16:45	0.082	0.547	C
Keene Rd to McCormick Rd	565A	24 Hour	2L	E	13,481	505	527	07:15	0.077	0.511	C	534	628	17:00	0.086	0.540	C
McCormick Rd to Clarcona-Ocoee Rd	7004	24 Hour	2L	E	15,386	537	595	07:00	0.074	0.526	C	672	660	17:00	0.087	0.504	C

City of Apopka
2020 Traffic Count Program
Peak Hour/Direction Level of Service

Class / Roadway Segment	Count Location Number	Type of Count	No. of Lanes	LOS Std.	Daily Volume	AM Peak Hour (7-9 AM Peak Period) NB/EB	SB/WB	Time	K	D	LOS [1]	PM Peak Hour (4-6 PM Peak Period) NB/EB	SB/WB	Time	K	D	LOS [1]
Minor Arterial (Continued)																	
CR 437A (Ocoee-Apopka Road/Michael Gladden Boulevard/Central Avenue)																	
McCormick Rd to Binion Rd	71	72 Hour	2L	E	11,687	302	387	07:00	0.059	0.561	C	683	533	16:45	0.104	0.562	C
Binion Rd to SR 429	29	24 Hour	2L	E	13,440	543	575	07:00	0.083	0.515	C	616	588	16:30	0.090	0.512	C
SR 429 to Keene Rd	702A	24 Hour	2L	E	16,225	644	690	07:15	0.082	0.517	C	796	655	16:45	0.089	0.549	C
Keene Rd to Boy Scout Rd	559A/29	72 Hour	2L	E	10,919	402	357	07:15	0.070	0.530	C	474	454	16:45	0.085	0.511	C
Boy Scout Rd to Bradshaw Rd	27	72 Hour	2L	E	13,385	594	472	07:15	0.080	0.557	C	569	544	16:45	0.083	0.511	C
Bradshaw Rd to Central Ave	7083	72 Hour	2L	E	7,518	267	256	07:15	0.070	0.511	C	355	274	16:30	0.084	0.565	C
Michael Gladden Blvd to US 441	567A	24 Hour	2L	E	4,541	139	140	07:30	0.061	0.502	C	213	211	16:15	0.093	0.502	C
Lakeville Road																	
Apopka Blvd to Wildwood St	657A	24 Hour	2L	E	5,744	172	96	07:00	0.047	0.641	C	234	301	17:00	0.093	0.563	C
Plymouth-Sorrento Road																	
County Line to Kelly Park Rd	14	48 Hour	2L	E	8,833	225	499	07:00	0.082	0.689	B	587	294	16:45	0.100	0.666	C
Kelly Park Rd to Ponkan Rd	11	72 Hour	2L	E	6,535	207	266	07:00	0.072	0.562	C	363	236	17:00	0.092	0.606	C
Ponkan Rd to Lester Rd/Yothers Rd	10	72 Hour	2L	E	6,661	235	225	07:30	0.069	0.511	C	371	267	16:30	0.096	0.581	C
Lester Rd/Yothers Rd to SR 429 Connector Rd	542A	24 Hour	2L	E	9,269	425	251	07:45	0.073	0.629	C	330	604	17:00	0.101	0.646	C
SR 429 Connector Rd to US 441	543A	24 Hour	2L	E	6,866	157	285	07:15	0.064	0.644	C	352	285	16:45	0.093	0.553	C
Sheeler Road																	
SR 436 to US 441	605A	24 Hour	3L	E	11,061	398	261	08:45	0.060	0.604	C	698	461	16:15	0.105	0.602	D
US 441 to Apopka Blvd	7006	72 Hour	2L	E	9,219	311	243	07:15	0.060	0.561	C	387	423	16:45	0.088	0.522	C
Apopka Blvd to Cleveland St	7007	72 Hour	2L	E	10,384	446	275	07:00	0.069	0.619	C	444	480	17:00	0.089	0.520	C
Cleveland St to Keene Rd	656A	72 Hour	2L	E	12,360	471	309	07:15	0.063	0.604	C	528	624	17:00	0.093	0.541	C
Wekiwa Springs Road/Piedmont-Wekiwa Road/Hiawassee Road																	
Welch Rd to Votaw Rd	799	72 Hour	3L	E	12,275	393	442	07:45	0.068	0.529	B	527	511	17:00	0.084	0.508	B
Votaw Rd to SR 436	25	72 Hour	5L	E	20,996	565	928	07:45	0.071	0.622	C	1,141	729	17:00	0.089	0.610	C
SR 436 to Piedmont Lakes Blvd	330	72 Hour	5L	E	31,479	910	1,149	07:30	0.065	0.558	C	1,591	1,261	17:00	0.091	0.558	C
Piedmont Lakes Blvd to US 441	606A	24 Hour	5L	E	28,984	769	955	08:15	0.059	0.554	C	1,454	1,226	17:00	0.092	0.543	C
US 441 to CR 424 (Apopka Blvd)	331	24 Hour	4LD	E	24,716	704	775	08:15	0.060	0.524	C	972	1,182	17:00	0.087	0.549	C
CR 424 (Apopka Blvd) to SR 414	222A	24 Hour	4LD	E	19,769	631	662	07:00	0.065	0.512	C	845	861	16:45	0.086	0.505	C
SR 414 to Beggs Rd	223A	72 Hour	4LD	E	27,547	732	930	07:45	0.060	0.560	C	1,360	1,083	16:45	0.089	0.557	C
Beggs Rd to Clarcona-Ocoee Rd	65	24 Hour	4LD	E	23,480	690	810	07:30	0.064	0.540	C	966	991	17:00	0.083	0.506	C
Welch Road																	
Vick Rd to Rock Springs Rd	501A	72 Hour	2L	E	9,894	359	259	07:00	0.062	0.581	C	488	447	16:30	0.094	0.522	D
Rock Springs Rd to Ustler Road	624A	72 Hour	3L	E	19,536	823	556	07:15	0.071	0.597	C	667	880	16:30	0.079	0.569	C
Ustler Road to Thompson Rd	7049	72 Hour	2L	E	16,750	723	450	07:15	0.070	0.616	C	580	780	16:45	0.081	0.574	C
Thompson Rd to Wekiva Springs Rd	22	72 Hour	2L	E	15,163	693	372	07:00	0.070	0.651	C	515	775	17:00	0.085	0.600	C

City of Apopka CMS
2020 Daily and PM Peak Hour/Peak Direction (PH/PD) Encumbered Traffic Allocation Worksheets

Base Traffic Volume: 2020 **FINAL REPORT** **Revision Date: 4/1/2021**

Roadway Section	# of Lanes	Adopted Standard Roadway Capacity LOS	Daily	PHPD	Applicant Inventory	Encumbered Trips Daily	PM PH/PD	Daily Traffic (1) Base Volume	Available Capacity	PM PH/PD Traffic (1) Base Volume	Available Capacity	Peak Direction
Major Arterials (Continued)												
US 441 (Orange Blossom Trail) (Continued)												
SR 451 to Bradshaw Rd	4LD	D	5,009 [2]	230 [2]				N/A	3,229.8	N/A	109	SB/WB
					Faircloth Lakes	244	14		64.48%		47.39%	
					Johns Road Commerce Center	69	10					
					Lakeside (aka Lake Marshall)	1,000	61					
					Magnolia Commerce Center	35	7					
					Old Dixie Highway Townhomes	223	12					
					Orchid Estates (fka J.B. Nurseries)	113	11					
					Poe Reserve	95	6					
					Applicant Inventory Total	1,779	121					
Bradshaw Rd to Hawthorne Ave	5L	D	5,025 [2]	260 [2]				N/A	4,600	N/A	229	SB/WB
					Johns Road Commerce Center	11	2		91.54%		88.08%	
					Lakeside (aka Lake Marshall)	143	9					
					Magnolia Commerce Center	35	7					
					Old Dixie Highway Townhomes	236	13					
					Applicant Inventory Total	425	31					
Hawthorne Ave to Central Ave	5L	D	4,845 [2]	250 [2]				N/A	4,416	N/A	224	NB/EB
					Lakeside (aka Lake Marshall)	429	26		91.15%		89.60%	
					Applicant Inventory Total	429	26					
Central Ave to Park Ave	5L	D	5,385 [2]	278 [2]				N/A	5,385	N/A	278	NB/EB
					Development Name	0	0		100.00%		100.00%	
					Applicant Inventory Total	0	0					
Park Ave to Highland Ave	5L	D	6,600 [2]	341 [2]				N/A	6,600	N/A	341	SB/WB
					Development Name	0	0		100.00%		100.00%	
					Applicant Inventory Total	0	0					
Highland Ave to Alabama Ave	5L	D	6,600 [2]	341 [2]				N/A	6,600	N/A	341	NB/EB
					Development Name	0	0		100.00%		100.00%	
					Applicant Inventory Total	0	0					
Alabama Ave to SR 436	4LD	D	6,900 [2]	357 [2]				N/A	6,900	N/A	357	SB/WB
					Development Name	0	0		100.00%		100.00%	
					Applicant Inventory Total	0	0					
SR 436 to Sheeler Rd	4LD	D	39,800	2,000				25,982	13,818	1,102	898	NB/EB
					Development Name	0	0		34.72%		44.91%	
					Applicant Inventory Total	0	0					
Sheeler Rd to Roger Williams Rd	4LD	D	39,800	2,000				23,514	16,286	1,082	918	NB/EB
					Development Name	0	0		40.92%		45.90%	
					Applicant Inventory Total	0	0					
Roger Williams Rd to Piedmont-Wekiwa Rd	4LD	D	39,800	2,000				27,613	12,187	1,242	758	SB/WB
					Development Name	0	0		30.62%		37.91%	
					Applicant Inventory Total	0	0					
Piedmont Wekiwa Rd to Seminole County Line	4LD	D	39,800	2,000				33,753	6,047	1,789	211	NB/EB
					Development Name	0	0		15.19%		10.55%	
					Applicant Inventory Total	0	0					
John Land Expressway (SR 414)												
Hiawassee Rd to Keene Rd	6LD	D	116,600	5,500				24,670	91,442	2,220	3,250	SB/WB
					Silver Oaks	488	30		11.10%		59.09%	
					Applicant Inventory Total	488	30					
Keene Rd to SR 429/SR 451	6LD	D	116,600	5,500				20,870	95,730	1,878	3,622	SB/WB
					Silver Oaks	0	0		82.10%		65.85%	
					Applicant Inventory Total	0	0					

City of Apopka CMS
2020 Daily and PM Peak Hour/Peak Direction (PH/PD) Encumbered Traffic Allocation Worksheets

Base Traffic Volume: 2020 **FINAL REPORT** **Revision Date: 4/1/2021**

Roadway Section	# of Lanes	Adopted Standard Roadway Capacity LOS	Daily	PHPD	Applicant Inventory	Encumbered Trips Daily	PM PH/PD	Daily Traffic (1) Base Volume	Available Capacity	PM PH/PD Traffic (1) Base Volume	Available Capacity	Peak Direction
Minor Arterials (Continued)												
Wekiva Springs Road/Piedmont-Wekiwa Road/Hiawassee Road (Continued)												
Piedmont Lakes Blvd to US 441	5L	E	39,800	2,000				28,984	10,816	1,454	546	NB/EB
					Development Name	0	0		27.18%		27.29%	
					Applicant Inventory Total	0	0					
US 441 to CR 424 (Apopka Blvd)	4LD	E	39,800	2,000				24,716	15,084	1,182	818	SB/WB
					Development Name	0	0		37.90%		40.90%	
					Applicant Inventory Total	0	0					
CR 424 (Apopka Blvd) to SR 414	4LD	E	39,800	2,000				19,769	20,031	861	1,139	SB/WB
					Development Name	0	0		50.33%		56.94%	
					Applicant Inventory Total	0	0					
SR 414 to Beggs Rd	4LD	E	39,800	2,000				27,547	12,253	1,360	640	NB/EB
					Development Name	0	0		30.79%		32.00%	
					Applicant Inventory Total	0	0					
Welch Road												
Vick Rd to Rock Springs Rd (CR 435)	2L	E	16,400	840				9,894	4,905	488	276	NB/EB
					Equestrian Center Subdivision	576	37		29.91%		32.86%	
					Gateway Plaza	9	0					
					Meadow View Apartments	96	7					
					Rock Springs Commercial	920	32					
					San Sabastian	0	0					
					Applicant Inventory Total	1,601	76					
Rock Springs Rd (CR 435) to Ustler Rd	3L	E	34,200	1,690				19,536	13,343	880	757	SB/WB
					Equestrian Center Subdivision	87	6		39.02%		44.82%	
					Gateway Plaza	602	19					
					Rock Springs Commercial	475	18					
					San Sabastian	157	10					
					Applicant Inventory Total	1,321	53					
Ustler Rd to Thompson Rd	2L	E	32,600	1,610				16,750	15,642	780	822	SB/WB
					Rock Springs Commercial	208	8		47.98%		51.06%	
					Applicant Inventory Total	208	8					
Minor Collectors												
2th Street												
Central Ave to Park Ave	2L	D	9,600	490				1,174	8,426	88	402	SB/WB
					Development Name	0	0		87.77%		82.09%	
					Applicant Inventory Total	0	0					
6th Street												
Park Ave to Alabama Ave	2L	D	9,600	490				2,528	7,072	211	279	SB/WB
					Development Name	0	0		73.67%		56.91%	
					Applicant Inventory Total	0	0					
9th Street												
Central Ave to Park Ave (CR 435)	2L	D	9,600	490				5,086	4,319	219	257	NB/EB
					Dollar General	195	14		44.99%		52.51%	
					Applicant Inventory Total	195	14					
Appy Lane												
Plymouth-Sorrento Rd (CR 437) to Jason Dwelley Pkwy	2L	D	13,320	680				1,116	12,166	98	580	NB/EB
					Kelly Park Crossings	38	2		91.34%		85.29%	
					Applicant Inventory Total	38	2					

City of Apopka
2020 Traffic Count Program
Roadway Service Volumes (Capacities)

Class Roadway Segment	Count Location Number	No. of Lanes	LOS Std.	Posted Speed Limit	Latitude	Longitude	A.M./P.M. Peak Hour Directional Capacities [1]					Daily Capacities [1]				
							A	B	C	D	E	A	B	C	D	E
Major Arterial																
SR 436 (Semoran Boulevard)																
US 441 to Sheeler Rd	607A	8LD	D	45	28.673035°	-81.494209°	-	-	3,970	4,040	4,040	-	-	78,800	80,100	80,100
Sheeler Rd to Thompson Rd	620A	8LD	D	45	28.673035°	-81.490389°	-	-	3,970	4,040	4,040	-	-	78,800	80,100	80,100
Thompson Rd to Roger Williams Rd	608A	8LD	D	45	28.673045°	-81.486683°	-	-	3,970	4,040	4,040	-	-	78,800	80,100	80,100
Roger Williams Rd to Piedmont-Wekiva Rd	621A/295	8LD	D	45	28.67302°	-81.47462°	-	-	3,970	4,040	4,040	-	-	78,800	80,100	80,100
Piedmont-Wekiva Rd to Seminole County Ln	622A/5	6LD	D	45	28.67288°	-81.46357°	-	-	2,940	3,020	3,020	-	-	58,400	59,900	59,900
US 441 (Orange Blossom Trail)																
Ponkan Rd to Church Dr/Yothers Rd	2.1	4LD	D	55	28.72552°	-81.59981°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
Church Dr/Yothers Rd to SR 429 Connector Rd	530A	4LD	D	55	28.699877°	-81.573506°	2,370	2,480	2,480	2,480	2,480	47,200	49,500	49,500	49,500	49,500
SR 429 Connector Rd to Plymouth Sorrento Rd (CR 437)	940A	4LD	D	45	28.695148°	-81.559981°	2,370	2,480	2,480	2,480	2,480	47,200	49,500	49,500	49,500	49,500
Plymouth Sorrento Rd (CR 437) to Boy Scout Blvd	550A	4LD	D	45	28.691622°	-81.551488°	2,370	2,480	2,480	2,480	2,480	47,200	49,500	49,500	49,500	49,500
Boy Scout Blvd to Errol Pkwy	82.1	4LD	D	45	28.68911°	-81.54333°	2,270	2,520	2,600	2,600	2,600	48,300	53,600	55,400	55,400	55,400
Errol Pkwy to SR 451	551A	4LD	D	45	28.685048°	-81.532719°	2,270	2,520	2,600	2,600	2,600	48,300	53,600	55,400	55,400	55,400
SR 451 to Bradshaw Rd	531A	4LD	D	45	28.680323°	-81.522827°	2,270	2,520	2,600	2,600	2,600	48,300	53,600	55,400	55,400	55,400
Bradshaw Rd to Hawthorne Ave	552A	5L	D	45	28.677953°	-81.519496°	1,980	2,160	2,160	2,160	2,160	52,500	57,100	57,100	57,100	57,100
Hawthorne Ave to Central Ave	5099	5L	D	35	28.675776°	-81.516276°	1,980	2,160	2,160	2,160	2,160	52,500	57,100	57,100	57,100	57,100
Central Ave to Park Ave	553A	5L	D	35	28.673113°	-81.510488°	1,980	2,160	2,160	2,160	2,160	52,500	57,100	57,100	57,100	57,100
Park Ave to Highland Ave	5098	5L	D	35	28.673114°	-81.508021°	1,980	2,160	2,160	2,160	2,160	52,500	57,100	57,100	57,100	57,100
Highland Ave to Alabama Ave	609A	5L	D	35	28.673094°	-81.503468°	1,980	2,160	2,160	2,160	2,160	52,500	57,100	57,100	57,100	57,100
Alabama Ave to SR 436	5096A	4LD	D	35	28.673139°	-81.499675°	1,980	2,160	2,160	2,160	2,160	52,500	57,100	57,100	57,100	57,100
SR 436 to Sheeler Rd	661A	4LD	D	45	28.670839°	-81.493902°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
Sheeler Rd to Roger Williams Rd	7075	4LD	D	45	28.66746°	-81.48802°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
Roger Williams Rd to Piedmont-Wekiva Rd	660A	4LD	D	55	28.65724°	-81.47368°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
Piedmont-Wekiva Rd to Seminole County Ln	33	4LD	D	55	28.644516°	-81.459745°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
Minor Arterial																
CR 424 (Alabama Avenue/Apopka Boulevard)																
US 441 to 8th St	670A	2L	E	45	28.671607°	-81.502026°	-	-	370	750	800	-	-	7,300	14,800	15,600
8th St to Sheeler Rd	651A	2L	E	45	28.664812°	-81.497702°	-	-	830	880	880	-	-	16,800	17,700	17,700
Sheeler Rd to Lakeville Rd	653A	2L	E	40	28.654673°	-81.486935°	-	-	830	880	880	-	-	16,800	17,700	17,700
Lakeville Rd to Hiawassee Rd	658a	3L	E	40	28.651139°	-81.477106°	-	-	870	920	920	-	-	17,600	18,600	18,600
Hiawassee Rd to Overland Rd	33.1	2L	E	35	28.641670°	-81.462885°	-	-	370	750	800	-	-	7,300	14,800	15,600
Overland Rd to US 441	671A	2L	E	35	28.635611°	-81.454984°	-	-	370	750	800	-	-	7,300	14,800	15,600
CR 435 (Rock Spring Road/Park Avenue/Clarcona Road)																
Kelly Park Rd to Ponkan Rd	18.1	4LD	E	45	28.73670°	-81.50900°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
Ponkan Rd to Welch Rd	19	5L	E	45	28.71450°	-81.50900°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
Welch Rd to Sandpiper Rd	21	5L	E	45	28.69850°	-81.50920°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
Sandpiper Rd to Votaw Rd	516A	5L	E	35	28.690042°	-81.509411°	-	-	730	1,630	1,700	-	-	14,500	32,400	33,800
Votaw Rd to Orange St	426	5L	E	35	28.68090°	-81.50950°	-	-	730	1,630	1,700	-	-	14,500	32,400	33,800
Orange St to US 441	580A	5L	E	35	28.675129°	-81.509426°	-	-	730	1,630	1,700	-	-	14,500	32,400	33,800
US 441 to M. Gladden Blvd	563A	2L	E	30	28.670468°	-81.509453°	-	-	370	750	800	-	-	7,300	14,800	15,600
M. Gladden Blvd to Cleveland St	328.1	2L	E	30	28.66513°	-81.50937°	-	-	370	750	800	-	-	7,300	14,800	15,600
Cleveland St to Keene Rd	564A	2L	E	45	28.648251°	-81.505598°	-	-	830	880	880	-	-	16,800	17,700	17,700
Keene Rd to McCormick Rd	565A	2L	E	45	28.632718°	-81.498788°	-	-	830	880	880	-	-	16,800	17,700	17,700
McCormick Rd to Clarcona-Ocoee Rd	7004	2L	E	45	28.618562°	-81.499335°	-	-	830	880	880	-	-	16,800	17,700	17,700

City of Apopka
2020 Traffic Count Program
Roadway Service Volumes (Capacities)

Class / Roadway / Segment	Count Location Number	No. of Lanes	LOS Std.	Posted Speed Limit	Latitude	Longitude	A.M./P.M. Peak Hour Directional Capacities [1] A	B	C	D	E	Daily Capacities [1] A	B	C	D	E
Minor Arterial (Continued)																
CR 437A (Ocoee-Apopka Road/Michael Gladden Boulevard/Central Avenue)																
McCormick Rd to Binion Rd	71	2L	E	45	28.62403°	-81.54384°	-	-	830	880	880	-	-	16,800	17,700	17,700
Binion Rd to SR 429	29	2L	E	45	28.64353°	-81.53885°	-	-	830	880	880	-	-	16,800	17,700	17,700
SR 429 to Keene Rd	702A	2L	E	45	28.638486°	-81.540218°	-	-	830	880	880	-	-	16,800	17,700	17,700
Keene Rd to Boy Scout Rd	559A/29	2L	E	45	28.647932°	-81.538075°	-	-	830	880	880	-	-	16,800	17,700	17,700
Boy Scout Rd to Bradshaw Rd	27	2L	E	45	28.66438°	-81.52200°	-	-	830	880	880	-	-	16,800	17,700	17,700
Bradshaw Rd to Central Ave	7083	2L	E	30	28.66641°	-81.51956°	-	-	370	750	800	-	-	7,300	14,800	15,600
Michael Gladden Blvd to US 441	567A	2L	E	35	28.669989°	-81.511519°	-	-	370	750	800	-	-	7,300	14,800	15,600
Lakeville Road																
Apopka Blvd to Wildwood St	657A	2L	E	50	28.649221°	-81.480456°	-	-	830	880	880	-	-	16,800	17,700	17,700
Plymouth-Sorrento Road																
County Line to Kelly Park Rd	14	2L	E	55	28.75860°	-81.55980°	-	580	890	1,200	1,610	-	11,700	18,000	24,200	32,600
Kelly Park Rd to Ponkan Rd	11	2L	E	55	28.72894°	-81.55970°	-	-	830	880	880	-	-	16,800	17,700	17,700
Ponkan Rd to Lester Rd/Yothers Rd	10	2L	E	55	28.72620°	-81.55800°	-	-	870	920	920	-	-	16,800	17,700	17,700
Lester Rd/Yothers Rd to SR 429 Connector Rd	542A	2L	E	45	28.711013°	-81.557428°	-	-	890	950	950	-	-	18,100	19,000	19,000
SR 429 Connector Rd to US 441	543A	2L	E	45	28.696130°	-81.556646°	-	-	830	880	880	-	-	16,800	17,700	17,700
Sheeler Road																
SR 436 to US 441	605A	3L	E	35	28.671674°	-81.492844°	-	-	690	1,550	1,620	-	-	13,800	30,780	32,100
US 441 to Apopka Blvd	7006	2L	E	45	28.66530°	-81.49285°	-	-	830	880	880	-	-	16,800	17,700	17,700
Apopka Blvd to Cleveland St	7007	2L	E	45	28.65540°	-81.49290°	-	-	830	880	880	-	-	16,800	17,700	17,700
Cleveland St to Keene Rd	656A	2L	E	45	28.648875°	-81.492849°	-	-	830	880	880	-	-	16,800	17,700	17,700
Wekiwa Springs Road/Piedmont-Wekiwa Road/Hiawassee Road																
Welch Rd to Votaw Rd	799	3L	E	45	28.70575°	-81.46770°	-	610	930	1,260	1,690	-	12,300	18,900	25,400	34,200
Votaw Rd to SR 436	25	5L	E	45	28.68072°	-81.46817°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
SR 436 to Piedmont Lakes Blvd	330	5L	E	45	28.66880°	-81.46790°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
Piedmont Lakes Blvd to US 441	606A	5L	E	45	28.660010°	-81.470015°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
US 441 to CR 424 (Apopka Blvd)	331	4LD	E	45	28.649848°	-81.470854°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
CR 424 (Apopka Blvd) to SR 414	222A	4LD	E	45	28.639026°	-81.474743°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
SR 414 to Beggs Rd	223A	4LD	E	45	28.629558°	-81.476452°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
Beggs Rd to Clarcona-Ocoee Rd	65	4LD	E	45	28.619543°	-81.476222°	-	-	1,910	2,000	2,000	-	-	37,900	39,800	39,800
Welch Road																
Vick Rd to Rock Springs Rd	501A	2L	E	35	28.70599°	-81.51524°	-	-	390	790	840	-	-	7,700	15,540	16,400
Rock Springs Rd to Ustler Road	624A	3L	E	45	28.675534°	-81.511075°	-	610	930	1,260	1,690	-	12,300	18,900	25,400	34,200
Ustler Road to Thompson Rd	7049	2L	E	45	28.70598°	-81.49890°	-	580	890	1,200	1,610	-	11,700	18,000	24,200	32,600
Thompson Rd to Wekiva Springs Rd	22	2L	E	45	28.70567°	-81.48622°	-	580	890	1,200	1,610	-	11,700	18,000	24,200	32,600
Minor Collector																
2nd Street (Monroe Avenue)																
Central Ave to Park Ave	401A	2L	D	30	28.675534°	-81.511075°	-	-	240	490	520	-	-	4,700	9,600	10,100
5th Street																
Park Ave to Highland Ave	403A	2L	D	30	28.671882°	-81.507758°	-	-	240	490	520	-	-	4,700	9,600	10,100
6th Street																
Park Ave to Alabama Ave	650A	2L	D	30	28.670699°	-81.506454°	-	-	240	490	520	-	-	4,700	9,600	10,100
Alabama Ave to US 441	410A	2L	D	30	28.670730°	-81.497702°	-	-	240	490	520	-	-	4,700	9,600	10,100

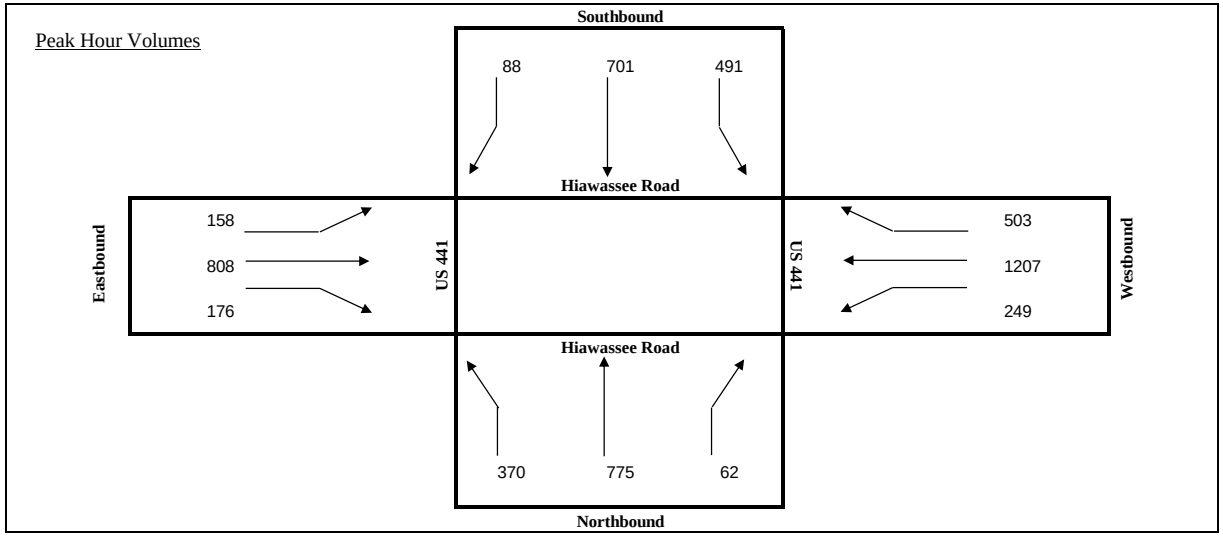
Appendix D
Turning Movement Counts & Seasonal Factor Data

TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Hiawassee Road
Intersection (E/W): US 441
Date: 2/9/2023

		Hiawassee Road			Hiawassee Road			US 441			US 441			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
4:00 PM	4:15 PM	79	256	20	134	203	21	43	143	46	54	277	132	1408
4:15 PM	4:30 PM	89	177	16	119	171	19	40	191	51	50	308	112	1343
4:30 PM	4:45 PM	90	142	14	123	131	17	36	229	46	58	301	124	1311
4:45 PM	5:00 PM	97	200	21	126	198	23	45	207	47	65	293	123	1445
5:00 PM	5:15 PM	94	256	11	123	201	29	37	181	32	76	305	144	1489
5:15 PM	5:30 PM	71	274	14	115	238	23	36	152	41	21	223	126	1334
5:30 PM	5:45 PM	54	244	17	109	210	21	42	163	33	56	191	110	1250
5:45 PM	6:00 PM	68	198	13	113	186	19	35	155	37	42	193	112	1171
Total for:	4:00 PM	5:00 PM	355	775	71	502	703	80	164	770	190	227	1179	491	5507
Total for:	5:00 PM	6:00 PM	287	972	55	460	835	92	150	651	143	195	912	492	5244
Tota Peak Hour:	4:15 PM	5:15 PM	370	775	62	491	701	88	158	808	176	249	1207	503	5588
Overall PHF:	0.94														

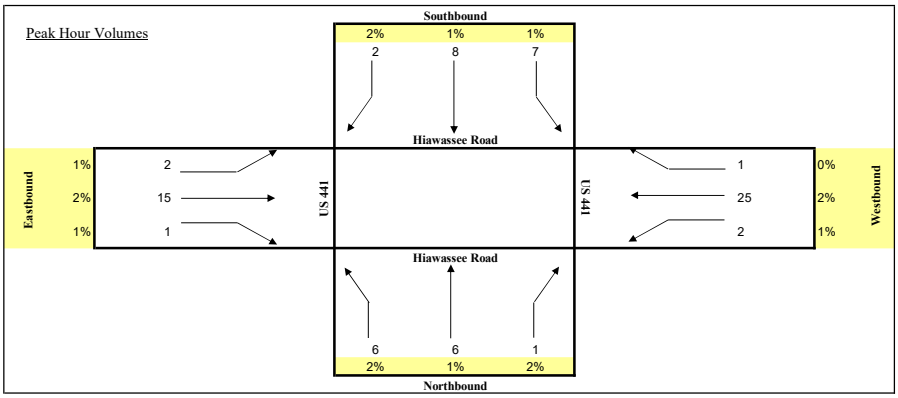


TURNING MOVEMENT COUNT ANALYSIS

TRUCKS

Intersection (N/S): Hiawassee Road
Intersection (E/W): US 441
Date: 2/9/2023

		Hiawassee Road NB			Hiawassee Road SB			US 441 EB			US 441 WB			
Start	End	R	T	L	R	T	L	R	T	L	R	T	L	TOTAL
4:00 PM	4:15 PM	0	1	1	1	0	0	0	1	0	0	4	3	11
4:15 PM	4:30 PM	1	0	1	1	1	0	0	2	0	0	3	1	10
4:30 PM	4:45 PM	0	0	0	3	1	0	0	4	1	0	4	1	14
4:45 PM	5:00 PM	2	1	1	1	2	1	1	5	0	1	5	0	20
5:00 PM	5:15 PM	3	2	0	2	3	0	0	5	0	0	10	0	25
5:15 PM	5:30 PM	0	1	0	3	1	0	0	3	1	0	4	0	13
5:30 PM	5:45 PM	1	2	0	1	2	1	1	2	0	1	6	1	18
5:45 PM	6:00 PM	2	0	1	2	1	1	0	3	1	0	2	0	13
Total for:	4:00 PM	5:00 PM	3	2	3	6	4	1	1	12	1	1	16	5	55
Total for:	5:00 PM	6:00 PM	6	5	1	8	7	2	1	13	2	1	22	1	69
Tota Peak Hour:	4:45 PM	5:45 PM	6	6	1	7	8	2	2	15	1	2	25	1	76
Overall PHF:	0.76														

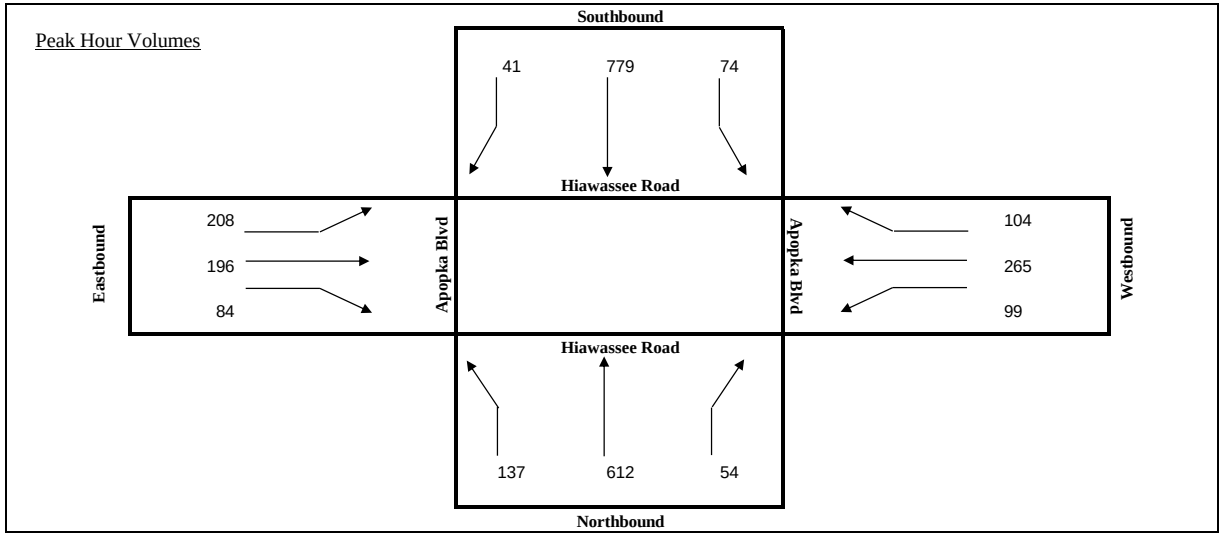


TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Hiawassee Road
Intersection (E/W): Apopka Blvd
Date: 2/9/2023

		Hiawassee Road			Hiawassee Road			Apopka Blvd			Apopka Blvd			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
4:00 PM	4:15 PM	29	133	10	21	189	9	72	60	18	31	60	35	667
4:15 PM	4:30 PM	31	149	6	31	140	6	55	46	16	25	55	30	590
4:30 PM	4:45 PM	35	161	13	21	161	12	47	53	21	21	71	28	644
4:45 PM	5:00 PM	34	146	13	23	188	9	51	49	26	24	67	24	654
5:00 PM	5:15 PM	37	142	19	18	212	16	53	44	22	32	63	32	690
5:15 PM	5:30 PM	36	165	12	16	192	13	51	54	19	21	59	25	663
5:30 PM	5:45 PM	30	159	10	17	187	3	53	49	17	22	76	23	646
5:45 PM	6:00 PM	35	148	11	22	163	11	50	44	21	18	63	18	604
Total for:	4:00 PM	5:00 PM	129	589	42	96	678	36	225	208	81	101	253	117	2555
Total for:	5:00 PM	6:00 PM	138	614	52	73	754	43	207	191	79	93	261	98	2603
Tota Peak Hour:	4:45 PM	5:45 PM	137	612	54	74	779	41	208	196	84	99	265	104	2653
Overall PHF:	0.96														

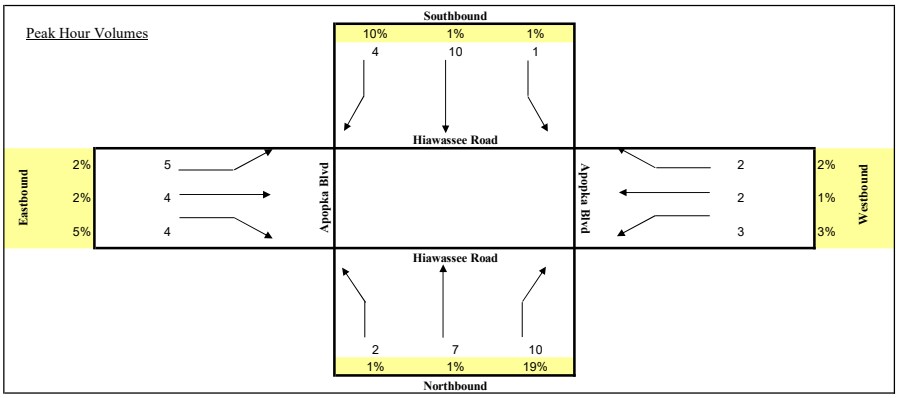


TURNING MOVEMENT COUNT ANALYSIS

TRUCKS

Intersection (N/S): Hiawassee Road
Intersection (E/W): Apopka Blvd
Date: 2/9/2023

		Hiawassee Road NB			Hiawassee Road SB			Apopka Blvd EB			Apopka Blvd WB			
Start	End	R	T	L	R	T	L	R	T	L	R	T	L	TOTAL
4:00 PM	4:15 PM	0	0	2	0	3	0	0	3	2	0	0	0	10
4:15 PM	4:30 PM	1	0	2	0	4	1	4	1	0	1	1	0	15
4:30 PM	4:45 PM	0	1	3	1	2	2	0	2	1	1	0	0	13
4:45 PM	5:00 PM	1	2	1	0	1	0	1	0	2	0	1	1	10
5:00 PM	5:15 PM	0	4	4	0	3	1	0	1	1	1	0	1	16
5:15 PM	5:30 PM	0	1	2	1	1	1	1	2	0	1	0	0	10
5:30 PM	5:45 PM	0	0	2	0	0	0	0	1	0	0	0	2	5
5:45 PM	6:00 PM	0	1	1	0	1	1	1	1	1	1	0	0	8
Total for:	4:00 PM	5:00 PM	2	3	8	1	10	3	5	6	5	2	2	1	48
Total for:	5:00 PM	6:00 PM	0	6	9	1	5	3	2	5	2	3	0	3	39
Tota Peak Hour:	4:15 PM	5:15 PM	2	7	10	1	10	4	5	4	4	3	2	2	54
Overall PHF:	0.84														



2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 7500 ORANGE COUNTYWIDE

MOCF: 0.99

WEEK	DATES	SF	PSCF
1	01/01/2021 - 01/02/2021	0.99	1.00
2	01/03/2021 - 01/09/2021	1.04	1.05
3	01/10/2021 - 01/16/2021	1.09	1.10
4	01/17/2021 - 01/23/2021	1.08	1.09
5	01/24/2021 - 01/30/2021	1.07	1.08
6	01/31/2021 - 02/06/2021	1.06	1.07
7	02/07/2021 - 02/13/2021	1.05	1.06
8	02/14/2021 - 02/20/2021	1.04	1.05
9	02/21/2021 - 02/27/2021	1.03	1.04
10	02/28/2021 - 03/06/2021	1.02	1.03
11	03/07/2021 - 03/13/2021	1.01	1.02
12	03/14/2021 - 03/20/2021	1.00	1.01
13	03/21/2021 - 03/27/2021	1.00	1.01
14	03/28/2021 - 04/03/2021	1.00	1.01
15	04/04/2021 - 04/10/2021	1.00	1.01
16	04/11/2021 - 04/17/2021	1.00	1.01
17	04/18/2021 - 04/24/2021	0.99	1.00
18	04/25/2021 - 05/01/2021	0.99	1.00
19	05/02/2021 - 05/08/2021	0.98	0.99
20	05/09/2021 - 05/15/2021	0.98	0.99
21	05/16/2021 - 05/22/2021	0.98	0.99
22	05/23/2021 - 05/29/2021	0.99	1.00
23	05/30/2021 - 06/05/2021	0.99	1.00
24	06/06/2021 - 06/12/2021	0.99	1.00
25	06/13/2021 - 06/19/2021	1.00	1.01
26	06/20/2021 - 06/26/2021	1.00	1.01
27	06/27/2021 - 07/03/2021	1.00	1.01
28	07/04/2021 - 07/10/2021	1.00	1.01
29	07/11/2021 - 07/17/2021	1.00	1.01
30	07/18/2021 - 07/24/2021	1.00	1.01
31	07/25/2021 - 07/31/2021	1.00	1.01
32	08/01/2021 - 08/07/2021	1.00	1.01
33	08/08/2021 - 08/14/2021	0.99	1.00
34	08/15/2021 - 08/21/2021	0.99	1.00
35	08/22/2021 - 08/28/2021	0.99	1.00
36	08/29/2021 - 09/04/2021	0.99	1.00
37	09/05/2021 - 09/11/2021	0.99	1.00
38	09/12/2021 - 09/18/2021	0.99	1.00
*39	09/19/2021 - 09/25/2021	0.99	1.00
*40	09/26/2021 - 10/02/2021	0.98	0.99
*41	10/03/2021 - 10/09/2021	0.98	0.99
*42	10/10/2021 - 10/16/2021	0.97	0.98
*43	10/17/2021 - 10/23/2021	0.98	0.99
*44	10/24/2021 - 10/30/2021	0.98	0.99
*45	10/31/2021 - 11/06/2021	0.99	1.00
*46	11/07/2021 - 11/13/2021	0.99	1.00
*47	11/14/2021 - 11/20/2021	0.99	1.00
*48	11/21/2021 - 11/27/2021	0.99	1.00
*49	11/28/2021 - 12/04/2021	0.99	1.00
*50	12/05/2021 - 12/11/2021	0.99	1.00
*51	12/12/2021 - 12/18/2021	0.99	1.00
52	12/19/2021 - 12/25/2021	1.04	1.05
53	12/26/2021 - 12/31/2021	1.09	1.10

* PEAK SEASON

08-MAR-2022 12:36:27 830UPD 5_7500_PKSEASON.TXT

Appendix E
HCM Analysis Worksheets – Existing Conditions & Signal Timing Information

HCM 6th Signalized Intersection Summary
1: Hiawassee Rd & US 441

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	848	185	261	1267	528	389	814	65	516	736	92
Future Volume (veh/h)	166	848	185	261	1267	528	389	814	65	516	736	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	922	100	284	1377	287	423	885	0	561	800	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1177	525	235	1203	537	444	930		590	1053	
Arrive On Green	0.06	0.33	0.33	0.07	0.34	0.34	0.13	0.26	0.00	0.17	0.30	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3647	0	3456	3647	0
Grp Volume(v), veh/h	180	922	100	284	1377	287	423	885	0	561	800	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	0	1728	1777	0
Q Serve(g_s), s	11.6	52.7	10.1	15.3	76.2	20.2	27.4	55.1	0.0	36.2	46.0	0.0
Cycle Q Clear(g_c), s	11.6	52.7	10.1	15.3	76.2	20.2	27.4	55.1	0.0	36.2	46.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	210	1177	525	235	1203	537	444	930		590	1053	
V/C Ratio(X)	0.86	0.78	0.19	1.21	1.14	0.53	0.95	0.95		0.95	0.76	
Avail Cap(c_a), veh/h	237	1177	525	235	1203	537	444	957		602	1053	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.68	0.68	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	104.7	68.0	53.7	104.8	74.4	22.8	97.4	81.7	0.0	92.3	71.9	0.0
Incr Delay (d2), s/veh	23.3	5.3	0.8	126.7	75.1	3.8	24.2	13.9	0.0	24.8	3.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	24.7	4.2	11.0	46.9	8.2	13.8	26.9	0.0	18.2	21.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	127.9	73.2	54.5	231.6	149.5	26.5	121.5	95.6	0.0	117.1	75.1	0.0
LnGrp LOS	F	E	D	F	F	C	F	F		F	E	
Approach Vol, veh/h		1202			1948			1308	A		1361	A
Approach Delay, s/veh		79.9			143.4			104.0			92.4	
Approach LOS		E			F			F			F	

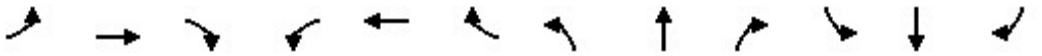
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	82.5	40.0	77.5	23.3	84.2	49.2	68.3
Change Period (Y+Rc), s	9.7	8.0	* 11	* 11	9.6	8.0	* 11	9.4
Max Green Setting (Gmax), s	15.3	72.0	* 29	* 61	15.4	72.0	* 39	60.6
Max Q Clear Time (g_c+I1), s	17.3	54.7	29.4	48.0	13.6	78.2	38.2	57.1
Green Ext Time (p_c), s	0.0	5.9	0.0	4.1	0.1	0.0	0.3	1.8

Intersection Summary	
HCM 6th Ctrl Delay	109.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	206	88	104	278	109	144	643	57	78	818	43
Future Volume (veh/h)	218	206	88	104	278	109	144	643	57	78	818	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	237	224	96	113	302	118	157	699	62	85	889	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	294	126	254	249	97	254	1326	118	308	1373	73
Arrive On Green	0.12	0.24	0.24	0.07	0.19	0.19	0.04	0.40	0.40	0.04	0.40	0.40
Sat Flow, veh/h	1781	1242	532	1781	1280	500	1781	3302	293	1781	3433	181
Grp Volume(v), veh/h	237	0	320	113	0	420	157	376	385	85	460	476
Grp Sat Flow(s),veh/h/ln	1781	0	1775	1781	0	1780	1781	1777	1818	1781	1777	1838
Q Serve(g_s), s	12.1	0.0	19.3	5.8	0.0	22.4	5.0	18.5	18.5	3.2	24.1	24.1
Cycle Q Clear(g_c), s	12.1	0.0	19.3	5.8	0.0	22.4	5.0	18.5	18.5	3.2	24.1	24.1
Prop In Lane	1.00		0.30	1.00		0.28	1.00		0.16	1.00		0.10
Lane Grp Cap(c), veh/h	270	0	421	254	0	347	254	714	730	308	711	735
V/C Ratio(X)	0.88	0.00	0.76	0.44	0.00	1.21	0.62	0.53	0.53	0.28	0.65	0.65
Avail Cap(c_a), veh/h	270	0	421	330	0	347	254	714	730	432	711	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.46	0.46	0.46
Uniform Delay (d), s/veh	33.5	0.0	40.8	34.5	0.0	46.3	26.6	26.1	26.1	20.4	27.9	27.9
Incr Delay (d2), s/veh	26.1	0.0	7.9	1.2	0.0	118.8	3.4	2.8	2.7	0.1	2.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	0.0	9.2	2.6	0.0	21.2	2.7	8.0	8.1	1.3	10.1	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.6	0.0	48.7	35.7	0.0	165.1	30.0	28.9	28.8	20.5	30.0	30.0
LnGrp LOS	E	A	D	D	A	F	C	C	C	C	C	C
Approach Vol, veh/h		557			533			918			1021	
Approach Delay, s/veh		53.4			137.7			29.0			29.2	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	52.8	20.0	30.0	12.0	53.0	15.1	34.9
Change Period (Y+Rc), s	* 7.2	6.8	6.6	* 7.6	* 7.1	6.8	* 7.5	* 7.6
Max Green Setting (Gmax), s	* 5	38.2	13.4	* 22	* 13	38.2	* 13	* 22
Max Q Clear Time (g_c+I1), s	7.0	26.1	14.1	24.4	5.2	20.5	7.8	21.3
Green Ext Time (p_c), s	0.0	4.3	0.0	0.0	0.0	4.0	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	52.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

CITY OF APOPKA TRAFFIC SIGNAL TIMING

Intersection: Orange Blossom Tl (US 441) & Piedmont Wekiwa Rd/Hiawassee Rd **Address: 10**
Equipment: Siemens m50 **CDI:** **CDO:** **Date: 05/25/21**

BASIC TIMING

Phase	1	2	3	4	5	6	7	8
Road Name		US 441		Piedmont Wekiwa Road		US 441		Hiawassee Road
Direction	NBL	SB	EBL	WB	SBL	NB	WBL	EB
Min Green (sec)	5	15	5	5	5	15	5	5
Vehicle Gap (sec)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Max Green 1 (sec)	25	75	35	60	25	70	45	55
Max Green 2 (sec)	25	80	40	70	25	80	50	70
Yellow (sec)	5.1	5.1	5.1	5.1	4.8	5.1	4.8	5.1
All-Red (sec)	4.6	2.9	6.0	4.3	4.8	2.9	6.0	4.3
Walk (sec)		7		7		7		7
Flash Don't Walk (sec)		44		49		35		51
Recall/Memory	NL	MIN/LK	NL	NL	NL	MIN/LK	NL	NL
Delay (sec)								
Detector Switching								
Dual Entry		Y				Y		
Overlap								
Flash		Y		R		Y		R
Speed (mph)	25	45	25	45	25	45	25	45
Veh Distance (ft)	115	187	270	211	127	174	250	145
Grade (%)	-1.9	0.0	0.0	-3.3	0.0	-1.9	-3.3	0.0
Ped Distance (ft)		162		188		132		180
Ped Clearance (sec)		44		51		35		49

COORDINATION PLANS

Coordination Pattern	1/1/1	2/1/1	3/1/1			
Cycle	200	180	180			
Split 1	25	20	25			
Split 2	65	59	70			
Split 3	40	33	30			
Split 4	70	68	55			
Split 5	25	20	20			
Split 6	65	59	75			
Split 7	45	40	34			
Split 8	65	61	51			
Offset	40	89	146			
Lagging Phases	0/0/0/0	0/0/0/0	1/0/0/0			
Source Day	**Equate 1**	**Equate 2**	**Equate 3**	**Equate 4**	**Equate 5**	
1						
2	3	4	5	6		
7						

Day	Time	Pattern
1	0:01	FREE
1	10:30	2/1/1
1	17:00	FREE
2	0:01	FREE
2	6:00	1/1/1
2	9:30	2/1/1
2	14:00	3/1/1
2	19:30	FREE
7	0:01	FREE
7	9:30	2/1/1
7	17:00	FREE

Notes:
1. Referenced to the Beginning of Green
2. Use Cycle Force-Offs
3. Use Max Inhibit during coordination

R1	1 2	3 4
R2	5 6	7 8

CITY OF APOPKA TRAFFIC SIGNAL TIMING

Intersection: Hiawassee Road & Apopka Boulevard **Address: 45**
Equipment: Eagle EPAC 300 **CDI:** **CDO:** **Date: 5/25/21**

BASIC TIMING

Phase	1	2	3	4	5	6	7	8
Direction	NBL	SB	EBL	WB	SBL	NB	WBL	EB
Min Green (sec)	5	15	5	5	5	15	5	5
Vehicle Gap (sec)	1.8	3.0	3.0	3.0	1.8	3.0	3.0	3.0
Max Green 1 (sec)	10	45	20	30	20	45	20	30
Max Green 2 (sec)	20	45	20	30	20	45	20	30
Yellow (sec)	4.8	4.8	4.0	4.8	4.8	4.8	4.8	4.8
All-Red (sec)	2.4	2.0	2.6	2.8	2.3	2.0	2.7	2.8
Walk (sec)		7		7		7		7
Flash Don't Walk (sec)		27		26		28		29
Recall/Memory	NL	SOFT/LK	NL	NL	NL	SOFT/LK	NL	NL
Delay (sec)								
Detector Switching								
Dual Entry		Y		Y		Y		Y
Overlap								
Flash		Y		R		Y		R
Speed (mph)		45		45		45		40
Veh Distance (ft)	106	103	111	95	102	107	79	123
Grade (%)	-0.3	0.0	-0.1	-0.7	0.0	-0.3	-0.7	-0.1
Ped Distance (ft)		102		100		108		111
Ped Clearence (sec)		27		26		28		29

COORDINATION PLANS

Coordination Pattern	1/1/1	2/1/1	3/1/1		
Cycle	200	180	180		
Split 1	30	20	25		
Split 2	90	80	63		
Split 3	39	40	25		
Split 4	41	40	67		
Split 5	35	30	20		
Split 6	85	70	68		
Split 7	32	35	20		
Split 8	48	45	72		
Offset	25	63	125		
Lagging Phases	0/0/0/0	0/0/0/0	0/0/0/0		

Source Day	Equate 1	Equate 2	Equate 3	Equate 4	Equate 5
1					
2	3	4	5	6	
7					

Day	Time	Pattern
1	0:00	FREE
1	10:30	2/1/1
1	17:00	FREE
2	0:00	FREE
2	6:00	1/1/1
2	9:30	2/1/1
2	14:00	3/1/1
2	19:30	FREE
7	0:00	FREE
7	9:30	2/1/1
7	17:00	FREE

Notes:
Cycle Force offs
Max Inhibit during coordination
Offset referenced to end of green for phase 2+6

R1	1 2	3 4
R2	5 6	7 8

Appendix F
ITE Trip Generation Sheets

PA Behavioral Health

Southcoast Behavioral Health	96	beds
581 Faunce Corner Road	87,000	ft^2
Dartmouth, MA 02747	75	largest employee shift
	221	full-time equivalent employees
Meadow Wood Behavioral Health	85	beds
575 S Dupont Hwy	62,200	ft^2
New Caslte, DE 19720	120	largest employee shift
	220	full-time equivalent employees
Southwood Behavioral Health	60	beds
2575 Boyce Plaza Rd	31,500	ft^2
Pittsburgh, PA 15241	35	largest employee shift
	150	full-time equivalent employees

Traffic Data

SouthCoast Behavioral Health	**Meadow Wood Behavioral Health**	**Southwood Behavioral Health**
Peak Monday AM Flow	Average Monday AM Flow	Peak Monday AM Flow
39 cars	N/A cars	5 cars
Peak Monday PM Flow	Average Monday PM Flow	Peak Monday PM Flow
34 cars	N/A cars	4 cars
Peak Tuesday AM Flow	Average Tuesday AM Flow	Peak Tuesday AM Flow
34 cars	N/A cars	9 cars
Peak Tuesday PM Flow	Average Tuesday PM Flow	Peak Tuesday PM Flow
34 cars	N/A cars	4 cars
Peak Wednesday AM Flow	Average Wednesday AM Flow	Peak Wednesday AM Flow
36 cars	N/A cars	6 cars
Peak Wednesday PM Flow	Average Wednesday PM Flow	Peak Wednesday PM Flow
76 cars	N/A cars	4 cars
Peak Thursday AM Flow	Average Thursday AM Flow	Peak Thursday AM Flow
32 cars	N/A cars	8 cars
Peak Thursday PM Flow	Average Thursday PM Flow	Peak Thursday PM Flow
32 cars	N/A cars	4 cars
Peak Friday AM Flow	Average Friday AM Flow	Peak Friday AM Flow
35 cars	N/A cars	7 cars
Peak Friday PM Flow	Average Friday PM Flow	Peak Friday PM Flow
31 cars	N/A cars	5 cars
Average AM Peak Flow		Average AM Peak Flow
35 cars		7 cars
Average PM Peak Flow		Average PM Peak Flow
33 cars		4 cars

Notes:
Data gathered in August of 2016.
SouthCoast Behavioral Health Wednesday data excluded from the calulcations.

Assisted Living
(254)

Vehicle Trip Ends vs: **Beds**
On a: **Weekday**

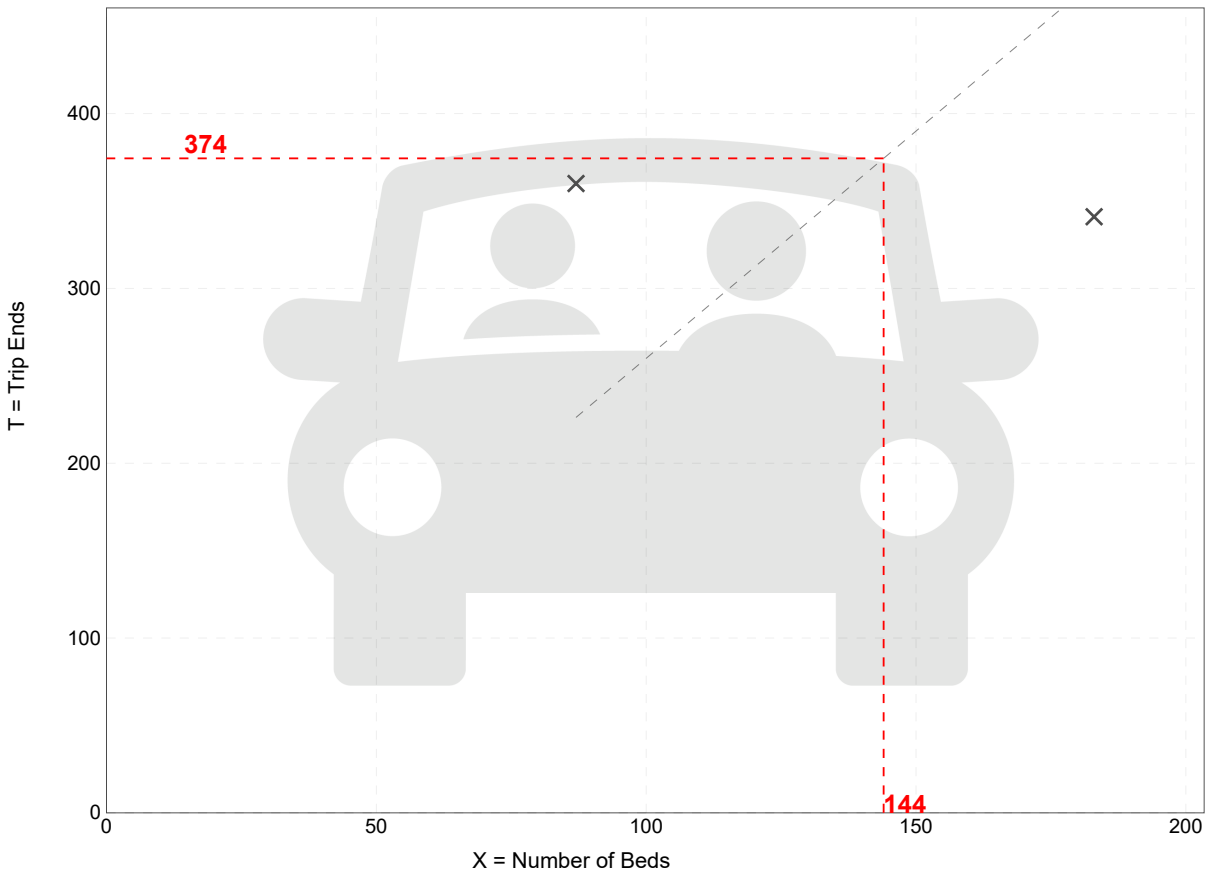
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. Num. of Beds: 135
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Bed

Average Rate	Range of Rates	Standard Deviation
2.60	1.86 - 4.14	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

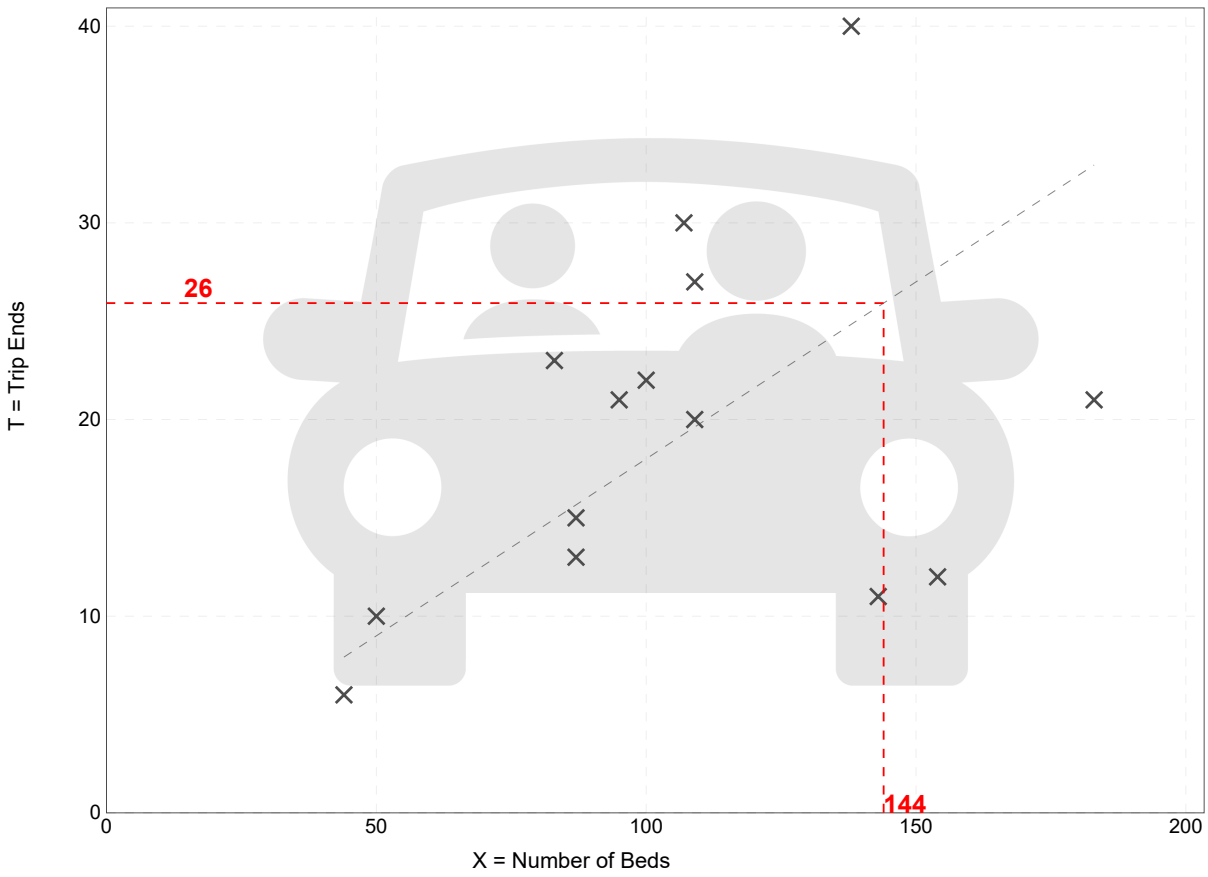
Assisted Living
(254)

Vehicle Trip Ends vs:	**Beds**
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:	14
Avg. Num. of Beds:	106
Directional Distribution:	60% entering, 40% exiting

Vehicle Trip Generation per Bed

Average Rate	Range of Rates	Standard Deviation
0.18	0.08 - 0.29	0.08

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

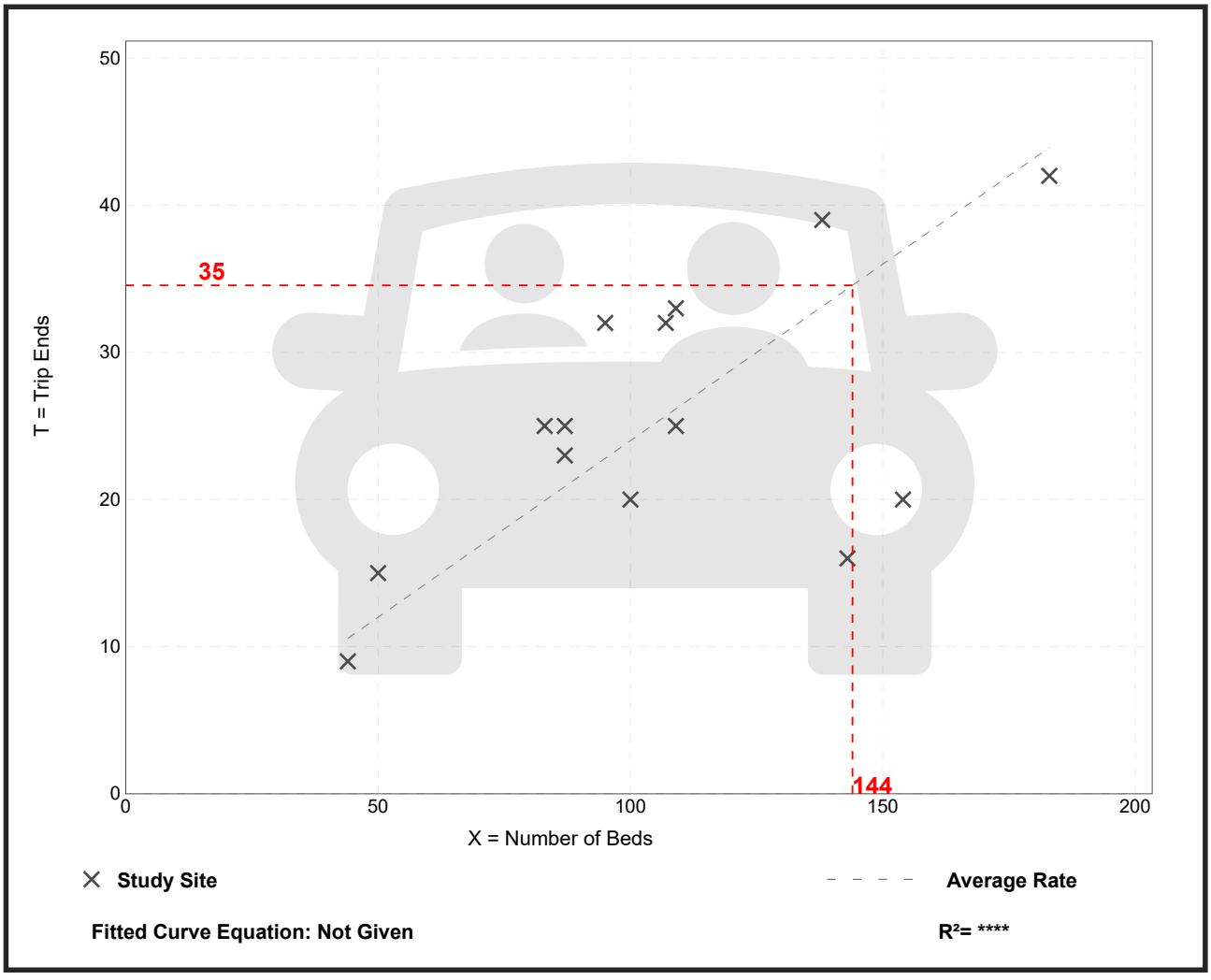
Assisted Living
(254)

Vehicle Trip Ends vs:	**Beds**
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 Beds:	106
Directional Distribution:	39% entering, 61% exiting

Vehicle Trip Generation per Bed

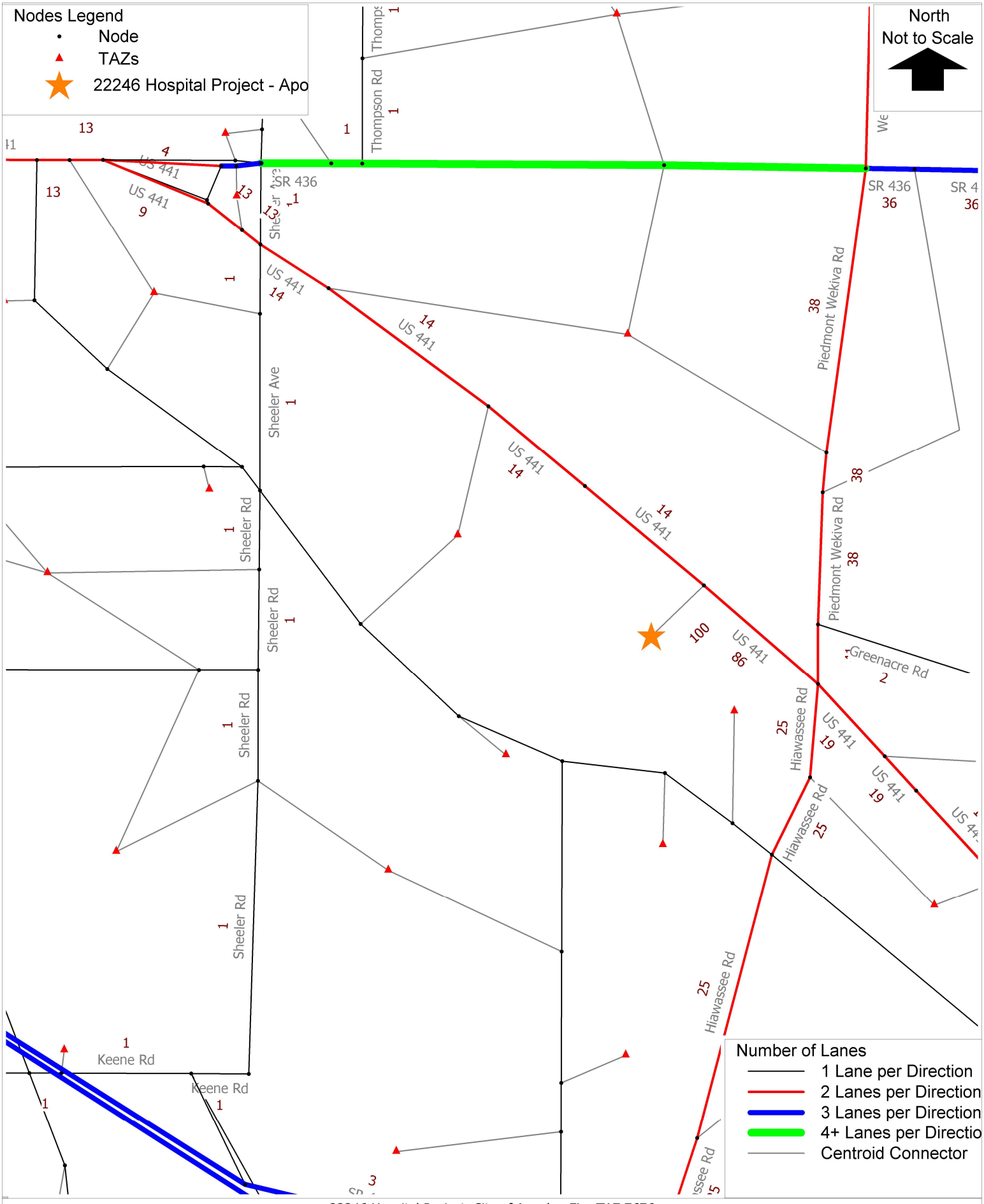
Average Rate	Range of Rates	Standard Deviation
0.24	0.11 - 0.34	0.07

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

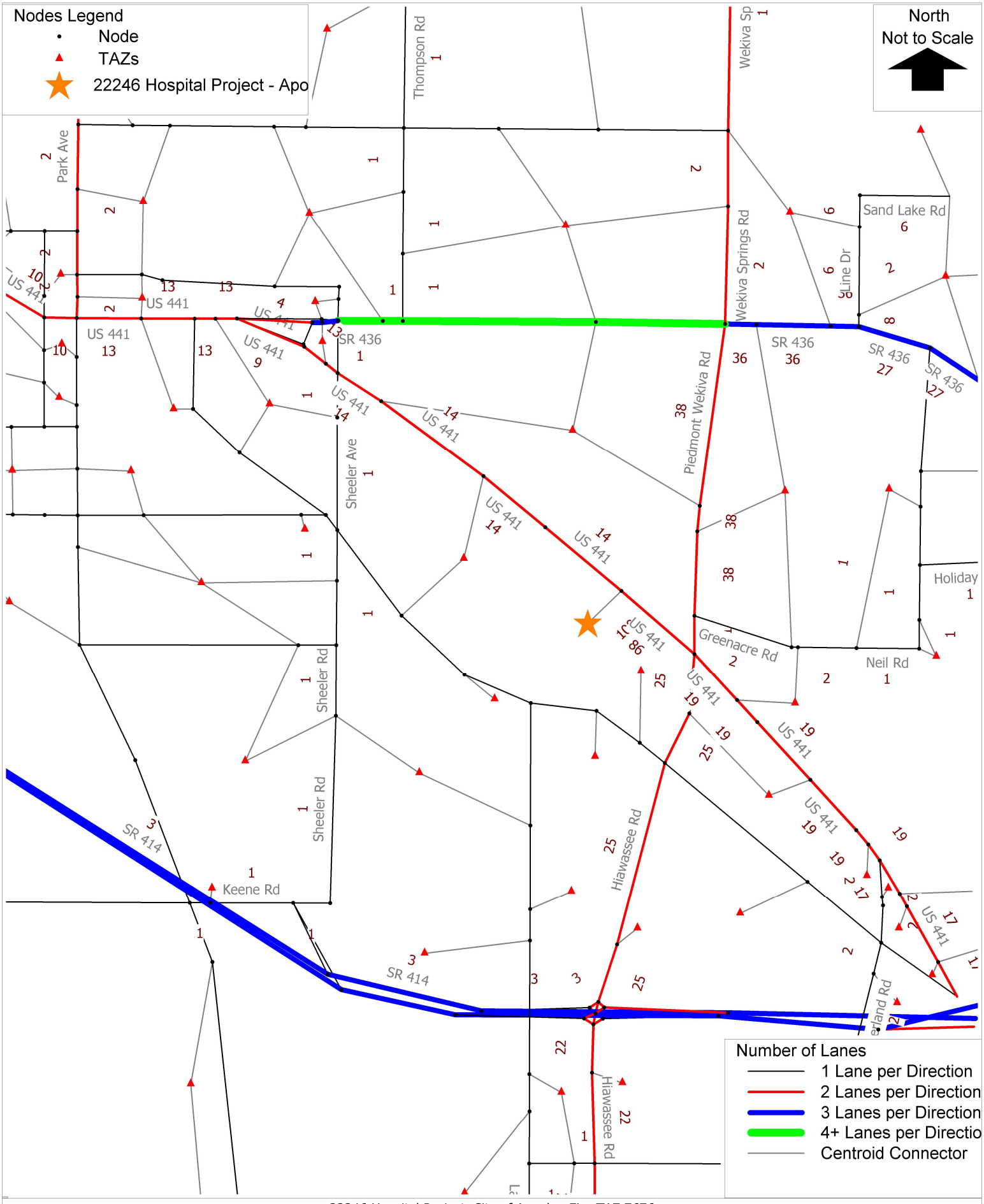
Appendix G
Model Output Plots



22246 Hospital Project, City of Apopka, FL - TAZ 7676
Project Distribution
C:\FSUTMS\D5\CFRPM7\Base\CF_2025\P22246\OUTPUT\HWYLOAD_SL_AllDay_A25.NET

cube

(Licensed to Traffic & Mobility Consultants, LLC)



22246 Hospital Project, City of Apopka, FL - TAZ 7676
Project Distribution
C:\FSUTMS\D5\CFRPM7\Base\CF_2025\P22246\OUTPUT\HWYLOAD_SL_AllDay_A25.NET

cube (Licensed to Traffic & Mobility Consultants, LLC)

Appendix H
City of Apopka CMS 2020 PH/PD Encumbered Traffic Allocation Worksheets

City of Apopka CMS
2020 Daily and PM Peak Hour/Peak Direction (PH/PD) Encumbered Traffic Allocation Worksheets

Base Traffic Volume: 2020 **FINAL REPORT** **Revision Date: 4/1/2021**

Roadway Section	# of Lanes	Adopted Standard Roadway Capacity LOS	Daily	PHPD	Applicant Inventory	Encumbered Trips Daily	PM PH/PD	Daily Traffic (1) Base Volume	Available Capacity	PM PH/PD Traffic (1) Base Volume	Available Capacity	Peak Direction
Major Arterials (Continued)												
US 441 (Orange Blossom Trail) (Continued)												
SR 451 to Bradshaw Rd	4LD	D	5,009 [2]	230 [2]				N/A	3,229.8	N/A	109	SB/WB
					Faircloth Lakes	244	14		64.48%		47.39%	
					Johns Road Commerce Center	69	10					
					Lakeside (aka Lake Marshall)	1,000	61					
					Magnolia Commerce Center	35	7					
					Old Dixie Highway Townhomes	223	12					
					Orchid Estates (fka J.B. Nurseries)	113	11					
					Poe Reserve	95	6					
					Applicant Inventory Total	1,779	121					
Bradshaw Rd to Hawthorne Ave	5L	D	5,025 [2]	260 [2]				N/A	4,600	N/A	229	SB/WB
					Johns Road Commerce Center	11	2		91.54%		88.08%	
					Lakeside (aka Lake Marshall)	143	9					
					Magnolia Commerce Center	35	7					
					Old Dixie Highway Townhomes	236	13					
					Applicant Inventory Total	425	31					
Hawthorne Ave to Central Ave	5L	D	4,845 [2]	250 [2]				N/A	4,416	N/A	224	NB/EB
					Lakeside (aka Lake Marshall)	429	26		91.15%		89.60%	
					Applicant Inventory Total	429	26					
Central Ave to Park Ave	5L	D	5,385 [2]	278 [2]				N/A	5,385	N/A	278	NB/EB
					Development Name	0	0		100.00%		100.00%	
					Applicant Inventory Total	0	0					
Park Ave to Highland Ave	5L	D	6,600 [2]	341 [2]				N/A	6,600	N/A	341	SB/WB
					Development Name	0	0		100.00%		100.00%	
					Applicant Inventory Total	0	0					
Highland Ave to Alabama Ave	5L	D	6,600 [2]	341 [2]				N/A	6,600	N/A	341	NB/EB
					Development Name	0	0		100.00%		100.00%	
					Applicant Inventory Total	0	0					
Alabama Ave to SR 436	4LD	D	6,900 [2]	357 [2]				N/A	6,900	N/A	357	SB/WB
					Development Name	0	0		100.00%		100.00%	
					Applicant Inventory Total	0	0					
SR 436 to Sheeler Rd	4LD	D	39,800	2,000				25,982	13,818	1,102	898	NB/EB
					Development Name	0	0		34.72%		44.91%	
					Applicant Inventory Total	0	0					
Sheeler Rd to Roger Williams Rd	4LD	D	39,800	2,000				23,514	16,286	1,082	918	NB/EB
					Development Name	0	0		40.92%		45.90%	
					Applicant Inventory Total	0	0					
Roger Williams Rd to Piedmont-Wekiwa Rd	4LD	D	39,800	2,000				27,613	12,187	1,242	758	SB/WB
					Development Name	0	0		30.62%		37.91%	
					Applicant Inventory Total	0	0					
Piedmont Wekiwa Rd to Seminole County Line	4LD	D	39,800	2,000				33,753	6,047	1,789	211	NB/EB
					Development Name	0	0		15.19%		10.55%	
					Applicant Inventory Total	0	0					
John Land Expressway (SR 414)												
Hiawassee Rd to Keene Rd	6LD	D	116,600	5,500				24,670	91,442	2,220	3,250	SB/WB
					Silver Oaks	488	30		11.10%		59.09%	
					Applicant Inventory Total	488	30					
Keene Rd to SR 429/SR 451	6LD	D	116,600	5,500				20,870	95,730	1,878	3,622	SB/WB
					Silver Oaks	0	0		82.10%		65.85%	
					Applicant Inventory Total	0	0					

City of Apopka CMS
2020 Daily and PM Peak Hour/Peak Direction (PH/PD) Encumbered Traffic Allocation Worksheets

Base Traffic Volume: 2020 **FINAL REPORT** **Revision Date: 4/1/2021**

Roadway Section	# of Lanes	Adopted Standard Roadway Capacity LOS	Daily	PHPD	Applicant Inventory	Encumbered Trips Daily	PM PH/PD	Daily Traffic (1) Base Volume	Available Capacity	PM PH/PD Traffic (1) Base Volume	Available Capacity	Peak Direction
Minor Arterials (Continued)												
Wekiva Springs Road/Piedmont-Wekiwa Road/Hiawassee Road (Continued)												
Piedmont Lakes Blvd to US 441	5L	E	39,800	2,000				28,984	10,816	1,454	546	NB/EB
					Development Name	0	0		27.18%		27.29%	
					Applicant Inventory Total	0	0					
US 441 to CR 424 (Apopka Blvd)	4LD	E	39,800	2,000				24,716	15,084	1,182	818	SB/WB
					Development Name	0	0		37.90%		40.90%	
					Applicant Inventory Total	0	0					
CR 424 (Apopka Blvd) to SR 414	4LD	E	39,800	2,000				19,769	20,031	861	1,139	SB/WB
					Development Name	0	0		50.33%		56.94%	
					Applicant Inventory Total	0	0					
SR 414 to Beggs Rd	4LD	E	39,800	2,000				27,547	12,253	1,360	640	NB/EB
					Development Name	0	0		30.79%		32.00%	
					Applicant Inventory Total	0	0					
Welch Road												
Vick Rd to Rock Springs Rd (CR 435)	2L	E	16,400	840				9,894	4,905	488	276	NB/EB
					Equestrian Center Subdivision	576	37		29.91%		32.86%	
					Gateway Plaza	9	0					
					Meadow View Apartments	96	7					
					Rock Springs Commercial	920	32					
					San Sabastian	0	0					
					Applicant Inventory Total	1,601	76					
Rock Springs Rd (CR 435) to Ustler Rd	3L	E	34,200	1,690				19,536	13,343	880	757	SB/WB
					Equestrian Center Subdivision	87	6		39.02%		44.82%	
					Gateway Plaza	602	19					
					Rock Springs Commercial	475	18					
					San Sabastian	157	10					
					Applicant Inventory Total	1,321	53					
Ustler Rd to Thompson Rd	2L	E	32,600	1,610				16,750	15,642	780	822	SB/WB
					Rock Springs Commercial	208	8		47.98%		51.06%	
					Applicant Inventory Total	208	8					
Minor Collectors												
2th Street												
Central Ave to Park Ave	2L	D	9,600	490				1,174	8,426	88	402	SB/WB
					Development Name	0	0		87.77%		82.09%	
					Applicant Inventory Total	0	0					
6th Street												
Park Ave to Alabama Ave	2L	D	9,600	490				2,528	7,072	211	279	SB/WB
					Development Name	0	0		73.67%		56.91%	
					Applicant Inventory Total	0	0					
9th Street												
Central Ave to Park Ave (CR 435)	2L	D	9,600	490				5,086	4,319	219	257	NB/EB
					Dollar General	195	14		44.99%		52.51%	
					Applicant Inventory Total	195	14					
Appy Lane												
Plymouth-Sorrento Rd (CR 437) to Jason Dwelley Pkwy	2L	D	13,320	680				1,116	12,166	98	580	NB/EB
					Kelly Park Crossings	38	2		91.34%		85.29%	
					Applicant Inventory Total	38	2					

Appendix I
Historical Counts and Growth Rate

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 75 - ORANGE

SITE: 0294 - ON US-441, 0.322 MI. N OF PIEDMONT-WEKIVA RD. (UCLP)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	26500 C	N 13500	S 13000	9.00	53.20	3.60
2020	27000 S	N 14000	S 13000	9.00	53.00	5.30
2019	28000 F	N 14500	S 13500	9.00	52.60	5.30
2018	28000 C	N 14500	S 13500	9.00	53.20	5.30
2017	26500 C	N 13500	S 13000	9.00	52.60	5.40
2016	26500 C	N 12500	S 14000	9.00	52.50	5.20
2015	28000 C	N 14500	S 13500	9.00	53.20	5.00
2014	29000 C	N 15000	S 14000	9.00	53.20	5.50
2013	30000 C	N 15500	S 14500	9.00	53.30	5.50
2012	28500 C	N 14500	S 14000	9.00	52.90	4.90
2011	30500 C	N 15500	S 15000	9.00	52.70	5.70
2010	30000 C	N 15500	S 14500	8.87	52.83	5.90
2009	34000 C	N 16500	S 17500	8.79	53.70	5.90
2008	33500 C	N 17000	S 16500	8.80	53.99	7.80
2007	35500 C	N 18000	S 17500	8.63	54.08	7.40
2006	27000 C	N 13000	S 14000	8.59	53.01	7.70

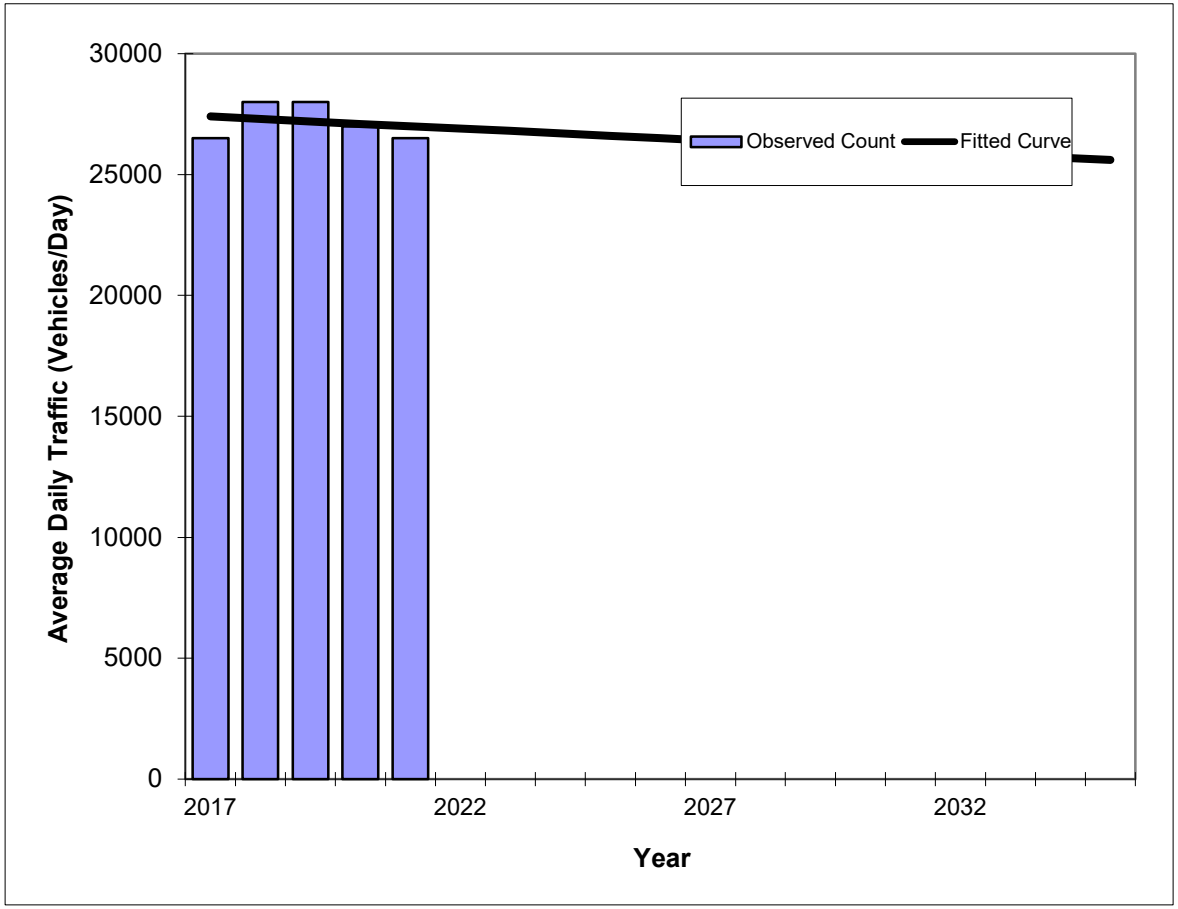
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V03.a

US 441 -- 0.322 Mi N of Piedmont Wekiva Rd

FIN#	0
Location	1

County:	Orange (75)
Station #:	750294
Highway:	US 441



Year	Traffic (ADT/AADT) Count*	Trend**
2017	26500	27400
2018	28000	27300
2019	28000	27200
2020	27000	27100
2021	26500	27000
2023 Opening Year Trend		
2023	N/A	26800
2024 Mid-Year Trend		
2024	N/A	26700
2025 Design Year Trend		
2025	N/A	26600
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	-100
Trend R-squared:	4.35%
Trend Annual Historic Growth Rate:	-0.36%
Trend Growth Rate (2021 to Design Year):	-0.37%
Printed:	20-Feb-23

Straight Line Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 75 - ORANGE

SITE: 7012 - PIEDMONT-WEIKIVA, OBT TO VOTAW (HPMS)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	26500 C	N 13500	S 13000	9.00	53.20	3.40
2020	27500 S	N 13500	S 14000	9.00	53.00	3.70
2019	28500 F	N 14000	S 14500	9.00	52.60	3.70
2018	28500 C	N 14000	S 14500	9.00	53.20	3.70
2017	28000 S	N 14000	S 14000	9.00	52.60	6.20
2016	27000 F	N 13500	S 13500	9.00	52.50	6.00
2015	25500 C	N 13000	S 12500	9.00	53.20	7.50
2014	25500 F	N 13000	S 12500	9.00	53.20	7.50
2013	25500 C	N 13000	S 12500	9.00	53.30	7.50
2012	22000 F	N 11000	S 11000	9.00	52.90	5.20
2011	22000 C	N 11000	S 11000	9.00	52.70	4.90
2010	24500 F	N 12500	S 12000	8.87	52.83	5.00
2009	24500 C	N 12500	S 12000	8.79	53.70	4.60
2008	22500 C	N 11000	S 11500	8.80	53.99	8.30

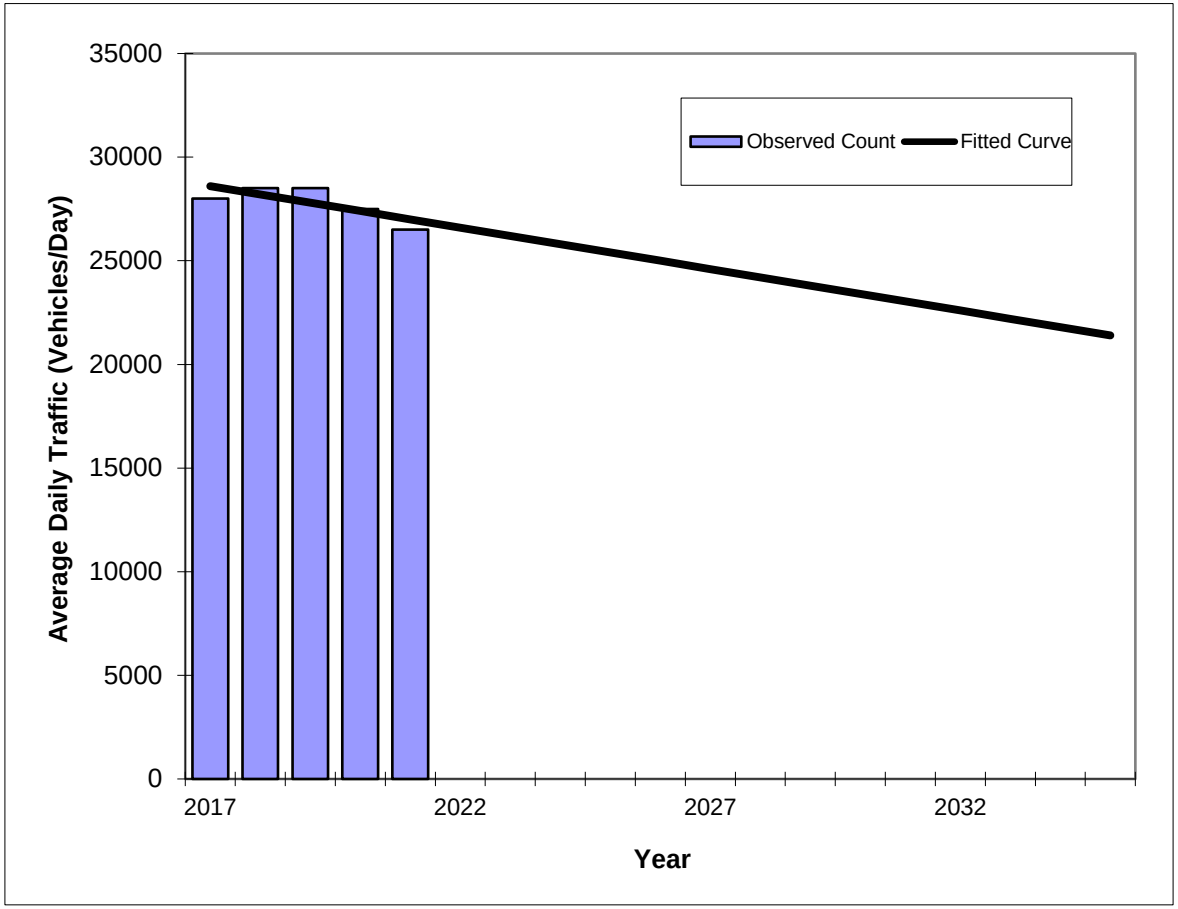
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V03.a

PIEDMONT-Wekiva -- OBT to Votaw

FIN#	0
Location	1

County:	Orange (75)
Station #:	757012
Highway:	PIEDMONT-Wekiva



Year	Traffic (ADT/AADT) Count*	Trend**
2017	28000	28600
2018	28500	28200
2019	28500	27800
2020	27500	27400
2021	26500	27000
2023 Opening Year Trend		
2023	N/A	26200
2024 Mid-Year Trend		
2024	N/A	25800
2025 Design Year Trend		
2025	N/A	25400
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	-400
Trend R-squared:	57.14%
Trend Annual Historic Growth Rate:	-1.40%
Trend Growth Rate (2021 to Design Year):	-1.48%
Printed:	26-Feb-23

Straight Line Growth Option

***Axle-Adjusted**

Appendix J
Projected Intersection Volume Calculations

Project No. 22246

Intersection Volumes 2023

Period	Tgen	Enter	Exit	SF	Min AGR	Year	Legend
PM Peak		14	21	1.05	2.00%	2025	Backg'd + (Project) = Total

Intersection= US 441 & Hiawassee Road 1

Approach	Mvmt	Raw	SF	Adjusted	GF	Redirect	Adj Bg'd	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	158	1.05	166	1.04		173	0		40%	9	182	173 + (9) = 182
EB	T	808	1.05	848	1.04		882	0		20%	4	886	882 + (4) = 886
	R	176	1.05	185	1.04		192	0		25%	5	197	192 + (5) = 197
	L	249	1.05	261	1.04		271	0			0	271	271
WB	T	1207	1.05	1,267	1.04		1318	0	20%		3	1321	1318 + (3) = 1321
	R	503	1.05	528	1.04		549	0			0	549	549
	L	370	1.05	389	1.04		405	0	25%		3	408	405 + (3) = 408
NB	T	775	1.05	814	1.04		847	0			0	847	847
	R	62	1.05	65	1.04		68	0			0	68	68
	L	491	1.05	516	1.04		537	0			0	537	537
SB	T	701	1.05	736	1.04		765	0			0	765	765
	R	88	1.05	92	1.04		96	0	40%		6	102	96 + (6) = 102

Intersection= Apopka Blvd & Hiawassee Road 2

Approach	Mvmt	Raw	SF	Adjusted	GF	Redirect	Adj Bg'd	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	208	1.05	218	1.04		227	0	5%		1	228	227 + (1) = 228
EB	T	196	1.05	206	1.04		214	0			0	214	214
	R	84	1.05	88	1.04		92	0			0	92	92
	L	99	1.05	104	1.04		108	0			0	108	108
WB	T	265	1.05	278	1.04		289	0			0	289	289
	R	104	1.05	109	1.04		113	0	5%		1	114	113 + (1) = 114
	L	137	1.05	144	1.04		150	0			0	150	150
NB	T	612	1.05	643	1.04		669	0	15%		1	670	669 + (1) = 670
	R	54	1.05	57	1.04		59	0			0	59	59
	L	74	1.05	78	1.04		81	0		5%	1	82	81 + (1) = 82
SB	T	779	1.05	818	1.04		851	0		15%	3	854	851 + (3) = 854
	R	41	1.05	43	1.04		45	0		5%	1	46	45 + (1) = 46

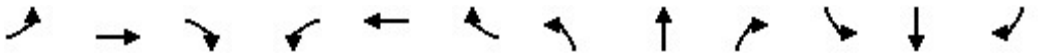
Intersection= US 441 & Access Driveway A 3

Approach	Mvmt	Raw	SF	Adjusted	GF	Redirect	Adj Bg'd	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
	L		1.05	0	1.04		0	0		10%	2	2	(2)
EB	T	1142	1.05	1,199	1.04		1247	0			0	1247	1247
	R		1.05	0	1.04		0	0	5%		1	1	(1)
	L		1.05	0	1.04		0	0	85%		12	12	(12)
WB	T	1665	1.05	1,748	1.04		1818	0			0	1818	1818
	R		1.05	0	1.04		0	0			0	0	
	L		1.05	0	1.04		0	0		5%	1	1	(1)
NB	T		1.05	0	1.04		0	0			0	0	
	R		1.05	0	1.04		0	0		85%	18	18	(18)
	L		1.05	0	1.04		0	0			0	0	
SB	T		1.05	0	1.04		0	0			0	0	
	R		1.05	0	1.04		0	0			0	0	

Intersection= US 441 & Access Driveway B 4

Approach	Mvmt	Raw	SF	Adjusted	GF	Redirect	Adj Bg'd	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
	L		1.05	0	1.04		0	0			0	0	
EB	T	1142	1.05	1,199	1.04		1247	0			0	1247	1247
	R		1.05	0	1.04		0	0	10%		1	1	(1)
	L		1.05	0	1.04		0	0			0	0	
WB	T	1665	1.05	1,748	1.04		1818	0		10%	2	1820	1818 + (2) = 1820
	R		1.05	0	1.04		0	0			0	0	
	L		1.05	0	1.04		0	0			0	0	
NB	T		1.05	0	1.04		0	0			0	0	
	R		1.05	0	1.04		0	0		10%	2	2	(2)
	L		1.05	0	1.04		0	0			0	0	
SB	T		1.05	0	1.04		0	0			0	0	
	R		1.05	0	1.04		0	0			0	0	

Appendix K
HCM Analysis Worksheets – Projected Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	886	197	271	1321	549	408	847	68	537	765	102
Future Volume (veh/h)	182	886	197	271	1321	549	408	847	68	537	765	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	963	113	295	1436	310	443	921	0	584	832	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	1143	510	235	1153	514	444	951		602	1087	
Arrive On Green	0.07	0.32	0.32	0.07	0.32	0.32	0.13	0.27	0.00	0.17	0.31	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3647	0	3456	3647	0
Grp Volume(v), veh/h	198	963	113	295	1436	310	443	921	0	584	832	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	0	1728	1777	0
Q Serve(g_s), s	12.8	56.7	11.7	15.3	73.0	22.9	28.8	57.7	0.0	37.8	47.7	0.0
Cycle Q Clear(g_c), s	12.8	56.7	11.7	15.3	73.0	22.9	28.8	57.7	0.0	37.8	47.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	228	1143	510	235	1153	514	444	951		602	1087	
V/C Ratio(X)	0.87	0.84	0.22	1.26	1.25	0.60	1.00	0.97		0.97	0.77	
Avail Cap(c_a), veh/h	237	1143	510	235	1153	514	444	957		602	1087	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.64	0.64	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	104.1	71.0	55.7	104.8	76.0	24.4	98.0	81.5	0.0	92.3	70.8	0.0
Incr Delay (d2), s/veh	27.0	7.6	1.0	144.8	118.0	5.2	33.7	16.3	0.0	29.2	3.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	26.9	4.9	11.6	51.9	9.4	15.0	28.4	0.0	19.3	22.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.2	78.6	56.7	249.7	194.0	29.6	131.7	97.8	0.0	121.5	74.1	0.0
LnGrp LOS	F	E	E	F	F	C	F	F		F	E	
Approach Vol, veh/h		1274			2041			1364	A		1416	A
Approach Delay, s/veh		84.8			177.1			108.8			93.6	
Approach LOS		F			F			F			F	

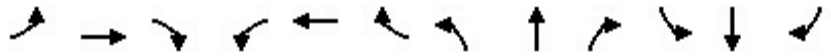
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	80.4	40.0	79.6	24.4	81.0	50.0	69.6
Change Period (Y+Rc), s	9.7	8.0	* 11	* 11	9.6	8.0	* 11	9.4
Max Green Setting (Gmax), s	15.3	72.0	* 29	* 61	15.4	72.0	* 39	60.6
Max Q Clear Time (g_c+I1), s	17.3	58.7	30.8	49.7	14.8	75.0	39.8	59.7
Green Ext Time (p_c), s	0.0	5.4	0.0	3.9	0.0	0.0	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	123.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	228	214	92	108	289	114	150	670	59	82	854	46
Future Volume (veh/h)	228	214	92	108	289	114	150	670	59	82	854	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	248	233	100	117	314	124	163	728	64	89	928	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	292	125	246	249	98	242	1322	116	299	1372	74
Arrive On Green	0.12	0.24	0.24	0.07	0.19	0.19	0.04	0.40	0.40	0.04	0.40	0.40
Sat Flow, veh/h	1781	1242	533	1781	1276	504	1781	3305	290	1781	3429	185
Grp Volume(v), veh/h	248	0	333	117	0	438	163	391	401	89	481	497
Grp Sat Flow(s),veh/h/ln	1781	0	1774	1781	0	1780	1781	1777	1818	1781	1777	1837
Q Serve(g_s), s	12.8	0.0	20.3	6.0	0.0	22.4	5.0	19.5	19.5	3.4	25.6	25.6
Cycle Q Clear(g_c), s	12.8	0.0	20.3	6.0	0.0	22.4	5.0	19.5	19.5	3.4	25.6	25.6
Prop In Lane	1.00		0.30	1.00		0.28	1.00		0.16	1.00		0.10
Lane Grp Cap(c), veh/h	270	0	417	246	0	347	242	711	727	299	711	735
V/C Ratio(X)	0.92	0.00	0.80	0.48	0.00	1.26	0.67	0.55	0.55	0.30	0.68	0.68
Avail Cap(c_a), veh/h	270	0	417	317	0	347	242	711	727	420	711	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.38	0.38	0.38
Uniform Delay (d), s/veh	33.8	0.0	41.4	34.6	0.0	46.3	28.3	26.5	26.5	20.6	28.4	28.4
Incr Delay (d2), s/veh	33.9	0.0	10.5	1.4	0.0	139.7	5.9	3.1	3.0	0.1	2.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	10.0	2.7	0.0	23.2	2.1	8.4	8.6	1.3	10.7	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	0.0	51.9	36.1	0.0	186.0	34.2	29.6	29.5	20.7	30.4	30.3
LnGrp LOS	E	A	D	D	A	F	C	C	C	C	C	C
Approach Vol, veh/h		581			555			955			1067	
Approach Delay, s/veh		58.6			154.4			30.3			29.5	
Approach LOS		E			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	52.8	20.0	30.0	12.2	52.8	15.4	34.6
Change Period (Y+Rc), s	* 7.2	6.8	6.6	* 7.6	* 7.1	6.8	* 7.5	* 7.6
Max Green Setting (Gmax), s	* 5	38.2	13.4	* 22	* 13	38.2	* 13	* 22
Max Q Clear Time (g_c+I1), s	7.0	27.6	14.8	24.4	5.4	21.5	8.0	22.3
Green Ext Time (p_c), s	0.0	4.2	0.0	0.0	0.0	4.1	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.3

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	2	1247	1	12	1818	1	18
Future Vol, veh/h	2	1247	1	12	1818	1	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0	-
Veh in Median Storage, #	-	0	-	-	0	1	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	2	1355	1	13	1976	1	20

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	1976	0	0	1356	0	2374	678
Stage 1	-	-	-	-	-	1360	-
Stage 2	-	-	-	-	-	1014	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	77	-	-	503	-	29	395
Stage 1	-	-	-	-	-	204	-
Stage 2	-	-	-	-	-	311	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	77	-	-	503	-	26	395
Mov Cap-2 Maneuver	-	-	-	-	-	116	-
Stage 1	-	-	-	-	-	183	-
Stage 2	-	-	-	-	-	311	-

Approach	EB	WB	NB
HCM Control Delay, s	2.9	0.1	15.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	351	-	-	503	-
HCM Lane V/C Ratio	0.059	-	-	0.026	-
HCM Control Delay (s)	15.9	2.8	-	12.3	0
HCM Lane LOS	C	A	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1247	1	0	1820	0	2
Future Vol, veh/h	1247	1	0	1820	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1355	1	0	1978	0	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	678
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	395
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	395
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	395	-	-	-
HCM Lane V/C Ratio	0.006	-	-	-
HCM Control Delay (s)	14.2	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Appendix L
FDOT Driveway Information Guide, Exhibit 44

7.2

WHEN SHOULD WE BUILD RIGHT TURN LANES?

Exhibit 44
Recommended Guidelines for Exclusive Right Turn Lanes to Unsignalized* Driveway

Roadway Posted Speed Limit	Number of Right Turns Per Hour
45 mph or less	**80-125** (see note 1)
Over 45 mph	**35-55** (see note 2)

*May not be appropriate for signalized locations where signal phasing plays an important role in determining the need for right turn lanes.

1. The lower threshold of 80 right turn vehicles per hour would be most used for higher volume (greater than 600 vehicles per hour, per lane in one direction on the major roadway) or two-lane roads where lateral movement is restricted. The 125 right turn vehicles per hour upper threshold would be most appropriate on lower volume roadways, multilane highways, or driveways with a large entry radius (50 feet or greater).

2. The lower threshold of 35 right turn vehicles per hour would be most appropriately used on higher volume two-lane roadways where lateral movement is restricted. The 55 right turn vehicles per hour upper threshold would be most appropriate on lower volume roadways, multilane highways, or driveways with large entry radius (50 feet or greater).

***Note*:** A posted speed limit of 45 mph may be used with these thresholds if the operating speeds are known to be over 45 mph during the time of peak right turn demand.

Note on Traffic projections: Projecting turning volumes is, at best, a knowledgeable estimate. Keep this in mind especially if the projections of right turns are close to meeting the guidelines. In that case, consider requiring the turn lane.

Appendix M
City of Apopka Land Development Code, Section 5.16.5

efficient traffic operations. Access improvements include, but are not limited to, the following:

(a) Rights-of-way and easements;

(b) Left and right turn lanes;

(c) Acceleration and deceleration lanes;

(d) Traffic control devices, signage, and markings; and

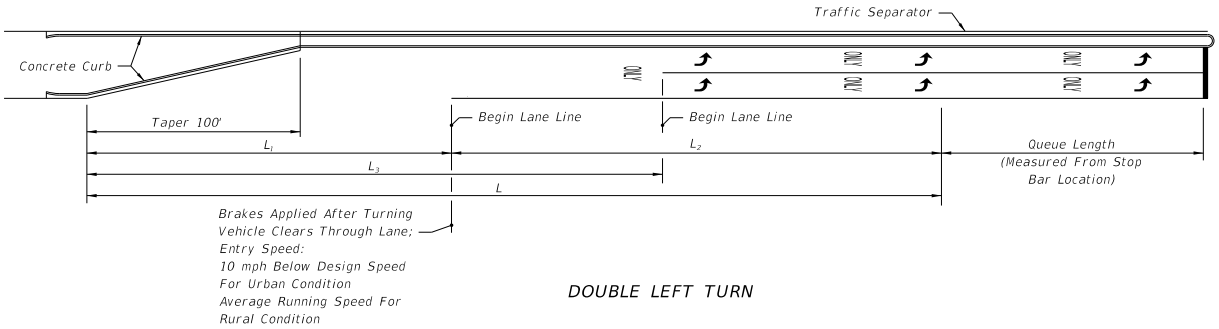
(e) Drainage and utilities as they relate to transportation improvements.

2. **Off-site or Near-site Improvements.** Off-site or near-site road improvements needed to ensure established LOS standards are maintained in addition to impact fees to satisfy concurrency requirements. However, there shall be a rebuttal presumption that a left turn lane shall be required for all residential and nonresidential developments unless waived by the City Council. A right-turn lane shall be provided at each driveway when the speed limit equals or exceeds 35 miles per hour or if the development will generate 100 or more right-turn movements during the peak hour or if required by the City Engineer, unless waived by the City Council. Increased storage and transition queue lengths (waiting vehicle storage) may be required by the City Engineer to provide for additional storage, based upon a peak hour entering volume greater than 150 vehicles in the peak hour.
3. **On-site Improvements.** On-site improvements needed to ensure safe and adequate ingress and egress to the site. On-site improvements are road improvements located within the boundaries of the specific parcel proposed for development, and road improvements which provide direct access (turn lane, taper, signalization, right-of-way dedication, etc.). They are the total responsibility of the developer and exclusive of the transportation impact fee.
4. **Traffic Signals.** Traffic signals need to maintain established LOS, and ensure the roads and streets function properly. Traffic signals are optical communications (3-M) devices that are installed at all intersections requiring signaling devices for traffic control and to accommodate emergency vehicle responses. The terms and agreement of the installation of the devices are the responsibility of the developer and/or part of the transportation network and shall be coordinated through the Fire Department.
5. **Bicycle and Pedestrian Improvements.** On-site and off-site provisions shall be provided in accordance with City codes. City trail systems shall be supported through various development related dedications as deemed legal and appropriate for connectivity.

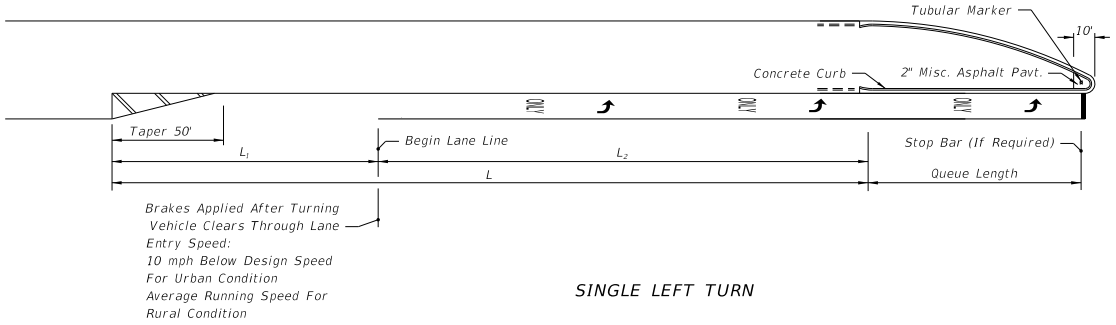
e. **Conclusions and Recommendations.** Recommended improvements and mitigating measures made necessary by the proposed development ensuring the roadway network of the area does not fall below the established level of service standard. On-site and off-

Appendix N
FDOT Design Manual, Exhibit 212-1

MEDIAN TURN LANES
MINIMUM DECELERATION LENGTHS



DOUBLE LEFT TURN



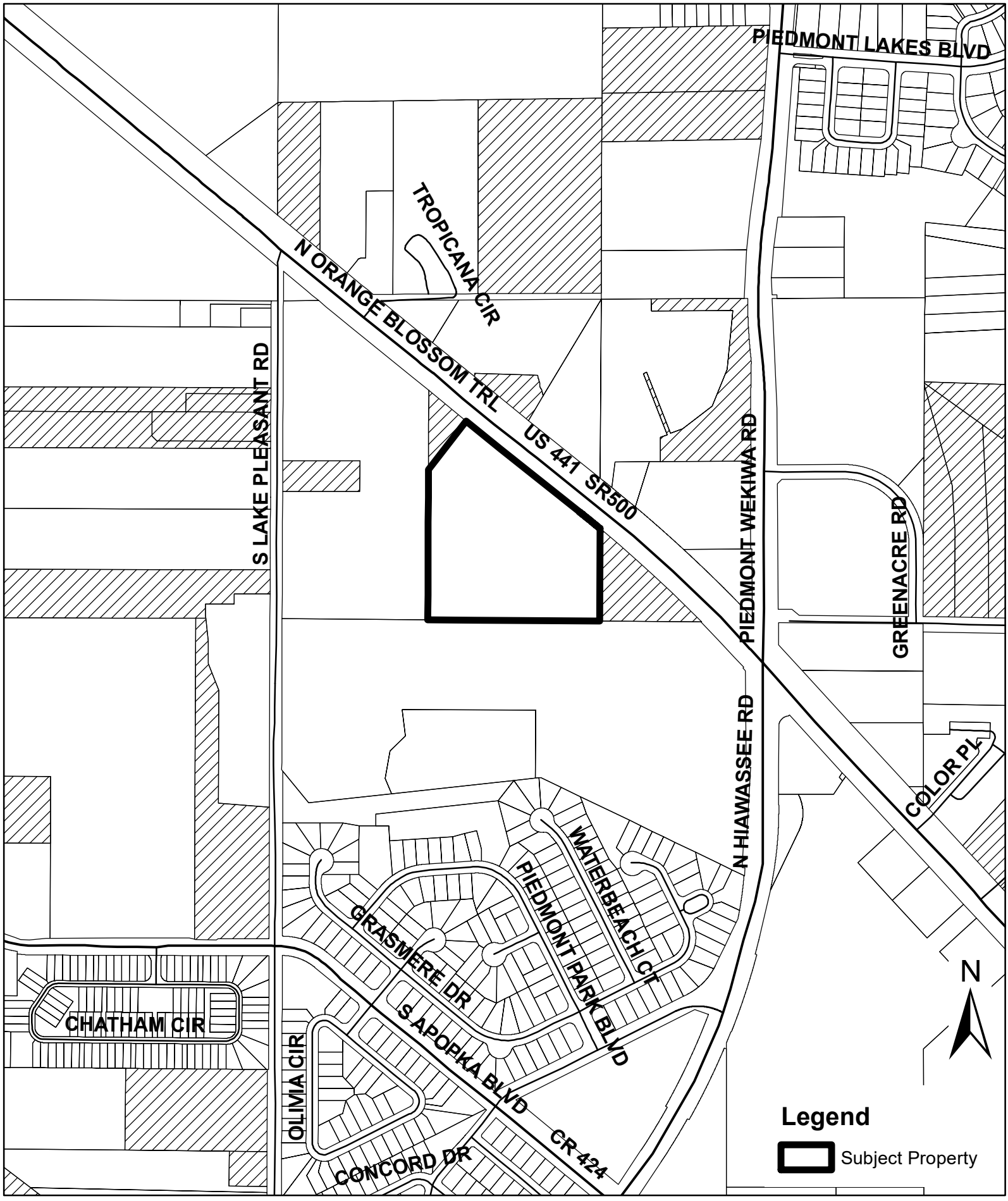
SINGLE LEFT TURN

MEDIAN TURN LANES								
			URBAN CONDITIONS			RURAL CONDITIONS		
Design Speed (mph)	Entry Speed (mph)	Clearance Distance L_1 (ft.)	Brake To Stop Distance L_2 (ft.)	Total Decel. Distance L (ft.)	Clearance Distance L_3 (ft.)	Brake To Stop Distance L_2 (ft.)	Total Decel. Distance L (ft.)	Clearance Distance L_3 (ft.)
35	25	70	75	145	110	——	——	——
40	30	80	75	155	120	——	——	——
45	35	85	100	185	135	——	——	——
50	40/44	105	135	240	160	185	290	160
55	48	125	——	——	——	225	350	195
60	52	145	——	——	——	260	405	230
65	55	170	——	——	——	290	460	270

NOT TO SCALE

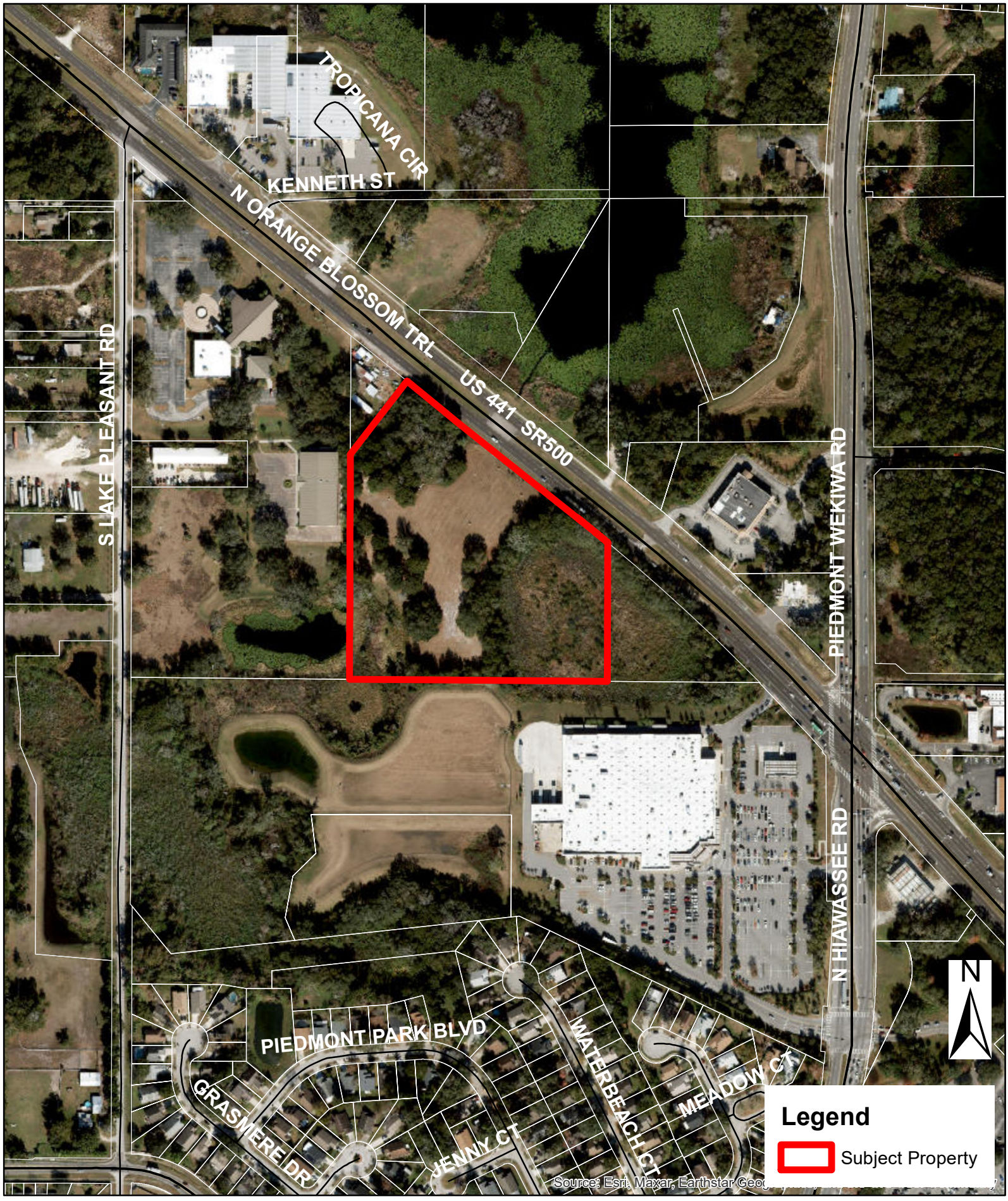
EXHIBIT 212-1
01/01/2022

Vicinity



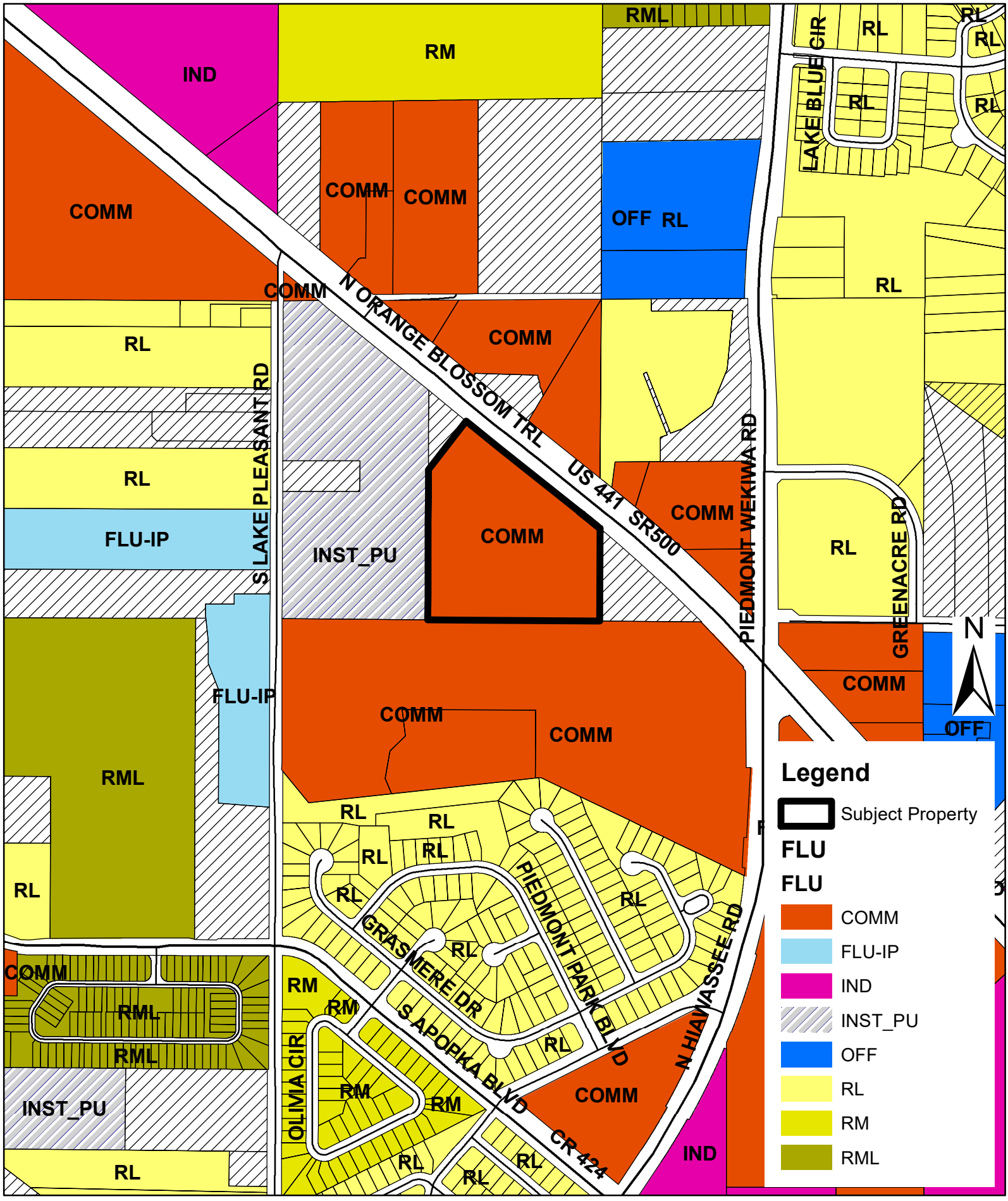
(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Aerial



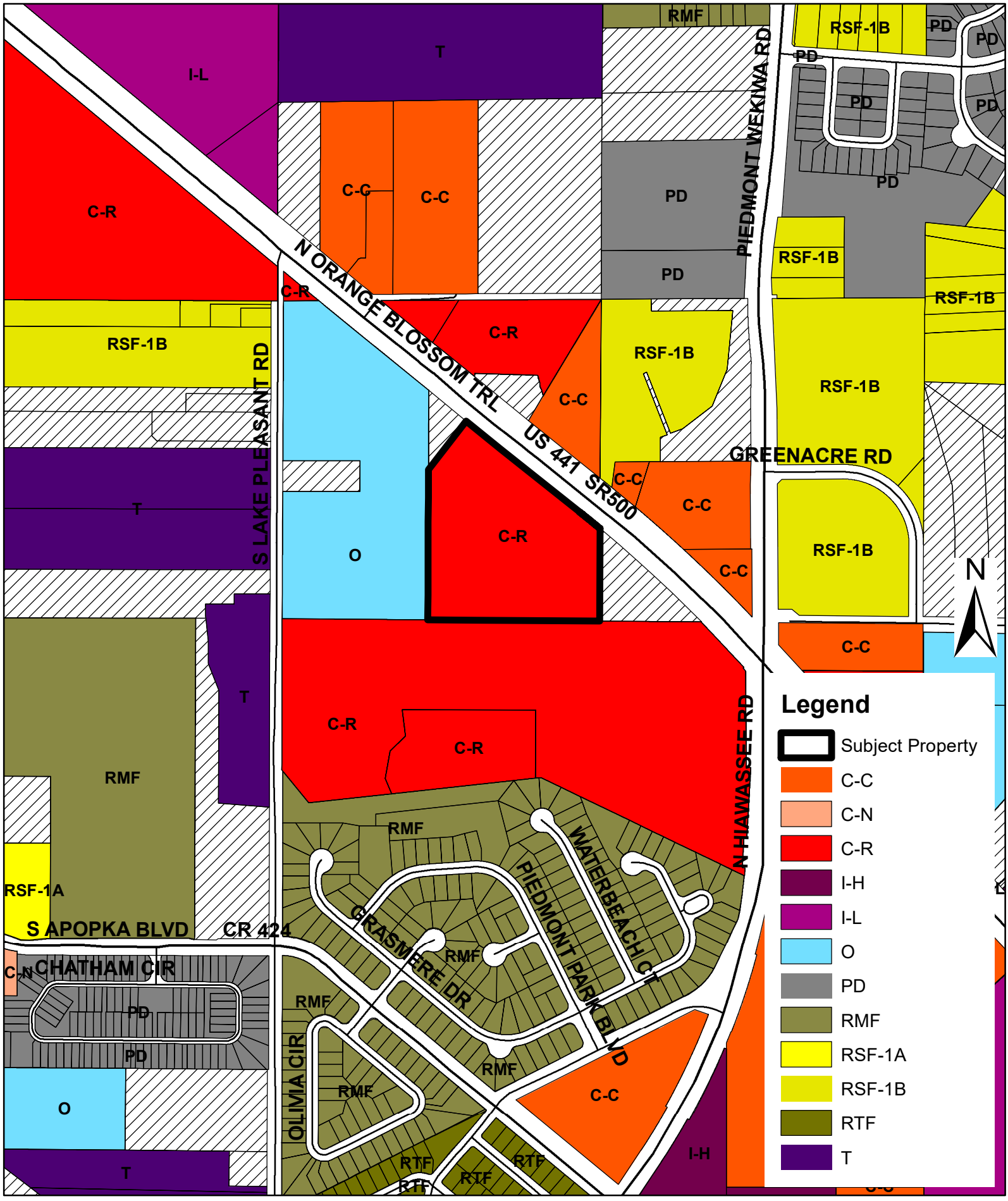
(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Future Land Use

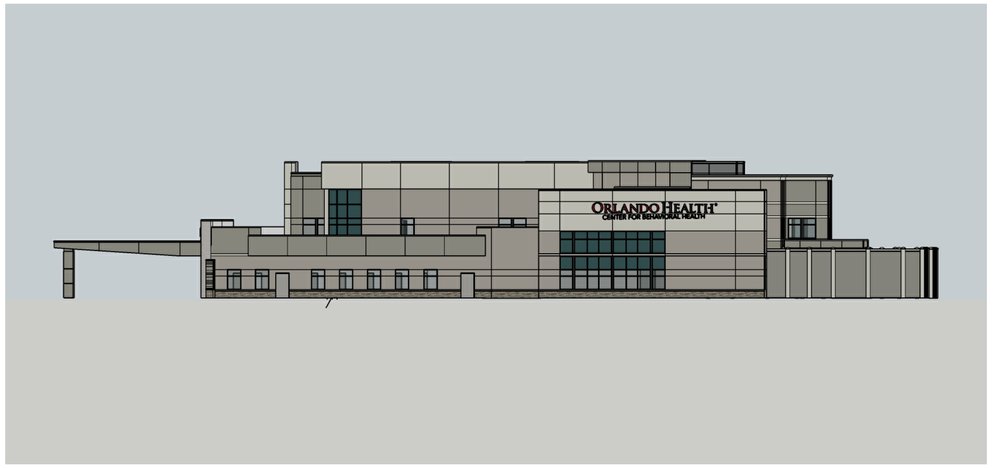


(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Zoning



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

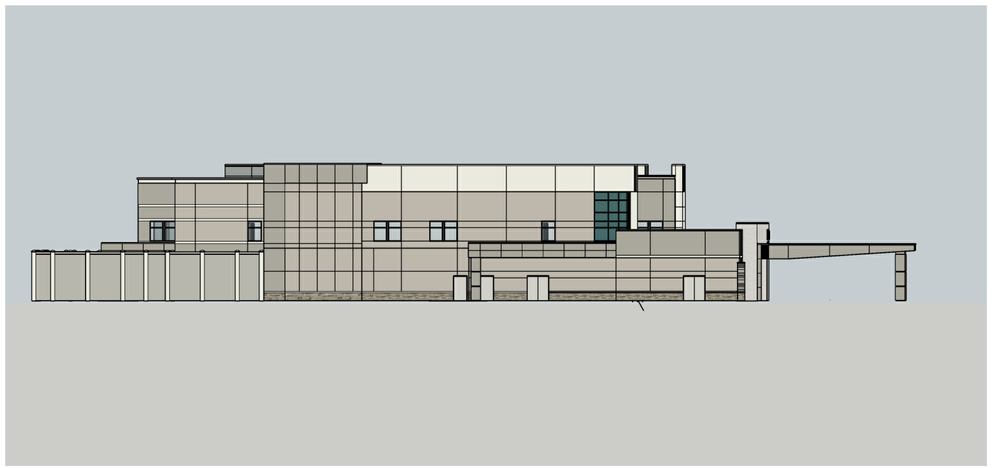


SOUTH ELEVATION

NOT TO SCALE

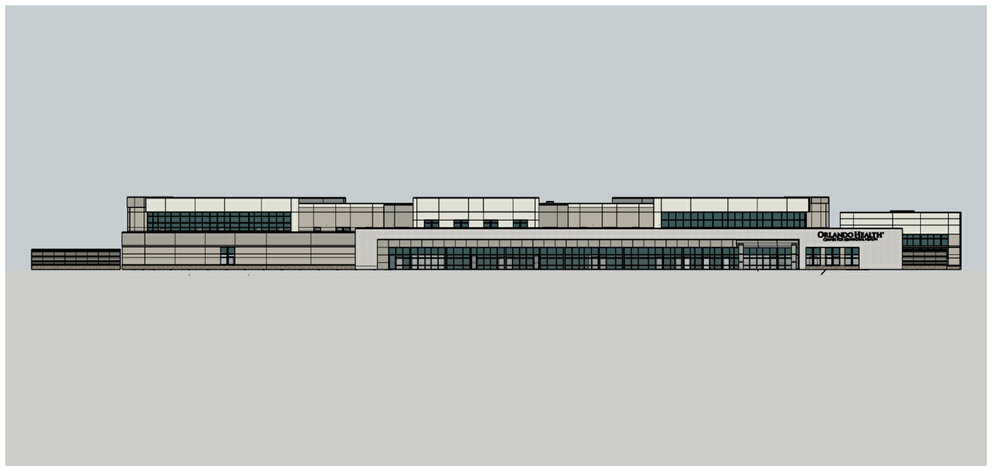
EAST ELEVATION

NOT TO SCALE



NORTH ELEVATION

NOT TO SCALE



WEST ELEVATION

NOT TO SCALE

STENGEL-HILL
ARCHITECTURE

613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
SKYHOOK
STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
CMTA

Foodservice Design
INMAN foodservices group

ACADIA
HEALTHCARE

MAJOR DEVELOPMENT PLAN - NOT FOR CONSTRUCTION

COLORED EXTERIOR ELEVATIONS

NEW BEHAVIORAL HEALTH HOSPITAL
ACADIA HEALTHCARE / ORLANDO HEALTH
APOPKA, FLORIDA

03 MARCH 2023
AHC2102

A1.0

MAJOR DEVELOPMENT PLAN FOR NEW BEHAVIORAL HEALTH HOSPITAL - ORLANDO HEALTH JV

APOPKA, FLORIDA

REVIEW DOCUMENTS

GENERAL INFORMATION

PROPERTY OWNER

Chu Mu Ching
5355 Lake Lizzie Dr
Saint Cloud, FL 34771
Contact: karrymuching@gmail.com
Phone: 717-701-9777

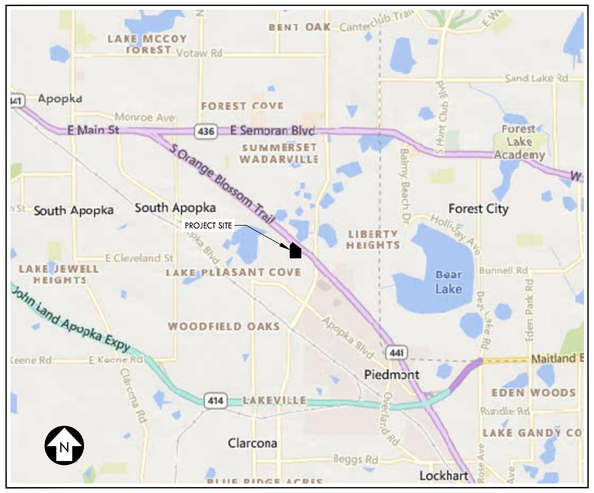
CIVIL ENGINEER

Crunk Engineering LLC
7112 Crossroads Boulevard, Suite 201
Brentwood, TN 37027
Contact: Adam Crunk, PE
Phone: 615.873.1795
Email: adam@crunkeng.com

PROPERTY INFORMATION

1452 S ORANGE BLOSSOM TRAIL
APOPKA, FL 32703
PID:13-21-28-0000-00-019

PROJECT DESCRIPTION: CONSTRUCTION OF A NEW 2-STORY, 144 BED BEHAVIORAL HEALTH HOSPITAL LOCATED ON S ORANGE BLOSSOM TRAIL. THE PROJECT WILL INCLUDE THE INSTALLATION OF ASSOCIATED PARKING AND UTILITIES TO SERVE THE PROPOSED HOSPITAL. STORMWATER MANAGEMENT FACILITIES ARE PROPOSED TO PROVIDE STORMWATER QUANTITY AND QUALITY MEASURES.



LOCATION MAP
NOT TO SCALE

Sheet List Table

Sheet Number	Sheet Title
C0.0	COVER SHEET
C1.0	EXISTING CONDITIONS
C2.0	NOTES
C4.0	DEMOLITION PLAN
C4.1	DEMOLITION PLAN
C5.0	SITE LAYOUT PLAN
C5.1	SITE LAYOUT PLAN
C5.2	FIRE TRUCK TURN EXHIBIT
C6.0	GRADING AND DRAINAGE PLANS
C6.1	STORM PIPE & STRUCTURE TABLES
C6.2	PROPOSED WETLAND IMPACT
C6.3	FLOODPLAIN EXHIBIT
C7.0	UTILITY PLANS
C7.1	SANITARY SEWER FORCE MAIN EXHIBIT
C8.0	DETAILS
C8.1	DETAILS
C8.2	DETAILS
C8.3	DETAILS
C8.4	DETAILS
L1.0	TREE SURVEY & INVENTORY
L1.1	OVERALL PLANTING PLAN
L1.2	DETAILED PLANTING PLAN
L2.0	PLANTING DETAILS
L2.1	PLANTING DETAILS

STENGEL-HILL ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta CONSULTANTS

Foodservices Design

ACADIA HEALTHCARE

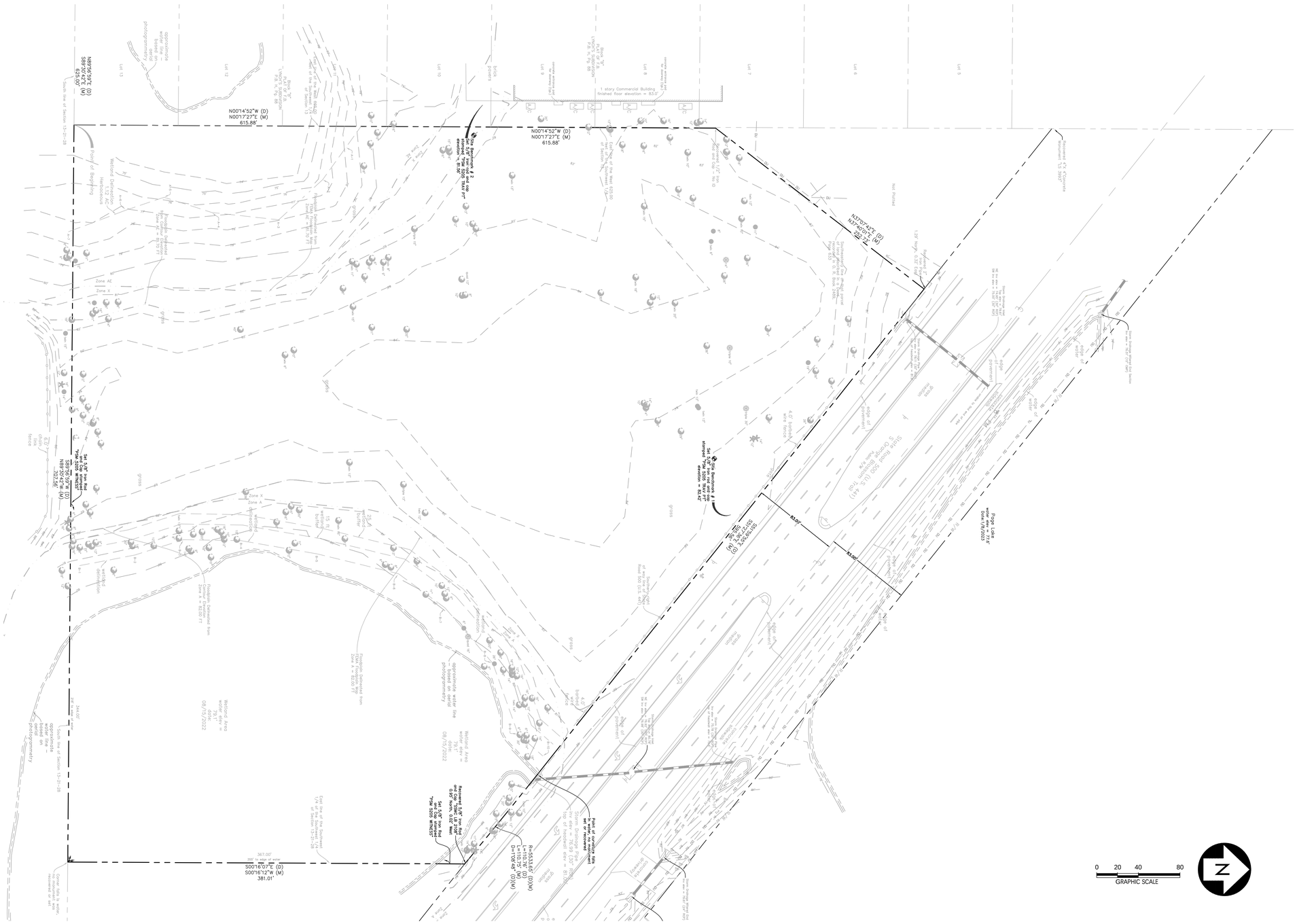
NOT FOR CONSTRUCTION

ADAM W. CRUNK LICENSE No 78070 STATE OF FLORIDA PROFESSIONAL ENGINEER 5/25/23

COVER SHEET
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C0.0



STENGEL-HILL
ARCHITECTURE

613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta CONSULTANTS

Foodservices Design

ACADIA HEALTHCARE

NOT FOR CONSTRUCTION

ADAM W. CRUNK
LICENSED
No 78070
STATE OF FLORIDA
PROFESSIONAL ENGINEER
5/25/23

EXISTING CONDITIONS
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C1.0

GENERAL NOTES:

1. BASE INFORMATION WAS TAKEN FROM A BOUNDARY & TOPOGRAPHIC SURVEY PERFORMED BY BENCHMARK SURVEYING & MAPPING, LLC, DATED AUGUST 30, 2022. CRUNK ENGINEERING LLC SHALL NOT BE RESPONSIBLE FOR ERRORS AND OMISSIONS RESULTING FROM THIS INFORMATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE PROJECT AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS.
3. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF THE CONSTRUCTION DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, AND SPECIAL CONDITIONS AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL QUANTITIES, TAKE-OFF MEASUREMENTS, MATERIALS, ETC., DURING THE BID PROCESS. ANY QUANTITIES PROVIDED ON PLANS ARE PROVIDED AS A COURTESY. WHEN DISCREPANCIES OCCUR, THE PHYSICAL PLAN TAKES PRECEDENCE.
5. A COPY OF THE ELECTRONIC DRAWING FILE MAY BE REQUESTED FROM ENGINEER BY CONTRACTOR TO PROVIDE COORDINATES FOR LOCATION IN FIELD. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REQUEST ELECTRONIC FILES AFTER ANY REVISIONS TO PLANS, IF ANY OCCUR.
6. THE CONTRACTOR SHALL CHECK ALL EXISTING CONDITIONS, UTILITY INVERTS, UTILITY ROUTINGS, UTILITY CROSSINGS, AND DIMENSIONS IN THE FIELD PRIOR TO COMMENCEMENT OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO INSTALLATION.
7. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL CALL NATIONAL ONE CALL (811) 72 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION. THE CONTRACTOR SHALL REPAIR ANY DAMAGED UTILITIES ACCORDING TO LOCAL STANDARDS AT THE CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR SHALL CONFORM TO ALL LOCAL CODES AND RECEIVE APPROVAL WHERE NECESSARY BEFORE CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES OR AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS. ALL AS-BUILTS SHALL BE PREPARED IN ACCORDANCE WITH LOCAL AGENCY(S) REQUIREMENTS. IF A CERTIFIED AS-BUILT SURVEY IS REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A STAMPED SURVEY AND SUBMITTING TO ENGINEER.
9. THE CONTRACTOR SHALL LIMIT CONSTRUCTION OPERATIONS TO WITHIN THE LIMITS OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DAMAGES OUTSIDE THE LIMITS OF CONSTRUCTION. CARE SHALL BE TAKEN TO PROTECT ANY UTILITIES, TREES, BUILDINGS ETC. WHICH ARE TO REMAIN AND NOT TO BE DISTURBED BY THE CONSTRUCTION.
10. EXISTING PAVEMENT OF PUBLIC ROADWAYS SHALL BE PATCHED IN ACCORDANCE WITH LOCAL AGENCY STANDARDS WHEREVER UTILITY INSTALLATION REQUIRES REMOVAL OF THE EXISTING PAVEMENT. COORDINATE PAVEMENT TRENCHING LOCATIONS WITH SITE CIVIL, PLUMBING AND ELECTRICAL PLANS.
11. DIMENSIONS AND COORDINATES PROVIDED ARE TO FACE OF CURB AND/OR EXTERIOR FACE OF BUILDING UNLESS OTHERWISE NOTED.
12. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE MANUAL OF ACCIDENT PREVENTION AND CONSTRUCTION ISSUED BY AGC OF AMERICA, INC. AND THE SAFETY AND HEALTH REGULATIONS OF CONSTRUCTION ISSUED BY THE U.S. DEPARTMENT OF LABOR.
13. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY WORKS SUCH AS BRACING, SHEETING AND SHORING, BLASTING PROTECTION, WARNING LIGHTS AND BARRICADES, ETC. AS MAY BE NECESSARY FOR THE PROTECTION OF LIFE AND PROPERTY FOR HIS OWN EMPLOYEES AND THE GENERAL PUBLIC.
14. PORTIONS OF THE WORK SHOWN ON THESE PLANS MAY REQUIRE TRENCH AND/OR MASS EXCAVATION. IN SOME CASES, THIS WILL REQUIRE THE REMOVAL OF ROCK. IN THE USE OF EXPLOSIVES FOR THE SUBSEQUENT EXCAVATION OF ROCK MATERIAL, ALL APPLICABLE LOCAL AND STATE REQUIREMENTS REGARDING THE USE AND STORAGE OF EXPLOSIVE MATERIAL SHALL BE FOLLOWED. THE PROPER PERMITS MUST BE SECURED AND PRE-BLAST SURVEYS WILL BE CONDUCTED IN AREAS WHERE ADJACENT PROPERTIES OR IMPROVEMENTS OFF OF THE PROJECT PROPERTY COULD BE IMPACTED. IN PORTIONS OF THE PROJECT WHERE TRENCH EXCAVATION IS REQUIRED, THE CONTRACTOR WILL BECOME FAMILIAR WITH ALL APPLICABLE TRENCH SAFETY REQUIREMENTS AND REGULATIONS AND TAKE THE NECESSARY MEASURES TO INSURE THE SAFETY OF HIS EMPLOYEES AND ANY OTHER INDIVIDUALS HAVING A NEED TO BE IN AND AROUND THE WORK.
15. ANY WORK UNACCEPTABLE TO THE OWNER'S REPRESENTATIVE OR TO THE LOCAL AGENCY(S) SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

DEMOLITION NOTES:

1. THE CONTRACTOR SHALL VERIFY THE LIMITS OF DEMOLITION WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK.
2. THE CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS UNLESS OTHERWISE INDICATED, REMOVING TREES, STUMPS, ROOTS, MUCK, EXISTING PAVEMENT AND ALL OTHER DELETERIOUS MATERIAL. UPON REMOVAL NO ROOT GREATER THAN THREE INCHES IN DIAMETER SHALL REMAIN WITHIN FIVE FEET OF AN UNDERGROUND STRUCTURE OR UTILITY LINE OR UNDER PAVED FOOTINGS OR PAVED AREAS.
3. IN AREAS WHERE EXISTING PAVEMENT, WALKS, OR CURBS ARE TO BE REMOVED, SAW CUT TO PROVIDE A CLEAN EDGE. COORDINATE EXTENT OF PAVEMENT DEMOLITION WITH THE LIMIT OF IMPROVEMENTS ON THE SITE LAYOUT PLAN AND UTILITY PLAN.
4. THE CONTRACTOR SHALL COORDINATE PHASING OF THE DEMOLITION WITH THE OWNER'S REPRESENTATIVE AND UTILITY PROVIDERS PRIOR TO BEGINNING WORK. DISRUPTION OF EXISTING UTILITY SERVICES AND TRAFFIC PATTERNS SHALL BE MINIMIZED TO THE EXTENT POSSIBLE AND INITIATED ONLY AFTER APPROVAL BY THE LOCAL AGENCY(S) AND UTILITY PROVIDER(S).
5. THE EXISTING SITE CONTAINS AN UNDERGROUND IRRIGATION SYSTEM. THE CONTRACTOR MUST PROVIDE CAPS FOR LINES THAT MUST BE CUT, AND RE-ROUTE THE IRRIGATION SYSTEM TO ACCOMMODATE EXCAVATION FOR THE PROPOSED PROJECT. THE IRRIGATION SYSTEM SHALL BE REINSTALLED ON A DESIGN BUILD BASIS PRIOR TO THE END OF CONSTRUCTION.
6. NO UTILITY OR STORM SEWER LINES SHALL BE DEMOLISHED UNTIL THE NEW LINES HAVE BEEN INSTALLED AND ARE PLACED INTO OPERATION.
7. THE CONTRACTOR SHALL INCORPORATE INTO HIS WORK ANY ISOLATION VALVES OR TEMPORARY PLUGS REQUIRED TO CONSTRUCT NEW UTILITY LINES AND DEMOLISH EXISTING UTILITY LINES.
8. WHERE WATER LINE AND SEWER LINE ABANDONMENT IS PLANNED, THE CONTRACTOR MAY ABANDON WATER LINES AND SEWER LINES IN PLACE WHERE THEY OCCUR AT LEAST 24 INCHES (TO TOP OF PIPE) BELOW FINAL SUBGRADE ELEVATIONS AND OUTSIDE THE BUILDING FOOT PRINT. ALL UTILITY LINES BEING ABANDONED IN PLACE SHALL HAVE ALL ENDS PERMANENTLY CLOSED USING A CONCRETE PLUG.
9. CAVITIES AND TRENCHES LEFT BY DEMOLITION WORK SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
10. ALL MATERIALS BEING REMOVED AND NOT RELOCATED UNDER THE NEW CONSTRUCTION, INCLUDING TREES AND SHRUBS, SIGNS, LIGHT POLES, UTILITY STRUCTURES, ETC., SHALL BE FIRST OFFERED TO THE OWNER'S REPRESENTATIVE AND IF NOT ACCEPTED SHALL THEN BE PROPERLY DISPOSED OF BY THE CONTRACTOR.

SITE GRADING NOTES:

1. THE EXISTING AND PROPOSED TOPOGRAPHIC INFORMATION IS BASED OFF THE TOPOGRAPHIC SURVEY PERFORMED BY BENCHMARK SURVEYING & MAPPING, LLC, DATED AUGUST 30, 2022. ELEVATIONS ARE BASED OF NAVD 88. BENCHMARK LOCATION AND ELEVATIONS ARE AS REPRESENTED BY THE SURVEYOR AT THE TIME OF THE SURVEY. THE CONTRACTOR SHALL VERIFY ITS CORRECTNESS PRIOR TO CONSTRUCTION.
2. THE DISTURBED AREA FOR THIS PROJECT IS APPROXIMATELY 7.03 ACRES.
3. THE SUBJECT PROPERTY DOES LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO PANEL No. 12095C0140F OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR ORANGE COUNTY, FLORIDA, DATED SEPTEMBER 25, 2009.
4. MULCH AND SEED ALL DISTURBED AREAS AS SOON AS POSSIBLE AFTER FINAL GRADING IS COMPLETED, UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
5. THE CONTRACTOR SHALL CHECK EXISTING GRADES AND DIMENSIONS PRIOR TO BEGINNING WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER. THIS GRADING & DRAINAGE PLAN IS NOT A DETERMINATION OR GUARANTEE OF THE SUITABILITY OF THE SUBSURFACE CONDITIONS FOR THE WORK INDICATED. A GEOTECHNICAL SOILS REPORT HAS BEEN PREPARED AND IS AVAILABLE FROM THE OWNER. DETERMINATION OF THE SUBSURFACE CONDITIONS FOR THE WORK INDICATED IS THE CONTRACTOR'S SOLE RESPONSIBILITY.
6. IF ANY SPRINGS OR UNDERGROUND STREAMS ARE EXPOSED DURING CONSTRUCTION THE OWNER'S REPRESENTATIVE AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY. PERMANENT MEDIATION MAY BE REQUIRED, THE LOCATION AND SPECIFICATION OF WHICH WILL BE DETERMINED BY THE CONDITIONS WHICH ARE ENCOUNTERED.
7. THE PROPOSED GRADING AND DRAINAGE PLAN CONTAIN CONTOUR LINES AND SPOT ELEVATIONS RESULTING FROM AN ENGINEERED DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE AND MOVEMENT OF MATERIALS. SHOULD THE CONTRACTOR HAVE ANY QUESTION OF THE INTENT OR ANY PROBLEM WITH THE CONTINUITY OF GRADES, THE ENGINEER SHALL BE CONTACTED IMMEDIATELY.
8. ALL CUT AND FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE INDICATED ON PLANS. FILL SLOPES OF 3:1 AND GREATER SHALL BE PLACED AND COMPACTED A MINIMUM OF 5 FEET BEYOND THE PROPOSED SLOPE LIMITS AND THEN EXCAVATED BACK TO THE PROPOSED LOCATION.
9. THE MAXIMUM SLOPE WITHIN ACCESSIBLE PARKING SPACES SHALL BE 2.0% IN ANY DIRECTION. THE MINIMUM GRADE ON ASPHALT OR CONCRETE PAVING SHALL BE 1.0% UNLESS OTHERWISE INDICATED ON PLANS.
10. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. SLIGHT FIELD ADJUSTMENT MAY BE REQUIRED. THE CONTRACTOR WILL BE REQUIRED TO ADJUST GRADES OF INTERSECTING STREETS, ALLEYS, PUBLIC ENTRANCES AND PRIVATE DRIVES AS DIRECTED BY THE ENGINEER.
11. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES DURING AND AFTER CONSTRUCTION. SOIL AFFECTED BY PERCHED WATER IN FOUNDATION AND PAVEMENT AREAS MUST BE UNDERCUT AND REPLACED WITH SUITABLE FILL MATERIALS APPROVED BY A GEOTECHNICAL ENGINEER. GROUNDWATER INFILTRATION INTO EXCAVATIONS SHOULD BE EXPECTED, AND THE WATER SHALL BE REMOVED USING GRAVITY DRAINAGE OR PUMPING.
12. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO COMPACT FILL SUFFICIENTLY AROUND AND OVER ALL PIPES, STRUCTURES, VALVE STEMS, ETC., INSIDE THE PROPOSED PAVED AREAS TO AVOID SETTLEMENT. ANY SETTLEMENT DURING THE WARRANTY PERIOD SHALL BE RESTORED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
13. THE CONTRACTOR SHALL NOT DISTURB VEGETATION OR REMOVE ANY TREES EXCEPT WHEN NECESSARY FOR GRADING PURPOSES.
14. THE CONTRACTOR SHALL STRIP TOPSOIL FROM ALL CUT AND FILL AREAS AND STOCKPILE. UPON COMPLETION OF GENERAL GRADING THE TOPSOIL SHALL BE PLACED OVER ALL DISTURBED AREAS TO A MINIMUM DEPTH OF 6". CONTRACTOR SHALL PROVIDE ADDITIONAL TOPSOIL IF INSUFFICIENT QUANTITIES EXIST ON SITE. THE CONTRACTOR SHALL PROVIDE MEASURES TO PREVENT SEDIMENT FROM STOCKPILED TOPSOIL OR FILL MATERIAL FROM CONTAMINATING SURROUNDING AREAS OR ENTERING NEARBY STREAMS.
15. ALL FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT. THIS MATERIAL SHALL BE PLACED IN LIFTS AND COMPACTED AS DIRECTED BY THE GEOTECHNICAL ENGINEER (TO 95% STANDARD PROCTOR).
16. THE CONTRACTOR IS RESPONSIBLE FOR PERMITTING ANY SITE USED FOR DISPOSAL AND/OR STOCKPILE OF ANY MATERIAL FOR SUCH ACTIVITY. A COPY OF THE APPROVED PERMIT MUST BE PROVIDED TO THE INSPECTOR PRIOR TO COMMENCEMENT OF WORK ON ANY PROPERTY. FAILURE TO DO SO MAY RESULT IN THE CONTRACTOR REMOVING ANY ILLEGALLY PLACED MATERIAL AT HIS OWN EXPENSE.
17. ANY EXCESS EARTH MATERIAL AS A RESULT FROM GRADING ACTIVITIES SHALL BE FIRST OFFERED TO THE OWNER. IF NOT ACCEPTED BY THE OWNER, THE CONTRACTOR SHALL DISPOSE OF EARTH MATERIAL OFF SITE AT NO ADDITIONAL COST TO THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMPORT SUITABLE MATERIAL FOR GRADING ACTIVITIES IF SUFFICIENT AMOUNTS OF EARTH MATERIAL ARE NOT AVAILABLE ON SITE AT NO ADDITIONAL COST TO THE OWNER.
18. SEGMENTAL WALLS SHALL BE PROVIDED BY THE CONTRACTOR ON A DESIGN BUILD BASIS. WALL DESIGN PLANS STAMPED BY A REGISTERED ENGINEER IN THE STATE OF THE PROJECT SHALL BE SUBMITTED TO THE ENGINEER AS A SHOP DRAWING AND INCLUDED IN THE CONSTRUCTION DOCUMENTS.
19. TOP OF GRATE ELEVATIONS FOR DRAINAGE STRUCTURES SHALL BE AS SHOWN ON THE DETAIL AND GRADING PLAN, UNLESS NOTED OTHERWISE. THE GRATES SHALL SLOPE WITH THE PAVEMENT AND/OR CURB AND GUTTER GRADES. LOCATION OF DRAINAGE STRUCTURES IS AS SHOWN ON THE GRADING PLAN.
20. THE CONTRACTOR SHALL COORDINATE EXACT LOCATION OF STORM DRAIN CONNECTIONS AT THE BUILDING WITH THE PLUMBING PLANS.
21. REINFORCED CONCRETE STORM PIPE SHALL MEET ASTM 76CLASS III, WALL TYPE "B" MESH REINFORCEMENT. HIGH DENSITY POLYETHYLENE PIPE (HDPE) SHALL MEET ASTM F 2648. POLYVINYLCHLORIDE PIPE (PVC) SHALL MEET ASTM D3034, SDR 35.

EROSION CONTROL NOTES:

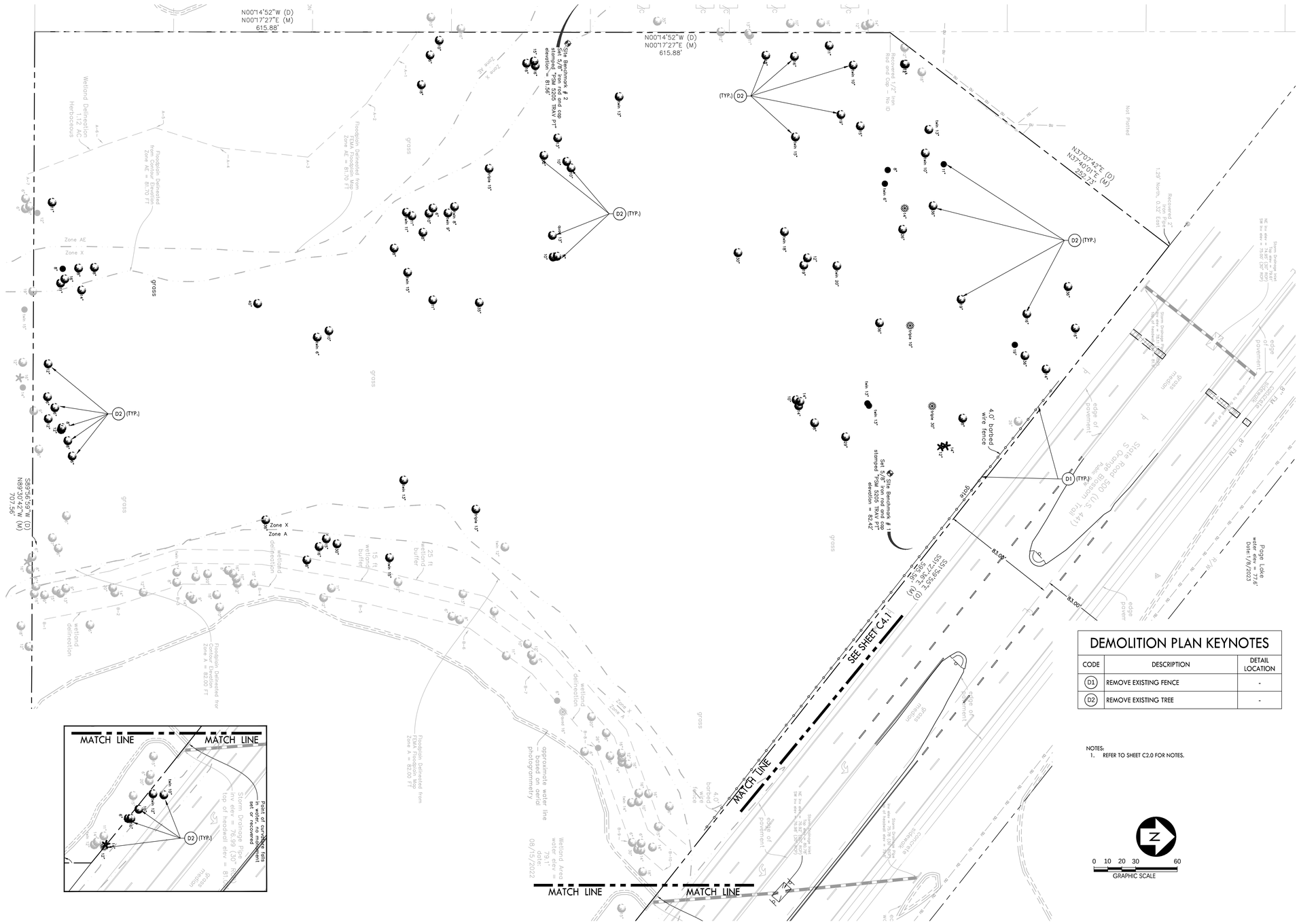
1. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONAL BEFORE GRADING ACTIVITIES BEGIN AND MUST BE CONSTRUCTED AND MAINTAINED THROUGH THE DURATION OF THE PROJECT. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY BUT MUST BE REPLACED AT THE END OF THE WORKDAY.
2. THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED AREAS.
3. CONSTRUCT SILT BARRIERS BEFORE BEGINNING GRADING OPERATIONS.
4. PROVIDE TEMPORARY CONSTRUCTION ACCESS(ES) AT THE POINT(S) WHERE CONSTRUCTION VEHICLES EXIT THE CONSTRUCTION AREA. MAINTAIN PUBLIC ROADWAYS FREE OF TRACKED MUD AND DIRT.
5. EXISTING VEGETATION AND GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 10 DAYS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA IS SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER IS INSTALLED.
6. USE TEMPORARY VEGETATION AND/OR MULCH TO PROTECT BARE AREAS FROM EROSION DURING CONSTRUCTION.
7. INPSECTION AND MAINTENANCE OF EROSION CONTROL DEVICES SHALL BE PERFORMED ON A REGULAR BASIS. IF AT ANY TIME DURING CONSTRUCTION, THE EROSION AND SEDIMENT CONTROL MEASURES INSTALLED FAIL TO FUNCTION PROPERLY, NEED MAINTENANCE OR REPAIR, OR NEED NEW REPLACEMENT IN KIND, THE CONTRACTOR WILL EFFECT SUCH ACTIONS AS ARE NEEDED TO CORRECT THE SITUATION AT NO ADDITIONAL COST TO THE OWNER.
8. THE CONTRACTOR SHALL USE WATER SPRINKLING AND OTHER SUITABLE METHODS AS NECESSARY TO CONTROL DUST AND DIRT CAUSED BY CONSTRUCTION ACTIVITY. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST CONTROL ARE PROHIBITED.
9. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
10. STABILIZATION PRACTICES SHOULD BE INITIATED AS SOON AS PRACTICAL, BUT IN NO CASE MORE THAN 7 DAYS WHERE CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED. DISTURBED AREAS WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRED.
11. SEDIMENT SHOULD BE REMOVED FROM SEDIMENT AND EROSION CONTROL DEVICES AS NECESSARY AND MUST BE REMOVED WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50% OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
12. THE CONTRACTOR SHALL REMOVED SEDIMENT BUILD UP FROM ALL DRAINAGE STRUCTURES BEFORE ACCEPTANCE BY LOCAL GOVERNING AGENCY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
13. THE CONTRACTOR SHALL REMOVE THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ONLY AFTER A GOOD STAND OF VEGETATIVE COVER HAS BEEN ESTABLISHED ON GRADED AREAS AND WHEN IN THE OPINION OF THE OWNER'S REPRESENTATIVE, THEY ARE NO LONGER NEEDED.

UTILITY NOTES:

1. ALL WATER LINES, SEWER LINES AND APPURTENANCES SHALL BE CONSTRUCTED OF MATERIALS THAT CONFORM WITH LOCAL AGENCY(S) AND UTILITY PROVIDER DETAILS AND SPECIFICATIONS.
2. SANITARY SEWER SHALL BE OF MATERIAL AS SPECIFIED ON PLANS. POLYVINYLCHLORIDE (PVC) SHALL MEETASTM D3034 SDR35. DUCTILE IRON PIPE (DIP) SHALL MEET ANSI21.51/AWWA C-151 CLASS 52.
3. WATER LINES SHALL BE OF MATERIAL AS SPECIFIED ON PLANS. CEMENT LINED DUCTILE IRON (DIP) SHALL MEET AWWA C-151CLASS 52. POLYVINYLCHLORIDE (PVC) SHALL MEET AWWA C-900, SDR 18, CLASS 150.
4. A MINIMUM COVER OF 36" SHALL BE PROVIDED OVER ALL WATER LINES.
5. THE CONTRACTOR SHALL MAINTAIN A HORIZONTAL SEPARATION OF 10 FEET BETWEEN SANITARY SEWER LINES AND WATER LINES. WHERE THESE CRITERIA CANNOT BE MET, THE CONTRACTOR SHALL MAINTAIN 18" VERTICAL SEPARATION BETWEEN WATER AND SEWER LINES.
6. EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE SURVEYOR AT THE TIME OF THE TOPOGRAPHIC SURVEY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER. GUARANTEE IS NOT MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. FINDING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE DONE BEFORE HE COMMENCES ANY WORK IN THE VICINITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, NOR FOR TEMPORARY BRACING AND SHORING OF SAME. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
7. THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF THE POINT OF CONNECTIONS OF ALL UTILITIES PRIOR TO ORDERING OF MATERIALS OR COMMENCEMENT OF WORK. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
8. THE CONTRACTOR SHALL COORDINATE THE SEQUENCE OF CONSTRUCTION FOR ALL UTILITY LINES TO PREVENT CONFLICTS WITH EXISTING OR PROPOSED WATER LINES, SANITARY SEWER LINES, SANITARY SEWER SERVICES, STORM SEWERS, OR ANY OTHER UTILITY OR STRUCTURE.
9. BEFORE CONNECTIONS ARE MADE INTO EXISTING UTILITIES, THE NEW LINES ARE TO BE FLUSHED AND TESTED BY THE CONTRACTOR IN ACCORDANCE WITH THE LOCAL AGENCY(S) AND UTILITY PROVIDER(S) WATER AND SEWER SPECIFICATIONS.
10. REDUCED PRESSURE BACKFLOW PREVENTOR (RPBP) OR DUAL CHECK WILL BE REQUIRED ON ALL TESTS AND FILL LINES (JUMPER) NEEDED FOR WATER MAIN CONSTRUCTION AND MUST BE APPROVED BY LOCAL AGENCY AND UTILITY PROVIDER.
11. THE CONTRACTOR SHALL PROVIDE ALL HORIZONTAL AND VERTICAL BENDS TO ATTAIN THE ALIGNMENT INDICATED ON THE PLANS. PROVIDE VERTICAL BENDS WHERE NECESSARY TO ALLOW WATER LINES TO PASS UNDER OR OVER OTHER UTILITY LINES (ALL BENDS AND BRACES NEEDED MAY NOT BE SHOWN ON THESE PLANS). PROVIDE BRACING AND/OR RODDING AT ALL BENDS AND TEES AS REQUIRED.
12. THE CONTRACTOR SHALL COORDINATE EXACT LOCATION OF UTILITY CONNECTIONS AT THE BUILDING WITH PLUMBING PLANS.
13. PROPOSED GAS LINE, ELECTRIC LINE AND TELEPHONE LINE CONSTRUCTION AND INSTALLATION SHALL BE COORDINATED WITH THE RESPECTIVE UTILITY PROVIDERS.
14. THE EXISTING SITE CONTAINS AN UNDERGROUND IRRIGATION SYSTEM. THE CONTRACTOR MUST PROVIDE CAPS FOR LINES THAT MUST BE CUT, AND RE-ROUTE THE IRRIGATION SYSTEM TO ACCOMMODATE EXCAVATION FOR THE PROPOSED PROJECT. THE IRRIGATION SYSTEM SHALL BE REINSTALLED ON A DESIGN BUILD BASIS PRIOR TO THE END OF CONSTRUCTION.
15. EXISTING CASTINGS LOCATED IN FILL/CUT AREAS SHALL BE ADJUSTED TO ENSURE THAT THE TOP OF CASTING IS FLUSH WITH THE FINISHED GRADE.
16. THE CONTRACTOR SHALL MARK THE LOCATION OF ALL NEW PVC LINES WITH #8 WIRE.
17. ALL CONNECTIONS TO EXISTING MANHOLES SHALL BE BY THE CORING AND RESILIENT SEAL METHOD.
18. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.
19. ALL FIRE LINES SHALL BE INSTALLED BY A SPRINKLER CONTRACTOR LICENSED IN THE STATE OF THE PROJECT.
20. PRIOR TO SUBMITTING OF BID, THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS.

EROSION CONTROL TYPICAL NOTES:

1. ALL CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURE'S SPECIFICATIONS AND THE CONTRACT DOCUMENTS. IF PERIODIC INSPECTIONS OR OTHER INFORMATION INDICATES A CONTROL HAS BEEN USED INAPPROPRIATELY OR INCORRECTLY, THE CONTRACTOR MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS.
2. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS. PERMITTEES SHALL NOT INITIATE REMEDIATION/RESTORATION OF A STREAM WITHOUT CONSULTING THE DIVISION FIRST. THIS PERMIT DOES NOT, HOWEVER, AUTHORIZE ACCESS TO PRIVATE PROPERTY.
3. SEDIMENT SHOULD BE REMOVED FROM SEDIMENT TRAPS, SILT FENCES, SEDIMENTATION PONDS, AND OTHER SEDIMENT CONTROLS AS NECESSARY, AND MUST BE REMOVED WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 33%.
4. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER SHALL BE PICKED UP PRIOR TO ANTICIPATED STORM EVENTS, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES.
5. PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 20 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA IS SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER IS INSTALLED.
6. CLEARING AND GRUBBING MUST BE HELD TO THE MINIMUM NECESSARY FOR GRADING AND EQUIPMENT OPERATION.
7. CONSTRUCTION MUST BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED AREAS.
8. EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN, AND MUST BE CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORK DAY, BUT MUST BE REPLACED AT THE END OF THE WORK DAY.
9. THE FOLLOWING RECORDS SHALL BE MAINTAINED ON SITE; THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
10. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. EXCEPT IN THE FOLLOWING TWO SITUATIONS: 1. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE SEVENTH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL; OR 2. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 15 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE.
11. CONSTRUCTION MUST BE PHASED FOR PROJECTS IN WHICH OVER 50 ACRES OF SOIL WILL BE DISTURBED. AREAS OF THE COMPLETED PHASE MUST BE STABILIZED WITHIN 21 DAYS AFTER ANOTHER PHASE HAS BEEN INITIATED OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES: AFTER USE, SILT FENCES SHOULD BE REMOVED OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES.
12. TEMPORARY OR PERMANENT SOIL STABILIZATION SHALL BE ACCOMPLISHED WITHIN 15 DAYS AFTER FINAL GRADING OR OTHER EARTH WORK. PERMANENT STABILIZATION WITH PERENNIAL VEGETATION OR OTHER PERMANENTLY STABLE, NON-ERODING SURFACE SHALL REPLACE ANY TEMPORARY MEASURES AS SOON AS PRACTICABLE.
13. NO SOLID MATERIALS INCLUDING BUILDING MATERIAL, SHALL BE DISCHARGED TO WATERS OF THE UNITED STATES EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT AND/OR TENNESSEE AQUATIC RESOURCE ALTERATION PERMIT
14. OFFS



DEMOLITION PLAN KEYNOTES

CODE	DESCRIPTION	DETAIL LOCATION
D1	REMOVE EXISTING FENCE	-
D2	REMOVE EXISTING TREE	-

NOTES.
1. REFER TO SHEET C2.0 FOR NOTES.

STENGEL-HILL
ARCHITECTURE

613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta ENGINEERING CONSULTANTS

Foodservices Design

ACADIA HEALTHCARE

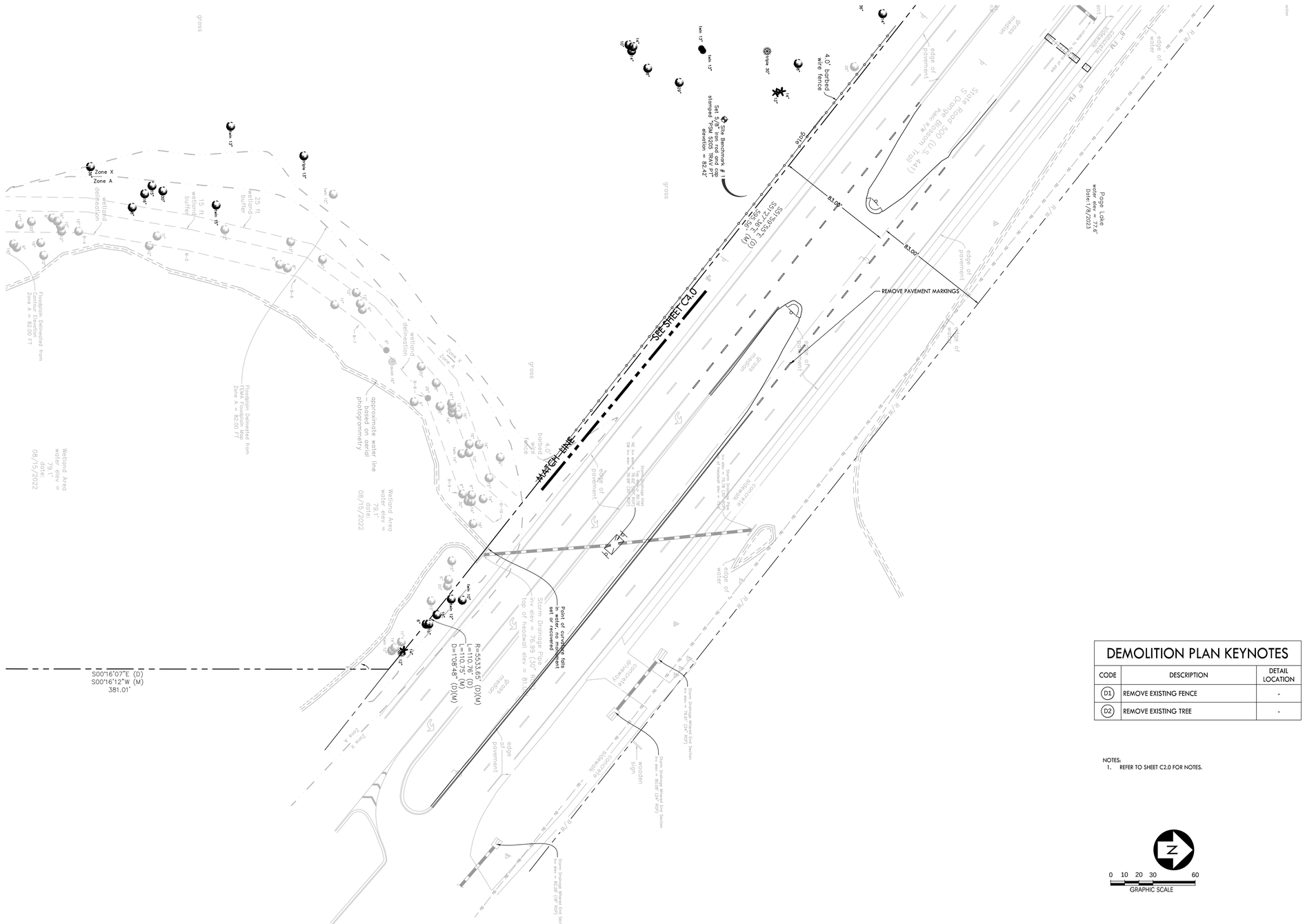
NOT FOR CONSTRUCTION

WILLIAM W. CRUNK
LICENSED
No 76574
3/25/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER

DEMOLITION PLAN
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C4.0



DEMOLITION PLAN KEYNOTES

CODE	DESCRIPTION	DETAIL LOCATION
D1	REMOVE EXISTING FENCE	-
D2	REMOVE EXISTING TREE	-

NOTES:
1. REFER TO SHEET C2.0 FOR NOTES.

0 10 20 30 60
GRAPHIC SCALE

STENGEL-HILL ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta ENGINEERING CONSULTANTS

Foodservices Design

ACADIA HEALTHCARE

NOT FOR CONSTRUCTION

ADAM W. CRUNK LICENSED No 78074 STATE OF FLORIDA PROFESSIONAL ENGINEER 3/25/23

DEMOLITION PLAN
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C4.1

SITE DATA TABLE

SITE ACREAGE: 10.34
EXISTING ZONING: AGRICULTURAL GRAZING OR VACANT
PROPOSED ZONING: C-R REGIONAL COMMERCIAL
PROPOSED USE: HOSPITAL

BUILDING SETBACKS:

ACTUAL:
FRONT = 427 FT
REAR = 104 FT
LEFT SIDE = 159 FT
RIGHT SIDE = 139 FT

REQUIRED:
FRONT = 15 FT MIN
REAR = 10 FT MIN / 30 FT MIN WHEN ADJACENT TO A RESIDENTIAL USE OR A RESIDENTIAL DISTRICT
SIDE = 10 FT MIN

MAXIMUM BUILDING HEIGHT: 35 FT

TOTAL BUILDING SQ-FT = 99,497

FLOOR AREA RATIO = 99,497 SQ-FT / 450,070 SQ-FT = .221

REQUIRED PARKING: 1.2 SPACES / BED

PROVIDED PARKING:
REGULAR SPACES = 162
A.D.A SPACES = 6
TOTAL SPACES = 168

IMPERVIOUS AREA TO TOTAL AREA COVERAGE CALCULATIONS:
4.16 IMPERVIOUS ACRES / 10.34 TOTAL ACRES = 40.2% COVERAGE

ADJACENT NORTHERN PROPERTIES
EXISTING FUTURE LAND USE CATEGORIES:
UNINCORPORATED AND COMM
ZONING DESIGNATIONS:
UNINCORPORATED AND C-C

ADJACENT EASTERN PROPERTY
EXISTING FUTURE LAND USE CATEGORY:
UNINCORPORATED
ZONING DESIGNATION:
UNINCORPORATED

ADJACENT WESTERN PROPERTIES
EXISTING FUTURE LAND USE CATEGORIES:
INST_PU AND UNINCORPORATED
ZONING DESIGNATIONS:
O AND UNINCORPORATED

ADJACENT SOUTHERN PROPERTY
EXISTING FUTURE LAND USE CATEGORY:
COMM
ZONING DESIGNATION:
C-R

PER TABLE 5.4.4: REQUIRED OPEN SPACE SET-ASIDES IN THE APOPKA LAND DEVELOPMENT CODE (LDC), WE ARE IN THE FOLLOWING 2 CATEGORIES; "COMMERCIAL BASE, AND THE INST AND AIR DISTRICTS" AND "PUBLIC, CIVIC, AND INSTITUTIONAL USES", WHICH REQUIRES 10% MINIMUM OPEN SPACE SET-ASIDE AREA AS A PERCENTAGE OF DEVELOPMENT SITE AREA.
REQUIRED OPEN SPACE AREA = 45,007 SQ-FT
PROVIDED OPEN SPACE AREA = 158,197 SQ-FT

GREEN BUILDING STANDARDS:

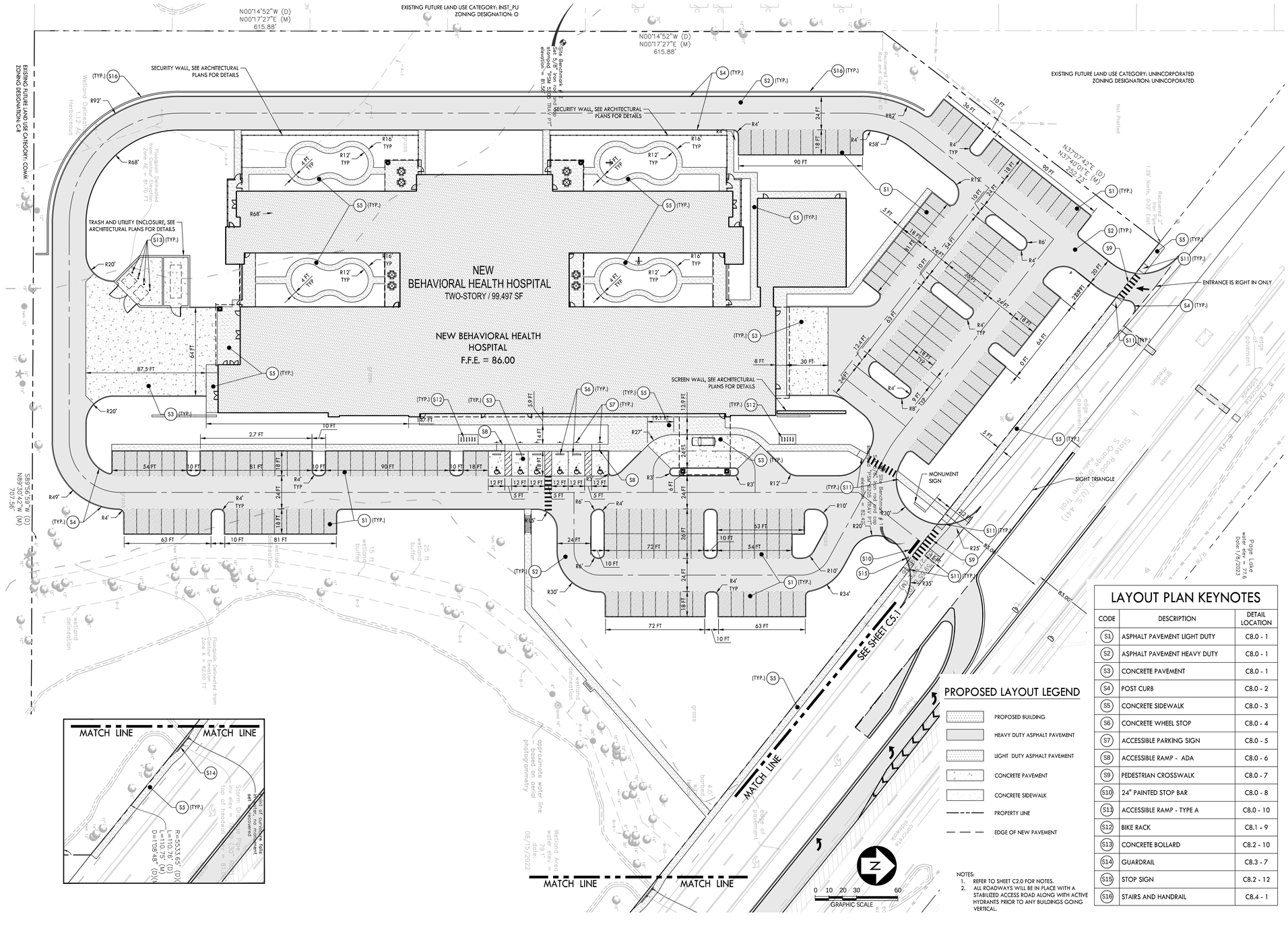
TOTAL GREEN BUILDING POINTS = 5.75

PROVIDE RAIN GARDENS, STREET-SIDE SWALES, OR OTHER APPROPRIATE STORM WATER INFILTRATION SYSTEM(S) THAT CAPTURES A MINIMUM OF 25 PERCENT OF SITE STORMWATER RUNOFF - 1.00 GREEN BUILDING POINT
- CURRENTLY 53.2% OF THE SITE'S STORMWATER RUNOFF IS BEING CAPTURED, GRANTING 1.00 GREEN BUILDING POINT.

RETAIN AT LEAST 20 PERCENT OF EXISTING PRE-DEVELOPMENT NATURAL VEGETATION - 0.75 GREEN BUILDING POINT
- CURRENTLY 35.1% OF THE SITE'S EXISTING NATURAL VEGETATION WILL BE RETAINED, GRANTING 0.75 GREEN BUILDING POINTS.

ELEVATE NEW AND/OR EXISTING STRUCTURES MORE THAN 3 FEET ABOVE BASE FLOOD ELEVATION (BFE) - 0.50 GREEN BUILDING POINTS PER FOOT ABOVE BFE
- THE SITE'S HIGHEST BFE IS 82 FT AND THE BUILDING ELEVATION IS SET TO 86 FT, GRANTING 2 GREEN BUILDING POINTS.

PROVIDE MORE BICYCLE PARKING THAN REQUIRED BY SEC. 5.1.11, BICYCLE PARKING STANDARDS, WHILE ENSURING THAT ALL OTHER BICYCLE PARKING STANDARDS IN SECTION 5.1, OFF-STREET PARKING, BICYCLE PARKING, AND LOADING STANDARDS ARE MET - 0.50 GREEN BUILDING POINTS PER ADDITIONAL 5 PERCENT BICYCLE PARKING SPACES
- 10 BICYCLE PARKING SPACES ARE REQUIRED AND 12 ARE BEING PROVIDED, PROVIDING AN EXCESS AMOUNT OF 20%, GRANTING 2 GREEN BUILDING POINTS.



PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

LAYOUT PLAN KEYNOTES

CODE	DESCRIPTION	DETAIL LOCATION
S1	ASPHALT PAVEMENT LIGHT DUTY	C8.0 - 1
S2	ASPHALT PAVEMENT HEAVY DUTY	C8.0 - 1
S3	CONCRETE PAVEMENT	C8.0 - 1
S4	POST CURB	C8.0 - 2
S5	CONCRETE SIDEWALK	C8.0 - 3
S6	CONCRETE WHEEL STOP	C8.0 - 4
S7	ACCESSIBLE PARKING SIGN	C8.0 - 5
S8	ACCESSIBLE RAMP - ADA	C8.0 - 6
S9	PEDESTRIAN CROSSWALK	C8.0 - 7
S10	24" PAINTED STOP BAR	C8.0 - 8
S11	ACCESSIBLE RAMP - TYPE A	C8.0 - 10
S12	BIKE RACK	C8.1 - 9
S13	CONCRETE BOLLARD	C8.2 - 10
S14	GUARDRAIL	C8.3 - 7
S15	STOP SIGN	C8.2 - 12
S16	STAIRS AND HANDRAIL	C8.4 - 1

NOTES:
1. REFER TO SHEET C2.0 FOR NOTES.
2. ALL ROADWAYS WILL BE IN PLACE WITH A STABILIZED ACCESS ROAD ALONG WITH ACTIVE HYDRANTS PRIOR TO ANY BUILDINGS GOING VERTICAL.

STENGEL-HILL ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING
Structural Engineering
Skyhook STRUCTURAL ENGINEERING, P.C.
Mechanical/Electrical Engineering
cmta ENGINEERING CONSULTANTS
Foodservices Design

ACADIA HEALTHCARE

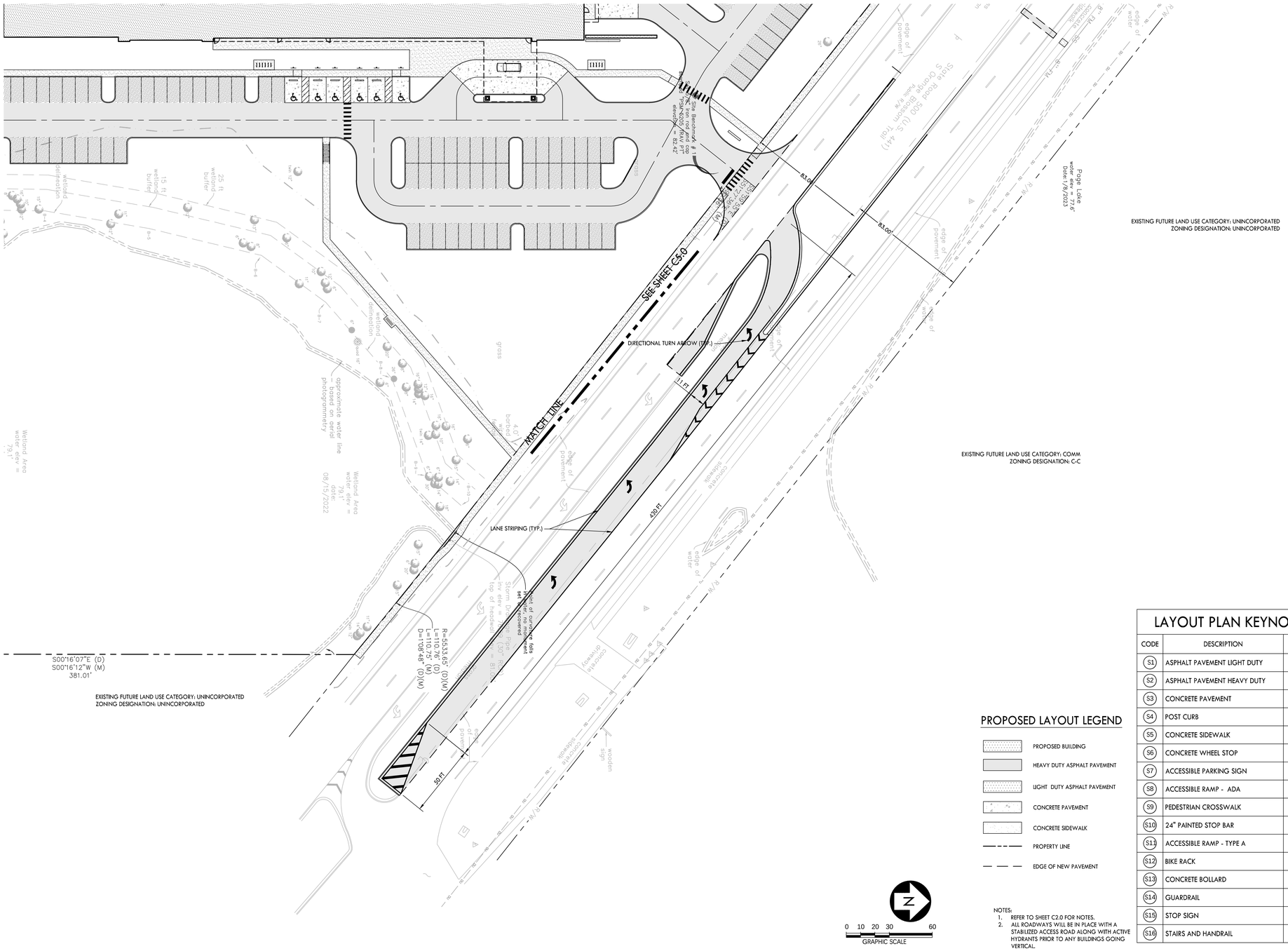
NOT FOR CONSTRUCTION

WILLIAM W. CRUNK LICENSED No 78078 3/25/24 STATE OF FLORIDA PROFESSIONAL ENGINEER

SITE LAYOUT PLAN
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C5.0



PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

NOTES:
1. REFER TO SHEET C2.0 FOR NOTES.
2. ALL ROADWAYS WILL BE IN PLACE WITH A STABILIZED ACCESS ROAD ALONG WITH ACTIVE HYDRANTS PRIOR TO ANY BUILDINGS GOING VERTICAL.

LAYOUT PLAN KEYNOTES

CODE	DESCRIPTION	DETAIL LOCATION
S1	ASPHALT PAVEMENT LIGHT DUTY	C8.0 - 1
S2	ASPHALT PAVEMENT HEAVY DUTY	C8.0 - 1
S3	CONCRETE PAVEMENT	C8.0 - 1
S4	POST CURB	C8.0 - 2
S5	CONCRETE SIDEWALK	C8.0 - 3
S6	CONCRETE WHEEL STOP	C8.0 - 4
S7	ACCESSIBLE PARKING SIGN	C8.0 - 5
S8	ACCESSIBLE RAMP - ADA	C8.0 - 6
S9	PEDESTRIAN CROSSWALK	C8.0 - 7
S10	24" PAINTED STOP BAR	C8.0 - 8
S11	ACCESSIBLE RAMP - TYPE A	C8.0 - 10
S12	BIKE RACK	C8.1 - 9
S13	CONCRETE BOLLARD	C8.2 - 10
S14	GUARDRAIL	C8.3 - 7
S15	STOP SIGN	C8.2 - 12
S16	STAIRS AND HANDRAIL	C8.4 - 1

STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta
ENGINEERING CONSULTANTS

Foodservices Design
iai

ACADIA HEALTHCARE

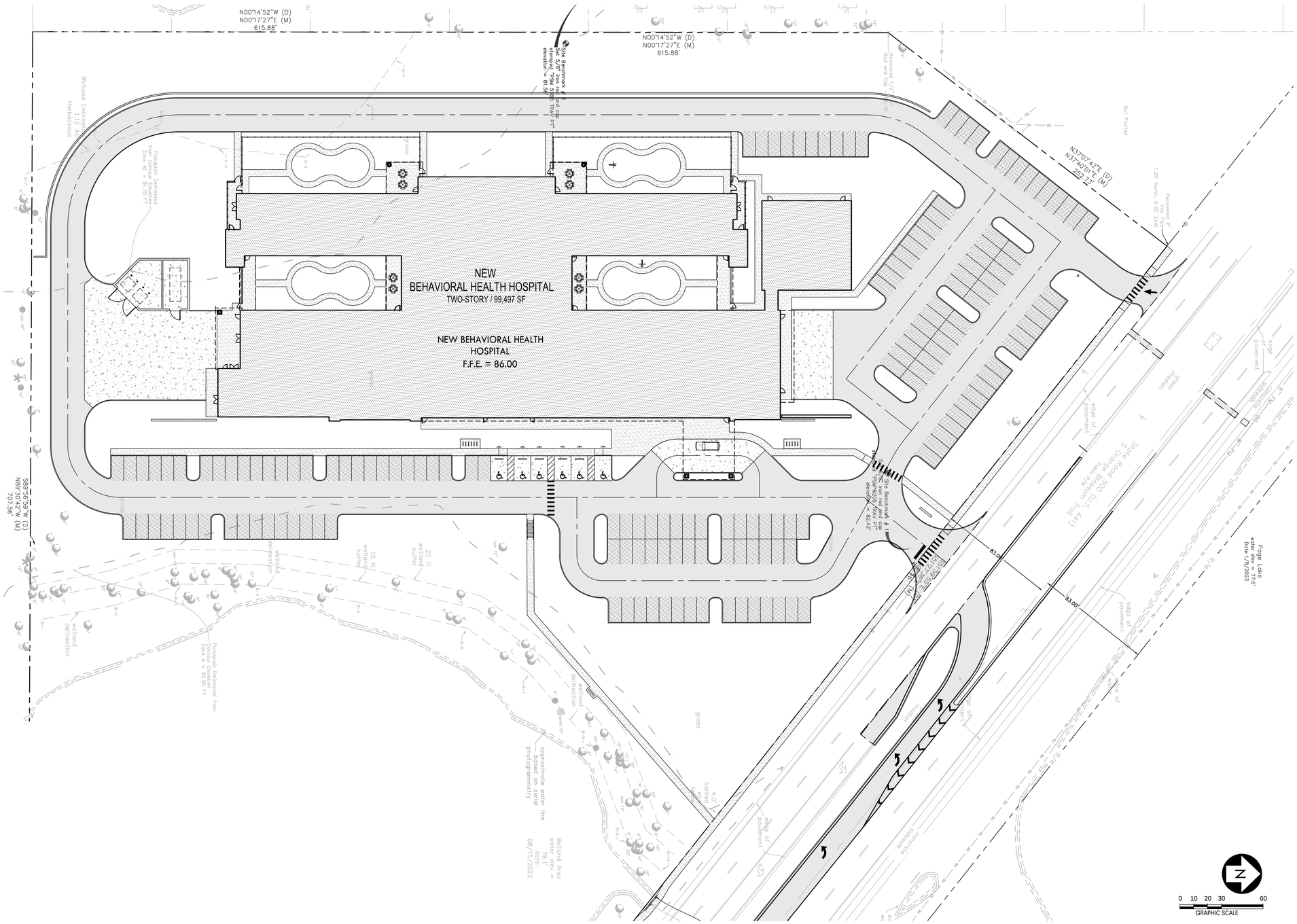
NOT FOR CONSTRUCTION

ADAM W. CRUNK
LICENSED
No 78077
3/25/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SITE LAYOUT PLAN
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C5.1



0 10 20 30 60
GRAPHIC SCALE

NOTES:
1. REFER TO SHEET C2.0 FOR NOTES.
2. ALL ROADWAYS WILL BE IN PLACE WITH A STABILIZED ACCESS ROAD ALONG WITH ACTIVE HYDRANTS PRIOR TO ANY BUILDINGS GOING VERTICAL.

STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta
ENGINEERING CONSULTANTS

Foodservices Design
iai

ACADIA
HEALTHCARE

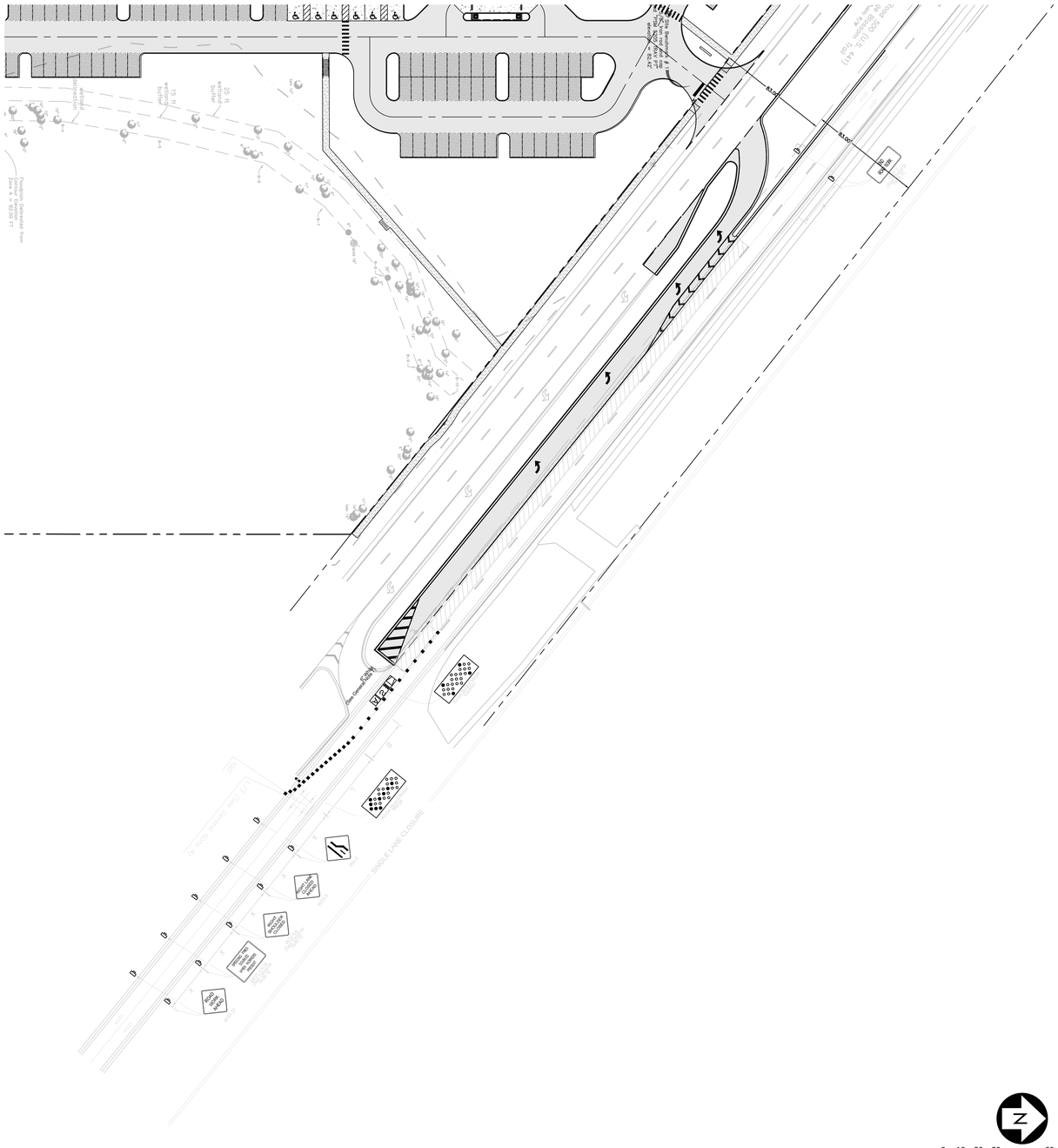
NOT FOR CONSTRUCTION

ADAM W. CRUNK
LICENSED
No 78070
STATE OF FLORIDA
PROFESSIONAL ENGINEER
3/25/23

FIRE TRUCK TURN EXHIBIT
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C5.2



GENERAL NOTE:

1. L = TAPER LENGTH
   B = BUFFER LENGTH
   X = WORK ZONE SIGN DISTANCE
   SEE INDEX 102-600 FOR "L", "B", "X", AND CHANNELIZING DEVICE SPACING VALUES.

2. ON UNDIVIDED HIGHWAYS THE MEDIAN SIGNS AS SHOWN ARE TO BE OMITTED.

3. ON LIMITED ACCESS FACILITIES, OMIT "RIGHT SHOULDER CLOSED" SIGNS (W21-5A) AND ASSOCIATED WORK ZONE SIGN SPACING DISTANCES.

4. IF THE PAVED SHOULDER IS LESS THAN 4' IN WIDTH, OMIT THE TAPER AND CHANNELIZING DEVICES FROM THE PAVED SHOULDER.

5. THE "SPEEDING FINES DOUBLED WHEN WORKERS PRESENT" SIGNS (MOT-13-06) AND "END ROAD WORK" SIGNS (G20-2) AND "RIGHT SHOULDER CLOSED" (W21-5A), ALONG WITH ASSOCIATED WORK ZONE SIGN DISTANCES, MAY BE OMITTED WHEN THE WORK OPERATION WILL BE IN PLACE FOR 24 HOURS OR LESS. FOR SIGNLE LANE CLOSURES, ARROW BOARDS AND BUFFER (B) MAY ALSO BE OMITTED WHEN THE WORK OPERATION WILL BE IN PLACE FOR 60 MINUTES OR LESS AND THE SPEED LIMIT IS 45 MPH OR LESS.

6. USE INVERTED PLAN OF THE ILLUSTRATIONS FOR WORK ON LEFT SIDE OF ROADWAYS.

7. TEMPORARY PAVEMENT MARKINGS MAY BE OMITTED WHEN THE WORK OPERATION IS IN PLACE FOR 3 DAYS OR LESS.

SYMBOLS:

- WORK AREA
- CHANNELIZING DEVICE (SEE INDEX 102-600)
- WORK ZONE SIGN
- ARROW BOARD
- LANE IDENTIFICATION AND DIRECTION OF TRAFFIC

0 10 20 30 60
GRAPHIC SCALE

STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING
Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.
Mechanical/Electrical Engineering
cmta
Foodservices Design

ACADIA HEALTHCARE

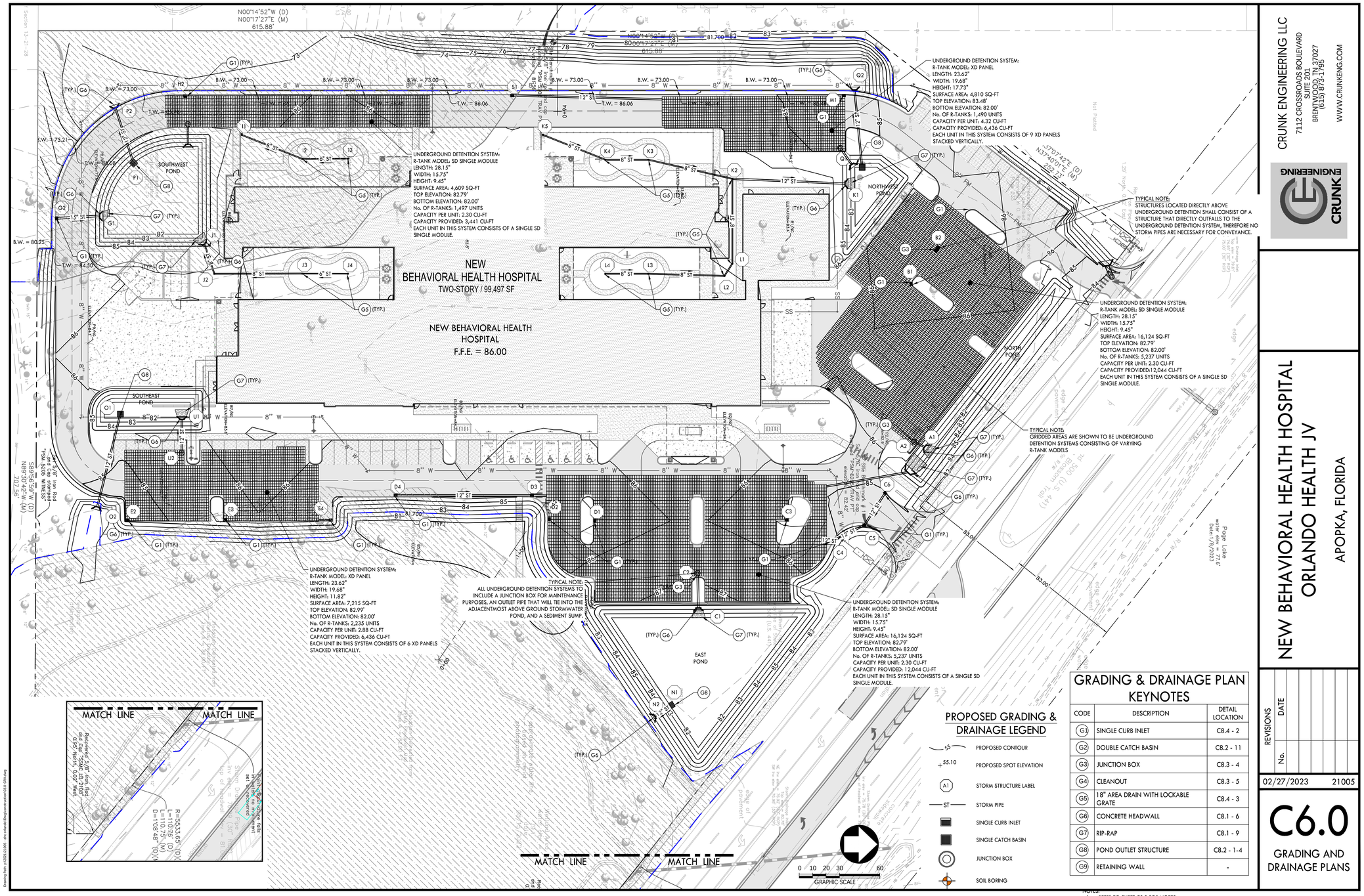
NOT FOR CONSTRUCTION

ADAM N. CRUNK
LICENSED
No 78[illegible]
5/25/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER

MOT EXHIBIT
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C5.3



PROPOSED GRADING & DRAINAGE LEGEND

- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- STORM STRUCTURE LABEL
- STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX
- SOIL BORING

GRADING & DRAINAGE PLAN KEYNOTES

CODE	DESCRIPTION	DETAIL LOCATION
G1	SINGLE CURB INLET	C8.4 - 2
G2	DOUBLE CATCH BASIN	C8.2 - 11
G3	JUNCTION BOX	C8.3 - 4
G4	CLEANOUT	C8.3 - 5
G5	18" AREA DRAIN WITH LOCKABLE GRATE	C8.4 - 3
G6	CONCRETE HEADWALL	C8.1 - 6
G7	RIP-RAP	C8.1 - 9
G8	POND OUTLET STRUCTURE	C8.2 - 1-4
G9	RETAINING WALL	-

NOTES:
1. REFER TO SHEET C2.0 FOR NOTES.
2. POND BOTTOM AND SIDE SLOPES WILL BE SEEDED TO MINIMIZE EROSION.

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

REVISIONS		
No.	DATE	

02/27/2023 21005

C6.0
GRADING AND DRAINAGE PLANS

STENGEL-HILL ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING
Structural Engineering
Skyhook STRUCTURAL ENGINEERING, P.C.
Mechanical/Electrical Engineering
cmta ENGINEERING CONSULTANTS
Foodservices Design

ACADIA HEALTHCARE

NOT FOR CONSTRUCTION

JOHN M. CRUNK LICENSED No 78574 3/25/23 STATE OF TENNESSEE REGISTERED PROFESSIONAL ENGINEER

GRADING AND DRAINAGE PLANS
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C6.0

STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING
Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.S.C.
Mechanical/Electrical Engineering
Landtech
Foodservices Design

NOT FOR CONSTRUCTION

ACADIA HEALTHCARE

STORM PIPE & STRUCTURE TABLES

NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C6.1

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

REVISIONS	
No.	DATE

02/27/2023 21005

C6.1
STORM PIPE & STRUCTURE TABLES

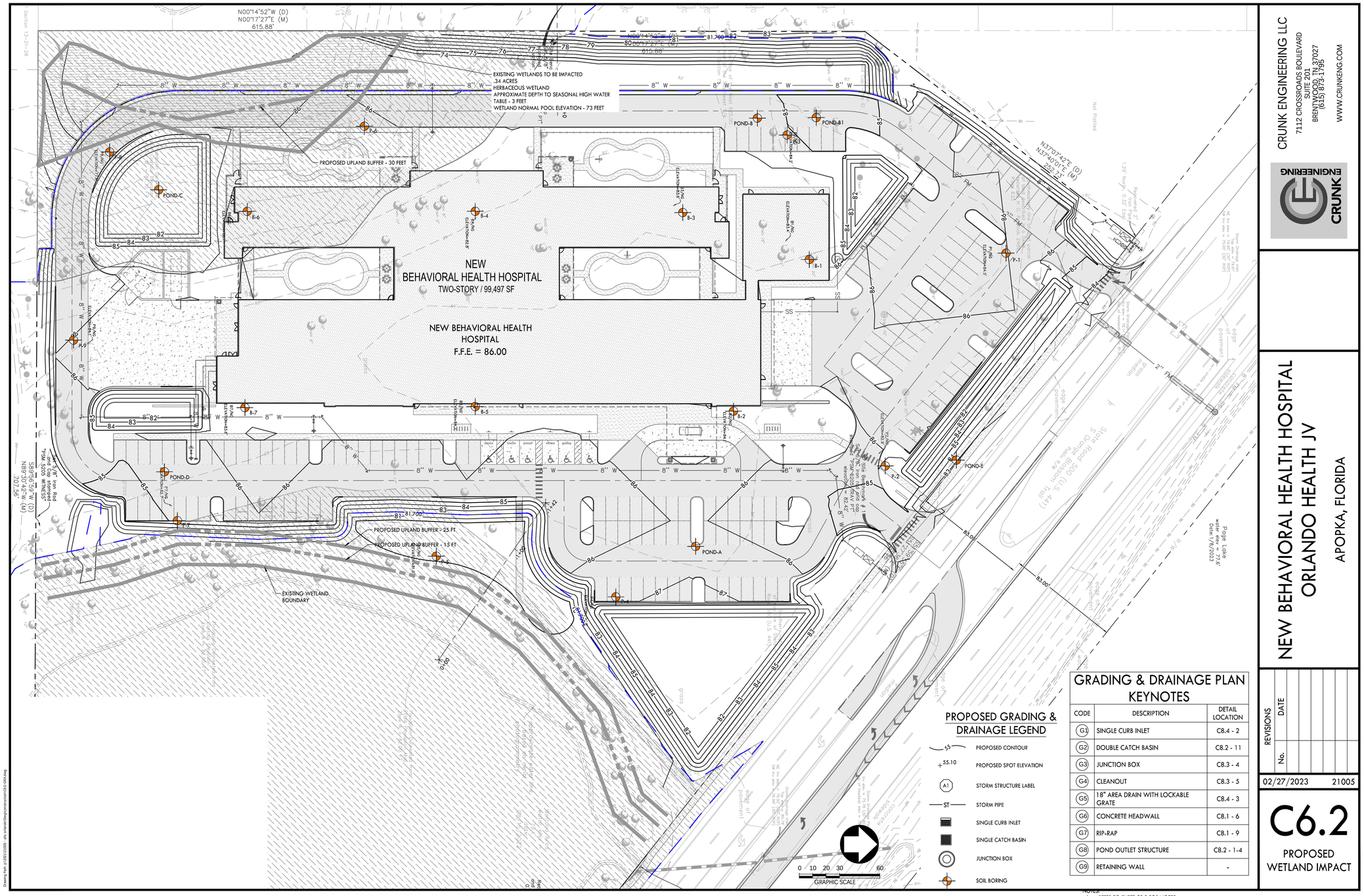
STORM PIPE TABLE

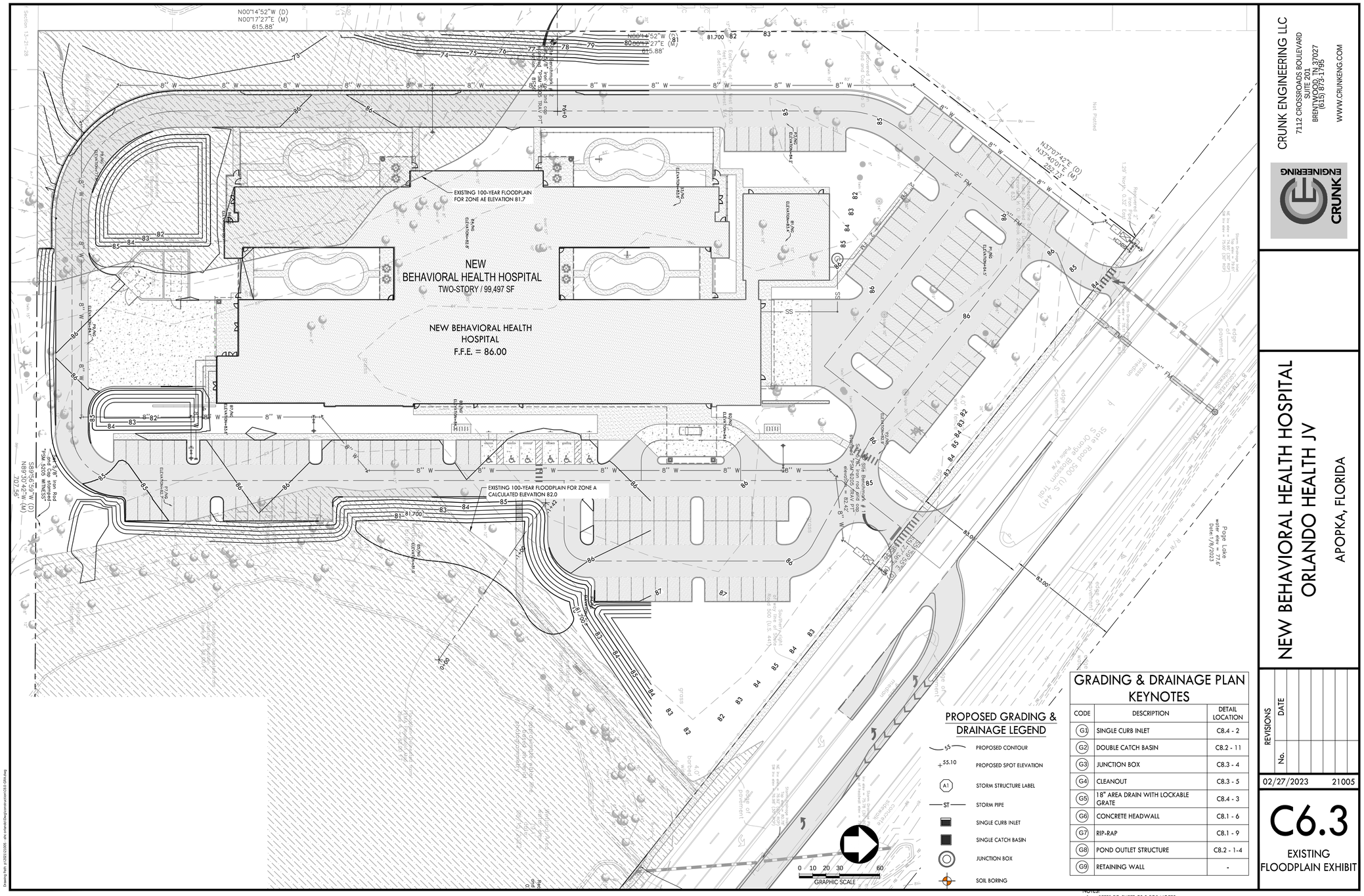
INLET	INVERT	OUTLET	INVERT	LENGTH (FT)	SLOPE (%)	SHAPE	DIAMETER (IN)	MATERIAL
K3	83.54	K2	83.22	64.19	0.50%	CIRCULAR	8	HDPE
K4	83.70	K3	83.54	32.00	0.50%	CIRCULAR	8	HDPE
K5	83.95	K4	83.70	50.10	0.50%	CIRCULAR	8	HDPE
L1	84.00	K2	83.68	63.16	0.50%	CIRCULAR	8	HDPE
L2	84.05	L1	84.00	10.90	0.50%	CIRCULAR	8	HDPE
L3	84.34	L2	84.05	56.73	0.50%	CIRCULAR	8	HDPE
L4	84.50	L3	84.34	32.00	0.50%	CIRCULAR	8	HDPE
N1	82.00	N2	73.00	14.62	61.57%	CIRCULAR	12	HDPE
O1	82.00	O2	80.00	71.28	2.81%	CIRCULAR	12	HDPE
P1	82.00	P2	73.00	43.33	20.77%	CIRCULAR	12	HDPE
Q1	82.00	Q2	75.80	57.85	12.10%	CIRCULAR	12	HDPE
R1	79.11	R2	78.20	9.05	10.00%	CIRCULAR	30	RCP
S1	82.69	UND.	82.00	111.67	0.62%	CIRCULAR	12	HDPE
T1	82.00	UND.	82.00	61.25	0.00%	CIRCULAR	12	HDPE
U2	82.00	U1	82.00	24.95	0.00%	CIRCULAR	12	HDPE
V1	82.00	V2	82.00	14.96	0.00%	CIRCULAR	12	HDPE

STORM STRUCTURE TABLE

ID	RIM	INVERT	TYPE
A1	84.00	82.00	CONCRETE HEADWALL
A2	86.70	82.00	JUNCTION MANHOLE
B1	85.60	82.52	SINGLE CURB INLET
B2	85.27	82.64	DOUBLE CATCH BASIN
B3	85.78	80.78	SINGLE CURB INLET
C1	84.34	82.00	CONCRETE HEADWALL
C2	86.88	82.00	JUNCTION MANHOLE
C3	85.42	81.46	SINGLE CURB INLET
C4	85.14	82.02	SINGLE CURB INLET
C5	84.67	82.15	SINGLE CURB INLET
C6	84.90	82.30	SINGLE CURB INLET
D1	85.44	81.78	SINGLE CURB INLET
D2	85.11	81.95	SINGLE CURB INLET
D3	85.39	82.23	SINGLE CURB INLET
D4	85.12	82.74	SINGLE CURB INLET
E2	84.57	81.36	SINGLE CURB INLET
E3	85.60	82.48	SINGLE CURB INLET
E4	85.41	82.24	SINGLE CURB INLET
G1	84.00	82.00	CONCRETE HEADWALL
G2	85.00	82.20	SINGLE CURB INLET
H2	85.07	82.51	SINGLE CURB INLET
I1	86.29	82.29	12" NYLOPLAST
I2	86.60	84.34	12" NYLOPLAST
I3	86.60	84.51	12" NYLOPLAST
J1	84.44	82.90	CONCRETE HEADWALL
J2	86.68	83.04	12" NYLOPLAST
J3	86.50	83.37	12" NYLOPLAST
J4	86.50	83.54	12" NYLOPLAST
K1	84.44	82.74	CONCRETE HEADWALL
K2	86.54	83.22	12" NYLOPLAST
K3	86.48	83.54	12" NYLOPLAST
K4	86.41	83.70	12" NYLOPLAST
K5	86.24	83.95	12" NYLOPLAST
L1	86.84	84.00	12" NYLOPLAST
L2	87.00	84.05	12" NYLOPLAST
L3	87.00	84.34	12" NYLOPLAST
L4	87.00	84.50	12" NYLOPLAST
M1	84.59	82.52	SINGLE CURB INLET
N1	84.00	82.00	OUTLET STRUCTURE
N2	83.36	73.00	CONCRETE HEADWALL
O1	83.77	81.95	OUTLET STRUCTURE
O2	81.63	78.95	CONCRETE HEADWALL
P1	84.00	81.00	OUTLET STRUCTURE
P2	79.00	73.00	CONCRETE HEADWALL
Q1	84.00	82.00	OUTLET STRUCTURE
Q2	79.00	75.00	CONCRETE HEADWALL
R1	83.70	79.11	CONCRETE HEADWALL
R2	83.81	78.20	JUNCTION MANHOLE
S1	85.24	82.69	SINGLE CURB INLET
T1	83.98	82.00	CONCRETE HEADWALL
U1	83.63	82.00	CONCRETE HEADWALL
U2	85.66	82.00	JUNCTION MANHOLE
V1	85.29	82.00	JUNCTION MANHOLE
V2	83.63	82.00	CONCRETE HEADWALL
W1	84.77	82.00	JUNCTION MANHOLE
W2	83.63	82.00	CONCRETE HEADWALL

Drawing Path: P:\2021\21005 - Ac Orlando\Design\construction\C6.0-C6.4.dwg


NEW
BEHAVIORAL HEALTH HOSPITAL
TWO-STORY / 99,497 SF
NEW BEHAVIORAL HEALTH
HOSPITAL
F.F.E. = 86.00
EXISTING WETLANDS TO BE IMPACTED
.34 ACRES
HERBACEOUS WETLAND
APPROXIMATE DEPTH TO SEASONAL HIGH WATER
TABLE - 3 FEET
WETLAND NORMAL POOL ELEVATION - 73 FEET
PROPOSED UPLAND BUFFER - 30 FEET
PROPOSED UPLAND BUFFER - 25 FT.
PROPOSED UPLAND BUFFER - 15 FT.
EXISTING WETLAND
BOUNDARY
POND-A
POND-B
POND-C
POND-D
POND-E
POND-B1
N00°14'52"W (D)
N00°17'27"E (M)
615.88'
S89°56'59"W, (D)
N89°56'59"E (M)
307.94'
Pope Lake
water elev. 77.76
Date: 1/6/2023
Not Platted
Not Platted
Not Platted



PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- +55.10 — PROPOSED SPOT ELEVATION
- A1 — STORM STRUCTURE LABEL
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX
- SOIL BORING

GRADING & DRAINAGE PLAN KEYNOTES

CODE	DESCRIPTION	DETAIL LOCATION
G1	SINGLE CURB INLET	C8.4 - 2
G2	DOUBLE CATCH BASIN	C8.2 - 11
G3	JUNCTION BOX	C8.3 - 4
G4	CLEANOUT	C8.3 - 5
G5	18" AREA DRAIN WITH LOCKABLE GRATE	C8.4 - 3
G6	CONCRETE HEADWALL	C8.1 - 6
G7	RIP-RAP	C8.1 - 9
G8	POND OUTLET STRUCTURE	C8.2 - 1-4
G9	RETAINING WALL	-

NOTES:
1. REFER TO SHEET C2.0 FOR NOTES.
2. POND BOTTOM AND SIDE SLOPES WILL BE SEEDED TO MINIMIZE EROSION.

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

REVISIONS	
No.	DATE

02/27/2023 21005

C6.3
EXISTING FLOODPLAIN EXHIBIT

STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta

Foodservices Design
iai

ACADIA HEALTHCARE

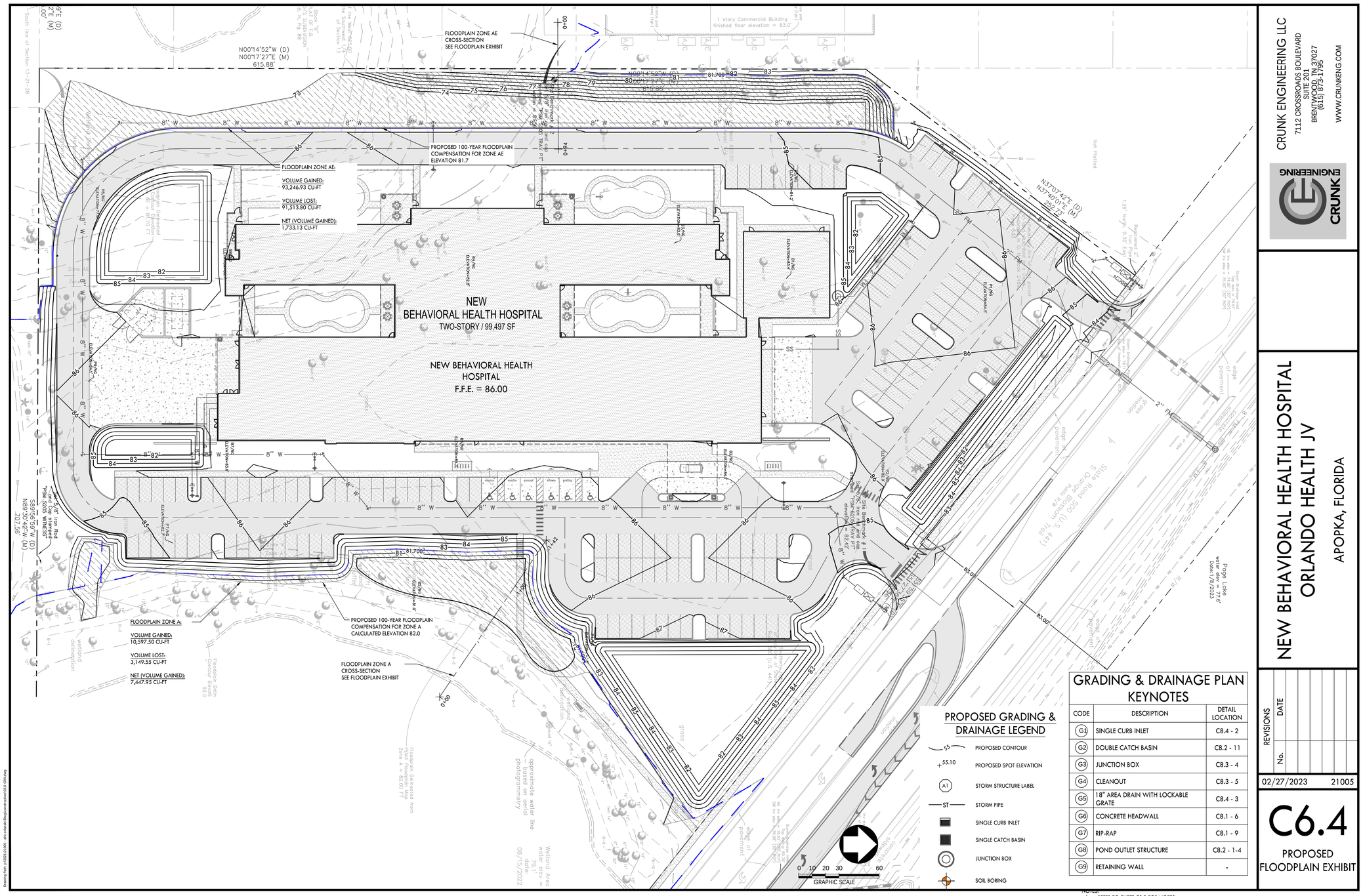
NOT FOR CONSTRUCTION

ADAM W. CRUNK
LICENSED
No 78027
STATE OF FLORIDA
PROFESSIONAL ENGINEER
3/25/23

EXISTING FLOODPLAIN EXHIBIT
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C6.3



PROPOSED GRADING & DRAINAGE LEGEND

- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- STORM STRUCTURE LABEL
- STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX
- SOIL BORING

GRADING & DRAINAGE PLAN KEYNOTES

CODE	DESCRIPTION	DETAIL LOCATION
G1	SINGLE CURB INLET	C8.4 - 2
G2	DOUBLE CATCH BASIN	C8.2 - 11
G3	JUNCTION BOX	C8.3 - 4
G4	CLEANOUT	C8.3 - 5
G5	18" AREA DRAIN WITH LOCKABLE GRATE	C8.4 - 3
G6	CONCRETE HEADWALL	C8.1 - 6
G7	RIP-RAP	C8.1 - 9
G8	POND OUTLET STRUCTURE	C8.2 - 1-4
G9	RETAINING WALL	-

NOTES:
1. REFER TO SHEET C2.0 FOR NOTES.
2. POND BOTTOM AND SIDE SLOPES WILL BE SEEDED TO MINIMIZE EROSION.

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

REVISIONS

No.	DATE

02/27/2023 21005

C6.4
PROPOSED FLOODPLAIN EXHIBIT

STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta

Foodservices Design
iai

ACADIA HEALTHCARE

NOT FOR CONSTRUCTION

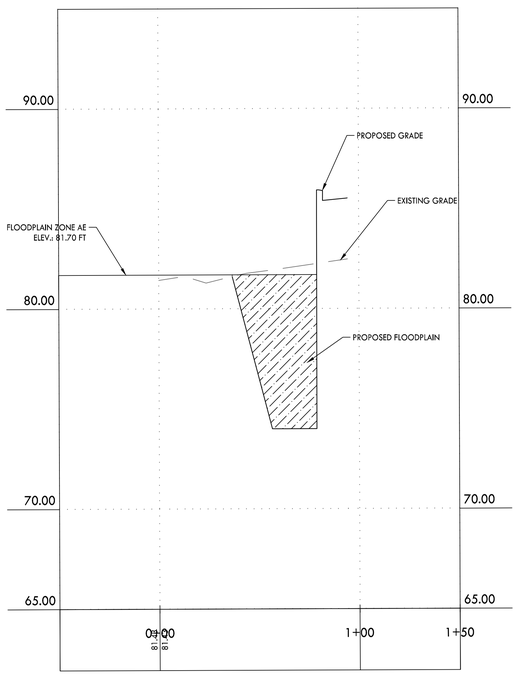
ADAM W. CRUNK
LICENSED
No 78027
STATE OF FLORIDA
PROFESSIONAL ENGINEER
3/25/23

PROPOSED FLOODPLAIN EXHIBIT
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

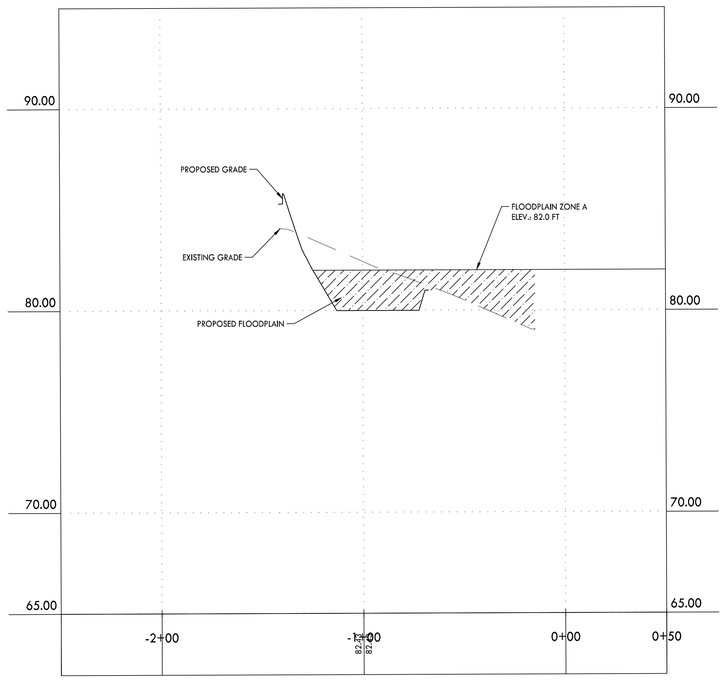
25 MAY 2023

C6.4

FP ZONE AE



FP ZONE A



STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta
ENGINEERING CONSULTANTS

Foodservices Design
iai

ACADIA
HEALTHCARE

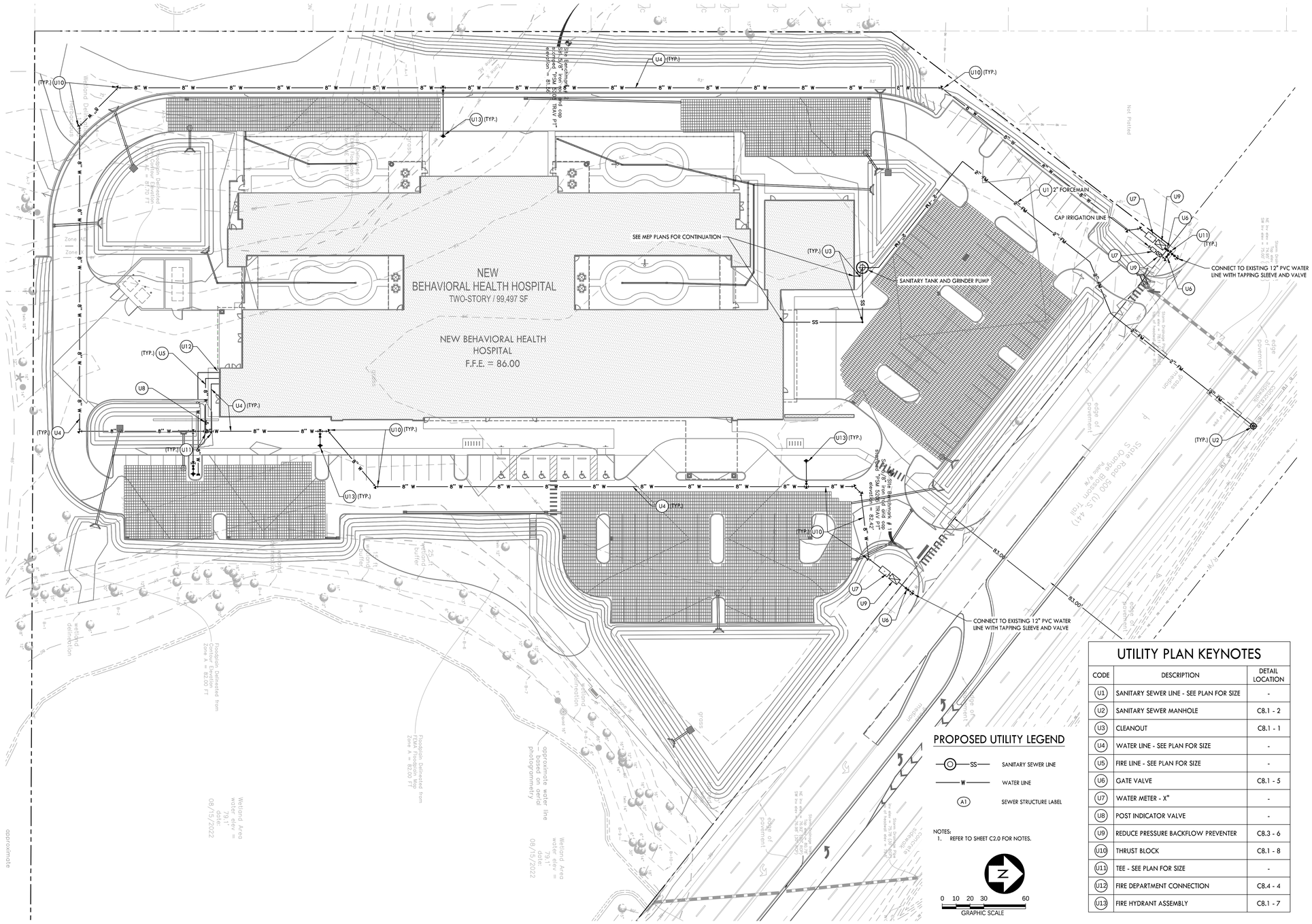
NOT FOR CONSTRUCTION

ADAM W. CRUNK
LICENSED
No 78074
3/25/23
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

FLOODPLAIN EXHIBITS
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C6.4



FORCE MAIN:
DEMAND = 150 GAL / DAY*BED
SIZE = 144 BEDS
DAILY FLOW = 30 GAL / MIN
PEAKING FACTOR = 4
PEAK FLOW = 120 GAL / MIN

PROPOSED UTILITY LEGEND

—SS—	SANITARY SEWER LINE
—W—	WATER LINE
A1	SEWER STRUCTURE LABEL

NOTES:
1. REFER TO SHEET C2.0 FOR NOTES.

0 10 20 30 60
GRAPHIC SCALE

UTILITY PLAN KEYNOTES

CODE	DESCRIPTION	DETAIL LOCATION
U1	SANITARY SEWER LINE - SEE PLAN FOR SIZE	-
U2	SANITARY SEWER MANHOLE	C8.1 - 2
U3	CLEANOUT	C8.1 - 1
U4	WATER LINE - SEE PLAN FOR SIZE	-
U5	FIRE LINE - SEE PLAN FOR SIZE	-
U6	GATE VALVE	C8.1 - 5
U7	WATER METER - X"	-
U8	POST INDICATOR VALVE	-
U9	REDUCE PRESSURE BACKFLOW PREVENTER	C8.3 - 6
U10	THRUST BLOCK	C8.1 - 8
U11	TEE - SEE PLAN FOR SIZE	-
U12	FIRE DEPARTMENT CONNECTION	C8.4 - 4
U13	FIRE HYDRANT ASSEMBLY	C8.1 - 7

STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta CONSULTANTS

Foodservices Design
iai

ACADIA HEALTHCARE

NOT FOR CONSTRUCTION

ADAM W. CRUNK
LICENSED
No 78097
STATE OF FLORIDA
PROFESSIONAL ENGINEER
3/25/23

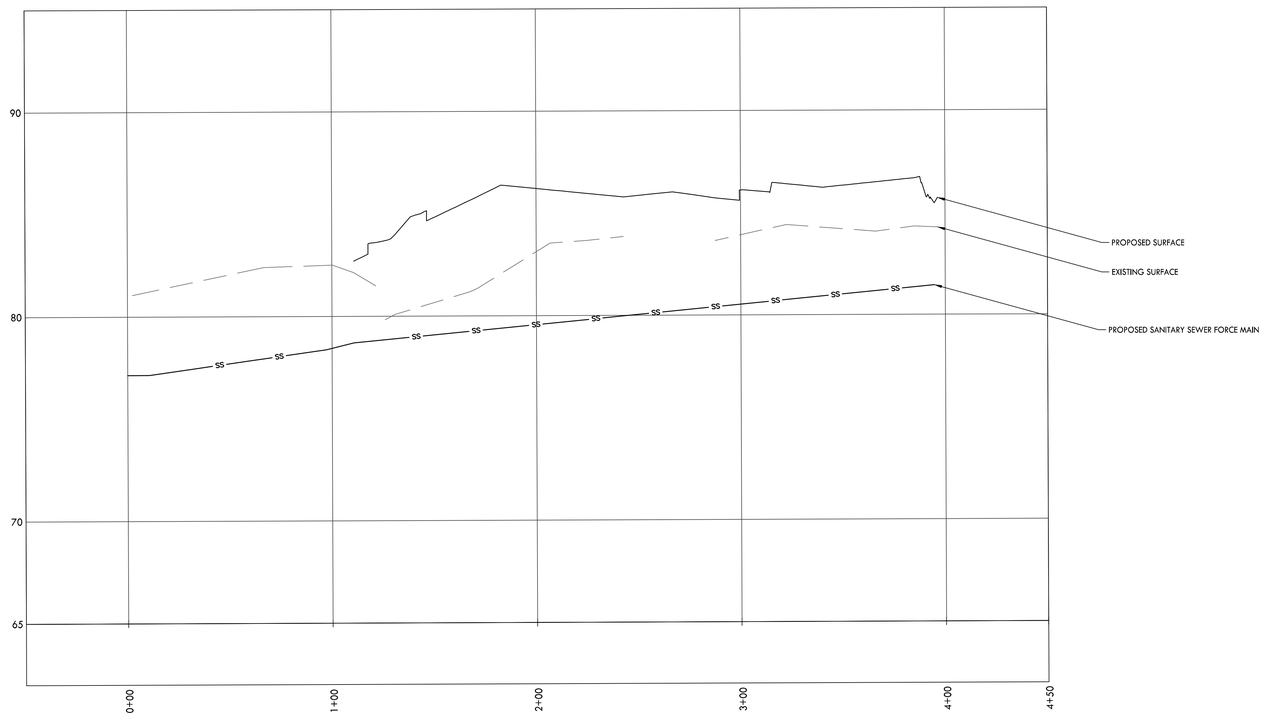
UTILITY PLANS
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C7.0

FORCE MAIN:
DEMAND = 150 GAL / DAY * BED
SIZE = 144 BEDS
DAILY FLOW = 30 GAL / MIN
PEAKING FACTOR = 4
PEAK FLOW = 120 GAL / MIN

FM LINE A



PROPOSED UTILITY LEGEND

SS — SANITARY SEWER LINE
W — WATER LINE
A1 — SEWER STRUCTURE LABEL

NOTES:
1. REFER TO SHEET C2.0 FOR NOTES.

N

0 10 20 30 60
GRAPHIC SCALE

UTILITY PLAN KEYNOTES

CODE	DESCRIPTION	DETAIL LOCATION
U1	SANITARY SEWER LINE - SEE PLAN FOR SIZE	-
U2	SANITARY SEWER MANHOLE	C8.1 - 2
U3	CLEANOUT	C8.1 - 1
U4	WATER LINE - SEE PLAN FOR SIZE	-
U5	FIRE LINE - SEE PLAN FOR SIZE	-
U6	GATE VALVE	C8.1 - 5
U7	WATER METER - X"	-
U8	POST INDICATOR VALVE	-
U9	REDUCE PRESSURE BACKFLOW PREVENTER	C8.3 - 6
U10	THRUST BLOCK	C8.1 - 8
U11	TEE - SEE PLAN FOR SIZE	-
U12	FIRE DEPARTMENT CONNECTION	C8.4 - 4
U13	FIRE HYDRANT ASSEMBLY	C8.1 - 7

STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta
ENGINEERING CONSULTANTS

Foodservices Design

ACADIA HEALTHCARE

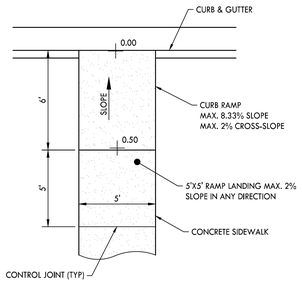
NOT FOR CONSTRUCTION

ADAM W. CRUNK
LICENSED
No 78074
3/25/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SANITARY SEWER FORCE MAIN
EXHIBIT
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

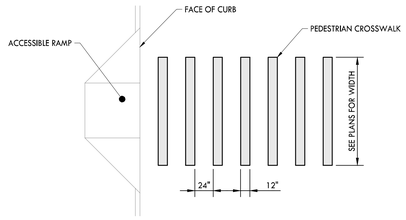
25 MAY 2023

C7.1



10 ACCESSIBLE RAMP - TYPE A

NOT TO SCALE

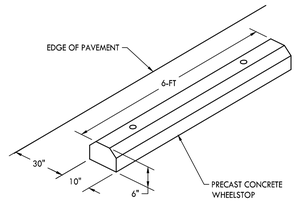


NOTES:

1. THE PEDESTRIAN CROSSWALK SHALL BE IN COMPLIANCE WITH ADAAG 403.3.
2. MARKINGS SHALL BE SOLID WHITE PAINTED ON ASPHALT.
3. PAINT 12" WIDE STRIPES AS INDICATED. USE PORTER "TRAFFIC WHITE" PAINT OR APPROVED EQUAL.

7 PEDESTRIAN CROSSWALK

NOT TO SCALE

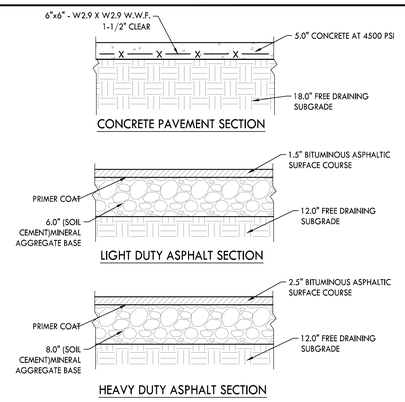


NOTES:

1. CONCRETE TO BE 3500 PSI.
2. REINFORCED WITH 2 #3 BARS.

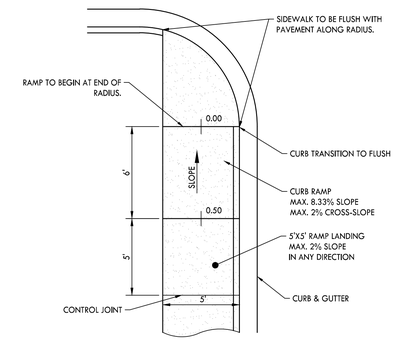
4 CONCRETE WHEELSTOP

NOT TO SCALE



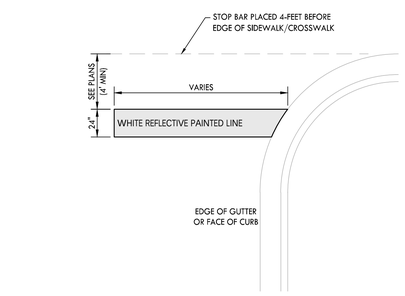
1 PAVEMENT SECTIONS

NOT TO SCALE



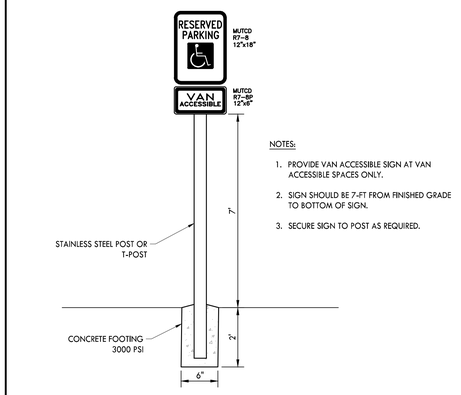
11 ACCESSIBLE RAMP - TYPE B

NOT TO SCALE



8 24" PAINTED STOP BAR

NOT TO SCALE

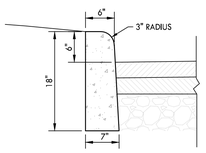


NOTES:

1. PROVIDE VAN ACCESSIBLE SIGN AT VAN ACCESSIBLE SPACES ONLY.
2. SIGN SHOULD BE 7-FT FROM FINISHED GRADE TO BOTTOM OF SIGN.
3. SECURE SIGN TO POST AS REQUIRED.

5 ACCESSIBLE PARKING SIGN

NOT TO SCALE

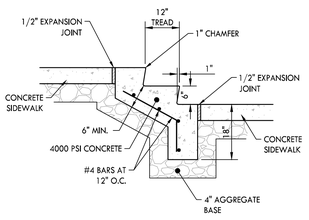


NOTES:

1. CONCRETE TO BE 4000 PSI.
2. PROVIDE CONTROL JOINTS EVERY 10 LINEAR FEET ALONG CURB.
3. PROVIDE EXPANSION JOINTS EVERY 90 LINEAR FEET.

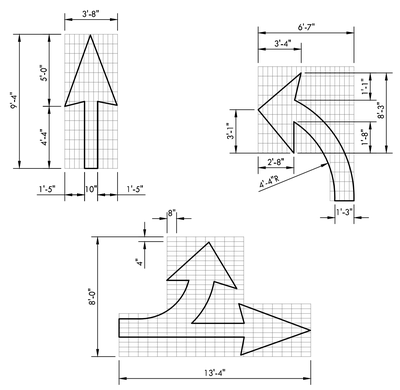
2 POST CURB

NOT TO SCALE



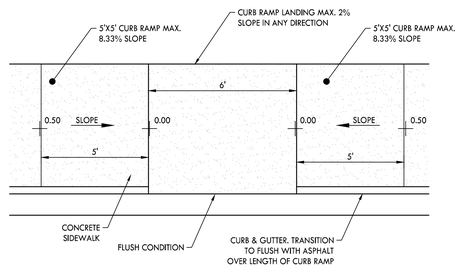
12 CONCRETE STAIRS

NOT TO SCALE



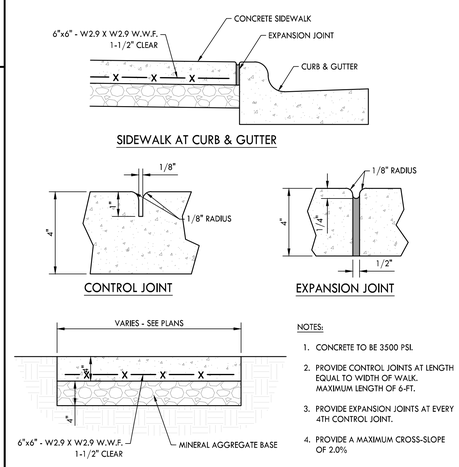
9 DIRECTIONAL ARROW

NOT TO SCALE



6 CURB RAMP AT ACCESSIBLE PARKING

NOT TO SCALE



NOTES:

1. CONCRETE TO BE 3500 PSI.
2. PROVIDE CONTROL JOINTS AT LENGTH EQUAL TO WIDTH OF WALK. MAXIMUM LENGTH OF 6-FT.
3. PROVIDE EXPANSION JOINTS AT EVERY 4TH CONTROL JOINT.
4. PROVIDE A MAXIMUM CROSS-SLOPE OF 2.0%

3 CONCRETE SIDEWALK

NOT TO SCALE

STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING
Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.
Mechanical/Electrical Engineering
cmta
Foodservices Design

ACADIA
HEALTHCARE

NOT FOR CONSTRUCTION

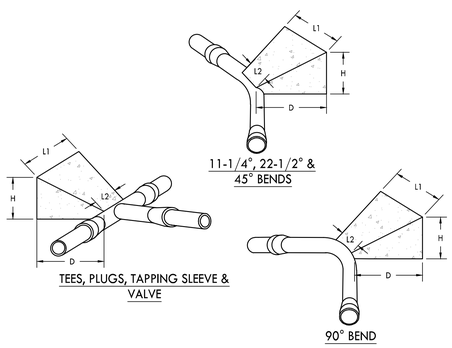
ADAM W. CRUNK
LICENSED
No 76878
3/25/23
STATE OF
KENTUCKY
PROFESSIONAL ENGINEER

DETAILS
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C8.0

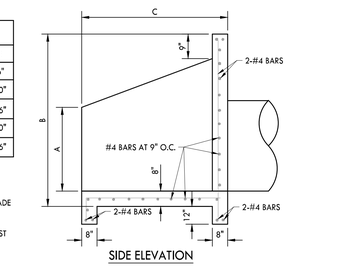
THRUST BLOCK DIMENSIONS							
PIPE SIZE (IN)		2" & 2-1/4"	3" & 4"	6"	8"	10"	12"
TEES, PLUGS & TAPPING SLEEVES	L1	18"	24"	24"	36"	48"	54"
	L2	10"	12"	16"	18"	24"	30"
	H	12"	12"	18"	18"	18"	24"
	D	18"	18"	18"	18"	24"	24"
	CU. FT	1.90	2.25	3.50	5.05	7.15	13.40
90° BENDS	L1	18"	24"	30"	39"	54"	54"
	L2	10"	12"	16"	18"	32"	32"
	H	12"	12"	18"	24"	24"	36"
	D	18"	18"	18"	18"	18"	24"
	CU. FT	1.90	2.25	4.05	7.30	10.25	18.15
45° BENDS	L1	18"	18"	24"	30"	36"	42"
	L2	6"	8"	10"	11"	18"	18"
	H	12"	12"	16"	18"	21"	24"
	D	18"	18"	18"	18"	18"	24"
	CU. FT	1.50	1.60	3.20	3.95	4.60	9.60
22-1/2° BENDS	L1	18"	18"	24"	24"	24"	24"
	L2	6"	8"	10"	11"	18"	18"
	H	12"	12"	16"	18"	21"	24"
	D	18"	18"	18"	18"	18"	24"
	CU. FT	1.50	1.60	3.20	3.40	4.60	6.80
11-1/4° BENDS	L1	18"	18"	24"	24"	24"	24"
	L2	6"	8"	10"	11"	18"	18"
	H	12"	12"	16"	18"	21"	21"
	D	18"	18"	18"	18"	18"	24"
	CU. FT	1.50	1.60	3.20	3.40	4.60	6.10



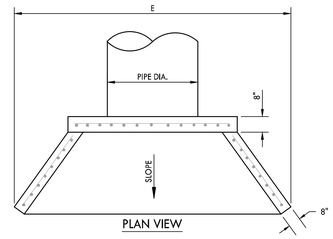
8 THRUST BLOCKS
NOT TO SCALE

DIMENSION TABLE					
PIPE DIA.	A	B	C	D	E
UP TO 18"	15"	36"	30"	50"	96"
18" TO 30"	24"	48"	42"	62"	120"
30" TO 42"	30"	60"	48"	76"	136"
42" TO 60"	36"	80"	54"	96"	160"
60" TO 72"	42"	92"	66"	108"	176"

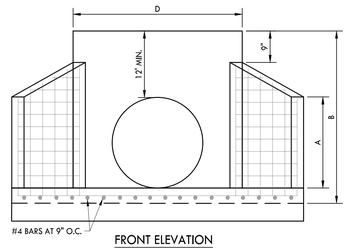
NOTES:
1. CONCRETE TO BE 4000 PSI.
2. REINFORCING STEEL SHALL MEET ASTM A615 FOR GRADE 60. MIN. 2" CLEARANCE.
3. PIPE TO BE GROUTED INTO HEADWALL ON SITE.
4. PRECAST HEADWALLS ARE ACCEPTABLE IN LIEU OF CAST IN PLACE. PRECAST ELEMENTS TO MEET ASTM C913
5. CHAMFER ALL CORNERS 1".



SIDE ELEVATION

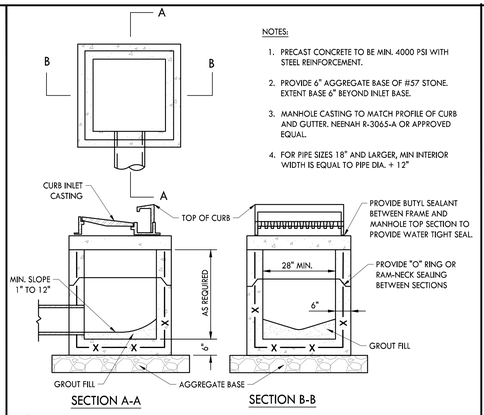


PLAN VIEW



FRONT ELEVATION

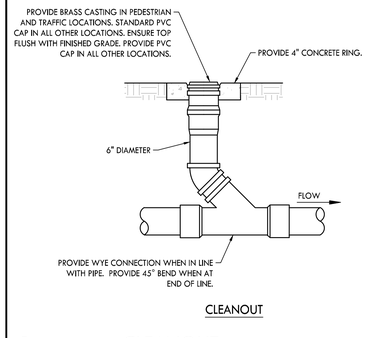
6 CONCRETE HEADWALL
NOT TO SCALE



SECTION A-A SECTION B-B

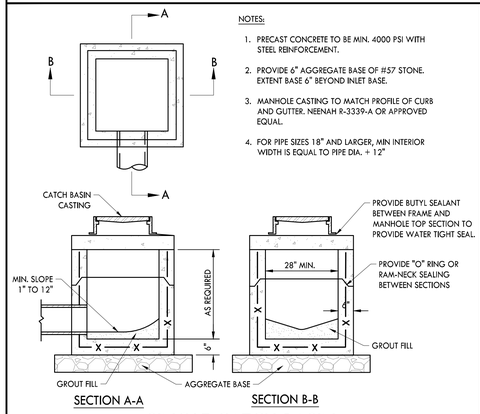
NOTES:
1. PRECAST CONCRETE TO BE MIN. 4000 PSI WITH STEEL REINFORCEMENT.
2. PROVIDE 6" AGGREGATE BASE OF #57 STONE. EXTENT BASE 6" BEYOND INLET BASE.
3. MANHOLE CASTING TO MATCH PROFILE OF CURB AND GUTTER. NEENAH R-3065-A OR APPROVED EQUAL.
4. FOR PIPE SIZES 18" AND LARGER, MIN INTERIOR WIDTH IS EQUAL TO PIPE DIA. + 12"

3 SINGLE CURB INLET
NOT TO SCALE



CLEANOUT

1 CLEANOUT
NOT TO SCALE

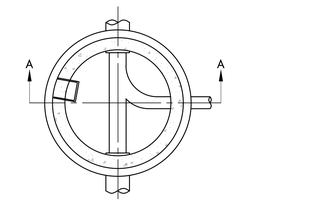


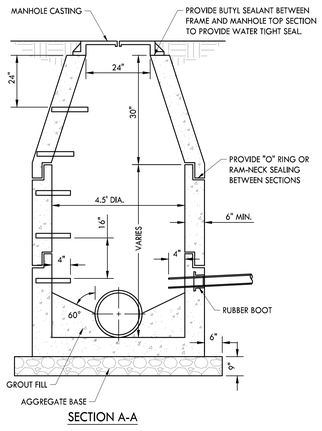
SECTION A-A SECTION B-B

NOTES:
1. PRECAST CONCRETE TO BE MIN. 4000 PSI WITH STEEL REINFORCEMENT.
2. PROVIDE 6" AGGREGATE BASE OF #57 STONE. EXTENT BASE 6" BEYOND INLET BASE.
3. MANHOLE CASTING TO MATCH PROFILE OF CURB AND GUTTER. NEENAH R-3339-A OR APPROVED EQUAL.
4. FOR PIPE SIZES 18" AND LARGER, MIN INTERIOR WIDTH IS EQUAL TO PIPE DIA. + 12"

4 SINGLE CATCH BASIN
NOT TO SCALE

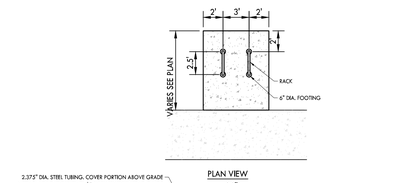
NOTES:
1. PRECAST CONCRETE TO BE MIN. 4000 PSI WITH STEEL REINFORCEMENT.
2. PROVIDE 9" AGGREGATE BASE OF #57 STONE. EXTEND BASE 6" OUTSIDE OF MANHOLE DIAMETER.
3. MANHOLE CASTING TO BE NEENAH R-1556 OR APPROVED EQUAL.

