AGENDA
CITY OF CREVE COEUR
PLANNING AND ZONING COMMISSION
300 NORTH NEW BALLAS RD
JANUARY 20, 2026
6:00 PM

CALL TO ORDER

ROLL CALL

Ms. Julie LaBonte (Chair)
Mr. Thomas Buelter
Ms. Rhonda O'Brien
Mr. Larry Potashnick
Ms. Marjorie Richter
Mr. Stephan Tomlinson
Mr. AJ Wang

Mr. Carl Lumley, City Attorney
Mr. Jason Jaggi, AICP, Director of Community Development
Ms. Bethany L. Moore, AICP, City Planner
Ms. Claralyn Bollinger, Recording Secretary, Administrative Services Supervisor

ACCEPTANCE OF THE AGENDA

APPROVAL OF MINUTES

1. **December 15, 2025 Planning and Zoning Commission Draft Meeting Minutes**

PUBLIC COMMENT

An opportunity for members of the public to address the Planning and Zoning Commission regarding issues or concerns not already on the agenda for this meeting. Those wishing to speak will be asked to limit comments to three minutes and to complete a speaker card.

UNFINISHED BUSINESS

1. **Public Hearing. #25-028 and #25-039: Applications for a Site Development Plan and Preliminary Plat on Lot 16 for a 67-unit Townhome Development, Along with an Amendment to the Olia Village Planned Mixed-Use Zoning District Site Concept Plan and Development Regulations for the Property at 10300 Olive Boulevard**

George M. Stock, PE, of Stock & Associates Consulting Engineers, on behalf of Grand Communities, LLC, has submitted a Site Development Plan application and

Preliminary Subdivision Plat for Lot 16 within the Olia Village Planned Mixed-Use Zoning District located at 10300 Olive Boulevard to construct 67 attached single-family residential townhomes on individual lots within the 11.16-acre site, to be known as The Vale at Olia Village. In association with this application, an amendment to the Olia Village Planned Zoning District Site Concept Plan and Development Regulations, Exhibit B of Amended Ordinance No. 5862, has been submitted. The proposed Site Concept Plan amendment updates the pedestrian and street plan, and tree preservation and replacement plan components of the Olia Village planned zoning district in association with the proposed development of Lot 16. An amendment to the Development Regulations affecting private streets within the development has been submitted to reduce the Minimum Horizontal Radius of Centerline from 150-feet to 80-feet to provide secondary access for Lot 16. Pursuant to Section 405.390.Q. of the Zoning Ordinance, major amendments to the Site Concept and Site Development Plans within Planned Zoning Districts require Planning and Zoning Commission review and final approval by City Council. Section 410.110.C.3. of the Subdivision Code requires Planning and Zoning Commission approval for Preliminary Subdivision Plats. This matter was continued at the December 15, 2025 meeting.

2. **Public Hearing. Applications #25-034 and 25-035: Applications for a Rezoning From "GC" General Commercial District to the Graeser Station "PMD" Planned Mixed-Use Development District With a Site Concept Plan and Site Development Plan for 11004, 11026, 11032 and 11056 Olive Boulevard and 825 and 827 Graeser Road**

Garrison Hassenflu, of Garrison Companies, has submitted a rezoning application and a site concept plan and site development plan application for the lots addressed as 11004, 11026, 11032, and 11056 Olive Boulevard; and 825 and 827 Graeser Road in order to construct a new four-story, 157 residential unit, mixed-use development with approximately 8,500 square feet of first floor retail named Graeser Station. The lots comprise approximately 4.42 acres and are currently zoned "GC"-General Commercial Zoning District. The request is to rezone the properties to "PMD" Planned Mixed-Use Development Zoning District in accordance with the procedures described in Section 405.390 Planned Zoning Districts. Review and approval by the City Council upon the recommendation of the Planning and Zoning Commission is required. This item was continued from the December 15, 2025 meeting.

AGENDA
CITY OF CREVE COEUR
PLANNING AND ZONING COMMISSION
300 NORTH NEW BALLAS RD
JANUARY 20, 2026
6:00 PM

NEW BUSINESS

WORK AGENDA

1. **Bayer East Comprehensive Plan Update Schedule Discussion**

PENDING APPLICATIONS

DEPARTMENT REPORTS

ADJOURNMENT

Pursuant to Section 610.022 RSMo., the Planning and Zoning Commission could, at any time during the meeting, vote to close the public meeting and move to closed session to discuss matters relating to litigation, legal actions and/or communications from the City Attorney as provided under Section 610.021(1) RSMo. and/or personnel matters under Section 610.021(13) RSMo. And/or employee matters under Section 610.021(3) RSMo. and/or real estate matters under Section 610.021(2) or other matters as permitted by Chapter 610.

Posted by: _____

Date/Time posted: _____

If you need special accommodations to attend a meeting, services may be arranged by contacting the Office of the City Administrator in advance.

MINUTES
CITY OF CREVE COEUR
PLANNING AND ZONING COMMISSION
300 NORTH NEW BALLAS RD
DECEMBER 15, 2025
6:00 PM

CALL TO ORDER

A regular meeting of the Planning and Zoning Commission of the City of Creve Coeur was called to order by Chair Julie LaBonte at the City Council Chamber, 300 North New Ballas Rd, City of Creve Coeur Government Center, Creve Coeur, MO 63141 on Monday, December 15, 2025, at 6:02 PM.

ROLL CALL

Ms. Julie LaBonte (Chair)
Mr. Thomas Buelter
Ms. Rhonda O'Brien
Mr. Larry Potashnick
Ms. Marjorie Richter
Mr. Stephan Tomlinson
Mr. AJ Wang

Mr. Carl Lumley, City Attorney
Mr. Jason Jaggi, AICP, Director of Community Development
Ms. Bethany L. Moore, AICP, City Planner
Ms. Claralyn Bollinger, Recording Secretary, Administrative Services Supervisor

ACCEPTANCE OF THE AGENDA

Proposal by Ms. LaBonte and second by Mr. Wang to have a short break after the Olia Village topic and stop the meeting at 9:30 PM. All in favor.

RESULT: AGENDA APPROVED (UNANIMOUS)
MOVER: Ms. LaBonte
SECONDER: Mr. Wang
AYES: Mr. Buelter, Ms. LaBonte, Ms. O'Brien, Mr. Potashnick, Ms. Richter, Mr. Tomlinson, Mr. Wang
NAYS: None

APPROVAL OF MINUTES

1. **November 17, 2025 Planning and Zoning Commission Draft Meeting Minutes**

RESULT: **APPROVED (UNANIMOUS)**
MOVER: Mr. Wang
SECONDER: Mr. Tomlinson
AYES: Mr. Buelter, Ms. LaBonte, Ms. O'Brien, Mr. Potashnick, Ms. Richter, Mr. Tomlinson, Mr. Wang
NAYS: None

The vote on the motion being ayes and nays, motion carried.

PUBLIC COMMENT

David Rose of 10335 N. Sunswept Dr. spoke about the revision of plan and road at southern boundary of Olia Village. Historically that road was very rarely used. There will be substantially more traffic on that road than in the past. Headlights will sweep across the Sunswept neighborhood. He asked for trees and shrubs to be planted to deflect the lights.

UNFINISHED BUSINESS

There was no unfinished business.

NEW BUSINESS

1. **Public Hearing. Application #25-036: A Conditional Use Permit for Dewey's Pizza Located at 736 N. New Ballas Road within Creve Coeur Plaza**

Heath Trostle gave the presentation for Dewey's Pizza. No change is required to the existing building exterior. It will be a quick-serve, pick-up location rather than a full-service restaurant. This is similar to their location on South Hampton Ave. Location was a retail space in the past. Sixteen seats are proposed with counter service and a pick-up point. It's a 2,700 square foot retail space.

Ms. Moore gave the City's presentation. The request is for a Conditional Use Permit for this restaurant in the CB Core Business District. No exterior changes to the site; lighting and parking lot are in good condition. There will be ten employees during the busiest shift. Hours: 11:00 AM - 9:00 PM Monday - Thursday, 11:00 AM - 10:00 PM Friday and Saturday and 12:00 - 9:00 PM Sunday.

Mr. Potashnick said it's a very large parking lot. Ms. Moore said Pasta House, First Watch and Qdoba have older CUP's based on total occupancy and not number of seats. Mr. Potashnick asked would there be enough parking if

recalculated? Ms. Moore said yes there would be.
Ms. O'Brien said I find it helpful when you include the parking chart calculation form in the report. Ms. Moore said older CUP's can take into account the existing seating.
Ms. Moore: They would need to recalculate the parking based on the other CUP's coming in. Mr. Jaggi said the applicant agreed to reduce seats to sixteen. In the future, this could be thoroughly reviewed and we could allow additional seats.
Mr. Lumley entered the items into the record.

RESULT: **APPROVED (UNANIMOUS)**
MOVER: Mr. Wang
SECONDER: Ms. O'Brien
AYES: Mr. Buelter, Ms. LaBonte, Ms. O'Brien, Mr. Potashnick, Ms. Richter, Mr. Tomlinson, Mr. Wang
NAYS: None

The vote on the motion being 7 ayes and 0 nays, motion carried.

2. **Public Hearing. Application #25-038: A Conditional Use Permit for Einstein Bros Bagels Located at 12505 Olive Boulevard, Suite A, within the Heritage Place Development**

Peggy Schindler, Senior Project Manager with CSHQA, and Leslie Haver, Senior Director of Store Design with Einstein Bros Bagels, gave their presentation. The new store design will be a warm and inviting space for the community. Noise will be mitigated and work will be primarily on the interior of the space during daytime hours. Exterior work includes new signage. Einstein Bros Bagels hours will be 6:00 AM - 2:00 PM seven days per week. The building's entrance faces east. There are 40 interior seats proposed with banquets and table seating. This will be a 2,453 square feet location.

Ms. Moore gave the City's presentation. This is a Conditional Use Permit for the Einstein Bros Bagels location in the CB Core Business District. Four employees working on the busiest shift.

Mr. Lumley entered the exhibits into the record.

RESULT: **APPROVED (UNANIMOUS)**
MOVER: Mr. Wang
SECONDER: Ms. O'Brien
AYES: Mr. Buelter, Ms. LaBonte, Ms. O'Brien, Mr. Potashnick, Ms. Richter, Mr. Tomlinson, Mr. Wang
NAYS: None

The vote on the motion being 7 ayes and 0 nays, motion carried.

3. Application #25-037: A Site Development Plan and Associated Site Concept Plan Amendment for Building Additions on the Whitfield School Campus Located at 175 South Mason Road

Lisa Griven with Bond Architects gave the Whitfield School presentation. This is a three-part project. Infill of a courtyard and library renovations and addition of a storm shelter in the athletic building are proposed. This part of the project is adjacent to the main building and the middle school soccer field. They are working with MSD regarding a drainage area and landscaped water detention basin to the south. Offices and student seating space will be added to the library. The storm shelter is accessible from the existing gym. The addition will be sized for all the school occupants and fans in bleacher seats. Building additions will match existing building exterior.
Ms. O'Brien asked where are you with the MSD designs? Ms. Griven said we are in conceptual review. Our civil engineer is working with them. The intention is that the runoff will pool and then go into the outfall structure into the rest of the storm system.

Ms. Moore gave the City's presentation. This is a Site Development Plan for the school. This has allowed the school to continuously operate as a conditional use without a CUP because it was setup under St. Louis County. There are about 400 students in grades 6 – 12. There is a 312 spot parking lot. It is a proposed 3,650 square feet for library and a 7,250 square foot storm shelter. There will be no new site lighting nor changes to the parking lot nor additional classroom space. Six new trees are proposed. Irrigation is not proposed as part of the project. Lighting won't exceed 3,000 degrees Kelvin.
Ms. O'Brien asked is water detention part of the plan? Ms. Moore said yes, and it was reviewed by our Public Works Department.

Fred Brooks, owner of property directly south of the school, spoke. Properties south of the school are at a lower elevation than the school. He is concerned about noise pollution. HVAC units are proposed for the roof of the storm shelter, and he is concerned about the noise reflecting off the parapet wall and other walls. He'd like to see acoustic treatment for the noise created by the HVAC units.

Ms. Griven said three HVAC units on the roof and two on the ground by the existing building. They are willing to address the sound issue. The units will be screened from view. Mr. Jaggi said the City utilizes St. Louis County's noise ordinance requirements. Mr. Potashnick asked did I hear that there are old-style lights that shine onto your subdivision? Mr. Brooks said I think my light pollution concerns will be mitigated with new lights.

RESULT: **APPROVED (UNANIMOUS)**
MOVER: Mr. Wang
SECONDER: Ms. O'Brien
AYES: Mr. Buelter, Ms. LaBonte, Ms. O'Brien, Mr. Potashnick, Ms. Richter, Mr. Tomlinson, Mr. Wang
NAYS: None

The vote on the motion being 7 ayes and 0 nays, motion carried.

4. **Public Hearing. #25-028 and #25-039: Applications for a Site Development Plan and Preliminary Plat on Lot 16 for a 67-unit Townhome Development, Along with an Amendment to the Olia Village Planned Mixed-Use Zoning District Site Concept Plan and Development Regulations for the Property at 10300 Olive Boulevard**

Rob Hayes Planning and Entitlements Manager for Grand Communities and Kate Stock Gitto of Stock and Associates gave their presentation. Fischer Homes was founded in 1980, based in Cincinnati, Ohio and they have 9 markets in 7 states. They are building a number of homes in several St. Louis area communities, including in Richmond Heights and Town and Country. There are two townhome designs proposed for the Olia Village project. There are 45 Logan style with front-entry garages and 22 Meridian style with rear-entry garages. Prices will start at $850,000. Landscaping and yards will be maintained by the homeowners' association. Buyers are expected to be young professionals and people who will be downsizing and want a maintenance-free lifestyle.

Ms. Stock Gitto said that private streets require a horizontal minimum150-foot radius for firefighting vehicles. Two accesses are required to the property per the City's code and fire district. They are seeking a change to be 80-foot radius. Traffic will be slowed down by a traffic island. Pedestrian connectivity of Lot 16 wasn't defined in the original plan.

Questions were asked by Ms. O'Brien about the sidewalks. Ms. Stock Gitto and Mr. Hayes further explained the sidewalks using their Power Point presentation graphic maps. Sidewalk along Olive Cove street is private without gates for the neighborhood residents of Olia Village.

Mr. Potshnick asked if sidewalks could be put on both sides of the street?
Ms. Stock Gitto said there are limitations on where the sidewalks can be placed. There are limitations on where the tiebacks can be because they would encroach into the City's drainage easement. As the height of the retaining wall is increased, it gets closer to encroaching into the easement. The retaining wall is now 10 feet tall maximum. The taller the wall, the more difficult it is to sell the units because the view will be of a tall retaining wall.

Mr. Potashnick asked how tall would the retaining wall be with sidewalks on both sides of the street? Just guess. Ms. Stock Gitto said add 2 or 3 feet to the top of the wall if there was a sidewalk on both sides of the street.

Mr. Jaggi gave the City's presentation. He showed the original schematic for the entire project. The Vale at Olia Village is the proposed name for the 67 residential townhome neighborhood with Logan and Meridian design styles. Each townhome will have a two-car garage, and there will be 15 scattered guest parking spaces. Site coverage is 27.6%. I think the Commission should consider the sidewalk matter. The proposal originally would have been 130 single-family units or attached townhomes, but that has been reduced significantly after engineering was done. This area is 11.16 acres of the total 96 acre Olia Village project. There are two to six attached townhomes proposed across 13 buildings.

Ms. LaBonte and Ms. O'Brien asked about public parking and wayfinding to enter the property. Mr. Jaggi showed and discussed the parking on the map. There are no code requirements for guest parking. Mr. Tomlinson asked about the road and Mr. Jaggi discussed the road layout in Olia Village. There is not anticipated to be a lot of through traffic on this street. Mr. Potashnick asked about the road dedication and Mr. Jaggi said the Public Works Department reviewed the roads and didn't seek a dedication. We may plow their streets because they are owner-occupied residences. Mr. Wang asked about fire trucks and Mr. Jaggi said the Fire District has reviewed the access plan, and they are comfortable with it. Private indentures have been reviewed by Mr. Lumley. There will be street trees around the whole perimeter of the site. A condition of approval was added to require irrigation along the frontages and around both entrances' common ground areas.

Mr. Jaggi discussed the colors and material types for the exterior of the townhomes, and he showed the material sample boards to the Commission. Drawings of the entry signs and mail kiosks were shown. The stormwater plan is under a master stormwater project with the Metropolitan Sewer District. There will be individual trash collections. The tree preservation plan has been updated. Tree replacement is per the Olia Village standard: if a viable tree is 6 inches in diameter or larger it's a 1-to-1 replacement; if it's 20 inches in diameter or larger, it's a 2-to-1 replacement.

Ms. LaBonte said she isn't clear about the sidewalks. If you walk out the front door, do you go straight to the street? Mr. Jaggi said the sidewalk ties into the main sidewalk system. We asked for sidewalks on both sides of the street. It could be a recommendation to Council that there be sidewalks provided on both sides of the street. Mr. Potashnick spoke about the sidewalks again, and he wants to send a finished project to the Council. Mr. Jaggi said that it is your prerogative to do so and have them come back to you.

Ms. LaBonte asked about trash collection. Mr. Jaggi said that there will be individual trash collections. Mr. Hayes said it is our intention that the trash bins would be inside the garages with two cars inside too.

Mr. Potashnick would like to see this re-drafted and up to Creve Coeur standards. A lot of good work has been done, but more is needed. Mr. Jaggi spoke about the retaining wall. The back of some units will see the wall and landscaping in front of it. You could put in a recommendation that a sidewalk be included on the east side of the street. Mr. Buelter spoke about the sidewalk being on the west side of the street across from some units to the north. Why aren't we putting it on the correct side of the street? Is anyone going to use the sidewalk on the other side of the street? Mr, Jaggi: This is a narrow residential street with not a lot of traffic. If it's important to the Commission, you could include it in your recommendation. Ms. Richter asked about the sidewalk.

Mr. Potashnick said I'd like to see what this looks like. Can you draw it for us and bring it back? Mr. Hayes said they could add the sidewalk on the south side of the project. There are some utility conflicts and that's why the sidewalk was on the west side of the street at one area. Would it be possible to obtain conditional approval? Is that something you would consider? Mr. Potashnick: We get complete plans and we vote on them. I'd like to vote for a complete plan. This is a major project, hundreds of millions of dollars. We want something more complete.

Mr. Lumley commented that you want to see if there are any public comments, and you could make a motion to continue. This would be heard at the second meeting in January and not addressed by the Council until February.

Public Comment
Rachel Protzel of 12 Spoede Woods spoke about the tree preservation plan and 14-foot retaining wall. We were promised an undisturbed buffer, and I'm looking at a 14-foot retaining wall in my backyard. I'd like to hear how this will impact the neighborhood streets; what are the elevations? Part of that buffer they haven't done anything to replace the trees that they took.

Tom Sutterfield of Mary Meadows Lane said we had snow removal the whole time before the street dedication to City. How wide will the private streets be? Mr. Hayes said the streets are 24 feet wide.

Ms. LaBonte raised questions about the tree plan and percentage of removal. Mr. Jaggi reported on the tree removal plan for Lot 16. We are tracking the master tree plan. 43% tree removal for Lot 16 proposed.

Motion for a continuance to Tuesday, January 20 at 6:00 PM, the next scheduled meeting. There is no January 5 meeting.

RESULT: APPROVED (NOT UNANIMOUS)
MOVER: Mr. Wang
SECONDER: Ms. O'Brien
AYES: Mr. Buelter, Ms. LaBonte, Ms. O'Brien, Mr. Potashnick, Mr. Wang
NAYS: Ms. Richter, Mr. Tomlinson

The vote on the motion being 5 ayes and 2 nays, motion carried.

This part of the meeting adjourned at 7:52 PM and recess until 8:00 PM.

5. **Public Hearing. Applications #25-034 and 25-035: Applications for a Rezoning From "GC" General Commercial District to the Graeser Station "PMD" Planned Mixed-Use Development District With a Site Concept Plan and Site Development Plan for 11004, 11026, 11032 and 11056 Olive Boulevard and 825 and 827 Graeser Road**

Public Hearing began at 8:00 PM.
Ms. LaBonte said the plan is to go to 9:30 PM tonight and, if we are not done, to continue the discussion at the January 20 meeting.

Mr. Jaggi gave some introductory remarks. A clear development proposal is what you are after tonight. The project will be placed into a customized zoning plan if approved.

Cecilia Dvorak with Steadfast City gave the presentation on behalf of the Graeser Station developer, Garrison Communities. She shared the project history as a timeline. There have been revisions over time of the project design and number of units. 157 units in a single building are now proposed. The building has been pulled back from Graeser Road and the residential neighborhood to the south. The building design is stepped down toward the residential neighborhood. There is a covered pass through so pedestrians can enter and exit both sides of the building. Art space at the front of the building on first floor. They added a second, fully enclosed trash receptacle and trash room in the building for the residential units. Round 5 foot tree wells for the parking lot are proposed. There will be 4 EV and 8 EV Ready parking stalls. There will be an at least 35 foot buffer along the south edge of the property. Future proposed cross access to property to the west. Must-have, high-quality amenities for residents include a game area, gym, business center, separate reception and mail area, coffee bar and lounge, private tenant storage areas, separate trash room, plus fenced dog park and pool. A landscaping area is proposed. The project is currently in the "GC" General Commercial District.

There are 36 units per acre for this project. This project has the lowest beds per acre of 36.9 than any other comparable apartment complexes nearby in Creve Coeur as shown

on a slide. The community feedback was reviewed and addressed from the past two public meetings the developer held with interested residents. The parking demand is fully provided by the parking on site per analysis shown. Minimal impact on school district because primarily studios and one-bedroom units in the project.

Gary Hassenflu of Garrison Companies of Mission Woods, Kansas spoke. He is a multi-family and mixed-use developer who is working across six states. They primarily focus on in-fill development areas. The proposed commercial units are 8,357 square feet (reduced from 10,000 square feet). They have held 2,600 units for over 10 years of ownership. They want to be a good neighbor and be in it for the long run.

Julie Nolfo with Lochmueller Group gave the parking study. There are 2 parking spaces for each of the first 50 dwelling units, 1.75 for the second 50 dwelling units and 1.5 for above 100 units. Any parking supply beyond 173 parking spaces counts toward more than one use. There are 250 parking spaces proposed for the site. Peak parking demand is overnight when tenants are back in their residences. 60 - 84% usage of parking during the day Monday - Friday. There will be at least 18 open parking spaces at any given time.

Ms. O'Brien expressed concern about density. She doesn't think 18 parking spots is enough wiggle room. Ms. Nolfo explained the data used. Ms. Richter doesn't think the parking is adequate. If I was a resident and didn't have a parking spot when I got home, I would be mad. Ms. Nolfo explained the calculations of the parking assessment.

Ms. LaBonte brought up 278 parking spaces on the initial table and 299 parking space number shown in the study. Ms. Nolfosaid said 299 would be if all three uses peaked at the exact same time. Assuming full occupancy of the building, but not everyone is at home at the same time. Ms. Richter asked if any of the study takes into consideration UPS, Fed Ex or Amazon deliveries? Mr. Hassenflu said a lot of tenants in the target demographic don't have a car. A lot of people are using Uber and Waymo to getaround because it's cheaper than having a car. Ms. O'Brien said the retaining wall is much taller than we usually agree to in Creve Coeur. Ms. Dvorak said we will take any feedback on the retaining wall. Ms. O'Brien said I'd appreciate if the pool fence would be in the next iteration. Ms. Dvorak said it's proposed to be wrought iron, but that could change to shield the residents more from the residences to the south.

Mr. Buelter asked where does the price point fall within the current mix? What's the projected occupancy? Mr. Hassenflu said the rent will be $1,500 for studio units, $2,100 for one bedroom units, $2,700 for two bedroom units; sewer water and trash are included. Mr. Wang asked if each unit will have its own air conditioner? Mr. Hassenflu said yes, units will be on the roof. Mr. Potashnick asked would parking be able to be obtained from other lots along Olive to the east that are for sale? Mr. Jaggi said it's possible. These are things that can be considered.

Ms. Moore gave the City's presentation. Two applications have been filed; one is for re-zoning from "GC" General Commercial District to "PMD" Planned Mixed-Use Development District. The other is for a Site Development Plan. 4.42 acres Graeser Station to be constructed in one, single phase. Two curb cuts on Olive and one curb cut on Graeser.

Ms. LaBonte said that low-density, multi-family would not be 36 units per acre. Ms. Moore said the zoning code says low density is up to 6 units per acre, medium density is less than 20 units per acre and high density is more than 20 units per acre. The zoning code has not been updated since 1980's.

Ms. Moore gave a brief Comprehensive Plan review. The retaining wall at the south end of the project is proposed to be 38 feet tall.

Ms. LaBonte said that you only have more density because there are two residential lots as part of this project. This is a very big sticking point among the comments we have here. Ms. Moore said that the City's Comprehensive Plan doesn't define low-, medlium- and high-density. The zoning code does define it as low-density as 6 or less units per acre, medlium-density as less than 20 units per acre and high-density as 20 or more units per acre. Those definitions have not been updated since the 1980's, and they are very low compared to the projects we are seeing. Ms. Moore showed example photos of DeMun Pointe in Clayton and townhouses at Station Plaza in Kirkwood. She showed some examples of taller buildings in the Olive Blvd corridor. There are three types of planning zoning districts: Planned Mixed Use development, Planned Residential development and Planned Commercial development. There are four sets of criteria for the Planned Zoning District Requirements and Ms. Moore discussed them. There are eight public benefit options. There are 13 design criteria. There are 14 additional review criteria.

The Traffic Impact Study was briefly addressed. The Shared Parking Study was also briefly addressed. 345 parking spaces are required, 173 parking spaces cannot be considered shared use, any parking stalls beyond 173 spaces can count toward more than one use. It's based on demand not our code requirement per use. There are 35.6 residential units per acre.

Ms. O'Brien asked about MODOT repainting the existing crosswalks across Olive near Graeser. Dan Shane with HR Green who is the traffic engineer for the Traffic Impact Study spoke. The northbound left turn from Graeser has a flashing yellow turn arrow. We haven't done any analysis to change signal timing. MODOT is agreeable to re-timing signals along Olive Blvd. Ms. LaBonte asked how we could put a whole development there without fixing that light when it already isn't working for the neighborhood? Mr. Shane said we can make slight adjustments to green time for

Graeser Road. Ms. Richter asked could the signal be setup like the one at Craig and Olive where you get the full arrow? Mr. Shane said that's what MODOT wants us to assess. Mr. Potashnick said that the traffic study had an adder number put in for future traffic from Olia Village. Mr. Shane said the added traffic was added to the background traffic volumes and came from the approved traffic study for that project and we added 1/2% per year on top of the adder number. Mr. Potashnick said it just seemed really low. That's a massive development. Mr. Shane said we used the data from the previous study, and it was directly imported into this study.

Ms. LaBonte said we are past 9:30, and I'd like to propose to open it up for few comments and go until 10:00 PM.

Public Comments:
Jim Cornelison of 10 Pine Manor said I am a retired civil engineer and past marketing lead for a developer. Two major problems: one is density, second is parking. The development is geared for young adults. Out of balance on parking if there are two people in some of the one-bedroom units. Where are guests going to park on Friday and Saturday nights?

Brett Berger of 10 Winfield Pointe said that neighbors want responsible development at this corner. This proposal is too dense and too tall. The plaza is in a dilapidated condition due to owner decisions over many years. Tenants including Thai Nivas restaurant are on month-to-month leases. The developer has expressed that they are seeking incentives like those given to the Olia Village project. That is a 95 acre site vs. this less than 5 acre site is not an apt comparison. The proposed density has not been seen next to adjacent homes in Creve Coeur. North Graeser Rd. serves about 255 single-family homes. The proposed project is more than 12 times as dense as nearby housing developments. A project at a reasonable scale can still work at this corner without shifting the burden onto neighbors or the City.

Cheryl Richards of 842 Mary Meadows Lane said that nobody has mentioned regulations that will apply to the dog park and swimming pool. Dog park opens at 5:00 AM and pool will have amplified music until 9:30 PM. Think about these and do the regulations need to be adjusted. Codes for restaurants need clarification in relation to this proposed restaurant. The one that they proposed does not have a PM peak for the restaurant.

Bo Shi of 11011 Martin Grove Lane said the swimming pool will be closer to my house than to the apartment building. The plan failed to mention how density will affect overall area. Vanguard Heights and Kings' Landing were used as comparisons, but there are no

single-family houses near those apartment complexes. The analysis is flawed. Only one out of four residents is projects to go to work outside of the apartment. The numbers are flawed and biased.

Linda Rezny of 104 Graeser Acres: The East Olive Comprehensive Plan was developed by demand of people in the neighborhood. Large, articulate opposition spoke at the public meetings with the developer. You can play with the numbers all you want about parking, but we will have to live with it. The number of cars will accelerate the gridlock on Olive at Graeser, and i have to live there. This hulking building will require far more in services from the City than the small amount it will gain in additional taxes. Creve Coeur may want to follow Olivette in development, like the Oliver, but you have the Vue, the Vanguard and Olia, but this may be excessive development for the number of people that are in the market.

John McGuire of 836 Mary Meadows Lane said that Mary Meadows is downhill but more importantly downstream of this development. Concerned that there will be runoff into their neighborhood.

WORK AGENDA

No work agenda items.

PENDING APPLICATIONS

The Olia Village townhomes and Graeser Station items will roll over to the January 20 meeting.

DEPARTMENT REPORTS

No department reports.

ADJOURNMENT

Meeting adjourned at 10:02 PM.

Submitted by:

_____ _____

Recording Secretary Chair

city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141

(314) 432-6000 • Fax (314) 872-2539

APPLICATION TO PLANNING AND ZONING COMMISSION
#25-028 AND #25-039: APPLICATIONS FOR A SITE DEVELOPMENT PLAN AND PRELIMINARY PLAT ON LOT 16 FOR A 67-UNIT TOWNHOME DEVELOPMENT, ALONG WITH AN AMENDMENT TO THE OLIA VILLAGE PLANNED MIXED-USE ZONING DISTRICT SITE CONCEPT PLAN AND DEVELOPMENT REGULATIONS FOR THE PROPERTY AT 10300 OLIVE BOULEVARD

FOR THE MEETING OF: Tuesday, January 20, 2026

LOCATION: 10300 Olive Boulevard, Lot 16, Olia Village, located south of Olive Boulevard and west of Lindbergh Boulevard.

REQUEST: George M. Stock, PE, of Stock & Associates Consulting Engineers, on behalf of Grand Communities, LLC, has submitted a Site Development Plan application and Preliminary Subdivision Plat for Lot 16 within the Olia Village Planned Mixed-Use Zoning District located at 10300 Olive Boulevard to construct 67 attached single-family residential townhomes on individual lots within the 11.16-acre site, to be known as The Vale at Olia Village. In association with this application, an amendment to the Olia Village Planned Zoning District Site Concept Plan and Development Regulations, Exhibit B of Amended Ordinance No. 5862, has been submitted. The proposed Site Concept Plan amendment updates the pedestrian and street plan, and tree preservation and replacement plan components of the Olia Village planned zoning district in association with the proposed development of Lot 16. An amendment to the Development Regulations affecting private streets within the development has been submitted to reduce the Minimum Horizontal Radius of Centerline from 150-feet to 80-feet to provide secondary access for Lot 16. Pursuant to Section 405.390.Q. of the Zoning Ordinance, major amendments to the Site Concept and Site Development Plans within Planned Zoning Districts require Planning and Zoning Commission review and final approval by City Council. Section 410.110.C.3. of the Subdivision Code requires Planning and Zoning Commission approval for Preliminary Subdivision Plats.

ADDITIONAL INFORMATION: This application was continued from the December 15, 2025 meeting agenda.

Key Issues:
- Does the request further the goals and/or implement the Comprehensive Plan?
- Does the request meet with the criteria for Planned Zoning Districts as provided in Section 405.390?
- Does the request meet with the requirements of Ordinance No. 5862?

Creve Coeur 2030 Plan References
- Mixed Use Innovation Campus District (MUIC)
- 39 North Master Plan
- Comprehensive Plan and 39 North Master Plan Amendment for the Former Bayer West Site

Zoning Code References
- Section 405.390: Planned Zoning Districts
- Olia Village Planned Zoning District Development Regulations (Amended Ordinance No. 5862)

Subdivision Code References
- Section 410.100 Preliminary Subdivision Plats

APPLICANT'S REPRESENTATIVE:	George M. Stock, P.E. Stock & Associates Consulting Engineers 257 Chesterfield Business Parkway Chesterfield, MO 63005
PROPERTY OWNER (UNDER CONTRACT):	Grand Communities, LLC 3940 Olympic Blvd, Ste 400 Erlanger, KY 41018

REPORT PREPARED BY: Bethany L. Moore, AICP, City Planner
DATE: 1/13/2026
ATTACHMENTS: Applicant's revised materials submitted January 9, 2026, Draft Resolution

PROJECT BACKGROUND AND PROPOSAL

Lot 16 of the Olia Village development is being developed by Grand Communities LLC as a 67-unit private townhome development. The applicant, George Stock, of Stock and Associates Consulting Engineers, on behalf of Grand Communities, LLC has submitted a Site Development Plan application and Preliminary Subdivision Plat for Lot 16 within Olia Village to construct the 67 townhome units within the 11.16-acre site. The development will be called The Vale at Olia Village. The Site Development Plan includes the construction of 13 buildings of attached 3-story, single-family townhome units, sidewalks and roads within the housing development. Lot 16 is within the Sub-District Category D-Residential Development of the Olia Village PMD and comprises 11.16 acres of the 95.76-acre site. In association with the Site Development Plan, an amendment to the Olia Village Planned-Mixed Use Zoning District Site Concept Plan and Development Regulations, Exhibit B of Amended Ordinance No. 5862, has been submitted. The Site Concept Plan amendment updates the pedestrian, street plan, and tree preservation and replacement plan components of the Olia Village planned zoning district to include the development of Lot 16. An amendment to the Development Regulations affecting private streets within the development has been submitted to reduce the Minimum Horizontal Radius of Centerline from 150-feet to 80-feet to provide the required secondary access for Lot 16. Pursuant to Section 405.390.Q. of the Zoning Ordinance, major amendments to the Site Concept and Site Development Plans within Planned Zoning Districts require Planning and Zoning Commission review and final approval by City Council. Section 410.110.C.3. of the Subdivision Code requires Planning and Zoning Commission approval for Preliminary Subdivision Plats.

This item was continued from the December 15, 2025 Planning and Zoning Commission agenda in order to provide the applicant additional time to make the changes to the site plan requested by the Commission. The applicant submitted revised plans on January 9, 2026. The revised plans will be discussed in this staff report. The revisions to the proposed plans include the addition of a 5 foot wide sidewalk on the east side of the internal street serving Lots 23-51, which previously did not have direct access to a sidewalk, the loss of one visitor parking space to accommodate this change, the sidewalk proposed along Olive Cove was shifted back 6 feet from the back of curb to provide a tree lawn between the sidewalk and the street, and the Meridian product, located on Lots 1-22, was revised to include a 2 foot façade setback between units. The preliminary plat, the site development plan and the amended site concept plan sheets have also been updated to reflect these revisions.

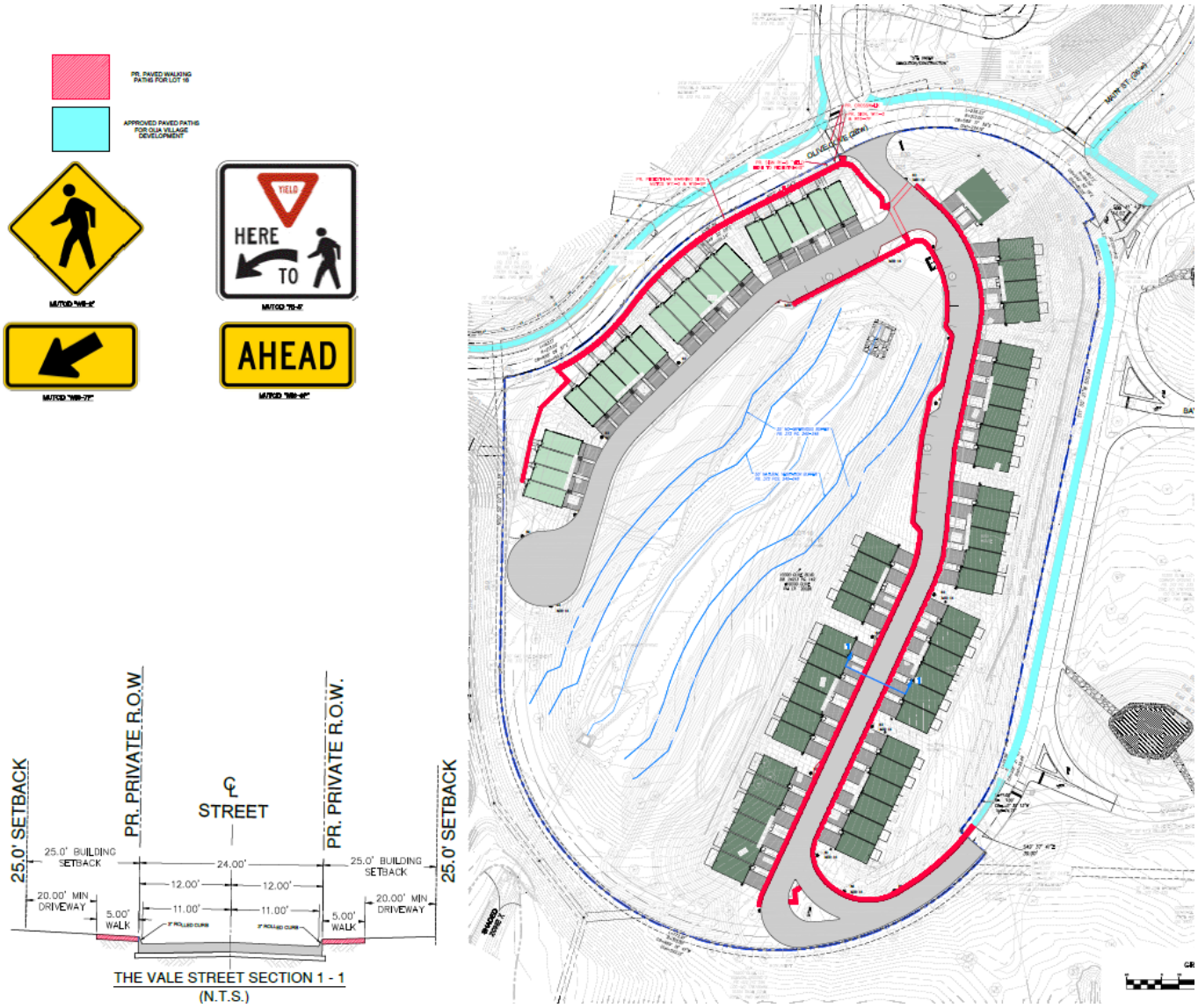


Figure 1: Revised Site Development Plan Sheet C3.1 showing 5-foot-wide sidewalks connecting each unit to the Olia Village Sidewalk system.

SIDEWALK REVISIONS

The revisions to the Site Development Plan include the incorporation of a 5-foot-wide sidewalk along the internal street within Lot 16 to connect Lots 23-51 to direct access to a sidewalk, per the request of the Planning and Zoning Commission. In order to incorporate the new sidewalk into the site plan, the street was shifted west resulting in the loss of 1 visitor parking space proposed adjacent to the creek. There are now 14 provided visitor spaces instead of 15. The retaining wall adjacent to the visitor parking spaces was raised 3 feet for a total height of 9 feet in order to not encroach into the required stream bank buffer in the middle of the lot. Per Staff request, the sidewalk adjacent to Olive Cove servicing Lots 1-22 was moved 6 feet back from the curb and a tree lawn was provided. All lots within Lot 16/The Vale at Olia Village development are now provided with direct access to a sidewalk that connects to the overall internal sidewalk system throughout the Olia Village development. Fig. 1. shows the updated Pedestrian Plan sheet within the Site Development Plan. The red lines show the Lot 16 internal sidewalk and the blue line shows the sidewalks within the greater Olia Village development. The Amended Site Concept Plan sheets for the overall Pedestrian Plan and Street Plan for Olia Village have also been revised to reflect these changes, Fig 2.

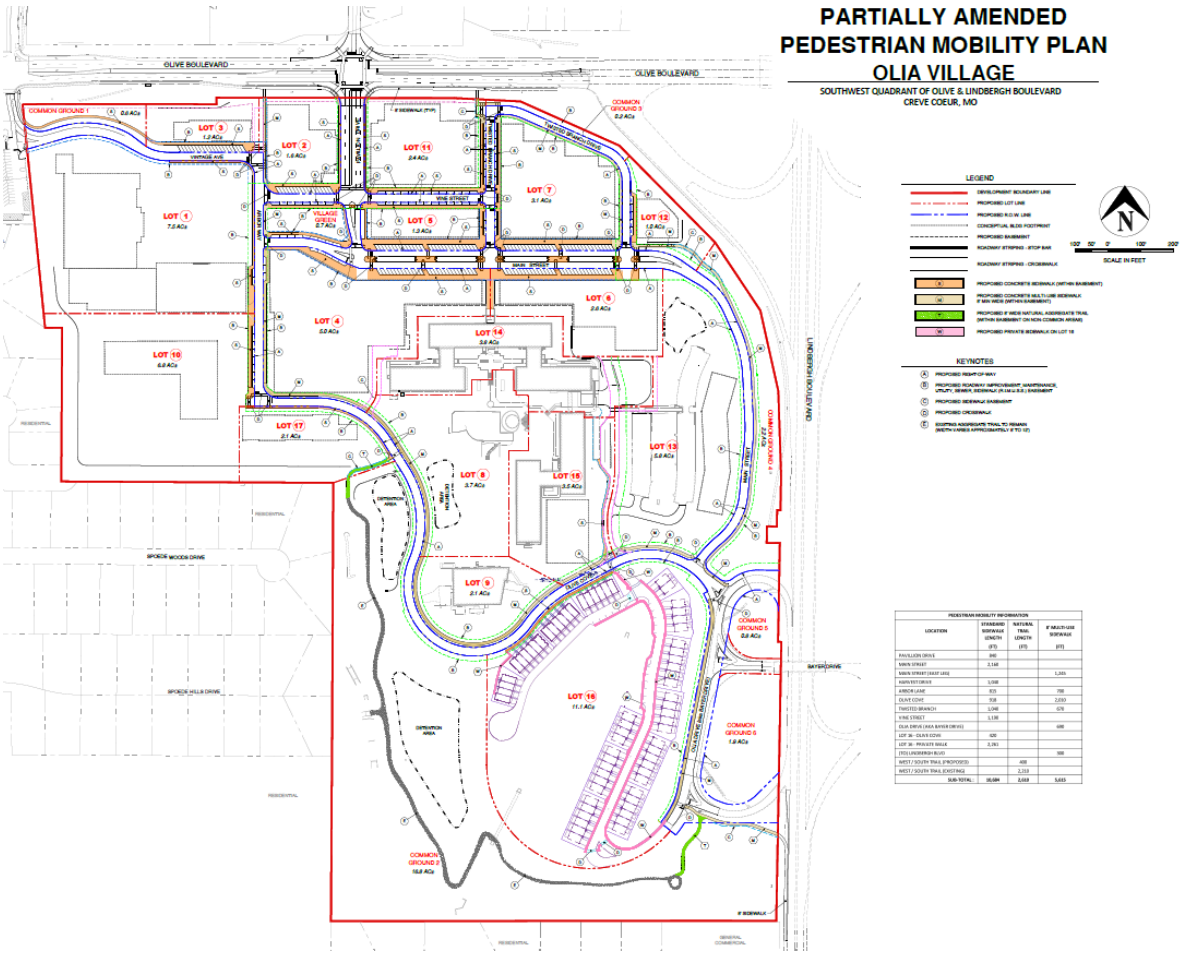


Figure 2: Updated Amended Pedestrian Mobility Plan for Olia Village reflecting the change to the Lot 16 sidewalks.

UNIT REVISIONS

Staff requested that the townhome units along Olive Cove include plane breaks in order to break up the facades of the units, especially where they are visible outside of Lot 16. The units along Olive Cove, Lots 1-22, face outwards from Lot 16 towards the greater Olia Village development. These units were shown inconsistently throughout the plans alternating between showing setbacks or being shown as one continuous plane on each unit grouping. The applicant has revised the Site Development Plan to show that a 2-foot offset will be present between units along Olive Cove, creating a staggered façade that breaks up the continuous plane. All unit groupings within Lot 16 are now shown to have offsets of some kind to break up the facades.

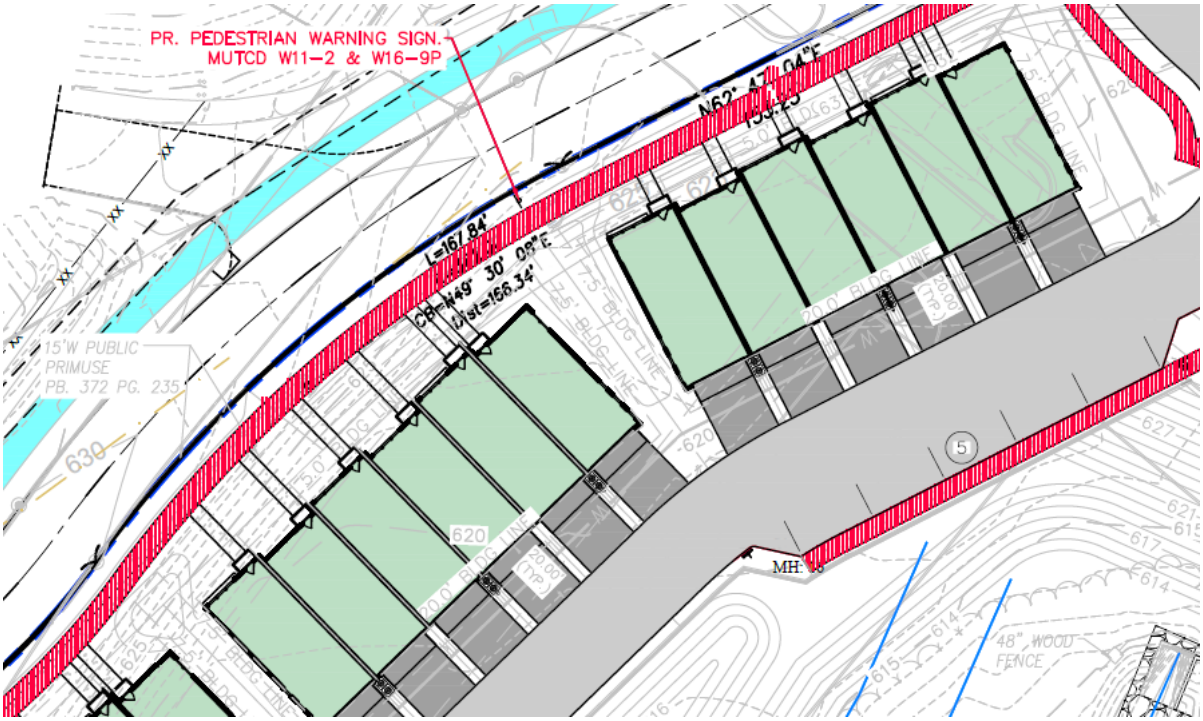
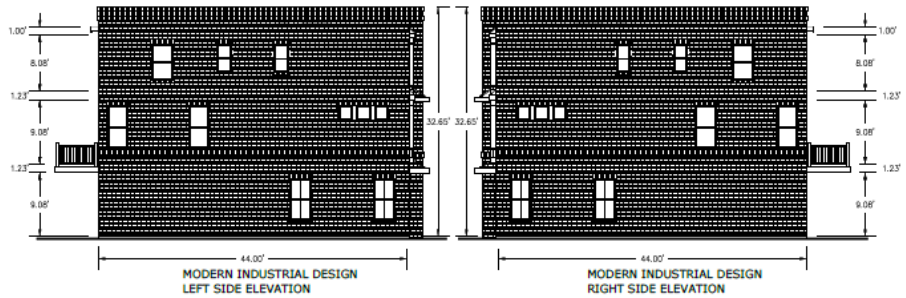


Figure 3: Close up from Sheet C3.1 of the Site Development Plan highlighting the offsets between units.

ARCHITECTURAL REVISIONS

The applicant has included an additional sheet, Sheet C3.2, within the Site Development Plan to address the side elevations of "high impact" buildings. Staff requested that the plans make clear the intentions to include the brick material to completely cover each exposed end of the building when visible and not facing another set of units. Sheet C3.2 includes updated side elevations for the "Logan" and "Meridian" product types showing full brick on the ends as well as an updated site plan showing which units will receive this elevation treatment. Lots 1, 4, 17, 22-24, 46, 51, 52, 57, 64 and 6 will include full brick side elevation instead of the Hardie board material proposed for the rear and low visibility side elevations of each set of units, see Fig. 4.

The applicant has also provided additional color options for each set of product types. The main brick color for all units will be white washed brick in the color "Alpine Select" for the top two floors of all buildings. Each product type, the "Logan" along Olive Cove and the "Meridian" along the internal street, will have alternating brick colors on the first floor. Every other building will either have a lighter neutral brick in the shade "Irongate" or a dark brown brick in the shade "Bourbon Trail." There will also be alternative door and trim accent colors in a warm neutral color palette. The color variations will help to break up the monotony of having identical buildings in a row next to each other and will instead provide some variation not only in style between the two product types but also in color scheme. See Fig. 5-6.



Meridian
HIGH IMPACT ELEVATIONS

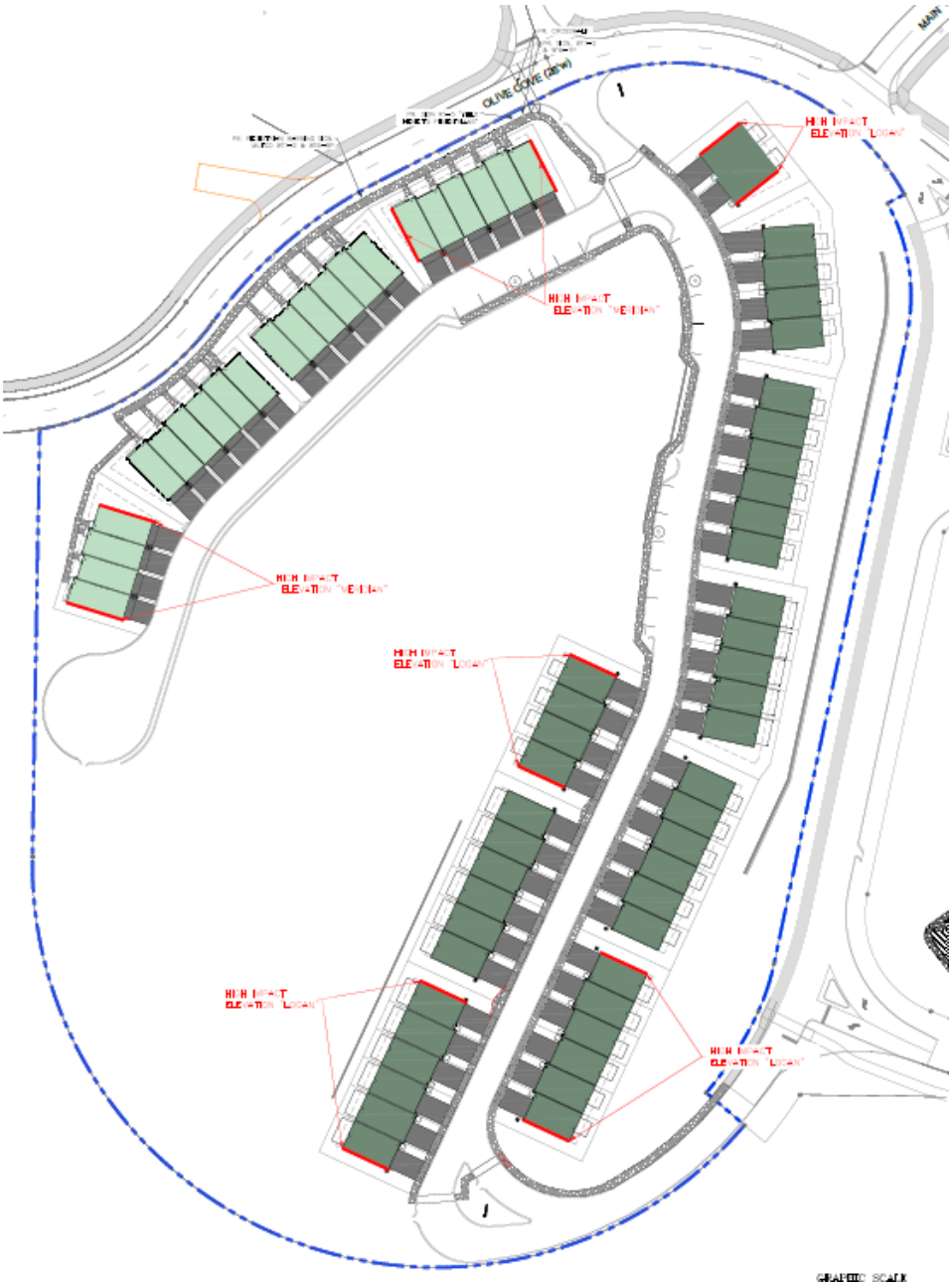


Figure 4: Sheet C3.2 showing full brick High Impact side elevations.

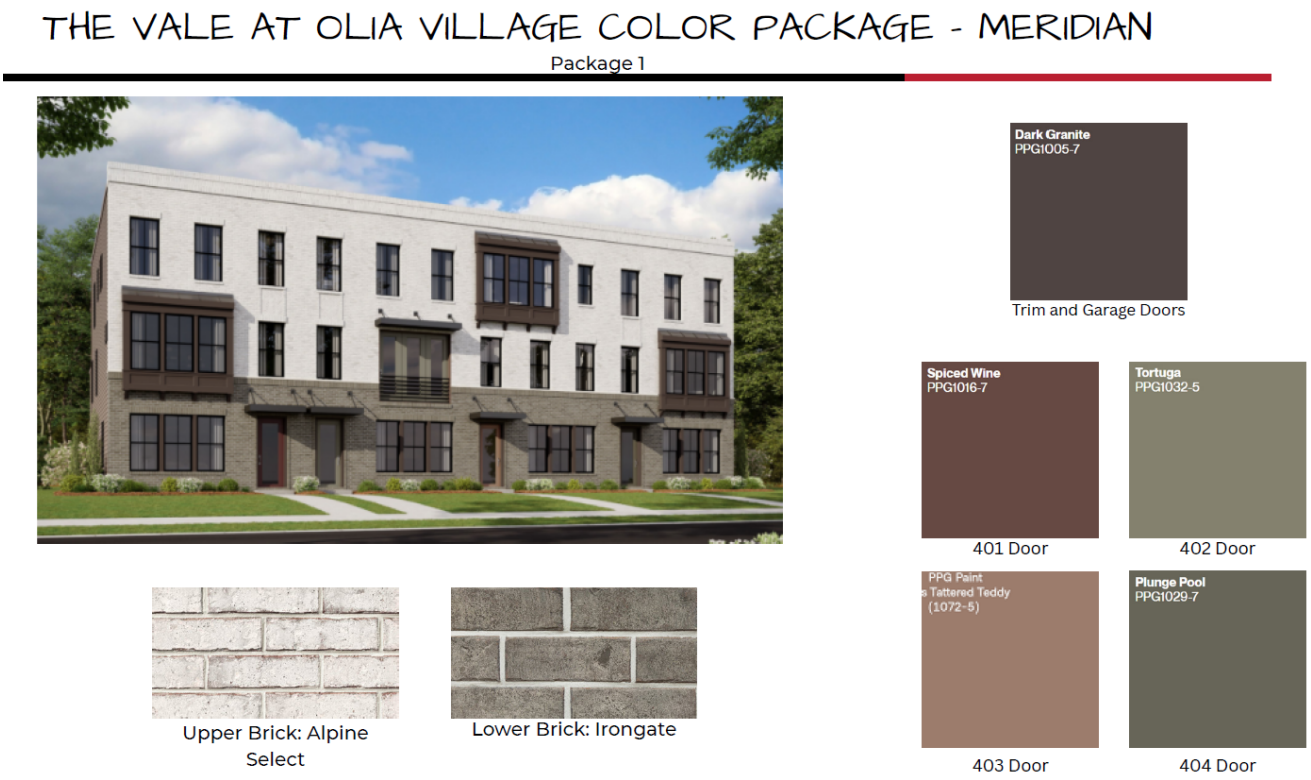


Figure 5: Meridian style with color package 1.

Figure 6: Logan style with color package 2.

LANDSCAPING REVISIONS

Sheet L1.01 provides the proposed landscaping for Lot 16. This sheet has been revised to accommodate the new sidewalk locations and include additional landscaping along Olive Cove. Moving the sidewalk back 6 feet from the curb created a tree lawn that will include the required Street trees. Lot trees closer to the units were also provided for a layered landscaping effect. See Fig. 7.

Figure 7: Revised Landscaping Plan.

CONCLUSION AND RECOMMENDED CONDITIONS OF APPROVAL

Staff finds that the Lot 16 Site Development Plan substantially meets with the approved Olia Village Site Concept Plan, and the requirements of the Olia Village Development Regulations, as amended by this proposal, as well as with the City's applicable Zoning Regulations, subject to the following conditions and any further discussion by the Planning and Zoning Commission.

The following are the recommended conditions of approval for the Site Concept Plan amendments and the amended Development Regulations for Olia Village:

1. All requirements of Amended Ordinance No. 5862 shall remain in effect as hereby amended.
2. Pursuant to Section 405.390.K.2., the applicable components of the amended Site Concept Plan shall be recorded in the office of the St. Louis County Recorder of Deeds and proof of recording shall be provided to the City prior to any permits being issued.

The following are the recommended conditions of approval for the Lot 16 Site Development Plan:

1. The Applicant is required to submit a Building Permit application, as required by Article II of the Building Code. Exterior elevations of the townhomes shall be in substantial conformance in design, color and materials, with the "Meridian and Logan Modern Industrial Elevations" received January 9, 2026 as bound together and submitted in conjunction with Application #25-028 by Fischer Homes, except as modified below.
2. The Applicant shall submit Site Improvement Plans, showing all exterior grading and site improvements, to the Department of Public Works for review, as required by Section 410.380 of the Subdivision and Land Development Regulations (Subdivision Code). The Site Improvement Plans shall be in substantial conformance with the "Site Development Plans," received January 9, 2026, as bound together and submitted in conjunction with Application #25-028 by Stock & Associates, except as modified below.
3. The building elevations on Lots 1, 4, 17, 22-24, 46, 51, 52, 57, 64 and 6 as depicted on the site development plan and preliminary plat shall have brick returns on the full side exterior elevations.
4. A Final Landscape Plan shall be submitted with the Building Permit and Site Improvement Permit applications for Staff review and approval in substantial conformance with the Concept Landscape Plan received January 9, 2026, by Loomis Associates. The Final Landscape Plan shall provide irrigation within the common ground areas along the exterior street frontages and at both entries. All landscaping shall be maintained per the approved Landscape Plan and any vegetation that is totally or predominantly dead and/or disfigured due to disease or injury shall be replaced as needed and in a prompt and workmanlike manner as dictated by accepted horticultural standards.
5. All lighting shall comply with Section 405.680 Lighting of the Zoning Ordinance or Section H. Light Requirements of the Olia Village Development Standards, as appropriate, and the provided photometric plan for the entire site received January 9, 2026.
6. The subdivision entry signs, as shown on the plans, one located at each entrance to the subdivision, are approved subject to landscaping being provided at the base of each sign and final design approval by staff in association with the sign permit application. After final approval by staff, these residential development signs shall be incorporated into the overall Olia Village Master Sign Plan.
7. A final subdivision plat and accompanying subdivision declaration for The Vale at Olia Village shall be submitted for Planning and Zoning Commission and City Council approval pursuant to Section 410.140 of the Subdivision Code and Section 405.390.H. of the Zoning Code prior to issuance of any building permits.
8. Pursuant to Section 405.390.N. the site development plan shall be valid for a period of twelve (12) months from the date of approval. Within such period a building permit shall be obtained, and substantial construction commenced. Substantial construction shall be deemed to consist of clearing the site, completion of footings, basement or building slab and inspection of such work. The Planning and Zoning Commission may grant extensions regarding the validity of a site development plan not exceeding twelve (12) months each upon written request of the original

> applicant prior to the expiration of such period and resubmission of the application if the application as resubmitted is substantially the same as the initially approved application. However, the Commission shall have the power in such cases to attach new conditions to their re-approval or to disapprove the reapplication.

Review of preliminary plats is a ministerial act that should be approved if the proposed plat substantially meets all development standards provided by Amended Ordinance No. 5862 and those of any other applicable City regulations. This application does substantially meet all applicable codes for the Olia Village Planned Mixed Use Development Zoning District, subject to the following suggested conditions of approval:

1. A final plat for the Vale at Olia Village shall be submitted for review by the Planning and Zoning Commission with approval of the final plat by the City Council.

ACTION
If the Planning and Zoning Commission finds the Site Development Plan application and proposed Draft Ordinance, and Site Concept Plan Amendments to be in conformance with the Site Concept Plan, regulations of the Zoning Code and Attachment B, it may vote on a recommendation to the City Council. Any changes to the motion or Draft Resolution should be discussed and made by separate actions.

Approval of the Prelimianry Plat must be made by separate motion listed below.

MOTIONS
The following is an example of an appropriate motion for the Site Development Plan and Site Concept Plan Amendment application:

> "I move to recommend approval of the Site Concept Plan and Development Regulations Amendments and the Site Development Plan for Olia Village Lot 16 at 10300 Olive Boulevard, subject to the conditions discussed in the Staff Report and draft ordinance for the meeting of January 9, 2026" (conditions may be added, eliminated, or modified by preceding motion).

Action on the Preliminary Plat will be in the form of a motion for approval as presented, or approval with additional conditions, to meet all technical requirements. City Council action is not required. Assuming agreement with the Staff Report, the following is an example motion for this application:

> "I move to approve The Vale at Olia Village preliminary plat with the conditions outlined in the staff report for the subdivision at Lot 16 of the Olia Village Planned Mixed Use Development as shown in the Preliminary Plat, received January 9, 2026, as part of Application #25-039. (Other conditions may be added, eliminated, altered, and modified by prior motion).

Once the Commission has approved the preliminary plat, the Applicant may proceed with preparing the Final Plat for Planning and Zoning Commission review and approval by the City Council. The Subdivision Improvement Plans will be submitted at a later date and will be subject to the conditions listed above.

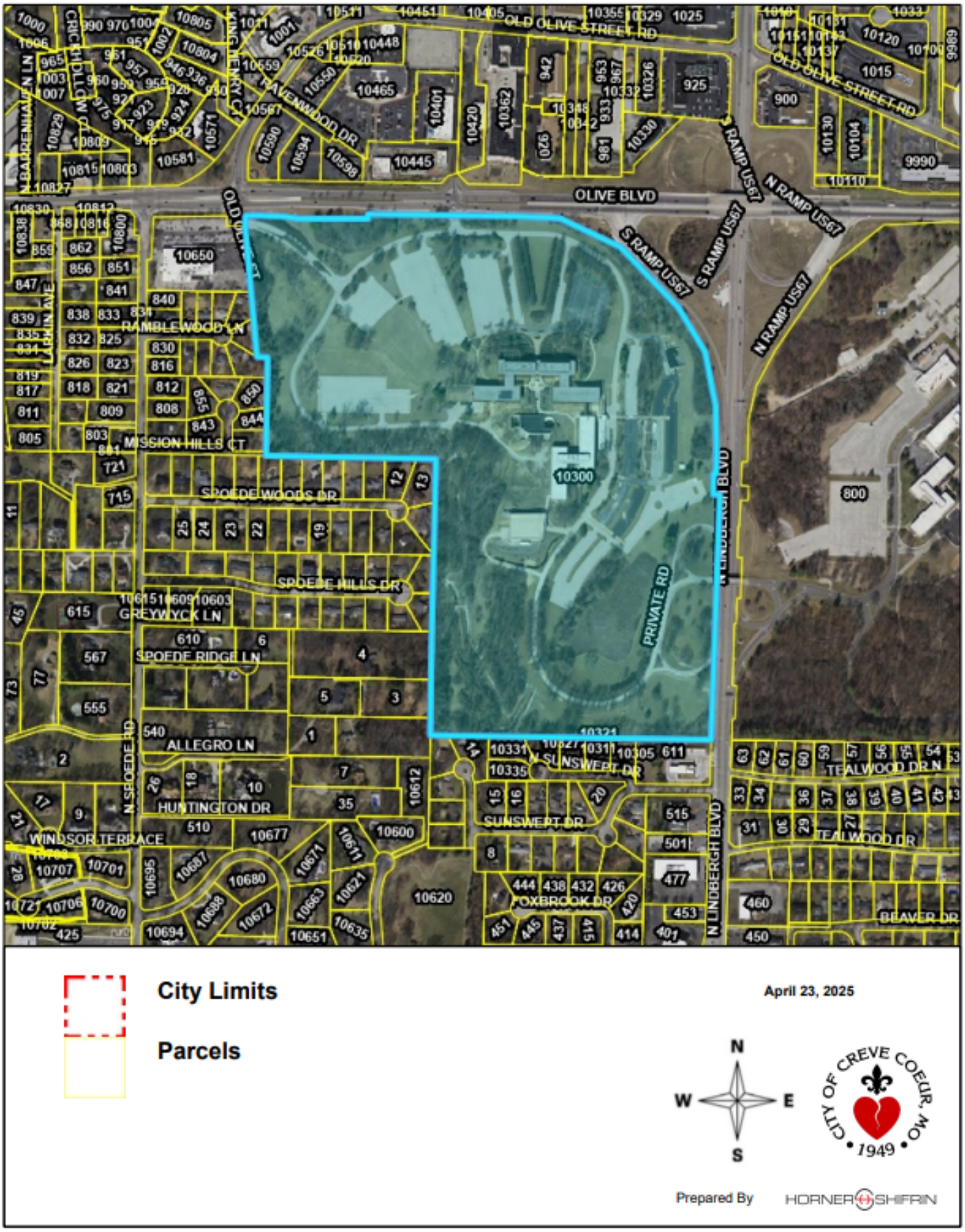
APPENDIX 1: COMPREHENSIVE PLAN

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 2: ZONING CODE

Included and attached by reference. See body of report for specific excerpts.

Aerial Photo



BILL NUMBER _____ **ORDINANCE NUMBER _____**

AN ORDINANCE APPROVING AN AMENDMENT TO THE SITE CONCEPT PLAN AND DEVELOPMENT REGULATIONS, AND APPROVING A SITE DEVELOPMENT PLAN FOR LOT 16 WITHIN THE OLIA VILLAGE PLANNED MIXED-USE DISTRICT LOCATED AT 10300 OLIVE BOULEVARD

WHEREAS, on November 13, 2023, the City Council adopted Amended Ordinance 5862 which established the Olia Village Planned Mixed-Use Zoning District; and

WHEREAS, Section 405.390.Q. of the Zoning Code states that major amendments to the approved Site Concept Plan shall follow the same review procedures as a new application within established Planned Zoning Districts; and

WHEREAS, Section 405.390.G. of the Zoning Code states that Site Development Plans within Planned Zoning Districts shall be submitted for each specific building or phase within the project, for review by the Planning and Zoning Commission and approval by the City Council; and

WHEREAS, an application has been submitted by George M. Stock, PE, of Stock & Associates Consulting Engineers, on behalf of Grand Communities, LLC, for approval of an amendment to the Site Concept Plan and Development Regulations authorized by Amended Ordinance No. 5862, and for approval of a Site Development Plan for Lot 16 within the Olia Village Planned Mixed-Use District located at 10300 Olive Boulevard for 67 attached townhomes and to establish connecting private streets and pedestrian facilities within the development; and

WHEREAS, the applicant also submitted the preliminary plat to subdivide Lot 16 within the Olia Village Creve Coeur subdivision into 67 individual lots with common ground and private rights-of-way for the development of attached townhouses, known as The Vale at Olia Village, for approval by the Planning and Zoning Commission; and,

WHEREAS, a public hearing was held by the Creve Coeur Planning and Zoning Commission on Monday, December 15, 2025 and Tuesday, January 20, 2026, beginning at 6:00 p.m. or immediately following the close of the previous public hearing, on said application; and

WHEREAS, notice of said public hearing had been previously published at least 15 days prior to the hearing, in the St. Louis Countian, a newspaper of general circulation in the City of Creve Coeur and otherwise posted and published in accordance with the Zoning Ordinance; and

WHEREAS, the Planning and Zoning Commission reviewed and, by a ____ vote, recommended approval of the amendment to the Site Concept Plan and Development Standards, and the Lot 16 Site Development Plan subject to conditions and approved the Lot 16 Preliminary Subdivision Plat subject to conditions at its meeting on January 20, 2026; and

WHEREAS, all parties desiring to be heard, either for or against said application, were given an opportunity to be heard, and a copy of the proposed ordinance has been made available for public inspection prior to its consideration by the Council; and this Bill having been read by title in open meeting two times before final passage by the City Council, and

NOW, THEREFORE, be it ordained by the City Council of the City of Creve Coeur, Missouri, as follows:

SECTION 1: The amendment to the Site Concept Plan and the Development Regulations for Olia Village as submitted on December 8, 2025 and January 9, 2026 are hereby approved subject to the following conditions:

1. All requirements of Amended Ordinance No. 5862 shall remain in effect as hereby amended.
2. Pursuant to Section 405.390.K.2., the applicable components of the amended Site Concept Plan shall be recorded in the office of the St. Louis County Recorder of Deeds and proof of recording shall be provided to the City prior to any permits being issued.

SECTION 2: The Lot 16 Site Development Plan as submitted on January 9, 2026, is hereby approved subject to the following conditions:

1. The Applicant is required to submit a Building Permit application, as required by Article II of the Building Code. Exterior elevations of the townhomes shall be in substantial conformance in design, color and materials, with the "Meridian and Logan Modern Industrial Elevations" received January 9, 2026 as bound together and submitted in conjunction with Application #25-028 by Fischer Homes, except as modified below.
2. The Applicant shall submit Site Improvement Plans, showing all exterior grading and site improvements, to the Department of Public Works for review, as required by Section 410.380 of the Subdivision and Land Development Regulations (Subdivision Code). The Site Improvement Plans shall be in substantial conformance with the "Site Development Plans," received January 9, 2026, as bound together and submitted in conjunction with Application #25-028 by Stock & Associates, except as modified below.
3. The building elevations on Lots 1, 4, 17, 22-24, 46, 51, 52, 57, 64 and 6 as depicted on the site development plan and preliminary plat shall have brick returns on the full side exterior elevations.
4. A Final Landscape Plan shall be submitted with the Building Permit and Site Improvement Permit applications for Staff review and approval in substantial conformance with the Concept Landscape Plan received January 9, 2026, by Loomis Associates. The Final Landscape Plan shall provide irrigation within the common ground areas along the exterior street frontages and at both entries. All landscaping shall be maintained per the approved Landscape Plan and any vegetation that is totally or predominantly dead and/or disfigured due to disease or injury shall be replaced as needed and in a prompt and workmanlike manner as dictated by accepted horticultural standards.
5. All lighting shall comply with Section 405.680 Lighting of the Zoning Ordinance or Section H. Light Requirements of the Olia Village Development Standards, as appropriate, and the provided photometric plan for the entire site received January 9, 2026.
6. The subdivision entry signs, as shown on the plans, one located at each entrance to the subdivision, are approved subject to landscaping being provided at the base of each sign and final design approval by staff in association with the sign permit application. After final approval by staff, these residential development signs shall be incorporated into the overall Olia Village Master Sign Plan.
7. A final subdivision plat and accompanying subdivision declaration for The Vale at Olia Village shall be submitted for Planning and Zoning Commission and City Council approval pursuant to Section 410.140 of the Subdivision Code and Section 405.390.H. of the Zoning Code prior to issuance of any building permits.
8. Pursuant to Section 405.390.N. the site development plan shall be valid for a period of twelve (12) months from the date of approval. Within such period a building permit shall

be obtained, and substantial construction commenced. Substantial construction shall be deemed to consist of clearing the site, completion of footings, basement or building slab and inspection of such work. The Planning and Zoning Commission may grant extensions regarding the validity of a site development plan not exceeding twelve (12) months each upon written request of the original applicant prior to the expiration of such period and resubmission of the application if the application as resubmitted is substantially the same as the initially approved application. However, the Commission shall have the power in such cases to attach new conditions to their re-approval or to disapprove the reapplication.

SECTION 3: This ordinance shall become effective in accordance with Section 3.11 (g) of the City Charter.

ADOPTED THIS ____ DAY OF _____, 2026.

_____
MARK MANLIN
PRESIDENT OF CITY COUNCIL

APPROVED THIS ____ DAY OF _____, 2026.

_____
DR. ROBERT HOFFMAN
MAYOR

ATTEST:

_____
KELLIE HENKE
CITY CLERK

THE VALE AT OLIA VILLAGE COLOR PACKAGE - MERIDIAN

Package 1

Dark Granite
PPG1005-7

Trim and Garage Doors

Spiced Wine
PPG1016-7

401 Door

Tortuga
PPG1032-5

402 Door

Upper Brick: Alpine Select

Lower Brick: Irongate

PPG Paint
a Tattered Teddy
(1072-5)

403 Door

Plunge Pool
PPG1029-7

404 Door

THE VALE AT OLIA VILLAGE COLOR PACKAGE - MERIDIAN

Package 2

Upper Brick: Alpine Select

Lower Brick: Bourbon Trail

Trim and Garage Doors

401 Door

402 Door

403 Door

404 Door

THE VALE AT OLIA VILLAGE COLOR PACKAGE - LOGAN

Package 1

Dark Granite
PPG1005-7

Trim and Garage Doors / including panel board between windows

Upper Brick: Alpine Select

Lower Brick: Irongate

Spiced Wine
PPG1016-7

401 Door

Tortuga
PPG1032-5

402 Door

PPG Paint
s Tattered Teddy
(1072-5)

403 Door

Plunge Pool
PPG1029-7

404 Door

THE VALE AT OLIA VILLAGE COLOR PACKAGE - LOGAN

Package 2

Upper Brick: Alpine Select

Lower Brick: Bourbon Trail

Trim and Garage Doors / including panel board between windows

401 Door

402 Door

403 Door

404 Door

FISCHER HOMES
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PROPOSED ENTRY MONUMENT for THE VALE AT OLIA VILLAGE

NOT FOR CONSTRUCTION

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PROPOSED MAIL KIOSK for THE VALE AT OLIA VILLAGE

NOT FOR CONSTRUCTION

FRONT ELEVATION

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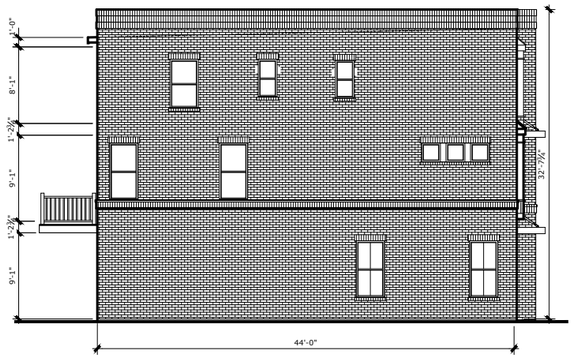
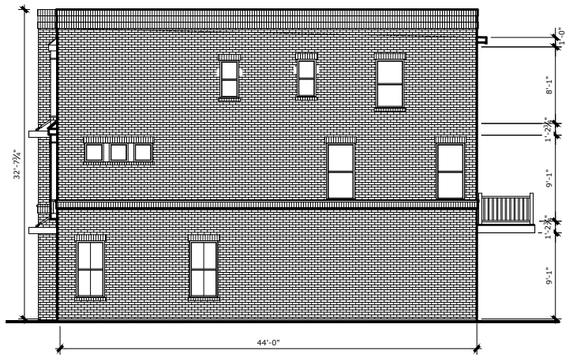
MERIDIAN 4-UNIT BUILDING 'MODERN INDUSTRIAL'

Sheet 2

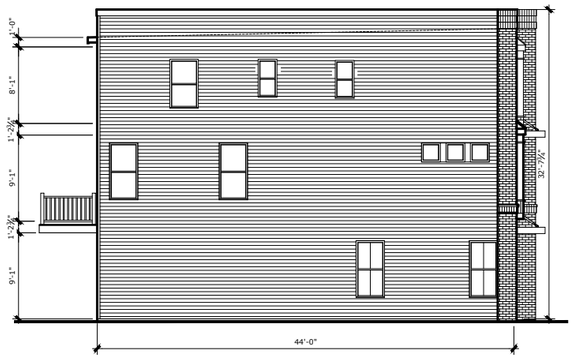
NOT FOR CONSTRUCTION



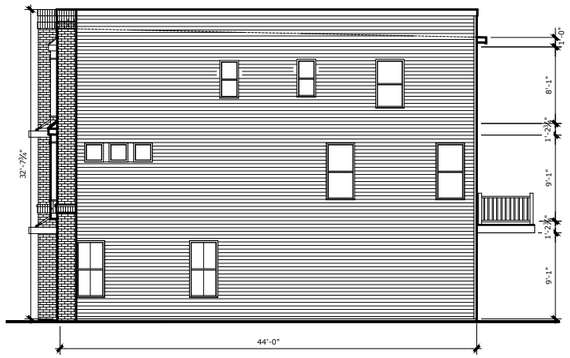
HIGH IMPACT LEFT SIDE ELEVATION



HIGH IMPACT RIGHT SIDE ELEVATION



LEFT SIDE ELEVATION



RIGHT SIDE ELEVATION

REAR ELEVATION

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MERIDIAN 4-UNIT BUILDING 'MODERN INDUSTRIAL'

Sheet 2

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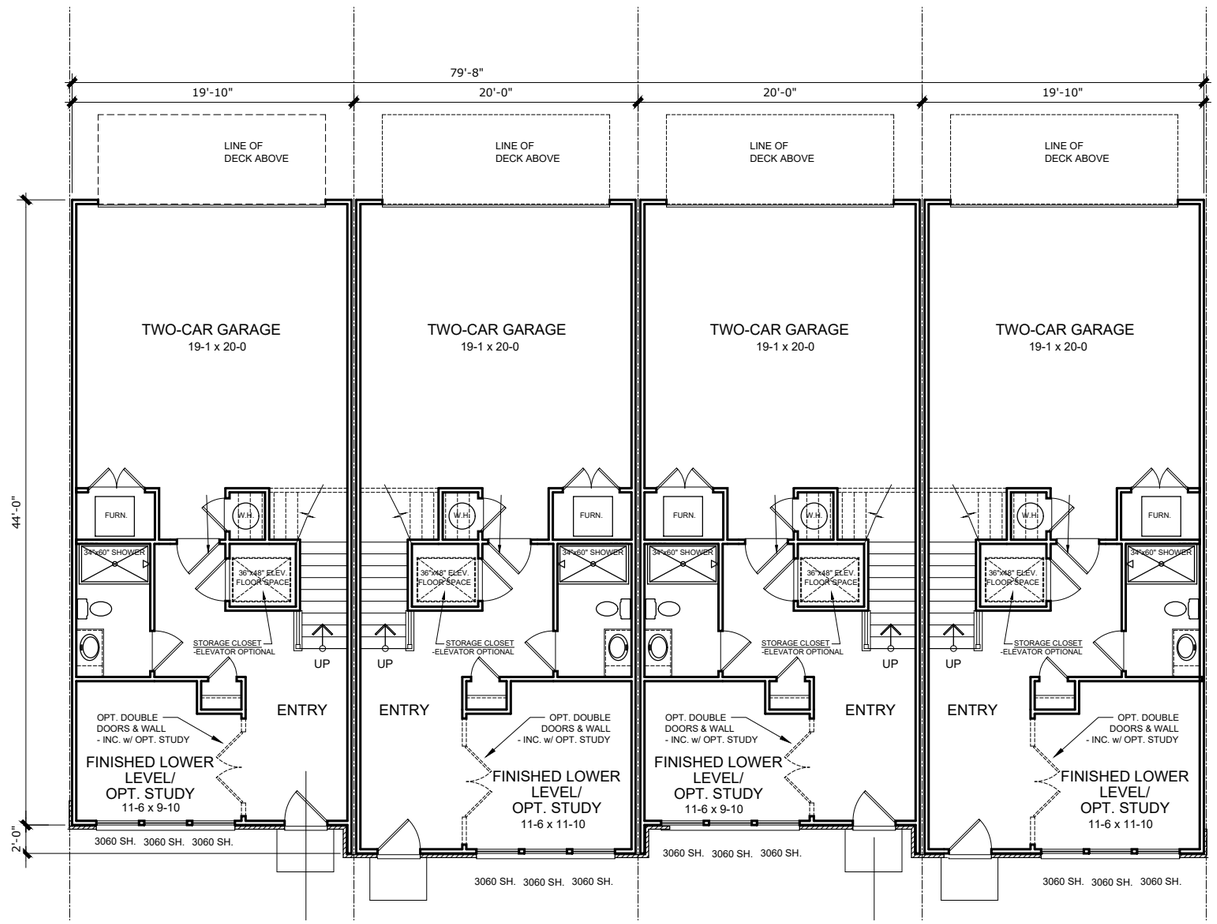

LOWER LEVEL

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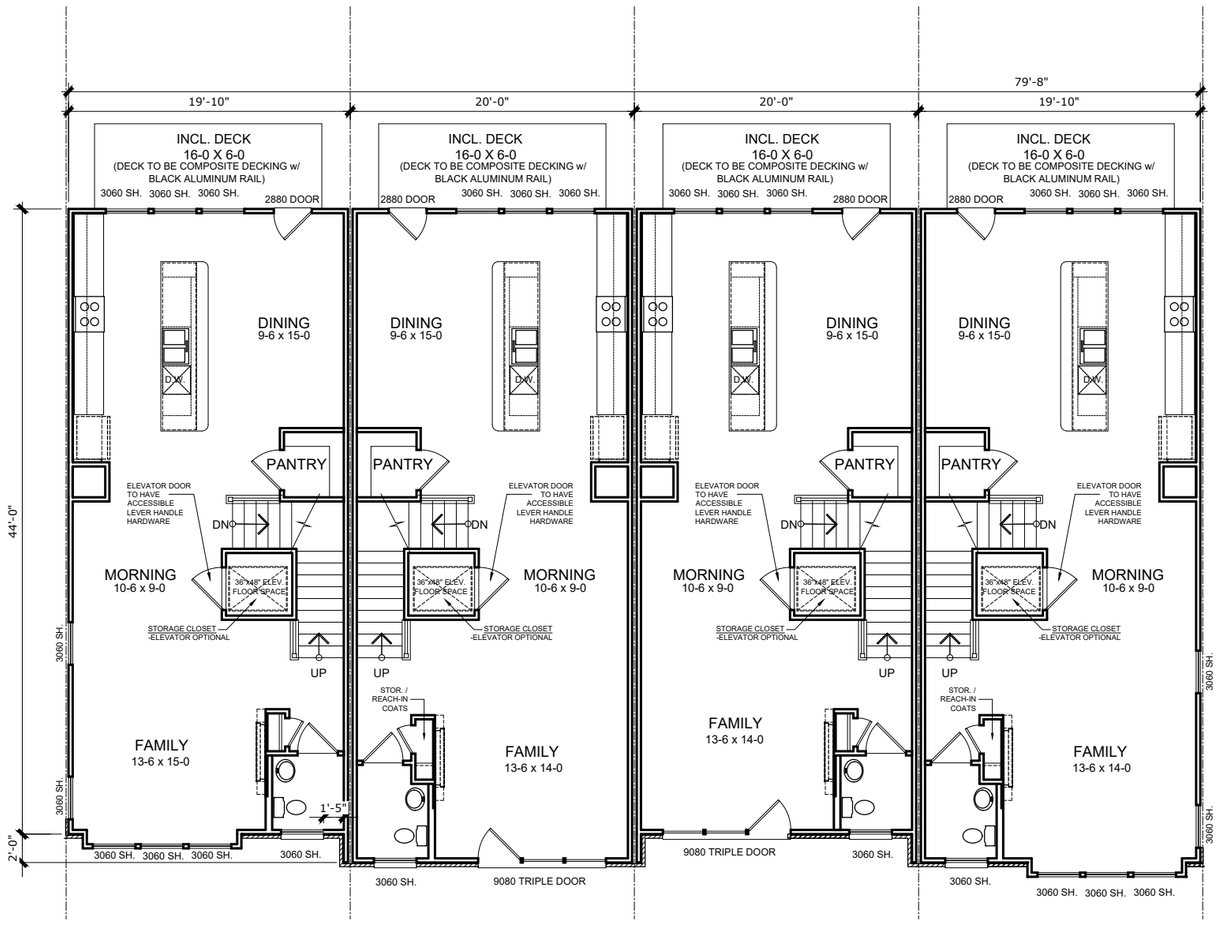
MERIDIAN 4-UNIT BUILDING 'MODERN INDUSTRIAL'

Sheet 2

NOT FOR CONSTRUCTION



MAIN LEVEL

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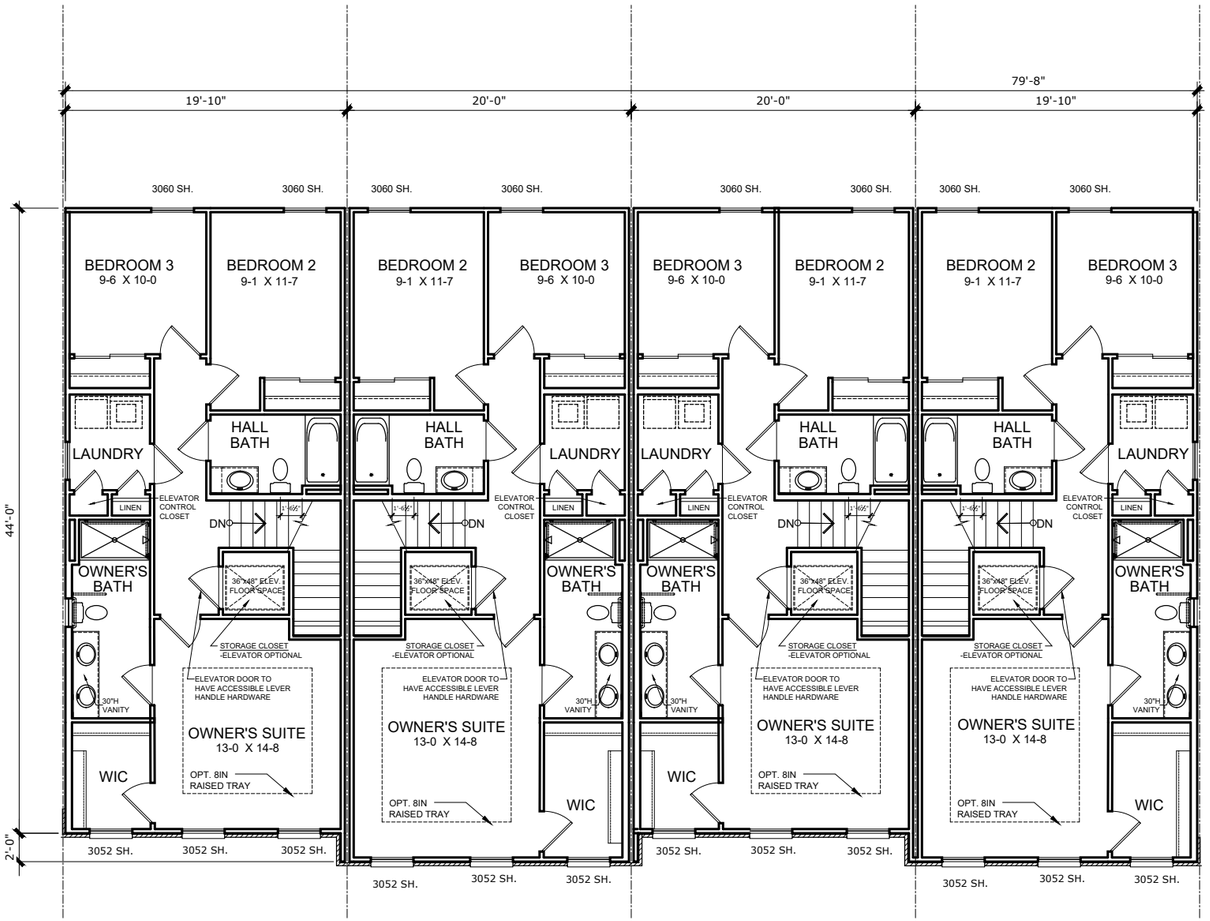
MERIDIAN 4-UNIT BUILDING 'MODERN INDUSTRIAL'

Sheet 2

NOT FOR CONSTRUCTION



UPPER LEVEL

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MERIDIAN 4-UNIT BUILDING 'MODERN INDUSTRIAL'

Sheet 2

NOT FOR CONSTRUCTION

SUN

DECIDUOUS TREE
- UPRIGHT OAK
- URBAN SUNSET MAPLE
- OCTOBER GLORY MAPLE
- AUTUMN BLAZE MAPLE
- SKYLINE HONEYLOCUST
- AUTUMN GOLD GINKGO (MALE)
- LACEBARK ELM
- LITTLE LEAF LINDEN

ORNAMENTAL TREE
- CRAPE MYRTLE
- BLOODGOOD JAPANESE MAPLE
- ASSORTED REDBUD
- CRIMSON POINT PLUM
- SEVEN SON FLOWER

DWARF STANDARD ORNAMENTAL TREE
- STANDARD CRABAPPLE
- STANDARD VIBURNUM
- DWARF WEEPING CHERRY

MEDIUM DECIDUOUS SHRUB (MAX 5' TALL AT MATURITY)
- PROVEN WINNER HYDRANGEAS
- MONROVIA HYDRANGEAS
- SPILLED WINE WEIGELA
- MIDNIGHT WINE WEIGELA
- COMPACT BURNING BUSH
- JUDD VIBURNUM
- BURKWOOD VIBURNUM

DWARF DECIDUOUS SHRUB (MAX 30" AT MATURITY)
- PROVEN WINNER SPIREAS
- MONROVIA SPIREAS
- PYGMY BARBERRY

BROADLEAF EVERGREEN
- WINTERGREEN BOXWOOD
- GREEN VELVET BOXWOOD
- GREEN GEM BOXWOOD
- CHINA HOLLY
- INKBERRY

UPRIGHT EVERGREEN
- UPRIGHT JUNIPER
- LEYLAND CYPRESS
- SCHIPKAENSIS CHERRY LAUREL

MEDIUM EVERGREEN SHRUB
- BIRDS NEST SPRUCE
- GREY OWL JUNIPER
- GOLD JUNIPER VARIETIES
- DWARF CREEPING JUNIPER

ORNAMENTAL GRASS
- HEAVY METAL SWITCH
- NORTHWIND SWITCH
- ADAGIO MAIDEN
- FEATHER REED
- SCOUT MAIDEN

DWARF ORNAMENTAL GRASS
- KARLEY ROSE DWARF FOUNTAIN
- HAMELIN DWARF FOUNTAIN
- LITTLE ZEBRA

PERENNIAL
- THREADLEAF COREOPSIS
- DWARF SHASTA DAISY
- STELLA D'ORO DAYLILY
- LITTLE SPIRES RUSSIAN SAGE
- DIANTHUS VARIETIES
- PROVEN WINNER ECHINACEAS
- HARDY SEDUM VARIETIES

BIG BLUE LIRIOPE

SHADE

DECIDUOUS TREE
- UPRIGHT OAK
- URBAN SUNSET MAPLE
- OCTOBER GLORY MAPLE
- AUTUMN BLAZE MAPLE
- SKYLINE HONEYLOCUST
- AUTUMN GOLD GINKGO (MALE)
- LACEBARK ELM
- LITTLE LEAF LINDEN

ORNAMENTAL TREE
- KOUSA DOGWOOD
- CLUMP SERVICEBERRY

DWARF STANDARD ORNAMENTAL TREE
- STANDARD HYDRANGEA
- THREADLEAF JAPANESE MAPLE

MEDIUM DECIDUOUS SHRUB (MAX 5' TALL AT MATURITY)
- PROVEN WINNER HYDRANGEAS
- MONROVIA HYDRANGEAS
- JUDD VIBURNUM
- BURKWOOD VIBURNUM

DWARF DECIDUOUS SHRUB (MAX 30" AT MATURITY)
- PROVEN WINNER DWARF HYDRANGEA
- MONROVIA DWARF HYDRANGEA

BROADLEAF EVERGREEN
- WINTERGREEN BOXWOOD
- GREEN VELVET BOXWOOD
- GREEN GEM BOXWOOD

UPRIGHT EVERGREEN
- EMERALD GREEN ARBORVITAE

MEDIUM EVERGREEN SHRUB
- BIRDS NEST SPRUCE
- PJM RHODODENDRON
- KAREN AZALEA
- GOLD THREAD FALSE CYPRESS

ORNAMENTAL GRASS
- MORNING LIGHT MAIDEN
- SHENANDOAH SWITCH
- KARL FOERSTER FEATHER REED

DWARF ORNAMENTAL GRASS
- KARLEY ROSE DWARF FOUNTAIN
- HAMELIN DWARF FOUNTAIN
- EVERGOLD SEDGE

PERENNIAL
- BRUNNERA
- EPIMEDIUM
- PULMONARIA
- BLEEDNG HEART
- BIGROOT GERANIUM
- DEADNETTLE
- COLUMBINE
- HOSTA VARIETIES

BIG BLUE LIRIOPE

Notes:
1. Sun and shade lists apply to zones 5, 6, and 7. For other hardiness zones, plant equivalent small, colorful, maintainable, hardy plants.

DATE: September 17, 2020
REVISED: April 3, 2023
DRAWN BY: NDS
SCALE: NTS
UI_Landscape 1 of 16

TEM_UI_Landscape_PlantKey

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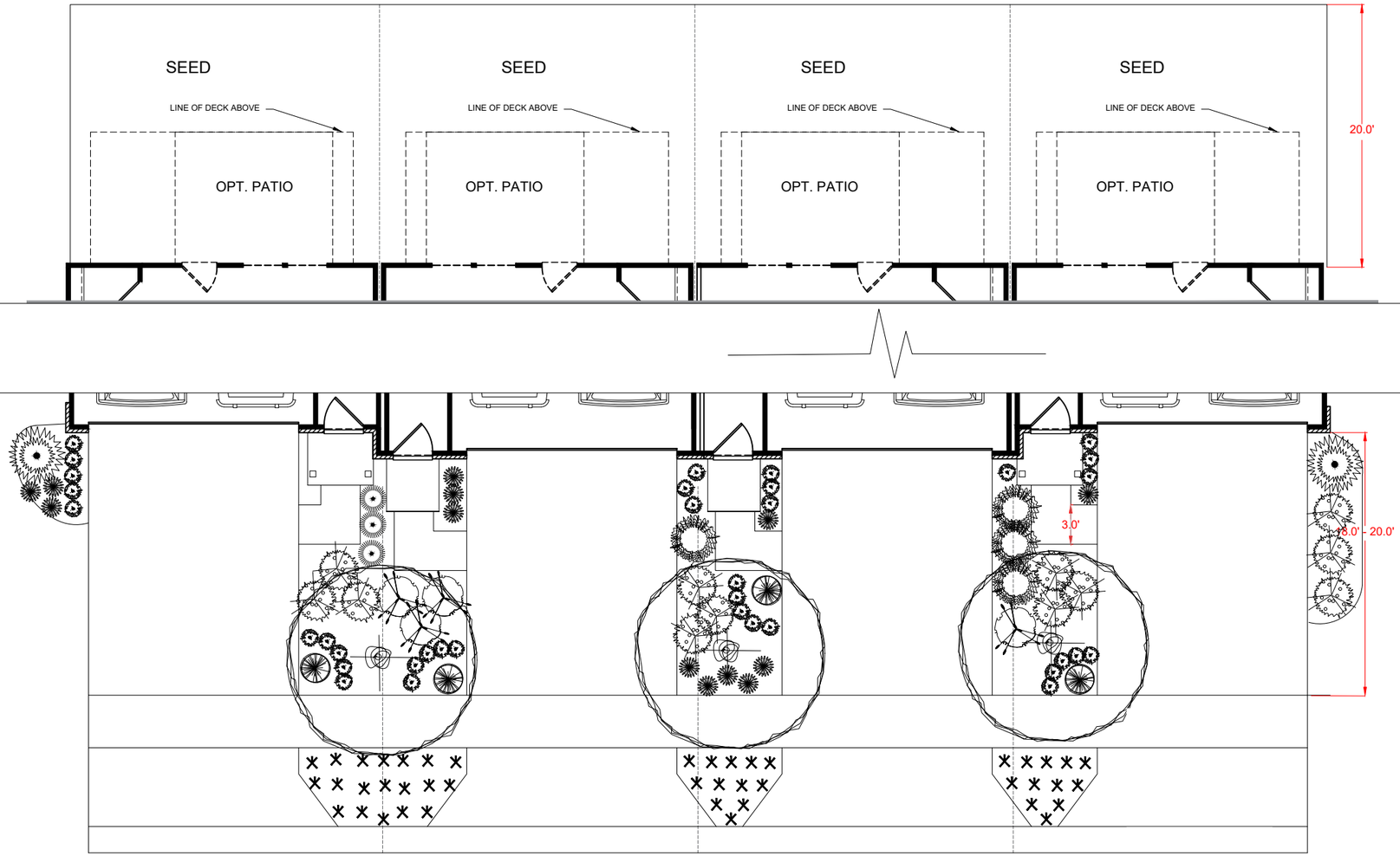

DECIDUOUS TREE

ORNAMENTAL TREE

DWARF STANDARD ORNAMENTAL TREE

MEDIUM DECIDUOUS SHRUB

DWARF DECIDUOUS SHRUB

UPRIGHT EVERGREEN

BROADLEAF EVERGREEN

MEDIUM EVERGREEN SHRUB

ORNAMENTAL GRASS

DWARF ORNAMENTAL GRASS

PERENNIAL

BIG BLUE LIRIOPE

Notes:

1. Trees shall be planted a minimum 2 caliper inches.
2. All trees shall be planted a minimum distance of 4' from trunk to building foundation.
3. Except for perennials, no plant material is to be planted within 2' of a building face.
4. Cannot repeat plant selection on adjacent units. E.g. if boxwood is used for broadleaf evergreen on one unit, boxwood may not be used as the broadleaf evergreen on adjacent units.
5. No turf area is to be smaller than 24" in length or width. Areas smaller than 24" in any direction are to be mulched.

0 5 10 20

DATE: September 17, 2020
REVISED: April 3, 2023
DRAWN BY: NDS
SCALE: 1.0" = 10.0'
UI_Landscape 2 of 16

TEM_UI_Midtown-Brookline
Landscape_Typical_4UNIT

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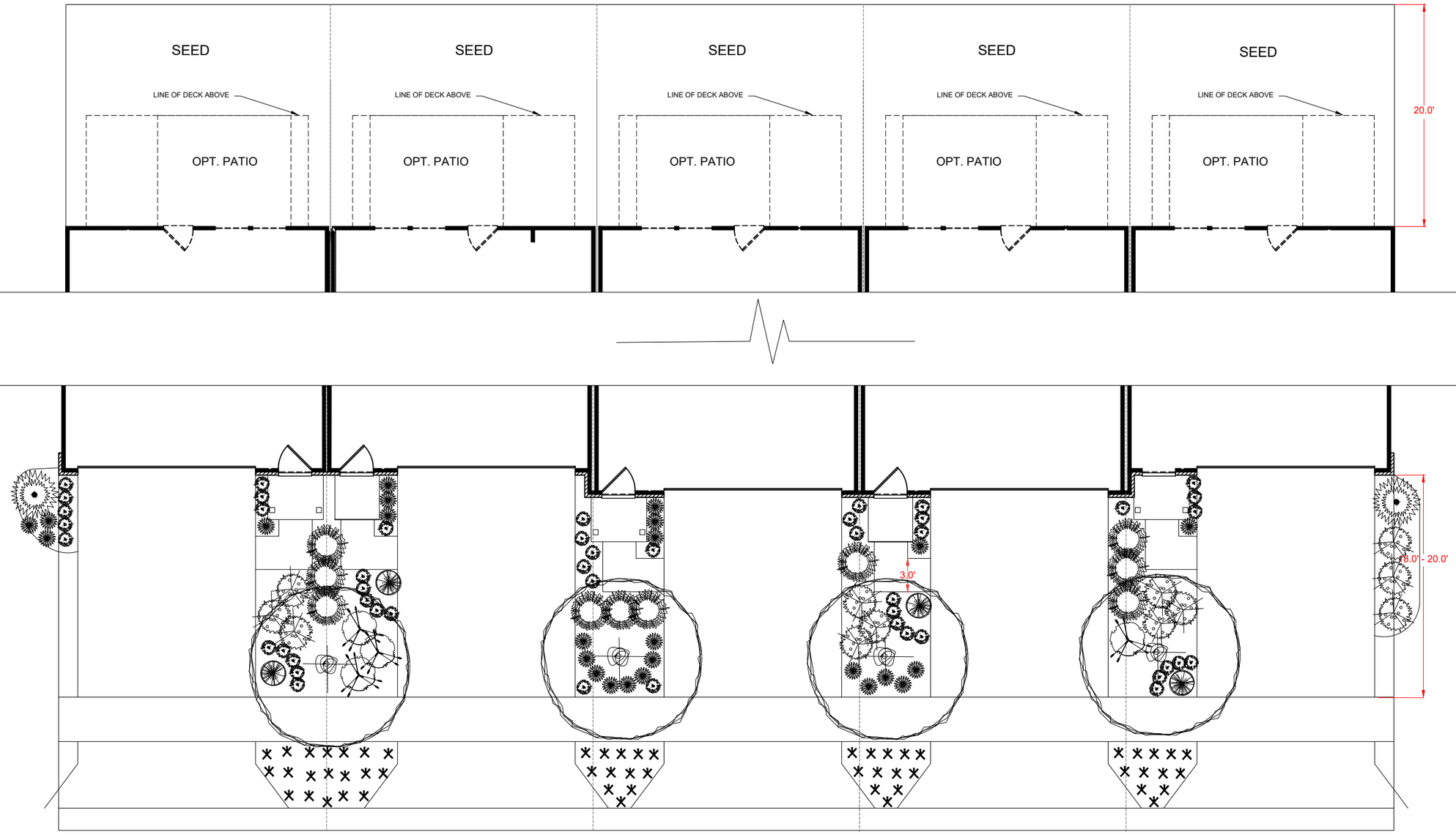

DECIDUOUS TREE

ORNAMENTAL TREE

DWARF STANDARD ORNAMENTAL TREE

MEDIUM DECIDUOUS SHRUB

DWARF DECIDUOUS SHRUB

UPRIGHT EVERGREEN

BROADLEAF EVERGREEN

MEDIUM EVERGREEN SHRUB

ORNAMENTAL GRASS

DWARF ORNAMENTAL GRASS

PERENNIAL

BIG BLUE LIRIOPE

Notes:

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0 5 10 20

DATE: September 17, 2020
REVISED: April 3, 2023
DRAWN BY: NDS
Scale: 1.0" = 10.0'
UI_Landscape 3 of 16

TEM_UI_Midtown-Brookline
Landscape_Typical_5UNIT

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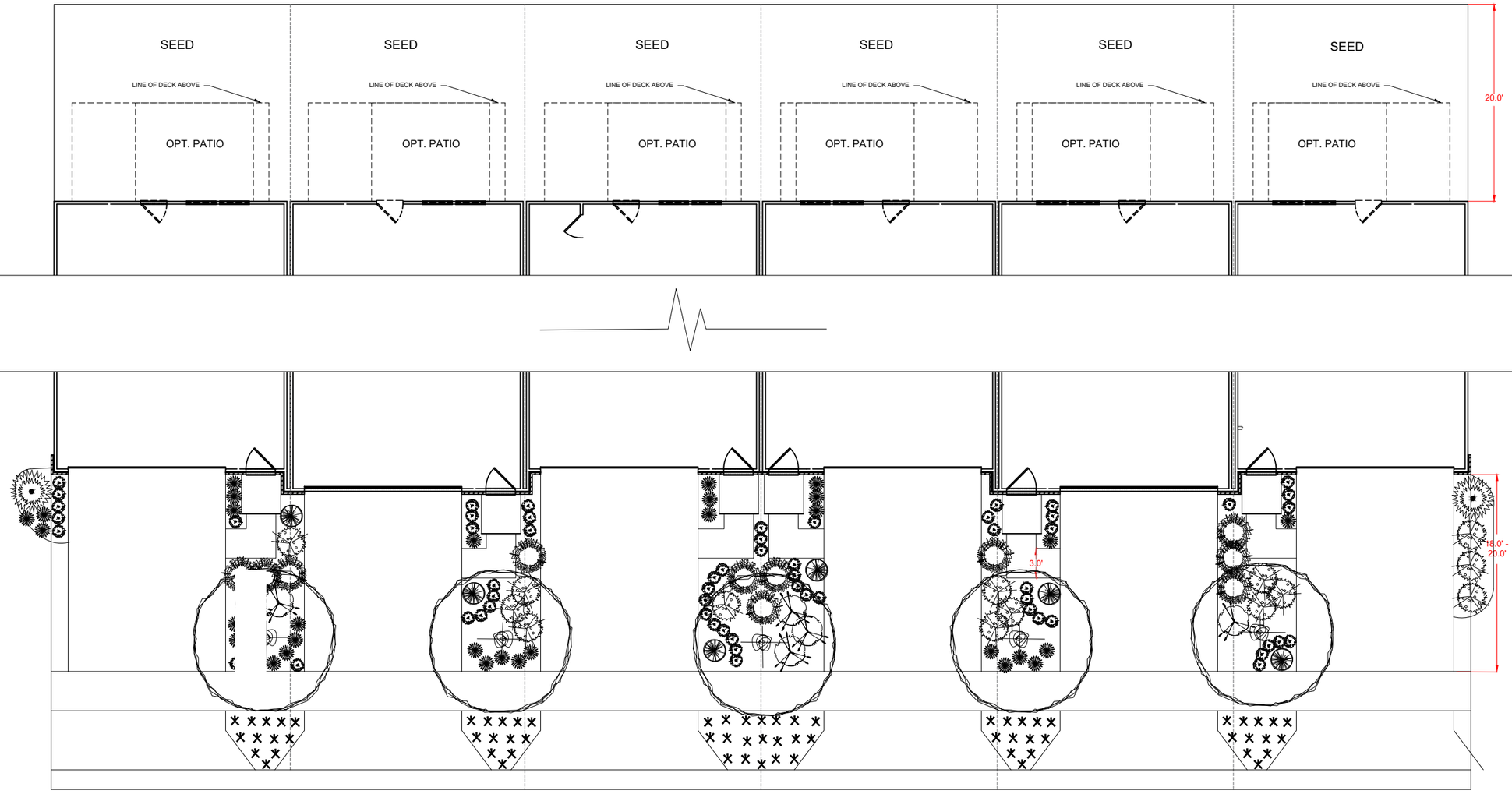

DECIDUOUS TREE

ORNAMENTAL TREE

DWARF STANDARD ORNAMENTAL TREE

MEDIUM DECIDUOUS SHRUB

DWARF DECIDUOUS SHRUB

UPRIGHT EVERGREEN

BROADLEAF EVERGREEN

MEDIUM EVERGREEN SHRUB

ORNAMENTAL GRASS

DWARF ORNAMENTAL GRASS

PERENNIAL

BIG BLUE LIRIOPE

Notes:

1. Trees shall be planted a minimum 2 caliper inches.
2. All trees shall be planted a minimum distance of 4' from trunk to building foundation.
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4. Cannot repeat plant selection on adjacent units. E.g. if boxwood is used for broadleaf evergreen on one unit, boxwood may not be used as the broadleaf evergreen on adjacent units.
5. No turf area is to be smaller than 24" in length or width. Areas smaller than 24" in any direction are to be mulched.

DATE: September 17, 2020
REVISED: April 3, 2023
DRAWN BY: NDS
SCALE: NTS
UI_Landscape 4 of 16

TEM_UI_Midtown-Brookline
Landscape_Typical_6UNIT

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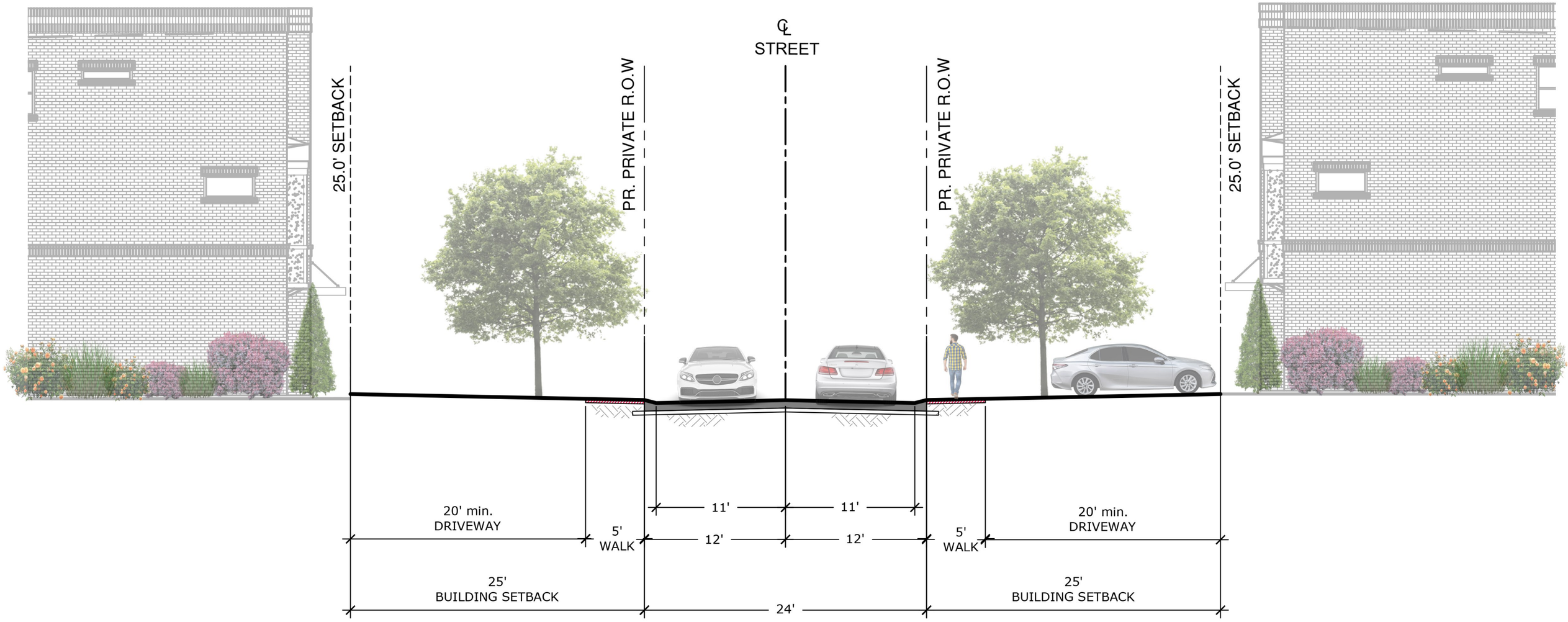


THE VALE AT OLIA VILLAGE

SECTION

SCALE: 1-1/2"=1'-0"

SITE DEVELOPMENT PLAN
THE VALE AT OLIA VILLAGE

A TRACT OF LAND BEING LOT 16 OF OLIA VILLAGE CREVE COEUR AS RECORDED IN PLAT BOOK 372, PAGE 235 LOCATED TOWNSHIP 45 NORTH, RANGE 5 EAST OF THE 5TH PRINCIPAL MERIDIAN
CITY OF CREVE COEUR, ST. LOUIS COUNTY, MISSOURI
PROPERTY ZONED PDM ORD.# 5862

ABBREVIATIONS

ATG	–	ADJUST TO GRADE
B.C.	–	BACK OF CURB
BW	–	BOTTOM OF WALL ELEV.
C.O.	–	CLEANOUT
DB.	–	DEED BOOK
E	–	ELECTRIC
ELEV.	–	ELEVATION
EX.	–	EXISTING
F.C.	–	FACE OF CURB
FL	–	FLOWLINE
FT.	–	FEET
FND.	–	FOUND
G	–	GAS
H.W.	–	HIGH WATER
LFB	–	LOW FLOW BLOCKED
M.H.	–	MANHOLE
N/F	–	NOW OR FORMERLY
PB.	–	PLAT BOOK
PG.	–	PAGE
PR.	–	PROPOSED
P.V.C.	–	POLYVINYL CHLORIDE PIPE
R.C.P.	–	REINFORCED CONCRETE PIPE
R/W	–	RIGHT–OF–WAY
SQ.	–	SQUARE
T	–	TELEPHONE CABLE
TW	–	TOP OF WALL ELEV.
T.B.A.	–	TO BE ABANDONED
T.B.R.	–	TO BE REMOVED
T.B.R.&R.	–	TO BE REMOVED AND REPLACED
TYP.	–	TYPICALLY
U.I.P.	–	USE IN PLACE
U.O.N.	–	UNLESS OTHERWISE NOTED
V.C.P.	–	VITRIFIED CLAY PIPE
W	–	WATER
(86'W)	–	RIGHT–OF–WAY WIDTH

LEGEND

- BENCH MARK
- FOUND IRON ROD
- FOUND IRON PIPE
- RIGHT OF WAY MARKER
- UTILITY POLE
- SUPPORT POLE
- UTILITY POLE WITH LIGHT
- LIGHT STANDARD
- ELECTRIC METER
- ELECTRIC MANHOLE
- ELECTRIC PEDESTAL
- ELECTRIC SPLICE BOX
- ELECTRIC BREAKER
- GAS DRIP
- GAS METER
- GAS VALVE
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TELEPHONE SPLICE BOX
- CABLE TV PEDESTAL
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER MANHOLE
- WATER METER
- WATER VALVE
- POST INDICATOR VALVE
- CLEAN OUT
- STORM MANHOLE
- GRATED MANHOLE
- STORMWATER INLET
- GRATED STORMWATER INLET
- SANITARY MANHOLE
- TREE
- BUSH
- TRAFFIC SIGNAL
- PARKING METER
- STREET SIGN
- SPRINKLER
- MAIL BOX

PROPOSED CONTOUR — 442
PROPOSED SPOT — 442.25
PROPOSED STORM
PROPOSED SANITARY — SS

SITE DATA:

ZONING CLASSIFICATION: PMD (PLANNED MIXED-USE DEVELOPMENT) ORD.# 5862

DEVELOPMENT AREA

11.157 Acres (486,015 Sq. Ft.)

BUILDING USE

RESIDENTIAL DEVELOPMENT

F.A.R. (FLOOR AREA RATIO):

63,685 Sq. Ft.
486,015 Sq. Ft. = 0.13 FAR

(MAXIMUM ALLOWED BY ZONING FOR THE ENTIRE PMD DISTRICT = 0.70)

SITE COVERAGE:

27.60% [3.08 Ac. - BASED ON 11.157 Ac]

(MAXIMUM SITE COVERAGE FOR THE ENTIRE PMD DISTRICT SHALL NOT EXCEED = 60%)

PARKING REQUIREMENTS:

2 SPACES/PER DWELLING UNIT
= 2 SPACES/DWELLING UNIT x 67 UNITS = 134 SPACES

TOTAL PARKING REQUIRED = 134 SPACES

PARKING PROVIDED:

134 SPACES AT THE UNITS AND 14 VISITOR SPACES
- TOTAL SPACES PROVIDED = 148 SPACES

(PARALLEL PARKING SPACES PROVIDED ARE 9' x 22')

LOADING SPACE REQUIREMENTS:

N/A

SITE LIGHTING:

SEE SITE LIGHTING & PHOTOMETRIC PLAN

16' MAX HEIGHT

BUILDING HEIGHT:

DWELLINGS MAY BE CONSTRUCTED NOT TO EXCEED 3 STORIES OR (40) FEET IN HEIGHT

SITE LANDSCAPING:

SEE LANDSCAPE PLAN

STORMWATER DETENTION, CHANNEL PROTECTION & WATER QUALITY:

STORMWATER MANAGEMENT PER M.S.D. & CITY REGULATIONS. DETENTION IS PROVIDED VIA OFFSITE DETENTION BASIN. SITE SHALL BE REQUIRED TO PROVIDE WATER QUALITY AND CHANNEL PROTECTION VOLUME REQUIREMENTS.

LOCATION MAP
(NOT TO SCALE)

PERTINENT DATA

LOCATOR NO.:	17M40026
OWNER UNDER CONTRACT:	GRAND COMMUNITIES, LLC
LOT AREA:	11.157 Acres ±
ZONING:	PMD (ORD. #5862)
SITE ADDRESS:	10300 OLIVE BLVD.
	CREVE COEUR, MISSOURI 63141
FIRE DISTRICT:	CREVE COEUR
SCHOOL DISTRICT:	LADUE
SEWER DISTRICT:	METROPOLITAN ST. LOUIS SEWER DIST.
WATER SHED:	DEER CREEK
FEMA MAP:	29189C0192K, FEB 4, 2015
ELECTRIC COMPANY:	AMEREN UE
GAS COMPANY:	SPIRE INC
PHONE COMPANY:	AT&T
WATER COMPANY:	MISSOURI AMERICAN WATER COMPANY

GENERAL NOTES:

1) SUBJECT PROPERTY IS ZONED PMD ORD.# 5862
CATEGORY D RESIDENTIAL SUB–DISTRICT SETBACKS:
1. FRONT YARD: 5'
2. SIDE YARD: NONE OR 7.5'
3. REAR YARD: 5'
4. MIN. DISTANCE BETWEEN BUILDINGS OR UNIT CLUSTERS: 15'
5. BUFFER YARD: NONE
NOTE: THE ABOVE ZONING PROVIDED BY THE CITY OF CREVE COEUR, AND TO VERIFY THE CLIENT SHOULD OBTAIN A ZONING ENDORSEMENT FROM THEIR TITLE COMPANY.

2) SUBJECT PROPERTY LIES WITHIN FLOOD ZONE X (AREAS OF MINIMAL FLOOD HAZARD) ACCORDING TO THE NATIONAL FLOOD INSURANCE RATE MAP NUMBER 29189C0192K WITH AND EFFECTIVE DATE OF 2/4/2015.

3) UTILITIES SHOWN HEREON ARE SHOWN FROM RECORD AND/OR SURVEY INFORMATION. INFORMATION AS SHOWN FOR UNDERGROUND UTILITIES HAS BEEN COMPILED FROM FIELD OBSERVATIONS, THE AVAILABLE RECORDS OF THE VARIOUS UTILITY COMPANIES CONCERNED, AND AS MARKED IN THE FIELD BY THE MISSOURI ONE CALL SYSTEM, 1 (800) 344–7483. THERE MAY EXIST UTILITIES THAT ARE NOT SHOWN HEREON. IT IS THE CONTRACTORS RESPONSIBILITY TO CALL THE MISSOURI ONE CALL SYSTEM TO VERIFY UTILITY LOCATIONS BEFORE DIGGING.

	Ste Area		Gross Leasable	PMD Floor Area	Ste Coverage	
	Acres	SF	Floor Area	Ratio	SF	%
Lot 1	7.54	328,246	105,884	0.323	138,953	42.3%
Lot 2	1.61	69,989	0	0.000	0	0.0%
Lot 3	1.20	52,298	0	0.000	0	0.0%
Lot 4	5.02	218,578	0	0.000	0	0.0%
Lot 5	1.27	55,538	0	0.000	0	0.0%
Lot 6	2.60	113,270	0	0.000	0	0.0%
Lot 7	3.11	135,269	0	0.000	0	0.0%
Lot 8	3.66	159,425	0	0.000	0	0.0%
Lot 9	2.09	90,979	0	0.000	0	0.0%
Lot 10	6.69	291,485	0	0.000	0	0.0%
Lot 11	2.46	107,241	0	0.000	0	0.0%
Lot 12	1.01	44,129	0	0.000	0	0.0%
Lot 13	5.82	253,547	0	0.000	0	0.0%
Lot 14	3.85	167,543	0	0.000	0	0.0%
Lot 15	3.48	151,443	0	0.000	0	0.0%
Lot 16	11.14	486,015	63,685	0.131	134,165	27.6%
Lot 17	2.11	92,125	0	0.000	0	0.0%
Park	0.68	29,699	0	0.000	0	0.0%
Common #1	0.64	27,727	0	0.000	0	0.0%
Common #2	16.79	731,478	0	0.000	0	0.0%
Common #3	0.19	8,492	0	0.000	0	0.0%
Common #4	2.20	95,693	0	0.000	0	0.0%
Common #5	0.76	33,203	0	0.000	0	0.0%
Common #6	1.93	84,090	0	0.000	0	0.0%
Right-of-Way	7.92	344,879	0	0.000	0	0.0%
Total	**95.76**	**4,172,381**	**169,569**	**0.041**	**273,118**	**6.5%**

PREPARED FOR:
GRAND COMMUNITIES/FISCHER HOMES
3940 OLYMPIC BLVD. SUITE 400
ERLANGER, KY. 41018
ATTN: MR. ROBERT HAYES, PLANNING & ENTITLEMENTS MANAGER

DISCLAIMER:
STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

UTILITY NOTE:
UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND, THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.

MISSOURI ONE-CALL: 1-800-344-7483
ST. LOUIS COUNTY:
SIGNALS & LIGHTING: (314) 615-0215

SHEET INDEX

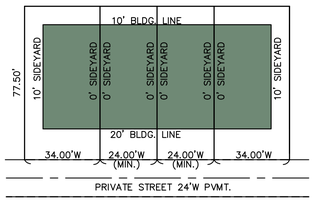
C1.0	TITLE SHEET
C2.0	EXISTING CONDITIONS PLAN
C3.0	SITE DEVELOPMENT PLAN
C3.1	SITE DEVELOPMENT PLAN - PEDESTRIAN
C3.2	SITE DEVELOPMENT PLAN - HIGH IMPACT ELEVATION EXHIBIT
C4.0	SITE SECTIONS
C5.0 - C5.2	PRELIMINARY PLAT
TPRP	TREE PROTECTION AND REMOVAL PLAN
L1.01	LANDSCAPE PLAN
E1.0	PHOTOMETRIC PLAN
E2.0	LIGHTING DETAILS

Property Description

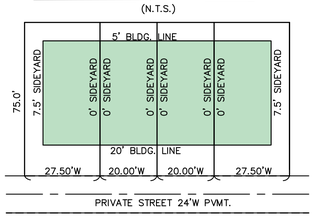
All of Lot 16 of "Olia Village Creve Coeur" a subdivision according to the plat thereof recorded as Plat Book 372, Page 235, of the St. Louis County, Missouri, Records, located in Township 45 North, Range 5 East of the Fifth Principal Meridian City of Creve Coeur, St. Louis County, Missouri, being more particularly described as follows:

Commencing at the northeast corner of Common Ground 2 of above said subdivision, said point also being located on the west right-of-way line of Lindbergh Boulevard, Variable width; thence along the northern lines of said Common Ground the following courses and distances: South 89 degrees 08 minutes 47 seconds East, 283.68 feet to a non-tangent curve to the right having a radius of 336.00 feet,; along said curve with an arc length of 46.37 feet and a chord which bears South 36 degrees 25 minutes 05 seconds West, 46.34 feet and North 49 degrees 37 minutes 41 seconds West, 21.00 feet to the beginning of a non-tangent curve to the right having a radius of 315.00 feet said point also being to the POINT OF BEGINNING of the herein described tract, said point also being the southeastern corner of above said Lot 16; thence along the common line between Lot 16 and Common Ground 2 the following: along said curve with an arc length of 772.97 feet and a chord which bears North 69 degrees 19 minutes 47 seconds West, 593.12 feet to a point of tangency and North 00 degrees 58 minutes 07 seconds East, 333.38 feet to the southern right-of-way line of Olive Cove, 26 feet wide; thence along said right-of-way line the following courses and distances: along a curve to the left having a radius of 213.00 feet, an arc length of 163.17 feet and a chord which bears North 58 degrees 09 minutes 57 seconds East, 159.21 feet to point of reverse curve to the right having a radius of 362.00 feet, an arc length of 167.84 feet and a chord which bears North 49 degrees 30 minutes 08 seconds East, 166.34 feet to a point of tangency; North 62 degrees 47 minutes 04 seconds East, 153.23 feet to a point of curvature to the right having a radius of 212.00 feet, an arclength of 236.23 feet and a chord which bears South 85 degrees 17 minutes 38 seconds East, 224.19 feet to a point of compound curvature to the right having a radius of 184.50 feet and along said curve with an arc length of 80.72 feet and a chord which bears South 40 degrees 50 minutes 19 seconds East, 80.08 feet to the west right-of-way line of Olia Drive, variable width; thence along said right-of-way line the following courses and distances: South 61 degrees 41 minutes 43 seconds West, 14.92 feet to the beginning of a non-tangent curve to the right having a radius of 150.00 feet, along said curve with an arc length of 106.16 feet and a chord which bears South 08 degrees 21 minutes 10 seconds East, 103.69 feet to a point of tangency; South 11 degrees 55 minutes 21 seconds West, 500.94 feet to a point of curvature to the right having a radius of 176.00 feet; along said curve with an arc length of 39.56 feet; and a chord which bears South 18 degrees 21 minutes 45 seconds West; 39.48 feet to a point of compound curvature to the right having a radius of 276.00 feet; along said curve with an arc length of 75.00 feet and a chord which bears South 32 degrees 35 minutes 13 seconds West, 74.77 feet and along a non-tangent line South 49 degrees 37 minutes 41 seconds East, 39.00 feet to the POINT OF BEGINNING.

Containing 486,015 square feet or 11.157 acres, more or less according to calculations performed by Stock & Associates Consulting Engineers, Inc during August 2025



LOGAN LOT - 1,860 S.F. (MIN.)
(N.T.S.)



MERIDIAN LOT - 1,500 S.F. (MIN.)
(N.T.S.)

ST. LOUIS COUNTY BENCHMARK

BENCHMARK# 13294
NAVD88 Elev = 674.60
Found "Sq" on top of the north side of the round concrete base of a traffic signal on a traffic island situated northeast of the intersection of Olive Boulevard with Pavillion Drive, and southwest of the right turn lane from westbound Olive Boulevard onto northbound Pavillion Drive.

PREPARED BY:
STOCK & ASSOCIATES Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO. 63005 PH. (636) 530-9100 FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

SITE DEVELOPMENT PLAN FOR:
THE VALE AT OLIA VILLAGE
10300 OLIVE BLVD.;
CREVE COEUR, MISSOURI

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER PE-25116
PROFESSIONAL ENGINEER
1/9/25

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

REVISIONS:
1. 12–08–25 CITY
2. 12–18–25 SIDEWALK
3. 01–09–2026 CITY

DRAWN BY: K.S.G.	CHECKED BY: G.M.S.
DATE: 11/14/25	JOB NO: 2022-7304
M.S.D. P.#: -	BASE MAP #: 17M4
S.L.C. H&T #:	H&T S.U.P. #: -
M.D.N.R. #: -	

SHEET TITLE:
TITLE SHEET

SHEET NO.:
C1.0

PREPARED BY:

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SITE DEVELOPMENT PLAN FOR:

THE VALE AT OLIA VILLAGE

10300 OLIVE BLVD.,
CREVE COEUR, MISSOURI

GEORGE M. STOCK, P.E. #-23116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000696

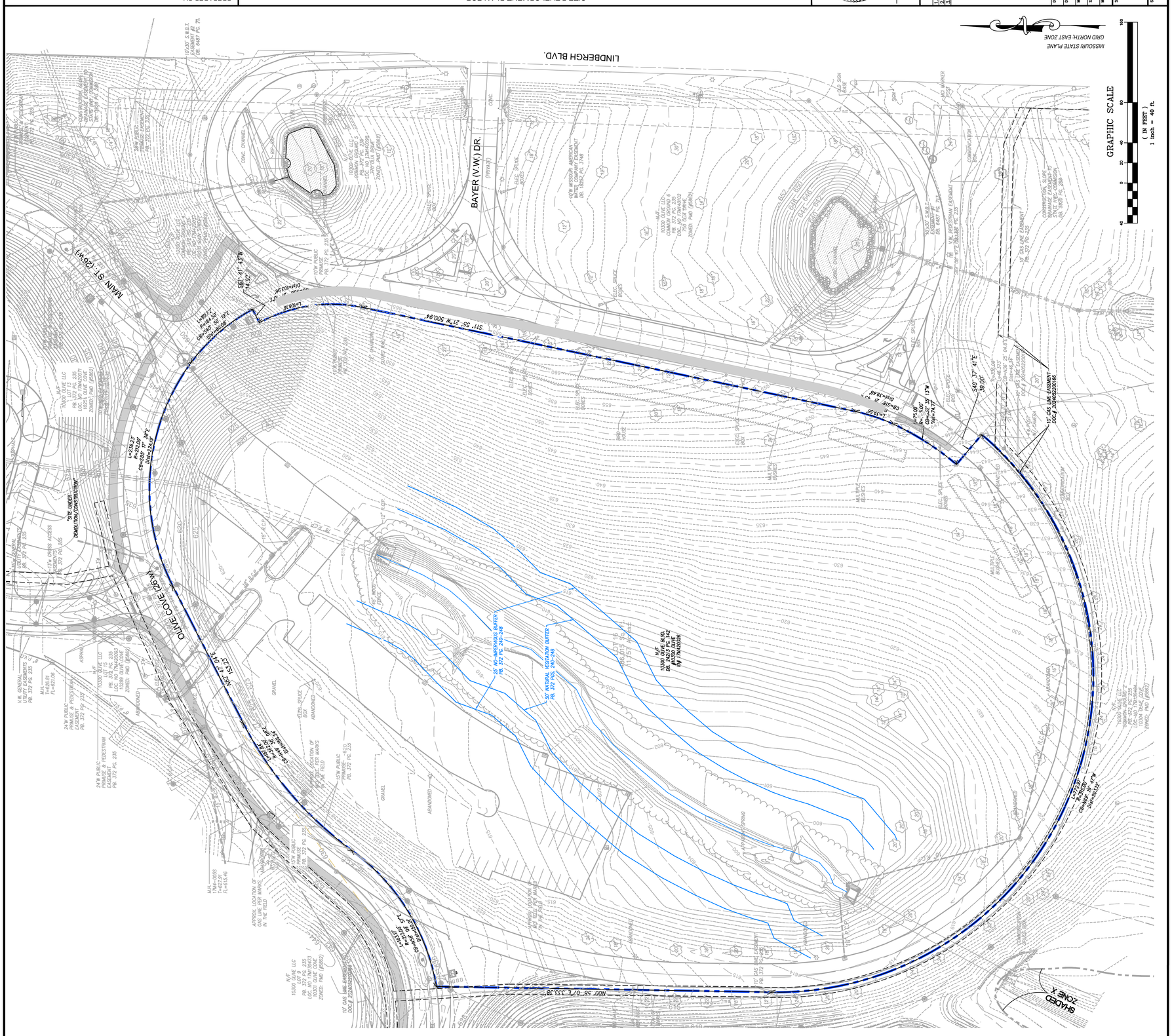
10/25

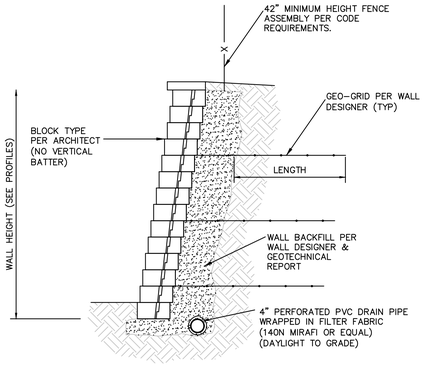
REVISIONS:
1. 12-08-25 CITY
2. 12-18-25 SIDEWALK
3. 01-09-2026 CITY

DRAWN BY:	CHECKED BY:
K.S.G.	G.M.S.
DATE:	JOB:
11/14/25	2022-7304
M.S.D. P #:	BASE MAP #:
S.L.C. HIST. #:	HIST. SURP. #:
WZBUK. #:	

SHEET TITLE:
EXISTING CONDITIONS PLAN

SHEET NO:
C2.0

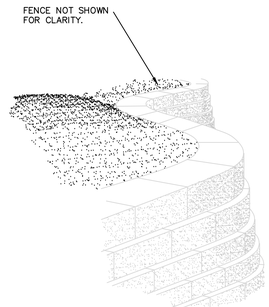

LINDBERGH BLVD.
BAYER (V.W.) DR.
MAIN ST. (26'-W)
DUNE COVE (26'-W)
"SITE UNDER DEMOLITION/CONSTRUCTION"
S11° 55' 21"W 300.94'
N00° 58' 07"E 313.38'
N.F.F. 481.5
N.F.F. 481.5
N.F.F. 481.5



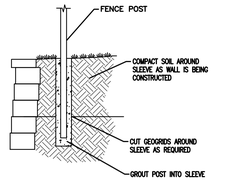
TYPICAL RETAINING WALL SECTION

(N.T.S.)

(NOT FOR USE IN ST. LOUIS COUNTY R/W)



ISOMETRIC VIEW



-PLACE SONOTUBE IN FILL AS BACKFILL IS BEING COMPACTED.
-THE FENCE DESIGN AND SUITABILITY IS THE RESPONSIBILITY OF OTHERS & SHALL BE PART OF WALL SHOP DRAWINGS.

FENCE DETAIL

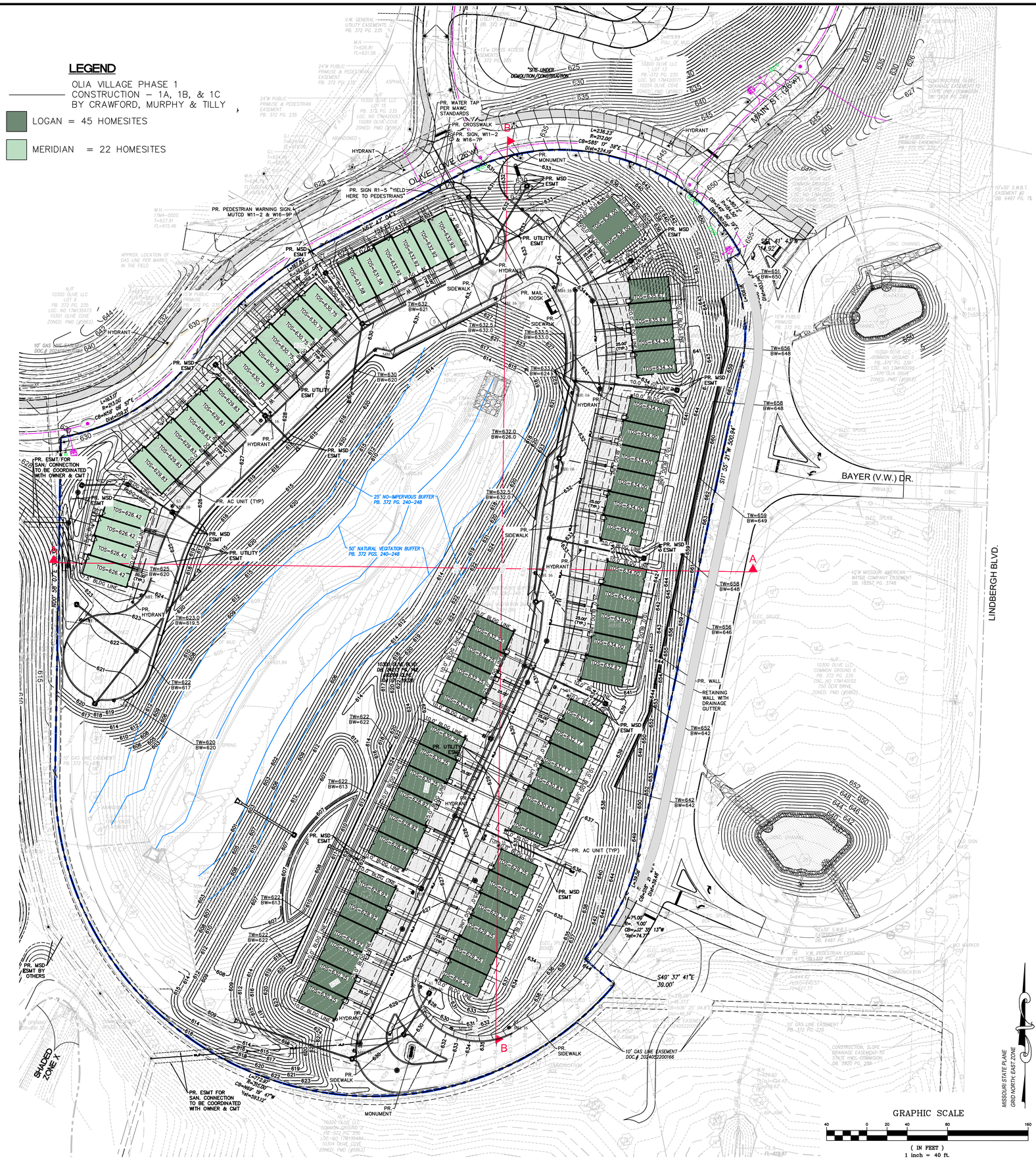
NOT TO SCALE

VERSA-LOK® Retaining Wall Systems Solid Solutions™ For more ideas visit: www.VersaLok.com

VersaLok Wall Products

PRODUCT	SIZE IN INCHES (DxHxL)	UNIT/SQFT	UNIT/PALLET	SQFT/PALLET	WT/PALLET	COLORS
Non-Weathered						
Standard *Pins sold separately.*	12 x 6 x 16	1.5	48	32	4000	*Available in:* Bethany Ledge Blend, Charcoal Blend, Sandstone Blend, Timberwood Blend, Limestone, and Tan
Accent *Pins sold separately.*	12 x 4 x 12	3	96	32	3400	*Available in:* Bethany Ledge Blend, Charcoal Blend, Sandstone Blend, and Timberwood Blend
Cobble *Pins sold separately.*	12 x 6 x 8	3	96	32	4000	*Available in:* Bethany Ledge Blend, Charcoal Blend, Sandstone Blend, and Timberwood Blend
		2 Piece Pattern Harmony *1 Standard and 1 Cobble (1 SqFt)* *Units can be used in random amounts* *Available Weathered or Non-Weathered*				
Corner *Pins sold separately.*	12 x 6 x 8	3	96	48 Linear Foot	4320	*Available in:* Bethany Ledge Blend, Charcoal Blend, Sandstone Blend, Timberwood Blend
Square Foot *Pins sold separately.*	12 x 8 x 18	1	36	36	3170	Limestone, and Tan *Available in:* Bethany Ledge Blend, Sandstone Blend, Limestone, and Tan
Weathered						
Weathered Standard *Pins sold separately.*	12 x 6 x 16	1.5	48	32	3780	*Available in:* Bethany Ledge Blend, Charcoal Blend, Sandstone Blend, and Timberwood Blend
Weathered Accent *Pins sold separately.*	12 x 4 x 12	3	96	32	3500	*Available in:* Bethany Ledge Blend, Charcoal Blend, Sandstone Blend, and Timberwood Blend
Weathered Cobble *Pins sold separately.*	12 x 6 x 8	3	96	32	4000	*Available in:* Bethany Ledge Blend, Charcoal Blend, Sandstone Blend, and Timberwood Blend
		Weathered 4 Piece Pattern Mosaic *2 Accent, 1 Standard and 1 Cobble (1.667 SqFt)* *Available Weathered or Non-Weathered*				
Weathered Corner *Pins sold separately.*	12 x 6 x 8	3	96	48 Linear Foot	4320	*Available in:* Bethany Ledge Blend, Charcoal Blend, Sandstone Blend, and Timberwood Blend
Weathered 2 Faced Solid *Non Weathered available on special order basis*	10 x 6 x 16 *Backside Length 14"*	1.5	48	32	3504	*Available in:* Bethany Ledge Blend, Charcoal Blend, Sandstone Blend, and Timberwood Blend

WALL DETAIL



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SITE DEVELOPMENT PLAN FOR:

THE VALE AT OLIA VILLAGE

10300 OLIVE BLVD.,
CREVE COEUR, MISSOURI

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER PE-25116
PROFESSIONAL ENGINEER
1/9/25

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

REVISIONS:

1.	12-08-25 CITY
2.	12-18-25 SIDEWALK
3.	01-09-2026 CITY

DRAWN BY: K.S.G.	CHECKED BY: G.M.S.
DATE: 11/14/25	JOB NO: 2022-7304
M.S.D. P #: -	BASE MAP #: 17M4
S.L.C. H&T #: -	H&T S.U.P. #: -
M.D.N.R. #: -	

SHEET TITLE:
SITE DEVELOPMENT PLAN

SHEET NO.:
C3.0

PR. PAVED WALKING PATHS FOR LOT 16

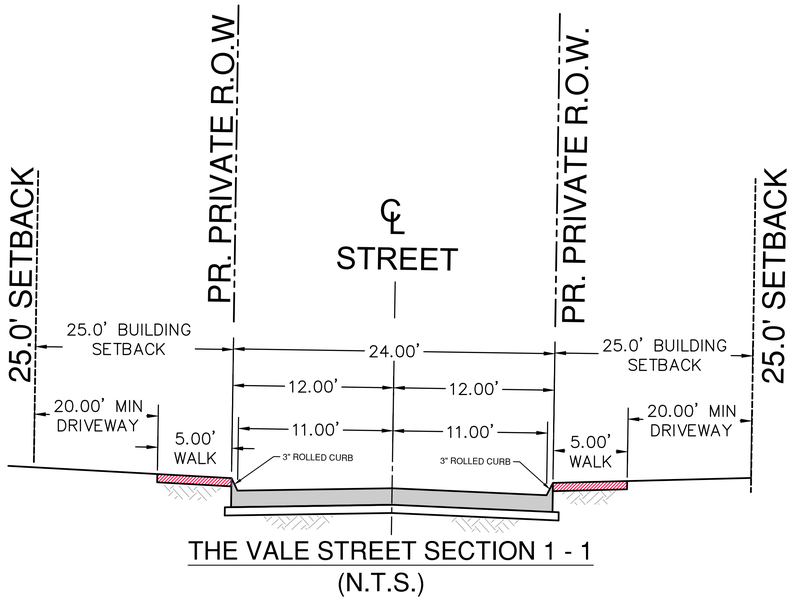
APPROVED PAVED PATHS FOR OLIA VILLAGE DEVELOPMENT

MUTCD "W11-2"

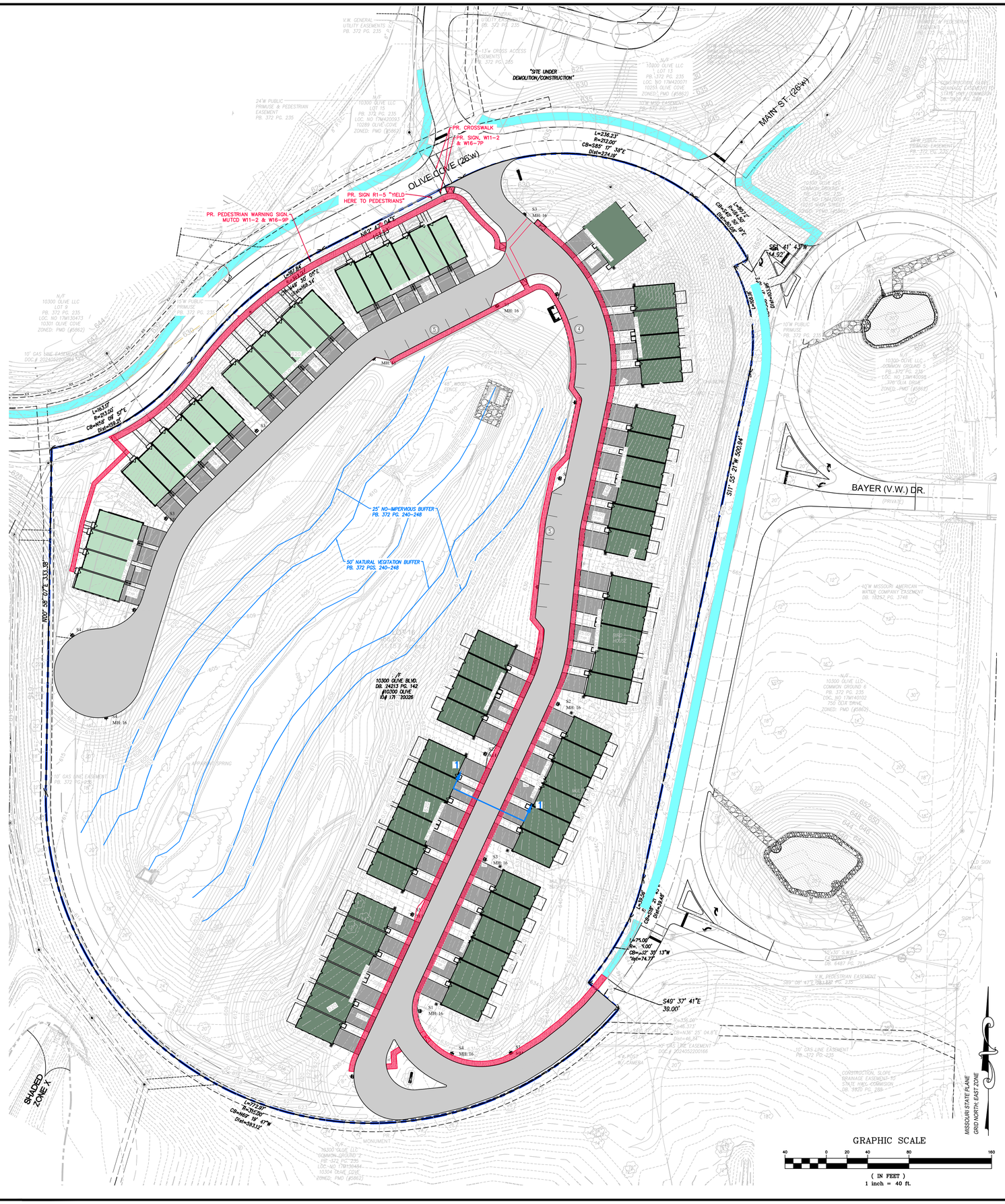
MUTCD "R1-5"

MUTCD "W16-7P"

MUTCD "W16-9P"



THE VALE STREET SECTION 1 - 1
(N.T.S.)



