

**CHARTER TOWNSHIP OF VAN BUREN  
PLANNING COMMISSION AGENDA  
Wednesday, November 9<sup>th</sup>, 2022 – 5:30 PM  
Van Buren Township Hall  
46425 Tyler Road**

**Per guidance provided by the Wayne County Local Public Health Department for meetings of governmental bodies held under public act 228 of 2020, effective January 1, 2022, the following Zoom link is provided to enable remote participation in a meeting of the public body by the general public:**

When: Nov 9, 2022 05:30 PM Eastern Time (US and Canada)

Topic: November 9, 2022 Van Buren Township Planning Commission Meeting

Please click the link below to join the webinar:

<https://us06web.zoom.us/j/81293034206>

Or One tap mobile :

US: +19294362866,,81293034206# or +13017158592,,81293034206#

Or Telephone: Dial(for higher quality, dial a number based on your current location):

US: +1 929 436 2866 or +1 301 715 8592 or +1 309 205 3325 or +1 312 626 6799 or +1 646 931

Webinar ID: 812 9303 4206

**See the Van Buren Charter Township website for additional information regarding how to participate in a Zoom public meeting.**

**CALL TO ORDER:**

**ROLL CALL:**

**APPROVAL OF AGENDA:**

**MINUTES:** Approval of minutes from the regular meeting of October 26, 2022.

**CORRESPONDENCE:**

**PUBLIC HEARING:**

**ITEM # 1: CHRIS GARNER / SB – INVEST L.P. (BROOKWOOD) – PUBLIC HEARING**

**TITLE:** A request by Chris Garner on behalf of owner SB – Invest L.P. to construct an independent multi-family residential senior housing development with 132 dwelling units with a combined gross floor area of approximately 154,110 square feet. Senior housing developments are a Special Land Use in the RM (Multiple Dwelling Residential) District, and the proposed Special Land Use requires a public hearing. This hearing is being held in accordance with Article 12, Chapter 3 (Special Land Use Review) of the Zoning Ordinance. The project is proposed to be titled “Brookwood”.

- LOCATION:** The project is proposed to be located on the north side of Tyler Road, between Morton Taylor and Haggerty Roads on a 44.4-acre site. The site has tax parcel ID # 83 043 99 0015 000 and is zoned RM – Multiple Dwelling Residential District.
- ACTION ITEMS:**
- A. Open public hearing.
  - B. Public comment.
  - C. Close public hearing.

**OLD BUSINESS:**

**ITEM #1: COBBLESTONE CREEK PHASE VILLAS REVISION– SPECIAL LAND USE REVIEW**

**TITLE:** A request by applicant Infinity Acquisitions, LLC on behalf of owner C.A. Kime, Inc. for preliminary approval to revise a phase of attached condominium housing units within the 117.06-acre Cobblestone Creek Planned Residential Development (PRD) titled Cobblestone Creek Villas. The request is to be reviewed as a special land use per Sections 6.221(A), 6.119, and Article 12, Chapter 6 of the Van Buren Township Zoning Ordinance.

**LOCATION:** The site is located on the south side of Huron River Drive, east of Hoeft Road. The area subject to this request includes 6.88 acres located on Chinkapin Drive and Pinewood Lane between 13687 Pinewood Lane (parcel ID number V-125-83 114 02 0067 000) and 13957 Chinkapin Drive (parcel ID number V-125-83 114 02 0028 000).

- ACTION ITEMS:**
- A. Presentation by the Township staff.
  - B. Presentation by the applicant.
  - C. Planning Commission discussion.
  - D. Public Comment.
  - E. Planning Commission considers recommendation for special land use approval to Township Board of Trustees.

**ITEM #2: COBBLESTONE CREEK VILLAS REVISION – PRELIMINARY PLAN REVIEW**

**TITLE:** A request by applicant Infinity Acquisitions, LLC on behalf of owner C.A. Kime, Inc. for preliminary approval to revise a phase of attached condominium housing units within the 117.06-acre Cobblestone Creek Planned Residential Development (PRD) titled Cobblestone Creek Villas. The request is subject to preliminary and final condominium site plan recommendations to the Township Planning Commission and Board of Trustees per Sections 6.104 and 6.119 of the Van Buren Township Zoning Ordinance.

**LOCATION:** The site is zoned R-1A (Single Family Residential District) and is located on the south side of Huron River Drive, east of Hoeft Road. The area subject to this request includes 6.88 acres located on Chinkapin Drive and Pinewood Lane between 13687 Pinewood Lane (parcel ID number V-125-83 114 02 0067 000) and 13957 Chinkapin Drive (parcel ID number V-125-83 114 02 0028 000).

- ACTION ITEMS:**
- A. Presentation by the Township staff.
  - B. Presentation by the applicant.
  - C. Planning Commission discussion.

- D. Public Comment.
- E. Planning Commission considers recommendation of preliminary condominium site plan to Township Board of Trustees.

#### **NEW BUSINESS:**

##### **ITEM # 1: CHRIS GARNER / SB – INVEST L.P. (BROOKWOOD) – SPECIAL LAND USE REVIEW**

**TITLE:** A request by Chris Garner on behalf of owner SB – Invest L.P. to construct an independent multi-family residential senior housing development with 132 dwelling units with a combined gross floor area of approximately 154,110 square feet. Senior housing developments are a Special Land Use in the RM (Multiple Dwelling Residential) District. The project is proposed to be titled “Brookwood”.

**LOCATION:** The project is proposed to be located on the north side of Tyler Road, between Morton Taylor and Haggerty Roads on a 44.4-acre site. The site has tax parcel ID # 83 043 99 0015 000 and is zoned RM – Multiple Dwelling Residential District.

**ACTION ITEMS:**

- A. Presentation by the Township staff.
- B. Presentation by the applicant.
- C. Planning Commission discussion.
- D. Public Comment.
- E. Planning Commission considers recommendation for special land use approval to Township Board of Trustees.

##### **ITEM #2: CHRIS GARNER / SB – INVEST L.P. (BROOKWOOD) – SPECIAL LAND USE REVIEW**

**TITLE:** A request by Chris Garner on behalf of owner SB – Invest L.P. to construct an independent multi-family residential senior housing development with 132 dwelling units with a combined gross floor area of approximately 154,110 square feet. The project is proposed to be titled “Brookwood”.

**LOCATION:** The project is proposed to be located on the north side of Tyler Road, between Morton Taylor and Haggerty Roads on a 44.4-acre site. The site has tax parcel ID # 83 043 99 0015 000 and is zoned RM – Multiple Dwelling Residential District.

**ACTION ITEMS:**

- A. Presentation by the Township staff.
- B. Presentation by the applicant.
- C. Planning Commission discussion.
- D. Public Comment.
- E. Planning Commission considers preliminary site plan approval.

#### **GENERAL DISCUSSION AND UPDATES**

#### **ADJOURNMENT:**

**CHARTER TOWNSHIP OF VAN BUREN  
PLANNING COMMISSION  
October 26, 2022  
MINUTES - DRAFT**

Chairperson Kelley called the meeting to order at 5:31 p.m.

**ROLL CALL:**

**Present:** Jahr, Cullin, Atchinson, Barr, Grant, Budd and Kelley.

**Excused:** None.

**Staff:** Director Power and Secretary Harman.

**Planning Representatives:** Vidya Krishnan, McKenna Associates.

**Applicant(s) in Attendance:** Kyle Morton and Ken Bowen for Crossroads Distribution Center North 6, LLC, Laura Raaen, Anthony Drumm and Shazad Butt for Our Next Energy (ONE) and Lawrence Duty for 42482 N. Cumberland Drive.

**Audience:** Seven (7).

**APPROVAL OF AGENDA:**

Motion Jahr, Budd second to approve the revised agenda of October 26, 2022 as presented.

**Motion Carried.**

**APPROVAL OF MINUTES:**

Motion Cullin, Barr second to approve the regular meeting minutes of September 28, 2022 as amended, changing the second on the motion of New Business Item #2 from Kelley to Budd.

**Motion Carried.**

**PUBLIC HEARING:**

**ITEM #1: 22-033 – CROSSROADS DISTRIBUTION CENTER NORTH 6, LLC – REZONING WITH CONDITIONS REQUEST.**

**TITLE: THE REQUEST BY CROSSROADS DISTRIBUTION CENTER NORTH 6, LLC, TO REZONE THE PARCEL DESCRIBED AS PARCEL ID# 83-008-99-0002-706, OTHERWISE KNOWN AS THE ASHLEY CROSSROADS NORTH BUILDING 6, SITE LOCATED AT 42060 ECORSE ROAD, FROM M-T (INDUSTRIAL TRANSPORTATION) TO M-2 (GENERAL INDUSTRIAL WITH CONDITIONS. THE PARCEL IS 46.15 ACRES IN AREA.**

**THE PARCEL IS LOCATED ON THE WEST SIDE OF HAGGERTY ROAD AND ON THE NORTH SIDE OF ECORSE ROAD.**

**Motion Jahr, Cullen second to open the public hearing. Motion Carried.**

Director Power informed that the public hearing is an opportunity for members of the public and neighboring property owners to speak. The public hearing was published in the local paper and notices were mailed to neighboring property owners.

No questions or comments from the audience.



**Motion Budd, Jahr second to close the public hearing. Motion Carried.**

**NEW BUSINESS:**

**ITEM #1: 22-033 – CROSSROADS DISTRIBUTION CENTER NORTH 6, LLC – REZONING WITH CONDITIONS REQUEST.**

**TITLE: THE REQUEST BY CROSSROADS DISTRIBUTION CENTER NORTH 6, LLC, TO REZONE THE PARCEL DESCRIBED AS PARCEL ID# 83-008-99-0002-706, OTHERWISE KNOWN AS THE ASHLEY CROSSROADS NORTH BUILDING 6, SITE LOCATED AT 42060 ECORSE ROAD, FROM M-T (INDUSTRIAL TRANSPORTATION) TO M-2 (GENERAL INDUSTRIAL WITH CONDITIONS. THE PARCEL IS 46.15 ACRES IN AREA.**

**THE PARCEL IS LOCATED ON THE WEST SIDE OF HAGGERTY ROAD AND ON THE NORTH SIDE OF ECORSE ROAD.**

Director Power gave a brief presentation and provided background of the site. The applicants request is specific to the Crossroads North Building 6 site, 42060 Ecorse Road. The request is to rezone the site from M-T (Industrial Transportation) to M-2 (General Industrial) which is a proposed legislative amendment to the Township Zoning Ordinance and Zoning Map. The applicant seeks to conditionally rezone the parcel to support a limited application of use that is defined as Manufacturing and Processing (heavy), which is permitted in the M-2 District. The specific proposed use of the site is for a specific type of lithium ion battery manufacturer. Director Power displayed a rendering of the building, the tenants will have their own use requirements and the site will be reviewed at a later date during an amended site plan review if any amendments are necessary. Staff recommends approval of the conditional rezoning request.

Vidya Krishnan of McKenna Associates presented her review letter dated 10-18-22. At this time, the application to conditionally rezone the subject site from M-T to M-2 meets the following standards of Section 12.507 E(1) through (10) of the Zoning Ordinance:

1. Section 12.507(1). The proposed conditional rezoning is consistent with the goals, policies and objectives of the Master Plan and its subsequent amendments.
2. Section 12.507(2). The proposed conditional rezoning voluntarily prohibits any of the heavy manufacturing and automotive uses allowable in the proposed M-2 District.
3. Section 12.507(3). The subject site received site plan approval from the Planning Commission in 2019 and is in the process of complying with all of the zoning ordinance and site design requirements.
4. Section 12.507(4). The proposed rezoning with conditions will result in integration of the proposed use with the characteristics of the existing industrial area.
5. Section 12.507(5). The proposed conditional rezoning will facilitate a business that anticipates a \$1.6 billion investment and creation of 2,000+ new jobs which are of definite public benefit to the residents and the region.
6. Section 12.507(6). The proposed conditional rezoning does not preclude any future zoning action by the Township.
7. Section 12.507(7). The subject site has existing utility service and is working with the Township, DTE and Wayne County to meet any additional needs.

8. Section 12.507(8). The conditions offered by the applicant are fully enforceable.
9. Section 12.507(9). The conditional rezoning is not a use variance.
10. Section 12.507(10). The site has already received site plan approval and the proposed manufacturing use is classified as a principal permitted use in the proposed M-2 District. McKenna Associates recommends the Planning Commission recommend approval of the requested amendment to the Zoning Map to conditionally rezone the subject parcel from M-T to M-2 designation as listed, to the Township Board of Trustees, subject to the following condition:

- Violation of the terms of the conditional rezoning agreement will automatically revert the zoning of the subject site to the original M-T zoning and render the conditional zoning void.

Ken Bowen of Crossroads North Distribution Center North 6, LLC, gave a brief presentation. The rezoning request is to allow for the manufacturing of car batteries in building 6, all other M-2 uses will continue to be restricted. Electric Vehicles (EV) are the future of the auto industry, but beyond that this particular operation moves the planet in a better direction with a move towards cleaner operation. The building has more than 110 docking doors, the ONE operation will only utilize 16 of them, should see a real reduction in truck traffic. Mr. Bowen was present to answer any questions.

Shazad Butt, COO of Our Next Energy (ONE) gave a brief presentation. Adoption of EV they believe is contingent upon extending of the range. ONE believes the range of EV needs to be doubled to enable true adoption of EV. ONE has paved the path with technology that enables the ability to do this, with a 752 mile run on a single charge in a Tesla. The plan is to not only bring the technology to the market and the North American, but vertically with manufacturing in North America, Michigan and Van Buren Township. The plan is to bring powders into the facility manufacturing them into packs exiting the facility, using safe materials. ONE plans on launching into production in 2024, continue increasing capacity moving forward in Michigan and possibly expanding into future buildings. ONE is very pleased to be in Van Buren Township.

Commissioners had the following questions and comments:

- With the products that are being manufactured, are there any hazardous materials and if so, how will disposal be handled? The hazardous material is NMP solvent, recycling of hazardous materials is in the manufacturing process and the plant will have a solvent recycling system. There will not be excessive hazardous waste. The solvent will be recycled and only topped off as needed.
- On the conceptual drawing there are several tanks to store the NMP, will they be above ground or underground? What is NMP? Shazad Butt of ONE informed that NMP is a solvent that is more like diesel fuel, in that category. The NMP is mixed in with slurry when they cast their electrodes. The tanks are above ground, located outside. The system for capturing and retaining the NMP includes a berm, in the event there is ever any spillover, it will be contained within the berm.
- The indication of about 2,100 employees, is that going to be a shift and will they operate 24-hours? Tony Drumm of ONE informed that the 2,100 employees will be when the facility is at full capacity. There will be four (4) shift crews, 12-hour shifts with 500 employees per shift to maintain 24-7 production.

- The conceptual drawing is not done yet, does the site have adequate parking? Tony Drumm, ONE has identified how many people there will be per day, identified the fact that there are over 110 docks and they are only using 16, part of that space can be converted to parking to make sure that there is adequate parking space.
- The research and development being done in California, is research being done for the batteries to be manufactured in Van Buren Township? Tony Drumm of One informed that the research and development in California is for smaller types of batteries, manufacturing, assembling and the testing of them.
- Reference to the McKenna letter item #7, increase traffic on Haggerty Road, who has the financial burden for the road? Vidya Krishnan of McKenna Associates informed Wayne County does. The County has had a plan for a long time, in one of their repair cycles the road will be widened and fixed. Director Power informed that all of the main roads in the Township are Wayne County's jurisdiction. Along with the road repair there has been a very extensive coordinated effort between Ashley Capital, Wayne County, Van Buren Township and the State of Michigan to come up with a water main replacement project and road reconstruction project. The primary source of funding for these projects is Wayne County, the Township has agreed to a small amount if needed.
- Commissioner asked Director Power to present the terms of the Conditional Rezoning Agreement. Director Power agreed.
- The McKenna Associates review letter made comments about an access to Haggerty Road, will there be access? Vidya Krishnan informed that is not part of this project, however, it is for future projects.

Director Power presented the terms of the Conditional Rezoning Agreement between Ashley Capital and the Township.

No comments from the audience.