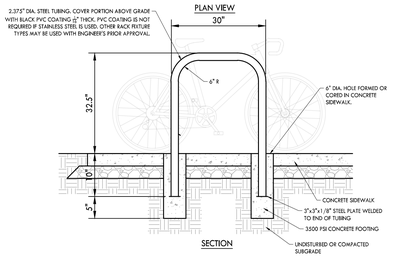




SECTION A-A

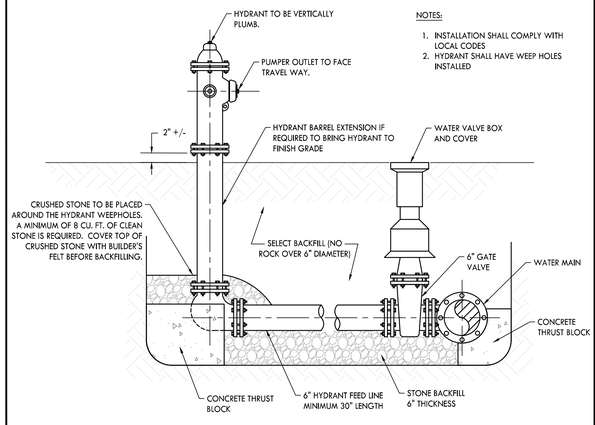
2 PRECAST CONCRETE MANHOLE
NOT TO SCALE





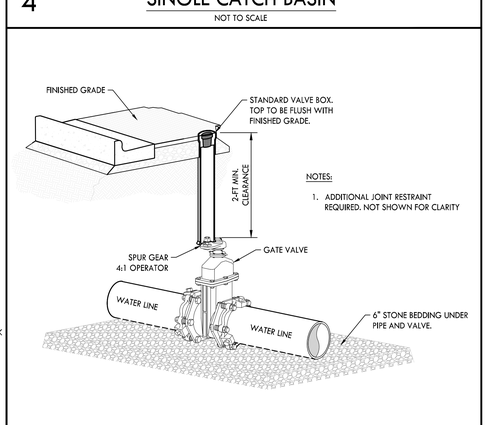
SECTION

9 BIKE RACK
NOT TO SCALE



NOTES:
1. INSTALLATION SHALL COMPLY WITH LOCAL CODES
2. HYDRANT SHALL HAVE WEEP HOLES INSTALLED

7 FIRE HYDRANT ASSEMBLY
NOT TO SCALE



NOTES:
1. ADDITIONAL JOINT RESTRAINT REQUIRED. NOT SHOWN FOR CLARITY

5 GATE VALVE
NOT TO SCALE

STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING
Structural Engineering
Skyhook STRUCTURAL ENGINEERING, P.C.
Mechanical/Electrical Engineering
cmta ENGINEERING CONSULTANTS
Foodservices Design

ACADIA HEALTHCARE

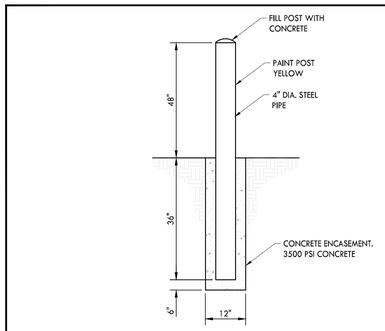
NOT FOR CONSTRUCTION

ADAM W. CRUNK No 78924 LICENSED PROFESSIONAL ENGINEER 5/25/23 STATE OF KENTUCKY

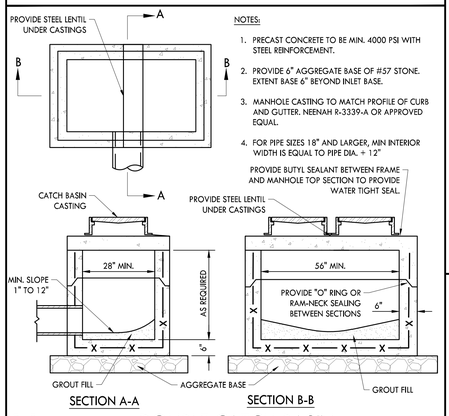
DETAILS
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

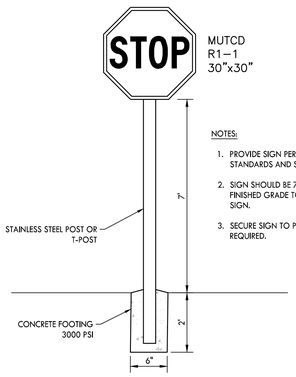
C8.1



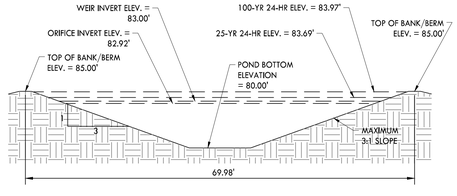
10 CONCRETE BOLLARD
NOT TO SCALE



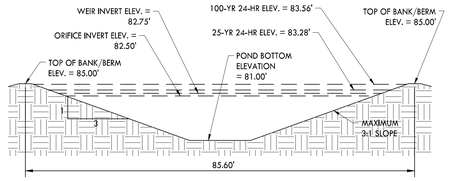
11 DOUBLE CATCH BASIN
NOT TO SCALE



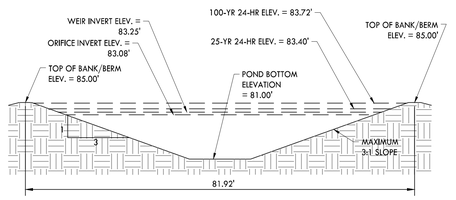
12 STOP SIGN
NOT TO SCALE



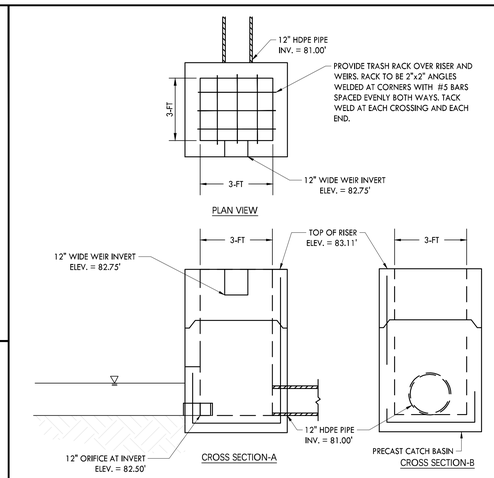
7 NORTHWEST POND CROSS-SECTION
NOT TO SCALE



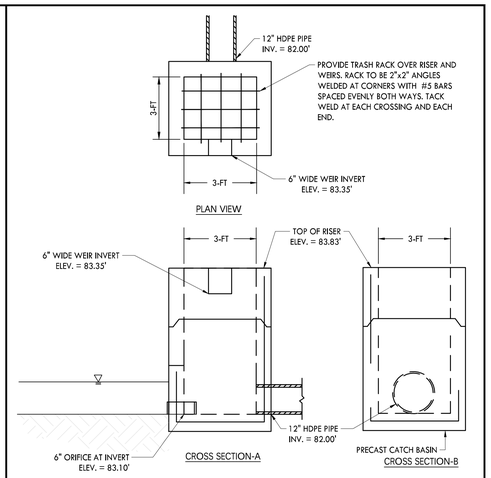
8 SOUTHWEST POND CROSS-SECTION
NOT TO SCALE



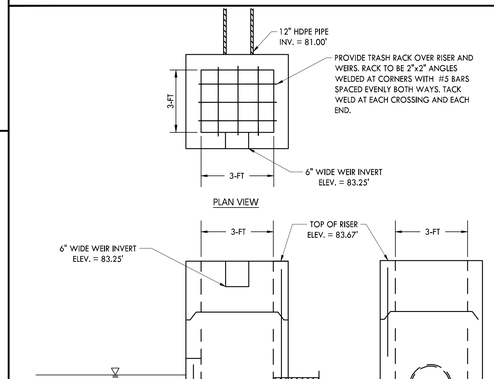
9 SOUTHEAST CROSS-SECTION
NOT TO SCALE



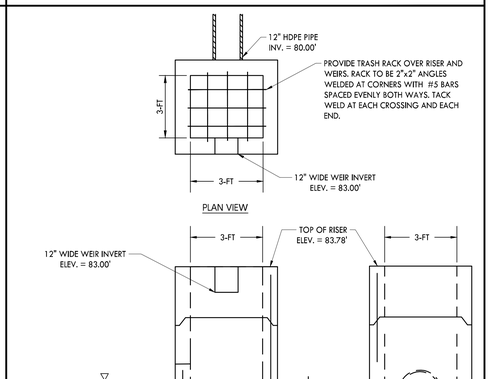
3 SOUTHWEST POND OUTLET STRUCTURE
NOT TO SCALE



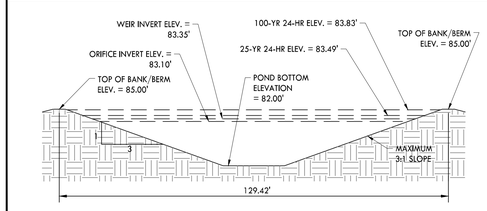
1 EAST POND OUTLET STRUCTURE
NOT TO SCALE



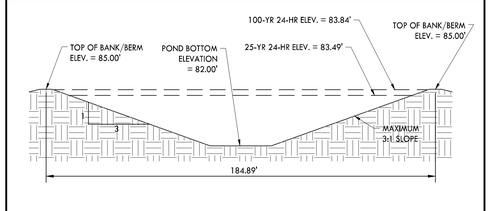
4 SOUTHEAST POND OUTLET STRUCTURE
NOT TO SCALE



2 NORTHWEST POND OUTLET STRUCTURE
NOT TO SCALE



6 EAST POND CROSS-SECTION
NOT TO SCALE



5 NORTH POND CROSS-SECTION
NOT TO SCALE

STENGEL-HILL
ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING
Structural Engineering
Skyhook
STRUCTURAL ENGINEERING, P.C.
Mechanical/Electrical Engineering
cmta ENGINEERING CONSULTANTS
Foodservices Design

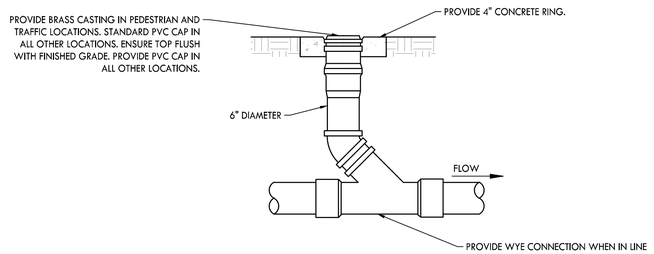
ACADIA HEALTHCARE

NOT FOR CONSTRUCTION

DETAILS
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C8.2

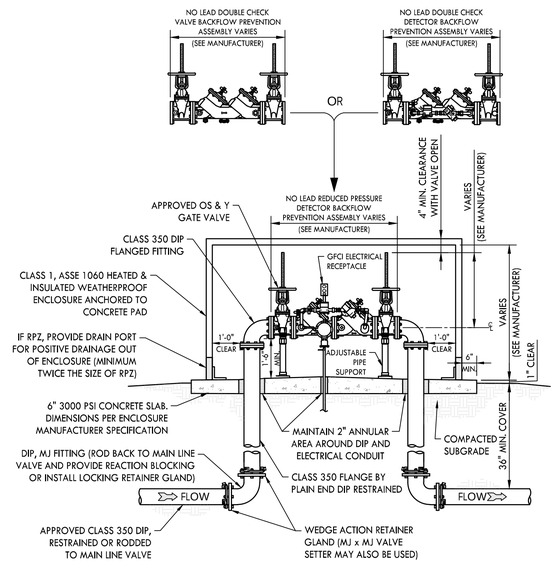


5 CLEANOUT

NOT TO SCALE

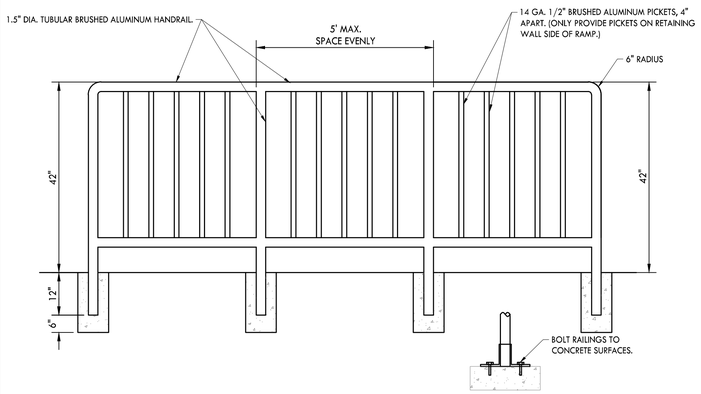
NOTES:

1. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1013 & AWWA C511.
2. REDUCED PRESSURE DETECTOR BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1047.
3. DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1015 & AWWA C510.
4. DOUBLE CHECK DETECTOR BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1048.
5. BACKFLOW ASSEMBLY SHALL BE CENTERED ON CONCRETE PAD AND CENTERED WITHIN ENCLOSURE.
6. CLASS 1, ASSE 1060 HEATED AND INSULATED WEATHERPROOF ENCLOSURE REQUIRED.
7. STANDARD 120V GFCI ELECTRICAL RECEPTACLE TO BE INSTALLED IN ACCORDANCE WITH THE N.C. ELECTRICAL CODE FOR OUTDOOR OPERATION.
8. PIPE MATERIAL SHALL BE CLASS 350 DIP APPROVED BY THE TOWN.
9. INSTALLATION SHALL BE IN COMPLIANCE WITH ALL APPLICABLE TOWN ORDINANCES AND SPECIFICATIONS IN ADDITION TO THE N.C. PLUMBING CODE.
10. PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE AND OPERATION OF BACKFLOW ASSEMBLY AND COMPLIANCE WITH REPORTING AND TESTING REQUIREMENTS.
11. ALL 'NO LEAD' BRASS COMPONENTS SHALL MEET UNS C89833 AS PER ASTM B584.



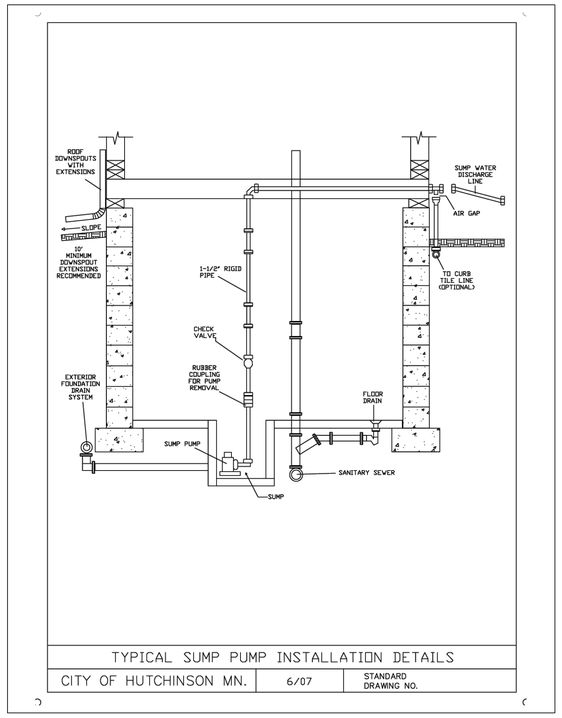
6 BACKFLOW PREVENTER

NOT TO SCALE



7 PEDESTRIAN GUARDRAIL

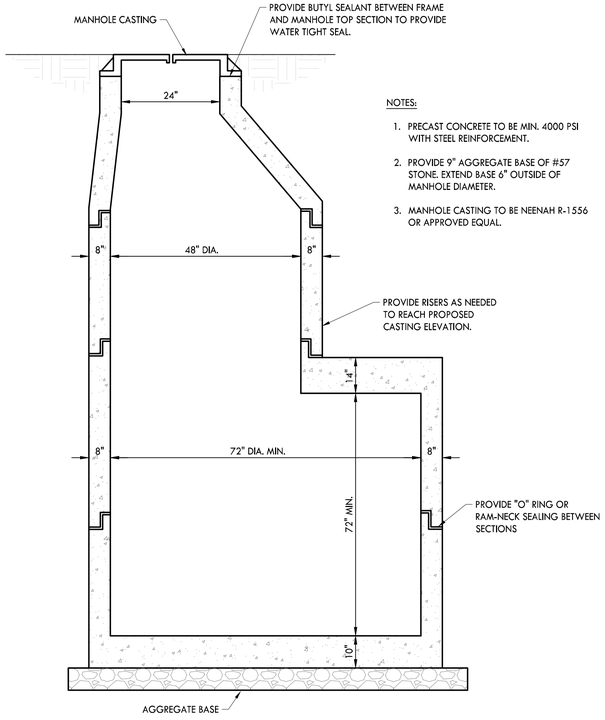
NOT TO SCALE



TYPICAL SUMP PUMP INSTALLATION DETAILS

CITY OF HUTCHINSON MN.	6/07	STANDARD DRAWING NO.

3 SEDIMENT SUMP PUMP

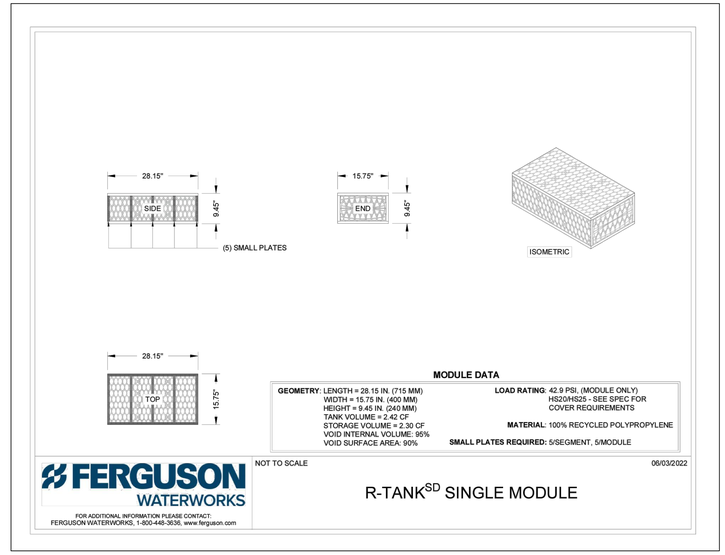


NOTES:

1. PRECAST CONCRETE TO BE MIN. 4000 PSI WITH STEEL REINFORCEMENT.
2. PROVIDE 9" AGGREGATE BASE OF #57 STONE. EXTEND BASE 6" OUTSIDE OF MANHOLE DIAMETER.
3. MANHOLE CASTING TO BE NEENAH R-1556 OR APPROVED EQUAL.

4 STORMWATER JUNCTION BOX (LARGE DIAMETER)

NOT TO SCALE



MODULE DATA

GEOMETRY: LENGTH = 28.15 IN. (715 MM)
WIDTH = 15.75 IN. (400 MM)
HEIGHT = 9.45 IN. (240 MM)
TANK VOLUME = 2.42 CF
STORAGE VOLUME = 2.30 CF
VOID INTERNAL VOLUME: 95%
VOID SURFACE AREA: 90%

LOAD RATING: 42.9 PSI. (MODULE ONLY)
HS20/HS25 - SEE SPEC FOR COVER REQUIREMENTS

MATERIAL: 100% RECYCLED POLYPROPYLENE

SMALL PLATES REQUIRED: 5/SEGMENT, 5/MODULE

FERGUSON WATERWORKS

FOR ADDITIONAL INFORMATION PLEASE CONTACT:
FERGUSON WATERWORKS, 1-800-448-3636, www.ferguson.com

NOT TO SCALE

06/03/2022

R-TANK^{SD} SINGLE MODULE

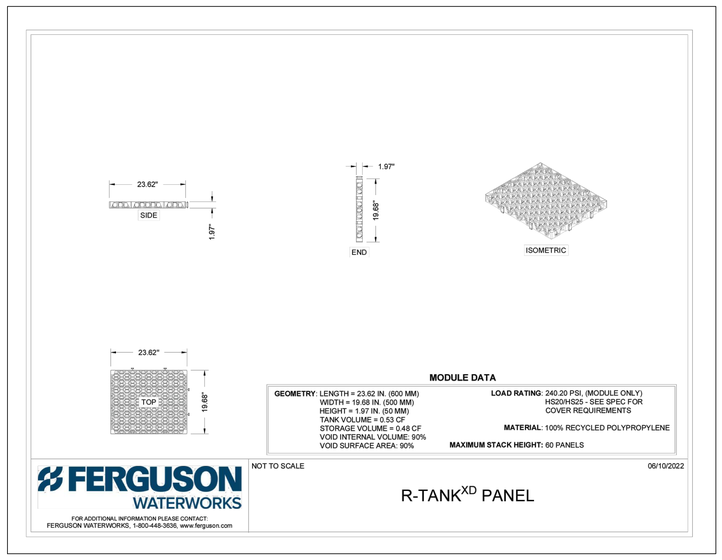
NOTES:

1. INSTALL R-TANK UNITS PER MANUFACTURERS RECOMMENDATIONS.
2. ENSURE PIPE CONNECTIONS TO R-TANK UNITS IS MADE PER MANUFACTURER RECOMMENDATIONS.

1 UNDERGROUND DETENTION AREA

NOT TO SCALE

R-TANK MODEL: SD SINGLE MODULE



MODULE DATA

GEOMETRY: LENGTH = 23.62 IN. (600 MM)
WIDTH = 19.68 IN. (500 MM)
HEIGHT = 1.97 IN. (50 MM)
TANK VOLUME = 0.53 CF
STORAGE VOLUME = 0.48 CF
VOID INTERNAL VOLUME: 90%
VOID SURFACE AREA: 90%

LOAD RATING: 240.20 PSI. (MODULE ONLY)
HS20/HS25 - SEE SPEC FOR COVER REQUIREMENTS

MATERIAL: 100% RECYCLED POLYPROPYLENE

MAXIMUM STACK HEIGHT: 60 PANELS

FERGUSON WATERWORKS

FOR ADDITIONAL INFORMATION PLEASE CONTACT:
FERGUSON WATERWORKS, 1-800-448-3636, www.ferguson.com

NOT TO SCALE

06/10/2022

R-TANK^{XD} PANEL

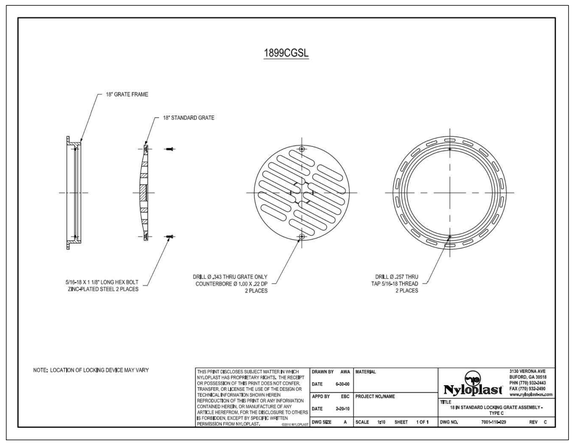
NOTES:

1. INSTALL R-TANK UNITS PER MANUFACTURERS RECOMMENDATIONS.
2. ENSURE PIPE CONNECTIONS TO R-TANK UNITS IS MADE PER MANUFACTURER RECOMMENDATIONS.

2 UNDERGROUND DETENTION AREA

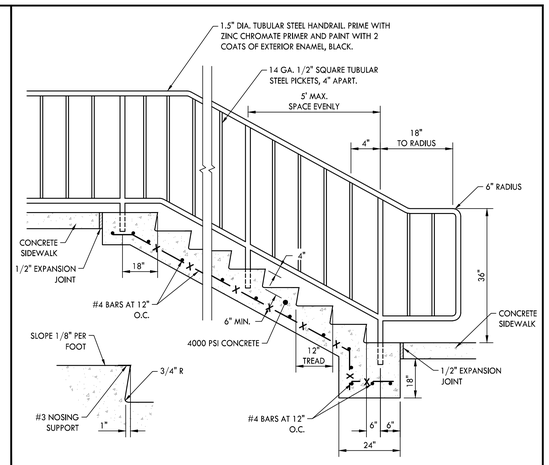
NOT TO SCALE

R-TANK MODEL: XD PANEL



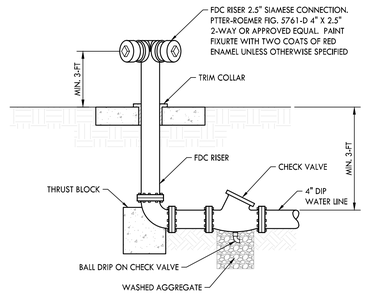
3 18' LOCKING GRATE

NOT TO SCALE



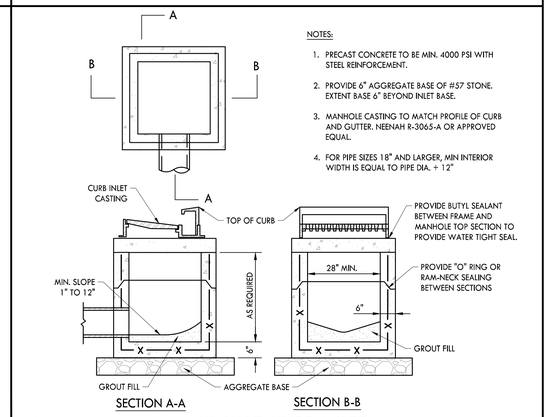
1 STAIRS W/ HANDRAIL

NOT TO SCALE



4 FIRE DEPARTMENT CONNECTION

NOT TO SCALE



NOTES:

1. PRECAST CONCRETE TO BE MIN. 4000 PSI WITH STEEL REINFORCEMENT.
2. PROVIDE 6" AGGREGATE BASE OF #57 STONE. EXTENT BASE 6" BEYOND INLET BASE.
3. MANHOLE CASTING TO MATCH PROFILE OF CURB AND GUTTER. NEENAH R-3065-A OR APPROVED EQUAL.
4. FOR PIPE SIZES 18" AND LARGER, MIN INTERIOR WIDTH IS EQUAL TO PIPE DIA. + 12"

2 SINGLE CURB INLET

NOT TO SCALE

STENGEL-HILL ARCHITECTURE
613 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202
502.893.1875
502.893.1876 fax

Civil Engineering
CRUNK ENGINEERING

Structural Engineering
Skyhook STRUCTURAL ENGINEERING, P.C.

Mechanical/Electrical Engineering
cmta ENGINEERING CONSULTANTS

Foodservices Design
iai

ACADIA HEALTHCARE

NOT FOR CONSTRUCTION

ADAM W. CRUNK LICENSED No 78074 STATE OF FLORIDA PROFESSIONAL ENGINEER 5/25/23

DETAILS
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

25 MAY 2023

C8.4

TREE PROTECTION STANDARDS

CITY OF APOPKA, FL PART III, ARTICLE 5, SECTION 5.3 CODE OF ORDINANCES

EXISTING TREE CANOPY INVENTORY (CANOPY 10" DBH + UNDERSTORY 4" CAL.)

- EXISTING TREE CANOPY SHALL NOT INCLUDE PROHIBITED TREE SPECIES.
- EAR TREE (ENTERLOBIUM CYCLACARPUML CONTORTISILIQUUM) IS A PROHIBITED PLANT PER APPENDIX C AND CAMPHOR (CINNAMOMUM CAMPHORA) BASED ON UF/IFAS.
- PRESERVED 118" DBH OF SPECIMEN SIZE TREES.

TREE INVENTORY:

(A) TOTAL TREE INCHES ON CURRENT, NON-ALTERED SITE: 2,644"

(B) TOTAL TREE INCHES TO BE REMOVED: 1,355"

- 122" OF KNOWN INVASIVE TREES (DO NOT QUALIFY)
- NET TOTAL: 1,233 (1,355" - 122"); INCLUDES 370" OF TREES CLASSIFIED AS SPECIMEN (24" DBH +)

(C) TOTAL TREE INCHES TO BE REPLACED: NONE, SITE IS IN COMPLIANCE

(D) MAXIMUM TREE STOCK AND CALCULATIONS:

(E) QUANTITY OF SPECIMEN TREES (24" OR GREATER) BEING REMOVED: 370" DBH

- 26" = 1
- 29" = 1
- 30" = 2
- 35" = 1
- 36" = 5
- 40" = 1

(F) SITE CLEARING AREA IN SQUARE FEET AND ACRES:

- 258,296 S.F. OR 5.93 AC.

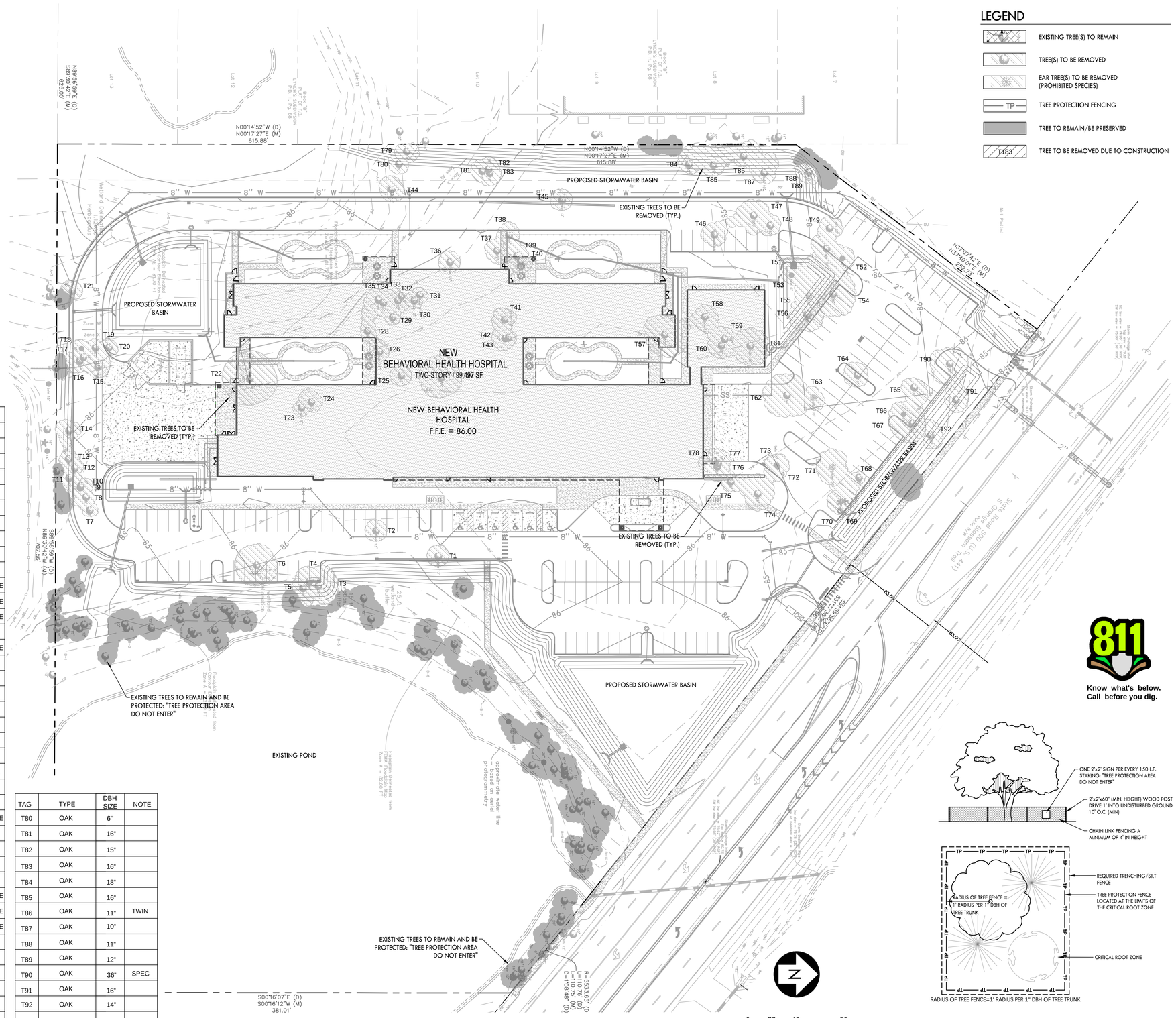
(G) MINIMUM PERCENTAGE OF DEVELOPMENT WITH EXISTING TREE CANOPY COVER THAT IS REQUIRED TO BE RETAINED AND PROTECTED:

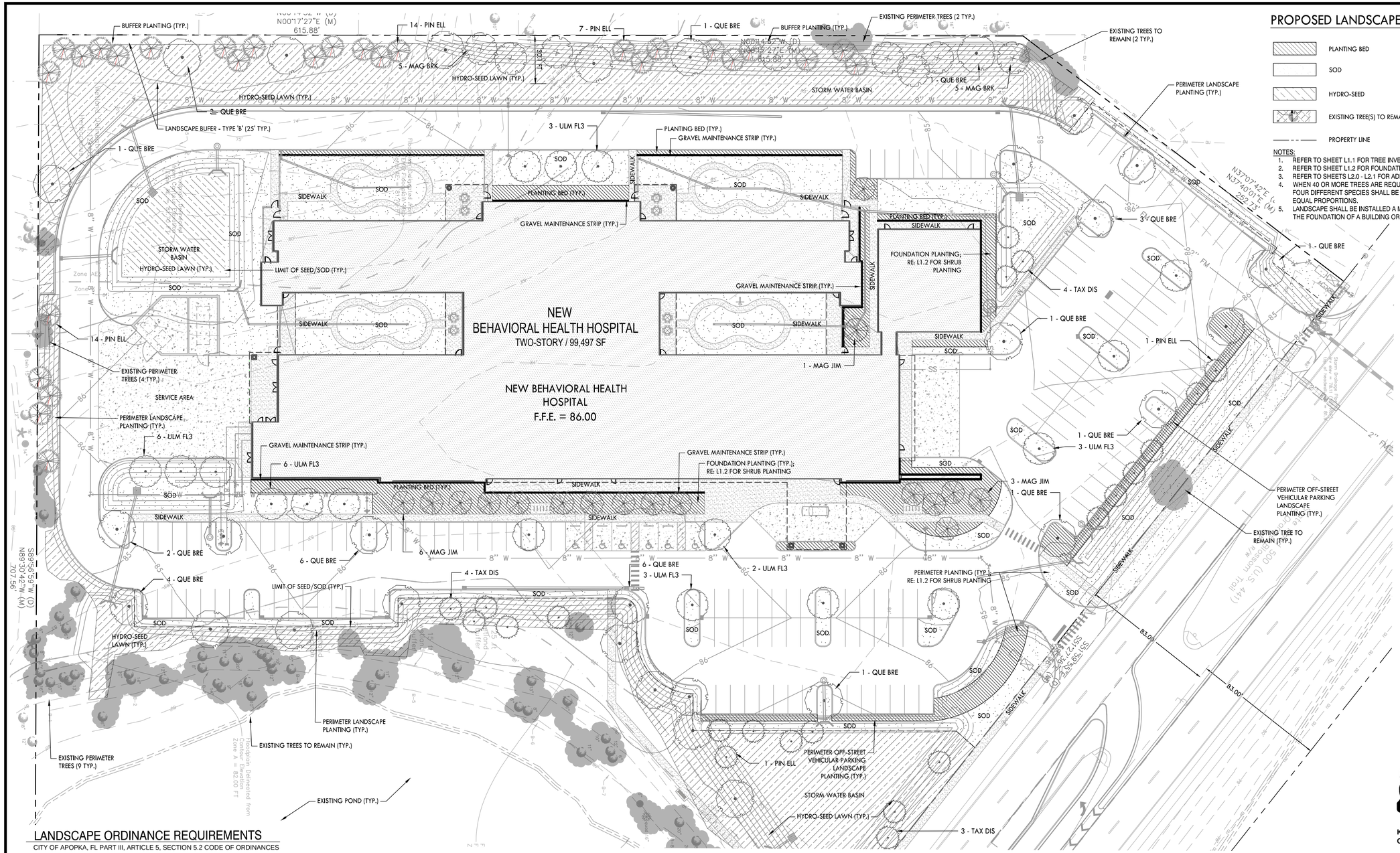
- TOTAL SITE AREA: 441,838 S.F. (10.1 ACRES); SITE ZONING: C-R
- EXISTING TREE CANOPY COVER: 10.81% OF SITE (47,765 S.F.)
- TREE CANOPY RETENTION (20% -10.81% = 9.19% PNTS., 9.19 x 0.05 = 0.46% PNTS.; THEREFORE, 0.46 + 7 = 7.46%
- MIN. REQUIRED % FOR C-R ZONE = 7.46 OF EXISTING TREE COVER OR 0.81% OF THE TOTAL DEVELOPMENT SITE
- TREE CANOPY TO REMAIN: 17,152 S.F. OR 3.88% OF SITE

TREES REMOVED

TAG	TYPE	DBH SIZE	NOTE
T1	OAK	13"	TRIPLE
T2	OAK	13"	TWIN
T3	OAK	30"	SPEC
T4	OAK	15"	
T5	OAK	16"	
T6	OAK	36"	SPEC
T7	OAK	6"	
T8	OAK	8"	
T9	OAK	12"	
T10	OAK	8"	
T11	OAK	12"	
T12	OAK	6"	
T13	OAK	6"	
T14	OAK	12"	
T15	OAK	14"	
T16	OAK	11"	
T17	OAK	16"	
T18	CAMPHOR	8"	INVASIVE
T19	OAK	8"	
T20	OAK	8"	
T21	OAK	11"	
T22	OAK	40"	SPEC
T23	OAK	6"	TWIN
T24	OAK	10"	
T25	OAK	11"	
T26	OAK	15"	TWIN
T27	OAK	35"	SPEC
T28	OAK	8"	
T29	OAK	8"	
T30	OAK	9"	TWIN
T31	OAK	8"	TWIN
T32	OAK	6"	
T33	OAK	10"	
T34	OAK	11"	
T35	OAK	11"	TWIN
T36	OAK	15"	TRIPLE
T37	OAK	12"	
T38	OAK	13"	
T39	OAK	10"	
T40	OAK	10"	
T41	OAK	13"	QUAD
T42	OAK	10"	
T43	OAK	8"	
T44	OAK	18"	
T45	OAK	13"	TWIN
T46	OAK	15"	TWIN
T47	OAK	19"	
T48	OAK	15"	
T49	OAK	13"	TWIN
T50	OAK	10"	TWIN
T51	CAMPHOR	8"	INVASIVE
T52	CAMPHOR	11"	INVASIVE
T53	CAMPHOR	6"	INVASIVE
T54	OAK	36"	SPEC
T55	EAR TREE	14"	INVASIVE
T56	OAK	26"	SPEC
T57	OAK	30"	SPEC
T58	OAK	18"	TWIN
T59	OAK	12"	
T60	OAK	19"	
T61	OAK	20"	TWIN
T62	OAK	36"	SPEC
T63	CHINA BERRY	10"	TRIPLE
T64	OAK	19"	
T65	OAK	16"	
T66	CAMPHOR	19"	INVASIVE
T67	OAK	36"	SPEC
T68	OAK	8"	
T69	PALM	14"	
T70	PALM	12"	
T71	EAR TREE	30"	INVASIVE
T72	CAMPHOR	13"	INVASIVE
T73	CAMPHOR	13"	INVASIVE
T74	OAK	29"	SPEC
T75	OAK	8"	
T76	OAK	14"	
T77	OAK	14"	
T78	OAK	10"	
T79	OAK	10"	

TAG	TYPE	DBH SIZE	NOTE
T80	OAK	6"	
T81	OAK	16"	
T82	OAK	15"	
T83	OAK	16"	
T84	OAK	18"	
T85	OAK	16"	
T86	OAK	11"	TWIN
T87	OAK	10"	
T88	OAK	11"	
T89	OAK	12"	
T90	OAK	36"	SPEC
T91	OAK	16"	
T92	OAK	14"	


LEGEND
EXISTING TREE(S) TO REMAIN
TREE(S) TO BE REMOVED
EAR TREE(S) TO BE REMOVED (PROHIBITED SPECIES)
TP TREE PROTECTION FENCING
TREE TO REMAIN/BE PRESERVED
T183 TREE TO BE REMOVED DUE TO CONSTRUCTION
NEW BEHAVIORAL HEALTH HOSPITAL
TWO-STORY / 99,437 SF
NEW BEHAVIORAL HEALTH HOSPITAL
F.F.E. = 86.00
PROPOSED STORMWATER BASIN
EXISTING TREES TO BE REMOVED (TYP.)
EXISTING TREES TO REMAIN AND BE PROTECTED: "TREE PROTECTION AREA DO NOT ENTER"
EXISTING POND
PROPOSED STORMWATER BASIN
EXISTING TREES TO REMAIN AND BE PROTECTED: "TREE PROTECTION AREA DO NOT ENTER"
EXISTING TREES TO BE REMOVED (TYP.)
PROPOSED STORMWATER BASIN
EXISTING TREES TO BE REMOVED (TYP.)
N00°14'52"W (D)
N00°17'27"E (M)
615.88'
S89°30'42"E (D)
S89°30'42"E (M)
625.00'
N89°30'42"W (D)
N89°30'42"W (M)
620.76'
S00°16'07"E (D)
S00°16'12"W (M)
381.01'
N37°07'42"E (D)
N37°40'01"E (M)
82.72'
S37°40'01"W (D)
S37°07'42"W (M)
82.72'
R=553.50'
L=110.76' (D)
L=110.75' (M)
D=108°48'48" (D)
83.00'
83.00'
Floodplain Delineated from FEMA Floodplain Map Zone A = 82.00 FT
approximate water line based on aerial photogrammetry
Floodplain Delineated from FEMA Floodplain Map Zone A = 82.00 FT
Wetland Delineated from Ecosystem Planning & Restoration, dated 12/15/2022
125' wetland buffer
Wetland Delineation Flagging
Wetland Delineation Flagging
Wetland Delineation Flagging



PROPOSED LANDSCAPE LEGEND

- PLANTING BED
- SOD
- HYDRO-SEED
- EXISTING TREE(S) TO REMAIN
- PROPERTY LINE

NOTES:

1. REFER TO SHEET L1.1 FOR TREE INVENTORY.
2. REFER TO SHEET L1.2 FOR FOUNDATION PLANTING & PLANT LIST.
3. REFER TO SHEETS L2.0 - L2.1 FOR ADDITIONAL NOTES & DETAILS.
4. WHEN 40 OR MORE TREES ARE REQUIRED ON A SITE, AT LEAST FOUR DIFFERENT SPECIES SHALL BE UTILIZED, IN ROUGHLY EQUAL PROPORTIONS.
5. LANDSCAPE SHALL BE INSTALLED A MINIMUM OF 2.5 FEET FROM THE FOUNDATION OF A BUILDING OR STRUCTURE.

LANDSCAPE ORDINANCE REQUIREMENTS

CITY OF APOPKA, FL PART III, ARTICLE 5, SECTION 5.2 CODE OF ORDINANCES

FOUNDATION PLANTING REQUIREMENT

- APPLY TO ALL COMMERCIAL DEVELOPMENT
- ALL PLANT MATERIALS SHALL BE FLORIDA NO. ONE GRADE OR BETTER
- ALL BUILDINGS FACING RIGHTS-OF-WAY SHALL CONTAIN A FOUNDATION LANDSCAPING AREA ADJACENT TO THE BUILDING THAT IS A MINIMUM OF FOUR FEET IN WIDTH AND EXTENDS THE ENTIRE LENGTH OF THE BUILDING FACADE
- MIN. 24" HT. SHRUBS WITH A MAX. SPACING OF 30" O.C.
- MIN. ONE (1) SMALL TREE PER 20 L.F. OF BUILDING FACADE FACING STREET

REQUIRED TREES (405 L.F./20): 21
PROVIDED TREES: 21
* SHRUBS PROVIDED AS SHOWN ON PLAN

PERIMETER LANDSCAPE (ADJACENT STREET & OTHER PROPERTY)

- MIN. ONE (1) CANOPY TREE PER 35 L.F. OF PERIMETER
- MIN. TEN (10) 3' HT. SHRUBS PER 35 L.F. PERIMETER

REQUIRED SHRUBS & TREES (2,368 L.F./35): 677 SHRUBS & 68 TREES
PROVIDED SHRUBS & TREES: 680 SHURBS + 53 TREES + 18 EX. TREES

INTERIOR VEHICULAR PARKING AREA LANDSCAPING

- A MINIMUM OF ONE (1) CANOPY, SHADE TREE, PLUS AN ADDITIONAL ONE (1) CANOPY SHADE TREE FOR EVERY TEN (10) SPACES OR ANY PORTION THEREOF, SHALL BE REQUIRED FOR AN OFF-STREET VEHICULAR PARKING AREA
- ONE TREE IN TERMINAL ISLANDS
- AT LEAST 90 PERCENT OF THE PARKING SPACES SHALL BE WITHIN 80' FROM THE TRUNK OF A TREE

REQUIRED TREES (168 SPACES/10 + 1): 18
PROVIDED TREES: 19

PERIMETER OFF-STREET VEHICULAR PARKING AREA LANDSCAPING

- A HEDGE ROW, CONSISTING OF SHRUBS A MINIMUM HEIGHT OF 36" AND PLANTED 42" O.C., OR OTHER APPROVED SCREENING

REQUIRED SHRUBS (316 L.F./3.5): 91
PROVIDED SHRUBS: 91

BUFFERYARDS (ADJACENT LAND USES: RELIGIOUS INSTITUTION & RETAIL/COMMERCIAL)

- HEALTHCARE ABUTTING HOUSEHOLD LIVING 20+ UNITS/ACRE, MIXED USE DEVELOPMENT, ALL OTHER PUBLIC, CIVIC, AND INSTITUTIONAL: TYPE 'B' AESTHETIC (GROUND TO MIN. 20' HT.)
- LENGTH OF 'B' BUFFERYARD: 615 L.F.
- CONFIGURATION SELECTION: OPTION 1, MIN. WIDTH = 25'
- PLANTINGS PER 100 L.F. OF BUFFERYARD: 3 CANOPY TREES + 12 SHRUBS; LENGTH OF BUFFER = 615 L.F.

REQUIRED SHRUBS & TREES (6.15 MULTIPLIER): 74 SHRUBS & 19 TREES
PROVIDED SHRUBS & TREES: 74 SHRUBS & 23 TREES

NOTES:

1. CREDIT FOR EX. VEGETATION: EXISTING VEGETATION LOCATED WITHIN TEN FEET OF A REQUIRED BUFFERYARD THAT MEETS THE SIZE STANDARDS OF TABLE 5.3.4.B.4.D-1., MAY BE PRESERVED & CREDITED TOWARD THE PERIMETER BUFFERYARD STANDARDS PROVIDED IT IS RETAINED DURING AND AFTER THE DEVELOPMENT PROCESS.

2. CREDIT FOR REQUIRED LANDSCAPING: REQUIRED LANDSCAPING ASSOCIATED WITH PERIMETER LANDSCAPING AROUND AN OFF-STREET VEHICULAR PARKING AREA MAY BE CREDITED TOWARDS THE BUFFERYARD REQUIREMENTS.

PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	DETAIL	REMARKS
MAG BRK	8	Magnolia grandiflora 'Brackens Brown Beauty' / Bracken's Beauty Southern Magnolia	12` Ht.	65 Gal.		Symmetrical form, Dense foliage
MAG JIM	17	Magnolia virginiana 'Jim Wilson' / Moonglow® Sweetbay Magnolia	3" Cal.	B&B		Well branched, standard (single trunk)
PIN ELL	28	Pinus elliottii / Slash Pine	2" Cal.	30 Gal.		Dense foliage, symmetrical, straight trunk
QUE BRE	30	Quercus nuttallii 'Ochlocknee' / Breezeway® Nuttall Oak	---			
TAX DIS	22	Taxodium distichum / Bald Cypress	2.5" Cal.	45 Gal.		Well branched, limb up 4' ht., symmetrical form
ULM FL3	17	Ulmus americana floridana / Florida Elm	---			

SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	DETAIL	REMARKS
CAM GAS	164	Camellia sasanqua 'Shishi Gashira' / Shishi Gashira Camellia	7 gal.	Pot		
ILE CRS	48	Ilex cornuta 'Carissa' / Carissa Chinese Holly	3 gal.	Pot		
ILE NAN	202	Ilex vomitoria 'Nana' / Dwarf Yaupon Holly	3 gal.	Pot		
MUH PI4	409	Muhlenbergia capillaris 'Pink Cloud' / Pink Cloud Pink Muhly Grass	3 gal.	Pot		
POD PRI	66	Podocarpus macrophyllus 'Pringles' / Pringles Dwarf Yew Podocarpus	7 gal.	Pot		
ROS ADR	193	Rosa x 'Meimirrote' / Apricot Drift® Rose	3 gal.	Pot		
SAB MIN	69	Sabal minor / Dwarf Palmetto	7 gal.	Pot		
TRI DAC	205	Tripsacum dactyloides nana / Dwarf Fakahatchee Grass	3 gal.	Pot		

GROUND COVERS	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	DETAIL	REMARKS
LIR MUS	862	Liriope muscari / Lilyturf	---		12" o.c.		
RHO DWA	119	Rhoeo discolor 'Dwarf' / Dwarf Oyster Plant	---		18" o.c.		

0 10 20 30 60
GRAPHIC SCALE

Know what's below. Call before you dig.

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 979-1795
WWW.CRUNKENG.COM

REGISTERED LANDSCAPE ARCHITECT
WESLEY L. WILKERSON
LA 0001729
STATE OF FLORIDA
5/24/23

NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

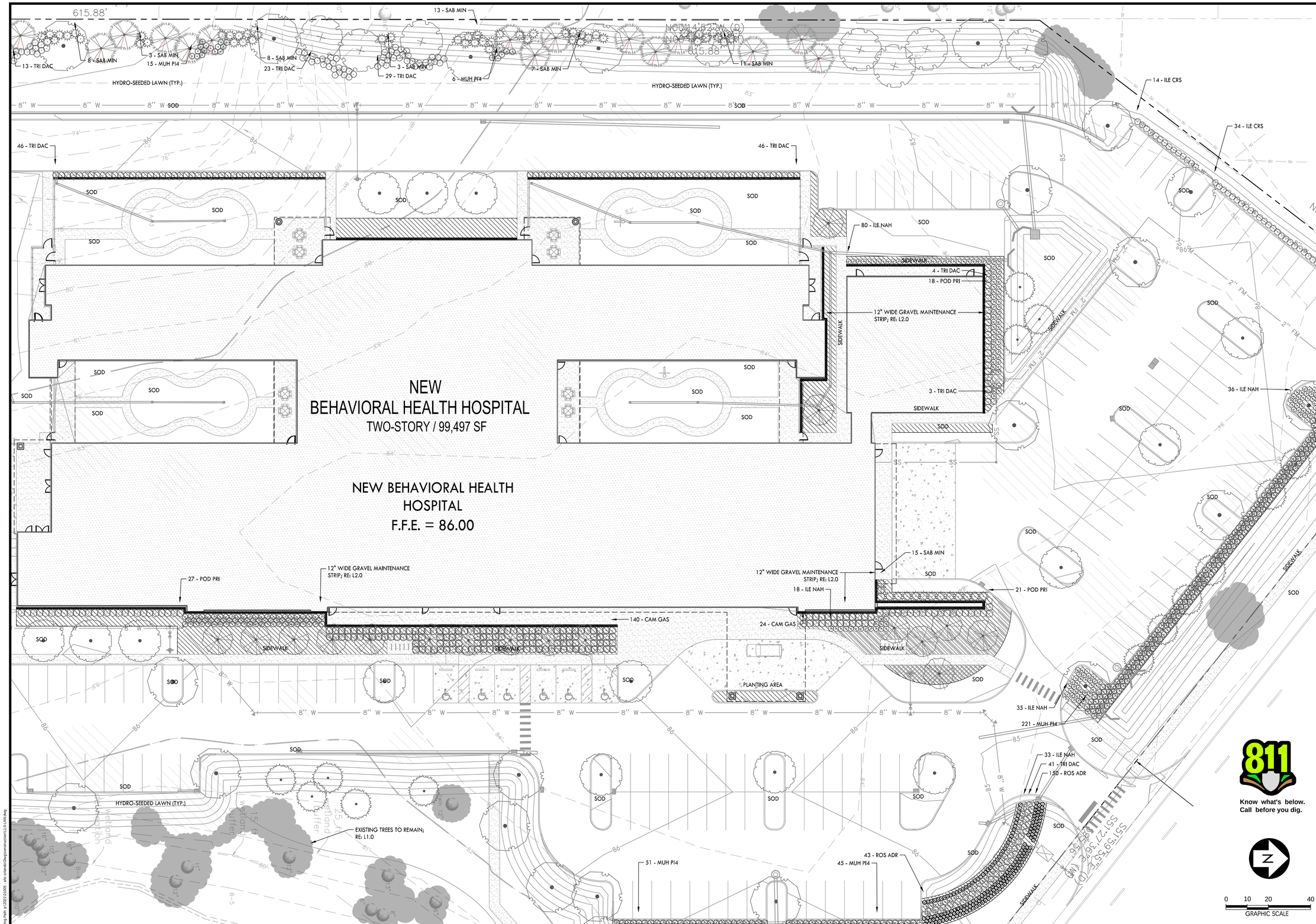
REVISIONS		
No.	DATE	

02/27/2023 21005

L1.1

OVERALL PLANTING PLAN

Drawing Path: p:\2021\21005 - ohc orlando\2wp\construction\L1.0 LAN.dwg



CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

REGISTERED LANDSCAPE ARCHITECT
WESLEY L. WILKERSON
LA 0001729
STATE OF FLORIDA
3/2/23

NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

REVISIONS	
No.	DATE

02/27/2023 21005

L1.2
DETAILED PLANTING PLAN

GENERAL LANDSCAPE NOTES:

1. GRASS OR GROUNDCOVER SHALL BE PLANTED ON ALL PORTIONS OF THE LANDSCAPE BUFFER AREA (LBA) NOT OCCUPIED BY OTHER LANDSCAPE MATERIAL.
2. THE GROUND PLANE OF ALL INTERIOR LANDSCAPE AREAS SHALL BE PLANTED USING EITHER SHRUBS, GROUNDCOVER, OR TURF.
3. EXISTING TREES AND PLANT MATERIAL ARE BEING USED TO MEET LANDSCAPE CODE REQUIREMENTS. IF ANY TREES OR SCREENING VEGETATION DIE OR ARE REMOVED THEY WILL BE REPLACED AS PER THE LANDSCAPE CODE REQUIREMENTS.
4. IT WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER TO PERPETUALLY MAINTAIN ALL LANDSCAPE AREAS AND ASSOCIATED PLANT MATERIAL REQUIRED UNDER LAND DEVELOPMENT CODE REGULATIONS. THE PROPERTY OWNER SHALL ALSO BE RESPONSIBLE FOR MAINTAINING ASSOCIATED VEGETATION AND DRAINAGE SYSTEM WITHIN THE STORMWATER BASINS.
5. ALL UNHEALTHY OR DEAD PLANT MATERIAL SHALL BE REPLACED WITHIN ONE YEAR, OR BY THE NEXT PLANTING PERIOD, WHICHEVER COMES FIRST, WHILE OTHER DEFECTIVE PLANT MATERIAL SHALL BE REPLACED OR REPAIRED WITHIN THREE (3) MONTHS.
6. ALL PLANT MATERIAL LOCATED WITHIN A UTILITY EASEMENT THAT IS DAMAGED OR REMOVED DUE TO WORK REQUIRED BY THE UTILITY COMPANY SHALL BE IMMEDIATELY REPLACED BY THE OWNER IN ACCORDANCE WITH LAND DEVELOPMENT CODE CHAPTER 10 REQUIREMENTS.
7. STREET TREES SHALL BE PLANTED IN A MANNER THAT DOES NOT AFFECT PUBLIC SAFETY AND MAINTAINS PROPER SIGHT DISTANCES.
8. ALL SERVICE STRUCTURES SHALL BE SCREENED IN ACCORDANCE WITH LOCAL ZONING ORDINACE/GOVERNING AGENCY. SERVICE STRUCTURES INCLUDE BUT ARE NOT LIMITED TO: PROPANE TANKS, DUMPSTERS, HVAC UNITS, ELECTRIC TRANSFORMERS, TELECOM BOXES, ETC.
9. CONTRACTOR SHALL COORDINATE ANY UTILITY, SIDEWALK, OR GRADE CHANGES WITH LANDSCAPE ARCHITECT PRIOR TO BED PREPARATION, IRRIGATION, OR PLANTING INSTALLATION.
10. IRRIGATION WILL BE PROVIDED ON A DESIGN-BUILD BASIS. THIS IRRIGATION SYSTEM SHALL BE DESIGNED TO PROVIDE ADEQUATE WATERING OF THE PROPOSED PLANT MATERIAL AND LAWN AREAS. THE SYSTEM SHALL CONSIST OF SEVERAL WATERING ZONES CONTROLLED BY A CENTRAL TIMER WITH EITHER POP-UP AND ROTATING IRRIGATION HEADS OR A DRIP LINE SYSTEM. THE PROPOSED SYSTEM SHALL BE INSTALLED PRIOR TO PLANTING. (IF APPLICABLE)
11. AN AUTHORIZED INSPECTOR OR LOCAL AGENCY OFFICIAL SHALL HAVE THE RIGHT TO ENTER ONTO ANY PROPERTY TO INSPECT THE HEALTH AND GENERAL CONDITION OF PLANT MATERIAL THAT IS; LOCATED IN THE RIGHT OF WAY; PART OF AN APPROVED DEVELOPMENT/LANDSCAPE PLAN; OR REPORTED AS A PUBLIC HAZARD.
12. LANDSCAPE ARCHITECT SHALL INSPECT AND CERTIFY THAT ALL REQUIRED LANDSCAPING, INCLUDING SCREEN FENCING, HAS BEEN INSTALLED OR PLANTED AS SHOWN ON THE APPROVED LANDSCAPE PLAN.
13. LANDSCAPE PLANTINGS MUST BE INSTALLED PRIOR TO OCCUPANCY OF THE SITE OR AT THE NEXT AVAILABLE PLANTING SEASON. THESE PLANTINGS ARE TO BE MAINTAINED THEREAFTER.

PLANT MAINTENANCE

1. THE LANDSCAPE CONTRACTOR SHALL PROVIDE OWNER WITH WRITTEN INSTRUCTIONS ON THE PROPER CARE OF ALL SPECIFIED PLANT MATERIALS PRIOR TO FINAL PAYMENT.
2. CONTRACTOR TO WARRANTY ALL MATERIAL FOR 2 YEARS AFTER DATE OF FINAL ACCEPTANCE.
3. ALL UNHEALTHY OR DEAD PLANT MATERIAL SHALL BE REPLACED WITHIN ONE YEAR, OR BY THE NEXT PLANTING PERIOD, WHICHEVER COMES FIRST. OTHER DEFECTIVE PLANT MATERIAL SHALL BE REPLACED OR REPAIRED WITHIN THREE (3) MONTHS.

MULCHING

1. ALL PLANTING BEDS OR MULCH BEDS SHALL HAVE WEEDS REMOVED PRIOR TO THE INSTALLATION OF MULCH.
2. ALL PLANTING BEDS SHALL HAVE A MINIMUM OF 3" DEPTH OF AGED SHREDDED HARDWOOD BARK MULCH OR A MINIMUM OF 4" DEEP PINE STRAW MULCH.
3. CONTRACTORS SHALL PROVIDE SMOOTH, NEATLY TRENCHED (3 INCH DEEP) BED EDGES.
4. MULCH SHALL NOT CONTACT OUTER BARK AT BASE OF TREES. PULL BACK MULCH 3-4" FROM TRUNK.

PLANT MATERIALS

1. THE LANDSCAPE CONTRACTORS SHALL VERIFY ALL MATERIAL QUANTITIES. IN THE EVENT OF A DISCREPANCY, THE QUANTITIES SHOWN ON THE PLAN WILL TAKE PRECEDENCE.
2. ALL PLANT MATERIALS TO BE NURSERY GROWN AND TO COMPLY WITH THE AMERICAN STANDARDS FOR NURSERY STOCK: ANSI - LATEST EDITION FOR SIZE AND QUALITY.
3. ALL PLANT MATERIAL SHALL BE A MINIMUM OF 'FLORIDA NUMBER ONE' AS DEFINED IN THE MOST CURRENT EDITION OF THE GRADES AND STANDARDS FOR NURSERY PLANTS, PART I AND II, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. PLANTS THAT ARE INFERIOR OR DAMAGED WILL NOT BE ACCEPTED.
4. THE PLANTS DELIVERED TO THE PROJECT SITE SHALL BE PLANTED AS SOON AS SITE CONDITIONS PERMIT. TAKE CARE IN SCHEDULING PLANT DELIVERIES AND THE SIZE OF DELIVERIES SO THAT LONG PERIODS OF STORAGE ARE AVOIDED. ADEQUATELY PROTECT PLANTS PLACED IN TEMPORARY STORAGE FROM THE SUN AND WIND; WATER PLANTS SO AS TO MAINTAIN THEIR APPEARANCE AND HEALTH. PLANTS THAT HAVE NOT BEEN PROPERLY MAINTAINED DURING TEMPORARY STORAGE MAY BE REJECTED BY THE LANDSCAPE ARCHITECT.
5. ALL TREES SHALL BE FIRST QUALITY REPRESENTATIVES OF THEIR SPECIES AND SHALL MEET ALL REQUIREMENTS OTHERWISE STIPULATED. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT PLANTED MATERIAL IN THE FIELD, AT THE GROWING SITE OR ON THE JOB SITE.

GENERAL TREE PRESERVATION/PROTECTION NOTES

1. Construction fencing shall be erected when off-site trees or tree canopy exists within 3' of a common property line. Construction fencing shall be erected at the edge of the limits if disturbance area, prior to any grading or construction activities - preventing compaction of existing root systems of trees to be preserved and off- site trees. The fencing shall enclose the entire area beneath the drip line of the tree canopy and shall remain in place until all construction is completed. No parking, material storage or construction activities are permitted within the protected area.
2. Construction fencing shall be elected at the edge of the limits of disturbance area, prior to any grading or construction activities. The fencing shall in place until all construction is completed. No parking, material storage, or construction activities shall be permitted within the fenced area.
3. Construction fencing shall to erected prior to any grading or construction activities – preventing compaction of root systems of trees to be preserved. The fencing shall enclose the area beneath the dripline of the tree canopy and shall remain in place until all construction is completed. No parking, material storage, or construction activities shall be permitted within the fenced area.
4. Prior to site disturbance or construction activities a site inspection by staff or designee shall be scheduled to confirm and verify the Tree Preservation/ Protection Fencing and Signage is installed and correctly placed.
5. The contractor shall post signage on the Tree Preservation/ Protection Fencing and Construction Fencing identifying the enclosed area as Tree Preservation/ Protection Area. The signs shall include the following text: STAY OUT TREE PRESERVATION / PROTECTION AREA "NO equipment, materials, or vehicles shall be stored or placed within the area enclosed by this 'Tree Preservation/Protection' Fence. This fence may not be removed without the approval of the local agency at completion of project. Failure to comply will result in fines and tree mitigation. Report non-compliance to local authorities or landscape architect.
6. The Tree Preservation/ Protection Area signage shall be posted every 50 feet along the Tree Preservation Fence. The signs shall be a minimum size of 8" X 10" and weather resistant. If the signs are damaged or faded, they shall be replaced within 10 working days or 2 weeks.
7. The original stamped copy of the approved Tree Preservation Plan shall be present on site during all clearing, grading and construction activity and shall be made available to any inspector or enforcement officer upon request.
8. An authorized inspector shall have the right to enter onto any property to inspect the health and general condition of plant material that is; located in the right of way; part of an approved development/landscape plan; or reported as a public hazard.

LANDSCAPE NOTES:

SITE PREPARATION

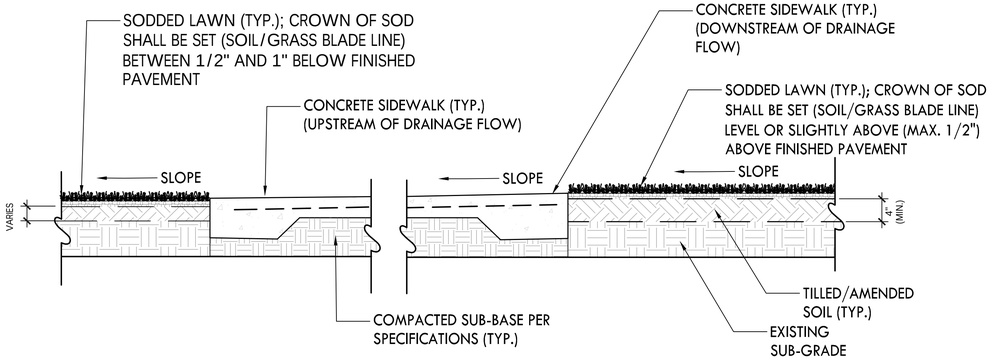
1. THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES AND TAKE PRECAUTIONS TO PREVENT DAMAGE TO THESE UTILITIES.
2. THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANIES AND SHALL BE RESPONSIBLE FOR ALL DAMAGES TO UTILITIES.
3. PLANT MATERIALS AND STUMPS INDICATED FOR REMOVAL SHALL BE REMOVED AND DISPOSED OFF-SITE BY THE CONTRACTOR. BACKFILL HOLES WITH QUALITY TOPSOIL FREE OF ROOTS AND ROCKS. SEE TOPSOIL SPECIFICATION.
4. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINE GRADING OF ALL PLANTING AREAS.
5. ALL CONTRACTORS APPLYING CHEMICALS ON SITE SHALL SUBMIT COPIES OF CERTIFICATION(S) AND LICENSES TO THE LANDSCAPE ARCHITECT.
6. PLANTING BEDS SHALL BE CLEARED OF GRASS AND WEEDS PRIOR TO INSTALLATION OF PLANTS.
7. SOD ALL AREAS DISTURBED BY CONSTRUCTION AND NOT DESIGNATED AS GROUND COVER AREAS.

TOPSOIL

1. ALL PLANTED AREAS TO HAVE A MINIMUM OF 6" OF QUALITY TOPSOIL.
2. ALL COMPACTED AREAS TO BE AERATED AND AMENDED AS NEEDED.
3. TOPSOIL IS TO BE NATURAL, FERTILE, FRIABLE, PRODUCTIVE SOIL, NEITHER EXCESSIVELY ACID NOR ALKALINE, AND FREE FROM TOXIC SUBSTANCES, STONES WEEDS, CLAY, CLODS, ROOTS, CINDERS, DEBRIS, AND CONSTRUCTION MATERIAL.

PLANTING

1. ALL PLANTING BEDS OR MULCH BEDS SHALL BE FREE OF WEEDS PRIOR TO THE INSTALLATION OF MULCH..
2. THE OPTIMUM TIME OF PLANTING IS FROM OCTOBER 1 TO APRIL 1. SCHEDULING FOR PLANTING AT OTHER TIMES MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT. CONTRACTOR TO ACCOUNT FOR TEMPORARY WATERING AS PART OF THEIR BID FOR ANY PLANTING INSTALLED DURING PERIODS OF HIGH TEMPERATURES.
3. UPON SECURING PLANT MATERIAL AND BEFORE INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT FOR A PRE-INSTALLATION INSPECTION IN ORDER TO VERIFY ALL PLANT MATERIAL MEETS SPECIFICATIONS. TREES OF SAME SPECIES ARE TO BE MATCHED IN GROWTH CHARACTER AND UNIFORMITY.
4. PLANTS SHALL BE ORIENTED FOR BEST APPEARANCE AND VERTICAL. ALL NON-BIODEGRADABLE ROOT CONTAINERS SHALL BE REMOVED.
5. AFTER PLANTING, TREE BRANCHES SHALL BE SELECTIVELY TRIMMED BY 25%, MAINTAINING NATURAL SHAPE. ALL DEAD AND BROKEN BRANCHES IN TREES AND SHRUBS SHALL ALSO BE PRUNED. REMOVE TAGS, TWINE, OR OTHER NON-BIODEGRADABLE MATERIAL.
6. WATERING: ALL TREES AND SHRUBS SHALL BE THOROUGHLY WATERED WITHIN ONE HOUR OF INSTALLATION.



1 PAVEMENT/LAWN TRANSITION (NO CURB)

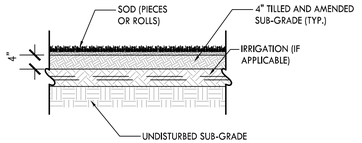
NOT TO SCALE

NOTES:
CONTRACTOR SHALL OBTAIN A SOIL ANALYSIS FROM AN INDEPENDENT LABORATORY APPROVED BY THE STATE DEPARTMENT OF AGRICULTURE. ANY RECOMMENDED AMENDMENTS SHALL BE INCORPORATED INTO PREPARATION.

CONTRACTOR SHALL LOOSEN THE TOP FOUR (4") INCHES OF SOIL IN AREAS TO RECEIVE LAWN. REMOVE ALL DEBRIS, STICKS, ROOTS, RUBBISH, CLUMPS OF SOIL, STONES OVER ONE (1) INCH IN DIAMETER, AND ALL OTHER EXTRANEOUS MATTER PRIOR TO FINE GRADING FOR SOD AREAS AS PER SPECIFICATIONS.

LAY SOD WITH TIGHTLY FITTED JOINTS; ELIMINATING AIR POCKETS AND FORMING A SMOOTH CONTINUOUS MASS OF LAWN.

REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION THAT ARE PART OF THE CONTRACT DOCUMENTS.



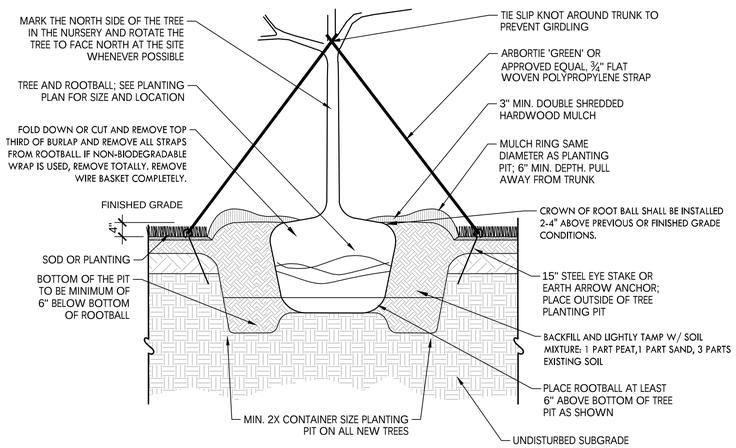
2 LAWN

NOT TO SCALE

RADIUS OF TREE FENCE=1' RADIUS PER 1" DBH OF TREE TRUNK

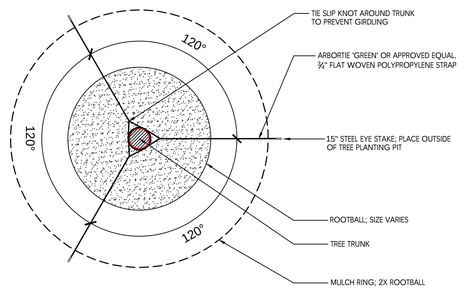
3 TREE PROTECTION

NOT TO SCALE



4 TREE PLANTING

NOT TO SCALE



5 TREE STAKING

NOT TO SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

REGISTERED LANDSCAPE ARCHITECT
WESLEY L. WILKERSON
LA 0001729
STATE OF FLORIDA
5/2/23

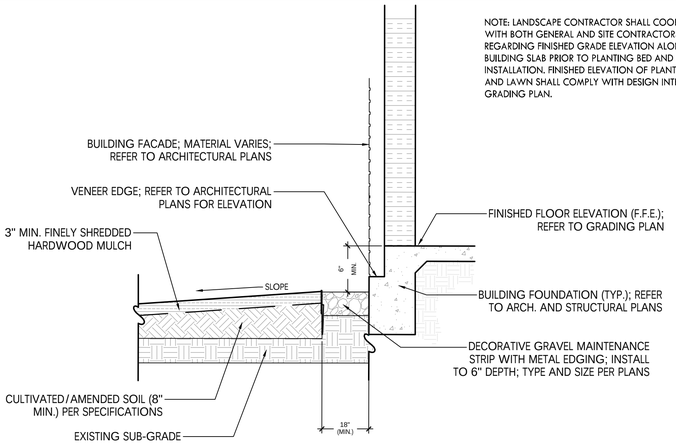
NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

REVISIONS	
No.	DATE

02/27/2023 21005

L2.0
PLANTING DETAILS

Drawing Path: p:\2021\21005 - afc orlando\2wp\construction\11.0 LA\Arch.dwg

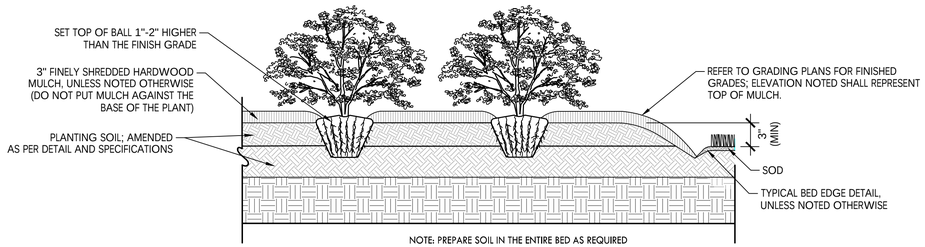


1 GRAVEL/PLANTING BED AT BUILDING FOUNDATION

NOT TO SCALE

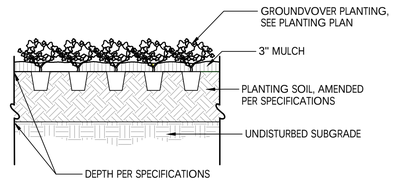
NOTES:

1. WHERE SHRUBS APPEAR IN BED AREA, 3" OF MULCH SHALL BE SPREAD UNIFORMLY OVER THE ENTIRE AREA WITHIN THE BED AS INDICATED ON THE PLANS.
2. DO NOT PRUNE SHRUBS BEFORE ACCEPTANCE. REVIEW DESIGN INTENT FOR APPEARANCE WITH LANDSCAPE ARCHITECT IN FIELD.
3. CAREFULLY REMOVE CONTAINER FROM ROOT BALL USED FOR SHRUB(S). ANY BROKEN OR CRUMBLING ROOT BALL(S) SHOULD AND WILL BE REJECTED.
4. IF SHRUB IS B&B, REMOVE BURLAP FROM TOP $\frac{1}{3}$ OF ROOT BALL OR COMPLETELY REMOVE BURLAP AS LONG AS ROOT BALL IS NOT BROKEN OR CRUMBLE.
5. SCARIFY ROOT BALL IF ROOT BOUND IN CONTAINER PER HORTICULTURE STANDARDS.
6. FOR CONTAINTER GROWN SHRUBS, SCARIFY THE ROOTS FROM THE OUTER LAYER OF POTTING SOIL VIA MANUALLY OR SMALL HAND TOOLS, THEN CUT OR PULL APART ANY ROOTS THAT CIRCLE THE PERIMETER OF THE CONTAINER. 12" TO 18" FOR LARGER SHRUB ROOT BALLS, MAKE WIDTH MIN. 6" DEEPER THAN BALL



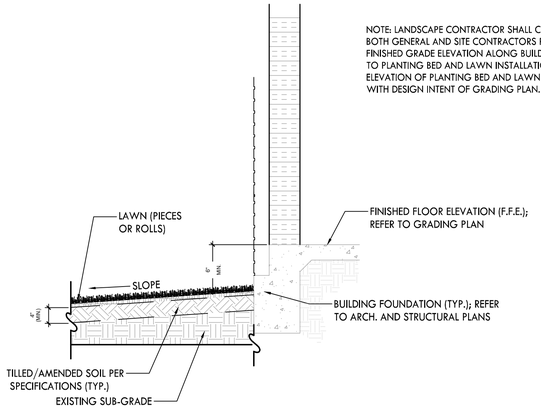
2 SHURB PLANTING

NOT TO SCALE



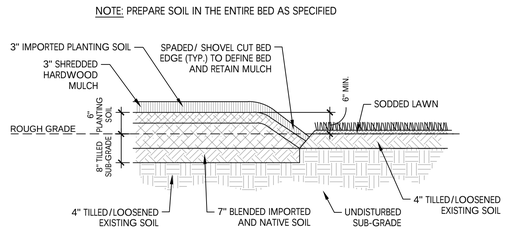
3 GROUNDCOVER PLANTING

NOT TO SCALE



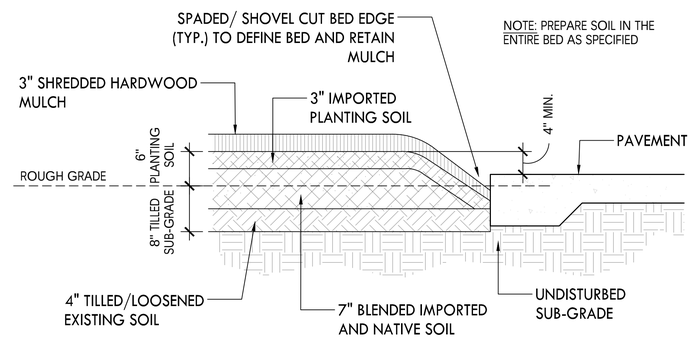
4 LAWN AT BUILDING FOUNDATION

NOT TO SCALE



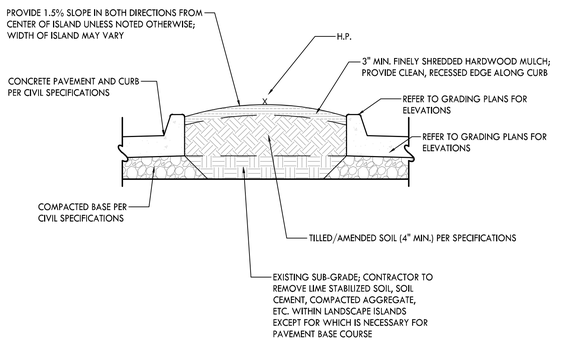
5 BED PREPARATION

NOT TO SCALE



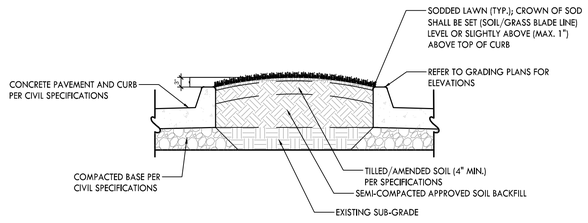
6 BED PREPARATION AT PAVEMENT

NOT TO SCALE



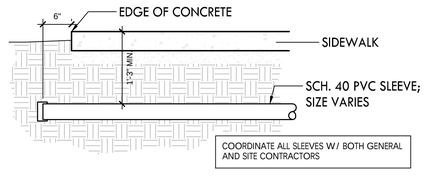
7 INTERIOR PARKING ISLAND (PLANTING)

NOT TO SCALE



8 INTERIOR PARKING ISLAND (LAWN)

NOT TO SCALE



9 SLEEVE UNDER PAVEMENT

NOT TO SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 673-1795
WWW.CRUNKENG.COM

REGISTERED LANDSCAPE ARCHITECT
WESLEY L. WILKERSON
LA 0001729
STATE OF FLORIDA
3/2/23

NEW BEHAVIORAL HEALTH HOSPITAL
ORLANDO HEALTH JV
APOPKA, FLORIDA

REVISIONS	
No.	DATE

02/27/2023 21005

L2.1
PLANTING DETAILS

Drawing Path: p:\2021\21005 - afc orlando\Dwg\construction\L1.0-LAN.dwg

City of Apopka
CITY COUNCIL STAFF REPORT

Section: BUSINESS (Action Item)
Item #: 2.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Shoppes at East Shore Multifamily – Major Development Plan

REQUEST:
Approve the Shoppes at East Shore Multifamily – Major Development Plan

SUMMARY:
Owner(s): Shoppes At East Shore, LLC
Applicant: Kimley-Horn and Associates, Inc. c/o L. Jordan Draper, P.E.
Parcel Number(s): 20-21-28-0000-00-025, 20-21-28-0000-00-024, 20-21-28-0000-00-021 and 20-21-28-0000-00-028
Location: Northeast corner of Ocoee Apopka Road and Keene Road
Future Land Use (FLU): Mixed-Use (15 dwelling units per acre and 1.0 floor area ratio maximum)
Zoning: PD (Planned Development)
Existing Use: Vacant
Proposed Use(s): 208 multifamily units
Tract Size: 27.48 +/- acres
Proposed Density/Intensity: 7.6 dwelling units per acre

Zoning Report:

Direction	Future Land Use	Zoning	Present Use
North	Mixed-Use and Residential Low	Mixed-Use – East Shore – Gateway (MU-ES-GT) and County Rural	Horse Farm and Single-Family Residence
East	County Rural	County A-1 (Citrus Rural)	Horse Farm and Single-Family Residences
South	Office and County Industrial	O (Office) and County A-1	County Waste Management Facility
West	High Density Residential – 25	PD (Planned Development)	Ocoee Apopka Road Multi-Family (Jefferson Apartments)

PROJECT SUMMARY:

The Shoppes at East Shore Multifamily – Major Development Plan (MDP) proposes to construct an age-restricted apartment complex with a proposed height of almost 55 feet on the northern portion of the Shoppes at East Shore Planned Development (PD). The PD establishes the maximum permitted height of 65 feet. This portion of the PD requires 262 parking spaces while 271 parking spaces are provided by the applicant with ten accessible parking spaces.

The landscape plan proposes Oak trees within landscaped parking islands. Southern Magnolia and Sabal Palm trees embellish the frontage on Ocoee Apopka Road. Crape Myrtles decorate the foundation planting around the apartment buildings.

ACCESS/TRANSPORTATION:

The Major Development Plan shows two access points located on Ocoee Apopka Road, as well as, access along the drive aisle shared with the adjacent proposed grocer to the south. Therefore, the site may be accessed via Keene Road through the grocery portion of the Planned Development (PD). Pedestrian connection is provided between the multi-family project and the approved grocery store.

Ocoee Apopka Road widening from two-lanes to four-lanes, and is under design, as is a new signal at the intersection at Keene Road. Because the PD project site will be ready before the road widening, the applicant will install right and left turn lanes at the site entrances as interim improvements. Some access will be limited to right-in-right-out only. Right and left turn lanes at the intersection of Ocoee Apopka Road and Keene Road will be installed in advance of the signal.

ORANGE COUNTY NOTIFICATION:

Orange County was notified at the time of the site plan submittal for this property through the DRC agenda distribution.

PUBLIC HEARING SCHEDULE:

August 8, 2023 – Planning Commission (5:30 P.M.)
September 6, 2023 – City Council (1:30 P.M.)

Attachments:

- Maps
- Shoppes at East Shore Multifamily – MDP
- Shoppes at East Shore Multifamily – Building Elevations
- Shoppes at East Shore Multifamily – TIA

FUNDING SOURCE:
Not applicable.

RECOMMENDED MOTION:

Development Review Committee:

Recommends approval of the Shoppes at East Shore Multifamily – Major Development Plan, subject to the findings in the staff report.

Planning Commission:

At its meeting on August 8, 2023, the Planning Commission unanimously recommended approval of the Shoppes at East Shore Multifamily – Major Development Plan, subject to the findings in the staff report.

Recommended Motion – City Council:

Approve the Shoppes at East Shore Multifamily – Major Development Plan, subject to the findings in the staff report.

ATTACHMENTS:

1. Shoppes at East Shore Multifamily – MDP
2. Shoppes at East Shore Multifamily - TIA
3. Maps
4. Shoppes at East Shore Multifamily - Building Elevations

MAJOR DEVELOPMENT PLAN

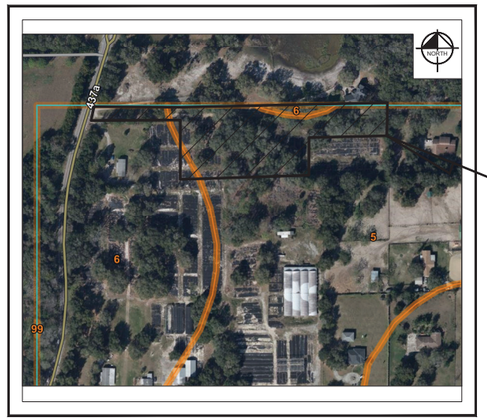
FOR

SHOPPES AT EAST SHORE MULTI-FAMILY

ORANGE COUNTY PARCEL ID NO.
20-21-28-0000-00-021
20-21-28-0000-00-028

CITY OF APOPKA, FLORIDA

JANUARY 26, 2023

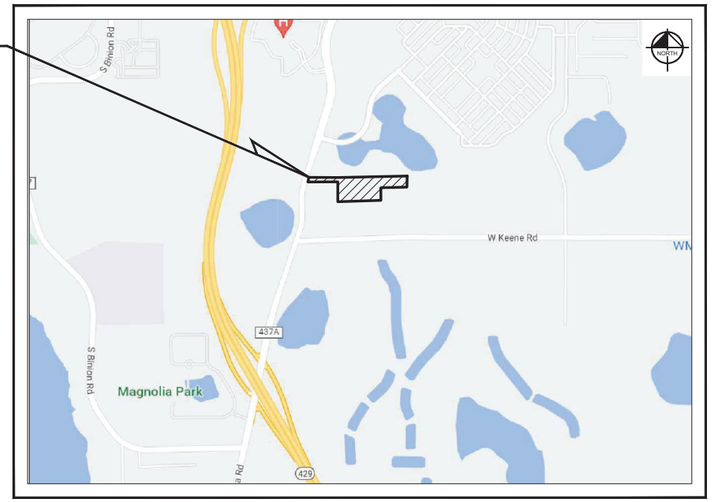


SITE

SOILS MAP

N.T.S.

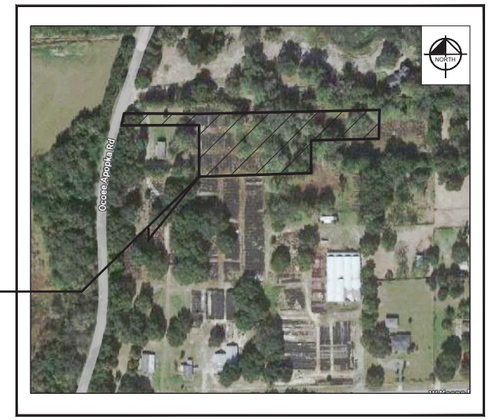
5 CANDLER FINE SAND 5-12% SLOPES
6 CANDLER-APOPKA FINE SANDS



SECTION 20, TOWNSHIP 21, RANGE 28

LOCATION MAP

N.T.S.



SITE

AERIAL PHOTOGRAPH

N.T.S.

INDEX OF SHEETS

MDP0.0	COVER SHEET
MDP1.0	SURVEY
MDP2.0	EXISTING CONDITIONS PLAN
MDP3.0	OVERALL SITE PLAN
MDP3.1 - MDP3.2	SITE PLAN
MDP4.0 - MDP4.1	PAVING GRADING AND DRAINAGE PLAN
MDP5.0 - MDP5.1	UTILITY PLAN
MDP6.0	FIRE TRUCK ROUTING PLAN
MDP6.1	GARBAGE TRUCK ROUTING PLAN
MDP6.2	FIRE ACCESS ROAD
L1.00	OVERALL LANDSCAPE PLAN
L1.01 - L1.02	LANDSCAPE PLAN
L1.03	LANDSCAPE PLANT SCHEDULE & NOTES
L1.50	LANDSCAPE DETAILS
L1.51	LANDSCAPE SPECIFICAITONS
L2.00	OVERALL IRRIGATION PLAN
L2.01 - L2.02	IRRIGATION PLAN
L2.50	IRRIGATION DETAILS
L2.51	IRRIGATION SPECIFICATIONS & NOTES
E1.03	SITE PLAN PHOTOMETRICS

LEGAL DESCRIPTION:

A PORTION OF :

PID 20-21-28-0000-00-021

BEG 786.7 FT N & 479.15 FT W OF S1/4 COR OF SEC RUN W 1106.75 FT TO ST RD R/W NLY ALONG R/W TO A PT 246.47 FT S OR N LINE OF S1/2 OF SW1/4 RUN E 1046.71 FT S 237.23 FT TO POB IN SEC 20-21-28

PID 20-21-28-0000-00-028

BEG 786.7 FT N OF S1/4 COR OF SEC RUN E 331.67 FT N 272.54 FT W 1849.36 FT S 17 DEG W 31.7 FT E 1046.71 FT S 237.23 FT E 479.15 FT TO POB IN SEC 20-21-28

CONTAINING 7.47 ACRES

UTILITY PROVIDERS

WATER/SEWER:
CITY OF APOPKA
748 EAST CLEVLAND STREET
APOPKA, FL 32703
CONTACT: VLADIMIR SIMONOVSKI
PHONE: (407) 703-1731

ELECTRIC :
DUKE ENERGY
452 EAST CROWN POINT ROAD
WINTER GARDEN, FL 34787
CONTACT: STEPHANIE OLMO
PHONE: (407) 905-3376

GAS:
LAKE APOPKA NATURAL GAS DISTRICT
1320 WINTER GARDEN VINELAND ROAD
WINTER PARK, FL 34787
CONTACT: PATRICK NGUYEN
PHONE: (407) 656-2734

CABLE:
CHARTER COMMUNICATIONS
3767 ALL AMERICAN BLVD.
ORLANDO, FL 32810
CONTACT: RAMON NUNEZ
PHONE: (407) 215-5870

TELEPHONE:
CENTURYLINK
1325 BLAIRSTONE ROAD, ROOM 113
TALLAHASSEE, FL 32301
CONTACT: BILL MCCLOUD
PHONE: (850) 599-1444

PROJECT TEAM

OWNER:
SHOPPES AT EAST SHORE LLC
1200 NETWORK CENTRE DR
EFFINGHAM, IL 62401-4602

DEVELOPER:
SPARROW PARTNERS
2500 BEE CAVES RD, SUITE 380
AUSTIN, TX 78746
CONTACT: MILT BARBER
EMAIL: MILT.BARBER@SPARROW-PARTNERS.COM

CIVIL ENGINEER:
KIMLEY-HORN AND ASSOCIATES, INC.
189 SOUTH ORANGE AVENUE, SUITE 1000
ORLANDO, FL 32801
CONTACT: JORDAN DRAPER, P.E.
PHONE: (407) 412-7741
EMAIL: JORDAN.DRAPER@KIMLEY-HORN.COM

APPLICANT:
SPARROW PARTNERS
2500 BEE CAVES RD, SUITE 380
AUSTIN, TX 78746
CONTACT: MILT BARBER
EMAIL: MILT.BARBER@SPARROW-PARTNERS.COM

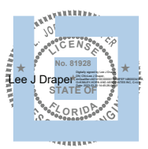
SURVEYOR:
ALLEN & COMPANY
16 EAST PLANT STREET
WINTER GARDEN, FL 34787
CONTACT: JAMES RICKMAN
PHONE: (407) 654-5355

LANDSCAPE ARCHITECT:
KIMLEY-HORN AND ASSOCIATES, INC.
189 SOUTH ORANGE AVENUE, SUITE 1000
ORLANDO, FL 32801
CONTACT: MATT FRANKO
PHONE: 407-427-1629
EMAIL: MATT.FRANKO@KIMLEY-HORN.COM

PREPARED BY

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106



Lee J Draper

L. JORDAN DRAPER, P.E.
FLORIDA LICENSE NUMBER
81928
1/26/2023

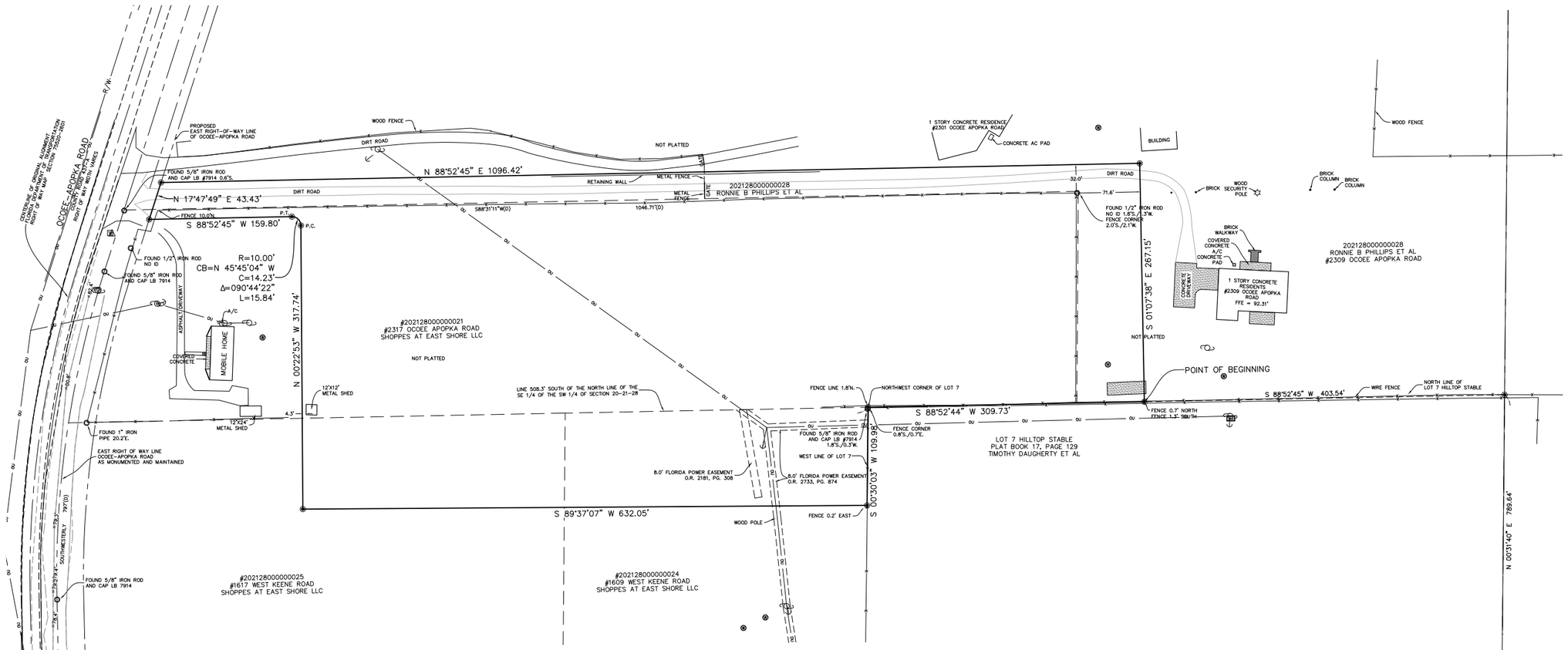
SHOPPES AT EAST SHORE MULTI-FAMILY
1/26/2023
ENGINEER'S PROJECT No. 249218001

REVISIONS:

NO.	DESCRIPTION	DATE

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP0.0 - COVER.dwg MDP0.0 - COVER SHEET Mar 17, 2023 11:29am by: Matthew.wansor

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



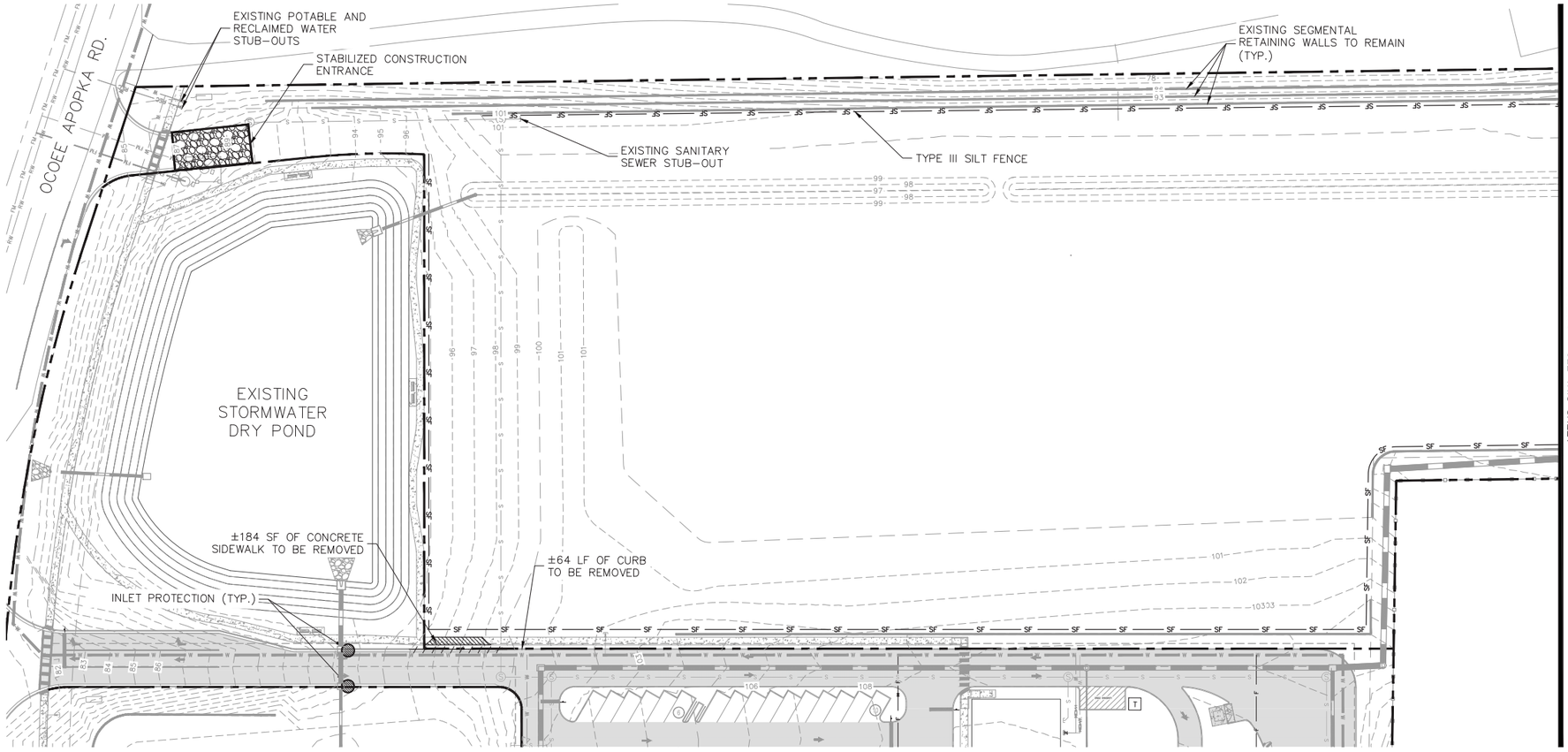
LEGAL DESCRIPTION

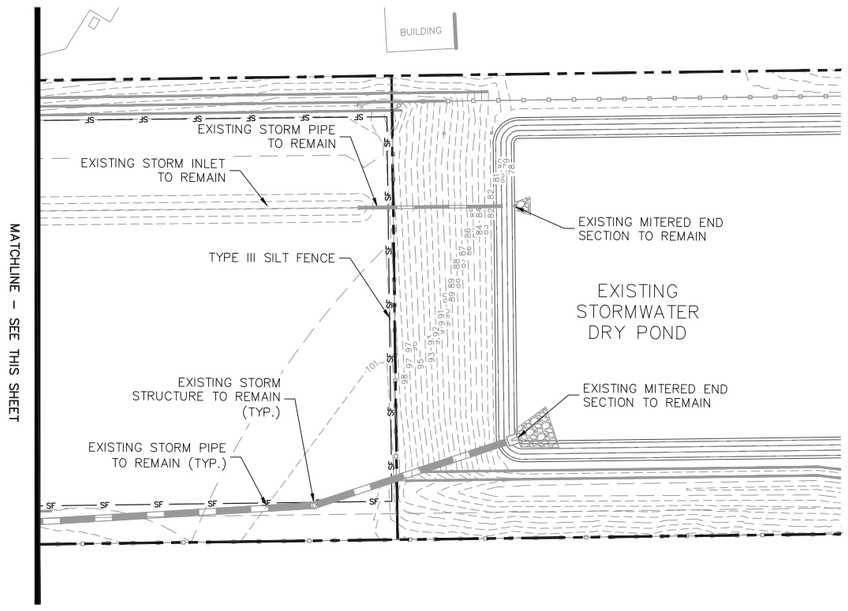
A PARCEL OF LAND LYING IN SECTION 20, TOWNSHIP 21 SOUTH, RANGE 28 EAST, ORANGE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTH QUARTER CORNER OF SECTION 20, TOWNSHIP 21 SOUTH, RANGE 28 EAST; THENCE RUN NORTH 00°31'40" EAST ALONG THE NORTH-SOUTH QUARTER SECTION LINE OF SAID SECTION 20 FOR A DISTANCE OF 789.65 FEET TO A POINT ON THE NORTH LINE OF LOT 7 HILLTOP STABLE, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 17, PAGE 129, OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA; THENCE DEPARTING SAID NORTH-SOUTH LINE, RUN SOUTH 88°52'45" WEST ALONG THE NORTH LINE OF SAID LOT 7 FOR A DISTANCE OF 403.54 FEET, TO THE POINT OF BEGINNING; THENCE RUN SOUTH 88°52'45" WEST ALONG THE NORTH LINE OF AFORESAID LOT 7, FOR A DISTANCE OF 309.73 FEET TO THE NORTHWEST CORNER OF AFORESAID SAID LOT 7; THENCE RUN SOUTH 00°30'03" WEST ALONG THE WEST LINE OF SAID LOT 7, FOR A DISTANCE OF 109.98 FEET; THENCE DEPARTING SAID WEST LINE, RUN SOUTH 89°37'07" WEST, FOR A DISTANCE OF 632.05 FEET; THENCE RUN NORTH 00°22'53" WEST, FOR A DISTANCE OF 317.74 FEET TO THE POINT OF CURVATURE OF A CURVE, CONCAVE SOUTHWESTERLY HAVING A RADIUS OF 10.00 FEET, A CHORD BEARING OF NORTH 45°45'04" WEST AND A CHORD LENGTH OF 14.23 FEET; THENCE RUN NORTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 90°44'22", FOR A DISTANCE OF 15.84 FEET TO A POINT OF TANGENCY; THENCE RUN SOUTH 88°52'45" WEST, FOR A DISTANCE OF 159.80 FEET TO A POINT ON THE PROPOSED EAST RIGHT OF WAY LINE OF OCOEE-APOPKA ROAD; THENCE RUN NORTH 17°47'49" EAST ALONG SAID PROPOSED EAST RIGHT OF WAY LINE, FOR A DISTANCE OF 43.43 FEET; THENCE DEPARTING SAID PROPOSED EASTERLY RIGHT OF WAY LINE, RUN NORTH 88°52'45" EAST, FOR A DISTANCE OF 1096.42 FEET; THENCE RUN SOUTH 01°07'38" EAST, FOR A DISTANCE OF 267.15 FEET, TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 325,325 SQUARE FEET, OR 7.47 ACRES, MORE OR LESS.

FL 429 Toll
FL 414 Toll
Apopka Expressway
Apopka
Hermit Smith Road
Pavia Drive
Saburo Road
Bay Breeze
Aston Bay Boulevard
Aston Bay Court
Aston Bay Drive
Bayside Drive
Bayside Court
Bayside Lane
Bayside Terrace
Bayside Boulevard
Lake Maynard Road
Lake Maynard Drive
Lake Maynard Court
Lake Maynard Circle
Lake Maynard Terrace
Lake Maynard Boulevard
Lake Maynard Lane
Lake Maynard Place
Lake Maynard Way
Lake Maynard Crossing
Lake Maynard Trail
Lake Maynard Loop
Lake Maynard Parkway
Lake Maynard Avenue
Lake Maynard Street





NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

THIS PLAN AND THE EXISTING CONDITIONS SHOWN ON THIS PLAN DO NOT SUPERSEDE OR SUBSTITUTE ANY SURVEYED INFORMATION. PLEASE REFERENCE SURVEY FOR OFFICIAL LOCATIONS AND INFORMATION OF THE EXISTING CONDITIONS.

LEGEND

- PROPERTY LINE (TYP.)
- EXISTING CURB TO BE REMOVED
- SF — TYPE III SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- EXISTING CONCRETE SIDEWALK TO BE REMOVED
- INLET PROTECTION

Always call 811 two full business days before you dig to have underground utilities located and marked.

Sunshine811.com

No.	REVISIONS	DATE	BY

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL ENGINEER
JORDAN DRAPER
LICENSE NUMBER
STATE OF FLORIDA
JORDAN DRAPER, PE
PROFESSIONAL ENGINEER

KHA PROJECT 249218001
DATE 1/26/2023
SCALE AS SHOWN
DESIGNED BY JDB
DRAWN BY JDB
CHECKED BY LJD

EXISTING CONDITIONS PLAN

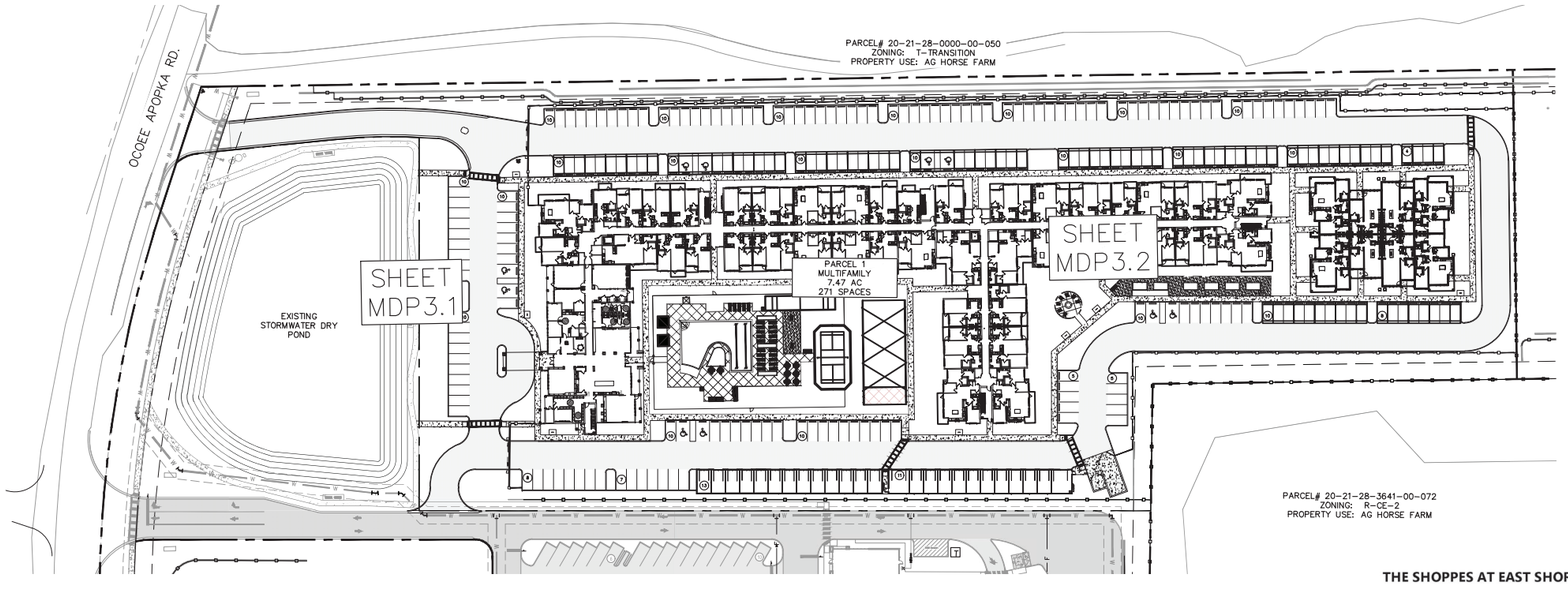
SHOPPES AT EAST SHORE MULTI-FAMILY

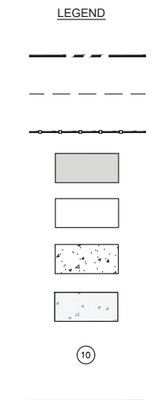
CITY OF APOPKA FLORIDA

SHEET NUMBER
MDP2.0

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP2.0 - EXISTING CONDITIONS PLAN.dwg MDP2.0 - EXISTING CONDITIONS PLAN Mar 17, 2023 11:30am by: Matthew.wansor

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.





GRAPHIC SCALE IN FEET
0 30 60 120

PUBLIC OPEN SPACE CALCULATIONS (OVERALL PD):

PARCEL	LAND USE	GROSS AREA (AC)	WETLAND/ WATER (AC)	DEVELOPABLE AREA (AC)	OPEN SPACE REQ'D		OPEN SPACE PROVIDED		
					%	AC	PARK/REC/ OPEN/LA	AMENITIZED STORM	TOTAL
1	RESIDENTIAL	7.47	0.00	7.47	30%	2.24	2.35	0.00	2.35
2	COMMERCIAL	1.26	0.00	1.26	20%	0.25	(1)	0.00	(1)
3	COMMERCIAL	1.35	0.00	1.35	20%	0.27	(1)	0.00	(1)
4	COMMERCIAL	2.07	0.00	2.07	20%	0.41	(1)	0.00	(1)
5	COMMERCIAL	15.87	0.00	15.87	20%	3.17	2.69	1.14	3.83
TOTAL		**28.02**	**0.00**	**28.02**		**6.35**	(1)	**1.14**	6.18

NOTES:
(1) TBD - TO BE DETERMINED WITH FUTURE MDP'S AND CSP'S
(3) OPEN SPACE REQUIRED IS CALCULATED PARCEL BY PARCEL AND OPEN SPACE PROVIDED IS APPLIED OVER THE OVERALL PD.

Green Building Standards		
Minimum Points Required	4	4.0 points required for Residential Developments 30 units or more.
Item	Points	Notes
Development in the MU-ES: Mixed-Use East Shore District	1	
Additional 5% bicycle parking	4	0.5 per additional 5%
		40% additional
Elevate new and/or existing structures more than 3 feet above base flood elevation (BFE)	15	0.50 per foot above BFE
		30..64 FEET ABOVE BFE
Total Recommended Potential Points	4	

PARCEL 1: SITE DATA:

PARCEL ACREAGE:	7.47 ACRES
PERVIOUS AREA:	2.35 ACRES
IMPERVIOUS AREA:	5.12 ACRES
MAX. BUILDING HEIGHT:	4 STORIES – 55'
PROPOSED BUILDING HEIGHT:	4 STORIES – 54'-11-1/2"
PARKING:	
PROVIDED:	271 SPACES
REQUIRED:	
1 SPACE/1 BEDROOM:	124
1.35 SPACES/2 BEDROOM:	114
0.1 VISITOR SPACES/RESIDENT SPACE:	24
TOTAL PARKING REQUIRED:	262 SPACES
PARKING PROVIDED:	
STANDARD PARKING (9'x18'):	237 SPACES (1)
GARAGE PARKING:	24
ADA PARKING (12'x18'):	10 SPACES
TOTAL PARKING PROVIDED:	271 SPACES
BIKE PARKING:	
PROVIDED:	16 SPACES

(1)PARKING STUDY WILL BE PROVIDED AT TIME OF FINAL DEVELOPMENT PLAN

FENCES AND WALLS:
SHALL BE IN ACCORDANCE WITH THE CITY OF APOPKA LDC SECTION 5.5.

EXTERIOR LIGHTING:
SHALL BE IN ACCORDANCE WITH THE CITY OF APOPKA LDC SECTION 5.6.

SIGNS:
SHALL BE IN ACCORDANCE WITH MASTER SIGN PLAN AND/OR THE CITY OF APOPKA LDC SECTION 5.10.

NOTES:

1. ALL CURB DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.

UTILITY SERVICE:
CITY OF APOPKA IS THE PROVIDER FOR POTABLE WATER AND SEWER SERVICES.

PRIOR TO CONSTRUCTION PLAN APPROVAL, HYDRAULIC CALCULATIONS WILL BE SUBMITTED SHOWING THAT THE PROPOSED WATER, WASTEWATER AND, RECLAIMED WATER SYSTEMS HAVE BEEN SIZED TO SUPPORT THE ENTIRE PROJECT.

STORMWATER MANAGEMENT:
STORMWATER MANAGEMENT SYSTEM WILL BE DESIGNED TO MEET CITY OF APOPKA AND THE REQUIREMENTS OF THE LOCAL WATER MANAGEMENT DISTRICT.

SITE LIGHTING:
ALL EXTERIOR SITE LIGHTING SHALL COMPLY WITH SECTION 5.6 OF THE CITY OF APOPKA LAND DEVELOPMENT CODE AND ALL CURRENT APPLICABLE CITY OF APOPKA STANDARDS.

LANDSCAPING:
ALL LANDSCAPING SHALL MEET OR EXCEED THE REQUIREMENTS OF SECTION 5.2 OF THE CITY OF APOPKA LAND DEVELOPMENT CODE. SEE LANDSCAPE PLANS FOR ADDITIONAL INFORMATION.

FIRE PROTECTION:
FIRE HYDRANTS SHALL BE INSTALLED SO THE DESIGN AND CALCULATIONS MEET THE REQUIREMENTS OF FFPC 6TH EDITION (NFPA 1 AND 101 2015 EDITION).

THE SHOPPES AT EAST SHORE PD DATA:

ZONING		PD
PROPOSED UNITS:		
PARCEL 1 (future)	RESIDENTIAL	224 DU
PARCEL 2 (future)	COMMERCIAL	3,000 SF
PARCEL 3 (future)	COMMERCIAL	3,000 SF
PARCEL 4 (future)	COMMERCIAL	5,000 SF
PARCEL 5 (phase 1)	COMMERCIAL	63,000 SF
	MEDICAL OFFICE	4,200 SF
TOTAL		78,200 224 DU
TOTAL MDP GROSS ACRES		28.02 Ac.
TOTAL MDP WETLAND ACRES		0.00 Ac.
TOTAL MDP FLOODPLAIN/TREE PRESERVATION		0.54 Ac.
TOTAL MDP DEVELOPABLE ACRES		27.48 Ac.

DEVELOPMENT PLAN CHART		
PARCEL ID NUMBERS	20-21-28-0000-00-021, 20-21-28-0000-00-024, 20-21-28-0000-00-025, 20-21-28-0000-00-028,	
FUTURE LAND USE	MIXED USE	
ZONING	PD	
ADJACENT FUTURE LAND USE	NORTH (CITY): MIXED USE	
	EAST (COUNTY): RURAL	
	SOUTH (CITY & COUNTY): OFFICE/INSTITUTIONAL	
	WEST (CITY): MIXED USE	
ADJACENT ZONING	NORTH (CITY): MU-ES-GT (MIXED USE EAST SHORE GATEWAY)	
	EAST (COUNTY): R-CE-2 (RURAL RESIDENTIAL)	
	SOUTH (CITY & COUNTY): O (OFFICE) AND A-1 (AGRICULTURAL)	
	WEST (CITY): T (TRANSITION)	
ACREAGE/SQUARE FOOTAGE	28.02	
BUILDING HEIGHT (commercial)	PROPOSED: 35 FEET	MAX: 45'
BUILDING HEIGHT (multi-family)	PROPOSED: 55 FEET	MAX: 4 STORIES/55'
BUILDING SETBACKS (commercial)	PROPOSED: FRONT: 20' SIDE: 15' REAR: 10'	
	REQUIRED: FRONT: 15' SIDE: 10'(1) REAR: 10'	
BUILDING SETBACKS (multi-family)	PROPOSED: FRONT: 15' SIDE: 10' REAR: 25'	
	REQUIRED: FRONT: 15' SIDE: 10' REAR: 25'	
PARKING SPACES (parcel 5)	PROVIDED: 353	
	REQUIRED: 333	
NUMBER OF EMPLOYEES	N/A	
WAIVER REQUEST	YES: NO: X	
VARIANCE REQUEST	YES: NO: X	
MIN. LOT WIDTH (commercial)	75'	
MIN. LOT WIDTH (multi-family)	100'	

NOTES:
(1) MINIMUM OF 15 FT BETWEEN STRUCTURES, ONLY APPLIES TO EXTERIOR UNITS.

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL ENGINEER
JORDAN DRAPER, PE
STATE OF FLORIDA
LICENSE NUMBER 93934
PROFESSIONAL ENGINEER
DATE: 1/26/2023

KHA PROJECT 249218001
DATE 1/26/2023
SCALE AS SHOWN
DESIGNED BY JDB
DRAWN BY JDB
CHECKED BY LJD

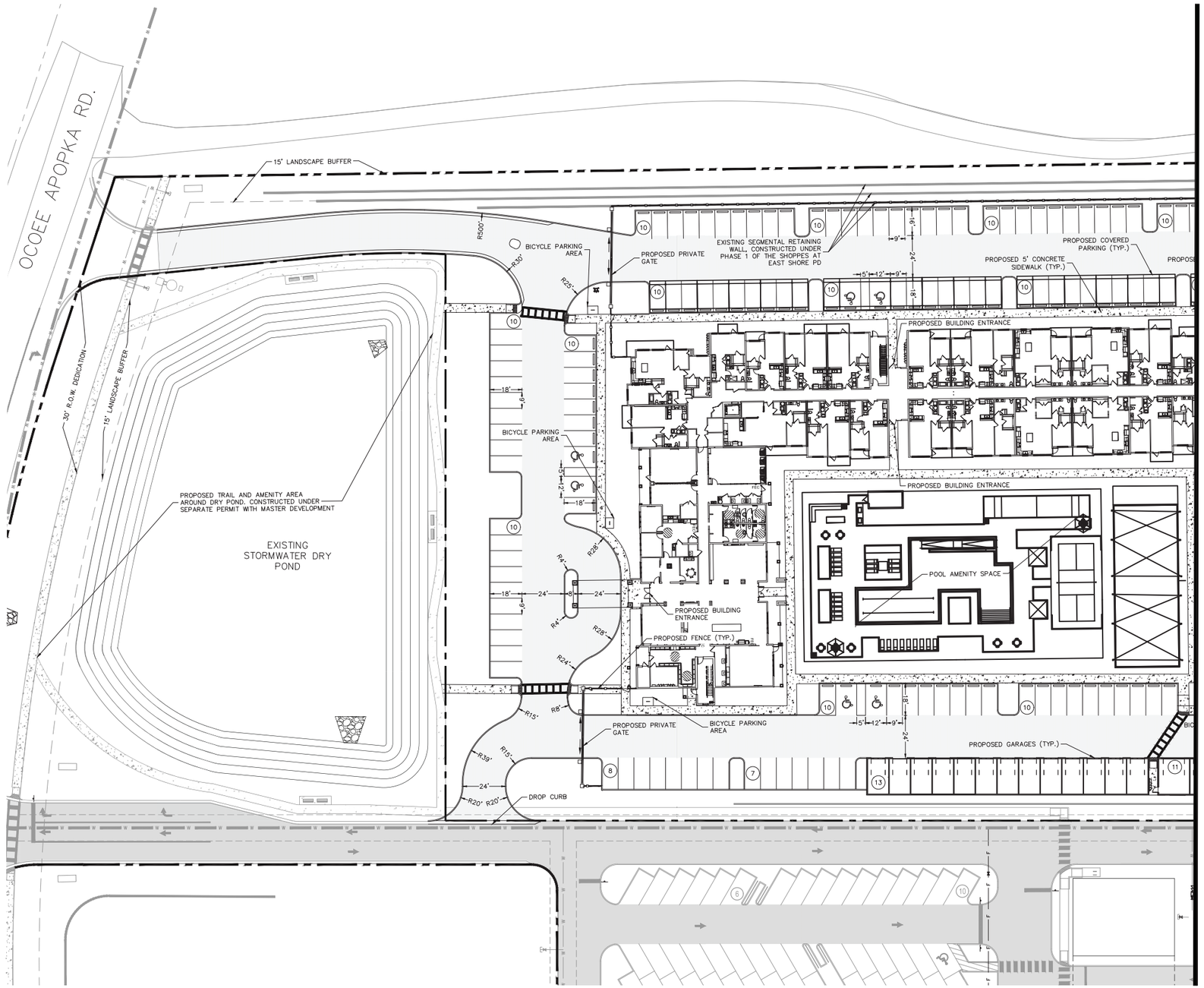
OVERALL SITE PLAN

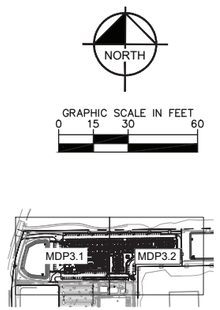
SHOPPES AT EAST SHORE MULTI-FAMILY
CITY OF APOPKA FLORIDA

SHEET NUMBER
MDP3.0

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP3.0 - OVERALL SITE PLAN.dwg MDP3.0 - OVERALL SITE PLAN Jun 28, 2023 1:46pm by: cole.sauer
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP3.1 – SITE PLAN.dwg MP3.1 – SITE PLAN Mar 17, 2023 11:31am by: Matthew.wansor
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.





KEY MAP
SCALE: 1" = 500'

LEGEND

- PROPERTY LINE (TYP.)
- LANDSCAPE BUFFER
- PROPOSED FENCE
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CONCRETE PAVEMENT
- (10) PROPOSED PARKING COUNT
- EXISTING RETAINING WALL

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL ENGINEER
JORDAN DRAPER, P.E.
STATE OF FLORIDA LICENSE NUMBER 84262
PROFESSIONAL ENGINEER
DATE: 3/17/2023

KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	JDB
DRAWN BY	JDB
CHECKED BY	LJD

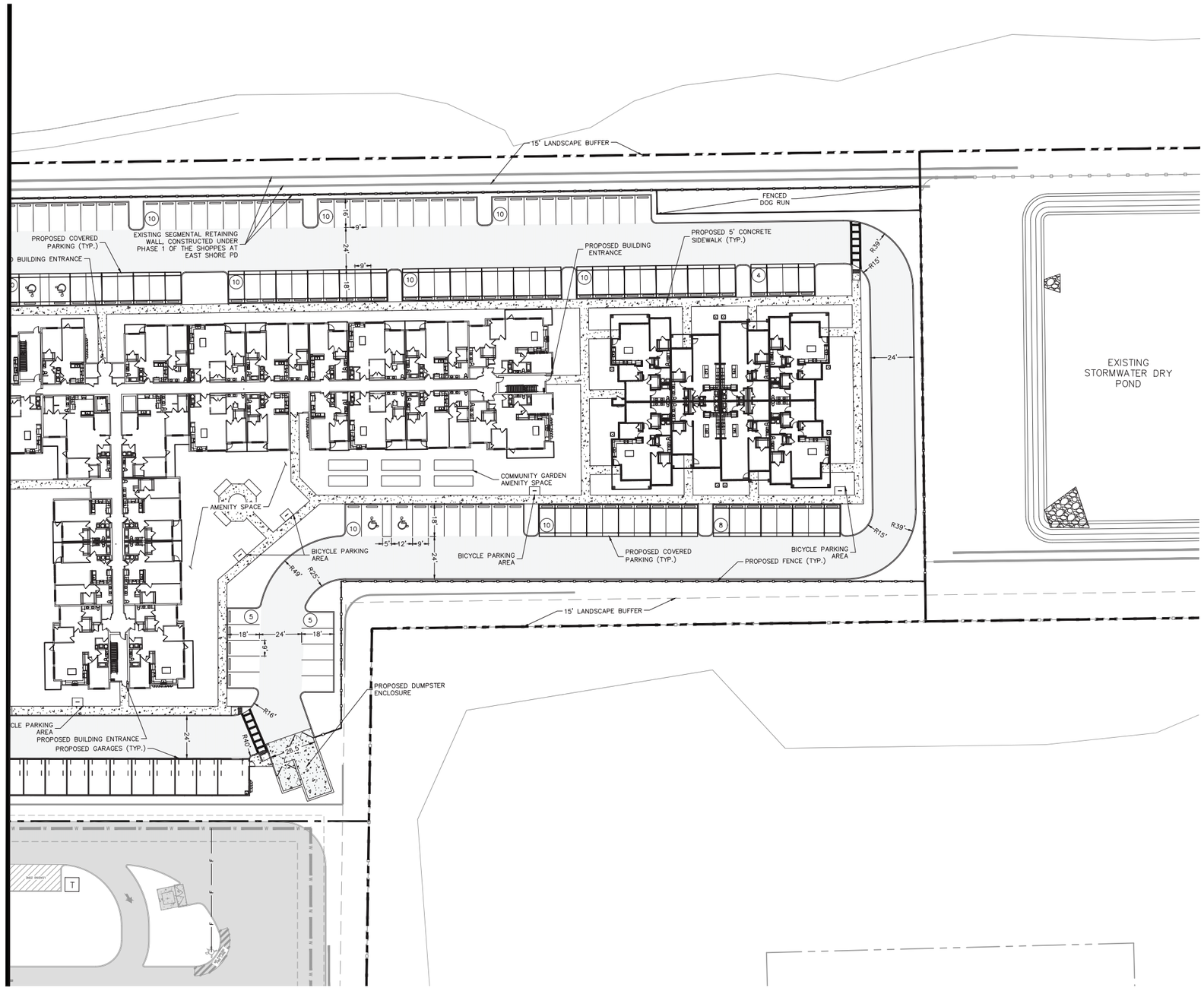
SITE PLAN

SHOPPES AT EAST SHORE MULTI-FAMILY

CITY OF APOPKA FLORIDA

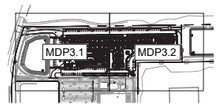
SHEET NUMBER
MDP3.1

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com



NORTH

GRAPHIC SCALE IN FEET
0 15 30 60



KEY MAP
SCALE: 1" = 500'

LEGEND

- PROPERTY LINE (TYP.)
- LANDSCAPE BUFFER
- PROPOSED FENCE
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CONCRETE PAVEMENT
- (10) PROPOSED PARKING COUNT
- EXISTING RETAINING WALL

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL ENGINEER
JORDAN DRAPER, PE
STATE OF FLORIDA LICENSE NUMBER 84252
PROFESSIONAL ENGINEER
DATE: 1/26/2023

KHA PROJECT 249218001
DATE 1/26/2023
SCALE AS SHOWN
DESIGNED BY JDB
DRAWN BY JDB
CHECKED BY LJD

SITE PLAN

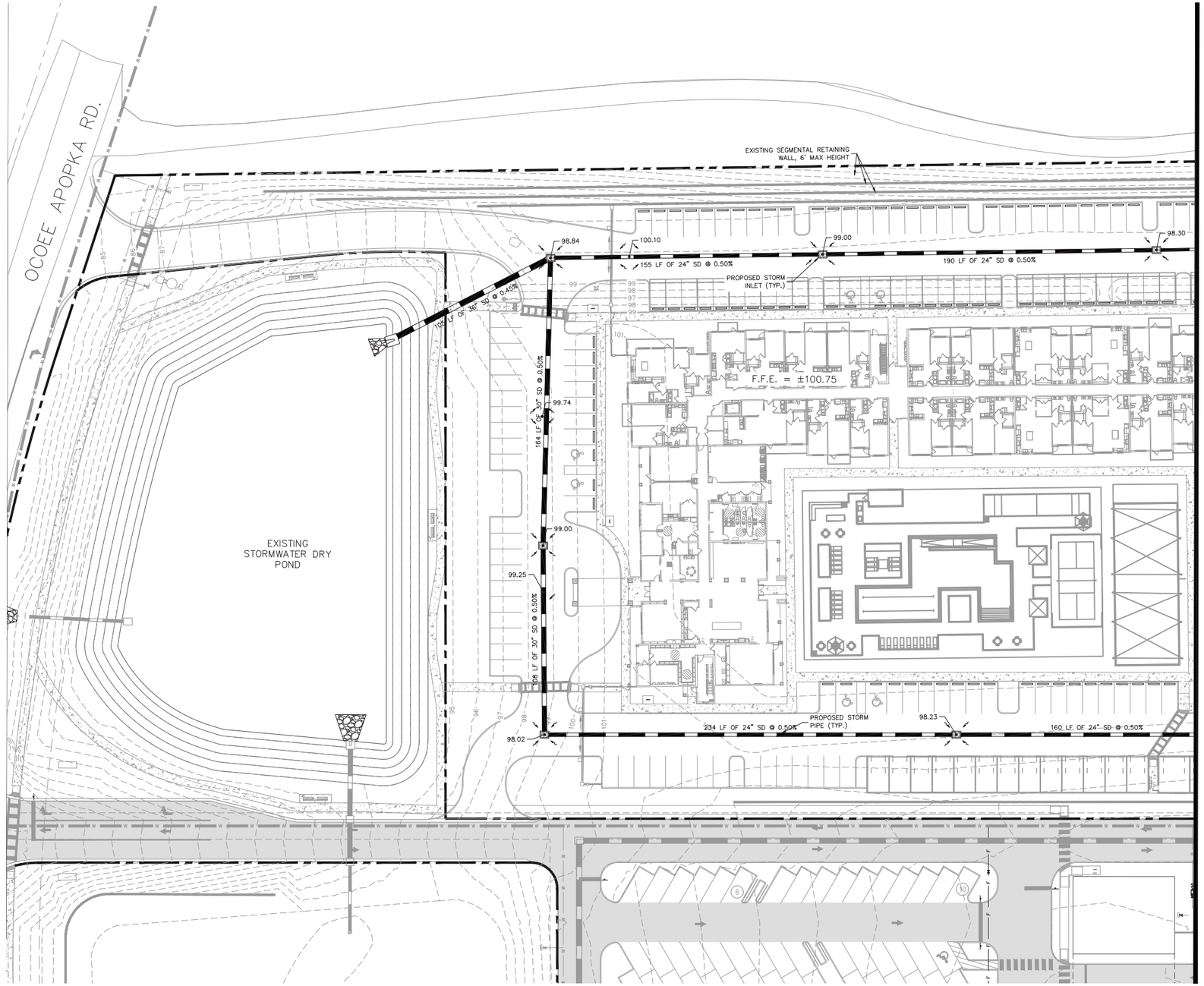
SHOPPES AT EAST SHORE MULTI-FAMILY

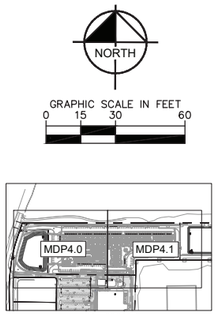
CITY OF APOPKA FLORIDA

SHEET NUMBER
MDP3.2

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP3.1 – SITE PLAN.dwg MDP3.2 – SITE PLAN Mar 17, 2023 11:31am by: Matthew.wansor
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.





LEGEND

- PROPERTY LINE (TYP.)
- PROPOSED STORM PIPE
- ±99.00 — PROPOSED SPOT ELEVATION
- PROPOSED STORM INLET
- PROPOSED UNDERGROUND EXFILTRATION SYSTEM
- EXISTING STORM PIPE
- EXISTING RETAINING WALL (HEIGHT VARIES)
- 100 — EXISTING CONTOUR
- EXISTING STORM INLET

NOTES:

1. STORM PIPE MATERIALS SHALL BE A-2000 PVC, N-12 HP STORM, RIGID WALL WATER TIGHT HDPE, OR RCP, AND CONFORM WITH THE LATEST EDITION OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS WELL AS CITY OF APOPKA REQUIREMENTS.
2. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
3. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO ADA STANDARDS AND SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH AND FULL DEPTH OF THE CURB RAMP, NOT INCLUDING FLARES.
4. ALL ACCESSIBLE ROUTES, GENERAL SITE AND BUILDING ELEMENTS, RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA STANDARDS FOR ACCESSIBLE DESIGN, LATEST EDITION.
5. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA AND FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE ROUTES. IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION.
6. CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA SLOPE COMPLIANCE ISSUES.
7. ALL PEDESTRIAN SIDEWALKS, PATHWAYS, AND CROSSWALKS SHALL BE CONSTRUCTED NOT TO EXCEED MAX. 2.0% CROSS SLOPE, MAX. 5.0% RUNNING SLOPE.
8. ALL HANDICAP ACCESSIBLE PARKING SPACES SHALL BE CONSTRUCTED NOT TO EXCEED MAX. 2.0% CROSS SLOPE IN ALL DIRECTIONS.
9. PROPOSED GRADES TO MATCH EXISTING ELEVATIONS AT PROPERTY LINE.
10. CONTRACTOR TO FIELD VERIFY ELEVATIONS AT ALL EXISTING SIDEWALK AND ROAD CONNECTION POINTS WITH ENGINEER OF RECORD BEFORE CONSTRUCTION OF ANY IMPROVEMENTS.
11. FOR EROSION CONTROL NOTES REFER TO SHEET C2.0.
12. CONTRACTOR TO ENSURE ADEQUATE COVER REMAINS OVER ALL EXISTING UTILITIES.

Always call 811 two full business days before you dig to have underground utilities located and marked.

Sunshine811.com

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL ENGINEER
JORDAN DRAPER, PE
STATE OF FLORIDA LICENSE NUMBER 84332
PROFESSIONAL ENGINEER
DATE: 1/26/2023

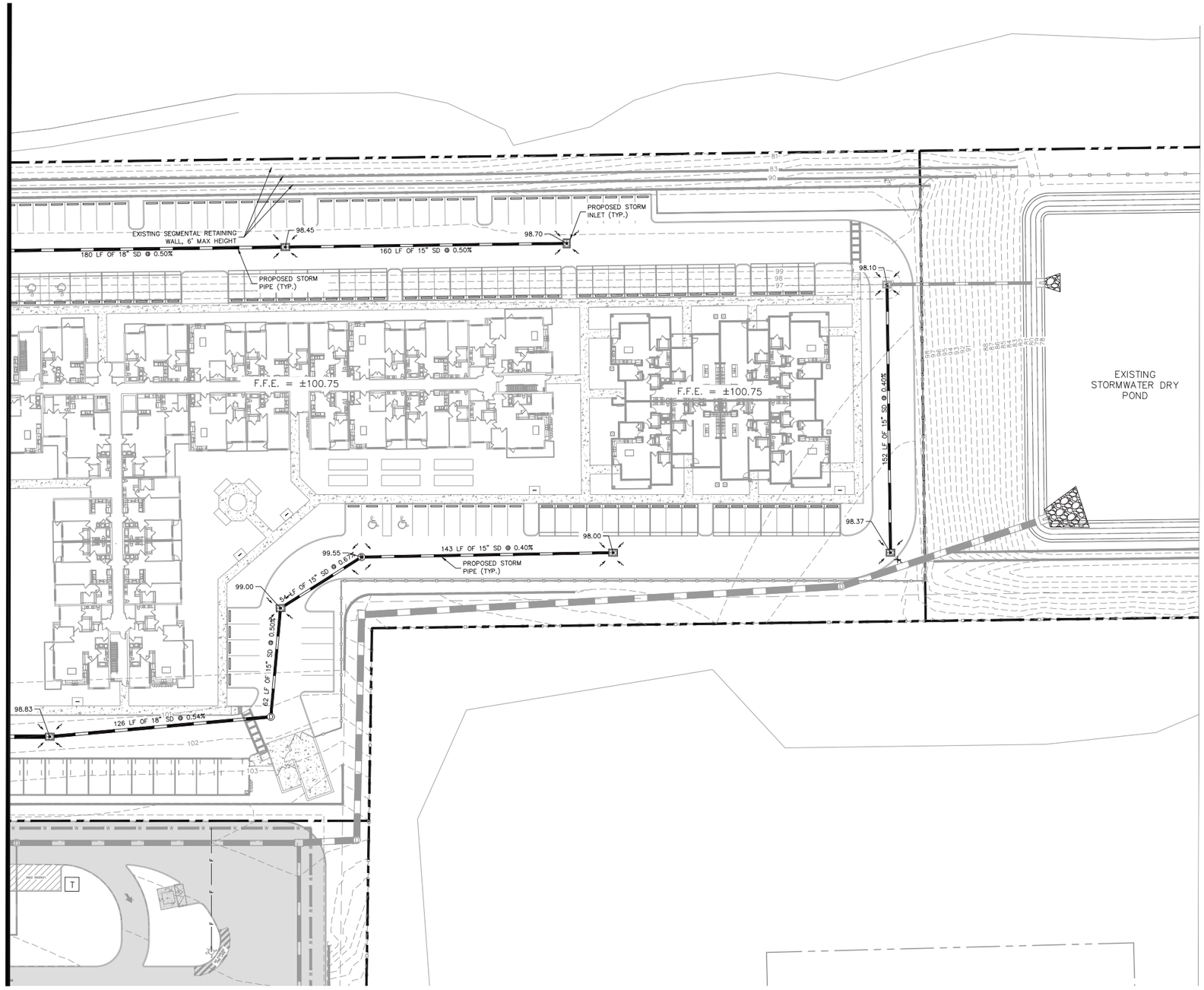
KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	JDB
DRAWN BY	JDB
CHECKED BY	LJD

PAVING GRADING AND DRAINAGE PLAN

SHOPPES AT EAST SHORE
MULTI-FAMILY
CITY OF APOPKA FLORIDA

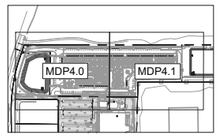
SHEET NUMBER
MDP4.0

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP4.0 – PAVING GRADING AND DRAINAGE PLAN.dwg MDP4.0 – PAVING GRADING AND DRAINAGE PLAN Mar 17, 2023 11:44am by: Matthew.wansor
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



NORTH

GRAPHIC SCALE IN FEET
0 15 30 60



KEY MAP
SCALE: 1" = 500'

LEGEND

- PROPERTY LINE (TYP.)
- PROPOSED STORM PIPE
- ±99.00 — PROPOSED SPOT ELEVATION
- PROPOSED STORM INLET
- PROPOSED UNDERGROUND EXFILTRATION SYSTEM
- EXISTING STORM PIPE
- EXISTING RETAINING WALL (HEIGHT VARIES)
- 100 — EXISTING CONTOUR
- EXISTING STORM INLET

NOTES:

1. STORM PIPE MATERIALS SHALL BE A-2000 PVC, N-12 HP STORM, RIGID WALL WATER TIGHT HDPE, OR RCP, AND CONFORM WITH THE LATEST EDITION OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS WELL AS CITY OF APOPKA REQUIREMENTS.
2. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
3. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO ADA STANDARDS AND SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH AND FULL DEPTH OF THE CURB RAMP, NOT INCLUDING FLARES.
4. ALL ACCESSIBLE ROUTES, GENERAL SITE AND BUILDING ELEMENTS, RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA STANDARDS FOR ACCESSIBLE DESIGN, LATEST EDITION.
5. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA AND FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE ROUTES. IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION.
6. CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA SLOPE COMPLIANCE ISSUES.
7. ALL PEDESTRIAN SIDEWALKS, PATHWAYS, AND CROSSWALKS SHALL BE CONSTRUCTED NOT TO EXCEED MAX. 2.0% CROSS SLOPE, MAX. 5.0% RUNNING SLOPE.
8. ALL HANDICAP ACCESSIBLE PARKING SPACES SHALL BE CONSTRUCTED NOT TO EXCEED MAX. 2.0% CROSS SLOPE IN ALL DIRECTIONS.
9. PROPOSED GRADES TO MATCH EXISTING ELEVATIONS AT PROPERTY LINE.
10. CONTRACTOR TO FIELD VERIFY ELEVATIONS AT ALL EXISTING SIDEWALK AND ROAD CONNECTION POINTS WITH ENGINEER OF RECORD BEFORE CONSTRUCTION OF ANY IMPROVEMENTS.
11. FOR EROSION CONTROL NOTES REFER TO SHEET C2.0.
12. CONTRACTOR TO ENSURE ADEQUATE COVER REMAINS OVER ALL EXISTING UTILITIES.

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

No.	REVISIONS	DATE	BY

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL ENGINEER
JORDAN DRAPER, P.E.
LICENSE NUMBER 84364
STATE OF FLORIDA
PROFESSIONAL ENGINEER
DATE: 1/26/2023

KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	JDB
DRAWN BY	JDB
CHECKED BY	LJD

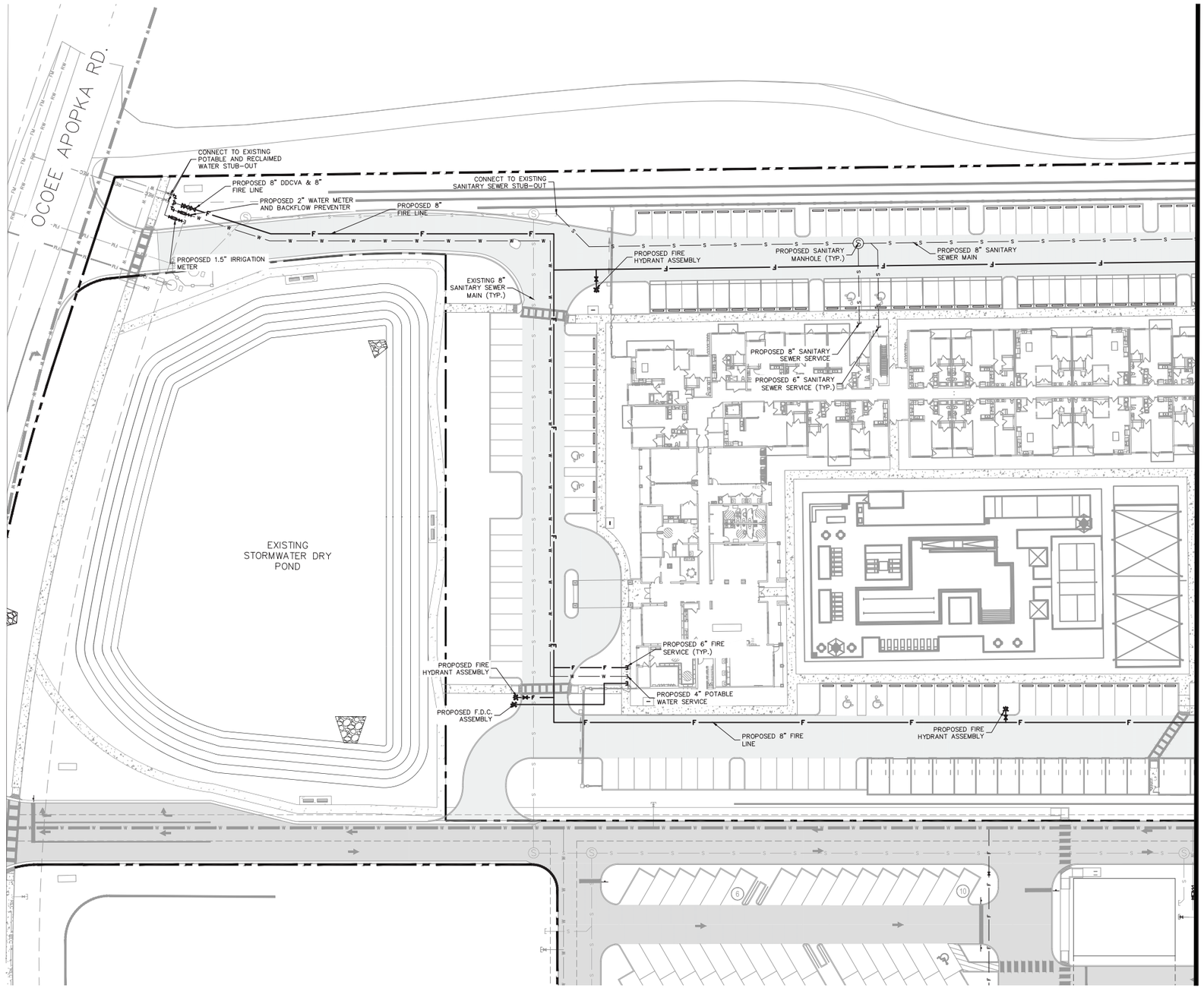
PAVING GRADING AND DRAINAGE PLAN

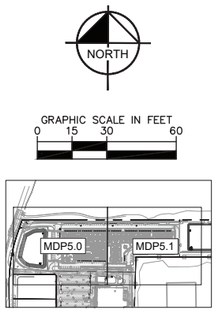
SHOPPES AT EAST SHORE MULTI-FAMILY

CITY OF APOPKA FLORIDA

SHEET NUMBER
MDP4.1

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP4.0 – PAVING GRADING AND DRAINAGE PLAN.dwg MDP4.1 – PAVING GRADING AND DRAINAGE PLAN Mar 17, 2023 11:32am by: Matthew.wansor
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.





KEY MAP
SCALE: 1" = 500'

LEGEND

- PROPERTY LINE (TYP.)
- EXISTING POTABLE WATER MAIN
- EXISTING RECLAIMED WATER MAIN
- EXISTING SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED POTABLE WATER MAIN
- PROPOSED RECLAIMED WATER MAIN
- PROPOSED FIRE MAIN MAIN
- PROPOSED SANITARY SEWER MAIN
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED F.D.C.
- PROPOSED SANITARY SEWER MANHOLE

NOTES:

1. ALL CONSTRUCTION DETAILS ARE CONCEPTUAL AND SUBJECT TO REVIEW AND MODIFICATION DURING THE APPROVAL OF CONSTRUCTION SITE PLANS (CSP).
2. THE SIZE, LOCATION AND POINTS OF CONNECTION FOR WATER, WASTEWATER AND RECLAIMED WATER MAINS SHALL BE FINALIZED AT TIME OF CONSTRUCTION SITE PLANS (CSP) REVIEW.
3. ALL FIRE HYDRANTS MUST MAINTAIN 36" CLEAR AROUND.

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL ENGINEER — JORDAN DRAPER, PE — STATE OF FLORIDA LICENSE NUMBER 84335 — DATE: 1/26/2023

KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	JDB
DRAWN BY	JDB
CHECKED BY	LJD

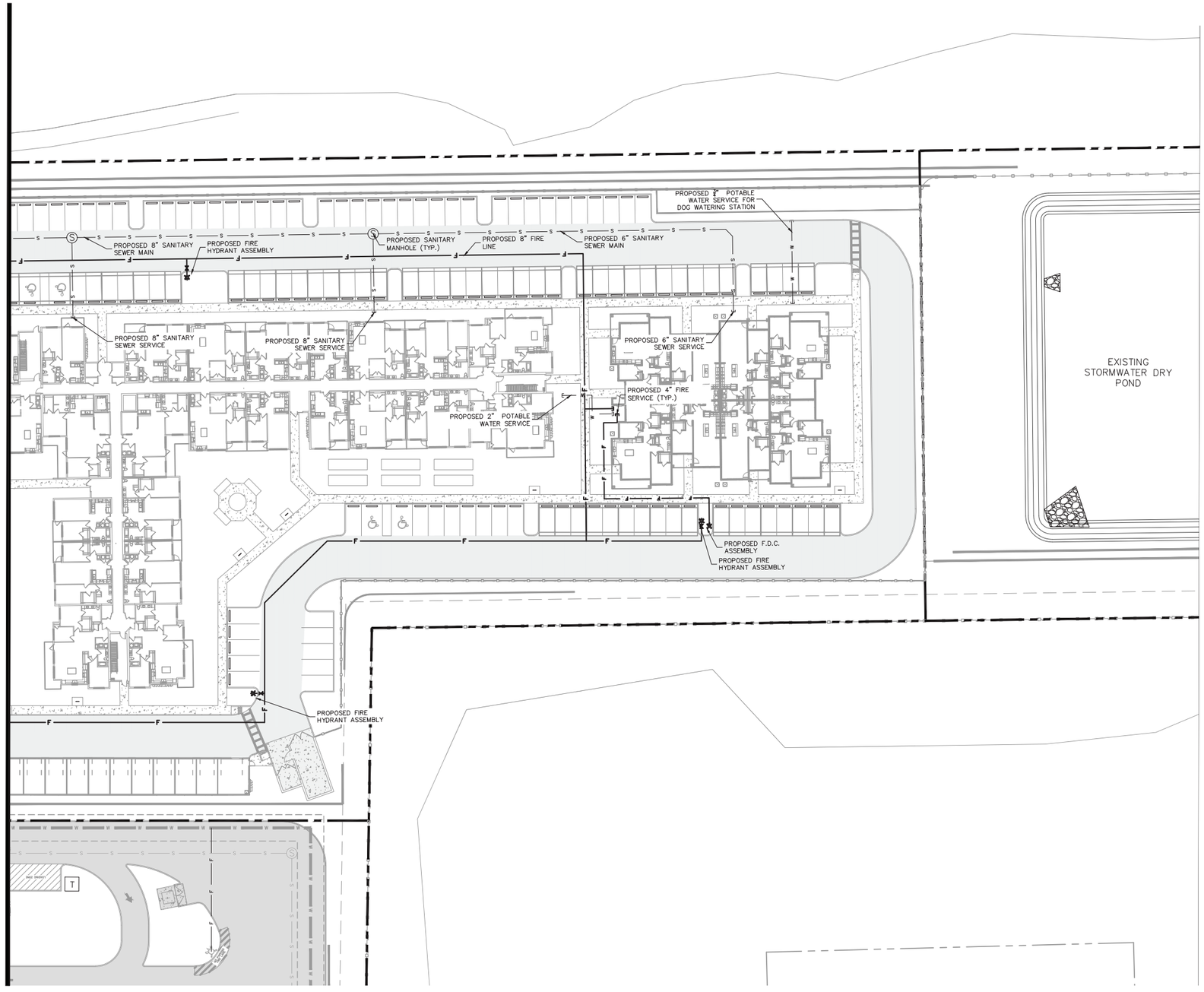
UTILITY PLAN

SHOPPES AT EAST SHORE
MULTI-FAMILY
CITY OF APOPKA FLORIDA

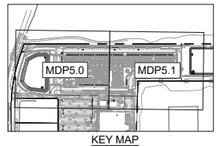
SHEET NUMBER
MDP5.0

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP5.0 – UTILITY PLAN.dwg MDP5.0 – UTILITY PLAN Mar 17, 2023 11:33am by: Matthew.wansor
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP5.0 - UTILITY PLAN.dwg MDP5.1 - UTILITY PLAN Mar 17, 2023 11:33am by: Matthew.wansor
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



GRAPHIC SCALE IN FEET
0 15 30 60



KEY MAP
SCALE: 1" = 500'

LEGEND

- PROPERTY LINE (TYP.)
- EXISTING POTABLE WATER MAIN
- EXISTING RECLAIMED WATER MAIN
- EXISTING SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED POTABLE WATER MAIN
- PROPOSED RECLAIMED WATER MAIN
- PROPOSED FIRE MAIN MAIN
- PROPOSED SANITARY SEWER MAIN
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED F.D.C.
- PROPOSED SANITARY SEWER MANHOLE

NOTES:

1. ALL CONSTRUCTION DETAILS ARE CONCEPTUAL AND SUBJECT TO REVIEW AND MODIFICATION DURING THE APPROVAL OF CONSTRUCTION SITE PLANS (CSP).
2. THE SIZE, LOCATION AND POINTS OF CONNECTION FOR WATER, WASTEWATER AND RECLAIMED WATER MAINS SHALL BE FINALIZED AT TIME OF CONSTRUCTION SITE PLANS (CSP) REVIEW.
3. ALL FIRE HYDRANTS MUST MAINTAIN 36" CLEAR AROUND.

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL ENGINEER
JORDAN DRAPER, PE
LICENSE NUMBER 93218
STATE OF FLORIDA
PROFESSIONAL ENGINEER
DATE: 3/17/2023

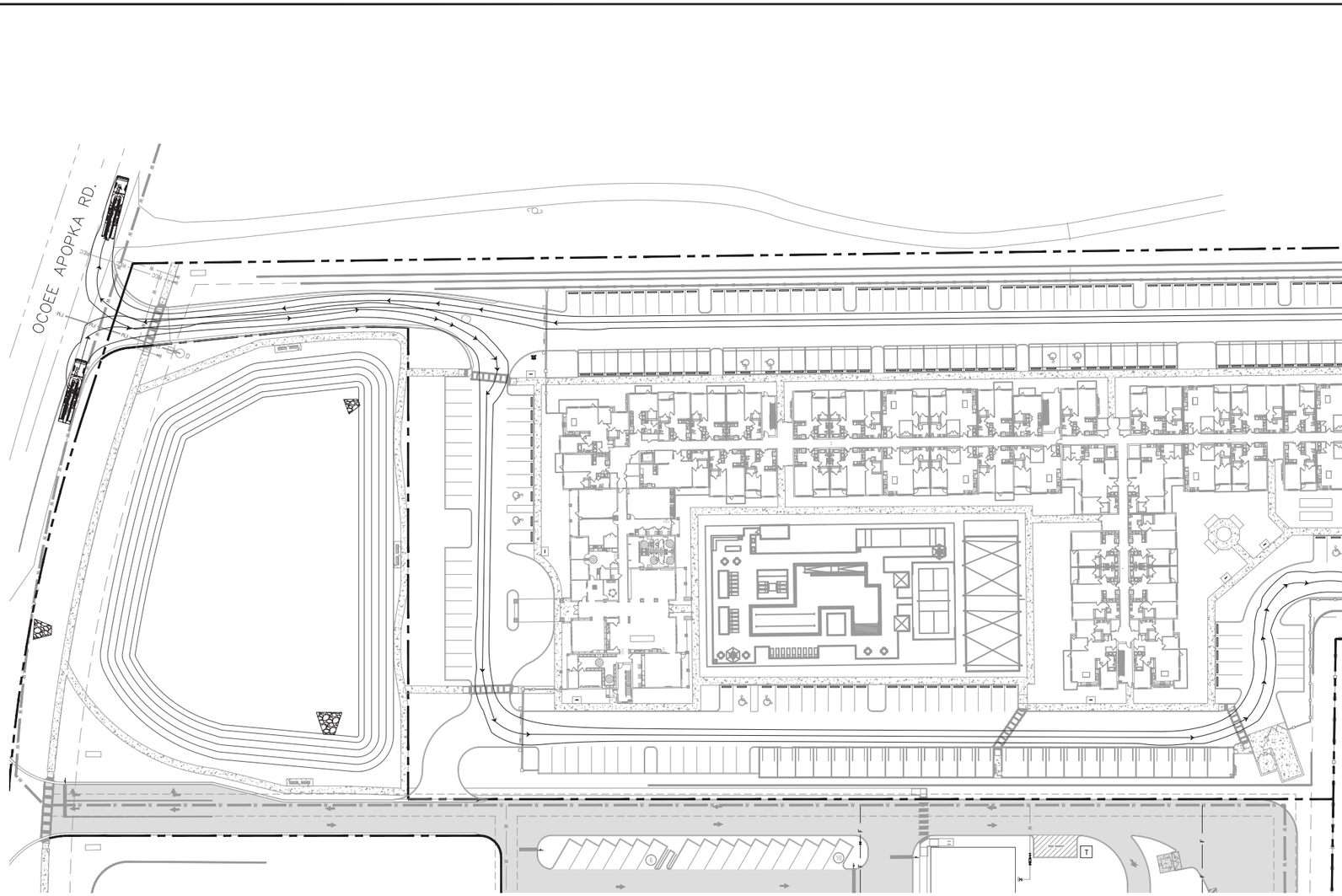
KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	JDB
DRAWN BY	JDB
CHECKED BY	LJD

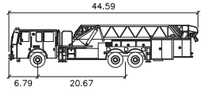
UTILITY PLAN

SHOPPES AT EAST SHORE
MULTI-FAMILY
CITY OF APOPKA FLORIDA

SHEET NUMBER
MDP5.1

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP6.0 – FIRE TRUCK ROUTING PLAN.dwg MDP6.0 – FIRE TRUCK ROUTING PLAN Mar 17, 2023 11:33am by: Matthew.wansor
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.





Smeal Aerial MM 100ft

	feet
Width	: 8.17
Track	: 7.75
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL ENGINEER
JORDAN DRAPER, PE
STATE OF FLORIDA LICENSE NUMBER 84382
PROFESSIONAL ENGINEER
DATE: 3/17/2023

KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	JDB
DRAWN BY	JDB
CHECKED BY	LJD

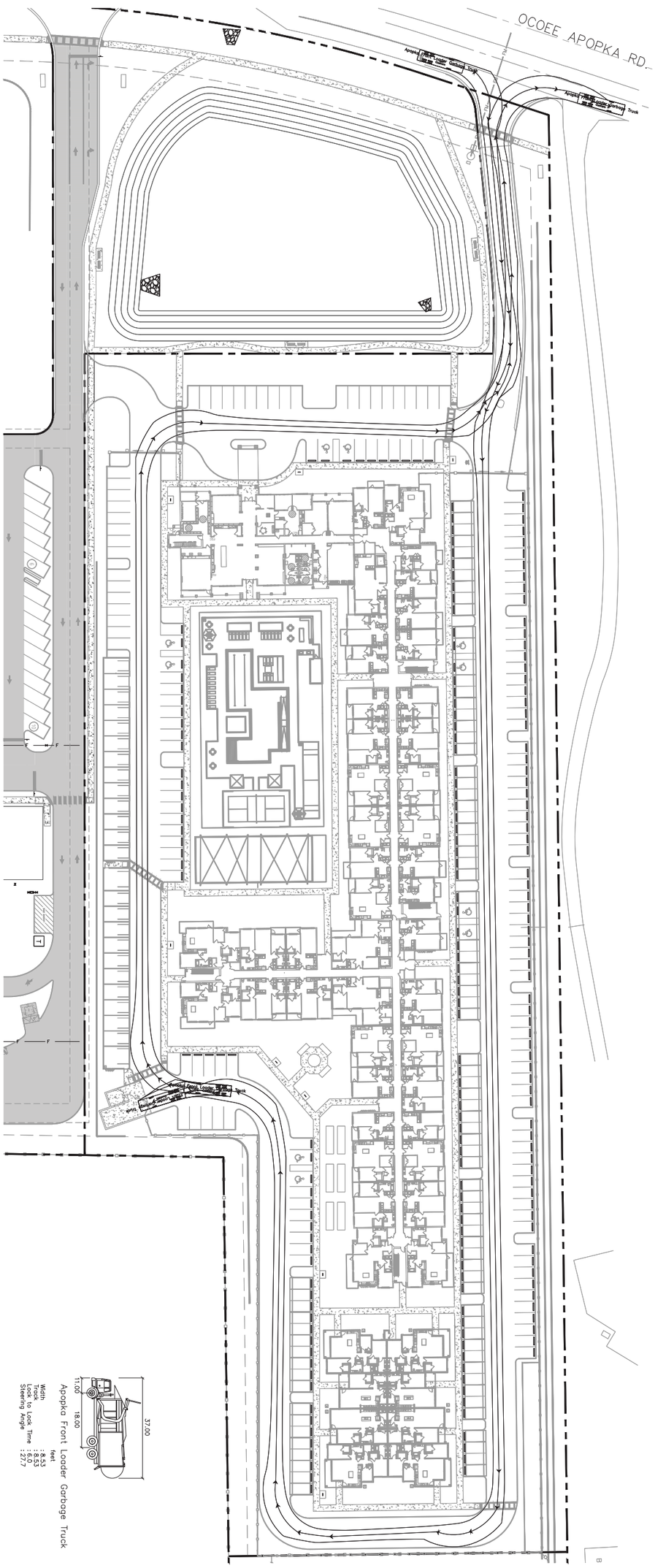
FIRE TRUCK ROUTING PLAN

SHOPPES AT EAST SHORE
MULTI-FAMILY
CITY OF APOPKA FLORIDA

SHEET NUMBER
MDP6.0

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP6.1 - GARBAGE TRUCK ROUTING PLAN.dwg MDP6.1 - GARBAGE TRUCK ROUTING PLAN Mar 17, 2023 11:34am by: Matthew.wansor

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

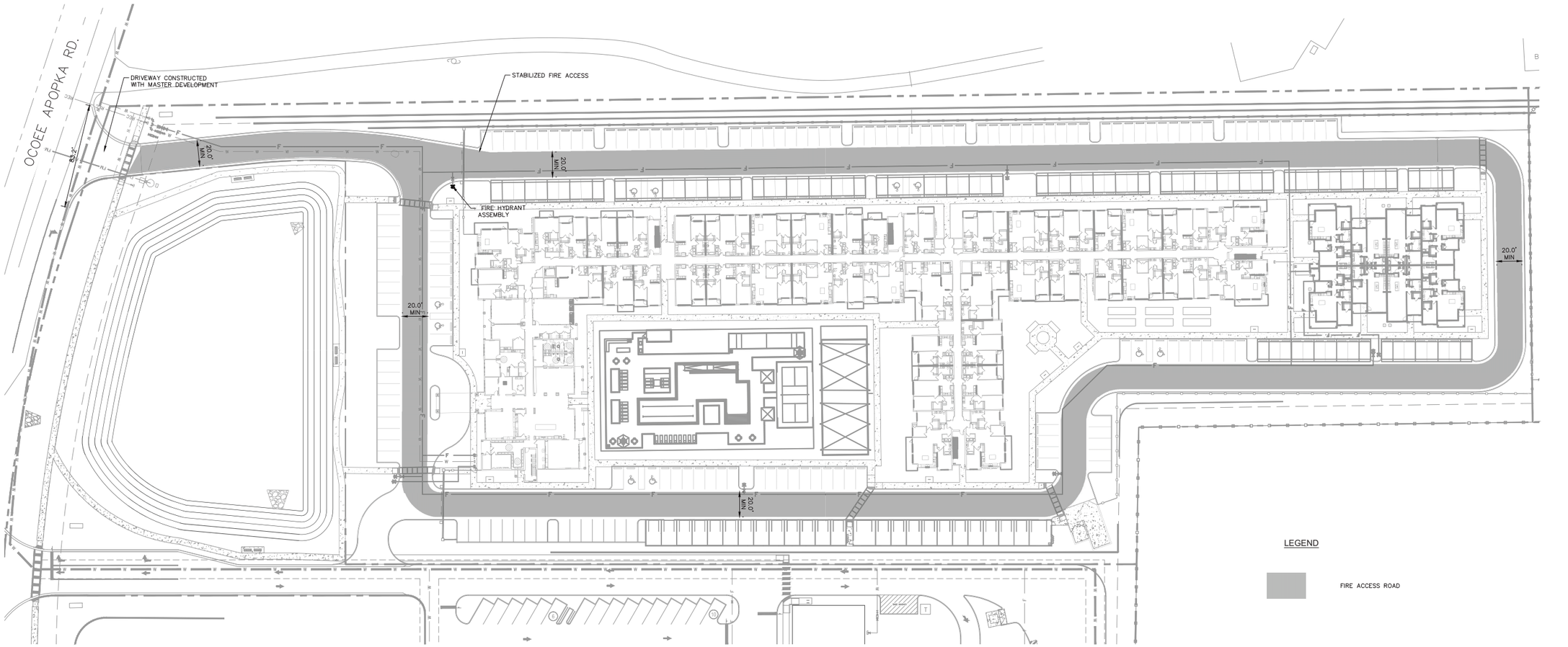

OCOEE APOPKA RD.
Apopka Front Loader Garbage Truck
Apopka Front Loader Garbage Truck
Apopka Front Loader Garbage Truck

NOTE:

PROJECT DRIVEWAY WITH FULL DEPTH SUBGRADE, BASE AND 1" MINIMUM LIFT OF ASPHALT, STABILIZED ACCESS ROADWAY AROUND PROPOSED BUILDING AND FIRE HYDRANT REQUIRED TO BE INSTALLED AND INSPECTED PRIOR TO ISSUANCE OF BUILDING PERMITS.

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80



LEGEND

FIRE ACCESS ROAD

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL ENGINEER
JORDAN DRAPER, PE
STATE OF FLORIDA LICENSE NUMBER 93922
PROFESSIONAL ENGINEER
DATE: 1/26/2023

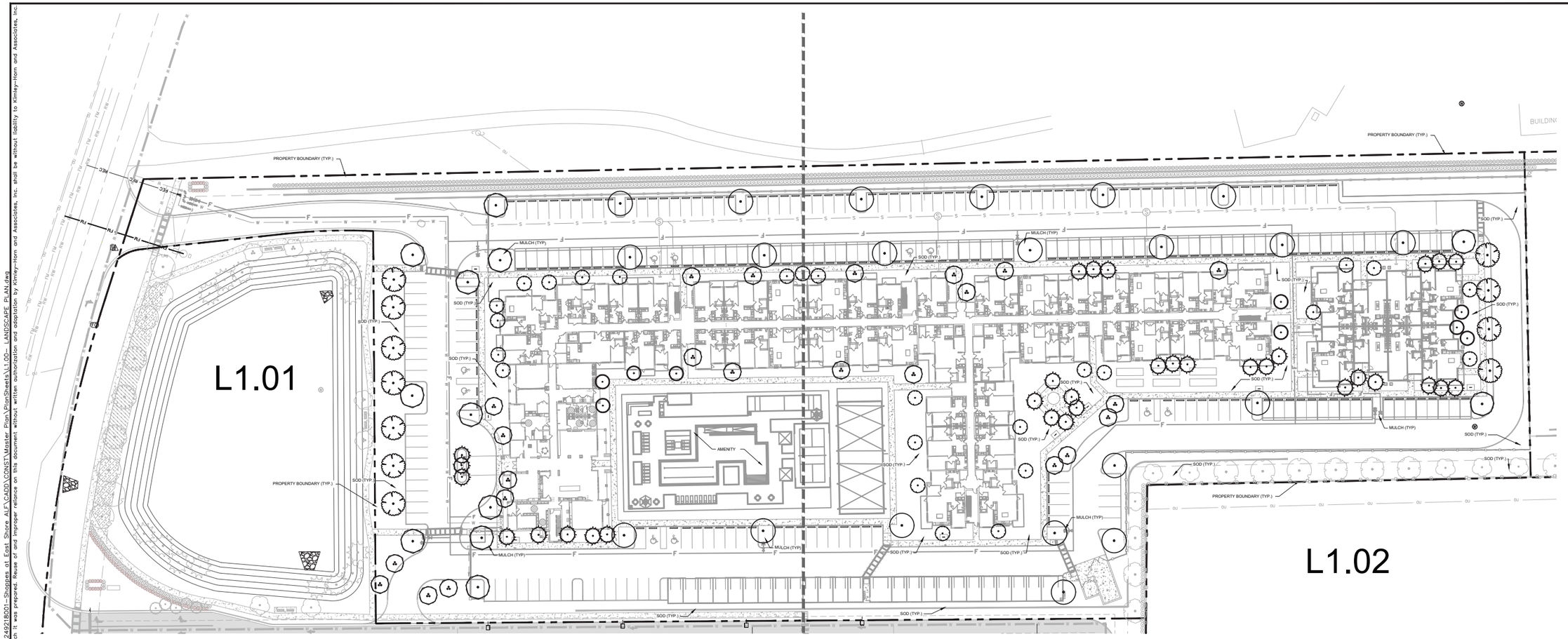
KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	JDB
DRAWN BY	JDB
CHECKED BY	LJD

FIRE ACCESS ROAD

SHOPPES AT EAST SHORE
MULTI-FAMILY
CITY OF APOPKA FLORIDA

SHEET NUMBER
MDP6.2

Drawing name: K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\MP6.2 FIRE ACCESS ROAD.dwg MDP6.2-FIRE ACCESS ROAD Mar 17, 2023 11:34am by: Matthew.wansor
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



LANDSCAPE NOTES:

1. ALL LANDSCAPE MATERIAL TO BE FLORIDA GRADE #1 OR BETTER QUALITY
2. ALL LANDSCAPED AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL.
3. ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE.
4. ALL MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION.
5. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
6. ALL PLANTING AREAS SHALL BE COMPLETELY MULCHED AS SPECIFIED.
7. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR 1) TO VERIFY THE LOCATIONS OF UTILITY LINES ADJACENT TO THE WORK AREA 2) TO PROTECT ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD 3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY SCHEDULE AND PROTECTION BETWEEN DELIVERY AND PLANTING TO MAINTAIN HEALTHY PLANT CONDITIONS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY MAINTAINING (INCLUDING BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, FERTILIZING, ETC.) ALL OF THE PLANT MATERIALS AND LAWN FOR THE WARRANTY PERIOD.
11. ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, DEAD, OR REJECTED (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.
12. THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR WARRANTY PERIOD. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS DURING THE NORMAL PLANTING SEASON.
13. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
14. ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES, AND SHALL BE FLORIDA NO. 1 OR BETTER AS GIVEN IN "GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II," STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE.
15. ALL INVASIVE / EXOTIC SPECIES AND PROHIBITED TREE SPECIES SHALL BE REMOVED FROM SITE, INCLUDING ROOT BALLS TO THE EXTENT POSSIBLE WITH NO DAMAGE TO ADJACENT EXISTING TREES.
16. ALL LANDSCAPE AREAS WILL BE PROVIDED WITH PERMANENT AUTOMATIC IRRIGATION SYSTEM.
17. TREE SUPPORT MATERIALS ARE TO BE REMOVED FROM EACH TREE ONCE IT IS "ESTABLISHED" (AS APPROVED BY THE LANDSCAPE ARCHITECT).
18. ALL PLANT SPECIFICATIONS IN THE PLANT SCHEDULE SHALL BE CONSIDERED THE MINIMUM ALLOWABLE SPECIFICATIONS. CONTRACTOR SHALL PROCURE PLANT MATERIALS AND UPSIZE AS NECESSARY TO MEET THE MOST STRINGENT SPECIFICATION.

CODE MINIMUM LANDSCAPE CALCULATIONS

PER "CITY OF APOPKA" LAND DEVELOPMENT CODE

	REQUIRED	PROVIDED
BUILDING FOUNDATION LANDSCAPE *SECTION 5.2.5.A.1* *BUILDING FACADE FACING R.O.W. (AND)* *SECTION 5.2.5.B.2.A.1.B* *BUILDING FACADE ADJACENT TO PARKING*	**BUILDING 1 - 428 LF (NORTH, WEST, SOUTH FACADES)** 1,712 SF OF LANDSCAPE REQ. (4' WIDTH LANDSCAPE AREA) 21 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF) **BUILDING 2 - 292 LF (NORTH FACADES)** 1,168 SF OF LANDSCAPE REQ. (4' WIDTH LANDSCAPE AREA) 15 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF) **BUILDING 3 - 378 LF (NORTH & SOUTH FACADES)** 1,512 SF OF LANDSCAPE REQ. (4' WIDTH LANDSCAPE AREA) 19 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF) **BUILDING 4 - 347 LF (NORTH, SOUTH, EAST FACADES)** 1,388 SF OF LANDSCAPE REQ. (4' WIDTH LANDSCAPE AREA) 17 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF)	**BUILDING 1** 1,914 SF OF LANDSCAPE 16 UNDERSTORY TREES + 5 PALMS **BUILDING 2** 1,428 SF OF LANDSCAPE 15 UNDERSTORY TREES **BUILDING 3** 1,598 SF OF LANDSCAPE 10 UNDERSTORY TREES + 9 PALMS **BUILDING 4** 1,539 SF OF LANDSCAPE 8 UNDERSTORY TREES + 9 PALMS
INTERIOR VUA LANDSCAPE *SECTION 5.2.5.B.2*	10% OF VUA AREA TO BE LANDSCAPED (9,861 SF) 1 TREE + 1 TREE PER 10 PARKING SPACES (267 PARKING SPACES) 98,610 SF VUA X 0.1 = 9,861 SF LANDSCAPE REQUIRED 267 SPACES / 10 +1 = 27.7 ~ 28 SHADE TREES REQUIRED 9,861 SF VUA x .3 = 2,958 SF OF MATURE TREE CANOPY COVERAGE	10,402 SF LANDSCAPE AREA PROVIDED 43 SHADE TREES PROVIDED 3,088 SF PROVIDED
PERIMETER LANDSCAPING *SECTION 5.2.5.B.3* *SECTION 5.2.5.B.b.2*	**1 CANOPY TREE AND 10 SHRUBS (36" HT. MIN) PER 35 LF (OR FRACTION THEREOF) OF PROPERTY PERIMETER**	ALL PERIMETER LANDSCAPE PROVIDED IN OVERALL MASTER PLAN DEVELOPMENT "THE SHOPPES AT EAST SHORE"

PLANT SCHEDULE

CANOPY TREE	CODE	BOTANICAL NAME
	AR	ACER RUBRUM 'FLORIDA FLAME' STRAIGHT, SINGLE LEADER, FULL, FL #1
	MB	MAGNOLIA GRANDIFLORA 'D.D. BLANCHARD' TM STRAIGHT, SINGLE LEADER, 6' CT, FL #1
	QV	QUERCUS VIRGINIANA STRAIGHT, SINGLE LEADER, FULL, FL #1
PALM TREES	**CODE**	**BOTANICAL NAME**
	SP	SABAL PALMETTO STRAIGHT, BOOTED, HURRICANE CUT, FULL, FL #1
UNDERSTORY TREE	**CODE**	**BOTANICAL NAME**
	IC	ILEX CASSINE STRAIGHT, FULL, FL #1, SINGLE LEADER
	LI	LAGERSTROEMIA INDICA X FAURIEI 'MUSKOGEE' MULTI-TRUNK, 5 TRUNK MIN, FL #1
	ML	MAGNOLIA GRANDIFLORA 'LITTLE GEM' STRAIGHT, SINGLE LEADER, FULL, FL #1
SHRUBS	**CODE**	**BOTANICAL NAME**
	AV	ALPINIA ZERUMBET `VARIEGATA` FULL
	HP	HAMELIA PATENS 'COMPACTA' FULL
	IV	ILEX VOMITORIA `SCHILLINGS DWARF` FULL
	PM	PODOCARPUS MACROPHYLLUS FULL
	RA	RHAPHIOLEPIS INDICA `ALBA` FULL
	VO	VIBURNUM ODORATISSIMUM FULL
	ZF	ZAMIA FLORIDANA FULL
SHRUB AREAS	**CODE**	**BOTANICAL NAME**
	DR	DURANTA REPENS 'VARIEGATA' FULL
	MC	MUHLENBERGIA CAPILLARIS FULL

GROUND COVERS	CODE	BOTANICAL NAME
	AA	AGAPANTHUS AFRICANUS FULL
	AG	ARACHIS GLABRATA FULL
	BF	BULBINE FRUTESCENS FULL
	DT	DIANELLA TASMANICA FULL
	EB	EVOLVULUS GLOMERATUS 'BLUE DAZE' FULL
	LG	LIRIOPE MUSCARI `EVERGREEN GIANT` FULL
	TJ	TRACHELOSPERMUM JASMINOIDES 'CONFEDERATE' FULL
	TV	TULBAGHIA VIOLACEA FULL
MISC.	**QTY**	**BOTANICAL/COMMON NAME**
MULCH	TBD	DESIGNER BROWN HARDWOOD MULCH
SOD	TBD	PASPALUM NOTATUM 'ARGENTINE'/BAHIA GRASS

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

CALL 2 WORKING DAYS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL

FLORIDA LICENSE NUMBER

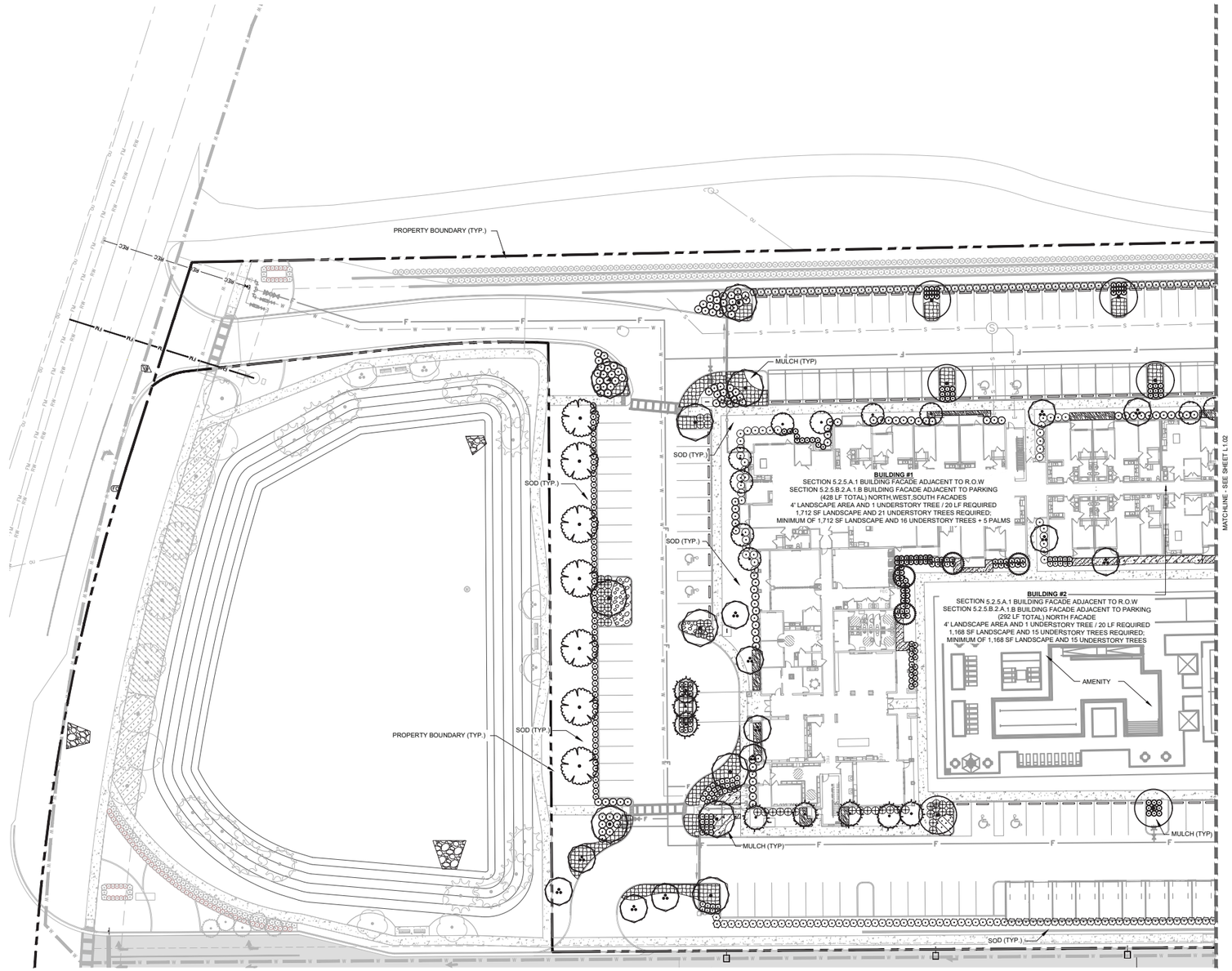
KHA PROJECT 249218001
DATE 1/26/2023
SCALE AS SHOWN
DESIGNED BY ASIL
DRAWN BY ASIL
CHECKED BY MTF
DATE: 1/26/2023

OVERALL LANDSCAPE PLAN

SHOPPES AT EAST SHORE
MULTI-FAMILY
CITY OF APOPKA FLORIDA

SHEET NUMBER
L1.00

Plotted By:Wanson, Matthew Sheet Set:SHOPPES AT EAST SHORE MULTI-FAMILY Layout:L1.00 March 17, 2023 11:35:58am K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\L1.00- LANDSCAPE PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



PLANT SCHEDULE

CANOPY TREE	CODE	BOTANICAL NAME	COMMON NAME
	AR	ACER RUBRUM 'FLORIDA FLAME' STRAIGHT, SINGLE LEADER, FULL, FL #1	FLORIDA FLAME RED MAPLE
	MB	MAGNOLIA GRANDIFLORA `D.D. BLANCHARD` TM STRAIGHT, SINGLE LEADER, 6` CT, FL #1	SOUTHERN MAGNOLIA
	QV	QUERCUS VIRGINIANA STRAIGHT, SINGLE LEADER, FULL, FL #1	SOUTHERN LIVE OAK
PALM TREES	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	SP	SABAL PALMETTO STRAIGHT, BOOTED, HURRICANE CUT, FULL, FL #1	SABAL PALM
UNDERSTORY TREE	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	IC	ILEX CASSINE STRAIGHT, FULL, FL #1, SINGLE LEADER	DAHOON HOLLY
	LI	LAGERSTROEMIA INDICA X FAURIEI 'MUSKOGEE' MULTI-TRUNK, 5 TRUNK MIN, FL #1	MUSKOGEE CRAPE MYRTLE MULTI-TRUNK
	ML	MAGNOLIA GRANDIFLORA 'LITTLE GEM' STRAIGHT, SINGLE LEADER, FULL, FL #1	LITTLE GEM DWARF SOUTHERN MAGNOLIA
SHRUBS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	AV	ALPINIA ZERUMBET `VARIEGATA` FULL	VARIEGATED SHELL GINGER
	HP	HAMELIA PATENS 'COMPACTA' FULL	DWARF FIREBUSH
	IV	ILEX VOMITORIA `SCHILLINGS DWARF` FULL	DWARF YAUPON HOLLY
	PM	PODOCARPUS MACROPHYLLUS FULL	PODOCARPUS
	RA	RHAPHIOLEPIS INDICA `ALBA` FULL	WHITE INDIAN HAWTHORN
	VO	VIBURNUM ODORATISSIMUM FULL	SWEET VIBURNUM
	ZF	ZAMIA FLORIDANA FULL	COONTIE PALM
SHRUB AREAS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	DR	DURANTA REPENS 'VARIEGATA' FULL	VARIEGATED GOLD MOUND
	MC	MUHLENBERGIA CAPILLARIS FULL	PINK MUHLY GRASS
GROUND COVERS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	AA	AGAPANTHUS AFRICANUS FULL	LILY OF THE NILE
	AG	ARACHIS GLABRATA FULL	PERENNIAL PEANUT
	BF	BULBINE FRUTESCENS FULL	STALKED BULBINE
	DT	DIANELLA TASMANICA FULL	FLAX LILY
	EB	EVOLVULUS GLOMERATUS 'BLUE DAZE' FULL	BRAZILIAN DWARF MORNING GLORY
	LG	LIRIOPE MUSCARI `EVERGREEN GIANT` FULL	EVERGREEN GIANT LILYTURF
	TJ	TRACHELOSPERMUM JASMINOIDES 'CONFEDERATE' FULL	CONFEDERATE JASMINE
	TV	TULBAGHIA VIOLACEA FULL	SOCIETY GARLIC
MISC.	**QTY**	**BOTANICAL/COMMON NAME**	
MULCH	TBD	DESIGNER BROWN HARDWOOD MULCH	
SOD	TBD	PASPALUM NOTATUM 'ARGENTINE'/BAHIA GRASS	

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

CALL 2 WORKING DAYS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL
FLORIDA LICENSE NUMBER
DATE: 1/26/2023

KHA PROJECT 249218001
DATE 1/26/2023
SCALE AS SHOWN
DESIGNED BY ASIL
DRAWN BY ASIL
CHECKED BY MTF

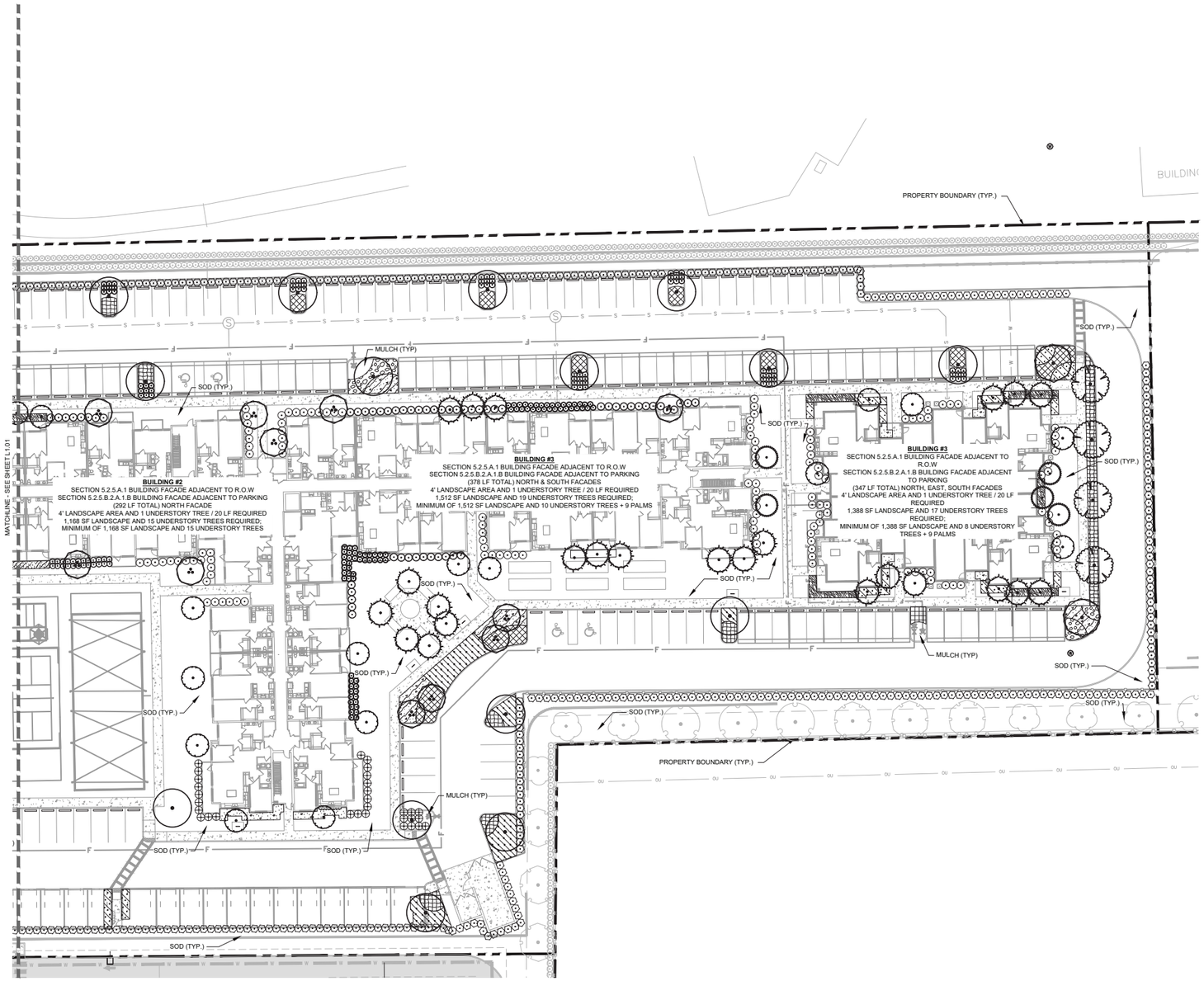
LANDSCAPE PLAN

SHOPPES AT EAST SHORE MULTI-FAMILY

CITY OF APOPKA FLORIDA

SHEET NUMBER
L1.01

Plotted By:Wonsor, Matthew Sheet Set:SHOPPES AT EAST SHORE MULTI-FAMILY Layout:L1.01 March 17, 2023 11:36:15am K:\ORL_Civil\249218001-Shoppes at East Shore ALA\CADD\CONST\Master Plan\PlanSheets\L1.00- LANDSCAPE PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



PLANT SCHEDULE

CANOPY TREE	CODE	BOTANICAL NAME	COMMON NAME
	AR	ACER RUBRUM 'FLORIDA FLAME' STRAIGHT, SINGLE LEADER, FULL, FL #1	FLORIDA FLAME RED MAPLE
	MB	MAGNOLIA GRANDIFLORA `D.D. BLANCHARD` TM STRAIGHT, SINGLE LEADER, 6` CT, FL #1	SOUTHERN MAGNOLIA
	QV	QUERCUS VIRGINIANA STRAIGHT, SINGLE LEADER, FULL, FL #1	SOUTHERN LIVE OAK
PALM TREES	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	SP	SABAL PALMETTO STRAIGHT, BOOTED, HURRICANE CUT, FULL, FL #1	SABAL PALM
UNDERSTORY TREE	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	IC	ILEX CASSINE STRAIGHT, FULL, FL #1, SINGLE LEADER	DAHOON HOLLY
	LI	LAGERSTROEMIA INDICA X FAURIEI 'MUSKOGEE' MULTI-TRUNK, 5 TRUNK MIN, FL #1	MUSKOGEE CRAPE MYRTLE MULTI-TRUNK
	ML	MAGNOLIA GRANDIFLORA 'LITTLE GEM' STRAIGHT, SINGLE LEADER, FULL, FL #1	LITTLE GEM DWARF SOUTHERN MAGNOLIA
SHRUBS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	AV	ALPINIA ZERUMBET `VARIEGATA` FULL	VARIEGATED SHELL GINGER
	HP	HAMELIA PATENS 'COMPACTA' FULL	DWARF FIREBUSH
	IV	ILEX VOMITORIA `SCHILLINGS DWARF` FULL	DWARF YAUPON HOLLY
	PM	PODOCARPUS MACROPHYLLUS FULL	PODOCARPUS
	RA	RHAPHIOLEPIS INDICA `ALBA` FULL	WHITE INDIAN HAWTHORN
	VO	VIBURNUM ODORATISSIMUM FULL	SWEET VIBURNUM
	ZF	ZAMIA FLORIDANA FULL	COONTIE PALM
SHRUB AREAS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	DR	DURANTA REPENS 'VARIEGATA' FULL	VARIEGATED GOLD MOUND
	MC	MUHLENBERGIA CAPILLARIS FULL	PINK MUHLY GRASS
GROUND COVERS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	AA	AGAPANTHUS AFRICANUS FULL	LILY OF THE NILE
	AG	ARACHIS GLABRATA FULL	PERENNIAL PEANUT
	BF	BULBINE FRUTESCENS FULL	STALKED BULBINE
	DT	DIANELLA TASMANICA FULL	FLAX LILY
	EB	EVOLVULUS GLOMERATUS 'BLUE DAZE' FULL	BRAZILIAN DWARF MORNING GLORY
	LG	LIRIOPE MUSCARI `EVERGREEN GIANT` FULL	EVERGREEN GIANT LILYTURF
	TJ	TRACHELOSPERMUM JASMINOIDES 'CONFEDERATE' FULL	CONFEDERATE JASMINE
	TV	TULBAGHIA VIOLACEA FULL	SOCIETY GARLIC
MISC.	**QTY**	**BOTANICAL/COMMON NAME**	
MULCH	TBD	DESIGNER BROWN HARDWOOD MULCH	
SOD	TBD	PASPALUM NOTATUM 'ARGENTINE'/BAHIA GRASS	

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

CALL 2 WORKING DAYS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL

FLORIDA LICENSE NUMBER

DATE: 1/26/2023

KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	ASIL
DRAWN BY	ASIL
CHECKED BY	MTF

LANDSCAPE PLAN

SHOPPES AT EAST SHORE MULTI-FAMILY

CITY OF APOPKA FLORIDA

SHEET NUMBER
L1.02

Plotted By:Wonsor, Matthew Sheet Set:SHOPPES AT EAST SHORE MULTI-FAMILY Layout:L1.02 March 17, 2023 11:36:32am K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\L1.00- LANDSCAPE PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

PLANT SCHEDULE

CANOPY TREE	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE
	AR	12	ACER RUBRUM 'FLORIDA FLAME' STRAIGHT, SINGLE LEADER, FULL, FL #1	FLORIDA FLAME RED MAPLE	FG	3" CAL MIN	12` HT MIN
	MB	11	MAGNOLIA GRANDIFLORA `D.D. BLANCHARD` TM STRAIGHT, SINGLE LEADER, 6` CT, FL #1	SOUTHERN MAGNOLIA	FG	3" CAL MIN	12` HT MIN
	QV	21	QUERCUS VIRGINIANA STRAIGHT, SINGLE LEADER, FULL, FL #1	SOUTHERN LIVE OAK	FG	3" CAL MIN	14` HT MIN
PALM TREES	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CONT**	**CAL**	**SIZE**
	SP	32	SABAL PALMETTO STRAIGHT, BOOTED, HURRICANE CUT, FULL, FL #1	SABAL PALM	FG	-	12` - 18` CT
UNDERSTORY TREE	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CONT**	**CAL**	**SIZE**
	IC	25	ILEX CASSINE STRAIGHT, FULL, FL #1, SINGLE LEADER	DAHOON HOLLY	FG	3" CAL MIN	10` HT, 4` SPR
	LI	23	LAGERSTROEMIA INDICA X FAURIEI 'MUSKOGEE' MULTI-TRUNK, 5 TRUNK MIN, FL #1	MUSKOGEE CRAPE MYRTLE MULTI-TRUNK	FG	5" CAL. TOT.	10`-12`H X 5`-6`W
	ML	9	MAGNOLIA GRANDIFLORA 'LITTLE GEM' STRAIGHT, SINGLE LEADER, FULL, FL #1	LITTLE GEM DWARF SOUTHERN MAGNOLIA	FG	3" CAL MIN	10` HT, 4` SPR
SHRUBS	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CONT**	**SPACING**	**SIZE**
	AV	184	ALPINIA ZERUMBET `VARIEGATA` FULL	VARIEGATED SHELL GINGER	3 GAL	30" OC	24" OC
	HP	187	HAMELIA PATENS 'COMPACTA' FULL	DWARF FIREBUSH	3 GAL	24" HT MIN	30" OC
	IV	83	ILEX VOMITORIA `SCHILLINGS DWARF` FULL	DWARF YAUPON HOLLY	3 GAL	24" OC	12" FULL
	PM	497	PODOCARPUS MACROPHYLLUS FULL	PODOCARPUS	7 GAL	36" OC	36" HT MIN
	RA	176	RHAPHIOLEPIS INDICA `ALBA` FULL	WHITE INDIAN HAWTHORN	3 GAL	30" OC	14" FULL
	VO	163	VIBURNUM ODORATISSIMUM FULL	SWEET VIBURNUM	3 GAL	36" OC	24" FULL
	ZF	98	ZAMIA FLORIDANA FULL	COONTIE PALM	3 GAL	30" OC	24" OC
SHRUB AREAS	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CONT**	**SIZE**	**SPACING**
	DR	290	DURANTA REPENS 'VARIEGATA' FULL	VARIEGATED GOLD MOUND	3 GAL	18" HT MIN	24" OC
	MC	127	MUHLENBERGIA CAPILLARIS FULL	PINK MUHLY GRASS	3 GAL	24" HT MIN	36" OC
GROUND COVERS	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CONT**	**SIZE**	**SPACING**
	AA	40	AGAPANTHUS AFRICANUS FULL	LILY OF THE NILE	3 GAL	12" FULL	24" OC
	AG	1,237	ARACHIS GLABRATA FULL	PERENNIAL PEANUT	1 GAL	10" SPRD	18" OC
	BF	169	BULBINE FRUTESCENS FULL	STALKED BULBINE	1 GAL	12" FULL	18" OC
	DT	315	DIANELLA TASMANICA FULL	FLAX LILY	1 GAL	14" FULL	18" OC
	EB	199	EVOLVULUS GLOMERATUS 'BLUE DAZE' FULL	BRAZILIAN DWARF MORNING GLORY	3 GAL	12" FULL	18" OC
	LG	486	LIRIOPE MUSCARI `EVERGREEN GIANT` FULL	EVERGREEN GIANT LILYTURF	3 GAL	12" HT. MIN.	18" OC
	TJ	240	TRACHELOSPERMUM JASMINOIDES 'CONFEDERATE' FULL	CONFEDERATE JASMINE	1 GAL	12" FULL	24" OC
	TV	466	TULBAGHIA VIOLACEA FULL	SOCIETY GARLIC	1 GAL	12" FULL	18" OC

MISC.	QTY	BOTANICAL/COMMON NAME	SPECIFICATIONS
MULCH	TBD	DESIGNER BROWN HARDWOOD MULCH	3" DEPTH MINIMUM, SHREDDED, FREE OF WEEDS/INVASIVE PLANT MATERIAL
SOD	TBD	PASPALUM NOTATUM 'ARGENTINE/BAHIA GRASS	ROLLED TIGHT, 100% WEED/INSECT/DISEASE FREE

CODE MINIMUM LANDSCAPE CALCULATIONS

PER "CITY OF APOPKA" LAND DEVELOPMENT CODE

	REQUIRED	PROVIDED
BUILDING FOUNDATION LANDSCAPE *SECTION 5.2.5.A.1* *BUILDING FACADE FACING R.O.W. (AND)* *SECTION 5.2.5.B.2.A.1.B* *BUILDING FACADE ADJACENT TO PARKING*	**BUILDING 1 - 428 LF (NORTH, WEST, SOUTH FACADES)** 1,712 SF OF LANDSCAPE REQ. (4' WIDTH LANDSCAPE AREA) 21 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF) **BUILDING 2 - 292 LF (NORTH FACADES)** 1,168 SF OF LANDSCAPE REQ. (4' WIDTH LANDSCAPE AREA) 15 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF) **BUILDING 3 - 378 LF (NORTH & SOUTH FACADES)** 1,512 SF OF LANDSCAPE REQ. (4' WIDTH LANDSCAPE AREA) 19 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF) **BUILDING 4 - 347 LF (NORTH, SOUTH, EAST FACADES)** 1,388 SF OF LANDSCAPE REQ. (4' WIDTH LANDSCAPE AREA) 17 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF)	**BUILDING 1** 1,914 SF OF LANDSCAPE 16 UNDERSTORY TREES + 5 PALMS **BUILDING 2** 1,428 SF OF LANDSCAPE 15 UNDERSTORY TREES **BUILDING 3** 1,598 SF OF LANDSCAPE 10 UNDERSTORY TREES + 9 PALMS **BUILDING 4** 1,539 SF OF LANDSCAPE 8 UNDERSTORY TREES + 9 PALMS
INTERIOR VUA LANDSCAPE *SECTION 5.2.5.B.2*	10% OF VUA AREA TO BE LANDSCAPED (9,861 SF) 1 TREE + 1 TREE PER 10 PARKING SPACES (267 PARKING SPACES) 98,610 SF VUA X 0.1 = 9,861 SF LANDSCAPE REQUIRED 267 SPACES / 10 +1 = 27.7 ~ 28 SHADE TREES REQUIRED 9,861 SF VUA x .3 = 2,958 SF OF MATURE TREE CANOPY COVERAGE	10,402 SF LANDSCAPE AREA PROVIDED 43 SHADE TREES PROVIDED 3,088 SF PROVIDED
PERIMETER LANDSCAPING *SECTION 5.2.5.B.3* *SECTION 5.2.5.B.b.2*	**1 CANOPY TREE AND 10 SHRUBS (36" HT. MIN) PER 35 LF (OR FRACTION THEREOF) OF PROPERTY PERIMETER**	ALL PERIMETER LANDSCAPE PROVIDED IN OVERALL MASTER PLAN DEVELOPMENT "THE SHOPPES AT EAST SHORE"

LANDSCAPE NOTES:

1. ALL LANDSCAPE MATERIAL TO BE FLORIDA GRADE #1 OR BETTER QUALITY
2. ALL LANDSCAPED AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL.
3. ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE.
4. ALL MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION.
5. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
6. ALL PLANTING AREAS SHALL BE COMPLETELY MULCHED AS SPECIFIED.
7. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR 1) TO VERIFY THE LOCATIONS OF UTILITY LINES ADJACENT TO THE WORK AREA 2) TO PROTECT ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD 3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY SCHEDULE AND PROTECTION BETWEEN DELIVERY AND PLANTING TO MAINTAIN HEALTHY PLANT CONDITIONS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY MAINTAINING (INCLUDING BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, FERTILIZING, ETC.) ALL OF THE PLANT MATERIALS AND LAWN FOR THE WARRANTY PERIOD.
11. ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, DEAD, OR REJECTED (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.
12. THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR WARRANTY PERIOD. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS DURING THE NORMAL PLANTING SEASON.
13. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
14. ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES, AND SHALL BE FLORIDA NO. 1 OR BETTER AS GIVEN IN "GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II," STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE.
15. ALL INVASIVE / EXOTIC SPECIES AND PROHIBITED TREE SPECIES SHALL BE REMOVED FROM SITE, INCLUDING ROOT BALLS TO THE EXTENT POSSIBLE WITH NO DAMAGE TO ADJACENT EXISTING TREES.
16. ALL LANDSCAPE AREAS WILL BE PROVIDED WITH PERMANENT AUTOMATIC IRRIGATION SYSTEM.
17. TREE SUPPORT MATERIALS ARE TO BE REMOVED FROM EACH TREE ONCE IT IS "ESTABLISHED" (AS APPROVED BY THE LANDSCAPE ARCHITECT).
18. ALL PLANT SPECIFICATIONS IN THE PLANT SCHEDULE SHALL BE CONSIDERED THE MINIMUM ALLOWABLE SPECIFICATIONS. CONTRACTOR SHALL PROCURE PLANT MATERIALS AND UPSIZE AS NECESSARY TO MEET THE MOST STRINGENT SPECIFICATION.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL

FLORIDA LICENSE NUMBER

DATE: 1/26/2023

KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	ASIL
DRAWN BY	ASIL
CHECKED BY	MTF

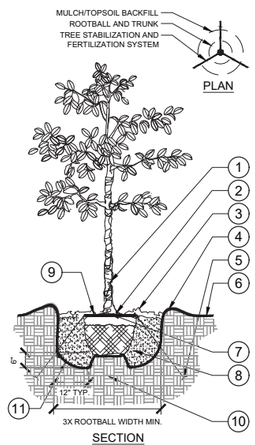
LANDSCAPE PLANT SCHEDULE & NOTES

SHOPPES AT EAST SHORE
MULTI-FAMILY

CITY OF APOPKA FLORIDA

SHEET NUMBER
L1.03

Plotted By:Wonsor, Matthew Sheet Set:SHOPPES AT EAST SHORE MULTI-FAMILY Layout:L1.03 March 17, 2023 11:36:45am K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\L1.00- LANDSCAPE PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



1. TRUNK/ROOT BALL TO BE CENTERED AND PLUMB/LEVEL IN PLANTING PIT.
2. 6" DIA. CLEAR OF MULCH AT TRUNK FLARE.
3. 3" MINIMUM MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES SHALL BE 6' DIAMETER (MIN.) OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
4. 4" HIGH BERM, FIRMLY COMPACTED.
5. TREE FROG ANCHOR SYSTEM INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
6. FINISHED GRADE. (SEE GRADING PLAN)
7. TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE.
8. PREPARED PLANTING SOIL AS SPECIFIED.
9. TOP OF ROOTBALL SHALL BE 1" ABOVE FINISHED GRADE. ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING. ROOTBALLS SMALLER THAN 24" IN DIAMETER MAY SIT ON COMPACTED EARTH.
10. UNDISTURBED NATIVE SOIL.
11. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.

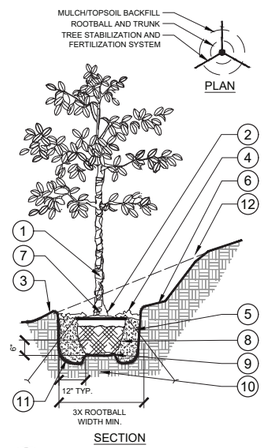
NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. PRUNE ALL TREES IN ACCORDANCE WITH ANSI A-300.

1 L1.50 **TREE PLANTING** — SECTION / PLAN — NTS



1. TRUNK/ROOT BALL TO BE CENTERED AND PLUMB/LEVEL IN PLANTING PIT.
2. 6" DIA. CLEAR OF MULCH AT TRUNK FLARE.
3. 3. 4" HIGH BERM, FIRMLY COMPACTED.
4. 3" MINIMUM OF HARDWOOD BARK MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES SHALL BE 6' DIAMETER (MIN.) OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
5. TREE FROG ANCHOR SYSTEM INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
6. 4" MIN. OF TOPSOIL TO BRING TO FINISHED GRADE. (SEE GRADING PLAN)
7. TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE.
8. PREPARED PLANTING SOIL AS SPECIFIED.
9. ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING. ROOTBALLS SMALLER THAN 24" IN DIAMETER MAY SIT ON COMPACTED EARTH.
10. UNDISTURBED NATIVE SOIL.
11. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.
12. CUT BACK SLOPE TO PROVIDE A FLAT SURFACE FOR PLANTING.

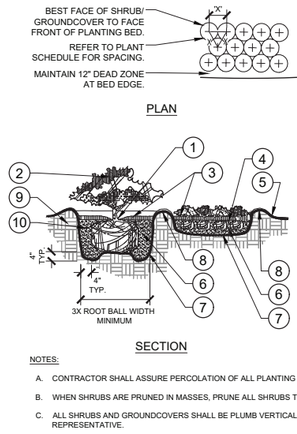
NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. PRUNE ALL TREES IN ACCORDANCE WITH ANSI A-300.

2 L1.50 **TREE PLANTING ON A SLOPE** — SECTION / PLAN — NTS



1. TOP OF SHRUB ROOTBALLS TO BE PLANTED 1" - 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOTBALL.
2. PRUNE ALL SHRUBS TO ACHIEVE A UNIFORM MASS/HEIGHT.
3. 3" MULCH LAYER AS SPECIFIED.
4. EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
5. FINISHED GRADE (SEE GRADING PLAN).
6. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES) NOTE: WHEN GROUND-COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
7. SCARIFY OF PLANTING PIT SIDES AND BOTTOM.
8. 4" HIGH BERM FIRMLY COMPACTED.
9. UNDISTURBED NATIVE SOIL.
10. FERTILIZER TABLETS (MAX 3" DEEP)

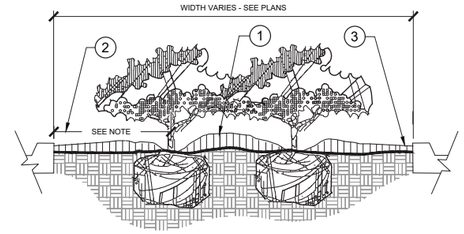
NOTES:

A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

B. WHEN SHRUBS ARE PRUNED IN MASSES, PRUNE ALL SHRUBS TO ACHIEVE UNIFORM MASS / HEIGHT.

C. ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNERS REPRESENTATIVE.

3 L1.50 **SHRUB/GROUNDCOVER PLANTING** — SECTION / PLAN — NTS



1. CROWN ISLANDS @ 5:1 SLOPES (OR AS SPECIFIED ON THE LANDSCAPE PLANS).
2. CLEAR ZONE: 36" MIN. FROM BACK OF CURB TO CENTER OF NEAREST SHRUB. CLEAR ZONE SHALL CONTAIN 3" CONTINUOUS MULCH OR TURF, SEE PLANS.
3. 2" MIN VERTICAL CLEARANCE, TOP OF CURB TO TOP OF MULCH.

NOTES:

A. EXCAVATE A CONTINUOUS 24" DEEP PIT (FROM TOP OF CURB) FOR ENTIRE LENGTH AND WIDTH OF ISLAND & BACKFILL WITH APPROVED PLANTING MIX.

B. PROTECT AND RETAIN ALL CURBS AND BASE. COMPACTED SUBGRADE TO REMAIN FOR STRUCTURAL SUPPORT OF CURB SYSTEM (TYP.).

C. ALL ISLANDS SHALL UTILIZE POOR DRAINAGE DETAIL WHEN PERCOLATION RATES ARE 2" PER HOUR OR LESS.

4 L1.50 **PLANTED PARKING LOT ISLANDS/MEDIANS** — SECTION — NTS

1. TOP OF SHRUB ROOTBALLS TO BE PLANTED 1" - 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOTBALL.
2. PRUNE SHRUBS AS DIRECTED BY OWNER'S REPRESENTATIVE.
3. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE SHRUBS ARE PLACED IN MASSES, MULCH SHALL BE SPREAD IN A CONTINUOUS BED.
4. SOIL BERM TO HOLD WATER. TOP OF PLANTING PIT 'BERM' TO BE LEVEL ACROSS PIT. SLOPE DOWNHILL PORTION OF BERM AS REQUIRED TO MEET EXISTING GRADE. MULCH OVER EXPOSED TOPSOIL.
5. FINISHED GRADE (SEE GRADING PLAN)
6. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES).
7. SCARIFY SIDES AND BOTTOM OF PLANTING PIT.
8. FERTILIZER TABLETS (MAX 3" DEEP).
9. UNDISTURBED NATIVE SOIL

NOTES:

A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

B. WHEN SHRUBS ARE PRUNED IN MASSES, PRUNE ALL SHRUBS TO ACHIEVE UNIFORM MASS / HEIGHT.

C. ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNERS REPRESENTATIVE.

5 L1.50 **SHRUB/GROUNDCOVER PLANTING ON A SLOPE** — SECTION — NTS

NOTES:

1. CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.
2. INSTALL SPECIFIED MULCH: 24" MIN. FROM BUILDING. SPECIFIED MULCH TO BE INSTALLED AT A DEPTH OF 3" (MIN.)

6 L1.50 **PLANTINGS ADJACENT TO BUILDINGS** — SECTION — NTS

1. INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP. NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE.
2. CURB / PARKING LOT EDGE.

7 L1.50 **PARKING SPACE/CURB PLANTING** — SECTION — NTS

1. FIRE HYDRANT.
2. NO PLANT EXCEEDING 12" MATURE HEIGHT MATERIAL SHALL BE PLACED WITHIN SHOWN RADIUS OF ALL PROPOSED OR EXISTING FIRE HYDRANTS. CONTRACTOR SHALL ADJUST PLANT MATERIAL SO THAT NO CONFLICTS WITH FIRE HYDRANTS OCCUR ON SITE.
3. FRONT OF HYDRANT (TOWARD CURB)

8 L1.50 **SHRUB PLANTING AT FIRE HYDRANT** — SECTION / PLAN — NTS

1. FINISH GRADE (SEE GRADING PLANS).
2. BACKFILL WITH PREPARED PLANTING SOIL MIX AS SPECIFIED.
3. FILTER CLOTH, MIRAFI 500X OR BETTER.
4. SLOPE BOTTOM TO DRAIN.
5. AUGURED HOLE Ø ±18" PENETRATE THROUGH OCCLUDING LAYER TO WATER TABLE OR TO A DEPTH OF 7' TO ASSURE PROPER PERCOLATION.
6. BACKFILL WITH 1/2" - 3/4" GRAVEL TO REQUIRED DEPTH THROUGH OCCLUDING LAYER TO ASSURE PROPER PERCOLATION.
7. WATER TABLE. (DEPTH VARIES)
8. UNDISTURBED NATIVE SOIL.
9. SET ROOTBALL ON UNDISTURBED STABLE SUBSOIL SO THAT TOP OF ROOT BALL IS 1" ABOVE FINISHED GRADE.

NOTES:

A. THIS DETAIL SHALL BE IMPLEMENTED WHERE PERCOLATION RATES ARE 2" PER HOUR OR LESS.

B. CONTRACTOR TO PERFORM PERCOLATION TEST AS REQUIRED. AND NOTIFY OWNER/LANDSCAPE ARCHITECT.

C. SEE TYPICAL TREE PLANTING DETAIL THIS SHEET FOR PLANT STAKING.

9 L1.50 **POOR DRAINAGE CONDITION** — SECTION / PLAN — NTS

1. 6'H "PERIMETER PLUS" CONSTRUCTION FENCE BY CONWED PLASTICS OR OWNER'S REPRESENTATIVE APPROVED EQUAL. SUBMIT PRODUCT INFORMATION FOR APPROVAL PRIOR TO INSTALLATION.
2. 8' TALL METAL "T" POSTS OR 2" x 2" X 8' PRESSURE TREATED WOOD POSTS WITH 24" BURIAL BELOW GRADE.

INSTALLATION NOTES:

A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.

B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/3 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 6' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.

C. SPACE POSTS EVERY 6' (MIN.) TO 8' (MAX.).

D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

NOTE: IF WIRE TIES ARE USED, AVOID DIRECT CONTACT WITH FENCE. WIRE MAY DAMAGE FENCE OVER TIME.

10 L1.50 **TREE PROTECTION FENCING** — ELEVATION / PLAN — NTS

1. 5 LAYERS OF BURLAP TO PROTECT TRUNK.
2. FIVE 2" X 4" X 18" WOOD BATTENS.
3. SECURE BATTENS WITH 2- 3/4" CARBON STEEL BANDS TO HOLD BATTENS IN PLACE. NO NAILS SHALL BE DRIVEN INTO PALM. HEIGHT OF BATTENS SHALL BE LOCATED IN RELATION TO THE HEIGHT OF THE PALM FOR ADEQUATE BRACING.
4. (3) 2"X4"X8' SUPPORTS. NAIL (DRILL AN NAIL IF NECESSARY) TO BATTENS AND 2" 4" STAKES. STAIN DARK BROWN.
5. 3" SPECIFIED MULCH
6. BERM SOIL TO HOLD WATER.
7. FINISH GRADE
8. 2X4X24" (MIN) P.T. WOOD STAKES (TYP.) NAIL TO SUPPORT POLES.
9. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES).

NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. ALL TREE STAKING IS TO BE WITHIN MULCH BED AREA OUTSIDE TREE PIT.

C. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION - REFER TO POOR DRAINAGE CONDITION DETAIL.

11 L1.50 **PALM PLANTING** — SECTION / PLAN — NTS

1. BASE OF TREE SHALL BE PLANTED SLIGHTLY ABOVE (1" MIN.) ADJACENT FINISH GRADE. REMOVE ALL TWINE & STRAPS & CUT BURLAP FROM TOP 1/3 OF ROOT BALL. NO SYNTHETIC BURLAP WILL BE ACCEPTED.
2. 4" SHREDDED HARDWOOD MULCH OR APPROVED EQUAL.
3. DIAMETER OF TREE PIT TO BE TWICE THE DIAMETER OF ROOT BALL/ROUGHEN SIDES OF TREE PIT.
4. 3" HIGH SOIL BERM TO HOLD WATER.
5. TOPSOIL MIX BACKFILL.
6. TREE WRAP.
7. 4" MIN. OF TOPSOIL TO BRING TO FINISHED GRADE (SEE GRADING PLAN).
8. ROOT BALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING ROOT BALLS SMALLER THAN 24" IN DIA. MAY SIT ON COMPACTED EARTH.
9. UNDISTURBED SUBSOIL.
10. PREPARE PLANTING SOIL AS SPECIFIED.
11. **Tree Frog® RBK40pt** FOR UP TO 4" TREE CALIPER OR **Tree Frog® RBK60pt** FOR GREATER THAN 4" AND UP TO 6" TREE CALIPER. REFER TO SITEWORK SPECIFICATIONS FOR APPROVED MATERIALS AND INSTALLATION REQUIREMENTS.

NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. SET TREE AT ORIGINAL DEPTH. REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

D. PRUNE TREE AS DIRECTED BY LANDSCAPE ARCHITECT

E. ASSURE PERCOLATION OF ALL PLANTING PITS

12 L1.50 **MULTI-TRUNK TREE PLANTING** — SECTION/PLAN — NTS

NO.	REVISIONS	DATE	BY

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.

189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL

FLORIDA LICENSE NUMBER

KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	ASIL
DRAWN BY	ASIL
CHECKED BY	MTF

DATE: 1/26/2023

LANDSCAPE DETAILS

SHOPPES AT EAST SHORE
MULTI-FAMILY

CITY OF APOPKA FLORIDA

SHEET NUMBER
L1.50

Plotted By: Monson, Matthew Sheet Set: SHOPPES AT EAST SHORE MULTI-FAMILY Layout: L1.50 March 17, 2023 11:36:45am K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\L1.00- LANDSCAPE PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS SPECIFIED HEREIN.

2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

1. ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED AND DESIGNATED TO REMAIN SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY BMP DEVICES ACCORDING TO ALL REGULATORY AGENCY'S STANDARDS THROUGH THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

3. THE CONTRACTOR SHALL SUBMIT A DETAILED PROJECT SPECIFIC WORK ZONE TRAFFIC CONTROL PLAN UNLESS THE WORK REQUIRES NOTHING MORE THAN A DIRECT APPLICATION OF FDOT DESIGN STANDARDS, INDEX 600. IF A DIRECT APPLICATION OF INDEX 600 IS PROPOSED, THE CONTRACTOR SHALL SUBMIT IN WRITING A STATEMENT INDICATING THE STANDARD INDEX AND PAGE NUMBER NO LESS THAN 10 BUSINESS DAYS PRIOR TO START OF CONSTRUCTION. WHEN A DIRECT APPLICATION OF FDOT STANDARD INDEX 600 IS NOT ACCEPTABLE A PROJECT SPECIFIC WORK ZONE TRAFFIC CONTROL PLAN SHALL BE PREPARED BY A FLORIDA PROFESSIONAL ENGINEER WHO HAS SUCCESSFULLY COMPLETED ADVANCED TRAINING IN MAINTENANCE OF TRAFFIC, AS DEFINED BY FDOT FOR APPROVAL BY THE COUNTY ENGINEER'S REPRESENTATIVE.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES, WHETHER PUBLIC OR PRIVATE, PRIOR TO EXCAVATION. THE INFORMATION AND DATA SHOWN WITH RESPECT TO EXISTING UNDERGROUND FACILITIES AT OR CONTIGUOUS TO THE SITE IS APPROXIMATE AND BASED ON INFORMATION FURNISHED BY THE OWNER OF SUCH UNDERGROUND FACILITIES OR ON PHYSICAL APPURTENANCES OBSERVED IN THE FIELD. THE OWNER AND DESIGN PROFESSIONAL SHALL NOT BE RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR: REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA; LOCATING ALL UNDERGROUND FACILITIES DURING CONSTRUCTION; THE SAFETY AND PROTECTION THEREOF; REPAIRING ANY DAMAGE THERETO RESULTING FROM THE WORK. THE COST OF ALL WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE. THE CONTRACTOR SHALL NOTIFY ANY AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

C. PROTECTION OF EXISTING PLANT MATERIALS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS EQUIPMENT OPERATION, MATERIAL STOCKPILING, ETC... THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE AND SPILLING OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED ON SITE. EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF THREE HUNDRED DOLLARS ($300) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PERCENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

2. SEE TREE MITIGATION PLAN AND NOTES, IF APPLICABLE.

D. MATERIALS

1. GENERAL

MATERIAL SAMPLES LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON SITE OR AS DETERMINED BY THE OWNER. UPON APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SAMPLE SIZE
MULCH	ONE (1) CUBIC FOOT
TOPSOIL MIX	ONE (1) CUBIC FOOT
PLANTS	ONE (1) OF EACH VARIETY (OR TAGGED IN NURSERY)

2. PLANT MATERIALS

a. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS. INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY WITH APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE.

b. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

c. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

1. CONTRACTOR SHALL TEST EXISTING SOIL AND AMEND AS NECESSARY IN ACCORDANCE WITH THE GUIDELINES BELOW:

2. SOIL MIXTURE (PLANTING MEDIUM FOR PLANT PITS) SHALL CONSIST OF TWO PARTS OF TOPSOIL AND ONE PART SAND, AS DESCRIBED BELOW. CONTRACTOR TO SUBMIT SAMPLES AND PH TESTING RESULTS OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

a. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER; FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND HAVE A PH BETWEEN 5.5 AND 7.0.

b. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE SAND.

2. TREES SHALL BE PLANTED IN THE EXISTING NATIVE SOIL ON SITE, UNLESS DETERMINED TO BE UNSUITABLE - AT WHICH POINT THE CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO PLANTING.

F. WATER

1. WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC.... IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

* WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

* FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

H. MULCH

1. MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A DEPTH OF THREE (3) INCHES. CLEAR MULCH FROM EACH PLANT'S CROWN (BASE). MULCH SHALL BE "FLORIMULCH," EUCALYPTUS MULCH, OR SIMILAR SUSTAINABLY HARVESTED MULCH UNLESS SPECIFIED OTHERWISE.

2. PROVIDE A THREE (3) INCH MINIMUM LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT (6' MINIMUM) PLANTED UNDER THIS CONTRACT.

I. DIGGING AND HANDLING

1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO THE SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.

2. BALLED AND BURLAPPED (B&B), AND FIELD GROWN (FG) PLANTS SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS SHALL NOT BE HANDLED BY STEMS.

3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.

4. PROTECTION OF PALMS: ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.

5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB-BASES.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION.

2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG ENOUGH FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.

3. ROOT BOUND PLANTS ARE NOT ACCEPTABLE AND WILL BE REJECTED.

4. RPG= "ROOTS PLUS GROWER" CONTAINER PRODUCTS SHALL BE USED WHERE SPECIFIED.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY RE-ESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

M. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO BIDDING OR INSTALLATION. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE.

N. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.

2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.

3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES, IF APPLICABLE.

O. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER DAILY. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.

2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL SUNSHINE STATE ONE CALL OF FLORIDA, INC. (811) TO LOCATE UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.

3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36" OR TO NATIVE SOIL. CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE POOR DRAINAGE CONDITION PLANTING DETAIL.

4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS SPECIFIED HEREIN. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.

5. COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE, PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ONSITE SHALL NOT REMAIN UNPLANTED OR APPROPRIATELY HEALED IN FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.

6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.

7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK Z60.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACK FILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.

8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.

9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.

10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACK FILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).

11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.

12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET, ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE. ALL BURLAP, ROPE, WIRES, BASKETS, ETC.., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.

13. TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY CERTIFIED ARBORIST, IN ACCORDANCE WITH ANSI A-300.

14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. MATERIALS INSTALLED SHALL MEET MINIMUM SPECIMEN REQUIREMENTS OR QUANTITIES SHOW ON PLANS, WHICHEVER IS GREATER. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" THE PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.

15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE PROJECT LANDSCAPE ARCHITECT IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE PROJECT LANDSCAPE ARCHITECT IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.

16. ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER. (AS ALLOWED BY JURISDICTIONAL AUTHORITY)

P. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.

2. ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS BY MEANS OF A SOD CUTTER TO A DEPTH OF THREE (3) INCHES, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.

3. PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.

4. SODDING

a. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.

b. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.

c. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. ADJACENT TO BUILDINGS, A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN. FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.

5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.

6. LAWN MAINTENANCE

a. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).

b. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

Q. CLEANUP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S REPRESENTATIVE.

R. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE.

S. FINAL INSPECTION AND ACCEPTANCE OF WORK

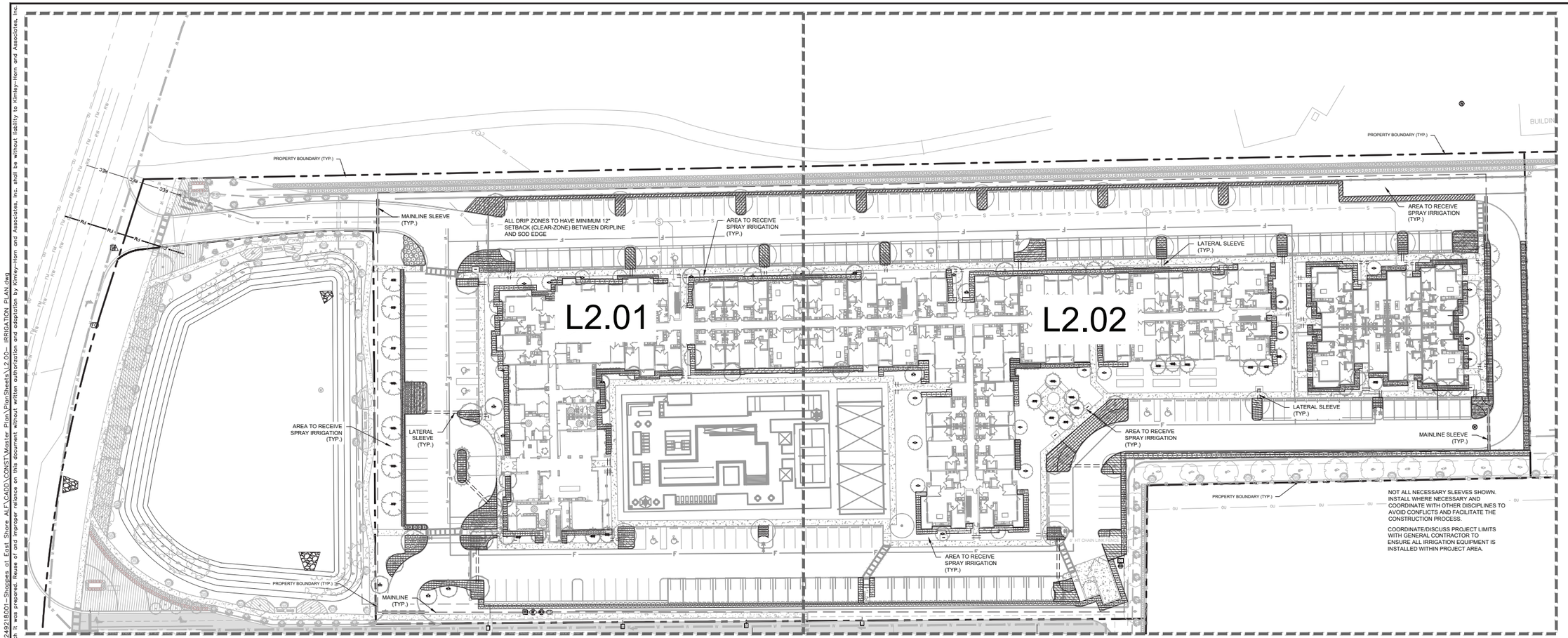
FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY (OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

T. WARRANTY

1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED (INCLUDING SOD) BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE.

2. ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED AT NO ADDITIONAL COST TO THE OWNER.

3. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE AND IRRIGATION MAINTENANCE, THE CONTRACTOR SHOULD VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE (1) YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER. CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
1401 1402	RAIN BIRD RWS-M-B-C W/ RWS-SOCK 1400 SERIES MINI ROOT WATERING SYSTEM WITH 4IN. DIAMETER X 18IN. LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE AND RAIN BIRD 1401 0.25 GPM OR 1402 0.5 GPM BUBBLER AS INDICATED. WITH CHECK VALVE, AND SAND SOCK FOR SANDY SOIL.	53	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFD-09-12 XFD ON-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE, 0.9 GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. UV RESISTANT. SPECIFY XF INSERT FITTINGS.	28,714 L.F.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
MCV	RAIN BIRD PEB 1-1/2" 1IN., 1-1/2IN., 2IN. PLASTIC INDUSTRIAL MASTER VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	1
BF	WATTS LF909M1 1-1/2" LEAD FREE REDUCED PRESSURE BACKFLOW PREVENTER.	1
RS	RAIN BIRD WR2-RFS WIRELESS RAIN/FREEZE SENSOR.	1
FS	RAIN BIRD FS-150-B 1-1/2IN. FLOW SENSOR, BRASS MODEL. SUGGESTED OPERATING RANGE 4.0 GPM TO 80.0 GPM. SIZE FOR FLOW NOT ACCORDING TO PIPE SIZE. RAIN BIRD COMPATIBLE CONTROLLERS: ESP-LXIVM(P) | LXD | LXME2(P) | ME3, OR CONTROLLERS ACCEPTING CUSTOM K-FACTOR AND OFFSET. INSTALL IN RAIN BIRD VALVE BOX.	1
M	WATER METER 1-1/2"	1
	IRRIGATION MAINLINE: PVC SCHEDULE 40	2,523 L.F.
	PIPE SLEEVE: PVC SCHEDULE 40 - LATERALS	510.0 L.F.
	PIPE SLEEVE: PVC SCHEDULE 40 - MAINLINE	133.3 L.F.

FLOW TOTALS
Area for Dripline: 430.7
Bubbler: 19.3
Total: 450.0 GPM

IRRIGATION NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, ETC. PRIOR TO BEGINNING WORK.
2. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN PLANS OR SPECIFICATIONS PRIOR TO BEGINNING OR CONTINUING WORK.
3. THE CONTRACTOR SHALL MAKE NO SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT.
4. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS.
5. THIS PLAN IS SCHEMATIC AND DUE TO THE NATURE OF CONSTRUCTION SLIGHT FIELD MODIFICATIONS MAY BE NECESSARY TO IMPLEMENT PLAN.
6. CONTRACTOR TO VERIFY ACTUAL AVAILABLE WATER PRESSURE BEFORE BEGINNING INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF AVAILABLE WATER PRESSURE WILL NOT ALLOW SYSTEM MODIFICATION TO BE POSSIBLE.
7. IRRIGATION SYSTEMS CONNECTED TO POTABLE WATER SUPPLY, SHALL HAVE A BACKFLOW PREVENTER INSTALLED.
8. WHERE APPLICABLE IRRIGATION HEADS ARE TO BE ADJUSTED FOR COMPLETE COVERAGE WITH MINIMUM OVER SPRAY BEYOND LANDSCAPE AREAS.
9. EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
10. ALL IRRIGATION SLEEVING TO BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. ELECTRICAL WIRES FOR IRRIGATION VALVES AND IRRIGATION LINES ARE TO BE PLACED IN SEPARATE SLEEVES.
11. IRRIGATION CONTRACTOR SHALL REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH OWNER'S REPRESENTATIVE.
12. ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED/IRRIGATED TO KEEP MOIST UNTIL PLANTED.
13. CONTRACTOR TO PROVIDE PERMANENT BENCH-MARKS ON ALL CURB LINES AT RELATED SLEEVE LOCATIONS (TYP).
14. THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLED TO MINIMIZE ROOT DISTURBANCE IN EXISTING TREES.
15. IRRIGATION SPRAYS AND ROTORS ARE NOT COMBINED ON THE SAME CONTROL VALVE CIRCUIT - LANDSCAPE BEDS AND TURF ON SEPARATE CIRCUITS.

IRRIGATION CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL NECESSARY MODIFICATIONS REQUIRED TO MEET THE SCHEMATIC INTENT OF THESE PLANS PRIOR TO SUBMITTING PROPOSAL. THESE PLANS OUTLINE THE OVERALL LAYOUT THE SYSTEM AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ZONE THE SYSTEM ACCORDINGLY BASED ON FLOW AND PRESSURE AVAILABLE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE FOLLOWING BUT NOT LIMITED TO AVAILABLE FLOW, AVAILABLE PRESSURE, CONNECTION ASSEMBLY, CAPACITY OF THE SYSTEM.

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

CALL 2 WORKING DAYS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL

FLORIDA LICENSE NUMBER

DATE: 1/26/2023

KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	ASIL
DRAWN BY	ASIL
CHECKED BY	MTF

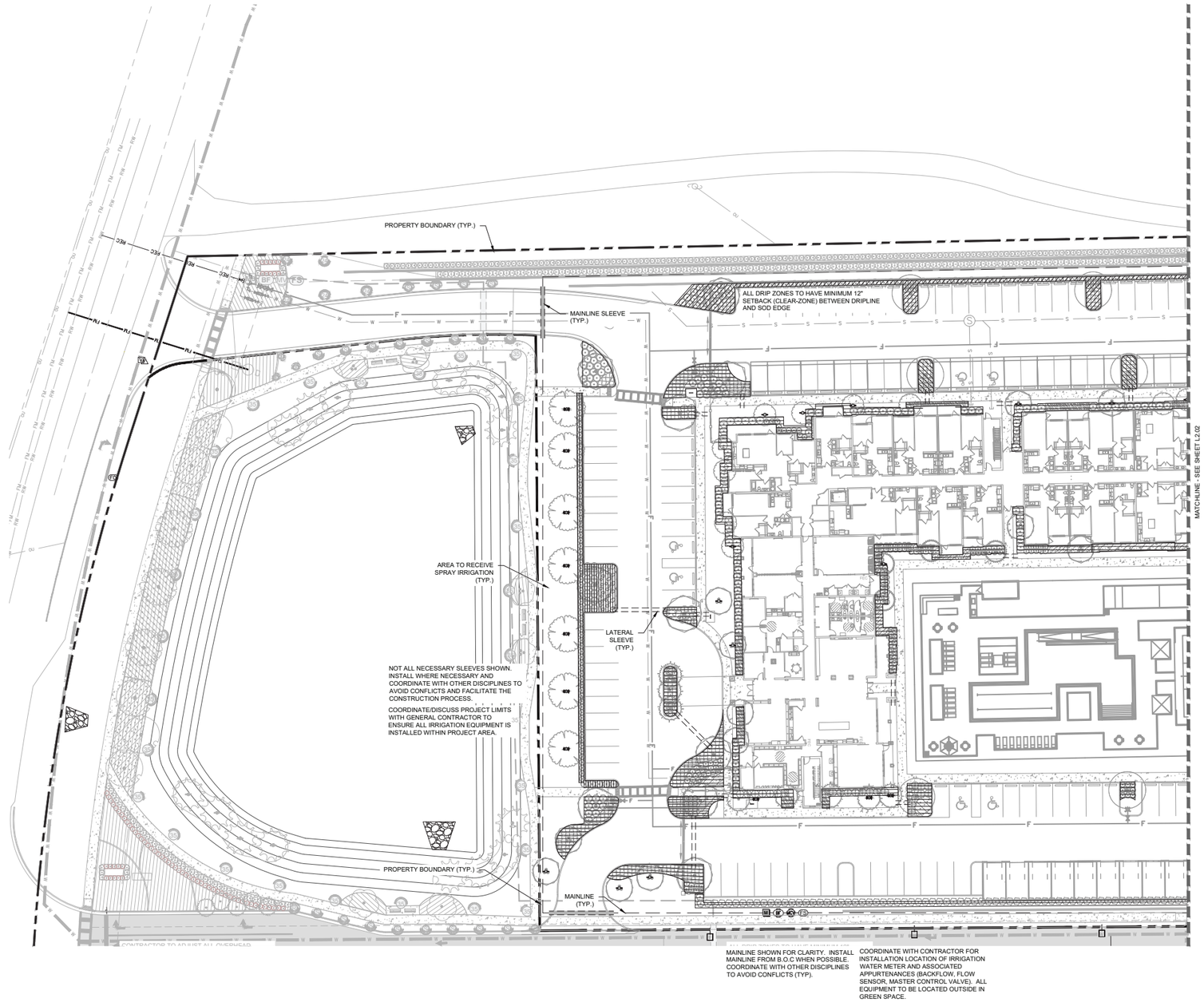
OVERALL IRRIGATION PLAN

SHOPPES AT EAST SHORE MULTI-FAMILY

CITY OF APOPKA FLORIDA

SHEET NUMBER
L2.00

Plotted By: Wanzor, Matthew Sheet Set: SHOPPES AT EAST SHORE MULTI-FAMILY Layout: L2.00 March 17, 2023 11:37:54am K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\L2.00- IRRIGATION PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
1401 1402	RAIN BIRD RWS-M-B-C W/ RWS-SOCK 1400 SERIES MINI ROOT WATERING SYSTEM WITH 4IN. DIAMETER X 18IN. LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE AND RAIN BIRD 1401 0.25 GPM OR 1402 0.5 GPM BUBBLER AS INDICATED. WITH CHECK VALVE, AND SAND SOCK FOR SANDY SOIL.	53	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFD-09-12 XFD ON-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE. 0.9 GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. UV RESISTANT. SPECIFY XF INSERT FITTINGS.	28,714 L.F.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
MCV	RAIN BIRD PEB 1-1/2" 1IN., 1-1/2IN., 2IN. PLASTIC INDUSTRIAL MASTER VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	1
BF	WATTS LF909M1 1-1/2" LEAD FREE REDUCED PRESSURE BACKFLOW PREVENTER.	1
RS	RAIN BIRD WR2-RFS WIRELESS RAIN/FREEZE SENSOR.	1
FS	RAIN BIRD FS-150-B 1-1/2IN. FLOW SENSOR, BRASS MODEL. SUGGESTED OPERATING RANGE 4.0 GPM TO 80.0 GPM. SIZE FOR FLOW NOT ACCORDING TO PIPE SIZE. RAIN BIRD COMPATIBLE CONTROLLERS: ESP-LXIVM(P) | LXD | LXME2(P) | ME3, OR CONTROLLERS ACCEPTING CUSTOM K-FACTOR AND OFFSET. INSTALL IN RAIN BIRD VALVE BOX.	1
M	WATER METER 1-1/2"	1
	IRRIGATION MAINLINE: PVC SCHEDULE 40	2,523 L.F.
	PIPE SLEEVE: PVC SCHEDULE 40 - LATERALS	510.0 L.F.
	PIPE SLEEVE: PVC SCHEDULE 40 - MAINLINE	133.3 L.F.

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

CALL 2 WORKING DAYS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL

FLORIDA LICENSE NUMBER

DATE: 1/26/2023

KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	ASIL
DRAWN BY	ASIL
CHECKED BY	MTF

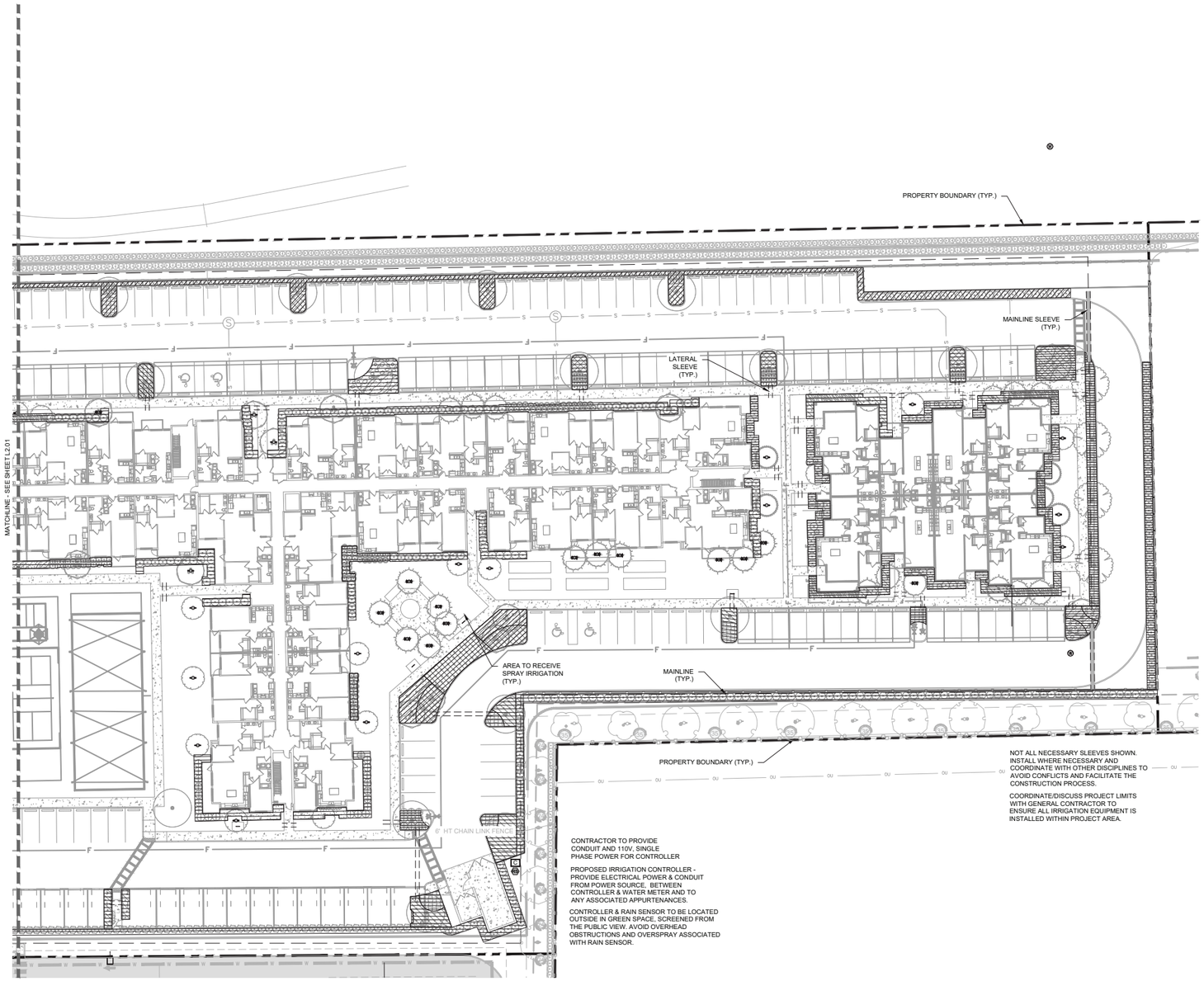
IRRIGATION PLAN

SHOPPES AT EAST SHORE
MULTI-FAMILY

CITY OF APOPKA FLORIDA

SHEET NUMBER
L2.01

Plotted By: Monsor, Matthew Sheet Set: SHOPPES AT EAST SHORE MULTI-FAMILY Layout: L2.01 March 17, 2023 11:38:16am K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\L2.00-- IRRIGATION_PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
1401 1402	RAIN BIRD RWS-M-B-C W/ RWS-SOCK 1400 SERIES MINI ROOT WATERING SYSTEM WITH 4IN. DIAMETER X 18IN. LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE AND RAIN BIRD 1401 0.25 GPM OR 1402 0.5 GPM BUBBLER AS INDICATED. WITH CHECK VALVE, AND SAND SOCK FOR SANDY SOIL.	53	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFD-09-12 XFD ON-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE. 0.9 GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. UV RESISTANT. SPECIFY XF INSERT FITTINGS.	28,714 L.F.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
MCV	RAIN BIRD PEB 1-1/2" 1IN., 1-1/2IN., 2IN. PLASTIC INDUSTRIAL MASTER VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	1
BF	WATTS LF909M1 1-1/2" LEAD FREE REDUCED PRESSURE BACKFLOW PREVENTER.	1
RS	RAIN BIRD WR2-RFS WIRELESS RAIN/FREEZE SENSOR.	1
FS	RAIN BIRD FS-150-B 1-1/2IN. FLOW SENSOR, BRASS MODEL. SUGGESTED OPERATING RANGE 4.0 GPM TO 80.0 GPM. SIZE FOR FLOW NOT ACCORDING TO PIPE SIZE. RAIN BIRD COMPATIBLE CONTROLLERS: ESP-LXIVM(P)	LXD	LXME2(P)	ME3. OR CONTROLLERS ACCEPTING CUSTOM K-FACTOR AND OFFSET. INSTALL IN RAIN BIRD VALVE BOX.	1
M	WATER METER 1-1/2"	1
	IRRIGATION MAINLINE: PVC SCHEDULE 40	2,523 L.F.
	PIPE SLEEVE: PVC SCHEDULE 40 - LATERALS	510.0 L.F.
	PIPE SLEEVE: PVC SCHEDULE 40 - MAINLINE	133.3 L.F.

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

CALL 2 WORKING DAYS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL

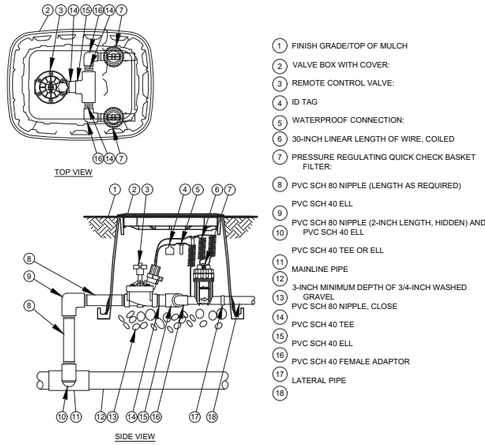
KHA PROJECT 249218001
DATE 1/26/2023
SCALE AS SHOWN
DESIGNED BY ASIL
DRAWN BY ASIL
CHECKED BY MTF
DATE: 1/26/2023

IRRIGATION PLAN

SHOPPES AT EAST SHORE
MULTI-FAMILY
CITY OF APOPKA FLORIDA

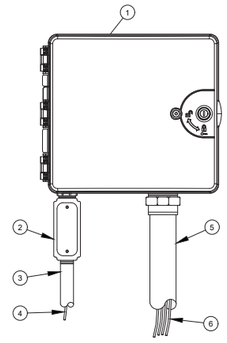
SHEET NUMBER
L2.02

Plotted By:Wanson, Matthew Sheet Set:SHOPPES AT EAST SHORE MULTI-FAMILY Layout:L2.02 March 17, 2023 11:38:38am K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CAD\CONST\Master Plan\PlanSheets\L2.00- IRRIGATION PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH COVER:
3. REMOTE CONTROL VALVE:
4. ID TAG
5. WATERPROOF CONNECTION:
6. 30-INCH LINEAR LENGTH OF WIRE, COILED
7. PRESSURE REGULATING QUICK CHECK BASKET FILTER:
8. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
9. PVC SCH 40 ELL
10. PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL:
11. PVC SCH 40 TEE OR ELL
12. MAINLINE PIPE
13. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
14. PVC SCH 80 NIPPLE, CLOSE
15. PVC SCH 40 TEE
16. PVC SCH 40 ELL
17. PVC SCH 40 FEMALE ADAPTOR
18. LATERAL PIPE

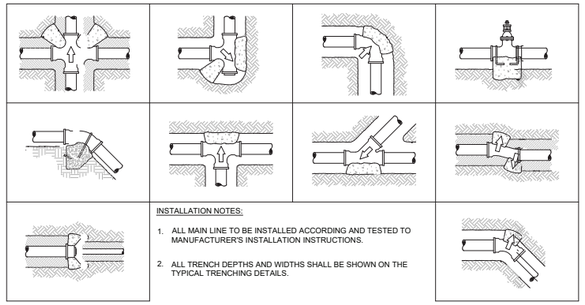
1 L2.50 COMMERCIAL CONTROL DRIP ZONE VALVE KIT
SECTION / PLAN NTS



1. IRRIGATION CONTROLLER: CONTROLLER (OWNER TO SPECIFY WALL MOUNT OR STAINLESS STEEL PEDESTAL MOUNT). INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. JUNCTION BOX
3. 1-INCH CONDUIT AND FITTINGS TO POWER SUPPLY
4. POWER SUPPLY WIRE
5. 2-INCH CONDUIT AND FITTINGS FOR STATION WIRES
6. WIRES TO REMOTE CONTROL VALVES

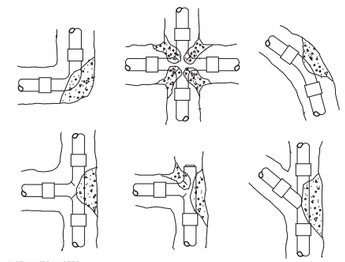
NOTES:
1. FOR EASE OF INSTALLATION INTO A CONTROLLER WITH MORE THAN 24 STATIONS, INSTALL A JUNCTION BOX AT THE BASE OF CONTROLLER AND TRANSITION LARGER VALVE AND COMMON WIRES FROM FIELD TO 18 AWG MULTI CONDUCTOR WIRE TO BE USED IN CONTROLLER.
2. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.

2 L2.50 TYPICAL CONTROLLER
ELEVATION NTS



INSTALLATION NOTES:
1. ALL MAIN LINE TO BE INSTALLED ACCORDING AND TESTED TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. ALL TRENCH DEPTHS AND WIDTHS SHALL BE SHOWN ON THE TYPICAL TRENCHING DETAILS.

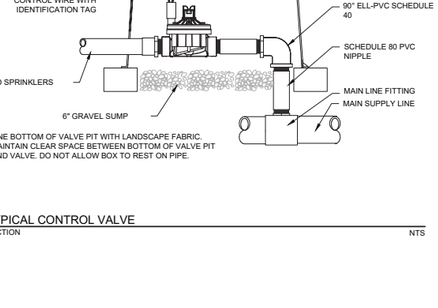
3 L2.50 TYPICAL THRUST BLOCK
SECTION NTS



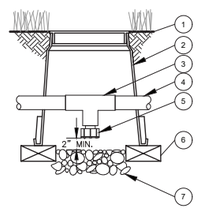
INSTALLATION NOTES
1. 3000 PSI CONCRETE OR BETTER IS TO BE USED FOR THRUST BLOCKS.
2. FOR 45°/90° FITTINGS, MINIMUM OF 2 CUBIC FEET OF CONCRETE TO BE USED.
3. FOR 22-1/2° FITTINGS, MINIMUM OF 0.5 CUBIC FEET OF CONCRETE TO BE USED.
4. FOR TEES, MINIMUM OF 2 CUBIC FEET OF CONCRETE TO BE USED. THRUST

BLOCKS REQUIRED FOR IRRIGATION MAINLINE 2 1/2" AND LARGER.

4 L2.50 THRUST BLOCK REINFORCEMENT
SECTION NTS

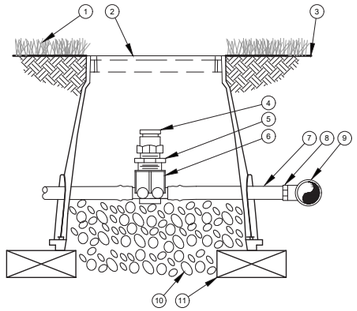


5 L2.50 TYPICAL CONTROL VALVE
SECTION NTS



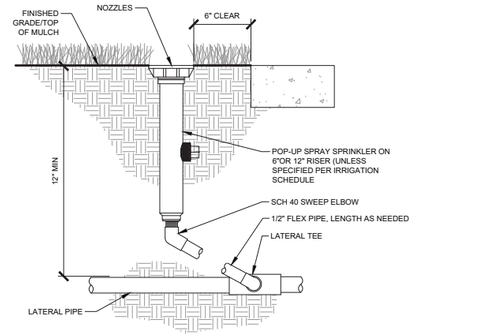
1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH COVER:
3. PVC SCH 40 TEE
4. PVC LATERAL PIPE
5. FILTERED DRAIN VALVE:
6. BRICK (1 OF 2)
7. 6-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

6 L2.50 DRAIN VALVE
SECTION NTS

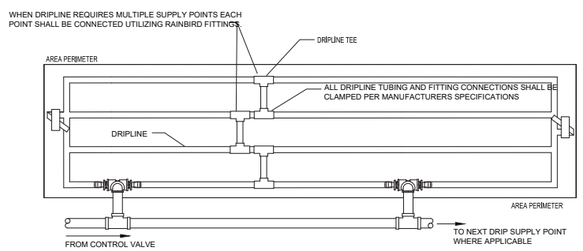


1. TURF GRASS
2. VALVE BOX LID
3. FINISH GRADE
4. ½" AIR RELIEF VALVE: TO BE INSTALLED AT HIGH POINTS IN DRIP ZONE
5. ½" X ¾" PVC REDUCER BUSHING
6. BARB X FEMALE THREAD CONNECTOR:
7. ½" BLANK DRIPLINE TUBING:
8. BARB X MALE THREAD CONNECTOR:
9. PVC TEE CONNECTED TO PVC HEADER PIPE
10. 3" MINIMUM DEPTH OF ¾" WASHED GRAVEL
11. BRICK (1 OF 2)

7 L2.50 AIR RELIEF VALVE IN XFS DRIP LINE
SECTION NTS



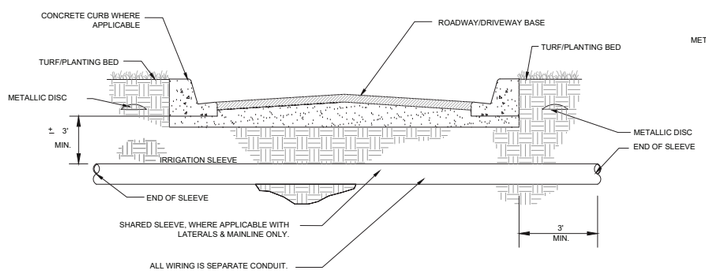
8 L2.50 TYPICAL SPRAY / ROTAR HEAD
SECTION NTS



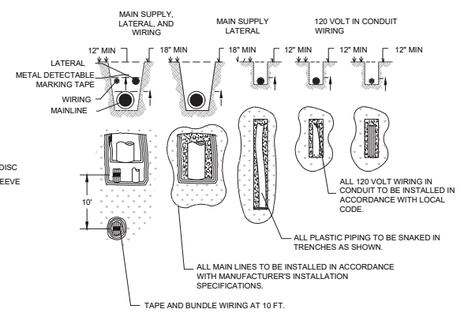
CONTRACTOR TO REFER TO IRRIGATION PLAN FOR LOCATION OF CONTROL VALVES THAT UTILIZE MULTIPLE DRIPLINE SUPPLY CONNECTIONS. IF NOT SHOWN, INSTALL WITHIN ADJACENT GREEN AREA NOT IN A HIGHLY VISIBLE AREA.

NOTE:
1. DRIP TUBING TO BE ROUTED IN THE PLANT MATERIAL BED WITH AT MAXIMUM LATERAL SPACING OF 16 INCHES.
2. DRIP TUBING TO BE INSTALLED IN A GRID PATTERN. DRIP TUBING SHALL NOT BE INSTALLED IN A LONG CONTINUOUS RUN.
3. CONTRACTOR TO REFER TO IRRIGATION PLAN FOR LOCATION OF CONTROL VALVES THAT UTILIZE MULTIPLE DRIPLINE SUPPLY CONNECTIONS (IF SHOWN).

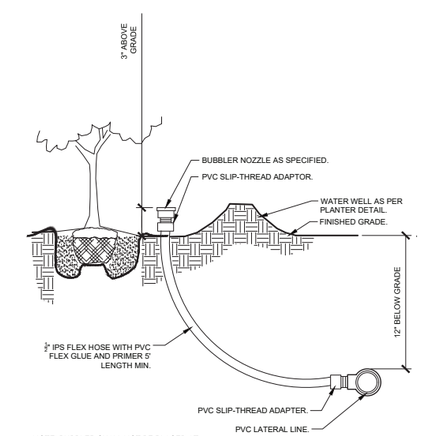
9 L2.50 TYPICAL DRIP LINE
PLAN NTS



10 L2.50 TYPICAL SLEEVING
SECTION NTS



11 L2.50 TYPICAL TRENCHING
SECTION / PLAN NTS



NOTE: BUBBLER SHALL NOT BE PLACED AT TRUNK FLARE.

12 L2.50 TYPICAL BUBBLER
SECTION NTS

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL

FLORIDA LICENSE NUMBER

DATE: 1/26/2023

KHA PROJECT 249218001
DATE 1/26/2023
SCALE AS SHOWN
DESIGNED BY ASIL
DRAWN BY ASIL
CHECKED BY MTF

IRRIGATION DETAILS

SHOPPES AT EAST SHORE MULTI-FAMILY

CITY OF APOPKA FLORIDA

SHEET NUMBER L2.50

Plotted By: Monsor, Matthew Sheet Set: SHOPPES AT EAST SHORE MULTI-FAMILY Layout: L2.50 March 17, 2023 11:38:38am K:\ORL_Civil\249218001-Shoppes at East Shore_ALF\CADD\CONST\Master Plan\PlanSheets\L2.00- IRRIGATION PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

IRRIGATION SYSTEM NOTES:

1. THE IRRIGATION MAINLINE LAYOUT IS DIAGRAMMATIC. ANY CHANGES MADE IN THE IRRIGATION MAINLINE DUE TO FIELD CONDITIONS OR CONTRACTOR'S SUBMITTED DESIGN SHALL BE IN ACCORDANCE WITH THESE STANDARDS.
2. SET SPRAY HEADS 6" AND ROTORS 12" IN FROM BACK OF CURB OR 24" IF PAVEMENT HAS NO CURB.
3. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL NECESSARY MODIFICATIONS REQUIRED TO MEET THE SCHEMATIC INTENT OF THESE PLANS PRIOR TO SUBMITTING PROPOSAL. THESE PLANS OUTLINE THE OVERALL LAYOUT THE SYSTEM AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ZONE THE SYSTEM ACCORDINGLY BASED ON FLOW AND PRESSURE AVAILABLE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE FOLLOWING BUT NOT LIMITED TO AVAILABLE FLOW, AVAILABLE PRESSURE, CONNECTION ASSEMBLY, CAPACITY OF THE SYSTEM.
4. CONTRACTOR TO PROVIDE NEW AUTOMATIC CONTROLLER FOR PROPOSED SYSTEM (NO BATTERY OPERATED CONTROLLERS ALLOWED). COORDINATE LOCATION WITH OWNER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AUTOMATIC RAIN SENSOR. COORDINATE LOCATION W/ OWNER.
6. IRRIGATION SHALL NOT BE COMBINED ON A SINGLE ZONE AND SHALL BE ZONED ACCORDING TO IRRIGATION TYPE, PRECIPITATION RATE, AND THE SYSTEM'S AVAILABLE WATER / PRESSURE. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO OWNER FOR REVIEW PRIOR TO INSTALLATION.
7. VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF IRRIGATION SYSTEM. ALL UTILITIES AND STRUCTURES MAY NOT BE SHOWN ON THESE PLANS-CONTRACTOR SHALL FIELD VERIFY.
8. CONTRACTOR TO FIELD VERIFY ALL POINT OF CONNECTION SOURCE INFORMATION INCLUDING PSI AND GPM PRIOR TO CONSTRUCTION.
9. INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR A SPEEDY AND ORDERLY COMPLETION OF ALL WORK ON-SITE.
10. CONTRACTOR SHALL COORDINATE WITH THE PLANTING PLAN FOR PLANTER BED AND TREE LOCATIONS TO ENSURE ALL PLANT MATERIAL IS COVERED BY 100% HEAD-TO-HEAD IRRIGATION.
11. CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF THE FINAL INSTALLATION TO OWNER AT SUBSTANTIAL COMPLETION BEFORE RECEIVING FINAL PAYMENT.
12. PRODUCTS SHALL BE AS SPECIFIED OR APPROVED EQUAL.