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SITE DEVELOPMENT PLAN FOR:

THE VALE AT OLIA VILLAGE

10300 OLIVE BLVD.;
CREVE COEUR, MISSOURI

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER PE-25116
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1/9/25

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

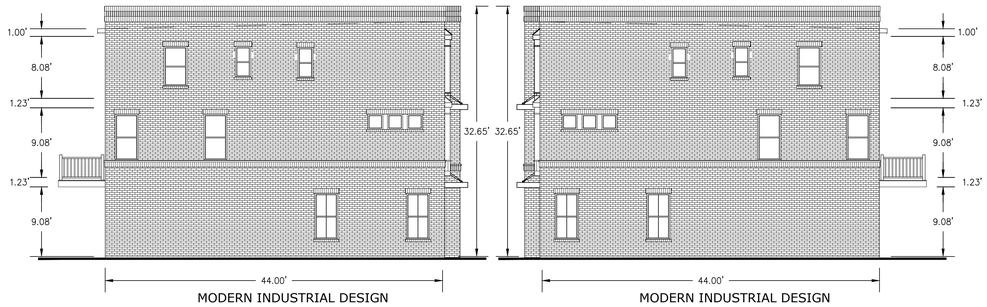
REVISIONS:

1.	12-08-25 CITY
2.	12-18-25 SIDEWALK
3.	01-09-2026 CITY

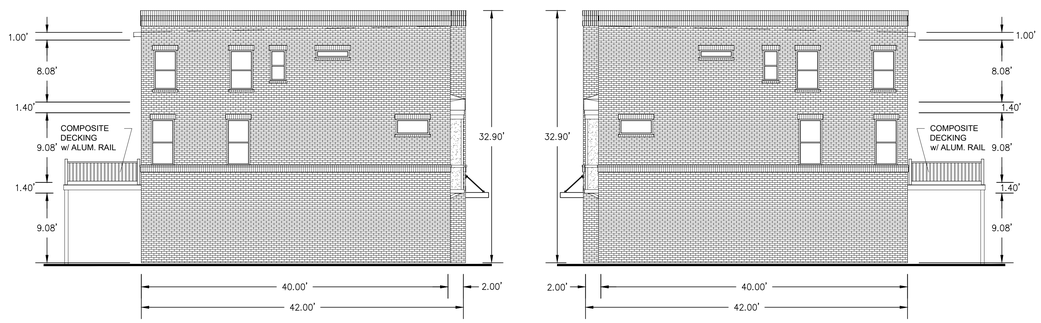
DRAWN BY: K.S.G.	CHECKED BY: G.M.S.
DATE: 11/14/25	JOB NO: 2022-7304
M.S.D. P. # -	BASE MAP # 17M4
S.L.C. H&T #: -	H&T S.U.P. # -
M.D.N.R. #:	

SHEET TITLE:
SITE DEVELOPMENT PLAN - PEDESTRIAN

SHEET NO.:
C3.1



Meridian
HIGH IMPACT ELEVATIONS



LOGAN
HIGH IMPACT SIDE ELEVATIONS

NOTE: FINAL DESIGN SUBJECT TO CHANGE BUT SHALL BE SUBSTANTIALLY SIMILIAR

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SITE DEVELOPMENT PLAN FOR:
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REVISIONS:
1. 12-08-25 CITY
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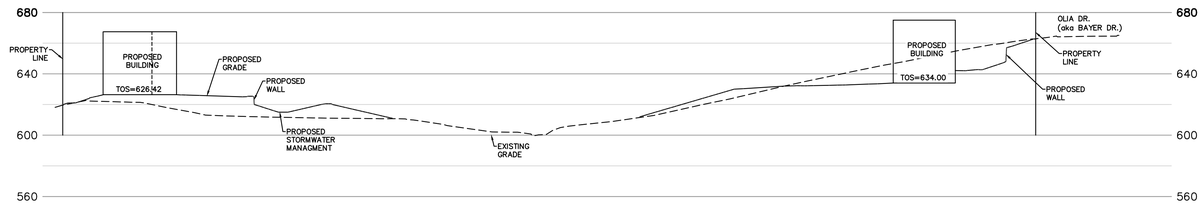
DRAWN BY: K.S.G.	CHECKED BY: G.M.S.
DATE: 11/14/25	JOB NO: 2022-7304
M.S.D. P #: -	BASE MAP #: 17M4
S.L.C. H&T #: -	H&T S.U.P. #: -
M.D.N.R. #: -	

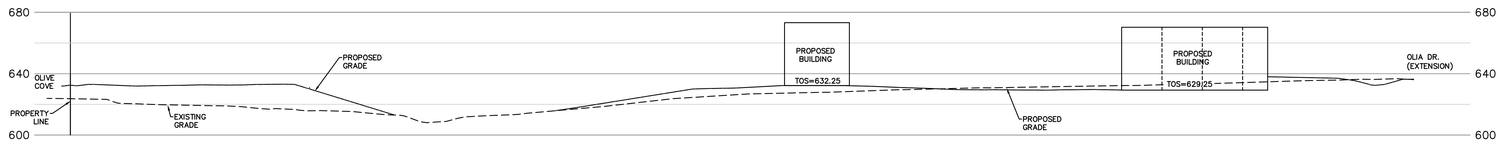
SHEET TITLE:
SITE DEVELOPMENT PLAN - HIGH IMPACT ELEVATION EXHIBIT

SHEET NO.:
C3.2



SECTION A-A

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 40'



SECTION B-B

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 40'

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SITE DEVELOPMENT PLAN FOR:

THE VALE AT OLIA VILLAGE

10300 OLIVE BLVD.;
CREVE COEUR, MISSOURI

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER PE-25116
PROFESSIONAL ENGINEER

1/9/25

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000956

REVISIONS:

1.	12-08-25 CITY
2.	12-18-25 SIDEWALK
3.	01-09-2026 CITY

DRAWN BY: K.S.G.	CHECKED BY: G.M.S.
DATE: 11/14/25	JOB NO: 2022-7304
M.S.D. P #: -	BASE MAP #: 17M4
S.L.C. H&T #: -	H&T S.U.P. #: -
M.D.N.R. #: -	

SHEET TITLE:
SITE SECTIONS

SHEET NO.:
C4.0

Drawing Path: C:\Users\KSG\Desktop\Current Projects\Olia Village\Plans\Olia Site Development Plan.dwg LAYOUT: C4.0 - SITE SECTIONS PLOTTED: Jan 09, 2026 - 2:56pm PLOTTED BY: Kelsie Gaffney

THE VALE AT OLIA VILLAGE

A TRACT OF LAND BEING LOT 16 OF OLIA VILLAGE CREVE COEUR AS RECORDED IN PLAT BOOK 372, PAGE 235 LOCATED TOWNSHIP 45 NORTH, RANGE 5 EAST OF THE 5TH PRINCIPAL MERIDIAN
CITY OF CREVE COEUR, ST. LOUIS COUNTY, MISSOURI
PROPERTY ZONED PDM ORD.# 5862

PARCEL	AREA (S.F.)	AREA (Ac.)
BMP AREA 1	18,002	0.413
BMP AREA 2	12,360	0.284
COMMON GROUND 1	56,431	1.295
COMMON GROUND 2	195,454	4.487
LOT 1	2,039	0.047
LOT 2	1,500	0.034
LOT 3	1,507	0.035
LOT 4	2,708	0.062
LOT 5	2,612	0.060
LOT 6	1,503	0.035
LOT 7	1,500	0.034
LOT 8	1,500	0.034
LOT 9	1,500	0.034
LOT 10	2,081	0.048
LOT 11	2,063	0.047
LOT 12	1,500	0.034
LOT 13	1,500	0.034
LOT 14	1,500	0.034
LOT 15	1,500	0.034
LOT 16	2,289	0.053
LOT 17	2,295	0.053
LOT 18	1,500	0.034
LOT 19	1,500	0.034
LOT 20	1,500	0.034
LOT 21	1,500	0.034
LOT 22	2,063	0.047
LOT 23	2,827	0.065
LOT 24	3,107	0.071
LOT 25	3,833	0.088
LOT 26	2,026	0.047
LOT 27	1,982	0.045
LOT 28	3,307	0.076
LOT 29	2,805	0.064
LOT 30	1,980	0.045
LOT 31	1,980	0.045
LOT 32	1,980	0.045
LOT 33	1,980	0.045
LOT 34	2,764	0.063
LOT 35	3,059	0.070
LOT 36	2,087	0.048
LOT 37	2,027	0.047
LOT 38	1,982	0.046
LOT 39	3,299	0.076
LOT 40	2,805	0.064
LOT 41	1,980	0.045
LOT 42	1,980	0.045
LOT 43	1,980	0.045
LOT 44	1,980	0.045
LOT 45	2,805	0.064
LOT 46	2,805	0.064
LOT 47	1,980	0.045
LOT 48	1,980	0.045
LOT 49	1,980	0.045
LOT 50	1,980	0.045
LOT 51	2,797	0.064
LOT 52	2,809	0.064
LOT 53	1,980	0.045
LOT 54	1,980	0.045
LOT 55	1,980	0.045
LOT 56	1,980	0.045
LOT 57	2,805	0.064
LOT 58	2,805	0.064
LOT 59	1,980	0.045
LOT 60	1,980	0.045
LOT 61	1,980	0.045
LOT 62	1,980	0.045
LOT 63	2,805	0.064
LOT 64	2,805	0.064
LOT 65	1,980	0.045
LOT 66	1,980	0.045
LOT 67	2,748	0.063
PRIVATE ROW	57,954	1.33

PERTINENT DATA

LOCATOR NO.:	17M40026
OWNER UNDER CONTRACT:	GRAND COMMUNITIES, LLC
LOT AREA:	11.157 Acres ±
ZONING:	PMD (ORD. #5862)
SITE ADDRESS:	10300 OLIVE BLVD. CREVE COEUR, MISSOURI 63141
FIRE DISTRICT:	CREVE COEUR
SCHOOL DISTRICT:	LADUE
SEWER DISTRICT:	METROPOLITAN ST. LOUIS SEWER DIST.
WATER SHED:	DEER CREEK
FEMA MAP:	29189C0192K, FEB 4, 2015
ELECTRIC COMPANY:	AMEREN UE
GAS COMPANY:	SPIRE INC
WATER COMPANY:	MISSOURI AMERICAN WATER COMPANY

GENERAL NOTES:

1) SUBJECT PROPERTY IS ZONED PMD ORD.# 5862, AND WILL BE RESIDENTIAL USE CATEGORY D RESIDENTIAL SUB-DISTRICT SETBACKS:
   a. FRONT YARD: 5'
   b. SIDE YARD: NONE OR 7.5' (MIN)
   c. REAR YARD: 5'
   d. MIN. DISTANCE BETWEEN BUILDINGS OR UNIT CLUSTERS: 15'
   e. BUFFER YARD: NONE
NOTE: THE ABOVE ZONING PROVIDED BY THE CITY OF CREVE COEUR, AND TO VERIFY THE CLIENT SHOULD OBTAIN A ZONING ENDORSEMENT FROM THEIR TITLE COMPANY.

2) SUBJECT PROPERTY LIES WITHIN FLOOD ZONE X (AREAS OF MINIMAL FLOOD HAZARD) ACCORDING TO THE NATIONAL FLOOD INSURANCE RATE MAP NUMBER 29189C0192K WITH AND EFFECTIVE DATE OF 2/4/2015.

3) PROPOSED SANITARY SEWERS WILL BE 8" PVC , GRAVITY SYSTEM AND DEDICATED TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT.

4) PROPOSED STREETS ARE PRIVATE, 24.0 WIDE MEASURED FROM BACK OF CURB. IN LOCATIONS OF ON-STREET PARALLEL PARKING THE STREETS ARE 34.0' WIDE. STREET WILL BE CONCRETE AND CONSTRUCTED IN ACCORDANCE WITH THE SITE SPECIFIC ORDINANCE FOR OLIA VILLAGE DEVELOPMENT FOR PRIVATE STREETS.

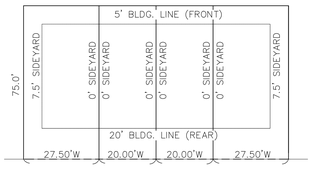
5) THE PROPOSED PRIVATE RIGHT-OF-WAY FOLLOWS THE BACK OF CURB.

LEGAL DESCRIPTION

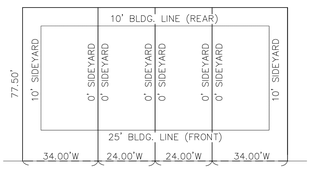
ALL OF LOT 16 OF "OLIA VILLAGE CREVE COEUR" A SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED AS PLAT BOOK 372, PAGE 235, OF THE ST. LOUIS COUNTY, MISSOURI, RECORDS, LOCATED IN TOWNSHIP 45 NORTH, RANGE 5 EAST OF THE FIFTH PRINCIPAL MERIDIAN CITY OF CREVE COEUR, ST. LOUIS COUNTY, MISSOURI, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF COMMON GROUND 2 OF ABOVE SAID SUBDIVISION, SAID POINT ALSO BEING LOCATED ON THE WEST RIGHT-OF-WAY LINE OF LINDBERGH BOULEVARD, VARIABLE WIDTH; THENCE ALONG THE NORTHERN LINES OF SAID COMMON GROUND THE FOLLOWING COURSES AND DISTANCES: SOUTH 89 DEGREES 08 MINUTES 47 SECONDS EAST, 283.68 FEET TO A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 336.00 FEET,; ALONG SAID CURVE WITH AN ARC LENGTH OF 46.37 FEET AND A CHORD WHICH BEARS SOUTH 36 DEGREES 25 MINUTES 05 SECONDS WEST, 46.34 FEET AND NORTH 49 DEGREES 37 MINUTES 41 SECONDS WEST, 21.00 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 315.00 FEET SAID POINT ALSO BEING TO THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT, SAID POINT ALSO BEING THE SOUTHEASTERN CORNER OF ABOVE SAID LOT 16; THENCE ALONG THE COMMON LINE BETWEEN LOT 16 AND COMMON GROUND 2 THE FOLLOWING: ALONG SAID CURVE WITH AN ARC LENGTH OF 772.97 FEET AND A CHORD WHICH BEARS NORTH 69 DEGREES 19 MINUTES 47 SECONDS WEST, 593.12 FEET TO A POINT OF TANGENCY AND NORTH 00 DEGREES 58 MINUTES 07 SECONDS EAST, 333.38 FEET TO THE SOUTHERN RIGHT-OF-WAY LINE OF OLIVE COVE, 26 FEET WIDE; THENCE ALONG SAID RIGHT-OF-WAY LINE THE FOLLOWING COURSES AND DISTANCES: ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 213.00 FEET, AN ARC LENGTH OF 163.17 FEET AND A CHORD WHICH BEARS NORTH 58 DEGREES 09 MINUTES 57 SECONDS EAST, 159.21 FEET TO POINT OF REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 362.00 FEET, AN ARC LENGTH OF 167.84 FEET AND A CHORD WHICH BEARS NORTH 49 DEGREES 30 MINUTES 08 SECONDS EAST, 166.34 FEET TO A POINT OF TANGENCY; NORTH 62 DEGREES 47 MINUTES 04 SECONDS EAST, 153.23 FEET TO A POINT OF CURVATURE TO THE RIGHT HAVING A RADIUS OF 212.00 FEET, AN ARCLENGTH OF 236.23 FEET AND A CHORD WHICH BEARS SOUTH 85 DEGREES 17 MINUTES 38 SECONDS EAST, 224.19 FEET TO A POINT OF COMPOUND CURVATURE TO THE RIGHT HAVING A RADIUS OF 184.50 FEET AND ALONG SAID CURVE WITH AN ARC LENGTH OF 80.72 FEET AND A CHORD WHICH BEARS SOUTH 40 DEGREES 50 MINUTES 19 SECONDS EAST, 80.08 FEET TO THE WEST RIGHT-OF-WAY LINE OF OLIA DRIVE, VARIABLE WIDTH; THENCE ALONG SAID RIGHT-OF-WAY LINE THE FOLLOWING COURSES AND DISTANCES: SOUTH 61 DEGREES 41 MINUTES 43 SECONDS WEST, 14.92 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 150.00 FEET, ALONG SAID CURVE WITH AN ARC LENGTH OF 106.16 FEET AND A CHORD WHICH BEARS SOUTH 08 DEGREES 21 MINUTES 10 SECONDS EAST, 103.69 FEET TO A POINT OF TANGENCY; SOUTH 11 DEGREES 55 MINUTES 21 SECONDS WEST, 500.94 FEET TO A POINT OF CURVATURE TO THE RIGHT HAVING A RADIUS OF 176.00 FEET; ALONG SAID CURVE WITH AN ARC LENGTH OF 39.56 FEET; AND A CHORD WHICH BEARS SOUTH 18 DEGREES 21 MINUTES 45 SECONDS WEST, 39.48 FEET TO A POINT OF COMPOUND CURVATURE TO THE RIGHT HAVING A RADIUS OF 276.00 FEET; ALONG SAID CURVE WITH AN ARC LENGTH OF 75.00 FEET AND A CHORD WHICH BEARS SOUTH 32 DEGREES 35 MINUTES 13 SECONDS WEST, 74.77 FEET AND ALONG A NON-TANGENT LINE SOUTH 49 DEGREES 37 MINUTES 41 SECONDS EAST, 39.00 FEET TO THE POINT OF BEGINNING.

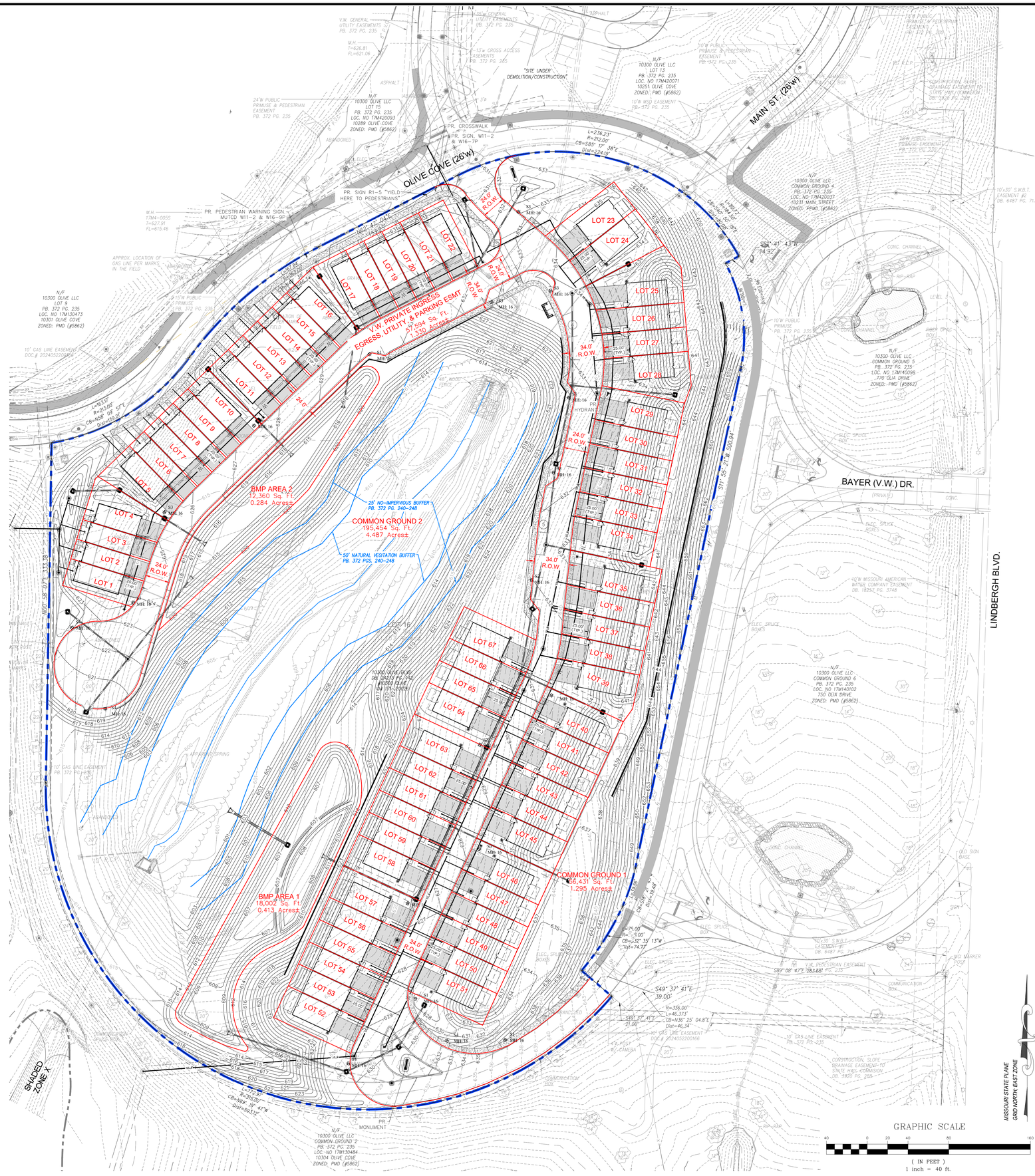
CONTAINING 486,015 SQUARE FEET OR 11.157 ACRES, MORE OR LESS ACCORDING TO CALCULATIONS PERFORMED BY STOCK & ASSOCIATES CONSULTING ENGINEERS, INC DURING AUGUST 2025



MERIDIAN LOTS (1-22) - 1,500 S.F. (MIN.)
(N.T.S.)



LOGAN LOTS (23-67) - 1,860 S.F. (MIN.)
(N.T.S.)



PREPARED BY:
STOCK & ASSOCIATES Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO. 63005 PH. (636) 530-9100 FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

SITE DEVELOPMENT PLAN FOR:
THE VALE AT OLIA VILLAGE
10300 OLIVE BLVD.;
CREVE COEUR, MISSOURI

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER PE-25116
PROFESSIONAL ENGINEER
1/9/25

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

REVISIONS:
1. 12-08-25 CITY
2. 12-18-25 SIDEWALK
3. 01-09-2026 CITY

DRAWN BY:	CHECKED BY:
K.S.G.	G.M.S.
DATE:	JOB NO.:
11/14/25	2022-7304
M.S.D. P. #	BASE MAP #
-	17M4
S.L.C. H&T #:	H&T S.U.P. #
-	-
M.D.N.R. #	
-	

SHEET TITLE:
PRELIMINARY PLAT

SHEET NO.:
C5.0

Tree Inventory

ID	Tree Name	DBH	Condition Rating	Comment	To Be Removed	Preserved
1	Oak	18	2	Galls	X	
2	Oak	20	2	Galls	X	
3	Oak	8	3		X	
4	Oak	12	3		X	
5	Oak	9	3		X	
6	Oak	20	3	Galls	X	
7	Oak	18	2		X	
8	Oak	8	1	In decline	X	
9	Oak	10	2		X	
10	Oak	12	3		X	
11	Pin Oak	24	3		X	
12	Pin Oak	12	3		X	
13	Pin Oak	14	2	Galls	X	
14	Pin Oak	12	3	Offsite, galls	X	
15	Tulip Poplar	22	3	Offsite	X	
16	Tulip Poplar	24	3	Offsite	X	
17	Honeylocust		3	Offsite		X
18	Honeylocust		3	Offsite		X
19	Honeylocust		3	Offsite		X
20	Honeylocust		3	Offsite		X
21	Honeylocust		3	Offsite		X
22	Honeylocust		3	Offsite		X
23	Hackberry	20	3		X	
24	Tulip Poplar		3	Offsite	X	
25	Red Maple	23	3	Offsite		
26	Red Maple	18	2	Offsite		
27	Red Maple	17	2	Offsite		
28	Pin Oak	23	3	Offsite		
29	Pin Oak	18	2	Offsite		
30	Pin Oak	16	3	Offsite		
31	Pin Oak	28	3	Offsite		
32	Pin Oak	28	1	Offsite, poor		
33	Pin Oak	26	2	Offsite, galls		
34	Bur Oak	12	3	Offsite		
35	Shingle Oak	16	3	Offsite		
36	Sugar Maple	22	3	Offsite		
37	Red Maple	16	2	Offsite		
38	Swamp White Oak	11	3	Offsite		
39	Shingle Oak	48	4	Offsite		
40	Swamp White Oak	20	3	Offsite		
41	Crabapple	7	3	Offsite		
42	Red Maple	22	3	Offsite		
43	Red Maple	24	3	Offsite		
44	Bur Oak	13	3	Offsite		
45	Sweetgum	24	2	Offsite		
46	Sweetgum	20	3	Offsite		
47	Sweetgum	23	3	Offsite		
48	Sweetgum	19	3	Offsite		
49	Honeylocust	30	3	Offsite		
50	Red Oak	24	3	Offsite		
51	Red Oak	30	3	Offsite		
52	Red Oak	28	3	Offsite		
53	Red Oak	14	3	Offsite		
54	Red Oak	19	3	Offsite		
55	Red Oak	14	3	Offsite		
56	Red Oak	16	3	Offsite		
57	Honeylocust	20	3	Offsite		
58	Pin Oak	24	2	Offsite, dieback		
60	Ash	16	2	Dieback, EAB	X	
61	Baldcypress	30	4		X	
62	Baldcypress	23	4		X	
63	Baldcypress	33	4		X	
64	Baldcypress	21	4		X	
65	Hackberry	11	2		X	
66	Hackberry	15	2		X	
67	Hackberry	19	2		X	
68	Hackberry	16	3		X	
69	Hackberry	13	2		X	
70	Hackberry	15	1	Poor	X	
71	Pin Oak	28	3		X	
72	Pin Oak	16	2		X	
73	Pin Oak	18	2	Galls	X	
74	Pin Oak	15	2	Galls	X	
75	Pin Oak	22	2		X	
76	Dead	18	0	Dead	X	
77	Pin Oak	16	1	Poor	X	
78	Pin Oak	21	2		X	
79	Pin Oak	16	2		X	
80	Pin Oak	13	2		X	
81	Pin Oak	28	2		X	
82	Pin Oak	28	1	Mostly dead	X	
83	Pin Oak	18	2		X	
84	Pin Oak	25	2		X	
85	Sweetgum	17	2		X	
86	Sweetgum	17	2		X	
87	Sweetgum	13	2		X	
88	Pin Oak	28	2	Galls	X	
89	Pin Oak	6	2	Galls	X	
90	Pin Oak	19	2		X	
91	Sweetgum	21	2		X	
92	Sweetgum	19	3		X	
93	Sweetgum	18	3		X	
94	Sweetgum	20	3		X	
95	Pin Oak	17	2	Galls	X	
96	Pin Oak	19	2		X	
97	Pin Oak	17	2		X	
98	Ash	23	1	Poor, EAB	X	
99	Maple	18	3		X	
100	White Pine	18	3		X	
101	White Pine	20	3		X	
102	White Pine	14	3		X	
103	White Pine	16	3		X	
104	White Pine	12	2		X	
105	White Pine	19	2		X	
106	Green Ash	17	2	EAB	X	
107	White Pine	22	3		X	
108	Red Maple	17	3		X	
109	Pin Oak	31	2	Offsite, galls		X
110	Red Maple	17	2	Offsite, basal cavity		X
111	Pin Oak	28	3	Offsite		X
112	Pin Oak	26	0	Offsite, dead		X
113	Pin Oak	32	2	Offsite, galls		X
114	Pin Oak	28	2	Offsite, galls		X
115	Pin Oak	26	2	Offsite, galls		X
116	Pin Oak	28	2	Offsite, galls		X
117	Pin Oak	24	2	Offsite, galls		X
118	Pin Oak	20	2	Offsite, galls		X
119	Pin Oak	27	3	Offsite		X
120	Pin Oak	24	2	Offsite, galls		X
121	Pin Oak	24	2	Offsite		X
122	Pin Oak	22	1	Offsite, in decline		X
123	Pin Oak	16	2	Offsite		X
124	Red Oak	24	2	Offsite		X
125	Red Oak	24	3	Offsite		X
126	Pin Oak	25	2	Offsite		X
127	Pin Oak	20	1	Offsite, poor		X
128	Pin Oak	23	2	Offsite		X
129	Pin Oak	27	2	Offsite		X
130	Pin Oak	18	2	Offsite		X
131	Pin Oak	21	1	Offsite, poor		X
132	Pin Oak	23	2	Offsite		X
133	Pin Oak	20	2	Offsite		X
134	Pin Oak	26	2	Offsite		X

Tree Inventory

ID	Tree Name	DBH	Condition Rating	Comment	To Be Removed	Preserved
140	Red maple	22	2			X
141	Shingle oak	17	2			X
142	American elm	8	0	Dead	X	
143	Black cherry	12	2			X
144	Common persimmon	7	2			X
145	American elm	6	2			X
146	Common persimmon	6	2			X
147	Black cherry	14	2			X
148	Shingle oak	12	2			X
149	American sycamore	6	2			X
150	Shingle oak	19	2	Twin		X
151	American elm					X
152	American elm	9	2			X
154	Black cherry	12	2			X
155	Black cherry	20	2	Twin		X
156	Black cherry	8	2			X
157	Baldcypress	28	3			X
158	Shingle oak	24	3			X
159	Black cherry	13	1	Poor		X
160	American elm	16	1	Poor		X
161	American elm	12	2			X
162	American elm	19	2			X
163	Shingle oak	12	2			X
164	Northern hackberry	10	2			X
165	Northern hackberry	8	2			X
166	American elm	7	2			X
167	American elm	7	2			X
168	American elm	10	2			X
169	American elm	6	2			X
170	Shingle oak	14	2			X
171	Common persimmon	6	2			X
172	Common persimmon	6	2			X
173	Eastern red cedar	8	2			X
174	Black cherry	6	1	Poor		X
175	Common persimmon	6	1	Poor		X
176	Cottonwood	19	2			X
177	Eastern red cedar	11	2			X
178	Eastern red cedar	6	2			X
179	Common persimmon	7	2			X
180	Common persimmon	6	2			X
181	Northern hackberry	22	2			X
182	Eastern red cedar	12	2			X
183	Eastern red cedar	12	2			X
184	Shingle oak	13	2			X
185	Cottonwood	18	2			X
186	Green ash	12	1	Poor, EAB	X	
187	Shingle oak	12	2			X
188	Boxelder	10	2			X
189	Northern catalpa	10	2			X
190	Honeylocust	12	2			X
191	Boxelder	8	1	Poor		X
192	Boxelder	6	1	Poor		X
193	Eastern red cedar	13	2			X
194	American elm	18	2			X
195	Black cherry	10	2			X
196	Common persimmon	9	2			X
197	Eastern red cedar	10	2			X
198	Shingle oak	18	3			X
199	Shingle oak	7	3			X
200	Pin oak	10	2			X
201	Green ash	6	3	EAB	X	
202	Shingle oak	18	3			X
203	Shingle oak	12	3			X
204	Cottonwood	16	2			X
205	Boxelder	8	1	Poor	X	
206	American sycamore	8	2			X
207	American sycamore	8	2			X
209	Sugar maple	7	1	Poor		X
210	Norway spruce	8	2			X
211	American elm	10				X
212	Green ash	7	2	EAB	X	
213	Green ash	10	2	EAB	X	
214	American elm	12	2			X
215	Green ash	8	1	Poor, EAB	X	
216	Green ash	11	0	Dead	X	
217	Boxelder	10	1	Poor		X
218	Boxelder	10	2			X
219	Boxelder	8	2			X
220	Baldcypress	20	3			X
221	Baldcypress	16	3			X
222	Baldcypress	18	3			X
223	Boxelder	6	2			X
224	Baldcypress	18	3			X

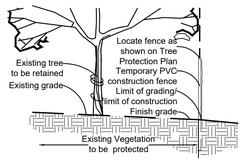
Tree Condition Rating:

Excellent	=	4
Good	=	3
Fair	=	2
Poor	=	1
Dead	=	0

SUMMARY:

151 Total Existing Trees On-Site
24 Trees Dead, in significant decline,poor condition or diseased
127 Viable Trees
55 Viable Trees to be Removed (43.3%)
72 Viable Trees to be Retained (56.7%)

No Mitigation Required



Tree Protection Detail

Tree Protection Notes:

1) Pre-construction meeting to be held on-site to include a presentation of tree protection measures to operators, construction supervisors, developer's representative, and city zoning inspector.

2) Clearing Limits to be rough staked in order to facilitate location for installation of protection fencing. No early maintenance schedule is required.

3) No clearing or grading shall begin in areas where the treatment and preservation measures have not been completed, including the installation of tree protection fencing as shown on the plan. Where necessary, Contractor may perform minor tree clearing prior to installing silt fencing and tree protection fencing provided they maintain tree protection area.

4) Tree Protection Fencing shall be 4-foot high temporary plastic construction fence. No equipment traffic/parking, concrete washout, material storage or other such construction activity shall be permitted to penetrate the protection fencing except for the removal of dead or invasive plant material. All ground plane in planting areas shall be mulched with hardwood bark mulch. Tree Protection Signage will be placed along the Protection Fencing as shown as the dashed line on the plan.

5) Tree protection measures to be maintained throughout construction.

Tree Protection and Removal Plan
SCALE 1"=40'
0 40 80 160

Jerald Saunders - Landscape Architect
MO License # LA-007
11/7/26

Consultants:

SITE DEVELOPMENT PLAN FOR:

LOT 16 OF OLIA VILLAGE

10300 OLIVE BLVD.
CREVE COEUR, MISSOURI

Revisions:

Date	Description	No.
12/8/25	City Comments	1
12/15/25	Summary correct.	2
1/7/26	City Comments	3

Drawn: KP
Checked: RS

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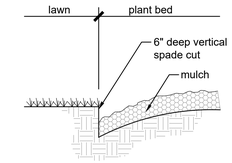
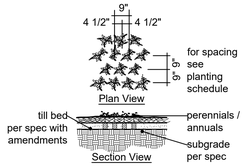
landscape architects + planners
750 point 40 park drive, chesterfield, missouri 63005
t. 636-519-8668
www.loomis-associates.com
Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000019

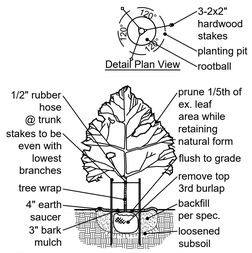
Sheet Title: Tree Protection and Removal Plan
Sheet No: TPRP
Date: 11/14/25
Job #: 813.151



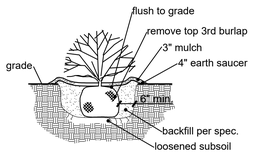
Spade Cut Bed Edge



Typical Perennial Planting

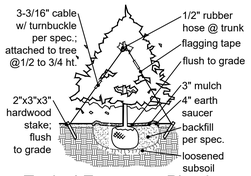


Typical Canopy Tree Planting



Scarify root ball of all container stock

Typical Shrub Planting



Typical Evergreen Planting

Landscape Summary:

52 street trees (canopy) @ 1 per 30 l.f.
6 parking lot trees (canopy)
12 canopy trees (on-lot or common ground)
41 lot trees (columnar canopy)
61 lot trees + high impact areas (dwarf understory-ornamental)
172 total deciduous trees

162 lot and screening trees-evergreen (standard and columnar)
162 total evergreen trees

334 total trees proposed

66 parking lot screening shrubs (evergreen)
66 total evergreen shrubs

Typical Individual Lot Landscape Layout for Brookline/Logan:

1 evergreen (broadleaf) shrub
3 medium evergreen shrubs
1 medium deciduous shrub
3 dwarf deciduous shrubs
3 ornamental grasses
10 perennial / ground cover plants

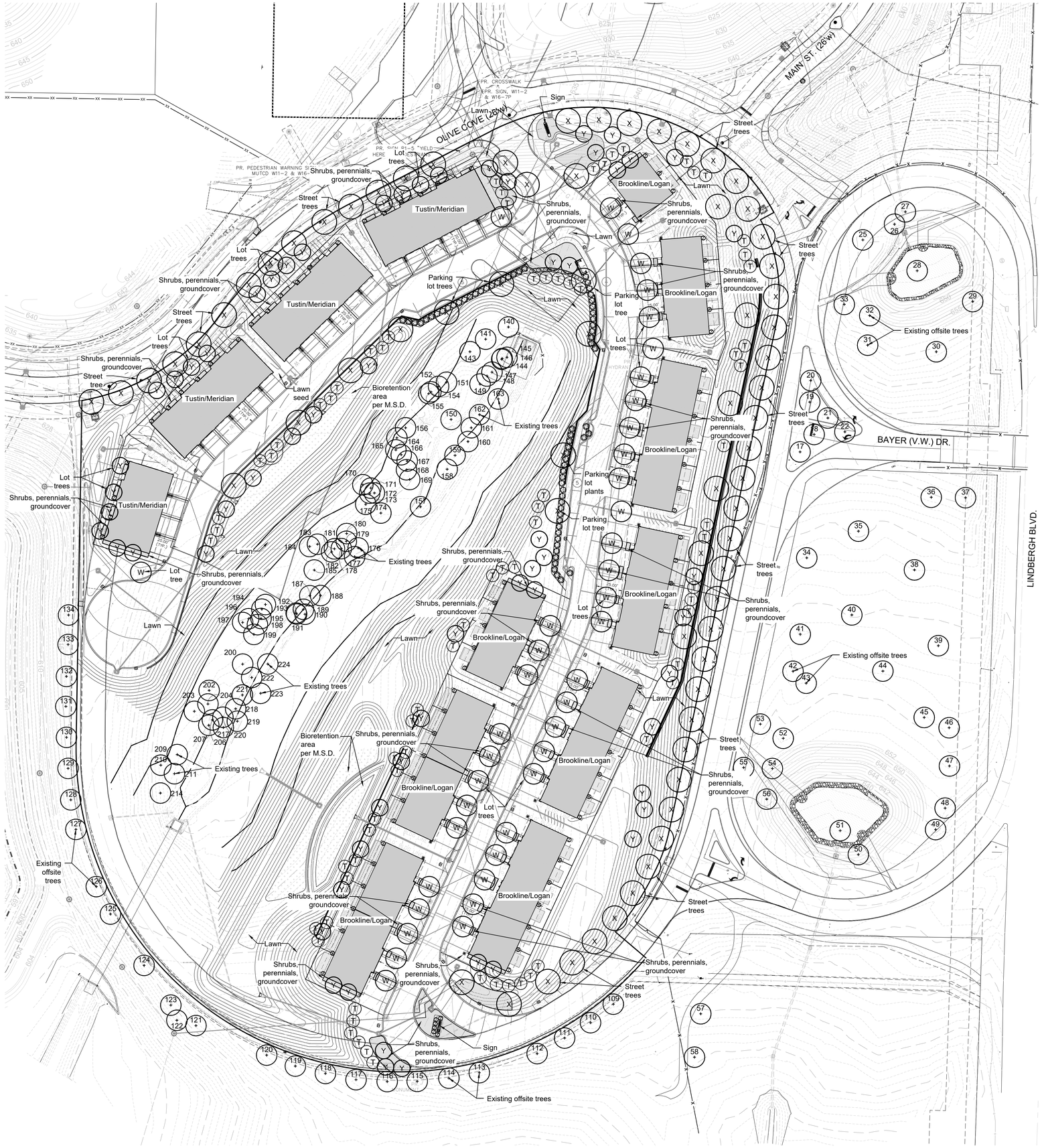
45 total lots for Brookline / Logan =
45 total evergreen (broadleaf) shrubs
135 total medium evergreen shrubs
45 total medium deciduous shrubs
135 total dwarf deciduous shrubs
135 total ornamental grasses
450 total perennial / ground cover plants

Typical Individual Lot Landscape Layout for Tustin / Meridian
3 evergreen (broadleaf) shrub
1 medium evergreen shrubs
5 medium deciduous shrub
1 ornamental grass
2.5 dwarf ornamental grasses
6.5 perennial / ground cover plants

22 total lots for Tustin / Meridian
66 total evergreen (broadleaf) shrubs
22 total medium evergreen shrubs
110 total medium deciduous shrubs
22 total ornamental grasses
55 total dwarf ornamental grasses
143 total perennial / ground cover plants

Legend:

Symbol		Description
+		Existing Individual Tree
W	53	Proposed Columnar Canopy-Shade Trees @ 3" caliper inch size; Species may include, but not limited to: Kindred Spirit Oak, Regal Prince Oak, Urban Sunset Maple, Street Keeper Honeylocust, and Princeton Sentry Ginkgo
X	70	Proposed Canopy-Shade Trees @ 3" caliper inch size; Species may include, but not limited to: Shumard Oak, Autumn Blaze Maple, October Glory Maple, Skyline Honeylocust, Autumn Gold Ginkgo, and Allee Lacebark Elm
Y	49	Proposed Understory-Ornamental Trees @ 3" caliper inch size; Species may include, but not limited to: Allegheny Serviceberry (clump), Kousa Dogwood, Forest Pansy Redbud, Krauter Vesuvius Cherry Plum, and Seven-son Flower
T	80	Proposed Evergreen Trees @ 6' tall; Species may include, but not limited to: Black Hills Spruce, Norway Spruce, Green Giant Arborvitae, and columnar Juniper
Z	82	Proposed Columnar Evergreen Trees @ 6' tall; Species may include, but not limited to: Emerald Green Arborvitae, Taylor Juniper, Keteleeri Juniper, Leyland Cypress, and Schipka Cherry Laurel
		Proposed Shrubs, Grasses, Ground Covers and Perennials; Species may include, but not limited to: Grey Owl Juniper, Otto Luyken Laurel, Green Gem Boxwood, Strongbox Inkberry, Nest Spruce, Golden Mop False Cypress, Viburnum, Hydrangea, Weigela, Spirea, Pygmy Barberry, Maiden Grass, Switch Grass, Feather Reed Grass, Shasta Daisy, Echinacea, Coreopsis, Sage, and Hosta



Concept Landscape Plan
SCALE 1"=40'
0 40 80 160

Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

SITE DEVELOPMENT PLAN FOR:

LOT 16 OF OLIA VILLAGE

10300 OLIVE BLVD.
CREVE COEUR, MISSOURI

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Drawn: KP
Checked: RS

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Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000019

Sheet Title: Landscape Plan
Sheet No: L1.01
Date: 11/14/25
Job #: 813.151

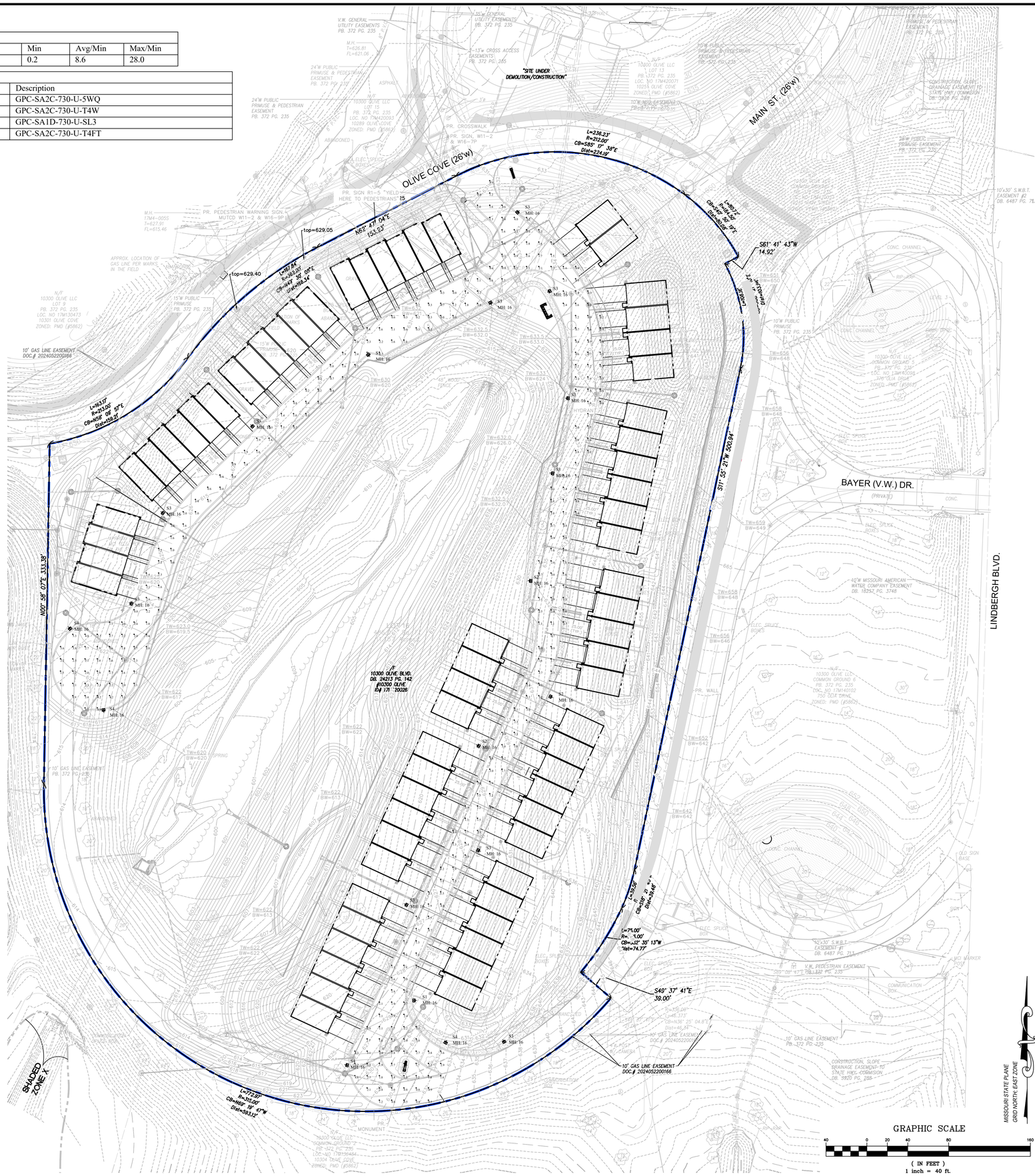
FIXTURES MOUNTED AT 16' INCLUDING BASE
LIGHT LEVEL CALCULATED ON THE GROUND

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
SITE	Illuminance	Fc	1.71	5.6	0.2	8.6	28.0

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	LLF	Lum. Watts	Total Watts	Description
	2	S1	Single	0.900	113	226	GPC-SA2C-730-U-5WQ
	3	S2	Single	0.900	113	339	GPC-SA2C-730-U-T4W
	11	S3	Single	0.900	67	737	GPC-SA1D-730-U-SL3
	4	S4	Single	0.900	113	452	GPC-SA2C-730-U-T4FT

DESIGN IS BASED ON CURRENT INFORMATION PROVIDED AT THE TIME OF REQUEST. ANY CHANGES IN MOUNTING HEIGHT OR LOCATION, LAMP WATTAGE, LAMP TYPE, AND EXISTING FIELD CONDITIONS, THAT EFFECT ANY OF THE PREVIOUSLY MENTIONED, WILL VOID CURRENT LAYOUT AND REQUIRE A CHANGE REQUEST AND RECALCULATION.

PHOTOMETRIC PLAN PROVIDED BY OTHERS



PREPARED BY:
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St. Louis, MO. 63005 PH. (636) 530-9100 FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

SITE DEVELOPMENT PLAN FOR:

THE VALE AT OLIA VILLAGE

10300 OLIVE BLVD.;
CREVE COEUR, MISSOURI

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER PE-25116
PROFESSIONAL ENGINEER
1/9/25

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

REVISIONS:

1.	12-08-25 CITY
2.	12-18-25 SIDEWALK
3.	01-09-2026 CITY

DRAWN BY: K.S.G.	CHECKED BY: G.M.S.
DATE: 11/14/25	JOB NO: 2022-7304
M.S.D. P #: -	BASE MAP #: 17M4
S.L.C. H&T #:	H&T S.U.P. #: -
M.D.N.R. #: -	

SHEET TITLE:
PHOTOMETRIC PLAN

SHEET NO.:
E1.0

Project		Catalog #		Type	
Prepared by		Notes		Date	

McGraw-Edison

GPC Galleon Pedestrian Companion

Area / Site Luminaire

Product Features

Light-Medium | BAA | FADC

Interactive Menu

- Ordering Information page 2
- Product Specifications page 3
- Optical Configurations page 3
- Energy and Performance Data page 4
- Control Options page 5

Quick Facts

- Choice of sixteen high-efficiency, patented AccuLED Optics
- Quick mount pole or mast-arm mounting configurations
- Eight lumen packages from 3,215 up to 17,056 lumens
- IP66 rated housing and LED light squares

Product Certifications

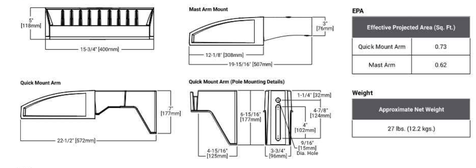
DLC | DLC PREMIUM | ISO | cULus | FC

IP66 | YEAR | MSL 2

Connected Systems

- WaveLinx PRO Wireless
- WaveLinx LITE Wireless

Dimensional Details



EPA

Effective Projected Area (Sq. Ft.)	
Quick Mount Arm	0.73
Mast Arm	0.62

Weight

Approximate Net Weight
27 lbs. (12.2 kgs.)

NOTES:
1. Visit https://www.designlights.org/search/ to verify/learn qualifications. Not all product variations are DLC qualified.
2. ISA Certified for 3000K CCT and warmer only.

COOPER Lighting Solutions

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McGraw-Edison

GPC Galleon Pedestrian Companion

Ordering Information

SAMPLE NUMBER: **GPC-SA2C-740-U-T4FT-GM**

Product Family	Light Engine		Color Temperature	Voltage	Distribution	Mounting Options	Finish
	Configuration	Drive Current					
GPC=Galleon Pedestrian Companion **BAA**=GPC-Galleon Pedestrian Companion, Buy American Act Compliant [4] **TAA-GPC**=Galleon Pedestrian Companion, Trade Agreements Act Compliant [4]	**SA1**=1 Square **SA2**=2 Squares [1]	**A**=350mA **B**=800mA **C**=1050mA **D**=1200mA [2] **Z**=Configured [3]	**722**=722K, 2200K **727**=727K, 2700K **730**=730K, 3000K **735**=735K, 3500K **740**=740K, 4000K **750**=750K, 5000K **760**=760K, 6000K **827**=827K, 2700K **830**=830K, 3000K **AMB**=Amber, 590nm [5,6]	**W**=120-277V **1**=120V **2**=208V **3**=240V **4**=277V **8**=347V [7] **9**=480V [7] **UV**=277-480V Dual-Volt Drivers [7,8,9]	**T2**=Type II **T2R**=Type II Roadway **T3**=Type III **T3R**=Type III Roadway **T4**=Type IV Forward Throw **T4W**=Type IV Wide **T4FT**=Type IV Wide Forward Throw **SL2**=Type II with Spill Control **SL3**=Type III with Spill Control **SL4**=Type IV with Spill Control **SLR**=90° Spill Light Eliminator Right **SLL**=90° Spill Light Eliminator Left **RW**=Rectangular Wide Type I **SNQ**=Type V Square Narrow **SWQ**=Type V Square Wide **AFL**=Automotive Frontline	**GM**=Quick Mount Arm for Round or Square Pole [1,10] **MA**=2-3/8" Mast Arm [1,10]	**AP**=Grey **BZ**=Bronze **DB**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	Controls and Systems Options (Add as Suffix)	Accessories (Order Separately)[20]
F=Single Fused (120, 277 or 347V. Must Specify Voltage) **FF**=Double Fused (208, 240 or 480V. Must Specify Voltage) **10K**=10kV Surge Module **20K**=20kV (4, 1649 Fused Surge Protective Device **HS**=Houseside Shield (Factory Leads) [4,11] **LRO**=Optics Rotated 90° Left **RRO**=Optics Rotated 90° Right **SGS**=Factory Installed House-Side Shield [4] **GDSH**=Factory Installed Glare Shield, Black [4,12] **GRDWH**=Factory Installed Glare Shield, White [4,12] **GPL**=Lgiht Housing **HA**=50°C High Ambient [13] **GPLP**=Light Housing Painted to Match Housing [4] **MT**=Tool-Less Mast Arm Top **CC**=Coastal Construction finish[4] **CE**=CE Marking and Small Terminal Block [4] **AWD145**=After Hours Dim, 1 Hours [4] **AWD245**=After Hours Dim, 2 Hours [4] **AWD345**=After Hours Dim, 3 Hours [4] **AWD345**=After Hours Dim, 4 Hours [4] **DALI**=DALI Driver [4]	**BPC**=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Voltage) **P4**=NEMA 7 PIN Twistlock Photocontrol Receptacle **P67**=NEMA 7 PIN Twistlock Photocontrol Receptacle [4] **FADC**=Field Adjustable Dimming Controller [4] **SPB1**=Dimming Occupancy Sensor with Bluetooth Interface, <8' Mounting [4,14] **SPB2**=Dimming Occupancy Sensor with Bluetooth Interface, 8'-20' Mounting [4,14] **SPB4**=Dimming Occupancy Sensor with Bluetooth Interface, 21'-40' Mounting [4,14] **MS-LXX**=Motion Sensor for On/Off Operation [4,14,15] **MSDIM-LXX**=Motion Sensor for Dimming Operation [4,14,15] **WPX21X**=WaveLinx Pro, SB Driver, Dimming Motion and Daylight, WAC Programmable, 7', 15' Mounting [4,16,17] **WPX14X**=WaveLinx Pro, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7', 15' Mounting [4,16,17] **WLLEXX**=WaveLinx Lite, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7', 15' Mounting [4,16,17] **WLSXXX**=WaveLinx Lite, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, Sensor Only [4,16,17] **LWR-LW**=Integrated Wireless Sensor, Wide Lens for 8'-16' Mounting Height [4,16,18] **LWR-LN**=Integrated Wireless Sensor, Narrow Lens for 16'-40' Mounting Height [4,16,18]	**DA/RA1013**=Photocontrol Shorting Cap **DA/RA1016**=NEMA Photocontrol - Multi-Tap 105-285V **DA/RA1027**=NEMA Photocontrol - 347V **DA/RA1027-N**=NEMA Photocontrol - 480V **MA1252**=10kV Circuit Module Replacement **MA1253**=Photocontrol Back Box (Must Specify Color) **MA1254**=Shorting Cap Back Box (Must Specify Color) **LSI/GDSBK-2PK**=Glare Shield, Black 2 Pack **LSI/GDSWH-2PK**=Glare Shield, White 2 Pack [4,19] **LSI/PEI**=Perimeter Shield, Black **PSM-100**=Wireless Configuration Tool for Occupancy Sensor [4] **WOLC-7P-10A**=WaveLinx Outdoor Control Module (7-pin) [4,20]

NOTES:
1. Swagit Light Conversion® Qualified. Refer to www.designlights.org, Qualified Products List under Family Models for details.
2. 1050mA and 1200mA configurations are factory programmed to confirm pole and fixture compatibility for all applications. Refer to our white paper WP310019EN for additional information.
3. Narrow-band 590nm +/- 5nm for wildlife and observatory use. Choose drive current A, supplied at 350mA drive current only.
4. Not available with 10kV, 20kV, SL3 and SL4 distributions. Can be used with HSS option.
5. Not available with the option.
6. Coastal construction finish salt spray tested to over 3,000 hours per ASTM B117, with a scribe rating of 9 per ASTM D1654.
7. Not available with 347V or 480V configurations. Not available with common system at 1050mA.
8. 480V not to be used with ungrounded or impedance grounded systems.
9. Dusk/dim drivers feature added protection from power quality issues such as loss of neutral, transients and voltage fluctuations.
10. Quick mount arm adapter is factory installed. Pole mounting bracket shipped in box. Suitable for 1.5G. Fits square and round poles 3-12" OD.
11. Mast arm adapter factory installed (2-3/8" O.D. arm only). Suitable for 3G vibration.
12. Compatible with standard 3-PIN photocontrols, 3-PIN or 7-PIN ANSI sockets.
13. Ambient operation at 50°C for 5,000 hours. 40°C at 7Pin photocontrol receptacle with photocontrol accessory. See After Hours Dim supplemental guide for additional information.
14. The PSM-100 configuration tool is required to adjust parameters such as high and low modes, sensitivity, time delay and photocell operation. See accessories section for ordering information. Not available with 347V or 480V.
15. Replaces LXX with LW if mounting ≤ 8' (2.4m) or LWW if 8'-16' mounting.
16. Includes integral photosensor.
17. Not available with 347V or 480V. Factory installed requiring network components in appropriate quantities.
18. Motion sensor is shipped with Bluetooth interface. Wireless sensor shipped on all other housing color options.
19. Not available with HSS or GRO options.
20. Not available with SL3, SL4, SLL, SLR, SLS optics. The light square trim plate is painted black when the HSS option is selected.
21. Not available with the 1250, 2A2, LBR, MS, WLS7AB, BPC, P4 or P67 options. Available in 120-277V only.
22. Use required for each light square.
23. Not for use with T4FT, T4W or SL2 optics.
24. Cannot be used in conjunction with additional photocontrol or other controls systems (BPC, P4, P67, MS, LWR).
25. Only products configurations with this designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information.
26. Requires a minimum of 3 luminaires to be ordered for each project.
27. For BAA or TAA requirements, luminaires sold separately will be separately analyzed under domestic preference requirements/Consult factory for further information.
28. Not available with 347V or 480V configurations. See below. Not available with any control option except SPB.
29. Cannot be used with P67 or any motion sensor options.
30. Customer specific specifications utilizes standard products with small adjustments to meet unique requirements such as housing color, drilling, or wiring.
31. Controls system is not available with photocontrol receptacles (P4, P67) or other controls systems (HSS, SPBx).

Product Specifications

Construction
- Driver enclosure thermally isolated from optics for optimal thermal performance
- Die-cast aluminum heat sinks
- IP66 rated housing
- 1.5G vibration rated

Optics
- Patented, high-efficiency injection-molded AccuLED Optics technology
- 13 optical distributions
- Dark Sky Approved (3000K CCT and warmer only)

Electrical
- LED driver assembly mounted for ease of maintenance
- Standard with 0-10V dimming
- Optional 10kV or 20kV surge module
- Suitable for operation in -40C to 40C ambient environments. Optional 50C high ambient (HA) configuration.
- Luminaire available with the field adjustable dimming controller (FADC) to manually adjust wattage and reduce the total lumen output and light levels. Comes pre-set to the highest position at the lumen output selected

Mounting
- Gasketed and zinc plated rigid steel mounting attachment
- "Hook-N-Lock" mechanism for easy installation

Finish
- Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness
- Heat sink is powder coated black
- RAL and custom color matches available
- Coastal Construction (CC) option available

Typical Applications
- Outdoor, Parking Lots, Walkways, Roadways, Building Areas

Warranty
- Five year limited warranty, consult website for details. www.cooperlighting.com/legal

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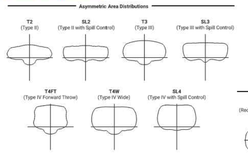
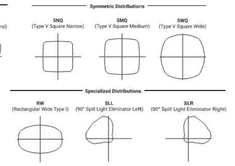
GPC Galleon Pedestrian Companion

Optical Distributions

Asymmetric Area Distributions

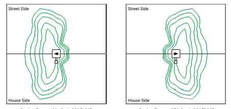


Symmetric Distributions



Specialized Distributions

Optic Orientation



Energy and Performance Data

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

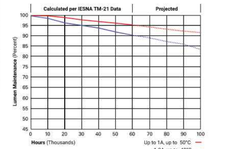
FADC Settings

FADC Position	Lumen Multiplier
1	25%
2	46%
3	55%
4	62%
5	72%
6	77%
7	82%
8	85%
9	90%
10	100%

Note: +/-5% typical value

Lumen Maintenance

Drive Current	Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Projected L70 (Hours)
Up to 1A	Up to 50°C	> 95%	> 416,000
1.2A	Up to 40°C	> 90%	> 205,000



COOPER Lighting Solutions

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GPC Galleon Pedestrian Companion

Energy and Performance Data

View GPC Galleon Pedestrian IES files

4000K/5000K/6000K CCT, 70 CRI

Number of Light Squares		1				2			
Drive Current		515mA	800mA	1050mA	1.2A	515mA	800mA	1050mA	1.2A
Nominal Power (Watts)		34	44	59	67	66	86	113	129
Input Current @ 120V (A)		0.30	0.39	0.51	0.58	0.58	0.77	1.02	1.16
Input Current @ 208V (A)		0.17	0.22	0.29	0.33	0.34	0.44	0.56	0.63
Input Current @ 240V (A)		0.15	0.19	0.26	0.29	0.30	0.38	0.48	0.55
Input Current @ 277V (A)		0.14	0.17	0.23	0.25	0.28	0.35	0.42	0.48
Input Current @ 347V (A)		0.11	0.15	0.17	0.20	0.19	0.24	0.32	0.39
Input Current @ 480V (A)		0.08	0.11	0.14	0.15	0.15	0.18	0.24	0.30
Optics									
T2	Lumens	4,883	5,989	7,412	8,131	9,543	11,703	14,485	15,891
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3
	Lumens per Watt	144	136	126	121	145	136	128	123
T3	Lumens	4,978	6,105	7,556	8,288	9,729	11,929	14,764	16,196
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
	Lumens per Watt	146	139	128	124	147	139	131	126
T4FT	Lumens	5,008	6,140	7,599	8,337	9,783	11,998	14,850	16,290
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	147	140	129	124	148	140	131	126
T4W	Lumens	4,942	6,060	7,502	8,229	9,658	11,843	14,658	16,080
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3
	Lumens per Watt	145	138	127	123	146	138	130	125
SL2	Lumens	4,874	5,975	7,399	8,117	9,528	11,684	14,461	15,863
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G3
	Lumens per Watt	143	136	125	121	144	136	128	123
SL3	Lumens	4,976	6,104	7,555	8,287	9,727	11,927	14,763	16,194
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	146	139	128	124	147	139	131	126
SL4	Lumens	4,729	5,799	7,178	7,873	9,239	11,333	14,025	15,387
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G3	B1-U0-G3	B2-U0-G4	B2-U0-G4
	Lumens per Watt	139	132	122	118	140	132	124	119
SNQ	Lumens	5,334	6,296	7,793	8,547	10,033	12,303	15,226	16,704
	BUG Rating	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G2
	Lumens per Watt	151	143	132	128	152	143	135	129
SMQ	Lumens	5,228	6,412	7,935	8,705	10,216	12,529	15,508	17,011
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	154	146	134	130	155	146	137	132
SWQ	Lumens	5,242	6,428	7,956	8,728	10,244	12,563	15,548	17,056
	BUG Rating	B3-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	154	146	135	130	155	146	138	132
SLS/SLR	Lumens	4,373	5,366	6,640	7,283	8,547	10,481	12,973	14,231
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	129	122	113	109	130	122	115	110
RW	Lumens	5,087	6,238	7,721	8,472	9,941	12,190	15,088	16,553
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	150	142	131	126	151	142	134	128

* Nominal lumen data for 70 CRI. BUG rating for 4000K/5000K. Refer to IES files for 3000K BUG ratings.

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McGraw-Edison

GPC Galleon Pedestrian Companion

3000K CCT, 80 CRI

Number of Light Squares		1				2			
Drive Current		615mA	800mA	1050mA	1.2A	615mA	800mA	1050mA	1.2A
Nominal Power (Watts)		34	44	59	67	66	86	113	129
Input Current @ 120V (A)		0.30	0.39	0.51	0.58	0.58	0.77	1.02	1.16
Input Current @ 208V (A)		0.17	0.22	0.29	0.33	0.34	0.44	0.56	0.63
Input Current @ 240V (A)		0.15	0.19	0.26	0.29	0.30	0.38	0.48	0.55
Input Current @ 277V (A)		0.14	0.17	0.23	0.25	0.28	0.35	0.42	0.48
Input Current @ 347V (A)		0.11	0.15	0.17	0.20	0.19	0.24	0.32	0.39
Input Current @ 480V (A)		0.08	0.11	0.14	0.15	0.15	0.18	0.24	0.30
Optics									
T2	Lumens	3,880	4,759	5,890	6,461	7,583	9,300	11,510	12,628
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3
	Lumens per Watt	114	108	100	96	115	108	102	98
T3	Lumens	3,956	4,851	6,004	6,586	7,731	9,479	11,732	12,870
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2
	Lumens per Watt	116	110	102	98	117	110	104	100
T4FT	Lumens	3,980	4,879	6,038	6,625	7,774	9,534	11,800	12,945
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	117	111	102	99	118	111	104	100
T4W	Lumens	3,927	4,816	5,961	6,539	7,675	9,411	11,648	12,778
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
	Lumens per Watt	116	109	101	98	116	109	103	99
SL2	Lumens	3,873	4,751	5,880	6,450	7,571	9,285	11,491	12,605
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	114	108	100	96	115	108	102	98
SL3	Lumens	3,954	4,851	6,004	6,585	7,729	9,478	11,731	12,868
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	116	110	102	98	117	110	104	100
SL4	Lumens	3,758	4,608	5,704	6,256	7,342	9,006	11,145	12,227
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G3	B1-U0-G3	B1-U0-G3
	Lumens per Watt	111	105	97	93	111	105	99	95
SNQ	Lumens	4,080	5,003	6,193	6,792	7,973	9,776	12,099	13,274
	BUG Rating	B2-U0-G0	B2-U0-G1	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2
	Lumens per Watt	120	114	105	101	121	114	107	103
SMQ	Lumens	4,154	5,095	6,305	6,917	8,118	9,956	12,323	13,518
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	122	116	107	103	123	116	109	105
SWQ	Lumens	4,166	5,108	6,322	6,936	8,140	9,983	12,355	13,553
	BUG Rating	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	123	116	107	104	123	116	109	105
SLL/SLR	Lumens	3,475	4,263	5,276	5,787	6,792	8,329	10,309	11,309
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	102	97	89	86	103	97	91	88
RW	Lumens	4,042	4,957	6,135	6,732	7,900	9,687	11,990	13,154
	BUG Rating	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2
	Lumens per Watt	119	113	104	100	120	113	106	102

* Nominal lumen data for 70 CRI. BUG rating for 4000K/5000K. Refer to IES files for 3000K BUG ratings.

COOPER Lighting Solutions

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McGraw-Edison

GPC Galleon Pedestrian Companion

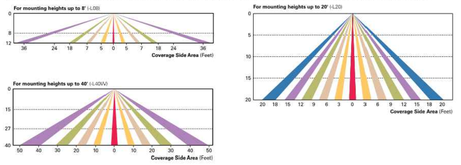
Control Options

0-10V This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

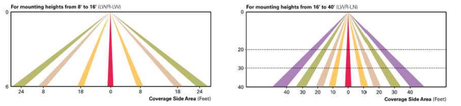
Photocontrol (BPC, P4, and P67) Optional button-type photocontrol (BPC) and photocontrol receptacles (P4 and P67) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the P67 receptacle.

After Hours Dim (AHD) This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a "dusk-to-dawn" period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

Dimming Occupancy Sensor (SPB, MS/DIM-LXX and MS-LXX) These sensors are factory installed in the luminaire housing. When the SPB or MS/DIM sensor options are selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. The MS-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity. SPB motion sensors require the Sensor Configuration mobile application by Wattstopper to change factory default dimming level, time delay, sensitivity and other parameters. Available for iOS and Android devices. The SPB sensor is factory preset to dim down to approximately 10% power with a time delay of five minutes. The MS/DIM occupancy sensors require the FSIR-100 programming tool to adjust factory defaults.



Enlighted Wireless Control and Monitoring System (LWR-LW and LWR-LN) The Enlighted control system is a connected lighting solution, combining LED luminaires with an integrated wireless sensor system. The sensor controls the lighting system in compliance with the latest energy codes while collecting valuable data about building performance and use. Software applications utilizing energy dashboards maximize data inputs to help optimize the use of other resources beyond lighting.



WaveLinx Wireless Outdoor Lighting Control Module (WOLC-7P-10A) The 7-pin wireless outdoor lighting control module enables WaveLinx to control outdoor area, site and flood lighting. WaveLinx controls outdoor lighting using schedules to provide ON, OFF and dimming controls based on astronomic or time schedules based on a 7 day week.

COOPER Lighting Solutions

Cooper Lighting Solutions
1121 Highway 74 South
Peachtree City, GA 30269
P 770-486-4800
www.cooperlighting.com

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Specifications and dimensions subject to change without notice.

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NOTE:
1. PROPOSED LIGHTING FIXTURES ARE 3000 KELVIN. PROPOSED LIGHTING SHALL BE IN ACCORDANCE WITH CITY OF CREVE COEUR CODE SECTION 405.680.

LIGHT STANDARD DETAIL

(TOTAL HEIGHT 16')
N.T.S.

PREPARED BY:
STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO. 63005 PH: (636) 530-9100 FAX: (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

SITE DEVELOPMENT PLAN FOR:

THE VALE AT OLIA VILLAGE

10300 OLIVE BLVD.;
CREVE COEUR, MISSOURI

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER PE-25116
PROFESSIONAL ENGINEER
1/9/25

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

REVISIONS:

1.	12-08-25 CITY
2.	12-18-25 SIDEWALK
3.	01-09-2026 CITY

DRAWN BY: K.S.G.	CHECKED BY: G.M.S.
DATE: 11/14/25	JOB NO: 2022-7304
M.S.D. P #: -	BASE MAP #: 17M4
S.L.C. H&T #: -	H&T S.U.P. #: -
M.D.N.R. #: -	

SHEET TITLE:
LIGHTING DETAILS

SHEET NO.:
E2.0

DRAWING FILE: G:\CONST\PROJECTS\Current Projects\Vale Drive\Layout Files\Vale Drive Layout Files.dwg LAYOUT: E2.0 | LIGHTING DETAILS | PLOTTED: Jan 09, 2026 - 1:56pm | PLOTTED BY: Kyle Jaffe

THE VALE AT OLIA VILLAGE

A TRACT OF LAND BEING LOT 16 OF OLIA VILLAGE CREVE COEUR AS RECORDED IN PLAT BOOK 372, PAGE 235 LOCATED TOWNSHIP 45 NORTH, RANGE 5 EAST OF THE 5TH PRINCIPAL MERIDIAN
CITY OF CREVE COEUR, ST. LOUIS COUNTY, MISSOURI
PROPERTY ZONED PDM ORD.# 5862

PARCEL	AREA (S.F.)	AREA (Ac.)
BMP AREA 1	18,002	0.413
BMP AREA 2	12,360	0.284
COMMON GROUND 1	56,431	1.295
COMMON GROUND 2	195,454	4.487
LOT 1	2,039	0.047
LOT 2	1,500	0.034
LOT 3	1,507	0.035
LOT 4	2,708	0.062
LOT 5	2,612	0.060
LOT 6	1,503	0.035
LOT 7	1,500	0.034
LOT 8	1,500	0.034
LOT 9	1,500	0.034
LOT 10	2,081	0.048
LOT 11	2,063	0.047
LOT 12	1,500	0.034
LOT 13	1,500	0.034
LOT 14	1,500	0.034
LOT 15	1,500	0.034
LOT 16	2,289	0.053
LOT 17	2,295	0.053
LOT 18	1,500	0.034
LOT 19	1,500	0.034
LOT 20	1,500	0.034
LOT 21	1,500	0.034
LOT 22	2,063	0.047
LOT 23	2,827	0.065
LOT 24	3,107	0.071
LOT 25	3,833	0.088
LOT 26	2,026	0.047
LOT 27	1,982	0.045
LOT 28	3,307	0.076
LOT 29	2,805	0.064
LOT 30	1,980	0.045
LOT 31	1,980	0.045
LOT 32	1,980	0.045
LOT 33	1,980	0.045
LOT 34	2,764	0.063
LOT 35	3,059	0.070
LOT 36	2,087	0.048
LOT 37	2,027	0.047
LOT 38	1,982	0.046
LOT 39	3,299	0.076
LOT 40	2,805	0.064
LOT 41	1,980	0.045
LOT 42	1,980	0.045
LOT 43	1,980	0.045
LOT 44	1,980	0.045
LOT 45	2,805	0.064
LOT 46	2,805	0.064
LOT 47	1,980	0.045
LOT 48	1,980	0.045
LOT 49	1,980	0.045
LOT 50	1,980	0.045
LOT 51	2,797	0.064
LOT 52	2,809	0.064
LOT 53	1,980	0.045
LOT 54	1,980	0.045
LOT 55	1,980	0.045
LOT 56	1,980	0.045
LOT 57	2,805	0.064
LOT 58	2,805	0.064
LOT 59	1,980	0.045
LOT 60	1,980	0.045
LOT 61	1,980	0.045
LOT 62	1,980	0.045
LOT 63	2,805	0.064
LOT 64	2,805	0.064
LOT 65	1,980	0.045
LOT 66	1,980	0.045
LOT 67	2,748	0.063
PRIVATE ROW	57,954	1.33

PERTINENT DATA

LOCATOR NO.:	17M40026
OWNER UNDER CONTRACT:	GRAND COMMUNITIES, LLC
LOT AREA:	11.157 Acres ±
ZONING:	PMD (ORD. #5862)
SITE ADDRESS:	10300 OLIVE BLVD. CREVE COEUR, MISSOURI 63141
FIRE DISTRICT:	CREVE COEUR
SCHOOL DISTRICT:	LADUE
SEWER DISTRICT:	METROPOLITAN ST. LOUIS SEWER DIST.
WATER SHED:	DEER CREEK
FEMA MAP:	29189C0192K, FEB 4, 2015
ELECTRIC COMPANY:	AMEREN UE
GAS COMPANY:	SPIRE INC
WATER COMPANY:	MISSOURI AMERICAN WATER COMPANY

GENERAL NOTES:

1) SUBJECT PROPERTY IS ZONED PMD ORD.# 5862, AND WILL BE RESIDENTIAL USE CATEGORY D RESIDENTIAL SUB-DISTRICT SETBACKS:
   a. FRONT YARD: 5'
   b. SIDE YARD: NONE OR 7.5' (MIN)
   c. REAR YARD: 5'
   d. MIN. DISTANCE BETWEEN BUILDINGS OR UNIT CLUSTERS: 15'
   e. BUFFER YARD: NONE
NOTE: THE ABOVE ZONING PROVIDED BY THE CITY OF CREVE COEUR, AND TO VERIFY THE CLIENT SHOULD OBTAIN A ZONING ENDORSEMENT FROM THEIR TITLE COMPANY.

2) SUBJECT PROPERTY LIES WITHIN FLOOD ZONE X (AREAS OF MINIMAL FLOOD HAZARD) ACCORDING TO THE NATIONAL FLOOD INSURANCE RATE MAP NUMBER 29189C0192K WITH AND EFFECTIVE DATE OF 2/4/2015.

3) PROPOSED SANITARY SEWERS WILL BE 8" PVC , GRAVITY SYSTEM AND DEDICATED TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT.

4) PROPOSED STREETS ARE PRIVATE, 24.0 WIDE MEASURED FROM BACK OF CURB. IN LOCATIONS OF ON-STREET PARALLEL PARKING THE STREETS ARE 34.0' WIDE. STREET WILL BE CONCRETE AND CONSTRUCTED IN ACCORDANCE WITH THE SITE SPECIFIC ORDINANCE FOR OLIA VILLAGE DEVELOPMENT FOR PRIVATE STREETS.

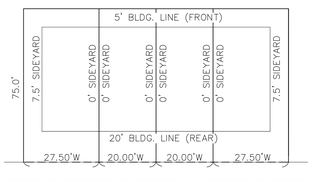
5) THE PROPOSED PRIVATE RIGHT-OF-WAY FOLLOWS THE BACK OF CURB.

LEGAL DESCRIPTION

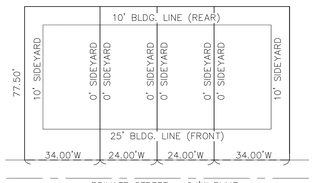
ALL OF LOT 16 OF "OLIA VILLAGE CREVE COEUR" A SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED AS PLAT BOOK 372, PAGE 235, OF THE ST. LOUIS COUNTY, MISSOURI, RECORDS, LOCATED IN TOWNSHIP 45 NORTH, RANGE 5 EAST OF THE FIFTH PRINCIPAL MERIDIAN CITY OF CREVE COEUR, ST. LOUIS COUNTY, MISSOURI, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF COMMON GROUND 2 OF ABOVE SAID SUBDIVISION, SAID POINT ALSO BEING LOCATED ON THE WEST RIGHT-OF-WAY LINE OF LINDBERGH BOULEVARD, VARIABLE WIDTH; THENCE ALONG THE NORTHERN LINES OF SAID COMMON GROUND THE FOLLOWING COURSES AND DISTANCES: SOUTH 89 DEGREES 08 MINUTES 47 SECONDS EAST, 283.68 FEET TO A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 336.00 FEET,; ALONG SAID CURVE WITH AN ARC LENGTH OF 46.37 FEET AND A CHORD WHICH BEARS SOUTH 36 DEGREES 25 MINUTES 05 SECONDS WEST, 46.34 FEET AND NORTH 49 DEGREES 37 MINUTES 41 SECONDS WEST, 21.00 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 315.00 FEET SAID POINT ALSO BEING TO THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT; SAID POINT ALSO BEING THE SOUTHEASTERN CORNER OF ABOVE SAID LOT 16; THENCE ALONG THE COMMON LINE BETWEEN LOT 16 AND COMMON GROUND 2 THE FOLLOWING: ALONG SAID CURVE WITH AN ARC LENGTH OF 772.97 FEET AND A CHORD WHICH BEARS NORTH 69 DEGREES 19 MINUTES 47 SECONDS WEST, 593.12 FEET TO A POINT OF TANGENCY AND NORTH 00 DEGREES 58 MINUTES 07 SECONDS EAST, 333.38 FEET TO THE SOUTHERN RIGHT-OF-WAY LINE OF OLIVE COVE, 26 FEET WIDE; THENCE ALONG SAID RIGHT-OF-WAY LINE THE FOLLOWING COURSES AND DISTANCES: ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 213.00 FEET, AN ARC LENGTH OF 163.17 FEET AND A CHORD WHICH BEARS NORTH 58 DEGREES 09 MINUTES 57 SECONDS EAST, 159.21 FEET TO POINT OF REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 362.00 FEET, AN ARC LENGTH OF 167.84 FEET AND A CHORD WHICH BEARS NORTH 49 DEGREES 30 MINUTES 08 SECONDS EAST, 166.34 FEET TO A POINT OF TANGENCY; NORTH 62 DEGREES 47 MINUTES 04 SECONDS EAST, 153.23 FEET TO A POINT OF CURVATURE TO THE RIGHT HAVING A RADIUS OF 212.00 FEET, AN ARCLENGTH OF 236.23 FEET AND A CHORD WHICH BEARS SOUTH 85 DEGREES 17 MINUTES 38 SECONDS EAST, 224.19 FEET TO A POINT OF COMPOUND CURVATURE TO THE RIGHT HAVING A RADIUS OF 184.50 FEET AND ALONG SAID CURVE WITH AN ARC LENGTH OF 80.72 FEET AND A CHORD WHICH BEARS SOUTH 40 DEGREES 50 MINUTES 19 SECONDS EAST, 80.08 FEET TO THE WEST RIGHT-OF-WAY LINE OF OLIA DRIVE, VARIABLE WIDTH; THENCE ALONG SAID RIGHT-OF-WAY LINE THE FOLLOWING COURSES AND DISTANCES: SOUTH 61 DEGREES 41 MINUTES 43 SECONDS WEST, 14.92 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 150.00 FEET, ALONG SAID CURVE WITH AN ARC LENGTH OF 106.16 FEET AND A CHORD WHICH BEARS SOUTH 08 DEGREES 21 MINUTES 10 SECONDS EAST, 103.69 FEET TO A POINT OF TANGENCY; SOUTH 11 DEGREES 55 MINUTES 21 SECONDS WEST, 500.94 FEET TO A POINT OF CURVATURE TO THE RIGHT HAVING A RADIUS OF 176.00 FEET; ALONG SAID CURVE WITH AN ARC LENGTH OF 39.56 FEET; AND A CHORD WHICH BEARS SOUTH 18 DEGREES 21 MINUTES 45 SECONDS WEST, 39.48 FEET TO A POINT OF COMPOUND CURVATURE TO THE RIGHT HAVING A RADIUS OF 276.00 FEET; ALONG SAID CURVE WITH AN ARC LENGTH OF 75.00 FEET AND A CHORD WHICH BEARS SOUTH 32 DEGREES 35 MINUTES 13 SECONDS WEST, 74.77 FEET AND ALONG A NON-TANGENT LINE SOUTH 49 DEGREES 37 MINUTES 41 SECONDS EAST, 39.00 FEET TO THE POINT OF BEGINNING.

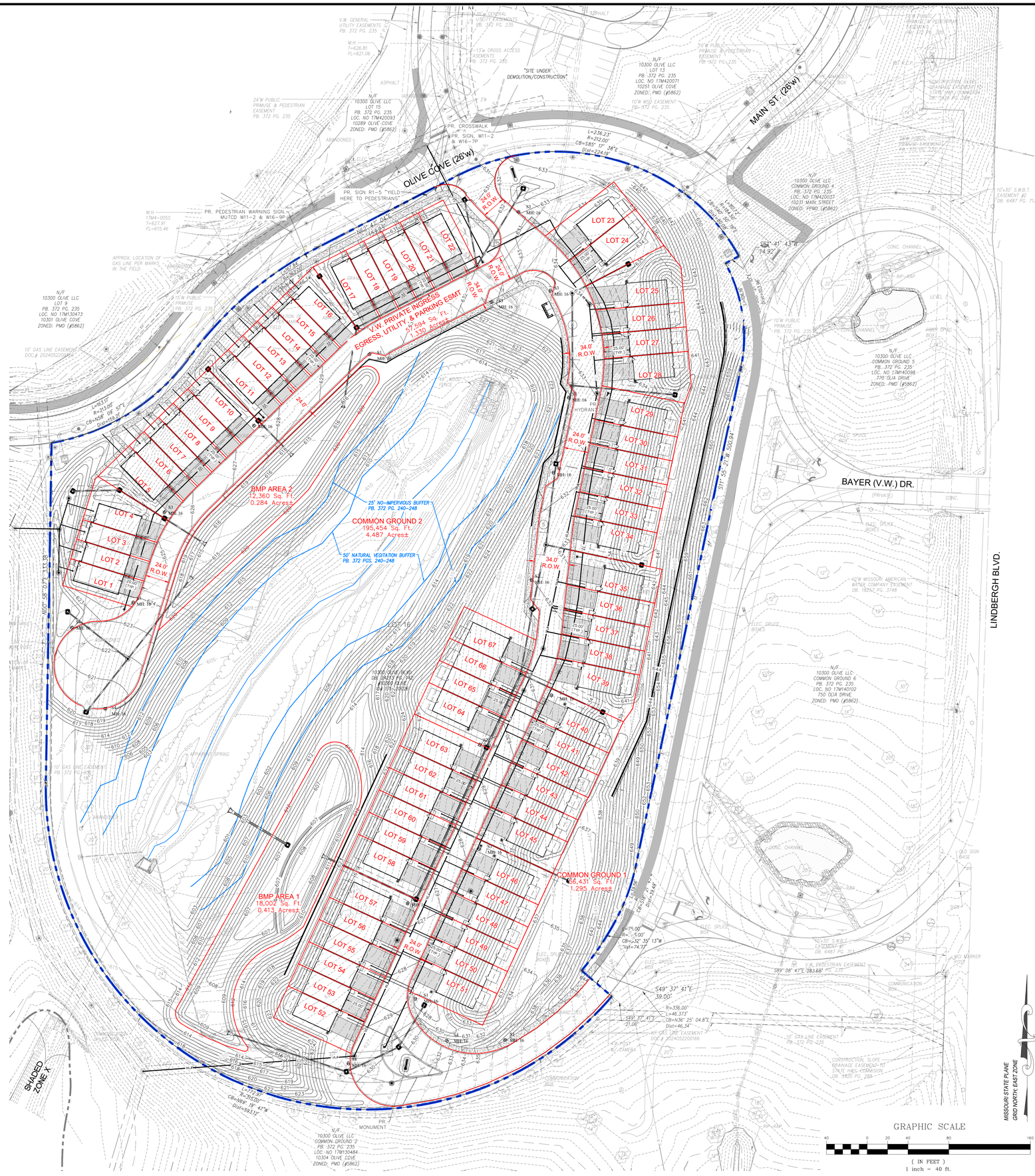
CONTAINING 486,015 SQUARE FEET OR 11.157 ACRES, MORE OR LESS ACCORDING TO CALCULATIONS PERFORMED BY STOCK & ASSOCIATES CONSULTING ENGINEERS, INC DURING AUGUST 2025



MERIDIAN LOTS (1-22) - 1,500 S.F. (MIN.)
(N.T.S.)



LOGAN LOTS (23-67) - 1,860 S.F. (MIN.)
(N.T.S.)



PREPARED BY:
STOCK & ASSOCIATES Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO. 63005 PH. (636) 530-9100 FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

SITE DEVELOPMENT PLAN FOR:
THE VALE AT OLIA VILLAGE
10300 OLIVE BLVD.;
CREVE COEUR, MISSOURI

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER PE-25116
PROFESSIONAL ENGINEER
1/9/25

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

REVISIONS:
1. 12-08-25 CITY
2. 12-18-25 SIDEWALK
3. 01-09-2026 CITY

DRAWN BY:	CHECKED BY:
K.S.G.	G.M.S.
DATE:	JOB NO.:
11/14/25	2022-7304
M.S.D. P. #	BASE MAP #
-	17M4
S.L.C. H&T #:	H&T S.U.P. #
-	-
M.D.N.R. #	
-	

SHEET TITLE:
PRELIMINARY PLAT

SHEET NO.:
C5.0

PREPARED BY:

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005 PH. (636) 530-9100 FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

SITE DEVELOPMENT PLAN FOR:

THE VALE AT OLIA VILLAGE

10300 OLIVE BLVD.,
CREVE COEUR, MISSOURI

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER PE-23116
PROFESSIONAL ENGINEER
GEORGE M. STOCK, P.E. E-23116
CIVIL ENGINEER
STOCK & ASSOCIATES CONSULTING ENGINEERS, INC.
CERTIFICATE OF AUTHORITY NUMBER: 000996

REVISIONS:		
1.	12-08-25	CITY
2.	12-18-25	SIDEWALK
3.	01-09-2026	CITY

DRAWN BY:	CHECKED BY:
K.S.S.	G.M.S.
DATE:	JOB No.:
11/14/25	2022-7304
M.S.D. P #:	BASE MAP #:
S.L.C. HIST #:	HIST. SUBD. #:
W.D.N.R. #:	

SHEET TITLE: PRELIMINARY PLAT

SHEET NO: C5.1

OLIVE COVE (26'w)

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

MISSOURI STATE PLANE GRID NORTH, EAST ZONE

DWG/REF FILE: C:\DRAWINGS\2022\7304\Civil\Preliminary\7304 - Plats Full (12-30-25).dwg LAYOUT: C-01 - PRELIMINARY PLAT PLOTTED: Jan 08, 2026 - 11:04pm PLOTTED BY: Kate Sohn

PREPARED BY:

STOCK & ASSOCIATES
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e-mail: general@stockassoc.com
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SITE DEVELOPMENT PLAN FOR:

THE VALE AT OLIA VILLAGE

1030O OLIVE BLVD.,
CREVE COEUR, MISSOURI

STATE OF MISSOURI — GEORGE MICHAEL STOCK — NUMBER PE-23116 — PROFESSIONAL ENGINEER — 10/25

GEORGE M. STOCK E-23116
CIVIL ENGINEER
MISSOURI CERTIFICATE OF AUTHORITY NUMBER: 000996

REVISIONS:	
1.	12-08-25 CITY
2.	12-18-25 SIDEWALK
3.	01-09-2026 CITY

DRAWN BY: K.S.G.
CHECKED BY: G.M.S.
DATE: 11/14/25
JOB NO.: 2022-7304
M.S.D. P #
BASE MAP #
S.L.C. HIST. #
HIST. SURV. #
W.D.N.R. #
SHEET TITLE: PRELIMINARY PLAT
SHEET NO.: C5.2

MISSOURI STATE PLANE GRID NORTH, EAST ZONE

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.
20 0 10 20 40 80

COMMON GROUND 1
AREA ±
1.295 Acres±

BMP AREA 1
18,002 Sq. Ft.
0.413 Acres±

LOT 1
LOT 2
LOT 35
LOT 36
LOT 37
LOT 38
LOT 39
LOT 40
LOT 41
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LOT 65
LOT 66
LOT 67

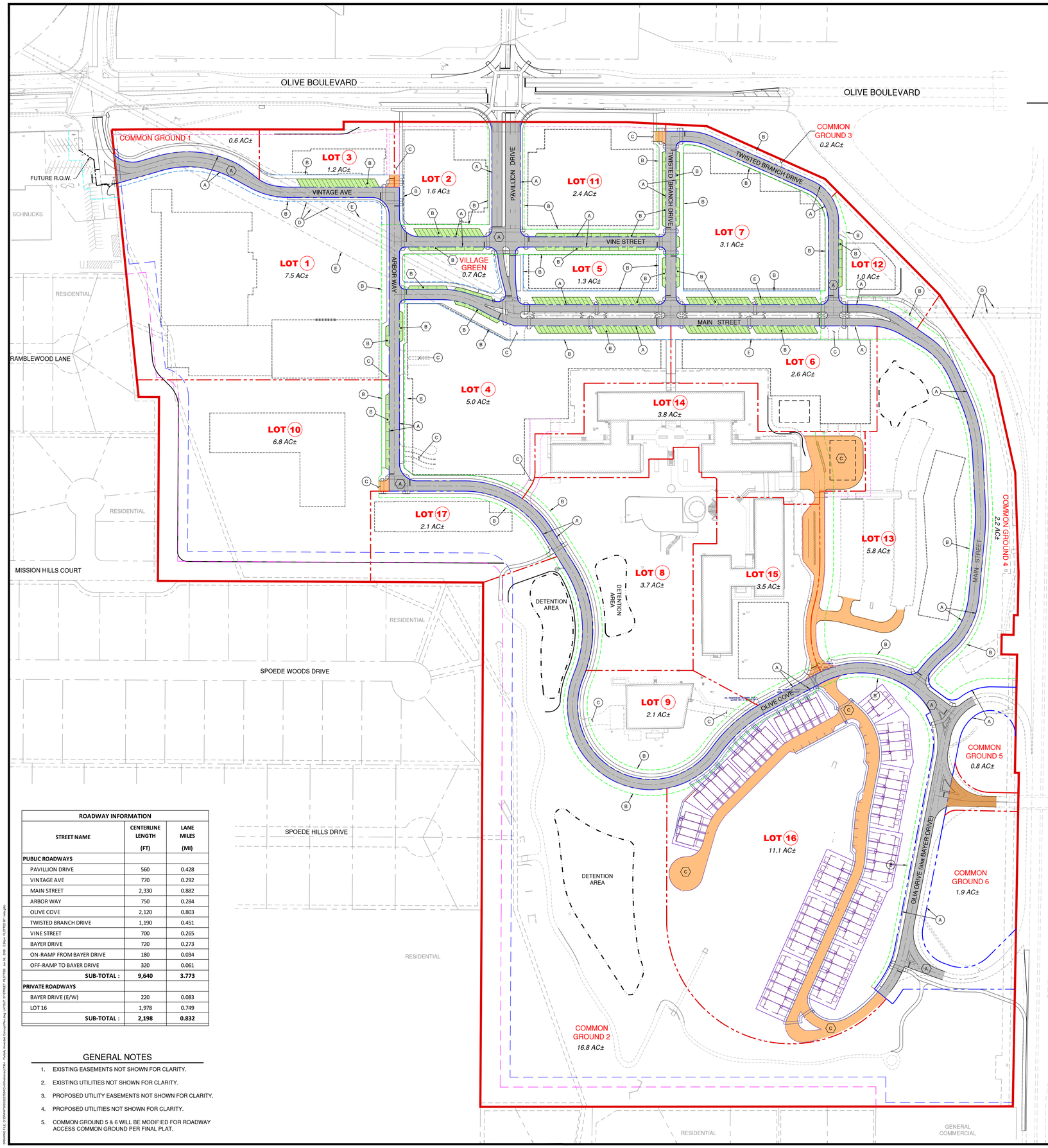
PR. MSD ESMT
PR. UTILITY ESMT
PR. SIDEWALK ESMT
PR. ESMT FOR SAN. CONNECTION TO BE COORDINATED WITH OWNER & CAFT
10' GAS LINE EASEMENT BOOK 7 2006020004

25' NO-IMPERVIOUS BUFFER PER. 372 PG. 240-248
50' NATURAL VEGETATION BUFFER PER. 372 PGS. 240-248

ZONE X

PARTIALLY AMENDED STREET PLAN
OLIA VILLAGE

SOUTHWEST QUADRANT OF OLIVE & LINDBERGH BOULEVARD
CREVE COEUR, MO



ROADWAY INFORMATION		
STREET NAME	**CENTERLINE LENGTH (FT)**	**LANE MILES (MI)**
PUBLIC ROADWAYS		
PAVILLION DRIVE	560	0.428
VINTAGE AVE	770	0.292
MAIN STREET	2,330	0.882
ARBOR WAY	750	0.284
OLIVE COVE	2,120	0.803
TWISTED BRANCH DRIVE	1,190	0.451
VINE STREET	700	0.265
BAYER DRIVE	720	0.273
ON-RAMP FROM BAYER DRIVE	180	0.034
OFF-RAMP TO BAYER DRIVE	320	0.061
SUB-TOTAL :	**9,640**	**3.773**
PRIVATE ROADWAYS		
BAYER DRIVE (E/W)	220	0.083
LOT 16	1,978	0.749
SUB-TOTAL :	**2,198**	**0.832**

GENERAL NOTES

1. EXISTING EASEMENTS NOT SHOWN FOR CLARITY.
2. EXISTING UTILITIES NOT SHOWN FOR CLARITY.
3. PROPOSED UTILITY EASEMENTS NOT SHOWN FOR CLARITY.
4. PROPOSED UTILITIES NOT SHOWN FOR CLARITY.
5. COMMON GROUND 5 & 6 WILL BE MODIFIED FOR ROADWAY ACCESS COMMON GROUND PER FINAL PLAT.

LEGEND

- DEVELOPMENT BOUNDARY LINE
- PROPOSED LOT LINE
- PROPOSED R.O.W. LINE
- CONCEPTUAL BLDG FOOTPRINT
- PROPOSED R.I.M.U.S.S. EASEMENT
- (A) PROPOSED ROADWAY (WITHIN RIGHT-OF-WAY)
- (B) PROPOSED ON-STREET PARKING (WITHIN EASEMENT)
- (C) PROPOSED PRIVATE ROADWAY

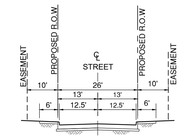
KEYNOTES

- (A) PROPOSED RIGHT-OF-WAY
- (B) PROPOSED ROADWAY IMPROVEMENT, MAINTENANCE, UTILITY, SEWER, SIDEWALK (R.I.M.U.S.S.) EASEMENT
- (C) CONCEPTUAL FUTURE ENTRANCE
- (D) EXISTING STL WATER MAIN CONDUITS
- (E) EXISTING STL WATER MAIN EASEMENT

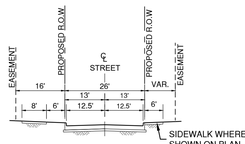
N

100' 50' 0' 100' 200'

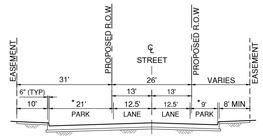
SCALE IN FEET



TYPICAL SECTION #1
STANDARD STREET SECTION

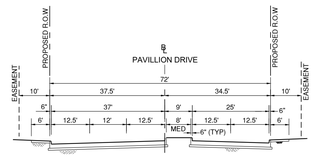


TYPICAL SECTION #2
OLIVE COVE

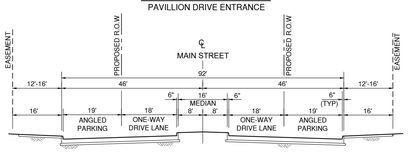


* PARKING VARIES:
9' PARALLEL PARKING
21' ANGLED PARKING

TYPICAL SECTION #3
STANDARD STREET SECTION
WITH ADJACENT PARKING



TYPICAL SECTION #4
PAVILLION DRIVE ENTRANCE



TYPICAL SECTION #5
MAIN STREET (MEDIAN SECTION)

PREPARED BY:
STOCK & ASSOCIATES Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO. 63005 PH: (636) 530-9100 FAX: (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

PARTIALLY AMENDED CONCEPT PLAN FOR:
OLIA VILLAGE DEVELOPMENT
LINDBERGH & OLIVE BLVD

DATE:

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER PE-25116
PROFESSIONAL ENGINEER

1/9/25

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

REVISIONS:

1.	12-08-25 CITY
2.	12-18-25 SIDEWALK
3.	01-09-2026 CITY

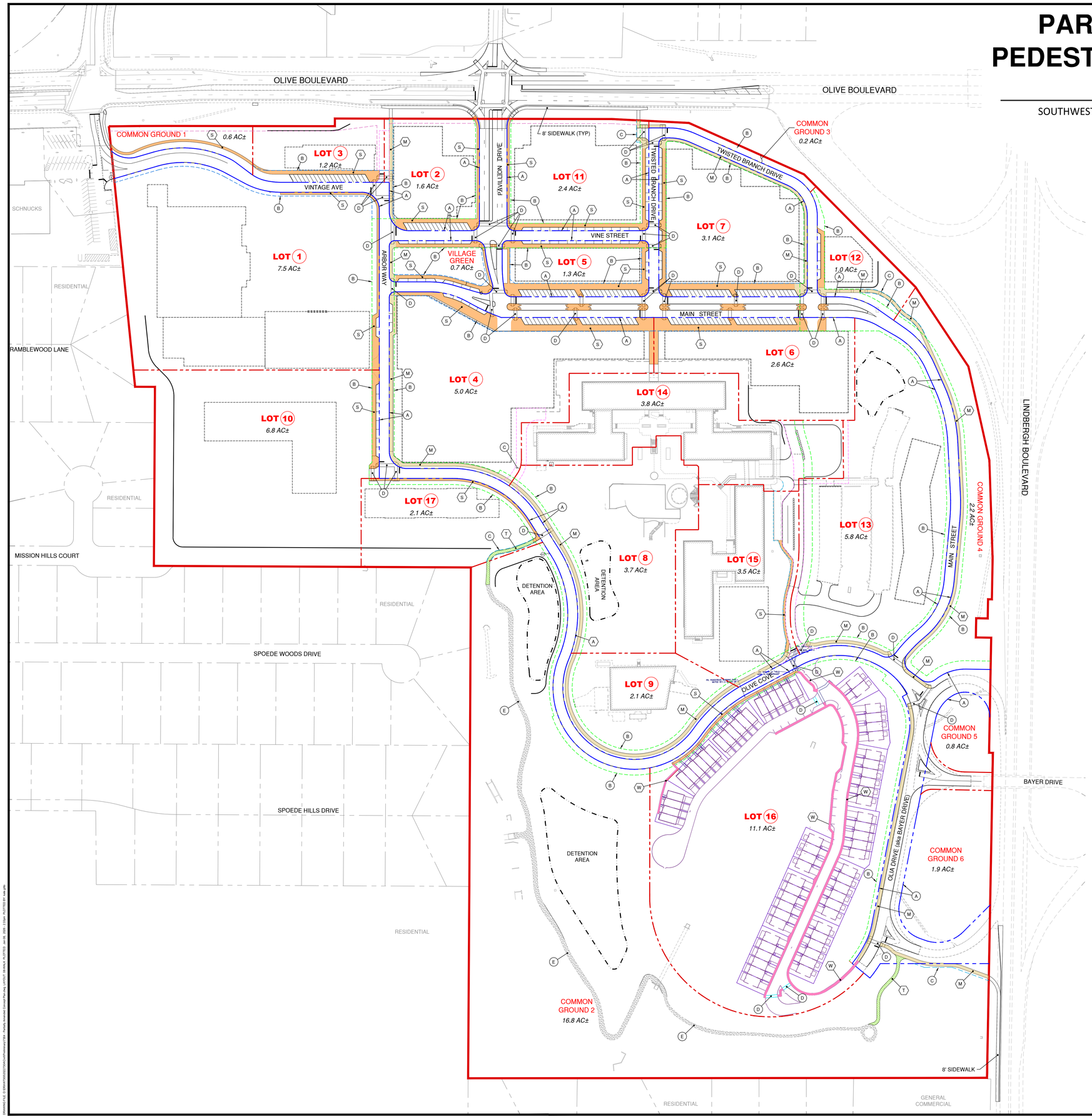
DRAWN BY: K.S.G./E.J.F.	CHECKED BY: G.M.S.
DATE: 11-14-25	JOB NO: 2022-7304
M.S.D. P. # –	BASE MAP #: 17M4
S.L.C. H&T #: –	H&T S.U.P. #: –
M.D.N.R. #: –	

SHEET TITLE:
STREET PLAN

SHEET NO.:
C-107

PARTIALLY AMENDED PEDESTRIAN MOBILITY PLAN
OLIA VILLAGE

SOUTHWEST QUADRANT OF OLIVE & LINDBERGH BOULEVARD
CREVE COEUR, MO



LEGEND

- DEVELOPMENT BOUNDARY LINE
- PROPOSED LOT LINE
- PROPOSED R.O.W. LINE
- CONCEPTUAL BLDG FOOTPRINT
- PROPOSED EASEMENT
- ROADWAY STRIPING - STOP BAR
- ROADWAY STRIPING - CROSSWALK
- (S) PROPOSED CONCRETE SIDEWALK (WITHIN EASEMENT)
- (M) PROPOSED CONCRETE MULTI-USE SIDEWALK 8' MIN WIDE (WITHIN EASEMENT)
- (T) PROPOSED 8' WIDE NATURAL AGGREGATE TRAIL (WITHIN EASEMENT ON NON-COMMON AREAS)
- (W) PROPOSED PRIVATE SIDEWALK ON LOT 16

N

100' 50' 0' 100' 200'

SCALE IN FEET

KEYNOTES

- (A) PROPOSED RIGHT-OF-WAY
- (B) PROPOSED ROADWAY IMPROVEMENT, MAINTENANCE, UTILITY, SEWER, SIDEWALK (R.I.M.U.S.S.) EASEMENT
- (C) PROPOSED SIDEWALK EASEMENT
- (D) PROPOSED CROSSWALK
- (E) EXISTING AGGREGATE TRAIL TO REMAIN (WIDTH VARIES APPROXIMATELY 8' TO 12')

PEDESTRIAN MOBILITY INFORMATION

LOCATION	STANDARD SIDEWALK LENGTH (FT)	NATURAL TRAIL LENGTH (FT)	8' MULTI-USE SIDEWALK (FT)
PAVILLION DRIVE	840		
MAIN STREET	2,160		
MAIN STREET (EAST LEG)			1,245
HARVEST DRIVE	1,040		
ARBOR LANE	815		700
OLIVE COVE	918		2,010
TWISTED BRANCH	1,040		670
VINE STREET	1,190		
OLIA DRIVE (AKA BAYER DRIVE)			690
LOT 16 - OLIVE COVE	420		
LOT 16 - PRIVATE WALK	2,261		
(TO) LINDBERGH BLVD			300
WEST / SOUTH TRAIL (PROPOSED)		400	
WEST / SOUTH TRAIL (EXISTING)		2,210	
SUB-TOTAL :	**10,684**	**2,610**	**5,615**

PREPARED BY:
STOCK & ASSOCIATES Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO. 63005 PH: (636) 530-9100 FAX: (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

PARTIALLY AMENDED CONCEPT PLAN FOR:
OLIA VILLAGE DEVELOPMENT
LINDBERGH & OLIVE BLVD

DATE: 1/9/25

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER PE-25116
PROFESSIONAL ENGINEER

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

REVISIONS:

1.	12-08-25 CITY
2.	12-18-25 SIDEWALK
3.	01-09-2026 CITY

DRAWN BY: K.S.G./E.J.F.	CHECKED BY: G.M.S.
DATE: 11-14-25	JOB NO: 2022-7304
M.S.D. P. #: –	BASE MAP #: 17M4
S.L.C. H&T #: –	H&T S.U.P. #: –
M.D.N.R. #: –	

SHEET TITLE:
PEDESTRIAN PLAN

SHEET NO.:
C-108

CALCS WITH BUFFER & WALL AT 50'

OLIA VILLAGE - TREE CONSERVATION PLAN

TREE MASSES SURVEY (BY COLE)	
Total Tree Masses Surveyed (SF)	958,667
Existing Tree Masses to be Removed (SF)	478,379
Existing Tree Masses to Remain (SF)	480,288
% Existing Tree Mass to Remain (SF)	50.1%
INDIVIDUAL TREE SURVEY (BY COLE)	
Total Existing 6"+ Trees Surveyed	670
Existing 6"-19" Trees to Be Removed	404
Existing 20"+ Trees to be Removed	77
Total 6"+ Trees to be Removed	481
Existing 6"+ Trees to Remain	189
% Existing 6" Trees to Remain	28%
Total Individual Trees Removed over 50%	146
PROPOSED TREE PLANTING (BY SWT)	
Total Phase 1 Trees to be Planted	619
Street Trees to be Planted in Phase 1	111
Non-Street Trees to be Planted in Phase 1	508
Individual Tree Surplus after Phase 1	362

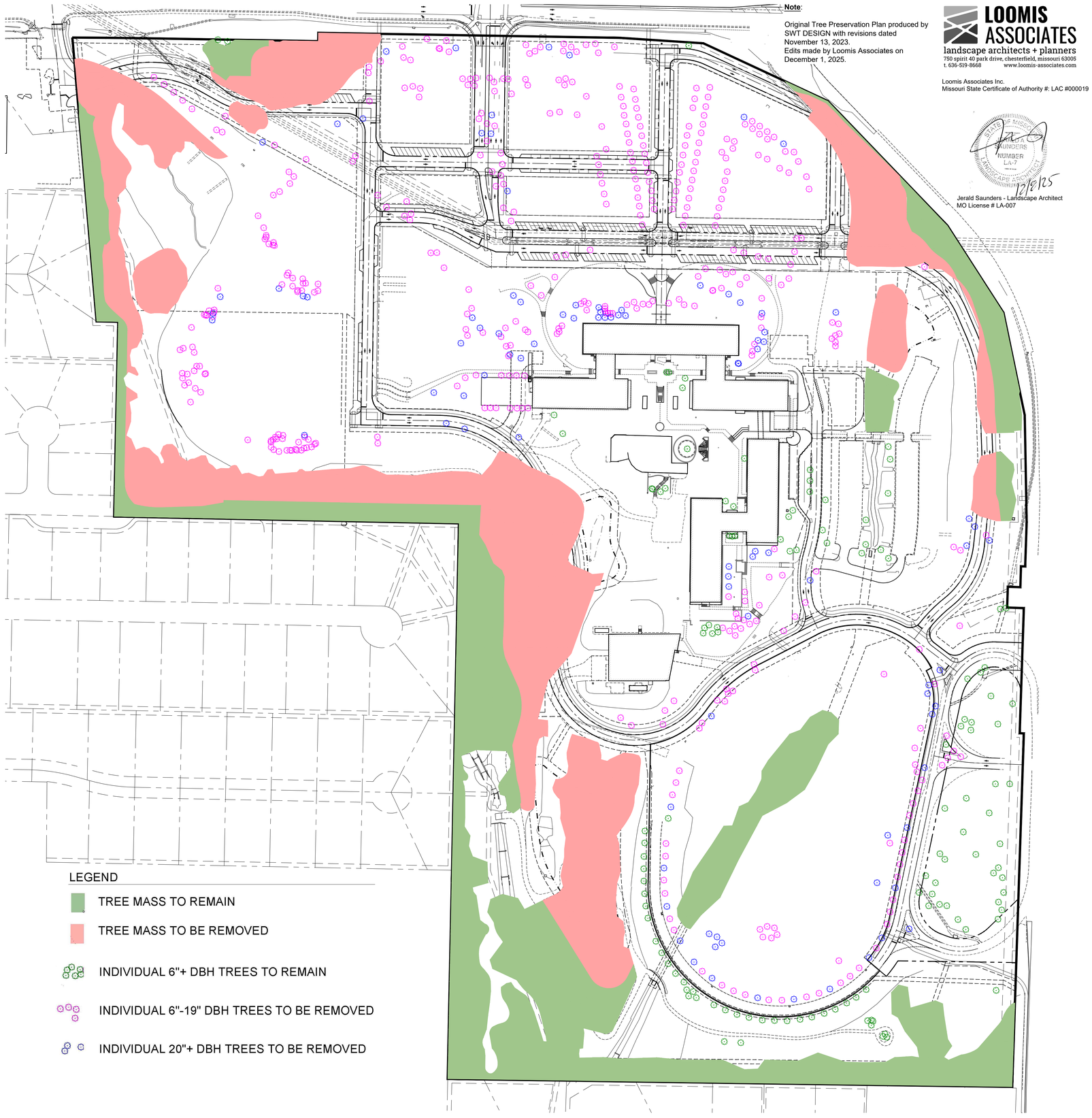
Note : Calcs do not yet account for hazardous, in poor condition, dead, diseased, or invasive trees. Final new trees required may be adjusted after existing dead and invasive trees have been accounted for by registered Landscape Architect.

Note:

Revised calcs editing made by Loomis Associates on December 1, 2025.
Some individual tree removals may be due to dead or diseased trees and are not included in individual existing tree quantities.

REVISED CALCS
(December 8, 2025)

TREE MASSES SURVEY	
<--- No change	
<--- No change	
<--- No change	
<--- No change	
INDIVIDUAL TREE SURVEY	
Total Existing 6" + Trees Surveyed	670
Existing 6"-19" Trees to be Removed	438
Existing 20" + Trees to be Removed	94
Total Existing 6" + Trees to be Removed	532
Total Existing 6" + Trees to Remain	138
% Existing 6" Trees to Remain	21 %
Total Individual Trees Removed over 50 %	197
PROPOSED TREE PLANTING (PHASE 1 / LOT 16)	
Total Trees to be Planted	916
Street Trees to be Planted	126
Non-Street Trees to be Planted	790
-	



Note:

Original Tree Preservation Plan produced by SWT DESIGN with revisions dated November 13, 2023.
Edits made by Loomis Associates on December 1, 2025.

LEGEND

- TREE MASS TO REMAIN
- TREE MASS TO BE REMOVED
- INDIVIDUAL 6"+ DBH TREES TO REMAIN
- INDIVIDUAL 6"-19" DBH TREES TO BE REMOVED
- INDIVIDUAL 20"+ DBH TREES TO BE REMOVED

A TREE PRESERVATION PLAN
SCALE 1"=100'

0 100 200 400

NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY IN EVENTS OF DISCREPANCIES, OMISSIONS, AND/OR CONFLICTS IN THE DRAWINGS OR SPECIFICATIONS. THE CONTRACTOR IS NOT AUTHORIZED TO SCALE THE DRAWINGS. ALL QUESTIONS IN REFERENCE TO CONTRACT DOCUMENTS SHALL BE IMMEDIATELY DIRECTED TO THE LANDSCAPE ARCHITECT.

Call Before you DIG
TOLL FREE
1-800-344-7483
MISSOURI ONE-CALL SYSTEM INC.
MODOT (314) 340-4100

LOOMIS ASSOCIATES
landscape architects + planners
750 spirit 40 park drive, chesterfield, missouri 63005
t. 636-519-8668 www.loomis-associates.com

Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000019

STATE OF MISSOURI JERALD L. SAUNDERS NUMBER LA-7 LANDSCAPE ARCHITECT
12/8/25
Jerald Saunders - Landscape Architect
MO License # LA-007

PREPARED BY:
CMT Crawford, Murphy & Tilly
ONE MEMORIAL DRIVE, SUITE 500
ST. LOUIS, MO 63102
OFFICE NO. (314) 436-5500
LICENSE NO. 184-000631

CONSULTANTS:
SWT DESIGN
7722 Big Bend Blvd.
St. Louis, mo 63119
t. 314.644.5700

PRELIMINARY
NOT FOR CONSTRUCTION
DECEMBER 1, 2025

OLIA VILLAGE

LINDBERGH & OLIVE BLVD

OLIA VILLAGE
THE HEART OF CREVE COEUR

10300 OLIVE BLVD
CREVE COEUR, MO 63141

MARK	DATE	DESCRIPTION
8	12/8/25	CITY COMMENTS FOR LOT 16 (BY LA)
7	12/1/25	CITY COMMENTS FOR LOT 16 (BY LA)
6	11/13/23	LANDSCAPE CONCEPT PLANS
5	10/23/23	LANDSCAPE CONCEPT PLANS
4	9/26/23	LANDSCAPE CONCEPT PLANS
3	9/13/23	LANDSCAPE CONCEPT PLANS
2	8/11/23	LANDSCAPE CONCEPT PLANS

PROJECT NO:	23005201-00
CAD DWG FILE:	813.151_TREE PRESERVATION-SWT.DWG
DESIGNED BY:	WM
DRAWN BY:	MB/ZTS
CHECKED BY:	BR
APPROVED BY:	BR
COPYRIGHT:	CRAWFORD, MURPHY & TILLY, INC. 2023

SHEET TITLE

TREE PRESERVATION PLAN

LD-100

SHEET OF

DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS, AND RESERVATION OF EASEMENTS FOR THE VALE AT OLIA VILLAGE

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Section 3	Covenant for Staged Development	10
Section 4	Association: Membership, Board of Directors and Management Companies	11
Section 5	Assessments	13
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Exhibit C	Deficit Lending Terms	66
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DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS, AND RESERVATION OF EASEMENTS FOR THE VALE AT OLIA VILLAGE

THIS DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS AND RESERVATION OF EASEMENTS FOR THE VALE AT OLIA VILLAGE ("Declaration") is made as of _____, by **10300 OLIVE LLC** (the "Declarant"), under the following circumstances:

A. Declarant is the owner in fee simple of certain real property located in St. Louis County, Missouri, more particularly described in **Exhibit A** attached hereto (the "Property") and desires to create a residential community consisting of Dwelling Units (as hereinafter defined) with permanent Common Elements (as hereinafter defined) for the benefit of said community; and

B. Declarant desires to provide for the preservation of the values and amenities in said community and for the maintenance of said Common Elements, and to this end, desires to subject the Property to the covenants, conditions, restrictions, easements, charges and liens, hereinafter set forth, each and all of which is and are for the benefit of said Property and the subsequent Owners thereof; and

C. Declarant has deemed it desirable, for the efficient preservation of the values and amenities in said community, to create an Association to which should be delegated and assigned the powers and duties of maintaining and administering the Common Elements and administering and enforcing the within covenants and restrictions and disbursing the charges and Assessments hereinafter created; and

D. Declarant has formed The Vale at Olia Village Homeowners' Association, Inc., as a Missouri not-for-profit corporation (the "Association"), which shall be responsible for the maintenance, management and control of the Common Elements on the Property.

NOW, THEREFORE, Declarant hereby declares that all of the Property described in **Exhibit A** and such Additional Property as may be subjected to the provisions hereof, shall be held, sold and conveyed, subject to the covenants, conditions, restrictions, easements, charges and liens set forth in this Declaration, and any subdivision plat which includes the Property, which are for the purpose of protecting the value and desirability of, and which shall run with, the real property and be binding on all parties having any right, title, or interest in the Property or any part thereof, their heirs, successors and assigns, and shall inure to the benefit of each Owner thereof.

SECTION 1
DEFINITIONS

The words in this Declaration which begin with capital letters, other than words which would be normally capitalized, unless the context otherwise requires, shall have the meanings set forth in this Section 1.

1.1 "Access and Utility Easements" means and refers to any easements shown on any Record Plat for the Subdivision and marked "Access Easement," "Utility Easement," or any combination thereof, which shall be maintained as provided for in this Declaration.

1.2 "Additional Property" means property that may in the future be added to the Property and made subject to the provisions of this Declaration, and consists of all or any part of property determined by Declarant, in its sole and unfettered discretion, and may include any property in the vicinity of, adjacent to, or contiguous with the Property, or a part of the Property as it is then constituted.

1.3 "Architectural Guidelines" means as defined in Section 6 of this Declaration.

1.4 "Areas of Common Responsibility" means and refers to the Common Elements, together with those areas, if any, which by the terms of this Declaration or by contract or agreement become the responsibility of the Association, whether located within the Property or adjacent to it. The office of any property manager employed by or contracting with the Association, if located on the Property, or any public rights-of-way within or adjacent to the Property, regional retention/detention basins adjacent to the Property, or other areas adjacent to the Property that the Association determines, may be part of the Areas of Common Responsibility.

1.5 "Articles" and "Articles of Incorporation" mean those articles, filed with the Missouri Secretary of State, incorporating the The Vale at Olia Village Homeowners' Association, Inc., as a non-profit corporation under the provisions of Chapter 355 of the Missouri Revised Statutes, as the same may be amended from time to time.

1.6 "Assessments" mean General Assessment, Special Assessment, Individual Assessment, Working Capital Assessment, and Capital Contribution Assessment, or any other Assessments required by the Declaration or any Supplemental Declaration.

1.7 "Association" means and refers to The Vale at Olia Village Homeowners' Association, Inc., an Missouri not-for-profit corporation, and any successor organization, which owns, operates and maintains the Common Elements.

1.8 "Board" or "Board of Directors" means the Board of Directors of the Association or the Board of Directors as established by the Class B Member established pursuant to its Articles of Incorporation, Regulations, and this Declaration.

1.9 "Builder(s)" means Fischer Homes St. Louis, LLC, a Missouri limited liability company, its successors, assigns, affiliates, and such other persons or entities, approved in writing by Declarant, that may acquire one or more Lots from Declarant for the purpose of constructing Improvements thereon for resale to an Owner.

1.10 "Capital Contribution Assessment" means as defined in Section 5 of this Declaration.

1.11 "Class A Members" or "Class A Membership" means those Members of the Association consisting of all Owners except, during the Development Period, Declarant.

1.12 "Class B Member" or "Class B Membership" means, during the Development Period, Declarant, as a member of the Association.

1.13 "Common Elements" means and refers to all real property, or any interest therein, together with improvements located thereon, owned by, leased to the Association or granted as an easement to the Association, for the benefit, use and enjoyment of all its Members.

1.14 "Common Expenses" means as defined in Section 5 of this Declaration.

1.15 "Common Private Driveway" means and refers to any private road or driveway which is built or installed as part of the original construction or improvement of the Property by the Declarant and/or the Builder to serve more than one (1) Lot; and which may be situated on a dividing line between Lots or partly on one (1) Lot and partly on another Lot, together with any road or driveway which may be specifically designated by Declarant and/or Builder within a Common Driveway Easement, Private Driveway Easement, or a record plat and/or other recorded instrument.

1.16 "Common Private Driveway Easement" means and refers to all private driveway easement(s) located on the Property as shown on any Record Plat, or other recorded instrument. The areas within the easement(s) are sometimes referred to as the Common Private Driveway(s).

1.17 "Community-Wide Standard" means the standard of conduct, maintenance, or other activity generally prevailing throughout the Property. Such standard may be more specifically determined by the Board of Directors and Declarant.

1.18 "Conservation Easement" means and refers to all conservation easements, if any, located on the Property as shown on any Record Plat or recorded Easement Plat.

1.19 "Declarant" means 10300 OLIVE LLC, its successors, assigns, and affiliates.

1.20 "Declaration" means this Declaration of Covenants, Conditions and Restrictions and Reservation of Easements for The Vale at Olia Village as the same may from time to time be amended or supplemented in the manner prescribed herein.

1.21 "Default" means any violation of, breach of, or any failure to comply with, the Restrictions, this Declaration or any other Governing Documents as defined herein.

1.22 "Development Period" means the period commencing on the date on which this Declaration is recorded in the St. Louis County, Missouri Recorder of Deeds Office and terminating on the earlier to occur of: (i) within sixty (60) days following the date when one hundred percent (100%) of the Dwelling Units which may be built on the Property or Additional Property have been deeded by either Declarant and/or any Builder to a third party purchaser; or (ii) thirty (30) years from the date of recording of the Declaration.

1.23 "Dwelling Unit" means any building or portion of a building situated upon the Property designed and intended for use and occupancy as a residence by a single person, a family or family-sized group of persons, which residence may either be attached or detached.

1.24 "General Assessment" means as defined in Section 5 of this Declaration.

1.25 "Governing Documents" means the Declaration, the Regulations, the Articles of Incorporation, the Record Plat, the rules and regulations, if any, the management agreement, if any, entered into between the Association and any professional manager of the Property, and any other basic documents used to create and govern the Property.

1.26 "Improvements" means all Dwelling Units, buildings, outbuildings, sheds, garages and other structures; overhead, aboveground and underground installations, including without limitations, utility facilities and systems, lines, pipes, wires, towers, cables, conduits, poles, antennae and satellite dishes; flagpoles; swimming pools, hot tubs, spas, tennis courts, and all other types of recreational courts, fixtures and facilities, including but not limited to, tree houses, play houses, children's recreational equipment or structures, basketball goals and playground equipment; pet houses, runs, and enclosures; changing of colors or materials of the Improvements; exterior lighting; slope and drainage alterations; roads, driveways, uncovered parking areas and other such areas; fences, mailboxes; trellises, walls, retaining walls, exterior stairs, decks, patios and porches; planted trees, hedges, shrubs and other forms or landscaping; and all other structures or Improvements of every type, constructed or maintained on the Property.

1.27 "Individual Assessment" means the charge established in Section 5 of this Declaration.

1.28 "Landscape, Fencing and Signage Easement" means as defined in Section 9 of this Declaration.

1.29 "Lot(s)" means each of the parcels of land shown as such upon the Record Plats of the Property and may be one of the following described Lots:

(a) Single Family Lot is a Lot upon which a single Dwelling Unit is situated, typically with minimal or no maintenance services but specifically as described herein.

(b) Patio Home Lot is a Lot upon which a single Dwelling Unit is situated, typically with some provided maintenance services but specifically as described herein.

(c) Paired Lot (whether Paired Patio or Paired Townhome) is a Lot upon which attached Dwelling Units that share a common wall each of which is situated on its own fee simple property with maintenance services as described herein. The Dwelling Units may be more than one story. The Dwelling Units may not be severed from one another.

1.30 "Maintenance Standards" means those standards adopted by Declarant and/or the Board pursuant to Section 8 of the Declaration as the same may from time to time be amended.

1.31 "Members" means all Class A Members and the Class B Member.

1.32 "Maintenance Assessment" means as defined in Section 5.3 of this Declaration.

1.33 "Occupant" means any person in possession of a Lot or Dwelling Unit whether or not such possession is lawful and shall include but not be limited to, an Owner's family members, guests, invitees, Tenants and lessees.

1.34 "Open Spaces" means and refers to all open spaces, reserve spaces, C.A. spaces, and/or common areas located on the Property as shown on any Record Plat, which are for the benefit of the Owners in the Subdivision.

1.35 "Owner" means, with respect to any Lot, the owner of record from time to time, whether one or more persons or entities, of an interest in fee simple, reversion, remainder or leasehold estate of 99 years or more, but shall not include the Association. Such term shall include contract sellers except those having an interest merely as security for the performance of an obligation.

1.36 "Private Driveway Easement" means and refers to all private driveway easement(s) located on the Property as shown on any Record Plat. The areas within the easement(s) are sometimes referred to as the Common Private Driveway(s).

1.37 "Private Easements" means and refers to any drainage, utility, sanitary sewer, or storm sewer easement, or any combination thereof, shown on any Record Plat. These areas are for the benefit of all Lot Owners and any applicable government agency having jurisdiction over them and shall be maintained as provided for in this Declaration or Record Plat.

1.38 "Private Street" means any street constructed by the Declarant, which has not been dedicated to a municipality, on the Property providing primary access to individual Lots within the Subdivision as shown on any Record Plat for the Subdivision and intended to be owned and maintained by the Association as a Common Element.

1.39 "Property" means that certain land more particularly described in **Exhibit A** to this Declaration. When portions of the Additional Property are subjected to this Declaration pursuant to Section 3 herein, those portions shall then be deemed part of the Property.

1.40 "Record Plat" means a plat of The Vale at Olia Village as recorded in the St. Louis County, Missouri Recorder of Deeds records, including any subsequent plats or replats.

1.41 "Recreational Facilities" means any facilities now or hereafter installed on the Property for the benefit of Owners and Occupants, which may include, but not be limited to, swimming pools, bath houses, clubhouses, shelters, ponds, walking trails, gazebos, playgrounds and surrounding areas, and any portions of the Common Elements on which recreational activity is permitted.

1.42 "Regulations" means the Code of Regulations or Bylaws of the Association, as the same may be amended from time to time, pursuant to Chapter 355 of Missouri Revised Statutes, a copy of which is attached hereto as **Exhibit B** and made a part hereof.

1.43 "Restrictions" means all covenants, conditions, restrictions, easements, charges, liens and other obligations provided for in this Declaration, including, without limitation, the Maintenance Standards and all notices, rules and regulations issued in accordance with this Declaration.

1.44 "Retention and Detention Areas or Ponds" means and refers to any area designated on any Record Plat as such, or any combination thereof, which shall be used or designated to retain or temporary detain surface drainage which Declarant, its successors and assigns, have been required to construct or make use of in connection with surface drainage by any official agency of St. Louis County in connection with the development of the Property.

1.45 "Special Assessment" means as defined in Section 5 of this Declaration.

1.46 "Structure" means:

(a) any thing or object (other than trees, shrubbery, hedges, and landscaping which are less than two feet high) the placement of which upon any part of the Property may affect the appearance of the Property, including, without limitation, porch, deck, shed, barn, storage facility, covered or uncovered patio, fence, curbing, paving, wall, signboard or any other temporary or permanent Improvement; and

(b) any excavation, fill, ditch, dam or other thing or device which affects or alters the natural flow of surface waters from, upon or across any part of the Property, or which affects or alters the flow of any waters in any natural or artificial stream, wash or drainage channel from, upon or across any part of the Property.

1.47 "Subdivision" means all phases or sections of the Record Plat for The Vale at Olia Village, a subdivision in St. Louis County, Missouri, and consisting of all the Property from time to time made subject to the provisions of this Declaration.

1.48 "Supplemental Declaration" means an amendment or supplement to this Declaration executed by or consented to by Declarant which subjects all or any portion of the Additional Property to this Declaration and/or imposes, expressly or by reference, additional restrictions and obligations on the land subject to this Declaration.

1.49 "Tenant" means any person occupying any Lot pursuant to a written lease agreement with the Owner thereof or with any other person or entity claiming under the Owner.

1.50 "Working Capital Assessment" means as defined in Section 5 of this Declaration.

SECTION 2
PROPERTY SUBJECT TO THIS DECLARATION

The Property, each portion thereof, and all Dwelling Units thereon shall be held, transferred, sold, conveyed, leased, mortgaged and occupied subject to the terms, provisions, covenants and conditions of this Declaration.

SECTION 3
COVENANT FOR STAGED DEVELOPMENT

3.1 Staged Development. Declarant reserves the right at any time within the Development Period to remove any portion of the Property, annexed to the Property by Declarant, from the scope of the Declaration or to make subject to or annex any portion of the Additional Property to this Declaration without the consent of the Members of the Association, provided Developer must obtain approval from the City of Creve Coeur to remove any portion of the Property. However, Declarant is not bound to annex any of the Additional Property to this Declaration, and until such time as any of the Additional Property is annexed, the same shall not be subject to the provisions of this Declaration. Declarant shall have the right and power, but neither the duty nor the obligation, in its sole and unfettered discretion, to subject all or any part of the Additional Property to the provisions hereof at any time and from time to time by executing and recording with the St. Louis County, Missouri Recorder of Deeds Office, an amendment to this Declaration or a supplemental declaration specifying that such Additional Property is part of The Vale at Olia Village. Such an amendment shall not require the joinder or signature of the Association, other Owners, mortgagees, or any other Person. In addition, such amendments to this Declaration

or supplemental declaration may contain such supplementary, additional, different, new, varied, revised or amended provisions as may be necessary or appropriate, as determined by Declarant, to reflect and address the different character or intended development of any such Additional Property.

3.2 Total Dwelling Units. The total number of Dwelling Units or Lots for the Property and the Additional Property shall not exceed the total number of Dwelling Units and Lots authorized by the zoning authority having jurisdiction over the development of the Property.

3.3 Supplemental Declaration for Staged Development. Owners of Lots subject to such amendment or supplemental declaration shall be Owners as defined by this Declaration.

3.4 Declarant's Rights to Complete Development. Declarant, its successors and assigns, shall have the right to post signs on its property incidental to the development, construction, promotion, marketing, sale and leasing of property within the Subdivision, and the right of ingress and egress through the streets, paths and walkways located in Common Elements for any purpose whatsoever, including but not limited to, purpose related to the construction, maintenance and operation of Improvements on property within the Subdivision. Nothing contained herein shall limit the rights of Declarant or require Declarant to obtain approval to: (i) excavate, cut, fill or grade any property owned by it or to construct, alter, remodel, demolish or replace any Improvements on any Common Elements or any property owned by it as a construction office, model home or real estate sales or leasing office in connection with the sale of any property; or (ii) require it to seek or obtain the approval of the Association or the ARC for any such activity or Improvement on any Common Elements or any property owned by it. Nothing contained herein shall limit or impair the reserved rights of Declarant as elsewhere provided in the Declaration.

SECTION 4
ASSOCIATION: MEMBERSHIP, BOARD OF DIRECTORS AND MANAGEMENT COMPANIES

4.1 Formation of the Association. The Declarant has caused or will cause the Association to be incorporated. The purpose of the Association is to provide for the administrative governance, maintenance, management and upkeep of the Property and to promote the general health and welfare of the Owners and Occupants of the Property.

4.2 Rules and Regulations. The Association through its Board may make and enforce reasonable rules and regulations governing the use of the Common Elements owned by the Association ("Rules"); the levying and collection of assessments for the operation of the Association; the levying and collection of administrative and enforcement charges for the infraction of the Governing Documents, including but not limited to the Rules, and the covenants, conditions, restrictions, governing organizational documents and rules imposed on or encumbering any Lot within the Subdivision; and for other purposes consistent with

its goals. All such Rules shall be consistent with the provisions of the Governing Documents. The Association shall have the power to impose sanctions on Owners, including without limitation: (i) reasonable monetary administrative charges which shall be considered Individual Lot/Unit Assessments; (ii) suspension of the right to vote as a Member of the Association; and (iii) suspension of the right of the Owner and the Owner's Occupants, licensees, and invitees, to use the Common Elements for a period not exceeding sixty (60) days, for any infraction of the Governing Documents, including but not limited to the Rules, imposed on or encumbering any Lot within the Subdivision. In addition, the Board shall have the power to seek relief in any court for violations of, or, to abate violations of the Governing Documents, including but not limited to the Rules imposed on or encumbering any Lot within the Subdivision. If the Board expends funds for attorneys' fees or litigation expenses in connection with enforcing any provision of the Governing Documents, including but not limited to the Rules, imposed on or encumbering any Lot within the Subdivision, or otherwise, the amount so expended shall be due and payable by the Owner or Owners of the Lot or Unit, whose Owner, Occupant, Tenant, licensee, or invitee violated any provision of the Governing Documents, including but not limited to the Rules, and the same shall be an individual Lot/Unit Assessment against such Owner's Lot or Unit and such Owner.

4.3 Board of Directors. Until the expiration of the Development Period, the initial Board shall consist of three (3) persons appointed by the Class B Member who shall serve until their respective successors are elected and qualified. Directors appointed by the Declarant need not be Members of the Association. However, a Director elected by Class A Members shall be a Lot Owner, except that if a Lot Owner is a corporation, partnership, joint venturer, or other entity, the Lot Owner may elect as a Director an officer, partner, joint venturer, or like individual affiliated with this Lot Owner.

Within ninety (90) days after the expiration of the Development Period, the President of the Association shall call a special membership meeting ("Development Period Special Meeting"). At the Development Period Special Meeting, all Declarant appointed Directors shall be deemed removed from office, and the Class A Members, including the Declarant if it is then an Owner, shall elect a Director to fill each vacancy on the Board. The terms of said elected Directors for the initial Class A Member elected board, shall be from one (1) to two (2) years so that any year thereafter, at least one (1) term shall expire. The two Directors with the most votes shall be the Directors who shall serve a two (2) year term. The remaining Director shall serve a one (1) year term. Subsequent to the Development Period Special Meeting, all Directors, and their successors, shall be elected by Class A Members and shall be elected for a two (2) year term. Furthermore, at any Annual Meeting subsequent to the Development Period Special Meeting, the Board may elect to expand the number of Directors to five (5) but in no event shall the number of Directors be less than three (3).

Notwithstanding anything above to the contrary, the Class B Member may, by written notice to the Board, at or before any Annual Meeting, relinquish to the Class A Members,

the Class B Member's right to appoint one or more Directors at such Annual Meeting pursuant to this Section 4.

4.4 Membership. The membership of the Association shall at all times consist exclusively of Owners. All Owners shall be Members. Membership shall be appurtenant to and may not be separated from such ownership.

4.5 Members Rights and Duties. Each Member shall have the rights, duties and obligations set forth in this Declaration and all amendments duly made hereto in accordance with the terms herein.

4.6 Professional Management Contracts. The Association may delegate all or any portion of its authority to discharge its responsibilities herein to a manager or managing agent. Any management agreement shall not exceed three (3) years and shall provide for termination by either party without cause and without payment of a termination fee on sixty (60) days or less written notice.

SECTION 5
ASSESSMENTS

5.1 Creation of Assessments. There are hereby created Assessments for Association expenses as may from time to time specifically be authorized by the Board of Directors, to be commenced at the time and in the manner set forth in this Section 5. The types of Assessments described in this Section 5 are (1) General Assessment; (2) Special Assessment; (3) Individual Assessment; (4) Working Capital Assessment; and (5) Capital Contribution Assessment. Each Owner, by acceptance of a deed or recorded contract of sale for any portion of the Property, is deemed to covenant and agree to pay these Assessments.

(a) Owners may not waive or otherwise exempt themselves from liability for the Assessments provided for herein, including, by way of illustration and not limitation, by non-use of Common Elements or abandonment of the Dwelling Unit. The obligation to pay Assessments is a separate and independent covenant on the part of each Owner. No diminution or abatement of Assessments or set-off shall be claimed or allowed by reason of any alleged failure of the Association or Board to take some action or perform some function required to be taken or performed by the Association or Board under this Declaration or the Regulations, or for inconvenience or discomfort arising from the making of repairs or improvements which are the responsibility of the Association, or from any action taken to comply with any law, ordinance, or with any order or directive of any municipal or other governmental authority.

(b) Notwithstanding any provision of this Declaration, the Articles of Incorporation, or Regulations to the contrary, Declarant and Builder, until the expiration of the Development Period, shall not be required to pay any Assessments for any recorded, "unoccupied" Lot in which they have the interest otherwise required for Class A

Membership. Furthermore, Declarant shall have the right, by written contract, to exempt any party purchasing a Lot not for its own occupancy of a house on such Lot from the liability to pay assessments herein.

5.2 General Assessment. The General Assessment levied by the Association is for the purposes of promoting the recreation, scenic enjoyment, health, welfare and safety of the residents and for protecting, advancing and promoting the environmental concept of the Property and preserving the aesthetic and scenic qualities of the development. The General Assessment shall be levied by the Association against the Owner of each Dwelling Unit or Lot, as provided in Section 5, to be used currently, and to provide an adequate reserve fund for future use, for the improvement, expansion and maintenance of the Common Elements, including, but not limited to, the payment of real estate taxes on those portions of the Common Elements to which the Association is the record owner; casualty and liability insurance for the Common Elements to which the Association is the record owner and fidelity bonds; the cost of repairing, maintaining and replacing the landscaping in the Common Elements; the cost of supplying water to the Common Elements; the costs of operation, maintenance, improvement, and replacement of the Recreational Facilities, Open Spaces, Landscape Easement Areas and Signage Easement Areas, and retention/detention or other stormwater management facilities; the cost of reasonable reserves for contingencies, replacements and working capital; management fees; organizational costs; legal costs for the enforcement of liens and covenants in this Declaration; costs of compliance with applicable laws and ordinances; and all other costs incurred by Declarant or the Board in the exercise of its powers and duties pursuant to this Declaration (collectively "Common Expenses"). The General Assessment shall be estimated initially in accordance with Section 5 of this Declaration. The obligation to pay the General Assessment shall not in any manner be dependent on or discharged, or otherwise affected by the use or non-use of the Common Elements or Recreational Facilities, or the actual occupancy of any Lot or Dwelling Unit of the Property.

5.3 Maintenance Assessments. Some Lots may receive additional services such as lawn services and mulching, as more particularly described in the Exhibits to this Declaration, the costs for which may be billed separately as a Maintenance Assessment. As an alternative, the Maintenance Assessment may be included in the General Assessment for ease of accounting purposes, the billing of which shall be left to the discretion of the Board. A homeowner may request that all billed assessments be itemized separately, however, in the event the Board cannot or will not comply with same, it shall not preclude the homeowner’s duty to pay the assessments.

5.4 Computation of General Assessment. It shall be the duty of the Board, prior to the beginning of each fiscal year, to prepare a budget covering the estimated Common Expenses of the Association during the coming year. The budget shall include a capital reserve account for the capital replacement, as needed.

(a) The General Assessment for each Dwelling Unit shall commence upon its conveyance from either Declarant or Builder to an individual Owner of a Dwelling Unit and shall be prorated from the date of conveyance through the end of the billing period.

(b) The General Assessment to be levied against each Dwelling Unit for the coming year shall be determined by multiplying the total budgeted Common Expenses, including reserves, by a fraction, the numerator of which is the number "1," and the denominator of which is the total number of Dwelling Units or Lots subject to Assessment.

(c) Notwithstanding the above, the Board may, in its sole discretion, reduce the General Assessment determined pursuant to the above formula by taking into account:

(i) Other sources of funds available to the Association; and

(ii) Assessments to be levied upon additional Dwelling Units or Lots reasonably anticipated to become subject to Assessments during the fiscal year.

(d) So long as Declarant has the right unilaterally to annex Additional Property pursuant to Section 9 below, Declarant may elect on an annual basis, but shall not be obligated, to reduce the resulting General Assessment for any fiscal year by payment of a subsidy; provided, any such subsidy shall be conspicuously disclosed as a line item in the income portion of the Common Expense budget and shall be made known to the membership. The payment of such subsidy in any year shall under no circumstances obligate Declarant to continue payment of such subsidy in future years.

(e) The Board shall cause a copy of the Common Expense budget and notice of the amount of the General Assessment to be levied against each Dwelling Unit or Lot for the following year to be delivered to each Owner at least fifteen (15) days prior to the beginning of the fiscal year. If, in the event the Board fails for any reason to determine the budget for any year, then and until such time as a budget shall have been determined by the Board, the budget in effect for the immediately preceding year shall continue.

5.5 Special Assessment. In addition to the other Assessments authorized herein, and to the extent that the reserve fund is insufficient, the Association may levy Special Assessments for the following reasons:

(a) The amount of any operating deficit incurred in any calendar year may be paid by means of a Special Assessment sufficient in an amount so as to allow the Association to satisfy such deficit in part or in whole, provided that any such Special Assessment shall have been approved in accordance with Section 5.

(b) To the extent that the capital budget is insufficient, the Association may levy Special Assessments to construct, structurally alter, or replace capital Improvements which are a part of the Common Elements in any fiscal year.

(c) So long as the total amount of Special Assessments allocable to each Lot or Dwelling Unit does not exceed One Hundred Percent (100%) of the General Assessment for that fiscal year, the Board may impose the Special Assessment. Any Special Assessments which would cause the amount of Special Assessments allocable to any Lot or Dwelling Unit to exceed this limitation shall be effective only if approved by a majority vote of the Members present and voting at a meeting duly called for such purpose. Special Assessments shall be paid as determined by the Board, and the Board may permit Special Assessments to be paid in installments extending beyond the fiscal year in which the Special Assessments is imposed.

5.6 Individual Assessment. The Association after approval by a majority of the members of the Board shall have the right to assess an individual Lot or Dwelling Unit for any of the following ("Individual Assessment"):

(a) any costs incurred for maintenance or repair caused through the willful or negligent act of an Owner or Occupant or their family, tenants, guests or invitees, including attorney fees, court costs and other expenses incurred; and/or

(b) any costs associated with the enforcement of this Declaration or the Rules and Regulations, if any, of the Association, including, but not limited to attorney's fees, witness fees and costs, and court costs.

5.7 Working Capital Assessment. At the time of closing on the sale of each Lot from Builder or Declarant to a third party purchaser, the purchaser shall be required to pay an amount established by the Board, or the amount equal to the current annual assessment, as such purchaser's capital contribution to the working capital of the Association ("Working Capital Assessment"). The Builder or Declarant, in its sole discretion, may waive the Working Capital Assessment. The Working Capital Assessment amount shall be determined by the Board of Directors. The Working Capital Assessment shall be used by the Association for its operating expenses. Such Working Capital Assessment is not an advance payment of the General Assessment or any other Assessment established herein and will not be held in any sort of trust or reserve account. Declarant and Builder shall not be required to pay any Working Capital Assessment as described in this paragraph.

5.8 Capital Contribution Assessment. At the time of closing on the resale of a Dwelling Unit or Lot to a subsequent purchaser, said subsequent purchaser shall be required to pay one hundred percent (100%) of the current Working Capital Assessment as such purchaser's capital contribution to the working capital of the Association ("Capital Contribution Assessment"). The Capital Contribution Assessment shall be used by the Association for its operating expenses. Such Capital Contribution Assessment is not an advance payment of the General Assessment or any other Assessment established herein and will not be held in any sort of trust or reserve account. Declarant and Builder shall not be required to pay any Capital Contribution Assessment as described in this paragraph.

5.9 Common Surplus. If the General Assessment collected in any given year is in excess of the actual Common Expenses for that year, the Board may, at its sole discretion (a) return each Owner's share of the Common Surplus; (b) credit each Owner's share of the Common Surplus to each Owner's payment as for the General Assessment for the following year; (c) apply the Common Surplus to the reserve; or (d) repay any loan obtained by the Board, on behalf of the Association, used to fund any prior year's operating deficit as provided for in Section 5.

5.10 Payment. Unless otherwise established by the Board, the General Assessment shall be paid in advance in annual installments not more than ten (10) days after the due dates established by the Board. The Board shall have the power at any time to adopt such billing, collection and payment procedures and payment time schedules as it shall deem appropriate. Additionally, any Special Assessment or Individual Assessment imposed by the Board shall become due upon the date designated in the notice, but not less than thirty (30) days after the mailing of the notice to the Owner by United States mail. **At the time of closing on a Lot or Dwelling Unit from either Declarant or Builder to a third party purchaser, each purchaser of a Dwelling Unit or Lot shall be required to pay the Working Capital Assessment and a prorated share of the General Assessment for the balance of the billing period in which the closing takes place. Further, at the time of a resale closing of a Dwelling Unit or Lot to a subsequent purchaser, such subsequent purchaser shall be required to pay the Capital Contribution Assessment, as provided in Section 5, and a prorated share of the General Assessment for the balance of the billing period in which the closing takes place.**

5.11 Operating Deficit. If during the Development Period the Association incurs an operating deficit, Declarant, Builder or any other affiliated entity of Declarant ("Affiliated Entity"), may, at its option, loan funds to the Association to fund the deficit. In the event that Declarant, Builder and/or Affiliated Entity elects to fund the deficit, the Association shall execute a loan agreement and promissory note for the benefit of Declarant, Builder and/or Affiliated Entity, as the case may be, the form of which shall comply with the terms and conditions ("Deficit Lending Terms") set forth in **Exhibit C** attached hereto and made a part hereof. The Association shall be obligated to repay to the Declarant, Builder and/or Affiliated Entity, as the case may be, any and all monies lent by such entity to the Association in accordance with this Section 5 in order to fund any deficit. Such repayment of monies shall be in accordance with the terms and conditions of said loan agreement and promissory note.

5.12 Books and Records of the Association. The Association shall keep full and correct books of account. The Association shall make available to all Lot Owners and the holders of all first mortgages on Lots, current copies of the books, records and financial statements of the Association upon reasonable request during normal business hours. All funds collected by the Association shall be held and expended solely for the purposes designated by this Declaration and shall be deemed to be held for the use, benefit and account of the Association and all of the Lot Owners. The Association may charge a reasonable fee to

cover the cost of copies, mailings, storage retrieval fees, and administrative fees incurred for same.

5.13 Penalty for Late Payment. For each Lot as to which any installment of any Assessments are not paid within a period of thirty (30) days from its due date, unless otherwise modified by the Board, there shall be added to the installment a penalty of ten percent (10%) thereof, and interest at the rate of twelve percent (12%) per annum, or such other amount established by the Board (or, if less, the maximum rate allowable by law) from the due date on the amount of such installment plus penalty until paid.

5.14 Creation of Lien and Personal Obligation of Assessment. All Assessments shall be a charge and lien on each Lot to the extent and for the period provided in Section 5, and shall also be the personal obligation of the Owner of each Lot against which they are made.

5.15 Liens. If any Assessment on a Lot is not paid within the period established by the Board pursuant to Section 5 herein, the amount thereof together with any interest, costs, penalties and reasonable attorneys' fees thereon shall constitute a lien on such Lot in favor of the Association prior to all other liens and encumbrances whatsoever, excepting real estate taxes and assessments and liens of record in favor of the United States of America, the State of Missouri, and all other political subdivisions or governmental instrumentalities of the State of Missouri to the extent made superior by applicable law, and all bona fide recorded first mortgages and the rights of any first mortgagee who comes into possession of a Lot pursuant to mortgage foreclosure or by deed in lieu thereof. Assessments shall become a lien on a Lot on the date the Board mails written notice of any such Assessment to the Owners of any Lot subject thereto. The Association may perfect the lien by recording a notice of lien with the Recorder of Deeds Office, in any legally recordable form. Nonpayment of any Assessment on a Lot shall be deemed and is hereby declared to be the happening of a condition or event that creates an interest in real estate.

5.16 Evidence of Payment. Upon the request of the Owner or any mortgagee or Tenant of any Lot or any prospective purchaser, mortgagee, or Tenant thereof, the Board or its designated representative shall furnish written evidence of the amount of the Assessments with respect to such Lot for the current year and the amount of any unpaid Assessments, penalty and interest, if any. Such evidence may be conclusively relied upon by any such party and by anyone furnishing any title evidence or opinion with respect to such Lot. A reasonable charge may be imposed for furnishing such written evidence.

5.17 Enforcement of Lien. Any lien established under this Declaration may be enforced by the Association in the same manner and to the same extent (including appointment of a receiver, foreclosure sale and deficiency judgment) and subject to the same procedures as in the case of foreclosure of a real property mortgage under the laws of the State of Missouri. In any such enforcement proceeding, the amount which may be recovered by the Association shall include all costs of such proceeding, including reasonable attorneys' fees. In any such foreclosure sale, the Association may become the purchaser. Any enforcement

proceedings described herein are not subject to the Dispute Resolution provisions described in Section 14.