**Motion Jahr, Cullin second to recommend approval to the Township Board of Trustees the request for an amendment to the zoning ordinance and map made by the applicant, Crossroads Distribution Center North 6, LLC to rezone the property described as parcel number 83-008-99-0002-706 otherwise know Ashley Crossroads North Building 6 site, located at 42060 Ecorse Road from M-T (Industrial Transportation) to M-2 (General Industrial) with conditions, subject to the findings in Section 12.507(E) numbers 1 through 10, based on the analysis and subject to the conditions in the staff review letter dated 10-20-22, McKenna Associates review letter dated 10-18-22 and subject to the terms of a signed and executed Conditional Rezoning Agreement presented by staff on 10-26-22.**

**Roll Call:**

**Yeas: Atchinson, Barr, Grant, Budd, Cullin, Jahr and Kelley.**

**Nays: None.**

**Excused: None.**

**Motion Carried. (Letters Attached)**

**ITEM #2: 22-041 – LAWRENCE DUTY/42482 NORTH CUMBERLAND DRIVE – COUNTRY WALK PHASE III SITE PLAN AMENDMENT.**

**TITLE: THE APPLICANT, LAWRENCE DUTY, IS REQUESTING AN AMENDMENT TO THE APPROVED COUNTRY WALK PHASE III SITE PLAN TO ALLOW ONE (1) NEW MODE ARCHITECTURAL ELEVATION TO BE BUILT IN THE SUBDIVISION.**

**THE COUNTRY WALK PHASE III SUBDIVISION IS THE SUBJECT OF THE REQUEST. THE DEVELOPMENT IS LOCATED ON THE EAST SIDE OF MARTINSVILLE ROAD, NORTH OF SAVAGE ROAD.**

Director Power gave a brief presentation and presented is review letter dated 10-25-22. The applicant, Lawrence Duty, is requesting an amendment to the approved Country Walk Phase III site plan to allow one (1) new architectural elevation to be built in the subdivision. Country Walk has a planned residential development (PRD) agreement that was approved in 2002 and amended in 2005, but has since expired. In July of 2015, a memorandum of understanding (MOU) was executed between Van Buren Township, the Country Walk III Homeowners Association and Blue Country Walk, LLC which outlined the responsibilities of the parties with respect to the completion of the development and required compliance with the PRD that had expired. If a builder comes in with a new specific model, the Planning Commission has to consider an amendment to the previously approved site plan, with the proposed plan being subject to the PRD agreement, MOU and the standards of the zoning ordinance, specifically set forth in section 5.115. Director Power displayed drawings provided by the applicant of the proposed home elevation. Staff recommends approval subject to the Country Walk Phase III Homeowners Association approval.

The applicant, Lawrence Duty, was available to answer any questions.

Donald Boynton Jr., President of Country Walk III Homeowners Association, informed that the HOA is happy that someone is finally going to build and the HOA will not stand in the way. However, what was displayed at the meeting was the most information that he has seen from the applicant. President Boynton will present the information to the HOA Board. The HOA will also need the actual architectural features including colors of the brick and trim, trim and shutter designs, brick all the way around the elevation and the direction of the vinyl siding.

Commissioners had the following questions and comments:

- Commissioner inquired if HOA President Boynton is in favor of the Commission recommending approval or postponing until the HOA has seen the architectural features? Mr. Boynton did not want to slow down the building process. The HOA will need to see what the architectural features of the model look like prior to their approval. Director Power informed that building permits will not be issued until HOA approval is received.
- Commissioner inquired if the applicant, Lawrence Duty, has selected the brick and siding colors. Mr. Duty informed that they are in the process of selecting them and he has submitted information to Mrs. Harris of the HOA. Mr. Duty would like to proceed forward to be able to at least cap off and secure the structure.

- Is there anything that requires the Planning Commission to see a material sample? Director Power informed that in the past, applicants have brought samples. Director Power will check the language in the PRD, he does not believe that colors are required. Also, one of the later changes made by the applicant was to add brick to the rear of the elevation.

No comments from the audience.

**Motion Jahr, Barr second to grant the applicant, Lawrence Duty, an amendment to the approved Country Walk Phase III site plan to allow for one (1) new model architectural elevation to be built at the site located at 42482 North Cumberland Drive, based on the analysis and subject to the conditions in the staff review letter dated 10-25-22, specifically noting the proposed unit is subject to approval by the Country Walk Phase III Homeowner's Association.**

**Roll Call:**

**Yeas: Budd, Grant, Barr, Atchinson, Cullin, Jahr and Kelley.**

**Nays: None.**

**Excused: None.**

**Motion Carried. (Letter Attached)**

**ITEM #3: ZONING ORDINANCE DISCUSSION: SIDE ENTRY GARAGE AND BUILDING SEPARATION REQUIREMENTS FOR RESIDENTIAL DEVELOPMENTS.**

**TITLE: THE PLANNING COMMISSION IS REQUESTED TO DISCUSS ZONING REQUIREMENTS FOR MINIMUM PERCENTAGE OF SIDE ENTRY GARAGES AND BUILDING SEPARATION IN RESIDENTIAL DEVELOPMENTS.**

Director Power gave the presentation summarizing his memo dated 10-20-22. The Planning Commission and staff have been working on a set of zoning ordinance amendments to adjust the minimum requirement that 30% of garages in residential subdivisions and site condominiums must be side or rear-entry garages and minimum residential building separation requirements of 20 feet in planned residential developments (PRD's). Director Power discussed the following in his review: Specific development interest and residential building trends, Master Plan guidance, regional and comparison community context and the scope of the ordinance across the Township. The Commission was provided the most recent draft of the proposed set of zoning ordinance text amendments. Director Power encouraged the Commission to have further discussion with decision points on the proposed text amendments using a checklist guide that he provided.

Vidya Krishnan of McKenna Associates informed that every item has been discussed in the new ordinance amendment for building separation. A correction have been made, landscaping would be allowed between homes, it has to be low shrubs, made sure to have positive drainage, no fences and in the PRD's there is a construction access agreement between all properties. Mrs. Krishnan suggested to schedule a public hearing, the Commission is not required to make a decision. The public hearing would give the opportunity to receive public feedback.

Commissioners had the following questions and comments:

**Side Entry Garage Language:**

- Commissioner is happy with the changes, they are adequate and protect side entry garages.
- Commissioner drove through Country Walk recently, hardly saw the porches in one direction and saw mainly garage doors in the opposing direction. The garage door protrudes so far forward, if the porch is small that is all you see. Vidya Krishnan informed that the amendments state that the garage has to be 5 feet behind the front door, which fixes the existing issue.
- Commissioner agreed after walking through a similar neighborhood, the 4-5 foot setback of the garage fixes the issue of concern.
- Planning Commissioners agree they are ready to schedule the public hearing for the side entry garage language.

**Building Separation Language:**

- In the perception of density, do we want a community with homes only 10 feet apart? Is this good for the community? The Township does have rural character, most people do want single family homes versus attached. Maybe get more feedback at the public hearing.
- If you look at Townsend Park, some of the homes are 10 feet apart. The houses that have a sidewalk up against the house, the drainage is questionable. The beginning of the neighborhood with the larger separation looks more desirable.
- Need to narrow down what is available within the community. Community outreach, if building next to another subdivision, have developers reach out to them. See if this is something that the community really wants.
- In the southern side of the Township, the separation variance changes the whole concept.
- We have had the same thing over and over for years. We obtained input from the community during the Master Plan review. They told us they wanted more housing and different housing types.
- There was a lot of feedback, if we do move forward, with what restrictions?
- Director Power informed in regard to the area referenced in the Sumpter Road Corridor, that area mimicked the Roulo subdivision where the homes are still mostly 20 feet apart. There would not likely be a request for these types of development there.
- Concerned that people in the northern section of the Township are being closed in on.
- Commissioner made a good point as in what is missing? Would you want a house 10 feet apart from your neighbor? Townhomes still have a firewall, these houses don't. In Colorado, homes less than 12 feet apart are considered a fire hazard. Looking at the Master Plan, need to have high standards and excellence in design if we have smaller lots and smaller houses.
- The questions isn't whether a future resident wants to move into homes that are 10 feet apart. The question is do we want the Planning Commission to have the ability to make these changes on a case by case basis. Why do we have this language if it is not important? Looked at what is proposed, great job by staff. Convinced to simply remove the restriction and leave it up to the Planning Commission to make a recommendation to the Board. Commissioner is in favor of a strikethrough to the last line of Section 6.207 (B)(3).

- The Board does not approve houses only PRD's. The concern is with developers, who draws the line? Agree that 20 feet is too much.
- This would be case by case and may have to say "no" to a lot of them, but it gives the Commission the ability.
- If they go strictly by the Planning Commission, it could drive up the aesthetics.
- Developers should talk to neighboring communities and subdivisions to get feedback before they come before the Board.
- Commissioner agrees with the strikethrough of the last line in Section 6.207 (B)(3). Feels like this captures what she's been trying to get across. If we want to be premier, we need to expose ourselves to more developers and have the ability to say "no". These developments are being developed in other areas with amenities and open areas, we haven't had that here. Want the developers to be able ask for what they want.
- Vidya Krishnan informed that at this time the PRD allows to grant a deviation from everything but the building separation. The simplest way to tackle this is to take out the last line of the clause. The Planning Commission would have the ability to modify.
- Director Power agreed with the Commissions conversation about reaching out to the neighbors. It makes sense to encourage community outreach and maybe introductions to neighboring homeowners associations as well. Vidya Krishnan agreed and informed that Director Power has been clear to several applicants to reach out to their neighbors.
- Commissioner inquired if we have a Homeowners Association Committee? Trustee Boynton informed that yes, we do have a Committee. Commissioners can contact Dan Selman to put items on their agenda for discussion.
- Commissioners agreed on the strikethrough, supported scheduling a public hearing and requested to see a clean copy of the language.

No comments from the audience.

**Motion Jahr, Atchinson second to schedule a public hearing for the side entry garage and building separation requirements for residential developments. Motion Carried.**

#### **GENERAL DISCUSSION:**

Director Power informed that there will be a Planning Commission meeting on Wednesday, November 9, 2022.

Commissioner discussed that with having a lot of work on ordinance, it would probably be good to break out into subcommittees for future ordinance work to hash out the details. Commissioners agreed and mentioned that they could rotate members on the subcommittees.

Commissioners attended the MAP conference, learned a lot and had a great experience.

#### **ADJOURNMENT:**

**Motion Atchinson, Jahr second to adjourn the meeting at 7:38 p.m. Motion Carried.**

Respectfully submitted,

Christina Harman  
Recording Secretary



# PLANNING & ZONING APPLICATION

Case number \_\_\_\_\_

Date Submitted \_\_\_\_\_

## APPLICANT INFORMATION

Applicant Infinity Acquisitions, LLC Phone 248-449-8084  
 Address 42400 Grand River Ave #112 Fax 248-449-8134  
 City, State Novi, MI Zip 48375  
 E-mail LThomas@infinityhomescorp.com Cell Phone Number \_\_\_\_\_  
 Property Owner C.A. Kime Inc. Phone \_\_\_\_\_  
 (if different than applicant)  
 Address 175 Vendome Fax \_\_\_\_\_  
 City, State Grosse Pointe Park Zip 48236  
 Billing Contact Liz Thomas Phone 248-449-8084  
 Address 42400 Grand River Ave #112 Fax \_\_\_\_\_  
 City, State Novi, MI Zip 48375

## SITE/PROJECT INFORMATION

Name of Project Cobble Stone  
 Parcel Id No. V125-83-0000 See attached Project Address \_\_\_\_\_

### Attach Legal Description of Property

Property Location: On the \_\_\_\_\_ Side of \_\_\_\_\_ Road; Between \_\_\_\_\_ Road  
 and \_\_\_\_\_ Road. Size of Lot Width \_\_\_\_\_ Depth \_\_\_\_\_

Acreage of Site \_\_\_\_\_ Total Acres of Site to Review \_\_\_\_\_ Current Zoning of Site \_\_\_\_\_

Project Description: Currently The property is approved for 2 story  
aplex townhouse style condos. We are proposing single  
family attached ranch style condos.

Is a re-zoning of this parcel being requested? NO YES (if yes complete next line) NO

Current Zoning of Site \_\_\_\_\_ Requested Zoning \_\_\_\_\_

## SPECIAL PERMIT INFORMATION

Does the Proposed Use Require Special Approval? YES (if yes complete next line) NO

Section of Zoning Ordinance for which you are applying \_\_\_\_\_

Is there an official Woodland within parcel? NO. Woodland acreage N/A

List total number of regulated trees outside the Woodland area? N/A Total number of trees N/A

Detailed description for cutting trees N/A

If applicable application **MUST** be accompanied with a Tree Survey or statement of no trees, which incorporates all the requirements listed in Section 4.45 of Zoning Ordinance 6-2-92, as amended.

## OWNER'S AFFIDAVIT

CURTIS A. KIME

Print Property Owners Name

Curtis A Kime

Signature of Property Owner

12/10/21

Date

STATE OF MICHIGAN  
 COUNTY OF WAYNE

The undersigned being duly sworn, deposes and says that the foregoing statements and answers herein contained and accompanied information and date are in all respects true and correct

10 day of DECEMBER 2021

Notary Public, OAKLAND County, Michigan

My Commission expires

9/21

20 28  
 Rev 1/12/06



## MEMO

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TO: Van Buren Township Planning Commission  
FROM: Dan Power– Director of Planning and Economic Development  
RE: Case 21-044 – Cobblestone Creek Villas PRD Amendment  
DATE: November 3, 2022

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The Planning Commission will review the request by applicant Infinity Acquisitions, LLC on behalf of owner C.A. Kime, Inc. for preliminary approval to amend a phase of the 117.06-acre Cobblestone Creek Planned Residential Development (PRD) titled Cobblestone Creek Villas. The site is zoned R-1A (Single Family Residential District) and is located on the south side of Huron River Drive, east of Hoeft Road. Cobblestone Creek Villas is currently approved to include 104 attached units in 26 buildings. The proposed PRD as amended will include 96 units (including 44 units already constructed and 52 units proposed) in 25 buildings (including 12 two-story buildings already constructed and 13 single-story buildings proposed). The proposed improvements will occur in 6.88 acres of undeveloped property in the southern section of Cobblestone Creek Villas, on Chinkapin Drive and Pinewood Lane between 13687 Pinewood Lane (parcel ID number V-125-83 114 02 0067 000) and 13957 Chinkapin Drive (parcel ID number V-125-83 114 02 0028 000).

This project will be a general revision to a previously approved Planned Residential Development (PRD). Per Section 6.221(A) of the Van Buren Township Zoning Ordinance, a PRD may be revised in accordance with the approval procedures for a PRD, which includes proceeding in the same manner as other special use applications. Special land use applications require a public hearing per the procedures outlined in Article 12, Chapter 6 of the Van Buren Township Zoning Ordinance. The required public hearing was held on June 8<sup>th</sup>, 2022. Minutes from the public hearing are included in this packet.

As a general revision to an approved PRD, this project will require a determination of eligibility and approval of preliminary and final plans and modifications, based on the procedures outlined in Section 6.221(A) (Revisions to Approved Plans) and 6.219 (Approval Procedures) of the Township Zoning Ordinance.

The project is also a condominium and is therefore subject to the approval procedures listed in Article 6, Chapter 1 of the Van Buren Township Zoning Ordinance. The area being altered by the applicant is proposed to be separated into its own 6.88-acre condominium site. Per Section 6.104 of the Van Buren Township Zoning Ordinance, the project is subject to site plan review.

For the Planning Commission's information, "condominium" and "PRD" terminology speak to two different aspects of a single project. "Condominium" speaks to a type of land division, distinct from a simple "metes-and-bounds land division" or a "plat", which results in multiple owners of building units within a development holding some or all of the surrounding land and site infrastructure in

common ownership. Condominiums are often but not always PRDs. PRD refers to a zoning option by which a development site can achieve modifications to certain zoning requirements by meeting certain criteria that contribute to the overall quality and cohesion of the project.

The Planning Commission is tasked with completing the following actions before the Board of Trustees considers the project:

1. Hold a public hearing as required under Sections 6.221(A), 6.219 (completed June 8<sup>th</sup>);
2. Consider recommending special land use approval to the Board of Trustees as required under Sections 6.221(A), 6.119, and Article 12, Chapter 6; and
3. Consider recommending preliminary plan approval as required under Sections 6.104 and 6.219.

At the meeting on June 8<sup>th</sup>, action on the project's special land use and preliminary plan requests were tabled, until staff and the Planning Commission review of the following items are completed:

- The terms and amendments to the original PRD agreement document;
- The limits on creating a new phase for the public improvements of the previous phase are complete;
- Bonding requirements for the project;
- Eligibility for the new phase to use the overarching PRD agreement;
- The requested modifications' consistency with the full PRD agreement;
- The new condo documents including the Master Deed, Bylaws and
- The previous Master Deed needing to be reviewed and included in the final PRD;
- The feasibility of side entry garages.

As part of this tabling motion, the Planning Commission also noted the concerns in the McKenna Associates review letter dated 5-11-22, Director Power's staff letter dated 6-3-22 and Fishbeck Associates review letter dated 6-3-22.

Submittals that have been provided by the applicant address the tabling conditions to staff's satisfaction. For the Planning Commission's reference, this packet contains a completed application form; minutes from the June 8<sup>th</sup>, 2022 regular meeting; reports from the Township Planning Consultant; previous comments from the Township Engineer and Fire Marshal; a copy of the June 8<sup>th</sup> public hearing notice; a letter from the applicant dated September 28, 2022; a four-sheet set of combined site and architectural plans dated September 26, 2022; a draft first amendment to the PRD agreement for the Cobblestone Creek PRD; a draft third amendment to the Master Deed for Cobblestone Creek Villas; a copy of the original Cobblestone Creek development plan; and a copy of the original Cobblestone Creek PRD agreement (electronic packet only).