PRE-APPROVED MANUFACTURERS:
1. TORO
2. HUNTER
3. RAINBIRD

13. IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE OWNER/GENERAL CONTRACTOR. WORK IN THE R.O.W. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE JURISDICTION.
14. LOCATE ALL IRRIGATION LINES WITHIN LANDSCAPED AREAS WHENEVER POSSIBLE. ALL LINES UNDER PAVEMENT MUST BE SLEEVED WITHIN SCH. 40 PVC 2x SIZE OF PIPE AND FREE OF STONES/DEBRIS. ALL VALVES SHALL BE LOCATED WITHIN LANDSCAPED AREAS.
15. MAINLINE SHALL NOT BE LOCATED WITHOUT PRIOR APPROVAL OF THE OWNER'S REPRESENTATIVE.
16. THE IRRIGATION CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR SLEEVING AND DIRECTIONAL BORES.
17. ALL SLEEVES UTILIZED BY THE IRRIGATION CONTRACTOR WHETHER INSTALLED BY HIM OR NOT, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. THE DEPTH BELOW FINISH GRADE, TO THE NEAREST FOOT OF EACH END OF THE SLEEVE SHALL BE NOTED AT EACH SLEEVE LOCATION ON THE "AS-BUILT" DRAWINGS. ALL SLEEVES ON PLAN FOR WALL PENETRATIONS AND UNDER SIDEWALKS SHALL BE SIZED TWO PIPE SIZES GREATER THAN THE PIPE IT CARRIES.
18. ALL PRESSURIZED MAINLINES AND LATERALS UNDER PAVEMENT SHALL BE WITHIN SCH. 40 PVC SLEEVES. WHERE ELECTRIC OR HYDRAULIC VALVE CONTROL LINES PASS THROUGH A SLEEVE WITH OTHER MAIN OR LATERAL LINES THEY SHALL BE CONTAINED WITHIN A SEPARATE, SMALLER CONDUIT.
19. NUMBER THE TOP OF ALL VALVE BOX LIDS WITH MINIMUM 1" HEIGHT BLACK LETTERS TO CORRESPOND TO AUTOMATIC AND GATE VALVE DESIGNATIONS. ALL HOSE BIBB VALVE BOXES SHALL BE LABELED IN A SIMILAR MANNER WITH THE DESIGNATION "HB". LETTER OUTSIDE OF TIME CLOCK CABINETS TO CORRESPOND WITH IRRIGATION CLOCK PROGRAM DESIGNATION.
20. THE IRRIGATION CONTRACTOR SHALL INSTALL A COLOR CODED METAL DETECTABLE MARKING TAPE WHICH CLEARLY NOTES: "CAUTION: IRRIGATION LINE BURIED BELOW." THE TAPE SHALL BE INSTALLED THE FULL LENGTH OF THE IRRIGATION MAINLINE.
21. ELECTRIC SERVICE TO THE CONTROLLER SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.
22. ALL 24 VAC WIRING FROM DECODER TO VALVE SHALL BE OF DIRECT BURIAL COPPER WIRE. MAXIMUM LENGTH OF WIRE FROM DECODER TO VALVE SHALL NOT EXCEED 400 FEET. AS FOLLOWS:
    CONTROL WIRES - #14
    COMMON WIRES - #14
23. ALL VALVES, SPLICES WITHIN CONTROL LINES, AND QUICK COUPLERS SHALL BE LOCATED WITHIN NDS VALVE BOXES AS FOLLOWS:
    -RECTANGULAR 12"X17" HEAVY DUTY BOX. (PURPLE COVER FOR REUSE TO BE PROVIDED WHERE APPROPRIATE).
24. ALL IRRIGATION HEADS/DRIP TUBING SHALL BE LOCATED ONE (1) FOOT FROM BACK OF CURB WHEN NEXT TO A ROADWAY. (THIS SHALL NOT INCLUDE PARKING AREAS OR DRIVE AISLES).
25. HEADS, LATERALS, EMITTERS, AND VALVES ARE NOT SHOWN, BUT ARE NECESSARY FOR A FULLY FUNCTIONING IRRIGATION SYSTEM.
26. LOCATE ALL VALVES IN PLANTING BEDS WITH A MINIMUM OF 3'-0" FROM BACK OF CURB OR EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED. PIPE SIZES ON EITHER SIDE OF SECTION VALVES CONNECTING MAINLINE TO SECTION LATERAL SHALL BE ONE (1) PIPE SIZE LARGER THAN VALVE SIZE. WHERE MAINLINES RUN PARALLEL TO PAVEMENT OR CURBING, THE MAINLINE SHALL BE OFFSET 2'-0" FROM THE EDGE OF PAVEMENT OR CURB.
27. IRRIGATION ZONES SHALL BE SEPARATED FOR HIGH AND LOW WATER USE REQUIREMENTS AND OPERATED ON DIFFERENT WATERING CYCLES. BUBBLERS, DRIPLINE, AND SPRAY HEADS SHALL BE SEPARATED ON DIFFERENT VALVES. AT NO TIME SHALL MULTIPLE IRRIGATION HEAD TYPES BE LOCATED ON THE SAME VALVE.
28. ALL DRIP ZONES SHALL BE INSTALLED WITH A FLUSH VALVE AND AIR RELIEF VALVE. IN THE EVENT THAT A DRIP ZONE HAS MORE THAN ONE HIGH OR LOW POINT, MORE THAN ONE AIR RELIEF VALVE OR FLUSH VALVE WILL BE REQUIRED FOR THAT ZONE. DRIPLINE SHALL PROVIDE 0.9 GPH EMITTERS, 12" O.C. WITH 12" LINE SPACING AT A MINIMUM.
29. ALL WIRING FOR CONNECTION OF THE VALVES TO THE CONTROLLER SHALL FOLLOW MANUFACTURERS SPECIFICATIONS. IF REQUIRED, ALL WIRING FOR A TWO WIRE PATH SHALL BE WITH RED/BLUE TWISTED PAIR 14 AWG. ELECTRIC CONTROL LINES FROM THE DECODER TO THE SOLENOID VALVES SHALL BE TWISTED PAIR 18 AWG. ALL DECODERS SHALL BE GROUNDED EVERY 1,000 L.F. OR EVERY 10 DEVICES. ALL WIRE SHALL BE FURNISHED IN MINIMUM 2,500' REELS AND SPLICING SHALL BE MINIMIZED. BURY SPLICE KIT. ALL 24 VOLT WIRING SHALL BE DONE IN ACCORDANCE WITH EXISTING CODES. SPLICING SHALL BE IN VALVE BOXES OR CONTROLLERS ONLY. IRRIGATION SYSTEM CONTROL SHALL BE TWO WIRE PATH. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S REQUIREMENTS FOR THIS INSTALLATION. TWO WIRE SYSTEM SHALL HAVE 2-WAY COMMUNICATIONS FIELD PROGRAMMABILITY, STATION SPECIFICATIONS AND INTEGRATED SURGE PROTECTION.
30. ALL CONTROL WIRE SHALL BE INSTALLED IN A 1 ¼" ELECTRICAL CONDUIT.
31. SMALLEST DIAMETER LATERAL PIPE SHALL BE 3/4".
32. IRRIGATION SYSTEM SHALL BE CAPABLE OF SUPPLYING AN AVERAGE OF 1.05" OF WATER PER WEEK WITHIN WATERING RESTRICTIONS AS APPLICABLE.
33. IRRIGATION SYSTEM SHALL NOT BE INSTALLED THROUGH EXISTING, OR PRESERVED PLANT COMMUNITIES. DO NOT TRENCH THROUGH EXISTING ROOT SYSTEMS OF ANY VEGETATION INTENDED TO BE PRESERVED.
34. CONTRACTOR TO MINIMIZE IRRIGATION OVERTHROW TO IMPERVIOUS AND NATURAL AREAS THROUGH FIELD ADJUSTMENTS TO INDIVIDUAL HEADS.
35. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO THE CONDITION DENOTED ON THE LANDSCAPE PLAN.
36. IRRIGATION PIPING INSTALLED UNDER ROADS AND SIDEWALKS SHALL BE IN SCHEDULE 40 PVC SLEEVING AT 2X THE PIPE SIZE. ALL SLEEVING SHALL BE FREE OF STONES AND DEBRIS.
37. IRRIGATION SOURCE TO BE EITHER WELL, POTABLE, OR NON-POTABLE WATER. IRRIGATION CONTRACTOR TO VERIFY SOURCE PRIOR TO DESIGN.
38. POINT OF CONNECTION TO BE DETERMINED BY OWNER. IRRIGATION SYSTEM CONNECTIONS TO THE LOCAL JURISDICTION SERVICE SHALL COMPLY WITH ALL APPLICABLE CODES.
39. IRRIGATION CONNECTION MAY REQUIRE BACKFLOW PREVENTION, VERIFY WITH LOCAL JURISDICTION.
40. IRRIGATION SYSTEM SHALL COMPLY WITH THE LOCAL JURISDICTION LAND DEVELOPMENT CODE.

1 L2.51 TYPICAL SCHEMATIC IRRIGATION NOTES

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LICENSED PROFESSIONAL

FLORIDA LICENSE NUMBER

DATE: 1/26/2023

KHA PROJECT	249218001
DATE	1/26/2023
SCALE	AS SHOWN
DESIGNED BY	ASIL
DRAWN BY	ASIL
CHECKED BY	MTF

IRRIGATION SPECIFICATIONS & NOTES

SHOPPES AT EAST SHORE MULTI-FAMILY

CITY OF APOPKA FLORIDA

SHEET NUMBER
L2.51

Plotted By: Wonsor, Matthew Sheet Set: SHOPPES AT EAST SHORE MULTI-FAMILY Layout: L2.51 March 17, 2023 11:38:41am K:\ORL_Civil\249218001-Shoppes at East Shore ALF\CADD\CONST\Master Plan\PlanSheets\L2.00- IRRIGATION PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

SITE LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	VOLTS	LAMP QTY	LAMP WATTS	LAMP MODEL	FIXTURE WATTS
SLA2HS	LED AREA LIGHT WITH TYPE 2 DIST., INTEGRAL DIMMING, HOUSE-SIDE SHIELD AND 3000K COLOR TEMP. MOUNTED 20'-0" AFG ON 25' DIRECT BURIAL CONCRETE POLE	TECHLIGHT	CTL-N-12L-T2-1-BK-S215	208	1	78	LED	78
SLA4HS	LED AREA LIGHT WITH TYPE 4 DIST., INTEGRAL DIMMING, HOUSE-SIDE SHIELD AND 3000K COLOR TEMP. MOUNTED 20'-0" AFG ON 25' DIRECT BURIAL CONCRETE POLE	TECHLIGHT	CTL-N-12L-T4-1-BK-S215	208	1	78	LED	78
SLB2HS	LED AREA LIGHT WITH TYPE 2 DIST., INTEGRAL DIMMING, HOUSE-SIDE SHIELD AND 3000K COLOR TEMP. MOUNTED 15'-0" AFG ON 20' DIRECT BURIAL CONCRETE POLE	TECHLIGHT	CTL-N-12L-T2-1-BK-S215	208	1	78	LED	78
SLB	LED SURFACE MOUNTED AREA LIGHT, WET LOCATION LISTED	LITHONIA	OLCFM-15-DDB	120	1	16	LED	16
SL1	LUMEC SLEEK VISION BOLLARD LIGHT WITH DECORATIVE CAGE AND TEXTURED MEDIUM GREY FINISH.	LUMEC	VBC-15L100NW-G1-5-120-CAGE-GY3TX	120	1	35	LED	35
SL2	DECORATIVE LED LOW VOLTAGE TREE UP LIGHT WITH METALIC BRONZE FINISH LOCATED THROUGHOUT COURTYARD	FX LUMINAIRE	OZ-1LED-BZ	15	1	–	LED	–

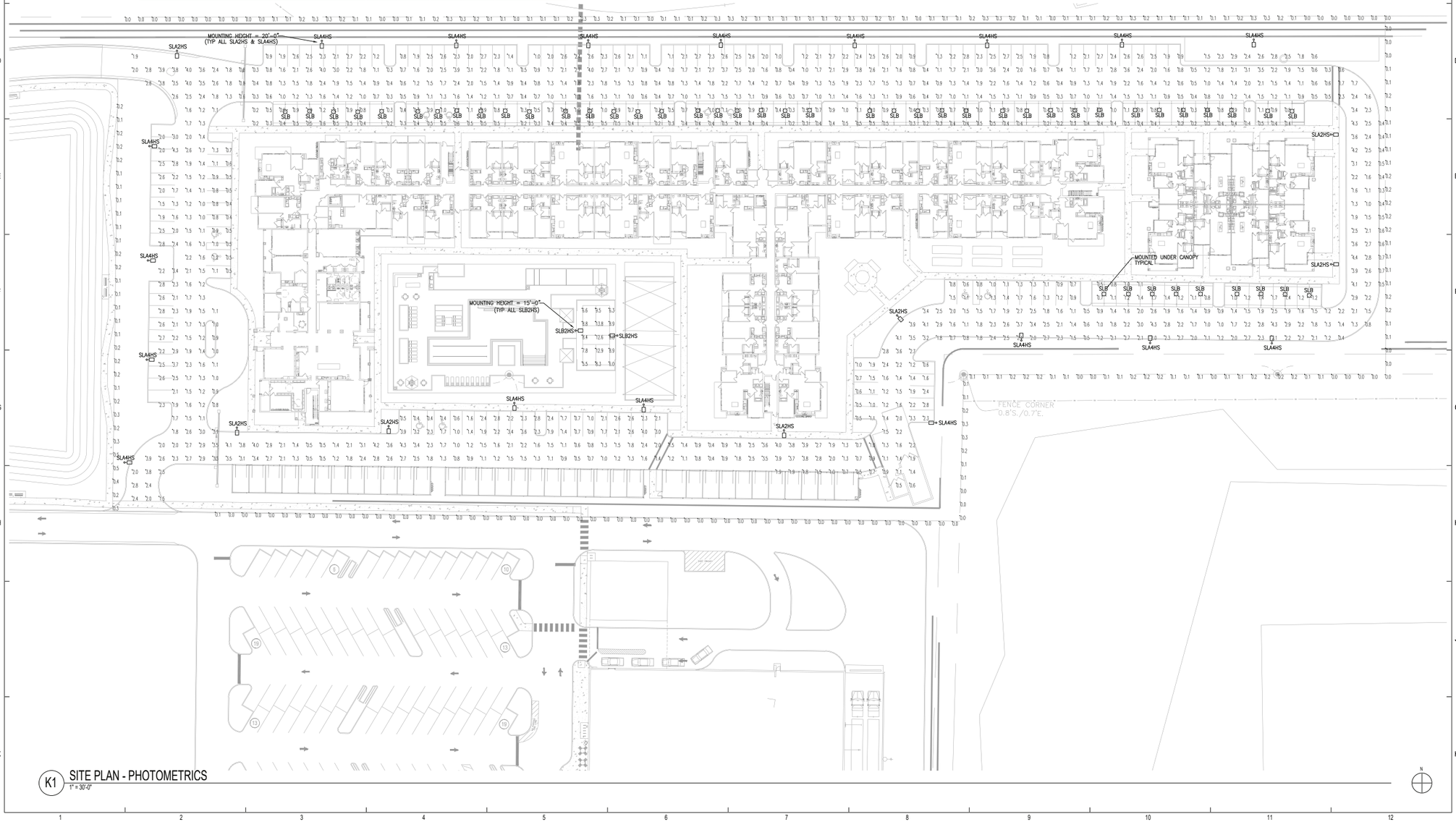
NOTES:
DIVISION 16 CONTRACTOR SHALL VERIFY ALL FIXTURE MANUFACTURERS, TYPES, OPTIONS AND FINISHES WITH OWNER/ARCHITECT/INTERIOR DESIGNER PRIOR TO ORDERING.
CONTRACTOR SHALL VERIFY ALL FIXTURE QUANITIES PRIOR TO ROUGH-IN.

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
	9	SLA2HS	Single	CTL-N-12L-T2-S215	SLA2HS	0.950	9200	78	702
	18	SLA4HS	Single	CTL-N-12L-T4-S215	SLA4HS	0.950	9300	78	1404
	105	SLB	SINGLE	OLCFM 15 DDB	SLB	0.950	1043	16.6	1743

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking & Drive Area	Illuminance	Fc	1.57	4.4	0.2	7.85	22.00
Pickle Ball Court	Illuminance	Fc	8.87	13.8	5.5	1.61	2.51
Property Line	Illuminance	Fc	0.10	0.5	0.0	N.A.	N.A.



K1 SITE PLAN - PHOTOMETRICS
1" = 30'-0"

FK ARCHITECTURE
2555 Temple Trail
Winter Park, FL 32789
(407) 629-0595
www.fugleberg koch.com
FL LICENSE # 0009897

© 2021 These documents and their contents are the property of FUGLEBERG KOCH LLC - ARCHITECTS, and are issued only for the specific project noted on these drawings. Any reproductions, revisions, or modifications of these documents without the expressed written consent of Fuglieberg Koch is prohibited by law.

SPARROW PARTNERS

Joseph, Lawrence & Co
Consulting Engineers
1180 HARWOOD AVE. SUITE 3000
ALTAMONTE SPRINGS, FLORIDA 32714
TEL. 321.972.4466
WWW.JLCENG.COM
CA NO. 28730

ISSUE HISTORY

No.	Date	Description
1		
2		
3		
4		

REVISION HISTORY

No.	Date	Description

JLC22.0203.00

BLAKE L. SUDDUTH LICENSE NUMBER 0081284 STATE OF FLORIDA PROFESSIONAL ENGINEER
PRELIMINARY -NOT FOR CONSTRUCTION-

OCOEE-APOPKA

APOPKA, FL

Drawn:	MJR/SMB
Checked:	BLS/AJB
Approval:	BLS/AJB
Date:	01/06/2023
Project #:	5906

SITE PLAN PHOTOMETRICS

E1.03

SHOPPES AT EAST SHORE
Project № 22057, v2.1
February 2023

TRAFFIC IMPACT ANALYSIS
CITY OF APOPKA
FLORIDA

Prepared by:

Traffic & Mobility Consultants
3101 Maguire Boulevard, Suite 265
Orlando, Florida 32803
www.trafficmobility.com
(407) 531-5332

Prepared for:

WMG Development
1200 Network Centre Drive, Suite 3
Effingham, Illinois 62401

EXECUTIVE SUMMARY

Project Information

Name:	Shoppes at East Shore
Location:	Northeast corner of the intersection of Ocoee Apopka Road and Keene Road
Jurisdiction:	City of Apopka, Florida
Description:	224 senior adult housing units 4,200 square foot medical office 63,000 square foot shopping plaza 3,000 square foot fast-food restaurant with drive through window 3,000 square foot coffee shop with drive through window Convenience market with16 vehicle fueling positions

Findings

Trip Generation:	7,417 Daily / 638 PM Peak Hour Trips.
Access Plan:	One (1) full access driveway and two (2) right-in/right-out driveways on Ocoee Apopka Road, and two (2) full access driveways and one (1) right-in/right-out driveway on Keene Road
Committed Roadway Improvements:	Harmon Road: new 2-lane roadway from Ocoee Apopka Road to the existing Harmon Road
	New signals at Binion Road and Ocoee Apopka Road, Ocoee Apopka Road and Keene Road, Ocoee Apopka Road and Harmon Road, and Keene Road and Marden Road
Roadway Capacity:	All study segments are projected to operate within their adopted capacity at project buildout
Intersection Capacity	Ocoee Apopka Road and Keene Road is operating with delays on the westbound approach; however, with the proposed signal it is projected to operate at adequate LOS
	All study intersections and project access driveways are projected to operate at adequate LOS

Recommendations

Turn Lanes:	Construct a 355-foot westbound right turn lane on Keene Road and a 260-foot southbound left turn lane on Ocoee-Apopka Road at the Ocoee-Apopka Road and Keene Road intersection
	Construct a 185-foot right turn lane at the three (3) project access driveways on Ocoee Apopka Road and on the middle and west access driveway on Keene Road
	Construct a 270-foot southbound left turn lane on Ocoee Apopka Road at the north access driveway
	Construct a 330-foot and a 235-foot eastbound left turn lane on Keene Road at the middle and west project access driveways, respectively

PROFESSIONAL ENGINEERING CERTIFICATION

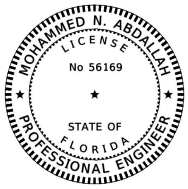
I hereby certify that I am a Professional Engineer properly registered in the State of Florida practicing with Traffic & Mobility Consultants LLC, a corporation authorized to operate as an engineering business, CA-30024, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluations, findings, opinions, conclusions, or technical advice attached hereto for:

PROJECT: Shoppes at East Shore

LOCATION: City of Apopka, Florida

CLIENT: WMG Development

I hereby acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of Transportation Engineering as applied through professional judgment and experience.



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

Digitally signed by Mohammed N Abdallah
DN: CN=Mohammed N Abdallah, dnQualifier=A01410D000001814951EAD600042192, O=Florida, C=US
Date: 2023.04.03 21:35:34-04'00'

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

TRAFFIC & MOBILITY CONSULTANTS LLC
3101 MAGUIRE BOULEVARD, SUITE 265
ORLANDO, FLORIDA 32803
CERTIFICATE OF AUTHORIZATION CA-30024
MOHAMMED N. ABDALLAH, P.E. NO. 56169

TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1

2.0 STUDY AREA 3

3.0 EXISTING CONDITIONS ANALYSIS 4

3.1 Roadway Segment Capacity 4
3.2 Intersection Capacity 5

4.0 PROJECT TRAFFIC 7

4.1 Trip Generation 7
4.2 Trip Distribution/Assignment 8

5.0 PROJECTED CONDITIONS ANALYSIS 11

5.1 Traffic Projection 11
5.2 Roadway Improvements 11
5.3 Roadway Segment Capacity 11
5.4 Intersection Capacity 13
5.5 Turn Lanes Review 17

6.0 SITE ACCESS REVIEW 18

7.0 STUDY CONCLUSIONS 20

APPENDICES

Appendix A Preliminary Site Plan
Appendix B Traffic Impact Analysis Methodology
Appendix C City of Apopka CMS Data
Appendix D Traffic Counts & FDOT Seasonal Factors
Appendix E Existing Conditions Analysis Worksheets & Signal Timings Appendix F Trip Generation Sheets
Appendix G Model Distribution Plots
Appendix H Roadway Improvements - City of Apopka CIP
Appendix I Volume Projections, Pass-By Trip Assignment & Vested Trips
Appendix J Projected Conditions Analysis Worksheets
Appendix K FDM Exhibit 212-1

LIST OF TABLES

Table 1 Existing Roadway Capacity Analysis 4
Table 2 Existing Intersection Capacity Analysis 5
Table 3 Trip Generation Analysis 7
Table 4 Projected Roadway Capacity Analysis 12
Table 5 Projected Intersection Capacity Analysis 16

LIST OF FIGURES

Figure 1 Site Location Map 2
Figure 2 Existing Peak Hour Intersection Volumes 6
Figure 3 Project Trip Distribution 9
Figure 4 Project Trip Assignment 10
Figure 5 Projected PM Peak Hour Intersection Volumes 14
Figure 6 Projected Driveway Peak Hour Intersection Volumes 15

1.0 INTRODUCTION

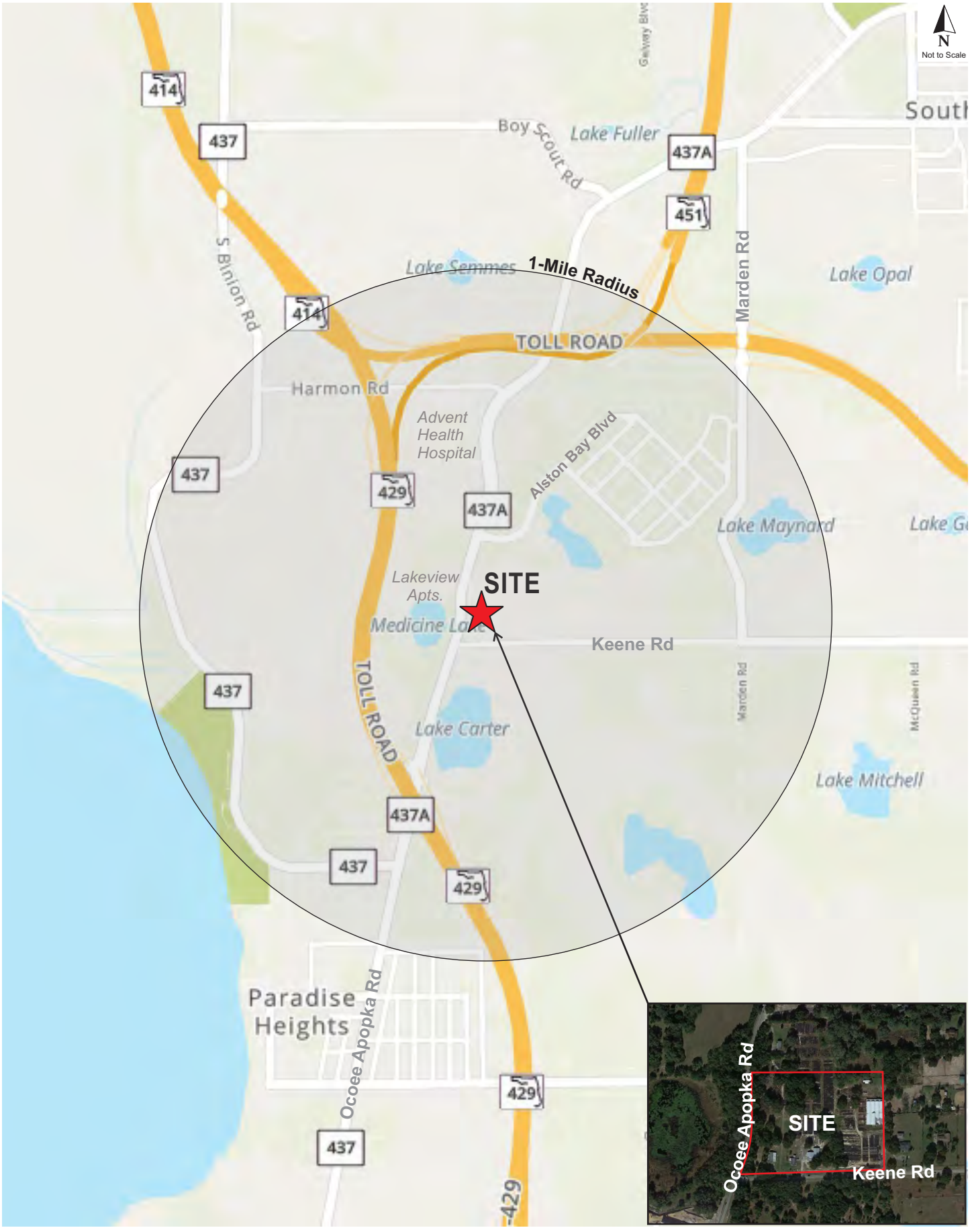
This traffic analysis was performed to assess the impact of the proposed Shoppes at East Shore development located on the northeast corner of the intersection of Ocoee Apopka Road and Keene Road in the City of Apopka, Florida. The development consists of 224 senior adult multifamily housing units, a 4,200 square foot medical office, a 63,000 square foot shopping plaza, a 3,000 square foot fast-food restaurant with drive through window, a 3,000 square foot coffee shop with drive through window, and a convenience market with 16 vehicle fueling positions (VFP). The projected buildout year is 2025. **Figure 1** depicts the location of the project site and the surrounding roadway network.

Access to the site is proposed via six (6) access driveways; one (1) full access driveway and two (2) right-in/right-out driveways on Ocoee Apopka Road, and two (2) full access driveways and one (1) right-in/right-out driveway on Keene Road. A preliminary site plan is provided in **Appendix A**.

The following analysis was conducted in accordance with the approved methodology, included in **Appendix B**.

Data used in the analysis consisted of site plan/development information provided by the project engineers, AM and PM peak hour traffic counts obtained by Traffic & Mobility Consultants LLC (TMC), road segment data obtained from the City of Apopka, and seasonal data obtained from Florida Department of Transportations (FDOT).

Figure 1 Site Location Map



Site Location Map
Shoppes at East Shore
22057, v2.1

Figure 1

2.0 STUDY AREA

The analysis considers the project's impacts on the following roadways and intersections, within the project's influence area:

Roadway Segments

- Ocoee Apopka Road
  - Binion Road to SR 429
  - SR 429 to Keene Road
  - Keene Road to Harmon Road
  - Harmon Road to Boy Scout Road
- Harmon Road
  - Binion Road to Ocoee Apopka Road
- Keene Road
  - Ocoee Apopka Road to Marden Road
  - Marden Road to CR 435/Clarcona Road
- Marden Road
  - Ocoee Apopka Road to SR 414
  - SR 414 to Keene Road

Intersections

- Binion Road and Ocoee Apopka Road (unsignalized)
- Ocoee Apopka Road and SR 429 Ramps (signalized)
- Ocoee Apopka Road and Keene Road (unsignalized)
- Ocoee Apopka Road and Harmon Road (unsignalized)
- Keene Road and Marden Road (unsignalized)
- Keene Road and CR 435/Clarcona Road (signalized)
- Site Access Driveways (Proposed)

3.0 EXISTING CONDITIONS ANALYSIS

3.1 Roadway Segment Capacity

Table 1 presents a summary of the existing conditions for the roadway segments examined in this study. Roadway segments were analyzed by comparing the existing Level of Service (LOS) for each roadway segment with the adopted LOS standard. Existing Daily, PM peak hour directional traffic volumes, capacities, and committed trips were obtained from the *City of Apopka* 2020 *Encumbered Traffic Allocation Worksheets*, which are included in **Appendix C**.

Table 1
Existing Roadway Capacity Analysis

Roadway Segment	# of Lns	LOS Std	Daily Capacity	Volume	LOS	PM Peak Hour			
						Capacity	Volume	Dir	LOS
Ocoee Apopka Rd									
Binion Rd to SR 429	2	E	17,700	13,440	C	880	616	NB/EB	C
SR 429 to Keene Rd*	2	E	17,700	14,641	C	880	670	NB/EB	C
Keene Rd to Harmon Rd	2	E	17,700	10,919	C	880	474	NB/EB	C
Harmon Rd to Boy Scout Rd	2	E	17,700	10,919	C	880	474	NB/EB	C
Harmon Rd									
Binion Rd to Ocoee Apopka Rd	2	E	15,900	1,973	C	790	99	NB/EB	C
Keene Rd									
Ocoee Apopka Rd to Marden Rd	2	E	15,900	5,330	C	790	297	NB/EB	C
Marden Rd to Clarcona Rd	2	E	15,900	5,576	C	790	293	NB/EB	C
Marden Rd									
Ocoee Apopka Rd to SR 414	2	E	14,000	6,492	C	720	284	NB/EB	C
SR 414 to Keene Rd	2	E	14,000	6,492	C	720	260	NB/EB	C

Source: Apopka 2020 CMS
**Existing Volumes collected by TMC (Per City request)*

The existing conditions analysis reveals that all study roadway segments currently operate within their adopted LOS.

3.2 Intersection Capacity

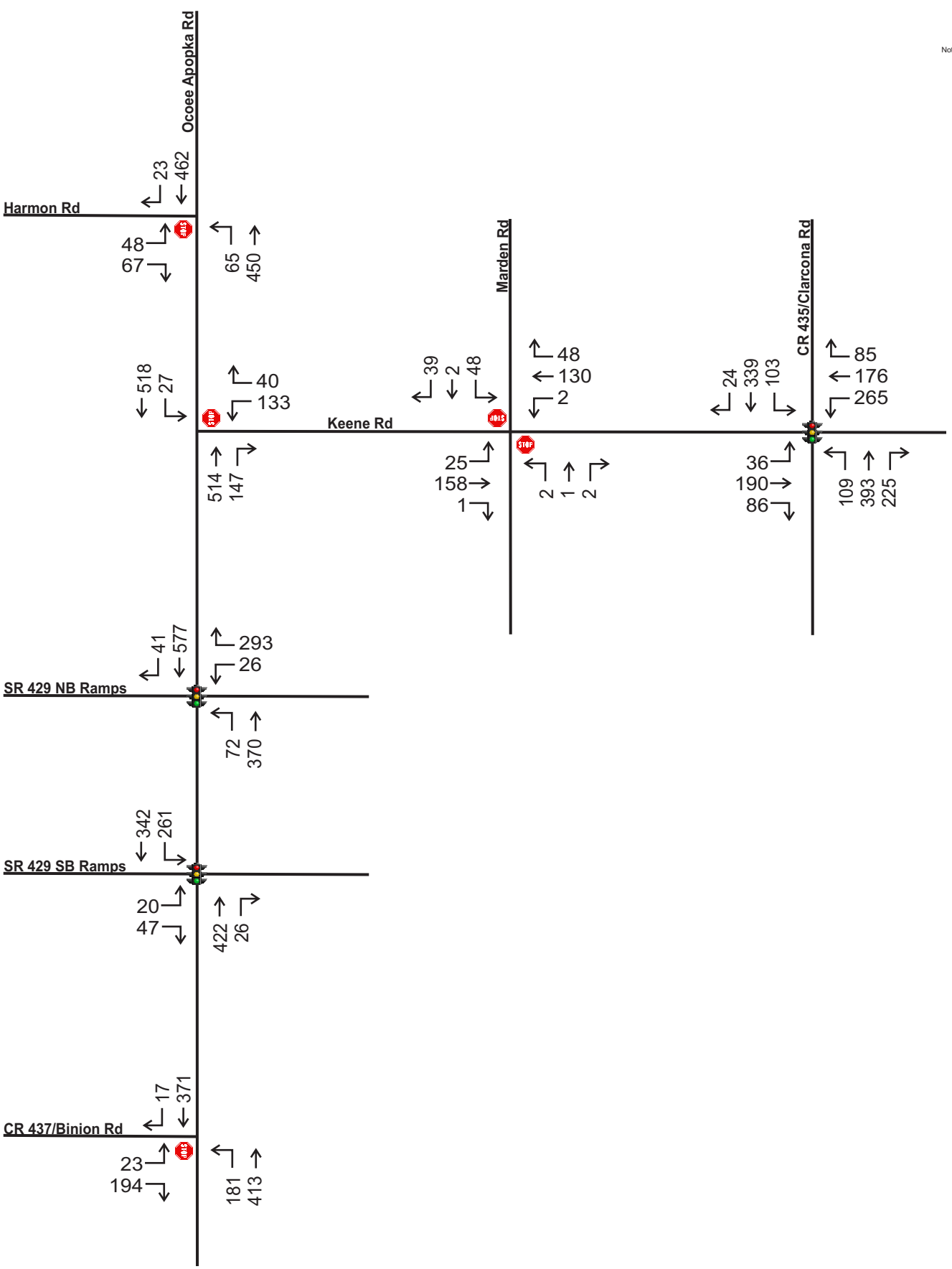
An intersection analysis was conducted using *Synchro* software and the methods of the *Highway Capacity Manual (HCM), 6th Edition*. The capacity analysis was performed using the existing intersection geometries and traffic volumes during the AM and PM peak hour. Existing turning movement counts were collected during the peak season; since the peak seasonal factor is 1.00, no seasonal adjustment was applied. The raw intersection volume counts and *2021 Peak Season Factor Category Report* for Orange County (obtained from *Florida Traffic Online (FTO) website*) are provided in **Appendix D**. The existing intersection volumes are displayed in **Figure 2**.

A summary of the intersection capacity analysis is presented in **Table 2**, which reveals that all study intersections are currently operating overall at adequate Level of Service (LOS), except for the stop-controlled intersection of Ocoee Apopka Road and Keene Road, which is experiencing delays on the westbound approach during the PM peak hour. Detailed analysis worksheets and signal timings are included in **Appendix E**.

Table 2
Existing Intersection Capacity Analysis

Intersection	Control	EB		WB		NB		SB		Overall	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Binion Road & Ocoee Apopka Rd	TWSC	19.7	C	--	--	8.8	A	--	--	--	--
Ocoee Apopka Rd & SR 429 SB Ramps	Signal	34.9	C	--	--	12.5	B	4.9	A	9.1	A
Ocoee Apopka Rd & SR 429 NB Ramps	Signal	--	--	43.2	D	3.5	A	12.5	B	9.5	A
Ocoee Apopka Rd & Keene Rd	TWSC	--	--	74.0	F	--	--	9.2	A	--	--
Ocoee Apopka Rd & Harmon Rd	TWSC	18.8	C	--	--	8.7	A	--	--	--	--
Keene Rd & Marden Rd	TWSC	7.7	A	7.6	A	11.0	B	11.4	B	--	--
Keene Rd & Clarcona Rd	Signal	57.9	E	51.7	D	26.3	C	26.8	C	38.4	D

Delay Expressed in seconds



Existing Peak Hour Intersection Volumes
Shoppes at East Shore
22057, v2.1

Figure 2

4.0 PROJECT TRAFFIC

4.1 Trip Generation

The trip generation of the proposed development was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition* and *Trip Generation Handbook, 3rd Edition*. The trip generation for the project is summarized in **Table 3** and the ITE information sheets are provided in **Appendix F**.

Table 3
Trip Generation Analysis

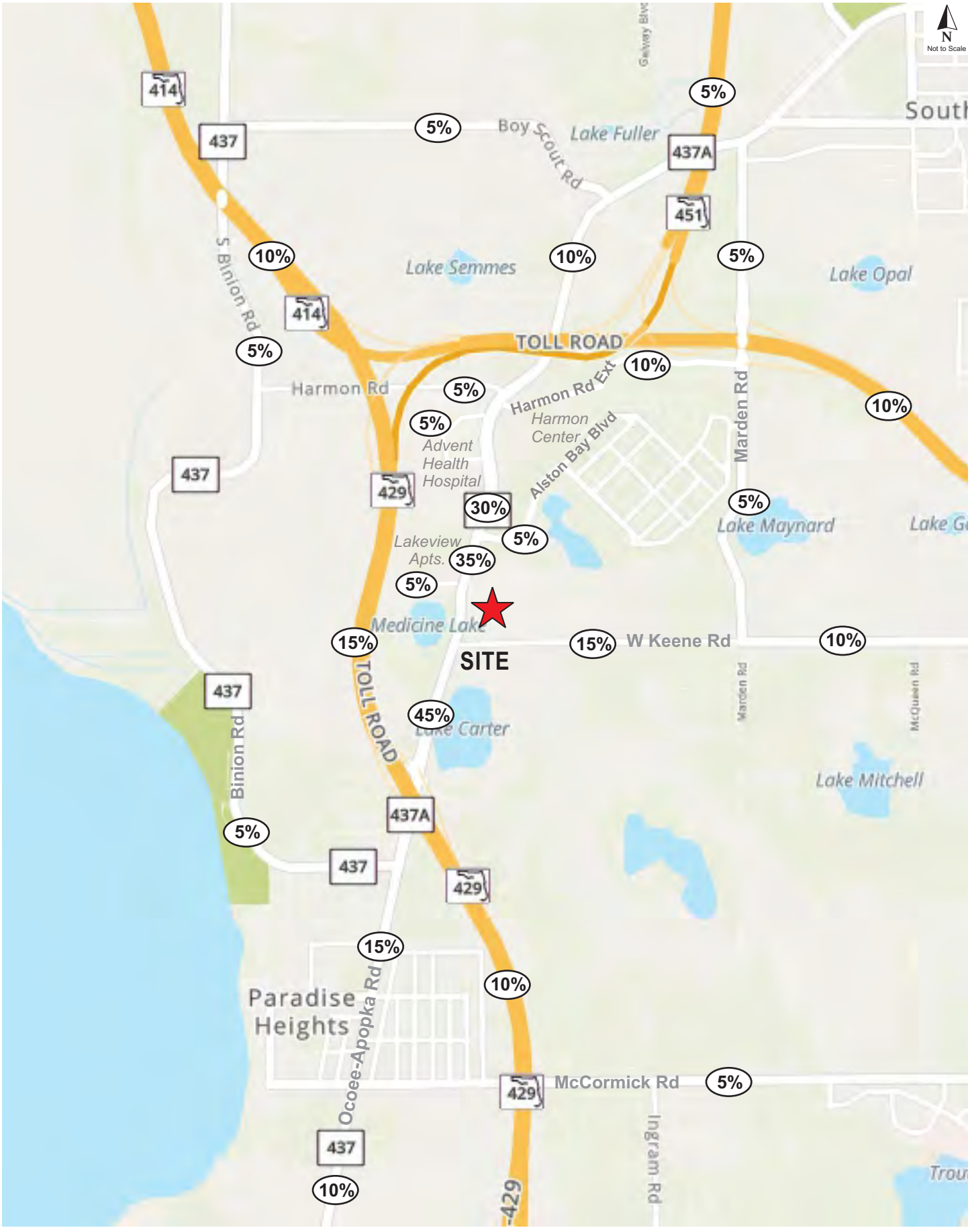
ITE Code	Land Use	Size	Daily		PM Peak Hour			
			Rate	Trips	Rate	Total	Enter	Exit
252	Senior Adult Housing - Multifamily	224 DU	3.00	672	0.25	56	31	25
720	Medical Office	4.200 KSF	17.25	72	3.32	14	4	10
821	Shopping Plaza	63.000 KSF	94.49	5,953	9.03	569	273	296
934	Fast-Food Restaurant w/Drive-Through Window	3.000 KSF	467.48	1,402	33.03	99	51	48
937	Coffee Shop w/Drive-Through Window	3.000 KSF	533.37	1,601	38.99	117	58	59
945	Convenience/Gas Station	16 VFP	265.12	4,242	18.42	295	147	148
	Total Trip Generation			13,942		1,150	564	586
	Pass-by Retail 821 (34%)			2,024		193	93	101
	Pass-by Fast-Food Restaurant (50%)			701		50	26	24
	Pass-by Coffee Shop (89%)			1,425		104	52	52
	Pass-by Gas Station (56%)			2,376		165	82	83
	Net New External Trips			**7,417**		**638**	**312**	**326**

Source: Trip generation analysis based on ITE Trip Generation Manual, 11th Edition
Pass-By rate based on ITE Trip Generation Manual, 3rd Edition
VFP: Vehicle Fuel Positions

The proposed development is projected to generate 7,417 net new trips per day, of which 638 trips occur during the PM peak hour.

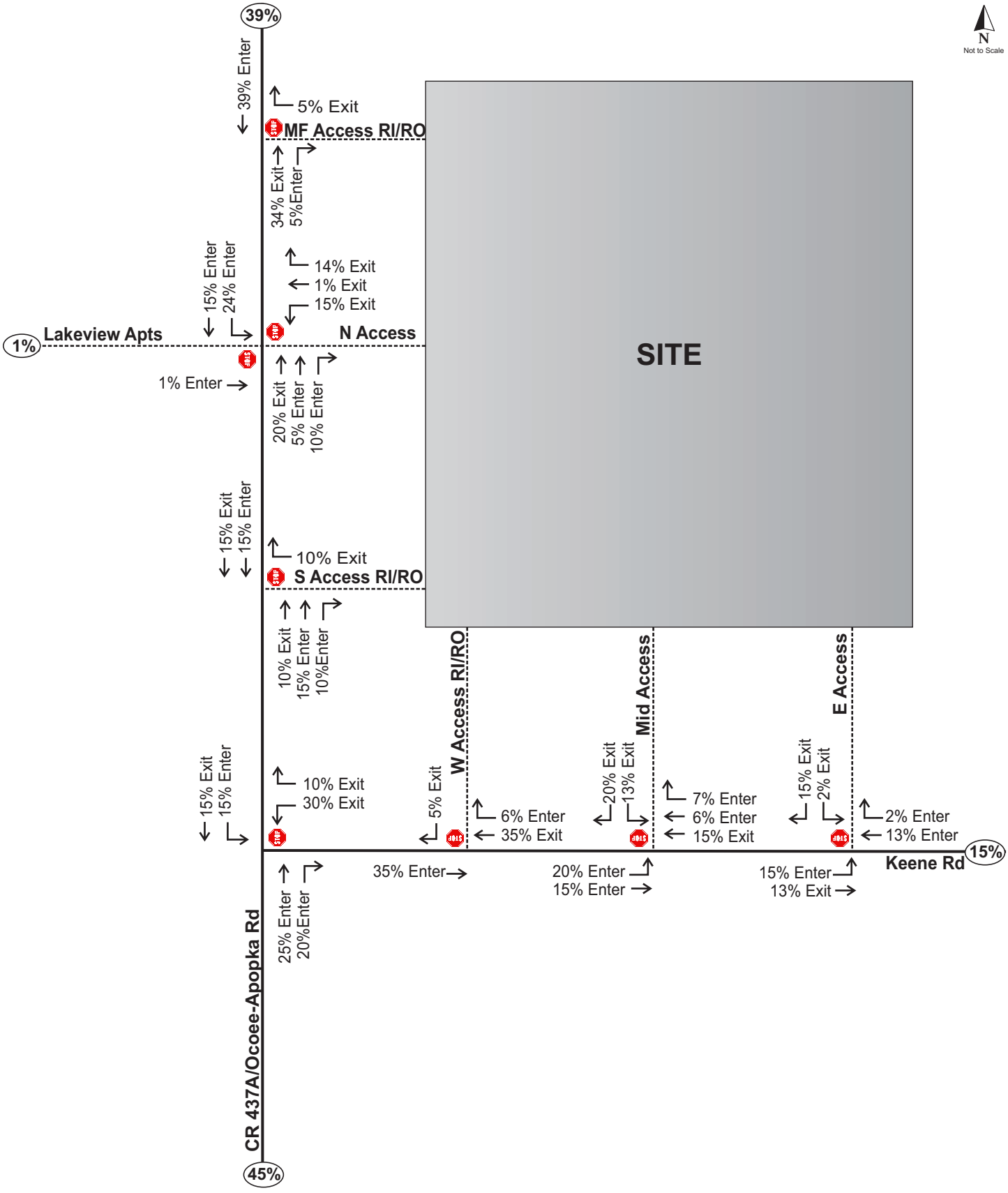
4.2 Trip Distribution/Assignment

The project trip distribution was estimated based on *the Central Florida Regional Planning Model version 7 (CFRPM7 Cost Feasible 2025)* and was slightly modified to reflect prevailing patterns in the vicinity of the site. Surrounding approved developments were added to the model network, such as Lakeview Apartments and Harmon Center. The adjacent proposed apartment complex located north of the property was also added to the model. The model output is included in **Appendix G.** The final trip distribution pattern is presented in **Figure 3** and project trip assignment for the access driveways is shown in **Figure 4**.



Project Trip Distribution
Shoppes at East Shore
22057, v2.1

Figure 3



Access Driveways Project Trip Assignment
Shoppes at East Shore
22057, v2.1

Figure 4

5.0 PROJECTED CONDITIONS ANALYSIS

5.1 Traffic Projection

Projected traffic conditions for buildout year 2025 were analyzed for daily and peak hour traffic. The analysis was conducted for the projected background traffic volumes and project trips. Background traffic consists of existing traffic and committed trips (E+C), from approved developments in the area, which were obtained from the City of Apopka *2020 Encumbered Traffic Allocation Worksheets*. The total allocated committed trips from projects that are already built were not included in the analysis, such as Marden Ridge Apartments, Greystone Skilled Nursing Facility, Emerson North Townhomes, Central Florida Prep School and Oakmont Industrial Facility. Additionally, trips from two (2) surrounding proposed projects (Lakeview Apartments and Harmon Center) were added to the background traffic as vested trips.

5.2 Roadway Improvements

The *MetroPlan Orlando Transportation Improvements Plan*, and the Orange County and City of Apopka *Capital Improvement Plans (CIP)* were reviewed. Harmon Road is programmed to be extended as a new 2-lane roadway from Ocoee Apopka Road to the existing Harmon Road. Construction is programmed to begin in 2022. The roadway improvement includes a traffic signal at the intersection of Ocoee Apopka Road and Harmon Road. An excerpt of the *City of Apopka CIP* is included in **Appendix H**. The City of Apopka confirmed that the intersections of Binion Road and Ocoee Apopka Road, Ocoee Apopka Road and Keene Road, and Keene Road and Marden Road are projected to have traffic signals installed. Therefore, they were analyzed as signalized intersections in the projected conditions.

5.3 Roadway Segment Capacity

The roadway segment analysis was performed by comparing the projected LOS of the roadway with the adopted LOS standard. The projected conditions analysis is summarized in **Table 4**, which reveals that all study segments are projected to continue to operate within adopted LOS at project buildout.

Table 4
Projected Roadway Capacity Analysis

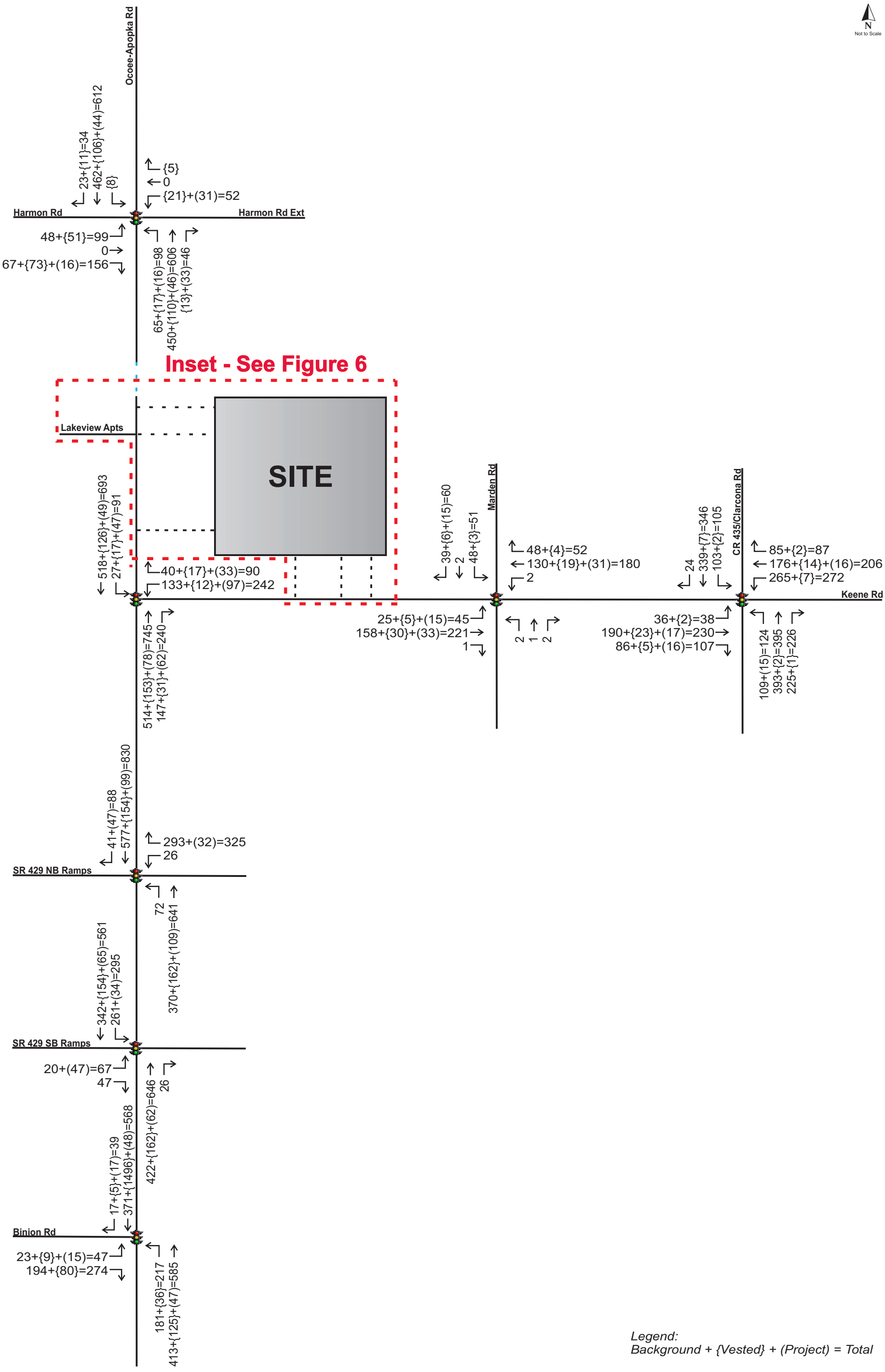
Roadway Segment	No Lns	LOS Std	Daily							PM Peak Hour							
			Capacity	Volume	Comm Trips	Trip Distr	Project Trips	Total	LOS	Capacity	Volume	Peak Dir	Comm Trips	Proj Dir	Project Trips	Total	LOS
Ocoee Apopka Rd																	
Binion Rd to SR 429	2	E	17,700	13,440	1,719	20%	1,483	15,159	C	880	616	NB/EB	119	IN	62	735	C
SR 429 to Keene Rd*	2	E	17,700	14,641	2,220	45%	3,337	16,861	D	880	670	NB/EB	141	IN	140	811	C
Keene Rd to Harmon Rd	2	E	17,700	10,919	1,514	40%	2,967	12,433	C	880	474	NB/EB	93	OUT	130	567	C
Harmon Rd to Boy Scout Rd	2	E	17,700	10,919	1,419	15%	1,112	12,338	C	880	474	NB/EB	65	OUT	49	539	C
Harmon Rd																	
Binion Rd to Ocoee Apopka Rd	2	E	15,900	1,973	2,220	5%	371	4,193	C	790	99	NB/EB	111	IN	16	210	C
Keene Rd																	
Ocoee Apopka Rd to Marden Rd	2	E	15,900	5,330	621	15%	1,112	5,951	C	790	297	NB/EB	22	OUT	49	319	C
Marden Rd to Clarcona Rd	2	E	15,900	5,576	349	10%	742	5,925	C	790	293	NB/EB	19	OUT	33	312	C
Marden Rd																	
Ocoee Apopka Rd to SR 414	2	E	14,000	6,492	165	5%	371	6,657	D	720	284	NB/EB	6	OUT	16	290	C
SR 414 to Keene Rd	2	E	14,000	6,492	17	5%	371	6,509	C	720	260	NB/EB	1	OUT	16	261	C

Source: Apopka 2020 CMS

** Existing Volumes collected by TMC*

5.4 Intersection Capacity

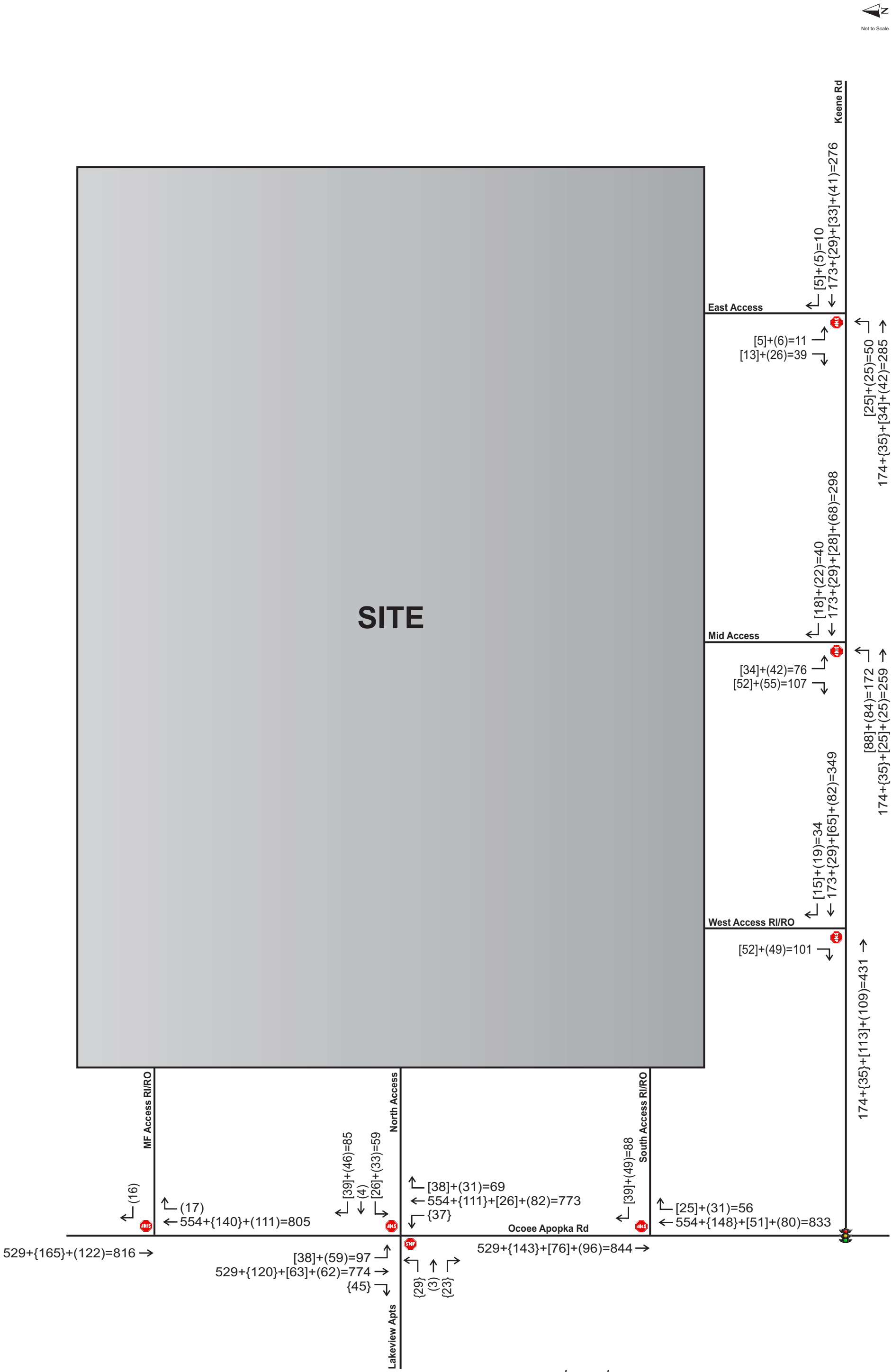
To assess the projected operating conditions at the study intersections, an intersection capacity analysis was conducted using projected traffic volumes. Committed trips were estimated by assigning the segment peak hour peak direction committed trips to the intersection turning movements obtained from the *City of Apopka* 2020 *Encumbered Traffic Allocation Worksheets*. Additionally, trips from the Lakeview Apartments and the Harmon Center developments were added to the background traffic as vested trips. The off peak directional vested trips were calculated using the D factors obtained from the *City of Apopka 2020 Traffic Count Program Peak Hour/Direction Level of Service* worksheets, included in **Appendix C**. The pass-by trips were added to the analysis of the access driveways intersections. The results of the intersection analysis at project buildout are summarized in **Table 5.** The calculations of the background and projected volumes, pass-by trips and vested trips are included in **Appendix I**. Detailed worksheets are included in **Appendix J**. The projected turning movement volumes for PM peak hours are illustrated in **Figure 5**. The PM peak hour projected driveway turning movement volumes are illustrated in **Figure 6**.



Legend:
Background + {Vested} + (Project) = Total

Projected PM Peak Hour Intersection Volumes
Shoppes at East Shore
22057, v2.1

Figure
5



Projected Driveway Peak Hour Intersection Volumes
Shoppes at East Shore
22057, v2.1

Figure 6

Table 5
Projected Intersection Capacity Analysis

Intersection	Control	EB		WB		NB		SB		Overall	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Binion Road & Ocoee Apopka Rd	Signal	23.5	C	--	--	9.1	A	6.7	A	10.9	B
Ocoee Apopka Rd & SR 429 SB Ramps	Signal	35.5	D	--	--	19.2	B	8.8	A	14.6	B
Ocoee Apopka Rd & SR 429 NB Ramps	Signal	--	--	43.2	D	5.0	A	19.3	B	13.2	B
Ocoee Apopka Rd & Keene Rd	Signal	--	--	52.0	D	35.5	D	11.6	B	29.1	C
Ocoee Apopka Rd & Harmon Rd	Signal	28.1	C	26.4	C	18.3	B	17.2	B	19.2	B
Keene Rd & Marden Rd	Signal	21.3	C	26.2	C	16.4	B	11.9	B	21.5	C
Keene Rd & Clarcona Rd	Signal	70.9	E	56.3	E	28.8	C	29.8	C	43.5	D
Ocoee Apopka Rd & Multifamily Access (RI/RO)	TWSC	--	--	15.4	C	--	--	--	--	--	--
Ocoee Apopka Rd & North Access	TWSC	45.0	E	37.8	E	9.9	A	10.4	B	--	--
Ocoee Apopka Rd & South Access (RI/RO)	TWSC	--	--	19.1	C	--	--	--	--	--	--
Keene Rd & West Access (RI/RO)	TWSC	--	--	--	--	--	--	10.9	B	--	--
Keene Rd & Mid Access	TWSC	8.5	A	--	--	--	--	22.0	C	--	--
Keene Rd & East Access	TWSC	8.0	A	--	--	--	--	11.4	B	--	--

Delay Expressed in seconds

The results of the projected intersection capacity analysis reveal the following:

- The signalized intersection of Ocoee Apopka Road and SR 429 northbound and southbound ramps are projected to continue to operate at overall adequate LOS.
- With signalization, the intersections of Binion Road and Ocoee Apopka Road, Ocoee Apopka Road and Keene Road, Ocoee Apopka Road and Harmon Road, and Keene Road and Marden Road are projected to operate at adequate LOS.
- The intersection of Keene Road and Clarcona Road is projected to operate adequately.
- The project access driveways are projected to operate at adequate LOS.

5.5 Turn Lanes Review

Since the projected intersection analysis included a westbound right turn lane and a southbound left turn lane at the intersection of Ocoee-Apopka Road and Keene Road; a turn lane review was performed to determine the required dimensions of these turn lanes.

Westbound Right Turn Lane on Keene Road

The dimensions of the right turn lane was calculated based on the 95th percentile queue obtained from the projected *HCM* report, included in **Appendix J**, for the intersection of Ocoee-Apopka Road and Keene Road, as follows:

Keene Road:

Right Turn Lane = 95th%ile Queue + 50-foot taper

95th%ile Queue = 12.2 vehicles X 25 feet = 305 feet

Left Turn Lane = 305 + 50 = 355 feet (including a 50-foot taper)

Therefore, the intersection of Ocoee Apopka Road and Keene Road will be provided with a 355-foot westbound right turn deceleration lane.

Southbound Left Turn Lane on Keene Road

The dimensions of the left turn lane was calculated based on the 95th percentile queue obtained from the *HCM* report, included in **Appendix J**, for the intersection of Ocoee-Apopka Road and Keene Road, as follows:

Ocoee Apopka Road:

Left Turn Lane = Deceleration + 95th%ile Queue

Deceleration @ 45 mph speed = 185 feet

95th%ile Queue = 2.9 vehicles X 25 feet = 73 feet, use 75 feet

Left Turn Lane = 185 + 75 = 260 feet (including a 50-foot taper)

Therefore, the intersection of Ocoee Apopka Road and Keene Road will be provided with a 260-foot southbound left turn deceleration lane.

6.0 SITE ACCESS REVIEW

The site is proposed to be served via six (6) access driveways; one (1) full access driveway and two (2) right-in/right-out driveways on Ocoee Apopka Road, and two (2) full access driveways and one (1) right-in/right-out driveway on Keene Road. At the proposed project access locations, Ocoee Apopka Road is currently a 2-lane road with posted speed of 45 mph. Keene Road is currently a 2-lane road with posted speed of 45 mph.

Right Turn Lane Warrants

A review of the right turn lane warrants at the proposed access driveways on Ocoee Apopka Road and Keene Road was conducted to determine if exclusive deceleration lanes are necessary. *Section 5.16.5* of the *City of Apopka Land Development Code (LDC)* requires deceleration turn lanes at project access driveways if the posted speed limit is equals or exceeds 35 mph or if the development will generate 100 or more right-turn movements during the peak hour. The project will assign less than 100 right turn trips entering at each of the six (6) access driveway; however, the applicant is proposing to add right turn deceleration lanes at five (5) of them. Since the east access driveway on Keene Road is projected to have 10 vehicles turning right, a right turn lane will not be added. The review was conducted based on *Exhibit 212-1* of the *Florida Design Manual (FDM)*, included in **Appendix K**. The dimensions of the right turn lanes were calculated based on the requirements of *FDM Exhibit 212.1*, which prescribes a total lane length of 185 feet (including a 50-foot taper) for a speed of 45 mph. Therefore, five (5) of the proposed access driveways; except for the east access driveway, will be improved with 185-foot right turn deceleration lanes.

Left Turn Lane Warrants

Per *City of Apopka LDC*, a left turn deceleration lane is required at the project full access driveways on Ocoee Apopka Road and Keene Road. The dimensions of the left turn lanes were calculated based on the requirements of *FDM Exhibit 212.1* for a design speed limit of 50 mph, as follows:

Ocoee Apopka Road and North Access Driveway:

Left Turn Lane = Deceleration + Queue Storage

Deceleration @ 45 mph speed = 185 feet

Queue length = 2 x 25 x Left Turn Volume (97 veh)/60 = 81 feet, use 85 feet

Left Turn Lane = 185 + 85 = 270 feet (including a 50-foot taper)

Therefore, the proposed north access driveway on Ocoee Apopka Road will be provided with a 270-foot southbound left turn deceleration lane.

Keene Road and Middle Access Driveway:

Left Turn Lane = Deceleration + Queue Storage

Deceleration @ 45 mph speed = 185 feet

Queue length = 2 x 25 x Left Turn Volume (172 veh)/60 = 143 feet, use 145 feet

Left Turn Lane = 185 + 145 = 330 feet (including a 50-foot taper)

Therefore, the proposed middle access driveway on Ocoee Apopka Road will be provided with a 330-foot eastbound left turn deceleration lane.

Keene Road and East Access Driveway:

Left Turn Lane = Deceleration + Queue Storage

Deceleration @ 45 mph speed = 185 feet

Queue length = 2 x 25 x Left Turn Volume (50 veh)/60 = 42 feet, use 50 feet minimum

Left Turn Lane = 185 + 50 = 235 feet (including a 50-foot taper)

Therefore, the proposed access driveway on Ocoee Apopka Road will be provided with a 235-foot eastbound left turn deceleration lane.

7.0 STUDY CONCLUSIONS

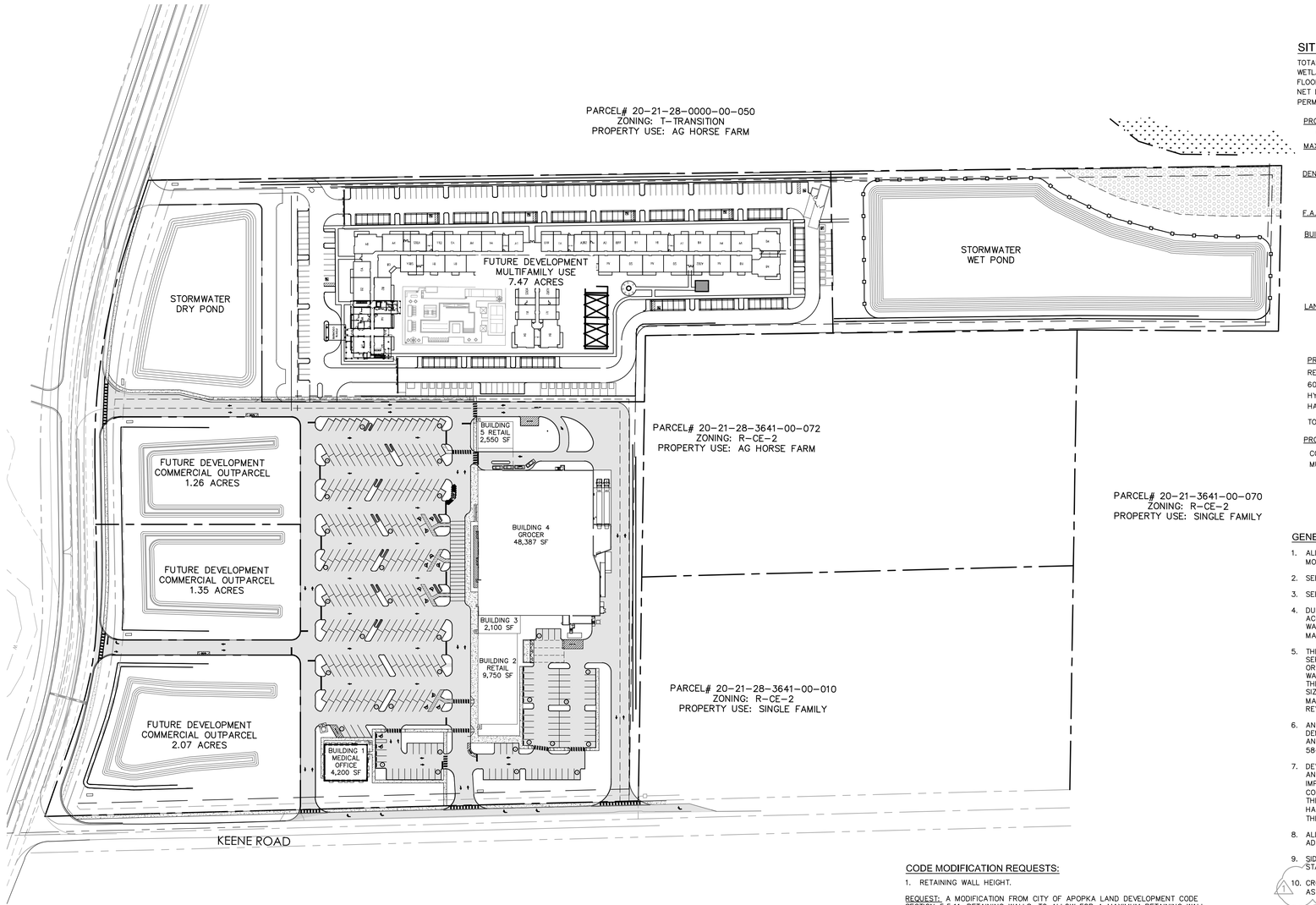
This traffic analysis was performed to assess the impact of the proposed Shoppes at East Shore. The site is on the northeast corner of the intersection of Ocoee Apopka Road and Keene Road in the City of Apopka, Florida. The project is a mixed-use development and consists of 224 senior adult multifamily housing units, a 4,200 square foot medical office, a 63,000 square foot shopping plaza, a 3,000 square foot fast-food restaurant with drive thru, a 3,000 square foot coffee shop with drive through, and a 16-pump convenience store/gas station, with a proposed buildout year of 2025.

The analysis evaluated project impacts to roadway segments and intersections within the site's primary influence area, and included a preliminary access review. The results of the analysis as documented herein are summarized below:

- The proposed development is projected to generate a new daily traffic volume of 7,417 net trips per day, of which 638 trips occur during the PM peak hour.
- Analysis of roadway segment capacity reveals that all study segments currently operate within their adopted capacity and are projected to continue to do so at project buildout.
- The stop-controlled intersection of Ocoee Apopka Road and Keene Road is currently operating with delays on the westbound approach; however, with the proposed signal installation it is projected to operate at adequate LOS.
- The signalized intersections of Ocoee Apopka Road and SR 429 northbound and southbound ramps, Binion Road and Ocoee Apopka Road, Ocoee Apopka Road and Keene Road, Ocoee Apopka Road and Harmon Road, Keene Road and Marden Road, and Clarcona Road and Keene Road are projected to operate at adequate LOS.
- Construct a 355-foot westbound right turn lane and a 260-foot southbound left turn lane at the Ocoee-Apopka Road and Keene Road intersection.
- The six (6) project access driveways are projected to operate adequately.
- Construct a 185-foot right turn lane at the three (3) project access driveways on Ocoee Apopka Road and on the middle and west access driveway on Keene Road.
- Construct a 270-foot southbound, 330-foot eastbound, and 235-foot eastbound left turn lanes at the north, middle, and east project access driveways, respectively.

APPENDICES

Appendix A
Preliminary Site Plan



NORTH

GRAPHIC SCALE IN FEET
0 50 100 200

SITE DATA:

TOTAL SITE AREA:	28.02 AC
WETLAND/SURFACE WATERS:	0 AC
FLOODPLAIN / TREE PRESERVATION ACREAGE:	0.54 AC
NET DEVELOPABLE ACREAGE:	27.48 AC
PERMITTED USES: MATCH ALLOWABLE USES WITHIN MU-ES-GT DISTRICT	
PROPOSED IMPERVIOUS AREA:	
(10.08 AC IMP / 28.02 AC = 0.3597)	10.08 AC (35.97%)
MAXIMUM IMPERVIOUS AREA:	19.61 AC (70%)
DENSITY:	
PROPOSED MULTIFAMILY (FUTURE PHASE-7.47 ACRES)	30 DU/AC
	224 MAX DU
F.A.R.:	1.0 MAX
BUILDING SETBACKS:	
NORTH (SIDE):	10 FEET
SOUTH (SIDE):	10 FEET
EAST (REAR):	15 FEET
WEST (FRONT):	20 FEET
LANDSCAPE BUFFERS:	
NORTH (SIDE):	15 FEET
SOUTH (SIDE):	10 FEET
WEST (FRONT):	15 FEET
PROVIDED PARKING:	
REGULAR SPACES (10'x18'):	89 SPACES
60 DEGREE SPACES (10'x18'):	251 SPACES
HYBRID/ELECTRIC/LOW ENERGY SPACES (10'x18'):	2 SPACES
HANDICAP SPACES (12'X18'):	14 SPACES
TOTAL SPACES PROVIDED	356 SPACES
PROPOSED BUILDING HEIGHTS:	
COMMERCIAL MAXIMUM HEIGHT	45 FEET
MULTI-FAMILY MAXIMUM HEIGHT	65 FEET

FENCES AND WALLS:
SHALL BE IN ACCORDANCE WITH THE CITY OF APOPKA LDC SECTION 5.5 EXCEPT FOR A MAXIMUM WALL HEIGHT OF UP TO 10 FEET IN LOCATIONS SHOWN IN THIS PLAN

EXTERIOR LIGHTING:
SHALL BE IN ACCORDANCE WITH THE CITY OF APOPKA LDC SECTION 5.6.

SIGNS:
SHALL BE IN ACCORDANCE WITH MASTER SIGN PLAN AND THE CITY OF APOPKA LDC SECTION 5.10.

NOTES:

1. ALL CURB DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.

UTILITY SERVICE:
CITY OF APOPKA IS THE PROVIDER FOR POTABLE WATER AND SEWER SERVICES.

PRIOR TO CONSTRUCTION PLAN APPROVAL, HYDRAULIC CALCULATIONS WILL BE SUBMITTED SHOWING THAT THE PROPOSED WATER, WASTEWATER AND, RECLAIMED WATER SYSTEMS HAVE BEEN SIZED TO SUPPORT THE ENTIRE PROJECT.

STORMWATER MANAGEMENT:
STORMWATER MANAGEMENT SYSTEM WILL BE DESIGNED TO MEET CITY OF APOPKA AND THE REQUIREMENTS OF THE LOCAL WATER MANAGEMENT DISTRICT.

SITE LIGHTING:
ALL EXTERIOR SITE LIGHTING SHALL COMPLY WITH SECTION 5.6 OF THE CITY OF APOPKA LAND DEVELOPMENT CODE AND ALL CURRENT APPLICABLE CITY OF APOPKA STANDARDS.

LANDSCAPING:
ALL LANDSCAPING SHALL MEET OR EXCEED THE REQUIREMENTS OF SECTION 5.2 OF THE CITY OF APOPKA LAND DEVELOPMENT CODE. SEE LANDSCAPE PLANS FOR ADDITIONAL INFORMATION.

FIRE PROTECTION:
FIRE HYDRANTS SHALL BE INSTALLED SO THE DESIGN AND CALCULATIONS MEET THE REQUIREMENTS OF FFPC 6TH EDITION (NFPA 1 AND 101 2015 EDITION).

VERTICAL DATUM:
VERTICAL INFORMATION BASED ON: BENCHMARK A1571007 HAVING A PUBLISHED ELEVATION OF 75.348.

GENERAL NOTES:

1. ALL CONSTRUCTION DETAILS ARE CONCEPTUAL AND SUBJECT TO REVIEW AND MODIFICATION DURING THE APPROVAL OF CONSTRUCTION SITE PLANS (CSP).
2. SEE SHEET MDP4.0-MDP4.4 FOR DRAINAGE AND GRADING DETAILS.
3. SEE SHEETS MDP5.1-MDP5.4 FOR WATER AND SEWER DETAILS.
4. DURING CONSTRUCTION, WHEN COMBUSTIBLES ARE BROUGHT ON TO THE SITE, ACCESS ROADS AND A SUITABLE TEMPORARY OR PERMANENT SUPPLY OF WATER ACCEPTABLE TO THE FIRE DEPARTMENT SHALL BE PROVIDED AND MAINTAINED PER CHAPTER 16, NFPA 1 2012 EDITION (FFPC 5TH EDITION).
5. THE DEVELOPER SHALL OBTAIN WATER, RECLAIMED WATER, AND WASTEWATER SERVICE FROM CITY OF APOPKA. CITY OF APOPKA WILL NOT OWN, OPERATE OR MAINTAIN THE ON-SITE PRIVATE WATER, RECLAIMED WATER OR WASTEWATER SYSTEMS. FIRE FLOWS AND HYDRANT INFORMATION SHOWN ON THE PLANS SHALL BE COORDINATED WITH CITY OF APOPKA FIRE RESCUE. THE SIZE, LOCATION AND POINTS OF CONNECTION FOR WATER AND WASTEWATER MAINS SHALL BE FINALIZED AT TIME OF CONSTRUCTION SITE PLANS (CSP) REVIEW.
6. ANY MISCELLANEOUS GARBAGE, WASTE AND CONSTRUCTION DEBRIS OR DEMOLITION DEBRIS, OR WASTE MATERIAL FOUND ON SITE DURING CLEARING AND GRADING SHALL BE PROPERLY DISPOSED OF OFF-SITE ACCORDING SECTION 58-25(D) OF THE CITY OF APOPKA CODE OF ORDINANCE.
7. DEVELOPMENT OF THE SUBJECT PROPERTY SHALL COMPLY WITH ALL STATE AND FEDERAL REGULATIONS REGARDING WILDLIFE AND PLANTS LISTED AS IMPERILED SPECIES (ENDANGERED, THREATENED, OR SPECIES OF SPECIAL CONCERN). THE APPLICANT IS RESPONSIBLE TO DETERMINE THE PRESENCE OF THESE CONCERN AND TO VERIFY AND OBTAIN, IF NECESSARY, ANY REQUIRED HABITAT PERMITTING OF THE U.S. FISH AND WILDLIFE SERVICE (USFWS) AND THE FLORIDA FISH & WILDLIFE CONSERVATION COMMISSION (FWC).
8. ALL CURB RAMPS AND SIDEWALKS AT PROJECT ENTRANCES WILL BE FDOT AND ADA COMPLIANT, WHERE REQUIRED.
9. SIDEWALK CURB RAMPS WILL BE DESIGNED AS DIRECTIONAL PER FDOT STANDARD PLANS INDEX 522-002.
10. (1) CROSSWALKS WILL BE REQUIRED BETWEEN THE PARKING LOT AND OUTPARCELS AS EACH PARCEL IS DEVELOPED/UNDERGOING DEVELOPMENT REVIEW.

CODE MODIFICATION REQUESTS:

1. RETAINING WALL HEIGHT.

REQUEST: A MODIFICATION FROM CITY OF APOPKA LAND DEVELOPMENT CODE SECTION 5.5.11-RETAINING WALLS, TO ALLOW FOR A MAXIMUM RETAINING WALL HEIGHT OF 10 FEET LOCATED ON THE EAST (REAR) PROPERTY LINE.

JUSTIFICATION: THE SUBJECT PROPERTY IS RESTRAINED BY ACCESS POINTS ALONG OCOEE-APOPKA ROAD AND KEENE ROAD, WHICH RESULT IN SIGNIFICANT ELEVATION CHANGE ACROSS THE DEVELOPMENT. A 10 FOOT RETAINING WALL ALONG THE REAR BOUNDARY WOULD ALLOW FOR A SMALLER REDUCTION IN DEVELOPABLE SITE AREA, WHILE STILL MEETING THE INTENT OF THE CODE, WHICH IS TO PREVENT RETAINING WALLS THAT ARE OUT OF SCALE FOR THE TYPICAL FLORIDA LANDSCAPE. THE PROPOSED WALL IS LOCATED IN THE REAR OF THE GROCER AND RETAIL CENTER, OUT OF VIEW FROM PEDESTRIANS AND IS RETAINING AGAINST THE ADJACENT RESIDENTIAL PROPERTY.

2. MULTI-FAMILY BUILDING HEIGHT

REQUEST: A MODIFICATION FROM CITY OF APOPKA'S MU-ES-GT SUBDISTRICT, SECTION 3.6.7, TO ALLOW FOR A MAXIMUM MULTI-FAMILY BUILDING HEIGHT OF 65 FEET.

JUSTIFICATION: MARKET DEMANDS REQUIRE AN INCREASED FOCUS ON MULTI-FAMILY AMENITIES AND ACTIVE SPACE, WHICH RESULT IN A REDUCTION IN AVAILABLE FOOTPRINT FOR DWELLING UNITS. WHEN CONFINED TO A LIMITED ACREAGE, RAISING THE MAXIMUM BUILDING HEIGHT WILL ALLOW FOR THE UNIT DEMANDS TO BE MET, WHILE PROVIDING THE AMENITIES THAT TENANTS REQUIRE AND ENJOY.

GREEN BUILDING STANDARDS (*)

(1)

MINIMUM GREEN POINTS REQUIRED

FOR RESIDENTIAL DEVELOPMENTS 30 OR MORE UNITS	4 POINTS
DEVELOPMENT IN THE MU-D: DOWNTOWN-MIXED-USE OR MU-ES: MIXED-USE-EAST SHORE DISTRICTS	1.0 POINTS
ELEVATE NEW AND/OR EXISTING STRUCTURES MORE THAN 3 FEET ABOVE BASE FLOOD ELEVATION (BFE). [110 FF ELEVATION - (70.1 BFE + 3)] 36.9 0.5/FOOT ABOVE BFE	18.45 POINTS
GREEN POINTS REQUIRED:	4 POINTS
GREEN POINTS PROVIDED:	19.45 POINTS

(*) DEVELOPER SHALL BE PERMITTED TO USE ALTERNATIVE GREEN BUILDING STANDARDS AND/OR ADDITIONAL GREEN BUILDING STANDARDS TO COMPLY WITH LDC SECTION 5.11, TO BE FINALIZED DURING THE CONSTRUCTION PLAN APPROVAL PROCESS.

PURPOSE OF THE PLANNED DEVELOPMENT (PD) ZONING DISTRICT STATEMENT:
THE PROPOSED PD ALLOWS FOR A UNIQUE AND THOUGHTFUL DEVELOPMENT OF MIXED-USE EAST SHORE-GATEWAY SUBDISTRICT COMPATIBLE USES. THE PD PROVIDES FOR BOTH INTERNAL AND EXTERNAL PEDESTRIAN CONNECTIONS TO ON-SITE AMENITIES AND SURROUNDING FUTURE DEVELOPMENT AREAS.

LEGEND

- PROPERTY LINE
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CONCRETE PAVEMENT
- TREE PRESERVATION AREA
- WETLANDS
- PROPOSED FENCE
- EXISTING WETLAND BOUNDARY
- EXISTING FEMA FLOOD PLAIN
- (X) PARKING COUNT

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

No.	REVISIONS	DATE	BY
1	MASTER PLAN REVIEW COMMENTS REVISIONS	07-27-2022	MW

Kimley»Horn
© 2022 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

LORDAN DRAPER PROFESSIONAL ENGINEER LICENSE NUMBER 84777 STATE OF FLORIDA
07/27/2022

KHA PROJECT 049335015
DATE 07/05/2022
SCALE AS SHOWN
DESIGNED BY MWW
DRAWN BY MWW
CHECKED BY LJD

OVERALL SITE PLAN

THE SHOPPES AT EAST SHORE

CITY OF APOPKA FLORIDA

SHEET NUMBER
MDP3.0

Drawing name: K:\ORL_Civil\049335015-Keene Rd\CADD\CONST\Master Plan\PlanSheets\MP3.0 - SITE PLAN.dwg MDP3.0 OVERALL SITE PLAN Aug 17, 2022 1:18pm by: Joshua.Conrad
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc

Appendix B
Traffic Impact Analysis Methodology

MEMORANDUM

July 14, 2022

Re: Shoppes at East Shore (Apopka Publix)
Traffic Impact Analysis Methodology - Revised
City of Apopka, Florida
Project № 22057

The following revised methodology outlines the Traffic Impact Analysis (TIA) for the above referenced project. The methodology has been prepared in accordance with requirements and guidelines of City of Apopka for a TIA. It addresses the request from the City of Apopka to add 2 more intersections to the analysis.

Project Description

The proposed project is a mixed-use development, including a 48,387 square foot (SF) supermarket, 12,300 SF of strip retail plaza, 4,200 SF medical office, 2,100 SF liquor store, 3,000 SF fast-food restaurant with drive through window, 3,000 SF coffee shop with a drive-through window, and a convenience store with gas station with 16 vehicle fueling positions (VFP). The anticipated buildout year is 2025. A copy of the preliminary site plan is provided in the **Attachments**.

Project Location

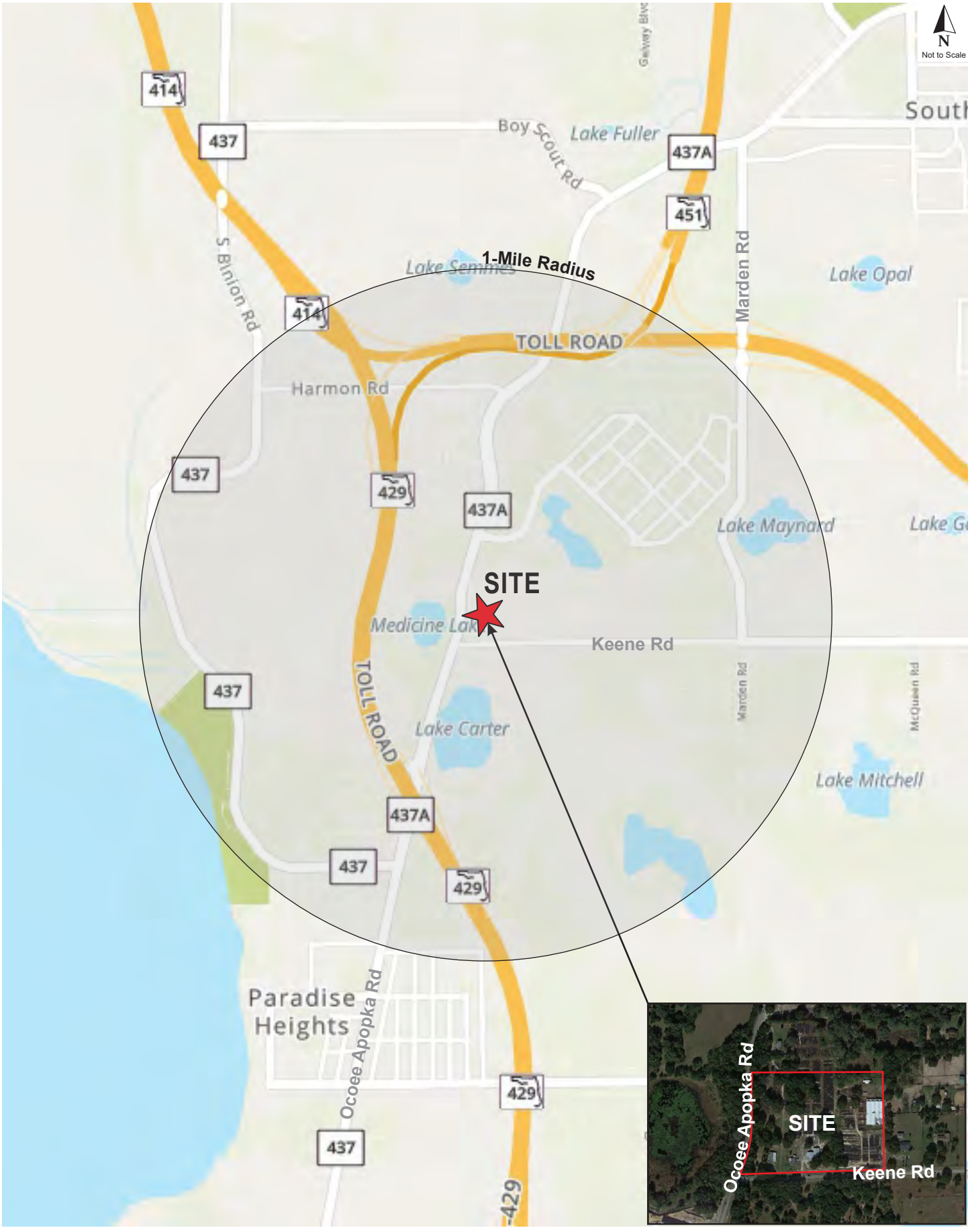
The project site consists of parcels 20-21-28-0000-00- 021, 20-21-28-0000-00-024 and 20-21-28-0000-00-025. The +/-13.12-acre site is located on the northeast corner of Ocoee Apopka Road and Keene Road in City of Apopka, Florida, as depicted in **Figure 1**.

Project Access

Access to the site is proposed via five (5) access driveways, as shown on the site plan included in the **Attachments**. Two (2) access driveways, one (1) full access and one (1) right-in/right-out (RI/RO) are on Ocoee Apopka Road, and three (3) access driveways, two (2) full access and one (1) RI/RO are on Keene Road.

Trip Generation

The trip generation analysis was conducted using information published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual, 11th Edition* and *Trip Generation Handbook, 3rd Edition.* **Table 1** summarizes the resulting trip generation analysis. The ITE trip generation information and pass-by data sheets are included in the **Attachments**.



TMC Traffic & Mobility Consultants

Site Location Map
Shoppes at East Shore (Apopka Publix)
22057

Figure
1

Table 1
Trip Generation

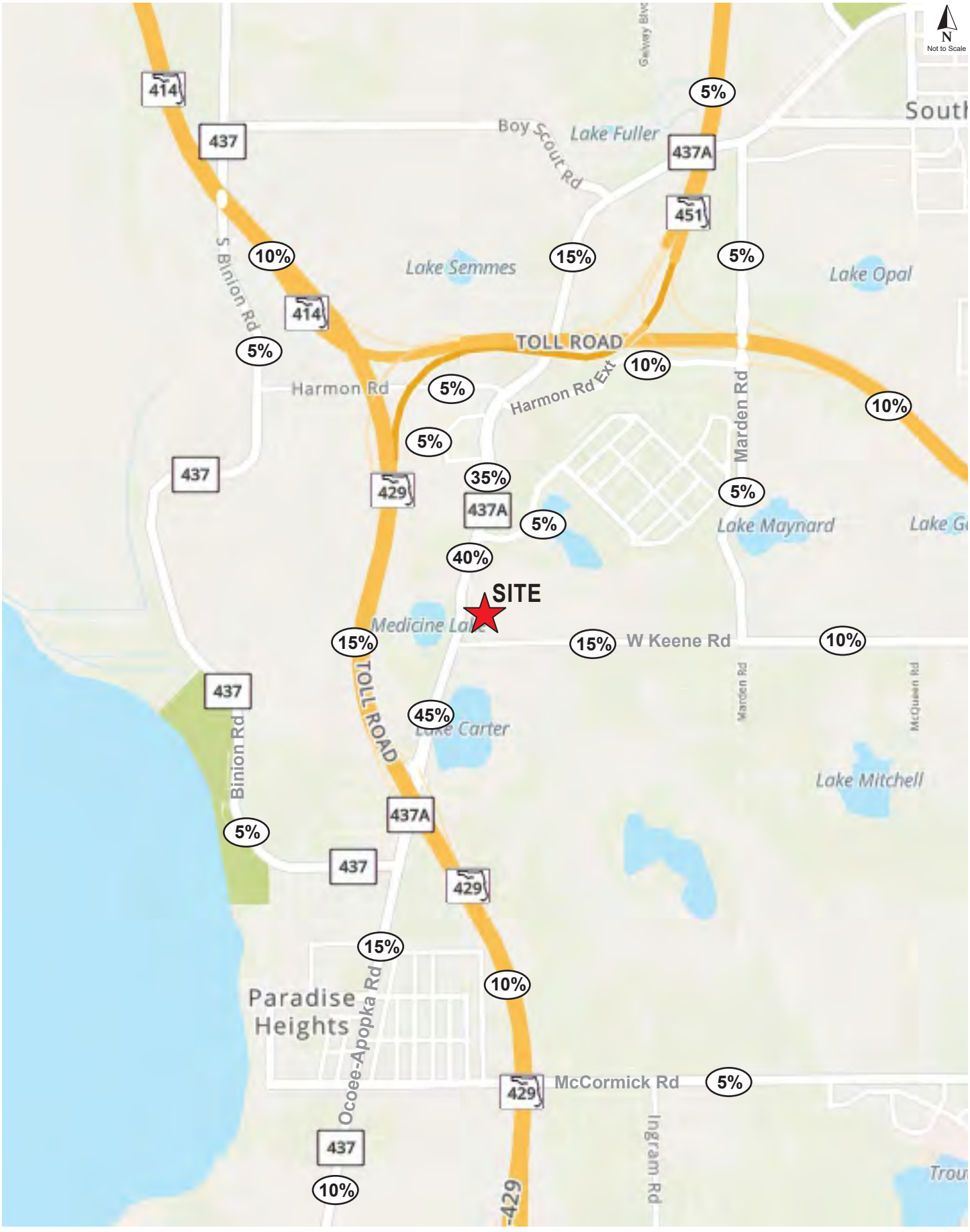
ITE Code	Land Use	Size	Daily		PM Peak Hour			
			Rate	Trips	Rate	Total	Enter	Exit
720	Medical Office	4.200 KSF	17.25	72	3.32	14	4	10
821	Shopping Plaza	63.000 KSF	94.49	5,953	9.03	569	273	296
934	Fast-Food Restaurant w/Drive-Through Window	3.000 KSF	467.48	1,402	33.03	99	51	48
937	Coffee Shop w/Drive-Through Window	3.000 KSF	533.37	1,601	38.99	117	58	59
945	Convenience/Gas Station	16 VFP	265.12	4,242	18.42	295	147	148
		Total Trip Generation		13,270		1,094	533	561
		Pass-by Retail 821 (34%)		2,024		193	93	101
		Pass-by Fast-Food Restaurant (50%)		701		50	26	24
		Pass-by Coffee Shop (89%)		1,425		104	52	52
		Pass-by Gas Station (56%)		2,376		165	82	83
		Net New External Trips		**6,745**		**582**	**281**	**301**

Source: Trip generation analysis based on ITE Trip Generation Manual, 11th Edition
Pass-By rate based on ITE Trip Generation Manual, 3rd Edition
VFP: Vehicle Fuel Positions

The proposed development is projected to generate 6,745 new net external daily trips of which 582 trips occur during the PM peak hour.

Trip Distribution

The project trip distribution was estimated based on the *Central Florida Regional Planning Model version 7 (CFRPM7 Cost Feasible 2025)*, and was slightly modified to reflect prevailing patterns in the vicinity of the site. Surrounding approved developments were added to the model network, such as Lakeview Apartments and Harmon Center. The adjacent proposed apartment complex located north of the property was also added to the model. The *CFRPM7* model printouts are included in the **Attachments**. The proposed trip distribution pattern is shown in **Figure 2.**



Project Trip Distribution
Shoppes at East Shore (Apopka Publix)
22057

Figure
2

Study Area

The project primary impact area encompasses roadway segments and critical intersections within a one-mile radius of the proposed development. Accordingly, the following roadway segments will be analyzed for the PM peak hour:

- Ocoee-Apopka Road
  - CR 437/Binion Road to SR 429
  - SR 429 to Keene Road
  - Keene Road to Harmon Road
  - Harmon Road to Boy Scout Road
- Harmon Road
  - CR 437/Binion Road to Ocoee-Apopka Road
- Keene Road
  - Ocoee-Apopka Road to Marden Road
  - Marden Road to CR 435/Clarcona Road
- Marden Road
  - Ocoee-Apopka Road to Keene Road

The following intersections will be analyzed for the AM and PM peak hours:

- Ocoee-Apopka Road and SR 429 Ramps (Signalized)
- Ocoee-Apopka Road and Keene Road (Unsignalized)
- Ocoee-Apopka Road and Harmon Road (Signalized)
- Keene Road and Marden Road (Unsignalized)
- CR 437/Binion Road and Ocoee Apopka Road (Unsignalized)
- Keene Road and CR 435/Clarcona Road (Signalized)
- Site Access Driveways (Proposed)

Roadway Improvements

The *MetroPlan Orlando Transportation Improvements Plan*, the Central Florida Expressway Authority (CFX) *Five-Year Work Plan*, and the *Orange County* and *City of Apopka Capital Improvement Plans (CIP)* were reviewed. The review identified the following projects funded for construction:

- Harmon Road Extension; a new 2-lane roadway from Ocoee Apopka Road to the existing Harmon Road.
- SR 429 Corridor Capacity Improvements Project; widening SR 429 to 6-lanes from Tilden Road to SR 414.
- Ocoee-Apopka Road; widening to a 4-lane divided facility from Alston Bay Boulevard to Keene Road (proposed partnership project).

These funded improvements have been added to the model network. Excerpts of the *City of Apopka CIP* and the CFX *SR 429 Corridor Capacity Improvements Project* fact sheet are included in the **Attachments**.

Capacity Analysis

Roadway segment capacity will be analyzed for existing year 2022 and encumbered (vested) PM peak hour traffic and new project trips. Adopted service volumes, capacities, existing volumes and vested trips will be obtained from the City of Apopka *Concurrency Management System (CMS) 2020 Daily and PM Peak Hour/Peak Direction (PH/PD) Encumbered Traffic Allocation Worksheets* and *2020 Traffic Count Program Peak Hour/Direction Level of Service* spreadsheet, included in the **Attachments**. In addition, the study will include any developments committed trips not included in the published data, if provided by the City.

The study intersections will be analyzed for PM peak hour conditions using the methods of the *Highway Capacity Manual (HCM) 6th Edition*. The analysis will be performed for the existing year and project buildout year (2025).

The deceleration turn lanes on the project access driveways will be evaluated based on the City of Apopka's *Land Development Code (LDC)* guidelines.

Report

A traffic report will be prepared for submittal to the City of Apopka summarizing the methods, findings, and recommendations of the analysis.

Appendix C
City of Apopka CMS Data

City of Apopka CMS

2020 Daily and PM Peak Hour/Peak Direction (PH/PD) Encumbered Traffic Allocation Worksheets

Base Traffic Volume: 2020 **FINAL REPORT** **Revision Date: 4/1/2021**

Roadway Section	# of Lanes	Adopted Standard Roadway Capacity LOS	Daily	PHPD	Applicant Inventory	Encumbered Trips Daily	PM PH/PD	Daily Traffic (1) Base Volume	Available Capacity	PM PH/PD Traffic (1) Base Volume	Available Capacity	Peak Direction
Minor Arterials (Continued)												
CR 435 (Rock Spring Road/Park Avenue/Clarcona Road) (Continued)												
Orange St to US 441	5L	E	33,800	1,700				22,501	11,299	994	706	NB/EB
					Development Name	0	0		33.43%		41.55%	
					Applicant Inventory Total	0	0					
US 441 to Michael Gladden Blvd	2L	E	15,600	800				13,948	1,652	619	181	NB/EB
					Development Name	0	0		10.59%		22.60%	
					Applicant Inventory Total	0	0					
Michael Gladden Blvd to Cleveland St	2L	E	15,600	800				10,791	4,735	472	325	NB/EB
					Central Florida Prep School	74	3		30.35%		40.62%	
					Applicant Inventory Total	74	3					
Cleveland St to Keene Rd	2L	E	17,700	880				9,420	8,060	423	446	SB/WB
					Central Florida Prep School	74	2		45.54%		50.63%	
					Silver Oaks	146	9					
					Applicant Inventory Total	220	11					
Keene Rd to McCormick Rd	2L	E	17,700	880				13,481	4,158	628	248	SB/WB
					Silver Oaks	61	4		23.49%		28.24%	
					Applicant Inventory Total	61	4					
CR 437A (Ocoee-Apopka Road/Michael Gladden Boulevard/Central Avenue)												
McCormick Rd to Binion Rd	2L	E	17,700	880				11,687	4,502	683	79	NB/EB
					Carter Island Industrial	69	2		25.43%		9.02%	
					Oak Point PD	449	17					
					Oak Point South (fka, Thompson Hills Estates)	993	99					
					Applicant Inventory Total	1,511	118					
Binion Rd to SR 429	2L	E	17,700	880				13,440	2,541	616	145	NB/EB
					Carter Island Industrial	86	3		14.36%		16.53%	
					Oak Point PD	561	22					
					Oak Point South (fka, Thompson Hills Estates)	880	88					
					Residences at Emerson Park	192	6					
					Applicant Inventory Total	1,719	119					
SR 429 to Keene Rd	2L	E	17,700	880				16,225	-1,439	796	-93	NB/EB
					Carter Island Industrial	206	6		-8.13%		-10.58%	
					Emerson North Townhomes (fka Emerson North Apartments) DONE	~~31~~	~~2~~					
					Greystone Skilled Nursing Facility DONE	~~224~~	~~8~~					
					Marden Ridge Apartments DONE	~~439~~	~~26~~					
					Oak Point PD	898	35					
					Oak Point South (fka, Thompson Hills Estates)	880	88					
					Residences at Emerson Park	236	12					
					Applicant Inventory Total 2,220	~~2,914~~	141 ~~177~~					
Keene Rd to Harmon Rd	2L	E	17,700	880				10,919	4,184	474	250	NB/EB
					Alta East Shore	212	10		23.64%		28.41%	
					Carter Island Industrial	69	5					
					Central Florida Prep School DONE	~~74~~	~~3~~					
					Clearlake Landing	25	1					
					Emerson North Townhomes (fka Emerson North Apartments) DONE	~~7~~	0					
					Emerson Point Apartments DONE	~~153~~	~~9~~					
					Greystone Skilled Nursing Facility DONE	~~373~~	~~13~~					
					Marden Ridge Apartments	263	16					
					Oakmont Industrial Facility DONE	~~213~~	~~22~~					
					Oak Point PD	449	17					
					Oak Point South (fka, Thompson Hills Estates)	427	43					
					Residences at Emerson Park	332	17					
					Applicant Inventory Total 1,514	~~2,597~~	93 ~~156~~					

VESTED TRIPS FROM PROJECTS COMPLETED WERE REMOVED

City of Apopka CMS

2020 Daily and PM Peak Hour/Peak Direction (PH/PD) Encumbered Traffic Allocation Worksheets

Base Traffic Volume: 2020 **FINAL REPORT** **Revision Date: 4/1/2021**

Roadway Section	# of Lanes	Adopted Standard Roadway Capacity LOS	Daily	PHPD	Applicant Inventory	Encumbered Trips Daily	PM PH/PD	Daily Traffic (1) Base Volume	Available Capacity	PM PH/PD Traffic (1) Base Volume	Available Capacity	Peak Direction
Minor Arterials (Continued)												
CR 437A (Ocoee-Apopka Road/Michael Gladden Boulevard/Central Avenue) (Continued)												
Harmon Rd to Boy Scout Rd	2L	E	17,700	880				10,919	4,343	474	269	NB/EB
					Alta East Shore	529	14		24.54%		30.57%	
					Central Florida Prep School DONE	~~149~~	~~3~~					
					Clearlake Landing	25	1					
					Emerson North Townhomes (fka Emerson North Apartments) DONE	~~7~~	0					
					Emerson Point Apartments DONE	~~153~~	~~9~~					
					Greystone Skilled Nursing Facility DONE	~~356~~	~~12~~					
					Marden Ridge Apartments DONE	~~439~~	~~26~~					
					Oakmont Industrial Facility DONE	~~213~~	~~22~~					
					Oak Point South (fka, Thompson Hills Estates)	427	43					
					Residences at Emerson Park	140	7					
					Applicant Inventory Total 1,419	~~2,438~~	65 ~~137~~					
Boy Scout Rd to Bradshaw Rd	2L	E	17,700	880				13,385	2,075	569	169	NB/EB
					Central Florida Prep School	372	11		11.72%		19.18%	
					Clearlake Landing	8	0					
					Emerson North Townhomes (fka Emerson North Apartments)	24	1					
					Emerson Point Apartments	340	19					
					Johns Road Commerce Center	69	10					
					Lakeside (aka Lake Marshall)	578	35					
					Magnolia Commerce Center	5	1					
					Marden Ridge Apartments	527	32					
					Oakmont Industrial Facility	317	33					
					Applicant Inventory Total	2,240	142					
Bradshaw Rd to Central Ave	2L	E	15,600	800				7,518	6,042	355	317	NB/EB
					Central Florida Prep School	149	6		38.73%		39.60%	
					Emerson North Townhomes (fka Emerson North Apartments)	72	4					
					Emerson Point Apartments	952	53					
					Johns Road Commerce Center	23	3					
					Lakeside (aka Lake Marshall)	429	26					
					Magnolia Commerce Center	7	1					
					Marden Ridge Apartments	175	11					
					Oakmont Industrial Facility	233	24					
					Applicant Inventory Total	2,040	128					
Michael Gladden Blvd to US 441	2L	E	15,600	800				4,541	11,059	213	587	NB/EB
					Development Name	0	0		70.89%		73.38%	
					Applicant Inventory Total	0	0					
Lakeville Road												
Apopka Blvd to Wildwood St	2L	E	17,700	880				5,744	11,956	301	579	SB/WB
					Development Name	0	0		67.55%		65.75%	
					Applicant Inventory Total	0	0					
Plymouth-Sorrento Road (CR 437)												
County Line to Kelly Park Rd	2L	E	32,600	1,610				8,833	21,576	587	874	NB/EB
					Bridal Path	1,359	85		66.19%		54.31%	
					Cantero Golden Gem	135	5					
					Kelly Park Commercial (Publix)	518	48					
					Kelly Park Crossings	127	8					
					Orchid Estates (fka J.B. Nurseries)	52	3					
					Applicant Inventory Total	2,191	149					
Kelly Park Rd to Ponkan Rd	2L	E	17,700	880				6,535	8,769	363	315	NB/EB
					Bridal Path	169	11		49.54%		35.75%	
					Cantero Golden Gem	135	5					
					Kelly Park Commercial (Publix)	1,813	168					
					Kelly Park Crossings	190	12					
					Orchid Estates (fka J.B. Nurseries)	89	6					
					Applicant Inventory Total	2,396	202					

VESTED TRIPS FROM PROJECTS COMPLETED WERE REMOVED

City of Apopka CMS

2020 Daily and PM Peak Hour/Peak Direction (PH/PD) Encumbered Traffic Allocation Worksheets

Base Traffic Volume: 2020 **FINAL REPORT** **Revision Date: 4/1/2021**

Roadway Section	# of Lanes	Adopted Standard Roadway Capacity LOS	Daily	PHPD	Applicant Inventory	Encumbered Trips Daily	PM PH/PD	Daily Traffic (1) Base Volume	Available Capacity	PM PH/PD Traffic (1) Base Volume	Available Capacity	Peak Direction
Minor Collectors (Continued)												
Harmon Road												
Ocoee-Apopka Rd to Binion Rd	2L	D	15,900	790				1,973	11,672	99	579	SB/WB
					Alta East Shore	1,586	71		73.41%		73.29%	
					Binion Reserve	42	3					
					Greystone Skilled Nursing Facility DONE	~~35~~	~~1~~					
					Residences at Emerson Park	74	2					
					Vistas at Waters Edge	518	35					
					Applicant Inventory Total 2,220	~~2,255~~	111 ~~112~~					
Hawthorne Avenue												
US 441 to Ocoee-Apopka Rd	2L	D	13,300	680				1,552	11,748	72	608	NB/EB
					Development Name	0	0		88.33%		89.37%	
					Applicant Inventory Total	0	0					
Ocoee-Apopka Rd to 13th St	2L	D	13,300	680				1,593	11,707	75	605	SB/WB
					Development Name	0	0		88.03%		88.91%	
					Applicant Inventory Total	0	0					
Hermit Smith Road												
General Electric Rd to US 441	2L	E	15,900	790				1,380	14,119	119	637	NB/EB
					Hermit Smith - Apopka Warehouse	343	27		88.80%		80.63%	
					Mid-Florida Logistics Park	58	7					
					Applicant Inventory Total	401	34					
US 441 to Yothers Rd	2L	E	15,900	790				2,846	13,054	245	545	NB/EB
					Development Name	0	0		82.10%		68.99%	
					Applicant Inventory Total	0	0					
Hogshead Road												
Hermit Smith Rd to Conrad Rd	2L	E	14,000	720				533	13,462	64	655	NB/EB
					Mid-Florida Logistics Park	5	1		96.16%		90.92%	
					Applicant Inventory Total	5	1					
Jason Dwelley Parkway												
Kelly Park Rd to Ponkan Rd	2L	E	14,000	720				1,777	11,328	92	558	SB/WB
					Kelly Park Commercial (Publix)	466	43		80.91%		77.53%	
					Kelly Park Crossings	190	12					
					Orchid Estates (fka J.B. Nurseries)	239	15					
					Applicant Inventory Total	895	70					
Keene Road												
Ocoee-Apopka Rd to Marden Rd	2L	E	15,900	790				5,330	8,965	297	414	NB/EB
					Carter Island Industrial	69	2		56.39%		52.39%	
					Emerson North Townhomes (fka Emerson North Apartments) DONE	~~36~~	~~2~~					
					Emerson Point Apartments DONE	~~51~~	~~3~~					
					Greystone Skilled Nursing Facility DONE	~~148~~	~~5~~					
					Marden Ridge Apartments DONE	~~702~~	~~42~~					
					Oakmont Industrial Facility DONE	~~47~~	~~5~~					
					Oak Point PD	449	17					
					Residences at Emerson Park	103	3					
					Applicant Inventory Total 621	~~1,605~~	22 ~~79~~					
Marden Rd to Clarcona Rd (CR 435)	2L	E	15,900	790				5,576	9,124	293	426	NB/EB
					Emerson North Townhomes (fka Emerson North Apartments) DONE	~~96~~	~~6~~		57.39%		53.87%	
					Emerson Point Apartments DONE	~~357~~	~~20~~					
					Marden Ridge Apartments DONE	~~351~~	~~21~~					
					Oakmont Industrial Facility DONE	~~47~~	~~5~~					
					Residences at Emerson Park	251	13					
					Silver Oaks	98	6					
					Applicant Inventory Total 349	~~1,200~~	19 ~~71~~					
Clarcona Rd (CR 435) to Sheeler Rd	2L	D	15,900	790				9,463	6,132	451	320	NB/EB
					Silver Oaks	305	19		38.57%		40.56%	
					Applicant Inventory Total	305	19					

VESTED TRIPS FROM PROJECTS COMPLETED WERE REMOVED

City of Apopka CMS

2020 Daily and PM Peak Hour/Peak Direction (PH/PD) Encumbered Traffic Allocation Worksheets

Base Traffic Volume: 2020 **FINAL REPORT** **Revision Date: 4/1/2021**

Roadway Section	# of Lanes	Adopted Standard Roadway Capacity LOS	Daily	PHPD	Applicant Inventory	Encumbered Trips Daily	PM PH/PD	Daily Traffic (1) Base Volume	Available Capacity	PM PH/PD Traffic (1) Base Volume	Available Capacity	Peak Direction
Minor Collectors (Continued)												
Lester Road (Continued)												
Vick Rd to Schopke Lester Rd	2L	E	14,000	720				6,472	4,595	301	250	NB/EB
					Carriage Hills 1 and 2	308	28		32.82%		34.77%	
					Country Crossing	111	5					
					Equestrian Center Subdivision	363	23					
					Gateway Plaza	642	22					
					Legacy Hills	58	2					
					Meadow View Apartments	58	4					
					San Sabastian	410	26					
					Self Storage	152	7					
					Vista Reserve	831	52					
					Applicant Inventory Total	2,933	169					
Schopke Lester Rd to Plymouth Sorrento Rd	2L	E	14,000	720				4,309	8,303	210	419	NB/EB
					Carriage Hills 1 and 2	252	23		59.31%		58.19%	
					Equestrian Center Subdivision	209	13					
					Legacy Hills	48	3					
					San Sabastian	168	11					
					Self Storage	242	11					
					Stanton Ridge	31	2					
					Vista Reserve	438	28					
					Applicant Inventory Total	1,388	91					
Lust Road												
SR 429 to Ocoee Apopka Rd	2L	E	14,000	720				62	9,839	3	573	SB/WB
					Avian Pointe	4,099	144		70.28%		79.58%	
					Applicant Inventory Total	4,099	144					
Marden Road												
Ocoee Apopka Rd to Maden Meadows Dr	2L	E	14,000	720				6,492	3,973	284	261	NB/EB
					Carter Land Industrial	17	1		28.38%		36.24%	
					Central Florida Prep School DONE	~~893~~	~~26~~					
					Emerson North Townhomes (fka Emerson North Apartments) DONE	~~132~~	~~8~~					
					Emerson Point Apartments DONE	~~1,292~~	~~72~~					
					Greystone Skilled Nursing Facility DONE	~~0~~	~~0~~					
					Marden Ridge Apartments DONE	~~1,053~~	~~63~~					
					Residences at Emerson Park	148	5					
					Applicant Inventory Total	165 ~~3,535~~	6 ~~175~~					
Maden Meadows Dr to Keene Rd	2L	E	14,000	720				6,492	4,703	284	288	NB/EB
					Carter Land Industrial	17	1		33.60%		39.99%	
					Central Florida Prep School	595	23					
					Emerson North Townhomes (fka Emerson North Apartments)	132	8					
					Emerson Point Apartments	1,292	72					
					Greystone Skilled Nursing Facility	67	2					
					Marden Ridge Apartments	702	42					
					Applicant Inventory Total	2,805	148					
Martin Street												
Park Ave to Lake Ave	2L	E	14,000	720				2,713	11,247	141	577	SB/WB
					Center of Faith	40	2		80.34%		80.16%	
					Applicant Inventory Total	40	2					
McCormick Road												
Ocoee-Apopka Rd to Clarcona Rd (CR 435)	2L	E	15,900	790				4,819	9,524	215	427	NB/EB
					Carter Land Industrial	17	1		59.90%		54.10%	
					Oak Point PD	112	4					
					Oak Point South (fka, Thompson Hills Estates)	1,428	143					
					Applicant Inventory Total	1,557	148					
Monroe Avenue												
Park Ave to Alabama Ave	2L	D	13,300	680				3,785	9,515	315	365	SB/WB
					Development Name	0	0		71.54%		53.69%	
					Applicant Inventory Total	0	0					

VESTED TRIPS FROM PROJECTS COMPLETED WERE REMOVED

City of Apopka
2020 Traffic Count Program
Peak Hour/Direction Level of Service

Class / Roadway Segment	Count Location Number	Type of Count	No. of Lanes	LOS Std.	Daily Volume	AM Peak Hour (7-9 AM Peak Period) NB/EB	SB/WB	Time	K	D	LOS [1]	PM Peak Hour (4-6 PM Peak Period) NB/EB	SB/WB	Time	K	D	LOS [1]
Minor Arterial (Continued)																	
CR 437A (Ocoee-Apopka Road/Michael Gladden Boulevard/Central Avenue)																	
McCormick Rd to Binion Rd	71	72 Hour	2L	E	11,687	302	387	07:00	0.059	0.561	C	683	533	16:45	0.104	0.562	C
Binion Rd to SR 429	29	24 Hour	2L	E	13,440	543	575	07:00	0.083	0.515	C	616	588	16:30	0.090	0.512	C
SR 429 to Keene Rd	702A	24 Hour	2L	E	16,225	644	690	07:15	0.082	0.517	C	796	655	16:45	0.089	0.549	C
Keene Rd to Boy Scout Rd	559A/29	72 Hour	2L	E	10,919	402	357	07:15	0.070	0.530	C	474	454	16:45	0.085	0.511	C
Boy Scout Rd to Bradshaw Rd	27	72 Hour	2L	E	13,385	594	472	07:15	0.080	0.557	C	569	544	16:45	0.083	0.511	C
Bradshaw Rd to Central Ave	7083	72 Hour	2L	E	7,518	267	256	07:15	0.070	0.511	C	355	274	16:30	0.084	0.565	C
Michael Gladden Blvd to US 441	567A	24 Hour	2L	E	4,541	139	140	07:30	0.061	0.502	C	213	211	16:15	0.093	0.502	C
Lakeville Road																	
Apopka Blvd to Wildwood St	657A	24 Hour	2L	E	5,744	172	96	07:00	0.047	0.641	C	234	301	17:00	0.093	0.563	C
Plymouth-Sorrento Road																	
County Line to Kelly Park Rd	14	48 Hour	2L	E	8,833	225	499	07:00	0.082	0.689	B	587	294	16:45	0.100	0.666	C
Kelly Park Rd to Ponkan Rd	11	72 Hour	2L	E	6,535	207	266	07:00	0.072	0.562	C	363	236	17:00	0.092	0.606	C
Ponkan Rd to Lester Rd/Yothers Rd	10	72 Hour	2L	E	6,661	235	225	07:30	0.069	0.511	C	371	267	16:30	0.096	0.581	C
Lester Rd/Yothers Rd to SR 429 Connector Rd	542A	24 Hour	2L	E	9,269	425	251	07:45	0.073	0.629	C	330	604	17:00	0.101	0.646	C
SR 429 Connector Rd to US 441	543A	24 Hour	2L	E	6,866	157	285	07:15	0.064	0.644	C	352	285	16:45	0.093	0.553	C
Sheeler Road																	
SR 436 to US 441	605A	24 Hour	3L	E	11,061	398	261	08:45	0.060	0.604	C	698	461	16:15	0.105	0.602	D
US 441 to Apopka Blvd	7006	72 Hour	2L	E	9,219	311	243	07:15	0.060	0.561	C	387	423	16:45	0.088	0.522	C
Apopka Blvd to Cleveland St	7007	72 Hour	2L	E	10,384	446	275	07:00	0.069	0.619	C	444	480	17:00	0.089	0.520	C
Cleveland St to Keene Rd	656A	72 Hour	2L	E	12,360	471	309	07:15	0.063	0.604	C	528	624	17:00	0.093	0.541	C
Wekiwa Springs Road/Piedmont-Wekiwa Road/Hiawassee Road																	
Welch Rd to Votaw Rd	799	72 Hour	3L	E	12,275	393	442	07:45	0.068	0.529	B	527	511	17:00	0.084	0.508	B
Votaw Rd to SR 436	25	72 Hour	5L	E	20,996	565	928	07:45	0.071	0.622	C	1,141	729	17:00	0.089	0.610	C
SR 436 to Piedmont Lakes Blvd	330	72 Hour	5L	E	31,479	910	1,149	07:30	0.065	0.558	C	1,591	1,261	17:00	0.091	0.558	C
Piedmont Lakes Blvd to US 441	606A	24 Hour	5L	E	28,984	769	955	08:15	0.059	0.554	C	1,454	1,226	17:00	0.092	0.543	C
US 441 to CR 424 (Apopka Blvd)	331	24 Hour	4LD	E	24,716	704	775	08:15	0.060	0.524	C	972	1,182	17:00	0.087	0.549	C
CR 424 (Apopka Blvd) to SR 414	222A	24 Hour	4LD	E	19,769	631	662	07:00	0.065	0.512	C	845	861	16:45	0.086	0.505	C
SR 414 to Beggs Rd	223A	72 Hour	4LD	E	27,547	732	930	07:45	0.060	0.560	C	1,360	1,083	16:45	0.089	0.557	C
Beggs Rd to Clarcona-Ocoee Rd	65	24 Hour	4LD	E	23,480	690	810	07:30	0.064	0.540	C	966	991	17:00	0.083	0.506	C
Welch Road																	
Vick Rd to Rock Springs Rd	501A	72 Hour	2L	E	9,894	359	259	07:00	0.062	0.581	C	488	447	16:30	0.094	0.522	D
Rock Springs Rd to Ustler Road	624A	72 Hour	3L	E	19,536	823	556	07:15	0.071	0.597	C	667	880	16:30	0.079	0.569	C
Ustler Road to Thompson Rd	7049	72 Hour	2L	E	16,750	723	450	07:15	0.070	0.616	C	580	780	16:45	0.081	0.574	C
Thompson Rd to Wekiva Springs Rd	22	72 Hour	2L	E	15,163	693	372	07:00	0.070	0.651	C	515	775	17:00	0.085	0.600	C

City of Apopka
2020 Traffic Count Program
Peak Hour/Direction Level of Service

Class Roadway Segment	Count Location Number	Type of Count	No. of Lanes	LOS Std.	Daily Volume	AM Peak Hour (7-9 AM Peak Period)						PM Peak Hour (4-6 PM Peak Period)					
						NB/EB	SB/WB	Time	K	D	LOS [1]	NB/EB	SB/WB	Time	K	D	LOS [1]
Minor Collector (Continued)																	
General Electric Road																	
Hermit Smith Rd to Orange Ave	931A	24 Hour	2L	E	1,382	34	73	07:15	0.077	0.682	C	78	93	16:15	0.124	0.544	C
Golden Gem Road																	
Kelly Park Rd to Ponkan Rd	910A	24 Hour	2L	E	239	16	14	07:00	0.125	0.542	C	11	19	16:30	0.125	0.625	C
Greenacre Road																	
Piedmont-Wekiwa Rd to Neil Rd	820A	24 Hour	2L	E	5,353	162	187	07:15	0.065	0.536	C	213	213	16:45	0.080	0.500	C
Haas Road																	
Plymouth-Sorrento Rd (CR 437) to Mt Plymouth Rd	920A	24 Hour	2L	E	880	27	42	07:00	0.078	0.609	C	67	44	16:15	0.126	0.604	C
Harmon Road																	
Binion Rd to Ocoee-Apopka Rd	972A	24 Hour	2L	E	1,973	71	87	07:00	0.080	0.551	C	99	99	17:00	0.100	0.500	C
Hawthorne Avenue																	
US 441 to Ocoee-Apopka Rd	562A	24 Hour	2L	D	1,552	56	49	08:45	0.067	0.535	C	72	68	17:00	0.091	0.515	C
Ocoee-Apopka Rd to 13th St	561A	24 Hour	2L	D	1,593	40	50	08:45	0.056	0.552	C	68	75	17:00	0.090	0.525	C
Hermit Smith Road																	
Plymouth-Sorrento Rd (CR 437) to US 441	951A	24 Hour	2L	E	895	33	37	08:00	0.078	0.529	C	33	55	16:30	0.098	0.625	C
US 441 to General Electric Rd	950A	24 Hour	2L	E	1,380	61	65	07:00	0.091	0.516	C	119	28	16:30	0.107	0.810	C
General Electric Rd to US 441	952A	24 Hour	2L	E	411	23	18	07:45	0.100	0.561	C	8	23	16:15	0.075	0.742	C
Highland Avenue																	
Monroe Ave to US 441	405A	24 Hour	2L	E	1,647	78	38	08:15	0.070	0.673	C	104	41	17:00	0.088	0.715	C
US 441 to 6th St	406A	24 Hour	2L	E	632	40	36	07:15	0.120	0.529	C	27	36	16:45	0.099	0.571	C
Hogshead Road																	
West of Hermit Smith Rd	973A	24 Hour	2L	E	533	14	47	07:00	0.114	0.771	C	64	18	16:30	0.154	0.785	C
Jason Dwelley Parkway																	
Kelly Park Rd to Ponkan Rd	960A	24 Hour	2L	E	1,777	52	95	07:30	0.083	0.646	C	91	92	17:00	0.103	0.503	C
Keene Road																	
Ocoee-Apopka Rd to Marden Rd	930A	24 Hour	2L	E	5,330	266	256	07:30	0.098	0.509	C	297	215	16:45	0.096	0.580	C
Marden Rd to Clarcona Rd	568A	24 Hour	2L	E	5,576	226	227	07:15	0.081	0.501	C	293	221	17:00	0.092	0.571	C
Clarcona Rd to Sheeler Rd	7090	24 Hour	2L	E	9,463	384	318	07:00	0.074	0.547	C	451	427	17:00	0.093	0.514	C
Kelly Park Road																	
Round Lake Rd to SR 429	9.1	24 Hour	2L	E	4,606	249	201	07:15	0.098	0.553	B	251	220	17:00	0.102	0.533	B
SR 429 to Plymouth-Sorrento Rd (CR 437)	10A	24 Hour	2L	E	8,821	253	543	07:15	0.090	0.682	B	516	313	17:00	0.094	0.623	B
Plymouth-Sorrento Rd (CR 437) to Jason Dwelley Pkwy	9A	24 Hour	2L	E	5,233	162	307	07:15	0.090	0.654	B	314	220	16:45	0.102	0.588	B
Jason Dwelley Pkwy to Mt. Plymouth Rd	12	24 Hour	2L	E	6,385	255	235	07:00	0.077	0.520	B	322	313	17:00	0.099	0.507	B
Mt. Plymouth Rd to Rock Springs Rd	12A	24 Hour	2L	E	10,842	501	315	07:00	0.075	0.614	B	432	628	16:45	0.098	0.592	C
King Street																	
Peterson Rd to Orange Ave	585A	24 Hour	2L	E	332	10	19	07:30	0.087	0.655	C	17	1	16:00	0.054	0.944	C
Lake Avenue/Marvin C Zanders Avenue																	
Martin St to Orange St	513A	24 Hour	2L	D	1,967	65	90	08:00	0.078	0.581	C	123	88	16:00	0.107	0.584	C
Orange St to US 441	515A	24 Hour	2L	D	1,198	24	46	07:45	0.058	0.662	C	63	77	17:15	0.116	0.550	C
US 441 to 4th St	402A	24 Hour	2L	D	2,063	30	101	07:30	0.063	0.769	C	59	138	16:30	0.096	0.699	C
Lake Cortez Drive																	
SR 436 to Evelyn Dr	811A	24 Hour	2L	E	866	29	31	07:45	0.069	0.519	C	69	24	16:30	0.108	0.741	C
Lake Doe Boulevard																	
US 441 to Dunn Cove Dr	1015	24 Hour	2L	E	3,723	192	63	07:00	0.069	0.752	C	138	226	17:00	0.098	0.620	C
Lake Francis Drive																	
Schopke Lester Rd to Errol Pkwy	505A	24 Hour	2L	D	1,110	48	34	07:15	0.074	0.587	C	55	63	16:45	0.106	0.537	C
Errol Pkwy to Vick Rd	504A	24 Hour	2L	D	3,097	131	70	07:45	0.065	0.653	C	123	160	17:00	0.091	0.566	C

City of Apopka
2020 Traffic Count Program
Peak Hour/Direction Level of Service

Class Roadway Segment	Count Location Number	Type of Count	No. of Lanes	LOS Std.	Daily Volume	AM Peak Hour (7-9 AM Peak Period)						PM Peak Hour (4-6 PM Peak Period)					
						NB/EB	SB/WB	Time	K	D	LOS [1]	NB/EB	SB/WB	Time	K	D	LOS [1]
Minor Collector (Continued)																	
Lakeville Road																	
Wildwood St to Beggs Rd	30	72 Hour	2L	E	5,784	240	232	07:15	0.081	0.509	C	220	298	16:45	0.090	0.575	C
Beggs Rd to Clarcona Ocoee Rd	67	72 Hour	2L	E	6,335	251	268	07:15	0.082	0.516	C	234	331	16:45	0.089	0.586	C
Lester Road																	
Rock Springs Rd to Vick Rd	583A	24 Hour	2L	E	5,674	228	144	08:00	0.066	0.613	C	244	281	16:15	0.093	0.535	C
Vick Rd to Schopke Lester Rd	506A	24 Hour	2L	E	6,472	295	189	08:00	0.075	0.610	C	301	298	17:00	0.093	0.502	C
Schopke Lester Rd to Plymouth-Sorrento Rd (CR 437)	801A	24 Hour	2L	E	4,309	140	175	07:45	0.073	0.556	C	210	189	16:45	0.093	0.526	C
Marden Road																	
Ocoee Apopka Rd to SR 414	560A	24 Hour	2L	E	6,492	449	194	07:45	0.099	0.699	D	284	231	17:00	0.079	0.551	C
SR 414 to Keene Rd	569A	24 Hour	2L	E	5,274	258	306	07:30	0.107	0.543	C	260	200	17:00	0.087	0.565	C
Marshall Lake Road																	
SR 451 to Bradshaw Rd	584A	24 Hour	2L	E	415	17	26	07:00	0.104	0.605	C	22	8	16:00	0.072	0.733	C
Martin Street																	
Park Ave to Lake Ave	519A	24 Hour	2L	E	2,713	110	119	07:00	0.084	0.521	C	111	141	17:00	0.093	0.560	C
Maine Ave to Vick Rd	830A	24 Hour	2L	E	4,091	184	142	08:00	0.062	0.514	C	175	169	17:00	0.108	0.567	C
McCormick Road																	
Ocoee-Apopka Rd to Ingram Rd	970A	72 Hour	2L	E	4,819	165	144	07:30	0.064	0.535	C	215	206	17:00	0.087	0.510	C
Ingram Rd to Clarcona Rd	8075	72 Hour	2L	E	4,523	196	106	07:00	0.067	0.650	C	151	217	17:00	0.081	0.590	C
Midland Avenue																	
US 441 to 6th St	407A	24 Hour	2L	E	1,282	45	27	07:45	0.056	0.627	C	80	48	17:15	0.100	0.625	C
Monroe Avenue																	
Park Ave to Alabama Ave	603A	24 Hour	2L	D	3,785	144	85	07:15	0.060	0.630	C	147	315	16:45	0.122	0.682	C
Alabama Ave to Sheeler Rd	604A	24 Hour	2L	D	4,570	129	99	08:45	0.050	0.566	C	213	263	17:00	0.104	0.553	C
Mt. Plymouth Road																	
Kelly Park Rd to Haas Rd	17	72 Hour	2L	E	7,213	176	368	07:00	0.075	0.676	C	424	267	17:00	0.096	0.614	C
Haas Rd to Lake County Line	17A	24 Hour	2L	E	5,651	162	323	07:00	0.086	0.667	C	359	232	17:15	0.105	0.607	C
North Maine Avenue																	
Martin St to Old Dixie Hwy	512A	24 Hour	2L	D	4,616	124	170	07:00	0.064	0.578	C	236	153	16:30	0.084	0.606	C
Old Dixie Highway/West Highland Avenue/Orange Street																	
Plymouth-Sorrento Rd (CR 437) to Boy Scout Blvd	582	24 Hour	2L	E	2,378	70	66	07:15	0.057	0.516	C	125	103	16:45	0.096	0.548	C
Boy Scout Blvd to Errol Pkwy	510A	24 Hour	2L	E	4,341	188	115	07:00	0.070	0.621	C	219	253	16:45	0.109	0.535	C
Errol Pkwy to Vick Rd	511A	24 Hour	2L	E	7,178	259	160	07:00	0.058	0.618	C	324	406	17:00	0.102	0.556	D
Vick Rd to Bradshaw Rd	674A	24 Hour	2L	E	12,115	522	344	07:45	0.072	0.602	D	877	511	16:30	0.115	0.632	F
Bradshaw Rd to Hawthorne Ave	518A	24 Hour	2L	E	4,026	146	84	08:45	0.057	0.634	C	217	226	17:15	0.110	0.510	C
Hawthorne Ave to Park Ave	514A	24 Hour	2L	E	4,109	173	84	08:45	0.063	0.674	C	241	210	17:15	0.110	0.534	C
Ondich Road																	
Round Lake Rd to Effe Dr	901A	72 Hour	2L	E	490	13	17	07:15	0.061	0.567	C	22	26	16:00	0.098	0.542	C
Effe Dr to Plymouth-Sorrento Rd (CR 437)	8179	72 Hour	2L	E	541	12	23	07:00	0.065	0.657	C	29	22	16:15	0.094	0.569	C
Overland Road																	
Apopka Rd to Beggs Rd	672A	24 Hour	2L	E	5,927	183	165	08:45	0.059	0.526	C	267	268	16:15	0.090	0.501	C
Peterson Road																	
Grand Avian Pkwy to King St	586A	24 Hour	2L	E	278	6	16	07:15	0.079	0.727	C	16	1	16:00	0.061	0.941	C
Ponkan Road																	
Round Lake Rd to Plymouth-Sorrento Rd (CR 437)	13	72 Hour	2L	E	4,176	157	174	07:00	0.079	0.526	C	191	153	16:30	0.082	0.556	C
Plymouth-Sorrento Rd (CR 437) to Vick Rd	8115	72 Hour	2L	E	4,436	237	185	07:45	0.095	0.563	C	240	185	17:00	0.096	0.566	C
Vick Rd to Rock Springs Rd	326	72 Hour	2L	E	4,933	178	166	08:15	0.070	0.516	C	204	256	17:00	0.093	0.556	C

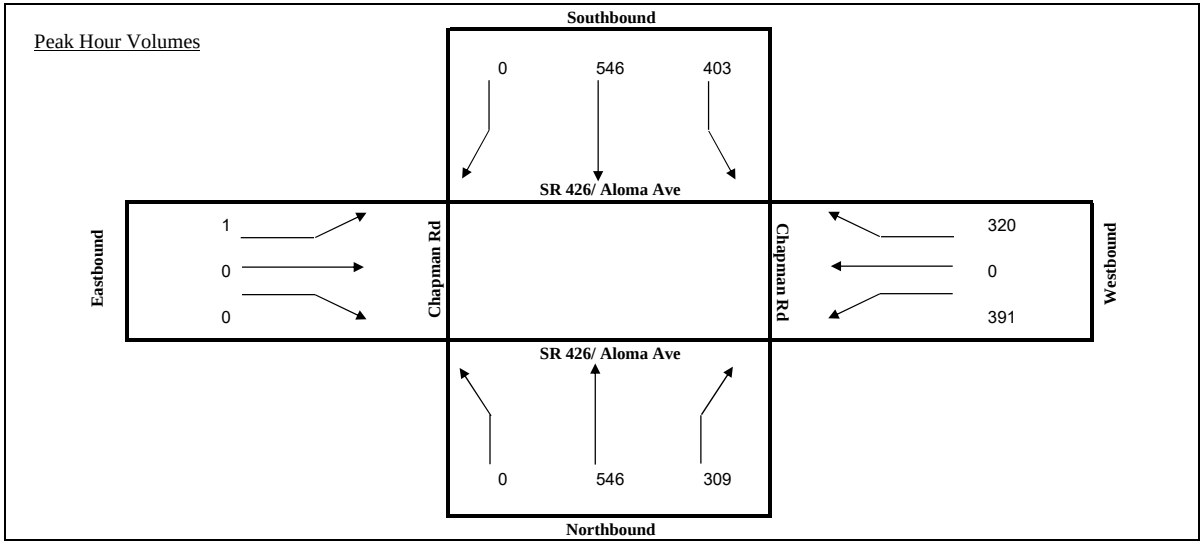
Appendix D
Traffic Counts & FDOT Seasonal Factors

TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): SR 426/ Aloma Ave
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		SR 426/ Aloma Ave			SR 426/ Aloma Ave			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
7:00 AM	7:15 AM	0	75	35	35	87	0	0	0	0	80	0	40	352
7:15 AM	7:30 AM	0	79	46	71	108	0	0	0	0	89	0	56	449
7:30 AM	7:45 AM	0	138	46	98	120	0	1	0	0	137	0	78	618
7:45 AM	8:00 AM	0	175	62	98	140	0	0	0	0	106	0	103	684
8:00 AM	8:15 AM	0	136	58	104	136	0	0	0	0	97	0	55	586
8:15 AM	8:30 AM	0	127	85	85	125	0	1	0	0	100	0	83	606
8:30 AM	8:45 AM	0	140	70	101	142	0	0	0	0	93	0	63	609
8:45 AM	9:00 AM	0	143	96	113	143	0	0	0	0	101	0	119	715
Total for:	7:00 AM	8:00 AM	0	467	189	302	455	0	1	0	0	412	0	277	2103
Total for:	8:00 AM	9:00 AM	0	546	309	403	546	0	1	0	0	391	0	320	2516
Tota Peak Hour:	8:00 AM	9:00 AM	0	546	309	403	546	0	1	0	0	391	0	320	2516
Overall PHF:	0.88														

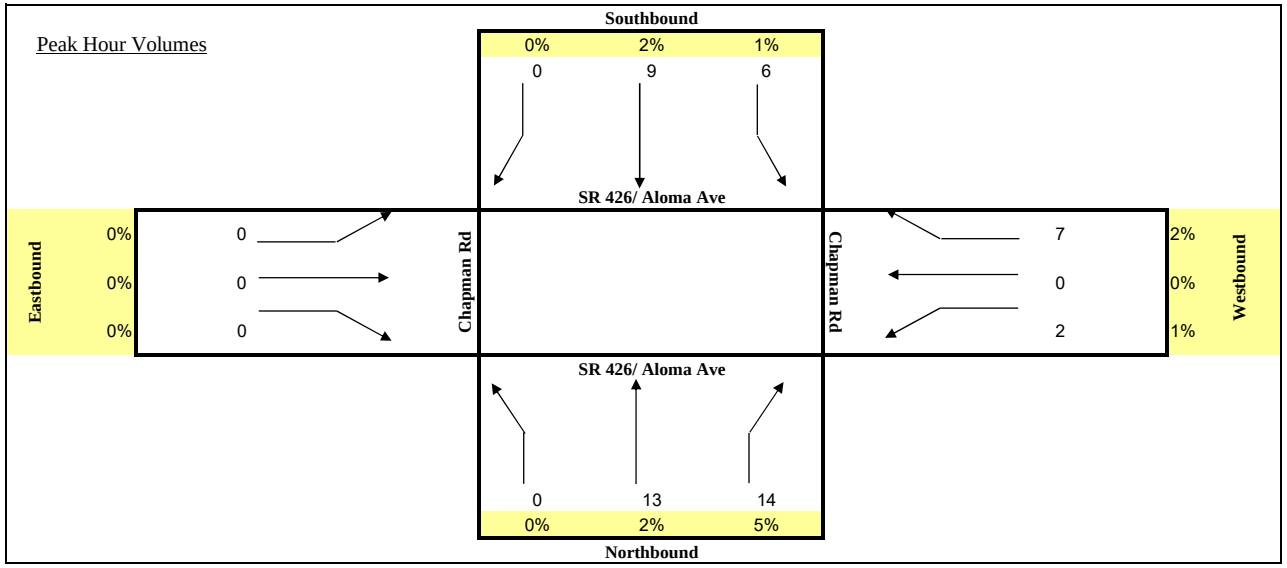


TURNING MOVEMENT COUNT ANALYSIS

TRUCKS

Intersection (N/S): SR 426/ Aloma Ave
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		SR 426/ Aloma Ave			SR 426/ Aloma Ave			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	R	T	L	R	T	L	R	T	L	R	T	L	TOTAL
7:00 AM	7:15 AM	0	1	2	0	0	0	0	0	0	0	0	0	3
7:15 AM	7:30 AM	0	2	1	4	3	0	0	0	0	0	0	0	10
7:30 AM	7:45 AM	0	2	0	2	0	0	0	0	0	4	0	0	8
7:45 AM	8:00 AM	0	0	4	1	1	0	0	0	0	2	0	2	10
8:00 AM	8:15 AM	0	3	1	1	2	0	0	0	0	0	0	2	9
8:15 AM	8:30 AM	0	2	4	1	2	0	0	0	0	2	0	2	13
8:30 AM	8:45 AM	0	3	5	3	3	0	0	0	0	0	0	1	15
8:45 AM	9:00 AM	0	5	4	1	2	0	0	0	0	0	0	2	14
Total for:	7:00 AM	8:00 AM	0	5	7	7	4	0	0	0	0	6	0	2	31
Total for:	8:00 AM	9:00 AM	0	13	14	6	9	0	0	0	0	2	0	7	51
Tota Peak Hour:	8:00 AM	9:00 AM	0	13	14	6	9	0	0	0	0	2	0	7	51
Overall PHF:	0.85														

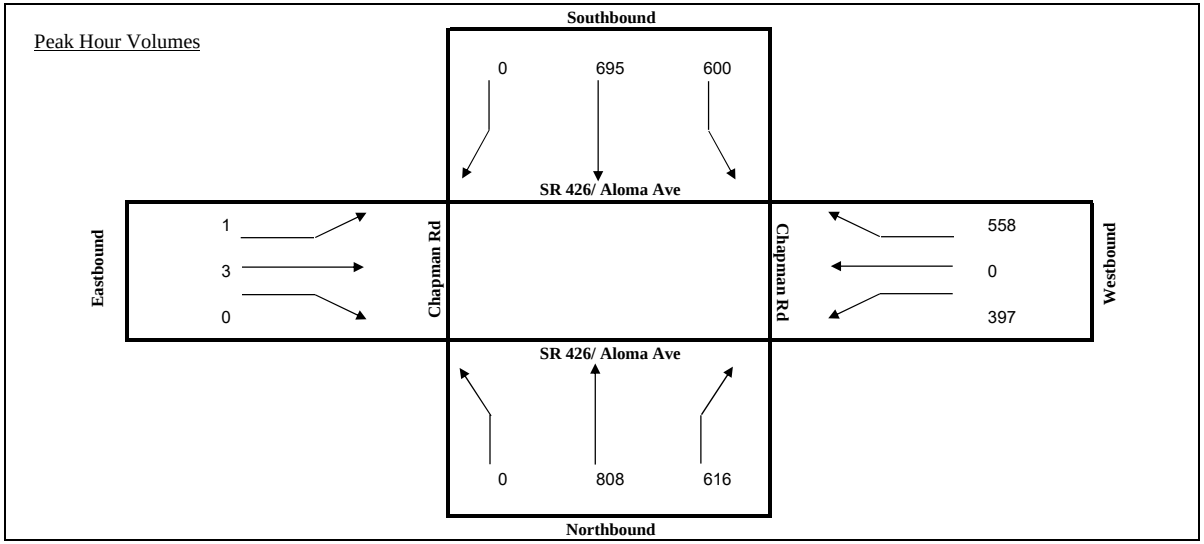


TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): SR 426/ Aloma Ave
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		SR 426/ Aloma Ave			SR 426/ Aloma Ave			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
4:00 PM	4:15 PM	0	207	172	120	172	0	0	0	1	65	0	45	782
4:15 PM	4:30 PM	0	152	123	128	160	0	0	0	0	59	0	105	727
4:30 PM	4:45 PM	0	184	153	147	125	0	0	0	0	85	0	81	775
4:45 PM	5:00 PM	0	176	144	112	164	0	0	0	0	85	0	108	789
5:00 PM	5:15 PM	0	200	177	167	177	0	0	3	0	111	0	122	957
5:15 PM	5:30 PM	0	232	134	182	197	0	0	0	0	112	0	201	1058
5:30 PM	5:45 PM	0	200	161	139	157	0	1	0	0	89	0	127	874
5:45 PM	6:00 PM	0	135	137	155	149	0	0	0	1	74	0	114	765
Total for:	4:00 PM	5:00 PM	0	719	592	507	621	0	0	0	1	294	0	339	3073
Total for:	5:00 PM	6:00 PM	0	767	609	643	680	0	1	3	1	386	0	564	3654
Tota Peak Hour:	4:45 PM	5:45 PM	0	808	616	600	695	0	1	3	0	397	0	558	3678
Overall PHF:	0.87														

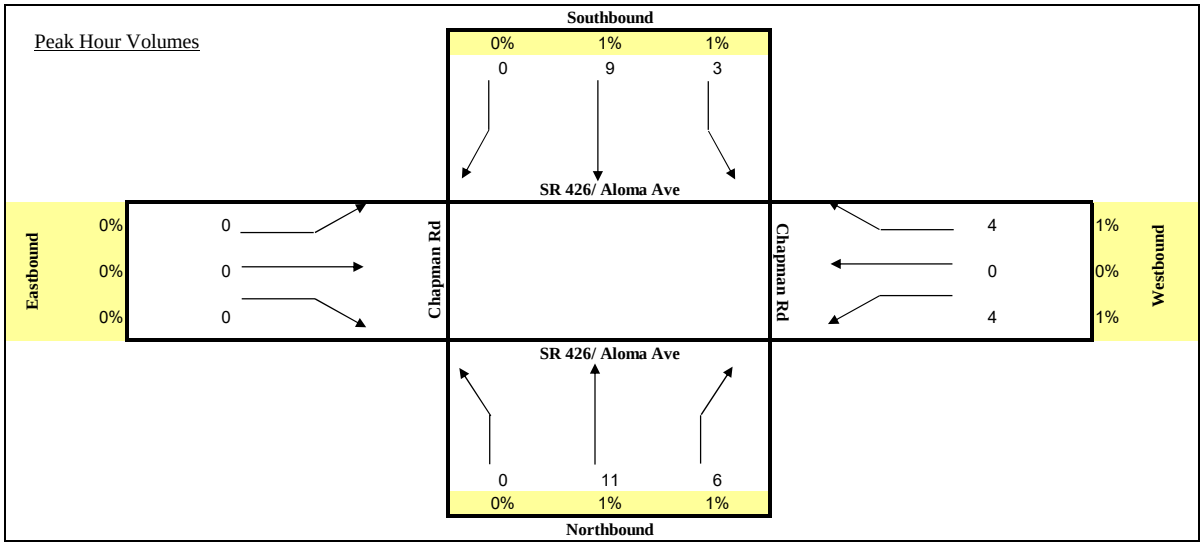


TURNING MOVEMENT COUNT ANALYSIS

TRUCKS

Intersection (N/S): SR 426/ Aloma Ave
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		SR 426/ Aloma Ave			SR 426/ Aloma Ave			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	R	T	L	R	T	L	R	T	L	R	T	L	TOTAL
4:00 PM	4:15 PM	0	4	1	1	4	0	0	0	0	0	0	2	12
4:15 PM	4:30 PM	0	1	0	1	3	0	0	0	0	4	0	1	10
4:30 PM	4:45 PM	0	5	1	1	2	0	0	0	0	0	0	0	9
4:45 PM	5:00 PM	0	1	4	0	0	0	0	0	0	0	0	1	6
5:00 PM	5:15 PM	0	0	2	0	0	0	0	3	0	1	0	2	8
5:15 PM	5:30 PM	0	0	1	0	0	0	0	0	0	2	0	3	6
5:30 PM	5:45 PM	0	1	0	0	1	0	0	0	0	1	0	0	3
5:45 PM	6:00 PM	0	0	1	0	0	0	0	0	0	2	0	1	4
Total for:	4:00 PM	5:00 PM	0	11	6	3	9	0	0	0	0	4	0	4	37
Total for:	5:00 PM	6:00 PM	0	1	4	0	1	0	0	3	0	6	0	6	21
Tota Peak Hour:	4:00 PM	5:00 PM	0	11	6	3	9	0	0	0	0	4	0	4	37
Overall PHF:	0.77														

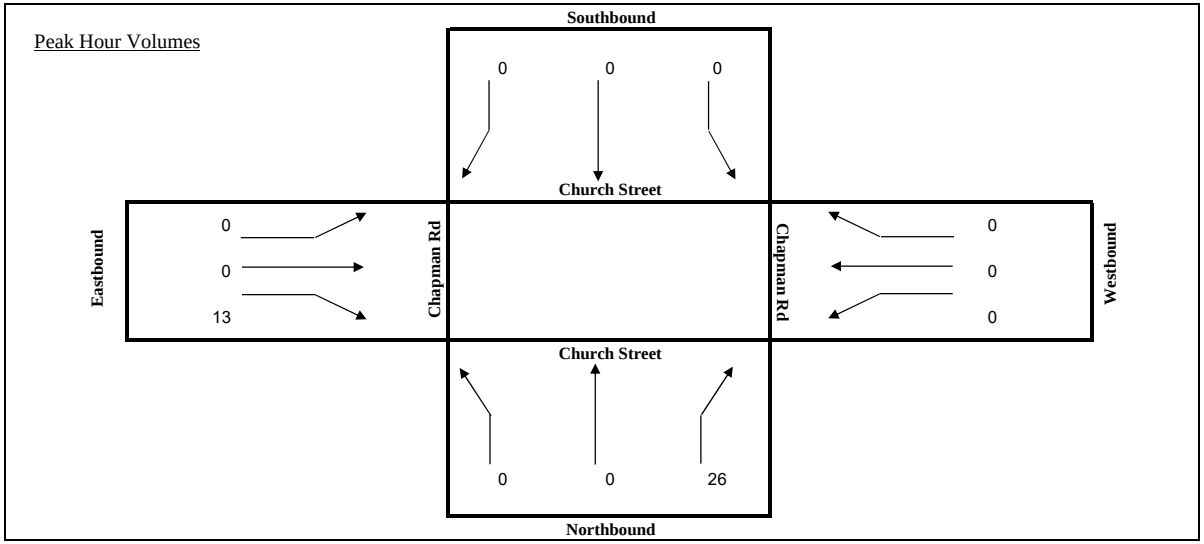


TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Church Street
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		Church Street			Church Street			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
7:00 AM	7:15 AM	0	0	3	0	0	0	0	0	0	0	0	0	3
7:15 AM	7:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	2
7:30 AM	7:45 AM	0	0	1	0	0	0	0	0	1	0	0	0	2
7:45 AM	8:00 AM	0	0	6	0	0	0	0	0	2	0	0	0	8
8:00 AM	8:15 AM	0	0	9	0	0	0	0	0	8	0	0	0	17
8:15 AM	8:30 AM	0	0	4	0	0	0	0	0	0	0	0	0	4
8:30 AM	8:45 AM	0	0	7	0	0	0	0	0	3	0	0	0	10
8:45 AM	9:00 AM	0	0	5	0	0	0	0	0	1	0	0	0	6
Total for:	7:00 AM	8:00 AM	0	0	12	0	0	0	0	0	3	0	0	0	15
Total for:	8:00 AM	9:00 AM	0	0	25	0	0	0	0	0	12	0	0	0	37
Tota Peak Hour:	7:45 AM	8:45 AM	0	0	26	0	0	0	0	0	13	0	0	0	39
Overall PHF:	0.57														

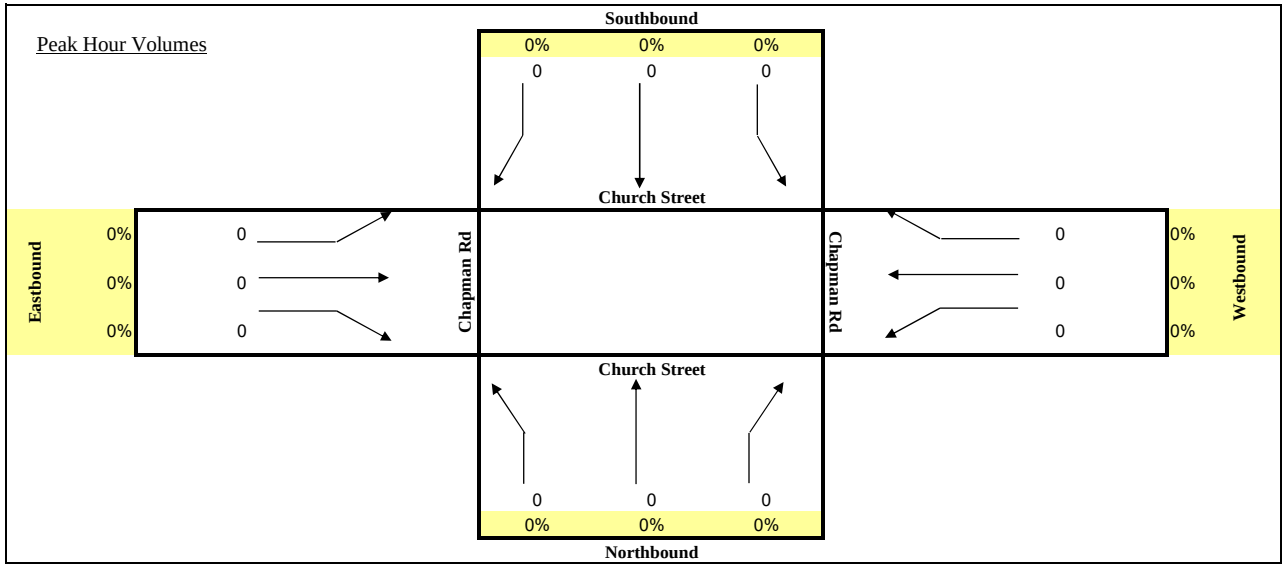


TURNING MOVEMENT COUNT ANALYSIS

TRUCKS

Intersection (N/S): Church Street
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		Church Street			Church Street			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	R	T	L	R	T	L	R	T	L	R	T	L	TOTAL
7:00 AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total for:	7:00 AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total for:	8:00 AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
Tota Peak Hour:	7:00 AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
Overall PHF:	#DIV/0!													

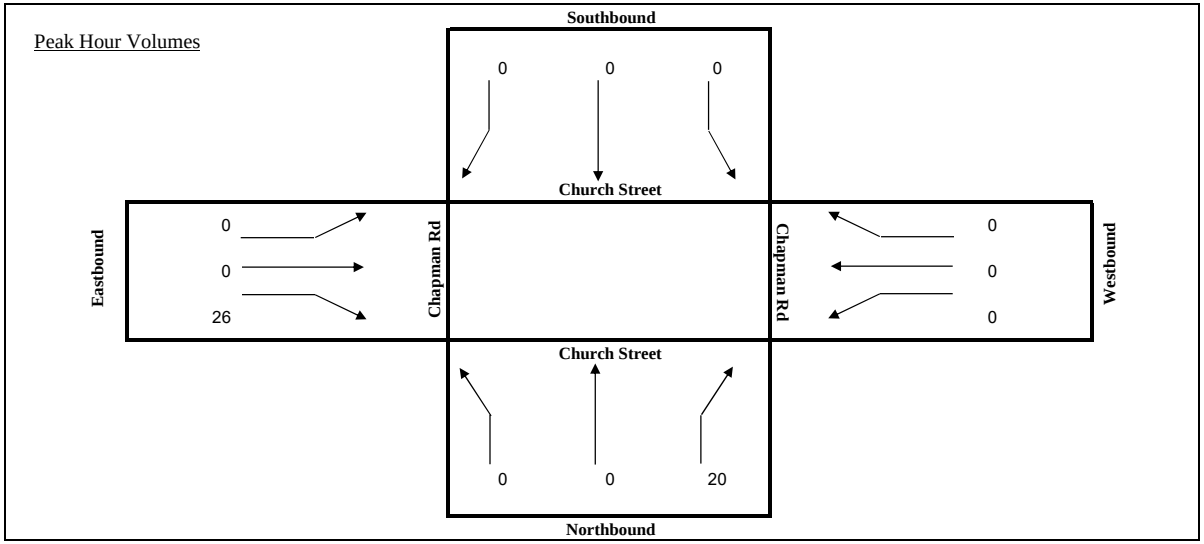


TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Church Street
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		Church Street			Church Street			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
4:00 PM	4:15 PM	0	0	4	0	0	0	0	0	3	0	0	0	7
4:15 PM	4:30 PM	0	0	6	0	0	0	0	0	4	0	0	0	10
4:30 PM	4:45 PM	0	0	3	0	0	0	0	0	3	0	0	0	6
4:45 PM	5:00 PM	0	0	5	0	0	0	0	0	7	0	0	0	12
5:00 PM	5:15 PM	0	0	8	0	0	0	0	0	8	0	0	0	16
5:15 PM	5:30 PM	0	0	2	0	0	0	0	0	5	0	0	0	7
5:30 PM	5:45 PM	0	0	5	0	0	0	0	0	6	0	0	0	11
5:45 PM	6:00 PM	0	0	8	0	0	0	0	0	4	0	0	0	12
Total for:	4:00 PM	5:00 PM	0	0	18	0	0	0	0	0	17	0	0	0	35
Total for:	5:00 PM	6:00 PM	0	0	23	0	0	0	0	0	23	0	0	0	46
Tota Peak Hour:	4:45 PM	5:45 PM	0	0	20	0	0	0	0	0	26	0	0	0	46
Overall PHF:	0.72														

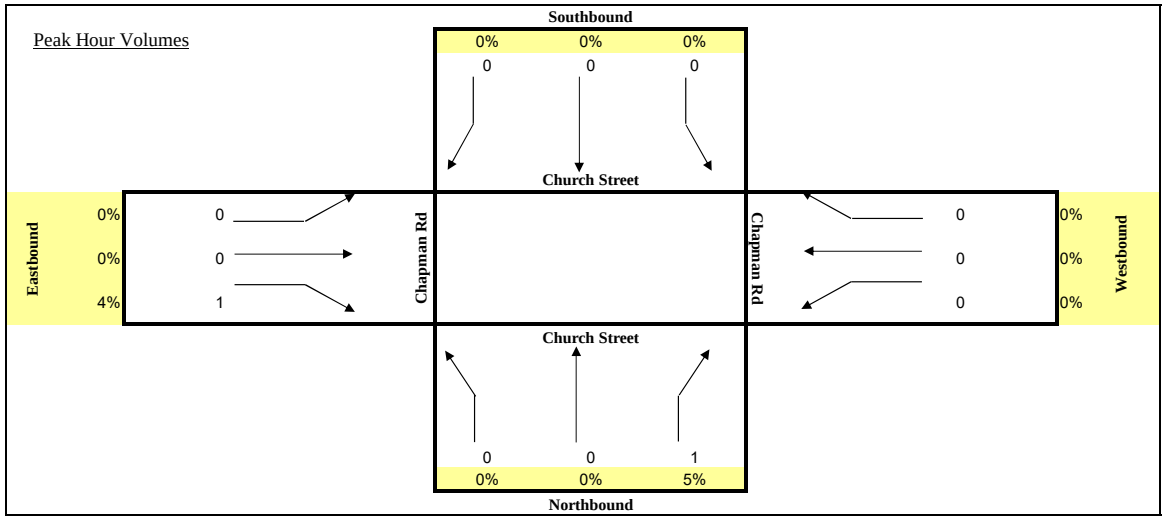


TURNING MOVEMENT COUNT ANALYSIS

TRUCKS

Intersection (N/S): Church Street
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		Church Street			Church Street			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	R	T	L	R	T	L	R	T	L	R	T	L	TOTAL
4:00 PM	4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
4:15 PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	5:15 PM	0	0	1	0	0	0	0	0	1	0	0	0	2
5:15 PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total for:	4:00 PM	5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
Total for:	5:00 PM	6:00 PM	0	0	1	0	0	0	0	0	1	0	0	0	2
Tota Peak Hour:	4:15 PM	5:15 PM	0	0	1	0	0	0	0	0	1	0	0	0	2
Overall PHF:	0.25														

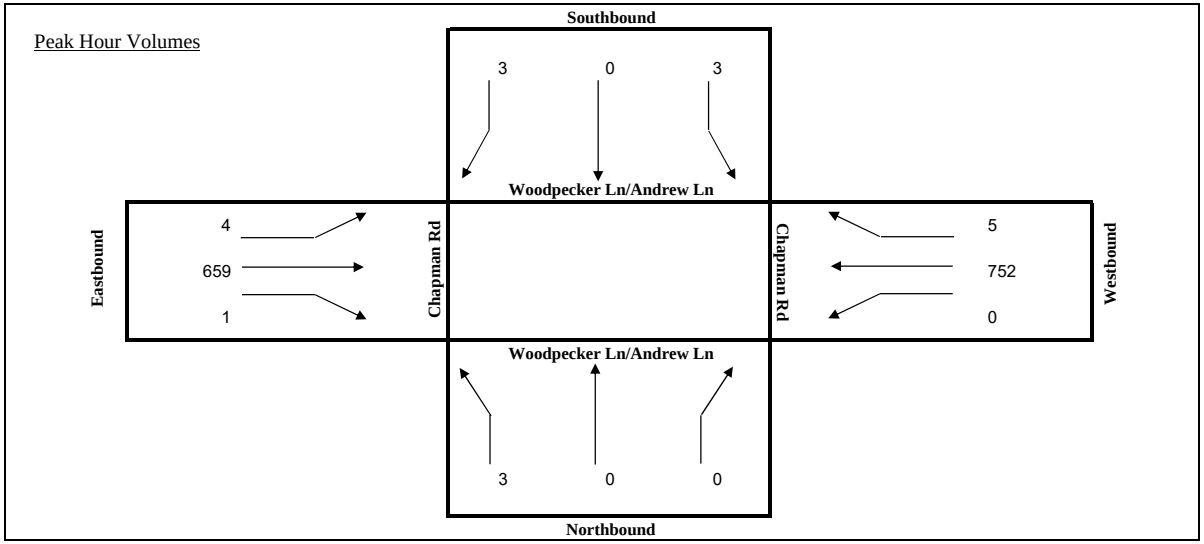


TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Woodpecker Ln/Andrew Ln
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		Woodpecker Ln/Andrew Ln			Woodpecker Ln/Andrew Ln			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
7:00 AM	7:15 AM	1	1	0	0	2	0	0	76	1	0	125	2	208
7:15 AM	7:30 AM	0	0	0	3	1	0	1	102	0	0	138	1	246
7:30 AM	7:45 AM	1	0	0	1	0	0	1	130	0	1	214	2	350
7:45 AM	8:00 AM	0	0	0	0	0	2	2	165	0	0	219	0	388
8:00 AM	8:15 AM	0	0	0	1	0	0	1	153	0	0	173	3	331
8:15 AM	8:30 AM	0	0	0	0	0	1	1	159	1	0	179	1	342
8:30 AM	8:45 AM	3	0	0	2	0	0	0	182	0	0	181	1	369
8:45 AM	9:00 AM	0	0	0	1	0	1	1	174	0	0	195	2	374
Total for:	7:00 AM	8:00 AM	2	1	0	4	3	2	4	473	1	1	696	5	1192
Total for:	8:00 AM	9:00 AM	3	0	0	4	0	2	3	668	1	0	728	7	1416
Tota Peak Hour:	7:45 AM	8:45 AM	3	0	0	3	0	3	4	659	1	0	752	5	1430
Overall PHF:	0.92														

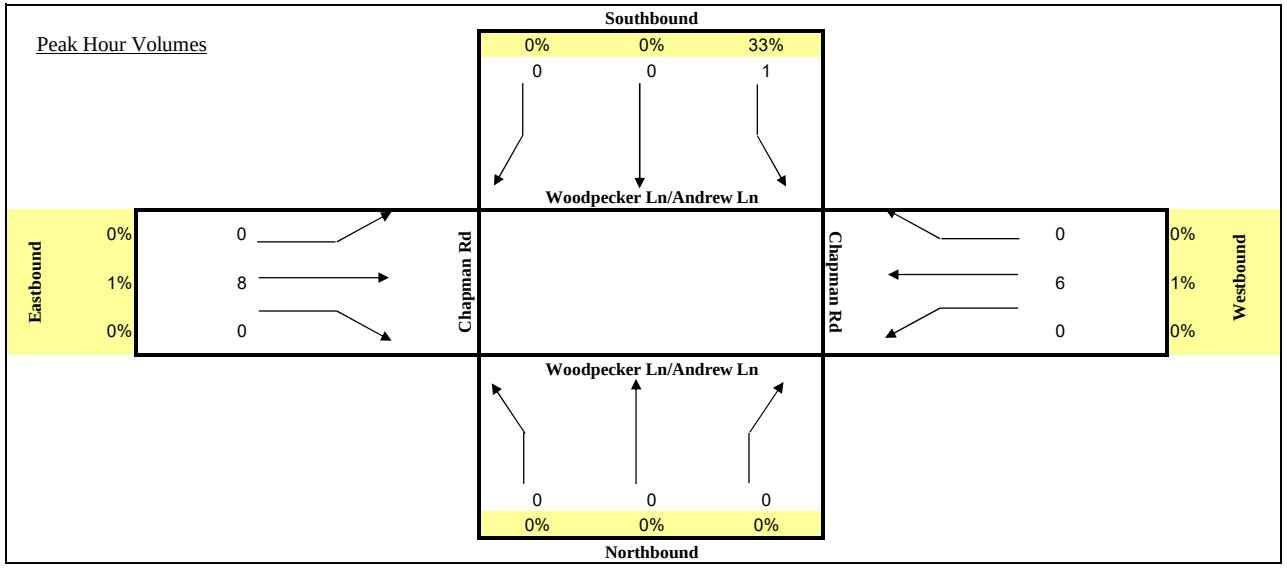


TURNING MOVEMENT COUNT ANALYSIS

TRUCKS

Intersection (N/S): Woodpecker Ln/Andrew Ln
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		Woodpecker Ln/Andrew Ln			Woodpecker Ln/Andrew Ln			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	R	T	L	R	T	L	R	T	L	R	T	L	TOTAL
7:00 AM	7:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
7:15 AM	7:30 AM	0	0	0	1	0	0	0	4	0	0	1	0	6
7:30 AM	7:45 AM	0	0	0	0	0	0	0	1	0	0	3	0	4
7:45 AM	8:00 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
8:00 AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	8:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	3
8:30 AM	8:45 AM	0	0	0	0	0	0	0	4	0	0	0	0	4
8:45 AM	9:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
Total for:	7:00 AM	8:00 AM	0	0	0	1	0	0	0	8	0	0	6	0	15
Total for:	8:00 AM	9:00 AM	0	0	0	0	0	0	0	8	0	0	2	0	10
Tota Peak Hour:	7:00 AM	8:00 AM	0	0	0	1	0	0	0	8	0	0	6	0	15
Overall PHF:	0.63														

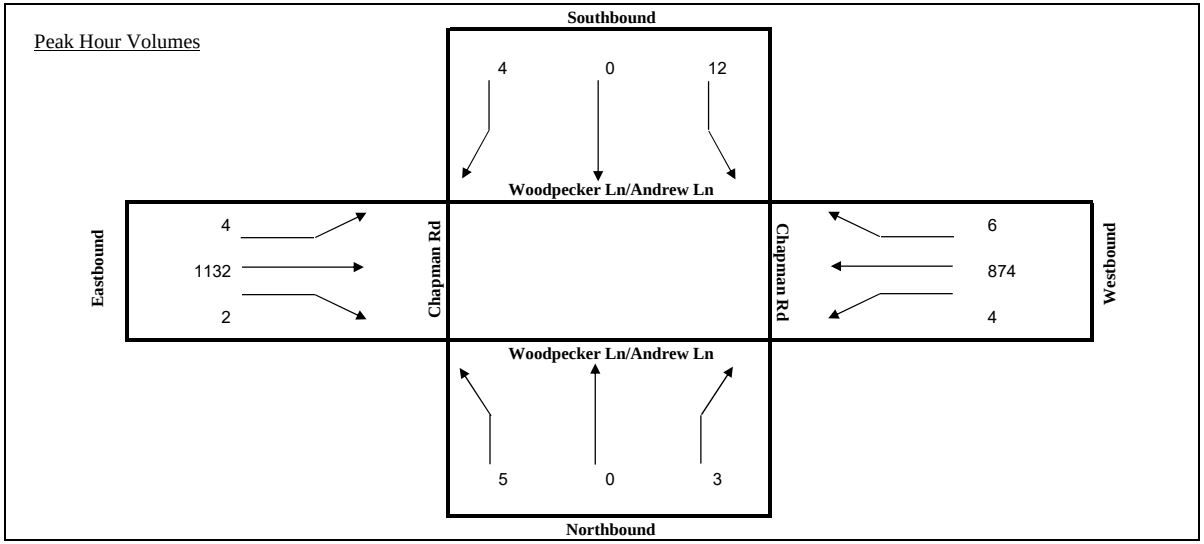


TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): Woodpecker Ln/Andrew Ln
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		Woodpecker Ln/Andrew Ln			Woodpecker Ln/Andrew Ln			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
4:00 PM	4:15 PM	0	0	0	1	0	1	1	174	0	0	107	2	286
4:15 PM	4:30 PM	0	0	1	1	0	0	2	255	0	0	156	0	415
4:30 PM	4:45 PM	1	0	1	1	0	1	1	250	0	0	169	0	424
4:45 PM	5:00 PM	0	0	0	1	0	0	0	272	0	1	175	1	450
5:00 PM	5:15 PM	3	0	0	3	0	4	3	273	0	0	186	2	474
5:15 PM	5:30 PM	0	0	2	5	0	0	0	301	0	0	225	1	534
5:30 PM	5:45 PM	0	0	0	3	0	0	1	268	2	2	245	2	523
5:45 PM	6:00 PM	2	0	1	1	0	0	0	290	0	2	218	1	515
Total for:	4:00 PM	5:00 PM	1	0	2	4	0	2	4	951	0	1	607	3	1575
Total for:	5:00 PM	6:00 PM	5	0	3	12	0	4	4	1132	2	4	874	6	2046
Tota Peak Hour:	5:00 PM	6:00 PM	5	0	3	12	0	4	4	1132	2	4	874	6	2046
Overall PHF:	0.96														

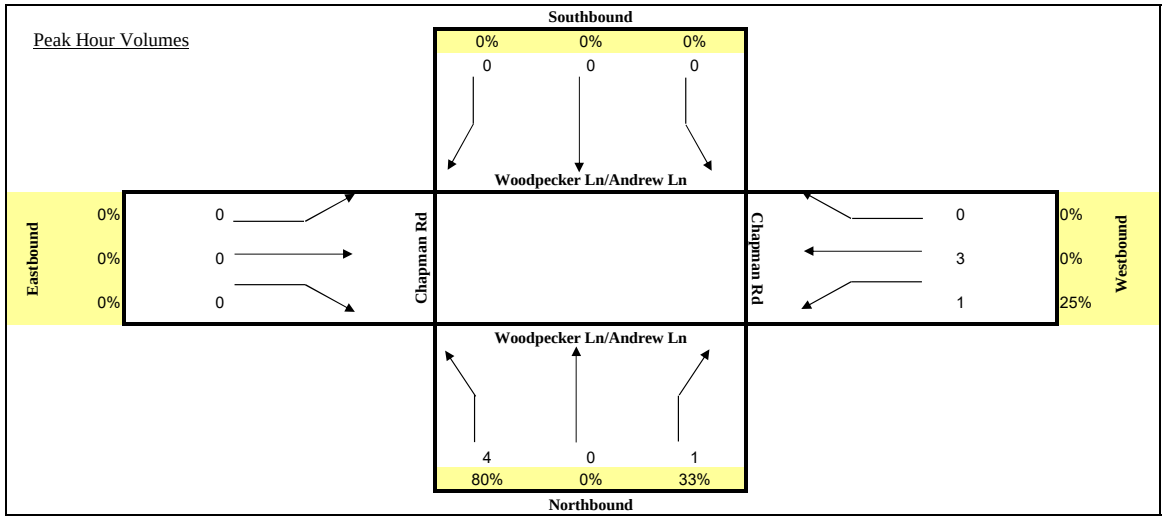


TURNING MOVEMENT COUNT ANALYSIS

TRUCKS

Intersection (N/S): Woodpecker Ln/Andrew Ln
Intersection (E/W): Chapman Rd
Date: 7/26/2022

		Woodpecker Ln/Andrew Ln			Woodpecker Ln/Andrew Ln			Chapman Rd			Chapman Rd			
		NB			SB			EB			WB			
Start	End	R	T	L	R	T	L	R	T	L	R	T	L	TOTAL
4:00 PM	4:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:15 PM	4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:30 PM	4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
4:45 PM	5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	5:15 PM	3	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	5:30 PM	0	0	1	0	0	0	0	0	0	0	1	0	2
5:30 PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
5:45 PM	6:00 PM	1	0	0	0	0	0	0	0	0	1	0	0	2
Total for:	4:00 PM	5:00 PM	0	0	0	0	0	1	0	3	0	0	2	0	6
Total for:	5:00 PM	6:00 PM	4	0	1	0	0	0	0	0	0	1	3	0	9
Tota Peak Hour:	5:00 PM	6:00 PM	4	0	1	0	0	0	0	0	0	1	3	0	9
Overall PHF:	0.75														



2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 7500 ORANGE COUNTYWIDE

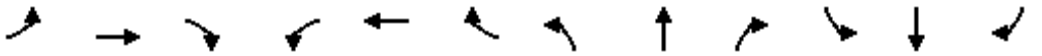
MOCF: 0.99

WEEK	DATES	SF	PSCF
1	01/01/2021 - 01/02/2021	0.99	1.00
2	01/03/2021 - 01/09/2021	1.04	1.05
3	01/10/2021 - 01/16/2021	1.09	1.10
4	01/17/2021 - 01/23/2021	1.08	1.09
5	01/24/2021 - 01/30/2021	1.07	1.08
6	01/31/2021 - 02/06/2021	1.06	1.07
7	02/07/2021 - 02/13/2021	1.05	1.06
8	02/14/2021 - 02/20/2021	1.04	1.05
9	02/21/2021 - 02/27/2021	1.03	1.04
10	02/28/2021 - 03/06/2021	1.02	1.03
11	03/07/2021 - 03/13/2021	1.01	1.02
12	03/14/2021 - 03/20/2021	1.00	1.01
13	03/21/2021 - 03/27/2021	1.00	1.01
14	03/28/2021 - 04/03/2021	1.00	1.01
15	04/04/2021 - 04/10/2021	1.00	1.01
16	04/11/2021 - 04/17/2021	1.00	1.01
17	04/18/2021 - 04/24/2021	0.99	1.00
18	04/25/2021 - 05/01/2021	0.99	1.00
19	05/02/2021 - 05/08/2021	0.98	0.99
20	05/09/2021 - 05/15/2021	0.98	0.99
21	05/16/2021 - 05/22/2021	0.98	0.99
22	05/23/2021 - 05/29/2021	0.99	1.00
23	05/30/2021 - 06/05/2021	0.99	1.00
24	06/06/2021 - 06/12/2021	0.99	1.00
25	06/13/2021 - 06/19/2021	1.00	1.01
26	06/20/2021 - 06/26/2021	1.00	1.01
27	06/27/2021 - 07/03/2021	1.00	1.01
28	07/04/2021 - 07/10/2021	1.00	1.01
29	07/11/2021 - 07/17/2021	1.00	1.01
30	07/18/2021 - 07/24/2021	1.00	1.01
31	07/25/2021 - 07/31/2021	1.00	1.01
32	08/01/2021 - 08/07/2021	1.00	1.01
33	08/08/2021 - 08/14/2021	0.99	1.00
34	08/15/2021 - 08/21/2021	0.99	1.00
35	08/22/2021 - 08/28/2021	0.99	1.00
36	08/29/2021 - 09/04/2021	0.99	1.00
37	09/05/2021 - 09/11/2021	0.99	1.00
38	09/12/2021 - 09/18/2021	0.99	1.00
*39	09/19/2021 - 09/25/2021	0.99	1.00
*40	09/26/2021 - 10/02/2021	0.98	0.99
*41	10/03/2021 - 10/09/2021	0.98	0.99
*42	10/10/2021 - 10/16/2021	0.97	0.98
*43	10/17/2021 - 10/23/2021	0.98	0.99
*44	10/24/2021 - 10/30/2021	0.98	0.99
*45	10/31/2021 - 11/06/2021	0.99	1.00
*46	11/07/2021 - 11/13/2021	0.99	1.00
*47	11/14/2021 - 11/20/2021	0.99	1.00
*48	11/21/2021 - 11/27/2021	0.99	1.00
*49	11/28/2021 - 12/04/2021	0.99	1.00
*50	12/05/2021 - 12/11/2021	0.99	1.00
*51	12/12/2021 - 12/18/2021	0.99	1.00
52	12/19/2021 - 12/25/2021	1.04	1.05
53	12/26/2021 - 12/31/2021	1.09	1.10

* PEAK SEASON

08-MAR-2022 12:36:27 830UPD 5_7500_PKSEASON.TXT

Appendix E
Existing Conditions Analysis Worksheets & Signal Timings



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	47	0	0	0	0	422	26	261	342	0
Future Volume (veh/h)	20	0	47	0	0	0	0	422	26	261	342	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1604	0	1870				0	1870	1781	1856	1870	0
Adj Flow Rate, veh/h	22	0	25				0	459	0	284	372	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	0	2				0	2	8	3	2	0
Cap, veh/h	124	0	129				0	1014		675	1405	0
Arrive On Green	0.08	0.00	0.08				0.00	0.54	0.00	0.12	0.75	0.00
Sat Flow, veh/h	1527	0	1585				0	1870	1510	1767	1870	0
Grp Volume(v), veh/h	22	0	25				0	459	0	284	372	0
Grp Sat Flow(s),veh/h/ln	1527	0	1585				0	1870	1510	1767	1870	0
Q Serve(g_s), s	1.1	0.0	1.2				0.0	11.9	0.0	4.7	4.9	0.0
Cycle Q Clear(g_c), s	1.1	0.0	1.2				0.0	11.9	0.0	4.7	4.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	124	0	129				0	1014		675	1405	0
V/C Ratio(X)	0.18	0.00	0.19				0.00	0.45		0.42	0.26	0.00
Avail Cap(c_a), veh/h	254	0	264				0	1014		748	1405	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.2	0.0	34.3				0.0	11.1	0.0	6.2	3.1	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.7				0.0	1.5	0.0	0.4	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.0	2.0				0.0	7.9	0.0	2.1	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	0.0	35.0				0.0	12.5	0.0	6.7	3.5	0.0
LnGrp LOS	C	A	C				A	B		A	A	A
Approach Vol, veh/h		47						459	A		656	
Approach Delay, s/veh		34.9						12.5			4.9	
Approach LOS		C						B			A	

Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		66.7		13.2	16.7	50.0						
Change Period (Y+Rc), s		6.7		6.7	6.7	6.7						
Max Green Setting (Gmax), s		43.3		13.3	13.3	43.3						
Max Q Clear Time (g_c+I1), s		6.9		3.2	6.7	13.9						
Green Ext Time (p_c), s		2.1		0.0	0.4	2.7						

Intersection Summary												
HCM 6th Ctrl Delay			9.1									
HCM 6th LOS			A									

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	26	0	293	72	370	0	0	577	41
Future Volume (veh/h)	0	0	0	26	0	293	72	370	0	0	577	41
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	0	1796	1811	1870	0	0	1856	1870
Adj Flow Rate, veh/h				28	0	158	77	398	0	0	620	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	0	7	6	2	0	0	3	2
Cap, veh/h				154	0	133	555	1477	0	0	1181	
Arrive On Green				0.09	0.00	0.09	0.08	0.79	0.00	0.00	0.64	0.00
Sat Flow, veh/h				1753	0	1522	1725	1870	0	0	1856	1585
Grp Volume(v), veh/h				28	0	158	77	398	0	0	620	0
Grp Sat Flow(s),veh/h/ln				1753	0	1522	1725	1870	0	0	1856	1585
Q Serve(g_s), s				1.7	0.0	10.0	1.4	6.5	0.0	0.0	20.8	0.0
Cycle Q Clear(g_c), s				1.7	0.0	10.0	1.4	6.5	0.0	0.0	20.8	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				154	0	133	555	1477	0	0	1181	
V/C Ratio(X)				0.18	0.00	1.18	0.14	0.27	0.00	0.00	0.52	
Avail Cap(c_a), veh/h				154	0	133	568	1477	0	0	1181	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				48.2	0.0	52.0	6.7	3.2	0.0	0.0	11.3	0.0
Incr Delay (d2), s/veh				0.6	0.0	135.6	0.1	0.4	0.0	0.0	1.7	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				1.4	0.0	14.5	0.7	3.2	0.0	0.0	12.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				48.8	0.0	187.6	6.9	3.7	0.0	0.0	13.0	0.0
LnGrp LOS				D	A	F	A	A	A	A	B	
Approach Vol, veh/h					186			475			620	A
Approach Delay, s/veh					166.7			4.2			13.0	
Approach LOS					F			A			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.4	80.0		16.6		97.4
Change Period (Y+Rc), s	8.3	7.4		6.6		7.4
Max Green Setting (Gmax), s	10.0	72.6		10.0		72.6
Max Q Clear Time (g_c+I1), s	3.4	22.8		12.0		8.5
Green Ext Time (p_c), s	0.1	4.2		0.0		2.4

Intersection Summary	
HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	9.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	133	40	514	147	27	518
Future Vol, veh/h	133	40	514	147	27	518
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	5	4	3	4	3
Mvmt Flow	141	43	547	156	29	551

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1234	625	0	0	703	0
Stage 1	625	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Critical Hdwy	6.42	6.25	-	-	4.14	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.345	-	-	2.236	-
Pot Cap-1 Maneuver	195	479	-	-	885	-
Stage 1	534	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	186	479	-	-	885	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	517	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	74	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	217	885	-
HCM Lane V/C Ratio	-	-	0.848	0.032	-
HCM Control Delay (s)	-	-	74	9.2	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	6.5	0.1	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	48	67	65	450	462	23
Future Vol, veh/h	48	67	65	450	462	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	235	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	73	71	489	502	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1146	264	527	0	-	0
Stage 1	515	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	206	735	1038	-	-	-
Stage 1	565	-	-	-	-	-
Stage 2	529	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	192	735	1038	-	-	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	529	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.8	1.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1038	-	192	735	-	-
HCM Lane V/C Ratio	0.068	-	0.272	0.099	-	-
HCM Control Delay (s)	8.7	-	30.6	10.4	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.1	0.3	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	158	1	2	130	48	2	1	2	48	2	39
Future Vol, veh/h	25	158	1	2	130	48	2	1	2	48	2	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	172	1	2	141	52	2	1	2	52	2	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	193	0	0	173	0	0	420	424	173	399	398	167
Stage 1	-	-	-	-	-	-	227	227	-	171	171	-
Stage 2	-	-	-	-	-	-	193	197	-	228	227	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1380	-	-	1404	-	-	544	522	871	561	540	877
Stage 1	-	-	-	-	-	-	776	716	-	831	757	-
Stage 2	-	-	-	-	-	-	809	738	-	775	716	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1380	-	-	1404	-	-	506	509	871	549	527	877
Mov Cap-2 Maneuver	-	-	-	-	-	-	506	509	-	549	527	-
Stage 1	-	-	-	-	-	-	759	700	-	813	755	-
Stage 2	-	-	-	-	-	-	766	737	-	755	700	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.1	11	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	609	1380	-	-	1404	-	-	656
HCM Lane V/C Ratio	0.009	0.02	-	-	0.002	-	-	0.147
HCM Control Delay (s)	11	7.7	0	-	7.6	0	-	11.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.5

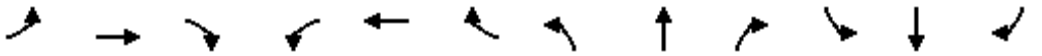
Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	194	181	413	371	17
Future Vol, veh/h	23	194	181	413	371	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	370
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	211	197	449	403	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1246	403	421	0	-	0
Stage 1	403	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	192	647	1138	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	422	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	148	647	1138	-	-	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	519	-	-	-	-	-
Stage 2	422	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.7	2.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1138	-	477	-	-
HCM Lane V/C Ratio	0.173	-	0.494	-	-
HCM Control Delay (s)	8.8	0	19.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.6	-	2.7	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	190	86	265	176	85	109	393	225	103	339	24
Future Volume (veh/h)	36	190	86	265	176	85	109	393	225	103	339	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	207	75	288	191	92	118	427	123	112	368	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	234	85	306	499	423	396	743	630	350	687	39
Arrive On Green	0.03	0.18	0.18	0.12	0.27	0.27	0.06	0.40	0.40	0.05	0.39	0.39
Sat Flow, veh/h	1781	1310	475	1781	1870	1585	1781	1870	1585	1781	1752	100
Grp Volume(v), veh/h	39	0	282	288	191	92	118	427	123	112	0	389
Grp Sat Flow(s),veh/h/ln	1781	0	1785	1781	1870	1585	1781	1870	1585	1781	0	1852
Q Serve(g_s), s	1.9	0.0	17.0	13.2	9.2	5.0	4.3	19.6	5.6	4.1	0.0	17.8
Cycle Q Clear(g_c), s	1.9	0.0	17.0	13.2	9.2	5.0	4.3	19.6	5.6	4.1	0.0	17.8
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	318	0	319	306	499	423	396	743	630	350	0	726
V/C Ratio(X)	0.12	0.00	0.88	0.94	0.38	0.22	0.30	0.57	0.20	0.32	0.00	0.54
Avail Cap(c_a), veh/h	475	0	405	306	499	423	503	743	630	466	0	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.1	0.0	44.1	34.0	33.0	31.4	19.5	25.9	21.7	19.9	0.0	25.8
Incr Delay (d2), s/veh	0.2	0.0	17.0	36.2	0.5	0.3	0.4	3.2	0.7	0.5	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	0.0	13.6	14.0	7.3	3.4	3.1	13.8	3.8	3.0	0.0	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	0.0	61.1	70.2	33.4	31.7	20.0	29.2	22.4	20.4	0.0	28.6
LnGrp LOS	D	A	E	E	C	C	B	C	C	C	A	C
Approach Vol, veh/h		321			571			668			501	
Approach Delay, s/veh		57.9			51.7			26.3			26.8	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	50.3	10.3	36.2	12.8	50.8	20.0	26.5
Change Period (Y+Rc), s	7.1	* 7.1	6.8	* 6.8	6.8	7.1	6.8	6.8
Max Green Setting (Gmax), s	12.9	* 43	13.2	* 18	13.2	42.9	13.2	25.0
Max Q Clear Time (g_c+I1), s	6.3	19.8	3.9	11.2	6.1	21.6	15.2	19.0
Green Ext Time (p_c), s	0.1	2.1	0.0	0.7	0.1	2.7	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Appendix F
Trip Generation Sheets

Senior Adult Housing - Multifamily
(252)

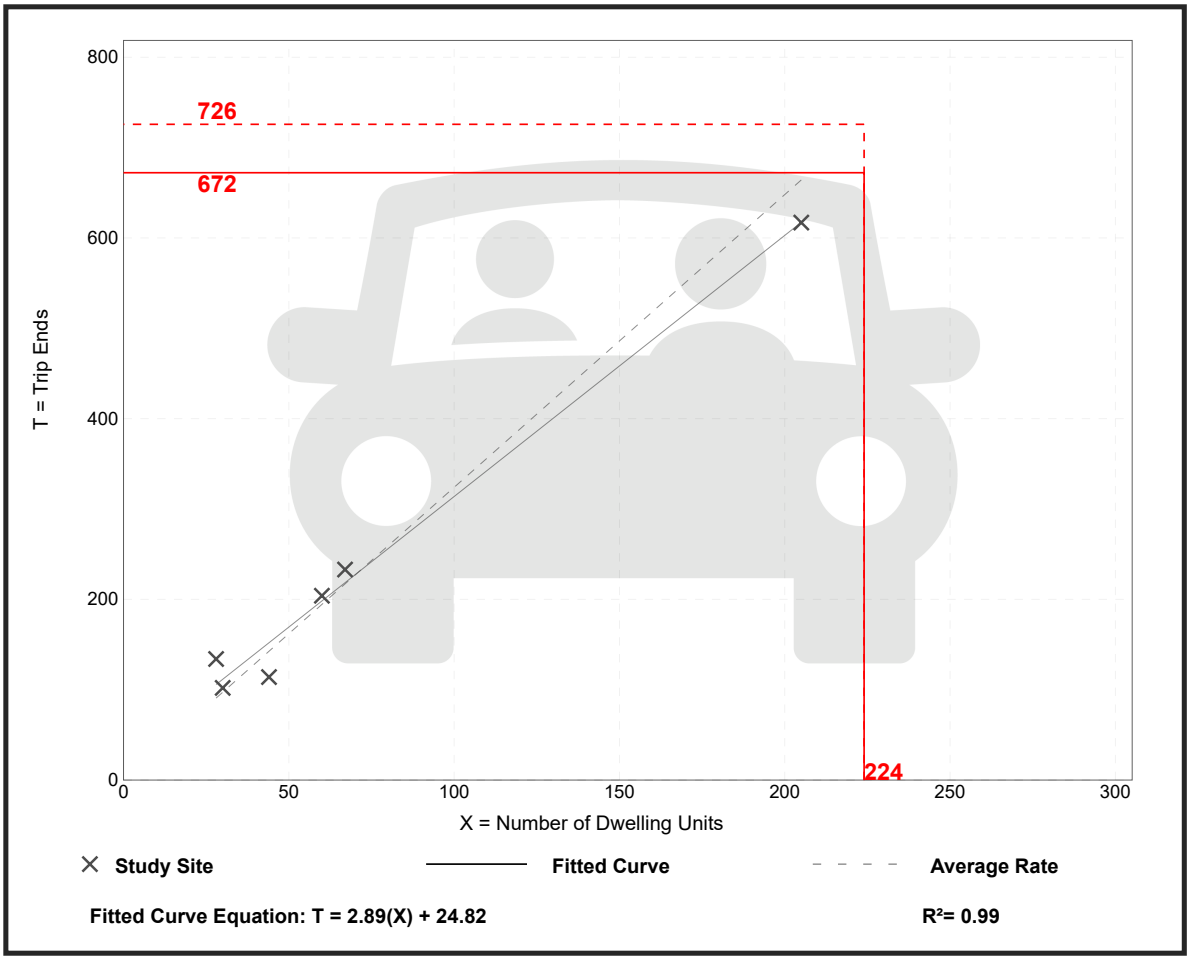
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. Num. of Dwelling Units: 72
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
3.24	2.59 - 4.79	0.53

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

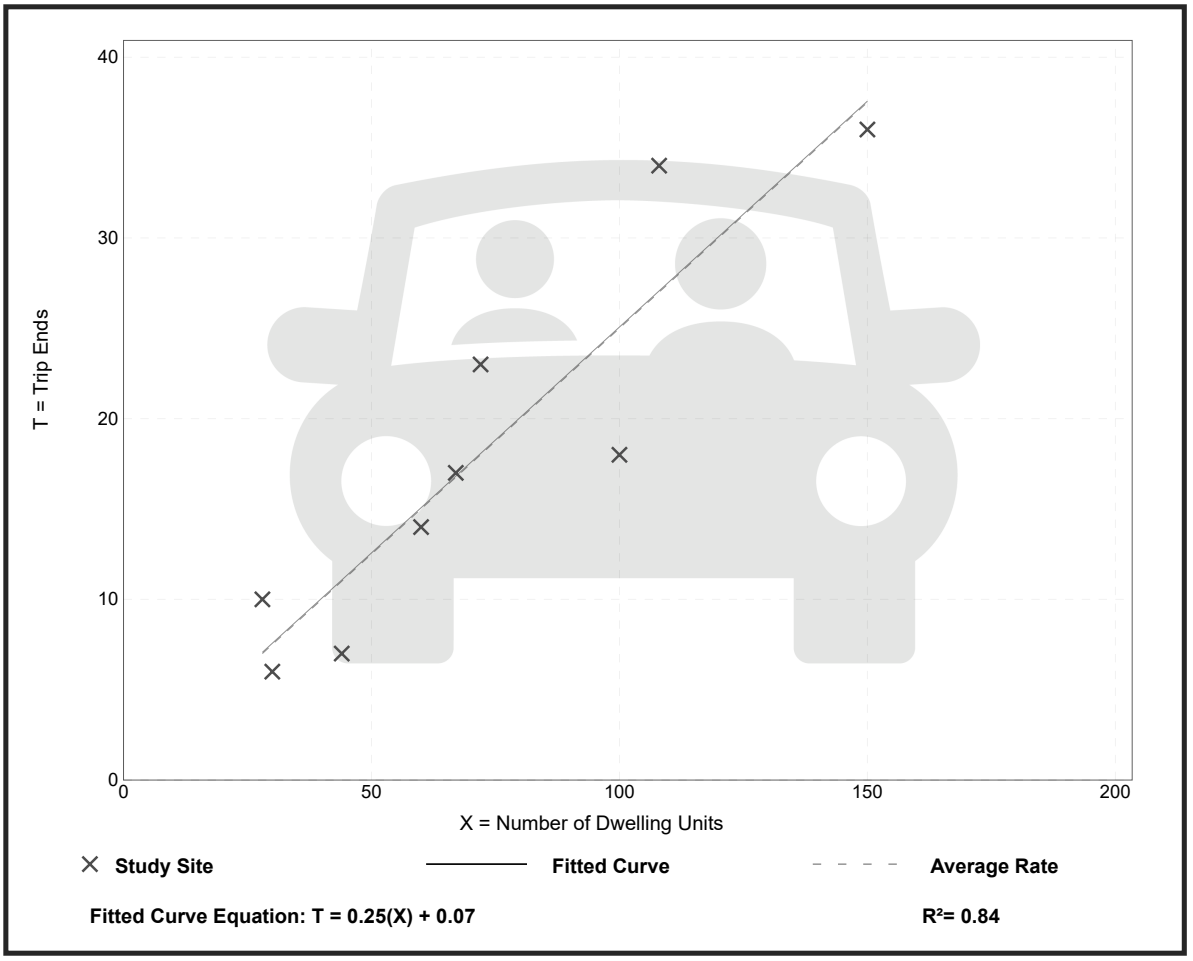
Senior Adult Housing - Multifamily
(252)

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:	9
Avg. Num. of Dwelling Units:	73
Directional Distribution:	56% entering, 44% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.25	0.16 - 0.36	0.06

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Medical-Dental Office Building - Stand-Alone
(720)

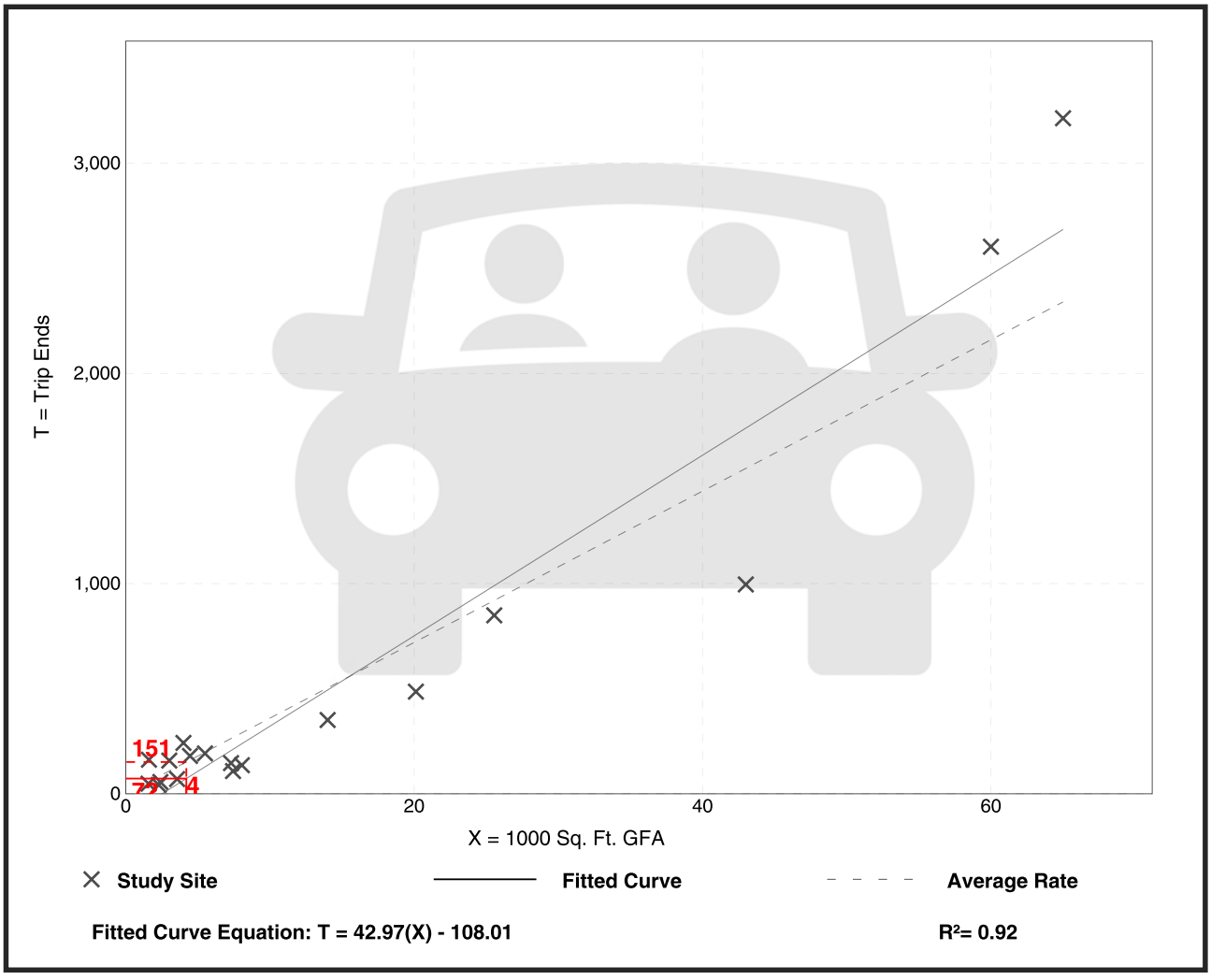
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 18
Avg. 1000 Sq. Ft. GFA: 15
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
36.00	14.52 - 100.75	13.38

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

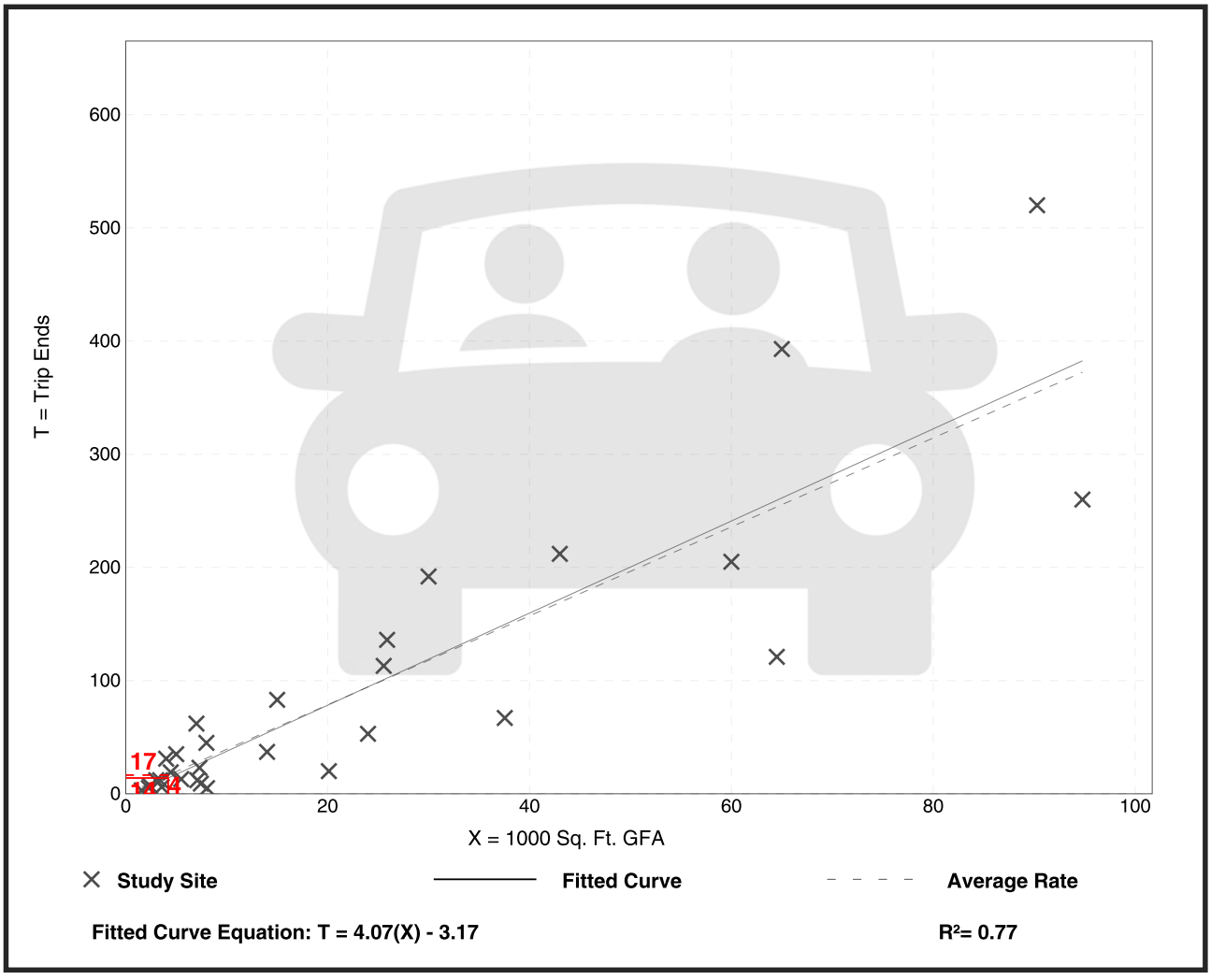
Medical-Dental Office Building - Stand-Alone
(720)

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: 30
Avg. 1000 Sq. Ft. GFA: 23
Directional Distribution: 30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.93	0.62 - 8.86	1.86

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Shopping Plaza (40-150k) - Supermarket - Yes
(821)

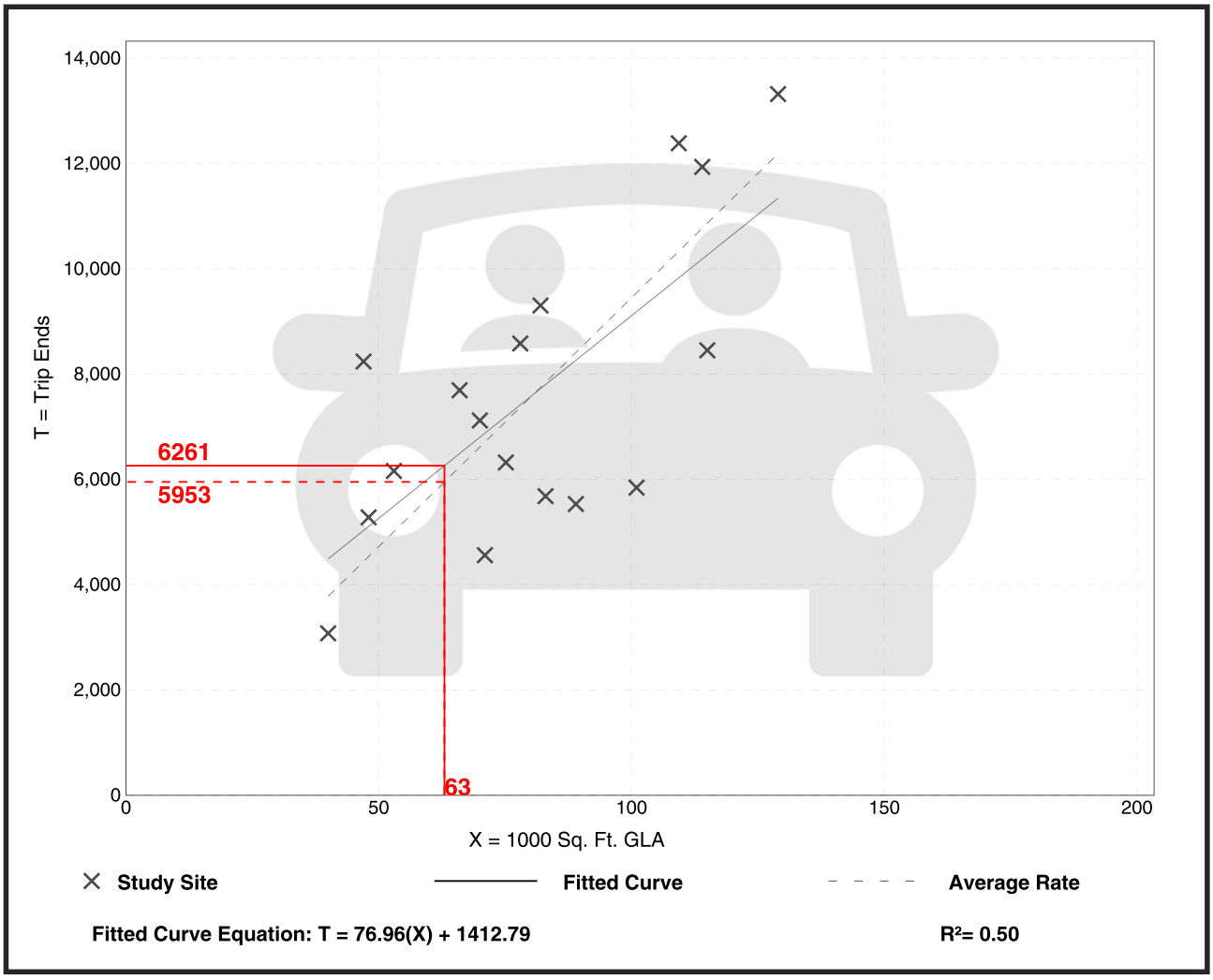
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 17
Avg. 1000 Sq. Ft. GLA: 81
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
94.49	57.86 - 175.32	26.55

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

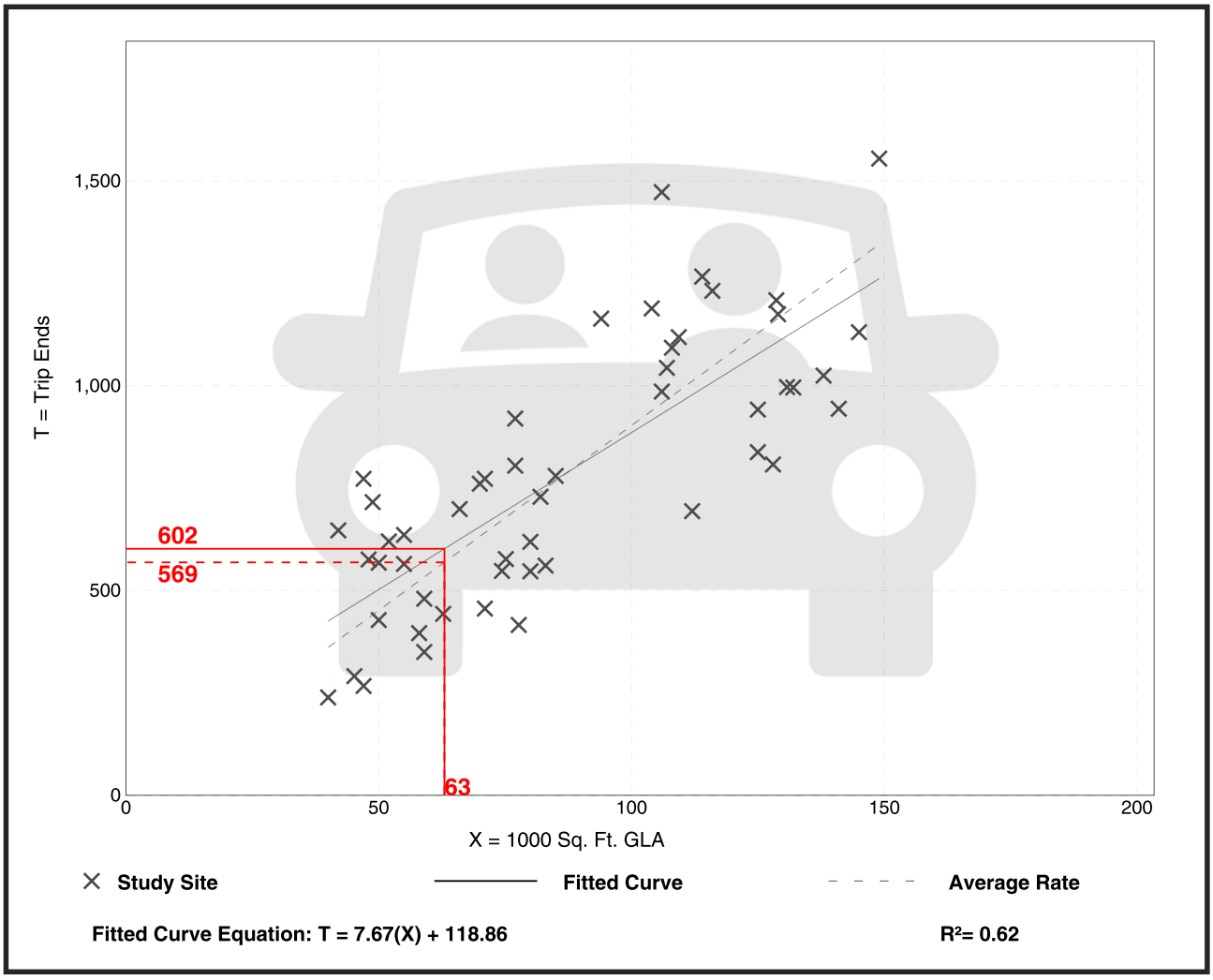
Shopping Plaza (40-150k) - Supermarket - Yes
(821)

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: 51
Avg. 1000 Sq. Ft. GLA: 87
Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
9.03	5.35 - 16.45	2.37

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Fast-Food Restaurant with Drive-Through Window
(934)

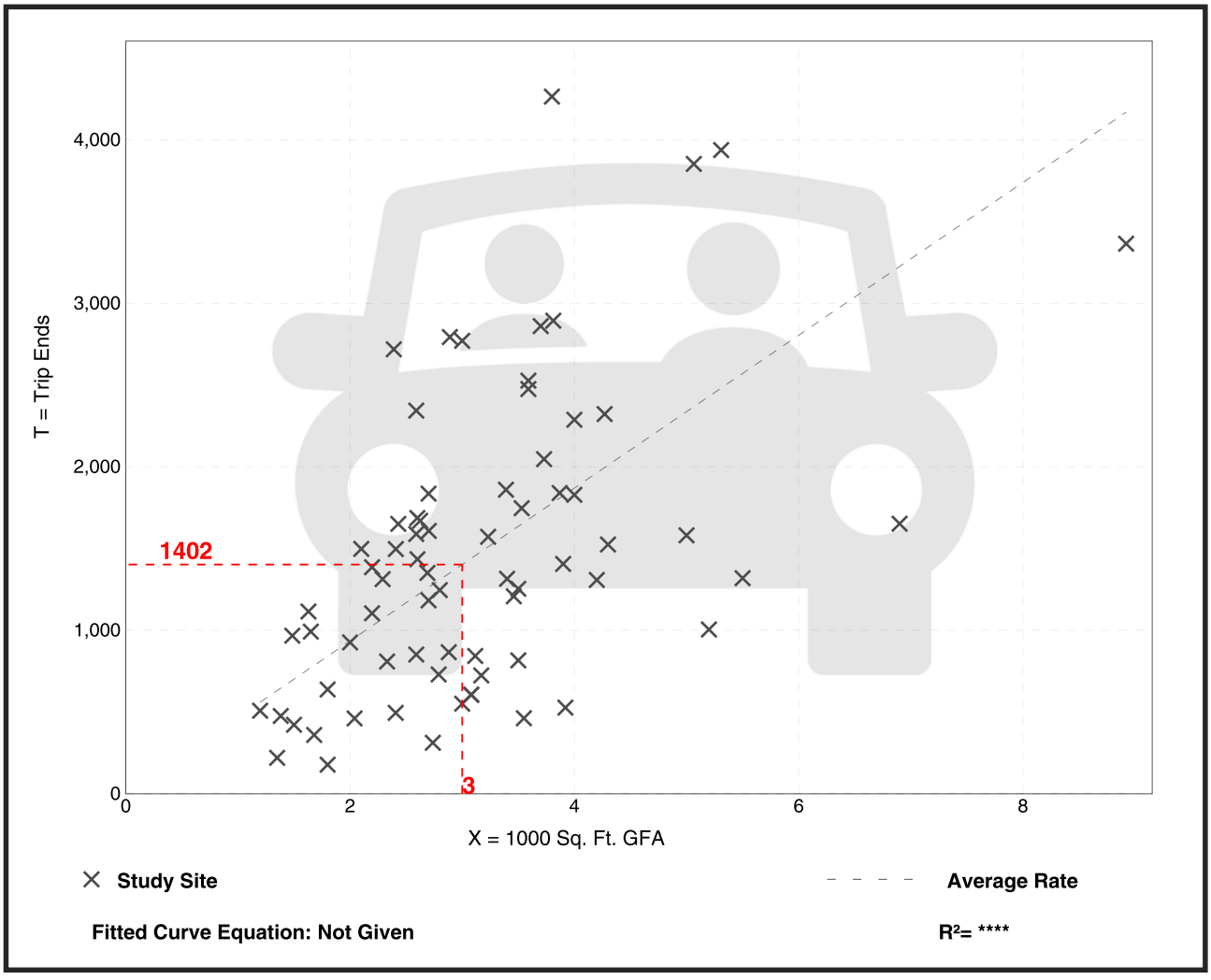
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 71
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
467.48	98.89 - 1137.66	238.62

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

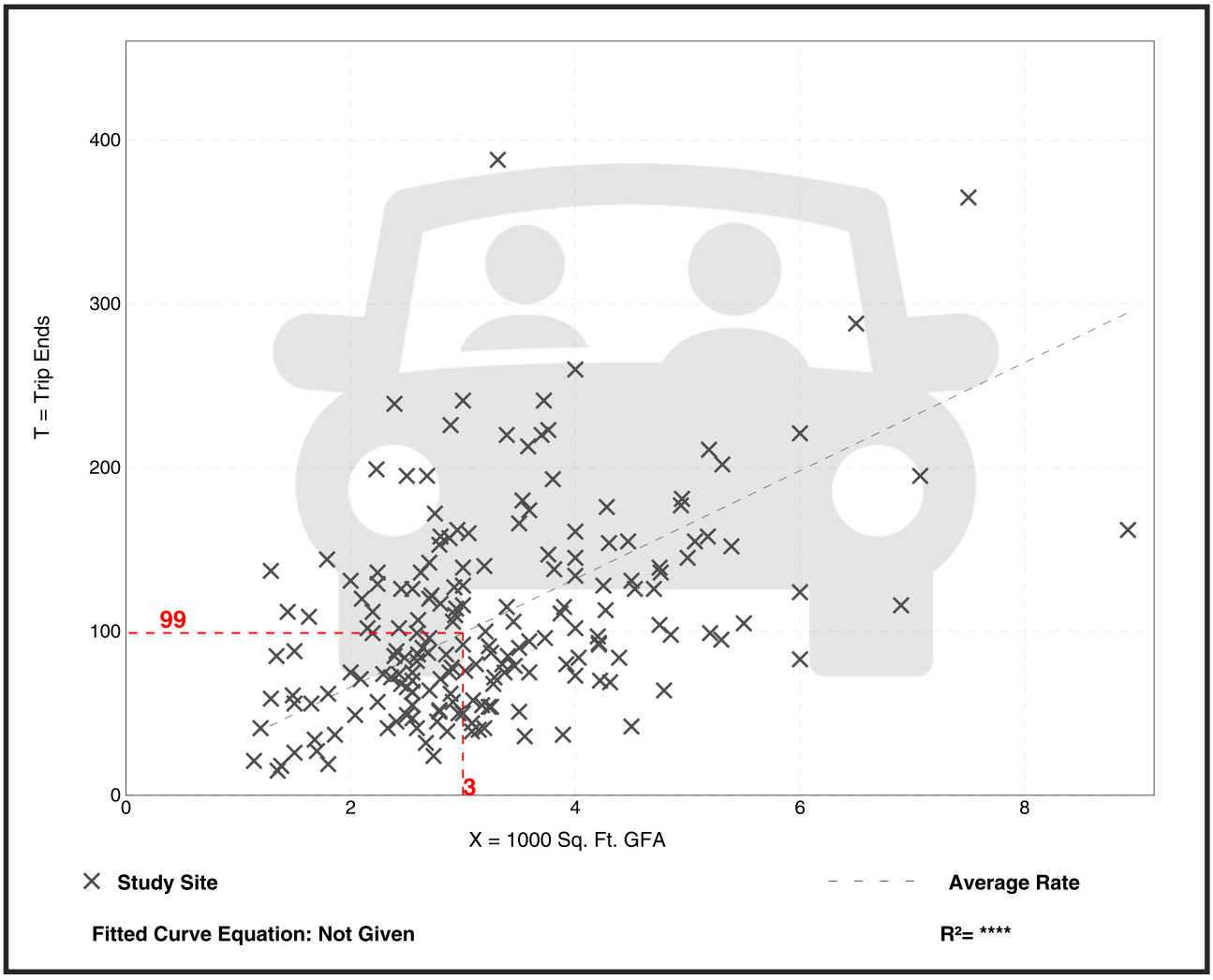
Fast-Food Restaurant with Drive-Through Window
(934)

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: 190
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Coffee/Donut Shop with Drive-Through Window
(937)

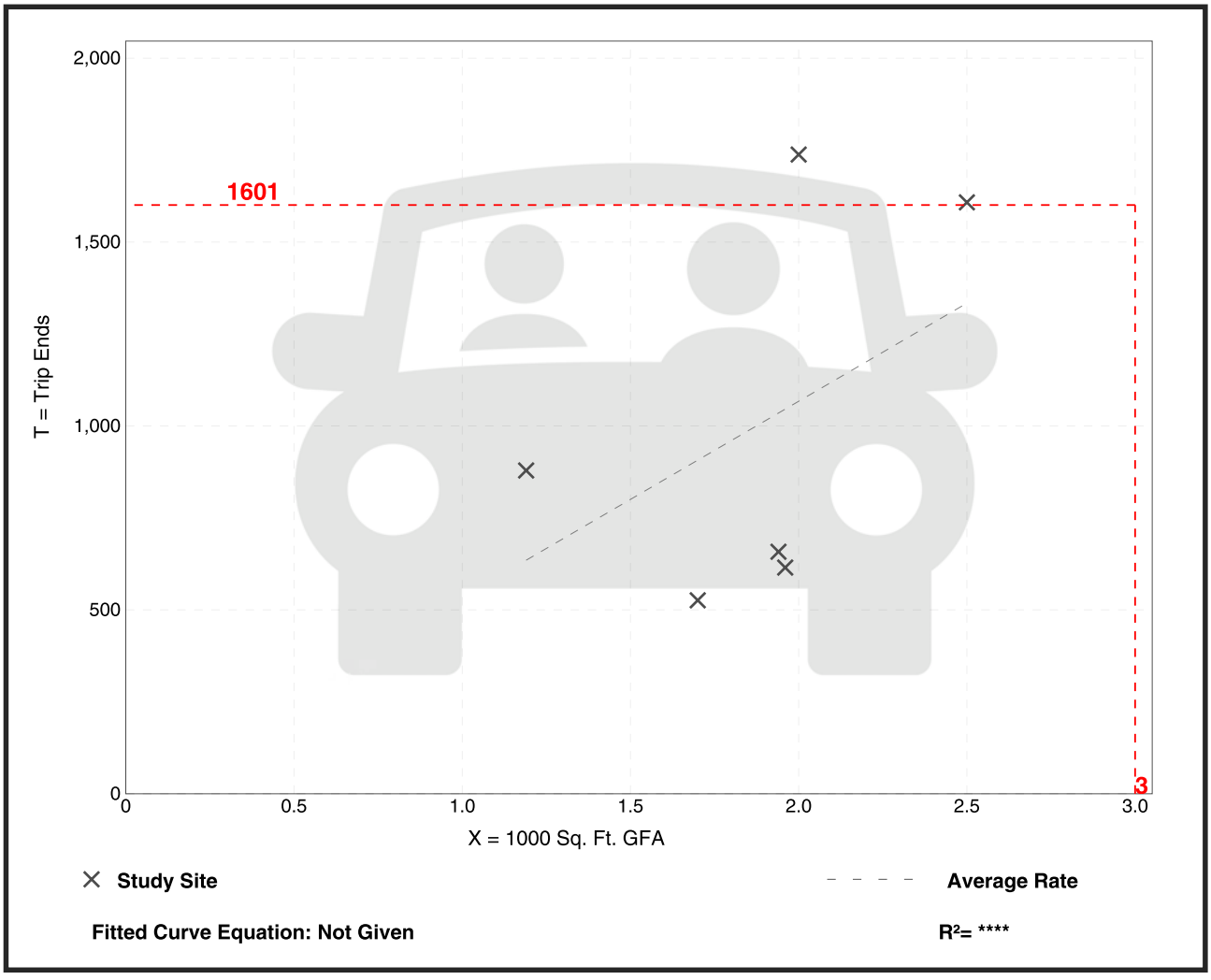
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
533.57	309.41 - 869.00	243.65

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

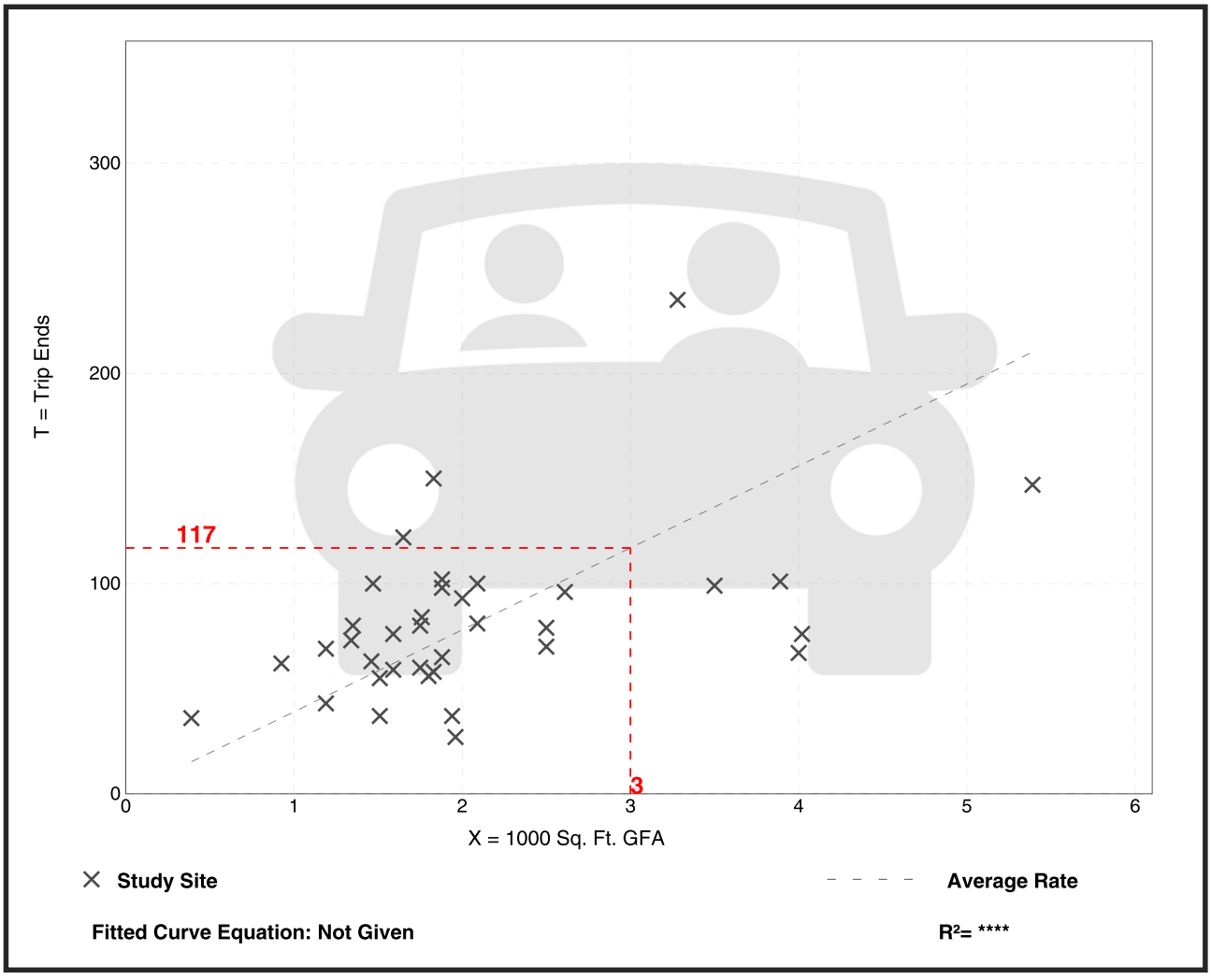
Coffee/Donut Shop with Drive-Through Window
(937)

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: 36
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
38.99	13.78 - 92.31	17.79

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Convenience Store/Gas Station - GFA (2-4k)
(945)

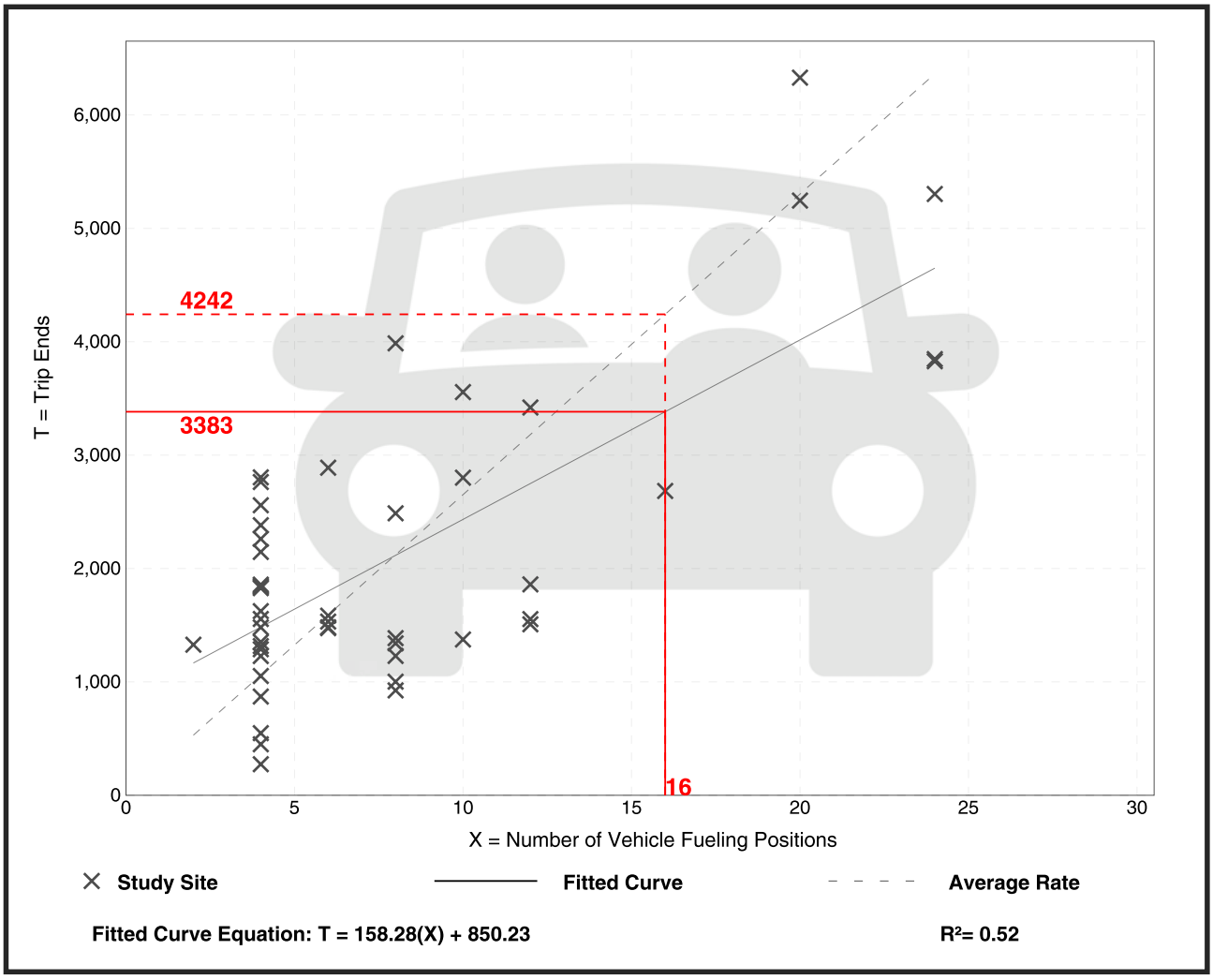
Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 48
Avg. Num. of Vehicle Fueling Positions: 8
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
265.12	68.50 - 701.00	142.37

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

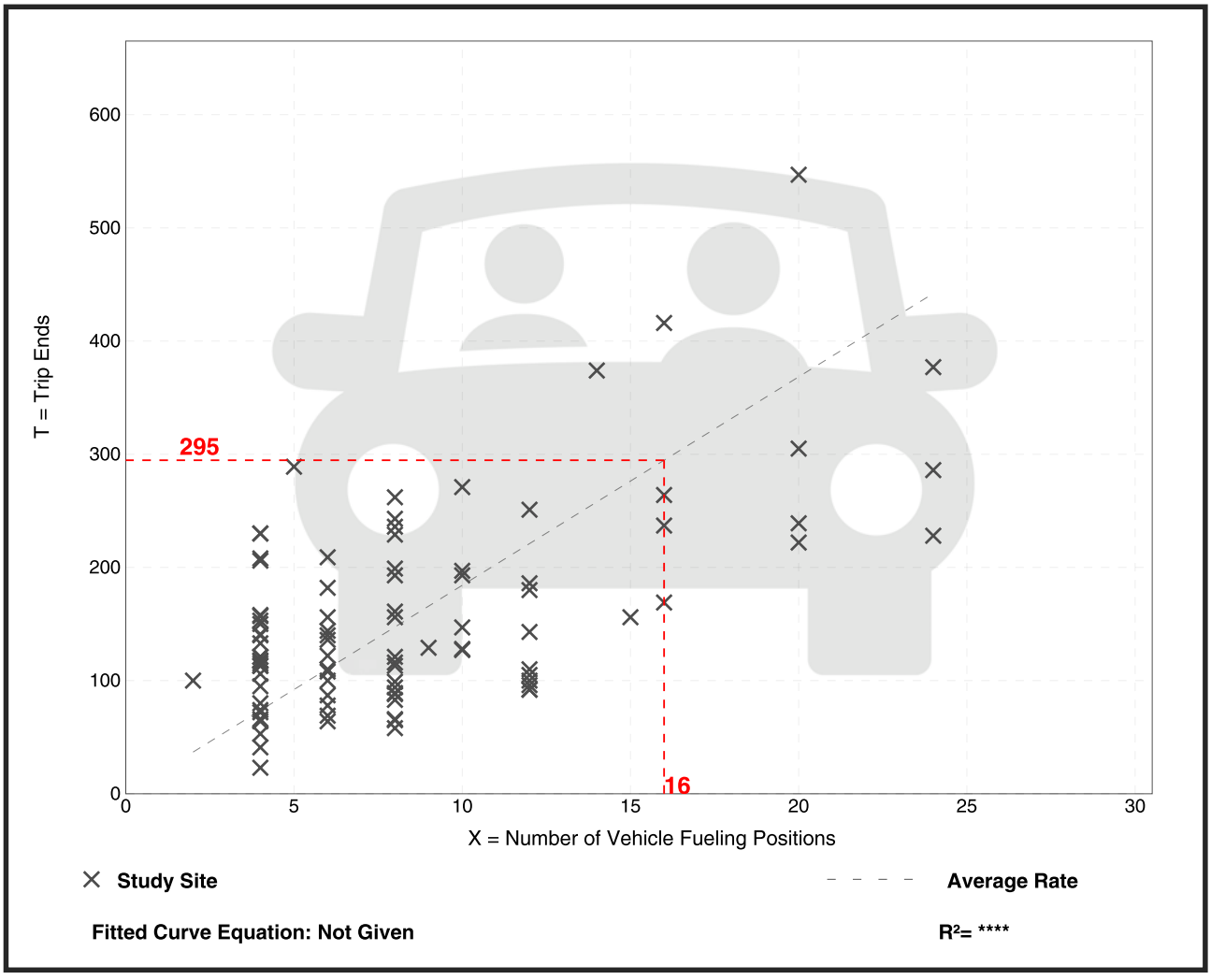
Convenience Store/Gas Station - GFA (2-4k)
(945)

Vehicle Trip Ends vs: **Vehicle Fueling Positions**
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: 93
Avg. Num. of Vehicle Fueling Positions: 8
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
18.42	5.75 - 57.80	10.16

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Table F.9 (Cont'd) Pass-By and Non-Pass-By Trips Weekday, PM Peak Period Land Use Code 820—Shopping Center

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
921	Albany, NY	July & Aug. 1985	196	4:00–6:00 p.m.	23	42	35	77	—	60,950	Raymond Keyes Assoc.
108	Overland Park, KS	July 1988	111	4:30–5:30 p.m.	26	61	13	74	—	34,000	—
118	Overland Park, KS	Aug. 1988	123	4:30–5:30 p.m.	25	55	20	75	—	—	—
256	Greece, NY	June 1988	120	4:00–6:00 p.m.	38	62	—	62	—	23,410	Sear Brown
160	Greece, NY	June 1988	78	4:00–6:00 p.m.	29	71	—	71	—	57,306	Sear Brown
550	Greece, NY	June 1988	117	4:00–6:00 p.m.	48	52	—	52	—	40,763	Sear Brown
51	Boca Raton, FL	Dec. 1987	110	4:00–6:00 p.m.	33	34	33	67	—	42,225	Kimley-Horn and Assoc. Inc.
1,090	Ross Twp, PA	July 1988	411	2:00–8:00 p.m.	34	56	10	66	—	51,500	Wilbur Smith and Assoc.
97	Upper Dublin Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	41	—	—	59	—	34,000	McMahon Associates
118	Tredyffrin Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	24	—	—	76	—	10,000	Booz Allen & Hamilton
122	Lawnside, NJ	Winter 1988/89	—	4:00–6:00 p.m.	37	—	—	63	—	20,000	Pennoni Associates
126	Boca Raton, FL	Winter 1988/89	—	4:00–6:00 p.m.	43	—	—	57	—	40,000	McMahon Associates
150	Willow Grove, PA	Winter 1988/89	—	4:00–6:00 p.m.	39	—	—	61	—	26,000	Booz Allen & Hamilton
153	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	50	—	—	50	—	85,000	McMahon Associates
153	Arden, DE	Winter 1988/89	—	4:00–6:00 p.m.	30	—	—	70	—	26,000	Orth-Rodgers & Assoc. Inc.
154	Doylestown, PA	Winter 1988/89	—	4:00–6:00 p.m.	32	—	—	68	—	29,000	Orth-Rodgers & Assoc. Inc.
164	Middletown Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	33	—	—	67	—	25,000	Booz Allen & Hamilton
166	Haddon Twp, NJ	Winter 1988/89	—	4:00–6:00 p.m.	20	—	—	80	—	6,000	Pennoni Associates
205	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	55	—	—	45	—	62,000	McMahon Associates

Table F.9 (Cont'd) Pass-By and Non-Pass-By Trips Weekday, PM Peak Period Land Use Code 820—Shopping Center

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
237	W. Windsor Twp, NJ	Winter 1988/89	—	4:00–6:00 p.m.	48	—	—	52	—	46,000	Booz Allen & Hamilton
242	Willow Grove, PA	Winter 1988/89	—	4:00–6:00 p.m.	37	—	—	63	—	26,000	McMahon Associates
297	Whitehall, PA	Winter 1988/89	—	4:00–6:00 p.m.	33	—	—	67	—	26,000	Orth-Rodgers & Assoc. Inc.
360	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	44	—	—	56	—	73,000	McMahon Associates
370	Pittsburgh, PA	Winter 1988/89	—	4:00–6:00 p.m.	19	—	—	81	—	33,000	Wilbur Smith
150	Portland, OR	—	519	4:00–6:00 p.m.	68	6	26	32	—	25,000	Kittelson and Associates
150	Portland, OR	—	655	4:00–6:00 p.m.	65	7	28	35	—	30,000	Kittelson and Associates
760	Calgary, Alberta	Oct.-Dec. 1987	15,436	4:00–6:00 p.m.	20	39	41	80	—	—	City of Calgary DOT
178	Bordentown, NJ	Apr. 1989	154	2:00–6:00 p.m.	35	—	—	65	—	37,980	Raymond Keyes Assoc.
144	Manalapan, NJ	July 1990	176	3:30–6:15 p.m.	32	44	24	68	—	69,347	Raymond Keyes Assoc.
549	Natick, MA	Feb. 1989	—	4:45–5:45 p.m.	33	26	41	67	—	48,782	Raymond Keyes Assoc.

Average Pass-By Trip Percentage: 34

"—" means no data were provided

Table F.32 Pass-By and Non-Pass-By Trips Weekday, PM Peak Period
Land Use Code 934—Fast-Food Restaurant with Drive-Through Window

SEATS	SIZE (1,000 SQ. FT. GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
							PRIMARY	DIVERTED	TOTAL		
—	~2.6	Minn-St. Paul, MN	1987	50	3:00–7:00 p.m.	25	27	48	75	—	—
—	<5.0	Chicago suburbs, IL	1987	80	3:00–6:00 p.m.	38	—	—	62	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	100	3:00–6:00 p.m.	55	—	—	45	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	159	3:00–6:00 p.m.	56	—	—	44	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	225	3:00–6:00 p.m.	48	—	—	52	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	88	3:00–6:00 p.m.	35	—	—	65	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	84	3:00–6:00 p.m.	44	—	—	56	—	Kenig, O'Hara, Humes, Flock
88	1.3	Louisville area, KY	1993	—	4:00–6:00 p.m.	68	22	10	32	2,055	Barton-Aschman Assoc.
120	1.9	Louisville area, KY	1993	33	4:00–6:00 p.m.	67	24	9	33	2,447	Barton-Aschman Assoc.
87	4.2	New Albany, IN	1993	—	4:00–6:00 p.m.	56	25	19	44	1,632	Barton-Aschman Assoc.
150	3.0	Louisville area, KY	1993	—	4:00–6:00 p.m.	31	31	38	69	4,250	Barton-Aschman Assoc.
—	3.1	Kissimmee, FL	1995	28	2:00–6:00 p.m.	71	—	—	29	—	TPD Inc.
—	3.1	Apopka, FL	1996	29	2:00–6:00 p.m.	38	—	—	62	—	TPD Inc.
—	2.8	Winter Springs, FL	1995	47	2:00–6:00 p.m.	66	—	—	34	—	TPD Inc.
—	4.3	Longwood, FL	1994	304	2:00–6:00 p.m.	62	—	—	38	—	TPD Inc.
—	3.2	Altamonte Springs, FL	1996	202	2:00–6:00 p.m.	40	39	21	60	—	TPD Inc.
—	2.9	Winter Park, FL	1996	271	2:00–6:00 p.m.	41	41	18	59	—	TPD Inc.
—	3.3*	several	1996	varies	4:00–6:00 p.m.	62	—	—	38	—	Oracle Engineering

*Average of several combined studies.

Average Pass-By Trip Percentage: 50

"—" means no data were provided

Table F.33 Pass-By and Non-Pass-By Trips Weekday
Land Use Code 938—Coffee/Donut Shop with Drive-Through Window and No Indoor Seating (Coffee/Espresso Stand)

SIZE (1,000 SQ. FT. GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			SOURCE
						PRIMARY	DIVERTED	TOTAL	
0.1	Vancouver, WA	Nov. 1997	69	6:00 a.m.–6:00 p.m.	83	—	—	17	Kittelson & Associates Inc.

"—" means no data were provided

Table F.34 Pass-By and Non-Pass-By Trips Weekday
Land Use Code 938—Coffee/Donut Shop with Drive-Through Window and No Indoor Seating (Coffee/Espresso Stand)

EMPLOYEES	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			SOURCE
						PRIMARY	DIVERTED	TOTAL	
1	Vancouver, WA	Nov. 1997	70	6:00 a.m.–6:00 p.m.	83	—	—	17	Kittelson & Associates Inc.
1	Woodburn, OR	Feb. 1998	109	6:00 a.m.–6:00 p.m.	95	—	—	5	Kittelson & Associates Inc.
1	Vancouver, WA	Feb. 1998	83	6:00 a.m.–1:00 p.m.	89	—	—	11	Kittelson & Associates Inc.

Average Pass-By Trip Percentage: 89

"—" means no data were provided

Table F.35 Pass-By and Non-Pass-By Trips Weekday, AM Peak Period
Land Use Code 944—Gasoline/Service Station

SIZE (1,000 SQ. FT. GFA)	VEHICLE FUELING POSITIONS	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
							PRIMARY	DIVERTED	TOTAL		
2.3	6	Gaithersburg, MD	1992	37	7:00–9:00 a.m.	32	41	27	68	2,080	RBA
2.1	6	Bethesda, MD	1992	26	7:00–9:00 a.m.	58	23	19	42	2,080	RBA
1.7	6	Wheaton, MD	1992	21	7:00–9:00 a.m.	67	14	19	33	900	RBA
2.0	8	Gaithersburg, MD	1992	46	7:00–9:00 a.m.	87	13	0	13	2,235	RBA
1.2	6	Damascus, MD	1992	21	7:00–9:00 a.m.	43	28	29	57	870	RBA
0.3	12	Wheaton, MD	1992	36	7:00–9:00 a.m.	61	8	31	39	3,480	RBA

Average Pass-By Trip Percentage: 58

"—" means no data were provided

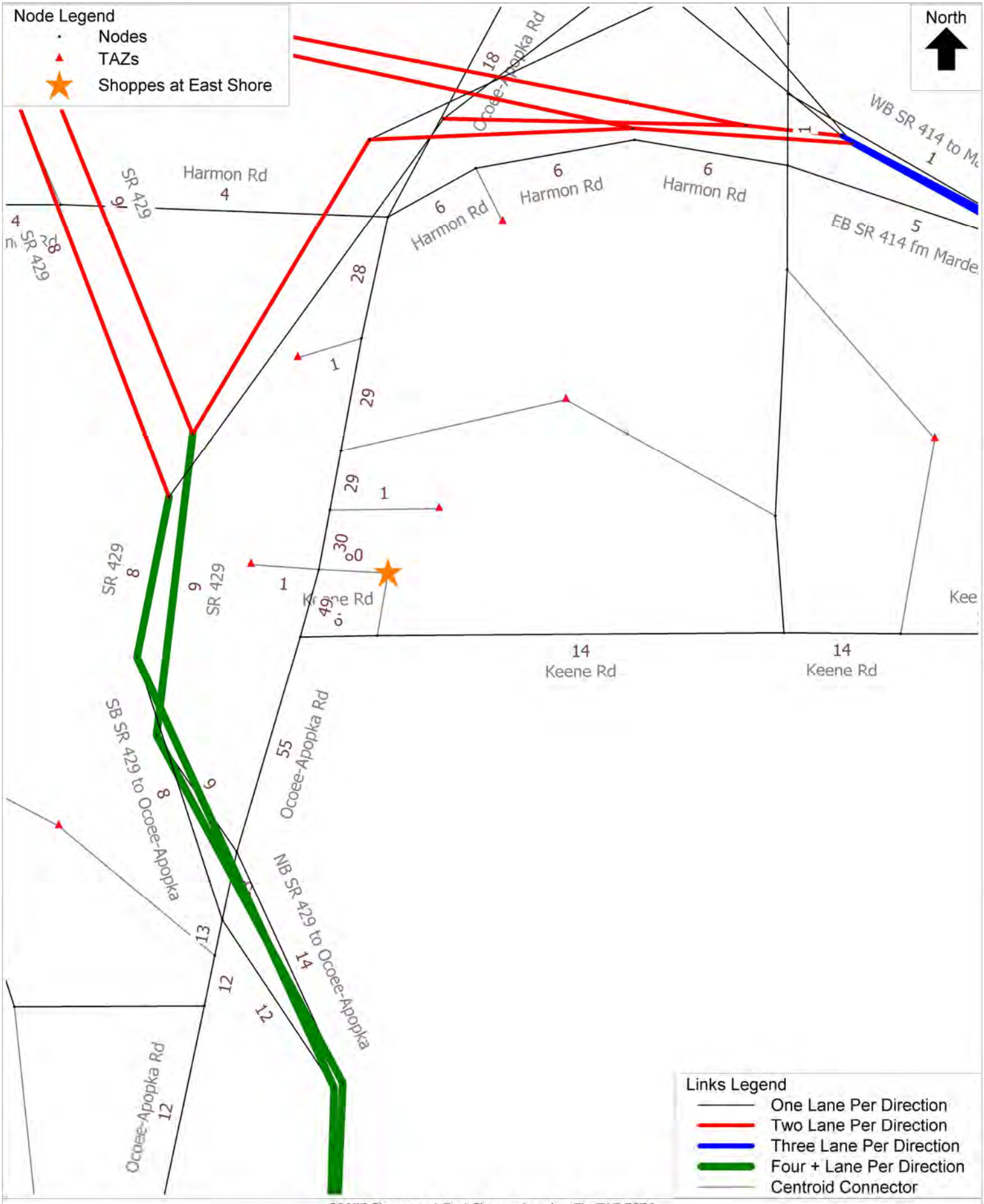
Table F.38 Pass-By and Non-Pass-By Trips Weekday, PM Peak Period
Land Use Code 945—Gasoline/Service Station with Convenience Market

SIZE (1,000 SQ. FT. GFA)	VEHICLE FUELING POSITIONS	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
							PRIMARY	DIVERTED	TOTAL		
0.8	8	Louisville area, KY	1993	83	4:00–6:00 p.m.	52	8	40	48	4,965	Barton-Aschman Assoc.
0.6	8	Louisville, KY	1993	60	4:00–6:00 p.m.	53	20	27	47	1,491	Barton-Aschman Assoc.
0.7	10	Louisville, KY	1993	—	4:00–6:00 p.m.	57	19	24	43	1,812	Barton-Aschman Assoc.
0.7	8	Louisville area, KY	1993	—	4:00–6:00 p.m.	72	7	21	28	2,657	Barton-Aschman Assoc.
0.7	10	Louisville area, KY	1993	—	4:00–6:00 p.m.	55	16	29	45	2,657	Barton-Aschman Assoc.
0.8	8	Silver Spring, MD	1992	36	4:00–6:00 p.m.	67	14	19	33	3,095	RBA
0.4	8	Derwood, MD	1992	46	4:00–6:00 p.m.	46	11	43	54	3,770	RBA
2.1	8	Kensington, MD	1992	31	4:00–6:00 p.m.	52	13	35	48	1,785	RBA
1	8	Silver Spring, MD	1992	35	4:00–6:00 p.m.	54	3	43	46	7,080	RBA

Average Pass-By Trip Percentage: 56

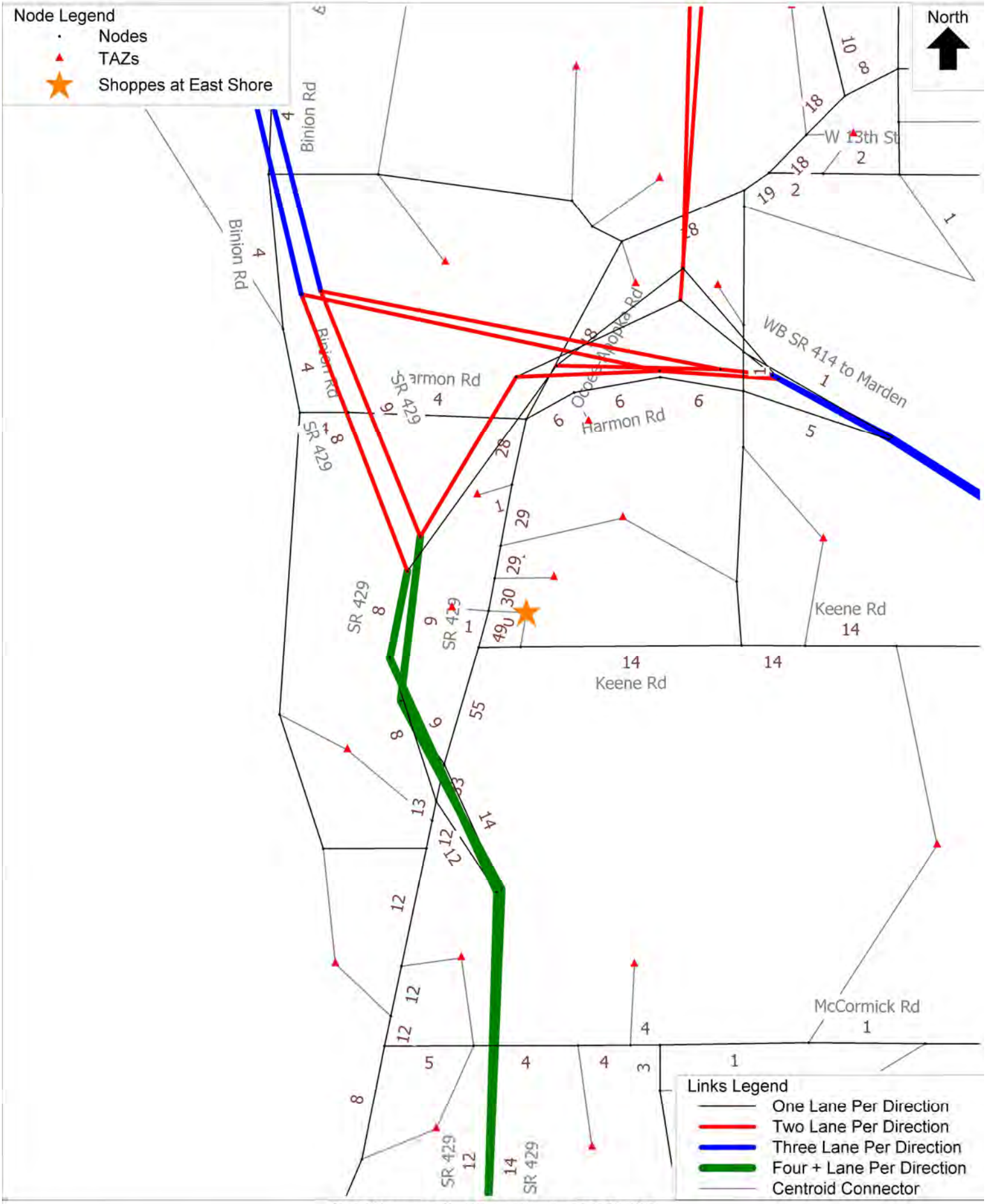
"—" means no data were provided

Appendix G
Model Distribution Plots



22057 Shoppes at East Shore - Apopka, FL -TAZ 7676
CFRPM7 CF2025 Project Distribution
V2.0 T:\AProjectFiles\2022\22057 Shoppes at East Shore (Apopka Publix)\Model\Model Files\HWYLOAD_SL_AllDay_A25.NET Tue 16 Aug 2022

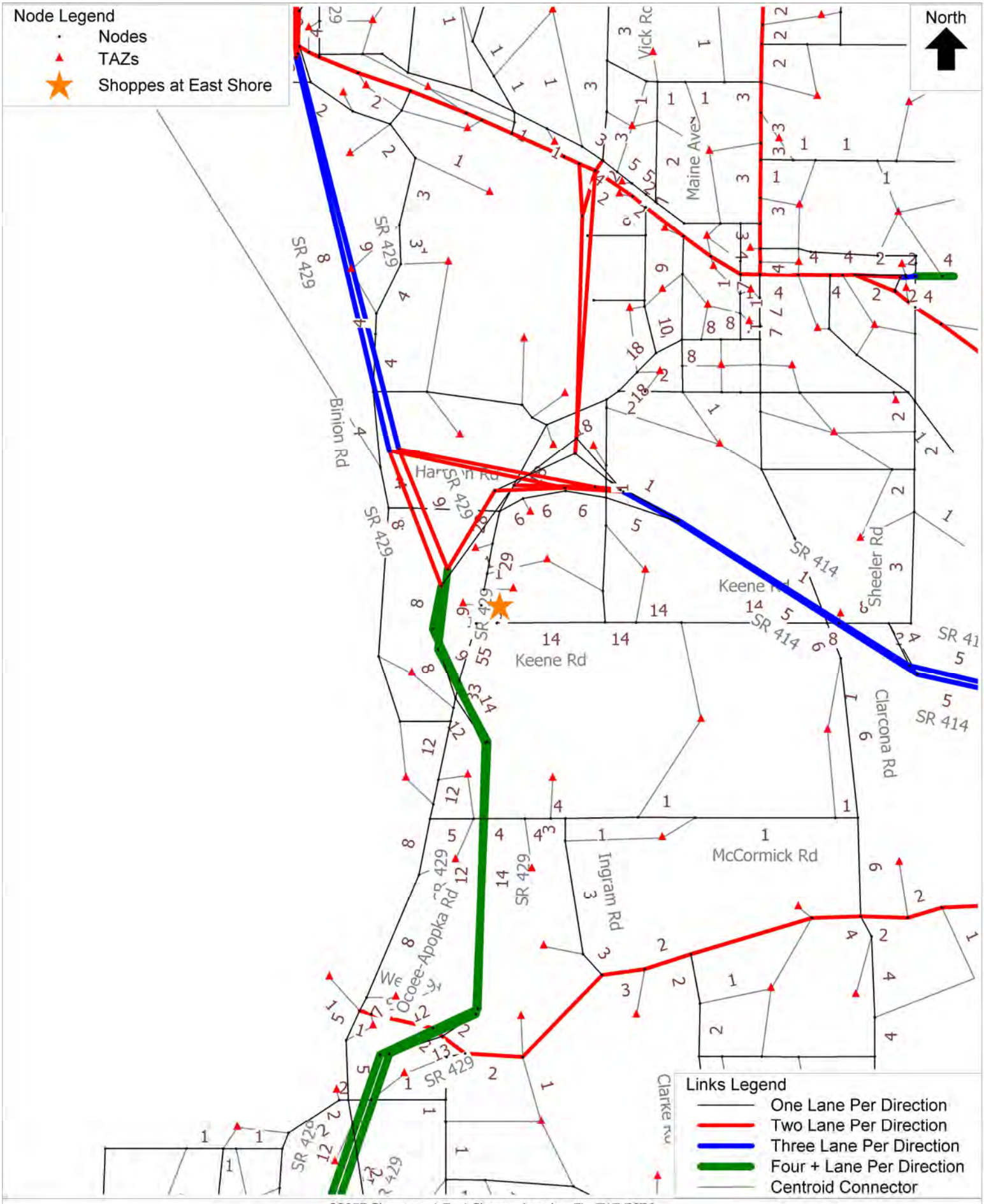
cube (Licensed to)



22057 Shoppes at East Shore - Apopka, FL -TAZ 7676
CFRPM7 CF2025 Project Distribution
V2.0 T:\AProjectFiles\2022\22057 Shoppes at East Shore (Apopka Publix)\Model\Model Files\HWYLOAD_SL_AllDay_A25.NET Tue 16 Aug 2022

cube

(Licensed to)



22057 Shoppes at East Shore - Apopka, FL -TAZ 7676
CFRPM7 CF2025 Project Distribution
V2.0 T:\AProjectFiles\2022\22057 Shoppes at East Shore (Apopka Publix)\Model\Model Files\HWYLOAD_SL_AllDay_A25.NET Tue 16 Aug 2022

cube (Licensed to)

Appendix H
Roadway Improvements - City of Apopka CIP

CITY OF APOPKA
CAPITAL IMPROVEMENT PLAN

102/TRAFFIC IMPACT FUND

	FY20/21	FY21/22	FY22/23	FY23/24	FY24/25	TOTAL
Peterson Road/King Street Reconstruction and Safety Improvements	350,000					**$350,000**
Harmon Road Extension - Ocoee-Apopka Road to Existing Harmon Road - New 2-Lane Road	500,000	1,300,000				**$1,800,000**
Harmon Road at Ocoee-Apopka Road New Signal		450,000				**$450,000**
West Kelly Park Road - Capacity and Safety	300,000	500,000		1,000,000	1,000,000	**$2,800,000**
Vick Road at Lester Road New Signal - Design and Construction	500,000					**$500,000**
St. Johns Water Management District Lake Apopka Site Driveway and Turn Lanes DSB	500,000					**$500,000**
Rock Springs Road at Welch Road Intersection Improvments - Phase 2			1,500,000	1,500,000		**$3,000,000**
Vick Road from Old Dixie to Ponkan Road - 4 Lanes						**$0**
Segment 1 Old Dixie Highway to Sun Bluff Lane					300,000	**$300,000**
Segment 2 Sun Bluff Lane to Lester Road					300,000	**$300,000**
Segment 3 Lester Road to Ponkan Road					300,000	**$300,000**
Sandpiper Road Realignment			50,000		550,000	**$600,000**
Sandpiper Road at Park Avenue New Signal			50,000		250,000	**$300,000**
Study and Construction from Vick Road to Hawthorn Road			50,000			**$50,000**
Michael Gladden Road Intersection Improvements			250,000			**$250,000**
New Sidewalk Program	100,000	100,000	100,000	100,000	100,000	**$500,000**
						$0
TOTAL TRAFFIC IMPACT FUND	**$2,250,000**	**$2,350,000**	**$2,000,000**	**$2,600,000**	**$2,800,000**	**$12,000,000**
PROJECT COSTS:						
Land						**$0**
Buildings						
Improvements other than buildings	2,250,000	2,350,000	2,000,000	2,600,000	2,800,000	**$12,000,000**
Equipment and machinery						
TOTAL COSTS:	**$2,250,000**	**$2,350,000**	**$2,000,000**	**$2,600,000**	**$2,800,000**	**$12,000,000**
SOURCE OF FUNDS:						
001 General Funds						**$0**
101 Street Improvement Funds						
102 Transportation Impact Fees	2,250,000	2,350,000	2,000,000	2,600,000	2,800,000	**$12,000,000**
104 Recreation Impact Fees						
120 Stormwater Fees						
401 Water/Sewer/Reclaim Operations						
402 Sanitation						
403 Water/Sewer/Reclaim Impact Fees						
403 Grant Funding						
Amount Unfunded	0	0	0	0	0	**$0**
TOTAL FUNDING:	**$2,250,000**	**$2,350,000**	**$2,000,000**	**$2,600,000**	**$2,800,000**	**$12,000,000**

SR 429 CORRIDOR CAPACITY IMPROVEMENTS PROJECT

PROJECT DESCRIPTION

In January 2022, the Central Florida Expressway Authority (CFX) began the 13-mile capacity improvements of State Road 429 (Daniel Webster Western Beltway) from Tilden Road to SR 414 (John Land Apopka Expressway). The capacity improvements, anticipated to be complete by late 2024, are broken into three segments to minimize impact to motorists.

CFX is adding a travel lane to SR 429 in each direction between Tilden Road and SR 414 as well as sound walls along several locations of the expressway. CFX is also implementing a new design element of wider median shoulders that can temporarily accommodate additional traffic during emergency response events, such as traffic accidents or hurricane evacuations.

WHAT TO EXPECT

Anticipated Start Dates

- Segment 1 – **Mid** 2022:
  Tilden Road to south of Florida's Turnpike
- Segment 2 – **January** 2022:
  South of Florida's Turnpike to West Road
- Segment 3 – **February 2022**:
  West Road to State Road 414

WORK ZONE SAFETY

For the safety of motorists and work crews, speed limits will be strictly enforced during construction. Speeding fines are doubled in work zones when workers are present. Motorists are reminded to change lanes for safety when they see Road Rangers assisting other motorists or flashing lights — it's Florida law.

PROJECT MAP (LARGER MAP ON BACK)

QUICK FACTS

Project Timeline:
January 2022 - Late 2024

Estimated Project Cost:
$399 Million

For more information:

407-383-5817
Construction@CFXway.com
www.CFXway.com
@DriveEPASS

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

E-PASS®

The Central Florida Expressway Authority (CFX) is an independent agency of the State of Florida that operates and maintains a regional network of expressways for 3.3 million residents of Brevard, Lake, Orange, Osceola, and Seminole counties and more than 75 million annual visitors to Central Florida. CFX's 125-centerline mile, user-funded system which includes 73 interchanges, 14 mainline toll plazas, 5 mainline gantries, 76 ramp toll plazas and 343 bridges. On average, more than 1.3 million toll transactions are recorded daily, over 95 percent of them electronically. CFX operates E-PASS, the first electronic toll collection system in Florida, with more than one million E-PASS accounts. For more information, visit CFXway.com.

Central Florida Expressway Authority: 4974 ORL Tower Road, Orlando, FL 32807
Phone: 407.690.5000 | Fax: 407.690.5011 | Email: Info@CFXWay.com

SR 429 CORRIDOR CAPACITY IMPROVEMENTS PROJECT

PROJECT MAP

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability or family status. Para más información en español acerca del proyecto, por favor comuníquese con Kevin Camara al 786-859-1826 o por correo electrónico a Kevin.Camara@QCAusa.com.