5.18 Subordination of Lien to First Mortgage. The mortgagee of a first mortgage of record on a Lot shall have no obligation hereunder to collect any Assessments chargeable to such Lot. Failure of a Lot Owner to pay any Assessments imposed in this Declaration shall not automatically be deemed a default under the first mortgage of record on that respective Lot. In addition, when the mortgagee of a first mortgage of record, or other purchaser of a Lot as a result of judicial execution, acquires title to the Lot as a result of foreclosure of the first mortgage or by deed in lieu of foreclosure, such acquirer of title, his, her or its heirs, successors and assigns, shall not be solely liable for the share of the Assessments chargeable to such Lot which became due prior to the acquisition of title to such Lot by such acquirer. Any lien against such Lot shall be canceled and voided, and shall become unenforceable. Such unpaid share of Assessments shall be deemed to be Common Expenses collectible from all of the Lots, including that of such acquirer, his, her or its heirs, successors or assigns.

SECTION 6
ARCHITECTURAL REVIEW

6.1 Architectural Review Committee. The Board, or the Declarant during the Development Period, may appoint an Architectural Review Committee ("ARC") to review and approve, modify or reject all development, construction, landscaping and site plans involving an Improvement on any Lot pursuant to this Section 6. If an ARC has not been appointed in accordance with the foregoing, any reference in this Section 6 to ARC shall mean the Declarant during the Development Period or the Board thereafter.

6.2 Alteration of Dwelling Unit and Structures. Except for initial construction of Dwelling Units, accessory Structures and Common Elements by either Declarant and/or Builder, no building, privacy screening panels, fence, wall, deck or other Structure shall be commenced, constructed, erected, placed, moved onto or permitted to remain on any Lot, nor shall any Dwelling Unit, Improvement and/or Structure on any Lot be remodeled, painted or altered or expanded in any way which changes the exterior appearance thereof, unless detailed plans and specifications therefor shall have been submitted to and approved in writing by the ARC. Such plans and specifications shall be in such form and shall contain such information as the ARC may reasonably require, including but not limited to any or all of the following: a site plan; patio and walkway locations; description of materials; location of lighting; architectural plans including cross-sections, floor plans and elevations; and evidence of conformity with building codes. The ARC shall either approve the plans and specifications, disapprove them, or approve them with conditions or qualifications.

6.3 Approval of Plans and Specifications. The ARC shall approve plans and specifications submitted to it with respect to any Lot (or subdivision of Lots) if it finds that they comply with the requirements of Section 6, will further the purposes outlined in this Declaration

and meets Architectural Guidelines adopted by the ARC. Upon final approval thereof, a copy of the detailed plans and specification shall be kept as part of the Association's records and a copy bearing the written approval of the ARC shall be returned to the applicant. Approval by the ARC of plans and specifications with respect to any Lot shall not impair the ARC's right subsequently to approve a requested amendment of such plans and specifications relating to such Lot (subject to the requirements of Section 6). The ARC's approval of any plans and specifications shall not constitute a representation or warranty as to the quality of the plans and specifications or their compliance with applicable laws and codes.

6.4 Architectural Guidelines. The ARC may adopt reasonable architectural guidelines and rules relating to the construction, erection and placement of buildings, fences, privacy screening panels, walls and structures in order to fulfill its obligations under Section 6. Such guidelines and specifications may include but not be limited to building materials, minimum or maximum sizes, dimensions or heights, color schemes, material finishes, locations, setbacks or other reasonable requirements.

6.5 Disapproval of Plans and Specifications. If plans and specifications (whether schematic, preliminary or detailed) submitted to the ARC with respect to any Lot do not comply with the Architectural Guidelines, if any, and the requirements of Section 6 as to the information required to be included in the plans and specifications, the ARC shall either disapprove such plans and specifications or approve them subject to such conditions and qualifications as the ARC may deem necessary to achieve compliance. The ARC, in its sole discretion, may refuse to grant permission to construct, place or make the requested Improvement, when:

(a) the plans, specifications, drawings or other material submitted are, themselves, inadequate to incomplete, or show the proposed Improvement to be in violation of these Declarations, the plat restrictions or any rules, regulations or guidelines adopted by the ARC;

(b) the design or color scheme of a proposed Improvement or the materials proposed to be used are not in harmony with the general surroundings of the Lot, adjacent buildings, or structures; or

(c) the proposed Improvement, or any thereof, would, in the sole opinion of the ARC, be contrary to the interest, welfare or rights of all of part of other Owners.

6.6 Failure of the ARC to Act. If the ARC shall fail to act upon any plans and specifications submitted to it within ninety (90) days after submission thereof, such plans and specifications shall be deemed to have been approved as submitted, and no further action by the ARC shall be required. If construction of a Structure is not commenced on a Lot on or before six (6) months from the date of submission of plans and specifications, then such "deemed approval" shall be automatically canceled and a new submission shall be required.

6.7 Violations. If any Dwelling Unit and/or Structure situated upon any Lot shall have been constructed, erected, placed, remodeled or altered other than in accordance with the approved plans and specifications, the ARC shall give notice of a Default to the Owner of the Lot involved, provided, however, that the ARC may, upon such conditions as it may determine, waive any such Default if it finds that such Default does not substantially conflict with the policies of the ARC.

6.8 Enforcement. In the event of a violation of the provisions of this Section 6, the Association shall have the right to enforce this Section 6 by any proceedings authorized in this Declaration, the Regulations, or rules and regulations, if any, as well as any other relief available at law or in equity.

6.9 Right of Entry. The ARC through its members, employees, and agents, shall have the right to enter upon any Lot at all reasonable times for the purpose of ascertaining whether such Lot or the construction, erection, placement, remodeling, or alteration of any Dwelling Unit and/or Structure thereon is in compliance with the provisions of Section 6, without the ARC or such officer, employee or agent being deemed to have committed a trespass or wrongful act solely by reason of such action or actions.

6.10 Fees. Reasonable fees may be charged for the processing of plans and specifications. Such fees may cover the cost of such processing, including inspection costs. Such fees shall be payable at the time of submission of the respective item for approval.

6.11 Approval of Plans by Declarant. Notwithstanding anything to the contrary in Section 6, during the Development Period (which may still be in effect even after the Development Period Special Meeting), the plans and specifications for the initial construction of a Dwelling Unit shall be subject only to Declarant's approval and shall not be approved by the ARC.

6.12 No Waiver of Future Approvals. The Approval of the ARC of any proposals or plans and specifications or drawings for any work done or proposed, or in connection with any other matter requiring the approvals and consent of such ARC, shall not be deemed to constitute a waiver of any right to withhold approval or consent as to any similar proposals, plans and specifications, drawings, or matters whatever subsequently or additionally submitted for approval or consent.

6.13 Variance. The ARC may authorize variances from compliance with any of its guidelines and procedures when circumstances such as topography, natural obstructions, hardship, or aesthetic or environmental considerations require, but only in accordance with duly adopted rules and applicable zoning laws, ordinances and regulations. Such variances may only be granted, however, when unique circumstances dictate and no variance shall (a) be effective unless in writing, (b) be contrary to the restrictions set forth in the body of this Declaration, or (c) stop the ARC from denying a variance in other circumstances. For the

purpose of Section 6, the inability to obtain approval of any governmental agency, the issuance of any permit, the terms of any financing, or the initiation of work without the required approval of the ARC shall not be considered hardships warranting a variance.

6.14 Compliance with Guidelines. Any contractor, subcontractor, agent, employee or other invitee of an Owner who fails to comply with the terms and provisions of the guidelines and procedures promulgated by the ARC may be excluded by the ARC from the Properties without liability to any person, subject to the notice and hearing procedures contained in the Regulations. Further, if any approval required by this Declaration is not granted in writing with respect to any item prior to its installation, the respective Owner thereof shall remove promptly the unapproved item or structure, upon request by ARC.

6.15 Non-Liability of Declarant, ARC. Neither the Declarant nor the ARC shall be responsible in any way for any defect in any plans, specifications or other materials submitted to it, nor for any defects in any work done according thereto. Further, the ARC or the Declarant does not make, and shall not be deemed by virtue of any action of approval or disapproval taken by it to have made, any representation or warranty as to the suitability or advisability of the design, the engineering, the method of construction involved, or the materials to be used or as to the compliance of any plans submitted for approval with these Restrictions, any recorded plat governing the Real Estate or any applicable code, regulation or law.

6.16 Inspection. The ARC and the Declarant may inspect work being performed to ensure compliance with this Declaration, the plat restrictions and applicable rules and regulations. However, neither the ARC, nor any member thereof, nor the Declarant, nor any agent or contractor employed or engaged by the ARC or the Declarant, shall be liable or responsible for defects, nonconformity or deficiencies in any work inspected or approved by it or them, or on its or their behalf. Further, no such inspection or approval given by or on behalf of the ARC or the Declarant shall be taken or deemed to be or constitute a warranty or guaranty of the work so inspected or approved.

6.17 No Compensation. Neither the ARC nor any of its members shall be entitled to any compensation for performing its duties or obligations set forth in the Declaration.

SECTION 7
COVENANTS AND RESTRICTIONS OF USE AND OCCUPANCY

7.1 Purposes. In order to promote the health, safety and welfare of all Owners, Members and Occupants, and to preserve, beautify and maintain the Property and all Structures thereon as a subdivision of high quality and to preserve and promote a good environmental quality, the following covenants, restrictions and limitations as to use and occupancy are hereby adopted, declared and established. These covenants and restrictions shall hereinafter burden and benefit all Lots on the Property, shall run with the land, and be binding on current and successor Lot Owners.

7.2 Covenants and Restrictions. The following are the covenants and restrictions and limitations as to use and occupancy to which the Property is hereby subjected:

(a) Land Use. Except as otherwise provided in this Declaration, no part of the Property other than Common Elements shall be used for other than a Dwelling Unit. To the extent permitted by law, an Owner of a Lot may use a portion of a Dwelling Unit located thereon for his office, studio or other business or trade purpose provided that the activities therein shall not: (i) interfere with the quiet enjoyment or comfort of any other Owner or Occupant; (ii) do not increase the normal flow of traffic or individuals in and out of the Property or in and out of said Owner's Lot; (iii) be apparent or detectable by sign, sound or smell from the exterior of the Lot; (iv) conflict or violate zoning requirements for the Subdivision; (v) increase the insurance premium paid by the Association or otherwise negatively affect the ability of the Association to obtain insurance coverage; (vi) be inconsistent with the residential character of the Subdivision; (vii) constitute a nuisance or a hazardous or offensive use; (viii) threaten the security or safety of other residents of the Subdivision; or (ix) involve door-to-door solicitation within the Subdivision, all as may be determined in each case in the sole discretion of the Board of Directors. The foregoing notwithstanding, Declarant, its successors, assigns and affiliates, and any Builder may use Lots, Dwelling Units and Common Elements for construction offices, sales purposes (i.e. model homes), and as offices to meet with prospective purchasers of Dwelling Units. The terms "business" and "trade", as used in this provision, shall be construed to have their ordinary, generally accepted meanings, and shall include, without limitation, any occupation, work or activity undertaken on an ongoing basis which involve the provision of goods or services to persons other than the provider's family and for which the provider receives a fee, compensation, or other form of consideration, regardless of whether: (i) such activity is engaged in full or part-time; (ii) such activity is intended to or does generate a profit; or (iii) a license is required therefore. Notwithstanding the above, the leasing of a Lot or Dwelling Unit shall not be considered a trade or business within the meaning of Section 7. Section 7 shall not apply to any activity conducted by the Declarant or Builder with respect to its development and sale of the Property or its use of any Lots or Dwelling Units which it owns within the Property.

(b) Other Structures. No Improvements or Structures of a temporary character (trailer, shack, garage, barn or other temporary outbuilding) shall be used or erected on any Lot after the permanent residence on each Lot has been completed. No window-mounted heating or air conditioning units shall be permitted. Improvements or Structures may not be placed on any Lot without the ARC's prior written approval, as provided in Section 6 above. Section 7 shall not apply to Declarant or a Builder during the initial construction of a Dwelling Unit located on a Lot.

(c) Parking. All Lots shall provide a minimum of two (2) off-street parking spaces, exclusive of garages. No parking spaces, streets or driveways nor any other part of the Common Elements nor any Lot upon which a Dwelling Unit is constructed shall be

used for parking of any trailer, truck, boat, or anything other than operative automobiles, motorcycles or scooters, except while loading, unloading or cleaning which shall not exceed forty-eight (48) hours. Any such vehicles may, however, be stored or parked in an enclosed garage provided such garage door can be completely closed, and remains closed, except during times of ingress and egress from the garage, when such vehicle is parked therein. The word "trailer" shall include, but not be limited to, trailer coach, recreational vehicle, house trailer, mobile home, automobile trailer, boat trailer, camper or any other vehicle, whether or not self-propelled, constructed or existing in such a manner as to permit human use and occupancy, storage, or conveyance of machinery, tools or equipment, whether resting on wheels, jacks, tires or other foundation. The word "truck" as used herein shall include and mean every type of motor vehicle other than passenger cars and other than any non-commercial pick-up truck (no ladder, racks, advertising, etc.), sports utility vehicle or van which is used as a principal vehicle by an Owner of a Dwelling Unit or his/her family. Notwithstanding the restrictions in Section 7, vehicles actively being used for the purpose of construction, delivery, or repair work to or upon any Lot or Dwelling Unit may be permitted to be parked on any Lot and street in the Subdivision.

No vehicle may be left upon any portion of the Subdivision, except in an enclosed garage or other area designated by the Board, if any, for a period of more than five (5) days if it is not licensed or if it is in a condition such that it is incapable of being operated upon the public highways. After such five-day period, such vehicle may be removed from the Subdivision by the Board of Directors or the appropriate authority of St. Louis County, Missouri. Trucks with mounted campers which are used as a primary means of transportation shall not be considered recreational vehicles provided they are used on a regular basis for transportation and the camper is stored out of public view upon removal. No semi-truck, eighteen wheel truck, semi-trailer, tractor ("cab," "power unit," etc.) or portion of such trucks or any trucks with a load capacity in excess of three-quarters (3/4) of a ton shall be parked, kept or stored within the Subdivision except as may be reasonably necessary to provide service to or delivery within the Subdivision or as otherwise permitted by the Board of Directors.

All homes shall contain a garage. Carports shall not be permitted. Garage doors shall be kept closed at all times, except during times of ingress and egress from the garage. Garages shall be used primarily for the parking of vehicles and shall not be used primarily for storage or other purposes. Garages shall not be converted into additional living space (i.e., family rooms, bedrooms, offices, recreational rooms, bathrooms). Declarant and/or Builder shall have the right to use unsold residences as model homes and the garage as a sales office.

(d) Nuisances. No noxious or offensive activity shall be carried on upon any Lot, nor shall anything be done thereon which may be or may become an annoyance or nuisance to the neighborhood or interfere with the quiet enjoyment, comfort, and health of any Owner or Occupant of adjacent neighboring Lots. No Lot Owner shall permit anything

to be done or kept in a Dwelling Unit or other approved Structure on any Lot that would be in violation of any law. No waste shall be committed in or to any of the Property. This paragraph shall not apply to any Lots owned by the Declarant or Builder.

(e) Oil and Mining Operations. No oil drillings, oil development operations, oil refining, quarries or mining operations of any kind shall be permitted upon or in any Lot, nor shall oil wells, tanks, tunnels, mineral excavations or shafts be permitted upon or in any Lot. No derrick or other structure designed for use in boring for oil, water or natural gas shall be erected, maintained or permitted on any Lot.

(f) Garbage and Refuse Disposal. All trash, garbage or other rubbish ("Trash") shall be kept at all times in each Owner's garage, except on the days which it is collected or as otherwise directed and instructed by the Board or Declarant. Any Trash containers placed outside by the Dwelling Unit Owners to be collected shall only remain outside for a period not to exceed twenty-four (24) hours or in accordance with an alternative schedule determined by the Board or Declarant. Trash removal and/or recycling shall be subject to such other rules and regulations as the Board or Declarant may adopt from time to time.

(g) Antennas. No exterior antenna, receiving dish or similar apparatus of any kind for receiving or transmitting audio or video signals shall be placed, allowed or maintained upon any portion of the Subdivision, including any Lot, unless approved in accordance with the provisions of Section 7 hereof or as otherwise permitted by the Architectural Guidelines; provided, however, no such approval shall be necessary to install the following on a Dwelling Unit: (i) antennae designed to receive direct broadcast satellite services, including direct-to-home satellite services or antennae designed to receive or transmit fixed wireless signals via satellite, that are one meter or less in diameter; (ii) antennae designed to receive video programming services via multi-point distribution services or antennae designed to receive or transmit fixed wireless signals other than via satellite that are one meter or less in diameter or diagonal measurement; or (iii) antennae that are designed and intended to receive television broadcast signals.

Notwithstanding anything to the contrary herein, Owners shall install a permitted antennae only on the rear of the Dwelling Unit unless such installation: (i) imposes unreasonable delay or prevents the use of the antennae; (ii) unreasonably increases the cost of installation; or (iii) prevents an acceptable quality signal from being obtained.

(h) Signs. Other than those allowed in the Architectural Guidelines, no permanent sign shall be permitted on any Lot or building in the Subdivision. An Owner of a Dwelling Unit is permitted to place and maintain a standard "For Sale" or "For Rent" sign on his Lot; provided, however, it is of a typical size within the industry. An Owner must obtain the prior written consent of the Board in the event said Owner desires to maintain a "For Sale" or "For Rent" sign which is not of a typical size within the industry. This sign restriction shall not apply to signs used by Declarant and/or Builder or their

assigns, while Declarant and/or Builder are selling Dwelling Units in the Subdivision, or to traffic, street names, Common Elements or subdivision identification signs. During the Development Period, Builder may place signage on Open Space or on Common Elements with approval of Declarant. The Board of Directors shall have the right to adopt rules and regulations governing the display and placement of signs in the Subdivision, including, without limitation, imposing reasonable time, place and manner restrictions; provided, however, such restrictions shall not apply to Declarant or Builder during the Development Period.

(i) Animals. No animals of any kind shall be raised, bred, or kept on any Lot or any area within the Property, except that dogs or other household pets, may be kept on a Lot, subject to the Restrictions, provided that it is not kept, bred or maintained for any commercial purpose, and provided that it is kept subject to the rules and regulations, if any, of the Association. No such pets may be allowed to run unattended. Dogs, cats, or other household pets must be kept within the confines of the Owner's Lot except when being held on hand leash by the person attending the animal. A Lot Owner shall be responsible for cleaning up after his/her household pet. Notwithstanding the foregoing, the Association shall have the right to promulgate rules and regulations pertaining to size, number, and type of such household pets and the right to levy fines and enforcement charges against persons who do not clean up after their pet.

(j) Laundry and Trash. No clothes, sheets, blankets, laundry of any kind or other articles shall be hung out to dry or for other reasons or exposed on any part of the Property. No clotheslines shall be located on any Lot. The Property shall be kept free and clear of Trash and other unsightly materials.

(k) Rental of Dwelling Units. The Owners of the respective Dwelling Units or any first mortgagees in possession thereof shall have the right to lease the same subject to the covenants and restrictions in the Declaration and the Regulations and rules and regulations, if any. However, neither a Unit Owner nor any first mortgagee in possession shall lease less than an entire Dwelling Unit nor shall any Dwelling Unit be leased for a term of less than six (6) months. The respective Dwelling Unit shall not be rented for transient or hotel purposes, which shall be defined as (i) rental for any period less than ninety (90) days, or (ii) any rental if the occupants of the Dwelling Units are provided customary hotel service such as room service or food and beverage, maid service and furnishing of laundry and linen. All leases of any Dwelling Unit shall be in writing. All such leases shall provide that they are subject to all the provisions of the Declaration, the Regulations and the rules and regulations and Architectural Guidelines, if any, and that any failure of the lessee to comply with any such provision shall constitute a default under the lease. In the event that the Tenant or any other Occupant of a Lot violates the Declaration, the Regulations, or any rules and regulations or Architectural Guidelines for which a fine is imposed, notice of the fine shall be given to the Owner and the Tenant and such fine may be assessed against the Tenant in accordance with the Declaration and the Regulations. If a fine is not paid by

the Tenant within the time period established by the Board, the Owner shall pay the fine upon notice from the Association of the Tenant's failure to pay such fine. Unpaid fines shall constitute a lien against the Lot.

Within seven (7) days of entering into a lease agreement for the lease of a Lot, the Owner is responsible for providing the Board with the following information: (i) a copy of the fully executed lease agreement; (ii) the name and address of the Tenants and any other Occupant(s); (iii) the name, address, and telephone number of the Owner other than at the Lot; and (iv) such other information as the Board may reasonably require. In the event an Owner leases a Lot and does not provide the Board with the information in (i) through (iv) above, the Board may require the Owner, at any time, to provide it with such information within seven (7) days of the Board's request.

If an Owner who is leasing his or her Lot fails to pay any Assessment or any other charge for a period of more than thirty (30) days after it is due and payable, then the delinquent Owner hereby consents to the assignment of any rent received from the Tenant during the period of delinquency, and, upon request by the Board of Directors, Tenant shall pay to the Association all unpaid Assessments and other charges payable during and prior to the term of the lease and any other period of occupancy by Tenant. However, Tenant need not make such payments to the Association in excess of, or prior to the due dates for, monthly rental payments unpaid at the time of the Board of Director's request. All such payments made by Tenant shall reduce, by the same amount, Tenant's obligation to make monthly rental payments to lessor. If Tenant fails to comply with the Board of Director's request to pay Assessments or other charges, Tenant shall pay to the Association all amounts authorized under the Declaration as if Tenant were an Owner. The above provision shall not be construed to release the Owner from any obligation, including the obligation for Assessments, for which he or she would otherwise be responsible.

(l) Hot Tubs and Spas. Hot tubs or spas may be installed if located in the rear yard of the Dwelling Unit with proper screening and not visible from the street. The Board may require additional landscaping or screening of any such hot tub or spa. An Improvement application is required to be submitted for approval pursuant to Section 6 of the Declaration.

(m) Building Setbacks. No building or Improvement shall be located nearer to any street than the building setback line shown in the Record Plat of the Subdivision, except as constructed by Declarant or Builder. All building setbacks shall comply with zoning requirements established for the Property.

(n) Obligation to Keep Dwelling Unit in Good Condition. Each Lot Owner or Occupant shall keep his/her Dwelling Unit and all Structures located on his/her Lot in good order, condition and repair, unless such maintenance and/or repair is an obligation of the Association as specifically described in **Exhibit D and/or Exhibit E** attached hereto

and made a part hereof. Such maintenance, repair, appearance and condition shall comply with the provisions of this Declaration and applicable laws and ordinances.

(o) Mailboxes/Post-Lamps: Declarant or Builder reserves the right to establish a standard design for mailboxes and post-lamps for use by all Lot Owners. The decision of the type of material to be used by each Owner shall be in the sole discretion of Declarant and/or Builder. Approved mailboxes and post-lamps installed by the Builder for each Dwelling Unit shall be individually maintained and replaced as necessary by the Owner of a Lot for which they serve. Costs for such maintenance and/or replacement shall be paid by the Dwelling Unit Owner that the mailbox and/or post-lamp serves. Costs for such maintenance and/or replacement of post-lamps, including replacement bulbs, shall be paid by the Dwelling Unit Owner of the Lot the post-lamp is located on. The cost of the electricity for the post-lamp shall be the sole responsibility of the Dwelling Unit Owner whose electric meter registers the post-lamp's electrical usage. Mailboxes or post-lamps may not be altered or replaced without written consent of the Board or ARC. Notwithstanding the foregoing, Declarant or Builder reserves the right to establish an alternative standard design for mailboxes and/or post-lamps and establish the use of cluster mailboxes.

(p) Additional Restrictions. As the Additional Property is annexed to the Property by means of a Supplemental Declaration, Dwelling Units or Lots within specific phases may be subject to additional covenants, rules and regulations established by Declarant at such time as such Dwelling Units or Lots are annexed to the Property.

(q) Lot Grading. Neither the Owner nor anyone claiming under the Owner shall alter elevations and grades established by Declarant for any building Lot without the prior written approval of Declarant and/or Declarant's designee during the Development Period; and, the prior written approval of the Board after the Development Period in accordance with this Declaration. The purpose of this Restriction is to ensure that the surface drainage plan originally established by Declarant for sheet surface drainage and drainage swales over the yard areas of building Lots is not altered or impeded. Landscaping or plantings shall not be installed or maintained in such a manner as to impede sheet surface drainage or swale drainage.

(r) Storm Water Detention/Retention Ponds. Except as herein provided, the storm water retention/detention ponds within the Subdivision shall be used for aesthetic amenities and storm water drainage only, no other use thereof, including without limitation, swimming, ice skating, playing, boating, fishing, or use of personal flotation devices, and other recreation, shall be permitted, without the written consent of the Declarant or Board of Directors. The Association, the Declarant and their respective representatives, agents, employees, officers, trustees or directors, shall not be responsible for any loss, damage, or injury to any person or property arising out of the authorized or unauthorized use of the storm water detention/retention ponds or any other body of water located within the Subdivision. No Owner shall have any right to place rocks,

stones, trash, sewage, waste water, debris, ashes or other refuse in any storm water detention/retention pond or any other body of water. Applicable governmental agencies, the Declarant and the Association, shall have the sole right to control the water level of all bodies of water located within the Subdivision and to control the growth and eradication of plants, fowls, reptiles, animals, fish and fungi in and around any storm water retention pond within the Subdivision. Owners shall not be permitted to withdraw water from any storm water detention/retention pond in the Subdivision.

(s) Utility Lines. No overhead utility lines, including lines for cable television, shall be permitted within the Community, except for temporary lines as required during construction. Notwithstanding the foregoing, utility lines or replacement of utility lines existing prior to the development of the Subdivision, special purpose utility lines which would be impractical to locate underground, and utility lines established by the Declarant shall be exempt from this requirement.

(t) Energy Conservation Equipment. No solar energy collector panels or attendant hardware or other energy conservation equipment shall be constructed or installed on any Lot unless it is an integral and harmonious part of the architectural design of a structure, as determined in the sole discretion of the ARC.

(u) Garage Sales, Yard Sales, Moving Sales, Holiday Decorations. No garage sale, yard sale, moving sale, or similar activity shall be conducted within the Subdivision without the approval of the Association. Holiday lights and decorations may be erected no sooner than five (5) weeks prior to and removed not later than two (2) weeks after, such holiday.

(v) Building Type. No building or Structure shall be erected, placed or permitted to remain upon any Lot except a Dwelling Unit which may include an attached garage. No other Structure shall be erected, placed or permitted to remain on any Lot without the written approval of the Board or ARC, except as specifically provided in this Declaration.

(w) Irrigation Systems. Irrigation systems may be installed with the approval of the Board, the Declarant, or Declarant's designee.

(x) Obstruction of Easements. Easements for installation and maintenance of utilities and drainage facilities are reserved as shown on the record plat(s) for the Lots. Within these easements, no structure, planting or other material, other than driveways or sidewalks, shall be placed or permitted to remain upon any Lot which may damage or interfere with any easement for the installation or maintenance of utilities, or which may change, obstruct, slow down, or stop the direction or flow of any drainage channels in the easement area. The easement area of each Lot and all improvements in the easement area shall be maintained by the Owner of the Lot except as otherwise provided in the Declaration or supplements thereto and except for those improvements for which a public authority, utility company or the Association is responsible for maintaining.

All provisions of the Declaration, the Regulations and of any rules and regulations or use restriction promulgated pursuant thereto which govern the conduct of Owners and which provide for sanctions against Owners shall also apply to all occupants, guests and invitees of any Lot. Every Owner shall cause all occupants of his or her Lot to comply with the Declaration, the Regulations, and the rules and regulations adopted pursuant thereto, and shall be responsible for all violations and losses to the Common Areas caused by such occupants, notwithstanding the fact that such occupants of a Lot are fully liable and may be sanctioned for any violation of the Declaration, the Regulations, and rules and regulations adopted pursuant thereto.

SECTION 8
COMMUNITY MAINTENANCE STANDARDS

8.1 Adoption and Amendment. Declarant during the Development Period, and the Board after the Development Period, shall have the right to adopt, and may from time to time amend, Maintenance Standards pertaining to the maintenance, repair and appearance of all Lots, and the exterior of all Dwelling Units and Structures thereon. If any provision of any applicable building inspection, or similar maintenance statute, ordinance, resolution, regulation or order of the State of Missouri, any other political subdivision or governmental instrumentality of the State of Missouri, or the Board, is more stringent with regard to a Lot than a comparable provision of the Maintenance Standards, such more stringent provision shall be deemed incorporated in the Maintenance Standards. The Maintenance Standards shall provide, among other things, that:

(a) except as otherwise hereinafter provided, or as may be provided by other recorded documents, the Association shall be responsible for maintenance, repair and replacement of the Common Elements and all Structures thereon;

(b) except as otherwise hereinafter provided, the Association shall be responsible for the maintenance and general upkeep of all lawns and landscaping in the Common Elements owned in fee simple by the Association, which shall include, but not limited to, mulching the landscaping beds, cutting the grass and keeping all lawns and landscaping beds in a neat and orderly manner, the cost of which shall be a Common Expense of the Association;

(c) each Owner shall maintain, repair and replace at their expense all portions of the Common Elements which may be damaged or destroyed by reason of his/her own intentional or negligent act or omission or by the intentional or negligent act or omission of any invitee, lessee, licensee, employee, agent, family member, guest, and/or pet(s) of such Owner; provided, however, in the event an Owner or Occupant damages the Common Elements and fails to maintain, repair or replace the same as provided herein, the Association shall have the right to provide such maintenance, repair and replacement and assess all costs associated therewith as an Individual Assessment against the Lot of such Owner;

(d) the obligation of the Association and of the Owners to repair, maintain and replace the portions of the Property for which they are respectively responsible shall not be limited, discharged or postponed by reason of the fact that any maintenance, repair or replacement may be necessary to cure any latent or patent defects in material or workmanship in the construction of the Property;

(e) notwithstanding the fact that the Association and/or any Owner may be entitled to the benefit of any guarantee of material and workmanship furnished by any construction trade responsible for any construction defects, or to benefits under any policies of insurance providing coverage for loss or damage for which they are respectively responsible, the existence of any construction guarantee or insurance coverage shall not excuse any delay by the Association or by any Owner in performing its or his obligation hereunder; and

(f) except as otherwise provided above in Section 8, each Owner shall maintain, repair and replace at his/her expense all portions of each Dwelling Unit and Structure located on each Lot owned by him/her and all internal and external installations of such Lot such as appliances, heating, plumbing, electrical and air conditioning fixtures or installations, and any portion of any other utility service facilities located within the boundaries of or serving the Lot.

8.2 Obligation to Keep Premises in Good Repair. Each Owner during his/her period of ownership and, during his/her tenancy, each Tenant leasing a Lot, shall keep each Lot, Dwelling Unit, and all Structures thereon owned or leased by him/her in such maintenance, repair and appearance as shall comply with the Maintenance Standards, unless such maintenance and/or repair is an obligation of the Association as specifically described in **Exhibit D and/or Exhibit E** attached hereto and made a part hereof.

8.3 Periodic Inspection. Periodically, the Association may inspect each Lot and the exterior of the Dwelling Unit and all Structures thereon to determine whether each complies with the Maintenance Standards and the Declarant or the Association or such officer, employee agent or representative shall not be deemed to have committed a trespass. After each such inspection, the Association shall, if any defects are found, issue an inspection report to the Owner with a copy to the Tenant, if applicable, listing such defects, if any, and the reasonable time within which they may be corrected. Such Owner shall correct such defects or cause them to be corrected within such reasonable period as is stated in the inspection report. In the event that an Owner fails to correct such Default(s), the Association shall have the right to enter such Lot to cure such Default(s) as provided in Section 11 hereof and all costs associated therewith shall be an Individual Assessment against the Lot.

8.4 Drainage Swales. Neither the Owner nor anyone claiming under the Owner shall, except in an emergency, alter the location or grade of any open storm water drainage way on any Lot without the prior written consent of the Board. If altered, such Owner shall correct the

alteration or cause it to be corrected within a reasonable period. In the event that an Owner fails to correct the alteration, the Association shall have the right to enter such Lot to cure as provided in Section 11 hereof and all costs associated therewith shall be an Individual Assessment against the Lot.

8.5 Right of Entry. Declarant and the Association, through its authorized officers, employees, and agents, shall have the right to enter upon any Lot and/or Structure at all reasonable times and upon reasonable advance notice for the purpose of making inspections required by Section 8 without Declarant or the Association or such officer, employee or agent being deemed to have committed a trespass or wrongful act solely by reason of such entry or such action or actions. Any bona fide utility company, through its authorized officers, employees, and agents, shall have the right to enter upon the Common Elements or upon any utility easements located on any Lots, for the purpose of installing, repairing or servicing any of its equipment, or for reading meters, without Board approval; provided, however, that if any such activities by the utility require alteration to or displacement of any waterscaping, landscaping, grass, sidewalks, fences, privacy screening panels, garages, or other Structures, then the prior approval of the Board shall be required.

8.6 Failure to Comply. Failure to comply with the Maintenance Standards or to correct the defects listed in any inspection report issued by the Association or to pay any fee hereunder shall constitute a Default, in which event Declarant or the Board shall have the right to enforce Section 8 by any proceedings authorized in this Declaration, the Regulations, or rules and regulations, if any.

SECTION 9
COMMON ELEMENTS AND EASEMENTS

9.1 Description of Common Elements. The Common Elements in the Subdivision shall include, but not be limited to: the Recreational Facilities; Open Spaces; Landscape and Signage Easements; Private Storm Sewer Easements and any other easements for open space, landscaping areas and mounding, water retention/detention basins, common area utility easements, storm sewer and surface water drainage easements, water main easements, sanitary sewer easements, preservation areas, and private drainage easements; all as are or may be located, described and shown on the Record Plats (collectively, the "Common Elements"). Declarant and/or Builder may also create other Common Elements not now in existence but that might in the future be added, located and shown on any subsequent Record Plat to be recorded and creating additional Lots to be subjected to this Declaration.

9.2 Rights of Enjoyment in Common Elements. Except as herein otherwise provided, each Owner shall have a right and nonexclusive easement for use and enjoyment of the Common Elements, and such right and easement shall be appurtenant to, and shall pass with the title to his/her Lot. Each Tenant shall have a nontransferable right to use and enjoy the Common

Elements, which right shall terminate when such person ceases to have the status of a Tenant. Such rights and privileges shall be subject, however, to the following:

(a) The right of the Board, with the approval of sixty-seven percent (67%) of the Class A Members, to borrow money in aid thereof to mortgage the Common Elements for the purpose of constructing, equipping, improving and maintaining the Common Elements, notwithstanding the foregoing, during the Development Period, the approval of the Class B Member is also required.

(b) The right of the Board to adopt, enforce and amend Rules and Regulations pertaining to the use of the Common Elements, including regulations limiting guests of Owners and Tenants who may use the Common Elements at any one time.

(c) The right of the Board to suspend the right of any Owner or the privilege of any Occupant to use the Common Elements that are recreational in nature as determined by the Board for any infraction of the Rules and Regulations relating to the Common Elements for a period not to exceed sixty (60) days for each such infraction, or for nonpayment or delinquency of the Assessments against such Owner's Lot for a period not to exceed the period of such nonpayment or delinquency.

(d) Such rights as the Board may have to grant easements or rights of way to any public utility or public agency.

(e) The right of the Association to transfer or convey title to all or any portion of the Common Elements upon the approval of the Owners of at least two-thirds (2/3) of the Lots and the consent of Declarant.

(f) All applicable provisions of valid agreements of the Association relating to the Common Elements.

(g) Such rights as the Board may have under the Declaration to convey or lease all or any part of the Common Elements.

(h) All other easements, restrictions and rights to which the Property is subject.

(i) The right of the Association to grant permits, licenses, and easements over the Common Elements for utilities, roads and other purposes reasonably necessary or useful for the proper maintenance or operation of the Property, or the benefit of the Association.

(j) Such easements and rights reserved or granted within the Declaration to Declarant and/or Builder.

9.3 Subordination to Mortgage or Other Lien. The rights and privileges provided in Section 9 shall be subordinate to any mortgage or other lien given by the Association for the purposes of acquiring, improving or maintaining the Common Elements.

9.4 Conveyance of Common Property by Declarant to Association. No Implied Rights. Upon final construction of Improvements in the Common Elements described in Section 9, Declarant covenants to convey by quitclaim deed all of its right, title and interest in and to said Common Elements to the Association and all such right, title and interest in and to said items shall then be the property of the Association. As to any Common Elements located entirely or partially on any one or more of the Lots, the Owners of such Lots shall have only nonexclusive easement rights to use such facilities as described in Section 9 of this Declaration. Declarant may transfer or convey to the Association at any time and from time to time any personal property and any interest in improved or unimproved real property. Such conveyance shall be deemed to be accepted by the Association upon delivery of any personal property or upon recordation of an instrument of conveyance of any interest in real property, and the property shall thereafter be Common Elements to be used and maintained by the Association for the benefit of its Members. The Association shall accept "as is" the conveyance of such property without any representation or warranty, express or implied, in fact or by law, with respect thereto, including, without limitation, representations or warranties of merchantability or fitness for the ordinary or any particular purpose, and without representations or warranties regarding future repairs or regarding the condition, construction, accuracy, completeness, design, adequacy of the size or capacity in relation to the utilization, or the future economic performance or operations of, or the material or furnishing which has been or will be used in such property or repairs. By acceptance of title to any Common Elements, the Association and all Owners release Declarant from any claims, and warrant that no claim shall be made by the Association or any Member or Owner relating to the condition, construction, design, capacity, operation, use accuracy, adequacy or completeness of such property or repairs or for incidental or consequential damages arising therefrom. So long as Declarant owns any property primarily for development and/or sale in the Subdivision or has the right unilaterally to annex Additional Property to the Declaration, Declarant may, upon written notice to the Association, require the Association to reconvey to Declarant all or any portion of the Common Elements, improved or unimproved, at no charge to Declarant, without a vote of the Members of the Association, if all or any portion of the Common Elements are: (a) found by Declarant to have been conveyed in error; (b) needed by Declarant to make adjustments in property boundary lines; or (c) reasonably determined by Declarant to be needed by Declarant due to changes in the overall scheme of development for the Subdivision.

The Association hereby constitutes and appoints Declarant as its agent and attorney-in- fact to accept on behalf of the Association any such conveyance to the Association, to reconvey any such property on behalf of the Association and to execute on behalf of the Association any and all documents, including, without limitation, deeds, necessary or convenient to effectuate and document any such conveyance to or reconveyance from the Association.

The power and agency hereby granted are coupled with an interest and are irrevocable by death or otherwise. Declarant shall not be required to make any improvements whatsoever to property to be conveyed and accepted pursuant to Section 9 and shall have no duty or obligation to convey any property or property rights to the Association regardless of whether any such property has been made available for the use of Owners. Declarant may reserve, by lease, license, easement or otherwise, such rights of use and enjoyment in and to all or any portion of the property so conveyed as Declarant may reasonably require so long as such reservation is not materially inconsistent with the overall scheme of development for the Subdivision. Neither a Recorded Plat nor the use by the Owners or maintenance by the Association of any property shall create any rights, easements or licenses, in the Association or the Owners, express or implied, unless and until any such property rights, easements or licenses are conveyed by the Declarant to the Association or the Owners, as the case may be, by an instrument recorded in the St. Louis County, Missouri land records.

9.5 Conveyance or Lease of Common Elements. Upon authorization by the Board and the Class B Member, the Association may at any time convey or lease all or a part of the Common Elements to any public agency, authority, or utility or to any private entity, upon such terms and conditions as shall be agreed upon by the other party and Board, including, without limitation, terms and conditions providing for the use of such Common Elements by the public in general and terms and conditions pertaining to the maintenance and repair of such Common Elements and the assessments of Owners and/or Tenants for the costs of such maintenance and repair.

9.6 Use of Common Elements by Declarant and Builder. Declarant and Builder and their affiliates and associates shall have the same rights of use and enjoyment of the Common Elements as the Class A Members during the Development Period, and shall have the right to use the Common Elements for promotional, sales and similar purposes until all of the Dwelling Units have been sold. Declarant specifically reserves the right to use, or allow its affiliate Builder to use, part of the clubhouse or Recreational Facilities as a sales office during the Development Period.

9.7 Easements.

(a) In the event that, by reason of the construction, settlement or shifting of any of the Dwelling Units or other Structures located on Lots or by reason of the partial or total destruction and rebuilding of the buildings, any part of the Common Elements presently encroach or shall hereafter encroach upon any part of a Lot; or any part of a Dwelling Unit presently encroaches on or shall hereafter encroach upon any part of the Common Elements or any other Lot; or, if by reason of the design or construction of utility systems, any main pipes, ducts or conduits serving more than one Dwelling Unit presently encroach or shall hereafter encroach upon any part of any Dwelling Unit or Lot, valid easements for the maintenance of each encroachment and for the use of such adjoining space are hereby established. These easements shall exist during the term of this Declaration for the benefit of such Lot or Dwelling Unit and the Common

Elements, as the case may be. However, in no event shall a valid easement for any encroachment be created in favor of any Owner if such encroachment occurred due to the willful conduct of said Owner.

(b) The Association may hereafter grant easements for utility purposes for the benefit of the Property or other reasons, including but not limited to, the right to install, lay, use, maintain, repair and replace water mains and pipes, sewer lines, gas mains, telephone wires and equipment, and electrical conduits and wires over, under, along and on any portion of the Common Elements, and each Owner hereby grants the Association an irrevocable power of attorney to execute, acknowledge, deliver and record, for and in the name of such Owner, such instruments as may be necessary to effectuate the foregoing.

(c) Declarant hereby reserves easements and the right to grant easements on, over and across certain Lots for open space, cluster mailbox units, irrigation systems, landscaping mounding and monument areas and for the installation, maintenance, use, repair and replacement of underground utilities, irrigation systems, public utilities, water detention basins, storm sewer, sanitary sewer and surface water drainage easements, water mains, preservation areas and private drainage easements, and building setbacks, specifically as shown on the Record Plats now or hereinafter recorded for the Subdivision, and to cut and grade slopes in and along Lot boundaries at streets and drives built within the Property. The foregoing easements shall not be used for recreations purposes but are reserved for such aesthetic or utility purposes as indicated by the nature of the easement. By nature of such easements, it is acknowledged that it benefits the Member(s) of the Association and as such a Lot Owner shall not be held liable for injuries sustained by the use of, or services provided on said Lots.

(d) An access and maintenance easement ("CBU Easement") for the installation and maintenance of Cluster Mailbox Units ("CBU") and its concrete pad, as noted by easement on the Record Plat, benefits the Lot Owners within the Association. Lot owners within the Association shall have the right of ingress and egress to, upon, and along said CBU Easement for purposes of placing items in and retrieving items from the CBU. The Owner of such Lot subject to a CBU Easement shall not erect any structure within the Easement or otherwise interfere with the ingress and egress rights granted to Lot Owners within the Subdivision. Lot Owner(s) is not liable for any injuries, loss, claims or damages to others sustained by accessing the Easement.

(e) All easements and rights described in the Declaration are easements appurtenant, running with the land, perpetually in full force and effect, and at all times shall inure to the benefit of and be binding on Declarant, its successors and assigns, and any Owner, purchaser, mortgagee and other party now or hereafter having an interest in the Property, or any part or portion thereof. After the Development Period, the Association shall be deemed to be the successor of Declarant and, as such, shall be deemed to be

the grantee of said easements provided in Section 9, and shall hold such easements for the use, benefit and enjoyment of all Lot Owners in the Subdivision. All notes on the Record Plat that are pertinent to the specific easements set forth herein are incorporated herein by reference.

9.8 Landscape, Fencing and Signage Easement. A non-exclusive and irrevocable easement is hereby created, for the benefit of the Association or its designees, on, over and across those Lots identified on any Record Plat, or other recorded instrument, as "Landscape Easement," "Signage Easement," or "Fencing Easement," or any combination thereof, for the purpose of installing, maintaining and replacing any and all landscaping, fencing, monuments, signage, ponds, fountains, and other items as the Declarant may determine in its discretion located within the aforementioned easement areas.

9.9 Common Private Driveway Easements. The Lots sharing a Common Private Driveway Easement shall be subject to and benefited by a perpetual non-exclusive easement for ingress and egress over the Common Private Driveway. The Owners of such Lots shall use the Common Private Driveway situated on the easements with due regard for the rights of any other Owner and its use of such driveway. No Owner shall use or permit the use of the driveway in a manner which impairs the right of way of any other Owner to its use, nor shall any Owner park or store vehicles or personal property on, or obstruct or encroach upon, or permit the use of, or permit the obstruction of or encroachment upon, the Common Private Driveway in any manner whatsoever without the concurrence of all Owners entitled to use the Common Private Driveway. The Owners using the Common Private Driveway shall share equally in the expense and costs of maintaining, improving and repairing the Common Private Driveway, except that any damage other than ordinary wear and tear caused by any Owner, or any party claiming through such Owner, whether by negligence or willful misconduct, shall be repaired at the expense of such Owner. The driveway shall be maintained in good order and repair and in a condition substantially similar to that of its original construction. Upon conveyance of a Lot, the grantor of such Lot shall be, as of the closing date for such conveyance, relieved of the obligation to share in the expense and cost of future maintenance and repair imposed hereby, and those obligations shall bind thereafter the grantee of said conveyance. The grantor shall, however, be obligated personally during and after his/her period of ownership for expenses and costs incurred for maintenance and repair during his/her period of ownership of the Lot. The obligations and responsibilities for the enforcement of the provisions contained within Section 9 shall fall upon the Lot Owners served and benefited by the Common Private Driveway and shall not be an obligation or responsibility of the Association. The obligation of an Owner of a Common Private Driveway to share in the cost and expense of maintaining a Common Private Driveway, is separate and distinct from the obligation of such Owner to pay other Assessments levied pursuant to this Declaration.

9.10 Easements to Other Residents. Declarant may designate that certain owners of real property outside of the Property and such other persons as Declarant may designate, shall have an easement of enjoyment in and over the Common Elements or specific Common Elements,

and the facilities located thereon, to the same extent as any Owner, subject to the provisions of Section 9. Such individuals shall be subject to the Rules and Regulations of the Association concerning the use of said Common Elements but shall not be subject to Assessments by the Association. The Association may, if appropriate, and at the sole discretion of the Board of Directors, charge a fee to such individuals for the use of such Common Elements, including the Recreational Facilities.

SECTION 10
ASSOCIATION AND OWNER MAINTENANCE RESPONSIBILITY

10.1 Association's Responsibility. The Association shall maintain and keep in good repair the Areas of Common Responsibility, such maintenance to be funded as hereinafter provided. The Areas of Common Responsibility shall include, but need not be limited to, entry landscaping, fencing, and signage easements; water retention/detention basins; Common Element utility easements, storm sewer and surface water drainage easements; preservation areas; all landscaping and other flora, Structures, and Improvements, including any private streets, situated upon the Common Elements; landscaped medians within public right-of-way throughout the Property; the Recreational Facilities; and such portions of any Additional Property included within the Areas of Common Responsibility as may be dictated by this Declaration, any Supplemental Declaration, or by a contract or agreement for maintenance thereof by the Association. The Association may maintain other property which it does not own or share in the maintenance of Property it does not own, including, without limitation, property dedicated to the public or property owned by another homeowners' association, individual, or entity, if the Board of Directors determines that such maintenance is necessary or desirable to maintain the Community-Wide Standard.

(a) There are hereby reserved to the Association blanket easements over the Property as necessary to enable the Association to fulfill responsibilities under Section 9.

(b) Except as otherwise specifically provided herein, all costs associated with maintenance, repair and replacement of the Areas of Common Responsibility shall be a Common Expense to be allocated among all Units as part of the General Assessment, subject to the right of the Association to seek reimbursement from the Owner(s) of, or other persons responsible for, certain portions of the Areas of Common Responsibility pursuant to this Declaration, other recorded covenants, or agreements with the Owner(s) thereof; provided, however, in the event that the Association determines that the need for maintenance, repair, or replacement, which is the responsibility of the Association hereunder, is caused through the willful or negligent act of an Owner, or the Occupants, family, guests, lessees or invitees of an Owner, then the Association may perform such maintenance, repair or replacement and all costs thereof, not paid for by insurance, shall be assessed against the Lot of such Owner as an Individual Assessment. All maintenance by the Association shall be performed consistent with the Community-Wide Standard.

10.2 Owner's Responsibility. Each Owner shall maintain his or her Dwelling Unit and all Structures, and other Improvements comprising the Dwelling Unit. Owners of Dwelling Units adjacent to any roadway within the Property shall maintain driveways serving their respective Dwelling Units including that portion lying outside the Owner's Lot boundaries. Owners shall maintain and irrigate landscaping on that portion of the Common Element or right-of-way, if any, commonly referred to as the curb strip or road verge which lies between the sidewalk and the adjacent street. All maintenance required by this Declaration shall be performed in a manner consistent with the Community-Wide Standard and all applicable covenants. In addition to any other enforcement rights available to the Association, if any Owner fails properly to perform his or her maintenance responsibility, the Association may enter such Owner's property and perform the required maintenance. The costs and expense of such maintenance shall be charged to the Owner thereof as an Individual Assessment in accordance with Section 5; provided, however, when entry is required other than due to an emergency situation, the Association shall afford the Owner reasonable notice and an opportunity to cure the problem prior to entry.

SECTION 11
ENFORCEMENT

11.1 Curing Defaults; Lien. In the event of any Default with respect to any Lot under this Declaration, the Board shall give written notice to the Owner thereof, with a copy of such notice to each Tenant in Default and a copy to any first mortgagee of the Lot who has requested to receive such notices, setting forth with reasonable particularity the nature of such Default, and the specific action or actions required to remedy the Default. If the Owner or Tenant shall fail to take the specific action or actions within thirty (30) days after the mailing of the notice, the Board may, but shall not be required to exercise any of its rights hereunder. The Board may exercise, without notice, any of its rights hereunder with respect to any Default if it determines that an emergency exists requiring immediate action.

Costs incurred by the Association in exercising any of its rights with respect to any Lot shall be a binding personal obligation of the Owner thereof which shall be payable on demand. If the Owner fails to pay such costs within thirty (30) days after demand, the Association shall enter the amount of the obligation, the name of the Owner as it appears on its records and the description of the Lot in a lien record book to be maintained by the Board at its main office, together with the date of such entry. The Association shall have a prior lien on such Lot for such amount until paid and such lien shall have priority from the date of such entry over all other liens and encumbrances thereon whatsoever, excepting real estate taxes and assessments, liens of record as of the date of such entry and liens of the United States of America, the State of Missouri, and all other political subdivisions or governmental instrumentalities of the State of Missouri to the extent made superior by applicable law, all bona fide recorded first mortgages and the lien of any first mortgagee who comes into possession of a Lot pursuant to mortgage foreclosure or by deed in lieu thereof. The lien provided in Section 11 shall be recordable and shall be enforceable as provided in Section 5 hereof.

11.2 Right and Easement of Entry. The Association, through its authorized officers, employees, and agents, shall have the right and easement to enter upon any Lot at all reasonable times and to do anything thereon necessary to perform the action or actions specified in the notice to the Owner to abate, remedy, extinguish, remove or repair a Default, without the Association or such officer, employee or agent being deemed to have committed a trespass or wrongful act solely by reason of each entry or such action or actions as are carried out in accordance with the provisions of Section 11, provided that no summary abatement or similar procedure may be utilized through non-judicial means to alter or demolish items of construction.

11.3 No Waiver. The failure of Declarant, Builder, the Association, any Owner, Tenant, or their legal representatives, heirs, devisees, successors or assigns, in any one or more instances, to insist upon compliance with any of the Restrictions, or to exercise any right or privilege conferred in this Declaration, shall not constitute or be construed as the waiver of such or any similar restriction, right or privilege, including the right to cure Default, but the same shall continue and remain in full force and effect as if no such forbearance had occurred.

11.4 Rules and Regulations. The Board may adopt and enforce, and from time to time amend, reasonable rules and regulations regarding the administration, interpretation and enforcement of the Restrictions (the "Rules and Regulations"). Each such rule and regulation shall be consistent with and designed to further the purposes outlined in this Declaration.

SECTION 12
REAL ESTATE TAXES AND ASSESSMENTS

12.1 Real Estate Taxes. The Owner of a Lot shall be responsible for and shall pay all taxes and assessments, general and special, levied or imposed upon the Lot and its Improvements.

12.2 Common Elements. Taxes and assessments, general and special, charged against the Common Elements which are owned in fee simple by the Association shall be deemed a Common Expense. Assessments charged against the Subdivision shall be paid by the Owners as set forth in Section 5 hereof.

SECTION 13
INSURANCE

13.1 Fire, Extended Coverage and Standard "All Risks" Insurance. The Association shall insure all buildings which are part of the Common Elements and Recreation Facilities, if applicable, and may maintain insurance for all other Structures and Improvements now or hereinafter constructed on the Common Elements against any loss or damage by such hazards as are ordinarily insured by a comprehensive, extended coverage and "all-risks" policies issued in the amounts at all times sufficient to prevent the Association from

becoming co-insurers under the terms of any applicable coinsurance clause or provision and in no event less than the actual replacement cost of such Improvements, as determined from time to time by the insurer.

Any such insurance shall be obtained from a fire and casualty insurance company authorized to write such insurance in the State of Missouri which has a general policy holder rating of no less than A, as determined by the then latest edition of the Best's Insurance Reports or its successor guide, and shall be written in the name of the Association for the use and benefit of the Lot Owners and their mortgagees as their interests may appear. The Board of Directors and/or its authorized representatives shall have the exclusive right to negotiate and adjust all loss claims. Unless the Board of Directors determines otherwise, all such insurance shall contain a waiver of subrogation of rights by the carrier as to the Association, its officers or Directors, and all Lot Owners and occupants.

13.2 Use of Fire Insurance Proceeds. Unless at least sixty-seven percent (67%) of the first mortgagees (based upon one vote for each first mortgage owned) or Owners (other than Declarant or Builder) of the individual lots have given their prior written approval, the Association shall not be entitled to use hazard insurance proceeds for losses to the Common Elements for other than the repair, replacement, improvement or reconstruction of such Common Elements.

13.3 Liability Insurance. The Association shall obtain and maintain a comprehensive policy of public liability insurance covering all Common Elements, and other areas for which the Association is responsible, and insuring the Association, the Directors, and the Lot Owners and members of their respective families, tenants and occupants, in an amount of not less than One Million Dollars ($1,000,000.00) per occurrence for personal injury and/or property. This insurance shall include protection against liability for risks arising out of the maintenance of the Areas of Common Responsibility and such other risks as are customarily covered with respect to developments similar in construction, location and use, as determined by the Board. This insurance shall contain a "severability of interest" endorsement which shall preclude the insurer from denying the claim for a Lot Owner, tenant or occupant because of negligent acts of the Association, the Board, or other Lot Owners, tenants, or occupants.

13.4 Other Insurance. In addition, the Board may purchase and maintain contractual liability insurance, directors and officers ("D&O") liability insurance, and such other insurance as the Board may deem desirable from time to time.

13.5 Insufficient Insurance. In the event the improvements forming a part of the Common Elements or any other area for which the Association is responsible, or any portion thereof, shall suffer damage or destruction from any cause or peril which is not insured against, or, if insured against, the insurance proceeds from which shall not be sufficient to pay the cost of repair, restoration or reconstruction, then, the Association shall advance such costs in excess of available insurance proceeds. The amount so advanced by the Association shall

become a Special Assessment against all of the Lots, and such Assessments shall have the same force and effect, and, if not paid, may be enforced in the same manner as herein provided for the nonpayment of Assessments. The action required to be taken by the Association under Section 13 shall not require any vote of the Members of the Association.

13.6 Individual Insurance. By virtue of taking title to a Lot subject to the terms of this Declaration, each Owner covenants and agrees with all other Owners and with the Association that each Owner shall (i) during any period in which construction activity is underway on any Lot, carry or cause its Builder to carry builder's risk insurance for the full value of any improvements and other liabilities associated with the ongoing construction activity on the Lot, and (ii) at all other times, carry blanket all-risk casualty insurance on the Lot(s) and any Dwelling and/or other structures constructed thereon. The Board may require all Owners to furnish copies or certificates thereof to the Association. Each Owner further covenants and agrees that in the event of a partial loss or damage resulting in less than total destruction of any Dwelling or other structure, the Owner shall proceed promptly to repair or to reconstruct the damaged parts of the Dwelling or other structure in a manner consistent with the original construction or such other plans and specifications as are approved in accordance with Section 6 of this Declaration and all applicable zoning, building and other governmental regulations. The Owner shall pay any costs of repair or reconstruction, which are not covered by insurance proceeds. In the event that the Dwelling or other structure is totally destroyed, the Owner may decide not to rebuild or to reconstruct, in which case the Owner shall clear the Lot of all debris and return it to substantially the natural state in which it existed prior to the beginning of construction and thereafter the Owner shall continue to maintain the Lot in a neat, safe, and attractive condition consistent with the Community-Wide Standard.

13.7 Fidelity Bonds. The Board may obtain as a Common Expense to the Association fidelity bond coverage with respect to any person who either handles or is responsible for funds held or administered by the Association, in an amount no less than the maximum funds that will be in the custody of the Association or its management agent at any time while the bond is in force; provided, however, the fidelity bond coverage must at least equal the sum of three months' Assessments on all Dwelling Units on the Property, plus the Association's reserve funds. A management agent handling funds for the Association shall also be covered by its own fidelity bond, naming the Association as an additional obligee, at the sole cost of said agent.

SECTION 14
DISPUTE RESOLUTION

In order to provide an efficient procedure for resolving disputes, the Declarant, the Association and all Owners shall be subject to the dispute resolution procedure set forth in this Section 14, notwithstanding that other procedures, **except** those set forth in Section 5 regarding Assessments, may otherwise be applicable.

In the event a dispute should develop between the Declarant, the Association, or any Owner, and/or between any Owners, (individually, or any combination thereof referred to collectively herein as "Claimant") which in any manner concerns, arises out of or relates to any provision of this Declaration, the dispute, regardless of the legal theory under which it is brought, shall be settled pursuant to the procedure as outlined herein:

1) Right to Cure. Claimant shall provide Declarant, the Association, and/or any Owner with written notice and at least 30 calendar days to cure any such dispute, pursuant to the "Right to Repair", "Right to Cure" or similar law.

2) Mediation. Should the dispute not be resolved between the Declarant, Association, or any Owner, and/or between any Owners following the expiration of the Right to Cure period, any of the parties aforementioned shall initiate, including the payment of any applicable fees and costs, a mediation procedure with the office of the American Arbitration Association. All mediation meetings shall be held in the county in which the property is located.

3) Arbitration. If the mediation does not result in complete settlement of the dispute, any unresolved dispute, regardless of the legal theory under which it is brought, shall be settled by binding arbitration administered by the office of the American Arbitration Association. Judgment on the arbitration award rendered by the arbitrators may be entered into either an Missouri state or federal court and shall be binding and conclusive as to the parties and no appeal may be taken by any party. The following specific arbitration provisions shall apply:

    a) The arbitration proceedings shall be held in the county in which the property is located, unless otherwise agreed upon;

    b) The arbitration panel shall consist of 3 arbitrators, unless otherwise agreed upon as a single arbitrator, being selected by the American Arbitration Association using its standard process;

    c) Each party may take a maximum of 2 depositions lasting no more than a total of 8 hours;

    d) The arbitration award shall be in writing, signed by a majority of the arbitrators, and shall include a detailed statement regarding reasons for the award;

    e) The arbitrators shall award to the prevailing party, if any, as determined by the arbitrators, all of its costs and fees including arbitrators' fees, administrative fees, travel expenses, witness fees, and attorney fees;

    f) Except as may be required by law, neither a party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of all parties; and

g) The parties agree to arbitrate solely on an individual basis, and this agreement to arbitrate does not permit class arbitration or permit any dispute being brought as a plaintiff or class member in any class or representative arbitration proceeding.

SECTION 15
DURATION AMENDMENT AND TERMINATION

15.1 Duration. This Declaration and all amendments and supplements thereto, and the Restrictions shall be covenants running with the land and shall bind the Property and every part thereof, and shall (regardless of whether any such beneficiary owns an interest in any lot) inure to the benefit of and be enforceable by, the Board and each Owner and tenant and their legal representatives, heirs, devisees, successors and assigns, and shall continue in full force and effect unless amended or terminated as provided in Section 15.

15.2 Amendment or Termination. Other than the manners described below, prior to the end of the Development Period, any provision of this Declaration may be amended, in whole or in part, or terminated, by a recorded instrument approved by the Declarant and Owners of at least sixty-seven percent (67%) of all Lots located in the Property. After the end of the Development Period, any provision of this Declaration may be amended in whole or in part or terminated by a recorded instrument approved by the Owners of at least sixty-seven percent (67%) of all Lots located in the Property.

The President of the Board shall determine whether the persons who have approved of any amendments or termination of this Declaration constitute Owners of at least sixty-seven percent (67%) of all Lots. Promptly after the approval of any amendment or termination of any part of this Declaration, the President of the Board shall cause to be recorded the written instrument of amendment or termination executed in properly recordable form by the President of the Association and, if during the Development Period, Declarant and the certificate of the President of the Association that the Owners of at least sixty-seven percent (67%) of all Lots have approved such instrument.

The Board shall maintain such copies filed with it by the President as a permanent record and shall make copies thereof available to any Owner at a reasonable cost.

Notwithstanding anything above to the contrary, this Declaration may be amended at any time during the Development Period without the vote of Owners by a written instrument executed by Declarant for any purpose whatsoever; provided, however, that no such amendment shall materially affect any Owner's interest in the Association or right, if any, to use the Common Elements. Each Owner and his or her mortgagees, by acceptance of a deed to a Lot or a mortgage encumbering such Lot, shall be deemed to have consented to and approved of the provisions of this paragraph and the amendment of this Declaration by Declarant as provided in the immediately preceding sentence. All such Owners and their mortgagees, upon request of Declarant, shall execute and deliver from time to time all such

instruments and perform all such acts as may be deemed by Declarant to be necessary or proper to effectuate the provisions of this paragraph.

No amendment may remove, revoke, or modify any right or privilege of Declarant without the written consent of Declarant or the assignee of such right or privilege. No amendment or removal from the Declaration may be made to Section 3, Covenant for Staged Development.

Notwithstanding any provision herein, this Declaration may not be amended without the signed written approval of the City Attorney of the City of Creve Coeur, Missouri, and this Declaration may not be terminated without the approval of the City Council of the City of Creve Coeur, Missouri.

SECTION 16
MISCELLANEOUS

16.1 No Reverter. No covenant, condition, restriction or reservation or easement contained in this Declaration is intended to create, or shall be construed as creating, a condition subsequent or a possibility of reverter.

16.2 Notices. Any notice required or permitted to be given to an Owner or Tenant by the Board pursuant to the provisions of this Declaration shall be deemed given when delivered personally or mailed by United States Registered or Certified Mail, return receipt requested, postage paid, or delivered in person, including delivery by Federal Express or other reputable commercial courier service, addressed to his or her last address as it appears on the records of the Association. Notices provided for in this Declaration, the Articles of Incorporation, or the Regulations shall be in writing, and shall be addressed to an Owner at the address of the Lot and to the Declarant and to the Association at the address of their respective registered agent on file with the Secretary of State of Missouri. Any Owner may designate a different address for notices to such Owner by giving written notice to the Association. Owners shall keep the Association advised of their current address and phone numbers where they can be reached. The time period in which a response to any such notice must be given or any action taken with respect thereto, shall commence to run from the date of personal delivery or date of receipt shown on the return receipt. Rejection or other refusal to accept or the inability to deliver because of changed address of which no notice was given shall be deemed to be receipt of the notice sent.

16.3 Security. The Association may, but shall not be obligated to, maintain or support certain activities within the Property designed to make the Property safer than it otherwise might be. Neither the Association, the Declarant, nor any successor Declarant shall in any way be considered insurers or guarantors of security within the Property, nor be held liable for loss or damage to property, nor be held liable for any loss or damage by reason of failure to provide adequate security or ineffectiveness of security measures undertaken. All Owners and occupants of any Lot, tenants, guests and invitees of any Owner, as applicable,

acknowledge that the Association, its Board and committees, Declarant, or any successor Declarant are not insurers and that each Owner and occupant of any Lot and each tenant, guest and invitee of any Owner assumes all risk for loss or damage to persons, to Lots and Dwellings and to the contents of Lots and Dwellings and further acknowledges that the Association, its Board and Committees, Declarant, or any successor Developer have made no representation or warranties nor has any Owner, occupant, tenant, guest, or invitee relied upon any representations or warranties expressed or implied, including any warranty of merchantability or fitness for any particular purpose, relative to any fire and/or burglar alarm systems or other security systems recommended or installed or any security measures undertaken within the Property.

16.4 Construction. The Board shall have the right to construe the provisions of this Declaration, and, in the absence of an adjudication by a court of competent jurisdiction to the contrary, such construction shall be final and binding as to all persons and entities benefited or bound by the provisions of this Declaration.

16.5 Invalidity. The determination by a court of competent jurisdiction that any provision of this Declaration is invalid for any reason shall not affect the validity of any other provision hereof.

16.6 Headings. The headings of the Sections are for convenience only and shall not affect the meaning or construction of the contents of this Declaration.

16.7 Gender. Throughout this Declaration, the masculine gender shall be deemed to include the feminine and neuter, and the singular the plural, and vice versa.

16.8 Conflict. If there are conflicts or inconsistencies between the provisions of the laws of the State of Missouri, the Articles of Incorporation, this Declaration, the Regulations, Architectural Guidelines and the Rules and Regulations, it shall be agreed that the provisions of the laws of the State of Missouri, this Declaration, the Articles of Incorporation, the Regulations, the Architectural Guidelines and the Rules and Regulations (in that order) shall prevail.

16.9 Covenants Running with Land. This Declaration and all amendments hereto shall be, and shall be construed as, covenants running with the land, shall be binding upon Declarant, Builder, any mortgagee, the Association, its Members, each Owner, each Occupant and all claiming under each Owner or Occupant, and shall (regardless of whether or not any such beneficiary owns an interest in any Lot) inure to the benefit of and be enforceable by (i) Declarant, (ii) Builder, (iii) the Association, and (iv) each Owner and all claiming under each Owner.

16.10 Availability of Documents. The Association shall make available to Members, Owners, and lenders, and to holders, insurers, or guarantors of any first mortgage, current copies of the Declaration, rules and regulations, if any, and other rules concerning the Property.

"Available" means available for inspection, upon request, during normal business hours or under other reasonable circumstances. The Association may charge a reasonable fee to cover the cost of copies, mailings, storage retrieval fees and administrative fees incurred for same.

16.11 Right of Entry. The Association shall have a reasonable right of entry upon any Lot to make emergency repairs and to do other work reasonably necessary for the proper maintenance or operation of the Property.

16.12 Condemnation. In the event any Lot or any portion thereof, is made the subject matter of any condemnation or eminent domain proceeding or is otherwise sought to be acquired by a condemning authority, the net proceeds of any award or settlement shall be the property of the Owner and the holder of the first mortgage, to the extent of their respective interests. Each Owner shall give the holder of a first mortgage on the Owner's Lot timely written notice of such proceeding or proposed acquisition.

In the event the Common Elements or any portion thereof is made the subject matter of any condemnation or eminent domain proceedings or other sought to be acquired by a condemning authority, the proceeds of any award or settlement shall be distributed to the Association for the common benefit of the Owners and their mortgagees, as their interests appear.

SECTION 17
ADDITIONAL COVENANTS, CONDITIONS AND RESTRICTIONS, AND RESERVATION OF EASEMENTS

The additional Covenants, Conditions and Restrictions, and Reservations of Easements specified in **Exhibit D, Exhibit E, and/or Exhibit F** attached hereto and made a part hereof are in full force and effect as if contained in the body of this Declaration.

[REMAINDER OF PAGE INTENTIONALLY BLANK. SIGNATURES FOLLOW.]

IN WITNESS WHEREOF, Declarant has caused this Declaration of Covenants, Conditions and Restrictions and Reservation of Easements for The Vale at Olia Village to be executed by its duly authorized officer as of the date first above written.

DECLARANT:
10300 OLIVE LLC
Missouri limited liability company

By: _____
Name: Michael J. Bailey
Its: Manager

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me on _____, by Michael J. Bailey, Manager of **10300 OLIVE LLC**, Missouri limited liability company, on behalf of the limited liability company.

_____
Notary Public

This instrument prepared by:

_____
Katherine A. Simone, Esq.
Emily W. Schott, Esq.
Fischer Homes
3940 Olympic Boulevard, Suite 400
Erlanger, KY 41018
(859) 341-4709

EXHIBIT A
LEGAL DESCRIPTION OF THE PROPERTY

EXHIBIT B

BYLAWS
OF
THE VALE AT OLIA VILLAGE HOMEOWNERS' ASSOCIATION, INC.

ARTICLE 1
NAME AND LOCATION

The name of the corporation is The Vale at Olia Village Homeowners' Association, Inc., hereinafter referred to as the Association. The principal office of the Association shall be located at 3940 Olympic Boulevard, Suite 400, Erlanger, KY 41018. The meetings of Members of the Association and Board of Directors shall be held at such places within the State of Missouri as may be designated by the Board of Directors.

ARTICLE 2
DEFINITIONS

Each of the terms used herein shall have the same meaning as set forth in the Declaration of Covenants, Conditions and Restrictions and Reservation of Easements for The Vale at Olia Village Subdivision ("Declaration") made by 10300 OLIVE LLC ("Declarant") dated _____, and of record at the St. Louis County, Missouri Recorder of Deeds Office. The Declaration may be, from time to time, amended or supplemented.

ARTICLE 3
MEETING OF MEMBERS

3.1 Annual Meetings. The first Annual Meeting of the Members shall be held within five (5) years from the date of incorporation of the Association, on such date as the initial Board shall determine. Each subsequent Annual Meeting of the Members shall be held in the State of Missouri, upon proper notice, at a date, time and place as may be reasonably set by the Board of Directors (hereinafter referred to as "Board" or "Director"). Each Annual Meeting shall be open to all Members. No Annual Meeting shall be held on a legal holiday.

3.2 Special Meetings. Special meetings of the Members may be called at any time by the President or by the Board. Special meetings shall be called by the President upon written request, delivered to the President in person or by certified mail, of Members having at least one-third (1/3) of the voting power of all Members. Upon receipt of this request, the President shall immediately cause written notice to be given of the special meeting to be held on a date not less than ten (10) nor more than thirty-five (35) days after receipt of this request. If written notice is not given to the Members within ten (10) days after the delivery of the request, the Members making the request may call the special meeting and give written notice of it.

3.3 Notice of Meetings. Written notice of each meeting of the Members shall be given by or at the direction of the Secretary or person authorized to call the meeting, by mailing a copy of such notice, postage prepaid, at least ten (10) days, but no more than thirty-five (35) days before such meeting to each Member entitled to vote thereat. The notice shall be addressed to the Member's address last appearing on the books of the Association, or, supplied by such Member to the Association for the purpose of notice. Such notice shall specify the date, time and place of the meeting, and, in the case of a special meeting, the purpose of the meeting. Notice of the date, time and place, and purpose(s) of any meeting of Members may be waived by any Member, before or after the meeting, by a writing filed with the records of the Association. The attendance of any Member at any meeting without protesting, before or at the beginning of the meeting, the lack of proper notice, shall be deemed a waiver by the Member of notice of the meeting.

3.4 Quorum; Adjournment. Except as may be otherwise provided by law, the Articles of Incorporation, these Bylaws or the Declaration, quorum for a meeting shall constitute (i) the members who are present and in good standing; and (ii) proxies in hand at the time of the commencement of a vote.

3.5 Proxies. At all meetings of Members, each Member may vote in person or by proxy. Proxies may be submitted in person, by mail, or by electronic means. The person designated a proxy need not be a Lot Owner. All proxies shall be in writing and filed with the Secretary at least twenty-four (24) hours prior to the meeting, except that the Board may waive this time requirement for a particular meeting if the waiver would not delay the meeting and would otherwise be fair and reasonable. Every proxy shall be revocable and shall automatically cease upon conveyance by the Member of his/her Lot, except as otherwise provided in the Declaration or the Articles of Incorporation. If a first mortgagee has been designated a proxy under the terms of a first mortgage covering a Lot, the presentation to the Board of Directors of a copy of the mortgage containing the proxy designation shall be notice of that designation, and, if the mortgage so states, of the irrevocability of that designation. A proxy shall be void if it is not dated or purported to be revocable without notice.

3.6 Voting by Mail or Electronically by Association Members. Any Association Member may cast his/her written vote by mail or by electronic means on any proposal voted upon at any meeting of the Members of the Association by sending such written vote to the Secretary of the Association within the period seven (7) days before the date of the meeting. Such written votes shall be filed with the records of the Association and, in no event, shall any action be taken or approved by the Association with the approval of any less than the percentage of voting power required by the provisions of the Declaration or without the consent of any party that is required by any of said provisions. Members who have voted by mail shall not be counted in determining whether the quorum has been met at a meeting of the Members.

3.7 Members. Every Lot Owner shall be a Member of the Association, and such membership shall be appurtenant to and may not be separated from ownership of any Lot. During the Development Period (as defined in the Declaration), the Association shall have Class A Members (being all Owners except Declarant) and a Class B Member (Declarant). At such time as the Class B Membership shall terminate, the Declarant, if it is then a Lot Owner, shall become a Class A Member and continue as such so long as it shall remain a Lot Owner. Class B Membership shall terminate upon the expiration of the Development Period.

3.8 Voting. Each Class A Member shall be entitled to one (1) vote for each Lot owned by such Class A Member; provided that any Class A Member with respect to whom a notice of Default has been issued by the Board pursuant to the Declaration, or who has had his/her right or privilege of use and enjoyment of the Common Elements suspended pursuant to the Declaration, shall not be entitled to vote during any period in which any such Default or suspension continues; and further provided that if a Lot shall be owned by more than one (1) Lot Owner, such Lots Owners shall be deemed to constitute a single Class A Member as to such Lot for purposes of this Section. The Class B Member shall have ten (10) votes for each Lot in which the Declarant holds the interest otherwise required for Class A Membership multiplied by the number of Dwelling Units located or proposed by the Declarant to be located on such Lot, provided, however, that each Class B Membership shall terminate upon the expiration of the Development Period. At such time as Class B Membership shall terminate, the Declarant which, for any Lot, holds an interest therein otherwise required for Class A Membership, shall be deemed a Class A Member with reference to such Lot or Lots and entitled to the voting and all other rights of such Class A Member.

Unless otherwise expressly set forth by law, the Declaration, the Articles of Incorporation or these Bylaws, the affirmative vote of fifty-one percent (51%) of the voting power of the Members voting on any matter at a meeting of Members shall be sufficient to determine that matter, provided that any quorum requirement is met at the time of completion of that vote.

3.9 Order of Business. The order of business at all meetings of Members shall be as follows: (1) calling of meeting to order; (2) roll call, determination of whether there is a quorum; (3) proof of notice of meeting or waiver of notice; (4) reading of minutes of preceding meeting; (5) reports of Officers; (6) reports of committees; (7) election of the Board of Directors (when appropriate); (8) unfinished and/or old business; (9) new business; (10) adjournment.

3.10 Action by Association Members Without a Meeting. Any action which may be authorized or taken at a meeting of the Members may be authorized or taken without a meeting in a writing or writings signed by all Members in good standing which writing or writings shall be filed with the records of the Association. Written notice of any action proposed to be taken by such written consent of Members shall be sent to all parties who are entitled to

notices under the Declaration not less than ten (10) days prior to commencing the circulation of the action for written consent among the Members.

ARTICLE 4
BOARD OF DIRECTORS - SECTION - TERM OF OFFICE

4.1 Number and Term of Office. Until the expiration of the Development Period, the initial Board shall consist of three (3) persons appointed by the Class B Member who shall serve until their respective successors are elected and qualified. Directors appointed by the Declarant need not be Members of the Association. However, a Director elected by Class A Members shall be a Lot Owner except that if a Lot Owner is a corporation, partnership, joint venturer, or other entity, the Lot Owner may elect as a Director an officer, partner, joint venturer, or like individual affiliated with this Lot Owner.

Within ninety (90) days after the expiration of the Development Period, the President of the Association shall call a special membership meeting ("Development Period Special Meeting"). At the Development Period Special Meeting, all Declarant appointed Directors shall be deemed removed from office, and the Class A Members, including the Declarant if it is then an Owner, shall elect a Director to fill each vacancy on the Board. The terms of said elected Directors for the initial Class A Member elected board shall be from one (1) to two (2) years, so that any year thereafter, at least one (1) term shall expire. The two Directors with the most votes shall be the Directors who shall serve a two (2) year term. The remaining Director shall serve a one (1) year term. Subsequent to the Development Period Special Meeting, all Directors, and their successors, shall be elected by Class A Members and shall be elected for a two (2) year term. Furthermore, at any Annual Meeting subsequent to the Development Period Special Meeting, the Board may elect to expand the number of Directors to five (5) but in no event shall the number of Directors be less than three (3).

Notwithstanding anything above to the contrary, the Class B Member may, by written notice to the Board, at or before any Annual Meeting, relinquish to the Class A Members, the Class B Member's right to elect one or more Directors at such Annual Meeting pursuant to this Section.

4.2 Resignation; Removal, Vacancies. A Director may resign at any time by giving written notice to the Board, the President or the Secretary. The resignation shall take effect on the date of receipt of such notice or at any later time specified therein, and unless specified therein, the acceptance of such resignation shall not be necessary to make it effective.

A Director appointed by Declarant may be removed by Declarant at any time, with or without cause. An elected Director whose removal has been proposed by a Lot Owner shall be given an opportunity to speak at an annual or special meeting of the Members, after which that Director may be removed, with or without cause, by a majority vote of the Members voting at a meeting of the Members.

If a vacancy is created because of resignation, removal, or death, a successor shall be appointed or elected to serve for the unexpired term of the departed Director. Declarant shall appoint a successor for any appointed Director, and the Members shall elect a successor for any elected Director using the procedure set forth in this Section, at any Annual Meeting of the Members or at any special meeting of the Members called for the purpose of filling this vacancy.

4.3 Compensation. No Director shall receive compensation for any service he or she may render to the Association, however, any Director shall be reimbursed for his or her actual expenses incurred in the performance of his or her duties.

ARTICLE 5
NOMINATION AND ELECTION OF DIRECTORS

5.1 Nomination. Nominations may also be made from the floor at the Annual Meeting of the Members. Nomination for election to the Board may be made by a Nominating Committee appointed by the Board. If created, the Nominating Committee shall consist of three (3) persons who may or may not be Members of the Board or Association. The Nominating Committee, if formed, shall be appointed at least thirty (30) days prior to the Annual Meeting of the Members, to serve from appointment until the close of such Annual Meeting. The Nominating Committee shall make as many nominations for election to the Board as it shall in its discretion determine, but not less than the number of vacancies that are to be filled. Notwithstanding the foregoing, as long as Declarant has the right to appoint all Directors, Declarant also has the right to nominate all Directors.

5.2 Election. Elections to the Board shall be by secret written ballot. At such election, the Members or their proxies may cast, in respect to each vacancy, as many votes as they are entitled to exercise under the provisions of the Declaration and these Bylaws. The persons receiving the largest number of votes shall be elected. Cumulative voting is not permitted.

ARTICLE 6
MEETINGS OF DIRECTORS

6.1 Annual Organizational Board Meeting. The Annual Organizational Board Meeting shall take place immediately after each Annual Meeting of the Members, at the time and place fixed from time to time by the Board.

6.2 Regular Meeting. Unless waived by the Board, regular meetings of the Board shall be held no less than quarterly, on the date and at the time and place fixed from time to time by the Board. No Regular Meeting shall be held on a legal holiday.

6.3 Special Meetings. Special meetings of the Board shall be held when called by the President of the Association, or by a majority of Directors.

6.4 Notice of Meetings; Attendance by Members. Notice of the date, time, and place of organizational, regular, and special meetings of the Board shall be given to each Director by personal delivery, mail, electronic mail, facsimile, or telephone at least three (3) days before the meeting. The notice need not specify the purposes(s) of the any meeting. Notice of the date, time and place of any meeting may be waived by a Director, before or after the meeting, by a writing filed with or entered upon the records of the meeting. Attendance of a Director at any meeting without protesting, before or at the beginning of the meeting, the lack of proper notice shall be deemed a waiver by the Director of notice of the meeting.

No notice need be given to Non-Director Members of organizational, regular, or special meetings of the Board. A Non-Director Member may not attend a Board meeting or may not participate in any such meeting unless given permission to do so by the President of the Board. A Non-Director Member may not vote at a meeting of the Board.

6.5 Waiver of Notice. Any requirement of notice to a Director provided under this Article may be waived by the Director entitled thereto by written waiver of such notice signed by the Director and filed with the Secretary of the Association. Attendance at a meeting is considered waiver of notice.

6.6 Quorum; Adjournment. A simple majority of the Directors then in office shall constitute a quorum for any meeting, provided that the quorum requirement must be met at the time of completion of a vote on any matter for that vote to be valid. Whether or not a quorum is present, a majority of the Directors present at a meeting may adjourn that meeting. Notice of the adjournment need not be given if the time and place to which the meeting is adjourned are fixed and announced at the meeting.

6.7 Voting Power. At any meeting of the Directors at which a quorum is present, all matters shall be determined by a majority vote of those voting on the matter, except as may be otherwise expressly provided in the Declaration and these Bylaws. The President may cast an additional vote to break a tie vote on any matter.

6.8 Action Taken Without a Meeting. Any action which may be taken at a meeting of the Board may be taken without a meeting in a writing or writings which may include electronic approval signed by all the Directors, which writing(s) shall be filed with the records of the Board. Any action so approved shall have the same effect as though taken at a meeting of the Directors.

ARTICLE 7
POWERS AND DUTIES OF THE BOARD OF DIRECTORS

7.1 Powers. The Board shall exercise all powers and authority, under law, and under the provisions of the Declaration, that are not specifically and exclusively reserved to the

Members by law or by other provisions thereof, and without limiting the generality of the foregoing, the Board shall have the right, power and authority to:

(a) Adopt and publish Rules and Regulations (as hereinafter defined) governing the use of the Common Elements and the personal conduct of the Members, occupants and their guests thereon, and to establish penalties for the infraction thereof;

(b) Declare the office of a Member of the Board of Directors to be vacant in the event such Member shall be absent from three (3) consecutive regular meetings of the Board of Directors;

(c) Obtain insurance coverage not less than that required pursuant to the Declaration;

(d) Enforce the covenants, conditions and restrictions set forth in the Declaration;

(e) Repair, maintain, and improve the Common Elements;

(f) Mortgage the Common Elements in order to borrow money for the purpose of constructing, equipping, improving, and maintaining the Common Elements with the approval of sixty-seven percent (67%) of the Class A Members, and during the Development Period, the approval of the Class B Member.

(g) Execute any loan agreement and/or promissory note for the benefit of Declarant, Builder (as defined in the Declaration) and/or Affiliated Entity (as defined in the Declaration), as the case may be, the form of which shall comply with the terms and conditions set forth in **Exhibit C** attached to the Declaration, which shall evidence any loan of funds made to the Association to fund a deficit;

(h) Authorize the repayment to the Declarant, Builder and/or Affiliated Entity, as the case may be, of any or all monies lent by such entity to the Association in accordance with Section 5 of the Declaration in funding any deficit;

(i) Suspend the voting rights of a Member during any period in which such Member shall be in Default in the payment of any Assessment levied by the Association, as more fully provided in the Declaration;

(j) Employ a manager, an independent contractor and/or such other employees as it deems necessary, and to prescribe their duties; and

(k) Exercise for the Association all powers, duties and authority vested in or delegated to the Association by provisions of these Bylaws, the Articles of Incorporation, or the Declaration not specifically reserved thereby to others, including any powers necessary or convenient to carry out its duties and authority. The powers of the Board shall be construed to be as broad as possible.

7.2 Duties. It shall be the duty of the Board of Directors to:

(a) Cause to be kept a complete record of all its acts and corporate affairs and to present a statement thereof to the Members at the Annual Meeting of the Members, or at any special meeting when such statement is requested in writing by Members representing one-third (1/3) of each class of Members who are entitled to vote;

(b) Supervise all Officers, agents and employees of the Association, and to see that their duties are properly performed, with the Board having full power to hire and fire;

(c) As more fully provided in the Declaration, to:

(i) Establish, enforce, levy and collect Assessments as provided in the Declaration;

(ii) Give written notice of each Assessment to every Member subject thereto within the time limits set forth therein;

(iii) Foreclose the lien against any property for which Assessments are not paid within a reasonable time after they are authorized by the Declaration to do so, or bring an action at law against the Member(s) personally obligated to pay the same, or both;

(iv) Pay the Association's Common Expenses through the Assessments and/or the borrowing of funds as provided in the Declaration;

(d) Issue, or to cause an appropriate Officer to issue, upon demand by any person, a certificate setting forth whether or not any Assessment has been paid. A reasonable charge may be made by the Board for issuance of these certificates. If a certificate states an Assessment has been paid, such certificate shall be conclusive evidence of such payment;

(e) Procure and maintain insurance as provided in the Declaration, and as the Board deems advisable;

(f) Cause the property subject to the Association's jurisdiction to be maintained within the scope of authority provided in the Declaration;

(g) Cause the restrictions created by the Declaration to be enforced; and

(h) Take all actions deemed necessary or desirable to comply with all requirements of law and the Declaration.

7.3 Professional Management Contracts. The Association may delegate all or any portion of its authority, subject to the Board of Directors supervision, to discharge its responsibilities herein to a manager or managing agent. Any management agreement shall not exceed three (3) years and shall provide for termination by either party without cause and without payment of a termination fee on sixty (60) days or less written notice.

7.4 Rules and Regulations. The Board may adopt and amend rules and regulations (hereinafter, "Rules and Regulations") for the maintenance, use, conservation, and beautification of the Property and for the health, comfort, safety, and general welfare of Members and their families, tenants, and invitees. The Board, or any committee created by the Board, may impose fines on a Member who violates, or whose family members, tenants or invitees violate the Rules and Regulations. The Board may establish a schedule of fines for particular violations of the Rules and Regulations to be paid by any Member who violates such Rules and Regulations. Any fines assessed by the Board shall be due and payable on the date the next installment of any Assessment is due. In the event that a Member shall fail to pay when due any fines assessed by the Board under this Section, then the amount of the assessed fines, in addition to any and all expenses incurred by the Board in enforcing this Section, including reasonable attorneys' fees to the extent permitted by Missouri law, may be levied as a Special Assessment against the Lot Owner in question and his or her Lot. The levying of a fine against a defaulting or delinquent Member shall not operate as a waiver of any other rights that the Board may have against such Member pursuant to the Declaration or these Bylaws. In the event such Rules and Regulations shall conflict with any provisions of the Declaration or these Bylaws, the provisions of the Declaration and of these Bylaws shall govern.

7.5 Annual Review. The Board may arrange for a certified public accountant to perform a review of the Association's books. Upon written request, the Board shall provide a first mortgagee with a copy of any annual review report.

ARTICLE 8
OFFICERS AND THEIR DUTIES

8.1 Enumeration of Officers. The Association may have a President, Vice-President, Secretary and Treasurer. The Board may create other offices from time to time. The President, Vice-President, Secretary and Treasurer shall be Members, or representatives of the Declarant or Builder.

8.2 Election of Officers. Prior to the Development Period Special Meeting, the Officers of the Association will be elected by the Board of Directors at the Annual Organizational Board Meetings. Thereafter, the Officers of the Association will be elected by the Board of Directors promptly after the Development Period Special Meeting and at each Annual Organizational Board Meeting and the persons so elected shall take office immediately upon election.

8.3 Term. The Officers of this Association shall be elected annually by the Board and each shall hold office for one (1) year and until a successor is elected, unless he or she shall sooner resign, or shall be removed, or otherwise be disqualified to serve.

8.4 Special Appointments. The Board may elect such other Officers as the affairs of the Association may require, each of whom shall hold office for such period, have such authority, and perform such duties as the Board may, from time to time, determine.

8.5 Resignation and Removal. The Board may remove any Officer at any time, with or without cause, by a majority vote of the Directors. Any Officer may resign at any time by giving written notice to the Board, the President or the Secretary. Such resignation shall take effect on the date of receipt of such notice or at any later time specified therein, and unless specified therein, the acceptance of such resignation shall not be necessary to make it effective.

8.6 Vacancies. A vacancy in any office may be filled by appointment of the Board. The Officer appointed to such vacancy shall serve for the remainder of the term of the Officer he or she replaces.

8.7 Multiple Offices. The offices of Secretary and Treasurer may be held by the same person. No person shall simultaneously hold more than one of any of the other offices except in the case of special offices created pursuant to Section 8.4 of these Bylaws, or except by resolution of seventy-five (75%) percent of the Board of Directors. No Officer shall execute an instrument in more than one capacity if the signatures of two or more Officers are required by law, the Articles of Incorporation, the Declaration or these Bylaws.

8.8 Duties. The duties of the Officers are as follows:

(a) President. The President shall be the chief executive officer of the Association and shall preside at all meetings of the Members and all meetings of the Board and shall see that orders and resolutions of the Board are carried out. The President may sign all legal instruments authorized by and on behalf of the Association.

(b) Vice-President. The Vice-President shall act in the place of the President in the event of his absence, inability or refusal to act, and shall exercise and discharge such other duties as may be required of him by the Board.

(c) Secretary. The Secretary shall record the votes and keep the minutes of all meetings and proceedings of the Board and of the Members; serve notice of meetings of the Board and of the Members; keep appropriate current records showing the names and addresses of Members; give each Member a copy of any Rules and Regulations or amendments thereto; and shall perform such other duties as required by the Board.

(d) Treasurer. The Treasurer shall receive and deposit in appropriate bank accounts all monies of the Association and shall disburse such funds as directed by resolution of the Board; keep proper books of accounts, specifying the receipts and expenses, together with records showing the allocation, distribution, and collection of the common profits, losses, and expenses among and from the Members; and shall prepare an annual budget and annual statement of income and expenditures to be presented to the Members at the Annual Meeting, with a copy to be mailed or delivered to each Member.

(e) Reliance on Professional Advice. As long as the Directors and the Officers are acting in good faith, the Directors and Officers may rely upon the advice of professionals hired or retained to advise the Association. It is understood that the Directors and Officers will be unpaid volunteers.

ARTICLE 9
COMMITTEES

The Board may appoint and disband such committees as it chooses.

ARTICLE 10
INDEMNIFICATION PROVISIONS

In addition to any other right or remedy to which the persons hereinafter described may be entitled, under the Articles of Incorporation, Bylaws, Declaration, any other agreement, or by vote of the Members or otherwise, the Association shall indemnify any Director or Officer of the Association or former Director or Officer of the Association, who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative by reason of the fact that he is or was a Director or Officer of the Association, against expenses (including attorney's fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with such action, suit or proceeding if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interest of the Association, and with respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except as to matters as to which the Director or Officer shall be finally adjudged in this action, suit or proceeding to be liable for willful misconduct or bad faith. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plead of nolo contendere or its equivalent, shall not, of itself, create a presumption that the person did not act in good faith and in a manner which he reasonably believed to be in or not opposed to the best interest of the Association, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his conduct was unlawful. The Board may purchase insurance in the amount it deems appropriate to provide this indemnification, and the cost of this insurance shall be a Common Expense. In the event of a settlement, indemnification shall be provided only in connection with those matters covered by the settlement as to which the Association is advised by counsel that the Director or Officer has not been guilty of willful misconduct or bad faith as a Director or Officer in relation to the matter involved. The foregoing rights shall not be exclusive of other rights to which a Director or Officer may be

entitled. All liability, loss, damage, cost and expenses incurred or suffered by the Association by reason or arising out of or in connection with the foregoing indemnification provisions shall be treated by the Association as Common Expenses. Nothing in this Section shall be deemed to obligate the Association to indemnify any Member, who is or who has been a Director or Officer, with respect to any duties or obligations assumed or liabilities incurred by the Member as a Member rather than as a Director or Officer.

ARTICLE 11
MISCELLANEOUS

11.1 Service of Notices on the Board of Directors. Notice required to be given to the Board of Directors or to the Association may be delivered to any Director or Officer of the Association either personally or by certified mail addressed to such Director or Officer at his/her residence or business address.

11.2 Service of Notices on Devisees and Personal Representatives. Notice required to be given to any devisee or personal representative of a deceased Owner may be delivered either personally or by certified mail to such party at his, her or its address appearing on the records of the Court within the state of such deceased Owner is being administered.

11.3 Nondiscrimination. No Member (including the Declarant) and no employee, agent, or representative of a Member shall discriminate on the basis of sex, race, color, national origin, religion, familial status, or disability in sale or lease of any Lot, or in the use of the Common Elements.

11.4 Nonwaiver of Covenants. No delay or failure on the part of the Board and/or on the part of any Officer in exercising any right, power or privilege or in failing to enforce a covenant, condition, obligation, or a provision contained in the Declaration, Articles of Incorporation, Bylaws, or Rules and Regulations shall be or be deemed to be a waiver thereof, or be or be deemed to be a waiver of any subsequent exercise of such a right, power, or privilege, or be deemed to be a waiver of any subsequent violation or breach of such covenant, condition, obligation, or privilege, nor shall any single or partial exercise of any right, power, or privilege preclude any other or future exercise thereof or preclude the exercise of any other right, power, or privilege. All rights, powers, and privileges given hereunder or at law or in equity are cumulative, and any one or more or all of such rights, owners, and privileges may be exercised simultaneously or consecutively.

11.5 Board's Power to Bind. A lawful agreement or determination made by the Board or an Officer, in accordance with procedures established in the Declaration and Bylaws, shall bind all Members, their successors and their assigns.

11.6 No Act of Business for Profit. These Bylaws shall not be construed to give the Association authority to conduct any act of business for profit on behalf of one or more Members.

11.7 Books and Records. The books, records and papers of the Association shall at all times, during reasonable business hours, be subject to inspection by any Member. The Declaration, Articles of Incorporation, Bylaws and Rules and Regulations, if any, shall be available for inspection by any Member at the principal office of the Association or at such other reasonable place as the Board might direct, where copies may be purchased at reasonable cost.

11.8 Fiscal Year. The fiscal year shall begin on the first day of January of every year, except that the first fiscal year of the Association shall begin at the date of incorporation. The commencement date of the fiscal year herein established may be changed by the Board of Directors.

11.9 Execution of Corporation Documents. With the prior authorization of the Board of Directors, all notes, contracts and other documents shall be executed on behalf of the Association by either the President or the Vice-President, and all checks and other drafts shall be executed on behalf of the Association by such Officers, agents or other persons as are, from time to time, by the Board, authorized so to do.

11.10 Conflict. In the case of any conflict between the Articles of Incorporation and these Bylaws, the Articles of Incorporation shall control; and in the case of conflict between the Declaration and these Bylaws, the Declaration shall control.

11.11 Amendments. These Bylaws may be amended from time to time, at any Annual Meeting or special meeting of the Members in accordance with the provisions set forth in the Declaration for amendment thereto. Notwithstanding the foregoing, the Declarant, or any person or entity that the Declarant has designated, must consent in writing to the amendment before the amendment is effective if the amendment is passed during the Development Period.

11.12 Governing Law. The Bylaws shall be interpreted and enforced under the laws of the State of Missouri.

11.13 Perpetuities; Restraints on Alienation. If an option, privilege, covenant, or right created by the Bylaws shall be unlawful or void for violation of (a) the rule against perpetuities or some analogous statutory provision, (b) rule restriction restraints on alienation, or (c) any other statutory or common law rule imposing time limits, then that provision shall continue only until twenty-one years after the death of the last survivor of the now living descendants of Joseph Robinette Biden Jr.

11.14 Severability. The invalidity of part or all of any provision of the Bylaws shall neither impair the validity of nor affect in any manner the Declaration, the Articles of Incorporation or the rest of the Bylaws.

11.15 Heirs, Successors and Assigns. These Bylaws shall be binding upon and shall inure to the benefit of the Association, the Declarant, the Builder, Members and Members' heirs, successors, and assigns.

11.16 Interpretation. These Bylaws shall be interpreted reasonably and in good faith. They should not be applied so strictly so as to thwart justice or common sense. Missouri law shall control. If the Bylaws or the Articles of Incorporation are silent on a subject, the Directors may follow the applicable corporation laws of Missouri and shall have all powers given to a board of directors under the applicable corporation laws of Missouri. These Section headings are for convenience only and shall not affect the meaning or construction of the Bylaws. A reference to a specific Section without a further identification of the document containing that Section is a reference to a Section in the Bylaws. Where the context requires masculine, feminine and/or neuter terminology shall include the neuter, feminine and/or masculine. Any capitalized terms used herein which are not otherwise defined, shall have the meanings as defined in the Declaration.

ADOPTED as of _____.

THE VALE AT OLIA VILLAGE HOMEOWNERS' ASSOCIATION, INC.
a(n) Missouri not-for-profit corporation

By: _____
Name: Jorge Espinosa
Its: President

EXHIBIT C
DEFICIT LENDING TERMS

Loan Agreement(s) and Promissory Note(s) to fund Operating Deficit(s) pursuant to Section 5 of Declaration of Covenants, Conditions and Restrictions and Reservation of Easements for The Vale at Olia Village shall conform with the following provisions which shall govern the terms and conditions of said Agreement(s) and Notes(s):

1. Type of Note
The Note(s) may be issued in any of the following forms:

   (a) Demand Note:
   This type of Note shall be payable on the date of demand by Lender; or

   (b) Open-end Note:
   This type of Note shall permit additional borrowing and prepayment of principal, without penalty; or

   (c) Closed-end Note:
   This type of Note shall not permit additional borrowing against this note; but prepayment of principal, without penalty, shall be permitted.

2. Method of Payment:
Repayment of the loan(s) may be by any of the following methods:

   (a) Installment Plan:
   This method of payment shall require payments, of both principal and interest, at regular intervals over the term of the loan; or

   (b) Lump Sum Payment:
   This method of payment shall require periodic payments, of both principal and interest, for a specified time and a lump sum payment at maturity to discharge the outstanding balance of the loan; or

   (c) Balloon Payment:
   This method of payment shall require periodic interest payments for a specified time and a lump sum payment at maturity to discharge the outstanding balance of the loan.

3. Interest:
The Interest Rate established by Lender shall be reasonable, but no greater than two (2) percentages points over the "prime rate" as published in the Wall Street Journal and shall be designated by lender to be either:

(a) Fixed:
The Lender shall establish a rate of interest at the time of the making of the Note and this rate of interest shall remain constant over the term of the Note; or

(b) Variable:
The Lender can periodically adjust the interest rate in accordance with fluctuations in the "prime rate" as published in the Wall Street Journal.

Furthermore, Interest shall be designated by Lender to be either:

(a) Compound:
Interest shall be paid on both the principal and the previously accumulated interest; or

(b) Simple:
Interest shall be paid on the principal only and not on accumulated interest.

4. Limit on Term:
The Note(s) may be issued for a term up to, but not to exceed, ten (10) years.

5. Waiver of Defenses:
Borrower shall waive presentment, demand, protest, and notice of demand, protest, nonpayment and dishonor. Borrower shall also waive all defenses based on surety ship or impairment of collateral.

6. Agreement(s) and Note(s) shall contain clauses addressing the following issues:
(a) Order of payment
(b) Default
(c) Expenses
(d) Omission or waiver by Lender
(e) Severability
(f) Choice of law

EXHIBIT D

[This exhibit intentionally blank]

EXHIBIT E

[This exhibit intentionally blank]

EXHIBIT F

IN ADDITION TO BEING SUBJECT TO THE RESTRICTIONS, AS CONTAINED IN THIS DECLARATION, INCLUDING BUT NOT LIMITED TO ANY AND ALL ASSESSMENTS, THE FOLLOWING ADDITIONAL COVENANTS, CONDITIONS AND RESTRICTIONS AND RESERVATION OF EASEMENTS SHALL APPLY TO PAIRED LOTS [LOT NUMBERS] OF [PLAT NAME], AS RECORDED ON [DATE] IN PLAT BOOK _____, PAGE _____ OF THE ST. LOUIS COUNTY, MISSOURI RECORDS.

SECTION 1
DEFINITIONS

1.28(a) "Limited Common Elements" shall mean and refer to that real property, together with the Improvements located thereon, owned by the Association for the benefit, use and enjoyment of the Owner of a certain Dwelling Unit or Dwelling Units constructed on Paired Lots with such Improvements located thereon, to the exclusion of the other Owners, as well as areas which have been specifically designated by the Declarant on the recorded plat as "Limited Common Elements".

SECTION 7
COVENANTS AND RESTRICTIONS OF USE AND OCCUPANCY

7.2 Covenants and Restrictions

(y) Swimming Pools. No in-ground swimming pools or above-ground swimming pools shall be erected, constructed or permitted to remain on any Paired Lot.

(z) Basketball Goals, Play Areas, etc. No permanent or portable basketball goals shall be erected, constructed, or permitted to remain on any Paired Lot. No playground equipment, play apparatuses, swing sets, tree houses, trampolines, playhouses, or other similar structures or apparatuses shall be erected, constructed, or permitted to remain on any Paired Lot.

(aa) Fences. No fences shall be erected or built on any part of a Paired Lot except that an invisible fence shall be permitted. In no case shall the installation of an invisible fence destroy or otherwise disturb any landscaping area on any Paired Lot.

SECTION 8
MAINTENANCE STANDARDS

8.1 Adoption and Amendment.

(g) The reference to Common Elements as described in Section 9 shall also include the Limited Common Elements, so that wherever the term Common Element(s) is used, it shall also include Limited Common Element(s).

8.5 Right of Entry.

(a) The reference to Common Elements as described in Section 9 shall also include the Limited Common Elements, so that wherever the term Common Element(s) is used, it shall also include Limited Common Element(s).

SECTION 9
COMMON ELEMENTS AND EASEMENTS

9.7 Easements.

(f) There is hereby established and reserved by the Declarant a blanket easement over all of each and every Paired Lot for the benefit of the Association for express purpose of providing landscaping maintenance services, snow pushing services, and any other services or special services established by the Board or set forth in the Declaration as amended. The Declarant reserves the right within said easement to establish common landscape areas or common streetscape areas for the benefit of Paired Lot Owners. The Association shall be responsible for the maintenance of any such common landscape areas or common streetscape areas so established.

SECTION 10
ASSOCIATION AND OWNER MAINTENANCE RESPONSIBILITY

10.1.1 Additional Association Responsibilities. It is the intention of the Declarant and Builder that the Paired Lots be provided with the following additional maintenance services and insurance:

(a) Required Lawn and Landscape Maintenance Services. The Association shall manage and provide lawn and landscaping maintenance services for each Paired Lot and all Common Elements located on the Property. Such services apply to those areas installed by Declarant and/or Builder and may include but shall not be limited to: mowing, leaf removal, fertilizing and treatments of all established turf areas; pruning and treatment of shrubs and trees; and weeding, trimming, edging, and annual mulching of landscape beds. The Declarant and/or Builder may install additional landscaping which the Association is responsible for maintaining, provided such additional landscaping is noted on the Record Plat as a "Landscape Easement Area". Any Landscape Easement Area Lot shall be maintained by the Association. The delineation of areas to be mowed and otherwise maintained and areas to be left in a natural state shall be at the discretion of the Board.

Each Owner of a Paired Lot shall remain responsible for the remaining lawn and/or landscaping services including the establishment of all turf areas and the irrigation of watering of all turf and landscaping areas located in the front, side and rear yards. Any landscaping installed by an Owner will not be maintained by the Association. As determined by the Board, the Association will replace dead or dying landscaping and turf, which are under maintenance of the Association, unless the Owner of the Paired Lot, through action or inaction, causes the death or damage of plant material and/or turf (e.g., does not adequately water the landscaping). Owner damaged landscaping or turf will be replaced at the expense of the respective Owner and may be assessed as an Individual Assessment under Section 5 of the Declaration.

Yard ornaments or other decorative items may be located on a front door stoop, patio, or deck, but may not be placed in or on mulch beds, trees, bushes, or other landscaped areas.

(b) Required Snow Pushing Services. The Association shall manage and provide snow pushing services for driveways and sidewalks for Paired Lots. Such snow pushing services for sidewalks shall be limited to the private streets, if any, and the sidewalk leading from the driveway to the front door of the Dwelling Unit and shall not include sidewalks along streets. Snow pushing shall be provided in accordance with requirements and rules established by the Board of Directors. Deicers and deicing service is not part of this service. Paired Lot Owners bear all risks and are responsible for any damage to pavement surfaces caused by their use of deicers on their own driveways and sidewalks.

(c) Special Services. The Association on its own initiative or at the request of Paired Lot Owners may, upon Board approval, provide special services to Paired Lot Owners. Such services may include, but are not limited to: exterior painting, concrete cleaning and sealing, deck cleaning and sealing, exterior building maintenance, gutter cleaning or similar services. These services would not be required or provided to all Paired Lot Owners, but would only be provided to such Paired Lot Owners who desire to participate in such special services. These services would be provided at an additional cost to the participating Paired Lot Owners. Any expenses incurred by the Association for the provision of special services shall be billed to the participating Paired Lot Owner as an Individual Assessment and shall be paid by said Owner within thirty (30) days thereafter.

(d) Discontinuance of Required Services. During the Development Period the required services set forth in Paragraphs 6.3(a) and 6.3(b) shall be mandatory and shall be provided by the Association unless the Declarant consents to the discontinuance of any such service and seventy-five percent (75%) of the Paired Lot Owners vote to discontinue any such service. After the termination of the Development Period, the aforesaid required services may be discontinued as set forth above, but without requiring the consent or the Declarant. Furthermore, after termination of the

Development Period, additional services may be added if seventy-five percent (75%) of the Paired Lot Owners vote to add such services.

(e) Exterior Maintenance shall include the following: paint, caulk, repair and replace roofs, roof vents, chimneys, gutters, downspouts, and exterior wall surfaces; paint and make surface repairs on the exterior surfaces of the doors; repair and replace common area sidewalks; general treatment for pest control; perform other exterior maintenance as from time to time is determined by the Board of Directors of the Association to be reasonably necessary to maintain such Paired Homes consistent with the funds available to the Association, such additional maintenance to be exercised uniformly for the benefit of all such Paired Homes.

Unless otherwise determined by the Board of Directors, exterior maintenance shall NOT include structural and/or waterproofing, repair, replacement or care of foundations, basement walls and floors; repair, replacement or care of wood balconies, decks, railings and patios; repair, replacement or care of mechanical equipment and/or its pads and foundations, light bulbs, exterior light fixtures attached to such Paired Homes, electric outlets, water sillcock, window and/or door glass or screen; repair, replacement or care of doorjambs, thresholds, window frames or operating parts of doors and windows; maintenance, repair and replacement of driveways, lead-walks and door stoops; cleaning, weather stripping or replacement of doors and windows; general cleaning or debris removal; and any care whatsoever to improvements or additions made other than by the original Builder in constructing the respective Paired Lots.

SECTION 13
INSURANCE

13.1 Fire, Extended Coverage and Standard "All Risk" Insurance.

(a) Notwithstanding anything contained to the contrary in Section 13.1 of the Declaration, the Association shall insure all buildings (excluding insurance on Improvements as that term is defined in Subsection 13.6 below), structures and all the Common Elements which are located on the Property against any loss or damage by such hazards as are ordinarily insured by a comprehensive, extended coverage and "all-risks" policies issued in the amounts at all times sufficient to prevent the Association from becoming co-insurers under the terms of any applicable coinsurance clause or provision and in no event less than the actual replacement cost of such improvements, as determined from time to time by the insurer.

13.6 Individual Insurance.

(a) Notwithstanding anything contained to the contrary in Section 13.6 of the Declaration, the Association shall not be responsible for procurement or maintenance of any insurance covering the contents or the interior of any Dwelling Unit nor the liability of any Paired Lot Owner for injuries therein not caused by or connected with the Association's operation, maintenance or use of the Common Elements or other property located in the Subdivision. Each Paired Lot Owner shall, at his or her own expense, obtain public liability insurance for personal injuries or damage arising out of the use and occupancy of or occurring within his or her Dwelling Unit or on his or her Lot. In addition, each Paired Lot Owner shall maintain fire and extended coverage insurance on the contents of his/her Dwelling Unit, including any partitions, trim, drywall, flooring, built-in fixtures, equipment and appliances, and on the improvements and betterments which are located in his/her Dwelling Unit (collectively, the "Improvements"). The Association may request the Paired Lot Owner to provide a copy of the policy(s) to the Association evidencing this insurance coverage at any time.

(b) Each Paired Lot Owner agrees that if any Owner(s) damages a building or other improvements now or at any time hereafter constituting a part of the Subdivision which is covered under the Association's insurance policy, the Owner or Owners causing such damage shall be responsible for paying the lesser of: (a) the insurance deductible due under the Association's insurance policy; or (b) the cost to repair and/or replace any damage to a building or other improvements, which amount shall be due within ten (10) days after the delivery of written notice of such deductible due or replacement/repair costs by the responsible Paired Lot Owner(s) or twenty (20) days after mailing of such notice by certified mail, whichever occurs first. In the event a Paired Lot Owner refuses or fails to pay the insurance deductible or replacement/repair costs in the time period provided in the preceding sentence, the amount thereof may be advanced by the Association and the amount so advanced by the Association shall be assessed to such Owner as an Individual Assessment.

SECTION 18
PARTY WALLS

18.1 Party Walls. Each wall which is built as part of the original construction of a Dwelling Unit and is placed on the dividing line between Paired Lots or dwellings shall constitute a party wall, and to the extent not inconsistent with the provisions of this Declaration, the general rules of law regarding party walls and of liability for property damage due to negligent or willful acts or omissions shall apply thereto.

18.2 Repair and Maintenance. The cost of reasonable repair and maintenance of a party wall shall be shared 50/50 by the Owners who make use of the wall in proportion to such use.

18.3 Destruction by Fire or Other Casualty. If a party wall is destroyed or damaged by fire or other casualty, any Owner who has used the wall may restore it, and if the other Owners

thereafter make use of the wall, they shall contribute to the cost of restoration thereof in proportion to such use without prejudice, however, to the right of any such Owners to call for a larger contribution for the others under any rule of law regarding liability for negligent or willful acts or omissions. Unless otherwise agreed by the Association and the Owners of all Dwelling Units damaged or destroyed by fire or other casualty, such structure shall be rebuilt and all proceeds of insurance available therefor shall be used to restore the structure.

18.4 Weatherproofing. Notwithstanding any other provision of this Article, an Owner who by negligent or willful act causes the party wall to be exposed to the elements shall bear the whole cost of furnishing the necessary protection against such elements.

18.5 Right of Entry. For purposes of making inspections and repairs under this Section 8, an Owner, his/her agents or contractors shall have the right to enter upon the premises of the other Owners of a party wall upon the giving of notice.

18.6 Easements. In the event that a Dwelling Unit is erected on more than one Paired Lot, each such Paired Lot shall have the benefit of mutual easements across the other Paired Lots upon which said structure is located and through the structure, and each such Paired Lot shall be subject to easements across it and through the structure erected thereon for the benefit of the other Paired Lots upon which said structure is located, for the maintenance, continuation and upkeep of utility wires and lines serving the individual Paired Lots and Dwelling Units located thereon. The Owner of each Paired Lot shall maintain, repair and replace all wires and lines serving such Paired Lots and Dwelling Units, and for such purpose may enter upon the other Paired Lots or Dwelling Units, but shall at all times be responsible for repairing and restoring to its former condition any Paired Lot or Dwelling Unit which is damaged or disturbed by reason of the performance of any maintenance, repair or replacement of such wires and lines, or by reason of the exercise of any right of easement, ingress and egress herein provided. The cost of repair and maintenance of wires and lines used jointly for the benefit of two or more Paired Lots shall be shared by the Owners who make use of the same in equal amounts, unless such repair and maintenance is provided by the Association through Assessment. “Wires” and “Lines” shall be construed broadly to include energy, communications, water and or sanitary sewer wires and lines.

18.7 Right to Contribution Runs with Land. The right of any Owner to contribution from any other Owner under this Article shall be appurtenant to the land and shall pass to such Owner’s successors in title.

18.8 Control of Utility Lines.

(a) If a Lot is serviced by a single supply/service line (“Single Supply Line”) for any utility whether natural gas, electric, water, or sanitary sewer, the Lot Owner shall be responsible for its maintenance, from any point of connection that the utility

tap/meter to the Dwelling Unit. Maintenance includes any portion of the Single Supply Line, which may be under other Lots.

(b) If a Lot is serviced by a supply line for any utility whether natural gas, electric, water, or sanitary sewer from the utility company's point of service which then splits into dual or multiple lines ("Multiple Supply Line") to provide service to individual Dwelling Units, the Lot Owner responsible for maintenance is as follows:

(i) From the Dwelling Unit to the multiple tie in point, the applicable Lot Owner.

(ii) From the multiple tie in point to the utilities' point of service, all Lot Owners benefitted by such utility service pro rata.

(c) If a Multiple Supply Line needing to be replaced, repaired, or otherwise maintained and the Lot Owners dispute the maintenance obligations, or fails to properly perform the maintenance obligations, the Association shall issue a binding determination as to the necessity for said repair, replacement, and/or maintenance and may pay for the cost of the repair, replacement, and/or maintenance and assess the charges to the Lot owners as described in Section 5.

18.9 Utility Service Providers. It shall not be the responsibility of any utility company providing such services to resolve any dispute involving such services that may arise between Owners. Rather, such Owners shall follow the dispute resolution procedure in Section 14 herein. Further, the Association may serve as the main point of contact between the utility service providers and the Owner(s).

18.10 Rights Not Subject to Suspension. The rights and easements created in Section 9 shall not be suspended by the Association for any reason.

city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141

(314) 432-6000 • Fax (314) 872-2539

APPLICATION TO PLANNING AND ZONING COMMISSION

#25-028 AND #25-039: APPLICATIONS FOR A SITE DEVELOPMENT PLAN AND PRELIMINARY PLAT ON LOT 16 FOR A 67-UNIT TOWNHOME DEVELOPMENT, ALONG WITH AN AMENDMENT TO THE OLIA VILLAGE PLANNED MIXED-USE ZONING DISTRICT SITE CONCEPT PLAN AND DEVELOPMENT REGULATIONS FOR THE PROPERTY AT 10300 OLIVE BOULEVARD

FOR THE MEETING OF: Monday, December 15, 2025

LOCATION: 10300 Olive Boulevard, Lot 16, Olia Village, located south of Olive Boulevard and west of Lindbergh Boulevard.

REQUEST: George M. Stock, PE, of Stock & Associates Consulting Engineers, on behalf of Grand Communities, LLC, has submitted a Site Development Plan application and Preliminary Subdivision Plat for Lot 16 within the Olia Village Planned Mixed-Use Zoning District located at 10300 Olive Boulevard to construct 67 attached single-family residential townhomes on individual lots within the 11.16-acre site, to be known as The Vale at Olia Village. In association with this application, an amendment to the Olia Village Planned Zoning District Site Concept Plan and Development Regulations, Exhibit B of Amended Ordinance No. 5862, has been submitted. The proposed Site Concept Plan amendment updates the pedestrian and street plan, and tree preservation and replacement plan components of the Olia Village planned zoning district in association with the proposed development of Lot 16. An amendment to the Development Regulations affecting private streets within the development has been submitted to reduce the Minimum Horizontal Radius of Centerline from 150-feet to 80-feet to provide secondary access for Lot 16. Pursuant to Section 405.390.Q. of the Zoning Ordinance, major amendments to the Site Concept and Site Development Plans within Planned Zoning Districts require Planning and Zoning Commission review and final approval by City Council. Section 410.110.C.3. of the Subdivision Code requires Planning and Zoning Commission approval for Preliminary Subdivision Plats.

ADDITIONAL INFORMATION: The Olia Village Planned Mixed Use Development was approved by the City Council on November 13, 2023 with amended Ordinance 5862. Ord. 5862 included Attachment B which outlines the development regulations. Each site development plan will be reviewed against the requirements of Attachment B and the approved Site Concept Plan.

Key Issues:

- Does the request further the goals and/or implement the Comprehensive Plan?
- Does the request meet with the criteria for Planned Zoning Districts as provided in Section 405.390?
- Does the request meet with the requirements of Ordinance No. 5862?

Creve Coeur 2030 Plan References

- Mixed Use Innovation Campus District (MUIC)
- 39 North Master Plan
- Comprehensive Plan and 39 North Master Plan Amendment for the Former Bayer West Site

Zoning Code References

- Section 405.390: Planned Zoning Districts
- Olia Village Planned Zoning District Development Regulations (Amended Ordinance No. 5862)

Subdivision Code References

- Section 410.100 Preliminary Subdivision Plats

APPLICANT'S REPRESENTATIVE:	George M. Stock, P.E. Stock & Associates Consulting Engineers 257 Chesterfield Business Parkway Chesterfield, MO 63005	**PROPERTY OWNER (UNDER CONTRACT):**	Grand Communities, LLC 3940 Olympic Blvd, Ste 400 Erlanger, KY 41018

REPORT PREPARED BY: Bethany L. Moore, AICP, City Planner
DATE: 12/11/2025
ATTACHMENTS: Applicant's revised materials submitted December 8, 2025, Draft Resolution

PROJECT BACKGROUND AND PROPOSAL

Amended Ordinance 5862, approved by City Council on November 13, 2023 and amended on November 13, 2023, authorized the rezoning of the entire former Bayer West Campus site from "RO"-Research Office to the Olia Village "PMD" Planned Mixed-Use Development District and approved the Site Concept Plan along with the Phase One Site Development Plan. The amended ordinance includes "Exhibit B" which outlines the zoning and development regulations for the Olia Village PMD District. The Site Concept Plan included a phasing plan that divided the site into five development phases and each phase or lot requires Site Development Plan approval by the Planning and Zoning Commission and City Council by Resolution in accordance with Section 405.390.H. of the Zoning Code. The site improvement permits for Phase 1, which included site grading, internal road construction, and the construction of the retaining wall, throughout the development, were issued in 2024 and 2025 and the construction work is ongoing. The Site Development plan for Lot 1, part of the proposed Phase 2 was approved by Resolution No. 1827 by City Council on September 24, 2025. Site development plans for each lot will be submitted as the development moves forward.

Lot 16 was planned to be the sole development within the final phase of Olia Village, Phase 5, developed under a separate developer but that timeline has been moved up after a home builder purchased the property. Lot 16 is being developed by Grand Communities LLC as a 67-unit private townhome development. The applicant, George Stock, of Stock and Associates Consulting Engineers, on behalf of Grand Communities, LLC has submitted a Site Development Plan application and Preliminary Subdivision Plat for Lot 16 within Olia Village to construct the 67 townhome units within the 11.16-acre site. The development will be called The Vale at Olia Village. The Site Development Plan includes the construction of 13 buildings of attached 3-story, single-family townhome units, sidewalks and roads within the housing development. Lot 16 is within the Sub-District Category D-Residential Development of the Olia Village PMD and comprises 11.16 acres of the 95.76-acre site.

In association with the Site Development Plan, an amendment to the Olia Village Planned-Mixed Use Zoning District Site Concept Plan and Development Regulations, Exhibit B of Amended Ordinance No. 5862, has been submitted. The Site Concept Plan amendment updates the pedestrian, street plan, and tree preservation and replacement plan components of the Olia Village planned zoning district to include the development of Lot 16. An amendment to the Development Regulations affecting private streets within the development has been submitted to reduce the Minimum Horizontal Radius of Centerline from 150-feet to 80-feet to provide the required secondary access for Lot 16. Pursuant to Section 405.390.Q. of the Zoning Ordinance, major amendments to the Site Concept and Site Development Plans within Planned Zoning Districts require Planning and Zoning Commission review and final approval by City Council. Section 410.110.C.3. of the Subdivision Code requires Planning and Zoning Commission approval for Preliminary Subdivision Plats.

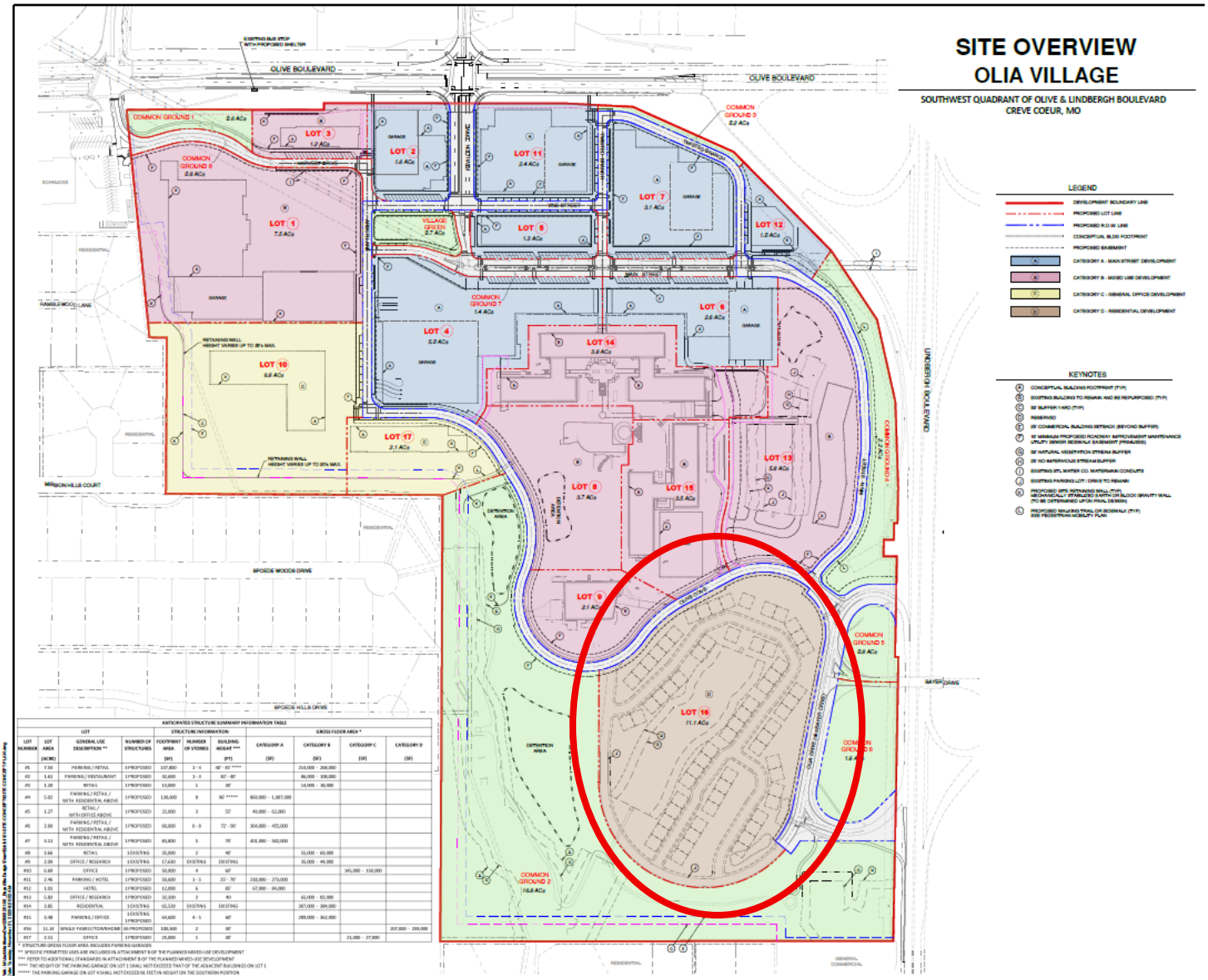


Figure 1: Approved Site Concept Plan with Lot 16 highlighted in red.

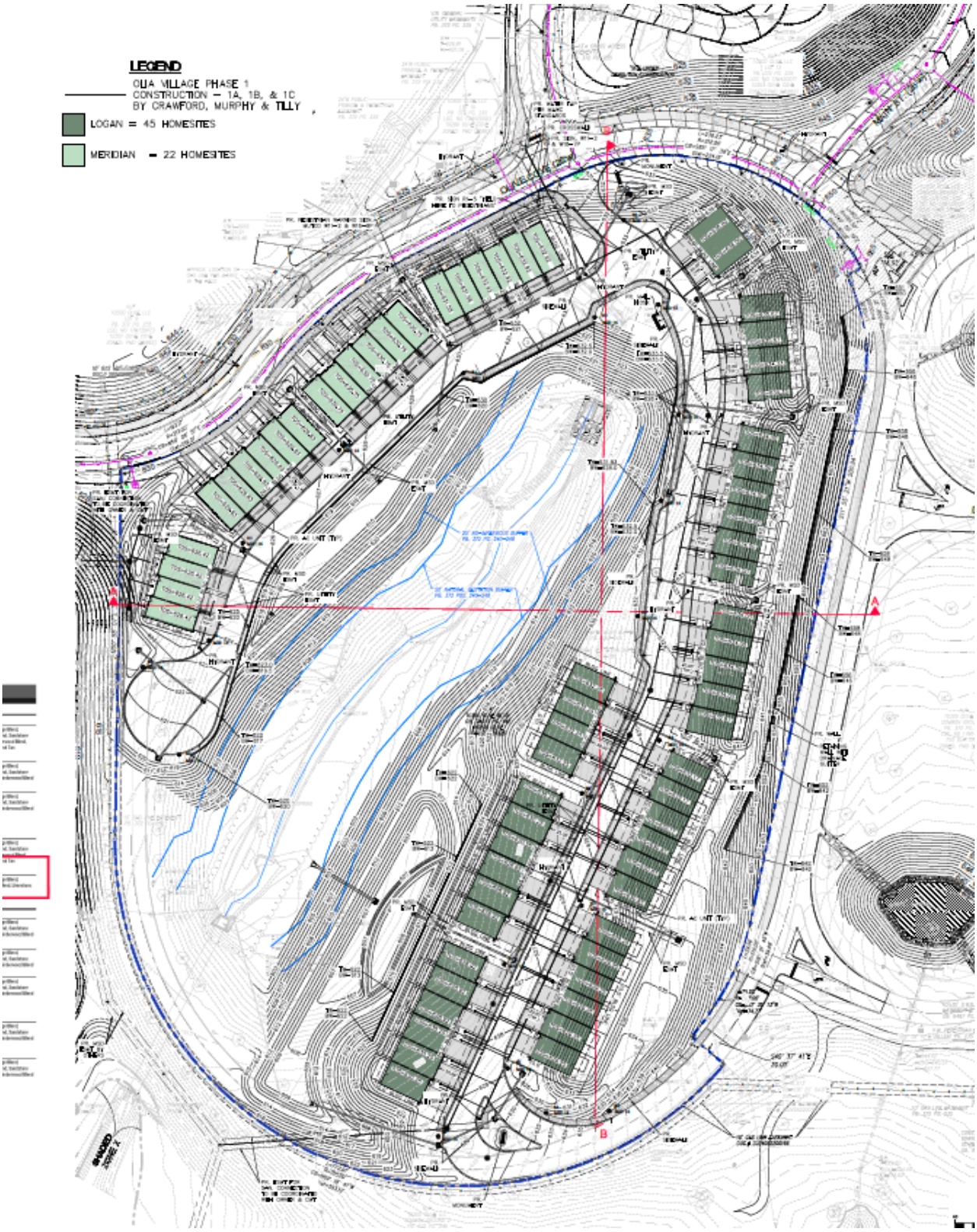
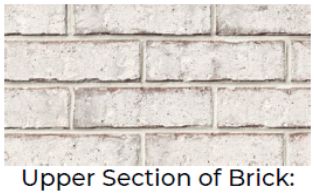


Figure 2: Proposed Lot 16 Site Development Plan for The Vale at Olia Village.



Upper Section of Brick:
Alpine Select

Lower Section of Brick:
Irongate

Figure 3: Proposed townhome elevations with proposed color palette shown below.

LAND USE AND ZONING OF SURROUNDING PROPERTIES
The adjacent zoning and land uses are as follows:

Direction	Use	Zoning District	Separated by
North	Commercial	Olia Village Planned Mixed Use Zoning District	Olive Cove
South	Single Family Residential	"B" Single-Family Residential Zoning District	Olia Village Common Ground
East	Bayer East Campus	"RO" Research Office Zoning District	N. Lindbergh Blvd
West	Single-Family Residential	"A" and "B" Single-Family Residential Zoning District	Olia Village Common Ground

PRELIMINARY SUBDIVISION PLAT REVIEW

Lot 16 is currently a single lot that is proposed to be subdivided into 67 new lots for The Vale at Olia Village townhome development. Section 405.390(G) *Planned Zoning Districts* requires a preliminary plat showing the property subdivided into separate lots be submitted in accordance with Chapter 410 *Subdivision and Development of Land*, as modified by approvals under Section 405.390 *Planned Zoning Districts* in conjunction with the submittal of the site concept plan, but in any event, must be submitted no later than in conjunction with the submittal of the applicable site development plan(s). The preliminary subdivision plat should provide sufficient information regarding a proposed subdivision of land to allow the Commission to evaluate the site development concept as it relates to the City's goals and objectives. The applicant is proposing 67 new lots for each townhome unit and a new cul-de-sac on the west side of the development and a through road connecting Olive Cove to Olia Drive on the east side of the development as well as two areas of common ground and two BMP areas for stormwater runoff.

Attachment B, the development standards for Olia Village Planned Mixed-Use Development Zoning District, regulates the lot size requirements for Category D-Residential Development, as a minimum lot size of 800 square feet per lot, minimum lot width of 15 feet and a minimum lot depth of 40 feet. The setback and building line requirements for Category D include a minimum front yard of 5 feet, a minimum side yard of 0 feet or 7 and a half feet, a minimum side yard of 5 feet, a minimum distance between buildings or unit clusters of 15 feet and no internal buffer yard required. Category D is also required to have no more than 20 units an acre with a minimum dwelling unit floor area of 750 square feet per unit.

The preliminary plat shows the boundaries of all 67 new lots with parcel information for each lot in a table on sheet C5.0. Lots 1-22 will include the “Meridian” townhome type and have a minimum lot size of 1,500 square feet, a minimum lot width of 20 feet, a minimum lot depth of 75 feet, side yards either 7.5 feet or 0 feet when attached to another townhome unit, a 5-foot front yard and 20-foot rear yard. Lots 23-67 will include the “Logan” townhome type and have a minimum lot size of 1,860 square feet, a minimum lot width of 24 feet, a minimum lot depth of 77.5 feet, side yards either 10 feet or 0 feet when attached to another townhome unit, a 20-foot front yard and 10-foot rear yard. The private streets within the development are shown at 24 feet wide or 34 feet wide when on street parking is provided.

Chapter 430 *Stream Buffer Protection Regulations*, Section 430.050 *Land Development Requirements* (A) *Buffer and Setback Requirements,* requires a 25-foot undisturbed natural vegetative buffer on both sides of any stream, measured from the top of bank, not depicted as a solid blue line on U.S.G.S maps, which would then require a 50-foot buffer on each side. Lot 16 is subject to this requirement and the buffers are shown appropriately on either side of the stream bank.

Tree Preservation

The Applicant’s tree protection and removal plan prepared by a professional landscape architect from Loomis Associates, indicates that there are 151 existing trees on site, of which 55 of the viable (excluding the dead and poor condition trees), are to be removed, thus representing 43.3% to be removed, with 72 trees to remain. Section 410.320: Tree Conservation requires that no more than 50% of the area of tree masses, and no more than 50% of eight-inch caliper trees shall be proposed for removal. It is anticipated that some of the trees to remain may get damaged, and will need to be removed during construction. If so, Section 410.320(A)(3) requires that they be placed at a 3:1 ratio. Section 410.300, Street Trees, requires that street trees shall be provided at one per thirty lineal feet of street frontage. The landscaping plans shows that 50 street trees will be installed in conformance with this requirement.

The preliminary plat provided meets all of the requirements of Attachment B, the development standards, and Section 410.110 *Preliminary Subdivision Plat*, where applicable. The subdivision indentures for Lot 16 have been submitted and reviewed by the City Attorney.

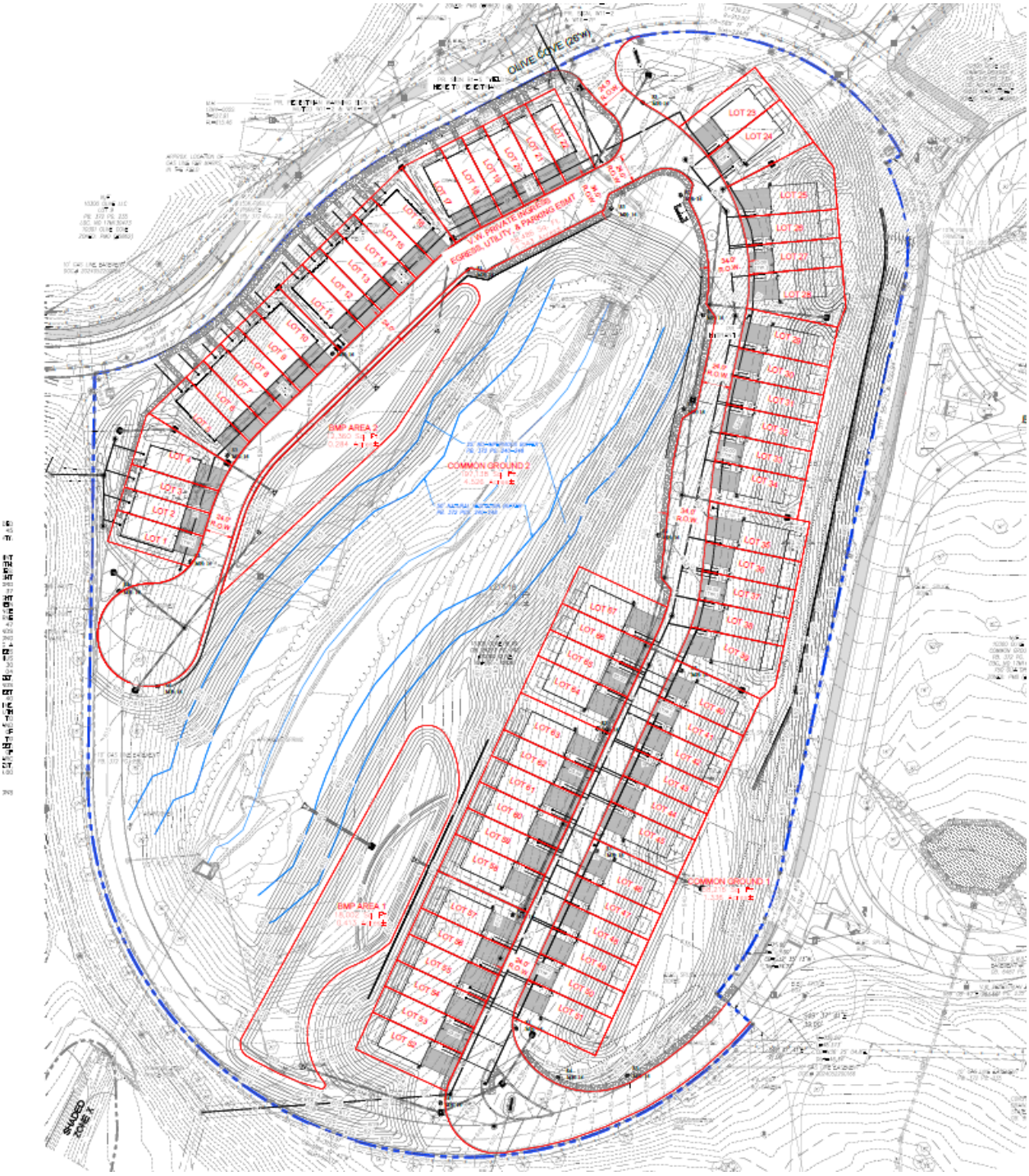


Figure 4: Preliminary Plat.

Figure 5: Tree Protection and Removal Plan.

ZONING REVIEW
Site Concept Plan Amendments

As part of the development of Lot 16 to accommodate The Vale at Olia Village townhome development, the Site Concept Plan for the Olia Village Planned Mixed Use Development zoning district, approved by amended Ordinance 5862, needs to be amended. The Site Concept Plan amendments include updates to the street plan, pedestrian plan, and tree preservation and replacement plan components of the Olia Village planned zoning district to include the development of Lot 16.

The Street Plan for the Olia Village Development, Sheet C-107, includes all streets throughout the development and has been amended to include the proposed private roadways internal to Lot 16. The internal streets include a cul-de-sac on the west portion of the site with the "Meridian" townhome types and a through street connecting Olive Cove to Olia Drive on the east portion of the site through the "Logan" townhome type lots.

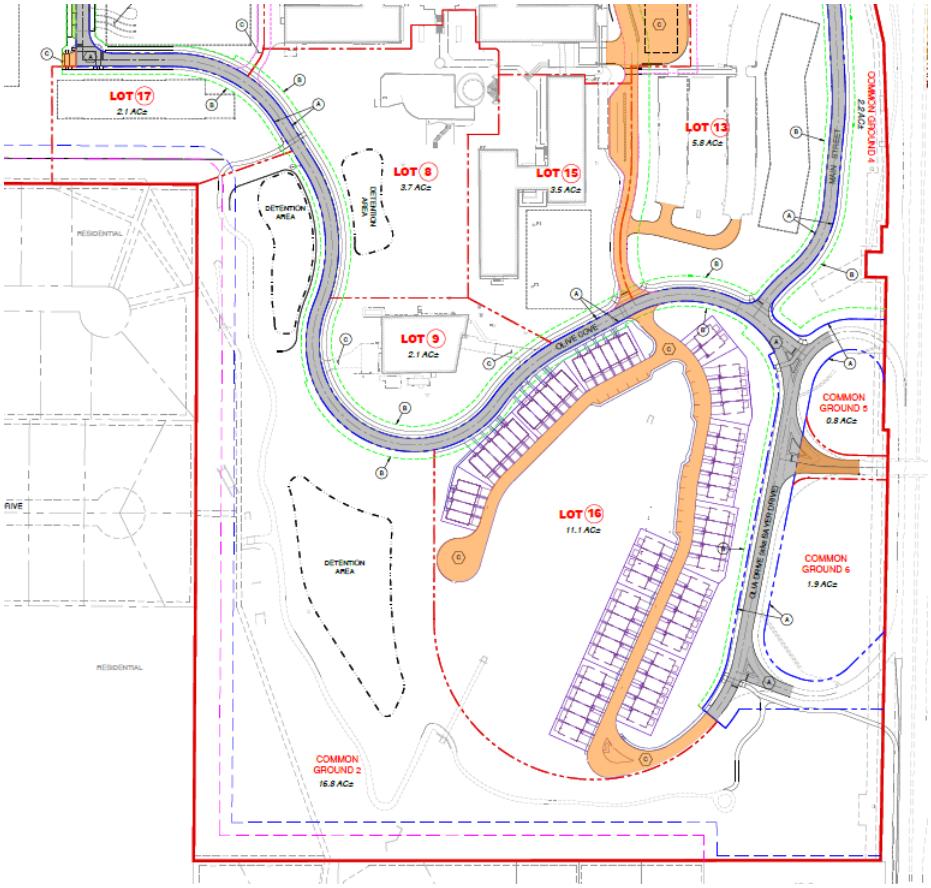


Figure 6: Updated Street Plan with Lot 16 Streets included.

The Pedestrian Plan for the Olia Village Development, Sheet C-108, includes all sidewalks, pedestrian paths and trails throughout the site and has been amended to include the proposed private and public sidewalks to be installed as part of Lot 16. A 6-foot-wide public sidewalk is proposed within the easement along Olive Cove providing direct access to lots 1-22. A 6-foot-wide private sidewalk is proposed internally to Lot 16 providing connections to the public sidewalk along Olive Cove through the site and connecting to the 8-foot wide, multi-use sidewalk along Olia Drive that extends throughout the Olia Village development. The private sidewalk is provided on one side of the through road on Lot 16 providing direct access to lots 52-67. Lots 23-51 do not have direct access to a sidewalk. Staff asked the applicant to provide direct sidewalk access to all units and the applicant stated that adding a sidewalk on the east side of the proposed internal drive would require the townhomes to shift closer to the retaining

wall behind lots 25-42 which would then have to be built taller. The applicant stated that the internal street is designed with a cross-slope of 2.0% for easy pedestrian crossing which would then provide access to a sidewalk across the street. If the Planning and Zoning Commission believes a sidewalk should be installed at this location, this is something that can be discussed with the applicant. Additionally, crosswalks are provided across Olive Cove and internally to facilitate pedestrian access throughout the site. These crosswalks will be painted and striped in a typical fashion.

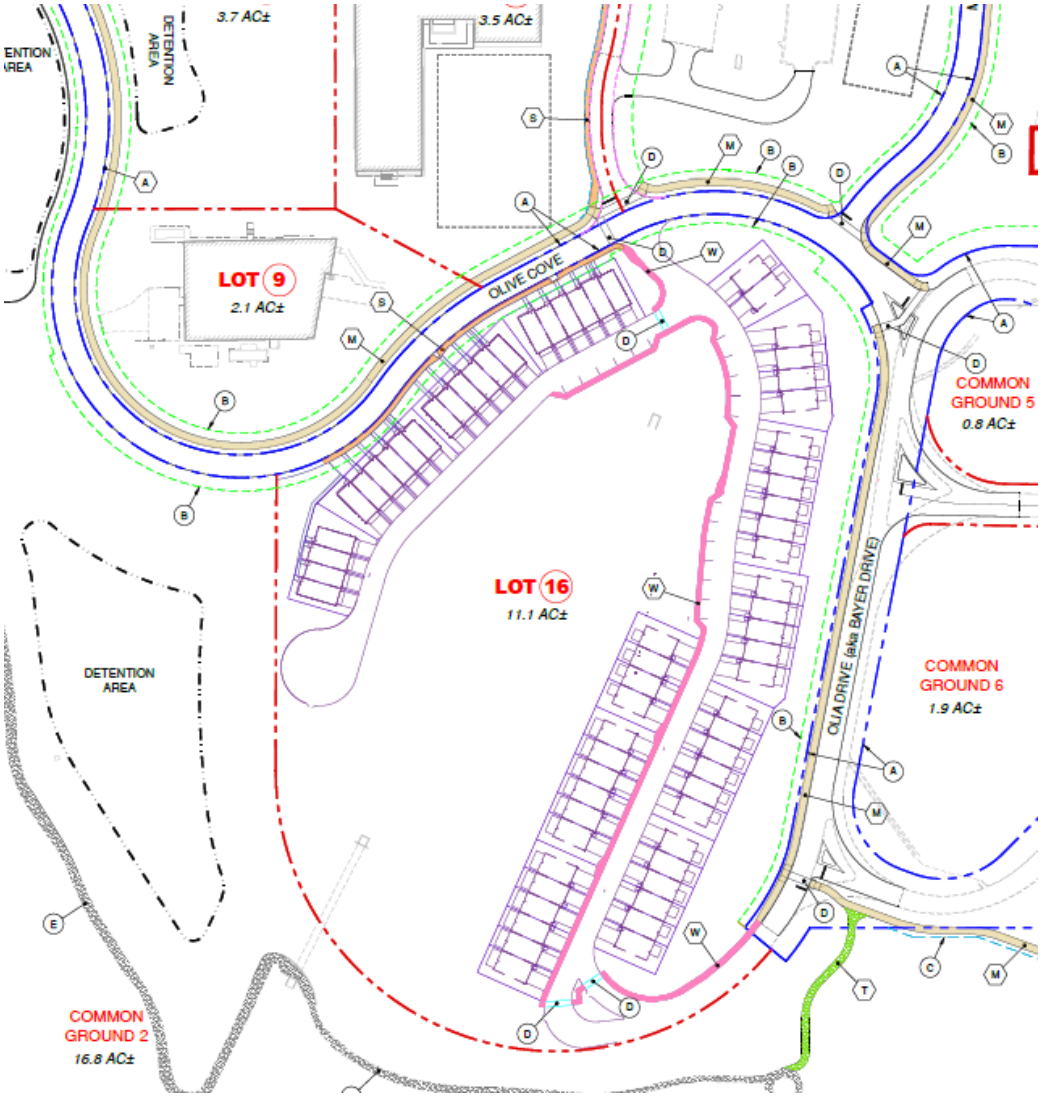


Figure 7: Updated Pedestrian Plan with Lot 16 sidewalks included.

The Tree Preservation Plan for the Olia Village Development, Sheet LD-100, includes all tree masses and individual trees on site, including which are remaining and which are to be removed, and has been amended to include tree removal on Lot 16. No tree masses will be disturbed on lot 16 but 55 viable individual trees will be removed and 154 trees will be installed. Throughout the entire site there will be a surplus of 362 individual trees above the required replacement trees on a 1 to 1 basis over the 50% removed.