In addition to the other staff comments included in this packet, I offer the following recommended conditions of preliminary plan approval, which are based on general zoning requirements for attached condominium units, discussions with the Township Fire Marshal regarding fire access, and procedural requirements for condominium projects:

- The Planning Commission shall confirm satisfactory completion of the June 8<sup>th</sup>, 2022 tabling conditions;
- Prior to final plan approval, a written response from the Director of Planning, Township

attorney, Township engineer and Township planner regarding the adequacy of the master deed, deed restrictions, utility systems and street, development layout and design and compliance with all requirements of the condominium act and Township Zoning Ordinance will be provided to the Planning Commission, per Section 6.110 of the Van Buren Township Zoning Ordinance.

- As part of the final plans, master deed, and amended PRD Agreement for the project, mailboxes and fire hydrants shall be placed on the same side of the street, and on street parking shall be limited to only the one (1) side of the street opposite these items.
- Per Section 6.113 (Attached Residential Condominium Units), the attached units must comply with all applicable requirements of Section 5.116 (Dwelling, Single-Family Residential Attached).

I look forward to assisting with this review. Thank you for your consideration.

Sincerely,

A handwritten signature in cursive script, appearing to read "Dan Power".

Dan Power, AICP  
Planning and Economic Development Director  
Public Services Department  
Charter Township of Van Buren

CC: Rino Soave and Liz Thomas, Infinity Acquisitions, Inc.

**CHARTER TOWNSHIP OF VAN BUREN  
PLANNING COMMISSION  
June 8, 2022  
MINUTES**

Chairperson Kelley called the meeting to order at 5:30 p.m.

**ROLL CALL:**

**Present:** Cullin, Barr, Jahr and Kelley.

**Excused:** Budd and Atchinson.

**Staff:** Director Power and Secretary Harman.

**Planning Representatives:** McKenna Associates, Vidya Krishnan (remote).

**Applicant(s) in Attendance:** Rino Soave of Infinity Acquisitions, LLC.

**Audience:** Six (6) and Two (2) remote viewers.

**APPROVAL OF AGENDA:**

Motion Barr, Jahr second to approve the agenda of June 8, 2022 as presented. **Motion Carried.**

**APPROVAL OF MINUTES:**

Motion Cullin, Barr second to approve the regular meeting minutes of May 25, 2022 as presented.

**Motion Carried.**

**PUBLIC HEARING:**

**ITEM #1: COBBLESTONE CREEK PHASE IV REVISION – PUBLIC HEARING.**

A REQUEST BY APPLICANT INFINITY ACQUISITIONS, LLC FOR PRELIMINARY APPROVAL TO AMEND A PHASE OF ATTACHED CONDOMINIUM HOUSING UNITS WITHIN THE 117.06-ACRE COBBLESTONE CREEK PLANNED RESIDENTIAL DEVELOPMENT (PRD) TITLED COBBLESTONE CREEK VILLAS IS CURRENTLY APPROVED TO INCLUDE 104 ATTACHED HOUSING UNITS IN 26 BUILDINGS. THE PROPOSED PRD AS AMENDED WILL INCLUDE 96 UNITS (INCLUDING 44 UNITS ALREADY CONSTRUCTED AND 52 UNITS PROPOSED) IN 25 BUILDINGS (INCLUDING 12 TWO-STORY BUILDINGS ALREADY CONSTRUCTED AND 13 SINGLE-STORY BUILDINGS PROPOSED). A PUBLIC HEARING REQUEST IS REQUIRED FOR A SPECIAL LAND USE, AS THE REQUEST IS TO BE REVIEWED AS A SPECIAL LAND USE PER SECTIONS 6.221(A), 6.119 AND ARTICLE 12, CHAPTER 6 OF THE VAN BUREN TOWNSHIP ZONING ORDINANCE. THE SITE IS ZONED R-1A (SINGLE FAMILY RESIDENTIAL DISTRICT).

THE SITE IS LOCATED ON THE SOUTH SIDE OF HURON RIVER DRIVE, EAST OF HOEFT ROAD. THE AREA SUBJECT TO THIS REQUEST INCLUDES 6.88 ACRES LOCATED ON CHINKAPIN DRIVE AND PINWOOD LANE BETWEEN 13687 PINWOOD LANE (PARCEL ID NUMBER V-125-83-114-02-0067-000) AND 13957 CHINKAPIN DRIVE (PARCEL ID NUMBER V-125-83-114-02-0028-000).

Director Power summarized the applicant's request prior to the opening of the public hearing. The applicant is requesting preliminary approval to amend a phase of attached condominium housing units in the Cobblestone Creek Planned Resident Development (PRD), Cobblestone Creek

Villas. The site is zoned R-1A (Single Family Residential) and is located on the south side of Huron River Drive, east of Hoeft Road. The area of the request 6.88 acres of the 117.06-acre PRD. The public was invited to speak during the public hearing.

**Motion Jahr, Cullin second to open the public hearing. Motion Carried.**

Resident informed that the applicant solicited help from the current residents of the Cobblestone Creek Villas. Resident is on the Homeowner's Association Board, supports the applicants request and would like to see the development move forward. The HOA Board has also reached out to the current residents and received two-thirds in support of the development.

No comments from remote viewers.

**Motion Barr, Cullin second to close the public hearing. Motion Carried.**

#### **NEW BUSINESS:**

##### **ITEM #1: COBBLESTONE CREEK PHASE IV VILLAS REVISION – SPECIAL LAND USE REVIEW.**

**A REQUEST BY APPLICANT INFINITY ACQUISITIONS, LLC FOR PRELIMINARY APPROVAL TO AMEND A PHASE OF ATTACHED CONDOMINIUM HOUSING UNITS WITHIN THE 117.06-ACRE COBBLESTONE CREEK PLANNED RESIDENTIAL DEVELOPMENT (PRD) TITLED COBBLESTONE CREEK VILLAS. THE REQUEST IS TO BE REVIEWED AS A SPECIAL LAND USE PER SECTIONS 6.221(A), 6.119 AND ARTICLE 12, CHAPTER 6 OF THE VAN BUREN TOWNSHIP ZONING ORDINANCE.**

**THE SITE IS LOCATED ON THE SOUTH SIDE OF HURON RIVER DRIVE, EAST OF HOEFT ROAD. THE AREA SUBJECT TO THIS REQUEST INCLUDES 6.88 ACRES LOCATED ON CHINKAPIN DRIVE AND PINEWOOD LANE BETWEEN 13687 PINEWOOD LANE (PARCEL ID NUMBER V-125-83-114-02-0067-000) AND 13957 CHINKAPIN DRIVE (PARCEL ID NUMBER V-125-83-114-02-0028-000).**

Director Power gave a brief presentation. At this time there are a series of significant comments that need to be addressed including limits on the ability to create the new phase, bonding, Planned Residential Development (PRD) modification requirements. The plan is in progress however items will need to be addressed prior to recommending approval, the review will come back to the Commission at a later meeting. Director Power deferred to Planning Consultant Vidya Krishnan and the applicant, Rino Soave for their presentations.

Vidya Krishnan of McKenna Associates summarized her review letter dated 5-11-22. Infinity Homes is seeking to amend an existing PRD agreement for Cobblestone Creek Condominiums. The original condominium project received site plan and PRD approval in 2004 for the construction of a total of 258 units. Infinity Homes is proposing to add several structures to the development. Per sections 6.221 and 6.219 of the zoning ordinance, an amendment to a PRD shall be processed in the same manner as a special land use. The Cobble Stone Creek PRD was originally approved in 2004; however due to the housing recession in 2008, the development was never completed. The attached dwelling unit's portion of the site to be constructed as Phase II remained unfinished with only 12 of 26 buildings completed. The street network was laid out,

but the sidewalk network, landscaping and other site design elements remained incomplete. The proposed amended PRD aims to complete the development by constructing 52 units within 13 additional buildings. The proposed PRD amendment use will promote the use of the land in a socially and economically desirable manner by providing for a different style of housing in the Township. The completing of the remaining site improvements (sidewalk connections, utilities, landscaping enhancements) will make the homes economically viable. There will be no trees removed for this development. Mrs. Krishnan explained the review process. At this time the general standards for the PRD amendment have been met, however as Director Power summarized the Planning Commission still has questions and there are still a lot of site plan details to be addressed prior to sending to the Board of Trustees for approval.

Applicant, Rino Soave of Infinity Homes gave his presentation. This is Infinity Acquisitions, LLC's third development in Van Buren Township and they are the owner of this project having purchased the property approximately six (6) months ago. Mr. Soave worked with the residents of Cobblestone Creek Villas for approximately 3-4 weeks looking at single family residential attached condominium housing units and in meeting with the residents Infinity Homes developed the plan. The proposed units are ranch style condominiums ranging from approximately 1,200 to 1,550 square feet and are a combination of 2 and 3 bedrooms. Mr. Soave was available to answer any questions.

Commissioners had the following questions and comments:

- The units were originally approved at 1,689 sq. ft. and they are being reduced to 1,266 sq. ft.? Yes, the style of the units have changed to meet market standards and to cater to demographics not looking to have stairs. There are not many ranch units in the Township and there is a need for a multi-family component.
- Will the 3 bedroom unit have a 2<sup>nd</sup> story? Yes, it will have a loft area with stairs.
- Commissioner inquired if the applicant shared the housing elevations with the neighboring homeowners associations? Yes, the applicant has. Commissioner drove through the neighborhood to see how it appears and commented that it is a beautiful neighborhood. The Commission wants to make sure that the development maintains that appearance and that the existing neighbors are happy.
- Commissioner thanked the adjoining homeowners association and neighbors for attending the meeting, it is nice to have them come out in support.

The current President of the homeowners association Board informed the Commission that they worked with Mr. Soave extensively and voted unanimously to support Mr. Soave and his project.

**Motion Jahr, Cullin second to table New Business Item #1 Cobblestone Creek Phase IV Villas Revision, special land use review, until such a time as staff and the Planning Commission can review the recently submitted items.**

**Roll Call:**

**Yeas: Barr, Cullin, Jahr and Kelley.**

**Nays: None.**

**Excused: Budd and Atchinson.**

**Motion Carried.**

**ITEM #2: COBBLESTONE CREEK VILLAS REVISION – PRELIMINARY SITE PLAN REVIEW.**

**A REQUEST BY THE APPLICANT INFINITY ACQUISITIONS, LLC FOR PRELIMINARY APPROVAL TO AMEND A PHASE OF ATTACHED CONDOMINIUM HOUSING UNITS WITHIN THE 117.06-ACRE COBBLESTONE CREEK PLANNED RESIDENTIAL DEVELOPMENT (PRD) TITLED COBBLESTONE CREEK VILLAS. THE REQUEST IS SUBJECT TO PRELIMINARY AND FINAL CONDOMINIUM SITE PLAN RECOMMENDATIONS TO THE TOWNSHIP PLANNING COMMISSION AND BOARD OF TRUSTEES PER SECTIONS 6.104 AND 6.119 OF THE VAN BUREN TOWNSHIP ZONING ORDINANCE.**

**THE SITE IS ZONED R-1A (SINGLE FAMILY RESIDENTIAL DISTRICT) AND IS LOCATED ON THE SOUTH SIDE OF HURON RIVER DRIVE, EAST OF HOEFT ROAD. THE AREA SUBJECT TO THIS REQUEST INCLUDES 6.88 ACRES LOCATED ON CHINKAPIN DRIVE AND PINEWOOD LANE BETWEEN 13687 PINEWOOD LANE (PARCEL ID NUMBER V-125-83-114-02-0067-000) AND 13957 CHINKAPIN DRIVE (PARCEL ID NUMBER V-125-83-114-02-0028-000).**

Director Power displayed the proposed site plan and deferred to Principal Planner Vidya Krishnan for her presentation.

Vidya Krishnan of McKenna Associates summarized the findings in her review letter dated 5-11-22. Infinity Homes is seeking to amend an existing PRD agreement for Cobblestone Creek Condominiums. The originally approved plan included 154 detached and 104 attached units for a total of 258 units. The 104 detached units were split into phases I and III spread out over 26 buildings, while the attached units were designated as phase III. At this time only 12 of the buildings with 44 units have been constructed. The applicant proposes to construct a total of 52 units within 13 buildings, reducing the overall density by 8 units. Mrs. Krishnan discussed the following site design items relative to amending the original PRD agreement that remain to be addressed:

1. Notation of the setback deviation being requested for buildings 4 and 5 with justification.
2. Submission of an amended Master Deed and Bylaws for review.
3. Clarification regarding landscape maintenance.
4. Addition of architectural gable vent to the front face of all units.
5. Submission of a plan showing the provision of side entry garages as recommended or a notation of a deviation with explanation for why compliance cannot be achieved.
6. Revised PRD agreement.

Rino Soave of Infinity Homes informed that with the modification of the PRD, the association has agreed to extracting the 52 proposed units out and to have two (2) homeowners associations, with a governing board with appointees to maintain each of them. Infinity Homes has agreed to the completion of the road repairs. Based on the design, to incorporate a side entry garage the applicant would have to enhance some of the architectural elements and reconfigure the site plan which may make the buildings larger and bring them over the setback lines. Mr. Soave inquired if there is any architectural element that they can add in place of the side entry garages and also informed that they should not have to go to Wayne County for review as they are reducing, not enlarging.



Vidya Krishnan of McKenna Associates suggested maybe a garage door that is textured or staining of the concrete driveway. Mr. Soave inquired if the textured door would be for every garage door or accenting and informed that he could provide options with concrete.

Director Power informed that the Planning Commission did receive all of the home elevations and suggested putting all items together when the Commission comes back for preliminary plan review. Mr. Soave inquired when the next meeting will be. Director Power informed Mr. Soave that after tonight's meeting staff has clear instructions and he will set up a meeting for submittal requirements and planning an engineering reviews.

Resident expressed concern with the accenting of garage doors. Also commented that a number of the existing 44 condominium units have shared driveways and have nowhere to park. In the new plan each unit has a separate driveway which will help to alleviate the parking problem. The homeowners association strives to keep uniform, resident wants to keep uniformity in relation to the garage doors. Resident feels the site plan put forward is a workable site plan and it's more important to have a workable site plan that is uniform, pleasing to the eye than it is to have a lot of aesthetics going into what type of driveway you're going to have. Commissioner inquired to the resident, his position is to ensure that each unit is as identical as possible, he doesn't want modifications on driveways, such as swirls or textures? Correct. Each unit has a separate driveway, each unit can park 2 cars in their driveway. In the front of the development, the shared driveways are parking 4 cars in the drive and on the street and it doesn't work. Commissioner commented in the design reviews there are ordinances and standards that we have flexibility on and one of the reasons to move to table is that some of the information we need to see more detail on as to what can we do under our PRD rules and what we cannot do, need to make sure that we get it right.

No questions or comments from the remote viewers.

**Motion Jahr, Barr second to table New Business Item #2 Cobblestone Creek Villas Revision, until staff and the Planning Commission review of the following items are complete: the terms and amendments to the original PRD agreement document, the limits on creating a new phase for the public improvements of the previous phase are complete , bonding requirements for the project, eligibility for the new phase to use the overarching PRD agreement, the requested modifications are still in line with the full PRD agreement, the new condo documents including the Master Deed, Bylaws and the previous Master Deed need to be reviewed and included in the final PRD, the feasibility of side entry garages, also noting the concerns in the McKenna Associates review letter dated 5-11-22, Director Power's staff letter dated 6-3-22 and Fishbeck Associates review letter dated 6-3-22.**

**Roll Call:**

**Yeas: Cullin, Barr, Jahr and Kelley.**

**Nays: None.**

**Excused: Budd and Atchinson.**

**Motion Carried. (Letters Attached)**



**MCKENNA**

May 11, 2022

Planning Commission  
Charter Township of Van Buren  
46425 Tyler Road  
Belleville, Michigan 48111

**Subject: VBT-21-044 Cobblestone Creek Villas PRD Amendment; Preliminary PRD Plan  
Special Land Use Review; Revised Site Plans Dated April 15, 2022.**

Dear Commissioners:

The applicant, Infinity Homes is seeking to amend an existing PRD agreement for Cobblestone Creek Condominiums. The original condominium project received site plan and PRD approval in 2004 for the construction of a total of 258 units. The subject site has a total area of 117.06 acres, is zoned R-1A (Single Family Residential) district and located on the south side of Huron River Drive, east of Hoeft Road.

The site condominium development also received special land use approval to be located in the R-1A district per §7.02. A (old section number) of the Zoning Ordinance. Over the years the condominium was built upon but not completed. At this time Infinity Homes is proposing to add several structures to the development and requesting an amendment to the originally approved PRD. Per section 6.221 and 6.219, an amendment to a PRD shall be processed in the same manner as a special land use. Our comments are as follows (items requiring changes or additional information are underlined):

### **Special Land Use Review Comments**

Section 12.306 of the Zoning Ordinance sets forth criteria for the Planning Commission to consider when reviewing special land use proposals. Following is our review of each criterion:

**1. Will promote the use of land in a socially and economically desirable manner for those persons who will use the proposed land use or activity; for those landowners and residents who are adjacent; and for the Township as a whole.**

The Cobblestone Creek PRD was originally approved in 2004; however, owing to the housing recession in 2008, the development was never completed. The attached dwelling units portion of the site to be constructed as Phase 2 remained unfinished with only 12 of 26 buildings completed. While the street network was laid out, the sidewalk network, landscaping and other site design elements remained incomplete, affecting the value of the homes that had already been built. The proposed amended PRD at this time aims to complete the development by constructing 52 units within 13 additional buildings. The proposed PRD amendment use will promote the use of the land in a socially and economically desirable manner by providing for a different style of housing in the Township. The completing of the remaining site improvements in the form of sidewalk connections, utilities, landscaping enhancement will make the homes economically viable.