Appendix I

Volume Projections, Pass-By Trips Assignment & Vested Trips

Project No. 22057 Shopes at East Shore

Intersection Volumes (2025 Projected PM)

Period	Tgen	Enter	Exit	Pass By	Enter	Exit	SF	Legend
PM Peak		312	326		252	260	1.00	Backg'd + {Vested} + (Project) = Total

Intersection= Binion Road & Ocoee Apopka Road — 1

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	23	1.00	**23**	9			9			**0**	5%		**15**	**47**	23 + {9} + (15) = 47
EB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	194	1.00	**194**	80			80			**0**			**0**	**274**	194 + {80} = 274
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
WB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	181	1.00	**181**	36			36			**0**			**0**	**217**	181 + {36} = 217
NB	T	413	1.00	**413**	82	14	29	125			**0**	15%		**47**	**585**	413 + {125} + (47) = 585
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
SB	T	371	1.00	**371**	108	23	18	149			**0**		15%	**48**	**568**	371 + {149} + (48) = 568
	R	17	1.00	**17**	5			5			**0**		5%	**16**	**38**	17 + {5} + (16) = 38

Intersection= Ocoee Apopka Rd & SR 429 Southbound Ramps — 2

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	20	1.00	**20**	0			0			**0**	15%		**47**	**67**	20 + (47) = 67
EB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	47	1.00	**47**	0			0			**0**			**0**	**47**	47
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
WB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
NB	T	422	1.00	**422**	119	14	29	162			**0**	20%		**62**	**646**	422 + {162} + (62) = 646
	R	26	1.00	**26**	0			0			**0**			**0**	**26**	26
	L	261	1.00	**261**	0			0			**0**		10%	**34**	**295**	261 + (34) = 295
SB	T	342	1.00	**342**	113	23	18	154			**0**		20%	**65**	**561**	342 + {154} + (65) = 561
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	

Intersection= Ocoee Apopka Rd & SR 429 Northbound Ramps — 3

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
EB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	26	1.00	**26**	0			0			**0**			**0**	**26**	26
WB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	293	1.00	**293**	0			0			**0**	10%		**32**	**325**	293 + (32) = 325
	L	72	1.00	**72**	0			0			**0**			**0**	**72**	72
NB	T	370	1.00	**370**	119	14	29	162			**0**	35%		**109**	**641**	370 + {162} + (109) = 641
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
SB	T	577	1.00	**577**	113	23	18	154			**0**		30%	**99**	**830**	577 + {154} + (99) = 830
	R	41	1.00	**41**	0			0			**0**		15%	**47**	**88**	41 + (47) = 88

Intersection= Ocoee Apopka Rd & Keene Rd — 4

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
EB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	133	1.00	**133**	12			12			**0**		35%	**112**	**257**	133 + {12} + (112) = 257
WB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	40	1.00	**40**	4	5	8	17			**0**		5%	**16**	**73**	40 + {17} + (16) = 73
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
NB	T	514	1.00	**514**	110	14	29	153			**0**	30%		**95**	**762**	514 + {153} + (95) = 762
	R	147	1.00	**147**	31			31			**0**	15%		**47**	**225**	147 + {31} + (47) = 225
	L	27	1.00	**27**	4	8	5	17			**0**	20%		**62**	**106**	27 + {17} + (62) = 106
SB	T	518	1.00	**518**	85	23	18	126			**0**		10%	**33**	**677**	518 + {126} + (33) = 677
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	

Intersection= Ocoee Apopka Rd & Harmon Rd — 5

Appr	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	48	1.00	**48**	46	5		51			**0**			**0**	**99**	48 + {51} = 99
EB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	67	1.00	**67**	65		8	73			**0**	5%		**16**	**156**	67 + {73} + (16) = 156
	L	0	1.00	**0**	0		21	21			**0**	10%		**31**	**52**	{21} + (31) = 52
WB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0	5		5			**0**			**0**	**5**	{5}
	L	65	1.00	**65**	12		5	17			**0**		5%	**16**	**98**	65 + {17} + (16) = 98
NB	T	450	1.00	**450**	81	18	11	110			**0**		14%	**46**	**606**	450 + {110} + (46) = 606
	R	0	1.00	**0**	0		13	13			**0**		10%	**33**	**46**	{13} + (33) = 46
	L	0	1.00	**0**	0	8		8			**0**			**0**	**8**	{8}
SB	T	462	1.00	**462**	59	31	16	106			**0**	14%		**44**	**612**	462 + {106} + (44) = 612
	R	23	1.00	**23**	3	8		11			**0**			**0**	**34**	23 + {11} = 34

Intersection= Marden Rd & Keene Rd — 6

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	25	1.00	**25**	3		2	5			**0**		5%	**15**	**45**	25 + {5} + (15) = 45
EB	T	158	1.00	**158**	19	8	3	30			**0**		10%	**33**	**221**	158 + {30} + (33) = 221
	R	1	1.00	**1**	0			0			**0**			**0**	**1**	1
	L	2	1.00	**2**	0			0			**0**			**0**	**2**	2
WB	T	130	1.00	**130**	10	5	4	19			**0**	10%		**31**	**180**	130 + {19} + (31) = 180
	R	48	1.00	**48**	4			4			**0**			**0**	**52**	48 + {4} = 52
	L	2	1.00	**2**	0			0			**0**			**0**	**2**	2
NB	T	1	1.00	**1**	0			0			**0**			**0**	**1**	1
	R	2	1.00	**2**	0			0			**0**			**0**	**2**	2
	L	48	1.00	**48**	3			3			**0**			**0**	**51**	48 + {3} = 51
SB	T	2	1.00	**2**	0			0			**0**			**0**	**2**	2
	R	39	1.00	**39**	2		4	6			**0**	5%		**15**	**60**	39 + {6} + (15) = 60

Project No. 22057 Shopes at East Shore

Intersection Volumes (2025 Projected PM)

Period	Tgen	Enter	Exit	Pass By	Enter	Exit	SF	Legend
PM Peak		312	326		252	260	1.00	Backg'd + {Vested} + (Project) = Total

Intersection= Keene Rd & Clarcona Road — 7

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	36	1.00	**36**	2			2			**0**			**0**	**38**	36 + {2} = 38
EB	T	190	1.00	**190**	12	8	3	23			**0**		5%	**17**	**230**	190 + {23} + (17) = 230
	R	86	1.00	**86**	5			5			**0**		5%	**16**	**107**	86 + {5} + (16) = 107
	L	265	1.00	**265**	7			7			**0**			**0**	**272**	265 + {7} = 272
WB	T	176	1.00	**176**	5	5	4	14			**0**	5%		**16**	**206**	176 + {14} + (16) = 206
	R	85	1.00	**85**	2			2			**0**			**0**	**87**	85 + {2} = 87
	L	109	1.00	**109**	0			0			**0**	5%		**15**	**124**	109 + (15) = 124
NB	T	393	1.00	**393**	2			2			**0**			**0**	**395**	393 + {2} = 395
	R	225	1.00	**225**	1			1			**0**			**0**	**226**	225 + {1} = 226
	L	103	1.00	**103**	2			2			**0**			**0**	**105**	103 + {2} = 105
SB	T	339	1.00	**339**	7			7			**0**			**0**	**346**	339 + {7} = 346
	R	24	1.00	**24**	0			0			**0**			**0**	**24**	24

Intersection= Ocoee Apopka Rd & MF Access RI/RO — 8

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
EB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
WB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0			**0**		5%	**16**	**16**	(16)
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
NB	T	663	1.00	**554**	93	18	29	140			**0**		34%	**111**	**805**	554 + {140} + (111) = 805
	R	0	1.00	**0**	0			0			**0**	5%		**17**	**17**	(17)
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
SB	T	651	1.00	**529**	89	31	45	165			**0**	39%		**122**	**816**	529 + {165} + (122) = 816
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	

Intersection= Ocoee Apopka Rd & N Access/Lakeview Apartments — 9

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	0	1.00	**0**	0		29	29			**0**			**0**	**29**	{29}
EB	T	0	1.00	**0**	0			0			**0**	1%		**3**	**3**	(3)
	R	0	1.00	**0**	0		23	23			**0**			**0**	**23**	{23}
	L	0	1.00	**0**	0			0		10%	**26**		10%	**33**	**59**	[26] + (33) = 59
WB	T	0	1.00	**0**	0			0			**0**		1%	**4**	**4**	(4)
	R	0	1.00	**0**	0			0		15%	**39**		14%	**46**	**85**	[39] + (46) = 85
	L	0	1.00	**0**	0		37	37			**0**			**0**	**37**	{37}
NB	T	554	1.00	**554**	93	18		111		10%	**26**	5%	20%	**82**	**773**	554 + {111} + [26] + (82) = 773
	R	0	1.00	**0**	0			0	15%		**38**	10%		**31**	**69**	[38] + (31) = 69
	L	0	1.00	**0**	0			0	15%		**38**	19%		**59**	**97**	[38] + (59) = 97
SB	T	529	1.00	**529**	89	31		120	25%		**63**	20%		**62**	**774**	529 + {120} + [63] + (62) = 774
	R	0	1.00	**0**	0		45	45			**0**			**0**	**45**	{45}

Intersection= Ocoee Apopka Rd & S Access RI/RO — 10

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
EB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
WB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0		15%	**39**		15%	**49**	**88**	[39] + (49) = 88
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
NB	T	554	1.00	**554**	93	18	37	148	15%	5%	**51**	15%	5%	**64**	**817**	554 + {148} + [51] + (64) = 817
	R	0	1.00	**0**	0			0	15%		**38**	15%		**47**	**85**	[38] + (47) = 85
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
SB	T	529	1.00	**529**	89	31	23	143	20%	10%	**76**	15%	15%	**96**	**844**	529 + {143} + [76] + (96) = 844
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	

Intersection= Keene Road & W Access RI/RO — 11

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
EB	T	174	1.00	**174**	22	8	5	35	45%		**113**	35%		**109**	**431**	174 + {35} + [113] + (109) = 431
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
WB	T	173	1.00	**173**	16	5	8	29		25%	**65**		25%	**82**	**349**	173 + {29} + [65] + (82) = 349
	R	0	1.00	**0**	0			0	6%		**15**	6%		**19**	**34**	[15] + (19) = 34
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
NB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
SB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0		20%	**52**		15%	**49**	**101**	[52] + (49) = 101

Intersection= Keene Road & Mid Access — 12

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	0	1.00	**0**	0			0	35%		**88**	27%		**84**	**172**	[88] + (84) = 172
EB	T	174	1.00	**174**	22	8	5	35	10%		**25**	8%		**25**	**259**	174 + {35} + [25] + (25) = 259
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
WB	T	173	1.00	**173**	16	5	8	29	6%	5%	**28**	6%	8%	**45**	**275**	173 + {29} + [28] + (45) = 275
	R	0	1.00	**0**	0			0	7%		**18**	7%		**22**	**40**	[18] + (22) = 40
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
NB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	0	1.00	**0**	0			0		13%	**34**		13%	**42**	**76**	[34] + (42) = 76
SB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0		20%	**52**		17%	**55**	**107**	[52] + (55) = 107

Project No. 22057 Shopes at East Shore

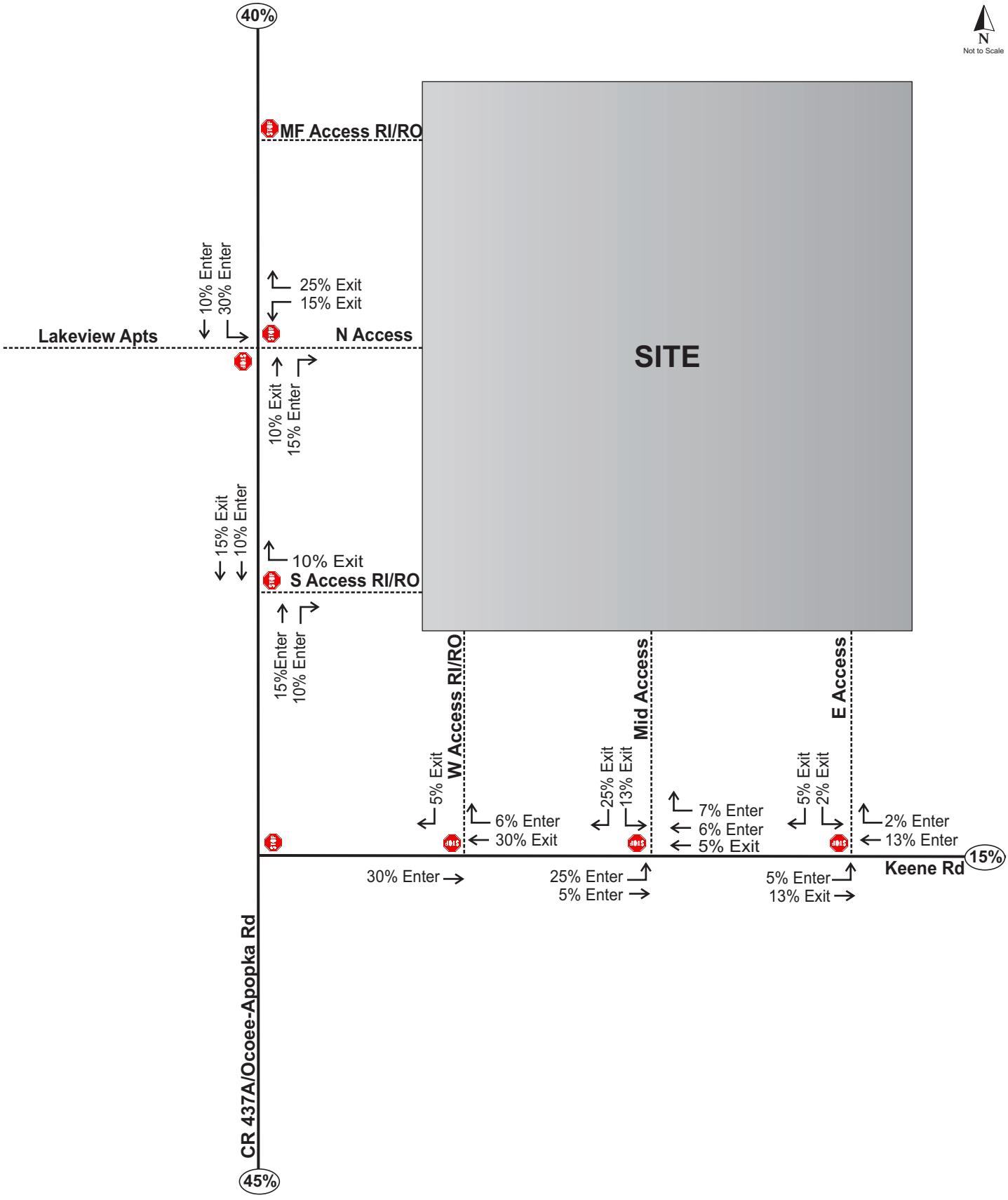
Intersection Volumes (2025 Projected PM)

Period	Tgen	Enter	Exit	Pass By	Enter	Exit	SF	Legend
PM Peak		312	326		252	260	1.00	Backg'd + {Vested} + (Project) = Total

Intersection= Keene Road & E Access

13

Approac	Mvmt	Raw	SF	Adj Bg'd	Vested CMS	Harmon Ctr	Lakeview Apt	Total Vested	% PB Ent	% PB Ext	Passby	%Proj Ent	%Proj Ext	Project	Total	Formula
	L	0	1.00	**0**	0			0	10%		**25**	8%		**25**	**50**	[25] + (25) = 50
EB	T	174	1.00	**174**	22	8	5	35		13%	**34**		13%	**42**	**285**	174 + {35} + [34] + (42) = 285
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
WB	T	173	1.00	**173**	16	5	8	29	13%		**33**	13%		**41**	**276**	173 + {29} + [33] + (41) = 276
	R	0	1.00	**0**	0			0	2%		**5**	2%		**5**	**10**	[5] + (5) = 10
	L	0	1.00	**0**	0			0			**0**			**0**	**0**	
NB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0			**0**			**0**	**0**	
	L	0	1.00	**0**	0			0		2%	**5**		2%	**6**	**11**	[5] + (6) = 11
SB	T	0	1.00	**0**	0			0			**0**			**0**	**0**	
	R	0	1.00	**0**	0			0		5%	**13**		8%	**26**	**39**	[13] + (26) = 39


N
Not to Scale
40%
MF Access RI/RO
SITE
10% Enter
30% Enter
25% Exit
15% Exit
Lakeview Apts
N Access
10% Exit
15% Enter
15% Exit
10% Enter
10% Exit
S Access RI/RO
15%Enter
10% Enter
W Access RI/RO
Mid Access
E Access
5% Exit
6% Enter
30% Exit
25% Exit
13% Exit
7% Enter
6% Enter
5% Exit
5% Exit
2% Exit
2% Enter
13% Enter
15%
Keene Rd
30% Enter
25% Enter
5% Enter
5% Enter
13% Exit
CR 437A/Ocoee-Apopka Rd
45%

3.0 PROJECT TRAFFIC

3.1 Trip Generation

The trip generation analysis of the proposed mixed-use development was conducted using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition* and *Trip Generation Handbook 3rd Edition*. It should be noted that for the 990 square foot building, the Developer is reserving the option of either building a fast-food restaurant without drive through, or a general retail use; therefore, for the purpose of the trip generation calculation, the higher trip generating land use (fast food restaurant without drive through) was used to be conservative. The ITE information sheets are provided in **Appendix F.** **Table 3** summarizes the resulting trip generation analysis.

Table 3
Trip Generation Analysis

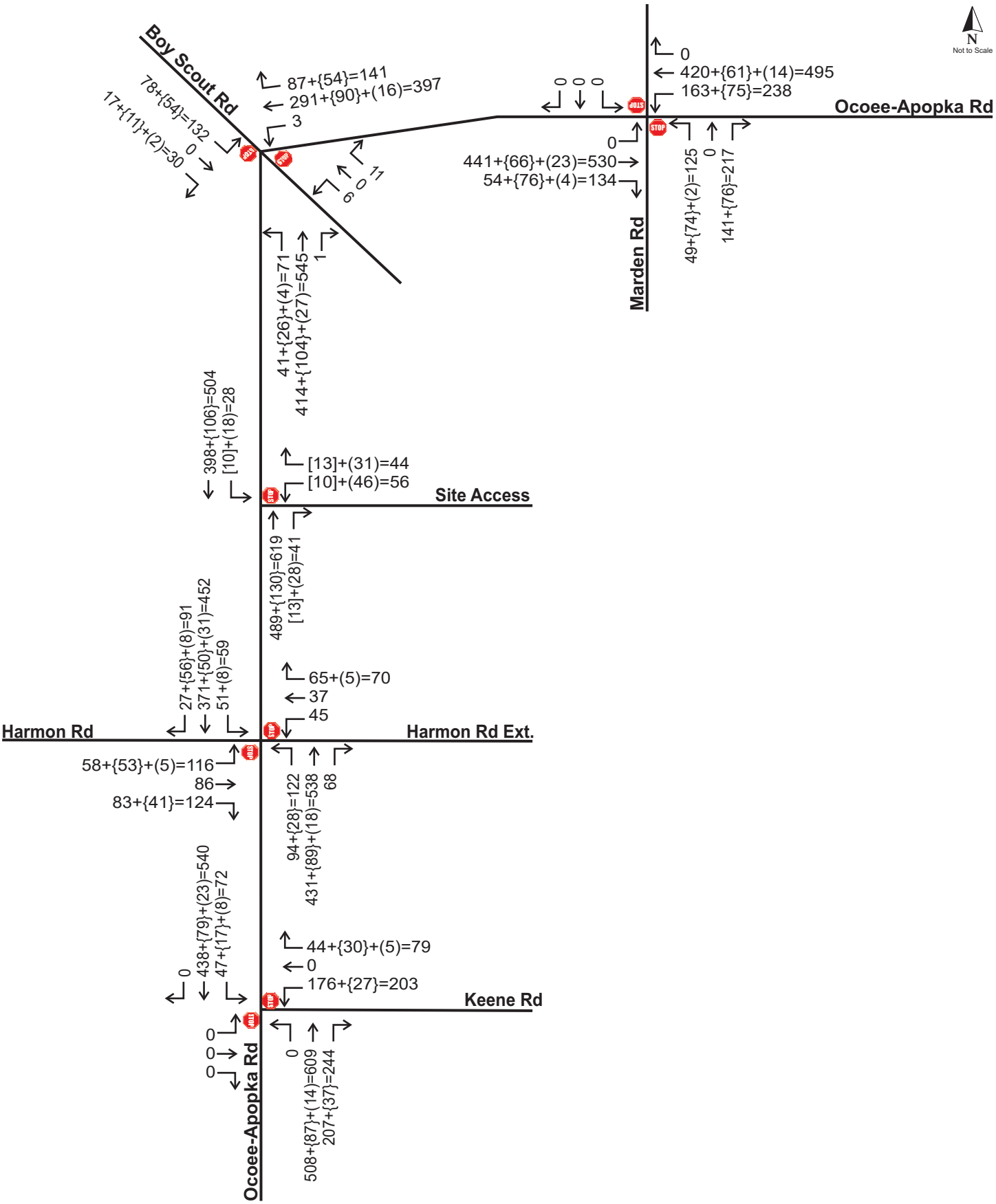
ITE Code	Land Use	Size	Daily		PM Peak Hour			
			Rate	Trips	Rate	Total	Enter	Exit
720	Medical Office Building	22.00 KSF	34.44	758	3.46	76	21	55
933	Fast Food Restaurant without Drive-Through Window	0.99 KSF	346.23	343	28.34	28	14	14
934	Fast Food Restaurant with Drive-Through Window	2.00 KSF	470.95	942	32.67	65	34	31
			Gross Trip Generation	*2,043*		*169*	*69*	*100*
			Pass-by Trips (FF w/o Drive Thru)	*172*		*14*	*7*	*7*
			Pass-by Trips (FF with Drive Thru)	471		32	16	16
			Net New External Trips	***1,401***		***123***	***46***	***77***

Source: ITE Trip Generation Manual, 10th Edition & Trip Generation Handbook 3rd Edition

The proposed development is projected to generate 1,401 new daily trips, of which 123 trips occur during the PM peak hour.

3.2 Trip Distribution

A trip distribution pattern was estimated using *Orlando Urban Area Transportation Study* (OUATS) model and *Cost Feasible 2025*. The model distribution was manually adjusted based on local knowledge, professional engineering judgement, and the location of the development with respect to the study area attractions and activity centers to reflect prevailing travel patterns in the vicinity of the site and the surrounding transportation network. The final trip distribution is presented in **Figure 3**. The model output plot is included in **Appendix G**.



Legend:
Existing + {Committed} + [Pass-by] + (Project) = Total

Projected Intersection PM Peak Hour Volumes
Harmon Center
21016, v2.0

Figure 4

4.0 PROJECT TRAFFIC

4.1 Trip Generation

The trip generation of the proposed development was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*. The trip generation for the project is summarized in **Table 3** and the ITE information sheets are provided in **Appendix F**.

Table 3
Trip Generation Analysis

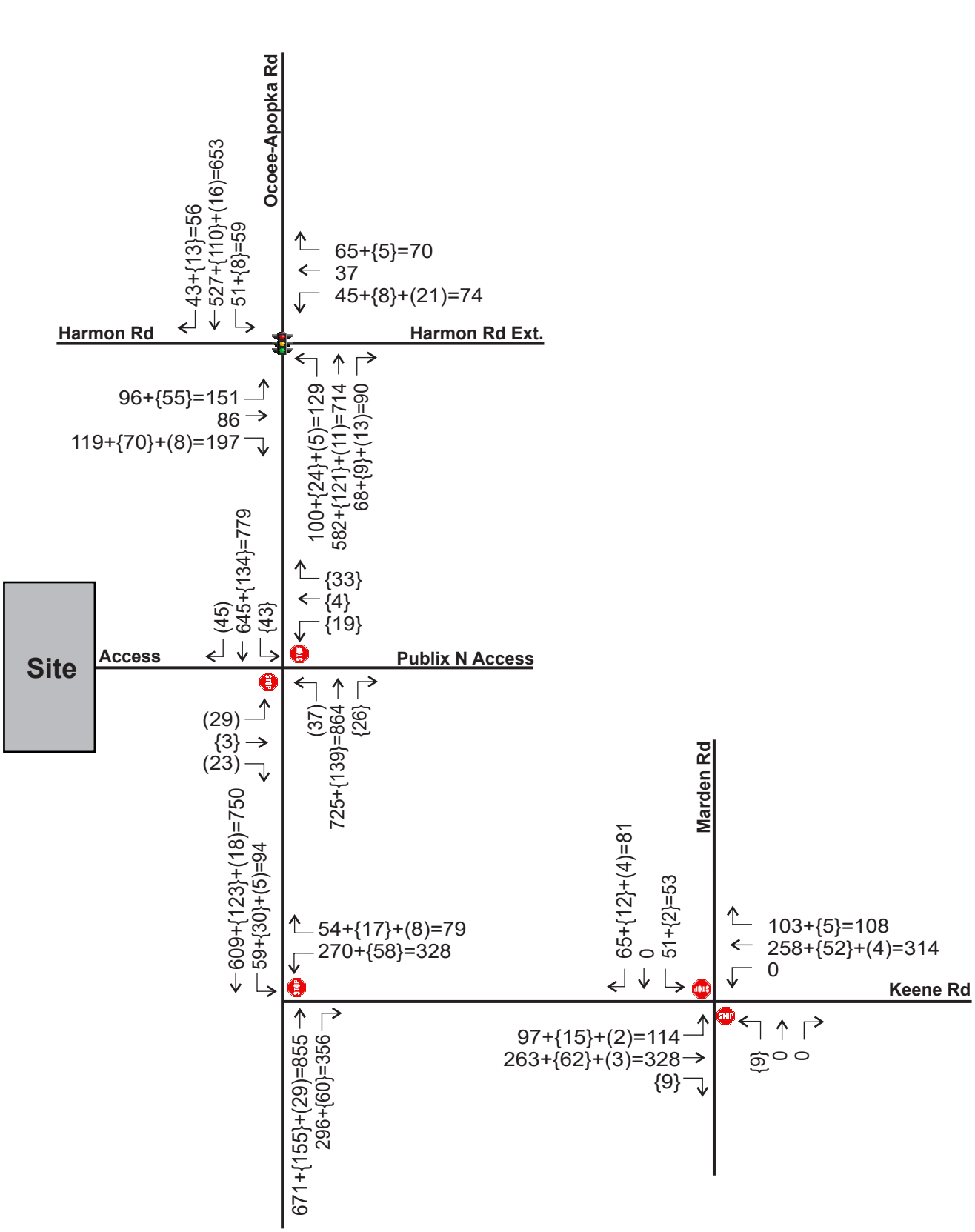
ITE Code	Land Use	Size	Daily		AM Peak Hour				PM Peak Hour			
			Rate	Trips	Rate	Total	Enter	Exit	Rate	Total	Enter	Exit
221	Multi-Family (Apartments)	304 DU	5.44	1,654	0.36	109	28	81	0.44	134	82	52

Trip generation analysis based on ITE Trip Generation Manual, 10th Edition

The proposed development will generate 1,654 trips per day, of which 109 trips occur during the AM peak hour and 134 trips occur during the PM peak hour.

4.2 Trip Distribution/Assignment

To assign the peak hour trips generated by the proposed development to the study roadways, a distribution pattern in the general vicinity of the project site was determined initially based on the Orlando Urban Area Transportation Study (OUATS) model. Adjustments were applied to the model generated distribution to better reflect the surrounding transportation network, land uses, and known access routes. Harmon Road Extension, a new 2-lane roadway from Ocoee-Apopka Road to the existing Harmon Road was added to the model network and the model output is included in **Appendix G.** The final trip distribution pattern is presented in **Figure 3.**

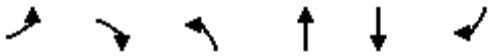


Legend
Existing 2020 + {Vested} + (Project) = Total

PM Peak Projected Intersection Volumes
Lakeview Apartments
21034

Figure **5**

Appendix J
Projected Conditions Analysis Worksheets



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	47	274	217	585	568	38
Future Volume (veh/h)	47	274	217	585	568	38
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1767	1870	1870	1870	1870	1633
Adj Flow Rate, veh/h	51	298	236	636	617	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	9	2	2	2	2	18
Cap, veh/h	392	369	449	1135	1135	840
Arrive On Green	0.23	0.23	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1682	1585	776	1870	1870	1384
Grp Volume(v), veh/h	51	298	236	636	617	41
Grp Sat Flow(s),veh/h/ln	1682	1585	776	1870	1870	1384
Q Serve(g_s), s	1.3	10.0	14.4	11.4	10.9	0.7
Cycle Q Clear(g_c), s	1.3	10.0	25.2	11.4	10.9	0.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	392	369	449	1135	1135	840
V/C Ratio(X)	0.13	0.81	0.53	0.56	0.54	0.05
Avail Cap(c_a), veh/h	1546	1456	1494	3653	3653	2703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	20.3	13.9	6.6	6.5	4.5
Incr Delay (d2), s/veh	0.1	4.2	1.0	0.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	6.3	3.6	4.7	4.5	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.2	24.5	14.8	7.0	6.9	4.5
LnGrp LOS	B	C	B	A	A	A
Approach Vol, veh/h	349			872	658	
Approach Delay, s/veh	23.5			9.1	6.7	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		38.5		17.6		38.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		109.5		51.5		109.5
Max Q Clear Time (g_c+I1), s		27.2		12.0		12.9
Green Ext Time (p_c), s		6.8		1.2		4.4

Intersection Summary		
HCM 6th Ctrl Delay		10.9
HCM 6th LOS		B

HCM 6th Signalized Intersection Summary
2: SR 429 SB Ramps & Ocoee-Apopka Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	0	47	0	0	0	0	646	26	295	561	0
Future Volume (veh/h)	67	0	47	0	0	0	0	646	26	295	561	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1604	0	1870				0	1870	1781	1856	1870	0
Adj Flow Rate, veh/h	73	0	26				0	702	0	321	610	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	20	0	2				0	2	8	3	2	0
Cap, veh/h	166	0	172				0	983		480	1363	0
Arrive On Green	0.11	0.00	0.11				0.00	0.53	0.00	0.12	0.73	0.00
Sat Flow, veh/h	1527	0	1585				0	1870	1510	1767	1870	0
Grp Volume(v), veh/h	73	0	26				0	702	0	321	610	0
Grp Sat Flow(s),veh/h/ln	1527	0	1585				0	1870	1510	1767	1870	0
Q Serve(g_s), s	3.7	0.0	1.2				0.0	23.5	0.0	6.0	10.8	0.0
Cycle Q Clear(g_c), s	3.7	0.0	1.2				0.0	23.5	0.0	6.0	10.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	166	0	172				0	983		480	1363	0
V/C Ratio(X)	0.44	0.00	0.15				0.00	0.71		0.67	0.45	0.00
Avail Cap(c_a), veh/h	334	0	346				0	983		551	1363	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.3	0.0	33.2				0.0	14.8	0.0	12.4	4.5	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.4				0.0	4.4	0.0	2.6	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	0.0	2.1				0.0	14.4	0.0	4.2	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	0.0	33.6				0.0	19.2	0.0	15.0	5.6	0.0
LnGrp LOS	D	A	C				A	B		B	A	A
Approach Vol, veh/h		99						702	A		931	
Approach Delay, s/veh		35.5						19.2			8.8	
Approach LOS		D						B			A	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	66.7		15.7	16.7	50.0
Change Period (Y+Rc), s	6.7		6.7	6.7	6.7
Max Green Setting (Gmax), s	43.3		18.0	13.3	43.3
Max Q Clear Time (g_c+I1), s	12.8		5.7	8.0	25.5
Green Ext Time (p_c), s	4.0		0.2	0.5	4.2

Intersection Summary	
HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	26	0	325	72	641	0	0	830	88
Future Volume (veh/h)	0	0	0	26	0	325	72	641	0	0	830	88
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	0	1796	1811	1870	0	0	1856	1870
Adj Flow Rate, veh/h				28	0	0	77	689	0	0	892	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	0	7	6	2	0	0	3	2
Cap, veh/h				97	0		388	1481	0	0	1127	
Arrive On Green				0.06	0.00	0.00	0.09	0.79	0.00	0.00	0.61	0.00
Sat Flow, veh/h				1753	0	1522	1725	1870	0	0	1856	1585
Grp Volume(v), veh/h				28	0	0	77	689	0	0	892	0
Grp Sat Flow(s),veh/h/ln				1753	0	1522	1725	1870	0	0	1856	1585
Q Serve(g_s), s				1.4	0.0	0.0	1.2	11.1	0.0	0.0	33.3	0.0
Cycle Q Clear(g_c), s				1.4	0.0	0.0	1.2	11.1	0.0	0.0	33.3	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				97	0		388	1481	0	0	1127	
V/C Ratio(X)				0.29	0.00		0.20	0.47	0.00	0.00	0.79	
Avail Cap(c_a), veh/h				256	0		446	1481	0	0	1127	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				41.6	0.0	0.0	11.5	3.1	0.0	0.0	13.6	0.0
Incr Delay (d2), s/veh				1.6	0.0	0.0	0.2	1.1	0.0	0.0	5.7	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				1.2	0.0	0.0	1.0	4.2	0.0	0.0	20.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				43.2	0.0	0.0	11.7	4.2	0.0	0.0	19.3	0.0
LnGrp LOS				D	A		B	A	A	A	B	
Approach Vol, veh/h					28	A		766			892	A
Approach Delay, s/veh					43.2			5.0			19.3	
Approach LOS					D			A			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.9	63.1		11.7		80.0						
Change Period (Y+Rc), s	8.3	7.4		6.6		7.4						
Max Green Setting (Gmax), s	13.3	52.6		13.4		72.6						
Max Q Clear Time (g_c+I1), s	13.2	35.3		3.4		13.1						
Green Ext Time (p_c), s	0.1	6.6		0.0		5.0						

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	242	90	745	240	91	693
Future Volume (veh/h)	242	90	745	240	91	693
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1826	1841	1856	1841	1856
Adj Flow Rate, veh/h	257	96	793	202	97	737
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	5	4	3	4	3
Cap, veh/h	296	257	850	217	192	1312
Arrive On Green	0.17	0.17	0.60	0.60	0.04	0.71
Sat Flow, veh/h	1781	1547	1415	361	1753	1856
Grp Volume(v), veh/h	257	96	0	995	97	737
Grp Sat Flow(s),veh/h/ln	1781	1547	0	1776	1753	1856
Q Serve(g_s), s	15.5	6.1	0.0	56.1	2.2	21.3
Cycle Q Clear(g_c), s	15.5	6.1	0.0	56.1	2.2	21.3
Prop In Lane	1.00	1.00		0.20	1.00	
Lane Grp Cap(c), veh/h	296	257	0	1067	192	1312
V/C Ratio(X)	0.87	0.37	0.00	0.93	0.51	0.56
Avail Cap(c_a), veh/h	452	393	0	1067	323	1312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	40.9	0.0	20.0	25.1	7.9
Incr Delay (d2), s/veh	11.0	0.9	0.0	15.5	2.1	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.2	4.2	0.0	32.3	2.9	11.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	55.8	41.8	0.0	35.5	27.2	9.6
LnGrp LOS	E	D	A	D	C	A
Approach Vol, veh/h	353		995			834
Approach Delay, s/veh	52.0		35.5			11.6
Approach LOS	D		D			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.7	73.3		25.3		85.0
Change Period (Y+Rc), s	7.0	7.0		7.0		7.0
Max Green Setting (Gmax), s	13.0	58.0		28.0		78.0
Max Q Clear Time (g_c+I1), s	14.2	58.1		17.5		23.3
Green Ext Time (p_c), s	0.1	0.0		0.8		5.5

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	0	156	52	0	5	98	606	46	8	612	34
Future Volume (veh/h)	99	0	156	52	0	5	98	606	46	8	612	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1870	1796	1870	1870	1870	1737	1856	1870	1870	1856	1648
Adj Flow Rate, veh/h	104	0	85	55	0	3	103	638	48	8	644	29
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	10	2	7	2	2	2	11	3	2	2	3	17
Cap, veh/h	333	186	151	291	133	113	366	762	651	206	1223	55
Arrive On Green	0.08	0.00	0.10	0.05	0.00	0.07	0.06	0.41	0.41	0.01	0.36	0.36
Sat Flow, veh/h	1668	1870	1522	1781	1870	1585	1654	1856	1585	1781	3436	155
Grp Volume(v), veh/h	104	0	85	55	0	3	103	638	48	8	330	343
Grp Sat Flow(s),veh/h/ln	1668	1870	1522	1781	1870	1585	1654	1856	1585	1781	1763	1828
Q Serve(g_s), s	3.7	0.0	3.5	1.8	0.0	0.1	2.5	20.1	1.2	0.2	9.6	9.7
Cycle Q Clear(g_c), s	3.7	0.0	3.5	1.8	0.0	0.1	2.5	20.1	1.2	0.2	9.6	9.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	333	186	151	291	133	113	366	762	651	206	627	650
V/C Ratio(X)	0.31	0.00	0.56	0.19	0.00	0.03	0.28	0.84	0.07	0.04	0.53	0.53
Avail Cap(c_a), veh/h	745	807	657	506	519	439	819	2858	2441	407	2335	2421
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	0.0	27.9	26.0	0.0	28.1	12.4	17.2	11.6	15.2	16.6	16.6
Incr Delay (d2), s/veh	0.5	0.0	3.2	0.3	0.0	0.1	0.4	2.5	0.0	0.1	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	0.0	2.4	1.3	0.0	0.1	1.4	11.9	0.7	0.1	6.1	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	0.0	31.1	26.3	0.0	28.2	12.9	19.7	11.7	15.3	17.3	17.2
LnGrp LOS	C	A	C	C	A	C	B	B	B	B	B	B
Approach Vol, veh/h		189			58			789			681	
Approach Delay, s/veh		28.1			26.4			18.3			17.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	33.7	10.1	13.5	11.2	30.1	12.0	11.6
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	100.0	11.0	28.0	22.0	86.0	21.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	22.1	3.8	5.5	4.5	11.7	5.7	2.1
Green Ext Time (p_c), s	0.0	4.6	0.0	0.2	0.2	4.1	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	221	1	2	180	52	2	1	2	51	2	60
Future Volume (veh/h)	45	221	1	2	180	52	2	1	2	51	2	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1856	1870	1159	1841	1811	1159	1870	1159	1826	1870	1856
Adj Flow Rate, veh/h	46	228	1	2	186	44	2	1	2	53	2	50
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	12	3	2	50	4	6	50	2	50	5	2	3
Cap, veh/h	253	404	2	203	254	60	335	142	283	557	26	648
Arrive On Green	0.04	0.22	0.22	0.00	0.18	0.18	0.25	0.25	0.25	0.05	0.42	0.42
Sat Flow, veh/h	1640	1846	8	1104	1439	340	838	557	1113	1739	61	1533
Grp Volume(v), veh/h	46	0	229	2	0	230	2	0	3	53	0	52
Grp Sat Flow(s),veh/h/ln	1640	0	1854	1104	0	1779	838	0	1670	1739	0	1594
Q Serve(g_s), s	1.3	0.0	6.5	0.1	0.0	7.2	0.1	0.0	0.1	1.2	0.0	1.1
Cycle Q Clear(g_c), s	1.3	0.0	6.5	0.1	0.0	7.2	0.1	0.0	0.1	1.2	0.0	1.1
Prop In Lane	1.00		0.00	1.00		0.19	1.00		0.67	1.00		0.96
Lane Grp Cap(c), veh/h	253	0	405	203	0	314	335	0	425	557	0	673
V/C Ratio(X)	0.18	0.00	0.56	0.01	0.00	0.73	0.01	0.00	0.01	0.10	0.00	0.08
Avail Cap(c_a), veh/h	402	0	1164	349	0	1117	677	0	1105	707	0	1460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	20.5	20.0	0.0	23.0	16.4	0.0	16.4	13.4	0.0	10.2
Incr Delay (d2), s/veh	0.3	0.0	1.2	0.0	0.0	3.3	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	0.0	4.6	0.0	0.0	5.2	0.0	0.0	0.1	0.8	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	0.0	21.8	20.0	0.0	26.3	16.4	0.0	16.4	13.5	0.0	10.2
LnGrp LOS	B	A	C	C	A	C	B	A	B	B	A	B
Approach Vol, veh/h		275			232			5			105	
Approach Delay, s/veh		21.3			26.2			16.4			11.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.9	9.6	17.4	9.9	22.0	7.2	19.9
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	54.0	8.0	37.0	8.0	39.0	8.0	37.0
Max Q Clear Time (g_c+I1), s	3.1	3.3	9.2	3.2	2.1	2.1	8.5
Green Ext Time (p_c), s	0.3	0.0	1.2	0.0	0.0	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
7: Clarcona Rd & Keene Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	231	107	272	206	87	124	395	226	105	346	24
Future Volume (veh/h)	38	231	107	272	206	87	124	395	226	105	346	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1826	1826	1870	1870	1841	1870	1870	1870	1856	1870	1707
Adj Flow Rate, veh/h	39	236	109	278	210	89	127	403	231	107	353	24
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	6	5	5	2	2	4	2	2	2	3	2	13
Cap, veh/h	332	253	117	283	555	463	383	715	606	324	644	44
Arrive On Green	0.03	0.21	0.21	0.11	0.30	0.30	0.06	0.38	0.38	0.05	0.37	0.37
Sat Flow, veh/h	1725	1182	546	1781	1870	1560	1781	1870	1585	1767	1731	118
Grp Volume(v), veh/h	39	0	345	278	210	89	127	403	231	107	0	377
Grp Sat Flow(s),veh/h/ln	1725	0	1728	1781	1870	1560	1781	1870	1585	1767	0	1849
Q Serve(g_s), s	2.0	0.0	22.8	13.2	10.3	4.9	5.1	19.7	12.2	4.3	0.0	18.7
Cycle Q Clear(g_c), s	2.0	0.0	22.8	13.2	10.3	4.9	5.1	19.7	12.2	4.3	0.0	18.7
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	332	0	369	283	555	463	383	715	606	324	0	688
V/C Ratio(X)	0.12	0.00	0.93	0.98	0.38	0.19	0.33	0.56	0.38	0.33	0.00	0.55
Avail Cap(c_a), veh/h	475	0	372	283	555	463	473	715	606	430	0	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.9	0.0	44.8	33.6	32.3	30.4	21.8	28.2	25.9	22.1	0.0	28.7
Incr Delay (d2), s/veh	0.2	0.0	30.3	48.6	0.4	0.2	0.5	3.2	1.8	0.6	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	0.0	18.3	14.7	8.1	3.3	3.7	14.0	8.3	3.2	0.0	13.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	0.0	75.1	82.3	32.8	30.6	22.3	31.5	27.8	22.7	0.0	31.9
LnGrp LOS	C	A	E	F	C	C	C	C	C	C	A	C
Approach Vol, veh/h		384			577			761			484	
Approach Delay, s/veh		70.9			56.3			28.8			29.8	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	50.3	10.4	41.2	13.0	51.5	20.0	31.6
Change Period (Y+Rc), s	7.1	* 7.1	6.8	* 6.8	6.8	7.1	6.8	6.8
Max Green Setting (Gmax), s	12.9	* 43	13.2	* 18	13.2	42.9	13.2	25.0
Max Q Clear Time (g_c+I1), s	7.1	20.7	4.0	12.3	6.3	21.7	15.2	24.8
Green Ext Time (p_c), s	0.1	2.0	0.0	0.6	0.1	2.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	16	805	17	0	816
Future Vol, veh/h	0	16	805	17	0	816
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	185	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	847	18	0	859

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	847	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	362	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	362	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	362	-
HCM Lane V/C Ratio	-	-	0.047	-
HCM Control Delay (s)	-	-	15.4	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	3	23	59	4	85	37	773	69	96	774	45
Future Vol, veh/h	29	3	23	59	4	85	37	773	69	96	774	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	145	-	-	-	-	145	300	-	185	235	-	185
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	3	24	62	4	89	39	814	73	101	815	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1992	1982	815	1946	1956	814	862	0	0	887	0	0
Stage 1	1017	1017	-	892	892	-	-	-	-	-	-	-
Stage 2	975	965	-	1054	1064	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	45	61	377	~ 49	64	378	780	-	-	763	-	-
Stage 1	287	315	-	337	360	-	-	-	-	-	-	-
Stage 2	303	333	-	273	300	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 29	50	377	~ 39	53	378	780	-	-	763	-	-
Mov Cap-2 Maneuver	85	132	-	121	145	-	-	-	-	-	-	-
Stage 1	273	273	-	320	342	-	-	-	-	-	-	-
Stage 2	217	316	-	219	260	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	45	37.8	0.4	1.1
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	780	-	-	85	311	122	378	763	-	-
HCM Lane V/C Ratio	0.05	-	-	0.359	0.088	0.544	0.237	0.132	-	-
HCM Control Delay (s)	9.9	-	-	69.4	17.7	65.1	17.5	10.4	-	-
HCM Lane LOS	A	-	-	F	C	F	C	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.4	0.3	2.6	0.9	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	88	833	56	0	844
Future Vol, veh/h	0	88	833	56	0	844
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	185	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	93	877	59	0	888

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	877	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	348	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	348	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	348	-
HCM Lane V/C Ratio	-	-	0.266	-
HCM Control Delay (s)	-	-	19.1	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	1.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱		↱
Traffic Vol, veh/h	0	431	349	34	0	62
Future Vol, veh/h	0	431	349	34	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	185	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	454	367	36	0	65

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	367
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	678
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	678
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	678
HCM Lane V/C Ratio	-	-	-	0.096
HCM Control Delay (s)	-	-	-	10.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	172	259	298	40	76	107
Future Vol, veh/h	172	259	298	40	76	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	185	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	181	273	314	42	80	113

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	356	0	-	0	949	314
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	635	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1203	-	-	-	289	726
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	528	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1203	-	-	-	246	726
Mov Cap-2 Maneuver	-	-	-	-	246	-
Stage 1	-	-	-	-	630	-
Stage 2	-	-	-	-	528	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	22
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1203	-	-	-	401
HCM Lane V/C Ratio	0.151	-	-	-	0.48
HCM Control Delay (s)	8.5	-	-	-	22
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.5	-	-	-	2.5

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	285	276	10	11	39
Future Vol, veh/h	50	285	276	10	11	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	300	291	11	12	41

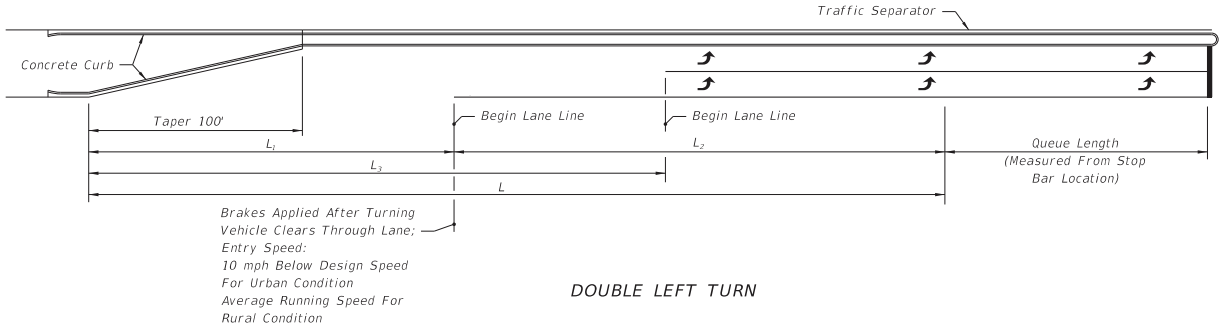
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	302	0	-	0	703	297
Stage 1	-	-	-	-	297	-
Stage 2	-	-	-	-	406	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1259	-	-	-	404	742
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	673	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1259	-	-	-	387	742
Mov Cap-2 Maneuver	-	-	-	-	387	-
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	673	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	11.4
HCM LOS			B

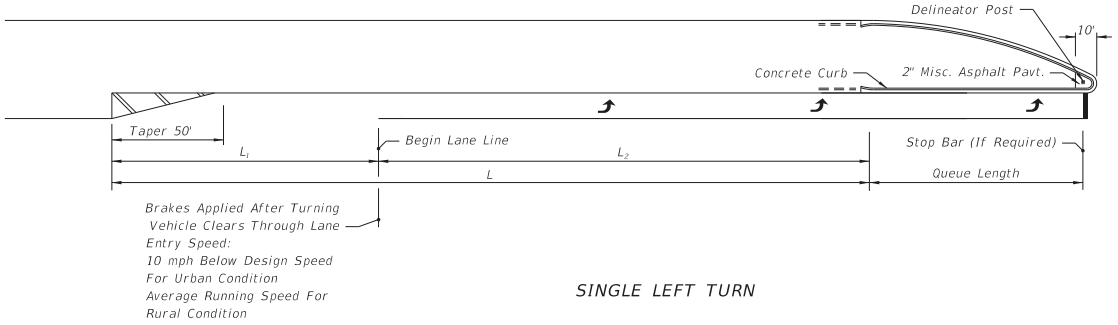
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1259	-	-	-	617
HCM Lane V/C Ratio	0.042	-	-	-	0.085
HCM Control Delay (s)	8	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Appendix K
FDM Exhibit 212-1

MEDIAN TURN LANES
MINIMUM DECELERATION LENGTHS



DOUBLE LEFT TURN



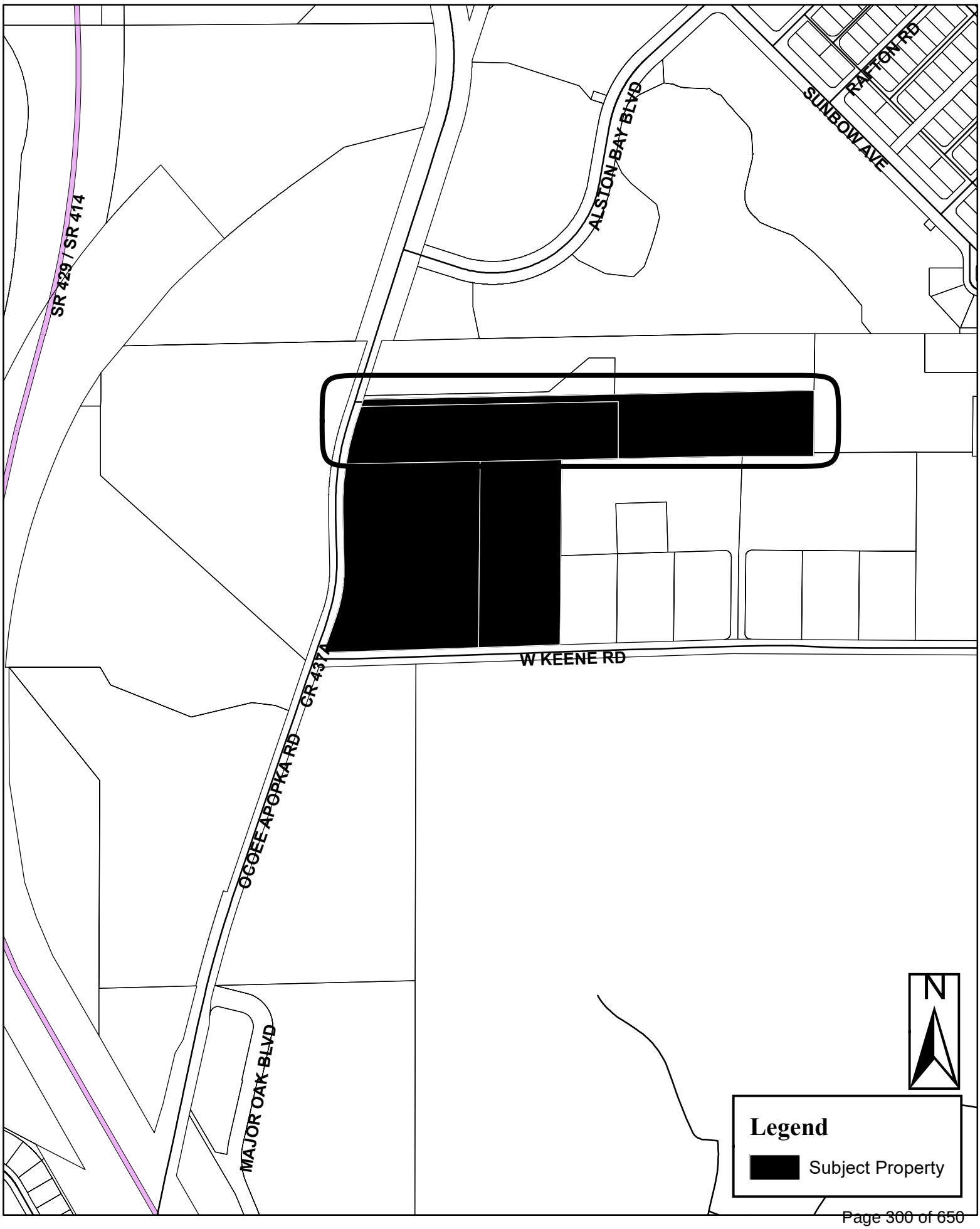
SINGLE LEFT TURN

MEDIAN TURN LANES								
			URBAN CONDITIONS			RURAL CONDITIONS		
Design Speed (mph)	Entry Speed (mph)	Clearance Distance L_1 (ft.)	Brake To Stop Distance L_2 (ft.)	Total Decel. Distance L (ft.)	Clearance Distance L_3 (ft.)	Brake To Stop Distance L_2 (ft.)	Total Decel. Distance L (ft.)	Clearance Distance L_3 (ft.)
35	25	70	75	145	110	——	——	——
40	30	80	75	155	120	——	——	——
45	35	85	100	185	135	——	——	——
50	40/44	105	135	240	160	185	290	160
55	48	125	——	——	——	225	350	195
60	52	145	——	——	——	260	405	230
65	55	170	——	——	——	290	460	270

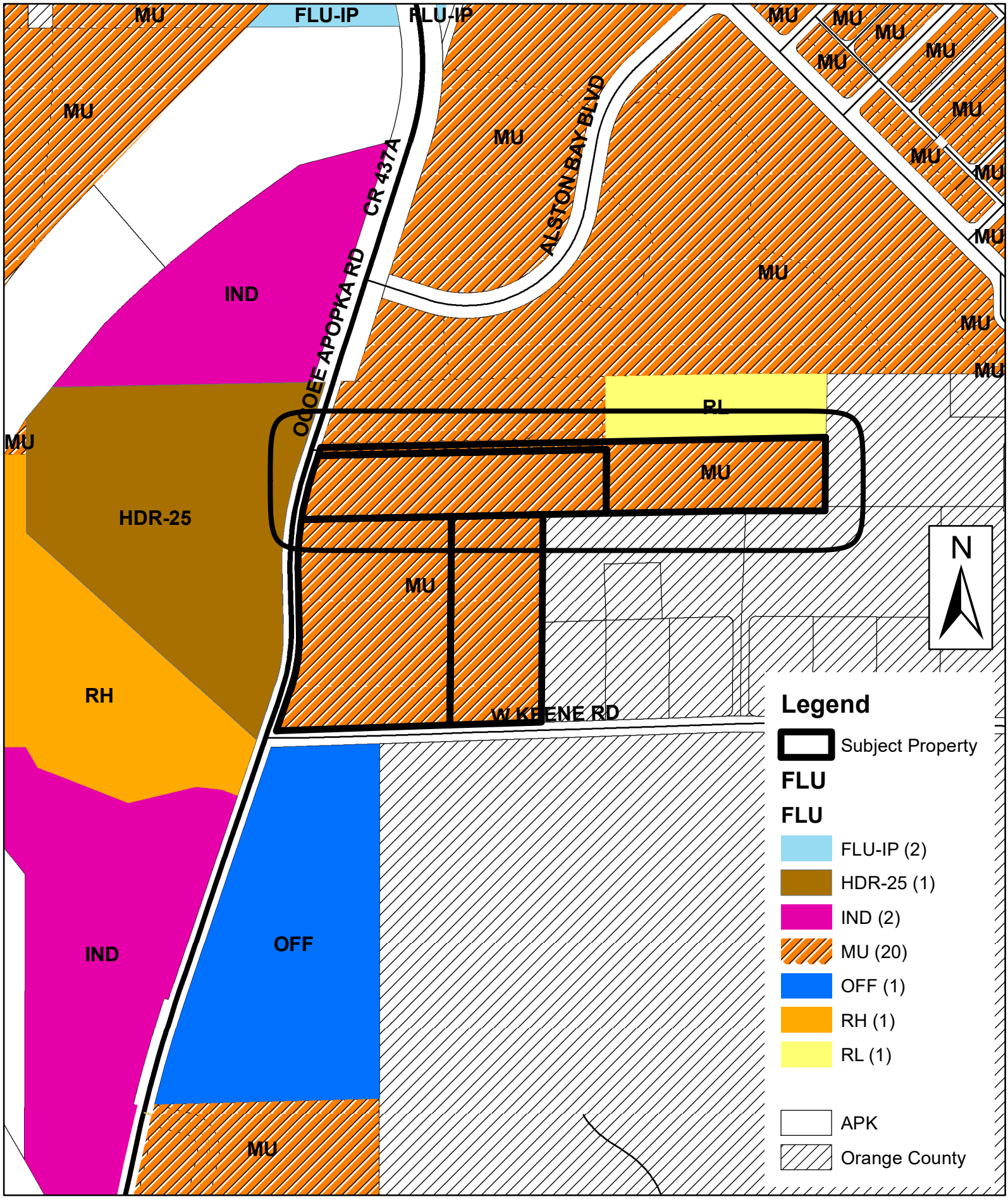
NOT TO SCALE

EXHIBIT 212-1
01/01/2018

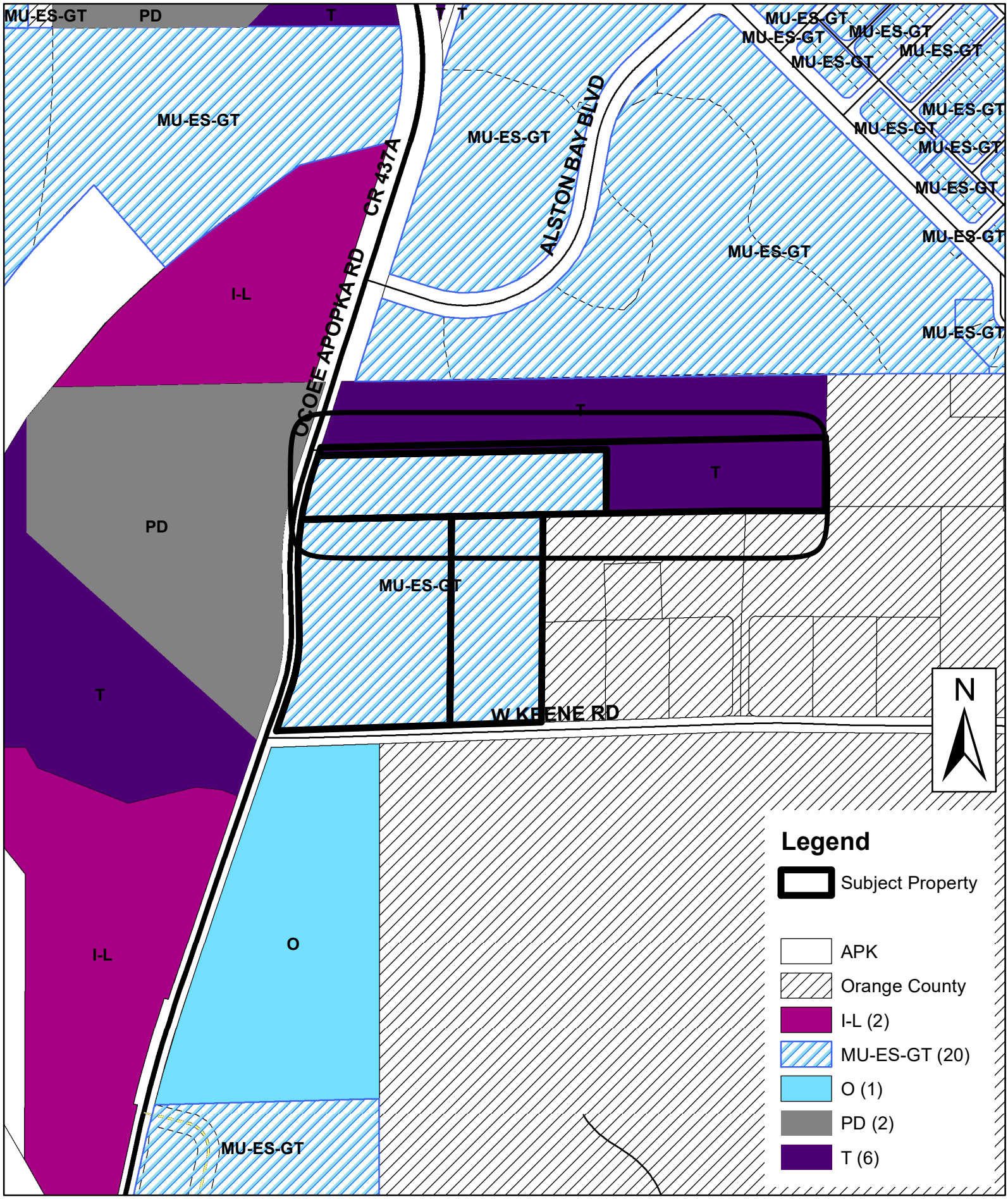
Vicinity


SR 429 / SR 414
ALSTON BAY BLVD
SUNBOW AVE
RATTON RD
W KEENE RD
OCOEE APOPKA RD
CR 437A
MAJOR OAK BLVD
N
Legend
Subject Property

Future Land Use

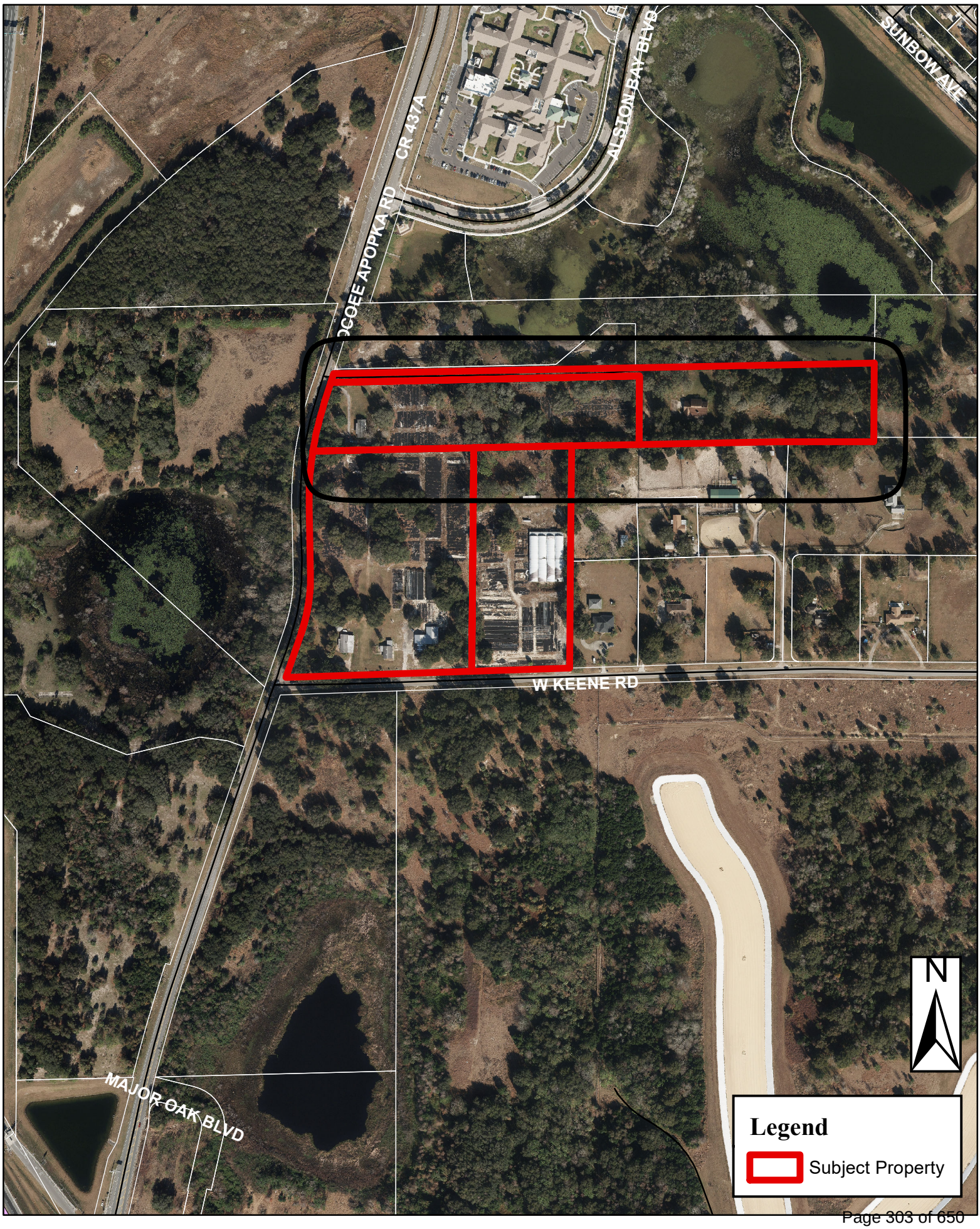

MU
FLU-IP
FLU-IP
MU
MU
MU

Zoning

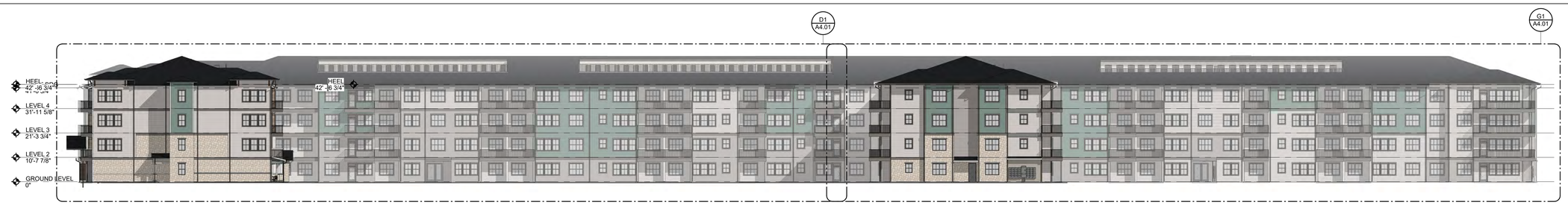


(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

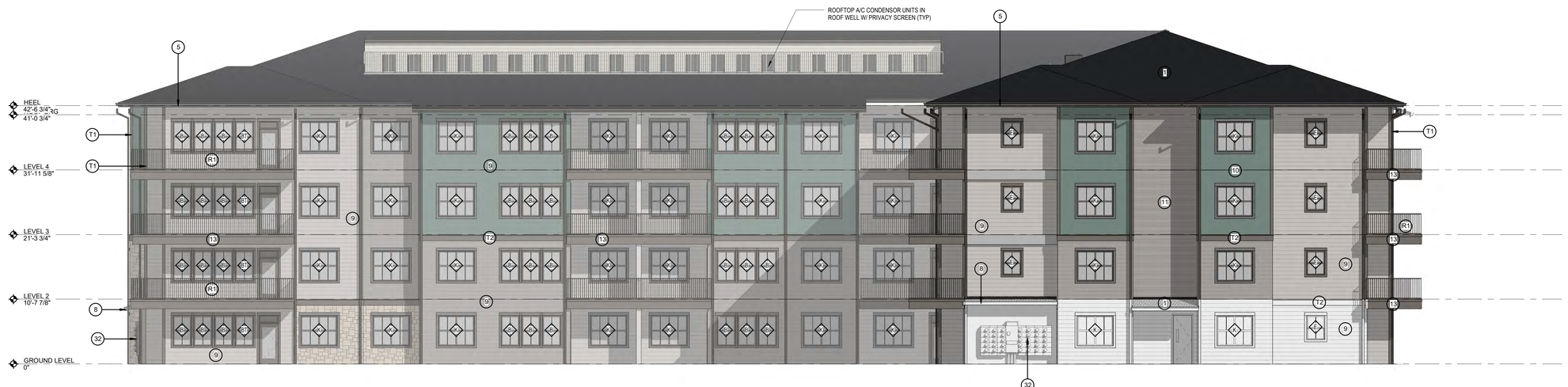
Aerial


SUNBOW AVE
ALSTON BAY BLVD
CR 437A
OCOEE APOPKA RD
W KEENE RD
MAJOR OAK BLVD
N
Legend
Subject Property

C1 WEST ELEVATION
1/8" = 1'-0"



E1 SOUTH. ELEVATION
1" = 20'-0"



H1 EAST. ELEVATION
1/8" = 1'-0"

K1 NORTH. ELEVATION
1" = 20'-0"

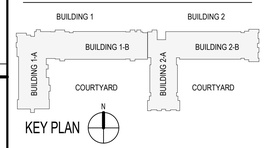
2555 Temple Trail
Winter Park, FL 32789
(407) 629-0595
www.fuglebergkoch.com
FL LICENSE # 0009897

© 2021 These documents and their contents are the property of FUGLEBERG KOCH LLC - ARCHITECTURE and are issued only for the specific project named herein. Any reproductions, revisions, or modifications of these documents without the expressed written consent of Fuglegerg Koch is prohibited by law.

SPARROW PARTNERS

ELEVATION KEY NOTES:

1. ARCHITECTURAL ROOF SHINGLES
2. SINGLE PLY ROOFING SYSTEM
3. RIDGE VENT
4. OFF RIDGE VENT
5. ALUMINUM GUTTER - PREFINISHED
6. ALUMINUM DOWNSPOUT - PREFINISHED
7. HARD COAT FOAM ORNAMENTAL BRACKET - SEE C1/A5.03
8. FIBER CEMENT FASCIA
9. 9 1/4" FIBER CEMENT LAP SIDING W/ 8" EXPOSURE
10. 5 1/2" FIBER CEMENT LAP SIDING W/ 4" EXPOSURE
11. FIBER CEMENT LAP SIDING - SKIP LAP PATTERN 4"/4"/8"
12. FIBER CEMENT PANEL
13. FIBER CEMENT TRIM
    A. 5/4X3" FIBER CEMENT TRIM
    B. 5/4X6" FIBER CEMENT TRIM
    C. 5/4X8" FIBER CEMENT TRIM
14. 11 1/4" FIBER CEMENT LAP SIDING W/ 10" EXPOSURE
15. 9 1/4" FIBER CEMENT SHAKES SIDING W/ 8" EXPOSURE
16. AWNING ROOF SUPPORT ROD SYSTEM
17. STONE VENEER
18. STONE TRIM
19. WINDOW SYSTEM - SEE SCHEDULE
20. SITE FENCE/RAILING – SEE LANDSCAPE
21. ALUMINUM STOREFRONT SYSTEM
22. METAL GUARD RAIL - 36" H. (GROUND LEVEL). PROVIDE A 36" CLEAR WIDE GATE AT ALL YARDS, BRONZE FINISH
23. METAL GUARD RAIL - 42" H. (TYP.), BRONZE FINISH
24. METAL GUARD RAIL - 60" H. AT SITE ACCESS, BRONZE FINISH
25. SIGNAGE/AREA - SIGNAGE DESIGN BY OTHERS
26. BUILDING FIRE SIGN - TO BE LOCATED ON FRONT OF BUILDING ONLY (SEE SITE PLAN FOR BUILDING ORIENTATION)
27. LIGHT FIXTURE @ 20'-0" AFF - SEE ELECTRICAL
28. METER CENTER - SEE ELECTRICAL
29. LAUNDRY / BATHROOM EXHAUST VENTS
30. A/C CONDENSING UNIT - SEE MECHANICAL
31. MECHANICAL UNIT DISCONNECT SWITCH - SEE MECHANICAL
32. FIRE DEPARTMENT CONNECTION
33. SURFACE MOUNTED FIRE EXTINGUISHER CAB W/ EXTINGUISHER
34. BALCONY PARTITION
35. BUILT-UP COLUMN -
    A. STONE BASE W/ TAPERED F.C. PANEL TOP & TRIM
    B. FIBER CEMENT W/ TRIM
36. FOAM TRUSS ACCENT



ISSUE HISTORY

No.	Date	Description
1	01/13/2023	SCHEMATIC DESIGN
2	03/30/2023	100% DESIGN DEVELOPMENT
3	07/12/2023	100% CONSTRUCTION DOCUMENTS
4		

REVISION HISTORY

No.	Date	Description

KENNETH LINEHAN
FL - AR0017385

STATE OF FLORIDA
KENNETH LINEHAN
AR0017385
REGISTERED ARCHITECT

OCOEE-APOPKA

APOPKA, FL

Drawn:	Author
Checked:	Checker
Approval:	Approver
Date:	12/01/2022
Project #:	5906

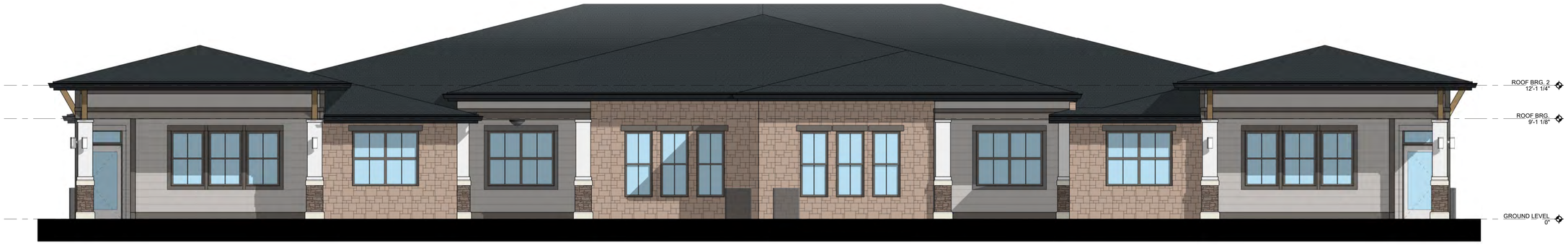
BUILDING ELEVATIONS

A4.00

PLOTTED: 10/13/2023 10:57:57 AM

C1 COTTAGES FRONT ELEVATION
1/4" = 1'-0"

E1 COTTAGES LEFT ELEVATION
1/4" = 1'-0"



H1 COTTAGES REAR ELEVATION
1/4" = 1'-0"

K1 COTTAGES RIGHT ELEVATION
1/4" = 1'-0"

FK ARCHITECTURE
2555 Temple Trail
Winter Park, FL 32789
(407) 629-0595
www. fuglebergkoch.com
FL LICENSE # 0009897

© 2021 These documents and their contents are the property of FUGLEBERG KOCH LLC - AR0009897, and are issued only for the specific project noted on these drawings. Any reproductions, revisions, or modifications of these documents without the expressed written consent of Fuglebergkoch is prohibited by law.

SPARROW PARTNERS

Keynote Legend	
Key Value	Keynote Text

ISSUE HISTORY

No.	Date	Description
1	01/13/2023	SCHEMATIC DESIGN
2		
3		
4		

REVISION HISTORY

No.	Date	Description

STATE OF FLORIDA
KENNETH LINEHAN
AR0017385
REGISTERED ARCHITECT

OCOEE APOPKA

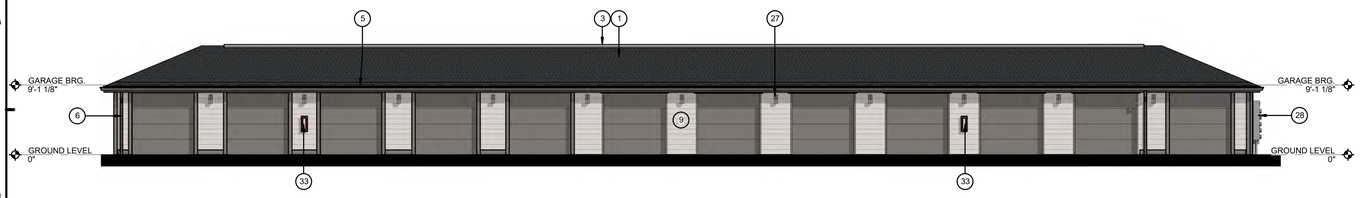
Apopka, FL

Drawn:	Author
Checked:	Checker
Approval:	Approver
Date:	11/01/2022
Project #:	5906

COTTAGES EXTERIOR ELEVATION

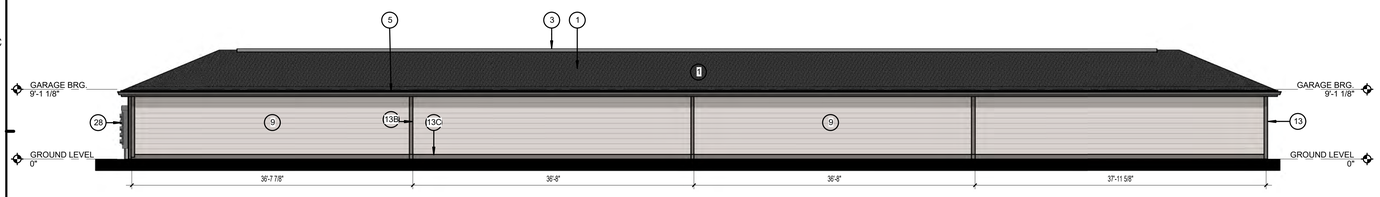
A9.40

PLOTTED: 2/06/2023 5:00:28 PM



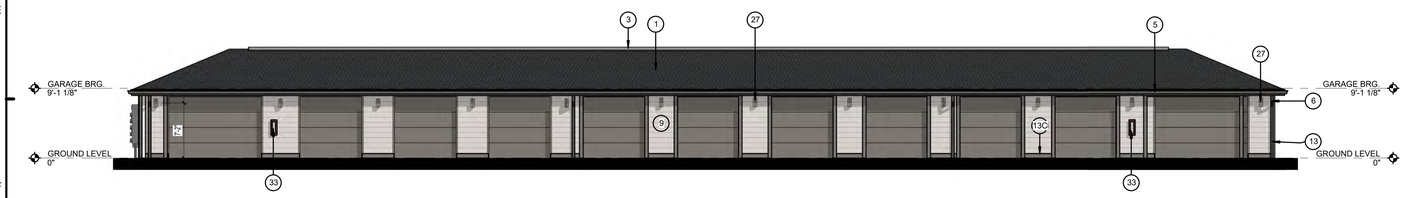
B1 GARAGE TYPE A - 12 BAY (TYP) - FRONT ELEVATION

1/8" = 1'-0" D5/ A21.01



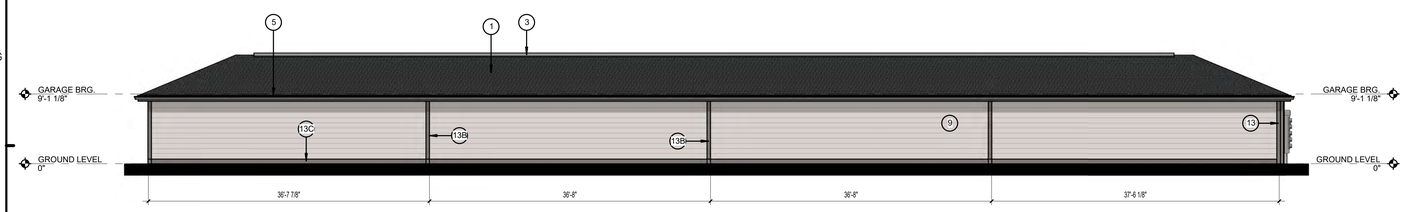
D1 GARAGE TYPE A - 12 BAY (TYP) - REAR ELEVATION

1/8" = 1'-0" D5/ A21.01



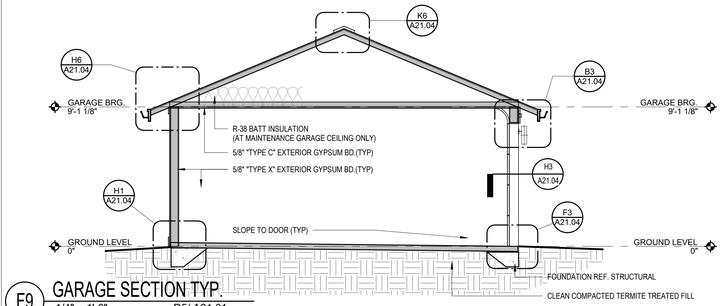
F1 GARAGE TYPE B - 11 BAY - w/ ADA & MAINTENANCE - FRONT ELEVATION

1/8" = 1'-0"



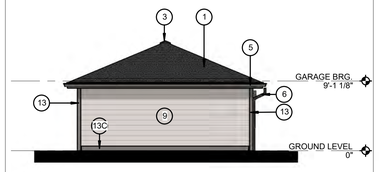
H1 GARAGE TYPE B - 11 BAY - w/ ADA & MAINTENANCE - REAR ELEVATION

1/8" = 1'-0"



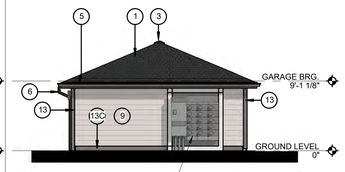
F9 GARAGE SECTION TYP.

1/4" = 1'-0" D5/ A21.01



H9 LEFT SIDE GARAGE ELEVATION TYP.

1/8" = 1'-0" D5/ A21.01



H11 RIGHT SIDE GARAGE ELEVATION TYP.

1/8" = 1'-0" D5/ A21.01

2555 Temple Trail
Winter Park, FL 32789
(407) 629-0595
www.fuglebergkoch.com
FL LICENSE # 0009897

© 2021 These documents and their contents are the property of FUGLEBERG KOCH LLC - ARCHITECT, and are issued only for the specific project and client listed herein. Any reproductions, revisions, or modifications of these documents without the expressed written consent of Fuglieberg Koch is prohibited by law.

SPARROW PARTNERS

ELEVATION KEY NOTES:

1. ARCHITECTURAL ROOF SHINGLES
2. SINGLE PLY ROOFING SYSTEM
3. RIDGE VENT
4. OFF RIDGE VENT
5. ALUMINUM GUTTER - PREFINISHED
6. ALUMINUM DOWNSPOUT - PREFINISHED
7. HARD COAT FOAM ORNAMENTAL BRACKET - SEE C1/A5.03
8. FIBER CEMENT FASCIA
9. 9 1/4" FIBER CEMENT LAP SIDING W/ 8" EXPOSURE
10. 5 1/2" FIBER CEMENT LAP SIDING W/ 4" EXPOSURE
11. FIBER CEMENT LAP SIDING - SKIP LAP PATTERN 5"/5"/8"
12. FIBER CEMENT PANEL
13. FIBER CEMENT TRIM
    A. 5/4X3" FIBER CEMENT TRIM
    B. 5/4X6" FIBER CEMENT TRIM
    C. 5/4X8" FIBER CEMENT TRIM
14. NOT USED-STUCCO FINISH
15. NOT USED-STUCCO REVEAL / CONTROL JOINT
16. HARD COAT FOAM TRIM- NOT USED
17. BRICK VENEER
18. STONE TRIM
19. WINDOW SYSTEM - SEE SCHEDULE
20. NOT USED
21. ALUMINUM STOREFRONT SYSTEM
22. METAL GUARD RAIL - 36" H. (GROUND LEVEL). PROVIDE A 36" CLEAR WIDE GATE AT ALL YARDS, BRONZE FINISH
23. METAL GUARD RAIL - 42" H. (TYP.), BRONZE FINISH
24. METAL GUARD RAIL - 60" H. AT SITE ACCESS, BRONZE FINISH
25. SIGNAGE/AREA - SIGNAGE DESIGN BY OTHERS
26. BUILDING FIRE SIGN - TO BE LOCATED ON FRONT OF BUILDING ONLY (SEE SITE PLAN FOR BUILDING ORIENTATION)
27. LIGHT FIXTURE @ 20'-0" AFF - SEE ELECTRICAL
28. METER CENTER - SEE ELECTRICAL
29. LAUNDRY / BATHROOM EXHAUST VENTS
30. A/C CONDENSING UNIT - SEE MECHANICAL
31. MECHANICAL UNIT DISCONNECT SWITCH - SEE MECHANICAL
32. FIRE DEPARTMENT CONNECTION
33. SURFACE MOUNTED FIRE EXTINGUISHER CAB W/ EXTINGUISHER
34. BALCONY PARTITION

NOTE:
SEE CIVIL FOR FFE AND ADJACENT GRADE INFORMATION.

ISSUE HISTORY

No.	Date	Description
1	01/13/2023	SCHEMATIC DESIGN
2		
3		
4		

REVISION HISTORY

No.	Date	Description

KENNETH LINEHAN
FL - AR0017385

STATE OF FLORIDA
KENNETH L LINEHAN
AR0017385
REGISTERED ARCHITECT

OCOEE-APOPKA

APOPKA, FL

Drawn:	Author
Checked:	Checker
Approval:	KL
Date:	12/01/2022
Project #:	5906

GARAGE ELEVATIONS AND SECT.

A21.03

City of Apopka
CITY COUNCIL STAFF REPORT

Section: BUSINESS (Action Item)
Item #: 3.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Floor and Décor Apopka – Major Development Plan

REQUEST:
Approve the Floor and Décor Apopka – Major Development Plan

SUMMARY:
Owner(s): Mid-Florida Freezer Properties, LLC
Applicant: Kimley-Horn and Associates, Inc. c/o Brian Ashby P.E.
Parcel Number(s): 06-21-28-7180-07-160, 06-21-28-7180-07-010, 06-21-28-7180-07-031 and 06-21-28-7180-07-100
Location: Southwest corner of Lake View Drive and U.S. 441
Future Land Use (FLU): Industrial (floor area ratio maximum of 0.60)
Zoning: I-L (Light Industrial)
Existing Use: Grocery store and warehouse
Proposed Use(s): Wholesale facility use
Tract Size: 5.72 +/- acres
Proposed Density/Intensity: 0.31 Floor Area Ratio

ZONING REPORT:

Direction	Future Land Use	Zoning	Present Use
North	County Commercial	County C-1 (Retail Commercial)	Automobile service station
East	County Commercial and County Low Medium Density	County C-1, County R-1	Vacant and Plymouth Heights Residential Subdivision
South	County Industrial	County Ind-2 (Industrial)	Industrial Warehouse
West	Industrial	I-L (Light Industrial)	Industrial Warehouse

PROJECT SUMMARY:

The Floor and Décor Apopka – Major Development Plan (MDP) proposes to construct a building with 77,901 square feet of area for a wholesale facility for surface flooring and related accessories on approximately 5.72 acres. While 70 parking spaces are required, the applicant is proposing a total of 120 parking spaces plus six accessible spaces. These parking spaces are dispersed on the north and south of the proposed building with the loading area located on the southern end. The proposed building height is 32 feet while the maximum permitted height is 45 feet.

The northern portion of the subject property currently houses a grocery store and warehouse, while the southern

area is undeveloped and heavily wooded. The landscape plan proposes Red Maple and Oak trees within landscaped parking islands at the perimeter of the project area. Oak trees embellish the frontage along U.S. 441 and a combination of Crape Myrtle and Red Maples are placed along Lake View Drive.

ACCESS/TRANSPORTATION:

The applicant is currently undergoing the vacation process for the Shepard Avenue right-of-way (ROW) with Orange County. A portion of the ROW will remain a public right-of-way, providing access to the adjacent western property. The Major Development Plan shows right-in and right-out access points located on U.S. 441 and Lake View Drive, as well as access on Mayflower Avenue.

ORANGE COUNTY NOTIFICATION:

Orange County was notified at the time of the site plan submittal for this property through the DRC agenda distribution.

PUBLIC HEARING SCHEDULE:

August 8, 2023 – Planning Commission (5:30 P.M.)
September 6, 2023 – City Council (1:30 P.M.)

Attachments:

- Maps
- Floor and Décor Apopka – MDP
- Floor and Décor Apopka – Building Elevations
- Floor and Décor Apopka – TIA

FUNDING SOURCE:

Not applicable.

RECOMMENDED MOTION:

Development Review Committee:

Recommends approval of the Floor and Décor Apopka – Major Development Plan, subject to the findings in the staff report.

Planning Commission:

At its meeting on August 8, 2023, Planning Commission unanimously recommended approval of the Floor and Décor Apopka – Major Development Plan, subject to the findings in the staff report.

Recommended Motion – City Council:

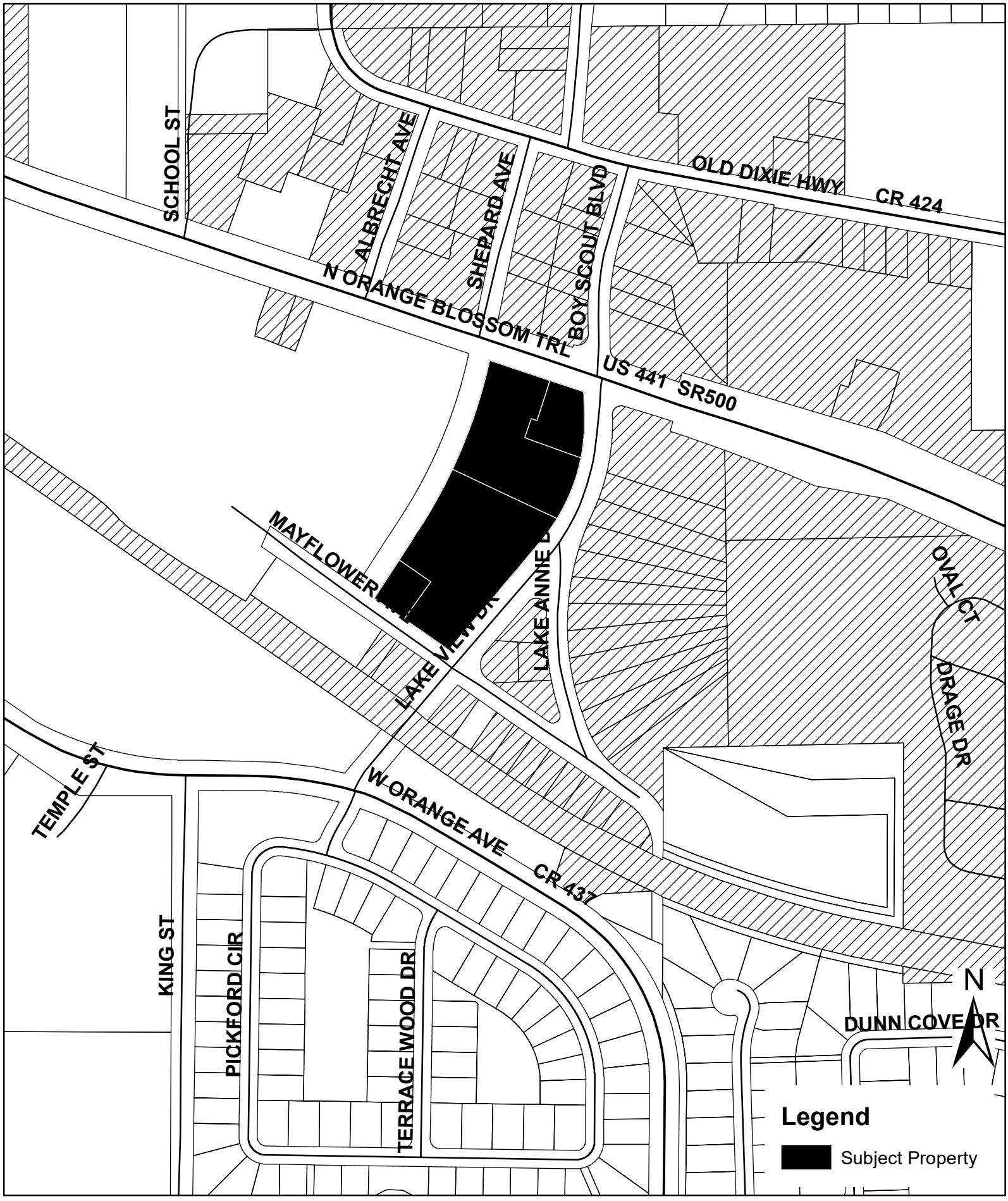
Approve the Floor and Décor Apopka – Major Development Plan, subject to the findings in the staff report.

ATTACHMENTS:

1. Maps
2. Floor and Décor Apopka – MDP

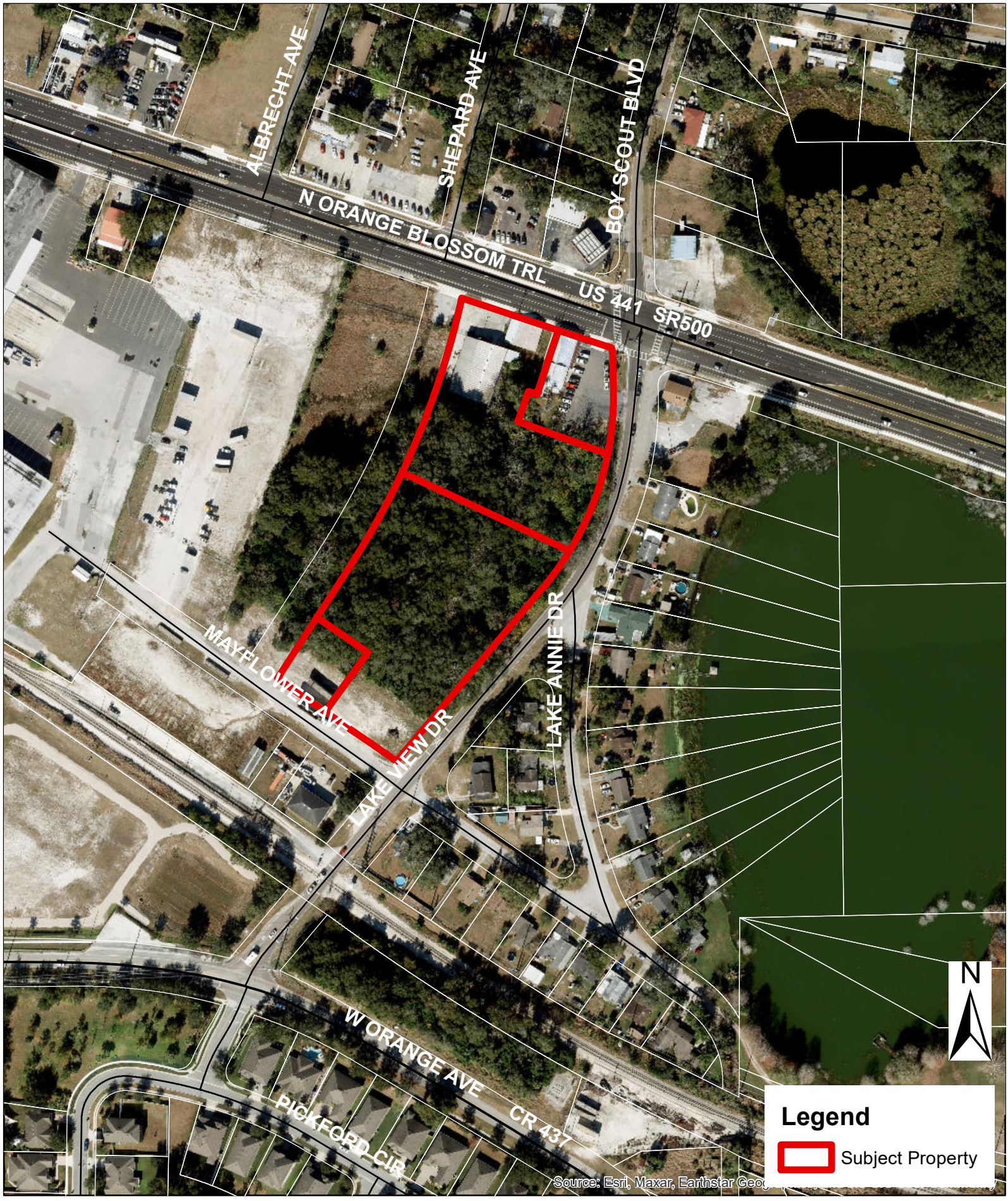
3. Floor and Décor Apopka – Building Elevations
4. Floor and Décor Apopka – TIA

Vicinity



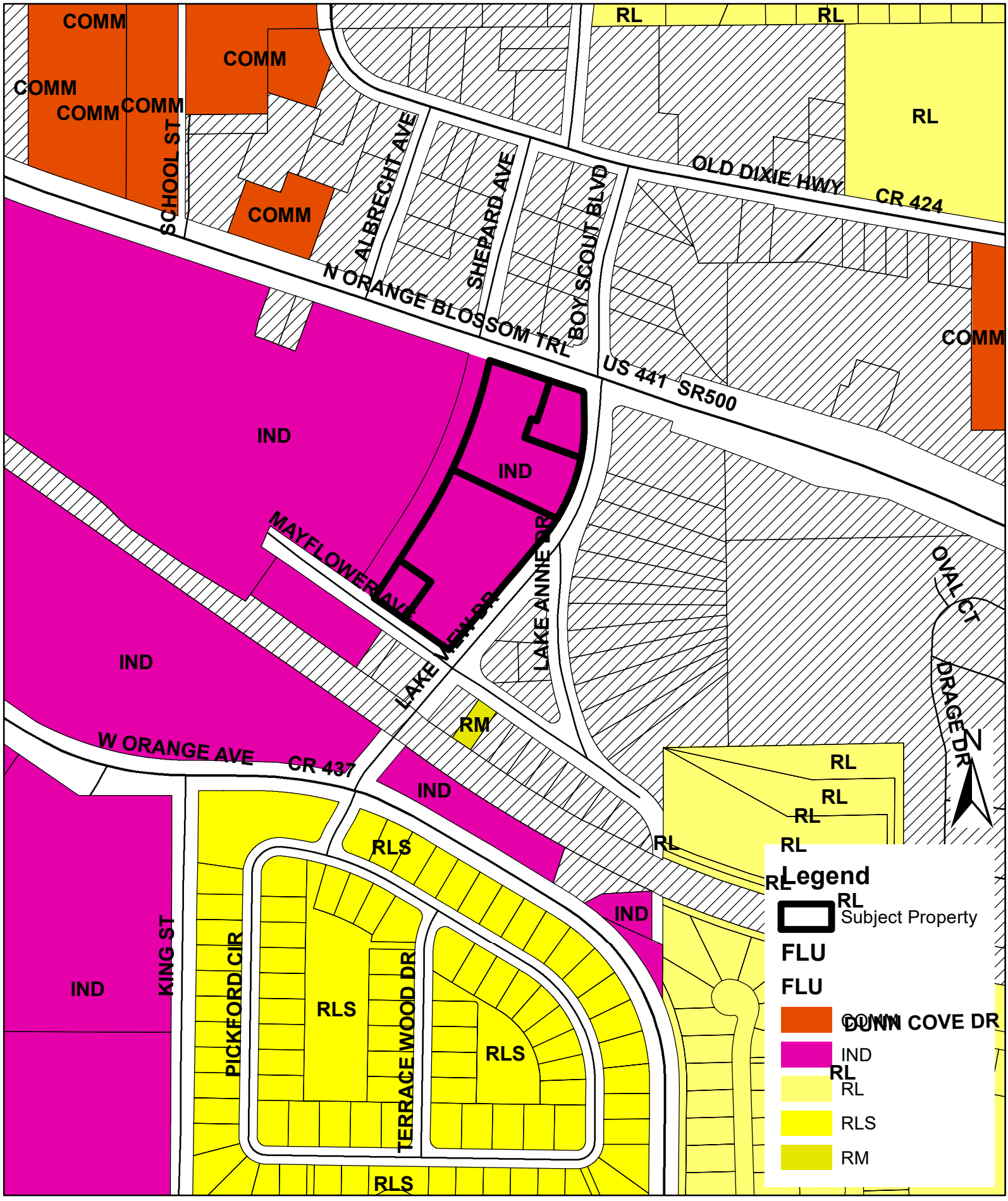
(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Aerial



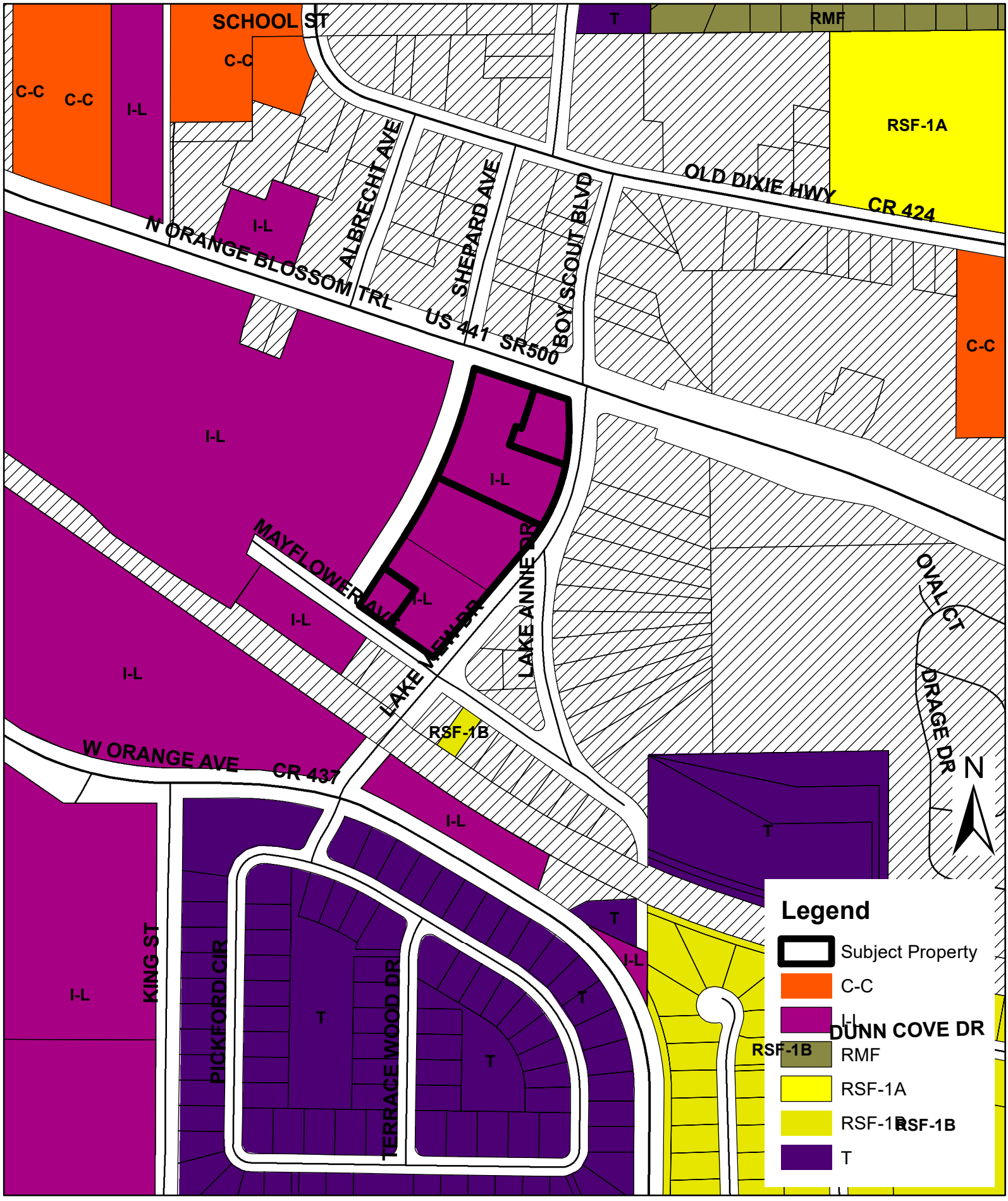
(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Future Land Use



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Zoning



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

MAJOR DEVELOPMENT PLAN

FOR

FLOOR AND DECOR

APOPKA

PARCEL I.D. #'s:

06-21-28-7180-07-100

06-21-28-7180-07-010

06-21-28-7180-07-160

06-21-28-7180-07-031

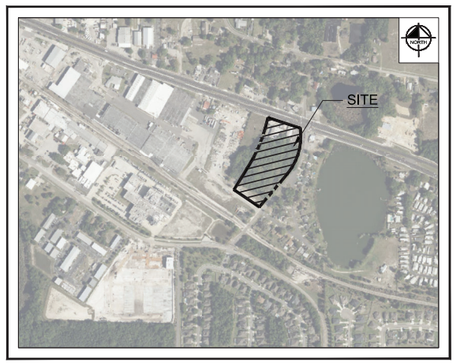
CITY OF APOPKA, FL 32703

JULY 10, 2023

6 CANDLER–APOPKA FINE SAND, 5 TO 12 PERCENT SLOPES
47 TAVARES–MILLHOPPER FINE SANDS, 0 TO 5 PERCENT SLOPES

SOILS MAP

1" = 150'



NOTE: THE SUBJECT PROPERTY IS LOCATED NORTH OF ORANGE BLOSSOM TRAIL (U.S. HWY 441) AND WEST OF LAKE VIEW DRIVE AND IS SUBJECT TO THE DENSITY REGULATIONS OF LDC 3.3.5 - RSF-1B.

AERIAL MAP

1" = 500'

LEGAL DESCRIPTION

(AS SURVEYED)
A PORTION OF:

A PARCEL OF LAND LOCATED IN SECTION 6, TOWNSHIP 21 SOUTH, RANGE 28 EAST, CITY OF APOPKA, ORANGE COUNTY, FLORIDA, BEING LOTS 1-30, BLOCK G, TOGETHER WITH A PORTION OF THE UNIMPROVED 60-FOOT RIGHT OF WAY OF SHEPARD AVENUE, ACCORDING TO THE PLAT OF PLYMOUTH DELLS, AS RECORDED IN PLAT BOOK O, PAGES 102-103, PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA. LESS AND EXCEPT RIGHT OF WAY TAKEN FOR ORANGE BLOSSOM TRAIL (U.S. HIGHWAY 441) PER FLORIDA DEPARTMENT OF TRANSPORTATION PROJECT NUMBER 7502-105, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGIN AT THE SOUTHEASTERLY CORNER OF LOT 20 OF BLOCK G, OF SAID PLYMOUTH DELLS; THENCE ALONG THE NORTHERLY RIGHT-OF-WAY OF MAYFLOWER AVENUE (60-FOOT PUBLIC RIGHT OF WAY PER PLAT BOOK O, PAGES 102-103, PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA), N55°11'46"W, A DISTANCE OF 277.27 FEET TO THE CENTERLINE OF SAID SHEPARD AVENUE; THENCE ALONG THE CENTERLINE OF SAID SHEPARD AVENUE, N32°19'51"E, A DISTANCE OF 234.27 FEET; THENCE CONTINUE ALONG THE CENTERLINE OF SAID SHEPARD AVENUE, NORTHEASTERLY ALONG THE ARC OF A CURVE TO THE LEFT (SAID CURVE HAVING A RADIUS OF 1377.68 FEET, A CENTRAL ANGLE OF 20°14'25" AND A CHORD BEARING AND DISTANCE OF N22°12'38"E, 484.15 FEET) FOR AN ARC DISTANCE OF 486.68 FEET TO THE SOUTHERLY RIGHT-OF-WAY OF ORANGE BLOSSOM TRAIL (U.S. HIGHWAY 441) (VARIABLE-WIDTH PUBLIC RIGHT OF WAY PER FLORIDA DEPARTMENT OF TRANSPORTATION PROJECT 7502-105); THENCE ALONG SAID SOUTHERLY RIGHT-OF-WAY, S71°32'49"E, A DISTANCE OF 306.71 FEET TO THE WESTERLY RIGHT-OF-WAY OF LAKE VIEW DRIVE (60-FOOT PUBLIC RIGHT OF WAY PER PLAT BOOK T, PAGE 19, PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA); THENCE ALONG SAID LAKE VIEW DRIVES WESTERLY RIGHT-OF-WAY THE FOLLOWING FIVE (5) COURSES: 1) SOUTHEASTERLY ALONG THE ARC OF A NON-TANGENT CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 30.00 FEET, A CENTRAL ANGLE OF 13°43'17" AND A CHORD BEARING AND DISTANCE OF S09°27'50"E, 7.17 FEET) FOR AN ARC DISTANCE OF 7.18 FEET; 2) S02°36'12"E, A DISTANCE OF 65.63 FEET; 3) SOUTHWESTERLY ALONG THE ARC OF A CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 502.17 FEET, A CENTRAL ANGLE OF 26°10'00" AND A CHORD BEARING AND DISTANCE OF S12°28'11"W, 227.35 FEET) FOR AN ARC DISTANCE OF 229.34 FEET; 4) SOUTHWESTERLY ALONG A COMPOUND CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 620.13 FEET, A CENTRAL ANGLE OF 12°47'32" AND A CHORD BEARING AND DISTANCE OF S32°43'06"W, 138.17 FEET) FOR AN ARC DISTANCE OF 138.46 FEET; 5) S40°29'39"W, A DISTANCE OF 389.14 FEET TO THE POINT OF BEGINNING.

CONTAINING 5.718 ACRES (249080 SQUARE FEET) OF LAND, MORE OR LESS.

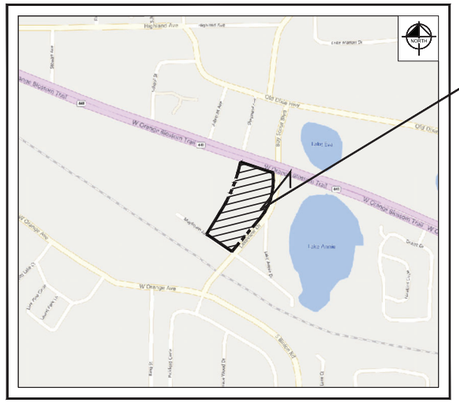
LEGAL DESCRIPTION

(AS PER TITLE COMMITMENT FILE # FL25221211OJC/223993ATL)
ALL OF BLOCK G, PLYMOUTH DELLS, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK O, PAGES 102 AND B103, OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA.

SCOPE NARRATIVE

THE PROPOSED PROJECT IS A FLOOR AND DECOR AT THE CORNER OF W. ORANGE BLOSSOM TRAIL AND LAKE VIEW DRIVE. SITE DEMOLITION INCLUDES CLEARING AND GRUBBING OF EXISTING VEGETATION AND DEMOLITION OF EXISTING STRUCTURES. THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A 77,901 SF BUILDING ON A 5.72 ACRE SITE. THE PROJECT INCLUDES PROPOSED PARKING, INFRASTRUCTURE, AND A STORM WATER MANAGEMENT SYSTEM.

TRUCKS AND SEMI-TRAILERS SHALL NOT BE PARKED OR STORED WITHIN PUBLIC VIEW OVERNIGHT UNLESS IT IS TEMPORARY PARKING NOT TO EXCEED FORTY-EIGHT (48) HOURS FOR DELIVERY PURPOSES.


PROJECT AREA
W Orange Blossom Trail
Lake Avon Dr
Lake Avon Ct
Lake Avon Cir
Lake Avon Pl
Lake Avon Way
Lake Avon Trail
Lake Avon Ln
Lake Avon Ter
Lake Avon Ct
Lake Avon Dr

GENERAL

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING (HORIZONTALLY AND VERTICALLY) ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AND FOR NOTIFYING THE VARIOUS UTILITY COMPANIES TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION, TEMPORARY DISTRIBUTION SERVICE, OR CLARIFICATION OF ACTIVITY REGARDING SAID UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THESE PLANS OR FIELD LOCATED. ALL OTHER UTILITIES WHICH INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED BY THE RESPECTIVE UTILITY COMPANIES AND THE CONTRACTOR SHALL COOPERATE WITH THEM DURING RELOCATION OPERATIONS. ANY DELAY OR INCONVENIENCE OF THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED. CONTRACTOR SHALL CALL "SUNSHINE ONE" AT 811 TO HAVE EXISTING UTILITIES LOCATED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
2. THE LOCATIONS OF ALL EXISTING UTILITIES, STORM DRAINAGE SYSTEMS, AND TOPOGRAPHIC FEATURES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST AVAILABLE INFORMATION AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. SHOULD A DISCREPANCY ARISE BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, WHICH WOULD APPRECIABLY AFFECT THE EXECUTION OF THESE PLANS, THE CONTRACTOR SHALL HALT CONSTRUCTION AND NOTIFY THE ENGINEER IMMEDIATELY.
3. PRIOR TO THE INITIATION OF SITE CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ANY EXISTING UTILITIES INCLUDING GAS, WATER, ELECTRIC, CABLE TV, COMMUNICATIONS, SANITARY SEWERS AND STORM DRAINAGE SYSTEMS, ON AND / OR ADJACENT TO THE SITE. REMOVE OR CAP AS NECESSARY.
4. THE CONTRACTOR SHALL EXERCISE CAUTION IN AREAS OF BURIED UTILITIES AND SHALL CALL "SUNSHINE 811" AT 811 OR 1-800-432-4770 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION TO ARRANGE FOR FIELD LOCATIONS OF BURIED UTILITIES.
5. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND, THAT MAY OCCUR AS A RESULT OF THE WORK PERFORMED, BY THE CONTRACTOR OR SUB-CONTRACTORS, AS CALLED FOR IN THESE CONTRACT DOCUMENTS.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS SPECIFIED BY THE VARIOUS GOVERNMENTAL AGENCIES AND THE ENGINEER. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, SUCH AS RIGHT OF WAY PERMIT(S), EXCAVATION/FILL PERMIT(S), FIRE PROTECTION PERMIT(S), OR UNDERGROUND UTILITY PERMIT(S), PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL INSPECTION CRITERIA OF APPLICABLE AGENCIES, SCHEDULING OF INSPECTIONS, AND OBTAINING REQUIRED INSPECTIONS FROM AGENCY.
7. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, ON ALL PRECAST AND MANUFACTURED ITEMS, TO THE OWNER'S ENGINEER FOR REVIEW. FAILURE TO OBTAIN APPROVAL BEFORE INSTALLATION MAY RESULT IN REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
8. ALL UTILITY SERVICE STUB-OUTS (WATER, SANITARY SEWER, etc.) ARE TO BE INSTALLED WITHIN 5' OF BUILDING(S), UNLESS OTHERWISE NOTED ON PLANS.
9. CONTRACTOR TO COORDINATE WITH THE APPLICABLE ELECTRIC UTILITY SUPPLIER REGARDING ANY NECESSARY RELOCATION(S) OF UNDERGROUND AND/OR OVERHEAD ELECTRIC FACILITIES, AND FOR THE LOCATION AND INSTALLATION OF TRANSFORMER PAD(S) AND ASSOCIATED ELECTRIC FACILITIES.
10. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AN R-O-W UTILIZATION PERMIT (IF REQUIRED) FOR CONSTRUCTION OF THE PROPOSED UTILITIES. THIS PERMIT MUST BE OBTAINED BY A DULY LICENSED PLUMBING CONTRACTOR (OR CLASS A GENERAL CONTRACTOR) PRIOR TO THE START OF CONSTRUCTION. THESE PLANS AND ANY SUBSEQUENT REVISIONS TO THESE PLANS, THAT ARE ISSUED BY THE ENGINEER, WILL BE SUBJECT TO THE APPROVAL CONDITIONS OF THIS PERMIT.
11. THE GRAPHIC INFORMATION DEPICTED ON THESE PLANS HAS BEEN COMPILED TO PROPORTION BY SCALE AS ACCURATELY AS POSSIBLE. HOWEVER, DUE TO REPRODUCTIVE DISTORTION, REDUCTION, AND/OR REVISIONS, INFORMATION CONTAINED HEREIN IS NOT INTENDED TO BE SCALED FOR CONSTRUCTION PURPOSES.
12. ALL SPECIFICATIONS AND DOCUMENTS REFERENCED HEREIN SHALL BE OF THE LATEST REVISION.
13. ALL UNDERGROUND UTILITIES MUST BE IN-PLACE, TESTED AND INSPECTED PRIOR TO BASE AND SURFACE CONSTRUCTION.
14. WORK PERFORMED UNDER THIS CONTRACT SHALL INTERFACE SMOOTHLY WITH ANY OTHER WORK BEING PERFORMED ON SITE BY OTHER CONTRACTORS/SUBCONTRACTORS AND UTILITY COMPANIES. IT WILL BE NECESSARY FOR THE GENERAL CONTRACTOR TO COORDINATE AND SCHEDULE HIS/HER ACTIVITIES ACCORDINGLY.
15. ALL DIMENSIONS ARE TO FACE OF CURB, UNLESS OTHERWISE NOTED.
16. ALL SIGNAGE MUST COMPLY WITH THE LAND DEVELOPMENT CODE OF THE CITY OF APOPKA, FLORIDA.
17. CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING ACTIVITIES NECESSARY TO PERFORM THE WORK WITHIN THESE PLANS.
18. THE CONTRACTOR SHALL RESTORE OFF-SITE CONSTRUCTION AREAS TO EQUAL AND/OR BETTER CONDITION THAN EXISTING PRIOR TO START OF CONSTRUCTION.
19. THE CONTRACTOR SHALL COMPLY WITH THE LEGAL LOAD RESTRICTIONS IN HAULING OF MATERIALS IN PUBLIC ROADS BEYOND THE LIMITS OF WORK. A SPECIAL PERMIT WILL NOT RELIEVE THE CONTRACTOR OF LIABILITY FOR THE DAMAGE WHICH MAY RESULT FROM THE MOVING OF MATERIAL AND EQUIPMENT.
20. SURVEY MONUMENTS OR BENCHMARKS, WHICH HAVE TO BE DISTURBED BY THIS WORK, SHALL BE REPLACED UPON COMPLETION OF WORK BY A A LICENSED LAND SURVEYOR CURRENTLY REGISTERED IN THE STATE OF FLORIDA.
21. CONTRACTOR IS TO ADJUST ANY UTILITY ELEMENT MEANT TO BE FLUSH WITH GRADE (CLEAN OUT MANHOLES, CATCH BASINS, INLETS, ETC.) THAT IS AFFECTED BY SITE WORK OR GRADE CHANGES, WHETHER SPECIFICALLY NOTED ON PLANS OR NOT.
22. ALL WORK PERFORMED WITHIN THE FDOT RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE 2023-24 EDITIONS OF FDOT STANDARD PLANS, SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE 2017 UTILITY ACCOMMODATION MANUAL.

TREES AND VEGETATION

1. THE CONTRACTOR IS TO MINIMIZE THE REMOVAL OF VEGETATION TO THE GREATEST EXTENT PRACTICAL. SEE DEMOLITION PLAN FOR TREES TO BE REMOVED. TREES IN CLOSE PROXIMITY TO CONSTRUCTION SHALL BE PROTECTED BY WOOD FENCING PER DETAIL ON SHEET C2.1.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPE BUFFERS AND RETENTION AND DETENTION FACILITIES UNTIL THE WORK HAS BEEN ACCEPTED BY THE OWNER. ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.

DEMOLITION

1. CONTRACTOR SHALL SUBMIT DEMOLITION SCHEDULE TO OWNER PRIOR TO PROCEEDING WITH DEMOLITION ACTIVITIES.
2. EXTENT OF SITE CLEARING IS SHOWN ON DRAWINGS.
3. CONTRACTOR SHALL CONDUCT SITE DEMOLITION OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION.
4. CONTRACTOR SHALL PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS INDICATED ON PLAN "EXISTING TO REMAIN".
5. CONTRACTOR SHALL RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO PARTIES HAVING JURISDICTION.
6. CONTRACTOR SHALL REMOVE WASTE MATERIALS AND UNSUITABLE AND EXCESS TOPSOIL FROM PROPERTY AND DISPOSE OF OFF-SITE IN A LEGAL MANNER.
7. CONTRACTOR SHALL DEMOLISH AND COMPLETELY REMOVE FROM SITE MATERIAL INDICATED ON PLAN OR NOTES "TO BE REMOVED".
8. CONTRACTOR SHALL PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS CREATED BY THE DEMOLITION OPERATION.

STORM DRAINAGE SYSTEM

1. STANDARD INDEXES REFER TO THE LATEST EDITION OF F.D.O.T. "ROADWAY AND TRAFFIC DESIGN STANDARDS."
2. THE LATEST EDITION OF F.D.O.T. "DESIGN STANDARDS FOR DESIGN, CONSTRUCTION, MAINTENANCE, AND UTILITY OPERATIONS ON THE STATE HIGHWAY SYSTEM" IS REFERRED TO FOR THE STRUCTURAL DESIGN OF DRAINAGE STRUCTURES SPECIFIED IN THESE PLANS, AS REFERENCED BY STANDARD INDEX. ALL SPECIALTY DRAINAGE STRUCTURES REQUIRE SEPARATE STRUCTURAL DESIGN, WHICH IS NOT INCLUDED IN THESE PLANS. STATION OFFSETS ARE TO THE CENTERLINE OF THE STRUCTURE TOP (I.E. DITCH BOTTOM INLET OR CURB INLET TOP), AS OPPOSED TO THE STRUCTURE BASE.
3. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE CLASS III (ASTM C-76) UNLESS OTHERWISE NOTED ON PLANS. ALL DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS UNLESS OTHERWISE NOTED ON PLANS.
4. PIPE LENGTHS SHOWN ARE APPROXIMATE AND TO CENTER OF DRAINAGE STRUCTURES, WITH THE EXCEPTION OF MITERED END AND FLARED END SECTIONS. LENGTHS OF PIPE SHOWN WHICH TERMINATE WITH MITERED END OR FLARED END SECTIONS ARE MEASURED TO THE DOWNSTREAM INVERT OF THE MITERED END OR FLARED END SECTION.
5. ALL DRAINAGE STRUCTURE GRATES AND COVERS, EITHER EXISTING OR PROPOSED SHALL BE TRAFFIC RATED FOR H-20 LOADINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY UPGRADES TO EXISTING DRAINAGE STRUCTURES.
6. CONSTRUCTION OF THE STORMWATER MANAGEMENT SYSTEM MUST BE COMPLETE AND ALL DISTURBED AREAS STABILIZED IN ACCORDANCE WITH THE PERMITTED PLANS AND CONDITIONS PRIOR TO ANY OF THE FOLLOWING: ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY; INITIATION OF INTENDED USE OF THE INFRASTRUCTURE; OR TRANSFER OF RESPONSIBILITY FOR MAINTENANCE OF THE SYSTEM TO A LOCAL GOVERNMENT OR OTHER RESPONSIBLE ENTITY.
7. STORM WATER PIPES, STRUCTURES, MINIMUM COVER, AND INSTALLATION PROCEDURES TO BE IN ACCORDANCE WITH THE LAND DEVELOPMENT CODE OF THE CITY OF APOPKA, FLORIDA.
8. DURING CONSTRUCTION, NO DIRECT DISCHARGE OF WATER TO DOWNSTREAM RECEIVING WATERS WILL BE ALLOWED. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATER QUALITY AND SHALL ROUTE DISCHARGE WATER IN SUCH A MANNER AS TO ADEQUATELY REMOVE SILT PRIOR TO RUNOFF FROM THE SITE.

DRAINAGE SYSTEM TESTING AND INSPECTION

1. THE STORM DRAINAGE PIPING SYSTEM SHALL BE SUBJECT TO A VISUAL INSPECTION BY THE OWNER'S ENGINEER PRIOR TO THE PLACEMENT OF BACKFILL. CONTRACTOR TO NOTIFY THE ENGINEER 48 HOURS IN ADVANCE TO SCHEDULE INSPECTION.
2. THE CONTRACTOR SHALL MAINTAIN AND PROTECT FROM MUD, DIRT, DEBRIS, ETC. THE STORM DRAINAGE SYSTEM UNTIL FINAL ACCEPTANCE OF THE PROJECT. THE STORM SYSTEM WILL BE REINSPECTED BY THE OWNER'S ENGINEER PRIOR TO APPROVAL FOR CERTIFICATE OF OCCUPANCY PURPOSES. THE CONTRACTOR MAY BE REQUIRED TO RECLEAN PIPES AND INLETS AT THE CONTRACTORS EXPENSE AND PRIOR TO FINAL ACCEPTANCE.

SAFETY

1. ALL SUBSURFACE CONSTRUCTION SHALL COMPLY WITH THE "TRENCH SAFETY ACT". THE CONTRACTOR SHALL INSURE THAT THE METHOD OF TRENCH PROTECTION AND CONSTRUCTION IS IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY AND ENFORCE ALL APPLICABLE SAFETY REGULATIONS. THE ABOVE INFORMATION HAS BEEN PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY AND DOES NOT IMPLY THAT THE OWNER OR ENGINEER WILL INSPECT AND/OR ENFORCE SAFETY REGULATIONS.
2. DURING THE CONSTRUCTION AND/OR MAINTENANCE OF THIS PROJECT, ALL SAFETY REGULATIONS ARE TO BE ENFORCED. THE CONTRACTOR OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE CONTROL AND SAFETY OF THE TRAVELING PUBLIC AND THE SAFETY OF HIS/HER PERSONNEL. LABOR SAFETY REGULATIONS SHALL CONFORM TO THE PROVISIONS SET FORTH BY OSHA IN THE FEDERAL REGISTER OF THE DEPARTMENT OF TRANSPORTATION. THE MINIMUM STANDARDS AS SET FORTH IN THE CURRENT EDITION OF THE STATE OF FLORIDA, MANUAL ON TRAFFIC CONTROL AND SAFE PRACTICES FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS" SHALL BE FOLLOWED IN THE DESIGN, APPLICATION, INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES, WARNING DEVICES AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND CONSTRUCTION PERSONNEL FROM HAZARDS WITHIN THE PROJECT LIMITS. CONTRACTOR SHALL PROVIDE FOR THE SAFETY AND CONTROL OF LOCAL TRAFFIC DURING CONSTRUCTION. ADDITIONAL INFORMATION MAY BE REQUIRED IF LANE CLOSURE DURATIONS ARE LONGER THAN DAYTIME OPERATIONS.

EARTHWORK / GRADING / DEMUCKING PROCEDURES

1. A GEOTECHNICAL ENGINEERING INVESTIGATION REPORT HAS BEEN PREPARED BY TERRACON FOR PURPOSES OF STORM WATER DESIGN, OF WHICH COPIES ARE AVAILABLE THROUGH THE OWNER OR THEIR SOIL TESTING COMPANY. A GEOTECHNICAL ENGINEER SHALL BE RETAINED BY THE CONTRACTOR TO PROVIDE ON-SITE INSPECTIONS DURING EXCAVATION/FILL OPERATIONS AND TESTING OF THE COMPACTED FILL SO THAT PROPER DOCUMENTATION OF THE REQUIRED COMPACTING CRITERIA CAN BE PROVIDED.
2. ALL EXISTING DEBRIS (ABOVE OR BELOW GROUND), CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR, IN ACCORDANCE WITH APPLICABLE REGULATORY AGENCY REQUIREMENTS IN A LEGAL MANNER.
3. UNLESS OTHERWISE NOTED, GRADE TO MEET EXISTING ELEVATION AT PROPERTY LINES. FINAL GRADES SHOWN INCLUDE SOD HEIGHT. PROPOSED SPOT ELEVATIONS REPRESENT FINISHED PAVEMENT OR GROUND SURFACE GRADES, UNLESS OTHERWISE NOTED. IT MAY BE NECESSARY TO FIELD ADJUST PAVEMENT ELEVATIONS TO PRESERVE THE ROOT SYSTEMS OF TREES SHOWN TO BE SAVED. CONTRACTOR TO COORDINATE WITH OWNER'S ENGINEER PRIOR TO ANY ELEVATION CHANGES. ALL AREAS SHALL BE GRADED TO DRAIN AWAY FROM THE BUILDINGS.
4. ALL DELETERIOUS SUBSURFACE MATERIAL (I.E. MUCK, PEAT, BURIED DEBRIS) IS TO BE EXCAVATED AND REPLACED WITH SUITABLE/COMPACTED SOILS, AS DIRECTED BY THE OWNER OR THEIR SOILS TESTING COMPANY. DELETERIOUS MATERIAL IS TO BE STOCKPILED OR REMOVED FROM THE SITE AS DIRECTED BY THE OWNER. EXCAVATED AREAS ARE TO BE BACKFILLED WITH APPROVED MATERIALS AND COMPACTED AS SHOWN ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ANY PERMITS THAT ARE NECESSARY FOR REMOVING DELETERIOUS MATERIAL FROM THE SITE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATIONS AGAINST COLLAPSE AND WILL PROVIDE BRACING, SHEETING OR SHORING AS NECESSARY. DEWATERING METHODS SHALL BE USED AS REQUIRED TO KEEP TRENCHES DRY WHILE PIPE AND APPURTENANCES ARE BEING PLACED.
6. ALL NECESSARY FILL AND EMBANKMENT THAT IS PLACED DURING CONSTRUCTION SHALL CONSIST OF MATERIAL SPECIFIED BY THE OWNER'S SOILS TESTING COMPANY OR ENGINEER AND BE PLACED AND COMPACTED ACCORDING TO THESE PLANS.
7. THE CONTRACTOR SHALL INSURE THAT PROPER SOIL DENSITIES ARE ACHIEVED FOR PLACEMENT OF ALL HEADWALL/ENDWALL FOOTINGS, RETAINING WALL FOOTINGS, AND IN GENERAL, ANY FOOTING SUPPORT DESCRIBED ON THESE PLANS. IT WILL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT SUFFICIENT SOILS TESTING HAS BEEN PERFORMED PRIOR TO FINAL INSTALLATION OF IMPROVEMENTS.
8. ANY UNSUITABLE ORGANIC SOIL SHALL BE EXCAVATED TO A MINIMUM MARGIN OF 6 FEET BEYOND ITS PERIPHERY EXCAVATED TO EXPOSE THE UNDERLYING NON-ORGANIC FINE SAND.
9. IF DETERMINED NECESSARY, DEWATERING DURING EXCAVATING/BACKFILLING OPERATIONS MAY BE ACCOMPLISHED BY DITCHING AND THE USE OF SUMP PUMPS AND/OR OTHER METHODS (WELL POINTS), AS NECESSARY. CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS FOR DEWATERING ACTIVITIES THAT MAY BE REQUIRED.
10. UPON APPROVAL OF THE GEOTECHNICAL ENGINEER, THE EXCAVATED AREAS MAY BE BACKFILLED WITH CLEAN FINE SAND FREE OF UNSUITABLE OR DELETERIOUS MATERIAL. HOWEVER, THE FILL SHOULD NOT BE PLACED IN MORE THAN 6 INCHES OF STANDING WATER. ONCE THE FILL IS AT LEAST 2 FEET ABOVE THE DEWATERED LEVEL, BACKFILLING MAY PROCEED AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

PAVING, GRADING AND DRAINAGE

1. ALL PAVING SHALL BE PERFORMED IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. PROPOSED SPOT ELEVATIONS REPRESENT FINISHED PAVEMENT OR GROUND SURFACE GRADES, UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL TRIM, TACK AND MATCH EXISTING PAVEMENT AT LOCATIONS WHERE NEW PAVEMENT MEETS EXISTING PAVEMENT.
4. CURBING SHALL BE PLACED AT THE EDGES OF ALL PAVEMENT, UNLESS OTHERWISE NOTED. REFER TO THE LATEST EDITION OF F.D.O.T. "DESIGN STANDARDS" FOR DETAILS AND SPECIFICATIONS OF ALL F.D.O.T. TYPE CURB AND GUTTERS CALLED FOR IN THESE PLANS.
5. PRIOR TO CONSTRUCTING CONCRETE PAVEMENT, THE CONTRACTOR IS TO SUBMIT A PROPOSED JOINTING PATTERN TO THE SOILS ENGINEER FOR APPROVAL.
6. CONTRACTOR TO PROVIDE A 1/2" TO 1" BITUMINOUS EXPANSION JOINT MATERIAL WITH SEALER AT ABUTMENT OF CONCRETE AND OTHER MATERIALS (STRUCTURES, OTHER POURED)
7. ALL PAVEMENT MARKINGS SHALL BE MADE IN ACCORDANCE WITH F.D.O.T. DESIGN STANDARDS.
8. THE CONTRACTOR WILL STABILIZE BY SEED AND MULCH, SOD, OR OTHER APPROVED MATERIALS ANY DISTURBED AREAS WITHIN ONE WEEK FOLLOWING CONSTRUCTION OF THE UTILITY SYSTEMS AND PAVEMENT AREAS. CONTRACTOR SHALL MAINTAIN SUCH AREAS UNTIL FINAL ACCEPTANCE BY OWNER. CONTRACTOR TO COORDINATE WITH OWNER REGARDING TYPE OF MATERIAL, LANDSCAPING AND IRRIGATION REQUIREMENTS.
9. THE CONTRACTOR SHALL RESTORE OFF-SITE CONSTRUCTION AREAS TO EQUAL AND/OR BETTER CONDITION THAN EXISTING PRIOR TO START OF CONSTRUCTION.
10. UNLESS OTHERWISE NOTED, GRADE TO MEET EXISTING ELEVATION AT PROPERTY LINES.
11. SURVEY MONUMENTS OR BENCHMARKS, WHICH HAVE TO BE DISTURBED BY THIS WORK, SHALL BE REPLACED UPON COMPLETION OF WORK BY A REGISTERED LAND SURVEYOR AT CONTRACTORS EXPENSE.
12. FINAL GRADES SHOWN INCLUDE SOD HEIGHT. ALL AREAS SHALL BE GRADED TO DRAIN AWAY FROM THE BUILDINGS.
13. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE AND JURISDICTIONAL PERMITTING AGENCIES.
14. ALL WORK SHALL COMPLY WITH THE GEOTECHNICAL REPORT BY TERRACON.
15. CONTRACTOR SHALL SOD ALL DISTURBED AREAS WITH BAHIA UNLESS OTHERWISE NOTED.

PAVING/GRADING TESTING AND INSPECTION

1. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING APPLICABLE TESTING WITH THE SOILS ENGINEER. TESTS WILL BE REQUIRED PURSUANT WITH THE SOILS REPORT. UPON COMPLETION OF WORK THE SOILS ENGINEER WILL SUBMIT CERTIFICATIONS TO THE OWNER AND OWNER'S ENGINEER STATING THAT ALL REQUIREMENTS HAVE BEEN MET.
2. A QUALIFIED TESTING LABORATORY SHALL PERFORM ALL TESTING NECESSARY TO ASSURE COMPLIANCE OF THE IN-PLACE MATERIALS AS REQUIRED BY THESE PLANS AND GEOTECHNICAL REPORT, THE VARIOUS AGENCIES AND PERMIT CONDITIONS. SHOULD ANY RETESTING BE REQUIRED DUE TO THE FAILURE OF ANY TESTS TO MEET THESE REQUIREMENTS, THE CONTRACTOR WILL BEAR ALL COSTS OF SAID RETESTING.

PAVEMENT MARKING AND SIGNAGE

1. THE INSTALLATION, SHAPE, AND SIZE OF ALL SIGNS AND THEIR LETTERING SHALL COMPLY WITH THE LATEST EDITIONS OF THE U.S. DEPARTMENT OF TRANSPORTATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE F.D.O.T. "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND THE F.D.O.T. "DESIGN STANDARDS FOR DESIGN, CONSTRUCTION, MAINTENANCE, AND UTILITY OPERATIONS ON THE STATE HIGHWAY SYSTEM". WHERE CONFLICTS EXIST BETWEEN THE PLANS AND THE ABOVE MENTIONED SPECIFICATIONS, THE MORE STRINGENT CRITERIA SHALL PREVAIL.

TEST, INSPECTION AND CLOSEOUT REQUIREMENTS

1. ALL GRAVITY SEWER PIPING SHALL BE SUBJECT TO A VISUAL INSPECTION BY THE OWNER'S ENGINEER AND APPLICABLE MUNICIPALITY/AGENCY. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS IN ADVANCE TO SCHEDULE INSPECTION(S). THE CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS ASSOCIATED WITH A TELEVISED INSPECTION (TV) OF THE PROPOSED GRAVITY SEWER LINE CONSTRUCTION. TV INSPECTION SHALL BE IN ACCORDANCE TO THE CITY OF APOPKA UTILITIES DESIGN AND CONSTRUCTION STANDARDS MANUAL. THE CONTRACTOR SHALL PROVIDE COPIES OF THE TV INSPECTION TAPE TO THE ENGINEER, THE OWNER AND THE APPLICABLE MUNICIPALITY/AGENCY.
2. THE CONTRACTOR SHALL PERFORM LEAKAGE TESTS ON ALL GRAVITY SEWERS PER THE CITY OF APOPKA UTILITIES DESIGN AND CONSTRUCTION STANDARDS MANUAL.
3. AN AS-BUILT SURVEY SHALL BE PREPARED IN ACCORDANCE WITH CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE (F.A.C.), PURSAUNT TO CHAPTER 472, FLORIDA STATUTES (F.S.) SHALL BE REQUIRED.
4. THE CONTRACTOR SHALL PROVIDE UTILITY AS-BUILT AND GRADING/DRAINAGE AS-BUILT RECORD DRAWINGS BASED ON THE CIVIL DESIGN PLAN SHEETS. ALL AS-BUILTS SHALL BE OVERLAID ON THE CIVIL DESIGN PLANS WITH THE DESIGN SHADED BACK AND THE AS-BUILT BOLD. THE AS-BUILTS SHALL BE SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR.
5. THE UTILITY AS-BUILT SHALL INCLUDE ALL SANITARY SEWERS AND FORCE MAIN SYSTEMS, POTABLE AND RECLAIMED WATER MAIN SYSTEMS, METERS, VALVES, FORCE MAINS, GAS MAINS, AND IRRIGATION LINES (2-INCH AND LARGER). CONTRACTOR TO PROVIDE ALL UTILITY CROSSING INFORMATION ON THE AS-BUILT. THE UTILITY AS-BUILTS SHALL IDENTIFY ALL WATER MAIN CROSSINGS WITH STORM AND SANITARY LINES INDICATING TOP OF PIPE AND INVERTS OF THE ABOVE CROSSING PIPE ALONG WITH CLEARANCE DIMENSIONS. THIS SHALL ALSO BE DONE FOR SANITARY/STORM CROSSINGS. ALL TEMPORARY SAMPLE POINT NUMBER (TSP#) LOCATIONS SHALL ALSO BE NOTED ON THE AS-BUILT. CONTRACTOR TO ALSO PROVIDE AN AS-BUILT ASSET TABLE IDENTIFYING SIZE OF PIPE OR FITTING AS WELL AS DEPTH TO TOP OF PIPE AND NORTHING AND EASTING OF EACH FITTING/VALVE, ETC. AS-BUILT DRAWINGS SHALL PROVIDE GPS COORDINATES FOR SANITARY STRUCTURES.
6. THE GRADING/DRAINAGE AS-BUILT SHALL INCLUDE ALL CONSTRUCTED IMPROVEMENTS THAT HAVE LOCATION AND/OR ELEVATION INFORMATION CALLED-OUT ON THE PLANS. THE AS-BUILT SHALL CLEARLY PROVIDE THE SAME INFORMATION IDENTIFIED ON THE DESIGN DOCUMENTS AND ALSO THE CONSTRUCTED LOCATIONS AND ELEVATIONS AS-BUILT INFORMATION.
7. THE CONTRACTOR SHALL PROVIDE A SIGNED AND SEALED LETTER FROM THE INDEPENDENT TESTING AGENCY THAT STATES CONFORMANCE WITH THE CONTRACT DOCUMENT REQUIREMENTS FOR COMPACTION TESTING. THE CONTRACTOR IS TO PROMPTLY NOTIFY THE OWNER AND ENGINEER OF RECORD WHEN ANY TESTING OR INSPECTIONS ARE DEFICIENT OR IRREGULAR.

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates
consulting engineers
3500 Main St, Suite 1700 - #1083
Kansas City, Missouri 64111

CCI
CODE CONSULTANTS, INC.
2960 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA:	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

	100% SET	04/25/2023
2	CITY COMMENTS	06/09/2023
1	CITY COMMENTS	07/10/2023

SEAL

BRIAN S. ASHBY LICENSE No. 80456 STATE OF FLORIDA PROFESSIONAL ENGINEER
Brian S Ashby

SHEET

GENERAL NOTES

DRAWN: BJW
CHECKED: BSA

C1.0

Plotted By:McKisson, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C1.0 GENERAL NOTES July 06, 2023 05:26:49pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\C1.0 GENERAL NOTES.dwg

STORMWATER POLLUTION PREVENTION PLAN

SITE DESCRIPTION

PROJECT NAME AND LOCATION

FLOOR AND DECOR APOPKA
PARCEL ID #: 06-21-28-7180-07-100
06-21-28-7180-07-010
06-21-28-7180-07-160
06-21-28-7180-07-031
CITY OF APOPKA, FL

*SEE COVER SHEET FOR LOCATION MAP

DEVELOPER NAME AND ADDRESS

CENTERPOINT INTEGRATED SOLUTIONS, LLC
ADDRESS: 1626 COLE BLVD., SUITE 125
LAKEWOOD, CO 80401
CONTACT: STEPHEN J. CSEPLO
PHONE: (313) 778-0500
EMAIL: SCSEPLO@CENTERPOINT-IS.COM

PROJECT DESCRIPTION

THE PROPOSED PROJECT IS A COMMERCIAL DEVELOPMENT AT THE CORNER OF W. ORANGE BLOSSOM TRAIL AND LAKE VIEW DRIVE. SITE DEMOLITION INCLUDES CLEARING AND GRUBBING OF EXISTING VEGETATION AND DEMOLITION OF EXISTING STRUCTURES. THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A 77,901 SF COMMERCIAL BUILDING ON A 5.72 ACRE SITE. THE PROJECT INCLUDES PROPOSED PARKING, INFRASTRUCTURE, AND A STORM WATER MANAGEMENT SYSTEM.

PARCEL AREA: ±5.72 ACRES
CONTRIBUTING DRAINAGE AREA: ±5.72 ACRES
DISTURBED AREA: 5.72 ACRES

LONGITUDE : W 81° 32' 51.9" LATITUDE: N 28° 41' 21.5"

ULTIMATE RECEIVING WATERS: LAKE ANNE

ACTIVITIES THAT REQUIRE EROSION CONTROL

PROVIDING A STABILIZED CONSTRUCTION ENTRANCE, PERIMETER, AND OTHER EROSION AND SEDIMENT CONTROLS; EXCAVATION FOR THE RETENTION POND; SITE GRADING; INSTALLATION OF STORM WATER, SANITARY SEWER, AND WATER STRUCTURES; CURB, ROADWAYS, AND PARKING FACILITIES.

*SEE PLANS FOR THE LOCATION OF TEMPORARY SEDIMENT BARRIERS AND OTHER EROSION CONTROL METHODS.

SOIL PARAMETERS

SOIL TYPES:

NO.	SERIES NAME	HYDROLOGIC GROUP
6	CANDLER–APOPKA FINE SAND, 5 TO 12% SLOPES	A
47	TAVARES–MILLHOPPER FINE SANDS, 0 TO 5% SLOPES	A

SEQUENCE OF MAJOR ACTIVITIES

THE ORDER OF CONSTRUCTION IS AS FOLLOWS:

1. PROVIDE STABILIZED CONSTRUCTION ENTRANCE
2. INSTALL SILT FENCES AND OTHER EROSION CONTROL METHODS
3. CLEAR SITE AND GRUB IN ACCORDANCE WITH DEMOLITION PLAN
4. CONSTRUCT EARTH DIKE AND SEDIMENT BASIN
5. FINISH CLEARING AND GRUBBING
6. REMOVE AND STORE TOPSOIL
7. PROVIDE INITIAL GRADING AS REQUIRED
8. STABILIZE ALL DISTURBED AREAS AS SOON AS POSSIBLE
9. INSTALL UTILITIES, STORM SEWER, CURB AND GUTTER
10. INSTALL BASE TO ROAD AND PARKING AREA
11. FINISH GRADING ENTIRE SITE
12. CONSTRUCT FINAL PAVING
13. REMOVE ACCUMULATED SEDIMENT
14. REMOVE ANY ITEMS THAT ARE NOT REQUIRED

NOTE: THE SEQUENCE OF CONSTRUCTION SHOWN ABOVE IS A GENERAL OVERVIEW AND IS INTENDED TO CONVEY THE GENERAL CONCEPTS OF THE EROSION CONTROL DESIGN AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETAILED PHASING AND CONSTRUCTION SEQUENCING NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS INCLUDED IN THESE PLANS. THE CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IMMEDIATELY, PRIOR TO AND/OR DURING CONSTRUCTION IF ANY ADDITIONAL INFORMATION ON THE CONSTRUCTION SEQUENCE IS NECESSARY. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND ALL OTHER APPLICABLE LAWS.

TIMING OF CONTROL MEASURES

THE INSTALLATION OF SILT FENCE (AND OTHER EROSION CONTROL MEASURES), A STABILIZED ENTRANCE AND SEDIMENT BASIN SHALL OCCUR PRIOR TO CLEARING AND GRUBBING ACTIVITY. AFTER CONSTRUCTION IS COMPLETE, THE ACCUMULATED SEDIMENT SHALL BE REMOVED AND THE AREAS SHALL BE REGRADED AND PERMANENTLY STABILIZED AS SHOWN ON THE PLANS.

EROSION AND SEDIMENT CONTROLS

BEST MANAGEMENT PRACTICES SHALL BE USED FOR THIS PROJECT TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUN-OFF. THE LOCATION AND DETAILS OF EROSION CONTROL METHODS ARE SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR PLACING AND MAINTAINING THESE CONTROL METHODS AS SHOWN ON THE PLANS OR AS REQUIRED. HE/SHE SHALL ALSO PROVIDE THE REQUIRED EROSION PROTECTION AS REQUIRED BY LOCAL, STATE AND FEDERAL LAW.

STORM WATER MANAGEMENT

EXISTING OFFSITE FLOW WILL BE CAPTURED WITHIN A PROPOSED SWALE ALONG THE WESTERN SITE BOUNDARY AND ROUTED TO AN EXISTING DRAINAGE INLET AT THE N.E.C. OF THE SITE. THIS MAINTAINS THE EXISTING FLOW PATTERN OF THE WESTERN OFFSITE PROPERTY. STORMWATER COLLECTION SHALL BE PROVIDED BY UNDERGROUND EXFILTRATION TRENCHES AND ASSOCIATED INFRASTRUCTURE. THE EXFILTRATION SYSTEM WILL TREAT AND ATTENUATE RUNOFF IN ACCORDANCE WITH SJRWMD SPECIFICATIONS AND THE CITY OF APOPKA LAND DEVELOPMENT CODE.

STABILIZATION PRACTICES:

TEMPORARY STABILIZATION - TOPSOIL STOCK PILES AND DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE, SHALL BE STABILIZED WITH TEMPORARY SEED AND MULCH WITHIN 7 DAYS OF THE LAST CONSTRUCTION ACTIVITY IN THAT AREA. THE TEMPORARY SEED REQUIRED CAN BE FOUND IN TABLE 1.65 A OF THE FLORIDA DEVELOPMENT MANUAL. PRIOR TO SEEDING, WHERE SOILS ARE ACIDIC 2 TONS OF PULVERIZED AGRICULTURAL LIMESTONE SHOULD BE ADDED PER ACRE AND 450 POUNDS OF 10-20-20 FERTILIZER SHALL BE APPLIED TO EACH ACRE. AFTER SEEDING, EACH AREA SHALL BE IMMEDIATELY MULCHED WITH STRAW OR EQUIVALENT EQUAL. AREAS OF THE SITE WHICH ARE TO BE PAVED SHALL BE TEMPORARILY STABILIZED BY APPLYING GEOTEXTILE AND STONE SUB-BASE UNTIL BITUMINOUS PAVEMENT CAN BE APPLIED.

PERMANENT STABILIZATION - DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASE SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY. THE APPROPRIATE PERMANENT SEED MIX CAN BE FOUND IN TABLES 1.66A, 1.66B AND 1.66C OF THE FLORIDA DEVELOPMENT MANUAL. PRIOR TO SEEDING, 2 TONS/ACRE OF FINELY GROUND AGRICULTURAL LIMESTONE AND THE PROPER FERTILIZER BASED ON THE TYPE OF SEEDING SHALL BE APPLIED TO EACH ACRE TO PROVIDE PLANT NUTRIENTS. AFTER SEEDING, EACH AREA SHALL BE MULCHED IMMEDIATELY.

STRUCTURAL PRACTICES:

EARTH DIKE - IF REQUIRED, AN EARTH DIKE SHALL BE CONSTRUCTED ALONG THE SITE PERIMETER. A PORTION OF THE DIKE SHALL DIVERT RUN-ON AROUND THE CONSTRUCTION SITE. THE REMAINING PORTION OF THE DIKE SHALL COLLECT RUNOFF FROM THE DISTURBED AREA AND DIRECT THE RUNOFF TO THE SEDIMENT BASIN.

SEDIMENT BASIN - A SEDIMENT BASIN SHALL BE CONSTRUCTED IN THE COMMON DRAINAGE AREA FOR THE SITE. ALL SEDIMENT COLLECTED IN THE BASIN MUST BE REMOVED FROM THE BASIN UPON COMPLETION OF CONSTRUCTION. SEDIMENT FROM THE BASIN MAY BE USED AS FILL ON THE SITE IF IT IS SUITABLE SOIL.

WASTE DISPOSAL

WASTE MATERIALS - ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN A METAL DUMPSTER WITH A SECURE LID IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN THE DUMPSTER. THE SUPERINTENDENT SHALL COORDINATE WITH THE LOCAL UTILITIES TO HAVE THE DUMPSTER EMPTIED AT LEAST TWICE A WEEK AND THE WASTE TAKEN TO AN APPROPRIATE LANDFILL. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE. THE SUPERINTENDENT SHALL ORGANIZE TRAINING FOR THE EMPLOYEES IN THE PROPER PRACTICES WHEN DEALING WITH WASTE MATERIALS. THE SUPERINTENDENT SHALL BE RESPONSIBLE FOR POSTING AND ENFORCING WASTE MATERIAL PROCEDURES.

HAZARDOUS WASTE - HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS OR AS DIRECTED BY THE MANUFACTURER. THE SUPERINTENDENT SHALL ORGANIZE THE PROPER TRAINING FOR EMPLOYEES IN THE PROPER PRACTICES WHEN DEALING WITH HAZARDOUS WASTE MATERIALS. THESE PROCEDURES SHALL BE POSTED ON THE SITE. THE PERSON WHO MANAGES THE SITE SHALL BE RESPONSIBLE FOR ENFORCING THE PROCEDURES.

SANITARY WASTE - SANITARY WASTE SHALL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS. THE SUPERINTENDENT SHALL COORDINATE WITH THE LOCAL UTILITY FOR COLLECTION OF THE SANITARY WASTE AT LEAST THREE TIMES A WEEK TO PREVENT SPILLAGE ONTO THE SITE.

OFF-SITE TRACKING

A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROVIDED TO REDUCE SEDIMENT TRACKING OFFSITE. THE MAJOR ROAD CONNECTED TO THE PROJECT SHALL BE CLEANED ONCE A DAY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK RESULTING FROM CONSTRUCTION TRAFFIC. ALL TRUCKS HAULING MATERIALS OFFSITE SHALL BE COVERED WITH A TARPAULIN.

DUST & DEBRIS CONTROL

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL WITHIN THE CONSTRUCTION LIMITS AS WELL AS ALONG HAUL ROUTES AND ROADWAYS USED BY THE EQUIPMENT AND VEHICLES. THE CONTRACTOR SHALL ENSURE THAT EXCESSIVE DUST IS NOT TRANSPORTED BEYOND THE LIMITS OF CONSTRUCTION IN POPULATED AREAS, THE CONTRACTOR MAY CONTROL DUST FOR EMBANKMENTS OR OTHER CLEARED OR UNSURFACED AREAS BY APPLYING WATER, INSTALL MULCH, SEED, SOD, OR TEMPORARY PAVING AS EARLY AS PRACTICAL. CONTROL DUST DURING STORAGE AND HANDLING OF DUSTY MATERIALS BY WETTING, COVERING, OR OTHER MEANS AS APPROVED BY THE ENGINEER.

DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE ON THE PROJECT SITE.

ITEMS REQUIRING POLLUTION PREVENTION

THE FOLLOWING ITEMS ARE EXPECTED TO BE PRESENT ON THE PROJECT SITE:

-ASPHALT
-CONCRETE
-FERTILIZERS
-METAL PIECES
-PETROLEUM BASED PRODUCTS
-TAR
-CLEANING SUPPLIES
-DETERGENTS
-MASONARY BLOCK/BRICKS
-PAINT
-WOOD

THE FOLLOWING ARE NON-STORM WATER SOURCES THAT WILL BE ENCOUNTERED AT THE SITE AND SHOULD BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE:

-UNCONTAMINATED GROUNDWATER EXPOSED DURING EXCAVATION
-WATER FROM WATER LINE FLUSHING
-PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).

SPILL PREVENTION AND CONTROL

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

SUPERINTENDENT SHALL INSPECT PROJECT AREA DAILY FOR PROPER STORAGE, USE, AND DISPOSAL OF CONSTRUCTION MATERIALS.

STORE ONLY ENOUGH MATERIAL ON SITE FOR PROJECT COMPLETION.

ALL SUBSTANCES SHOULD BE USED BEFORE DISPOSAL OF CONTAINER.

ALL CONSTRUCTION MATERIALS STORED SHALL BE ORGANIZED AND IN THE PROPER CONTAINER AND IF POSSIBLE, STORED UNDER A ROOF OR PROTECTIVE COVER.

PRODUCTS SHALL NOT BE MIXED UNLESS DIRECTED BY THE MANUFACTURER.

ALL PRODUCTS SHALL BE USED AND DISPOSED OF ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

HAZARDOUS PRODUCTS

MATERIALS SHOULD BE KEPT IN ORIGINAL CONTAINER WITH LABELS UNLESS THE ORIGINAL CONTAINERS CANNOT BE RESEALED. IF ORIGINAL CONTAINERS CANNOT BE USED, LABELS AND PRODUCT INFORMATION SHALL BE SAVED.

PROPER DISPOSAL PRACTICES SHALL ALWAYS BE FOLLOWED IN ACCORDANCE WITH MANUFACTURER AND LOCAL/STATE REGULATIONS.

PRODUCT SPECIFIC PRACTICES

PETROLEUM PRODUCTS MUST BE STORED IN PROPER CONTAINERS AND CLEARLY LABELED. VEHICLES CONTAINING PETROLEUM PRODUCTS SHALL BE PERIODICALLY INSPECTED FOR LEAKS. PRECAUTIONS SHALL BE TAKEN TO AVOID LEAKAGE OF PETROLEUM PRODUCTS ON SITE.

THE MINIMUM AMOUNT OF FERTILIZER SHALL BE USED AND MIXED INTO THE SOIL IN ORDER TO LIMIT EXPOSURE TO STORM WATER. FERTILIZERS SHALL BE STORED IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINT CONTAINERS SHALL BE SEALED AND STORED WHEN NOT IN USE. EXCESS PAINT MUST BE DISPOSED OF IN AN APPROVED MANNER.

CONCRETE TRUCKS SHALL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

-SPILL CLEANUP INFORMATION SHALL BE POSTED ON SITE TO INFORM EMPLOYEES ABOUT CLEANUP PROCEDURES AND RESOURCES.

-THE FOLLOWING CLEAN-UP EQUIPMENT MUST BE KEPT ON-SITE NEAR THE MATERIAL STORAGE AREA: GLOVES, MOPS, RAGS, BROOMS, DUST PANS, SAND, SAWDUST, LIQUID ABSORBER, GOGGLES, AND TRASH CONTAINERS.

-ALL SPILLS SHALL BE CLEANED UP AS SOON AS POSSIBLE.

-WHEN CLEANING A SPILL, THE AREA SHOULD BE WELL VENTILATED AND THE EMPLOYEE SHALL WEAR PROPER PROTECTIVE COVERING TO PREVENT INJURY.

-TOXIC SPILLS MUST BE REPORTED TO THE PROPER AUTHORITY REGARDLESS OF THE SIZE OF THE SPILL.

-AFTER A SPILL, THE PREVENTION PLAN SHALL BE REVIEWED AND CHANGED TO PREVENT FURTHER SIMILAR SPILLS FROM OCCURRING. THE CAUSE OF THE SPILL, MEASURES TO PREVENT IT, AND HOW TO CLEAN THE SPILL UP SHALL BE RECORDED.

-THE SUPERINTENDENT SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR AND IS RESPONSIBLE FOR THE DAY TO DAY SITE OPERATIONS. THE SUPERINTENDENT ALSO OVERSEES THE SPILL PREVENTION PLAN AND SHALL BE RESPONSIBLE FOR EDUCATING THE EMPLOYEES ABOUT SPILL PREVENTION AND CLEANUP PROCEDURES.

MAINTENANCE AND INSPECTION PRACTICES

THE FOLLOWING ARE MAINTENANCE AND INSPECTION PRACTICES THAT SHALL BE COMPLETED BY THE CONTRACTOR:

-ALL SEDIMENT AND EROSION CONTROL METHODS SHALL BE CHECKED DAILY AND AFTER EACH 0.5 INCH OR GREATER RAINFALL BY THE SUPERINTENDENT OR SOMEONE UNDER HIS/HER DIRECT SUPERVISION.

-ALL SEDIMENT AND EROSION CONTROL METHODS SHALL BE KEPT IN GOOD CONDITION. REPAIRS MUST BE MADE WITHIN 24 HOURS OF REPORT.

-THE SILT FENCE SHALL BE INSPECTED PERIODICALLY FOR HEIGHT OF SEDIMENT AND CONDITION OF FENCE.

-THE SILT FENCE SHALL BE CLEARED OF SEDIMENT WHEN SEDIMENT MEASURES ONE-THIRD THE HEIGHT OF THE FENCE.

-THE SEDIMENT BASINS/DITCHES SHALL BE CHECKED MONTHLY FOR DEPTH OF SEDIMENT. THEY SHALL BE CLEANED WHEN SEDIMENT REACHES 10% OF TOTAL CAPACITY AND AFTER CONSTRUCTION IS COMPLETE.

-DIVERSION DIKES SHALL BE INSPECTED MONTHLY. ANY BREACHES SHALL BE PROMPTLY REPAIRED.

-ALL SEEDING SHALL BE CHECKED FOR PROPER GROWTH AND UNIFORMITY. UNSTABALIZED AREAS SHALL BE RE-SODDED.

-A MAINTENANCE REPORT SHALL BE COMPLETED DAILY AFTER EACH INSPECTION OF THE SEDIMENT AND EROSION CONTROL METHODS. THE REPORTS SHALL BE FILED IN AN ORGANIZED MANNER AND RETAINED ON-SITE DURING CONSTRUCTION. AFTER CONSTRUCTION IS COMPLETED, THE REPORTS SHALL BE SAVED FOR AT LEAST THREE YEARS. THE REPORTS SHALL BE AVAILABLE FOR ANY AGENCY THAT HAS JURISDICTION OVER EROSION CONTROL.

-THE SUPERINTENDENT SHALL ORGANIZE THE TRAINING FOR INSPECTION PROCEDURES AND PROPER EROSION CONTROL METHODS FOR EMPLOYEES THAT COMPLETE INSPECTIONS AND REPORTS.

POLLUTION PREVENTION PLAN CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNED: _____ DATE: _____

BRIAN S. ASHBY
FLORIDA REGISTRATION NUMBER: 80456
PROFESSIONAL ENGINEER

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, SHALL COMPLY WITH, THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FORM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER.

SIGNATURE AND DATE	NAME AND TITLE, COMPANY / ADDRESS AND TELEPHONE NUMBER	RESPONSIBILITY

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects **AA-0003434**
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates consulting engineers
3500 Theale Rd, Suite 130 #1001
Naperville IN 60563

CCI
CODE CONSULTANTS, INC.
2960 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0333

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA: 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

BRIAN S. ASHBY LICENSE No. 80456 STATE OF FLORIDA PROFESSIONAL ENGINEER

Brian S Ashby

SHEET

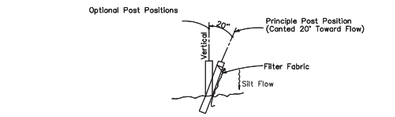
STORMWATER POLLUTION PREVENTION PLAN

DRAWN: BJW
CHECKED: BSA

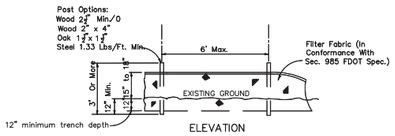
Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

C2.0

Plotted By:McKeen, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C2.0 SWPPP July 06, 2023 05:26:59pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\C2.0 SWPPP.dwg



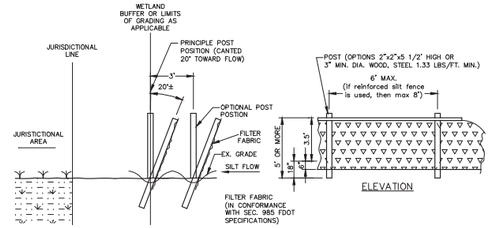
SECTION



ELEVATION

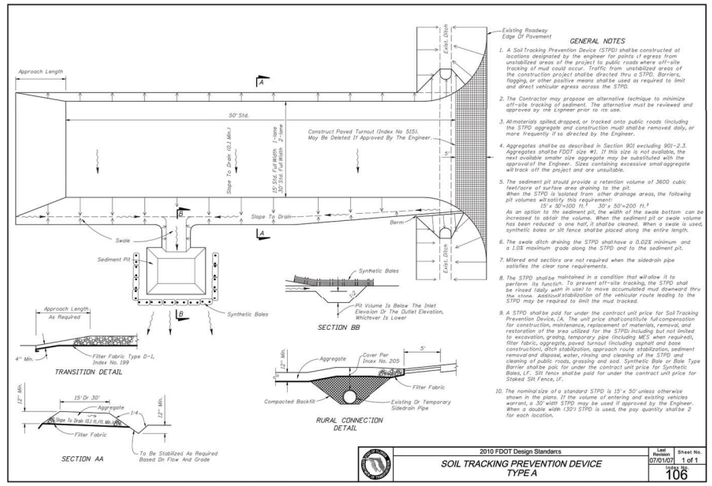
TYPE III SILT FENCE

NTS



DOUBLE SILT FENCE

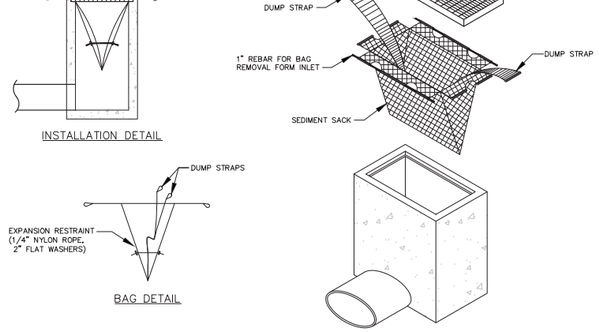
NTS



GENERAL NOTES

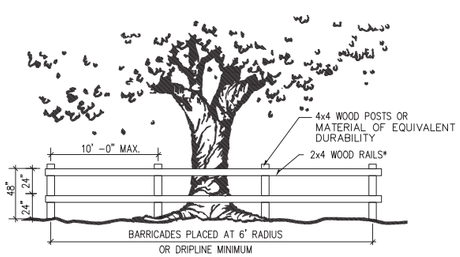
1. A Soil Tracking Prevention Device (STPD) shall be constructed at each point where traffic will be leaving the project site to paved or unstabilized areas of the project to public roads where off-site tracking of mud could occur. Traffic from unstabilized areas of the construction project shall be directed thru a STPD. Barriers, flagging, or other positive means shall be used as required to limit and direct vehicular egress across the STPD.
2. The Contractor may propose an alternative technique to minimize off-site tracking of sediment. The alternative must be reviewed and approves by the Engineer prior to its use.
3. All materials spilled, dropped, or tracked onto public roads including the STPD aggregate and construction mud shall be removed daily, or more frequently if so directed by the Engineer.
4. Aggregates shall be as described in Section 901 excluding 901-2.3. Aggregates shall be FDOT size #1. If this size is not available, the next available smaller size aggregate may be substituted with the approval of the Engineer. Sizes containing excessive small aggregate will track off the project and are unsuitable.
5. The sediment pit should provide a retention volume of 3600 cubic feet/acre of surface area draining to the pit. When the STPD is isolated from other drainage areas, the following pit volumes will satisfy this requirement:
   15' x 50'=100 Yr.³ 30' x 50'=200 Yr.³
   As an option to the sediment pit, the width of the swale bottom can be increased to obtain the volume. When the sediment pit or swale volume is provided, silt fence or bales shall be placed along the side to which runoff is used. Synthetic bales or silt fence shall be placed along the entire length.
6. The swale ditch draining the STPD shall have a 0.02ft minimum and a 1.00ft maximum grade along the STPD and to the sediment pit.
7. Mitered end sections are not required when the sidedrain pipe satisfies the clear zone requirements.
8. The STPD shall be maintained in a condition that will allow it to perform its function. To prevent off-site tracking, the STPD shall be rinsed daily with in use1 to move accumulated mud downward thru the stone. Additional stabilization of the vehicular route leading to the STPD may be required to limit the mud tracked.
9. A STPD shall be paid for under the contract unit price for Soil Tracking Prevention Device, EA. The unit price shall constitute full compensation for construction, maintenance, replacement of materials, removal, and restoration of the area utilized for the STPD, including but not limited to excavation, grading, temporary pipe (including MES when required), filter fabric, aggregate, paved turnout (including asphalt and base material), Synthetic Bale or Bale Type Barrier, signing, and pavement removal and disposal, water, mixing and cleaning of the STPD and cleaning of public roads, grassing and sod. Synthetic Bale or Bale Type Barrier shall be paid for under the contract unit price for Synthetic Bales, LF. Silt fence shall be paid for under the contract unit price for Staked Silt Fence, LF.
10. The nominal size of a standard STPD is 15'x 50' unless otherwise shown in the plans. If the volume of entering and existing vehicles warrant, a 30' width STPD may be used if approved by the Engineer. When a double width (30') STPD is used, the pay quantity shall be 2 for each location.

2010 FDOT Design Standards		
SOIL TRACKING PREVENTION DEVICE TYPE A	Last Revision 07/01/07	Sheet No. 1 of 1
	Index No. 106	



STANDARD INLET SEDIMENT CONTROL DEVICE

NTS



*OR 2" X 4" WIRE MESH

TREE PROTECTION DETAIL

NTS

FLOOR & DECOR
2500 WINDY RIDGE
PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates
civil engineers
3600 Chester Rd, Suite 1700 - 45383
Westerville, NJ 07763

CODE CONSULTANTS, INC.
2942 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0533

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL &
LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/26/2023
2	CITY COMMENTS	07/10/2023

SEAL

BRIAN S. ASHBY LICENSE No. 80456 STATE OF FLORIDA PROFESSIONAL ENGINEER

Brian S Ashby

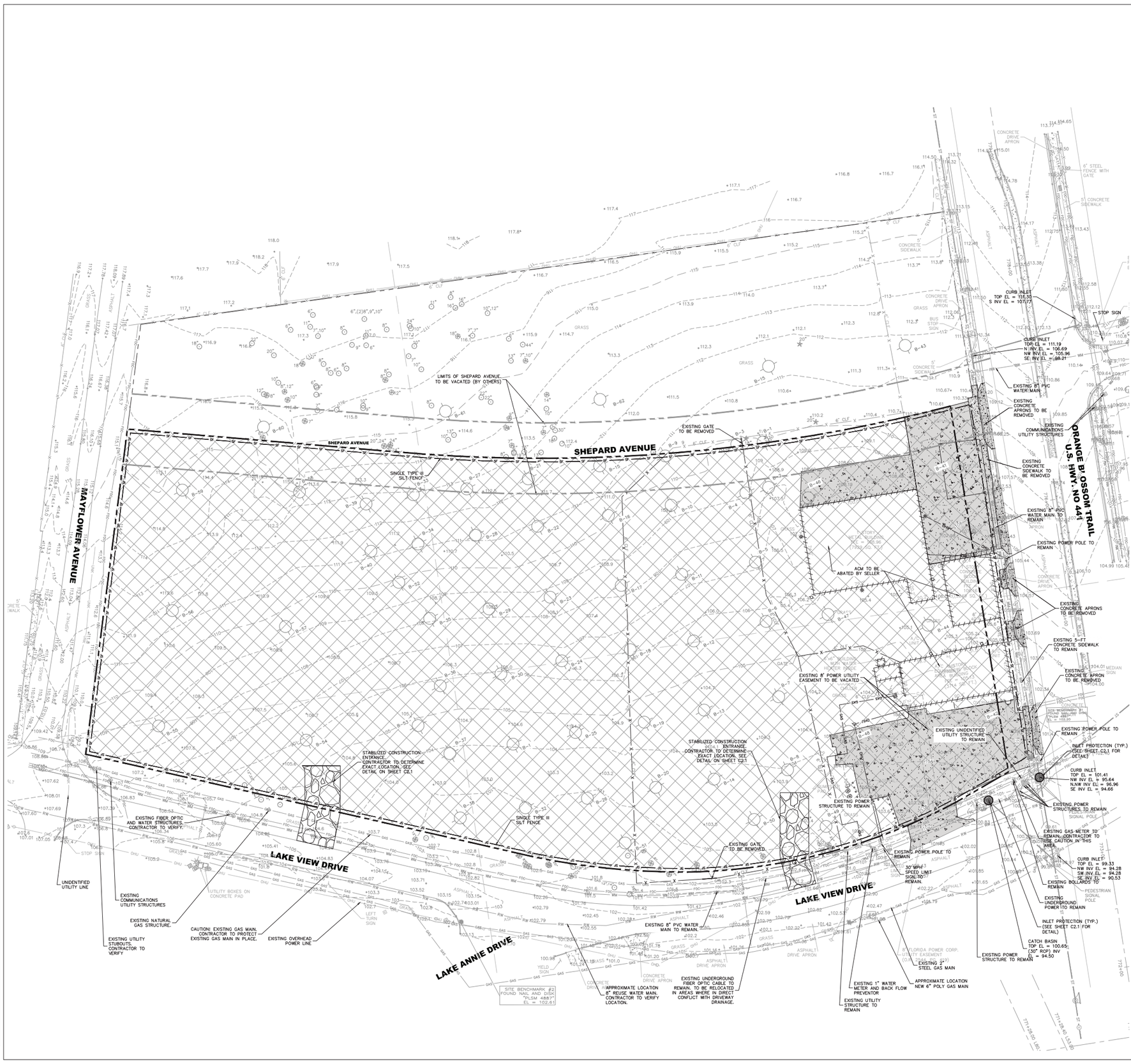
SHEET

EROSION CONTROL DETAILS

DRAWN: BJW
CHECKED: BSA

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

Plotted By:McKeson, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C2.1 EROSION CONTROL DETAILS July 06, 2023 05:27:11pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CAD\CONST\PlanSheets\C2.1 EROSION CONTROL DETAILS.dwg



NOTES

1. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR DEMOLITION REQUIREMENTS OF ELECTRICAL SYSTEMS.
2. CONTRACTOR SHALL UTILIZE BEST MANAGEMENT PRACTICES AS NEEDED TO PREVENT SYSTEM POLLUTION, EROSION, AND MANAGEMENT OF OFF-SITE DRAINAGE DURING TIME OF CONSTRUCTION.
3. REFER TO SWPPP SHEET C2.0 FOR ADDITIONAL NOTES AND DETAILS.
4. INSTALL AND MAINTAIN SILT FENCE AT LIMITS OF CONSTRUCTION. WIRE MESH REINFORCED SILT FENCE SHALL BE INSTALLED AT LOCATIONS ALONG PROPERTY BOUNDARY WITH OFF-SITE STORMWATER FLOWS. SEE DETAIL SHEET C2.1.
5. PROVIDE SOIL TRACKING PREVENTION DEVICE AT ALL CONSTRUCTION ACCESS POINTS. SEE DETAIL SHEET C2.1.
6. UTILIZE PERFORATED SOCK DRAIN (OR EQUIVALENT) IN FRONT OF EXISTING/PROPOSED CURB INLETS ADJACENT TO CONSTRUCTION ACTIVITIES. SEE DETAIL SHEET C2.1.
7. INSTALL AND MAINTAIN FILTER FABRIC UNDER GRATES OF EXISTING/PROPOSED INLETS, SEE SHEET C2.1.
8. CONTRACTOR TO ENSURE ADEQUATE COVER REMAINS OVER ALL EXISTING UTILITIES.
9. CONTRACTOR TO VERIFY EXISTING COVER OVER ALL UTILITIES BEFORE START OF CONSTRUCTION AND TO COORDINATE WITH THE ENGINEER OF RECORD PRIOR TO START OF CONSTRUCTION IF DESIGN DOES NOT PROVIDE 36" COVER.
10. ANY EXISTING WELLS (I.E. ARTESIAN, IRRIGATION, DRINKING, MONITORING, ETC.) DISCOVERED ON-SITE MUST BE PLUGGED BY A LICENSED WELL DRILLING CONTRACTOR IN A MANNER APPROVED BY ALL APPLICABLE JURISDICTIONAL AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY WELL ABANDONMENT PERMITS REQUIRED. ANY WELL DISCOVERED DURING EARTHWORK OR EXCAVATION SHALL BE REPORTED TO THE APPROPRIATE JURISDICTIONAL AGENCIES, OWNER, AND OWNER'S ENGINEER WITHIN 24 HOURS AFTER DISCOVERY IS MADE.
11. THERE MAY BE ON-SITE UNDERGROUND UTILITIES (INCLUDING BUT NOT LIMITED TO IRRIGATION, SANITARY SEWER, POTABLE WATER LINES, NATURAL GAS LINES, ELECTRIC, TELEPHONE AND CABLE LINES) THAT WERE NOT LOCATED OR IDENTIFIED BY THE PROJECT SURVEYOR. PRIOR TO CONSTRUCTION START, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ON-SITE UTILITIES AND RIGHT-OF-WAY UTILITIES.
12. IF ANY SEPTIC TANKS OR DRAIN FIELDS ARE FOUND, CONTRACTOR SHALL FOLLOW ALL LOCAL, STATE, AND FEDERAL CODE REQUIREMENTS FOR REMOVAL.
13. IF EXISTING UTILITIES ARE DISCOVERED THAT ARE NOT IDENTIFIED BY THE CONSTRUCTION DOCUMENTS, AND WILL BE IMPACTED BY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY PRIOR TO PROCEEDING WITH CONSTRUCTION.
14. CONTRACTOR TO MAINTAIN EXISTING OFF-SITE AND ONSITE DRAINAGE PATTERNS THROUGHOUT CONSTRUCTION
15. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THE EXISTING UTILITY INFORMATION SHOWN IS BASED ON THE TOPOGRAPHIC SURVEY PROVIDED BY LEADING EDGE LAND SERVICES, INC. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS AREA PRIOR TO CONSTRUCTION WORK.
SURVEYOR: JEFFERY D. HOFIUS FL. REGISTRATION NUMBER: 6610 DATE OF SURVEY: JANUARY 6, 2023
16. ELEVATIONS SHOWN ON THIS PLAN ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM 88 (NAVD 88), BASED ON THE FOLLOWING BENCHMARK:
SITE BENCHMARK NUMBER "1" NAIL AND DISC IN NORTH EAST CORNER OF PROPERTY ON CONCRETE SIDEWALK & 55 FT SOUTH OF CENTERLINE OF ORANGE BLOSSOM TRAIL, & 40 FT WEST OF THE CENTERLINE OF LAKE VIEW DRIVE. ELEVATION = 102.20
17. THERE MAY BE AN ON-SITE SEPTIC SYSTEM. CONTRACTOR IS TO FOLLOW ALL LOCAL, STATE, AND FEDERAL REGULATIONS FOR THE ABANDONMENT AND REMOVAL OF THE SEPTIC SYSTEM.
18. CONTRACTOR TO FOLLOW ALL LOCAL, STATE, AND FEDERAL CODE REQUIREMENTS FOR THE REMOVAL OF ANY SEPTIC TANKS AND/OR DRAIN FIELDS IF THEY ARE FOUND ON SITE AT THE TIME OF CONSTRUCTION.

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates consulting engineers
3001 Tower Oil, Suite 150 - #5583
Raytown MO 87753

CCI
CODE CONSULTANTS, INC.
2943 MISSOULAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0533

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

1	100% SET	04/25/2023
2	CITY COMMENTS	06/09/2023
3	CITY COMMENTS	07/10/2023

SEAL

BRIAN S. ASHBY LICENSE No. 80456 STATE OF FLORIDA PROFESSIONAL ENGINEER

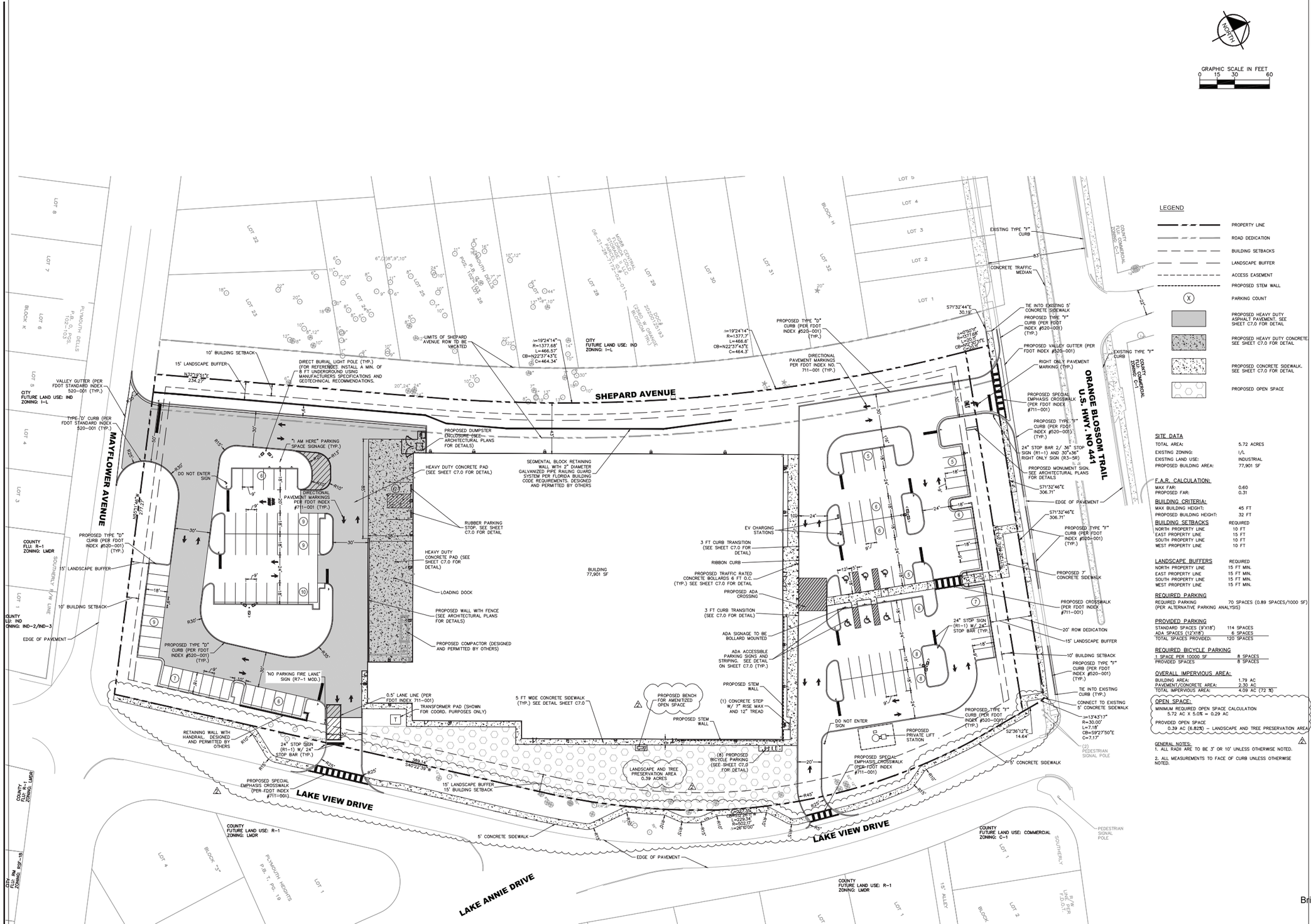
Brian S Ashby

SHEET

EXISTING CONDITIONS AND DEMOLITION PLAN

DRAWN: BJW
CHECKED: BSA

Plotted By:McKlason, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C3.0 EXISTING CONDITIONS AND DEMOLITION PLAN July 06, 2023 05:27:26pm K:\ORL_CIVIL\249257001-Floor & Decor Apopka\CADD\CONSTR\PlotSheets\C3.0 EXISTING CONDITIONS & DEMOLITION.dwg



SITE DATA

TOTAL AREA:	5.72 ACRES
EXISTING ZONING:	I/L
EXISTING LAND USE:	INDUSTRIAL
PROPOSED BUILDING AREA:	77,901 SF

F.A.R. CALCULATION:

MAX FAR:	0.60
PROPOSED FAR:	0.31

BUILDING CRITERIA:

MAX BUILDING HEIGHT:	45 FT
PROPOSED BUILDING HEIGHT:	32 FT

BUILDING SETBACKS

	REQUIRED
NORTH PROPERTY LINE	10 FT
EAST PROPERTY LINE	15 FT
SOUTH PROPERTY LINE	10 FT
WEST PROPERTY LINE	10 FT

LANDSCAPE BUFFERS

	REQUIRED
NORTH PROPERTY LINE	15 FT MIN.
EAST PROPERTY LINE	15 FT MIN.
SOUTH PROPERTY LINE	15 FT MIN.
WEST PROPERTY LINE	15 FT MIN.

REQUIRED PARKING

REQUIRED PARKING (PER ALTERNATIVE PARKING ANALYSIS)	70 SPACES (0.89 SPACES/1000 SF)

PROVIDED PARKING

STANDARD SPACES (9'X18')	114 SPACES
ADA SPACES (12'X18')	6 SPACES
TOTAL SPACES PROVIDED:	120 SPACES

REQUIRED BICYCLE PARKING

1 SPACE PER 10000 SF	8 SPACES
PROVIDED SPACES	8 SPACES

OVERALL IMPERVIOUS AREA:

BUILDING AREA:	1.79 AC
PAVEMENT/CONCRETE AREA:	2.30 AC
TOTAL IMPERVIOUS AREA:	4.09 AC (72 %)

OPEN SPACE:

MINIMUM REQUIRED OPEN SPACE CALCULATION
5.72 AC X 5.0% = 0.29 AC

PROVIDED OPEN SPACE
0.39 AC (6.82%) – LANDSCAPE AND TREE PRESERVATION AREA

GENERAL NOTES:
1. ALL RADII ARE TO BE 3' OR 10' UNLESS OTHERWISE NOTED.
2. ALL MEASUREMENTS TO FACE OF CURB UNLESS OTHERMISE NOTED.

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dlbassociates consulting engineers
3003 Knoll Dr, Suite 104 - 45383 Raytown MO 64133

CCI
CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0533

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/06/2023
2	CITY COMMENTS	07/10/2023

SEAL

BRIAN S. ASHBY — LICENSE — No. 80456 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

Brian S Ashby

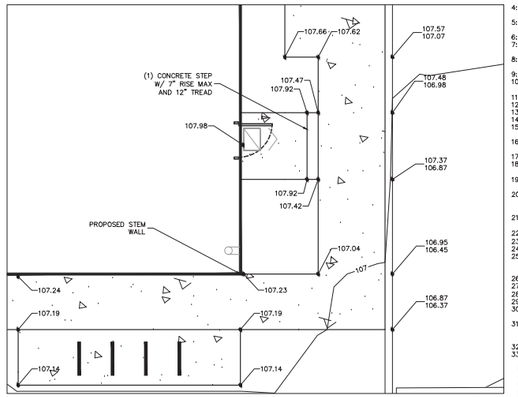
SHEET

SITE PLAN

DRAWN: BJW
CHECKED: BSA

Sunshine811.com

Plotted By:McKeown, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C4.0 SITE PLAN July 06, 2023 05:27:43pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\C4.0 SITE PLAN.dwg



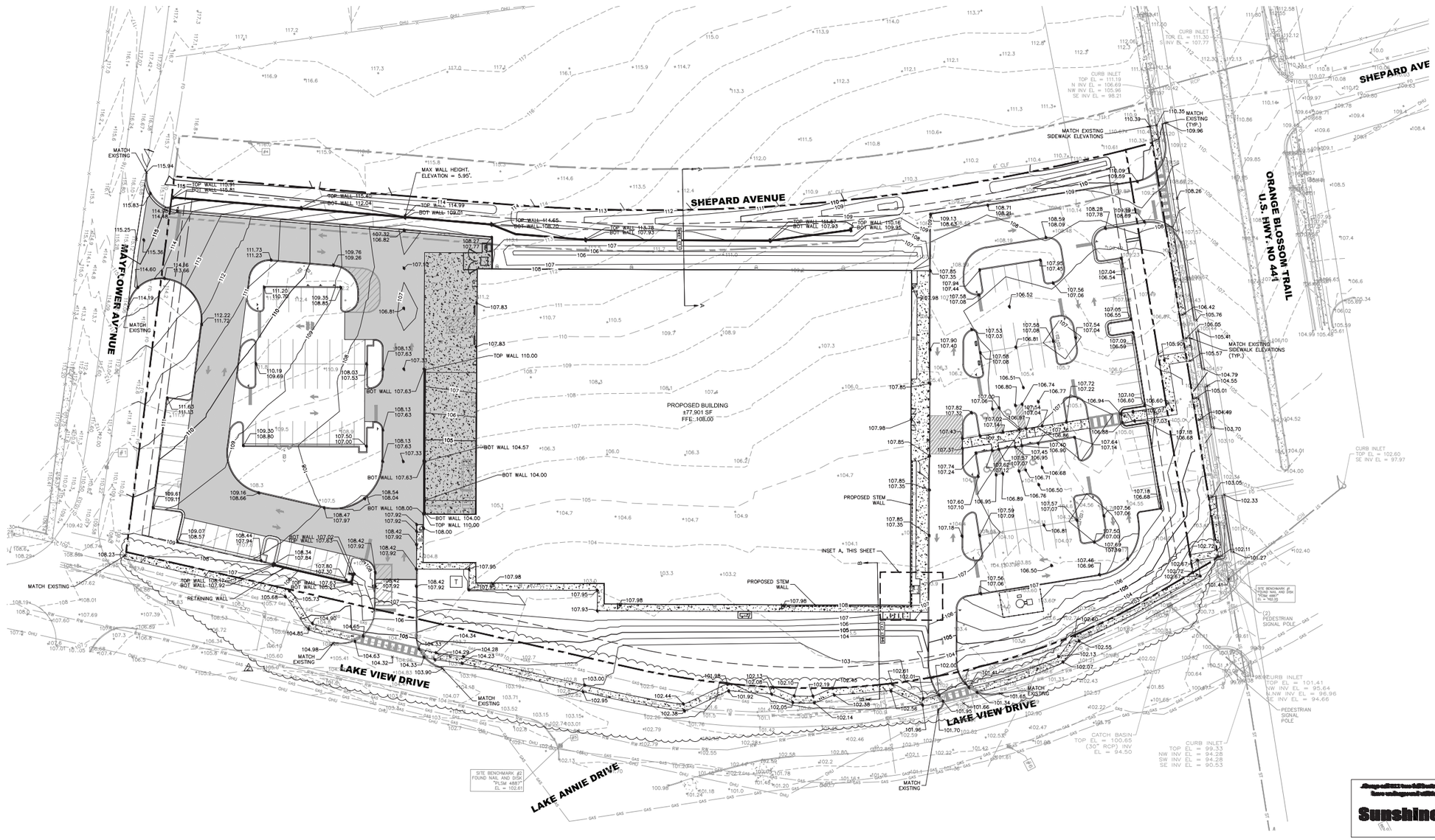
INSET A
N.T.S.

GENERAL NOTES:
1: ALL EXISTING STRUCTURES, UNLESS OTHERWISE NOTED TO REMAIN, FENCING, TREES, ETC WITHIN CONSTRUCTION AREA SHALL BE REMOVED AND DISPOSED OFF SITE. ANY BURNING ON SITE SHALL BE SUBJECT TO LOCAL ORDINANCES. SEE SPECIFICATIONS.
2: ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST.
3: ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.
4: GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.
5: SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED, INSPECTED AND APPROVED BY LOCAL AUTHORITIES.
6: ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED OR PER JURISDICTIONAL REQUIREMENTS.
7: EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES ARE TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
8: IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR OR REPLACE THE EXISTING STRUCTURE AS NECESSARY.
9: ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AND STRUCTURE IS WATER TIGHT.
10: ALL ROOF DRAINS SHALL BE CONNECTED TO THE STORM SYSTEM. IN AREAS NOT SUBJECT TO FREEZING, ROOF DRAINS CAN SPASH ON GRADE AND BE COLLECTED IN INLETS OR TREATED AS SURFACE RUNOFF.
11: CONTRACTOR IS TO ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
12: CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND STRUCTURES FOR ALL GRASSED AND PAVED AREAS.
13: TOPOGRAPHIC INFORMATION TAKEN FROM: LEADING EDGE LAND SERVICES, INC. ON JANUARY 31, 2023.
14: CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO THE SAME.
15: CONTRACTOR IS RESPONSIBLE FOR TEMPORARY ACCESS ROADS, MAINTAIN POSITIVE DRAINAGE THROUGHOUT CONSTRUCTION AND AVOID PONDING OR RUTTING.
16: DETENTION POND OUTFLOW DEVICES SHALL BE DESIGNATED TO LIMIT FLOWS TO CAPACITY LEVELS OF DOWNSTREAM DRAINAGE STRUCTURES.
17: DEVIATIONS FROM RECOMMENDED PARKING LOT SLOPES SHALL BE APPROVED BY FLOOR & DECOR CONSTRUCTION AND DESIGN.
18: CONTRACTOR TO PROVIDE FLOOR & DECOR CONSTRUCTION AND DESIGN, AND LOCAL AUTHORITY WITH AS-BUILT DRAWINGS. SEE REQUIREMENTS IN THIS SHEET.
19: CONTRACTOR TO VERIFY T.A.S./A.D.A. COMPLIANCE PRIOR TO POURING CONCRETE. FOR ANY QUESTIONS, CONTACT CIVIL ENGINEER IMMEDIATELY.
20: GRADES IN ALL ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSINGS, SHALL CONFORM TO ALL APPLICABLE A.D.A. AND T.A.S. STANDARDS: MAXIMUM RUNNING SLOPE FOR ALL PATHS IS 5%, MAX CROSS SLOPE FOR ALL PATHS IS 2%, FOR THE FIRST FIVE FEET FROM THE DOOR, A 2% SLOPE IN ALL DIRECTIONS (MAX) MUST BE MAINTAINED.
21: IN GENERAL, THE MAXIMUM RUNNING SLOPE SHALL NOT EXCEED 5%, THE MINIMUM SLOPE SHALL NOT BE INFERIOR THAN 1.5% AND THE PREFERRED SLOPE SHALL BE 2.5%.
22: REFER TO LANDSCAPE ARCHITECT PLANS FOR LANDSCAPE/HARDSCAPE DETAILS.
23: CONTRACTOR TO VERIFY ENGINEERING PLANS MATCH ARCHITECTURAL/STRUCTURAL PLANS PRIOR TO CONSTRUCTION STAKING.
24: LANDSCAPE AREAS ADJACENT TO BUILDING TO DRAIN AWAY FROM BUILDING AT A MINIMUM OF 2% SLOPE.
25: AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING. ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORM RUNOFF. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY DISCREPANCIES ARE DISCOVERED.
26: CONCRETE VALLEY GUTTER SHALL BE CONSTRUCTED IF ASPHALT PAVEMENT IS USED. REFER TO CONSTRUCTION DETAILS
27: FOR STORM SEWER PIPE PROFILES REFER TO DETAIL ON SHEET C7.0 FOR MORE INFORMATION.
28: SEE PIPE PROFILES SHEET FOR INVERT ELEVATIONS (TYPICAL).
29: SEE SHEET C3.0 FOR APPROXIMATE LOCATION OF EXISTING UTILITIES.
30: ALL THE ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS. CONTRACTOR TO SUBTRACT PAVEMENT THICKNESS AND FLOOR SLAB THICKNESS FOR SUBGRADE ELEVATIONS.
31: CONTRACTOR SHALL REFER TO ARCHITECTURAL AND PLUMBING PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL VESTIBULES/ENTRIES, SIDEWALKS, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS.
32: TERMITE SPRAY IF NEEDED IS TO BE PROVIDED FOR FOUNDATION BY FOUNDATION CONTRACTOR.
33: SITE PREPARATION TO BE PROVIDED BY CONTRACTOR TO INCLUDE:
A. PROTECTING EXISTING VEGETATION TO REMAIN.
B. REMOVING EXISTING VEGETATION.
C. CLEARING AND GRUBBING.
D. STRIPPING AND STOCKPILING TOPSOIL.
E. REMOVING ABOVE-AND BELOW-GRADE SITE IMPROVEMENTS.
F. DISCONNECTING, CAPPING OR SEALING SITE UTILITIES.
G. TEMPORARY EROSION AND SEDIMENTATION CONTROL.

GRAPHIC SCALE IN FEET
0 15 30 60

LEGEND

- PROPERTY BOUNDARY
- ROAD DEDICATION
- BUILDING SETBACK
- LANDSCAPE BUFFER
- EXISTING CONTOURS
- 21.60 EXISTING SPOT ELEVATION
- ×21.60 EXISTING SPOT ELEVATION
- CONCRETE SIDEWALK (SEE SHEET C7.0 FOR DETAIL)
- HEAVY DUTY CONCRETE (SEE SHEET C7.0 FOR DETAIL)
- HEAVY DUTY ASPHALT (SEE SHEET C7.0 FOR DETAIL)



Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects**AA-0003434**
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Telephone Arizona 85251
(602) 265-4331

dibassociates consulting engineers
3000 Marcus Ave, Suite 1W8 #1E01
Lake Success, NY 11042

CCI
CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0333

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

100% SET	04/25/2023
1 CITY COMMENTS	06/09/2023
2 CITY COMMENTS	07/10/2023

SEAL

BRIAN S. ASHBY — LICENSED PROFESSIONAL ENGINEER — No. 80456 — STATE OF FLORIDA
Brian S Ashby

SHEET

PAVING AND GRADING PLAN

DRAWN: BJW
CHECKED: BSA

Plotted By:McKeown, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C5.0 PAVING AND GRADING July 06, 2023 05:28:12pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\C5.0 PAVING AND GRADING PLAN.dwg

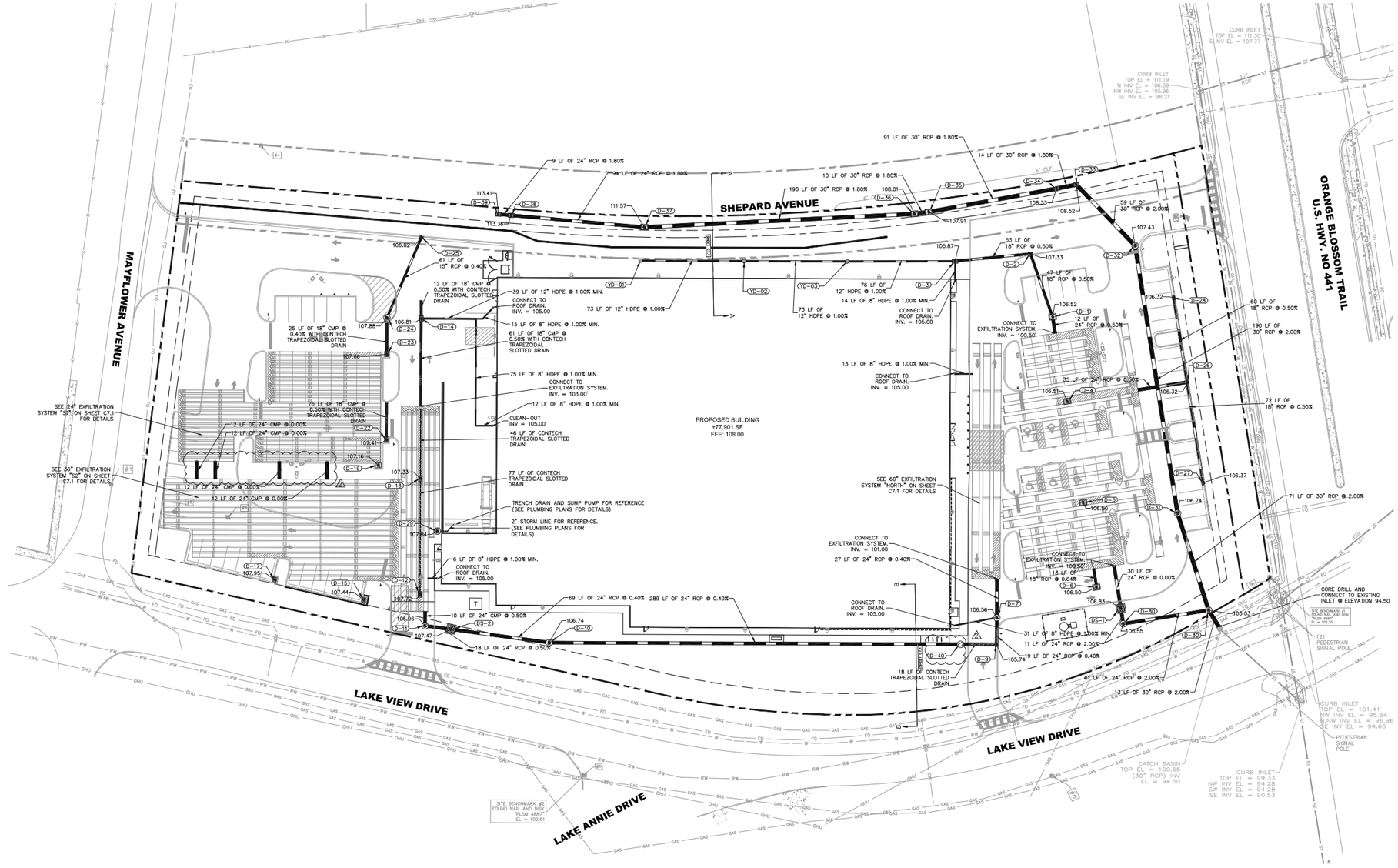
STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
D-1	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 106.52 W. INV IN: 100.56 E. INV OUT: 100.56
D-2	TYPE "S" INLET PER FDOT INDEX #425-024 TOP: 107.33 S. INV IN: 100.79 E. INV OUT: 100.79
D-3	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 105.87 SW. INV IN: 101.06 SE. INV IN: 104.48 N. INV OUT: 101.06
D-4	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 106.51
D-5	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 106.50
D-6	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 106.50 W. INV OUT: 102.79
D-7	TYPE "P-7" MANHOLE PER FDOT INDEX #425-010 TOP: 106.56 SE. INV IN: 100.61 S. INV IN: 104.25 NW. INV OUT: 100.61
D-9	TYPE "S" INLET PER FDOT INDEX #425-024 TOP: 105.74 SW. INV IN: 100.68 NW. INV OUT: 100.68
D-10	TYPE "P-7" MANHOLE PER FDOT INDEX #425-010 TOP: 106.74 SW. INV IN: 101.94 NE. INV OUT: 101.94
D-11	TYPE "P-7" MANHOLE PER FDOT INDEX #425-010 TOP: 106.96 NW. INV IN: 102.95 NE. INV OUT: 102.95

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
D-12	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 107.72
D-13	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 107.33
D-14	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 106.81 NE. INV IN: 103.75 NW. INV IN: 103.31 SE. INV OUT: 103.31
D-15	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 107.44
D-17	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 107.95
D-22	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 107.41 NW. INV IN: 104.00
D-23	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 107.66 NW. INV IN: 104.00
D-24	TYPE "P-7" MANHOLE PER FDOT INDEX #425-010 TOP: 107.88 NW. INV IN: 104.10 SE. INV OUT: 104.10
D-25	TYPE "S" INLET PER FDOT INDEX #425-024 TOP: 106.83 SE. INV OUT: 104.35
D-26	TYPE "S" INLET PER FDOT INDEX #425-024 TOP: 106.33 E. INV IN: 102.17 W. INV IN: 102.17 S. INV OUT: 102.17

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
D-27	TYPE "S" INLET PER FDOT INDEX #425-024 TOP: 106.36 W. INV OUT: 102.53
D-28	TYPE "S" INLET PER FDOT INDEX #425-024 TOP: 106.33 E. INV OUT: 102.47
D-29	TYPE "P-7" MANHOLE PER FDOT INDEX #425-010 TOP: 107.84
D-30	TYPE "P-7" MANHOLE PER FDOT INDEX #425-010 TOP: 103.03 W. INV IN: 94.77 S. INV IN: 94.77 E. INV OUT: 94.77
D-31	TYPE "P-7" MANHOLE PER FDOT INDEX #425-010 TOP: 106.74 W. INV IN: 96.20 E. INV OUT: 96.20
D-32	TYPE "P-7" MANHOLE PER FDOT INDEX #425-010 TOP: 107.43 W. INV IN: 100.00 E. INV OUT: 100.00
D-33	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 108.52 S. INV IN: 101.19 E. INV OUT: 101.19
D-34	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 108.33 S. INV IN: 101.44 N. INV OUT: 101.44
D-35	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 107.91 S. INV IN: 103.08 N. INV OUT: 103.08
D-36	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 108.05 SW. INV IN: 103.26 N. INV OUT: 103.26

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
D-37	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 111.57 SW. INV IN: 106.68 NE. INV OUT: 106.68
D-38	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 113.36 SW. INV IN: 108.37 NE. INV OUT: 108.37
D-39	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 113.41 NE. INV OUT: 108.53
D-40	TYPE "P-7" MANHOLE PER FDOT INDEX #425-010 TOP: 106.80 SW. INV IN: 100.79 NE. INV OUT: 100.79
D-80	TYPE "P-7" MANHOLE PER FDOT INDEX #425-010 TOP: 105.55 W. INV IN: 95.98 N. INV OUT: 95.98
DS-1	DIVERSION STRUCTURE TOP: 106.83 W. INV IN: 96.50 E. INV OUT: 96.20
DS-2	DIVERSION STRUCTURE TOP: 107.47 SW. INV IN: 102.86 NE. INV OUT: 102.22
YD-01	YARD DRAIN TOP: 105.73 NE. INV OUT: 103.26
YD-02	YARD DRAIN TOP: 105.73 SW. INV IN: 102.54 NE. INV OUT: 102.54
YD-03	YARD DRAIN TOP: 105.73 SW. INV IN: 101.81 NE. INV OUT: 101.81

GENERAL NOTES:
1: ALL EXISTING STRUCTURES, UNLESS OTHERWISE NOTED TO REMAIN, FENCING, TREES, ETC WITHIN CONSTRUCTION AREA SHALL BE REMOVED AND DISPOSED OFF SITE. ANY BURNING ON SITE SHALL BE SUBJECT TO LOCAL ORDINANCES. SEE SPECIFICATIONS.
2: ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST.
3: ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.
4: GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.
5: SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED, INSPECTED AND APPROVED BY LOCAL AUTHORITIES.
6: ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED OR PER JURISDICTIONAL REQUIREMENTS.
7: EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES ARE TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
8: IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR OR REPLACE THE EXISTING STRUCTURE AS NECESSARY.
9: ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AND STRUCTURE IS WATER TIGHT.
10: ALL ROOF DRAINS SHALL BE CONNECTED TO THE STORM SYSTEM IN AREAS NOT SUBJECT TO FREEZING. ROOF DRAINS CAN SPASH ON GRADE AND BE COLLECTED IN INLETS OR TREATED AS SURFACE RUNOFF.
11: CONTRACTOR IS TO ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
12: CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND STRUCTURES FOR ALL GRASSED AND PAVED AREAS.
13: TOPOGRAPHIC INFORMATION TAKEN FROM: LEADING EDGE SERVICES, INC. DATED JANUARY 31, 2023.
14: CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO THE SAME.
15: CONTRACTOR IS RESPONSIBLE FOR TEMPORARY ACCESS ROADS, MAINTAIN POSITIVE DRAINAGE THROUGHOUT CONSTRUCTION AND AVOID PONDING OR RUTTING.
16: DETENTION POND OUTFLOW DEVICES SHALL BE DESIGNATED TO LIMIT FLOWS TO CAPACITY LEVELS OF DOWNSTREAM DRAINAGE STRUCTURES.
17: DEVIATIONS FROM RECOMMENDED PARKING LOT SLOPES SHALL BE APPROVED BY FLOOR & DECOR CONSTRUCTION AND DESIGN.
18: CONTRACTOR TO PROVIDE FLOOR & DECOR CONSTRUCTION AND DESIGN, AND LOCAL AUTHORITY WITH AS-BUILT DRAWINGS. SEE REQUIREMENTS IN THIS SHEET.
19: CONTRACTOR TO VERIFY T.A.S./A.D.A. COMPLIANCE PRIOR TO POURING CONCRETE. FOR ANY QUESTIONS, CONTACT CIVIL ENGINEER IMMEDIATELY.
20: GRADES IN ALL ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSINGS, SHALL CONFORM TO ALL APPLICABLE A.D.A. AND T.A.S. STANDARDS: MAXIMUM RUNNING SLOPE FOR ALL PATHS IS 5%, MAX CROSS SLOPE FOR ALL PATHS IS 2%, FOR THE FIRST FIVE FEET FROM THE DOOR, A 2% SLOPE IN ALL DIRECTIONS (MAX) MUST BE MAINTAINED.
21: IN GENERAL, THE MAXIMUM RUNNING SLOPE SHALL NOT EXCEED 5%, THE MINIMUM SLOPE SHALL NOT BE INFERIOR THAN 1.5% AND THE PREFERRED SLOPE SHALL BE 2.5%.
22: REFER TO LANDSCAPE ARCHITECT PLANS FOR LANDSCAPE/HARDSCAPE DETAILS.
23: CONTRACTOR TO VERIFY ENGINEERING PLANS MATCH ARCHITECTURAL/STRUCTURAL PLANS PRIOR TO CONSTRUCTION STAKING.
24: LANDSCAPE AREAS ADJACENT TO BUILDING TO DRAIN AWAY FROM BUILDING AT A MINIMUM OF 2% SLOPE.
25: AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING. ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORM RUNOFF. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY DISCREPANCIES ARE DISCOVERED.
26: CONCRETE VALLEY GUTTER SHALL BE CONSTRUCTED IF ASPHALT PAVEMENT IS USED. REFER TO CONSTRUCTION DETAILS
27: FOR STORM SEWER PIPE PROFILES REFER TO DETAIL ON SHEET C7.0 FOR MORE INFORMATION.
28: SEE PIPE PROFILES SHEET FOR INVERT ELEVATIONS (TYPICAL).
29: SEE SHEET C3.0 FOR APPROXIMATE LOCATION OF EXISTING UTILITIES.
30: ALL THE ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS. CONTRACTOR TO SUBTRACT PAVEMENT THICKNESS AND FLOOR SLAB THICKNESS FOR SUBGRADE ELEVATIONS.
31: CONTRACTOR SHALL REFER TO ARCHITECTURAL AND PLUMBING PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL VESTIBULES/ENTRIES, SIDEWALKS, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS.
32: TERMITE SPRAY IF NEEDED IS TO BE PROVIDED FOR FOUNDATION BY FOUNDATION CONTRACTOR.
33: SITE PREPARATION TO BE PROVIDED BY CONTRACTOR TO INCLUDE:
A. PROTECTING EXISTING VEGETATION TO REMAIN.
B. REMOVING EXISTING VEGETATION.
C. CLEARING AND GRUBBING.
D. STRIPPING AND STOCKPILING TOPSOIL
E. REMOVING ABOVE-AND BELOW-GRADE SITE IMPROVEMENTS.
F. DISCONNECTING, CAPPING OR SEALING SITE UTILITIES.
G. TEMPORARY EROSION AND SEDIMENTATION CONTROL.



GRAPHIC SCALE IN FEET
0 15 30 60

LEGEND

- PROPERTY BOUNDARY
- ROAD DEDICATION
- BUILDING SETBACK
- LANDSCAPE BUFFER
- EXISTING CONTOURS
- 21.60 EXISTING SPOT ELEVATION
- ±21.60 PROPOSED SPOT ELEVATION
- PROPOSED STORM PIPE
- ST EXISTING STORM PIPE
- PROPOSED STORM STRUCTURES
- PROPOSED GRATE INLETS

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects**AA-0003434**
33 Walt Whitman Road, Suite 300A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dlbassociates consulting engineers
3500 Maple SW, Suite 1240 - #5583
Pearland, TX 77573

CCI
CODE CONSULTANTS, INC.
2960 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0333

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

BRIAN S. ASHBY LICENSE No. 80456 STATE OF FLORIDA PROFESSIONAL ENGINEER
Brian S Ashby

SHEET

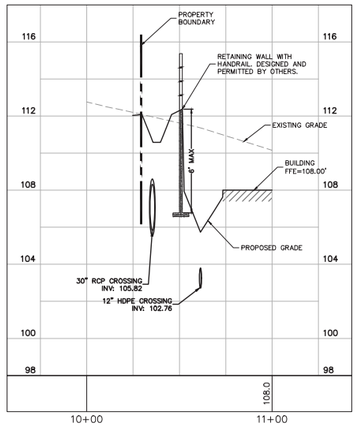
DRAWN: BJW
CHECKED: BSA

DRAINAGE PLAN

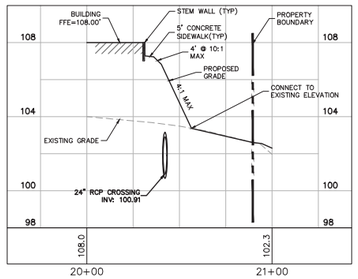
Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

C5.1

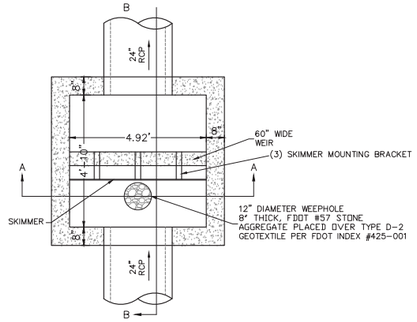
Plotted By:McKeown, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C5.1 DRAINAGE PLAN July 06, 2023 05:28:18pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\C5.0 PAVING AND GRADING PLAN.dwg

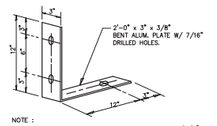


SECTION A
N.T.S.

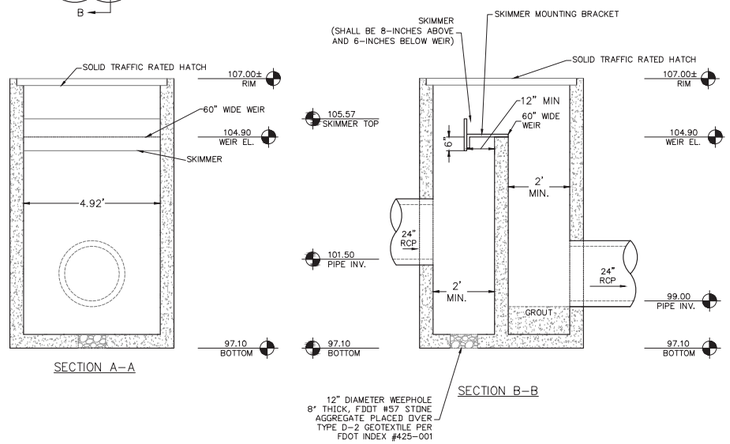


SECTION B
N.T.S.

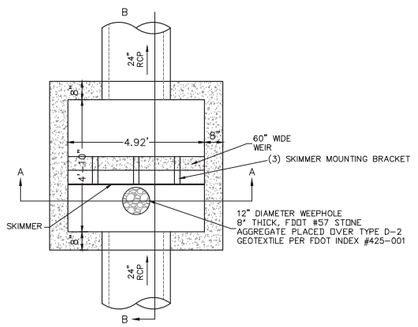


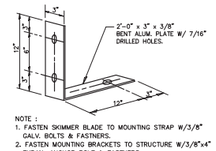


SKIMMER MOUNTING BRACKET

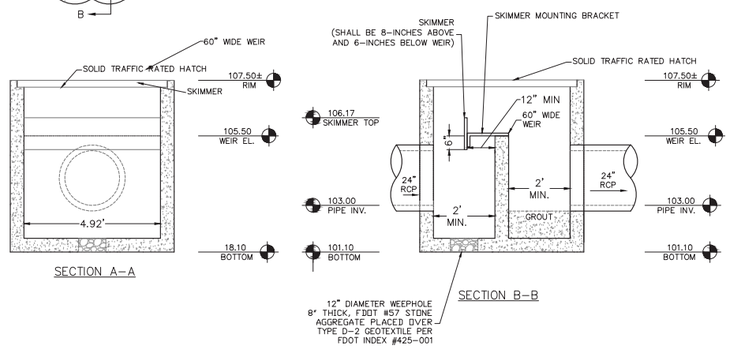


DS-1 CONTROL STRUCTURE DETAIL
USE (MOD.) TYPE "C" DITCH BOTTOM INLET N.T.S.
F.D.O.T. INDEX NO. 425-053





SKIMMER MOUNTING BRACKET



DS-2 CONTROL STRUCTURE DETAIL
USE (MOD.) TYPE "C" DITCH BOTTOM INLET N.T.S.
F.D.O.T. INDEX NO. 425-053

Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects **AA-0003434**
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates consulting engineers

CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0333

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

	100% SET	04/25/2023
2	CITY COMMENTS	06/09/2023
1	CITY COMMENTS	07/10/2023

SEAL

BRIAN S. ASHBY LICENSE No. 80456 STATE OF FLORIDA PROFESSIONAL ENGINEER

Brian S Ashby

SHEET

GRADING AND DRAINAGE DETAILS

DRAWN: BJW
CHECKED: BSA

C5.2

Plotted By:MacIsaac, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C5.2 PAVING GRADING AND DRAINAGE July 06, 2023 05:43:23pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\Plan Sheets\C5.0 PAVING AND GRADING PLAN.dwg

Building	QTY	Fixture Units	LEVEL OF SERVICE UNIT	ERC per UNIT	TOTAL ERCs	GPD ADF	GPD MDF	GPD PHF	GPM ADF	GPM MDF	GPM PHF
Floor & Decor - Potable Water Demand											
Retail/Warehouse	5	6	per water closet	0.500	15.00	5,250	13,125	21000	3.6	9.1	14.6
	1	4	per urinal	0.333	1.33	466	1,166	1865	0.3	0.8	1.3
	7	1	per lavatory	0.083	0.58	203	508	813	0.1	0.4	0.6
	2	0.5	per drinking fountain	0.042	0.04	15	37	59	0.0	0.0	0.0
	3	5	per floor drain	0.417	6.26	2,189	5,473	8757	1.5	3.8	6.1
	1	1	per condensate drain	0.083	0.08	29	73	116	0.0	0.1	0.1
	1	3	per mop sink	0.250	0.75	263	656	1050	0.2	0.5	0.7
Total					24.04	8,415	21,038	33,660	5.8	14.6	23.4
Total (Floor & Decor)					**24.04**	**8,415**	**21,037.63**	**33,660.20**	**5.84**	**14.61**	**23.38**

ERC = 350 GPD
ADF = ERCs X 300 GPD
MDF = ADF X 2.5
PHF = ADF X 4.0

Building	QTY	Fixture Units	LEVEL OF SERVICE UNIT	ERC per UNIT	TOTAL ERCs	GPD ADF	GPD MDF	GPD PHF	GPM ADF	GPM MDF	GPM PHF
Floor & Decor - Wastewater Demand											
Retail/Warehouse	5	6	per water closet	0.500	15.00	4,500	11,250	18000	3.1	7.8	12.5
	1	4	per urinal	0.333	1.33	400	999	1598	0.3	0.7	1.1
	7	1	per lavatory	0.083	0.58	174	436	697	0.1	0.3	0.5
	2	0.5	per drinking fountain	0.042	0.04	13	32	50	0.0	0.0	0.0
	3	5	per floor drain	0.417	6.26	1,877	4,691	7506	1.3	3.3	5.2
	1	1	per condensate drain	0.083	0.08	25	62	100	0.0	0.0	0.1
	1	3	per mop sink	0.250	0.75	225	563	900	0.2	0.4	0.6
Total					24.04	7,213	18,032	28,852	5.0	12.5	20.0
Total (Floor & Decor)					**24.04**	**7,213**	**18,032.25**	**28,851.60**	**5.01**	**12.52**	**20.04**

ERC = 300 GPD
ADF = ERCs X 300 GPD
MDF = ADF X 2.5
PHF = ADF X 4.0

GENERAL UTILITY NOTES:

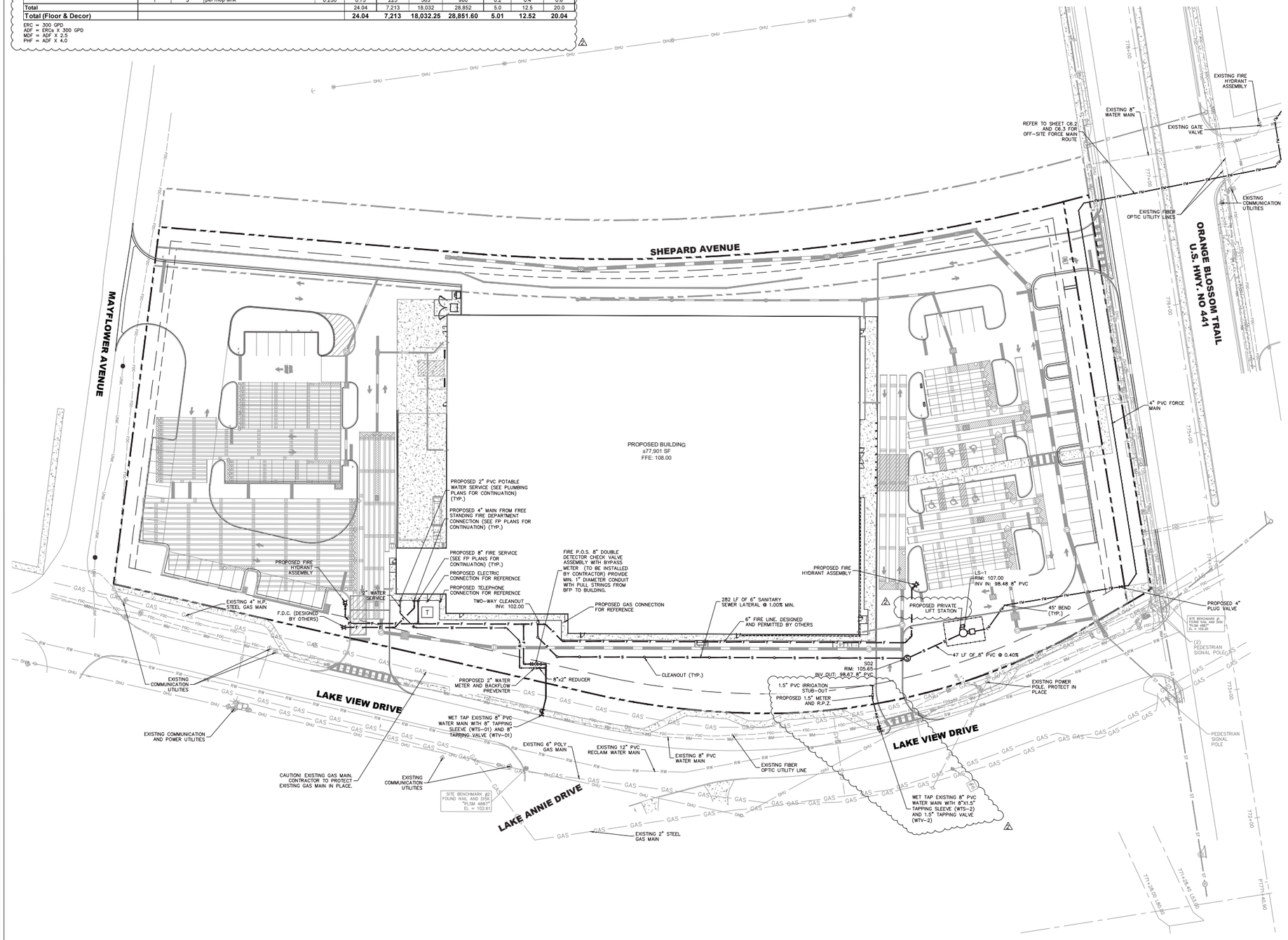
1. CONTRACTOR TO CONFIRM UNDERGROUND UTILITY LOCATIONS, DEPTHS, AND SIZES PRIOR TO COMMENCING CONSTRUCTION.
2. CONTRACTOR TO COORDINATE PROPOSED TRANSFORMER LOCATIONS AND ELECTRIC SERVICE WITH POWER COMPANY AND OWNER. TRANSFORMERS AND SERVICE LINES SHOWN FOR INFORMATIONAL PURPOSES ONLY. DESIGNED & PERMITTED BY OTHERS. CONTRACTOR TO CONFIRM PAD AND BOLLARD REQUIREMENTS.
3. CONTRACTOR TO COORDINATE PROPOSED TELEPHONE SERVICE AND ROUTING WITH CABLE COMPANY AND OWNER. SERVICE CONNECTIONS SHOWN FOR INFORMATIONAL PURPOSES ONLY. DESIGNED & PERMITTED BY OTHERS.
4. CONTRACTOR TO COORDINATE PROPOSED GAS SERVICE AND ROUTING WITH GAS COMPANY AND OWNER. SERVICE CONNECTIONS SHOWN FOR INFORMATIONAL PURPOSES ONLY. DESIGNED & PERMITTED BY OTHERS.
5. ALL POTABLE WATER UTILITIES SHALL BE IN ACCORDANCE WITH THE CITY OF APOPKA STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO BE FAMILIAR WITH THESE STANDARDS.
6. REFER TO THE CITY OF APOPKA STANDARD NOTES & DETAILS, SHEETS C8.0 – C8.3.

GENERAL FIRE SERVICE NOTES:

3. ALL UNDERGROUND MAINS SERVING FIRE HYDRANTS OR FIRE PROTECTION SPRINKLER SYSTEMS ON PRIVATE PROPERTY MUST BE PERMITTED PRIOR TO INSTALLATION. THE DRAWING SHALL INDICATE THAT ALL UNDERGROUND FIRE MAINS WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24 (2013 EDITION, "STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES". [F.A.C. 69A-60.005(2)]
4. ALL FIRE SERVICE MAIN LOCATED DOWNSTREAM OF THE FIRE POINT OF SERVICE SHALL BE INSTALLED BY A QUALIFIED AND LICENSED CONTRACTOR. CONSTRUCTION AND MATERIALS SHALL COMPLY WITH APPLICABLE FIRE CODE. CONTRACTOR TO VERIFY REQUIREMENTS WITH THE CITY OF APOPKA PRIOR TO SHOP DRAWING REVIEW.

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60



LEGEND

- PROPERTY BOUNDARY
- PROPOSED FIRE LINE
- PROPOSED WATER LINE
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED F.D.C.
- PROPOSED STORM INLET
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE
- EXISTING STORM PIPE
- EXISTING OVERHEAD LINE
- EXISTING NATURAL GAS LINE
- EXISTING RECLAIM LINE
- EXISTING FIBER OPTIC LINE
- PROPOSED EXFILTRATION SYSTEM

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects**AA-0003434**
33 Walt Whitman Road, Suite 300A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dlbassociates consulting engineers
3430 Route 9A, Suite 12C - #1061
Neptune NJ 07753

CCI
CODE CONSULTANTS, INC.
2540 WOODLAND PKWY, SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2633

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

BRIAN S. ASHBY LICENSE No. 80456 STATE OF FLORIDA PROFESSIONAL ENGINEER
Brian S Ashby

SHEET

UTILITY PLAN

DRAWN: BJW
CHECKED: BSA

Plotted By:Wagner, Blake Sheet Set:FLOOR AND DECOR APOPKA Layout:C6.0 UTILITY PLAN July 07, 2023 12:55:55pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CAD\CONST\PlanSheets\C6.0 UTILITY PLAN.dwg

XYLEM, INC (H-20 LP)

w/ BATTERY BACK-UP FOR AUDIO AND VISUAL ALARMS

SCOPE: Supply one complete H-20 LP Pre-Fab Lift Station, per design.

Pumps shall be capable of pumping domestic & commercial sewage.

Complete system shall be supplied by:

XYLEM, INC

NO SUBSTITUTIONS — NO ALTERNATES

The H-20 Load Rated Fiberglass Wetwell Must Be Manufactured By L.F. Manufacturing, Giddings, Texas, Which Includes A Written 20 Yr. Warranty

Certification of the wetwell H-20 load rating must be supplied with submittals. H-20 certification must be signed and sealed by an engineer registered in the State of Florida.

After the H-20 load rated wetwell has been installed, the ASTM Certification Number and Serial Tracking Number must be visible.

PUMPS: The submersible pumps shall be manufactured by Flygt Corporation. "The pumps shall be installed in the H-20 LP FRP wetwell utilizing a dual slide rail system. The pumps shall be capable of handling solids, fibrous materials, heavy sludge, and other matter typically found in wastewater. Major pump components shall be grey cast iron, ASTM A-48, Class 35B. The pump motor shall be NEMA B design and housed in an air-filled watertight chamber. The stator windings shall be insulated with moisture resistant Class H insulation by use of the trickle impregnation method. The motor shall be heat-shrink fit into the stator housing. The use of bolts, pins, or other fastening devices is not acceptable. The cable entry seal shall consist of a cylindrical elastomer grommet flanked by washers. Epoxies, silicones, or other sealing systems are not acceptable. Thermal switches set to open at 125 degrees C shall be embedded in the stator end coils to monitor the temperature of each phase winding. The motor horsepower shall be adequate so that the pump is non-overloading throughout the entire pump performance curve from shut-off through run-out.

The pump shall be provided with a dual mechanical seal. Both upper and lower seal assemblies shall consist of a stationary tungsten-carbide ring and a rotating tungsten-carbide ring. Other seal materials are not considered acceptable."

DUPLEX CONTROL PANEL:

Control panel shall be assembled and built by a TUV (UL508A CERTIFIED) manufacturing facility.

The Enclosure shall be NEMA 4X, minimum 30" high x 30" wide x 10" deep Fiberglass with padlockable draw latches.

The enclosure shall have external mounting feet to allow for wall mounting. All hardware shall be stainless steel.

The following components shall be mounted through the enclosure:
1- ea. Red Alarm Beacon (Light)
1- ea. Alarm Horn
1- ea. Generator Receptacle w/ weatherproof cover
1- ea. Alarm Silence Pushbutton

The backpanel shall be fabricated from .125, 5052-H32 marine alloy aluminum. All components shall be mounted by machined stainless steel screws.

The following components shall be mounted to backpanel:
2- ea. Motor Contactors
1- ea. Volt Monitor (Single Phase) Phase Monitor (Three Phase)
1- ea. Control Transformer (208 Volt Only)
1- ea. Silence Relay
1- ea. Duplex Alternator
1- ea. Model BOAC5AH Battery Back-Up w/ Smart Charger (Per DEP)
20- ea. Terminals For Field Connections
6- ea. Terminals For Motor Connections (Single Phase Only)
3- ea. Grounding Lugs

The innerdoor shall be fabricated from .080, 5052-H32 marine alloy aluminum. The innerdoor shall have a continuous aluminum piano hinge.

The following components shall be mounted through the innerdoor:
1- ea. Main Circuit Breaker
1- ea. Emergency Circuit Breaker
1- ea. Mechanical Interlock For Emergency And Main Breakers
2- ea. Short Circuit Protectors
1- ea. Control Circuit Breaker
1- ea. Hand-Off-Auto Selector Switches
2- ea. Pump Run Pilot Lights
1- ea. Power On Pilot Light
2- ea. Elapse Time Meters (Non-Resetable)
1- ea. GFI Duplex Convenience Outlet

COMPONENT SPECIFICATIONS:
All circuit breakers shall be molded thermal magnetic.
The mechanical interlock shall prevent the normal and emergency main breakers being energized at the same time.
An emergency generator receptacle shall be supplied in accordance with DEP standards. The generator receptacle shall be adequately sized to meet the equipment operating conditions.

NEUTRAL TO BE SUPPLIED FOR BOTH 208V 3PHASE OR 208V SINGLE PHASE POWER

All motor short circuit protection devices must provide for undervoltage release and class 10 overload protection on all three phases. Visable trip indication, test, and reset capability must be provided without opening inner door.
Open frame, across the line, contactors shall be rated per IEC standards and properly sized per the motor requirements.
Contactors shall provide for safe touch power and control terminals.
Lightning Arrestor shall meet or exceed the requirements of ANSI/IEEE Std. C62.21-1984 section 8.6.1. and 8.7.3 shall be supplied by electrician and mounted on the bottom side of the switch disconnect ahead of the pump control panel.
A voltage monitor shall be supplied for single phase service.
A phase monitor shall be supplied for (3) phase service.
A green pilot light shall be supplied for each motor. The pilot light shall illuminate each time the motor is called to run.
Each pump shall have an Elapse Time Meter to record the accumulated run time. The ETM shall be 2" diameter, non-resettable, six digit, totally encapsulated unit.
A Red pilot light shall be supplied for control power. The pilot light shall illuminate when the control power is available inside the control panel.
Relays shall be ice-cube plug in type. Relay contacts shall be rated 10 amp minimum, DPDT.
Twenty (20) terminals shall be supplied for field connections.
The terminals shall be rated 25 amps minimum.
Each motors over-temperature contact shall be connected to the terminal strip and shall open a contact to de-energize the appropriate motor upon a high temperature within the motor.
A 15 Amp GFI duplex receptacle shall be supplied and mounted on the innerdoor.
Ground lugs shall be supplied and appropriately sized for each motor and for service entrance.

Nameplates for the innerdoor and back panel shall be of a graphic design, specifically depicting the intent for each device.

MISCELLANEOUS: All wiring on the backpanel shall be contaminted within the wiring duct. All wiring between the innerdoor and the backpanel shall be contained with in a plastic spiral wrap.
Each wire shall have a wire number at each end to correspond to the as built drawing for field troubleshooting.
The control panel shall be assembled by a TUV (UL508A Certified) manufacturing facility.

FASTNERS & APPURTANCES: All fasternes, lifting cables, float cable bracket, hinges, and appurtances shall be made of AISI 304SS.
A 304SS slide/latch assembly shall be provided tor holding the doors open on the wetwell and valve box.
Slide rails shall be made of SCH.40 AISI 304SS pipe.
Pump lifting cables shall be made of AISI 304 SS.

H-20 LOAD RATED WETWELL WITH LIFTING LUGS:
The fiberglass wetwell must be H-20 load rated with integral lifting lugs, fiberglass slope in bottom of wetwell and valve box.
Certification of the H-20 load rating must be supplied at the time of submittals to Engineer.
The wetwell shall be manufactured of fiberglass reinforced polyester (FRP) of depth and diameter as shown on the lift station elevation detail. The wall thickness shall be adequate for the depth of the wetwell to maintain the H-20 LOAD RATING.

EXECUTION:
Installation shall be in strict accordance with the manufacturer's recommendations in the locations shown on the drawing.

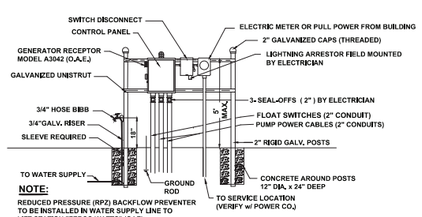
INSPECTION & TESTING: A factory representative shall be provide for a one (1) time start-up and shall have complete knowledge of the proper operation and maintenance of complete system.
Megger the motors. The pump motors shall be megged out prior to the start-up to ensure that the insulation of the pump motor/cable is intact.
The pump controls and pumps shall be checked for mechanical reliability and proper operation.

PUMP DATA		ELEVATIONS	
PRIMARY PUMP CAPACITY	108.00 GPM	TOP OF WETWELL	107.00
PRIMARY TDH	134.00 FT	INLET INVERT	98.48
SECONDARY PUMP CAPACITY	108.00 GPM	HIGH LEVEL ALARM (HLA)	97.98
SECONDARY TDH	134.00 FT	2nd PUMP ON (LAG)	97.48
PUMP MANUFACTURER	FLYGT	1st PUMP ON (LEAD)	96.73
PUMP MODEL #	NP 3127	PUMPS OFF (OFF)	93.73
R.P.M.	3515	BOTTOM OF WETWELL	91.73
HORSEPOWER	11	WETWELL DIAMETER	48"
IMPELLER DIAMETER	155 mm		
ELECTRICAL/ VOLTS / PHASE	220 V/3		
FULL LOAD AMPS/ PER PUMP	28A		
PUMP DISCHARGE SIZE	3"		
SOLIDS HANDLING	3"		

*** ELECTRICIAN NOTES:**

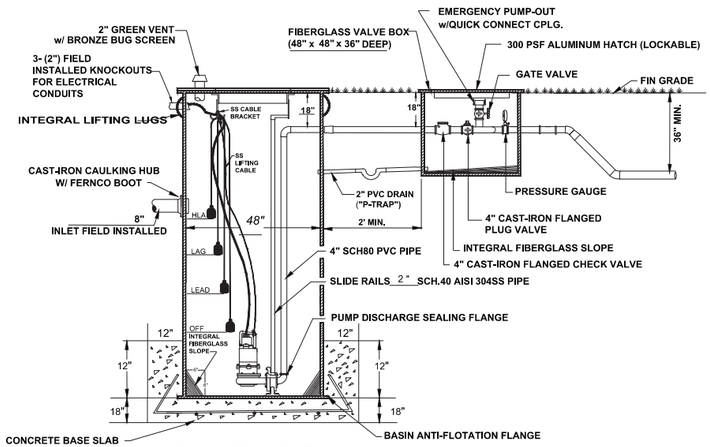
1. DRAWING NOT TO SCALE
* 2. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES
* 3. ELECTRICIAN SHALL SEAL OFF CONDUIT RUNS
* 4. ELECTRICIAN TO MOUNT LIGHTNING ARRESTOR AT SWITCH DISCONNECT
* 5. CONTRACTOR SHALL VERIFY POWER SOURCE PRIOR TO ORDERING EQUIPMENT
* 6. NEUTRAL TO BE SUPPLIED FOR 208V-3 PHASE OR 208V-SINGLE PHASE POWER.
* 7. THE CONTROL PANEL SHALL INCLUDE INCLUDE A SOLID-STATE SOFT STARTER FOR EACH PUMP MOTOR. FOR LIFT STATIONS THAT ARE 25-HP AND ABOVE USE ALTISTART 48.

ITT FLYGT, LLC / H-20 LP 01-21-13

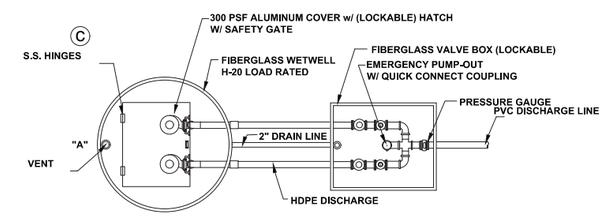


ELECTRICAL RISER (FOR REFERENCE ONLY)

LIFT STATION PLAN



LIFT STATION SECTION



NOTE: PUMP CONTROL PANEL SHALL BE LOCATED 3 FEET MINIMUM FROM WETWELL PERIMETER AT POINT "A"

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates consulting engineers
3600 Forest Dr, Suite 204 - #5583
Panama City, FL 32405

CCI
CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

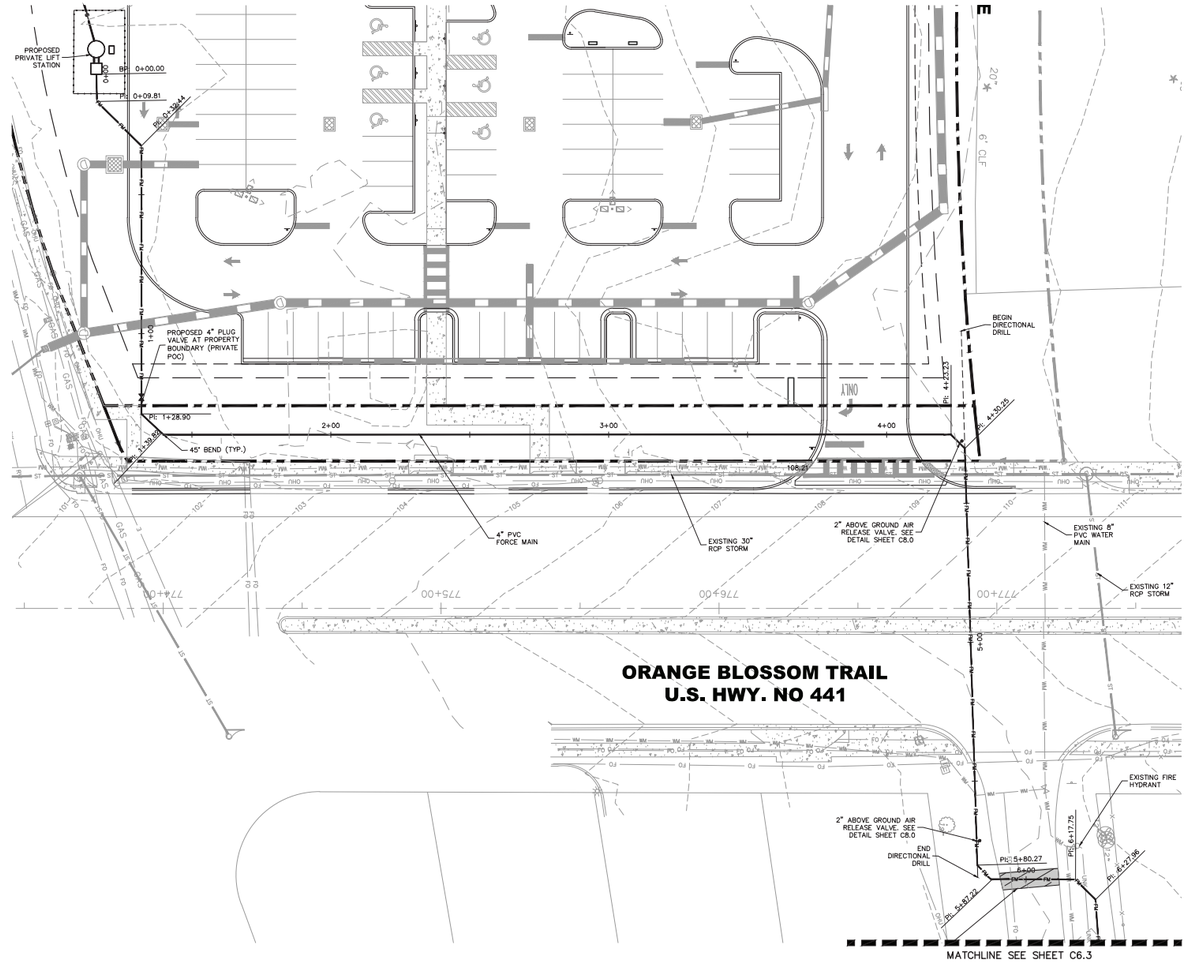
Brian S Ashby

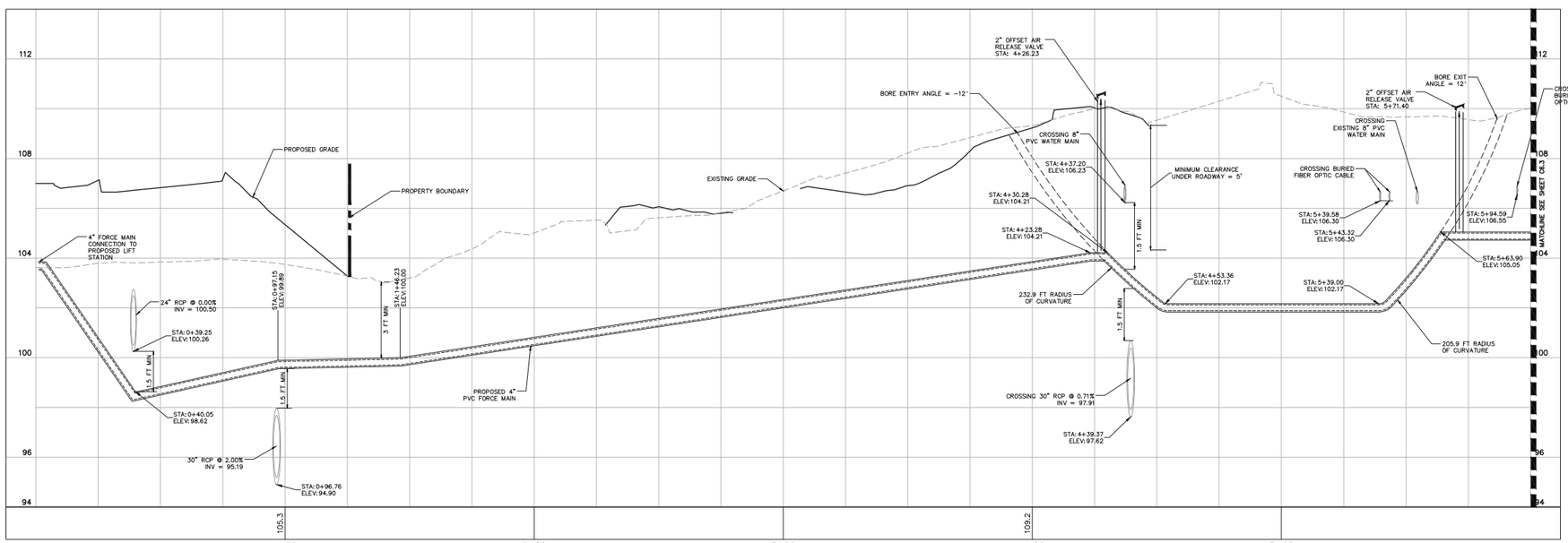
SHEET

LIFT STATION DETAIL

DRAWN: BJW
CHECKED: BSA

Plotted By:McKeason, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C6.1 July 06, 2023 05:29:28pm K:\ORL_Civil\24925700-Floor & Decor Apopka\CADD\CONST\PlotSheets\C6.1 LIFT STATION DETAIL.dwg





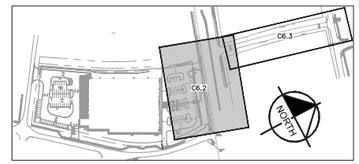
GRAPHIC SCALE IN FEET
0 3 20 40
HORIZONTAL
0 1.5 3 6
VERTICAL

GENERAL UTILITY NOTES:

1. CONTRACTOR TO CONFIRM UNDERGROUND UTILITY LOCATIONS, DEPTHS, AND SIZES PRIOR TO COMMENCING CONSTRUCTION.
2. REFER TO THE CITY OF APOPKA STANDARD NOTES & DETAILS, SHEETS C8.0 – C8.3.
3. CONTRACTOR TO COORDINATE WITH THE CITY OF APOPKA PRIOR TO CONNECTION TO EXISTING 4" HDPE FORCE MAIN.
4. CONTRACTOR TO USE REAMER SIZE 1.5X PIPE DIAMETER.

LEGEND

- RIGHT OF WAY
- EXISTING DRAINAGE AND UTILITY EASEMENT LINE
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE
- EXISTING RECLAIM WATER LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING FIBER OPTIC CABLE
- EXISTING BURIED COMMUNICATION LINE
- SILT FENCE, SEE SHEET C2.1 FOR DETAIL
- EXISTING 6" FORCE MAIN TO BE REMOVED
- EXISTING VEGETATION LINE
- TEST HOLE LOCATION
- EXISTING STORM PIPE
- EXISTING STORM MANHOLE
- EXISTING STORM INLET



KEY MAP
SCALE: 1" = 250'

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects **AA-0003434**
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dlbassociates consulting engineers
3003 Chase Rd, Suite 104 - #5083
Rockville MD 20850

CCI
CODE CONSULTANTS, INC.
2043 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

1	100% SET	04/25/2023
2	CITY COMMENTS	06/09/2023
3	CITY COMMENTS	07/10/2023

SEAL

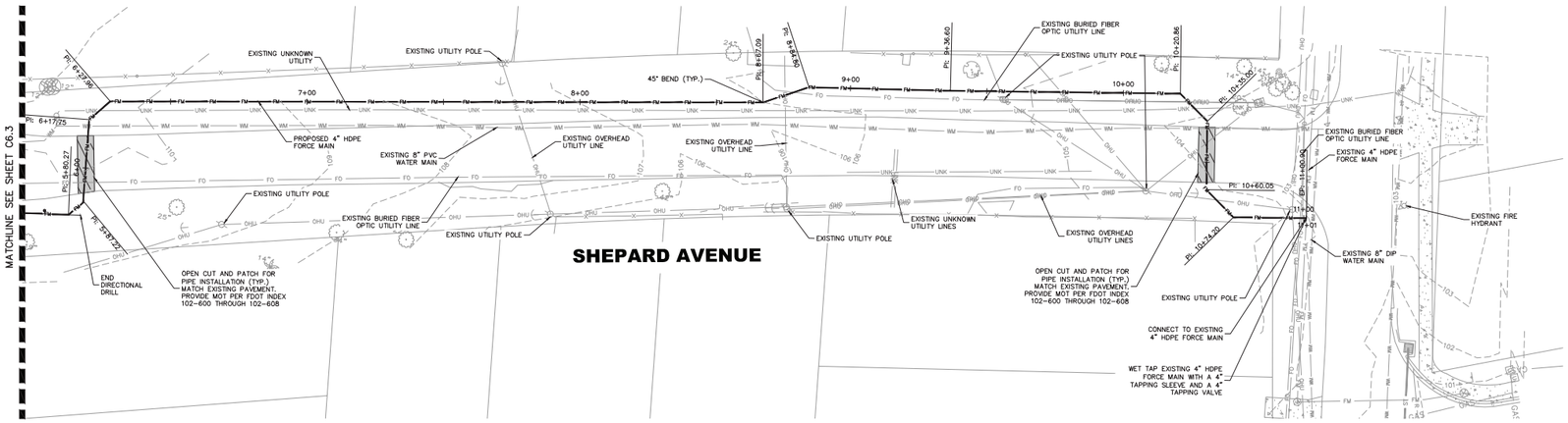
BRIAN S. ASHBY — LICENSE No. 80456 — STATE OF FLORIDA — PROFESSIONAL ENGINEER
Brian S Ashby

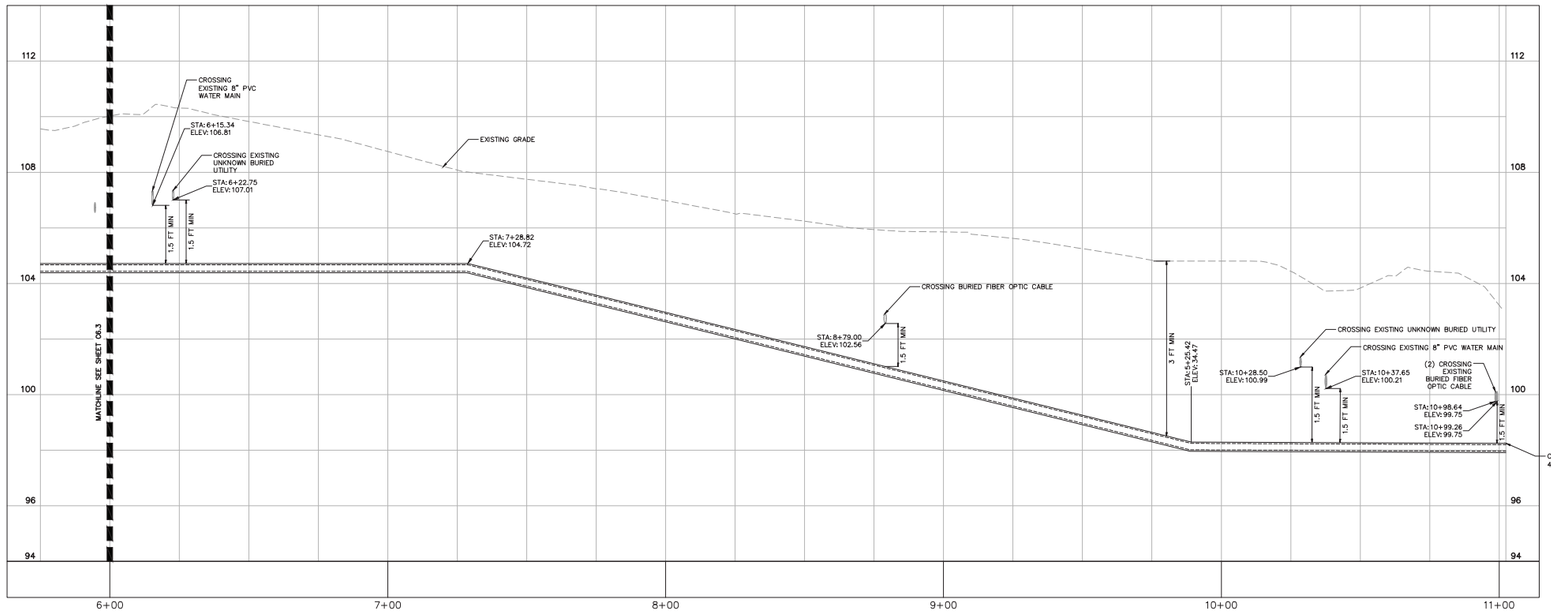
SHEET

FORCEMAIN PLAN AND PROFILE

DRAWN: BJW
CHECKED: BSA

Plotted By:McAlson, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C6.2 July 06, 2023 05:29:53pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\C6.2 FM PLAN AND PROFILE.dwg





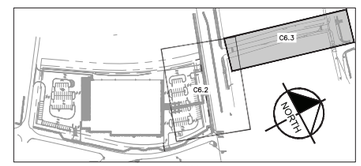
GRAPHIC SCALE IN FEET
0 10 20 40
HORIZONTAL
0 1.5 3 6
VERTICAL

GENERAL UTILITY NOTES:

1. CONTRACTOR TO CONFIRM UNDERGROUND UTILITY LOCATIONS, DEPTHS, AND SIZES PRIOR TO COMMENCING CONSTRUCTION.
2. REFER TO THE CITY OF APOPKA STANDARD NOTES & DETAILS, SHEETS C8.0 – C8.3.
3. CONTRACTOR TO COORDINATE WITH THE CITY OF APOPKA PRIOR TO CONNECTION TO EXISTING 4" HDPE FORCE MAIN.
4. CONTRACTOR TO USE REAMER SIZE 1.5X PIPE DIAMETER.

LEGEND

- RIGHT OF WAY
- EXISTING DRAINAGE AND UTILITY EASEMENT LINE
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE
- EXISTING RECLAIM WATER LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING FIBER OPTIC CABLE
- EXISTING BURIED COMMUNICATION LINE
- SILT FENCE, SEE SHEET C2.1 FOR DETAIL
- EXISTING 6" FORCE MAIN TO BE REMOVED
- EXISTING VEGETATION LINE
- TEST HOLE LOCATION
- EXISTING STORM PIPE
- EXISTING STORM MANHOLE
- EXISTING STORM INLET



KEY MAP
SCALE: 1" = 250'

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dlbassociates consulting engineers
3600 Rider Trail North, Earth City, Missouri 63045
Telephone 314 770 0900

CCI
CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT
FLOOR & DECOR
APOPKA, FL
TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA: 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

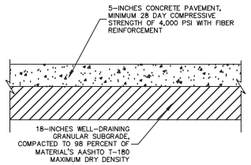
	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL
BRIAN S. ASHBY LICENSE No. 80456 STATE OF FLORIDA PROFESSIONAL ENGINEER
Brian S Ashby

SHEET
FORCEMAIN PLAN AND PROFILE

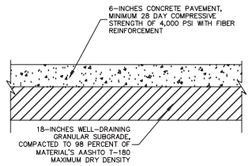
DRAWN: BJW
CHECKED: BSA

Plotted By:McKeon, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C6.3 July 06, 2023 05:29:58pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\C6.2 FM PLAN AND PROFILE.dwg



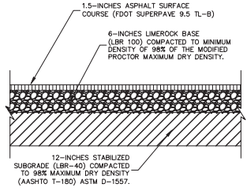
TYPICAL CONCRETE PAVEMENT DETAIL

NOTE: CONCRETE PAVEMENT SECTION SHALL MEET THE RECOMMENDATIONS WITHIN THE GEOTECHNICAL REPORT PREPARED BY TERRACON, DATED FEBRUARY 1, 2023.



TYPICAL HEAVY-DUTY CONCRETE PAVEMENT DETAIL

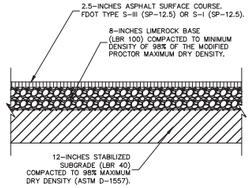
NOTE: CONCRETE PAVEMENT SECTION SHALL MEET THE RECOMMENDATIONS WITHIN THE GEOTECHNICAL REPORT PREPARED BY TERRACON, DATED FEBRUARY 1, 2023.



TYPICAL ASPHALT PAVEMENT DETAIL

USED FOR PARKING AREAS ONLY

NOTE: CONCRETE PAVEMENT SECTION SHALL MEET THE RECOMMENDATIONS WITHIN THE GEOTECHNICAL REPORT PREPARED BY TERRACON, DATED FEBRUARY 1, 2023.



TYPICAL "HEAVY DUTY" ASPHALT PAVEMENT DETAIL

NTS

NOTE: CONCRETE PAVEMENT SECTION SHALL MEET THE RECOMMENDATIONS WITHIN THE GEOTECHNICAL REPORT PREPARED BY TERRACON, DATED FEBRUARY 1, 2023.

Parking Stops - 6', Rubber, Black/Yellow

End concrete crumbling and chipping forever.

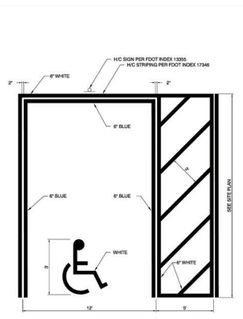
- 100% recycled material.
- Maintenance free. No painting.
- Weather resistant. Impervious to sunlight or road salt.
- Conforms to uneven surfaces. Reflective stripes.
- H-2397 Concrete or H-2396 Asphalt Installation Hardware available.

Enlarge

MODEL NO.	DESCRIPTION	DIMENSIONS L x W x H	WT. (LBS.)	PRICE EACH 1	PRICE EACH 5+	ADD TO CART
H-4608B/Y	6' Rubber	72 x 6 x 4"	34	$70	$65	1 ADD

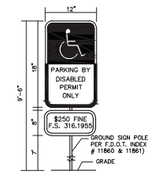
PARKING STOPS DETAIL

N.T.S



HANDICAP PARKING PAVEMENT MARKING

NTS

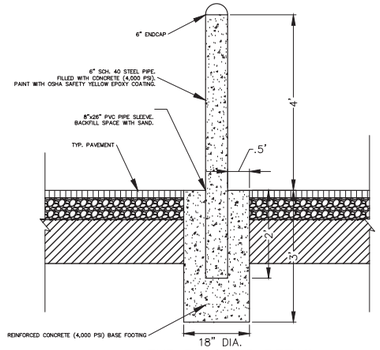


NOTES:

1. ALL LETTERS ARE 1" SERIES "C" PER MUTCD.
2. TOP PORTION OF SIGN SHALL HAVE REFLECTORIZED (ENGINEERING GRADE) BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND AND BORDER.
3. BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
4. FINE NOTIFICATION SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
5. ONE (1) SIGN REQUIRED FOR EACH PARKING SPACE.
6. INSTALLATION HEIGHT OF SIGN SHALL BE IN ACCORDANCE WITH SECTION 24-23 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

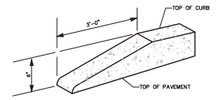
HANDICAP SIGN DETAIL

N.T.S.



TYP. BOLLARD DETAIL

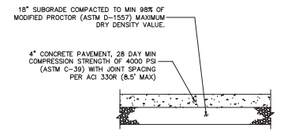
NTS



CURB TERMINUS TRANSITION DETAIL

NTS

NOTE:
ALL CURBS TO HAVE STANDARD 3" TRANSITION FROM 6" HEIGHT TO FLUSH (0" HEIGHT). A STANDARD TEMPLATE SHALL BE USED AT ALL LOCATIONS TO PROVIDE UNIFORM CURB TRANSITION THROUGHOUT THE PROJECT.

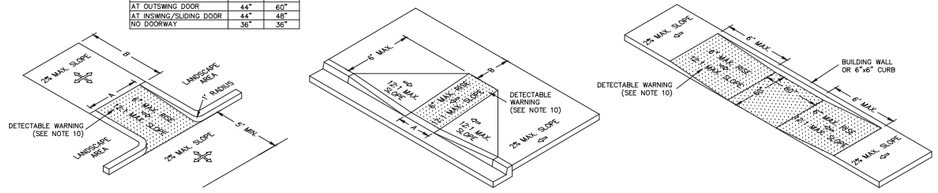


CONCRETE SIDEWALK DETAIL

NTS

NOTE: CONCRETE SIDEWALK SECTION SHALL MEET THE RECOMMENDATIONS WITHIN THE GEOTECHNICAL REPORT PREPARED BY TERRACON, DATED FEBRUARY 1, 2023.

RAMP LOCATION	MINIMUM DIMENSION A	MINIMUM DIMENSION B
AT OUTSWING DOOR	44"	60"
AT INSWING/SLIDING DOOR	44"	48"
NO DOORWAY	36"	36"



NOTES:

1. ALL CURB CUT ACCESSIBLE RAMPS AND DETECTABLE WARNING SURFACES SHALL BE INSTALLED BY THE SITE CONTRACTOR.
2. THE STANDARD COLOR FOR THE DETECTABLE WARNING SURFACE SHALL BE YELLOW. ANY TYPE OF ADHESIVE OR GLUE DOWN MATS; STAMPED CONCRETE OR ANY VARIATION OTHER THAN WHAT IS SPECIFIED ABOVE WILL NOT BE ACCEPTED BY ORANGE COUNTY. ORANGE COUNTY WILL CONSIDER ALTERNATIVES THAT ARE EQUAL TO THE PRODUCTS SPECIFIED ABOVE. COUNTY ENGINEER AND THE CHIEF ENGINEER FOR DEVELOPMENT SERVICES WILL HAVE THE SOLE RESPONSIBILITY FOR DETERMING THE PRODUCT ACCEPTABILITY.
3. ALL DETECTABLE WARNING SURFACES FOR SIDEWALKS AT CURB CUT HANDICAP RAMP SHALL BE A COUNTY APPROVED YELLOW COLORED COMPOSITE MATERIAL ANCHORED IN THE CONCRETE SIDEWALK RAMP. ANCHORED COMPOSITE WARNING AREA INSERTS ARE TO BE COLORED "SAFETY YELLOW", ARE TO BE SET INTO THE CONCRETE AND ARE TO BE FLUSH WITH CONCRETE SURFACE ALONG ALL FOUR SIDES. DESIGN DIMENSIONS OF DETECTABLE WARNING AREA SHALL CONFORM TO FDOT STANDARD INDEX 204, CODE OF FEDERAL REGULATIONS PART 36, AND SJC REQUIREMENTS.

ACCESSIBLE RAMPS

N.T.S

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC. STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates consulting engineers
3600 Rider Rd, Suite 1700 - #1083
Neptune NJ 07753

CODE CONSULTANTS, INC.
2945 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0933

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.