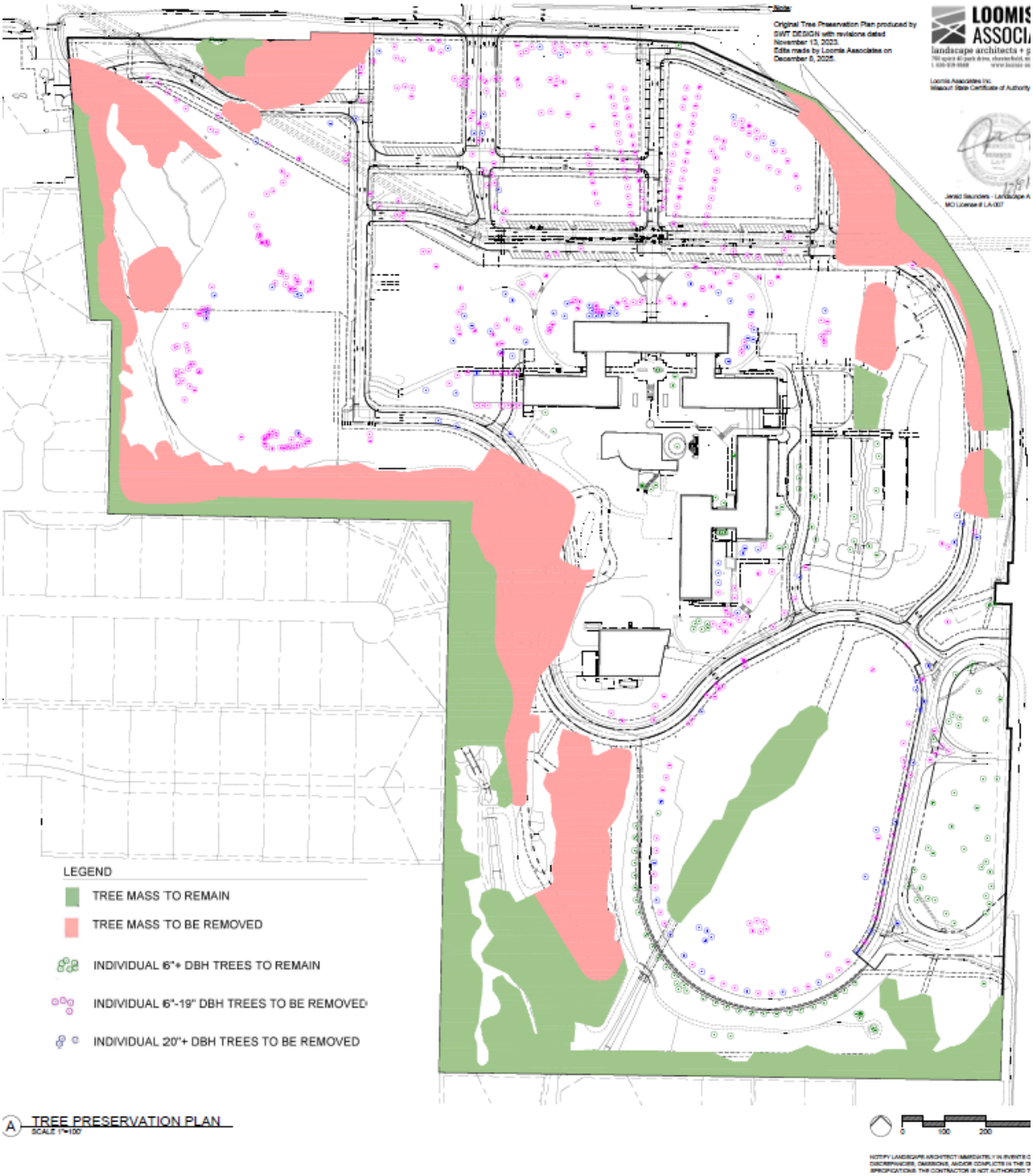


Figure 8: Updated Tree Preservation Plan with Lot 16 Tree Removals included.

Development Standards Text Amendment

In addition to the Site Concept Plan amendments, the language of the development standards, Attachment B, also needs to be revised to allow for a different radius for the secondary entrance to Lot 16 due to the topography of the site and the location of the existing Olia Drive roadway. The applicant submitted a request to amend the language of the development standards, Attachment B, as approved by amended Ordinance 5862. Item 13.f. Minimum Horizontal Radius of Centerline under "Private Street Design Standards" of Section K. "Public/Private Road Improvements Including Pedestrian Circulation" would be amended as follows:

I. Specific Criteria
  K. Public/Private Road Improvements, Including Pedestrian Circulation
    13. Private Street Design Standards
      f. Minimum Horizontal Radius of Centerline of one hundred-fifty (150) feet except for Lot 16 which shall have a minimum horizontal radius of centerline of eighty (80) feet.

This amendment would allow the applicant to construct the secondary access for The Vale on Lot 16 of Olia Village. This language and proposed roadway layout has been reviewed and approved by the City's Public Works staff. The Creve Coeur Fire District reviewed the proposed roadway layout and the resulting turn radius and have given their agreement of its layout.

Site Development Plan

The site development plan for Lot 16 includes the construction of 13 buildings with 67, 3-story attached townhome units, with internal sidewalks and roads on a 11.16-acre lot. The subject property, Lot 16, is zoned Olia Village Planned Mixed-Use Development District and its zoning requirements are governed by Attachment B as approved by amended Ordinance 5862. Within the PMD there are four sub-districts with their own sets of specific requirements including Sub-District Category A- Main Street Development (Lots 2, 4, 5, 6, 7, 11, 12), Sub-District Category B - Mixed-Used Development (Lots 1, 3, 8, 9, 13, 14, 15), Sub-District Category C - General Office Development (Lots 10 and 17), Sub-District Category D - Residential Development (Lot 16). The location of each subdistrict was shown on the approved Site Concept Plan. Lot 16 is within Sub-District Category D, Residential Development, and was designed to be developed for residential use by a separate developer. The developer will be subdividing the lot into 67 new lots and including two areas of common ground and two stormwater management BMP facilities on either side of the existing stream present in the middle of Lot 16. Staff finds the submitted site development plan for attached residential townhomes on Lot 16 is consistent with the Site Concept Plan for this portion of the Olia Village planned district.

Section B.4 of Attachment B limits buildings on Lot 16 to 3 stories or 40 feet in height if attached single-family dwellings or 2 ½ stories or 35 feet in height if detached single family dwellings. The townhome unit types are split into two, the "Logan" style and the "Meridian" style. Both styles are under 33 feet in total height and 3 stories. Both styles range from 2–6-unit clusters with garages on the first floor and living space above in the 2nd and 3rd floors.

Site coverage is determined for the entire site and not on a lot-by-lot basis. The maximum site coverage for the entire Olia Village development cannot exceed 60% but how the site coverage is divided up per lot is up to the developer. Staff has asked that the site development plan include the site coverage calculation for each site so that a running total may be reviewed at each submitted site development plan in order to calculate the total site coverage for the development, so far Lot 1 and Lot 16. Sheet C1.0 shows that Lot 16 has site coverage of 27.6% which is a total site coverage of 6.5% for the development, excluding the existing buildings but including the previously approved Lot 1. The maximum Floor Area Ratio (FAR) is determined for the entire site as well and cannot exceed 0.70. The proposed FAR for Lot 16 is 0.131

which represents a FAR of 0.041 for the development, excluding the existing buildings but including the recent Lot 1 approvals.

Landscaping

Sheet L1.01 provides the proposed landscaping for Lot 16. Section F, *Landscape and Tree Requirements* of Attachment B, outlines the requirements for landscaping within the Olia Village development. It requires that landscape plans for each parcel shall be coordinated and consistent with a Landscape Concept Plan for the applicable Category and that the plan should enhance the pedestrian experience, complement architectural features and provide shade. Lot 16 is not required to be provided with an underground irritation system, however, Staff has discussed with the applicant the condition that irrigation be installed for the landscaping in the development along exterior street frontages and around both entrances to the development.

The landscaping plan shows extensive landscaping throughout Lot 16. The existing individual trees that bordered the street to the south of the lot will remain after the street is demolished and create an existing buffer between the proposed townhome development and the adjacent Olia Village Common Ground. Street trees meeting the requirements of Section 410.300 *Street Trees* of Chapter 410 Subdivision and Development of Land of the city code are provided for a total of 50 new street trees. In addition to the street trees, 73 new deciduous trees will be installed around the units and on-street parking stalls provided throughout Lot 16. 81 new evergreen trees in a variety of types including Black Hills Spruce, Norway Spruce, Green Giant Arborvitae and columnar Juniper will be placed on site for screening purposes including around the bioretention areas, around the retaining wall, and at the ends of the lines of units. The Landscaping plan also includes a typical individual lot landscaping layout for each type of unit, 45 units for the "Logan" type and 22 units for the "Meridian" type. The landscaping provided on the Landscape Plan would appear to meet the requirements of Attachment B to enhance the pedestrian experience, complement architectural features and provide shade.

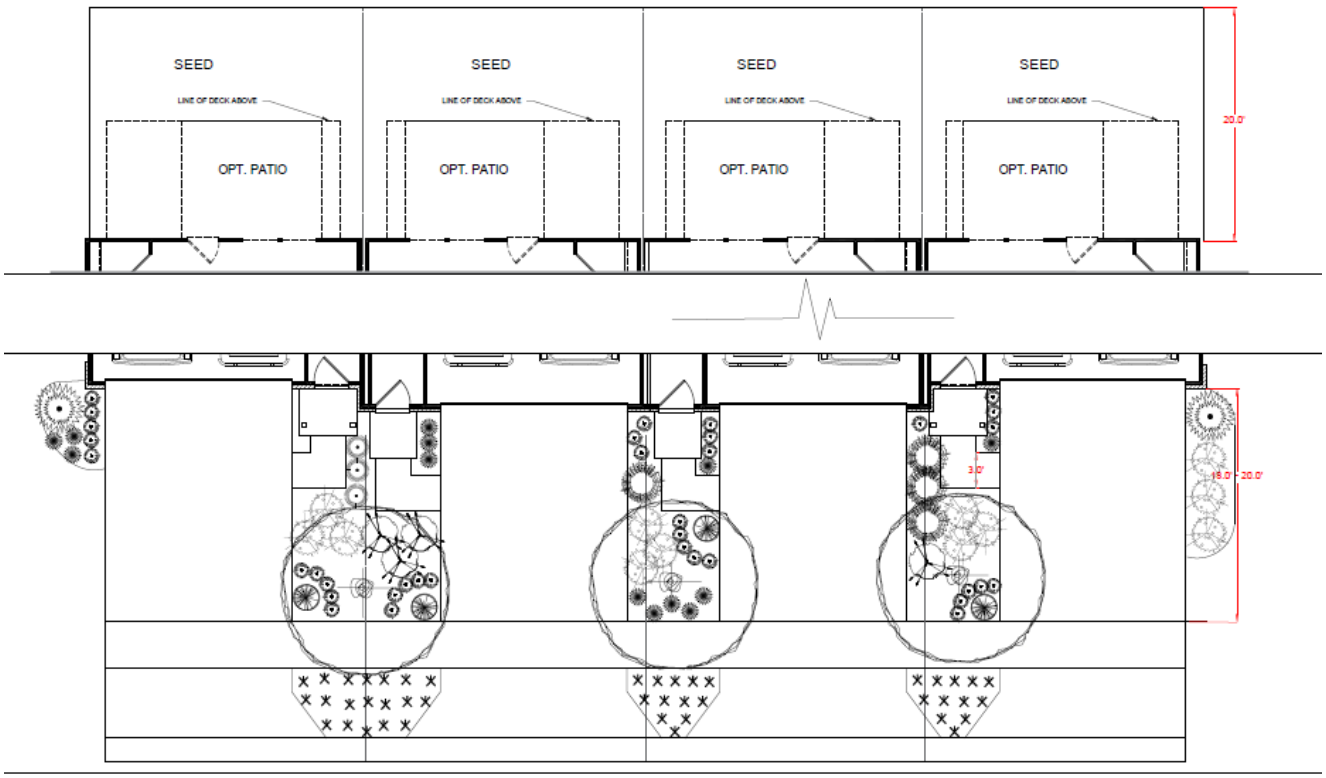


Figure 9: Example Typical Landscaping Plan per Unit.

Figure 10: Landscape Plan.

Lighting

Lighting requirements for the development are regulated by Attachment B, Section H. *Light Requirements,* which requires a lighting plan in accordance with the City of Creve Coeur code be provided. The photometric plan provided shows that the light levels will exceed 1.0 footcandles at the property line for Lot 16 but given that Lot 16 is buffered by common ground from the existing single-family residential uses to the south and no plans for additional lighting in this area are proposed, Staff is not concerned that the light levels will be greater than 1.0 foot candles at the property line for the Olia Village development, as required by Section 405.680. The total height of the light poles, when measured from the bottom of the base to the top of the light fixture, will be 16 feet. The proposed fixture heads are fixed downcast and shielded. The plans include a note that the color temperature will be a max of 3,000 Kelvin for the exterior lighting to meet with the new requirements of Section 405.680.

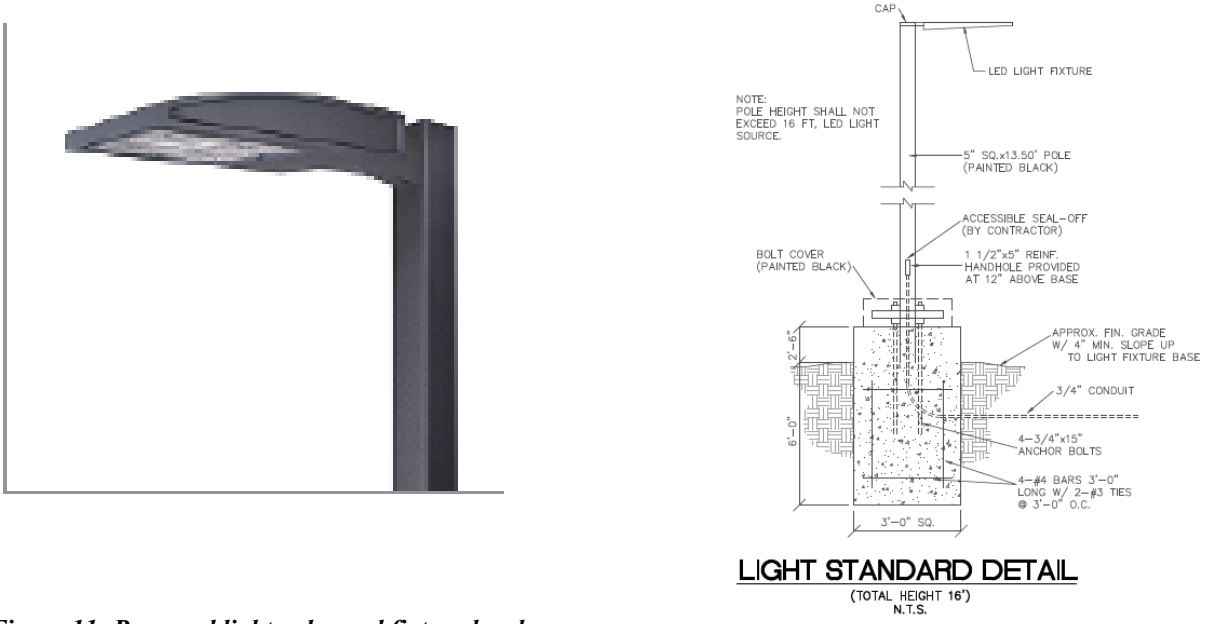


Figure 11: Proposed light poles and fixture heads.

Exterior Elevations Design and Materials

There are two townhome types, the "Meridian" and the "Logan" proposed for Lot 16. Both options are 3 story units with garages on the first level. The "Meridian" has garage entry on the back of the unit while the "Logan" has garage units on the front of the unit. The "Meridian" units face Olive Cove and the "Logan" units are interior facing within Lot 16. The primary material for all unit types on the front elevations is brick. The side and rear elevations will be fiber cement lap siding. The 1st floor will be a darker brick in shade "Irongate" and the 2nd and 3rd floors will be a lighter brick in shade "Alpine Select." Staff has asked that the brick return completely on each side where the building is at the end of the row of buildings. This applies to lots 1, 22, 23, 51, 52, and 67. Buildings that are interior will not be required to carry the brick material to completely cover the side. The doors will be painted with a choice from colors in a warm color palette. The garage doors and trim elements will be a dark brown color. The color palette is consistent with what was proposed in the Site Concept Plan for Olia Village and the requirements of Attachment B, Section I.

Section I.2. Architectural Elements, of Attachment B states that building facades should be articulated by using color, arrangement or change in materials to emphasize the facade elements. The planes of the exterior walls may be varied in height, depth or direction. Extremely long facades shall be designed with sufficient building articulation and landscaping to avoid a monotonous or overpowering appearance. The

primary façades of both unit types include a variety of articulation including the use of window patterns and bay window elements, plane breaks including some units being set forward slightly to break up the longer facades and material color changes that help to break up the 3-story height of the buildings. Overall, the townhome buildings are well-designed and incorporate the color palette originally approved for the Olia Village development. Mechanical units will be placed either behind the buildings or at the ends of each building. The trash for each unit will be handled individually and picked up by a trash service. No dumpsters are proposed for this development.

Figure 12: Proposed color pallet.

Figure 13: Meridian townhome type.

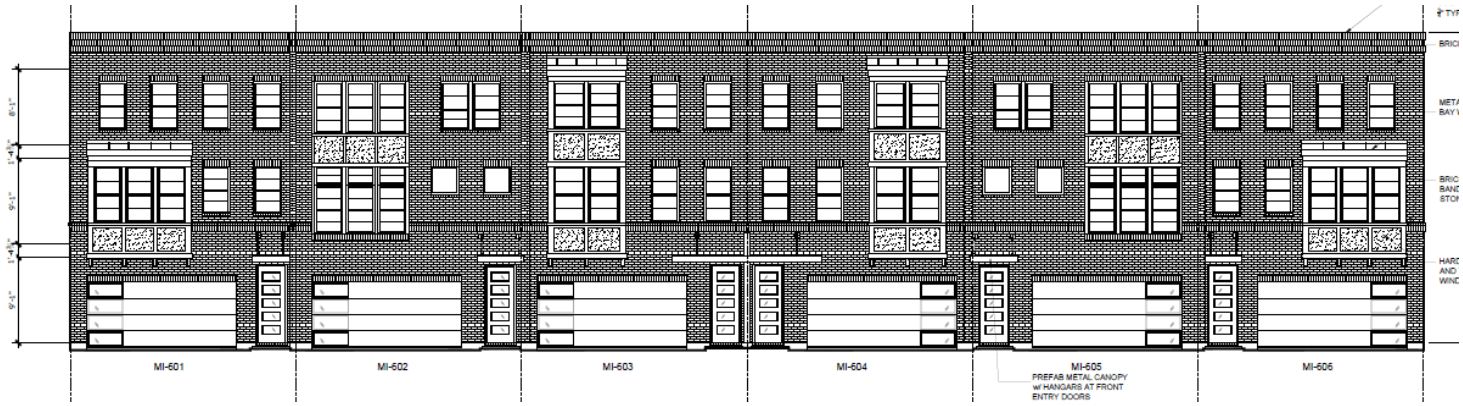


Figure 14: Logan townhome type.

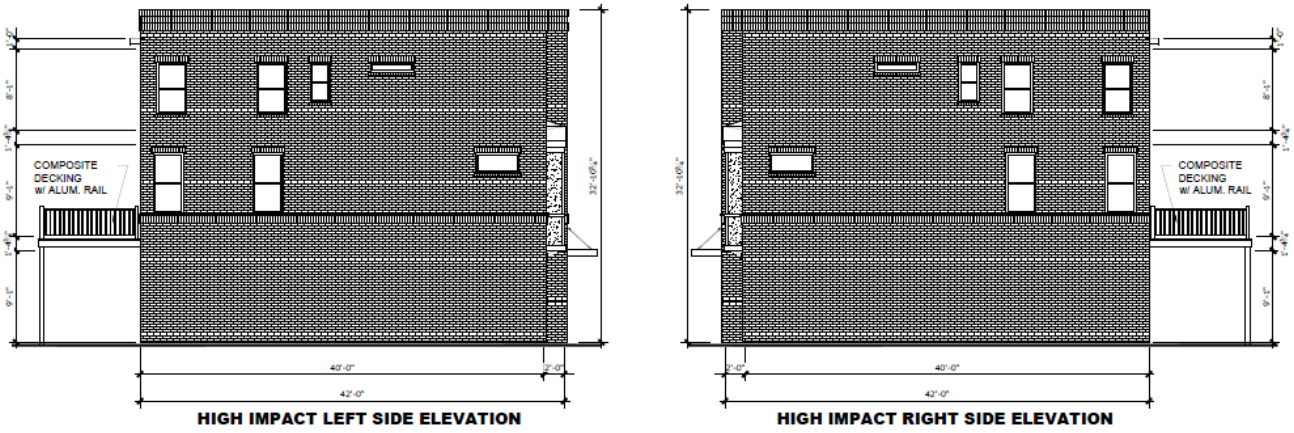


Figure 15: Full Brick Return on End Units.

Figure 16: Colored elevation rendering of the Meridian type.

Figure 17: Mail Kiosk for The Vale at Olia Village.

Parking Requirements

The required parking for this development is guided by Attachment B, Section E. *Parking and Loading Requirements.* The required parking for the entire Olia Village PMD District is determined collectively for the entire District and not on an individual lot or sub-district basis. The required parking is calculated cumulatively per phase of development based upon the sum of the square footage of individual land uses at the rate required by the City of Creve Coeur Zoning Code with a 15% reduction in the total number of spaces for all districts except for Sub-District Category D-Lot 16, which has to provide parking based on the rate required by the City of Creve Coeur Code. Section 405.820(B)(2)(a) *Required Off-Street Parking Spaces* require one- and two-unit structures to provide 2 parking spaces per dwelling unit. The attached townhomes are single-family units so 2 parking spaces are required for each of the 67 units for a total of 134 spaces required. The garages are designed to fit one or two cars and the driveways can fit additional vehicles, meeting the requirement for 2 parking spaces for each unit. In addition, 15 guest parking spaces are provided for a total of 149 parking spaces for the development.

Stormwater

Stormwater collection has been designed for the entire Olia Village development in the form of multiple detention basins and is part of the scope of work for Phase 1 with construction on-going. The Site Development Plan includes on-site water quality and channel protection volume requirements in the form of two new BMP areas constructed on either side of the stream bank buffers adjacent to the existing stream in Common Ground 2. Stormwater will be collected throughout the site via inlets and piped underground to the BMPs for water quality. The stormwater management systems were designed per MSD and Creve Coeur regulations. Public Works Staff has preliminary reviewed the proposed stormwater mitigation and have no comments at this stage of design.

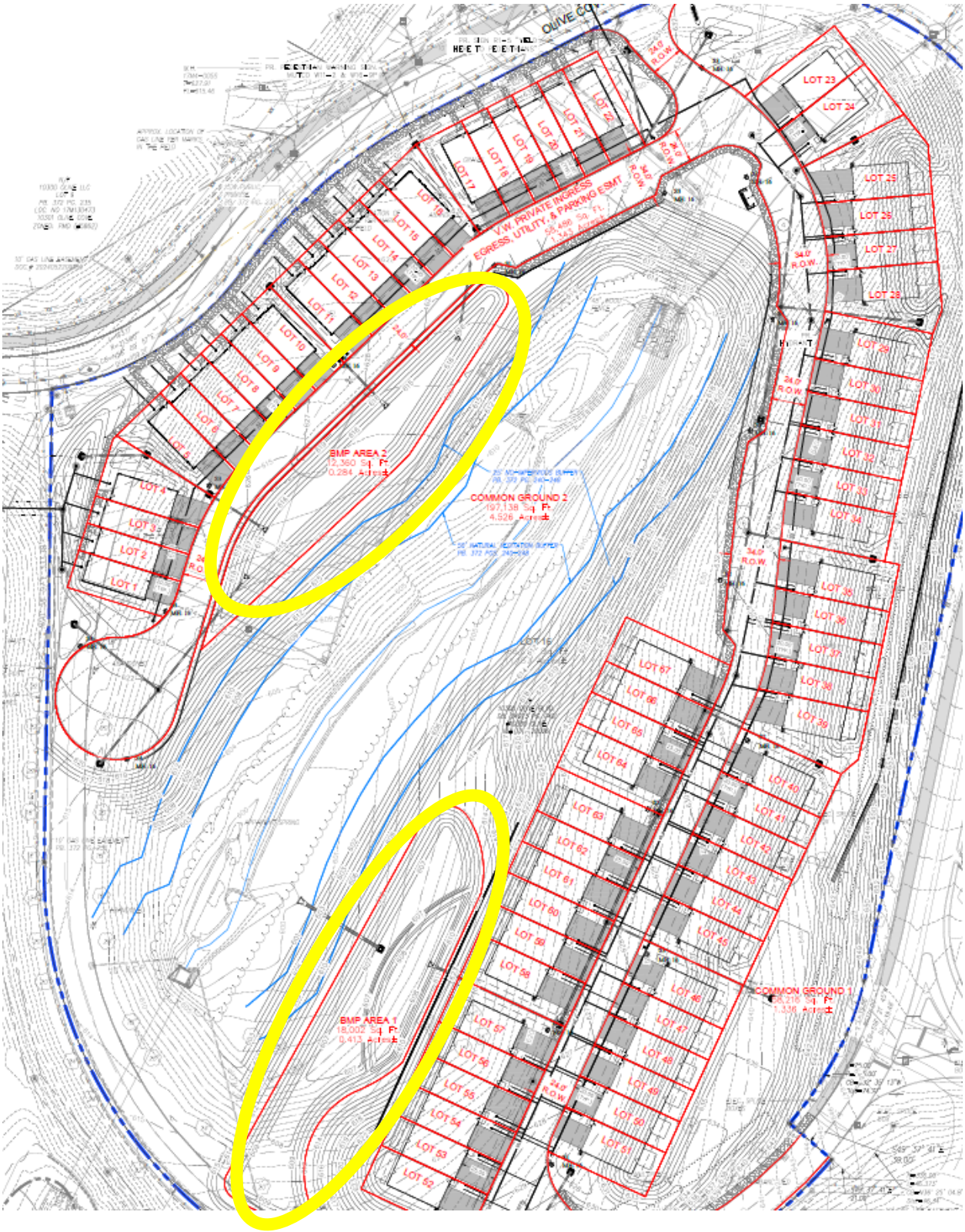


Figure 18: Proposed BMP area highlighted in yellow.

Subdivision Signage

Signage for the Olia Village development will be handled by a separate permit through a Master Signage Plan which will come before the Planning and Zoning Commission for review and recommendation to City Council for approval. The applicant is showing the location of the subdivision entry signs for The Vale at Olia Village on the plans and has included a low monument sign rendering showing a 6-foot-tall sign with a brick base to match the materials of the Lot 16 development. Per Section 405.940(B), residential development signs must be approved by the Planning and Zoning Commission through the site development plan process. Staff has added a condition of approval that the low monument signs be approved with final design and materials to be approved by Staff.

Figure 19: Proposed Residential Development Sign .

CONCLUSION AND RECOMMENDED CONDITIONS OF APPROVAL

Staff finds that the Lot 16 Site Development Plan substantially meets with the approved Olia Village Site Concept Plan, as amended by this proposal, and the requirements of the Olia Village Development Regulations, as well as with the City's applicable Zoning Regulations, subject to the following conditions and any further discussion by the Planning and Zoning Commission.

The following are the recommended conditions of approval for the Site Concept Plan amendments and the amended Development Regulations for Olia Village:

1. All requirements of Amended Ordinance No. 5862 shall remain in effect as hereby amended.
2. Pursuant to Section 405.390.K.2., the applicable components of the amended Site Concept Plan shall be recorded in the office of the St. Louis County Recorder of Deeds and proof of recording shall be provided to the City prior to any permits being issued.

The following are the recommended conditions of approval for the Lot 16 Site Development Plan:

1. The Applicant is required to submit a Building Permit application, as required by Article II of the Building Code. Exterior elevations of the townhomes shall be in substantial conformance in design, color and materials, with the "Meridian and Logan Modern Industrial Elevations" received December 8, 2025, as bound together and submitted in conjunction with Application #25-028 by Fischer Homes, except as modified below.
2. The Applicant shall submit Site Improvement Plans, showing all exterior grading and site improvements, to the Department of Public Works for review, as required by Section 410.380 of the Subdivision and Land Development Regulations (Subdivision Code). The Site Improvement Plans shall be in substantial conformance with the "Site Development Plans," received December

8, 2025, as bound together and submitted in conjunction with Application #25-028 by Stock & Associates, except as modified below.

3. The building elevations on Lots 1, 22, 23, 51, 52, and 67 as depicted on the site development plan and preliminary plat shall have brick returns on the full side exterior elevations.
4. A Final Landscape Plan shall be submitted with the Building Permit and Site Improvement Permit applications for Staff review and approval in substantial conformance with the Concept Landscape Plan received December 8, 2025, by Loomis Associates. The Final Landscape Plan shall provide irrigation within the common ground areas along the exterior street frontages and at both entries. All landscaping shall be maintained per the approved Landscape Plan and any vegetation that is totally or predominantly dead and/or disfigured due to disease or injury shall be replaced as needed and in a prompt and workmanlike manner as dictated by accepted horticultural standards.
5. All lighting shall comply with Section 405.680 Lighting of the Zoning Ordinance or Section H. Light Requirements of the Olia Village Development Standards, as appropriate, and the provided photometric plan for the entire site received December 8, 2025.
6. The subdivision entry signs, as shown on the plans, one located at each entrance to the subdivision, are approved subject to landscaping being provided at the base of each sign and final design approval by staff in association with the sign permit application. After final approval by staff, these residential development signs shall be incorporated into the overall Olia Village Master Sign Plan.
7. A final subdivision plat and accompanying subdivision declaration for The Vale at Olia Village shall be submitted for Planning and Zoning Commission and City Council approval pursuant to Section 410.140 of the Subdivision Code and Section 405.390.H. of the Zoning Code prior to issuance of any building permits.
8. Pursuant to Section 405.390.N. the site development plan shall be valid for a period of twelve (12) months from the date of approval. Within such period a building permit shall be obtained, and substantial construction commenced. Substantial construction shall be deemed to consist of clearing the site, completion of footings, basement or building slab and inspection of such work. The Planning and Zoning Commission may grant extensions regarding the validity of a site development plan not exceeding twelve (12) months each upon written request of the original applicant prior to the expiration of such period and resubmission of the application if the application as resubmitted is substantially the same as the initially approved application. However, the Commission shall have the power in such cases to attach new conditions to their re-approval or to disapprove the reapplication.

Review of preliminary plats is a ministerial act that should be approved if the proposed plat substantially meets all development standards provided by Amended Ordinance No. 5862 and those of any other applicable City regulations. This application does substantially meet all applicable codes for the Olia Village Planned Mixed Use Development Zoning District, subject to the following suggested conditions of approval:

1. A final plat for the Vale at Olia Village shall be submitted for review by the Planning and Zoning Commission with approval of the final plat by the City Council.

ACTION

If the Planning and Zoning Commission finds the Site Development Plan application and proposed Draft Resolution, and Site Concept Plan Amendments to be in conformance with the Site Concept Plan, regulations of the Zoning Code and Attachment B, it may vote on a recommendation to the City Council. Any changes to the motion or Draft Resolution should be discussed and made by separate actions.

Approval of the Prelimianry Plat must be made by separate motion listed below.

MOTIONS

The following is an example of an appropriate motion for the Site Development Plan and Site Concept Plan Amendment application:

> "I move to recommend approval of the Site Concept Plan and Development Regulations Amendments and the Site Development Plan for Olia Village Lot 16 at 10300 Olive Boulevard, and draft resolution subject to the conditions discussed in the Staff Report for the meeting of December 15, 2025" (conditions may be added, eliminated, or modified by preceding motion).

Action on the Preliminary Plat will be in the form of a motion for approval as presented, or approval with additional conditions, to meet all technical requirements. City Council action is not required. Assuming agreement with the Staff Report, the following is an example motion for this application:

> "I move to approve The Vale at Olia Village preliminary plat with the conditions outlined in the staff report for the subdivision at Lot 16 of the Olia Village Planned Mixed Use Development as shown in the Preliminary Plat, received December 8, 2025, as part of Application #25-039. (Other conditions may be added, eliminated, altered, and modified by prior motion).

Once the Commission has approved the preliminary plat, the Applicant may proceed with preparing the Final Plat for Planning and Zoning Commission review and approval by the City Council. The Subdivision Improvement Plans will be submitted at a later date once the lots have been sold for development and will be subject to the conditions listed above.

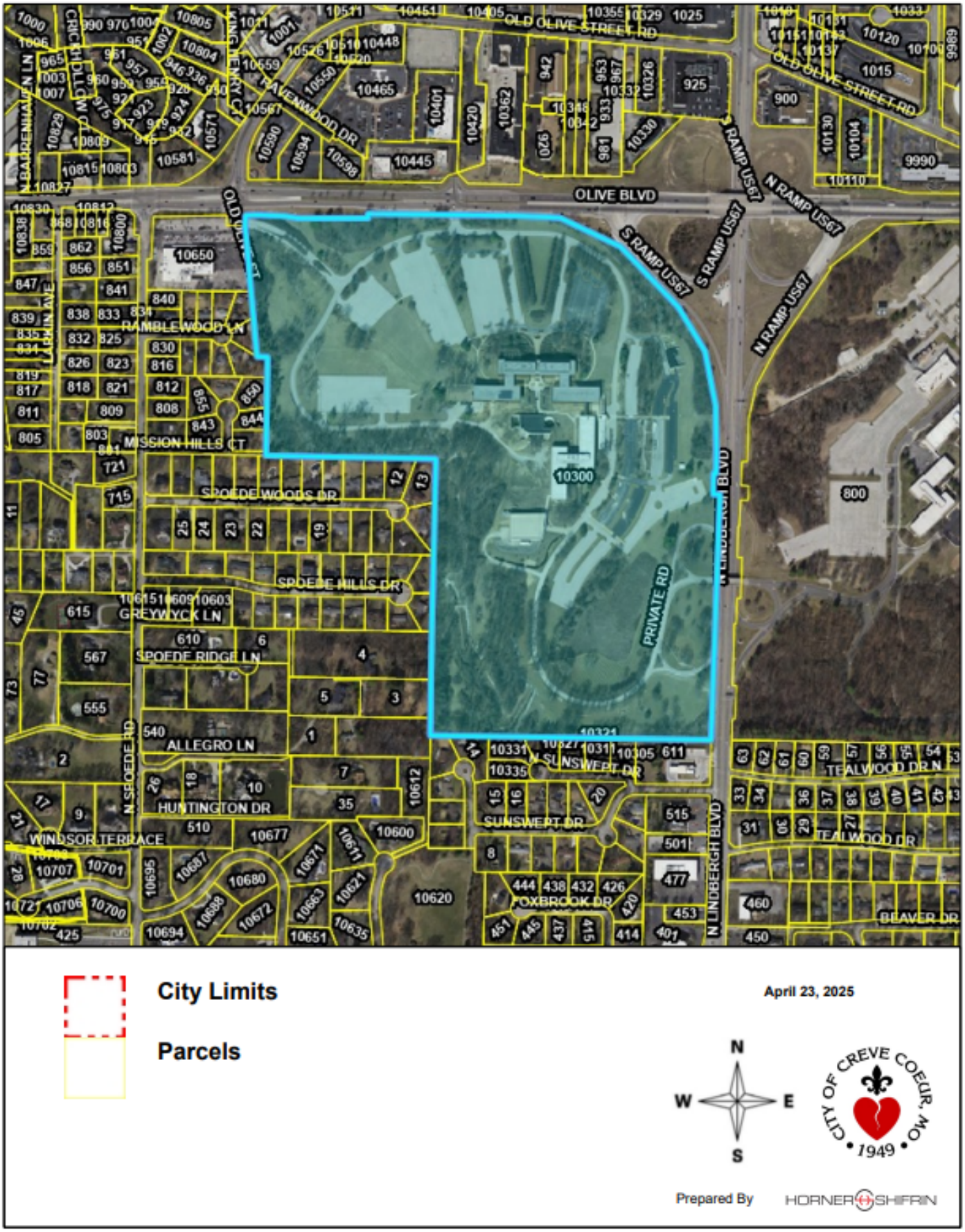
APPENDIX 1: COMPREHENSIVE PLAN

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 2: ZONING CODE

Included and attached by reference. See body of report for specific excerpts.

Aerial Photo



A REQUEST FOR TEXT AMENDMENT TO ORDINANCE #5862

Date: November 12, 2025

(Stock Project No. 2022-7304)

On behalf of Jack Matthews Development and Grand Communities, LLC, Stock and Associates Consulting Engineers Inc, respectfully requests the City of Creve Coeur's consideration in a "Text Amendment" to City Ordinance No. 5862. Our request is to amend item 13.f. Minimum Horizontal Radius of Centerline under "Private Street Design Standards" of Section K. "Public/Private Road Improvements Including Pedestrian Circulation" within Attachment B to include language specific for Lot 16 Olia Village as recorded in Plat Block 372 page 235. Ordinance 5862 currently stipulates in Attachment B - Section I.K.13. f. private streets shall be designed to a minimum horizontal radius of centerline of one hundred-fifty (150) feet. We seek to add the below language to Attachment B:

I. Specific Criteria
   K. Public/Private Road Improvements, Including Pedestrian Circulation
      13. Private Street Design Standards
         f. Minimum Horizontal Radius of Centerline of one hundred-fifty (150) feet except for Lot 16 which shall have a minimum horizontal radius of centerline of eighty (80) feet.

The request would allow Grand Communities, LLC to develop and construct the required secondary access for the proposed residential community, The Vale, on Lot 16 of Olia Village. We greatly appreciate the City's consideration on this item.

257 Chesterfield Business Parkway, St. Louis, MO 63005
636.530.9100 – Main | 636.530.9130 – Fax
www.stockassoc.com | general@stockassoc.com

city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141

(314) 432-6000 • www.crevecoeurmo.gov

APPLICATIONS TO PLANNING AND ZONING COMMISSION #25-034 AND 25-035: APPLICATIONS FOR A REZONING FROM "GC" GENERAL COMMERCIAL DISTRICT TO THE GRAESER STATION "PMD" PLANNED MIXED-USE DEVELOPMENT DISTRICT WITH A SITE CONCEPT PLAN AND SITE DEVELOPMENT PLAN FOR 11004, 11026, 11032 AND 11056 OLIVE BOULEVARD AND 825 AND 827 GRAESER ROAD

FOR THE MEETING OF: January 20, 2026

LOCATION: 11004, 11026, 11032, and 11056 Olive Boulevard and 825 and 827 Graeser Road. Zoned GC-General Commercial Zoning District.

REQUEST: Garrison Hassenflu, of Garrison Companies, has submitted a rezoning application and a site concept plan and site development plan application for the lots addressed as 11004, 11026, 11032, and 11056 Olive Boulevard; and 825 and 827 Graeser Road in order to construct a new four-story, 157 residential unit, mixed-use development with approximately 8,500 square feet of first floor retail named Graeser Station. The lots comprise approximately 4.42 acres and are currently zoned "GC"-General Commercial Zoning District. The request is to rezone the properties to "PMD" Planned Mixed-Use Development Zoning District in accordance with the procedures described in Section 405.390 Planned Zoning Districts. Review and approval by the City Council upon the recommendation of the Planning and Zoning Commission is required.

ADDITIONAL INFORMATION: This project was previously before the Planning and Zoning Commission on December 15, 2025 and was continued to a future meeting date.

Key Issues:

- Does the request further the goals and/or implement the Comprehensive Plan?
- Does the use integrate with the surrounding area?
- Does the request meet with the criteria for Planned Zoning Districts as provided in Section 405.390?
- Does the project provide Public Benefits and meet the Design Criteria as a Planned Mixed-Use Development District?

Creve Coeur 2030 Plan References

- Neighborhood Commercial (NC) District
- East Olive Corridor Recommendations
- Design Guidelines

Zoning Code References

- Section 405.360: GC-General Commercial Zoning District
- Section 405.390: Planned Zoning Districts
- Section 405.1080: Site Concept, Site Development and Minor Site Plan Approval

APPLICANT:	Garrison Hassenflu Garrison Companies 2001 Shawnee Mission Parkway, Ste. 250 Mission Woods, KS 66205	**PROPERTY OWNER:**	Tom Stern Gershman, CRE 150 N. Meramec Ave, Ste. 500 St. Louis, MO 63105

REPORT PREPARED BY: BETHANY L. MOORE, AICP, CITY PLANNER
JASON JAGGI, AICP, DIRECTOR OF COMMUNITY DEVELOPMENT

ATTACHMENTS:
Applicant's Revised Materials received November 7, 2025
Applicant's Parking Study dated October 21, 2025 by Lochmueller Group,
Traffic Impact Study, January 2026, prepared by HR Green
Public comments received, December 15, 2025 Staff Report,
MoDOT response to Traffic Impact Study dated January 16, 2026

PROJECT BACKGROUND

The applicant, Garrison Hassenflu of Garrison Companies, has submitted applications for a Site Concept Plan, Site Development Plan and a rezoning for 6 lots addressed as 11004, 11026, 11032, and 11056 Olive Boulevard; and 825 and 827 Graeser Road for a Mixed-Use Development, known as Graeser Station, at the southwest corner of Olive Boulevard and Graeser Road. The development is comprised of a four-story mixed-use building with 157 studio, 1- and 2-bedroom residential units and 8,472 square feet of first floor retail space. All 6 properties, when combined total 4.42 acres, and are currently zoned "GC"-General Commercial. The applicant is seeking to rezone the parcels to "PMD" Planned Mixed-Use Development zoning district in order to move forward with the project, as the project would not be possible under the requirements of the current zoning district. The applicant will be applying for a boundary adjustment to combine the parcels into one lot, which will need to be submitted prior to the Planning and Zoning Commission taking formal action on this request. The applicant was last before the Planning and Zoning Commission on December 15th, 2025 for the initial presentation of the project components. No vote was requested at that time, and the item was continued to a future meeting date. The applicant and his consultants, Steadfast City, are seeking feedback and direction from the Commission for a future revised submission.

SUMMARY OF DECEMBER 15TH MEETING

The first public hearing for the Graeser Station Planned Mixed Use Development Rezoning application with a Site Concept Plan and a Site Development Plan was held at the December 15, 2025 meeting. The item was continued to a future meeting date to allow the Commission time to review the information presented. The staff report, application and applicant's materials from the December 15th meeting are included in the agenda packet for the January 20th meeting. At the December 15th meeting, the applicant and their consultants presented the proposal for Graeser Station. In order for the project to move forward with the Site Concept Plan and Site Development Plan, the property will need to be rezoned to Planned Mixed Use Development District, "PMD." In addition to presenting the components of the project and the applications, the applicants presented the project's alignment with the City's Comprehensive Plan. The applicant's consultant, Julie Nolfo, presented the Shared Parking Study that was done for the project to determine how many parking spaces would be needed for the project based on demand for the proposed uses, as allowed for by Section 405.800.G.4 of the Zoning Code.

Staff followed the applicant's presentation with a presentation exploring the Comprehensive Plan recommendations for the Neighborhood Commercial Place Type District within the East Olive Corridor, the requirements of the Planned Zoning District procedures, and the Traffic Impact Study that was prepared by the City's Traffic Consultant, Dan Shane, PE, PTOE, who also provided additional information about the TIS and MoDOT's initial comments. Public Comment was heard after the presentations from the applicant and City Staff. The item was then continued to a future meeting date. The following is a general summary of the areas of concern expressed at the meeting:

- Density
- Comfortability with amount of parking spaces provided with shared parking as outlined in the applicant's Parking Study
- Height of retaining wall
- Request to provide layered landscaping along Olive Boulevard frontage in front of parking spaces
- Difficulty turning left onto Olive from Graeser due to the permissive left turn arrow
- Explanation of proposed uses for retail component and how they will relate to parking demand
- Replace sidewalk on Olive Boulevard with detached sidewalk instead of maintaining existing sidewalk back of curb
- Request to provide additional rendering of views from Olive showing building and landscaping concept

- Clarify existing crosswalk striping across Olive and Graeser are in good condition in association with recent MoDOT repaving work
- Explain market demand for smaller units/density needs
- Stormwater concerns associated with new development from adjacent residents

TRAFFIC IMPACT STUDY UPDATE

The applicants and City Staff, along with the City's traffic consultant, met with MoDOT to further discuss the Traffic Impact Study conducted in Fall 2025. MoDOT raised safety concerns if westbound left turns onto Olive Boulevard from the entrance into the site were allowed due to the existing median contributing to car accidents. MoDOT then shared crash data with Dan Shane, the City's traffic consultant for additional review. Based on the crash data provided, Mr. Shane revised the Traffic Impact Study to recommend left turns onto Olive Boulevard from the site be prohibited in favor of channeling west bound drivers through the site and onto Graeser Road to turn left onto Olive Boulevard at the traffic light. In order to accommodate this change in traffic pattern and reduce delays at the traffic light on Graeser Road, Mr. Shane also recommended that left-turn control modifications be made to change the permissive left turn to a protected left turn with permissive left turn phasing. These recommendations have been discussed with the applicant, and the applicant is agreeable to them. MoDOT provided their agreement with the results of the Traffic Impact Study's recommendations in a letter dated January 16, 2026, which is attached for reference.

NEXT STEPS

The Planning and Zoning Commission should provide feedback and direction to the applicant as to what changes, alterations, additional information, etc. need to be provided in order for the Commission to make a recommendation on the project. The applicant will then submit revised plans for a formal recommendation on the application at a future meeting date and staff will prepare the draft ordinance in anticipation of a vote on the application.

SUMMARY AND RECOMMENDATION

The proposal represents a substantial change for this site. As reviewed in the Staff Report for the December 15th meeting, there are many facets to consider if a completly new zoning district, that would be uniuqe to this project, would be created. The majority of the requirements have been effectively addressed in the development proposal, while some aspects are subjective or interpretive and require further discussion between the Commission and the applicant. For these reasons, Staff recommends that the Commission provide direction to the applicant by identifying areas for further staff analysis or for applicant adjustments to the proposal. Staff requests that after providing feedback to the applicant, the Planning and Zoning Commission vote to continue the matter to a subsequent meeting date of the Commission to allow the applicant time to respond to the Commsision's direction.

SUGGESTED ACTION

If the Planning and Zoning Commission agrees that a recommendation should be held until a subsequent meeting, the following is an example motion for a continuance:

> "I move to continue applications 25-034 and 25-035, the rezoning and site concept and development plan for Graeser Station Planned Mixed-Use Development to a future meeting date, to allow for resolution of any areas of further consideration raised by the Commission, submittal of the boundary adjustment plat and preparation of a draft PMD ordinance."

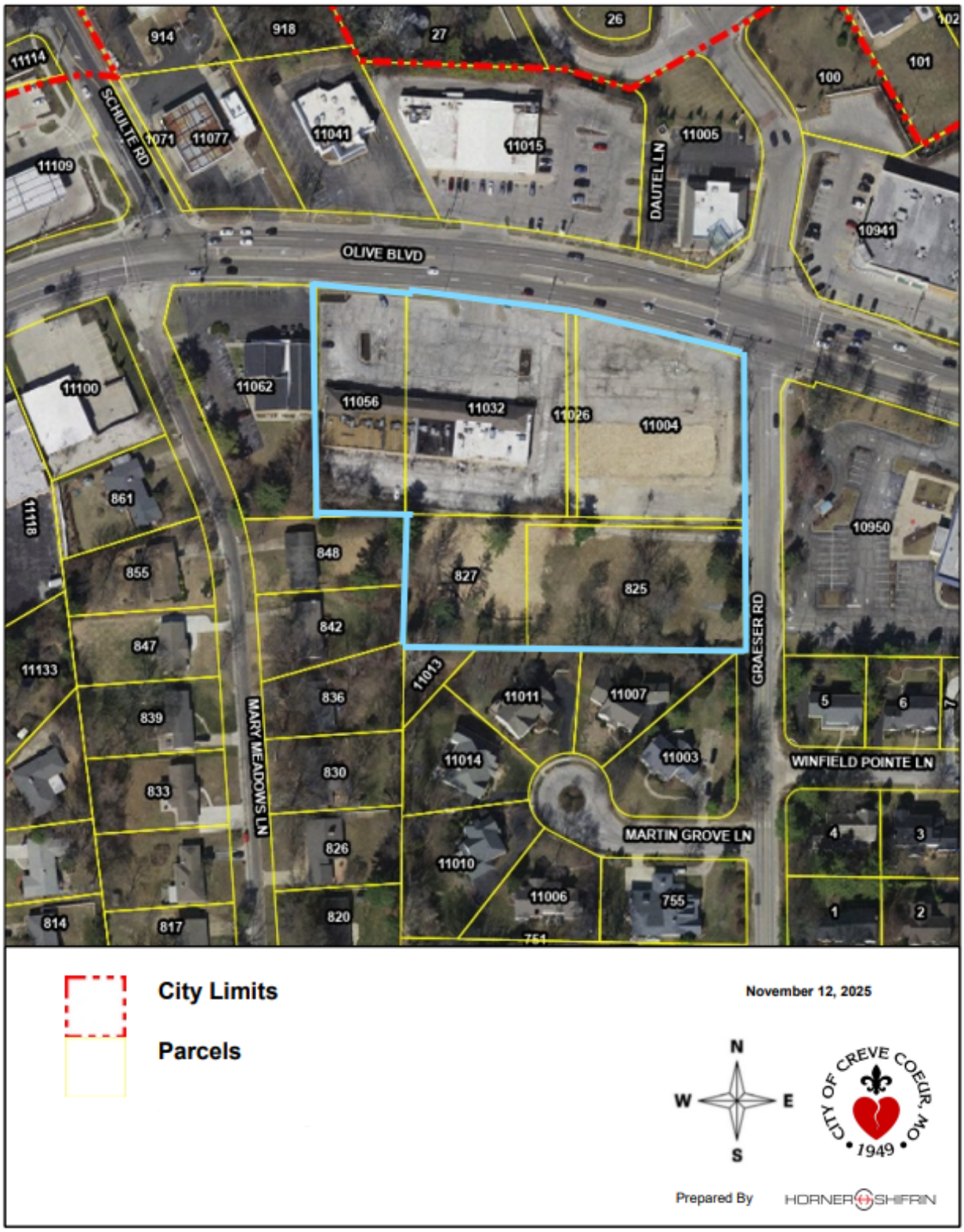
APPENDIX 1: COMPREHENSIVE PLAN

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 2: ZONING CODE

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 3: AERIAL MAP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Prepared By
HORNER SHIFRIN

Technical Report

Traffic Impact Study
Graeser Station Redevelopment

Olive Boulevard and Graeser Road
Creve Coeur, Missouri

Prepared By:

HRGreen

October 2025
January 2026 - Revised

HR Green Job No.: 2403633.03

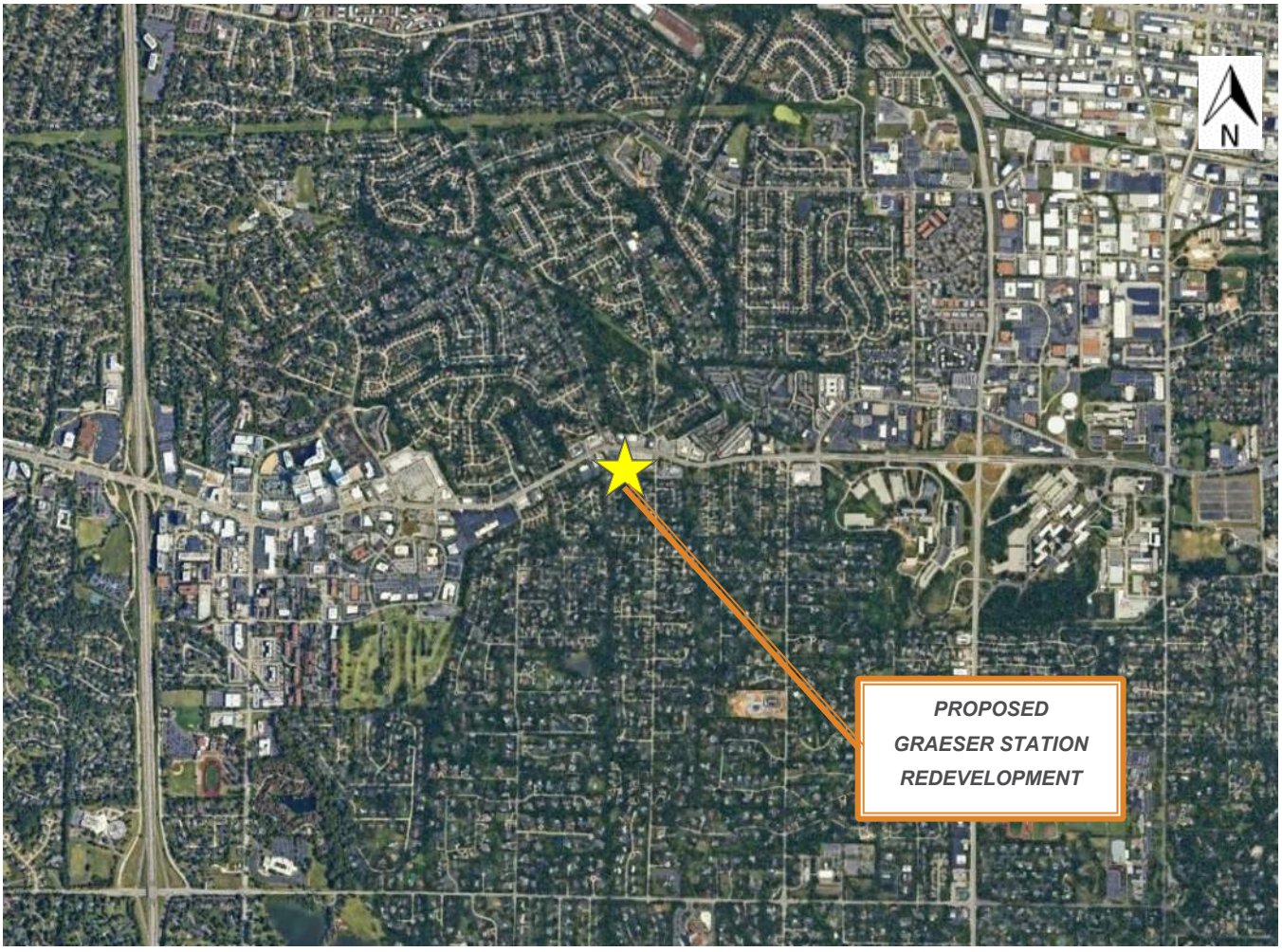
HRGreen

Introduction

A comprehensive traffic impact review has been conducted for the proposed Olive and Graeser mixed-use redevelopment, known as Graeser Station, which will include retail, restaurant, and residential components. The site is located in Creve Coeur, Missouri, southwest of the Olive Boulevard and Graeser Road intersection, as shown in **Figure 1**. The existing site currently consists of two abandoned strip malls.

This technical report provides a brief discussion of the existing conditions of the site, the expected traffic growth due to the redevelopment, and the associated impacts. It includes an analysis of trip generation, traffic assignment and distribution, and overall traffic impacts.

FIGURE 1 - DEVELOPMENT LOCATION



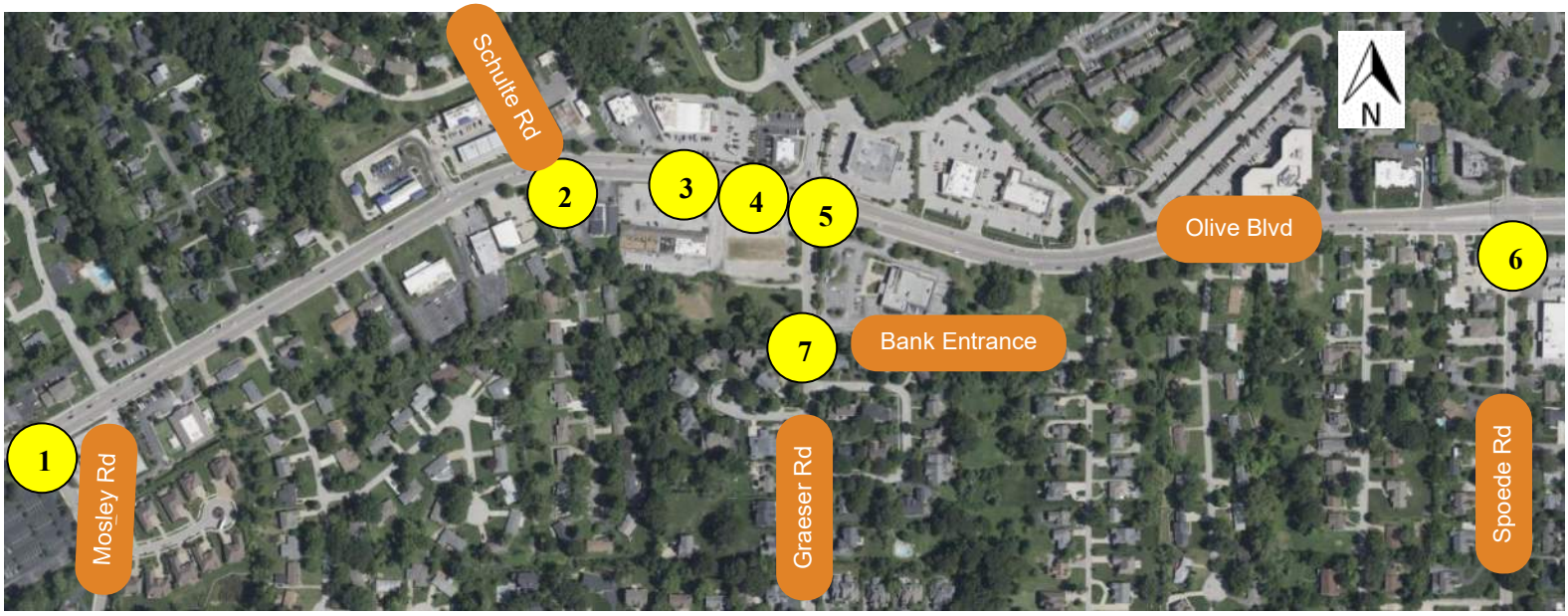
Project Scoping and Coordination

A project scoping meeting was held on June 18, 2025 with representatives from the City of Creve Coeur, MoDOT, the development team, and HR Green. Meeting notes can be found in **Appendix A**.

Existing Conditions

As part of the overall site assessment, a description of the street network, existing land use, and traffic characteristics is provided in the following sections.

FIGURE 2 – EXISTING ROADWAY NETWORK



Existing Street Network

The development site consists of two former strip malls situated on a 4.42-acre lot at the southwest corner of Olive Boulevard and Graeser Road. One of the strip malls has already been demolished, leaving an empty lot. The development is fronting Olive Boulevard and Graeser Road. To the north of the site are several retail and commercial properties, while to the east are a bank and residential units. The area to the south consists primarily of residential neighborhoods, and to the west are additional retail stores and housing. The primary access to the proposed redevelopment will be from Olive Boulevard and Graeser Road. Descriptions of the surrounding transportation network are provided below, organized by intersection number as shown in **Figure 2**.

1. ***Olive Boulevard and Mosley Road –*** Olive Boulevard, also designated as MO 340, is a principal arterial running through St. Louis County. It begins in Ballwin, passes through Creve Coeur, and extends eastward to University City. At this location, Olive Boulevard is configured as a five-lane roadway with a center two-way left-turn lane and a posted speed limit of 35 mph. Mosley Road, intersecting Olive Boulevard from the north, is classified as a two-lane minor collector with a posted speed limit of 30 mph. The Olive Boulevard/Mosley Road intersection is signalized and located approximately one mile east of the I-270 junction. The westbound approach on Olive Boulevard consists of a dedicated left-turn lane and two through lanes, while the eastbound

approach includes one through lane and one shared through/right-turn lane. The northbound approach on Mosley Road provides one left-turn lane and one right-turn lane.

2. ***Olive Boulevard and Schulte Road / Mary Meadows Lane –*** Schulte Road is a two-lane major collector with a posted speed limit of 35 mph. Mary Meadows Lane is a local road that serves an enclosed, cul-de-sac community; there is no posted speed limit at Mary Meadows Lane. Olive Boulevard intersects Schulte Road at a signalized intersection located approximately 1,675 feet east of the Olive Boulevard/Mosley Road intersection. At this location, the eastbound and westbound approaches on Olive Boulevard each consist of one dedicated left-turn lane, one through lane, and one shared through/right-turn lane. The northbound approach on Mary Meadows Lane consists of a single shared left/through/right lane, while the southbound approach provides a dedicated left-turn lane and one shared through/right-turn lane.
3. ***Olive Boulevard and West Entrance / Retail Drive –*** Olive Boulevard intersects West Entrance under side-street stop control approximately 425 feet east of the Olive Boulevard/Schulte Road intersection. The primary entrance to the proposed redevelopment will be located south of Olive Boulevard via West Entrance. At this intersection, the center two-way left-turn lane transitions into a dedicated left-turn lane. As a result, both the eastbound and westbound approaches consist of a dedicated left-turn lane, one through lane, and one shared through/right-turn lane. The northbound approach consists of a dedicated left-turn lane and one shared through/right-turn lane, while the southbound approach consists of a single shared left/through/right lane.
4. ***Olive Boulevard and Middle & East Entrances –*** Olive Boulevard intersects the Middle and East Entrances under side-street stop control. These entrances operate as a right-in/right-out (RIRO) due to the presence of a median that prohibits left-turn movements to and from Olive Boulevard. At these locations, the westbound approach consists of one through lane and one shared through/right-turn lane, while the northbound approach consists of a dedicated right-turn lane. Because the easternmost entrance will be removed as part of this project, no further analysis was completed.
5. ***Olive Boulevard and Graeser Road / Dautel Lane*** – Olive Boulevard intersects Graeser Road/Dautel Lane with a traffic signal approximately 175 feet east of the East Access. Graeser Road is classified as a minor collector with a posted speed limit of 30 mph, while Dautel Lane is a local street with a posted speed limit of 25 mph. At this intersection, the westbound approach consists of a dedicated left-turn lane, a through lane, and a shared through/right-turn lane. The eastbound approach consists of a dedicated left-turn lane, two through lanes, and a dedicated right-turn lane. Both the northbound and southbound approaches consist of a dedicated left-turn lane and a shared through/right-turn lane.
6. ***Olive Boulevard and Spoede Road*** – Olive Boulevard intersects Spoede Road with a traffic signal located approximately 2,000 feet east of Graeser Road. Spoede Road functions as a major collector with a posted speed limit of 30 mph. At this intersection, the westbound approach consists of a dedicated left-turn lane, a through lane, and a through/right-turn lane, while the eastbound approach consists of a dedicated left-turn lane, two through lanes, and a dedicated right-turn lane. Both the northbound and southbound approaches consist of a dedicated left-turn lane and a shared through/right-turn lane.

7. ***Graeser Road and Bank Entrance –*** Graeser Road intersects the First Community Credit Union Bank Entrance with a side-street stop control approximately 300 feet south of the intersection of Graeser Road and Olive Boulevard. At this intersection, the westbound approach consists of a dedicated left-turn lane and a dedicated right-turn lane. The northbound approach consists of a shared through/right-turn lane, while the southbound approach consists of a shared left/through lane.

Existing lane configurations and intersection spacing can be seen in **Exhibit 1.**

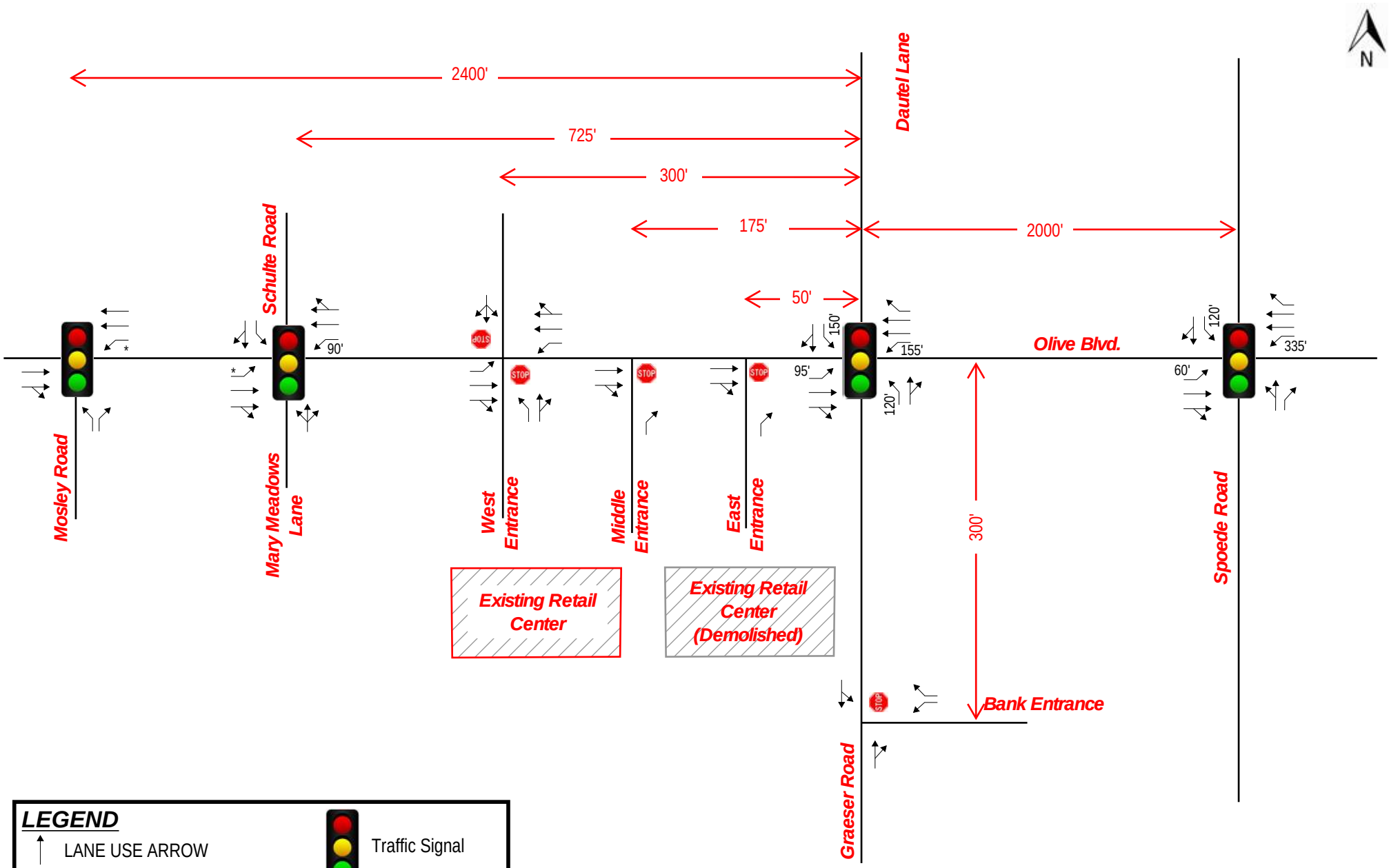
Existing Traffic Volumes

Peak hour turning movement counts were collected on Tuesday, August 26th, 2025, from 6:30 AM to 6:00 PM at the following study intersections:

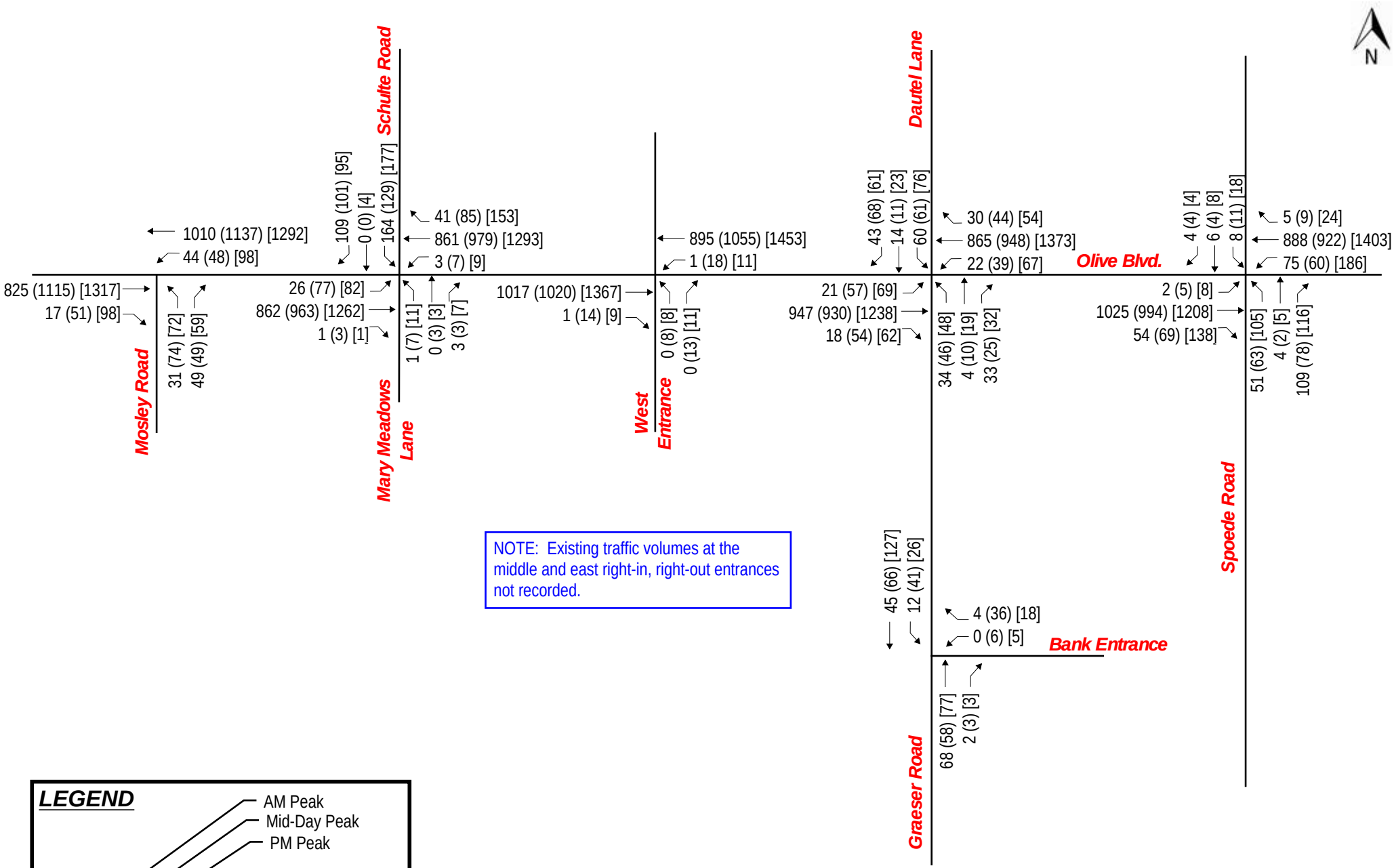
- **Olive Boulevard and Mosley Road**
- **Olive Boulevard and Schulte Road**
- **Olive Boulevard and West Entrance / Retail Drive**
- **Olive Boulevard and Graeser Road / Dautel Lane**
- **Olive Boulevard and Spoede Road**
- **Graeser Road and Bank Entrance**

The morning, mid-day, and afternoon traffic periods were reviewed to establish peak hours of traffic that would be associated with a typical weekday. Based on the observed traffic data collection, the peak hours were determined to be 7:00 AM – 8:00 AM, 11:45 AM – 12:45 PM, and 4:30 PM – 5:30 PM.

The raw traffic count information is provided in **Appendix B**, and the resulting Existing Year 2025 peak hour traffic volumes are depicted in **Exhibit 2.**



Existing Lane Configurations



Existing 2025 Peak Hour Volumes

2025 Exisitng Traffic Operations

The intersection capacity analysis was completed with Synchro, Version 12 software to measure the effectiveness of the intersections in terms of vehicle delay and expected queuing. Analysis was completed at each of the intersections with existing traffic volumes and lane configurations during morning, mid-day, evening, and Saturday peak hours of commuter traffic.

The study intersections were each analyzed to determine how they would operate, known as Level-of-Service (LOS). LOS criteria are outlined in the 7th Edition of the *Highway Capacity Manual (HCM)* for signalized and unsignalized intersections. The HCM defines LOS as a measure of the quality of traffic flow. There are six different levels of service for each facility type, each representing a range of operating conditions as indicated by amounts of average delay expected per entering vehicle. Each level of service is designated a letter from "A" to "F", with "A" being the least congested (free flow condition) and "F" being the highest congestion (least desirable condition). LOS thresholds for stop-controlled intersections differ from those with traffic signal control to reflect different driver expectations with respect to delay.

Table 1 summarizes the criteria for both signalized and unsignalized intersections, as defined in the Highway Capacity Manual. LOS C, which is normally used for highway design, represents a roadway with volumes ranging from 70% to 80% of its capacity. However, Level D is considered acceptable for peak period conditions in urban and suburban areas. LOS E and F are shown in yellow and red, respectively, to highlight movements with degraded capacity levels.

TABLE 1: INTERSECTION LEVEL OF SERVICE

*Level of Service (LOS)**	*Average Control Delay (Seconds/vehicle)*	
	Signalized Intersection	*Two-Way Stop Control Intersection*
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Source: Transportation Research Board, Highway Capacity Manual, 2010.
* LOS = F when volume to capacity ratio is greater than 1

The following intersection capacity results are based on Synchro files provided by MoDOT.

Stop-controlled intersections were analyzed using the HCM 7 methodology within Synchro to isolate their performance from upstream and downstream signal influences. For signalized intersections, existing signal timing plans provided by MoDOT were utilized; therefore, the standard Synchro signal analysis tool was employed for these locations in this study.

The Intersection of Olive Boulevard and East Entrance data were derived from the westbound volumes of the intersection of Olive Boulevard and West Entrance.

In this report, the PM peak consists of the highest volumes associated with the new development; therefore, the discussion will be focused on the PM peak. However, intersection capacity analysis summary tables will include results of all peak periods.

Olive Boulevard and Mosley Road – Traffic operations at this intersection indicate that all movements operate at LOS B or better, except for the northbound left-turn movement, which operates at LOS E during all peak periods. During the PM peak, the northbound left-turn experiences an average delay of 66.9 seconds per vehicle, with a corresponding queue length of 125 feet.

Olive Boulevard and Schulte Road – Traffic operations indicate that all movements operate at LOS E or better during all peak periods, except for the eastbound left-turn movement during the PM peak, which operates at LOS F, with a delay of 80.7 seconds per vehicle and a queue length of 125 feet during the PM peak.

Olive Boulevard and West Entrance – Traffic operations indicate that all movements operate at LOS C or better during all peak periods, except for the northbound left-turn movement, which operates at LOS F during the Midday and PM peaks, with a delay of 160.1 seconds per vehicle and a length of 50 feet during the PM peak.

Olive Boulevard and Middle Entrance – Traffic operations indicate that all movements operate at LOS C or better during all peak periods. The northbound right-turn movement during the PM peak operates at LOS C, with an average delay of 15.8 seconds per vehicle and a queue length of 25 feet.

Olive Boulevard and Graeser Road / Dautel Lane – Traffic operations indicate that all movements operate at LOS C during all peak periods, except for the northbound and southbound left-turn movements, which operate at LOS E during all peaks. The southbound left-turn movement during the PM peak experiences an average delay of 74.2 seconds per vehicle, with a queue length of 125 feet, while the northbound left-turn movement has a 67.9-second delay with 100 feet of queue during the PM peak.

Graeser Road and Bank Entrance – Traffic operations indicate that all movements operate at LOS B or better during all peak periods. The westbound left-turn movement during the PM peak records an average delay of 10.4 seconds per vehicle, with no significant queueing observed.

Olive Boulevard and Spoede Road – Traffic operations indicate that all movements operate at LOS D or better during all peak periods, except for the northbound left-through movement, which operates at LOS E during all peaks. The PM peak records the highest delay of 79.2 seconds per vehicle, with a queue length of 175 feet.

The traffic operation delays, LOS, and queues of the Existing Conditions 2025 traffic volume scenario can be seen in the summary table located within **Table 2.** Detailed intersection capacity analysis worksheets can be found in **Appendix C.**

TABLE 2: EXISTING 2025 TRAFFIC OPERATION

Location / Critical Movements	2025 Existing								
	AM Peak Hour			Mid-Day Peak Hour			PM Peak Hour		
	Delay	LOS	Queue	Delay	LOS	Queue	Delay	LOS	Queue
Olive Blvd. and Mosley Road									
EB Thru/Right	5.2	A	150'	4.2	A	125'	5.7	A	175'
WB Left	2.2	A	25'	4.7	A	25'	8.7	A	M25
WB Thru	4.5	A	175'	9.0	A	400'	8.4	A	275'
NB Left	64.5	E	75'	60.8	E	125'	66.9	E	125'
NB Right	18.4	B	25'	15.6	B	50'	15.4	B	50'
Total	**6.2**	**A**		**8.6**	**A**		**9.0**	**A**	
Olive Blvd. and Schulte Road									
EB Left	7.6	A	25'	3.8	A	25'	80.7	F	M125
EB Thru/Right	9.1	A	275'	4.8	A	325'	8.9	A	550'
WB Left	2.3	A	M25	4.6	A	25'	6.1	A	25'
WB Thru/Right	3.9	A	100'	11.2	B	325'	21.5	C	650'
NB Left/Thru/Right	42.2	D	25'	43.7	D	50'	44.3	D	50'
SB Left	73.6	E	225'	70.2	E	175'	75.4	E	225'
SB Thru/Right	1.3	A	0'	1.9	A	0'	10.8	B	50'
Total	**11.7**	**B**		**11.6**	**B**		**21.0**	**C**	
Olive Blvd. and West Entrance									
WB Left	11.5	B	0'	10.8	B	25'	12.6	B	25'
NB Left	0.0	A	0'	55.5	F	25'	160.1	F	50'
NB Right	0.0	A	0'	12.8	B	25'	15.1	C	25'
Olive Blvd. and Middle Entrance									
NB Right	0.0	A	0'	10.4	B	25'	15.7	C	25'

Olive Blvd. and Graeser Road									
EB Left	2.8	A	M25	1.6	A	M25	4.2	A	M25
EB Thru/Right	7.0	A	125'	4.1	A	75'	7.4	A	125'
WB Left	3.2	A	25'	2.3	A	25'	4.1	A	M25
WB Thru	8.2	A	225'	5.1	A	125'	10.4	B	450'
WB Right	0.6	A	25'	0.5	A	0'	1.0	A	M25
NB Left	59.7	E	75'	61.8	E	75'	67.9	E	100'
NB Thru/Right	19.5	B	25'	24.8	C	50'	26.1	C	50'
SB Left	73.2	E	100'	64.9	E	100'	74.2	E	125'
SB Thru/Right	22.7	C	50'	19.3	B	75'	22.3	C	75'
Total	**11.1**	**B**		**8.2**	**A**		**12.5**	**B**	
Graeser Road and Bank Entrance									
WB Left	0.0	A	0'	10.0	B	0'	10.4	B	0'
WB Right	8.8	A	0'	8.8	A	25'	9.0	A	25'
SB Left	7.4	A	0'	7.4	A	25'	7.5	A	25'
Olive Blvd. and Spoede Road									
EB Left	3.5	A	M25	2.6	A	M25	1.2	A	M25
EB Thru/Right	17.0	B	550'	10.5	B	400'	14.8	B	375'
WB Left	4.8	A	M25	2.8	A	M25	20.5	C	M150
WB Thru	2.6	A	75'	2.2	A	M75	3.4	A	150'
WB Right	0.0	A	M0	0.0	A	M0	0.0	A	M0
NB Left/Thru	74.8	E	100'	68.8	E	100'	79.2	E	175'
NB Right	23.5	C	100'	7.7	A	50'	11.6	B	75'
SB Left	53.2	D	25'	49.0	D	25'	51.8	D	50'
SB Thru/Right	38.9	D	25'	33.2	C	25'	36.5	D	25'
Total	**12.6**	**B**		**9.1**	**A**		**12.6**	**A**	

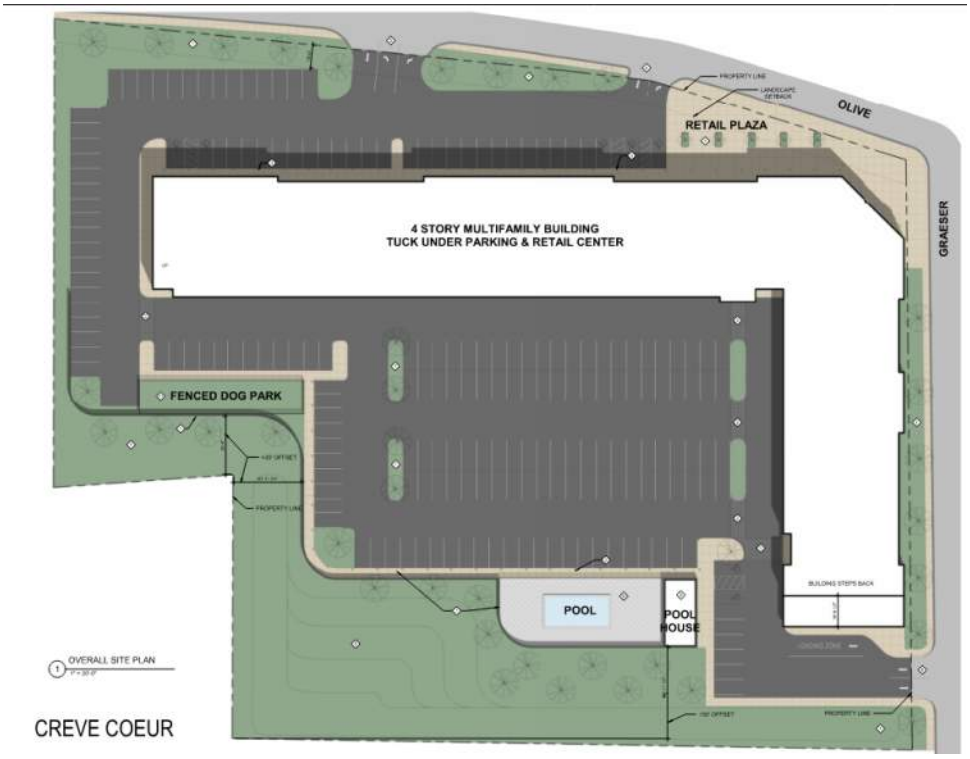
Future Conditions

The future conditions of the proposed development and the associated modifications to the site access drives are discussed in this section. This includes anticipated changes to West Entrance, East Entrance, and Bank Entrance, as well as their impacts on Olive Boulevard and Graeser Road. In addition, the analysis considers the effects of traffic generated by the development on the surrounding street network, along with the cumulative impacts of other planned developments along Olive Boulevard.

The proposed development will be constructed on a 4.42-acre parcel currently occupied by one strip plaza unit that is partially occupied and still generates a small amount of traffic. This strip plaza will be demolished as part of this project. A second strip plaza unit was recently demolished in late 2023. The new project will consist of a four-story multi-family building with ground floor parking and retail. The residential component will consist of 160 residential units (38 Studios, 112 one-bedroom units, and 10 two-bedroom units), approximately 7,000 square feet of ground-floor commercial space, and a 3,000-square-foot high-turnover restaurant.

At the northern frontage along Olive Boulevard, two access points are proposed. The first, West Entrance (Site Drive 1), will continue to operate as a full-access driveway, and the second, Middle Entrance (Site Drive 2), will continue to function as a right-in/right-out (RIRO) access. The existing East Entrance will be removed as part of this project. On the southern side of the site, the South Drive (Site Drive 3) will be positioned to align with Bank Entrance on the east side of Graeser Road. This location will continue to operate under side-street stop control, with no other modifications anticipated to the surrounding street network. **Figure 3** below illustrates the proposed development site plan, dated 7/14/2025.

FIGURE 3 – DEVELOPMENT SITE PLAN



Future Traffic Volumes

Trip Generation – Traffic generated by the proposed site was estimated using the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th edition*. This document is widely-used as an industry standard for estimating the number of peak period trip ends, a combination of inbound and outbound traffic, based on specific types of development and density. For the purposes of this traffic impact study, the ITE land uses which most accurately represent the Graeser Station Development are Mid-Rise Residential with Ground-Floor Commercial (Land Use 231), this land development accounts for both the residential units and the commercial/ retail ground floor, however, it doesn't count for the proposed restaurant, therefore the Land Use High-Turnover (Sit-Down) Restaurant (Land Use 932) was used in addition to the 231 land use. It is important to note that the most current version of the Trip Generation Manual now considers impacts associated with regional settings/locations to provide a more accurate estimation. For this traffic impact study, the setting/location was "General Urban/Suburban", filtered by the Midwest Region.

It is anticipated that the proposed development will generate traffic volumes comparable to or even lower than those produced by the existing two strip plazas when fully occupied, given the nature and scale of the retail centers.

Many new developments with commercial or retail land uses may consider the impacts of pass-by trips, or traffic already on the adjacent public street network that diverts into the proposed site. Therefore, these would not be considered "new" to the area. For this development, due to the relatively small proportion of commercial and restaurant space compared to the overall site density, pass-by trips were not applied as a conservative approach.

Trip adjustments were also considered to account for internal capture, which occurs when patrons visit multiple uses within the same development under a single trip. For example, a resident of the apartment building may also patronize the ground-floor commercial space or restaurant. According to the *ITE Trip Generation Manual, 12th edition*, the residential Land Use 231 already accounts for any internal capture between the residential units and commercial space, but the restaurant Land Use 932 does not. As a conservative measure, no internal capture reduction was applied to the restaurant. A summary of the projected trip generation is provided in **Table 3**.

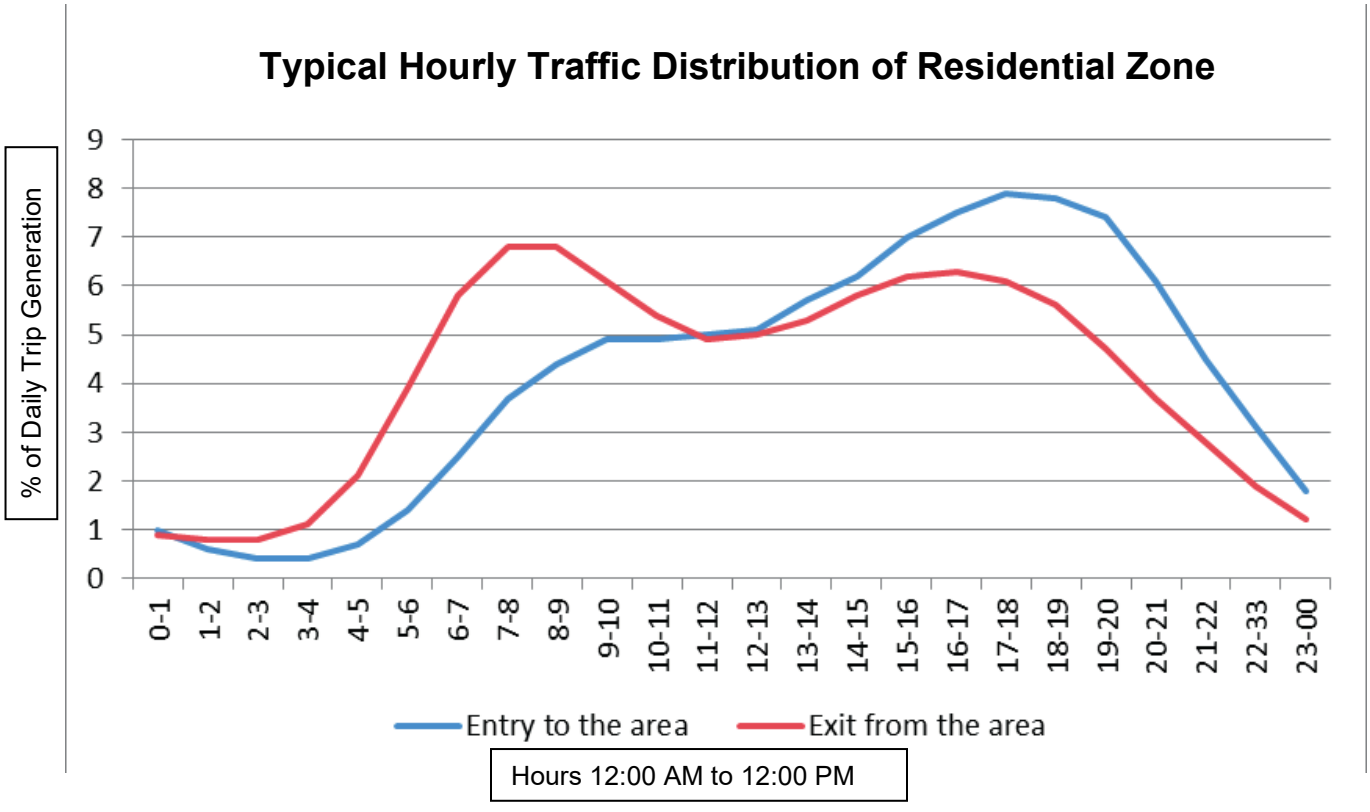
TABLE 3 – TRIP GENERATION

TRIP GENERATION							
Land Use	Units	AM Peak Hour		Mid-Day (2) Peak Hour		PM Peak Hour	
		In	Out	In	Out	In	Out
Mid-Rise Residential with Ground-Floor Commercial (ITE Land Use 231)	160 Dwelling Units	16	38	28	12	45	19
High Turnover (Sit-Down) Restaurant (ITE Land Use 932) (1)	3,000 GFA	7	4	15	8	19	11
Net Trips (New)		**23**	**42**	**43**	**20**	**64**	**30**

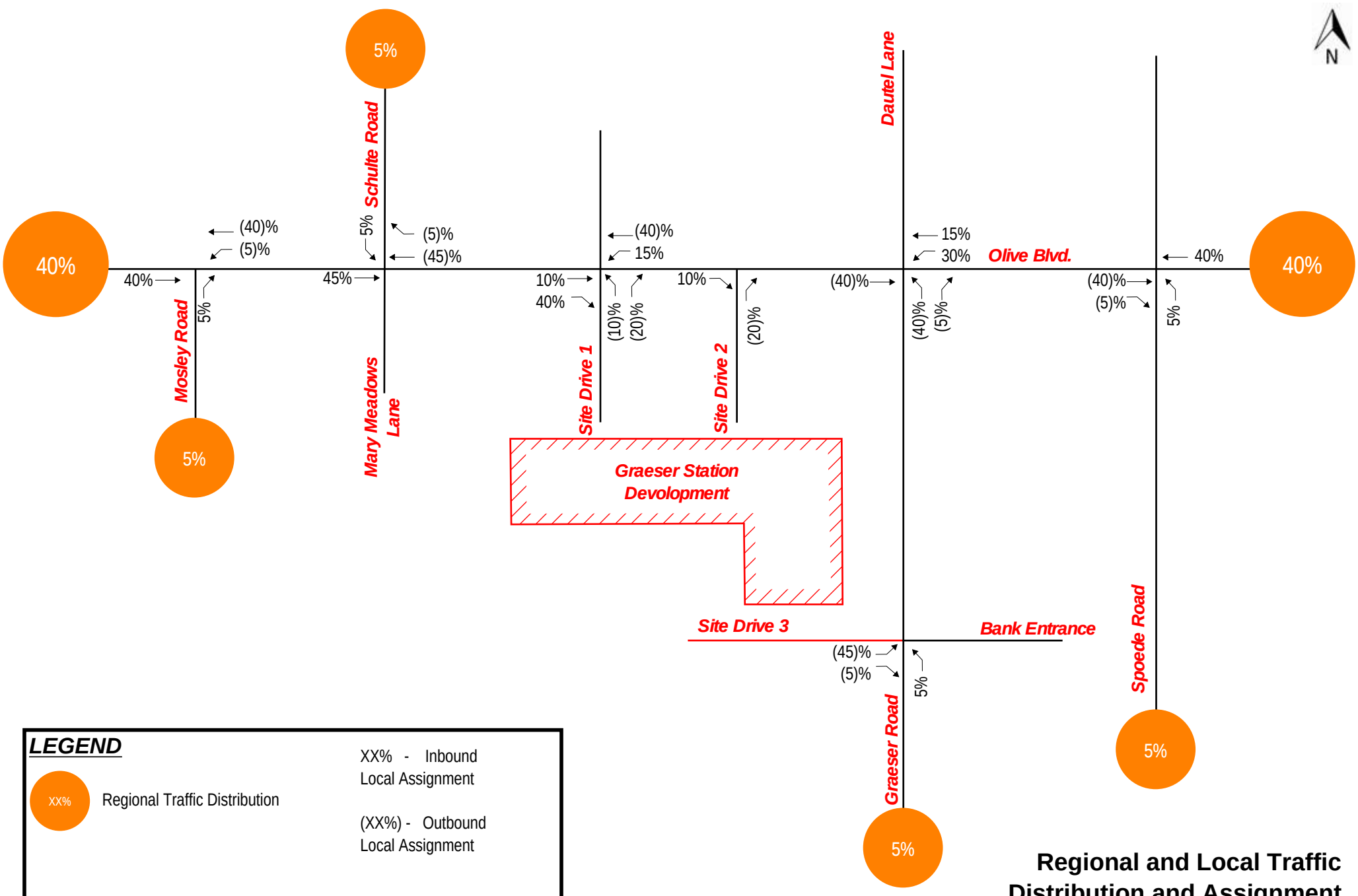
(1) ITE data filtered to the Midwest region only
(2) Data was derived based on Figure 4

Although the *Trip Generation Manual* does not provide specific data for the mid-day peak hour, this study included a mid-day peak analysis to estimate the impacts of the proposed development during the lunch time period. **Figure 4** illustrates a typical hourly trip distribution for a residential component as a percentage of the expected daily trip generation. Given that the restaurant represents only 3,000 square feet of the total 167,000 square-foot development, the same distribution pattern was applied to the restaurant component. Trip generation tables can be found in **Appendix D**.

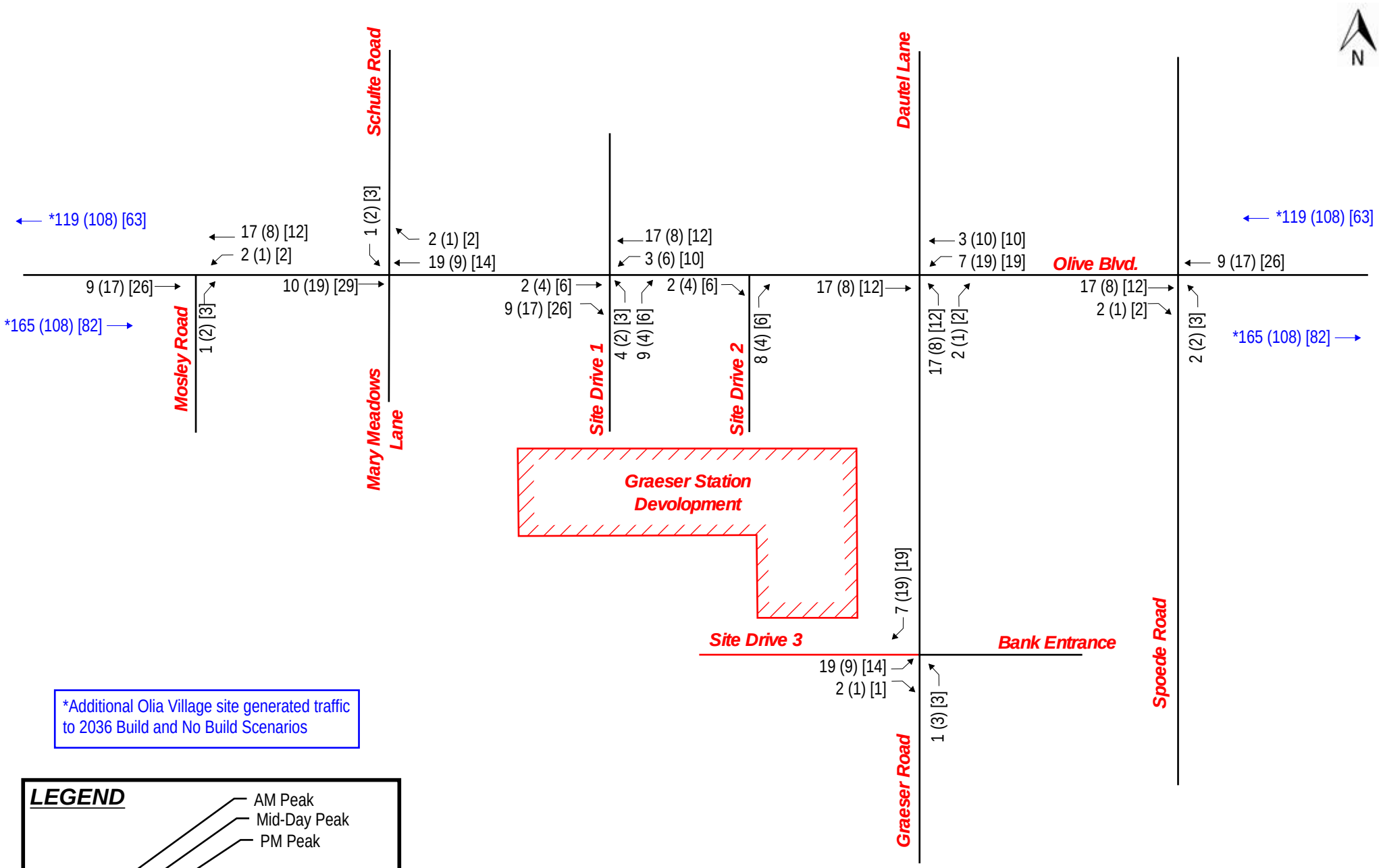
FIGURE 4: RESIDENTIAL AREA HOURLY TRAFFIC DISTRIBUTION



Traffic Distribution and Assignment - Traffic distribution to and from the proposed site will be influenced by the actual land uses, surrounding population centers, employment hubs, major transportation corridors, and existing vehicle patterns. Olive Boulevard will serve as the primary access roadway to the development. To the north of the site are several retail shops and commercial properties; a bank and residential units to the east; a residential neighborhood to the south; and retail stores and residential units to the west. Olive Boulevard and Graeser Road are expected to function as the main access routes for local traffic. It is estimated that 80% of site-generated traffic (both inbound and outbound) will utilize Olive Boulevard to and from the east (40%) and the west (40%). It is also recognized that a portion of the distribution will utilize other linkage route to avoid heavy traffic on Olive Boulevard, namely 5% could use Mosley Road, Spoede Road, and Graeser Road to and from the south; and 5% is expected to use Schulte Road to and from the north. Due to the high through volumes along Olive Boulevard, it is anticipated that most outbound left-turn movements generated by the site will utilize the signalized intersection at Graeser Road and Olive Boulevard by accessing Graeser Road via the South Site Drive 3. The regional trip distribution and local traffic assignments can be seen in **Exhibits 3 and 4.**



Regional and Local Traffic Distribution and Assignment



Site Generated Traffic

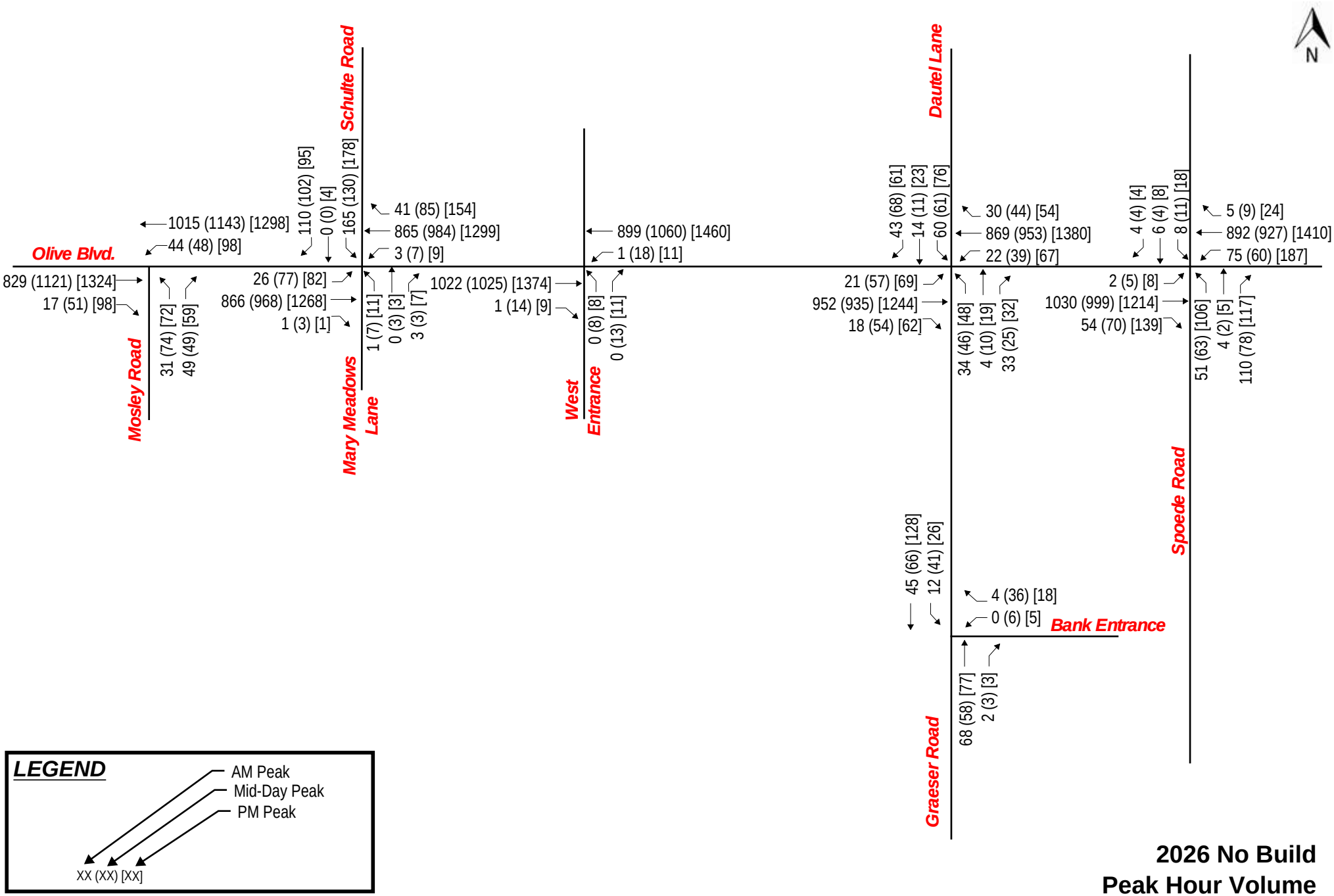
Growth Rate – For transportation planning purposes, a 10-year planning horizon was considered for the traffic analysis. Historical traffic count data from MoDOT ADT maps and previous traffic impact studies were reviewed to estimate the average annual traffic growth rate. This information supports the use of a 0.5% average annual growth rate. However, when reviewing the traffic impact study for the planned development of Olia Village, located at Olive Boulevard and Lindbergh Boulevard and expected to be fully operational by 2028, a 0.5% growth adjustment to existing background traffic would not be enough to account for the new trips associated with Olia Village at full build-out. Therefore, background growth rate of 0.5% was applied in addition to the projected Olia Village trip generation along Olive Boulevard for the 2036 No Build and Build scenarios. Since the Olia Village traffic impact study did not include a mid-day peak analysis, and given the limited availability of mid-day data for this study, a conservative approach was applied. Specifically, 50% of the average of the AM and PM peak volumes from the Olia Village study was added to the 0.5% growth rate along Olive Boulevard. This growth rate adjustment is intended to account for potential increases in traffic volumes generated by future, unplanned developments in the area, such as the anticipated 39 North Development and others in the area and along Olive Boulevard. **Table 5** below presents the comparison of projected traffic volumes at the Olive Boulevard and Spoede Road intersection.

TABLE 5: OLIVE BOULEVARD AND SPOEDE ROAD COMPARISON

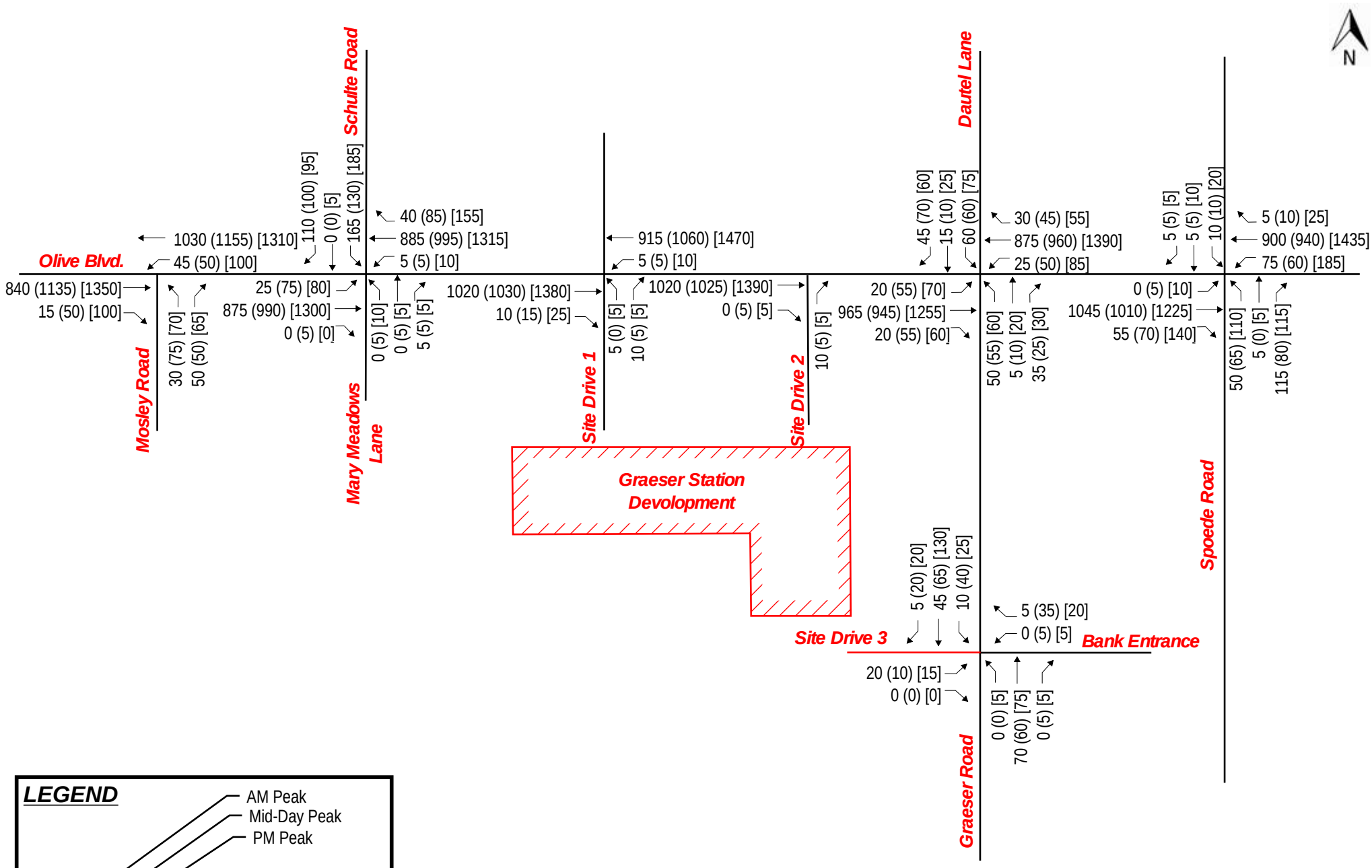
Olia Village Trip Generation and Growth Rate Comparison									
Peak Period/Movement	*TIS*			*0.5%*			*1%*		
	AM	*Mid-day*(1)	*PM*	*AM*	*Mid-day*	*PM*	*AM*	*Mid-day*	*PM*
Additional EB Through	165	108	82	58	56	68	119	115	140
Additional WB Through	119	108	63	50	52	79	103	107	162

(1) Mid-day Data were estimated based on the proposed traffic volumes from the Olia Village TIS.

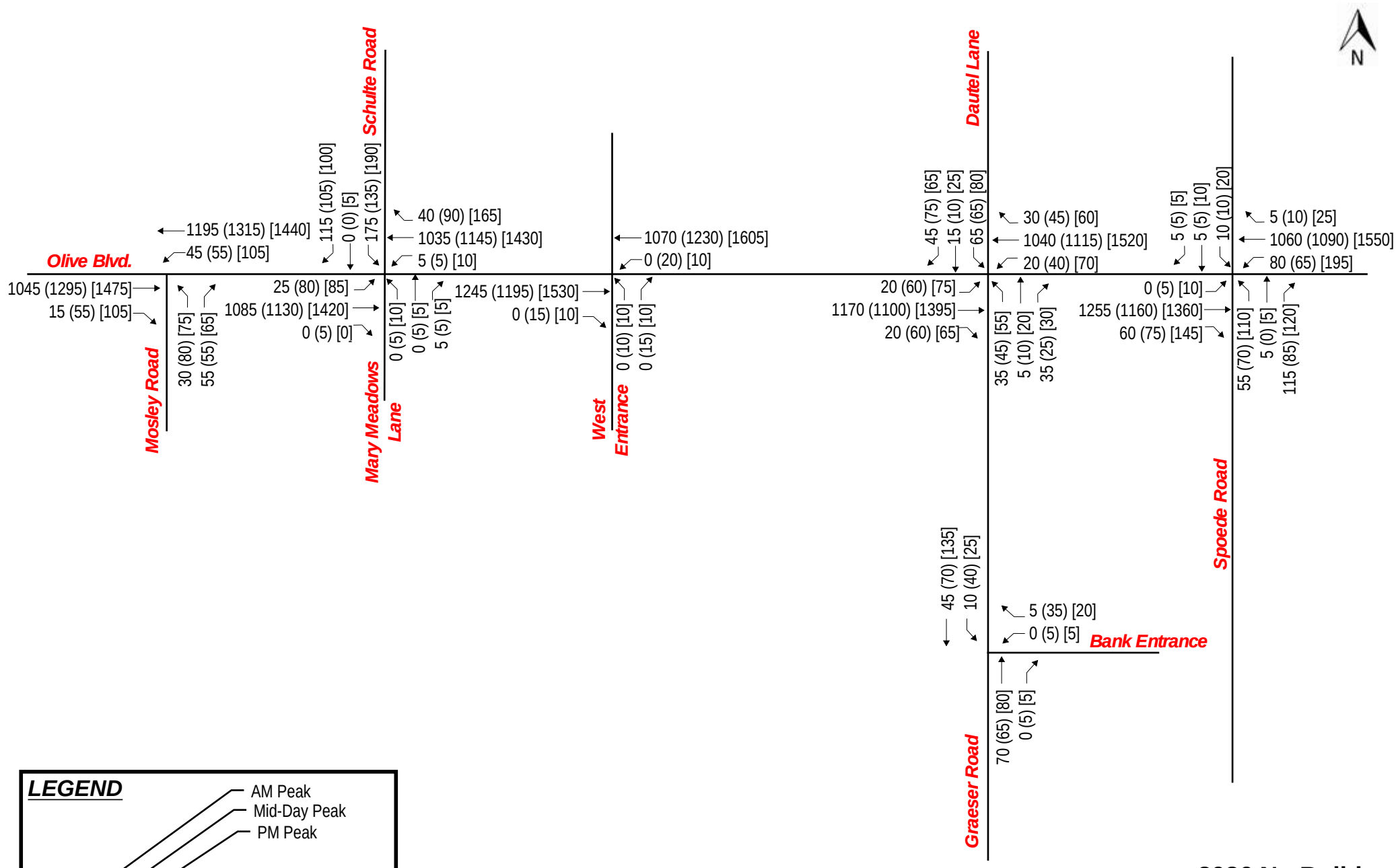
Traffic volume strip maps for the Construction Year 2026 No Build, Construction Year 2026 Build, Future Year 2036 No Build, Future Year 2036 Build, can be seen in **Exhibits 5-8**.



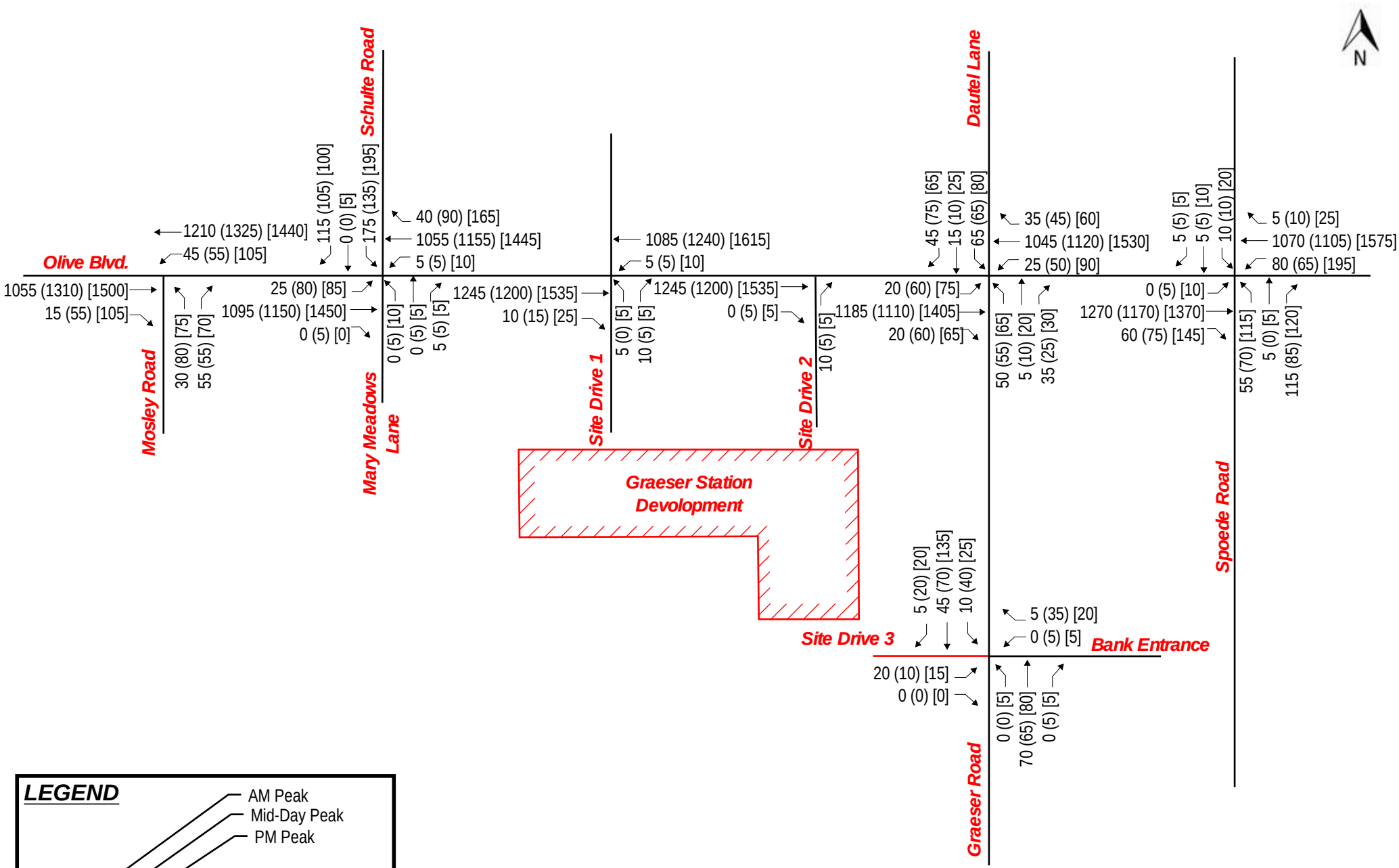
2026 No Build
Peak Hour Volume



2026 Build
Peak Hour Volume



2036 No Build
Peak Hour Volume



2036 Build
Peak Hour Volume

Construction Year 2026, No Build

Olive Boulevard and Mosley Road – Traffic operations at this intersection indicate that all movements operate at LOS B or better, except for the northbound left-turn movement, which operates at LOS E during all peak periods. During the PM peak, the northbound left-turn experiences an average delay of 66.9 seconds per vehicle, with a corresponding queue length of 125 feet.

Olive Boulevard and Schulte Road – Traffic operations indicate that all movements operate at LOS E or better during all peak periods, except for the eastbound left-turn movement during the PM peak, which operates at LOS F, with a delay of 80.7 seconds per vehicle and a queue length of 125 feet during the PM peak.

Olive Boulevard and West Entrance – Traffic operations indicate that all movements operate at LOS C or better during all peak periods, except for the northbound left-turn movement, which operates at LOS F during the Midday and PM peaks, with a delay of 164 seconds per vehicle and a length of 50 feet during the PM peak.

Olive Boulevard and Middle Entrance – Traffic operations indicate that all movements operate at LOS C or better during all peak periods. The northbound right-turn movement during the PM peak operates at LOS C, with an average delay of 15.7 seconds per vehicle and a queue length of 25 feet.

Olive Boulevard and Graeser Road / Dautel Lane – Traffic operations indicate that all movements operate at LOS C during all peak periods, except for the northbound and southbound left-turn movements, which operate at LOS E during all peaks. The southbound left-turn movement during the PM peak experiences an average delay of 74.2 seconds per vehicle, with a queue length of 125 feet, while the northbound left-turn movement has a 67.9-second delay and 100 feet of queue during the PM peak.

Graeser Road and Bank Entrance – Traffic operations indicate that all movements operate at LOS B or better during all peak periods. The westbound left-turn movement during the PM peak records an average delay of 10.4 seconds per vehicle, with no significant queueing observed.

Olive Boulevard and Spoede Road – Traffic operations indicate that all movements operate at LOS D or better during all peak periods, except for the northbound left-through movement, which operates at LOS E during all peaks. The PM peak records the highest delay of 79.3 seconds per vehicle, with a queue length of 175 feet.

The traffic operation delays, LOS, and queues of the Construction Year 2026, No Build Conditions traffic volume scenario can be seen in **Table 6**.

TABLE 6 – CONSTRUCTION YEAR 2026, NO BUILD

Location / Critical Movements	2026 No Build								
	AM Peak Hour			Mid-Day Peak Hour			PM Peak Hour		
	Delay	LOS	Queue	Delay	LOS	Queue	Delay	LOS	Queue
Olive Blvd. and Mosley Road									
EB Thru/Right	5.2	A	150'	4.2	A	125'	5.7	A	175'
WB Left	2.5	A	25'	4.7	A	25'	8.8	A	M25
WB Thru	5.4	A	225'	9.0	A	425'	8.4	A	275'
NB Left	64.5	E	75'	60.8	E	125'	66.9	E	125'
NB Right	18.4	B	25'	15.6	B	50'	15.4	B	50'
Total	**6.7**	**A**		**8.5**	**A**		**9.0**	**A**	
Olive Blvd. and Schulte Road									
EB Left	7.6	A	25'	3.8	A	25'	80.7	F	M125
EB Thru/Right	9.2	A	275'	0.9	A	325'	9.0	A	550'
WB Left	5.7	A	25'	4.6	A	25'	6.1	A	25'
WB Thru/Right	10.6	B	275'	11.2	B	325'	21.7	C	650'
NB Left/Thru/Right	42.2	D	25'	43.6	D	50'	44.2	D	50'
SB Left	73.7	E	225'	70.2	E	175'	75.4	E	250'
SB Thru/Right	1.4	A	12'	1.9	A	0'	10.8	B	50'
Total	**14.7**	**B**		**11.6**	**B**		**21.1**	**C**	
Olive Blvd. and West Entrance									
WB Left	11.5	B	0'	10.8	B	25'	12.7	B	25'
NB Left	0.0	A	0'	56.2	F	25'	164.0	F	50'
NB Right	0.0	A	0'	12.8	B	25'	15.1	C	25'
Olive Blvd. and Middle Entrance									
NB Right	0.0	A	0'	12.9	B	25'	15.7	C	25'

Olive Blvd. and Graeser Road									
EB Left	2.8	A	M25	1.7	A	M25	4.3	A	M25
EB Thru/Right	7.0	A	125'	4.1	A	75'	7.4	A	125'
WB Left	3.2	A	25'	2.3	A	25'	4.7	A	M25
WB Thru	8.2	A	225'	5.1	A	125'	10.6	B	475'
WB Right	0.6	A	25'	0.5	A	0'	0.8	A	M25
NB Left	59.7	E	75'	61.8	E	75'	67.9	E	100'
NB Thru/Right	19.5	B	50'	24.8	C	50'	26.1	C	50'
SB Left	73.2	E	100'	64.9	E	100'	74.2	E	125'
SB Thru/Right	22.7	C	50'	19.3	B	75'	22.3	C	75'
Total	**11.1**	**B**		**8.2**	**A**		**12.6**	**B**	
Graeser Road and Bank Entrance									
WB Left	0.0	A	0'	10.0	B	0'	10.4	B	0'
WB Right	8.8	A	0'	8.8	A	25'	9.0	A	25'
SB Left	7.4	A	0'	7.4	A	25'	7.5	A	25'
Olive Blvd. and Spoede Road									
EB Left	3.5	A	M25	2.6	A	M25	1.2	A	M25
EB Thru/Right	17.1	B	575'	10.6	B	400'	15.0	B	375'
WB Left	5.1	A	M25	2.8	A	M25	21.2	C	M175
WB Thru	2.6	A	75'	2.2	A	M75	3.5	A	150'
WB Right	0.0	A	M0	0.0	A	M0	0.0	A	M0
NB Left/Thru	74.8	E	100'	68.8	E	100'	79.3	E	175'
NB Right	24.4	C	100'	7.7	A	50'	11.7	B	75'
SB Left	53.2	D	25'	49.0	D	25'	51.8	D	50'
SB Thru/Right	38.9	D	25'	33.2	C	25'	36.5	D	25'
Total	**12.7**	**B**		**9.1**	**A**		**12.7**	**B**	

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Construction Year 2026, Build

Olive Boulevard and Mosley Road – Traffic operations and queues at this intersection are expected to degrade slightly due to increased traffic. With no changes to the LOS during all peaks, the average intersection delay is expected to increase by up to one second.

Olive Boulevard and Schulte Road – Traffic operations and queues at this intersection are expected to degrade slightly due to increased traffic. With no changes to the LOS during all peaks, except for the eastbound left turn movement which is expected to improve from F to E during the PM peak, the average intersection delay is expected to increase by up to one second.

Olive Boulevard and Site Drive 1 – Traffic operations and queues at this intersection are expected to improve slightly due to the changes in traffic volumes. With the AM peak seeing high improvement, and the PM peak improving from 168.3 seconds of delay to 139.9 seconds of delay and 25 feet of queue.

Olive Boulevard and Site Drive 2 – Traffic operations and queues at this intersection are expected to degrade slightly due to increased traffic. With no changes to the LOS during all peaks except for the AM peak which is expected to degrade from A to B.

Olive Boulevard and Graeser Road / Dautel Lane – Traffic operations and queues at this intersection are expected to degrade slightly due to increased traffic. With no changes to the LOS during all peaks, the average intersection delay is expected to increase by up to two seconds. The northbound left turn movement delay is expected to increase to 79.3 sec/veh at a LOS E, with 100 feet of queue.

Graeser Road and Bank Entrance / South Entrance – Traffic operations indicate that all movements operate at LOS B or better during all peak periods. The eastbound left-turn movement during the PM peak records the highest dealt with 11 seconds of delay per vehicle and 25 feet of queue.

Olive Boulevard and Spoede Road – Traffic operations and queues at this intersection are expected to degrade slightly due to increased traffic. With no changes to the LOS during all peaks, except for the northbound left turn movement during the PM peak, which is expected to degrade from E to F, however, the average intersection delay is expected to improve by up to a second.

The traffic operation delays, LOS, and queues of the Construction Year 2026, Build Conditions traffic volume scenario can be seen in **Table 7**.

TABLE 7 – CONSTRUCTION YEAR 2026, BUILD

Location / Critical Movements	2026 Build								
	AM Peak Hour			Mid-Day Peak Hour			PM Peak Hour		
	Delay	LOS	Queue	Delay	LOS	Queue	Delay	LOS	Queue
Olive Blvd. and Mosley Road									
EB Thru/Right	5.2	A	150'	4.2	A	125'	5.7	A	175'
WB Left	2.4	A	25'	4.8	A	25'	9.4	A	M25
WB Thru	5.4	A	200'	9.2	A	425'	7.1	A	250'
NB Left	64.5	E	75'	60.8	E	125'	66.9	E	125'
NB Right	18.6	B	25'	15.5	B	50'	15.2	B	50'
Total	**6.7**	**A**		**8.6**	**A**		**8.4**	**A**	
Olive Blvd. and Schulte Road									
EB Left	7.7	A	25'	3.7	A	25'	79.6	E	M125
EB Thru/Right	9.3	A	275'	4.9	A	350'	9.5	A	575'
WB Left	5.8	A	25'	4.6	A	25'	6.2	A	25'
WB Thru/Right	10.7	B	300'	11.3	B	325'	21.1	C	650'
NB Left/Thru/Right	42.6	D	25'	43.6	D	50'	43.6	D	50'
SB Left	73.7	E	225'	70.2	E	175'	76.2	E	250'
SB Thru/Right	1.4	A	0'	1.9	A	0'	10.9	B	75'
Total	**14.7**	**B**		**11.6**	**B**		**21.0**	**C**	
Olive Blvd. and Site Drive 1									
WB Left	11.6	B	0'	10.7	B	0'	12.8	B	25'
NB Left	67.9	F	25'	0.0	A	0'	139.9	F	25'
NB Right	13.7	B	25'	12.6	B	25'	15.0	C	25'
Olive Blvd. and Site Drive 2									
NB Right	12.9	B	25'	0.0	A	0'	15.7	C	0'

Olive Blvd. and Graeser Road									
EB Left	2.8	A	M25	1.7	A	M25	4.5	A	M25
EB Thru/Right	7.1	A	125'	4.1	A	75'	8.6	A	125'
WB Left	3.3	A	25'	2.5	A	25'	6.6	A	M25
WB Thru	8.3	A	225'	5.3	A	125'	10.8	B	500'
WB Right	0.6	A	25'	0.5	A	0'	0.8	A	M25
NB Left	67.4	E	100'	65.7	E	100'	79.3	E	100'
NB Thru/Right	19.4	B	50'	24.6	C	50'	27.3	C	50'
SB Left	73.1	E	100'	63.5	E	100'	73.7	E	125'
SB Thru/Right	22.6	C	50'	18.5	B	75'	23.3	C	75'
Total	**11.7**	**B**		**8.5**	**A**		**13.8**	**B**	
Graeser Road and Bank Entrance/Site Drive 3									
EB Left	9.8	A	25'	10.5	B	0'	11.0	B	25'
WB Left	0.0	A	0'	10.3	B	0'	10.8	B	0'
WB Right	8.8	A	0'	8.8	A	25'	9.0	A	25'
NB Left	0.0	A	0'	0.0	A	0'	0.0	A	0'
SB Left	7.4	A	0'	7.4	A	25'	7.5	A	25'
Olive Blvd. and Spoede Road									
EB Left	0.0	A	0'	2.4	A	M25	1.3	A	M25
EB Thru/Right	17.1	B	550'	10.3	B	375'	14.2	B	375'
WB Left	5.2	A	M25	2.8	A	M25	22.2	C	M175
WB Thru	2.7	A	75'	2.2	A	M75	3.6	A	150'
WB Right	0.0	A	M0	0.0	A	M0	0.0	A	M0
NB Left/Thru	74.5	E	100'	67.9	E	100'	80.2	F	175'
NB Right	26.4	C	100'	7.8	A	50'	11.4	B	75'
SB Left	54.1	D	25'	49.2	D	25'	52.2	D	50'
SB Thru/Right	35.8	D	25'	33.1	C	25'	36.8	D	50'
Total	**12.9**	**B**		**8.9**	**A**		**12.7**	**B**	

Future Year 2036, No Build

Olive Boulevard and Mosley Road – Traffic operations at this intersection indicate that all movements operate at LOS B or better, except for the northbound left-turn movement, which operates at LOS E during all peak periods. During the PM peak, the northbound left-turn experiences an average delay of 67.1 seconds per vehicle, with a corresponding queue length of 125 feet.

Olive Boulevard and Schulte Road – Traffic operations indicate that all movements operate at LOS E or better during all peak periods, with the eastbound left-turn movement during the PM peak operating with a delay of 78.8 seconds per vehicle and a queue length of 125 feet during the PM peak.

Olive Boulevard and West Entrance – Traffic operations indicate that all movements operate at LOS C or better during all peak periods, except for the northbound left-turn movement, which operates at LOS F during the Midday and PM peaks, with a delay of 332.2 seconds per vehicle and a length of 75 feet during the PM peak.

Olive Boulevard and Middle Entrance – Traffic operations indicate that all movements operate at LOS C or better during all peak periods. The northbound right-turn movement during the PM peak operates at LOS C, with an average delay of 17.4 seconds per vehicle and a queue length of 25 feet.

Olive Boulevard and Graeser Road / Dautel Lane – Traffic operations indicate that all movements operate at LOS C during all peak periods, except for the northbound and southbound left-turn movements, which operate at LOS E during all peaks. The southbound left-turn movement during the PM peak experiences an average delay of 75.2 seconds per vehicle, with a queue length of 125 feet, while the northbound left-turn movement has a 73.9-second delay and 100 feet of queue during the PM peak.

Graeser Road and Bank Entrance – Traffic operations indicate that all movements operate at LOS B or better during all peak periods. The westbound left-turn movement during the PM peak records an average delay of 10.5 seconds per vehicle, with no significant queuing observed.

Olive Boulevard and Spoede Road – Traffic operations indicate that all movements operate at LOS E or better during all peak periods, except for the northbound left-through movement, which operates at LOS F during all peaks. The PM peak records the highest delay of 80.2 seconds per vehicle, with a queue length of 175 feet.

The traffic operation delays, LOS, and queues of the Future Year 2036, No Build Conditions traffic volume scenario can be seen in **Table 8**.

TABLE 8 – FUTURE YEAR 2036, NO BUILD

Location / Critical Movements	2036 No Build								
	AM Peak Hour			Mid-Day Peak Hour			PM Peak Hour		
	Delay	LOS	Queue	Delay	LOS	Queue	Delay	LOS	Queue
Olive Blvd. and Mosley Road									
EB Thru/Right	6.0	A	175'	4.5	A	150'	6.4	A	200'
WB Left	2.9	A	25'	5.1	A	M25	14.0	B	M50
WB Thru	6.8	A	200'	10.0	B	500'	8.9	A	375'
NB Left	64.5	E	75'	61.1	E	125'	67.1	E	125'
NB Right	18.4	B	25'	15.0	B	50'	14.9	B	50'
Total	**7.6**	**A**		**9.0**	**A**		**9.7**	**A**	
Olive Blvd. and Schulte Road									
EB Left	7.9	A	M25	4.8	A	25'	78.8	E	M125
EB Thru/Right	10.9	B	475'	5.6	A	425'	10.6	B	725'
WB Left	6.2	A	25'	4.6	A	25'	6.4	A	25'
WB Thru/Right	12.3	B	375'	12.9	B	400'	24.3	C	775'
NB Left/Thru/Right	41.6	D	25'	43.3	D	50'	43.4	D	50'
SB Left	73.4	E	225'	71.2	E	200'	76.7	E	250'
SB Thru/Right	1.6	A	0'	3.9	A	25'	10.7	B	75'
Total	**15.6**	**B**		**12.5**	**B**		**23.6**	**C**	
Olive Blvd. and West Entrance									
WB Left	0.0	A	0'	11.7	B	25'	13.9	B	25'
NB Left	0.0	A	0'	96.7	F	50'	332.2	F	75'
NB Right	0.0	A	0'	13.9	B	25'	16.5	C	25'
Olive Blvd. and Middle Entrance									
NB Right	0.0	A	0'	13.9	B	25'	17.4	C	25'

Olive Blvd. and Graeser Road									
EB Left	2.8	A	M25	2.0	A	M25	7.8	A	M50
EB Thru/Right	8.1	A	150'	4.4	A	100'	8.3	A	125'
WB Left	3.6	A	M25	2.5	A	25'	7.2	A	M25
WB Thru	11.1	B	375'	5.4	A	150'	13.5	B	750'
WB Right	0.7	A	25'	0.4	A	0'	1.0	A	M25
NB Left	58.5	E	75'	60.3	E	75'	73.9	E	100'
NB Thru/Right	18.9	B	50'	24.5	C	50'	27.0	C	50'
SB Left	73.3	E	100'	65.5	E	100'	75.2	E	125'
SB Thru/Right	22.0	C	50'	18.1	B	75'	22.4	C	75'
Total	**12.5**	**B**		**8.0**	**A**		**14.5**	**B**	
Graeser Road and Bank Entrance									
WB Left	0.0	A	0'	10.1	B	0'	10.5	B	0'
WB Right	8.8	A	0'	8.8	A	25'	9.0	A	25'
SB Left	7.4	A	0'	7.5	A	25'	7.5	A	25'
Olive Blvd. and Spoede Road									
EB Left	0.0	A	0'	2.4	A	M25	1.3	A	M25
EB Thru/Right	19.9	B	625'	11.6	B	475'	18.1	B	#600
WB Left	10.4	B	M25	3.2	A	M25	24.6	C	M175
WB Thru	3.1	A	100'	2.3	A	M75	4.1	A	175'
WB Right	0.0	A	M0	0.0	A	M0	0.0	A	M0
NB Left/Thru	75.2	E	100'	68.6	E	125'	80.2	F	175'
NB Right	29.3	C	100'	13.9	B	50'	12.0	B	75'
SB Left	53.2	D	25'	48.6	D	25'	52.2	D	50'
SB Thru/Right	35.2	D	25'	32.7	C	25'	36.8	D	50'
Total	**14.6**	**B**		**9.7**	**A**		**14.4**	**B**	

Future Year 2036, Build

Olive Boulevard and Mosley Road – Traffic operations and queues at this intersection are expected to degrade slightly due to increased traffic. With no changes to the LOS during all peaks, the average intersection delay is expected to increase by up to one second.

Olive Boulevard and Schulte Road – Traffic operations and queues at this intersection are expected to degrade slightly due to increased traffic. With no changes to the LOS during all peaks, except for the eastbound left turn movement which is expected to degrade from E to F during the PM peak, the average intersection delay is expected to increase by up to one second.

Olive Boulevard and Site Drive 1 – Traffic operations and queues at this intersection are expected to improve slightly due to the changes in traffic volumes. With the midday peak seeing high improvement, and the PM peak improving from 336.5 seconds of delay to 228.3 seconds of delay and 50 feet of queue.

Olive Boulevard and Site Drive 2 – Traffic operations and queues at this intersection are expected to degrade slightly due to increased traffic. With no changes to the LOS during all peaks except for the AM peak which is expected to degrade from A to B.

Olive Boulevard and Graeser Road / Dautel Lane – Traffic operations and queues at this intersection are expected to degrade slightly due to increased traffic. With no changes to the LOS during all peaks except for the northbound left turn movement during the PM peak, which degraded from E to F, the average intersection delay is expected to increase by up to two seconds. **The northbound left turn movement delay is expected to increase to 82.9 sec/veh at a LOS F, with 100 feet of queue.**

Graeser Road and Bank Entrance / Site Drive 3 – Traffic operations indicate that all movements operate at LOS B or better during all peak periods. The eastbound left-turn movement during the PM peak records the highest delay with 11 seconds of delay per vehicle and 25 feet of queue.

Olive Boulevard and Spoede Road – Traffic operations and queues at this intersection are expected to degrade slightly due to increased traffic. With no changes to the LOS during all peaks, except for the northbound left turn movement during the PM peak, which is expected to degrade from E to F, with the average intersection delay is expected to decrease by up to a second.

The traffic operation delays, LOS, and queues of the Future Year 2036, Build Conditions traffic volume scenario can be seen in **Table 9**.

TABLE 9 – FUTURE YEAR 2036, BUILD

Location / Critical Movements	2036 Build								
	AM Peak Hour			Mid-Day Peak Hour			PM Peak Hour		
	Delay	LOS	Queue	Delay	LOS	Queue	Delay	LOS	Queue
Olive Blvd. and Mosley Road									
EB Thru/Right	6.0	A	175'	4.6	A	150'	6.5	A	200'
WB Left	2.9	A	25'	5.1	A	M25	15.6	B	M50
WB Thru	6.9	A	200'	10.0	B	525'	8.7	A	400'
NB Left	64.5	E	75'	61.1	E	125'	67.1	E	125'
NB Right	18.4	B	25'	15.0	B	50'	14.8	B	50'
Total	**7.6**	**A**		**9.0**	**A**		**9.7**	**A**	
Olive Blvd. and Schulte Road									
EB Left	7.8	A	M25	4.8	A	M25	78.0	E	M100
EB Thru/Right	11.0	B	475'	5.7	A	425'	11.1	B	750'
WB Left	6.2	A	25'	4.6	A	25'	6.4	A	25'
WB Thru/Right	12.4	B	375'	12.6	B	400'	26.9	C	775'
NB Left/Thru/Right	41.6	D	25'	43.3	D	50'	43.2	D	50'
SB Left	73.4	E	225'	71.2	E	200'	77.3	E	250'
SB Thru/Right	1.8	A	25'	4.0	A	25'	10.6	B	75'
Total	**15.7**	**B**		**12.6**	**B**		**24.1**	**C**	
Olive Blvd. and Site Drive 1									
WB Left	13.5	B	0'	11.7	B	0'	14.1	B	25'
NB Left	130.3	F	25'	0.0	A	0'	228.3	F	50'
NB Right	15.8	B	25'	13.8	B	25'	16.3	C	25'
Olive Blvd. and Site Drive 2									
NB Right	14.6	B	25'	0.0	A	0'	17.2	C	25'

Olive Blvd. and Graeser Road									
EB Left	2.8	A	M25	1.9	A	M25	8.2	A	M50
EB Thru/Right	8.2	A	150'	4.3	A	100'	10.0	B	125'
WB Left	3.8	A	25'	2.7	A	25'	11.0	B	M50
WB Thru	11.2	B	375'	5.4	A	150'	13.9	B	775'
WB Right	0.8	A	25'	0.4	A	0'	1.0	A	M25
NB Left	64.9	E	100'	65.3	E	100'	82.9	F	100'
NB Thru/Right	18.9	B	50'	24.5	C	50'	26.8	C	50'
SB Left	73.3	E	100'	65.5	E	100'	73.9	E	125'
SB Thru/Right	22.0	C	50'	18.1	B	75'	22.2	C	75'
Total	**12.9**	**B**		**8.3**	**A**		**15.8**	**B**	
Graeser Road and Bank Entrance /Site Drive 3									
EB Left	9.8	A	25'	10.5	B	0'	11.0	B	25'
WB Left	0.0	A	0'	10.3	B	0'	10.8	B	0'
WB Right	8.8	A	0'	8.8	A	25'	9.0	A	25'
NB Left	0.0	A	0'	0.0	A	0'	0.0	A	0'
SB Left	7.4	A	0'	7.4	A	25'	7.5	A	25'
Olive Blvd. and Spoede Road									
EB Left	0.0	A	0'	2.2	A	M25	1.3	A	M25
EB Thru/Right	21.0	C	725'	11.6	B	450'	17.5	B	#675
WB Left	16.0	B	M25	3.2	A	M25	24.8	C	M175
WB Thru	3.3	A	100'	2.3	A	M75	4.3	A	175'
WB Right	0.0	A	M0	0.0	A	M0	0.0	A	M0
NB Left/Thru	75.2	E	100'	68.6	E	125'	81.2	F	200'
NB Right	33.2	C	125'	14.4	B	75'	11.8	B	75'
SB Left	53.2	D	25'	48.6	D	25'	52.0	D	50'
SB Thru/Right	35.2	D	25'	32.7	C	25'	36.6	D	50'
Total	**15.4**	**B**		**9.7**	**A**		**14.3**	**B**	

Proposed Improvements

To reduce delays and queue lengths at the study intersections and to enhance overall safety, two improvement alternatives were evaluated. This section describes the proposed improvements, analyzes their operational impacts, and compares the results to the no-improvement scenarios. The evaluation focuses on the PM peak hour, as this period exhibits the highest delays and queue lengths among all analyzed peak periods.

Three-Quarter Access at Site Drive 1

Crash data provided by MoDOT has indicated multiple crashes involving northbound left turns at the unsignalized west access, particularly when the raised median was constructed around the 2011 timeframe. Due to the curvature of Olive Boulevard, eastbound queued vehicles at the Graeser/Dautel signal can block the view for northbound motorists attempting to turn left. A three-quarter access (i.e., right-in, right-out, left-in) would address safety concerns at this intersection as part of this development. As part of the proposed improvements and to enhance roadway safety, it is operationally and technically preferable to reroute left-turn movements exiting the site toward Olive Boulevard from Site Drive 1 to the Graeser Road and Olive Boulevard signalized intersection via Graeser Road and Site Drive 3. The projected left-turn volumes using Site Drive 1 are relatively low, ranging from approximately 5 to 10 vehicles during the PM peak hour. When combined with the second improvement alternative described below, the additional traffic is anticipated to have a minimal impact on operations at the Graeser Road and Olive Boulevard intersection. This modification is expected to improve safety and overall operations at Site Drive 1 without materially degrading operations at adjacent intersections.

Corridor Optimization – Left-Turn Control Modifications

The existing lane configuration for the northbound and southbound movements at Graeser Road and Dautel Lane consists of dedicated left turn lanes; however, the signal phasing only allows for permissive lefts only. This can create sight visibility issues for left turn motorists when the opposing left turn lane is occupied, especially at this location where the left turn volume exceeds 50 vph during many peak hours throughout the day. To ensure the effectiveness of the proposed access modification and to avoid adverse impacts to nearby intersections, corridor signal optimization was evaluated. This optimization includes implementing northbound and southbound protected/permissive left-turn phasing at the Graeser Road and Olive Boulevard intersection. The proposed signal control modifications are expected to improve safety, reduce queue lengths, and decrease delays at both the Graeser Road/Olive Boulevard and Spoede Road/Olive Boulevard intersections, while keeping the same cycle length during the PM peak at 130 seconds. The following discussion presents the operational impacts of the proposed improvements, including the additional left-turn volumes introduced at the Graeser Road and Olive Boulevard intersection as a result of the three-quarter access configuration.

Future Year 2036, Build, Optimized

This section discusses the effects of optimizing the roadway network surrounding the development and evaluates the resulting impacts on study intersections in terms of delay, queue lengths, and LOS during the PM peak.

Olive Boulevard and Mosley Road – Traffic operations and queues at this intersection are expected to improve slightly due to the optimization. With no changes to the LOS during the PM peak, the average intersection delay is expected to decrease by up to two seconds.

Olive Boulevard and Schulte Road – Traffic operations and queues at this intersection are expected to improve slightly due to the optimization. With no changes to the LOS during the PM peak, the average intersection delay is expected to decrease by up to one second

Olive Boulevard and Site Drive 1 – Traffic operations and queues at this intersection are expected to improve slightly due to the changes in traffic volumes. Prohibiting left turns out of the development into Olive Boulevard, the intersection will operate at LOS C or better during the PM peak.

Olive Boulevard and Site Drive 2 – Traffic operations and queues at this intersection are expected to remain the same.

Olive Boulevard and Graeser Road / Dautel Lane – Traffic operations and queues at this intersection are expected to improve significantly due to the optimization. With all movements operating at LOS E or better during the PM peak, with the left-turn volumes rerouted from Site Drive 1, the northbound left-turn movement is projected to operate at LOS E with an average delay of 66.8 seconds and an estimated queue length of approximately 100 feet. The mainline movements are expected to continue operating at LOS B or better, with improved queuing conditions, as westbound through-movement queues are reduced from approximately 775 feet to approximately 375 feet during the optimized PM peak hour.

Graeser Road and Bank Entrance / Site Drive 3 – Traffic operations and queues at this intersection are expected to remain the same.

Olive Boulevard and Spoede Road – Traffic operations and queues at this intersection are expected to improve significantly due to the optimization. With all movements operating at LOS E or better during the PM optimized peak, with the northbound left/through movement operating at 74.8 seconds of delay and 175 feet of queue.

The traffic operation delays, LOS, and queues of the Future Year 2036, Build traffic volume scenario, with proposed improvements listed above, can be seen in **Table 10**.

TABLE 10 – FUTURE YEAR 2036, BUILD, PROPOSED IMPROVEMENTS

Location / Critical Movements	2036 Build - Optimized		
	PM Peak Hour		
	Delay	LOS	Queue
Olive Blvd. and Mosley Road			
EB Thru/Right	3.7	A	125'
WB Left	14.5	B	M50
WB Thru	8.3	A	425'
NB Left	67.0	E	125'
NB Right	14.8	B	50'
Total	**8.1**	**A**	
Olive Blvd. and Schulte Road			
EB Left	76.6	E	M125
EB Thru/Right	11.8	B	450'
WB Left	6.9	A	25'
WB Thru/Right	25.2	C	725'
NB Left/Thru/Right	43.5	D	50'
SB Left	78.7	E	275'
SB Thru/Right	10.8	B	75'
Total	**23.7**	**C**	
Olive Blvd. and West Drive			
WB Left	14.1	B	25'
NB Right	16.3	C	25'
Olive Blvd. and East Drive			
NB Right	17.2	C	25'

Olive Blvd. and Graeser Road			
EB Left	8.5	A	M25
EB Thru/Right	4.1	A	125'
WB Left	12.3	B	M25
WB Thru	9.1	A	375'
WB Right	0.4	A	M25
NB Left	66.8	E	100'
NB Thru/Right	34.0	C	50'
SB Left	65.7	E	125'
SB Thru/Right	32.0	C	75'
Total	**11.3**	**B**	
Graeser Road and Bank Drive			
EB Left	11.1	B	25'
WB Left	10.8	B	0'
WB Right	9.0	A	25'
NB Left	0.0	A	0'
SB Left	7.5	A	25'
Olive Blvd. and Spoede Road			
EB Left	1.8	A	M25
EB Thru/Right	8.0	A	300'
WB Left	43.6	D	M#250
WB Thru	6.1	A	250'
WB Right	0.0	A	M0
NB Left/Thru	74.8	E	175'
NB Right	15.4	B	100'
SB Left	49.8	D	50'
SB Thru/Right	35.1	D	25'
Total	**12.1**	**B**	

Conclusion and Recommendations

A comprehensive review was conducted to evaluate the potential traffic impacts of the proposed Graeser Station development on the adjacent street network. The analysis included an assessment of existing traffic conditions, trip generation, traffic assignment, intersection levels of service (LOS), and expected vehicle queues. Traffic conditions were analyzed for five scenarios: Existing Year 2025, Construction Year 2026 No Build, Construction Year 2026 Build, Future Year 2036 No Build, and Future Year 2036 Build. Each scenario was evaluated during the morning, mid-day, and evening weekday peak periods.

The proposed development will consist of 160 residential units (38 studios, 112 one-bedroom units, and 10 two-bedroom units), a 3,000-square-foot restaurant, and 7,000 square feet of commercial/retail space. The development will utilize two existing access points to the north and construct a new southern access aligned with the First Community Credit Union driveway. Primary access to the site will be provided via Olive Boulevard and Graeser Road.

Trip generation for the Graeser development was estimated using the *ITE Trip Generation Manual*. The development is projected to generate approximately 65 new inbound and outbound trips during the morning peak hours and 94 new trips during the afternoon peak hours. Mid-day peak trip generation was not available in the *ITE Trip Generation Manual*; therefore, it was estimated using an alternative source (**Figure 4**), resulting in approximately 63 inbound and outbound trips during this period.

A 0.5% annual growth rate was applied to the eastbound and westbound through traffic volumes along Olive Boulevard to account for background growth. Given the nature and scale of the nearby, future Olia Village development, the traffic volumes projected to be generated by Olia Village were added on top of the 0.5% growth rate for both the 2036 No-Build and Build scenarios.