**2. Is necessary for the public convenience at that location.**

The Cobblestone Creek development is located on the south side of the Township within an R-1A zoned area. The proposed residential development is in keeping with the previously approved PRD for the area. The site is located off Huron Drive and has close and convenient location to Belleville Road, the Township's main commercial corridor.

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**3. Is compatible with adjacent uses of land.**

The proposed PRD amendment includes different style of units, but the attached residential unit style remains the same as the originally approved PRD. The area abutting the larger PRD has other single family attached and detached dwelling making the proposed use compatible with adjacent uses of land.

**4. Is so designed, located and proposed to be operated that the public health, safety and welfare will be protected.**

The proposed development is designed to comply with the site design requirements that were part of the originally approved site plan. Therefore, we do not anticipate any adverse impacts on public health, safety, and welfare.

**5. Can be adequately served by public services and facilities without diminishing or adversely effecting public services and facilities to existing land uses in the area.**

The proposed amendment to the PRD does not alter the utility plans for the site significantly. We believe the site can be adequately served by public services and facilities without diminishing or adversely effecting public services and facilities to existing land uses in the area. The applicant is working with the Township Engineer to meet all utility requirements.

**6. Will not cause injury to other property in the neighborhood in which it is to be located.**

The proposed amended PRD is not anticipated to cause injury to other property in the neighborhood in which it is to be located.

**7. Will consider the natural environment and help conserve natural resources and energy.**

The proposal to construct new dwellings does not involve the removal of any trees. The site has an existing network of street and the areas where proposed buildings will be located were cleared as part of the originally approved site plan. The applicant has submitted a landscape plan which shows significant planting of trees, shrubs and ornamentals in the proposed area of development.

**8. Is within the provisions of uses requiring special approval as set forth in the various zoning districts herein, is in harmony with the purposes and conforms to the applicable regulations of the zoning district in which it is to be located and meets applicable site design standard for special approval uses.**

The proposed PRD amendment is within the provisions of uses requiring special approval and is in harmony with the purposes and conforms to the applicable regulations for PRD developments.

**9. Is related to the valid exercise of the Township's police power and purposes which are affected by the proposed use or activity.**

The PRD amendment review is related to the valid exercise of the Township's police power and purposes which are affected by the proposed use or activity.

The PRD is governed by specific design standards which are noted in our site PRD site plan review letter under separate cover.





## Recommendation

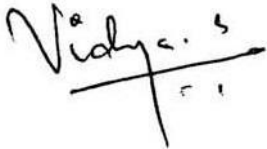
The applicant has worked with the Township over the past few months to address several of the outstanding concerns. At this time, we find that the proposed PRD amendment meets the criteria for special land use approval, subject to conditions. Therefore, we recommend that the Planning Commission recommend **preliminary amended PRD approval** to the Township Board of Trustees, subject to the following conditions:

1. Approval of utility plan and storm water detention plan by Township Engineer and Wayne County (if required).
2. Compliance with all conditions of preliminary PRD amendment approval by the Planning Commission.

The plans must be revised and presented to the Planning Commission for a recommendation on final PRD amendment approval and will subsequently be presented to the Township Board for final PRD approval.

Respectfully submitted,

**McKENNA**



Vidya Krishnan  
Senior Principal Planner

cc: Dan Power, Director of Planning and Economic Development  
Paul J. Kammer, FTCH, Township Engineers  
Andy Leneghan, Van Buren Township Fire Marshal





**MCKENNA**

October 19, 2022

Planning Commission  
Charter Township of Van Buren  
46425 Tyler Road  
Belleville, Michigan 48111

**Subject: VBT-20-044 Cobblestone Creek Villas PRD Amendment Site Plan Review #4;  
Revised Site Plans Dated 9/26/2022; revised elevation dated 8/2/2022.**

Dear Commissioners:

The applicant, Infinity Homes is seeking to amend an existing PRD agreement for Cobblestone Creek Condominiums. The original condominium project received site plan and PRD approval in 2004 for the construction of a total of 258 units. The subject site has a total area of 117.06 acres, is zoned R-1A (Single Family Residential) district and located on the south side of Huron River Drive, east of Hoeft Road.

The site condominium development also received special land use approval to be located in the R-1A district per §7.02. A (old section number) of the Zoning Ordinance. Over the years the condominium was built upon but not completed. At this time Infinity Homes is proposing to add several structures to the development and requesting an amendment to the originally approved PRD.

The applicant appeared before the Planning Commission on 6/8/2022 and received feedback, and was directed to address the concerns noted in our review letter dated 5/11/2022. Our comments on the plans submitted are as follows (items requiring changes or additional information are underlined):

## **COMMENTS**

1. **PRD Eligibility and Layout.** Planned Residential Developments are permitted in the Township to encourage the use of land in accordance with its natural features and characteristics, to encourage innovation in land use planning, to provide recreational opportunities for the people of the Township, and to preserve rural features of the Township. In order to qualify for consideration as a PRD, the development must demonstrate innovative land use and site design and provide recognizable benefits to the people of the Township.

The originally approved plan included 154 detached and 104 attached units for a total of 258 units. The 104 detached units were split into Phases I and III spread out over 26 buildings, while the attached units were designated as Phase II. At this time only 12 of the buildings with 44 units have been constructed. ***The applicant proposes to construct a total of 52 units within 13 buildings, reducing the overall density by 8 units.***

Chapter 2, Article 6 of the Zoning Ordinance outline the procedure for approval of PRD's. Per Section 6.219 and 6.221, approval of the amended PRD must follow the site plan and special land use approval procedures, unless the Planning Commission finds that the proposed changes constitute "minor changes" and thereby qualify for just site plan approval. The changes to the number of units and some additional deviations being sought are significant enough to constitute a major change requiring Planning Commission

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approval. Our comments on the proposed PRD amendment/special land use process are noted in a letter under separate cover.

2. At the time of original plan approval, a minimum of 30% of the gross site area of a PRD was required to be preserved as permanent open space. The approved plan has 47.75 acres or 40.8% of dedicated open space on the site, which was mostly developed as an amenity connected through pedestrian pathway system. Per the amended plan the new 'area of development includes 6.88 acres, 41% (2.82 acres) of which is to be preserved as open space. This meets the minimum requirements previously established.
3. **Density.** The original PRD density calculations indicate 203 units would be permitted under conventional zoning (R-1A), and that up to 264 units may be permitted with the maximum allowed 30% density bonus. The approved plan with 258 units received a density bonus of 27%, which was within the 30% allowable bonus. The proposed amendment with 250 units, reduces the density further to 23%.
4. **Required Information.** Details required per Section 12.203 of the Zoning Ordinance has been noted.
5. **PRD Deviations.** The following PRD deviations from site design standards are being requested:
  - a. Minimum required setback along an internal private road is 25 feet. Proposed building 8 is located at a setback of 20 feet due to an existing storm water easement in the rear yard which prevents the building from being located further back.
  - b. Buildings # 4 and 5 are located at a distance of 15 feet and 17.5 feet, respectively from Whitewood Circle. However, the street is located along their side/rear. The buildings still comply with the front yard setback and also maintain the required 20-foot building separation. Per the applicant, although the distance is reduced, the buildings still maintain a distance of 32-34 feet from the paved roadway.
  - c. The minimum required floor area for units in the R-1A district is 1,800 sq. ft. At the time of original plan approval, most of the units complied with this requirement. A deviation was granted for some units to be 1,689 sq. ft (the minimum permitted). The applicant's proposal includes proposed unit sizes with area of 1,633 sq. ft and 1,266 sq. ft unit.
6. **Stormwater Detention and Engineering issues.** The proposed amendment to the PRD plan must comply with all requirements of Wayne County (if any) and the Township Engineer.
7. **Roads and Access.** The proposed PRD amendment does not alter the layout of streets within the approved PRD. A traffic study was required and approved as part of the original PRD approval. The reduction in the number of overall units does not necessitate a new traffic impact study.
8. **Sidewalks and Pedestrian Circulation.** The approved plan included 5-foot-wide sidewalks along both sides of all streets in the development. There is currently a partial sidewalk along the frontage of the buildings already constructed. The amended site plan notes a new 5' wide sidewalk along the frontage of the remaining internal roads abutting the new proposed buildings.
9. **Master Deed, Bylaws, and PRD Agreement.** The applicant has submitted copy of an amended PRD agreement and revised Master Deed at this time. We noted a few corrections that need to be made:
  - a. Item B in recitals of the PRD Agreement notes the number of units constructed previously as 63 detached units, which item C states that 60 units have been constructed. The unit numbers must be



- consistent and the clearly specified as attached or detached.
- b. Page 2, item 4, proposed number of units are 52, not 53.
  - c. Page 2, Item 5, total number of units must be corrected to 96.
  - d. Page 2, item 6.b must be corrected.
  - e. Page 2, item 7.b must be corrected.
  - f. Page 2, item 8(iii) has confusing language. The applicant is not constructing any detached units. Note that the proposed attached units for "the Reserve" are going to vary from 1,633 to 1,266 sq. ft per unit.
  - g. The agreement must include the list of deviations being sought – distance from public/private r-o-w for buildings 4, 5 and 8, and a deviation from side entry garage requirement.

The documents are subject to review and approval by the Township Attorney.

10. **Landscaping.** The revised plan set submitted at this time includes detailed landscaping plans showing trees, shrubs and ornamental plantings in all the common/open spaces area, trees along the street frontages and landscaping specific to each building. No removal of any vegetation is proposed as part of the plan and the existing tree cover along the perimeter is to be maintained as is. While the applicant has not provided a comparison with the originally approved landscape plan, the plan submitted at this time includes significant plantings to render an attractive appearance to the development. The plan includes a landscape maintenance agreement. Per the applicant the condominium association will be responsible for the maintenance of all landscaping.

11. **Architecture.** The applicant has submitted architectural details for the proposed 4- and 6-unit buildings with floor plans. The proposed units are mostly single story with partial second story including just a bedroom. The external appearance of the structures is a ranch-style appearance.

Per Section 6.206 (B)(5) eighty percent (80%) of the front façade wall (excluding windows, doors, related trim) shall be faced with brick or stone, and all other exterior walls shall be faced with brick or stone from the finished grade to the top of the first story wall. The proposed elevations show the front façade of the structure constructed almost entirely of brick (90-95%) with cedar shake and vinyl siding above the decorative garage doors. The side and rear elevations include brick for the entire first story height and vinyl siding for the partial second story. The proposed architecture provides a different type of housing unit for those desirous of have living areas in a single floor.

The original approval plan included side entry garages on every building. The proposed layout does not accommodate any side entry garages. Per original condominium approval, at least 30% of all units must have side-entry garages. We had previously recommended that the end units be provided with side entry garages to maintain consistency with the buildings already constructed. The PC has recently discussed garage placement in extensive detail and indicated their preference to not have garage doors dominate the façade. Where side or rear entry garages are not possible, the PC wanted consideration given to recessing the garage or having it project no more than 4' in front of the main entrance to the dwelling. The proposed elevations and floor plans indicate the garage projection 8.3' in front of the dwelling entrance. The elevations as proposed will require a deviation from the previous PRD agreement.

12. **Woodland/Tree Preservation.** The portion of the site that is under consideration for this amendment has no trees as seen on aerial images.





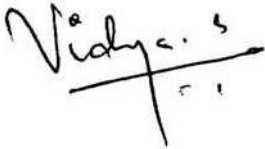
## RECOMMENDATION

The existing PRD has remained incomplete for a long time. The applicant's proposal to complete the development by building additional units which will serve a specific market, completing the sidewalk network and installing landscaping is welcome.

The applicant appeared before the Planning Commission in June for discussion on the project. Since then, the applicant has made some revisions and submitted the required PRD documents to proceed to the next phase. Approval of the PRD is a two-step process. Therefore, we recommend approval of the preliminary amended PRD plan for the Cobblestone Creek Villas, subject to the following conditions:

1. Planning Commission recommendation for approval of requested site design and architectural deviations.
2. Corrections to the PRD Agreement and review and approval of amended PRD agreement by Township Attorney.

Respectfully,  
**McKENNA**



Vidya Krishnan  
Senior Principal Planner

cc: Dan Power, Director of Planning and Economic Development  
Paul J. Kammer, FTCH, Township Engineers  
Andy Leneghan, Van Buren Township Fire Marshal





June 3, 2022  
Fishbeck Project No. 200997

Dan Power  
Director of Planning and Economic Development  
Van Buren Township  
46425 Tyler Road  
Van Buren Township, MI 48311

## **Cobblestone Creek Condominiums – Revised Phase 2 Engineering Review**

Dear Director Power:

At the request of Van Buren Township (Township), Fishbeck has reviewed the proposed Cobblestone Creek Condominium Revised Phase 2 Site Plan for engineering feasibility of the Township's Preliminary Site Plan and Special Land Use approval. The original plans were approved by the Township on May 18, 2004, with the most recent submitted plans being dated 4/15/2022, with a revision to sheet #3 on 5/25/2022.

The project entails the construction of the remainder of Phase 2 of the proposed Cobblestone Creek Condominiums at the south side of Huron River Drive between Hoeft Road and Elwell Road. The existing Phase 2 site, as originally approved and partially constructed in 2004, has 12 buildings built (44 units). The remainder of Phase 2 was initially designed for 14 additional buildings (60 units), which is now seeking approval of an amended design for 13 buildings (52 units). The presumption is all underground utilities, as approved in 2004, have been installed and are operational within the footprint of Phase 2. This includes the stormwater system, the water distribution system, and the sanitary sewer system. The plans do proposed to add a single segment of storm sewer and a yard catch basins to help with some rear yard drainage. The other site improvements that remain to be constructed include the proposed sidewalks and other various items. Our review comments are as follows:

### **General**

The following items are general requirements established as part of the Engineering Standards Manual, Charter Township of Van Buren (April 2014). The applicant must include the following items as part of the construction plans:

1. In general, any changes to the previously approved plans must be indicated on the plans and clearly shown how they are changing. This includes, but is not limited to the following:
  - a. All easements, proposed, existing, or changing, must be indicated on the plans.
  - b. All elevations must be on National Geodetic Vertical Datum 29 (NGVD 29) datum or include a conversion factor to the NGVD 29 datum.
  - c. Applicant must indicate the existing overland flow route through the Phase 2 site, as originally approved, and indicate any changes and adjustments with the new building layout.
2. Plans must include the following required notes:
  - a. All construction shall conform to the current standards, specifications, and general conditions of the Township.
  - b. The applicant is responsible for resolving any drainage problems on adjacent properties which are the result of the applicant's actions.
3. For final engineering approval, all new utility work must be done in accordance with the Township Standards and must include all information for a full engineering review. These include, but are not limited to:
  - a. A quantity list itemizing all proposed public sanitary sewer, storm sewer, and water main construction must appear on each sheet indicating such construction. A quantity list indicating the total quantities of construction for the entire project must also be provided.

- b. Profiles must be included for all utility work except for the sanitary service leads.
- c. Provide any previous and/or new soil boring information, including the ground water elevations of this area.
- d. Engineering Plans must include the applicable Standard Detail Drawings as found in Appendix A of the Township *Engineering Standards Manual*. The Township can provide full size sheets of multiple details upon request.

## Water Main Service

**Existing:** The Township's Geographic Information System (GIS) records indicate a publicly owned 8-inch Ductile Iron water main running along Pinewood Lane and Chinkapin Drive.

**Proposed:** The applicant's plan confirms that all water main was constructed as part of the original phase 2 project. No additional public water main will be constructed as part of this project. Proposed service lead locations are shown. It is unclear if existing service leads were previously installed.

### Comments:

1. The applicant must indicate whether the previous service leads were installed.
2. The existing and proposed water main service sizes, materials, and connections must be indicated on the plans.
3. The applicant must work with the Township Fire Marshal to determine if any of the hydrant locations need to be adjusted due to the new layout of the buildings.
4. Plans must indicate if the hydrant FG shown is existing or if the hydrants will be adjusted to match new grade.
5. If not already executed and recorded, a 12-foot easement for existing and proposed, if any, water main within the property must be granted, centered on the water main, including bends, valves, and hydrants.

## Sanitary Sewer

**Existing:** The Township's GIS records indicate there is a public 10-inch truss pipe sanitary sewer along Chinkapin Drive and a public 12-inch truss pipe sanitary sewer along Pinewood Lane within the area of the development.

**Proposed:** The applicant's plan confirms that all sanitary sewer was constructed as part of the original phase 2 project. The sanitary layout shown in the plans appears to match the system from the previously approved set in 2004. The plans also indicate that there is an existing sanitary sewer lead available for each proposed building.