189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

BRIAN S. ASHBY LICENSE No. 80456 STATE OF FLORIDA PROFESSIONAL ENGINEER

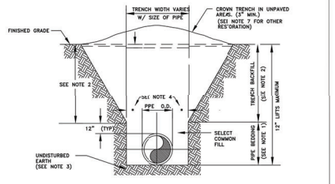
Brian S Ashby

SHEET

GENERAL CONSTRUCTION DETAILS

DRAWN: BJW
CHECKED: BSA

Plotted By:McKissen, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C7.0 GENERAL CONSTRUCTION DETAILS July 06, 2023 05:30:17pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CAD\CONST\PlanSheets\C7.0 GEN

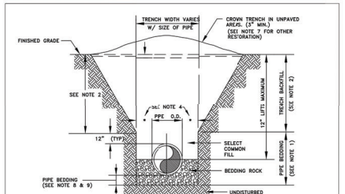


NOTES:

1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 98% UNDER PAVEMENT OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 98% UNDER PAVEMENT OF THE MAXIMUM DENSITY AS TO AASHTO T-180.
3. PIPE BEDDING UTILIZING SELECT COMMON 'ILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE CITY.
4. (*): 15" MAX. FOR PIPE DIAMETERS LESS THAN 24", AND 24" FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. GRAVITY SEWERS SHALL UTILIZE TYPE A BEDDING IF REQUIRED BY THE CITY. BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER LESS THAN 15" AND 6" MINIMUM FOR PIPE DIAMETER 18" AND LARGER.
8. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW PIPE. THE CITY SHALL DETERMINE IN THE FIELD IF REMOVAL OF UNSUITABLE MATERIAL IS REQUIRED TO REACH A SUITABLE FOUNDATION.
9. ALL UNPAVED DISTURBED AREAS SHALL BE SODDED TO MATCH ADJACENT DOMINATE GRASS SPECIES.
10. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF THE GOVERNING AGENCIES. SURFACE RESTORATION WITHIN CITY RIGHT-OF-WAY, SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS.

TYPE "B" BEDDING AND OPEN-CUT DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 100

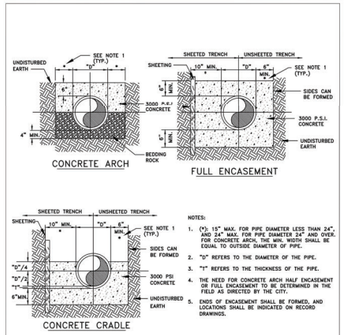


NOTES:

1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 98% UNDER PAVEMENT OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 98% UNDER PAVEMENT OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. USE OF TYPE A BEDDING TO BE DETERMINED N THE FIELD AS DIRECTED BY THE CITY.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. GRAVITY SEWERS SHALL UTILIZE TYPE A BEDDING IF REQUIRED BY THE CITY. BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER LESS THAN 15" AND 6" MINIMUM FOR PIPE DIAMETER 18" AND LARGER.
8. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW PIPE. THE CITY SHALL DETERMINE IN THE FIELD IF REMOVAL OF UNSUITABLE MATERIAL IS REQUIRED TO REACH A SUITABLE FOUNDATION.
9. ALL UNPAVED DISTURBED AREAS SHALL BE SODDED TO MATCH ADJACENT DOMINATE GRASS SPECIES.
10. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF THE GOVERNING AGENCIES. SURFACE RESTORATION WITHIN CITY RIGHT-OF-WAY, SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS.

TYPE "A" BEDDING AND OPEN-CUT DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 101



NOTES:

1. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND OVER. FOR CONCRETE ARCH, THE MIN. WIDTH SHALL BE EQUAL TO OUTSIDE DIAMETER OF PIPE.
2. "D" REFERS TO THE DIAMETER OF THE PIPE.
3. "T" REFERS TO THE THICKNESS OF THE PIPE.
4. THE NEED FOR CONCRETE ARCH HALF ENCASEMENT OR FULL ENCASEMENT TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CITY.
5. ENDS OF ENCASEMENT SHALL BE FORMED, AND LOCATIONS SHALL BE INDICATED ON RECORD DRAWINGS.

CONCRETE ARCH AND ENCASEMENT DETAILS

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 102

MINIMUM LENGTH (FT) TO BE RESTRAINED ON EACH SIDE OF FITTING(S). *	PIPE SIZE									
	6"	8"	10"	12"	16"	18"	20"	24"	30"	36"	48"
90° BEND	33	43	51	60							
45° BEND	14	18	22	25							
22-1/2° BEND	7	9	11	12							
11-1/4° BEND	4	5	6	6							
TEE**	1	7	24	44							
REDUCER (ONE SIZE SMALLER)		41	39	40							
DEAD END	74	96	115	136							

* ONLY RESTRAIN BRANCH PIPE FOR TEES. ONLY RESTRAIN LARGER PIPE FOR REDUCERS
** LENGTH ALONG RUN ASSUMED TO BE 18'

NOTES:

1. FITTINGS SHALL BE DUCTILE IRON RESTRAINED JOINT TYPE. FM FITTINGS TO BE LINED WITH PROTECTO 401.
2. INSTALL FULL LENGTHS OF PIPE WITH TOTAL LENGTH CONTAINING ONLY RESTRAINED JOINTS EQUAL TO OR GREATER THAN LENGTH SHOWN IN TABLE.
3. WHERE TWO OR MORE FITTINGS ARE TOGETHER, USE FITTING WHICH YIELDS GREATEST LENGTH OF RESTRAINED PIPE.
4. IN LINE VALVES AND THROUGH RUN OF TEES OUTSIDE LIMITS OF RESTRAINED JOINTS FROM OTHER FITTINGS NEED NOT BE RESTRAINED UNLESS OTHERWISE INDICATED.
5. LENGTHS SHOWN IN THE TABLE HAVE BEEN CALCULATED IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" AS PUBLISHED BY DIPRA, FOR PVC WITH THE FOLLOWING ASSUMPTIONS:
   TYPE OF PIPE: PVC
   WORKING PRESSURE: 150 P.S.I.** ** FM = 100 P.S.I. /
   SOIL DESIGNATION: SW/SAND, SILT) WM OR RWM = 150 P.S.I.
   LAYING CONDITIONS: 3
6. FOR PIPE ENCASED IN POLYETHYLENE INCREASE THE GIVEN VALUE BY A FACTOR OF 1.5.
7. VALUES NOT LISTED IN THE TABLE TO BE COMPLETED BY THE ENGINEER.

RESTRAINED PIPE TABLE (PVC)

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 105

MINIMUM LENGTH (FT) TO BE RESTRAINED ON EACH SIDE OF FITTING(S). *	PIPE SIZE									
	6"	8"	10"	12"	16"	18"	20"	24"	30"	36"	48"
90° BEND					61	67	73	84	100	114	
45° BEND					26	28	31	35	42	48	
22-1/2° BEND					13	14	15	17	20	23	
11-1/4° BEND					6	7	8	9	10	12	
TEE**					52	62	74	95	124	152	
REDUCER (ONE SIZE SMALLER)					48	25	25	47	66	66	
DEAD END					111	123	135	157	188	218	

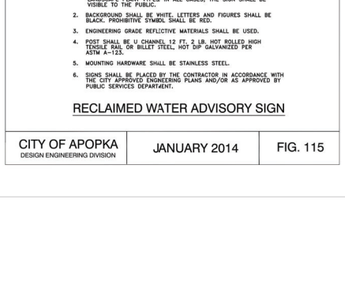
* ONLY RESTRAIN BRANCH PIPE FOR TEES. ONLY RESTRAIN LARGER PIPE FOR REDUCERS
** LENGTH ALONG RUN ASSUMED TO BE 18'

NOTES:

1. FITTINGS SHALL BE RESTRAINED JOINT TYPE. FM FITTINGS TO BE LINED WITH PROTECTO 401.
2. INSTALL FULL LENGTHS OF PIPE WITH TOTAL LENGTH CONTAINING ONLY RESTRAINED JOINTS EQUAL TO OR GREATER THAN LENGTH SHOWN IN TABLE.
3. WHERE TWO OR MORE FITTINGS ARE TOGETHER, USE FITTING WHICH YIELDS GREATEST LENGTH OF RESTRAINED PIPE.
4. IN LINE VALVES AND THROUGH RUN OF TEES OUTSIDE LIMITS OF RESTRAINED JOINTS FROM OTHER FITTINGS NEED NOT BE RESTRAINED UNLESS OTHERWISE INDICATED.
5. LENGTHS SHOWN IN THE TABLE HAVE BEEN CALCULATED IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" AS PUBLISHED BY DIPRA, FOR PVC WITH THE FOLLOWING ASSUMPTIONS:
   TYPE OF PIPE: PVC
   WORKING PRESSURE: 150 P.S.I.** ** FM = 100 P.S.I. /
   SOIL DESIGNATION: SW/SAND, SILT) WM OR RWM = 150 P.S.I.
   LAYING CONDITIONS: 3
6. VALUES NOT LISTED IN THE TABLE TO BE COMPLETED BY THE ENGINEER.

RESTRAINED PIPE TABLE (DI)

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JAUARY 2014	FIG. 106



NOTES:

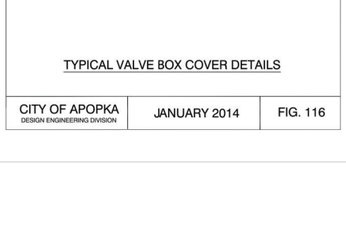
1. ADDITIONAL REINFORCEMENTS SHALL BE AS SPECIFIED BY THE ENGINEER.
2. MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE SHALL BE 2500 P.S.I.
3. MATERIAL, BACKFILL, AND COMPACTION SHALL BE AS SPECIFIED ELSEWHERE IN THE STANDARD DRAWINGS.
4. ALL FORM BOARDS SHALL BE REMOVED PRIOR TO BACKFILL.
5. NO ALLOWANCE SHALL BE MADE FOR FRICTION BETWEEN THE PIPE WALL AND THE THRUST COLLAR.
6. DESIGN PRESSURE: 150 P.S.I.

SCHEDULE OF DIMENSIONS AND MATERIALS *						
PIPE SIZE (INCHES)	DIMENSIONS (FT.)				TIE RODS REQ'D	
	A	B	C	D	DIA.	NO.
6	2.0	2.0	1.0		3/4	2
8	2.5	2.5	1.0		3/4	2
10	3.5	3.0	1.0		3/4	4
12	5.0	3.0	1.0		3/4	4
16	6.0	4.0	1.5		3/4	6
20	8.0	5.0	1.5		3/4	6
24	9.0	6.0	1.5		3/4	8

NOTE: THRUST BLOCK AREAS TO BE COMPUTED ON BASIS OF ____ LBS. PER SQ. FT. SOIL BEARING. (1,500 LBS. PER SQ. FT. ASSUMED) SEE NOTE 5
* TO BE COMPLETED BY ENGINEER.

WATER MAIN THRUST COLLAR DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 107



(VARIES BY CASING SIZE)

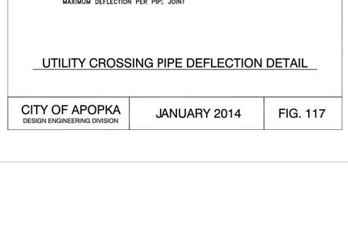
CARRIER PIPE NOMINAL DIAMETER	4	6	8	10	12	16	20	24	30	36	42
MINIMUM CASING OUTSIDE DIAMETER (INCHES)	16	16	18	20	24	30	36	42	48	54	60
MINIMUM CASING WALL THICKNESS (INCHES)	.250"	.250"	.250"	.250"	.250"	.312"	.375"	.500"	.500"	.500"	.500"

NOTES:

1. WHEN CONSTRUCTION IS WITHIN FDOT OR RAILROAD JURISDICTION, ADDITIONAL REQUIREMENTS SHALL BE MET.
2. DISTANCE BETWEEN SPACERS TO BE PER MANUFACTURER'S SPECIFICATIONS.
3. NO FLOWABLE FILL BETWEEN THE ANNULAR SPACE OF THE CASING OR CARRIER PIPE.
4. WHERE PRACTICAL, CASING SHALL EXTEND 10 FEET BEYOND EDGE OF PAVEMENT AND SHALL NOT BE LESS THAN 6 FEET BEYOND EDGE OF PAVEMENT IN ANY CASE. THE CITY MAY REQUIRE LONGER CASING FOR DEEPER BORES.

BORING AND JACKING DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 108



VALVE IDENTIFICATION TAG
TO BE INSTALLED BY CITY
& PAID FOR BY DEVELOPER

VALVE BOX

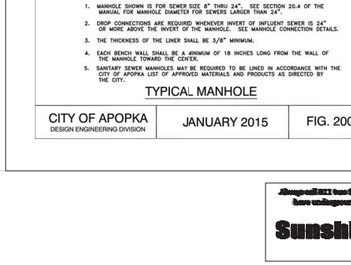
CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 109

MINIMUM PRESSURE RATING								
PSI	DI FITTINGS		PIPE MATERIAL*		GATE VAL/E**		FORCEMAIN*	
	≤24"	>24"	PVC	DI	HDPE	≤12"	>12"	PVC	HDPE
100								●	●
150			●		●		●		
200						●			
250		●		●					
350	●								

* PVC SHALL HAVE A MAXIMUM DIMENSION RATIO (DR) OF 18 AND HDPE SHALL BE MAX DR11. FORCEMAIN: PVC SHALL BE MAX DR18 UNLESS DESIGN REQUIRES OTHERWISE AND HDPE SHALL BE MAX DR17.
** BUTTERFLY VALVES SHALL BE CLASS 150B

PIPE AND APPURTENANCES PRESSURE RATING

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JAUARY 2014	FIG. 110

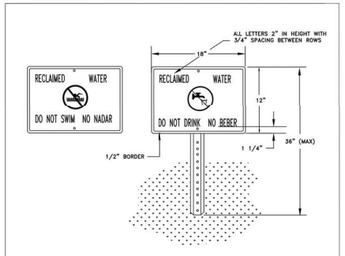


MAIN DIAMETER	ARV
14" AND SMALLER	2"
16" AND LARGER	3"

NOTES:
1. FOR WASTEWATER USE ONLY.
2. OFFSET DISTANCE TO BE FIELD DETERMINED AND AS CLOSE TO THE R/W LINE AS POSSIBLE
3. ADJUST HORIZONTAL LOCATION OF SIDEWALK, AS REQUIRED TO AVOID ARV ENCLSOURE.
4. LOCATE ARV ENCLOSURE WITHIN 6" OF R/W LINE.

OFFSET AIR OR COMBINATION AIR/VACUUM RELEASE VALVE DETAIL - WASTEWATER ONLY

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2015	FIG. 114

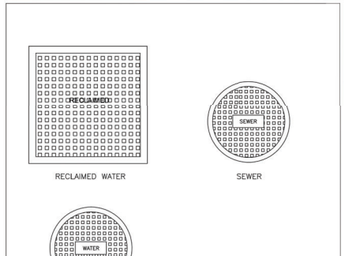


NOTES:

1. HEIGHT OF SIGN WILL DEPEND ON LOCATION AND SURROUNDING LANDSCAPE PLANT TYPES. IN ALL CASES, THE SIGN SHALL BE VISIBLE TO THE PUBLIC.
2. BACKGROUND SHALL BE WHITE. LETTERS AND FIGURES SHALL BE BLACK. PROHIBITIVE SYMBOL SHALL BE RED.
3. ENGINEERING GRADE REFLECTIVE MATERIALS SHALL BE USED.
4. POST SHALL BE U CHANNEL 12 FT, 2 LB. HOT ROLLED HIGH TENSILE RAIL OR BILLET STEEL, HOT DIP GALVANIZED PER ASTM A-123.
5. MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
6. SIGNS SHALL BE PLACED BY THE CONTRACTOR IN ACCORDANCE WITH THE CITY APPROVED ENGINEERING PLANS AND/OR AS APPROVED BY PUBLIC SERVICES DEPARTMENT.

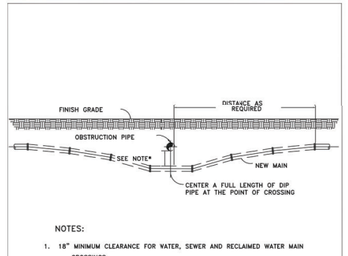
RECLAIMED WATER ADVISORY SIGN

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 115



TYPICAL VALVE BOX COVER DETAILS

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 116



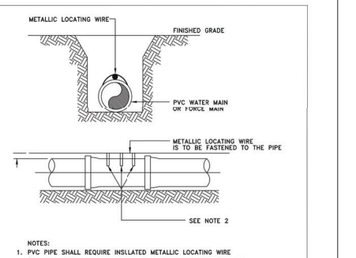
NOTES:

1. 18" MINIMUM CLEARANCE FOR WATER, SEWER AND RECLAIMED WATER MAIN CROSSINGS
2. 12" MINIMUM CLEARANCE REQUIRED FOR OTHER TYPE UTILITY CROSSINGS.
3. SEE ENCASEMENT DETAIL IF MINIMUM CLEARANCE CANNOT BE OBTAINED.

* CONSTRUCT UNIFORM PIPE DEFLECTION NOT TO EXCEED 75% OF MANUFACTURER RECOMMENDED MAXIMUM DEFLECTION PER PIPE JOINT

UTILITY CROSSING PIPE DEFLECTION DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 117

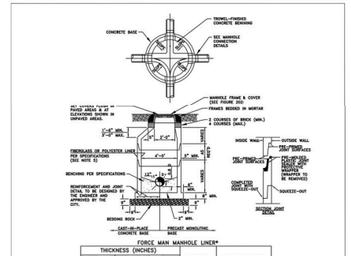


NOTES:

1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (10 AWG-SOLID CCS REINFORCED TRACER WIRE-INSULATED 30 MIL HDPE - 30 VOLT MFG. BY COPPERHEAD INDUSTRIES, LLC OR EQUAL) CAPABLE OF DETECTION BY A CABLE LOCATOR.
2. SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND ATTACHED WITH DUCT TAPE OF NYLON STRAPS AT 3 LOCATIONS PER JOINT. LOCATING WIRE SHALL TERMINATE AT THE TEST STATION BOX AS SHOWN IN FIG. 109.
3. BE CAPABLE OF EXTENDING 12" ABOVE TOP OF TEST STATION BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.
4. SPLICES SHOULD BE MADE USING STANDARDS AND PRODUCTS DESIGNED FOR DIRECT BURIAL CONDUCTORS.
5. WIRE INSULATION SHALL BE COLOR CODED FOR THE TYPE OF PIPE BEING INSTALLED.

PVC PIPE LOCATING WIRE DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 118



FORCE MAIN MANHOLE LINER*

DIAMETER (INCHES)	THICKNESS (INCHES) HEIGHT (FEET) 3-6	7-12	13-17	MATERIAL	MANUFACTURER
48					
60					
72					

* TO BE COMPLETED BY THE ENGINEER

NOTES:

1. MANHOLE SHOWN IS FOR SEWER SIZE 8" THRU 24". SEE SECTION 20.4 OF THE MANUAL FOR MANHOLE DIAMETER FOR SEWERS LARGER THAN 24".
2. DROP CONNECTIONS ARE REQUIRED WHENEVER INVERT OF INFLUENT SEWER IS 24" OR MORE ABOVE THE INVERT OF THE MANHOLE. SEE MANHOLE CONNECTION DETAILS.
3. THE THICKNESS OF THE LINER SHALL BE 3/8" MINIMUM.
4. EACH BENCH WALL SHALL BE A MINIMUM OF 18 INCHES LONG FROM THE WALL OF THE MANHOLE TOWARD THE COVER.
5. SANITARY SEWER MANHOLES MAY BE REQUIRED TO BE LINED IN ACCORDANCE WITH THE CITY OF APOPKA LIST OF APPROVED MATERIALS AND PRODUCTS AS DIRECTED BY THE CITY.

TYPICAL MANHOLE

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2015	FIG. 200

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates civil/utility engineers
DIBASSOCIATES, INC. 3216 CORP. WOODS Maryland, MD 20782

CODE CONSULTANTS, INC.
2043 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA: 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

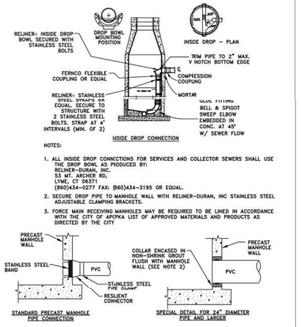
JULY 10, 2023

SHEET

CITY OF APOPKA DETAILS

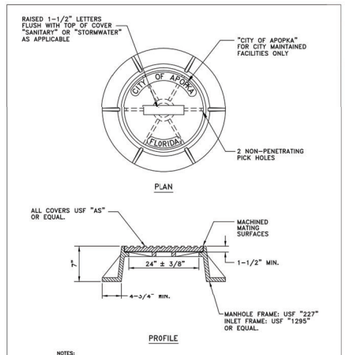
DRAWN: BJW
CHECKED: BSA

Plotted By:McKeen, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C8.0 CITY OF APOPKA DETAILS July 06, 2023 05:31:04pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\C8.0 CITY OF APOPKA DETAILS.dwg



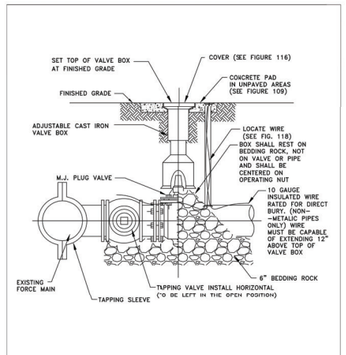
MANHOLE CONNECTION DETAILS

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2015	FIG. 201



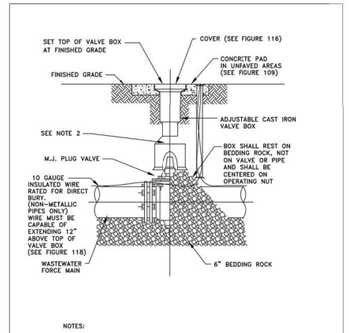
STANDARD MANHOLE FRAME AND COVER

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 202



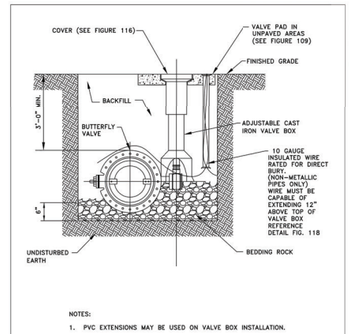
FORCE MAIN WET TAP TIE-IN DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 206



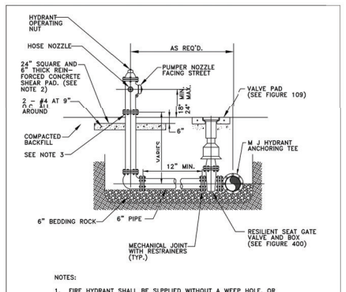
PLUG VALVE AND BOX DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 400 A



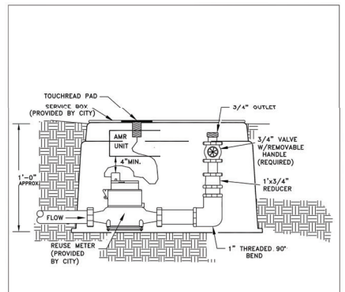
BUTTERFLY VALVE AND BOX DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 401



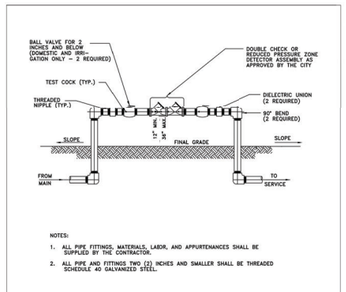
FIRE HYDRANT ASSEMBLY DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 402



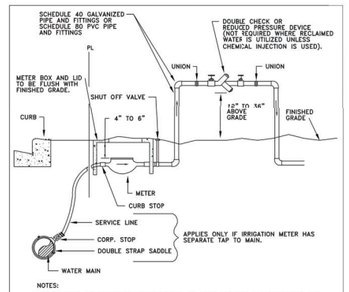
RECLAIMED WATER SERVICE CONNECTION
(FOR SERVICES W/O AN IRRIGATION SYSTEM)

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 506



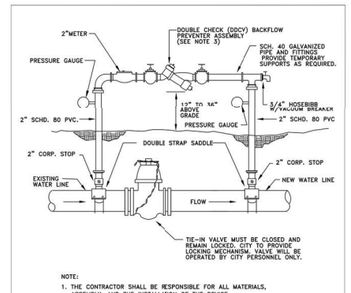
DOUBLE CHECK OR REDUCED PRESSURE ZONE DETECTOR ASSEMBLY
2 INCH AND BELOW ASSEMBLY

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 500 A



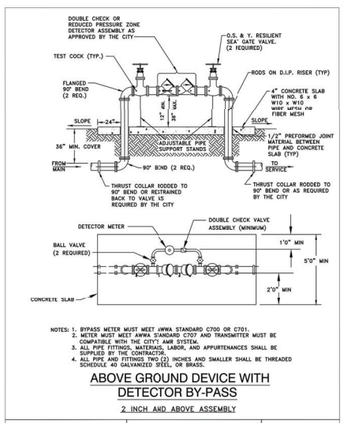
IRRIGATION METER AND DOUBLE CHECK VALVE OR REDUCED PRESSURE BACKFLOW PREVENTER

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 502



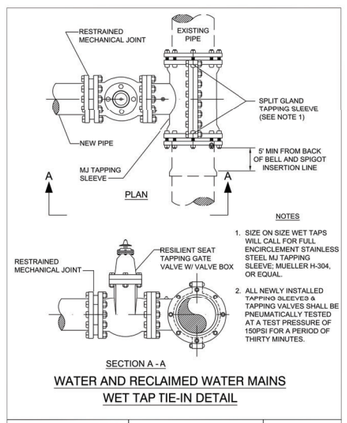
TEMPORARY JUMPER CONNECTION

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 504 A



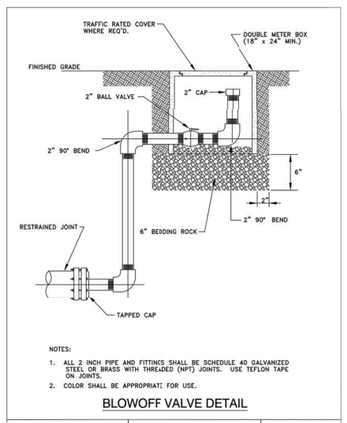
ABOVE GROUND DEVICE WITH DETECTOR BY-PASS
2 INCH AND ABOVE ASSEMBLY

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 500 B



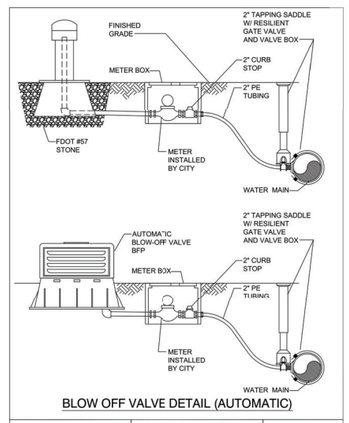
WATER AND RECLAIMED WATER MAINS WET TAP TIE-IN DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 406



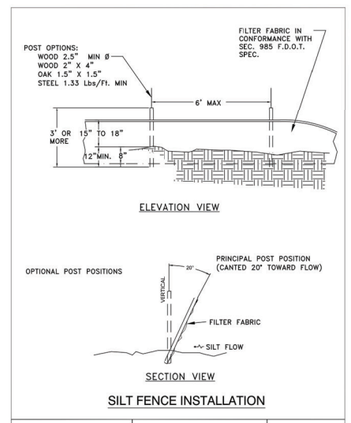
BLOWOFF VALVE DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 403



BLOW OFF VALVE DETAIL (AUTOMATIC)

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 403 A



SILT FENCE INSTALLATION

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2014	FIG. 602

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 300A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dlbassociates
civil engineers
DAVID L. BASS, P.E.
Missouri No. E-27752

CODE CONSULTANTS, INC.
2043 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0533

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA: 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

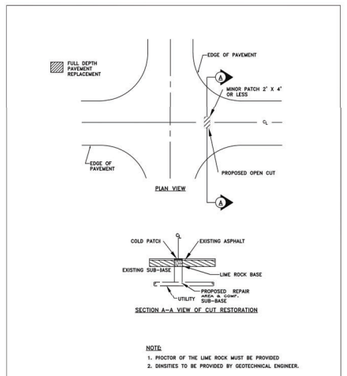
SEAL

JULY 10, 2023

SHEET
CITY OF APOPKA DETAILS

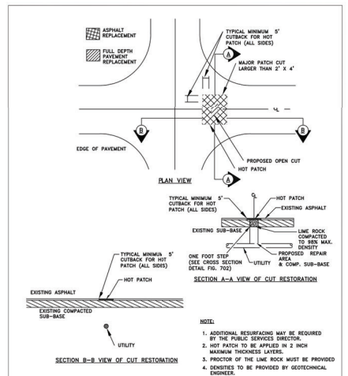
DRAWN: BJW
CHECKED: BSA

Plotted By: McKasen, Scott Sheet Set: FLOOR AND DECOR APOPKA Layout: C8.1 CITY OF APOPKA DETAILS July 06, 2023 05:31:08pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\C8.0 CITY OF APOPKA DETAILS.dwg



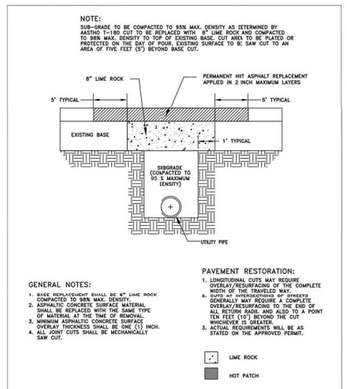
OPEN-CUT DETAIL - MINOR PATCH

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2015	FIG. 700



OPEN-CUT DETAIL - MAJOR PATCH

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2015	FIG. 701



OPEN-CUT CROSS SECTION DETAIL

CITY OF APOPKA DESIGN ENGINEERING DIVISION	JANUARY 2015	FIG. 702

Plotted By:MatHason, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C8.2 CITY OF APOPKA DETAILS July 06, 2023 05:31:11pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\C8.0 CITY OF APOPKA DETAILS.dwg

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects**AA-0003434**
33 Walt Whitman Road, Suite 310A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates
civil/site/traffic engineers

CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0533

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA : 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

JULY 10, 2023

SHEET
CITY OF APOPKA DETAILS

DRAWN: BJW
CHECKED: BSA

Sunshine811.com

APPENDIX A — STANDARD DRAWINGS

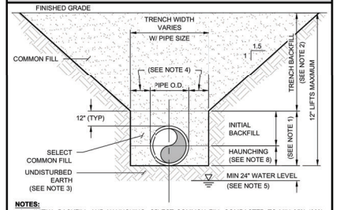
OCU GENERAL NOTES

1. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING IN PROXIMITY OF INCLUDING, BUT NOT LIMITED TO: WATER MAINS, WASTEWATER FORCE MAINS, GRAVITY MAINS, RECLAIMED WATER MAINS, ELECTRIC, GAS, CABLE TV, TELECOMMUNICATIONS, STORM WATER, FIBER OPTIC AND OTHER UNDERGROUND FACILITIES. MAIN LOCATIONS SHOWN ON PLANS MAY NOT BE EXACT. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING UTILITY LOCATIONS.
2. SHOULD A PIPE EMERGENCY OCCUR, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OCU DISPATCH CENTER AT (407) 254-9700 AND THE OCU INSPECTOR.
3. THE CONTRACTOR SHALL NOTIFY THE OCU CONSTRUCTION INSPECTION SECTION, FIELD SERVICES DIVISION AT LEAST 10 CALENDAR DAYS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION PROJECT BY CALLING (407) 254-9756.
4. THE CONTRACTOR SHALL NOTIFY THE OCU CONSTRUCTION INSPECTOR IN ACCORDANCE WITH TABLE 4110-1 "UTILITIES" SCHEDULE OF NOTIFICATIONS IN THIS MANUAL.
5. THE MATERIALS, PRODUCTS, AND CONSTRUCTION OF ALL UTILITIES CONNECTING TO THE OCU SYSTEM SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS CONTAINED IN THIS MANUAL.
6. ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO: WATER MAINS, FORCE MAINS, RECLAIMED WATER MAIN, SANITARY GRAVITY PIPES, STORM WATER PIPES ELECTRIC, TELEPHONE, GAS, POLES AND STAYS, CABLE TV AND OTHER UTILITY FACILITIES WITHIN THE LIMITS OF THE PROJECT WILL BE SUPPORTED AND PROTECTED AGAINST DAMAGE DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL ADJUST ALL EXISTING OCU MAINS AND FACILITIES IN CONFLICT WITH NEW GRADE, NEW OR ALTERED ROADWAYS, SIDEWALKS, DRIVEWAYS, CURBS, OR STORM WATER IMPROVEMENTS. OCU FACILITIES TO BE ADJUSTED INCLUDE, BUT ARE NOT LIMITED TO, PIPELINES, PUMP STATIONS, VALVE BOXES, AIR RELEASE VALVES, FIRE HYDRANTS, MANHOLE COVERS, AND METERS. ALL ADJUSTMENTS SHALL BE MADE TO CURRENT STANDARDS.
8. ONLY OCU PERSONNEL SHALL OPERATE EXISTING OCU WATER, WASTEWATER, AND RECLAIMED WATER VALVES. THE CONTRACTOR IS RESPONSIBLE FOR OPERATING ANY NEWLY INSTALLED VALVE THAT HAS NOT BEEN CLEARED FOR USAGE BY FDEP AND OCU. THE CONTRACTOR SHALL COORDINATE VALVE OPERATION WITH THE OCU INSPECTOR. FOR OPERATION OF MAINS NOT OWNED BY OCU, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE APPROPRIATE UTILITY REPRESENTATIVE.
9. CONSTRUCTION ACTIVITIES SHALL NOT CAUSE INTERRUPTIONS IN WATER, WASTEWATER, OR RECLAIMED WATER SERVICE. THE CONTRACTOR SHALL COORDINATE PRE-APPROVED INTERRUPTIONS OF SERVICE WITH THE OCU INSPECTOR 7 WORKING DAYS IN ADVANCE AND WRITTEN NOTICE SHALL BE GIVEN TO AFFECTED CUSTOMERS AT LEAST 4 WORKING DAYS IN ADVANCE.
10. THE CONTRACTOR SHALL PROVIDE AND / OR HAULING OF WASTEWATER DURING APPROVED INTERRUPTIONS OF WASTEWATER FLOWS AND CONNECTIONS. THE CONTRACTOR SHALL SUBMIT A BYPASS OR HAUL PLAN, REVIEWED AND APPROVED BY A PROFESSIONAL ENGINEER TO OCU DEVELOPMENT ENGINEERING AND TO THE INSPECTOR FOR APPROVAL PRIOR TO IMPLEMENTATION BY CONTRACTOR.
11. ALL VALVES INSTALLED AS PART OF THIS CONSTRUCTION PROJECT SHALL REMAIN CLOSED DURING CONSTRUCTION. KEEP VALVES ON ALL WET TAPS CLOSED UNTIL CLEARED BY FDEP. DO NOT CONNECT NEWLY CONSTRUCTED WATER MAINS TO ANY EXISTING WATER MAINS UNLESS CLEARED BY FDEP AND OCU.
12. THE CONTRACTOR SHALL PROVIDE A JUMPER ASSEMBLY WITH AN APPROVED BACKFLOW PREVENTER FOR USE WHEN CONNECTING NEW WATER MAINS TO EXISTING WATER MAINS. THE CONTRACTOR SHALL USE THIS TO FLUSH NEW WATER MAINS WITH POTABLE WATER AND TEMPORARY POTABLE WATER CONNECTIONS TO RECLAIMED WATER OR FORCE MAIN SHALL ALSO BE EQUIPPED WITH AN APPROVED BACKFLOW PREVENTER.
13. FOR PVC PIPE, NO JOINT DEFLECTION OR UNPIPE BENDING IS ALLOWED. ALIGNMENT CHANGE SHALL BE MADE ONLY WITH FITTINGS.
14. FOR DIP PIPE, LONG RADIUS CURVES, EITHER HORIZONTAL OR VERTICAL, MAY BE INSTALLED WITH STANDARD PIPE BY DEFLECTIONS AT THE JOINTS. MAXIMUM DEFLECTIONS AT PIPE JOINTS, FITTINGS AND LAYING RADIUS FOR THE VARIOUS PIPE LENGTHS SHALL NOT EXCEED 75 PERCENT OF THE PIPE MANUFACTURER'S RECOMMENDATION.
15. ALL PIPELINES OR HDPE PIPE USED IN A HORIZONTAL DIRECTIONAL DRILL INSTALLATION, THE CURVATURE AND/OR DEFLECTION SHALL NOT EXCEED THE PARAMETERS ESTABLISHED IN THIS MANUAL.
16. ALL DAMAGE TO ORANGE COUNTY INFRASTRUCTURE, PIPELINES, AND ASSETS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE WITH AN APPROVED METHOD BY THE COUNTY. IF THE REPAIR IS NOT PERFORMED IN A TIMELY MANNER, AS DETERMINED BY THE ORANGE COUNTY UTILITY INSPECTOR, ORANGE COUNTY MAY PERFORM REPAIRS AND THE CONTRACTOR WILL BE CHARGED FOR ALL EXPENSES ASSOCIATED WITH THE REPAIR.
17. THE CONTRACTOR SHALL BE LIABLE FOR ANY AND ALL SANITARY SEWER OVERFLOWS (SSO) ASSOCIATED WITH THE WORK, REGARDLESS OF FAULT. THE CONTRACTOR WILL BE ASSESSED PENALTIES FOR ANY AND EACH SSO AS SPECIFIED IN SECTION 319 10, GENERAL CONDITION REQUIREMENTS.

ORANGE COUNTY UTILITIES — FIGURE GN
STANDARDS & CONSTRUCTION SPECIFICATIONS MANUAL — 10/10/2021

APPENDIX A — STANDARD DRAWINGS

BEDDING & TRENCHING - TYPE A

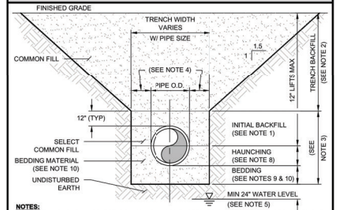


NOTES:
1. INITIAL BACKFILL AND HAUNCHING: SELECT COMMON FILL COMPACTED TO MIN 95% (98% UNDER PAVEMENT OR FUTURE PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO MIN 95% (98% UNDER PAVEMENT OR FUTURE PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. PIPE BEDDING UTILIZING SELECT COMMON FILL IN ACCORDANCE WITH "TYPE B" BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY UTILITIES.
4. 16 IN MAX. (12 IN MIN.) FOR PIPE DIAMETERS LESS THAN 24 IN AND 24 IN MAX (12 IN MIN) FOR PIPE DIAMETER 24-IN AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION. DEWATERING AS REQUIRED.
6. ALL PIPE SHALL BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN ORANGE COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.
8. FOR GRAVITY SEWER, THE FIRST LIFT SHALL BE PLACED TO THE SPRING LINE OF THE PIPE AND COMPACTED BY HAND TAMP.
9. CONTRACTOR SHALL USE BEDDING AND TRENCHING - TYPE B DETAIL FOR OVER EXCAVATION AND WHEN UNSUITABLE MATERIALS ARE ENCOUNTERED IN THE EXCAVATION.

ORANGE COUNTY UTILITIES — FIGURE A101
STANDARDS & CONSTRUCTION SPECIFICATIONS MANUAL — 10/10/2021

APPENDIX A — STANDARD DRAWINGS

BEDDING & TRENCHING - TYPE B

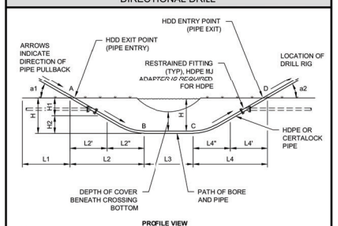


NOTES:
1. INITIAL BACKFILL: SELECT COMMON FILL COMPACTED TO MIN 95% (98% UNDER PAVEMENT OR FUTURE PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO MIN 95% (98% UNDER PAVEMENT OR FUTURE PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. PIPE BEDDING UTILIZING SELECT COMMON FILL IN ACCORDANCE WITH "TYPE B" BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY UTILITIES.
4. 15-IN MAX. (12-IN MIN.) FOR PIPE DIAMETER LESS THAN 24-IN AND 24-IN MAX (12-IN MIN) FOR PIPE DIAMETER 24-IN AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION. DEWATERING AS REQUIRED.
6. ALL PIPE SHALL BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN ORANGE COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.
8. FOR GRAVITY SEWER, THE FIRST LIFT SHALL BE PLACED TO THE SPRING LINE OF THE PIPE AND COMPACTED BY HAND TAMP.
9. BEDDING DEPTH SHALL BE 4-IN MINIMUM FOR PIPE DIAMETER UP TO 12-IN AND 6-IN MINIMUM FOR PIPE DIAMETER 16-IN AND LARGER.
10. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF REQUIRED BEDDING MATERIAL BELOW THE FIPE. UTILITIES SHALL DETERMINE REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION IN THE FIELD.

ORANGE COUNTY UTILITIES — FIGURE A102
STANDARDS & CONSTRUCTION SPECIFICATIONS MANUAL — 10/10/2021

APPENDIX A — STANDARD DRAWINGS

DIRECTIONAL DRILL



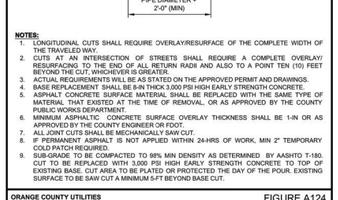
PROFILE VIEW

NOTES:
1. SHALL BE DESIGNED PER ASTM F1962-11.
2. POINTS A, B, C & D PULL FORCE ON PIPE.
3. L1 - ADDITIONAL LENGTH OF PIPE REQUIRED FOR HANDLING AND THERMAL CONTRACTION.
4. L2 - HORIZONTAL DISTANCE TO ACHIEVE DESIRED DESIGN DEPTH.
5. L3 - ADDITIONAL DISTANCE TO TRAVERSE AT DESIRED DESIGN DEPTH.
6. L4 - HORIZONTAL DISTANCE TO RISE TO SURFACE.
7. H - DEPTH OFF BORE HOLE FROM GROUND ELEVATION.
8. a1 - PIPE ENTRY ANGLE SHALL NOT EXCEED 15 DEGREES AND THE MANUFACTURERS RECOMMENDATIONS ON DEFLECTION.
9. a2 - PIPE EXIT ANGLE SHALL NOT EXCEED 12 DEGREES AND THE MANUFACTURERS RECOMMENDATIONS ON DEFLECTION.
10. MANDREL TESTING SHALL BE PERFORMED THROUGH THE ENTIRE LENGTH OF THE INSTALLED PIPE. FOR ALL PIPE 16-IN IN DIAMETER AND LARGER, THE MANDREL SIZE SHALL BE 90% OF THE INSIDE DIAMETER OF THE PIPE. MANDREL TESTING ON SMALLER PIPE MAY BE REQUIRED BY UTILITIES.
11. ISOLATION VALVES SHALL BE DESIGNEC AND INSTALLED AT BOTH ENDS OF THE DIRECTIONAL DRILL.
12. ALL WORK TO BE PERFORMED WITHIN RDW OR EASEMENT.
13. ENTIRE DIRECTIONAL DRILL TO BE SHOWN IN PLAN VIEW AND PROFILE VIEW ON CONSTRUCTION PLAN.

ORANGE COUNTY UTILITIES — FIGURE A123
STANDARDS & CONSTRUCTION SPECIFICATIONS MANUAL — 10/10/2021

APPENDIX A — STANDARD DRAWINGS

STANDARD ROADWAY OPENCUT DETAIL



NOTES:
1. LONGITUDINAL CUTS SHALL REQUIRE OVERLAY/RESURFACE OF THE COMPLETE WIDTH OF THE TRAVELED WAY.
2. CUTS AT AN INTERSECTION OF STREETS SHALL REQUIRE A COMPLETE OVERLAY/ RESURFACING TO THE END OF ALL RETURN RADII AND ALSO TO A POINT TEN (10) FEET BEYOND THE CUT, WHICHEVER IS GREATER.
3. ACTUAL REQUIREMENTS WILL BE AS STATED ON THE APPROVED PERMIT AND DRAWINGS.
4. BASE REPLACEMENT SHALL BE 8-IN THICK 3,000 PSI HIGH EARLY STRENGTH CONCRETE.
5. ASPHALT CONCRETE SURFACE MATERIAL SHALL BE REPLACED WITH THE SAME TYPE OF MATERIAL THAT EXISTED AT THE TIME OF REMOVAL, OR AS APPROVED BY THE COUNTY PUBLIC WORKS DEPARTMENT.
6. MINIMUM ASPHALTIC CONCRETE SURFACE OVERLAY THICKNESS SHALL BE 1-IN OR AS APPROVED BY THE COUNTY ENGINEER OR FDOT.
7. ALL JOINT CUTS SHALL BE MECHANICALLY SAW CUT.
8. IF PERMANENT ASPHALT IS NOT APPLIED WITHIN 24-HRS OF WORK, MIN 2" TEMPORARY COLD PATCH REQUIRED.
9. SUB-GRADE TO BE COMPACTED TO 98% MIN DENSITY AS DETERMINED BY AASHTO T-180. CUT TO BE REPLACED WITH 3,000 PSI HIGH EARLY STRENGTH CONCRETE TO TOP OF EXISTING BASE. CUT AREA TO BE PLATED OR PROTECTED THE DAY OF THE POUR. EXISTING SURFACE TO BE SAW CUT A MINIMUM 5-FT BEYOND BASE CUT.

ORANGE COUNTY UTILITIES — FIGURE A124
STANDARDS & CONSTRUCTION SPECIFICATIONS MANUAL — 10/10/2021

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects **AA-0003434**
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265–4331

dibassociates
civil engineering consulting engineers
CERTIFICATE OF AUTHORIZATION NO. 30012
CERTIFICATE OF AUTHORIZATION NO. 32772

cci
CODE CONSULTANTS, INC.
2963 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.

189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA : 77,901 Sf
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

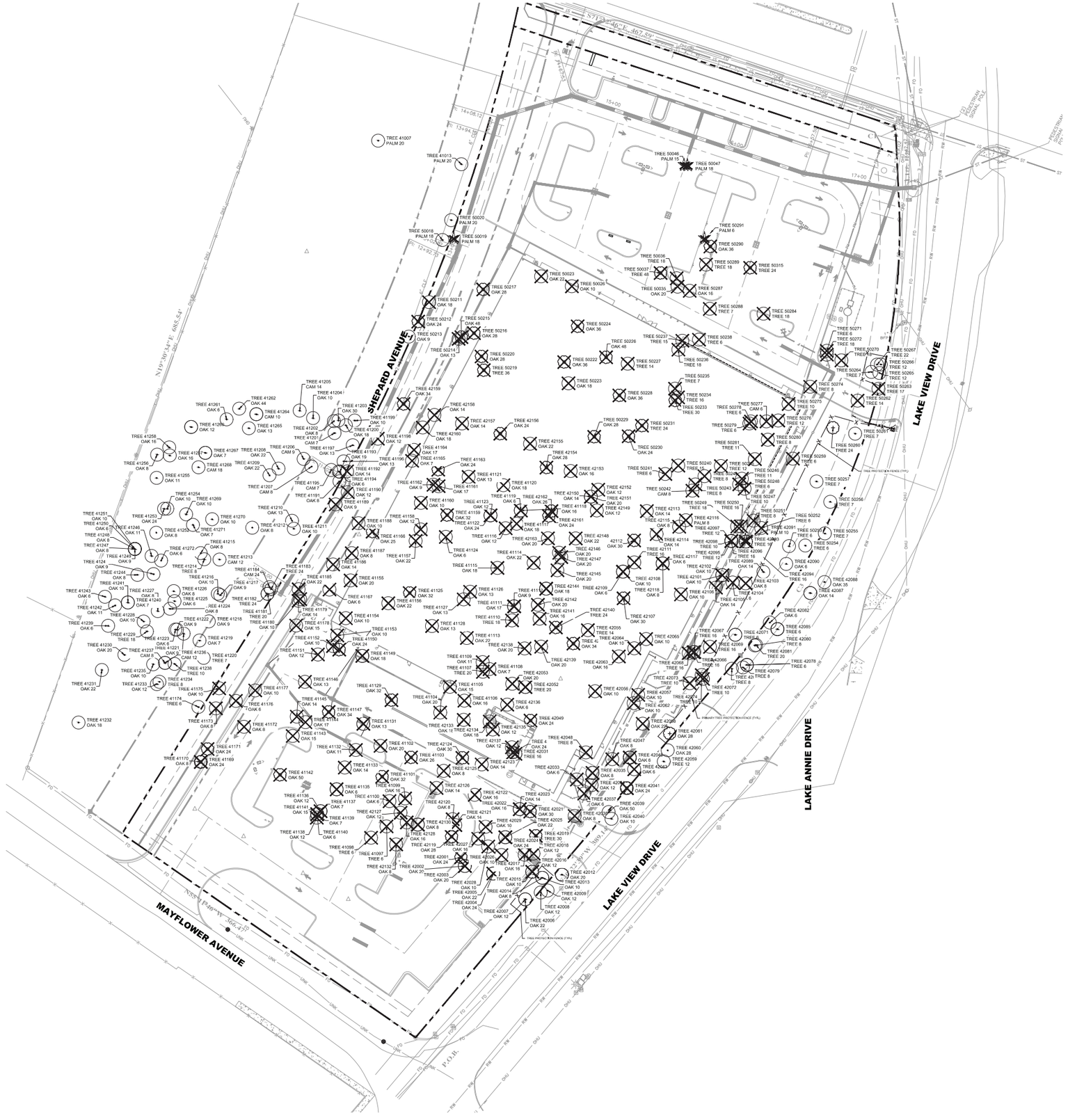
JULY 10, 2023

SHEET
ORANGE COUNTY DETAILS

DRAWN: BJW
CHECKED: BSA

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

Plotted By:McKeson, Scott Sheet Set:FLOOR AND DECOR APOPKA Layout:C8.3 ORANGE COUNTY DETAILS July 06, 2023 05:31:26pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONSTY\PlanSheets\C8.3 ORANGE COUNTY DETAILS.dwg



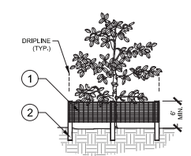
LEGEND

- SPECIMEN TREE TO REMAIN
- SPECIMEN TREE TO BE REMOVED
- TREE TO REMAIN
- TREE TO BE REMOVED
- PALM TO BE REMOVED

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

NOTE:
ALL TREES ARE TO BE PROTECTED FROM DAMAGE. NO VEHICULAR PARKING, STORAGE OF MATERIALS OR EQUIPMENT, CLEANING OF EQUIPMENT, EQUIPMENT WASH OUT OR ANY OTHER ACTION WHICH MAY CAUSE AN ADVERSE AFFECT ON EXISTING OR FUTURE PLANTING IS TO OCCUR IN OR AROUND TREES IN LANDSCAPE AREAS WHICH MAY BE AFFECTED.



1. 6'H "PERIMETER PLUS" CONSTRUCTION FENCE BY CONWED PLASTICS OR OWNER'S REPRESENTATIVE APPROVED EQUAL. SUBMIT PRODUCT INFORMATION FOR APPROVAL PRIOR TO INSTALLATION.
2. 8' TALL METAL "T" POSTS OR 2" x 2" X 8' PRESSURE TREATED WOOD POSTS WITH 24" BURIAL BELOW GRADE.

INSTALLATION NOTES:

A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.

B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/3 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 6' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.

C. SPACE POSTS EVERY 6' (MIN.) TO 8' (MAX.).

D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

NOTE: IF WIRE TIES ARE USED, AVOID DIRECT CONTACT WITH FENCE. WIRE MAY DAMAGE FENCE OVER TIME.

1 L0.50 TREE PROTECTION FENCING
ELEVATION / PLAN NTS

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects **AA-0003434**
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates consulting engineers
3000 Town Ctr, Suite 1700 - #1583
Anaheim, NJ 07701

CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA: 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

LA668729 STATE OF FLORIDA

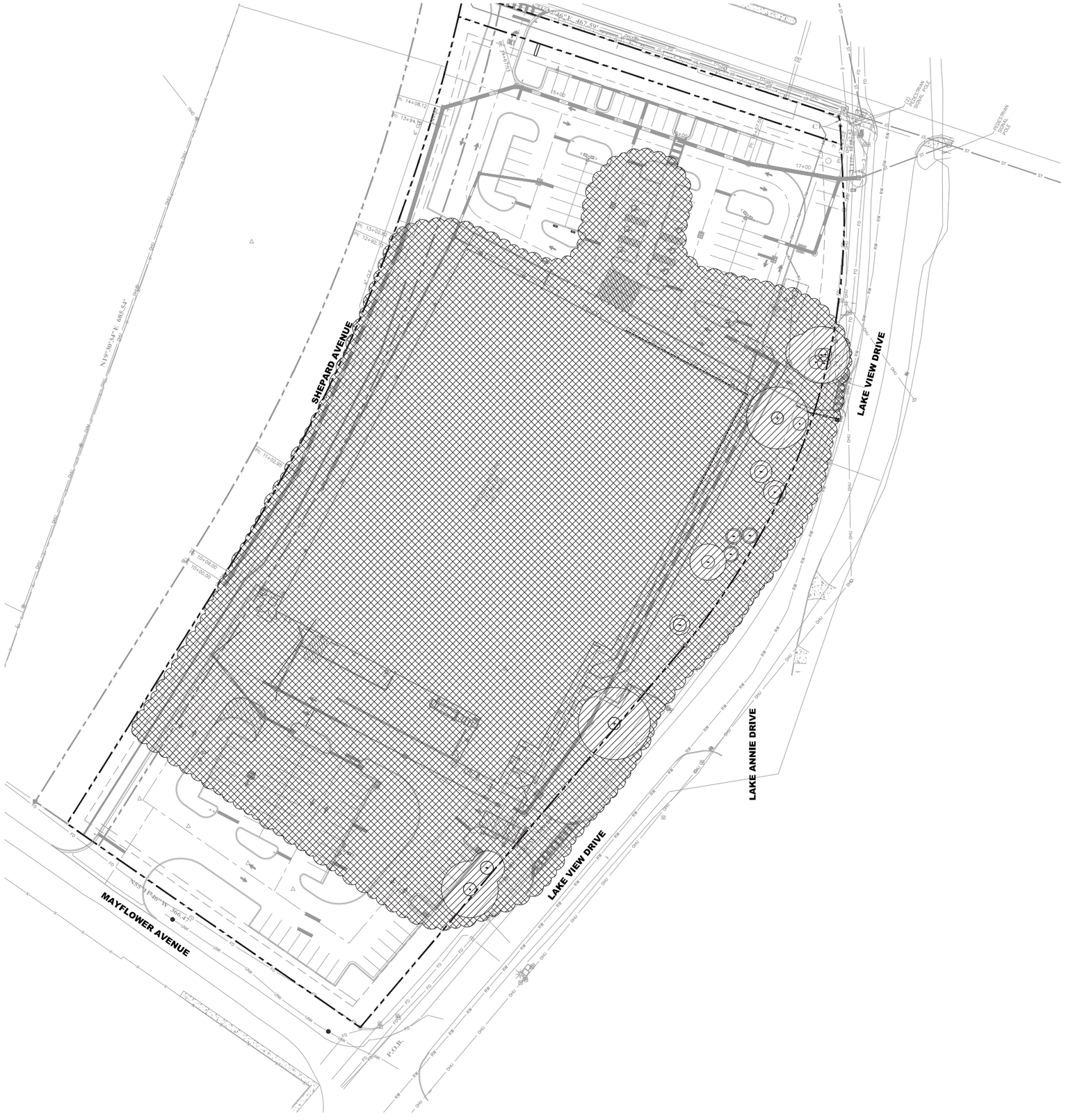
07/10/2023

SHEET
TREE MITIGATION PLAN

DRAWN: JTD
CHECKED: MTF

L0.50

Plotted By:Dunbould,_Jimmy Sheet Set:FLOOR AND DECOR APOPKA Layout:L0.50 July 07, 2023 09:08:34am K:\ORL_Civil\249257001—Floor & Decor Apopka\CADD\CONST\PlanSheets\L0.50 TREE MITIGATION PLAN.dwg



TREE CANOPY COVERAGE

TOTAL SITE AREA: 242,873 SF
TOTAL EXISTING CANOPY COVERAGE: 193,125 SF
= 80% EXISTING SITE CANOPY COVERAGE

TREE CANOPY AREA TO BE REMOVED: 183,675 SF

TREE CANOPY AREA TO BE PRESERVED: 9,450 SF

SITE CANOPY RETENTION % = 5%
SITE CANOPY RETENTION % REQUIRED = 4%
(PER TABLE.5.3.7.B.2.C OF CITY OF APOPKA LAND DEVELOPMENT CODE)
SITE ZONING = C-COR

FLOOR & DECOR
2500 WINDY RIDGE
PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects **AA-0003434**
33 Walt Whitman Road, Suite 310A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates
consulting engineers

CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0933

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL &
LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA: 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

LA6667292 STATE OF FLORIDA

07/10/2023

SHEET
TREE CANOPY COVERAGE

DRAWN: JTD
CHECKED: MTF

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

L0.51

Plotted By:Dunbauld, Jimmy Sheet Set:FLOOR AND DECOR APOPKA Layout:L0.51 July 07, 2023 09:08:39am K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\L0.50 TREE MITIGATION PLAN.dwg

NUMBER	DBH	SPECIES	STATUS	SPECIMEN
41007	20	PALM	OFF-SITE	
41013	20	PALM	OFF-SITE	
41097	6	TREE	REMOVED	
41098	6	TREE	REMOVED	
41099	16	OAK	REMOVED	
41100	6	OAK	REMOVED	
41101	32	OAK	REMOVED	Yes
41102	20	OAK	REMOVED	
41103	26	OAK	REMOVED	Yes
41104	20	OAK	REMOVED	
41105	15	OAK	REMOVED	
41106	16	OAK	REMOVED	
41107	20	TREE	REMOVED	
41108	7	OAK	REMOVED	
41109	11	OAK	REMOVED	
41110	18	TREE	REMOVED	
41111	17	OAK	REMOVED	
41112	9	OAK	REMOVED	
41113	22	OAK	REMOVED	
41114	22	OAK	REMOVED	
41115	18	OAK	REMOVED	
41116	12	OAK	REMOVED	
41117	18	OAK	REMOVED	
41118	16	OAK	REMOVED	
41119	6	OAK	REMOVED	
41120	18	OAK	REMOVED	
41121	13	OAK	REMOVED	
41122	24	OAK	REMOVED	Yes
41123	12	OAK	REMOVED	
41124	6	OAK	REMOVED	
41125	32	OAK	REMOVED	Yes
41126	13	OAK	REMOVED	
41127	13	OAK	REMOVED	
41128	13	OAK	REMOVED	
41129	32	OAK	REMOVED	Yes
41130	18	OAK	REMOVED	
41131	13	OAK	REMOVED	
41132	11	OAK	REMOVED	
41133	14	OAK	REMOVED	
41134	7	OAK	REMOVED	
41135	6	OAK	REMOVED	
41136	12	OAK	REMOVED	
41137	7	OAK	REMOVED	
41138	12	OAK	REMOVED	
41139	7	OAK	REMOVED	
41140	6	OAK	REMOVED	
41141	15	OAK	REMOVED	
41142	50	OAK 5	REMOVED	Yes
41143	15	OAK	REMOVED	
41144	17	OAK	REMOVED	
41145	14	OAK	REMOVED	
41146	13	OAK	REMOVED	
41147	34	OAK	REMOVED	Yes
41148	10	OAK	REMOVED	
41149	18	OAK	REMOVED	
41150	24	OAK	REMOVED	Yes
41151	12	OAK	REMOVED	
41152	10	OAK	REMOVED	
41153	10	OAK	REMOVED	
41154	10	OAK	REMOVED	
41155	20	OAK	REMOVED	
41156	22	OAK	REMOVED	
41157	22	OAK	REMOVED	
41158	12	OAK	REMOVED	
41159	32	OAK	REMOVED	Yes
41160	10	OAK	REMOVED	
41161	17	OAK	REMOVED	
41162	9	OAK	REMOVED	
41163	24	OAK	REMOVED	Yes
41164	17	OAK	REMOVED	
41165	7	OAK	REMOVED	
41166	25	OAK 5	REMOVED	Yes
41167	6	OAK	REMOVED	
41169	24	OAK	REMOVED	Yes
41170	8	OAK	REMOVED	
41171	24	OAK	REMOVED	Yes
41172	8	OAK	REMOVED	
41173	8	OAK	REMOVED	
41174	6	TREE	OFF-SITE	
41175	10	OAK	REMOVED	
41176	6	OAK	REMOVED	
41177	10	OAK	REMOVED	
41178	15	OAK	REMOVED	
41179	14	OAK	REMOVED	
41180	10	OAK	REMOVED	
41181	20	TREE	OFF-SITE	
41182	24	TREE	OFF-SITE	
41183	24	TREE	OFF-SITE	
41184	24	CAM	OFF-SITE	
41185	22	OAK	REMOVED	
41186	14	OAK	REMOVED	
41187	8	OAK	REMOVED	
41188	10	OAK	REMOVED	
41189	9	OAK	REMOVED	
41190	12	OAK	REMOVED	
41191	8	OAK	OFF-SITE	
41192	14	OAK	REMOVED	
41193	19	OAK	OFF-SITE	
41194	6	OAK	OFF-SITE	
41195	7	CAM	OFF-SITE	

NUMBER	DBH	SPECIES	STATUS	SPECIMEN
41196	13	OAK	OFF-SITE	
41197	13	OAK	OFF-SITE	
41198	12	OAK	REMOVED	
41199	10	OAK	OFF-SITE	
41200	18	OAK	OFF-SITE	
41201	7	CAM	OFF-SITE	
41202	8	OAK	OFF-SITE	
41203	30	OAK	OFF-SITE	
41204	10	OAK	OFF-SITE	
41205	14	CAM	OFF-SITE	
41206	9	CAM	OFF-SITE	
41207	8	CAM	OFF-SITE	
41208	22	OAK	OFF-SITE	
41209	22	OAK	OFF-SITE	
41210	13	OAK	OFF-SITE	
41211	10	OAK	OFF-SITE	
41212	8	OAK	OFF-SITE	
41213	12	CAM	OFF-SITE	
41214	8	TREE	OFF-SITE	
41215	8	OAK	OFF-SITE	
41216	10	OAK	OFF-SITE	
41217	9	OAK	OFF-SITE	
41218	9	OAK	OFF-SITE	
41219	7	OAK	OFF-SITE	
41220	7	TREE	OFF-SITE	
41221	9	OAK	OFF-SITE	
41222	9	OAK	OFF-SITE	
41223	6	OAK	OFF-SITE	
41224	8	OAK	OFF-SITE	
41225	6	OAK	OFF-SITE	
41226	8	OAK	OFF-SITE	
41227	8	OAK	OFF-SITE	
41228	10	OAK	OFF-SITE	
41229	18	TREE	OFF-SITE	
41230	20	OAK	OFF-SITE	
41231	22	OAK	OFF-SITE	
41232	18	OAK	OFF-SITE	
41233	12	OAK	OFF-SITE	
41234	8	TREE	OFF-SITE	
41235	10	OAK	OFF-SITE	
41236	12	CAM	OFF-SITE	
41237	8	CAM	OFF-SITE	
41238	10	TREE	OFF-SITE	
41239	6	OAK	OFF-SITE	
41240	7	OAK	OFF-SITE	
41241	10	OAK	OFF-SITE	
41242	11	OAK	OFF-SITE	
41243	6	OAK	OFF-SITE	
41244	8	OAK	OFF-SITE	
41245	9	OAK	OFF-SITE	
41246	11	OAK	OFF-SITE	
41247	8	OAK	OFF-SITE	
41248	8	OAK	OFF-SITE	
41249	9	OAK	OFF-SITE	
41250	6	OAK	OFF-SITE	
41251	10	OAK	OFF-SITE	
41252	8	OAK	OFF-SITE	
41253	24	OAK	OFF-SITE	
41254	10	OAK	OFF-SITE	
41255	11	OAK	OFF-SITE	
41256	8	OAK	OFF-SITE	
41257	16	OAK	OFF-SITE	
41258	16	OAK	OFF-SITE	
41259	10	OAK	OFF-SITE	
41260	12	OAK	OFF-SITE	
41261	6	OAK	OFF-SITE	
41262	44	OAK	OFF-SITE	
41263	7	CAM	OFF-SITE	
41264	10	CAM	OFF-SITE	
41265	13	OAK	OFF-SITE	
41266	7	OAK	OFF-SITE	
41267	7	OAK	OFF-SITE	
41268	18	CAM	OFF-SITE	
41269	10	OAK	OFF-SITE	
41270	10	OAK	OFF-SITE	
41271	7	OAK	OFF-SITE	
41272	6	OAK	OFF-SITE	
42001	24	OAK	REMOVED	Yes
42002	20	OAK	REMOVED	
42003	20	OAK	REMOVED	
42004	24	OAK	REMOVED	Yes
42005	22	OAK	REMOVED	
42006	22	OAK	PRESERVED	
42007	12	OAK	PRESERVED	
42008	12	OAK	OFF-SITE	
42009	12	OAK	OFF-SITE	
42010	22	OAK	OFF-SITE	
42011	20	OAK	OFF-SITE	
42012	20	OAK	OFF-SITE	
42013	10	OAK	PRESERVED	
42014	8	OAK	PRESERVED	
42015	10	OAK	REMOVED	
42016	12	OAK	REMOVED	
42017	16	OAK	REMOVED	
42018	12	OAK	REMOVED	
42019	30	TREE	REMOVED	Yes
42021	30	OAK	REMOVED	Yes
42022	16	OAK	REMOVED	
42023	14	OAK	REMOVED	
42024	24	OAK	REMOVED	Yes

NUMBER	DBH	SPECIES	STATUS	SPECIMEN
42025	22	OAK	REMOVED	
42026	10	OAK	REMOVED	
42027	16	OAK	REMOVED	
42028	10	OAK	REMOVED	
42029	10	OAK	REMOVED	
42031	16	TREE	REMOVED	
42032	24	OAK	REMOVED	Yes
42033	6	OAK	REMOVED	
42034	12	OAK	REMOVED	
42035	8	OAK	PRESERVED	
42036	6	OAK	REMOVED	
42037	6	OAK	REMOVED	
42038	8	OAK	REMOVED	
42039	50	OAK 5	OFF-SITE	
42040	10	OAK	OFF-SITE	
42041	24	OAK	REMOVED	Yes
42042	6	OAK	REMOVED	
42043	6	OAK	REMOVED	
42044	6	OAK	PRESERVED	
42045	6	OAK	PRESERVED	
42046	10	OAK	REMOVED	
42047	8	OAK	REMOVED	
42048	8	TREE	REMOVED	
42049	24	OAK	REMOVED	Yes
42050	24	TREE	REMOVED	Yes
42052	20	TREE	REMOVED	
42053	20	OAK	REMOVED	
42054	34	OAK	REMOVED	Yes
42055	14	TREE	REMOVED	
42056	10	OAK	REMOVED	
42057	10	OAK	REMOVED	
42058	22	OAK	REMOVED	
42059	12	TREE	OFF-SITE	
42060	28	OAK	OFF-SITE	
42061	28	OAK	PRESERVED	Yes
42062	10	OAK	REMOVED	
42063	16	OAK	REMOVED	
42064	10	OAK	REMOVED	
42065	10	OAK	REMOVED	
42066	16	TREE	REMOVED	
42067	16	TREE	REMOVED	
42068	16	TREE	REMOVED	
42069	16	TREE	REMOVED	
42070	6	TREE	PRESERVED	
42071	6	TREE	PRESERVED	
42072	10	TREE	REMOVED	
42073	10	TREE	REMOVED	
42074	10	TREE	REMOVED	
42075	8	TREE	OFF-SITE	
42076	10	TREE	OFF-SITE	
42077	12	TREE	OFF-SITE	
42078	6	TREE	OFF-SITE	
42079	8	TREE	OFF-SITE	
42080	8	TREE	OFF-SITE	
42081	20	TREE	OFF-SITE	
42082	6	OAK	OFF-SITE	
42083	8	TREE	OFF-SITE	
42084	6	TREE	OFF-SITE	
42085	6	TREE	OFF-SITE	
42086	12	OAK	OFF-SITE	
42087	14	OAK	OFF-SITE	
42088	35	OAK 5	OFF-SITE	
42089	14	OAK	PRESERVED	
42090	6	OAK	PRESERVED	
42091	10	PALM	REMOVED	
42092	12	TREE	PRESERVED	
42093	16	TREE	REMOVED	
42094	16	TREE	REMOVED	
42095	12	TREE	REMOVED	
42096	16	TREE	REMOVED	
42097	12	TREE	REMOVED	
42098	10	TREE	REMOVED	
42101	10	OAK	REMOVED	
42102	10	OAK	REMOVED	
42103	8	OAK	REMOVED	
42104	6	OAK	REMOVED	
42105	14	OAK	REMOVED	
42106	10	OAK	REMOVED	
42107	30	OAK	REMOVED	Yes
42108	10	OAK	REMOVED	
42109	6	OAK	REMOVED	
42111	16	TREE	REMOVED	
42112	30	OAK	REMOVED	Yes
42113	14	OAK	REMOVED	
42114	14	OAK	REMOVED	
42115	8	OAK	REMOVED	
42116	8	PALM	REMOVED	
42117	6	OAK	REMOVED	
42118	8	OAK	REMOVED	
42119	28	OAK	REMOVED	Yes
42120	8	OAK	REMOVED	
42121	14	OAK	REMOVED	
42122	16	OAK	REMOVED	
42123	14	OAK	REMOVED	
42124	30	OAK	REMOVED	Yes
42125	8	OAK	REMOVED	
42126	14	OAK	REMOVED	
42127	12	OAK	REMOVED	
42128	16	OAK	REMOVED	
42129	12	OAK	REMOVED	

NUMBER	DBH	SPECIES	STATUS	SPECIMEN
42130	8	OAK	REMOVED	
42132	8	OAK	REMOVED	
42133	18	OAK	REMOVED	
42134	18	OAK	REMOVED	
42135	12	OAK	REMOVED	
42136	6	OAK	REMOVED	
42137	12	OAK	REMOVED	
42138	20	OAK	REMOVED	
42139	20	OAK	REMOVED	
42140	24	TREE	REMOVED	Yes
42141	16	OAK	REMOVED	
42142	20	OAK	REMOVED	
42143	18	OAK	REMOVED	
42144	18	OAK	REMOVED	
42145	20	OAK	REMOVED	
42146	20	OAK	REMOVED	
42147	20	OAK	REMOVED	
42148	22	OAK	REMOVED	
42149	12	OAK	REMOVED	
42150	14	OAK	REMOVED	
42151	20	OAK	REMOVED	
42152	12	OAK	REMOVED	
42153	16	OAK	REMOVED	
42154	28	OAK	REMOVED	Yes
42155	22	OAK	REMOVED	
42156	24	OAK	REMOVED	Yes
42157	14	OAK	REMOVED	
42158	14	OAK	REMOVED	
42159	34	OAK	REMOVED	Yes
42160	18	OAK	REMOVED	
42161	24	OAK	REMOVED	Yes
42162	26	OAK	REMOVED	Yes
42163	20	OAK	REMOVED	
50018	18	PALM	OFF-SITE	
50019	18	PALM	REMOVED	
50020	20	PALM	OFF-SITE	
50023	22	OAK	REMOVED	
50026	10	OAK	REMOVED	
50035	20	OAK	REMOVED	
50036	18	TREE	REMOVED	
50037	48	TREE	REMOVED	Yes
50046	15	PALM	REMOVED	
50047	18	PALM	REMOVED	
50211	18	OAK	REMOVED	
50212	24	OAK	REMOVED	Yes
50213	9	OAK	OFF-SITE	
50214	13	OAK	REMOVED	
50215	48	OAK	REMOVED	Yes
50216	28	OAK	REMOVED	Yes
50217	28	OAK	REMOVED	Yes
50219	36	TREE	REMOVED	Yes
50220	28	OAK	REMOVED	Yes
50222	36	OAK	REMOVED	Yes
50223	18	OAK	REMOVED	
50224	36	OAK	REMOVED	Yes
50226	48	OAK	REMOVED	Yes
50227	14	TREE	REMOVED	
50228	36	OAK	REMOVED	Yes
50229	28	OAK	REMOVED	Yes
50230	24	OAK	REMOVED	Yes
50231	24	TREE	REMOVED	Yes
50233	30	TREE	REMOVED	Yes
50234	16	TREE	REMOVED	
50235	7	TREE	REMOVED	
50236	18	TREE	REMOVED	
50237	15	TREE	REMOVED	
50238	6	TREE	REMOVED	
50240	15	TREE	REMOVED	
50241	6	TREE	REMOVED	
50242	8	CAM	REMOVED	
50243	8	TREE	REMOVED	
50244	8	TREE	REMOVED	
50245	12	TREE	REMOVED	
50246	11	TREE	REMOVED	
50247	10	TREE	REMOVED	
50248	6	TREE	REMOVED	
50249	18	TREE	REMOVED	
50250	16	TREE	REMOVED	
50251	8	TREE	REMOVED	
50252	6	TREE	REMOVED	
50253	6	TREE	PRESERVED	
50254	6	TREE	PRESERVED	
50255	7	TREE	OFF-SITE	
50256	7	TREE	PRESERVED	
50257	7	TREE	PRESERVED	
50259	6	TREE	REMOVED	
50260	24	TREE	PRESERVED	Yes
50261	7	TREE	PRESERVED	
50262	14	TREE	REMOVED	
50263	17	TREE	REMOVED	
50264	7	TREE	PRESERVED	
50265	12	TREE	PRESERVED	
50266	12	TREE	PRESERVED	
50267	22	TREE	PRESERVED	
50270	18	TREE	REMOVED	
50271	6	TREE	REMOVED	
50272	18	TREE	REMOVED	
50274	8	TREE	REMOVED	
50275	10	TREE	REMOVED	
50276	12	TREE	REMOVED	
50277	6	CAM	REMOVED	
50278	6	TREE	REMOVED	
50279	6	TREE	REMOVED	
50280	8	TREE	REMOVED	
50281	11	TREE	REMOVED	
50284	18	TREE	REMOVED	
50287	16	OAK	REMOVED	
50288	7	TREE	REMOVED	
50289	18	TREE	REMOVED	
50290	36	OAK	REMOVED	Yes
50291	6	PALM	REMOVED	
50315	24	TREE	REMOVED	Yes

TREE CANOPY COVERAGE TABLE			
	SQ.FT	ACRES	PERCENT
TOTAL SITE AREA	242,873	5.58	100%
EXISTING CANOPY AREA	193,125	4.43	80%
REQUIRED CANOPY TO REMAIN	7,725	0.18	4.00%
CANOPY PROPOSED TO REMAIN	9,450	0.21	5%

TREE REMOVAL TABLE		
	TREES	INCHES
TOTAL TREES ON SITE	296	5,122
TOTAL TREES TO BE REMOVED	277	4,890
TOTAL TREES TO REMAIN	19	232
TOTAL TREE INCHES TO BE MITIGATED		4,658

TREE REPLACEMENT TABLE		
	TREES	INCHES
TOTAL MITIGATION REQUIRED		4,658
TOTAL TREES PLANTED ON SITE	108	290
CANOPY TREES (3" CAL)	74	222
UNDERSTORY & ACCENT TREES	34	68
NET MITIGATION INCHES OWED		4368

SPECIMEN TREE TABLE		
	TREES	INCHES
SPECIMEN TREES ON SITE	52	1,465
SPECIMEN TREES TO BE REMOV	49	1,413
SPECIMEN TREES TO BE PRESER	2	52

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects **AA-0003434**
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates
civil&utility engineers
3600 Rockwell Dr, Suite 1700 - #1083
Richardson TX 75751

CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA : 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

LA6667292 STATE OF Florida

07/10/2023

SHEET
TREE MITIGATION CALCULATIONS

DRAWN: JTD
CHECKED: MTF

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

Plotted By:Dumbauld, Jimmy Sheet Set:FLOOR AND DECOR APOPKA Layout:L0.52 July 07, 2023 09:08:42am K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\L0.50 TREE MITIGATION PLAN.dwg

TREE MITIGATION SPECIFICATIONS

A. GENERAL

1. CONTRACTOR SHALL ADHERE TO ALL TREE PROTECTION REQUIREMENTS LISTED IN THESE SPECIFICATIONS AND/OR THOSE LISTED IN THE CITY OR COUNTY ZONING CODE, TREE PROTECTION LATEST EDITION, WHICHEVER IS MORE STRINGENT SHALL APPLY.
2. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION PROCEDURES WITH THE PROJECT ARBORIST PRIOR TO BEGINNING WORK.
3. ANY AREAS SUBJECT TO EROSION MUST BE ADEQUATELY STABILIZED WITH VEGETATION MATERIAL THAT WILL, WITHIN A REASONABLE TIME FRAME, DETER SOIL DISTURBANCE.
4. NO SIGNS, BUILDING PERMITS, WIRES OR OTHER ATTACHMENTS OF ANY KIND SHALL BE ATTACHED TO ANY TREE OR PALM. GUY WIRES DESIGNED TO PROTECT TREES ARE EXCLUDED FROM THIS PROHIBITION.
5. EXISTING TREE LOCATIONS AND SIZES ARE ESTIMATES AND ARE BASED ON A SURVEY PROVIDED BY THE OWNER SELECTED SURVEYOR.
6. CONTRACTOR SHALL COORDINATE TREE REMOVAL WITH PERMITTING AGENCY AND PROJECT ARBORIST PRIOR TO CONSTRUCTION. NO PERSON MAY REMOVE OR CAUSE TO BE REMOVED ANY PROTECTED TREE OR PALM WITHOUT FIRST HAVING PROCURED A PERMIT AS PROVIDED BY THE APPROPRIATE PERMITTING AGENCY.
7. FOR PROTECTED TREES OR PALMS BEING REMOVED, THE CONTRACTOR MUST GIVE THE PERMITTING AGENCY REASONABLE OPPORTUNITY TO RELOCATE TREES DESIGNATED FOR REMOVAL TO ANOTHER SITE AT THE PERMITTING AGENCY'S EXPENSE.
8. CONTRACTOR IS RESPONSIBLE FOR POSSESSING ALL REQUIRED APPLICATOR LICENSES, BUSINESS REGISTRATIONS AND INSURANCE, PESTICIDE LABELS, AND MATERIAL DATA SAFETY SHEETS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR HAVING ALL SPILL CONTAINMENT MATERIALS AND REQUIRED PERSONAL PROTECTIVE EQUIPMENT FOR PESTICIDE APPLICATIONS AND ACCIDENTAL SPILLS ON SITE AT ALL TIMES. THE OWNER RESERVES THE RIGHT TO INSPECT EACH APPLICATOR AND HAVE THESE MATERIALS PRESENTED BEFORE AND DURING ANY PESTICIDE TREATMENT.
9. WHERE TRAFFIC AREAS ARE PROPOSED WITHIN THE DRIP LINE OF PROTECTED TREES AND LESS THAN FOUR (4) INCHES OF GRADE CHANGE ARE PROPOSED, PERMEABLE SURFACES THAT ALLOW AIR AND WATER INTO THE SOIL SHOULD BE USED IN LIEU OF ASPHALT OR OTHER SUCH IMPERVIOUS SURFACES.
10. TREE WELLS OF AN APPROVED DESIGN SHALL BE CONSTRUCTED AROUND ALL TREES TO BE PRESERVED WHEN MORE THAN FOUR INCHES OF FILL IS TO BE DEPOSITED WITHIN THE DRIP LINE AREA OF THOSE TREES. COORDINATE WITH PROJECT ARBORIST.
11. THE SEQUENCE OF TREE MITIGATION AND PRESERVATION MEASURES IS IMPERATIVE TO THE HEALTH AND SURVIVABILITY OF THE SUBJECT TREES AND SHALL BE COORDINATED WITH THE OWNER SELECTED PROJECT ARBORIST. THE DESIRED SEQUENCE IS OUTLINED BELOW:
    a. TREE PROTECTION FENCING.
    b. ROOT PRUNING AND ROOT BARRIERS.
    c. CLEARING.
    d. TREE CANOPY PRUNING.
    e. FERTILIZATION.
    f. INSECTICIDE.
    g. IRRIGATION.

B. TREE PROTECTION FENCING

1. PRIOR TO THE ERECTION OF ANY TREE PROTECTION FENCING, ALL FOREIGN SURFACE MATERIAL, TRASH OR DEBRIS SHALL BE REMOVED FROM THE AREA TO BE ENCLOSED BY THE FENCING, AFTER ERECTION OF THE FENCING NO SUCH MATERIAL OR LITTER SHALL BE PERMITTED TO REMAIN WITHIN THE PROTECTED AREA.
2. TREE PROTECTION FENCING SHALL BE PLACED AROUND ALL PROTECTED TREES TO CREATE A PROTECTIVE ROOT ZONE AND SHALL REMAIN IN PLACE UNTIL SITE CLEARING, LAND ALTERATION, AND CONSTRUCTION ACTIVITIES ARE COMPLETE.
3. NATIVE GROUND COVER AND UNDERSTORY VEGETATION EXISTING WITHIN THE PROTECTED AREA SHALL REMAIN THROUGHOUT CONSTRUCTION. OTHER DESIGNATED VEGETATION AND INVASIVE PLANT SPECIES SHALL BE REMOVED ONLY BY MANUAL LABOR UTILIZING HAND TOOLS, OR BY OTHER METHODS APPROVED BY THE PROJECT ARBORIST.
4. TREE PROTECTION FENCING TYPES AND LOCATIONS SHALL BE ERECTED AS SHOWN ON THE TREE MITIGATION PLANS AND DETAILS, OR AS REQUESTED BY LOCAL AGENCY.
5. FINAL LOCATIONS SHALL BE COORDINATED WITH AND APPROVED BY THE PROJECT ARBORIST.
6. NO MATERIALS, EQUIPMENT, SPOIL, WASTE OR WASHOUT WATER MAY BE DEPOSITED, STORED, OR PARKED WITHIN 20 FEET OF THE TREE PROTECTION ZONE.
7. EROSION CONTROL DEVICES SUCH AS SILT FENCING, DEBRIS BASINS, AND WATER DIVERSION STRUCTURES SHALL BE INSTALLED TO PREVENT SILTATION AND/OR EROSION WITHIN THE TREE PROTECTION ZONE.
8. CONSTRUCTION ACTIVITY SHALL NOT DESTROY OR IRREVERSIBLY HARM THE ROOT SYSTEM OF PROTECTED TREES. POST HOLES AND TRENCHES LOCATED CLOSE TO PROTECTED TREES SHALL BE ADJUSTED TO AVOID DAMAGE TO MAJOR ROOTS.
9. DO NOT INSTALL CONDUIT, DRAIN OR IRRIGATION LINES, OR ANY UTILITY LINE WITHIN THE TREE PROTECTION ZONE WITHOUT THE APPROVAL OF THE PROJECT ARBORIST. IF LINES MUST TRAVERSE THE PROTECTION AREA, THEY SHALL BE TUNNELED OR BORED UNDER THE TREE.
10. CONTRACTOR'S ACCESS TO FENCED TREE PROTECTION AREAS WILL BE PERMITTED ONLY WITH APPROVAL OF THE PROJECT ARBORIST.
11. EXCAVATION OR GRADING REQUIRED WITHIN THE PROTECTED AREA SHALL BE LIMITED TO THREE (3) INCHES OF CUT OR FILL, COORDINATE WITH PROJECT ARBORIST.
12. STRUCTURES AND UNDERGROUND FEATURES TO BE REMOVED WITHIN THE TREE PROTECTION ZONE SHALL BE COORDINATED WITH THE PROJECT ARBORIST.
13. TREE PROTECTION FENCING AROUND TREES TO BE RELOCATED SHALL BE ERECTED UNTIL THE TREE IS READY TO BE RELOCATED AND NEW FENCING SHALL BE ERECTED AT THE TREES NEW LOCATION AND WILL REMAIN IN PLACE UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETE.
14. IF ANY DAMAGE TO TREE PROTECTION FENCING SHOULD OCCUR BY ACCIDENT OR NEGLIGENCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMMEDIATE REPAIRS.
15. IF TEMPORARY HAUL OR ACCESS ROADS MUST PASS OVER THE PROTECTED AREA OF TREES TO BE PRESERVED, A ROAD BED OF SIX (6) INCHES OF MULCH OR GRAVEL SHALL BE CREATED TO PROTECT THE SOIL. THE ROAD BED MATERIAL SHALL BE REPLENISHED AS NECESSARY TO MAINTAIN A SIX (6) INCH ROAD BED AT ALL TIMES. CONTRACTOR SHALL REMOVE ALL SUCH MATERIALS FROM THE SITE AS SOON AS TEMPORARY ACCESS IS NO LONGER NECESSARY.
16. CONTRACTOR SHALL COORDINATE WITH THE PROJECT ARBORIST PRIOR TO THE REMOVAL OF ALL TREE PROTECTION FENCING.

C. ROOT PRUNING/TRENCHING

1. TRENCHING LOCATIONS SHALL BE APPROVED IN THE FIELD BY THE PROJECT ARBORIST.
2. TRENCHING EQUIPMENT THAT WILL TURN AT HIGH RPM'S IS PREFERRED, AND SHALL BE APPROVED BY THE PROJECT ARBORIST. APPROVED EQUIPMENT WILL BE USED TO PERFORM ALL ROOT PRUNING OPERATIONS. A MINIMUM DEPTH OF THREE FEET IS REQUIRED.
3. INSTALL ROOT BARRIER WHERE DESIGNATED, SEE TREE MITIGATION PLAN AND DETAIL SHEETS.
4. THE TRENCH SHALL BE BACKFILLED WITH PREVIOUSLY EXCAVATED SOIL AND COMPACTED IMMEDIATELY.
5. TREES TO BE RELOCATED SHALL BE ROOT PRUNED A MINIMUM OF TWELVE (12) WEEKS PRIOR TO TREE RELOCATION.
6. WHEN THE TREE ROOT ZONE WILL BE DISTURBED, AFFECTED ROOTS MUST BE SEVERED BY CLEAN PRUNING CUTS AT THE POINT WHERE CONSTRUCTION IMPACTS THE ROOTS.

D. CLEARING

1. ANY BRUSH CLEARING REQUIRED WITHIN THE TREE PROTECTION ZONE SHALL BE ACCOMPLISHED WITH HAND-OPERATED EQUIPMENT.
2. CONTRACTOR SHALL CLEAR ALL TREE PROTECTION AREAS OF VINES, SHRUBS, GROUND COVERS, WEEDS, SAPLINGS, AND INVASIVES LISTED ON THE LATEST EDITION OF THE FLORIDA EXOTIC PEST PLANT COUNCIL'S LIST OF INVASIVE SPECIES.
3. PROJECT ARBORIST MUST APPROVE METHODS OTHER THAN HAND CLEARING.
4. A TWO (2) INCH LAYER OF MULCH SHALL BE APPLIED OVER THE SURFACE OF EXPOSED ROOTS OF PROTECTED TREES DURING THE SITE CLEARING PHASE.

E. TREE CANOPY PRUNING

1. TREE PRUNING SPECIFICATIONS SHALL BE DEFINED BASED ON SPECIFIC RECOMMENDATIONS OF THE PROJECT ARBORIST. INFORMATION PRESENTED BELOW SHOULD BE USED AS A GUIDELINE.
2. CONTRACTOR SHALL VISIT THE SITE WITH THE PROJECT ARBORIST TO VERIFY THE EXTENT OF REQUIRED PRUNING.
3. ALL PRUNING SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A QUALIFIED INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST OR AN AMERICAN SOCIETY OF CONSULTING ARBORISTS (ASCA) REGISTERED CONSULTING ARBORIST (RCA).
4. AT LEAST ONE MEMBER OF THE PRUNING CREW SHALL BE AN ISA CERTIFIED ARBORIST.
5. WHILE IN THE TREE, THE ARBORIST SHALL PERFORM AN AERIAL INSPECTION TO IDENTIFY DEFECTS THAT REQUIRE TREATMENT. ANY ADDITIONAL WORK NEEDED SHALL BE REPORTED TO THE OWNER.
6. PRUNING CUTS SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE ANSI A300 PRUNING STANDARD (AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS) AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI Z133.1 SAFETY STANDARD. PRUNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ISA'S "BEST MANAGEMENT PRACTICES: TREE PRUNING".
7. WHERE TEMPORARY CLEARANCE IS NEEDED FOR ACCESS, BRANCHES SHALL BE TIED BACK TO HOLD THEM OUT OF THE CLEARANCE ZONE.
8. NO MORE THAN 20 PERCENT OF LIVE FOLIAGE SHALL BE REMOVED WITHIN ANY TREE.
9. ALL TREES WITHIN THE PROJECT AREA SHALL BE PRUNED AS FOLLOWS:
    a. LIVE BRANCH PRUNING SHOULD BE PERFORMED ONLY WHEN THE DANGER OF INSECT OR DISEASE INFESTATION IS NOT PRESENT.
    b. REMOVE STUBS, CUTTING OUTSIDE THE WOUND WOOD TISSUE THAT HAS FORMED AROUND THE BRANCH.
    c. CLEANING, FOR THE SELECTIVE REMOVAL OF DEAD, DISEASED, BROKEN, OR CROSSING BRANCHES DOWN TO ONE INCH IN DIAMETER OR AS DIRECTED BY THE PROJECT ARBORIST.
    d. PRUNING CUTS LARGER THAN 4 INCHES IN DIAMETER, EXCEPT FOR DEAD WOOD, SHALL BE AVOIDED.
    e. PRUNING CUTS THAT EXPOSE HEARTWOOD SHALL BE AVOIDED WHENEVER POSSIBLE.
    f. ALL TREES WITH CROWNS THAT PROJECT INTO PARKING LOT/ROADWAY AREAS SHALL BE RAISED TO 14 FEET ABOVE FINISHED GRADE.
    g. ALL TREES WITH CROWNS THAT PROJECT INTO SIDEWALK AREAS SHALL BE RAISED TO A HEIGHT OF 8 FEET ABOVE FINISHED GRADE.
9. TREES, WHO'S ROOT SYSTEMS WILL BE IMPACTED SHALL RECEIVE THE FOLLOWING PRUNING TO COMPENSATE FOR ROOT LOSS:
    a. THE LOCATION AND SIZE OF BRANCHES FOR REDUCTION SHALL BE DEFINED BY THE PROJECT ARBORIST.
    b. REDUCTION, OR THE SELECTIVE PRUNING TO REDUCE TREE HEIGHT OR SPREAD,
    c. REDUCE END WEIGHT ON HEAVY, HORIZONTAL BRANCHES BY SELECTIVELY REMOVING SMALL DIAMETER BRANCHES, NO GREATER THAN 2 TO 3 INCHES, NEAR THE ENDS OF SCAFFOLD BRANCHES.
    d. RAISING SHALL CONSIST OF SELECTIVE PRUNING TO PROVIDE VERTICAL CLEARANCE.
10. PROPOSED/REPLACEMENT TREES
    a. PRUNING SHALL BE LIMITED TO CLEANING.
11. BRUSH SHALL BE CHIPPED AND SPREAD (ONLY WHEN DISEASE OR INSECT INFESTATION IS NOT PRESENT) UNDERNEATH TREES WITHIN THE TREE PROTECTION ZONE TO A MAXIMUM DEPTH OF THREE (3) INCHES, LEAVING THE TRUNK CLEAR OF MULCH.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EXCESS DEBRIS ON A DAILY BASIS.

F. FERTILIZATION

1. CONTRACTOR SHALL COORDINATE FERTILIZATION PLAN, FOLLOWING BEST MANAGEMENT PRACTICES WITH THE PROJECT ARBORIST PRIOR TO COMMENCEMENT OF WORK.
2. EVERY EFFORT SHALL BE MADE TO UTILIZE CHEMICALS OF AN ORGANIC OR BIODEGRADABLE NATURE IN ORDER TO OFFER THE LEAST IMPACT TO THE NATURAL ENVIRONMENT. CONTRACTOR IS RESPONSIBLE FOR MIXING, APPLYING, AND DISPOSAL OF ALL CHEMICALS IN ACCORDANCE WITH STRICT ADHERENCE TO MANUFACTURER'S SPECIFICATIONS. COORDINATE WITH PROJECT ARBORIST FOR FURTHER INSTRUCTION.
3. ONLY TREES AFFECTED BY CONSTRUCTION OR AS SHOWN ON THE TREE MITIGATION PLAN AND TREE INVENTORY SCHEDULE SHALL BE TREATED.
4. TREES SPECIFIED TO RECEIVE FERTILIZER SHALL BE TREATED AS FOLLOWS.
    a. MIX FERTILIZER ACCORDING TO MANUFACTURER'S SPECIFICATIONS INTO A TANK WITH AGITATION CAPABILITY.
    b. MIX WETTING AGENT ACCORDING TO MANUFACTURER'S SPECIFICATIONS INTO SAME TANK WITH FERTILIZER. AGITATE MIX.
    c. INJECT THE MIXTURE WITH A HYDRAULIC INJECTION SYSTEM INTO THE UPPER 6-12 INCHES OF SOIL WITH A SOIL PROBE. INJECT AT THE RATE OF ONE THIRD (1/3) GALLON AT EACH INJECTION SITE.
    d. THE CRITICAL ROOT ZONE AREA PLUS 2' BEYOND THE CRITICAL ROOT ZONE SHALL BE INJECTED, BUT NOT BEYOND ROOT PRUNING LOCATIONS.
    e. FERTILIZER SHALL BE INSTALLED PRIOR TO THE INSTALLATION OF ANY AERATION SYSTEMS.
    f. EMPTY PRODUCT CONTAINERS SHALL BE STOCKPILED FOR INSPECTION BY THE PROJECT ARBORIST PRIOR TO DISPOSAL.

G. INSECTICIDE

7. NOTIFY PROJECT ARBORIST IF ANY INFESTATION IS NOTICED.
8. FOLLOW PROJECT ARBORIST'S RECOMMENDED PROCEDURES.
9. FOLLOW ALL MANUFACTURERS' RECOMMENDATIONS CONCERNING APPLICATION. READ ALL WARNING LABELS.
10. ANY PETS, AS WELL AS, THE PETS FOOD AND WATER BOWLS SHOULD BE REMOVED FROM THE AREA AND ANY SWIMMING POOLS SHOULD BE COVERED, COORDINATE WITH PROJECT ARBORIST FOR FURTHER INSTRUCTION.
11. ENSURE COMPLETE COVERAGE AND REAPPLY 2-3 MONTHS AFTER INITIAL APPLICATION UTILIZING SAME PROCEDURE.

H. IRRIGATION

1. EVERY EFFORT SHALL BE MADE TO WATER THE PRESERVED TREES AND TRANSPLANTS. CONTRACTOR SHALL IRRIGATE BY HAND OR BY TEMPORARY IRRIGATION.
2. IRRIGATE AS REQUIRED BY PROJECT ARBORIST UNTIL PERMANENT IRRIGATION IS INSTALLED AND OPERATING.
3. UNDERGROUND IRRIGATION SHALL NOT BE INSTALLED WITHIN THE DRIP LINES OF EXISTING TREES UNLESS ROOT PROTECTION MEASURES ARE PROVIDED AND APPROVED BY PROJECT ARBORIST.

I. TREE REMOVALS

1. PRIOR TO AND DURING LAND CLEARING, INCLUDING GRUBBING, ALL TREES TO BE REMOVED SHALL BE CLEARLY MARKED BY PROJECT ARBORIST WITH RED SURVEY RIBBONS AT 36 INCHES MINIMUM ABOVE GRADE.
2. CONTRACTOR SHALL REMOVE ALL TREES AS SHOWN ON THE TREE MITIGATION PLANS AFTER THE TREE PROTECTION FENCING IS INSTALLED.
3. ALL TREES SHOWN TO BE REMOVED SHALL BE FELLED WITH A CHAIN SAW AND STUMP GROUND 6" BELOW SURFACE. ANY TREE SHOWN TO BE REMOVED THAT IS IN AN AREA WHERE COMPACTION IS CRITICAL SHALL BE FELLED WITH A CHAIN SAW AND STUMP REMOVED BY CONTRACTOR.
4. ALL WOOD AND STUMPS FROM REMOVALS SHALL BE HAULED FROM THE SITE THE SAME DAY, EXCEPT FOR TOPS. ALL TOPS ARE TO BE MULCHED AND STOCKPILED OR HAULED DIRECTLY TO MULCHED AREAS FOR RELOCATED TREES IF SCHEDULING PERMITS. TOPS SHALL BE CHIPPED AND PLACED IN THE TREE PROTECTION ZONE TO A DEPTH OF THREE (3) INCHES. ALL EXCESS WOOD CHIPS SHOULD BE HAULED OFF SITE AFTER TRANSPLANTING IS COMPLETE.
5. ALL BURN PITS IF APPLICABLE MUST BE APPROVED BY THE PROJECT ARBORIST AND OWNER.
6. TREES TO BE REMOVED THAT HAVE BRANCHES EXTENDING INTO THE CANOPY OF TREES TO REMAIN MUST BE REMOVED BY A QUALIFIED ISA CERTIFIED ARBORIST AND NOT BY DEMOLITION OR CONSTRUCTION CONTRACTORS. THE QUALIFIED ARBORIST SHALL REMOVE THE TREE IN A MANNER THAT CAUSES NO DAMAGE TO THE TREES AND UNDERSTORY VEGETATION TO REMAIN.
7. TREES TO BE REMOVED LOCATED WITHIN THE TREE PROTECTION ZONE SHALL BE REMOVED BY A QUALIFIED ISA CERTIFIED ARBORIST. THE TREES SHALL BE CUT NEAR GROUND LEVEL AND THE STUMP GROUND OUT.

L. TOPSOIL

10. CONTRACTOR SHALL COORDINATE ALL EARTHWORK OPERATIONS WITHIN TREE PROTECTION AREAS WITH THE PROJECT ARBORIST PRIOR TO BEGINNING WORK.
11. ALL TOPSOIL SHALL BE NATURAL, FRIABLE, FERTILE, FINE LOAMY SOIL POSSESSING CHARACTERISTICS OF REPRESENTATIVE TOPSOIL IN THE VICINITY THAT PRODUCES HEAVY GROWTH.
12. TOPSOIL, PH RANGE OF 5.5 TO 7.0, 3-5 PERCENT ORGANIC MATERIAL MINIMUM, FREE FROM SUBSOIL, OBJECTIONABLE WEEDS, LITTER, SODS, STIFF CLAY, STONES LARGER THAN ONE (1) INCH IN DIAMETER, STUMPS, ROOTS, TRASH, TOXIC SUBSTANCES, OR ANY OTHER MATERIAL WHICH MAY BE HARMFUL TO PLANT GROWTH.
13. VERIFY AMOUNT STOCKPILED IF ANY, AND SUPPLY ADDITIONAL AS NEEDED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST FOUR (4) INCHES DEEP. DO NOT OBTAIN TOPSOIL FROM BOGS OR MARSHES.
14. PROJECT ARBORIST SHALL APPROVE ALL TOPSOIL PRIOR TO PLACEMENT.

M. REPAIR OF DAMAGED TREES

1. IF DAMAGE TO ANY TREE SHOULD OCCUR BY ACCIDENT OR NEGLIGENCE DURING THE CONSTRUCTION PERIOD, THE PROJECT ARBORIST SHALL APPRAISE THE DAMAGE AND MAKE RECOMMENDATIONS TO THE OWNER FOR REPAIR BY THE CONTRACTOR.
2. IF ANY TREE DESIGNATED TO BE SAVED IS REMOVED FROM THE SITE WITHOUT PERMISSION OF THE OWNER'S REPRESENTATIVE, THE PROJECT ARBORIST SHALL APPRAISE THE TREE AND MAKE RECOMMENDATIONS TO THE OWNER FOR REPLACEMENT BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF THE TREE AND ANY FEES THAT MAY BE ASSESSED TO THE OWNER BY THE GOVERNING AGENCY.

1 / L0.53 TYPICAL TREE MITIGATION NOTES

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects **AA-0003434**
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates consulting engineers
3500 Maple Rd, Suite 104 - #5083
Rochester NY 14713

CODE CONSULTANTS, INC.
2960 ROOSELAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA: 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

LA6667292 STATE OF FLORIDA

07/10/2023

SHEET

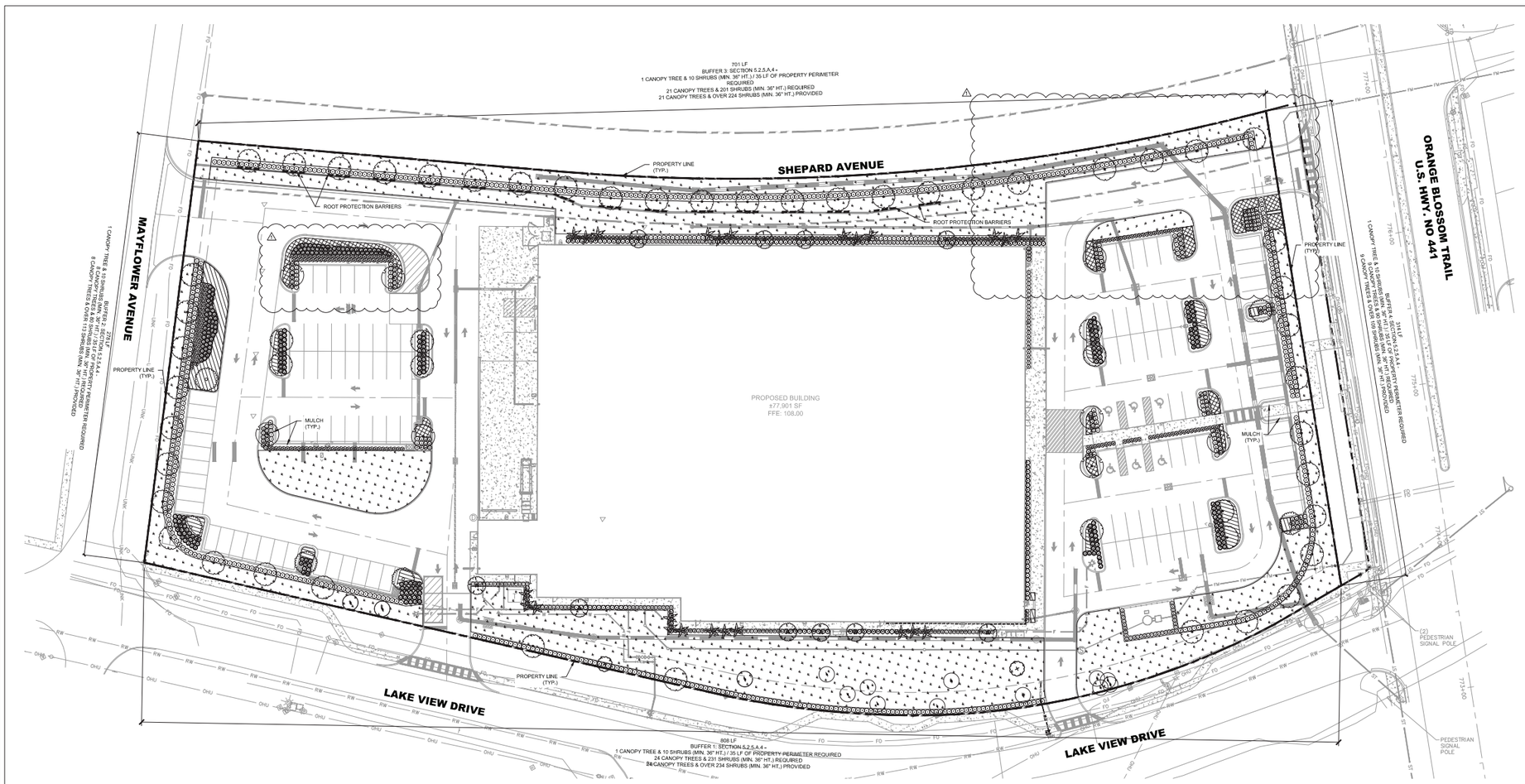
TREE MITIGATION SPECIFICATIONS

DRAWN: JTD
CHECKED: MTF

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

L0.53

Plotted By:Dumbauld, Jimmy Sheet Set:FLOOR AND DECOR APOPKA Layout:L0.53 July 07, 2023 09:08:52am K:\ORL_Civil\24925700\Floor & Decor Apopka\CADD\CONST\PlanSheets\L0.50_TREE MITIGATION PLAN.dwg



CODE MINIMUM LANDSCAPE CALCULATIONS

PER "CITY OF APOPKA" LAND DEVELOPMENT CODE

	REQUIRED	PROVIDED
BUILDING FOUNDATION LANDSCAPE *SECTION 5.2.5.A.1* *BUILDING FACADE FACING R.O.W. (AND)* *SECTION 5.2.5.B.2.A.1.B* *BUILDING FACADE ADJACENT TO PARKING, FOUNDATION LANDSCAPING BETWEEN PARKING AND BUILDING SHALL BE PROVIDED.*	**BUILDING - FACADE A (356 LF, FACING R.O.W, LAKE VIEW DR.)** 4' WIDTH LANDSCAPE AREA, SHRUBS A MINIMUM OF 24 INCHES IN HEIGHT, 30 INCHES ON-CENTER, 18 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF) **BUILDING - FACADE B (245 LF, ADJACENT TO PARKING)** FOUNDATION LANDSCAPING REQ. **BUILDING - FACADE C (318 LF, ADJACENT TO R.O.W, SHEPARD AVE.)** 4' WIDTH LANDSCAPE AREA, SHRUBS A MINIMUM OF 24 INCHES IN HEIGHT, 30 INCHES ON-CENTER, 16 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF) **BUILDING - FACADE D (215 LF, ADJACENT TO PARKING)** FOUNDATION LANDSCAPING REQ.	**BUILDING - FACADE A (356 LF, FACING R.O.W, LAKE VIEW DR.)** 4' WIDTH LANDSCAPE AREA, SHRUBS A MINIMUM OF 24 INCHES IN HEIGHT, 30 INCHES ON-CENTER, 18 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF) **BUILDING - FACADE B (245 LF, ADJACENT TO PARKING)** FOUNDATION LANDSCAPING REQ. **BUILDING - FACADE C (318 LF, ADJACENT TO R.O.W, SHEPARD AVE.)** 4' WIDTH LANDSCAPE AREA, SHRUBS A MINIMUM OF 24 INCHES IN HEIGHT, 30 INCHES ON-CENTER, 16 UNDERSTORY TREES REQ. (1 UNDERSTORY TREE / 20 LF) **BUILDING - FACADE D (215 LF, ADJACENT TO PARKING)** FOUNDATION LANDSCAPING REQ.
INTERIOR VUA LANDSCAPE *SECTION 5.2.5.B.2*	10% OF VUA AREA TO BE LANDSCAPED (76,955 SF) 1 TREE PER 10 PARKING SPACES (119 PARKING SPACES) 30% OF VUA COVERED BY MATURE TREE CANOPY 76,955 SF VUA X 0,1 = 7,696 SF LANDSCAPE REQUIRED 119 SPACES / 10 = 12 SHADE TREES REQUIRED 76,955 SF VUA X ,3 = 23,086 SF OF MATURE TREE CANOPY COVERAGE	12,718 SF LANDSCAPE AREA PROVIDED 28 SHADE TREES PROVIDED 76,627 SF OF MATURE VUA CANOPY PROVIDED 10 RED MAPLES - 1256 SF MATURE CANOPY SIZE 7 SHUMARD RED OAKS - 1256 SF MATURE CANOPY SIZE 11 LIVE OAKS - 5025 SF MATURE CANOPY SIZE
PERIMETER LANDSCAPING *SECTION 5,2,5,A,4* *SECTION 5.2.5.B.3* *SECTION 5.2.5.B.b.2*	**BUFFER 1 - 808 LF (LAKE VIEW DR.)** 24 CANOPY TREES, & 231 SHRUBS (MIN. 36" HT.) REQ. **BUFFER 2 - 278 LF (MAYFLOWER AVE.)** 8 CANOPY TREES, & 80 SHRUBS (MIN. 36" HT.) REQ. **BUFFER 3 - 701 LF (SHEPARD AVE.)** 21 CANOPY TREES, & 201 SHRUBS (MIN. 36" HT.) REQ. **BUFFER 4 - 314 LF (ORANGE BLOSSOM TRAIL)** 9 CANOPY TREES & 90 SHRUBS (MIN. 36" HT.) REQ.	**BUFFER 1 - 808 LF (LAKE VIEW DR.)** 8 CANOPY TREES, 16 EXISTING TREES, & 234 SHRUBS PROVIDED (MIN. 36" HT.) PROVIDED **BUFFER 2 - 278 LF (MAYFLOWER AVE.)** 8 CANOPY TREES, & 113 SHRUBS (MIN. 36" HT.) REQ. **BUFFER 3 - 701 LF (SHEPARD AVE.)** 21 CANOPY TREES, & 224 SHRUBS (MIN. 36" HT.) REQ. **BUFFER 4 - 314 LF (ORANGE BLOSSOM TRAIL)** 9 CANOPY TREES & 107 SHRUBS (MIN. 36" HT.) REQ.
NOTE: PER CITY OF APOPKA REQUIRED, ALL LANDSCAPE PLANTING MATERIALS SHALL BE FLORIDA NO. ONE GRADE OR BETTER.		

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE
	AF	10	ACER RUBRUM 'FLORIDA FLAME' STRAIGHT, SINGLE LEADER, FULL, FL #1	FLORIDA FLAME RED MAPLE	FG	3" CAL MIN	14' HT., 6' SPR.
	QS	7	QUERCUS SHUMARDII STRAIGHT, SINGLE LEADER, FULL, FL #1	SHUMARD OAK	FG	3" CAL MIN	14' HT., 6' SPR.
	QV	57	QUERCUS VIRGINIANA STRAIGHT, SINGLE LEADER, FULL, FL #1	SOUTHERN LIVE OAK	FG	3" CAL MIN	14' HT., 6' SPR.
UNDERSTORY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE
	LIT8	10	LAGERSTROEMIA INDICA X FAURIEI 'TUSCARORA' MULTI-TRUNK, 5 TRUNKS, FULL, FLORIDA #1	TUSCARORA CRAPE MYRTLE MULTI-TRUNK	FG	5" CAL, TOT,	8' HT MIN
PALM	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE
	SP	24	SABAL PALMETTO STRAIGHT, SLICK, HURRICANE CUT, FL #1	SABAL PALM	FG	-	12' - 18' CT
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING	SIZE
	DC	117	DURANTA ERECTA 'CUBAN GOLD' FULL	CUBAN GOLD DURANTA	3 GAL	36" OC	14" FULL
	LP	191	LOROPETALUM CHINENSE RUBRUM 'PLUM DELIGHT' TM FULL	PURPLE LEAF FRINGE FLOWER	3 GAL	30" OC	24" HT MIN
	PM	194	PODOCARPUS MACROPHYLLUS FULL TO BASE, CLSOELEY MATCHING	PODOCARPUS	7 GAL	30" OC	36" HT MIN
	RA	154	RHAPHIOLEPIS INDICA 'ALBA' FULL	WHITE INDIAN HAWTHORN	3 GAL	36" OC	24" HT MIN
	ST	99	SCHEFFLERA ARBORICOLA 'TRINETTE' FULL	SCHEFFLERA	3 GAL	36" OC	24" FULL
	VO	690	VIBURNUM ODORATISSIMUM FULL	SWEET VIBURNUM	7 GAL	36" OC	36" HT MIN
	ZF	91	ZAMIA FLORIDANA FULL	COONTIE PALM	3 GAL	30" OC	18" FULL
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING	SIZE
	MC	185	MUHLENBERGIA CAPILLARIS FULL	PINK MUHLY	3 GAL	36" OC	12" FULL
	PE	84	PASPALUM QUADRIFARIUM FULL	EVERGREEN PASPALUM	3 GAL	36" OC	24" FULL
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACING
	EB	355	EVOLVULUS GLOMERATUS 'BLUE DAZE' FULL	BLUE DAZE	3 GAL	12" SPRD MIN	24" OC
	TM2	910	TRACHELOSPERMUM ASIATICUM 'MINIMA' FULL	MINIMA JASMINE	3 GAL	12" FULL	18" OC
SOD	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACING
	PA	48,529 SF	PASPALUM NOTATUM 'ARGENTINE' ROLLED TIGHT, 100% WEED/INSECT/DISEASE/DEBRIS FREE	ARGENTINE BAHIA GRASS	SOD	-	-

ROOT PROTECTION BARRIER 225 LF

MISC.	QTY	BOTANICAL/COMMON NAME	SPECIFICATIONS
MULCH	TBD	CYPRESS MULCH 'DESIGNER BROWN'	3" DEPTH MINIMUM, SHREDDED, FREE OF WEEDS/INVASIVE PLANT MATERIAL

LANDSCAPE AND IRRIGATION PLANS ARE TO BE DESIGNED IN ACCORDANCE WITH CITY ORDINANCE 2069

LANDSCAPE NOTES:

1. ALL LANDSCAPE MATERIAL TO BE FLORIDA GRADE #1 OR BETTER QUALITY
2. ALL LANDSCAPED AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL.
3. ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE.
4. ALL MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION.
5. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
6. ALL PLANTING AREAS SHALL BE COMPLETELY MULCHED AS SPECIFIED.
7. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR 1) TO VERIFY THE LOCATIONS OF UTILITY LINES ADJACENT TO THE WORK AREA 2) TO PROTECT ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD 3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC., WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY SCHEDULE AND PROTECTION BETWEEN DELIVERY AND PLANTING TO MAINTAIN HEALTHY PLANT CONDITIONS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY MAINTAINING (INCLUDING BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, FERTILIZING, ETC.) ALL OF THE PLANT MATERIALS AND LAWN FOR THE WARRANTY PERIOD.
11. ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, DEAD, OR REJECTED (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.
12. THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR WARRANTY PERIOD. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS DURING THE NORMAL PLANTING SEASON.
13. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
14. ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES, AND SHALL BE FLORIDA NO. 1 OR BETTER AS GIVEN IN "GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II." STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE.
15. ALL INVASIVE / EXOTIC SPECIES AND PROHIBITED TREE SPECIES SHALL BE REMOVED FROM SITE, INCLUDING ROOT BALLS TO THE EXTENT POSSIBLE WITH NO DAMAGE TO ADJACENT EXISTING TREES.
16. ALL LANDSCAPE AREAS WILL BE PROVIDED WITH PERMANENT AUTOMATIC IRRIGATION SYSTEM.
17. TREE SUPPORT MATERIALS ARE TO BE REMOVED FROM EACH TREE ONCE IT IS "ESTABLISHED" (AS APPROVED BY THE LANDSCAPE ARCHITECT).
18. ALL PLANT SPECIFICATIONS IN THE PLANT SCHEDULE SHALL BE CONSIDERED THE MINIMUM ALLOWABLE SPECIFICATIONS, CONTRACTOR SHALL PROCURE PLANT MATERIALS AND UPSIZE AS NECESSARY TO MEET THE MOST STRINGENT SPECIFICATION.

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects **AA-0003434**
33 Walt Whitman Road, Suite 310A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dlbassociates consulting engineers
3600 Rowan Rd, Suite 1700 - #1000
Raytown MO 64133

CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0533

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR

APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

100% SET	04/25/2023
1 CITY COMMENTS	06/05/2023
2 CITY COMMENTS	07/10/2023

SEAL

LANDSCAPE ARCHITECTURE LAR667293 STATE OF FLORIDA

07/10/2023

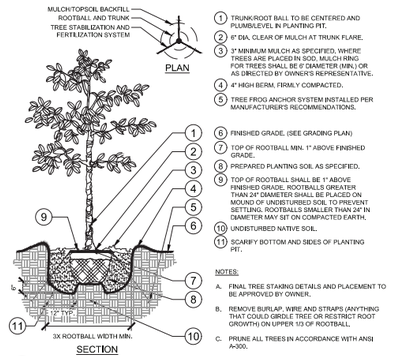
SHEET

LANDSCAPE PLAN

DRAWN: JTD
CHECKED: MTF

L1.00

Plotted By:Dumbauld, Jimmy Sheet Set:FLOOR AND DECOR APOPKA Layout:L1.00 July 07, 2023 08:09:41am K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\L1.00 LANDSCAPE PLAN.dwg



1. TRUNK/ROOT BALL TO BE CENTERED AND PLUMB/LEVEL IN PLANTING PIT.
2. 6" DIA. CLEAR OF MULCH AT TRUNK FLARE.
3. 3" MINIMUM MULCH AS SPECIFIED, WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES SHALL BE 6' DIAMETER (MIN.) OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
4. 4" HIGH BERM, FIRMLY COMPACTED.
5. TREE FROG ANCHOR SYSTEM INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
6. FINISHED GRADE, (SEE GRADING PLAN)
7. TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE.
8. PREPARED PLANTING SOIL AS SPECIFIED.
9. TOP OF ROOTBALL SHALL BE 1" ABOVE FINISHED GRADE. ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING. ROOTBALLS SMALLER THAN 24" IN DIAMETER MAY SIT ON COMPACTED EARTH.
10. UNDISTURBED NATIVE SOIL.
11. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.

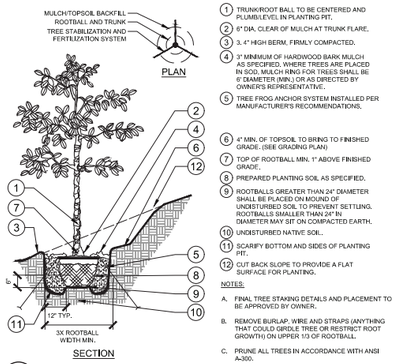
NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. PRUNE ALL TREES IN ACCORDANCE WITH ANSI A-300.

1 L1.50 TREE PLANTING
SECTION / PLAN — NTS



1. TRUNK/ROOT BALL TO BE CENTERED AND PLUMB/LEVEL IN PLANTING PIT.
2. 6" DIA. CLEAR OF MULCH AT TRUNK FLARE.
3. 3:1 HIGH BERM, FIRMLY COMPACTED.
4. 3" MINIMUM OF HARDWOOD BARK MULCH AS SPECIFIED, WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES SHALL BE 6' DIAMETER (MIN.) OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
5. TREE FROG ANCHOR SYSTEM INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
6. 4" MIN. OF TOPSOIL TO BRING TO FINISHED GRADE. (SEE GRADING PLAN)
7. TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE.
8. PREPARED PLANTING SOIL AS SPECIFIED.
9. ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING. ROOTBALLS SMALLER THAN 24" IN DIAMETER MAY SIT ON COMPACTED EARTH.
10. UNDISTURBED NATIVE SOIL.
11. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.
12. CUT BACK SLOPE TO PROVIDE A FLAT SURFACE FOR PLANTING.

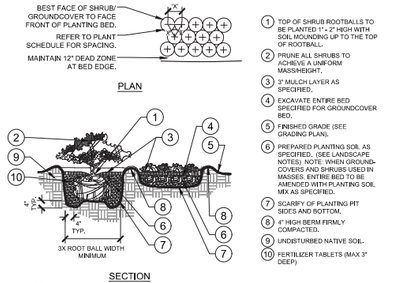
NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. PRUNE ALL TREES IN ACCORDANCE WITH ANSI A-300.

2 L1.50 TREE PLANTING ON A SLOPE
SECTION / PLAN — NTS



1. TOP OF SHRUB ROOTBALLS TO BE PLANTED 1" - 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOTBALL.
2. PRUNE ALL SHRUBS TO ACHIEVE A UNIFORM MASS/HEIGHT.
3. 3" MULCH LAYER AS SPECIFIED.
4. EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
5. FINISHED GRADE (SEE GRADING PLAN).
6. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES). NOTE: WHEN GROUNDCOVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
7. SCARIFY OF PLANTING PIT SIDES AND BOTTOM.
8. 4" HIGH BERM FIRMLY COMPACTED.
9. UNDISTURBED NATIVE SOIL.
10. FERTILIZER TABLETS (MAX 3" DEEP)

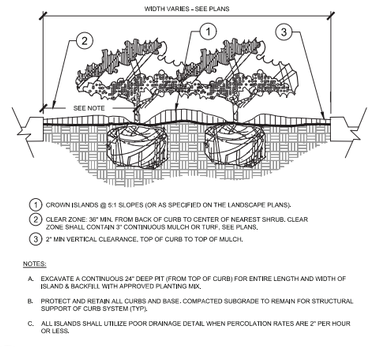
NOTES:

A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

B. WHEN SHRUBS ARE PRUNED IN MASSES, PRUNE ALL SHRUBS TO ACHIEVE UNIFORM MASS / HEIGHT.

C. ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNERS REPRESENTATIVE.

3 L1.50 SHRUB/GROUNDCOVER PLANTING
SECTION / PLAN — NTS



1. CROWN ISLANDS @ 5:1 SLOPES (OR AS SPECIFIED ON THE LANDSCAPE PLANS).
2. CLEAR ZONE: 36" MIN. FROM BACK OF CURB TO CENTER OF NEAREST SHRUB. CLEAR ZONE SHALL CONTAIN 3" CONTINUOUS MULCH OR TURF. SEE PLANS.
3. 2" MIN VERTICAL CLEARANCE, TOP OF CURB TO TOP OF MULCH.

NOTES:

A. EXCAVATE A CONTINUOUS 24" DEEP PIT (FROM TOP OF CURB) FOR ENTIRE LENGTH AND WIDTH OF ISLAND & BACKFILL WITH APPROVED PLANTING MIX.

B. PROTECT AND RETAIN ALL CURBS AND BASE. COMPACTED SUBGRADE TO REMAIN FOR STRUCTURAL SUPPORT OF CURB SYSTEM (TYP.).

C. ALL ISLANDS SHALL UTILIZE POOR DRAINAGE DETAIL WHEN PERCOLATION RATES ARE 2" PER HOUR OR LESS.

4 L1.50 PLANTED PARKING LOT ISLANDS/MEDIANS
SECTION — NTS

1. TOP OF SHRUB ROOTBALLS TO BE PLANTED 1" - 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOTBALL.
2. PRUNE SHRUBS AS DIRECTED BY OWNER'S REPRESENTATIVE.
3. 3" MINIMUM OF MULCH AS SPECIFIED, WHERE SHRUBS ARE PLACED IN MASSES, MULCH SHALL BE SPREAD IN A CONTINUOUS BED.
4. SOIL BERM TO HOLD WATER, TOP OF PLANTING PIT 'BERM' TO BE LEVEL ACROSS PIT, SLOPE DOWN/ALL PORTION OF BERM AS REQUIRED TO MEET EXISTING GRADE. MULCH OVER EXPOSED TOPSOIL.
5. FINISHED GRADE (SEE GRADING PLAN)
6. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES).
7. SCARIFY SIDES AND BOTTOM OF PLANTING PIT.
8. FERTILIZER TABLETS (MAX 3" DEEP).
9. UNDISTURBED NATIVE SOIL

NOTES:

A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

B. WHEN SHRUBS ARE PRUNED IN MASSES, PRUNE ALL SHRUBS TO ACHIEVE UNIFORM MASS / HEIGHT.

C. ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNERS REPRESENTATIVE.

5 L1.50 SHRUB/GROUNDCOVER PLANTING ON A SLOPE
SECTION — NTS

1. CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.
2. INSTALL SPECIFIED MULCH: 24" MIN. FROM BUILDING. SPECIFIED MULCH TO BE INSTALLED AT A DEPTH OF 3" (MIN.)

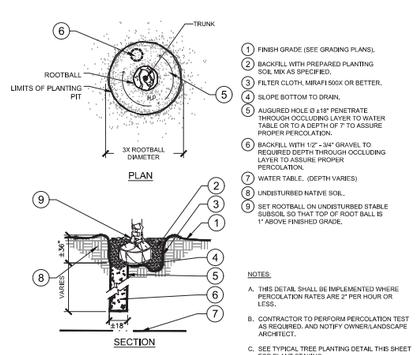
6 L1.50 PLANTINGS ADJACENT TO BUILDINGS
SECTION — NTS

1. INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP. NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE.
2. CURB / PARKING LOT EDGE.

7 L1.50 PARKING SPACE/CURB PLANTING
SECTION — NTS

1. FIRE HYDRANT.
2. NO PLANT EXCEEDING 12" MATURE HEIGHT MATERIAL SHALL BE PLACED WITHIN SHOWN RADIUS OF ALL PROPOSED OR EXISTING FIRE HYDRANTS. CONTRACTOR SHALL ADJUST PLANT MATERIAL SO THAT NO CONFLICTS WITH FIRE HYDRANTS OCCUR ON SITE.
3. FRONT OF HYDRANT (TOWARD CURB)

8 L1.50 SHRUB PLANTING AT FIRE HYDRANT
SECTION / PLAN — NTS



1. FINISH GRADE (SEE GRADING PLANS).
2. BACKFILL WITH PREPARED PLANTING SOIL MIX AS SPECIFIED.
3. FILTER CLOTH, MIRAFI 500X OR BETTER.
4. SLOPE BOTTOM TO DRAIN.
5. AUGURED HOLE Ø ≥ 18" PENETRATE THROUGH OCCLUDING LAYER TO WATER TABLE OR TO A DEPTH OF 7' TO ASSURE PROPER PERCOLATION.
6. BACKFILL WITH 1/2" - 3/4" GRAVEL TO REQUIRED DEPTH THROUGH OCCLUDING LAYER TO ASSURE PROPER PERCOLATION.
7. WATER TABLE. (DEPTH VARIES)
8. UNDISTURBED NATIVE SOIL.
9. SET ROOTBALL ON UNDISTURBED STABLE SUBSOIL SO THAT TOP OF ROOT BALL IS 1" ABOVE FINISHED GRADE.

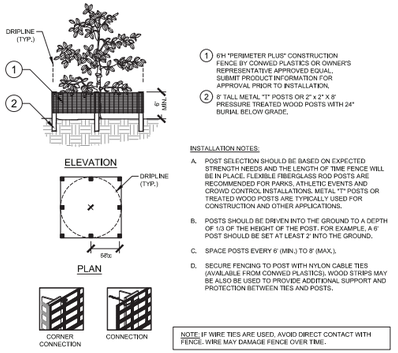
NOTES:

A. THIS DETAIL SHALL BE IMPLEMENTED WHERE PERCOLATION RATES ARE 2" PER HOUR OR LESS.

B. CONTRACTOR TO PERFORM PERCOLATION TEST AS REQUIRED. AND NOTIFY OWNER/LANDSCAPE ARCHITECT.

C. SEE TYPICAL TREE PLANTING DETAIL THIS SHEET FOR PLANT STAKING.

9 L1.50 POOR DRAINAGE CONDITION
SECTION / PLAN — NTS



1. 6H "PERIMETER PLUS" CONSTRUCTION FENCE BY CONWED PLASTICS OR OWNER'S REPRESENTATIVE APPROVED EQUAL. SUBMIT PRODUCT INFORMATION FOR APPROVAL PRIOR TO INSTALLATION.
2. 8' TALL METAL "T" POSTS OR 2" x 2" X 8' PRESSURE TREATED WOOD POSTS WITH 24" BURIAL BELOW GRADE.

INSTALLATION NOTES:

A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.

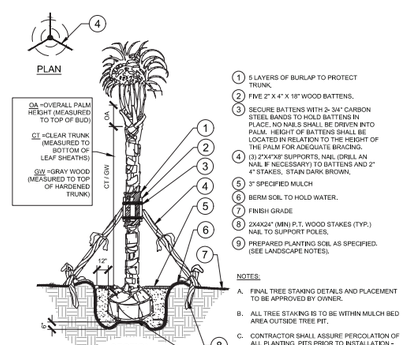
B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/3 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 6' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.

C. SPACE POSTS EVERY 8' (MIN.) TO 8' (MAX.).

D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

NOTE: IF WIRE TIES ARE USED, AVOID DIRECT CONTACT WITH FENCE. WIRE MAY DAMAGE FENCE OVER TIME.

10 L1.50 TREE PROTECTION FENCING
ELEVATION / PLAN — NTS



1. 5 LAYERS OF BURLAP TO PROTECT TRUNK.
2. FIVE 2" X 4" X 18" WOOD BATTENS.
3. SECURE BATTENS WITH 3- 3/4" CARBON STEEL BANDS TO HOLD BATTENS IN PLACE. NO NAILS SHALL BE DRIVEN INTO PALM. HEIGHT OF BATTENS SHALL BE LOCATED IN RELATION TO THE HEIGHT OF THE PALM FOR ADEQUATE BRACING.
4. (3) 2"X4"X8' SUPPORTS, NAIL (DRILL AN NAIL IF NECESSARY) TO BATTENS AND 2" 4" STAKES. STAIN DARK BROWN.
5. 3" SPECIFIED MULCH
6. BERM SOIL TO HOLD WATER.
7. FINISH GRADE
8. 2X4X24" (MIN) P.T. WOOD STAKES (TYP.) NAIL TO SUPPORT POLES.
9. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES).

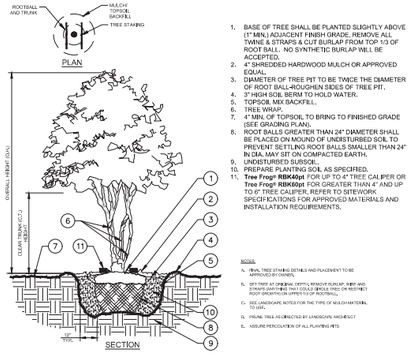
NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. ALL TREE STAKING IS TO BE WITHIN MULCH BED AREA OUTSIDE TREE PIT.

C. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION - REFER TO POOR DRAINAGE CONDITION DETAIL..

11 L1.50 PALM PLANTING
SECTION / PLAN — NTS



1. BASE OF TREE SHALL BE PLANTED SLIGHTLY ABOVE (1" MIN.) ADJACENT FINISH GRADE. REMOVE ALL TWINE & STRAPS & CUT BURLAP FROM TOP 1/3 OF ROOT BALL - NO SYNTHETIC BURLAP WILL BE ACCEPTED.
2. 4" SHREDDED HARDWOOD MULCH OR APPROVED EQUAL.
3. DIAMETER OF TREE PIT TO BE TWICE THE DIAMETER OF ROOT BALL-ROUGHEN SIDES OF TREE PIT.
4. 3" HIGH SOIL BERM TO HOLD WATER.
5. TOPSOIL MIX BACKFILL.
6. TREE WRAP.
7. 4" MIN. OF TOPSOIL TO BRING TO FINISHED GRADE (SEE GRADING PLAN).
8. ROOT BALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING ROOT BALLS SMALLER THAN 24" IN DIA. MAY SIT ON COMPACTED EARTH.
9. UNDISTURBED SUBSOIL.
10. PREPARE PLANTING SOIL AS SPECIFIED.
11. **Tree Frog® RBK40pt** FOR UP TO 4" TREE CALIPER OR **Tree Frog® RBK60pt** FOR GREATER THAN 4" AND UP TO 6" TREE CALIPER. REFER TO SITE/WORK SPECIFICATIONS FOR APPROVED MATERIALS AND INSTALLATION REQUIREMENTS.

NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNERS.

B. SET TREE AT ORIGINAL DEPTH, REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

D. PRUNE TREE AS DIRECTED BY LANDSCAPE ARCHITECT

E. ASSURE PERCOLATION OF ALL PLANTING PITS

12 L1.50 MULTI-TRUNK TREE PLANTING
SECTION/PLAN — NTS

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects **AA-0003434**
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates consulting engineers
3000 Town Ctr, Suite 1700 - 48083
Registry No 0017913

CCI
CODE CONSULTANTS, INC.
2960 ROOSELAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.

189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

LANDSCAPE ARCHITECTURE — LAR0001793 — STATE OF FLORIDA

07/10/2023

SHEET
LANDSCAPE DETAILS

DRAWN: JTD
CHECKED: MTF

Plotted By:Dumbauld, Jimmy Sheet Set:FLOOR AND DECOR APOPKA Layout:L1.50 July 07, 2023 09:09:43am K:\ORL_Civil\249257001-Floor & Decor Apopka\CAD\CONST\PlanSheets\L1.00 LANDSCAPE PLAN.dwg

GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS SPECIFIED HEREIN.

2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

1. ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED AND DESIGNATED TO REMAIN SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY BMP DEVICES ACCORDING TO ALL REGULATORY AGENCY'S STANDARDS THROUGH THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

3. THE CONTRACTOR SHALL SUBMIT A DETAILED PROJECT SPECIFIC WORK ZONE TRAFFIC CONTROL PLAN UNLESS THE WORK REQUIRES NOTHING MORE THAN A DIRECT APPLICATION OF FDOT DESIGN STANDARDS, INDEX 600. IF A DIRECT APPLICATION OF INDEX 600 IS PROPOSED, THE CONTRACTOR SHALL SUBMIT IN WRITING A STATEMENT INDICATING THE STANDARD INDEX AND PAGE NUMBER NO LESS THAN 10 BUSINESS DAYS PRIOR TO START OF CONSTRUCTION. WHEN A DIRECT APPLICATION OF FDOT STANDARD INDEX 600 IS NOT ACCEPTABLE A PROJECT SPECIFIC WORK ZONE TRAFFIC CONTROL PLAN SHALL BE PREPARED BY A FLORIDA PROFESSIONAL ENGINEER WHO HAS SUCCESSFULLY COMPLETED ADVANCED TRAINING IN MAINTENANCE OF TRAFFIC, AS DEFINED BY FDOT FOR APPROVAL BY THE COUNTY ENGINEER'S REPRESENTATIVE.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES, WHETHER PUBLIC OR PRIVATE, PRIOR TO EXCAVATION. THE INFORMATION AND DATA SHOWN WITH RESPECT TO EXISTING UNDERGROUND FACILITIES AT OR CONTIGUOUS TO THE SITE IS APPROXIMATE AND BASED ON INFORMATION FURNISHED BY THE OWNER OF SUCH UNDERGROUND FACILITIES OR ON PHYSICAL APPURTENANCES OBSERVED IN THE FIELD. THE OWNER AND DESIGN PROFESSIONAL SHALL NOT BE RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR: REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA; LOCATING ALL UNDERGROUND FACILITIES DURING CONSTRUCTION; THE SAFETY AND PROTECTION THEREOF; REPAIRING ANY DAMAGE THERETO RESULTING FROM THE WORK, THE COST OF ALL WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE. THE CONTRACTOR SHALL NOTIFY ANY AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

C. PROTECTION OF EXISTING PLANT MATERIALS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS EQUIPMENT OPERATION, MATERIAL STOCKPILING, ETC., THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIPLINE AND SPILLING OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIPLINE. NO MATERIALS SHALL BE BURNED ON SITE, EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF THREE HUNDRED DOLLARS ($300) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PERCENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

2. SEE TREE MITIGATION PLAN AND NOTES, IF APPLICABLE.

D. MATERIALS

1. GENERAL

MATERIAL SAMPLES LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON SITE OR AS DETERMINED BY THE OWNER. UPON APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SAMPLE SIZE
MULCH	ONE (1) CUBIC FOOT
TOPSOIL MIX	ONE (1) CUBIC FOOT
PLANTS	ONE (1) OF EACH VARIETY (OR TAGGED IN NURSERY)

2. PLANT MATERIALS

a. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS. INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY WITH APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE.

b. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

c. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER. FOR QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

1. CONTRACTOR SHALL TEST EXISTING SOIL AND AMEND AS NECESSARY IN ACCORDANCE WITH THE GUIDELINES BELOW:

2. SOIL MIXTURE (PLANTING MEDIUM FOR PLANT PITS) SHALL CONSIST OF TWO PARTS OF TOPSOIL AND ONE PART SAND, AS DESCRIBED BELOW. CONTRACTOR TO SUBMIT SAMPLES AND PH TESTING RESULTS OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

a. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER; FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND HAVE A PH BETWEEN 5.5 AND 7.0.

b. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE SAND.

2. TREES SHALL BE PLANTED IN THE EXISTING NATIVE SOIL ON SITE, UNLESS DETERMINED TO BE UNSUITABLE - AT WHICH POINT THE CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO PLANTING.

F. WATER

1. WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE. AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC.,. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

* WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE, SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

* FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

H. MULCH

1. MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A DEPTH OF THREE (3) INCHES. CLEAR MULCH FROM EACH PLANT'S GROWN (BASE). MULCH SHALL BE "FLORIMULCH," EUCALYPTUS MULCH, OR SIMILAR SUSTAINABLY HARVESTED MULCH UNLESS SPECIFIED OTHERWISE.

2. PROVIDE A THREE (3) INCH MINIMUM LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT (6' MINIMUM) PLANTED UNDER THIS CONTRACT.

I. DIGGING AND HANDLING

1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO THE SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.

2. BALLED AND BURLAPPED (B&B), AND FIELD GROWN (FG) PLANTS SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS SHALL NOT BE HANDLED BY STEMS.

3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.

4. PROTECTION OF PALMS: ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.

5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB-BASES.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION.

2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG ENOUGH FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.

3. ROOT BOUND PLANTS ARE NOT ACCEPTABLE AND WILL BE REJECTED.

4. RPG= "ROOTS PLUS GROWER" CONTAINER PRODUCTS SHALL BE USED WHERE SPECIFIED.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY RE-ESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

M. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO BIDDING OR INSTALLATION. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE.

N. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.

2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.

3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS, REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES, IF APPLICABLE.

O. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER DAILY. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.

2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES, CALL SUNSHINE STATE ONE CALL OF FLORIDA, INC. (811) TO LOCATE UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.

3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36" OR TO NATIVE SOIL, CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE POOR DRAINAGE CONDITION PLANTING DETAIL.

4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS SPECIFIED HEREIN. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.

5. COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE, PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ONSITE SHALL NOT REMAIN UNPLANTED OR APPROPRIATELY HEALED IN FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.

6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.

7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK Z60.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACK FILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.

8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.

9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.

10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE, EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACK FILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).

11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION, PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.

12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES. STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET, ADD MORE WET SOIL MIXTURE, DO NOT COVER TOP OF BALL WITH SOIL MIXTURE. ALL BURLAP, ROPE, WIRES, BASKETS, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS. BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.

13. TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY CERTIFIED ARBORIST, IN ACCORDANCE WITH ANSI A-300.

14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. MATERIALS INSTALLED SHALL MEET MINIMUM SPECIMEN REQUIREMENTS OR QUANTITIES SHOW ON PLANS, WHICHEVER IS GREATER. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" THE PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.

15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE PROJECT LANDSCAPE ARCHITECT IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE PROJECT LANDSCAPE ARCHITECT IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.

16. ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS, PRIOR TO FINAL INSPECTION. TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER, (AS ALLOWED BY JURISDICTIONAL AUTHORITY)

P. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.

2. ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS BY MEANS OF A SOD CUTTER TO A DEPTH OF THREE (3) INCHES, AND THE GROUND BROUGHT TO AN EVEN GRADE, THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH, DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.

3. PREPARE LOOSE BED FOUR (4) INCHES DEEP, HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED, WET PREPARED AREA THOROUGHLY.

4. SODDING

a. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.

b. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.

c. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. ADJACENT TO BUILDINGS, A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED, IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN. FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.

5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.

6. LAWN MAINTENANCE

a. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).

b. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

Q. CLEANUP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S REPRESENTATIVE.

R. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE.

S. FINAL INSPECTION AND ACCEPTANCE OF WORK

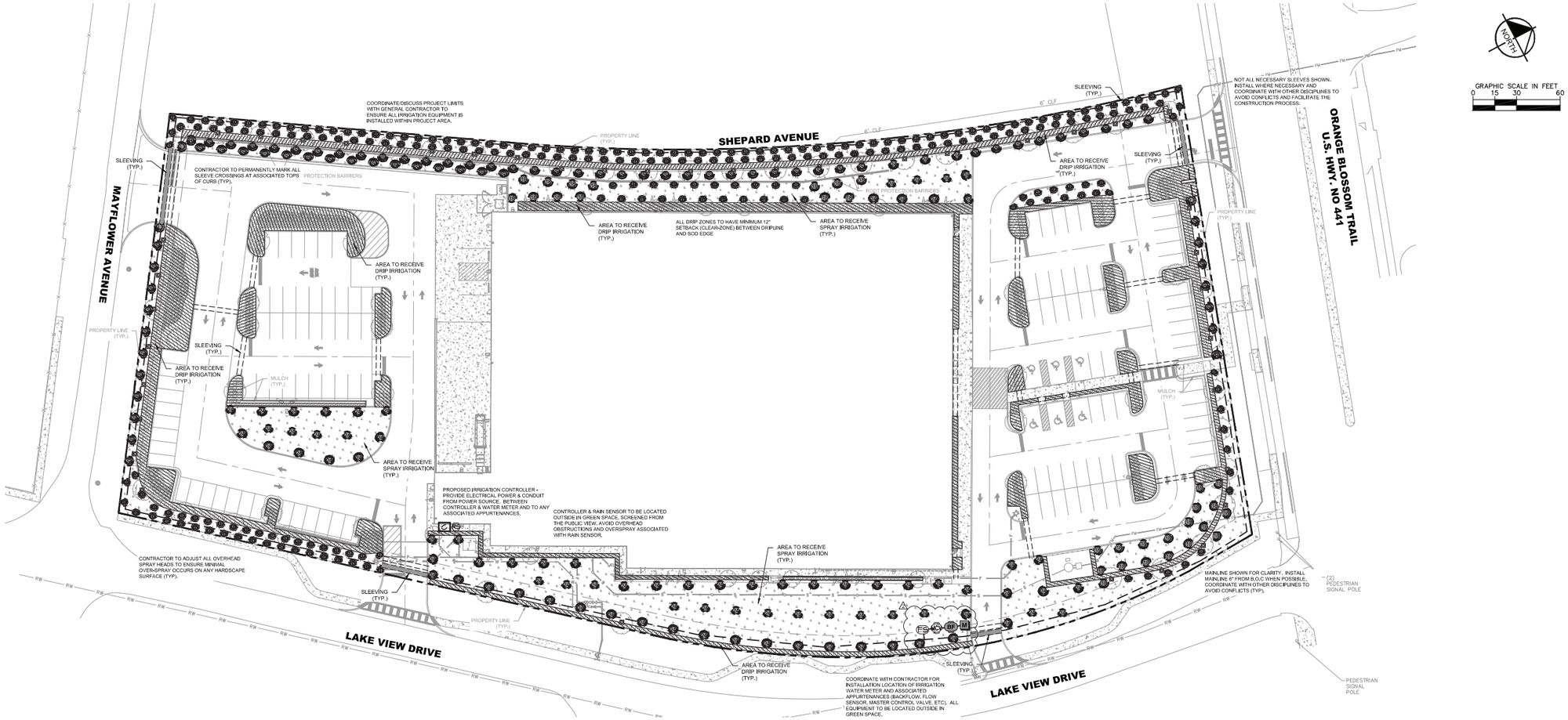
FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY (OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

T. WARRANTY

1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED (INCLUDING SOD) BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE.

2. ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED AT NO ADDITIONAL COST TO THE OWNER.

3. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE AND IRRIGATION MAINTENANCE, THE CONTRACTOR SHOULD VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE (1) YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER. CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREAT



IRRIGATION CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL NECESSARY MODIFICATIONS REQUIRED TO MEET THE SCHEMATIC INTENT OF THESE PLANS PRIOR TO SUBMITTING PROPOSAL. THESE PLANS OUTLINE THE OVERALL LAYOUT THE SYSTEM AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ZONE THE SYSTEM ACCORDINGLY BASED ON FLOW AND PRESSURE AVAILABLE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE FOLLOWING BUT NOT LIMITED TO AVAILABLE FLOW, AVAILABLE PRESSURE, CONNECTION ASSEMBLY, CAPACITY OF THE SYSTEM.

IRRIGATION NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, ETC. PRIOR TO BEGINNING WORK.
2. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN PLANS OR SPECIFICATIONS PRIOR TO BEGINNING OR CONTINUING WORK.
3. THE CONTRACTOR SHALL MAKE NO SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT.
4. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS.
5. THIS PLAN IS SCHEMATIC AND DUE TO THE NATURE OF CONSTRUCTION SLIGHT FIELD MODIFICATIONS MAY BE NECESSARY TO IMPLEMENT PLAN.
6. CONTRACTOR TO VERIFY ACTUAL AVAILABLE WATER PRESSURE BEFORE BEGINNING INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF AVAILABLE WATER PRESSURE WILL NOT ALLOW SYSTEM MODIFICATION TO BE POSSIBLE.
7. IRRIGATION SYSTEMS CONNECTED TO POTABLE WATER SUPPLY, SHALL HAVE A BACKFLOW PREVENTER INSTALLED.
8. WHERE APPLICABLE IRRIGATION HEADS ARE TO BE ADJUSTED FOR COMPLETE COVERAGE WITH MINIMUM OVER SPRAY BEYOND LANDSCAPE AREAS.
9. EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
10. ALL IRRIGATION SLEEVING TO BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. ELECTRICAL WIRES FOR IRRIGATION VALVES AND IRRIGATION LINES ARE TO BE PLACED IN SEPARATE SLEEVES.
11. IRRIGATION CONTRACTOR SHALL REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH OWNER'S REPRESENTATIVE.
12. ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED/IRRIGATED TO KEEP MOIST UNTIL PLANTED.
13. CONTRACTOR TO PROVIDE PERMANENT BENCH-MARKS ON ALL CURB LINES AT RELATED SLEEVE LOCATIONS (TYP).
14. THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLED TO MINIMIZE ROOT DISTURBANCE IN EXISTING TREES.
15. IRRIGATION SPRAYS AND ROTORS ARE NOT COMBINED ON THE SAME CONTROL VALVE CIRCUIT - LANDSCAPE BEDS AND TURF ON SEPARATE CIRCUITS.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	DETAIL
LST SST RST	RAIN BIRD RVAN-STRIP RD-06-SAM-P45-NP TURF ROTARY, 6'-14' + AND HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2" NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	77	40	
14-ADJ 14-T	RAIN BIRD RVAN14 RD-06-SAM-P45-NP TURF ROTARY, 6'-14' 45-270 DEGREES AND 360 DEGREES, HAND ADJUSTABLE MULTI-STREAM ROTARY WIRD1800 TURF SPRAY BODY ON 6" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2" NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	226	40	
18-ADJ 18-T	RAIN BIRD RVAN18 RD-06-SAM-P45-NP TURF ROTARY, 13'-18' 45-270 DEGREES AND 360 DEGREES, HAND ADJUSTABLE MULTI-STREAM ROTARY WIRD1800 TURF SPRAY BODY ON 6" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2" NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	31	40	
24-ADJ 24-T	RAIN BIRD RVAN24 RD-06-SAM-P45-NP TURF ROTARY, 17'-24' 45-270 DEGREES AND 360 DEGREES, HAND ADJUSTABLE MULTI-STREAM ROTARY WIRD1800 TURF SPRAY BODY ON 6" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2" NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	85	40	
1401 1402 1404 1408	RAIN BIRD 1800-1400 FLOOD 1401 FIXED FLOW RATE (0.25-2.2GPM), FULL CIRCLE BUBBLER, 1/2" FIPT.	47	20	

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	DETAIL
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFD-09-12-NP XFD ON-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE, 0.9 GPH EMITTERS AT 12" O.C, DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN, UV RESISTANT. SPECIFY XF INSERT FITTINGS.	20,468 L.F.	

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	DETAIL
MCV	RAIN BIRD PESB-PRS-D 1-1/2" 1IN, 1-1/2IN, 2IN. PLASTIC INDUSTRIAL MASTER VALVES, LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION, WITH PRESSURE REGULATING MODULE, AND SCRUBBER TECHNOLOGY FOR RELIABLE PERFORMANCE IN DIRTY WATER IRRIGATION APPLICATIONS.	1	
BF	FEBCO 765 1-1/2" PRESSURE VACUUM BREAKER, BRASS WITH BALL VALVE SOV, INSTALL 12" (305MM) ABOVE HIGHEST DOWNSTREAM OUTLET AND THE HIGHEST POINT IN THE DOWNSTREAM PIPING.	1	
C	RAIN BIRD ESPLXME2 12 STATION TRADITIONALLY-WIRED, COMMERCIAL CONTROLLER, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE.	1	
RS	RAIN BIRD RAINGAUGE RAIN SENSOR FOR MAX3COM OR SITECONTROL. CUSTOMIZES WEATHER DATA BY PROVIDING SITE-SPECIFIC RAINFALL MEASUREMENTS, AND SENDING TO CENTRAL CONTROLLER DAILY.	1	
FS	RAIN BIRD FS-150-P 1-1/2IN. FLOW SENSOR, PLASTIC PVC MODEL. SUGGESTED OPERATING RANGE 5.0 GPM TO 100.0 GPM. SIZE FOR FLOW NOT ACCORDING TO PIPE SIZE. RAIN BIRD COMPATIBLE CONTROLLERS: ESP-LX-IN/P| LXD	LXME2[P] ME3. OR CONTROLLERS ACCEPTING CUSTOM K-FACTOR AND OFFSET. INSTALL IN RAIN BIRD VALVE BOX.	1	
M	WATER METER 1-1/2" REUSE	1	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	2,204 L.F.	
	PIPE SLEEVE: PVC SCHEDULE 40 - LATERAL LINES	508.8 L.F.	
	PIPE SLEEVE: PVC SCHEDULE 40 - MAINLINE	137.0 L.F.	

FLOW TOTALS
Area for Dripline: 307.1
Bubbler: 23.5
Turf Rotary: 354.5
Total: 685.0 GPM

Always call 811 two full business days before you plan to dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dlbassociates consulting engineers
3600 Rider Rd, Suite 150 - #5583
Raytown MO 64133

CCI
CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-0533

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA : 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

LA666729 STATE OF FLORIDA

07/10/2023

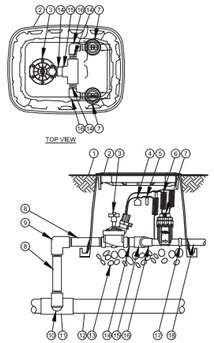
SHEET

IRRIGATION PLAN

DRAWN: JTD
CHECKED: MTF

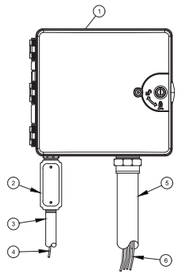
L2.00

Plotted By:Dumbauld, Jimmy Sheet Set:FLOOR AND DECOR APOPKA Layout:L2.00 July 07, 2023 09:10:16am K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\L2.00 IRRIGATION PLAN.dwg



1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH COVER:
3. REMOTE CONTROL VALVE:
4. ID TAG
5. WATERPROOF CONNECTION:
6. 30-INCH LINEAR LENGTH OF WIRE, COILED
7. PRESSURE REGULATING QUICK CHECK BASKET FILTER:
8. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
9. PVC SCH 40 ELL
10. PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
11. PVC SCH 40 TEE OR ELL
12. MAINLINE PIPE
13. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
14. PVC SCH 80 NIPPLE, CLOSE
15. PVC SCH 40 TEE
16. PVC SCH 40 ELL
17. PVC SCH 40 FEMALE ADAPTOR
18. LATERAL PIPE

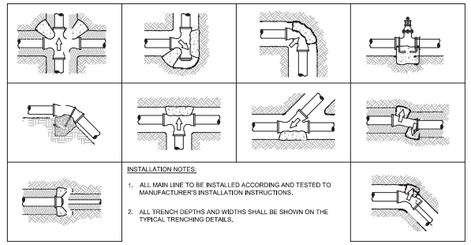
1 L2.50 COMMERCIAL CONTROL DRIP ZONE VALVE KIT
SECTION / PLAN NTS



1. IRRIGATION CONTROLLER: CONTROLLER (OWNER TO SPECIFY WALL MOUNT OR STAINLESS STEEL PEDESTAL MOUNT). INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. JUNCTION BOX
3. 1-INCH CONDUIT AND FITTINGS TO POWER SUPPLY
4. POWER SUPPLY WIRE
5. 2-INCH CONDUIT AND FITTINGS FOR STATION WIRES
6. WIRES TO REMOTE CONTROL VALVES

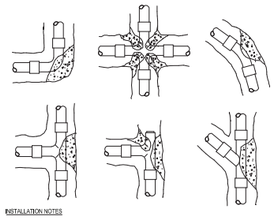
NOTES:
1. FOR EASE OF INSTALLATION INTO A CONTROLLER WITH MORE THAN 24 STATIONS, INSTALL A JUNCTION BOX AT THE BASE OF CONTROLLER AND TRANSITION LARGER VALVE AND COMMON WIRES FROM FIELD TO 18 AWG MULTI CONDUCTOR WIRE TO BE USED IN CONTROLLER.
2. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.

2 L2.50 TYPICAL CONTROLLER
ELEVATION NTS



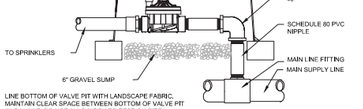
INSTALLATION NOTES:
1. ALL MAIN LINE TO BE INSTALLED ACCORDING AND TESTED TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. ALL TRENCH DEPTHS AND WIDTHS SHALL BE SHOWN ON THE TYPICAL TRENCHING DETAILS.

3 L2.50 TYPICAL THRUST BLOCK
SECTION NTS

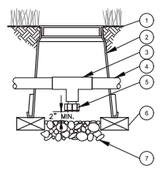


INSTALLATION NOTES
1. 3000 PSI CONCRETE OR BETTER IS TO BE USED FOR THRUST BLOCKS.
2. FOR 45°/90° FITTINGS, MINIMUM OF 2 CUBIC FEET OF CONCRETE TO BE USED.
3. FOR 22-1/2° FITTINGS, MINIMUM OF 0.5 CUBIC FEET OF CONCRETE TO BE USED.
4. FOR TEES, MINIMUM OF 2 CUBIC FEET OF CONCRETE TO BE USED. THRUST BLOCKS REQUIRED FOR IRRIGATION MAINLINE 2 1/2" AND LARGER.

4 L2.50 THRUST BLOCK REINFORCEMENT
SECTION NTS

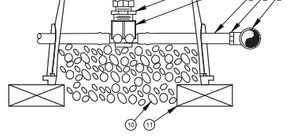


5 L2.50 TYPICAL CONTROL VALVE
SECTION NTS



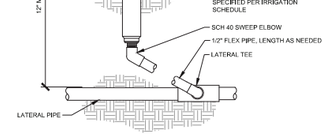
1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH COVER:
3. PVC SCH 40 TEE
4. PVC LATERAL PIPE
5. FILTERED DRAIN VALVE:
6. BRICK (1 OF 2)
7. 6-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

6 L2.50 DRAIN VALVE
SECTION NTS

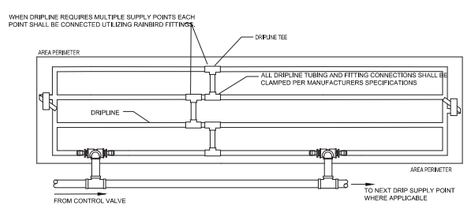


1. TURF GRASS
2. VALVE BOX LID
3. FINISH GRADE
4. ½" AIR RELIEF VALVE: TO BE INSTALLED AT HIGH POINTS IN DRIP ZONE
5. ½" X ¾" PVC REDUCER BUSHING
6. BARB X FEMALE THREAD CONNECTOR:
7. ½" BLANK DRIPLINE TUBING:
8. BARB X MALE THREAD CONNECTOR:
9. PVC TEE CONNECTED TO PVC HEADER PIPE
10. 3" MINIMUM DEPTH OF ¾" WASHED GRAVEL
11. BRICK (1 OF 2)

7 L2.50 AIR RELIEF VALVE IN XFS DRIP LINE
SECTION NTS



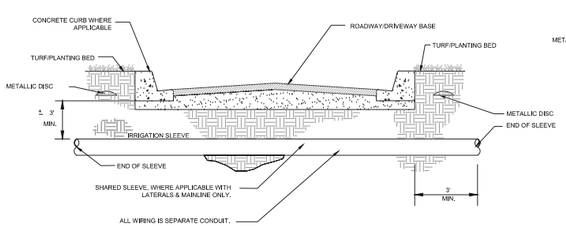
8 L2.50 TYPICAL SPRAY / ROTAR HEAD
SECTION NTS



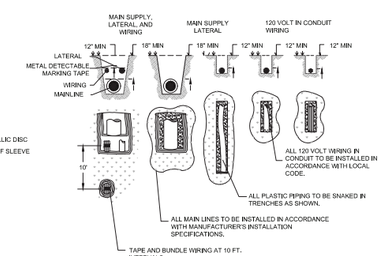
CONTRACTOR TO REFER TO IRRIGATION PLAN FOR LOCATION OF CONTROL VALVES THAT UTILIZE MULTIPLE DRIPLINE SUPPLY CONNECTIONS. IF NOT SHOWN, INSTALL WITHIN ADJACENT GREEN AREA NOT IN A HIGHLY VISIBLE AREA.

NOTE:
1. DRIP TUBING TO BE ROUTED IN THE PLANT MATERIAL BED WITH AT MAXIMUM LATERAL SPACING OF 16 INCHES.
2. DRIP TUBING TO BE INSTALLED IN A GRID PATTERN. DRIP TUBING SHALL NOT BE INSTALLED IN A LONG CONTINUOUS RUN.
3. CONTRACTOR TO REFER TO IRRIGATION PLAN FOR LOCATION OF CONTROL VALVES THAT UTILIZE MULTIPLE DRIPLINE SUPPLY CONNECTIONS (IF SHOWN).

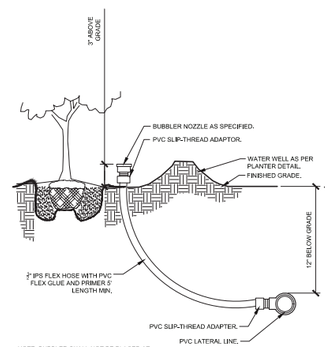
9 L2.50 TYPICAL DRIP LINE
PLAN NTS



10 L2.50 TYPICAL SLEEVING
SECTION NTS



11 L2.50 TYPICAL TRENCHING
SECTION / PLAN NTS



NOTE: BUBBLER SHALL NOT BE PLACED AT TRUNK FLARE.

12 L2.50 TYPICAL BUBBLER
SECTION NTS

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 320A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates consulting engineers
3500 Thayer Ct, Suite 130E - #5583
Aurora IN 60504

CODE CONSULTANTS, INC.
2043 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT
FLOOR & DECOR
APOPKA, FL
TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA: 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL
LAGE67292 STATE OF FLORIDA REGISTERED LANDSCAPE ARCHITECT
07/10/2023

SHEET
IRRIGATION DETAILS

DRAWN: JTD
CHECKED: MTF

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

Plotted By:Dumbauld, Jimmy Sheet Set:FLOOR AND DECOR APOPKA Layout:L2.50 July 07, 2023 09:10:18am K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\L2.50 IRRIGATION PLAN.dwg

GRAPHIC SCALE IN FEET
0 ## ## ##

IRRIGATION SYSTEM NOTES:

1. THE IRRIGATION MAINLINE LAYOUT IS DIAGRAMMATIC. ANY CHANGES MADE IN THE IRRIGATION MAINLINE DUE TO FIELD CONDITIONS OR CONTRACTOR'S SUBMITTED DESIGN SHALL BE IN ACCORDANCE WITH THESE STANDARDS.
2. SET SPRAY HEADS 6" AND ROTORS 12" IN FROM BACK OF CURB OR 24" IF PAVEMENT HAS NO CURB.
3. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL NECESSARY MODIFICATIONS REQUIRED TO MEET THE SCHEMATIC INTENT OF THESE PLANS PRIOR TO SUBMITTING PROPOSAL. THESE PLANS OUTLINE THE OVERALL LAYOUT THE SYSTEM AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ZONE THE SYSTEM ACCORDINGLY BASED ON FLOW AND PRESSURE AVAILABLE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE FOLLOWING BUT NOT LIMITED TO AVAILABLE FLOW, AVAILABLE PRESSURE, CONNECTION ASSEMBLY, CAPACITY OF THE SYSTEM.
4. CONTRACTOR TO PROVIDE NEW AUTOMATIC CONTROLLER FOR PROPOSED SYSTEM (NO BATTERY OPERATED CONTROLLERS ALLOWED). COORDINATE LOCATION WITH OWNER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AUTOMATIC RAIN SENSOR. COORDINATE LOCATION W/ OWNER.
6. IRRIGATION SHALL NOT BE COMBINED ON A SINGLE ZONE AND SHALL BE ZONED ACCORDING TO IRRIGATION TYPE, PRECIPITATION RATE, AND THE SYSTEM'S AVAILABLE WATER / PRESSURE. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO OWNER FOR REVIEW PRIOR TO INSTALLATION.
7. VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF IRRIGATION SYSTEM. ALL UTILITIES AND STRUCTURES MAY NOT BE SHOWN ON THESE PLANS-CONTRACTOR SHALL FIELD VERIFY.
8. CONTRACTOR TO FIELD VERIFY ALL POINT OF CONNECTION SOURCE INFORMATION INCLUDING PSI AND GPM PRIOR TO CONSTRUCTION.
9. INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR A SPEEDY AND ORDERLY COMPLETION OF ALL WORK ON-SITE.
10. CONTRACTOR SHALL COORDINATE WITH THE PLANTING PLAN FOR PLANTER BED AND TREE LOCATIONS TO ENSURE ALL PLANT MATERIAL IS COVERED BY 100% HEAD-TO-HEAD IRRIGATION.
11. CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF THE FINAL INSTALLATION TO OWNER AT SUBSTANTIAL COMPLETION BEFORE RECEIVING FINAL PAYMENT.
12. PRODUCTS SHALL BE AS SPECIFIED OR APPROVED EQUAL.

PRE-APPROVED MANUFACTURERS:
1. TORO
2. HUNTER
3. RAINBIRD

13. IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE OWNER/GENERAL CONTRACTOR. WORK IN THE R.O.W. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE JURISDICTION.
14. LOCATE ALL IRRIGATION LINES WITHIN LANDSCAPED AREAS WHENEVER POSSIBLE. ALL LINES UNDER PAVEMENT MUST BE SLEEVED WITHIN SCH. 40 PVC 2x SIZE OF PIPE AND FREE OF STONES/DEBRIS. ALL VALVES SHALL BE LOCATED WITHIN LANDSCAPED AREAS.
15. MAINLINE SHALL NOT BE LOCATED WITHOUT PRIOR APPROVAL OF THE OWNER'S REPRESENTATIVE.
16. THE IRRIGATION CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR SLEEVING AND DIRECTIONAL BORES.
17. ALL SLEEVES UTILIZED BY THE IRRIGATION CONTRACTOR WHETHER INSTALLED BY HIM OR NOT, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. THE DEPTH BELOW FINISH GRADE, TO THE NEAREST FOOT OF EACH END OF THE SLEEVE SHALL BE NOTED AT EACH SLEEVE LOCATION ON THE "AS-BUILT" DRAWINGS. ALL SLEEVES ON PLAN FOR WALL PENETRATIONS AND UNDER SIDEWALKS SHALL BE SIZED TWO PIPE SIZES GREATER THAN THE PIPE IT CARRIES.
18. ALL PRESSURIZED MAINLINES AND LATERALS UNDER PAVEMENT SHALL BE WITHIN SCH. 40 PVC SLEEVES. WHERE ELECTRIC OR HYDRAULIC VALVE CONTROL LINES PASS THROUGH A SLEEVE WITH OTHER MAIN OR LATERAL LINES THEY SHALL BE CONTAINED WITHIN A SEPARATE, SMALLER CONDUIT.
19. NUMBER THE TOP OF ALL VALVE BOX LIDS WITH MINIMUM 1" HEIGHT BLACK LETTERS TO CORRESPOND TO AUTOMATIC AND GATE VALVE DESIGNATIONS. ALL HOSE BIBB VALVE BOXES SHALL BE LABELED IN A SIMILAR MANNER WITH THE DESIGNATION "HB". LETTER OUTSIDE OF TIME CLOCK CABINETS TO CORRESPOND WITH IRRIGATION CLOCK PROGRAM DESIGNATION.
20. THE IRRIGATION CONTRACTOR SHALL INSTALL A COLOR CODED METAL DETECTABLE MARKING TAPE WHICH CLEARLY NOTES: "CAUTION: IRRIGATION LINE BURIED BELOW." THE TAPE SHALL BE INSTALLED THE FULL LENGTH OF THE IRRIGATION MAINLINE.
21. ELECTRIC SERVICE TO THE CONTROLLER SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.
22. ALL 24 VAC WIRING FROM DECODER TO VALVE SHALL BE OF DIRECT BURIAL COPPER WIRE. MAXIMUM LENGTH OF WIRE FROM DECODER TO VALVE SHALL NOT EXCEED 400 FEET, AS FOLLOWS:
    CONTROL WIRES - #14
    COMMON WIRES - #14
23. ALL VALVES, SPLICES WITHIN CONTROL LINES, AND QUICK COUPLERS SHALL BE LOCATED WITHIN NDS VALVE BOXES AS FOLLOWS:
    -RECTANGULAR 12"x17" HEAVY DUTY BOX, (PURPLE COVER FOR REUSE TO BE PROVIDED WHERE APPROPRIATE).
24. ALL IRRIGATION HEADS/DRIP TUBING SHALL BE LOCATED ONE (1) FOOT FROM BACK OF CURB WHEN NEXT TO A ROADWAY, (THIS SHALL NOT INCLUDE PARKING AREAS OR DRIVE AISLES).
25. HEADS, LATERALS, EMITTERS, AND VALVES ARE NOT SHOWN, BUT ARE NECESSARY FOR A FULLY FUNCTIONING IRRIGATION SYSTEM.
26. LOCATE ALL VALVES IN PLANTING BEDS WITH A MINIMUM OF 3'-0" FROM BACK OF CURB OR EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED. PIPE SIZES ON EITHER SIDE OF SECTION VALVES CONNECTING MAINLINE TO SECTION LATERAL SHALL BE ONE (1) PIPE SIZE LARGER THAN VALVE SIZE, WHERE MAINLINES RUN PARALLEL TO PAVEMENT OR CURBING, THE MAINLINE SHALL BE OFFSET 2'-0" FROM THE EDGE OF PAVEMENT OR CURB.
27. IRRIGATION ZONES SHALL BE SEPARATED FOR HIGH AND LOW WATER USE REQUIREMENTS AND OPERATED ON DIFFERENT WATERING CYCLES. BUBBLERS, DRIPLINE, AND SPRAY HEADS SHALL BE SEPARATED ON DIFFERENT VALVES. AT NO TIME SHALL MULTIPLE IRRIGATION HEAD TYPES BE LOCATED ON THE SAME VALVE.
28. ALL DRIP ZONES SHALL BE INSTALLED WITH A FLUSH VALVE AND AIR RELIEF VALVE, IN THE EVENT THAT A DRIP ZONE HAS MORE THAN ONE HIGH OR LOW POINT, MORE THAN ONE AIR RELIEF VALVE OR FLUSH VALVE WILL BE REQUIRED FOR THAT ZONE. DRIPLINE SHALL PROVIDE 0.9 GPH EMITTERS, 12" O.C. WITH 12" LINE SPACING AT A MINIMUM.
29. ALL WIRING FOR CONNECTION OF THE VALVES TO THE CONTROLLER SHALL FOLLOW MANUFACTURERS SPECIFICATIONS. IF REQUIRED, ALL WIRING FOR A TWO WIRE PATH SHALL BE WITH RED/BLUE TWISTED PAIR 14 AWG. ELECTRIC CONTROL LINES FROM THE DECODER TO THE SOLENOID VALVES SHALL BE TWISTED PAIR 18 AWG. ALL DECODERS SHALL BE GROUNDED EVERY 1,000 L.F. OR EVERY 10 DEVICES. ALL WIRE SHALL BE FURNISHED IN MINIMUM 2,500' REELS AND SPLICING SHALL BE MINIMIZED. BURY SPLICE KIT. ALL 24 VOLT WIRING SHALL BE DONE IN ACCORDANCE WITH EXISTING CODES. SPLICING SHALL BE IN VALVE BOXES OR CONTROLLERS ONLY. IRRIGATION SYSTEM CONTROL SHALL BE TWO WIRE PATH. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S REQUIREMENTS FOR THIS INSTALLATION. TWO WIRE SYSTEM SHALL HAVE 2-WAY COMMUNICATIONS FIELD PROGRAMMABILITY. STATION SPECIFICATIONS AND INTEGRATED SURGE PROTECTION.
30. ALL CONTROL WIRE SHALL BE INSTALLED IN A 1-½" ELECTRICAL CONDUIT.
31. SMALLEST DIAMETER LATERAL PIPE SHALL BE 3/4".
32. IRRIGATION SYSTEM SHALL BE CAPABLE OF SUPPLYING AN AVERAGE OF 1.05" OF WATER PER WEEK WITHIN WATERING RESTRICTIONS AS APPLICABLE.
33. IRRIGATION SYSTEM SHALL NOT BE INSTALLED THROUGH EXISTING, OR PRESERVED PLANT COMMUNITIES. DO NOT TRENCH THROUGH EXISTING ROOT SYSTEMS OF ANY VEGETATION INTENDED TO BE PRESERVED.
34. CONTRACTOR TO MINIMIZE IRRIGATION OVERTHROW TO IMPERVIOUS AND NATURAL AREAS THROUGH FIELD ADJUSTMENTS TO INDIVIDUAL HEADS.
35. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO THE CONDITION DENOTED ON THE LANDSCAPE PLAN.
36. IRRIGATION PIPING INSTALLED UNDER ROADS AND SIDEWALKS SHALL BE IN SCHEDULE 40 PVC SLEEVING AT 2X THE PIPE SIZE. ALL SLEEVING SHALL BE FREE OF STONES AND DEBRIS.
37. IRRIGATION SOURCE TO BE EITHER WELL, POTABLE, OR NON-POTABLE WATER. IRRIGATION CONTRACTOR TO VERIFY SOURCE PRIOR TO DESIGN.
38. POINT OF CONNECTION TO BE DETERMINED BY OWNER. IRRIGATION SYSTEM CONNECTIONS TO THE LOCAL JURISDICTION SERVICE SHALL COMPLY WITH ALL APPLICABLE CODES.
39. IRRIGATION CONNECTION MAY REQUIRE BACKFLOW PREVENTION. VERIFY WITH LOCAL JURISDICTION.
40. IRRIGATION SYSTEM SHALL COMPLY WITH THE LOCAL JURISDICTION LAND DEVELOPMENT CODE.

1 L2.51 TYPICAL SCHEMATIC IRRIGATION NOTES

Always call 811 two full business days before you dig to have underground utilities located and marked.
Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 310A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC.
STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dibassociates consulting engineers
3600 Rider Rd, Suite 1700 - #1081
Neptune NJ 07753

CODE CONSULTANTS, INC.
2943 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4235
314-991-2933

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	04/25/2023
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	77,901 SF
JOB NUMBER:	022172
PROTOTYPE:	2022 Q4

ISSUE

	100% SET	04/25/2023
1	CITY COMMENTS	06/09/2023
2	CITY COMMENTS	07/10/2023

SEAL

LARRY T. TRUETT LANDSCAPE ARCHITECT 0001235 STATE OF FLORIDA

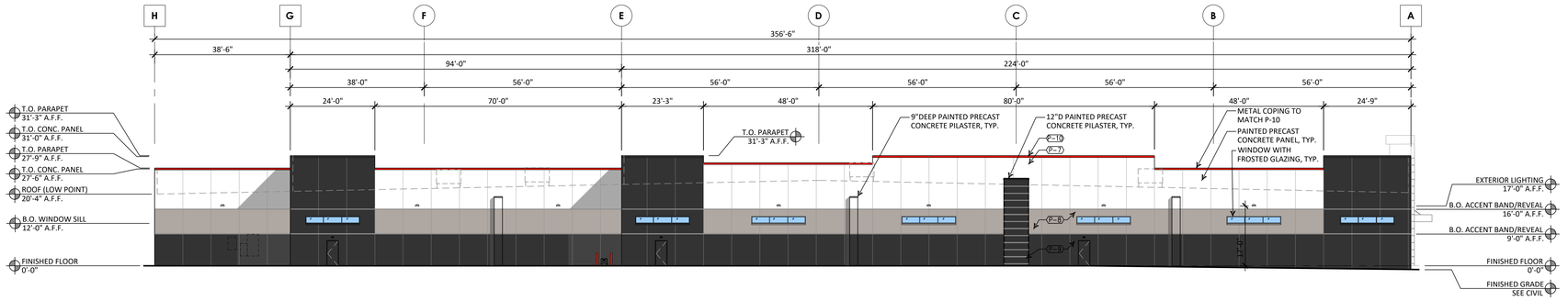
07/10/2023

SHEET
IRRIGATION SPECIFICATIONS

DRAWN: JTD
CHECKED: MTF

L2.51

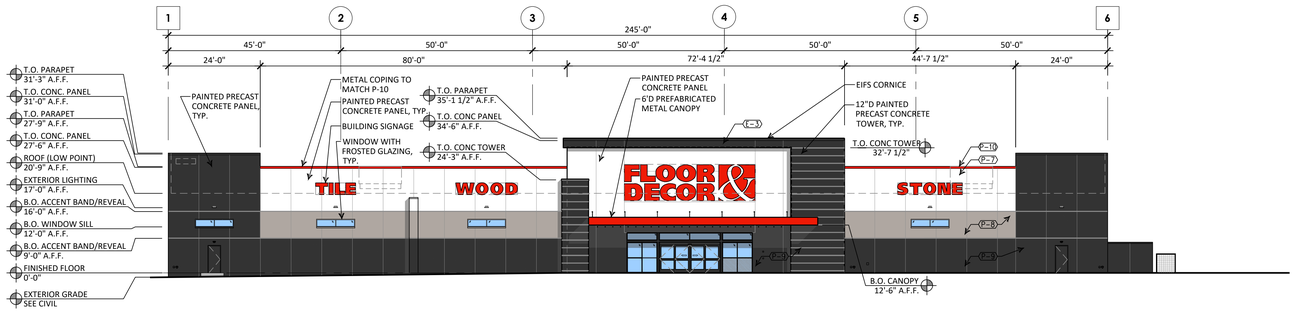
Plotted By:Dumbauld, Jimmy Sheet Set:FLOOR AND DECOR APOPKA Layout:L2.51 July 07, 2023 09:10:23am K:\ORL_Civil\249257001-Floor & Decor Apopka\CADD\CONST\PlanSheets\L2.00 IRRIGATION PLAN.dwg



4 LEFT SIDE ELEVATION (EAST)

SCALE: 1/16" = 1'-0"

LEFT (EAST) FACADE FENESTRATION CALC.		
	FENESTRATION	
WINDOW	15'-4"	
WINDOW	15'-4"	
WINDOW	15'-4"	
WINDOW	15'-4"	
WINDOW	15'-4"	
WINDOW	15'-4"	
WINDOW	15'-4"	
TOTAL PROPOSED	107'-4"	30
TOTAL FACADE LENGTH	356'-6"	
TOTAL REQUIRED	106'-11 3/8"	30% MIN.



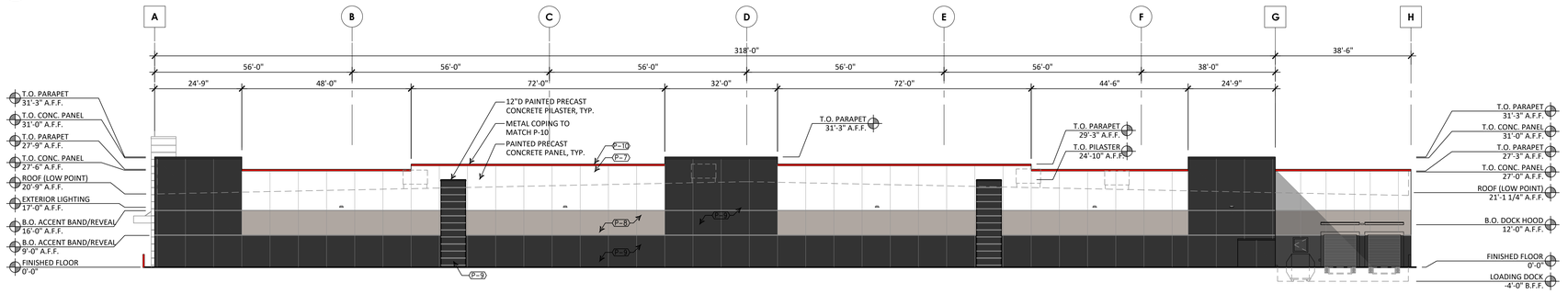
3 FRONT ELEVATION (NORTH)

SCALE: 1/16" = 1'-0"

FINISH SCHEDULE

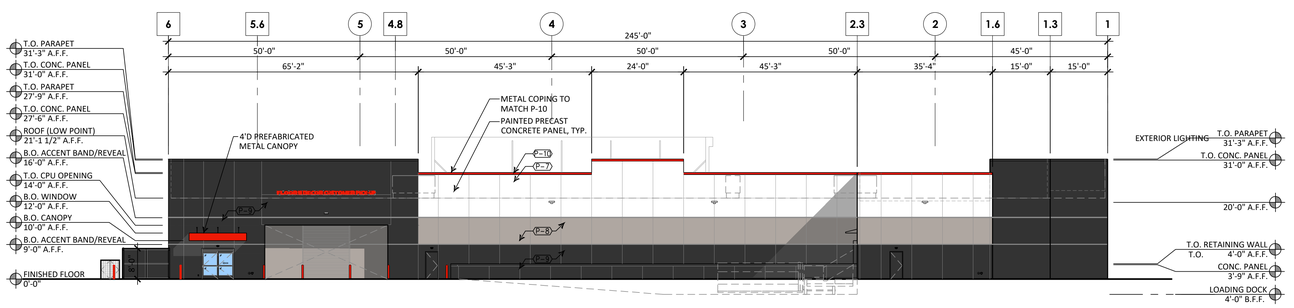
MARK	MATERIAL	MANUFACTURER	COLOR	FINISH
E-1	T.A.F.S.	DRYVIT	DRYVIT COLOR TO MATCH SW 7757 HIGH REFLECTIVE WHITE	LYMESTONE
E-2	E.I.F.S.	DRYVIT	DRYVIT COLOR TO MATCH SW 7044 AMAZING GRAY	LYMESTONE
E-3	E.I.F.S.	DRYVIT	DRYVIT COLOR TO MATCH SW 7048 URBANE BRONZE	LYMESTONE
P-7	PAINT	SHERWIN WILLIAMS	SW 7757 HIGH REFLECTIVE WHITE	SATIN
P-8	PAINT	SHERWIN WILLIAMS	SW 7044 AMAZING GRAY	SATIN
P-9	PAINT	SHERWIN WILLIAMS	SW 7048 URBANE BRONZE	SATIN
P-10	PAINT	SHERWIN WILLIAMS	SW 6868 REAL RED	SATIN

FRONT FACADE FENESTRATION CALC.		
	FENESTRATION	
FRONT ENTRY	32'-9"	
WINDOW	10'-0"	
WINDOW	10'-0"	
WINDOW	10'-0"	
WINDOW	10'-0"	
DOOR	3'-4"	
DOOR	3'-4"	
TOTAL PROPOSED	79'-5"	32
TOTAL FACADE LENGTH	245'-0"	
TOTAL REQUIRED	73'-6"	30% MIN.



2 RIGHT SIDE ELEVATION (WEST)

SCALE: 1/16" = 1'-0"



1 REAR ELEVATION (SOUTH)

SCALE: 1/16" = 1'-0"

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects AA-0003434
33 Walt Whitman Road, Suite 300A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A. V. SCHWAN & ASSOC. STRUCTURAL ENGINEERS
600 East Thomas Rd, Suite 1
Scottsdale, Arizona 85251
(602) 265-4331

dlbassociates consulting engineers
3600 Route 66, Suite 150 - #5981
Neptune NJ 07753

CCI
CODE CONSULTANTS, INC.
2043 WOODLAND PKWY. SUITE 300
ST. LOUIS, MISSOURI 63146-4225
314-991-2633

Kimley»Horn
© 2023 KIMLEY»HORN AND ASSOCIATES, INC.
189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL. 32801
PHONE: 407-898-1511
WWW.KIMLEY»HORN.COM

PROJECT

FLOOR & DECOR
APOPKA, FL

TBD SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE: 04/25/2023
STORE NUMBER: T.B.D.
GROSS BLDG AREA : 77,901 SF
JOB NUMBER: 022172
PROTOTYPE: 2022 Q4

ISSUE

ISSUE	DATE
PERMIT/SET/ELEVATIONS	06/25/2023
REDESIGNED ELEVATIONS	01/31/23
REVISED ELEVATIONS	04/25/23
REVISED ELEVATIONS	06/08/23

SEAL

SHEET

EXTERIOR ELEVATIONS

DRAWN: -
CHECKED: -

ELEV 1

Floor & Décor

Traffic Impact Analysis

City of Apopka, FL

March 2023

Kimley»Horn

TRAFFIC IMPACT ANALYSIS

Floor & Décor

City of Apopka, FL

Prepared for:

CenterPoint Integrated Solutions, LLC

Prepared by:

Kimley-Horn and Associates, Inc.

JAMES MICHAEL TAYLOR, P.E.

STATE OF FLORIDA,
PROFESSIONAL ENGINEER,
LICENSE NO. 69979

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JAMES MICHAEL TAYLOR, P.E. ON THE DATE INDICATED HERE.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

Digitally signed by James M Taylor
DN: cn=James M Taylor, c=US, o=KIMLEY-HORN AND ASSOCIATES INC, email=james.taylor@kimley-horn.com
Date: 2023.03.23 17:23:31 -04'00'

James M. Taylor, P.E.

PE #69979

March 2023

©Kimley-Horn and Associates, Inc. 2023

Table of Contents

1.0 INTRODUCTION 3
1.1 Study Area 3
2.0 EXISTING CONDITIONS ANALYSIS – YEAR 2023 5
2.1 Existing Data 5
2.2 Existing Intersection Conditions 5
3.0 DEVELOPMENT TRAFFIC 6
3.1 Trip Generation 6
3.2 Trip Distribution 7
3.3 Trip Assignment 7
3.4 Pass-By 7
4.0 BACKGROUND CONDITIONS ANALYSIS – YEAR 2025 11
4.1 Background Traffic 11
4.2 Background Intersection Analysis 11
4.3 Improved Background Intersection Analysis 11
5.0 BUILDOUT CONDITIONS ANALYSIS – YEAR 2025 13
5.1 Buildout Traffic 13
5.2 Buildout Intersection Analysis 13
5.3 Buildout Ingress Turn Lane Analysis 13
6.0 PARKING ANALYSIS 17
6.1 Code Parking Requirements 17
6.2 Data Evaluation of Similar Sites 17
6.3 Proposed Parking Requirements 17
7.0 CONCLUSION 18

List of Figures

Figure 1: Project Location and Study Area **4**

Figure 2: Project Trip Distribution **8**

Figure 3: Project Trip Assignment **9**

Figure 4: Pass-By Trip Distribution and Assignment **10**

Figure 5: Buildout Intersection Volumes – PM Peak Hour **15**

List of Tables

Table 1: Existing Intersection Conditions (PM Peak Hour) **5**

Table 2: Trip Generation Summary **6**

Table 3: Background Intersection Conditions (PM Peak Hour) **12**

Table 4: Improved Background Intersection Conditions (PM Peak Hour) **12**

Table 5: Buildout Intersection Conditions (PM Peak Hour) **16**

Appendices

Appendix A: Site Plan

Appendix B: Turning Movement Counts

Appendix C: FDOT's Florida Traffic Online (FTO) Data

Appendix D: Turning Movement Volume Worksheets

Appendix E: Signal Timings

Appendix F: Synchro Outputs

Appendix G: ITE Excerpts

Appendix H: CFRPM Model Output

Appendix I: NCHRP Report 457

Appendix J: Parking Study

1.0 INTRODUCTION

Kimley-Horn has been retained by CenterPoint Integrated Solutions, LLC to analyze and document the traffic impacts associated with the development of the Floor & Decor development to be located south of US-441 and west of Lake View Drive, in the City of Apopka, Florida.

The project will be developed on a ±5.72-acre site associated with an assemblage of four (4) parcels (Parcel ID: 06-21-28-7180-07-100, 06-21-28-7180-07-010, 06-21-28-7180-07-160, and 06-21-28-7180-07-031), as well as a portion of Parcel ID 06-21-28-7172-02-011. The project is anticipated to consist of a 77,860 square-foot building, to be built out by Year 2025.

Access to the project site will be provided via four (4) driveways, listed below. The precise locations of these driveways will be coordinated with the City and FDOT.

- W. Orange Blossom Trail
  - One (1) right-in/right-out driveway
- Lake View Drive
  - One (1) proposed ingress only driveway
  - One (1) proposed full-access driveway
- Mayflower Avenue
  - One (1) proposed full-access driveway

Figure 1 shows the project site location. Project driveways and site layout are shown in the site plan provided in **Appendix A.**

1.1 STUDY AREA

The study area includes the project driveways and the following off-site intersections.

1. US 441 (W. Orange Blossom Trail) & Lake View Drive (signalized)
2. US 441 (W. Orange Blossom Trail) & Plymouth Sorrento Road (signalized)
3. Lake View Drive/Lake Heiniger Drive & Binion Road/W Orange Avenue (stop-controlled)

Figure 1 displays the project location and study intersections.

Figure 1: Project Location and Study Area
Floor & Decor | Apopka, Florida

March 2023
Project No.: 249257001

Kimley»Horn

© 2022 Kimley-Horn and Associates, Inc.
189 S Orange Ave, Suite 1000, Orlando, FL, 32801
Phone: (407)-898-1511

2.0 EXISTING CONDITIONS ANALYSIS – YEAR 2023

2.1 EXISTING DATA

Turning movement counts (TMCs) for the PM peak period (4:00 PM to 6:00 PM) were collected at the study intersections on January 31, 2023, and are provided in **Appendix B**.

The raw turning movement counts were adjusted using the seasonal factor from FDOT's Florida Traffic Online (FTO) database. Relevant seasonal factor data is provided in **Appendix C**. Development of existing turning movement counts are shown in the volume development worksheets provided in **Appendix D**.

Signal timings were provided by Orange County for the intersections of US 441 & Lake View Drive and US 441 & Plymouth-Sorrento Road Road, provided in **Appendix E**.

2.2 EXISTING INTERSECTION CONDITIONS

An intersection operational analysis was performed for Year 2023 existing conditions during the PM peak hour using procedures outlined in the *Highway Capacity Manual 6th Edition* with Synchro (v11) software. Intersection level of service (LOS) and maximum volume-to-capacity (v/c) ratios for existing PM peak hour conditions are provided in **Table 2**. Synchro outputs are provided in **Appendix F**.

As shown in **Table 1,** all study area intersections are expected to operate at LOS E or better with v/c ratios of less than one with the exception of the following deficiencies:

- The northbound approach at the intersection of US-441 & Lake View Dr / Boy Scout Blvd operates with LOS F, but has an acceptable v/c ratio.
- The southbound approach at the intersection of US-441 and & Plymouth Sorrento Rd operates with LOS F, but has an acceptable v/c ratio.

Table 1: Existing Intersection Conditions (PM Peak Hour)

Existing Condition - 2022						
Intersection		Control Type	Approach	PM Peak Hour		
				Max Level of Service	Max V/C Ratio	Max V/C Movement
1	US-441 & Lake View Dr / Boy Scout Rd	Signalized	EB	B	0.47	EBT/R
			WB	B	0.46	WBL
			NB	F	0.98	NBL/T/R
			SB	D	0.46	SBL/T/R
			Overall	**C (28.6 s)**	**0.98**	**NBL/T/R**
2	US-441 & Plymouth Sorrento Rd	Signalized	EB	A	0.31	EBT
			WB	A	0.44	WBT/R
			NB	-	-	-
			SB	F	0.86	SBL
			Overall	**B (13.0 s)**	**0.86**	**SBL**
3	W Orange Ave / N Binion Rd & Lake View Dr / Pickford Cir	Unsignalized (AWSC)	EB	C	0.63	EBL/T/R
			WB	B	0.55	WBL/T/R
			NB	A	0.02	NBL/T/R
			SB	B	0.42	SBL/T/R
			Overall	**-**	**0.63**	**EBL/T/R**

3.0 DEVELOPMENT TRAFFIC

The Floor & Decor development is proposed to consist of ±77,860 gross floor area. Buildout of the proposed development is anticipated in 2025. The latest industry standards were referenced to evaluate the amount of new external trips to be generated by the site at buildout. The adopted regional travel demand model was used to forecast the distribution of trips throughout the study area.

3.1 TRIP GENERATION

Trip generation for the proposed project was calculated per procedures published in the 11th Edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*. Land Use Code (LUC) 862 – Home Improvement Superstore was used for the proposed development.

Pass-by reductions were taken using procedures published in the ITE Trip Generation Manual, 11th Edition. Relevant excerpts from the *Trip Generation Manual* are included in **Appendix G.**

For the purposes of providing the most conservative analysis possible, the store was assumed to have a gross floor area (GFA) of 80,000 GFA.

Table 3 provides the Daily and PM peak hour trip generation summary for the project. The proposed site is anticipated to generate 1,426 daily trips and 106 PM peak hour trips (52 inbound and 54 outbound).

Table 2: Trip Generation Summary

	Land Use	ITE LUC[1]	Size	Units	Trip Generation Equation	Daily					
						Total	In[1]		Out[1]		
Daily	Home Improvement Superstore	862	**80**	KSF	T = 30.74 * X	2,459	*50%*	1,230	*50%*	1,229	
	Total Generated Trips					**2,459**	**1,230**		**1,229**		
	Pass by Trips[2] =	*42.0%*	*of external home improvement superstore trips*			*1,033*	*517*		*516*		
	New External Trips					**1,426**	**713**		**713**		
	Land Use	**ITE LUC[1]**	**Size**	**Units**	**Trip Generation Equation**	**PM Peak Hour**					
						Total	**In[1]**		**Out[1]**		
PM Peak Hour	Home Improvement Superstore	862	**80**	KSF	T = 2.29 * X	183	*49%*	90	*51%*	93	
	Total Generated Trips					**183**	**90**		**93**		
	Pass by Trips[2] =	*42.0%*	*of external home improvement superstore trips*			77	38		39		
	New External Trips					**106**	**52**		**54**		

Note: [1] Vehicle trip rate, directional splits, and pass-by rate per ITE Trip Generation, 11th Edition
[2] Pass-by trip reduction based on ITE Trip Generation Handbook, 3rd Edition

3.2 TRIP DISTRIBUTION

Projected traffic demand of project trips on study roadways was derived with use of the latest adopted regional travel demand model. Land use data for the project was entered into a new traffic analysis zone (TAZ) within the Central Florida Regional Planning Model (CFRPMv7) model set and situated within the existing roadway network. The model was used to assign trips for all trip purposes between allocated origin and destination pairs using project buildout year model data. Trip distribution for the project was extracted from the completed model assignment and reviewed for logic based on engineering judgement. The resulting model plot showing percent of daily project distribution with manual adjustments is provided in **Appendix H**.

Daily model project distribution was referenced to manually assign project distribution at study area intersections and driveways in general accordance with model output. **Figure 2** shows the intersection movement project distribution generated by the proposed development within the study area.

3.3 TRIP ASSIGNMENT

Project trips were assigned onto study area roadways and intersections based on project trip distribution percentages. **Figure 3** shows project movements at the study area intersections generated by the proposed development during the PM peak hour.

3.4 PASS-BY

A pass-by reduction was applied to the trips generated by the development. Pass-by traffic was assumed to use Project Driveway 1 on US-441, and Project Driveways 2 and 3 on Lake View Dr, as shown in **Figure 4.**

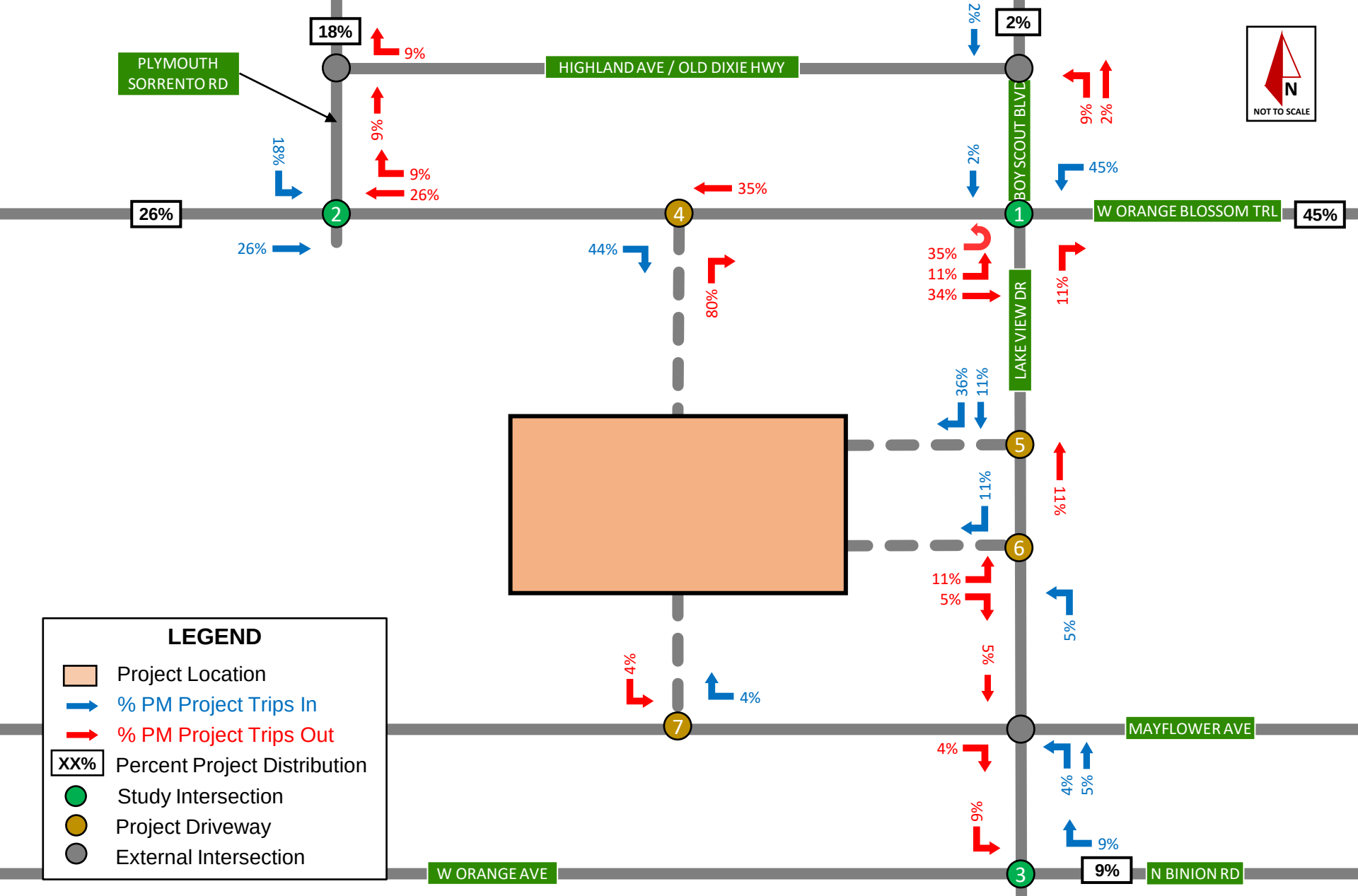


Figure 2: Project Trip Distribution
Floor & Decor | Apopka, Florida

March 2023
Project No.: 249257001

Kimley»Horn
© 2022 Kimley-Horn and Associates, Inc.
189 S Orange Ave, Suite 1000, Orlando, FL, 32801
Phone: (407)-898-1511

8

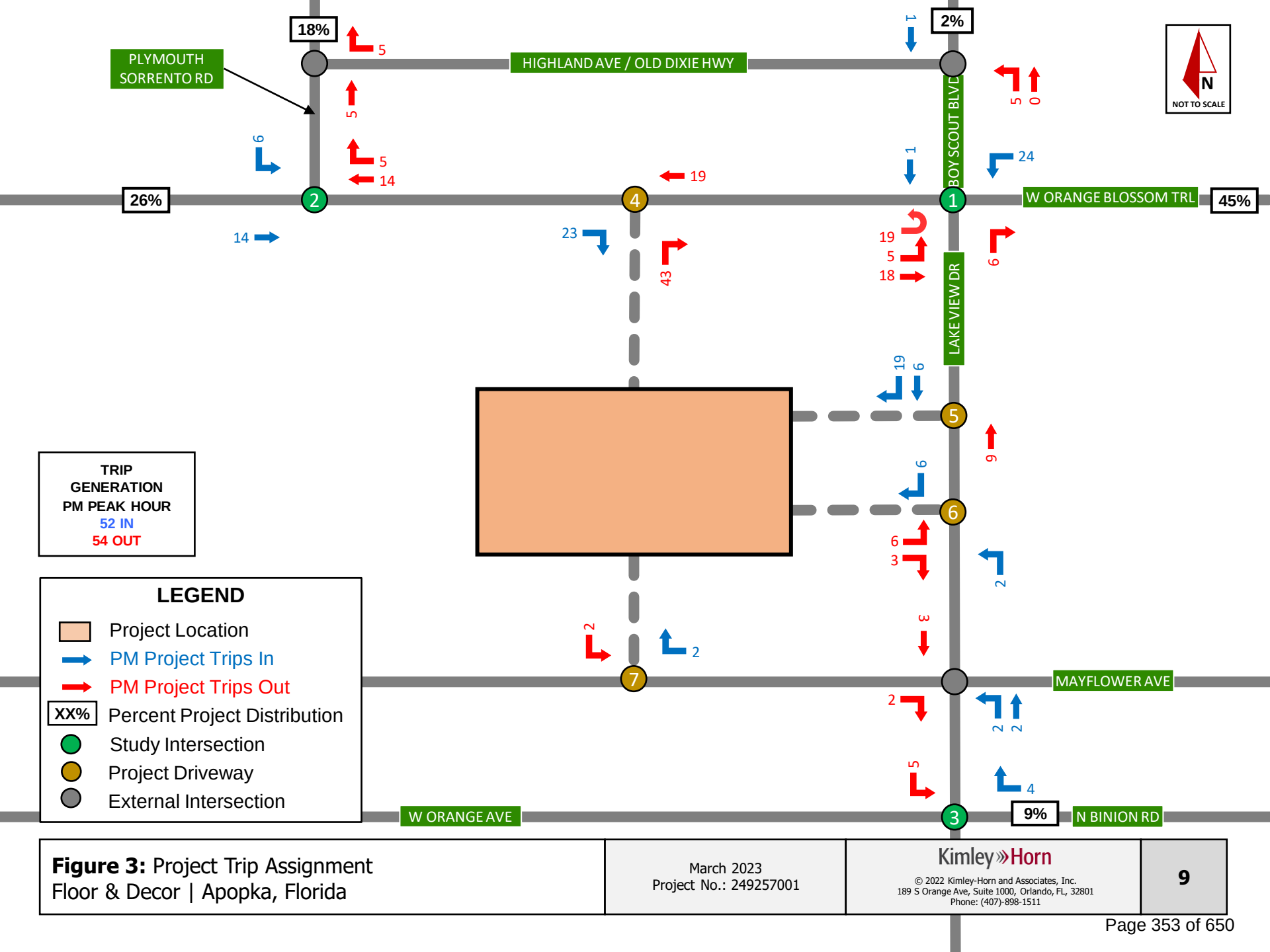


Figure 3: Project Trip Assignment
Floor & Decor | Apopka, Florida

March 2023
Project No.: 249257001

Kimley»Horn

© 2022 Kimley-Horn and Associates, Inc.
189 S Orange Ave, Suite 1000, Orlando, FL, 32801
Phone: (407)-898-1511

9

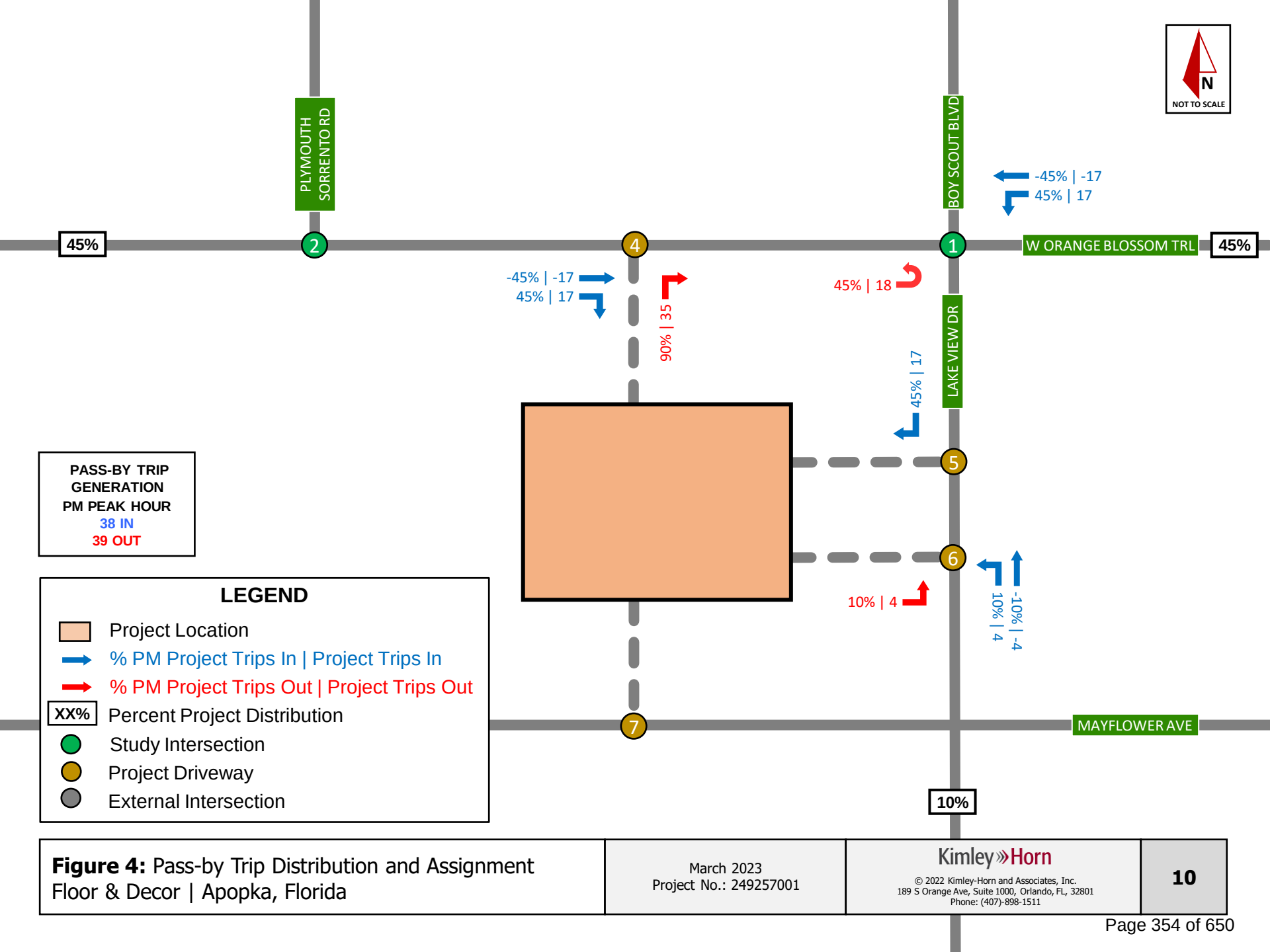


Figure 4: Pass-by Trip Distribution and Assignment
Floor & Decor | Apopka, Florida

March 2023
Project No.: 249257001

Kimley»Horn

© 2022 Kimley-Horn and Associates, Inc.
189 S Orange Ave, Suite 1000, Orlando, FL, 32801
Phone: (407)-898-1511

10

4.0 BACKGROUND CONDITIONS ANALYSIS – YEAR 2025

4.1 BACKGROUND TRAFFIC

Traffic conditions were evaluated for Year 2025 background conditions, without the inclusion of project trips on the roadway network. Background traffic volume was obtained by applying a conservative growth rate of 2% to existing (2023) traffic volumes. **Appendix D** provides adjusted turning movement volume worksheets for all study intersections.

4.2 BACKGROUND INTERSECTION ANALYSIS

An intersection operational analysis was performed for Year 2025 background conditions during the PM peak hour using procedures outlined in the *Highway Capacity Manual, 6th Edition* with Synchro (v11). Intersection LOS and maximum v/c ratios for PM peak hour background conditions are provided in **Table 3**. Synchro outputs are provided in **Appendix F**.

As shown in **Table 3**, all study area intersections are expected to operate at LOS E or better with v/c ratios of less than one with the exception of the existing deficiencies and the following:

- The northbound shared left/through/right lane at the intersection of US-441 & Lake View Dr / Boy Scout Blvd operates with a v/c of ≥ 1.0.

4.3 IMPROVED BACKGROUND INTERSECTION ANALYSIS

To mitigate the existing and background deficiencies (northbound approach at US-441 & Lake View Dr / Boy Scout Blvd and southbound approach at US-441 & Plymouth Sorrento Rd), minor signal timing adjustments are recommended. Improvements include timing split modifications. These modifications are to address deficiencies present under existing and background conditions, not to address project impact. **Table 4** provides the improved intersections' LOS and maximum volume to capacity (v/c) ratios for the PM peak hour. With the recommended minor signal timings adjustments, the intersections of US-441 & Lake View Dr / Boy Scout Blvd and US-441 & Plymouth Sorrento Rd are anticipated to operate with acceptable levels of service and v/c ratios less than one (1.0) under background PM peak hour conditions. Synchro outuputs for improved background conditions are provided in **Appendix F.**

Table 3: Background Intersection Conditions (PM Peak Hour)

Background Condition - 2025						
Intersection		Control Type	Approach	PM Peak Hour		
				Max Level of Service	Max V/C Ratio	Max V/C Movement
1	US-441 & Lake View Dr / Boy Scout Rd	Signalized	EB	C	0.49	EBT/R
			WB	B	0.50	WBL
			NB	F	1.02	NBL/T/R
			SB	E	0.48	SBL/T/R
			Overall	**C (30.7 s)**	**1.02**	**NBL/T/R**
2	US-441 & Plymouth Sorrento Rd	Signalized	EB	A	0.33	EBT/R
			WB	B	0.46	WBT/R
			NB	-	-	-
			SB	F	0.87	SBL
			Overall	**B (13.3 s)**	**0.87**	**SBL**
3	W Orange Ave / N Binion Rd & Lake View Dr / Pickford Cir	Unsignalized (AWSC)	EB	D	0.67	EBL/T/R
			WB	D	0.58	WBL/T/R
			NB	B	0.02	NBL/T/R
			SB	B	0.44	SBL/T/R
			Overall	**-**	**0.67**	**EBL/T/R**

Table 4: Improved Background Intersection Conditions (PM Peak Hour)

Improved Background Condition -2025							
Intersection		Control Type	Improvement	Approach	PM Peak Hour		
					Max Level of Service	Max V/C Ratio	Max V/C Movement
1	US-441 & Lake View Dr / Boy Scout Rd	Signalized	Modifications to signal timings	EB	C	0.54	EBT/R
				WB	B	0.53	WBL
				NB	E	0.87	NBL/T/R
				SB	D	0.40	SBL/T/R
				Overall	**C (27.5 s)**	**0.87**	**NBL/T/R**
2	US-441 & Plymouth Sorrento Rd	Signalized	Modifications to signal timings	EB	B	0.40	EBT/R
				WB	D	0.57	WBL/T/R
				NB	-	-	-
				SB	D	0.37	SBL
				Overall	**C (33.8 s)**	**0.57**	**WBL/T/R**

5.0 BUILDOUT CONDITIONS ANALYSIS – YEAR 2025

5.1 BUILDOUT TRAFFIC

Future traffic conditions were evaluated for the buildout Year 2025. Buildout volumes were developed by adding anticipated project trips to background volumes. **Appendix D** provides the adjusted turning movement volume worksheets for all intersections. **Figure 5** illustrates turning movement volumes for buildout conditions at the study intersections during the PM peak hour.

5.2 BUILDOUT INTERSECTION ANALYSIS

An intersection operational analysis was performed for Year 2025 buildout conditions during the PM peak hour using procedures outlined in the *Highway Capacity Manual, 6th Edition* with Synchro (v11) software. Improvements to address existing and background deficiencies are assumed for buildout conditions. Intersection LOS and maximum v/c ratios for PM peak hour buildout conditions are provided in **Table 5**. Synchro outputs are provided in **Appendix F**.

As shown in **Table 5**, all study area intersections are expected to operate with LOS E or better with v/c ratios of less than one. No new transportation deficiencies were identified as a result of project traffic.

5.3 BUILDOUT INGRESS TURN LANE ANALYSIS

The need for exclusive ingress left- and right-turn lanes at the proposed site access points was evaluated based on the standards adopted by the jurisdiction responsibile for each roadway. Project Driveway 1 is along US-441, and therefore FDOT standards were applied to evaluate the need for an exclusive ingress right-turn lane.

FDOT guidance included in Chapter 6 of the FDOT Access Management Guidebook show that an ingress right-turn lane should be provided if a threshold of 80 to 125 right turns per hour are anticipated when the posted speed limit is 45 MPH or less. As shown in **Figure 5**, the anticipated peak hour eastbound right turn volume is 41 vehicles. Therefore, an exclusive ingress right-turn lane is not warranted along US-441 at Project Driveway 1.

Left-turn movements are not allowed or not anticipated Project Driveway 1, Project Driveway 2, and Project Driveway 4. Therefore, ingress left-turn lanes are not recommended at these driveways. The driveways will have appropriate traffic control devices to prevent unsafe left-turn movements.

Project Driveways 2, 3, and 4 are proposed on County or local roadways. Apopka Land Development Code standards were applied to evaluate the need for exclusive ingress turn lanes. Per Section 5.16.5 of the City's Land Development Code (LDC) a right-turn lane should be provided at each driveway where speed limit equals or exceed 35 MPH, or the right-turning movement exceeds 100 vehicles per hour during the peak hour. As shown in **Figure 5**, no project driveways meet the minimum volume threshold for an exclusive right-turn lane. Additionally, the posted speed limits along Lake View Dr and Mayflower Ave are less than 35 MPH. Therefore, exclusive right-turn lanes are not recommended at Project Driveway 2, Project Driveway 3, or Project Driveway 4.

The need for an exclusive ingress left-turn lane at Project Driveway 3 on Lake View Drive was evaluated the National Cooperative Highway Research Program (NCHRP) Report 457 thresholds. Based on the thresholds in NCHRP Report 457, a left-turn lane is not warranted at Project Driveway 3 and is not

recommended due to the very low left-turn volume anticipated at the driveway. The NCHRP output is provided in **Appendix I**.

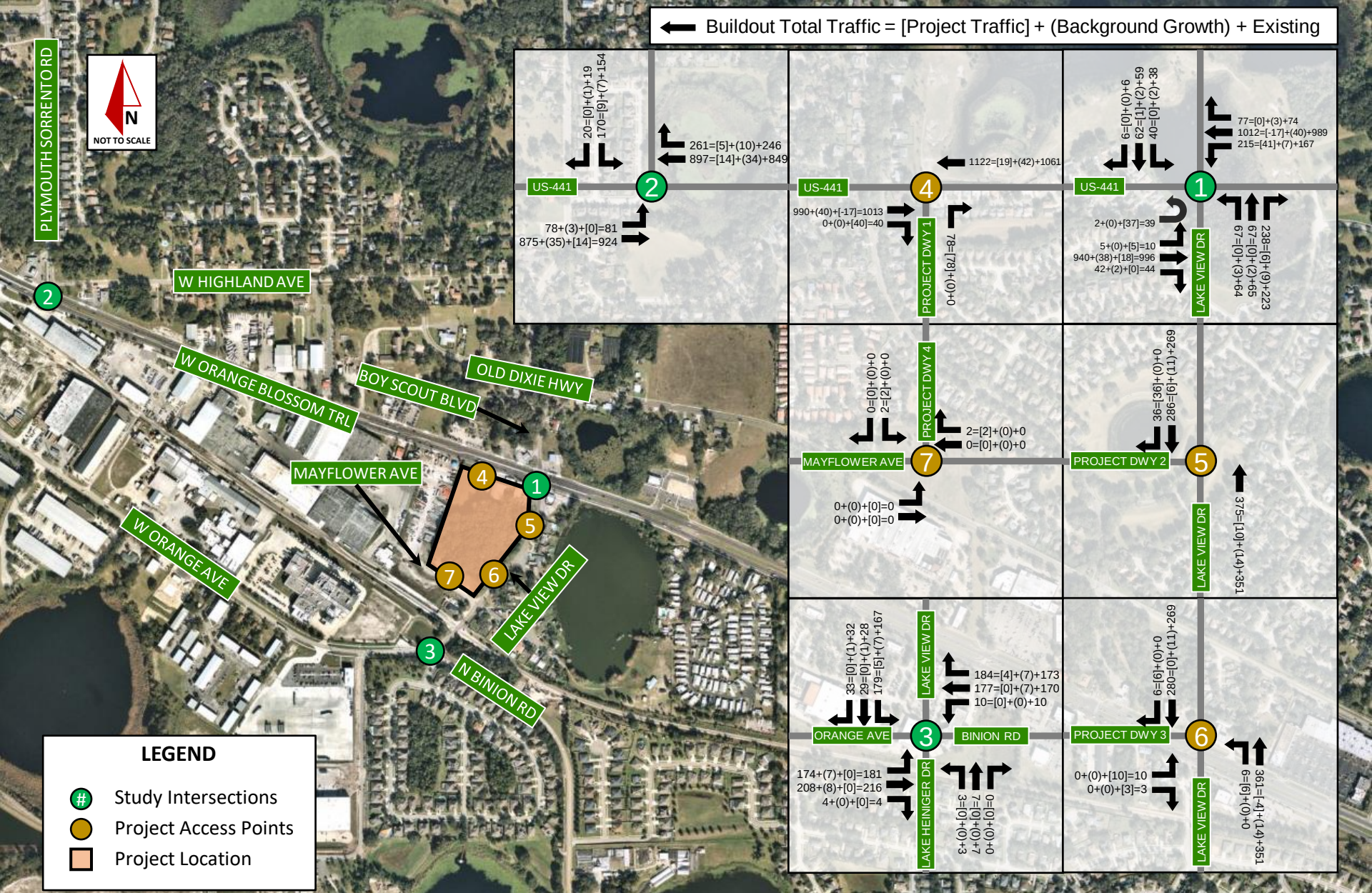


Figure 5: Buildout Volumes - PM Peak Hour
Floor & Decor | Apopka, Florida

March 2023
Project No.: 249257001

Kimley»Horn

© 2022 Kimley-Horn and Associates, Inc.
189 S Orange Ave, Suite 1000, Orlando, FL, 32801
Phone: (407)-898-1511

Table 5: Buildout Intersection Conditions (PM Peak Hour)

Buildout Condition - 2025						
Intersection		Control Type	Approach	PM Peak Hour		
				Max Level of Service	Max V/C Ratio	Max V/C Movement
1	US-441 & Lake View Dr / Boy Scout Rd	Signalized	EB	C	0.57	EBT/R
			WB	B	0.65	WBL
			NB	E	0.87	NBL/T/R
			SB	D	0.40	SBL/T/R
			Overall	**C (28.9 s)**	**0.87**	**NBL/T/R**
2	US-441 & Plymouth Sorrento Rd	Signalized	EB	B	0.40	EBL
			WB	D	0.58	WBT/R
			NB	-	-	-
			SB	D	0.39	SBL
			Overall	**C (27.7 s)**	**0.58**	**WBT/R**
3	W Orange Ave / N Binion Rd & Lake View Dr / Pickford Cir	Unsignalized (AWSC)	EB	C	0.67	EBL/T/R
			WB	C	0.60	WBL/T/R
			NB	B	0.02	NBL/T/R
			SB	B	0.46	SBL/T/R
			Overall	**-**	**0.67**	**EBL/T/R**
4	US-441 & Project Driveway 1	Unsignalized (TWSC)	EB(L)	-	-	-
			WB(L)	-	-	-
			NB	B	0.18	NBR
			SB	-	-	-
			Overall	**-**	**0.18**	**NBR**
5	Lake View Dr & Project Driveway 2	Unsignalized (right-in)	EB	-	-	-
			WB	-	-	-
			NB(L)	-	-	-
			SB(L)	B	0.21	SBR
			Overall	**-**	**0.21**	**SBR**
6	Lake View Dr & Project Driveway 3	Unsignalized (TWSC)	EB	B	0.03	EBL/R
			WB	-	-	-
			NB(L)	A	0.01	NBL/T
			SB(L)	-	-	-
			Overall	**-**	**0.03**	**EBL/R**
7	Mayflower & Project Driveway 4	Unsignalized (TWSC)	EB(L)	A	0.00	EBL
			WB(L)	-	-	-
			NB	-	-	-
			SB	A	0.00	SBL/R
			Overall	**-**	**0.00**	**SBL/R**

6.0 PARKING ANALYSIS

6.1 CODE PARKING REQUIREMENTS

The City of Apopka Land Development Code, Section 5.1.6.A, defines the minimum parking requirements for development within the City of Apopka. Per the LDC, unlisted uses shall be allowed to propose the amount of required parking by conducting a parking demand study to demonstrate the appropriate minimum off-street parking space requirement.

6.2 DATA EVALUATION OF SIMILAR SITES

Kimley-Horn has undertaken a review and evaluation of seven (7) Floor & Décor stores around the country to evaluate the anticipated parking requirements for Floor & Decor developments. The surveyed developments represent the best performing stores in each of their respective markets and were selected for study to collect data at the stores anticipated to have the highest parking and trip generation rates, representing a "worst-case" scenario. Parking counts were performed to determine the maximum number of occupied parking spaces during the typical peak demand period. The parking counts were collected on weekdays between 7:00 AM to 9:30 AM and from 4:00 PM to 7:00 PM and on Saturdays from 11:00 AM to 2:00 PM.

Based upon the parking count data, the average weekday PM peak parking rate was 0.47 spaces per 1,000 square feet, and therefore 38 spaces would be needed to serve the proposed 80 KSF Floor & Decor. However, the maximum parking rate in spaces per 1,000 square feet of gross leasable area occurred during the Saturday data collection for all seven stores studied. The average Saturday peak parking rate was 0.89 spaces per 1,000 square feet, and therefore 71 spaces would be needed to serve the proposed 80 KSF Floor & Decor. The parking study is provided in **Appendix J**.

6.3 PROPOSED PARKING REQUIREMENTS

The maximum parking rate in spaces per 1,000 square feet of gross leasable area occurred during the Saturday data collection period and the observed average peak parking rate was 0.89 spaces per 1,000 square feet. As shown in the site plan (**Appendix A**), 120 spaces are being proposed for the +/-77,860 GFA facility which is a proposed parking supply of 1.54 parking spaces per 1,000 square feet of floor area. Therefore, the proposed parking supply is anticipated to easily meet the peak parking demand of the project.

7.0 CONCLUSION

This traffic impact analysis was performed to assess the transportation impacts of the Floor & Décor development to be located in the southwest quadrant of the intersection of US 441 (W. Orange Blossom Trail) and Lake View Drive in the City of Apopka (Orange County), Florida. The project is anticipated to consist of a 77,860 square-foot building to be built out by Year 2025.

Access to the project site will be provided via four (4) driveways: a right-in/right-out on Orange Blossom Trail, a right-in driveway and a full-access driveway on Lake View Drive, and a full-access driveway on Mayflower Avenue.

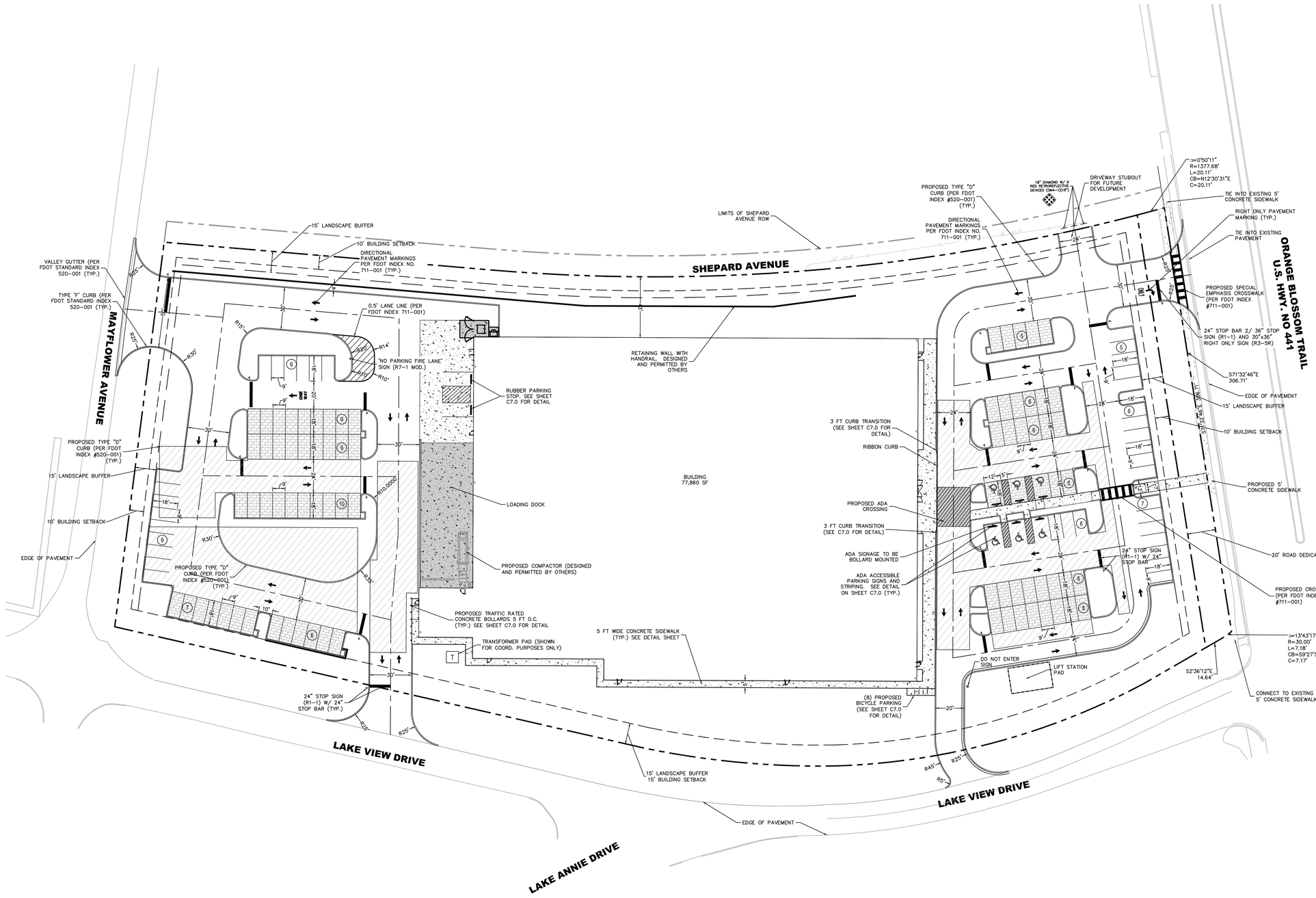
Based on trip rates from the latest ITE *Trip Generation Manual* for LUC 862 (Home Improvement Superstore), the project is anticipated to generate a total of 1,426 net new external daily trips and 106 PM peak hour trips (52 inbound and 54 outbound). A total of 77 pass-by trips are estimated during the PM peak hour (38 inbound and 39 outbound).

Operational analyses performed at study area intersections and driveways conclude that under Year 2025 buildout conditions, all study area intersections are expected to operate with acceptable LOS and v/c ratios with the recommended background improvements.

The need for exclusive ingress left- and right-turn lanes at the proposed site access points was evaluated based on the standards adopted by the jurisdiction responsible for each roadway. Upon review of FDOT and City of Apopka guidelines, ingress turn lanes are not warranted or recommended at any of the project driveways.

A parking demand study has been conducted in order to provide a recommended number of parking rate for Floor & Decor facilities. Based on the results of the study, the highest observed average parking demand during a peak period at Floor & Decor facilities was 0.89 spaces per 1,000 square feet of floor area. 120 spaces are being proposed for the +/-77,860 GFA facility which is a proposed parking supply of 1.54 parking spaces per 1,000 square feet of floor area. Therefore, the proposed parking supply is anticipated to easily meet the peak parking demand of the project.

APPENDIX A
Site Plan



LEGEND

- PROPERTY LINE
- ROAD DEDICATION
- BUILDING SETBACKS
- LANDSCAPE BUFFER
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED CONCRETE SIDEWALK
- (X) PARKING COUNT

SITE DATA

TOTAL AREA:	5.72 ACRES
EXISTING ZONING:	I/L
EXISTING LAND USE:	INDUSTRIAL
PROPOSED BUILDING AREA:	77,860 SF

F.A.R. CALCULATION:

MAX FAR:	0.60
PROPOSED FAR:	0.31

BUILDING CRITERIA:

MAX BUILDING HEIGHT:	45 FT
PROPOSED BUILDING HEIGHT:	32 FT

BUILDING SETBACKS

	REQUIRED
NORTH PROPERTY LINE	10 FT
EAST PROPERTY LINE	15 FT
SOUTH PROPERTY LINE	10 FT
WEST PROPERTY LINE	10 FT

LANDSCAPE BUFFERS

	REQUIRED
NORTH PROPERTY LINE	15 FT MIN.
EAST PROPERTY LINE	15 FT MIN.
SOUTH PROPERTY LINE	15 FT MIN.
WEST PROPERTY LINE	15 FT MIN.

REQUIRED PARKING

REQUIRED PARKING	70 SPACES (0.89 SPACES/1000 SF)

PROVIDED PARKING

STANDARD SPACES (9'X18')	114 SPACES
ADA SPACES (12'X18')	6 SPACES
TOTAL SPACES PROVIDED:	120 SPACES

REQUIRED BICYCLE PARKING

1 SPACE PER 10000 SF	8 SPACES
PROVIDED SPACES	8 SPACES

OVERALL IMPERVIOUS AREA:

BUILDING AREA:	1.79 AC
PAVEMENT/CONCRETE AREA:	2.30 AC
TOTAL IMPERVIOUS AREA:	4.09 AC (72 %)

OPEN SPACE:

MINIMUM REQUIRED OPEN SPACE CALCULATION
5.72 AC X 5.0% = 0.29 AC

PROVIDED OPEN SPACE CALCULATION
5.72 AC - 4.09 AC = 1.63 AC (28.5%)

GENERAL NOTES:
1. ALL RADII ARE TO BE 3' OR 10' UNLESS OTHERWISE NOTED.

2. ALL MEASUREMENTS TO FACE OF CURB UNLESS OTHERWISE NOTED.

Always call 811 two full business days before you dig to have underground utilities located and marked.

Sunshine811.com

FLOOR & DECOR
2500 WINDY RIDGE PARKWAY, SE
ATLANTA, GA 30339

SBLM
SBLM Architects **AA-0003434**
33 Walt Whitman Road
Suite 300A
Huntington Station, NY 11746
Telephone 631 683 5588
Fax 631 683 5591

A.V. SCHWAN & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
6000 E. Thomas Road, Suite 1
Scottsdale, Arizona 85251
Phone: (602) 265-6333 Fax: (480) 663-6758
Website: www.AVSchwan.com

dlbassociates consulting engineers
3600 Route 66, Suite 350 - #3081
Neptune NJ 07753

CODE CONSULTANTS, INC.
2043 WOODLAND PKWY, SUITE 300
ST. LOUIS, MISSOURI 63146-4220
314-991-2533

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.

189 S. ORANGE AVE., SUITE 1000
ORLANDO, FL 32801
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

PROJECT

FLOOR & DECOR

APOPKA, FL

SWC ORANGE BLOSSOM TRAIL & LAKE VIEW DRIVE, FL 32712

ISSUE DATE:	T.B.D.
STORE NUMBER:	T.B.D.
GROSS BLDG AREA :	74,400 SF
JOB NUMBER:	022172
PROTOTYPE:	2023 Q1

ISSUE

SEAL

MARCH 15, 2023

SHEET

SITE PLAN

DRAWN: BJW
CHECKED: BSA

C4.0

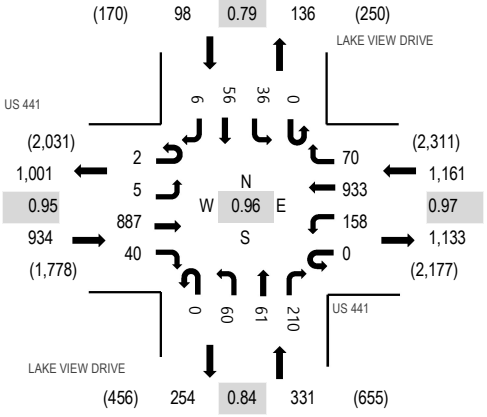
Plotted By: Wagner, Brake Sheet Set: FLOOR AND DECOR APOPKA Layout: C4.0 SITE PLAN March 23, 2023 05:10:14pm K:\ORL_Civil\249257001-Floor & Decor Apopka\CAD\CONST\PlanSheets\C4.0 SITE PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. for the specific purpose intended will be at user's sole risk and without liability to Kimley-Horn and Associates, Inc.

APPENDIX B
Turning Movement Counts

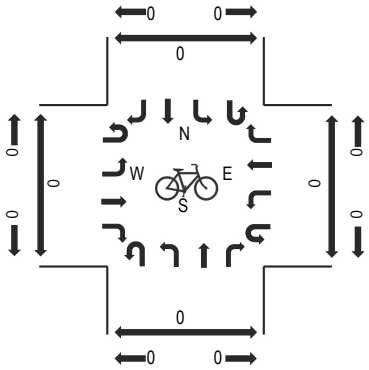
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 LAKE VIEW DRIVE & US 441 PM
Date: Tuesday, January 31, 2023
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:45 PM - 06:00 PM

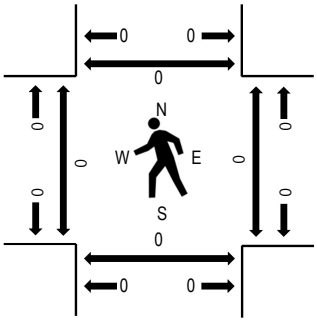
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	US 441 Eastbound				US 441 Westbound				LAKE VIEW DRIVE Northbound				LAKE VIEW DRIVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	1	0	215	3	0	31	208	16	0	19	13	43	0	7	4	2	562	2,390	0	0	0	0
4:15 PM	1	1	187	14	0	33	254	10	0	13	12	37	0	7	7	2	578	2,443	0	0	1	0
4:30 PM	1	1	200	12	0	39	238	17	0	14	19	72	0	11	9	2	635	2,490	0	0	0	0
4:45 PM	0	1	201	6	0	32	259	13	0	15	11	56	0	8	12	1	615	2,481	0	0	0	0
5:00 PM	0	1	215	5	0	45	232	12	0	13	24	48	0	5	14	1	615	2,524	0	0	0	0
5:15 PM	2	1	216	8	0	33	237	24	0	14	14	53	0	10	11	2	625		0	0	0	0
5:30 PM	0	0	224	17	0	37	217	15	0	15	12	58	0	12	17	2	626		0	0	0	0
5:45 PM	0	3	232	10	0	43	247	19	0	18	11	51	0	9	14	1	658		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	2	0	0	2	0	0	0	0	3	0	0	0	0	7
Lights	2	5	877	37	0	158	921	70	0	60	60	204	0	36	56	6	2,492
Mediums	0	0	10	1	0	0	10	0	0	0	1	3	0	0	0	0	25
Total	2	5	887	40	0	158	933	70	0	60	61	210	0	36	56	6	2,524

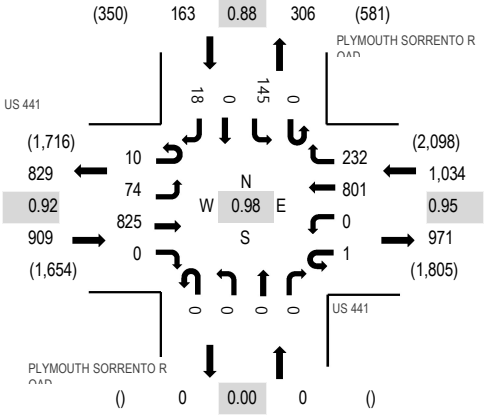
Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		1.4%				1.0%				2.1%				0.0%			1.3%
Heavy Vehicle %	0.0%	0.0%	1.1%	7.5%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	1.6%	2.9%	0.0%	0.0%	0.0%	0.0%	1.3%
Peak Hour Factor		0.95				0.97				0.84				0.79			0.96
Peak Hour Factor	0.38	0.42	0.96	0.59	0.00	0.88	0.95	0.73	0.00	0.80	0.71	0.80	0.00	0.75	0.82	0.88	0.96

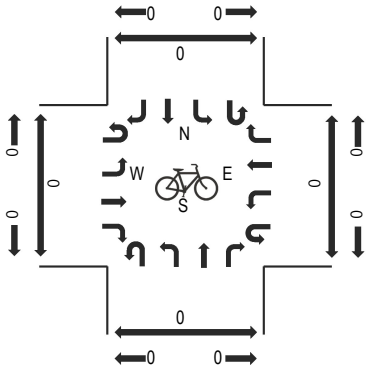
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 PLYMOUTH SORRENTO ROAD & US 441 PM
Date: Tuesday, January 31, 2023
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

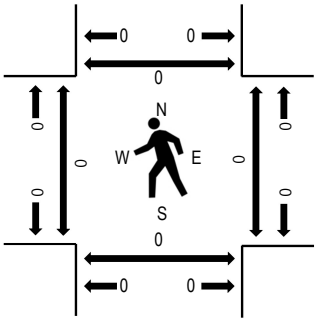
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	US 441 Eastbound				US 441 Westbound				PLYMOUTH SORRENTO ROAD Northbound				PLYMOUTH SORRENTO ROAD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	3	15	170	0	1	0	205	46	0	0	0	0	0	36	0	6	482	1,996	0	0	0	0
4:15 PM	2	15	164	0	0	0	212	59	0	0	0	0	0	42	0	11	505	2,011	0	0	0	0
4:30 PM	1	21	167	0	2	0	205	54	0	0	0	0	0	45	0	7	502	2,040	0	0	0	0
4:45 PM	1	13	173	0	0	0	228	52	0	0	0	0	0	34	0	6	507	2,077	0	0	0	0
5:00 PM	2	20	194	0	1	0	184	62	0	0	0	0	0	31	0	3	497	2,106	0	0	0	0
5:15 PM	3	16	205	0	0	0	216	55	0	0	0	0	0	34	0	5	534		0	0	0	0
5:30 PM	3	17	226	0	0	0	199	52	0	0	0	0	0	36	0	6	539		0	0	0	0
5:45 PM	2	21	200	0	0	0	202	63	0	0	0	0	0	44	0	4	536		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	4
Lights	10	73	816	0	1	0	790	229	0	0	0	0	0	143	0	18	2,080
Mediums	0	1	8	0	0	0	10	1	0	0	0	0	0	2	0	0	22
Total	10	74	825	0	1	0	801	232	0	0	0	0	0	145	0	18	2,106

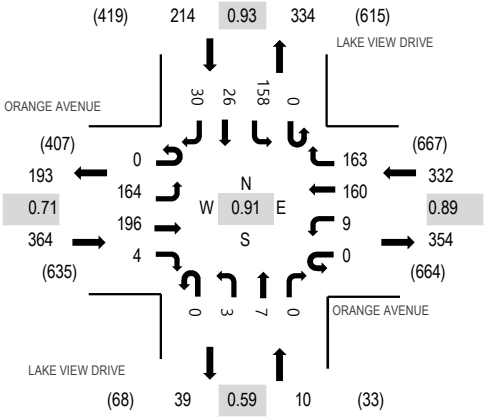
Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		1.1%				1.4%				0.0%				1.2%			1.2%
Heavy Vehicle %	0.0%	1.4%	1.1%	0.0%	0.0%	0.0%	1.4%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	1.2%
Peak Hour Factor		0.92				0.95				0.00				0.88			0.98
Peak Hour Factor	0.83	0.88	0.91	0.00	0.38	0.00	0.93	0.92	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.68	0.98

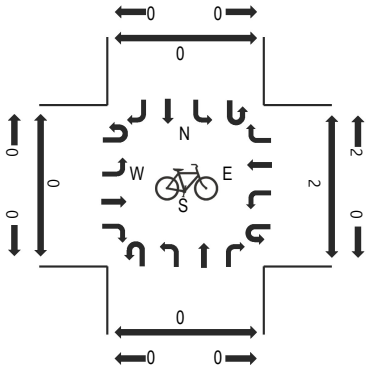
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 LAKE VIEW DRIVE & ORANGE AVENUE PM
Date: Tuesday, January 31, 2023
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

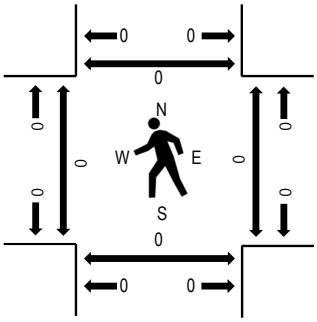
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	ORANGE AVENUE Eastbound				ORANGE AVENUE Westbound				LAKE VIEW DRIVE Northbound				LAKE VIEW DRIVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	27	37	0	0	0	37	35	0	2	2	0	0	30	2	8	180	840	0	0	0	0
4:15 PM	0	17	33	2	0	1	57	42	0	1	4	1	0	33	5	14	210	912	0	0	0	0
4:30 PM	0	77	51	0	0	1	30	30	0	1	1	0	0	41	6	11	249	920	0	0	0	0
4:45 PM	0	31	35	0	0	2	42	42	0	0	2	0	0	36	8	3	201	900	0	0	0	0
5:00 PM	0	28	59	3	0	5	42	51	0	2	2	0	0	49	5	6	252	914	0	0	0	0
5:15 PM	0	28	51	1	0	1	46	40	0	0	2	0	0	32	7	10	218		0	0	0	0
5:30 PM	0	36	51	5	0	0	37	39	0	0	5	0	0	41	8	7	229		0	0	0	0
5:45 PM	0	25	37	1	0	2	42	43	0	1	6	1	0	46	3	8	215		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	1	5
Lights	0	162	195	4	0	9	150	161	0	3	7	0	0	158	26	28	903
Mediums	0	1	1	0	0	0	7	2	0	0	0	0	0	0	0	1	12
Total	0	164	196	4	0	9	160	163	0	3	7	0	0	158	26	30	920

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		0.8%				3.6%				0.0%				0.9%			1.8%
Heavy Vehicle %	0.0%	1.2%	0.5%	0.0%	0.0%	0.0%	6.3%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	1.8%
Peak Hour Factor		0.71				0.89				0.59				0.93			0.91
Peak Hour Factor	0.00	0.53	0.84	0.50	0.00	0.45	0.75	0.85	0.00	0.50	0.63	0.25	0.00	0.86	0.88	0.64	0.91

APPENDIX C
FDOT's Florida Traffic Online (FTO) Data

2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 7500 ORANGE COUNTYWIDE

MOCF: 0.99

WEEK	DATES	SF	PSCF
1	01/01/2021 - 01/02/2021	0.99	1.00
2	01/03/2021 - 01/09/2021	1.04	1.05
3	01/10/2021 - 01/16/2021	1.09	1.10
4	01/17/2021 - 01/23/2021	1.08	1.09
5	01/24/2021 - 01/30/2021	1.07	1.08
6	01/31/2021 - 02/06/2021	1.06	1.07
7	02/07/2021 - 02/13/2021	1.05	1.06
8	02/14/2021 - 02/20/2021	1.04	1.05
9	02/21/2021 - 02/27/2021	1.03	1.04
10	02/28/2021 - 03/06/2021	1.02	1.03
11	03/07/2021 - 03/13/2021	1.01	1.02
12	03/14/2021 - 03/20/2021	1.00	1.01
13	03/21/2021 - 03/27/2021	1.00	1.01
14	03/28/2021 - 04/03/2021	1.00	1.01
15	04/04/2021 - 04/10/2021	1.00	1.01
16	04/11/2021 - 04/17/2021	1.00	1.01
17	04/18/2021 - 04/24/2021	0.99	1.00
18	04/25/2021 - 05/01/2021	0.99	1.00
19	05/02/2021 - 05/08/2021	0.98	0.99
20	05/09/2021 - 05/15/2021	0.98	0.99
21	05/16/2021 - 05/22/2021	0.98	0.99
22	05/23/2021 - 05/29/2021	0.99	1.00
23	05/30/2021 - 06/05/2021	0.99	1.00
24	06/06/2021 - 06/12/2021	0.99	1.00
25	06/13/2021 - 06/19/2021	1.00	1.01
26	06/20/2021 - 06/26/2021	1.00	1.01
27	06/27/2021 - 07/03/2021	1.00	1.01
28	07/04/2021 - 07/10/2021	1.00	1.01
29	07/11/2021 - 07/17/2021	1.00	1.01
30	07/18/2021 - 07/24/2021	1.00	1.01
31	07/25/2021 - 07/31/2021	1.00	1.01
32	08/01/2021 - 08/07/2021	1.00	1.01
33	08/08/2021 - 08/14/2021	0.99	1.00
34	08/15/2021 - 08/21/2021	0.99	1.00
35	08/22/2021 - 08/28/2021	0.99	1.00
36	08/29/2021 - 09/04/2021	0.99	1.00
37	09/05/2021 - 09/11/2021	0.99	1.00
38	09/12/2021 - 09/18/2021	0.99	1.00
*39	09/19/2021 - 09/25/2021	0.99	1.00
*40	09/26/2021 - 10/02/2021	0.98	0.99
*41	10/03/2021 - 10/09/2021	0.98	0.99
*42	10/10/2021 - 10/16/2021	0.97	0.98
*43	10/17/2021 - 10/23/2021	0.98	0.99
*44	10/24/2021 - 10/30/2021	0.98	0.99
*45	10/31/2021 - 11/06/2021	0.99	1.00
*46	11/07/2021 - 11/13/2021	0.99	1.00
*47	11/14/2021 - 11/20/2021	0.99	1.00
*48	11/21/2021 - 11/27/2021	0.99	1.00
*49	11/28/2021 - 12/04/2021	0.99	1.00
*50	12/05/2021 - 12/11/2021	0.99	1.00
*51	12/12/2021 - 12/18/2021	0.99	1.00
52	12/19/2021 - 12/25/2021	1.04	1.05
53	12/26/2021 - 12/31/2021	1.09	1.10

* PEAK SEASON

08-MAR-2022 12:36:27 830UPD 5_7500_PKSEASON.TXT

APPENDIX D
Turning Movement Volume Worksheets

Intersection Development Worksheet

Kimley»Horn
Expect More. Experience Better.

Intersection #:	1		
Major Street:	US-441	E/W	
Minor Street:	Lake View Dr / Boy	N/S	
PHF:	0.96		

Existing Year:	2023
Buildout Year:	2025
Seasonal Factor:	1.06

TMC Year: 2023

PM Peak Hour Trips:	IN =	52	**OUT =**	54
PM Peak Hour Pass-By Trips:	IN =	38	**OUT =**	39

Weekday PM Peak Hour	**Lake View Dr / Boy Scout Rd**								**US-441**							
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
5:00 PM - 6:00 PM	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**
TMC (2023)	0	60	61	210	0	36	56	6	2	5	887	40	0	158	933	70
Seasonal Factor		1.06				1.06				1.06				1.06		
Heavy Vehicle (%)	0%	0%	2%	3%	0%	0%	0%	0%	0%	0%	1%	8%	0%	0%	1%	0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Existing (2023)	**0**	**64**	**65**	**223**	**0**	**38**	**59**	**6**	**2**	**5**	**940**	**42**	**0**	**167**	**989**	**74**
Growth Rates		2.00%				2.00%				2.00%				2.00%		
Background (2025)	**0**	**67**	**67**	**232**	**0**	**40**	**61**	**6**	**2**	**5**	**978**	**44**	**0**	**174**	**1,029**	**77**
Project Assignment																
Ingress							2%							45%		
Egress				11%					35%	11%	34%					
Project Trips	0	0	0	6	0	0	1	0	19	5	18	0	0	24	0	0
Pass-By Assignment																
Ingress														45%	-45%	
Egress									45%							
Pass-By Trips	0	0	0	0	0	0	0	0	18	0	0	0	0	17	-17	0
Project Buildout	**0**	**67**	**67**	**238**	**0**	**40**	**62**	**6**	**39**	**10**	**996**	**44**	**0**	**215**	**1,012**	**77**

\\kimley-horn.com\fl_or\orl_tpto\249257001_floor & decor apopka\03_excel\[trip gen_floor&decor_v1.xlsx]int.#1

Intersection Development Worksheet

Kimley»Horn
Expect More. Experience Better.

Intersection #:	2		***Existing Year:***	2023	***TMC Year:*** 2023
Major Street:	US-441	E/W	***Buildout Year:***	2025	
Minor Street:	Plymouth Sorrento	N/S	***Seasonal Factor:***	1.06	

PM Peak Hour Trips: IN = 52 **OUT =** 54

PHF: 0.88

Weekday PM Peak Hour 5:00 PM - 6:00 PM	Plymouth Sorrento Rd								US-441							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2023)	0	0	0	0	0	145	0	18	0	74	825	0	1	0	801	232
Seasonal Factor		1.06				1.06				1.06				1.06		
Heavy Vehicle (%)	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	1%	0%	0%	0%	1%	1%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Existing (2023)	**0**	**0**	**0**	**0**	**0**	**154**	**0**	**19**	**0**	**78**	**875**	**0**	**1**	**0**	**849**	**246**
Growth Rates		2.00%				2.00%				2.00%				2.00%		
Background (2025)	**0**	**0**	**0**	**0**	**0**	**161**	**0**	**20**	**0**	**81**	**910**	**0**	**1**	**0**	**883**	**256**
Project Assignment																
Ingress						18%					26%					
Egress															26%	9%
Project Trips	0	0	0	0	0	9	0	0	0	0	14	0	0	0	14	5
Project Buildout	**0**	**0**	**0**	**0**	**0**	**170**	**0**	**20**	**0**	**81**	**924**	**0**	**1**	**0**	**897**	**261**

\\kimley-horn.com\fl_or\orl_tpto\249257001_floor & decor apopka\03_excel\[trip gen_floor&decor_v1.xlsx]int.#2

Intersection Development Worksheet

Kimley»Horn
Expect More. Experience Better.

Intersection #: 3
Major Street: W Orange Ave / N | E/W
Minor Street: Lake View Dr / Pick | N/S

Existing Year: 2023
Buildout Year: 2025
Seasonal Factor: 1.06

TMC Year: 2023

PHF: 0.96

PM Peak Hour Trips: IN = 52 **OUT =** 54

Weekday PM Peak Hour 4:30 PM - 5:30 PM	Lake View Dr / Pickford Cir								W Orange Ave / N Binion Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2023)	0	3	7	0	0	158	26	30	0	164	196	4	0	9	160	163
Seasonal Factor		1.06				1.06				1.06				1.06		
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	7%	0%	1%	1%	0%	0%	0%	6%	1%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Existing (2023)	**0**	**3**	**7**	**0**	**0**	**167**	**28**	**32**	**0**	**174**	**208**	**4**	**0**	**10**	**170**	**173**
Growth Rates		2.00%				2.00%				2.00%				2.00%		
Background (2025)	**0**	**3**	**7**	**0**	**0**	**174**	**29**	**33**	**0**	**181**	**216**	**4**	**0**	**10**	**177**	**180**
Project Assignment																
Ingress																9%
Egress						9%										
Project Trips	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	4
Project Buildout	**0**	**3**	**7**	**0**	**0**	**179**	**29**	**33**	**0**	**181**	**216**	**4**	**0**	**10**	**177**	**184**

\\kimley-horn.com\fl_or\orl_tpto\249257001_floor & decor apopka\03_excel\[trip gen_floor&decor_v1.xlsx]int.#3

Intersection Development Worksheet

Kimley»Horn
Expect More. Experience Better.

Intersection #:	4		***Existing Year:***	2023	***TMC Year:*** 2023
Major Street:	US-441	E/W	***Buildout Year:***	2025	
Minor Street:	Project Driveway 1	N/S	***Seasonal Factor:***	1.06	
PHF:	0.93				

PM Peak Hour Trips:	IN =	52	**OUT =**	54
PM Peak Hour Pass-By Trips:	IN =	38	**OUT =**	39

Weekday PM Peak Hour	**Project Driveway 1**								**US-441**							
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
	U	**L**	**T**	**R**	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**
TMC (2023)	0	0	0	0	0	0	0	0	0	0	934	0	0	0	1,001	0
Seasonal Factor		1.06				1.06				1.06				1.06		
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Existing (2023)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**990**	**0**	**0**	**0**	**1,061**	**0**
Growth Rates		2.00%				2.00%				2.00%				2.00%		
Background (2025)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,030**	**0**	**0**	**0**	**1,103**	**0**
Project Assignment																
Ingress												44%				
Egress				80%											35%	
Project Trips	0	0	0	43	0	0	0	0	0	0	0	23	0	0	19	0
Pass-By Assignment																
Ingress											-45%	45%				
Egress				90%												
Pass-By Trips	0	0	0	35	0	0	0	0	0	0	-17	17	0	0	0	0
Project Buildout	**0**	**0**	**0**	**78**	**0**	**0**	**0**	**0**	**0**	**0**	**1,013**	**40**	**0**	**0**	**1,122**	**0**

\\kimley-horn.com\fl_or\orl_tpto\249257001_floor & decor apopka\03_excel\[trip gen_floor&decor_v1.xlsx]int. #4

Intersection Development Worksheet

Kimley»Horn
Expect More. Experience Better.

Intersection #:	5		***Existing Year:***	2023	***TMC Year:*** 2023
Major Street:	Lake View Dr	N/S	***Buildout Year:***	2025	
Minor Street:	Project Driveway 2	E/W	***Seasonal Factor:***	1.06	

PM Peak Hour Trips:	IN =	52	**OUT =**	54
PM Peak Hour Pass-By Trips:	IN =	38	**OUT =**	39

PHF: 0.86

Weekday PM Peak Hour	**Lake View Dr**								**Project Driveway 2**							
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
	U	**L**	**T**	**R**	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**
TMC (2023)	0	0	331	0	0	0	254	0	0	0	0	0	0	0	0	0
Seasonal Factor			1.06				1.06				1.06				1.06	
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Existing (2023)	**0**	**0**	**351**	**0**	**0**	**0**	**269**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Background (2025)	**0**	**0**	**365**	**0**	**0**	**0**	**280**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Project Assignment																
Ingress							11%	36%								
Egress			11%													
Project Trips	0	0	6	0	0	0	6	19	0	0	0	0	0	0	0	0
Pass-By Assignment																
Ingress								45%								
Egress																
Pass-By Trips	0	0	4	0	0	0	0	17	0	0	0	0	0	0	0	0
Project Buildout	**0**	**0**	**375**	**0**	**0**	**0**	**286**	**36**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

\\kimley-horn.com\fl_or\orl_tpto\249257001_floor & decor apopka\03_excel\[trip gen_floor&decor_v1.xlsx]int.#5

Intersection Development Worksheet

Kimley»Horn
Expect More. Experience Better.

Intersection #:	6		***Existing Year:***	2023	***TMC Year:*** 2023
Major Street:	Lake View Dr	N/S	***Buildout Year:***	2025	
Minor Street:	Project Driveway 3	E/W	***Seasonal Factor:***	1.06	
PHF:	0.92				

PM Peak Hour Trips:	IN =	52	**OUT =**	54
PM Peak Hour Pass-By Trips:	IN =	38	**OUT =**	39

Weekday PM Peak Hour	**Lake View Dr**								**Project Driveway 3**							
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
0	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**
TMC (2023)	0	0	331	0	0	0	254	0	0	0	0	0	0	0	0	0
Seasonal Factor		1.06				1.06				1.06				1.06		
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Existing (2023)	**0**	**0**	**351**	**0**	**0**	**0**	**269**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Growth Rates		2.00%				2.00%				2.00%				2.00%		
Background (2025)	**0**	**0**	**365**	**0**	**0**	**0**	**280**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Project Assignment																
Ingress		5%						11%								
Egress										11%		5%				
Project Trips	0	2	0	0	0	0	0	6	0	6	0	3	0	0	0	0
Pass-By Assignment																
Ingress		10%	-10%													
Egress										10%						
Pass-By Trips	0	4	-4	0	0	0	0	0	0	4	0	0	0	0	0	0
Project Buildout	**0**	**6**	**361**	**0**	**0**	**0**	**280**	**6**	**0**	**10**	**0**	**3**	**0**	**0**	**0**	**0**

\\kimley-horn.com\fl_or\orl_tpto\249257001_floor & decor apopka\03_excel\[trip gen_floor&decor_v1.xlsx]int.#6

Intersection Development Worksheet

Kimley»Horn
Expect More. Experience Better.