Although some intersections may experience higher delays due to the proposed development, the overall degradation of traffic flow from existing conditions should be minimal due to existing congestion along the corridor. The northbound left turn movement at Graeser will eventually degrade to a LOS F with the future 2036 volume scenario; however, corridor-wide signal timing adjustments in the future by MoDOT should address these concerns. The unsignalized northbound movements at Site Drive 1 are expected to operate at LOS F, but this is common for driveways along major arterials where signalization is not feasible. Vehicle queueing analysis indicated that at locations with dedicated left turn bays, the 95th percentile queues are not expected to extend beyond the available storage.

Therefore, the following modifications to the existing street network are recommended:

Three-Quarter Access - Restricting northbound left turns from Site Drive 1 into Olive Boulevard should increase safety for roadway users and reduce delays

Protected/Permissive Left Turn Phasing - Implementing protected/permissive northbound and southbound left turn phasing at Graeser/Dautel and signal timing modifications would help reduce delays and queues along the corridor would improve overall intersection efficiency along the intersection.

This traffic impact study should address the traffic impacts associated with the proposed Graeser development. If you should have any questions about this traffic impact study, please contact us at 636.812.4211.

Appendix A – Scoping Meeting Notes

HRGreen

MEETING NOTES

Project: Creve Coeur Multi-Family/Retail

Project #: 2403633.03

Date: June 18, 2025

Time: 10:00 AM

Location: MoDOT St. Louis District TMC

Subject: Traffic Impact Study Scoping Meeting

Notes

A traffic impact study scoping meeting was held at MoDOT TMC on June 18, 2025 to discuss the proposed redevelopment at the intersection of Olive Boulevard (Route 340) and Graeser Road. The following represents our understanding of the meeting discussion. If there are any misrepresentations or omission of discussion items, please notify Dan Shane within one week of receipt of these notes.

1. Attendees:
    a. Joe Dimartino – HDA
    b. Jay Jay Braden – MoDOT
    c. Rob Meyer – MoDOT
    d. James Connell – MoDOT
    e. Bethany Moore – City of Creve Coeur
    f. Ryan Pearcy – MoDOT (Virtual)
    g. Louis Copilevitz – Gershman CRE (Virtua)
    h. Shayla Meehan – Steadfast City (Virtual)
    i. Lenny Meers – Grimes Engineering
    j. Steve Berecz – City of Creve Coeur
    k. Dan Shane – HR Green

2. Project Description – 4 story MF (166 units) with retail (8,200 sf)
    a. Joe indicated the site plan has been updated with slight modifications (168 units and 10,564 retail). Joe sent updated plan out by email
    b. Study Area – southwest quadrant of Olive Boulevard and Graeser Road
    c. Impacted Streets – Olive Boulevard and Graeser Road
    d. Existing/Proposed Access – Removing 2 access points along Graeser, with primary access lined up across from bank. Removing easternmost access point along Olive, using existing full access and RIRO

3. Identify Study Intersections
    a. Olive and Graeser
    b. Olive and Spoede
    c. Olive and Schuetz
    d. Olive and Mosley
    e. Ex. and proposed site drives

4. Existing traffic data available – counts, nearby studies, etc.
    a. MoDOT does not have current counts in the area
    b. City will provide Olia Village TIS, has 2023 counts at Spoede

5. Traffic Data Collection – impacts of schools
    a. MoDOT indicated that summer traffic volumes are lower than normal volume patterns due to schools not being in session, and recommends waiting until the last week of August or into September to record new traffic counts
    b. Traffic counts could be impacted by construction in the area, but should be limited to sidewalk construction in August or September timeframe
    c. Developer timeline is due diligence in December 2025
    d. City indicated about 8 weeks approval process from date of submittal
    e. Dan indicated counts could be conducted during summer months and adjusted based on 2023 counts provided as part of Olia Village study at Spoede, which were recorded during non-summer period. This methodology was not considered viable for this project.
    f. New traffic counts will be recorded in late August to September, but not during week of Labor Day

6. Traffic Volume Scenarios
    a. Build, No Build open year 2026
    b. No need for future growth projection scenarios per MoDOT

7. Peak Hours of Analysis - AM, Midday, PM

8. Trip Generation and Distribution
    a. ITE Rates will be sufficient; Specialty Retail (or Variety Store) will be acceptable for development of retail space
    b. Pass by trips – none
    c. Internal Capture – most of retail is designed to capture tenants; however, there will be some external trips generated. ITE methodology will be used to estimate internal capture trips

9. Capacity Analysis Tools/MOE's
    a. Synchro will be used as analysis tool

b. MoDOT will provide most current Route 340 Synchro models to be used for analysis
c. MOE's will include delay, level-of-service, and 9a5th percentile queues

10. Report/Deliverables for approvals
    a. No technical memorandum needed
    b. Submit draft report to Jay Jay and he will distribute to MoDOT area team for review and approval

Appendix B – Traffic Volume Data

Leg	Graeser Rd						First Community Credit Union Entrance						Graeser Rd						
Direction	Southbound						Westbound						Northbound						
Start Time	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	U-Turn	**App Total**	Peds CW	Peds CCW	**Int Total**
2025-08-26 06:30:00	5	2	0	**7**	0	0	0	0	0	**0**	0	1	0	8	0	**8**	0	0	**15**
2025-08-26 06:45:00	11	0	0	**11**	0	0	1	1	0	**2**	1	1	0	11	0	**11**	0	0	**24**
2025-08-26 07:00:00	14	4	0	**18**	0	0	1	0	0	**1**	1	0	1	6	0	**7**	0	0	**26**
2025-08-26 07:15:00	10	3	0	**13**	0	0	2	0	0	**2**	2	2	0	16	0	**16**	0	0	**31**
2025-08-26 07:30:00	10	2	0	**12**	0	0	1	0	0	**1**	2	2	0	24	0	**24**	0	0	**37**
2025-08-26 07:45:00	11	3	0	**14**	0	0	0	0	0	**0**	0	0	1	22	0	**23**	0	0	**37**
2025-08-26 11:00:00	14	9	0	**23**	0	0	5	1	0	**6**	0	0	0	14	0	**14**	0	0	**43**
2025-08-26 11:15:00	15	10	1	**26**	0	0	8	1	0	**9**	2	0	1	9	0	**10**	0	0	**45**
2025-08-26 11:30:00	16	8	0	**24**	0	0	10	2	0	**12**	0	0	0	17	0	**17**	0	0	**53**
2025-08-26 11:45:00	15	11	0	**26**	0	0	7	3	0	**10**	0	0	0	9	0	**9**	0	0	**45**
2025-08-26 12:00:00	15	11	0	**26**	0	0	8	0	0	**8**	0	2	2	15	0	**17**	0	0	**51**
2025-08-26 12:15:00	20	11	0	**31**	0	0	11	1	0	**12**	0	1	1	17	0	**18**	0	0	**61**
2025-08-26 12:30:00	10	9	0	**19**	0	0	8	0	0	**8**	1	0	0	13	0	**13**	0	0	**40**
2025-08-26 12:45:00	10	4	0	**14**	0	0	5	1	0	**6**	0	0	0	13	0	**13**	0	3	**33**
2025-08-26 16:00:00	28	7	0	**35**	0	0	9	0	0	**9**	0	0	1	19	0	**20**	0	0	**64**
2025-08-26 16:15:00	28	6	0	**34**	0	0	4	4	0	**8**	0	0	3	26	0	**29**	0	0	**71**
2025-08-26 16:30:00	29	11	0	**40**	0	0	4	3	0	**7**	0	0	0	12	0	**12**	0	0	**59**
2025-08-26 16:45:00	34	4	0	**38**	0	0	4	1	0	**5**	0	3	2	30	0	**32**	0	0	**75**
2025-08-26 17:00:00	33	4	1	**38**	0	0	4	1	0	**5**	0	0	0	15	0	**15**	0	0	**58**
2025-08-26 17:15:00	31	6	0	**37**	0	0	6	0	0	**6**	3	2	1	20	0	**21**	0	0	**64**
2025-08-26 17:30:00	23	6	0	**29**	0	0	3	1	0	**4**	0	0	1	25	0	**26**	0	0	**59**
2025-08-26 17:45:00	25	2	0	**27**	0	0	6	0	0	**6**	0	0	1	23	0	**24**	0	0	**57**
Grand Total	407	133	2	**542**	0	0	107	20	0	**127**	12	14	15	364	0	**379**	0	3	**1048**
% Approach	75.1%	24.5%	0.4%				84.3%	15.7%	0.0%				4.0%	96.0%	0.0%				
% Total	38.8%	12.7%	0.2%	**51.7%**			10.2%	1.9%	0.0%	**12.1%**			1.4%	34.7%	0.0%	**36.2%**			
Lights	403	132	2	**537**			107	20	0	**127**			15	358	0	**373**			**1037**
% Lights	99.0%	99.2%	100.0%	**99.1%**			100.0%	100.0%	0.0%	**100.0%**			100.0%	98.4%	0.0%	**98.4%**			**99.0%**
Articulated Trucks	0	1	0	**1**			0	0	0	**0**			0	0	0	**0**			**1**
% Articulated Trucks	0.0%	0.8%	0.0%	**0.2%**			0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	**0.0%**			**0.1%**
Buses and Single-Unit Trucks	4	0	0	**4**			0	0	0	**0**			0	6	0	**6**			**10**
% Buses and Single-Unit Trucks	1.0%	0.0%	0.0%	**0.7%**			0.0%	0.0%	0.0%	**0.0%**			0.0%	1.6%	0.0%	**1.6%**			**1.0%**
Pedestrians					0	0					12	13					0	3	
% Pedestrians					0.0%	0.0%					100.0%	92.9%					0.0%	100.0%	
Bicycles on Crosswalk					0	0					0	1					0	0	
% Bicycles on Crosswalk					0.0%	0.0%					0.0%	7.1%					0.0%	0.0%	

Leg	Daute Ln							Olive Blvd						
Direction	Southbound							Westbound						
Start Time	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW
2025-08-26 06:30:00	10	3	8	0	**21**	0	1	3	101	2	0	**106**	0	0
2025-08-26 06:45:00	11	5	8	0	**24**	0	0	5	127	4	0	**136**	0	0
2025-08-26 07:00:00	5	3	12	0	**20**	0	0	6	131	7	0	**144**	0	0
2025-08-26 07:15:00	11	4	11	0	**26**	0	1	4	184	6	0	**194**	2	2
2025-08-26 07:30:00	9	3	18	0	**30**	0	0	9	251	4	0	**264**	0	1
2025-08-26 07:45:00	18	4	19	0	**41**	0	0	11	299	5	0	**315**	0	0
2025-08-26 11:00:00	16	2	13	0	**31**	0	0	10	191	11	1	**213**	0	0
2025-08-26 11:15:00	17	5	9	0	**31**	1	0	7	247	6	0	**260**	2	0
2025-08-26 11:30:00	17	2	18	0	**37**	0	1	13	228	8	0	**249**	0	0
2025-08-26 11:45:00	12	4	12	0	**28**	1	0	10	258	5	0	**273**	0	0
2025-08-26 12:00:00	22	1	14	0	**37**	0	0	13	236	14	0	**263**	0	2
2025-08-26 12:15:00	13	3	22	0	**38**	0	1	11	231	10	0	**252**	0	1
2025-08-26 12:30:00	21	3	13	0	**37**	0	0	10	223	9	1	**243**	1	0
2025-08-26 12:45:00	23	3	11	0	**37**	1	0	10	208	2	1	**221**	1	0
2025-08-26 16:00:00	21	2	33	0	**56**	0	0	6	338	19	1	**364**	0	0
2025-08-26 16:15:00	18	3	12	0	**33**	0	0	12	318	14	0	**344**	0	1
2025-08-26 16:30:00	15	5	14	0	**34**	0	0	15	322	16	0	**353**	0	0
2025-08-26 16:45:00	20	6	13	0	**39**	0	0	10	343	17	0	**370**	0	1
2025-08-26 17:00:00	15	8	28	0	**51**	0	0	15	345	15	0	**375**	0	0
2025-08-26 17:15:00	11	4	21	0	**36**	0	0	14	363	19	0	**396**	1	0
2025-08-26 17:30:00	12	2	17	0	**31**	0	1	19	290	11	0	**320**	0	0
2025-08-26 17:45:00	15	4	22	0	**41**	0	0	16	266	9	1	**292**	0	0

Graeser Rd Northbound							Olive Blvd Eastbound						
Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	**Int Total**
5	2	2	0	**9**	1	0	2	136	1	0	**139**	0	0	**275**
7	1	5	0	**13**	0	0	2	162	3	0	**167**	0	0	**340**
2	0	6	0	**8**	0	0	8	179	1	0	**188**	0	0	**360**
6	1	9	0	**16**	0	1	3	233	5	0	**241**	0	0	**477**
14	3	8	0	**25**	0	0	3	257	7	0	**267**	0	0	**586**
11	0	11	0	**22**	0	0	4	278	8	0	**290**	0	0	**668**
7	5	9	0	**21**	0	0	12	169	16	0	**197**	0	0	**462**
2	3	11	0	**16**	0	0	13	185	17	0	**215**	0	0	**522**
8	5	16	0	**29**	0	0	13	184	10	0	**207**	0	0	**522**
4	4	8	0	**16**	1	0	16	214	8	0	**238**	0	0	**555**
7	4	9	0	**20**	0	0	12	238	12	1	**263**	0	0	**583**
9	2	14	0	**25**	0	0	18	243	19	0	**280**	0	0	**595**
5	0	15	0	**20**	0	1	8	235	17	0	**260**	0	0	**560**
5	0	8	0	**13**	1	0	8	251	17	0	**276**	0	0	**547**
10	6	12	0	**28**	0	0	16	244	12	0	**272**	0	0	**720**
9	8	15	0	**32**	0	1	16	284	20	0	**320**	0	0	**729**
4	3	8	0	**15**	0	0	19	271	15	1	**306**	0	0	**708**
10	9	18	0	**37**	0	2	16	306	18	0	**340**	0	0	**786**
6	0	13	0	**19**	0	0	13	331	15	0	**359**	0	0	**804**
12	7	9	0	**28**	0	0	14	330	20	0	**364**	0	0	**824**
9	8	9	0	**26**	0	0	16	275	17	1	**309**	0	0	**686**
18	4	9	0	**31**	0	1	13	262	15	0	**290**	0	0	**654**

Leg	Olive Blvd						Mosley Rd						Olive Blvd					
Direction	Westbound						Northbound						Eastbound					
Start Time	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	U-Turn	**App Total**	Peds CW	Peds CCW
2025-09-03 06:30:00	109	5	0	**114**	0	0	0	1	0	**1**	0	0	2	128	0	**130**	0	0
2025-09-03 06:45:00	138	5	0	**143**	0	0	7	5	0	**12**	0	0	5	131	0	**136**	0	0
2025-09-03 07:00:00	147	4	0	**151**	0	0	8	3	0	**11**	0	1	3	169	0	**172**	0	0
2025-09-03 07:15:00	230	9	0	**239**	0	0	13	4	0	**17**	0	0	6	181	0	**187**	0	0
2025-09-03 07:30:00	300	10	0	**310**	0	0	14	17	0	**31**	1	0	4	224	0	**228**	0	0
2025-09-03 07:45:00	333	21	0	**354**	0	0	14	7	0	**21**	0	1	4	251	0	**255**	0	0
2025-09-03 11:00:00	255	5	0	**260**	0	0	7	12	0	**19**	0	0	9	246	0	**255**	0	0
2025-09-03 11:15:00	266	5	0	**271**	0	0	7	12	0	**19**	0	0	10	235	0	**245**	0	0
2025-09-03 11:30:00	272	1	0	**273**	0	0	11	8	0	**19**	0	0	17	279	0	**296**	0	0
2025-09-03 11:45:00	256	12	0	**268**	0	0	11	10	0	**21**	0	0	11	278	0	**289**	0	0
2025-09-03 12:00:00	277	12	0	**289**	0	0	14	15	0	**29**	2	0	10	294	0	**304**	0	0
2025-09-03 12:15:00	295	6	0	**301**	0	0	10	19	0	**29**	0	0	16	272	0	**288**	0	0
2025-09-03 12:30:00	280	15	0	**295**	0	0	13	16	0	**29**	0	0	14	280	0	**294**	0	0
2025-09-03 12:45:00	285	15	0	**300**	0	0	12	24	0	**36**	0	0	11	269	0	**280**	0	0
2025-09-03 16:00:00	308	15	0	**323**	1	0	20	17	0	**37**	0	0	10	347	0	**357**	0	0
2025-09-03 16:15:00	290	14	0	**304**	0	0	17	23	0	**40**	1	0	23	338	0	**361**	0	0
2025-09-03 16:30:00	339	22	1	**362**	0	0	18	24	0	**42**	0	1	18	312	0	**330**	0	0
2025-09-03 16:45:00	326	24	0	**350**	1	0	12	11	0	**23**	1	0	23	341	0	**364**	0	0
2025-09-03 17:00:00	353	26	0	**379**	0	0	11	16	0	**27**	0	0	32	323	0	**355**	0	0
2025-09-03 17:15:00	274	25	0	**299**	0	0	18	21	0	**39**	0	0	25	341	0	**366**	0	0
2025-09-03 17:30:00	319	14	0	**333**	0	0	13	14	0	**27**	1	0	13	332	0	**345**	0	0
2025-09-03 17:45:00	305	13	0	**318**	0	0	8	13	0	**21**	0	2	15	245	0	**260**	0	0

Leg	Schulte Rd							Olive Blvd				
Direction	Southbound							Westbound				
Start Time	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	**App Total**
2025-08-26 06:30:00	13	0	30	0	**43**	0	1	7	106	0	0	**113**
2025-08-26 06:45:00	15	0	25	0	**40**	0	0	6	133	0	0	**139**
2025-08-26 07:00:00	23	0	31	0	**54**	0	0	6	133	1	0	**140**
2025-08-26 07:15:00	29	0	44	0	**73**	0	0	9	186	1	0	**196**
2025-08-26 07:30:00	28	0	42	0	**70**	0	0	8	244	0	0	**252**
2025-08-26 07:45:00	29	0	47	0	**76**	0	0	18	298	1	0	**317**
2025-08-26 11:00:00	35	0	27	0	**62**	0	0	17	174	0	0	**191**
2025-08-26 11:15:00	20	0	26	0	**46**	0	0	22	253	1	1	**277**
2025-08-26 11:30:00	26	1	29	0	**56**	0	2	17	225	2	0	**244**
2025-08-26 11:45:00	27	0	27	0	**54**	3	1	21	264	1	0	**286**
2025-08-26 12:00:00	22	0	32	0	**54**	0	0	19	228	4	0	**251**
2025-08-26 12:15:00	28	0	36	0	**64**	0	1	26	255	0	0	**281**
2025-08-26 12:30:00	24	0	34	0	**58**	0	0	19	232	1	1	**253**
2025-08-26 12:45:00	15	0	25	0	**40**	1	0	17	232	1	1	**251**
2025-08-26 16:00:00	42	2	37	0	**81**	0	0	27	318	4	1	**350**
2025-08-26 16:15:00	31	1	30	0	**62**	0	0	42	301	4	0	**347**
2025-08-26 16:30:00	17	0	47	0	**64**	0	0	38	286	3	0	**327**
2025-08-26 16:45:00	22	1	50	0	**73**	0	0	40	335	0	0	**375**
2025-08-26 17:00:00	27	1	43	0	**71**	0	0	35	332	4	1	**372**
2025-08-26 17:15:00	29	2	37	0	**68**	0	0	40	340	1	0	**381**
2025-08-26 17:30:00	22	0	45	0	**67**	0	1	29	292	1	0	**322**
2025-08-26 17:45:00	21	0	35	0	**56**	0	0	38	244	3	1	**286**

		Mary Meadows Ln Northbound							Olive Blvd Eastbound							
Peds CW	Peds CCW	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW
0	0	0	0	0	0	**0**	2	0	0	112	4	0	**116**	0	0
0	0	0	0	0	0	**0**	0	0	0	144	6	0	**150**	0	0
0	0	0	0	0	0	**0**	0	1	0	169	6	0	**175**	0	0
0	0	0	0	0	0	**0**	0	0	0	212	5	0	**217**	0	0
0	0	3	0	0	0	**3**	0	0	1	218	10	0	**229**	0	0
0	0	0	0	1	0	**1**	1	0	0	263	5	0	**268**	0	0
0	0	1	0	4	0	**5**	0	0	3	208	14	0	**225**	0	0
0	0	0	1	8	0	**9**	0	1	1	205	15	0	**221**	0	0
0	0	0	2	4	0	**6**	1	1	1	218	17	0	**236**	0	0
0	0	1	1	1	0	**3**	1	0	0	229	17	0	**246**	0	0
0	0	0	1	2	0	**3**	0	0	1	245	23	0	**269**	0	0
0	0	1	0	2	0	**3**	0	1	2	246	17	0	**265**	0	0
0	0	1	1	2	0	**4**	1	0	0	243	20	0	**263**	0	0
0	0	0	1	2	0	**3**	0	0	1	238	13	0	**252**	0	0
0	0	1	3	1	0	**5**	0	0	1	256	9	0	**266**	0	0
0	0	0	0	4	0	**4**	0	1	1	314	23	0	**338**	0	0
0	0	1	1	3	0	**5**	0	1	0	309	29	0	**338**	0	0
0	0	3	1	1	0	**5**	0	1	0	318	18	0	**336**	0	0
0	0	2	0	5	0	**7**	0	2	0	312	18	0	**330**	0	0
0	0	1	1	2	0	**4**	0	0	1	323	17	0	**341**	0	0
0	0	2	1	4	0	**7**	1	0	2	280	16	0	**298**	0	1
0	0	2	0	4	0	**6**	2	0	0	254	28	0	**282**	2	0

Leg	Spoede Rd							Olive Blvd					
Direction	Southbound							Westbound					
Start Time	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	**App Total**	Peds CW
2025-08-26 06:30:00	0	0	2	0	**2**	0	1	0	96	3	0	**99**	0
2025-08-26 06:45:00	0	2	2	0	**4**	0	1	1	123	15	0	**139**	0
2025-08-26 07:00:00	1	2	1	0	**4**	0	0	1	141	19	0	**161**	0
2025-08-26 07:15:00	0	3	3	0	**6**	0	0	2	191	23	0	**216**	1
2025-08-26 07:30:00	2	1	4	0	**7**	0	1	0	240	19	0	**259**	0
2025-08-26 07:45:00	1	0	0	0	**1**	0	0	2	316	14	0	**332**	0
2025-08-26 11:00:00	1	1	2	0	**4**	1	0	0	221	8	0	**229**	0
2025-08-26 11:15:00	2	1	2	0	**5**	1	2	2	229	7	0	**238**	0
2025-08-26 11:30:00	1	1	4	0	**6**	0	0	3	246	14	0	**263**	1
2025-08-26 11:45:00	0	3	5	0	**8**	0	1	3	234	14	1	**252**	0
2025-08-26 12:00:00	1	0	4	0	**5**	0	1	1	236	24	0	**261**	0
2025-08-26 12:15:00	1	1	0	0	**2**	1	1	3	225	10	0	**238**	0
2025-08-26 12:30:00	2	0	2	0	**4**	0	0	2	227	11	0	**240**	0
2025-08-26 12:45:00	1	3	2	0	**6**	2	0	2	213	12	0	**227**	0
2025-08-26 16:00:00	3	0	2	0	**5**	0	0	5	337	18	0	**360**	2
2025-08-26 16:15:00	2	3	2	0	**7**	0	0	0	316	24	1	**341**	0
2025-08-26 16:30:00	1	1	4	1	**7**	0	0	5	312	38	0	**355**	0
2025-08-26 16:45:00	2	4	5	0	**11**	0	0	5	331	55	0	**391**	1
2025-08-26 17:00:00	1	1	3	0	**5**	0	0	7	371	50	0	**428**	0
2025-08-26 17:15:00	0	2	5	0	**7**	0	0	7	389	43	0	**439**	0
2025-08-26 17:30:00	3	2	2	0	**7**	0	1	6	281	32	0	**319**	0
2025-08-26 17:45:00	1	2	1	0	**4**	1	0	4	273	25	0	**302**	1
Grand Total	26	33	57	1	**117**	6	9	61	5548	478	2	**6089**	6
% Approach	22.2%	28.2%	48.7%	0.9%				1.0%	91.1%	7.9%	0.0%		
% Total	0.2%	0.3%	0.4%	0.0%	**0.9%**			0.5%	42.7%	3.7%	0.0%	**46.8%**	
Lights	25	33	56	1	**115**			59	5470	470	2	**6001**	
% Lights	96.2%	100.0%	98.2%	100.0%	**98.3%**			96.7%	98.6%	98.3%	100.0%	**98.6%**	
Articulated Trucks	0	0	0	0	**0**			0	10	0	0	**10**	
% Articulated Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.2%	0.0%	0.0%	**0.2%**	
Buses and Single-Unit Trucks	1	0	1	0	**2**			2	68	8	0	**78**	
% Buses and Single-Unit Trucks	3.8%	0.0%	1.8%	0.0%	**1.7%**			3.3%	1.2%	1.7%	0.0%	**1.3%**	
Pedestrians						6	6						6
% Pedestrians						100.0%	66.7%						100.0%
Bicycles on Crosswalk						0	3						0
% Bicycles on Crosswalk						0.0%	33.3%						0.0%

	Spoede Rd Northbound							Olive Rd Eastbound							
Peds CCW	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	**Int Total**
0	6	1	2	0	**9**	0	0	2	148	0	0	**150**	0	0	**260**
0	8	0	6	0	**14**	1	0	10	174	0	0	**184**	0	0	**341**
0	9	1	6	0	**16**	0	0	14	195	1	0	**210**	0	0	**391**
1	31	1	11	0	**43**	0	1	9	244	1	0	**254**	0	0	**519**
0	32	2	14	0	**48**	0	0	14	279	0	0	**293**	0	0	**607**
1	37	0	20	0	**57**	0	0	17	307	0	0	**324**	0	0	**714**
1	18	1	6	0	**25**	0	0	15	193	3	0	**211**	0	0	**469**
0	14	0	11	0	**25**	0	0	19	180	2	1	**202**	0	0	**470**
0	14	0	18	0	**32**	0	0	14	179	2	0	**195**	0	0	**496**
0	21	0	17	0	**38**	0	0	19	256	1	0	**276**	0	0	**574**
0	15	0	15	0	**30**	0	0	20	244	0	0	**264**	0	0	**560**
0	23	2	19	0	**44**	1	0	14	232	2	1	**249**	0	0	**533**
1	19	0	12	0	**31**	0	0	16	262	1	0	**279**	0	0	**554**
0	15	0	13	0	**28**	0	0	22	229	2	0	**253**	0	0	**514**
0	42	4	32	0	**78**	0	0	20	265	2	1	**288**	0	0	**731**
1	21	4	25	0	**50**	0	0	21	287	0	0	**308**	0	0	**706**
1	22	1	27	0	**50**	0	0	27	268	1	0	**296**	0	0	**708**
0	28	1	23	0	**52**	0	1	38	307	2	0	**347**	0	0	**801**
1	32	0	27	0	**59**	0	0	42	310	1	0	**353**	0	0	**845**
0	34	3	28	0	**65**	0	0	31	323	4	0	**358**	0	0	**869**
0	30	0	24	0	**54**	0	0	24	292	4	0	**320**	0	0	**700**
0	24	3	17	0	**44**	0	1	23	267	3	0	**293**	0	0	**643**
7	495	24	373	0	**892**	2	3	431	5441	32	3	**5907**	0	0	**13005**
	55.5%	2.7%	41.8%	0.0%				7.3%	92.1%	0.5%	0.1%				
	3.8%	0.2%	2.9%	0.0%	**6.9%**			3.3%	41.8%	0.2%	0.0%	**45.4%**			
	488	23	366	0	**877**			418	5349	30	3	**5800**			**12793**
	98.6%	95.8%	98.1%	0.0%	**98.3%**			97.0%	98.3%	93.8%	100.0%	**98.2%**			**98.4%**
	0	1	0	0	**1**			1	11	0	0	**12**			**23**
	0.0%	4.2%	0.0%	0.0%	**0.1%**			0.2%	0.2%	0.0%	0.0%	**0.2%**			**0.2%**
	7	0	7	0	**14**			12	81	2	0	**95**			**189**
	1.4%	0.0%	1.9%	0.0%	**1.6%**			2.8%	1.5%	6.3%	0.0%	**1.6%**			**1.5%**
7						2	1						0	0	
100.0%						100.0%	33.3%						0.0%	0.0%	
0						0	2						0	0	
0.0%						0.0%	66.7%						0.0%	0.0%	

Leg	Olive Blvd						West Full Access Drive (Thai Nivas plaza S. Side of Olive Blvd)						Olive Blvd						
Direction	Westbound						Northbound						Eastbound						
Start Time	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	U-Turn	**App Total**	Peds CW	Peds CCW	**Int Total**
2025-08-26 06:30:00	116	0	0	**116**	0	0	0	0	0	**0**	2	0	0	141	0	**141**	0	0	**257**
2025-08-26 06:45:00	142	0	0	**142**	0	0	0	0	0	**0**	0	0	0	171	0	**171**	0	0	**313**
2025-08-26 07:00:00	138	1	0	**139**	0	0	0	0	0	**0**	0	1	1	195	0	**196**	0	0	**335**
2025-08-26 07:15:00	201	0	0	**201**	0	0	0	0	0	**0**	0	0	0	244	0	**244**	0	0	**445**
2025-08-26 07:30:00	257	0	0	**257**	0	0	0	0	0	**0**	0	0	0	269	0	**269**	0	0	**526**
2025-08-26 07:45:00	299	0	0	**299**	0	0	0	0	0	**0**	0	0	0	309	0	**309**	0	0	**608**
2025-08-26 11:00:00	203	0	0	**203**	0	0	2	0	0	**2**	0	0	2	208	0	**210**	0	0	**415**
2025-08-26 11:15:00	268	11	0	**279**	0	0	3	0	0	**3**	0	0	3	215	1	**219**	0	0	**501**
2025-08-26 11:30:00	252	3	0	**255**	0	0	3	3	0	**6**	0	0	3	216	0	**219**	0	0	**480**
2025-08-26 11:45:00	275	5	0	**280**	0	0	7	2	0	**9**	1	0	3	233	0	**236**	0	0	**525**
2025-08-26 12:00:00	253	6	2	**261**	0	0	3	3	0	**6**	0	0	3	260	0	**263**	0	0	**530**
2025-08-26 12:15:00	269	1	1	**271**	0	0	3	2	0	**5**	0	1	4	271	0	**275**	0	0	**551**
2025-08-26 12:30:00	258	3	0	**261**	0	0	0	1	0	**1**	1	0	4	256	0	**260**	0	0	**522**
2025-08-26 12:45:00	231	0	0	**231**	0	0	2	1	0	**3**	0	0	1	256	0	**257**	0	0	**491**
2025-08-26 16:00:00	368	0	0	**368**	0	0	2	1	0	**3**	0	0	1	286	0	**287**	0	0	**658**
2025-08-26 16:15:00	346	4	0	**350**	0	0	2	1	0	**3**	0	1	2	322	0	**324**	0	0	**677**
2025-08-26 16:30:00	333	3	0	**336**	0	0	3	1	0	**4**	0	1	0	328	2	**330**	0	0	**670**
2025-08-26 16:45:00	382	5	0	**387**	0	0	6	4	0	**10**	0	1	4	342	0	**346**	0	0	**743**
2025-08-26 17:00:00	364	3	0	**367**	0	0	2	1	0	**3**	0	0	3	349	0	**352**	0	0	**722**
2025-08-26 17:15:00	374	0	0	**374**	0	0	0	2	0	**2**	0	0	0	348	0	**348**	0	0	**724**
2025-08-26 17:30:00	305	3	0	**308**	0	0	2	2	0	**4**	1	1	1	321	2	**324**	0	0	**636**
2025-08-26 17:45:00	285	1	0	**286**	0	0	2	2	0	**4**	0	0	2	292	0	**294**	0	0	**584**
Grand Total	5919	49	3	**5971**	0	0	42	26	0	**68**	5	6	37	5832	5	**5874**	0	0	**11913**
% Approach	99.1%	0.8%	0.1%				61.8%	38.2%	0.0%				0.6%	99.3%	0.1%				
% Total	49.7%	0.4%	0.0%	**50.1%**			0.4%	0.2%	0.0%	**0.6%**			0.3%	49.0%	0.0%	**49.3%**			
Lights	5823	49	3	**5875**			42	25	0	**67**			37	5726	5	**5768**			**11710**
% Lights	98.4%	100.0%	100.0%	**98.4%**			100.0%	96.2%	0.0%	**98.5%**			100.0%	98.2%	100.0%	**98.2%**			**98.3%**
Articulated Trucks	14	0	0	**14**			0	0	0	**0**			0	12	0	**12**			**26**
% Articulated Trucks	0.2%	0.0%	0.0%	**0.2%**			0.0%	0.0%	0.0%	**0.0%**			0.0%	0.2%	0.0%	**0.2%**			**0.2%**
Buses and Single-Unit Trucks	82	0	0	**82**			0	1	0	**1**			0	94	0	**94**			**177**
% Buses and Single-Unit Trucks	1.4%	0.0%	0.0%	**1.4%**			0.0%	3.8%	0.0%	**1.5%**			0.0%	1.6%	0.0%	**1.6%**			**1.5%**
Pedestrians					0	0					5	3					0	0	
% Pedestrians					0.0%	0.0%					100.0%	50.0%					0.0%	0.0%	
Bicycles on Crosswalk					0	0					0	3					0	0	
% Bicycles on Crosswalk					0.0%	0.0%					0.0%	50.0%					0.0%	0.0%	

Appendix C – Synchro Analysis Outputs

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1245	0	0	0	0	0
Future Vol, veh/h	1245	0	0	0	0	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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1383	0	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	692
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	387
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	387
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1195	15	0	0	0	10
Future Vol, veh/h	1195	15	0	0	0	10
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	94	94	96	96	58	58
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	1271	16	0	0	0	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	644
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	421
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	421
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	13.92
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	421	-	-	-
HCM Lane V/C Ratio	0.041	-	-	-
HCM Ctrl Dly (s/v)	13.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1530	10	0	0	0	10
Future Vol, veh/h	1530	10	0	0	0	10
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1700	11	0	0	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	856
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	301
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	301
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	17.41
HCM LOS			C

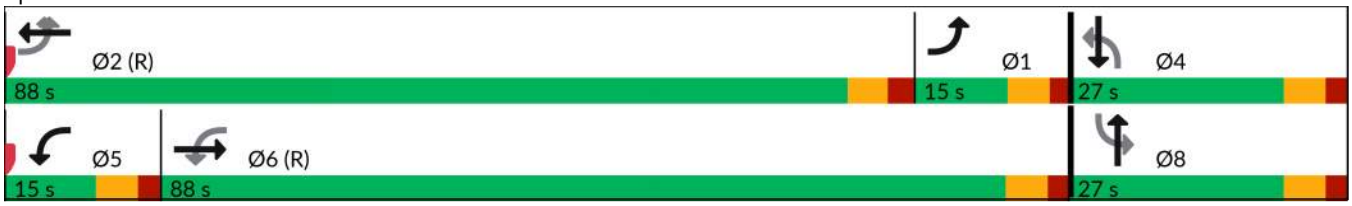
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	301	-	-	-
HCM Lane V/C Ratio	0.037	-	-	-
HCM Ctrl Dly (s/v)	17.4	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1170	20	20	1040	30	35	5	35	65	15	45
Future Volume (vph)	20	1170	20	20	1040	30	35	5	35	65	15	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.869			0.887	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3529	0	1770	3539	1583	1770	1619	0	1770	1652	0
Flt Permitted	0.144			0.152			0.702			0.720		
Satd. Flow (perm)	268	3529	0	283	3539	1583	1308	1619	0	1341	1652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				77		49			63	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		233			1185			337			203	
Travel Time (s)		4.5			23.1			7.7			4.6	
Peak Hour Factor	0.85	0.85	0.85	0.73	0.73	0.73	0.71	0.71	0.71	0.71	0.71	0.71
Adj. Flow (vph)	24	1376	24	27	1425	41	49	7	49	92	21	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	1400	0	27	1425	41	49	56	0	92	84	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6		2	4			8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	15.0	88.0		15.0	88.0	88.0	27.0	27.0		27.0	27.0	
Total Split (%)	11.5%	67.7%		11.5%	67.7%	67.7%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	9.2	82.0		8.9	81.6	81.6	20.8	20.8		20.8	20.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	100.3	95.8		99.9	94.2	94.2	14.2	14.2		14.2	14.2	
Actuated g/C Ratio	0.77	0.74		0.77	0.72	0.72	0.11	0.11		0.11	0.11	
v/c Ratio	0.08	0.54		0.09	0.56	0.04	0.35	0.25		0.63	0.36	
Control Delay (s/veh)	2.8	8.0		3.6	11.1	0.7	58.5	18.9		73.3	22.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	2.8	8.1		3.6	11.1	0.7	58.5	18.9		73.3	22.0	
LOS	A	A		A	B	A	E	B		E	C	
Approach Delay (s/veh)		8.0			10.7			37.3			48.8	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 61 (47%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay (s/veh): 12.5		Intersection LOS: B	
Intersection Capacity Utilization 53.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340

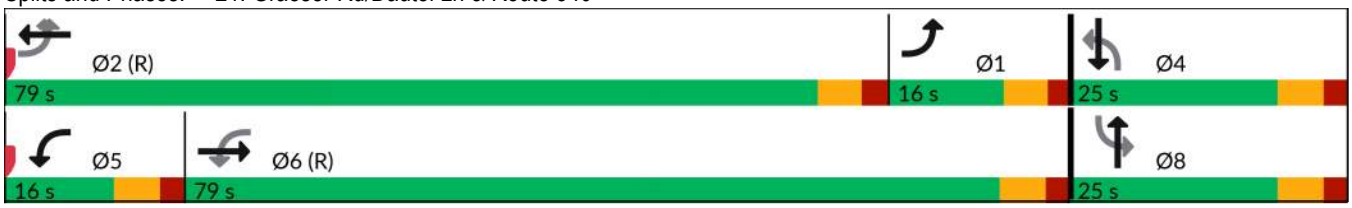


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1100	60	40	1115	45	45	10	25	65	10	75
Future Volume (vph)	60	1100	60	40	1115	45	45	10	25	65	10	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.892			0.868	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3547	0	1805	3574	1615	1805	1695	0	1770	1649	0
Flt Permitted	0.197			0.185			0.697			0.729		
Satd. Flow (perm)	374	3547	0	352	3574	1615	1324	1695	0	1358	1649	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				84		31			82	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		244			1185			332			203	
Travel Time (s)		4.8			23.1			7.5			4.6	
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.81	0.81	0.81	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%
Adj. Flow (vph)	65	1183	65	43	1186	48	56	12	31	71	11	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	1248	0	43	1186	48	56	43	0	71	93	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		2	4			8		
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	16.0	79.0		16.0	79.0	79.0	25.0	25.0		25.0	25.0	
Total Split (%)	13.3%	65.8%		13.3%	65.8%	65.8%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	10.2	73.0		9.9	72.6	72.6	18.8	18.8		18.8	18.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	91.7	85.6		91.1	82.9	82.9	11.7	11.7		11.7	11.7	
Actuated g/C Ratio	0.76	0.71		0.76	0.69	0.69	0.10	0.10		0.10	0.10	
v/c Ratio	0.16	0.49		0.12	0.48	0.04	0.43	0.22		0.54	0.40	
Control Delay (s/veh)	2.0	4.4		2.5	5.4	0.4	60.3	24.5		65.5	18.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	2.0	4.4		2.5	5.4	0.4	60.3	24.5		65.5	18.1	
LOS	A	A		A	A	A	E	C		E	B	
Approach Delay (s/veh)		4.3			5.1			44.7			38.6	
Approach LOS		A			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 40 (33%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay (s/veh): 8.0		Intersection LOS: A	
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340

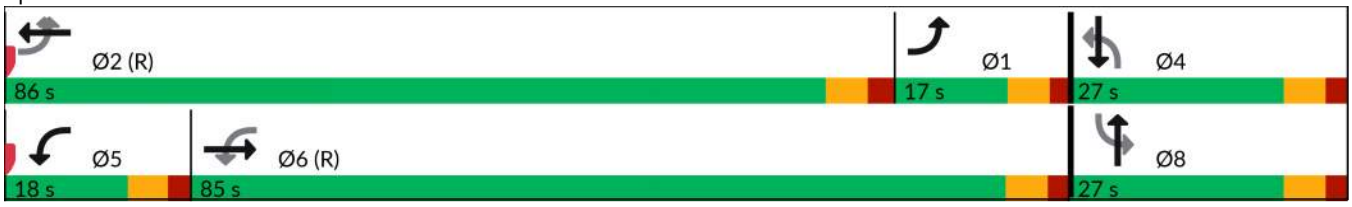


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	1395	65	70	1520	60	55	20	30	80	25	65
Future Volume (vph)	75	1395	65	70	1520	60	55	20	30	80	25	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993				0.850		0.910			0.892	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3514	0	1770	3539	1583	1770	1695	0	1770	1662	0
Flt Permitted	0.098			0.116			0.610			0.708		
Satd. Flow (perm)	183	3514	0	216	3539	1583	1136	1695	0	1319	1662	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				77		45			83	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		243			1185			328			203	
Travel Time (s)		4.7			23.1			7.5			4.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.67	0.67	0.67	0.78	0.78	0.78
Adj. Flow (vph)	80	1484	69	74	1617	64	82	30	45	103	32	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	1553	0	74	1617	64	82	75	0	103	115	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6		2	4			8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	17.0	85.0		18.0	86.0	86.0	27.0	27.0		27.0	27.0	
Total Split (%)	13.1%	65.4%		13.8%	66.2%	66.2%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	11.2	79.0		11.9	79.6	79.6	20.8	20.8		20.8	20.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	98.2	91.9		97.7	88.6	88.6	15.2	15.2		15.2	15.2	
Actuated g/C Ratio	0.76	0.71		0.75	0.68	0.68	0.12	0.12		0.12	0.12	
v/c Ratio	0.30	0.62		0.30	0.67	0.06	0.62	0.32		0.67	0.43	
Control Delay (s/veh)	7.8	8.3		7.2	13.5	1.0	73.9	27.0		75.2	22.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	7.8	8.3		7.2	13.5	1.0	73.9	27.0		75.2	22.4	
LOS	A	A		A	B	A	E	C		E	C	
Approach Delay (s/veh)		8.3			12.8			51.5			47.3	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 62 (48%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay (s/veh): 14.5		Intersection LOS: B	
Intersection Capacity Utilization 74.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340

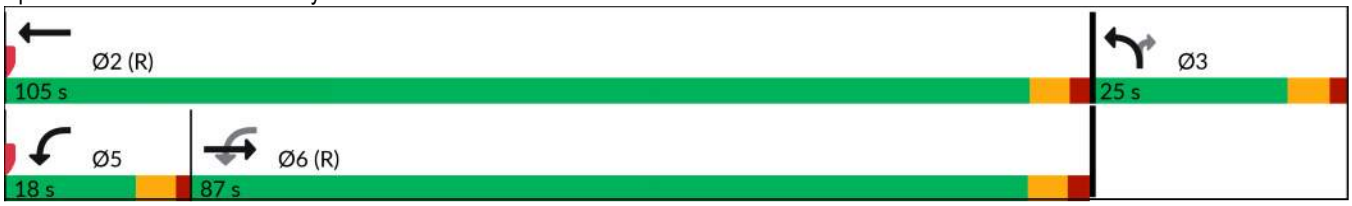


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1045	15	45	1195	30	55
Future Volume (vph)	1045	15	45	1195	30	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.998					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3532	0	1770	3539	1770	1583
Flt Permitted			0.188		0.950	
Satd. Flow (perm)	3532	0	350	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2					85
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.83	0.83	0.74	0.74	0.65	0.65
Adj. Flow (vph)	1259	18	61	1615	46	85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1277	0	61	1615	46	85
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	
Permitted Phases			6			3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	87.0		18.0	105.0	25.0	25.0
Total Split (%)	66.9%		13.8%	80.8%	19.2%	19.2%
Maximum Green (s)	81.0		12.7	99.2	19.2	19.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	98.9		105.2	109.0	9.4	9.4
Actuated g/C Ratio	0.76		0.81	0.84	0.07	0.07
v/c Ratio	0.48		0.17	0.54	0.36	0.44
Control Delay (s/veh)	6.0		2.9	6.8	64.5	18.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.0		2.9	6.8	64.5	18.4
LOS	A		A	A	E	B
Approach Delay (s/veh)	6.0			6.7	34.6	
Approach LOS	A			A	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 114 (88%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay (s/veh): 7.6		Intersection LOS: A	
Intersection Capacity Utilization 52.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340

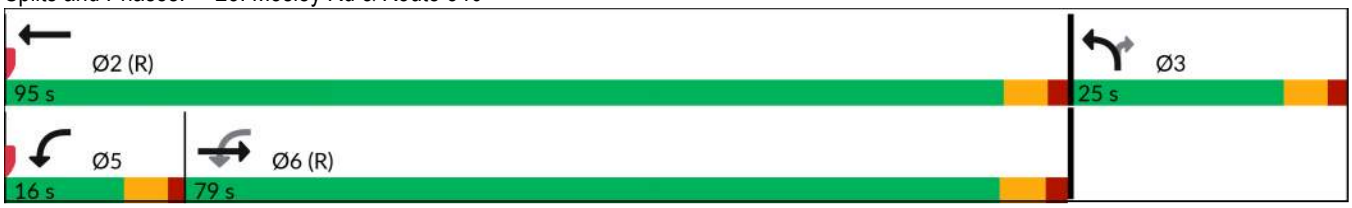


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1295	55	55	1315	80	55
Future Volume (vph)	1295	55	55	1315	80	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3551	0	1770	3610	1770	1568
Flt Permitted			0.150		0.950	
Satd. Flow (perm)	3551	0	279	3610	1770	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	6					65
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.96	0.96	0.98	0.98	0.85	0.85
Heavy Vehicles (%)	1%	2%	2%	0%	2%	3%
Adj. Flow (vph)	1349	57	56	1342	94	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1406	0	56	1342	94	65
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Permitted Phases			6			3
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	79.0		16.0	95.0	25.0	25.0
Total Split (%)	65.8%		13.3%	79.2%	20.8%	20.8%
Maximum Green (s)	73.0		10.7	89.2	19.2	19.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	86.2		92.5	96.2	12.2	12.2
Actuated g/C Ratio	0.72		0.77	0.80	0.10	0.10
v/c Ratio	0.55		0.19	0.46	0.53	0.30
Control Delay (s/veh)	4.5		5.1	10.0	61.1	15.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.5		5.1	10.0	61.1	15.0
LOS	A		A	A	E	B
Approach Delay (s/veh)	4.5			9.8	42.3	
Approach LOS	A			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 100 (83%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay (s/veh): 9.0		Intersection LOS: A	
Intersection Capacity Utilization 61.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340

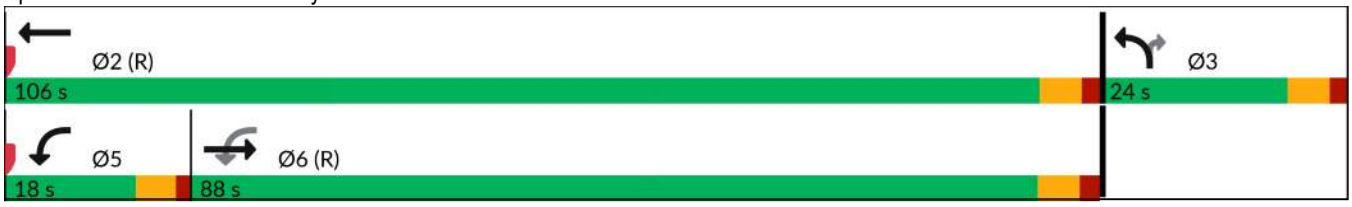


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1475	105	105	1440	75	65
Future Volume (vph)	1475	105	105	1440	75	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.990					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3504	0	1770	3539	1770	1583
Flt Permitted			0.105		0.950	
Satd. Flow (perm)	3504	0	196	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	11					83
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.78	0.78
Adj. Flow (vph)	1521	108	114	1565	96	83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1629	0	114	1565	96	83
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	
Permitted Phases			6			3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	88.0		18.0	106.0	24.0	24.0
Total Split (%)	67.7%		13.8%	81.5%	18.5%	18.5%
Maximum Green (s)	82.0		12.7	100.2	18.2	18.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	92.0		100.8	105.6	12.8	12.8
Actuated g/C Ratio	0.71		0.78	0.81	0.10	0.10
v/c Ratio	0.66		0.46	0.54	0.55	0.36
Control Delay (s/veh)	6.4		14.0	8.9	67.1	14.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.4		14.0	8.9	67.1	14.9
LOS	A		B	A	E	B
Approach Delay (s/veh)	6.4			9.3	42.9	
Approach LOS	A			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 121 (93%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 9.7		Intersection LOS: A	
Intersection Capacity Utilization 70.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340

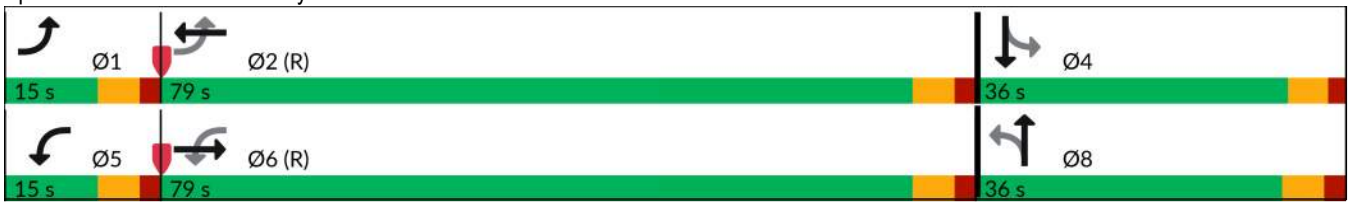


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1085	0	5	1035	40	0	0	5	175	0	115
Future Volume (vph)	25	1085	0	5	1035	40	0	0	5	175	0	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.994			0.865			0.850	
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	1770	3539	0	1770	3518	0	0	1611	0	1770	1583	0
Flt Permitted	0.209			0.222						0.753		
Satd. Flow (perm)	389	3539	0	414	3518	0	0	1611	0	1403	1583	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					5						197	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1652			357			145			324	
Travel Time (s)		32.2			7.0			3.3			7.4	
Peak Hour Factor	0.99	0.99	0.99	0.96	0.96	0.96	0.75	0.75	0.75	0.95	0.95	0.95
Adj. Flow (vph)	25	1096	0	5	1078	42	0	0	7	184	0	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	1096	0	5	1120	0	0	7	0	184	121	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA			NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		30.7	30.7	
Total Split (s)	15.0	79.0		15.0	79.0		36.0	36.0		36.0	36.0	
Total Split (%)	11.5%	60.8%		11.5%	60.8%		27.7%	27.7%		27.7%	27.7%	
Maximum Green (s)	9.1	73.1		9.1	73.1		29.8	29.8		30.3	30.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	93.0	94.0		95.4	88.8			21.3		21.8	21.8	
Actuated g/C Ratio	0.72	0.72		0.73	0.68			0.16		0.17	0.17	
v/c Ratio	0.07	0.43		0.01	0.47			0.03		0.78	0.28	
Control Delay (s/veh)	7.9	10.9		6.2	12.0			41.6		73.4	1.6	
Queue Delay	0.0	0.0		0.0	0.2			0.0		0.0	0.0	
Total Delay (s/veh)	7.9	10.9		6.2	12.3			41.6		73.4	1.6	
LOS	A	B		A	B			D		E	A	
Approach Delay (s/veh)		10.8			12.2			41.6			44.9	
Approach LOS		B			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 72 (55%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 15.6		Intersection LOS: B	
Intersection Capacity Utilization 56.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340

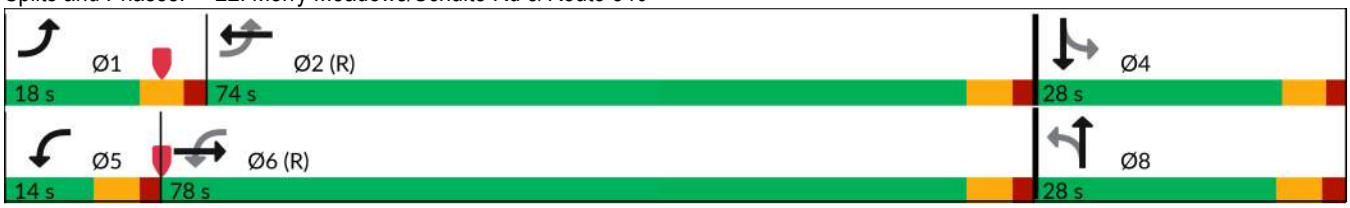


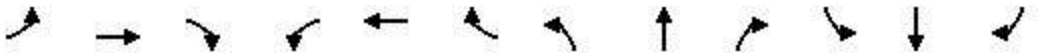
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	1130	5	5	1145	90	5	5	5	135	0	105
Future Volume (vph)	80	1130	5	5	1145	90	5	5	5	135	0	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.989			0.955			0.850	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1787	3536	0	1805	3537	0	0	1785	0	1805	1568	0
Flt Permitted	0.155			0.205				0.899		0.746		
Satd. Flow (perm)	292	3536	0	390	3537	0	0	1631	0	1417	1568	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		1			11						170	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		1652			353			145			324	
Travel Time (s)		32.2			6.9			4.0			7.4	
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.81	0.81	0.81	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	3%
Adj. Flow (vph)	82	1165	5	5	1231	97	6	6	6	150	0	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	1170	0	5	1328	0	0	18	0	150	117	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		23.7	23.7	
Total Split (s)	18.0	78.0		14.0	74.0		28.0	28.0		28.0	28.0	
Total Split (%)	15.0%	65.0%		11.7%	61.7%		23.3%	23.3%		23.3%	23.3%	
Maximum Green (s)	12.1	72.1		8.1	68.1		21.8	21.8		22.3	22.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	86.7	88.8		90.2	80.9			16.5		17.0	17.0	
Actuated g/C Ratio	0.72	0.74		0.75	0.67			0.14		0.14	0.14	
v/c Ratio	0.27	0.45		0.01	0.56			0.08		0.75	0.32	
Control Delay (s/veh)	4.8	5.6		4.6	12.6			43.3		71.2	3.9	
Queue Delay	0.0	0.0		0.0	0.3			0.0		0.0	0.0	
Total Delay (s/veh)	4.8	5.6		4.6	12.9			43.3		71.2	3.9	
LOS	A	A		A	B			D		E	A	
Approach Delay (s/veh)		5.5			12.8			43.3			41.7	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 49 (41%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 12.5		Intersection LOS: B	
Intersection Capacity Utilization 69.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340



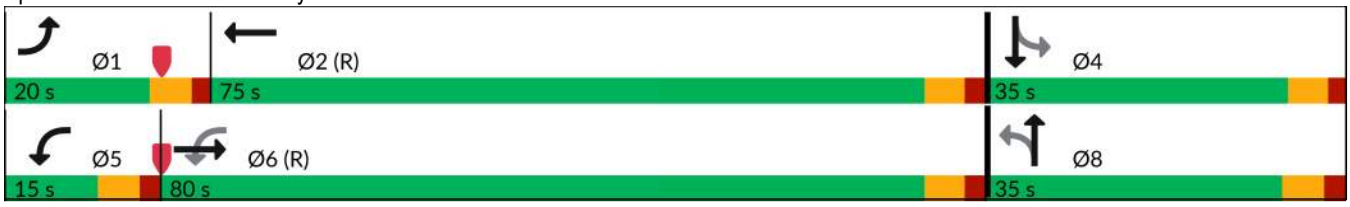


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	1420	0	10	1430	165	10	5	5	190	5	100
Future Volume (vph)	85	1420	0	10	1430	165	10	5	5	190	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.984			0.965			0.857	
Flt Protected	0.950			0.950				0.976		0.950		
Satd. Flow (prot)	1770	3539	0	1770	3483	0	0	1754	0	1770	1596	0
Flt Permitted	0.950			0.134				0.856		0.740		
Satd. Flow (perm)	1770	3539	0	250	3483	0	0	1539	0	1378	1596	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					14						105	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		1652			363			145			324	
Travel Time (s)		32.2			7.1			4.0			7.4	
Peak Hour Factor	0.99	0.99	0.99	0.96	0.96	0.96	0.75	0.75	0.75	0.95	0.95	0.95
Adj. Flow (vph)	86	1434	0	10	1490	172	13	7	7	200	5	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	1434	0	10	1662	0	0	27	0	200	110	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases				6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		30.7	30.7	
Total Split (s)	20.0	80.0		15.0	75.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.4%	61.5%		11.5%	57.7%		26.9%	26.9%		26.9%	26.9%	
Maximum Green (s)	14.1	74.1		9.1	69.1		28.8	28.8		29.3	29.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	10.9	92.8		94.2	78.6			22.5		23.0	23.0	
Actuated g/C Ratio	0.08	0.71		0.72	0.60			0.17		0.18	0.18	
v/c Ratio	0.58	0.57		0.04	0.79			0.10		0.82	0.30	
Control Delay (s/veh)	78.7	10.6		6.4	24.3			43.4		76.7	10.7	
Queue Delay	0.0	0.0		0.0	1.9			0.0		0.0	0.0	
Total Delay (s/veh)	78.7	10.6		6.4	26.1			43.4		76.7	10.7	
LOS	E	B		A	C			D		E	B	
Approach Delay (s/veh)		14.4			26.0			43.4			53.3	
Approach LOS		B			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 73 (56%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 23.6		Intersection LOS: C	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340



Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	4	68	2	12	45
Future Vol, veh/h	0	4	68	2	12	45
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	73	73	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	93	3	15	57

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	182	95	0	0	96	0
Stage 1	95	-	-	-	-	-
Stage 2	87	-	-	-	-	-
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	808	962	-	-	1498	-
Stage 1	929	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	799	962	-	-	1498	-
Mov Cap-2 Maneuver	799	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	926	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.77	0	1.56
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	962	379	-
HCM Lane V/C Ratio	-	-	-	0.008	0.01	-
HCM Ctrl Dly (s/v)	-	-	0	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	0	-

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	35	65	5	40	70
Future Vol, veh/h	5	35	65	5	40	70
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	85	85	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	40	76	6	47	81

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	254	79	0	0	82	0
Stage 1	79	-	-	-	-	-
Stage 2	174	-	-	-	-	-
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	735	981	-	-	1515	-
Stage 1	944	-	-	-	-	-
Stage 2	856	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	711	981	-	-	1515	-
Mov Cap-2 Maneuver	711	-	-	-	-	-
Stage 1	944	-	-	-	-	-
Stage 2	828	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.98	0	2.71
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	711	981	655	-
HCM Lane V/C Ratio	-	-	0.008	0.041	0.031	-
HCM Ctrl Dly (s/v)	-	-	10.1	8.8	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	20	80	5	25	135
Future Vol, veh/h	5	20	80	5	25	135
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	63	63	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	24	127	8	26	141

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	324	131	0	0	135	0
Stage 1	131	-	-	-	-	-
Stage 2	193	-	-	-	-	-
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	670	919	-	-	1449	-
Stage 1	895	-	-	-	-	-
Stage 2	840	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	657	919	-	-	1449	-
Mov Cap-2 Maneuver	657	-	-	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	824	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.33	0	1.18
HCM LOS	A		

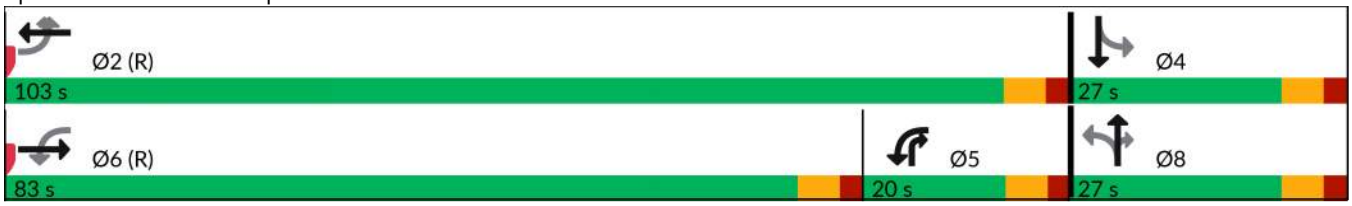
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	657	919	281	-
HCM Lane V/C Ratio	-	-	0.009	0.027	0.018	-
HCM Ctrl Dly (s/v)	-	-	10.5	9	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1255	60	80	1060	5	55	5	115	10	5	5
Future Volume (vph)	0	1255	60	80	1060	5	55	5	115	10	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993				0.850			0.850		0.925	
Flt Protected				0.950				0.956		0.950		
Satd. Flow (prot)	1863	3514	0	1770	3539	1583	0	1781	1583	1770	1723	0
Flt Permitted				0.098				0.732		0.703		
Satd. Flow (perm)	1863	3514	0	183	3539	1583	0	1364	1583	1310	1723	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				28			34		8	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.83	0.83	0.83	0.73	0.73	0.73	0.72	0.72	0.72	0.64	0.64	0.64
Adj. Flow (vph)	0	1512	72	110	1452	7	76	7	160	16	8	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1584	0	110	1452	7	0	83	160	16	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.Pm	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases		6		5	2			8	5		4	
Permitted Phases	2			6		2	8		8	4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	30.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	103.0	83.0		20.0	103.0	103.0	27.0	27.0	20.0	27.0	27.0	
Total Split (%)	79.2%	63.8%		15.4%	79.2%	79.2%	20.8%	20.8%	15.4%	20.8%	20.8%	
Maximum Green (s)	96.7	76.8		14.0	96.7	96.7	20.7	20.7	14.0	20.7	20.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag		Lead		Lag					Lag			
Lead-Lag Optimize?		Yes		Yes					Yes			
Vehicle Extension (s)	4.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)	17.0	23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)	0	0			0	0	0	0				
Act Effct Green (s)		84.8		99.0	104.7	104.7		12.7	33.0	12.7	12.7	
Actuated g/C Ratio		0.65		0.76	0.81	0.81		0.10	0.25	0.10	0.10	
v/c Ratio		0.69		0.35	0.51	0.01		0.62	0.37	0.13	0.09	
Control Delay (s/veh)		20.9		14.8	3.2	0.0		75.2	32.9	53.2	35.2	
Queue Delay		0.0		0.0	0.1	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)		20.9		14.8	3.3	0.0		75.2	32.9	53.2	35.2	
LOS		C		B	A	A		E	C	D	D	
Approach Delay (s/veh)		20.9			4.1			47.4			44.2	
Approach LOS		C			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 3 (2%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay (s/veh): 15.3		Intersection LOS: B	
Intersection Capacity Utilization 67.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340

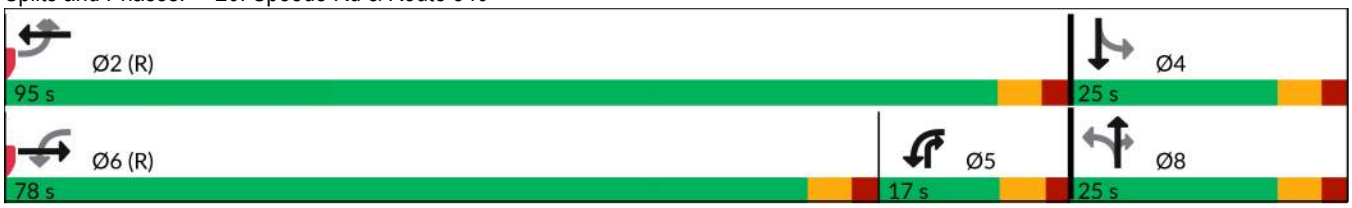


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1160	75	65	1090	10	70	0	85	10	5	5
Future Volume (vph)	5	1160	75	65	1090	10	70	0	85	10	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991				0.850			0.850		0.925	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1444	3531	0	1805	3574	1615	0	1752	1568	1805	1758	0
Flt Permitted	0.233			0.166				0.747		0.701		
Satd. Flow (perm)	354	3531	0	315	3574	1615	0	1378	1568	1332	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				30			74		8	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.81	0.81	0.81	0.60	0.60	0.60
Heavy Vehicles (%)	25%	1%	6%	0%	1%	0%	3%	0%	3%	0%	0%	0%
Adj. Flow (vph)	5	1208	78	68	1147	11	86	0	105	17	8	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1286	0	68	1147	11	0	86	105	17	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.Pm	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases		6		5	2			8	5		4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		2	8		8	4		
Detector Phase	2	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	30.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	95.0	78.0		17.0	95.0	95.0	25.0	25.0	17.0	25.0	25.0	
Total Split (%)	79.2%	65.0%		14.2%	79.2%	79.2%	20.8%	20.8%	14.2%	20.8%	20.8%	
Maximum Green (s)	88.7	71.8		11.0	88.7	88.7	18.7	18.7	11.0	18.7	18.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag		Lead		Lag					Lag			
Lead-Lag Optimize?		Yes		Yes					Yes			
Vehicle Extension (s)	4.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)	17.0	23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)	0	0			0	0	0	0				
Act Effct Green (s)	99.0	80.8		92.0	99.0	99.0		12.3	27.0	12.3	12.3	
Actuated g/C Ratio	0.83	0.67		0.77	0.83	0.83		0.10	0.23	0.10	0.10	
v/c Ratio	0.02	0.54		0.18	0.39	0.01		0.61	0.26	0.12	0.09	
Control Delay (s/veh)	2.4	11.6		3.2	2.2	0.0		68.6	13.9	48.6	32.7	
Queue Delay	0.0	0.0		0.0	0.1	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)	2.4	11.6		3.2	2.3	0.0		68.6	13.9	48.6	32.7	
LOS	A	B		A	A	A		E	B	D	C	
Approach Delay (s/veh)		11.5			2.3			38.5			40.9	
Approach LOS		B			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 107 (89%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay (s/veh): 9.7		Intersection LOS: A	
Intersection Capacity Utilization 66.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340

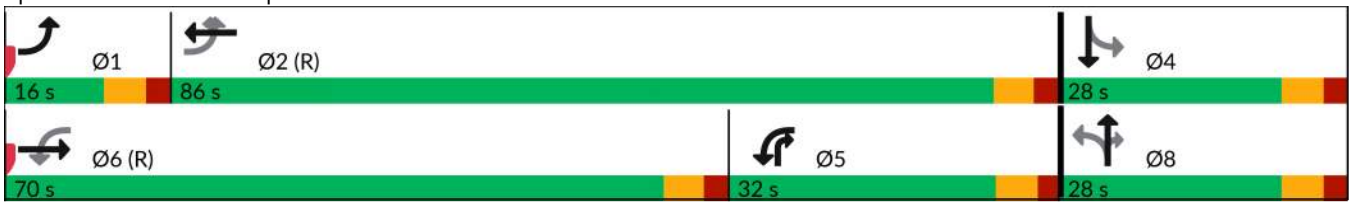


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1360	145	195	1550	25	110	5	120	20	10	5
Future Volume (vph)	10	1360	145	195	1550	25	110	5	120	20	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986				0.850			0.850		0.952	
Flt Protected	0.950			0.950				0.954		0.950		
Satd. Flow (prot)	1770	3490	0	1770	3539	1583	0	1777	1583	1770	1773	0
Flt Permitted	0.097			0.063				0.720		0.567		
Satd. Flow (perm)	181	3490	0	117	3539	1583	0	1341	1583	1056	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				81			80		7	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.87	0.87	0.87	0.68	0.68	0.68
Adj. Flow (vph)	11	1432	153	212	1685	27	126	6	138	29	15	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1585	0	212	1685	27	0	132	138	29	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	1	6		5	2			8	5		4	
Permitted Phases	2			6		2	8		8	4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	13.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	16.0	70.0		32.0	86.0	86.0	28.0	28.0	32.0	28.0	28.0	
Total Split (%)	12.3%	53.8%		24.6%	66.2%	66.2%	21.5%	21.5%	24.6%	21.5%	21.5%	
Maximum Green (s)	9.7	63.8		26.0	79.7	79.7	21.7	21.7	26.0	21.7	21.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag	Lead	Lead		Lag	Lag	Lag			Lag			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes			Yes			
Vehicle Extension (s)	2.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)		23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	99.2	68.6		94.8	97.8	97.8		16.9	49.2	16.9	16.9	
Actuated g/C Ratio	0.76	0.53		0.73	0.75	0.75		0.13	0.38	0.13	0.13	
v/c Ratio	0.05	0.86		0.51	0.63	0.02		0.76	0.21	0.21	0.09	
Control Delay (s/veh)	1.3	18.1		24.6	4.1	0.0		80.2	12.0	52.3	36.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)	1.3	18.1		24.6	4.1	0.0		80.2	12.0	52.3	36.8	
LOS	A	B		C	A	A		F	B	D	D	
Approach Delay (s/veh)		18.0			6.3			45.3			45.6	
Approach LOS		B			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 119 (92%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay (s/veh): 14.4		Intersection LOS: B	
Intersection Capacity Utilization 81.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340



Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1245	0	0	1070	0	0
Future Vol, veh/h	1245	0	0	1070	0	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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	75	75	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1518	0	0	1427	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1518	0	2232	759
Stage 1	-	-	-	-	1518	-
Stage 2	-	-	-	-	713	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	436	-	36	349
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	447	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	436	-	36	349
Mov Cap-2 Maneuver	-	-	-	-	36	-
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	447	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	436	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1195	15	20	1230	10	15
Future Vol, veh/h	1195	15	20	1230	10	15
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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	94	94	58	58
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	1245	16	21	1309	17	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1260	0	1949	630
Stage 1	-	-	-	-	1253	-
Stage 2	-	-	-	-	697	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	559	-	58	429
Stage 1	-	-	-	-	236	-
Stage 2	-	-	-	-	461	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	559	-	56	429
Mov Cap-2 Maneuver	-	-	-	-	56	-
Stage 1	-	-	-	-	236	-
Stage 2	-	-	-	-	443	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.19	47.03
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	56	429	-	-	559	-
HCM Lane V/C Ratio	0.31	0.06	-	-	0.038	-
HCM Ctrl Dly (s/v)	96.7	13.9	-	-	11.7	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	1.1	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1530	10	10	1605	10	10
Future Vol, veh/h	1530	10	10	1605	10	10
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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	95	95	48	48
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1561	10	11	1689	21	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1571	0	2432	786
Stage 1	-	-	-	-	1566	-
Stage 2	-	-	-	-	866	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	416	-	26	335
Stage 1	-	-	-	-	157	-
Stage 2	-	-	-	-	372	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	416	-	26	335
Mov Cap-2 Maneuver	-	-	-	-	26	-
Stage 1	-	-	-	-	157	-
Stage 2	-	-	-	-	363	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.09	174.31
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	26	335	-	-	416	-
HCM Lane V/C Ratio	0.81	0.062	-	-	0.025	-
HCM Ctrl Dly (s/v)	$ 332.2	16.5	-	-	13.9	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	2.5	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1022	1	0	0	0	0
Future Vol, veh/h	1022	1	0	0	0	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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1136	1	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	568
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	466
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	466
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1060	14	0	0	0	8
Future Vol, veh/h	1060	14	0	0	0	8
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	94	94	96	96	58	58
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	1128	15	0	0	0	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	571
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	469
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	469
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	12.91
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	469	-	-	-
HCM Lane V/C Ratio	0.029	-	-	-
HCM Ctrl Dly (s/v)	12.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1374	9	0	0	0	8
Future Vol, veh/h	1374	9	0	0	0	8
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1527	10	0	0	0	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	768
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	344
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	344
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	15.74
HCM LOS			C

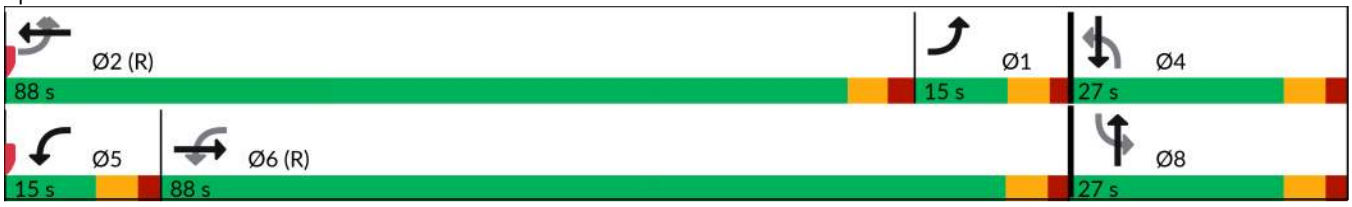
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	344	-	-	-
HCM Lane V/C Ratio	0.026	-	-	-
HCM Ctrl Dly (s/v)	15.7	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

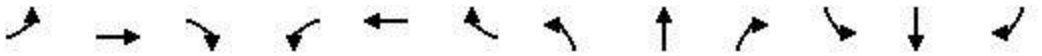
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	952	18	22	869	30	34	4	33	60	14	43
Future Volume (vph)	21	952	18	22	869	30	34	4	33	60	14	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.867			0.887	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3529	0	1770	3539	1583	1770	1615	0	1770	1652	0
Flt Permitted	0.202			0.217			0.704			0.723		
Satd. Flow (perm)	376	3529	0	404	3539	1583	1311	1615	0	1347	1652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				77		46			61	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		233			1185			337			203	
Travel Time (s)		4.5			23.1			7.7			4.6	
Peak Hour Factor	0.85	0.85	0.85	0.73	0.73	0.73	0.71	0.71	0.71	0.71	0.71	0.71
Adj. Flow (vph)	25	1120	21	30	1190	41	48	6	46	85	20	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	1141	0	30	1190	41	48	52	0	85	81	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6		2	4			8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	15.0	88.0		15.0	88.0	88.0	27.0	27.0		27.0	27.0	
Total Split (%)	11.5%	67.7%		11.5%	67.7%	67.7%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	9.2	82.0		8.9	81.6	81.6	20.8	20.8		20.8	20.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	101.0	96.5		100.6	94.9	94.9	13.5	13.5		13.5	13.5	
Actuated g/C Ratio	0.78	0.74		0.77	0.73	0.73	0.10	0.10		0.10	0.10	
v/c Ratio	0.07	0.44		0.08	0.46	0.03	0.36	0.25		0.61	0.36	
Control Delay (s/veh)	2.8	6.9		3.2	8.2	0.6	59.7	19.5		73.2	22.7	
Queue Delay	0.0	0.1		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	2.8	7.0		3.2	8.2	0.6	59.7	19.5		73.2	22.7	
LOS	A	A		A	A	A	E	B		E	C	
Approach Delay (s/veh)		6.9			7.8			38.8			48.5	
Approach LOS		A			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 61 (47%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay (s/veh): 11.1		Intersection LOS: B	
Intersection Capacity Utilization 47.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340



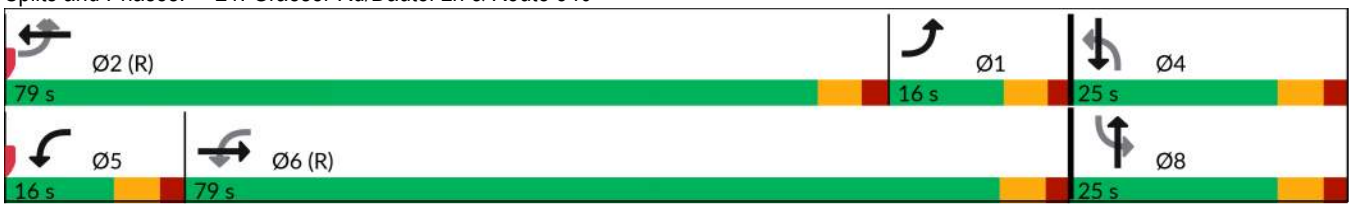


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	935	54	39	953	44	46	10	25	61	11	68
Future Volume (vph)	57	935	54	39	953	44	46	10	25	61	11	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.892			0.871	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3548	0	1805	3574	1615	1805	1695	0	1770	1655	0
Flt Permitted	0.250			0.238			0.701			0.729		
Satd. Flow (perm)	475	3548	0	452	3574	1615	1332	1695	0	1358	1655	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				84		31			74	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		244			1185			332			203	
Travel Time (s)		4.8			23.1			7.5			4.6	
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.81	0.81	0.81	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%
Adj. Flow (vph)	61	1005	58	41	1014	47	57	12	31	66	12	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	1063	0	41	1014	47	57	43	0	66	86	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		2	4			8		
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	16.0	79.0		16.0	79.0	79.0	25.0	25.0		25.0	25.0	
Total Split (%)	13.3%	65.8%		13.3%	65.8%	65.8%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	10.2	73.0		9.9	72.6	72.6	18.8	18.8		18.8	18.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	92.0	86.0		91.5	83.3	83.3	11.3	11.3		11.3	11.3	
Actuated g/C Ratio	0.77	0.72		0.76	0.69	0.69	0.09	0.09		0.09	0.09	
v/c Ratio	0.13	0.42		0.10	0.41	0.04	0.46	0.23		0.52	0.39	
Control Delay (s/veh)	1.7	4.1		2.3	5.1	0.5	61.8	24.8		64.9	19.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	1.7	4.1		2.3	5.1	0.5	61.8	24.8		64.9	19.3	
LOS	A	A		A	A	A	E	C		E	B	
Approach Delay (s/veh)		4.0			4.8			45.9			39.1	
Approach LOS		A			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 40 (33%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay (s/veh): 8.2		Intersection LOS: A	
Intersection Capacity Utilization 58.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340

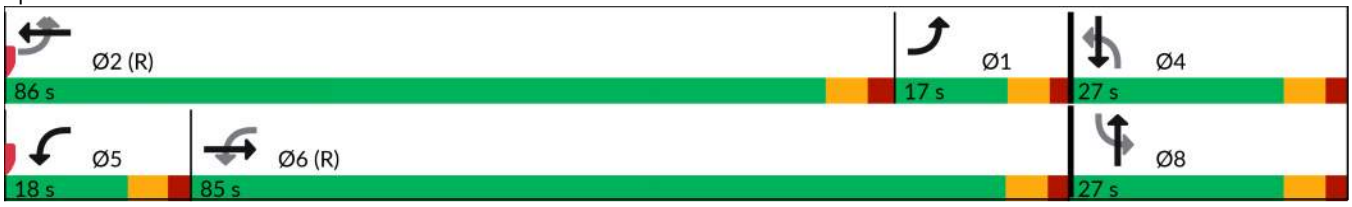


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	1244	62	67	1380	54	48	19	32	76	23	61
Future Volume (vph)	69	1244	62	67	1380	54	48	19	32	76	23	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993				0.850		0.905			0.891	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3514	0	1770	3539	1583	1770	1686	0	1770	1660	0
Flt Permitted	0.128			0.150			0.637			0.708		
Satd. Flow (perm)	238	3514	0	279	3539	1583	1187	1686	0	1319	1660	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				77		48			78	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		243			1185			328			203	
Travel Time (s)		4.7			23.1			7.5			4.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.67	0.67	0.67	0.78	0.78	0.78
Adj. Flow (vph)	73	1323	66	71	1468	57	72	28	48	97	29	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	1389	0	71	1468	57	72	76	0	97	107	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6		2	4			8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	17.0	85.0		18.0	86.0	86.0	27.0	27.0		27.0	27.0	
Total Split (%)	13.1%	65.4%		13.8%	66.2%	66.2%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	11.2	79.0		11.9	79.6	79.6	20.8	20.8		20.8	20.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	98.6	92.4		98.1	89.1	89.1	14.7	14.7		14.7	14.7	
Actuated g/C Ratio	0.76	0.71		0.75	0.69	0.69	0.11	0.11		0.11	0.11	
v/c Ratio	0.24	0.56		0.24	0.61	0.05	0.54	0.33		0.65	0.42	
Control Delay (s/veh)	4.3	7.4		4.7	10.6	0.8	67.9	26.1		74.2	22.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	4.3	7.4		4.7	10.6	0.8	67.9	26.1		74.2	22.3	
LOS	A	A		A	B	A	E	C		E	C	
Approach Delay (s/veh)		7.3			10.0			46.4			47.0	
Approach LOS		A			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 62 (48%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay (s/veh): 12.6		Intersection LOS: B	
Intersection Capacity Utilization 70.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340

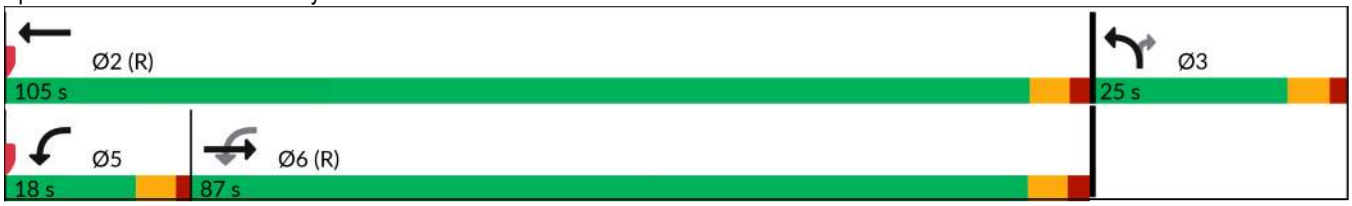


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	829	17	44	1015	31	49
Future Volume (vph)	829	17	44	1015	31	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3529	0	1770	3539	1770	1583
Flt Permitted			0.261		0.950	
Satd. Flow (perm)	3529	0	486	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	3					75
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.83	0.83	0.74	0.74	0.65	0.65
Adj. Flow (vph)	999	20	59	1372	48	75
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1019	0	59	1372	48	75
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	
Permitted Phases			6			3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	87.0		18.0	105.0	25.0	25.0
Total Split (%)	66.9%		13.8%	80.8%	19.2%	19.2%
Maximum Green (s)	81.0		12.7	99.2	19.2	19.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	102.5		107.6	112.5	9.6	9.6
Actuated g/C Ratio	0.79		0.83	0.87	0.07	0.07
v/c Ratio	0.37		0.13	0.45	0.37	0.40
Control Delay (s/veh)	5.2		2.5	5.4	64.5	18.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.2		2.5	5.4	64.5	18.4
LOS	A		A	A	E	B
Approach Delay (s/veh)	5.2			5.2	36.4	
Approach LOS	A			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 114 (88%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay (s/veh): 6.7		Intersection LOS: A	
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340

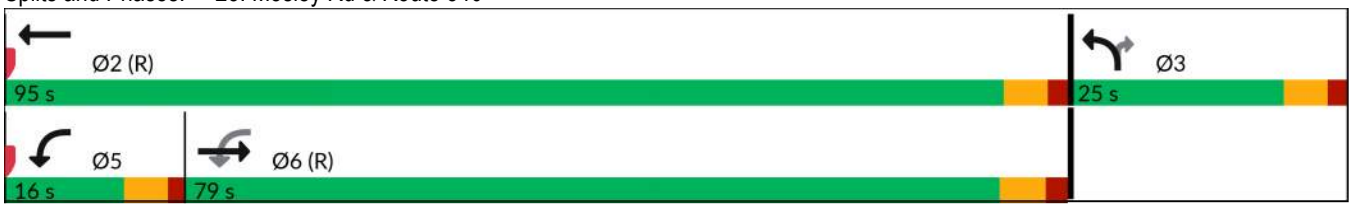


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1121	51	48	1143	74	49
Future Volume (vph)	1121	51	48	1143	74	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3548	0	1770	3610	1770	1568
Flt Permitted			0.195		0.950	
Satd. Flow (perm)	3548	0	363	3610	1770	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					58
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.96	0.96	0.98	0.98	0.85	0.85
Heavy Vehicles (%)	1%	2%	2%	0%	2%	3%
Adj. Flow (vph)	1168	53	49	1166	87	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1221	0	49	1166	87	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Permitted Phases			6			3
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	79.0		16.0	95.0	25.0	25.0
Total Split (%)	65.8%		13.3%	79.2%	20.8%	20.8%
Maximum Green (s)	73.0		10.7	89.2	19.2	19.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	86.7		93.0	96.7	11.7	11.7
Actuated g/C Ratio	0.72		0.78	0.81	0.10	0.10
v/c Ratio	0.48		0.13	0.40	0.51	0.28
Control Delay (s/veh)	4.2		4.7	9.0	60.8	15.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.2		4.7	9.0	60.8	15.6
LOS	A		A	A	E	B
Approach Delay (s/veh)	4.2			8.9	42.7	
Approach LOS	A			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 100 (83%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay (s/veh): 8.5		Intersection LOS: A	
Intersection Capacity Utilization 55.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340

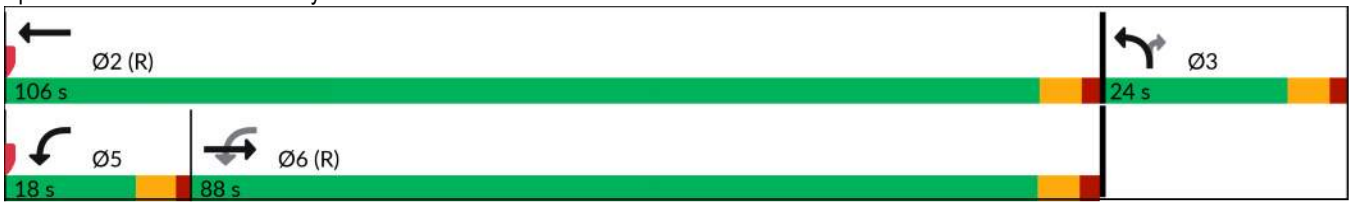


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1324	99	98	1298	72	59
Future Volume (vph)	1324	99	98	1298	72	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.990					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3504	0	1770	3539	1770	1583
Flt Permitted			0.138		0.950	
Satd. Flow (perm)	3504	0	257	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	11					76
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.78	0.78
Adj. Flow (vph)	1365	102	107	1411	92	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1467	0	107	1411	92	76
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	
Permitted Phases			6			3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	88.0		18.0	106.0	24.0	24.0
Total Split (%)	67.7%		13.8%	81.5%	18.5%	18.5%
Maximum Green (s)	82.0		12.7	100.2	18.2	18.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	93.1		101.1	105.9	12.5	12.5
Actuated g/C Ratio	0.72		0.78	0.81	0.10	0.10
v/c Ratio	0.58		0.38	0.49	0.54	0.34
Control Delay (s/veh)	5.7		8.8	8.4	66.9	15.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.7		8.8	8.4	66.9	15.4
LOS	A		A	A	E	B
Approach Delay (s/veh)	5.7			8.5	43.6	
Approach LOS	A			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 121 (93%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay (s/veh): 9.0		Intersection LOS: A	
Intersection Capacity Utilization 65.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340

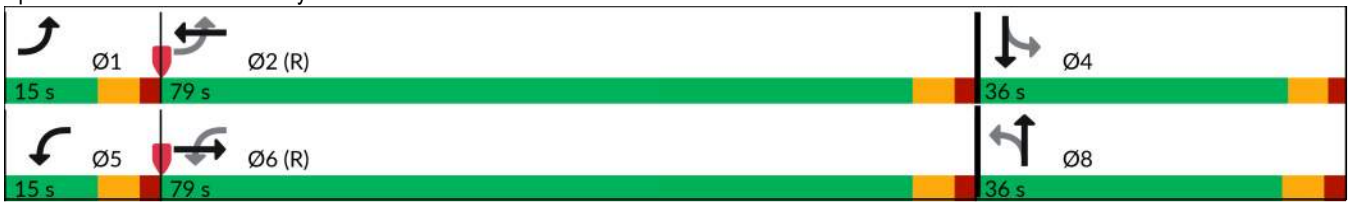


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	866	1	3	865	41	1	0	3	165	0	110
Future Volume (vph)	26	866	1	3	865	41	1	0	3	165	0	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.993			0.892			0.850	
Flt Protected	0.950			0.950				0.990		0.950		
Satd. Flow (prot)	1770	3539	0	1770	3514	0	0	1645	0	1770	1583	0
Flt Permitted	0.267			0.296				0.959		0.754		
Satd. Flow (perm)	497	3539	0	551	3514	0	0	1593	0	1405	1583	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					6						238	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1652			357			145			324	
Travel Time (s)		32.2			7.0			3.3			7.4	
Peak Hour Factor	0.99	0.99	0.99	0.96	0.96	0.96	0.75	0.75	0.75	0.95	0.95	0.95
Adj. Flow (vph)	26	875	1	3	901	43	1	0	4	174	0	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	876	0	3	944	0	0	5	0	174	116	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		30.7	30.7	
Total Split (s)	15.0	79.0		15.0	79.0		36.0	36.0		36.0	36.0	
Total Split (%)	11.5%	60.8%		11.5%	60.8%		27.7%	27.7%		27.7%	27.7%	
Maximum Green (s)	9.1	73.1		9.1	73.1		29.8	29.8		30.3	30.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	94.0	95.0		96.4	89.8			20.4		20.9	20.9	
Actuated g/C Ratio	0.72	0.73		0.74	0.69			0.16		0.16	0.16	
v/c Ratio	0.06	0.34		0.01	0.39			0.02		0.77	0.26	
Control Delay (s/veh)	7.6	9.2		5.7	10.6			42.3		73.7	1.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay (s/veh)	7.6	9.2		5.7	10.6			42.3		73.7	1.4	
LOS	A	A		A	B			D		E	A	
Approach Delay (s/veh)		9.2			10.6			42.3			44.8	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 72 (55%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay (s/veh): 14.7		Intersection LOS: B	
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340

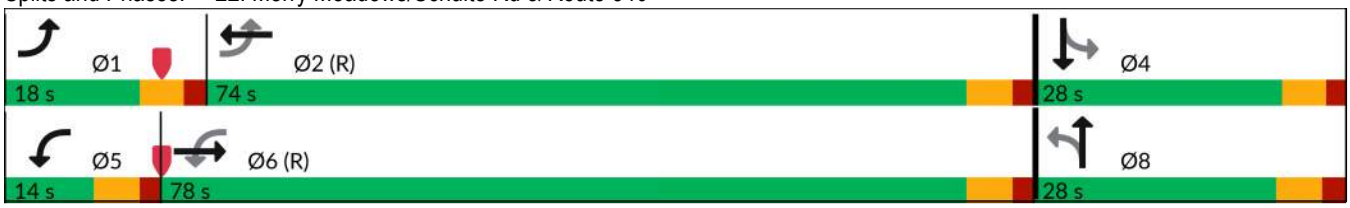


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	968	3	7	984	85	7	3	3	130	0	102
Future Volume (vph)	77	968	3	7	984	85	7	3	3	130	0	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.988			0.968			0.850	
Flt Protected	0.950			0.950				0.974		0.950		
Satd. Flow (prot)	1787	3539	0	1805	3534	0	0	1791	0	1805	1568	0
Flt Permitted	0.203			0.256				0.839		0.746		
Satd. Flow (perm)	382	3539	0	486	3534	0	0	1543	0	1417	1568	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					12						198	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		1652			353			145			324	
Travel Time (s)		32.2			6.9			4.0			7.4	
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.81	0.81	0.81	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	3%
Adj. Flow (vph)	79	998	3	8	1058	91	9	4	4	144	0	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	1001	0	8	1149	0	0	17	0	144	113	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		23.7	23.7	
Total Split (s)	18.0	78.0		14.0	74.0		28.0	28.0		28.0	28.0	
Total Split (%)	15.0%	65.0%		11.7%	61.7%		23.3%	23.3%		23.3%	23.3%	
Maximum Green (s)	12.1	72.1		8.1	68.1		21.8	21.8		22.3	22.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	87.0	89.2		90.6	81.2			16.2		16.7	16.7	
Actuated g/C Ratio	0.73	0.74		0.76	0.68			0.14		0.14	0.14	
v/c Ratio	0.22	0.38		0.02	0.48			0.08		0.73	0.29	
Control Delay (s/veh)	3.8	4.9		4.6	11.2			43.6		70.2	1.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay (s/veh)	3.8	4.9		4.6	11.2			43.6		70.2	1.9	
LOS	A	A		A	B			D		E	A	
Approach Delay (s/veh)		4.8			11.2			43.6			40.2	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 49 (41%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 11.6		Intersection LOS: B	
Intersection Capacity Utilization 62.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340

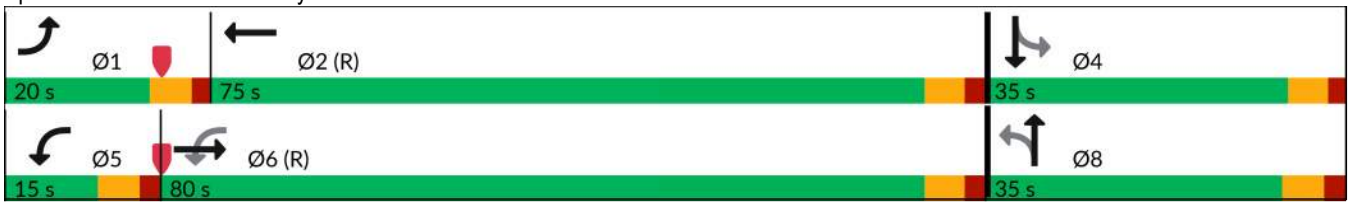


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	1268	1	9	1299	154	11	3	7	178	4	95
Future Volume (vph)	82	1268	1	9	1299	154	11	3	7	178	4	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.984			0.957			0.856	
Flt Protected	0.950			0.950				0.974		0.950		
Satd. Flow (prot)	1770	3539	0	1770	3483	0	0	1736	0	1770	1595	0
Flt Permitted	0.950			0.171				0.837		0.739		
Satd. Flow (perm)	1770	3539	0	319	3483	0	0	1492	0	1377	1595	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					15						100	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		1652			363			145			324	
Travel Time (s)		32.2			7.1			4.0			7.4	
Peak Hour Factor	0.99	0.99	0.99	0.96	0.96	0.96	0.75	0.75	0.75	0.95	0.95	0.95
Adj. Flow (vph)	83	1281	1	9	1353	160	15	4	9	187	4	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	1282	0	9	1513	0	0	28	0	187	104	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases				6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		30.7	30.7	
Total Split (s)	20.0	80.0		15.0	75.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.4%	61.5%		11.5%	57.7%		26.9%	26.9%		26.9%	26.9%	
Maximum Green (s)	14.1	74.1		9.1	69.1		28.8	28.8		29.3	29.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	10.8	93.8		95.2	79.7			21.6		22.1	22.1	
Actuated g/C Ratio	0.08	0.72		0.73	0.61			0.17		0.17	0.17	
v/c Ratio	0.57	0.50		0.03	0.71			0.11		0.80	0.29	
Control Delay (s/veh)	80.7	9.0		6.1	20.8			44.2		75.4	10.8	
Queue Delay	0.0	0.0		0.0	0.9			0.0		0.0	0.0	
Total Delay (s/veh)	80.7	9.0		6.1	21.7			44.2		75.4	10.8	
LOS	F	A		A	C			D		E	B	
Approach Delay (s/veh)		13.3			21.6			44.2			52.3	
Approach LOS		B			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 73 (56%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay (s/veh): 21.1		Intersection LOS: C	
Intersection Capacity Utilization 77.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340



Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	4	68	2	12	45
Future Vol, veh/h	0	4	68	2	12	45
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	73	73	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	93	3	15	57

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	182	95	0	0	96	0
Stage 1	95	-	-	-	-	-
Stage 2	87	-	-	-	-	-
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	808	962	-	-	1498	-
Stage 1	929	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	799	962	-	-	1498	-
Mov Cap-2 Maneuver	799	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	926	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.77	0	1.56
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	962	379	-
HCM Lane V/C Ratio	-	-	-	0.008	0.01	-
HCM Ctrl Dly (s/v)	-	-	0	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	36	58	3	41	66
Future Vol, veh/h	6	36	58	3	41	66
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	85	85	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	41	68	4	48	77

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	242	70	0	0	72	0
Stage 1	70	-	-	-	-	-
Stage 2	172	-	-	-	-	-
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	746	993	-	-	1528	-
Stage 1	953	-	-	-	-	-
Stage 2	858	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	722	993	-	-	1528	-
Mov Cap-2 Maneuver	722	-	-	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	830	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.96	0	2.85
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	722	993	690	-
HCM Lane V/C Ratio	-	-	0.009	0.041	0.031	-
HCM Ctrl Dly (s/v)	-	-	10	8.8	7.4	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	18	77	3	26	128
Future Vol, veh/h	5	18	77	3	26	128
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	63	63	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	22	122	5	27	133

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	312	125	0	0	127	0
Stage 1	125	-	-	-	-	-
Stage 2	188	-	-	-	-	-
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	681	926	-	-	1459	-
Stage 1	901	-	-	-	-	-
Stage 2	844	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	667	926	-	-	1459	-
Mov Cap-2 Maneuver	667	-	-	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	828	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.3	0	1.27
HCM LOS	A		

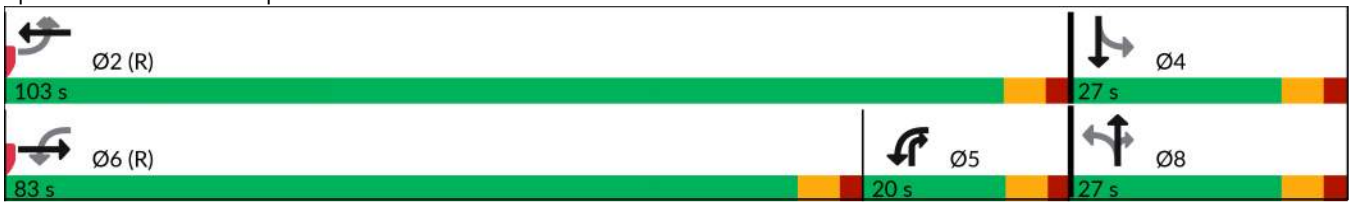
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	667	926	304	-
HCM Lane V/C Ratio	-	-	0.009	0.024	0.019	-
HCM Ctrl Dly (s/v)	-	-	10.4	9	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	0.1	-

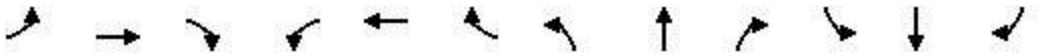
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1030	54	75	892	5	51	4	110	8	6	4
Future Volume (vph)	2	1030	54	75	892	5	51	4	110	8	6	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993				0.850			0.850		0.940	
Flt Protected	0.950			0.950				0.956		0.950		
Satd. Flow (prot)	1770	3514	0	1770	3539	1583	0	1781	1583	1770	1751	0
Flt Permitted	0.215			0.161				0.732		0.707		
Satd. Flow (perm)	400	3514	0	300	3539	1583	0	1364	1583	1317	1751	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				28			66		6	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.83	0.83	0.83	0.73	0.73	0.73	0.72	0.72	0.72	0.64	0.64	0.64
Adj. Flow (vph)	2	1241	65	103	1222	7	71	6	153	13	9	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	1306	0	103	1222	7	0	77	153	13	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.Pm	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases		6		5	2			8	5		4	
Permitted Phases	2			6		2	8		8	4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	30.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	103.0	83.0		20.0	103.0	103.0	27.0	27.0	20.0	27.0	27.0	
Total Split (%)	79.2%	63.8%		15.4%	79.2%	79.2%	20.8%	20.8%	15.4%	20.8%	20.8%	
Maximum Green (s)	96.7	76.8		14.0	96.7	96.7	20.7	20.7	14.0	20.7	20.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag		Lead		Lag					Lag			
Lead-Lag Optimize?		Yes		Yes					Yes			
Vehicle Extension (s)	4.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)	17.0	23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)	0	0			0	0	0	0				
Act Effct Green (s)	109.1	87.9		102.1	109.1	109.1		12.2	29.9	12.2	12.2	
Actuated g/C Ratio	0.84	0.68		0.79	0.84	0.84		0.09	0.23	0.09	0.09	
v/c Ratio	0.01	0.55		0.26	0.41	0.01		0.60	0.37	0.11	0.09	
Control Delay (s/veh)	3.5	17.1		4.9	2.6	0.0		74.8	24.1	53.3	38.9	
Queue Delay	0.0	0.0		0.0	0.1	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)	3.5	17.1		4.9	2.7	0.0		74.8	24.1	53.3	38.9	
LOS	A	B		A	A	A		E	C	D	D	
Approach Delay (s/veh)		17.1			2.8			41.1			45.6	
Approach LOS		B			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 3 (2%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay (s/veh): 12.7		Intersection LOS: B	
Intersection Capacity Utilization 61.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340



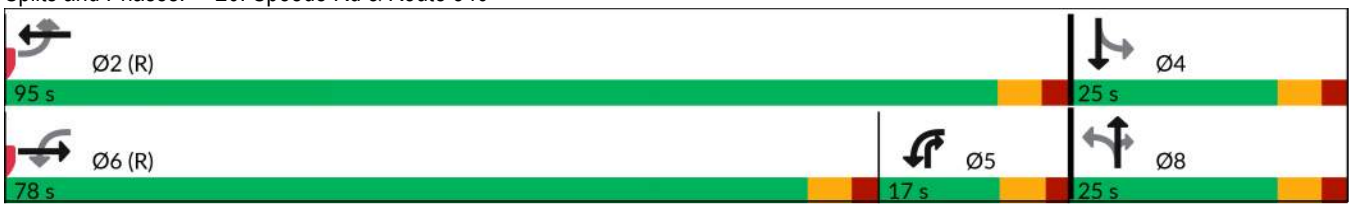


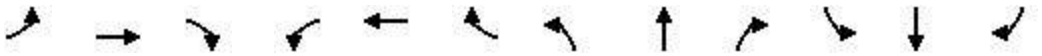
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	999	70	60	927	9	63	2	78	11	4	4
Future Volume (vph)	5	999	70	60	927	9	63	2	78	11	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990				0.850			0.850		0.925	
Flt Protected	0.950			0.950				0.954		0.950		
Satd. Flow (prot)	1444	3527	0	1805	3574	1615	0	1761	1568	1805	1758	0
Flt Permitted	0.284			0.213				0.721		0.705		
Satd. Flow (perm)	432	3527	0	405	3574	1615	0	1331	1568	1340	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				30			96		7	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.81	0.81	0.81	0.60	0.60	0.60
Heavy Vehicles (%)	25%	1%	6%	0%	1%	0%	3%	0%	3%	0%	0%	0%
Adj. Flow (vph)	5	1041	73	63	976	9	78	2	96	18	7	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1114	0	63	976	9	0	80	96	18	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.Pm	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases		6		5	2			8	5		4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		2	8		8	4		
Detector Phase	2	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	30.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	95.0	78.0		17.0	95.0	95.0	25.0	25.0	17.0	25.0	25.0	
Total Split (%)	79.2%	65.0%		14.2%	79.2%	79.2%	20.8%	20.8%	14.2%	20.8%	20.8%	
Maximum Green (s)	88.7	71.8		11.0	88.7	88.7	18.7	18.7	11.0	18.7	18.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag		Lead		Lag					Lag			
Lead-Lag Optimize?		Yes		Yes					Yes			
Vehicle Extension (s)	4.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)	17.0	23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)	0	0			0	0	0	0				
Act Effct Green (s)	99.2	81.0		92.2	99.2	99.2		12.1	26.8	12.1	12.1	
Actuated g/C Ratio	0.83	0.68		0.77	0.83	0.83		0.10	0.22	0.10	0.10	
v/c Ratio	0.01	0.47		0.14	0.33	0.01		0.60	0.23	0.13	0.08	
Control Delay (s/veh)	2.6	10.6		2.9	2.1	0.0		68.8	7.7	49.0	33.3	
Queue Delay	0.0	0.0		0.0	0.1	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)	2.6	10.6		2.9	2.2	0.0		68.8	7.7	49.0	33.3	
LOS	A	B		A	A	A		E	A	D	C	
Approach Delay (s/veh)		10.5			2.2			35.5			42.1	
Approach LOS		B			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 107 (89%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay (s/veh): 9.1		Intersection LOS: A	
Intersection Capacity Utilization 61.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340



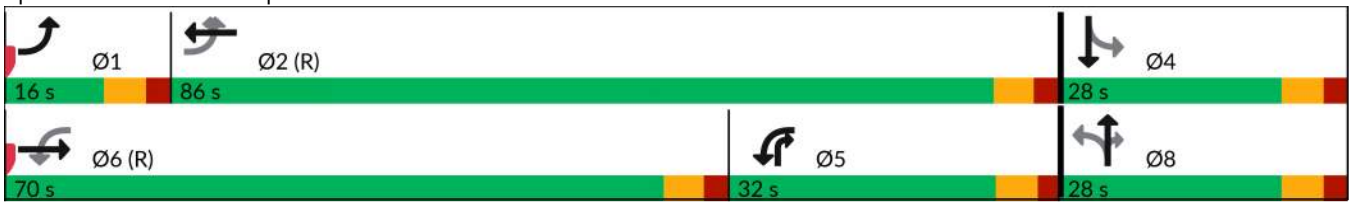


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	1214	139	187	1410	24	106	5	117	18	8	4
Future Volume (vph)	8	1214	139	187	1410	24	106	5	117	18	8	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985				0.850			0.850		0.950	
Flt Protected	0.950			0.950				0.955		0.950		
Satd. Flow (prot)	1770	3486	0	1770	3539	1583	0	1779	1583	1770	1770	0
Flt Permitted	0.125			0.067				0.723		0.578		
Satd. Flow (perm)	233	3486	0	125	3539	1583	0	1347	1583	1077	1770	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				81			80		6	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.87	0.87	0.87	0.68	0.68	0.68
Adj. Flow (vph)	8	1278	146	203	1533	26	122	6	134	26	12	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	1424	0	203	1533	26	0	128	134	26	18	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	1	6		5	2			8	5		4	
Permitted Phases	2			6		2	8		8	4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	13.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	16.0	70.0		32.0	86.0	86.0	28.0	28.0	32.0	28.0	28.0	
Total Split (%)	12.3%	53.8%		24.6%	66.2%	66.2%	21.5%	21.5%	24.6%	21.5%	21.5%	
Maximum Green (s)	9.7	63.8		26.0	79.7	79.7	21.7	21.7	26.0	21.7	21.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag	Lead	Lead		Lag	Lag	Lag			Lag			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes			Yes			
Vehicle Extension (s)	2.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)		23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	99.6	68.9		95.1	98.2	98.2		16.6	48.9	16.6	16.6	
Actuated g/C Ratio	0.77	0.53		0.73	0.76	0.76		0.13	0.38	0.13	0.13	
v/c Ratio	0.03	0.77		0.48	0.57	0.02		0.75	0.21	0.19	0.08	
Control Delay (s/veh)	1.3	15.0		21.2	3.4	0.0		79.3	11.7	51.8	36.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)	1.3	15.0		21.2	3.5	0.0		79.3	11.7	51.8	36.5	
LOS	A	B		C	A	A		E	B	D	D	
Approach Delay (s/veh)		14.9			5.4			44.7			45.6	
Approach LOS		B			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 119 (92%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay (s/veh): 12.7		Intersection LOS: B	
Intersection Capacity Utilization 76.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340



Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1022	1	1	899	0	0
Future Vol, veh/h	1022	1	1	899	0	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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	75	75	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1246	1	1	1199	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1248	0	1849	624
Stage 1	-	-	-	-	1247	-
Stage 2	-	-	-	-	602	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	554	-	66	428
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	554	-	66	428
Mov Cap-2 Maneuver	-	-	-	-	66	-
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	508	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.01	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	554	-
HCM Lane V/C Ratio	-	-	-	-	0.002	-
HCM Ctrl Dly (s/v)	0	0	-	-	11.5	-
HCM Lane LOS	A	A	-	-	B	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1025	14	18	1060	8	13
Future Vol, veh/h	1025	14	18	1060	8	13
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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	96	96	58	58
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	1090	15	19	1104	14	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1105	0	1687	553
Stage 1	-	-	-	-	1098	-
Stage 2	-	-	-	-	590	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	639	-	86	482
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	523	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	639	-	84	482
Mov Cap-2 Maneuver	-	-	-	-	84	-
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	507	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.18	29.35
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	84	482	-	-	639	-
HCM Lane V/C Ratio	0.164	0.046	-	-	0.029	-
HCM Ctrl Dly (s/v)	56.2	12.8	-	-	10.8	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1374	9	11	1460	8	11
Future Vol, veh/h	1374	9	11	1460	8	11
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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	95	95	48	48
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1402	9	12	1537	17	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1411	0	2198	706
Stage 1	-	-	-	-	1407	-
Stage 2	-	-	-	-	792	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	479	-	38	379
Stage 1	-	-	-	-	192	-
Stage 2	-	-	-	-	407	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	479	-	37	379
Mov Cap-2 Maneuver	-	-	-	-	37	-
Stage 1	-	-	-	-	192	-
Stage 2	-	-	-	-	397	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.09	77.82
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	37	379	-	-	479	-
HCM Lane V/C Ratio	0.447	0.061	-	-	0.024	-
HCM Ctrl Dly (s/v)	164	15.1	-	-	12.7	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	1.5	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1020	0	0	0	0	10
Future Vol, veh/h	1020	0	0	0	0	10
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1133	0	0	0	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	567
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	467
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	467
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	467	-	-	-
HCM Lane V/C Ratio	0.024	-	-	-
HCM Ctrl Dly (s/v)	12.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1025	5	0	0	0	0
Future Vol, veh/h	1025	5	0	0	0	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	94	94	96	96	58	58
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	1090	5	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	548
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	486
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	486
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1390	5	0	0	0	5
Future Vol, veh/h	1390	5	0	0	0	5
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1544	6	0	0	0	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	775
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	341
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	341
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	15.74
HCM LOS			C

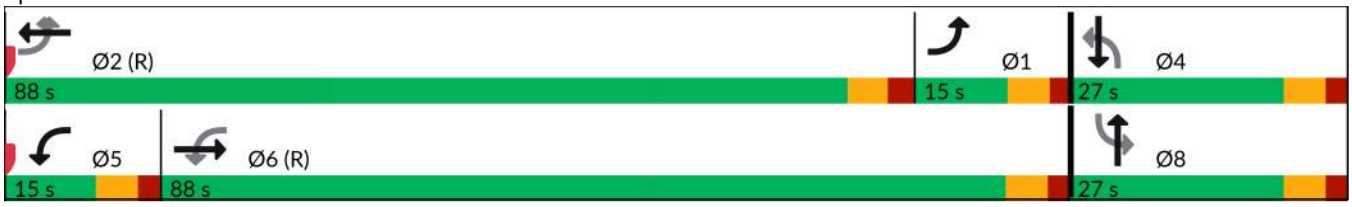
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	341	-	-	-
HCM Lane V/C Ratio	0.016	-	-	-
HCM Ctrl Dly (s/v)	15.7	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

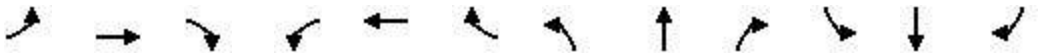
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	965	20	25	875	30	50	5	35	60	15	45
Future Volume (vph)	20	965	20	25	875	30	50	5	35	60	15	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.869			0.887	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3529	0	1770	3539	1583	1770	1619	0	1770	1652	0
Flt Permitted	0.200			0.212			0.702			0.720		
Satd. Flow (perm)	373	3529	0	395	3539	1583	1308	1619	0	1341	1652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				77		49			63	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		233			1185			337			203	
Travel Time (s)		4.5			23.1			7.7			4.6	
Peak Hour Factor	0.85	0.85	0.85	0.73	0.73	0.73	0.71	0.71	0.71	0.71	0.71	0.71
Adj. Flow (vph)	24	1135	24	34	1199	41	70	7	49	85	21	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	1159	0	34	1199	41	70	56	0	85	84	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6		2	4			8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	15.0	88.0		15.0	88.0	88.0	27.0	27.0		27.0	27.0	
Total Split (%)	11.5%	67.7%		11.5%	67.7%	67.7%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	9.2	82.0		8.9	81.6	81.6	20.8	20.8		20.8	20.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	101.0	96.4		100.5	94.9	94.9	13.5	13.5		13.5	13.5	
Actuated g/C Ratio	0.78	0.74		0.77	0.73	0.73	0.10	0.10		0.10	0.10	
v/c Ratio	0.06	0.44		0.09	0.46	0.03	0.52	0.26		0.61	0.37	
Control Delay (s/veh)	2.8	7.0		3.3	8.3	0.6	67.4	19.4		73.1	22.6	
Queue Delay	0.0	0.1		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	2.8	7.1		3.3	8.3	0.6	67.4	19.4		73.1	22.6	
LOS	A	A		A	A	A	E	B		E	C	
Approach Delay (s/veh)		7.0			7.9			46.0			48.0	
Approach LOS		A			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 61 (47%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay (s/veh): 11.7		Intersection LOS: B	
Intersection Capacity Utilization 47.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340



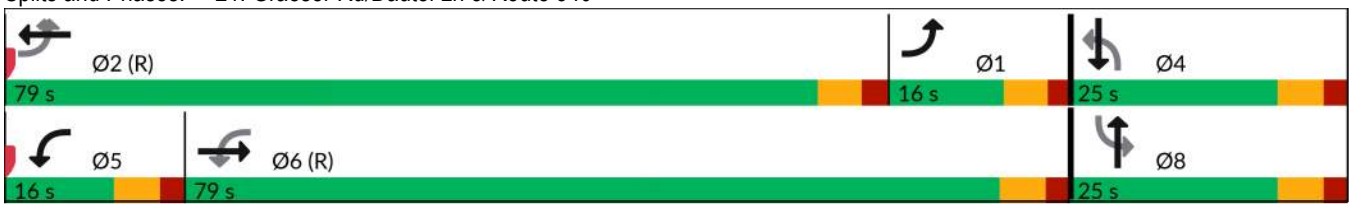


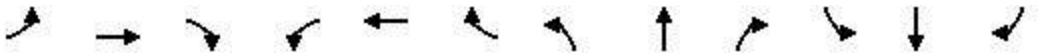
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	945	55	50	960	45	55	10	25	60	10	70
Future Volume (vph)	55	945	55	50	960	45	55	10	25	60	10	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.892			0.869	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3548	0	1805	3574	1615	1805	1695	0	1770	1651	0
Flt Permitted	0.247			0.234			0.701			0.729		
Satd. Flow (perm)	469	3548	0	445	3574	1615	1332	1695	0	1358	1651	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				84		31			76	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		244			1185			332			203	
Travel Time (s)		4.8			23.1			7.5			4.6	
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.81	0.81	0.81	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%
Adj. Flow (vph)	59	1016	59	53	1021	48	68	12	31	65	11	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	1075	0	53	1021	48	68	43	0	65	87	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		2	4			8		
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	16.0	79.0		16.0	79.0	79.0	25.0	25.0		25.0	25.0	
Total Split (%)	13.3%	65.8%		13.3%	65.8%	65.8%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	10.2	73.0		9.9	72.6	72.6	18.8	18.8		18.8	18.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	91.8	85.7		91.3	83.0	83.0	11.6	11.6		11.6	11.6	
Actuated g/C Ratio	0.77	0.71		0.76	0.69	0.69	0.10	0.10		0.10	0.10	
v/c Ratio	0.13	0.42		0.13	0.41	0.04	0.53	0.23		0.50	0.38	
Control Delay (s/veh)	1.7	4.1		2.5	5.3	0.5	65.7	24.6		63.5	18.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	1.7	4.1		2.5	5.3	0.5	65.7	24.6		63.5	18.5	
LOS	A	A		A	A	A	E	C		E	B	
Approach Delay (s/veh)		4.0			4.9			49.8			37.7	
Approach LOS		A			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 40 (33%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay (s/veh): 8.5		Intersection LOS: A	
Intersection Capacity Utilization 58.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340



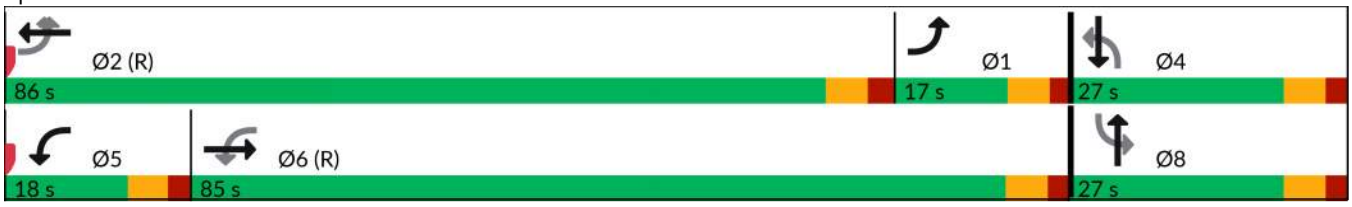


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	1255	60	85	1390	55	60	20	30	75	25	60
Future Volume (vph)	70	1255	60	85	1390	55	60	20	30	75	25	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993				0.850		0.910			0.894	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3514	0	1770	3539	1583	1770	1695	0	1770	1665	0
Flt Permitted	0.125			0.145			0.629			0.708		
Satd. Flow (perm)	233	3514	0	270	3539	1583	1172	1695	0	1319	1665	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				77		45			77	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		243			1185			328			203	
Travel Time (s)		4.7			23.1			7.5			4.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.67	0.67	0.67	0.78	0.78	0.78
Adj. Flow (vph)	74	1335	64	90	1479	59	90	30	45	96	32	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	1399	0	90	1479	59	90	75	0	96	109	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6		2	4			8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	17.0	85.0		18.0	86.0	86.0	27.0	27.0		27.0	27.0	
Total Split (%)	13.1%	65.4%		13.8%	66.2%	66.2%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	11.2	79.0		11.9	79.6	79.6	20.8	20.8		20.8	20.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	98.7	89.6		96.9	89.1	89.1	14.7	14.7		14.7	14.7	
Actuated g/C Ratio	0.76	0.69		0.75	0.69	0.69	0.11	0.11		0.11	0.11	
v/c Ratio	0.25	0.58		0.31	0.61	0.05	0.68	0.32		0.64	0.43	
Control Delay (s/veh)	4.5	8.6		6.6	10.8	0.8	79.3	27.3		73.7	23.3	
Queue Delay	0.0	0.1		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	4.5	8.6		6.6	10.8	0.8	79.3	27.3		73.7	23.3	
LOS	A	A		A	B	A	E	C		E	C	
Approach Delay (s/veh)		8.4			10.2			55.7			46.9	
Approach LOS		A			B			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 62 (48%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 13.8		Intersection LOS: B	
Intersection Capacity Utilization 70.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340

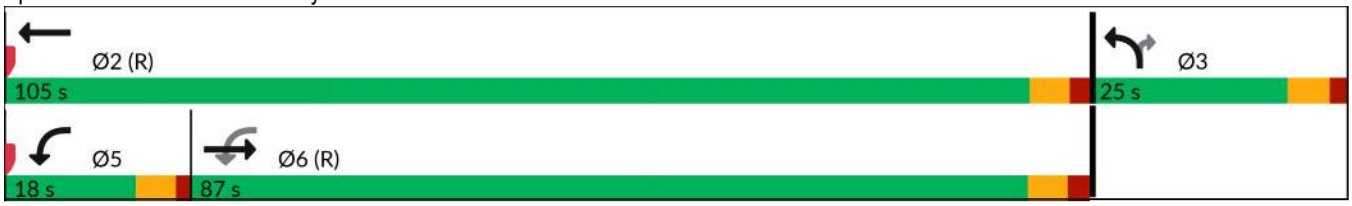


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	840	15	45	1030	30	50
Future Volume (vph)	840	15	45	1030	30	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3529	0	1770	3539	1770	1583
Flt Permitted			0.258		0.950	
Satd. Flow (perm)	3529	0	481	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	3					77
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.83	0.83	0.74	0.74	0.65	0.65
Adj. Flow (vph)	1012	18	61	1392	46	77
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1030	0	61	1392	46	77
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	
Permitted Phases			6			3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	87.0		18.0	105.0	25.0	25.0
Total Split (%)	66.9%		13.8%	80.8%	19.2%	19.2%
Maximum Green (s)	81.0		12.7	99.2	19.2	19.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	102.7		107.8	112.7	9.4	9.4
Actuated g/C Ratio	0.79		0.83	0.87	0.07	0.07
v/c Ratio	0.37		0.13	0.45	0.36	0.41
Control Delay (s/veh)	5.2		2.4	5.4	64.5	18.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.2		2.4	5.4	64.5	18.6
LOS	A		A	A	E	B
Approach Delay (s/veh)	5.2			5.2	35.8	
Approach LOS	A			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 114 (88%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay (s/veh): 6.6		Intersection LOS: A	
Intersection Capacity Utilization 49.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340

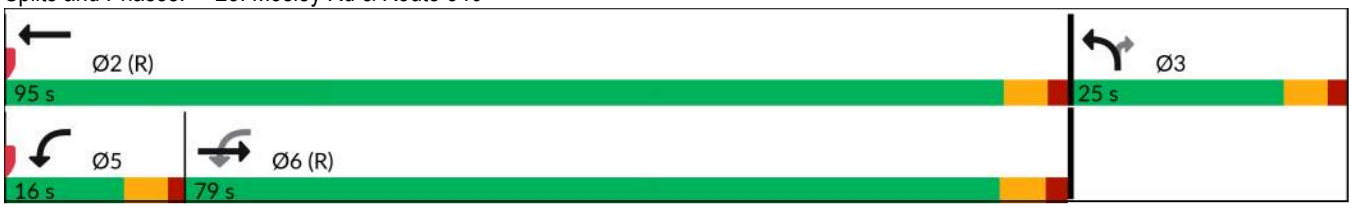


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1135	50	50	1155	75	50
Future Volume (vph)	1135	50	50	1155	75	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3551	0	1770	3610	1770	1568
Flt Permitted			0.191		0.950	
Satd. Flow (perm)	3551	0	356	3610	1770	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					59
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.96	0.96	0.98	0.98	0.85	0.85
Heavy Vehicles (%)	1%	2%	2%	0%	2%	3%
Adj. Flow (vph)	1182	52	51	1179	88	59
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1234	0	51	1179	88	59
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Permitted Phases			6			3
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	79.0		16.0	95.0	25.0	25.0
Total Split (%)	65.8%		13.3%	79.2%	20.8%	20.8%
Maximum Green (s)	73.0		10.7	89.2	19.2	19.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	86.6		92.9	96.6	11.8	11.8
Actuated g/C Ratio	0.72		0.77	0.81	0.10	0.10
v/c Ratio	0.48		0.14	0.41	0.51	0.29
Control Delay (s/veh)	4.2		4.8	9.2	60.8	15.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.2		4.8	9.2	60.8	15.5
LOS	A		A	A	E	B
Approach Delay (s/veh)	4.2			9.0	42.6	
Approach LOS	A			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 100 (83%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay (s/veh): 8.6		Intersection LOS: A	
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340

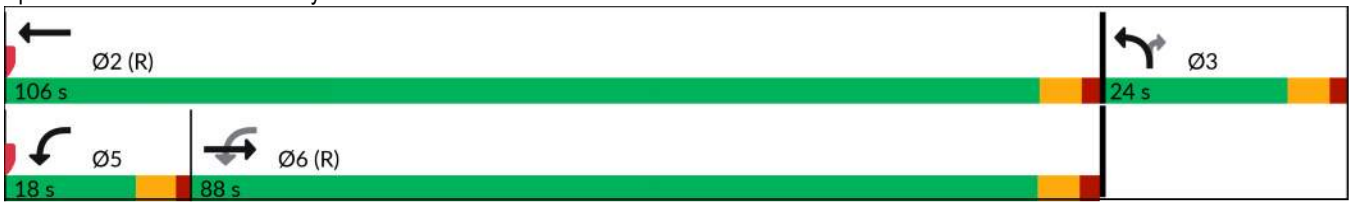


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1350	100	100	1310	70	65
Future Volume (vph)	1350	100	100	1310	70	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.990					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3504	0	1770	3539	1770	1583
Flt Permitted			0.132		0.950	
Satd. Flow (perm)	3504	0	246	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	11					83
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.78	0.78
Adj. Flow (vph)	1392	103	109	1424	90	83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1495	0	109	1424	90	83
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	
Permitted Phases			6			3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	88.0		18.0	106.0	24.0	24.0
Total Split (%)	67.7%		13.8%	81.5%	18.5%	18.5%
Maximum Green (s)	82.0		12.7	100.2	18.2	18.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	93.2		101.2	106.0	12.4	12.4
Actuated g/C Ratio	0.72		0.78	0.82	0.10	0.10
v/c Ratio	0.59		0.39	0.49	0.54	0.37
Control Delay (s/veh)	5.7		9.4	7.1	66.9	15.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.7		9.4	7.1	66.9	15.2
LOS	A		A	A	E	B
Approach Delay (s/veh)	5.7			7.3	42.1	
Approach LOS	A			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 121 (93%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 8.4		Intersection LOS: A	
Intersection Capacity Utilization 66.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340

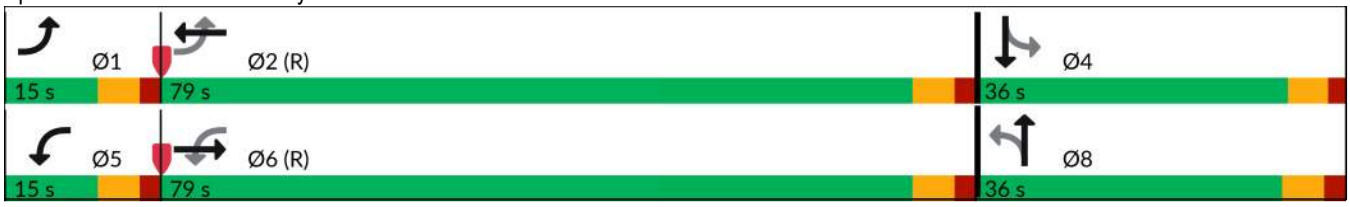


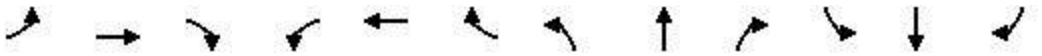
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	875	0	5	885	40	0	0	5	165	0	110
Future Volume (vph)	25	875	0	5	885	40	0	0	5	165	0	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.993			0.865			0.850	
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	1770	3539	0	1770	3514	0	0	1611	0	1770	1583	0
Flt Permitted	0.260			0.293						0.753		
Satd. Flow (perm)	484	3539	0	546	3514	0	0	1611	0	1403	1583	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					6						232	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1652			357			145			324	
Travel Time (s)		32.2			7.0			3.3			7.4	
Peak Hour Factor	0.99	0.99	0.99	0.96	0.96	0.96	0.75	0.75	0.75	0.95	0.95	0.95
Adj. Flow (vph)	25	884	0	5	922	42	0	0	7	174	0	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	884	0	5	964	0	0	7	0	174	116	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA			NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		30.7	30.7	
Total Split (s)	15.0	79.0		15.0	79.0		36.0	36.0		36.0	36.0	
Total Split (%)	11.5%	60.8%		11.5%	60.8%		27.7%	27.7%		27.7%	27.7%	
Maximum Green (s)	9.1	73.1		9.1	73.1		29.8	29.8		30.3	30.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	94.0	94.9		96.3	89.8			20.4		20.9	20.9	
Actuated g/C Ratio	0.72	0.73		0.74	0.69			0.16		0.16	0.16	
v/c Ratio	0.06	0.34		0.01	0.40			0.03		0.77	0.26	
Control Delay (s/veh)	7.7	9.3		5.8	10.7			42.6		73.7	1.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay (s/veh)	7.7	9.3		5.8	10.7			42.6		73.7	1.4	
LOS	A	A		A	B			D		E	A	
Approach Delay (s/veh)		9.2			10.7			42.6			44.8	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 72 (55%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay (s/veh): 14.7		Intersection LOS: B	
Intersection Capacity Utilization 51.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340



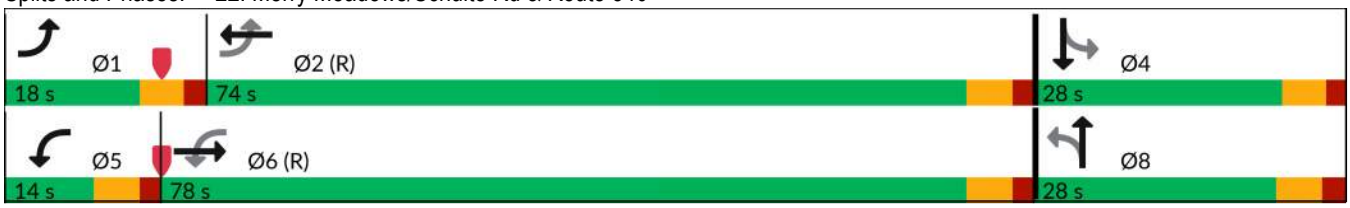


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	990	5	5	995	85	5	5	5	130	0	100
Future Volume (vph)	75	990	5	5	995	85	5	5	5	130	0	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.988			0.955			0.850	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1787	3536	0	1805	3534	0	0	1785	0	1805	1568	0
Flt Permitted	0.199			0.248				0.899		0.746		
Satd. Flow (perm)	374	3536	0	471	3534	0	0	1631	0	1417	1568	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		1			12						196	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		1652			353			145			324	
Travel Time (s)		32.2			6.9			4.0			7.4	
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.81	0.81	0.81	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	3%
Adj. Flow (vph)	77	1021	5	5	1070	91	6	6	6	144	0	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	1026	0	5	1161	0	0	18	0	144	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		23.7	23.7	
Total Split (s)	18.0	78.0		14.0	74.0		28.0	28.0		28.0	28.0	
Total Split (%)	15.0%	65.0%		11.7%	61.7%		23.3%	23.3%		23.3%	23.3%	
Maximum Green (s)	12.1	72.1		8.1	68.1		21.8	21.8		22.3	22.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	87.0	89.2		90.6	81.3			16.2		16.7	16.7	
Actuated g/C Ratio	0.73	0.74		0.76	0.68			0.14		0.14	0.14	
v/c Ratio	0.22	0.39		0.01	0.48			0.08		0.73	0.29	
Control Delay (s/veh)	3.7	4.9		4.6	11.3			43.6		70.2	1.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay (s/veh)	3.7	4.9		4.6	11.3			43.6		70.2	1.9	
LOS	A	A		A	B			D		E	A	
Approach Delay (s/veh)		4.8			11.2			43.6			40.5	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 49 (41%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 11.6		Intersection LOS: B	
Intersection Capacity Utilization 64.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340

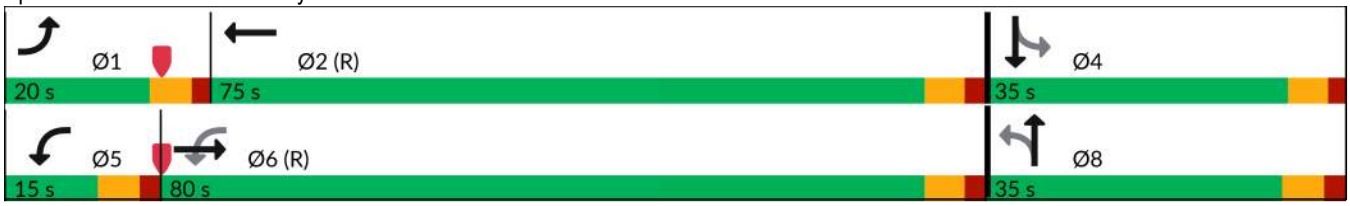


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	1300	0	10	1315	155	10	5	5	185	5	95
Future Volume (vph)	80	1300	0	10	1315	155	10	5	5	185	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.984			0.965			0.857	
Flt Protected	0.950			0.950				0.976		0.950		
Satd. Flow (prot)	1770	3539	0	1770	3483	0	0	1754	0	1770	1596	0
Flt Permitted	0.950			0.162				0.857		0.740		
Satd. Flow (perm)	1770	3539	0	302	3483	0	0	1540	0	1378	1596	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					15						100	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		1652			363			145			324	
Travel Time (s)		32.2			7.1			4.0			7.4	
Peak Hour Factor	0.99	0.99	0.99	0.96	0.96	0.96	0.75	0.75	0.75	0.95	0.95	0.95
Adj. Flow (vph)	81	1313	0	10	1370	161	13	7	7	195	5	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	1313	0	10	1531	0	0	27	0	195	105	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases				6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		30.7	30.7	
Total Split (s)	20.0	80.0		15.0	75.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.4%	61.5%		11.5%	57.7%		26.9%	26.9%		26.9%	26.9%	
Maximum Green (s)	14.1	74.1		9.1	69.1		28.8	28.8		29.3	29.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	10.7	93.2		94.6	81.7			22.1		22.6	22.6	
Actuated g/C Ratio	0.08	0.72		0.73	0.63			0.17		0.17	0.17	
v/c Ratio	0.56	0.52		0.03	0.70			0.10		0.82	0.29	
Control Delay (s/veh)	79.6	9.5		6.2	20.4			43.7		76.2	10.9	
Queue Delay	0.0	0.0		0.0	0.7			0.0		0.0	0.0	
Total Delay (s/veh)	79.6	9.5		6.2	21.1			43.7		76.2	10.9	
LOS	E	A		A	C			D		E	B	
Approach Delay (s/veh)		13.6			21.0			43.7			53.4	
Approach LOS		B			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 73 (56%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 21.0		Intersection LOS: C	
Intersection Capacity Utilization 78.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340



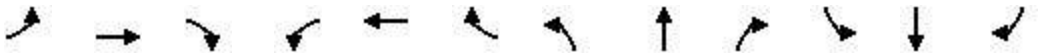
Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	0	0	0	0	5	0	70	0	10	45	0
Future Vol, veh/h	20	0	0	0	0	5	0	70	0	10	45	0
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	-	-	-	0	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	92	92	50	50	50	73	73	73	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	0	0	0	0	10	0	96	0	13	57	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	178	178	57	178	-	96	57	0	0	96	0	0
Stage 1	82	82	-	96	-	-	-	-	-	-	-	-
Stage 2	96	96	-	82	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	784	716	1009	784	0	961	1547	-	-	1498	-	-
Stage 1	926	827	-	911	0	-	-	-	-	-	-	-
Stage 2	911	816	-	926	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	769	709	1009	777	-	961	1547	-	-	1498	-	-
Mov Cap-2 Maneuver	769	709	-	777	-	-	-	-	-	-	-	-
Stage 1	918	819	-	911	-	-	-	-	-	-	-	-
Stage 2	901	816	-	918	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.81	8.79	0	1.35
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1547	-	-	769	-	961	327	-	-
HCM Lane V/C Ratio	-	-	-	0.026	-	0.01	0.008	-	-
HCM Ctrl Dly (s/v)	0	-	-	9.8	0	8.8	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	0	0	5	0	35	0	60	5	40	65	0
Future Volume (vph)	10	0	0	5	0	35	0	60	5	40	65	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.989				
Flt Protected		0.950		0.950							0.981	
Satd. Flow (prot)	0	1770	0	1770	0	1583	0	1842	0	0	1827	0
Flt Permitted		0.950		0.950							0.981	
Satd. Flow (perm)	0	1770	0	1770	0	1583	0	1842	0	0	1827	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		362			226			134			332	
Travel Time (s)		8.2			5.1			3.0			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.85	0.85	0.85	0.86	0.86	0.86
Adj. Flow (vph)	11	0	0	6	0	40	0	71	6	47	76	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	6	0	40	0	77	0	0	123	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	0	5	0	20	0	75	5	25	130	0
Future Vol, veh/h	15	0	0	5	0	20	0	75	5	25	130	0
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	-	-	-	0	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	82	82	82	63	63	63	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	0	6	0	24	0	119	8	26	135	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	307	314	135	311	-	123	135	0	0	127	0	0
Stage 1	188	188	-	123	-	-	-	-	-	-	-	-
Stage 2	119	127	-	188	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	646	601	913	642	0	928	1449	-	-	1459	-	-
Stage 1	814	745	-	881	0	-	-	-	-	-	-	-
Stage 2	885	791	-	814	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	617	589	913	630	-	928	1449	-	-	1459	-	-
Mov Cap-2 Maneuver	617	589	-	630	-	-	-	-	-	-	-	-
Stage 1	799	730	-	881	-	-	-	-	-	-	-	-
Stage 2	862	791	-	799	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11	9.34	0	1.21
HCM LOS	B	A		

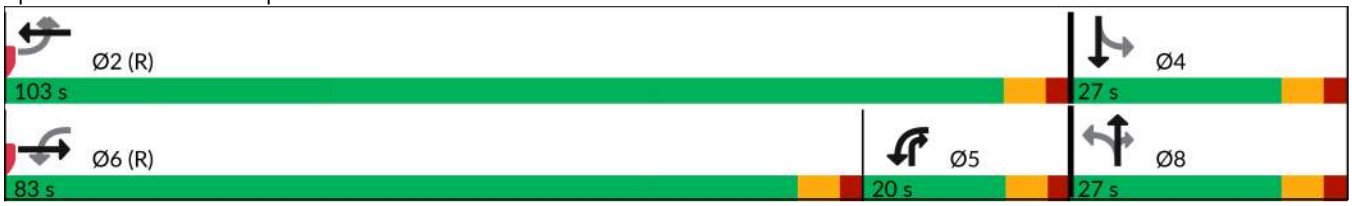
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1449	-	-	617	630	928	290	-	-
HCM Lane V/C Ratio	-	-	-	0.026	0.01	0.026	0.018	-	-
HCM Ctrl Dly (s/v)	0	-	-	11	10.8	9	7.5	0	-
HCM Lane LOS	A	-	-	B	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	0.1	-	-

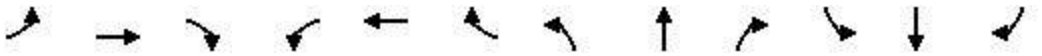
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1045	55	75	900	5	50	5	115	10	5	5
Future Volume (vph)	0	1045	55	75	900	5	50	5	115	10	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993				0.850			0.850		0.925	
Flt Protected				0.950				0.957		0.950		
Satd. Flow (prot)	1863	3514	0	1770	3539	1583	0	1783	1583	1770	1723	0
Flt Permitted				0.156				0.734		0.708		
Satd. Flow (perm)	1863	3514	0	291	3539	1583	0	1367	1583	1319	1723	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				28			63		8	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.83	0.83	0.83	0.73	0.73	0.73	0.72	0.72	0.72	0.64	0.64	0.64
Adj. Flow (vph)	0	1259	66	103	1233	7	69	7	160	16	8	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1325	0	103	1233	7	0	76	160	16	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.Pm	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases		6		5	2			8	5		4	
Permitted Phases	2			6		2	8		8	4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	30.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	103.0	83.0		20.0	103.0	103.0	27.0	27.0	20.0	27.0	27.0	
Total Split (%)	79.2%	63.8%		15.4%	79.2%	79.2%	20.8%	20.8%	15.4%	20.8%	20.8%	
Maximum Green (s)	96.7	76.8		14.0	96.7	96.7	20.7	20.7	14.0	20.7	20.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag		Lead		Lag					Lag			
Lead-Lag Optimize?		Yes		Yes					Yes			
Vehicle Extension (s)	4.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)	17.0	23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)	0	0			0	0	0	0				
Act Effct Green (s)		88.0		102.2	109.2	109.2		12.2	29.8	12.2	12.2	
Actuated g/C Ratio		0.68		0.79	0.84	0.84		0.09	0.23	0.09	0.09	
v/c Ratio		0.56		0.27	0.42	0.01		0.59	0.39	0.13	0.10	
Control Delay (s/veh)		17.0		5.1	2.6	0.0		74.5	26.1	54.1	35.8	
Queue Delay		0.0		0.0	0.1	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)		17.0		5.1	2.7	0.0		74.5	26.1	54.1	35.8	
LOS		B		A	A	A		E	C	D	D	
Approach Delay (s/veh)		17.0			2.8			41.7			45.0	
Approach LOS		B			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 3 (2%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 12.8		Intersection LOS: B	
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340



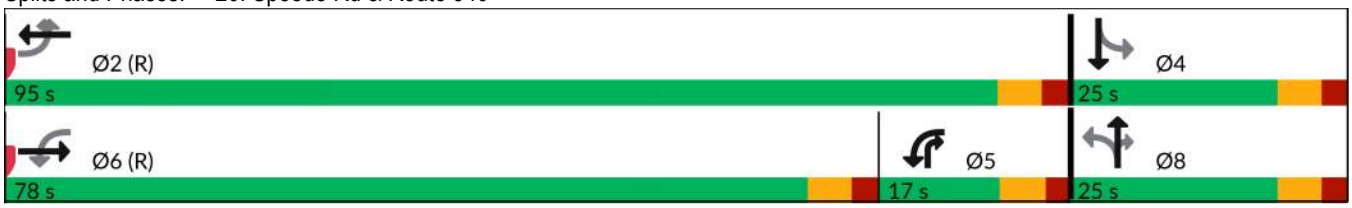


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1010	70	60	940	10	65	0	80	10	5	5
Future Volume (vph)	5	1010	70	60	940	10	65	0	80	10	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990				0.850			0.850		0.925	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1444	3527	0	1805	3574	1615	0	1752	1568	1805	1758	0
Flt Permitted	0.280			0.211				0.747		0.705		
Satd. Flow (perm)	426	3527	0	401	3574	1615	0	1378	1568	1340	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				30			99		8	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.81	0.81	0.81	0.60	0.60	0.60
Heavy Vehicles (%)	25%	1%	6%	0%	1%	0%	3%	0%	3%	0%	0%	0%
Adj. Flow (vph)	5	1052	73	63	989	11	80	0	99	17	8	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1125	0	63	989	11	0	80	99	17	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.Pm	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases		6		5	2			8	5		4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		2	8		8	4		
Detector Phase	2	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	30.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	95.0	78.0		17.0	95.0	95.0	25.0	25.0	17.0	25.0	25.0	
Total Split (%)	79.2%	65.0%		14.2%	79.2%	79.2%	20.8%	20.8%	14.2%	20.8%	20.8%	
Maximum Green (s)	88.7	71.8		11.0	88.7	88.7	18.7	18.7	11.0	18.7	18.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag		Lead		Lag					Lag			
Lead-Lag Optimize?		Yes		Yes					Yes			
Vehicle Extension (s)	4.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)	17.0	23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)	0	0			0	0	0	0				
Act Effct Green (s)	99.4	81.2		92.4	99.4	99.4		11.9	26.6	11.9	11.9	
Actuated g/C Ratio	0.83	0.68		0.77	0.83	0.83		0.10	0.22	0.10	0.10	
v/c Ratio	0.01	0.47		0.14	0.33	0.01		0.59	0.23	0.13	0.09	
Control Delay (s/veh)	2.4	10.3		2.8	2.1	0.0		67.9	7.8	49.2	33.1	
Queue Delay	0.0	0.0		0.0	0.1	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)	2.4	10.3		2.8	2.2	0.0		67.9	7.8	49.2	33.1	
LOS	A	B		A	A	A		E	A	D	C	
Approach Delay (s/veh)		10.3			2.2			34.6			41.4	
Approach LOS		B			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 107 (89%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 8.9		Intersection LOS: A	
Intersection Capacity Utilization 61.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340

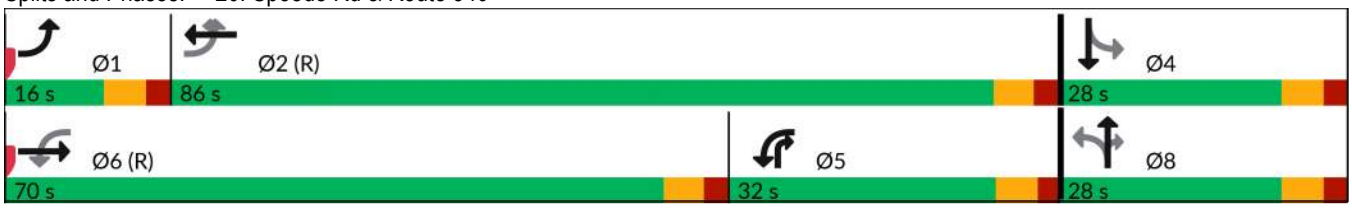


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1225	140	185	1435	25	110	5	115	20	10	5
Future Volume (vph)	10	1225	140	185	1435	25	110	5	115	20	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985				0.850			0.850		0.952	
Flt Protected	0.950			0.950				0.954		0.950		
Satd. Flow (prot)	1770	3486	0	1770	3539	1583	0	1777	1583	1770	1773	0
Flt Permitted	0.119			0.063				0.720		0.567		
Satd. Flow (perm)	222	3486	0	117	3539	1583	0	1341	1583	1056	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				81			80		7	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.87	0.87	0.87	0.68	0.68	0.68
Adj. Flow (vph)	11	1289	147	201	1560	27	126	6	132	29	15	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1436	0	201	1560	27	0	132	132	29	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	1	6		5	2			8	5		4	
Permitted Phases	2			6		2	8		8	4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	13.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	16.0	70.0		32.0	86.0	86.0	28.0	28.0	32.0	28.0	28.0	
Total Split (%)	12.3%	53.8%		24.6%	66.2%	66.2%	21.5%	21.5%	24.6%	21.5%	21.5%	
Maximum Green (s)	9.7	63.8		26.0	79.7	79.7	21.7	21.7	26.0	21.7	21.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag	Lead	Lead		Lag	Lag	Lag			Lag			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes			Yes			
Vehicle Extension (s)	2.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)		23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	99.2	68.6		94.8	97.8	97.8		16.9	49.2	16.9	16.9	
Actuated g/C Ratio	0.76	0.53		0.73	0.75	0.75		0.13	0.38	0.13	0.13	
v/c Ratio	0.04	0.78		0.48	0.59	0.02		0.76	0.20	0.21	0.09	
Control Delay (s/veh)	1.3	14.2		22.2	3.5	0.0		80.2	11.4	52.3	36.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)	1.3	14.2		22.2	3.6	0.0		80.2	11.4	52.3	36.8	
LOS	A	B		C	A	A		F	B	D	D	
Approach Delay (s/veh)		14.1			5.6			45.8			45.6	
Approach LOS		B			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 119 (92%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 12.7		Intersection LOS: B	
Intersection Capacity Utilization 77.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340



Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1020	10	5	915	5	10
Future Vol, veh/h	1020	10	5	915	5	10
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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	75	75	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1244	12	7	1220	6	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1256	0	1873	628
Stage 1	-	-	-	-	1250	-
Stage 2	-	-	-	-	623	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	550	-	63	426
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	497	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	550	-	63	426
Mov Cap-2 Maneuver	-	-	-	-	63	-
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	491	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.06	31.76
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	63	426	-	-	550	-
HCM Lane V/C Ratio	0.089	0.026	-	-	0.012	-
HCM Ctrl Dly (s/v)	67.9	13.7	-	-	11.6	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1030	15	5	1060	0	5
Future Vol, veh/h	1030	15	5	1060	0	5
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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	96	96	58	58
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	1096	16	5	1104	0	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1112	0	1666	556
Stage 1	-	-	-	-	1104	-
Stage 2	-	-	-	-	563	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	636	-	89	480
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	540	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	636	-	89	480
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	535	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.05	12.64
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	480	-	-	636	-
HCM Lane V/C Ratio	-	0.018	-	-	0.008	-
HCM Ctrl Dly (s/v)	0	12.6	-	-	10.7	-
HCM Lane LOS	A	B	-	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1380	25	10	1470	5	5
Future Vol, veh/h	1380	25	10	1470	5	5
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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	95	95	48	48
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1408	26	11	1547	10	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1434	0	2216	717
Stage 1	-	-	-	-	1421	-
Stage 2	-	-	-	-	795	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	470	-	37	372
Stage 1	-	-	-	-	189	-
Stage 2	-	-	-	-	405	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	470	-	36	372
Mov Cap-2 Maneuver	-	-	-	-	36	-
Stage 1	-	-	-	-	189	-
Stage 2	-	-	-	-	396	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.09	77.44
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	36	372	-	-	470	-
HCM Lane V/C Ratio	0.287	0.028	-	-	0.022	-
HCM Ctrl Dly (s/v)	139.9	15	-	-	12.8	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1245	0	0	0	0	10
Future Vol, veh/h	1245	0	0	0	0	10
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1383	0	0	0	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	692
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	387
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	387
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	14.59
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	387	-	-	-
HCM Lane V/C Ratio	0.029	-	-	-
HCM Ctrl Dly (s/v)	14.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1200	5	0	0	0	0
Future Vol, veh/h	1200	5	0	0	0	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	94	94	96	96	58	58
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	1277	5	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	641
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	422
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	422
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

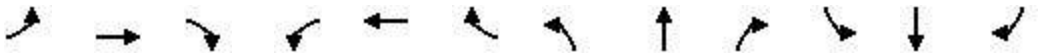
Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1535	5	0	0	0	5
Future Vol, veh/h	1535	5	0	0	0	5
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1706	6	0	0	0	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	856
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	301
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	301
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	17.17
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	301	-	-	-
HCM Lane V/C Ratio	0.018	-	-	-
HCM Ctrl Dly (s/v)	17.2	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

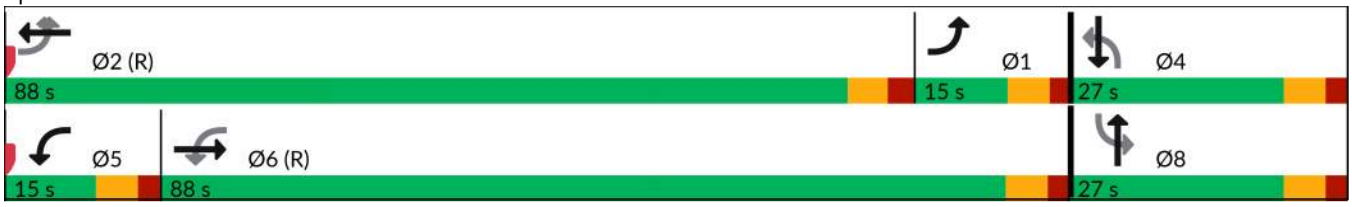


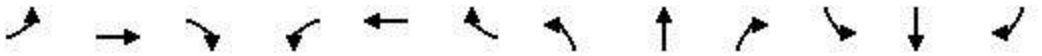
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1185	20	25	1045	35	50	5	35	65	15	45
Future Volume (vph)	20	1185	20	25	1045	35	50	5	35	65	15	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.869			0.887	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3529	0	1770	3539	1583	1770	1619	0	1770	1652	0
Flt Permitted	0.143			0.148			0.702			0.720		
Satd. Flow (perm)	266	3529	0	276	3539	1583	1308	1619	0	1341	1652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				77		49			63	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		233			1185			337			203	
Travel Time (s)		4.5			23.1			7.7			4.6	
Peak Hour Factor	0.85	0.85	0.85	0.73	0.73	0.73	0.71	0.71	0.71	0.71	0.71	0.71
Adj. Flow (vph)	24	1394	24	34	1432	48	70	7	49	92	21	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	1418	0	34	1432	48	70	56	0	92	84	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6		2	4			8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	15.0	88.0		15.0	88.0	88.0	27.0	27.0		27.0	27.0	
Total Split (%)	11.5%	67.7%		11.5%	67.7%	67.7%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	9.2	82.0		8.9	81.6	81.6	20.8	20.8		20.8	20.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	100.3	95.8		99.9	94.2	94.2	14.2	14.2		14.2	14.2	
Actuated g/C Ratio	0.77	0.74		0.77	0.72	0.72	0.11	0.11		0.11	0.11	
v/c Ratio	0.08	0.55		0.12	0.56	0.04	0.49	0.25		0.63	0.36	
Control Delay (s/veh)	2.8	8.2		3.8	11.2	0.8	64.9	18.9		73.3	22.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	2.8	8.2		3.8	11.2	0.8	64.9	18.9		73.3	22.0	
LOS	A	A		A	B	A	E	B		E	C	
Approach Delay (s/veh)		8.2			10.7			44.5			48.8	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 61 (47%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay (s/veh): 12.9		Intersection LOS: B	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340



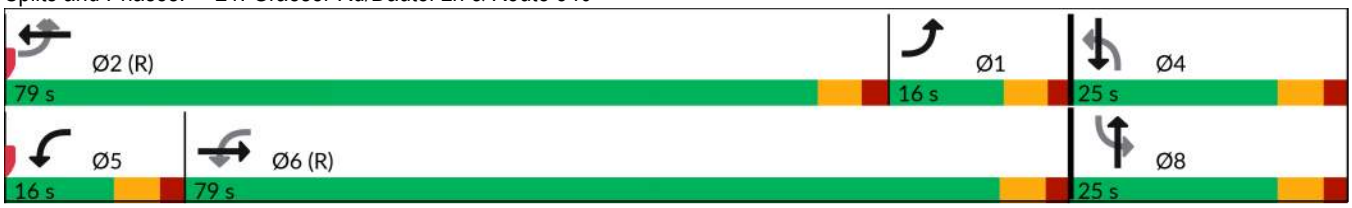


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1110	60	50	1120	45	55	10	25	65	10	75
Future Volume (vph)	60	1110	60	50	1120	45	55	10	25	65	10	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.892			0.868	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3547	0	1805	3574	1615	1805	1695	0	1770	1649	0
Flt Permitted	0.196			0.183			0.697			0.729		
Satd. Flow (perm)	372	3547	0	348	3574	1615	1324	1695	0	1358	1649	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				84		31			82	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		244			1185			332			203	
Travel Time (s)		4.8			23.1			7.5			4.6	
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.81	0.81	0.81	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%
Adj. Flow (vph)	65	1194	65	53	1191	48	68	12	31	71	11	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	1259	0	53	1191	48	68	43	0	71	93	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		2	4			8		
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	16.0	79.0		16.0	79.0	79.0	25.0	25.0		25.0	25.0	
Total Split (%)	13.3%	65.8%		13.3%	65.8%	65.8%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	10.2	73.0		9.9	72.6	72.6	18.8	18.8		18.8	18.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	91.7	85.6		91.1	82.9	82.9	11.7	11.7		11.7	11.7	
Actuated g/C Ratio	0.76	0.71		0.76	0.69	0.69	0.10	0.10		0.10	0.10	
v/c Ratio	0.16	0.50		0.15	0.48	0.04	0.53	0.22		0.54	0.40	
Control Delay (s/veh)	1.9	4.2		2.7	5.4	0.4	65.3	24.5		65.5	18.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	1.9	4.3		2.7	5.4	0.4	65.3	24.5		65.5	18.1	
LOS	A	A		A	A	A	E	C		E	B	
Approach Delay (s/veh)		4.2			5.1			49.5			38.6	
Approach LOS		A			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 40 (33%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay (s/veh): 8.3		Intersection LOS: A	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340

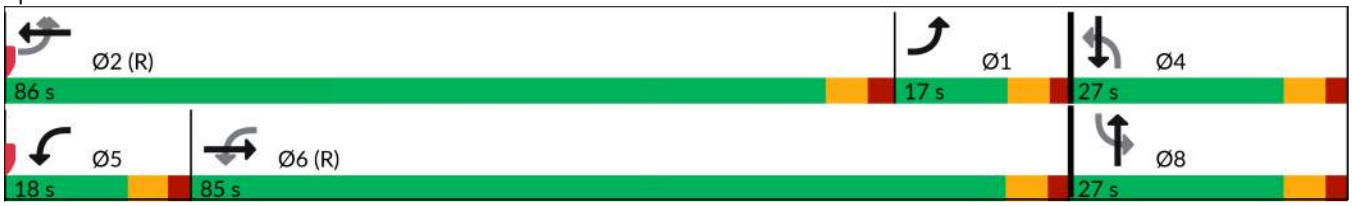


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	1405	65	90	1530	60	65	20	30	80	25	65
Future Volume (vph)	75	1405	65	90	1530	60	65	20	30	80	25	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		90	0		150	100		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993				0.850		0.910			0.892	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3514	0	1770	3539	1583	1770	1695	0	1770	1662	0
Flt Permitted	0.095			0.109			0.611			0.708		
Satd. Flow (perm)	177	3514	0	203	3539	1583	1138	1695	0	1319	1662	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				77		45			83	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		243			1185			328			203	
Travel Time (s)		4.7			23.1			7.5			4.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.67	0.67	0.67	0.78	0.78	0.78
Adj. Flow (vph)	80	1495	69	96	1628	64	97	30	45	103	32	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	1564	0	96	1628	64	97	75	0	103	115	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.Pm	NA		D.Pm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6		2	4			8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	8		8	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	31.0		13.1	37.4	37.4	13.2	37.2		37.2	13.2	
Total Split (s)	17.0	85.0		18.0	86.0	86.0	27.0	27.0		27.0	27.0	
Total Split (%)	13.1%	65.4%		13.8%	66.2%	66.2%	20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	11.2	79.0		11.9	79.6	79.6	20.8	20.8		20.8	20.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.8	2.0		2.1	2.4	2.4	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	6.0		6.1	6.4	6.4	6.2	6.2		6.2	6.2	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0		7.0		7.0		
Flash Don't Walk (s)		18.0			24.0	24.0		24.0		24.0		
Pedestrian Calls (#/hr)		0			0	0		0		0		
Act Effct Green (s)	98.0	88.5		96.2	88.4	88.4	15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.75	0.68		0.74	0.68	0.68	0.12	0.12		0.12	0.12	
v/c Ratio	0.31	0.65		0.39	0.68	0.06	0.72	0.31		0.66	0.43	
Control Delay (s/veh)	8.2	9.9		11.0	13.9	1.0	82.9	26.8		73.9	22.2	
Queue Delay	0.0	0.1		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	8.2	10.0		11.0	13.9	1.0	82.9	26.8		73.9	22.2	
LOS	A	B		B	B	A	F	C		E	C	
Approach Delay (s/veh)		9.9			13.3			58.4			46.6	
Approach LOS		A			B			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 62 (48%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay (s/veh): 15.8		Intersection LOS: B	
Intersection Capacity Utilization 74.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 21: Graeser Rd/Dautel Ln & Route 340

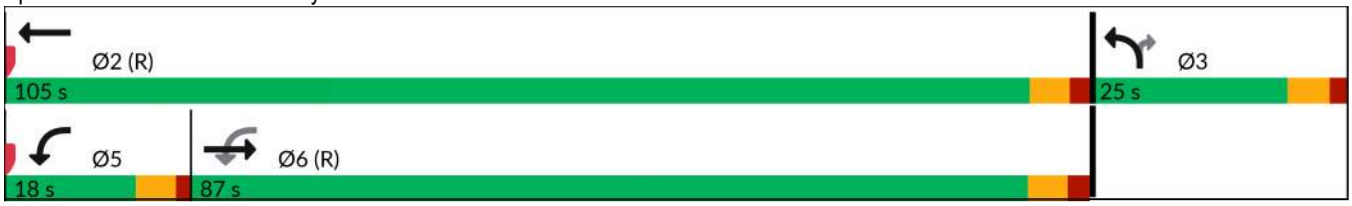


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1055	15	45	1210	30	55
Future Volume (vph)	1055	15	45	1210	30	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.998					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3532	0	1770	3539	1770	1583
Flt Permitted			0.185		0.950	
Satd. Flow (perm)	3532	0	345	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2					85
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.83	0.83	0.74	0.74	0.65	0.65
Adj. Flow (vph)	1271	18	61	1635	46	85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1289	0	61	1635	46	85
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	
Permitted Phases			6			3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	87.0		18.0	105.0	25.0	25.0
Total Split (%)	66.9%		13.8%	80.8%	19.2%	19.2%
Maximum Green (s)	81.0		12.7	99.2	19.2	19.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	98.9		105.2	109.0	9.4	9.4
Actuated g/C Ratio	0.76		0.81	0.84	0.07	0.07
v/c Ratio	0.48		0.17	0.55	0.36	0.44
Control Delay (s/veh)	6.0		2.9	6.9	64.5	18.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.0		2.9	6.9	64.5	18.4
LOS	A		A	A	E	B
Approach Delay (s/veh)	6.0			6.8	34.6	
Approach LOS	A			A	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 114 (88%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay (s/veh): 7.6		Intersection LOS: A	
Intersection Capacity Utilization 52.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340

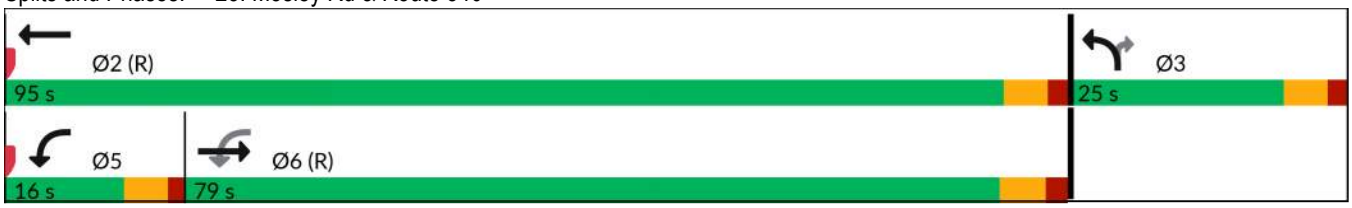


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1310	55	55	1325	80	55
Future Volume (vph)	1310	55	55	1325	80	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3551	0	1770	3610	1770	1568
Flt Permitted			0.146		0.950	
Satd. Flow (perm)	3551	0	272	3610	1770	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	6					65
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.96	0.96	0.98	0.98	0.85	0.85
Heavy Vehicles (%)	1%	2%	2%	0%	2%	3%
Adj. Flow (vph)	1365	57	56	1352	94	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1422	0	56	1352	94	65
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Permitted Phases			6			3
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	79.0		16.0	95.0	25.0	25.0
Total Split (%)	65.8%		13.3%	79.2%	20.8%	20.8%
Maximum Green (s)	73.0		10.7	89.2	19.2	19.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	86.2		92.5	96.2	12.2	12.2
Actuated g/C Ratio	0.72		0.77	0.80	0.10	0.10
v/c Ratio	0.56		0.19	0.47	0.53	0.30
Control Delay (s/veh)	4.6		5.1	10.0	61.1	15.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.6		5.1	10.0	61.1	15.0
LOS	A		A	B	E	B
Approach Delay (s/veh)	4.6			9.8	42.3	
Approach LOS	A			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 100 (83%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay (s/veh): 9.0		Intersection LOS: A	
Intersection Capacity Utilization 61.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340

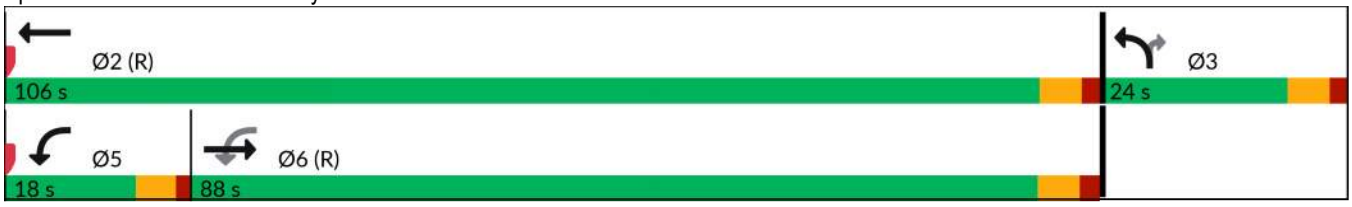


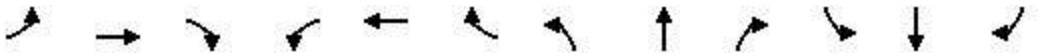
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1500	105	105	1440	75	70
Future Volume (vph)	1500	105	105	1440	75	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		110	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.990					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3504	0	1770	3539	1770	1583
Flt Permitted			0.100		0.950	
Satd. Flow (perm)	3504	0	186	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	11					90
Link Speed (mph)	35			35	30	
Link Distance (ft)	1172			1652	393	
Travel Time (s)	22.8			32.2	8.9	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.78	0.78
Adj. Flow (vph)	1546	108	114	1565	96	90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1654	0	114	1565	96	90
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		D.P+P	NA	Prot	Perm
Protected Phases	6		5	2	3	
Permitted Phases			6			3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6		5	2	3	3
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	7.0
Minimum Split (s)	33.0		12.3	15.8	29.8	29.8
Total Split (s)	88.0		18.0	106.0	24.0	24.0
Total Split (%)	67.7%		13.8%	81.5%	18.5%	18.5%
Maximum Green (s)	82.0		12.7	100.2	18.2	18.2
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.3	1.8	1.8	1.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.3	5.8	5.8	5.8
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	4.5		2.5	4.5	3.5	3.5
Recall Mode	C-Max		None	C-Max	None	None
Walk Time (s)	7.0				7.0	7.0
Flash Don't Walk (s)	20.0				17.0	17.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	91.9		100.8	105.6	12.8	12.8
Actuated g/C Ratio	0.71		0.78	0.81	0.10	0.10
v/c Ratio	0.67		0.47	0.54	0.55	0.38
Control Delay (s/veh)	6.5		15.6	8.7	67.1	14.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.5		15.6	8.7	67.1	14.8
LOS	A		B	A	E	B
Approach Delay (s/veh)	6.5			9.2	41.8	
Approach LOS	A			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 121 (93%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay (s/veh): 9.7		Intersection LOS: A	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 23: Mosley Rd & Route 340



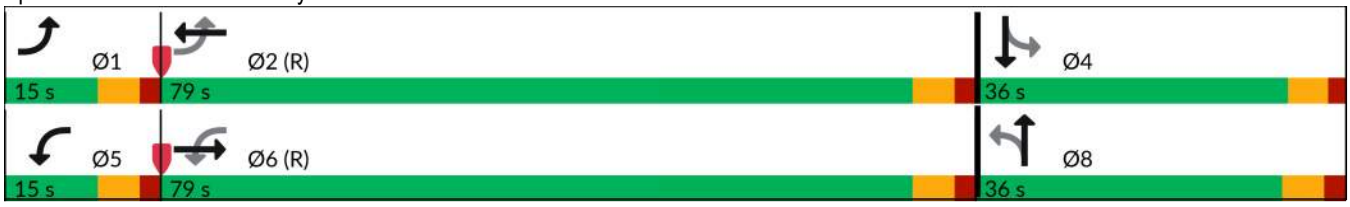


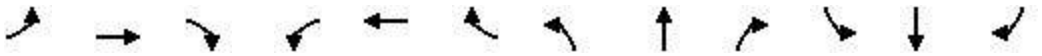
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1095	0	5	1055	40	0	0	5	175	0	115
Future Volume (vph)	25	1095	0	5	1055	40	0	0	5	175	0	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.994			0.865			0.850	
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	1770	3539	0	1770	3518	0	0	1611	0	1770	1583	0
Flt Permitted	0.203			0.219						0.753		
Satd. Flow (perm)	378	3539	0	408	3518	0	0	1611	0	1403	1583	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					5						193	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1652			357			145			324	
Travel Time (s)		32.2			7.0			3.3			7.4	
Peak Hour Factor	0.99	0.99	0.99	0.96	0.96	0.96	0.75	0.75	0.75	0.95	0.95	0.95
Adj. Flow (vph)	25	1106	0	5	1099	42	0	0	7	184	0	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	1106	0	5	1141	0	0	7	0	184	121	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA			NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		30.7	30.7	
Total Split (s)	15.0	79.0		15.0	79.0		36.0	36.0		36.0	36.0	
Total Split (%)	11.5%	60.8%		11.5%	60.8%		27.7%	27.7%		27.7%	27.7%	
Maximum Green (s)	9.1	73.1		9.1	73.1		29.8	29.8		30.3	30.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	93.0	94.0		95.4	88.8			21.3		21.8	21.8	
Actuated g/C Ratio	0.72	0.72		0.73	0.68			0.16		0.17	0.17	
v/c Ratio	0.07	0.43		0.01	0.47			0.03		0.78	0.28	
Control Delay (s/veh)	7.8	11.0		6.2	12.2			41.6		73.4	1.8	
Queue Delay	0.0	0.0		0.0	0.2			0.0		0.0	0.0	
Total Delay (s/veh)	7.8	11.0		6.2	12.4			41.6		73.4	1.8	
LOS	A	B		A	B			D		E	A	
Approach Delay (s/veh)		10.9			12.4			41.6			45.0	
Approach LOS		B			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 72 (55%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 15.7		Intersection LOS: B	
Intersection Capacity Utilization 56.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340



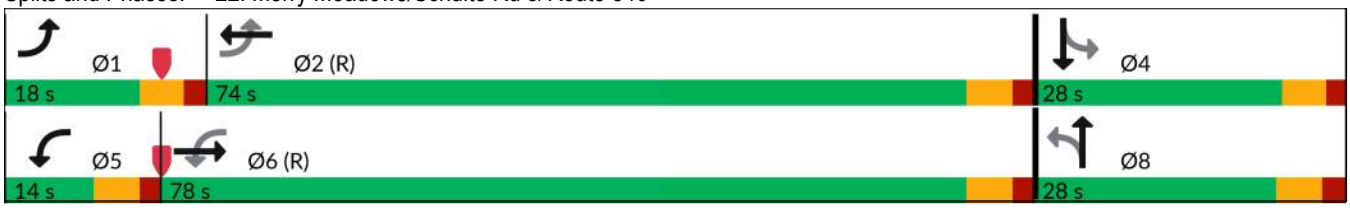


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	1150	5	5	1155	90	5	5	5	135	0	105
Future Volume (vph)	80	1150	5	5	1155	90	5	5	5	135	0	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.989			0.955			0.850	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1787	3536	0	1805	3537	0	0	1785	0	1805	1568	0
Flt Permitted	0.153			0.199				0.899		0.746		
Satd. Flow (perm)	288	3536	0	378	3537	0	0	1631	0	1417	1568	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		1			11						168	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		1652			353			145			324	
Travel Time (s)		32.2			6.9			4.0			7.4	
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.81	0.81	0.81	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	3%
Adj. Flow (vph)	82	1186	5	5	1242	97	6	6	6	150	0	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	1191	0	5	1339	0	0	18	0	150	117	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		23.7	23.7	
Total Split (s)	18.0	78.0		14.0	74.0		28.0	28.0		28.0	28.0	
Total Split (%)	15.0%	65.0%		11.7%	61.7%		23.3%	23.3%		23.3%	23.3%	
Maximum Green (s)	12.1	72.1		8.1	68.1		21.8	21.8		22.3	22.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	86.7	88.8		90.2	80.9			16.5		17.0	17.0	
Actuated g/C Ratio	0.72	0.74		0.75	0.67			0.14		0.14	0.14	
v/c Ratio	0.28	0.46		0.01	0.56			0.08		0.75	0.32	
Control Delay (s/veh)	4.9	5.7		4.6	12.6			43.3		71.2	4.0	
Queue Delay	0.0	0.0		0.0	0.3			0.0		0.0	0.0	
Total Delay (s/veh)	4.9	5.7		4.6	13.0			43.3		71.2	4.0	
LOS	A	A		A	B			D		E	A	
Approach Delay (s/veh)		5.6			12.9			43.3			41.7	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 49 (41%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 12.6		Intersection LOS: B	
Intersection Capacity Utilization 69.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340

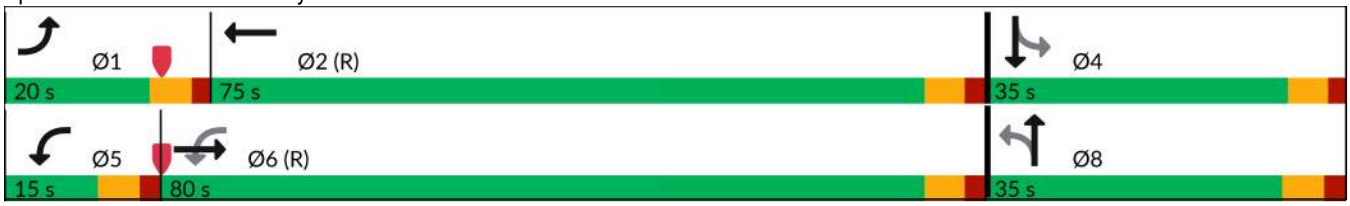


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	1450	0	10	1445	165	10	5	5	195	5	100
Future Volume (vph)	85	1450	0	10	1445	165	10	5	5	195	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	100		0	0		0	160		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.985			0.965			0.857	
Flt Protected	0.950			0.950				0.976		0.950		
Satd. Flow (prot)	1770	3539	0	1770	3486	0	0	1754	0	1770	1596	0
Flt Permitted	0.950			0.127				0.857		0.740		
Satd. Flow (perm)	1770	3539	0	237	3486	0	0	1540	0	1378	1596	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					14						105	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		1652			363			145			324	
Travel Time (s)		32.2			7.1			4.0			7.4	
Peak Hour Factor	0.99	0.99	0.99	0.96	0.96	0.96	0.75	0.75	0.75	0.95	0.95	0.95
Adj. Flow (vph)	86	1465	0	10	1505	172	13	7	7	205	5	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	1465	0	10	1677	0	0	27	0	205	110	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			8			4	
Permitted Phases				6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.9	23.9		12.9	29.9		13.2	13.2		30.7	30.7	
Total Split (s)	20.0	80.0		15.0	75.0		35.0	35.0		35.0	35.0	
Total Split (%)	15.4%	61.5%		11.5%	57.7%		26.9%	26.9%		26.9%	26.9%	
Maximum Green (s)	14.1	74.1		9.1	69.1		28.8	28.8		29.3	29.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		2.2	2.2		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.2		5.7	5.7	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.5	4.5		2.5	4.5		2.5	2.5		2.5	2.5	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Don't Walk (s)		11.0			17.0					18.0	18.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)	10.9	92.5		93.9	78.3			22.8		23.3	23.3	
Actuated g/C Ratio	0.08	0.71		0.72	0.60			0.18		0.18	0.18	
v/c Ratio	0.58	0.58		0.04	0.80			0.10		0.83	0.30	
Control Delay (s/veh)	78.0	11.1		6.4	24.9			43.2		77.3	10.6	
Queue Delay	0.0	0.0		0.0	2.1			0.0		0.0	0.0	
Total Delay (s/veh)	78.0	11.1		6.4	26.9			43.2		77.3	10.6	
LOS	E	B		A	C			D		E	B	
Approach Delay (s/veh)		14.8			26.8			43.2			54.0	
Approach LOS		B			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 73 (56%), Referenced to phase 2:WBT and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay (s/veh): 24.1		Intersection LOS: C	
Intersection Capacity Utilization 83.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 22: Merry Meadows/Schulte Rd & Route 340



Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	0	0	0	0	5	0	70	0	10	45	0
Future Vol, veh/h	20	0	0	0	0	5	0	70	0	10	45	0
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	-	-	-	0	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	92	92	50	50	50	73	73	73	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	0	0	0	0	10	0	96	0	13	57	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	178	178	57	178	-	96	57	0	0	96	0	0
Stage 1	82	82	-	96	-	-	-	-	-	-	-	-
Stage 2	96	96	-	82	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	784	716	1009	784	0	961	1547	-	-	1498	-	-
Stage 1	926	827	-	911	0	-	-	-	-	-	-	-
Stage 2	911	816	-	926	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	769	709	1009	777	-	961	1547	-	-	1498	-	-
Mov Cap-2 Maneuver	769	709	-	777	-	-	-	-	-	-	-	-
Stage 1	918	819	-	911	-	-	-	-	-	-	-	-
Stage 2	901	816	-	918	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.81	8.79	0	1.35
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1547	-	-	769	-	961	327	-	-
HCM Lane V/C Ratio	-	-	-	0.026	-	0.01	0.008	-	-
HCM Ctrl Dly (s/v)	0	-	-	9.8	0	8.8	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	0	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	0	5	0	35	0	60	5	40	65	0
Future Vol, veh/h	10	0	0	5	0	35	0	60	5	40	65	0
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	-	-	-	0	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	88	88	88	85	85	85	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	0	6	0	40	0	71	6	47	76	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	239	245	76	242	-	74	76	0	0	76	0	0
Stage 1	169	169	-	74	-	-	-	-	-	-	-	-
Stage 2	71	76	-	169	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	715	657	986	712	0	988	1524	-	-	1522	-	-
Stage 1	833	759	-	936	0	-	-	-	-	-	-	-
Stage 2	939	831	-	833	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	664	636	986	689	-	988	1524	-	-	1522	-	-
Mov Cap-2 Maneuver	664	636	-	689	-	-	-	-	-	-	-	-
Stage 1	807	735	-	936	-	-	-	-	-	-	-	-
Stage 2	901	831	-	807	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.51	8.98	0	2.83
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1524	-	-	664	689	988	686	-	-
HCM Lane V/C Ratio	-	-	-	0.016	0.008	0.04	0.031	-	-
HCM Ctrl Dly (s/v)	0	-	-	10.5	10.3	8.8	7.4	0	-
HCM Lane LOS	A	-	-	B	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	0.1	-	-

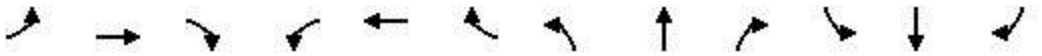
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖		↗		↕			↕	
Traffic Vol, veh/h	15	0	0	5	0	20	0	75	5	25	130	0
Future Vol, veh/h	15	0	0	5	0	20	0	75	5	25	130	0
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	-	-	-	0	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	82	82	82	63	63	63	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	0	6	0	24	0	119	8	26	135	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	307	314	135	311	-	123	135	0	0	127	0	0
Stage 1	188	188	-	123	-	-	-	-	-	-	-	-
Stage 2	119	127	-	188	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	646	601	913	642	0	928	1449	-	-	1459	-	-
Stage 1	814	745	-	881	0	-	-	-	-	-	-	-
Stage 2	885	791	-	814	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	617	589	913	630	-	928	1449	-	-	1459	-	-
Mov Cap-2 Maneuver	617	589	-	630	-	-	-	-	-	-	-	-
Stage 1	799	730	-	881	-	-	-	-	-	-	-	-
Stage 2	862	791	-	799	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11	9.34	0	1.21
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1449	-	-	617	630	928	290	-	-
HCM Lane V/C Ratio	-	-	-	0.026	0.01	0.026	0.018	-	-
HCM Ctrl Dly (s/v)	0	-	-	11	10.8	9	7.5	0	-
HCM Lane LOS	A	-	-	B	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	0.1	-	-

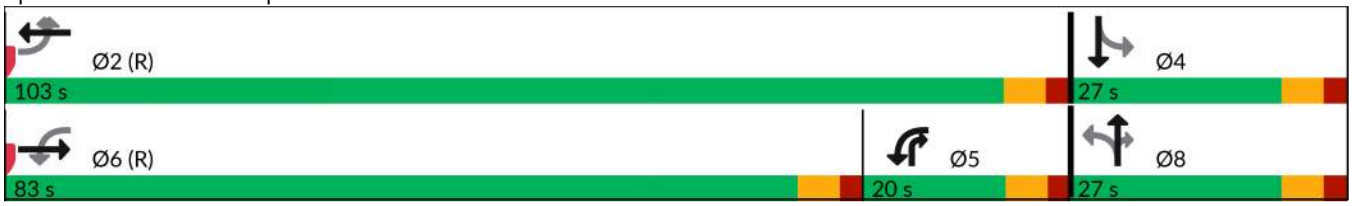


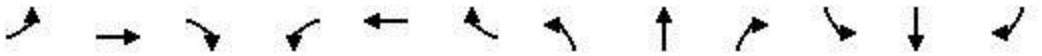
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1270	60	80	1070	5	55	5	115	10	5	5
Future Volume (vph)	0	1270	60	80	1070	5	55	5	115	10	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993				0.850			0.850		0.925	
Flt Protected				0.950				0.956		0.950		
Satd. Flow (prot)	1863	3514	0	1770	3539	1583	0	1781	1583	1770	1723	0
Flt Permitted				0.094				0.732		0.703		
Satd. Flow (perm)	1863	3514	0	175	3539	1583	0	1364	1583	1310	1723	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				28			33		8	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.83	0.83	0.83	0.73	0.73	0.73	0.72	0.72	0.72	0.64	0.64	0.64
Adj. Flow (vph)	0	1530	72	110	1466	7	76	7	160	16	8	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1602	0	110	1466	7	0	83	160	16	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.Pm	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases		6		5	2			8	5		4	
Permitted Phases	2			6		2	8		8	4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	30.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	103.0	83.0		20.0	103.0	103.0	27.0	27.0	20.0	27.0	27.0	
Total Split (%)	79.2%	63.8%		15.4%	79.2%	79.2%	20.8%	20.8%	15.4%	20.8%	20.8%	
Maximum Green (s)	96.7	76.8		14.0	96.7	96.7	20.7	20.7	14.0	20.7	20.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag		Lead		Lag					Lag			
Lead-Lag Optimize?		Yes		Yes					Yes			
Vehicle Extension (s)	4.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)	17.0	23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)	0	0			0	0	0	0				
Act Effct Green (s)		84.8		99.0	104.7	104.7		12.7	33.0	12.7	12.7	
Actuated g/C Ratio		0.65		0.76	0.81	0.81		0.10	0.25	0.10	0.10	
v/c Ratio		0.70		0.36	0.51	0.01		0.62	0.37	0.13	0.09	
Control Delay (s/veh)		21.0		16.0	3.2	0.0		75.2	33.2	53.2	35.2	
Queue Delay		0.0		0.0	0.1	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)		21.0		16.0	3.3	0.0		75.2	33.2	53.2	35.2	
LOS		C		B	A	A		E	C	D	D	
Approach Delay (s/veh)		21.0			4.2			47.5			44.2	
Approach LOS		C			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 3 (2%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay (s/veh): 15.4		Intersection LOS: B	
Intersection Capacity Utilization 68.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340



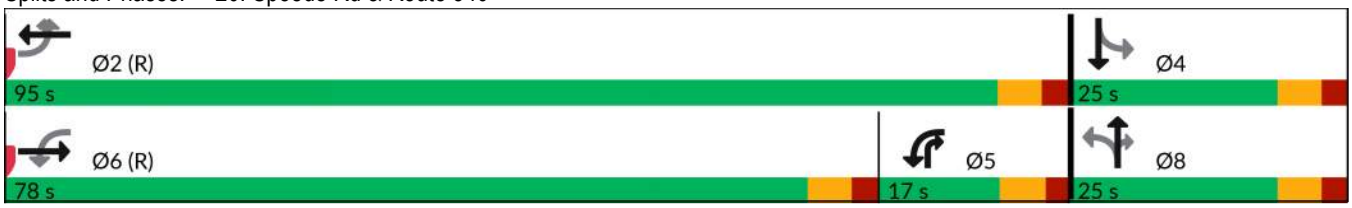


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1170	75	65	1105	10	70	0	85	10	5	5
Future Volume (vph)	5	1170	75	65	1105	10	70	0	85	10	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991				0.850			0.850		0.925	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1444	3532	0	1805	3574	1615	0	1752	1568	1805	1758	0
Flt Permitted	0.229			0.163				0.747		0.701		
Satd. Flow (perm)	348	3532	0	310	3574	1615	0	1378	1568	1332	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				30			72		8	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.81	0.81	0.81	0.60	0.60	0.60
Heavy Vehicles (%)	25%	1%	6%	0%	1%	0%	3%	0%	3%	0%	0%	0%
Adj. Flow (vph)	5	1219	78	68	1163	11	86	0	105	17	8	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1297	0	68	1163	11	0	86	105	17	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.Pm	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases		6		5	2			8	5		4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		2	8		8	4		
Detector Phase	2	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	30.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	95.0	78.0		17.0	95.0	95.0	25.0	25.0	17.0	25.0	25.0	
Total Split (%)	79.2%	65.0%		14.2%	79.2%	79.2%	20.8%	20.8%	14.2%	20.8%	20.8%	
Maximum Green (s)	88.7	71.8		11.0	88.7	88.7	18.7	18.7	11.0	18.7	18.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag		Lead		Lag					Lag			
Lead-Lag Optimize?		Yes		Yes					Yes			
Vehicle Extension (s)	4.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)	17.0	23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)	0	0			0	0	0	0				
Act Effct Green (s)	99.0	80.8		92.0	99.0	99.0		12.3	27.0	12.3	12.3	
Actuated g/C Ratio	0.83	0.67		0.77	0.83	0.83		0.10	0.23	0.10	0.10	
v/c Ratio	0.02	0.54		0.18	0.39	0.01		0.61	0.26	0.12	0.09	
Control Delay (s/veh)	2.4	11.6		3.2	2.2	0.0		68.6	14.4	48.6	32.7	
Queue Delay	0.0	0.0		0.0	0.1	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)	2.4	11.6		3.2	2.3	0.0		68.6	14.4	48.6	32.7	
LOS	A	B		A	A	A		E	B	D	C	
Approach Delay (s/veh)		11.5			2.4			38.8			40.9	
Approach LOS		B			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 107 (89%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay (s/veh): 9.7		Intersection LOS: A	
Intersection Capacity Utilization 66.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340

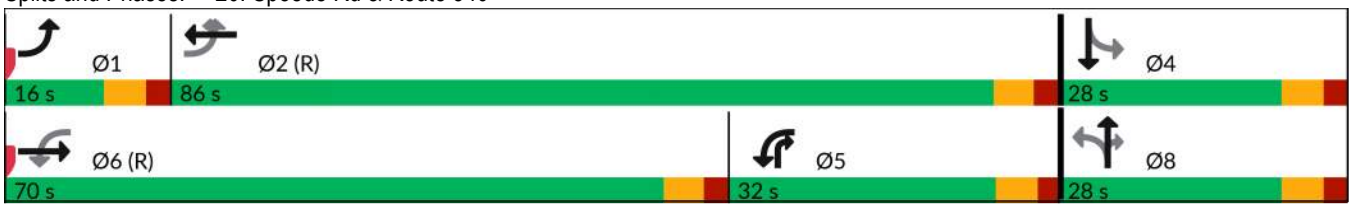


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1370	145	195	1575	25	115	5	120	20	10	5
Future Volume (vph)	10	1370	145	195	1575	25	115	5	120	20	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	150		0	0		115	0		0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986				0.850			0.850		0.952	
Flt Protected	0.950			0.950				0.954		0.950		
Satd. Flow (prot)	1770	3490	0	1770	3539	1583	0	1777	1583	1770	1773	0
Flt Permitted	0.092			0.063				0.719		0.551		
Satd. Flow (perm)	171	3490	0	117	3539	1583	0	1339	1583	1026	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				81			80		7	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		854			455			373			251	
Travel Time (s)		16.6			8.9			8.5			5.7	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.87	0.87	0.87	0.68	0.68	0.68
Adj. Flow (vph)	11	1442	153	212	1712	27	132	6	138	29	15	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1595	0	212	1712	27	0	138	138	29	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	1	6		5	2			8	5		4	
Permitted Phases	2			6		2	8		8	4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	13.3	36.2		13.0	30.3	30.3	38.3	38.3	13.0	13.3	13.3	
Total Split (s)	16.0	70.0		32.0	86.0	86.0	28.0	28.0	32.0	28.0	28.0	
Total Split (%)	12.3%	53.8%		24.6%	66.2%	66.2%	21.5%	21.5%	24.6%	21.5%	21.5%	
Maximum Green (s)	9.7	63.8		26.0	79.7	79.7	21.7	21.7	26.0	21.7	21.7	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.3	2.2		2.0	2.3	2.3	2.3	2.3	2.0	2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.2		6.0	6.3	6.3		6.3	6.0	6.3	6.3	
Lead/Lag	Lead	Lead		Lag	Lag	Lag			Lag			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes			Yes			
Vehicle Extension (s)	2.5	4.5		2.5	4.5	4.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0				
Flash Don't Walk (s)		23.0			17.0	17.0	25.0	25.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	98.8	68.2		94.4	97.4	97.4		17.3	49.6	17.3	17.3	
Actuated g/C Ratio	0.76	0.52		0.73	0.75	0.75		0.13	0.38	0.13	0.13	
v/c Ratio	0.05	0.87		0.51	0.65	0.02		0.78	0.21	0.21	0.09	
Control Delay (s/veh)	1.3	17.5		24.8	4.3	0.0		81.2	11.8	52.1	36.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)	1.3	17.5		24.8	4.3	0.0		81.2	11.8	52.1	36.6	
LOS	A	B		C	A	A		F	B	D	D	
Approach Delay (s/veh)		17.4			6.5			46.5			45.4	
Approach LOS		B			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 119 (92%), Referenced to phase 2:EBWB and 6:EBWB, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay (s/veh): 14.3		Intersection LOS: B	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 20: Spoede Rd & Route 340



Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1245	10	5	1085	5	10
Future Vol, veh/h	1245	10	5	1085	5	10
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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	75	75	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1518	12	7	1447	6	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1530	0	2261	765
Stage 1	-	-	-	-	1524	-
Stage 2	-	-	-	-	737	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	431	-	35	346
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	434	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	431	-	34	346
Mov Cap-2 Maneuver	-	-	-	-	34	-
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	428	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.06	53.93
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	34	346	-	-	431	-
HCM Lane V/C Ratio	0.163	0.032	-	-	0.015	-
HCM Ctrl Dly (s/v)	130.3	15.8	-	-	13.5	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1200	15	5	1240	0	5
Future Vol, veh/h	1200	15	5	1240	0	5
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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	96	96	58	58
Heavy Vehicles, %	0	1	0	0	0	0
Mvmt Flow	1277	16	5	1292	0	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1293	0	1941	646
Stage 1	-	-	-	-	1285	-
Stage 2	-	-	-	-	656	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	543	-	59	419
Stage 1	-	-	-	-	227	-
Stage 2	-	-	-	-	483	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	543	-	58	419
Mov Cap-2 Maneuver	-	-	-	-	58	-
Stage 1	-	-	-	-	227	-
Stage 2	-	-	-	-	479	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.05	13.77
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	419	-	-	543	-
HCM Lane V/C Ratio	-	0.021	-	-	0.01	-
HCM Ctrl Dly (s/v)	0	13.8	-	-	11.7	-
HCM Lane LOS	A	B	-	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1535	25	10	1615	5	5
Future Vol, veh/h	1535	25	10	1615	5	5
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	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	95	95	48	48
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1566	26	11	1700	10	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1592	0	2450	796
Stage 1	-	-	-	-	1579	-
Stage 2	-	-	-	-	871	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	408	-	26	330
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	370	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	408	-	25	330
Mov Cap-2 Maneuver	-	-	-	-	25	-
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	360	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.09	122.29
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	25	330	-	-	408	-
HCM Lane V/C Ratio	0.417	0.032	-	-	0.026	-
HCM Ctrl Dly (s/v)	228.3	16.3	-	-	14.1	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.1	-

Appendix D – ITE Trip Generation

Mid-Rise Residential with Ground-Floor Commercial
GFA (1-25k) (231)

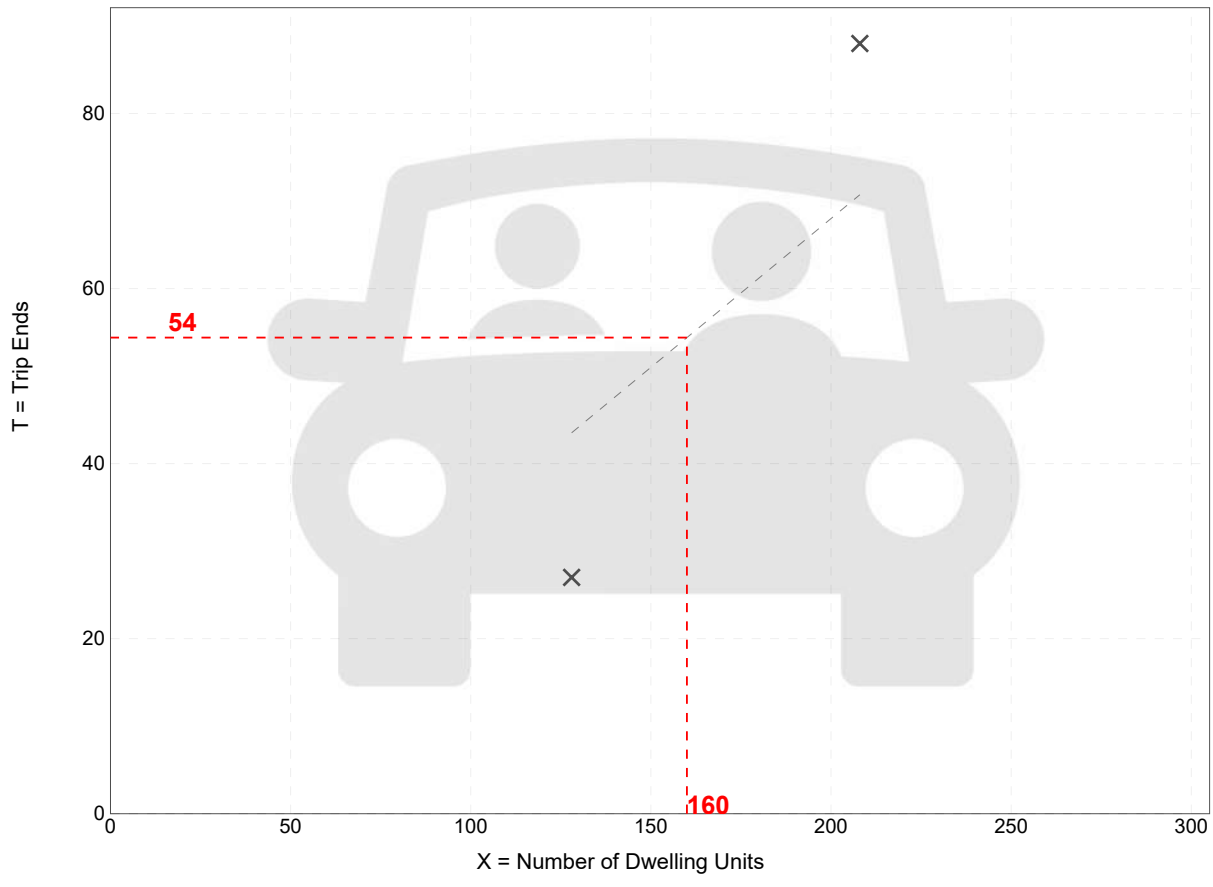
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. Num. of Dwelling Units: 168
Directional Distribution: 30% entering, 70% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.34	0.21 - 0.42	*

Data Plot and Equation

Caution – Small Sample Size



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Mid-Rise Residential with Ground-Floor Commercial
GFA (1-25k) (231)

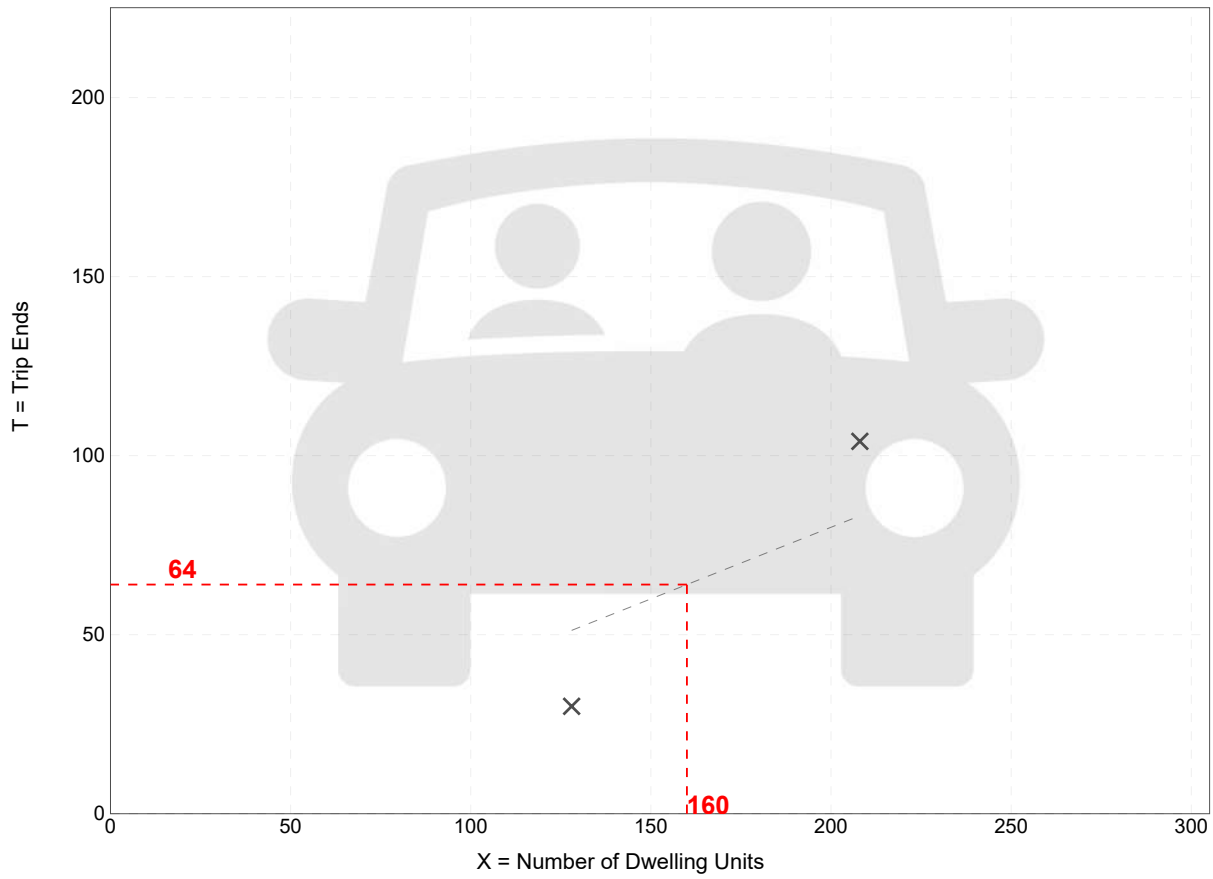
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. Num. of Dwelling Units: 168
Directional Distribution: 70% entering, 30% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.23 - 0.50	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

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

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 8 out of 32
Avg. 1000 Sq. Ft. GFA: 6
Directional Distribution: 62% entering , 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

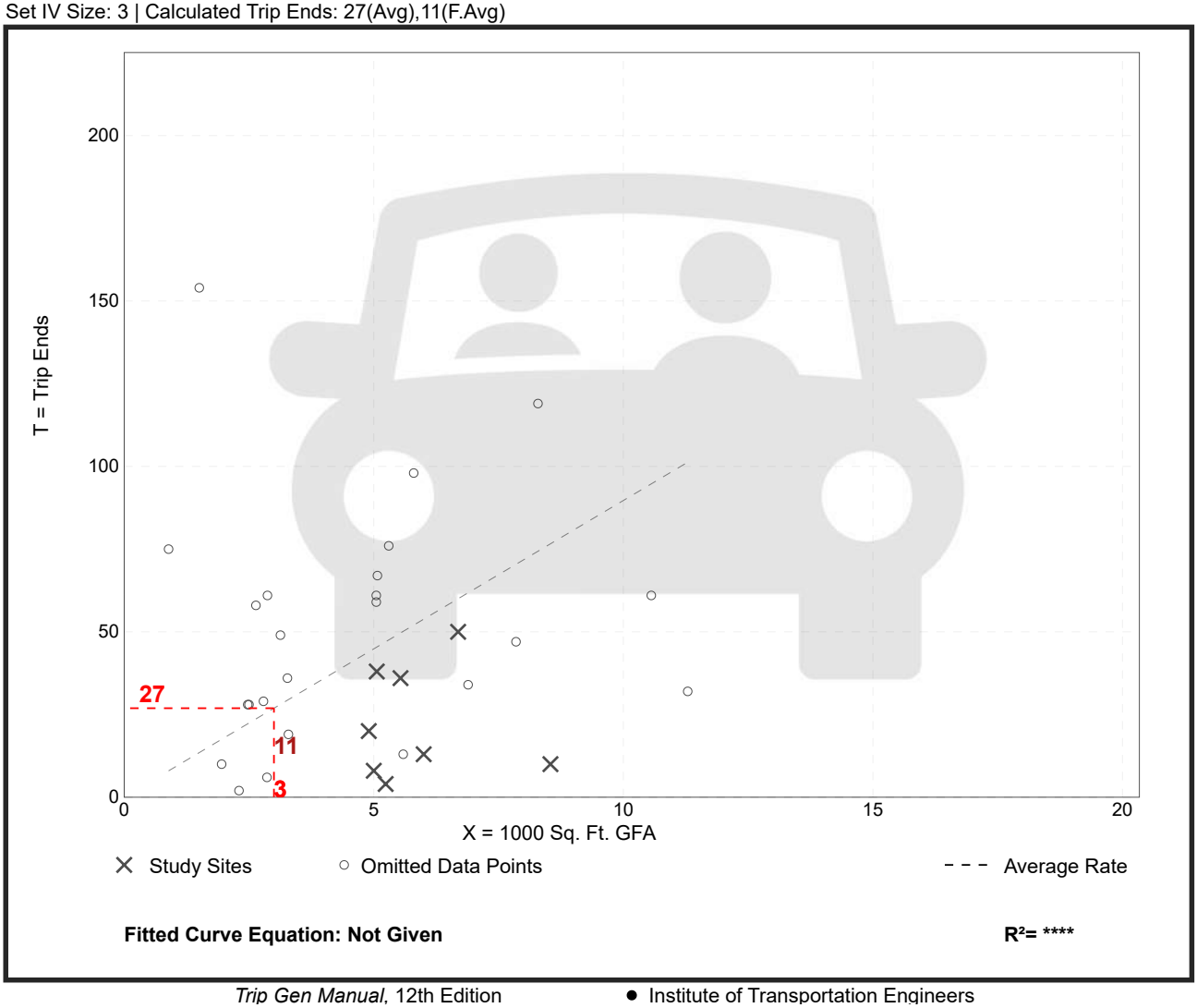
Average Rate	Range of Rates	Standard Deviation
3.81	0.76 - 7.51	2.91

Data Filtered By: [Region: Midwest]

Data Plot and Equation

Caution – Filtered Data Set

Set IV Size: 3 | Calculated Trip Ends: 27(Avg),11(F.Avg)



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

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 23 out of 100
Avg. 1000 Sq. Ft. GFA: 6
Directional Distribution: 63% entering , 37% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

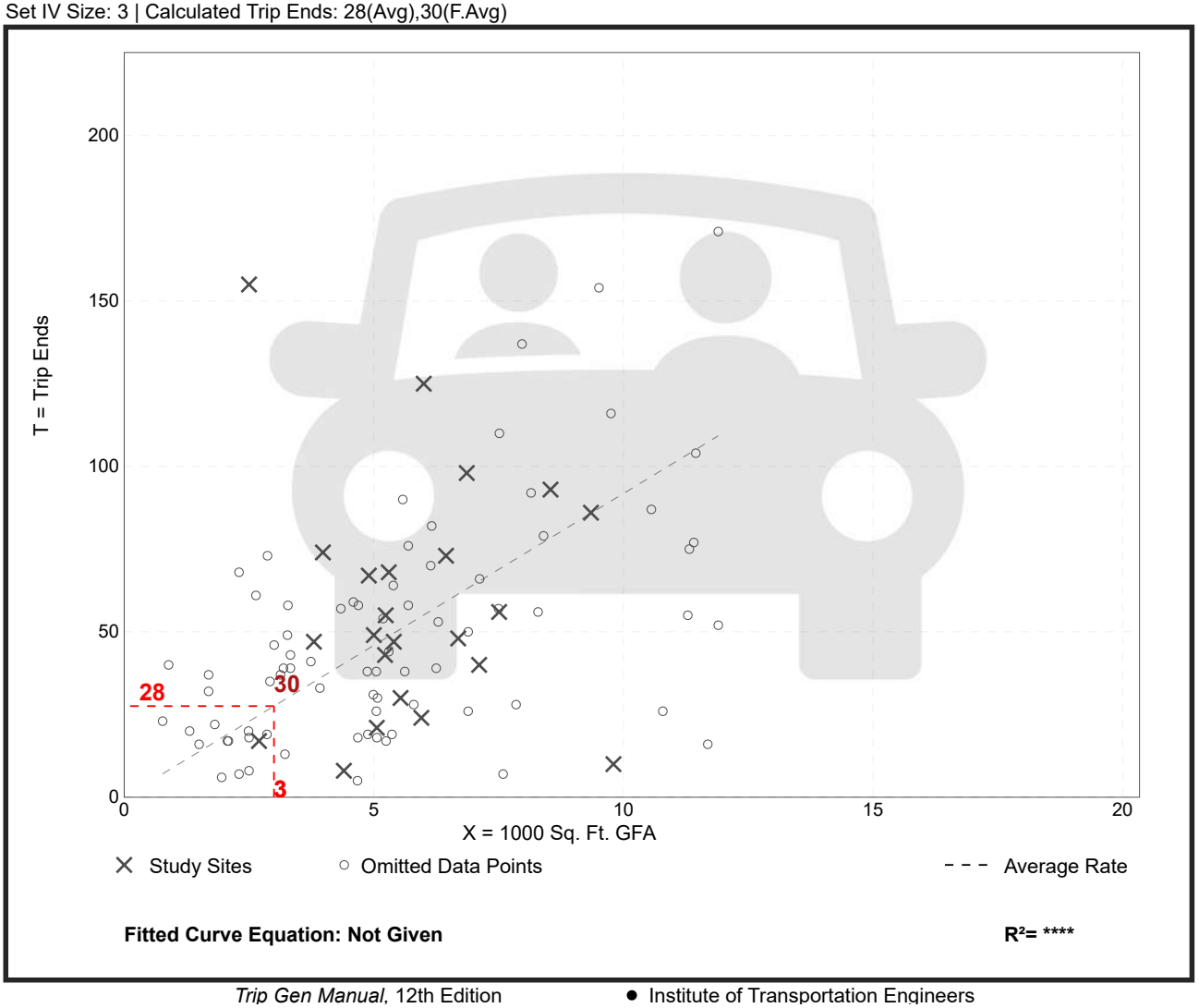
Average Rate	Range of Rates	Standard Deviation
10.01	1.02 - 62.00	8.82

Data Filtered By: [Region: Midwest]

Data Plot and Equation

Caution – Filtered Data Set

Set IV Size: 3 | Calculated Trip Ends: 28(Avg),30(F.Avg)



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MoDOT

St. Louis District
Thomas Blair, P.E., District Engineer

Missouri Department of Transportation

1590 Woodlake Drive
Chesterfield, Missouri 63017-5712
314.275.1500
Fax: 573.522.6475
1.888.ASK MODOT (275.6636)

January 16, 2026

Mr. Dan Shane
HR Green
520 Maryville Centre Dr, Suite 100
St Louis, MO 63141
<< Transmitted via email>>

RE: Graeser Station Traffic Impact Study, MoDOT's Response.

Greetings,

Thank you for allowing the Missouri Department of Transportation the opportunity to review HR Green's traffic study regarding a mixed-use development in the SW quadrant of MO 340 and N Graeser Rd. This development proposes 160 apartment type residential units, 7000 square feet of commercial space, and 3000 square feet of high-turnover restaurant space. Our traffic team has evaluated this submittal and offers the following comments:

- MoDOT concurs with the conclusions of the study, which recommends both restricting NB left turning traffic movements from the west access of the development, and equipment modifications for the NB and SB vehicle movements at the MO 340 and N Graeser Rd signalized intersection.
- MoDOT recommends the developer comply with state highway construction standards and specifications where modifications are warranted.
- The developer is required to obtain construction permits from MoDOT before any state right-of-way modifications are performed.
- The developer is required to submit construction plans to MoDOT's traffic division for their review before any construction permits are granted.

Should you have any questions or comments, you may contact me via email at robert.meyer@modot.mo.gov.

Respectfully,

Robert Meyer
SW Area West County – Traffic Studies Specialist
Missouri Department of Transportation

CC'd: Ryan Pearcy, Area Engineer
John Braden, Area Permits
Akhand Ashek, Area Traffic
Jeffery Baird, Traffic Operations
Eddie Watkins, Traffic Operations

Bethany Moore <bmoore@crevecoeurmo.gov>

REF: #25-034 AND 25-035: APPLICATIONS FOR A REZONING FROM "GC" GENERAL COMMERCIAL DISTRICT TO THE GRAESER STATION "PMD" PLANNED MIXED-USE DEVELOPMENT DISTRICT WITH A SITE CONCEPT PLAN AND SITE DEVELOPMENT PLAN FOR 11004, 11026, 11032 AND 11056 OLI

2 messages

stevew@inlite.com <stevew@inlite.com> Mon, Dec 15, 2025 at 11:37 AM
To: jjaggi@crevecoeurmo.gov
Cc: blmoore@crevecoeurmo.gov

TO: Jason Jaggi / Bethany Moore

FROM: STEPHEN WEINSTOCK

Resident: 10962 Chambray Ct.

REF: #25-034 AND 25-035: APPLICATIONS FOR A REZONING FROM "GC" GENERAL COMMERCIAL DISTRICT TO THE GRAESER STATION "PMD" PLANNED MIXED-USE DEVELOPMENT DISTRICT WITH A SITE CONCEPT PLAN AND SITE DEVELOPMENT PLAN FOR 11004, 11026, 11032 AND 11056 OLIVE BOULEVARD AND 825 AND 827 GRAESER ROAD COMMERCIAL REZONING

I know there is a scheduled hearing tonight regarding the above proposal. I am sorry but I am unable to attend this meeting, but I want you to know my concerns and that of the other people in my subdivision.

We all agree that this property at the corner of Graeser and Olive Street must and should be developed. We also agree that zoning it for a commercial residential apartment project is also a very good idea and in keeping in the best interests of the city of Creve Coeur as well as its residents. However, in saying that we feel very strongly that this project must not only be developed correctly to fit into this location, but it must also be a great addition to the surrounding area and not a burden on the current residents living in the area.

After going to the meetings held by both the builder and the city, we have the following concerns that we feel still must be addressed prior to this plan and zoning being approved.

First is the overall height of the buildings. We feel that this project should not be more than three stories high in keeping with the other surrounding buildings in the immediate area. However, if this is not a major concern of those other subdivisions and residents living closer to the project then it is not a major concern for us and we can live with it.

Second and more important concern is the addition of 100 plus autos using the inter section of Olive Blvd and Graeser Rd between the hours of 7 to 9 AM and 4 to 6 PM Monday through Friday. We are not concerned with the overall traffic on Graeser Rd but just this intersection. We have reviewed the builders' traffic study and really find that it is not correct in its assumptions in this regard to the impact on this one particular intersection. We feel that the traffic flowing on to Olive and especially the traffic coming off Olive on to Graeser at these particular times per day should be addressed. We feel that in order to keep the flow of traffic coming off Olive St Blvd on to Graeser an additional right turn only lane should be added on the side of Graeser Rd where these apartments are being built. When the residents return home to their apartments and they are coming off Olive Street Blvd they will be able to go into this right turn only lane and thus will not interfere with those people coming off Olive and wanting to continue going north on Graeser. This will also help in helping to keep any backups of autos wanting to come off Olive Blvd at this key high traffic times. If this extra lane is not built at the beginning of this project, then the city needs to add an additional 25 feet in building off set on Graeser Rd to accommodate the possibility of having to build this lane at a later date. This is an insurance policy for us all. Once these buildings are built it is impossible to pick them up and move them over to add this lane of traffic in the future. This must be accounted for now and protect us in the future.

The third and one of the most important concerns we have is for the city not to give any incentives to the builder for this project. If it makes financial sense, then it will be built and if not then it should not be built. Creve Coeur residents just passed another law in order to collect more sales tax. Enough is enough Creve Coeur cannot afford to keep giving away money. Every municipality is struggling with increased costs and how to pay for them. Our schools are now also starting to suffer. As residents we do not feel that we need to give any incentives to build in our community. All these incentives do is aid the builder to sell this project to another buyer. There is no real benefit for us as residents. This project is being built as an investment to be flipped to another owner. As residents we keep trying to put money in the bucket for our

community and as alder people you keep giving it away. The answer is NO MORE INCENTATIVES FOR THIS OR ANY OTHER PROJECT.

Regards,

Steve Weinstock

Bethany Moore <bmoore@crevecoeurmo.gov> Mon, Dec 15, 2025 at 11:52 AM
To: stevew@inlite.com
Cc: jjaggi@crevecoeurmo.gov, blmoore@crevecoeurmo.gov

Steve,
Thank you for your comments. We will pass it along to the Planning and Zoning Commission. Thanks!
[Quoted text hidden]
--

Bethany L. Moore, AICP
City Planner
City of Creve Coeur
300 North New Ballas Rd
Creve Coeur, MO 63141
314-442-2087

www.crevecoeurmo.gov

Jason Jaggi <jjaggi@crevecoeurmo.gov>

graeser station

1 message

Brett Berger <bergerbrett7@gmail.com> Wed, Dec 17, 2025 at 9:50 AM
To: Jason Jaggi <jjaggi@crevecoeurmo.gov>

Hi Jason,

As you know I oppose the Graeser Station project due to its high density of 36 families per acre adjacent to single-family creve coeur homes with a density of 3 families per acre.

Neighbors want this property updated but it should be the correct fit.

One of the P&Z members, I believe Ms. Richter?, at the end of Monday's session asked what types of developments neighbors may prefer to see at this corner but I wasn't given a chance to reply. Please share this information with P&Z and include it in the public record. Thanks

Preferred Alternatives to a high density Apartment Complex

1. **Updated single-story retail across the full site**
   An updated retail building/experience only. Most compatible with the surrounding area, most ideal but we understand this is challenging due to land cost and retail market conditions.
   - **Example neighborhood-scale general commercial**
     Models include Schneithorst Village (Frontenac) and the Olivette development with Great Heart Brewing, ideally walkable, community-oriented, and proven to succeed in similar locations. Not necessarily these tenants specifically, but the look/feel of the site.

2. **Low-density mixed-use**
   Single-story retail with a limited second story of residential units (significantly less dense than proposed).

3. **Row houses / townhomes**
   Similar to The Vale at Olia Village lost 16 (~6 dwellings per acre) could work well at this site. The Vale looks like a great development and we believe neighbors would be amenable to this type of project if the density is similar.

Desired business uses for the site
Quality, locally oriented businesses, daily-use services neighbors might walk to and frequent regularly, such as:

- Sit-down restaurants and cafes
- Specialty food & beverage
- Bakery, deli, coffee roaster, wine shop, specialty grocer, butcher, or prepared-foods market.
- Salons and personal services
- Small family hardware or convenience retail
- Medical / wellness services
    i. Primary care, dental, physical therapy, vision care, counseling (non-urgent, appointment-based).

- Professional offices
    i. Small law, accounting, real estate, insurance, design, or consulting offices.
- Fitness & movement studios
    i. Yoga, Pilates, barre, martial arts, or small-group training (not large gyms).
- Child & family services
    i. Tutoring, music lessons, art studios, enrichment centers (non–high-traffic daycare).
- Community-oriented spaces
    i. Neighborhood meeting rooms, co-working hubs, or flexible event space tied to local use.
- Boutique retail
    i. Home goods, gift shops, bookshops, pet services, or local artisan retail.
- Senior-oriented services
    i. Non-residential senior support services (wellness, education, social services).
- Civic-compatible uses
    i. Library satellite, municipal service office, or nonprofit community offices.

--
All the best,

Brett Berger
Graeser Neighbors for Safety http://graeserneighbors.org/
314.495.4990
10 Winfield Pointe Lane, Creve Coeur, MO 63141

city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141
(314) 432-6000 • www.crevecoeurmo.gov

APPLICATIONS TO PLANNING AND ZONING COMMISSION #25-034 AND 25-035: APPLICATIONS FOR A REZONING FROM "GC" GENERAL COMMERCIAL DISTRICT TO THE GRAESER STATION "PMD" PLANNED MIXED-USE DEVELOPMENT DISTRICT WITH A SITE CONCEPT PLAN AND SITE DEVELOPMENT PLAN FOR 11004, 11026, 11032 AND 11056 OLIVE BOULEVARD AND 825 AND 827 GRAESER ROAD

FOR THE MEETING OF: December 1, 2025

LOCATION: 11004, 11026, 11032, and 11056 Olive Boulevard and 825 and 827 Graeser Road. Zoned GC-General Commercial Zoning District.

REQUEST: Garrison Hassenflu, of Garrison Companies, has submitted a rezoning application and a site concept plan and site development plan application for the lots addressed as 11004, 11026, 11032, and 11056 Olive Boulevard; and 825 and 827 Graeser Road in order to construct a new four-story, 157 residential unit, mixed-use development with approximately 8,500 square feet of first floor retail named Graeser Station. The lots comprise approximately 4.42 acres and are currently zoned "GC"-General Commercial Zoning District. The request is to rezone the properties to "PMD" Planned Mixed-Use Development Zoning District in accordance with the procedures described in Section 405.390 Planned Zoning Districts. Review and approval by the City Council upon the recommendation of the Planning and Zoning Commission is required.

ADDITIONAL INFORMATION: This project was previously before the Planning and Zoning Commission on August 4, 2025 for a preliminary review of the application in order to gather feedback for the proposal.

Key Issues:
- Does the request further the goals and/or implement the Comprehensive Plan?
- Does the use integrate with the surrounding area?
- Does the request meet with the criteria for Planned Zoning Districts as provided in Section 405.390?
- Does the project provide Public Benefits and meet the Design Criteria as a Planned Mixed-Use Development District?

Creve Coeur 2030 Plan References
- Neighborhood Commercial (NC) District
- East Olive Corridor Recommendations
- Design Guidelines

Zoning Code References
- Section 405.360: GC-General Commercial Zoning District
- Section 405.390: Planned Zoning Districts
- Section 405.1080: Site Concept, Site Development and Minor Site Plan Approval

APPLICANT:	Garrison Hassenflu Garrison Companies 2001 Shawnee Mission Parkway, Ste. 250 Mission Woods, KS 66205	**PROPERTY OWNER:**	Tom Stern Gershman, CRE 150 N. Meramec Ave, Ste. 500 St. Louis, MO 63105

REPORT PREPARED BY: BETHANY L. MOORE, CITY PLANNER
JASON JAGGI, AICP DIRECTOR OF COMMUNITY DEVELOPMENT

ATTACHMENTS:
Applicant's Revised Materials received November 7, 2025
Applicant's Parking Study dated October 21, 2025 by Lochmueller Group
Traffic Impact Study, October 2025, prepared by HR Green
Public comments received

INTRODUCTION AND BACKGROUND

The applicant, Garrison Hassenflu of Garrison Companies, has submitted applications for a Site Concept Plan, Site Development Plan and a rezoning for 6 lots addressed as 11004, 11026, 11032, and 11056 Olive Boulevard; and 825 and 827 Graeser Road for a Mixed-Use Development, known as Graeser Station, at the southwest corner of Olive Boulevard and Graeser Road. The development is comprised of a four-story mixed-use building with 157 studio, 1- and 2-bedroom residential units and 8,472 square feet of first floor retail space. All 6 properties, when combined total 4.42 acres, and are currently zoned "GC"-General Commercial. The applicant is seeking to rezone the parcels to "PMD" Planned Mixed-Use Development zoning district in order to move forward with the project, as the project would not be possible under the requirements of the current zoning district. The applicant will be applying for a boundary adjustment to combine the parcels into one lot, which will need to be submitted prior to the Planning and Zoning Commission taking formal action on this request. The applicant was last before the Planning and Zoning Commission on August 4th, 2025 for the preliminary review of the Site Concept Plan in order to gather feedback from the Commission for the proposal. No vote was requested at that time. The applicant and his consultants, Steadfast City, have held two neighborhood meetings in order to introduce the project to surrounding residents and gather feedback from them. They have also met with the Mayor and Ward 1 Councilmembers to introduce the project and accept feedback.

The properties at 11004 and 11026 Olive Boulevard were originally developed in 1963 as a strip shopping center, which has recently been demolished. The properties at 11032 and 11056 Olive Boulevard were developed in 1966-1967 and include an existing non-conforming strip shopping center development. The properties at 825 and 827 Graeser Road were included in the commercial district along with the properties on Olive Boulevard in the earliest available zoning map of 1966. To facilitate the review of this development proposal, all 6 parcels will need to be consolidated into one lot and rezoned from GC-General Commercial to PMD-Planned Mixed-Use Development. The surrounding uses include commercial to the north, east and west along Olive Boulevard, also zoned GC-General Commercial and single-family residences to the south zoned C-Single Family Residential. These lots are also located within the Olive-Graeser Transportation Development District (TDD) which was created in 2009 to facilitate intersection improvements at Olive/Graeser/Dautel. Recent proposals for this site include a car wash with gas pumps in 2017 that was withdrawn after concerns were raised regarding a zoning text amendment that was necessary for the project and a QuikTrip gas station and convenience store in 2020 which included renovations to the adjacent retail building, that was denied by the City Council. The denial of the QT proposal was challenged in court; however, the decision to deny the conditional use permit by the City Council was upheld by the Missouri Supreme Court. The eastern improvements were demolished, and the western building remains unchanged.

PROJECT OVERVIEW

The proposal includes the construction of a new 163,500 square foot, 4-story, mixed-use building that extends around the corner of Olive Boulevard and Graeser Road. The overall height of the building is 54.5 feet. There are 157 total units proposed, ranging in size from a 575 square foot studio unit to a 1,297 square foot two-bedroom unit. This is a reduction of 11 units since the last time the development was before the Commission. The unit break down includes 34 studio units, 118 one-bedroom units, and 6 two-bedroom units. The residential density proposed has been reduced to 35.52 units per acre, down from the 38 units per acre previously proposed for the 4.42-acre site. The first floor of the building will include 8,472 square feet of commercial space, which is also a reduction in size from the 10,564 square feet of commercial space previously proposed. In addition to the commercial space, the first floor also includes amenity space for the apartment residents and a leasing office facing Olive Boulevard with first floor residential units placed along Graeser Road. Floors 2, 3, and 4 will only include residential units. Outdoor dining opportunities are proposed for the covered passthrough under the building connecting the parking lots, and allowing pedestrian access through the site, as well as in the plaza area at the corner of Graeser and Olive adjacent to the indoor coffee bar for building residents. The plaza area will also include planters and a space for public art to be displayed. The applicant is exploring placing a sculpture of their choosing or participating in the Sculpture on the Move program though the City of Creve Coeur's Arts Committee.

The development will provide additional outdoor amenities for the residents including a swimming pool with a 916 square foot pool house and a fenced dog park, both at the rear of the building. The site plan shows surface parking in front of the building along Olive Boulevard with the majority of parking behind the building. The second floor will be cantilevered over the rear surface parking lot creating a row of covered parking under the upper stories of the building. In total, 250 parking spaces are provided on site, including 12 EV Installed or EV Ready spaces.

Summary of Changes to Project Since Preliminary Review

- Reduction in number of proposed residential units by 11, from 168 to 157.
- Reduction of residential density from 38 units per acre to 35.52 units per acre.
- Reduction in proposed commercial space from 10,564 square feet to 8,472 square feet.
- Reduction in total gross building square footage from 166,824 square feet to 163,500 square feet.
- The building setback along the Graser Road property line was increased from just under 4 feet to 10 feet.
- Covered breezeway through the building connecting both parking lots for easier pedestrian access through the site.
- Outdoor dining opportunities proposed in the covered breezeway.
- Enhanced corner plaza amenities including outdoor seating opportunities for building residents, landscaping planters and public art.

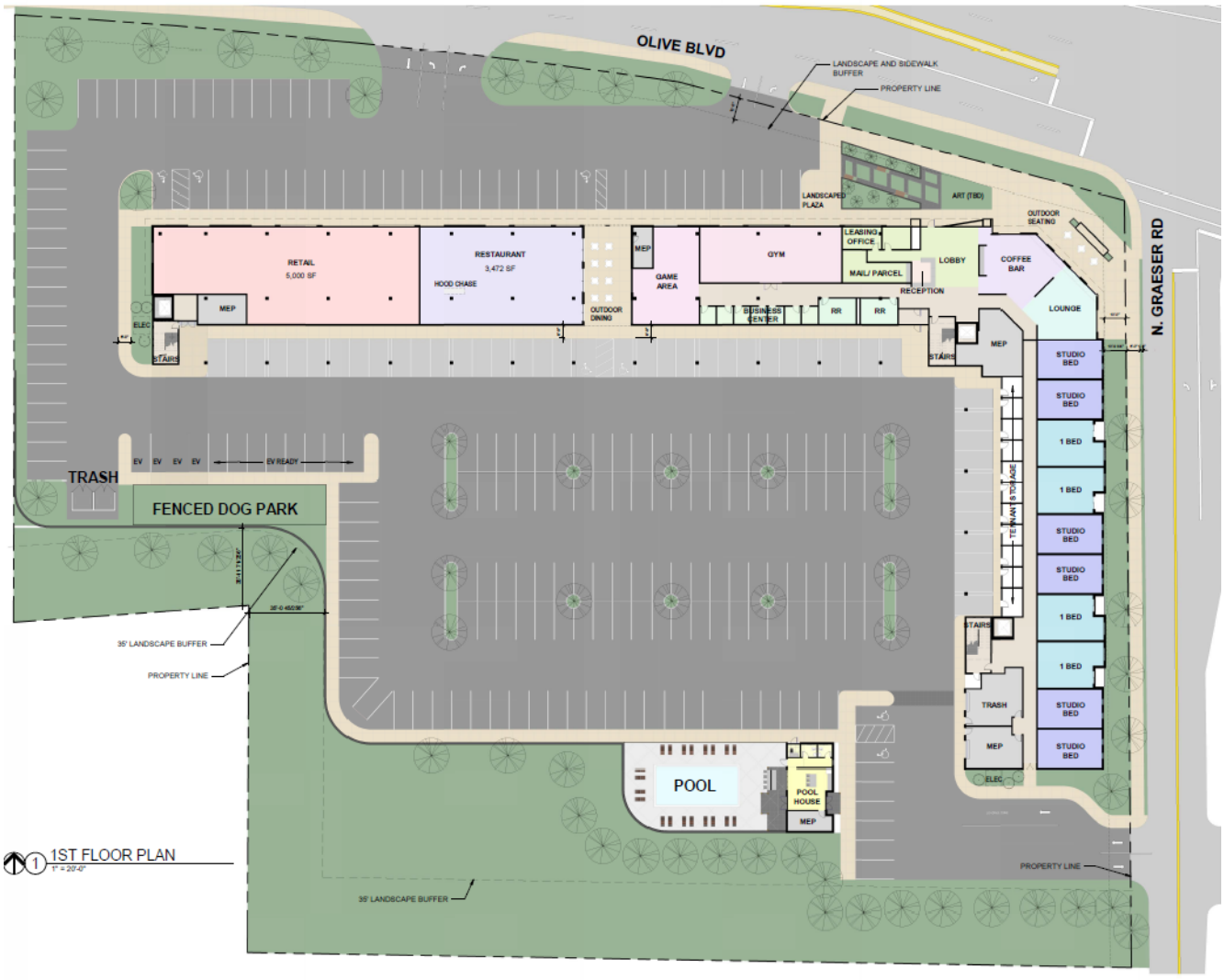


Figure 1: Proposed Site Plan with First Floor Layout.

Figure 2: North and South Building Elevations. North Elevation along Olive Boulevard.

Figure 3: East and West Building Elevations. East Elevation along Graeser Road.

Figure 4: Proposed Unit Floorplans.

LAND USE AND ZONING OF SURROUNDING PROPERTIES

The adjacent zoning and land uses are as follows:

DIRECTION	USE	ZONED	SEPARATED BY
North	Commercial	"GC" General Commercial Zoning District	Olive Boulevard
South	Single-Family Residential	"C" Single-Family Residential	N/A
East	Commercial	"GC" General Commercial Zoning District	Graeser Road
West	Commercial	"GC" General Commercial Zoning District	NA

COMPREHENSIVE PLAN REVIEW

The *Creve Coeur 2030 Comprehensive Plan* categorizes the subject property as Neighborhood Commercial Place Type District (NC). This district comprises the East Olive Corridor and was envisioned to support the development of a variety of medium- to low-density commercial and neighborhood service businesses, small-scale restaurants and low-density multi-family residential developments in a corridor that is characterized by shallow lot depths adjacent to established residential subdivisions. This district is designed to provide a transition between more intense commercial districts to the east and west while creating a pedestrian friendly, walkable corridor as much as is possible along Olive Boulevard (p. 88). The comprehensive plan highlights the challenges this commercial corridor along Olive Boulevard has had in flourishing due to its direct adjacency to established residential neighborhoods, shallow lot depths and a mix of zoning which leads to a lack of coherent corridor identity that has to be established on a lot-by-lot basis with redevelopments.

The mixed-use building providing retail space at the ground level and residential above is a use that aligns with the goals of the comprehensive plan for this area. In place of the two commercial strip center buildings previously on site, the residential character of the building with ground floor commercial availability addressing the primary street, Olive Boulevard, appears to be a positive transitional use between the busy corridor of Olive Boulevard and the single-family residential nature of the established neighborhood properties to the south. The proposal includes a new sidewalk along Graeser Road to provide safer pedestrian access, outdoor dining opportunities, spaces for neighborhood service businesses and a small-scale restaurant, and public art and landscaping at the corner plaza amenity, all of which are encouraged by the Comprehensive Plan to enhance the neighborhood experience through redevelopment within the East Olive Corridor. Other aspects of the proposal shown on the site concept plan are 35-foot buffer adjacent to residential uses, street trees and sidewalks along both street frontages, and a lesser amount of parking in front of the building with the majority of the parking around the back of the development, hidden from view, all of which appear to be consistent with the comprehensive plan's vision for infill developments in the East Olive Corridor.

The project's proposed density was the subject of much discussion at the preliminary review. The comprehensive plan does not define what constitutes low, medium or high-density multi-family while suggesting that low to medium density multi-family residential would be appropriate for the East Olive Corridor in the Neighborhood Commercial place type district. The residential density of the project, with 157 total units is 35.52 units per acre. A review of the "Vision and Best Practice Character Images" found on page 91 of the plan provides examples of higher density development in Clayton and Kirkwood with building heights from 2 ½ stories to 3 ½ stories which suggests that denser developments were considered appropriate for the area when gathering visual examples during the planning process for the comprehensive plan document. In contrast, the zoning code use table considers Low-Density Multi-family as up to 6 units/acre, Medium Density up to 20-units an acre, and High-Density more than 20-units an acre. Applying the zoning code's Low Density Multifamily ratio to this site would result in 26 multi-family units on a 4.42-acre site. This appears to be an unrealistic goal for this particular site given the location and size of this property on Olive Bouelevard, and in consideration that it is currently zoned commercial.

As part of the application submission, the applicant provided a detailed narrative that includes a section on the project's compliance with the comprehensive plan. The applicant lists the ways that the proposal complies with the goals of the comprehensive plan for the East Olive Corridor including promoting a mixed-use development as a transitional use between the single-family neighborhoods and higher-intensity commercial corridor, providing a pedestrian-oriented streetscape along Olive Boulevard that contributes to an active corridor with primary entrancing facing the street, majority side and rear parking provided for a more active streetscape, pedestrian amenities in the form of the plaza, landscaping, sidewalks and outdoor dining, pedestrian access connectivity through the site, high quality design appearance with appropriate materials and building articulation to respect adjacent neighborhoods, a 10 foot setback along Graeser Road to incorporate additional landscaping and reduce building scale to create a softer, residential, facing edge and a 35 foot buffer yard when adjacent to single-family residential properties. The applicant also included a section related to the proposed residential density for the

development in comparison to other multi-family residential developments along Olive Boulevard that shows the proposed residential density for the project, 35.5 units per acre, in the middle range of recent multi-family developments adjacent to the Olive Boulevard corridor.

Development	Address	Units / Acre	Beds* / Acre
The Nest	10819 Olive Blvd	20	38.1
The Vue	1001 Old Olive Way	23	100.8
Olive & Graeser	Subject Property	36	36.9
Vanguard Heights	10362 Old Olive	48	69.7
Kings Landing	618 N New Ballas	49	81.5
The Oliver	9473 Olive Blvd	64	81.8

*For the purposes of this analysis, studio units are counted at 1 bedroom

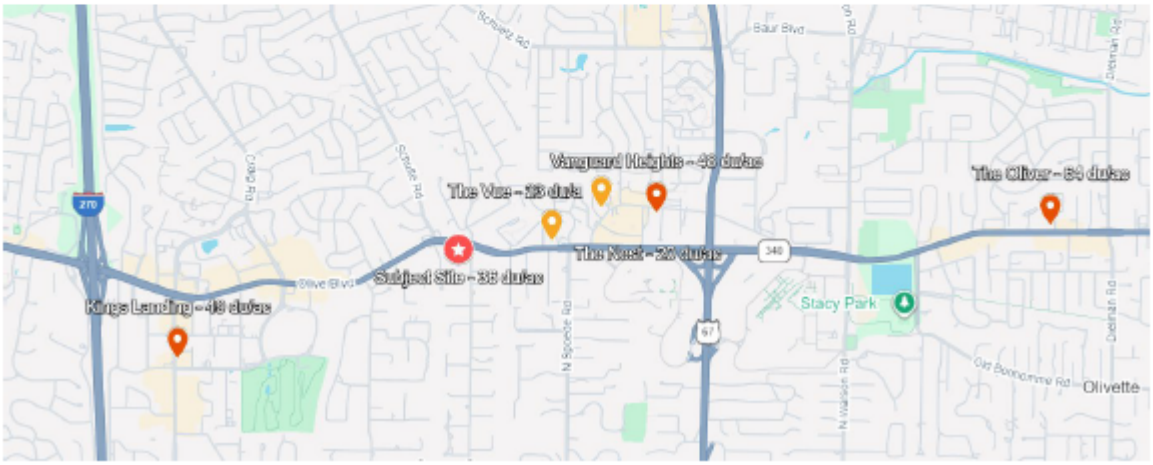


Figure 4: Table and Map Provided in Applicant's Submission Materials.

The Graeser Station Planned Mixed-use development includes many components of compatibility with the comprehensive plan that have been discussed above and include providing a transitional use between the commercial uses along Olive Boulevard and the established single-family residential uses to the south, providing pedestrian amenities such as new sidewalks and landscaping, outdoor dining opportunities, an active street front along a primary street with neighborhood service uses and a small-scale restaurant space, a residential buffer and architectural building design that includes high quality materials and design elements to soften the building mass appearance with respect to the adjacent residential uses. The issue of density and how it fits within the recommendations of the plan for the East Olive Corridor is more subjective and requires further discussion. On one hand, the proposed residential unit per acre density for the site in combination with the proposed four-story (54.5-feet) building height appears to push or even exceed the limits of the comprehensive plan recommendations. As referenced previously, the zoning code categorizes high density as over 20 units per acre and this project is proposing 35.5 units per acre. However, this definition was last updated in the 1980s and does not appear to reflect the density requirements for modern multi-family developments. In addition, the character images of residential or mixed-use developments in the region as shown in the plan would not appear to be considered low-medium density. For further consideration, the subject property is unique within the East Olive Corridor as it is deeper than most lots, has a common owner, is on a corner lot with access to two streets, and has a combined size of 4.42 acres making it one of the largest sites along Olive Boulevard in the immediate area. These factors mean that this site could support higher density while being able to appropriately concentrate the building closer to Olive Boulevard and provide a buffer yard adjacent to the existing residential uses to the south. The majority of sites within this corridor struggle with smaller sizes and shallow lot depths which is not the case for the subject property. Another measure for density regulation is the Floor Area Ratio (FAR). This calculation determines the maximum amount of floor space a

building can have in relation to the size of the lot. The proposed FAR is 0.85. The current zoning for the lots, "GC" has a FAR maximum of 0.4 and the adjacent commercial zoning district of "CB" Core Business allows a FAR of 1.0.

In summary, staff is of the opinion that this project meets the goals of the comprehensive plan to a high degree, while acknowledging that the issue of appropriate density within the East Olive Corridor is not well-defined in the plan and requires further discussion between the applicant and Commission.

DESIGN GUIDELINES

The City's Design Guidelines encourage interesting, articulated and high-quality structures avoiding long or continuous wall planes and exhibiting details and elements appropriate for pedestrian view with defined outdoor spaces including courtyards, patios, plazas, covered walkways, arcades, or similar activity centers. (p.7.) Design elements at street level that attract pedestrians and reinforce street activity are strongly encouraged. Varied and interesting building facades are key to creating a "pedestrian oriented" place. (p.8.) Buildings should be designed with an architectural and urban scale compatible with neighboring developments. All elevations should receive equal design consideration and the primary elevation. Preferred building materials include stone, brick, architectural precast concrete. Aluminum and glass. Commercial and residential buildings should be sited to provide functional, livable, outdoor and public spaces that enhance the use of the building and the neighboring buildings or properties. (p.9.)

Services and trash or utility areas should be positioned to minimize visual impact on public streets, surface parking lots and neighboring properties through design and/or screening. Setbacks should be landscaped in order to act as a buffer between the building and the street, and to create a more pleasing view to and from the building. The design of a landscape plan should not be utilized to screen out an otherwise unacceptable building but enhance architectural features and details of a building. Unattractive project elements such as delivery zones, storage areas, trash enclosures, transformers, generators and similar features should be sited in areas which are generally not visible to the public or must also be screened from view (p. 4). Circulation systems should be designed to avoid conflicts between vehicular, bicycle and pedestrian traffic and pedestrian circulation should take precedence over vehicular circulation.

The proposal includes the construction of a new 4-story, mixed-use building that extends in an "L" shape around the corner of Olive Boulevard and Graeser Road. The site plan shows surface parking in front of the building along Olive Boulevard with the majority of parking behind the building. A covered pass-through element has been added along the Olive Boulevard façade to facilitate pedestrian access to the commercial components from both parking lots through the building. This area is also being utilized for outdoor dining. The exterior elevations appear to show a well-designed mixed-use building that will prominently address the corner at Olive Boulevard and Graeser Road while employing design elements that are meant to reduce the visual impact of the overall massing of the 4-story building. The tallest point of the building is the corner element facing the intersection where darker materials will be used for the fourth floor in order to draw attention away from the height. Setbacks and material changes are proposed along both Olive Boulevard and Graeser Road elevations to break up the large expanse of each façade along the road. The Olive Boulevard elevation includes the retail storefronts and will include parking for the retail component between the building and the road. The Graeser Road elevation tapers down to 2 stories closer to the single-family residential uses to the south. The proposed materials include large format masonry used at the retail level, brick veneer and metal and Nichiha fiber cement wall panels in a neutral color palette.

Staff believes the layout of the building on the site, the architectural design, and the proposed exterior materials meet with the Design Guidelines.

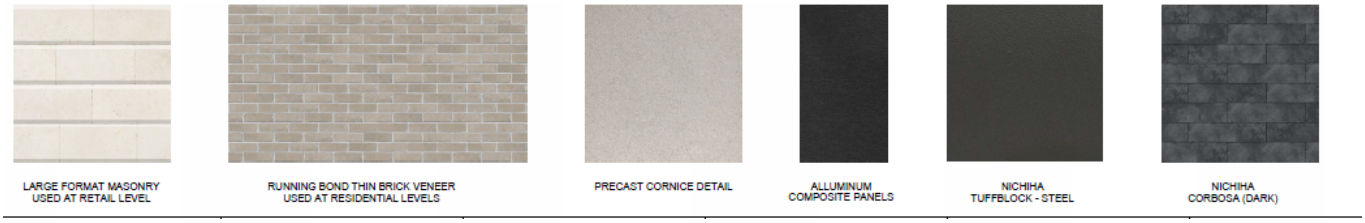


Figure 5: Proposed Materials.

Figure 6: Architectural Rendering of the Olive and Graser Corner with Plaza Amenity.

Figure 7: New Pedestrian Walkway Through Building.

ZONING REVIEW
Planned Zoning Districts are regulated within Section 405.390 of the Zoning Ordinance. This section describes, in considerable detail, the characteristics that a proposed planned development should have, as well as certain standards of review that must be performed by the Planning and Zoning Commission and City Council.

The purpose of the Planned Zoning District is to allow a development project that is proposed on a single lot or multiple lots to be constructed in one (1) or more phases that is unable to meet the established zoning criteria due to project size, phasing, configuration, site conditions, or particular design features. The Planned Zoning District provides a mechanism to facilitate innovative design, solve problems on difficult sites, meet market niches, encourage housing in different forms and price ranges, promote well-designed developments, and encourage infill and redevelopment within the City.

The following are Objectives for the use of Planned Zoning Districts:

1. Fulfillment of the goals and objectives of the Comprehensive Plan;
2. Creation of a more desirable environment than would be possible through application of conventional City land use regulations;
3. Promotion of a creative approach to the use of land and related physical facilities resulting in better design and development including aesthetic amenities;
4. Combination and coordination of architectural styles, building forms and building relationships;
5. Preservation and enhancement of desirable site characteristics such as natural topography, vegetation and geologic features, preferably by means of natural erosion control and stormwater control best management practices;
6. Use of design, landscape or architectural features consistent with the City's design guidelines;
7. Mutually desired elimination of obsolete or deteriorated structures or incompatible uses through redevelopment.

A review of the specific components of Section 405.390 as they relate to this application follows:

Eligibility
The following criteria must be met as determined by the Zoning Administrator as provided within Section 405.390(C) Eligibility. The Zoning Administrator finds that the application meets these Eligibility criteria and is an appropriate use of the Planned Zoning District procedure as follows:

1. Is located on one (1) or more lots totaling at least three (3) acres in size.

Criterion met. The project, located at the south-western corner of Olive Boulevard and Graeser Road, is comprised of approximately 4.42 acres amongst 6 parcels. Before final consideration of the project by the Commission, the applicant intends to submit a boundary adjustment to combine the parcels into one lot.

2. Cannot be approved under the provisions of another Zoning District.

Criterion met. The current "GC" General Commercial zoning district does not allow structures to be used for residential purposes. The minimum district size to be eligible for a rezoning in all other zoning districts is 5 acres and the subject property is 4.42 acres.

3. The subject property is zoned for the eligible type of planned zoning district pursuant to Section 405.390.F. In the event the existing zoning district is not eligible for the requested planned zoning district, an application to rezone to a qualifying zoning district must be submitted in conjunction with the planned zoning district application.

Criterion met. The subject property is currently zoned "GC" General Commercial This district is eligible for rezoning to "PMD" Planned Mixed-Use Development which is one of the three types of planned zoning districts listed under Section 405.390(F).

4. The proposed development must substantially comply with the provisions of this Section 405.390 and be generally consistent with the applicable provisions of the City's Comprehensive Plan.

Criterion met, subject to further discussion on residential density. In general, the proposed development substantially complies with the provisions of Section 405.390, which will be explored in greater detail further in this staff report. The proposal is generally consistent with the applicable provisions of the City's Comprehensive Plan subject to further discussion by the Planning and Zoning Commission regarding the density aspect.

Public Benefit
As a component of the Planned Zoning District, the project must provide public benefits as determined by the City Council upon the recommendation of the Planning and Zoning Commission. Such public benefits to the City can include, but are not limited to, the following uses as provided in Section 405.390.E.

1. Provision of public or quasi-public parking facilities;

The project includes a surface parking lot that will serve both the residents of the building as well as provide parking to access the proposed commercial spaces that will be privately maintained and open to the public.

2. Provision of on-street and off-street pedestrian facilities linking surrounding business, office and residential uses;

The project incorporates sidewalks along both street frontages to facilitate future connections to surrounding properties as well as internal pedestrian circulation routes through the site including the covered walkway through the building connecting both parking areas to the commercial component.

3. Consolidation and/or elimination of overhead utility wires;

Per the applicant's submitted materials, existing public utilities along Olive Boulevard and Graeser Road will be utilized with all new private utilities to serve the development to be placed underground, where feasible.

4. Inclusion of landscaped gardens, plazas or parks available for public use;

The development proposes a plaza at the corner of Olive Boulevard and Graeser Road that incorporates landscaping planters, public art, and outdoor seating options available to the public for use.

5. Provision of alternative street connections or the dedication of land for additional street right-of-way;

The development will utilize the existing access to the public roadways, Olive and Graeser. No additional dedication of land for additional street right-of-way is recommended by the Traffic Impact Study.

6. Fountains, statuary, public art;

The project proposes public art within the front plaza area, visible from Olive Boulevard. The applicant is also considering participation in the City's Sculpture on the Move program administered by the Arts Committee.

7. Architectural distinction and significance that would make building(s) noteworthy;

The preliminary renderings indicate that the building will have a significant presence and will provide architectural distinction within this area of Creve Coeur. The building is well-designed with quality materials and would be a prominent addition to the architectural character of the East Olive Corridor.

8. Extensive use of high-quality building materials that would add to the assessed valuation of the structures.

The exterior building materials are indicative of a high-quality development that would add value to the project and the surrounding area. The use of brick, stone, metal panels and fiber cement are proposed.

Design Criteria
An application for rezoning to the PMD District must satisfy specific design criteria as determined by the City Council upon recommendation by the Planning and Zoning Commission. The following is staff analysis of the Planned Mixed-Use Development (PMD) Design Criteria, Section 405.390(F), and the extent to which those items are present with this proposal:

1. **Proposed development adjacent to any single-family residential development shall meet a sky exposure plane requirement. The sky exposure plane will be measured from a line located thirty-five (35) feet above the property line and will have a slope of thirty degrees (30°) rising towards the center of the site.**

Criterion met. The subject property is adjacent to single-family residential to the south. The applicant has submitted a diagram demonstrating the proposed building's compliance with this requirement.

Figure 8: Sky Exposure Plane Diagram.

2. **Any tract or site abutting or adjoining a single-family residential development shall provide a buffer yard of thirty-five (35) feet on all sides that abut the single-family development, except if the abutting or adjoining proposed uses are residential of equal or less density relative to the existing residential uses then such buffer yard shall be twenty-five (25) feet. The buffer yard shall be landscaped and shall not contain impervious surfaces, with the exception of trails, footpaths, walkways, pedestrian accommodations and/or amenities, retaining walls and/or other screening devices and/or stormwater management systems as deemed appropriate by the Planning and Zoning Commission and City Council. The required buffer yard may be modified due to unique site characteristics and taking into consideration the proposed uses adjacent to the existing single-family residential developments.**

Criterion partially met, subject to further discussion on the retaining wall design. The subject property abuts single-family residential to the south and has provided a 35-foot buffer yard where adjacent to

single-family residential uses. The buffer yard will be absent of impervious surfaces and will include extensive, layered landscaping to help screen the proposed site to the residential uses to the south. The proposed retaining wall is very high with a proposed maximum height of 38-feet. The Commission should discuss with the applicant alternatives to this design that could lower the height of the retaining wall.

3. **If residential uses are proposed, provides for a mixture of housing types to meet market demands and encourage diversification.**

Criterion met. The residential component includes 157 rental units with a mix of studio, one-bedroom and two-bedroom units. The applicant states that this variety meets market demand for different household sizes—young professionals, small families, and downsizers seeking low-maintenance living, that are present in the area. This housing mix supports the growth of the 39 North AgTech innovation district while also providing a more affordable alternate to single-family residential housing options within Creve Coeur. This unit mix is aligned with the Comprehensive Plan's East Olive Corridor objectives to broaden housing choice and encourage corridor reinvestment and advances the PMD district's vision for integrated, context-sensitive growth. Staff does not have any objections to the applicant's reasoning for the proposed unit-mix which consists of mostly studio and one-bedroom units with limited 2-bedroom units.

4. **Allows for and makes efficient use of parking and storage areas including cooperative parking facilities.**

Criterion met, subject to further review by the Commission of the submitted shared parking study. The applicant is providing 250 surface parking stalls on site to be available for shared use amongst the building residents and the public to access the commercial components of the building. While the proposed amount of on-site parking of 250 parking stalls does not meet the combined amount required for the residential component and the commercial component of 345 parking stalls under the requirements of the Zoning Code, the applicant has submitted a parking study conducted by Lochmueller Group that takes into account parking demand. The City's traffic consultant has reviewed the provided parking study and has concurred with the findings subject to restrictions on potential uses within the commercial component.

5. **Provides for the more efficient provision of public and private utilities and facilities throughout the development area.**

Criterion met. The applicant states that the project consolidates multiple outdated service connections from the former retail uses on site into a single coordinated system to improve efficiency and reliability. The applicant also states that the existing public utilities along Olive Boulevard and Graeser Road will be utilized, with all new private utilities—electric, communications, and fiber—installed underground where feasible. The applicant is coordinating with MSD, Ameren, and Missouri American Water to ensure adequate capacity and service.

6. **Provides adequate public facilities including streets, bicycle and pedestrian facilities, fire protection, water, storm water control, sanitary sewer and parks and recreation facilities.**

Criterion met, subject to final approval by the appropriate jurisdictional agencies. The proposed development will reduce the multiple access points to the adjacent public roadways on Olive and Graeser. In addition, an easement is proposed to allow for future cross-access to the adjacent property to the west if that property is redeveloped. New public sidewalks are proposed adjacent to the Graeser frontage to support future connections to the neighborhoods to the south. Bicycle facilities are not provided but amenities such as bicycle storage and racks can be incorporated into the development to better meet with this requirement.

7. Incorporates pocket parks, small plazas and places for public art where appropriate.

Criterion met. The project includes a new public plaza at the corner of Olive Boulevard and Graeser Road featuring seating, landscaping and public art. The applicant states that in direct response to Planning Commission and community feedback, the plaza design has been refined to include denser greenery and seating oriented away from Olive for greater comfort and usability. At the appropriate time, the Arts Committee will review and provide a recommendation regarding the public art component.

8. Locates buildings in appropriate relation to sidewalks or public parks and plazas.

Criterion met. The building is placed close enough to Olive Boulevard, 93 from the property line where parking is provided in front of the building tapering to 22 feet at the corner plaza area, to activate the first-floor commercial uses for pedestrian activity. In consideration of feedback received from residents and the Commission, the applicant has pulled the building back along Graeser Road to provide a 10-foot setback from the property line to accommodate a new sidewalk and landscaping.

9. Provides for vehicular mobility in a manner that does not compromise pedestrian safety and mobility.

Criterion met subject to further adjustments. The project reduces the number of existing curb cuts along Olive Boulevard from three to two and from three to one along Graeser Road. The October 2025 Traffic Impact Study prepared by the City's traffic consultant, HR Green, details that all surrounding intersections will continue to operate at similar levels of service and do not require additional off-site upgrades to existing facilities. Directional signage should be added on site to help facilitate access through the parking lot to the Graeser/Olive signal. The new sidewalk along the west side of Graeser Road is proposed with a small grass buffer for improved pedestrian safety. The internal pedestrian pass-through connecting the rear parking to the front plaza and retail enhance pedestrian safety however, the plan utilizes the striped ADA loading component for this access. Staff would prefer a dedicated pedestrian access design between the parking stalls for this purpose.

10. Utilizes high-quality architectural design and materials, placement, relationship and orientation of structures throughout the planned development.

Criterion met. Sheet A-5 of the Site Development Plan provides the elevations for the project and an overview of the materials proposed for the development which includes fiber cement panels, metal panels, stone, brick, and other decorative architectural panel materials that are consistent with the recommendations of the Design Guidelines. The façades incorporate architectural elements such as articulated depths, vertical plane breaks, and material transitions to reduce the overall visual mass of the building. The structure also steps down in height along the southern edge to achieve a transition to nearby residential properties from 4 stories down to two stories.

The placement and orientation of the structure provide a design that encourages pedestrian activity along Olive Boulevard. The building is placed closer to both streets in order to provide additional space at the rear where the property abuts single-family residential uses and provides the 35-foot buffer yard and landscaping.

11. Places all utilities serving new projects underground, to the extent feasible, except where specific allowances and design considerations are provided elsewhere in this Section.

Criterion met. All new private utilities, including electric, communications, and fiber, will be placed underground where feasible. New electrical transformer locations are identified next to the building on sheet A-1, and existing overhead service connections will be removed during demolition. The applicant is coordinating with MSD, Ameren, and other utility providers for service delivery.

12. Provides for appropriate spacing and/or greenspace in or around the separate developments within the PMD.

Criterion met, subject to further discussion and adjustments. The Site Concept Plan and Site Development Plan propose a single building development to be constructed in a single phase. The Site Development Plan shows the development at 63.80% site coverage where 63% is allowed or up to 70% with a site coverage bonus within the City standard commercial zoning districts. Based on feedback from the Commission and through meetings with the neighboring residents, the applicants have adjusted the plan compared to the prior conceptual review. The greenspace has been increased along Graeser Road to match the existing zoning district requirement of a minimum 10-feet setback. Further, a 5-foot landscaped buffer is now provided along the western side, adjacent to the commercial development and additional greenspace has been incorporated within the plaza to break up the hardscape. The plans meet the minimum suggested greenspace buffer of the PMD district of 35-feet when adjacent to residential uses and provides layered landscaping with predominately evergreen trees for year-round screening. With that being said, the proposed retaining wall is very high at a maximum of 38-feet. This wall is located partially within the buffer and consideration should be given to reduce the height.

13. Functionally and aesthetically integrates all proposed storm water collection basins with the surrounding development through undergrounding or innovative design of above ground facilities that is visually commensurate with surrounding development.

Criterion met, subject to further discussion and adjustments. Sheet SD5 of the Site Development Plan details the utility and drainage plan for the development. The plan shows the project's stormwater detention and water-quality treatment system is located behind the building in the southwest corner of the site, south of the retaining wall. The basin includes a berm and landscaping for a screening buffer adjoining the single-family properties to the south. The applicant will provide a rendering of the proposed storm water basin and landscaping from the residential properties to the south for review by the Planning and Zoning Commission to determine if additional landscaping and screening measures should be required. As mentioned previously, the very tall retaining wall adjacent to the retaining wall should reconsidered to reduce the height.

Review Criteria
An application for rezoning to the Planned Zoning District must satisfy specific Review Criteria as determined by the City Council upon recommendation by the Planning and Zoning Commission. The following is staff's analysis of the Planned Mixed-Use Development (PMD) Design Criteria, Section 405.390(F), and the extent to which those items are present with this proposal:

1. The proposed development is in harmony with the general purpose and intent of this Chapter and is generally compatible with and implements the planning goals and objectives of the City including the Comprehensive Plan.

The proposed development is in harmony with the intent of Section 405.390 and the Zoning Ordinance as a whole. The proposed project is generally compatible with and implements the planning goals and objectives outlined in the Comprehensive Plan, however, staff acknowledges further discussion on the density component is warranted. The project meets several of the recommendations for the Neighborhood Commercial District along the East Olive Corridor including providing a redevelopment of an existing lot that builds toward a coherent corridor identity through the development of a mixed-use building providing commercial space for neighborhood service business and small-scale restaurants while encouraging pedestrian access and walkability between lots with easy car access and parking. The 4.46 acres size of the combined lots under a single owner means that this development is afforded the conditions to provide a mixed-use building that is well designed with quality materials that activates the Olive Boulevard streetscape while also providing an adequate residential buffer of 35-feet for the single-family residential uses to the south which is not ordinarily found for redevelopments along Olive Boulevard due to the shallow lot depths. The proposal includes a new plaza area with landscaping, outdoor seating and public art, a new sidewalk along Graeser Road, new landscaping along both streetscapes and a landscaped buffer

yard adjacent to single-family residential uses, all of which meet the recommendations of the Comprehensive Plan.

However, the Comprehensive Plan recommends low- medium density multi-family residential uses in this area while also providing visual examples of residential developments in Clayton and Kirkwood which would not fall under the low-density definition of 6 residential units per acre (or medium density) outlined in Table A of the Zoning Code. The applicant is proposing a development with 157 residential units and a residential density of 35.6 which would be categorized as "high-density" per the definition outlined in Table A of residential developments of more than 20 units per acre. These terms have not been updated in the City of Creve Coeur's Zoning Code in almost 40 years and do not appear to reflect modern multi-family residential developments. Given the proposal's ability to provide a development that complies with most of the goals and objectives of the Comprehensive Plan while providing a transitional use between the existing single-family uses to the south and the busy commercial corridor of Olive Boulevard to the north, the remaining issue of proposed density should be thoughtfully considered and discussed with the applicant.

2. **Streets or other means of access to the proposed development are suitable and adequate to carry anticipated traffic and will not overload the adjacent streets.**

Criterion met. As part of the application submittal, a traffic study was conducted by the City's traffic engineer, HR Green, to study the proposed development and uses to conclude if the streets and means of access to the development are adequate for the development with internal circulation that encourages safe pedestrian and vehicle circulation. This study has been shared with MoDOT for comment. As part of this requirement, any recommendations made by MoDOT or the City's traffic consultant based on the Traffic Impact Study should be implemented. The results of the Traffic Study concluded that the Graeser Station development is projected to generate approximately 65 new trips during the morning peak hour, 94 during the afternoon, and 63 during the midday period. Despite the added trips, overall intersection performance remains within acceptable limits. Based on the findings, no modifications to the existing roadway network or signal timing are recommended. The City's consulting engineer will be available to answer any questions the Commission may have.

3. **The internal circulation system of the proposed development encourages safe movement for vehicles and pedestrians.**

Sheet SD3 of the Site Development Plan shows the reuse of the existing sidewalk along Olive Boulevard and the inclusion of a new 6-foot-wide detached sidewalk along Graeser Road. Internal sidewalks to provide pedestrian access throughout the side will be a minimum of 6 feet wide except in the case of the sidewalk provided under the overhang of the cantilevered upper stories at the rear of the building which will be provided at a depth of 5 feet. The new covered passthrough provided pedestrians safe access to both parking areas and the commercial component from anywhere on the site. The reduction of existing curb cuts on site from 6 to 3 helps provide more concentrated vehicle access points to the site. Directional signage should be provided to enhance the vehicle flow though the site.

4. **Existing or proposed utility services are adequate for the proposed development.**

Criterion met subject to final approval by the appropriate utility provider. The new underground utilities provided for the development have been reviewed by the Public Works Department with no concerns at this stage of the development review. Each utility will require a separate review and approval prior to construction.

5. Appropriate buffering is provided to protect adjacent land uses from light, noise and visual impacts.

The required 35-foot buffer when abutting residential uses is shown on Sheet SD3 of the Site Concept Plan. The building is setback even further beyond the 35-foot setback in order to accommodate the parking lot. Sheet L1.01 of the Site Development Plan shows significant landscaping proposed between the residential areas and the project development area for additional buffering to help reduce light noise and visual impacts. In addition, the proposed grade for the development results in the site being higher than adjacent residential properties and the need for a retaining wall to be constructed. Residential site amenities consisting of a dog run and pool with pool house are proposed on the southern end of the parking lot. The applicant has submitted operational restrictions to minimize the noise impacts of these amenities. Staff recommends that the Commission thoroughly review this aspect of the development with the applicant to understand any impacts to the existing residential neighborhood and to determine if adjustments need to be made.

6. Architecture and building materials are consistent with the character of the proposed development and compatible with areas of the City proximate thereto.

The proposed architectural design of the building and proposed materials are both of a high quality that is compatible with the surrounding area. The proposed height of the building is taller than the immediately surrounding buildings, which are one story and exceeds the current GC zoning limits by one story and 10-feet above the limit of 3-stories and 45-feet Other buildings within the East Olive Corridor feature similar heights as what is being proposed, such as the new 4-story apartment building (The Nest) at 10809 Olive and the office buildings on the north side of Olive, west of Spoede Road. The applicant has employed several architectural design features to help reduce the visual mass and bulk of the and to soften its appearance adjacent to single family residential including reducing the height of the building closer to the residential uses to the south, using darker materials on the 4th floor and provided material transitions and plane offsets to help break up the long façades along both Olive Boulevard and Graser Road. Staff recommends that the Commission thoroughly review this aspect of the development with the applicant as this development is the first to implement the recommendations of the comprehensive plan within the East Olive corridor and could set the tone for future development.

7. Landscaping is appropriate for the scale of development and consistent with any applicable City codes, ordinances and standards.

Sheet L1.01 of the Site Development Plan details the overall landscaping plan showing new street trees along Olive Boulevard and Graeser Road as well as ornamental landscaping along the parking lot to buffer it from Olive Boulevard and the adjacent commercial use to the west. Landscaping is provided around the building adjacent to Graeser Road and within the planters provided in the plaza along Olive Boulevard. Significant landscaping is shown in the buffer yard adjacent to single-family uses and buffering the retaining wall. The landscaping provided appears to be appropriate for the scale of the development but additional attention should be given to the area around the retaining wall to determine if additional landscaping should be provided for screening or if the retaining wall should be redesigned to lower the height or terrace the wall.

8. The proposed development preserves any significant architectural and environmental features of the property, to the extent reasonably possible.

The site previously included two commercial strip center buildings developed in the 1960s; of which one has already been demolished, and the applicant plans to demolish the remaining building in order to construct the mixed-use Graeser Station development. These remaining strip retail building is antiqued in design and is in poor condition. The development is not technically subject to Section 410.320 *Tree Conservation* because no subdivision of the property is proposed and the applicant has provided information on sheet TP of the Site Development Plan that shows that 100% of the existing trees are to be removed while Sheet L1.01 shows that a significant number of trees will be planted in the buffer yard.

9. Operating and delivery hours are compatible with the land uses adjacent to the planned zoning district.

General restrictions have been placed on the project as part of the planned development ordinance provided by the applicant. Delivery hours for the commercial components of the project are limited to off-peak hours of 7:00 AM to 7:00 PM, no Sundays or City-recognized holidays. Pool hours will be 10:00 AM.to 10:00 PM with posted quiet hours. The dog run will be limited to residents only and closed from 10:00 PM to 5:00 AM with a maximum of 15 minutes per use during open hours. Compliance with applicable municipal noise ordinances; no outdoor amplified music after 9:00 p.m. Enforcement of these limitations would be on a complaint-basis.

10. The proposed uses are compatible with the area surrounding the proposed development and will not have a material net cumulative adverse impact on the surrounding area or the City as a whole.

The proposed uses are compatible with the surrounding area as the properties opposite the subject property across Olive Boulevard are zoned for commercial uses in the "GC" General Commercial zoning district as well as the properties to either side of the subject property with the majority of the Olive Boulevard corridor being zoned for commercial uses. The proposed mixed-use development provides a transitional use between single-family residential uses to the south and the commercial uses along Olive Boulevard which is indicative of the East Olive Corridor. The building utilizes upper story step backs as it approaches the residential areas to the south and buffering with extensive new landscaping. In addition, the building's placement closer to Olive Boulevard and Graser Road provides additional space between the commercial and residential uses proposed and the existing single-family lots. Vehicular access to the site will be from Olive and Graeser, with no recommended alterations to the existing public roadway facilities per the results of the Traffic Study.

11. The proposed development complies with all other applicable codes and ordinances.

The application, as a whole, generally appears to be compliant with all other required applicable codes and ordinances based on this stage of the design.

12. The layout of structures and spaces adequately takes into account the potential for future subdivision of the development.

The development includes one mixed-use building and surface parking lot with amenities for residents including a small dog park and swimming pool with a pool house structure. No subdivision of land within the development is anticipated at this time.

13. There is a demonstrated level of the public benefit to the City derived from the proposed development, per Section 405.390(E).

There are several aspects of the proposal that provide public benefit, including new sidewalks to facilitate future connections to the surrounding lots, the public plaza with landscaping, outdoor seating, and public art, and providing noteworthy architectural design and high-quality exterior materials.

14. Any proposed direct impacts on public services, including public improvements proposed for dedication to the public, do not impose an unacceptable burden on the City, taking into account new City revenues projected to be realized from the development.

Staff does not anticipate that the proposed development would create an unacceptable burden on the City. Should the Commission request additional information to satisfy this requirement, staff can provide it at a future meeting.

Site Concept Plan/Site Development Plan

The Site Concept Plan is a significant component of the Planned Zoning District rezoning process. The Site Concept Plan provides the general layout for the entire development and provides critical information but at a relatively high-level view. Information that is required to be provided on the Site Concept Plan includes: general land uses, building placement, building heights, setbacks and buffers, circulation and access, parking, site coverage, proposed preliminary grading and stormwater facilities, conceptual landscaping and greenspace. Additional information to be submitted as part of the Site Concept Plan includes a narrative of the project by the applicant, phasing plan, general architectural information, and a traffic impact study. The Graeser Station project is one mixed-use building completed in one phase, so the Site Concept Plan and Site Development Plan are almost identical documents in this case. A key finding of any future Site Development Plan review is that the plan must be consistent with the approved Site Concept Plan. In this case, both documents are being submitted together for review. The following analysis addresses both documents.

The applicant has supplied this required information in the form of a multi-sheet Site Concept Plan set and a separate multi-sheet Site Development Plan set containing the same information with the addition of a site stormwater sheet. The narratives were provided with the rezoning application, and a traffic impact study was prepared by the City's consulting traffic engineer. Finally, the applicant has submitted their proposed development standards, including specific allowable uses, as an attachment to the rezoning application (titled Graeser Station Development and Use Standards).

Site Overview
The proposal includes the construction of a new 163,500 square foot, 4-story, mixed-use building at the corner of Olive Boulevard and Graeser Road. The overall height of the building is 54.5 feet. There are 157 total units proposed, ranging in size from a 575 square foot studio unit to a 1,297 square foot two-bedroom unit. The first floor of the building will include 8,472 square feet of commercial space facing Olive Boulevard. In addition to the commercial space, the first floor also includes amenity space for the apartment residents and a leasing office facing with first floor residential units placed along Graeser Road. Floors 2, 3, and 4 will only include residential units. The site includes a 250-space surface parking lot that wraps around the building with the majority of spaces behind the build and hidden from street view. Floors 2, 3, and 4 are cantilevered at the rear creating a row of covered, tuck under parking. A covered passthrough in the middle of the building provides pedestrian access to the retail spaces from both sides of the parking lot and also provides an opportunity for outdoor dining. A plaza area is planned for the corner along Olive and Graeser to include planters and a space for public art to be displayed. The development includes outdoor amenities for the residents including a swimming pool with a 916 square foot pool house and a fenced dog park, both at the rear of the building. The stormwater detention basin is also at the rear of the property within the buffer yard adjacent to the single-family residential uses.

Vehicle Circulation and Pedestrian Access
The site plan shows that two existing curb cuts along Olive Boulevard will be used in place to enter the site and one existing curb cut closer to the intersection will be removed. Two existing curb cuts along Graeser Road will be removed and the southernmost existing curb cut will be widened for use into the site. Vehicles can turn left or right onto Olive Boulevard or can continue around the building, through the site to the Graeser Road entrance to wait at the stop light on Olive Boulevard. Both right and left turns

can be made into and out of the Graeser Road entrance. On site directional signage should be placed to help with internal vehicle circulation. The Traffic Study shows that no offsite alterations need to be made to accommodate the proposed traffic generated by this use. There is an existing sidewalk along Olive Boulevard that will remain and the site plan shows a new 6-foot-wide sidewalk along Graeser Road. There is direct pedestrian access through the building to the parking in the rear from the retail component through the new covered passthrough in the building. Parking on site is shared and open to all users, residents and patrons of the retail spaces without restrictions. Internal sidewalks will be 6 feet wide with the exception of the sidewalk at the rear under the cantilever which will be 5 feet wide.

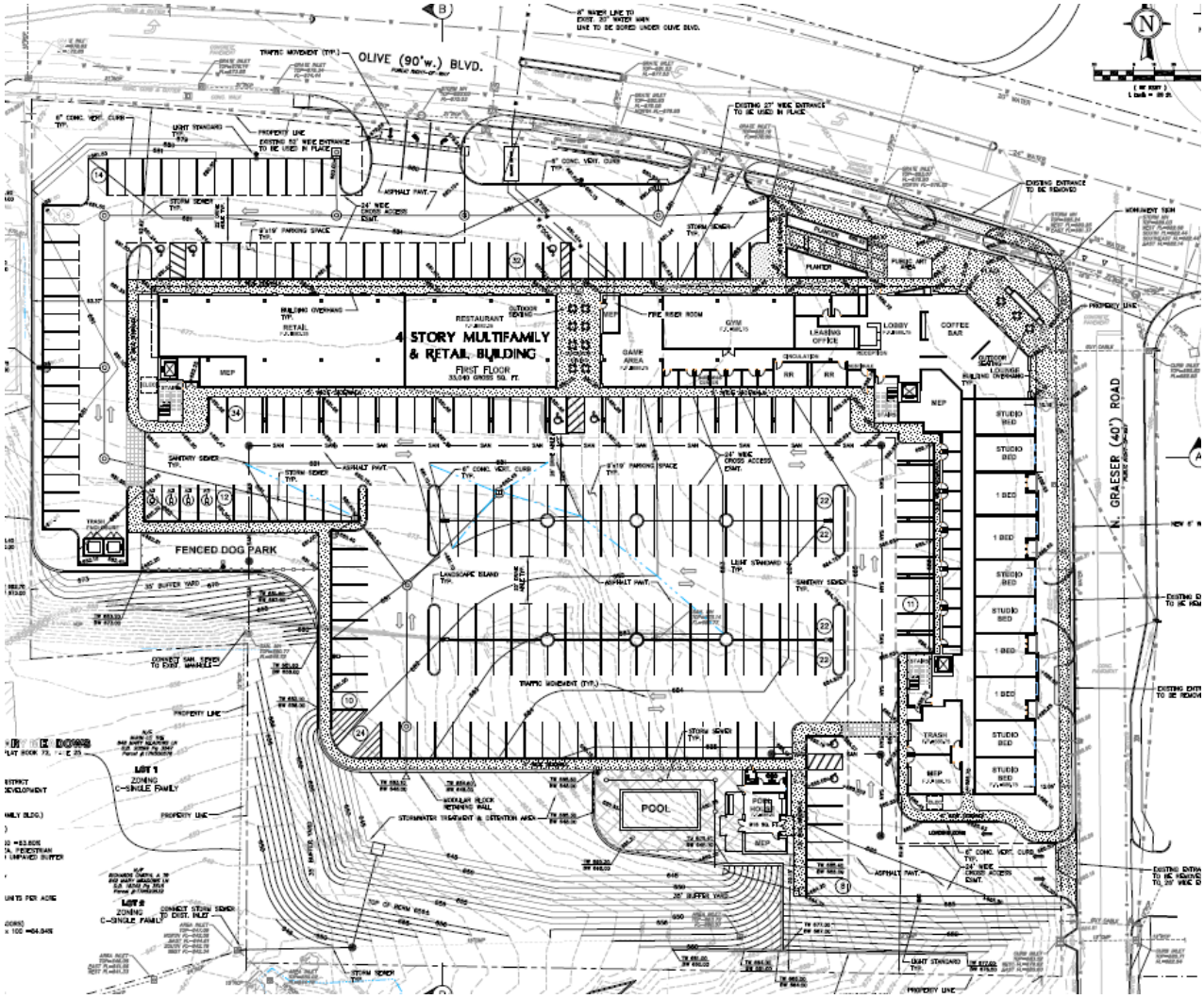


Figure 9: Site Development Plan, sheet SD3.

Setback and Buffers

Sheet SD3 of the Site Development plan shows the proposed setback and buffers for Graeser Station. It provides that the development will include a 35-foot Residential Buffer Yard along the southern portion of the property that abuts single-family residential uses. This area is free of impervious improvements, aside from the retaining wall, and will be landscaped to screen the development adjacent to the single-family lots. The Graeser Station Development and Use Standards list the minimum front yard setback as 20 feet, the minimum side yard setback at 10 feet and the minimum rear yard setback as 88 feet. The building is setback 21 feet at the closest point to Olive Boulevard but that distance increases to 92 feet at the maximum distance. The building's placement along Graeser Road has been increased to include a 10-foot setback from the property line. The building is setback 63 feet from the western property line and 89 feet from the rear property line to the south.

The retaining wall planned for the rear of the site will vary in height from approximately 1 foot to approximately 38 feet due to the topography of the site. The tallest point of the wall is at the stormwater treatment and detention basin and will not be fully visible at that height due to the berm that sits 8 feet tall around the detention basin. The material of the wall is a modular block CMU. The applicant has supplied a site line perspective on sheet SD4 to show the proposed conditions (Fig. 7.) Staff is concerned about the height of the wall. The landscaping plan shows extensive landscaping proposed for the buffer area and the berm to screen the wall and the detention basin. The Planning and Zoning Commission should discuss this area with the applicant to determine if additional screening measures should be employed or if the height of the retaining wall can be lowered.

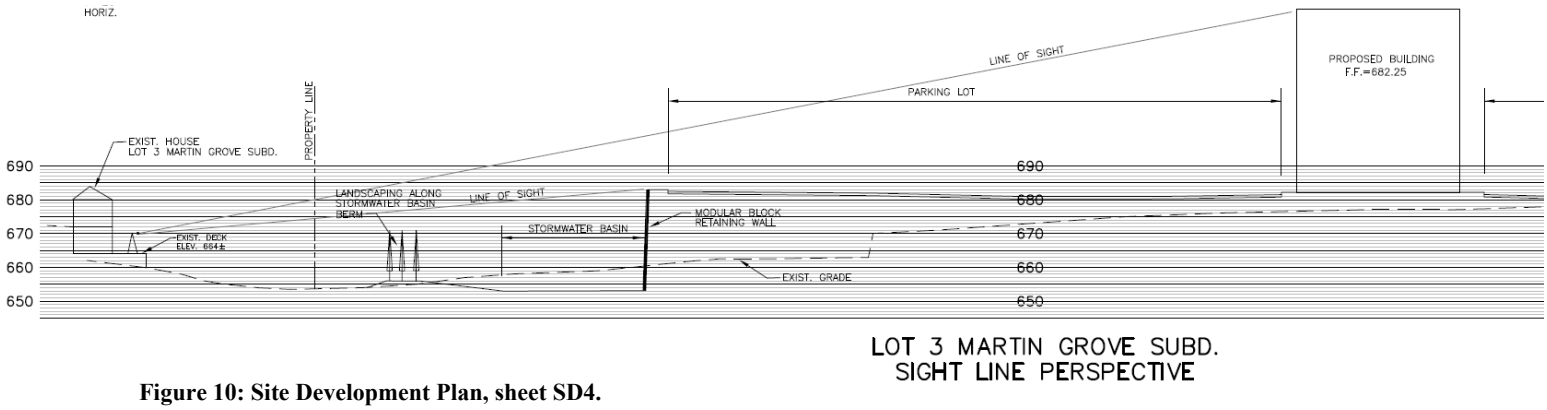


Figure 10: Site Development Plan, sheet SD4.

Stormwater Plan

Sheet SD5 of the Site Development Plan includes the stormwater plan for the site. A stormwater treatment and detention area will be constructed to capture the stormwater runoff for the site at the south western corner of the property. The basin will be created by the construction of the retaining wall to the north and the construction of a berm to south to capture the runoff. The water from the site will be captured from various collection points on site and piped to the basin. From there, it will be piped through the new storm sewer to an existing inlet just offsite to the east of the property. The stormwater calculations provided show that the estimated volume required for the site is 50,830 C.F. and the detention basin storage provided is 60,103 C.F. Public Works Staff have reviewed the plans and given comment and MSD review will be required at the permit stage.

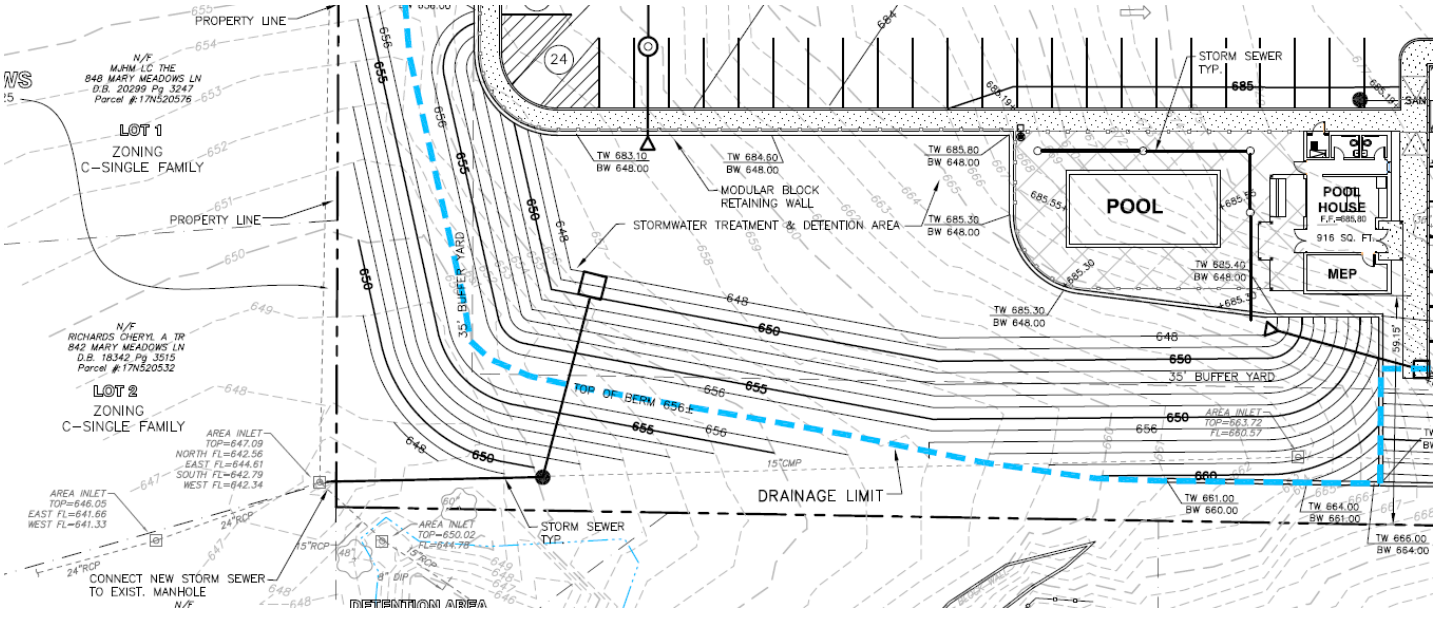


Figure 11: Stormwater Plan, sheet SD5.

Tree Removal and Landscaping Plan

The applicant has submitted a Tree Plan for the site, shown as sheet TP in the Site Development Plan. The plan includes a tree inventory of the existing trees on site. The majority of the trees on site are concentrated at the southern portion of the project area because the lots closer to Olive Boulevard were previously developed with two commercial strip centers and surface parking lots. The tree inventory shows that 100% of the existing on-site trees will be removed. The existing trees on the southern portion of the lot will be impacted by the construction of the parking lot, retaining wall and detention basin for this site and the existing street trees along Graeser Road will be installed along Greaser Road in their place.

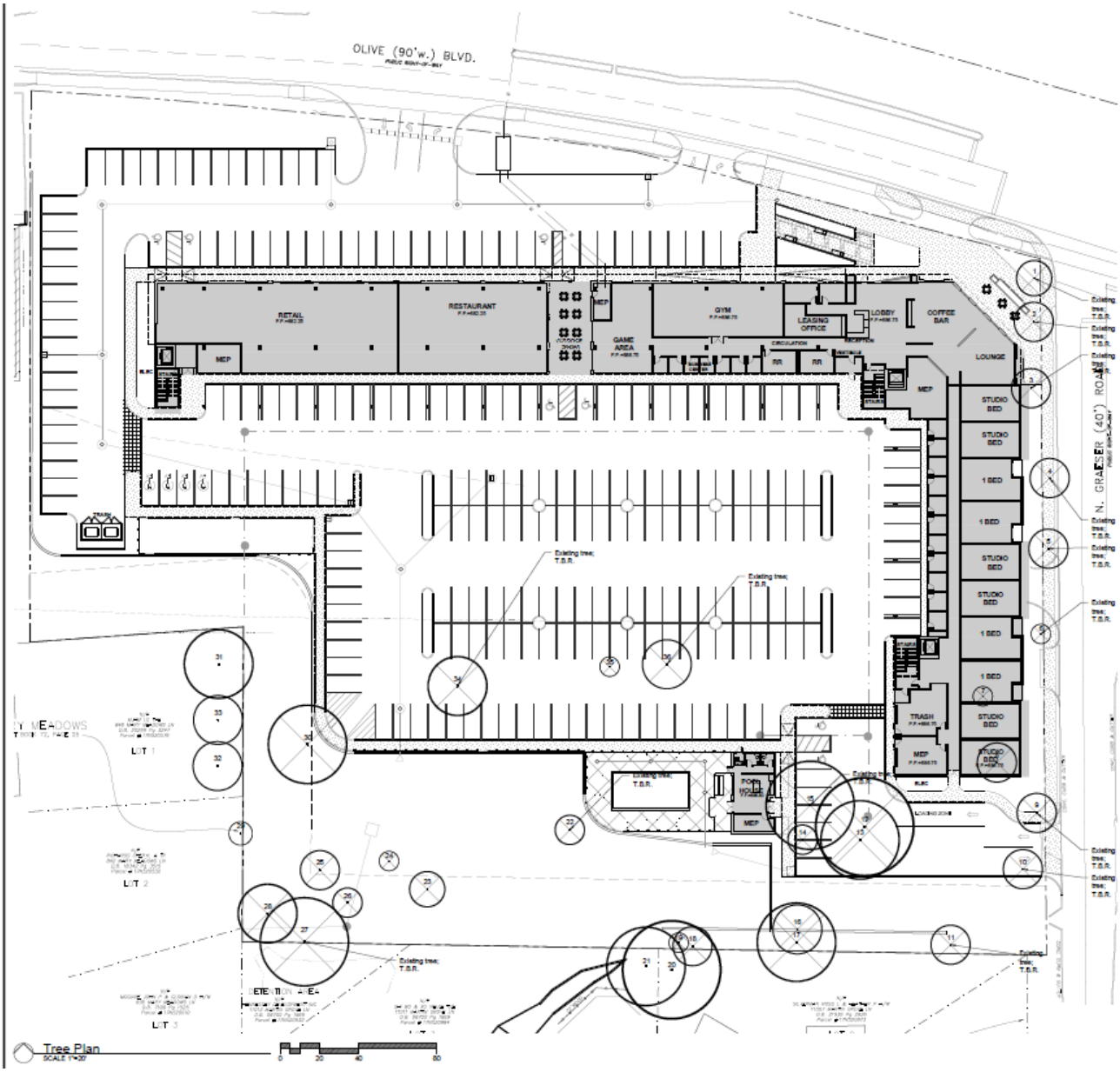


Figure 12: Tree Plan.

The Landscaping Plan, Sheet L1.01 of the Site Development Plan includes all proposed new landscaping for the development. The landscaping plan shows extensive landscaping planned for the site. The plan shows 10 new street trees are proposed for the Olive Boulevard street frontage and 8 new street trees are proposed for the Graeser Road street frontage. A mix of evergreen shrubbery is proposed to screen headlight glare from the parking stalls along Olive Boulevard. Peripheral landscaping is provided around the edges of the parking lot as well as landscaping islands at the endcaps in the rear parking lot and individual trees to break up the large expanse of parking stalls. A variety of shrubs, ornamental grasses, perennials and annuals are proposed for the area adjacent to the building along Graeser Road, between the sidewalk and the building to create a separation for pedestrians from the building. This planting mix is also continued within the corner plaza area around the benches and art installation location. According to Section 405.540, an underground irrigation system is required as part of this redevelopment project but is not mentioned on the landscaping plan. An extensive landscaped buffer is proposed to screen the new building, detention basin and retaining wall from the adjacent single-family residentials lots to the south. This buffer includes a mix of evergreen trees and shrubs for a layered screening effect.

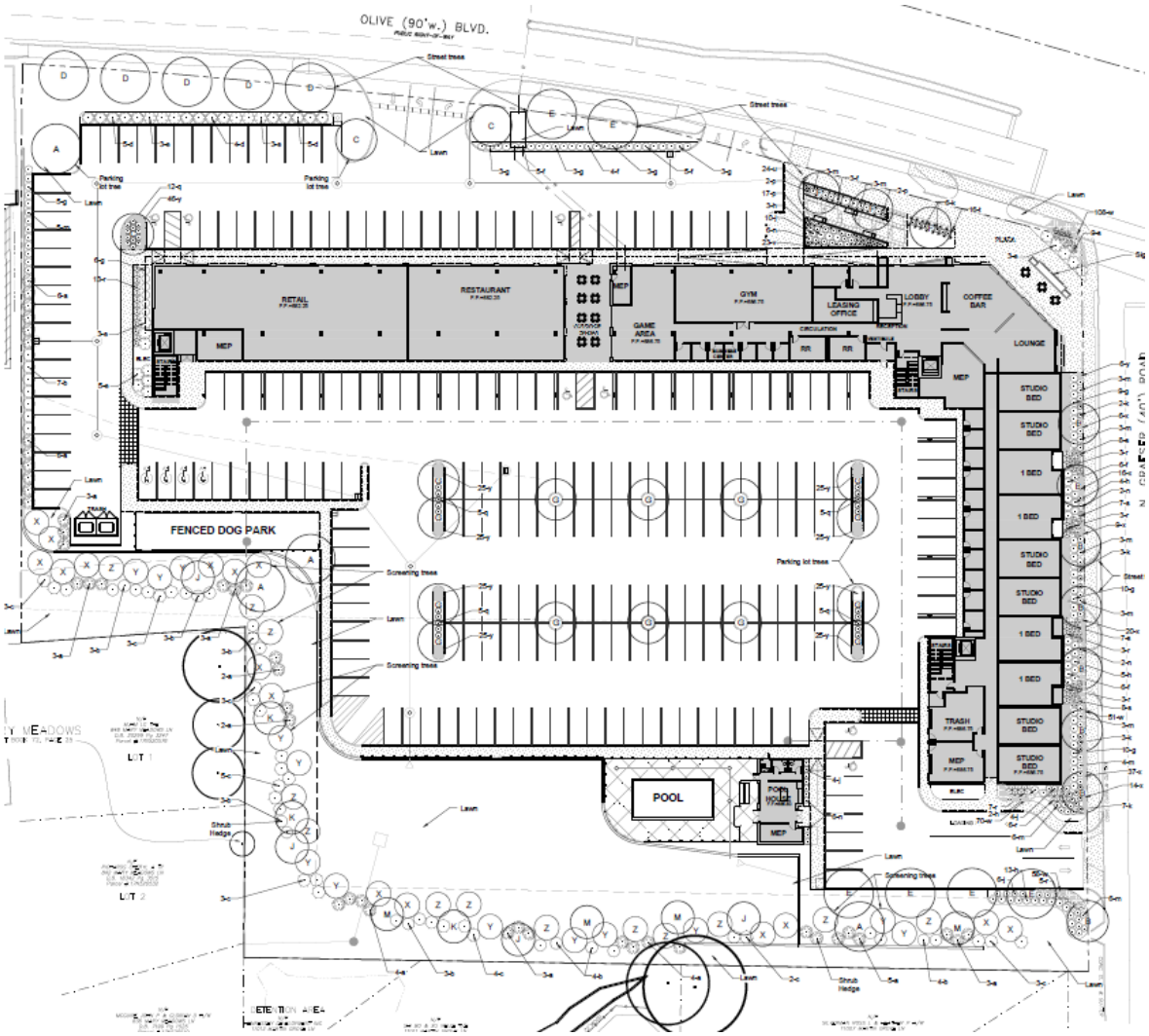


Figure 13: Landscaping Plan.

Trash Enclosure

The Site Development Plan shows the location of the trash enclosure for the retail uses placed in the south western corner of the property. The enclosure appears to be fully enclosed with a solid screening wall and gates, but no detailed drawing or material information was provided. The trash for the residential component will be collected within a dedicated trash room internal to the building.

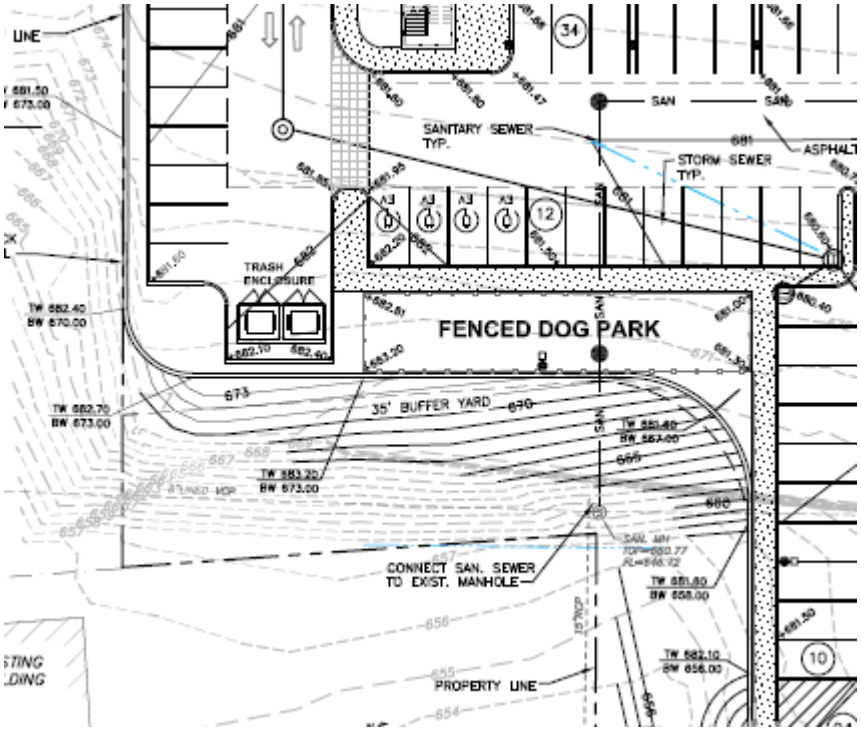


Figure 14: Trash Enclosure Location Shown on the Site Development Plan.

Site Amenities

The Graeser Station development contains amenities for both the public users and the residents of the building. The public amenities include the landscaped plaza feature at the corner of Olive and Graeser with outdoor seating and the outdoor dining option available in the covered walkway through the building. The residential amenities include the pool, patio and pool house behind the building and the fenced dog park area for pets as well as the indoor coffee bar, lounge, gym and game area.

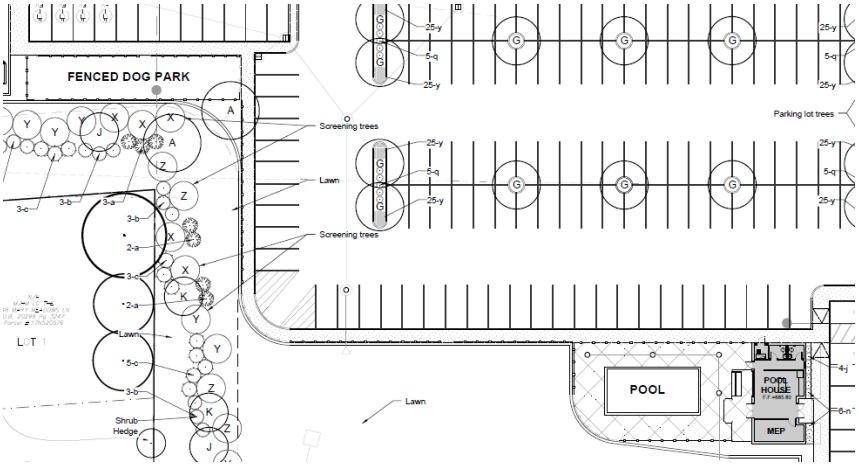


Figure 15: Outdoor Amenities at Rear of Building.

Lighting and Photometric Plan

The photometric plan provided, sheet PH1.0 of the Site Development Plan, shows that all lighting levels on site will be less than 1.0 footcandle at the property lines, as is required by Section 405.680. Sheet PH1.1 includes the proposed site and building lighting cut sheets showing lighting fixtures as downcast and shielded, as required. The parking lot pole lights are shown at a total height of 24 feet, including the base, which is in compliance with the requirements of Section 405.680 which allows a maximum height of 24 for non-residential zoning districts. The Commission could consider reducing the height of the light fixtures in the back parking lot if there are concerns with impacts to the adjacent residents. The color temperature of the exterior fixtures is also not specified.

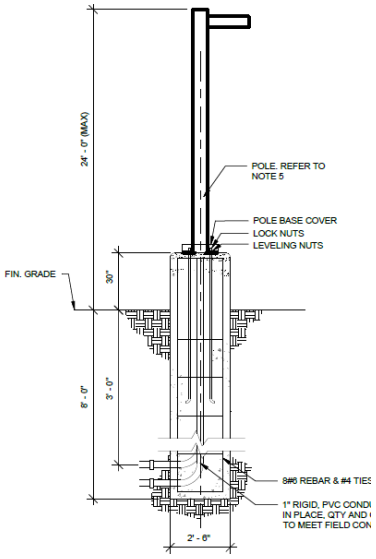


Figure 16: Proposed Lighting.