### Comments:

1. The existing and proposed sanitary sewer service sizes, materials, and connection types must be shown on the plans.
2. The proposed engineering plans must indicate if any of the existing sewer leads will need to be adjusted and/or replaced due to location.
  - a. When developing the new service lines, the applicant shall keep in mind a clean-out on service leads shall be provided within 5 feet of foundation walls, at all bends and at intervals no greater than 100 feet. A minimum of one clean-out external to the building shall be required on all sanitary leads.
3. If not already executed and recorded, a 20-foot easement for existing and proposed sanitary sewer within the property must be granted and centered on the sewer.

## Storm Sewer

**Existing:** The Township's GIS records indicate an existing storm sewer system constructed as part of the original development for Phase 1 and Phase 2.

**Proposed:** The applicant's plans show the existing system captures runoff within Phase 2 of the development via catch basins and rear yard drains and conveys it into a forebay and existing detention basin east of Chinkapin Drive. The applicant's plan confirms that all storm sewer and storm management aspects of the site were constructed as part of the original phase 2 project. The applicant has provided drainage calculations confirming

that the existing basin size and functionality will remain with the new building layout. The proposed impervious area is less than that of the existing impervious area originally designed for.

**Comments:**

1. The Applicant has obtained Wayne County approval via an approval letter dated December 5, 2003.
2. With no changes to the functionality of the storm water management system, no additional approval is needed for detention.
3. The proposed storm sewer line and rear yard catch basin must be shown in profile view.
4. Applicant must explain the area to the west of buildings 5, 6, and 7. The area shows multiple catch basins located in an existing "Wooded" area. The plans need to more clearly indicate what this area looks like; wooded or cleared. The applicant must also indicate whether or not this Proposed Cleared Area was calculated as part of the storm water collection area.

## Paving and Sidewalks

1. The applicant must verify the overall status of the existing HMA roadways. If the final layer of the roadways has not been paved, the applicant will be responsible for conducting any repair or maintenance on the existing roadway prior to placing the final HMA surface layer.
2. Any sidewalk areas that are considered community sidewalks, or will not be the responsibility of the builder, will be required to be completed by the applicant.
3. Further discussion with the Township Planning Director should be conducted to finalize the requirements for CofO and other obligations for the complex.

## Soil Erosion and Sedimentation Control (SESC)

1. An SESC plan must be provided in accordance with the Township *Engineering Standards Manual*, Chapter II, Plan Requirements, Paragraph D, SESC Plan Requirements, and in accordance with Wayne County SESC standards. A permit must be acquired from the Wayne County SESC County Enforcing Agency.  
<https://www.waynecounty.com/departments/environmental/landresources/soil-erosion.aspx>

## Recommendation

Fishbeck offers no objection to the applicant moving forward to the Final Site Plan and Engineering approval process, subject to the applicant determining the proper course of action for the comments listed above and submittal of all existing and proposed features that have changed or are new to the site, prior to the next submittal to the Township.

Sincerely,



**Paul J. Kammer, PE**  
Senior Civil Engineer

By email

Copy: Kris Schlutow – Township  
Brittney Williams – Township  
Vidya Krishnan – McKenna

## Power, Dan

---

**From:** Lenaghan, Andrew  
**Sent:** Friday, January 28, 2022 10:32 AM  
**To:** Power, Dan  
**Subject:** RE: REMINDER: 21-044 Cobblestone Creek PRD Amendment Review Request

**Categories:** Internal Email

Dan,

As we talked about, my only concern at this point, is that we enforce the parking on one side of the street only. (Fire Lane Access)

Andy

---

**From:** Power, Dan  
**Sent:** Thursday, January 27, 2022 1:45 PM  
**To:** Vidya Krishnan <VKrishnan@mcka.com>; Kammer, Paul <pkammer@fishbeck.com>; Lenaghan, Andrew <alenaghan@vanburen-mi.org>  
**Cc:** Williams, Brittney <bwilliams@vanburen-mi.org>  
**Subject:** REMINDER: 21-044 Cobblestone Creek PRD Amendment Review Request

Does everyone have what they need for this review?

Please let Brittney or I know. Thank you.

Dan Power, AICP  
Director of Planning and Economic Development  
Department of Public Services  
Charter Township of Van Buren  
734.699.8900, ext. 9392  
[Click here for information on development, zoning, and future land use in the Township.](#)

---

**From:** Williams, Brittney  
**Sent:** Monday, December 20, 2021 2:59 PM  
**To:** Vidya Krishnan <VKrishnan@mcka.com>; Kammer, Paul <pkammer@fishbeck.com>; Lenaghan, Andrew <alenaghan@vanburen-mi.org>  
**Cc:** Power, Dan <dpower@vanburen-mi.org>  
**Subject:** 21-044 Cobblestone Creek PRD Amendment Review Request

Good Afternoon,

This project will be a change to a previously approved Planned Residential Development (PRD) / Condominium, which is documented on the attached plans. As such, it will require the process outlined in Sections 6.219 and

**CHARTER TOWNSHIP OF VAN BUREN  
PLANNING COMMISSION  
NOTICE OF PUBLIC HEARING**

Notice is hereby given that the Charter Township of Van Buren Planning Commission will hold a public hearing on **June 8, 2022 at 5:30 p.m.** The meeting will be held in person at Van Buren Township Hall, located at **46425 Tyler Road, Van Buren Township, MI 48111**, in the Board Room. Members of the public may additionally participate in the meeting electronically per guidance provided by the Wayne County Local Public Health Department for meetings of governmental bodies held under public act 228 of 2020, effective January 1, 2022. Instructions for attending the meeting electronically are provided in this notice. The Planning Commission will consider the following request:

**Case 21-044:** A request by applicant Infinity Acquisitions, LLC on behalf of owner C.A. Kime, Inc. for preliminary approval to amend a phase of the 117.06-acre Cobblestone Creek Planned Residential Development (PRD) titled Cobblestone Creek Villas. The site is zoned R-1A (Single Family Residential District) and is located on the south side of Huron River Drive, east of Hoeft Road. Cobblestone Creek Villas is currently approved to include 104 attached housing units in 26 buildings. The proposed PRD as amended will include 96 units (including 44 units already constructed and 52 units proposed) in 25 buildings (including 12 two-story buildings already constructed and 13 single-story buildings proposed). The area subject to this request includes 6.88 acres located on Chinkapin Drive and Pinewood Lane between 13687 Pinewood Lane (parcel ID number V-125-83 114 02 0067 000) and 13957 Chinkapin Drive (parcel ID number V-125-83 114 02 0028 000).

This project will be a general revision to a previously approved Planned Residential Development (PRD). Per Section 6.221(A) of the Van Buren Township Zoning Ordinance, a PRD may be revised in accordance with the approval procedures for a PRD, which includes proceeding in the same manner as other special use applications. Special land use applications require a public hearing per the procedures outlined in Article 12, Chapter 6 of the Van Buren Township Zoning Ordinance.

Members of the public may access the agenda materials via the Township website – [www.vanburen-mi.org](http://www.vanburen-mi.org) beginning **June 3, 2022**. On the meeting website, members of the public will also gain access to **means of participating in the electronic meeting. On the agenda for the meeting**, a unique Zoom weblink and dial-in phone number with a meeting ID for meeting videoconference or teleconference access will be provided. The meeting will be available to view live on the Van Buren Township YouTube Channel which can be reached from the live meeting link located on the Van Buren Township website home page ([www.vanburen-mi.org](http://www.vanburen-mi.org)). Closed captioning will be available after YouTube fully renders meeting video.

A complete **procedure for public comment by electronic means** is provided on a guide which is accessible on the Van Buren Township website ([www.vanburen-mi.org](http://www.vanburen-mi.org)). Participants may also choose to submit written comments that will be read into record during public comment by the Chairperson. Submit any written comments or questions about the meeting via e-mail to [dpower@vanburen-mi.org](mailto:dpower@vanburen-mi.org).

To comply with the Americans with Disabilities Act (ADA), any citizen requesting accommodation to attend a meeting, and/or to obtain this notice in alternate formats, please contact the Clerk's Office at 734.699.8900 extension 9205.

Posted: May 17, 2022  
Published: May 19, 2022

# INFINITY HOMES & Co

42400 Grand River, Suite 112, Novi, MI 48375

PH: 248-449-8084 / Fax: 248-449-8136

[www.Infinityhomescorp.com](http://www.Infinityhomescorp.com)

Planning Commission  
Charter Township of Van Buren  
46425 Tyler Rd.  
Van Buren Twp., MI 4111

September 28, 2022

RE: VBT-20-044 Cobblestone Creek Villas PRD Amendment Site Plan Review #3

To whom it may concern:

Pursuant to the review comments we received for the above mentioned project, we are submitting updated documents with the following revisions:

1. Sheet 1 has been revised to not the original density bonus that was granted and the revised density bonus percentage.
2. The PRD and Sheet 1 were updated accordingly to address the deviations and justifications needed for buildings 4 & 5.
3. The PRD was revised to include a list of all deviations.
4. The owner responsible for landscaping is the Reserve at Cobblestone Creek Villas Condominium Association
5. In lieu of the suggested gable vents over the garage, we have revised the elevation of the buildings to increase the roof pitch making a more prominent front elevation. Additionally, we added brick over the garage to enhance the exterior elevation. As such the building now approximately 90%-95% brick which eliminates the need for gable vents over the garage as the elevation has been enhanced by other means. Additionally, with the garages being 1 car garages, gable vents maybe to big and look out of place.
6. A deviation is being requested for the current garages which are 8.3" in front of the dwelling entrance.

Please discard the original plans/permit and use these updated plans. If you have any questions, please do not hesitate to contact me at 248-449-8084 or [Lthomas@infinityhomescorp.com](mailto:Lthomas@infinityhomescorp.com).

Regards,

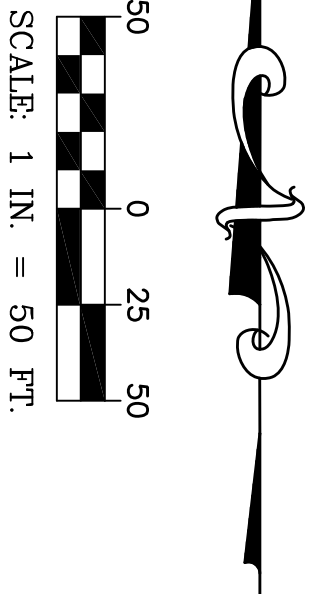


Liz Thomas

Executive Assistant



OVERALL PROPERTY DESCRIPTION  
COBBLESTONE CREEK VILLAS CONDOMINIUM  
WAYNE COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 826  
VAN BUREN TOWNSHIP, WAYNE COUNTY, MICHIGAN

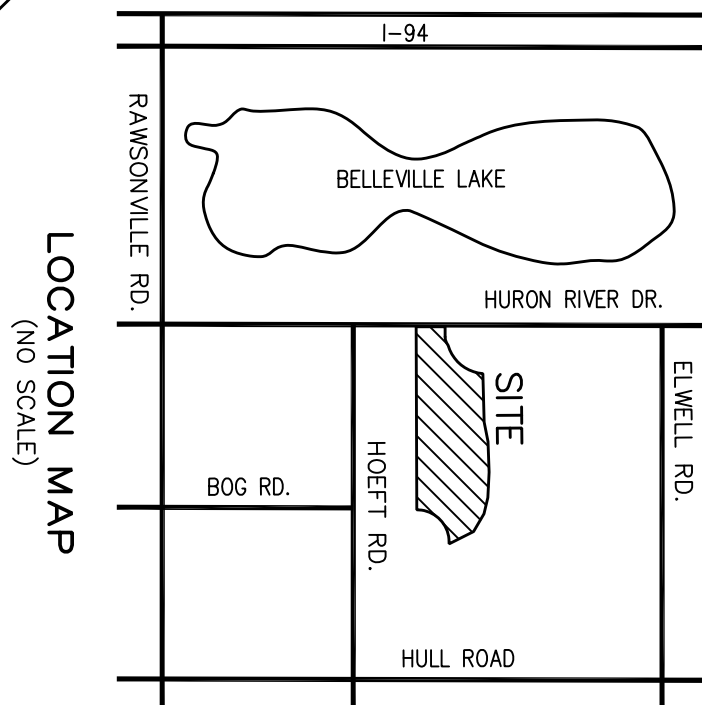


LEGAL DESCRIPTION:

PART OF THE NORTHWEST 1/4 OF SECTION 29, TOWN 3 SOUTH, RANGE 8 EAST, VAN BUREN TOWNSHIP, WAYNE COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS COMMENCING AT THE NORTH 1/4 CORNER OF SECTION 29, THENCE ALONG THE NORTH LINE OF SECTION 29 N 89°51'38" W 1,122.71 FEET TO THE POINT OF BEGINNING; THENCE S 00°08'16" E 130.00 FEET; THENCE 65.63 FEET ALONG THE ARC OF A CURVE TO THE LEFT (RADIUS=100.00 FEET, DELTA=37°36'13", CHORD=5 18°56'22" E., 64.46 FEET); THENCE 30.86 FEET ALONG THE ARC OF A CURVE TO THE RIGHT (RADIUS=100.00 FEET, DELTA=17°40'43", CHORD=5 28°54'08" E., 30.73 FEET); THENCE 301.07 FEET ALONG THE ARC OF A CURVE TO THE LEFT (RADIUS=260.00 FEET, DELTA=66°20'48", CHORD=5 53°14'10"E., 284.53 FEET); THENCE S.01°38'03"W., 339.06 FEET; THENCE S.11°07'09"E., 138.51 FEET; THENCE S.02°09'05"E., 215.25 FEET; THENCE S.02°56'20"W 177.95 FEET; THENCE S.13°32'35"W., 116.76 FEET; THENCE S.30°14'52"W. 143.43 FEET; THENCE S.63°16'42"W., 192.44 FEET; THENCE 368.10 FEET ALONG THE ARC OF A CURVE TO THE LEFT (RADIUS=225.00 FEET, DELTA=93°44'10", CHORD=N.43°21'19"W., 328.40 FEET); THENCE N0°42°34"W., 1341.48 FEET TO A POINT ON THE NORTH LINE OF SAID SECTION 29; THENCE ALONG SAID SECTION LINE S.89°51'38"E., 202.81 FEET TO THE POINT OF BEGINNING. CONTAINING 612,366 SQUARE FEET OR 4.06 ACRES.

SITE DATA

ORIGINAL DEVELOPMENT:  
26 BUILDINGS WITH 104 TOTAL UNITS WERE ORIGINALLY PROPOSED.  
CURRENTLY ONLY 12 BUILDINGS BUILT WITH 44 TOTAL UNITS.  
PROPOSED NEW DEVELOPMENT:  
CONSTRUCT 13 NEW BUILDINGS WITH 52 NEW UNITS.  
DENSITY:  
ORIGINAL = 104 UNITS.  
NEW PROPOSED = 44 EXISTING UNITS + 52 NEW UNITS = 96 TOTAL UNITS. (8 UNIT REDUCTION)  
PROPOSED NEW DEVELOPMENT AREA = 6.88 ACRES  
PROPOSED OPEN SPACE IN NEW DEVELOPMENT AREA = 41%

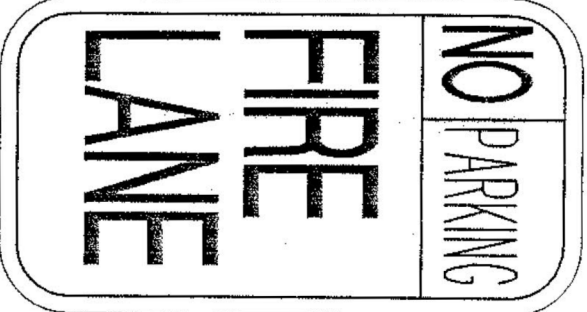


PRD AMENDMENT NOTES:

- THE PROPOSED PRD AMENDMENT INCORPORATES "MINOR CHANGES" CONSISTING OF CONSTRUCTING A DIFFERENT STYLE OF BUILDING WITH DIFFERENT UNIT LAYOUTS. THE ROADWAYS ARE CONSTRUCTED AND NO CHANGES ARE PROPOSED TO IT. THE STORM WATER DETENTION SYSTEM, WATER MAIN, SANITARY SEWER AND ELECTRIC/GAS UTILITIES ARE CONSTRUCTED AND ONLY MINOR MODIFICATIONS ARE PROPOSED. THE PROPOSED BUILDINGS ARE GENERALLY IN THE SAME LOCATION AS THE PREVIOUSLY APPROVED PRD WITH A ONE BUILDING REDUCTION AND A 8 UNIT REDUCTION.
- OPEN SPACE:  
THE PROPOSED OPEN SPACE FOR THE NEW 6.88 ACRE UNDEVELOPED AREA IS 41%. THE ORIGINAL APPROVED PLAN HAD 43% OPEN SPACE PROPOSED FOR THE UNDEVELOPED 6.88 ACRE AREA. THE PROPOSED OPEN SPACE PROVIDED IS SIMILAR TO THE ORIGINALLY APPROVED PLAN AND GREATER THAN THE MINIMUM 30% REQUIREMENT.
- ORIGINALY APPROVED LAYOUT: (5) 2-UNIT BUILDINGS, (16) 4-UNIT BUILDINGS, (5) 6-UNIT BUILDINGS = 26 BUILDINGS WITH 104 TOTAL UNITS.  
EXISTING BUILT LAYOUT: (3) 2-UNIT BUILDINGS, (8) 4-UNIT BUILDINGS, (1) 6-UNIT BUILDINGS = 12 BUILDINGS WITH 44 TOTAL UNITS.  
PROPOSED NEW DEVELOPMENT LAYOUT: (3) 3-UNIT BUILDINGS, (7) 4-UNIT BUILDINGS, (3) 5-UNIT BUILDINGS = 13 BUILDINGS WITH 52 TOTAL UNITS.  
RESULTANT LAYOUT: (3) 2-UNIT BUILDINGS, (3) 3-UNIT BUILDINGS, (15) 4-UNIT BUILDINGS, (3) 5-UNIT BUILDINGS, (1) 6-UNIT BUILDING: 25 BUILDINGS WITH 96 TOTAL UNITS.
- (1) BUILDING REDUCTION AND (8) UNIT REDUCTION.
- THE ORIGINAL PRD DENSITY CALCULATIONS INDICATE 203 UNITS WOULD BE PERMITTED UNDER COVENTIONAL ZONING (R-1A) AND THAT UP TO 264 UNITS MAY BE PERMITTED WITH THE MAXIMUM ALLOWED 30% DENSITY BONUS.
- THE PREVIOUSLY APPROVED PLAN = 258 UNITS = 27% DENSITY BONUS.  
THIS PROPOSED AMENDMENT PLAN = 250 UNITS = 23% DENSITY BONUS. (WITHIN THE 30% ALLOWABLE BONUS)