Intersection #:	7		***Existing Year:***	2023	***TMC Year:*** 2023
Major Street:	Mayflower Ave	E/W	***Buildout Year:***	2025	
Minor Street:	Project Driveway 4	N/S	***Seasonal Factor:***	1.06	

PHF: 0.92

PM Peak Hour Trips:	IN =	52	**OUT =**	54
PM Peak Hour Pass-By Trips:	IN =	38	**OUT =**	39

Weekday PM Peak Hour	**Mayflower Ave**								**Mayflower Ave**							
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
	U	**L**	**T**	**R**	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**	**U**	**L**	**T**	**R**
TMC (2023)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Seasonal Factor		1.06				1.06				1.06				1.06		
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Existing (2023)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Growth Rates		2.00%				2.00%				2.00%				2.00%		
Background (2025)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Project Assignment																
Ingress																4%
Egress						4%										
Project Trips	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Project Buildout	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**

\\kimley-horn.com\fl_or\orl_tpto\249257001_floor & decor apopka\03_excel\[trip gen_floor&decor_v1.xlsx]int.#7

APPENDIX E
Signal Timings

CONSULTANT TIMING

ORANGE COUNTY TRAFFIC SIGNAL TIMING

Intersection: US 441 at Boy Scout Boulevard/Lake View Drive **Address: 37**
Equipment: Intelight **CDI: 4-7-2021** **CDO:** **Date: 03/01/2021**

BASIC TIMING

Phase	1	2	3	4	5	6	7	8
Direction	WBL	EB		NB		WB		SB
Min Green (sec)	5	15		5		15		5
Vehicle Gap (sec)	2.0	0.5		3.0		0.5		3.0
Max Green 1 (sec)	15	50		25		50		15
Max Green 2 (sec)	15	50		25		50		25
Yellow (sec)	4.8	5.1		3.8		5.1		3.8
All-Red (sec)	2.3	2.9		3.3		2.9		3.3
Walk (sec)		7		7		7		7
Flash Don't Walk (sec)		15		27		16		28
Recall/Memory	NL	SF/LK		NL		SF/LK		NL
Delay (sec)	5			5				
Detector Switching	1>6							
Dual Entry		Y		Y		Y		Y
Overlap								
Flash		Y		R		Y		R
Speed (mph)	25	45	25	30		45		30
Veh Distance (ft)	93	89		118		119		110
Grade (%)	0.0	-3.0		0.0		0.0		-2.1
Ped Distance (ft)		45		92		49		96
Ped Clearence (sec)		15		27		16		28

COORDINATION PLANS

Coordination Pattern	11	21	31	41			Day	Time	Pattern
Cycle	160	180	180	180			1	0:01	49
Split 1	20	40	35	40			1	10:30	41
Split 2	98	85	90	85			1	17:00	49
Split 3							2	0:01	49
Split 4	42	55	55	55			2	6:00	11
Split 5							2	9:30	21
Split 6	118	125	125	125			2	14:00	31
Split 7							2	19:30	49
Split 8	42	55	55	55			7	0:01	49
Offset	40	128	117	128			7	9:30	41
Lagging Phases	0/0/0/0	0/0/0/0	0/0/0/0	0/0/0/0			7	17:00	49
Source Day	Equate 1	Equate 2	Equate 3	Equate 4	Equate 5				
1									
2	3	4	5	6					
7									

Notes:
1. Offset referenced to end of green
2. use Plan Force-offs
3. Use Max Inhibit during coordination

R1	1 2	4
R2	6	8

CONSULTANT TIMING

ORANGE COUNTY TRAFFIC SIGNAL TIMING

Intersection: US 441 at Plymouth Sorrento Road **Address: 202**
Equipment: Intelight **CDI:** 4-7-2021 **CDO:** **Date: 03/01/2021**

BASIC TIMING

Phase	1	2	3	4	5	6	7	8
Direction	EBL	WB				EB		SB
Min Green (sec)	5	15				15		5
Vehicle Gap (sec)	1.8	0.5				0.5		4.0
Max Green 1 (sec)	25	50				50		30
Max Green 2 (sec)	25	50				50		30
Yellow (sec)	4.8	4.8				4.8		4.8
All-Red (sec)	2.6	2.3				2.3		3.6
Walk (sec)		7						7
Flash Don't Walk (sec)		22						26
Recall/Memory	NL	SF/LK				SF/LK		NL
Delay (sec)								
Detector Switching	1>6							
Dual Entry		Y				Y		
Overlap								
Flash		Y				Y		R
Speed (mph)	45	45				45		45
Veh Distance (ft)	98	108				119		110
Grade (%)	-0.7	0.0				-0.7		0.0
Ped Distance (ft)		62						88
Ped Clearence (sec)		22						26

COORDINATION PLANS

Coordination Pattern	11	21	31	41		
Cycle	160	180	180	180		
Split 1	20	30	30	30		
Split 2	95	90	100	90		
Split 3						
Split 4						
Split 5						
Split 6	115	120	130	120		
Split 7						
Split 8	45	60	50	60		
Offset	28	36	11	36		
Lagging Phases	0/0/0/0	0/0/0/0	0/0/0/0	0/0/0/0		
Source Day	Equate 1	Equate 2	Equate 3	Equate 4	Equate 5	
1						
2	3	4	5	6		
7						

Day	Time	Pattern
1	0:01	49
1	10:30	41
1	17:00	49
2	0:01	49
2	6:00	11
2	9:30	21
2	14:00	31
2	19:30	49
7	0:01	49
7	9:30	41
7	17:00	49

Notes:
1. Offset referenced to end of green
2. use Cycle Force-offs
3. Use Max Inhibit during coordination

R1	1 2	
R2	6	8

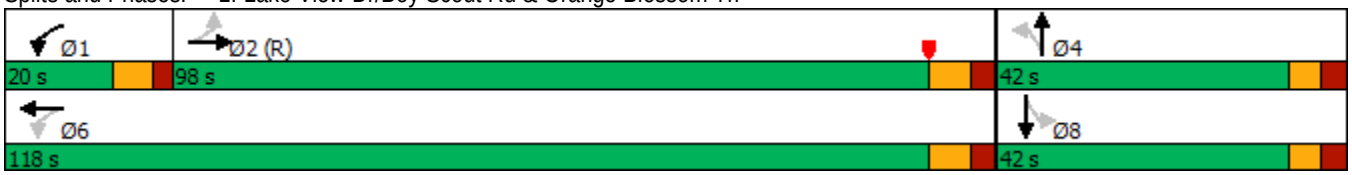
APPENDIX F
Synchro Outputs

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	5	940	167	989	64	65	38	59
Future Volume (vph)	5	940	167	989	64	65	38	59
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		2	1	6		4		8
Permitted Phases	2		6		4		8	
Detector Phase	2	2	1	6	4	4	8	8
Switch Phase								
Minimum Initial (s)	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	12.1	23.0	12.1	12.1	12.1	12.1
Total Split (s)	98.0	98.0	20.0	118.0	42.0	42.0	42.0	42.0
Total Split (%)	61.3%	61.3%	12.5%	73.8%	26.3%	26.3%	26.3%	26.3%
Yellow Time (s)	5.1	5.1	4.8	5.1	3.8	3.8	3.8	3.8
All-Red Time (s)	2.9	2.9	2.3	2.9	3.3	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	8.0	8.0	7.1	8.0		7.1		7.1
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 90 (56%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 1: Lake View Dr/Boy Scout Rd & Orange Blossom Trl



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	2	5	940	42	167	989	74	64	65	223	38	59
Future Volume (veh/h)	2	5	940	42	167	989	74	64	65	223	38	59
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1885	1885	1885	1885	1885	1885	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h		5	979	44	174	1030	77	67	68	232	40	61
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %		1	1	1	1	1	1	2	2	2	0	0
Cap, veh/h		327	2069	93	377	2322	174	82	73	220	91	129
Arrive On Green		0.59	0.59	0.59	0.05	0.69	0.69	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h		513	3491	157	1795	3378	252	254	334	1010	276	592
Grp Volume(v), veh/h		5	502	521	174	546	561	367	0	0	107	0
Grp Sat Flow(s),veh/h/ln		513	1791	1857	1795	1791	1840	1597	0	0	920	0
Q Serve(g_s), s		0.7	25.4	25.4	5.9	21.9	21.9	21.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s		7.5	25.4	25.4	5.9	21.9	21.9	34.9	0.0	0.0	13.8	0.0
Prop In Lane		1.00		0.08	1.00		0.14	0.18		0.63	0.37	
Lane Grp Cap(c), veh/h		327	1061	1100	377	1231	1265	375	0	0	232	0
V/C Ratio(X)		0.02	0.47	0.47	0.46	0.44	0.44	0.98	0.00	0.00	0.46	0.00
Avail Cap(c_a), veh/h		327	1061	1100	431	1231	1265	375	0	0	232	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh		16.3	18.5	18.5	13.9	11.2	11.2	63.3	0.0	0.0	53.2	0.0
Incr Delay (d2), s/veh		0.1	1.4	1.4	0.9	0.3	0.2	40.7	0.0	0.0	1.4	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln		0.2	15.7	16.2	4.2	12.9	13.2	26.7	0.0	0.0	6.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		16.4	19.9	19.8	14.8	11.5	11.5	104.0	0.0	0.0	54.7	0.0
LnGrp LOS		B	B	B	B	B	B	F	A	A	D	A
Approach Vol, veh/h			1028			1281			367			107
Approach Delay, s/veh			19.8			11.9			104.0			54.7
Approach LOS			B			B			F			D

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	15.2	102.8		42.0		118.0		42.0				
Change Period (Y+Rc), s	* 7.1	8.0		7.1		8.0		7.1				
Max Green Setting (Gmax), s	* 13	90.0		34.9		110.0		34.9				
Max Q Clear Time (g_c+I1), s	7.9	27.4		36.9		23.9		15.8				
Green Ext Time (p_c), s	0.2	7.4		0.0		8.4		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

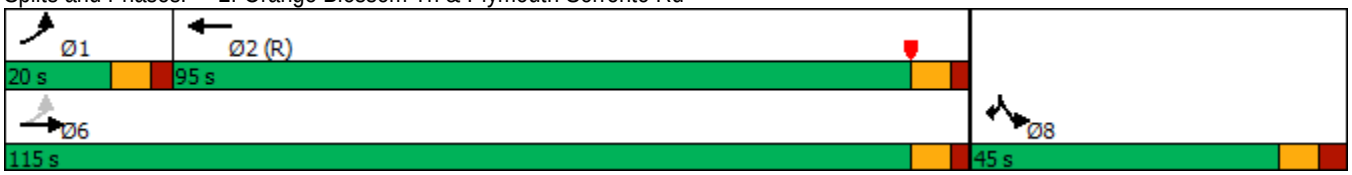
Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	6
Future Volume (veh/h)	6
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	6
Peak Hour Factor	0.96
Percent Heavy Veh, %	0
Cap, veh/h	11
Arrive On Green	0.22
Sat Flow, veh/h	52
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	0
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.06
Lane Grp Cap(c), veh/h	0
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	0
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(95%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

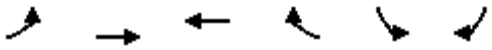
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	78	875	849	154	19
Future Volume (vph)	78	875	849	154	19
Turn Type	pm+pt	NA	NA	Prot	Prot
Protected Phases	1	6	2	8	8
Permitted Phases	6				
Detector Phase	1	6	2	8	8
Switch Phase					
Minimum Initial (s)	5.0	15.0	15.0	5.0	5.0
Minimum Split (s)	12.4	22.5	22.5	22.5	22.5
Total Split (s)	20.0	115.0	95.0	45.0	45.0
Total Split (%)	12.5%	71.9%	59.4%	28.1%	28.1%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.6	2.3	2.3	3.6	3.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.1	7.1	8.4	8.4
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	C-Min	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 28 (18%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: Orange Blossom Trl & Plymouth Sorrento Rd





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	78	875	849	246	154	19
Future Volume (veh/h)	78	875	849	246	154	19
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	80	893	866	251	157	19
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	404	2872	1987	575	182	162
Arrive On Green	0.03	0.80	0.73	0.73	0.10	0.10
Sat Flow, veh/h	1795	3676	2834	793	1795	1598
Grp Volume(v), veh/h	80	893	566	551	157	19
Grp Sat Flow(s),veh/h/ln	1795	1791	1791	1742	1795	1598
Q Serve(g_s), s	1.7	10.5	20.3	20.3	13.8	1.7
Cycle Q Clear(g_c), s	1.7	10.5	20.3	20.3	13.8	1.7
Prop In Lane	1.00			0.46	1.00	1.00
Lane Grp Cap(c), veh/h	404	2872	1299	1264	182	162
V/C Ratio(X)	0.20	0.31	0.44	0.44	0.86	0.12
Avail Cap(c_a), veh/h	490	2872	1299	1264	411	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.86	0.86	1.00	1.00
Uniform Delay (d), s/veh	6.4	4.2	8.8	8.8	70.8	65.4
Incr Delay (d2), s/veh	0.2	0.1	0.9	0.9	11.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	5.6	11.7	11.4	11.1	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.6	4.2	9.7	9.8	82.2	65.7
LnGrp LOS	A	A	A	A	F	E
Approach Vol, veh/h		973	1117		176	
Approach Delay, s/veh		4.4	9.8		80.5	
Approach LOS		A	A		F	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.3	123.1			135.4	24.6
Change Period (Y+Rc), s	7.4	* 7.1			* 7.1	8.4
Max Green Setting (Gmax), s	12.6	* 88			* 1.1E2	36.6
Max Q Clear Time (g_c+I1), s	3.7	22.3			12.5	15.8
Green Ext Time (p_c), s	0.1	8.7			6.9	0.4

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	15.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	174	208	4	10	170	173	3	7	0	167	28	32
Future Vol, veh/h	174	208	4	10	170	173	3	7	0	167	28	32
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	1	1	1	4	4	4	0	0	0	1	1	1
Mvmt Flow	191	229	4	11	187	190	3	8	0	184	31	35
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	17.4	14.4	9.9	13.4
HCM LOS	C	B	A	B

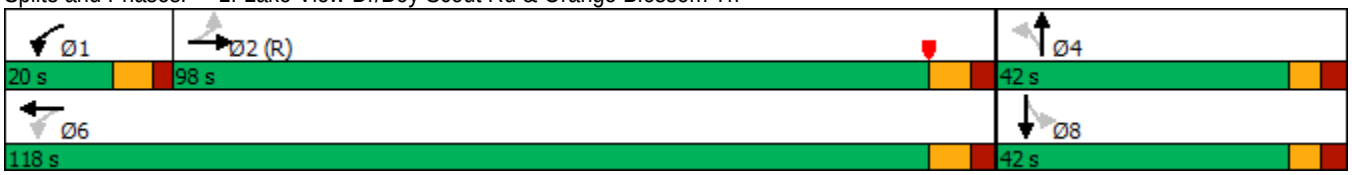
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	45%	3%	74%
Vol Thru, %	70%	54%	48%	12%
Vol Right, %	0%	1%	49%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	386	353	227
LT Vol	3	174	10	167
Through Vol	7	208	170	28
RT Vol	0	4	173	32
Lane Flow Rate	11	424	388	249
Geometry Grp	1	1	1	1
Degree of Util (X)	0.02	0.635	0.554	0.419
Departure Headway (Hd)	6.672	5.386	5.142	6.051
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	533	670	698	594
Service Time	4.757	3.429	3.187	4.103
HCM Lane V/C Ratio	0.021	0.633	0.556	0.419
HCM Control Delay	9.9	17.4	14.4	13.4
HCM Lane LOS	A	C	B	B
HCM 95th-tile Q	0.1	4.5	3.4	2.1

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	5	978	174	1029	67	67	40	61
Future Volume (vph)	5	978	174	1029	67	67	40	61
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		2	1	6		4		8
Permitted Phases	2		6		4		8	
Detector Phase	2	2	1	6	4	4	8	8
Switch Phase								
Minimum Initial (s)	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	12.1	23.0	12.1	12.1	12.1	12.1
Total Split (s)	98.0	98.0	20.0	118.0	42.0	42.0	42.0	42.0
Total Split (%)	61.3%	61.3%	12.5%	73.8%	26.3%	26.3%	26.3%	26.3%
Yellow Time (s)	5.1	5.1	4.8	5.1	3.8	3.8	3.8	3.8
All-Red Time (s)	2.9	2.9	2.3	2.9	3.3	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	8.0	8.0	7.1	8.0		7.1		7.1
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 90 (56%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Lake View Dr/Boy Scout Rd & Orange Blossom Trl



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	2	5	978	44	174	1029	77	67	67	232	40	61
Future Volume (veh/h)	2	5	978	44	174	1029	77	67	67	232	40	61
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1885	1885	1885	1885	1885	1885	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h		5	1019	46	181	1072	80	70	70	242	42	64
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %		1	1	1	1	1	1	2	2	2	0	0
Cap, veh/h		312	2062	93	364	2323	173	82	71	219	91	129
Arrive On Green		0.59	0.59	0.59	0.05	0.69	0.69	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h		492	3490	158	1795	3379	252	255	326	1005	277	593
Grp Volume(v), veh/h		5	523	542	181	568	584	382	0	0	112	0
Grp Sat Flow(s),veh/h/ln		492	1791	1857	1795	1791	1840	1587	0	0	919	0
Q Serve(g_s), s		0.8	27.0	27.0	6.2	23.2	23.3	20.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s		8.5	27.0	27.0	6.2	23.2	23.3	34.9	0.0	0.0	14.8	0.0
Prop In Lane		1.00		0.08	1.00		0.14	0.18		0.63	0.37	
Lane Grp Cap(c), veh/h		312	1058	1097	364	1231	1265	373	0	0	231	0
V/C Ratio(X)		0.02	0.49	0.49	0.50	0.46	0.46	1.02	0.00	0.00	0.48	0.00
Avail Cap(c_a), veh/h		312	1058	1097	415	1231	1265	373	0	0	231	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.92	0.92	0.92	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh		16.9	18.9	18.9	14.5	11.4	11.4	63.7	0.0	0.0	53.6	0.0
Incr Delay (d2), s/veh		0.1	1.5	1.5	1.0	0.3	0.3	53.1	0.0	0.0	1.6	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln		0.2	16.5	17.0	4.4	13.5	13.8	28.9	0.0	0.0	7.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		17.0	20.4	20.4	15.6	11.7	11.7	116.8	0.0	0.0	55.1	0.0
LnGrp LOS		B	C	C	B	B	B	F	A	A	E	A
Approach Vol, veh/h			1070			1333			382			112
Approach Delay, s/veh			20.4			12.2			116.8			55.1
Approach LOS			C			B			F			E

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	15.5	102.5		42.0		118.0		42.0				
Change Period (Y+Rc), s	* 7.1	8.0		7.1		8.0		7.1				
Max Green Setting (Gmax), s	* 13	90.0		34.9		110.0		34.9				
Max Q Clear Time (g_c+I1), s	8.2	29.0		36.9		25.3		16.8				
Green Ext Time (p_c), s	0.2	7.9		0.0		8.9		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	30.7
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

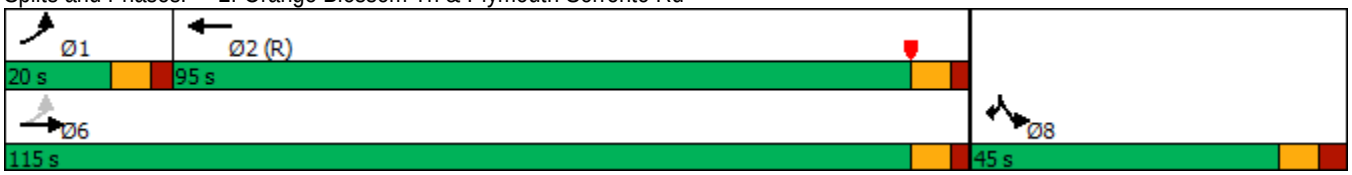
Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	6
Future Volume (veh/h)	6
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	6
Peak Hour Factor	0.96
Percent Heavy Veh, %	0
Cap, veh/h	11
Arrive On Green	0.22
Sat Flow, veh/h	49
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	0
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.05
Lane Grp Cap(c), veh/h	0
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	0
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(95%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

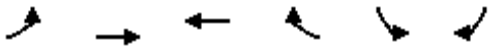
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	81	910	883	161	20
Future Volume (vph)	81	910	883	161	20
Turn Type	pm+pt	NA	NA	Prot	Prot
Protected Phases	1	6	2	8	8
Permitted Phases	6				
Detector Phase	1	6	2	8	8
Switch Phase					
Minimum Initial (s)	5.0	15.0	15.0	5.0	5.0
Minimum Split (s)	12.4	22.5	22.5	22.5	22.5
Total Split (s)	20.0	115.0	95.0	45.0	45.0
Total Split (%)	12.5%	71.9%	59.4%	28.1%	28.1%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.6	2.3	2.3	3.6	3.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.1	7.1	8.4	8.4
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	C-Min	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 28 (18%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: Orange Blossom Trl & Plymouth Sorrento Rd





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	910	883	256	161	20
Future Volume (veh/h)	81	910	883	256	161	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	83	929	901	261	164	20
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	384	2858	1977	572	189	168
Arrive On Green	0.03	0.80	0.72	0.72	0.11	0.11
Sat Flow, veh/h	1795	3676	2835	793	1795	1598
Grp Volume(v), veh/h	83	929	588	574	164	20
Grp Sat Flow(s),veh/h/ln	1795	1791	1791	1743	1795	1598
Q Serve(g_s), s	1.8	11.3	21.8	21.9	14.4	1.8
Cycle Q Clear(g_c), s	1.8	11.3	21.8	21.9	14.4	1.8
Prop In Lane	1.00			0.45	1.00	1.00
Lane Grp Cap(c), veh/h	384	2858	1292	1257	189	168
V/C Ratio(X)	0.22	0.33	0.46	0.46	0.87	0.12
Avail Cap(c_a), veh/h	471	2858	1292	1257	411	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.83	0.83	1.00	1.00
Uniform Delay (d), s/veh	6.8	4.4	9.3	9.3	70.5	64.9
Incr Delay (d2), s/veh	0.3	0.1	1.0	1.0	11.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	6.2	12.3	12.1	11.5	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.1	4.5	10.2	10.3	81.9	65.2
LnGrp LOS	A	A	B	B	F	E
Approach Vol, veh/h		1012	1162		184	
Approach Delay, s/veh		4.7	10.2		80.1	
Approach LOS		A	B		F	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.3	122.5			134.8	25.2
Change Period (Y+Rc), s	7.4	* 7.1			* 7.1	8.4
Max Green Setting (Gmax), s	12.6	* 88			* 1.1E2	36.6
Max Q Clear Time (g_c+I1), s	3.8	23.9			13.3	16.4
Green Ext Time (p_c), s	0.1	9.3			7.3	0.4

Intersection Summary	
HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	181	216	4	10	177	180	3	7	0	174	29	33
Future Vol, veh/h	181	216	4	10	177	180	3	7	0	174	29	33
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	1	1	1	4	4	4	0	0	0	1	1	1
Mvmt Flow	199	237	4	11	195	198	3	8	0	191	32	36
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	18.9	15.4	10.1	14.1
HCM LOS	C	C	B	B

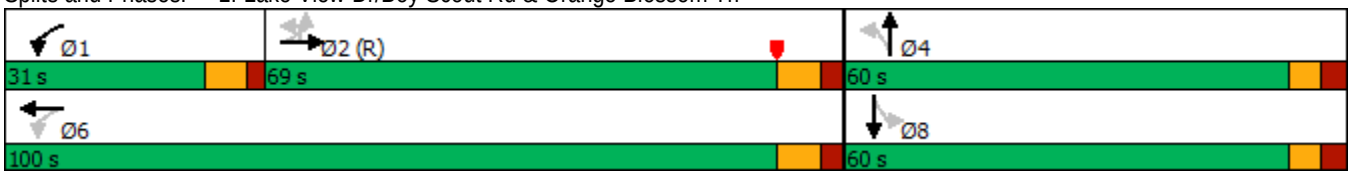
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	45%	3%	74%
Vol Thru, %	70%	54%	48%	12%
Vol Right, %	0%	1%	49%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	401	367	236
LT Vol	3	181	10	174
Through Vol	7	216	177	29
RT Vol	0	4	180	33
Lane Flow Rate	11	441	403	259
Geometry Grp	1	1	1	1
Degree of Util (X)	0.021	0.669	0.585	0.443
Departure Headway (Hd)	6.827	5.465	5.223	6.146
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	520	661	690	584
Service Time	4.927	3.517	3.277	4.207
HCM Lane V/C Ratio	0.021	0.667	0.584	0.443
HCM Control Delay	10.1	18.9	15.4	14.1
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	0.1	5.1	3.8	2.3

Lane Group	EBU	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	2	5	978	174	1029	67	67	40	61
Future Volume (vph)	2	5	978	174	1029	67	67	40	61
Turn Type	Perm	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases			2	1	6		4		8
Permitted Phases	2	2		6		4		8	
Detector Phase	2	2	2	1	6	4	4	8	8
Switch Phase									
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	12.1	23.0	12.1	12.1	12.1	12.1
Total Split (s)	69.0	69.0	69.0	31.0	100.0	60.0	60.0	60.0	60.0
Total Split (%)	43.1%	43.1%	43.1%	19.4%	62.5%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	5.1	5.1	5.1	4.8	5.1	3.8	3.8	3.8	3.8
All-Red Time (s)	2.9	2.9	2.9	2.3	2.9	3.3	3.3	3.3	3.3
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		8.0	8.0	7.1	8.0		7.1		7.1
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 90 (56%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Lake View Dr/Boy Scout Rd & Orange Blossom Trl



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	2	5	978	44	174	1029	77	67	67	232	40	61
Future Volume (veh/h)	2	5	978	44	174	1029	77	67	67	232	40	61
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1885	1885	1885	1885	1885	1885	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h		5	1019	46	181	1072	80	70	70	242	42	64
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %		1	1	1	1	1	1	2	2	2	0	0
Cap, veh/h		283	1902	86	340	2187	163	92	85	261	109	156
Arrive On Green		0.54	0.54	0.54	0.06	0.65	0.65	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h		492	3490	158	1795	3379	252	254	331	1012	302	603
Grp Volume(v), veh/h		5	523	542	181	568	584	382	0	0	112	0
Grp Sat Flow(s),veh/h/ln		492	1791	1857	1795	1791	1840	1597	0	0	956	0
Q Serve(g_s), s		0.8	30.0	30.0	6.9	26.2	26.2	23.2	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s		10.7	30.0	30.0	6.9	26.2	26.2	37.2	0.0	0.0	14.0	0.0
Prop In Lane		1.00		0.08	1.00		0.14	0.18		0.63	0.37	
Lane Grp Cap(c), veh/h		283	976	1012	340	1159	1191	439	0	0	278	0
V/C Ratio(X)		0.02	0.54	0.54	0.53	0.49	0.49	0.87	0.00	0.00	0.40	0.00
Avail Cap(c_a), veh/h		283	976	1012	504	1159	1191	553	0	0	384	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.89	0.89	0.89	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh		21.6	23.4	23.4	18.0	14.6	14.6	57.6	0.0	0.0	48.1	0.0
Incr Delay (d2), s/veh		0.1	1.9	1.8	1.3	0.3	0.3	11.7	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln		0.2	18.3	18.9	5.1	15.4	15.8	23.2	0.0	0.0	6.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		21.7	25.3	25.2	19.3	14.9	14.9	69.4	0.0	0.0	49.1	0.0
LnGrp LOS		C	C	C	B	B	B	E	A	A	D	A
Approach Vol, veh/h			1070			1333			382			112
Approach Delay, s/veh			25.2			15.5			69.4			49.1
Approach LOS			C			B			E			D

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	16.4	95.2		48.4		111.6		48.4				
Change Period (Y+Rc), s	* 7.1	8.0		7.1		8.0		7.1				
Max Green Setting (Gmax), s	* 24	61.0		52.9		92.0		52.9				
Max Q Clear Time (g_c+I1), s	8.9	32.0		39.2		28.2		16.0				
Green Ext Time (p_c), s	0.4	7.2		2.1		8.9		0.7				

Intersection Summary	
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

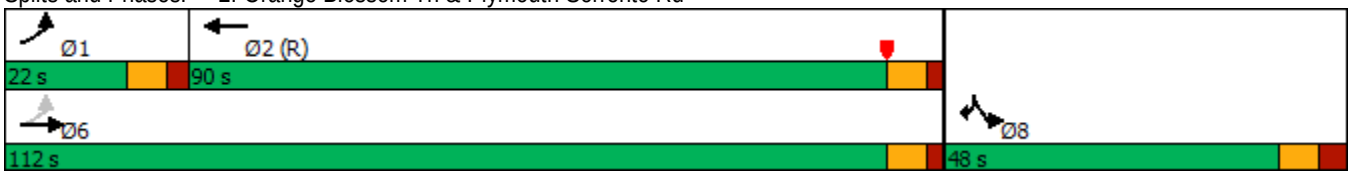
Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	6
Future Volume (veh/h)	6
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	6
Peak Hour Factor	0.96
Percent Heavy Veh, %	0
Cap, veh/h	13
Arrive On Green	0.26
Sat Flow, veh/h	51
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	0
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.05
Lane Grp Cap(c), veh/h	0
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	0
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(95%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

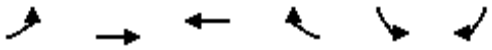
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	81	910	883	161	20
Future Volume (vph)	81	910	883	161	20
Turn Type	pm+pt	NA	NA	Prot	Prot
Protected Phases	1	6	2	8	8
Permitted Phases	6		2		
Detector Phase	1	6	2	8	8
Switch Phase					
Minimum Initial (s)	5.0	15.0	15.0	5.0	5.0
Minimum Split (s)	12.4	22.5	22.5	22.5	22.5
Total Split (s)	22.0	112.0	90.0	48.0	48.0
Total Split (%)	13.8%	70.0%	56.3%	30.0%	30.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.6	2.3	2.3	3.6	3.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.1	7.1	8.4	8.4
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	C-Min	Max	Max

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 28 (18%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: Orange Blossom Trl & Plymouth Sorrento Rd





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	910	883	256	161	20
Future Volume (veh/h)	81	910	883	256	161	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	83	929	901	261	164	20
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	236	2348	1586	459	444	395
Arrive On Green	0.03	0.66	0.19	0.19	0.25	0.25
Sat Flow, veh/h	1795	3676	2835	793	1795	1598
Grp Volume(v), veh/h	83	929	588	574	164	20
Grp Sat Flow(s),veh/h/ln	1795	1791	1791	1743	1795	1598
Q Serve(g_s), s	2.9	19.3	47.7	47.8	12.1	1.5
Cycle Q Clear(g_c), s	2.9	19.3	47.7	47.8	12.1	1.5
Prop In Lane	1.00			0.45	1.00	1.00
Lane Grp Cap(c), veh/h	236	2348	1036	1008	444	395
V/C Ratio(X)	0.35	0.40	0.57	0.57	0.37	0.05
Avail Cap(c_a), veh/h	345	2348	1036	1008	444	395
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.86	0.86	1.00	1.00
Uniform Delay (d), s/veh	21.3	12.8	46.6	46.6	49.9	45.9
Incr Delay (d2), s/veh	0.9	0.1	1.9	2.0	2.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	11.9	30.9	30.3	9.6	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.2	12.9	48.5	48.6	52.2	46.1
LnGrp LOS	C	B	D	D	D	D
Approach Vol, veh/h		1012	1162		184	
Approach Delay, s/veh		13.7	48.6		51.5	
Approach LOS		B	D		D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.3	99.7			112.0	48.0
Change Period (Y+Rc), s	7.4	* 7.1			* 7.1	8.4
Max Green Setting (Gmax), s	14.6	* 83			* 1E2	39.6
Max Q Clear Time (g_c+I1), s	4.9	49.8			21.3	14.1
Green Ext Time (p_c), s	0.1	8.6			7.3	0.5

Intersection Summary	
HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

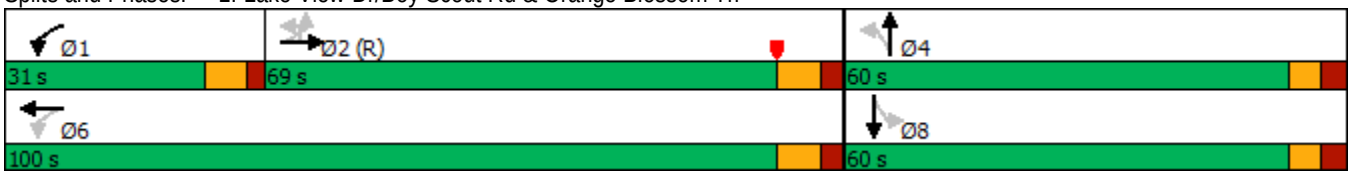
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBU	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	39	10	996	215	1012	67	67	40	62
Future Volume (vph)	39	10	996	215	1012	67	67	40	62
Turn Type	Perm	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases			2	1	6		4		8
Permitted Phases	2	2		6		4		8	
Detector Phase	2	2	2	1	6	4	4	8	8
Switch Phase									
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	12.1	23.0	12.1	12.1	12.1	12.1
Total Split (s)	69.0	69.0	69.0	31.0	100.0	60.0	60.0	60.0	60.0
Total Split (%)	43.1%	43.1%	43.1%	19.4%	62.5%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	5.1	5.1	5.1	4.8	5.1	3.8	3.8	3.8	3.8
All-Red Time (s)	2.9	2.9	2.9	2.3	2.9	3.3	3.3	3.3	3.3
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		8.0	8.0	7.1	8.0		7.1		7.1
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 90 (56%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Lake View Dr/Boy Scout Rd & Orange Blossom Trl



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	39	10	996	44	215	1012	77	67	67	238	40	62
Future Volume (veh/h)	39	10	996	44	215	1012	77	67	67	238	40	62
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1885	1885	1885	1885	1885	1885	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h		10	1038	46	224	1054	80	70	70	248	42	65
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %		1	1	1	1	1	1	2	2	2	0	0
Cap, veh/h		286	1847	82	345	2172	165	92	85	267	109	158
Arrive On Green		0.53	0.53	0.53	0.07	0.64	0.64	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h		500	3493	155	1795	3374	256	250	326	1021	297	604
Grp Volume(v), veh/h		10	532	552	224	559	575	388	0	0	113	0
Grp Sat Flow(s),veh/h/ln		500	1791	1857	1795	1791	1839	1598	0	0	951	0
Q Serve(g_s), s		1.7	31.9	31.9	8.9	25.9	25.9	23.7	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s		9.2	31.9	31.9	8.9	25.9	25.9	37.8	0.0	0.0	14.1	0.0
Prop In Lane		1.00		0.08	1.00		0.14	0.18		0.64	0.37	
Lane Grp Cap(c), veh/h		286	947	982	345	1153	1184	445	0	0	280	0
V/C Ratio(X)		0.03	0.56	0.56	0.65	0.49	0.49	0.87	0.00	0.00	0.40	0.00
Avail Cap(c_a), veh/h		286	947	982	486	1153	1184	553	0	0	381	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh		21.9	25.3	25.3	20.0	14.8	14.8	57.3	0.0	0.0	47.7	0.0
Incr Delay (d2), s/veh		0.2	2.4	2.3	2.1	0.3	0.3	12.1	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln		0.4	19.9	20.5	6.7	15.3	15.6	23.6	0.0	0.0	6.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		22.1	27.7	27.6	22.1	15.1	15.1	69.4	0.0	0.0	48.7	0.0
LnGrp LOS		C	C	C	C	B	B	E	A	A	D	A
Approach Vol, veh/h			1094			1358			388			113
Approach Delay, s/veh			27.6			16.2			69.4			48.7
Approach LOS			C			B			E			D

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	18.4	92.6		49.0		111.0		49.0				
Change Period (Y+Rc), s	* 7.1	8.0		7.1		8.0		7.1				
Max Green Setting (Gmax), s	* 24	61.0		52.9		92.0		52.9				
Max Q Clear Time (g_c+I1), s	10.9	33.9		39.8		27.9		16.1				
Green Ext Time (p_c), s	0.5	7.3		2.1		8.7		0.7				

Intersection Summary	
HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

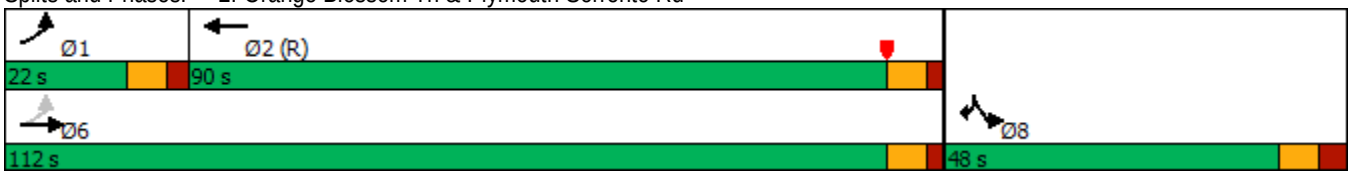
Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	6
Future Volume (veh/h)	6
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	6
Peak Hour Factor	0.96
Percent Heavy Veh, %	0
Cap, veh/h	13
Arrive On Green	0.26
Sat Flow, veh/h	51
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	0
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.05
Lane Grp Cap(c), veh/h	0
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	0
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(95%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

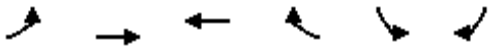
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	81	924	897	170	20
Future Volume (vph)	81	924	897	170	20
Turn Type	pm+pt	NA	NA	Prot	Prot
Protected Phases	1	6	2	8	8
Permitted Phases	6		2		
Detector Phase	1	6	2	8	8
Switch Phase					
Minimum Initial (s)	5.0	15.0	15.0	5.0	5.0
Minimum Split (s)	12.4	22.5	22.5	22.5	22.5
Total Split (s)	22.0	112.0	90.0	48.0	48.0
Total Split (%)	13.8%	70.0%	56.3%	30.0%	30.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.6	2.3	2.3	3.6	3.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.1	7.1	8.4	8.4
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	C-Min	Max	Max

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 28 (18%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: Orange Blossom Trl & Plymouth Sorrento Rd





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	924	897	261	170	20
Future Volume (veh/h)	81	924	897	261	170	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	83	943	915	266	173	20
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	250	2348	1585	460	444	395
Arrive On Green	0.03	0.66	0.39	0.39	0.25	0.25
Sat Flow, veh/h	1795	3676	2833	794	1795	1598
Grp Volume(v), veh/h	83	943	598	583	173	20
Grp Sat Flow(s),veh/h/ln	1795	1791	1791	1742	1795	1598
Q Serve(g_s), s	2.9	19.7	42.1	42.3	12.8	1.5
Cycle Q Clear(g_c), s	2.9	19.7	42.1	42.3	12.8	1.5
Prop In Lane	1.00			0.46	1.00	1.00
Lane Grp Cap(c), veh/h	250	2348	1036	1008	444	395
V/C Ratio(X)	0.33	0.40	0.58	0.58	0.39	0.05
Avail Cap(c_a), veh/h	359	2348	1036	1008	444	395
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	12.9	33.5	33.6	50.1	45.9
Incr Delay (d2), s/veh	0.8	0.1	2.3	2.4	2.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	12.0	27.1	26.6	10.1	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.2	13.0	35.9	36.0	52.7	46.1
LnGrp LOS	C	B	D	D	D	D
Approach Vol, veh/h		1026	1181		193	
Approach Delay, s/veh		13.6	35.9		52.0	
Approach LOS		B	D		D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.3	99.7			112.0	48.0
Change Period (Y+Rc), s	7.4	* 7.1			* 7.1	8.4
Max Green Setting (Gmax), s	14.6	* 83			* 1E2	39.6
Max Q Clear Time (g_c+I1), s	4.9	44.3			21.7	14.8
Green Ext Time (p_c), s	0.1	9.1			7.5	0.5

Intersection Summary	
HCM 6th Ctrl Delay	27.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	16.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	181	216	4	10	177	184	3	7	0	179	29	33
Future Vol, veh/h	181	216	4	10	177	184	3	7	0	179	29	33
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	1	1	1	4	4	4	0	0	0	1	1	1
Mvmt Flow	199	237	4	11	195	202	3	8	0	197	32	36
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19.2	15.8	10.1	14.3
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	45%	3%	74%
Vol Thru, %	70%	54%	48%	12%
Vol Right, %	0%	1%	50%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	401	371	241
LT Vol	3	181	10	179
Through Vol	7	216	177	29
RT Vol	0	4	184	33
Lane Flow Rate	11	441	408	265
Geometry Grp	1	1	1	1
Degree of Util (X)	0.021	0.673	0.594	0.454
Departure Headway (Hd)	6.972	5.495	5.245	6.166
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	516	657	685	583
Service Time	4.972	3.551	3.303	4.23
HCM Lane V/C Ratio	0.021	0.671	0.596	0.455
HCM Control Delay	10.1	19.2	15.8	14.3
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	0.1	5.2	3.9	2.4

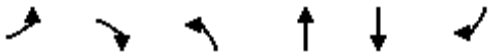
Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1013	40	0	1122	0	78
Future Vol, veh/h	1013	40	0	1122	0	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1101	43	0	1220	0	85

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	572
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	463
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	463
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	463	-	-	-
HCM Lane V/C Ratio	0.183	-	-	-
HCM Control Delay (s)	14.5	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.7	-	-	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	375	286	36
Future Volume (Veh/h)	0	0	0	375	286	36
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	408	311	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					346	
pX, platoon unblocked	0.95	0.95	0.95			
vC, conflicting volume	738	330	350			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	700	272	292			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	386	730	1209			

Direction, Lane #	NB 1	SB 1
Volume Total	408	350
Volume Left	0	0
Volume Right	0	39
cSH	1209	1700
Volume to Capacity	0.00	0.21
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	23.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	3	6	361	280	6
Future Vol, veh/h	10	3	6	361	280	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	3	7	392	304	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	714	308	311	0	-	0
Stage 1	308	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	398	732	1249	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	395	732	1249	-	-	-
Mov Cap-2 Maneuver	395	-	-	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	673	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1249	-	442	-	-
HCM Lane V/C Ratio	0.005	-	0.032	-	-
HCM Control Delay (s)	7.9	0	13.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	2	2	0
Future Vol, veh/h	0	0	0	2	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	2	2	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1620	-	-	-	1022	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1620	-	-	-	1022	1084
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1620	-	-	-	1022
HCM Lane V/C Ratio	-	-	-	-	0.002
HCM Control Delay (s)	0	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

APPENDIX G
ITE Excerpts

Land Use: 862
Home Improvement Superstore

Description

A home improvement superstore is a free-standing facility that specializes in the sale of home improvement merchandise. The store generally offers a variety of customer services and centralized cashiering. A home improvement superstore typically maintains long store hours 7 days a week. Examples of items sold in the store include lumber, tools, paint, lighting, wallpaper and paneling, kitchen and bathroom fixtures, lawn equipment, and plant and garden accessories. The stores included in this land use are often the only ones on the site, but they can also be found in mutual operation with a related or unrelated garden center. A home improvement superstore is sometimes placed as a separate parcel within a retail complex, with or without its own dedicated parking. The buildings contained in this land use usually range in size between 50,000 and 200,000 square feet gross floor area. This land use does not include interior design stores. Building materials and lumber store (Land Use 812) and hardware/paint store (Land Use 816) are related uses.

Additional Data

Outside storage areas are not included in the overall gross floor area measurements. However, if a storage area is located within the principal outside faces of the exterior walls, it is included in the overall gross floor area of the building.

A garden center that is contained within the principal outside faces of the exterior building walls is included in the reported gross floor area. An outdoor or fenced-in area outside the principal faces of the exterior building walls is excluded.

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 Arizona, California, Connecticut, Delaware, Florida, Maryland, Massachusetts, New Hampshire, New York, Ontario (CAN), Pennsylvania, Rhode Island, Vermont, and Wisconsin.

To assist in the future analysis of this land use, it is important to collect and include information on the presence and size of garden centers, outdoor fenced-in space, and service stations in trip generation data submissions.

Source Numbers

126, 376, 434, 437, 507, 616, 617, 728, 731, 863, 927, 936, 961, 1077

Home Improvement Superstore
(862)

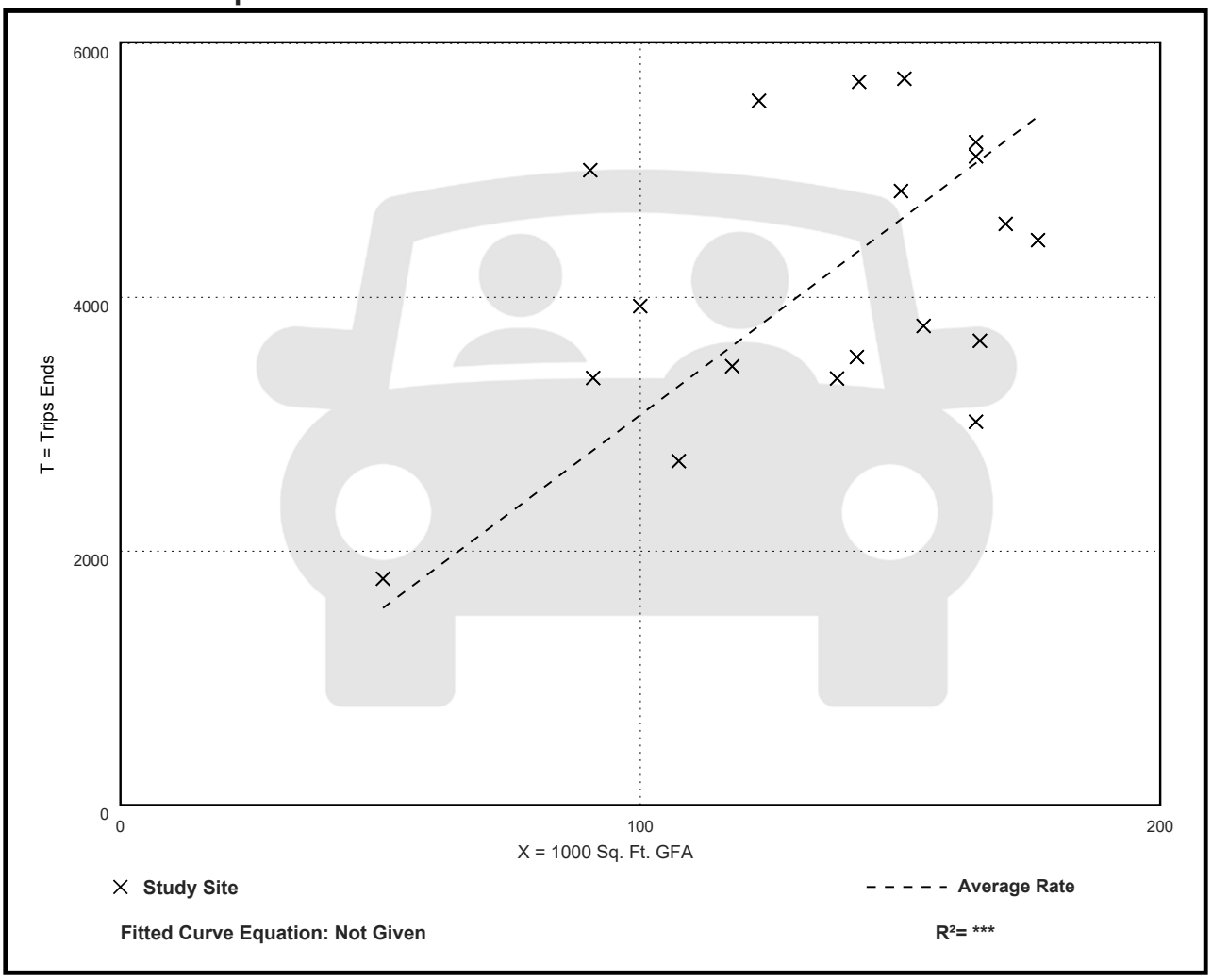
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 19
Avg. 1000 Sq. Ft. GFA: 135
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
30.74	18.35 - 55.35	8.58

Data Plot and Equation



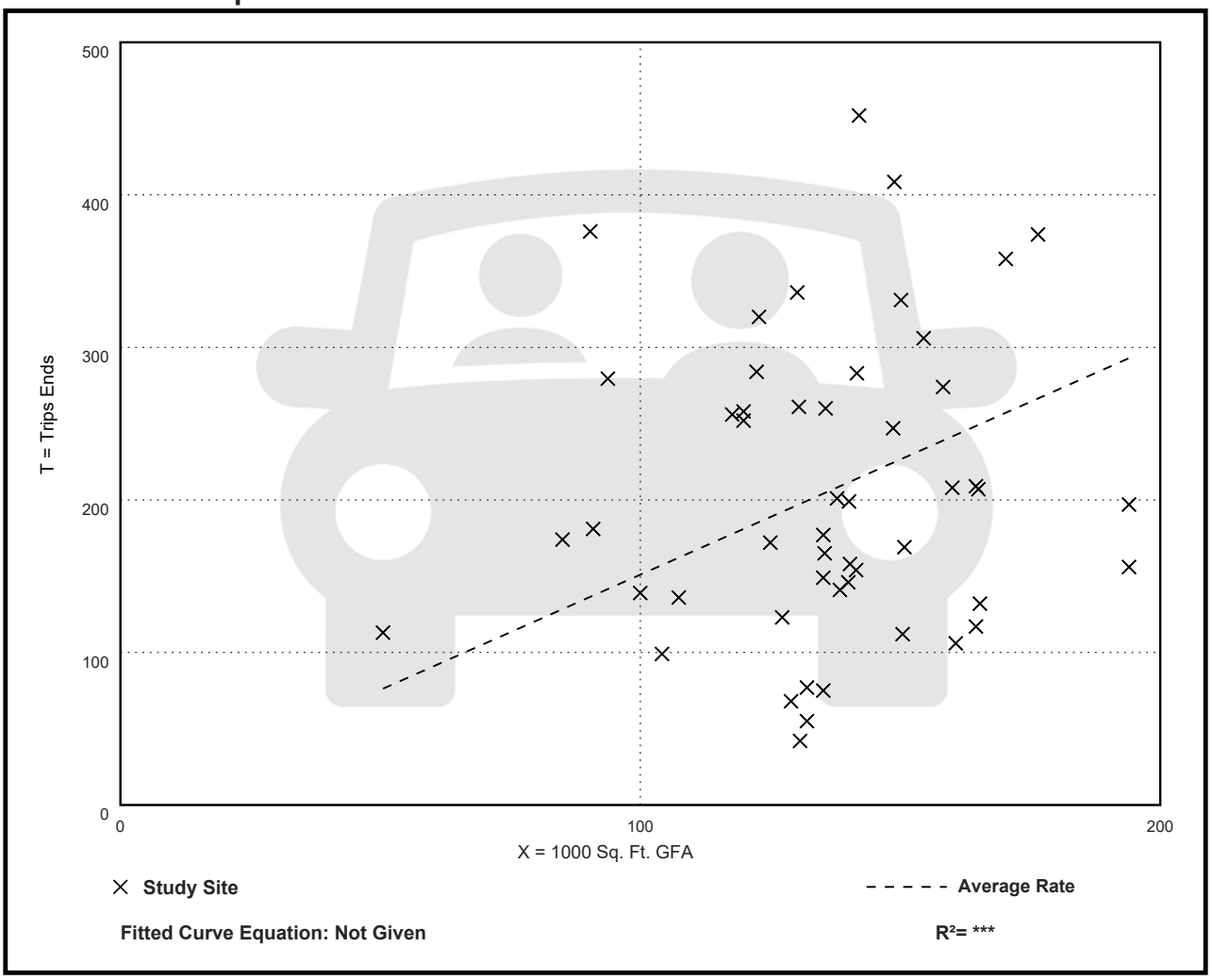
Home Improvement Superstore
(862)

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: 51
Avg. 1000 Sq. Ft. GFA: 136
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.51	0.32 - 4.16	0.76

Data Plot and Equation



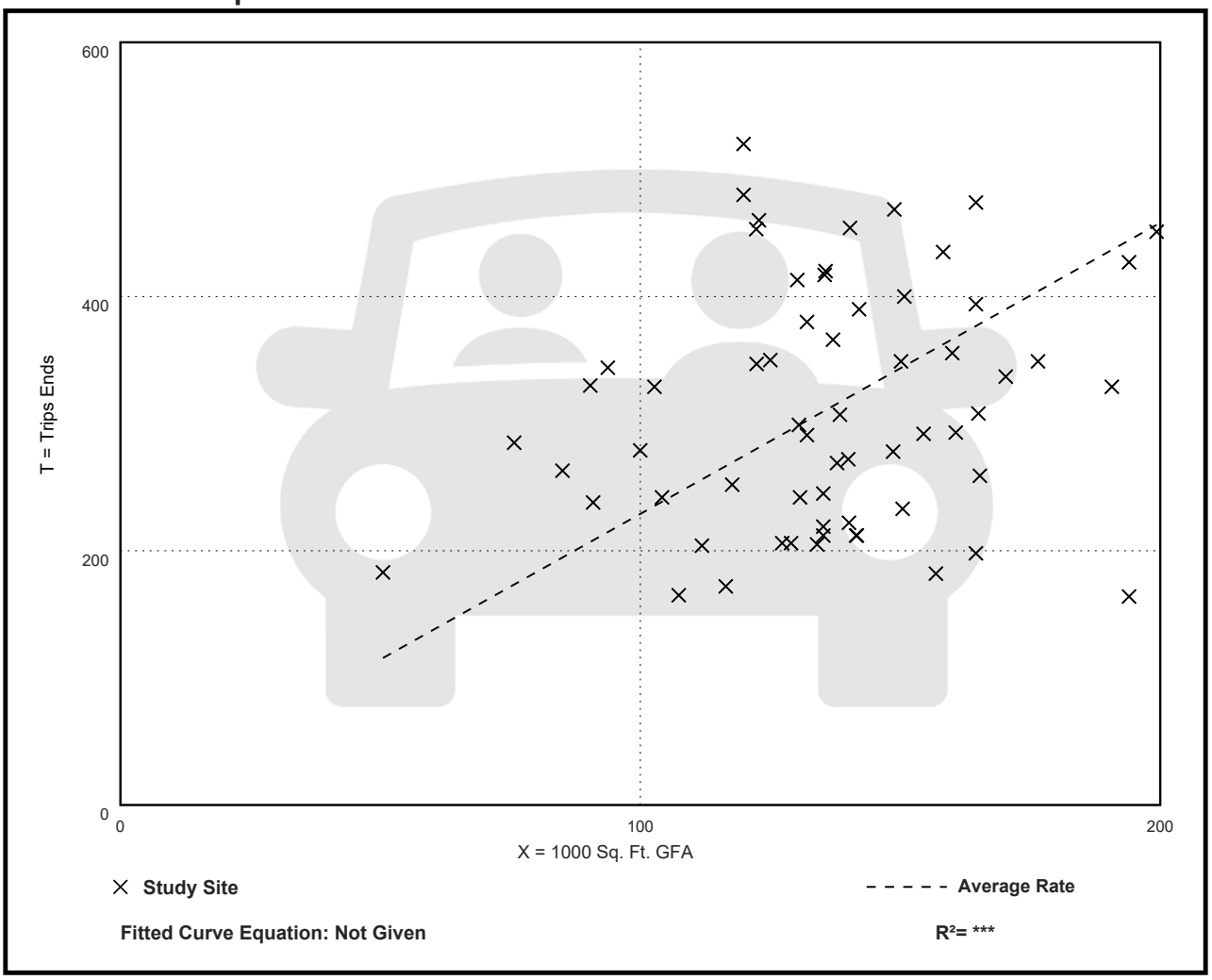
Home Improvement Superstore
(862)

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: 62
Avg. 1000 Sq. Ft. GFA: 136
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.29	0.85 - 4.34	0.77

Data Plot and Equation



Home Improvement Superstore
(862)

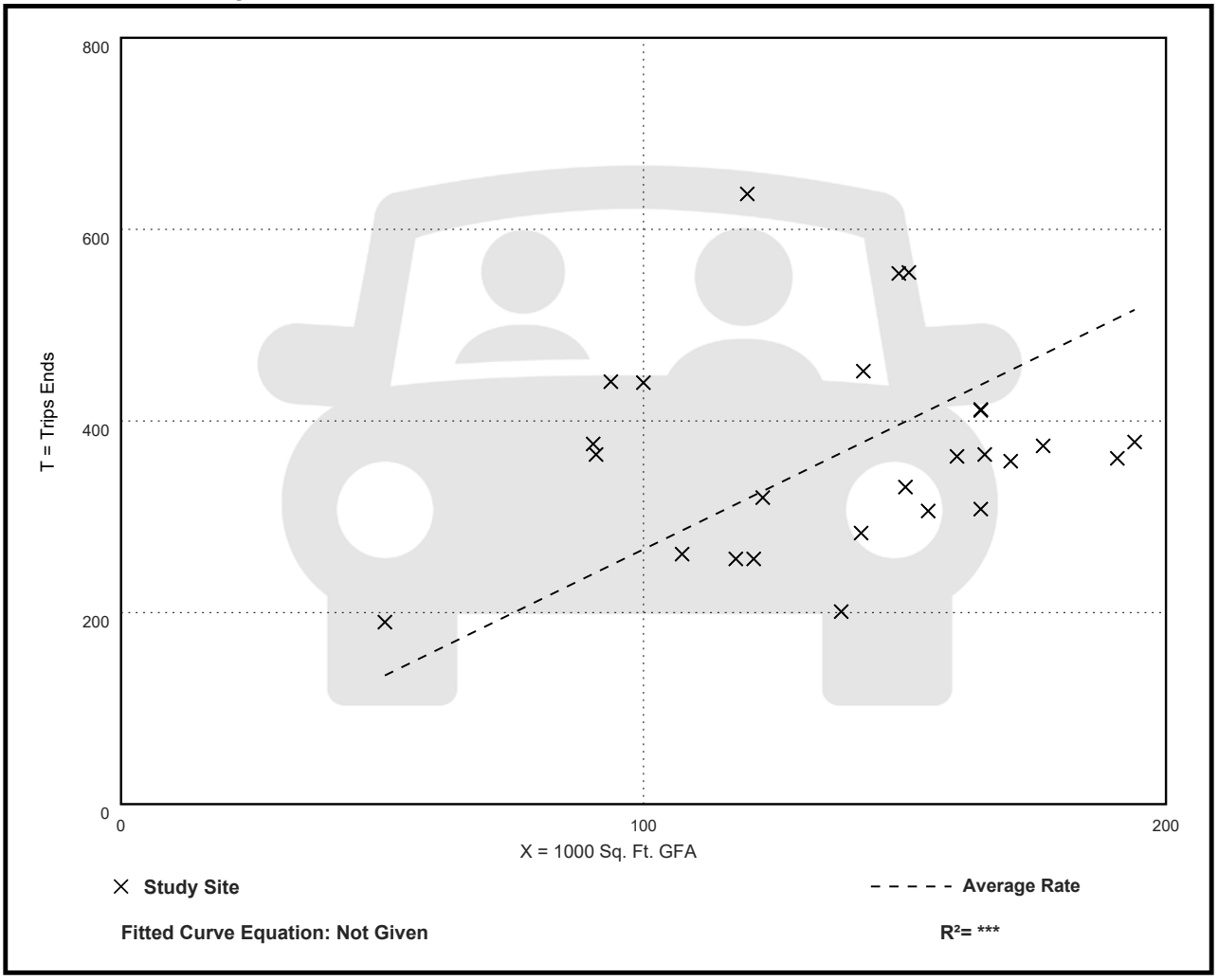
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 26
Avg. 1000 Sq. Ft. GFA: 138
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.66	1.46 - 5.31	0.97

Data Plot and Equation



Home Improvement Superstore
(862)

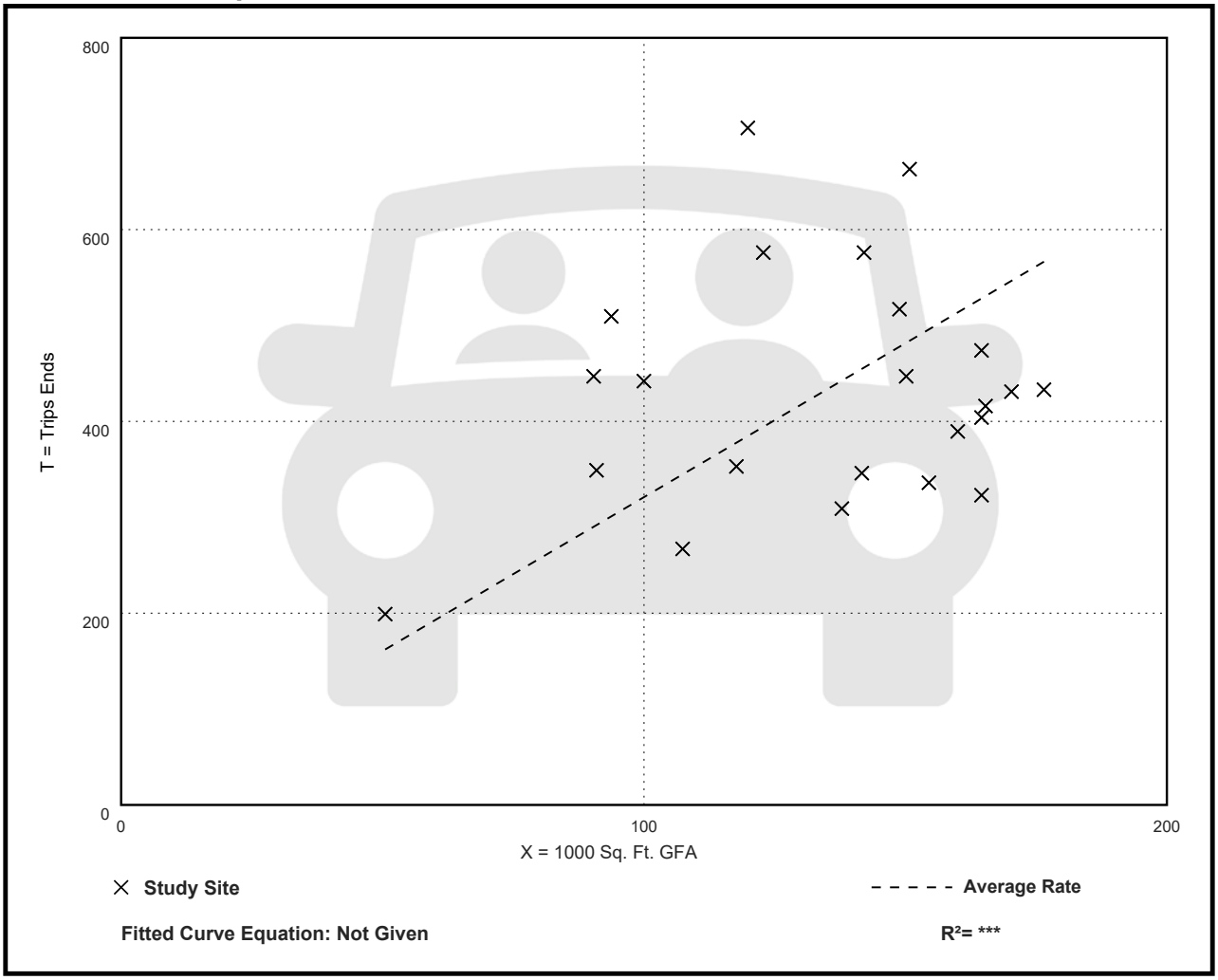
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 23
Avg. 1000 Sq. Ft. GFA: 134
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.21	1.96 - 5.89	1.10

Data Plot and Equation



Home Improvement Superstore
(862)

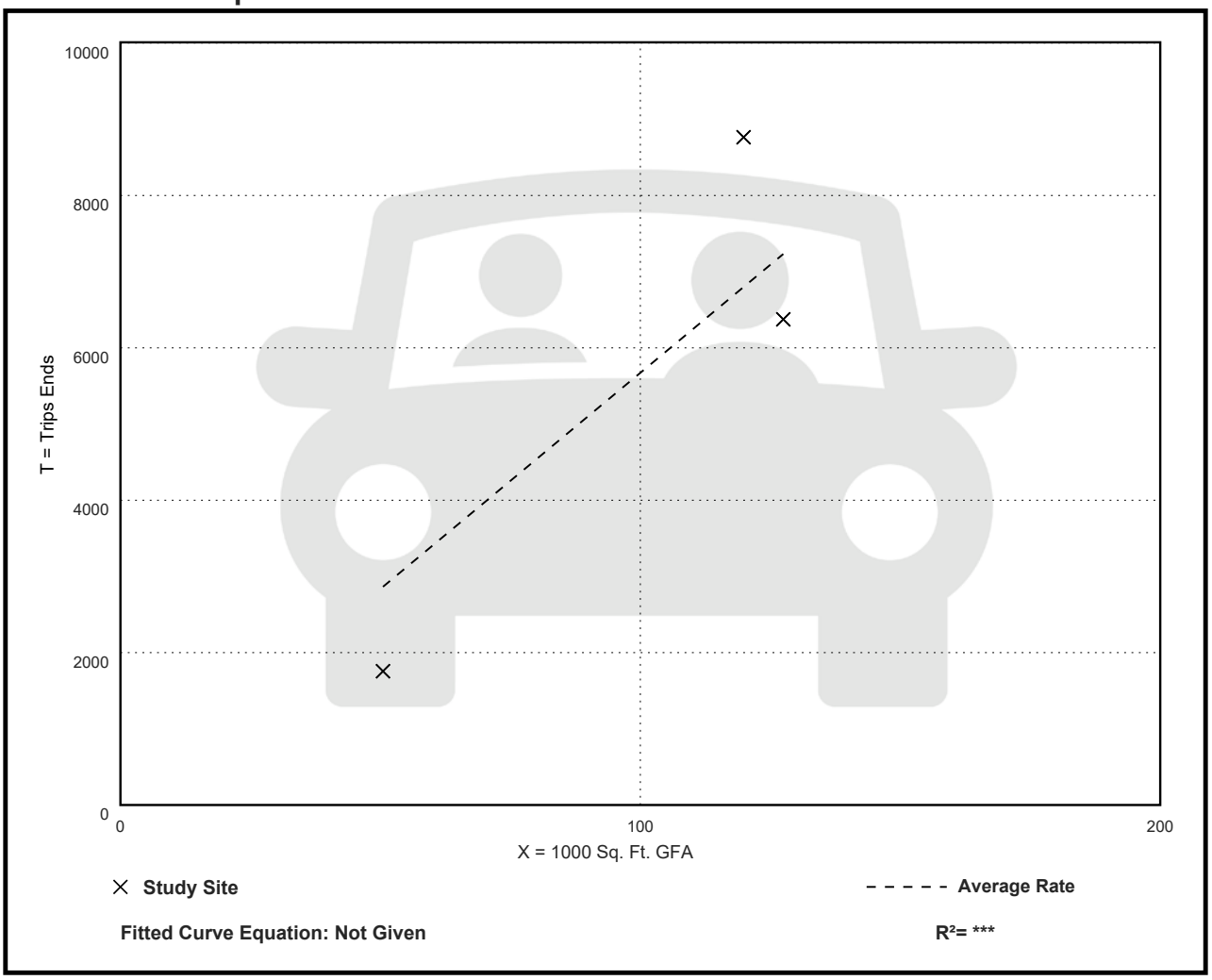
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday

Setting/Location: General Urban/Suburban
Number of Studies: 3
Avg. 1000 Sq. Ft. GFA: 99
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
56.72	34.77 - 73.12	17.72

Data Plot and Equation



Home Improvement Superstore
(862)

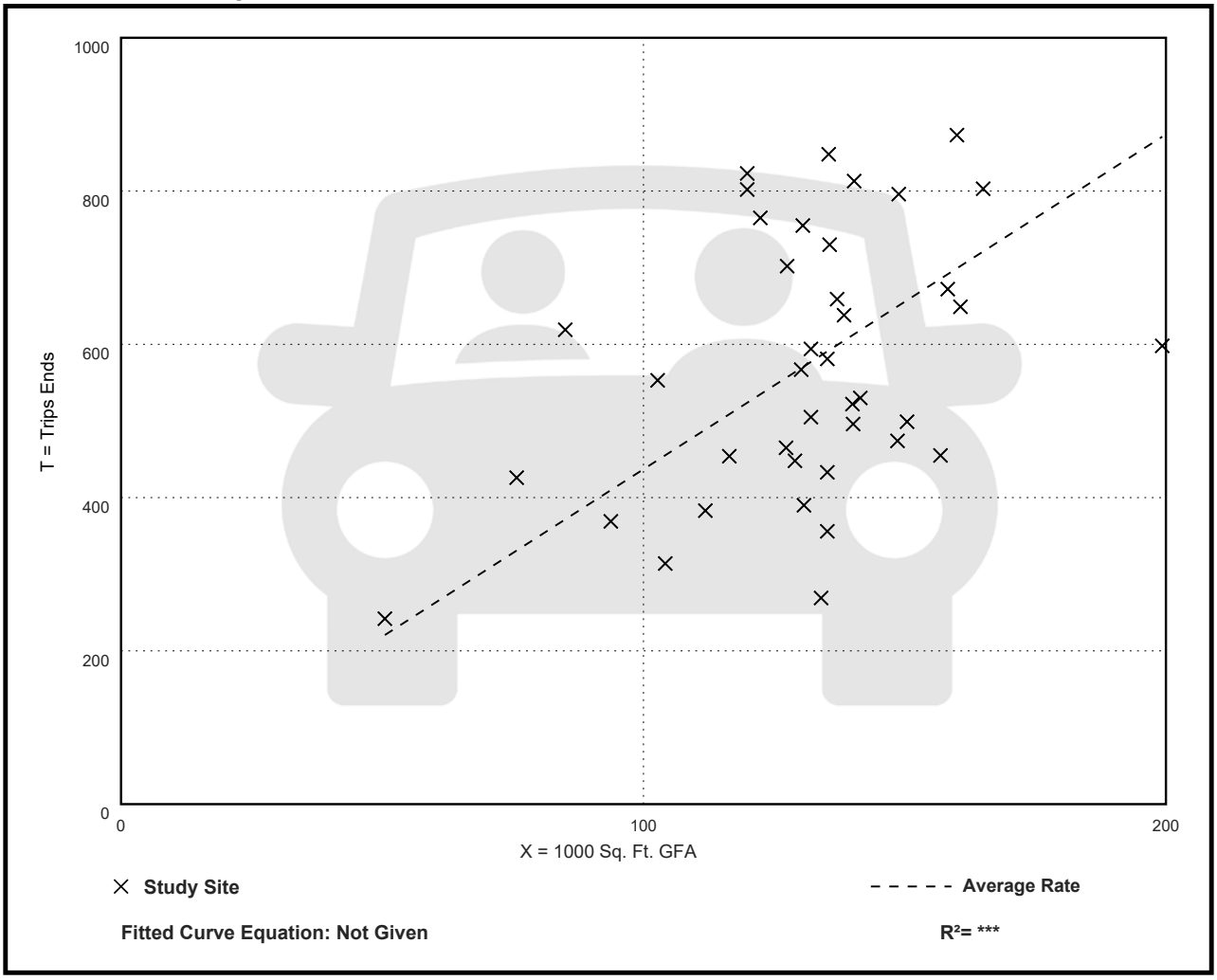
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 40
Avg. 1000 Sq. Ft. GFA: 131
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.37	2.01 - 7.28	1.25

Data Plot and Equation



Home Improvement Superstore
(862)

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

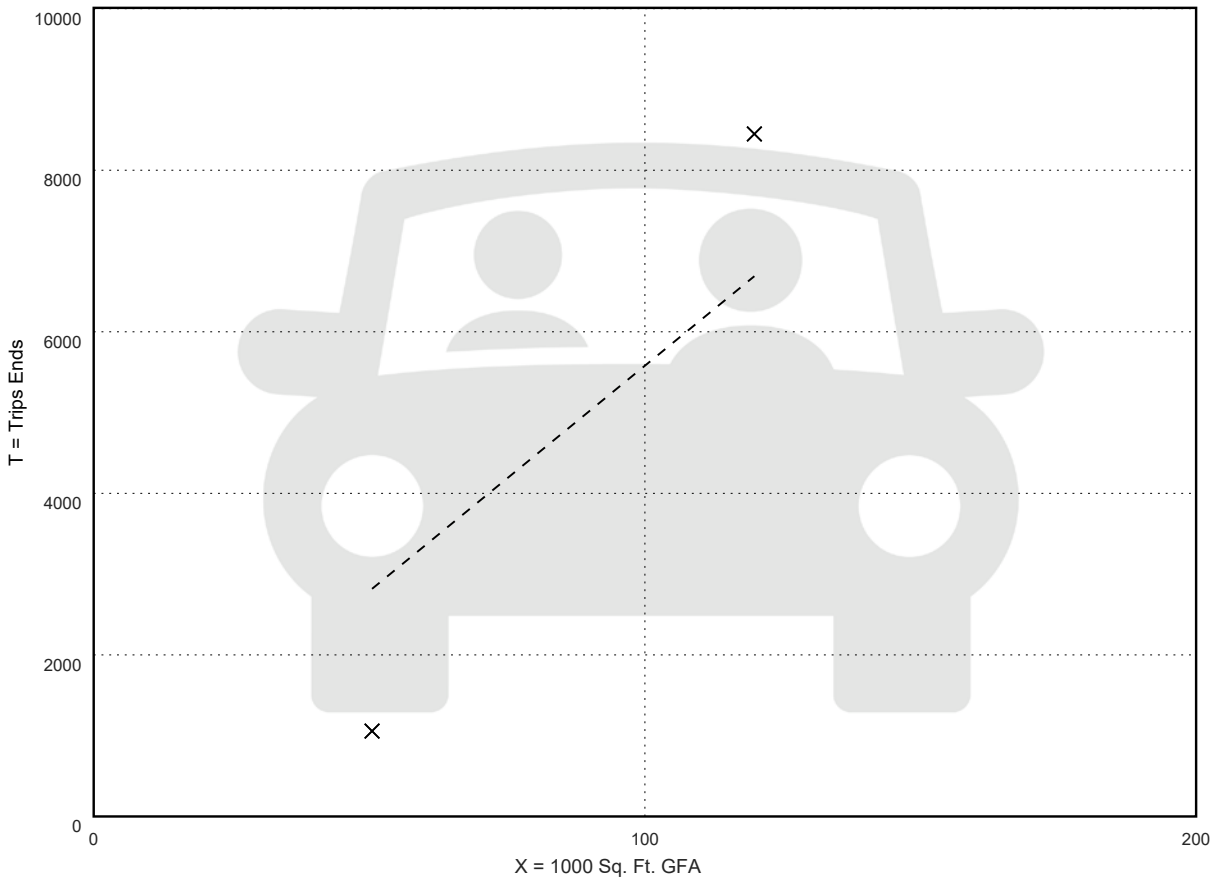
Setting/Location: General Urban/Suburban
Number of Studies: 2
Avg. 1000 Sq. Ft. GFA: 85
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
55.80	20.93 - 70.49	***

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= *

Home Improvement Superstore
(862)

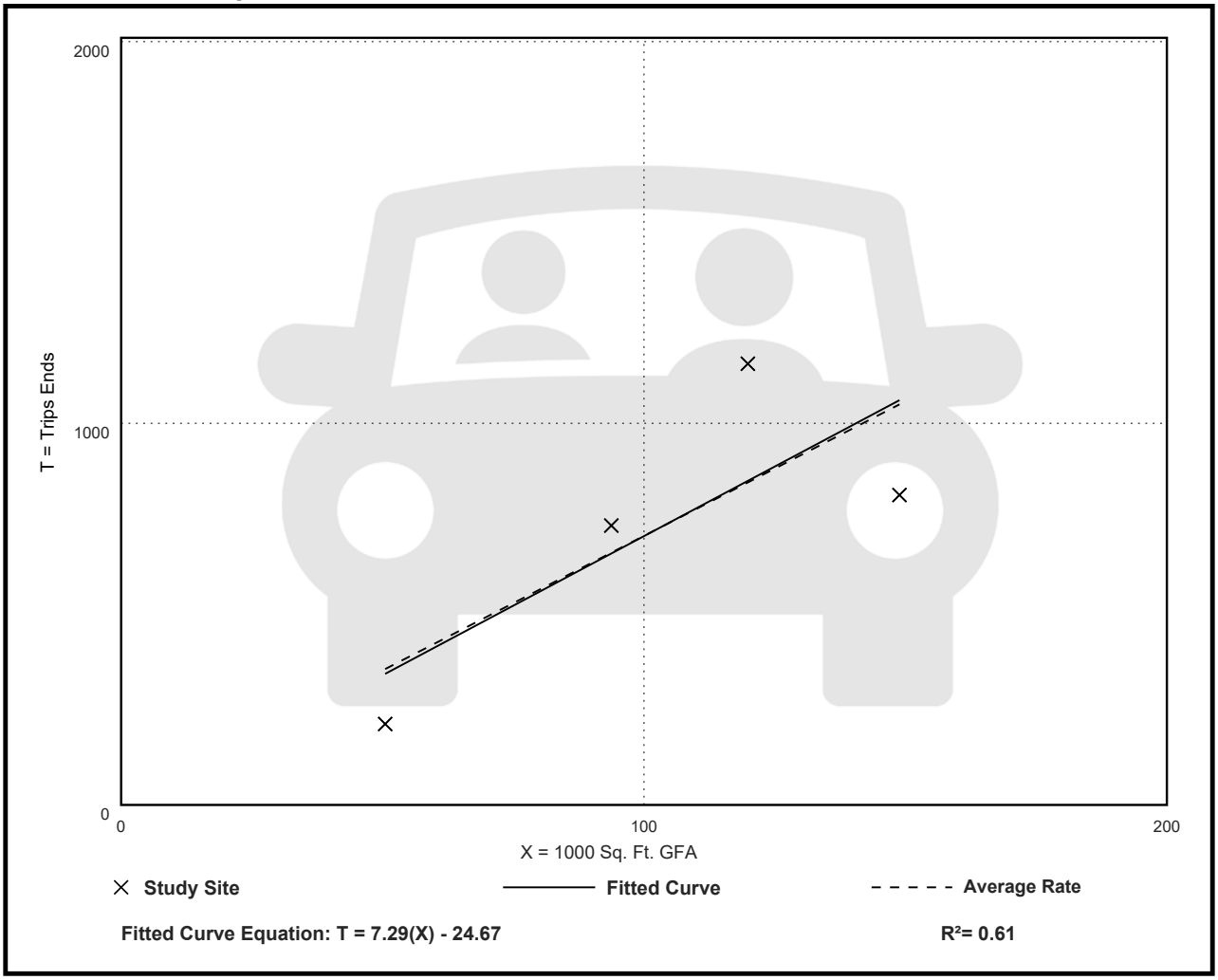
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Sunday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. 1000 Sq. Ft. GFA: 103
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
7.05	4.20 - 9.64	2.31

Data Plot and Equation



Fitted Curve Equation: T = 7.29(X) - 24.67

R^2= 0.61

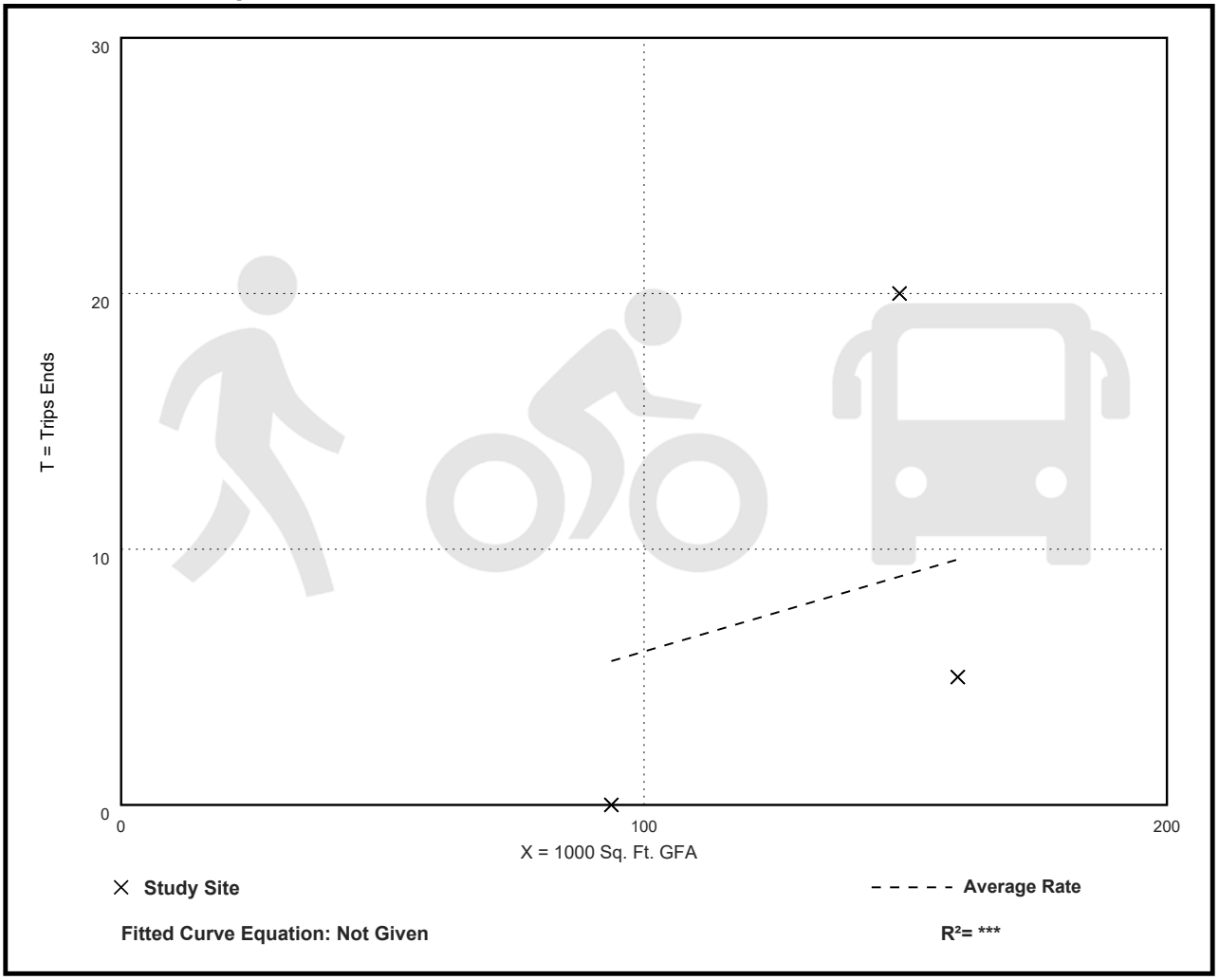
Home Improvement Superstore
(862)

Walk+Bike+Transit 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: 3
Avg. 1000 Sq. Ft. GFA: 134
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.06	0.00 - 0.13	0.07

Data Plot and Equation



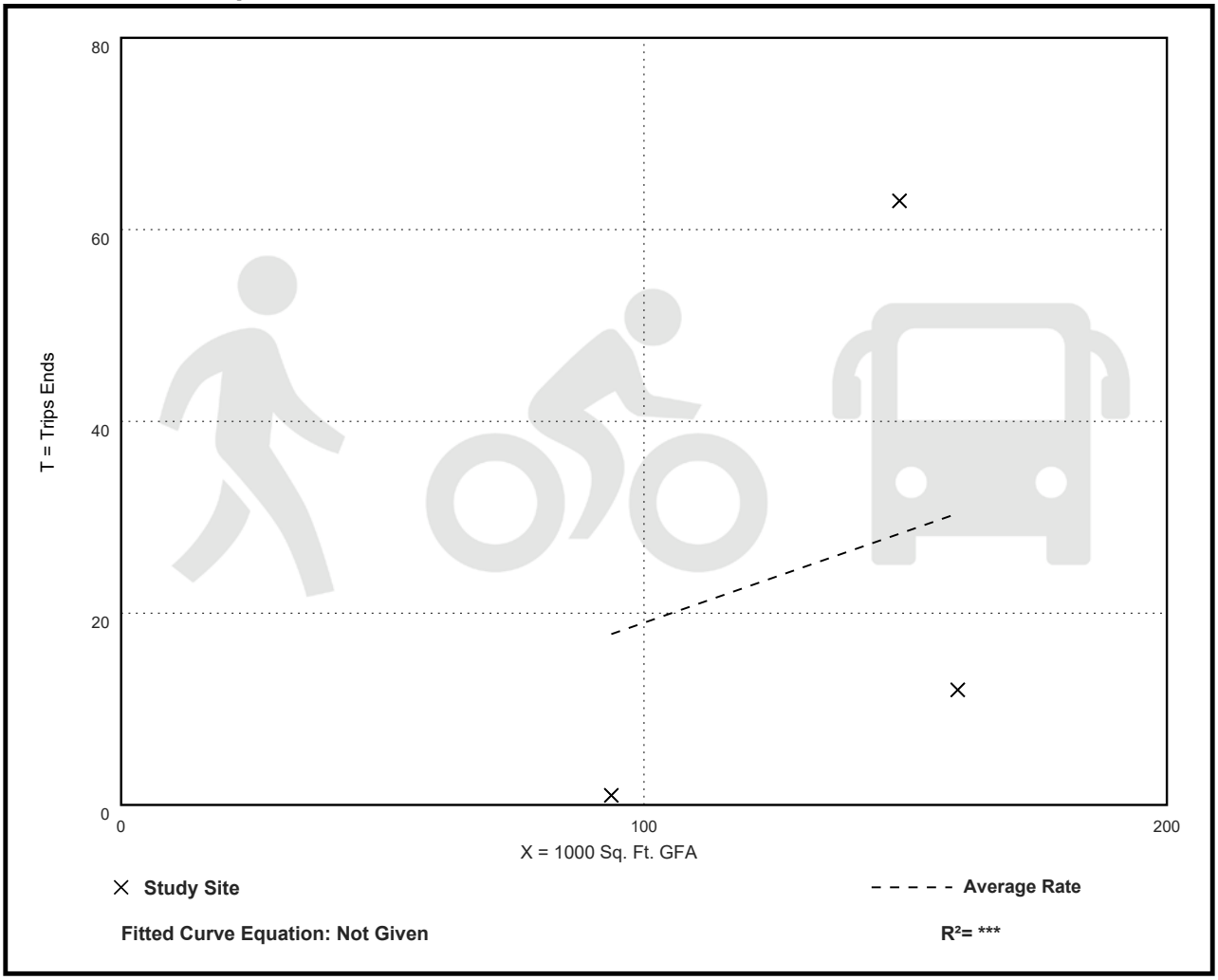
Home Improvement Superstore
(862)

Walk+Bike+Transit 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: 3
Avg. 1000 Sq. Ft. GFA: 134
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.19	0.01 - 0.42	0.22

Data Plot and Equation



Home Improvement Superstore
(862)

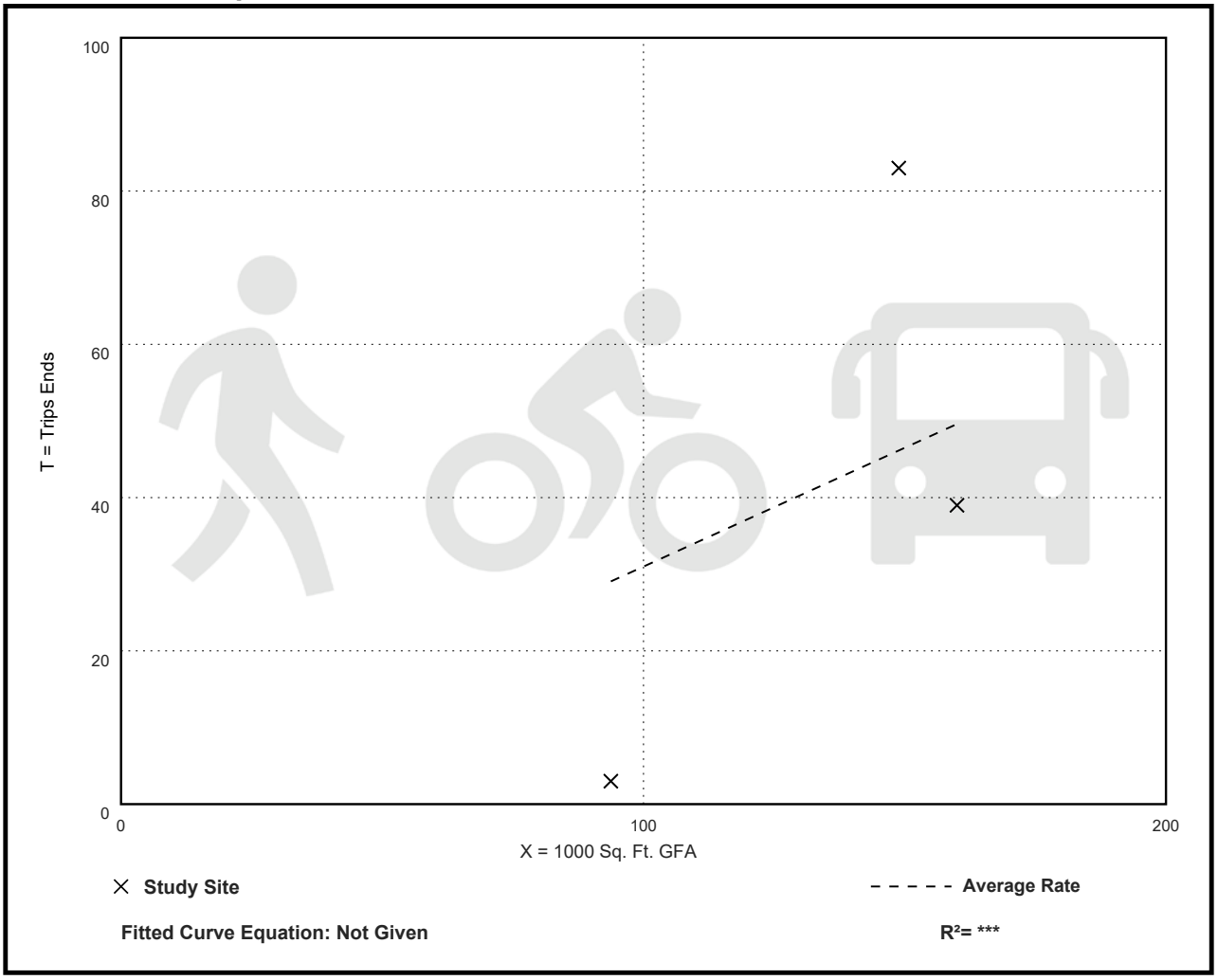
Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 3
Avg. 1000 Sq. Ft. GFA: 134
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.31	0.03 - 0.56	0.25

Data Plot and Equation



Home Improvement Superstore
(862)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA
On a: Sunday, Peak Hour of Generator

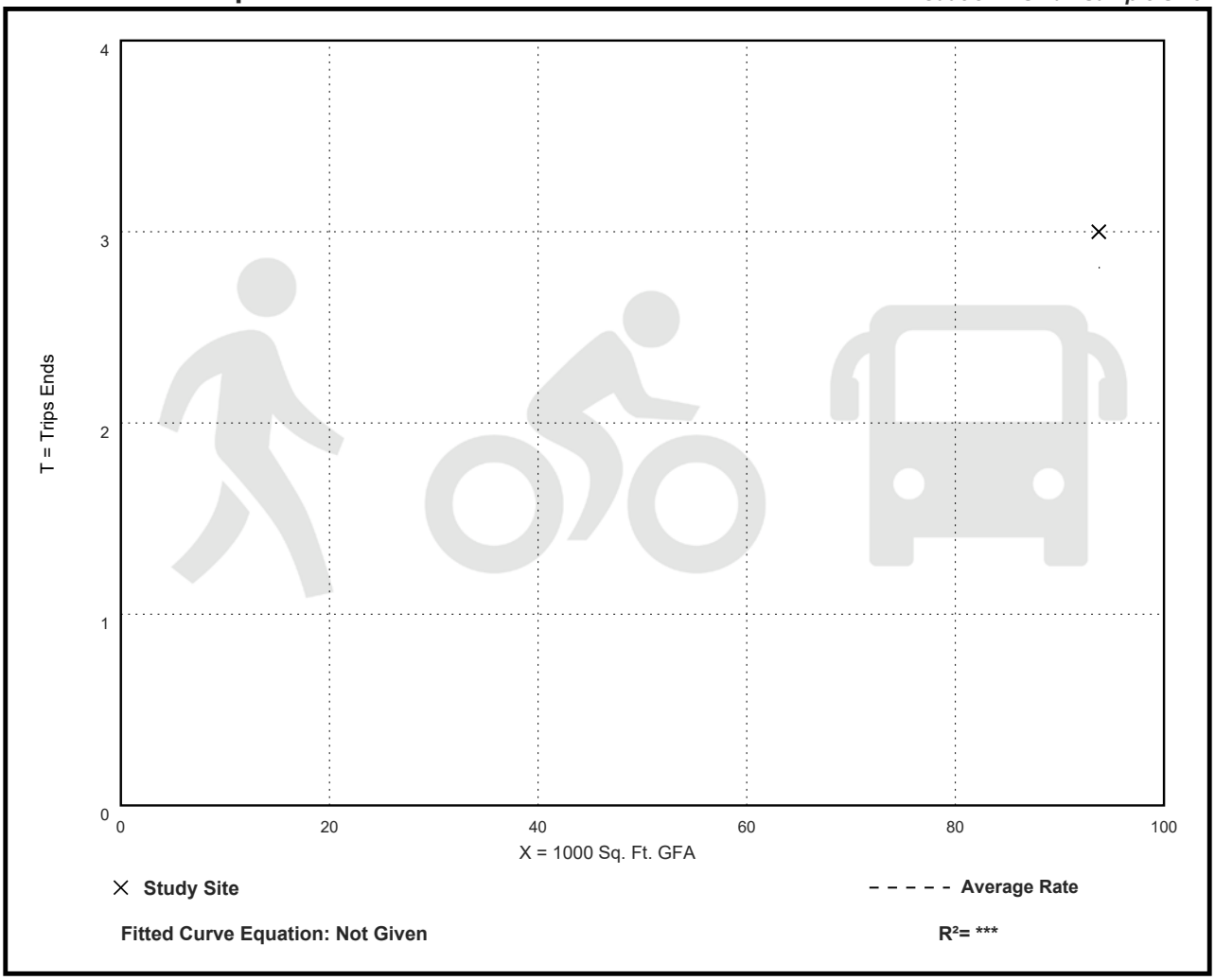
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 94
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.03	0.03 - 0.03	***

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ***

Vehicle Pass-By Rates by Land Use

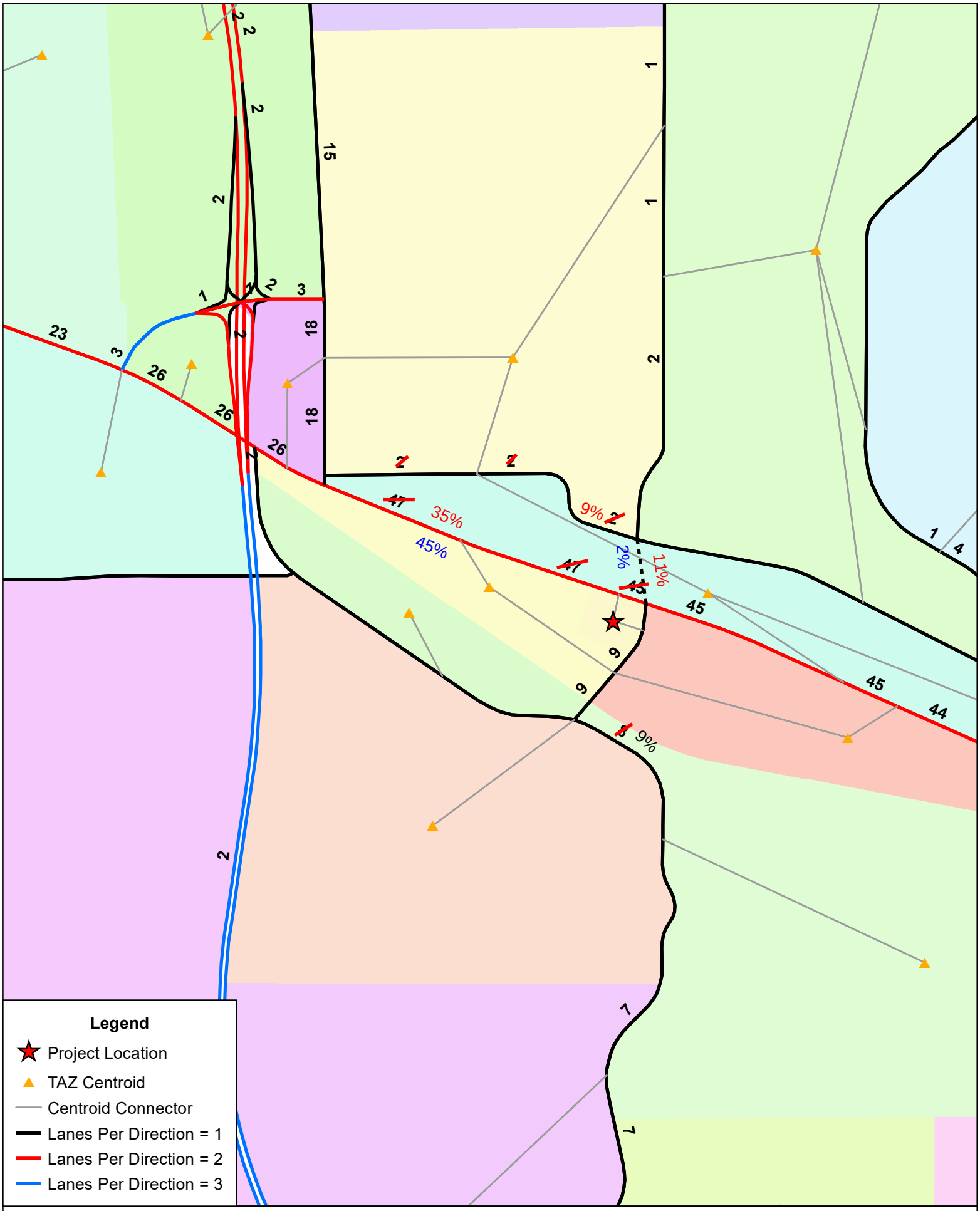
Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	862
Land Use	Home Improvement Superstore
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	4
Average Pass-By Rate	42%

Pass-By Characteristics for Individual Sites

GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
91	Florida	1993	111	46	—	—	54	—	30
100	Florida	1993	147	54	—	—	46	—	30
107	Florida	1992	488	44	32	24	56	—	30
142	Florida	2010	153	25	—	—	75	3888	9

APPENDIX H
CFRPMv7 Model Output



Trip Distribution - Floor & Decor Apopka
CFRPMv7 - 2025 - 1/5/2023

APPENDIX I
NCHRP Report 457 Output

NBL on Lake View Dr at Project Driveway 3 Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

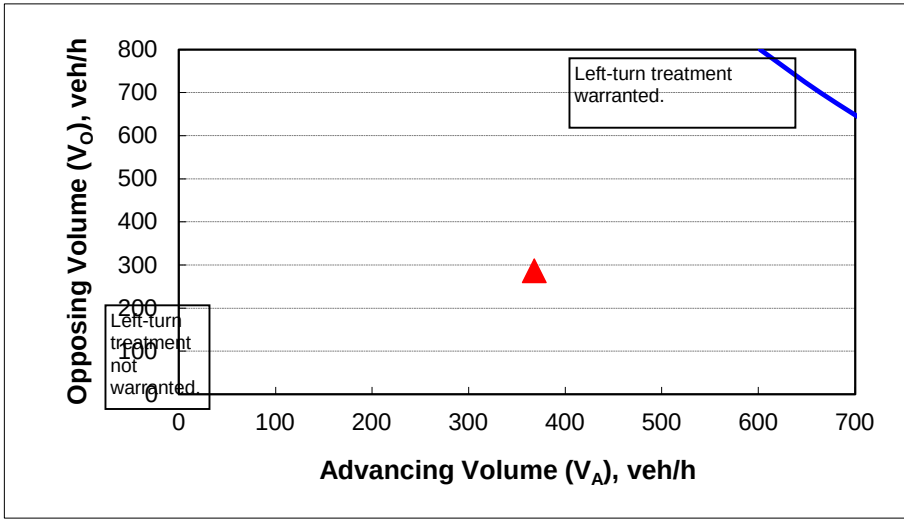
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	368
Opposing volume (V_O), veh/h:	286

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1021
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

APPENDIX J
Parking Study

Parking and Trip Generation Study

Floor & Decor

Prepared for:

Floor & Decor Outlets of America, Inc.

Prepared by:

Kimley-Horn and Associates, Inc.
12740 Gran Bay Parkway West, Suite 2350
Jacksonville, Florida 32258
FBPE No. CA 00000696

William J. Schilling Jr., P.E.
Florida License Number: 53947
Date: _____

©Kimley-Horn and Associates, Inc.
March 2017

TABLE OF CONTENTS

Page

Introduction 1
Data Collection 1
Results of Parking Data Collection 2
Results of Trip Generation Data Collection 11
Summary 13

Appendix A: Sample Parking and Trip Generation Data Collection Sheets
Appendix B: Parking Data Collection
Appendix C: Trip Generation Data Collection

LIST OF FIGURES

Page

Figure 1: Boynton Beach Store Location Map 3
Figure 2: Wayne Store Location Map 4
Figure 3: Potomac Mills Store Location Map 5
Figure 4: Santa Ana Store Location Map 6
Figure 5: North Houston Store Location Map 7
Figure 6: Arlington Heights Store Location Map 8
Figure 7: Mall of Georgia Store Location Map 9

LIST OF TABLES

Page

Table 1: Peak Parking Counts and Rates 10
Table 2: Peak Hour Trip Generation Summary 12
Table 3: Average Parking and Trip Generation Rates 13
Table 4: Highest Parking and Trip Generation Rates 13

Introduction

Floor & Decor has retained Kimley-Horn and Associates, Inc. (Kimley-Horn) to determine actual parking and trip generation rates at several of their existing stores around the country. Due to the characteristics of Floor & Decor's products, the sizes of the stores are very large in comparison to other retail stores, typically ranging between 60,000 and 100,000 square feet. The stores are sized to accommodate the large amount of flooring inventory that is typically stored and displayed for sale within the store. Historically, in order to determine the trip generation and required parking for a proposed Floor & Decor store, municipalities have used parking and trip generation rates that are based on studies for more traditional commercial retail stores. These traditional retail rates tend to overestimate the parking spaces needed and the weekday peak hour trips generated by a Floor & Decor store. This can result in Floor & Decor incurring unnecessary costs associated with constructing under-utilized parking lots for its stores or over-assessment for off-site transportation mitigation or mobility fees.

Kimley-Horn has recently conducted parking and trip generation data collection for several existing Floor & Decor stores around the country. From the data collection, actual parking and trip generation rates were determined for the existing stores, based on the gross leasable area of the stores. This report summarizes the data collection and resulting parking and trip generation rates.

Data Collection

Parking and trip generation data was collected for seven Floor & Decor stores around the country. These seven sites represent the best performing stores in each of their respective markets and were selected for study to collect data at the stores anticipated to have the highest parking and trip generation rates, representing a "worst-case" scenario. The store locations are as follows:

1. 1974 High Ridge Road; Boynton Beach, FL, 33426
2. 77 Willowbrook Boulevard; Wayne, NJ 07470
3. 14041 Worth Avenue; Woodbridge, VA 22192
4. 1801 East Dyer Road; Santa Ana, CA 92705
5. 17211 North Freeway; Houston, TX 77090
6. 600 East Rand Road; Arlington Heights, IL 60004
7. 2918 Buford Drive; Buford, GA 30519

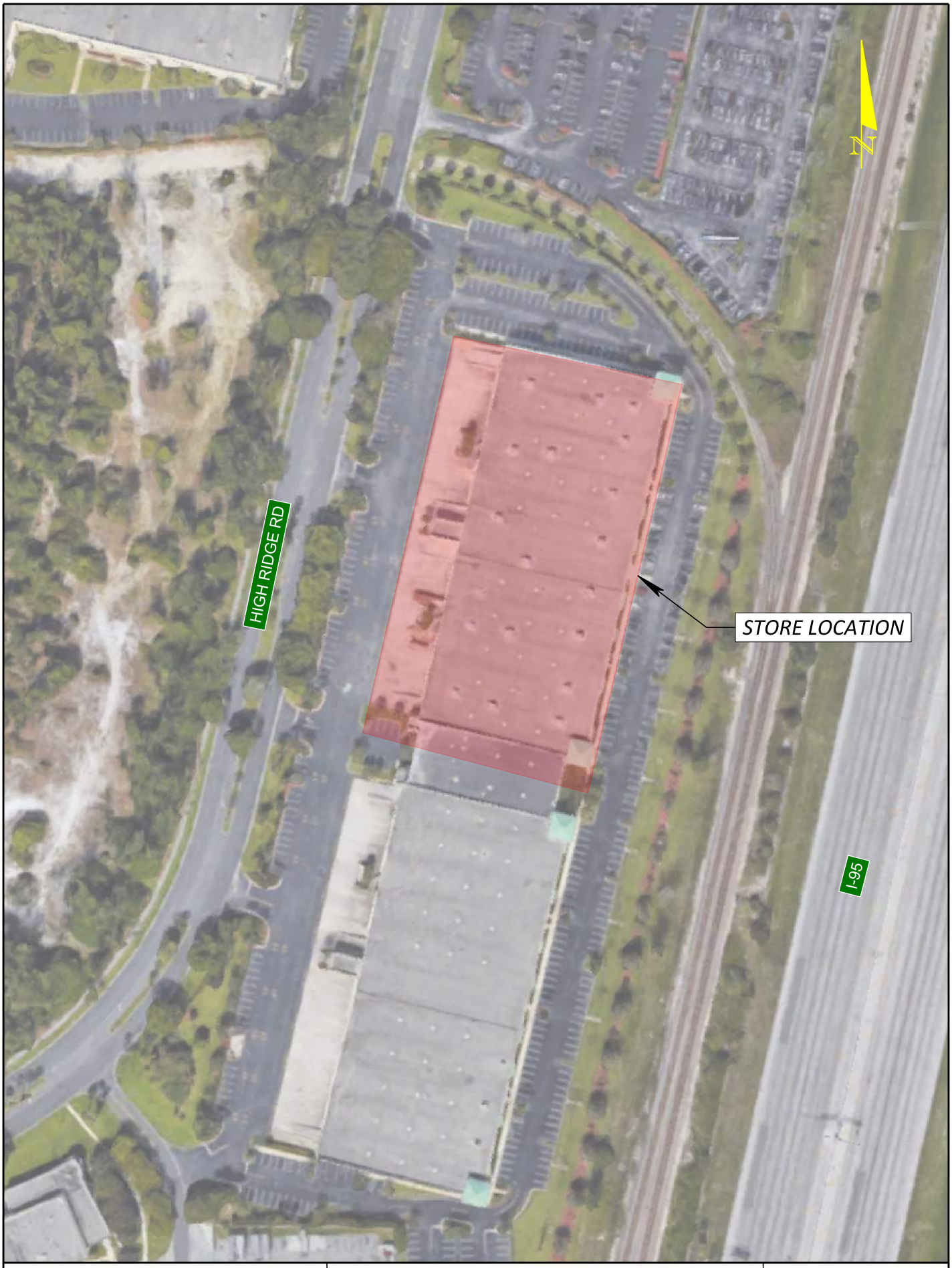
Figures 1 through **7** provide aerial location exhibits for each of the seven studied Floor & Decor stores. The store in Woodbridge, Virginia was recently studied by Kimley-Horn in August 2016. The parking and trip generation data obtained for that study was used in this analysis. For the other six stores, Kimley-Horn staff collected weekday parking and trip generation data between Tuesday, January 24, 2017 and Thursday, January 26, 2017. The weekday parking and trip generation data was collected from 7:00 AM to 9:30 AM and from 4:00 PM to 7:00 PM. Also, parking data collection was collected at the six stores on either Saturday, January 21, 2017 or Saturday, January 28, 2017 from 11:00 AM to 2:00 PM. According to Floor & Decor, the stores do not typically experience seasonal variations in patronage levels and sales. Therefore, the data collection is anticipated to represent typical store conditions.

In order to conduct the trip generation data collection, a Kimley-Horn staff member stood near the entrance to the Floor & Decor store and observed the parking lot. When a vehicle entered the parking lot and a person or a group of people got out of the vehicle and entered the Floor and Decor store, this was counted as one inbound vehicle trip. When a person or group of people exiting the Floor & Decor store got into a vehicle and exited the parking lot, this was counted as one outbound vehicle trip. This trip generation data collection method was used recognizing that several of the studied Floor & Decor stores are within shopping centers having multiple tenants, and this was the easiest way to isolate those trips to the shopping centers specifically destined to/from the studied Floor & Decor store.

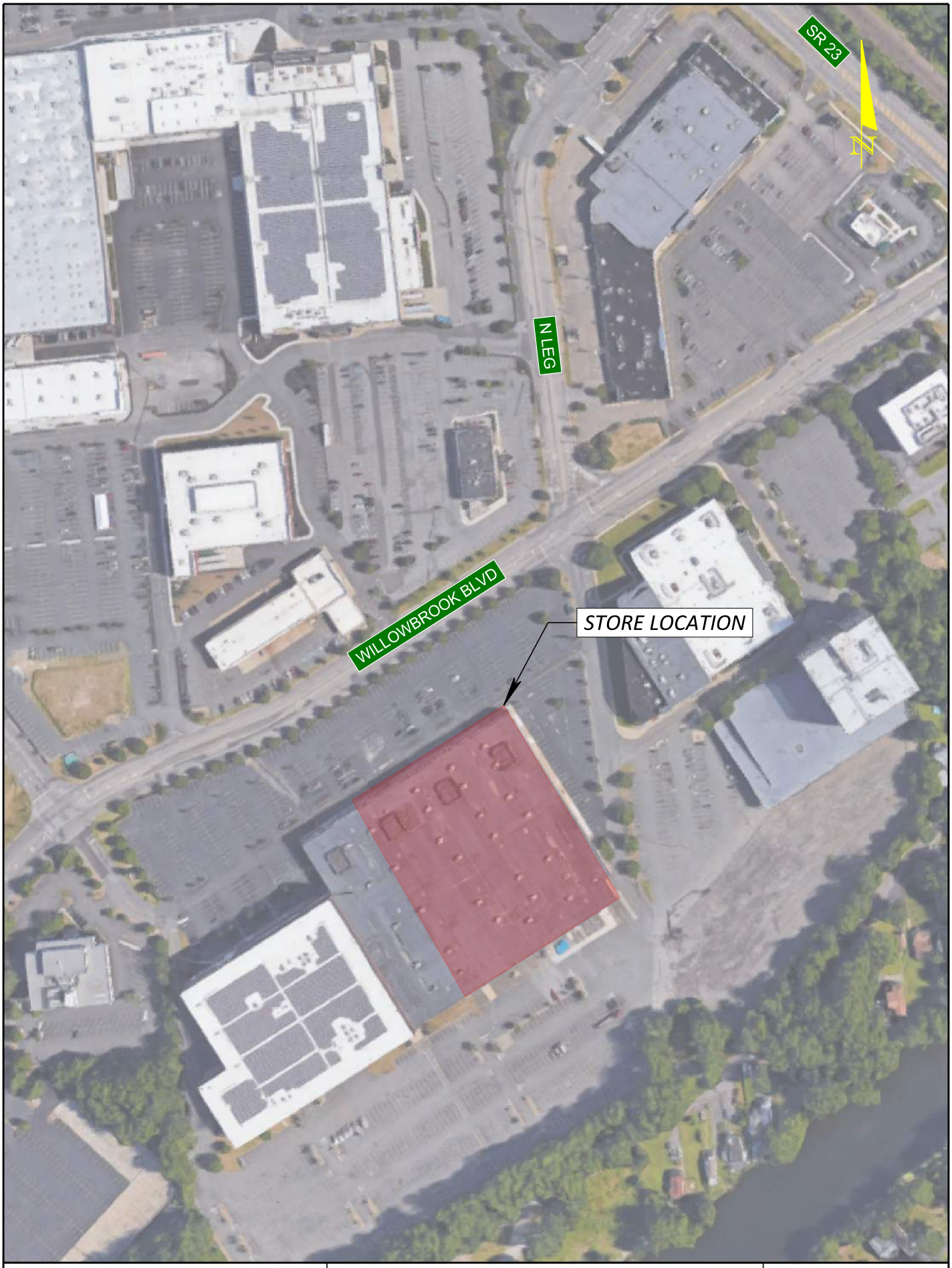
Appendix A contains samples of the data collection worksheets used at the six stores in which new data was collected. The parking data collected at each of the seven sites is included in Appendix B, and the trip generation data is included in Appendix C.

Results of Parking Data Collection

Table 1 presents the results of the parking data collection. As shown in **Table 1**, the maximum parking rate in spaces per 1,000 square feet of gross leasable area occurred during the Saturday data collection for all seven stores. The Saturday peak parking rates varied from 0.60 spaces per 1,000 square feet in Woodbridge, Virginia, (the lowest Saturday rate) to 1.07 spaces per 1,000 square feet in Houston, Texas (the highest Saturday rate). The average weekday AM peak parking rate for the seven stores was 0.35 spaces per 1,000 square feet. The average weekday PM peak parking rate was 0.47 spaces per 1,000 square feet. The average Saturday peak parking rate was 0.89 spaces per 1,000 square feet.



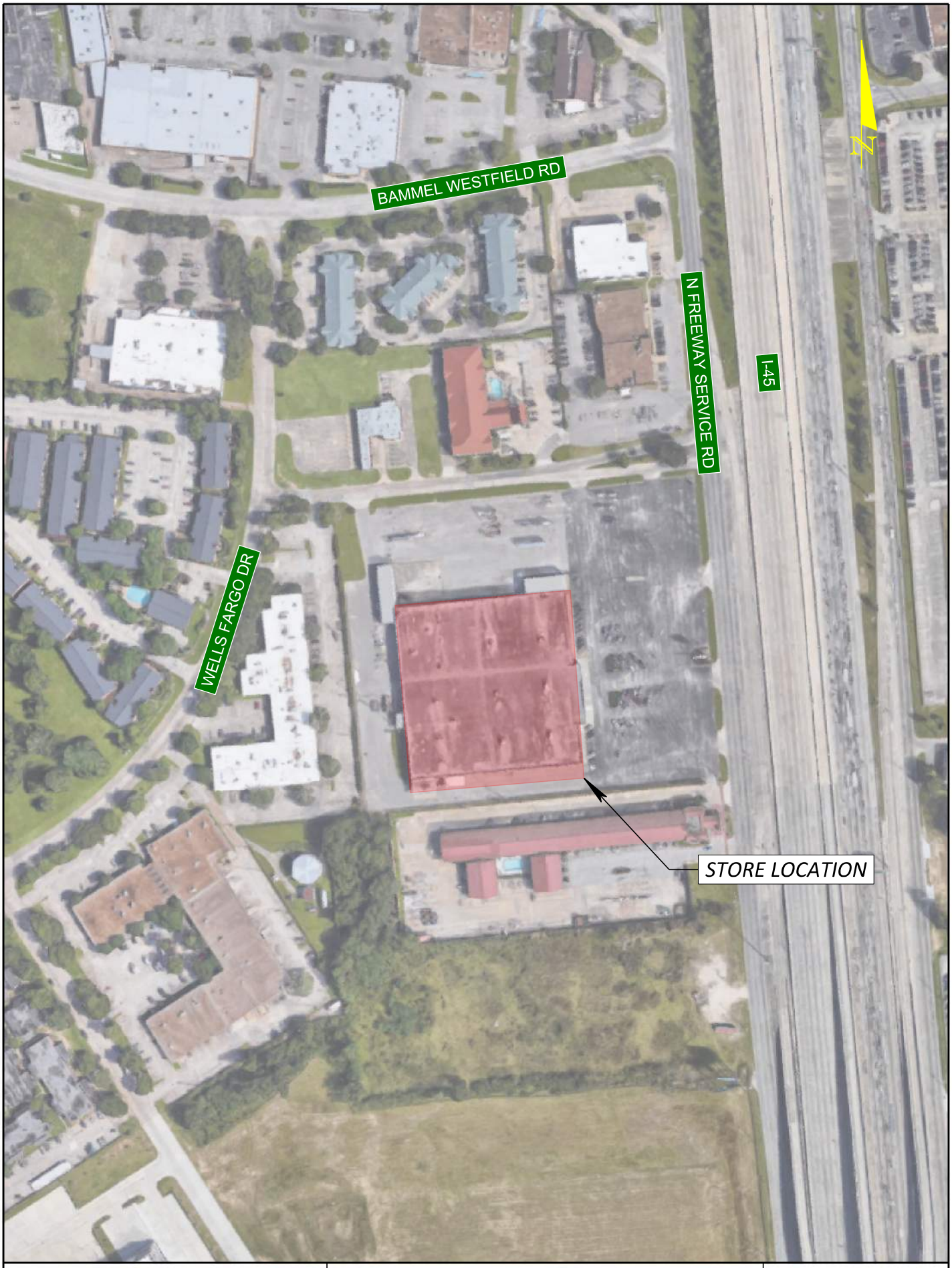
FLOOR & DECOR PARKING AND TRIP GENERATION STUDY	*BOYNTON BEACH STORE: 1974 HIGH RIDGE ROAD BOYNTON BEACH, FL 33426*	*FIGURE 1*



FLOOR & DECOR PARKING AND TRIP GENERATION STUDY	*WAYNE STORE: 77 WILLOWBROOK BOULEVARD WAYNE, NJ 07470*	*FIGURE 2*

FLOOR & DECOR PARKING AND TRIP GENERATION STUDY	*POTOMAC MILLS STORE: 14041 WORTH AVENUE WOODBRIDGE, VA 22192*	*FIGURE 3*

FLOOR & DECOR PARKING AND TRIP GENERATION STUDY	*SANTA ANA STORE: 1801 EAST DYER ROAD SANTA ANA, CA 92705*	*FIGURE 4*



FLOOR & DECOR PARKING AND TRIP GENERATION STUDY	*NORTH HOUSTON STORE: 17211 NORTH FREEWAY HOUSTON, TX 77090*	*FIGURE 5*

FLOOR & DECOR PARKING AND TRIP GENERATION STUDY	*ARLINGTON HEIGHTS STORE: 600 EAST RAND ROAD ARLINGTON HEIGHTS, IL 60004*	*FIGURE 6*

FLOOR & DECOR PARKING AND TRIP GENERATION STUDY	*MALL OF GEORGIA STORE: 2918 BUFORD DRIVE BUFORD, GA 30519*	*FIGURE 7*

Table 1: Peak Parking Counts and Rates

Store Location and Size	Date	Peak Time	Number of Occupied Spaces	Parking Rate (spaces per 1,000 SF GLA)
Floor & Decor - Boynton Beach 1974 High Ridge Road Boynton Beach, FL 33426 91,916 GLA	Wed, Jan 25	9:15 AM, 9:30 AM	43	0.47
	Wed, Jan 25	4:00 PM	51	0.55
	Sat, Jan 28	1:00 PM, 1:15 PM	65	0.71
Floor & Decor - Wayne 77 Willowbrook Boulevard Wayne, NJ 07470 88,500 SF GLA	Thur, Jan 26	9:30 AM	12	0.14
	Wed, Jan 25	6:15 PM	28	0.32
	Sat, Jan 21	1:30 PM	79	0.89
Floor & Decor - Potomac Mills 14041 Worth Avenue Woodbridge, VA 22192 76,384 SF GLA	Thur, July 14, 2016	8:00 AM, 9:30 AM	15	0.20
	Wed, July 13, 2016	4:00 PM	30	0.39
	Sat, July 9, 2016	1:00 PM, 1:15 PM	46	0.60
Floor & Decor - Santa Ana 1801 East Dyer Road Santa Ana, CA 92705 72,914 SF GLA	Tue, Jan 24	9:15 AM	26	0.36
	Tue, Jan 24	4:00 PM	29	0.40
	Sat, Jan 21	1:00 PM	75	1.03
Floor & Decor - North Houston 17211 North Freeway Houston, TX 77090 109,000 SF GLA	Wed, Jan 25	9:30 AM	58	0.53
	Tue, Jan 24	4:15 PM	56	0.51
	Sat, Jan 21	2:00 PM	117	1.07
Floor & Decor - Arlington Heights 600 East Rand Road Arlington Heights, IL 60004 74,900 SF GLA	Wed, Jan 25	9:30 AM	23	0.31
	Wed, Jan 25	4:00 PM, 4:15 PM	36	0.48
	Sat, Jan 28	1:00 PM	66	0.88
Floor & Decor - Mall of Georgia 2918 Buford Drive Buford, GA 30519 87,825 SF GLA	Tue, Jan 24	9:15 AM	37	0.42
	Tue, Jan 24	4:15 PM	56	0.64
	Sat, Jan 21	1:30 PM	89	1.01
Average weekday AM peak parking rate of all seven stores:				0.35
Average weekday PM peak parking rate of all seven stores:				0.47
Average Saturday midday peak parking rate of all seven stores:				0.89

Results of Trip Generation Data Collection

Table 2 presents the results of the trip generation data collection. As shown in **Table 2**, the peak hour trip generation rates in trips per 1,000 square feet of gross leasable area were higher in the PM peak hour than they were in the AM peak hour for five of the seven stores. The Wayne, New Jersey store experienced the lowest AM peak hour trip generation rate, and the Santa Ana store experienced the lowest PM peak hour trip generation rate. The Boynton Beach store experienced the highest AM peak hour and the highest PM peak hour trip generation rates. The average AM peak hour trip generation rate for the seven stores was 0.45 trips per 1,000 square feet (57 percent inbound, 43 percent outbound). The average PM peak hour trip generation rate was 0.62 trips per 1,000 square feet (50 percent inbound, 50 percent outbound).

Table 2: Peak Hour Trip Generation Summary

Store Location and Size	Date	Peak Hour	Inbound Trips	Outbound Trips	Total Trips	Trip Generation Rate (Trips per 1,000 SF GLA)	Inbound Trip Percentage	Outbound Trip Percentage
Floor & Decor - Boynton Beach 1974 High Ridge Road Boynton Beach, FL 33426 91,916 SF GLA	Wed, Jan 25, 2017	8:30 AM - 9:30 AM	43	38	81	0.88	53%	47%
	Wed, Jan 25, 2017	4:00 PM - 5:00 PM	40	37	77	0.84	52%	48%
Floor & Decor - Wayne 77 Willowbrook Boulevard Wayne, NJ 07470 88,500 SF GLA	Thur, Jan 26, 2017	8:30 AM - 9:30 AM	10	5	15	0.17	67%	33%
	Wed, Jan 25, 2017	5:15 PM - 6:15 PM	27	22	49	0.55	55%	45%
Floor & Decor - Potomac Mills 14041 Worth Avenue Woodbridge, VA 22192 76,384 SF GLA	Thur, July 14, 2016	7:30 AM - 8:30 AM	13	15	28	0.37	46%	54%
	Wed, July 13, 2016	5:00 PM - 6:00 PM	18	20	38	0.50	47%	53%
Floor & Decor - Santa Ana 1801 East Dyer Road Santa Ana, CA 92705 72,914 SF GLA	Tue, Jan 24, 2017	8:15 AM - 9:15 AM	18	17	35	0.48	51%	49%
	Tue, Jan 24, 2017	4:00 PM - 5:00 PM	15	16	31	0.43	48%	52%
Floor & Decor - North Houston 17211 North Freeway Houston, TX 77090 109,000 SF GLA	Wed, Jan 25, 2017	8:15 AM - 9:15 AM	28	26	54	0.50	52%	48%
	Tue, Jan 24, 2017	5:30 PM - 6:30 PM	31	33	64	0.59	48%	52%
Floor & Decor - Arlington Heights 600 East Rand Road Arlington Heights, IL 60004 74,900 SF GLA	Wed, Jan 25, 2017	8:30 AM - 9:30 AM	17	11	28	0.37	61%	39%
	Wed, Jan 25, 2017	5:30 PM - 6:30 PM	24	22	46	0.61	52%	48%
Floor & Decor - Mall of Georgia 2918 Buford Drive Buford, GA 30519 87,825 SF GLA	Tue, Jan 24, 2017	8:30 AM - 9:30 AM	23	11	34	0.39	68%	32%
	Tue, Jan 24, 2017	5:45 PM - 6:45 PM	33	40	73	0.83	45%	55%
Average AM Peak Hour Trip Generation Rate and Inbound/Outbound Percentage						0.45	(57% in, 43% out)	
Average PM Peak Hour Trip Generation Rate and Inbound/Outbound Percentage						0.62	(50% in, 50% out)	

Summary

Table 3 presents the average weekday AM and PM peak parking and trip generation rates as well as the average Saturday peak parking rate for the seven stores. **Table 4** presents the highest weekday AM and PM parking and trip generation rates observed as well as the highest Saturday parking rate observed for the seven stores.

Table 3: Average Parking and Trip Generation Rates

Time Period	Average Peak Parking Rate (Occupied Spaces per 1,000 SF GLA)	Average Peak Hour Trip Generation Rate (Trips Per Hour Per 1,000 SF GLA)	Average Peak Hour Inbound Trip Percentage	Average Peak Hour Outbound Trip Percentage
AM Peak	0.35	0.45	57%	43%
PM Peak	0.47	0.62	50%	50%
Saturday Peak	0.89	-		

Table 4: Highest Parking and Trip Generation Rates

Time Period	Highest Parking Rate (Occupied Spaces per 1,000 SF GLA)	Location of Store with Highest Parking Rate	Highest Trip Generation Rate (Trips Per Hour Per 1,000 SF GLA)	Location of Store with Highest Trip Generation Rate	Inbound Trip Percentage at Store with Highest Trip Generation	Outbound Trip Percentage at Store with Highest Trip Generation
AM Peak	0.53	North Houston	0.88	Boynton Beach	53%	47%
PM Peak	0.64	Mall of Georgia	0.84	Boynton Beach	52%	48%
Saturday Peak	1.07	North Houston	-			

Appendix A:

Sample Parking and Trip Generation Data Collection Sheets

DATE: 1/25/16

TIME PERIOD: 7:30 AM

DATA COLLECTOR: Dombrowski

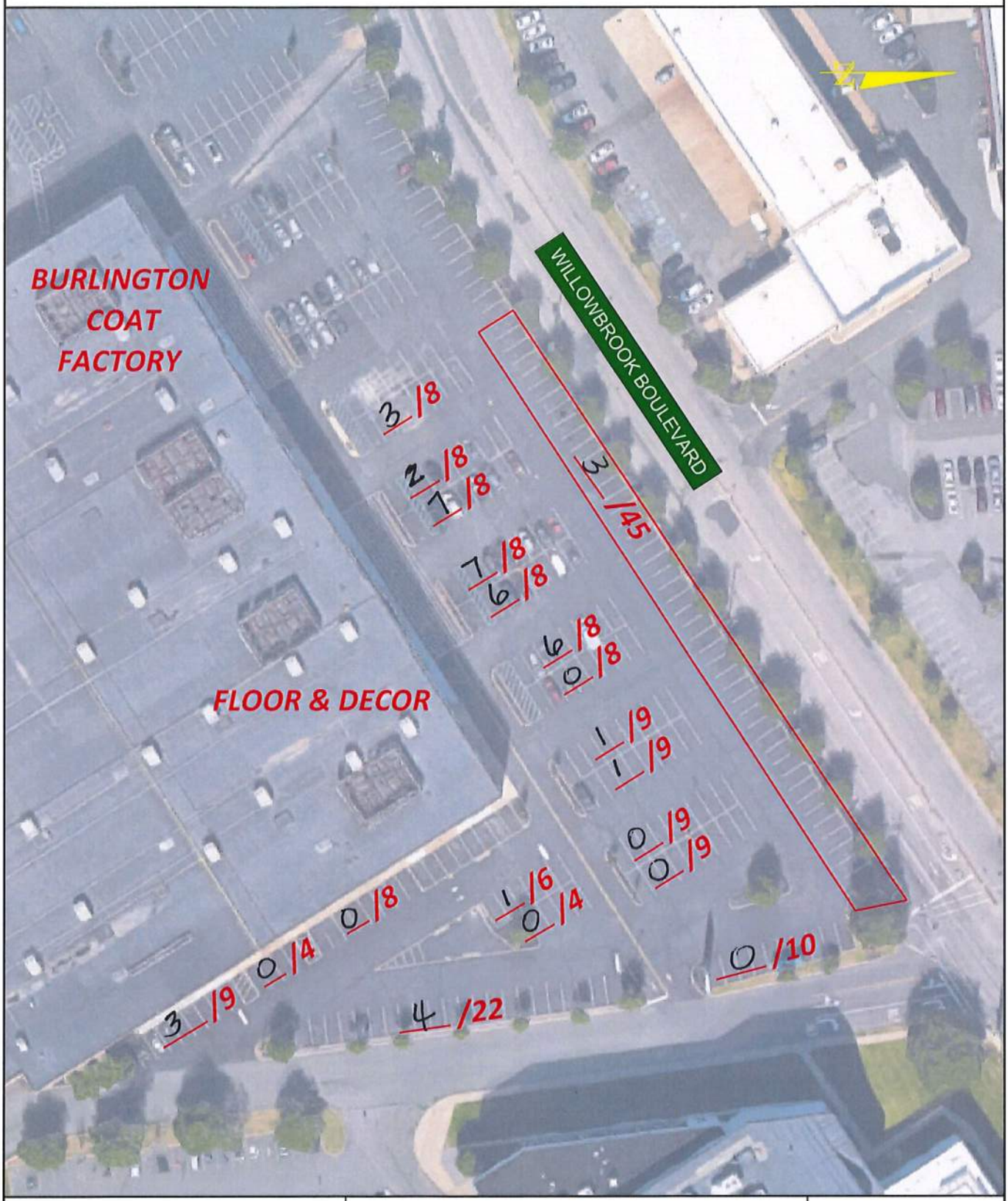
(13)

FLOOR & DECOR	1974 HIGH RIDGE ROAD BOYNTON BEACH, FL 33426	PARKING DATA COLLECTION

DATE: 1/21/17

TIME PERIOD: 11:15 - 11:30

DATA COLLECTOR: Logan Grant

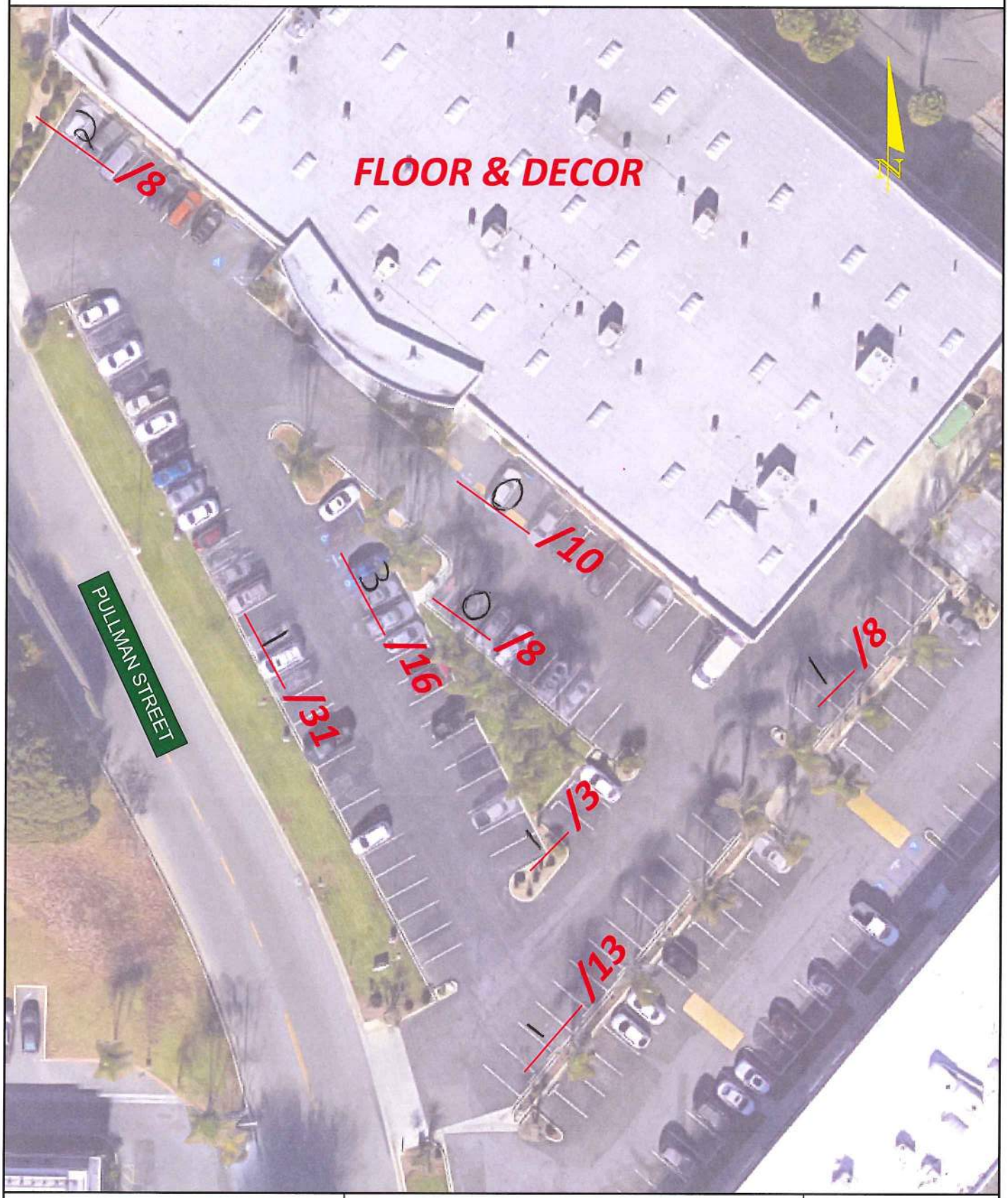


FLOOR & DECOR	77 WILLOWBROOK BOULEVARD WAYNE, NJ 07470	PARKING DATA COLLECTION

DATE: 1/24/17

TIME PERIOD: 7:00 AM

DATA COLLECTOR: Alex Vlosky



FLOOR & DECOR	1801 EAST DYER ROAD SANTA ANA, CA 92705	PARKING DATA COLLECTION

DATE: 1/21/2018

TIME PERIOD: 11:30AM - 11:45AM

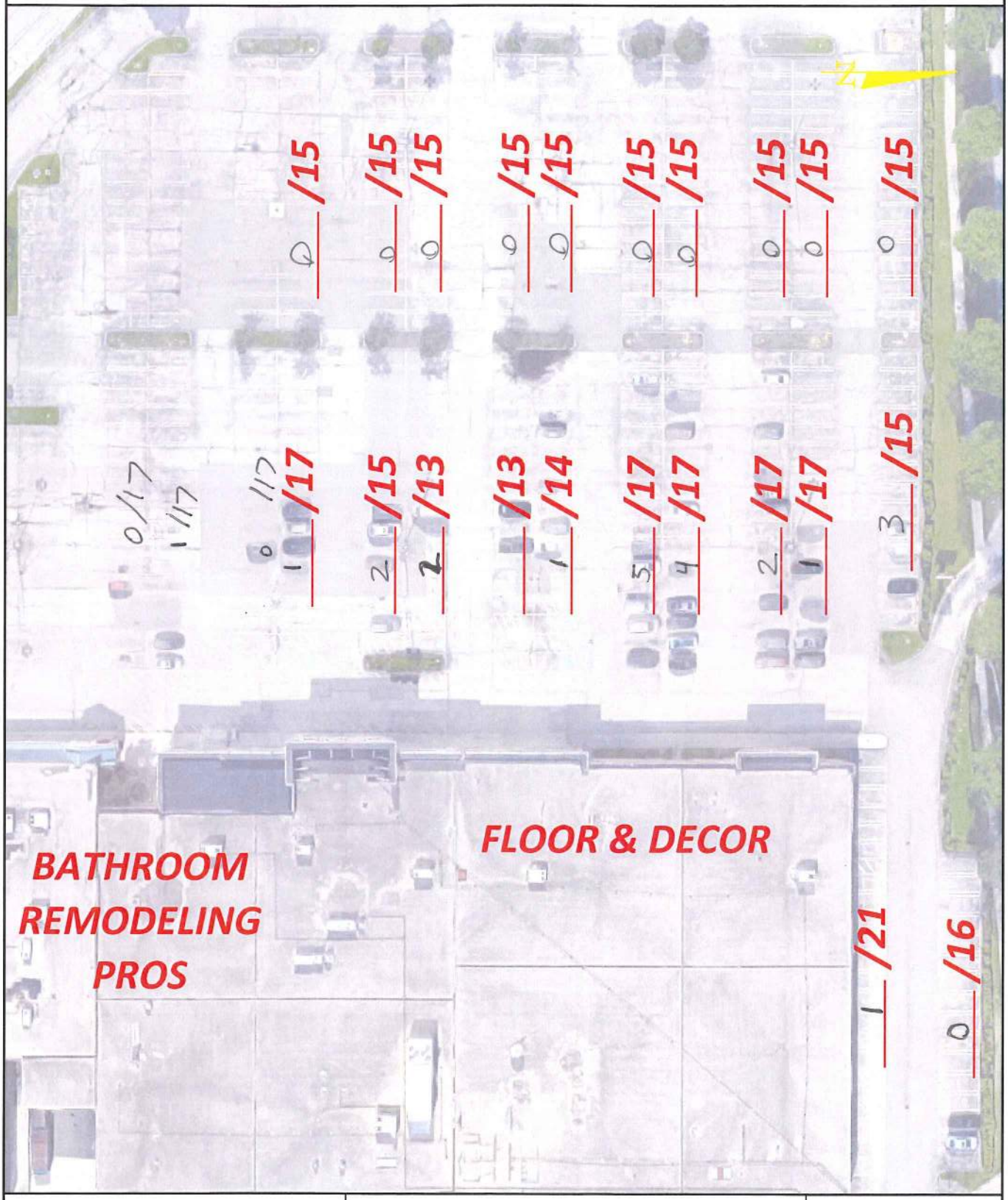
DATA COLLECTOR: EMMA JENSEN

FLOOR & DECOR
NORTH FREEWAY SERVICE ROAD
0/31
0/31
0/6
0/14
0/14
0/14

DATE: 1/25/2017

TIME PERIOD: 9:30

DATA COLLECTOR: GM

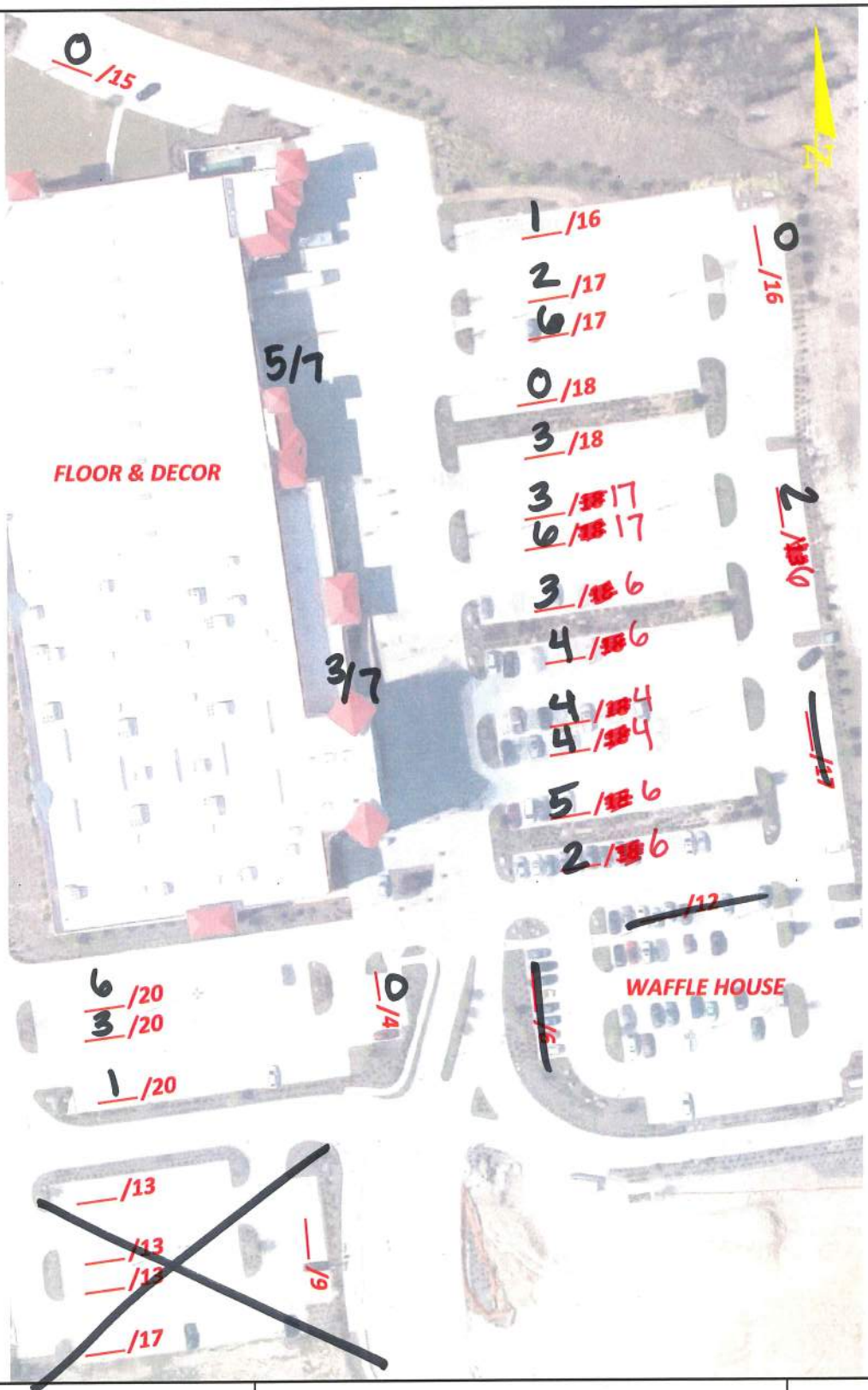


FLOOR & DECOR	600 EAST RAND ROAD ARLINGTON HEIGHTS, IL 60004	PARKING DATA COLLECTION

DATE: 1/21/17

TIME PERIOD: 11:00 AM - 11:15 AM

DATA COLLECTOR: Jouralyn Fuga



FLOOR & DECOR	2918 BUFORD DRIVE BUFORD, GA 30519	PARKING DATA COLLECTION

DATE: 1/24/17

TIME PERIOD: AM

DATA COLLECTOR: MATT FLYNN

	IN	OUT
7:00 AM - 7:15 AM	𝍸 |	||
7:15 AM - 7:30 AM	|||	||
7:30 AM - 7:45 AM	|	|||
7:45 AM - 8:00 AM	|||	||
8:00 AM - 8:15 AM	||	|
8:15 AM - 8:30 AM	𝍸 |	||
8:30 AM - 8:45 AM	||	||
8:45 AM - 9:00 AM	𝍸	||
9:00 AM - 9:15 AM	𝍸 ||	||
9:15 AM - 9:30 AM	𝍸 |	|||

Appendix B:

Parking Data Collection

Floor & Decor Parking Data Collection

Boynton Beach

Boynton Beach, Florida		
Store Size (square feet)		91,916
Time	Parking Count	Parking Ratio (spaces/1000 sf)
AM Peak *Collected on Wednesday, January 25, 2017*		
7:00 AM	14	0.15
7:15 AM	13	0.14
7:30 AM	15	0.16
7:45 AM	20	0.22
8:00 AM	26	0.28
8:15 AM	25	0.27
8:30 AM	29	0.32
8:45 AM	35	0.38
9:00 AM	41	0.45
9:15 AM	43	0.47
9:30 AM	43	0.47
PM Peak *Collected on Wednesday, January 25, 2017*		
4:00 PM	51	0.55
4:15 PM	42	0.46
4:30 PM	39	0.42
4:45 PM	46	0.50
5:00 PM	46	0.50
5:15 PM	39	0.42
5:30 PM	37	0.40
5:45 PM	39	0.42
6:00 PM	30	0.33
6:15 PM	26	0.28
6:30 PM	26	0.28
6:45 PM	30	0.33
7:00 PM	29	0.32
Saturday Peak *Collected on Saturday, January 28, 2017*		
11:00 AM	47	0.51
11:15 AM	55	0.60
11:30 AM	64	0.70
11:45 AM	56	0.61
12:00 PM	52	0.57
12:15 PM	51	0.55
12:30 PM	56	0.61
12:45 PM	62	0.67
1:00 PM	65	0.71
1:15 PM	65	0.71
1:30 PM	61	0.66
1:45 PM	62	0.67
2:00 PM	64	0.70

Wayne

Wayne, New Jersey		
Store Size (square feet)		88,500
Time	Parking Count	Parking Ratio (spaces/1000 sf)
AM Peak *Collected on Tuesday, January 24, 2017*		
7:00 AM	2	0.02
7:15 AM	3	0.03
7:30 AM	2	0.02
7:45 AM	3	0.03
8:00 AM	4	0.05
8:15 AM	4	0.05
8:30 AM	4	0.05
8:45 AM	4	0.05
9:00 AM	6	0.07
9:15 AM	9	0.10
9:30 AM	12	0.14
PM Peak *Collected on Tuesday, January 24, 2017*		
4:00 PM	19	0.21
4:15 PM	15	0.17
4:30 PM	21	0.24
4:45 PM	16	0.18
5:00 PM	18	0.20
5:15 PM	19	0.21
5:30 PM	24	0.27
5:45 PM	24	0.27
6:00 PM	26	0.29
6:15 PM	28	0.32
6:30 PM	26	0.29
6:45 PM	26	0.29
7:00 PM	23	0.26
Saturday Peak *Collected on Saturday, January 21, 2017*		
11:00 AM	35	0.40
11:15 AM	44	0.50
11:30 AM	54	0.61
11:45 AM	49	0.55
12:00 PM	57	0.64
12:15 PM	58	0.66
12:30 PM	55	0.62
12:45 PM	67	0.76
1:00 PM	70	0.79
1:15 PM	71	0.80
1:30 PM	79	0.89
1:45 PM	73	0.82
2:00 PM	75	0.85

Floor & Decor Parking Data Collection

Potamac Mills

Woodbridge, Virginia		
Store Size (square feet)		76,384
Time	Parking Count	Parking Ratio (spaces/1000 sf)
AM Peak *Collected on Thursday, July 14, 2016*		
7:00 AM	5	0.07
7:15 AM	9	0.12
7:30 AM	11	0.14
7:45 AM	12	0.16
8:00 AM	15	0.20
8:15 AM	13	0.17
8:30 AM	9	0.12
8:45 AM	10	0.13
9:00 AM	12	0.16
9:15 AM	13	0.17
9:30 AM	15	0.20
PM Peak *Collected on Wednesday, July 13, 2016*		
4:00 PM	30	0.39
4:15 PM	28	0.37
4:30 PM	21	0.27
4:45 PM	21	0.27
5:00 PM	21	0.27
5:15 PM	18	0.24
5:30 PM	19	0.25
5:45 PM	20	0.26
6:00 PM	19	0.25
6:15 PM	16	0.21
6:30 PM	17	0.22
6:45 PM	19	0.25
7:00 PM	23	0.30
Saturday Peak *Collected on Saturday, July 9, 2016*		
11:00 AM	38	0.50
11:15 AM	33	0.43
11:30 AM	34	0.45
11:45 AM	39	0.51
12:00 PM	32	0.42
12:15 PM	37	0.48
12:30 PM	44	0.58
12:45 PM	45	0.59
1:00 PM	46	0.60
1:15 PM	46	0.60
1:30 PM	40	0.52
1:45 PM	32	0.42
2:00 PM	37	0.48

Santa Ana

Santa Ana, California		
Store Size (square feet)		72,914
Time	Parking Count	Parking Ratio (spaces/1000 sf)
AM Peak *Collected on Tuesday, January 24, 2017*		
7:00 AM	9	0.12
7:15 AM	12	0.16
7:30 AM	12	0.16
7:45 AM	12	0.16
8:00 AM	14	0.19
8:15 AM	16	0.22
8:30 AM	22	0.30
8:45 AM	19	0.26
9:00 AM	23	0.32
9:15 AM	26	0.36
9:30 AM	25	0.34
PM Peak *Collected on Tuesday, January 24, 2017*		
4:00 PM	29	0.40
4:15 PM	22	0.30
4:30 PM	26	0.36
4:45 PM	23	0.32
5:00 PM	18	0.25
5:15 PM	23	0.32
5:30 PM	14	0.19
5:45 PM	14	0.19
6:00 PM	16	0.22
6:15 PM	15	0.21
6:30 PM	22	0.30
6:45 PM	21	0.29
7:00 PM	20	0.27
Saturday Peak *Collected on Saturday, January 21, 2017*		
11:00 AM	59	0.81
11:15 AM	66	0.91
11:30 AM	67	0.92
11:45 AM	60	0.82
12:00 PM	62	0.85
12:15 PM	68	0.93
12:30 PM	67	0.92
12:45 PM	68	0.93
1:00 PM	75	1.03
1:15 PM	70	0.96
1:30 PM	74	1.01
1:45 PM	70	0.96
2:00 PM	60	0.82

Floor & Decor Parking Data Collection

North Houston

Houston, Texas		
Store Size (square feet)		109,000
Time	Parking Count	Parking Ratio (spaces/1000 sf)
AM Peak *Collected on Wednesday, January 25, 2017*		
7:00 AM	22	0.20
7:15 AM	41	0.38
7:30 AM	37	0.34
7:45 AM	35	0.32
8:00 AM	39	0.36
8:15 AM	44	0.40
8:30 AM	49	0.45
8:45 AM	49	0.45
9:00 AM	56	0.51
9:15 AM	54	0.50
9:30 AM	58	0.53
PM Peak *Collected on Tuesday, January 24, 2017*		
4:00 PM	54	0.50
4:15 PM	56	0.51
4:30 PM	54	0.50
4:45 PM	50	0.46
5:00 PM	48	0.44
5:15 PM	43	0.39
5:30 PM	52	0.48
5:45 PM	44	0.40
6:00 PM	52	0.48
6:15 PM	46	0.42
6:30 PM	47	0.43
6:45 PM	41	0.38
7:00 PM	37	0.34
Saturday Peak *Collected on Saturday, January 21, 2017*		
11:00 AM	81	0.74
11:15 AM	79	0.72
11:30 AM	83	0.76
11:45 AM	91	0.83
12:00 PM	91	0.83
12:15 PM	90	0.83
12:30 PM	89	0.82
12:45 PM	88	0.81
1:00 PM	101	0.93
1:15 PM	105	0.96
1:30 PM	90	0.83
1:45 PM	100	0.92
2:00 PM	117	1.07

Arlington Heights

Arlington Heights, Illinois		
Store Size (square feet)		74,900
Time	Parking Count	Parking Ratio (spaces/1000 sf)
AM Peak *Collected on Thursday, January 19, 2017*		
7:00 AM	8	0.11
7:15 AM	11	0.15
7:30 AM	10	0.13
7:45 AM	10	0.13
8:00 AM	12	0.16
8:15 AM	13	0.17
8:30 AM	14	0.19
8:45 AM	18	0.24
9:00 AM	17	0.23
9:15 AM	21	0.28
9:30 AM	23	0.31
PM Peak *Collected on Thursday, January 19, 2017*		
4:00 PM	36	0.48
4:15 PM	36	0.48
4:30 PM	35	0.47
4:45 PM	29	0.39
5:00 PM	33	0.44
5:15 PM	34	0.45
5:30 PM	28	0.37
5:45 PM	29	0.39
6:00 PM	30	0.40
6:15 PM	29	0.39
6:30 PM	29	0.39
6:45 PM	25	0.33
7:00 PM	21	0.28
Saturday Peak *Collected on Saturday, January 28, 2017*		
11:00 AM	41	0.55
11:15 AM	36	0.48
11:30 AM	45	0.60
11:45 AM	46	0.61
12:00 PM	43	0.57
12:15 PM	47	0.63
12:30 PM	48	0.64
12:45 PM	52	0.69
1:00 PM	66	0.88
1:15 PM	65	0.87
1:30 PM	55	0.73
1:45 PM	50	0.67
2:00 PM	49	0.65

Floor & Decor Parking Data Collection

Mall of Georgia

Buford, Georgia		
Store Size (square feet)		87,825
Time	Parking Count	Parking Ratio (spaces/1000 sf)
AM Peak *Collected on Tuesday, January 24, 2017*		
7:00 AM	13	0.15
7:15 AM	17	0.19
7:30 AM	20	0.23
7:45 AM	16	0.18
8:00 AM	18	0.20
8:15 AM	21	0.24
8:30 AM	23	0.26
8:45 AM	24	0.27
9:00 AM	29	0.33
9:15 AM	37	0.42
9:30 AM	33	0.38
PM Peak *Collected on Tuesday, January 24, 2017*		
4:00 PM	53	0.60
4:15 PM	56	0.64
4:30 PM	52	0.59
4:45 PM	48	0.55
5:00 PM	46	0.52
5:15 PM	43	0.49
5:30 PM	36	0.41
5:45 PM	32	0.36
6:00 PM	29	0.33
6:15 PM	28	0.32
6:30 PM	37	0.42
6:45 PM	34	0.39
7:00 PM	36	0.41
Saturday Peak *Collected on Saturday, January 21, 2017*		
11:00 AM	63	0.72
11:15 AM	65	0.74
11:30 AM	71	0.81
11:45 AM	62	0.71
12:00 PM	64	0.73
12:15 PM	75	0.85
12:30 PM	79	0.90
12:45 PM	76	0.87
1:00 PM	84	0.96
1:15 PM	88	1.00
1:30 PM	89	1.01
1:45 PM	74	0.84
2:00 PM	73	0.83

Appendix C:

Trip Generation Data Collection

Floor & Decor Trip Generation Data Collection

Boynton Beach

Boynton Beach, Florida				
Store Size (square feet)				91,916
Time Period	Inbound trips	Outbound trips	Total trips	Peak Hour Trip Generation (trips/1000 sf)
AM Peak *Collected on Wednesday, January 25, 2017*				
7:00 - 7:15	7	4	11	
7:15 - 7:30	2	2	4	
7:30 - 7:45	5	1	6	
7:45 - 8:00	6	6	12	
8:00 - 8:15	9	5	14	
8:15 - 8:30	6	2	8	
8:30 - 8:45	6	6	12	0.88
8:45 - 9:00	12	13	25	
9:00 - 9:15	16	12	28	
9:15 - 9:30	9	7	16	
PM Peak *Collected on Wednesday, January 25, 2017*				
4:00 - 4:15	9	12	21	0.84
4:15 - 4:30	9	10	19	
4:30 - 4:45	11	10	21	
4:45 - 5:00	11	5	16	
5:00 - 5:15	5	14	19	
5:15 - 5:30	7	5	12	
5:30 - 5:45	7	9	16	
5:45 - 6:00	3	11	14	
6:00 - 6:15	4	6	10	
6:15 - 6:30	5	8	13	
6:30 - 6:45	9	7	16	
6:45 - 7:00	4	0	4	

Wayne

Wayne, New Jersey				
Store Size (square feet)				88,500
Time Period	Inbound trips	Outbound trips	Total trips	Peak Hour Trip Generation (trips/1000 sf)
AM Peak *Collected on Tuesday, January 24, 2017*				
7:00 - 7:15	0	0	0	
7:15 - 7:30	0	0	0	
7:30 - 7:45	1	0	1	
7:45 - 8:00	1	0	1	
8:00 - 8:15	2	2	4	
8:15 - 8:30	1	1	2	
8:30 - 8:45	2	2	4	0.17
8:45 - 9:00	2	1	3	
9:00 - 9:15	3	1	4	
9:15 - 9:30	3	1	4	
PM Peak *Collected on Tuesday, January 24, 2017*				
4:00 - 4:15	3	6	9	
4:15 - 4:30	4	4	8	
4:30 - 4:45	3	3	6	
4:45 - 5:00	5	2	7	
5:00 - 5:15	4	3	7	
5:15 - 5:30	8	3	11	0.55
5:30 - 5:45	5	6	11	
5:45 - 6:00	8	5	13	
6:00 - 6:15	6	8	14	
6:15 - 6:30	7	3	10	
6:30 - 6:45	5	7	12	
6:45 - 7:00	4	8	12	

Potomac Mills

Woodbridge, Virginia				
Store Size (square feet)				76,384
Time Period	Inbound trips	Outbound trips	Total trips	Peak Hour Trip Generation (trips/1000 sf)
AM Peak *Collected on Thursday, July 14, 2016*				
7:00 - 7:15	5	1	6	
7:15 - 7:30	3	1	4	
7:30 - 7:45	4	3	7	0.37
7:45 - 8:00	7	4	11	
8:00 - 8:15	1	3	4	
8:15 - 8:30	1	5	6	
8:30 - 8:45	3	2	5	
8:45 - 9:00	2	0	2	
9:00 - 9:15	3	2	5	
9:15 - 9:30	5	3	8	
PM Peak *Collected on Wednesday, July 13, 2016*				
4:00 - 4:15	5	7	12	
4:15 - 4:30	2	9	11	
4:30 - 4:45	4	4	8	
4:45 - 5:00	3	3	6	
5:00 - 5:15	4	7	11	0.50
5:15 - 5:30	4	3	7	
5:30 - 5:45	6	5	11	
5:45 - 6:00	4	5	9	
6:00 - 6:15	2	5	7	
6:15 - 6:30	5	4	9	
6:30 - 6:45	7	5	12	
6:45 - 7:00	7	3	10	

Santa Ana

Santa Ana, California				
Store Size (square feet)				72,914
Time Period	Inbound trips	Outbound trips	Total trips	Peak Hour Trip Generation (trips/1000 sf)
AM Peak *Collected on Tuesday, January 24, 2017*				
7:00 - 7:15	0	0	0	
7:15 - 7:30	2	1	3	
7:30 - 7:45	2	1	3	
7:45 - 8:00	1	1	2	
8:00 - 8:15	6	1	7	
8:15 - 8:30	7	4	11	0.48
8:30 - 8:45	5	5	10	
8:45 - 9:00	1	5	6	
9:00 - 9:15	5	3	8	
9:15 - 9:30	3	4	7	
PM Peak *Collected on Tuesday, January 24, 2017*				
4:00 - 4:15	2	4	6	0.43
4:15 - 4:30	6	1	7	
4:30 - 4:45	5	6	11	
4:45 - 5:00	2	5	7	
5:00 - 5:15	1	4	5	
5:15 - 5:30	4	3	7	
5:30 - 5:45	2	4	6	
5:45 - 6:00	2	0	2	
6:00 - 6:15	2	1	3	
6:15 - 6:30	5	1	6	
6:30 - 6:45	2	3	5	
6:45 - 7:00	5	5	10	

Floor & Decor Trip Generation Data Collection

North Houston

Houston, Texas				
Store Size (square feet)				109,000
Time Period	Inbound trips	Outbound trips	Total trips	Peak Hour Trip Generation (trips/1000 sf)
AM Peak *Collected on Wednesday, January 25, 2017*				
7:00 - 7:15	6	1	7	
7:15 - 7:30	5	4	9	
7:30 - 7:45	4	4	8	
7:45 - 8:00	7	3	10	
8:00 - 8:15	9	3	12	
8:15 - 8:30	9	8	17	0.50
8:30 - 8:45	6	7	13	
8:45 - 9:00	6	5	11	
9:00 - 9:15	7	6	13	
9:15 - 9:30	7	2	9	
PM Peak *Collected on Tuesday, January 24, 2017*				
4:00 - 4:15	6	6	12	
4:15 - 4:30	6	8	14	
4:30 - 4:45	8	14	22	
4:45 - 5:00	7	5	12	
5:00 - 5:15	3	7	10	
5:15 - 5:30	8	3	11	
5:30 - 5:45	5	10	15	0.59
5:45 - 6:00	10	5	15	
6:00 - 6:15	6	7	13	
6:15 - 6:30	10	11	21	
6:30 - 6:45	7	7	14	
6:45 - 7:00	6	7	13	

Arlington Heights

Arlington Heights, Illinois				
Store Size (square feet)				74,900
Time Period	Inbound trips	Outbound trips	Total trips	Peak Hour Trip Generation (trips/1000 sf)
AM Peak *Collected on Thursday, January 19, 2017*				
7:00 - 7:15	6	2	8	
7:15 - 7:30	3	2	5	
7:30 - 7:45	1	2	3	
7:45 - 8:00	4	1	5	
8:00 - 8:15	3	2	5	
8:15 - 8:30	3	2	5	
8:30 - 8:45	2	1	3	0.37
8:45 - 9:00	3	3	6	
9:00 - 9:15	6	2	8	
9:15 - 9:30	6	5	11	
PM Peak *Collected on Thursday, January 19, 2017*				
4:00 - 4:15	3	6	9	
4:15 - 4:30	8	4	12	
4:30 - 4:45	2	3	5	
4:45 - 5:00	10	2	12	
5:00 - 5:15	4	3	7	
5:15 - 5:30	4	3	7	
5:30 - 5:45	5	6	11	0.61
5:45 - 6:00	8	5	13	
6:00 - 6:15	3	8	11	
6:15 - 6:30	8	3	11	
6:30 - 6:45	4	7	11	
6:45 - 7:00	3	8	11	

Mall of Georgia

Buford, Georgia				
Store Size (square feet)				87,825
Time Period	Inbound trips	Outbound trips	Total trips	Peak Hour Trip Generation (trips/1000 sf)
AM Peak *Collected on Tuesday, January 24, 2017*				
7:00 - 7:15	6	2	8	
7:15 - 7:30	4	2	6	
7:30 - 7:45	1	4	5	
7:45 - 8:00	4	2	6	
8:00 - 8:15	3	1	4	
8:15 - 8:30	6	3	9	
8:30 - 8:45	3	2	5	0.39
8:45 - 9:00	5	3	8	
9:00 - 9:15	9	2	11	
9:15 - 9:30	6	4	10	
PM Peak *Collected on Tuesday, January 24, 2017*				
4:00 - 4:15	7	9	16	
4:15 - 4:30	7	8	15	
4:30 - 4:45	5	13	18	
4:45 - 5:00	5	10	15	
5:00 - 5:15	5	6	11	
5:15 - 5:30	3	10	13	
5:30 - 5:45	3	9	12	
5:45 - 6:00	3	10	13	0.83
6:00 - 6:15	6	8	14	
6:15 - 6:30	15	8	23	
6:30 - 6:45	9	14	23	
6:45 - 7:00	6	4	10	

City of Apopka
CITY COUNCIL STAFF REPORT

Section: BUSINESS (Action Item)
Item #: 4.
Meeting Date: September 6, 2023
Department: Parks and Recreation

SUBJECT:
Memorial Park Bench Program

REQUEST:
Approve the development and implementation of a City of Apopka Memorial Park Bench Program.

SUMMARY:
Memorial bench programs are offered by many local governments across the state and country as a way for individuals, families, or groups the opportunity to donate or sponsor a bench for a park or public space, in remembrance of a loved one. The Parks and Recreation Department, along with staff at City Hall, have recently received calls from residents and citizens looking to participate in a memorial bench program, prompting staff to explore development of a memorial bench program for the City of Apopka. Upon completing a review of a variety of memorial bench programs, staff propose the creation of a City of Apopka Memorial Park Bench Program, to be managed by the Parks and Recreation Department. Program policies, and future bench locations have been provided in the attached materials. The Memorial Park Bench Sponsorship fee is proposed at $3,000 and will cover the purchase of the bench, memorial plaque, and delivery and installation of the bench. Upon approval, the Memorial Park Bench Program will launch on October 1, 2023.

FUNDING SOURCE:
This program would be fully supported by the sponsorship collected from the individuals or groups participating in the program.

RECOMMENDED MOTION:
Staff recommend approval of the Memorial Park Bench Program.

ATTACHMENTS:
1. City of Apopka Memorial Park Bench Program Policies & Procedures
2. Memorial Park Bench Locations Map
3. Bench Specifications Sheet
4. Bench Photo

City of Apopka Memorial Park Bench Program

Policies

1. The Apopka Parks and Recreation Department shall coordinate, manage, and administer the City of Apopka Memorial Park Bench Program (the "Program").
2. Benches will be of a single uniform design selected by the Apopka Parks and Recreation Department. The locations available for bench installations will be pre-approved by the Apopka Parks and Recreation Department.
3. Memorial benches or other project installations shall be maintained by the City for a period not to exceed fifteen (15) years from the date of installation. Maintenance shall include and be limited to cleaning and minor repairs
4. The City shall not be held responsible for loss or damage to the bench including but not limited to theft, vandalism, or weather. If a bench is vandalized or lost it may be repaired or replaced. The sponsor shall be notified and may elect to replace or repair the bench at their expense. There is no obligation on the part of the City or the sponsor to repair a bench that was damaged by theft, vandalism or weather. The bench sponsorship fees may be waived at the discretion of the City Council.
5. Memorial Park Bench Sponsorships shall cost $3,000 per bench. The total bench sponsorship will pay for the cost of the bench, the cost of the memorial plaque, and shipping and installation fees. The bench sponsorship is not refundable under any circumstances once the bench and memorial plaque have been ordered. The bench sponsorship fees may be waived at the discretion of the City Council.
6. No work shall commence until full payment of the sponsorship is received and all project approvals have been obtained.
7. Reasonable efforts shall be made by the City to accommodate a sponsor's wish for the timing of an installation. However, due to consideration regarding special events, weather, staff scheduling, or other unknown activities that may occur at the site, bench installation dates shall not be guaranteed.
8. Written confirmation shall be sent to the sponsor by the City after an installation is complete.
9. In the fifteenth (15th) year following the bench installation, the sponsor shall contact the City should he/she wish to extend the term of the project for an additional five (5) years. The City, at its sole discretion, shall assess the condition of the bench and will determine if an additional five (5) year term is feasible. If an additional five (5) year term is not feasible, the sponsor may elect to submit a new application for a new bench. If an additional five (5) year term is feasible, the term shall be extended an additional five (5) years at no cost to the sponsor by submitting an updated signed policy agreement. If the sponsor does not contact the City to extend the term of the memorial bench, the City, at its sole discretion, may remove or relocate the bench.
10. Within the term of the agreement and any extensions, the City reserves the right to relocate any and all benches at any time should such action be necessary, including but not limited to property development, vandalism, or interference with park operations.

The City shall make a reasonable effort to contact the sponsor should relocation of a bench be required.

11. It shall be the duty of the sponsor to keep the City informed as to his or her current mailing address and the current address of his or her legal representative if notices are to be sent to that representative. Notices or other correspondence mailed to the address on file with the City for the sponsor or his or her representative shall constitute actual delivery and notification.
12. All decisions of the City with regards to this Program shall be final.

I have read the City of Apopka Memorial Park Bench Program Policy thoroughly and understand all terms and conditions. My signature below constitutes my acceptance of all of the terms and conditions set forth herein.

Signature:_____Date:_____

Print: _____

Procedures

The following procedures shall be followed when registering an individual or group as a sponsor of the Memorial Park Bench Program.

1. Interested individual(s) shall complete the online Memorial Park Bench Program Application Form which will provide:
    a. Sponsor(s) - Name, Address, Email, Phone Number
    b. Selected Park Location – Northwest Recreation Complex or Kit Land Nelson Park
    c. Acknowledgement of reading, understanding, and agreeing to the Memorial Park Bench Program policies
    d. Space to enter the content requested for memorial message on bench plaque.
2. Submissions will be electronically sent to Parks and Recreation Department administration for review and follow up with the sponsor. Follow up will be made within 7 business days to confirm the bench location selected, confirm the content provided for memorial message on bench plaque, and inform the sponsor of the next steps, including how to complete their sponsorship payment upon their receipt of final approval.
3. The completed and confirmed Memorial Park Bench Program Application Form will be sent to the Parks and Recreation Director for final review and approval.
    a. If approved, sponsorships will be entered into CivicRec under the Memorial Park Bench Program activity and invoiced to the sponsor for payment.
    b. If not approved, the sponsor will be notified of the reason for non-approval.
4. For approved Memorial Park Bench Program Applications, the bench and memorial plaque will be ordered upon receipt of the sponsorship payment.
5. Parks and Recreation staff will notify the sponsor(s) when an install date is confirmed and also when the bench has been installed.

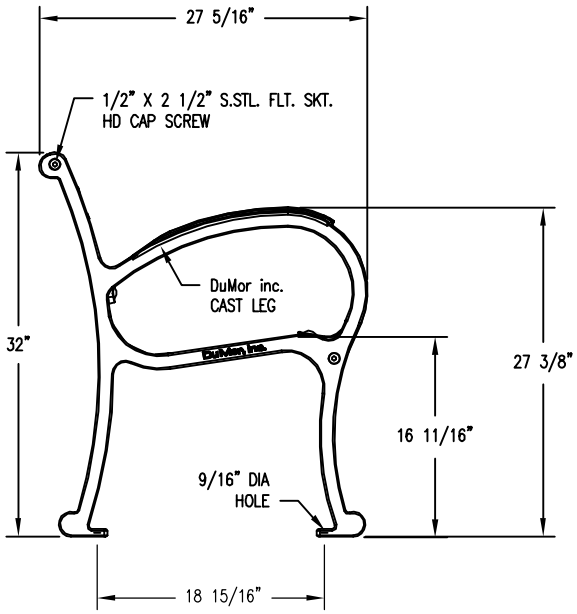
Memorial Park Bench Locations

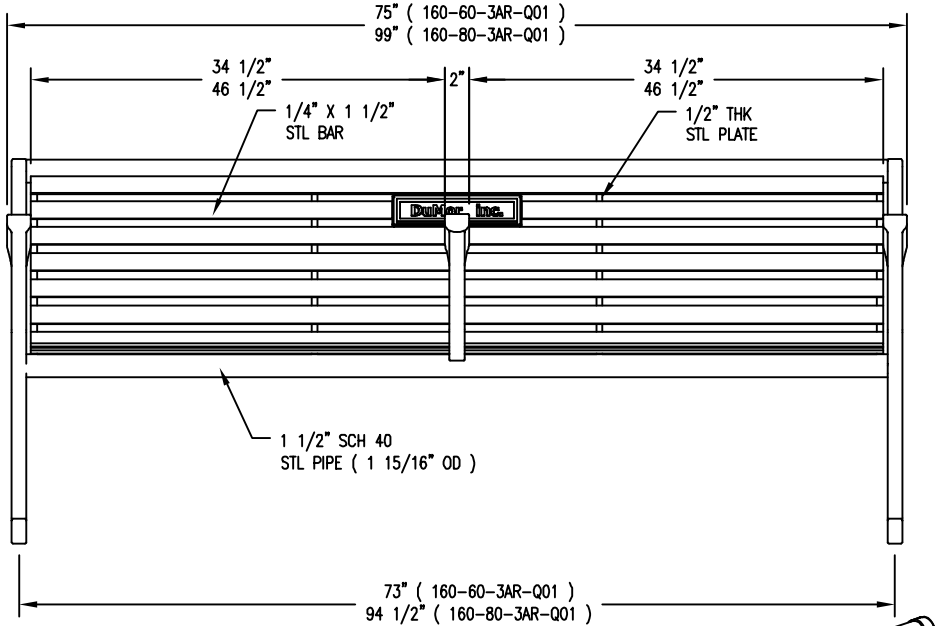
Kit Land Nelson Park

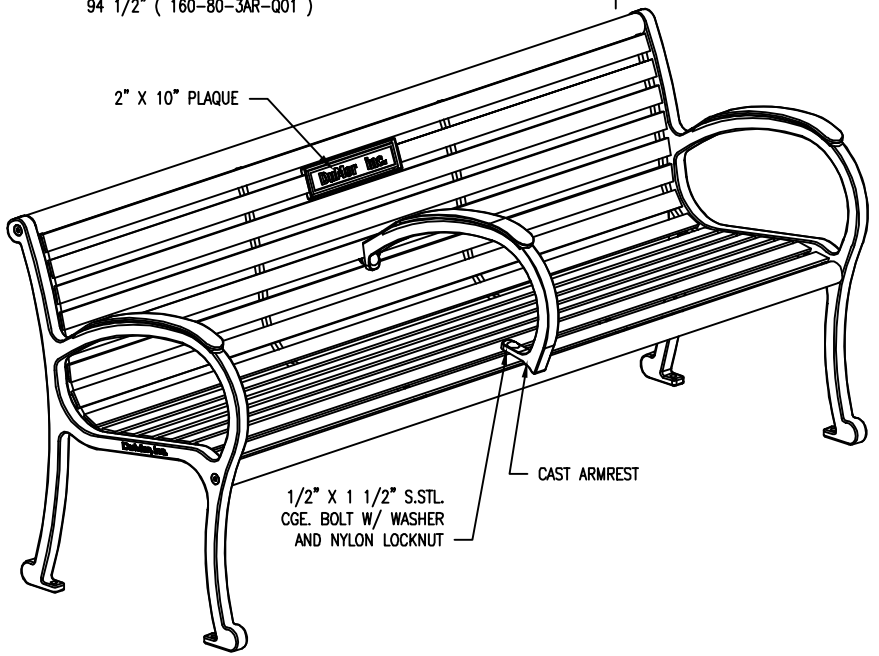
Northwest Recreation Complex

Available Locations

Bench Sponsorship
$3,000 for 15 years







LENGTH OPTIONS

- ☐ 6' BENCH
- ☐ 8' BENCH

NOTES

1.) ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.

2.) 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.

DuMor, inc.	BENCH	DATE DRAWN : 12/27/10 DRAWN BY :RDH DATE REV. : 00/00/00 REV. BY : XXX	REV. A	DRAWING NUMBER 160 SERIES-3AR-Q01 FOR 2" X 10" PLAQUE	SHEET 1 OF 2

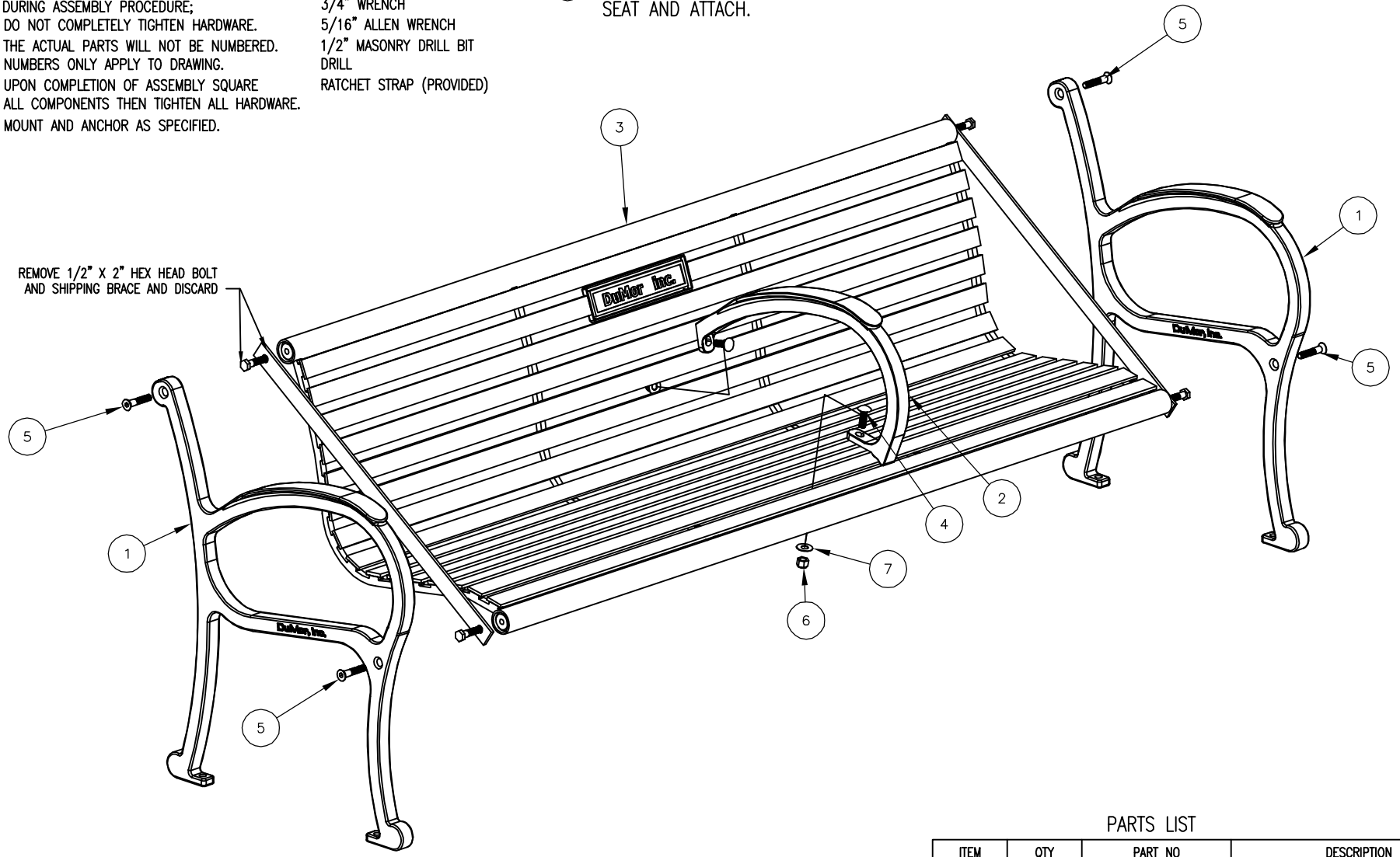
NOTES:

1.) DURING ASSEMBLY PROCEDURE; DO NOT COMPLETELY TIGHTEN HARDWARE.
2.) THE ACTUAL PARTS WILL NOT BE NUMBERED. NUMBERS ONLY APPLY TO DRAWING.
3.) UPON COMPLETION OF ASSEMBLY SQUARE ALL COMPONENTS THEN TIGHTEN ALL HARDWARE.
4.) MOUNT AND ANCHOR AS SPECIFIED.

TOOLS REQ'D

3/4" WRENCH
5/16" ALLEN WRENCH
1/2" MASONRY DRILL BIT
DRILL
RATCHET STRAP (PROVIDED)

(1) ATTACH SEAT TO SUPPORTS, LOCATE ARMREST ON SEAT AND ATTACH.



KITS REQUIRED

ITEM	QTY	PART NO	DESCRIPTION
8	1	K-ANC0860-4	1/2" X 3 3/4" SS ANCHOR KIT (4PC)
9	1	K-CG0824-2L	1/2" CGE BOLT HARDWARE KIT (2PC)
10	1	K-FC0840-4	1/2" CAP HARDWARE KIT (4 PCS)

PARTS LIST

ITEM	QTY	PART NO	DESCRIPTION
1	2	0-160-00-01	CAST IRON BENCH SUPPORT FOR BACKREST
2	1	0-160-00-03	CAST IRON ARM REST
3	1	0-160-60-Q01-02	6' SEAT ASSEMBLY FOR 2X10 PLAQUE
4	2	1-11-042	1/2" X 1 1/2" SS CGE BOLT
5	4	1-12-065	1/2" X 2 1/2" FLT SKT HD CAP SCR
6	2	1-20-015	1/2" SS NYLON LOCKNUT
7	2	1-22-015	1/2" SS FLAT WASHER

DuMor, inc.

ASSEMBLY INSTRUCTIONS

DATE DRAWN : 12/27/10
DRAWN BY : RDH
DATE REV. : 00/00/00
REV. BY : XXX

REV. A

DRAWING NUMBER

160 SERIES-3AR-Q01
FOR 2" X 10" PLAQUE

SHEET 2 OF 2

City of Apopka
CITY COUNCIL STAFF REPORT

Section: BUSINESS (Action Item)
Item #: 5.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Best Foot Forward for Pedestrian Safety program in FY23-24

REQUEST:
Approve the City's participation in the Best Foot Forward for Pedestrian Safety program in FY23-24.

SUMMARY:
The Best Foot Forward for Pedestrian Safety program is a regional pedestrian safety effort that aims at changing driver behavior at encourages drivers to stop and let people cross the road at marked crosswalks, as Florida law requires. The program is built on using a multiple "E" approach and coupling community outreach and education with high visibility enforcement efforts, with engineering changes and evaluation at marked crosswalks on driver yielding behavior.

The Best Foot Forward program is supported annually by MetroPlan Orlando and other municipalities across the region participate, including Orange County, the City of Orlando, Winter Park, the Town of Oakland, and several others. The City of Apopka has participated in the program for two years. The cost for the City of Apopka to participate in the program for FY23-24 is $9,996.00.

FUNDING SOURCE:
Community Development budget

RECOMMENDED MOTION:
Approve the City's participation in the Best Foot Forward for Pedestrian Safety program in FY23-24.

ATTACHMENTS:
1. Best Foot Forward – Scope of Services FY24

Best Foot Forward Pedestrian Safety Program

Background

Research indicates that a lack of driver compliance with failure to yield for the pedestrian in a crosswalk is associated with pedestrian motor vehicle crashes. One way of increasing compliance is to utilize high visibility enforcement coupled with low cost engineering upgrades and publicity about the enforcement programs. A key variable to facilitate a sustained change in driver compliance is focused, localized community engagement.

In 2014, NHTSA released a report Pedestrian Safety Enforcement Operations "How to Guide," which details the methodology to employ high visibility enforcement, low-cost engineering, education outreach to effectuate sustained change in the local driving culture as noted above. Best Foot Forward, the largest grassroots pedestrian safety initiative in the nation, serves the geographic boundaries in Orange, Osceola, and Seminole Counties and follows the NHTSA's approach to increase driver compliance of Florida's crosswalk laws.

LIST OF ACTIVITIES AND PROGRAM(S) FOR WHICH FUNDING IS REQUESTED

The minimum level of service to be performed includes the following:

Evaluation

- Monitor no more than **three (3)** crosswalks six (6) times annually, including data collection, observations, and photos.
- Provide raw data for GIS applications quarterly.
- Scheduling, training and quality control of data collection
- Management of raw data. Communications with partners regarding immediate concerns, discussions on next steps and countermeasures

Enforcements (funded by MetroPlan Orlando)

- Organize up to **four (4)** high visibility enforcements with law enforcement partners.
- Create multimedia and PR campaigns surrounding the regional enforcement efforts.
- Provide materials to drivers educating on Florida's driver yield law.

Education

- Schedule a minimum of **eight (8)** community outreach presentations or events in person or virtually.
- Management of community outreach events, strategies with staff, etc.
- Mention partner in **three (3)** articles on the Best Foot Forward website.
- Digital communications sharing efforts in the city.

Reporting

- Provide **three (3)** quarterly reports of program progress, including data collection, observations, engineering improvements, community outreach and enforcement operations.
- Provide **one (1)** crosswalk evaluation document.

- Provide one (1) annual report summarizing the program activities throughout the year.

Program Management (funded by MetroPlan Orlando)

- Organize four (4) countywide steering committee meetings either in person or virtual
- Organize and host (1) regional steering committee meeting (Summit)

Program Management

- Organized one (1) end of year workshop.
- Administration and oversight of program management.

Overhead

- Utilities and Infrastructure support (overhead)

Total Cost for the Best Foot Forward program: $9,996.00

City of Apopka
CITY COUNCIL STAFF REPORT

Section: BUSINESS (Action Item)
Item #: 6.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Active Transportation Network Study and Active Transportation Network

REQUEST:
Approve the Active Transportation Network Study and adopt the Active Transportation Network.

SUMMARY:
The Apopka Active Transportation Network Study identifies opportunities to increase and improve the active transportation network connectivity to points of interest throughout the City of Apopka. Additionally, the plan provides recommendations for supplemental improvements (e.g. infrastructure; landscaping; lighting; signage, etc.) intended to enhance existing conditions and facilitate the establishment of a high-quality City-wide active transportation network.

The Active Transportation Network Study was completed by examining the existing and planned network in the City of Apopka. After reviewing existing conditions, gaps and opportunities were identified and proposed and prioritized routes were suggested based on the City of Apopka and various stakeholder feedback. Additional impact analysis was conducted along with identifying additional needs to support the active transportation network.

FUNDING SOURCE:
Transportation Impact Fees

RECOMMENDED MOTION:
Approve the Active Transportation Network Study and adopt the Active Transportation Network

ATTACHMENTS:
1. Apopka Active Transportation Network Study

CITY OF APOPKA FLORIDA

Active Transportation Network Study

September 2023

Contents

I.	Plan Purpose	3
II.	Existing Conditions	4
III.	Network Analysis, Part 1	9
IV.	Gaps & Opportunities	25
V.	Community Outreach	39
VI.	Proposed Network	41
VII.	Network Analysis, Part 2	54
VIII.	Impact Analysis	59
IX.	Accessory Plans	67
A1.	Survey Results	79
A2.	Project Team	81

I. Plan Purpose

This plan has been compiled for City of Apopka staff to guide active transportation planning in the city in 2023 and beyond. The plan and accompanying maps have been developed to be used as a communication and planning tool for use by city staff, residents, and developers. Plan objectives are described below.

Guide Future Trail Development Along Prioritized Corridors

Identify Signature Trail Corridors for Integration into the Regional Network

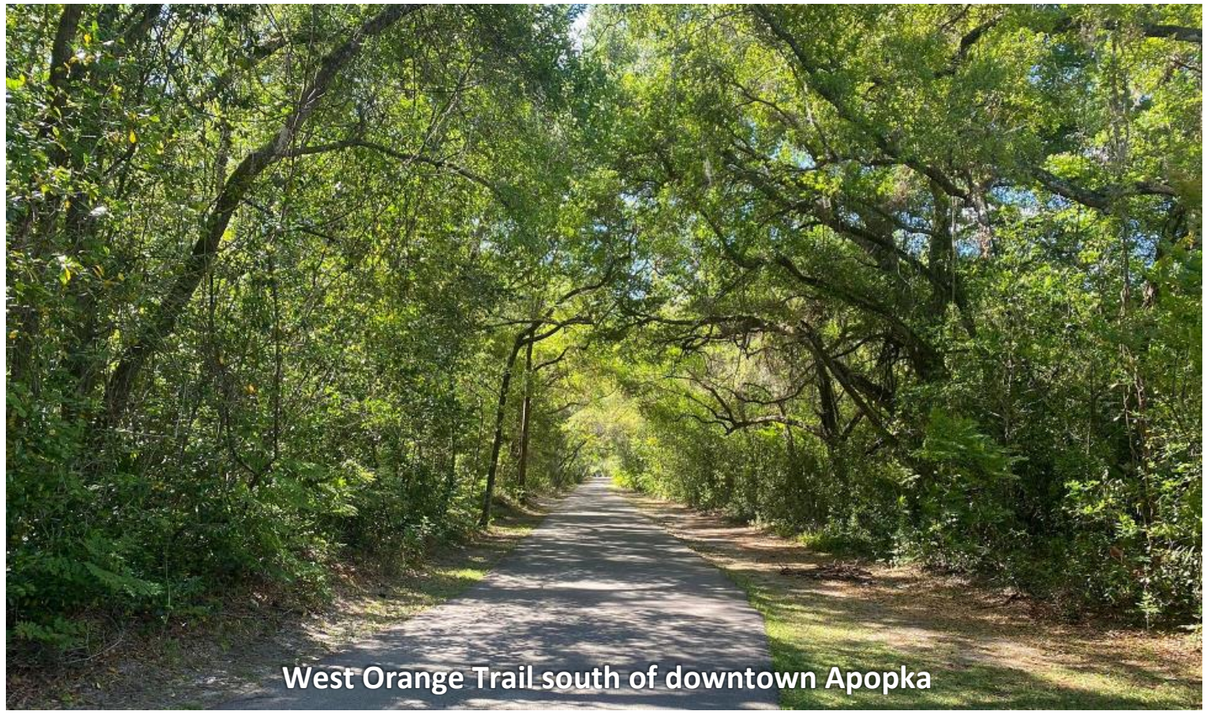
Use Trail Infrastructure as a Catalyst for Economic Development

Develop Trail Standards and Policies for Use by Developers and Planners

Identify Safety Countermeasures to Enhance the Biking Network

Identify Comfort Countermeasures to Encourage Increase in Walking and Biking

West Orange Trail crossing over Main Street in downtown Apopka


West Orange Trail south of downtown Apopka

II. Existing Conditions

Planning Process

The planning team started the existing conditions process with map layers developed by xGeographic for the MetroPlan Orlando Active Transportation Plan. The map layers were quality assured via an on-the-ground review in July 2023 to ensure that all of the latest construction was included in the map layers.

The status of proposed trails were also validated with City of Apopka staff. Trail plans from surrounding municipalities have also been quality assured and incorporated into the maps.

Mapped Infrastructure

The following bike facilities are included in the existing conditions inventory.

- Trails (10 ft. +)
- Wide Sidewalks (8 ft. +)
- On-Street Bike Lanes (4 ft. +)
- Paved Shoulders (4 ft. +)
- Trailheads

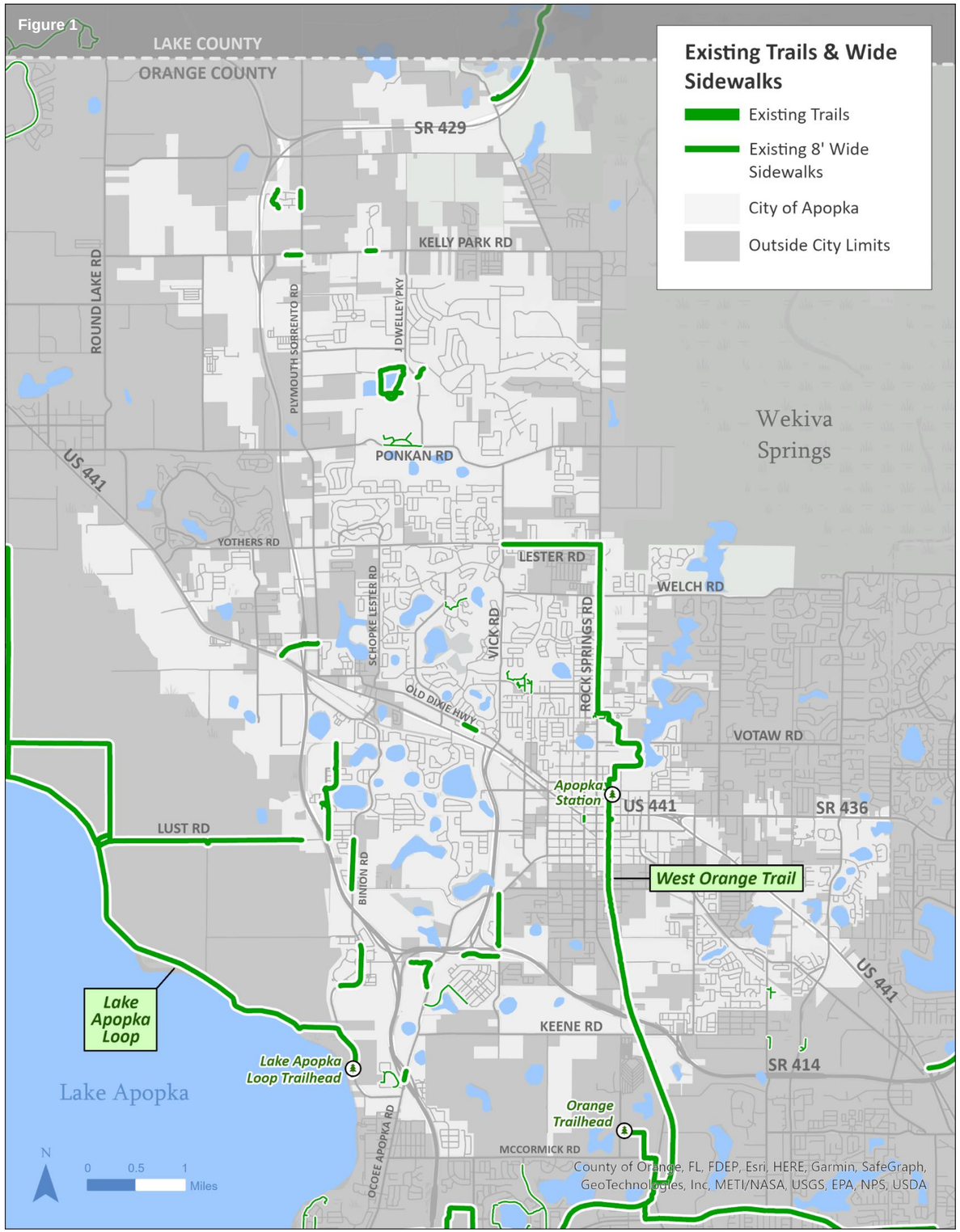
Status of Infrastructure

The existing conditions assessment includes an inventory of the existing and funded trail network in addition to trail corridors previously identified by the City and Orange County. Trail status categories include existing and previously proposed.

Sidewalk Gap Locations

This plan identifies areas where sidewalks are not present on both sides of the road and posted speeds exceed 30 miles per hour. Section III (Network Analysis) and Section VI (Proposed Network) of this report include further analysis of critical sidewalk gaps throughout the city.

Figure 1



Previous Trail Proposals

This Active Transportation Network Study analyzes and builds on previous trail proposals in the City of Apopka and surrounding areas. Figure 2 on this page and Figures 3 and 4 on the following two pages show these proposed corridors.

Previous City of Apopka Trail Plan

The city previously created a trail master plan, and numerous trail segments have been built along the corridors identified in the study. Segments shown in orange in Figure 2 were included in the previous trail master plan and have not been built as of July 2023. These corridors will be further assessed for feasibility in this report.

West Orange Phase 4 Trail Extension & Spurs

Two trail spurs and a trail extension have been proposed along the West Orange Trail by Orange County and were recently studied by MetroPlan Orlando as part of the West Orange Trail Extension Study. Designs have been completed for these trail segments. Projects include:

- Welch Road Spur to Wekiva Springs
- Ponkan Road Spur to Northwest Recreation Complex
- West Orange Trail Extension to Kelly Park Road and the Wekiva Trail

In addition to these projects, the MetroPlan Orlando Cost Feasible Plan includes a trail segment from the West Orange Trail extension to State Road 429 along Kelly Park Road.

Other Trail Proposals

In the southern portion of Apopka, numerous trail segments have been proposed. The Orange County Trails Master Plan includes segments that connect to planned Apopka segments at Ocoee Apopka Road near Magnolia Park. The Healthy West Orange Trails Connection has also proposed segments in concert with the City of Ocoee in the Paradise Heights and Clarcona areas. These segments are shown in dark blue to the south of the City of Apopka in Figure 2.

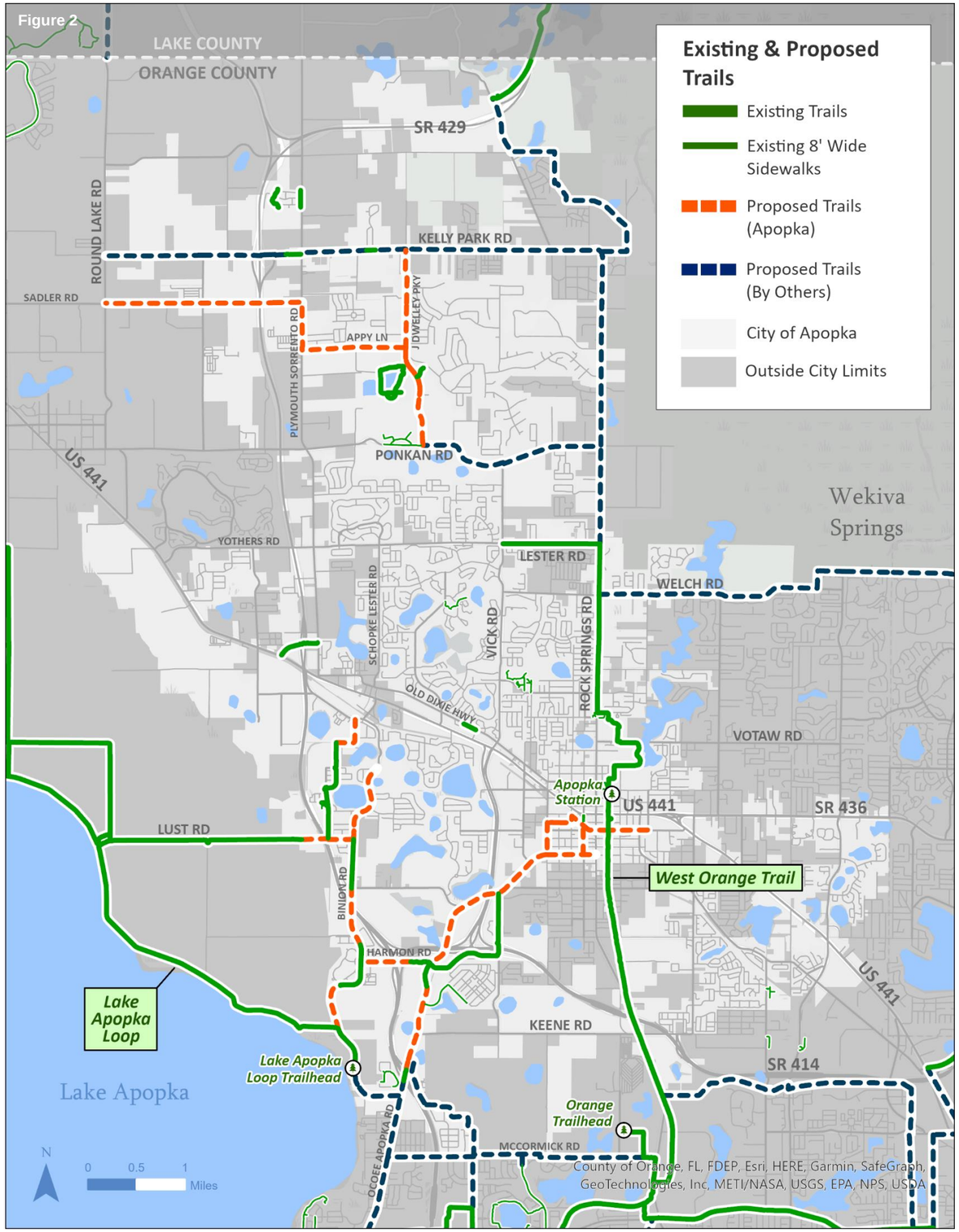


Figure 3

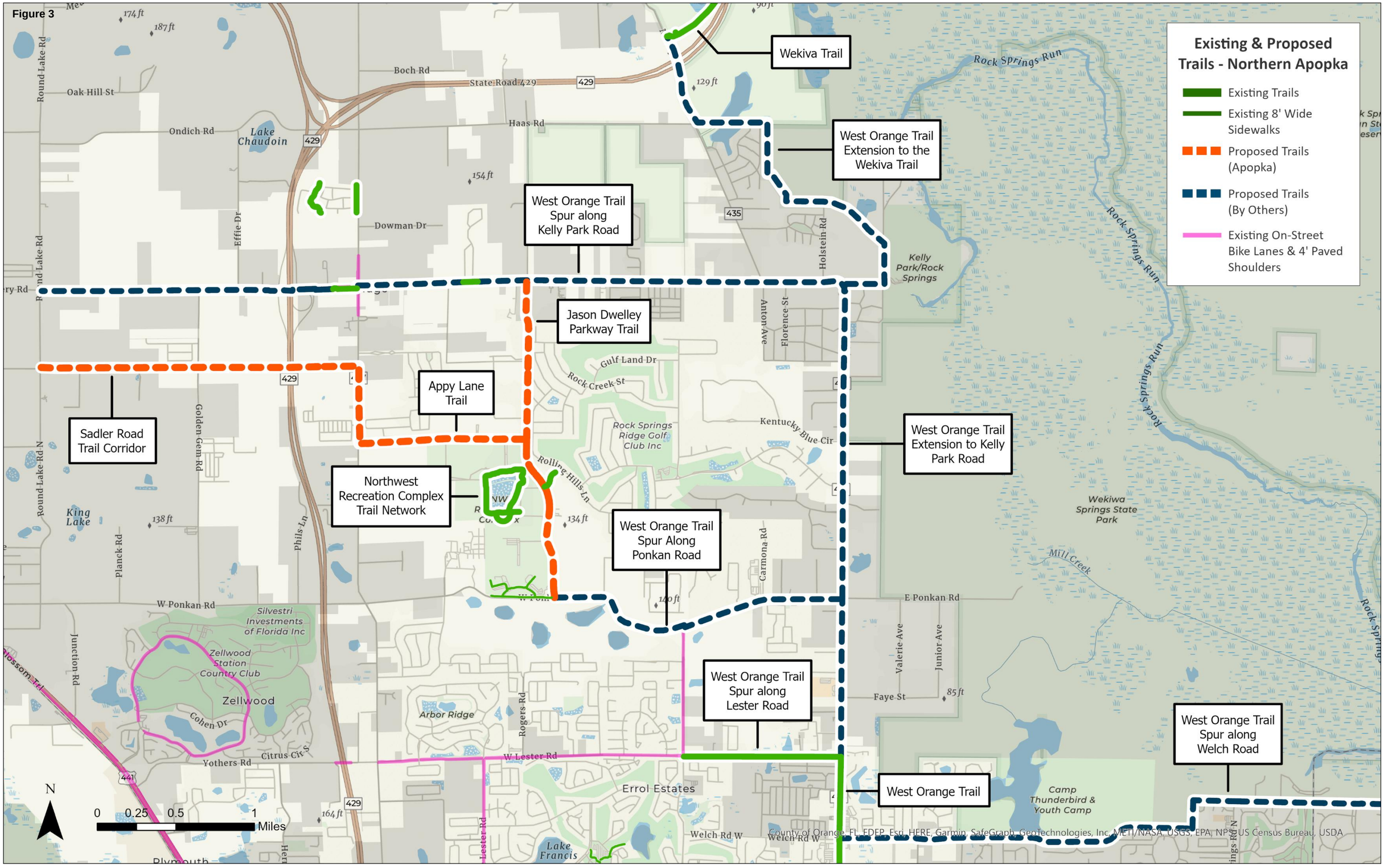
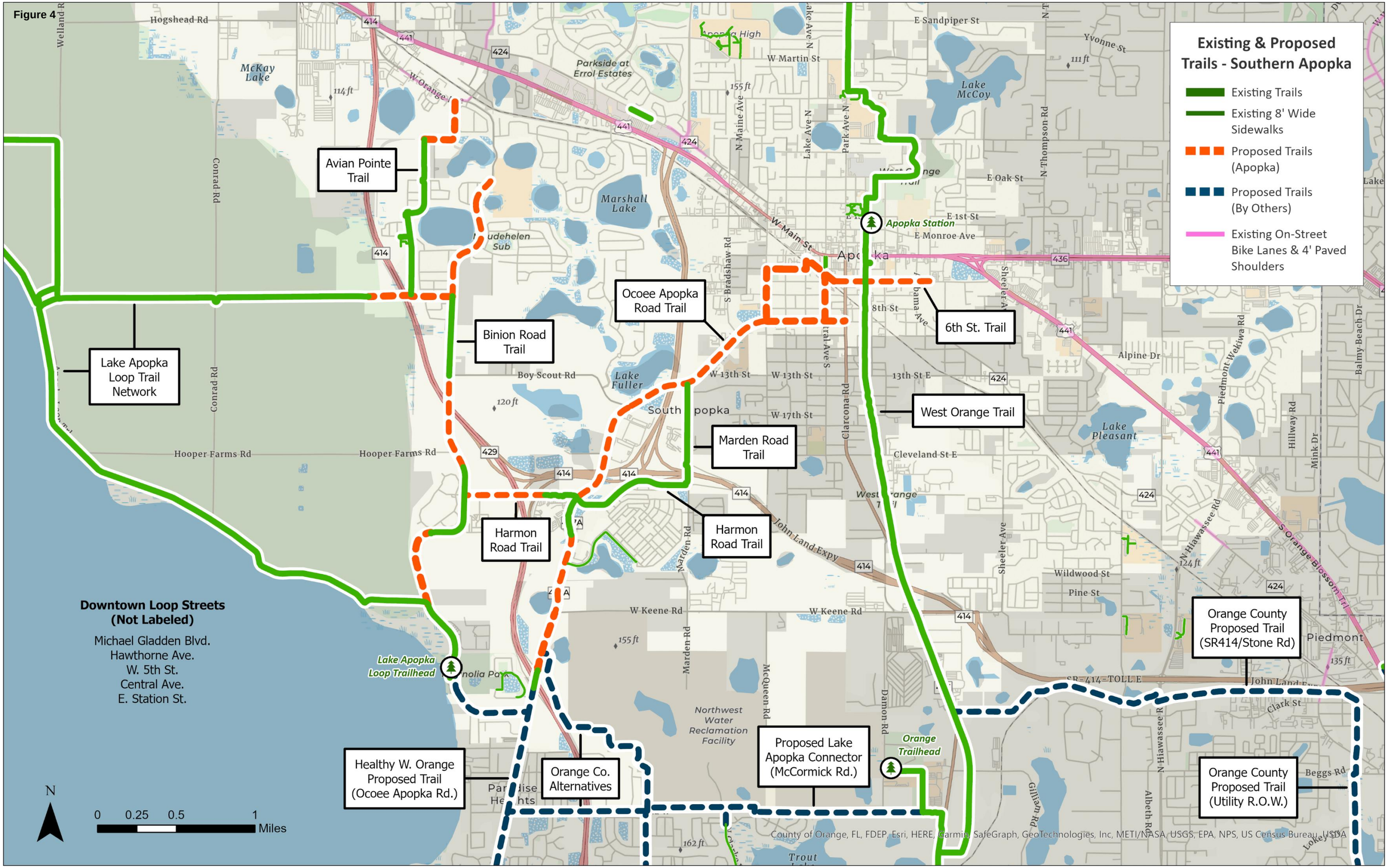

Existing & Proposed Trails - Northern Apopka
Existing Trails
Existing 8' Wide Sidewalks
Proposed Trails (Apopka)
Proposed Trails (By Others)
Existing On-Street Bike Lanes & 4' Paved Shoulders
Wekiva Trail
West Orange Trail Extension to the Wekiva Trail
West Orange Trail Spur along Kelly Park Road
Jason Dwelley Parkway Trail
Appy Lane Trail
Sadler Road Trail Corridor
Northwest Recreation Complex Trail Network
West Orange Trail Spur Along Ponkan Road
West Orange Trail Extension to Kelly Park Road
West Orange Trail Spur along Lester Road
West Orange Trail
West Orange Trail Spur along Welch Road
Rock Springs Run
Kelly Park/Rock Springs
Wekiwa Springs State Park
Camp Thunderbird & Youth Camp
Rock Springs Ridge Golf Club Inc
Zellwood Station Country Club
Silvestri Investments of Florida Inc
Arbor Ridge
Errol Estates
Lake Francis
Lake Chaudoin
King Lake
Mill Creek
Boch Rd
State Road 429
Oak Hill St
Ondich Rd
Haas Rd
Dowman Dr
Round Lake Rd
Effie Dr
Holstein Rd
Anton Ave
Florence St
Gulf Land Dr
Rock Creek St
Kentucky Blue Cir
Rolling Hills Ln
Carmona Rd
Golden Gem Rd
Round Lake Rd N
Planck Rd
Phils Ln
W Ponkan Rd
E Ponkan Rd
Valerie Ave
Junior Ave
Junction Rd
Cohen Dr
Citrus Cir S
Yothers Rd
W Lester Rd
Rogers Rd
Lester Rd
Faye St
Welch Rd W
Plymouth
Rock Springs
174 ft
187 ft
129 ft
154 ft
140 ft
138 ft
134 ft
164 ft
85 ft
N
0 0.25 0.5 1 Miles
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

Figure 4



Existing & Proposed Trails - Southern Apopka
Existing Trails
Existing 8' Wide Sidewalks
Proposed Trails (Apopka)
Proposed Trails (By Others)
Existing On-Street Bike Lanes & 4' Paved Shoulders
Avian Pointe Trail
Binion Road Trail
Ocoee Apopka Road Trail
6th St. Trail
Lake Apopka Loop Trail Network
West Orange Trail
Marden Road Trail
Harmon Road Trail
Harmon Road Trail
Orange County Proposed Trail (SR414/Stone Rd)
Healthy W. Orange Proposed Trail (Ocoee Apopka Rd.)
Orange Co. Alternatives
Proposed Lake Apopka Connector (McCormick Rd.)
Orange County Proposed Trail (Utility R.O.W.)
Downtown Loop Streets (Not Labeled)
Michael Gladden Blvd.
Hawthorne Ave.
W. 5th St.
Central Ave.
E. Station St.
Apopka Station
Lake Apopka Loop Trailhead
Orange Trailhead
Northwest Water Reclamation Facility
McKay Lake
Marshall Lake
Lake Fuller
Lake McCoy
Lake Pleasant
Parkside at Errol Estates
Hogshead Rd
Hooper Farms Rd
Boy Scout Rd
W Keene Rd
W 13th St
W 17th St
Cleveland St E
Wildwood St
Pine St
Alpine Dr
E Oak St
E 1st St
E Monroe Ave
E Sandpiper St
W Martin St
W Main St
John Land Expy
Conrad Rd
Marden Rd
McQueen Rd
Damon Rd
Clarcona Rd
Sheeler Ave
N Thompson Rd
Yvonne St
Hillway Rd
Mink Dr
Balmy Beach Dr
Piedmont Wekiwa Rd
N Hiawassee Rd
S Orange Blossom Trl
Clark St
Beggs Rd
Gilliam Rd
Albeth Rd
Lake Ave N
Park Ave N
N Maine Ave
S Bradshaw Rd
Alabama Ave
Piedmont
Trout
SR-414-TOLL E
0 0.25 0.5 1 Miles
N
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

State and Regional Trail Connections

The Importance of the West Orange Trail

The West Orange Trail serves and will continue to serve as the primary trail traversing through Apopka and connecting the city to the rest of the Orlando region and the state of Florida. As part of this plan, the West Orange Trail will be utilized as a central component of the citywide trail network, but equally importantly as a connector to additional region and statewide trail corridors.

Connecting to the Coast-to-Coast Trail

The Coast-to-Coast Trail is Florida's first trail spanning the entirety of the state from east to west, with portions of the trail under development. The statewide trail system overlaps with the West Orange Trail in Winter Garden and Ocoee, so the Apopka trail network will seamlessly connect to the statewide system.

Stakeholder Idea #1
Create a loop network that easily integrates into the Coast-to-Coast Trail corridor.

Stakeholder Idea #3
Market the Lake Apopka Wildlife Area and Wekiva Springs to Coast-to-Coast riders.

Stakeholder Idea #2
Create themed signage that differentiates the Apopka trail network from others

Stakeholder Idea #4
Create a signature trail network that is differentiated from secondary connector trails.

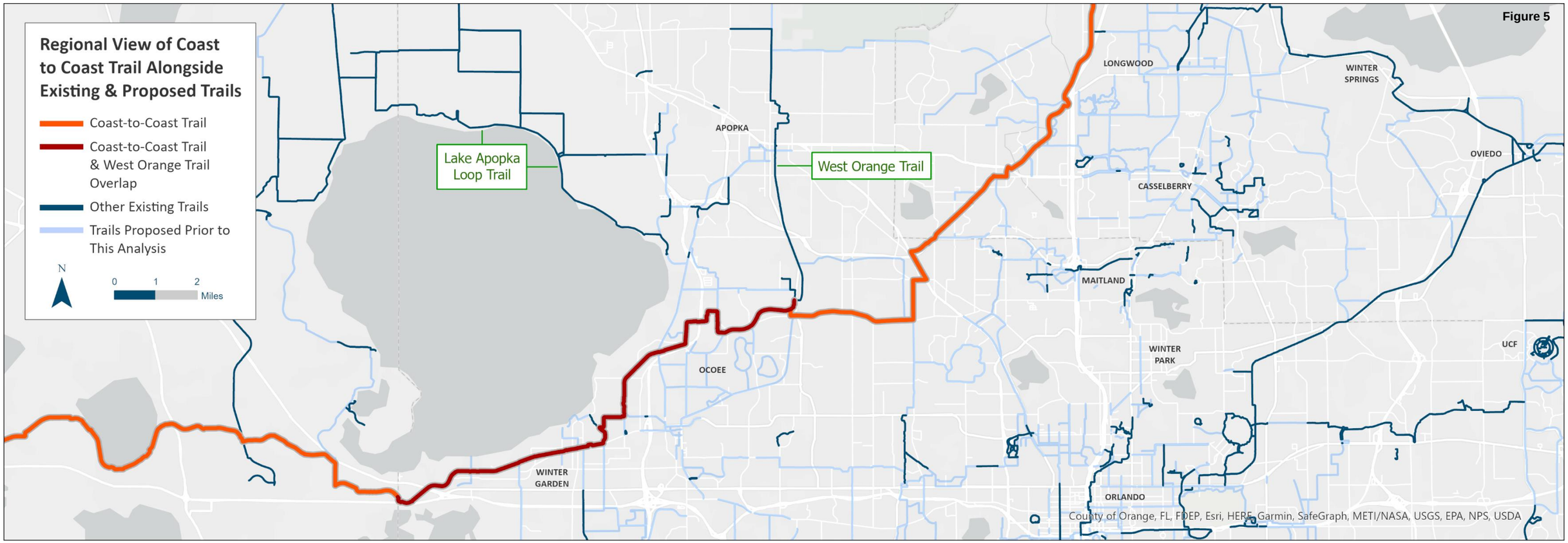


Figure 5

III. Network Analysis

An Analysis of the Existing, Funded & Previously Proposed Trail Network through the Lens of Transportation Infrastructure

- LAND USE ANALYSIS
- ROAD CHARACTERISTIC ANALYSIS
- LEVEL OF TRAFFIC STRESS ANALYSIS
- LEVEL OF SHADING ANALYSIS
- EXISTING TRAIL PROFILE ANALYSIS
- BIKE/PED CRASH HOT SPOT ANALYSIS

Land Use Analysis

Existing & Planned Connections to Environmental Areas

Existing and planned environmental connections are numbered below and in Figure 6. Additional connections will be identified as part of this plan.

- Lake Apopka Wildlife Area (1) – *Planned Connection*
- Rock Springs Run (2) – *Planned Connection*
- Wekiva Springs State Park (3) – *Planned Connection*

Existing & Planned Connections to Recreational Areas

Existing and planned recreational connections are numbered below and in Figure 6. Additional connections will be identified as part of this plan.

- Alonzo Williams Park (4) – *Planned Connection*
- Camp Wewa (5) – *Planned Connection*
- Kit Land Nelson Park (6) –*Existing Connection (West Orange Trail)*
- Magnolia Park (7) – *Existing Connection (Lake Apopka Loop Trail)*
- Northwest Recreation Complex (8) – *Planned Connection*

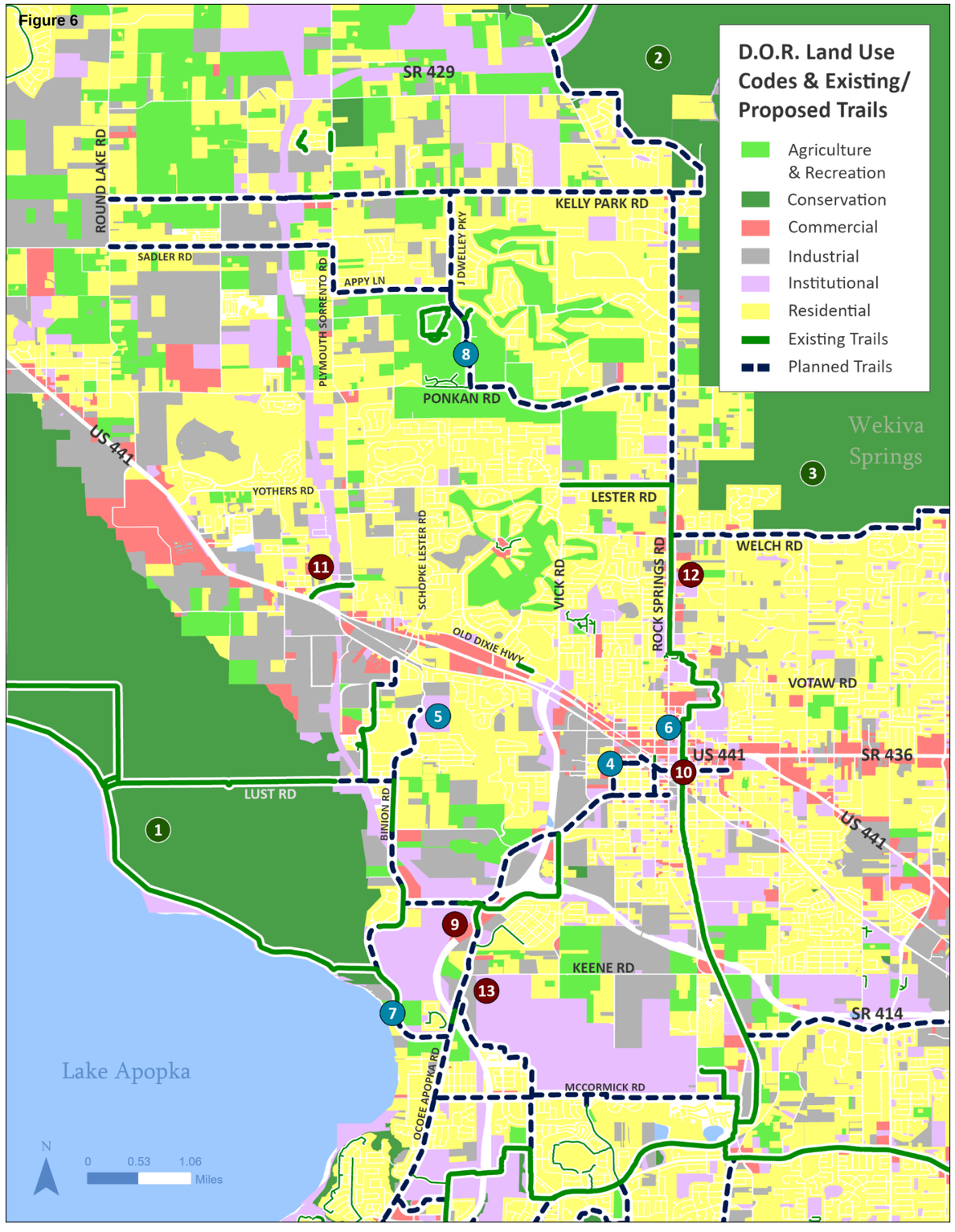
Existing & Planned Connections to Commercial Centers

Existing and planned economic center connections are numbered below and in Figure 6. Additional connections will be identified as part of this plan.

- AdventHealth Apopka (9) – *Planned Connection with Existing Trail Segment*
- Downtown Apopka (10) – *Existing Connection (West Orange Trail)*
- Floridian Town Center (11) – *Planned Connection with Existing Trail Segment*
- Rock Springs Road Commercial (12) – *Existing Connection (West Orange Trail)*
- Shoppes at East Shore (13) – *Planned Connection*

Existing & Planned Connections to Residential Areas

Residential area connections are generally limited in the existing and planned network. Connecting to residential areas will be a primary goal of the proposed network developed as part of this plan.



Roadway Characteristic Map Series

Map Listing & Analysis

Five primary road characteristics are mapped as part of the network analysis for the purpose of analyzing previously proposed trail alignments and to identify areas to avoid for additional trail placement. A brief synopsis of each map is included below.

❖ Speed Limits

Numerous existing and planned trail segments are located adjacent to high-speed roadways. It is highly recommended that all future trails are separated from the roadway with a 5-foot grass buffer. It is also recommended that speed limits be reduced, if possible, in areas where trails are built.

❖ Daily Traffic

There are currently no trails located along roadways with daily traffic counts exceeding 20,000, which is the traffic volume generally recommended for bicycle infrastructure placement. This is an important mitigating factor to the high-speed limits present in the city, greatly reducing risk to bicyclists.

❖ Total Lanes and Turn Lanes

The West Orange Trail segment located adjacent to Rock Springs Road is the highest-risk area in terms of total number of lanes and turn lane presence. This area has been assessed for safety as part of work completed by MetroPlan Orlando.

❖ Sidewalk Coverage

Sidewalk coverage is primarily an important factor along roadways with high-speed limits, high lane counts and high traffic volumes. In the context of trails, marked crosswalks are vital in areas where sidewalk gaps exist because they connect pedestrians to existing sidewalks in a controlled manner.

❖ Median Types

Medians are important element when acting as refuge areas for bicyclists and pedestrians crossing the street. The median presence map will be analyzed as the project team prioritizes additional trail corridors as part of this report.

Regionwide Bike/Ped Crash Statistics by Roadway Attribute

Analysis includes Orange, Osceola and Seminole County, Florida

Figure 7

Bike/Ped Crashes Per Mile by Daily Traffic Count Ranges

Source: Signal Four Analytics (2016-2020)

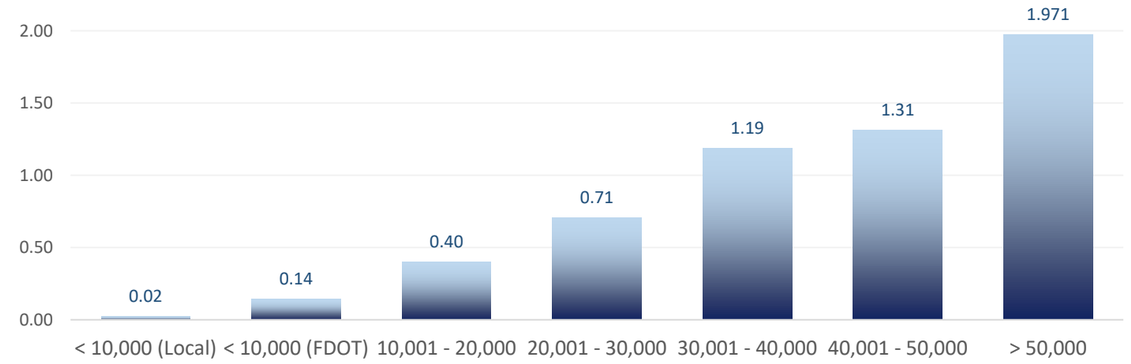


Figure 8

Bike/Ped Crashes Per Mile by Lane Count

Source: Signal Four Analytics (2016-2020)

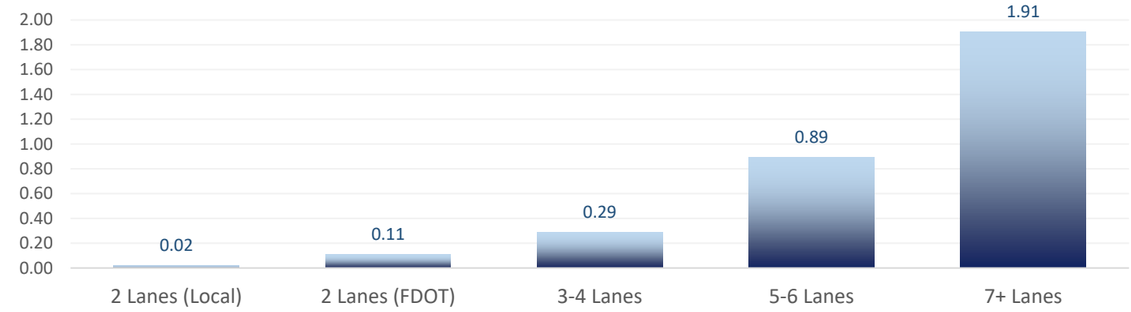


Figure 9

Bike/Ped Crashes Per Mile by Turn Lane Presence

Source: Signal Four Analytics (2016-2020)

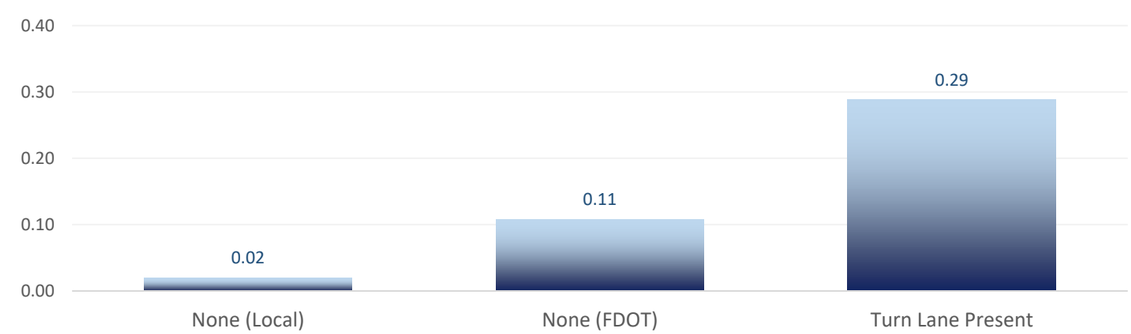


Figure 10

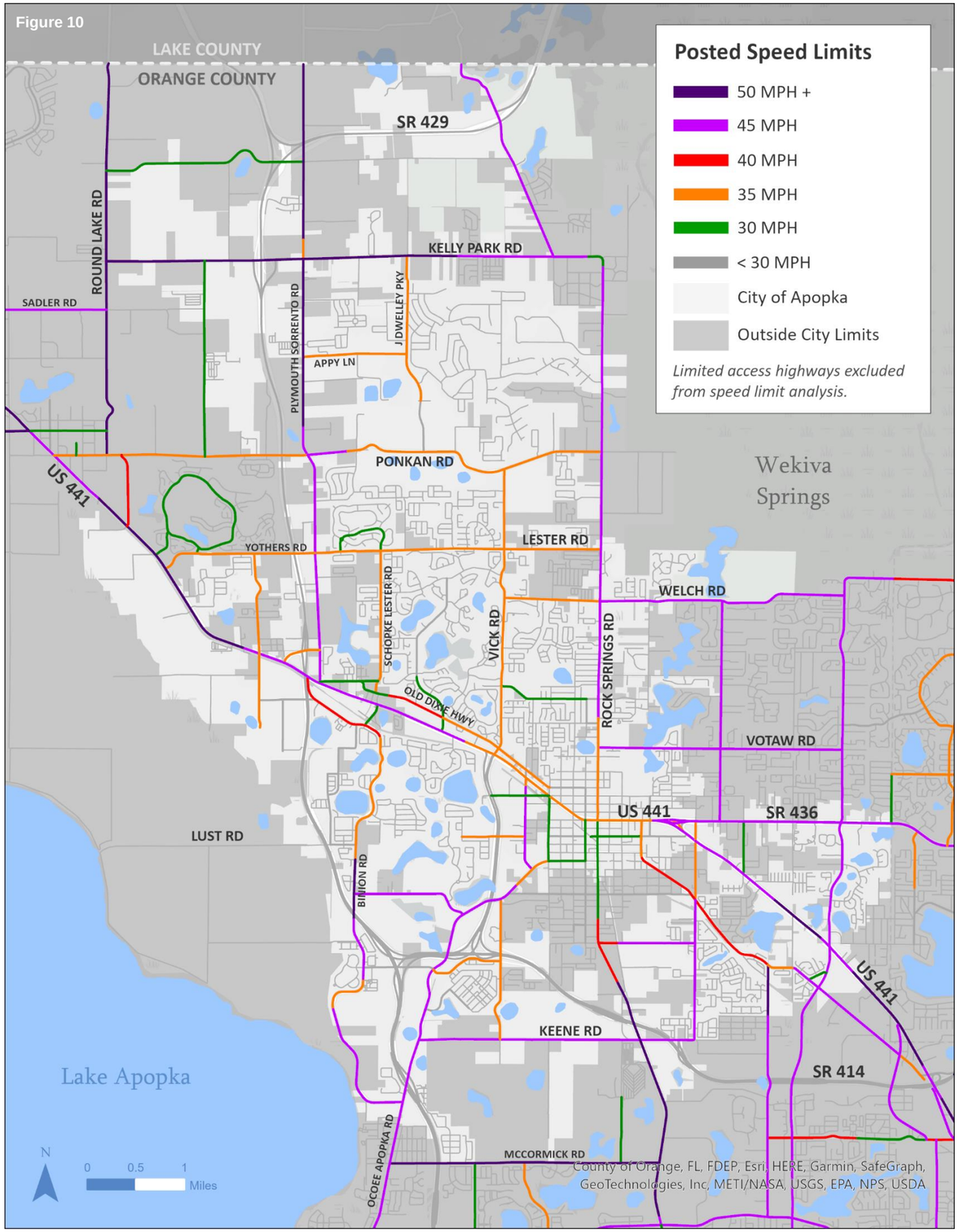


Figure 11

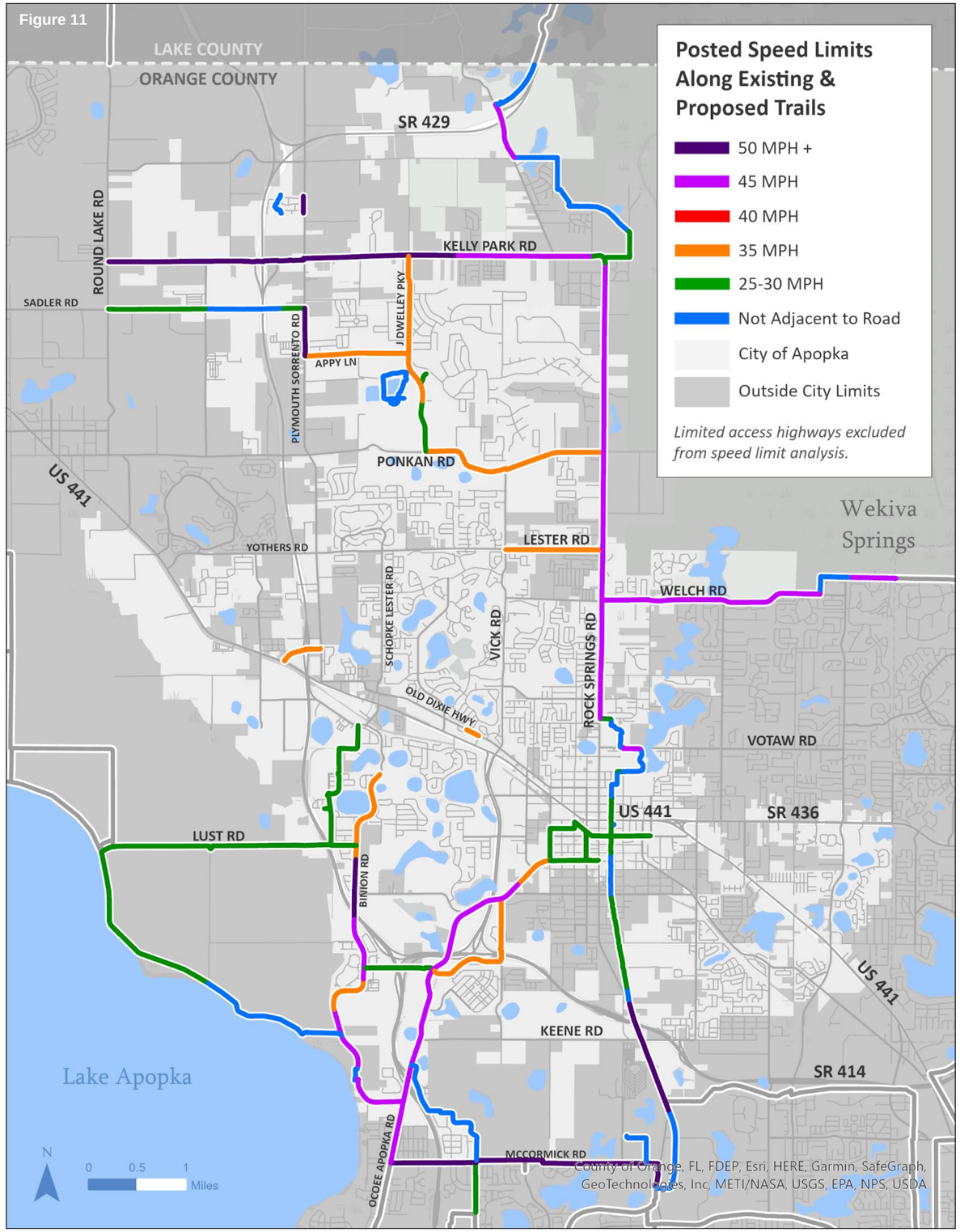


Figure 12

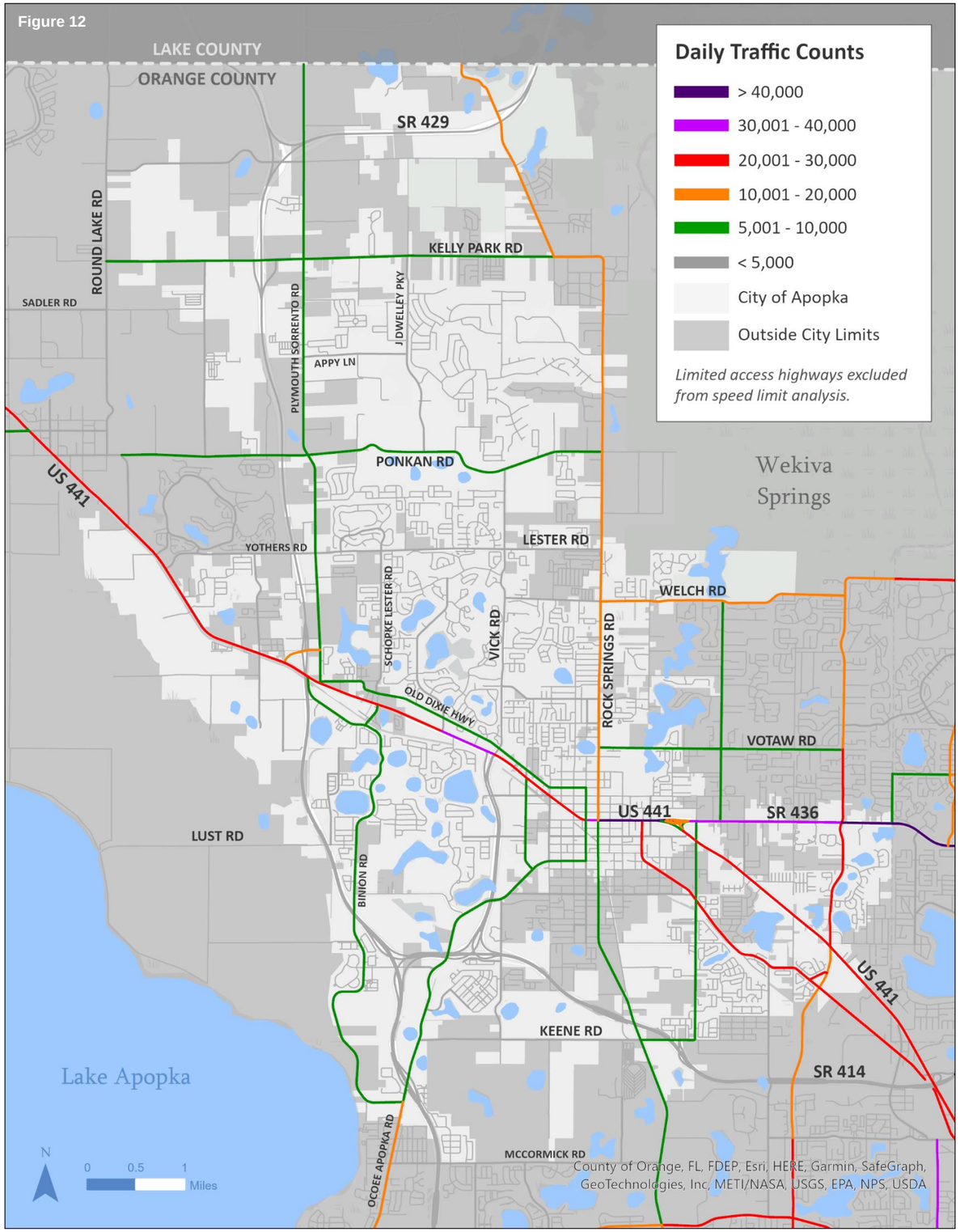


Figure 13

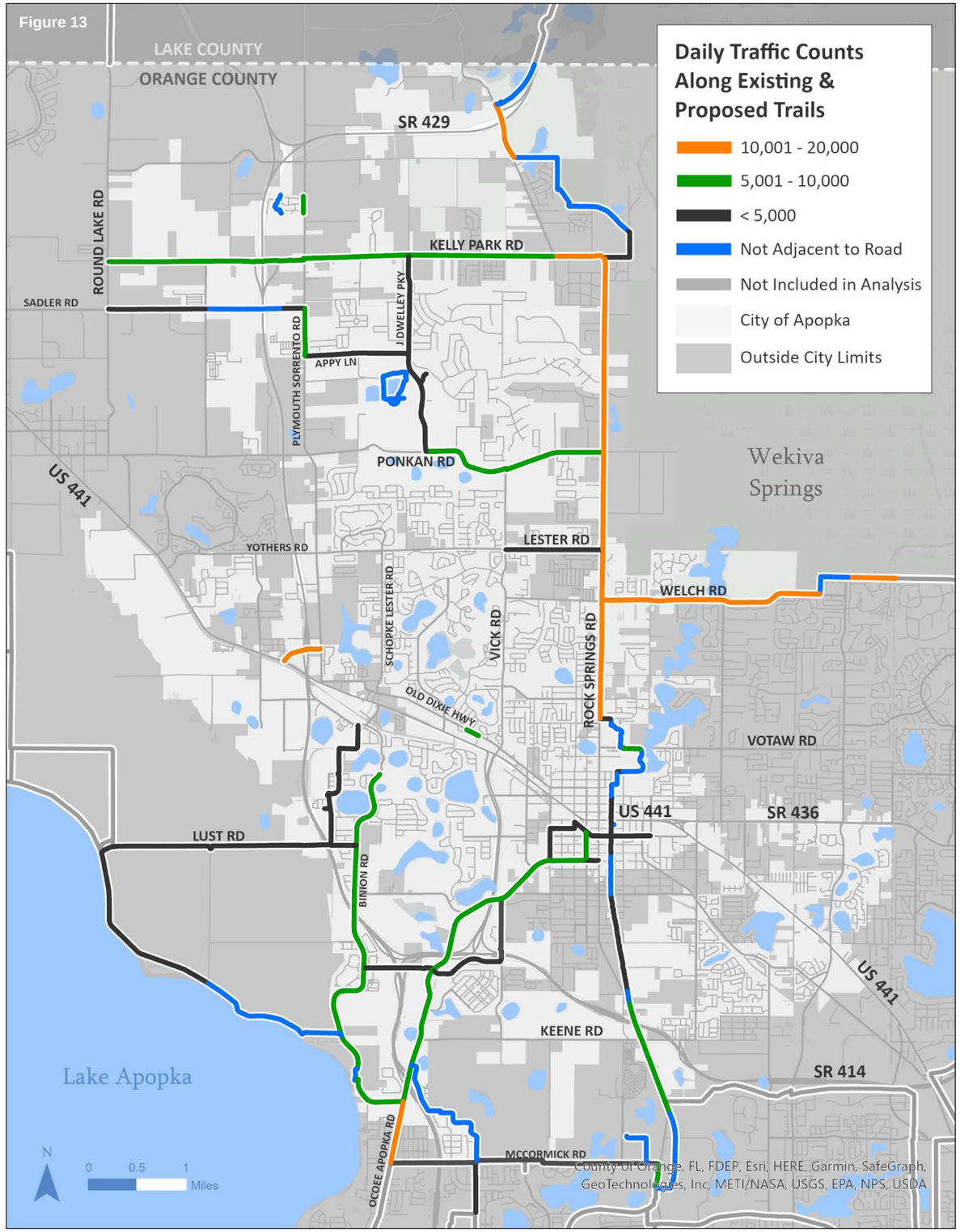


Figure 14

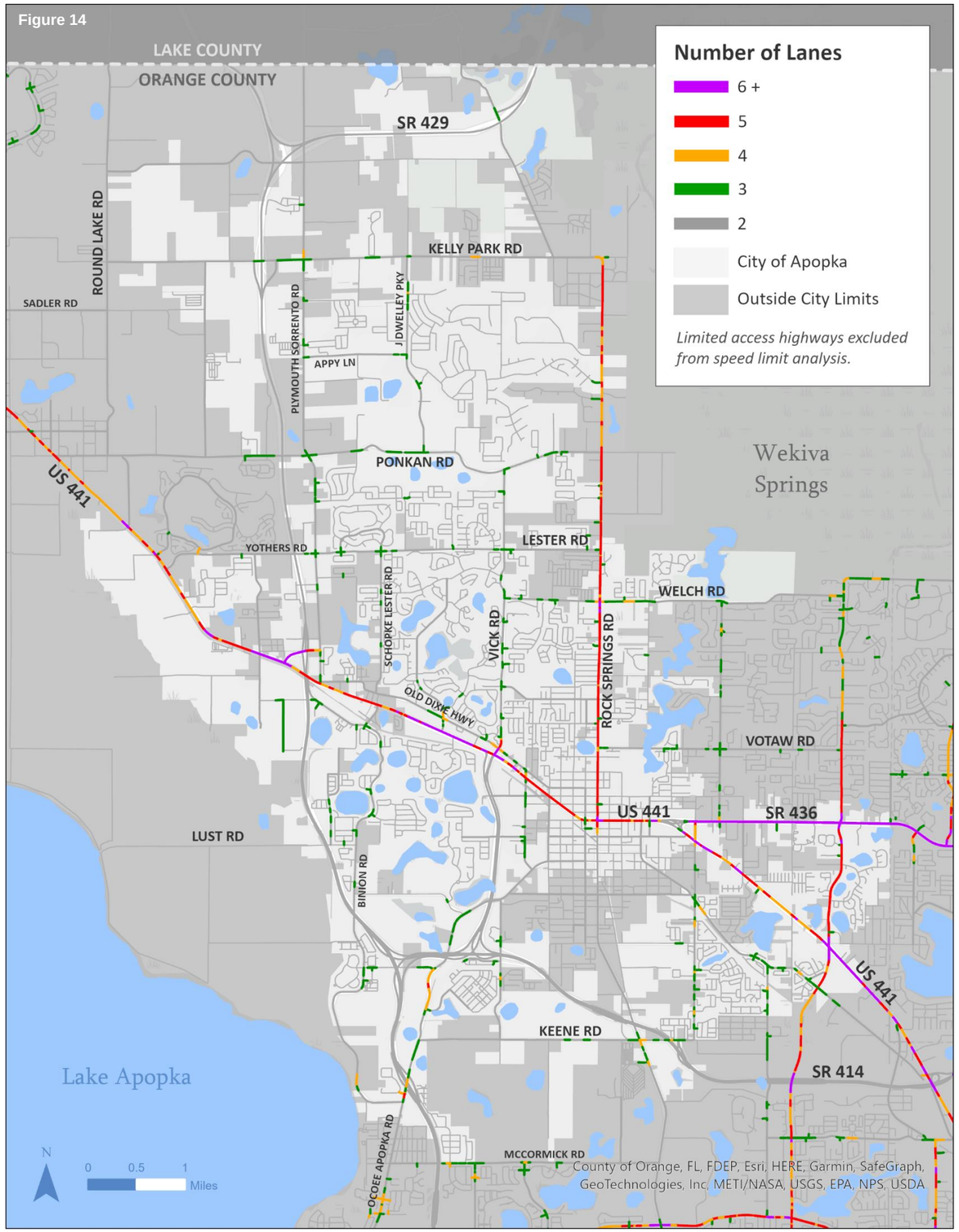


Figure 15

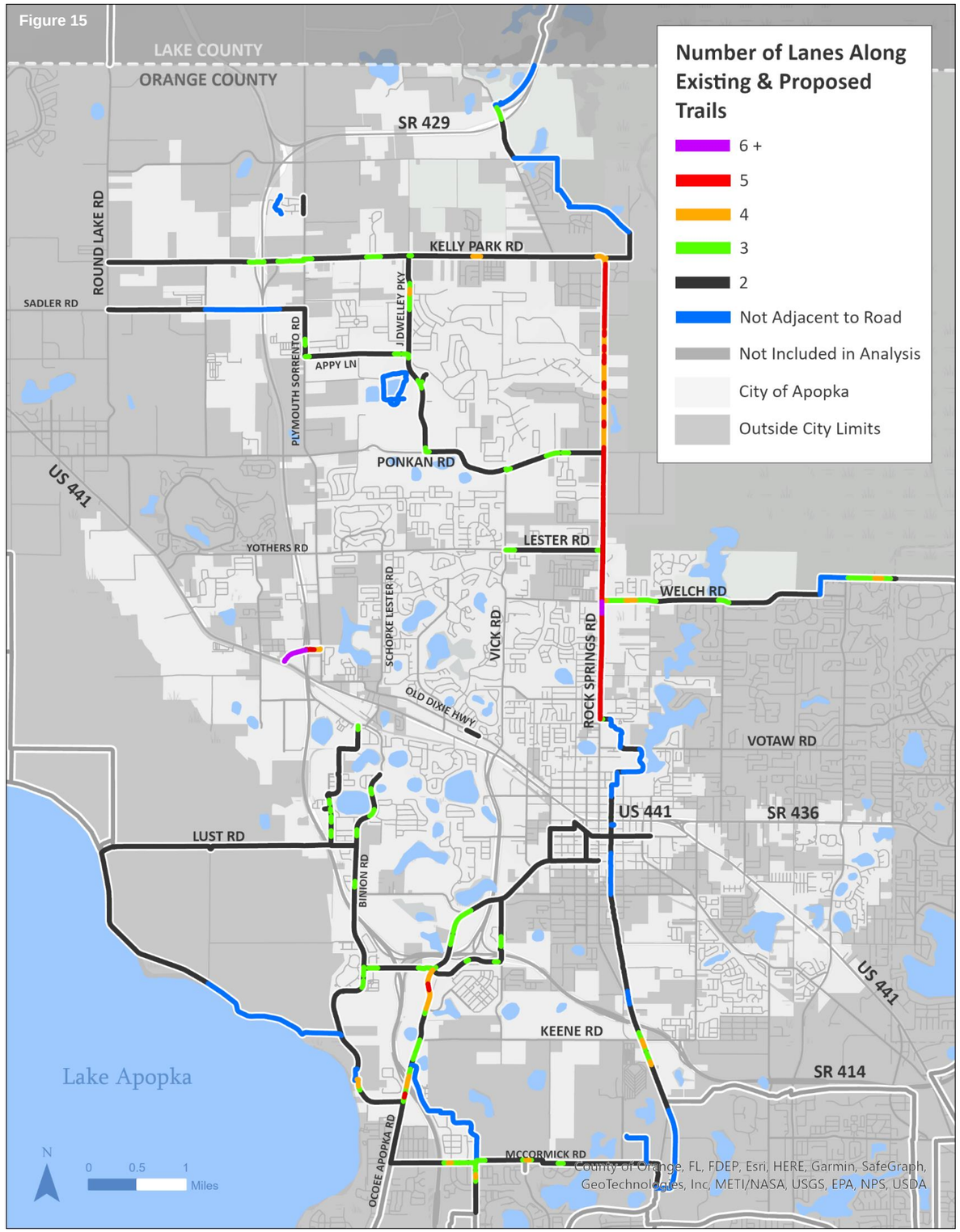


Figure 16

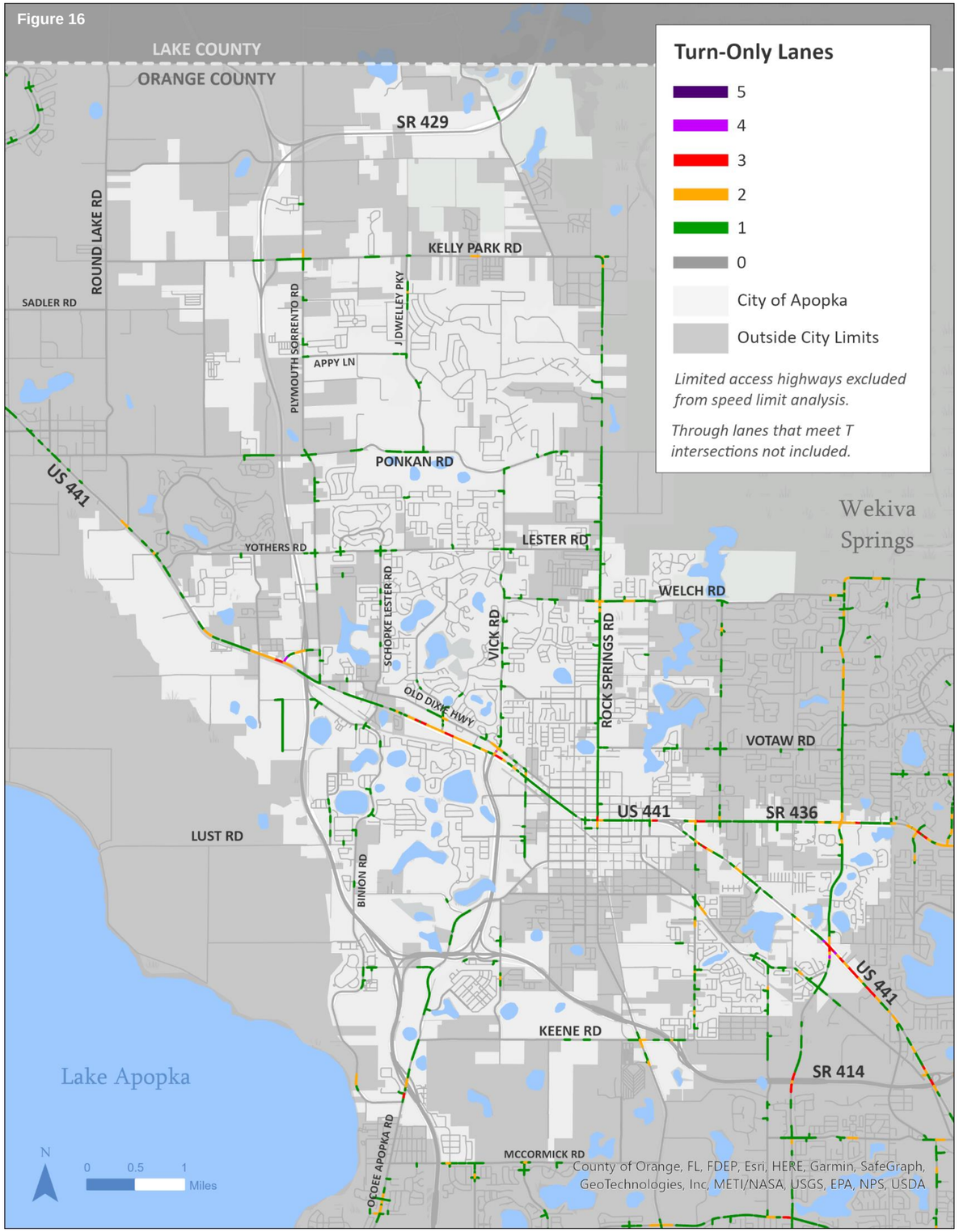


Figure 17

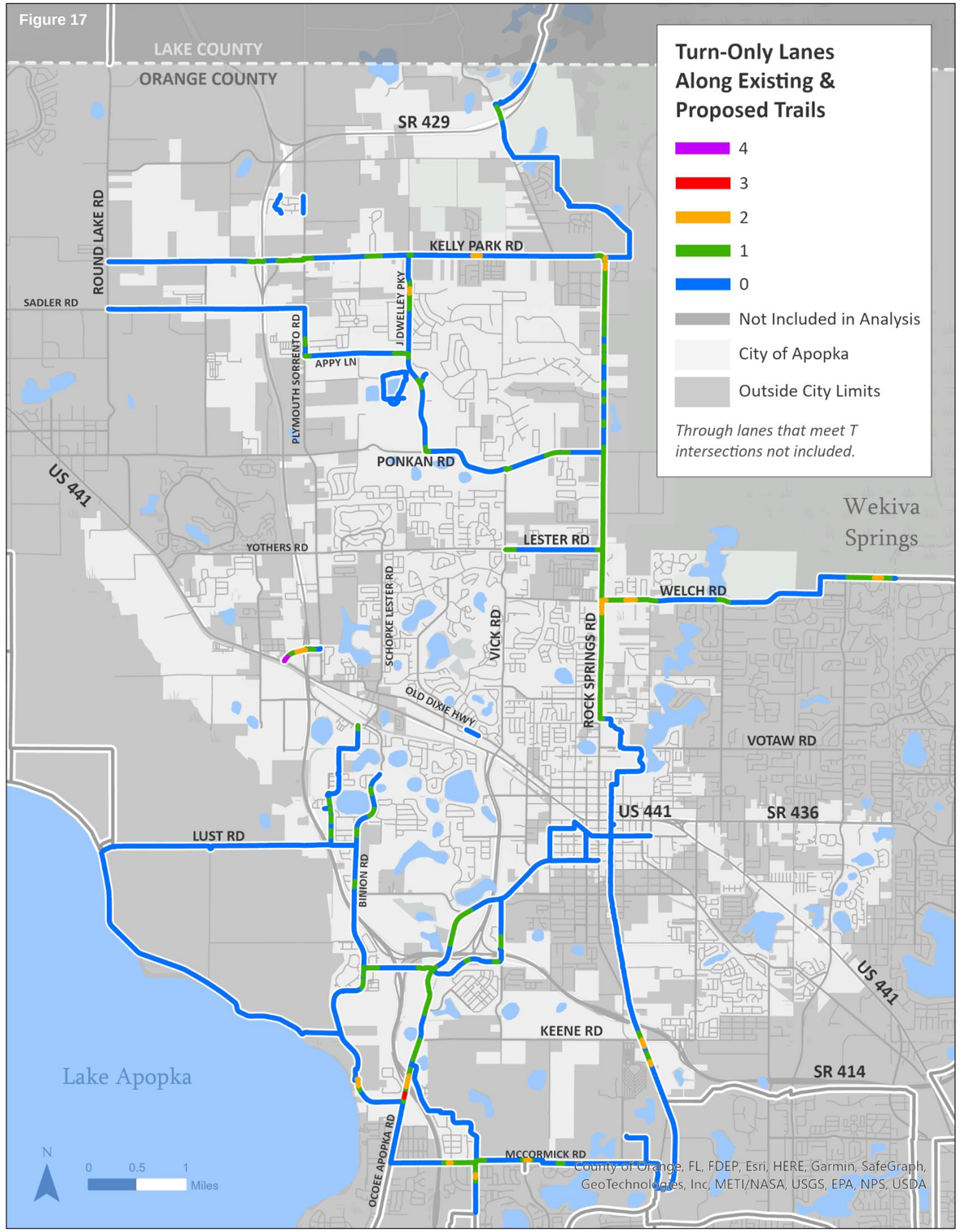


Figure 18

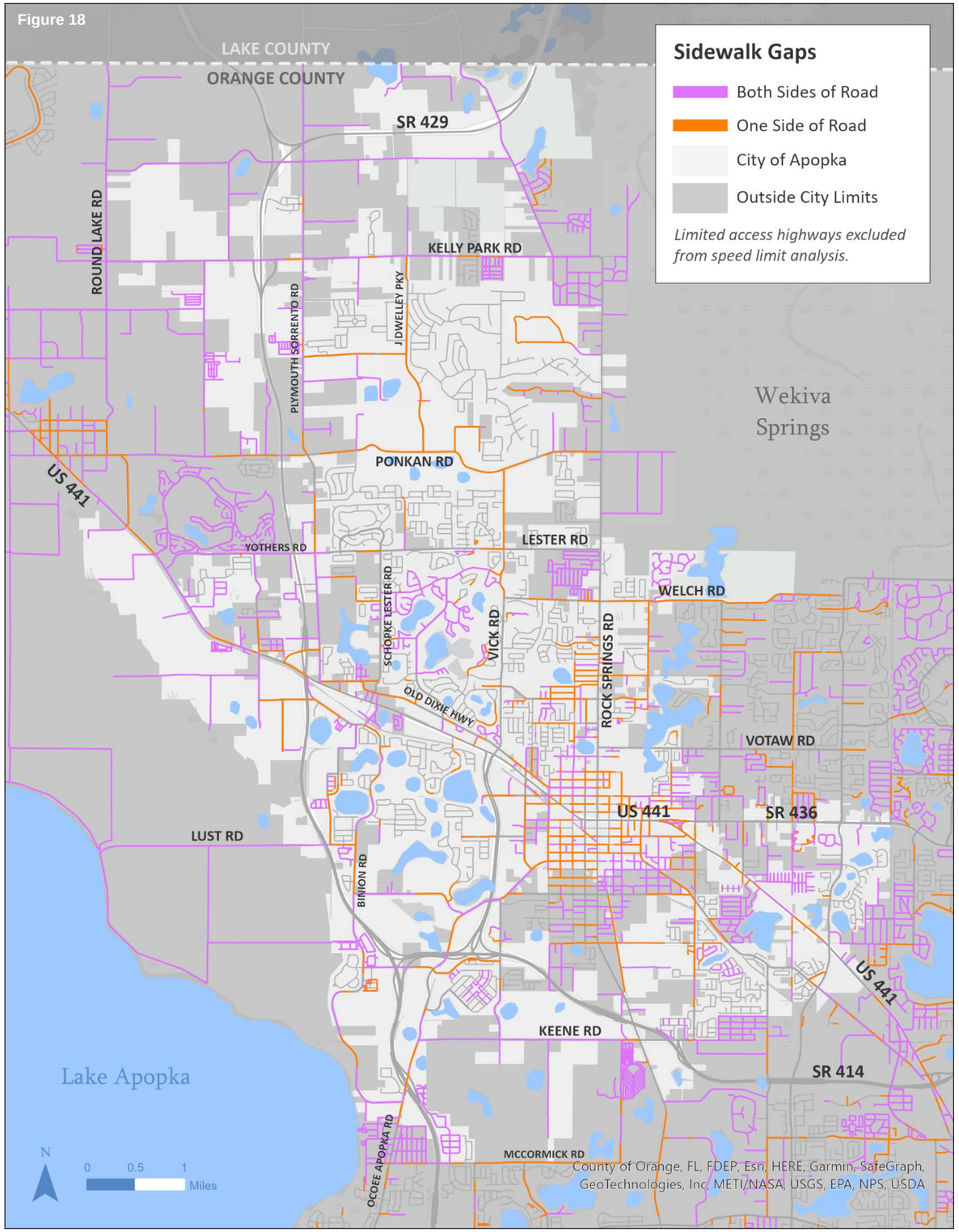
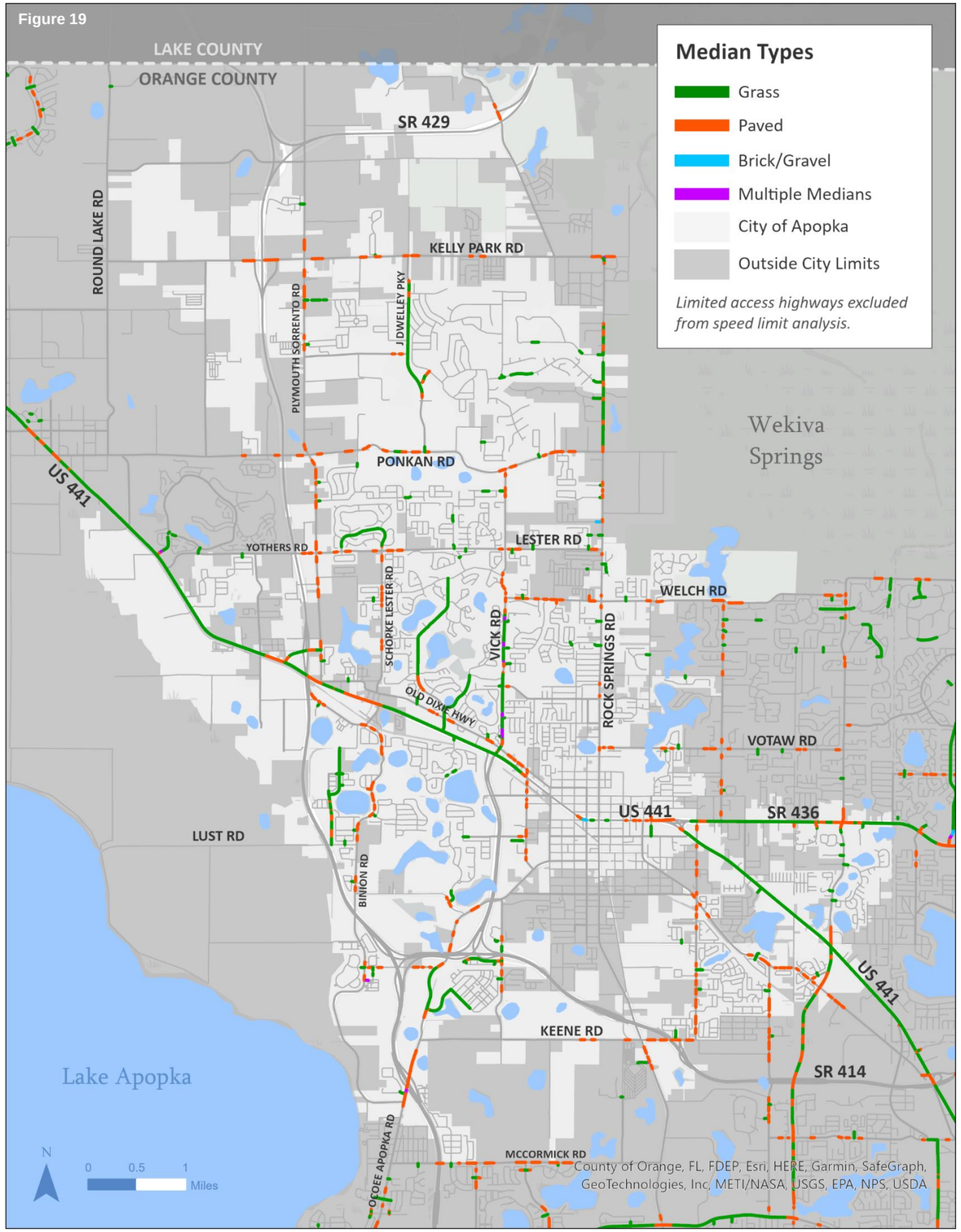


Figure 19



High Speed Sidewalk Gap Analysis

The project team analyzed sidewalk coverage throughout the City of Apopka and surrounding areas. Figure 22 depicts sidewalk gaps on roadways where posted speed limits exceed 30 miles per hour.

Citywide Sidewalk Gap Statistics

An analysis of sidewalk data resulted in the following summary statistics for the City of Apopka. Notes: 1) The City of Apopka does not maintain all of the roadways included in the analysis; 2) The map includes roadways not included in the analysis.