Parking Study

The applicant has hired an engineering consultant, Lochmueller Group, to review the proposed development and 250 parking spaces on site to determine if they are sufficient for the proposed mixed-use development. Lochmueller Group has provided a Parking Study dated October 21, 2025, to explore the possibly of shared parking for the proposed uses. Per the requirements of Section 405.820 *Required Off-Street Parking Spaces*, the total required parking for this development under the Zoning Code would be 345 parking spaces. This number takes into account each use separately, the residential, retail and restaurant uses and assumes 100 seats in the restaurant. Section 405.800.G.4 allows for up to 50% of the required parking to be used jointly or shared among uses if approved by the Planning and Zoning Commission. Given a total of 345 parking spaces are required, 173 parking spaces cannot be considered "shared" amongst the uses but any parking stalls beyond the 173 spaces may count toward more than one use. This allows for an overall reduction in the number of parking spaces required on site if approved by the Planning and Zoning Commission. This approval may be rescinded by the City Council with 15 days prior written notice and additional parking shall be obtained by the owners in the event that the City Council determines that such joint use is resulting in a public nuisance or is otherwise adversely affecting the public health, safety or welfare. Since the applicant is proposing to construct 250 parking stalls on site and 173 cannot be shared, that leaves 77 parking stalls that could be counted towards multiple uses within Graeser Station. In order to determine if the 250 parking stalls would be enough to serve this use the consultant used ITE's Parking Generation Manual peak parking demand calculations. Using this data, the parking study projected a peak parking stall occupancy of 93% during both the typical weekday and a typical Saturday. At that time, 232 parking spaces would be expected to be occupied, leaving a total of 18 parking spaces available. This peak would occur during the overnight/early morning hours when the residential parking demand is at its highest. However, at these times, the retail and restaurant uses would not be open for business and turnover of the parking spaces would be low. Based on these findings, Lochmueller Group determined that the 250 parking stalls provided would be sufficient to address

parking demand on site for all uses. The City's traffic Consultant, HR Green, reviewed the provided Parking Study and provided the following statement in a technical memorandum dated November 24, 2025, "The parking analysis appropriately applies a conservative approach, recognizing that peak demands for individual land uses are unlikely to occur simultaneously, allowing for shared parking. However, the projected peak demand of 232 spaces compared to 250 available spaces offers limited flexibility for surges. Future changes in restaurant or retail use or density could further impact parking availability, particularly given the lack of options for additional on-site parking." Both the Parking Study and the memo from the City's consultant were provided as part of the material with this packet. Both the applicant's consultant and the City's consultant will be available at the meeting for discussion.

Traffic Impact Study

A traffic impact study was prepared based upon an agreed scope with representatives from MoDOT, City staff and the City's consulting traffic engineer. Olive Boulevard is under the jurisdiction of MoDOT, while Graeser Road is part of the City's street network. The traffic study examined the existing street networks, nearby intersections and existing traffic volumes based on observed traffic data collection. The existing traffic operations and intersection Level of Service (LOS) within the study area were determined to form a baseline. The study then considered the proposed development and assigned trip generation estimates based on the proposed land uses, pass-by trip assumptions, background growth rate, and traffic distribution assignments within the area. The traffic volumes were generated for the following scenarios: Construction Year 2026 No Build, Construction Year 2026 Build, Future Year 2036 No Build and Future Year 2036 Build.

In summary, the traffic impact study concluded that the development is projected to generate approximately 65 new inbound and outbound trips from the site during the morning peak hours and 94 new trips during the afternoon peak hours. Mid-day peak trip generation is approximately 63 inbound and outbound trips.

The study noted that the northbound left turn movement on Graeser will eventually degrade to a LOS F with the 2036 Build Out scenario; however, corridor-wide signal timing adjustments by MoDOT should address these concerns. Further, vehicle queuing for left turn bays at the 95th percentile is not expected to extend beyond the available storage.

The study concluded that no modifications to the existing street network are recommended at this time, while noting signal timing modification could help reduce the delays along the side streets and improve overall intersection efficiency (p.34).

Review of the traffic impact study has been submitted to MoDOT by the City's consulting traffic engineer for review and comment. The review comments by MoDOT have not been provided at this time. The City's consulting traffic engineer will be in attendance at the meeting to answer any questions.

Development Standards and Allowed Uses

The applicant has submitted proposed development and use standards that can be used to regulate the development of this site and to address future uses. If approved, these standards would control these aspects of the development in lieu of the standard requirements of the zoning code. Many of these proposed standards correspond to the submitted Site Concept and Site Development Plan. The proposed use table is very detailed and utilizes the City's current land use code structure through the NAICS classification system. Some uses are listed as permitted (by-right) while others are listed as conditional, which would require a conditional use permit. The proposed uses and approval structure for the commercial component requires careful consideration given the shared parking arrangement. This aspect of the proposal will be addressed in greater detail at a future meeting when this application returns to the Planning and Zoning Commission.

SUMMARY AND RECOMMENDATION
The proposal represents a substantial change for this site. As reviewed above, there are many facets to consider since a completly new zoning district would be created that is unique to this project. The majority of the requirements have been effectively addressed in the development proposal, while some aspects are subjective or interpretive and require further discussion between the Commission and the applicant. For these reasons, Staff recommends that the Commission hear from residents at the public hearing, provide direction on the appropriateness of the development for the zoning, overall compatibility of the project with the surrounding land uses and guidance from the comprehensive plan, and identify areas for further staff analysis or for applicant adjustments to the proposal. Staff requests that following presentations and disusssion, the Planning and Zoning Commission vote to continue the matter to a subsequent meeting date of the Commission.

SUGGESTED ACTION
If the Planning and Zoning Commission agrees that a recommendation should be held until a subsequent meeting, the following is an example motion for a continuance:

> "I move to continue applications 25-034 and 25-035, the rezoning and site concept and development plan for Graeser Station Planned Mixed-Use Development to a future meeting date, to allow for resolution of issues, comments from MoDOT regarding the traffic study, submittal of the boundary adjustment plat and preparation of a draft PMD ordinance."

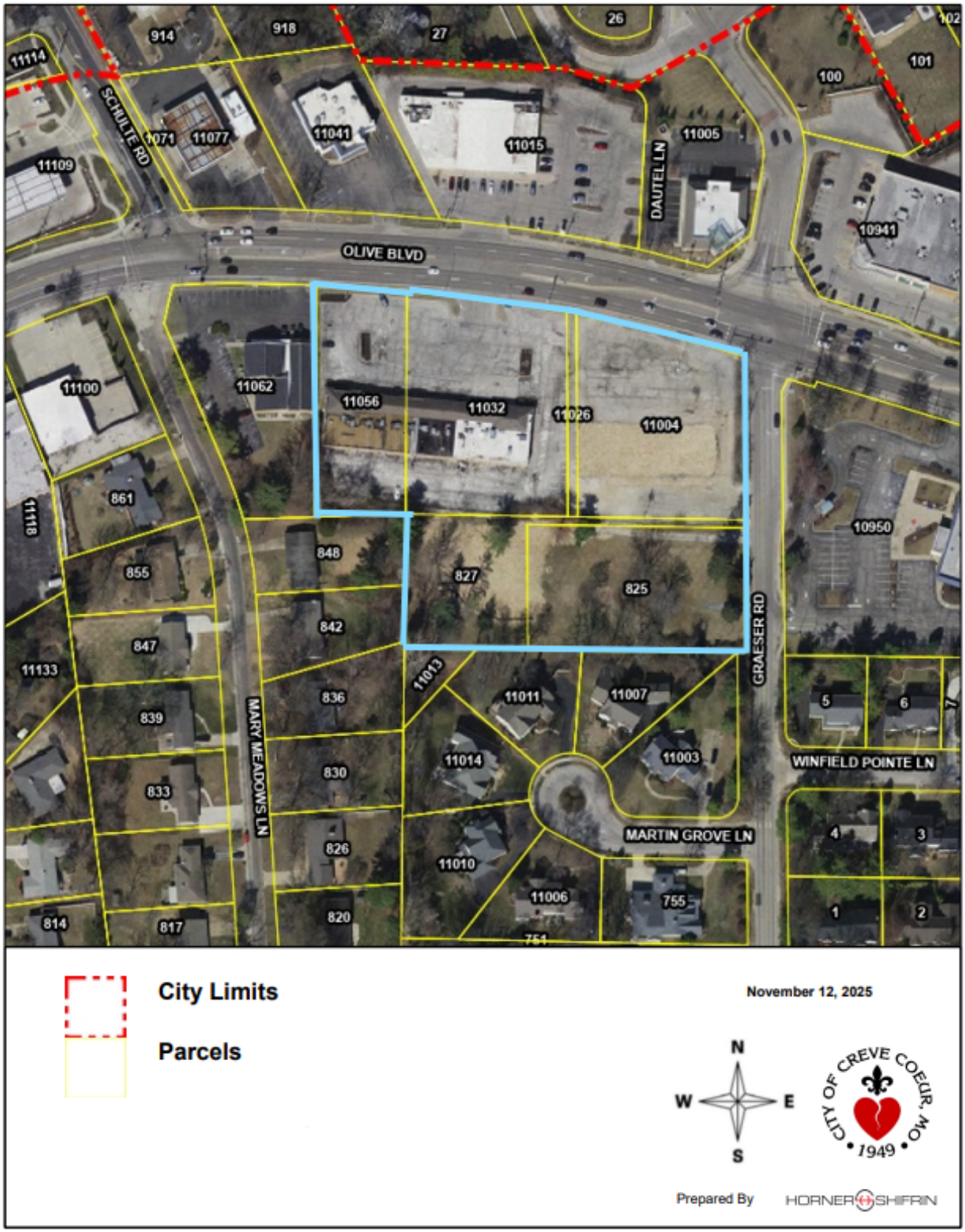
APPENDIX 1: COMPREHENSIVE PLAN

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 2: ZONING CODE

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 3: AERIAL MAP



Docusign Envelope ID: 774405B0-6B04-497C-9924-40BD0BA68547

city of CREVE COEUR
PLANNING DIVISION
300 North New Ballas Road, Creve Coeur, Missouri 63141
Tel. (314) 872-2501 • Fax (314) 872-2505

PLANNING AND ZONING COMMISSION AGENDA APPLICATION
SITE DEVELOPMENT PLAN

Select Project Type: **Site Development Plan** ☑ **Site Concept Plan** ☑ **Minor Site Plan** ☐

Title of Project: Graeser Station

Location of Project: Olive Blvd & Graeser Rd ***Locator #*** _____

17N540732, 17N540057, 17N540046, 17N540741, 17N520543, 17N520554

Subject for Agenda: Graeser Station Rezoning to PMD

Applicant:

Architect ☐ ***Engineer*** ☐ ***Contractor*** ☐ ***Agent*** ☑ ***Owner*** ☐

Applicant:	***Applicant's Representative (if applicable):***
Garrison Hassenflu *Name*	Cecilia Dvorak *Name*
Garrison Companies *Company (If Applicable)*	Steadfast City Economic & Community Partners *Company (If Applicable)*
2001 Shawnee Mission Parkway, Ste. 250 *Address*	3407 S Jefferson Ave *Address*
2001 Shawnee Mission Parkway, Ste. 250 *Address*	St. Louis, MO 63118 *Address*
Telephone # 816-898-9285	*Telephone #* 630-418-1622
Fax #	*Fax #*
Email: ghassenflu@garrisoncompanies.com	*Email:* cecilia@steadfastcity.com
DocuSigned by: G 1-1 4F7DBB9CDD0D483... *Applicant's Signature*	Signed by: 3496B283CB3B408... *Applicant's Representative's Signature*

Owner's Acknowledgement ***(if different from applicant):***

Tom Stern, Gershman CRE
Name *Company (If Applicable)*

150 N Meramec Ave, Ste 500, St. Louis, MO 63105
Address

314-862-9400 *Phone* | *Fax* | tstern@gershmancre.com *Email*

Signed by: BE7C08811F80449...
Applicant's Signature

Docusign Envelope ID: 774405B0-6B04-497C-9924-40BD0BA68547

Description of Request (attach additional sheets as needed)

General Description: A new mixed-use development entails the construction of a four story structure total of approximately 166,000 square foot building which in includes first floor retail and restaurant space as well as amenity area. The facilities will have a total of 160 units. The retail area will consist of mercantile style business with the potential of a restaurant space. The restaurant will represent no more than 3,472 sf. The building's exterior will feature a dynamic and contemporary facade, achieved through a thoughtful variation of materials and depths. The design incorporates durable masonry products for a grounded, timeless appearance and high density fiber cement panels for a sleek, modern contrast facade. The varied depths and textures to create visual interest and break up massing. The strategic use of color and material transitions to highlight architectural features.

Rationale

Please describe in detail, on an attached sheet, the reasons why you believe the request should be approved and what steps are being taken to lessen any impacts on surrounding residences and businesses. An explanation of the building and landscape designs (if changes are proposed) should also be included.

See the attached details with rationale and comprehensive plan justification, design considerations, community engagement feedback and responses, and design guidelines support.

Submittal Checklist

☐ Rationale	☐ Building elevations for new construction
☐ Site plan 4 hard copies	☐ Photographs of existing structures
☐ Access and parking plan-4 hard copies; (may be shown on site plan)	☐ Materials samples for Commission review
	☐ Legal Description in Word format
☐ Landscape plan 4 hard copies	☐ Fees: $250 (non-refundable)
☐ Floor plan 4 hard copies	$2000 (refundable deposit)
☐ Electronic copies of all materials	☐ Other items as requested by staff

Preferred Public Hearing Date: Monday, November 17 ***, 20*** 25 ***.***

*****Confirm schedule and available meeting dates with Planning Division staff*****

Office Use Only	
____ **All Sections Complete**	Received By:
____ **All Documents, incl. e-Copies**	_____
____ **Fees Paid**	Date: _____

Revised: 7/22

Docusign Envelope ID: 774405B0-6B04-497C-9924-40BD0BA68547

city of CREVE COEUR
PLANNING DIVISION
300 North New Ballas Road Creve Coeur, Missouri 63141
Tel. (314) 872-2501 • Fax (314) 872-2505

PLANNING AND ZONING COMMISSION
CHANGE OF ZONING APPLICATION

This application should be prepared and submitted in consultation with Planning Division staff. Rezoning applicants must appear before the Planning and Zoning Commission and the City Council at a regular meeting.

Property Information

Property Address: 11004, 11026, 11032, and 11056 OLIVE BLVD; and 825 and 827 GRAESER RD

Existing Use: Commercial

Zoning District: GC - General Commercial District

Zoning of Area Properties		Land Use of Area Properties	
North: GC	*East:* GC	*North:* commercial	*East:* commercial
South: C	*West:* GC	*South:* SF residential	*West:* commercial

Owner:	Applicant's Representative:
	Relationship to Applicant: Prospective Owner Under Contract
Name: Tom Stern	*Name*: Garrison Hassenflu
Company: Gershman CRE	*Company*: Garrison Companies
Address: 150 N Meramec Ave, Suite 500	*Address*: 2001 Shawnee Mission Parkway, Ste. 250
City State Zip: St. Louis, MO 63105	*City State Zip*: Mission Woods, KS 66205
Telephone: 314-862-9400 *Fax*:	*Telephone*: 816-898-9285 *Fax*:
Email: tstern@gershmancre.com	*Email*: ghassenflu@garrisoncompanies.com
Applicant's Signature	*Representative's Signature*

Signed by: BE7C08811F80449...

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Revised: 1/2023

Docusign Envelope ID: 774405B0-6B04-497C-9924-40BD0BA68547

Point of Contact:
Name: Cecilia Dvorak
Relation to Applicant: Consultant
Company: Steadfast City Economic & Community Partners
Address: 3407 S Jefferson Ave, St Louis, MO 63118
Phone: 630-418-1622
email: cecilia@steadfastcity.com

Signed by:
3496B283CB3B408...

Docusign Envelope ID: 774405B0-6B04-497C-9924-40BD0BA68547

REQUEST

The applicant hereby requests a change of zoning district for the above-described property from zoning district GC - General Commercial District *to zoning district* PMD Planned Mixed-Use Development.

If the applicant proposes an entirely new zoning district be incorporated into the Zoning Code, please describe in detail, the ***nature*** *and* ***regulations*** *and* ***rationale*** *of the proposed new zoning district:*

N/A

The undersigned hereby requests to be placed on the Agenda for the Planning and Zoning Commission meeting at 6:00 P.M. on Monday, November 17 ***, 20*** 25 ***.***

Signature Signed by: BE7C0881TF80449...

Title Authorized signatory

Date 10/17/2025

SUBMITTAL CHECKLIST
__Electronic copy of ALL documents/materials
__Fees paid
__Plan/Survey of existing conditions on site
__Site Plan of proposed conditions if different
__Elevations of proposed buildings
__Elevations of proposed Signs
__Legal description of all properties involved

Planned Mixed-Use Development (PMD) Submission

Graeser Station

City of Creve Coeur, Missouri

November 7, 2025

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I. Section 405.390 A. Purpose

"The purpose of the Planned Zoning District is to allow a development project that is proposed on a single lot or multiple lots to be constructed in one (1) or more phases that is unable to meet the established zoning criteria due to project size, phasing, configuration, site conditions, or particular design features. The Planned Zoning District provides a mechanism to facilitate innovative design, solve problems on difficult sites, meet market niches, encourage housing in different forms and price ranges, promote well-designed developments, and encourage infill and redevelopment within the City."

Steadfast City Economic & Community Partners has been engaged by the proposed developer to provide planning economic development consulting services. The proposed PMD submission is an L-shaped mixed-use building set to be constructed along the Olive Boulevard and Graeser Road intersection, located in the East Olive Corridor. The building consists of 157 multifamily apartment units and a mix of commercial space on the first floor for retail and restaurants.

II. Section 405.390 B. Objectives

1. Fulfillment of the goals and objectives of the Comprehensive Plan

The project advances the plan's vision for the East Olive Corridor as a reinvestment area that encourages context-sensitive mixed-use redevelopment, improved pedestrian connectivity, and enhanced corridor identity.

The Comprehensive Plan establishes several key objectives applicable to this site, including:

- Promoting medium-density residential development as a transition between single-family neighborhoods and higher-intensity commercial corridors;
- Reinforcing the East Olive Corridor's role as a mixed-use, pedestrian-friendly district;
- Encouraging high-quality architectural and site design that improves corridor aesthetics and livability;
- Enhancing connectivity, walkability, and access for residents and visitors; and
- Supporting efficient land use and infrastructure investment that contributes to the city's economic vitality.

Medium Density Alignment

The Comprehensive Plan identifies the East Olive Corridor as an area suited for mixed-use and medium-density residential development, emphasizing multifamily housing and a two- to four-story format. Comparable nearby communities provide useful context: for instance, the City of Clayton has defined "mid-density multi-family"

as roughly 25–45 dwelling units per acre, and existing high density at over 54 units per acre in various neighborhoods across their municipality, particularly around commercial corridors. While densities vary depending on context and corridor designation, this example highlights the applicability of a ~35 du/ac scale in a corridor redevelopment setting.

Comparable multifamily developments along or near Olive Boulevard reflect a similar or greater range of densities, confirming the project's fit within the evolving corridor context:

Development	Address	Units / Acre	Beds* / Acre
The Nest	10819 Olive Blvd	20	38.1
The Vue	1001 Old Olive Way	23	100.8
Olive & Graeser	Subject Property	36	36.9
Vanguard Heights	10362 Old Olive	48	69.7
Kings Landing	618 N New Ballas	49	81.5
The Oliver	9473 Olive Blvd	64	81.8

*For the purposes of this analysis, studio units are counted at 1 bedroom

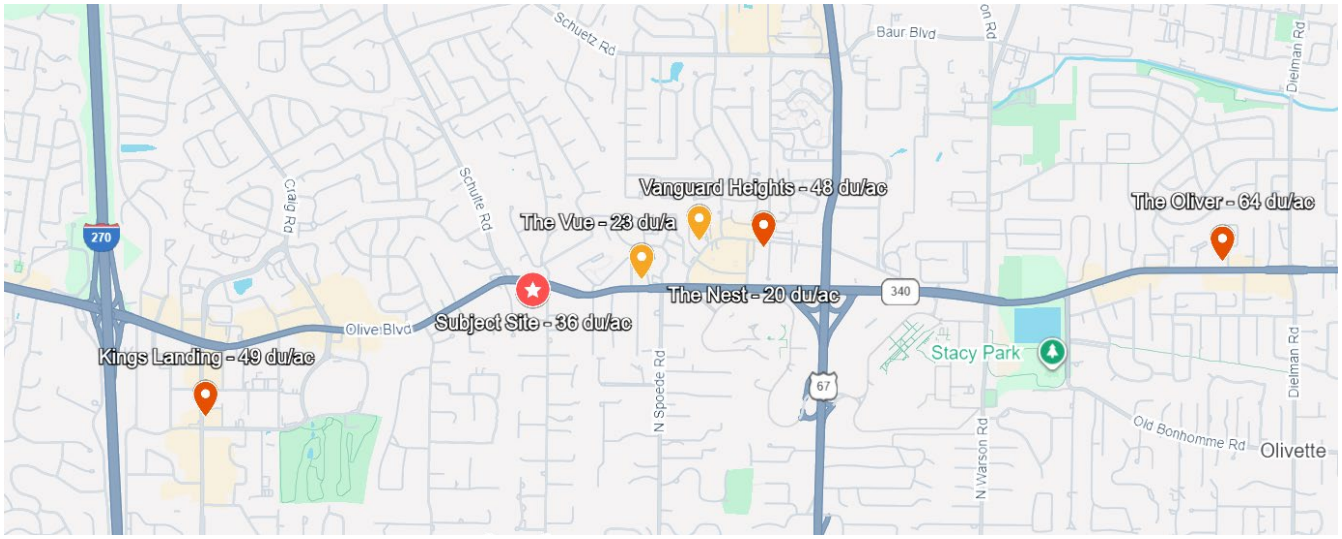


Figure 1: Map showing variable density multi-family developments

Additionally, while units per acre is the conventional measure of density, it does not always capture the true residential intensity of a site. A more refined metric of beds per acre better represents the number of people the development accommodates. When viewed through this lens, Graeser Station maintains a balanced residential intensity relative to other corridor properties.

For example, although the project provides a medium 36 dwelling units per acre, its 36.9 beds per acre is substantially lower than nearby developments such as The Vue (100.8),

which only shows 23 units per acre. This demonstrates that, despite the lower unit per acre count and the similar building forms, the proposed Graeser Station project supports fewer residents per acre than many peer developments.

In addition to unit and bedroom density, medium-density development typically ranges from two to four stories in height. The proposed building is consistent with this pattern. Just to the east, The Nest (10809 Olive Blvd) and the office building at 10845 Olive Blvd both rise three to four stories, while to the west, the office and medical building at 11330 Olive Blvd reaches a greater height of 6 stories, reinforcing the corridor's established vertical scale.

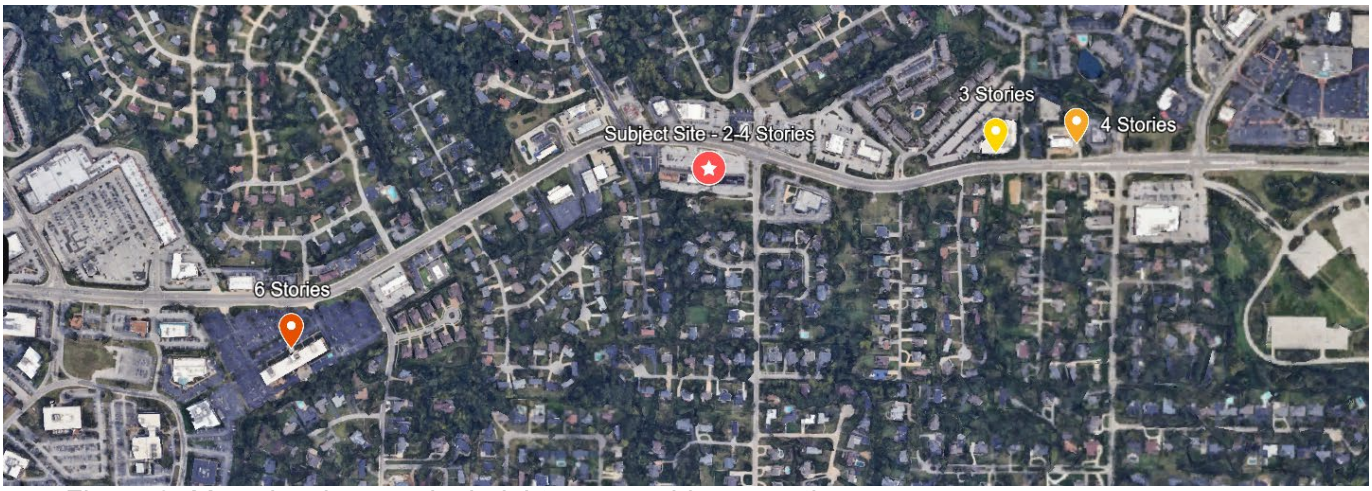


Figure 2: Map showing nearby height comparable properties

While achieving corridor-appropriate residential density, the building massing steps down toward the southern edge to maintain compatibility with adjacent single-family neighborhoods. This transition, paired with a landscaped buffer that exceeds 35 feet in most areas, ensures that the development's medium density remains reasonable in both cross-section and footprint. The result is a context-sensitive edge that protects neighborhood character while supporting reinvestment along Olive Boulevard.

Frontage Recommendations – Primary Streets (Olive Blvd)

Consistent with the Comprehensive Plan's East Olive Corridor vision, the Olive Boulevard frontage reinforces a cohesive, pedestrian-oriented streetscape and contributes to an active, visually unified corridor.

Uniform Setbacks: The building frontage maintains a consistent setback, creating a defined street edge and reinforcing the corridor's orderly, urban character.

Primary Entrances Facing the Street: All main entrances face Olive Boulevard, strengthening the relationship between the building and the public realm while encouraging pedestrian activity and visibility.

Parking to Side/Rear: Parking is located primarily to the side and rear, preserving the character of the Olive frontage and supporting an engaging, pedestrian-friendly edge.

Pedestrian Amenity Zone: A continuous zone of sidewalks, street trees, lighting, and landscaping parallels the façade, enhancing comfort and creating a clear buffer between parking and pedestrian spaces.

Consistent Streetscape Elements: Street trees, lighting, and coordinated furnishings are designed to match corridor standards, ensuring a unified streetscape along Olive Boulevard.

Outdoor / Retail Amenities: The corner plaza at Olive and Graeser, along with restaurant frontage, provides space for outdoor seating and community gathering, reinforcing corridor identity and activating the streetscape.

Frontage Recommendations – Secondary Streets (Graeser Rd)

Consistent with the Comprehensive Plan's goals for neighborhood transitions, the Graeser Road frontage emphasizes compatibility, connectivity, and visual buffering between the corridor and adjacent residential areas.

Contextual Setback: The building maintains an appropriate setback along Graeser Road, providing enhanced landscaping and a clear buffer between the development and nearby residential properties.

Residential-Facing Design: Façades along Graeser feature articulated massing and landscaping to soften views and maintain compatibility in scale and materials with adjacent homes.

Parking Access and Circulation: Parking is accessed from Graeser and internal drives, reducing curb cuts on Olive and maintaining efficient site circulation.

Pedestrian Connectivity: A continuous sidewalk and landscaped walkway along Graeser connect residential entries to the Olive and Graeser plaza, supporting safe and direct pedestrian movement.

Screening and Buffering: A landscape buffer exceeding 35 feet along the southern edge provides privacy and a visually comfortable transition to adjoining residential uses.

Site Design and Neighborhood Interface

The site layout reflects the Comprehensive Plan's goal of creating connected, livable development patterns that link activity areas while respecting adjacent neighborhoods.

Pedestrian Walkways & Access: Direct pedestrian routes connect public sidewalks, building entries, and parking areas, reinforcing the Plan's emphasis on walkability and internal circulation.

Residential Interface: A deep, landscaped buffer along the southern edge maintains privacy and provides a green transition to adjacent single-family homes, consistent with the Plan's neighborhood compatibility objectives.

Sustainable Design: Native landscaping, bio-retention, and energy-efficient lighting demonstrate the Plan's call for environmentally responsible development that contributes to corridor livability.

Visual Quality: Building form, materials, and articulation are intentionally aligned with the City's adopted Design Guidelines, ensuring a cohesive aesthetic and durable, high-quality appearance along the corridor.

Mobility and Connectivity Framework

The project supports the Comprehensive Plan's vision for safe, connected, and multimodal corridors that balance access, efficiency, and pedestrian comfort.

Access & Circulation: Access from Olive Boulevard and Graeser Road is designed for safe, efficient circulation serving residents, retail patrons, and service vehicles.

Curb Cut Coordination: Driveway consolidation along Olive Boulevard and alignment with the Credit Union entrance on Graeser support the Plan's vision of a coordinated, well-functioning corridor network.

Pedestrian Connectivity: A continuous pedestrian network links sidewalks along Olive and Graeser to building entrances, the public plaza, and rear parking, ensuring safe internal circulation and strong connections to the broader corridor network.

Landscape Framework and Neighborhood Transition

The Comprehensive Plan for Creve Coeur's East Olive Corridor calls for *green infrastructure and landscape character* that both strengthens the corridor's urban form and softens transitions to neighborhoods.

The landscape design balances the urban, walkable character envisioned for Olive Boulevard with a transitionary, green edge along Graeser Road and the southern property line. Together, these elements reinforce the Comprehensive Plan's goal of creating attractive, livable corridors that respect adjacent neighborhoods.

Corridor Canopy Enhancement: Along Olive Boulevard, street trees and layered landscaping establish a consistent green framework that supports the corridor's urban form while contributing shade, comfort, and visual continuity.

Transition Along Graeser: The Graeser frontage incorporates deeper setbacks, tree groupings, and landscape layering that reduce building scale and create a softer, more residential-facing edge.

Neighborhood Buffer: A generous landscape buffer exceeding 35 feet along the southern boundary provides separation, privacy, and a visual transition to the adjacent neighborhood, reinforcing compatibility between corridor reinvestment and existing homes.

Green Space Preservation

The project supports the Comprehensive Plan's goal of integrating green space and open areas within reinvestment corridors to enhance visual quality, permeability, and livability. Significant landscape setbacks along the southern edge and enhanced setbacks to the east along Graeser Road provide clear transitions and respectful buffers that reinforce neighborhood compatibility and community cohesion. These green areas soften building massing, support stormwater infiltration, and create a comfortable human scale. They function as both environmental assets and visual transitions that strengthen corridor character and ensure a balanced relationship with the adjacent neighborhood.

2. **Creation of a more desirable environment than would be possible through application of conventional City land use regulations;**

The proposed PMD establishes a more desirable, context-sensitive environment than conventional zoning could achieve. The PMD framework enables cohesive building placement, enhanced pedestrian circulation, and shared access that strengthen the connection between Olive Boulevard and surrounding neighborhoods.

Key features, such as the corner plaza, a covered pass-through walkway, and expanded landscape setbacks, create an inviting pedestrian realm and visual gateway consistent with the East Olive Corridor's vision. Tailored setbacks and step-down massing preserve a strong street presence while protecting adjacent homes through generous buffers and screening. The site's medium-density scale (36 units per acre) balances corridor housing goals with neighborhood compatibility.

High-quality architecture, coordinated landscaping, and controlled access drives elevate the project's character beyond what base zoning could provide. Reduced curb cuts and internal circulation improve safety and connectivity, while the public-facing plaza and outdoor dining create active, social spaces along Olive.

Together, these design and planning elements deliver a cohesive, walkable, and visually engaging development; one that transforms an underutilized site into a community asset and exemplifies the purpose of the PMD district.

3. **Promotion of a creative approach to the use of land and related physical facilities resulting in better design and development including aesthetic amenities;**

The project demonstrates a creative design approach that transforms a challenging infill site into a distinctive mixed-use destination. Guided by community and City feedback, the plan uses architectural variety, high-quality materials, and public-facing open space to create a more engaging and visually appealing environment than conventional development would yield.

At the Olive and Graeser corner, a public plaza serves as a focal point. Featuring outdoor seating and landscaping that invite community interaction and reinforce the corridor's pedestrian identity. A covered pass-through walkway connects rear parking to Olive, combining shade, safety, and activity in a way that activates both street fronts.

Façade articulation, depth variation, and durable masonry materials provide a balanced, modern aesthetic that maintains human scale and visual rhythm. Integrated landscaping with native species and layered plantings softens building edges and enhances year-round interest.

Lighting, signage, and pedestrian furnishings are coordinated to ensure comfort and consistency, while step-down massing and generous setbacks maintain compatibility with nearby homes. Collectively, these design strategies embody the City's Design Guidelines and community priorities, creating a cohesive, high-quality environment that blends function, beauty, and neighborhood respect.

4. **Combination and coordination of architectural styles, building forms and building relationships;**

The project's architecture, landscape, and site design are deliberately coordinated to produce a cohesive and context-sensitive composition along Olive Boulevard and Graeser Road. The building's contemporary form and refined materials establish a consistent visual language that complements surrounding corridor development while maintaining compatibility with adjacent residential areas.

A strong base of durable masonry grounds the structure, while upper levels use high-density fiber cement panels and subtle color transitions to create depth and visual rhythm. The façade employs a clear hierarchy of horizontal and vertical articulation, aligning with nearby mixed-use and multifamily developments to maintain corridor continuity.

Along the southern/eastern edges, the building steps down in height and incorporates layered landscaping to ease transitions toward single-family neighborhoods. This massing strategy ensures that the project's medium-density scale remains visually balanced and contextually appropriate given its proximity to nearby residential neighborhoods, primary streets, secondary streets, and commercial properties.

Architectural detailing, lighting, signage, and landscape elements are integrated through a unified design vocabulary, reinforcing the site's sense of place and identity. The result is a coordinated built environment that feels intentional from every vantage point—one that enhances the Olive Boulevard streetscape, strengthens neighborhood connections,

and fulfills the City's objective of promoting cohesive, high-quality design within the East Olive Corridor.

5. **Preservation and enhancement of desirable site characteristics such as natural topography, vegetation and geologic features, preferably by means of natural erosion control and stormwater control best management practices;**

   The proposed redevelopment preserves and enhances the site's most valuable physical and contextual characteristics by introducing meaningful landscape buffers, sustainable infrastructure, and improved visual quality throughout. The plan transforms an aging, largely unoccupied and underutilized property into a balanced mix of green space, walkable circulation, and thoughtfully scaled architecture that complements its surroundings.

   Along the southern boundary, a 91-foot setback with layered landscaping and a notable grade change create both a visual and physical buffer to adjacent single-family homes. Tree canopy coverage, native plantings, and bio-retention areas enhance ecological function while improving stormwater management. These sustainable features reduce runoff and heat gain and create a softer, more natural edge condition.

   Building orientation and grading maintain open view corridors along Olive Boulevard and reinforce a strong street presence without overwhelming adjacent parcels. The corner plaza and new landscape areas introduce welcoming public space, transforming a previously utilitarian commercial site into a neighborhood asset.

   Pedestrian-scale lighting, coordinated signage, and screened service areas further improve safety and appearance, while the integrated design of landscape, architecture, and open space ensures a cohesive aesthetic. The result is a redevelopment that not only respects the site's context but also enhances its environmental performance, visual character, and long-term compatibility within the East Olive Corridor.

6. **Use of design, landscape or architectural features consistent with the City's design guidelines; and**

   The project has been carefully refined to meet the intent of the City's Design Guidelines and to reflect direct feedback from the Planning Commission, City staff, and residents of the adjacent neighborhood. Revisions to the original plan—including a larger corner plaza, increased setbacks, enhanced landscape screening, and more articulated façades—were guided by the community's desire for improved visual quality, buffering, and pedestrian comfort.

   Architectural design emphasizes material durability and visual interest through a complementary mix of masonry and high-density fiber cement panels. The façade incorporates varied depths and vertical breaks to create rhythm, highlight entries, and reduce perceived massing. These elements align with the guidelines' emphasis on human scale, texture, and building articulation.

Landscape and architectural design are integrated to create a cohesive site character. Street trees, native planting, and coordinated pedestrian lighting enhance walkability and unify the Olive and Graeser frontages. The corner plaza serves as an attractive public amenity with outdoor seating, landscaping, and lighting that reflect the City's goal of creating inviting civic spaces.

Sustainable features, including energy-efficient lighting, diverse native landscaping, and bio-retention areas, reinforce the City's design and environmental priorities. Collectively, these strategies result in a contemporary, high-quality development that fulfills the City's Design Guidelines and the community's shared vision for the East Olive Corridor.

7. Mutually desired elimination of obsolete or deteriorated structures or incompatible uses through redevelopment.

The proposed PMD replaces an aged and inefficient commercial site with a cohesive, high-quality mixed-use development that restores vitality to a key intersection along Olive Boulevard in the East Olive Corridor. Existing structures on the property are dated, underutilized, and visually inconsistent with surrounding improvements. Through the PMD process, these obsolete conditions are removed and replaced with a unified plan that introduces new housing options, retail activity, amenities, and landscaped open space designed to serve both residents and the broader community.

The redevelopment transforms the site's expansive asphalt areas into functional, green, and pedestrian-friendly environments. Landscaped setbacks, tree canopy, and stormwater features significantly reduce impervious surface while improving environmental performance. Circulation and access are reorganized to eliminate unsafe curb cuts and create shared driveways, improving traffic flow and pedestrian safety along Olive and Graeser.

Architectural upgrades consist of articulated façades, durable materials, and context-sensitive massing, resolving long-standing incompatibilities between commercial and residential uses. The project establishes a positive visual identity at a major corridor gateway, aligning with the City's goals for reinvestment and renewal.

By converting a deteriorated, auto-oriented site into a walkable, medium-density mixed-use development, the proposal meaningfully eliminates obsolete development, enhances neighborhood compatibility, and supports the long-term revitalization of the East Olive Corridor.

III. Section 405.390 C. Eligibility

1. Is located on one (1) or more lots totaling at least three (3) acres in size.

The proposed project is located on six (6) parcels spanning a total of 4.4 acres, meeting the minimum three (3) acres in size eligibility requirement.

2. Cannot be approved under the provisions of another zoning district.

The subject property is currently zoned “GC” General Commercial, which does not provide the flexibility needed to accommodate the proposed mixed-use development. The project’s combination of residential, commercial, and public open space elements requires an integrated design approach that cannot be achieved under the existing district’s conventional standards.

Accordingly, the site must be rezoned to “PMD” Planned Mixed-Use Development, as authorized under Section 405.390(F). The PMD framework allows the cohesive site planning, shared access, and design coordination necessary to realize the City’s vision for reinvestment along the East Olive Corridor.

3. Demonstrates Consistency with the Comprehensive Plan

The proposed development is fully consistent with the goals and objectives of the City’s Comprehensive Plan, particularly the East Olive Corridor framework. As detailed in the preceding section, the project advances the Plan’s vision by promoting mixed-use reinvestment, medium-density housing, and pedestrian-oriented design within a key commercial corridor.

4. The proposed development must substantially comply with the provisions of this Section 405.390 and be generally consistent with the applicable provisions of the City's Comprehensive Plan.

As demonstrated in the accompanying narrative and supporting materials, the project meets or exceeds all applicable PMD criteria related to site design, building placement, pedestrian connectivity, landscaping, and architectural quality. The plan reflects the City’s stated objectives for the East Olive Corridor by integrating residential, commercial, and open space uses within a cohesive and context-sensitive design framework.

IV. Section 405.390 F.6 Planned Mixed-Use Development – Design Criteria

“The purpose of a PMD is to provide sites for the development of a mixture of commercial and residential uses in a manner which is attractive for such uses and compatible with surrounding neighborhoods. The PMD will also encourage the efficient use of land and resources, offer a mix of amenities for the populace of the area, and promote greater efficiency in public and utility services.”

1. **Proposed development adjacent to any single-family residential development shall meet a sky exposure plane requirement. The sky exposure plane will be**

measured from a line located thirty-five (35) feet above the property line and will have a slope of thirty degrees (30°) rising towards the center of the site.

The proposed building design meets the City's sky exposure plane requirement along the southern property line adjacent to single-family residential lots.

The architect has confirmed that the current design satisfies this requirement in full, and a diagram verifying compliance has been prepared and will be provided to City staff. This ensures that the building's massing respects adjacent residential properties and maintains appropriate light, air, and visual transitions between uses.

2. **Any tract or site abutting or adjoining a single-family residential development shall provide a buffer yard of thirty-five (35) feet on all sides….**

   The proposed development entirely complies with the 35-foot buffer yard requirement along all sides adjoining residentially zoned properties. In several areas, the development exceeds this standard. Along the southern edge, the project provides greater separation than required, incorporating a combination of dense landscaping, retaining walls, and maintained open space to ensure privacy and a compatible transition between the multifamily building and adjacent single-family homes.

   In response to both Planning Commission and community feedback, the building footprint has been shifted west and reduced in depth, and the southern elevation steps down in height, enhancing the visual transition and reducing perceived massing between the proposed building and the residential neighborhood.

   In addition to the required residential buffer, the site design introduces a smaller landscaped buffer along the western edge, providing an additional visual and functional separation between the development site and the adjoining commercial property, while still allowing continuity along Olive Blvd as a commercial corridor. These measures collectively demonstrate a context-sensitive design that meets and, in several areas, exceeds the PMD's buffer and neighborhood compatibility standards.

3. **If residential uses are proposed, provides for a mixture of housing types to meet market demands and encourage diversification.**

   The residential component includes 157 units in a four-story mixed-use building with a mix of studio, one-, and two-bedroom units. This variety meets market demand for different household sizes—young professionals, small families, and downsizers seeking low-maintenance living.

Importantly, expanding for-lease housing in this corridor supports the growth anticipated from the 39 North AgTech innovation district, which is attracting startups, researchers, and skilled professionals to Creve Coeur. The proximity of this development to 39 North enables people to live, work, and play within the same area—strengthening the case for diverse housing options near employment centers.

This unit mix is aligned with the Comprehensive Plan's East Olive Corridor objectives to broaden housing choice and encourage corridor reinvestment. By embedding multiple residence types within a walkable mixed-use environment, the project contributes to a more resilient, inclusive housing market—one that advances the PMD district's vision for integrated, context-sensitive growth.

4. **Allows for and makes efficient use of parking and storage areas including cooperative parking facilities.**

   The project provides efficient, well-balanced parking that meets anticipated demand while supporting a walkable, mixed-use environment. According to the Parking Demand Study completed by Lochmueller Group, 250 on-site spaces serve the residential, retail, and restaurant uses at Graeser Station. The study estimates a peak combined parking demand of 296 spaces, which accounts for temporal differences between daytime commercial activity and overnight residential use

   Throughout a typical weekday and Saturday, the site is expected to maintain an operational buffer leaving available capacity even during peak demand periods. This confirms that the parking supply will be adequate and balanced across uses.

   The revised layout improves circulation and functionality by consolidating drive aisles and providing a pedestrian pass-through connecting rear parking to front entrances and the corner plaza. This configuration supports efficient turnover for retail and restaurant patrons while preserving convenient access for residents who park in the rear.

   Together, these measures demonstrate that Graeser Station makes efficient use of its parking areas, satisfies the City's mixed-use parking flexibility provisions, and promotes safe, attractive, and pedestrian-friendly site design consistent with the PMD district and the East Olive Corridor goals.

5. **Provides for the more efficient provision of public and private utilities and facilities throughout the development area.**

The project consolidates multiple outdated service connections from former retail uses into a single coordinated system, improving efficiency and reliability. Existing public utilities along Olive Boulevard and Graeser Road will be utilized, with all new private utilities—electric, communications, and fiber—installed underground where feasible. Coordination with MSD, Ameren, and Missouri American Water ensures adequate capacity and service. These upgrades deliver more efficient, sustainable infrastructure consistent with PMD objectives.

6. **Provides adequate public facilities including streets, bicycle and pedestrian facilities, fire protection, water, stormwater control, sanitary sewer and parks and recreation facilities.**

   The project is supported by existing water, sanitary sewer, and fire protection infrastructure along Olive Boulevard and Graeser Road, with no off-site upgrades required. A new sidewalk along Graeser and reduced curb cuts on Olive improve pedestrian safety and circulation. Stormwater will be managed through an above-ground detention basin in the southwest corner, meeting City and MSD standards and integrating with the southern landscape buffer. The Traffic Impact Study (HR Green, 2025) confirms that adjacent intersections will continue to operate at the currently LOS D or better. Collectively, the project provides adequate public facilities and enhances overall infrastructure performance within the corridor.

7. **Incorporates pocket parks, small plazas and places for public art where appropriate.**

   The development incorporates a public plaza situated at the corner of the L-shaped building at Olive Boulevard and Graeser Road. This creates a highly visible and welcoming community space, featuring seating and enhanced landscaping, establishing a distinct sense of place at a key East Olive Corridor intersection.

   In direct response to Planning Commission and community feedback, the plaza design has been refined to include denser greenery and seating oriented away from Olive for greater comfort and usability. A pedestrian pass-through connects the rear parking area to the plaza and front sidewalk, providing convenient, safe access for residents and visitors who may park at the rear during peak demand periods.

   The plaza is designed not only as a visual feature but can become an activated community space that can host small gatherings or seasonal events like pop-up sidewalk markets, supporting the Comprehensive Plan's goal to create vibrant, people-oriented destinations. Together, these features fulfill the PMD's intent for

pocket parks and plazas that foster social interaction, accessibility, and corridor identity.

8. **Locates buildings in appropriate relation to sidewalks or public parks and plazas.**

   The building has been strategically located to reinforce pedestrian connections and activate the public realm consistent with the East Olive Corridor design framework. The primary entrances and storefronts are oriented toward Olive Boulevard, providing a direct and visible relationship to the public sidewalk and corner plaza.

   The corner public plaza at Olive and Graeser serves as the development's focal point—offering landscaping, seating, and opportunities for public art. It also functions as a gateway feature at this key intersection. Along Graeser Road, the increased setback and expanded landscaping create a comfortable pedestrian zone buffered from traffic, in line with both City and community feedback.

   An internal pedestrian pass-through links rear parking directly to the front sidewalk and plaza, ensuring continuous, clear and safe pedestrian movement throughout the site. Together, these design features establish a cohesive and human-scaled relationship between the building, sidewalks, and open spaces.

9. **Provides for vehicular mobility in a manner that does not compromise pedestrian safety and mobility.**

   The proposed development has been designed to maintain existing traffic operations while improving overall safety and circulation for both vehicles and pedestrians. The project reduces the number of existing curb cuts along Olive Boulevard from three to two and aligns the Graeser Road access directly across from the First Community Credit Union entrance, minimizing turning conflicts and improving sight distance.

   According to the October 2025 Traffic Impact Study prepared by HR Green, all surrounding intersections will continue to operate at Level of Service D or better—consistent with current conditions—demonstrating that the project maintains overall network performance while providing safer and more predictable movements.

   Pedestrian safety and comfort are enhanced through a new sidewalk along the west side of Graeser Road, an increased building setback with landscaped buffer, and an internal pedestrian pass-through connecting rear parking to the front plaza and retail. These improvements ensure that vehicle mobility does not compromise pedestrian

access, aligning with the Comprehensive Plan's East Olive Corridor goals for connected, walkable mixed-use development.

10. **Utilizes high-quality architectural design and materials, placement, relationship and orientation of structures throughout the planned development.**

    The proposed development reflects a high-quality architectural design that aligns with the City's Design Guidelines and the Comprehensive Plan's vision for the East Olive Corridor. The building employs durable, refined materials—including masonry, fiber cement panels, and brick veneer—to establish a timeless, context-appropriate character.

    The façades are designed with articulated depths, vertical breaks, and material transitions to reduce visual bulk and create visual interest. The structure steps down in height along the southern edge to achieve a comfortable scale transition to nearby residential properties.

    In direct response to Planning Commission and community feedback, the development ensures panel seams line up with natural breaks in the building to create a cohesive and seamless design. Additionally, a materials sample board will be provided to demonstrate quality and finish consistency. Together, these enhancements ensure the building contributes to a cohesive, visually engaging, and pedestrian-friendly environment at this important corridor intersection.

11. **Places all utilities serving new projects underground, to the extent feasible, except where specific allowances and design considerations are provided elsewhere in this Section.**

    All new private utilities, including electric, communications, and fiber, will be placed underground where feasible, reducing visual clutter and improving reliability. Electrical transformer locations are identified on the architectural site plan, and existing overhead service connections will be removed during demolition. Coordination with MSD, Ameren, and other utility providers will ensure safe, efficient service delivery consistent with City standards and the PMD's intent for coordinated, high-quality infrastructure.

12. **Provides for appropriate spacing and/or greenspace in or around the separate developments within the PMD.**

Although the proposal represents a single coordinated development rather than multiple tracts, the site plan provides generous spacing, landscaped setbacks, and usable open space consistent with the intent of the PMD district.

The project includes:

- Expanded setbacks along Graeser Road and the southern property line, creating a green edge that buffers adjacent residential uses.
- A public plaza at the Olive & Graeser intersection that serves as the site's focal open space, featuring landscaping, seating, and pedestrian amenities.
- Enhanced tree coverage and landscaping throughout surface parking areas and the building perimeter, supporting the City's Comprehensive Plan objectives for green space preservation and pedestrian comfort.

Collectively, these elements provide ample greenspace and spatial separation consistent with PMD standards and the East Olive Corridor vision, while creating visual relief, functional pedestrian zones, and a cohesive streetscape experience.

13. **Functionally and aesthetically integrates all proposed stormwater collection basins with the surrounding development through undergrounding or innovative design of above ground facilities that is visually commensurate with surrounding development.**

The project's stormwater detention and water-quality treatment system is located in the southwest corner of the site, south of the retaining wall. This facility is designed to meet City and MSD standards for peak flow and water-quality control. The basin is visually integrated into the site through robust landscaping and a continuous buffer adjoining the single-family properties to the south, providing both a naturalized appearance and effective screening. This design achieves functional performance while maintaining visual compatibility with surrounding development.

V. Community and City Engagement

The proposed development has been shaped through extensive collaboration with the City of Creve Coeur Planning Staff, the Planning Commission, and nearby residents. Throughout the review and outreach process, the project team has actively listened to feedback, identified shared priorities, and made meaningful refinements to address concerns and improve overall design quality.

Key community priorities focused on building positioning, density, and height, landscape buffering, pedestrian connectivity, and traffic circulation. In direct response, the development plan has been updated to incorporate larger setbacks, enhanced landscape

screening, a more defined public plaza, and a covered pedestrian pass-through connecting rear parking to Olive Boulevard.

The resulting design represents a collaborative effort between the applicant, City staff, and the community. It balances corridor reinvestment goals with neighborhood compatibility, delivering a high-quality, context-sensitive development that reflects both the City's planning objectives and the community's vision for the East Olive Corridor.

Plaza & Public Space

During community engagement and Planning Commission discussions, residents emphasized the importance of enhanced landscaping, visual buffering from Olive Boulevard, and comfortable public gathering spaces that feel welcoming yet protected from traffic. Others encouraged a stronger relationship between the plaza and adjacent retail or restaurant uses, while maintaining safe circulation and convenient access to parking.

In direct response, the project team refined the plaza design to include denser landscaping, canopy trees, and layered plantings that create enclosure and reduce paved surfaces. The plaza now serves as both a gateway feature along Olive Boulevard and a shared neighborhood amenity, balancing public accessibility with pedestrian comfort and safety.

1. **Enhance the plaza design with more landscaping, screening, and buffering from Olive Blvd.**

   The plaza now incorporates enhanced landscaping that reduces paved surface while providing a visual buffer and sense of enclosure for the seating area. Plantings include three canopy shade trees complemented by a mix of shrubs, ornamental grasses, perennials, annuals, and groundcovers.

2. **Strengthen the connection between retail/restaurant uses and the plaza.**

   Retail and restaurant spaces remain on the west side of the building, addressing key feedback from the initial design review. This placement improves access to parking at the front, side, and rear of the building, and creates a more functional central pass-through. Positioning the pass-through adjacent to the restaurant also allows for a covered outdoor dining area that is fully separated from surrounding roadways, providing both convenience and safety. In contrast, locating these uses directly adjacent to the plaza would reduce the effectiveness of the pass-through, limit parking access, and eliminate the opportunity for a covered patio fully protected from exterior traffic.

3. **A desire for improved corner plaza aesthetics as it is the entrance to the neighborhood and proposed an art installation or fountain at the corner.**

   Community members expressed a desire for the corner plaza, as the entrance to the surrounding neighborhood, to include enhanced aesthetics that would create a stronger sense of place. In response, the plaza has been refined with expanded landscaping, a reduced paved area, and enhanced visual definition through layered

plantings. The design introduces three shade trees complemented by a mix of shrubs, ornamental grasses, perennials, annuals, and groundcovers, providing texture, color, and seasonal interest throughout the year.

In addition to the proposed monument sign, the plaza's layout includes a central focal area that could accommodate a future public art piece, small sculpture, or similar neighborhood identity feature. This approach balances current design readiness with the flexibility to incorporate a community-inspired element in partnership with the City or neighborhood groups in the future.

4. **Provide comfortable seating areas shielded from Olive Blvd.**

   The plaza now includes enhanced landscaping features that provide a visual buffer and sense of enclosure for the seating area along Olive Boulevard. Plantings feature three canopy shade trees complemented by a mix of shrubs, ornamental grasses, perennials, annuals, and groundcovers.

   Additionally, the plan now incorporates an outdoor seating area within the building pass-through space.

Building Layout & Circulation

During community engagement and Planning Commission review, feedback centered on improving internal circulation, particularly between rear parking areas and front-facing commercial and public spaces, as well as softening the building's relationship to Graeser Road.

In response, the project team refined the site layout to strengthen pedestrian connections, enhance front-to-rear access, and improve landscape transitions to adjacent properties. These revisions ensure a safer, more accessible, and more context-sensitive design consistent with the City's planning and design objectives.

5. **Address circulation between rear parking and front-facing retail/plaza (consider a building pass-through).**

   A pedestrian pass-through is now incorporated into the plan to improve access from the rear parking to commercial uses and also accommodates a covered outdoor patio area adjacent to the restaurant space.

6. **Increase building setback along Graeser.**

   The building setback along Graeser has been increased to ten feet, allowing for a deeper landscape zone between the structure and the public sidewalk. This adjustment softens the building's mass, enhances privacy and compatibility with the residential edge, and strengthens the pedestrian environment along Graeser through improved landscaping and spatial definition.

7. **Privacy for first floor apartments along Graeser.**

   The increased setback along Graeser Road enhances the privacy for ground-floor residential units. Additionally, layered landscaping between the building and sidewalk

separates public and private realms, improving comfort for residents while enriching the pedestrian streetscape.

Parking & Access

During the community engagement process, participants emphasized the importance of adequate on-site parking, minimizing overflow or spillover parking, and maintaining safe and efficient access along both Olive Boulevard and Graeser Road. In response, the project team evaluated layout options and incorporated findings from a commissioned Parking Study to confirm sufficient capacity and compliance with City requirements. In addition, the Traffic Impact Study, completed by the City's consultant engineers on behalf of the proposed development, provided analysis and feedback on site circulation and traffic conditions, reinforcing that the proposed design maintains acceptable operations at nearby intersections.

8. **Avoid reliance on overflow parking across Graeser.**

   The development will not rely on off-site or overflow parking. The Traffic Impact and Parking Study confirms that on-site parking capacity is sufficient to accommodate all proposed residential and commercial uses under both typical and peak demand conditions, with additional flexibility to accommodate tenant variation and operational buffers for future needs.

9. **Provide adequate parking.**

   The overall building footprint was reduced to achieve a lower residential density, which removed some tuck-under spaces but the parking areas were redesigned to accommodate the shift. The updated plan provides a mix of end-cap islands for trees and landscaping as well as circle tree wells among parking aisles to increase shade coverage through the strategic placement of trees throughout the parking area. The result is a more efficient and visually cohesive parking layout that meets the needs of all users.

10. **Explore whether 3,000 SF for the restaurant is too large given limited parking; smaller café/coffee shop concept preferred.**

    The parking study verifies that on-site parking is adequate to support the proposed restaurant, retail, and residential uses. The project's PMD framework provides flexibility to accommodate a range of tenant types, including smaller-scale café or dining concepts, without impacting overall parking performance or site functionality.

11. **Code requires EV-ready parking stalls (Section 405.860).**

    The plan includes EV-ready parking stalls in compliance with Section 405.860 of the City Code. This addition supports the City's sustainability and future mobility goals while ensuring the site is equipped for emerging vehicle technology.

Landscaping & Screening

During public meetings and design review, residents expressed a strong interest in ensuring that the development include dense, layered landscaping along the southern property line to maintain privacy and visual separation from adjacent homes.

In response, the landscape plan has been updated to include a multi-tiered buffer composed of canopy trees, understory trees, ornamental shrubs, and groundcover plantings. This approach creates a naturalized, year-round screen while softening the building's visual presence from neighboring residential properties.

12. Considered layered screening in the open landscape area at the rear.

The updated landscape plan incorporates a dense layered screening throughout the rear buffer zone, enhancing privacy and providing a more gradual transition between uses. The buffer includes a combination of evergreen and deciduous trees, medium-height shrubs, and ornamental plantings, arranged to achieve full coverage at maturity while preserving stormwater flow and drainage patterns.

Materials & Design Details

Throughout the community engagement process, participants and Planning Commissioners expressed interest in ensuring the project's materials and architectural detailing convey quality, durability, and compatibility with nearby neighborhoods. Feedback emphasized a preference for timeless design elements—such as masonry façades and refined finishes—that would age well and complement the corridor's evolving character.

In response, the design team maintained a high-quality material palette and coordinated with the architect to confirm concealed panel joints, and cohesive transitions across elevations. A material sample board will be provided for Planning Staff and Commission review to further demonstrate consistency with the City's Design Guidelines and the East Olive Corridor's intended character.

13. Submit a material sample board.

The development team will provide a material sample board for the planning staff and commission's review.

14. Use mortared-in facades with no visible vertical seams.

Final confirmation of the façade detailing and joint treatment will be coordinated with HDA to ensure compliance with the City's requirement for mortared-in façades without visible vertical seams.

Planning & Policy Alignment

15. Consider reduction in density and closer alignment with the comprehensive plan example developments.

Throughout the review process thus far, Staff, Community and Planning Commission feedback emphasized the importance of reducing overall density and better aligning

the project with the scale and design intent of medium density mixed-use developments identified in the City's Comprehensive Plan.

In response, the development team has made two successive reductions in density as the project evolved through staff and community review. The initial concept submitted to City staff proposed 172 residential units. Following early staff feedback, the plan was revised to 168 units prior to the preliminary Planning Commission submission. Subsequent to that submission and in direct response to community input, the project was further refined to 160 units. Finally, in response to Staff comments on the official submission, the project was finally reduced to 157 units to accommodate a 10ft setback along Graeser. This most recent reductions decrease the total site coverage and building mass while expanding landscape buffers and increasing setbacks along the south, east, and west property lines. Notably, the southern setback has increased by 20 feet, now providing a 91-foot separation between the primary building and adjacent residential properties—offering a smoother, more compatible transition. Additionally, the setback along the eastern property line has been increased to 10 feet, to meet the commercial district setback along Graeser Road to further ensure a smooth transition from the residential neighborhood to the south.

The updated plan builds on the original design's varied façade materials, architectural articulation, and stepped-down building height near residential edges. With the reduced density and increased setbacks, the plan now incorporates enhanced landscaping and stronger visual buffers. Together, these refinements reduce perceived scale, improve neighborhood compatibility, and reinforce alignment with the design principles and best-practice precedents outlined in Creve Coeur's Comprehensive Plan for the East Olive Corridor. Comparable projects include DeMun Pointe in Clayton, Missouri, and Station Plaza in Kirkwood, Missouri, both of which exemplify context-sensitive mixed-use reinvestment within established neighborhoods.

Parking & Deliveries

During community engagement and staff review, questions were raised about how deliveries and trash collection would be managed to minimize congestion and ensure compatibility with adjacent residential areas. The project team refined the building layout and service plan to provide dedicated, well-screened areas for deliveries, refuse, and operational functions that maintain safety and site efficiency without impacting public or residential circulation.

16. Is there space on-site to accommodate deliveries (e.g., Amazon trucks)?

Residential deliveries will be received in a dedicated parcel room adjacent to the leasing office in the building's north wing. This area is accessible directly from Olive Boulevard entry and exit points, allowing delivery vehicles such as Amazon or courier vans to briefly stop near the front entry without interfering with primary traffic flow or parking circulation.

17. **Request for more detail on how commercial deliveries and trash management will function at the rear of the site.**

Commercial deliveries will be scheduled during off-peak hours to limit impacts on residents and on-site traffic. Two screened dumpsters located west of the dog park will serve the building's commercial spaces, while residential waste will be collected separately within a dedicated service area in the building's south wing. This separation of functions improves operational efficiency and maintains the site's visual quality and pedestrian safety.

Traffic & Pedestrian Infrastructure:

During public engagement, residents and Commissioners emphasized the importance of safe site access, effective traffic circulation, and pedestrian safety; particularly at the Olive Boulevard and Graeser Road intersection. In response, the project team coordinated with the City's traffic consultant to evaluate access design, intersection performance, and pedestrian improvements. Findings from the Traffic Impact Study confirm that all access points will operate efficiently and that existing roadway infrastructure can accommodate projected traffic volumes while maintaining current levels of service.

18. **Concern with traffic entering and exiting the site.**

Based on the Traffic Impact Study findings, traffic can safely and efficiently enter and exit the Graeser Station site from both Graeser Road and Olive Boulevard. The development will utilize three access points:

From Olive Boulevard (North Side):

- West Entrance (Site Drive 1): Will operate as a full-access driveway, allowing left turns, right turns, and through movements in both directions
- Middle Entrance (Site Drive 2): Will function as a right-in/right-out (RIRO) access

From Graeser Road (South Side):

- South Drive (Site Drive 3): Will align with the existing First Community Credit Union Bank Entrance across Graeser Road, operating under side-street stop control

The Traffic Impact Study confirms that all access points will function efficiently, with the Graeser Road access maintaining an operating LOS D during the PM peak and other site drives performing at LOS C or better. Queues and delays are projected to remain short—generally under 25 feet and 11 seconds, respectively—indicating that

vehicles can enter and exit the site safely without contributing to additional congestion on adjacent roadways.

19. **Improve pedestrian safety and infrastructure at the Olive and Graeser intersection.**

    The Traffic Impact Study confirms that the existing intersection of Olive Boulevard and Graeser Road can accommodate the development's additional traffic while maintaining safe and efficient operations. The Graeser Station development is projected to generate approximately 65 new trips during the morning peak hour, 94 during the afternoon, and 63 during the midday period.

    Despite these added trips, overall intersection performance remains within acceptable limits. The study indicates an overall Level of Service (LOS) B for both the 2026 and 2036 build scenarios, representing good traffic flow with minimal delay. Some turning movements—such as the northbound and southbound left turns—currently operate at LOS E, but these conditions exist under present operations and are not materially worsened by the project. Queue analyses show that at locations with dedicated left-turn bays, the 95th percentile queues will remain within available storage, confirming that vehicles can move through the intersection safely and predictably.

    Based on these findings, no modifications to the existing roadway network or signal timing are recommended. The current intersection geometry, lane configurations, and dedicated turn lanes provide adequate capacity to handle the site-generated traffic while maintaining safe access and circulation for vehicles and pedestrians.

20. **Do not place the sidewalk directly adjacent to the road along Graeser.**

    The sidewalk along Graeser Road will include a widened and well-designed landscape buffer between the curb and the walkway, consistent with the City's Design Guidelines for pedestrian comfort and safety. The updated landscape plan incorporates street trees, ornamental grasses, and groundcover to create a shaded, visually appealing pedestrian zone and a clear separation between the sidewalk and adjacent roadway.

21. **Concerned about potential right-turn stacking issues on Graeser.**

    The Traffic Impact Study evaluated the right-turn movement from Graeser Road (southbound approach) onto Olive Boulevard eastbound and found no significant queuing or operational issues.

    The intersection is currently signalized with a dedicated left-turn lane and a shared through/right-turn lane on the southbound approach.

    Through modeling of 2026 and 2036 Build Scenarios, the shared through/right-turn movement operates at Level of Service (LOS) B–C during PM peak hours, with an average queue length of approximately 50 feet.

    In conclusion, the study confirms that the right-turn movement will continue to operate efficiently, with adequate green time and storage length even with the added site traffic. No modifications to the intersection geometry or signal timing are required.

Density, Stormwater, and Environmental Design

22. Concerned about density and stormwater/flooding.

Concerns regarding density and stormwater management were frequently raised during community engagement. In response, the development team has reduced residential density twice, from an initial 172 units to 160 units, thereby reducing total site coverage and impervious surface area. This has created opportunities to expand open space and integrate stormwater features that enhance both performance and aesthetics.

The stormwater detention and water-quality treatment system is located in the southwest corner of the site, south of the retaining wall. It is an above-ground facility designed in accordance with MSD standards and the City's stormwater requirements. The detention area will be visually integrated with a robust landscape buffer adjoining the single-family properties to the south, providing both functional stormwater management and visual screening.

While final design details are in progress, the detention system will be sized to meet or exceed MSD requirements for peak flow and water-quality treatment, ensuring that post-development runoff will not exceed pre-development conditions. These combined density and stormwater measures improve site permeability, manage runoff responsibly, and address community concerns regarding flooding and downstream impact.

23. Concerned about noise from the dog park and pool.

To ensure that the proposed pool and dog run areas are compatible with the adjacent residential neighborhood, the development will implement clear operational policies focused on safety, noise control, and respectful use among residents. The property will comply with Sections 210.200, 210.137, 205.080, and any other applicable local laws and municipal codes pertaining to animal noise and public disturbances in order to maintain a peaceful environment for both residents and nearby property owners.

The pool area is planned to be open daily from 10:00 a.m. to 10:00 p.m., with clearly posted quiet hours and strict enforcement of conduct rules by on-site management. To promote safety and a family-friendly atmosphere, no glass containers, smoking, or alcohol will be permitted in or around the pool area. Pets will not be allowed within the pool enclosure, except for service animals as defined by applicable law. Pool equipment and design will include sound-mitigating features, including privacy fencing and landscaping to minimize noise and enhance safety for both residents and adjacent homes.

The dog run is designed for short-term exercise use only—not as a park or social gathering space—and provides a safe area for dogs to run and release energy before returning indoors. Use of the dog run area is limited to residents. Posted rules will require all dogs to be attended, leashed when entering or exiting, and promptly cleaned up after. To minimize noise disturbance, the dog run is expected to be closed from 10:00 p.m. to 5:00 a.m. and no dog may be kept in the outside run area for more than 15 minutes during open hours. Fencing and landscaping will provide for privacy and sound reduction.

Collectively, these measures ensure safe, respectful, and well-managed amenities that complement and protect the character of the surrounding neighborhood.

39. **Staff would like to discuss further the issue of multi-family density before the Planning and Zoning Commission meeting and how it relates to the Comprehensive Plan.**
Per our discussion, we understand that this will be a point of discussion at the planning commission and appreciate the staff's consideration of the proposal and submitted narrative to evaluate the appropriateness of this proposal. Additionally, the development team has further reduced the unit count to 157 – 15 total units below the initial development plan.

Creve Coeur Fire District Review

40. Please share the plans with the Fire District to request their preliminary review to avoid future adjustments to the site plan.
The Development Team will submit the plans for Fire District Review simultaneously with this submission.

CC: Garrison Hassenflu (Applicant)
Jason Jaggi, AICP, Director of Community Development

Proposed Restrictions in response comment #12

Operations

- Pool hours fixed at 10:00 a.m.–10:00 p.m. with posted quiet hours; no glass, smoking, or alcohol in the pool area; pets prohibited in pool enclosure (service animals excepted).
- Dog run limited to residents only, closed 10:00 p.m.–5:00 a.m., and max 15 minutes per use during open hours; dogs must be attended at all times; fence and landscape sound screening maintained.
- Compliance with applicable municipal noise ordinances; no outdoor amplified music after 9:00 p.m.
- Commercial deliveries and trash service confined to off-peak hours (e.g., 7:00 a.m.–7:00 p.m., no Sundays or City-recognized holidays)
- Outdoor dining limited to the plaza and covered patio areas shown; no outdoor cooking equipment outside designated locations.

Landscape and environmental

- Layered landscape buffer at the south (evergreen + deciduous canopy + shrubs + groundcover) to be installed per plan and replaced in kind if dead/removed.
- Site and plaza landscaping maintained in good condition; dead/diseased plantings replaced within the next planting season.

Graeser Station Development and Use Standards

All provisions of the City of Creve Coeur, MO City Code shall apply to this Planned Mixed-Use Development (PMD) District (subject to the terms thereof) except as specifically modified herein.

SPECIFIC CRITERIA

A. PERMITTED USES

Permitted Uses within the PMD shall be as shown on Table A at the end of this Attachment.

B. DIMENSIONAL REGULATIONS

1. Maximum Site Coverage.
   a. Maximum site coverage shall not exceed 64%.

2. Maximum Floor Area Ratio (FAR).
   a. The Maximum Floor Area Ratio for the PMD District shall not exceed 0.85.

C. BULK REGULATIONS

1. Setback and Building Line Requirements:
   a. Minimum Front Yard. Zero (20) feet.
   b. Minimum Side Yard. Ten (10) feet.
   c. Minimum Rear Yard. Eighty-Eight (88) feet.

2. Other CATEGORY D Regulations:
   a. Maximum number of units per acre. Thirty-Six (35.6)

D. PARKING AND LOADING REQUIREMENTS

1. Parking Requirements:
   a. 250 Parking Spaces shall be required as per the submitted and approved Concept Plan

2. Loading Requirements:
   a. The loading spaces and zones shall be provided based upon the approved Concept Plan

E. LANDSCAPE AND TREE REQUIREMENTS

1. The property owner shall maintain a minimum 35' landscape buffer along the southern boundary of the property that shall be robustly vegetated and maintained variety as provided in the approved site development plan.

a. All medians greater than 4' in width (3' of plant-able space) within the development are required to be landscaped and irrigated and will be maintained by the developer.

F. SIGN REQUIREMENTS

1. Provide Signs as permitted in Section 405.950 of the Creve Coeur Sign Regulations unless a comprehensive plan of signage is submitted to the City and recommendation of the Planning and Zoning Commission and approval of the City Council in accordance with Section 405.955 of the Creve Coeur Sign Regulations. Any comprehensive plan for signage shall show the location, size, height, extent and design of all proposed signs.

G. LIGHT REQUIREMENTS

1. Provide a lighting plan in accordance with the City of Creve Coeur Code for each phase of the PMD District as a component of the Site Development Plan submission.

2. All lighting proposed adjacent to existing single family residential zoning districts shall provide occupancy sensors and full cut-off/shielded fixtures.

H. ARCHITECTURAL REQUIREMENTS

1. Building finish material types in Graeser Station shall be generally specified as a high-quality full-bed masonry base around the entire 1st level with and accents on levels above to include a brick veneer, fiber cement panels, and architectural metal coping, and an integrated decorative cornice. Colors will be a neutral off-white limestone for masonry base with cast stone accents. Accents on floors above will include neutral and grey tones.

2. Trash enclosures: The location, material, and elevation of any trash enclosure will be as approved on the Site Development Plan. Trash receptacles shall be located indoors or be enclosed with an eight (8) foot high sight-proof enclosure with materials that match the adjacent structures.

3. Rooftop mechanical equipment shall not be visible as the integrated architectural parapets will provide natural screening from all adjacent properties.
4. Flat roof surfaces below 5 stories shall incorporate a medium tone colored membrane to reduce daytime glare for upper-level tenants in adjacent buildings.

I. ACCESS/ACCESS MANAGEMENT

1. Access to the development from external roadways shall be as shown on the Site Concept Plan and as directed by the City of Creve Coeur, the Missouri Department of Transportation, and St. Louis County Department of Transportation, as applicable.

2. A future cross-access easement shall be shown and provided with the adjacent lot to the East. At which time the adjacent property owner is amended or redeveloped, the property owner shall be required to engage with the adjacent property owner to coordinate and provide shared cross access to Olive Road and Graeser Road.

J. PUBLIC/PRIVATE ROAD IMPROVEMENTS, INCLUDING PEDESTRIAN CIRCULATION

1. Provide sidewalks, conforming to Americans with Disabilities Act (ADA) standards, along all frontages of the site as shown on the Site Concept Plan.

2. Pedestrian circulation to be as shown on the approved Site Concept Plan.

K. PUBLIC ART REQUIREMENTS

1. A separate public art package shall be required and follow the City of Creve Coeur review processes for public art which include review and recommendation by the City's Arts Committee to the Planning and Zoning Commission with City Council approval of public art agreements for public access easements and owner maintenance.

Graeser Station - Table A

NAICS Code	NAICS Use	Graeser Station PMD
221122	Electric Power Distribution	C
311340	Non-Chocolate Confectionary Manufacturing	P
311352	Confectionary Manufacturing from Purchased Chocolate	P
311811	Retail Bakeries	P
425110	Business to Business Electronic Markets	P
441310	Automotive Parts and Accessories Stores	C
442110	Furniture Stores	P
442291	Window Treatment Stores	P
442299	All Other Home Furnishings Stores	C
443142	Electronics Stores	P
444120	Paint and Wallpaper Stores	C
444130	Hardware Stores	P
444220	Nursery, Garden Center, and Farm Supply Stores	C
445110	Supermarkets and Other Grocery (except Convenience Stores)	C
445210	Meat Markets	P
445230	Fruit and Vegetable Markets	P
445291	Baked Goods Stores	P
445292	Confectionery and Nut Stores	P
445299	All Other Specialty Food Stores	P
445310	Beer, Wine, and Liquor Stores	C
446110	Pharmacies and Drug Stores	C
446120	Cosmetics, Beauty Supplies, and Perfume Stores	C
446130	Optical Goods Stores	P
446191	Food (Health) Supplement Stores	P
446199	All Other Health and Personal Care Stores	P
448110	Men’s Clothing Stores	P
448120	Women’s Clothing Stores	P
448130	Children’s and Infants’ Clothing Stores	P
448140	Family Clothing Stores	P
448150	Clothing Accessories Stores	P
448190	Other Clothing Stores	P
448210	Shoe Stores	P
448310	Jewelry Stores	P
448320	Luggage and Leather Goods Stores	P
451110	Sporting Goods Stores (except those exclusively engaged in the sale of firearms and ammunition)	C
451120	Hobby, Toy, and Game Stores	P
451130	Sewing, Needlework, and Piece Goods Stores	P
451140	Musical Instrument and Supplies Stores	P
451211	Book Stores	P
451212	News Dealers and Newsstands	P
452990	All Other General Merchandise Stores	C

453110	Florists	P
453210	Office Supplies and Stationery Stores	P
453220	Gift, Novelty, and Souvenir Stores	P
453310	Used Merchandise Stores (No building materials, outside sales, exchange or drop-off of used goods)	P
453910	Pet and Pet Supplies Stores	P
453920	Art Dealers	P
453991	Tobacco Stores	C
453998	All Other Miscellaneous Store Retailers (except auction houses, pool and hot tub sales/supplies and cemetery memorial dealers)	P
454111	Electronic Shopping	P
454390	Other Direct Selling Establishments	P
511110	Newspaper Publishers	C
511120	Periodical Publishers	C
511130	Book Publishers	C
511140	Directory and Mailing List Publishers	C
511191	Greeting Card Publishers	C
511199	All Other Publishers	C
511210	Software Publishers	C
517929	Roof-Mounted Communication Equipment	C
519120	Libraries and Archives	P
519130	"Internet Publishing and Broadcasting and Web Search Portals”	P
522110	Commercial Banking	C
522120	Savings Institutions	C
522130	Credit Unions	C
522210	Credit Card Issuing	P
522220	Sales Financing	P
522291	Consumer Landing	P
522292	Real Estate Credit	P
522293	International Trade Financing	P
522294	Secondary Market Financing	P
523120	Securities Brokerage	P
523130	Commodity Contracts Dealing	P
523140	Commodity Contracts Brokerage	P
523210	Securities and Commodity Exchanges	P
523920	Portfolio Management	P
523930	Investment Advice	P
523991	Trust, Fiduciary, and Custody Activities	C
523999	Miscellaneous Financial Investment Activities	C
524113	Direct Life Insurance Carriers	C
524114	Direct Health and Medical Insurance Carriers	C
524126	Direct Property and Casualty Insurance Carriers	C
524127	Direct Title Insurance Carriers	C
524128	Other Direct Insurance (except Life, Health, and Medical Carriers)	C
524130	Reinsurance Carriers	C
524210	Insurance Agencies and Brokerages	P
524291	Claims Adjusting	C

531110	Lessors of Residential Buildings and Dwellings	P
531120	Lessors of Non-Residential Buildings (except Mini-warehouses)	P
531190	Lessors of Other Real Estate Property	C
531210	Offices of Real Estate Agents and Brokers	P
532210	Consumer Electronics and Appliances Rental	C
532220	Formal Wear and Costume Rental	P
532230	Video Tape and Disc Rental	P
532291	Home Health Equipment Rental	P
532292	Recreational Goods Rental	P
532299	All Other Consumer Goods Rental	C
532310	General Rental Centers	C
532420	Office Machinery and Equipment Rental and Leasing	P
541110	Offices of Lawyers	C
541120	Offices of Notaries	C
541191	Title Abstract and Settlement Offices	P
541199	All Other Legal Services	C
541211	Offices of Certified Public Accountants	C
541213	Tax Preparation Services	C
541214	Payroll Services	C
541219	Other Accounting Services	C
541310	Architectural Services	C
541320	Landscape Architectural Services	C
541330	Engineering Services	C
541410	Interior Design Services	C
541420	Industrial Design Services	C
541430	Graphic Design Services	C
541490	Other Specialized Design Services	C
541511	Custom Computer Programming Services	C
541512	Computer Systems Design Services	C
541513	Computer Facilities Management Services	C
541519	Other Computer Related Services	C
541611	Administrative Management and General Management Consulting Services	C
541612	Human Resources Consulting Services	C
541613	Marketing Consulting Services	C
541614	Process, Physical Distribution, and Logistics Consulting Services	C
541618	Other Management Consulting Services	C
541620	Environmental Consulting Services	C
541690	Other Scientific and Technical Consulting Services	C
541711	Research and Development in Biotechnology	C
541712	"Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)"	C
541720	Research and Development in the Social Sciences and Humanities	C
541810	Advertising Agencies	C
541820	Public Relations Agencies	C
541830	Media Buying Agencies	C
541840	Media Representatives	C
541850	Outdoor Advertising	C

541860	Direct Mail Advertising	C
541870	Advertising Material Distribution Services	C
541890	Other Services Related to Advertising	C
541921	Photography Studios, Portrait	P
541922	Commercial Photography	C
541930	Translation and Interpretation Services	C
541940	Veterinary Services	P
551111	Offices of Bank Holding Companies	P
551112	Offices of Other Holding Companies	P
561431	Private Mail Centers	P
561439	"Other Business Service Centers (including Copy Shops”	P
561499	All Other Business Support Services	P
561510	Travel Agencies	P
561611	Investigation Services	P
561622	Locksmiths	P
561910	Packaging and Labeling Services	C
611210	Junior Colleges	C
611691	Exam Preparation and Tutoring	P
621111	"Offices of Physicians (except Mental Health Specialists)"	P
621112	Offices of Physicians, Mental Health Specialists	P
621210	Offices of Dentists	P
621310	Offices of Chiropractors	P
621320	Offices of Optometrists	P
621330	Offices of Mental Health Practioners (except Physicians)	P
621340	Offices of Physical, Occupational and Speech Therapists, and Audiologists	P
621391	Offices of Podiatrists	P
621399	Offices of All Other Miscellaneous Health Practitioners	P
711110	Theater Companies and Dinner Theaters	C
713120	Amusement Arcades	C
722330	Mobile Food Services	C
722410	Drinking Places (Alcoholic Beverages)	C
722511	Full-Service Restaurants	C
722513	Limited-Service Restaurants, over 100 seats	C
722513	Limited-Service Restaurants, up to 100 seats	P
722514	Cafeterias, Grill Buffets, and Buffets	C
722515	Snack and Non-Alcoholic Beverage Bars	C
811211	Consumer Electronics Repair and Maintenance	C
811212	Computer and Office Machine Repair and Maintenance	C
812111	Barber Shops	P
812112	Beauty Salons	P
812113	Nail Salons	P
812191	Diet and Weight Reducing Centers	C
812199	Other Personal Care Services (except escort services, massage parlors, steam baths, tattoo parlors, permanent makeup salons and Turkish baths)	P
812320	Dry Cleaning and Laundry Services (except Coin-Operated) provided that facility (1) Meets all fire code regulations, and (2) Has a valid permit from the St. Louis County Air Pollution Control Program	P

812910	Pet Care (except Veterinary) (including only Pet Spas as defined in Section 405, 120 Services)	P
812922	One-Hour Photofinishing	P
812990	All Other Personal Services	C
813211	Grantmaking Foundations	P
813212	Voluntary Health Organizations	C
813219	Other Grantmaking and Giving Services	C
813311	Human Rights Organizations	C
813312	Environment, Conservation and Wildlife Organizations"	C
813319	Other Social Advocacy Organizations	C
813410	Civic and Social Organizations	C
813910	Business Associations	C
813920	Professional Organizations	C
813930	Labor Unions and Similar Labor Organizations	C
813940	Political Organizations	C
813990	Other Similar Organizations (except Business, Professional, Labor, and Political Organizations)	C
CC814140	High-Density Multifamily Residential (more than 20 single family units per acre)	P

SITE CONCEPT PLAN
GRAESER STATION
11004 OLIVE BLVD.
PLANNED MIXED-USE DEVELOPMENT

A TRACT OF LAND IN THE NORTH HALF OF SECTION 2, TOWNSHIP 45 NORTH, RANGE 5 EAST
OF 5TH PRINCIPLE MERIDIAN, AND IN U.S. SURVEY 1962 IN THE COUNTY OF ST. LOUIS, MISSOURI

LEGEND

EXISTING CONTOURS — 710
PROPOSED CONTOURS — 710
EXISTING SANITARY SEWERS
PROPOSED SANITARY SEWERS
EXISTING STORM SEWERS
PROPOSED STORM SEWERS
PROPOSED WATER/FIRE LINE — W
EXISTING PROCESS SEWERS — P
WATER METER — W
EXISTING UTILITY POLE
EXISTING SPOT ELEV. +708.50
PROPOSED SPOT ELEV. +709.50
EXISTING LIGHT STANDARD
PROPOSED LIGHT STANDARD
EXISTING FIRE HYDRANT
PROPOSED FIRE HYDRANT
POST INDICATOR VALVE
EXISTING UTILITY LINE — G — W — E —
EXISTING SIGN
PROPOSED SIGN
PROPOSED CONC. PAVT.
PROPOSED GRAVEL PAVT.
SWALE
EXISTING TREE
EXISTING TREELINE
DETAIL CALLOUT — 12 / C8 — DETAIL NUMBER / DRAWING NUMBER
STORM SEWER DESIGNATION — 6
SANITARY SEWER DESIGNATION — A

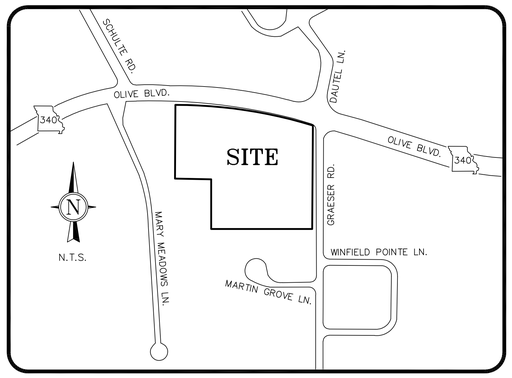
GUY WIRE
WATER VALVE
GAS VALVE
GRATE MANHOLE
CLEAN OUT — C.O.
BOLLARD
PULL BOX
SANITARY MANHOLE — S
CURBE INLET
GRATE INLET
ELECTRIC METER — E
FENCE — X — X —
EXISTING STRUCTURE
EXISTING STRUCTURE TO BE REMOVED
TRASH ENCLOSURE
EXISTING WALL — W
PROPOSED WALL
SILT FENCE
CONSTRUCTION FENCE
GUARD RAIL
GRAVEL BAG SILTATION CONTROL
CHAIN LINK FENCE — X — X — X
DECORATIVE ALUMINUM
BUILDING ADDRESS — 16021

ABBREVIATIONS

A.C.	AIR CONDITIONER	L.S.	LIGHT STANDARD
A.I.	AREA INLET	M.H.	MANHOLE
ASPH.	ASPHALT	N/F	NOW OR FORMERLY
A.T.G.	ADJUST TO GRADE	O.H.E.	OVERHEAD ELECTRIC
BLDG.	BUILDING	P.B.	PLAT BOOK
C.P.P.	CORRUGATED POLYETHYLENE PIPE	PG.	PAGE
C.I.	CURB INLET	P.V.C.	POLYVINYL CHLORIDE PIPE
C.O.	CLEANOUT	PAVT.	PAVEMENT
CONC.	CONCRETE	REQ'D.	REQUIRED
D.B.	DEED BOOK	R.C.P.	REINFORCED CONCRETE PIPE
D.G.I.	DOUBLE GRATE INLET	R.O.W.	RIGHT OF WAY
DIA.	DIAMETER	S.S.	STREET SIGN
D.I.P.	DUCTILE IRON PIPE	SAN.	SANITARY SEWER
D.S.	DOWNSPOUT	T.B.A.	TO BE ABANDONED
ELEV.	ELEVATION	T.B.R.	TO BE REMOVED
E.O.P.	EDGE OF PAVEMENT	T.B.R.& R.	TO BE REMOVED & REPLACED
ESMT.	EASEMENT	T.B.R.& RELOC.	TO BE REMOVED & RELOCATED
EXIST.	EXISTING	U.G.E.	UNDERGROUND ELECTRIC
F.E.S.	FLARED END SECTION	U.G.T.	UNDERGROUND TELEPHONE
F.D.	FLOOR DRAIN	U.I.P.	TO BE USED IN PLACE
F.F.	FINISH FLOOR	V.C.P.	VITRIFIED CLAY PIPE
F.H.	FIRE HYDRANT	W.	WIDE
FND.	FOUND	( )	INDICATED RECORD INFORMATION
F.O.L.	FIBER OPTIC LINE		
G.P.	GUARD POST		
G.I.	GRATE INLET		

BOUNDARY LEGEND

- FOUND 1/2" IRON PIPE UNLESS OTHERWISE NOTED
- FOUND 1/2" IRON ROD UNLESS OTHERWISE NOTED
- FOUND CUT CROSS
- FOUND COTTON PICKER SPINDLE
- FOUND RAILROAD SPIKE
- FOUND CONCRETE MONUMENT
- FOUND STONE
- FOUND R.O.W. MARKER
- FOUND AXLE
- SET 1/2" IRON ROD UNLESS OTHERWISE NOTED



LOCATION MAP

PERTINENT DATA

PROPERTY ADDRESS:	LOCATOR NUMBER	OWNER
11056 OLIVE BLVD. CREVE COEUR, MO 63141	17N540046	FORSYTH INVESTMENT LLC
11032 OLIVE BLVD. CREVE COEUR, MO 63141	17N540057	FORSYTH INVESTMENT LLC
11004 OLIVE BLVD. CREVE COEUR, MO 63141	17N540732	BG OLIVE & GRAESER LLC
825 GRAESER RD. CREVE COEUR, MO 63141	17N520554	BG OLIVE & GRAESER LLC
827 GRAESER RD. CREVE COEUR, MO 63141	17N520543	BG OLIVE & GRAESER LLC

EXISTING ZONING: GC – GENERAL COMMERCIAL DISTRICT
PROPOSED ZONING: PMD – PLANNED MIXED-USE DEVELOPMENT
SITE AREA: 4.42 AC (192,686 SQ. FT.)
EXISTING USE: COMMERCIAL RETAIL & VACANT PROPERTY
PROPOSED USE: MULTI FAMILY AND RETAIL
WATER SHED: RIVER DES PERES 1
WATER DISTRICT: MISSOURI AMERICAN WATER COMPANY
FIRE DISTRICT: CREVE COEUR FIRE PROTECTION DISTRICT
SCHOOL DISTRICT: LADUE & PARKWAY SCHOOL DISTRICTS
SEWER DISTRICT: MSD
FLOOD INSURANCE RATE MAP (FIRM): 29189C0191K DATE: 2/4/15

UTILITY/AGENCY CONTACTS

WATER
MISSOURI AMERICAN WATER
727 CRAIG ROAD
CREVE COEUR, MO 63141
(866) 430-0820

GAS
SPIRE
720 OLIVE ST.
ST. LOUIS MO 63101
(314) 342-0709

ELECTRIC
AMEREN U.E.
P.O. BOX 66149, MC 700
ST. LOUIS, MO 63166-6149
(314) 554-2821

SEWER DISTRICT
METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST.
ST. LOUIS, MO 63103
CONTACT: PLAN REVIEW
(314) 768-6200

FIRE PROTECTION
CREVE COEUR FIRE DISTRICT
11221 OLIVE BLVD.
CRETE COEUR, MO 63141
(314) 432-5570

STREET DEPARTMENT
CREVE COEUR PUBLIC WORKS
300 N. NEW BALLAS ROAD
CREVE COEUR, MO 63141
(314) 872-2538

MISSOURI DEPARTMENT OF TRANSPORTATION
1590 WOODLAKE DRIVE
CHESTERFIELD, MO 63017
(888) 275-6636

BENCHMARK:
STL. CO. #13-292: 690.23 FTUS NAVD88 – CUT "SQ" ON TOP OF THE NORTH SIDE OF THE ROUND CONCRETE BASE FOR A TRAFFIC SIGNAL MAST LOCATED ON THE SOUTHEAST CORNER OF OLIVE BOULEVARD AND GRAESER ROAD; ROUGHLY 55 FEET EAST OF THE CENTERLINE OF GRAESER ROAD AND 50 FEET SOUTH OF THE CENTERLINE OF OLIVE BOULEVARD.

SITE BENCHMARK:
684.90 FtUS NAVD88 –P.K. NAIL ON TOP OF THE SOUTH SIDE OF THE ROUND CONCRETE BASE FOR A TRAFFIC SIGNAL MAST LOCATED ON THE SOUTHWEST CORNER OF OLIVE BOULEVARD AND GRAESER ROAD; ROUGHLY 56± FEET WEST OF THE CENTERLINE OF GRAESER ROAD AND 50± FEET SOUTH OF THE CENTERLINE OF OLIVE BOULEVARD.

INDEX

SC1 EXISTING SITE PLAN
SC2 PROPOSED BOUNDARY PLAN
SC3 SITE CONCEPT PLAN
SC4 SITE CROSS SECTIONS

STOP! Call Before you DIG
1-800-344-7483
TOLL FREE

State Law requires 2 days advance notice. "The law in the State of Missouri defines emergency excavation as one preventing danger to life, health, or property."

MISSOURI ONE-CALL SYSTEM INC.
824 Weathered Rock Road
Jefferson City, MO 65101
Phone: 573-635-1818
Fax: 573-635-8402

www.mo1call.com

1-800-DIG-RITE

If at anytime the 1-800-DIG-RITE number fails to work, call 1-573-636-1550.
A recording will give you another 800 number you can use to report the problem.

PREPARED FOR:
CREVE COEUR HOUSING LLC
CONTACT: Gary Hassenflu
2001 Shawnee Mission Parkway Ste. 250
Mission Woods, KS 66205
EMAIL: ghassenflu@garrisoncompanies.com

M.S.D. BASE MAP 17N
PARCEL NO. 17N540046
PARCEL NO. 17N540057
PARCEL NO. 17N540732
PARCEL NO. 17N540741
PARCEL NO. 17N520543
PARCEL NO. 17N520554

STATE OF MISSOURI — LEONARD J. MEERS — NUMBER E-28288 — REGISTERED PROFESSIONAL ENGINEER
11/7/25
LEONARD J. MEERS
PROFESSIONAL ENGINEER
E-28288

GRIMES CONSULTING, INC.
12300 OLD TESSON RD.
SUITE 300D
ST. LOUIS, MO 63128
PH. (314) 849-6100
FAX (314) 849-6010
www.grimesconsulting.com
PE COA# E-1470-D
PLS COA# LS-343-D

REV. NO.	REMARKS	DATE

SITE CONCEPT PLAN
GRAESER STATION
PLANNED MIXED-USE DEVELOPMENT
11004 OLIVE BLVD, CREVE COEUR, MO 63141

SHEET TITLE: TITLE SHEET

JOB NUMBER: 4311
DRAWN BY: R.S.
DATE: 11/7/25
CHECKED BY: L.M.
DATE: 11/7/25
SHEET: SC0

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J:\4311\4311\Drawings\Engineering\SDP\11004 OLIVE MULTIFAMILY RETAIL.dwg 11/7/2025 11:33 AM Rick Sharp

OLIVE (90'w.) BLVD.
PUBLIC RIGHT-OF-WAY

N. GRAESER (40') ROAD
PUBLIC RIGHT-OF-WAY

L=147.67', R=2820.12'
D=003°00'00"
Ch=S85°20'48"E, 147.65'

L=161.75', R=2830.35'
D=003°16'28"
Ch=S83°11'44"E, 161.73'

S75°14'25"E 214.66'

N00°07'32"E 281.53'

N00°32'19"W 196.30'

N00°32'19"W 159.17'

N00°15'34"E 160.70'

S85°54'28"W 109.56'

N89°02'25"W 410.79'

N88°49'10"W 193.59'
(N89° 12'E, 145.00')

(N89° 12'W 388.82')

S01°16'41"W 246.62'

(N0° 46'W 160.01')

N85°45'16"E 87.02'

BASIS OF BEARING
MISSOURI STATE PLANE GRID,
NORTH FROM STATIC GPS TIES
TO GEOGRAPHIC REFERENCE
SYSTEM MONUMENTS

(IN FEET)
1 inch = 20 ft.

SITE BENCHMARK: 684.90
P.K. NAIL ON TOP OF
CONC. PILLAR OF STREET SIGN

EXIST. BUILDING TO BE DEMOLISHED
1 STORY BRICK BUILDING
BUILDING HEIGHT: 17.5'±
15,031 SQUARE FEET

N/F
ZIERN GALLERIES INC
10333 CLAYTON RD.
D.B. 13192 Pg 1720
Parcel #:20M440428

ZONING
GC–GENERAL COMMERCIAL

N/F
FORSYTH INVESTMENTS LLC
11032 OLIVE BLVD.
D.B. 17821 Pg 2221
Parcel #:17N540057
Parcel #:17N540046
(TITLE #532)

N/F
BG OLIVE & GRAESER LLC
11004 OLIVE BLVD.
D.B. 23202 Pg 119
Parcel #: 17N540732
Parcel #: 17N540741
(TITLE #531, PARCEL 1)

N/F
MONSANTO CREDIT UNION
10950 OLIVE BLVD.
D.B. 07126 Pg 0233
Parcel #:17N 631115

ZONING
GC–GENERAL COMMERCIAL

(20) (13)
District Development
Agreement
D.B. 18720, Pg. 4274
"Stern Property"

12' STATE EASEMENT
D.B. 5405 Pg. 429

10' GAS EASEMENT
D.B. 6280 Pg. 1810

10' GAS EASEMENT
D.B. 5234 Pg. 148

5' GAS EASEMENT
D.B. 6307 Pg. 384

10' SEWER EASEMENT
D.B. 6205 Pg. 580

10' SEWER EASEMENT
D.B. 5114 Pg. 186

15' SEWER EASEMENT
D.B. 5114 Pg. 188

10' ROADWAY EASEMENT
D.B. 2676 Pg. 614

MARY MEADOWS
PLAT BOOK 72, PAGE 25

LOT 1
ZONING
C–SINGLE FAMILY

N/F
MJHM LC THE
848 MARY MEADOWS LN
D.B. 20299 Pg 3247
Parcel #:17N520576

LOT 2
N/F
RICHARDS CHERYL A TR
842 MARY MEADOWS LN
D.B. 18342 Pg 3515
Parcel #:17N520532

LOT 3
N/F
MCGUIRE JOHN P & GLORIAN D H/W
836 MARY MEADOWS LN
D.B. 7199 Pg 1525
Parcel #:17N520510

N/F
BG OLIVE & GRAESER LLC
827 GRAESER RD
D.B. 23466 Pg 2128
Parcel #:17N520543
(TITLE #531, PARCEL 3)
(TITLE #531, PARCEL 2 EXCEPTION)

N/F
BG OLIVE & GRAESER LLC
825 GRAESER RD
D.B. 23446 Pg 2128
Parcel #:17N520554
(TITLE #531, PARCEL 2)

DETENTION AREA

N/F
HENNESSEY DEVELOPMENT INC
11013 MARTIN GROVE LN
D.B. 08700 Pg 1869
Parcel #:17N520932

N/F
SHI BO & XU WEIJIE T/E
11011 MARTIN GROVE LN
D.B. 08700 Pg 1869
Parcel #:17N520884

LOT 3
ZONING
C–SINGLE FAMILY

MARTIN GROVE
PLAT BOOK 299, PAGE 20

EXISTING BUILDING

N/F
SILVERMAN ROSS L & HEATHER P H/W
11007 MARTIN GROVE LN
D.B. 21936 Pg 2926
Parcel #:17N520873

LOT 2
EXISTING BUILDING

N/F
LI BO & FANG MING T/E
11003 MARTIN GROVE LN
D.B. 23888 Pg 1629
Parcel #:17N520862

LOT 1

ZONING
C–SINGLE FAMILY

ZONING
C–SINGLE FAMILY

ZONING
C–SINGLE FAMILY

M.S.D. BASE MAP 17N
PARCEL NO. 17N540046
PARCEL NO. 17N540057
PARCEL NO. 17N540732
PARCEL NO. 17N540741
PARCEL NO. 17N520543
PARCEL NO. 17N520554

PREPARED FOR:
CREVE COEUR HOUSING LLC
CONTACT: Gary Hassenflu
2001 Shawnee Mission Parkway Ste. 250
Mission Woods, KS 66205
EMAIL: ghassenflu@garrisoncompanies.com

GRATE INLET TOP=678.26 FL=671.44
GRATE INLET TOP=678.62 FL=672.85
GRATE INLET TOP=679.14 FL=673.88
GRATE INLET TOP=679.34 FL=674.44
STORM MH TOP=680.03 FL=675.03
GRATE INLET TOP=680.95 FL=676.08 NORTH FL=676.95
GRATE INLET TOP=681.53 FL=677.53
GRATE INLET TOP=682.19 FL=678.00
GRATE INLET TOP=678.90 NORTH FL=679.32
STORM MH TOP=685.24 WEST FL=680.25 EAST FL=681.37
STORM MH TOP=686.03 WEST FL=682.08 SOUTH FL=682.44 SOUTHEAST FL=682.44 EAST FL=682.14
GRATE INLET TOP=687.03 FL=682.48
CURB INLET TOP=685.80 FL=682.85
GRATE INLET TOP=676.24 SOUTH FL=671.16 EAST FL=673.32
GRATE INLET TOP=676.22 WEST FL=674.42 SOUTHWEST FL=675.20
GRATE INLET TOP=669.07 EAST FL=657.11 NORTH FL=659.81 SOUTH FL=650.13
GRATE INLET TOP=677.13 FL=668.34
CURB INLET TOP=670.56 WEST FL=664.91 EAST FL=666.36
SAN. MH TOP=652.94 EAST FL=644.38 SOUTH FL=644.04
SAN. MH TOP=650.77 FL=646.72
SAN. MH TOP=675.14 FL=663.72
AREA INLET TOP=647.09 NORTH FL=642.56 EAST FL=644.61 SOUTH FL=642.79 WEST FL=642.34
AREA INLET TOP=646.05 EAST FL=641.66 WEST FL=641.33
AREA INLET TOP=650.02 FL=644.76
AREA INLET TOP=663.72 FL=660.57
CURB INLET TOP=683.52 WEST FL=679.32 EAST FL=680.60
CURB INLET TOP=685.71 FL=682.54
MONITORING WELL
GUY CABLE
6" WATER
20" WATER
24" WATER
36" WATER
8"VCP
8" LINED VCP
15"RCP
21"RCP
12"RCP
24"RCP
10"RCP
18"RCP
12"CMP
15"CMP
24"CMP
STEPS (TYP.)
BLDG. COLUMN (TYP.)
CANOPY
6"PVC
CONC. CURB & GUTTER
CONC. WALK
CONC. WALL
ASPH. CURB
ASPHALT PAVEMENT
CONCRETE PAVEMENT
GRAVEL PAVEMENT
DIRT AREA
FLAG POLE
CELL TOWER
EXISTING BUILDING

LEONARD J. MEERS
NUMBER E-28288
STATE OF MISSOURI
REGISTERED PROFESS IONAL ENGINEER
11/7/25
LEONARD J. MEERS
PROFESSIONAL ENGINEER
E-28288

GRIMES CONSULTING, INC.
12300 OLD TESSON RD.
SUITE 300D
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FAX (314) 849-6010
www.grimesconsulting.com
PE COA# E-1470-D
PLS COA# LS-343-D

REV. NO.	REMARKS	DATE

SITE CONCEPT PLAN
GRAESER STATION
PLANNED MIXED-USE DEVELOPMENT
11004 OLIVE BLVD, CREVE COEUR, MO 63141

SHEET TITLE
EXISTING SITE PLAN

JOB NUMBER:	4311
DRAWN BY:	R.S.
DATE:	11/7/25
CHECKED BY:	L.M.
DATE:	11/7/25
SHEET:	SC1

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J:\4311\4311\Drawings\Engineering\SDP\11004 OLIVE MULTIFAMILY-RETAIL.dwg/11/7/2025 11:04 AM/Rob Sharp

OLIVE (90'w.) BLVD.

FOUND 1/2" PIPE

L=147.67', R=2820.12'
D=003°00'00"
Ch=S85°20'48"E, 147.65'

L=161.75', R=2830.35'
D=003°16'28"
Ch=S83°11'44"E, 161.73'

PROPOSED SITE BOUNDARY

S75°14'25"E 214.66'

POINT OF BEGINNING

FOUND 5/8" IRON ROD

U.S. SURVEY 1962

INTERIOR LOT LINES TO BE REMOVED

N/F
ZIERN GALLERIES INC
10333 CLAYTON RD.
D.B. 13192 Pg 1720
Parcel #: 20M440428

ZONING
GC–GENERAL COMMERCIAL

N00°07'32"E 281.53'

S01°16'41"W 246.62'

TOTAL TRACT = 4.42 ACRES
(192,686.33 SQ. FT.)
CURRENT ZONING: GC-GENERAL COMMERCIAL
PROPOSED ZONING: PMD - PLANNED MIXED-USE DEVELOPMENT

N/F
FORSYTH INVESTMENTS LLC
11032 OLIVE BLVD
D.B. 17821 Pg 2221
Parcel #:17N540057
Parcel #:17N540046
(TITLE #532)

N/F
BG OLIVE & GRAESER LLC
11004 OLIVE BLVD.
D.B. 23202 Pg 119
Parcel #: 17N540732
Parcel #: 17N540741
(TITLE #531, PARCEL 1)

S00°32'19"E 196.30'

N. GRAESER (40') ROAD

S00°32'19"E 355.47'

PROPOSED SITE BOUNDARY

FOUND 1/2" ROD

INTERIOR LOT LINES TO BE REMOVED

FOUND 5/8" IRON ROD

N85°45'16"E 87.02'

S85°54'28"W 109.56'

N88°49'10"W 193.59'

N88°49'10"W 144.94'

FOUND 1" IRON PIPE

FOUND 1/2" PIPE

INTERIOR LOT LINES TO BE REMOVED

N88°49'10"W 214.97'

PROPOSED SITE BOUNDARY

S00°32'19"E 159.17'

N/F
MJHM LC THE
848 MARY MEADOWS LN
D.B. 20299 Pg 3247
Parcel #:17N520576

ZONING
C–SINGLE FAMILY

N/F
BG OLIVE & GRAESER LLC
827 GRAESER RD
D.B. 23466 Pg 2128
Parcel #:17N520543
(TITLE #531, PARCEL 3)
(TITLE #531, PARCEL 2 EXCEPTION)

INTERIOR LOT LINES TO BE REMOVED

N/F
BG OLIVE & GRAESER LLC
825 GRAESER RD
D.B. 23446 Pg 2128
Parcel #:17N520554
(TITLE #531, PARCEL 2)

FOUND 1/2" IRON PIPE JAMES

N00°15'34"E 160.70'

N00°37'32"W 150.19'

N/F
RICHARDS CHERYL A TR
842 MARY MEADOWS LN
D.B. 18342 Pg 3515
Parcel #:17N520532

ZONING
C–SINGLE FAMILY

N88°02'25"W 147.44'

FOUND 1/2" PIPE

FOUND 1/2" ROD

N88°02'25"W 263.34'

PROPOSED SITE BOUNDARY

N89°02'25"W 410.79'

FOUND 1/2" ROD

FOUND 1" IRON PIPE

FOUND 1/2" IRON ROD ILLEGIBLE

N/F
HENNESSEY DEVELOPMENT INC
11013 MARTIN GROVE LN
D.B. 08700 Pg 1869
Parcel #:17N520932

ZONING
C–SINGLE FAMILY

N/F
MCGUIRE JOHN P & GLORIAN D H/W
836 MARY MEADOWS LN
D.B. 7199 Pg 1525
Parcel #:17N520510

ZONING
C–SINGLE FAMILY

N/F
SHI BO & XU WEIJIE T/E
11011 MARTIN GROVE LN
D.B. 08700 Pg 1869
Parcel #:17N520884

ZONING
C–SINGLE FAMILY

N/F
SILVERMAN ROSS L & HEATHER P H/W
11007 MARTIN GROVE LN
D.B. 21936 Pg 2926
Parcel #:17N520873

ZONING
C–SINGLE FAMILY

N/F
LI BO & FANG MING T/E
11003 MARTIN GROVE LN
D.B. 23888 Pg 1629
Parcel #:17N520862

ZONING
C–SINGLE FAMILY

(IN FEET)
1 inch = 20 ft.

BASIS OF BEARING

MISSOURI STATE PLANE GRID
NORTH FROM STATIC GPS TIES
TO GEOGRAPHIC REFERENCE
SYSTEM MONUMENTS

PROPERTY BOUNDARY DESCRIPTION

A TRACT OF LAND PARTLY IN U.S. SURVEY 1962 AND PARTLY IN SECTION 2, TOWNSHIP 45 NORTH, RANGE 5 EAST, OF THE FIFTH PRINCIPLE MERIDIAN, ST. LOUIS COUNTY, MISSOURI, DESCRIBED AS: BEGINNING AT A FOUND 5/8 INCH ROD BEING THE INTERSECTION OF THE SOUTH LINE RIGHT–OF–WAY LINE OF OLIVE STREET ROAD AND THE WEST RIGHT–OF–WAY LINE OF GRAESER ROAD; THENCE SOUTH 00 DEGREES 32 MINUTES 19 SECONDS EAST A DISTANCE OF 355.47 FEET ALONG THE WEST LINE OF GRAESER ROAD TO A FOUND 1/2 INCH ROD, THENCE LEAVING THE WEST RIGHT–OF–WAY LINE OF GRAESER ROAD NORTH 89 DEGREES 02 MINUTES 25 SECONDS WEST A DISTANCE OF 410.79 FEET BEING THE NORTH PROPERTY LINE OF ROSS & HEATHER SILVERMAN AS RECORDED IN DEED BOOK 21936, PAGE 2926, BO SHI & ZU WEIJIE AS RECORDED IN DEED BOOK 08700, PAGE 1869, AND HENNESSEY DEVELOPMENT INC. AS RECORDED IN DEED BOOK 08700, PAGE 1869; THENCE NORTH 00 DEGREES 15 MINUTES 34 SECONDS EAST A DISTANCE OF 160.70 FEET TO A FOUND 1/2 INCH ROD BEING THE WEST PROPERTY LINE OF CHERYL RICHARDS AS RECORDED IN DEED BOOK 18342 AND THE MJHM LC AS RECORDED IN DEED BOOK 20299, PAGE 3247; THENCE SOUTH 85 DEGREES 54 MINUTES 28 SECONDS WEST A DISTANCE OF 109.56 FEET TO A FOUND 5/8 INCH ROD BEING THE NORTH PROPERTY LINE OF THE MJHM LC AS RECORDED IN DEED BOOK 20299, PAGE 3247; THENCE NORTH 00 DEGREES 07 MINUTES 32 SECONDS EAST A DISTANCE OF 281.53 FEET TO A FOUND 1/2 INCH PIPE BEING THE SOUTH RIGHT–OF–WAY LINE OF OLIVE BOULEVARD; THENCE ALONG THE SOUTH RIGHT–OF–WAY LINE OF OLIVE BOULEVARD A CURVE TO THE RIGHT WITH A RADIUS OF 2820.12 FEET A DISTANCE OF 147.67 FEET DELTA 03 DEGREES 00 MINUTES 00 SECONDS, CHORD BERING SOUTH 85 DEGREES 20 MINUTES 48 SECONDS EAST A DISTANCE OF 147.65 FEET; THENCE CONTINUING ALONG THE SOUTH RIGHT–OF–WAY LINE OF OLIVE BOULEVARD A CURVE TO THE RIGHT WITH A RADIUS OF 2830.35 FEET A DISTANCE OF 161.75 FEET DELTA 03 DEGREES 16 MINUTES 28 SECONDS, CHORD BERING SOUTH 83 DEGREES 11 MINUTES 44 SECONDS EAST A DISTANCE OF 161.73 FEET; THENCE CONTINUING ALONG THE SOUTH RIGHT–OF–WAY LINE OF OLIVE BOULEVARD SOUTH 75 DEGREES 14 MINUTES 25 SECONDS EAST A DISTANCE OF 214.66 FEET TO THE POINT OF BEGINNING.

TRACT OF LAND CONTAINING 192,686.33 SQUARE FEET (4.42 ACRES)

PREPARED FOR:
CREVE COEUR HOUSING LLC
CONTACT: Gary Hassenflu
2001 Shawnee Mission Parkway Ste. 250
Mission Woods, KS 66205
EMAIL: ghassenflu@garrisoncompanies.com

M.S.D. BASE MAP 17N
PARCEL NO. 17N540046
PARCEL NO. 17N540057
PARCEL NO. 17N540732
PARCEL NO. 17N540741
PARCEL NO. 17N520543
PARCEL NO. 17N520554

STATE OF MISSOURI — LEONARD J. MEERS — NUMBER E-28288 — REGISTERED PROFESS IONAL ENGINEER
11/7/25
LEONARD J. MEERS
PROFESSIONAL ENGINEER
E-28288

GRIMES CONSULTING, INC.
12300 OLD TESSON RD.
SUITE 300D
ST. LOUIS, MO 63128
PH. (314) 849-6100
FAX (314) 849-6010
www.grimesconsulting.com
PE COA# E-1470-D
PLS COA# LS-343-D

REV. NO.	REMARKS	DATE

SITE CONCEPT PLAN
GRAESER STATION
PLANNED MIXED-USE DEVELOPMENT
11004 OLIVE BLVD, CREVE COEUR, MO 63141

SHEET TITLE
PROPOSED BOUNDARY ADJUSTMENT

JOB NUMBER:	4311
DRAWN BY:	R.S.
DATE:	11/7/25
CHECKED BY:	L.M.
DATE:	11/7/25
SHEET:	SC2

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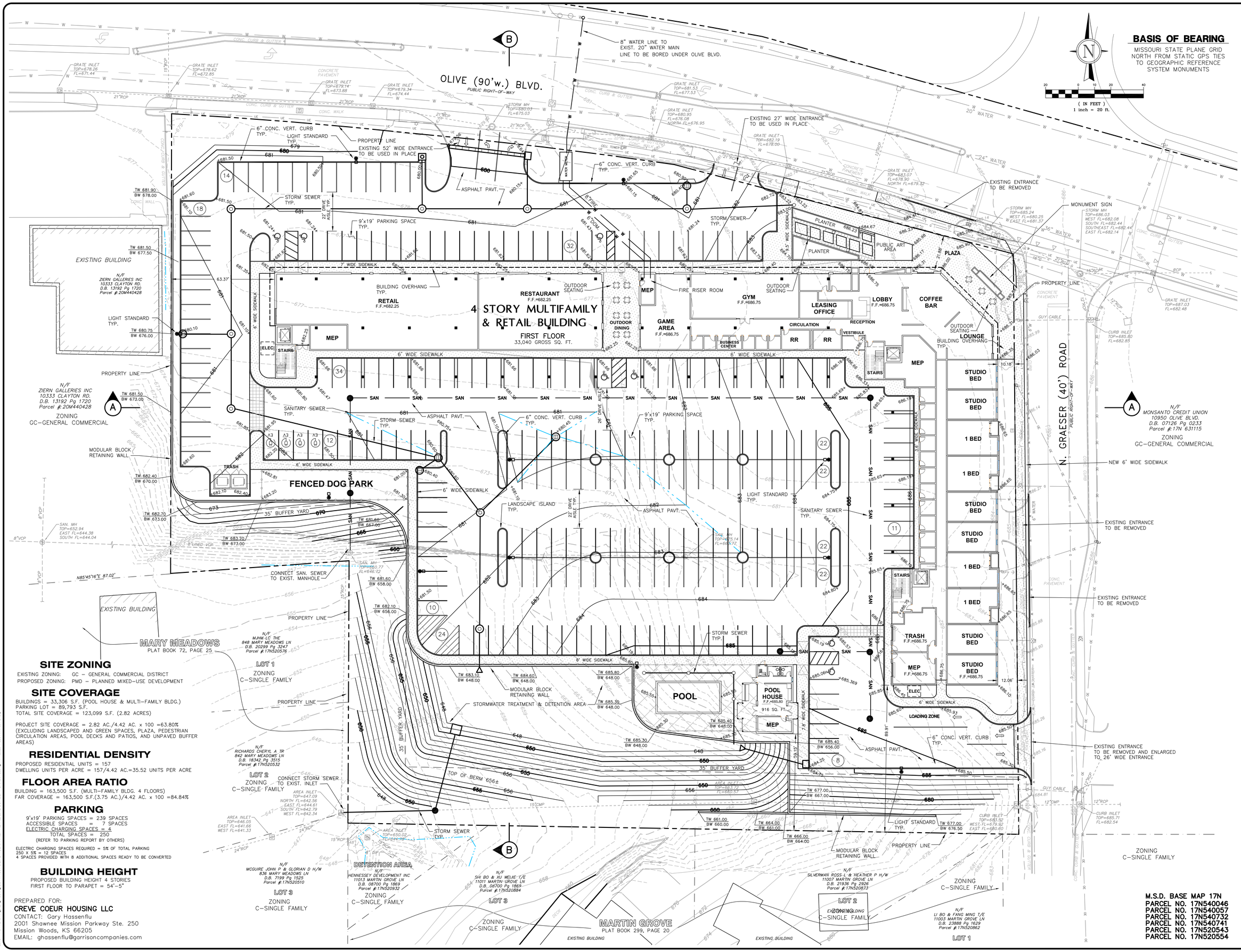
J:\4311\4311\Drawings\Engineering\SDP\11004 OLIVE MIU TIF-MBL-XREFs\4_dwg\11172025 11:35 AM Rich Sharp



SITE ZONING

EXISTING ZONING: GC – GENERAL COMMERCIAL DISTRICT
PROPOSED ZONING: PMD – PLANNED MIXED-USE DEVELOPMENT

SITE COVERAGE

BUILDINGS = 33,306 S.F. (POOL HOUSE & MULTI-FAMILY BLDG.)
PARKING LOT = 89,793 S.F.
TOTAL SITE COVERAGE = 123,099 S.F. (2.82 ACRES)

PROJECT SITE COVERAGE = 2.82 AC./4.42 AC. x 100 =63.80%
(EXCLUDING LANDSCAPED AND GREEN SPACES, PLAZA, PEDESTRIAN CIRCULATION AREAS, POOL DECKS AND PATIOS, AND UNPAVED BUFFER AREAS)

RESIDENTIAL DENSITY

PROPOSED RESIDENTIAL UNITS = 157
DWELLING UNITS PER ACRE = 157/4.42 AC.=35.52 UNITS PER ACRE

FLOOR AREA RATIO

BUILDING = 163,500 S.F. (MULTI-FAMILY BLDG. 4 FLOORS)
FAR COVERAGE = 163,500 S.F.(3.75 AC.)/4.42 AC. x 100 =84.84%

PARKING

9'x19' PARKING SPACES = 239 SPACES
ACCESSIBLE SPACES = 7 SPACES
ELECTRIC CHARGING SPACES = 4
TOTAL SPACES = 250
(REFER TO PARKING REPORT BY OTHERS)

ELECTRIC CHARGING SPACES REQUIRED = 5% OF TOTAL PARKING
250 X 5% = 12 SPACES
4 SPACES PROVIDED WITH 8 ADDITIONAL SPACES READY TO BE CONVERTED

BUILDING HEIGHT

PROPOSED BUILDING HEIGHT 4 STORIES
FIRST FLOOR TO PARAPET = 54'-5"

PREPARED FOR:
CREVE COEUR HOUSING LLC
CONTACT: Gary Hassenflu
2001 Shawnee Mission Parkway Ste. 250
Mission Woods, KS 66205
EMAIL: ghassenflu@garrisoncompanies.com

M.S.D. BASE MAP 17N
PARCEL NO. 17N540046
PARCEL NO. 17N540057
PARCEL NO. 17N540732
PARCEL NO. 17N540741
PARCEL NO. 17N520543
PARCEL NO. 17N520554

STATE OF MISSOURI LEONARD J. MEERS NUMBER E-28288 PROFESSIONAL ENGINEER
11/7/25
LEONARD J. MEERS PROFESSIONAL ENGINEER E-28288

GRIMES CONSULTING, INC.
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PE COA# E-1470-D
PLS COA# LS-343-D

REV. NO.	REMARKS	DATE

SITE CONCEPT PLAN
GRAESER STATION
PLANNED MIXED-USE DEVELOPMENT
11004 OLIVE BLVD, CREVE COEUR, MO 63141

SHEET TITLE: SITE CONCEPT PLAN

JOB NUMBER:	4311
DRAWN BY:	R.S.
DATE:	11/7/25
CHECKED BY:	L.M.
DATE:	11/7/25
SHEET:	SC3

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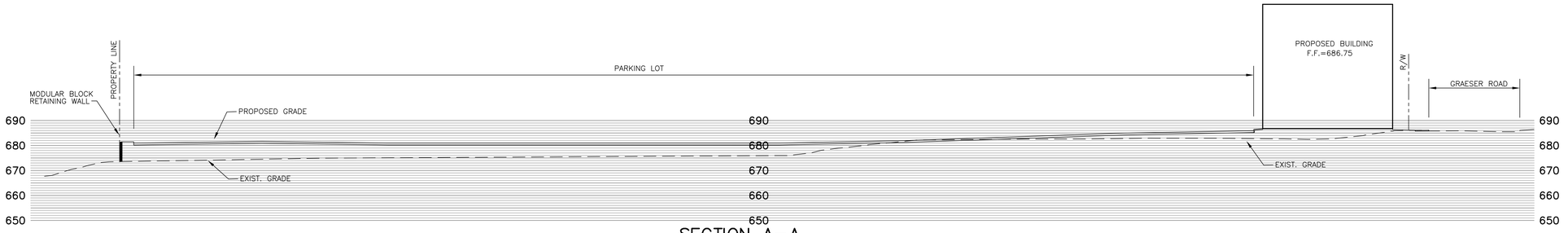
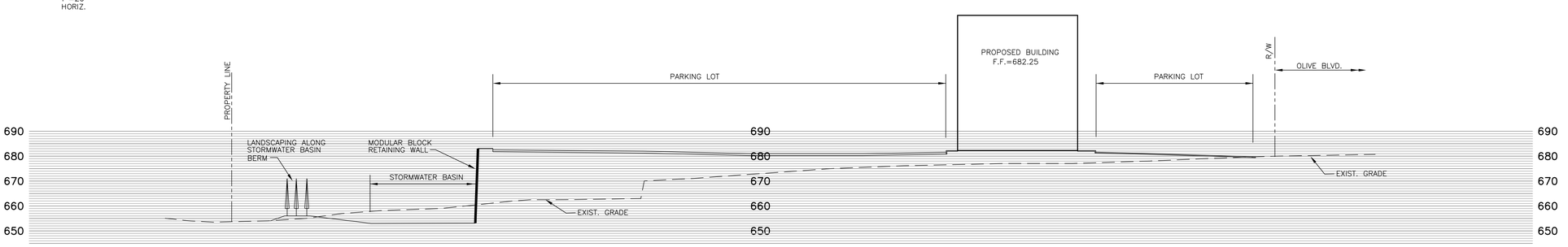
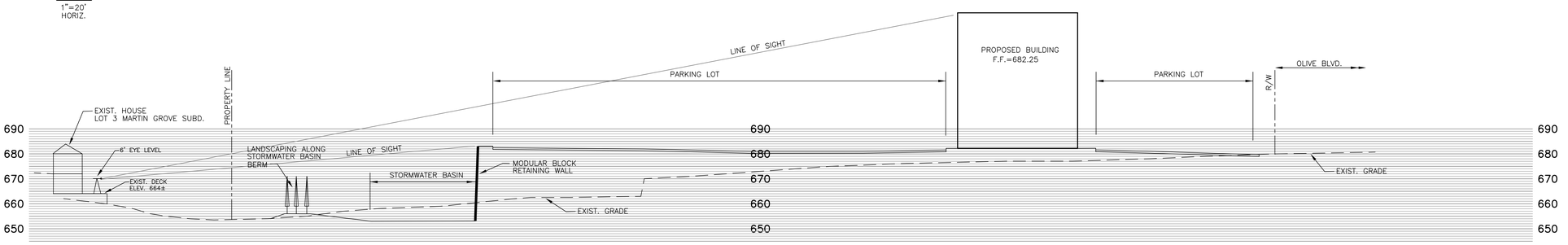


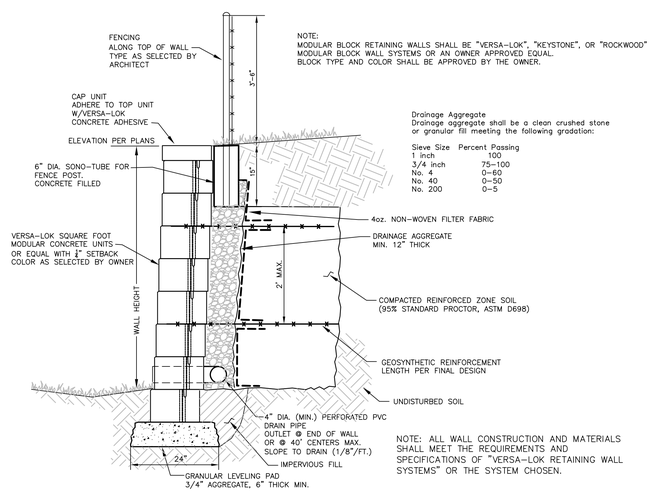
SECTION A–A



SECTION B–B



LOT 3 MARTIN GROVE SUBD.
SIGHT LINE PERSPECTIVE



NOTE:
MODULAR BLOCK RETAINING WALLS SHALL BE "VERSA-LOK", "KEYSTONE", OR "ROCKWOOD" MODULAR BLOCK WALL SYSTEMS OR AN OWNER APPROVED EQUAL. BLOCK TYPE AND COLOR SHALL BE APPROVED BY THE OWNER.

Drainage Aggregate
Drainage aggregate shall be a clean crushed stone or granular fill meeting the following gradation:

Sieve Size	Percent Passing
1 inch	100
3/4 inch	75–100
No. 4	0–60
No. 40	0–50
No. 200	0–5

NOTE: ALL WALL CONSTRUCTION AND MATERIALS SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS OF "VERSA-LOK RETAINING WALL SYSTEMS" OR THE SYSTEM CHOSEN.

RETAINING WALL TYPICAL SECTION

STATE OF MISSOURI
LEONARD J. MEERS
NUMBER E-28288
PROFESSIONAL ENGINEER
11/7/25
LEONARD J. MEERS
PROFESSIONAL ENGINEER
E-28288

Civil / Survey
GRIMES CONSULTING, INC.
GRIMES CONSULTING, INC.
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PE COA# E-1470-D
PLS COA# LS-343-D

REV. NO.	REMARKS	DATE

SITE CONCEPT PLAN
GRAESER STATION
PLANNED MIXED-USE DEVELOPMENT
11004 OLIVE BLVD, CREVE COEUR, MO 63141

SHEET TITLE
SITE CONCEPT PLAN
CROSS SECTIONS

JOB NUMBER:	4311
DRAWN BY:	R.S.
DATE:	11/7/25
CHECKED BY:	L.M.
DATE:	11/7/25
SHEET:	SC4

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SITE DEVELOPMENT PLAN
GRAESER STATION
11004 OLIVE BLVD.
PLANNED MIXED-USE DEVELOPMENT

A TRACT OF LAND IN THE NORTH HALF OF SECTION 2, TOWNSHIP 45 NORTH, RANGE 5 EAST
OF 5TH PRINCIPLE MERIDIAN, AND IN U.S. SURVEY 1962 IN THE COUNTY OF ST. LOUIS, MISSOURI

LEGEND

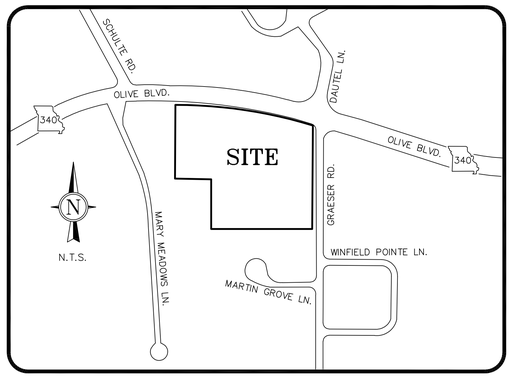
- EXISTING CONTOURS — 710
- PROPOSED CONTOURS — 710
- EXISTING SANITARY SEWERS
- PROPOSED SANITARY SEWERS
- EXISTING STORM SEWERS
- PROPOSED STORM SEWERS
- PROPOSED WATER/FIRE LINE — W
- EXISTING PROCESS SEWERS — P
- WATER METER — W
- EXISTING UTILITY POLE
- EXISTING SPOT ELEV. — +708.50
- PROPOSED SPOT ELEV. — +709.50
- EXISTING LIGHT STANDARD
- PROPOSED LIGHT STANDARD
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- POST INDICATOR VALVE
- EXISTING UTILITY LINE — G — W — E
- EXISTING SIGN
- PROPOSED SIGN
- PROPOSED CONC. PAVT.
- PROPOSED GRAVEL PAVT.
- SWALE
- EXISTING TREE
- EXISTING TREELINE
- DETAIL CALLOUT — 12 / C8 — DETAIL NUMBER / DRAWING NUMBER
- STORM SEWER DESIGNATION — 6
- SANITARY SEWER DESIGNATION — A
- GUY WIRE
- WATER VALVE
- GAS VALVE
- GRATE MANHOLE
- CLEAN OUT — C.O.
- BOLLARD
- PULL BOX
- SANITARY MANHOLE — S
- CURBE INLET
- GRATE INLET
- ELECTRIC METER — E
- FENCE — X — X
- EXISTING STRUCTURE
- EXISTING STRUCTURE TO BE REMOVED
- TRASH ENCLOSURE
- EXISTING WALL — W
- PROPOSED WALL
- SILT FENCE
- CONSTRUCTION FENCE
- GUARD RAIL
- GRAVEL BAG SILTATION CONTROL
- CHAIN LINK FENCE — X — X — X
- DECORATIVE ALUMINUM
- BUILDING ADDRESS — 16021

ABBREVIATIONS

A.C.	AIR CONDITIONER	L.S.	LIGHT STANDARD
A.I.	AREA INLET	M.H.	MANHOLE
ASPH.	ASPHALT	N/F	NOW OR FORMERLY
A.T.G.	ADJUST TO GRADE	O.H.E.	OVERHEAD ELECTRIC
BLDG.	BUILDING	P.B.	PLAT BOOK
C.P.P.	CORRUGATED POLYETHYLENE PIPE	PG.	PAGE
C.I.	CURB INLET	P.V.C.	POLYVINYL CHLORIDE PIPE
C.O.	CLEANOUT	PAVT.	PAVEMENT
CONC.	CONCRETE	REQ'D.	REQUIRED
D.B.	DEED BOOK	R.C.P.	REINFORCED CONCRETE PIPE
D.G.I.	DOUBLE GRATE INLET	R.O.W.	RIGHT OF WAY
DIA.	DIAMETER	S.S.	STREET SIGN
D.I.P.	DUCTILE IRON PIPE	SAN.	SANITARY SEWER
D.S.	DOWNSPOUT	T.B.A.	TO BE ABANDONED
ELEV.	ELEVATION	T.B.R.	TO BE REMOVED
E.O.P.	EDGE OF PAVEMENT	T.B.R.& R.	TO BE REMOVED & REPLACED
ESMT.	EASEMENT	T.B.R.& RELOC.	TO BE REMOVED & RELOCATED
EXIST.	EXISTING	U.G.E.	UNDERGROUND ELECTRIC
F.E.S.	FLARED END SECTION	U.G.T.	UNDERGROUND TELEPHONE
F.D.	FLOOR DRAIN	U.I.P.	TO BE USED IN PLACE
F.F.	FINISH FLOOR	V.C.P.	VITRIFIED CLAY PIPE
F.H.	FIRE HYDRANT	W.	WIDE
FND.	FOUND	( )	INDICATED RECORD INFORMATION
F.O.L.	FIBER OPTIC LINE		
G.P.	GUARD POST		
G.I.	GRATE INLET		

BOUNDARY LEGEND

- FOUND 1/2" IRON PIPE UNLESS OTHERWISE NOTED
- FOUND 1/2" IRON ROD UNLESS OTHERWISE NOTED
- FOUND CUT CROSS
- FOUND COTTON PICKER SPINDLE
- FOUND RAILROAD SPIKE
- FOUND CONCRETE MONUMENT
- FOUND STONE
- FOUND R.O.W. MARKER
- FOUND AXLE
- SET 1/2" IRON ROD UNLESS OTHERWISE NOTED



LOCATION MAP

PERTINENT DATA

PROPERTY ADDRESS:	LOCATOR NUMBER	OWNER
11056 OLIVE BLVD. CREVE COEUR, MO 63141	17N540046	FORSYTH INVESTMENT LLC
11032 OLIVE BLVD. CREVE COEUR, MO 63141	17N540057	FORSYTH INVESTMENT LLC
11004 OLIVE BLVD. CREVE COEUR, MO 63141	17N540732	BG OLIVE & GRAESER LLC
825 GRAESER RD. CREVE COEUR, MO 63141	17N520554	BG OLIVE & GRAESER LLC
827 GRAESER RD. CREVE COEUR, MO 63141	17N520543	BG OLIVE & GRAESER LLC

EXISTING ZONING:	GC – GENERAL COMMERCIAL DISTRICT
PROPOSED ZONING:	PMD – PLANNED MIXED-USE DEVELOPMENT
SITE AREA:	4.42 AC (192,686 SQ. FT.)
EXISTING USE:	COMMERCIAL RETAIL & VACANT PROPERTY
PROPOSED USE:	MULTI FAMILY AND RETAIL
WATER SHED:	RIVER DES PERES 1
WATER DISTRICT:	MISSOURI AMERICAN WATER COMPANY
FIRE DISTRICT:	CREVE COEUR FIRE PROTECTION DISTRICT
SCHOOL DISTRICT:	LADUE & PARKWAY SCHOOL DISTRICTS
SEWER DISTRICT:	MSD
FLOOD INSURANCE RATE MAP (FIRM):	29189C0191K DATE: 2/4/15

UTILITY/AGENCY CONTACTS

WATER
MISSOURI AMERICAN WATER
727 CRAIG ROAD
CREVE COEUR, MO 63141
(866) 430–0820

GAS
SPIRE
720 OLIVE ST.
ST. LOUIS MO 63101
(314) 342–0709

ELECTRIC
AMEREN U.E.
P.O. BOX 66149, MC 700
ST. LOUIS, MO 63166–6149
(314) 554–2821

SEWER DISTRICT
METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST.
ST. LOUIS, MO 63103
CONTACT: PLAN REVIEW
(314) 768–6200

FIRE PROTECTION
CREVE COEUR FIRE DISTRICT
11221 OLIVE BLVD.
CRETE COEUR, MO 63141
(314) 432–5570

STREET DEPARTMENT
CREVE COEUR PUBLIC WORKS
300 N. NEW BALLAS ROAD
CREVE COEUR, MO 63141
(314) 872–2538

MISSOURI DEPARTMENT OF TRANSPORTATION
1590 WOODLAKE DRIVE
CHESTERFIELD, MO 63017
(888) 275–6636

BENCHMARK:

STL. CO. #13–292: 690.23 FTUS NAVD88
– CUT "SQ" ON TOP OF THE NORTH SIDE OF THE ROUND CONCRETE BASE FOR A TRAFFIC SIGNAL MAST LOCATED ON THE SOUTHEAST CORNER OF OLIVE BOULEVARD AND GRAESER ROAD; ROUGHLY 55 FEET EAST OF THE CENTERLINE OF GRAESER ROAD AND 50 FEET SOUTH OF THE CENTERLINE OF OLIVE BOULEVARD.

SITE BENCHMARK:

684.90 FtUS NAVD88 –P.K. NAIL ON TOP OF THE SOUTH SIDE OF THE ROUND CONCRETE BASE FOR A TRAFFIC SIGNAL MAST LOCATED ON THE SOUTHWEST CORNER OF OLIVE BOULEVARD AND GRAESER ROAD; ROUGHLY 56± FEET WEST OF THE CENTERLINE OF GRAESER ROAD AND 50± FEET SOUTH OF THE CENTERLINE OF OLIVE BOULEVARD.

INDEX

SD1	EXISTING SITE PLAN
SD2	PROPOSED BOUNDARY PLAN
SD3	SITE DEVELOPMENT PLAN
SD4	SITE CROSS SECTIONS
SD5	SITE STORMWATER PLAN

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Jefferson City, MO 65101
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Fax: 573–635–8402

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A recording will give you another 800 number you can use to report the problem.

1–800–DIG–RITE

PREPARED FOR:
CREVE COEUR HOUSING LLC
CONTACT: Gary Hassenflu
2001 Shawnee Mission Parkway Ste. 250
Mission Woods, KS 66205
EMAIL: ghassenflu@garrisoncompanies.com

M.S.D. BASE MAP 17N
PARCEL NO. 17N540046
PARCEL NO. 17N540057
PARCEL NO. 17N540732
PARCEL NO. 17N540741
PARCEL NO. 17N520543
PARCEL NO. 17N520554

STATE OF MISSOURI — LEONARD J. MEERS — NUMBER E-28288 — REGISTERED PROFESSIONAL ENGINEER
11/7/25
LEONARD J. MEERS
PROFESSIONAL ENGINEER
E–28288

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PE COA# E-1470-D
PLS COA# LS-343-D

REV. NO.	REMARKS	DATE

SITE DEVELOPMENT PLAN
GRAESER STATION
PLANNED MIXED-USE DEVELOPMENT
11004 OLIVE BLVD, CREVE COEUR, MO 63141

SHEET TITLE: TITLE SHEET

JOB NUMBER: 4311
DRAWN BY: R.S.
DATE: 11/7/25
CHECKED BY: L.M.
DATE: 11/7/25
SHEET: SD0

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OLIVE (90'w.) BLVD.
PUBLIC RIGHT-OF-WAY

L=147.67', R=2820.12'
D=003°00'00"
Ch=S85°20'48"E, 147.65'

L=161.75', R=2830.35'
D=003°16'28"
Ch=S83°11'44"E, 161.73'

S75°14'25"E 214.66'

N00°07'32"E 281.53'

N/F
ZIERN GALLERIES INC
10333 CLAYTON RD.
D.B. 13192 Pg 1720
Parcel #:20M440428

ZONING
GC-GENERAL COMMERCIAL

12' STATE EASEMENT
D.B. 5405 Pg. 429

(20) (13)
District Development
Agreement
D.B. 18720, Pg. 4274
"Stern Property"

BLDG. COLUMN
(TYP.)

250.1'

CANOPY

EXIST. BUILDING TO BE DEMOLISHED
1 STORY BRICK BUILDING
BUILDING HEIGHT: 17.5'±
15,031 SQUARE FEET

60.0'

60.1'

N/F
FORSYTH INVESTMENTS LLC
11032 OLIVE BLVD.
D.B. 17821 Pg. 2221
Parcel #:17N540057
Parcel #:17N540046
(TITLE #532)

S01°16'41"W 246.62'

N/F
BG OLIVE & GRAESER LLC
11004 OLIVE BLVD.
D.B. 23202 Pg 119
Parcel #: 17N540732
Parcel #: 17N540741
(TITLE #531, PARCEL 1)

10' GAS EASEMENT
D.B. 6280 Pg. 1810

10' GAS EASEMENT
D.B. 5234 Pg. 148

SITE BENCHMARK: 684.90
P.K. NAIL ON TOP OF
CONC. PILLAR OF STREET SIGN

N00°32'19"W 196.30'

N. GRAESER (40') ROAD
PUBLIC RIGHT-OF-WAY

N/F
MONSANTO CREDIT UNION
10950 OLIVE BLVD.
D.B. 07126 Pg 0233
Parcel #:17N 631115

ZONING
GC-GENERAL COMMERCIAL

10' SEWER EASEMENT
D.B. 5114 Pg. 186

5' GAS EASEMENT
D.B. 6307 Pg. 384

10' SEWER EASEMENT
D.B. 6205 Pg. 580

15' SEWER EASEMENT
D.B. 5114 Pg. 188

N88°49'10"W 193.59'
(N89° 12'E, 145.00')

(N89° 12'W 388.82')

10' ROADWAY EASEMENT
D.B. 2676 Pg. 614

S85°54'28"W 109.56'

N85°45'16"E 87.02'

N00°15'34"E 160.70'

N00°32'19"W 159.17'

(N0° 46'W 160.01')

N89°02'25"W 410.79'

EXISTING BUILDING

MARY MEADOWS
PLAT BOOK 72, PAGE 25

LOT 1

ZONING
C-SINGLE FAMILY

N/F
MJHM LC THE
848 MARY MEADOWS LN
D.B. 20299 Pg 3247
Parcel #:17N520576

N/F
BG OLIVE & GRAESER LLC
827 GRAESER RD
D.B. 23466 Pg 2128
Parcel #:17N520543
(TITLE #531, PARCEL 3)
(TITLE #531, PARCEL 2 EXCEPTION)

N/F
BG OLIVE & GRAESER LLC
825 GRAESER RD
D.B. 23446 Pg 2128
Parcel #:17N520554
(TITLE #531, PARCEL 2)

N/F
RICHARDS CHERYL A TR
842 MARY MEADOWS LN
D.B. 18342 Pg 3515
Parcel #:17N520532

LOT 2

N/F
MCGUIRE JOHN P & GLORIAN D H/W
836 MARY MEADOWS LN
D.B. 7199 Pg 1525
Parcel #:17N520510

LOT 3

DETENTION AREA

N/F
HENNESSEY DEVELOPMENT INC
11013 MARTIN GROVE LN
D.B. 08700 Pg 1869
Parcel #:17N520932

N/F
SHI BO & XU WEIJIE T/E
11011 MARTIN GROVE LN
D.B. 08700 Pg 1869
Parcel #:17N520884

LOT 3

MARTIN GROVE
PLAT BOOK 299, PAGE 20

EXISTING BUILDING

N/F
SILVERMAN ROSS L & HEATHER P H/W
11007 MARTIN GROVE LN
D.B. 21936 Pg 2926
Parcel #:17N520873

LOT 2

EXISTING BUILDING

N/F
LI BO & FANG MING T/E
11003 MARTIN GROVE LN
D.B. 23888 Pg 1629
Parcel #:17N520862

LOT 1

ZONING
C-SINGLE FAMILY

BASIS OF BEARING
MISSOURI STATE PLANE GRID
NORTH FROM STATIC GPS TIES
TO GEOGRAPHIC REFERENCE
SYSTEM MONUMENTS

(IN FEET)
1 inch = 20 ft.

M.S.D. BASE MAP 17N
PARCEL NO. 17N540046
PARCEL NO. 17N540057
PARCEL NO. 17N540732
PARCEL NO. 17N540741
PARCEL NO. 17N520543
PARCEL NO. 17N520554

PREPARED FOR:
CREVE COEUR HOUSING LLC
CONTACT: Gary Hassenflu
2001 Shawnee Mission Parkway Ste. 250
Mission Woods, KS 66205
EMAIL: ghassenflu@garrisoncompanies.com

STATE OF MISSOURI
LEONARD J. MEERS
NUMBER E-28288
PROFESSIONAL ENGINEER

11/7/25
LEONARD J. MEERS
PROFESSIONAL ENGINEER
E-28288

Civil / Survey
GRIMES CONSULTING, INC.

GRIMES CONSULTING, INC.
12300 OLD TESSON RD.
SUITE 300D
ST. LOUIS, MO 63128
PH. (314) 849-6100
FAX (314) 849-6010
www.grimesconsulting.com
PE COA# E-1470-D
PLS COA# LS-343-D

REV. NO.	REMARKS	DATE

SITE DEVELOPMENT PLAN
GRAESER STATION
PLANNED MIXED-USE DEVELOPMENT
11004 OLIVE BLVD, CREVE COEUR, MO 63141

SHEET TITLE
EXISTING SITE PLAN

JOB NUMBER:	4311
DRAWN BY:	R.S.
DATE:	7/14/25
CHECKED BY:	L.M.
DATE:	7/14/25
SHEET:	SD1

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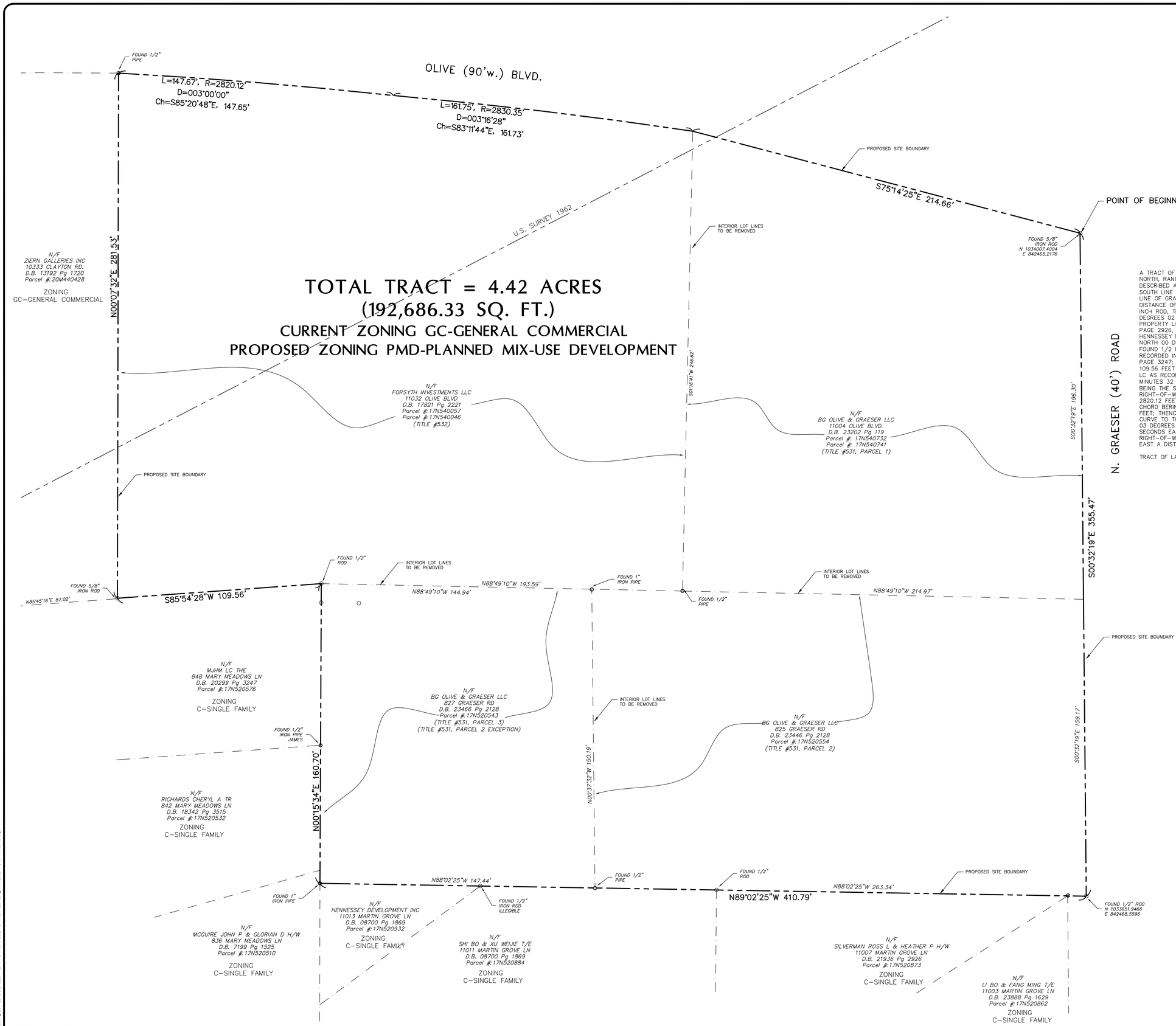

PROPERTY BOUNDARY DESCRIPTION

A TRACT OF LAND PARTLY IN U.S. SURVEY 1962 AND PARTLY IN SECTION 2, TOWNSHIP 45 NORTH, RANGE 5 EAST, OF THE FIFTH PRINCIPLE MERIDIAN, ST. LOUIS COUNTY, MISSOURI, DESCRIBED AS: BEGINNING AT A FOUND 5/8 INCH ROD BEING THE INTERSECTION OF THE SOUTH LINE RIGHT-OF-WAY LINE OF OLIVE STREET ROAD AND THE WEST RIGHT-OF-WAY LINE OF GRAESER ROAD; THENCE SOUTH 00 DEGREES 32 MINUTES 19 SECONDS EAST A DISTANCE OF 355.47 FEET ALONG THE WEST LINE OF GRAESER ROAD TO A FOUND 1/2 INCH ROD, THENCE LEAVING THE WEST RIGHT-OF-WAY LINE OF GRAESER ROAD NORTH 89 DEGREES 02 MINUTES 25 SECONDS WEST A DISTANCE OF 410.79 FEET BEING THE NORTH PROPERTY LINE OF ROSS & HEATHER SILVERMAN AS RECORDED IN DEED BOOK 21936, PAGE 2926, BO SHI & ZU WEIJIE AS RECORDED IN DEED BOOK 08700, PAGE 1869, AND HENNESSEY DEVELOPMENT INC. AS RECORDED IN DEED BOOK 08700, PAGE 1869; THENCE NORTH 00 DEGREES 15 MINUTES 34 SECONDS EAST A DISTANCE OF 160.70 FEET TO A FOUND 1/2 INCH ROD BEING THE WEST PROPERTY LINE OF CHERYL RICHARDS AS RECORDED IN DEED BOOK 18342 AND THE MJHM LC AS RECORDED IN DEED BOOK 20299, PAGE 3247; THENCE SOUTH 85 DEGREES 54 MINUTES 28 SECONDS WEST A DISTANCE OF 109.56 FEET TO A FOUND 5/8 INCH ROD BEING THE NORTH PROPERTY LINE OF THE MJHM LC AS RECORDED IN DEED BOOK 20299, PAGE 3247; THENCE NORTH 00 DEGREES 07 MINUTES 32 SECONDS EAST A DISTANCE OF 281.53 FEET TO A FOUND 1/2 INCH PIPE BEING THE SOUTH RIGHT-OF-WAY LINE OF OLIVE BOULEVARD; THENCE ALONG THE SOUTH RIGHT-OF-WAY LINE OF OLIVE BOULEVARD A CURVE TO THE RIGHT WITH A RADIUS OF 2820.12 FEET A DISTANCE OF 147.67 FEET DELTA 03 DEGREES 00 MINUTES 00 SECONDS, CHORD BERING SOUTH 85 DEGREES 20 MINUTES 48 SECONDS EAST A DISTANCE OF 147.65 FEET; THENCE CONTINUING ALONG THE SOUTH RIGHT-OF-WAY LINE OF OLIVE BOULEVARD A CURVE TO THE RIGHT WITH A RADIUS OF 2830.35 FEET A DISTANCE OF 161.75 FEET DELTA 03 DEGREES 16 MINUTES 28 SECONDS, CHORD BERING SOUTH 83 DEGREES 11 MINUTES 44 SECONDS EAST A DISTANCE OF 161.73 FEET; THENCE CONTINUING ALONG THE SOUTH RIGHT-OF-WAY LINE OF OLIVE BOULEVARD SOUTH 75 DEGREES 14 MINUTES 25 SECONDS EAST A DISTANCE OF 214.66 FEET TO THE POINT OF BEGINNING.