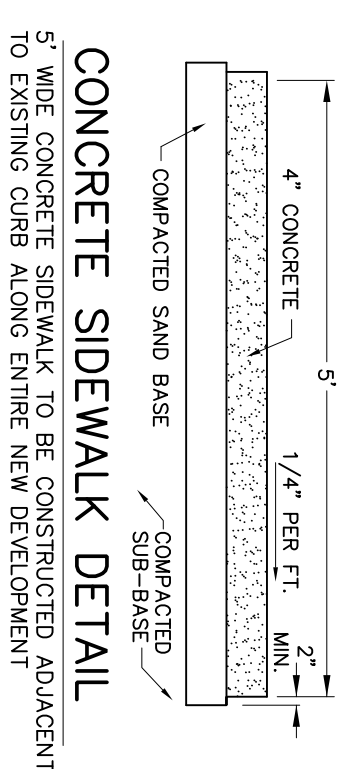
REQUESTED DEVIATIONS FROM PRD:

- A DEVIATION IS REQUESTED FROM THE MINIMUM REQUIRED SETBACK ALONG AN INTERNAL PRIVATE ROAD OF 25 FEET FOR BUILDING #8. WE REQUEST A 20 FOOT SETBACK FROM THE PRIVATE ROAD FOR BUILDING #8 DUE TO AN EXISTING STORM SEWER BEHIND BUILDING #8.
- A DEVIATION IS REQUESTED FROM THE MINIMUM REQUIRED SETBACK ALONG AN INTERNAL PRIVATE ROAD OF 25 FEET FOR BUILDINGS #4 & #5 REGARDING THE SIDE SETBACK TO WHITEWOOD CIRCLE. THE PROPOSED SETBACK DISTANCE TO THE PROPERTY LINE IS 15.0 FEET FOR BUILDING #4 AND 17.5 FEET FOR BUILDING #5. THE DISTANCE TO THE ACTUAL PAVED ROADWAY IS 32 FEET FOR BUILDING #4 AND 34 FEET FOR BUILDING #5. THE SETBACK FROM THE PAVED ROADWAY SHALL BE GREATER DISTANCE THAN THE 25 FOOT DISTANCE FOR THE FRONT SETBACK.
- A DEVIATION IS REQUESTED FROM THE APPROVED PRD TO ALLOW PROPOSED UNIT SIZES OF 1,633 SQ. FT. & 1,266 SQ. FT.



FIRE LANE — NO PARKING SIGN

SIGNS TO BE PLACED ON THE WATER MAIN SIDE OF THE ROAD AT 300' INTERVALS.



SHEET INDEX:

- SH. 1 — SITE PLAN
- SH. 2 — BOUNDARY SURVEY
- SH. 3 — GRADING & UTILITY PLAN
- LP-1 — LANDSCAPE PLANTING PLAN
- LP-2 — LANDSCAPE NOTES & DETAILS
- A-1 — BUILDING PLAN
- A-4 — FLOOR PLAN
- A-10 — BUILDING ELEVATION

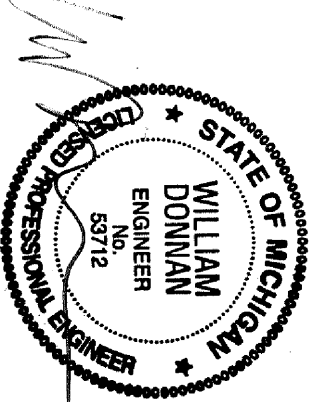
**ARPEE/DONNAN, INC.**  
LAND SURVEYING • ENGINEERING • MAPPING  
32233 SCHOOLCRAFT ROAD, SUITE 103  
LIVONIA, MICHIGAN 48150  
PHONE (734) 953-3335 FAX (734) 953-3324

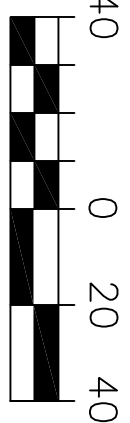
PREPARED FOR  
**INFINITY HOMES**  
42400 GRAND RIVER AVE.  
NOVI, MICHIGAN 48375  
(248) 449-8074

REVISIONS:  
09/26/22-DENSITY  
& DEVIATIONS  
INFORMATION ADDED

**SITE PLAN**  
**COBBLESTONE CREEK VILLAS CONDOMINIUM**  
PART OF THE NORTHWEST 1/4 OF SECTION 29,  
T. 3 S., R. 8 E., VAN BUREN TOWNSHIP,  
WAYNE COUNTY, MICHIGAN

DATE: 04/15/22  
DRAFTED BY: WJD  
CHECKED BY: WJD  
F.B.  
FILE:  
JOB # 21026  
SH. 1





PROPERTY DESCRIPTION - (PROPERTY TO BE WITHDRAWN FROM ORIGINAL CONDOMINIUM AND USED TO CREATE A NEW CONDOMINIUM)

## BEARING BASIS:

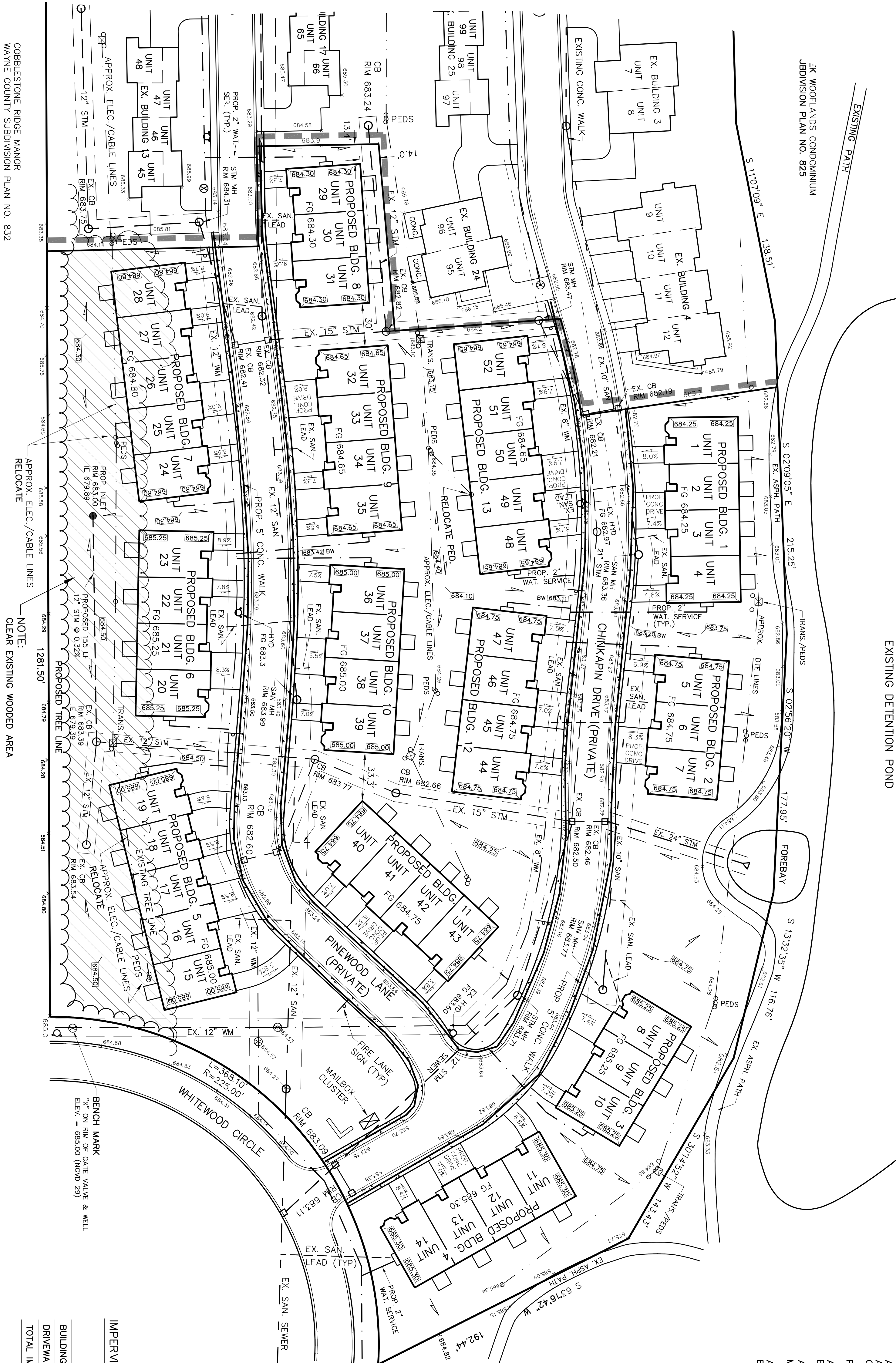
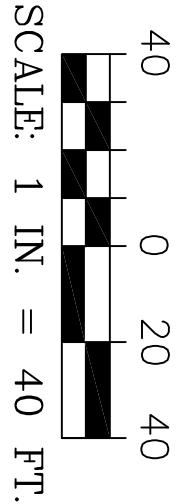
ALL BEARINGS ARE IN RELATION TO THE NORTH LINE OF SECTION 29, AS SHOWN ON THE PLAT OF MALISZEWSKI SUBDIVISION AS RECORDED IN L. 86, P. 95 WAYNE COUNTY RECORDS.

FLOOD HAZARD NOTE:

ACCORDING TO THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP NO. 26163C0334E, EFFECTIVE DATE: FEBRUARY 2, 2012, THE SUBJECT PROPERTY DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD AREA.

SH. 2	JOB # 21026	DATE 04/05/22	F.B. DRAWN BY WSD	C.C. CHECKED BY WSD	F.B. FILED	BOUNDARY SURVEY	ARPEE/DONNAN, INC. LAND SURVEYING • ENGINEERING • MAPPING 32233 SCHOOLCRAFT ROAD, SUITE 103 LIVONIA, MICHIGAN 48150 PHONE (734) 953-3335 FAX (734) 953-3324	PREPARED FOR INFINITY HOMES 42400 GRAND RIVER AVE. NOVI, MICHIGAN 48375 (248) 449-8074	
						COBBLESTONE CREEK VILLAS CONDOMINIUM			
						PART OF THE NORTHWEST 1/4 OF SECTION 29, T. 3 S., R. 8 E., VAN BUREN TOWNSHIP, WAYNE COUNTY, MICHIGAN			





IMPERVIOUS SURFACE — NEW DEVELOPMENT AREA		
	PREVIOUSLY APPROVED PLANS	PROPOSED
BUILDING ROOFS AND PATIOS	87,368 SQ. FT.	90,186 SQ. FT.
DRIVEWAYS & SIDEWALKS	35,518 SQ. FT.	25,236 SQ. FT.
TOTAL IMPERVIOUS AREA	122,886 SQ. FT.	115,422 SQ. FT.

LEGEND

- PROPOSED GRADE
- EX. ELEV.
- EX. WATER MAIN
- EX. SANITARY SEWER
- EX. STORMWATER SEWER
- EX. HYDRANT
- EX. CATCH BASIN
- EX. MANHOLE

DEVELOPMENT NOTES:

- ALL ROADS, SANITARY SEWER, WATER MAIN, PUBLIC UTILITIES, STORM SEWER AND STORM WATER DETENTION PONDS ARE CONSTRUCTED.
- SITE GRADING SHALL GENERALLY FOLLOW ORIGINAL GRADING PLAN WITH THE EXCEPTION OF PROVIDING NEW STORM SEWER AND CATCH BASIN NEAR WEST SIDE OF PROPERTY.
- AS PER THE AS-BUILT PLANS THERE IS AN EXISTING SANITARY LEAD AVAILABLE FOR EACH PROPOSED BUILDING.
- A SANITARY CLEANOUT SHALL BE PROVIDED WITHIN 5 FEET OF BUILDING FOUNDATION WALLS, AT ALL BENDS AND AT INTERVALS NO GREATER THAN 100 FEET. A MINIMUM OF ONE CLEAN-OUT EXTERNAL TO THE BUILDING IS REQUIRED ON ALL SANITARY LEADS.
- PROPOSED BUILDINGS SHALL BE SLAB ON GRADE.
- A 20-FOOT WIDE PUBLIC SANITARY SEWER EASEMENT AND A 12-FOOT PUBLIC WATER MAIN EASEMENT WILL BE PROVIDED.
- A NEW CONDOMINIUM WILL BE CREATED OVER THE NEW DEVELOPMENT AREA WITH A NEW MASTER DEED AND EXHIBIT "B" DRAWINGS.
- A NEW 2" WATER SERVICE WILL BE CONSTRUCTED FOR EACH BUILDING AT THE TIME OF BUILDING CONSTRUCTION.

NOTES:

- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS, SPECIFICATIONS, AND GENERAL CONDITIONS OF THE TOWNSHIP.
- THE APPLICANT IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PROPERTIES WHICH ARE THE RESULT OF THE APPLICANT'S ACTIONS.

PROPOSED UTILITY QUANTITY LIST:

- 2" DIA INLET = 1 EACH
- 12" C/R-CL IV = 155 LF

GRADING & UTILITY PLAN  
COBBLESTONE CREEK VILLAS CONDOMINIUM

PART OF THE NORTHWEST 1/4 OF SECTION 29,  
T. 3 S., R. 8 E., VAN BUREN TOWNSHIP,  
WAYNE COUNTY, MICHIGAN

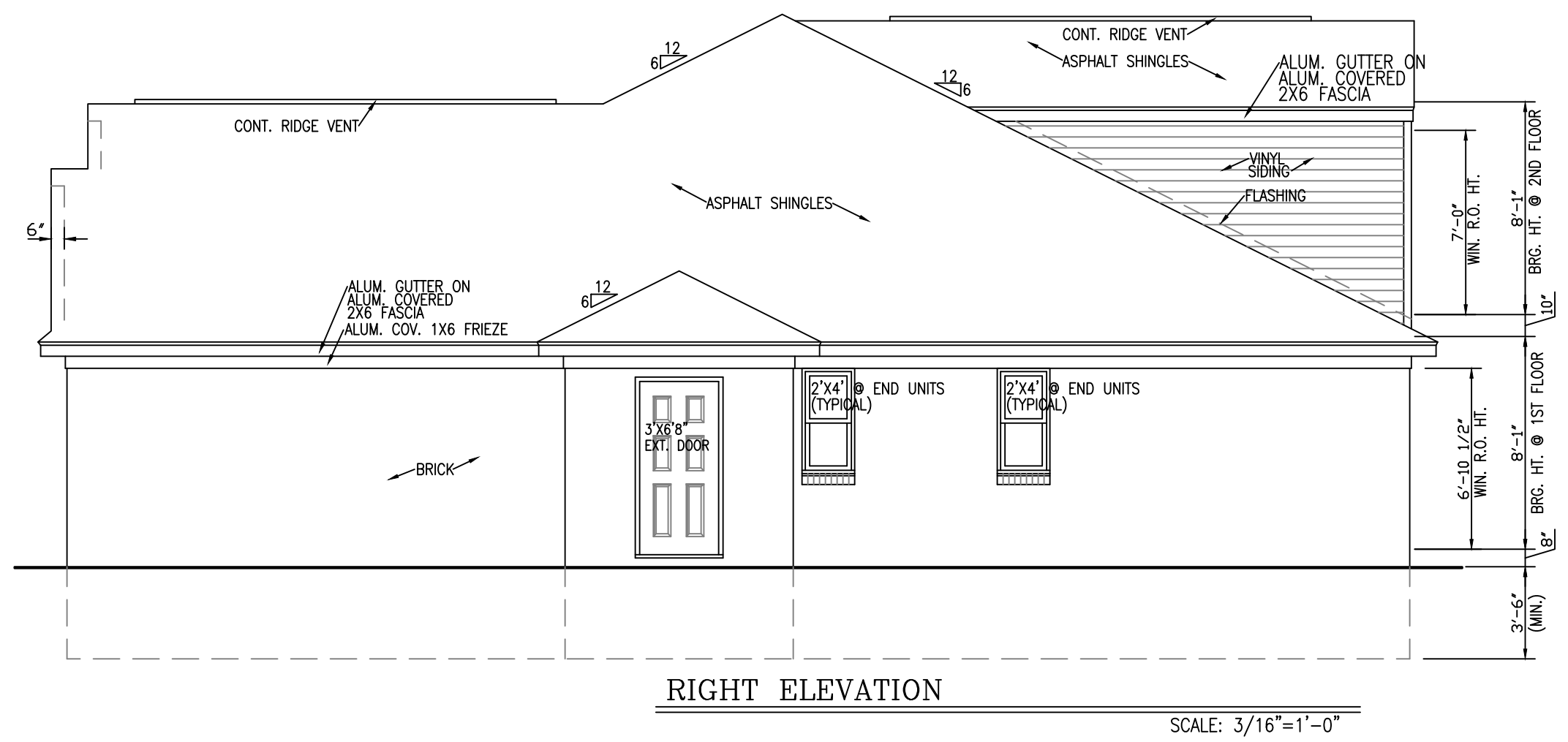
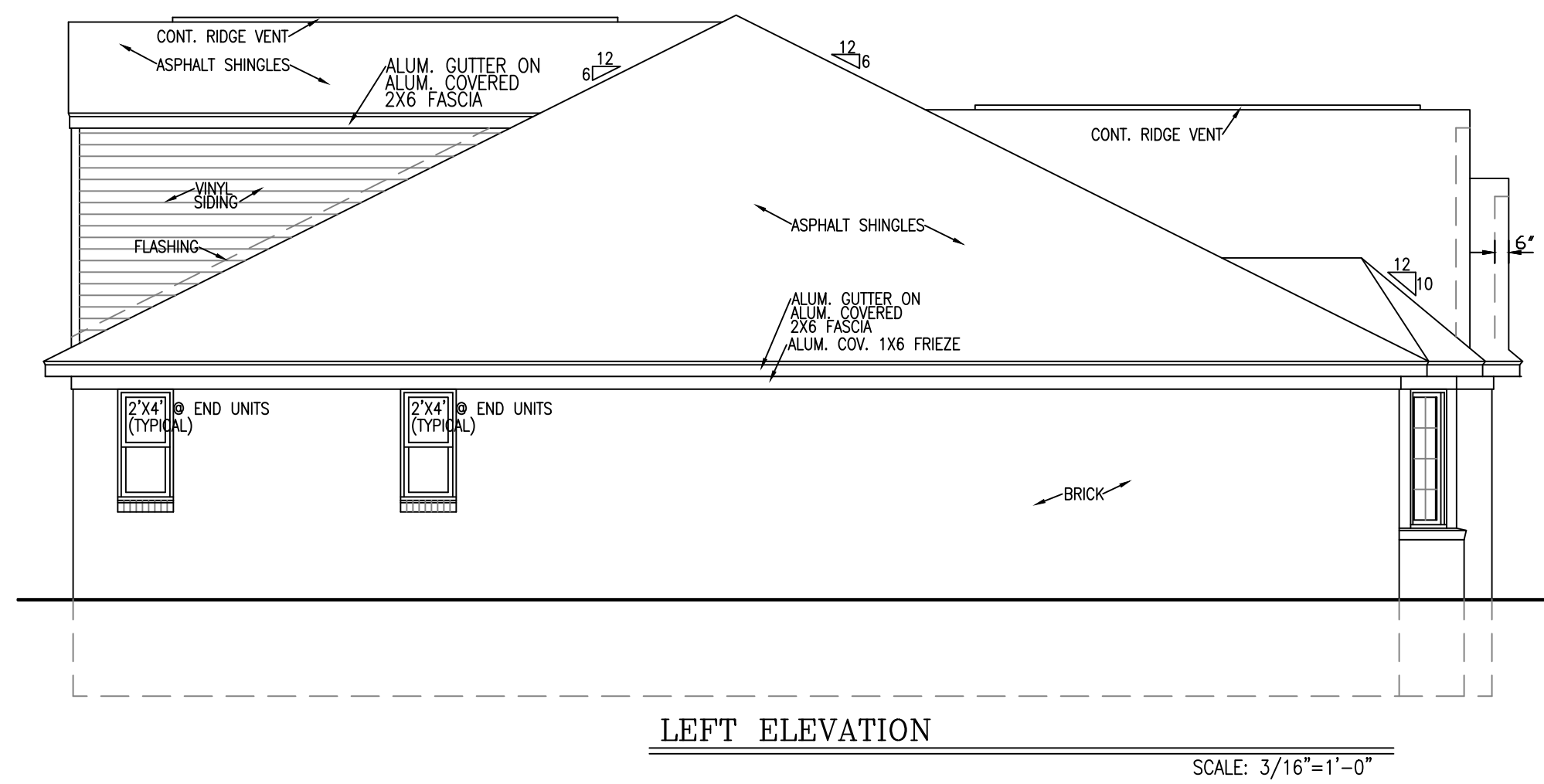
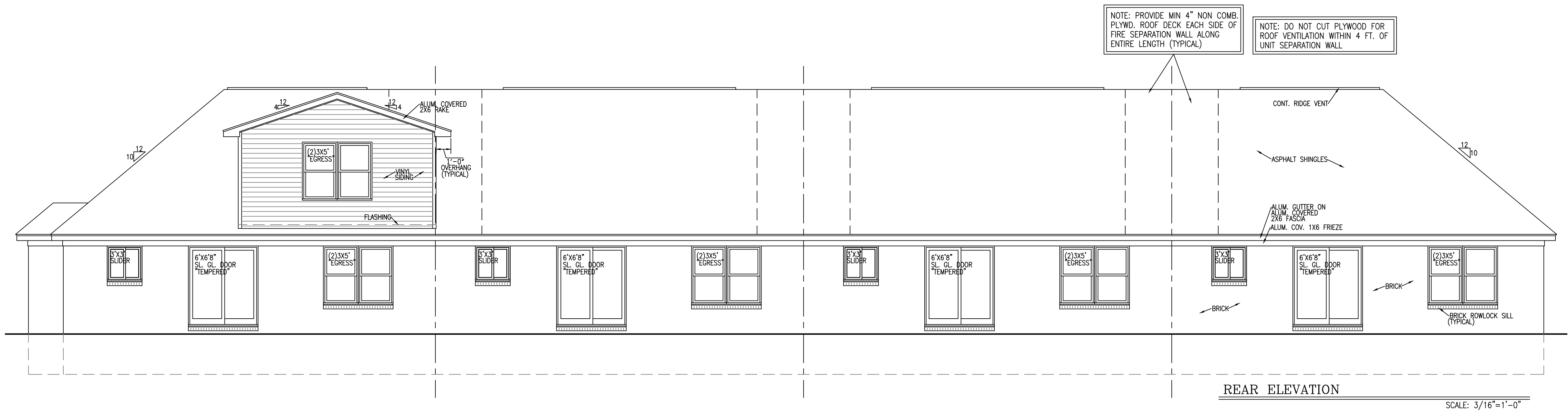
ARPEE/DONNAN, INC.  
LAND SURVEYING • ENGINEERING • MAPPING

32233 SCHOOLCRAFT ROAD, SUITE 103  
LIVONIA, MICHIGAN 48150  
PHONE (734) 953-3335 FAX (734) 953-3324

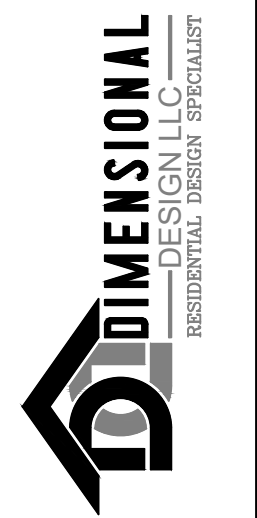
PREPARED FOR  
INFINITY HOMES  
42400 GRAND RIVER AVE.  
NOVI, MICHIGAN 48375  
(248) 449-8074

REVISED:  
05/27/22

DATE 04/15/22  
DRAFTED BY WRD  
CHECKED BY WOD  
FILE:  
JOB # 21026  
SH. 3



30489 MUNGER DR.  
LIVONIA, MI 48154  
(734)427-0050



Project:  
Cobblestone

Builder:  
Infinity Homes, Inc.  
42480 Grand River Ave. - Suite #112  
Novi, MI 48375  
Phone: (248)449-8084 Fax: (248)449-8136

Copyright © 2022  
Property of Infinity Homes & Co., Architectural  
design and floor plan configuration layout is  
the property of Infinity Homes & Co. and shall  
remain the property of Infinity Homes & Co. without  
its intellectual property which will cause financial  
harm to the company, and will be pursued to  
under the strictest terms of the law.

REVISION:

DATE:  
8/2/2022

JOB# 220732  
SHT. NO.

A-2

**CHARTER TOWNSHIP OF VAN BUREN  
WAYNE COUNTY, MICHIGAN**

**FIRST AMENDMENT TO PLANNED RESIDENTIAL DEVELOPMENT AGREEMENT**

This First Amendment to Planned Residential Development Agreement, dated as of \_\_\_\_\_, 2022 (“Amendment”), is by and between \_\_\_\_\_, whose address is \_\_\_\_\_ (“Builder”), and the Charter Township of Van Buren, a Michigan municipal corporation, whose address is 46425 Tyler Road, Belleville, Michigan 48111 (the “Township”).

**RECITALS**

A. C.A.Kime, Inc., a Michigan corporation (“Original Developer”) and the Township entered into a Planned Residential Development Agreement dated as of April 18, 2005 (“Development Agreement”) for Cobblestone Creek Condominium (“Project”).

B. The Project originally included 154 of detached units in a the area titled Cobblestone Creek Woodlands (“Woodlands”), of which 63 were constructed, and 104 attached units in the area titled Cobblestone Creek Villas (“Villas”) of which 44 were constructed.

C. Since the commencement of construction on the Project, a total of 60 units have been constructed in Project.

D. The Builder has now become the successor in interest to the remaining undeveloped units, which have been extracted from the original Project to form the Reserve at Cobblestone Creek Villas Condominium (“Reserve”).

E. There is an existing condominium for each of the Woodlands and the Villas.

F. The Builder will establish a Master Association for the Villas and the Reserve as part of the construction of the units within the Reserve.

G. The Builder and the Township wish to amend the Development Agreement and Project in the respects set forth below. The Township and the Builder recognize that the proposed changes described herein are a general revisions to a Planned Residential Development as described by Section 6.221 of the Township of Van Buren Zoning Ordinance (“Ordinance”), subject to the review process identified in Section 6.219 of the Ordinance.

H. An application for an amended site plan for a portion of the Project (approximately 14.06 acres) acquired from the Original Developer, a copy of which is attached hereto as Exhibit B and made a part hereof (hereinafter referred to as the “Amended PRD Plan”), were submitted to the Township, reviewed by the Planning Commission and the Township Board of Trustees, and approved by the Township Board of Trustees on \_\_\_\_\_ following a recommendation from the Planning Commission made on \_\_\_\_\_ pursuant to the Zoning Ordinance, including all necessary modifications

therefrom, and subject to the Builder and the Township entering into this Agreement setting forth the conditions upon which such approval is based.

I. The land subject to the Amended PRD Plan is more particularly described on Exhibit A, attached hereto (“Amendment Area”).

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

1. Except as specifically provided in this Amendment, the terms of the original Planned Residential Development (i.e., the Township’s Zoning Ordinance, the Development Agreement and any Permit Conditions) apply in full force and effect.

2. The Amended PRD Plan dated \_\_\_\_\_ as approved by the Township \_\_\_\_\_, 2022 is incorporated into the Development Agreement and the Project may be developed in accordance with this Amendment.

3. The original Project included 26 buildings with 104 total units. Currently, only 12 buildings have been constructed with a total of 44 units.

4. The Builder’s Amended PRD Plan modifies the Project and includes construction of 13 new buildings with 53 new units as set forth herein.

5. The Amended PRD Plan reduces the density from a total of 104 approved units to 97 total units (44 existing units + 53 new units = 97 total units).

6. Paragraph 5.b. of the Development Agreement is hereby deleted and the following is substituted in lieu thereof:

“b. The Project shall include 154 single family dwelling units and 97 single family attached units, for a total of 251 units.

7. The Amended PRD Plan, which is the subject of the Amendment, shall include 13 buildings with 53 attached single family dwellings units within the Amendment Area.

8. Paragraph 5 i. (iii) is hereby deleted and the following is substituted in lieu thereof:

iii. The requirement of a minimum dwelling unit size of 1800 square feet shall be satisfied by the average dwelling unit size of the entire development (Attached and Detached units) being a minimum of 1800 square feet. The Detached Units shall have a minimum floor area of 1800 square feet and the Attached Units shall have a minimum floor area of 1266 square feet.

9. The Builder is only required to comply with the Development Agreement to the extent of the Amended PRD Plan in the Amended Area, all other obligations remaining the obligation of the Original Developer and/or the existing Association(s).



Subscribed and sworn to before me on this \_\_\_\_ day of \_\_\_\_\_, 2022, by  
\_\_\_\_\_ of \_\_\_\_\_ a Michigan limited liability  
company, on behalf of the limited liability company.

\_\_\_\_\_  
Notary Public  
Wayne County, Michigan  
My Commission Expires: \_\_\_\_\_  
Acting in Wayne County

STATE OF MICHIGAN     )  
  ) ss.  
COUNTY OF WAYNE     )

Subscribed and sworn to before me on this \_\_\_\_ day of \_\_\_\_\_, 2022, by  
\_\_\_\_\_, Supervisor, and \_\_\_\_\_, Clerk, of the Charter  
Township of Van Buren, a Michigan municipal corporation.

\_\_\_\_\_  
Notary Public  
Wayne County, Michigan  
My Commission Expires: \_\_\_\_\_  
Acting in Wayne County

DRAFTED BY AND WHEN  
RECORDED RETURN TO:

Stephen R. Estey, Esq.  
Dykema Gossett PLLC  
39577 Woodward Ave.  
Suite 300  
Bloomfield Hills, MI 48304  
(248) 203-0538

**EXHIBIT A**

**EXHIBIT B**



### **THIRD AMENDMENT TO MASTER DEED OF COBBLESTONE CREEK VILLAS CONDOMINIUM**

This THIRD AMENDMENT TO MASTER DEED is made and entered into as of the 14th day of March, 2022, by **LEO SOAVE BUILDING, INC.**, a Michigan corporation, the address of which is 20592 Chestnut Circle, Livonia, Michigan 48152 ("Soave"), successor to **C. A. KIME, INC.**, a Michigan corporation ("Initial Developer").

#### **RECITALS**

- A. On February 24, 2005, Initial Developer executed a Master Deed which was recorded on February 28, 2005, at Liber 42135, Page 506, Wayne County Records, establishing Cobblestone Creek Villas Condominium as a residential condominium project pursuant to the Michigan Condominium Act and known as Wayne County Condominium Subdivision Plan No. 826. On July 15, 2008, Initial Developer executed a First Amendment to Master Deed which was recorded on July 29, 2008, at Liber 47385, Page 1039, Wayne County Records ("First Amendment"). On October 9, 2008, Initial Developer executed a Second Amendment to Master Deed which was recorded on October 10, 2008, at Liber 47511, Page 724, Wayne County Records ("Second Amendment"). The Master Deed, First Amendment and Second Amendment are hereinafter collectively referred to as the "Master Deed".
- B. As of this date, Soave, as successor to Initial Developer, desires to record this Third Amendment to, among other things; contract out a certain unbuilt portion of the Condominium Project, as provided for below; and provide for the creation and establishment of a Master Association (as defined below), which Master Association shall maintain and repair all of the General Common Elements for the Condominium and for those located in the Condominium Project to be established by another developer within the portion of the Condominium Project contracted out, as provided herein.

ACCORDINGLY, the undersigned agree as follows:

1. **Withdrawal of Property.** The unbuilt units (Units 13 through 44 and 67 through 94) and adjacent common areas, as more particularly described on the attached **Exhibit A** (the "Contracted Property") are hereby withdrawn from the Condominium Project.