Figure 20

Sidewalk Gap Miles by Posted Speed

0 Sidewalks Present, Speed > 30

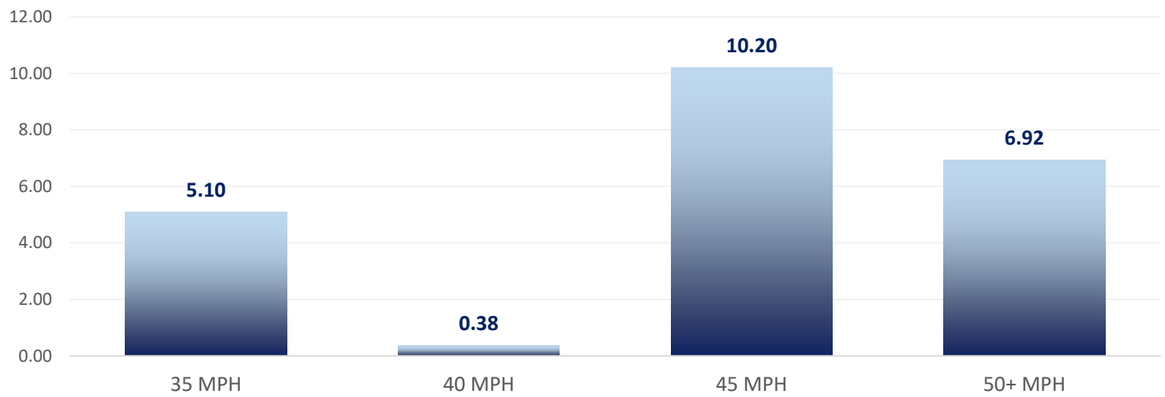


Figure 21

Sidewalk Gap Miles by Posted Speed

1 Sidewalk Present, Speed > 30

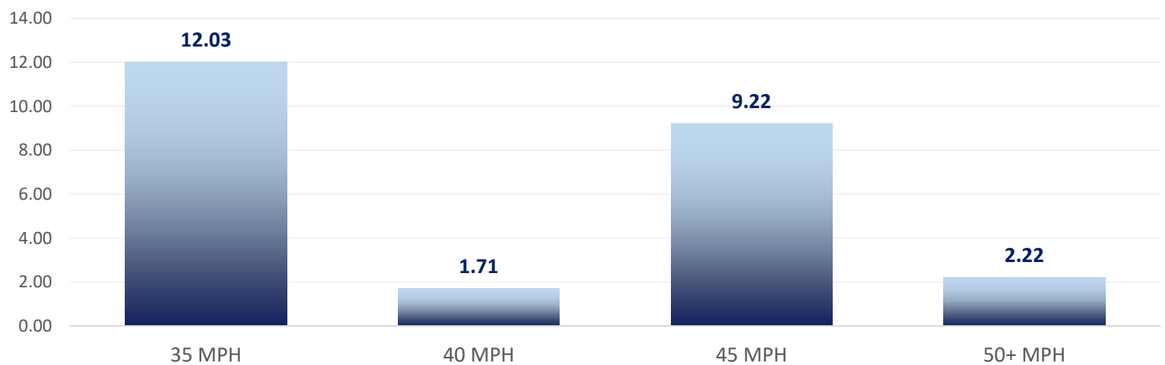
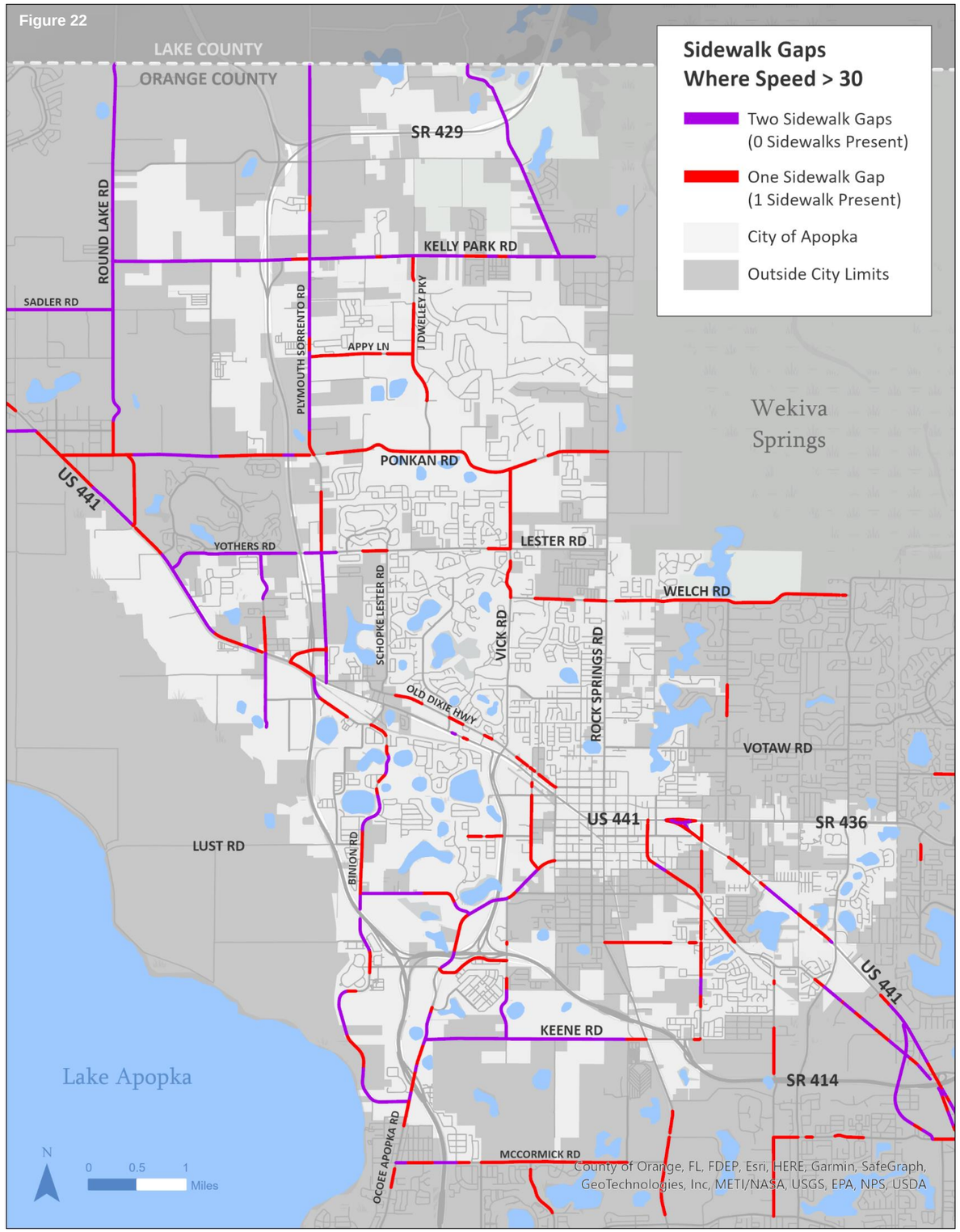


Figure 22



High Speed Sidewalk Gaps by Proximity

This analysis provides additional context to the high-speed sidewalk gaps analysis by further refining the sidewalk gap locations by proximity to community features. Community features analyzed include LYNX bus stops, public schools and parks.

High Speed Sidewalk Gaps Near LYNX Bus Stops

Numerous sidewalk gaps are present throughout the city in close proximity to LYNX bus stops. Transit riders have a higher likelihood of not owning a car and are thus forced to walk on roadway shoulders if sidewalks are not present and no route alternatives are available.

High Speed Sidewalk Gaps Near Schools

The following sidewalk gaps near public schools are notable within the city:

- Jason Dwelley Parkway and Kelly Park Road near the Kelly Park School. Sidewalks on the west side of the road to Kelly Park Road are recommended.
- Ponkan Road near Wolf Lake Elementary and Wolf Lake Middle. Students can use the sidewalk on the north side of the road to access the schools.
- Old Dixie Highway near Apopka Elementary. Sidewalks on the northeast side of the road can be used to access the school.
- U.S. 441 near Lovell Elementary. The city should review U.S. 441 crossing locations to ensure students can use the sidewalks on the east side of 441.
- Hiawassee Road near Lakeville Elementary and Piedmont Lakes Middle. Adding sidewalks to the west side of the road would improve connectivity.

High Speed Sidewalk Gaps Near Parks

The following sidewalk gaps near parks are notable within the city:

- Appy Lane and Jason Dwelley Parkway the Northwest Recreation Complex.
- Welch Road near Wekiva Springs State Park.
- Binion Road near Camp Wewa, where the city plans to build a trail.
- Binion Road near Magnolia Park. Orange County plans to build a trail along Binion Road in this area to connect to the Lake Apopka Loop Trail.

Figure 23

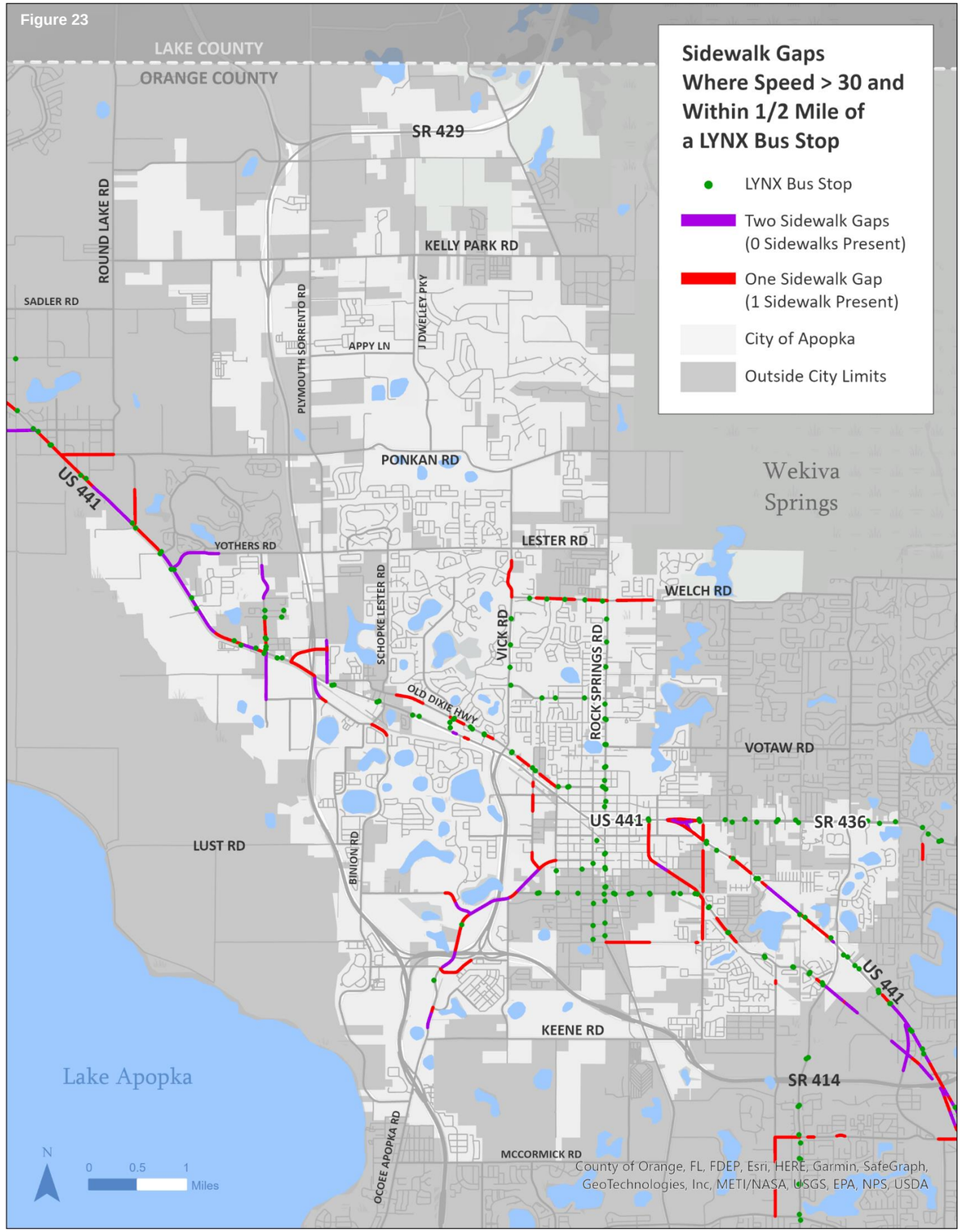


Figure 24

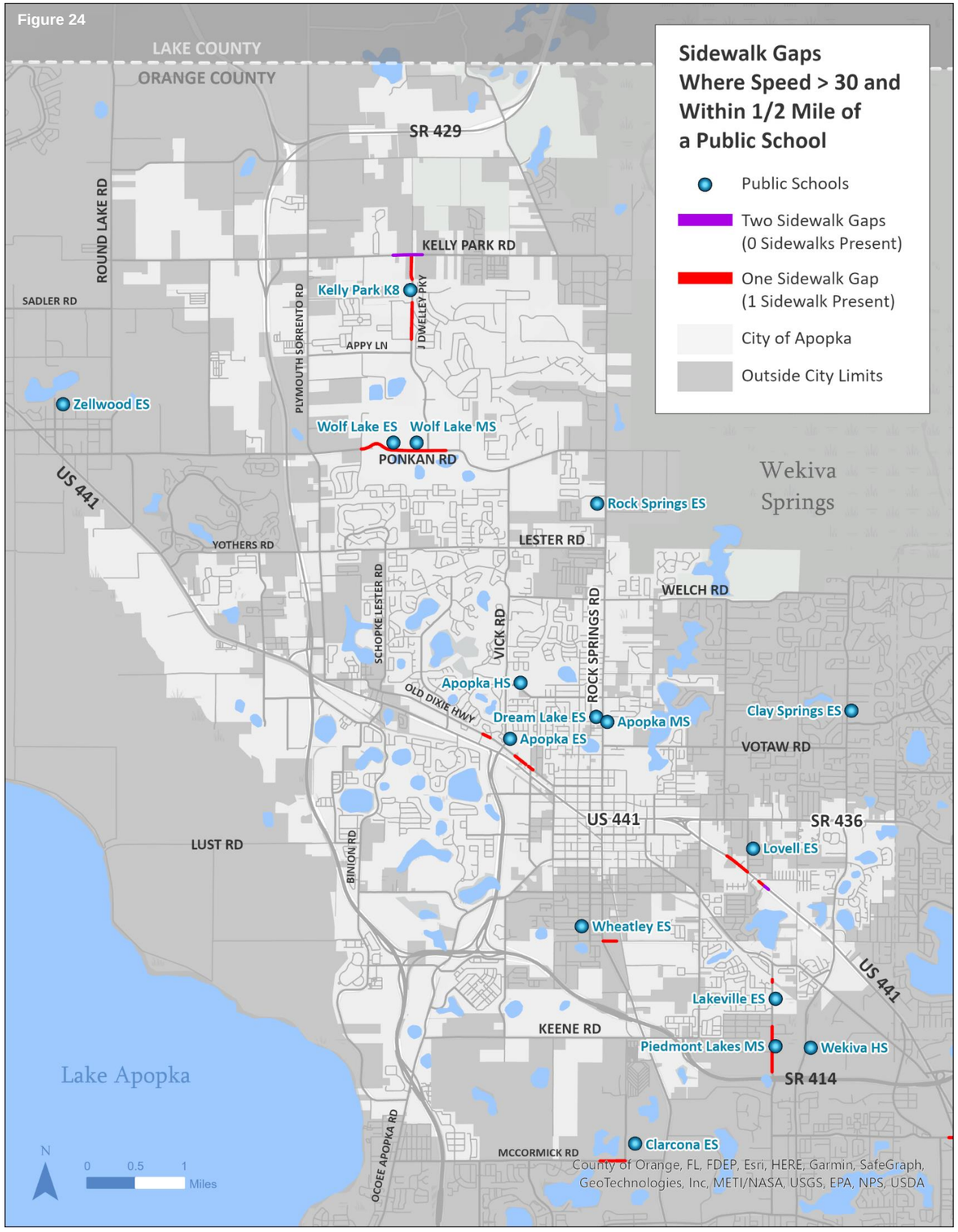
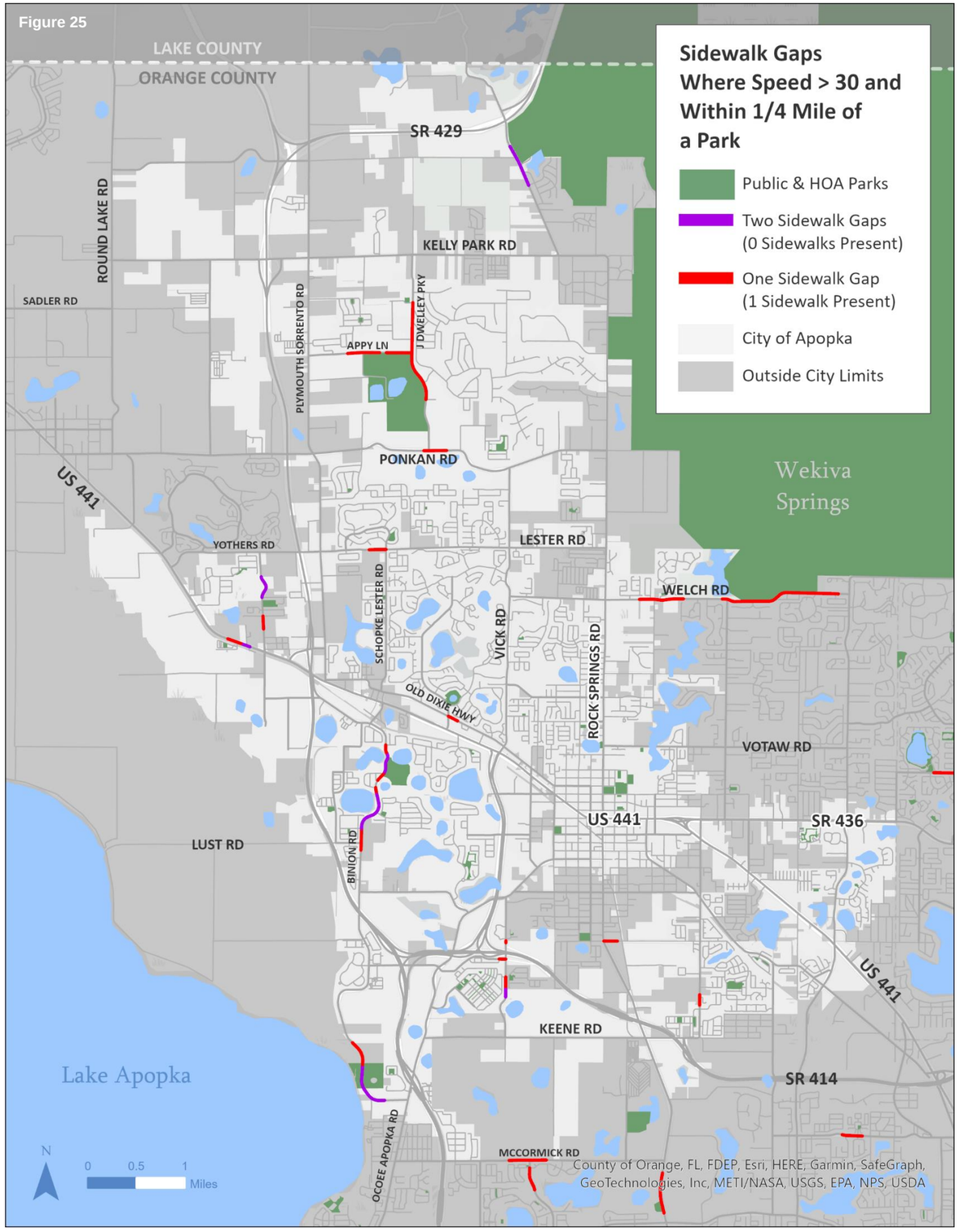


Figure 25



Level of Traffic Stress (LTS)

Level of traffic stress measures the suitability of a roadway for bicyclists. MetroPlan Orlando has adopted two LTS metrics, the *Mixed Traffic Assessment LTS* and the *Bicycle Facility Present LTS*. These metrics are utilized as part of this Active Transportation Plan to measure bicycle infrastructure suitability.

LTS Score Descriptions

1 – Comfortable for the general population; suitable for an 8-year-old.
2 – Stress that most adults can tolerate, including those interested but concerned.
3 – Multilane traffic comfortable for enthused and confident bike riders.
4 – Uncomfortable for most bike riders; acceptable for trained and confident riders.

LTS – Mixed Traffic Assessment

The mixed traffic assessment methodology primarily measures the stress of using the street as a bicyclist and does not reflect biking conditions on trails that are separated from the roadway. Roads with higher speeds and more travel lanes are given a higher (less suitable) LTS-MTA score.

Roadways with on-street bike lanes and wide off-street paths do not use the mixed traffic assessment method. Instead, these segments use the “bicycle facility present” method, which is described below.

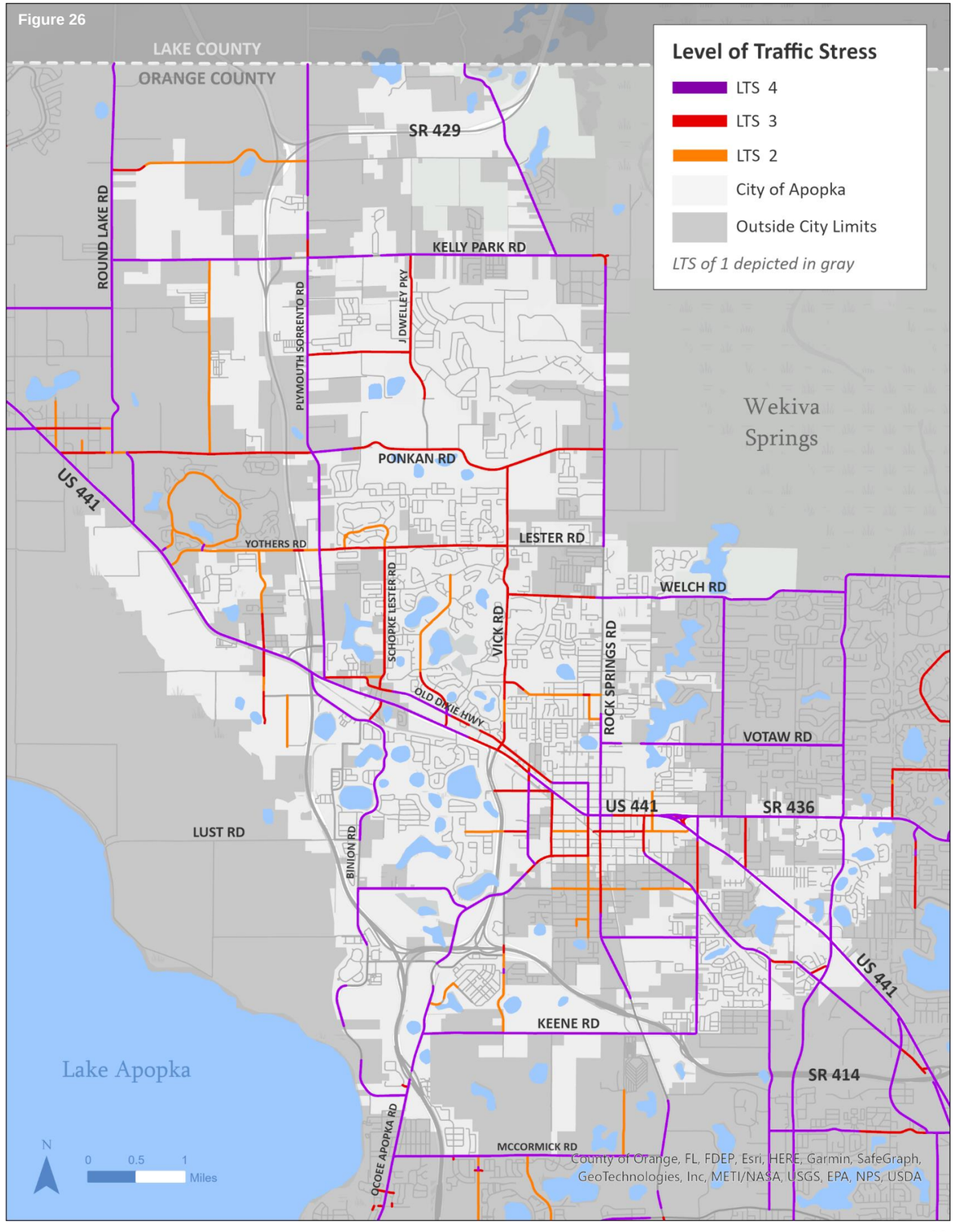
LTS – Bicycle Facility Present Assessment

The second LTS variant is calculated in areas where a trail or on-street bicycle lane is present. Separated trails are scored ‘1’. The score for on-street bike lanes and 4-foot-wide paved shoulders depends on the speed, daily traffic, and lane counts of the roadway. As part of this plan, bike lanes are not recommended on roadways where the speed limit exceeds 30 due to stress levels, usability and safety concerns.

Using LTS for this Plan

LTS scores are used in this plan to assess corridors prior to trail placement and to identify areas for on-street bike lanes. It is important to note that off-street trails reduce the LTS of roadway segments to ‘1’.

Figure 26



Bike/Ped Crash Hot Spots

Figure 27 shows bicycle and pedestrian crash hot spots involving an automobile from 2013 through 2022. With the exception of the existing West Orange Trail segment located adjacent to Rock Springs Road, the existing and previously proposed trail network is located away from locations where bicycle and pedestrian crashes have been known to occur. These maps will guide the project team in identifying future trail corridors.

Higher-Risk Roadways with Existing & Proposed Trails

- West Orange Trail Adjacent to Rock Springs Road

  This corridor is pictured below. Numerous safety countermeasures have been incorporated into this stretch of trail, including crossing signage.

Higher-Risk Intersections with Existing & Proposed Trail Crossings

Additional critical intersections are identified and analyzed in Section IX of this report.

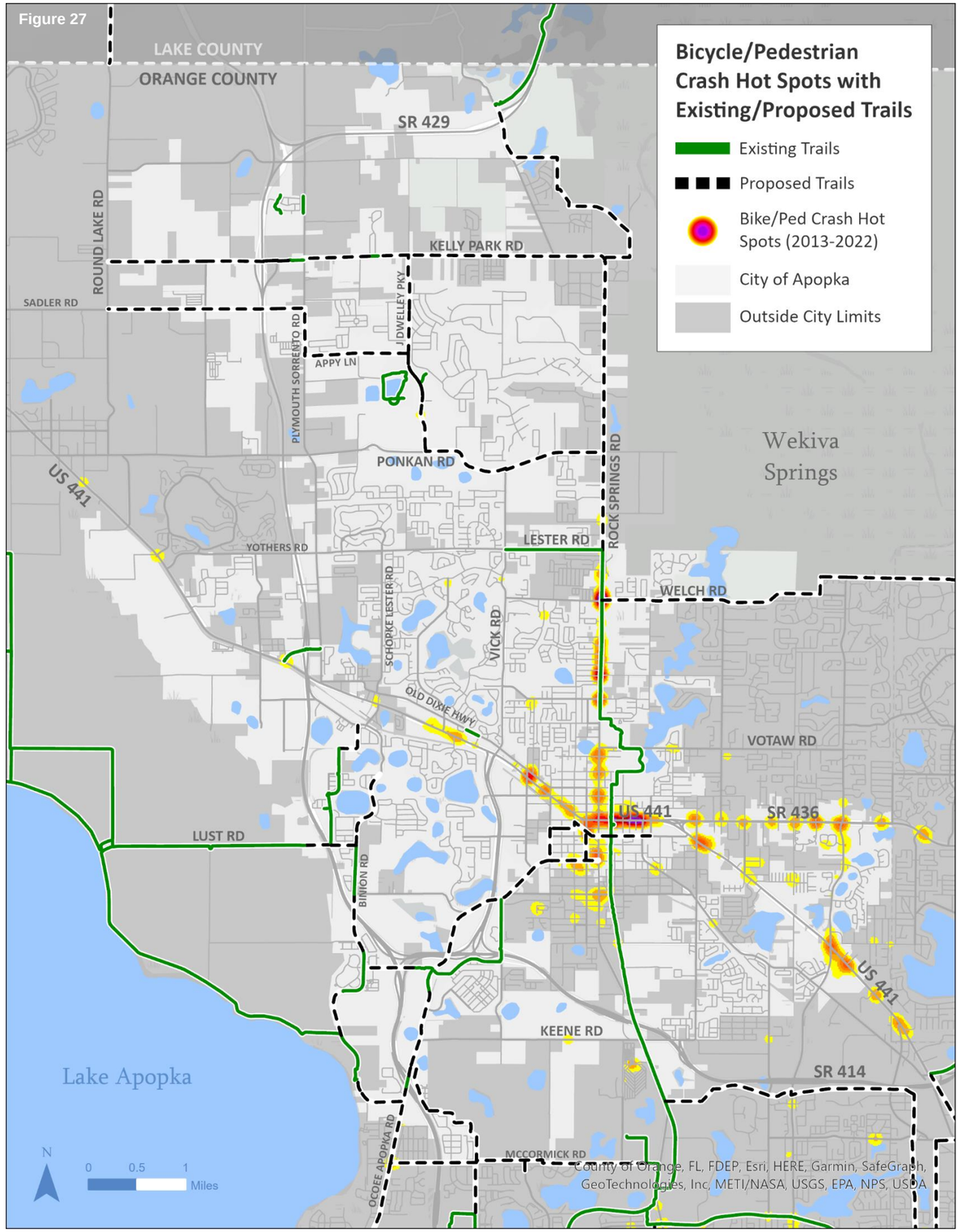
- Rock Springs Road & Welch Road *

  ** Reconstruction and safety enhancements are planned at this intersection.*

- Rock Springs Road & E. Sandpiper Street

- Rock Springs Road & Martin Street

Figure 27



Level of Shading

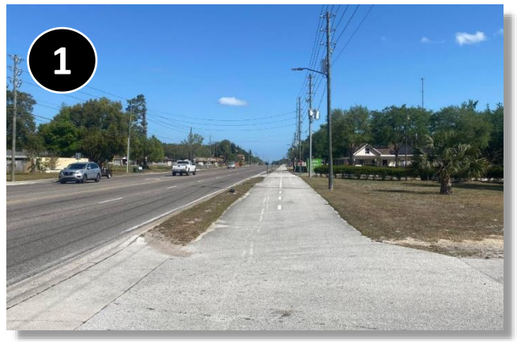
Along Existing, Funded & Previously Proposed Trails

Tree shading increases comfort for cyclists and ensuring the presence of shade trees is integral to the trail planning process. Figure 28 depicts current tree coverage along existing and previously-proposed trail segments located in close proximity to the city.

Existing Trail Segments with Low Levels of Shading

The following existing trail segments have been identified to have low levels of shading. These areas are revisited later in the report as part of the tree shading plan.

- West Orange Trail – Summit Street to Welch Road (1)
- West Orange Trail – Stone Road to Keene Road (2)
- West Orange Trail Spur on Lester Road (3)
- Lake Apopka Loop Trail on Lust Road (4)



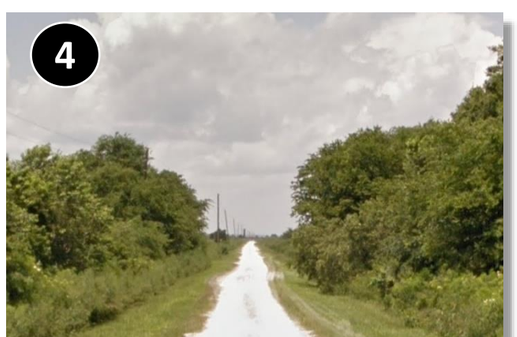
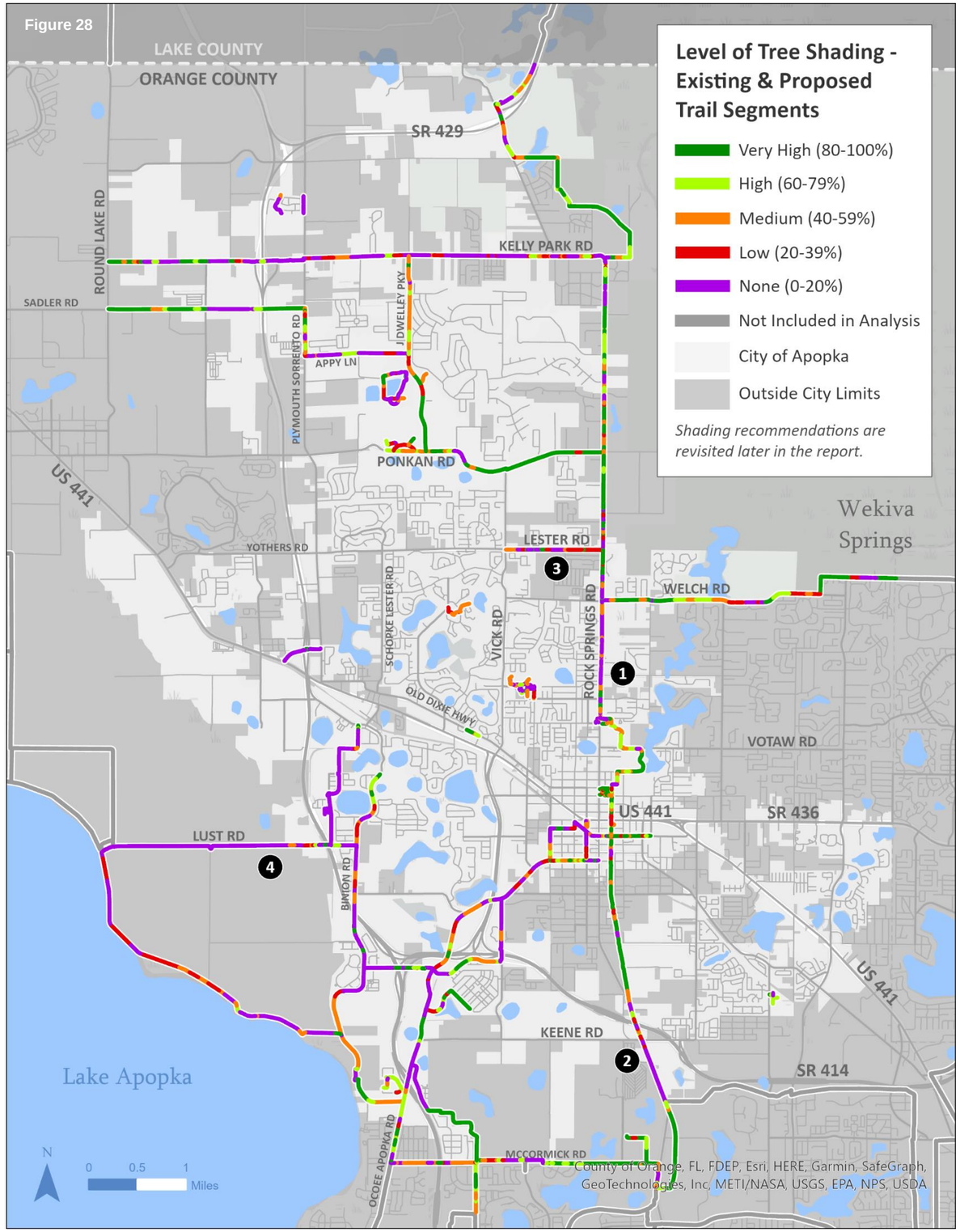


Figure 28



Trail Profiles

Existing & Previously-Proposed Trails

Profile Types

Figure 29 depicts the profile of trails located within and in close proximity to the city. On-network trails are located adjacent to the road and are broken down into two categories – separated from road and no road separation. A short segment of the West Orange Trail at Martin Street is the only non-separated trail segment. Other profile types include the trail overpass over U.S. 441 (Main Street) and trails located off of the roadway network.

Trail Design & Placement Standards

The following trail standards are recommended on roadway-adjacent trails citywide. Section IX of this report includes a Trail Standard Guide with more detailed guidance on trail design and placement.

❖ Facility Width

- 10 to 14 feet in width if right-of-way is available.
- 8 feet in width (minimum) if right-of-way is constrained.

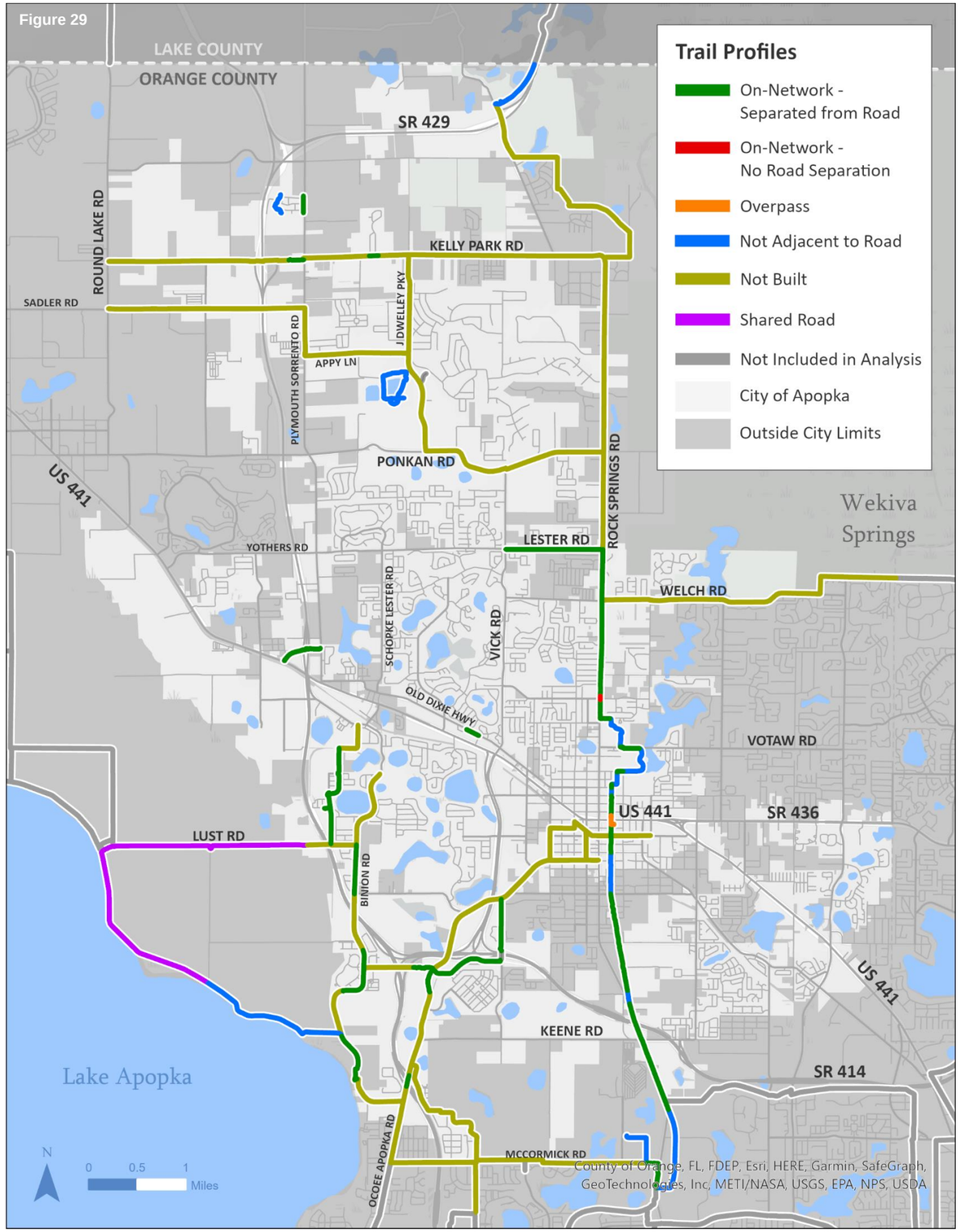
❖ Roadway Separation

- Separated from the roadway by at least 10 feet if right-of-way is plentiful to allow for shade tree placement in the buffer area.
- Separated from roadway by at least 5 feet if right-of-way is constrained.

❖ Street Crossings

- Trail crossings over roadways with high traffic counts should employ high visibility crosswalks in addition to MUTCD W11-15 and/or W11-15a signage.
- Crossings over multilane roadways with speed limits less than 40 miles per hour and daily traffic counts not exceeding 12,000 are candidates for Rectangular Rapid Flashing Beacons, according to the U.S. Bureau of Transportation Statistics.

Figure 29



Future Roadway Construction Projects with Proposed Trails

Binion Road

Binion Road will be redesigned from Lust Road to Harmon Road, with roundabouts located at Lust Road, Boy Scout Road, Hooper Farms Road and Harmon Road. A trail will be placed on the west side of the road.

Ocoee-Apopka Road

Ocoee-Apopka Road will be widened to four lanes between Keene Road and Michael Gladden Boulevard. A trail will be built on the wide side of the road.

Kelly Park Road

Kelly Park Road will be altered from Rock Springs Road to State Road 429. The scope of this project has not yet been finalized.

Sadler Road

Sadler Road will be extended from Plymouth Sorrento Road to Round Lake Road as part of the Kelly Park Interchange development.

Corridors Not Suitable for Future Trail Placement

U.S. 441 (Main Street) and State Road 436

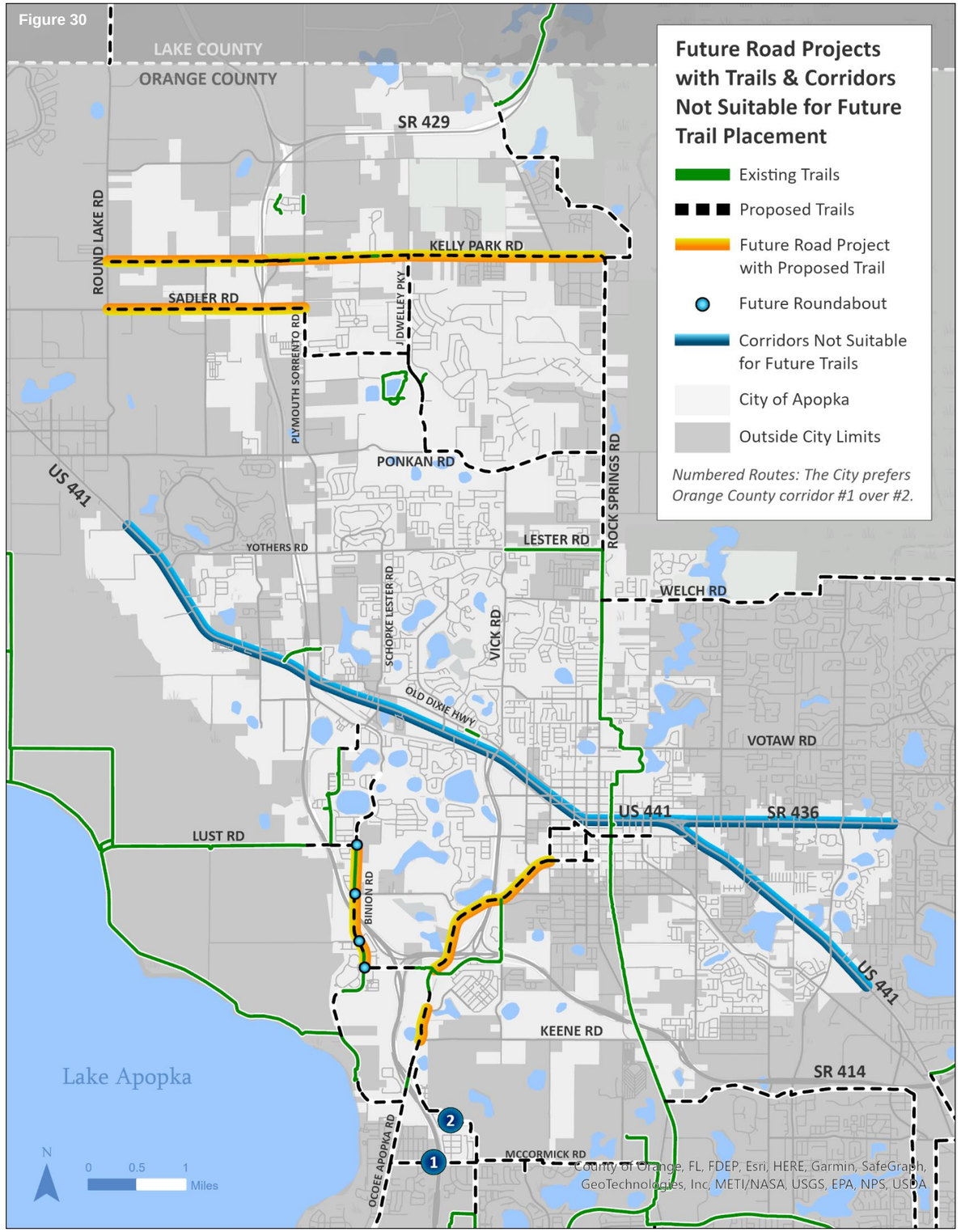
These roadways are high-traffic, high-speed corridors with numerous driveways that create vehicle turning movements. Future trail crossings across U.S. 441 and S.R. 436 should be limited due to high costs and traffic stress concerns.

Analysis of Previously Proposed Corridors

Following a review of the maps included in this section of the report, the project team will utilize all of the previously-identified proposed trail corridors identified in previous analyses with the exception of the Central Avenue segment from Michael Gladden Boulevard to Station Street in downtown Apopka. This segment will shift east to Park Avenue, as described later in this plan. Future trail corridors will aim to enhance citywide connectivity using these routes as a starting point.

Orange County will be constructing the segment labeled with #2 in Figure 30, however segment #1 will remain in this plan as a potential direct connection to Ocoee Apopka Road. Segment #1 will not be prioritized in this plan.

Figure 30



IV. Gaps & Opportunities

For Identifying Future Bicycle and Pedestrian Connections

Connecting to Activity Centers

Economic Development through Active Transportation

This active transportation plan is a tool for the City of Apopka to use to enhance bicycle and pedestrian connections to economic centers. If successful, transporting itself will become more immersive in the city, and riders will be able to experience all the city has to offer on a more personal level.

To achieve success in this regard, biking routes must be comfortable and, perhaps more importantly, must connect to the right places in order for non-automobile trips to be worthwhile. A primary objective of this plan is to identify those right places and to connect them seamlessly and comfortably for bicyclists and pedestrians. This section of the report identifies these economic hubs.

A second measure of success will be improving economic activity at major commercial centers, and making those commercial centers stand out from alternatives throughout the region. While connecting to the correct economic centers is important, having critical infrastructure such as bike racks and public spaces near the economic centers will ensure that they are both *a place that people want to go and a place that people want to stay.*

Big-Picture Idea #1
Create comfortable routes that connect to the right places, making them worthwhile for people to use.

Big-Picture Idea #2
Improve economic activity at major hubs by improving public spaces and offering biking amenities.

Enhancing Eco-Tourism through Active Transportation

The City of Apopka is in a perfect position to leverage eco-tourism opportunities through active transportation, as the city is flanked by large recreational and ecological areas that attract visitors from around the country.

To the west, Lake Apopka and the Lake Apopka Wildlife Management Area offer outstanding bird watching and other activities, while Wekiva Springs State Park and Rock Springs Run State Reserve offer camping, water activities, and pristine springs that are among the best in the world. It is critical that the city build a trail network that connects these amenities in a direct manner that places downtown Apopka as a central hub between the two areas.

The city's existing and future park network will also be critical in identifying future trail routes. The Lake Apopka Wildlife Area and Wekiva Springs are five miles apart, so reducing riding exhaustion and allowing for leisure areas in between will be best accomplished using parks. As part of this plan, all of the city's parks are identified and will guide the development of future trail corridors. Additionally, city-owned sites for potential future park development are identified.

Big-Picture Idea #1
Connect the Lake Apopka and Wekiva Springs areas, using downtown Apopka as a central hub.

Big-Picture Idea #2
Connect to parks and recreation between large ecological areas to allow for rest and leisure.

Critical Natural & Recreational Area Connections

The following natural and recreational areas have been identified as critical to the city's active transportation network. Additional parks are shown in Figure 31.

Lake Apopka Wildlife Area

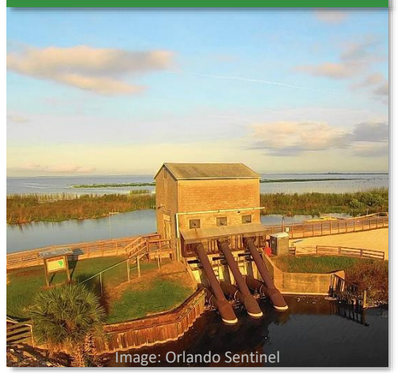


Image: Orlando Sentinel

Wekiva Springs

Image: Orlando Magazine

Kelly Park & Rock Springs

Image: Florida Today

Magnolia Park

Image: The Apopka Voice

Camp Wewa

Image: The Apopka Chief

Northwest Recreation Complex

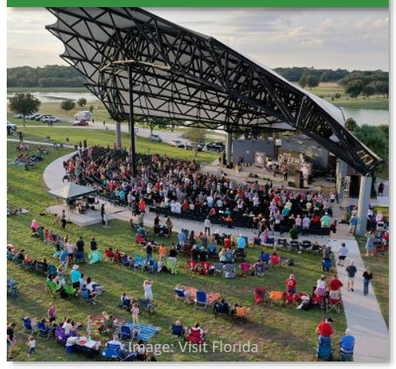


Image: Visit Florida

Flying Club & Old Landfill

Image: Google Maps

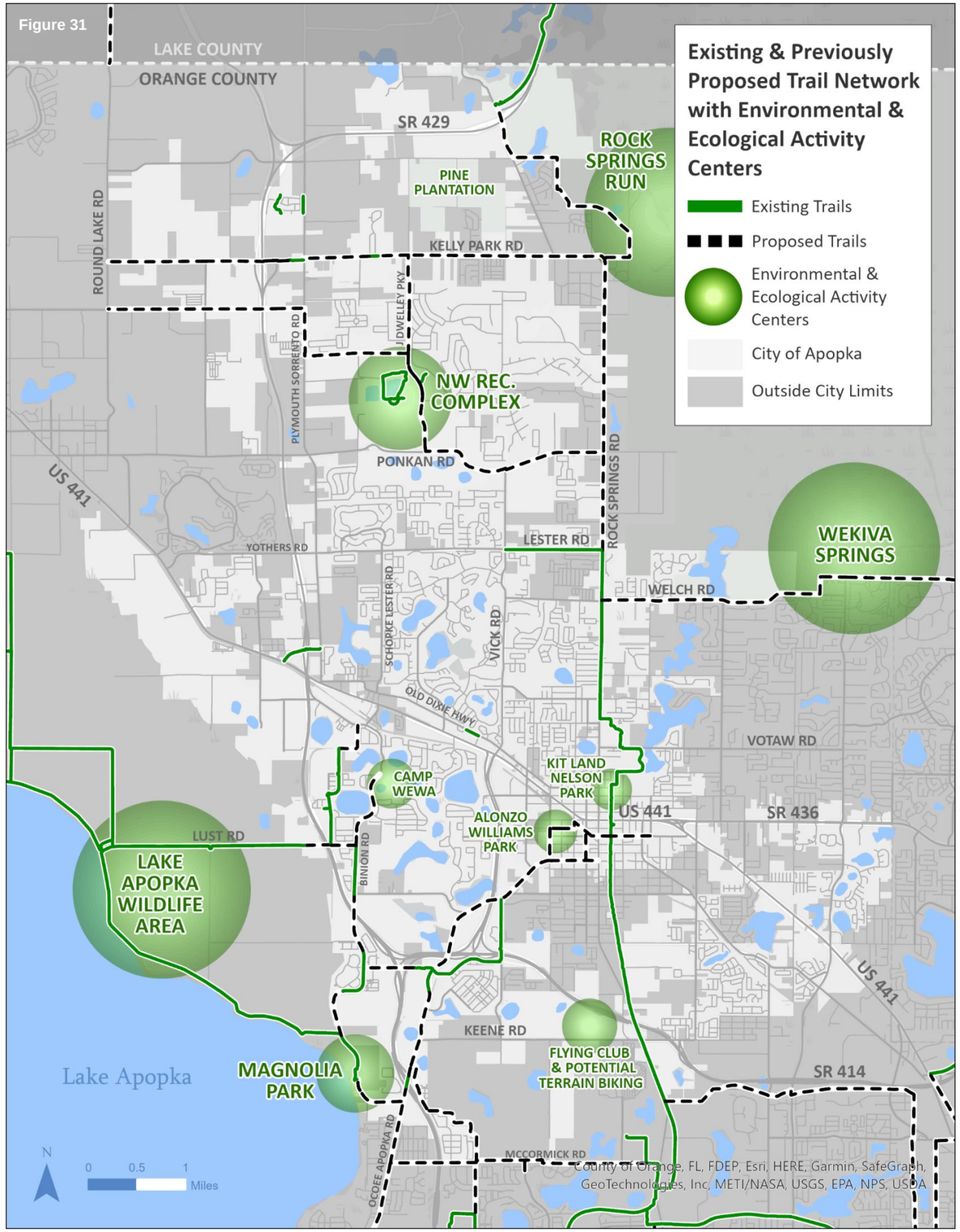
Alonzo Williams Park

Image: Google Maps

Kit Land Nelson Park

Image: The Apopka Chief

Figure 31



Critical Economic & Civic Area Connections

The following economic and civic areas have been identified as critical to the city's active transportation network. Other large hubs are also shown in Figure 32.

Downtown Apopka

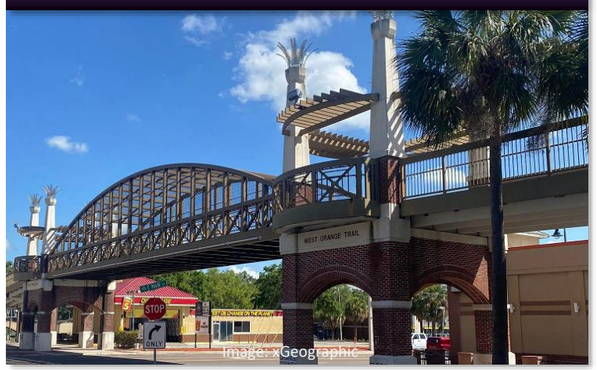


Image: xGeographic

Floridian Town Center

Image: Benge Development

Apopka High School

Image: Palm Beach Post

AdventHealth Apopka

Image: AdventHealth

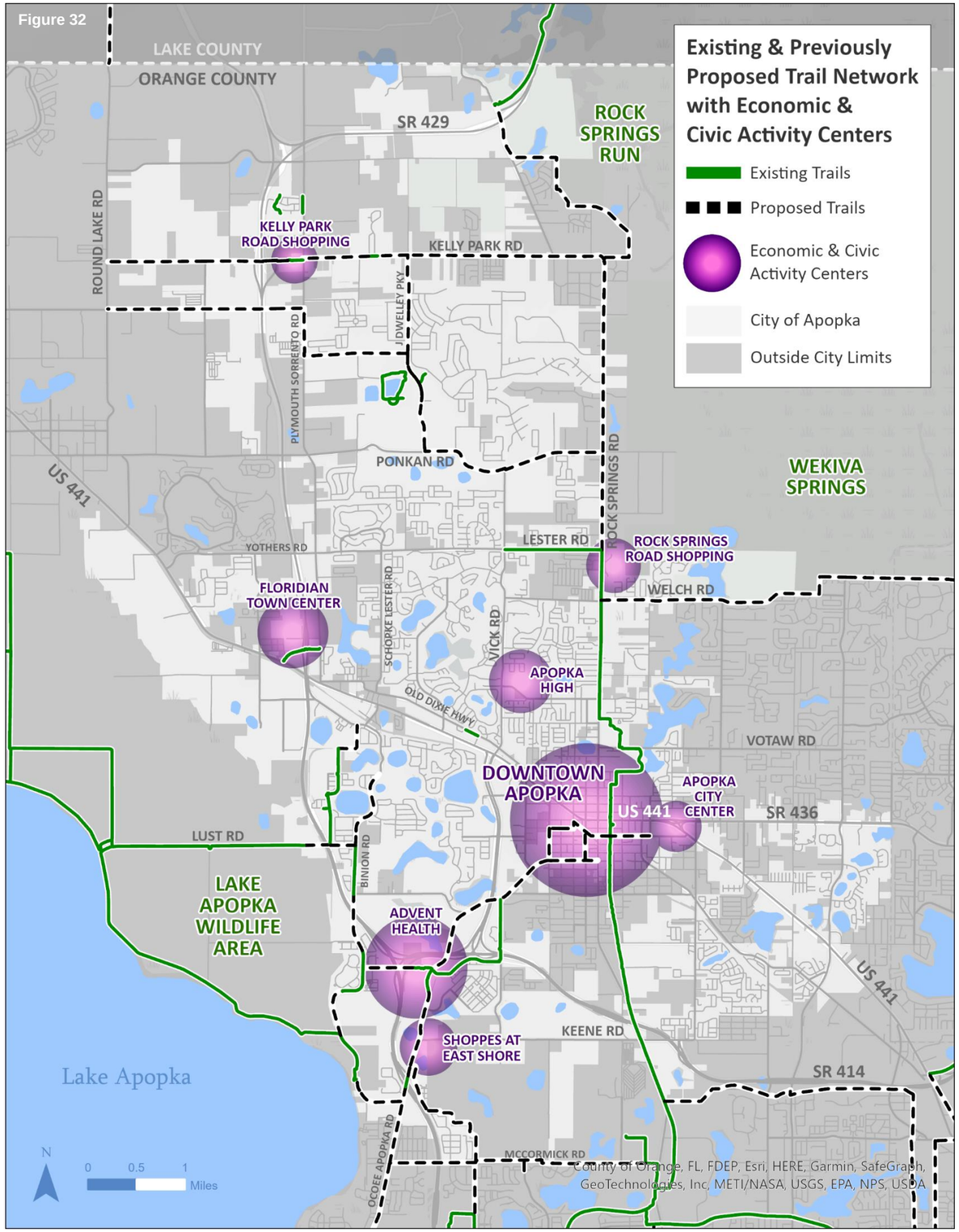
Shoppes at East Shore

Image: WMG

Apopka City Center

Image: Orlando Business Journal

Figure 32



Economic Point of Interest Analysis

This section of the report provides an analysis of proximity to economic point of interest types in order to 1) identify activity near the existing and previously planned trail network, and 2) identify connectivity gaps to economic centers. The text narrative below describes connectivity gaps and potential connections.

Grocery Stores

- Gaps in Trail Coverage: All grocery stores in the vicinity of the city are located adjacent to the existing and planned trail network with the exception of grocery stores located off of U.S. 441 and S.R. 436. The latter grocery stores are connected with on-street bike lanes.
- Potential Connections: A north/south connection to the new Publix on Kelly Park Road would connect numerous neighborhoods in north central Apopka, including Rock Springs, Wekiva Run and Arbor Ridge.

Markets & Convenience Stores

- Gaps in Trail Coverage: Similar to grocery stores, markets and convenience stores located off of S.R. 436 and U.S. 441 are connected via existing on-street bike lanes.
- Potential Connections: A Binion Road or Grand Avian Parkway trail connection to U.S. 441 would enhance connectivity to numerous markets.

Dining Establishments

- Gaps in Trail Coverage: Most dining establishments are located adjacent to U.S. 441, S.R. 436 and Rock Springs Road and have existing bike connections.
- Potential Connections: Current connections to dining are sufficient. Alternative areas for mixed use development and trail connections in the downtown area could include 2nd Street, 5th Street and 6th Street.

Entertainment & Bars

- Gaps in Trail Coverage: Two golf course clubhouse bars are not connected to the bike/ped network. Constructing trails in these established neighborhoods would be difficult but will be addressed in public meetings.
- Potential Connections: See potential dining connections note above.

Figure 33

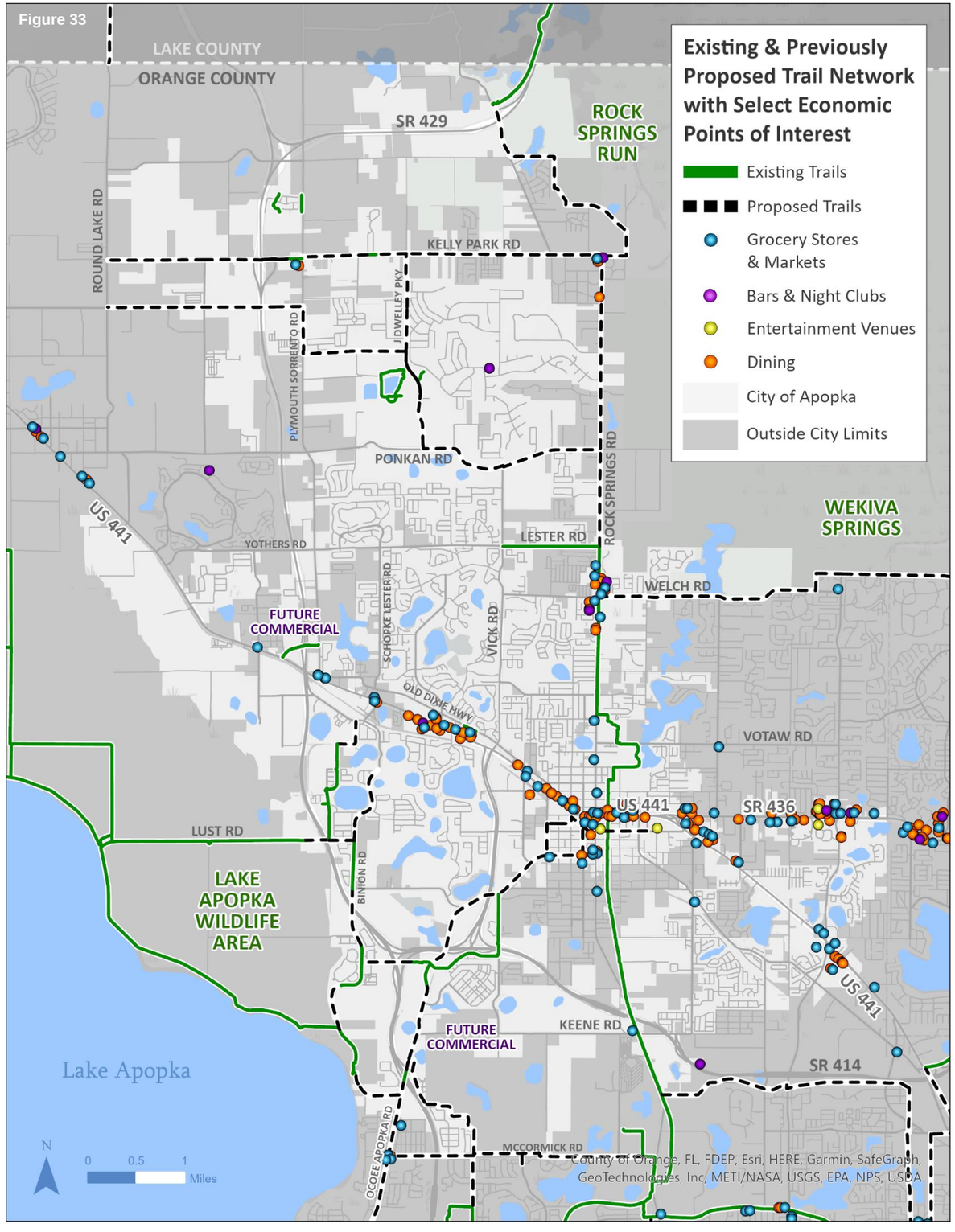
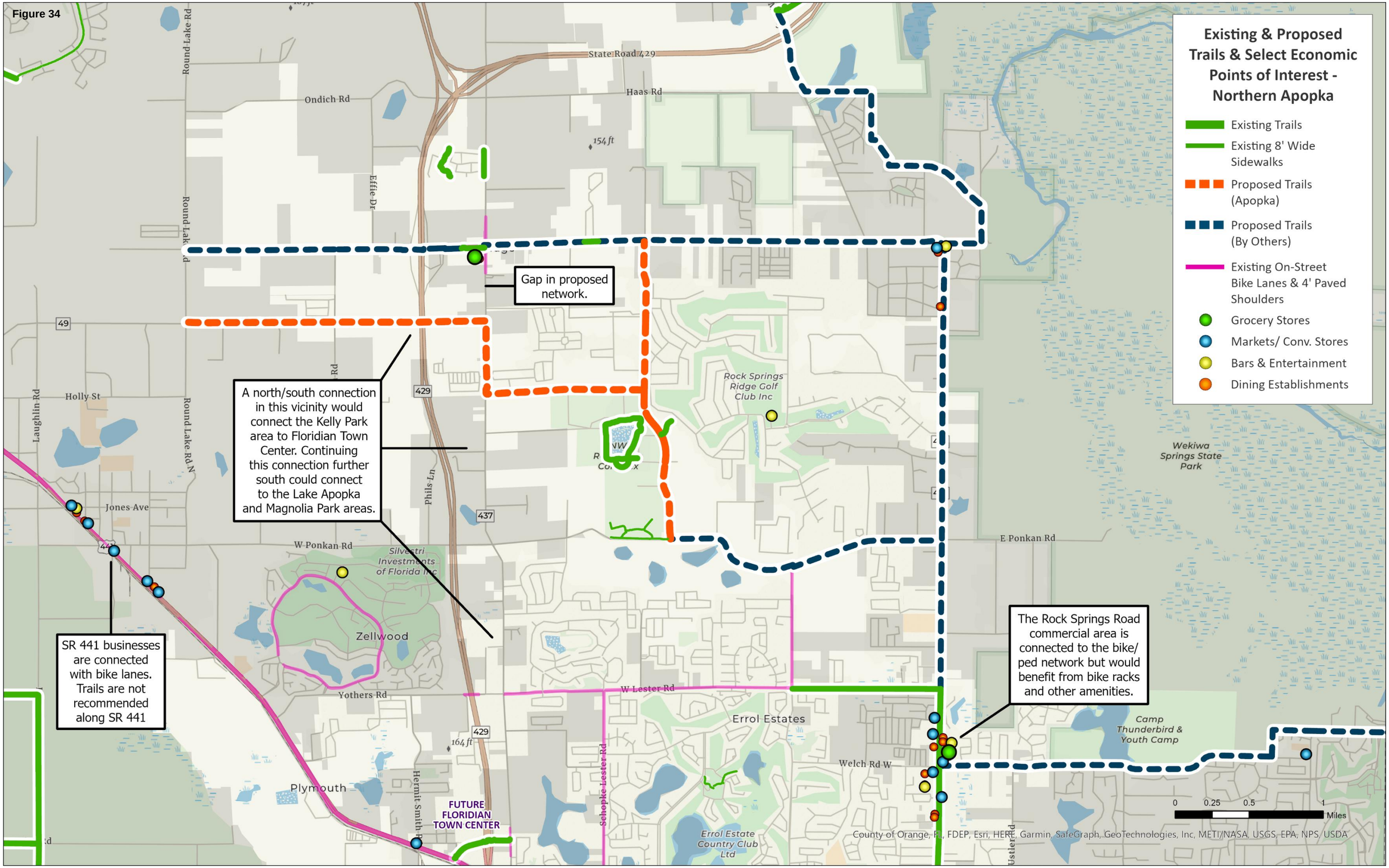


Figure 34


Existing & Proposed Trails & Select Economic Points of Interest - Northern Apopka
Existing Trails
Existing 8' Wide Sidewalks
Proposed Trails (Apopka)
Proposed Trails (By Others)
Existing On-Street Bike Lanes & 4' Paved Shoulders
Grocery Stores
Markets/ Conv. Stores
Bars & Entertainment
Dining Establishments
Gap in proposed network.
A north/south connection in this vicinity would connect the Kelly Park area to Floridian Town Center. Continuing this connection further south could connect to the Lake Apopka and Magnolia Park areas.
SR 441 businesses are connected with bike lanes. Trails are not recommended along SR 441
The Rock Springs Road commercial area is connected to the bike/ ped network but would benefit from bike racks and other amenities.
FUTURE FLORIDIAN TOWN CENTER
State Road 429
Haas Rd
Ondich Rd
Round Lake Rd
Effie Dr
Holly St
Laughlin Rd
Round Lake Rd N
Jones Ave
W Ponkan Rd
Silvestri Investments of Florida Inc
Zellwood
Yothers Rd
Phils Ln
Hermit Smith Rd
Plymouth
Rock Springs Ridge Golf Club Inc
W Lester Rd
Errol Estates
Schopke Lester Rd
Errol Estate Country Club Ltd
Welch Rd W
E Ponkan Rd
Wekiwa Springs State Park
Camp Thunderbird & Youth Camp
Ustler Rd
154 ft
164 ft
49
429
437
441
0 0.25 0.5 1 Miles
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

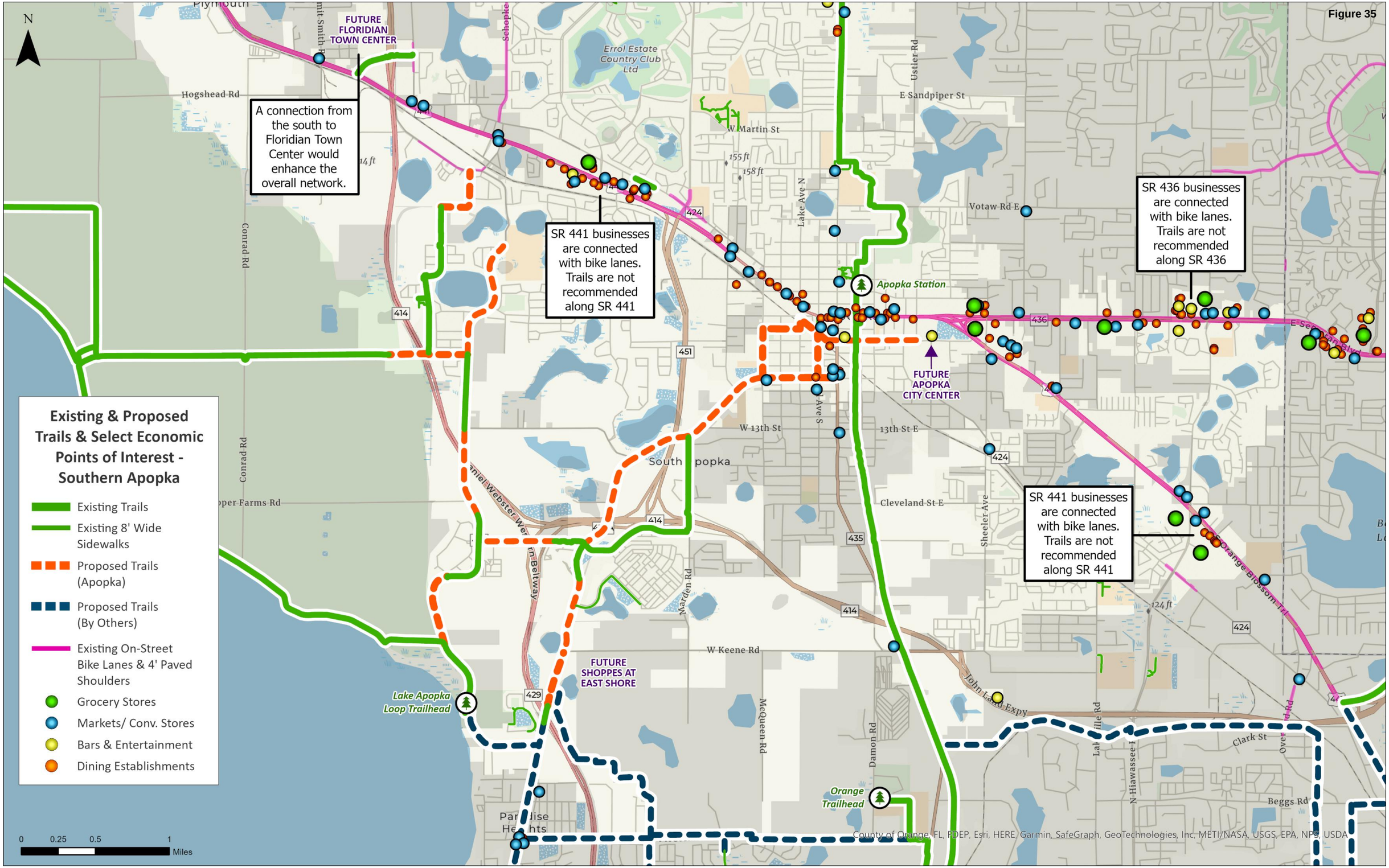

N
FUTURE FLORIDIAN TOWN CENTER
A connection from the south to Floridian Town Center would enhance the overall network.
SR 441 businesses are connected with bike lanes. Trails are not recommended along SR 441
SR 436 businesses are connected with bike lanes. Trails are not recommended along SR 436
SR 441 businesses are connected with bike lanes. Trails are not recommended along SR 441
FUTURE APOPKA CITY CENTER
FUTURE SHOPPES AT EAST SHORE
Apopka Station
Lake Apopka Loop Trailhead
Orange Trailhead
Errol Estate Country Club Ltd
Hogshead Rd
Conrad Rd
Schopke
Ustler Rd
E Sandpiper St
W Martin St
155 ft
158 ft
Lake Ave N
Votaw Rd E
Lake Ave S
W 13th St
13th St E
South Apopka
Cleveland St E
Sheeler Ave
Daniel Webster Western Beltway
Marden Rd
McQueen Rd
Damon Rd
W Keene Rd
John Land Expy
Orange Blossom Trl
124 ft
Clark St
Beggs Rd
Paradise Heights
414
424
436
451
435
429
Existing & Proposed Trails & Select Economic Points of Interest - Southern Apopka
Existing Trails
Existing 8' Wide Sidewalks
Proposed Trails (Apopka)
Proposed Trails (By Others)
Existing On-Street Bike Lanes & 4' Paved Shoulders
Grocery Stores
Markets/ Conv. Stores
Bars & Entertainment
Dining Establishments
0 0.25 0.5 1 Miles
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

Figure 36

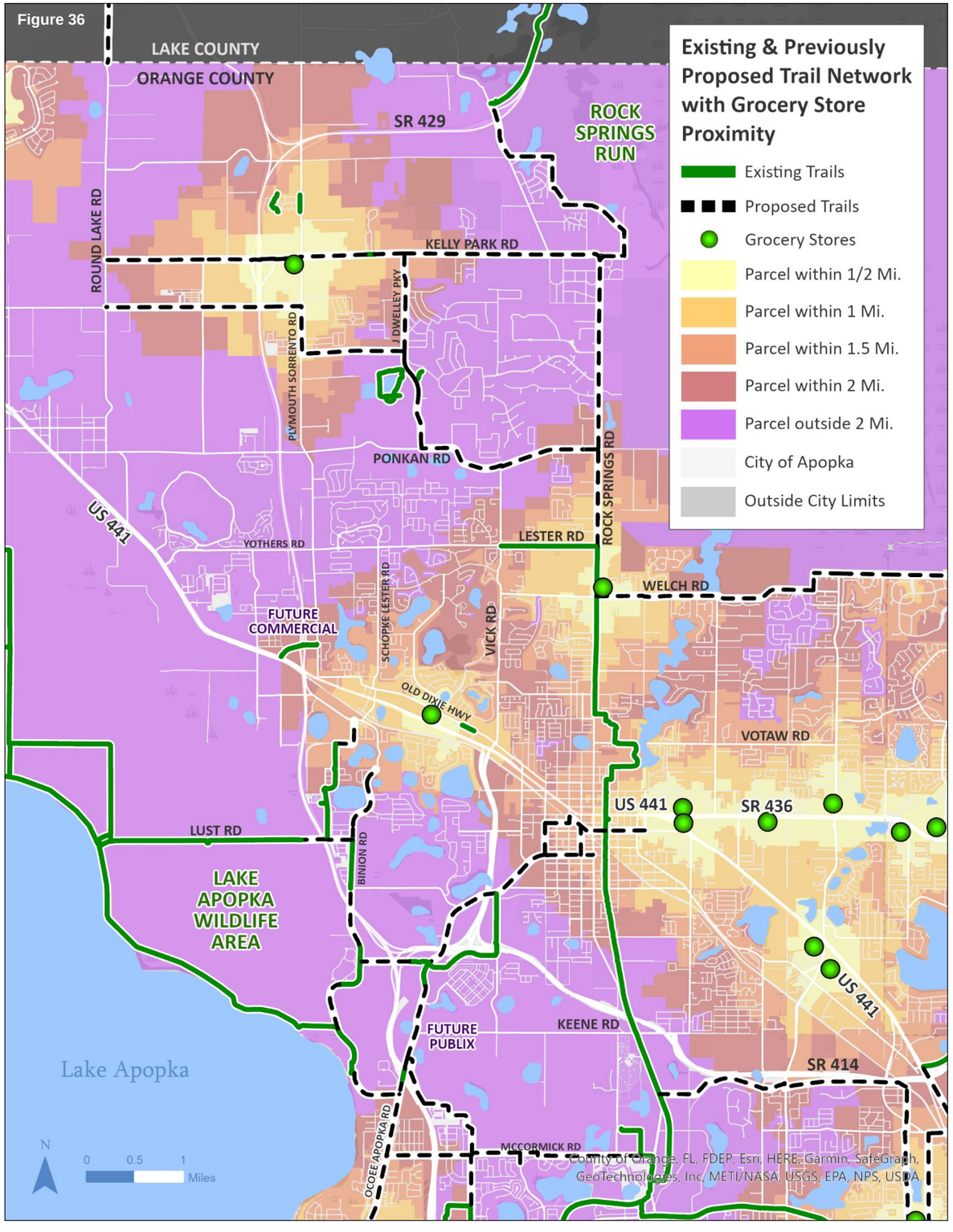


Figure 37

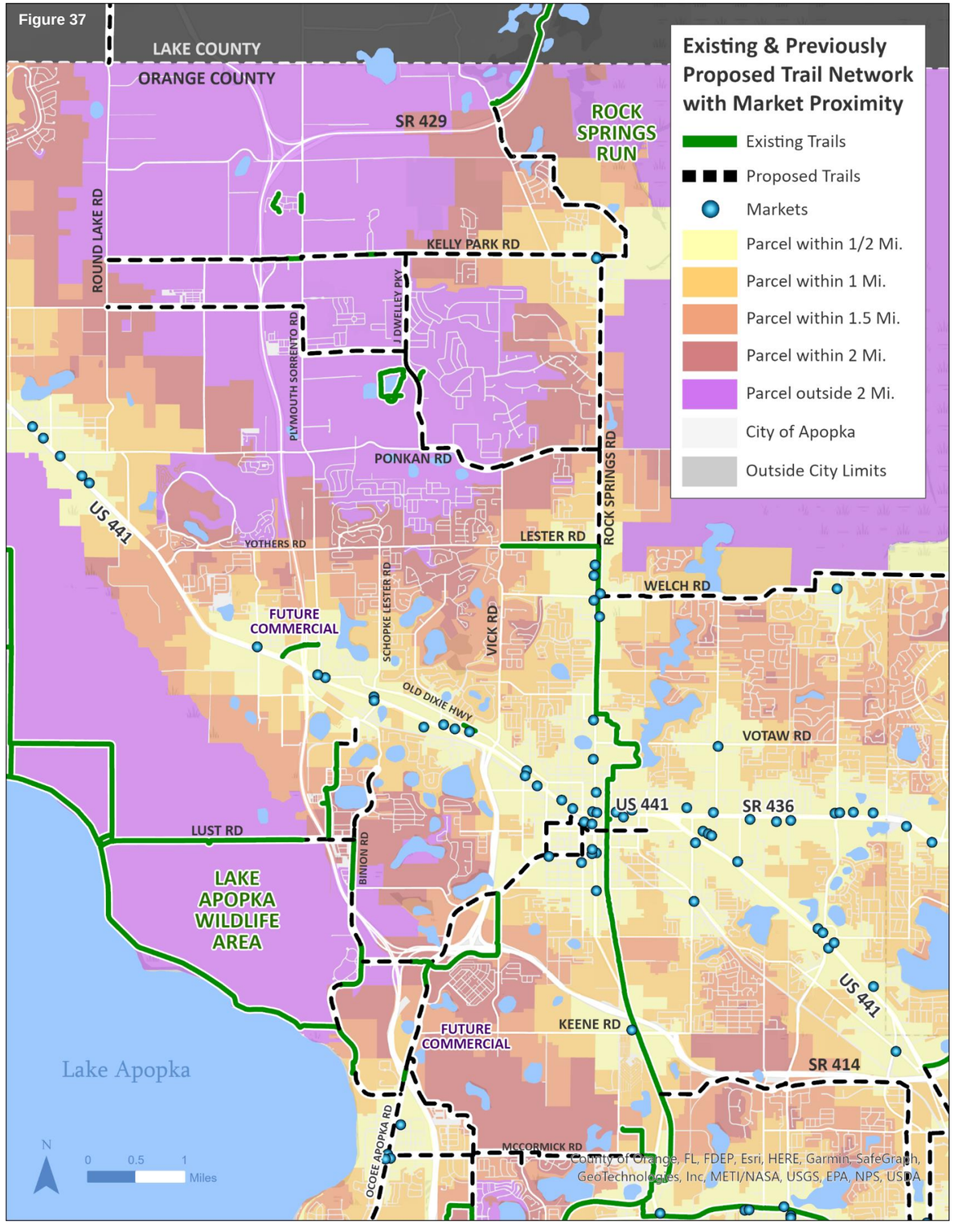


Figure 38

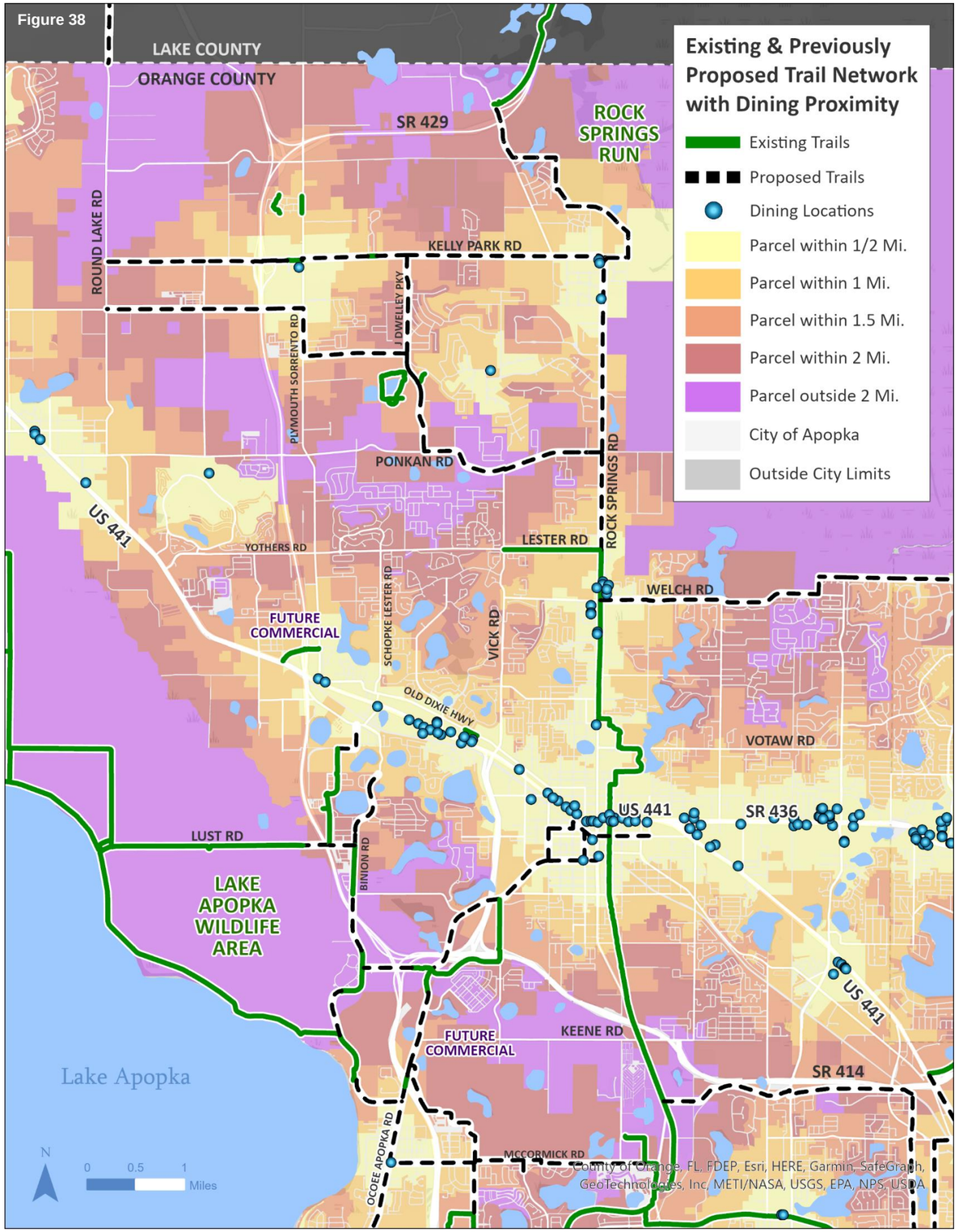
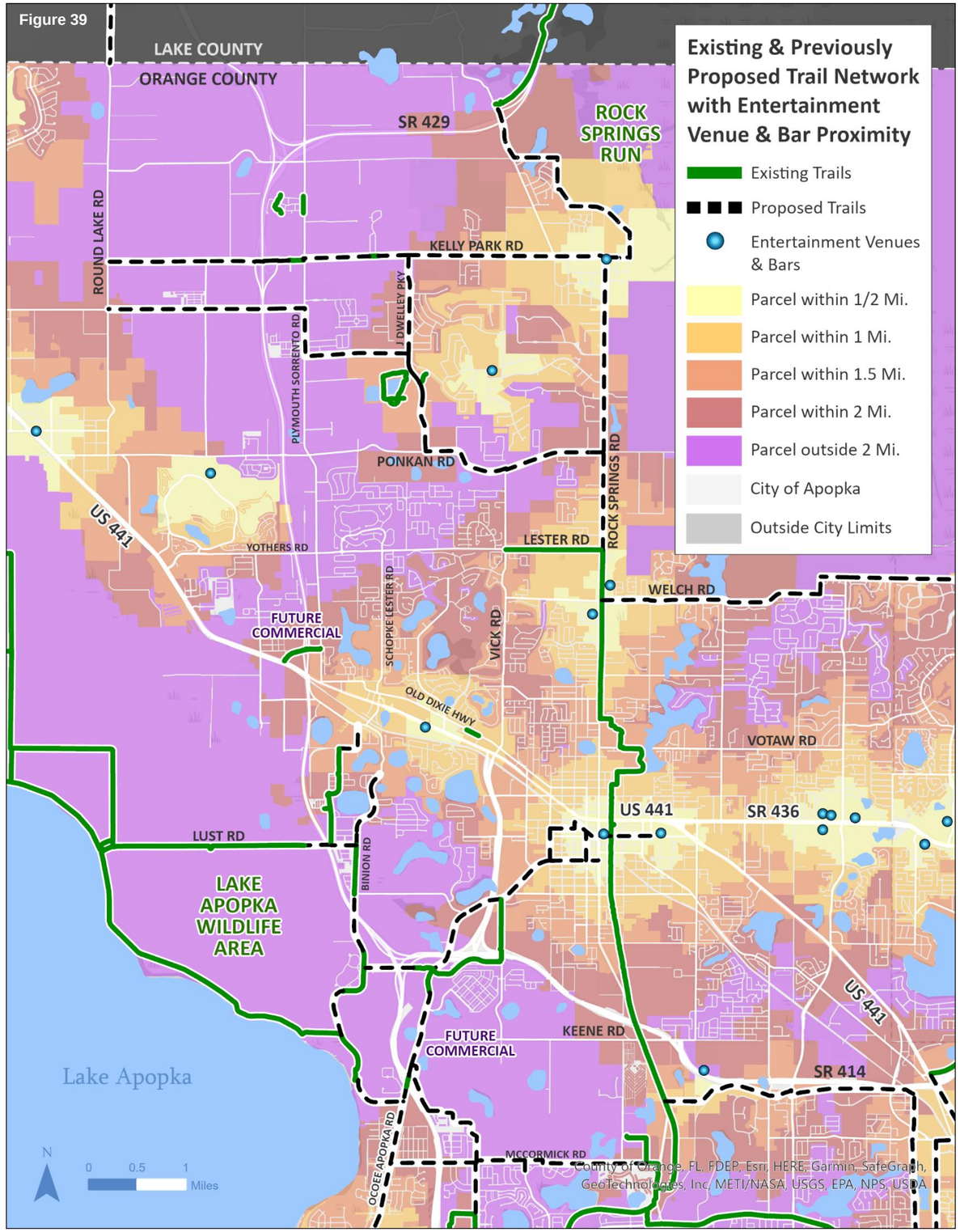


Figure 39



Cultural Point of Interest Analysis

This section of the report provides an analysis of proximity to cultural point of interest types in order to 1) identify activity near the existing and previously planned trail network, and 2) identify connectivity gaps to economic centers. The text narrative below describes connectivity gaps and potential connections.

Public Schools

Gaps in Trail Connections: Most public schools in the city are located adjacent to or in close proximity to the existing and previously proposed trail network. However, 3,000-student Apopka High School is a large school that is located approximately 0.8 miles (walking and biking distance) from the West Orange Trail. A spur connection or signed bike route to the high school could yield increased student cycling rates.

Community Centers

Gaps in Trail Connections: All three community centers in the city are located adjacent to or within a two-minute walk of the existing and previously proposed trail network.

Libraries

Gaps in Trail Connections: The North Orange Branch Library is located adjacent to S.R. 436 and is accessible from the trail network via on-street bike lanes.

Museums

Gaps in Trail Connections: The Museum of the Apopkans is located adjacent to the West Orange Trail. Apopka City Hall contains historic information and is also located within a 2-minute walk of the West Orange Trail.

Public Parks

Gaps in Trail Connections: The existing and previously planned trail corridors connect to all of the major parks in the city. Directionally, a trail gap exists from the Northwest Recreation Complex in the north to the Lake Apopka Wildlife Area and Magnolia Park to the south. A north-south connection in this area would complete a loop system connecting all of the city's major parks.

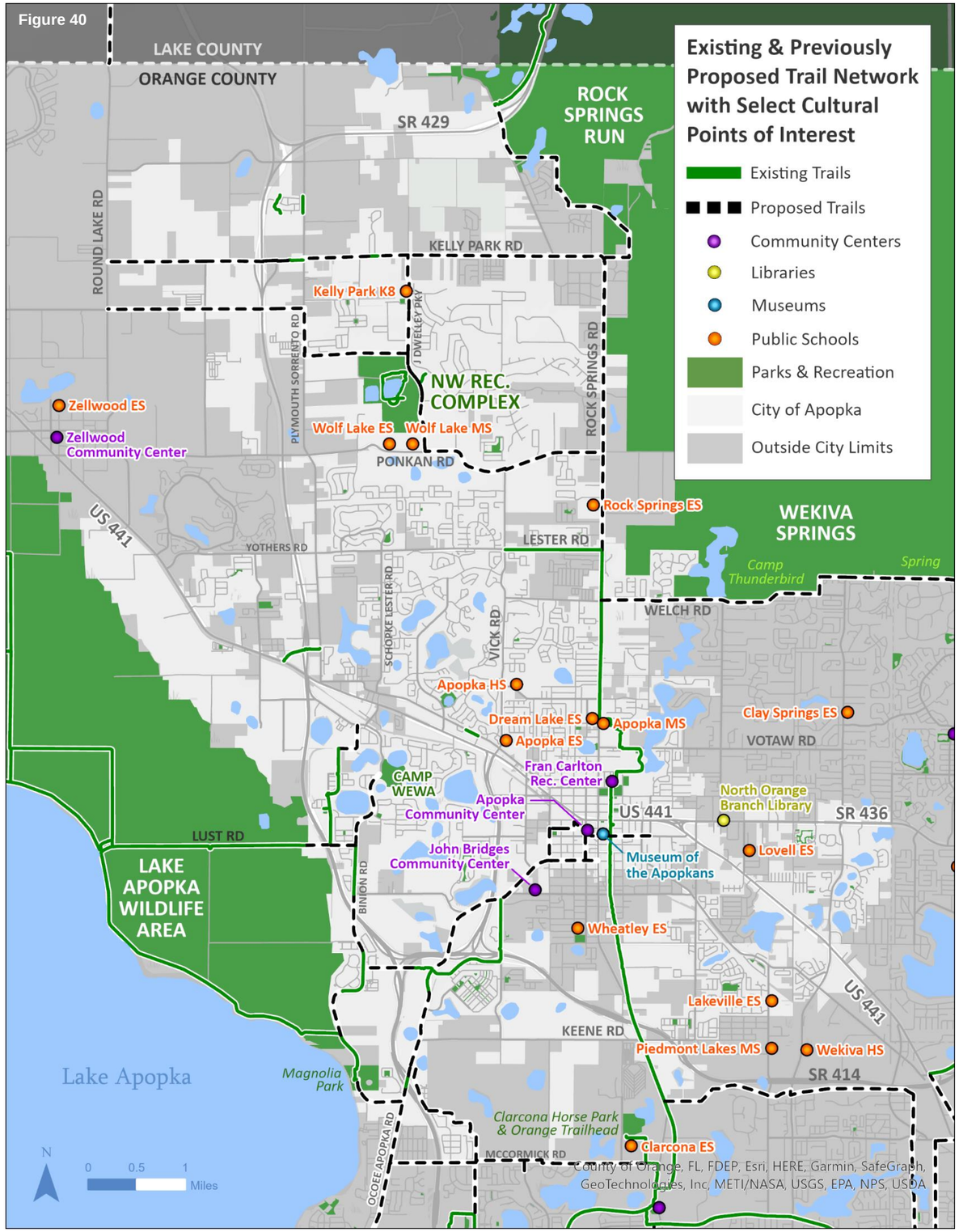


Figure 41

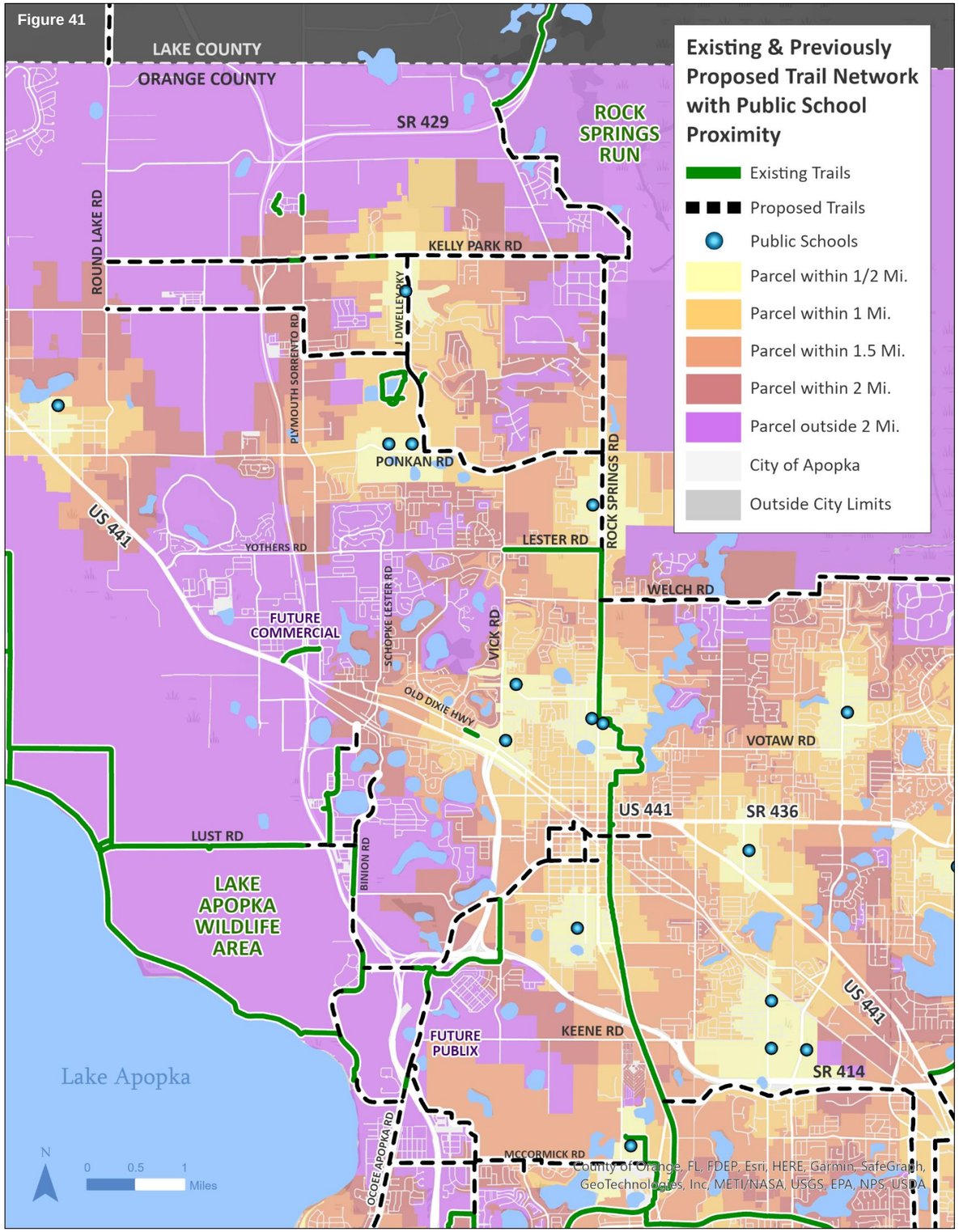
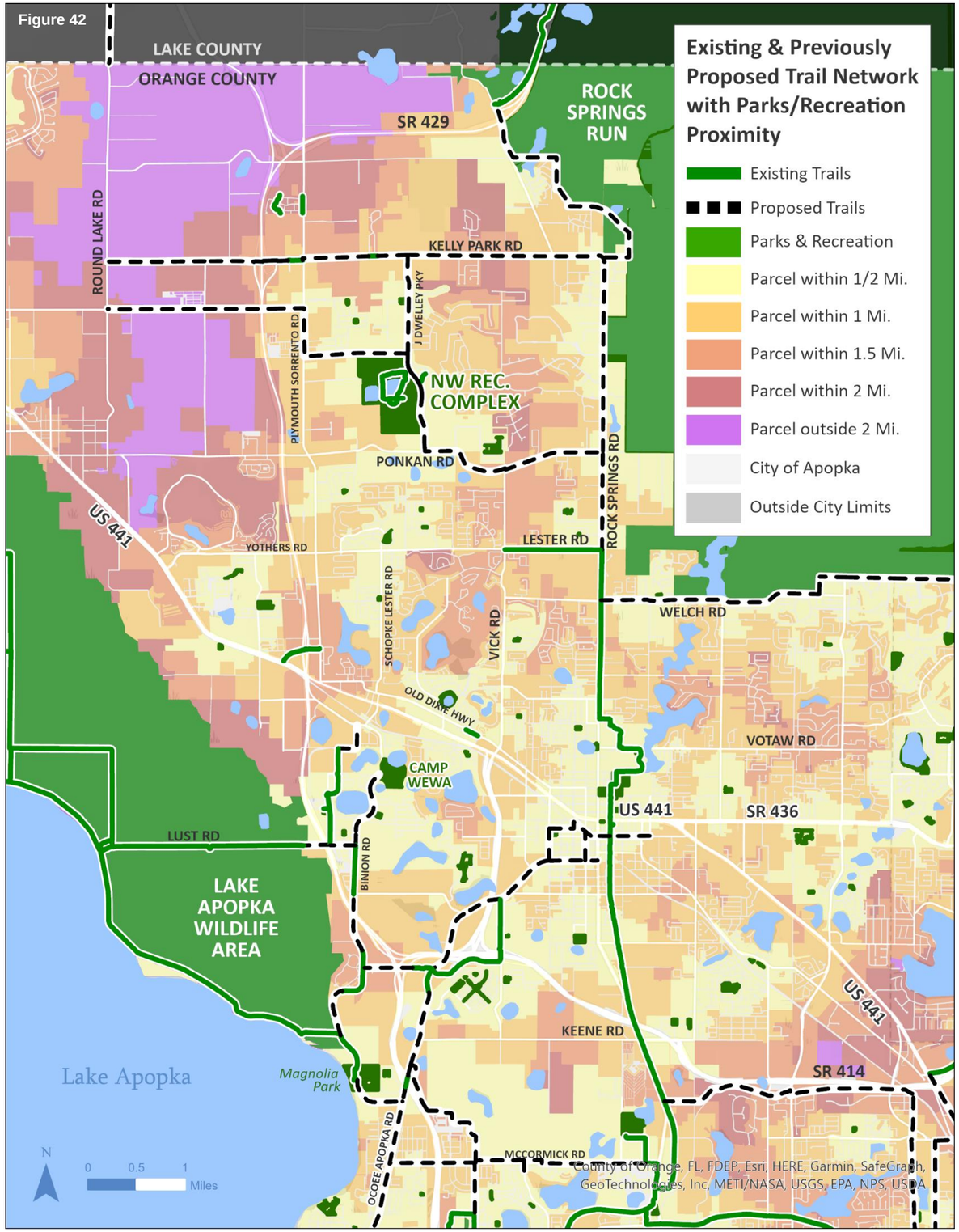


Figure 42



Synopsis of Network Gaps

Trail Tiers

As part of this plan, two tiers of biking trail networks will be developed – *signature trails* and *connector trails*. Signature trails are intended to connect to major trail systems including the Wekiva Trail to the north, the Lake Apopka Loop Trail, and the West Orange Trail/ Coast-to-Coast Trail corridor. Connector trails are intended to act as intermediary connections to the signature trail system that expand trail access to the entire community. The gap analysis in Figure 43 identifies gaps in the current trail network.

Trail Gap Analysis

The main gap in the city's existing and currently-proposed trail network spans the west side of the city from the Camp Wewa area to the newly-built commercial area at Kelly Park Road near State Road 429. While the West Orange Trail and planned spurs service much of the eastern side of the city, such a network does not allow for north-south movement on the west side of the city. There is no direct connection to the Lake Apopka Wildlife Area or Magnolia Park from northern Apopka.

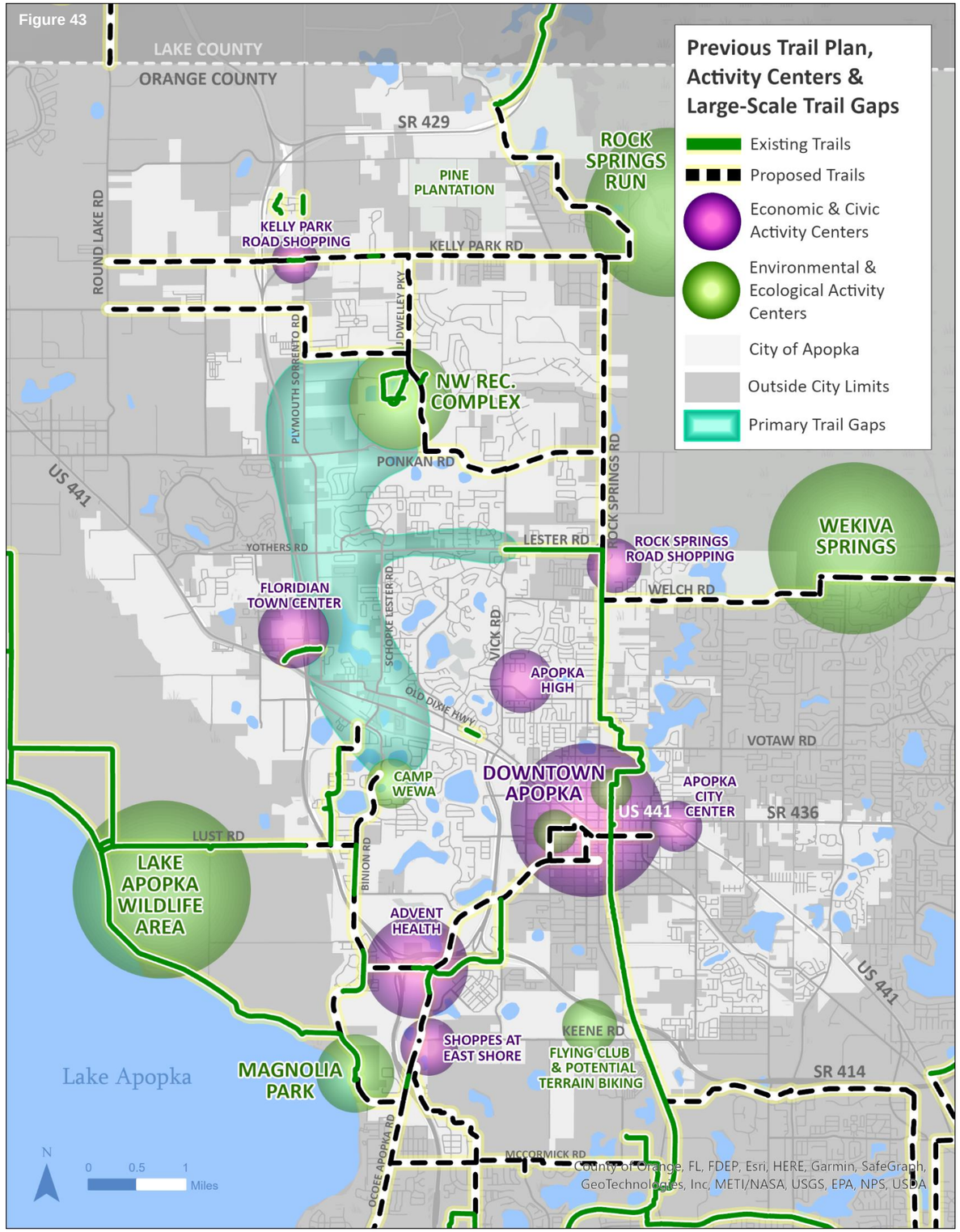
Secondary Trail Connections

The project team will identify signature trail corridors, analyze publicly-owned property and right-of-way availability, and collect input from city residents prior to identifying connector trail locations.

Tertiary Connections

- On-Street Bike Lanes: Following the identification of final trail corridors, the project team will propose an expanded on-street bike lane system to work as a secondary source of bike/ped connectors.
- Bike Boulevards/ Sharrows: Sharrows, which are shared streets with bicycle pavement markings, are placed on low stress local roadways and serve as designated bike routes to connect to the bike lane and trail system. Potential sharrow locations will be identified as part of this report.

Figure 43



Utilizing Publicly-Owned Property

The publicly-owned parcels in Figure 44 were analyzed by the project team for potential use in supporting the active transportation network.

Uses of Publicly-Owned Property

Two primary uses were identified for publicly-owned property:

- Trailheads: Trailheads offer resting areas, recreational activities, and shopping activities in some circumstances. While parks and mixed-use developments will serve as proposed trailheads as part of this plan, four city-owned properties have been identified as candidate trailhead properties and are shown on the next page.

- Trail Cut-Throughs: Publicly-owned parcels can be used for trail cut-throughs that deviate from the roadway network. No parcels were identified for cut-throughs as part of this analysis.

Pictured: ***Magnolia Park***

Magnolia Park serves as a trailhead for the Lake Apopka Loop Trail. It features numerous recreation options and serves as an example for future trailheads.

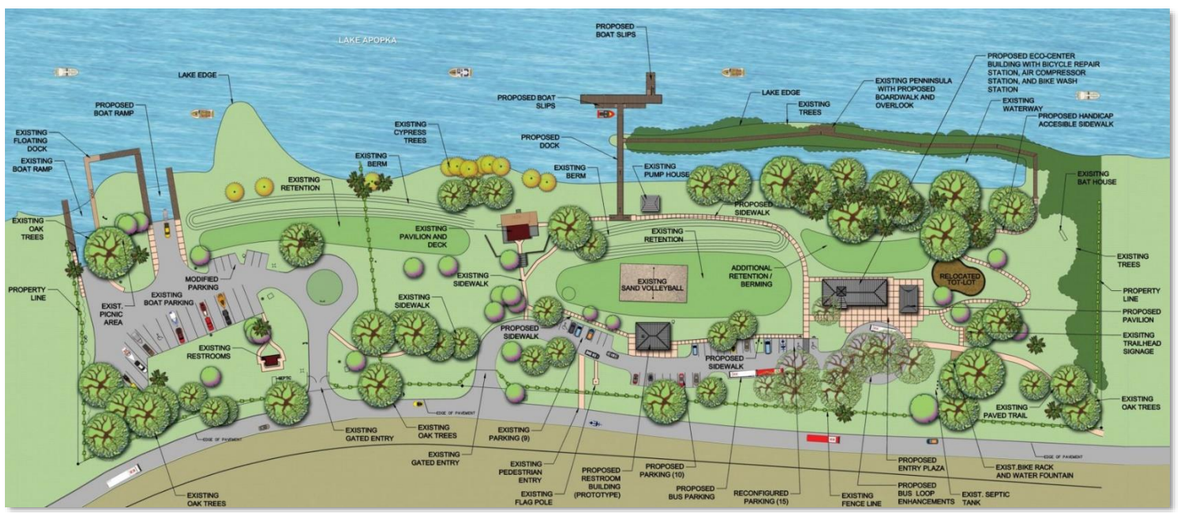
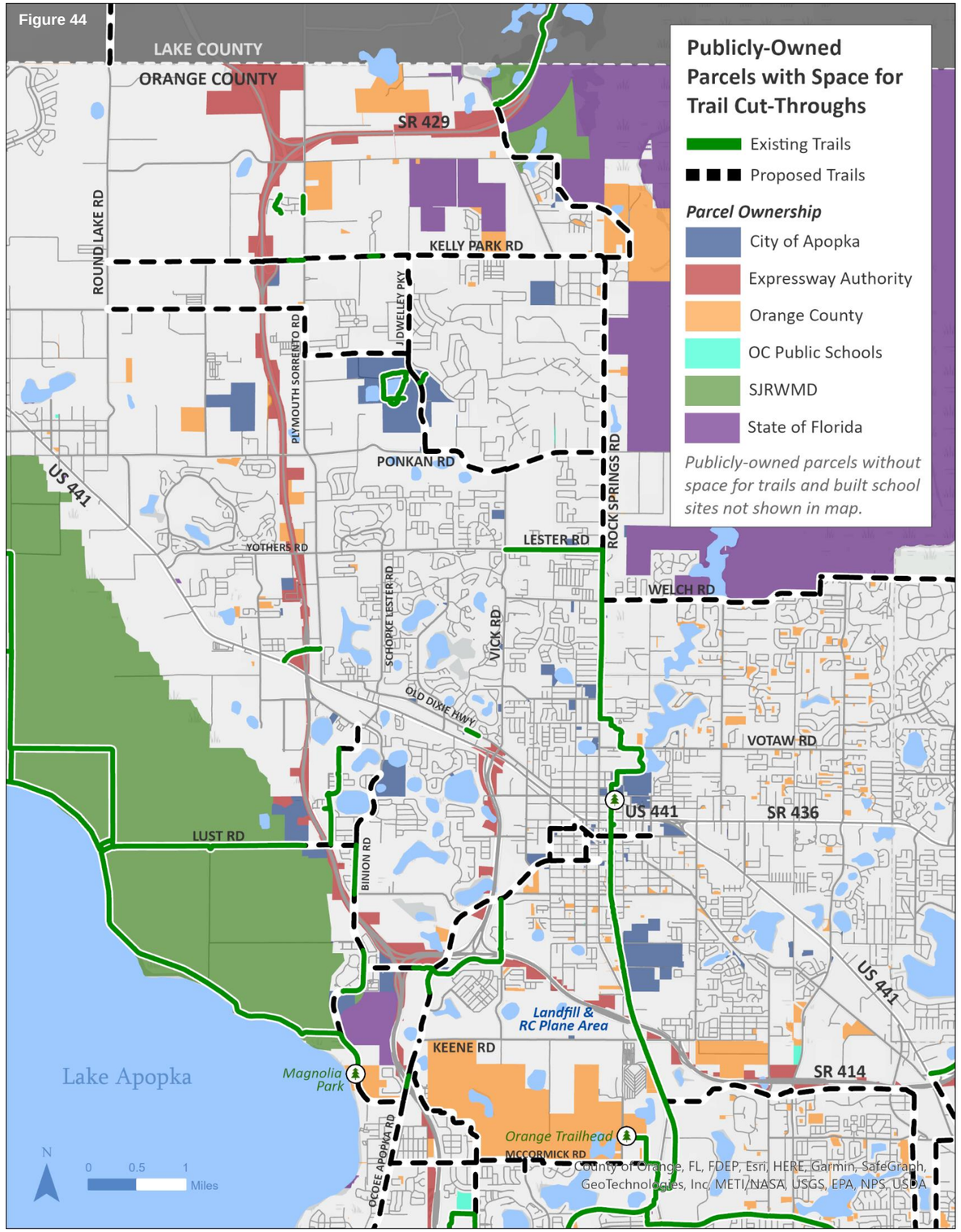


Figure 44

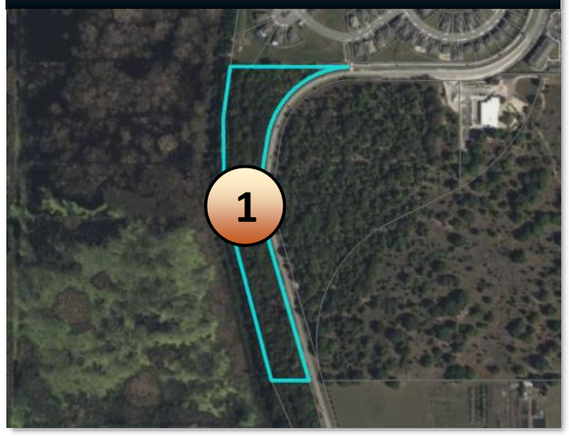


Candidate Trailhead Locations

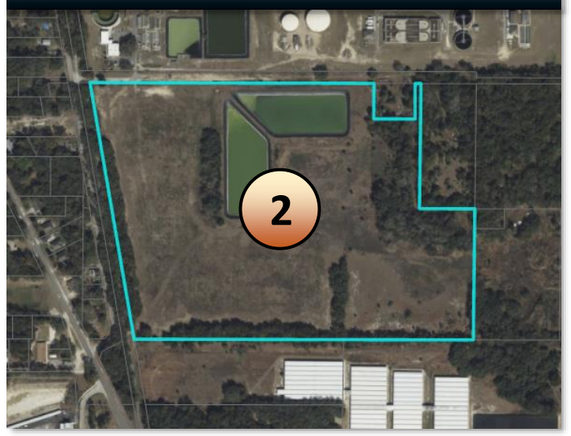
Numerous parks are connected to the existing and previously proposed trail network, including Wekiva Springs, Rock Springs, the Northwest Recreation Complex, and Camp Wewa. These parks will serve as future trailheads and are analyzed later in this report as such. Additionally, the Floridian Town Center and Apopka City Center are rational trailhead locations where retail will be present in the future.

In addition to these locations, three city-owned properties and one County-owned property have been identified as potential trailheads. They are pictured below.

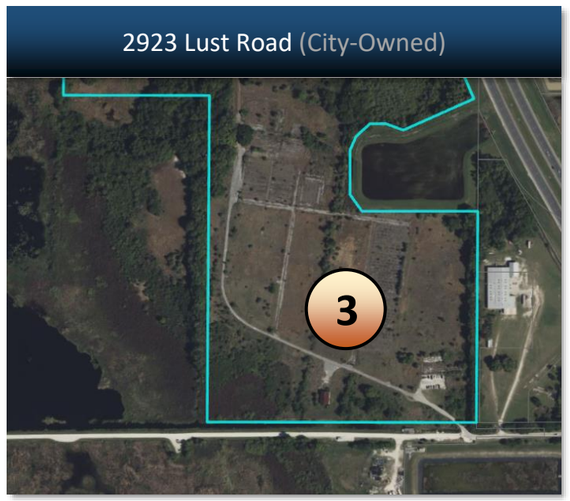
2511 S. Binion Road (City-Owned)



3080 Snowden Road (City-Owned)



2923 Lust Road (City-Owned)



1102 Ocoee Apopka Road (County-Owned)

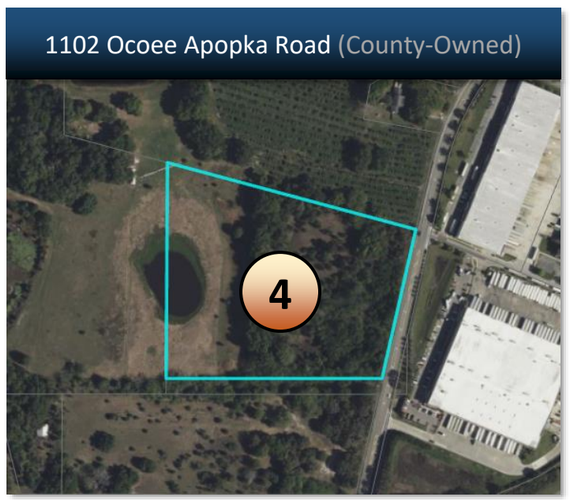
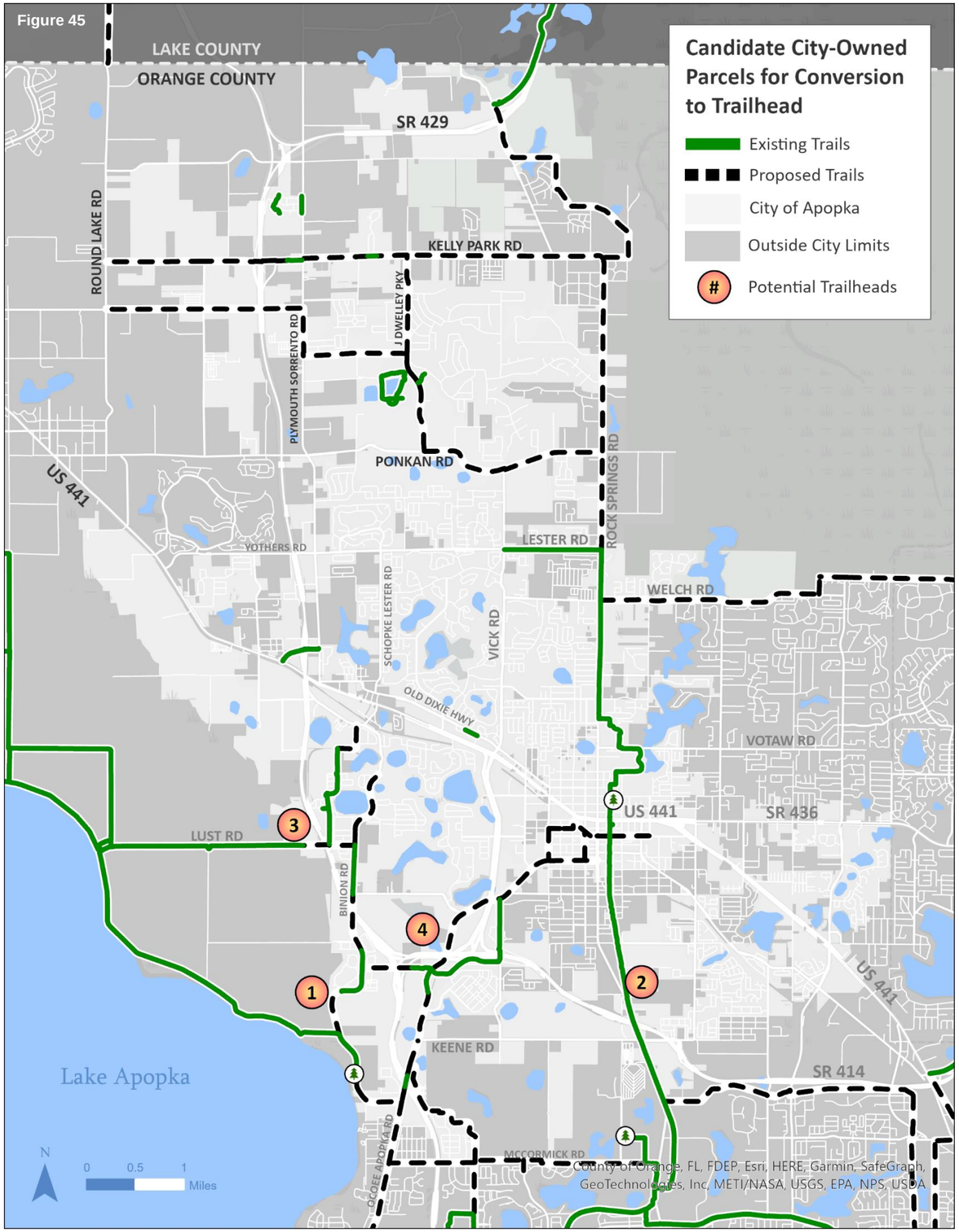


Figure 45



Utilizing Public Right-of-Way

Road-Adjacent Right-of-Way

Figure 46 depicts constrained corridors in the city, highlighting the number of sides of the road where the available right-of-way does not exceed 12 feet (measured from the curb/ edge of the road to the nearest parcel boundary). The project team has reviewed this dataset for each side of the road in order to develop a short list of potential future trail corridors.

North-south roads in the vicinity of the identified trail gap area on the west side of the city generally have more than 12 feet of right-of-way available on both sides of the road. Portions of Plymouth Sorrento Road and Schopke-Lester Road have limited right-of-way that require review by the project team.

Two roadway projects with planed trails currently show limited right-of-way, including Kelly Park Road and Ocoee-Apopka Road. As part of these roadway projects, right-of-way will be acquired to make way for new travel lanes and trails.

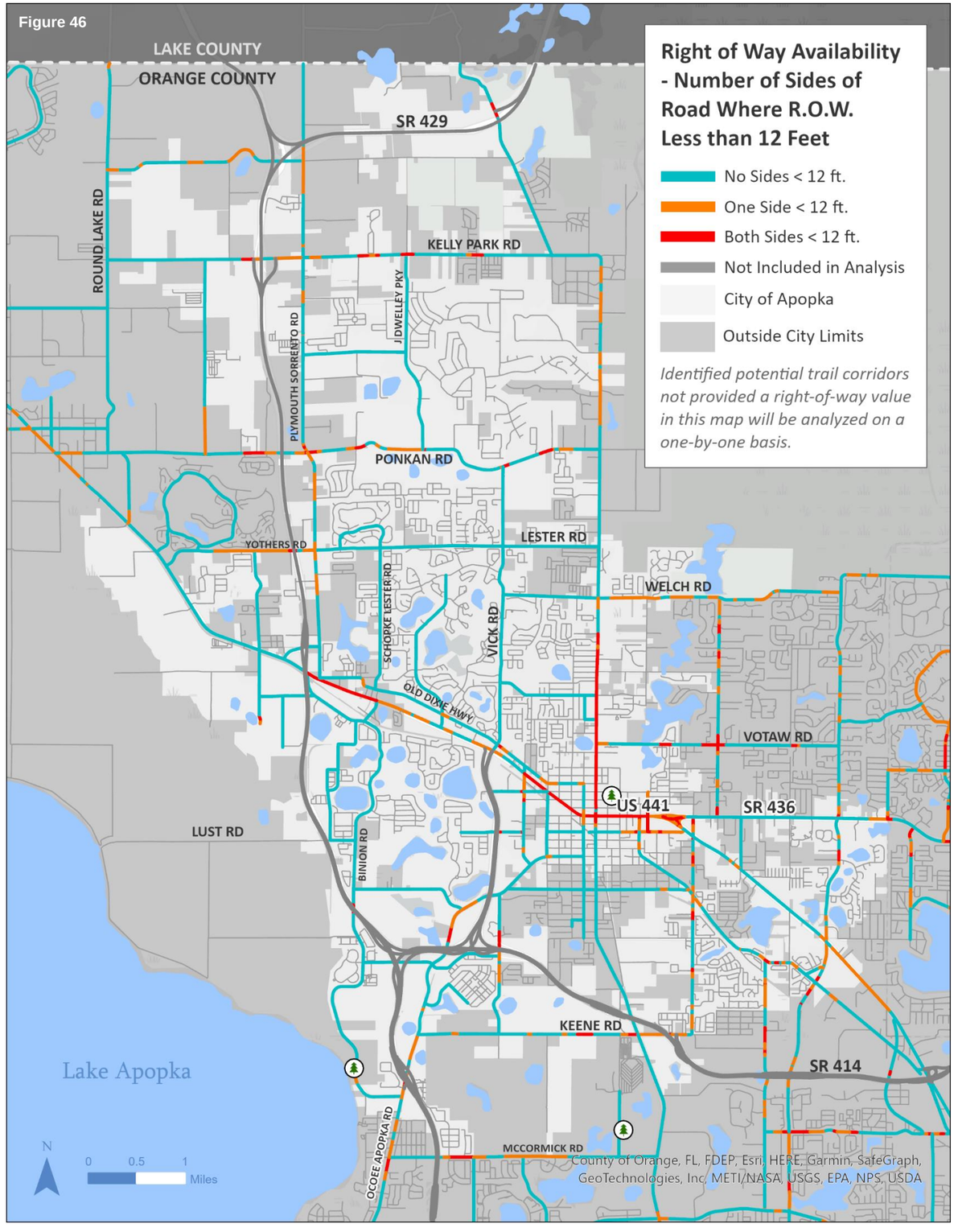
Powerline & Utility Right-of-Way

A review of powerline and utility right-of-way in the city did not reveal any opportunities for trail placement.

Railroad Right-of-Way

A review of railroads in the city did not reveal any opportunities for trail placement. The Florida Central Railroad is an active corridor that is highly regulated.

Figure 46



V. Community Outreach

Engaging the public, stakeholders and elected officials.

Public Workshop

A public workshop was held at the Apopka Community Center to gather feedback from the community on previous trail proposals and to identify opportunities for new bicycling infrastructure within the City. As part of this meeting, opportunity areas and problem areas were identified by residents. Feedback is summarized below and mapped in Figure 47.

Identified Opportunity Areas

- Connecting to Rock Springs, Kelly Park and the Wekiva Trail
- Trails along Binion Road
- Improved trail amenities in the downtown area
- Completing the Lake Apopka Loop Trail
- Connecting to the Northwest Recreation Complex
- Connecting to AdventHealth Apopka

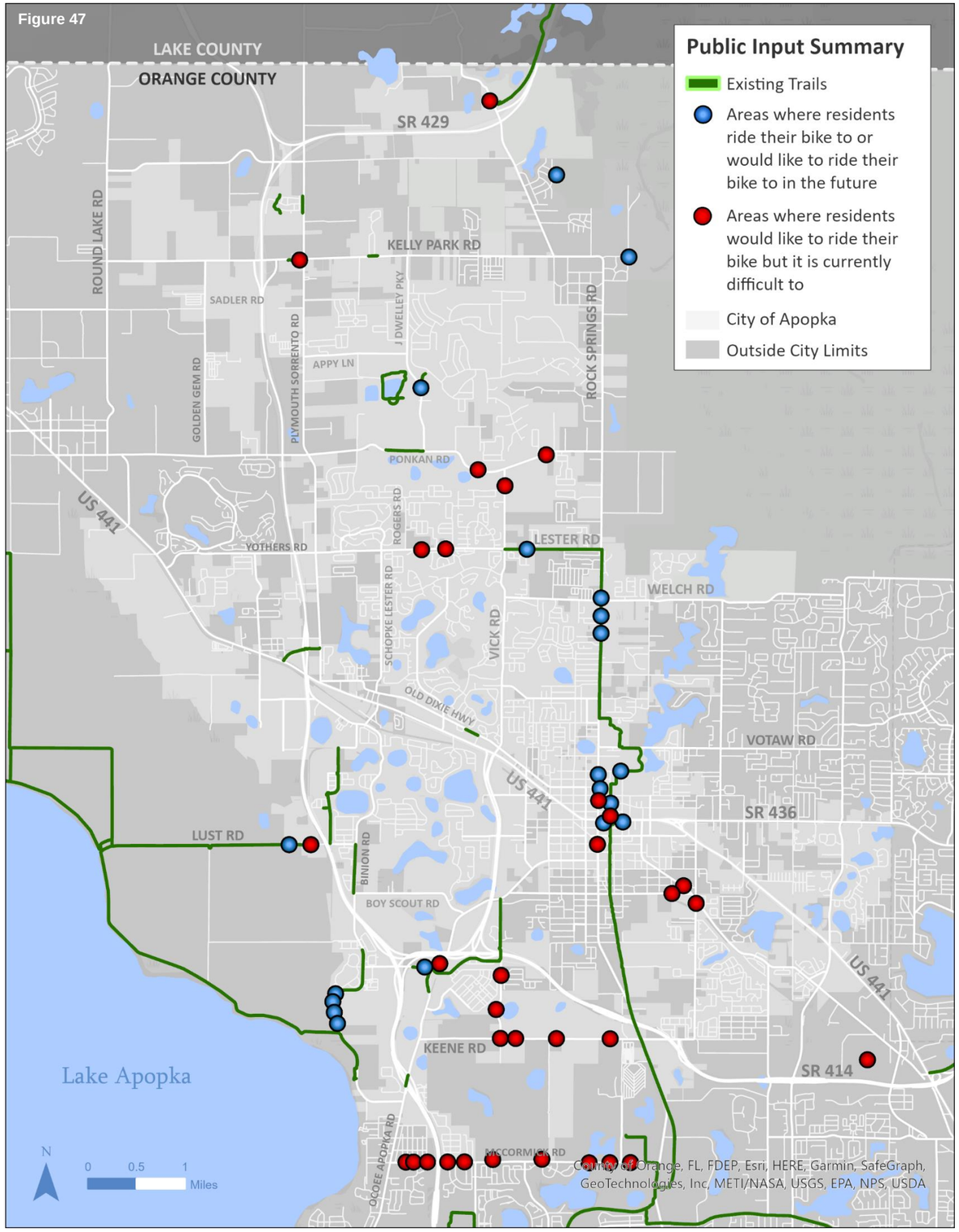
Identified Problem Areas

- Sidewalk coverage in the southeast portion of the City
- Keene Road, McCormick Road and U.S. 441
- Lester Road trail abruptly ends at Vick Road

Survey Results

A public survey was offered to residents to gauge interest in trail amenities and to gather general information on where people like to ride their bike in the City. The results of the survey are located in Appendix I of this report.

Figure 47



Stakeholder Meetings

Stakeholder meetings with numerous groups allowed the project team to identify partnership opportunities and gather up-to-date information on funding for trail projects in and around the City. Feedback is summarized below.

Pine Plantation Opportunity

Pine Plantation is an area north of Kelly Park Road in north Apopka with parcels owned by the Trustees of the Internal Improvement Trust Fund (State of Florida TIITF) and Orange County. The land is managed by the Florida Department of Environmental Protection and has been identified as a partnership opportunity for the City to add nature trails. These trails will be included as "Third Party Concepts" in the trail prioritization portion of this report. The site is shown in Figure 48.

Old Keene Road Landfill Opportunity

The old landfill located at 255 West Keene Road has been identified as a second partnership opportunity for the City. The site is envisioned as a mountain biking location and is listed as a "Third Party Concept" in the trail prioritization portion of this report. The site is shown in Figure 49.

Orange County Trail Construction

Orange County will begin construction in the 2023-to-2024-time frame to complete the McCormick Road connection from the West Orange Trail to Magnolia Park. The trail alignment is highlighted in Figure 50.

State Funding of Wekiva Trail Construction

The State of Florida has provided partial funding for the West Orange Trail northern extension to connect to the Wekiva Trail north of the City. This trail will travel along Rock Springs Road to Kelly Park Road, and then traverses off of the roadway network before meeting up with the Wekiva Trail along Mount Plymouth Road. This trail is listed in the trail prioritization portion of this report as "Funded by Others".

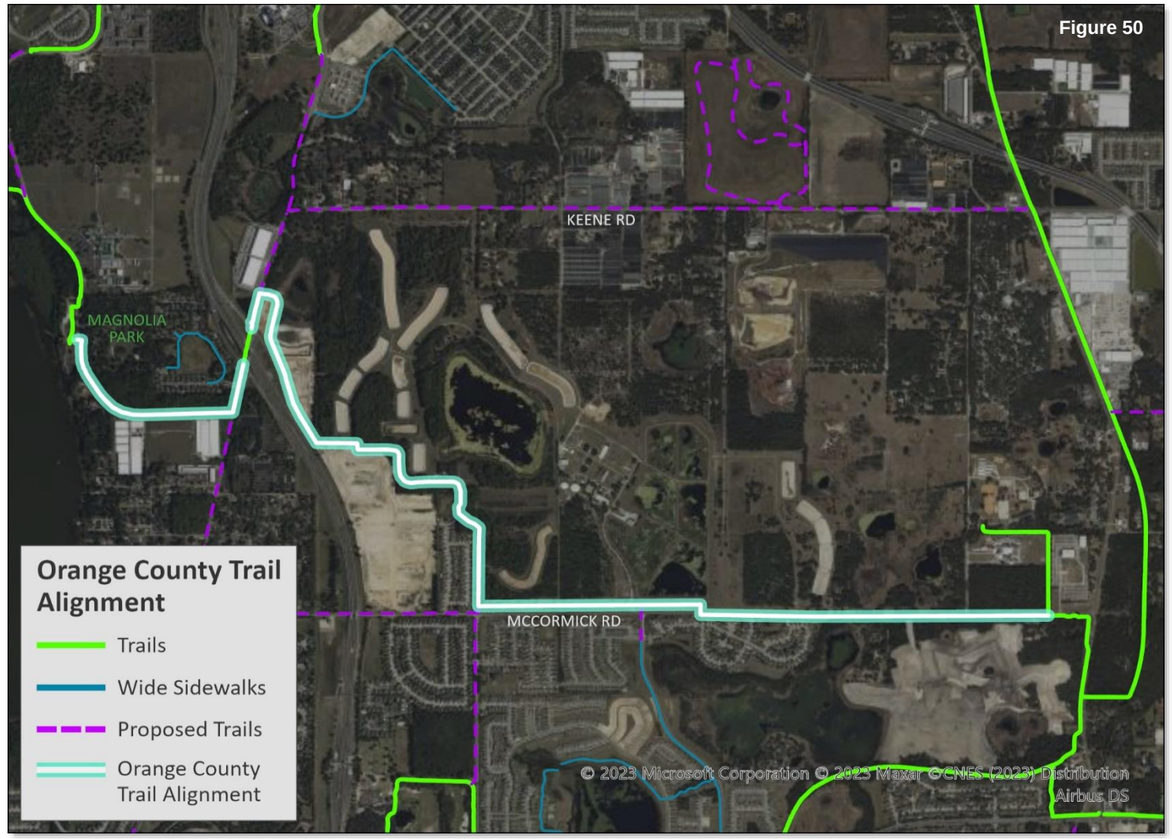
Kelly Park Road Improvements

The MetroPlan Orlando Priority Project Listing (PPL) includes widening and improvements to Kelly Park Road. This project will include a trail and is included as a trail priority as part of this report.

Figure 48 Pine Plantation

Figure 49 Keene Road Landfill

Figure 50



VI. Proposed Network

Trail, bike lane, bike route, and sidewalk gap projects to enhance the City's active transportation network.

Analysis of Previously-Proposed Trails

Following public and stakeholder outreach and a review of the Existing Conditions portion of this study, the project team finalized the route prioritization process. This included a review of all previously proposed trails by the City. The information below summarizes the major outcomes of this analysis.

Orange County Connection to Magnolia Park

The soon-to-be-constructed Orange County trail along McCormick Road to Magnolia Park completes a much-needed east-west connection from the West Orange Trail to the west side of the City. This new connection increases the feasibility of future trail connections along Binion Road and Ocoee Apopka Road and places those corridors in the Priority 1 category for trail placement.

Healthy West Orange Trail Connection Proposals

Healthy West Orange Trail Connection proposals are located outside of the City and will not be prioritized as part of the City's trail plan, but were used to inform the location of high priority trail routes. These trail alignments will be mapped alongside the newly proposed trail network for full context.

Other Previously-Proposed Routes

All trail alignments proposed in the previous Apopka trail master plan will be included in this plan with the exception of the South Central Avenue alignment from Michael Gladden Boulevard to Station Street. This proposed trail will be shifted east to Park Avenue in order to create a gateway into the downtown area and to allow for easier access the West Orange Trail.

Trail Route Selection Criteria

Low Traffic Counts

Trail proposals are located on roadways with daily traffic counts below 20,000. This ensures that levels of stress along the trail network and at crossings are low.

Right-of-Way Availability

Trail proposals have been analyzed and screened for right-of-way availability and countermeasures are identified in areas where right-of-way is constrained.

Regional Connectivity

Connecting to the West Orange Trail, Wekiva Trail and the Lake Apopka Loop is critical. This will enable Apopka residents to travel around the region and for visitors to connect to Apopka.

Local Directness

Proposed routes are direct and do not involve numerous turning movements in order to maximize navigability and to reduce the need for comprehensive signage along the route.

Proposed Trail Network

The newly-developed trail proposals are grouped into priority and partnership buckets and are shown in Figure 51 to the right. Priority 1 trails are the top priority trails, to be built in the near term, while Priority 2 trails are longer term projects that can be built as property is developed or funding becomes available. County Partnership trails are to be built in coordination with Orange County.

The maps on the following pages provide more information associated with each route, including side-of-road and labeled segment ID's.

Priority 1 Trails

Priority 1 Trails are shown in red and are the highest-priority trail proposals in this plan. These trails have a shorter-term time frame than the other trails included in this plan and can be built alongside new development or with new funding.

Priority 2 Trails

Priority 2 Trails are shown in orange and are the second priority of routes in this plan. These trails have an intermediate time frame for implementation and can be developed alongside new development or when funding becomes available.

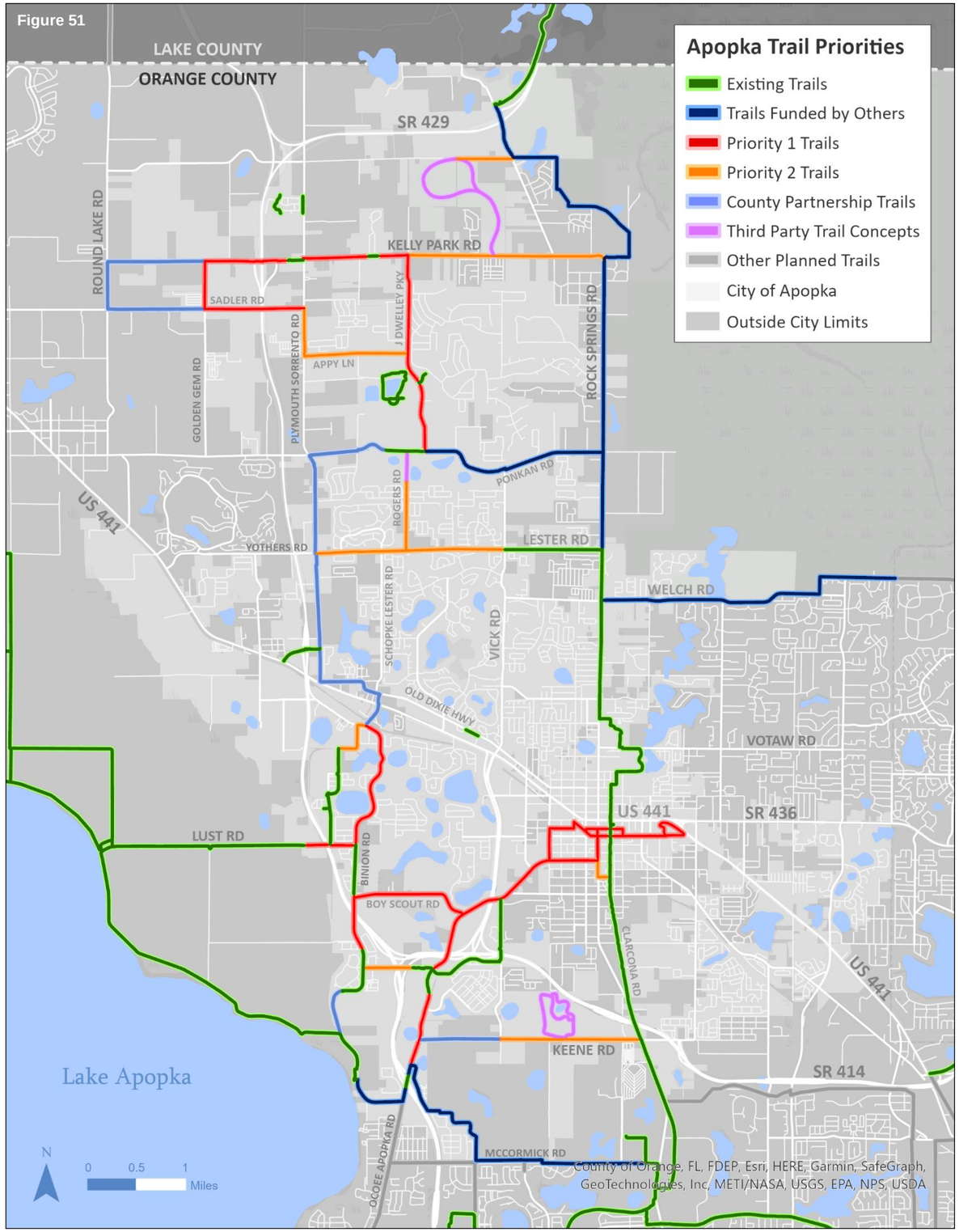
Orange County Partnership Trails

County Partnership Trails are shown in light blue and require coordinated work between the City and Orange County. The Binion Road and Avian Pointe to Northwest Recreation Complex trails are high priority.

Third Party Trail Concepts

Third Party Trail Concepts are shown in pink and require coordinated work with third parties. These trail alignments are conceptual and were identified through coordination with project stakeholders.

Figure 51



Signature Trail Network

The signature trail network represents a vision to create a primary, named trail network that connects to the West Orange Trail. Two priority 1 trails (segments 1A and 1B) and two partnership trails (segments P1 and P2) are included in this network. These segments connect with trails funded by others (shown in dark blue) to complete a loop network through the City. It is recommended that the City name this network and develop themed signage along the route. Potential names for this trail network include the Apopka Trail, the Ahapopka Trail, or another local name.

Priority 1 Trails | Segment ID's

- Segment 1A: Binion Road, south of Hooper Farms Road to Boy Scout Road *(signature)*
- Segment 1B: Binion Road, Lust Road to Orange Avenue *(signature)*
- Segment 1C: Boy Scout Road, Binion Road to Ocoee Apopka Road
- Segment 1D: Ocoee Apopka Road, south of Keene Road to AdventHealth
- Segment 1E: Ocoee Apopka Road, Harmon Road to Michael Gladden Boulevard
- Segment 1F: Lust Road, Binion Road to Lake Apopka Loop Trail
- Segment 1G: Downtown Network, multiple streets
- Segment 1H: Jason Dwelley Parkway, Kelly Park Road to Ponkan Road
- Segment 1J: Kelly Park Road, Jason Dwelley Parkway to Golden Gem Road
- Segment 1K: Golden Gem Road, Kelly Park Road to Sadler Road
- Segment 1L: Sadler Road Extension, Plymouth Sorrento Road to Golden Gem Road

Priority 2 Trails | Segment ID's

- Segment 2A: Kelly Park Road, Rock Springs Road to Jason Dwelley Parkway
- Segment 2B: Harmon Road, Binion Road to AdventHealth
- Segment 2C: Lester Road, Plymouth Sorrento Road to Vick Road
- Segment 2D: Appy Lane and Plymouth Sorrento Road, Jason Dwelley Pkwy. to Sadler Road
- Segment 2E: Keene Road, Marden Road to West Orange Trail at Clarcona Road
- Segment 2F: King Street and Orange Avenue, Peterson Road to Lake View Drive
- Segment 2G: Park Avenue and East 11th Street, East 9th Street to West Orange Trail
- Segment 2H: Rogers Road, Lester Road to end of public right-of-way
- Segment 2J: Haas Road, Mt. Plymouth Road to Pine Plantation Right-of-Way

County Partnership Trails | Segment ID's

- Segment P1: Binion Road, Lake Apopka Loop to south of Harmon Road *(signature)*
- Segment P2: Avian Pointe to Northwest Rec. Complex, multiple streets *(signature)*
- Segment P3: Keene Road, Marden Road to Binion Road
- Segment P4: Kelly Park Interchange Loop, multiple streets

Figure 52

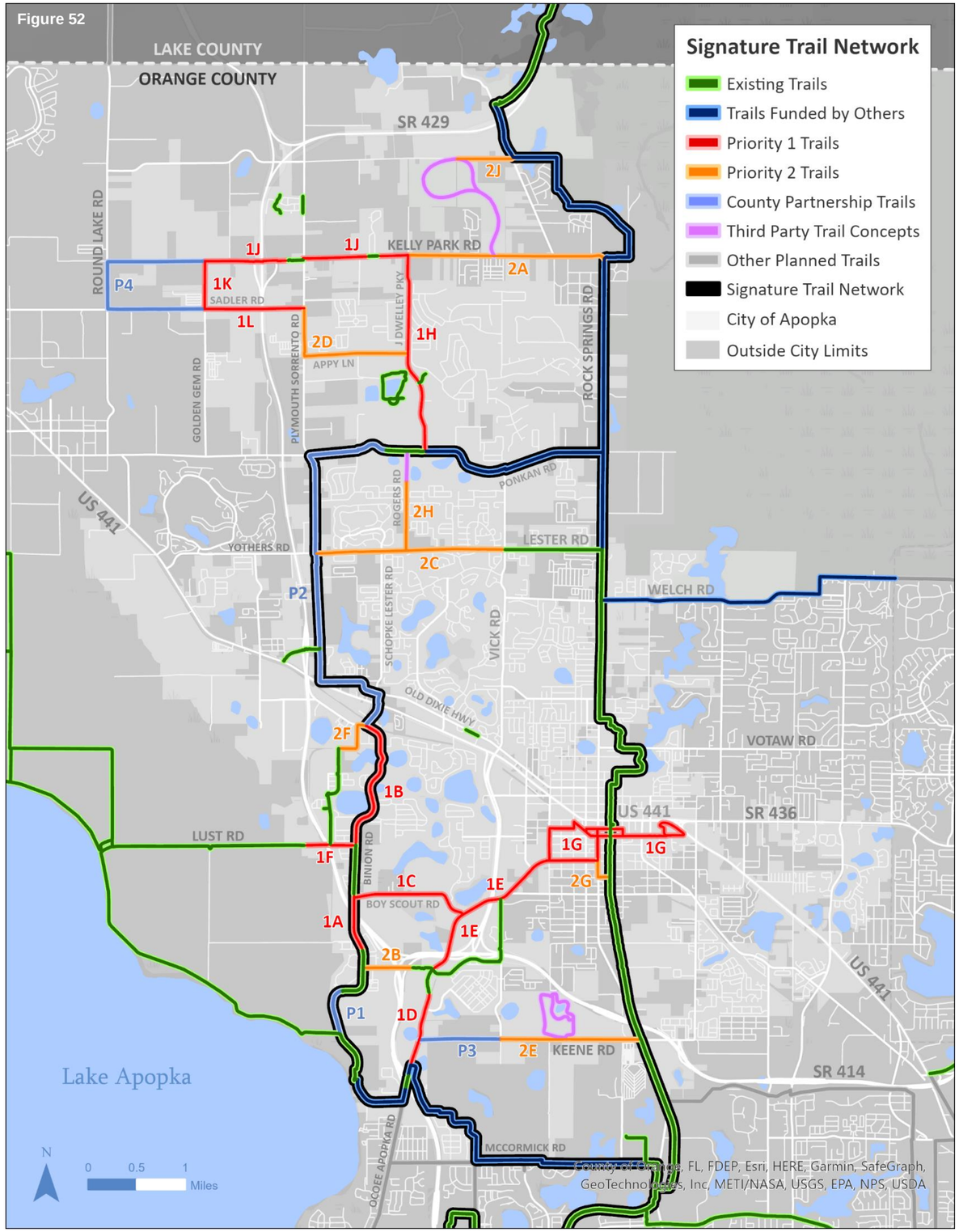
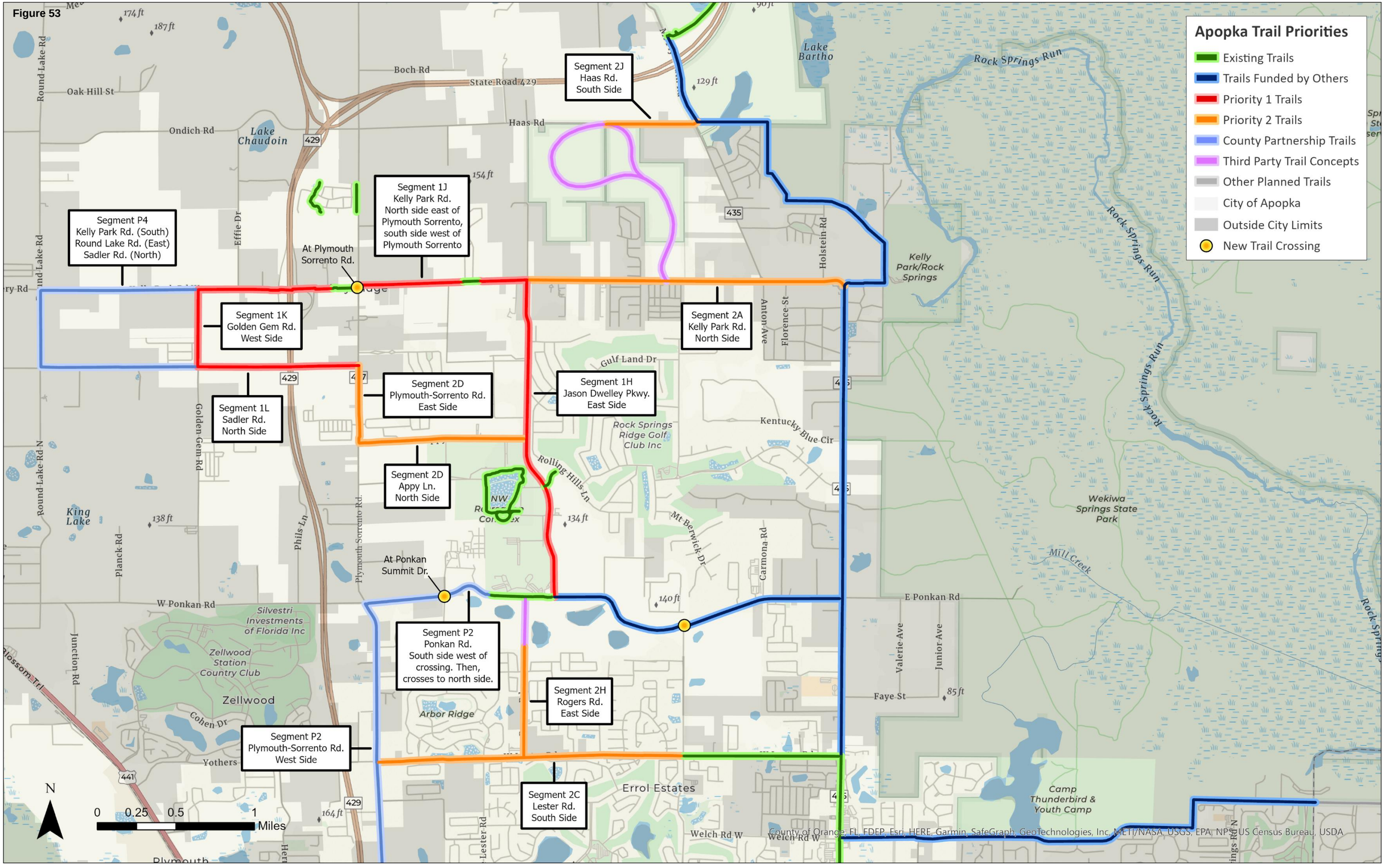


Figure 53


Apopka Trail Priorities
Existing Trails
Trails Funded by Others
Priority 1 Trails
Priority 2 Trails
County Partnership Trails
Third Party Trail Concepts
Other Planned Trails
City of Apopka
Outside City Limits
New Trail Crossing
Segment P4
Kelly Park Rd. (South)
Round Lake Rd. (East)
Sadler Rd. (North)
Segment 1J
Kelly Park Rd.
North side east of
Plymouth Sorrento,
south side west of
Plymouth Sorrento
Segment 2J
Haas Rd.
South Side
Segment 1K
Golden Gem Rd.
West Side
Segment 2A
Kelly Park Rd.
North Side
Segment 1L
Sadler Rd.
North Side
Segment 2D
Plymouth-Sorrento Rd.
East Side
Segment 1H
Jason Dwelley Pkwy.
East Side
Segment 2D
Appy Ln.
North Side
Segment P2
Ponkan Rd.
South side west of
crossing. Then,
crosses to north side.
Segment 2H
Rogers Rd.
East Side
Segment P2
Plymouth-Sorrento Rd.
West Side
Segment 2C
Lester Rd.
South Side
At Plymouth
Sorrento Rd.
At Ponkan
Summit Dr.
Boch Rd
State Road 429
Haas Rd
Ondich Rd
Oak Hill St
Round Lake Rd
Lake
Chaudoin
Lake
Bartho
Rock Springs Run
Kelly
Park/Rock
Springs
Holstein Rd
Anton Ave
Florence St
Gulf Land Dr
Rock Springs
Ridge Golf
Club Inc
Kentucky Blue Cir
Rolling Hills Ln
Mt Berwick Dr
Carmona Rd
Wekiwa
Springs State
Park
Mill Creek
E Ponkan Rd
Valerie Ave
Junior Ave
Faye St
Camp
Thunderbird &
Youth Camp
King
Lake
Planck Rd
Phils Ln
Plymouth Sorrento Rd
Golden Gem Rd
Junction Rd
W Ponkan Rd
Silvestri
Investments
of Florida Inc
Zellwood
Station
Country Club
Zellwood
Cohen Dr
Yothers
Arbor Ridge
Errol Estates
Welch Rd W
Blossom Trl
174 ft
187 ft
154 ft
129 ft
138 ft
134 ft
140 ft
85 ft
164 ft
429
435
441
N
0 0.25 0.5 1
Miles
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

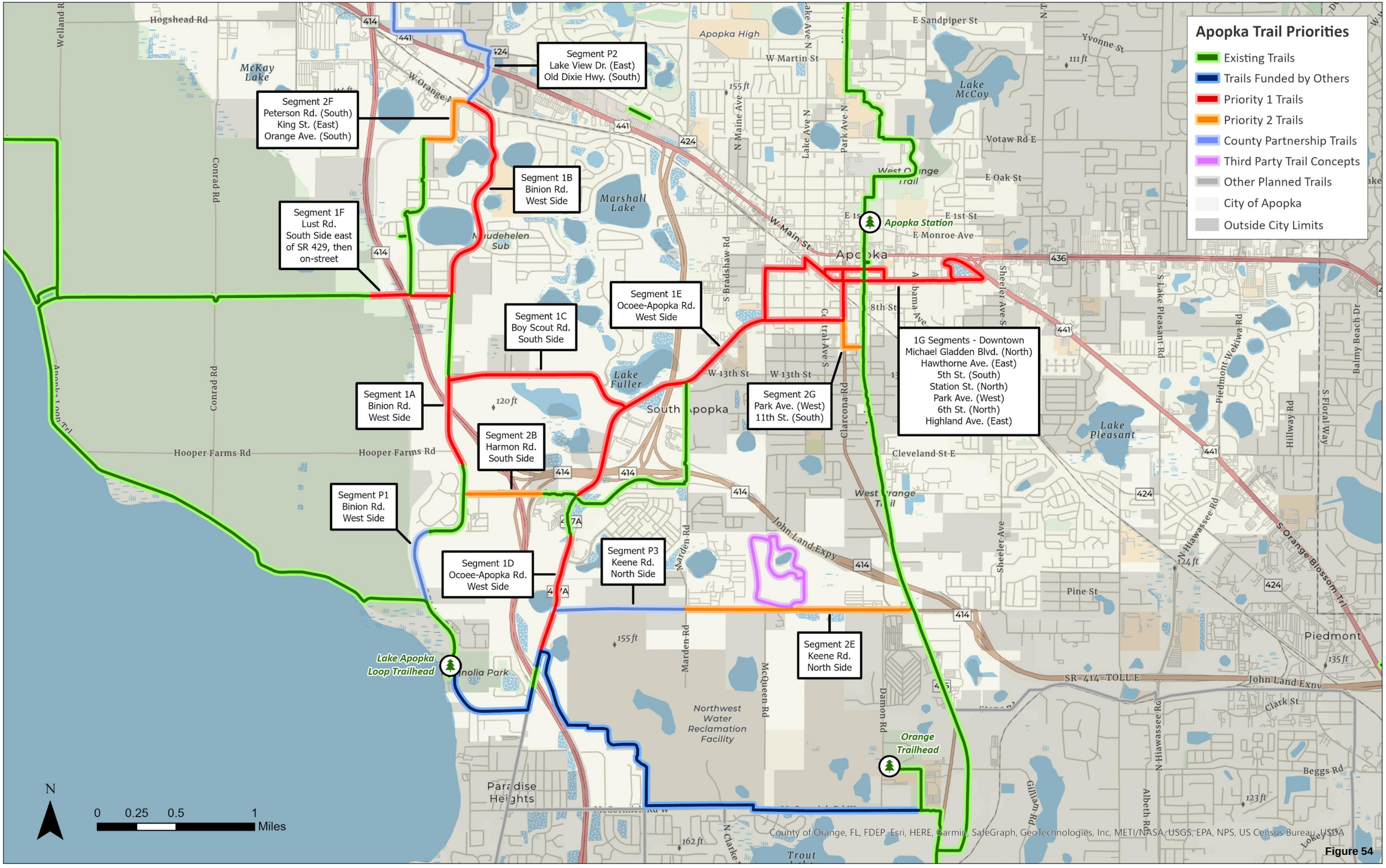

Apopka Trail Priorities
Existing Trails
Trails Funded by Others
Priority 1 Trails
Priority 2 Trails
County Partnership Trails
Third Party Trail Concepts
Other Planned Trails
City of Apopka
Outside City Limits
Segment P2
Lake View Dr. (East)
Old Dixie Hwy. (South)
Segment 2F
Peterson Rd. (South)
King St. (East)
Orange Ave. (South)
Segment 1B
Binion Rd.
West Side
Segment 1F
Lust Rd.
South Side east
of SR 429, then
on-street
Segment 1E
Ocoee-Apopka Rd.
West Side
Segment 1C
Boy Scout Rd.
South Side
Segment 1A
Binion Rd.
West Side
Segment 2B
Harmon Rd.
South Side
Segment P1
Binion Rd.
West Side
Segment 1D
Ocoee-Apopka Rd.
West Side
Segment P3
Keene Rd.
North Side
Segment 2G
Park Ave. (West)
11th St. (South)
1G Segments - Downtown
Michael Gladden Blvd. (North)
Hawthorne Ave. (East)
5th St. (South)
Station St. (North)
Park Ave. (West)
6th St. (North)
Highland Ave. (East)
Segment 2E
Keene Rd.
North Side
Apopka Station
Lake Apopka Loop Trailhead
Orange Trailhead
Apopka
South Apopka
Piedmont
Paradise Heights
Northwest Water Reclamation Facility
Lake McCoy
Lake Pleasant
Marshall Lake
Lake Fuller
McKay Lake
Hogshead Rd
Hooper Farms Rd
Conrad Rd
W Main St
W 13th St
John Land Expy
SR-414-TOLL E
Clark St
Beggs Rd
Pine St
Cleveland St E
E Monroe Ave
E 1st St
E Oak St
Votaw Rd E
E Sandpiper St
W Martin St
Apopka High
Clarcona Rd
Marden Rd
McQueen Rd
Damon Rd
Sheeler Ave
Gilliam Rd
Albeth Rd
N Hiawassee Rd
S Orange Blossom Trl
Piedmont Wekiwa Rd
Hillway Rd
S Floral Way
Balmy Beach Dr
S Lake Pleasant Rd
Yvonne St
Welland Rd
N Maine Ave
Lake Ave N
Park Ave N
S Bradshaw Rd
Central Ave S
Alabama Ave
8th St
Apopka Loop Trl
N
0 0.25 0.5 1
Miles
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

Figure 54

Constrained Right-of-Way Analysis

An analysis was undertaken to measure the available right-of-way from the roadway edge (curb) to adjacent parcel boundaries along all proposed trail corridors. This analysis identified areas where roadway redesign or limited property acquisition may be required. Using this information, countermeasures along proposed trail segments where available right-of-way is less than 10 feet are examined.

This analysis excludes areas where new roadway projects will be undertaken by the City and areas where Orange County and the State of Florida are responsible for trail construction. Figure 55 shows the areas where right-of-way is constrained.

Segment #1: Kelly Park Road (east of Plymouth Sorrento Road)

Countermeasure: Reduce trail width to 8 feet or utilize paved shoulder area.

Segment #2: Kelly Park Road (west of Jason Dwelley Parkway)

Countermeasure: Acquire right of way.

Segment #3: Jason Dwelley Parkway (at Spinfisher Drive)

Countermeasure: Reduce trail width to 9 feet and remove grass buffer.

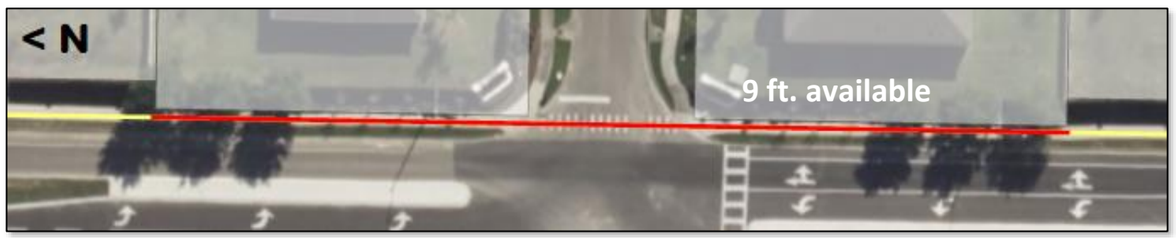
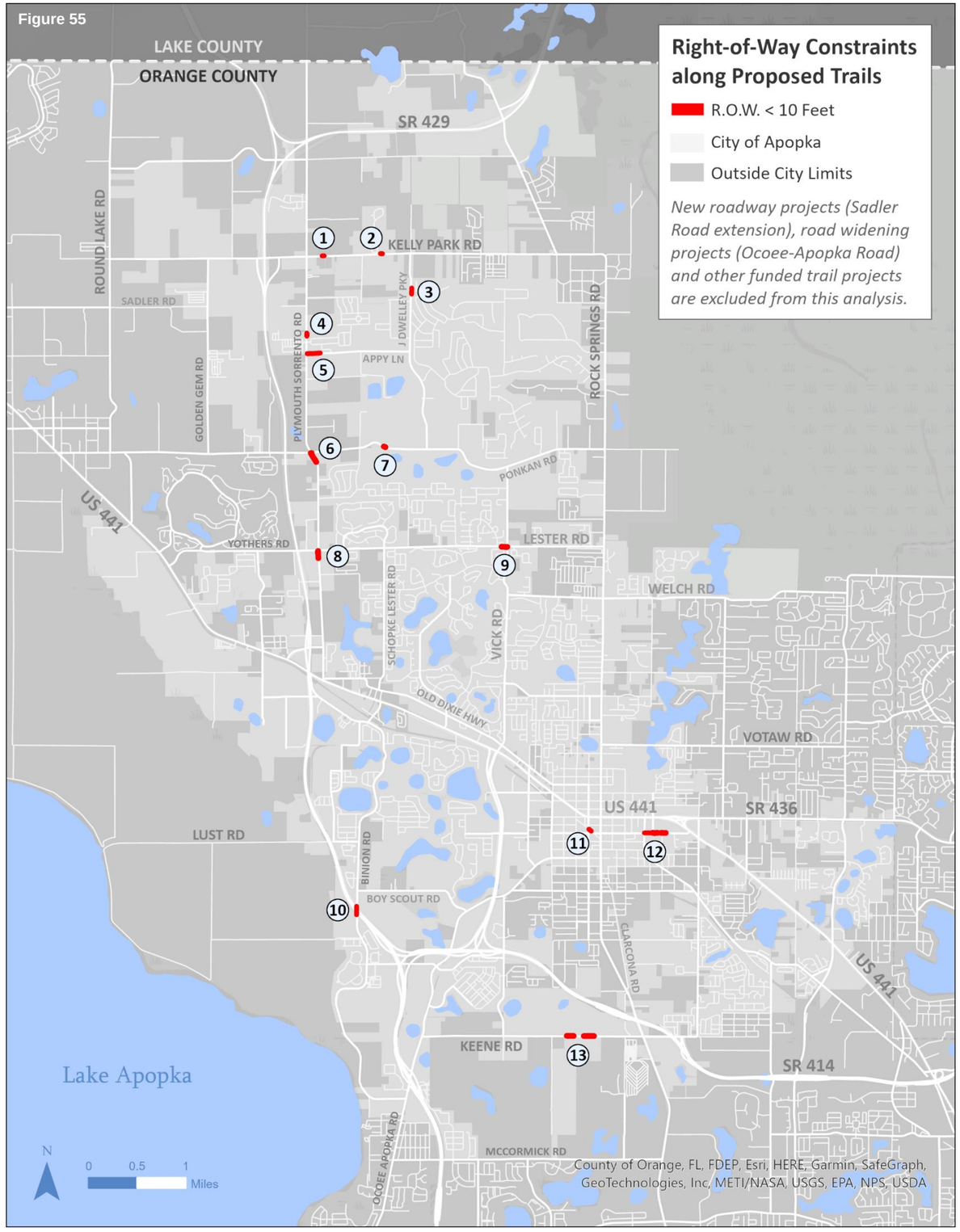


Figure 55



Segment #4: Plymouth Sorrento Road (north of Sand Oak Loop)

Countermeasure: Reduce trail width to 9 feet and remove grass buffer.

Segment #5: Appy Lane (east of Plymouth Sorrento Road)

Countermeasure: Acquire limited right-of-way or combine trail with bike lane and re-curb.

Segment #6: Plymouth Sorrento Road (south of Ponkan Road)

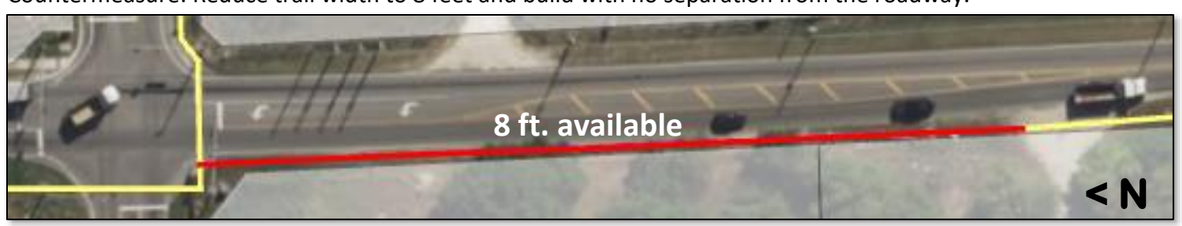
Countermeasure: Reduce trail width to 8 feet and build with no separation from the roadway.

Segment #7: Ponkan Road (just west of Northwest Rec. Complex)

Countermeasure: Reduce trail width to 9 feet and build with no separation from the roadway.

Segment #8: Plymouth Sorrento Road (south of Lester Road)

Countermeasure: Reduce trail width to 8 feet and build with no separation from the roadway.



Segment #9: Lester Road (west of Vick Road)

Countermeasure: Reduce trail width to 9 feet and remove grass buffer, or combine with bike lane and re-curb.

Segment #10: Binion Road (SR 429 Overpass)

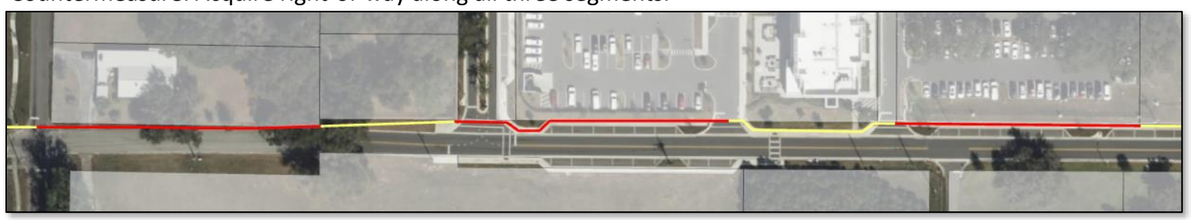
Countermeasure: None. Add signage to inform trail riders of narrowing riding conditions.

Segment #11: E. Station Street (at Apopka Community Center)

Countermeasure: Repave sidewalk to 8 or 9-foot width from current 7-foot width.

Segment #12: E. 6th Street (east of Alabama Avenue)

Countermeasure: Acquire right-of-way along all three segments.



Segment #13: Keene Road (east of McQueen Road)

Countermeasure: Reduce lane widths and built 8-foot trail (west). Reduce trail width to 9 feet (east)

Secondary Network: Bike Lanes

In addition to identifying future trail corridors, this active transportation network study also identifies new on-street bike lane opportunities in the City. The analysis is limited to roadways with speeds not exceeding 30 miles per hour. Two criteria were used to filter roadways for potential bike lane enhancements, including:

1) **Restriping Opportunities**: The project team measured the width of all roadways in the City and identified roadways where restriping could allow for new 5-foot bike lanes while accommodating 10-foot travel lanes. This included two-lane roads with widths greater than or equal to 30 feet, or two-lane roads with medians where lane widths exceeded 14 feet.

2) **Lane Removal Candidates**: Using Florida Department of Transportation (FDOT) guidance for lane removals, the project team identified roadways with daily traffic counts less than 20,000 with 4 or more lanes. None of the identified roadway segments were used in the analysis due to high speeds and limited overall feasibility.

Identified On-Street Bike Lane Opportunities

The routes listed below have been identified as potential future bike lane routes using the restriping strategy. Additional coordination with neighborhood groups would be needed in order to ensure that local residents are included in the planning process for these specific projects. The numbers in parenthesis correspond to the map and are not a priority ranking.

(1) Rock Ridge Boulevard | Restriping project

(2) Devon Oak Parkway | Restriping project

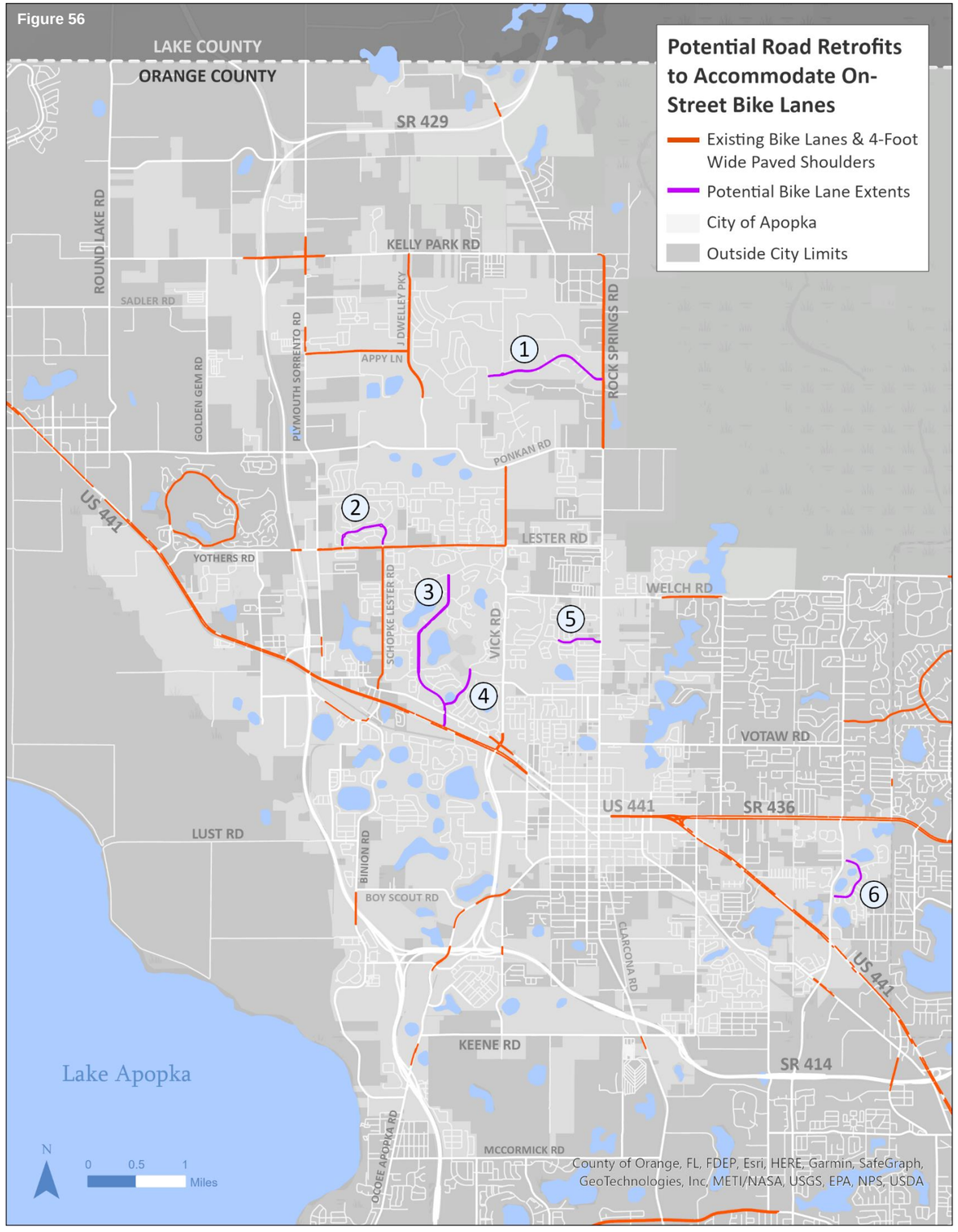
(3) Errol Parkway | Restriping project

(4) Lexington Parkway | Restriping project

(5) Wekiva Pines Parkway | Restriping project

(6) Piedmont Lakes Boulevard | Restriping project

Figure 56



Tertiary Network: Signed Bike Routes

The next step in developing the active transportation network is identifying designated bike routes within the City. These routes would include bike route signage and on-street “sharrow” markings. These routes are intended to be low-stress routes with low lane counts, low speed limits, and low traffic volumes where bicyclists share the roadway with motorists.

Route Selection Criteria

- Connectivity to trails
- Connectivity to bike lanes
- Connectivity to public schools
- Low traffic counts (5,000 maximum)
- Low lane counts (2 maximum)
- Low speed limits (30 maximum)
- Low truck and commercial usage
- High level of network completion

Sharrow Marking

Speed Limit Reduction Recommendations

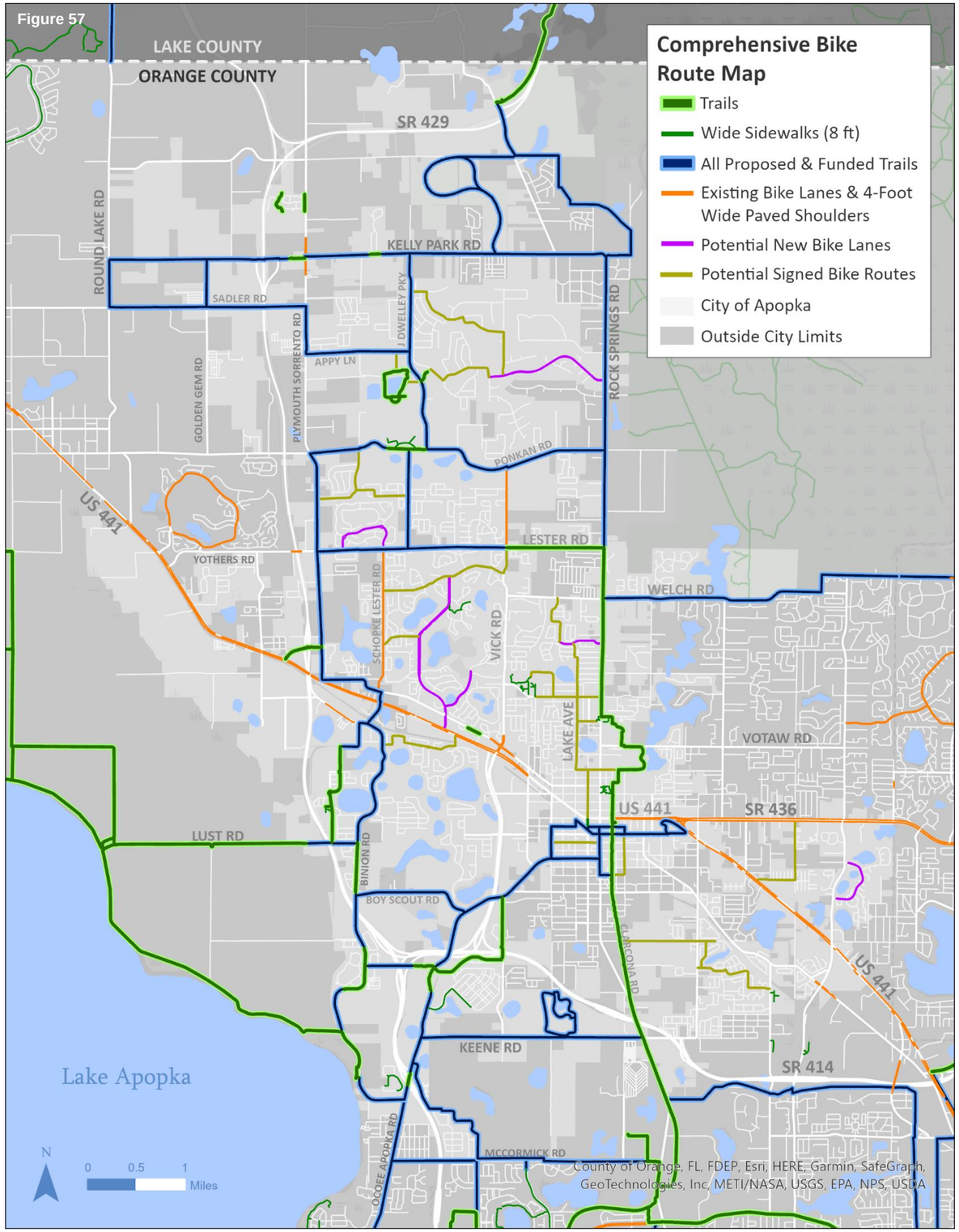
Two of the proposed signed bike routes are located on roadways where speed limits currently exceed 30 miles per hour. These routes are listed below.

- **Cleveland Street, Clarcona Road to Sheeler Avenue**
  - Reduce speed limit to 30 miles per hour to allow for the bike route
  - Place bike route signage at each end of the reduced speed area
- **Vick Road, Lake Francis Drive to Lester Road**
  - Reduce speed limit to 30 miles per hour to allow for the bike route
  - Place bike route signage at each end of the reduced speed area

Detailed Maps

The maps on the following three pages depict all existing and proposed trails, on-street bike lanes and signed bike routes.

Figure 57



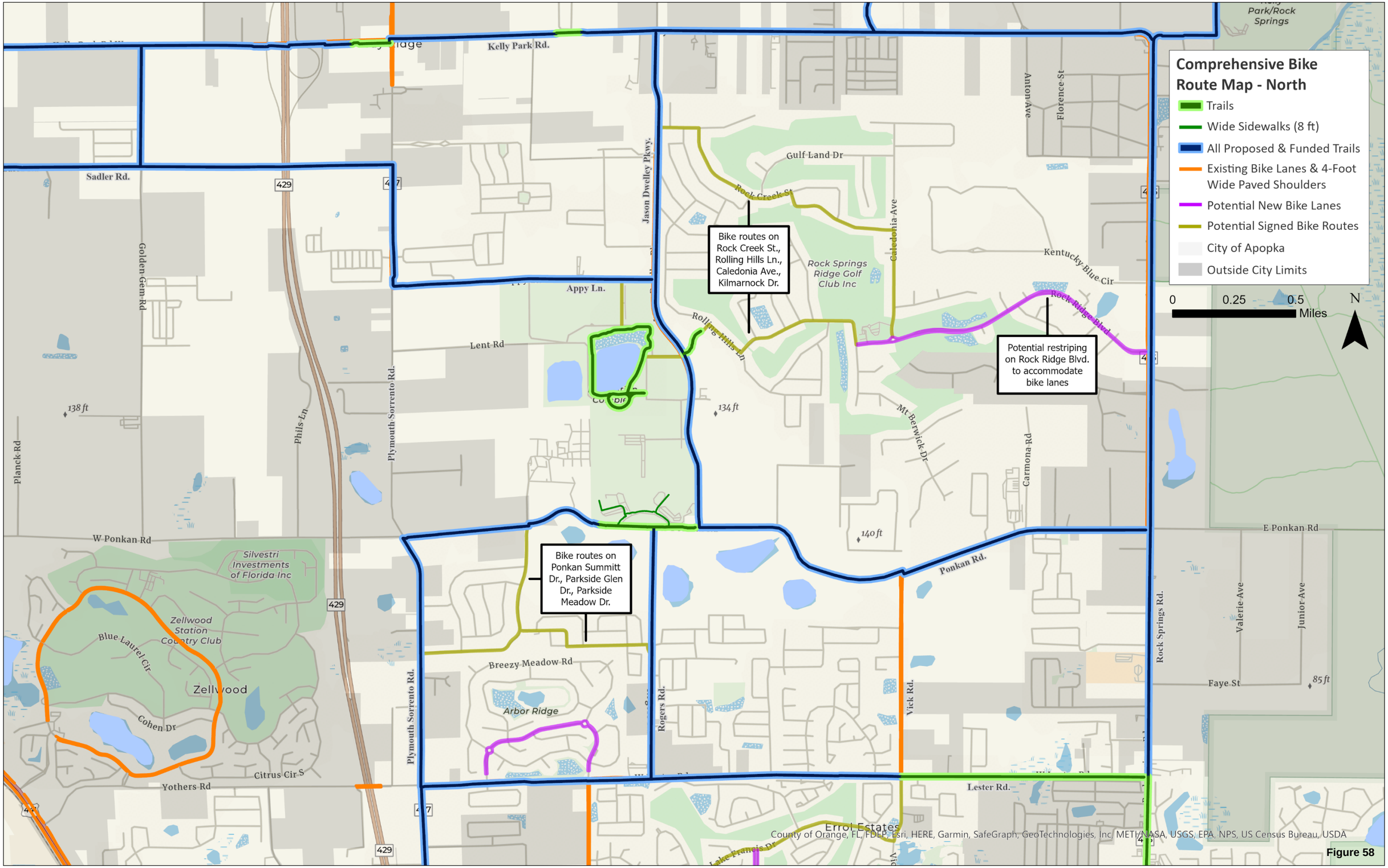

Comprehensive Bike Route Map - North
Trails
Wide Sidewalks (8 ft)
All Proposed & Funded Trails
Existing Bike Lanes & 4-Foot Wide Paved Shoulders
Potential New Bike Lanes
Potential Signed Bike Routes
City of Apopka
Outside City Limits
0
0.25
0.5
Miles
N
Bike routes on Rock Creek St., Rolling Hills Ln., Caledonia Ave., Kilmarnock Dr.
Potential restriping on Rock Ridge Blvd. to accommodate bike lanes
Bike routes on Ponkan Summitt Dr., Parkside Glen Dr., Parkside Meadow Dr.
Kelly Park Rd.
Sadler Rd.
Golden Gem Rd
Jason Dwelley Pkwy.
Gulf Land Dr
Rock Creek St
Caledonia Ave
Rock Springs Ridge Golf Club Inc
Kentucky Blue Cir
Rock Ridge Blvd
Appy Ln.
Lent Rd
Rolling Hills Ln
Mt Berwick Dr
Carmona Rd
Anton Ave
Florence St
Park/Rock Springs
138 ft
134 ft
140 ft
85 ft
Phils Ln
Plymouth Sorrento Rd.
Planck Rd
W Ponkan Rd
Silvestri Investments of Florida Inc
Zellwood Station Country Club
Blue Laurel Cir
Zellwood
Cohen Dr
Citrus Cir S
Yothers Rd
Breezy Meadow Rd
Arbor Ridge
Rogers Rd.
Ponkan Rd.
Vick Rd.
E Ponkan Rd
Rock Springs Rd.
Valerie Ave
Junior Ave
Faye St
Lester Rd.
Errol Estates
Lake Francis Dr
429
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

Figure 58

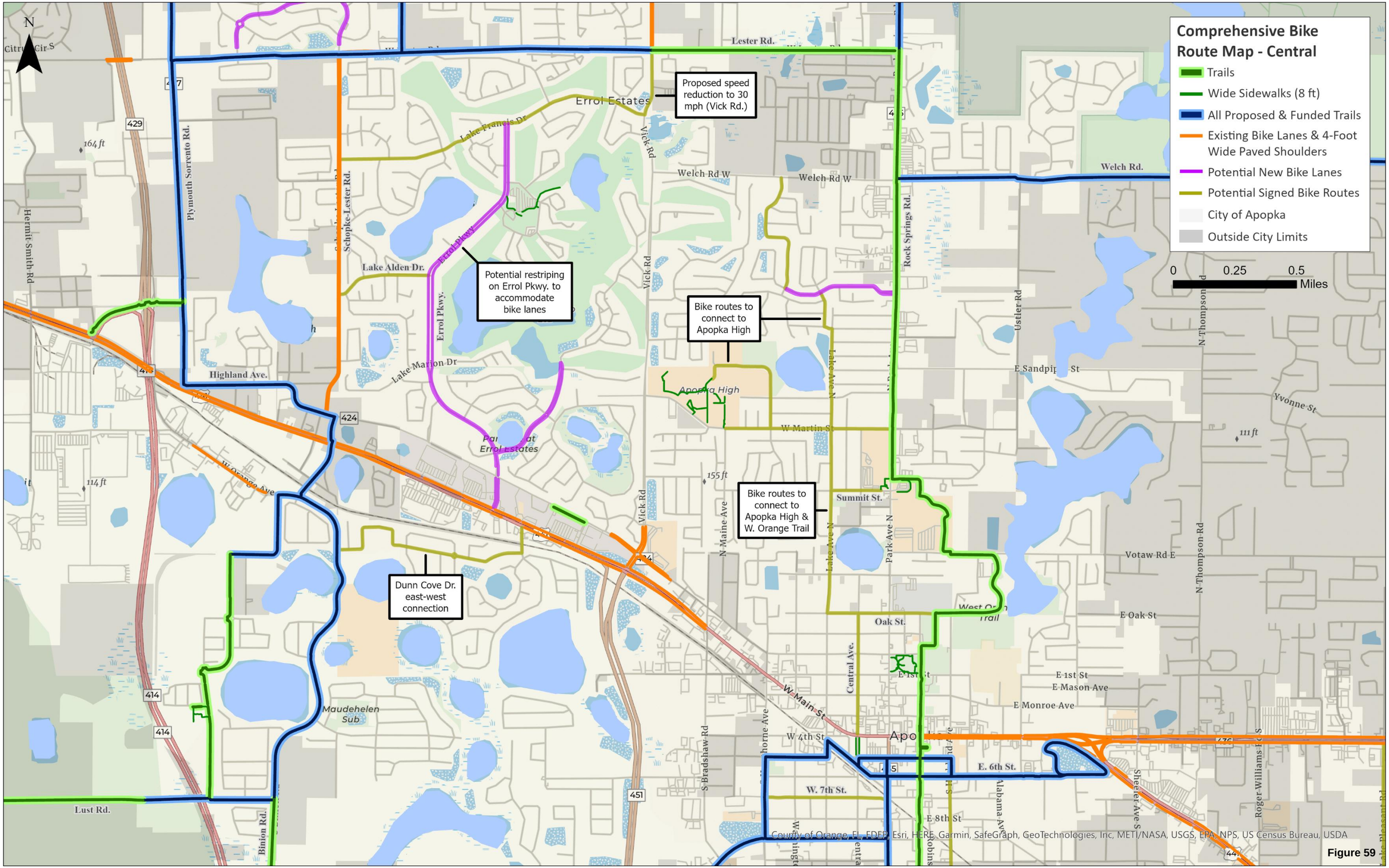

N
Comprehensive Bike Route Map - Central
Trails
Wide Sidewalks (8 ft)
All Proposed & Funded Trails
Existing Bike Lanes & 4-Foot Wide Paved Shoulders
Potential New Bike Lanes
Potential Signed Bike Routes
City of Apopka
Outside City Limits
0
0.25
0.5
Miles
Proposed speed reduction to 30 mph (Vick Rd.)
Potential restriping on Errol Pkwy. to accommodate bike lanes
Bike routes to connect to Apopka High
Bike routes to connect to Apopka High & W. Orange Trail
Dunn Cove Dr. east-west connection
Errol Estates
Lake Francis Dr
Lake Alden Dr.
Lake Marion Dr
Errol Pkwy
Vick Rd
Welch Rd W
Welch Rd
Lester Rd.
Rock Springs Rd.
Schopke-Lester Rd.
Plymouth Sorrento Rd.
Hermit Smith Rd
Highland Ave.
W Orange Ave
Lust Rd.
Binion Rd.
Maudehelen Sub
Apopka High
W Martin St
Summit St.
N Maine Ave
Park Ave N
Lake Ave N
Oak St.
E Oak St
Votaw Rd E
N Thompson Rd
Ustler Rd
E Sandpiper St
Yvonne St
W Main St
Central Ave.
E 1st St
E Mason Ave
E Monroe Ave
W 4th St
E. 6th St.
W. 7th St.
E 8th St
S Bradshaw Rd
Alabama Ave
Sheeler Ave S
Roger Williams Rd S
Lake Pleasant Rd
Trail
164 ft
114 ft
155 ft
111 ft
429
424
414
451
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

Figure 59

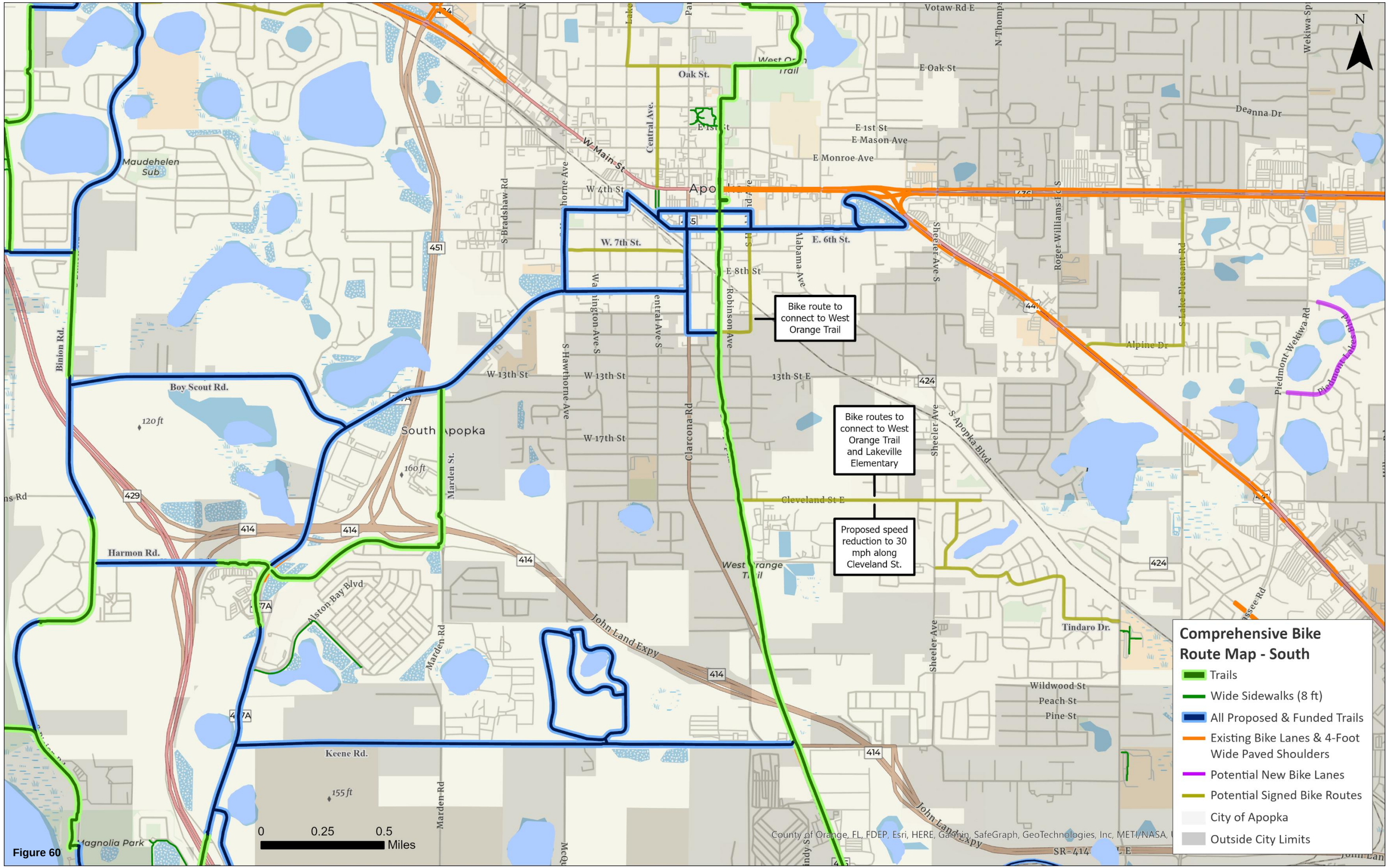

Votaw Rd E
E Oak St
Oak St.
Deanna Dr
E 1st St
E Mason Ave
E Monroe Ave
W Main St
W 4th St
Central Ave.
S Bradshaw Rd
Maudehelen Sub
W. 7th St.
E. 6th St.
E 8th St
Alabama Ave
Robinson Ave
Sheeler Ave S
Roger Williams Dr S
S Lake Pleasant Rd
Alpine Dr
Piedmont Wekiwa Rd
Piedmont Lakes Blvd
Wekiwa Sp
Binion Rd.
Boy Scout Rd.
120 ft
W 13th St
13th St E
S Hawthorne Ave
Washington Ave S
Central Ave S
S Clarcona Rd
W 17th St
South Apopka
160 ft
Marden St.
S Apopka Blvd
Bike route to connect to West Orange Trail
Bike routes to connect to West Orange Trail and Lakeville Elementary
Cleveland St E
Proposed speed reduction to 30 mph along Cleveland St.
429
414
424
451
Harmon Rd.
Alston Bay Blvd
John Land Expy
Marden Rd
Keene Rd.
155 ft
Tindaro Dr.
Wildwood St
Peach St
Pine St
Sheeler Ave
Magnolia Park
0
0.25
0.5
Miles
N
Comprehensive Bike Route Map - South
Trails
Wide Sidewalks (8 ft)
All Proposed & Funded Trails
Existing Bike Lanes & 4-Foot Wide Paved Shoulders
Potential New Bike Lanes
Potential Signed Bike Routes
City of Apopka
Outside City Limits
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA,

Figure 60

Tertiary Network: Sidewalk Gap Projects

Priority sidewalk projects have been identified throughout the City as a way to enhance walkability and improve safety for pedestrians as funding becomes available. The project team focused on identifying sidewalk gaps along high-speed roads, roads with high levels of connectivity to the overall network, and roads in close proximity to schools. The gap areas are listed below and depicted in Figure 61.

(1) Welch Rd. | North side, east of Rocky Point Rd. to Rock Springs Rd. (2 segments)

(2) Martin St. | West of Oleary Ct. to Central Ave.

(3) Central Ave. | West side, Martin St. to Summit St.

(4) Summit St. | North side, Maine Ave. to Lake Ave.

(5) 13th St. | North side, Ocoee-Apopka Rd. to existing sidewalk

(6) Michael Gladden Blvd. | South side, Hawthorne Ave. to Park Ave.

(7) Alabama Ave. / Apopka Blvd. | East side, south of Main St. to E. 10th St.

(8) U.S. 441 & Sheeler Ave. | North and west sides, 441/436 Interchange to SR 436

(9) 13th St. | South side, east of Georgia Ave. to Apopka Blvd. and Sheeler Ave. intersection

(10) Cleveland St. | North side, Old Apopka Rd. to Sheeler Ave. (2 segments)

(11) Sheeler Ave. | West side, 13th St. to north of Cleveland St.

(12) Cleveland St. | South side, Grand Oak Dr. to Callie Ct.

(13) Sheeler Ave. | West side, Cleveland St. to Perlite Pl. Both sides near Dunbridge St.

(14) U.S. 441 | West side, east of Oakville Ln. to Roger Williams Rd.

(15) U.S. 441 | Both sides, Alpine Dr. to Lake Pleasant Rd., then west side to Hiawassee Rd.

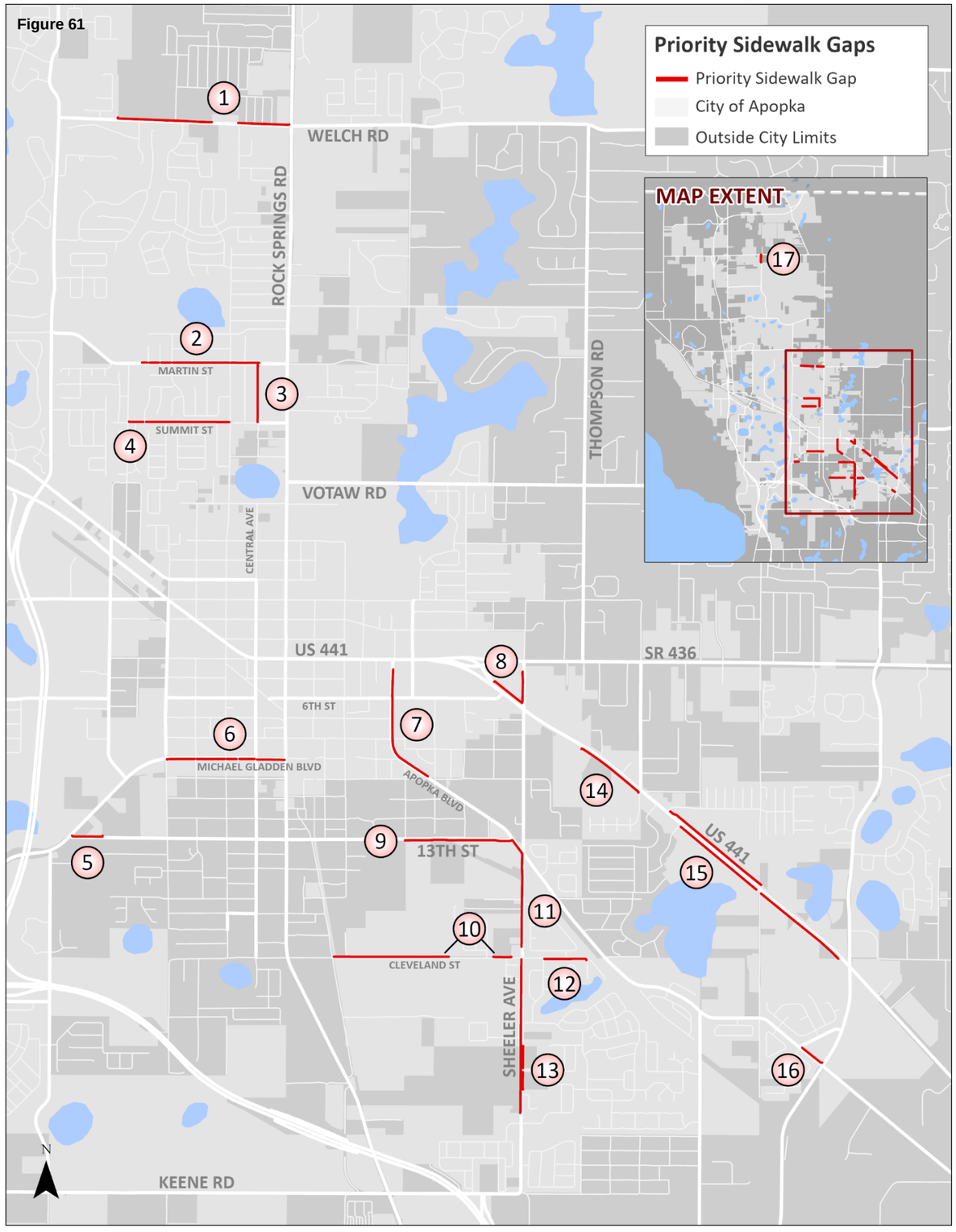
(16) Apopka Blvd. | East side, Piedmont Wekiva Rd. to Hiawassee Rd.

(17) Jason Dwelley Pkwy. | West side, Kelly Park School to Kelly Park Rd.

Notes

Projects 8 is included in the MetroPlan Orlando Priority Project List, named Sidewalk Bundle #7.
Projects 14, 15, and 16 are included in the MetroPlan Orlando Priority Project List, named Sidewalk Bundle #17.

Figure 61



VII. Network Analysis

An analysis of roadway and community features along the proposed active transportation network.

Community Feature Proximity Maps

This section of the report shows the proposed trail network in the context of proximity to community features. This analysis will guide recommendations for accessory structures and amenities near the network

GROCERY STORES

MARKETS & CONVENIENCE

DINING ESTABLISHMENTS

ENTERTAINMENT VENUES

PUBLIC SCHOOLS

PARKS & RECREATION

Figure 62

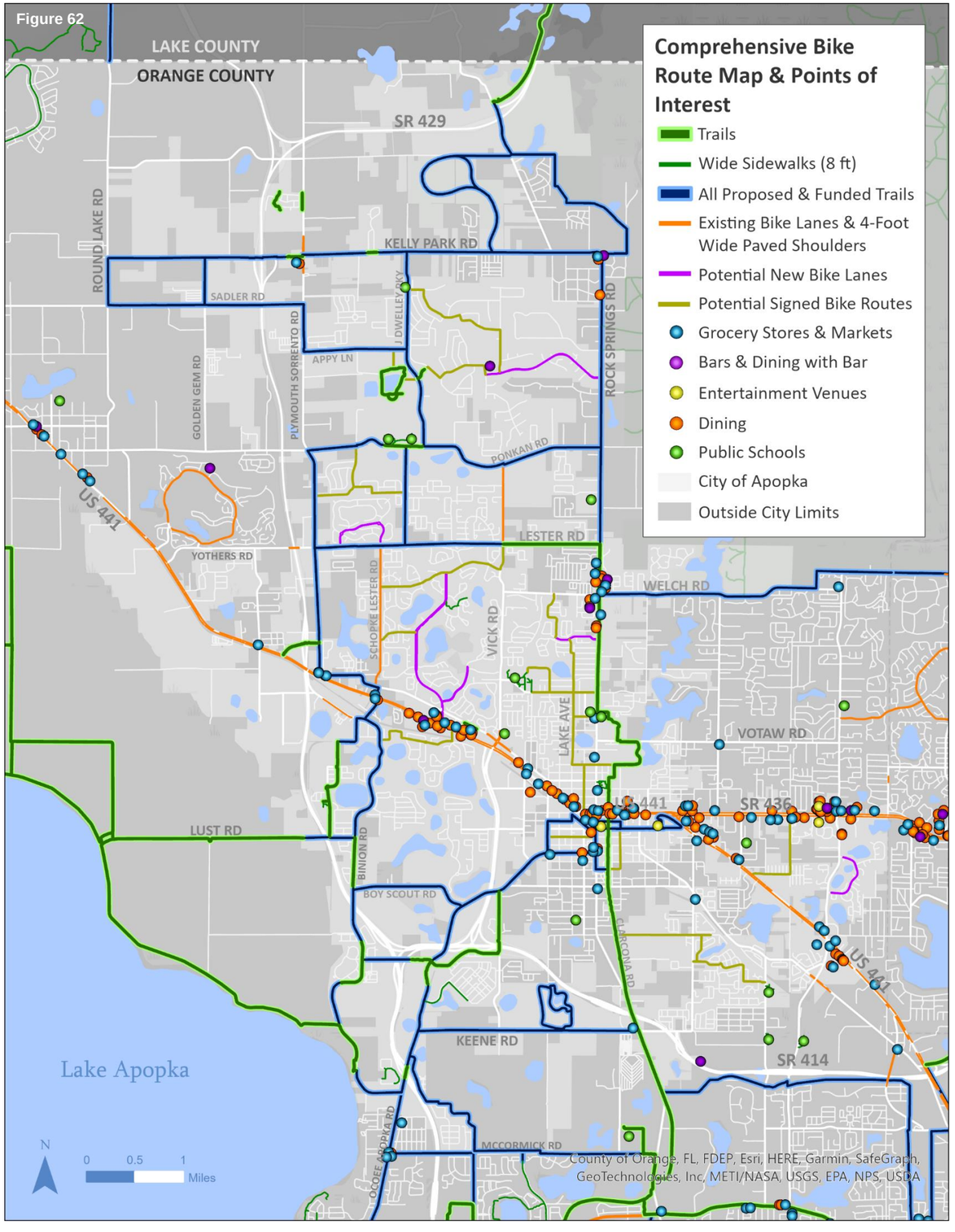


Figure 63

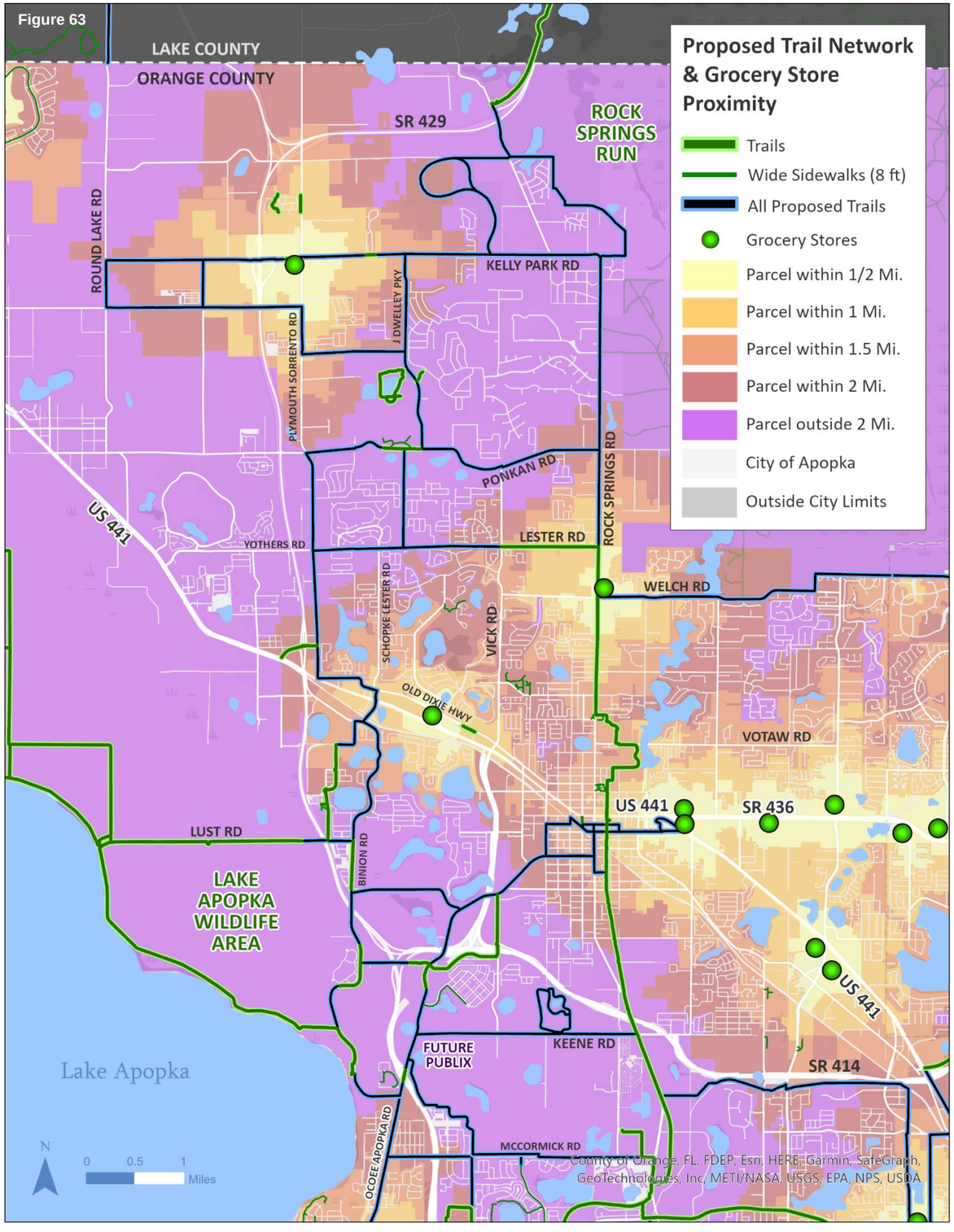


Figure 64

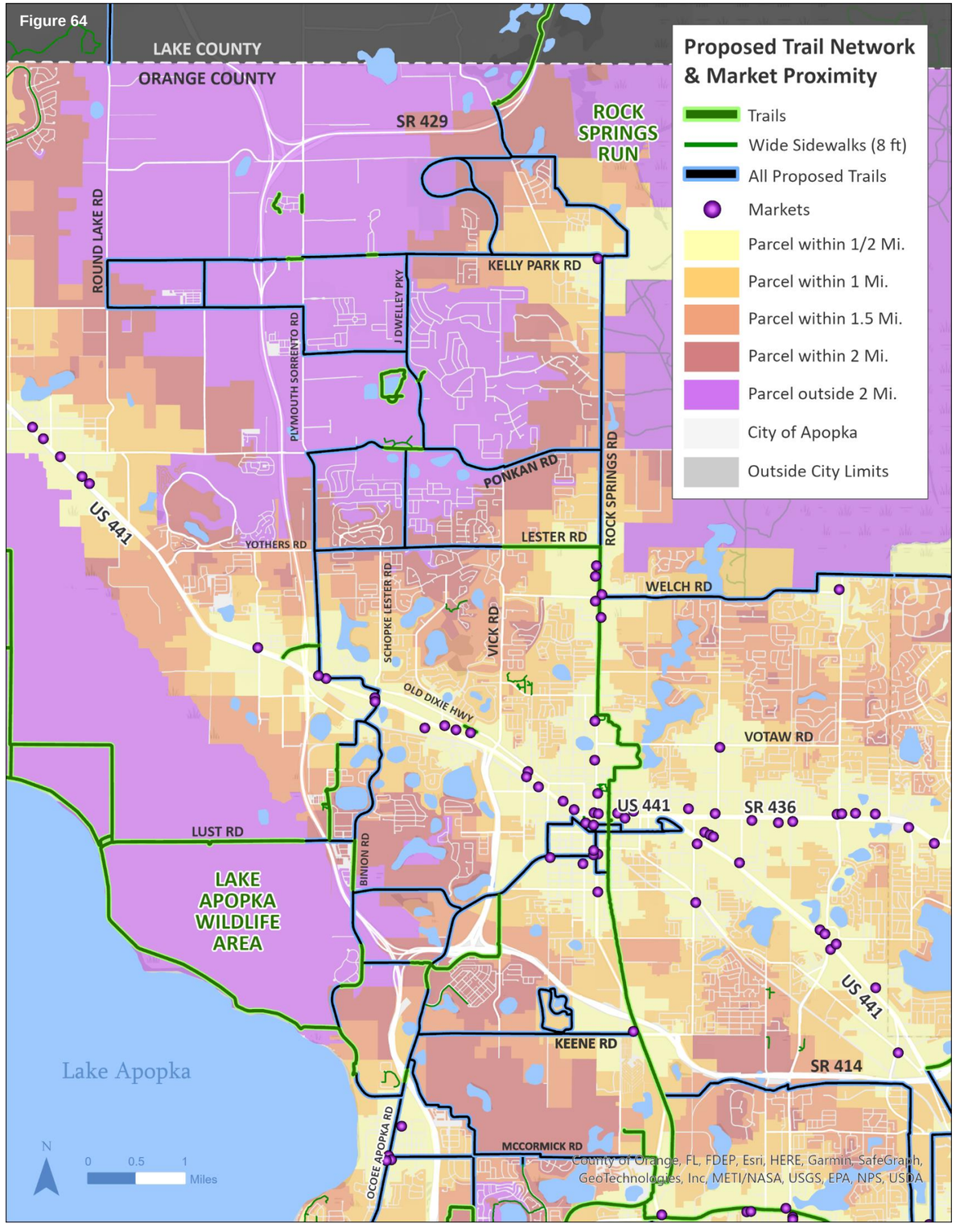


Figure 65

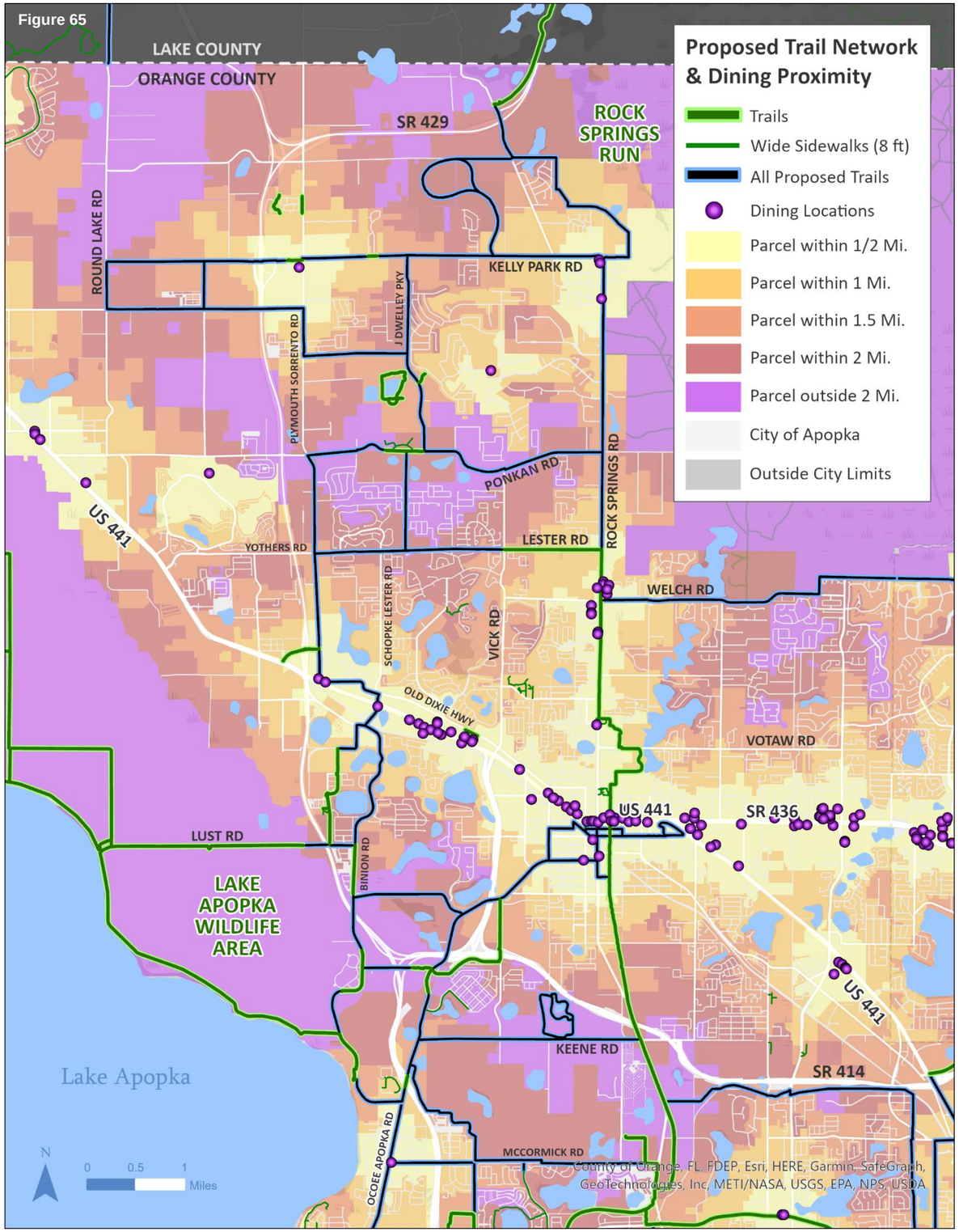


Figure 66

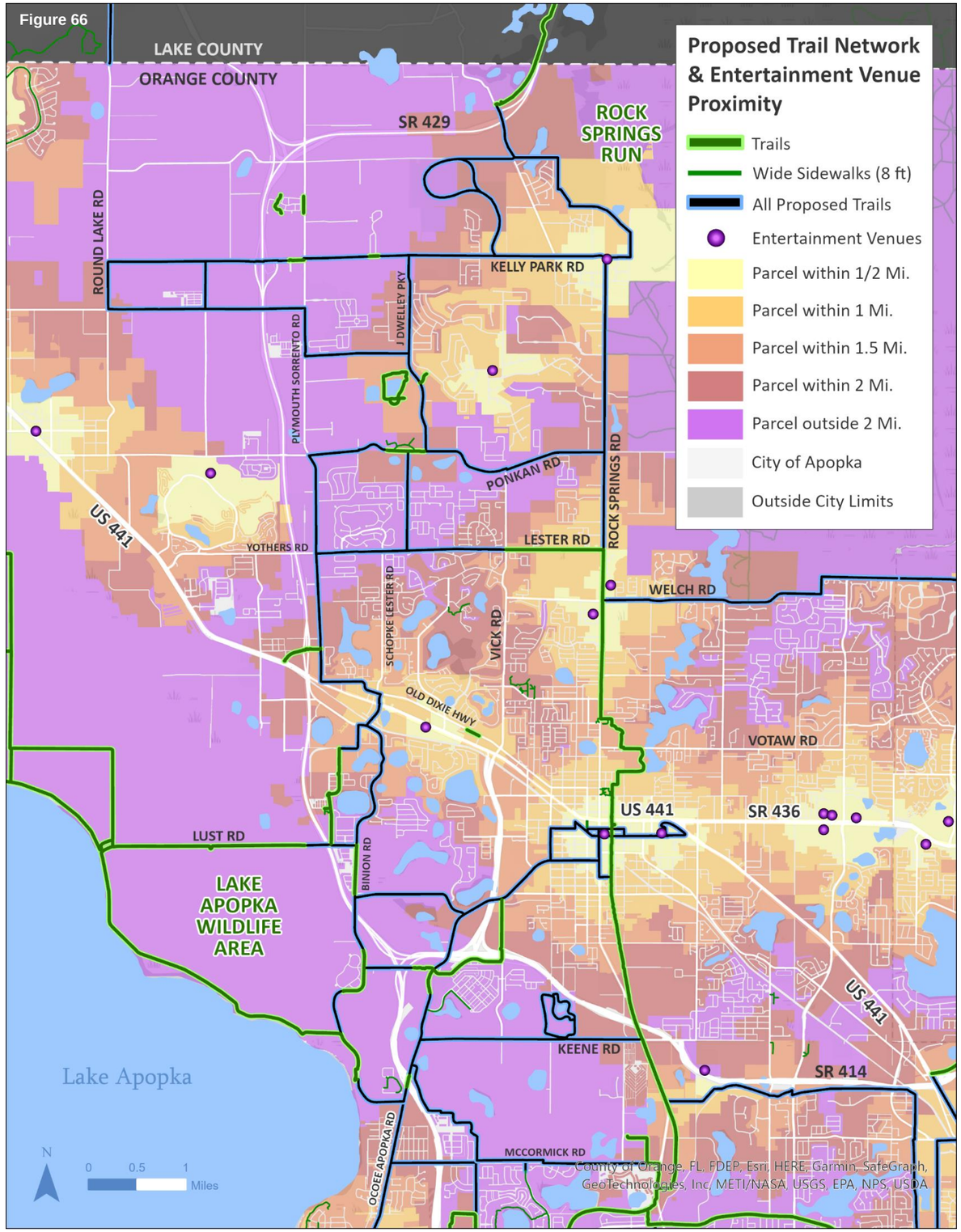


Figure 67

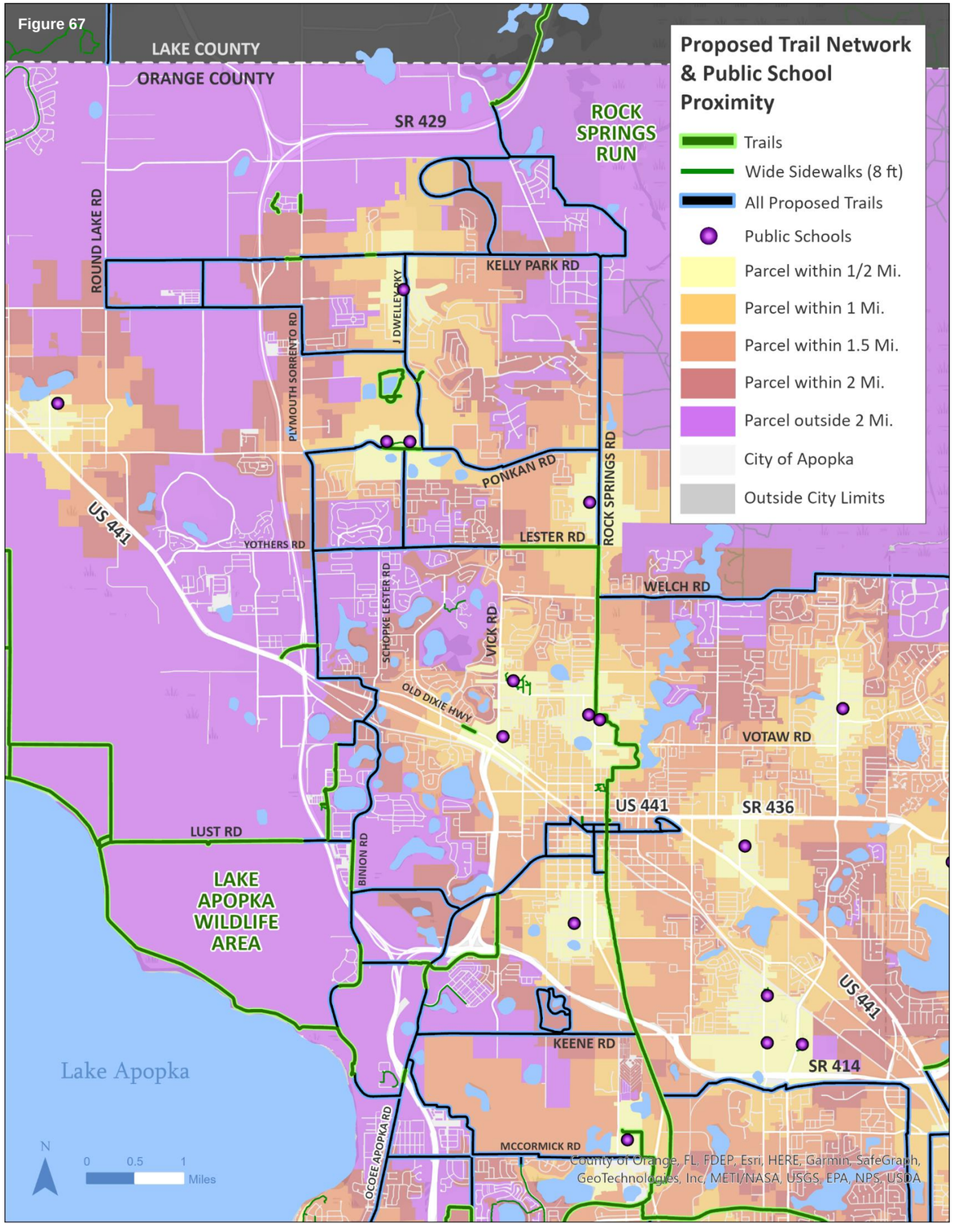
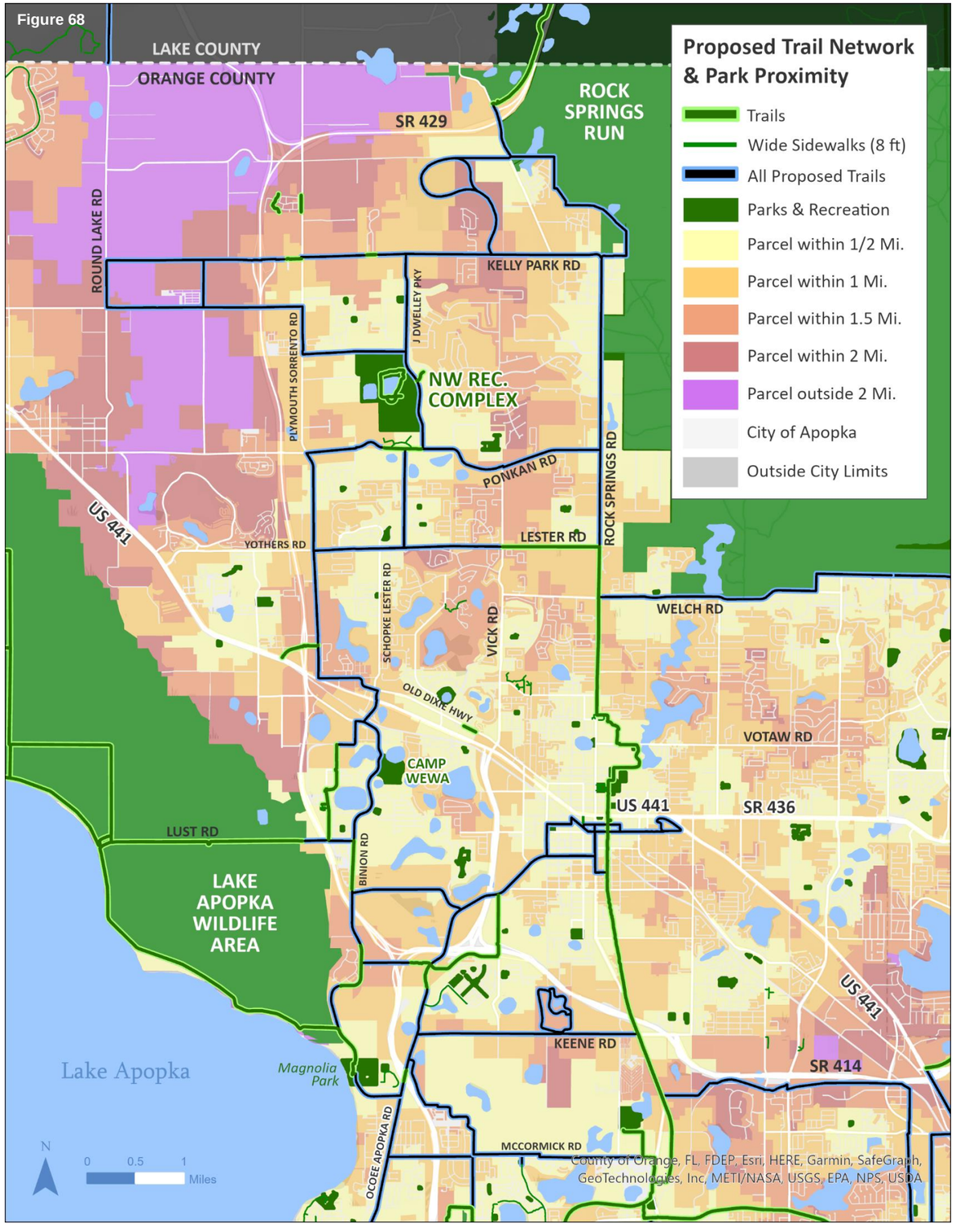


Figure 68



Speed Limits Along Final Trail Routes

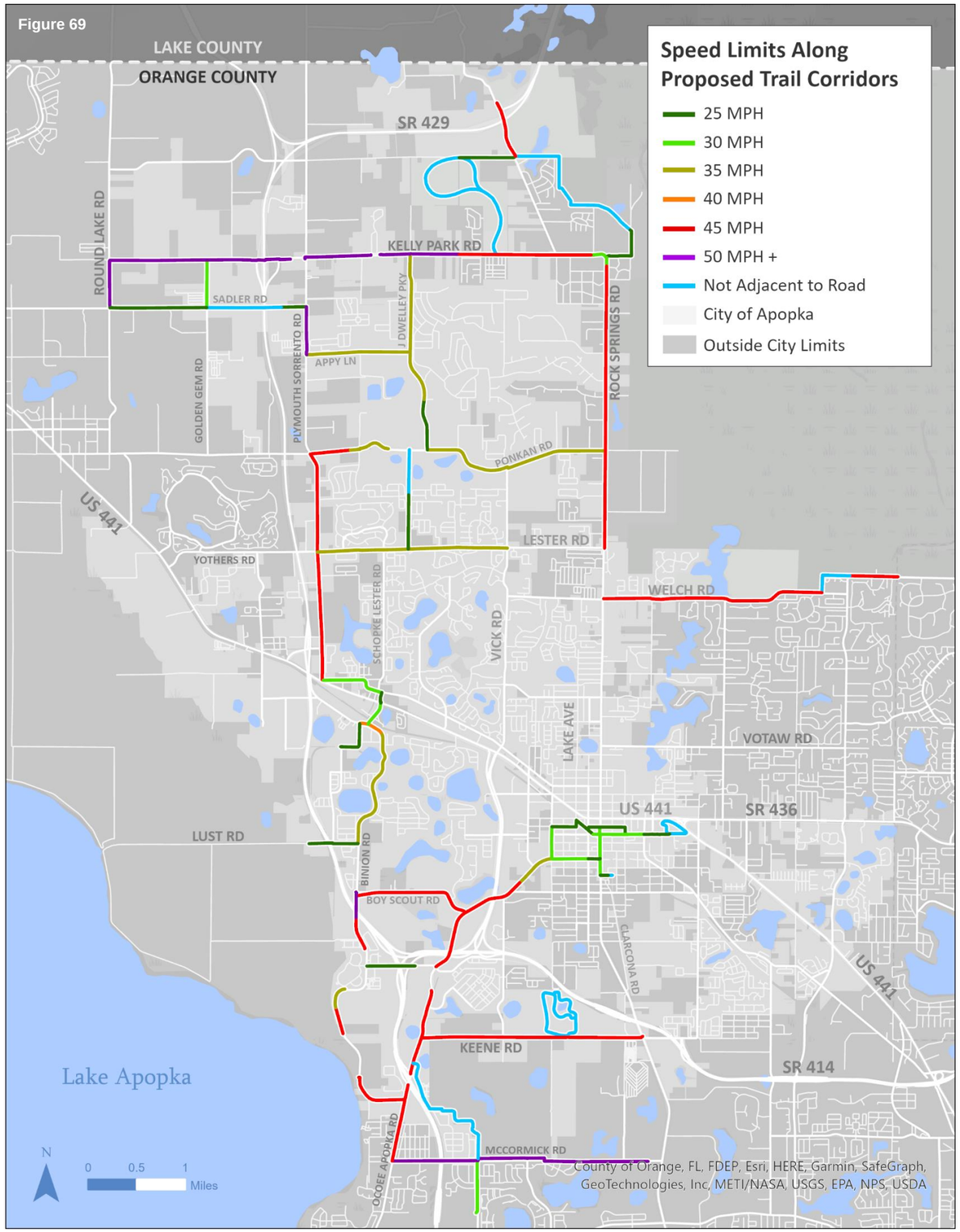
It is recommended that the City separate trails from the roadway with a grass buffer in order to reduce the level of traffic stress felt by future trail riders. Additionally, it is important that the City review speed limits on roadways with planned future trails. This analysis provides context for the City to analyze its options for reducing speed limits while maintaining vehicle level of service.

Potential Speed Countermeasures

Figure 69 shows the speed limits along the final proposed trail network. The following countermeasures are recommended along these corridors.

- Rock Springs Road: Right-of-way acquisition will be required to build the West Orange Trail extension along Rock Springs Road. It is recommended that the City maximize trail separation from the roadway through land acquisition.
- Welch Road: Similar to Rock Springs Road, right-of-way acquisition should be a tool for the City to reduce exposure to high speeds. The lack of driveways and turning movements in this corridor do not necessitate a speed limit change.
- Ponkan Road: It is recommended that the speed be reduced to 35 miles per hour from Plymouth Sorrento Road to the Northwest Recreation Complex. This will extend the current 35 mile per hour limit to the east of the park.
- Kelly Park Road: It is recommended that the City implement a 35 or 40 mile per hour speed limit in this corridor when redesigning the roadway.
- Round Lake Road: It is recommended that the City revisit speed limits near the Wekiva Parkway Interchange as new development occurs in the future.
- Plymouth Sorrento Road: A speed limit reduction to 35 miles per hour from Old Dixie Highway to Ponkan Road would reduce traffic stress, primarily in areas with no trail separation from the roadway.
- Boy Scout Road: A speed limit reduction to 35 miles per hour would reflect the changing nature of the corridor as development occurs and trails are built in the future.
- Binion Road: It is recommended that a 35 mile per hour speed limit be implemented south of Lust Road to Ocoee-Apopka Road. These trails will have ample road separation.
- Ocoee-Apopka Road: As new roadway designs are drafted, it is recommended that speeds not exceed 40 miles per hour. Truck traffic will necessitate trail separation from the road.
- Keene Road: It is recommended that the City reduce the speed limit to 35 miles per hour from Ocoee-Apopka Road to Clarcona Road.

Figure 69



VIII. Impact Analysis

An analysis of the reach of the existing and proposed trail networks to people, economic destinations and parks.

The impact analysis identifies the benefit that the proposed trail network will have on population access to trails, as well as trail connectivity to economic and recreational points of interest. This analysis does not include population in future developments.

Accessibility by Route Priority/Type

Figure 70

	Population Access			Dining Access		Grocery/Market Access		Entertainment Venue Access		Park Access	
	Within 1/8 Mile *Approx. Population**	Within 1/4 Mile *Approx. Population**	Within 1/2 Mile *Approx. Population**	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*
Existing Trail Network	**8,291**	**13,166**	**25,610**	**9**	**20**	**6**	**13**	**0**	**3**	**11**	**13**
State & County Funded	**2,326**	**5,707**	**12,276**	**4**	**6**	**2**	**4**	**1**	**1**	**6**	**7**
# In addition to existing network	*2,210*	*4,640*	*8,353*	*3*	*3*	*1*	*1*	*1*	*1*	*5*	*6*
Priority 1 Network	**3,004**	**7,305**	**15,053**	**3**	**13**	**6**	**10**	**2**	**2**	**3**	**6**
# In addition to existing network	*1,775*	*3,465*	*4,651*	*3*	*8*	*5*	*9*	*2*	*1*	*2*	*4*
Priority 2 Network	**3,816**	**8,259**	**14,361**	**3**	**3**	**3**	**4**	**1**	**1**	**2**	**3**
# In addition to existing network	*2,288*	*4,912*	*6,502*	*3*	*3*	*3*	*4*	*1*	*1*	*1*	*2*
Partnership Network	**1,204**	**2,227**	**6,145**	**3**	**3**	**4**	**4**	**0**	**0**	**0**	**0**
# In addition to existing network	*1,131*	*1,818*	*3,271*	*3*	*3*	*4*	*4*	*0*	*0*	*0*	*0*

	Population Access			Dining Access		Grocery/Market Access		Entertainment Venue Access		Park Access	
	Within 1/8 Mile *Approx. Pop.**	Within 1/4 Mile *Approx. Pop.**	Within 1/2 Mile *Approx. Pop.**	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*
Existing Trail Network	**8,291**	**13,166**	**25,610**	**7**	**20**	**6**	**13**	**0**	**3**	**11**	**13**
Existing, Funded & Planned	**15,269**	**26,149**	**46,090**	**17**	**34**	**17**	**27**	**3**	**5**	**18**	**24**
Increase in Access	**+ 6,978**	**+ 12,983**	**+ 20,480**	**+ 10**	**+ 14**	**+ 11**	**+ 14**	**+ 3**	**+ 2**	**+ 7**	**+ 11**

*Persons per household figures of 2.90 (Orange County) and 2.54 (Seminole County) are used to convert parcel unit counts to approximate population counts.

Sources: Orange County Property Appraiser Parcels, Seminole County Property Appraiser Parcels, U.S. Census Bureau (2020), xGeographic Wave Access Simulation

Accessibility by Segment ID

Figure 71

	Population Access		Dining Access		Grocery/Market Access		Entertainment Venue Access		Park Access	
	Within 1/8 Mile *Approx. Population**	Within 1/4 Mile *Approx. Population**	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*	Within 300 Ft. *# Establishments*	Within 1/8 Mile *# Establishments*
Segment 1A	841	1,502	0	0	0	0	0	0	0	0
Segment 1B	363	1,253	0	0	0	0	0	0	**1**	**3**
Segment 1C	84	157	0	0	0	0	0	0	0	0
Segment 1D	3	710	0	0	0	0	0	0	0	0
Segment 1E	171	1,288	0	0	**1**	**1**	0	0	0	0
Segment 1F	38	505	0	0	0	0	0	0	0	**1**
Segment 1G	1,056	1,926	**3**	**12**	**6**	**9**	**2**	**2**	**1**	**2**
Segment 1H	87	377	0	0	0	0	0	0	**1**	**1**
Segment 1J	252	368	0	**1**	**1**	**1**	0	0	0	0
Segment 1K	6	17	0	0	0	0	0	0	0	0
Segment 1L	75	142	0	0	0	0	0	0	0	0
Segment 2A	716	1,427	**2**	**2**	**1**	**1**	**1**	**1**	0	0
Segment 2B	1,383	2,395	0	0	0	0	0	0	0	0
Segment 2C	754	1,778	0	0	0	0	0	0	0	**1**
Segment 2D	299	618	0	0	0	0	0	0	**1**	**1**
Segment 2E	55	93	0	0	0	0	0	0	0	0
Segment 2F	107	328	0	0	0	0	0	0	0	0
Segment 2G	513	815	**1**	**1**	**2**	**3**	0	0	0	0
Segment 2H	249	835	0	0	0	0	0	0	0	0
Segment 2J	35	73	0	0	0	0	0	0	**1**	**1**
Segment P1	67	223	0	0	0	0	0	0	0	0
Segment P2	882	1,595	**3**	**3**	**4**	**4**	0	0	0	0
Segment P3	46	55	0	0	0	0	0	0	0	0
Segment P4	209	354	0	0	0	0	0	0	0	0

*Persons per household figures of 2.90 (Orange County) and 2.54 (Seminole County) are used to convert parcel unit counts to approximate population counts.
Sources: Orange County Property Appraiser Parcels, Seminole County Property Appraiser Parcels, U.S. Census Bureau (2020), xGeographic Wave Access Simulation

Figure 72

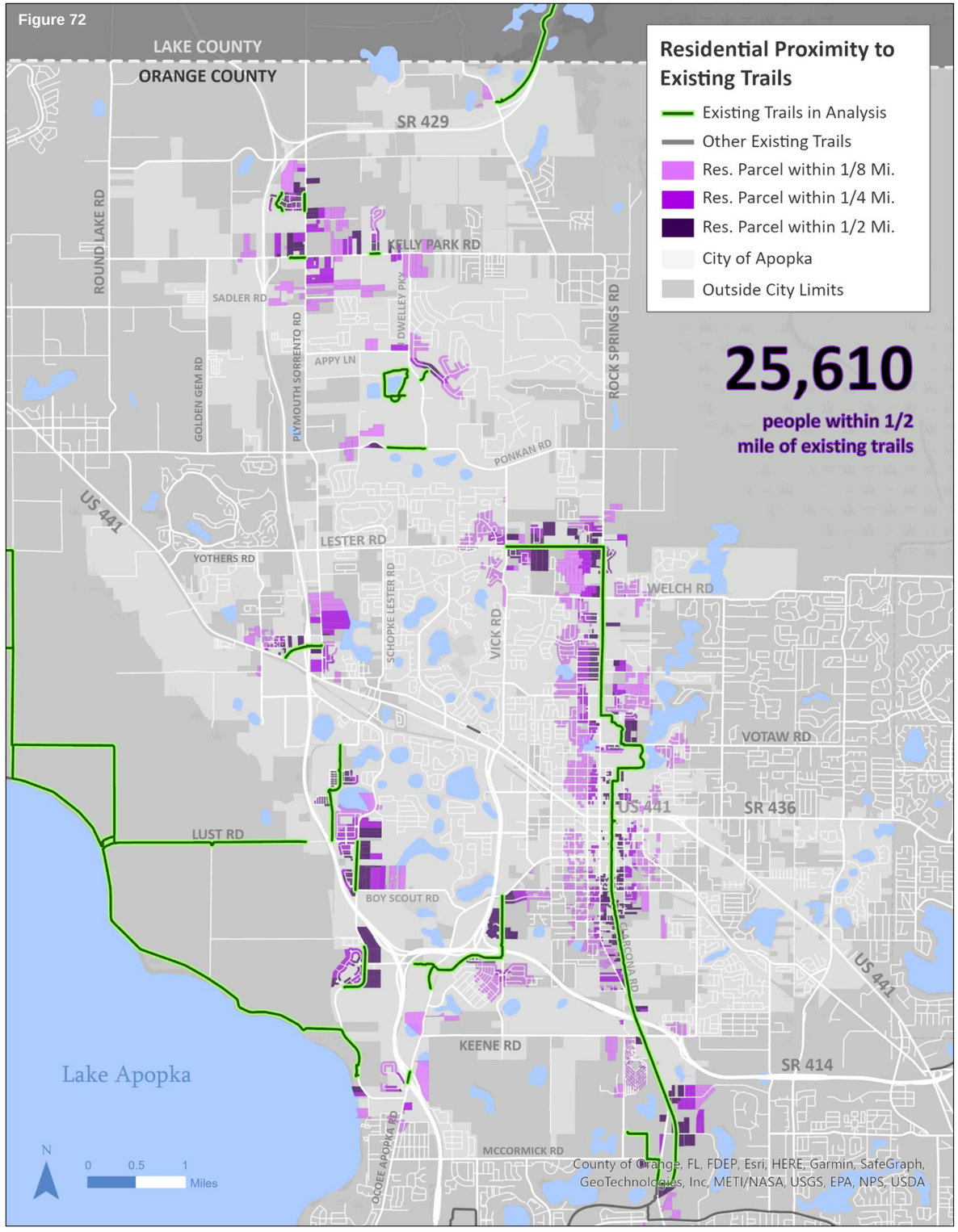
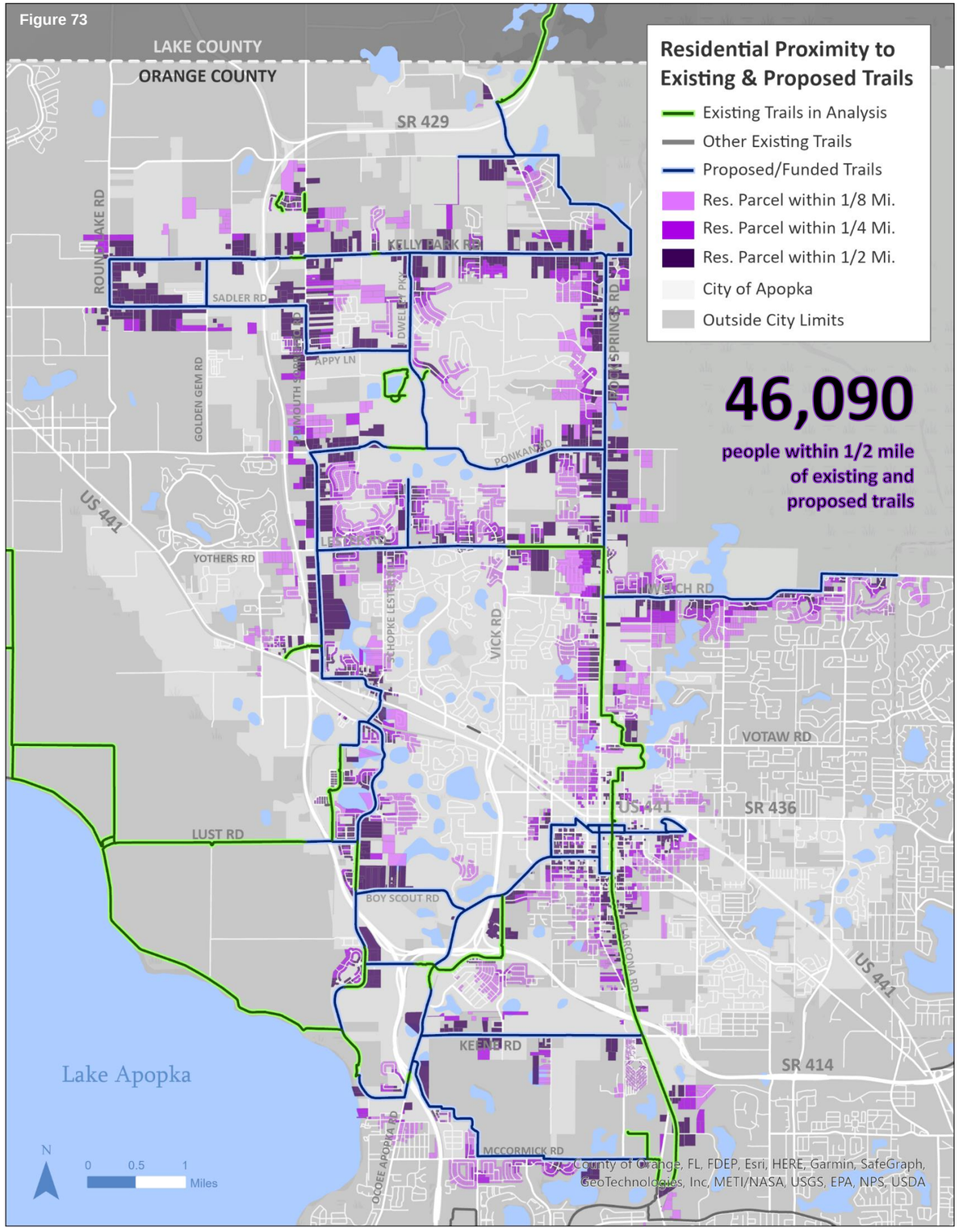


Figure 73



Economic & Recreational Points of Interest within 1/8 Mile of Existing/Proposed Trail Network (1/2)

Name	Type	Existing Network	State/County Funded	Priority 1 Network	Priority 2 Network	Partnership Network	Segment 1B	Segment 1E	Segment 1F	Segment 1G	Segment 1H	Segment 1J	Segment 2A	Segment 2C	Segment 2D	Segment 2G	Segment 2J	Segment P2
7 Eleven	Market	300 Ft.	300 Ft.															
Al Mejor Sabor	Restaurant			1/8 Mi.						1/8 Mi.								
Alonzo Williams Park	Park			300 Ft.						300 Ft.								
Anthony's Pizza	Restaurant	1/8 Mi.	300 Ft.															
Antojitos La Mexicana	Restaurant		300 Ft.															
Apopka City Hall Park	Park	1/8 Mi.		1/8 Mi.						1/8 Mi.								
Arbor Ridge Private Park	Private Parks				1/8 Mi.									1/8 Mi.				
Aunt Gingibreads Bakery	Restaurant	1/8 Mi.		1/8 Mi.						1/8 Mi.								
Avian Pointe HOA Park	Private Parks	300 Ft.																
Back Yard BBQ	Restaurant					300 Ft.												300 Ft.
Beef O'Brady's	Restaurant & Bar	1/8 Mi.																
BP	Market	300 Ft.																
Camp Thunderbird	Park		300 Ft.															
Camp Wewa	Park			300 Ft.			300 Ft.											
Central Grocery	Market			1/8 Mi.						1/8 Mi.								
Chevron	Market					300 Ft.												300 Ft.
Chucks Wagon	Restaurant			1/8 Mi.						1/8 Mi.								
Chung Xiang	Restaurant	1/8 Mi.	1/8 Mi.															
Cieto Lindo Mexican Grill	Restaurant	300 Ft.																
Circle K	Market	1/8 Mi.																
Citgo	Market	300 Ft.																
Clarcona Horse Park	Park	300 Ft.																
Doctors Dog Park	Park	300 Ft.																
Dollar General (1712 Rock Springs)	Market	300 Ft.																
Dollar General (57 Michael Gladden)	Market			300 Ft.	300 Ft.					300 Ft.						300 Ft.		
Domino's	Restaurant			1/8 Mi.						1/8 Mi.								
Dunkin Donuts	Restaurant	1/8 Mi.		1/8 Mi.						1/8 Mi.								
Edwards Field	Park	300 Ft.																
El Brazero	Restaurant					300 Ft.												300 Ft.
Family Dollar	Market	300 Ft.																
Froggers Grill & Bar	Restaurant & Bar	1/8 Mi.																
Griffin's General Store	Market			300 Ft.				300 Ft.		300 Ft.								
Highland Manor	Entertainment			300 Ft.						300 Ft.								
Inspiration Point HOA Park	Private Parks			1/8 Mi.			1/8 Mi.		1/8 Mi.									
Jersey Mike's	Restaurant	1/8 Mi.		1/8 Mi.								1/8 Mi.						
Kelly Park	Park		300 Ft.															
Kit Land Nelson Park	Park	300 Ft.																
Krispy Krunchy Chicken	Restaurant					300 Ft.												300 Ft.
La Parada Mexican Deli Meat	Market					300 Ft.												300 Ft.
La Taxquena	Market			300 Ft.	300 Ft.					300 Ft.						300 Ft.		
Little Caesars	Restaurant	1/8 Mi.																
Los Primos Meat Market	Market			300 Ft.						300 Ft.								
Magnolia Park	Park	300 Ft.	300 Ft.															
Marathon	Market			1/8 Mi.						1/8 Mi.								

Trail segments with no points of interest within 1/8 mile not included in analysis

Figure 74

Economic & Recreational Points of Interest within 1/8 Mile of Existing/Proposed Trail Network (2/2)

Name	Type	Existing Network	State/County Funded	Priority 1 Network	Priority 2 Network	Partnership Network	Segment 1B	Segment 1E	Segment 1F	Segment 1G	Segment 1H	Segment 1J	Segment 2A	Segment 2C	Segment 2D	Segment 2G	Segment 2J	Segment P2
Marathon	Market			300 Ft.	1/8 Mi.					300 Ft.						1/8 Mi.		
Marco's Pizza	Restaurant	300 Ft.																
Marden Meadows Private Park	Private Parks	1/8 Mi.																
Maters & Taters	Market	1/8 Mi.																
Maudedehelen HOA Park	Private Parks			1/8 Mi.			1/8 Mi.											
Max & Me Jamaican Restaurant	Restaurant			300 Ft.						300 Ft.								
McCormick Reserve Private Park	Private Parks		1/8 Mi.															
McDonald's (1681 Rock Springs)	Restaurant	300 Ft.																
McDonald's (233 E. Main)	Restaurant	300 Ft.																
Museum of the Apopkans	Museum	1/8 Mi.		300 Ft.						300 Ft.								
Northwest Recreation Complex	Park	300 Ft.		300 Ft.	300 Ft.						300 Ft.				300 Ft.			
P&W Market	Market	1/8 Mi.																
Park at Fran Carlton Rec. Center	Park	300 Ft.																
Park at Apopka Station	Park	300 Ft.																
Pizza Hut	Restaurant	300 Ft.																
Publix (1545 Rock Springs)	Grocery Store	1/8 Mi.	1/8 Mi.															
Publix (3080 W. Kelly Park)	Grocery Store	300 Ft.		1/8 Mi.								1/8 Mi.						
Rock Springs Bar & Grill	Bars & Night Clubs		300 Ft.		300 Ft.								300 Ft.					
Shell (2301 W. OBT)	Market					300 Ft.												300 Ft.
Shell (4914 Rock Springs)	Market		300 Ft.		300 Ft.								300 Ft.					
South Central Food & Meat Market	Market			300 Ft.						300 Ft.								
Subway (1454 Rock Springs)	Restaurant	1/8 Mi.	1/8 Mi.															
Subway (101 W. Main)	Restaurant			1/8 Mi.						1/8 Mi.								
Subway (4914 Rock Springs)	Restaurant		300 Ft.		300 Ft.								300 Ft.					
Sunoco	Market					300 Ft.												300 Ft.
Taco Bell (307 E. Main)	Restaurant			1/8 Mi.						1/8 Mi.								
Taco Bell (1154 Rock Springs)	Restaurant	300 Ft.																
Tacos Don Pepe's	Restaurant			300 Ft.	300 Ft.					300 Ft.						300 Ft.		
The Back Room Steakhouse	Restaurant	1/8 Mi.																
The Big Potatoo	Restaurant			300 Ft.						300 Ft.								
The Catfish Place	Restaurant	300 Ft.																
The Hot & Dog BBQ	Restaurant		300 Ft.		300 Ft.								300 Ft.					
Tienda Guatemala (101 S. Park)	Market	1/8 Mi.																
Tienda Guatemala (91 W. Main)	Market			1/8 Mi.						1/8 Mi.								
Tom Staley Historical Park	Park	300 Ft.																
Trail at West Orange Trail Trailhead	Park	300 Ft.																
Waffle House	Restaurant	1/8 Mi.		1/8 Mi.						1/8 Mi.								
Walgreens (1490 Rock Springs)	Market	1/8 Mi.	1/8 Mi.															
Walgreens (125 E. Main)	Market	1/8 Mi.																
Wekiva Glen Private Park	Private Parks		300 Ft.															
Wekiva Springs State Park (Wilderness)	Park		300 Ft.		300 Ft.												300 Ft.	
Wekiva Springs State Park (Spring)	Park		300 Ft.															
Wendy's	Restaurant	1/8 Mi.		1/8 Mi.						1/8 Mi.								
Wingz Wingzz Wingzzz	Restaurant	1/8 Mi.																

Trail segments with no points of interest within 1/8 mile not included in analysis

Figure 75

Public School Accessibility

Figure 76 shows the existing and proposed bike routes juxtaposed with public elementary, middle and high schools, and Figure 77 summarizes the connections made to each school.

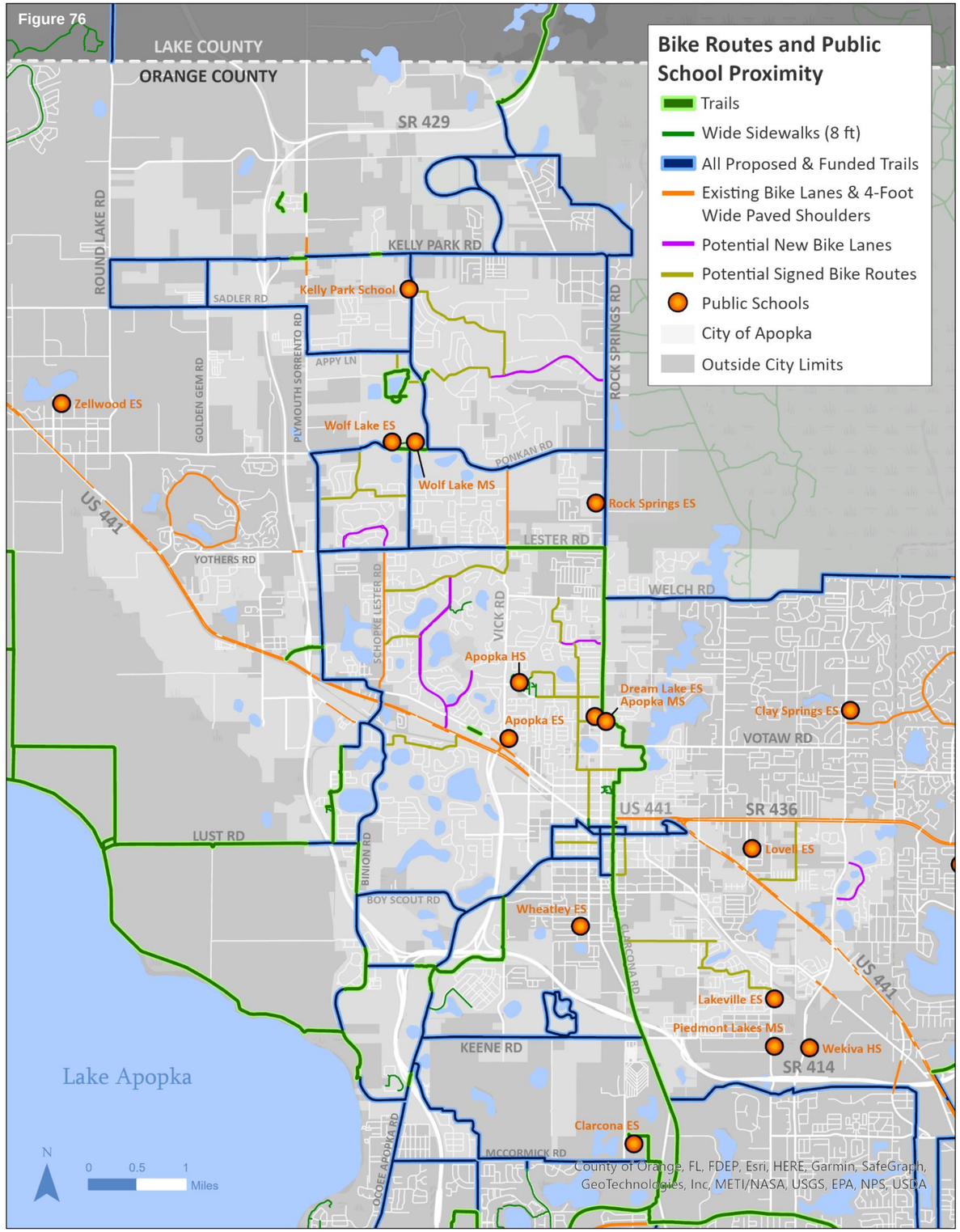
	Connections to Existing & Planned Bike Routes			
School	Existing Trails	Planned Trails	Bike Lanes	Signed Routes
Apopka Elementary	No	No	Connected	No
Apopka High	No	No	No	Planned
Apopka Middle	Connected	No	No	Planned
Clarcona Elementary	Connected	No	No	No
Clay Springs Elementary	No	No	Connected	No
Dream Lake Elementary	Connected	No	No	Planned
Kelly Park School	No	Planned	Connected	Planned
Lakeville Elementary	No	No	No	Planned
Lovell Elementary	No	No	No	No
Piedmont Lakes Middle	No	No	No	No
Rock Springs Elementary	No	Planned	No	No
Wekiva High	No	No	No	No
Wheatley Elementary	No	No	No	No
Wolf Lake Elementary	Connected	Planned	No	No
Wolf Lake Middle	Connected	Planned	No	No
Zellwood Elementary	No	No	No	No

Figure 77

Sidewalk Gap Projects Connecting to Schools

- Dream Lake Elementary
  - Sidewalk Project 2 along Martin Street
  - Sidewalk Project 3 along Central Avenue
  - Sidewalk Project 4 along Summit Street
- Kelly Park School
  - Sidewalk Project 17 along Jason Dwelley Parkway

Figure 76



Apopka Population Access to Existing Trails (Including Short Segments)

Within 1/8 Mile	12.2%
Within 1/4 Mile	18.4%
Within 1/2 Mile	31.9%

Miles of Trails

Existing Network	36.5
Proposed Network	89.4

Apopka Population Access to Existing & Proposed Trails

Within 1/8 Mile	19.8%
Within 1/4 Mile	32.2%
Within 1/2 Mile	51.3%

Additional Points of Interest Within ½ Mile of Proposed Trail Network

Dining Establishments	14
Grocery & Markets	14
Parks & Recreation	11

Regional Integration Impact

The proposed trail network was developed using trail plans

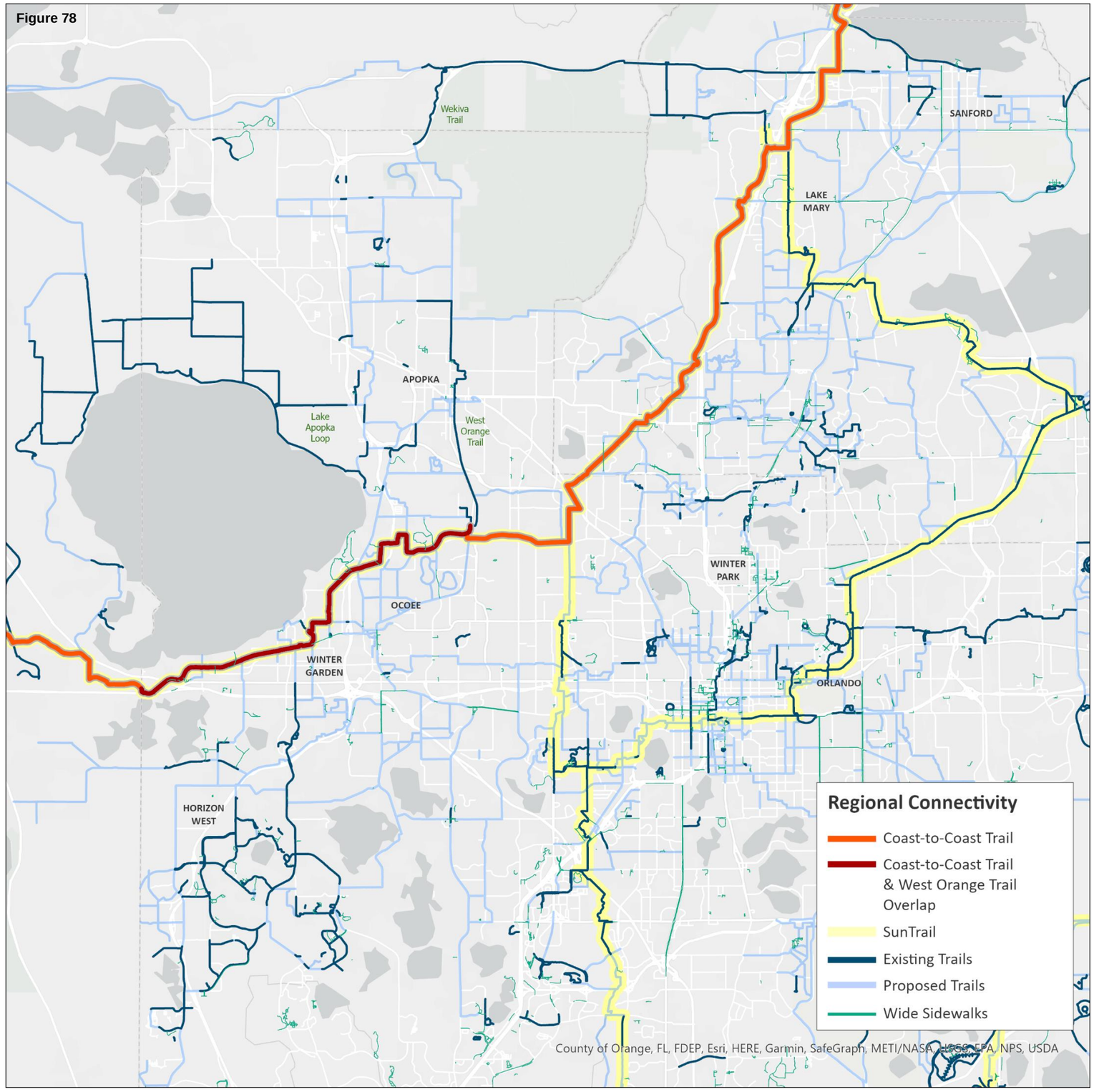
Connecting to the Statewide Trail Network

- Coast-to-Coast Trail: The existing and proposed trail networks connect to the Coast-to-Coast Trail via the West Orange Trail and the Orange County connector trail along McCormick Road. The extension of the West Orange Trail to the Wekiva Trail to the north of the City also connects the proposed network to the Coast-to-Coast trail in Seminole County.
- SunTrail Network: The SunTrail network and the Coast-to-Coast Trail overlap along the West Orange Trail, which currently connects to the City.