TRACT OF LAND CONTAINING 192,686.33 SQUARE FEET (4.42 ACRES)

(IN FEET)
1 inch = 20 ft.

BASIS OF BEARING

MISSOURI STATE PLANE GRID
NORTH FROM STATIC GPS TIES
TO GEOGRAPHIC REFERENCE
SYSTEM MONUMENTS

PREPARED FOR:
CREVE COEUR HOUSING LLC
CONTACT: Gary Hassenflu
2001 Shawnee Mission Parkway Ste. 250
Mission Woods, KS 66205
EMAIL: ghassenflu@garrisoncompanies.com

M.S.D. BASE MAP 17N
PARCEL NO. 17N540046
PARCEL NO. 17N540057
PARCEL NO. 17N540732
PARCEL NO. 17N540741
PARCEL NO. 17N520543
PARCEL NO. 17N520554

STATE OF MISSOURI — LEONARD J. MEERS — NUMBER E-28288 — REGISTERED PROFESSIONAL ENGINEER
11/7/25
LEONARD J. MEERS
PROFESSIONAL ENGINEER
E-28288

GRIMES CONSULTING, INC.
12300 OLD TESSON RD.
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www.grimesconsulting.com
PE COA# E-1470-D
PLS COA# LS-343-D

REV. NO.	REMARKS	DATE

SITE DEVELOPMENT PLAN
GRAESER STATION
PLANNED MIXED-USE DEVELOPMENT
11004 OLIVE BLVD, CREVE COEUR, MO 63141

SHEET TITLE: PROPOSED BOUNDARY

JOB NUMBER:	4311
DRAWN BY:	R.S.
DATE:	7/14/25
CHECKED BY:	L.M.
DATE:	7/14/25
SHEET:	SD2

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BASIS OF BEARING

MISSOURI STATE PLANE GRID NORTH FROM STATIC GPS TIES TO GEOGRAPHIC REFERENCE SYSTEM MONUMENTS

(IN FEET)
1 inch = 20 ft.

OLIVE (90'w.) BLVD.
PUBLIC RIGHT-OF-WAY

TRAFFIC MOVEMENT (TYP.)

8" WATER LINE TO EXIST. 20" WATER MAIN
LINE TO BE BORED UNDER OLIVE BLVD.

EXISTING 27' WIDE ENTRANCE TO BE USED IN PLACE

EXISTING 52' WIDE ENTRANCE TO BE USED IN PLACE

EXISTING ENTRANCE TO BE REMOVED

6" CONC. VERT. CURB TYP.

LIGHT STANDARD TYP.

PROPERTY LINE

ASPHALT PAVT.

24' WIDE CROSS ACCESS ESMT.

9'x19' PARKING SPACE TYP.

STORM SEWER TYP.

SANITARY SEWER TYP.

EXISTING BUILDING
F.F. 675.68

N/F
ZIERN GALLERIES INC
10333 CLAYTON RD.
D.B. 13192 Pg 1720
Parcel #:20M440428

ZONING
GC–GENERAL COMMERCIAL

4 STORY MULTIFAMILY & RETAIL BUILDING
FIRST FLOOR
33,040 GROSS SQ. FT.

RETAIL F.F.=682.25
RESTAURANT F.F.=682.25
OUTDOOR SEATING
BUILDING OVERHANG TYP.
7' WIDE SIDEWALK
6' WIDE SIDEWALK
5' WIDE SIDEWALK
MEP
FIRE RISER ROOM
GYM F.F.=686.75
LEASING OFFICE
LOBBY F.F.=686.75
COFFEE BAR
PLAZA
PLANTER
PUBLIC ART AREA
GAME AREA F.F.=686.75
OUTDOOR DINING
CIRCULATION
RECEPTION
VESTIBULE
BUSINESS CENTER
RR
LOUNGE
ELEC
STAIRS

N. GRAESER (40') ROAD
PUBLIC RIGHT-OF-WAY

N/F
MONSANTO CREDIT UNION
10950 OLIVE BLVD.
D.B. 07126 Pg 0233
Parcel #:17N 631115

ZONING
GC–GENERAL COMMERCIAL

NEW 6' WIDE SIDEWALK

STUDIO BED
1 BED

MONUMENT SIGN
STORM MH
TOP=685.24
WEST FL=680.25
EAST FL=681.37

STORM MH
TOP=686.03
WEST FL=682.08
SOUTH FL=682.44
SOUTHEAST FL=682.44
EAST FL=682.14

GRATE INLET
TOP=687.03
FL=682.48

CURB INLET
TOP=685.80
FL=682.85

GUY CABLE

FENCED DOG PARK

35' BUFFER YARD

CONNECT SAN. SEWER TO EXIST. MANHOLE

SAN. MH
TOP=652.94
EAST FL=644.38
SOUTH FL=644.04

N85°45'16"E 87.02'

EXISTING BUILDING

MARY MEADOWS
PLAT BOOK 72, PAGE 25

N/F
MJHM LC THE
848 MARY MEADOWS LN
D.B. 20299 Pg 3247
Parcel #:17N520576

LOT 1
ZONING
C–SINGLE FAMILY

N/F
RICHARDS CHERYL A TR
842 MARY MEADOWS LN
D.B. 18342 Pg 3515
Parcel #:17N520532

LOT 2
ZONING
C–SINGLE FAMILY

CONNECT STORM SEWER TO EXIST. INLET

AREA INLET
TOP=647.09
NORTH FL=642.56
EAST FL=644.61
SOUTH FL=642.79
WEST FL=642.34

AREA INLET
TOP=646.05
EAST FL=641.66
WEST FL=641.33

N/F
MCGUIRE JOHN P & GLORIAN D H/W
836 MARY MEADOWS LN
D.B. 7199 Pg 1525
Parcel #:17N520510

LOT 3
ZONING
C–SINGLE FAMILY

DETENTION AREA

AREA INLET
TOP=650.02
FL=644.75

N/F
HENNESSEY DEVELOPMENT INC
11013 MARTIN GROVE LN
D.B. 08700 Pg 1869
Parcel #:17N520932

ZONING
C–SINGLE FAMILY

N/F
SHI BO & XU WEIJIE T/E
11011 MARTIN GROVE LN
D.B. 08700 Pg 1868
Parcel #:17N520884

LOT 3
ZONING
C–SINGLE FAMILY

MARTIN GROVE
PLAT BOOK 299, PAGE 20

EXISTING BUILDING

LANDSCAPE ISLAND TYP.

MODULAR BLOCK RETAINING WALL

STORMWATER TREATMENT & DETENTION AREA

TOP OF BERM 656±

AREA INLET
TOP=683.52
WEST FL=679.92
EAST FL=680.40

CURB INLET
TOP=685.71
FL=682.54

N/F
SILVERMAN ROSS L & HEATHER P H/W
11007 MARTIN GROVE LN
D.B. 21936 Pg 2926
Parcel #:17N520873

LOT 2
EXISTING BUILDING
ZONING
C–SINGLE FAMILY

N/F
LI BO & FANG MING T/E
11003 MARTIN GROVE LN
D.B. 23888 Pg 1629
Parcel #:17N520862

LOT 1

ZONING
C–SINGLE FAMILY

EXISTING BUILDING

POOL
POOL HOUSE F.F.=685.80
916 SQ. FT.
MEP
SHO
TRASH F.F.=686.75
MEP F.F.=686.75
ELEC
LOADING ZONE
STUDIO BED F.F.=686.75

EXISTING ENTRANCE TO BE REMOVED AND ENLARGED TO 26' WIDE ENTRANCE

TRASH ENCLOSURE

MODULAR BLOCK RETAINING WALL

SITE ZONING

EXISTING ZONING: GC – GENERAL COMMERCIAL DISTRICT
PROPOSED ZONING: PMD – PLANNED MIXED–USE DEVELOPMENT

SITE COVERAGE

BUILDINGS = 33,306 S.F. (POOL HOUSE & MULTI–FAMILY BLDG.)
PARKING LOT = 89,793 S.F.
TOTAL SITE COVERAGE = 123,099 S.F. (2.82 ACRES)

PROJECT SITE COVERAGE = 2.82 AC./4.42 AC. x 100 =63.80%
(EXCLUDING LANDSCAPED AND GREEN SPACES, PLAZA, PEDESTRIAN CIRCULATION AREAS, POOL DECKS AND PATIOS, AND UNPAVED BUFFER AREAS)

RESIDENTIAL DENSITY

PROPOSED RESIDENTIAL UNITS = 157
DWELLING UNITS PER ACRE = 157/4.42 AC.=35.52 UNITS PER ACRE

FLOOR AREA RATIO

BUILDING = 163,500 S.F. (MULTI–FAMILY BLDG. 4 FLOORS)
FAR COVERAGE = 163,500 S.F.(3.75 AC.)/4.42 AC. x 100 =84.84%

PARKING

9'x19' PARKING SPACES = 239 SPACES
ACCESSIBLE SPACES = 7 SPACES
ELECTRIC CHARGING SPACES = 4
TOTAL SPACES = 250
(REFER TO PARKING REPORT BY OTHERS)

ELECTRIC CHARGING SPACES REQUIRED = 5% OF TOTAL PARKING
250 X 5% = 12 SPACES
4 SPACES PROVIDED WITH 8 ADDITIONAL SPACES READY TO BE CONVERTED

BUILDING HEIGHT

PROPOSED BUILDING HEIGHT 4 STORIES
FIRST FLOOR TO PARAPET = 54'–5"

PREPARED FOR:
CREVE COEUR HOUSING LLC
CONTACT: Gary Hassenflu
2001 Shawnee Mission Parkway Ste. 250
Mission Woods, KS 66205
EMAIL: ghassenflu@garrisoncompanies.com

M.S.D. BASE MAP 17N
PARCEL NO. 17N540046
PARCEL NO. 17N540057
PARCEL NO. 17N540732
PARCEL NO. 17N540741
PARCEL NO. 17N520543
PARCEL NO. 17N520554

STATE OF MISSOURI
LEONARD J. MEERS
NUMBER E-28288
PROFESSIONAL ENGINEER
11/7/25
LEONARD J. MEERS
PROFESSIONAL ENGINEER
E-28288

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REV. NO.	REMARKS	DATE

SITE DEVELOPMENT PLAN
GRAESER STATION
PLANNED MIXED-USE DEVELOPMENT
11004 OLIVE BLVD, CREVE COEUR, MO 63141

SHEET TITLE: SITE DEVELOPMENT

JOB NUMBER: 4311
DRAWN BY: R.S.
DATE: 11/7/25
CHECKED BY: L.M.
DATE: 11/7/25
SHEET: SD3

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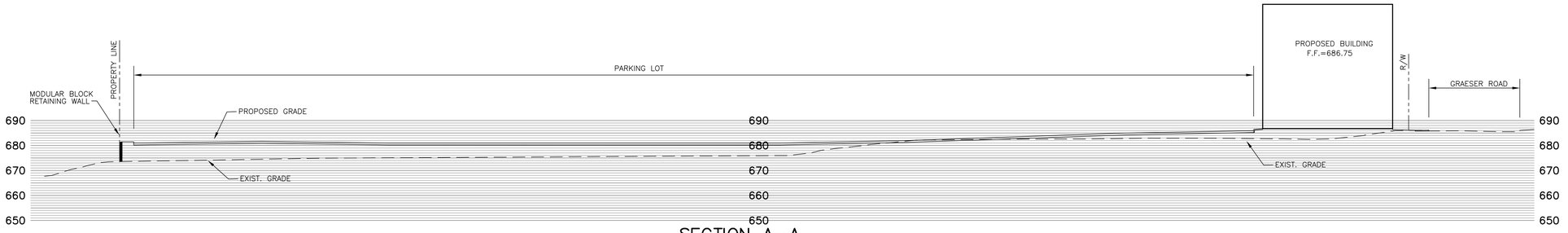
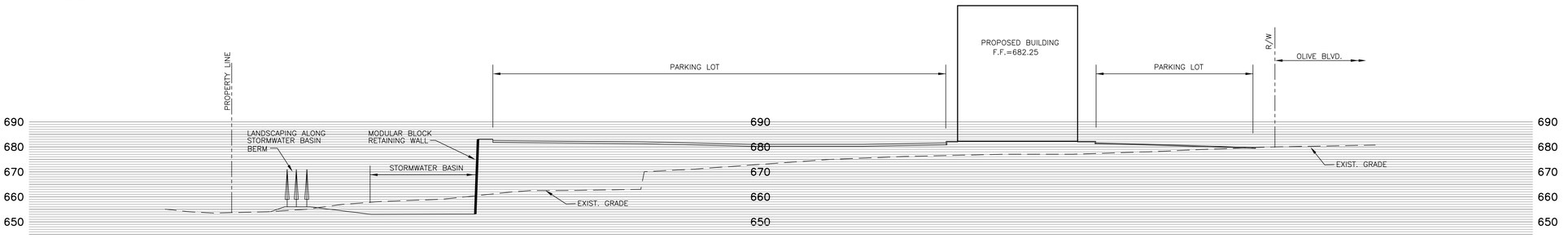


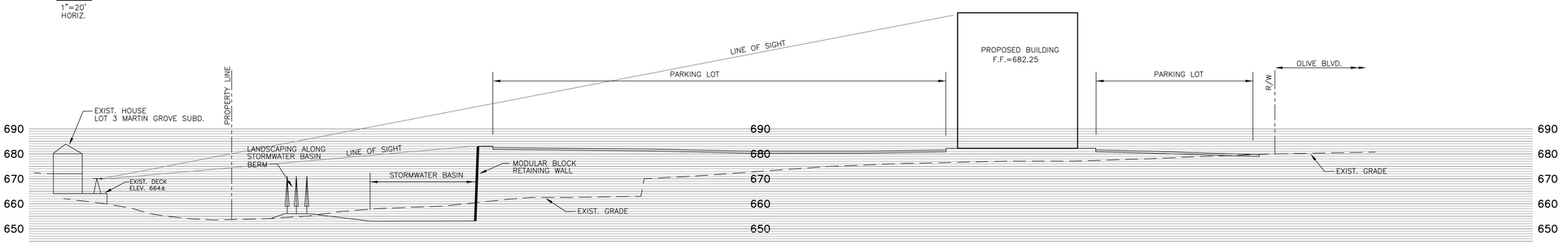
SECTION A–A

1"=20' VERT.
1"=20' HORIZ.

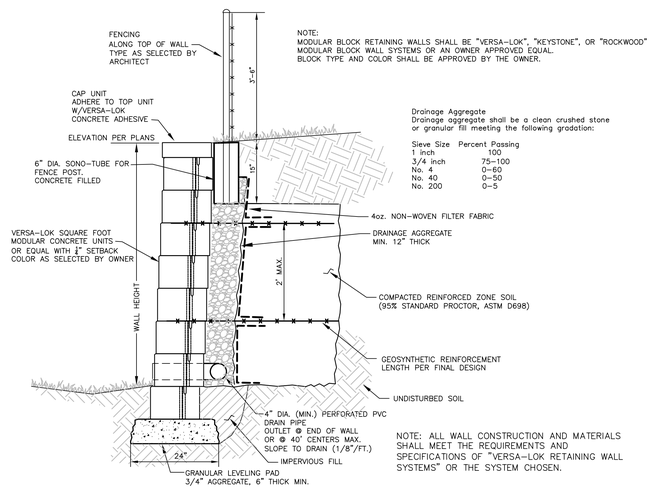


SECTION B–B

1"=20' VERT.
1"=20' HORIZ.



LOT 3 MARTIN GROVE SUBD.
SIGHT LINE PERSPECTIVE



NOTE:
MODULAR BLOCK RETAINING WALLS SHALL BE "VERSA-LOK", "KEYSTONE", OR "ROCKWOOD" MODULAR BLOCK WALL SYSTEMS OR AN OWNER APPROVED EQUAL. BLOCK TYPE AND COLOR SHALL BE APPROVED BY THE OWNER.

Drainage Aggregate
Drainage aggregate shall be a clean crushed stone or granular fill meeting the following gradation:

Sieve Size	Percent Passing
1 inch	100
3/4 inch	75–100
No. 4	0–60
No. 40	0–50
No. 200	0–5

NOTE: ALL WALL CONSTRUCTION AND MATERIALS SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS OF "VERSA-LOK RETAINING WALL SYSTEMS" OR THE SYSTEM CHOSEN.

RETAINING WALL TYPICAL SECTION

STATE OF MISSOURI
LEONARD J. MEERS
NUMBER E-28288
PROFESSIONAL ENGINEER
11/7/25
LEONARD J. MEERS
PROFESSIONAL ENGINEER
E-28288

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PE COA# E-1470-D
PLS COA# LS-343-D

REV. NO.	REMARKS	DATE

SITE CONCEPT PLAN
GRAESER STATION
PLANNED MIXED-USE DEVELOPMENT
11004 OLIVE BLVD, CREVE COEUR, MO 63141

SHEET TITLE
SITE CROSS SECTIONS

JOB NUMBER:	4311
DRAWN BY:	R.S.
DATE:	11/7/25
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DATE:	11/7/25
SHEET:	SD4

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BASIS OF BEARING

MISSOURI STATE PLANE GRID NORTH FROM STATIC GPS TIES TO GEOGRAPHIC REFERENCE SYSTEM MONUMENTS

(IN FEET)
1 inch = 20 ft.

8" WATER LINE TO EXIST. 20" WATER MAIN LINE TO BE BORED UNDER OLIVE BLVD.

OLIVE (90'w.) BLVD. PUBLIC RIGHT-OF-WAY

TRAFFIC MOVEMENT (TYP.)

DRAINAGE LIMIT

PROPERTY LINE

6" CONC. VERT. CURB TYP.

EXISTING 52' WIDE ENTRANCE TO BE USED IN PLACE

EXISTING 27' WIDE ENTRANCE TO BE USED IN PLACE

EXISTING ENTRANCE TO BE REMOVED

EXISTING BUILDING
F.F. 675.68

N/F
ZIERN GALLERIES INC
10333 CLAYTON RD.
D.B. 13192 Pg 1720
Parcel #:20M440428

ZONING
GC–GENERAL COMMERCIAL

4 STORY MULTIFAMILY & RETAIL BUILDING
FIRST FLOOR
33,040 GROSS SQ. FT.

RETAIL F.F.=682.25
RESTAURANT F.F.=682.25
OUTDOOR SEATING
BUILDING OVERHANG TYP.
MEP
FIRE RISER ROOM
GYM F.F.=686.75
LEASING OFFICE
LOBBY F.F.=686.75
COFFEE BAR
PLAZA
GAME AREA F.F.=686.75
OUTDOOR DINING
BUSINESS CENTER
CIRCULATION
RECEPTION
RR
VESTIBULE
LOUNGE
STAIRS
ELEC

PLANTER
MONUMENT SIGN

STUDIO BED
1 BED

N. GRAESER (40') ROAD
PUBLIC RIGHT-OF-WAY

N/F
MONSANTO CREDIT UNION
10950 OLIVE BLVD.
D.B. 07126 Pg 0233
Parcel #:17N 631115

ZONING
GC–GENERAL COMMERCIAL

NEW 6' WIDE SIDEWALK

STORM SEWER TYP.

SANITARY SEWER TYP.

ASPHALT PAVT.

9'x19' PARKING SPACE TYP.

22' DRIVE AISLE TYP.

26' DRIVE AISLE TYP.

LANDSCAPE ISLAND TYP.

MODULAR BLOCK RETAINING WALL

TRASH ENCLOSURE

FENCED DOG PARK

35' BUFFER YARD

CONNECT NEW SANITARY SEWER TO EXIST. MANHOLE

CONNECT NEW STORM SEWER TO EXIST. MANHOLE

N85°45'16"E 87.02'

EXISTING BUILDING

MARY MEADOWS
PLAT BOOK 72, PAGE 25

N/F
MJHM LC THE
848 MARY MEADOWS LN
D.B. 20299 Pg 3247
Parcel #:17N520576

LOT 1
ZONING
C–SINGLE FAMILY

N/F
RICHARDS CHERYL A TR
842 MARY MEADOWS LN
D.B. 18342 Pg 3515
Parcel #:17N520532

LOT 2
ZONING
C–SINGLE FAMILY

N/F
MCGUIRE JOHN P & GLORIAN D H/W
836 MARY MEADOWS LN
D.B. 7199 Pg 1525
Parcel #:17N520510

LOT 3
ZONING
C–SINGLE FAMILY

DETENTION AREA

N/F
HENNESSEY DEVELOPMENT INC
11013 MARTIN GROVE LN
D.B. 08700 Pg 1869
Parcel #:17N520932

N/F
SHI BO & XU WEIME T/E
11011 MARTIN GROVE LN
D.B. 08700 Pg 1869
Parcel #:17N520884

LOT 3
ZONING
C–SINGLE FAMILY

MARTIN GROVE
PLAT BOOK 299, PAGE 20

EXISTING BUILDING

POOL
POOL HOUSE F.F.=685.80
916 SQ. FT.
MEP
STORMWATER TREATMENT & DETENTION AREA
TOP OF BERM 656.2
35' BUFFER YARD
DRAINAGE LIMIT

TRASH F.F.=686.75
MEP F.F.=686.75
ELEC
LOADING ZONE

N/F
SILVERMAN ROSS L & HEATHER P H/W
11007 MARTIN GROVE LN
D.B. 21936 Pg 2926
Parcel #:17N520873

LOT 2
ZONING
C–SINGLE FAMILY

EXISTING BUILDING

N/F
LI BO & FANG MING T/E
11003 MARTIN GROVE LN
D.B. 23888 Pg 1629
Parcel #:17N520862

LOT 1

ZONING
C–SINGLE FAMILY

EXISTING ENTRANCE TO BE REMOVED AND ENLARGED TO 25' WIDE ENTRANCE

EXISTING ENTRANCE TO BE REMOVED

EXISTING ENTRANCE TO BE REMOVED

DRAINAGE LIMIT

MODULAR BLOCK RETAINING WALL

PROPERTY LINE

ZONING
C–SINGLE FAMILY

RUNOFF CALCULATIONS
(MSD 15 YEAR–20 MINUTE RAINFALL FREQUENCY)

PERCENT IMPERVIOUSNESS (P.I.)

DESCRIPTION	P.I. FACTOR
GRASS (5%)	1.70
PAVEMENT (100%)	3.54
ROOF (100%)	4.20

STORMWATER RUNOFF AREA=3.91 AC.

DESCRIPTION	AREA	P.I. FACTOR	RUNOFF (C.F.S.)
GRASS	0.65 Ac.	1.70	1.10 cfs
PAVEMENT	2.48 Ac.	3.54	8.78 cfs
ROOF	0.78 Ac.	4.20	3.28 cfs
		TOTAL	13.16 cfs

ESTIMATED STORMWATER VOLUME REQUIRED FOR DETENTION AND WATER QUALITY TREATMENT

ESTIMATED STORAGE REQUIRED = 13,000 C.F./ACRE
DRAINAGE AREA = 3.91 ACRES
3.91 AC. X 13,000 C.F. = 50,830 C.F.

DETENTION BASIN STORAGE PROVIDED = 60,103 C.F.

PREPARED FOR:
CREVE COEUR HOUSING LLC
CONTACT: Gary Hassenflu
2001 Shawnee Mission Parkway Ste. 250
Mission Woods, KS 66205
EMAIL: ghassenflu@garrisoncompanies.com

M.S.D. BASE MAP 17N
PARCEL NO. 17N540046
PARCEL NO. 17N540057
PARCEL NO. 17N540732
PARCEL NO. 17N540741
PARCEL NO. 17N520543
PARCEL NO. 17N520554

LEONARD J. MEERS
NUMBER E-28288
11/7/25
LEONARD J. MEERS
PROFESSIONAL ENGINEER
E-28288

GRIMES CONSULTING, INC.
12300 OLD TESSON RD.
SUITE 300D
ST. LOUIS, MO 63128
PH. (314) 849-6100
FAX (314) 849-6010
www.grimesconsulting.com
PE COA# E-1470-D
PLS COA# LS-343-D

DATE | REMARKS | REV. NO.

SITE DEVELOPMENT PLAN
GRAESER STATION
PLANNED MIXED-USE DEVELOPMENT
11004 OLIVE BLVD, CREVE COEUR, MO 63141

SHEET TITLE: SITE STORMWATER PLAN

JOB NUMBER: 4311
DRAWN BY: R.S.
DATE: 11/7/25
CHECKED BY: L.M.
DATE: 11/7/25
SHEET: SD5

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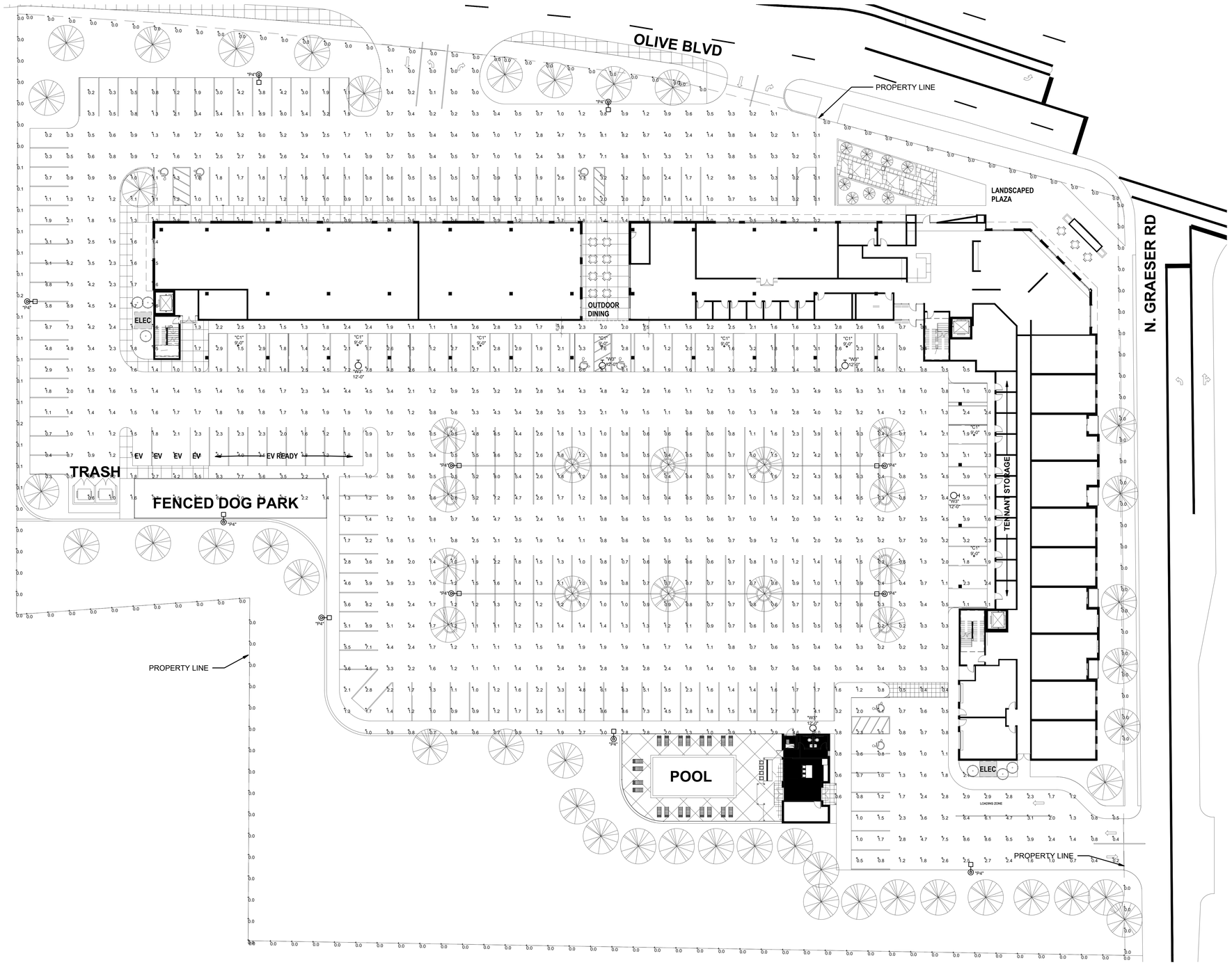

ENGENUITY
BUILDING VALUE BY DESIGN
16305 SWINGLEY RIDGE ROAD
SUITE 200
CHESTERFIELD, MO 63017
P: 314.811.1720
WWW.ENGENUITY.COM
MISSOURI CERTIFICATE OF AUTHORITY:
E2023-017304

PROJECT DESCRIPTION

PHOTOMETRIC FOR: CREVE COEUR MIXED USE

11004 OLIVE BOULEVARD
CREVE COEUR, MISSOURI 63141

Project No: 25-0228

No	Description	Date

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STATE OF MISSOURI
MARCUS ECKSTEIN
NUMBER PE-2019017810
PROFESSIONAL ENGINEER

11-07-2025
Marcus Eckstein - Engineer
MO# PE-2019017810

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DATE:	11-07-2025
SCALE:	AS NOTED

SITE PLAN - PHOTOMETRIC

PH1.0

ALL LIGHT FIXTURES TO BE 3000K.

Luminaire Schedule

Qty	Arrangement	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts
11	Single	GALN-SA4C-830-U-T4BC	P4	0.950	20484	190.4
5	Single	IST-SA1E-830-U-T3	W3	0.950	5617	58.2
8	Single	TT-D1-830-U-RW	C1	0.950	2757	28

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking Lot	Illuminance	Fc	2.01	9.0	0.0	N.A.	N.A.
Property Line	Illuminance	Fc	0.01	0.2	0.0	N.A.	N.A.

Project		Catalog #		Type	
Prepared by		Notes		Date	

McGraw-Edison

GALN Galleon II

Area / Site Luminaire

Product Features

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 5
- Product Specifications page 5
- Energy and Performance Data page 6
- Control Options page 17

Product Certifications

Declare.

Quick Facts

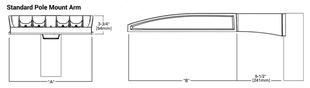
- Lumen packages range from 3,300 - 102,700 (33W - 658W)
- 22 optical distributions
- Efficacy up to 178 LPW

Connected Systems

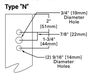
- Wavelinx LITE Wireless
- Wavelinx PRO Wireless
- AirMesh Wireless

Dimensional Details

Standard Pole Mount Arm



Pole Drilling Pattern
Type "N"



Number of Light Squares	Width "A"	Housing Length "B"	Weight with Standard or QM Arm	EPA with Standard or QM Arm
1-4	16"	22"	29 lb	0.95
5-6	22"	22"	39 lb	0.95
7-9	22"	28-1/8"	48 lb	1.1

NOTE: For arm selection requirements and additional fine art, see Mounting Details section.

NOTES:
1. IDA Certified (3000K CCT and warmer only, fixed mounting options).

Project		Catalog #		Type	
Prepared by		Notes		Date	

McGraw-Edison

Impact Elite LED

Wall Mount Luminaire

Product Features

Interactive Menu

- Ordering Information page 2
- Product Specifications page 2
- Energy and Performance Data page 3
- Control Options page 4

Product Certifications

Quick Facts

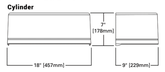
- 15 Optical Distributions
- Lumen packages range from 2,459 to 11,480 (20W - 95W)
- Efficacy up to 149 lumens per watt

Connected Systems

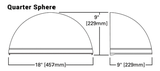
- WaveLinx PRO Wireless
- WaveLinx LITE Wireless

Dimensional Details

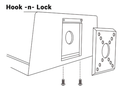
Cylinder



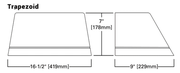
Quarter Sphere



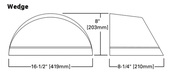
Hook -n- Lock



Trapezoid



Wedge



NOTES:
1. IDA Certified for 3000K CCT and warmer only.

Project		Catalog #		Type	
Prepared by		Notes		Date	

McGraw-Edison

TT TopTier

Visual Comfort Luminaire

Product Features

Interactive Menu

- Ordering Information page 2
- Product Specifications page 2
- Optical Configurations page 3
- Mounting Details page 3
- Energy and Performance Data page 4
- Control Options page 6

Product Certifications

Quick Facts

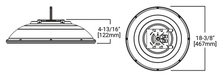
- Lumen packages range from 2,757 - 22,831
- Efficacies up to 146 LPW
- Patented waveguide technology for maximum visual comfort
- Mount options: surface, pendant, trunnion, wall, and direct conduit

Connected Systems

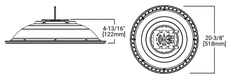
- WaveLinx PRO Wireless
- WaveLinx LITE Wireless
- AirMesh

Dimensional Details

SURFACE MOUNT
CQ, MQ, WQ and RW: D1-D6
DL: D1-D4
Base luminaire weight: 18.2 lbs (8.3 kg)



SURFACE MOUNT
CQ, MQ, WQ and RW: D7+
DL: D5+
Base luminaire weight: 20.1 lbs (9.1 kg)



NOTES:
1. IDA Certified for 3000K CCT and warmer only.

McGraw-Edison

GALN Galleon II

Ordering Information

SAMPLE NUMBER: **GALN-SA4C-740-U-T4FT-GM**

Product Family [1,2]	Light Engine: Light Square	Light Engine: Square Count	Light Engine: Lumen Output	Color Temperature	Voltage	Distribution	Mounting	Finish
GALN=Galleon II **BAA-GALN**=Galleon II Buy America Act Compliant [4] **TAA-GALN**=Galleon II Trade Agreements Act Compliant [4] **BABA-GALN**=Galleon II Buy America Act Compliant [4]	**SA**=16 LED Light Square **SB**=25 LED Light Square	1=1 Light Square 2=2 Light Squares 3=3 Light Squares 4=4 Light Squares 5=5 Light Squares 6=6 Light Squares 7=7 Light Squares 8=8 Light Squares 9=9 Light Squares	**A**=Output Level 1 **B**=Output Level 2 **C**=Output Level 3 **D**=Output Level 4 [3] **Z**=Configured Output [4]	**722**=722K, 2200K **727**=727K, 2700K **730**=730K, 3000K **735**=735K, 3500K **740**=740K, 4000K **750**=750K, 5000K **757**=757K, 5700K **827**=827K, 2700K **830**=830K, 3000K **835**=835K, 3500K **840**=840K, 4000K **850**=850K, 5000K **935**=935K, 3500K **940**=940K, 4000K **950**=950K, 5000K **AMB**=Amber [4, 5]	**U**=120-277V **H**=347V-480V [4, 6] **1**=120V **2**=208V **3**=240V **4**=277V [6] **5**=347V **DV**=277V-480V Dual-volt Drivers [4, 6]	**T1**=Type I **T2**=Type II **T2R**=Type II Roadway **T3**=Type III **T3R**=Type III Roadway **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLR**=90° Spill Light Eliminator Left **SLL**=90° Spill Light Eliminator Right **BLC**=Backlight Control [7] **RW**=Rectangular Wide Type I **AFL**=Automotive Frontline **T2S**=Type II Symmetric Control [8] **T3S**=Type III Symmetric Control [8] **T4SC**=Type IV w/ Backlight Control [8] **T4M**=Type IV Wide w/ Backlight Control [8] **RBC**=90° Right w/ Backlight Control [8]	**[Blank]**=Standard Pole Mount Arm **QU**=Quick Mount Universal Arm **QM**=Pole Mount Arm with Quick Mount Adaptor **SP2**=2-3/8" Slipfitter, Adjustable [9] **SP3**=3-3/8" Slipfitter, Adjustable [9] **OMA**=Quick Mount Mast Arm Adaptor [10] **MA**=Mast Arm, Fixed **WM**=Wall Mount, Fixed **WA**=Wall Mount, Adjustable **UP**=Upswept Arm	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White **RALXX**=Custom Color

Options (Add as Suffix)	Controls and Systems Options (Add as Suffix) [11]	Accessories (Order Separately) [12]
DIM=External 0-10V Dimming Leads [13] **F**=Single Fuse (120, 277 or 347V Specify Voltage) **FF**=Double Fuse (208, 240 or 480V Specify Voltage) **23K**=350V UL 1449 listed surge protective device [14] **2L**=Two Circuits [15] **HA**=50°C High Ambient [16] **HSS**=Installed House Side Shield [17] **GRDM**=Ground Mounted Mount **GRDBK**=Bare Reducing Shield, Black [18] **GRDWH**=Bare Reducing Shield, White [18] **LCF**=Light Square Trim Painted to Match Housing [19] **TH**=Tool-less Door Hardware [20] **LCO**=Optics Rotated 90° Clockwise **LNO**=Optics Rotated 90° Left **R90**=Optics Rotated 90° Right **3SDCM**=3 Standard Deviation Color Matching [4] **AHD1445**=After Hours Dim, 5 Hours [21] **AHD2345**=After Hours Dim, 7 Hours [21] **AHD2345**=After Hours Dim, 7 Hours [21] **AHD2345**=After Hours Dim, 8 Hours [21] **DALI**=DALI Drivers	**BPC**=Button Type Photocontrol: Must specify voltage 120V, 208V, 240V or 277V. [4] **PR**=NEMA 3-PIN Photocontrol Receptacle [22] **PER**=NEMA 7-PIN Photocontrol Receptacle [4, 22] **FAC**=Field Adjustable Dimming Controller [4] **PSC**=Photocontrol Shorting Cap **SPD2**=Dimming Motion Sensor, 8'-20' mounting [4] **SPD4**=Dimming Motion Sensor, 21'-40' mounting [4] **SPBA2S**=Dimming Motion Sensor, limited square coverage, 8'-20' mounting [4] **SPBA2S**=Dimming Motion Sensor, limited square coverage, 21'-40' mounting [4] **MSUSW-120**=Motion Sensor for Dimming Operation, 8'-20' Mounting [4, 23] **MSUSW-L40**=Motion Sensor for Dimming Operation, 21'-40' Mounting [4, 23] **WLSZEX**=WaveLinx LITE, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, 8' - 20' Mounting [4, 24, 25] **WLSXEX**=WaveLinx LITE, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, 21' - 40' Mounting [4, 24, 25] **WPSZEX**=WaveLinx PRO, SB Driver, Dimming Motion and Daylight, WAC Programmable, 8' - 20' Mounting [4, 24, 25] **WPSXEX**=WaveLinx PRO, SB Driver, Dimming Motion and Daylight, WAC Programmable, 21' - 40' Mounting [4, 24, 25] **DMF0-120**=AirMesh Occupancy Sensor (9'-20' Mounting) [4, 26] **DMF0-L40**=AirMesh Occupancy Sensor (21'-40' Mounting) [4, 26]	**GALWA1616**=NEMA Photocontrol Multi-Tap - 120-280V **GALWA1627**=NEMA Photocontrol - 480V **GALWA1628**=NEMA Photocontrol - 347V **GALWA1633**=Photocontrol Shorting Cap **GALWA1014**=120V Photocontrol **MA1202**=180V Surge Module Replacement **MA1030-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon **MA1130-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon **MA1131-XX**=(2@120°) Tenon Adapter for 2-3/8" O.D. Tenon **MA1188-XX**=(4@90°) Tenon Adapter for 2-3/8" O.D. Tenon **MA1189-XX**=(3@120°) Tenon Adapter for 2-3/8" O.D. Tenon **MA1190-XX**=(3@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1191-XX**=(2@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1192-XX**=Single Tenon Adapter for 3-1/2" O.D. Tenon **MA1193-XX**=(2@120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1193-XX**=(4@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1194-XX**=(3@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1195-XX**=(3@90° Tenon Adapter for 3-1/2" O.D. Tenon **FUSE-120**=Wireless Configuration Tool for MS-DIM [4] **LSNSB**=Field Installed House Side Shield for SA Light Squares [4, 27] **LSNSB-SB**=Field Installed House Side Shield for SB Light Squares [4, 27] **LSLBKB**=Backlight Control Shield [4] **LSLBKBH**=Bare Reducing Shield, Black [4] **LSLBKBH-ZPK**=Bare Reducing Shield, White [4] **LLPPB**=Perimeter Shield, Black [4] **WDLC-7P-15A**=WaveLinx Outdoor Control Module [4, 28] **TLT-D1-HH**=AirMesh 7-PIN node, 110-480V [4, 29] **CBSSM-450-SQ**=AirMesh central base station with 5 button control [4]

NOTES:
1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP213012EN for additional support information.
2. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
3. Not available with SA light squares. Not available with 7 light squares when ordered with 5000K CCT and 4000K CCT.
4. Not available with 5P option.
5. When using SA light squares, Output Level 4 not available with color temperature 722, 727, 827, 830 or 930 when HSS is ordered.
6. 10% option not 50 rated. Not available with Coastal Construction (CC) option.
7. Not available with voltage options H, 5 or 5.
8. Not available with Backlight Control options. Not available in combination with tri-high ambient and sensor options at 347V, 480V, 277V-480V Dual-volt Drivers. Not available with common options, choose voltage 2 or 4.
9. SP arm limited to 3° O.D. vertical tenon. SP2 limited to 2-3/8" O.D. vertical tenon.
10. Not supported on Light Square
11. Not available with SB light squares. Not available with DFB at 347V or 480V. Not available with WaveLinx or 20kV surge options.
12. Requires RW.
13. Replace SA with number (4W, 8,or 9) [4].
14. Not available with Coastal Construction (CC) option. Not available with 347V, 480V, 277V-480V Dual-volt Drivers or 10kV surge protection.
15. Not available with voltage options H, 5 or 5.
16. Not available with tri-high ambient and sensor options at 347V, 480V, 277V-480V Dual-volt Drivers.
17. Not available with SA1A or SA1B. Not available with DFL or any SB configuration using Output Level 1. Not available with any control except BPC.
18. Not available with SA1A or SA1B. Not available with DFL or any SB configuration using Output Level 1. Not available with any control except BPC.
19. Not available with SA1A or SA1B. Not available with DFL or any SB configuration using Output Level 1. Not available with any control except BPC.
20. Not available with SA1A or SA1B. Not available with DFL or any SB configuration using Output Level 1. Not available with any control except BPC.
21. Use Slick Product Configurator to specify fusion output, drive current and wattage. Not available with 480V. Not available with SB light squares.
22. Requires DFF-211 motion sensor. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information.
23. Controls system is not available with photocontrol receptacles (PR, PER) or other controls systems (FAC, SPBC).
24. Controls system is not available with PR, PER, BPC, FAC or other controls systems.
25. 3-step Maximum elapse timing. Available in 740 CRI/CCT only. Longer lead times apply, consult your lighting representative at Cooper Lighting Solutions for more information.
26. Requires DFF-211 motion sensor.
27. Only product configurations with these prefixes are built to be compliant with theBuy American Act of 1933 (BAA) or the Build America Buy America Act (BABA). BABA is the minimum Government compliance requirement for the Build America Buy America initiative. Other Government Agencies may have more stringent compliancestandards. Please refer to the DOMESTIC PREFERENCES website or consult the CLS Domestic Preferences team for more information. Components shipped separatelymay be separately analyzed under domestic preference requirements.
28. Not available with SA1A or SA1B. Not available with Output Levels 1, 3 or 4. Not compatible with HSS, DMG, RCS or PTD shield options, or LCF.
29. Not compatible with DALI.

McGraw-Edison

Impact Elite LED

Ordering Information

SAMPLE NUMBER: **ISC-SA1F-740-U-T3-BZ**

Product Family [1]	Light Engine: Configuration	Light Engine: Drive Current	Color Temperature	Voltage	Distribution	Finish
ISC=Impact Elite LED Small Cylinder **IST**=Impact Elite LED Small Quarter Sphere **ITT**=Impact Elite LED Small Trapezoid **ISW**=Impact Elite LED Small Wedge **BAA-ISC**=Impact Elite LED Small Cylinder Buy American Act Compliant [4] **TAA-ISC**=Impact Elite LED Small Cylinder Trade Agreements Act Compliant [4] **BABA-ISC**=Impact Elite LED Small Cylinder Built America Buy America [4] **BAA-IST**=Impact Elite LED Small Quarter Sphere Buy American Act Compliant [4] **TAA-IST**=Impact Elite LED Small Quarter Sphere Trade Agreements Act Compliant [4] **BABA-IST**=Impact Elite LED Small Quarter Sphere Built America Buy America [4] **BAA-ITT**=Impact Elite LED Small Trapezoid Buy American Act Compliant [4] **TAA-ITT**=Impact Elite LED Small Trapezoid Trade Agreements Act Compliant [4] **BABA-ITT**=Impact Elite LED Small Trapezoid Built America Buy America [4] **BAA-ISW**=Impact Elite LED Small Wedge Buy American Act Compliant [4] **TAA-ISW**=Impact Elite LED Small Wedge Trade Agreements Act Compliant [4] **BABA-ISW**=Impact Elite LED Small Wedge Build America Buy America [4]	**SA1**=1 Square 16 LED **PA1**=1 Panel (24 LED) [4]	**A**=350mA **B**=530mA **C**=700mA **D**=1000mA **P**=1200mA [1]	**722**=722K, 2200K **727**=727K, 2700K **730**=730K, 3000K **735**=735K, 3500K **740**=740K, 4000K **750**=750K, 5000K **757**=757K, 5700K **827**=827K, 2700K **830**=830K, 3000K **835**=835K, 3500K **840**=840K, 4000K **850**=850K, 5000K **AMB**=Amber, 590nm [4]	**U**=120-277V **1**=120V **2**=208V **3**=240V **4**=277V **5**=347V	**T1**=Type I **T2**=Type II **T3**=Type III **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **T3S**=Type III Symmetric Control [2] **SWQ**=Type V Square Wide **T3R**=Type III Roadway **T2S**=Type II Urban **T5**=Type V **T4W**=Type IV Wide	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White **RALXX**=Custom Color

Options (Add as Suffix)	Controls and Systems Options (Add as Suffix)	Accessories (Order Separately) [3]
X=Driver Surge Protection (6kV) Only [4] **23K**=Series (Dx=1) UL 1449 Surge Protective Device **CBP**=Battery Pack with Back Box, Cold Weather Rated **CBP-CEC**=Battery Pack with Back Box, Cold Weather Rated, CEC compliant [4] **HSS**=Factory Installed House Side Shield [4] **ULB**=Uplight Glow [5, 6] **WM**=Square Trim Plate Painted to Match Housing [7] **TB**=Tamper Resistant Hardware **HA**=50°C High Ambient [8] **5A**=50°C High Ambient **AHD1445**=After Hours Dim, 5 Hours, 50% [9] **AHD2345**=After Hours Dim, 7 Hours, 50% [9] **AHD2345**=After Hours Dim, 7 Hours, 50% [9] **AHD2345**=After Hours Dim, 8 Hours, 50% [9]	**BPC**=Button Type Photocontrol (120, 208, 240 or 277V Must Specify Voltage) **PR**=NEMA 3-PIN Twistlock Photocontrol Receptacle [4, 10] **SPD1**=Dimming Occupancy Sensor with Bluetooth Interface, 4' Mounting [4, 11] **SPD2**=Dimming Occupancy Sensor with Bluetooth Interface, 8'-20' Mounting [4, 11] **SPD4**=Dimming Occupancy Sensor with Bluetooth Interface, 21'-40' Mounting [4, 11] **WSLSW-LXX**=Motion Sensor for Dimming Operation [4, 12, 13] **WLLXEX**=WaveLinx LITE, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting [4, 12, 14] **WPSZEX**=WaveLinx PRO, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, 8' - 20' Mounting [4, 12, 14] **WPSXEX**=WaveLinx PRO, SB Driver, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting [4, 12, 14]	**MA1251**=18kV Circuit Module Replacement **MA1252-BX**=Threway Back Box - Impact Elite Trapezoid **MA1253-BX**=Threway Back Box - Impact Elite Cylinder **MA1254-BX**=Threway Back Box - Impact Elite Quarter Sphere **MA1331-BX**=Threway Back Box - Impact Elite Wedge **FUSE-100**=Wireless Configuration Tool for Occupancy Sensor **WDLC-7P-15A**=WaveLinx Outdoor Control Module [7-pin] [15]

NOTES:
1. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
2. Not available with ULB option.
3. Choose One Connect "X" for Amber 590nm, which is provided at 530mA only.
4. Choose One Connect "X" for Surge Protection (6kV) only. Not available with luminaire wattage available in IES files. Available with SWQ, SWQ, SL2, SL3 and SL4 distributions. Can be used with HSS option.
5. 480V not to be used with ungrounded or impedance grounded systems.
6. Not available with 347V.
7. Cannot be used in conjunction with other control options.
8. Suitable for 50°C provided no options other than motion sensor are included and driver output set to 1000mA or less.
9. Not available with BPC or photocontrol. Not available with 350mA drive current. See After Hours Dim supplemental guide for additional information.
10. Replace LXX with L30 (tri-mounting), L35 (8'-20' mounting) or L40W (21'-40' mounting).
11. Not available with 347V, 480V, 277V-480V Dual-volt Drivers or 10kV surge protection. Includes sensitivity, time delay, daylight and more. Consult your lighting representative at Cooper Lighting Solutions for more information.
12. Includes integral photocell.
13. Replace LXX with 30 for configuration of -30C to +40C. Operates downlight for 10 minutes.
14. Must specify 120V or 277V.
15. Not for use with SWQ, SWQ or RW optics. A black trim plate is used when HSS is selected.
16. Replace BX with series color (WH, BZ, or BK).

Thruway Back Box

Product Specifications

Construction

- Heavy-wall, cast aluminum housing and removable hinged door frame
- Optional terminal block fasteners offer vandal resistant access
- Vandal resistant with IK10 impact rated housing and optic

Optics

- High-efficiency injection-molded AccuLED optics technology
- 15 optical distributions

Electrical

- Standard with 0-10V dimming
- Standard with Cooper Lighting Solutions proprietary circuit module designed to withstand 10kV of transient line surge
- Suitable for operation in -40°C to 40°C ambient environments. Optional 50°C high ambient (HA) configuration
- Suitable for operation in -40°C to 40°C ambient environments. Optional 50°C high ambient (HA) configuration.

Mounting

- Utilizes "Hook-N-Lock" mounting mechanism, securing to a gasketed and zinc plated mounting attachment
- Two black oxide coated Allen set screws concealed but accessible from below

Finish

- Super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness
- RAL and custom color matches available
- Coastal Construction (CC) option available

Compliance

- IDA Certified for 3000K CCT and warmer only
- FHWA and FTA agencies are utilizing their BAA rules for BABA compliance. Only product configurations with these prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or the Buy America Build America Act (BABA). BABA is the minimum Government compliance requirement for the Buy America Build America standards which is part of the Infrastructure and Investment Jobs Act (IIJA). Individual Government Agencies may have more stringent compliance standards. Please refer to the DOMESTIC PREFERENCES website or consult the CLS Domestic Preferences team for more information. Components shipped separately may be separately analyzed under domestic preference requirements.

Warranty

- Five year limited warranty, consult website for details. www.cooperlighting.com/legal

McGraw-Edison

TT TopTier

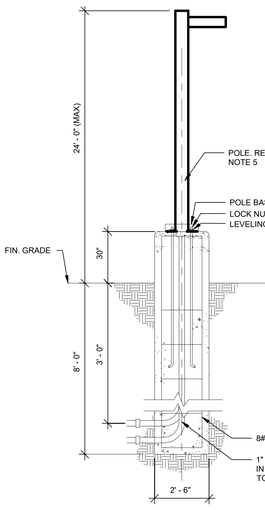
Ordering Information

SAMPLE NUMBER: **TT-D3-740-U-WQ-STM-30L-AP**

Product Family	Configuration	Color Temperature	Voltage	Distribution	Mounting [1]	Lead Length [1]	Finish
TT=TopTier [1] **BAA-TT**=TopTier, Buy America Act Compliant [2] **TAA-TT**=TopTier, Trade Agreements Act Compliant [2] **BABA-TT**= Build America Buy America Act [2]	**01**=4,000 Nominal Lumens **02**=5,500 Nominal Lumens **03**=7,000 Nominal Lumens **04**=8,500 Nominal Lumens **05**=10,000 Nominal Lumens **06**=12,000 Nominal Lumens **07**=15,000 Nominal Lumens **08**=18,000 Nominal Lumens **09**=20,000 Nominal Lumens **10**=22,000 Nominal Lumens	**735**=70 CRI, 3500K CCT **740**=70 CRI, 4000K CCT **835**=80 CRI, 3500K CCT **840**=80 CRI, 4000K CCT	**U**=120-277V **H**=347-480V [2, 3] **1**=120V **2**=208V **3**=240V **4**=277V **5**=347V **6**=480V **9**=347V	**CQ**=Concentrated **MQ**=Medium **WQ**=Wide **RW**=Rectangular Wide [4] **DL**=Drive Lens / Type 4	**[Blank]**=Surface Mount [5] **TSM**=Trunnion Mount with Internal Slipfitter **SPM**=Decorative Pendant Mount [6] **WM**=Wall Mount **STM**=Stem Mount to 1/2" conduit [6] **ETM3**=Stem Mount to 3/4" conduit [6]	**[Blank]**=6" **30L**=30" **36L**=36" **48L**=48" **72L**=72" **10L**=120" **12L**=120" **14L**=144"	**WH**=White **AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic

Options (Add as Suffix)	Accessories (Order Separately) [1]
F=Single Fuse (120, 277 or 347V Specify Voltage) **FF**=Double Fuse (208, 240 or 480V Specify Voltage) **EBP**=Integral Battery Pack [7, 8] **IBP-CEC**=Integral Battery Pack, CEC compliant [7, 8] **DIM**=External 0-10V Dimming Leads [9] **EM**=Cold Start [7] **CG**=Clear Glass [10] **TH**=Tool-less Door Hardware [11] **TG**=Tool-Comfort Tool-less Entry [11] **UPL**=Uplight [12] **WG**=Weather Resistant Hardware **SAT**=Satin Aluminum finish **DALI**=DALI Driver [4] **WLSW-L40**=Dimming Occupancy Sensor (>9' Mounting) [4, 13] **MSUSW-L20**=Dimming Occupancy Sensor (9' - 20' Mounting) [4, 13] **WLLXEX**=WaveLinx LITE, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting [4, 14, 15] **SPD2**=Dimming Motion and Daylight Sensor, Bluetooth Programmable, 8' - 20' Mounting [4, 16]	**MA1253**=Replacement 10kV Surge Module **TTJWQ**=Wire Guard [4] **TTJWQ-HP-XX**=Wire Guard [4, 17] **TTHSS-XX**=House Side Shield [4] **DMSTM-XX-XX**=Stem Mount Adapter [4, 18] **DMSPM-XX-XX**=Pendant Mount Stem [4, 18] **DMSTM-XX-XX**=Stem Mount Stem with Tether [4, 18] **DMSPMTSR-XX-XX**=Pendant Mount Stem with Tether [4, 18] **DMSPMTSR-XX-XX**=90° Pendant Mount Stem with Tether [4, 18] **FSIR-100**=Wireless Configuration Tool for Occupancy Sensor [4]

NOTES:
1. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
2. Only for use with 480V Wye systems. For NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta, Ungrounded, Floating and Impedance Grounded).
3. Not available with 57 - 310 configurations.
4. Order Pendant Mount Stem accessory.
5. SP ambient operating temperature -20°C to 50°C (-20°F to 120°F). Not available with D7-D10 configurations or DALI options.
6. Additional 0.8lbs. Provides 930 lumens. Not available with D10 configuration.
7. Choose lead length for Surface Mount and Stem Mount only. TSM, SPM and WM lengths predetermined.
8. Not available with 347V.
9. Standard with DLL option available with WQ only.
10. U voltage only. Ambient operating temperature -20°C to 50°C (0-5 deg F. to -20°C to 40°C (0-5 deg. ULX34 listed configuration.
11. Includes integral photocell.
12. Specify color in place of AX.
13. Designed for use with Stem Mount and Decorative Pendant Mount only.
14. Not available with ungrounded or impedance grounded systems.
15. Not available with 0-voltage or IBP. Not compatible with MS/CBW or LMS sensors.
16. Specify Lead Length for wire harness length.
17. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay and more.
18. 924 option provides luminaire ULX34 listing, used in conjunction with ITS or IBP-CEC.
19. Sensor configuration mobile application required for configuration. See controls page for details.
20. Not available with 480V. Not available with 0-10V dimming. Not available with 347V, 480V, 277V-480V Dual-volt Drivers or 10kV surge protection.
21. For WaveLinx applications, WAC Gateway required to enable field configurability. Order WAC-PoE and WPOE-120 (10V to 1kV surge protection) separately if needed. Gateway not required for WaveLinx Lite Commercial (LC) applications.
22. Specify 120V or 277V.
23. T1/WQ and T1/WQS cannot be installed together. T1/WQS & T3/WQ not available on D7-D10 configurations.
24. D4-D10 only. Not compatible with battery.
25. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
26. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements. Consult factory for further information.
27. Only product configurations with these prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or the Build America Buy America Act (BABA). BABA is the minimum Government compliance requirement for the Build America Buy America initiative which is part of the Infrastructure and Investment Jobs Act (IIJA). Individual Government Agencies may have more stringent compliance standards. Please refer to the DOMESTIC PREFERENCES website or consult the CLS Domestic Preferences team for more information. Components shipped separately may be separately analyzed under domestic preference requirements.



1 PH1.1 LIGHT STANDARD DETAIL
SCALE: NONE

TYPES "P4" CUTSHEET

TYPES "W3" CUTSHEET

TYPES "C1" CUTSHEET

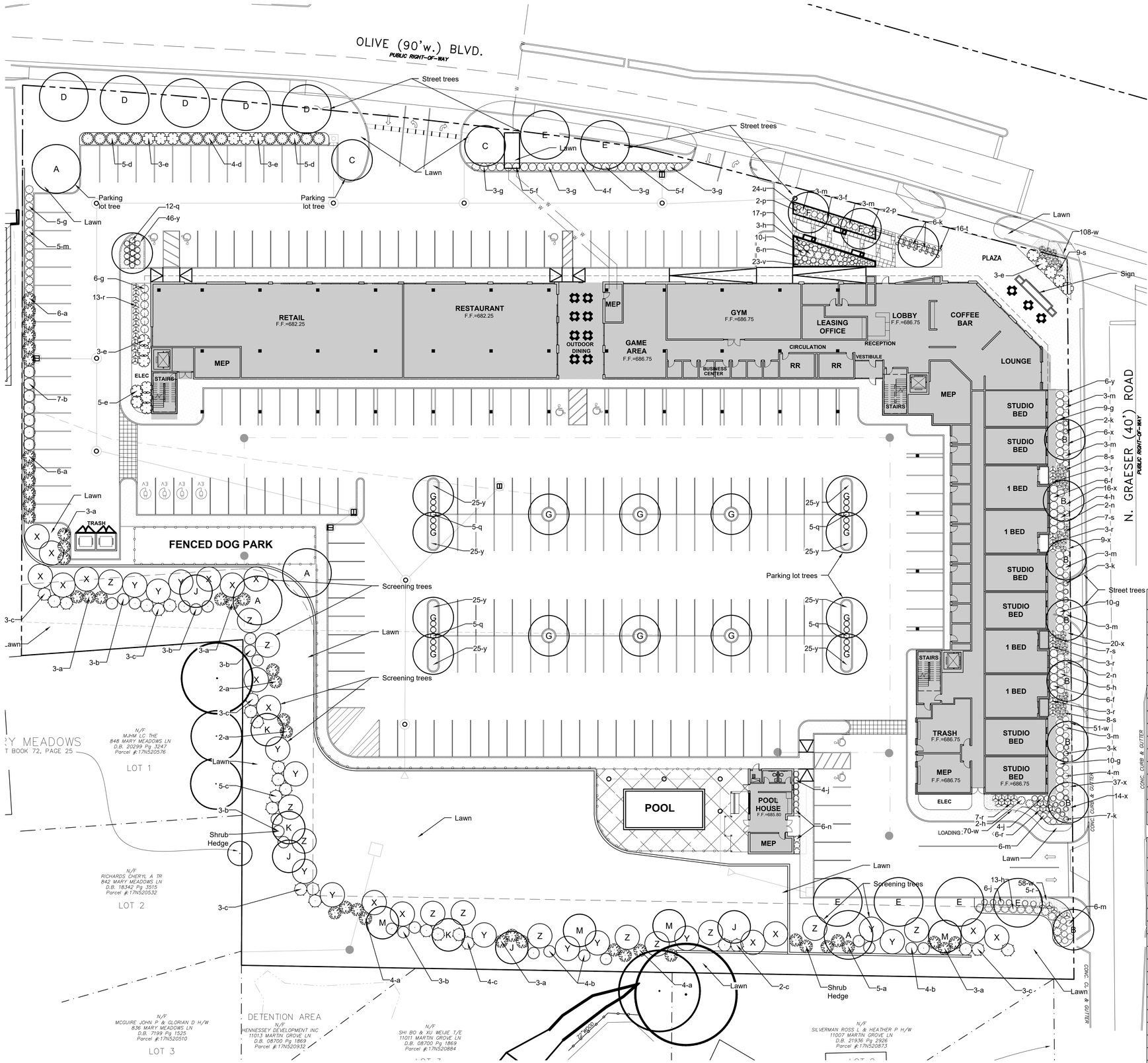
ENGENUITY
BUILDING VALUE BY DESIGN
16305 SWINGLEY RIDGE ROAD
CHESTERFIELD, MO 63017
P: 314.821.1700
WWW.ENGENUITY.COM
MISSOURI CERTIFICATE OF AUTHORITY: E2008-01704

PROJECT DESCRIPTION
PHOTOMETRIC FOR:
CREVE COEUR MIXED USE
11004 OLIVE BOULEVARD
CREVE COEUR, MISSOURI 63141

Project No: 25-0228

No	Description	Date

THIS DRAWING AND THE DETAILS BUILT FROM THE DESIGNS CONTAINED THEREIN ARE THE EXCLUSIVE PROPERTY OF THE ENGINEER AND M



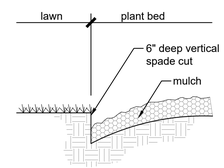
Landscape Plan
SCALE 1"=20'

0 20 40 80

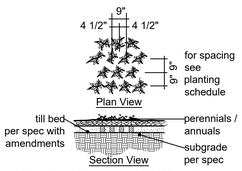
PREPARED FOR:
CREVE COEUR HOUSING LLC
CONTACT: Gary Hassenflu
2001 Shawnee Mission Parkway Ste. 250
Mission Woods, KS 66205
EMAIL: ghassenflu@garrisoncompanies.com

Parking Landscape Calculations:

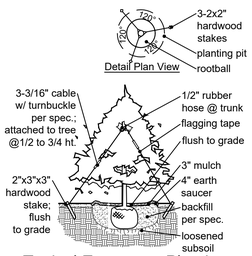
Area of Parking and Drives = 88,225 s.f.
For every 350 s.f. of paving must have 10 s.f. of landscape.
88,225 s.f./ 350= 252.07
252.07 x 10 = 2,521 s.f. of landscape
3,724 s.f. of landscape provided (Exceeds Requirement)



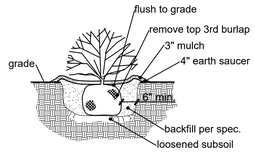
Spade Cut Bed Edge



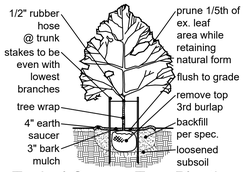
Typical Perennial Planting



Typical Evergreen Planting



Typical Shrub Planting



Typical Canopy Tree Planting

Landscape Notes:

1) Lawn areas shall be turf-type Tall Fescue Grass or approved equivalent.

2) All 3:1 or steeper slopes shall be lawn seed and have erosion control blanket.

3) Topsoil in all disturbed lawn areas at 6" depth.

4) Soil mix in all shrub beds at 8" depth.

5) All mulch to be double ground bark mulch.

6) Bed edges to be spade cut.

PLANTING SCHEDULE

ID	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
CANOPY-SHADE TREE					
A	4	Quercus shumardii	Shumard Oak	3" caliper	B & B
B	8	Acer rubrum 'Armstrong'	Armstrong Red Maple	3" caliper	B & B
C	3	Nyssa sylvatica	Blackgum	3" caliper	B & B
D	5	Platanus x acerifolia	London Planetree	3" caliper	B & B
E	6	Liriodendron tulipifera	Tulip Tree	3" caliper	B & B
F	3	Gleditsia triacanthos 'Draves'	Street Keeper Honeylocust	3" caliper	B & B
G	12	Quercus robur x bicolor 'Nadler'	Kindred Spirit Oak	3" caliper	B & B
UNDERSTORY-ORNAMENTAL TREE					
J	4	Amelanchier arborea	Serviceberry	3" caliper	B & B
K	3	Cercis canadensis	Redbud	3" caliper	B & B
M	4	Carpinus betulus 'Frans Fontaine'	Franz Fontaine Hornbeam	3" caliper	B & B
EVERGREEN TREE					
X	16	Thuja 'Green Giant'	Green Giant Arborvitae	6' tall	B & B
Y	13	Picea glauca 'Densata'	Black Hills Spruce	6' tall	B & B
Z	13	Picea abies	Norway Spruce	6' tall	B & B

PLANTING SCHEDULE

ID	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
SHRUBS-ORNAMENTAL GRASSES-PERENNIALS-ANNUALS-GROUNDCOVER					
a	44	Ilex x meserveae 'Blue Prince' & 'Blue Princess'	Berri-Magic Royalty Holly Combination	24"	72" o.c.
b	30	Juniperus x pfitzeriana 'Sea Green'	Sea Green Juniper	24"	72" o.c.
c	26	Viburnum rhytidophyllum	Leatherleaf Viburnum	24"	72" o.c.
d	13	Juniperus virginiana 'Grey Owl'	Grey Owl Juniper	24"	72" o.c.
e	17	Rhus aromatica 'Gro-Low'	Gro-Low Sumac	24"	72" o.c.
f	29	Thuja occidentalis 'Hetz Mid.'	Hetz Mini Arborvitae	24"	48" o.c.
g	52	Fothergilla gardenii	Dwarf Fothergilla	24"	48" o.c.
h	28	Hydrangea paniculata 'ILVOBO'	Bobo Hardy Hydrangea	24"	48" o.c.
j	24	Ilex glabra 'SMNIGAB17'	Gem Box Inkberry Holly	18"	36" o.c.
k	21	Hypericum kalmianum 'Deppe'	Sunny Boulevard St. John's Wort	18"	36" o.c.
m	42	Spiraea japonica 'NCSX1'	Double Play Candy Corn Spirea	18"	36" o.c.
n	16	Hydrangea paniculata 'SMNHPK'	Fire Light Tidbit Hydrangea	18"	36" o.c.
p	21	Aronia melanocarpa 'UCONNAM165'	Low Scape Mound Chokeberry	18"	24" o.c.
q	32	Juniperus horizontalis 'Blue Chip'	Blue Chip Creeping Juniper	1 quart	36" o.c.
r	43	Pennisetum alopecuroides 'Hameln'	Hameln Fountain Grass	1 gallon	36" o.c.
s	39	Muhlenbergia capillaris	Muhly Grass	1 gallon	36" o.c.
t	16	Iberis sempervirens	Candytuft	1 quart	18" o.c.
u	24	Coreopsis verticillata 'Moonbeam'	Moonbeam Threadleaf Coreopsis	1 quart	18" o.c.
v	23	Phlox subulata 'Emerald Pink'	Emerald Pink Creeping Phlox	1 quart	18" o.c.
w	287	Sedum kamtschaticum	Orange Stonecrop	2" cell plug	12" o.c.
x	102	Sedum rupestre 'Angelina'	Angelina Stonecrop	2" cell plug	12" o.c.
y	252	Sedum ternatum	Three-leaved Stonecrop	2" cell plug	12" o.c.

STATE OF MISSOURI
JERALD SAUNDERS
NUMBER LA-7
LANDSCAPE ARCHITECT
11/7/25

Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

Graeser Station
Multi-Family-Retail Building

11004 Olive Boulevard
Creve Coeur, Missouri 63141

Revisions:

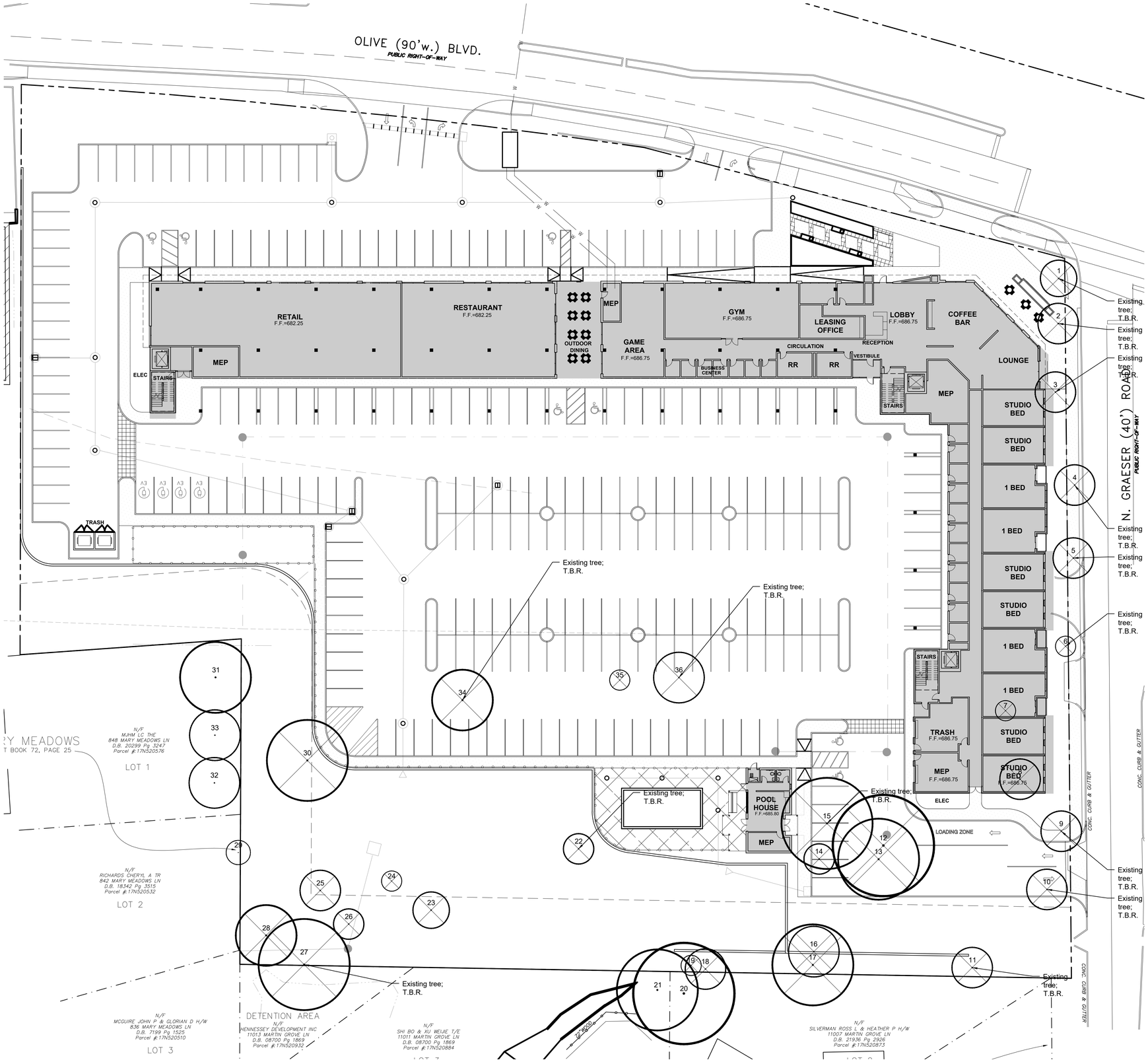
Date	Description	No.
10/16/25	City Comments	1
11/07/25	City Comments	2

Drawn: KP
Checked: RS

LOOMIS ASSOCIATES
landscape architects + planners
750 spirit 40 park drive, chesterfield, missouri 63005
t. 636-519-8668
www.loomis-associates.com

Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000019

Sheet Title: Landscape Plan
Sheet No: L1.01
Date: 7/14/25
Job #: 1094.001



Tree Plan
SCALE 1"=20'

0 20 40 80

PREPARED FOR:
CREVE COEUR HOUSING LLC
CONTACT: Gary Hassenflu
2001 Shawnee Mission Parkway Ste. 250
Mission Woods, KS 66205
EMAIL: ghassenflu@garrisoncompanies.com

Tree Inventory

ID	Tree Name	DBH	Canopy Diameter	Condition Rating	Comment	To Be Removed	Preserved
1	Honeylocust	14	18	2		X	
2	Honeylocust	10	20	2		X	
3	Honeylocust	15	20	2		X	
4	Honeylocust	10	20	2		X	
5	Honeylocust	14	20	2		X	
6	Dead	15		0	Dead	X	
7	Pear	7	10	1		X	
8	Spruce (Norway)	12	22	2	Wintercreeper	X	
9	Eastern Red Cedar	21	20	2		X	
10	Eastern Red Cedar	16	20	2	Wintercreeper	X	
11	Mulberry	6	20	1		X	
12	Ohio Buckeye	21	50	2		X	
13	Ohio Buckeye	12	40	2		X	
14	Dogwood	7	15	2	Twin	X	
15	Pecan	31	45	2		X	
16	Boxelder	20	25	2		X	
17	Ash	48	40	1	Mostly dead	X	
18	Linden	20	20	1	Lean	X	
19	Dead	30		0	Standing dead	X	
20	Maple	26	50	2	Offsite		X
21	Walnut	22	40	2	Offsite		X
22	Redbud	8	15	2	with Mulberry	X	
23	Spruce (Norway)	13	18	3		X	
24	Dead	24		0	Dead Pine	X	
25	White Pine	19	20	1		X	
26	Redbud	10	15	2		X	
27	S. Maple	53	45	1	On property line	X	
28	Eastern Red Cedar	17	30	2		X	
29	Eastern Red Cedar	6	12	2	Offsite, at property line		X
30	Bur Oak	24	40	2		X	
31	White Pine	24	35	2	Offsite		X
32	White Pine	18	25	2	Offsite		X
33	White Pine	20	25	2	Offsite		X
34	White Pine	23	30	1		X	
35	Dead	22		0	Dead	X	
36	White Pine	22	25	1		X	

Tree Condition Rating:

Excellent	=	4
Good	=	3
Fair	=	2
Poor	=	1
Dead	=	0

STATE OF MISSOURI JERALD SAUNDERS NUMBER LA-7 LANDSCAPE ARCHITECT
11/7/25
Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

Graeser Station
Multi-Family-Retail Building
11004 Olive Boulevard
Creve Coeur, Missouri 63141

Revisions:

Date	Description	No.
10/16/25	City Comments	1
11/07/25	City Comments	2

Drawn: KP
Checked: RS

LOOMIS ASSOCIATES
landscape architects + planners
750 spirit 40 park drive, chesterfield, missouri 63005
t. 636-519-9668
www.loomis-associates.com
Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000019

Sheet Title: Tree Plan
Sheet No: TP
Date: 7/14/25
Job #: 1094.001

GRAESER STATION MULTIFAMILY - RETAIL BUILDING

11004 OLIVE BLVD

SHEET LIST

A-0	SITE PLAN
A-1	FIRST FLOOR
A-2	SECOND FLOOR
A-3	THIRD FLOOR
A-4	FOURTH FLOOR
A-5	ELEVATIONS
A-6	UNIT LAYOUTS
A-7	DETAILS
A-8	IMAGERY
A-9	IMAGERY

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GRAESER STATION MULTIFAMILY - RETAIL BUILDING
11004 OLIVE BLVD

#	DATE	DESCRIPTION

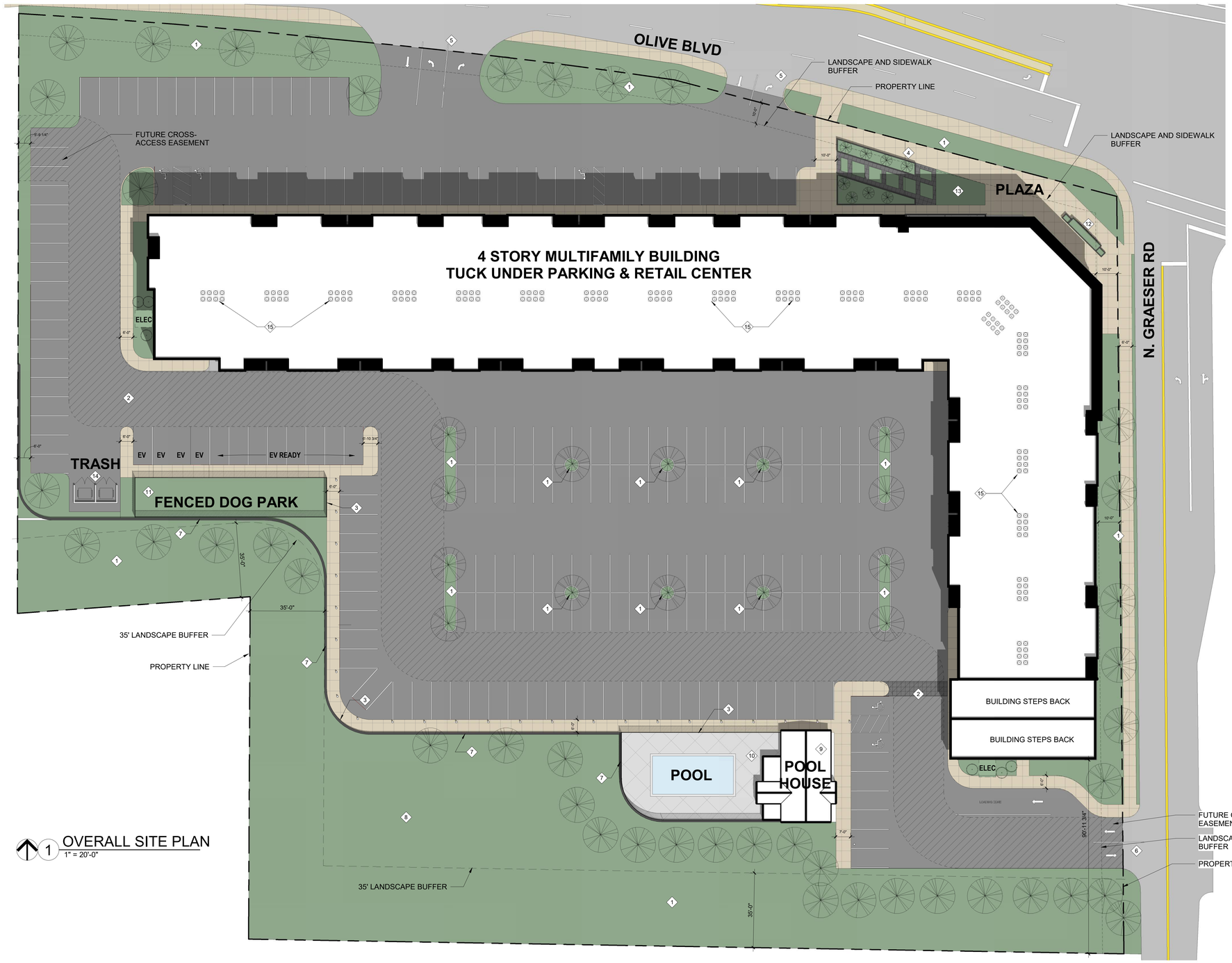
PROFESSIONAL RECORD

STATE OF MISSOURI
JOSHUA D GOODMAN
NUMBER A-2010051009
11/07/2025
ARCHITECT

Project Number: **25.013**
Date: **11/07/2025**
Status: **P&Z APPROVAL**

COVER PAGE

A-00



1 OVERALL SITE PLAN
1" = 20'-0"

GENERAL NOTES SITE PLAN

1. LANDSCAPING (REFER TO LANDSCAPING SHEETS FOR SPECIFICATIONS)
2. PEDESTRIAN CROSSWALK INDICATED BY MATERIAL CHANGE
3. 6' ECHELON CLASSIC FENCE. (REFER TO 5 / A-7)
4. PLAZA TO INCLUDE SEATING, LANDSCAPING, AND BIKE RACKS
5. EXISTING CURB CUT
6. EXPANDED CURB CUT
7. RETAINING WALL (REFER TO CIVIL SHEETS FOR SPECIFICATIONS)
8. DETENTION / WATER RUN OFF (REFER TO CIVIL FOR SPECIFICATIONS)
9. POOL HOUSE TO ACCOMODATE EQUIPMENT AND RESTROOMS. DOG WASH AREA AND KITCHEN.
10. FENCED POOL AREA AND OUTDOOR AMENITY SPACE
11. FENCED DOG PARK (REFER TO 5 / A-7)
12. MONUMENT SIGNAGE
13. AREA FOR PUBLIC ART. (TBD)
14. TRASH ENCLOSURE (REFER TO 1 / A-7)
15. ROOFTOP HVAC UNITS

PARKING

TOTAL UNITS IN DEVELOPMENT:
- 157

TOTAL PARKING IN DEVELOPMENT:
- 250 SPACES (REFERENCE ATTACHED PARKING STUDY)
  (45 TUCK UNDER)
  (7 ADA)
  (4 ELECTRICAL VEHICLE + 8 EV FUTURE READY = 12 = 5% OF TOTAL PARKING (405.860))

SQUARE FOOTAGE

TOTAL RETAIL & RESTAURANT: 8,472 SF

TOTAL AMENITY: 10,530 SF

FIRST FLOOR GROSS: 32,390 SF

SECOND FLOOR GROSS: 44,125 SF

THIRD FLOOR GROSS: 44,125 SF

FOURTH FLOOR GROSS: 42,860 SF

TOTAL GROSS: 163,500 SF

RESIDENTIAL DENSITY CALCULATION: 157 UNITS/ 4.4 ACRES = 35.6

UNIT COUNT

LEVEL	UNIT TYPE	COUNT
1ST FLOOR	1 BED	4
1ST FLOOR	STUDIO BED	6
2ND FLOOR	1 BED	38
2ND FLOOR	2 BED	2
2ND FLOOR	STUDIO BED	11
3RD FLOOR	1 BED	38
3RD FLOOR	2 BED	2
3RD FLOOR	STUDIO BED	9
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4TH FLOOR	2 BED	2
4TH FLOOR	STUDIO BED	7
TOTAL UNITS: 157		157

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GRAESER STATION MULTIFAMILY - RETAIL BUILDING
11004 OLIVE BLVD

#	DATE	DESCRIPTION

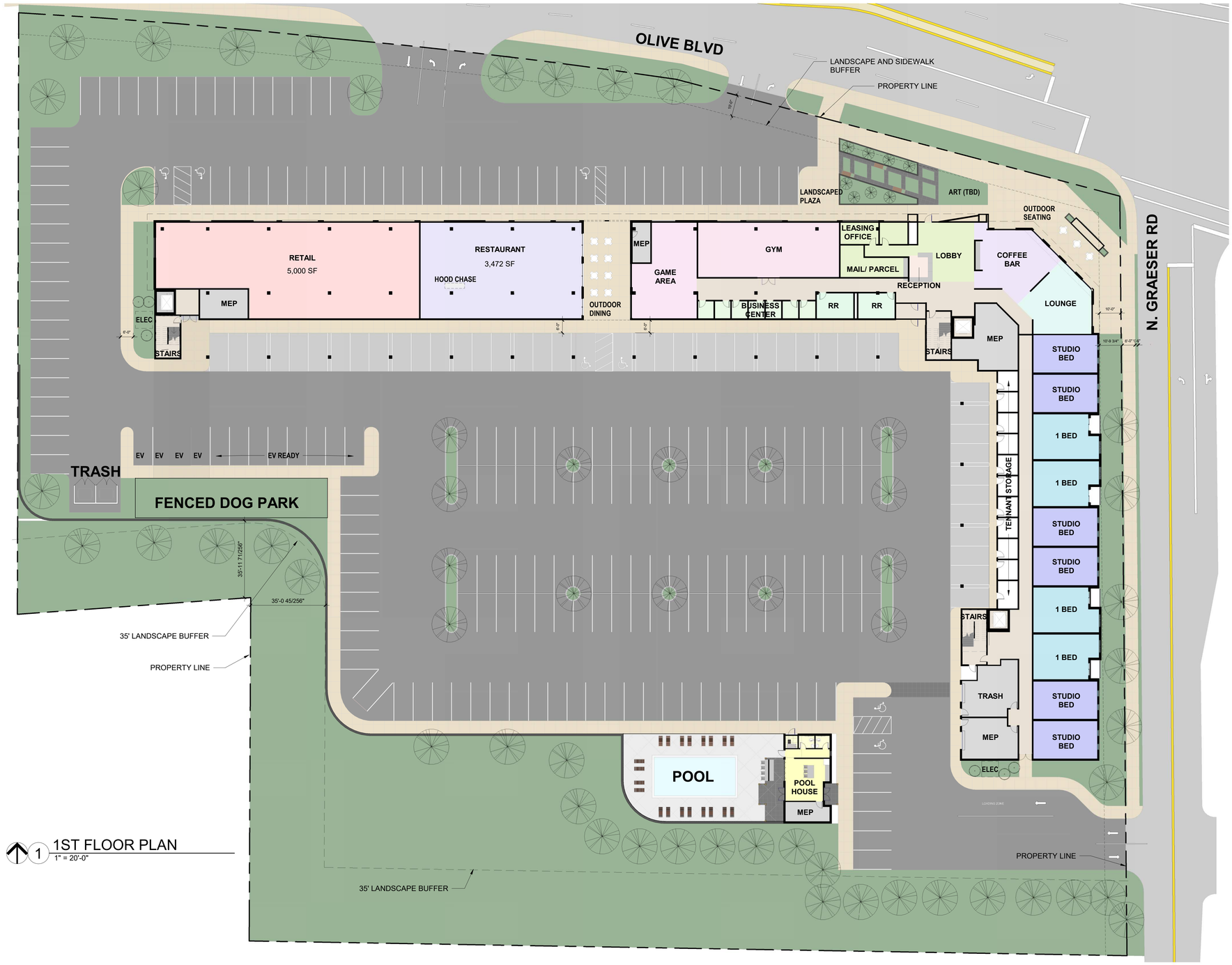
PROFESSIONAL RECORD

STATE OF MISSOURI
JOSHUA D GOODMAN
A-2007051009
11/07/2025
ARCHITECT

Project Number: **25.013**
Date: **11/07/2025**
Status: **P&Z APPROVAL**

SITE PLAN

A-0



1 1ST FLOOR PLAN
1" = 20'-0"

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GRAESER STATION MULTIFAMILY - RETAIL BUILDING

11004 OLIVE BLVD

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PROFESSIONAL RECORD

STATE OF MISSOURI
JOSHUA D GOODMAN
A-2018051005
11/07/2025
ARCHITECT

Project Number: **25.013**
Date: **11/07/2025**
Status: **P&Z APPROVAL**

FIRST FLOOR

A-1

1 2ND FLOOR PLAN
1" = 20'-0"

PARKING

TOTAL UNITS IN DEVELOPMENT:
- 157

TOTAL PARKING IN DEVELOPMENT:
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GRAESER STATION MULTIFAMILY - RETAIL BUILDING
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A-2019051009
11/07/2025
ARCHITECT

Project Number: **25.013**
Date: **11/07/2025**
Status: **P&Z APPROVAL**

SECOND FLOOR

A-2

1 3RD FLOOR PLAN
1" = 20'-0"

PARKING

TOTAL UNITS IN DEVELOPMENT:
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TOTAL PARKING IN DEVELOPMENT:
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GRAESER STATION MULTIFAMILY - RETAIL BUILDING
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A-2019051009
11/07/2025
ARCHITECT

Project Number: **25.013**
Date: **11/07/2025**
Status: **P&Z APPROVAL**

THIRD FLOOR

A-3

1 4TH FLOOR PLAN
1" = 20'-0"

PARKING

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- 157

TOTAL PARKING IN DEVELOPMENT:
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  (45 TUCK UNDER)
  (7 ADA)
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11/07/2025
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Status: **P&Z APPROVAL**

FOURTH FLOOR

A-4

1 OVERALL NORTH ELEVATION

1/16" = 1'-0"

2 OVERALL SOUTH ELEVATION

1/16" = 1'-0"

3 OVERALL EAST ELEVATION

1/16" = 1'-0"

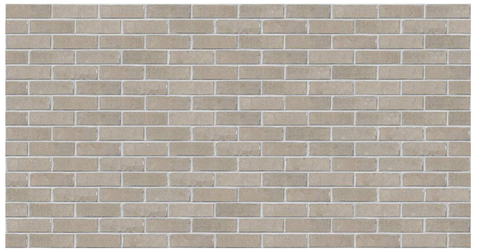
4 OVERALL WEST ELEVATION

1/16" = 1'-0"

5 SKY EXPOSURE DIAGRAM

1" = 30'-0"

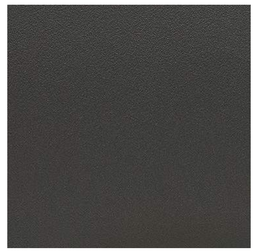
LARGE FORMAT MASONRY
USED AT RETAIL LEVEL



RUNNING BOND THIN BRICK VENEER
USED AT RESIDENTIAL LEVELS

PRECAST CORNICE DETAIL

ALLUMINUM
COMPOSITE PANELS



NICHIHA
TUFFBLOCK - STEEL

NICHIHA
CORBOSA (DARK)

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GRAESER STATION MULTIFAMILY - RETAIL BUILDING

11004 OLIVE BLVD

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A-2019051009
11/07/2025
ARCHITECT

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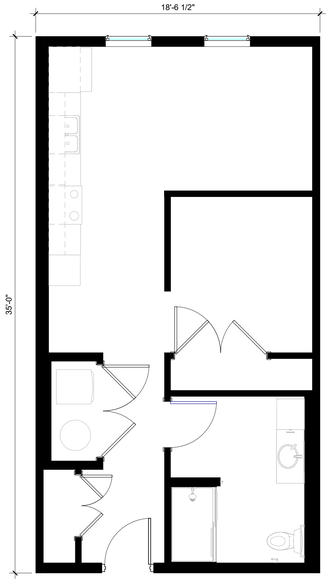
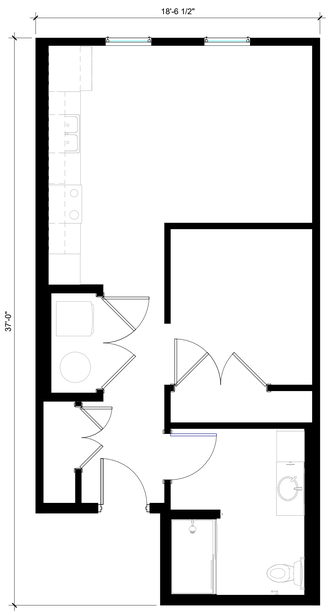
Date: **11/07/2025**
Status: **P&Z APPROVAL**

ELEVATIONS

A-5



STUDIO 1 BEDROOM
649 SQFT



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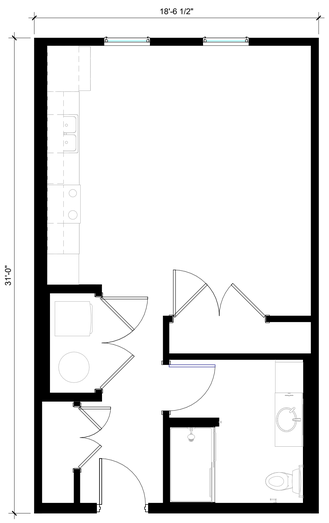
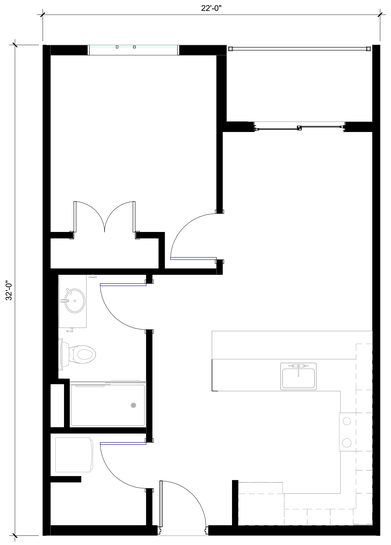
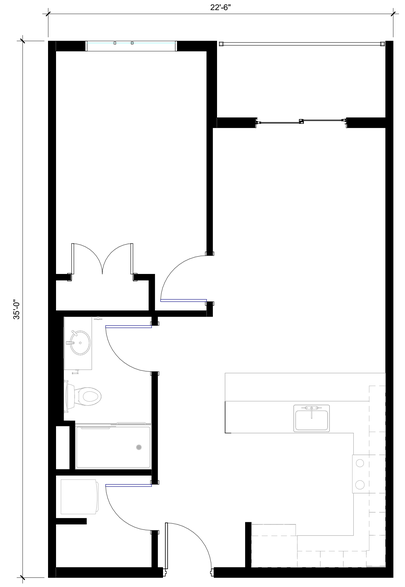


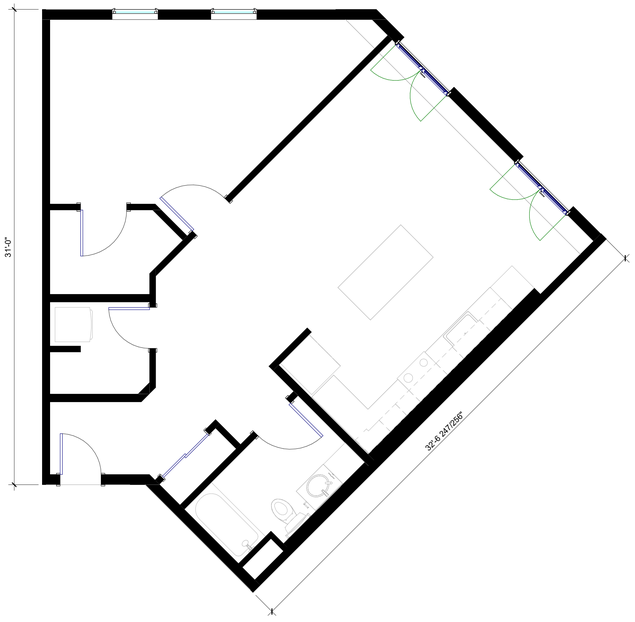
STUDIO 1 BEDROOM END
575 SQFT



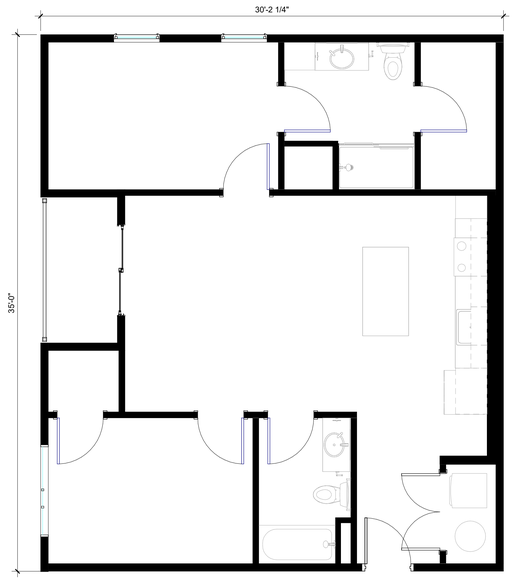
1 BEDROOM w/BALCONY - A
654 SQFT



1 BEDROOM w/BALCONY - B
730 SQFT



1 BEDROOM CORNER w/JULIETTE - A
1,028 SQFT



2 BEDROOM CORNER w/BALCONY - A
1,009 SQFT

2 BEDROOM w/BALCONY -
1,297 SQFT

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GRAESER STATION MULTIFAMILY - RETAIL BUILDING
11004 OLIVE BLVD

#	DATE	DESCRIPTION

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NUMBER A-2010051009
11/07/2025
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Status: **P&Z APPROVAL**

UNIT LAYOUTS

A-6

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GRAESER STATION MULTIFAMILY - RETAIL BUILDING

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IMAGERY

A-8

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GRAESER STATION MULTIFAMILY - RETAIL BUILDING

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IMAGERY

A-9

GREASER STATION - LANDSCAPE BUFFER RENDERING

11004 OLIVE BLVD

11/07/2025

OCTOBER 21, 2025

Graeser Station Parking Study

City of Creve Coeur, Missouri

Prepared for:

Creve Coeur Housing, LLC

2001 Shawnee Mission Parkway, Suite 250

Mission Woods, KS 66205

Prepared by:

Lochmueller Group

399 South Spring Avenue

Suite 208B

St. Louis, MO 63110

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Parking Analysis 3
City of Creve Coeur Parking Requirements 3
Baseline Code Requirements (Section 405.820) 3
Joint Parking Provisions (Section 405.800.G) 4
Flexibility Under Planned Zoning Districts (Section 450.390) 5
Anticipated Parking Demand 6
Conclusions 10

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Figure 2: Preliminary Site Plan - (Provided by Others) 2

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Introduction

Lochmueller Group has prepared a parking study for the redevelopment of a parcel located in the southwest quadrant of Olive Boulevard (Missouri Route 340) and Graeser Road, in Creve Coeur, Missouri. The proposed redevelopment, to be known as Graeser Station, would remove the existing vacant multi-tenant retail building and replace it with a residential building with 4 stories, containing 160 dwelling units along with retail and restaurant space. While the specifics of the retail and restaurant users are not yet known, for the purposes of this study it was assumed that a 3,472 square foot (SF) quick-serve restaurant (QSR) with no drive-through, and an additional 5,000 SF of retail space would be provided. A total of 250 parking spaces are proposed for the site. Access to the site would be via the existing drives serving the property; a full access and a right-turn only drive on Olive Boulevard, and a full access drive on Graeser Road. **Figure 1** depicts the proposed development area. A preliminary plan for the proposed mixed-use development is shown in **Figure 2.**

Figure 1: Graeser Station Development Site

The objective of the parking study is to determine the sufficiency of the proposed parking supply (250 spaces) offered within Graeser Station as compared to the City of Creve Coeur's parking requirements as well as the anticipated parking demands given the mix of uses. To that end, the following study was prepared in accordance with the requirements of the City of Creve Coeur.

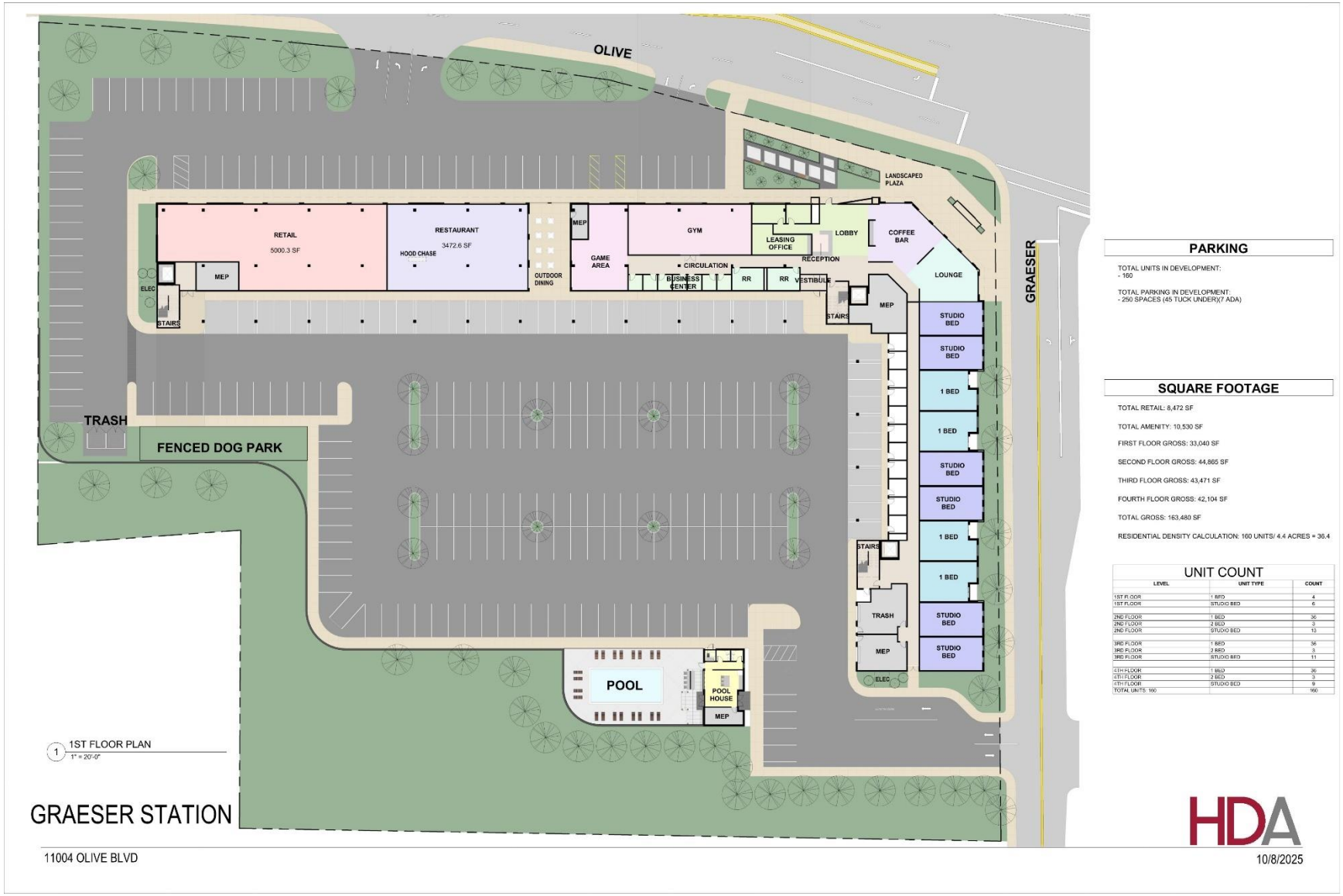


Figure 2: Preliminary Site Plan - (Provided by Others)

Parking Analysis

Lochmueller Group has completed a parking analysis for the proposed redevelopment to determine the amount of parking required by the governing agency as well as the parking demand expected to be generated by Graeser Station. The proposed residential uses would provide a four-story apartment building, comprised of a mix of studio, one-bedroom, and two-bedroom units, resulting in 160 total dwelling units. The commercial space could potentially include both retail and restaurant uses. A total of 250 parking spaces are to be provided on site.

City of Creve Coeur Parking Requirements

Baseline Code Requirements (Section 405.820)

The City of Creve Coeur has established baseline parking requirements to ensure developments provide sufficient parking for their businesses. *Section 405.820 – Required Off-Street Parking Spaces* of the City of Creve Coeur's code provides the number of spaces required for various land uses. Per the ordinance, the following parking is required to serve the proposed uses:

- *Section 405.820.B.2.b* - Multi-family uses shall provide two (2) parking spaces per dwelling unit for the first (1st) fifty (50) dwelling units; one and three-quarter (1¾) spaces per dwelling unit for the second (2nd) fifty (50) dwelling units; and one and one-half (1½) spaces per dwelling unit for all units in excess of one hundred (100) units.

- *Section 405.820.F.4* - General retail establishments (general merchandise, food, apparel and accessories and miscellaneous retail stores) require four (4) parking spaces per 1,000 square feet of floor area.

- *Section 405.820.F.5.a* - Restaurant facilities require one (1) parking space per every three (3) seats of maximum occupancy allowed under the conditional use permit plus one (1) parking space per every two hundred fifty (250) square feet of total building floor area.

Section 405.820.A lays out the methodology for computing the number of required spaces. "Floor area" shall mean the gross-floor area of the entire building of the specific use, excluding any floor or portion thereof used for parking. Where fractional spaces result, the parking spaces required shall be the next greater whole number. In the case of mixed uses, (including residential), the parking spaces required shall be computed separately for each use except as provided in Sections 405.800.G.3 & .4 and 405.820.H.6.b.

The residential portion of the building will consist of 160 units, resulting in a total of 278 parking spaces being required. The retail space, consisting of 5,000 square feet, will require 20 parking spaces. Finally, for the restaurant space, consisting of 3,472 sq ft (and presumed 100 seats), an additional 47 parking spaces would be required. **Table 1** summarizes the individual parking needs for each use, utilizing this baseline parking calculation.

Table 1. City of Creve Coeur Required Parking

Land Use	Number of Spaces
Residential	278
Retail	20
Restaurant	47
TOTAL	***345***

In total, the redeveloped site would require 345 parking spaces to satisfy the City's default Required Parking Spaces for each of the proposed uses. As proposed, the site would provide for a total of 250 parking spaces. Therefore, using this section of the code, the site would have a shortage of 95 parking spaces as compared to the City's zoning code established in Section 405.820, representing 27.6% less parking than required.

Joint Parking Provisions (Section 405.800.G)

Section 405.800.G of the City's code allows for parking within mixed use developments, such as proposed at Graeser Station, to review parking collectively (jointly). The code provision reads as follows:

> *Joint Parking Facilities*. Off-street parking facilities for different buildings, structures or uses or for mixed uses may be provided and used collectively or jointly in any zoning district in which separate off-street parking facilities for each constituent use would be permitted, subject to the following provisions:
>
> 1. The total number of spaces so located together is not less than the sum of the separate requirements for each use except as provided by Subsections (G)(3) and (G)(4) and Section 405.820(H)(6)(b).
> 2. A legally sufficient written agreement assuring the perpetual joint usage of said common parking for the combination of uses or buildings is properly drawn and executed by the parties concerned, approved as to form and execution by the City Attorney and filed with and made part of the application for a building permit.
> 3. Up to fifty percent (50%) of the parking spaces required for a theater (unless the theater's required parking spaces are based on the provisions of Section 405.820(H)(6)(b)) or other place of evening entertainment for a church or for multi-family dwelling units may be provided and used jointly by banks, offices, retail stores, repair shops, service establishments and similar uses not normally open, used or operated during evening hours if specifically approved by the Planning and Zoning Commission; and provided however, that written agreement assuring the retention for such purpose shall be properly drawn and executed by the parties concerned, approved as to form and execution by the City Attorney and shall be filed and made part of the application for a building permit. Such approval may, with fifteen (15) days prior written notice, be rescinded by the City Council and additional parking shall be obtained by the owners in the event that the City Council determines that such joint use is resulting in a public nuisance or is otherwise adversely affecting the public health, safety or welfare.

4. Land uses which do not meet the criteria of Subsection (G)(3) above but which can clearly demonstrate the ability to successfully provide joint parking facilities to the satisfaction of the Planning and Zoning Commission may be permitted to share up to fifty percent (50%) of their required parking spaces, provided that written agreement assuring the retention for such purpose shall be properly drawn and executed by the parties concerned, approved as to form and execution by the City Attorney and shall be filed and made part of the application for a building permit. Such approval may, with fifteen (15) days' prior written notice, be rescinded by the City Council and additional parking shall be obtained by the owners in the event that the City Council determines that such joint use is resulting in a public nuisance or is otherwise adversely affecting the public health, safety or welfare.

To summarize, the City's code via Sections 405.800.G.3 and 405.800.G.4 allow for up to fifty percent (50%) of the required parking to be jointly used by the various residential, retail and restaurant uses, as long as the Planning and Zoning Commission are satisfied that adequate parking will be provided. Given a total of 345 spaces are required on site, 173 parking spaces cannot be considered "shared" amongst the uses with any parking supply beyond the 173 parking spaces counting towards more than one use. Application of this methodology supports a reduction in the total number of parking spaces required for a mixed-use development, such as Graeser Station. Given the proposed site would provide 250 parking spaces, there would be 77 parking spaces that could be counted towards multiple uses within Graeser Station.

However, it should be noted that the code does have a provision that even if the Planning and Zoning Commission approves the application of joint parking at a site and thereby allows the site to provide less parking than the individual uses cumulatively require, the City Council can rescind said approval. Factors such as public nuisance and/or adverse effects to the public health, safety or welfare provide reasoning for City Council to rescind the joint parking approval. In such cases, additional parking must be provided by the owners within fifteen (15) days of written notice by the City Council.

Flexibility Under Planned Zoning Districts (Section 450.390)

Furthermore, The City's zoning ordinance establishes Planned Zoning Districts Section 405.390 to provide "a designed grouping of varied and compatible land uses…within one contained development." These districts are intended to enable flexibility and coordinated design that cannot be reasonably achieved under base zoning and its requirements.

Within this framework, the Planned Mixed-Use Development (PMD) district is defined as "a development…containing a mixture of commercial, residential, office, lodging, and miscellaneous service activities when acceptable to the area." Its purpose is "to provide sites for the development of a mixture of commercial and residential uses…compatible with surrounding neighborhoods," while promoting "efficient use of land and resources, a mix of amenities…and greater efficiency in public and utility services."

Section 405.390 makes clear that once approved, "the site concept plan and planned district ordinance replaces all prior zoning regulations…[and] shall govern the use, parking, loading, sign, bulk, space and yard regulations applicable to the subject property." This allows modifications to standards — including parking — so long as the project advances the stated purposes of the PMD and provides public benefits such as pedestrian connections, plazas, and architectural quality.

Graeser Station, with its mix of 160 residential units and retail and restaurant uses, directly fulfills the PMD purpose by delivering a true mixed-use environment, efficient land use, and urban amenities, thereby justifying consideration of a reduction in parking as compared to the standards set forth in Section 405.820. Reduced parking enables active streetscapes, pedestrian connectivity, and public space consistent with the code's intent and its framework for balancing flexibility with community benefit.

Therefore, the question with regards to Graeser Station's proposed parking supply becomes one of adequacy rather than simply meeting the code requirements set forth in Section 405.820. Is 250 parking spaces sufficient to accommodate the parking needs given the mix of uses proposed within Graeser Station? The adequacy of parking is often demonstrated via the completion of a shared parking study that evaluates the anticipated parking demand throughout a typical day as compared to the proposed supply. The following section will delve into the methodology, and associated calculations, applied to the parking demand associated with the proposed mixed uses at Graeser Station.

Anticipated Parking Demand

Parking demand can vary amongst land uses, and, at times, it is prudent to prepare demand-based parking space requirements analysis as part of site planning efforts. This exercise is often done as a means of avoiding excessively sized parking fields. An alternative parking analysis include estimates of parking demand based on recommendations of the American Planning Association (APA), Institute of Transportation Engineers (ITE), and/or other acceptable estimates collected from other sources (local data, etc.). For the purposes of this analysis, data provided by ITE in the *Parking Generation Manual*, 6th Edition, was utilized. The 6th Edition was published in October 2023 and represents the most up to date data pertaining to the parking demands associated with various land uses.

Given the number of floors within the building, Land Use Code 221 – *Multifamily Housing – 2+ BR (Mid-Rise)* was deemed appropriate given the multi-family would be comprised of four stories and a mix of studio, 1-bedroom and 2-bedroom units. Land Use Code 822 – *Strip Retail Plaza (<40 KSF)* was utilized for the retail space as it accounts for commercial establishments that are less than 40,000 square feet of gross leasable area. Finally, Land Use Code 933 – *Fast-Food Restaurant without Drive-Through Window* was used for the restaurant space, which is intended to be marketed as a quick serve restaurant (typically smaller space with counter service but seating provided, turnover occurs in less than an hour).

Per the Parking Generation Manual, peak parking demand is typically defined as the 85th percentile data point, whereas 85% of the time the parking demand would be equal to or less than this rate. Therefore, the 85th percentile rate was interpreted as the "peak parking demand." The parking analysis was based upon both weekday and Saturday peak parking demands, as parking demands fluctuated differently depending on the part of the week. Data pertaining to suburban locations with no nearby rail transit was utilized.

The variable applied to a land use to determine peak parking demand can vary. Number of dwelling units was utilized as the independent variable for Land Use Code 221. Square footage was utilized for both Land Use Code 822 and 933.

Table 2 summarizes the calculations for peak parking demand for the proposed residential development based upon number of dwelling units. It was calculated that 160 units would generate a peak parking demand of 232 parking spaces (Weekday and Saturday). It should be noted that the Saturday data

provided by ITE was based upon a small sample size; therefore, the peak parking demand for the Saturday was determined to be the same as a weekday.

Table 2. ITE Peak Parking Demand Calculations for Residential Development

Apartments	Land Use Code	# of Units	Peak Parking Demand Rate		Peak Parking Demand Calculated	
			Weekday	Saturday	Weekday	Saturday
Studio		39	1.45	1.45	56.55	56.55
1 Bedroom	221	112	1.45	1.45	162.4	162.4
2 Bedroom		9	1.45	1.45	13.05	13.05
Total for Apartments		160			232	232

Likewise, **Table 3** depicts the peak parking demand calculations for commercial uses based upon square footage. As can be seen, considering the two commercial uses together, they would generate a peak parking demand of 67 spaces during a typical weekday and 70 spaces during a typical Saturday.

Table 3. ITE Peak Parking Demand Calculations for Commercial Development

Land Use	Land Use Code	SF	Peak Parking Demand Rate		Peak Parking Demand Calculated	
			Weekday	Saturday	Weekday	Saturday
Retail	822	5,000	4.44	4.36	22	22
Restaurant	933	3,472	11.01	12.96	38	45
Total		8,472			60	67

In summary, per ITE's Parking Generation Manual, peak parking demand for all three uses is anticipated to be approximately 299 parking spaces. However, this assumes that the parking demand for all uses peaks simultaneously, when in reality, the differing land uses have temporal differences in their parking demand fluctuations.

Temporal fluctuations within the parking demand depending upon each land use's parking characteristics must be considered. The ITE *Parking Generation Manual* provides time of day parking distributions for various land use and supports that commercial and residential uses peak at different times throughout the weekday. Residential uses tend to peak in the late evening until the morning hours, with vehicles parked overnight. Conversely, commercial uses such as the retail and the restaurant uses tend to peak during the lunch and afternoon hours, when the residential demand is generally at 70% or less of its overall peak demand.

Using the hourly fluctuations in parking demand provided by ITE in the *Parking Generation Manual,* it is possible to estimate the proposed site's parking demand throughout a typical weekday and typical Saturday. **Table 4** summarizes the time-of-day parking distribution for a typical weekday while **Table 5** summarizes the parking demand throughout a typical Saturday. The tables summarize the parking demand for each of the land uses proposed, as well as the cumulative total parking demand. The percentage occupied, assuming 250 parking spaces are provided on site, is also shown for each hour.

Table 4. Hourly Parking Distribution – Typical Weekday

Hour	Residential Demand	Retail Demand	Restaurant Demand	Total Demand	% Occupied (250 spaces)
12:00 - 4:00 AM	232.00	--	--	232	93%
5:00 AM	222.72	--	--	223	89%
6:00 AM	199.52	--	--	200	80%
7:00 AM	178.64	--	--	179	72%
8:00 AM	153.12	4.18	--	158	63%
9:00 AM	139.20	7.26	3.80	151	60%
10:00 AM	132.24	10.34	7.60	151	60%
11:00 AM	127.60	12.10	15.20	155	62%
12:00 PM	120.64	19.58	38.00	179	72%
1:00 PM	116.00	22.00	35.34	174	70%
2:00 PM	120.64	16.06	30.40	168	67%
3:00 PM	118.32	16.06	20.14	155	62%
4:00 PM	132.24	14.52	12.54	160	64%
5:00 PM	143.84	15.40	15.20	175	70%
6:00 PM	150.80	16.50	14.06	182	73%
7:00 PM	157.76	15.40	7.60	181	72%
8:00 PM	174.00	11.88	12.54	199	80%
9:00 PM	190.24	10.56	7.60	209	84%
10:00 PM	201.84	--	3.80	206	82%
11:00 PM	211.12	--	--	212	85%

**Table cells with dashes indicate zero parking demand*

Table 5. Hourly Parking Distribution – Typical Saturday

Hour	Residential Demand	Retail Demand	Restaurant Demand	Total Demand	% Occupied (250 spaces)
12:00 - 4:00 AM	213.44	--	--	214	86%
5:00 AM	232.00	--	--	232	93%
6:00 AM	229.68	--	--	230	92%
7:00 AM	225.04	--	--	226	90%
8:00 AM	213.44	--	--	214	86%
9:00 AM	192.56	8.36	4.50	206	82%
10:00 AM	183.28	12.10	13.50	209	84%
11:00 AM	164.72	14.52	22.50	202	81%
12:00 PM	157.76	18.70	37.80	215	86%
1:00 PM	150.80	22.00	45.00	218	87%
2:00 PM	143.84	21.12	42.30	208	83%
3:00 PM	153.12	17.38	28.80	200	80%
4:00 PM	153.12	14.52	28.80	197	79%
5:00 PM	155.44	14.08	26.55	197	79%
6:00 PM	162.40	14.74	45.00	223	89%
7:00 PM	180.96	15.40	32.40	229	92%
8:00 PM	178.64	15.40	32.40	227	91%
9:00 PM	185.60	11.22	27.45	225	90%
10:00 PM	190.24	--	13.50	204	82%
11:00 PM	204.16	--	4.50	209	84%

**Table cells with dashes indicate zero parking demand*

As shown, the on-site parking demand at Graeser Station would be projected to reach a peak of 93% occupied during both the typical weekday and a typical Saturday. At that time, 232 parking spaces would be expected to be occupied, leaving a total of 18 parking spaces available. As expected, this peak would occur during the overnight/early morning hours when the residential parking demand is at its highest. However, at these times, the retail and restaurant uses would not be open for business and turnover of the parking spaces would be low.

During the daytime hours, whenever the retail and/or restaurant uses would be open for business, the weekday hourly parking demand fluctuates between a low of 60% occupied to a high of 84% occupied. Saturday's parking demand would be higher than a typical weekday since residents would remain on site

longer and often be present during the operating hours of the retail and/or restaurant uses. Hence, between 8 AM and midnight, the parking demand would vary between a low of 79% occupied to a high of 92% occupied, which is only slightly less than the overall peak parking demand that occurs overnight. Therefore, there will always be some open parking spaces on site.

When discussing parking conditions, it is imperative to understand the difference between "actual supply" versus "effective supply." Actual supply refers to the total number of spaces provided. For the proposed site, there is forecasted to be a surplus of actual parking spaces as compared to the hourly fluctuation in parking demand. The term effective supply refers to the total supply of parking spaces, adjusted to reflect the cushion needed to provide for vehicles moving in and out of spaces, spaces unavailable due to maintenance, mis-parked vehicles, and to reduce the time necessary for patrons to find the last few available spaces. The effective supply varies as to the user group and type of parking, but typically the effective supply is 85% to 95% of the total number of spaces. For service-oriented land uses, it is preferable not to exceed 90% of the total number of spaces, thereby allowing for ease of turnover and circulation. Residential uses, however, can close the gap between actual and effective and ideally utilize 95% or more of the proposed parking supply with minimal ramifications.

Based on the preceding analysis for Graeser Station, it is clear that the proposed 250 parking spaces would be sufficient overall. However, there would be times of day on a typical Saturday (lunch and dinner hours) when the number of surplus parking spaces would be constrained to less than 20 available spaces. During those times, patrons of the restaurant or retail may have to circulate before finding an available parking space.

Per Sections 405.800.G.3 and 405.800.G.4 of the City Code, up to fifty percent (50%) of the various uses required parking can be jointly used, assuming approval is granted by the City's Planning and Zoning Commission. Application of this to the proposed site indicates that 173 parking spaces cannot be considered "shared" amongst the uses, but any parking supply beyond the minimum 173 parking spaces can be counted towards more than one use. Given the proposed site would provide 250 parking spaces, there would be 77 parking spaces that could be counted towards multiple uses within Graeser Station.

Therefore, it is our opinion that the 250 parking spaces proposed at Graeser Station would be sufficient to accommodate the proposed mix of uses. Given the Code allows consideration for a reduction in the overall parking supply as compared to the total required for each individual use, it is our recommendation that the City's Planning and Zoning Commission consider approval of the proposed supply of 250 parking spaces, which represents a reduction of 27.6% of the total spaces required by the individual uses' parking requirements.

Conclusions

Lochmueller Group has completed a parking analysis for the proposed redevelopment, Graeser Station. The objective of the preceding parking study was to determine the sufficiency of the proposed parking supply (250 spaces) as compared to the City of Creve Coeur's parking requirements as well as the anticipated parking demands given the mix of uses. The proposed residential development would provide a four-story apartment building, comprised of a mix of studio, one-bedroom, and two-bedroom units, resulting in 160 total dwelling units. The commercial space could potentially include both retail and restaurant uses (5,000 SF of retail and 3,472 SF of a quick-served restaurant were assumed for the study).

Based on the preceding study, the following can be concluded:

- The City of Creve Coeur has established minimum parking requirements, requiring developments to provide sufficient parking for their businesses. Section 405.820 – Required Off-Street Parking Spaces of the City of Creve Coeur's code provides the number of spaces required for various land uses.
    - The residential portion of the building will consist of 160 units, resulting in a total of 278 parking spaces being required. The retail space, consisting of 5,000 square feet, will require 20 parking spaces. Finally, for the restaurant space, a restaurant consisting of 3,472 sq ft (and presumed 100 seats) would require 47 parking spaces.
    - In total, the redeveloped site would require 345 parking spaces to satisfy the Required Parking Spaces for each of the proposed uses.
    - As proposed, the site would provide for a total of 250 parking spaces. Therefore, Graeser Station would have a shortage of 95 parking spaces as compared to the City's zoning code, representing 27.6% less parking than required by the individual land uses proposed.
- Section 405.800.G of the City's code allows for parking within mixed use developments, such as proposed at Graeser Station, to review parking collectively (jointly). Per the City's code, up to fifty percent (50%) of the required parking is allowed to be jointly used by the various residential, retail and restaurant uses, as long as the Planning and Zoning Commission are satisfied that adequate parking will be provided.
    - Given a total of 345 spaces are required on site, 173 parking spaces cannot be considered "shared" amongst the uses with any parking supply beyond the minimum 173 parking spaces able to be counted towards more than one use within Graeser Station.
    - Application of this methodology supports a reduction in the total number of parking spaces required for Graeser Station. The preceding study adequately describes the anticipated parking conditions at Graeser Station that would be expected due to the proposed mix of uses.
- The adequacy of the proposed parking supply within Graeser Station was demonstrated via the completion of this shared parking study, which evaluated the anticipated parking demand throughout a typical day. Data provided by the Institute of Transportation Engineers in the Parking Generation Manual, 6th Edition, was utilized.
- The 160 residential units would generate a peak parking demand of 232 parking spaces on both a typical weekday and a typical Saturday.
    - The 5,000 SF of retail and 3,472 SF of restaurant space would generate a peak parking demand of 60 spaces during a typical weekday and 67 spaces during a typical Saturday.

- The peak parking demand for all three uses proposed within Graeser Station is anticipated to be approximately 299 parking spaces. However, this assumes that the parking demand for all uses peaks simultaneously, when in reality, differing land uses have temporal differences in their parking demand fluctuations.

- When considering temporal fluctuations in the peak parking demand for the various uses proposed within Graeser Station, the overall on-site parking demand would be projected to reach a peak of 93% occupied during both the typical weekday and a typical Saturday. At that time, 232 parking spaces would be expected to be occupied, leaving a total of 18 parking spaces available.

    - This peak would occur during the overnight/early morning hours when the residential parking demand is at its highest.

    - During the daytime hours, whenever the retail and/or restaurant uses would be open for business, the weekday hourly parking demand fluctuates between a low of 60% occupied to a high of 84% occupied. Saturday's parking demand varied between a low of 79% occupied to a high of 92% occupied.

- The proposed 250 parking spaces would be sufficient overall to accommodate the anticipated parking demand. However, there would be times of day on a typical Saturday (lunch and dinner hours) when the number of surplus parking spaces would be constrained to less than 25 available spaces. During those times, patrons of the restaurant or retail may have to circulate before finding an available parking space.

- The Code allows for consideration of a reduction in the overall parking supply as compared to the total required for each individual use. Therefore, it is our recommendation that the City's Planning and Zoning Commission consider approval of the proposed supply of 250 parking spaces at Graeser Station, which represents a reduction of 27.6% of the total spaces required by the individual uses' parking requirements.

- Graeser Station, with its mix of 160 residential units and retail and restaurant uses, directly fulfills the Planned Mixed-Use Development (PMD) district's purpose outlined in Section 405.390 by delivering a true mixed-use environment, efficient land use, and urban amenities, thereby justifying consideration of the requested reduction in parking as compared to the standards set forth in Section 405.820. Reduced parking enables active streetscapes, pedestrian connectivity, and public space consistent with the code's intent and its framework for balancing flexibility with community benefit.

The preceding study adequately describes the anticipated parking conditions at Graeser Station that would be expected due to the proposed mix of uses. Please contact our office at (314) 446-3791 if you have any questions or comments concerning this report.

Completed by Lochmueller Group, Inc

HRGreen

TECHNICAL MEMORANDUM

To: Jason Jaggi, City of Creve Coeur; Bethany Moore, City of Creve Coeur

From: Dan Shane, PE, PTOE

Subject: Graeser Station Parking Analysis, 2nd Review

Project No.: Work Order #3 (2403633.03)

Date: November 24, 2025

HR Green has reviewed the November 7, 2025 Response to Comments regarding the Graeser Station Parking Study and Conceptual Site Plan. We find the responses satisfactory and have no further technical comments. The parking analysis appropriately applies a conservative approach, recognizing that peak demands for individual land uses are unlikely to occur simultaneously, allowing for shared parking. However, the projected peak demand of 232 spaces compared to 250 available spaces offers limited flexibility for surges. Future changes in restaurant or retail use or density could further impact parking availability, particularly given the lack of options for additional on-site parking.

It should be noted that any changes to the preliminary site plan may require updates to the parking study. If you should have any questions regarding the comments and suggestions listed above, please feel free to contact me at 636.812.4211 or dshane@hrgreen.com.

Jason Jaggi <jjaggi@crevecoeurmo.gov>

PROJECT >> GRAESER STATION

1 message

stevew@inlite.com <stevew@inlite.com> Fri, Oct 24, 2025 at 1:34 PM
To: jjaggi@crevecoeurmo.gov

ATN: JASON JAGGI

Director of Community Development

REF; THE GRAESER STATION PROJECT AT OLIVE AND GRAESER

My name is Stephen Weinstock, and I live at 10962 Chambray Ct. which is located right off Graeser Road. After going to the previous meetings regarding the above proposed apartment and commercial project at the intersection of Olive Blvd and Graeser and discussing this further with other residences in subdivisions located off Graeser we all have the following two concerns and suggestions about this project. First, I want to make it clear that we have no objection to having a residential apartment building being built at this location so long as it is done correctly and fits into our residential area properly.

The following are objections and suggestions:

First concern is the intersection of Olive Blvd and Graeser:

1. **Intersection of Olive Blvd and Graeser**.

   This is a major concern. By adding around 150 to 160 apartments plus some commercial to this intersection, we will increase the amount of traffic at this intersection during the hours between 7 and 9 AM and 4 to 6 PM Monday through Friday by at least one hundred or more cars per day. The way the current intersection is laid out we find adding this extra traffic burden to be unacceptable without making changes to this intersection. We also agree any changes should be the builder's responsibility.

   1. Right now, there are three traffic lanes on Graeser Road at the inter section. Going north on Graeser there are two lanes. The far-right lane is designated for either making a right turn or for going straight across Olive Blvd. There is a middle lane going north which is designated for making a left turn from Graeser on to Olive Blvd going west. These lanes are really missed marked and should be changed anyway. The far-right lane should be marked for making a right turn only from Graeser on to Olive going east and the middle lane should be marked for either going straight across Olive Blvd or for making a left turn on to Olive Blvd going west.
   2. The third lane on Graeser is designated for all autos turning off Olive Blvd and wanting to go south on Graeser road.

2. **Proposed Intersection change: We** feel the following changes are needed at this intersection to help accommodate the additional traffic load and flow of traffic.

    1. **First the far-right lane on Graeser running alongside the credit union going north which is designated for going straight or making a right turn on to Olive going east must be changed to a right turn only lane going east on Olive Blvd. A**lso, if this project is approved this far right lane must be increased in length to start where the exit from the new apartment project is located going on to Graeser. This will allow cars leaving the project to go directly into the right turn only lane thus not interfering with the other traffic on Graeser wanting to go straight or make a left turn on to Olive.
    2. **It is imperative that an additional lane be added at this intersection to accommodate the traffic coming off Olive Blvd and wanting to go south on Graeser.** This new lane should be located next to the new apartment project. It should be a lane designated as a right turn only lane. It will allow autos coming off Olive to make a right turn only into this new apartment project. By adding this lane autos coming off Olive and wanting to go into this new project will not impede with other autos wanting to come off Olive and continue going south on Graeser. This lane will be very helpful to get as many autos as possible off Olive thus eliminating less backups on both Olive Blvd and Graeser.

Second concern is the setback of the buildings off Graeser Road.

1. Set back: We all agree that the current set back of Graeser Road is not acceptable.

    The buildings are located way to close to the sidewalk. The building should have the same minimum setback as any other structure or home located on Graeser to keep the area looking the same. We find this must be corrected.

Another concern that was discussed was the overall size and height of the project but if the residents living close to the project do not seem to be concerned then I do not think this is a major issue.

Thank you for what you are doing and if I can be of any help or if you have any questions or suggestions, please let me know.

Regards,

Stephen Weinstock
314-378-6464

Jason Jaggi <jjaggi@crevecoeurmo.gov>

Re: Request for Revisions to Site Plan Affecting Our Homes

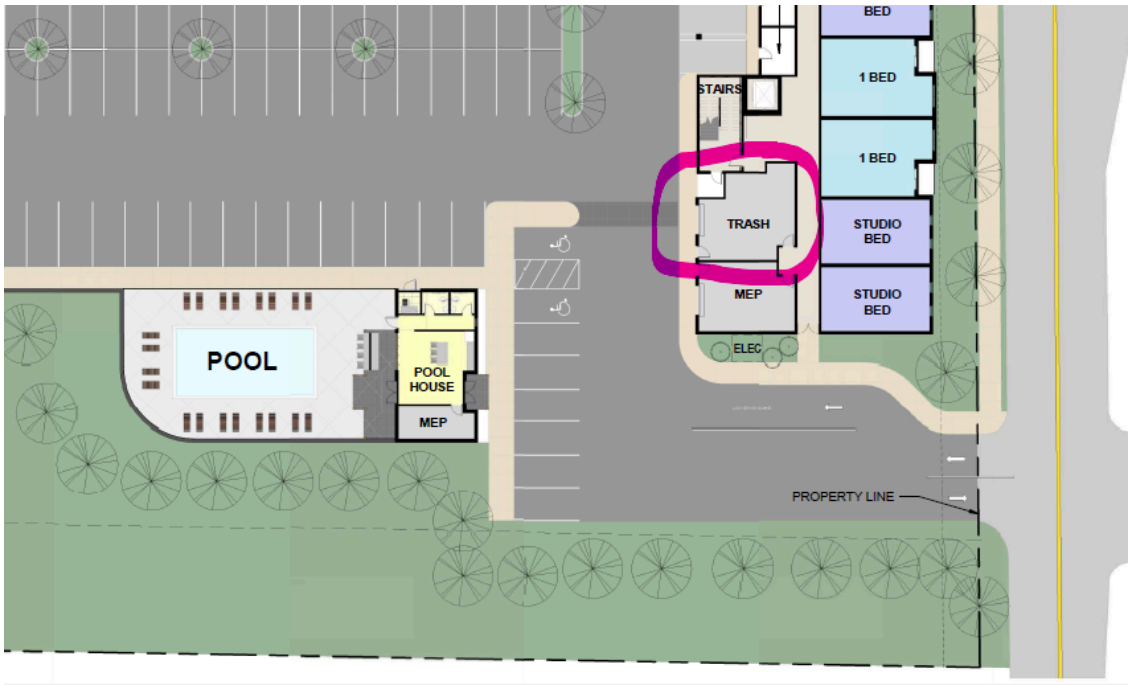
1 message

Jason Jaggi <jjaggi@crevecoeurmo.gov> Wed, Nov 26, 2025 at 11:24 AM
To: zhihaidong <zhihaidong@gmail.com>
Cc: joel@steadfastcity.com, Cheryl <richardscca@gmail.com>, Li Gmail <huiqingli14@gmail.com>, bergerbrett7@gmail.com, bo_shi@yahoo.com

Good Morning,
I will include these additional comments in the meeting packet for the Planning and Zoning Commission's review. I would also encourage you to attend the meeting and provide comments directly to the Commission if you are able to.

Regarding the trash dumpsters, I wanted to pass along that there will be a separate trash room for the residential units, located inside the building--please see the clip below for reference. The exterior dumpster located at the southwest corner of the site, will be for the commercial uses.

Thank you,
--Jason



On Wed, Nov 26, 2025 at 6:44 AM zhihaidong <zhihaidong@gmail.com> wrote:

> Good morning Jason,
>
> Thank you for your earlier reply. I had to step away from reviewing the site plan for a few days to calm down before responding, because the current layout is something I truly cannot look at without serious emotional stress. After carefully reviewing everything again, I must express my concerns clearly and firmly.
>
> First, it is evident that the development team fully understands that trash dumpsters, the dog park, and the swimming pool are noisy, messy, high-impact, and unpleasant features. This is precisely why they placed all of these elements on the outer edge of their property, outside their retaining wall, as far away from their own residents as possible. In doing so, the negative impact has been shifted directly onto the neighboring homeowners.
>
> Even the City's code regulates where trash bins and dumpsters can be placed for exactly this reason—because they can be harmful, visually unpleasant and attract pests. Placing a trash dumpster directly beside my kitchen and patio shows no consideration for how neighbors live, rest, or maintain the safety and cleanliness of their homes.

A trash enclosure will never block odors, flies, animals, or the smell of rotting meat waste—especially given the amount of refuse generated by a commercial restaurant and these 160 families. Daily exposure to this would be a genuine health hazard. No homeowner can reasonably be expected to tolerate this level of odor, pests, and risk of illness in their backyard.

I must also mention safety concerns: I have been bitten by large dogs in the past and incurred significant medical bills paid by the other party. I cannot allow or risk another incident happening to my family or to any neighbor. A dog park placed directly along my backyard is not a safe placement and cannot be accepted.

For all of these reasons, we simply cannot afford, cannot accept, and will not agree to having trash dumpsters, dog park, swimming pool, or similar high-impact facilities placed immediately next to our homes. This presents an unacceptable living hazard and places an unreasonable burden on the neighbors.

Importantly, the developer has ample interior space available in the center of the site. A central garden or centrally located amenity area would resolve these issues entirely and would keep these high-impact features within their own property boundaries, rather than imposing them on surrounding homeowners.

I am asking respectfully—but firmly—that these facilities be relocated away from the neighboring property lines and placed toward the interior of the development where they belong. As a homeowner, I absolutely cannot accept the current placement.

Thank you for your understanding, and I hope we can work toward a solution that is both reasonable and healthy for everyone involved.

Sincerely,
Gordon Dong

On Fri, Nov 21, 2025 at 11:06 AM Bo Shi <bo_shi@yahoo.com> wrote:

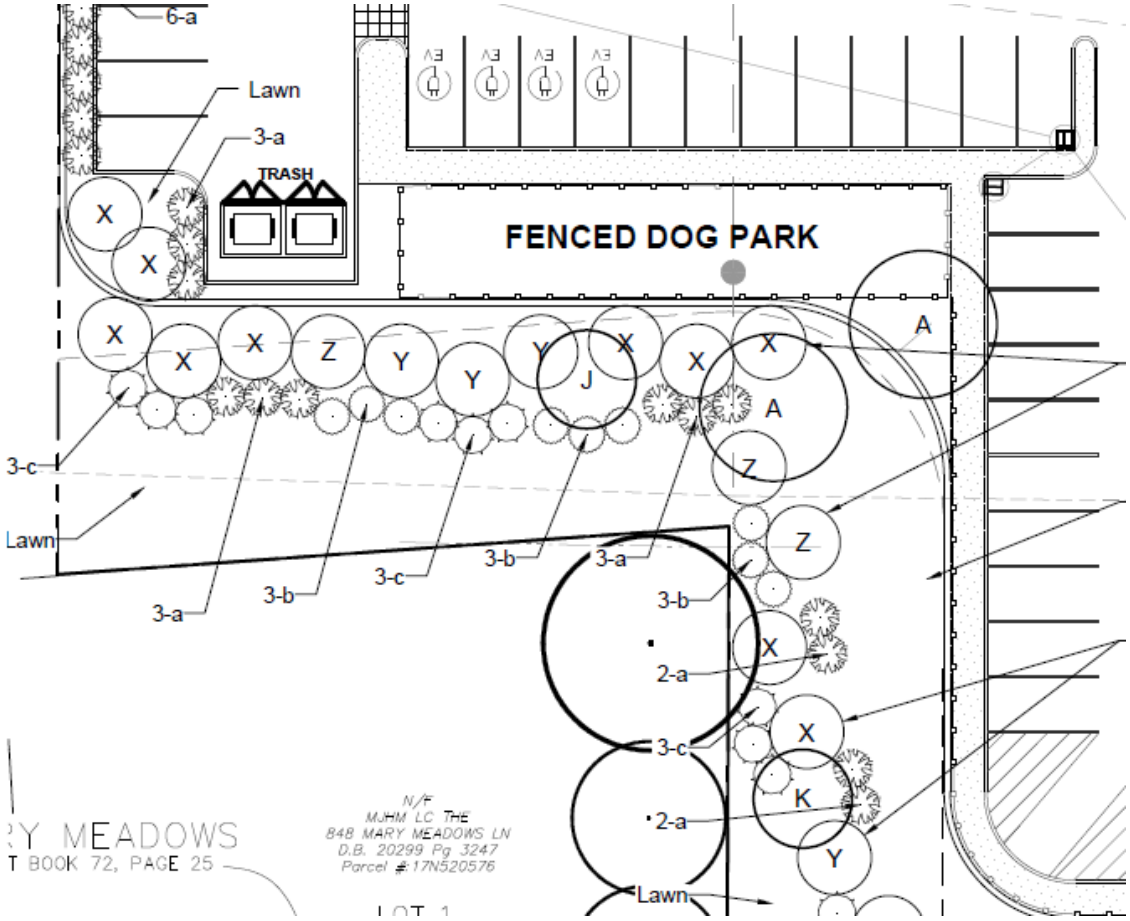
> Good Morning, Jason,
>
> I appreciate you getting back to us.
>
> I looked at the application closely, including the supporting materials. I have a lot of questions regarding how the supporting materials were generated and the case was presented. For this email string, I only talk about the nuisances from the trash dumpsters and the pool.
>
> Generally, a lot of questions from earlier informational meetings were answered. However, policies, rules, and promises are not guarantees. The only way to avoid those nuisances is through redesign. We can argue forever, but the truth is there will be a lot of nuisances if the development goes as it is currently planned.
>
> For the dumpsters, the walls and trees won’t block the smell. Just imagine how much trash can be generated by 160 apartments and a restaurant.
>
> The pool is 35 feet from my property line. Remember this is not a private family pool. With this many apartments, this is considered a “public” pool in terms of how many people will be using it. If you do a survey, how many people would want a public pool 35 feet from their property lines? To put this into a practical perspective, 35 feet is from one side of a house to another side for a smaller home in the neighborhood.
>
> Being a resident in Creve Coeur, I want the city to prosper. However, doing so based on huge sacrifices of people in the community is wrong, and…. I will let you pick the bad words here.
>
> I certainly hope that all parties can have candid conversations and decide on something that is acceptable, which includes an acceptable density.
>
> Thank you again.
>
> Bo Shi

Sent from Yahoo Mail for iPhone

On Friday, November 21, 2025, 9:49 AM, Jason Jaggi <jjaggi@crevecoeurmo.gov> wrote:

Good Morning,
Thank you for taking the time to submit comments concerning this development proposal. I will include them in the December 1st meeting packet for review by the Planning and Zoning Commission.

Regarding the dumpsters, the plans show them located on the southwest corner of the site, approximately 45-feet from the closest residential property line. The dumpsters will be placed within a solid wall enclosure and will be located behind a retaining wall with evergreen trees providing a landscaped screen between the dumpster and the property line. Please see the clip below from the landscape plan showing the proposed conditions of the dumpster enclosure as well as the dog run.



The applicant has submitted operational restrictions for the dog run and the pool deck, which I have included below.

Operations

- Pool hours fixed at 10:00 a.m.–10:00 p.m. with posted quiet hours; no glass, smoking, or alcohol in the pool area; pets prohibited in pool enclosure (service animals excepted).
- Dog run limited to residents only, closed 10:00 p.m.–5:00 a.m., and max 15 minutes per use during open hours; dogs must be attended at all times; fence and landscape sound screening maintained.
- Compliance with applicable municipal noise ordinances; no outdoor amplified music after 9:00 p.m.
- Commercial deliveries and trash service confined to off-peak hours (e.g., 7:00 a.m.–7:00 p.m., no Sundays or City-recognized holidays)
- Outdoor dining limited to the plaza and covered patio areas shown; no outdoor cooking equipment outside designated locations.

Thank you,
--Jason

On Thu, Nov 20, 2025 at 3:01 PM zhihaidong <zhihaidong@gmail.com> wrote:

> Dear Jason,
>
> We hope you are doing well. We are writing as the immediate neighbors whose homes sit directly next to the proposed development:
>
> - **Gordon Dong – 848 Mary Meadows Ln**
> - **Cheryl Richards – 842 Mary Meadows Ln**
> - **Shi Bo – 11011 Martin Grove Ln**
>
> Because our backyards share a boundary with the project's property line, this site plan will have a very real and immediate impact on our daily lives, our families, and the comfort and safety of our homes. After reviewing the layout, we wanted to share our concerns and kindly ask for reconsideration of several design choices.
>
> ---
>
> ## How the Current Layout Affects Our Families
>
> The current design places the parking lot in the center of the development, while the trash area, dog park, swimming pool, and other high-activity or high-noise features are pushed out to the edges—directly against our yards and windows.
>
> For our families, this isn't just a technical issue on a drawing. It affects where our children can safely play, how we use our backyards, and the sense of peacefulness and privacy we have worked hard to build in our homes.
>
> In common commercial developments, these higher-impact features are placed toward the center, with buildings creating a natural buffer. A "central-park-style" layout—where parking sits around the perimeter and active uses remain inside—is far more common and far more neighbor-friendly. The current layout does the opposite, placing the burden directly on nearby homeowners.
>
> We hope you can understand how challenging this feels for the families who already live here.
>
> ---

Concerns About the Trash Dumpster

The commercial dumpster is located extremely close to **848 Mary Meadows**, near the patio and only a short distance from the kitchen. This raises serious concerns regarding:

- strong food odors drifting into our homes
- flies, rodents, and pests
- bacteria and waste exposure
- the loss of enjoyable outdoor living space

During the summer, we spend a great deal of time outside with our children and families. Imagining a large restaurant dumpster just steps away from our patio dinners is overwhelming. It's difficult to picture living with this every day.

Emotional and Safety Concerns About the Dog Park

The dog park is placed directly along our shared property line. While we all love dogs, placing a high-activity dog area right up against our backyards creates several worries:

- excited or barking dogs only a short distant away from where our children play
- the possibility of large dogs jumping, damaging, or breaching the fence
- daily noise, stress, and disruption
- the feeling that our private yard is no longer private

For those of us raising small children, this setup simply does not feel safe or comfortable.

Overall Impact on Our Homes

As currently designed, the plan gives us the impression that the comfort, peace, and quality of life of the neighboring families were not fully considered. The placement of these facilities would negatively affect:

- our quiet enjoyment of our homes
- our ability to use our backyards comfortably
- our children's safety
- our property values
- our day-to-day peace of mind

We truly want this project to succeed, but not in a way that harms the families who already live here.

Our Request for a More Thoughtful Layout

We respectfully request that the design team consider moving the higher-impact features —such as the dog park, trash enclosure, and swimming pool—to the **interior of the development**, where they can be naturally buffered by the surrounding buildings.

We also encourage placing the **parking around the perimeter** instead.

This more traditional, "central-park-style" layout is common, practical, and would make a significant difference for us as neighboring families. It allows the project to keep its amenities while ensuring a safe, peaceful living environment for the existing community.

Thank You for Listening

Thank you sincerely for taking the time to hear our concerns. This neighborhood is where we live, raise our children, and spend our everyday lives. We care deeply about our homes and the community we share.

We truly hope the design team can work with the neighborhood and consider adjustments that respect both the development and the families next door. We would be happy to discuss this further and appreciate your understanding.

Warm regards,

Gordon Dong – 848 Mary Meadows Ln
Cheryl Richards – 842 Mary Meadows Ln
Shi Bo – 11011 Martin Grove Ln

--
Jason W. Jaggi, AICP
Director of Community Development
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Creve Coeur, MO 63141
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MEMO TO PLANNING AND ZONING COMMISSION

Meeting Date: January 20, 2026

Subject: **Discussion Item: Bayer East Campus Comprehensive Plan Update Completion Schedule**

Memo Prepared by: Jason W. Jaggi, AICP, Director of Community Development

Attachments: **None**

The City's planning consultant, PGAV Planners, has submitted a draft of the full plan which is under review by staff. To complete the planning process, the following schedule is proposed:

- **February 2nd P&Z Meeting** – PGAV to present draft plan and recommendations to P&Z in work session format for feedback. Draft plan to be submitted to P&Z by Friday, January 23rd for review in advance of the meeting and included in meeting packet.
- **Week of February 2nd:** After P&Z initial review, final edits are made by PGAV. Draft posted for public review. Public notice is created, plan is placed on website for public review and comment, email update to prior attendees. Online comment form on website.
- **March 2nd P&Z Meeting** - Public Hearing and resolution for adoption. Continued to March 16th P&Z meeting, if necessary.

Staff is seeking the Commission's direction to move forward with this schedule in order to complete the planning process.