Connecting to the Regional Trail Network

- Orlando Area: The Apopka network will connect to the City via the Coast-to-Coast Trail and future Pine Hills Trail extension.
- Ocoee & Winter Garden: These areas are currently connected via the West Orange Trail. Additional trails planned by the Healthy West Orange Trail Connection will also connect to these areas.
- Seminole County: The Coast-to-Coast Trail and the Wekiva Trail will connect the City to Seminole County. Building the West Orange Trail extension and the Clarcona-Ocoee Gap (Coast-to-Coast Trail) will complete this connection.
- Lake County: In addition to the existing West Orange Trail and Lake Apopka Loop Trail, numerous planned trails will connect the City to areas in Lake County. The Wekiva Trail extension (to the west) will connect to Mount Dora and Tavares.

Figure 78



IX. Accessory Plans

Plans that integrate into the Active Transportation Network Study to ensure long term success and usage of the network.

Plan Listing

Trailhead & Amenity Plan

Identification of trailheads and accessories to enhance the trail system.

Conceptual Land Design Plans

Two conceptual designs for proposed trailhead locations.

Wayfinding Strategy

An introductory wayfinding signage strategy to guide trail users.

Tree Canopy Plan

Identification of areas where increased tree coverage would improve the network.

Crossing Safety Plan

A safety countermeasure plan at critical future trail crossings in the City.

Trail Standards Guide

Design standards that will guide City staff and developers in building trails.

Trailhead & Amenity Plan

The trailhead and amenity plan identifies potential trails to anchor the trail network over the long term (15-20 years). Trail amenities are also identified to improve comfort and utility for trail users. Figure 79 shows proposed future trailhead locations.

New Trailhead Locations (Existing Park)

- Alonzo Williams Park (1)
- Camp Wewa (2)
- Lake Apopka Wildlife Area (3)
- Northwest Recreation Complex (4)
- Kelly Park / Rock Springs Run (5)
- Wekiva Springs State Park (6)

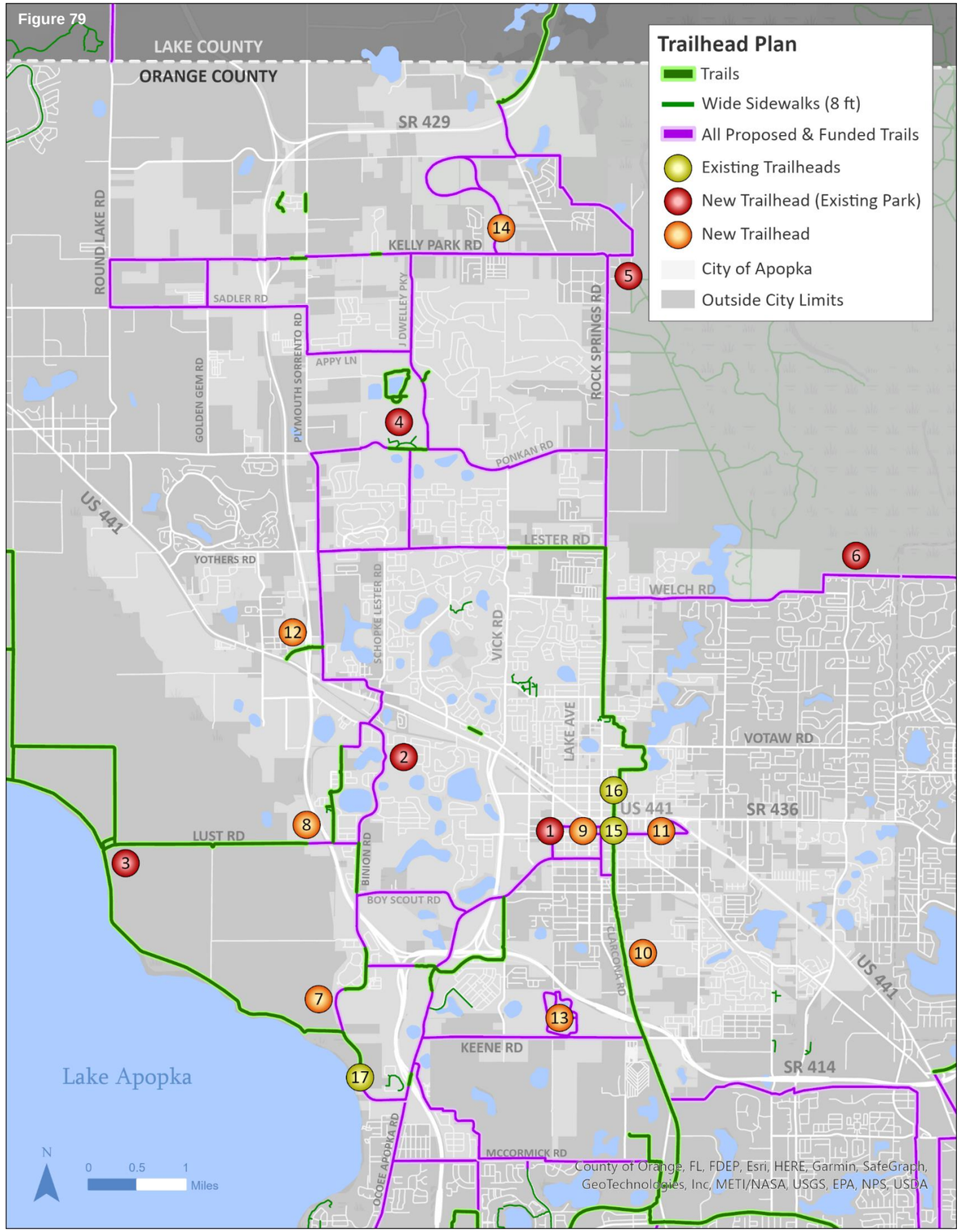
New Trailhead Locations

- 2511 Binion Road (7)
- 2923 Lust Road (8)
- 30 West Station Street (9)
- 3080 Snowden Road (10)
- Apopka City Center / Highland Manor (11)
- Floridian Town Center (12)
- Old Keene Road Landfill (13)
- Pine Plantation (14)

Existing Trailhead Enhancements

- Downtown Apopka (15)
  - Mixed use development on 2nd, 5th, and 6th Street.
  - Bike racks on the north side of the Main Street overpass.
- Kit Land Nelson Park (Apopka Station) (16)
  - Drink vending machine; Snack vending machine.
- Magnolia Park (17)
  - Additional bike racks.
  - Drink vending machine; Snack vending machine.

Figure 79



Trail Amenities | Best Practices

The project team has identified trail amenities that can be used as best practices for new trailhead locations and shopping areas adjacent to the trail network. These amenities are pictured on this page and were voted on for importance in the resident survey. See Appendix I to view the survey results.

Bicycle Racks

Photo: Wikipedia.com

Benches

Photo: Spicer Group

Water Stations

Photo: Trail Run Project

Covered Pavilions

Photo: Winter Garden Post

Bike Repair Stations

Photo: TreeTop Products

Trash Receptacles

Photo: Wilx

Bathrooms

Photo: US NPS

Lighting

Photo: LEDS Magazine

Conceptual Land Design Plans

The following concepts would improve two of the sites proposed as trailheads.

2511 Binion Road

Alternative route (Segment P1) taking the trail through the existing wooded area.

Highland Manor Greenspace

The eastern end of Segment 1G travels through Highland Manor.

Tree Canopy Plan

Tree canopy coverage helps to improve comfort for trail riders by reducing temperatures. This can assist in increasing trip lengths and overall use of the trail network. The maps on the following two pages show current shading levels and tree canopy priorities along the existing and proposed trail network.

Tree Type Recommendations

The following tree types are native to Florida and provide plentiful amounts of shading.

Southern Live Oak

Magnolia

Laurel Oak

Tabebuia

Figure 82

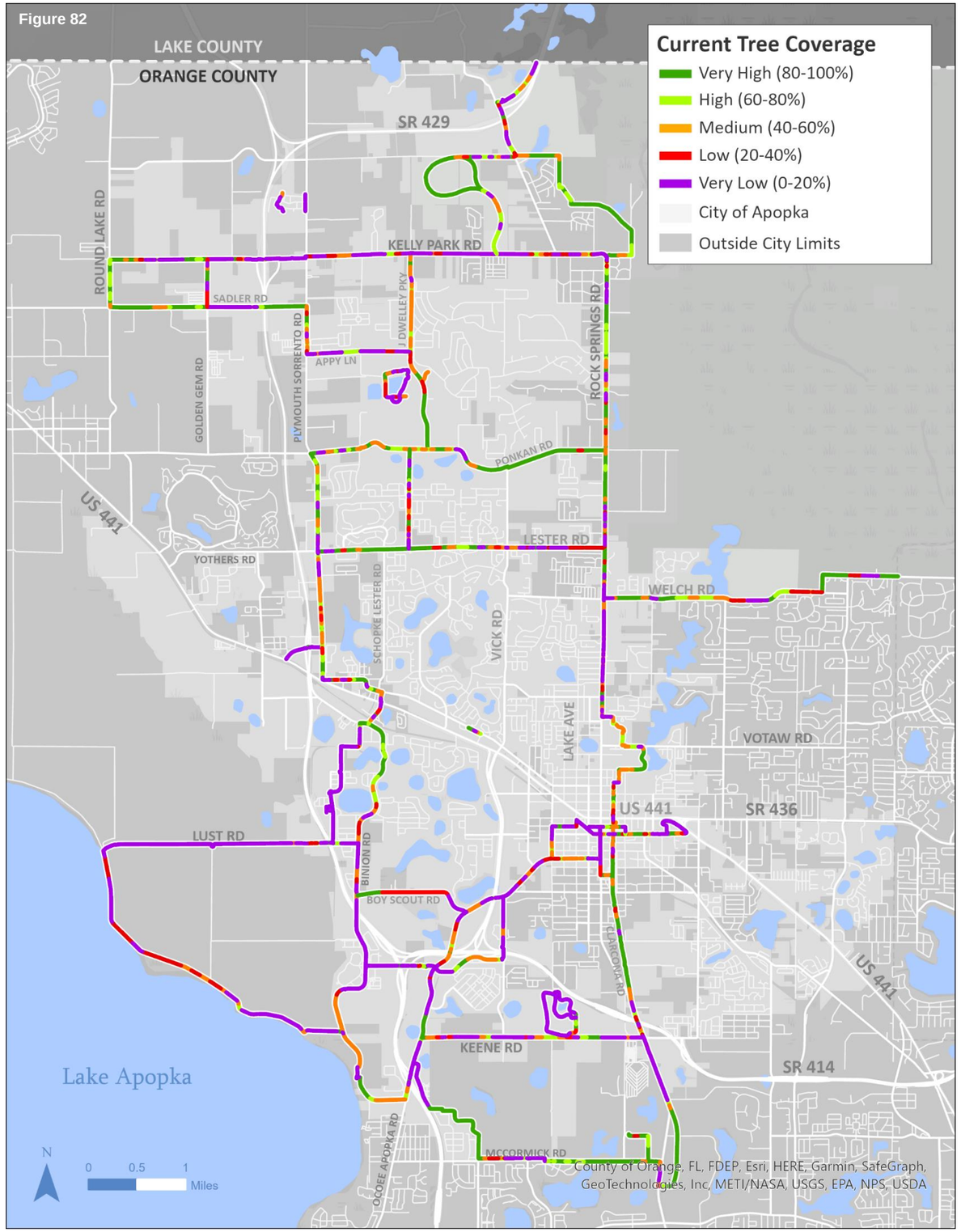


Figure 83

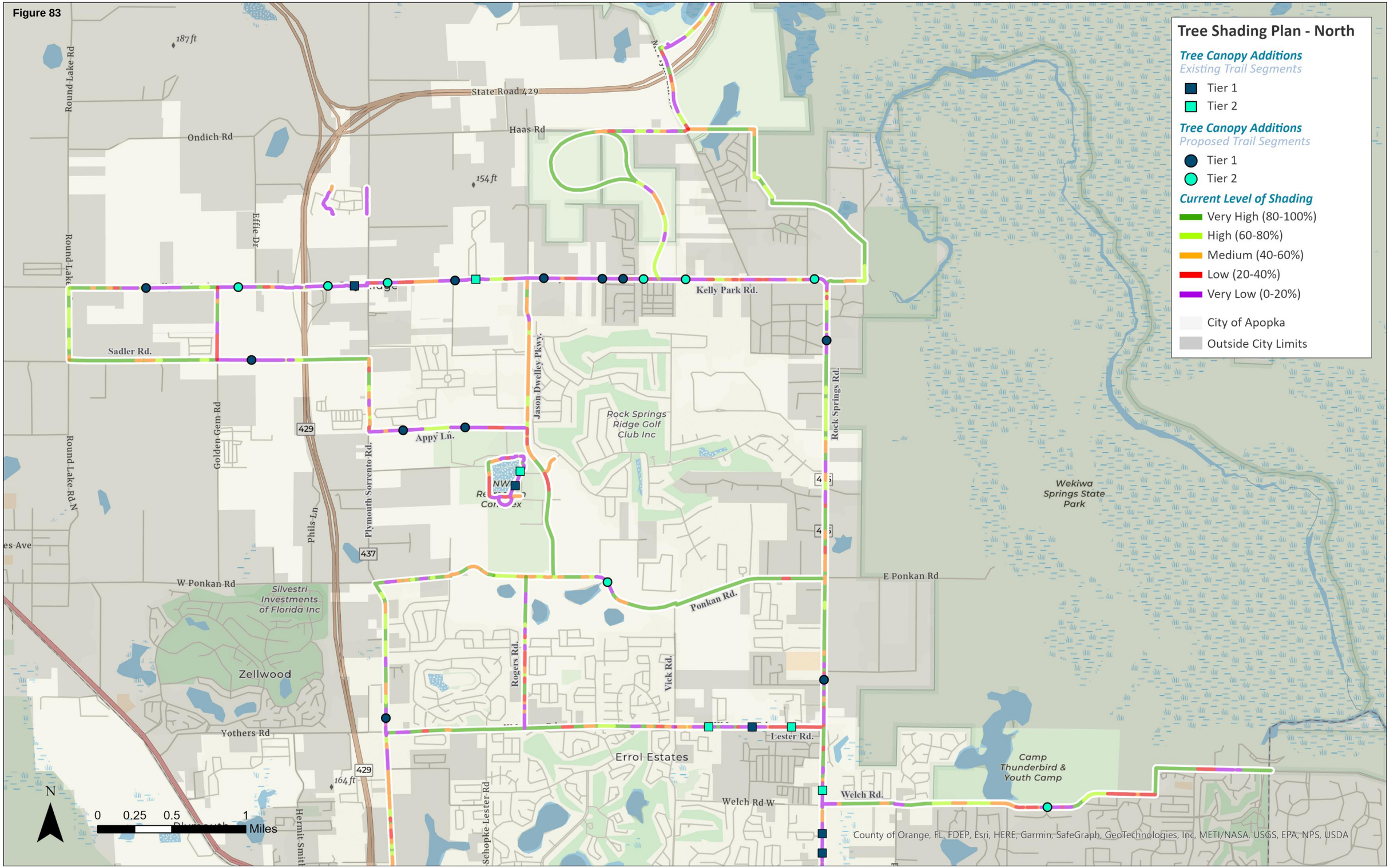
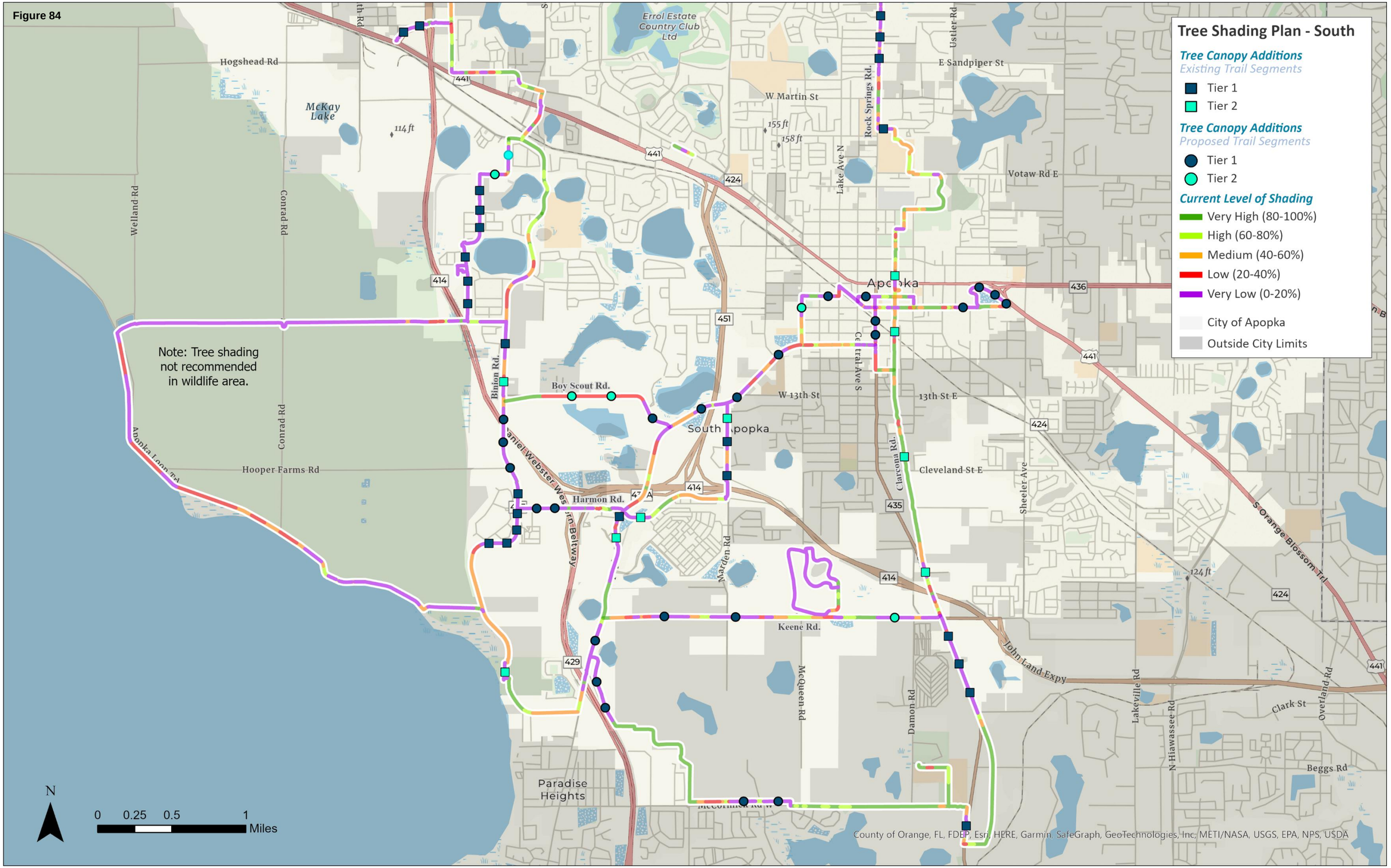

Tree Shading Plan - North
Tree Canopy Additions
Existing Trail Segments
Tier 1
Tier 2
Tree Canopy Additions
Proposed Trail Segments
Tier 1
Tier 2
Current Level of Shading
Very High (80-100%)
High (60-80%)
Medium (40-60%)
Low (20-40%)
Very Low (0-20%)
City of Apopka
Outside City Limits
187 ft
154 ft
164 ft
Round Lake Rd
State Road 429
Haas Rd
Ondich Rd
Effie Dr
Kelly Park Rd.
Sadler Rd.
Golden Gem Rd
Jason Dwelley Pkwy.
Rock Springs Rd.
Rock Springs Ridge Golf Club Inc
Appy Ln.
Plymouth Sorrento Rd.
Phils Ln
Wekiwa Springs State Park
W Ponkan Rd
E Ponkan Rd
Ponkan Rd.
Silvestri Investments of Florida Inc
Zellwood
Rogers Rd.
Vick Rd.
Yothers Rd
Lester Rd.
Errol Estates
Schopke Lester Rd
Welch Rd W
Welch Rd.
Camp Thunderbird & Youth Camp
Hermit Smith
N
0 0.25 0.5 1 Miles
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

Figure 84


Tree Shading Plan - South
Tree Canopy Additions
Existing Trail Segments
Tier 1
Tier 2
Tree Canopy Additions
Proposed Trail Segments
Tier 1
Tier 2
Current Level of Shading
Very High (80-100%)
High (60-80%)
Medium (40-60%)
Low (20-40%)
Very Low (0-20%)
City of Apopka
Outside City Limits
Note: Tree shading not recommended in wildlife area.
Errol Estate Country Club Ltd
McKay Lake
Hogshead Rd
Welland Rd
Conrad Rd
Hooper Farms Rd
W Martin St
E Sandpiper St
Votaw Rd E
Rock Springs Rd.
Lake Ave N
Ustler Rd
Apopka
Central Ave S
W 13th St
13th St E
Cleveland St E
Clarcona Rd.
Sheeler Ave
S Orange Blossom Trl
Binion Rd.
Boy Scout Rd.
South Apopka
Daniel Webster Western Beltway
Harmon Rd.
Marden Rd
Keene Rd.
McQueen Rd
Damon Rd
John Land Expy
Lakeville Rd
N Hiawassee Rd
Clark St
Overland Rd
Beggs Rd
Paradise Heights
441
414
424
451
436
435
429
155 ft
158 ft
114 ft
124 ft
N
0 0.25 0.5 1 Miles
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

Intersection & Crossing Safety Plan

The Priority 1, Priority 2, and Partnership trail networks included in this plan have been analyzed for safety to ensure that residents and visitors can seamlessly ride, walk and roll through the City. Future trail corridors funded or planned by the County and State have not been analyzed as part of this plan, as that work is being done by other parties.

Countermeasure Types

Four countermeasure types have been identified for implementation as the trail network is built out. These include 1) a new proposed overpass in one location, 2) new rectangular rapid flashing beacons (RRFB's), 3) new painted trail crossings and 4) trail crossing signs (MUTCD sign W11-15a).

Trail Overpass at Lake View Drive & U.S. 441

As discussed previously, crossings over U.S. 441 are limited to just one location in this plan in addition to the existing above-grade crossing in downtown Apopka. At this crossing, located at Lake View Drive, it is recommended that the City build an above-grade facility in order to avoid the high speeds and high traffic volumes along U.S. 441. Right-of-way along the east side of Lake View Drive is fairly unconstrained, which increases the feasibility of such a facility being built. It is recommended that the City pursue a Reconnecting Communities Grant or another grant in order to cover a portion of the cost of the newly proposed facility.

Flashing Beacon Locations

Rectangular rapid flashing beacons (RRFB's) are critical at non-controlled crosswalks, as they allow a bicyclist or pedestrian to cross the street with the push of a button. In areas where flashing beacons are recommended, an alternative countermeasure would be to signalize the intersection or convert the intersection into a four-way stop.

Wide, Painted Trail Crosswalk

Rectangular Rapid Flashing Beacon

MUTCD Sign W11-15a

Figure 85

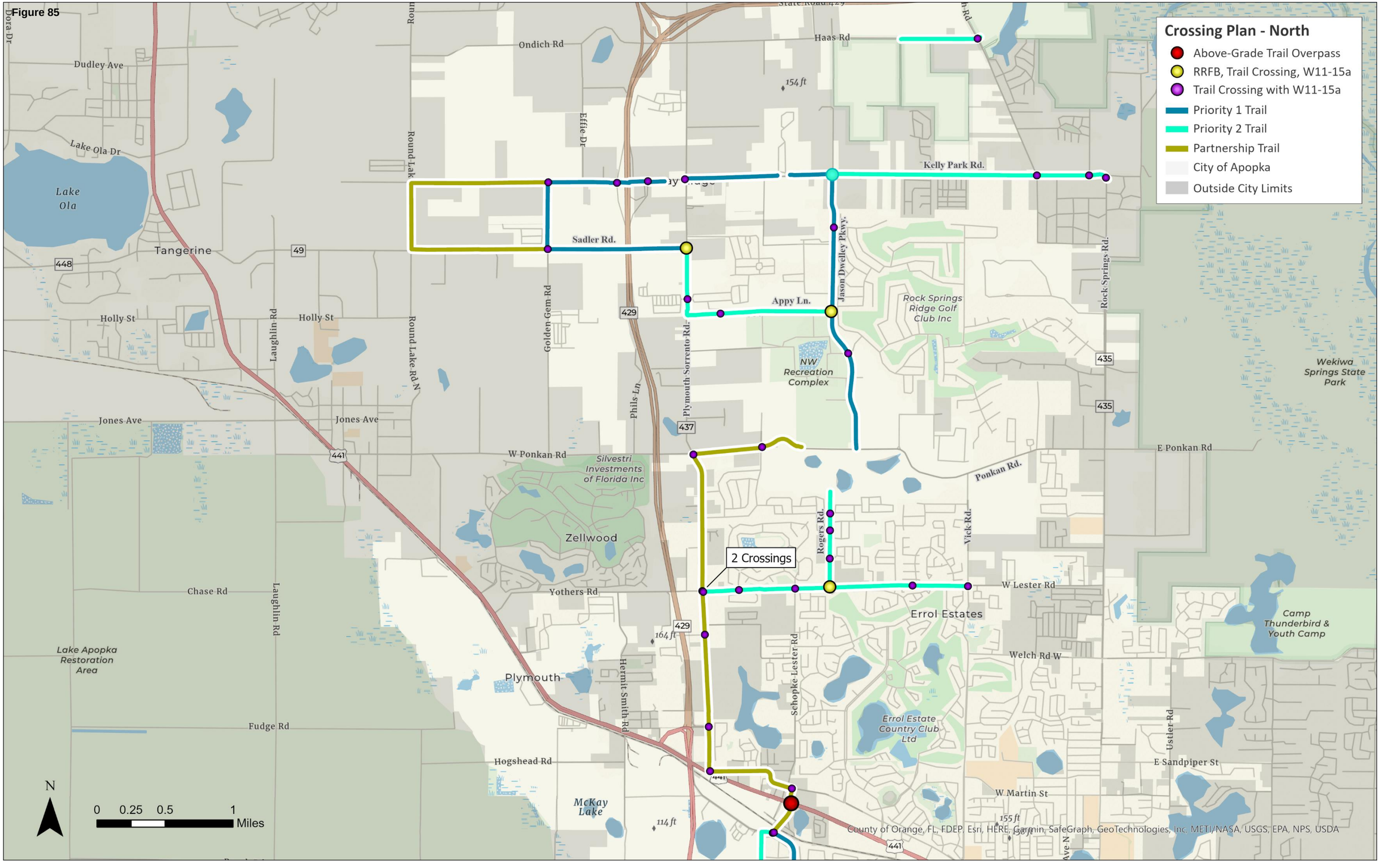
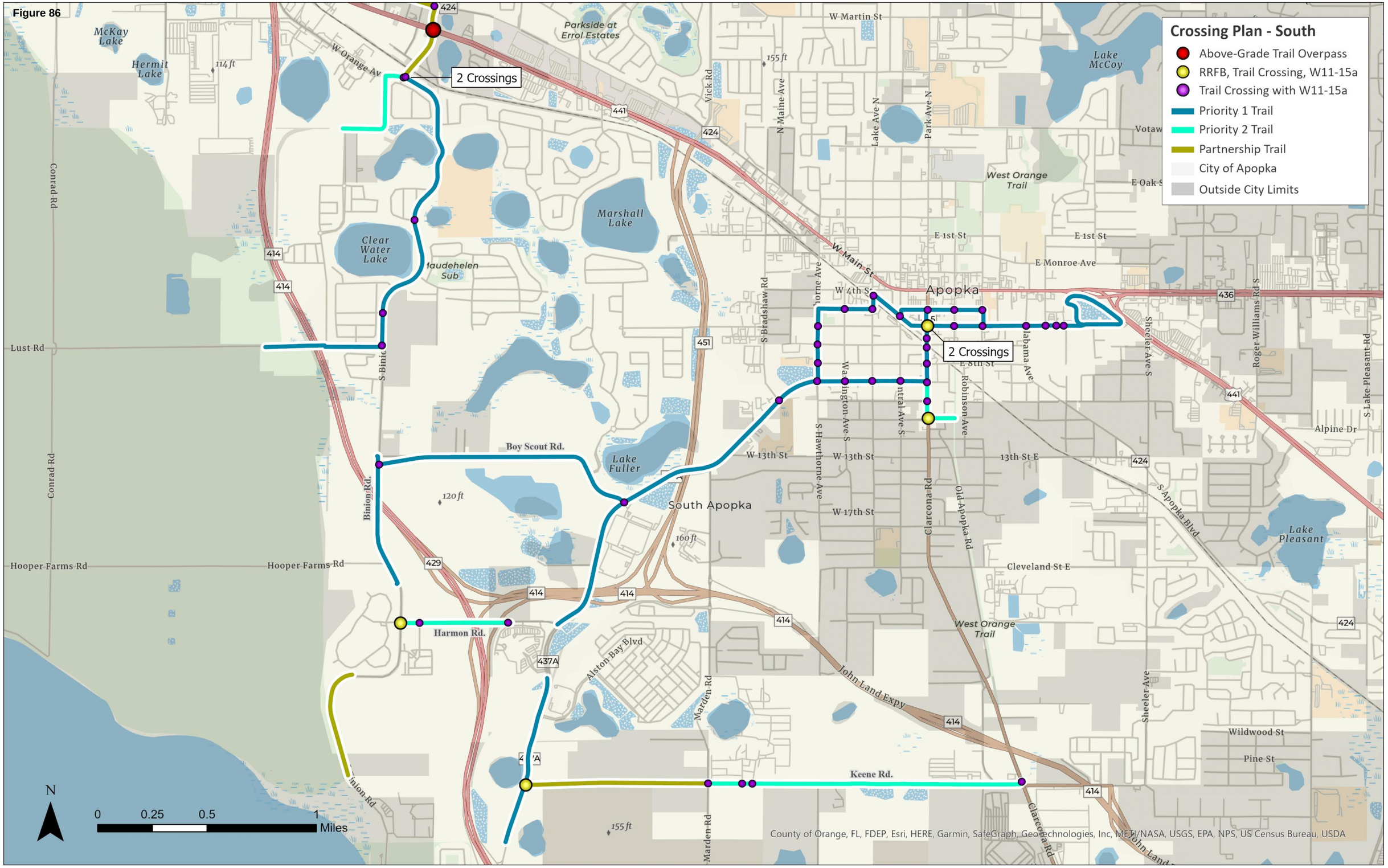

Crossing Plan - North
Above-Grade Trail Overpass
RRFB, Trail Crossing, W11-15a
Trail Crossing with W11-15a
Priority 1 Trail
Priority 2 Trail
Partnership Trail
City of Apopka
Outside City Limits
2 Crossings
Dudley Ave
Lake Ola Dr
Lake Ola
Tangerine
Holly St
Jones Ave
Chase Rd
Fudge Rd
Lake Apopka Restoration Area
Plymouth
Zellwood
Ondich Rd
Haas Rd
154 ft
Kelly Park Rd.
Sadler Rd.
Appy Ln.
Jason Dwelley Pkwy.
Rock Springs Ridge Golf Club Inc
NW Recreation Complex
Rock Springs Rd.
Wekiwa Springs State Park
Golden Gem Rd
Phils Ln
Plymouth Sorrento Rd.
Round Lake Rd N
Laughlin Rd
Effie Dr
W Ponkan Rd
Silvestri Investments of Florida Inc
E Ponkan Rd
Ponkan Rd.
Rogers Rd.
Vick Rd.
W Lester Rd
Errol Estates
Errol Estate Country Club Ltd
Camp Thunderbird & Youth Camp
Welch Rd W
Schopke Lester Rd
Hermit Smith Rd
Yothers Rd
Hogshead Rd
McKay Lake
114 ft
164 ft
155 ft
Ustler Rd
E Sandpiper St
W Martin St
441
429
437
435
49
448
N
0 0.25 0.5 1 Miles
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

Figure 86


Crossing Plan - South
Above-Grade Trail Overpass
RRFB, Trail Crossing, W11-15a
Trail Crossing with W11-15a
Priority 1 Trail
Priority 2 Trail
Partnership Trail
City of Apopka
Outside City Limits
2 Crossings
2 Crossings
Harmon Rd.
Keene Rd.
Apopka
South Apopka
Parkside at Errol Estates
Marshall Lake
Clear Water Lake
Lake Fuller
Lake McCoy
Lake Pleasant
West Orange Trail
Boy Scout Rd.
W Martin St
W Main St
E 1st St
E Monroe Ave
W 4th St
E 8th St
W 13th St
W 17th St
13th St E
Cleveland St E
Alston Bay Blvd
John Land Expy
Wildwood St
Pine St
Alpine Dr
Hooper Farms Rd
Lust Rd
Conrad Rd
Binion Rd.
Marden Rd
Clarcona Rd
Old Apopka Rd
S Apopka Blvd
Sheeler Ave
Roger Williams Rd S
S Lake Pleasant Rd
S Bradshaw Rd
N Maine Ave
Lake Ave N
Park Ave N
Vick Rd
S Hawthorne Ave
Robinson Ave
Alabama Ave
W Orange Av
Hermit Lake
McKay Lake
114 ft
120 ft
155 ft
160 ft
424
441
414
429
451
437A
436
N
0
0.25
0.5
1
Miles
County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

Wayfinding Strategy

It is recommended that the City complete a Wayfinding Signage Study to complement this plan as funding becomes available. A comprehensive signage study would enhance navigability along the trail network while promoting Apopka's business, environmental, recreational and cultural hubs. The following strategies could be further investigated as part of a Wayfinding Signage Study:

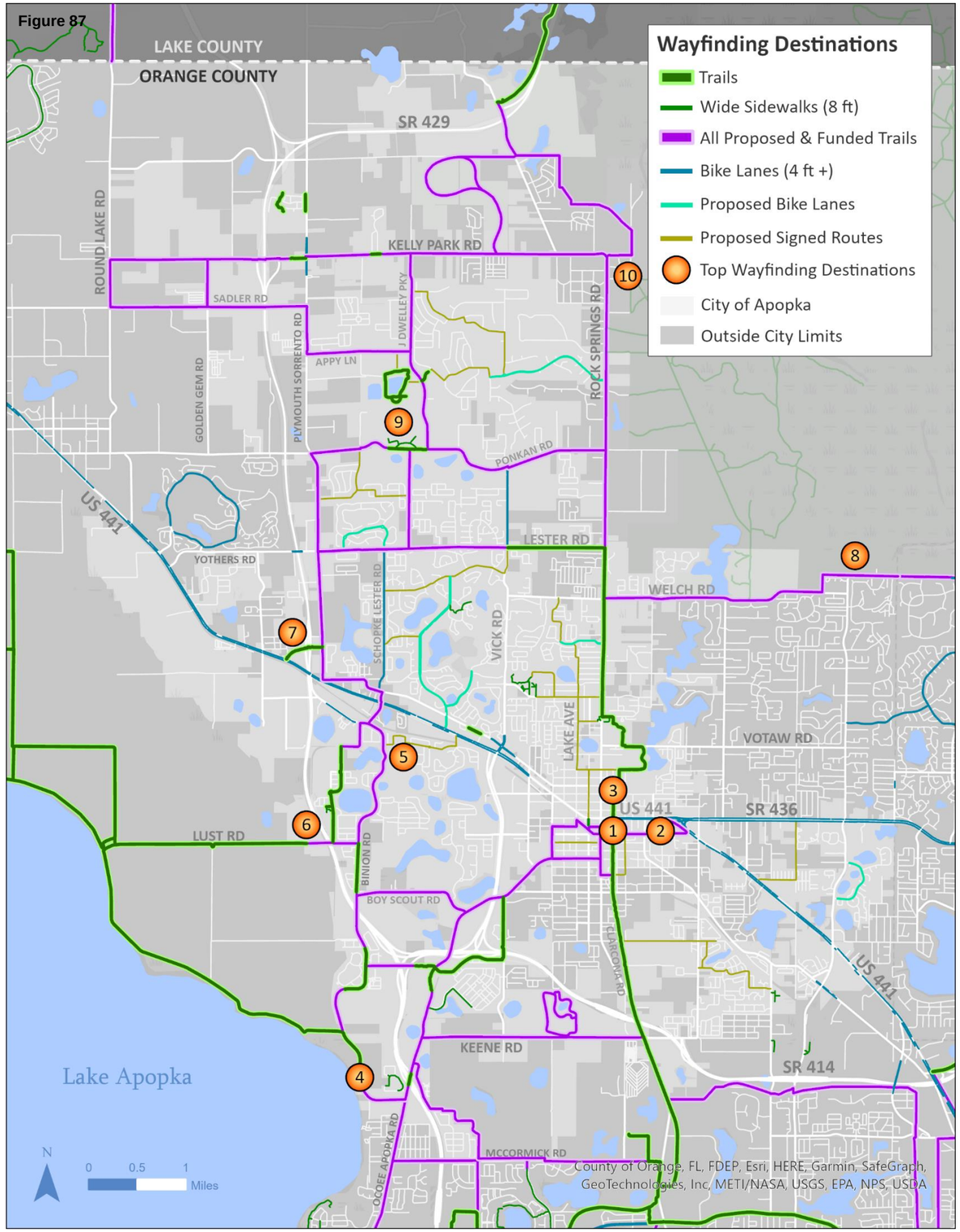
- Signage Types
  - On-Route Trail Network Maps
  - Distance-to-Destination Signs
  - Trail Navigation (Directional) Signs
  - Bike Route Signs
  - MUTCD Signage (Safety)
- Signage Placement Locations
- Signage Destinations
- Signage Design and Theming

Top Wayfinding Destinations *(Preliminary)*

The following ten locations have been identified as primary signage destinations for the City's wayfinding plan. Additional destinations should be identified as new trailheads and developments are built in the future.

- Downtown Apopka (1)
- Apopka City Center (2)
- Apopka Station (3)
- Magnolia Park (4)
- Camp Wewa (5)
- Lake Apopka Wildlife Area (6)
- Floridian Town Center (7)
- Wekiva Springs (8)
- Northwest Recreation Center (9)
- Kelly Park, Rock Springs (10)

Figure 87



Trail Standards Guide

This plan briefly outlined trail design and placement standards as part of Section III: Network Analysis. These standards have been expanded upon using the Orange County trail standards as a point of guidance.

The images on this page are products of the Orange County Parks and Recreation Department and represent the best-case scenario of a 14-foot-wide asphalt trail section.

❖ Facility Width

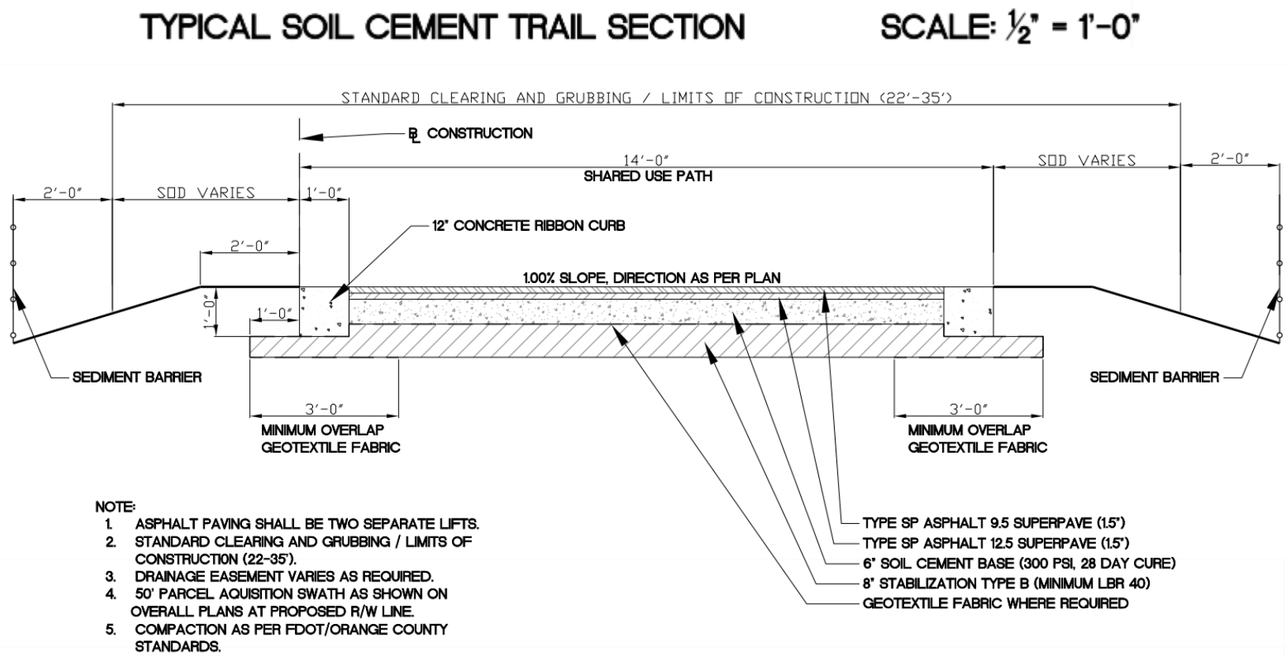
- 10 to 14 feet in width if right-of-way is available.
- 8 feet in width (minimum) if right-of-way is constrained.

❖ Roadway Separation

- Separated from the roadway by at least 10 feet if right-of-way is plentiful to allow for shade tree placement in the buffer area.
- Separated from the roadway by at least 5 feet if right-of-way is constrained, but available.
- No roadway separation only in the previously-identified right-of-way countermeasure areas.

❖ Other Considerations

- Concrete or asphalt are recommended. Concrete trails require less maintenance than asphalt trails.
- If asphalt is used with a high water table, then two lofts of asphalt are recommended in order to reduce cracking.



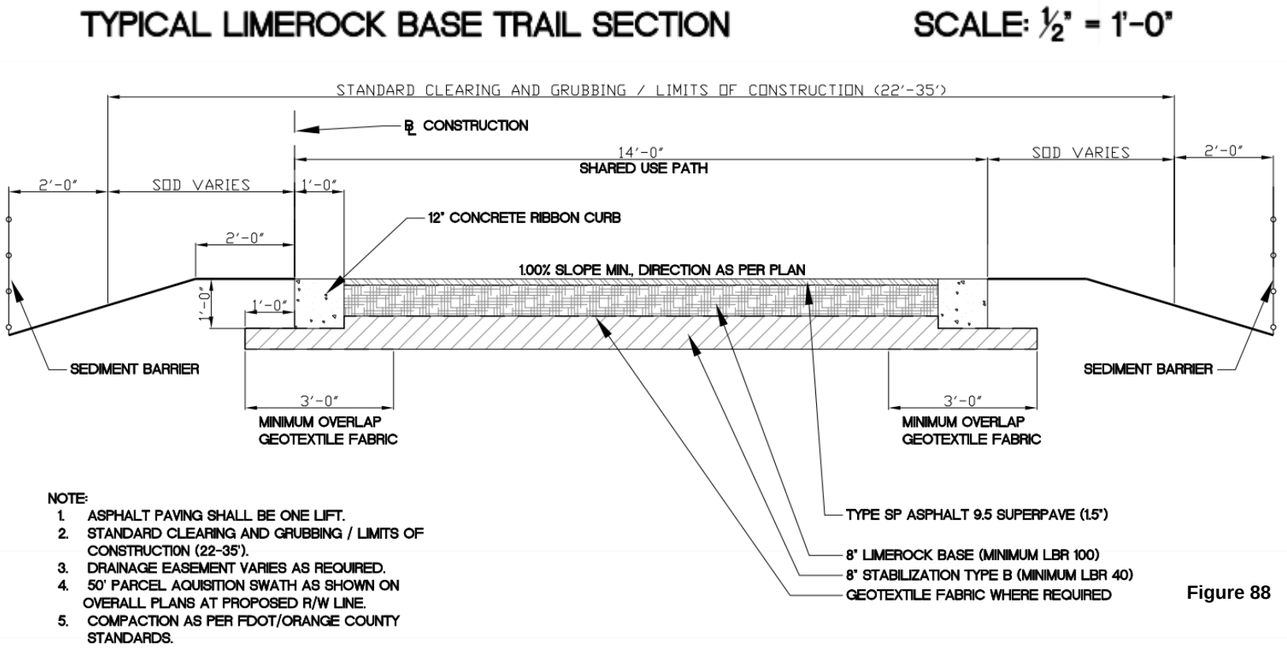


Figure 88

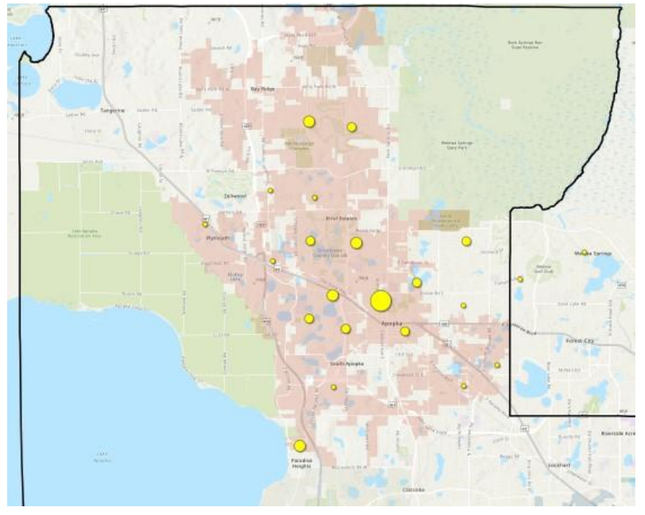
Appendix 1: Survey Results

Distributed 750 postcards to over 30 businesses in the City of Apopka

15+ people attended the Community Workshop on May 18, 2023

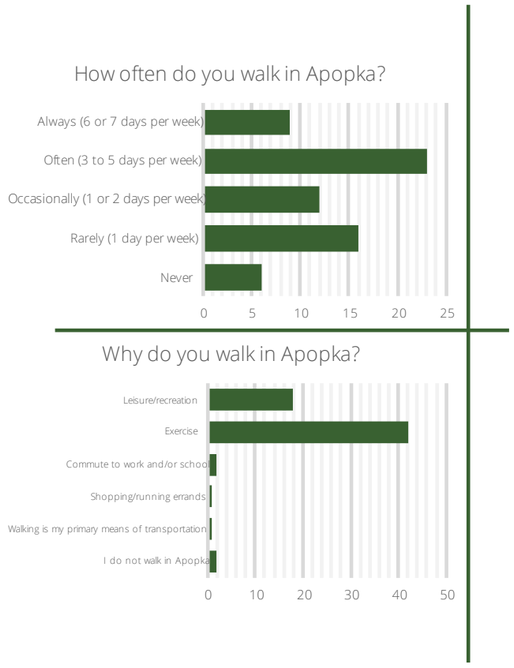
Survey Results

- 2nd round of postcard distribution to City facilities and at Bike/Walk community outreach events
- Inclusion in City and Bike/Walk weekly email campaigns
- 66 total responses



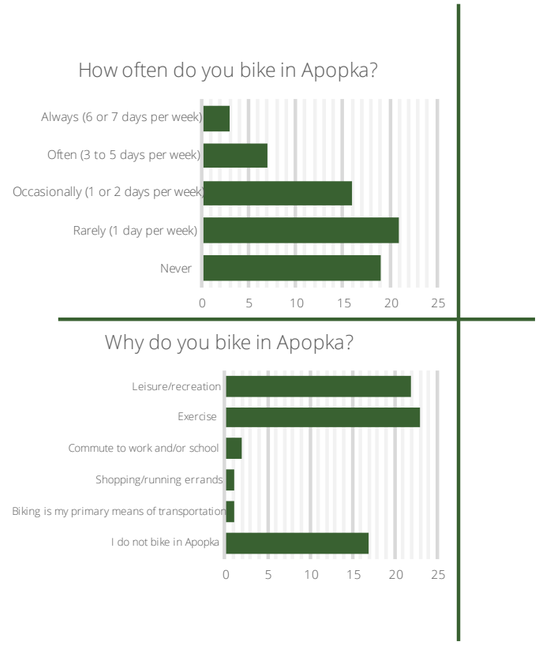
Walking in Apopka

- People are walking very often – most likely for leisure, recreation, or exercise



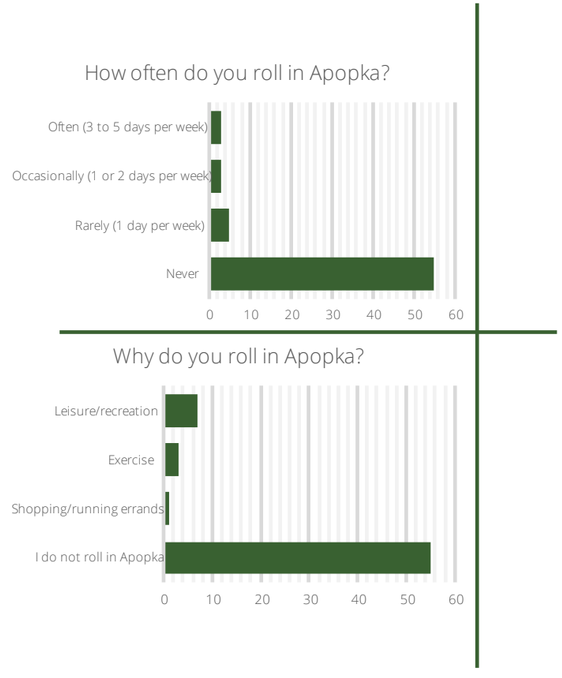
Biking in Apopka

- People are biking a little – most likely for leisure, recreation, or exercise



Rolling in Apopka

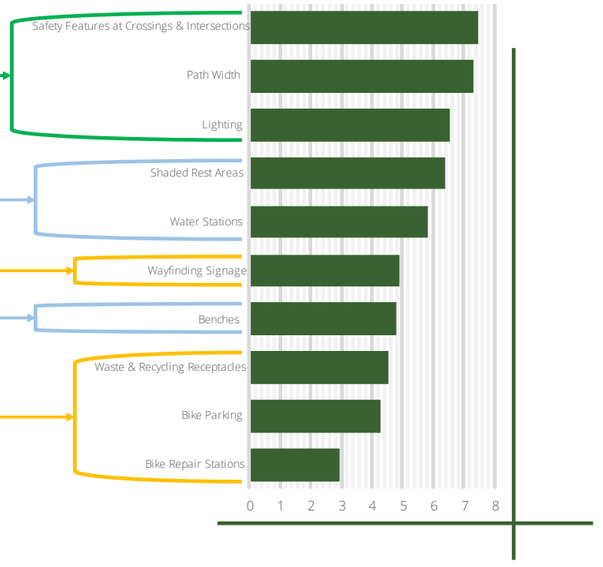
- People are aren't rolling much – when they do, it is likely for leisure, recreation, or exercise



Trail Amenity & Feature Priorities

People prioritized:

1. Safety
2. Comfort
3. Convenience



Trail Connection Priorities

People prioritized:

1. Recreational Destinations
2. "Day-to-day" commutes

Appendix 2: Project Team

City of Apopka
Pamela Richmond, AICP

Bike/Walk Central Florida
Emily Hanna, AICP
Patrick Panza, AICP

xGeographic
PJ Smith, AICP

City of Apopka
CITY COUNCIL STAFF REPORT

Section: PUBLIC HEARINGS/ORDINANCES/RESOLUTION (Action Item)
Item #: 1.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Ordinance No. 3010 – First Reading – Small-Scale Future Land Use Amendment from Industrial to Commercial – Shake the Nations Property

REQUEST:
Accept the first reading of Ordinance Number 3010 and hold it over for second reading and adoption.

SUMMARY:
Owner(s): Shake the Nations Ministries, Inc.
Applicant(s): Lowndes Law Firm c/o Jonathan Huels, Esq.
Parcel Identification Number(s): 11-21-28-7900-00-210
Location: 333 Semoran Commerce Place
Existing Future Land Use: Industrial (0.60 floor area ratio maximum)
Proposed Future Land Use: Commercial (0.25 floor area ratio maximum)
Existing Zoning District: I-L (Light Industrial)
Proposed Zoning District: C-COR (Corridor Commercial)
Existing Use(s): Vacant
Tract Size: 2.4 +/- Acres

PROJECT SUMMARY:

The subject property is 2.4 acres in area and currently houses a building with over 24,300 square feet of area and an existing use of broadcasting studio and auxiliary office use. Commercial future land use designation exists on the southern adjacent property. This application is being processed simultaneously with an application to change the zoning of the subject property from I-L (Light Industrial) to C-COR (Corridor Commercial) zoning district.The subject property is 2.4 acres in area and currently houses a building with over 24,300 square feet of area and an existing use of broadcasting studio and auxiliary office use. Commercial future land use designation exists on the southern adjacent property. This application is being processed simultaneously with an application to change the zoning of the subject property from I-L (Light Industrial) to C-COR (Corridor Commercial) zoning district.

FUNDING SOURCE:

Not applicable.

ORANGE COUNTY NOTIFICATION:

The JPA (Joint Planning Agreement) requires the City to notify the County 30 days before any public hearing or advisory board. The City notified Orange County on April 10, 2023.

PUBLIC HEARING SCHEDULE:

June 13, 2023 – Planning Commission (5:30 P.M.)
July 5, 2023 – City Council (1:30 P.M.), First Reading – tabled until August 2, 2023
August 2, 2023 – City Council (1:30 P.M.), First Reading – continued to September 6, 2023
September 6, 2023 – City Council (1:30 P.M.), First Reading
September 20, 2023 – City Council (7:00 P.M.), Second Reading/Adoption

DULY ADVERTISED:

May 26, 2023 – Apopka Chief
May 30, 2023 – Mailed notices to adjacent property owners; Posters placed on property
July 14, 2023 – Apopka Chief

LAND USE REPORT

RELATIONSHIP TO ADJACENT PROPERTIES

Direction	Future Land Use	Zoning	Present Use
North	Industrial	I-L (Light Industrial)	Industrial Warehouse
East	Industrial	I-L	Unimproved Parking Lot
South	Commercial	C-C (Community Commercial) and C-R (Regional Commercial)	Office and Business Center
West	Industrial	I-L	Industrial Warehouse

1. LAND USE ANALYSIS

The subject property is in the southeast portion of the Joint Planning Area. Industrial warehouses and uses are located to the north and west, while commercial uses including an office/business center is located to the south. Development must comply with the Commercial future land use designation and be consistent with the Comprehensive Plan policies and Development Design Guidelines found in the Land Development Code. The property is approximately 2.4 acres in size. The parcel is not located in the following areas:

Wekiva Parkway Interchange Vision Plan Area: No
Wekiva River Protection Area: No
Area of Critical State Concern: No

JPA: The City of Apopka and Orange County entered into a Joint Planning Area (JPA) agreement on October 26, 2004. The proposed FLUM Amendment request for a change from Industrial to Commercial is consistent with the terms of the JPA.

CITY OF APOPKA COMPREHENSIVE PLAN POLICIES:

Future Land Use Element:

Policy 3.1.i – Commercial: Primary uses shall be for business, commerce, and convenience shopping which may be neighborhood or community oriented. The maximum floor area ratio shall be 0.25 gross floor area. Institutional land uses of less than five acres; and public facilities or utilities of less than five acres. The expansion of strip commercial areas shall be prohibited except in infill areas.

Transportation Element:

Policies 1.1 and 1.2 state that the City of Apopka is a Transportation Concurrency Exception Area. The property has existing access to U.S. 441 via Semoran Commerce Place.

Infrastructure Element:

Policies 1.1.1, 2.1.1 and 5.1.2 state the minimum levels of service for the City's wastewater and water systems as well as the City's solid waste collection service. The property has access to City water and wastewater.

Conservation Element:

Policy 4.1 states that a habitat study is required for developments ten (10) acres or more in size. As this property is less than ten acres in size and is developed, a habitat study will not be required for development.

Land Use Calculations:

CURRENT: Industrial (0.60 floor area ratio maximum)
0.60 X 2.4 acres = 62,726 square feet of industrial use(s)
PROPOSED: Commercial (0.25 floor area ratio maximum)
0.25 X 2.4 acres = 26,136 square feet of commercial use(s)
This initial review does not preclude conformance with concurrency requirements at the time of development approval.

Note: This item is considered legislative. The staff report and its findings are to be incorporated into and made a part of the minutes of this meeting.

Attachments:

- Maps (PDF)
- Ordinance Number 3010

FUNDING SOURCE:
Not applicable.

RECOMMENDED MOTION:

Development Review Committee (DRC):

Staff recommends approval of the change in Future Land Use from Industrial to Commercial and finds the proposed amendment consistent with the Comprehensive Plan and Land Development Code, and compatible with the character of the surrounding areas, recommending approval of the future land use amendment, based on the findings and facts presented in the staff report and exhibits.

Planning Commission:

At its meeting on June 13, 2023, the Planning Commission found the proposed change in Future Land Use from Industrial to Commercial consistent with the Comprehensive Plan and Land Development Code, and compatible with the character of the surrounding areas, and unanimously recommended approval of the future land use amendment, based on the findings and facts presented in the staff report and exhibits.

City Council:

At its meeting on July 5, 2023, City Council tabled this item at the request of Staff.

City Council:

At its meeting on August 2, 2023, this item was continued to a date certain of September 6, 2023 at the request of the applicant.

Recommended Motion – City Council:

Accept the first reading of Ordinance Number 3010 and hold it over for second reading and adoption on September 20, 2023.

ATTACHMENTS:

1. Ordinance Number 3010
2. Maps

ORDINANCE NO. 3010

AN ORDINANCE OF THE CITY OF APOPKA, FLORIDA, AMENDING THE FUTURE LAND USE ELEMENT OF THE APOPKA COMPREHENSIVE PLAN OF THE CITY OF APOPKA; CHANGING THE FUTURE LAND USE DESIGNATION FROM INDUSTRIAL TO COMMERCIAL FOR CERTAIN REAL PROPERTY GENERALLY LOCATED EAST OF SEMORAN COMMERCE PLACE, WEST OF LAKE PLEASANT ROAD AND NORTH OF SR 436; OWNED BY SHAKE THE NATIONS MINISTRIES, INC., COMPRISING 2.4 ACRES, MORE OR LESS; PROVIDING FOR SEVERABILITY, CONFLICTS, AND AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Apopka adopted the Apopka Comprehensive Plan by Ordinance No. 653 on October 2, 1991, pursuant to Section 163.3184, Florida Statutes and most recently amended it by Ordinance No. 3004 on May 17, 2023; and

WHEREAS, the City of Apopka's Local Planning Agency (Planning Commission) has, in preparation of the amended version of the Apopka Comprehensive Plan, analyzed the proposed amendment pursuant to Chapter 163, Part II, F.S., found it to be consistent with the intent of the Apopka Comprehensive Plan, and held public hearings providing for full public participation.

NOW THEREFORE, BE IT ORDAINED, by the City Council of the City of Apopka, Florida, as follows:

Section I. Purpose and Intent. This Ordinance is enacted to carry out the purpose and intent of, and exercise the authority set out in, the Local Government Comprehensive Planning and Land Development Regulation Act, Sections 163.3184 and 163.3187, Florida Statutes.

Section II. Future Land Use Element. Page 1-32 (Map 1-6) of the Future Land Use Element of the City of Apopka Comprehensive Plan, as most recently amended by Ordinance No. 3004 is amended in its entirety to change the land use from Industrial to Commercial for certain real property generally located east of Semoran Commerce Place, west of Lake Pleasant Road and north of SR 436, comprising 2.4 acres more or less; as further described in Exhibit "A" attached hereto.

Section III. Applicability and Effect. The applicability and effect of the City of Apopka Comprehensive Plan shall be as provided by the Local Government Comprehensive Planning and Land Development Regulation Act, Sections 163.3161 through 163.3215, Florida Statutes.

Section IV. Severability. If any provision or portion of this Ordinance is declared by any court of competent jurisdiction to be void, unconstitutional, or unenforceable, then all remaining provisions and portions of this Ordinance shall remain in full force and effect.

Section V. Director Authorization. The Community Development Director is hereby authorized to amend the Future Land Use to comply with this ordinance**.**

Section VI. Effective Date. This Ordinance shall become effective thirty-one (31) days after adoption. If challenged within thirty (30) days after adoption, the Ordinance shall become effective after the state land planning agency or the Administration Commission, respectively, issues a final order determining that the adopted small-scale development amendment is in compliance.

ADOPTED at a regular meeting of the City Council of the City of Apopka, Florida, this _____ day of _____, 2023.

READ FIRST TIME: September 6, 2023

READ SECOND TIME AND ADOPTED: September 20, 2023

ATTEST:

Susan Bone, City Clerk

Bryan Nelson, Mayor

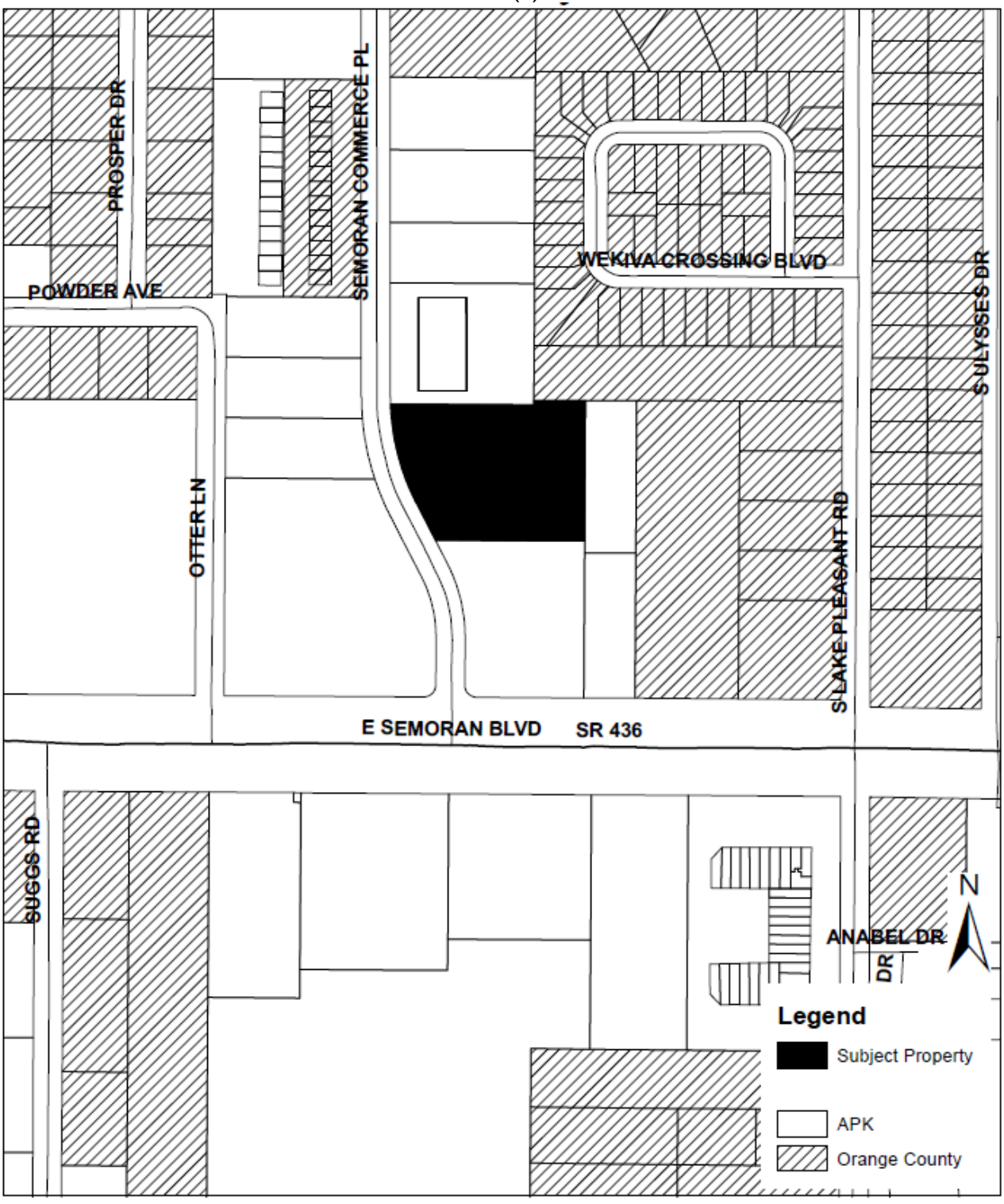
Approved as to form and legal sufficiency:

Cliff Shepard, City Attorney

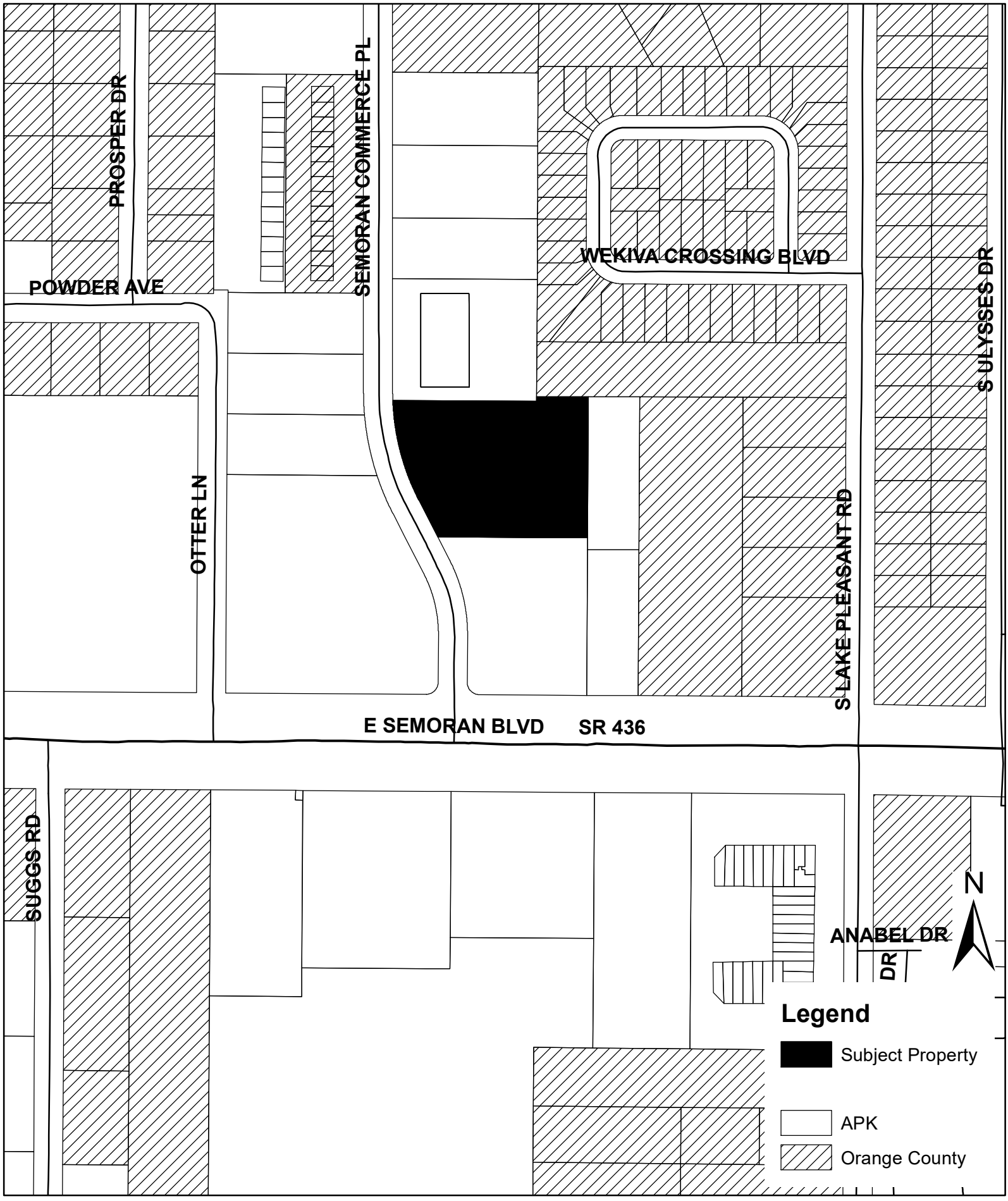
DULY ADVERTISED FOR PUBLIC HEARING: May 26, 2023

EXHIBIT "A"

Parcel Identification Number(s): 11-21-28-7900-00-210



Vicinity

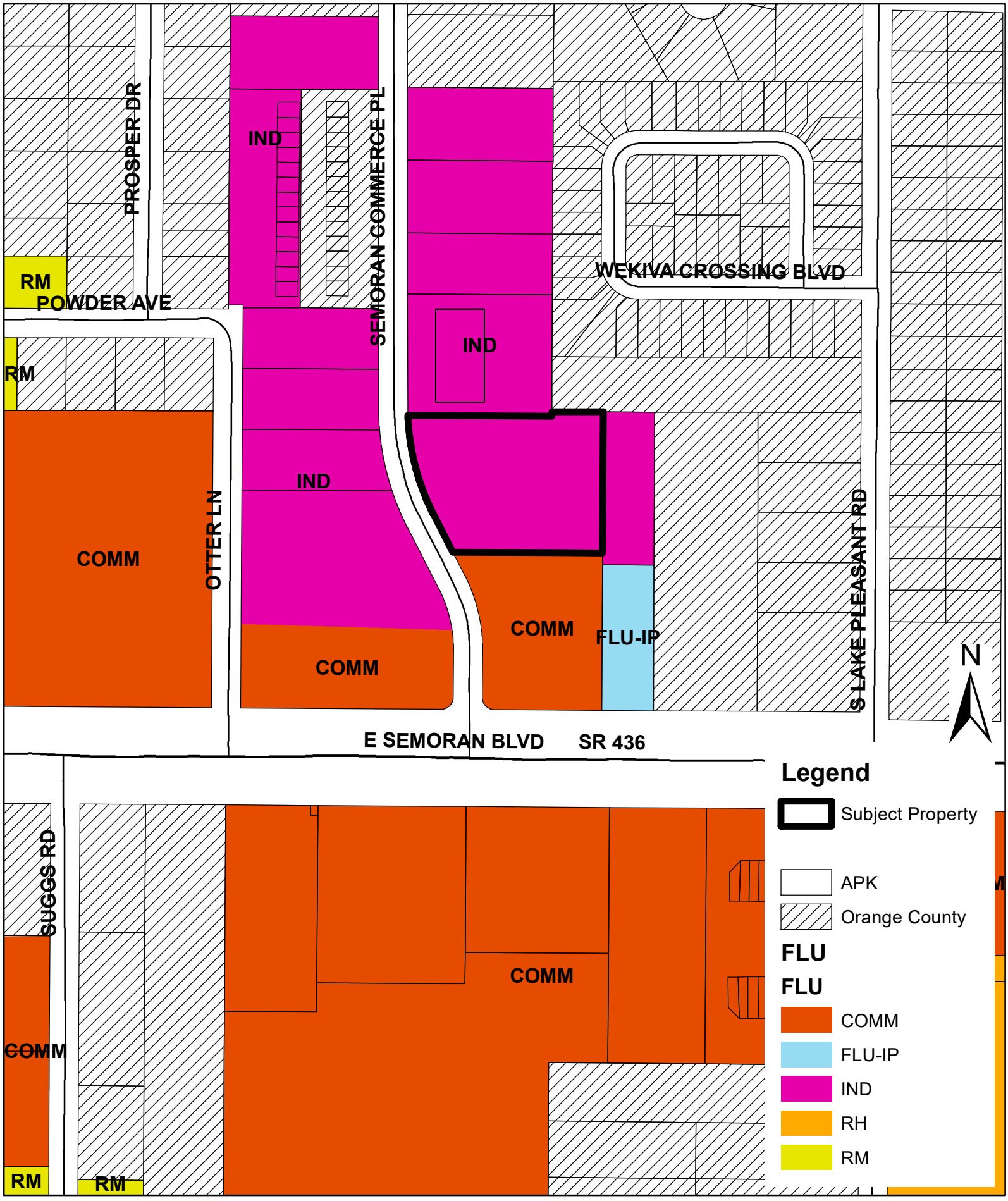


(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Aerial

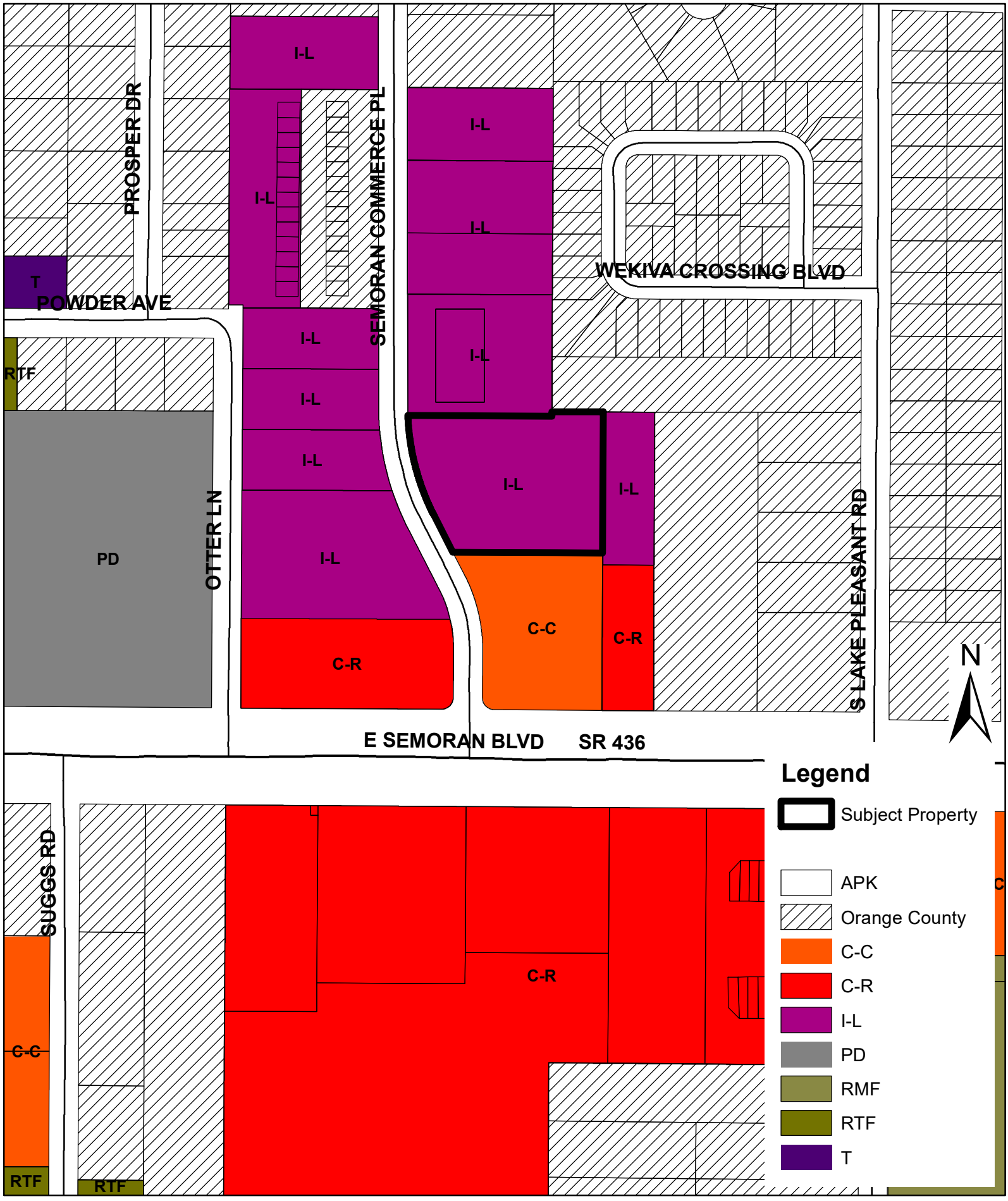
(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Future Land Use



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Zoning



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

City of Apopka
CITY COUNCIL STAFF REPORT

Section: PUBLIC HEARINGS/ORDINANCES/RESOLUTION (Action Item)
Item #: 2.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Ordinance No. 3011 – First Reading – Change of Zoning from I-L (Light Industrial) to C-COR (Corridor Commercial) – Shake the Nations Property

REQUEST:
Accept the first reading of Ordinance Number 3011 and hold it over for second reading and adoption.

SUMMARY:
Owner(s): Shake the Nations Ministries, Inc.
Applicant(s): Lowndes Law Firm c/o Jonathan Huels, Esq.
Parcel Identification Number(s): 11-21-28-7900-00-210
Location: 333 Semoran Commerce Place
Existing Future Land Use: Industrial (0.60 floor area ratio maximum)
Proposed Future Land Use: Commercial (0.25 floor area ratio maximum)
Existing Zoning District: I-L (Light Industrial)
Proposed Zoning District: C-COR (Corridor Commercial)
Existing Use(s): Vacant
Tract Size: 2.4 +/- Acres

Zoning Report:

Direction	Future Land Use	Zoning	Present Use
North	Industrial	I-L (Light Industrial)	Industrial Warehouse
East	Industrial	I-L	Unimproved Parking Lot
South	Commercial	C-C (Community Commercial) and C-R (Regional Commercial)	Office and Business Center
West	Industrial	I-L	Industrial Warehouse

PROJECT SUMMARY:

The subject property is approximately 2.4 acres in size. The applicant requests to change the zoning designation of the Shake the Nations Property from I-L (Light Industrial) to C-COR (Corridor Commercial). This application is being processed simultaneously with an application to amend the Future Land Use designation from Industrial to Commercial to allow conference center use. The current use is broadcasting studio with auxiliary office uses. The applicant has conveyed to staff that they intend to use a portion of the building to operate a conference center in the future.

The change of zoning to C-COR would provide a transition from the existing C-C (Community Commercial) zoning district south of the property, abutting Semoran Boulevard, to the northern properties in the I-L zoning district. The

purpose of the C-COR district is to provide lands that accommodate a moderate range of primarily commercial uses along commercial corridors, in ways that support infill and redevelopment. This property is located in the vicinity of the State Road 436 corridor, therefore, a suitable candidate for the said zoning.

The applicant has communicated that they intend to hold approximately 20 conferences annually by invitation only. Additionally, there are currently 66 parking spaces for the broadcasting studio, which requires 58 spaces per the Land Development Code (LDC). If other uses are introduced or change of use occurs such as conference center use, it is subject to the standards of the LDC and other applicable City standards.

ORANGE COUNTY NOTIFICATION:

The JPA (Joint Planning Agreement) requires the City to notify the County 30 days before any public hearing or advisory board. The City notified Orange County on April 10, 2023.

PUBLIC HEARING SCHEDULE:

June 13, 2023 – Planning Commission (5:30 P.M.)
July 5, 2023 – City Council (1:30 P.M.), First Reading – tabled until August 2, 2023
August 2, 2023 – City Council (1:30 P.M.), First Reading – continued to September 6, 2023
September 6, 2023 – City Council (1:30 P.M.), First Reading
September 20, 2023 – City Council (1:30 P.M.), Second Reading/Adoption

DULY ADVERTISED:

May 26, 2023 – Apopka Chief
May 30, 2023 – Mailed notices to adjacent property owners; Posters placed on property
July 14, 2023 – Apopka Chief

FUNDING SOURCE:
Not applicable.

RECOMMENDED MOTION:

Development Review Committee (DRC):

Recommends approval of the Change of Zoning from I-L (Light Industrial) to C-COR (Corridor Commercial), finding the proposed change consistent with the Comprehensive Plan and Land Development Code, and compatible with the character of the surrounding areas, based on the findings and facts presented in the staff report and exhibits.

Planning Commission:

At its meeting on June 13, 2023, the Planning Commission found the proposed Change of Zoning from I-L (Light Industrial) to C-COR (Corridor Commercial), consistent with the Comprehensive Plan and Land Development Code, and compatible with the character of the surrounding areas, and unanimously recommended approval of the proposed Change of Zoning, based on the findings and facts presented in the staff report and exhibits.

City Council:

At its meeting on July 5, 2023, City Council tabled this item at the request of Staff.

City Council:

At its meeting on August 2, 2023, this item was continued to a date certain of September 6, 2023 at the request of the applicant.

Recommended Motion – City Council:

Accept the first reading of Ordinance Number 3011 and hold it over for second reading and adoption on September 20, 2023.

ATTACHMENTS:

1. Shake the Nations - Building Exhibit
2. Shake the Nations - Applicant Email
3. Shake the Nations - Survey
4. Maps
5. Ordinance Number 3011

ALLEN & COMPANY
Founded in 1988

August 15, 2023

To whom it may concern,

This is to certify that this firm has measured the interior of the commercial building located at 333 Semoran Commerce Place, Apopka, FL 32703

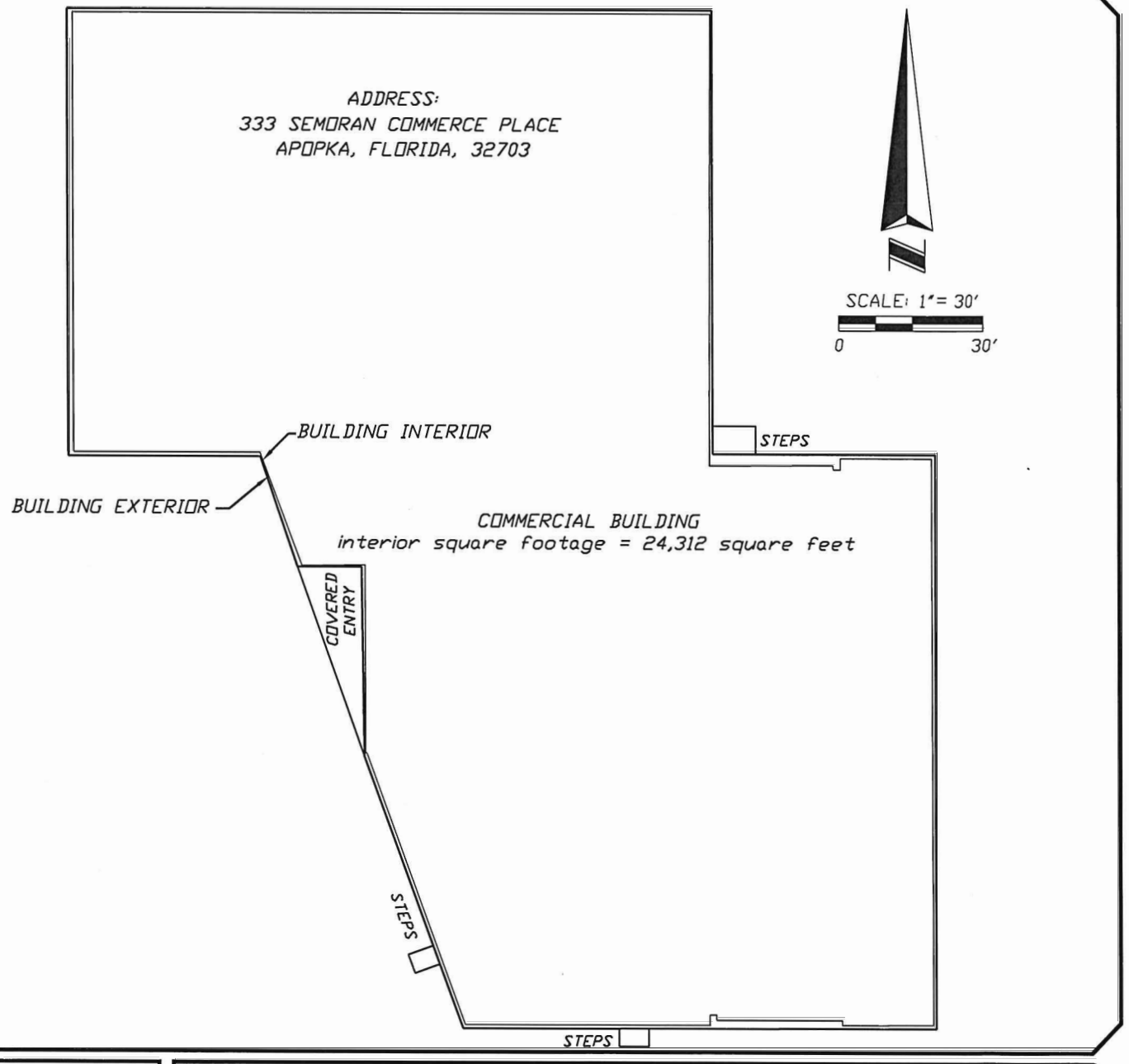
We found that the interior area of said building is approximately 24,312 square feet. The method used to determine this area provides a precision of 0.019' per foot.

James L. Rickman P.S.M. 5633

16 E Plant Street, Winter Garden, FL 34787 • Phone 407.654.5355 • Fax: 407.654.5356 • Email: proposals@allen-company.com
www.allen-company.com

EXHIBIT

NOT A SURVEY



ALLEN & COMPANY
Founded in 1988

SURVEYING • MAPPING
GEOSPATIAL SERVICES
www.allen-company.com
16 EAST PLANT STREET
WINTER GARDEN, FLORIDA 34787
(407) 654-5355
LB#6723

SYMBOL AND ABBREVIATION LEGEND:

LB LICENSED BUSINESS

NOTE: AREA SHOWN HEREON IS BASED ON DATA COLLECTED UTILIZING A NAVVIS VLX SCANNER, WHICH PROVIDES A PRECISION OF 0.019' PER FOOT.

JOB #:	20220917	CALC BY:	JCB
DATE:	08-15-2023	DRAWN BY:	JCB
SCALE:	1"=30'	CHECKED BY:	MR

Drawing name: C:\Users\jbentley\Desktop\081523_SEMCOM_BNDY_RECEIVED 8.5x11 Sheet-2

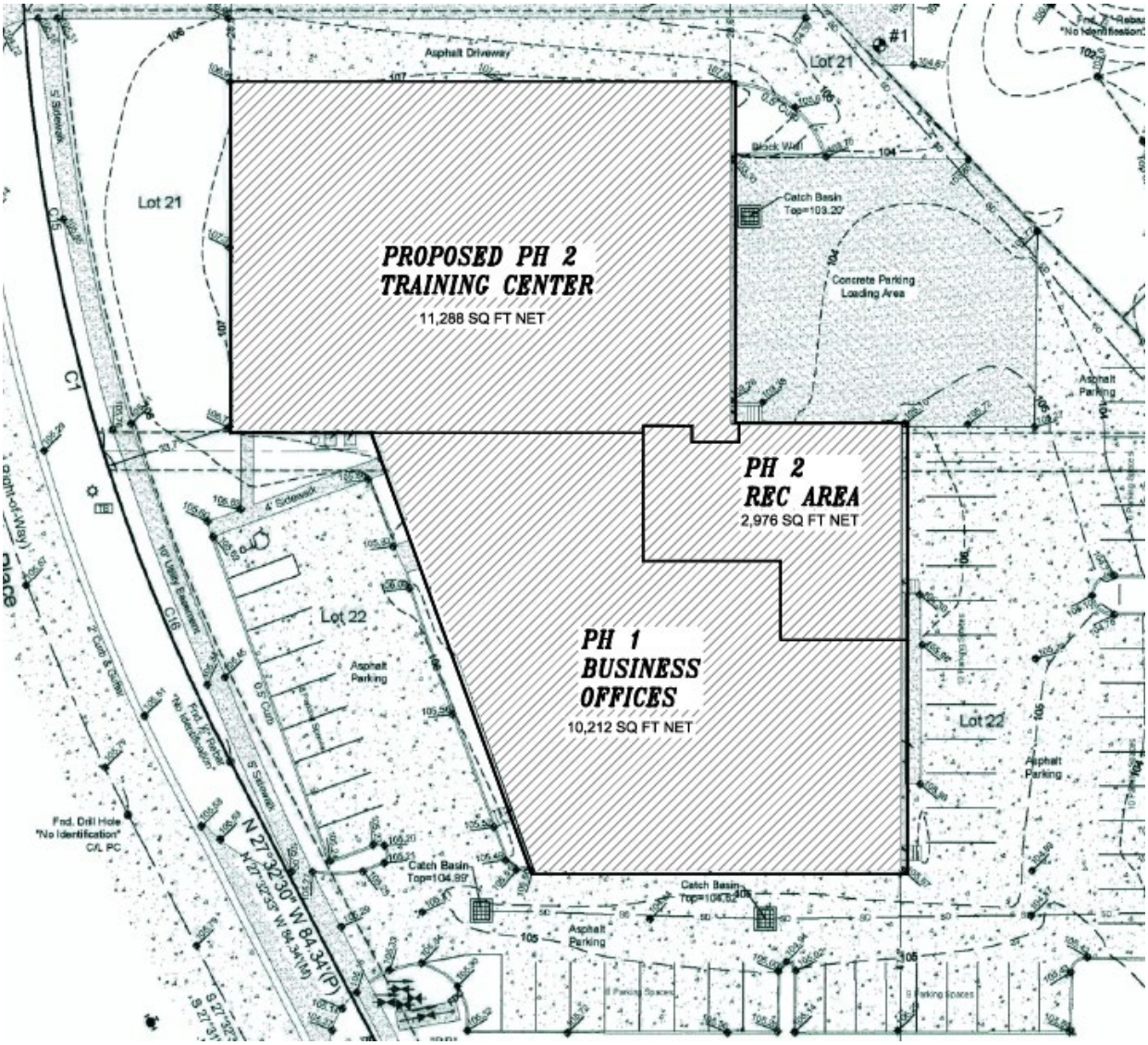
From: Huels, Jonathan
To: Jean Sanchez; Bobby Howell
Cc: James Hitt
Subject: Shakes the Nations
Date: Friday, August 25, 2023 3:05:26 PM
Attachments: image003.png
image001.png
20220917 Boundary Survey R1.pdf

CAUTION: This Email originated from a source outside the City of Apopka. Do not click on links or open attachments unless you recognize the sender and you know the content is safe.

Jean and Bobby,
Thanks again for making the trek out to Shake The Nations offices this morning. As a follow-up to our discussion, the property currently meets the City's minimum parking requirements based on my review of the survey and applicable provisions of the LDC regardless of how the City classifies the existing uses. The basis for this conclusion is as follows:

Total No. of Parking Spaces (existing) = 66 spaces (see attached As-Built Survey)
Total No. Parking Spaces for 11,288 sq. ft. of warehouse distribution (2/1,000 sq. ft.) = 0 spaces (no offices)
Total No. of Parking Spaces required for 11,288 sq. ft. of warehouse storage (1/600 sq. ft. up to 3,000 sq. ft. then 1/3,000 sq. ft.) = 8 spaces
Total No. of Parking Spaces required for 13,188 sq. ft. of professional office (3/1,000 sq. t.) = 39.5 = 40 spaces
Total No of Parking Spaces required for 13,188 sq. ft. of broadcast studio with 100 seats (1/400 sq. ft. plus 1/4 seats) = 58 spaces

Please note the above parking calculations are based on below drawing, which was created prior to the recent special purpose survey that confirmed the actual square footage of the structures. Nonetheless, the larger square footages reflected in the drawing were utilized for parking calculations.



While I am not certain how the City would classify the warehouse as either distribution or storage and how the City would allocate the specific square footages between professional offices and broadcast studio, even if the highest potential parking generation uses were utilized, then the existing onsite parking would meet the City's minimum parking requirements in the LDC:
Warehouse storage = 8 spaces
Broadcast studio = 58 spaces
Total Required = 66 spaces
Total Existing = 66 spaces

If you have any questions or want to further discuss, then please let me know.
Thanks,

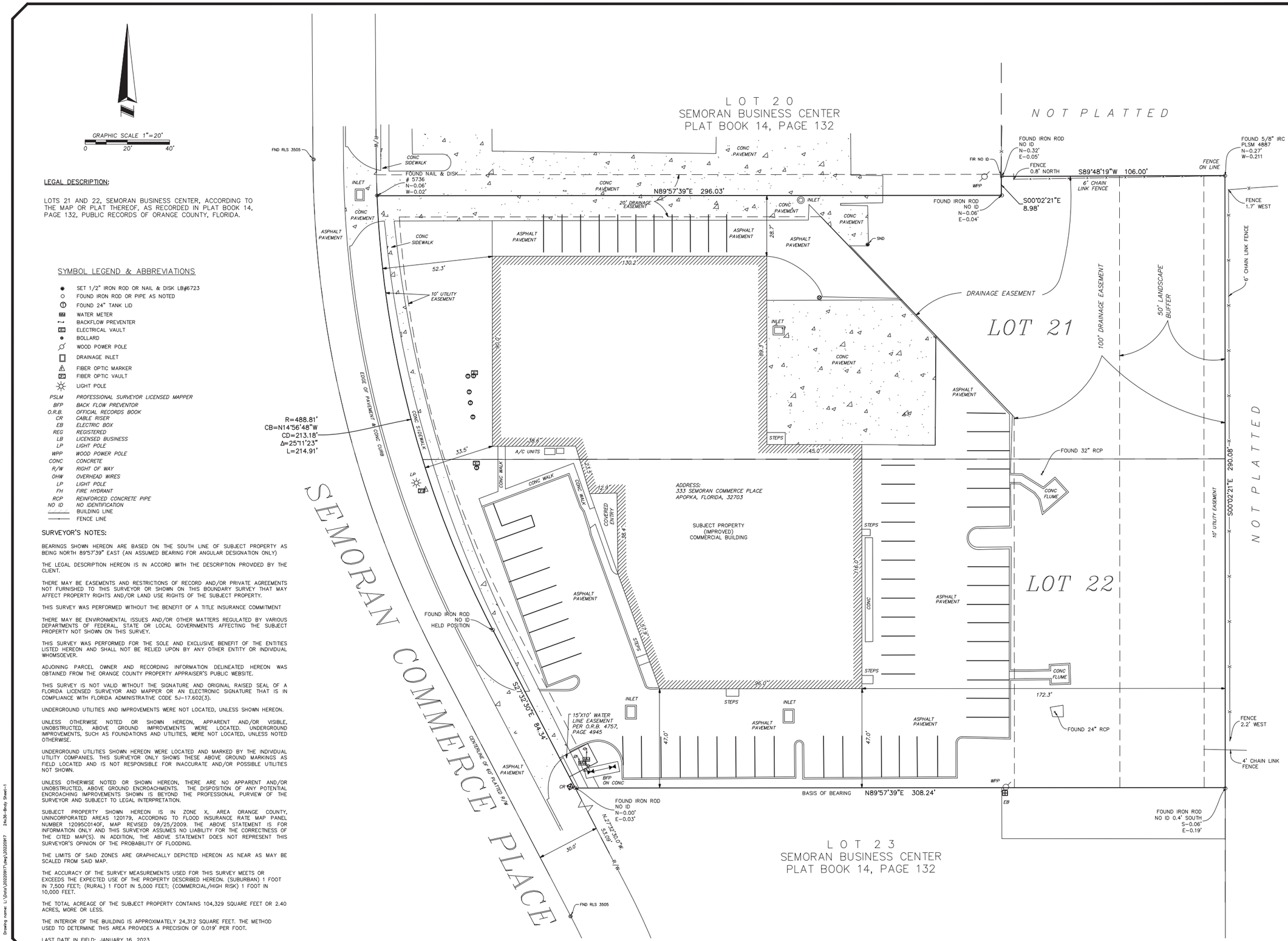
Jonathan Huels
Shareholder
215 N. Eola Dr. | Orlando, FL 32801
D: 407.418.6483 | **P:** 407.843.4600 | **Ext:** 1483
Email | Website | Bio | vCard

Lowndes
LOCAL ROOTS. BROAD REACH. SM

Notice of Confidentiality: This e-mail communication and the attachment(s) hereto, if any, are intended solely for the information and use of the addressee(s) identified above and may contain information which is legally privileged from disclosure and/or otherwise confidential. If a recipient of this e-mail communication is not an addressee (or an authorized representative of an addressee), such recipient is hereby advised that any review, disclosure, reproduction, re-transmission or other dissemination or use of this e-mail communication (or any information contained herein) is strictly prohibited. If you are not an addressee and have received this e-mail communication in error, please advise the sender of that circumstance either by reply e-mail or by telephone at (800) 356-6818, immediately delete this e-mail communication from any computer and destroy all physical copies of same.

Replies Filtered: Any incoming reply to this e-mail communication or other e-mail communication to us will be electronically filtered for "spam" and/or "viruses." That filtering process may result in such reply or other e-mail communications to us being quarantined (i.e., potentially not received at our site at all) and/or delayed in reaching us. For that reason, we cannot guarantee that we will receive your reply or other e-mail communications to us and/or that we will receive the same in a timely manner. Accordingly, you should consider sending communications to us which are particularly important or time-sensitive by means other than e-mail.

[v4.30]



LEGAL DESCRIPTION:

LOTS 21 AND 22, SEMORAN BUSINESS CENTER, ACCORDING TO THE MAP OR PLAT THEREOF, AS RECORDED IN PLAT BOOK 14, PAGE 132, PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA.

SYMBOL LEGEND & ABBREVIATIONS

- ● SET 1/2" IRON ROD OR NAIL & DISK LB#6723
- ○ FOUND IRON ROD OR PIPE AS NOTED
- FOUND 24" TANK LID
- WM WATER METER
- BFP BACKFLOW PREVENTER
- EV ELECTRICAL VAULT
- BOLLARD
- WOOD POWER POLE
- DRAINAGE INLET
- FIBER OPTIC MARKER
- FOV FIBER OPTIC VAULT
- LIGHT POLE

PSLM	PROFESSIONAL SURVEYOR LICENSED MAPPER
BFP	BACK FLOW PREVENTOR
O.R.B.	OFFICIAL RECORDS BOOK
CR	CABLE RISER
EB	ELECTRIC BOX
REG	REGISTERED
LB	LICENSED BUSINESS
LP	LIGHT POLE
WPP	WOOD POWER POLE
CONC	CONCRETE
R/W	RIGHT OF WAY
OHW	OVERHEAD WIRES
LP	LIGHT POLE
FH	FIRE HYDRANT
RCP	REINFORCED CONCRETE PIPE
NO ID	NO IDENTIFICATION
———	BUILDING LINE
—+—+—	FENCE LINE

SURVEYOR'S NOTES:

BEARINGS SHOWN HEREON ARE BASED ON THE SOUTH LINE OF SUBJECT PROPERTY AS BEING NORTH 89°57'39" EAST (AN ASSUMED BEARING FOR ANGULAR DESIGNATION ONLY)

THE LEGAL DESCRIPTION HEREON IS IN ACCORD WITH THE DESCRIPTION PROVIDED BY THE CLIENT.

THERE MAY BE EASEMENTS AND RESTRICTIONS OF RECORD AND/OR PRIVATE AGREEMENTS NOT FURNISHED TO THIS SURVEYOR OR SHOWN ON THIS BOUNDARY SURVEY THAT MAY AFFECT PROPERTY RIGHTS AND/OR LAND USE RIGHTS OF THE SUBJECT PROPERTY.

THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE INSURANCE COMMITMENT

THERE MAY BE ENVIRONMENTAL ISSUES AND/OR OTHER MATTERS REGULATED BY VARIOUS DEPARTMENTS OF FEDERAL, STATE OR LOCAL GOVERNMENTS AFFECTING THE SUBJECT PROPERTY NOT SHOWN ON THIS SURVEY.

THIS SURVEY WAS PERFORMED FOR THE SOLE AND EXCLUSIVE BENEFIT OF THE ENTITIES LISTED HEREON AND SHALL NOT BE RELIED UPON BY ANY OTHER ENTITY OR INDIVIDUAL WHOMSOEVER.

ADJOINING PARCEL OWNER AND RECORDING INFORMATION DELINEATED HEREON WAS OBTAINED FROM THE ORANGE COUNTY PROPERTY APPRAISER'S PUBLIC WEBSITE.

THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER OR AN ELECTRONIC SIGNATURE THAT IS IN COMPLIANCE WITH FLORIDA ADMINISTRATIVE CODE 5J-17.602(3).

UNDERGROUND UTILITIES AND IMPROVEMENTS WERE NOT LOCATED, UNLESS SHOWN HEREON.

UNLESS OTHERWISE NOTED OR SHOWN HEREON, APPARENT AND/OR VISIBLE, UNOBSTRUCTED, ABOVE GROUND IMPROVEMENTS WERE LOCATED. UNDERGROUND IMPROVEMENTS, SUCH AS FOUNDATIONS AND UTILITIES, WERE NOT LOCATED, UNLESS NOTED OTHERWISE.

UNDERGROUND UTILITIES SHOWN HEREON WERE LOCATED AND MARKED BY THE INDIVIDUAL UTILITY COMPANIES. THIS SURVEYOR ONLY SHOWS THESE ABOVE GROUND MARKINGS AS FIELD LOCATED AND IS NOT RESPONSIBLE FOR INACCURATE AND/OR POSSIBLE UTILITIES NOT SHOWN.

UNLESS OTHERWISE NOTED OR SHOWN HEREON, THERE ARE NO APPARENT AND/OR UNOBSTRUCTED, ABOVE GROUND ENCROACHMENTS. THE DISPOSITION OF ANY POTENTIAL ENCROACHING IMPROVEMENTS SHOWN IS BEYOND THE PROFESSIONAL PURVIEW OF THE SURVEYOR AND SUBJECT TO LEGAL INTERPRETATION.

SUBJECT PROPERTY SHOWN HEREON IS IN ZONE X, AREA ORANGE COUNTY, UNINCORPORATED AREAS 120179, ACCORDING TO FLOOD INSURANCE RATE MAP PANEL NUMBER 12095C0140F, MAP REVISED 09/25/2009. THE ABOVE STATEMENT IS FOR INFORMATION ONLY AND THIS SURVEYOR ASSUMES NO LIABILITY FOR THE CORRECTNESS OF THE CITED MAP(S). IN ADDITION, THE ABOVE STATEMENT DOES NOT REPRESENT THIS SURVEYOR'S OPINION OF THE PROBABILITY OF FLOODING.

THE LIMITS OF SAID ZONES ARE GRAPHICALLY DEPICTED HEREON AS NEAR AS MAY BE SCALED FROM SAID MAP.

THE ACCURACY OF THE SURVEY MEASUREMENTS USED FOR THIS SURVEY MEETS OR EXCEEDS THE EXPECTED USE OF THE PROPERTY DESCRIBED HEREON. (SUBURBAN) 1 FOOT IN 7,500 FEET; (RURAL) 1 FOOT IN 5,000 FEET; (COMMERCIAL/HIGH RISK) 1 FOOT IN 10,000 FEET.

THE TOTAL ACREAGE OF THE SUBJECT PROPERTY CONTAINS 104,329 SQUARE FEET OR 2.40 ACRES, MORE OR LESS.

THE INTERIOR OF THE BUILDING IS APPROXIMATELY 24,312 SQUARE FEET. THE METHOD USED TO DETERMINE THIS AREA PROVIDES A PRECISION OF 0.019' PER FOOT.

LAST DATE IN FIELD: JANUARY 16, 2023

Drawing name: L:\Data\20220917\dwg\20220917 24x36-Body Sheet-1

ALLEN & COMPANY
Founded in 1988
SURVEYING • MAPPING
GEOSPATIAL SERVICES
www.allen-company.com
16 EAST PLANT STREET
WINTER GARDEN, FLORIDA 34787
(407) 654-5355 LB#6723

BOUNDARY SURVEY OF 333 SEMORAN COMMERCE PLACE

SECTION 11, TOWNSHIP 21 SOUTH, RANGE 28 EAST-
CITY OF APOPKA, ORANGE COUNTY, FLORIDA

FOR: SHAKE THE NATIONS MINISTRIES

LICENSED SURVEYOR & MAPPER LS5633 STATE OF FLORIDA

FOR THE LICENSED BUSINESS #6723 BY:

Digitally signed by: James L Rickman
Date: 2023.08.18 10:42:04 -04'00'

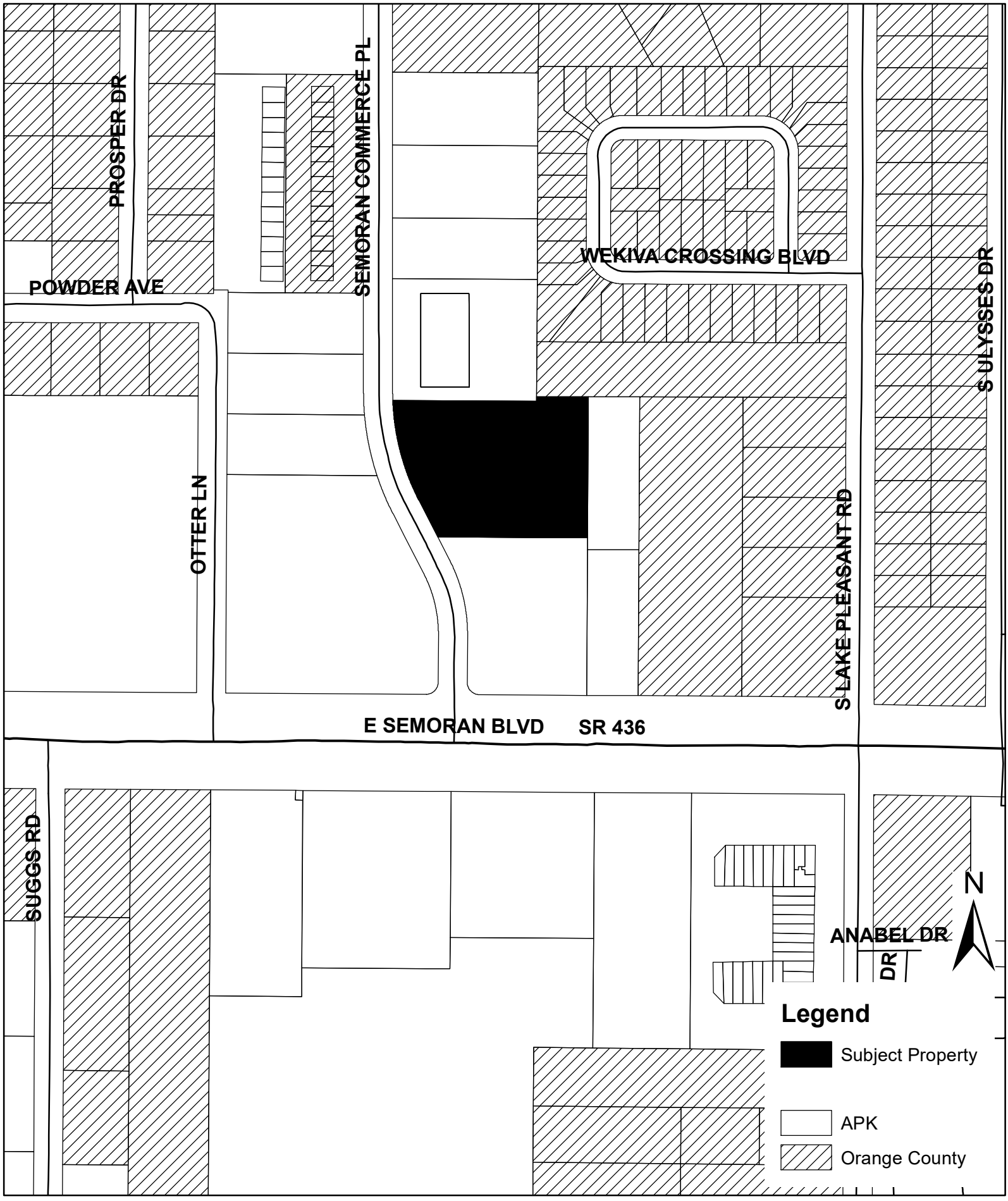
JAMES L. RICKMAN, P.S.M. #5633

DATE	REVISIONS
8/18/23	ADDED ACREAGE

JOB #:	20220917
DATE:	01/16/2023
SCALE:	1" = 20'
CALC BY:	MR
FIELD BY:	DB
DRAWN BY:	CM
CHECKED BY:	JCB/MF

SHEET 1 OF 1

Vicinity

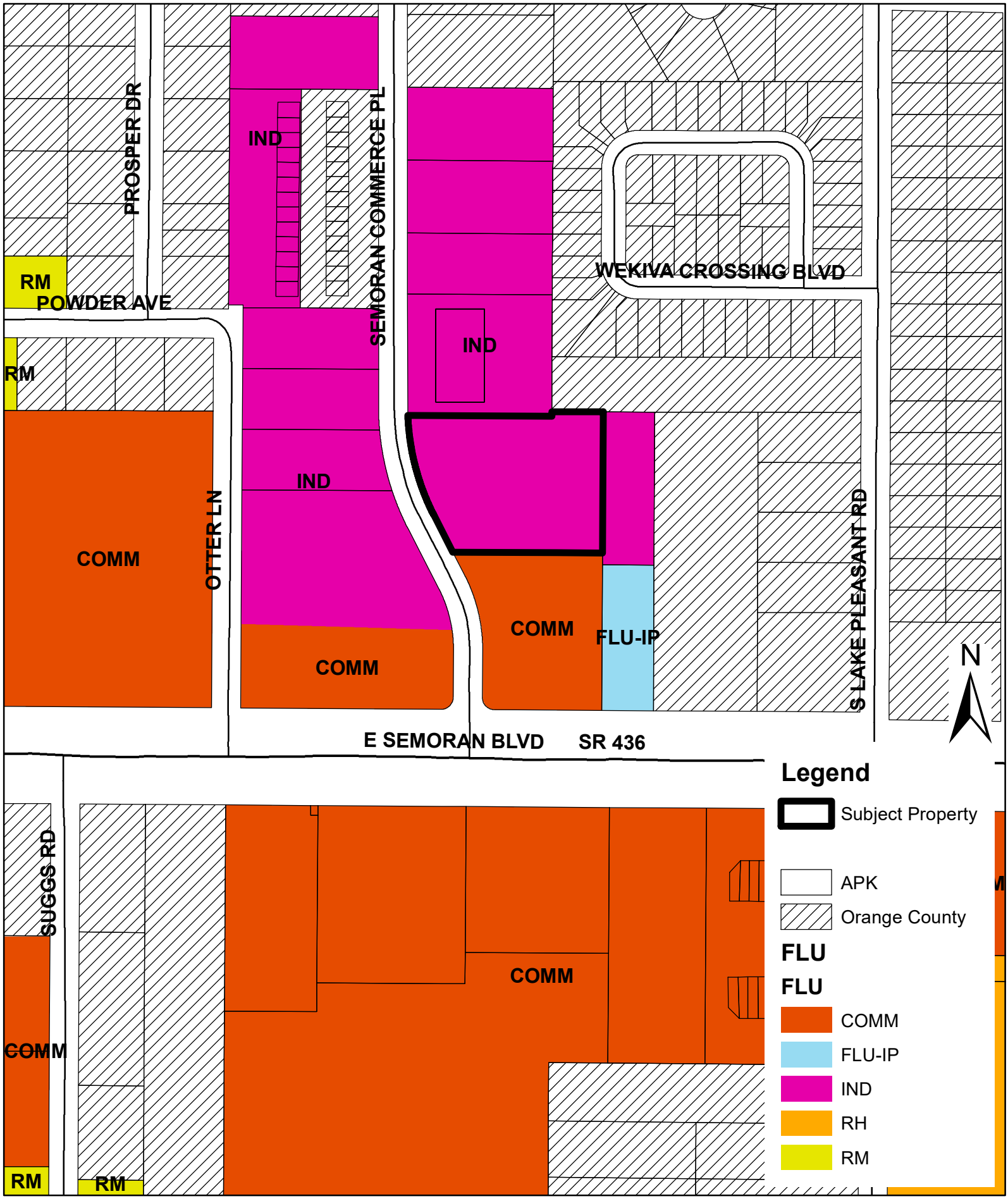


(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Aerial

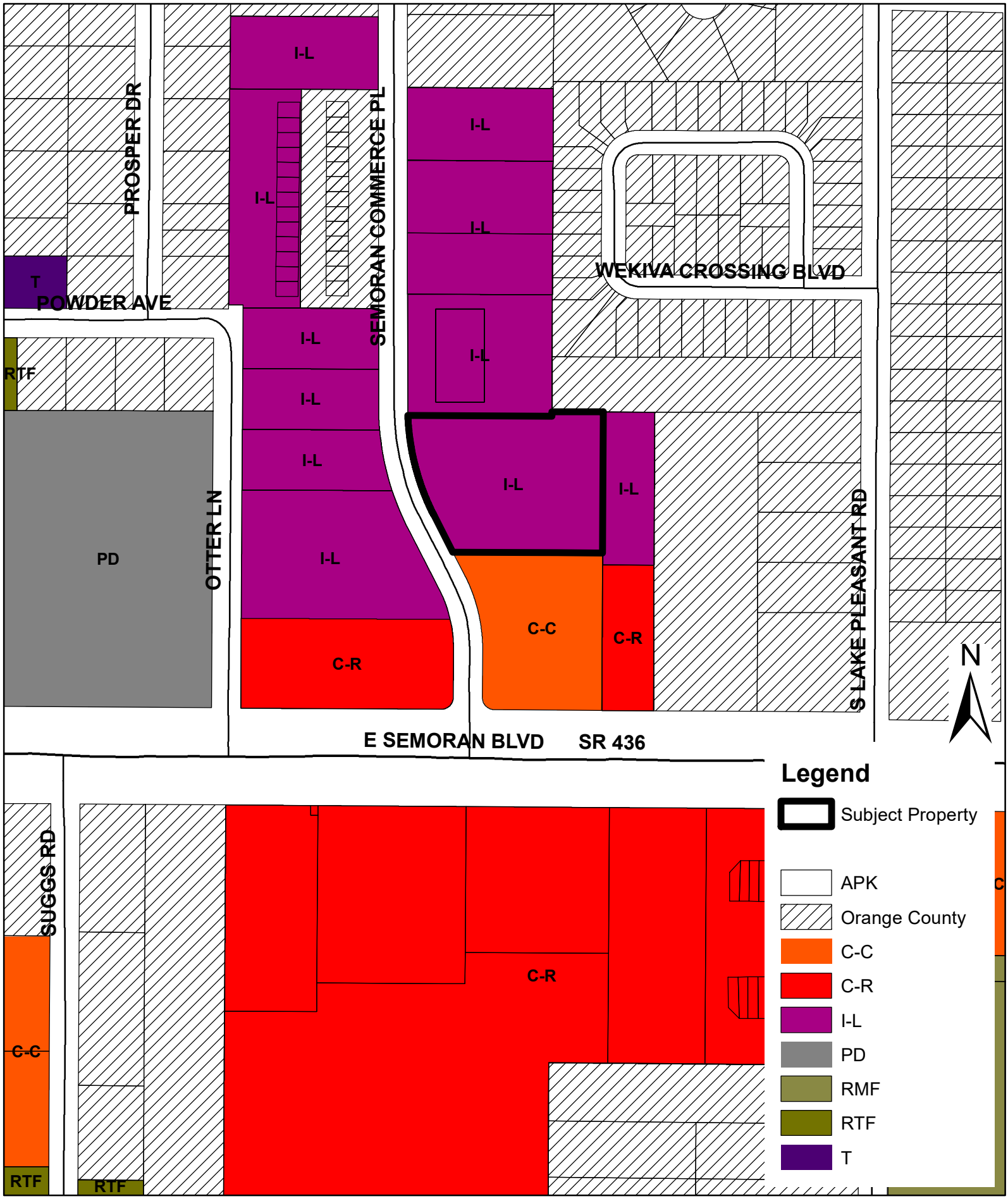
(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Future Land Use



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Zoning



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

ORDINANCE NO. 3011

AN ORDINANCE OF THE CITY OF APOPKA, FLORIDA, CHANGING THE ZONING FROM I-L (LIGHT INDUSTRIAL) TO C-COR (CORRIDOR COMMERCIAL) FOR CERTAIN REAL PROPERTY GENERALLY LOCATED EAST OF SEMORAN COMMERCE PLACE, WEST OF LAKE PLEASANT ROAD AND NORTH OF SR 436; OWNED BY SHAKE THE NATIONS MINISTRIES, INC., COMPRISING 2.4 ACRES, MORE OR LESS; PROVIDING FOR SEVERABILITY, CONFLICTS, AND AN EFFECTIVE DATE.

WHEREAS, to manage the growth, the City of Apopka, Florida, finds it in the best interest of the public health, safety and welfare of its citizens to establish zoning classifications within the City; and

WHEREAS, Jonathan Huels, Esq has requested a change in zoning on said property as identified in Section I of this ordinance; and

WHEREAS, the proposed C-COR (Corridor Commercial) Zoning District has been found to be consistent with the City of Apopka Comprehensive Plan, and the City of Apopka Land Development Code.

NOW THEREFORE, BE IT ORDAINED, by the City Council of the City of Apopka, Florida, as follows:

Section I. That the zoning classification of the property described in Exhibit A, being situated in the City of Apopka, Florida, is hereby C-COR District, as defined in the Apopka Land Development Code, and with the following provision:

Section II. That the zoning classification is consistent with the Comprehensive Plan of the City of Apopka, Florida. The applicant shall obtain all approvals as required, if any, per the Orange County Charter and the Amended Interlocal Agreement for Public School Facility Planning and Implementation of Concurrency.

Section III. That the Community Development Director, or the Director's designee, is hereby authorized to amend, alter, and implement the official zoning maps of the City of Apopka, Florida, to include said designation.

Section IV. That if any section or portion of a section or subsection of this Ordinance proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidate or impair the validity, force or effect of any other section or portion of section or subsection or part of this ordinance.

Section V. That all ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section VI. That this Ordinance shall take effect upon the date of adoption.

ADOPTED at a regular meeting of the City Council of the City of Apopka, Florida, this ____ day of _____, 2023.

READ FIRST TIME: September 6, 2023

READ SECOND TIME AND ADOPTED: September 20, 2023

ATTEST:

_____ _____

Susan Bone, City Clerk Bryan Nelson, Mayor

Approved as to form and legal sufficiency:

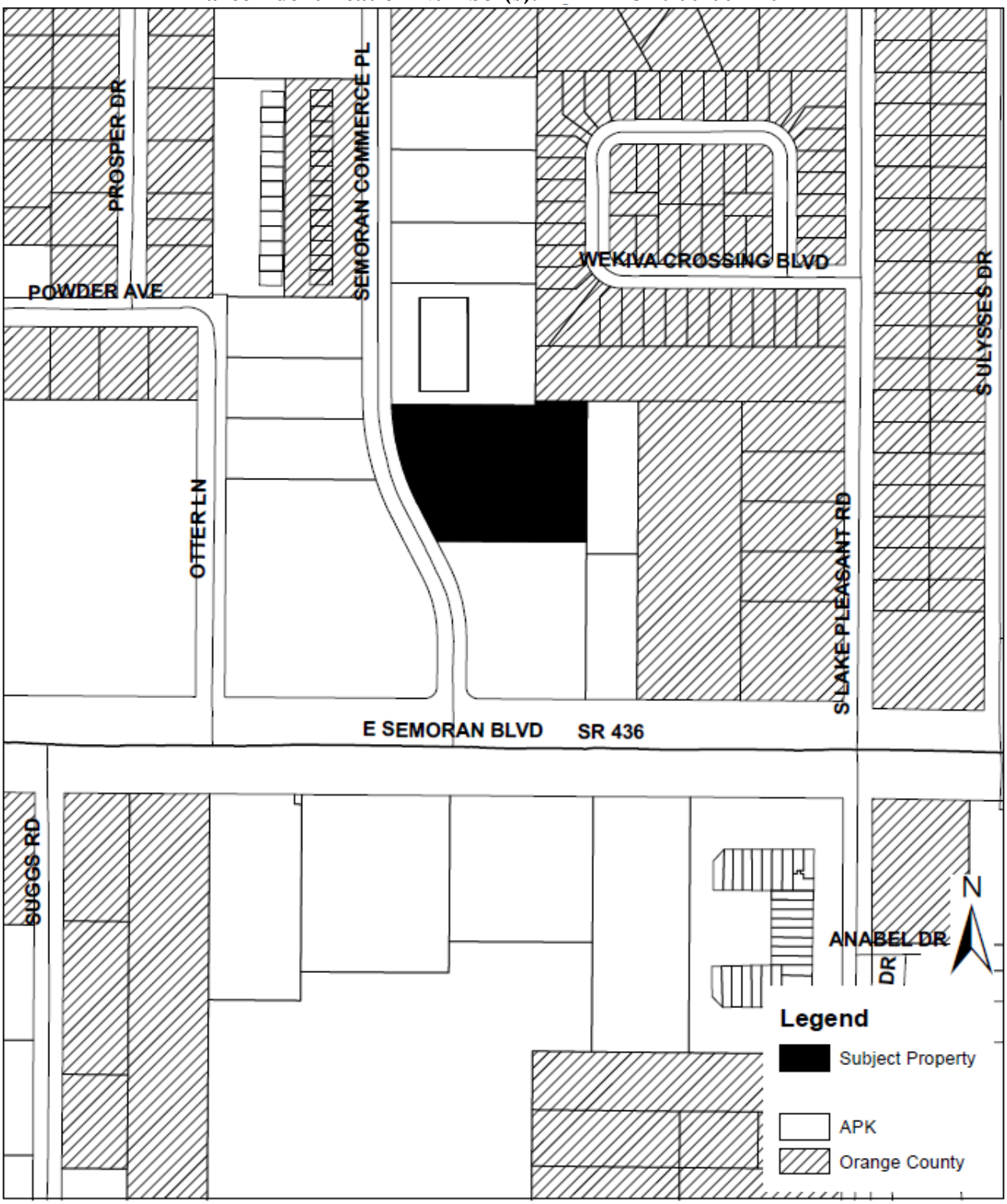
_____

Cliff Shepard, City Attorney

DULY ADVERTISED FOR PUBLIC HEARING: May 26, 2023

EXHIBIT "A"

Parcel Identification Number(s): 11-21-28-7900-00-210



City of Apopka
CITY COUNCIL STAFF REPORT

Section: PUBLIC HEARINGS/ORDINANCES/RESOLUTION (Action Item)
Item #: 3.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Ordinance No. 3019 - First Reading - Small-Scale Future Land Use Amendment - The Ridge Self-Storage

REQUEST:
First Reading, Ordinance No. 3019, Small-Scale Future Land Use Map Amendment from Mixed-Use to Industrial for The Ridge Self-Storage

SUMMARY:
This chart includes the relationships to adjacent properties.

Direction	Future Land Use	Zoning	Present Use
North	“City” Mixed-Use, “County” Rural	“City” PD (Planned Development), “County” A-1 (Citrus Rural District)	Vacant – The Ridge PD (Planned Development)
East	Industrial	I-L (Light Industrial)	Warehouse distribution
South	Mixed-Use	I-L (Light Industrial)	SR 414 right-of-way
West	"County" Rural	“County” A-1 (Citrus Rural District)	SR 414 retention pond

PROJECT SUMMARY:

The applicant has submitted a Small-Scale Future Land Use Amendment from Mixed-Use to Industrial for a 12.25 acre parcel located on the west side of Ocoee-Apopka Road, north of SR 414. The parcel is currently vacant. The applicant is requesting the Small-Scale Future Land Use Amendment to develop a proposed self-storage facility on the property. A companion rezoning from T (Transitional) to I-L (Light Industrial) is proposed to allow the self-storage facility as a permitted use on the subject property. An Industrial future land use designation is compatible with the proposed I-L zoning, thus the request for the future land use amendment. The proposed Industrial future land use designation is compatible with the area as properties to the east have Future Land Use designations of Industrial, and is the site of a warehouse distribution facility.

SCHOOL CAPACITY REPORT:
As the subject property is used for non-residential purposes, school capacity is not applicable.

ORANGE COUNTY NOTIFICATION:

The JPA (Joint Planning Agreement) requires the City to notify the County 30 days before any public hearing or advisory board. The City notified Orange County on June 21, 2023.

PUBLIC HEARING SCHEDULE:

August 8, 2023 – Planning Commission (5:30 P.M.)
September 6, 2023 – City Council (1:30 P.M.), First Reading
September 20, 2023 – City Council (7:00 P.M.), Second Reading and Adoption

DULY ADVERTISED:

July 24, 2023 – Poster Placed on Property
July 24, 2023 – Mailed Notices to Adjacent Property Owners
July 28, 2023 – Advertised in the Apopka Chief

DEVELOPMENT REVIEW COMMITTEE:

Recommends approval of the change in Future Land Use from Mixed-Use to Industrial and finds the proposed amendment consistent with the Comprehensive Plan and Land Development Code, and compatible with the character of the surrounding areas, recommending approval of the future land use amendment, based on the findings and facts presented in the staff report and exhibits.

PLANNING COMMISSION:
At the August 8, 2023 meeting, the Planning Commission found the proposed change in Future Land Use from Mixed-Use to Industrial consistent with the Comprehensive Plan and Land Development Code, and compatible with the character of the surrounding areas, and unanimously recommended approval of the future land use amendment, based on the findings and facts presented in the staff report and exhibits.

LAND USE REPORT

RELATIONSHIP TO ADJACENT PROPERTIES

Direction	Future Land Use	Zoning	Present Use
North	"City" Mixed-Use, "County" Rural	"City" PD (Planned Development), "County" A-1 (Citrus Rural District)	Vacant – The Ridge PD (Planned Development)
East	Industrial	I-L (Light Industrial)	Warehouse distribution
South	Mixed-Use	I-L (Light Industrial)	SR 414 right-of-way
West	"County" Rural	"County" A-1 (Citrus Rural District)	SR 414 retention pond

LAND USE ANALYSIS

Industrial uses exist in this area of the City, and are located to the east of the subject property. Development must comply with the Industrial future land use designation and be consistent with the Comprehensive Plan policies, Development Design Guidelines, and Land Development Code. The property is currently developed and is approximately 12.25 acres in size. This future land use amendment is being requested to allow the construction of a self-storage facility on the subject property. The parcel is not located in the following areas:

Wekiva Parkway Interchange Vision Plan Area: No
Wekiva River Protection Area: No
Area of Critical State Concern: No

JPA: The City of Apopka and Orange County entered into a Joint Planning Area (JPA) agreement on October 26, 2004. The proposed FLUM Amendment request for a change from Mixed-Use to Industrial is consistent with the terms of the JPA (Second Amendment).

City of Apopka Comprehensive Plan Policies:

Future Land Use Element:

Policy 3.1.l states that the primary use shall be industrial, intensive commercial, agricultural and business/research parks. Also allowed are public facilities and supporting infrastructure. The use of
the Planned Unit Development process shall be encouraged. The maximum floor area ratio shall be .60.
Planned Unit Development uses may include:
(1) All primary uses
(2) Other uses deemed compatible with and complimentary to
the other proposed master planned uses and the
surrounding neighborhoods.

Transportation Element:

Policies 1.1 and 1.2 state that the City of Apopka is a Transportation Concurrency Exception Area. The property may be accessed from the northeast via an access easement.

Infrastructure Element:

Policies 1.1.1, 2.1.1 and 5.1.2 state the minimum levels of service for the City's wastewater and water systems as well as the City's solid waste collection service. The property currently has access to City water. City wastewater and reclaimed water are available for future connection. Additional demand can be provided by the City.

Conservation Element:

Policy 4.1 states that a habitat study is required for developments ten (10) acres or more in size. Therefore, a habitat study will not be required if a proposed development on this parcel.

Land Use Calculations:

CURRENT: Mixed-Use (1.0 FAR maximum)
1.0 X 12.25 acres (533,610) square feet = 533,610 square feet of non-residential maximum building area

PROPOSED: Industrial (0.6 floor area ratio)
0.6 X 12.25 Acres (533,610) square feet = 320,166 square feet of non-residential area maximum building area.

This initial review does not preclude conformance with concurrency requirements at the time of development approval.
Note: This item is considered legislative. The staff report and its findings are to be incorporated into and made a part of the minutes of this meeting.

FUNDING SOURCE:

Not applicable

RECOMMENDED MOTION:

Approve First Reading of Ordinance No. 3019, and hold it over for Second Reading and Adoption on September 20, 2023.

ATTACHMENTS:

1. Supporting documentation ssflum file

ORDINANCE NO. 3019

AN ORDINANCE OF THE CITY OF APOPKA, FLORIDA, AMENDING THE FUTURE LAND USE ELEMENT OF THE APOPKA COMPREHENSIVE PLAN OF THE CITY OF APOPKA; CHANGING THE FUTURE LAND USE DESIGNATION FROM MIXED-USE TO INDUSTRIAL FOR CERTAIN REAL PROPERTY GENERALLY LOCATED WEST OF OCOEE-APOPKA ROAD AND NORTH OF SR 414, OWNED BY THE RIDGE SELF-STORAGE, LLC COMPRISING 12.25 ACRES, MORE OR LESS; PROVIDING FOR SEVERABILITY, CONFLICTS, AND AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Apopka adopted the Apopka Comprehensive Plan by Ordinance No. 653 on October 2, 1991, pursuant to Section 163.3184, Florida Statutes and most recently amended it by Ordinance No. 3014 on July 19, 2023; and

WHEREAS, the City of Apopka's Local Planning Agency (Planning Commission) has, in preparation of the amended version of the Apopka Comprehensive Plan, analyzed the proposed amendment pursuant to Chapter 163, Part II, F.S., found it to be consistent with the intent of the Apopka Comprehensive Plan, and held public hearings providing for full public participation.

NOW THEREFORE, BE IT ORDAINED, by the City Council of the City of Apopka, Florida, as follows:

Section I. Purpose and Intent. This Ordinance is enacted to carry out the purpose and intent of, and exercise the authority set out in, the Local Government Comprehensive Planning and Land Development Regulation Act, Sections 163.3184 and 163.3187, Florida Statutes.

Section II. Future Land Use Element. Page 1-32 (Map 1-6) of the Future Land Use Element of the City of Apopka Comprehensive Plan, as most recently amended by Ordinance No. 2990 is amended in its entirety to change the land use from Future Land Use – in Progress to Agriculture certain real property generally located west of Marden Road and south of Keene Road, comprising 10.67 acres more or less; as further described in Exhibit "A" attached hereto.

Section III. Applicability and Effect. The applicability and effect of the City of Apopka Comprehensive Plan shall be as provided by the Local Government Comprehensive Planning and Land Development Regulation Act, Sections 163.3161 through 163.3215, Florida Statutes.

Section IV. Severability. If any provision or portion of this Ordinance is declared by any court of competent jurisdiction to be void, unconstitutional, or unenforceable, then all remaining provisions and portions of this Ordinance shall remain in full force and effect.

Section V. Director Authorization. The Community Development Director is hereby authorized to amend the Future Land Use to comply with this ordinance**.**

Section VI. Effective Date. This Ordinance shall become effective thirty-one (31) days after adoption. If challenged within thirty (30) days after adoption, the Ordinance shall become

effective after the state land planning agency or the Administration Commission, respectively, issues a final order determining that the adopted small-scale development amendment is in compliance.

ADOPTED at a regular meeting of the City Council of the City of Apopka, Florida, this _____ day of _____, 2023.

READ FIRST TIME: September 6, 2023

READ SECOND TIME AND ADOPTED: _____

ATTEST:

_____
Susan Bone, City Clerk

_____
Bryan Nelson, Mayor

Approved as to form and legal sufficiency:

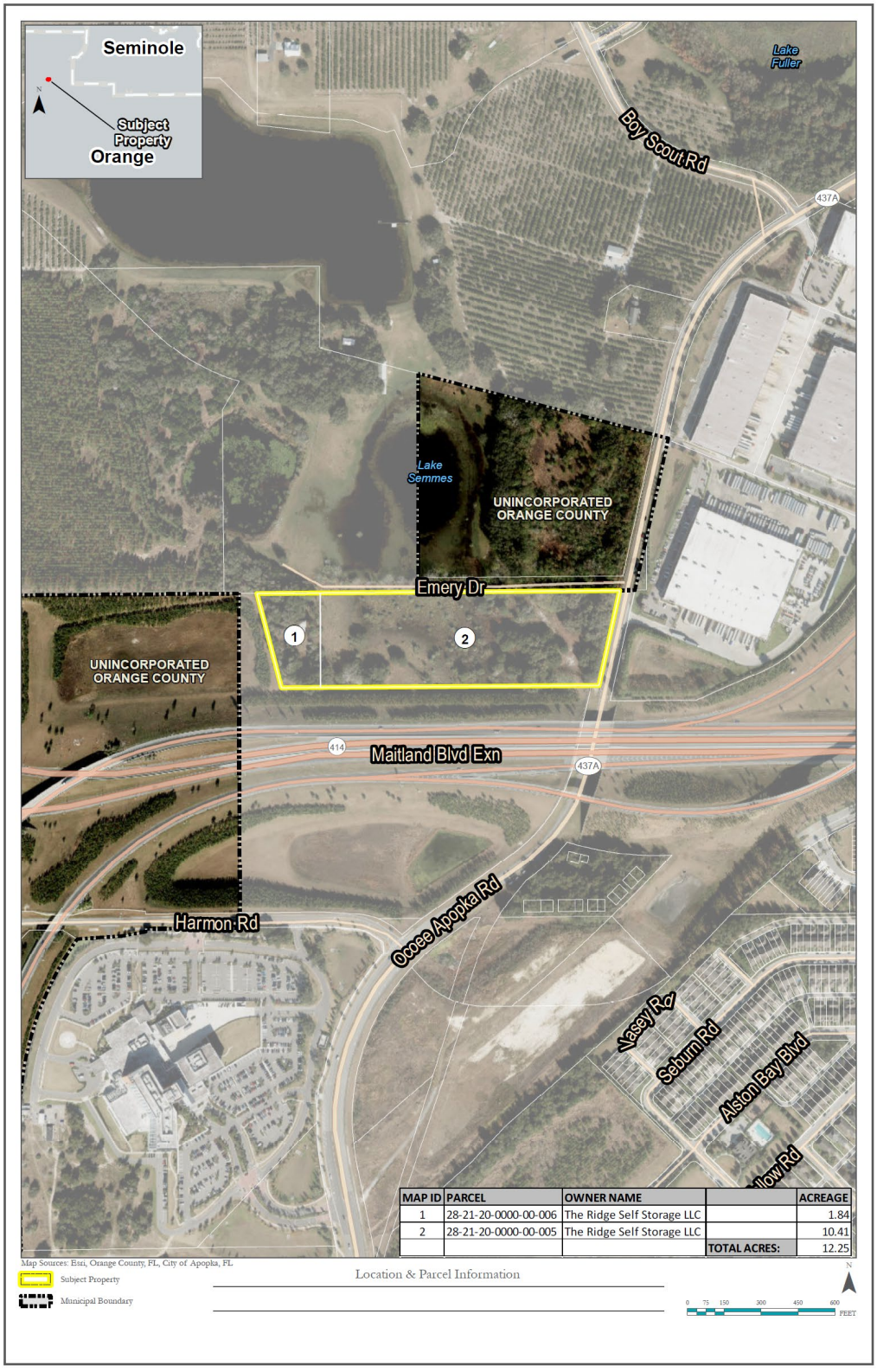
_____
Cliff Shepard, City Attorney

DULY ADVERTISED FOR PUBLIC HEARING: July 28, 2023

1

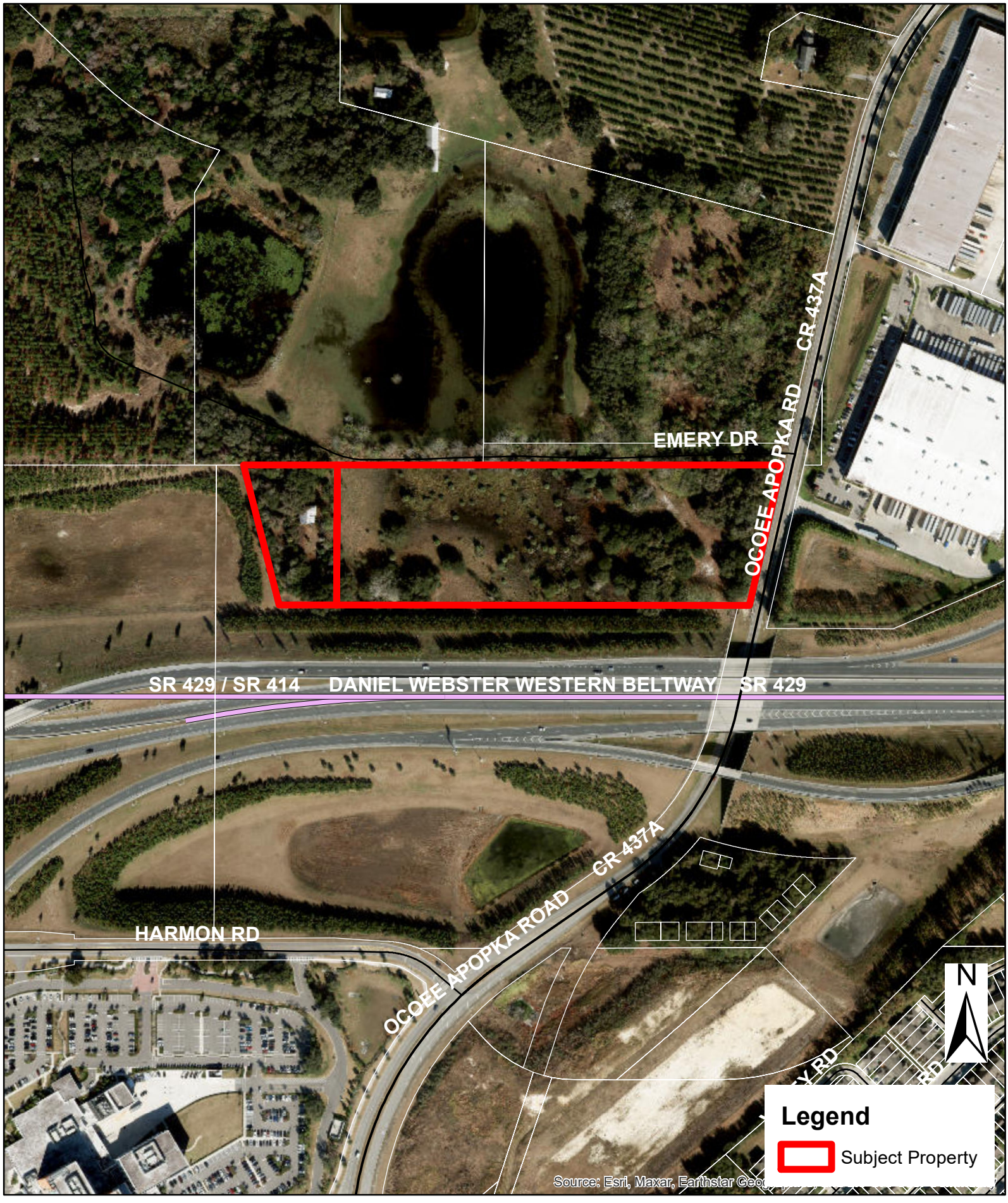
EXHIBIT "A"

Parcel Identification Number(s): 20-21-28-0000-00-005, 20-21-28-0000-00-006



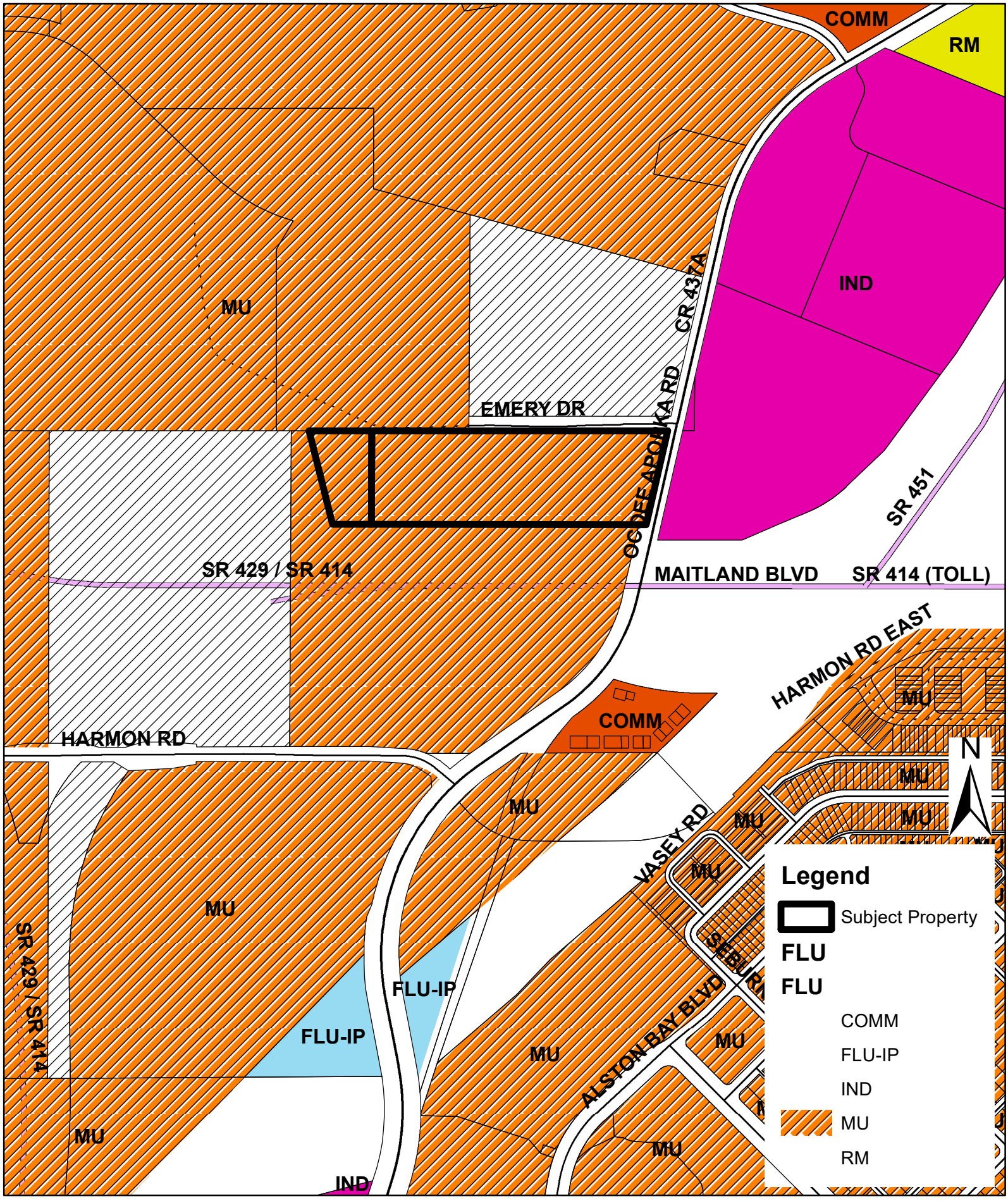
MAP ID	PARCEL	OWNER NAME		ACREAGE
1	28-21-20-0000-00-006	The Ridge Self Storage LLC		1.84
2	28-21-20-0000-00-005	The Ridge Self Storage LLC		10.41
			TOTAL ACRES:	12.25

Aerial



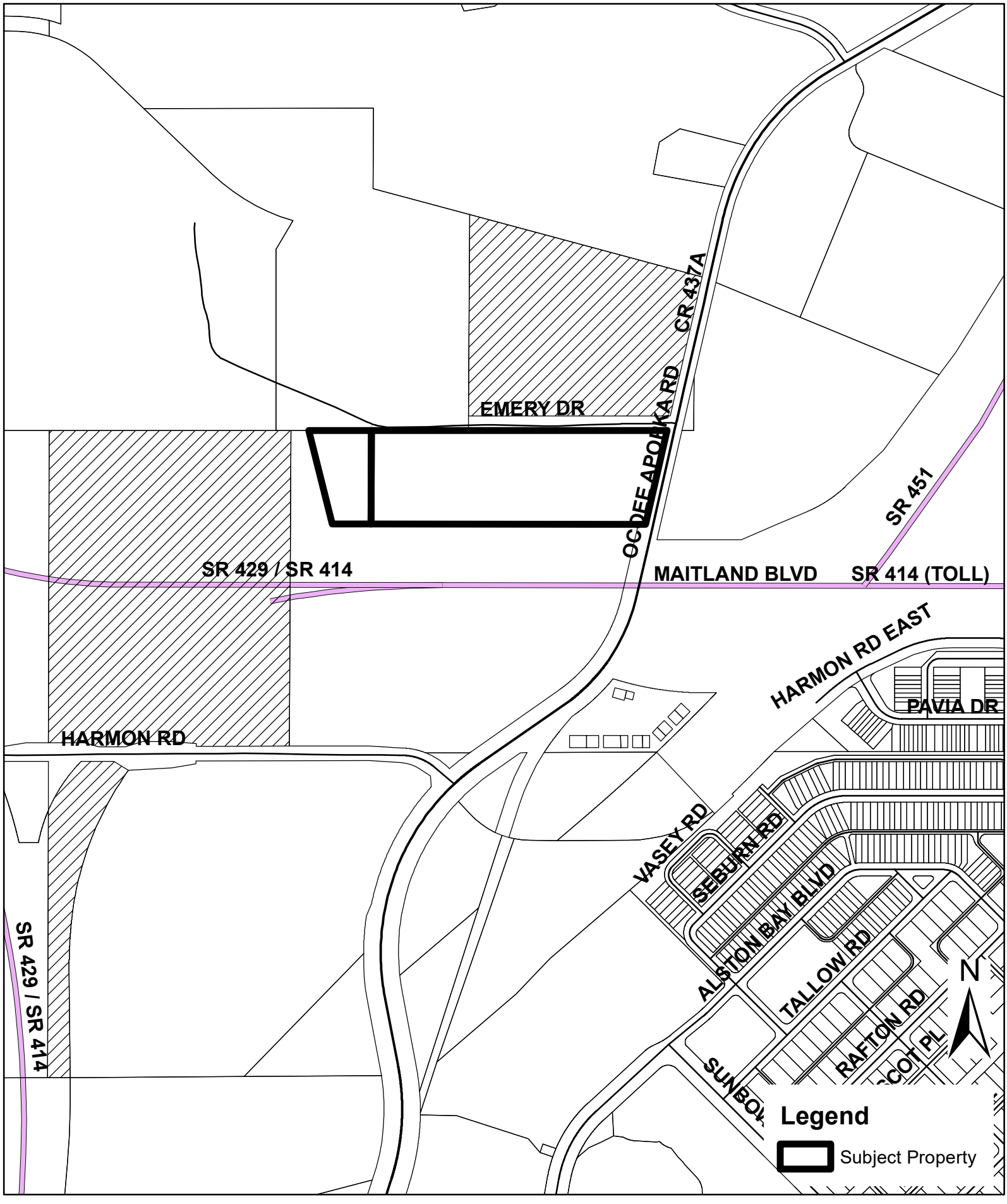
(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Future Land Use



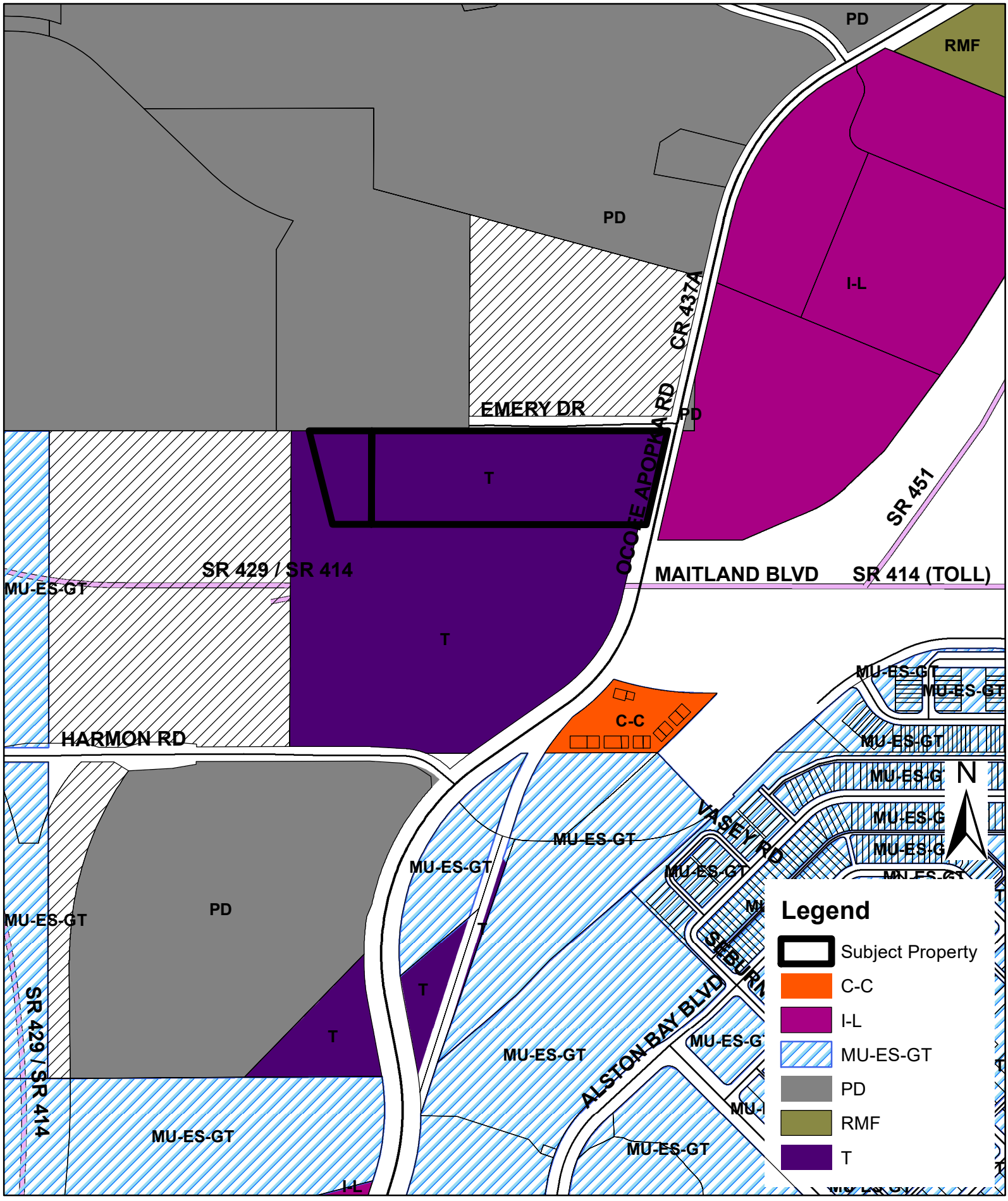
(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Vicinity



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Zoning



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

City of Apopka
CITY COUNCIL STAFF REPORT

Section: PUBLIC HEARINGS/ORDINANCES/RESOLUTION (Action Item)
Item #: 4.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Ordinance No. 3020 - First Reading Rezoning - The Ridge Self-Storage

REQUEST:
First Reading of Ordinance No. 3020, Change of Zoning from T (Transitional) to I-L (Light Industrial) for The Ridge Self-Storage

SUMMARY:
PROJECT SUMMARY:
The subject property is approximately 12.25 acres in size and is located on the west side of Ocoee-Apopka Road and north of SR 414, and is currently vacant. This application is being processed simultaneously with an application to amend the Future Land Use designation from Mixed-Use to Industrial. The parcel is currently vacant. The applicant is requesting the Rezoning to develop a proposed self-storage facility on the property as self-storage facility is a permitted use in the I-L (Light Industrial) zoning district. The proposed I-L zoning district is compatible with the area as properties to the east have zoning designations of Industrial, and is the site of a warehouse distribution facility.

This chart includes the relationships to adjacent properties.

Direction	Future Land Use	Zoning	Present Use
North	"City" Mixed-Use, "County" Rural	"City" PD (Planned Development), "County" A-1 (Citrus Rural District)	Vacant – The Ridge PD (Planned Development)
South	Industrial	I-L (Light Industrial)	Warehouse distribution
East	Mixed-Use	I-L (Light Industrial)	SR 414 right-of-way
West	"County" Rural	"County" A-1 (Citrus Rural District)	SR 414 retention pond

ORANGE COUNTY NOTIFICATION:

The JPA (Joint Planning Agreement) requires the City to notify the County 30 days before any public hearing or advisory board. The City notified Orange County on June 21, 2023.

PUBLIC HEARING SCHEDULE:

August 8, 2023 – Planning Commission (5:30 P.M.)
September 6, 2023 – City Council (1:30 P.M.), First Reading
September 20, 2023 – City Council (7:00 P.M.), Second Reading and Adoption

DULY ADVERTISED:

July 28, 2023 – Apopka Chief
July 24, 2023 – Mailed notices to adjacent property owners; Posters placed on property

Development Review Committee (DRC):

Recommends approval of the Change of Zoning from T (Transitional) to I-L (Light Industrial), finding the proposed change consistent with the Comprehensive Plan and Land Development Code, and compatible with the character of the surrounding areas, based on the findings and facts presented in the staff report and exhibits.

Planning Commission:
At the August 8, 2023 meeting, the Planning Commission found the proposed Change of Zoning from T (Transitional) to I-L (Light Industrial), consistent with the Comprehensive Plan and Land Development Code, and compatible with the character of the surrounding areas, and unanimously recommend approval of the proposed Change of Zoning, based on the findings and facts presented in the staff report and exhibits.

Note: This item is considered quasi-judicial. The staff report and its findings are to be incorporated into and made a part of the minutes of this meeting.

FUNDING SOURCE:
Not applicable

RECOMMENDED MOTION:
Approve First Reading of Ordinance No. 3020, and hold it over for Second Reading and Adoption on September 20, 2023.

ATTACHMENTS:
1. Supporting documentation

ORDINANCE NO. 3020

AN ORDINANCE OF THE CITY OF APOPKA, FLORIDA, CHANGING THE ZONING FROM T (TRANSITIONAL) TO I-L (LIGHT INDUSTRIAL), FOR CERTAIN REAL PROPERTY GENERALLY LOCATED WEST OF OCOEE-APOPKA ROAD AND NORTH OF SR 414; OWNED BY THE RIDGE SELF-STORAGE, LLC COMPRISING 12.25 ACRES, MORE OR LESS; PROVIDING FOR SEVERABILITY, CONFLICTS, AND AN EFFECTIVE DATE.

WHEREAS, to manage the growth, the City of Apopka, Florida, finds it in the best interest of the public health, safety and welfare of its citizens to establish zoning classifications within the City; and

WHEREAS, Joshua Edmondson, Poulos & Bennett, LLC has requested a change in zoning on said property as identified in Section I of this ordinance; and

WHEREAS, the proposed I-L (Light Industrial) District zoning has been found to be consistent with the City of Apopka Comprehensive Plan, and the City of Apopka Land Development Code.

NOW THEREFORE, BE IT ORDAINED, by the City Council of the City of Apopka, Florida, as follows:

Section I. That the zoning classification of the property described in Exhibit A, being situated in the City of Apopka, Florida, is hereby I-L District, as defined in the Apopka Land Development Code, and with the following provision:

Section II. That the zoning classification is consistent with the Comprehensive Plan of the City of Apopka, Florida. The applicant shall obtain all approvals as required, if any, per the Orange County Charter and the Amended Interlocal Agreement for Public School Facility Planning and Implementation of Concurrency.

Section III. That the Community Development Director, or the Director's designee, is hereby authorized to amend, alter, and implement the official zoning maps of the City of Apopka, Florida, to include said designation.

Section IV. That if any section or portion of a section or subsection of this Ordinance proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidate or impair the validity, force or effect of any other section or portion of section or subsection or part of this ordinance.

Section V. That all ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section VI. That this Ordinance shall take effect upon the date of adoption.

ADOPTED at a regular meeting of the City Council of the City of Apopka, Florida, this ____ day of _____, 2023.

READ FIRST TIME: September 6, 2023

READ SECOND TIME AND ADOPTED: _____

ATTEST:

_____
Susan Bone, City Clerk

_____
Bryan Nelson, Mayor

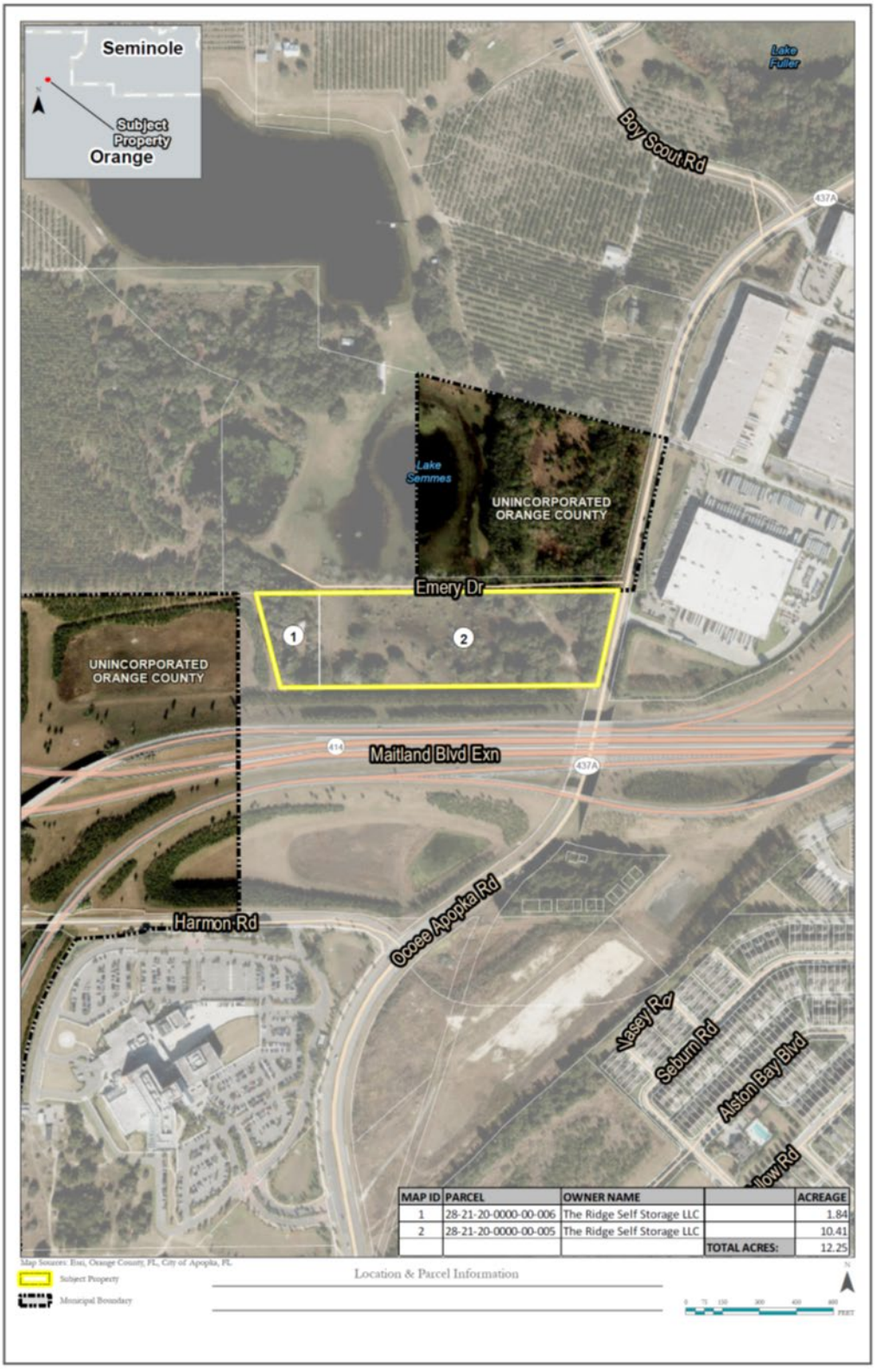
Approved as to form and legal sufficiency:

_____
Cliff Shepard, City Attorney

DULY ADVERTISED FOR PUBLIC HEARING: July 28, 2023

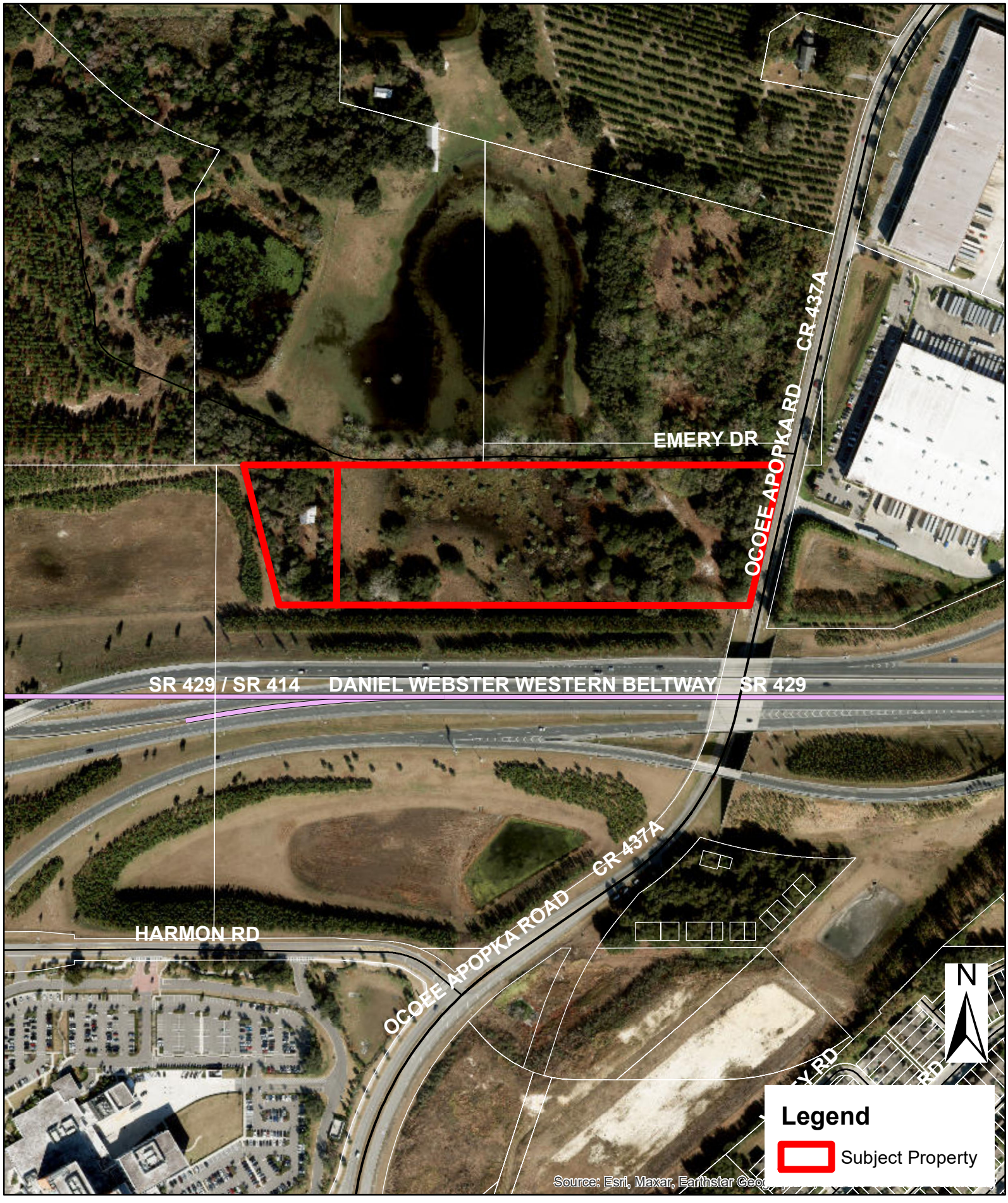
EXHIBIT "A"

Parcel Identification Number(s): 20-21-28-0000-00-005, 20-21-28-0000-00-006



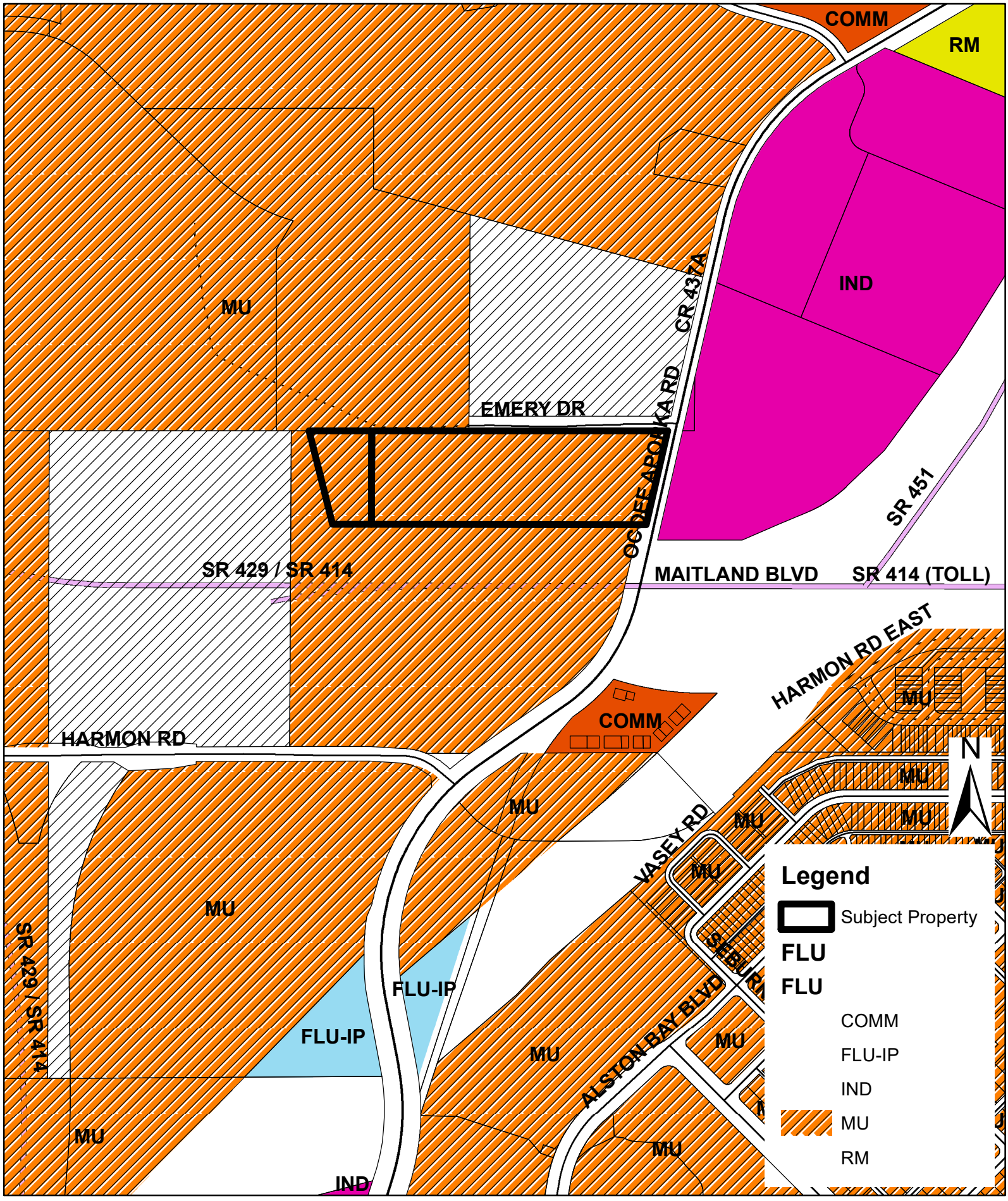
MAP ID	PARCEL	OWNER NAME		ACREAGE
1	28-21-20-0000-00-006	The Ridge Self Storage LLC		1.84
2	28-21-20-0000-00-005	The Ridge Self Storage LLC		10.41
			TOTAL ACRES:	12.25

Aerial



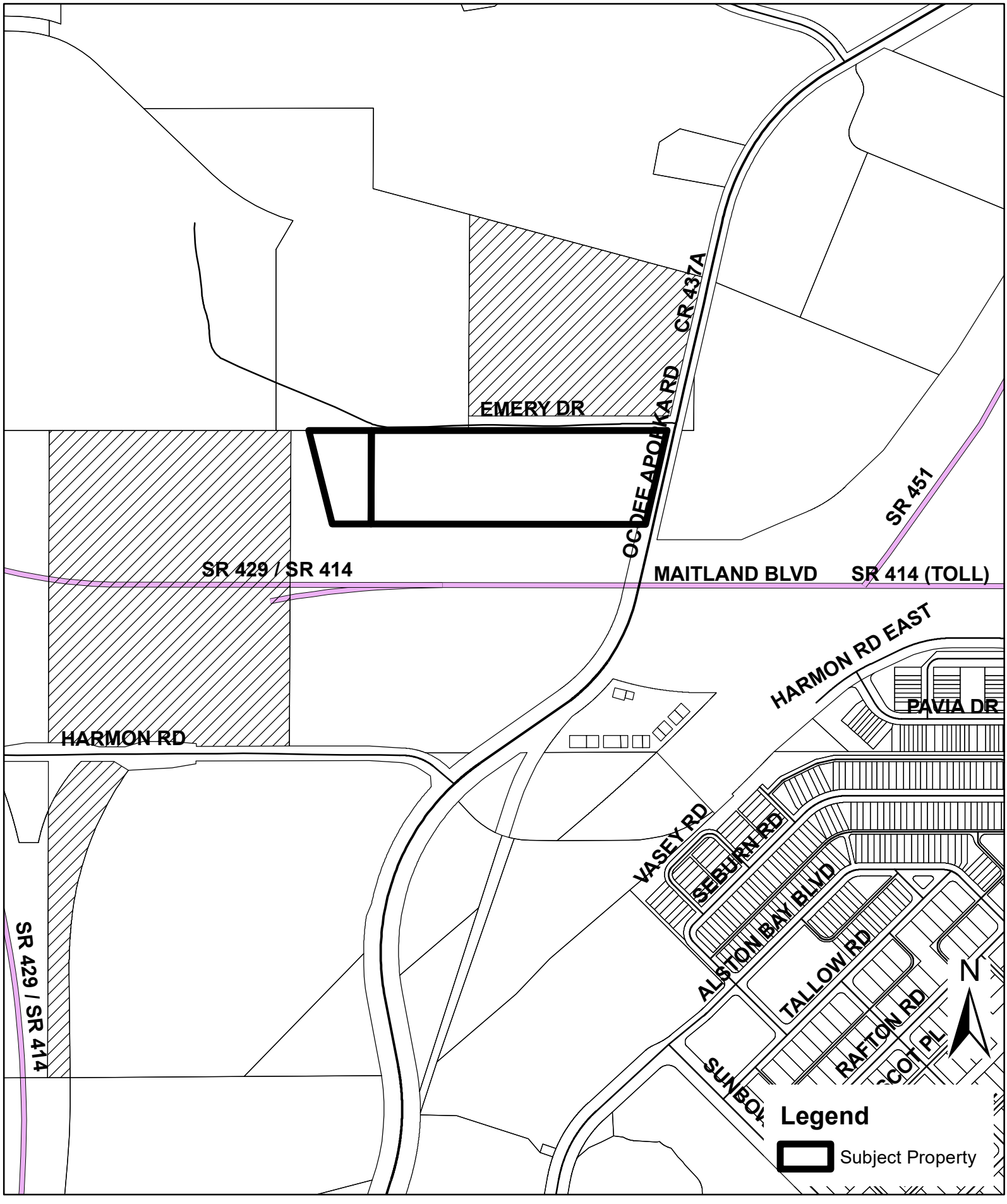
(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Future Land Use



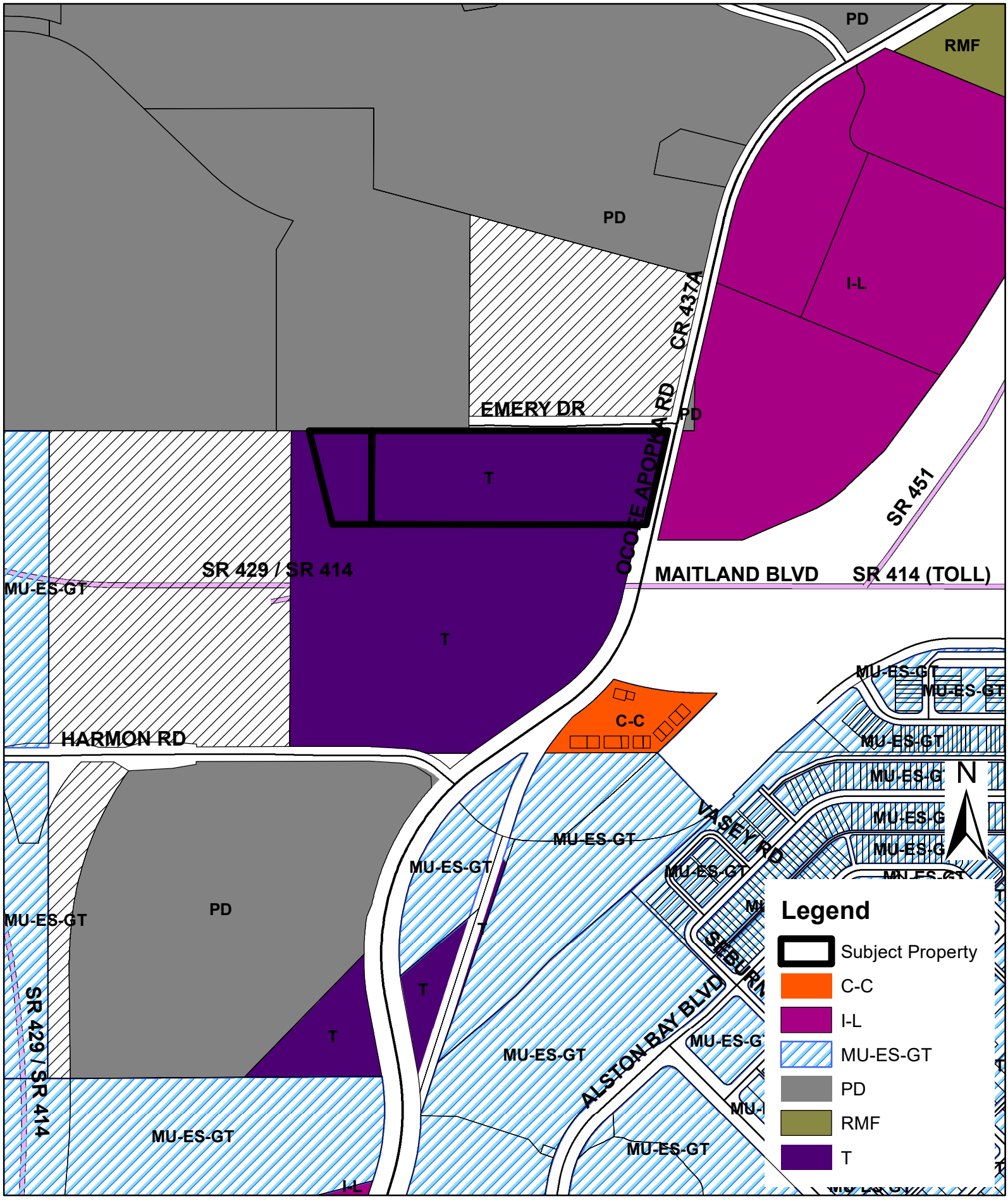
(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Vicinity



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Zoning



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

City of Apopka
CITY COUNCIL STAFF REPORT

Section: PUBLIC HEARINGS/ORDINANCES/RESOLUTION (Action Item)
Item #: 5.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Ordinance No. 3021 - First Reading - Land Development Code amendments

REQUEST:
Approve the first reading of Ordinance Number 3021 for the Land Development Code amendments.

SUMMARY:
On December 11, 2018, the Planning Commission recommended adoption to the City Council of the update to the Land Development Code. On March 6, 2019, the Apopka City Council formally adopted Ordinance Number 2700 approving the update for the Land Development Code (LDC).

The Land Development Code is considered a fluid document that does require periodic updates to clarify and amend the content to keep the LDC valid for the changes that Apopka is continuously working on. The Planning Commission recommended approval of five previous "Glitch" amendments The Apopka City Council has approved the following LDC amendments:

- Ordinance Number 2745 on January 15, 2020
- Ordinance Number 2775 on July 15, 2020
- Ordinance Number 2805 on November 18, 2020
- Ordinance Number 2877 on December 15, 2021
- Ordinance Number 2925 on May 18, 2022
- Ordinance Number 2994 on March 15, 2023

This request is for the seventh set of amendments that staff has identified for updating and clarification. This LDC amendment updates three of the 10 Articles and Appendix D. Because of the length of each section and sub-section being recommended for amendments, staff has provided a *Glitch Amendment #7 Summary List* (Exhibit "A") and the full Ordinance Number 3021 (Exhibit "B") for reference.

PUBLIC HEARING SCHEDULE:
August 8, 2023 – Planning Commission (5:30 P.M.)
September 6, 2023 – City Council (1:30 P.M.), First Reading
September 20, 2023 – City Council (7:00 P.M.), Second Reading and Adoption

DULY ADVERTISED:
August 4, 2023
August 25, 2023
September 8, 2023

FUNDING SOURCE:
N/A

RECOMMENDED MOTION:

Approve the first reading of Ordinance Number 3021 for the Land Development Code amendments and hold over for second reading and adoption on September 20, 2023

ATTACHMENTS:

1. LDC Glitch #7 Summary
2. Ord No 3021 - LDC Glitch 7 Amendments v2

Apopka Land Development Code
"Glitch" Amendment # 7 Summary List

PART III – Land Development Code

SECTION II.
Article 3 – ZONING DISTRICTS
SECTION 3.3.-RESIDENTIAL BASE ZONING DISTRICTS
3.3.7. - RMF: Residential Multi-Family District
C. Intensity and Dimensional Standards
- Amends the max. height to 35-55'
- Amends max. stories for one to five stories each.
- Amends requirements for alley and addressing to main road.

SECTION III.
Article 3 – ZONING DISTRICTS
3.3.8. – RMU: Residential Mixed-Use District
C. Intensity and Dimensional Standards
- Amends the max. height to 35-55'
- Amends max. stories for one to five stories each.
- Amends requirements for alley and addressing to main road.

SECTION IV.
Article 3 – ZONIG DISTRICTS
SECTION 3.6. - SPECIAL PURPOSE BASE ZONING DISTRICTS
3.6.3. - MU-D: Mixed-Use Downtown District
C. Intensity and Dimensional Standards
- Amends setbacks, max. height

SECTION V.
Article 3 – ZONING DISTRICTS
SECTION 3.7. – PLANNED DEVELOPMENT DISTRICT
3.7.2. PD, Planned Development District
- Amends to require a mix of residential and non-residential uses. Avoid circumventing the LDC.

SECTION VI.
Article 4 – USE REGULATIONS
4.2. – Principal Uses
4.2.2.C. – Principal Use Table
- Amends the table to allow Utility Uses in the Institutional Zoning District

SECTION VII.
Article 4 – USE REGULATIONS
4.2. – Principal Uses
4.3.2.B. – Accessory Use and Structures Table
- Amends the table to allow a Home Occupation (BTR) to be allowed in three zoning districts: RMF, RMU, MHP and MU-D

SECTION VIII.

Article 5 – DEVELOPMENT STANDARDS

SECTION 5.1. - OFF-STREET PARKING, BICYCLE PARKING, AND LOADING STANDARDS

5.1.8. H. – Alternative surfacing materials for parking areas

- Adds a new section for alternative parking surfaces for minimal use area such as churches, and recreations areas.

SECTION IX.

Appendix D – DEVELOPMENT DESIGN GUIDELINES

3.2.3. Balconies and Porches

- New section added for requirements

ORDINANCE NO. 3021

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF APOPKA, FLORIDA, AMENDING THE CODE OF ORDINANCES OF THE CITY OF APOPKA BY AMENDING PART III – LAND DEVELOPMENT CODE; ARTICLE 3 – ZONING DISTRICTS, SECTION 3.3 RESIDENTIAL BASE ZONING DISTRICTS, 3.3.7. RMF RESIDENTIAL MULTI-FAMILY DISTRICT; BY AMENDING PART III, ARTICLE 3 – ZONING DISTRICTS, SECTION 3.3. RESIDENTIAL BASE ZONING DISTRICT, 3.3.8. RESIDENTIAL MIXED-USE DISTRICT; BY AMENDING PART III, ARTICLE 3 – ZONING DISTRICTS, SECTION 3.6. SPECIAL PURPOSE ZONING DISTRICTS, 3.6.3. MIXED-USE DOWNTOWN DISTRICT; BY AMENDING PART III, ARTICLE 3 – ZONING DISTRICTS, SECTION 3.7. PLANNED DEVELOPMENT DISTRICT, 3.7.2. PLANNED DEVELOPMENT DISTRICT; BY AMENDING PART III, ARTICLE 4 – USE REGULATIONS, SECTION 4.2 PRINCIPAL USES, TABLE 4.2.2.C. PRINCIPAL USE TABLE; BY AMENDING PART III, ARTICLE 4 – USE REGULATIONS, SECTION 4.3. ACCESSORY USES AND STRUCTURES, TABLE 4.3.2.B. ACCESSORY USES AND STRUCTURES TABLE; BY AMENDING PART III, ARTICLE 5 – DEVELOPMENT STANDARDS, SECTION 5.1. OFF-STREET PARKING, BICYCLE PARKING AND LOADING STANDARDS, 5.1.8. OFF-STREET PARKING ALTERNATIVES, H. ALTERNATIVE SURFACING MATERIALS FOR PARKING AREAS; BY AMENDING PART III, APPENDIX D – DEVELOPPMENT DESIGN GUIDELINES, 3. RESIDENTIAL DESIGN GUIDELINES, 3.2.3. BALCONIES AND PORCHES; PROVIDING FOR CODIFICATION; PROVIDING FOR SEVERABILITY; PROVIDING FOR CONFLICTS, AND SETTING AN EFFECTIVE DATE.

WHEREAS, Section 166.021(3), *Florida Statutes*, provides, in pertinent part, that "[t]he Legislature recognizes that pursuant to the grant of powers set forth in Section 2(b), Art. VIII of the State Constitution, the legislative body of each municipality has the power to enact legislation concerning any subject matter upon which the state legislature may act" except for certain very limited matters; and

WHEREAS, pursuant to Florida Law chartered municipalities have original jurisdiction over all streets and highways located within their boundaries; and

WHEREAS, the City of Apopka Land Development Code requires amending periodically to include needed amendments to protect the health, safety, and welfare of all persons in the City; and

WHEREAS, City of Apopka Code of Ordinances, Florida, Part III – Land Development Code regulates the development and uses within the City of Apopka; and

WHEREAS, the City Council of the City of Apopka, Florida, has determined that the continued protection of the health, safety, and welfare of its citizens, and keeping the Land Development Code updated is for the benefit of the City, various Articles are being amended accordingly.

SECTION I: Part III, Article 3: Zoning Districts, Section 3.3. Residential Base Zoning Districts, 3.3.7.—RMF: Residential Multi-Family District – of the Land Development Code, Code of Ordinances, City of Apopka is hereby amended to read as follows:

Article 3 - ZONING DISTRICTS

* * * *

SECTION 3.3. - RESIDENTIAL BASE ZONING DISTRICTS

* * * *

3.3.7. - RMF: Residential Multi-Family District

* * * *

C. **Intensity and Dimensional Standards**

	Standard	**Single-family [one du]**	**Two-Family & Townhome [4]**	**Multi-Family**	**All Other Uses**
	Lot Area, min. (sf.)	7,500	15,000	43,560	7,500
	Living Area, min. (sf per unit)	1,500	1,500	750 (1 bd) 900 (2+ bd)	Not applicable
1	Lot Width, min. (ft.)	55 [3]	100 [3]	100	70
2	Front Yard Setback, min. (ft.)	25	25	25	25
3	Side Yard Setback, min. (ft.)	5 [1]	10 [1]	15 [1]	7.5
4	Corner Side Yard/Double Front Setback, min. (ft.)	25	25	25	25
5	Rear Yard Setback, min. (ft.)	20	20	25	25
	Building Height, max. (ft.)	35	35	35 – 55 [5]	35
	Density, max (du/acre)	[2]	[2]	[2]	Not applicable

Notes: sf. = square feet; ft. = feet; min.= minimum; max.= maximum; du = dwelling unit

[1] Minimum of 10 feet between structures, only applies to exterior units.

[2] Residential development north of Ponkan Road and west of Rock Springs Road (Park Avenue) shall be restricted to no more than two dwelling units an acre, unless otherwise authorized through the adopted Wekiva Parkway Interchange Plan. Refer to the Apopka Comprehensive Plan.

[3] Lots located on cul-de-sac and curves are allowed to reduce lot width by up to 40 percent of the minimum width at the property line, but are required to maintain a 55 feet width for Single-family or 100 feet width for Multi-family at the building line.

[4] Two-Family and Townhome units less than 55 feet wide must provide private dedicated rear alley access rather than front loaded garages. Alley design is 18 feet minimum width: 14 feet paved, 2 feet each side curb and gutter area. The alley is to provide for utilities where applicable and solid waste pickup. Solid waste receptacles shall be screened from view. The front of all units must face a main road for addressing.

[5] One to two story max. is 35'; Three-story max. is 45'; Four-story max. is 55'; Five-story max. requires a special exception.

* * * *

SECTION II: Part III, Article 3: Zoning Districts, Section 3.3. Residential Base Zoning Districts, 3.3.8.—RMU: Residential Mixed-Use District – of the Land Development Code, Code of Ordinances, City of Apopka is hereby amended to read as follows:

3.3.8. - RMU: Residential Mixed-Use District

* * * *

C. **Intensity and Dimensional Standards**

Standard		Townhome [4]	Multi-Family	Other Uses
Lot Area, min. (sf.)		8,000	8,000	5,000
Living Area, min. (sf per unit)		1,350	750 (1 bd) 900 (2+ bd)	750
1	Lot Width, min. (ft.)	50 [3]	100	100
2	Front Yard Setback, min. (ft.)	15	15	15
3	Side Yard Setback, min. (ft.)	7.5 [1]	10 [1]	10 [1]
4	Corner Side Yard/Double Front Setback, min. (ft.)	7.5	20	10 [1]
5	Rear Yard Setback, min. (ft.)	20	25	25
Building Height, max. (ft.)		35	35 – 55 [5]	35
Density, max (du/acre)		[2]	[2]	[2]

Notes: sf. = square feet; ft. = feet; min.= minimum; max.= maximum; bd = bedroom

[1] Only applies to the exterior units.

[2] Residential development north of Ponkan Road and west of Rock Springs Road (Park Avenue) will be restricted to no more than two dwelling units an acre, unless otherwise authorized through the adopted Wekiva Parkway Interchange Plan. Refer to the Apopka Comprehensive Plan.

[3] Lots located on cul-de-sac and curves are allowed to reduce lot width by up to 40 percent of the minimum width at the property line, but are required to maintain a 50 feet width for Townhome or 100 feet width for Multi-family at the building line.

[4] Townhome units less than 55 feet wide must provide private dedicated rear alley access rather than front loaded garages. Alley design is 18 feet minimum width: 14 feet paved, 2 feet each side curb and gutter area. The alley is to provide for utilities where applicable and solid waste pickup. Solid waste receptacles shall be screened from view. The front of all units must face a main road for addressing.

[5] One to two story max. is 35'; Three-story max. is 45'; Four-story max. is 55'; Five-story max. requires a special exception.

* * * *

SECTION III: Part III, Article 3: Zoning Districts, Section 3.6. Special Purpose Zoning Districts, 3.6.3. MU-D: Mixed-Use Downtown District – of the Land Development Code, Code of Ordinances, City of Apopka is hereby amended to read as follows:

Article 3 - ZONING DISTRICTS

* * * *

SECTION 3.6. - SPECIAL PURPOSE BASE ZONING DISTRICTS

* * * *

3.6.3. - MU-D: Mixed-Use Downtown District

* * * *

C. **Intensity and Dimensional Standards**

Standard		**Residential**	**All Other Uses [7]**
Lot Area, min. (sf.)		5,000	Not applicable
Living Area, min. (sf)		1,350 SF 750 MF (1 bd) 900 MF (2+ bd)	Not applicable
1	Lot Width, min. (ft.)	50	Not applicable
2	Build-to-Line, min./max.(ft.)	20/25 [1] [2]	0 [3]
3	Building width at build-to-line, min. (% of lot width)	60 [2][4]	60
4	Front Yard Setback, min. (ft.)	See 2 above	~~Not applicable~~ 10' or [1] [2]
5	Side Yard Setback, min. (ft.)	5	~~Not applicable~~ [7]
6	Corner Side Yard Setback, min. (ft.)	~~Not applicable~~ See 2 above	~~Not applicable~~ 10' or [1] [2]
7	Rear Yard Setback, min. (ft.)	20	~~Not applicable~~ [7]
8	Building Height, max. (ft.)	~~75~~ 55	~~Not applicable~~ 55
Density, max (dus/acre)		[5]	Not applicable
Floor Area Ratio (FAR), max.		Not applicable	2.0 [6]

Notes: sf. = square feet; ft. = feet; min.= minimum; max.= maximum

[1] ~~The area between the minimum and maximum build-to-lines that extends the width of the lot constitutes the build-to-zone.~~ The front setback line of the principal structure shall be equal to or average of the existing neighboring structures on a specific block; the build-to line is intended to create an even building façade line along a street.

[2] Where existing buildings along street frontage are all located behind the build-to-line, the buildings may not

be extended to the rear or side unless they are first extended frontwards to comply with the maximum build-to-line standard, and the minimum building width at the build-to-line standard.
[3] Setbacks up to 30 feet from the build-to-line are allowed for civic space or outdoor dining, as long as they demarcate the build-to-line by some additional feature.
[4] The build-to-line width remaining where there are no buildings may be occupied by outdoor gathering spaces, outdoor dining areas, walkways, landscaped areas, stormwater management facilities that use low impact development techniques.
[5] Applicable to a residential development, and the residential component of a mixed-use development.
[6] Applicable to a nonresidential development and the nonresidential component of a mixed-use development.
[7] "All Other Use" - for the *MU-D Mixed-Use Downtown*, please refer to the Comprehensive Plan's Future Land Use for the primary land use. (e.g. commercial, residential, industrial, mixed-use, etc.)
The *MU-D* provides for mixed use opportunities. The various zoning districts that are outlined in Article 1, Table 1.8.1 Transition to New Zoning Districts, shall provide the setback guidance within the MU-D for those various Comprehensive Plan Future Land Uses. A building setback line shall be 0 to 25 feet unless otherwise determined inappropriate for a specific site by the Community Development Director.
As an option, the Build-to-line may be adhered to in order to keep the existing setbacks in a block(s) to keep a new building or development compatible with the surrounding area. The Community Development Director shall make the final determination for setbacks.

* * * *

SECTION IV: Part III, Article 3: Zoning Districts, Section 3.7. Planned Development District, 3.7.2. Planned Development District – of the Land Development Code, Code of Ordinances, City of Apopka is hereby amended to read as follows:

*** * * ***

3.7.2. - Planned Development District

A. **Purpose.** The purpose of the Planned Development - (PD) zoning district is to encourage innovative, integrated, and efficient land planning and physical design concepts. The planned development district is intended to achieve a high quality of development, environmental sensitivity, energy efficiency, and adequate public facilities and services, and other goals and objectives by:

(1) Reducing the inflexibility of zoning district standards that sometimes results from strict application of the base district, and development and form standards;

(2) Allowing greater flexibility in selecting: the form and design of development, the ways by which pedestrians and traffic circulate, how the development is located and designed to respect the natural features of the land and protect the environment, the location and integration of open space and civic space into the development, and design amenities;

(3) Encouraging a greater mix of land uses within the same development;

(4) Requires a mix of residential and non-residential uses;

~~(4)~~ (5) Allowing more efficient use of land, with smaller networks of streets and utilities;

~~(5)~~ (6) Providing pedestrian connections within the site and to the public right-of-way; and

~~(6)~~ (7) Promoting development forms and patterns that respect the character of established surrounding neighborhoods and other types of land uses.

*** * * ***

SECTION V: Part III, Article 4: Use Regulations, Section 4.2 Principal Uses, 4.2.2 Principal Use Table – of the Land Development Code, Code of Ordinances, City of Apopka is hereby amended to read:

4.2.2. Principal Use Table

* * * *

C. Principal Use Table

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

Table 4.2.2.C: Principal Use Table
P= permitted use
A= allowed use in a PD district if approved as part of a PD Plan
S=allowed with approval of special exception
Blank cell = use is prohibited

Principal Use Category	Principal Use Type	Agricultural & Transitional Districts		Residential Districts							Commercial Districts					Industrial Districts		Special Purpose Districts							Planned Development District	Use-Specific Standards
		AG	T	RCE	RSF-1A	RSF-1B	RTF	RMF	RMU	MHP	C-N	C-C	O	C-COR	C-R	I-L	I-H	MU-D	MU-ES			INST	PR	AIR	PD	
																			NM	GT	RTE					
* * * *																										
Utility Uses	Solar energy collection facility (large-scale)	P														P	P					P			A	
	Utility facility, major	P	P						S			P		S	P	P	P	S			S	P			A	4.2.3.D.5.a
	Utility facility, minor	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P			A	

*** * * ***

SECTION VI: Part III, Article 4: Use regulations, Section 4.3 Accessory Uses and Structures, 4.3.2 Accessory Uses and Structure Table – of the Land Development Code, Code of Ordinances, City of Apopka is hereby amended to read:

4.3.2. - Accessory Uses and Structures Table

* * * *

B: Accessory Use and Structures Table

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

Table 4.3.2.B: Accessory Use and Structures Table
P = permitted accessory use or structure
A = allowed accessory use or structure in a PD district if approved as part of a PD Plan
Blank cell = accessory use or structure is prohibited

Accessory Uses and Structures	Agricultural & Transitional Districts		Residential Districts							Commercial Districts					Industrial Districts		Special Purpose Districts							Planned Development District	Use-Specific Standards
	AG	T	RCE	RSF-1A	RSF-1B	RTF	RMF	RMU	MHP	C-N	C-C	O	C-COR	C-R	I-L	I-H	MU-D	MU-ES			INST	PR	AIR	PD	
																		NM	GT	RTE					
Home occupation	P	P	P	P	P	P	P	P	P								P	P	P	P				A	4.3.4.B.9

* * * *

* * * *

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

SECTION VII: Part III, Article 5 – Development Standards, Section 5.1. Off-Street Parking, Bicycle Parking, and Loading Standards – of the Land Development Code, Code of Ordinances, City of Apopka is hereby amended to read:

Article 5 - DEVELOPMENT STANDARDS

* * * *

SECTION 5.1. - OFF-STREET PARKING, BICYCLE PARKING, AND LOADING STANDARDS

* * * *

5.1.8. - Off-Street Parking Alternatives

* * * *

H. Alternative surfacing materials for parking areas.

(a) Certain land uses, due to their unique character or due to the low volume of traffic produced, may provide parking surfaces of grass, wood mulch or other materials after obtaining approval from the Development Review Committee (DRC). In granting such a request, the DRC shall consider the following matters:

(1) The type of partially pervious material or type of wood mulch to be used for surfacing.

(2) The site characteristics of the parking lot, including but not limited to the elevation, slope, drainage, soil type and adjacent surface conditions.

(3) The type and amount of anticipated traffic flow in the parking lot.

(4) The parking area shall not be for storage of materials or vehicles, or overnight parking unless approved by the DRC.

(b) The following criteria shall be used in development and construction of an approved wood mulch parking area:

(1) Use shall be essentially for passive parking, i.e., not more than two ingress/egress movements per day per vehicle space. Such limited uses shall be determined by the DRC.

(2) Natural soil on the site must be sandy, with only enough clay to bind particles and preclude rutting or flowing.

(3) Soil percolation must absorb a minimum of three and one-half inches of rainfall per hour over the entire area to be mulched.

(4) Parking areas shall be graded as level as possible, with maximum slope in any direction not to exceed three percent, to preclude surface runoff from washing away mulch materials.

(5) Subsurface areas shall be cleared and grubbed to remove all living plant growth, and then be graded and treated with an approved herbicide to prevent further growth in areas to be mulched.

(6) Surfacing shall not be less than three inches of clean bark mulch, free from chips and sticks, after wetting and rolling.

(7) Mulched areas shall be contained by concrete ribbon curbing, pressure-treated timbers, or precast concrete bumper blocks laid end to end. For this purpose, concrete sidewalks at or between ends of rows of vehicle spaces, not less than five feet wide, may be used, as well as concrete entrance drives and curb cuts, where applicable.

(8) All mulch parking areas shall be maintained and resupplied with fresh mulch at least once per year.

(c) Minimum standards for any alternative surface materials for parking areas.

(1) Requirements for size of lot or parcel coverage, number of vehicle spaces and driving lanes shall be the same as that for conventionally paved parking areas. All circulation areas and drive isles shall be paved.

(2) The DRC shall have sole discretion in determining whether or not the use of wood mulch, or other materials such as paver block or turf block, shall be suitable and acceptable for any specific low volume parking location.

(3) Green areas (planters, with grass and shrubs or trees) shall comprise not less than 20 percent of the total parking area, including driveways and walkways, and shall be provided with automatic or manual irrigation facilities, equipped with rain sensors and backflow preventers, and with adequate pressure and coverage to enable periodic wetting of the mulched areas to keep the mulch sufficiently moist to prevent its being blown or strewn by winds or vehicle exhausts, or ignited by the latter.

(4) Landscape islands, parking space and lot dimensions shall be in accordance with the LDC.

(5) A minimum of 25 percent of the required parking spaces shall be paved in accordance with the Land Development code. Any extra parking spaces over the Code required number may also use the alternative surface materials as noted above. All Accessible parking spaces shall be paved in accordance with Florida Statutes and the LDC.

* * * *

SECTION VIII: Part III, Appendix D – Development Design Guidelines

* * * *

3. – Residential Design Guidelines

* * * *

3.2.3. – Balconies and Porches

For any multi-residential buildings of two or more stories, balconies and porches shall adhere to the following standards:

(a) Balconies, canopies or other similar architectural features shall be used along all second story or taller facades which front any existing public right-of-way, and such features shall make up at least fifty (50) percent of the lineal frontage along the right-of-way as determined by the City of Apopka's DRC-Development Review Committee

(b) *Balconies*. Balconies shall consist of an outside space (not under heat or air conditioned) and shall be a minimum of 5-feet deep and minimum 6-feet wide (30 square feet). Luxury size balconies shall be a minimum 5-feet deep and 12-feet wide (60 square feet). Balconies may project from the facia of the principal building and cannot count toward the required minimum living area square feet. Balconies that are recessed into the building and flush with the exterior principal wall, may be counted toward the minimum living area square feet.

(c) *First Story Porch.* An unscreened or screened covered porch shall be permitted on the first story of a residential building. Porches that are recessed into the building and flush with the exterior principal wall, may be counted toward the minimum living area square feet. Porches may project from the facia of the principal building and cannot count toward the required minimum living area square feet. A projecting porch may extend into the required front yard setback up to six (6) feet and into the required street side yard setback up to five (5) feet, provided that the following conditions are met:

1. The porch has a minimum depth and width of six (6) feet;
2. The porch does not extend more than half of any required setback
3. Is not within any utility easement;
4. The porch is constructed of materials similar to that of the principal facade; and
5. The porch design is consistent with the architectural style of the principal structure as determined by the Appearance Review Officer in accordance with generally accepted architectural standards.

(c) *Second Story Balconies.* An unscreened or screened balcony may be permitted on the second story of a residential building. Such balcony may encroach up to six (6) feet into the required front yard setback and up to five (5) feet into the required street side yard setback, provided that the following conditions are met:

1. There is a first story porch directly below the second story balcony;
2. The second story balcony has a minimum depth of five (5) feet;
3. If covered, the second story balcony has a separate roof line which is compatible with the design of the principal structure;
4. The second story balcony is constructed of materials similar to that of the principal facade; and
5. The second story balcony is consistent with the architectural style of the principal structure as determined by the Community Development Director in accordance with generally accepted architectural standards.

(d) *Balconies three or more stories*. Balconies on multi-story buildings three or more stores shall adhere to the following conditions:

1. Balconies must have a minimum depth of five (5) feet;

2. If covered, the balconies have a separate roof line which is compatible with the design of the principal structure;

3. The balconies are constructed of materials similar to that of the principal facade; and

4. The balconies are consistent with the architectural style of the principal structure as determined by the Community Development Director in accordance with generally accepted architectural standards.

(e) *Porch Roof Projections.* Roof projections (eaves) may encroach up to two (2) feet beyond the porch or balcony into the required front or street side yard. Wherever a porch or roof extends into the front yard or street side yard setbacks, as allowed by this section, no other modification of front yard or street side yard setbacks may be approved by the Zoning Official.

(f) *Porch or balcony Screens.* Screens on windows and doors shall be stretched, fitted, and maintained without open rips or tears. Screens on porches, balconies or other appurtenances shall be maintained in good repair.

SECTION IX: AUTHORIZING INCLUSION IN CODE. The provisions of this ordinance shall be included and incorporated into the Code of Ordinances of the City of Apopka, as additions or amendments thereto

SECTION X: SEVERABILITY. Should any word, phrase, sentence, subsection or section be held by a court of competent jurisdiction to be illegal, void, unenforceable, or unconstitutional, then that word, phrase, sentence, subsection or section so held shall be severed from this ordinance and all other words, phrases, sentences, subsections, or sections shall remain in full force and effect.

SECTION XI: CONFLICTING ORDINANCES. All ordinances or part thereof, in conflict herewith are, to the extent of such conflict, repealed.

SECTION XII: EFFECTIVE DATE. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect immediately upon its passage and adoption.

PASSED UPON at the first reading of the City Council, this 6th day of September, 2023.

PASED UPON at the second and final reading of the City Council, this 20th day of September 2023.

ATTEST:

_____
BRYAN NELSON
Mayor

_____
SUSAN M. BONE
City Clerk

APPROVED as to legal sufficiency and form:

_____
City Attorney

DULY ADVERTISED FOR PUBLIC HEARING: August 25, 2023
September 8, 2023

City of Apopka
CITY COUNCIL STAFF REPORT

Section: PUBLIC HEARINGS/ORDINANCES/RESOLUTION (Action Item)
Item #: 6.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Ordinance No. 3022 - First Reading -Chapter 18, Buildings and Building Regulations, Article III. – Permit Fees.

REQUEST:
Approve the First Reading of Ordinance Number 3022 Chapter 18, Buildings and Building Regulations, Article III. – Permit Fees.

SUMMARY:
It is the intent of this Ordinance Number 3022 not to implement an increase in building inspection fees, but rather to correct an error in the Code regarding rejection and correction notices to comply with State Law.

F.S. § 553.80(2)(c) requires with respect to inspections, if a local government finds it necessary, in order to enforce compliance with the Florida Building Code, to conduct any inspection after an initial inspection and one subsequent re-inspection of any project or activity for the same code violation specifically and continuously noted in each rejection, including, but not limited to, egress, fire protection, structural stability, energy, accessibility, lighting, ventilation, electrical, mechanical, plumbing, and gas systems, or other requirements identified by rule of the Florida Building Commission adopted pursuant to Chapter 120, the local government shall impose a fee of four times the amount of the fee imposed for the initial inspection or first re-inspection, whichever is greater, for each such subsequent re-inspection.

Public Hearing Schedule:
September 6, 2023 – City Council (1:30 P.M.), First Reading
September 20, 2023 – City Council (7:00 P.M.), Second Reading and Adoption

Duly Advertised:
August 25, 2023
September 8, 2023

FUNDING SOURCE:
N/A

RECOMMENDED MOTION:
Approve the First Reading of Ordinance Number 3022 Chapter 18, Buildings and Building Regulations, Article III. – Permit Fees and hold over for second reading and adoption on September 20, 2023

ATTACHMENTS:
1. Ord No 3022 - Chapter 18 reinspection fees Amendment - Revised (2)

ORDINANCE NO. 3022

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF APOPKA, FLORIDA, AMENDING THE CODE OF ORDINANCES OF THE CITY OF APOPKA, FLORIDA, BY AMENDING CHAPTER 18, BUILDING AND BUILDING REGULATIONS, SECTION 18-49, BY AMENDING THE REJECTION OR CORRECTION NOTICES FEES; PROVIDING FOR CODIFICATION; PROVIDING FOR SEVERABILITY; PROVIDING FOR CONFLICTS, AND SETTING AN EFFECTIVE DATE.

WHEREAS, Chapter 166, F.S., empowers the City of Apopka to adopt regulations which further a municipal purpose; and

WHEREAS, the City of Apopka has identified an error in Sec. 18-49 of its Code of Ordinances in conflict with F.S. § 553.80(2)(c); and

WHEREAS, F.S. § 553.80(2)(c) requires with respect to inspections, if a local government finds it necessary, in order to enforce compliance with the Florida Building Code, to conduct any inspection after an initial inspection and one subsequent re-inspection of any project or activity for the same code violation specifically and continuously noted in each rejection, including, but not limited to, egress, fire protection, structural stability, energy, accessibility, lighting, ventilation, electrical, mechanical, plumbing, and gas systems, or other requirements identified by rule of the Florida Building Commission adopted pursuant to Chapter 120, the local government shall impose a fee of four times the amount of the fee imposed for the initial inspection or first re-inspection, whichever is greater, for each such subsequent re-inspection; and

WHEREAS, it is the intent of this ordinance not to implement an increase in building inspection fees, but rather to correct an error in the Code regarding rejection and correction notices to comply with State Law; and

WHEREAS, the City Council of the City of Apopka finds it is in the public interest to make the correction.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF APOPKA, FLORIDA, AS FOLLOWS:

(Words in ~~strike through~~ type are deletions; words in <u>underscore</u> type are additions; asterisks
(* * * *) indicate an omission from the existing text which is intended to remain unchanged.)

SECTION I: Chapter 18, "Building and Building Regulations" of the Code of Ordinances of the City of Apopka is hereby amended as follows:

CHAPTER 18 – BUILDINGS AND BUILDING REGULATIONS

*** * * ***

ARTICLE III. – PERMIT FEES

*** * * ***

Sec. 18-49. - Rejection, correction notice, stop-work order, or citation fees.

The following fees are established for rejections, correction notices, stop-work orders, or citing code violations, whichever is applicable:

(1) Rejection or correction notices: $30.00. If a rejection or correction notice has to be issued for the same violation on the same job or project a third time, the fee shall be ~~$120.00~~ $200.00, as ~~allowed~~ required by ~~F.S. § 550.80(2)(c)~~ F.S. § 553.80(2)(c).

(2) Stop-work orders: $250.00 .....

(3) Citation fees, as per article V of this chapter, property maintenance code, are established as follows:

a. Class I offense: .....$ 50.00
b. Class II offense: 150.00
c. Class III offense: 200.00

(4) Beginning work without a permit shall be charged a fee of $100.00 or double the permit fee, whichever is greater.

*** * * ***

SECTION II: CODIFICATION. The provisions of this ordinance shall be included and incorporated into the Code of Ordinances of the City of Apopka, as additions or amendments thereto.

SECTION III: SEVERABILITY. Should any word, phrase, sentence, subsection or section be held by a court of competent jurisdiction to be illegal, void, unenforceable, or unconstitutional, then that word, phrase, sentence, subsection or section so held shall be severed from this ordinance and all other words, phrases, sentences, subsections, or sections shall remain in full force and effect.

SECTION IV: CONFLICTING ORDINANCES. All ordinances or part thereof, in conflict herewith are, to the extent of such conflict, repealed.

SECTION V: EFFECTIVE DATE. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect immediately upon its passage and adoption.

PASSED UPON at the first reading of the City Council, this 6th day of September, 2023.

PASSED UPON at the second and final reading of the City Council, this 20th day of September 2023.

_____
BRYAN NELSON
Mayor

ATTEST:

_____
SUSAN M. BONE
City Clerk

APPROVED as to legal sufficiency and form:

_____
City Attorney

DULY ADVERTISED FOR PUBLIC HEARING: August 25, 2023
September 8, 2023

City of Apopka
CITY COUNCIL STAFF REPORT

Section: PUBLIC HEARINGS/ORDINANCES/RESOLUTION (Action Item)
Item #: 7.
Meeting Date: September 6, 2023
Department: Community Development

SUBJECT:
Ordinance No. 3024 –First Reading- Annexation – SNP Properties

REQUEST:
Accept the first reading of Ordinance Number 3024 and hold it over for second reading and adoption.

SUMMARY:
Owner(s): SNP Properties, LLC
Applicant: Denny Shiver
Parcel Identification Number(s): 07-20-28-0000-00-070 and 07-20-28-0000-00-030
Location: Southeast corner of Plymouth Sorrento Road and Dowman Drive
Future Land Use: County Rural (1 dwelling unit per 10 acres)
Existing Use: Vacant
Zoning: County A-1 (Citrus Rural) District
Tract Size: 5.0 +/- acre(s)

Zoning Report

This chart includes the relationships to adjacent properties.

Direction	Future Land Use	Zoning	Present Use
North	County Rural	County A-1 (Citrus Rural)	Vacant
East	County Rural	County A-1	Single Family Residence
South	County Rural	County A-1	Single Family Residence
West	Mixed-Use	KPI-MU (Kelly Park Interchange – Mixed Use)	Bridle Path Residential Subdivision

SUMMARY:

The subject properties are contiguous to the City limits on the western and southern boundaries. Annexing the properties does not create an enclave, and therefore, the properties are eligible for annexation pursuant to Florida Statute 171.044. The proposed annexation shall be on the basis of the existing County Future Land Use and Zoning Designations. Assignment of a City Future Land Use and Zoning designation will occur at a later date, and through action by the City Council.

ORANGE COUNTY NOTIFICATION:

The JPA (Joint Planning Agreement) requires the City to notify the County before any public hearing or advisory board. The City notified Orange County on June 19, 2023.

PUBLIC HEARING SCHEDULE:

September 6, 2023 – City Council (1:30 P.M.) – First Reading
September 20, 2023 – City Council (1:30 P.M.) – Second Reading and Adoption

DULY ADVERTISED:

August 18, 2023 – Apopka Chief
August 25, 2023 – Apopka Chief

Attachments:

- Maps (PDF)
- Ordinance Number 3024 (PDF)

FUNDING SOURCE:
Not applicable

RECOMMENDED MOTION:

Development Review Committee:

Recommends approval of the annexation for the SNP Properties.

Recommended motion – City Council:

Accept the first reading of Ordinance Number 3024 and hold it over for second reading and adoption on September 20, 2023 or soon thereafter.

ATTACHMENTS:
1. Ordinance No. 3024
2. Maps

ORDINANCE NO. 3024

AN ORDINANCE OF THE CITY OF APOPKA, FLORIDA, TO EXTEND ITS TERRITORIAL AND MUNICIPAL LIMITS TO ANNEX PURSUANT TO FLORIDA STATUTE 171.044 THE HEREINAFTER DESCRIBED LANDS SITUATED AND BEING IN ORANGE COUNTY, FLORIDA, OWNED BY SNP PROPERTIES, LLC; LOCATED ON THE SOUTHEAST CORNER OF PLYMOUTH SORRENTO ROAD AND DOWMAN DRIVE, COMPRISING 5 ACRES, MORE OR LESS; PROVIDING FOR DIRECTIONS TO THE CITY CLERK, SEVERABILITY, CONFLICTS, AND AN EFFECTIVE DATE.

WHEREAS, SNP Properties, LLC, owner thereof, has petitioned the City Council of the City of Apopka, Florida, to annex the property located on the southeast corner of Plymouth Sorrento Road and Dowman Drive; and

WHEREAS, Section 171.044, Florida Statutes, provides that the City may annex property into its corporate limits upon voluntary petition of its owners, by passing and adopting an ordinance to annex said property at a regular meeting; and

WHEREAS, the City Council of the City of Apopka, Florida is desirous of annexing and redefining the boundaries of the municipality to include the subject property pursuant to Section 171.044, Florida Statutes.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Apopka, Florida, as follows:

SECTION I: That the following property, described to wit:

(NOTE: AGRICULTURAL PORTION OF FOLLOWING DESCRIBED PROPERTY) S 450.80 FT OF W 966.70 FT OF S1/2 OF NW1/4 OF SW1/4 (LESS S 225.40 FT THEREOF & LESS W 30 FT FOR R/W) OF SEC 07-20-28 SEE 5315/4409

AND

(NOTE: HOMESTEAD PORTION OF FOLLOWING DESCRIBED PROPERTY) S 450.80 FT OF W 966.70 FT OF S1/2 OF NW1/4 OF SW1/4 (LESS S 225.40 FT THEREOF & LESS W 30 FT FOR R/W) OF SEC 07-20-28 SEE 5315/4409

CONTAINING: 5.0 ACRES MORE OR LESS.

Being compact and contiguous to the City of Apopka, and being situated in Orange County, Florida, totaling **5.0 +/- acres** (Graphically depicted by the attached Exhibit A), is hereby annexed into the City of Apopka, Florida, pursuant to the voluntary annexation provisions of Section 171.044, Florida Statutes.

SECTION II: That the corporate territorial limits of the City of Apopka, Florida, are

hereby redefined to include said land herein described and annexed.

SECTION III: That the City Council will designate the land use classification and zoning category of these annexed lands in accordance with applicable City ordinances and State laws.

SECTION IV: That the land herein described and future inhabitants of the land herein described shall be liable for all debts and obligations and be subject to all species of taxation, laws, ordinances and regulations of the City.

SECTION V: That if any section or portion of a section or subsection of this Ordinance proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidate or impair the validity, force, or effect of any other section or portion of a section or subsection or part of this ordinance.

SECTION VI: That all ordinances or parts of ordinances in conflict herewith are hereby repealed.

SECTION VII: That this ordinance shall take effect upon passage and adoption, thereafter the City Clerk is hereby directed to file this ordinance with the Clerk of the Circuit Court in and for Orange County, Florida; the Orange County Property Appraiser; and the Department of State of the State of Florida.

READ FIRST TIME: September 6, 2023

READ SECOND TIME
AND ADOPTED: September 20, 2023

_____
Bryan Nelson, Mayor

ATTEST:

_____
Susan M. Bone, City Clerk

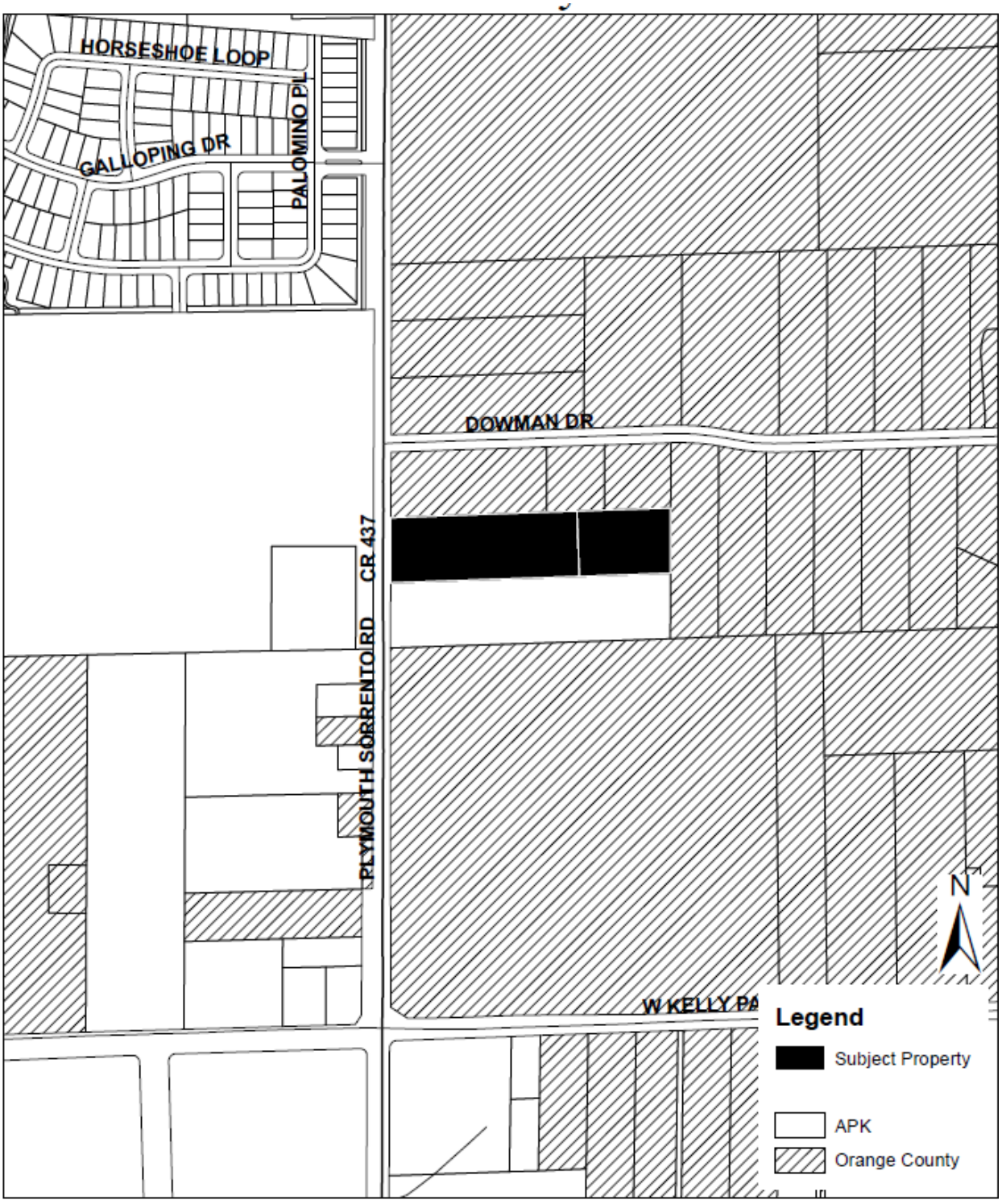
APPROVED as to form and legality

_____
Clifford B. Shepard, City Attorney

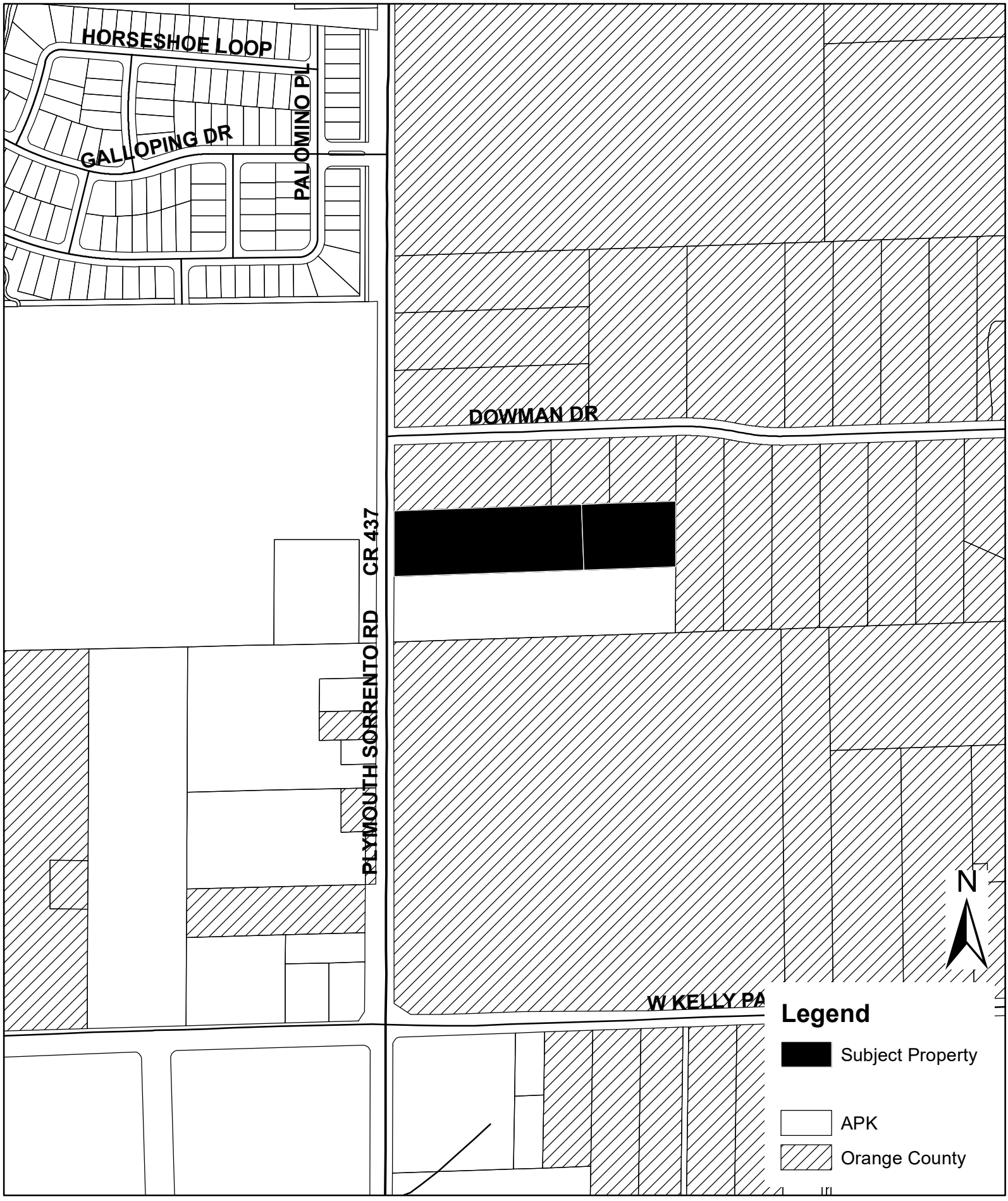
DULY ADVERTISED FOR PUBLIC HEARING: August 18, 2023 and August 25, 2023

EXHIBIT "A"

PARCEL IDENTIFICATION NUMBER(S): 07-20-28-0000-00-070 and 07-20-28-0000-00-030

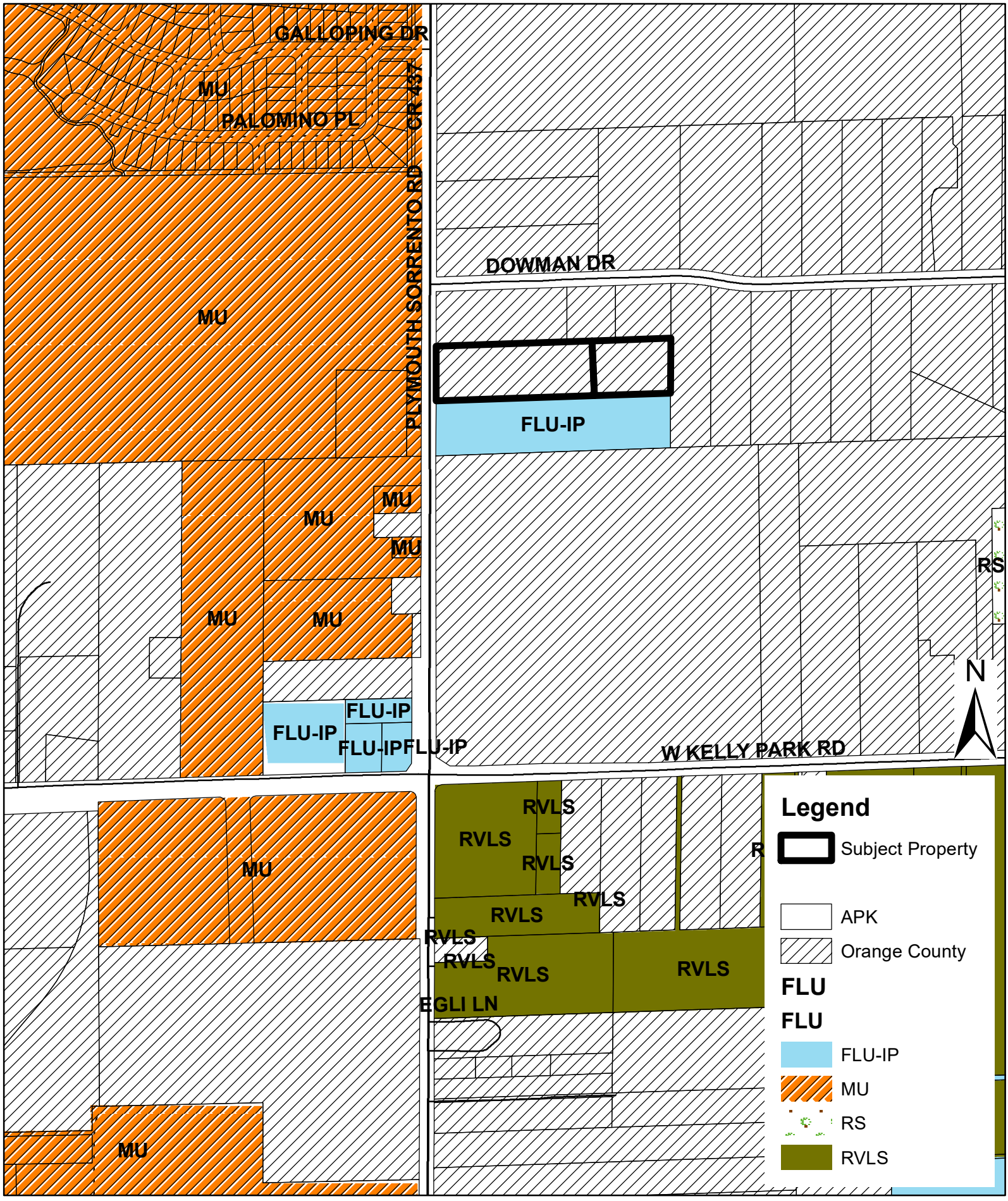


Vicinity



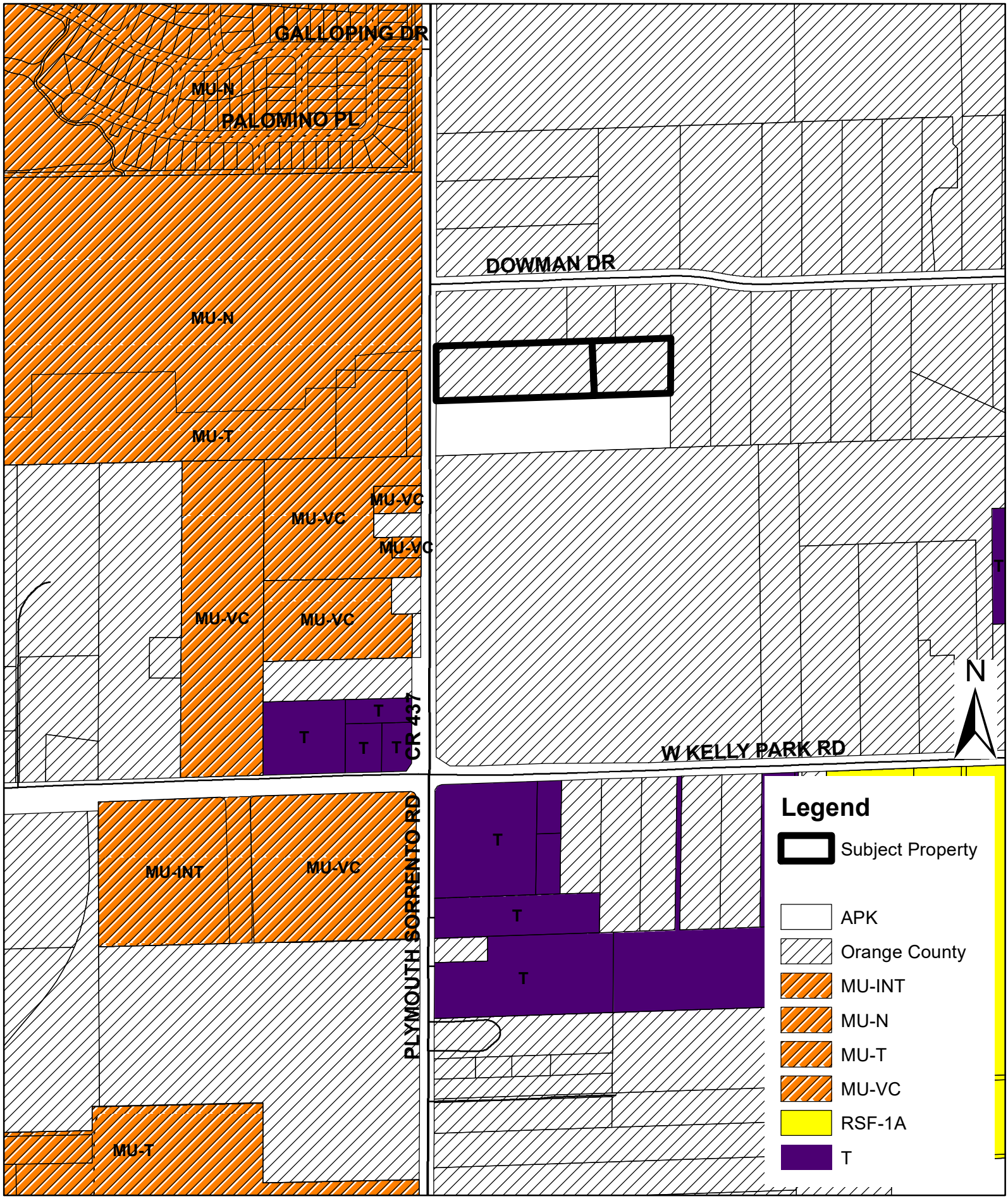
(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Future Land Use



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Zoning



(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

Aerial

(THIS MAP IS FOR REFERENCE PURPOSES ONLY AND IS NOT TO SCALE)

City of Apopka
CITY COUNCIL STAFF REPORT

Section: PUBLIC HEARINGS/ORDINANCES/RESOLUTION (Action Item)
Item #: 8.
Meeting Date: September 6, 2023
Department: Public Services

SUBJECT:
Resolution 2023-27 - Sanitation Rate Increase

REQUEST:
Increase the residential and commercial sanitation rates for collection and disposal of solid waste and recycling effective October 1, 2023.

SUMMARY:
The Sanitation Enterprise fund is funded by user fees for the curbside collection and disposal of residential waste and recycling and commercial dumpsters. A rate increase is needed to cover operating expenses due to an increase in the population served, and the rising costs of labor, fuel, disposal and other operating expenses. The rates in the attached resolution reflect a 10% increase over FY 2023.

FUNDING SOURCE:
Sanitation Enterprise Fund

RECOMMENDED MOTION:
Approve the 10% sanitation rate increase as reflected in Resolution 2023-27 effective October 1, 2023.

ATTACHMENTS:
1. Resolution 2023-27 - Schedule A & Schedule B

RESOLUTION NO. 2023-27

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF APOPKA, FLORIDA ESTABLISHING RATE SCHEDULES PERTAINING TO CITY OF APOPKA MUNICIPAL REFUSE COLLECTION SERVICES; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, Section 58-67, Code of Ordinances of the City of Apopka, establishes rate schedules to be adopted by resolution of the city council for residential municipal refuse collection services;

WHEREAS, Section 58-103, Code of Ordinances of the City of Apopka, establishes rate schedules to be adopted by resolution of the city council for non-residential municipal refuse collection services; and

WHEREAS, the City Council has determined that adopting a Rate Schedules for the above listed city utilities serves a municipal and public purpose.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF APOPKA, FLORIDA THAT:

SECTION I. The City Council hereby adopts the City's Residential Municipal Refuse Collection Services, Schedule A, attached hereto and by this reference incorporated herein.

SECTION II. The City Council hereby adopts the City's Non-Residential Municipal Refuse Collection Services, Schedule B, attached hereto and by this reference incorporated herein.

SECTION III. Resolution 2022-40 is hereby repealed in its entirety.

SECTION IV. This Resolution shall become effective upon final adoption by the City Council.

ATTEST

CITY COUNCIL OF THE CITY OF APOPKA, FLORIDA

_____
Susan M. Bone
City Clerk

_____
Bryan Nelson
Mayor

APPROVED as to form and legal sufficiency

_____
City Attorney

SCHEDULE A
CITY OF APOPKA
RESIDENTIAL MUNICIPAL REFUSE COLLECTION SERVICES

a. *Single-Family Units*. Any single-family living unit with kitchen facilities shall be charged a minimum monthly fee for curbside collection as follows:

Residential Fee Schedule	
Number of Household Trash Containers	Minimum Monthly Fee
1	$21.03
2	$31.55

b. *Multifamily dwellings; mobile home parks*. The following minimum monthly fees shall be charged as service is available, unless computed at nonresidential rates, whether service is used or not:

(1) Apartment house: $21.03 per apartment.

(2) Condominium, townhouse, etc.: $21.03 per condominium, townhouse, etc.

(3) Mobile home park: $21.03 per residential unit for each water bill (minimum or otherwise) charged.

c. *Containers*. Each residence shall be issued one city-approved household trash container and one city-approved recycling container. An additional container shall be available upon request and payment of a $74.22 fee per container. Director approval is required for requests of more than two household trash containers.

d. *Senior citizen discount and/or permanently disabled*. Anyone who is over 65 years of age or permanently disabled satisfying the requirements set by city council resolution, and having on file an application at the city utility billing division prior to May 19, 2010 for a $5.30 per month reduction in fees will continue to receive the discounted rate. No new discounted or reduced rates will be provided after May 19, 2010.

e. *Backyard service*. The occupant must request backyard service, and shall pay to the city the sum of $35.35 for such service. Rates shall not be reduced for six months after backyard service is initiated. Backyard service may be discontinued if the director determines backyard pickup would cause undue problems for the sanitation division crews.

f. *Bulky waste/yard waste/white goods*. This fee shall include materials that are too large for normal collection. Each residential dwelling receiving curbside collection services may receive a bulky waste, yard waste (or a combination thereof) pickup of up to four cubic yards per week at no additional cost. Individual collections in excess of this criteria shall incur a fee of $12.74 for every additional cubic yard. Non-bundled yard waste will be charged at a rate of $12.74 for the first four cubic yards and $12.74 for every additional cubic yard thereafter. An additional $12.74 per item charge for extraordinary handling, which includes Freon-containing items such as refrigerators and air conditioners, is required.

g. *Deposit*. For each customer requesting service under this division, a utility deposit of $52 shall be paid unless otherwise provided in this chapter.

h. *Deposit for newly annexed property*. The city will waive the deposit requirement for any residential customer who begins receiving city service within 24 months of annexing into the city and who maintains a good payment history with the city.

i. *Container return*. City-approved containers that have been collected due to non-payment will be assessed a $24.73 return fee. Containers will be returned the same day if past-due balance and return fees are paid prior to 12:00 noon. Payments received after 12:00 noon will result in the containers being returned on the next city business day.

j. *Roll-back*. City-approved and city-provided containers, as well as customer-owned yard waste containers, that are not removed by 7:00 p.m. on the day of scheduled collection, may be assessed a $24.73 roll-back fee for the removal of said containers from city rights-of-way.

k. *Disabled service*. There are no additional charges, if the requirements of this schedule are satisfied.

SCHEDULE B
CITY OF APOPKA
NONRESIDENTIAL MUNICIPAL REFUSE COLLECTION SERVICES

a. *Fees; curbside pickups*. The following schedule shall be the minimum fees for nonresidential curbside pickup:

Nonresidential Curbside Pickup (Two Weekly Pickups)	
Number of Containers	Minimum Monthly Fee
1	$33.10
2	$67.47
Greater than two	$33.10 per container

b. *Containers*. Each business that receives curbside service shall be issued one city-approved refuse container and one city-approved recycling container. Additional containers shall be available upon request and payment of a $74.22 fee, per container.

c. *Extra pickups; containers two cubic yards or larger*. If additional pickups are required for containers two cubic yards or larger, at times other than the customer's original pickup schedule, the minimum charge per occurrence shall be:

(1) Two-cubic-yard container: $38.19;

(2) Four-cubic-yard container: $50.92;

(3) Six-cubic-yard container: 63.66; and

(4) Eight-cubic-yard container: $76.38.

This service will be provided if scheduled with the public services department before 11:00 a.m. on regular business days. This charge will also apply to any container that could not be serviced due to circumstances beyond the city's control, e.g., a vehicle blocking the container, incorrect materials in a container, excessive debris around containers, etc.

d. *Eight-cubic-yard containers*. The following schedule shall be used for establishing fees for each eight-cubic-yard container:

Eight-Cubic-Yard Containers	
Number of Weekly Pickups	Minimum Monthly Fee
1	$167.53
2	$335.08
3	$502.61
4	$670.15
5	$837.68
6	$1,005.21

7	$1,172.76

e. *Six-cubic-yard containers.* The following schedule shall be used for establishing fees for each six-cubic-yard container:

Six-Cubic-Yard Containers	
Number of Weekly Pickups	Minimum Monthly Fee
1	$145.59
2	$291.18
3	$436.77
4	$582.35
5	$727.94
6	$873.53
7	$1,019.12

f. *Four-cubic-yard containers.* The following schedule shall be used for establishing fees for each four-cubic-yard container:

Four-Cubic-Yard Containers	
Number of Weekly Pickups	Minimum Monthly Fee
1	$100.08
2	$200.14
3	$300.22
4	$400.29
5	$500.37
6	$600.45
7	$700.51

g. *Two-cubic-yard containers.* The following schedule shall be used for establishing fees for each two-cubic-yard container:

Two-Cubic-Yard Containers	
Number of Weekly Pickups	Minimum Monthly Fee
1	$67.72
2	$135.42
3	$198.04
4	$270.85
5	$338.57
6	$406.27
7	$473.99

h. *Compacted refuse.* Compacted commercial refuse will be billed for at a rate three times the normal rate for that size of container.

i. *Sharing of containers.* If more than one commercial establishment wishes to share a container, it will be allowed; provided, however, that the parties agree in writing to share the total cost of the required service. Each party shall pay a minimum of $21.03 per month. This written agreement shall be initiated

by the parties, and a copy of the written agreement shall be presented to the city utility billing division or public services department to initiate service.

j. *Additional container services.*

(1) Install lock: $61.80.

(2) Replace lock: $12.74.

(3) Steam clean container: $192.50.

(4) Container rental for special events: $160.68 for one pickup.

(5) Extra pickups: See subsection c of Schedule B, herein.

k. *Consolidation of fees for multiple-customer site.* Commercial sites where there are a large number of individual stores bound together by association or lease, such as malls, shopping centers or the downtown shopping area, shall pay for the number and placement of refuse containers in total rather than on an individual basis.

l. *Bulky waste/yard waste/white goods.* The fee for bulky and yard waste over and above the number of pickups per week that the business is currently paying for shall be a minimum fee of $37.08 for up to four cubic yards and $18.55 for each additional cubic yard. The fee for white goods shall be a minimum $37.08 for the first two items and an additional $12.74 for each item thereafter. An additional $12.74 per item charge for extraordinary handling, which includes Freon-containing items such as refrigerators and air conditioners, is required. Arrangements for pickup shall be made through the public services department two business days in advance.

m. *Deposit.* For each customer requesting service under this division, a utility deposit equivalent to two months of garbage service shall be paid by each customer residing in the city, unless otherwise provided in this chapter.

n. *Deposit for newly annexed property.* The city will waive the deposit requirement for any commercial customer who begins receiving city service within 24 months of annexing into the city and who maintains a good payment history with the city.

o. *Container return.* City-approved containers that have been collected due to non-payment will be assessed a $37.08 return fee. Containers will be returned the same day if past-due balance and return fees are paid prior to 12:00 noon. Payments received after 12:00 noon will result in the containers being returned on the next city business day.

City of Apopka
CITY COUNCIL STAFF REPORT

Section: PUBLIC HEARINGS/ORDINANCES/RESOLUTION (Action Item)
Item #: 9.
Meeting Date: September 6, 2023
Department: Finance Department

SUBJECT:
Resolution Number 2023-29 establishing the rate increases for services provided by the Water, Wastewater and Reclaimed Water.

REQUEST:
Adopt Resolution Number 2023-29 establishing the rates for service provided by the Water, Wastewater, and Reclaimed Water for Utilitilty Billing.

SUMMARY:
City Council established rates for the Water, Wastewater and Reclaimed Water with City Ordinance 2475. After passage, at the current Council meeting, these proposed rates will be adopted by resolution. Attached is Resolution 2023-29 with the proposed rates submitted for adoption by City Council.

In accordance with 180.136 Florida Statute the City noticed all customers through the Utility Billing process.

FUNDING SOURCE:
N/A

RECOMMENDED MOTION:
Adopt Resolution Number 2023-29 establishing the current rates for service provided by the Water, Wastewater, and Reclaimed Water, effective October 1, 2023.

ATTACHMENTS:
1. Resolution 2023-29_September 6, 2023

RESOLUTION NO. 2023-29

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF APOPKA, FLORIDA ESTABLISHING 2023 RATE SCHEDULES PERTAINING TO CITY OF APOPKA WATER USE CHARGES AND DEPOSITS, WASTEWATER USE CHARGES AND DEPOSITS, DISTRIBUTED WASTEWATER TREATMENT SYSTEM USE CHARGES AND DEPOSITS, AND RECLAIMED WATER RATES; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, Section 78-54, Code of Ordinances of the City of Apopka, establishes rate schedules to be adopted by resolution of the city council for Water Use Charges and Deposits, Wastewater Use Charges and Deposits, Distributed Wastewater Treatment System Use Charges and Deposits, and Reclaimed Water Rates; and

WHEREAS, the City Council has determined that adopting a Rate Schedules for the above listed city utilities serves a municipal and public purpose.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF APOPKA, FLORIDA THAT:

SECTION I. The City Council hereby adopts the City's Water Use Charges and Deposits, Schedule A, attached hereto and by this reference incorporated herein.

SECTION II. The City Council hereby adopts the City's Wastewater Use Charges and Deposits, Schedule B, attached hereto and by this reference incorporated herein.

SECTION III. The City Council hereby adopts the City's Distributed Wastewater Treatment Use System Charges and Deposits, Schedule C, attached hereto and by this reference incorporated herein.

SECTION IV. The City Council hereby adopts the City's Reclaimed Water Rates, Schedule D, attached hereto and by this reference incorporated herein.

SECTION V. Resolution 2021-02 is hereby repealed in its entirety.

SECTION VI. This Resolution shall become effective October 1, 2023.

ATTEST

_____
Susan M. Bone
City Clerk

CITY COUNCIL OF THE CITY OF APOPKA, FLORIDA

_____
Bryan Nelson
Mayor

APPROVED as to form and legal sufficiency

_____
Clifford B. Shepard
City Attorney

SCHEDULE A
CITY OF APOPKA
WATER USE CHARGES AND DEPOSITS

The connection charge for water service includes the tap fee. A meter set fee shall be required for metered connections.

(a) *Tap fee.*

(1) The water tap fee does not include the cost of the meter and shall be as follows:

Water Service Size	Short Service	Long Service
¾"	$300.00	$912.00
1"	$300.00	$912.00
1½″	$389.00	$1,001.00
2″	$389.00	$1,001.00
Over 2″	Actual cost plus 10%	

(2) The term "short service" is defined as service located on the same side of a road or driveway of an existing reclaimed water line where the connections is to be made. The term "long service" is defined as service located on the opposite side of a road or driveway of an existing reclaimed water line where the connection is to be made. There will be an additional charge of $10.00 for every linear foot for service over 50 linear feet.

(3) An additional charge will be added equal to the county right-of-way permit fee whenever it is required.

(b) *Meter set fee.*

(1) The meter set fee shall be as follows:

Size of Meter	Single Service	Dual Service
¾″	$410.00	$321.00
1″	$483.00	n/a
1½″	$1,044.00	n/a
2″	$1,632.00	n/a
Over 2″	Actual cost plus 10%	

(2) All reclaimed water connections larger than two inches or involving potable water service larger than two inches will be performed by the contractor; however, in circumstances where the city elects to perform the work, the fee charged shall be the actual cost. The connection charge shall be waived for development activities that will furnish and install taps and backflow prevention devices in accordance with this chapter.

(3) Wireless service meters shall be installed for all development.

(b) *Service charges*. The following shall be the schedule of monthly rates and charges for water service provided by the city:

(1) *Residential service*. The charges for residential service shall be based upon the monthly amount of water used per dwelling unit as follows: a monthly service fee of $9.08 per dwelling unit, plus:

a. A charge of $1.67 per thousand gallons for the first 6,000 gallons used per dwelling unit per month.

b. A charge of $2.06 per thousand gallons for each thousand gallons of water used greater than 6,000 gallons per dwelling unit per month, up to and including 15,000 gallons.

c. A charge of $3.07 per thousand gallons for each thousand gallons of water used greater than 15,000 gallons per dwelling unit per month, up to and including 30,000 gallons.

d. A charge of $6.22 per thousand gallons for any water used over and above 30,000 gallons per dwelling unit per month.

(2) *Commercial water service*. The monthly charge for commercial service shall be determined per each separate commercial or business unit, for office buildings (per commercial or business unit), service stations, department stores, service businesses, churches, clubs, hospitals, professional office units, etc. A separate business would usually, but not always, be identified as any operation requiring an occupational license from the city, where applicable. Irrigation of common areas in both residential and nonresidential developments shall fall within the commercial rate structure. The usage shall be as measured by the water consumption at the water meter, and the monthly charges shall be as follows: a monthly service fee of $10.88 per unit, plus:

a. A charge of $2.00 per thousand gallons for the first 6,000 gallons used per unit per month.

b. A charge of $2.50 per thousand gallons for each thousand gallons of water used greater than 6,000 gallons per unit per month, up to and including 15,000 gallons.

c. A charge of $3.71 per thousand gallons for each thousand gallons of water used over and above 15,000 gallons per unit month.

(3) *City recreation and parks service*. City-maintained grounds, rights-of-way, parks, and recreational facilities shall be charged for service at $1.12 per thousand gallons.

(4) *Wholesale service*. Rates for wholesale users shall be negotiated on a case-by-case basis with final approval of the rate by the city council.

(b) *Initiation of service*. A service charge of $35.00 shall be imposed for each initiation of water service.

(c) *Meter reading re-check*. Manual meter re-check in excess of one per calendar year shall incur a fee of $35.00.

(d) *Proration of charges*. There shall be no proration of fees.

(e) *Deposit*. For each residential customer requesting water service, a utility deposit of $60.00 per dwelling unit shall be paid by each customer, unless otherwise provided in this chapter. For each commercial customer requesting water service, a utility deposit of $120.00 per unit shall be paid by each customer, unless otherwise provided in this chapter. A utility deposit of $2,000.00 per meter for a temporary construction site hydrant meter shall be paid by each customer, unless otherwise provided in Chapter 78, Code of Ordinances, City of Apopka.

(f) *Deposit for newly annexed property*. The city will waive the deposit requirement for any county customer who connects to the city water system within twelve (12) months of annexing into the city, provided the customer maintains a good payment history.

(g) *Miscellaneous Charges.*

Late Charge (for payments not received by due date)	Ten (10%) of total bill amount
Non-sufficient Funds charge / Returned Check Fee	• $25.00, for checks less than $49.99 • $30.00, for checks between $50.00 and $300.00 • $40.00, for checks more than $300.01
Delinquent Reconnection Charge	$70.00
Meter Tampering Charge (minimum additional reconnect fee)	Actual cost plus ten (10%) percent
Miscellaneous Site Visit	$35.00
After Hours Site Visit Fee	$50.00

SCHEDULE B
CITY OF APOPKA
WASTEWATER USE CHARGES AND DEPOSITS

(a) *Service charges*. The following shall be the schedule of monthly rates and charges for wastewater treatment provided by the city:

(1) *Residential service*. The charges for residential service shall be based upon the monthly amount of water used per dwelling unit as follows:

a. A monthly service fee of $19.31 per dwelling unit, plus a charge of $3.21 for each 1,000 gallons of water used per dwelling unit per month, up to and including 12,000 gallons, excluding separately metered irrigation usage.

b. The maximum service fee for residential service shall be $57.83 per dwelling unit per month.

(2) *Commercial wastewater service*. The monthly charge for city commercial service shall be determined per each separate commercial or business unit, for office buildings (per commercial or business unit), service stations, department stores, service businesses, churches, clubs, hospitals, professional office units, etc. A separate business would usually, but not always, be identified as any operation requiring an occupational license from the city, where applicable. The usage shall be as measured by the water consumption at the water meter, and the monthly charges shall be as follows:

Water Meter Size	Monthly Base Charge
¾”	$21.37
1”	$35.62
1-1/2”	$71.24
2”	$113.99
3”	$213.72
4”	$356.20
6”	$712.41
8”	$1,139.85
10”	$1,638.52
12”	$3,063.33

Additionally, a charge of $3.72 for each 1,000 gallons of potable water used per unit per month, excluding separately metered irrigation usage, shall be included.

(3) *Wholesale service*. Rates for wholesale users shall be negotiated on a case-by-case basis with final approval of the rate by the city council.

(b) *Sewer tap fee*. The costs of extending or installing six-inch sewer lateral shall be $860.00 up to 25 feet and including clean out. For additional footage beyond 25 feet, the charge shall be $12.00 per linear foot. The costs of any applicable county or state permits will also be an additional charge.

(c) *Meter reading re-check*. Manual meter re-check in excess of one per calendar year shall incur a fee of $35.00.

(d) *Proration of charges*. There shall be no proration of fees.

(e) *Deposit*. For each residential customer requesting wastewater service, a utility deposit of $95.00 per unit shall be paid by each customer, unless otherwise provided in Chapter 78, Code of Ordinances, City of Apopka. For each commercial customer requesting wastewater service, a utility deposit of $190.00 per unit shall be paid by each customer, unless otherwise provided in this chapter.

(f) *Deposit for newly annexed property*. The city will waive the deposit requirement for any county customer who connects to the city water system within twelve (12) months of annexing into the city, provided the customer maintains a good payment history.

SCHEDULE C
CITY OF APOPKA

DISTRIBUTED WASTEWATER TREATMENT SYSTEM USE CHARGES AND DEPOSITS

(a) *Residential Service charges*. The charges for residential service shall be based upon the monthly operations and maintenance of the unit per dwelling unit as follows, a monthly service fee of $7.81 per dwelling unit, plus a charge of $36.60 for the maintenance and operation of the unit.

(b) *Rate adjustments*. All distributed wastewater treatment system charges established in subsection (a) of this Schedule C shall be adjusted on October 1 of each year through the adoption of the city's annual budget, in accordance with the monthly rate set by the distributed wastewater treatment system service provider.

(c) *Proration of charges*. There shall be no proration of fees.

(d) *Deposit*. There is no deposit required at this time.

SCHEDULE D
CITY OF APOPKA
RECLAIMED WATER RATES

The connection charge for reclaimed water service will consist of the tap fee and the fee for installing a backflow prevention device on each potable water service. A meter set fee shall be required for metered connections.

(a) *Tap fee.*

(1) The reclaimed water tap fee does not include the cost of the meter and shall be as follows:

Reclaimed Water Service Size	Short Service	Long Service
¾"	$305.00	$927.00
1"	$305.00	$927.00
1½"	$396.00	$1,018.00
2"	$396.00	$1,018.00
Over 2"	Actual cost plus 10%	

(2) The term "short service" is defined as service located on the same side of a road or driveway of an existing reclaimed water line where the connections is to be made. The term "long service" is defined as service located on the opposite side of a road or driveway of an existing reclaimed water line where the connection is to be made. There will be an additional charge of $10.00 for every linear foot for service over 50 linear feet.

(3) An additional charge will be added equal to the county right-of-way permit fee whenever it is required.

(b) *Backflow prevention fee**. The backflow prevention fee shall be as follows:

Water Service Size	Fee (inside city limits)	Fee (outside city limits)
¾"	$245.00	$245.00
1"	$290.00	$290.00
1½"	$445.00	$445.00
2"	$512.00	$512.00
Over 2"	Actual cost plus 10%	Actual cost plus 10%

Fee applies to dual service accounts with a potable water meter.

(c) *Meter set fee.*

(1) The meter set fee shall be as follows:

Size of Meter	Single Service	Dual Service
¾″	$410.00	$321.00
1″	$483.00	n/a
1½″	$1,044.00	n/a
2″	$1,632.00	n/a
Over 2″	Actual cost plus 10%	

(2) All reclaimed water connections larger than two inches or involving potable water service larger than two inches will be performed by the contractor; however, in circumstances where the city elects to perform the work, the fee charged shall be the actual cost. The connection charge shall be waived for development activities that will furnish and install taps and backflow prevention devices in accordance with this chapter.

(3) Wireless service meters shall be installed for all development.

(d) *Service charges*. The following shall be the schedule of monthly rates and charges for reclaimed water provided by the city:

(1) *Residential service*. The charges for residential service shall be based upon the monthly amount of reclaimed water consumed per dwelling unit as follows: a monthly service fee of $9.09, which will include 6,000 gallons of reclaimed water per dwelling unit, plus:

a. A charge of $1.57 for each 1,000 gallons over 6,000 gallons per dwelling unit per month, up to and including 15,000 gallons of reclaimed water.

b. A charge of $2.34 or each 1,000 gallons over 15,000 gallons per dwelling unit per month of reclaimed water.

c. A charge of $4.67 for each 1,000 gallons over 30,000 gallons per dwelling unit per month of reclaimed water.

(2) *Commercial reclaimed water service*. The monthly charge for commercial service shall be determined per each separate commercial or business unit, for office buildings (per commercial or business unit), service stations, department stores, service businesses, churches, clubs, hospitals, professional office units, etc. A separate business would usually, but not always, be identified as any operation requiring an occupational license from the city, where applicable. Irrigation of common areas in both residential and nonresidential developments shall fall within the commercial rate structure. The usage shall be as measured by the reclaimed water consumption at the meter, and the monthly

charges shall be as follows: a monthly service fee of $10.93, which will include 6,000 gallons of reclaimed water per unit, plus:

a. A charge of $1.88 for each 1,000 gallons over 6,000 gallons per unit per month, up to and including 15,000 gallons of reclaimed water.

b. A charge of $2.79 for each 1,000 gallons over 15,000 gallons per unit per month of reclaimed water.

(3) Consumptive use rate for contract and bulk users will be $0.67 per 1,000 gallons with on-site storage and $1.02 per 1,000 gallons without on-site storage. Required storage shall accommodate a minimum 14-day demand. At no time should a bulk user be charged less than $548.55 per month.

(4) Contracts for bulk users who use less than 100,000 gallons per day may be negotiated with the approval of council.

(5) *Wholesale service*. Rates for wholesale users shall be negotiated on a case-by-case basis with final approval of the rate by the city council.

(e) *Waiver of fees*. The mayor or his designee may adjust or waive reclaimed charges to bulk users willing to take reclaimed water for storage at the request of the city.

(f) *Proration of charges*. There shall be no proration of fees.

(g) *Deposit*. For each residential customer requesting reclaimed water service, a utility deposit of $60.00 per dwelling unit shall be paid by each customer, unless otherwise provided in this chapter. For each commercial customer requesting reclaimed water service, a utility deposit of $120.00 per unit shall be paid by each customer, unless otherwise provided in Chapter 78, Code of Ordinances, City of Apopka.

(h) *Deposit for newly annexed property*. The city will waive the deposit requirement for any county customer who connects to the city water system within twelve (12) months of annexing into the city, provided the customer maintains a good payment history.