2. **Amendment of Article II.** Article II is hereby deleted in its entirety and replaced as follows:

## ARTICLE II LEGAL DESCRIPTION

The land submitted to the Condominium Project established by this Master Deed as it currently exists is described as follows:

PART OF THE NORTHWEST 1/4 OF SECTION 29, TOWN 3 SOUTH, RANGE 8 EAST, VAN BUREN TOWNSHIP, WAYNE COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS COMMENCING AT THE NORTH 1/4 CORNER OF SECTION 29, THENCE ALONG THE NORTH LINE OF SECTION 29 N 89°51'38" W 1,122.71; THENCE S 00°08'16" E 60.00 FEET TO THE POINT OF BEGINNING; THENCE S 00°08'16" E 70.00 FEET; THENCE 65.63 FEET ALONG THE ARC OF A CURVE TO THE LEFT (RADIUS=100.00 FEET, DELTA=37°36'13", CHORD=S 18°56'22" E, 64.46 FEET); THENCE 30.86 FEET ALONG THE ARC OF A CURVE TO THE RIGHT (RADIUS=100.00 FEET, DELTA=17°40'43", CHORD=S 28°54'06" E., 30.73 FEET); THENCE 301.07 FEET ALONG THE ARC OF A CURVE TO THE LEFT (RADIUS=260.00 FEET, DELTA=66°20'48", CHORD=S 53°14'10" E, 284.53 FEET); THENCE S 01°38'03" E, 339.06 FEET; THENCE S 11°07'09" E, 138.51 FEET; THENCE S 02°09'05" E, 45.47 FEET; THENCE S 81°42'21" W, 136.16 FEET; THENCE 68.13 FEET ALONG THE ARC OF A CURVE TO THE LEFT (RADIUS=432.57 FEET, DELTA=09°01'27", CHORD=N 12°10'24" W, 68.06 FEET); THENCE S 85°51'11" W, 114.01 FEET; THENCE N 04°57'00" W, 128.74 FEET; THENCE S 88°57'14" W, 83.78 FEET; THENCE S 00°53'56" E, 68.72 FEET; THENCE S 88°41'22" W, 145.19 FEET; THENCE N 00°13'25" W, 755.62 FEET; THENCE S 89°51'38" E, 202.72 FEET TO THE POINT OF BEGINNING.  
CONTAINING 6.90 ACRES

3. **Amendment to Article.** All references in Article V, Section 1 to Units 1 through 104 shall be revised to Units numbered 1 through 12 and 45 through 66. The percentage of value assigned to each Unit shall continue to be equal for each Unit.

4. **Replacement of Condominium Subdivision Plan.** Pages 1, 2, 3, 4 and 6 of the Condominium Subdivision Plan attached as **Exhibit B** to the Master Deed are hereby deleted and replaced by the revised Pages 1, 2, 3, 4 and 6 of the Condominium Subdivision Plan attached hereto.

5. **Reciprocal Easement Agreement.** Initial Developer has conveyed the Contracted Property to Soave ("Successor Developer"), which although it intends to record and establish a new and separate condominium on the Contracted Property, nevertheless the Association and Successor Developer have concurrently herewith recorded that certain Reciprocal Easement Agreement, encumbering the withdrawn property and providing for the joint maintenance and repairs of the shared general common elements for both Associations, as provided for in the Reciprocal Easement Agreement.


6. **Continuous Effect.** To the extent not specifically amended and/or modified herein, the remaining terms and conditions of the Master Deed shall remain in full force and effect.

7. **Defined Terms.** To the extent not specifically modified herein, all defined terms as used herein shall have those meanings as originally ascribed to them in the Master Deed.

*[Signatures on following pages]*

This Third Amendment to Master Deed has been executed as of the date set forth above.

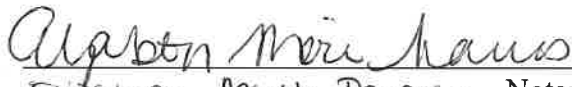
**LEO SOAVE BUILDING, INC.**, a Michigan corporation

By:   
Leo Soave, President

STATE OF MICHIGAN     )  
  ) SS  
COUNTY OF Oakland     )

The foregoing instrument was executed before me this 23<sup>rd</sup> day of May, 2022, by Leo Soave, the President of **LEO SOAVE BUILDING, INC.**, a Michigan corporation, on behalf of said corporation.

ELIZABETH MARIE THOMAS  
Notary Public, State of Michigan  
County of Oakland  
My Commission Expires Apr. 17, 2026  
Acting in the County of Oakland

  
Elizabeth Marie Thomas, Notary Public  
State of Michigan, County of Oakland  
My Commission Expires: 4/17/26  
Acting in the County of Oakland

## EXHIBIT A

### LEGAL DESCRIPTION OF CONTRACTED PROPERTY

REAL ESTATE LOCATED IN VAN BUREN TOWNSHIP, COUNTY OF WAYNE, STATE OF MICHIGAN, DESCRIBED AS FOLLOWS:

PART OF THE NORTHWEST 1/4 OF SECTION 29, TOWN 3 SOUTH, RANGE 8 EAST, VAN BUREN TOWNSHIP, WAYNE COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS COMMENCING AT THE NORTH 1/4 CORNER OF SECTION 29, THENCE ALONG THE NORTH LINE OF SECTION 29 N 89°51'38" W 1,122.71 FEET; THENCE S 00°08'16" E 130.00 FEET; THENCE 65.63 FEET ALONG THE ARC OF A CURVE TO THE LEFT (RADIUS=100.00 FEET, DELTA=37°36'13", CHORD=S 18°56'22" E, 64.46 FEET); THENCE 30.86 FEET ALONG THE ARC OF A CURVE TO THE RIGHT (RADIUS=100.00 FEET, DELTA=17°40'43", CHORD=S 28°54'06" E., 30.73 FEET); THENCE 301.07 FEET ALONG THE ARC OF A CURVE TO THE LEFT (RADIUS=260.00 FEET, DELTA=66°20'48", CHORD=S 53°14'10" E, 284.53 FEET); THENCE S 01°38'03" E, 339.06 FEET; THENCE S 11°07'09" E, 138.51 FEET; THENCE S 02°09'05" E, 45.47 FEET TO THE POINT OF BEGINNING; THENCE S 02°09'05" E, 169.78 FEET; THENCE S 02°56'20" W 177.95 FEET; THENCE S 13°32'35" W, 116.76 FEET; THENCE S 30°14'52" W 143.43 FEET; THENCE S 63°16'42" W, 192.44 FEET; THENCE 368.10 FEET ALONG THE ARC OF A CURVE TO THE LEFT (RADIUS=225.00 FEET, DELTA=93°44'10", CHORD=N.43°21'19"W., 328.40 FEET); THENCE N 00°13'25" W, 525.88 FEET; THENCE N 88°41'22" E 145.19 FEET; THENCE N 00°53'56" W 68.72 FEET; THENCE N 88°57'14" E 83.78 FEET; THENCE S 04°57'00" E 128.74 FEET; THENCE N 85°51'11" E 114.01 FEET; THENCE 68.13 FEET ALONG THE ARC OF A CURVE TO THE RIGHT (RADIUS=432.57 FEET, DELTA=09°01'27", CHORD=S 12°10'24" E, 68.06 FEET); THENCE N 81°42'21" E 136.16 FEET TO THE POINT OF BEGINNING. CONTAINING 6.88 ACRES

#### TAX PARCEL ID NUMBERS:

83-114-02-0013-000 (Unit 13)  
83-114-02-0014-000 (Unit 14)  
83-114-02-0015-000 (Unit 15)  
83-114-02-0016-000 (Unit 16)  
83-114-02-0017-000 (Unit 17)  
83-114-02-0018-000 (Unit 18)  
83-114-02-0019-000 (Unit 19)  
83-114-02-0020-000 (Unit 20)  
83-114-02-0021-000 (Unit 21)  
83-114-02-0022-000 (Unit 22)  
83-114-02-0023-000 (Unit 23)  
83-114-02-0024-000 (Unit 24)  
83-114-02-0025-000 (Unit 25)

83-114-02-0026-000 (Unit 26)  
83-114-02-0027-000 (Unit 27)  
83-114-02-0028-000 (Unit 28)  
83-114-02-0029-000 (Unit 29)  
83-114-02-0030-000 (Unit 30)  
83-114-02-0031-000 (Unit 31)  
83-114-02-0033-000 (Unit 33)  
83-114-02-0034-000 (Unit 34)  
83-114-02-0035-000 (Unit 35)  
83-114-02-0036-000 (Unit 36)  
83-114-02-0037-000 (Unit 37)  
83-114-02-0038-000 (Unit 38)  
83-114-02-0039-000 (Unit 39)  
83-114-02-0040-000 (Unit 40)  
83-114-02-0041-000 (Unit 41)  
83-114-02-0042-000 (Unit 42)  
83-114-02-0043-000 (Unit 43)  
83-114-02-0044-000 (Unit 44)  
83-114-02-0067-000 (Unit 67)  
83-114-02-0068-000 (Unit 68)  
83-114-02-0069-000 (Unit 69)  
83-114-02-0070-000 (Unit 70)  
83-114-02-0071-000 (Unit 71)  
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83-114-02-0073-000 (Unit 73)  
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83-114-02-0090-000 (Unit 90)  
83-114-02-0091-000 (Unit 91)  
83-114-02-0092-000 (Unit 92)  
83-114-02-0093-000 (Unit 93)  
83-114-02-0094-000 (Unit 94)

## ORIGINAL MASTER DEED LEGAL DESCRIPTION

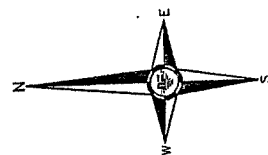
Part of the Northwest 1/4 of Section 29, Town 3 South, Range 8 East, Van Buren Township, Wayne County, Michigan, being more particularly described as commencing at the North 1/4 corner of Section 29, thence along the North line of Section 29 North 89 degrees 51 minutes 38 seconds West, 1,122.71 feet to the point of beginning; thence South 00 degrees 08 minutes 16 seconds East, 130.00 feet; thence 65.63 feet along the arc of a curve to the left (Radius=100.00 feet, Delta=37 degrees 36 minutes 13 seconds, Chord=South 18 degrees 56 minutes 22 seconds East, 64.46 feet); thence 30.86 feet along the arc of a curve to the right (Radius=100.00 feet, Delta=17 degrees 40 minutes 43 seconds, Chord=South 28 degrees 54 minutes 08 seconds East, 30.73 feet); thence 301.07 feet along the arc of a curve to the left (Radius=260.00 feet, Delta=66 degrees 20 minutes 48 seconds, Chord=South 53 degrees 14 minutes 10 seconds East, 284.53 feet); thence South 01 degree 38 minutes 03 seconds East, 339.06 feet; thence South 11 degrees 07 minutes 09 seconds East, 138.51 feet; thence South 02 degrees 09 minutes 05 seconds East, 215.25 feet; thence South 02 degrees 56 minutes 20 seconds West, 177.95 feet; thence South 13 degrees 32 minutes 35 seconds West, 116.76 feet; thence South 30 degrees 14 minutes 52 seconds West, 143.43 feet; thence South 63 degrees 16 minutes 42 seconds West, 192.44 feet; thence 368.10 feet along the arc of a curve to the left (Radius=225.00 feet, Delta=93 degrees 44 minutes 10 seconds, Chord=North 43 degrees 21 minutes 19 seconds West, 328.40 feet); thence North 00 degrees 13 minutes 25 seconds West, 1,341.48 feet to a point on the North line of said Section 29; thence along said Section line South 89 degrees 51 minutes 38 seconds East, 202.81 feet to the point of beginning. Containing 612,366 square feet or 14.06 acres.

**EXHIBIT B**

**REVISED PAGES 1, 2, 3, 4 AND 6 OF  
THE CONDOMINIUM SUBDIVISION PLAN**

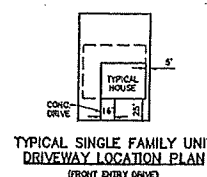
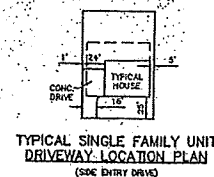
**SEE ATTACHED**





Huron River Drive

PROPOSED COBBLESTONE RIDGE CONDOMINIUMS



NOTE:  
A 6" sanitary sewer lead and a 1" water service lead shall be located 5' to 10' from the building corner opposite to the driveway

NOTE:  
ALL ADJACENT LOT SIDE LINE SETBACKS ARE 5 FT, HOWEVER A MINIMUM OF 20 FT SHALL BE MAINTAINED BETWEEN ADJACENT BUILDINGS

DATE/REVISION  
6/08/04 - PER TOWNSHIP  
4/06/04 - PER CONST. DOCS  
5/26/03 PER TWP. REVIEW  
4/25/03 PER TWP. REVIEW  
2/26/03 PER TWP. REVIEW  
10/11/02 - PER TOWNSHIP  
8/16/02 - PER TOWNSHIP  
6/17/02 - PER TOWNSHIP  
5/15/02 - PER TOWNSHIP  
SHEET  
Dimension Plan

DRAWN BY:  
CAW  
DESIGNED BY:  
APPROVED BY:  
RM  
DATE:  
12-05-01  
SCALE:  
1" = 100'  
NFI08 NO.

2-B593  
SHEET NO.  
10 of 12

**CHARTER TOWNSHIP OF VAN BUREN  
WAYNE COUNTY, MICHIGAN**

**PLANNED RESIDENTIAL DEVELOPMENT AGREEMENT**

THIS PLANNED RESIDENTIAL DEVELOPMENT AGREEMENT (hereinafter referred to as the "Agreement") made this 18<sup>th</sup> day of April 2005 (hereinafter referred to as the "date of Agreement") by and between C.A.Kime, Inc., a Michigan Corporation (hereinafter referred to as the "Developer"), having its principal office at 2104 E. Eleven Mile Rd., Suite 100, Warren, MI. 48091, and the CHARTER TOWNSHIP OF VAN BUREN, County of Wayne, State of Michigan, a Michigan Municipal Corporation, (hereinafter referred to as the "Township"), having its principal office at 46425 Tyler Road, Belleville, MI 48111.

R E C I T A L S:

1. The Developer has an interest in and wishes to develop land located in the Township (the "Land"), more particularly described on Exhibit A attached hereto.

2. Section 7.04 of Article VII of the Township Zoning Ordinance 6-2-92 as amended (hereinafter referred to as the "Zoning Ordinance") provides for a Planned Residential Development as an optional method of development allowing a mixture of certain types of residential uses with open space and amenities in order to encourage the use of land in accordance with its character and adaptability; conserve natural resources, natural features, and energy; encourage innovation in land use planning; provide enhanced housing, employment, shopping, circulation, and recreational opportunities for the people of the Township; ensure compatibility of design and use between neighboring properties; encourage development that is consistent with the Master Plan; and promote rural open space development that preserves the Township's rural character and encourages the preservation of agricultural lands.

3. The Developer desires to develop the Land as a Planned Residential Development pursuant to the Zoning Ordinance, to be known as Cobblestone Creek, a residential Site Condominium (the "Detached Unit Development"), and Attached Condominium (the "Attached Unit Development") project (hereinafter referred to as the "Project").

4. An application and site plan package for the Project, a copy of which is attached hereto as Exhibit B and made part hereof (hereinafter referred to as the "PRD Plan"), were submitted to the Township, reviewed by the Planning Commission and the Township Board of Trustees, and approved by the Township Board of Trustees on 9/7/04 following a recommendation from the Planning Commission made on 7/28/04 pursuant to the Zoning Ordinance including all necessary modifications therefrom, and subject to the Developer and the Township entering into this Agreement setting forth the conditions upon which such approval is based.

5. The components of the PRD Plan are as follows:
- a. The Land is located in the R1A Zoning District. The Land comprises 117.06 acres.
  - b. The Project shall include 154 detached single family dwelling units and 104 single family attached units, for a total of 258 units.
  - c. The Project shall include the following amenities: neighborhood park, pedestrian pathways, park benches, picnic tables, gazebos, buffer landscaping, berms, entrance signs, and other community signs. The Developer shall provide, and shall require in the Master Deed(s) and Bylaws, that the Association hereinabove defined shall maintain, repair, and replace, when required, the above amenities, which shall be for the exclusive use and benefit of Cobblestone Creek residents.
  - d. The Project shall incorporate the following roadway and traffic improvements:
    - i. All interior roads shall be constructed to Wayne County standards. All interior roads will be private and will be maintained and repaired by the Association.
    - ii. Passing lanes and appropriate tapers for the boulevard entrance at Huron River Drive to the construction specifications of the Wayne County Department of Public Services, Division of Roads.
    - iii. The Developer shall coordinate optimization of signal timings at Huron River drive and Rawsonville Road with Wayne County.
    - iv. Passing lane at the intersection of Huron River Drive and Elwell Road, if deemed necessary, shall be coordinated with Wayne County and the Township. Timing of improvements shall be at the Township's discretion.
  - e. The project shall incorporate the following pedestrian circulation improvements:
    - i. A sidewalk along each side of the street within the Development.
    - ii. Off-road nature trails, to be constructed of woodchips in some areas, and asphalt in other areas, connecting all open space areas throughout the Development.

- iii. 10 ft. wide asphalt path constructed along Project frontage at Huron River Drive.
- f. The Project shall incorporate the following utility and engineering improvements, which shall be engineered and constructed in accordance with applicable federal, state, county, and township laws, rules, and regulations:
  - i. Detention and retention ponds as shown on attached site plan (Exhibit B); ponds to be maintained and built with aerators and treated with environmentally sensitive chemicals.
  - ii. Connection to existing sanitary and water lines.
  - iii. Installation of storm drains to handle storm flows.
  - iv. All public utility improvements, including sanitary sewers, and water mains, when constructed, are intended to be dedicated to and accepted for public use and maintenance by the appropriate agency (Township of Wayne County Department of Public Services). The public utilities will be constructed to serve the residents, and shall be dedicated to the appropriate entity. The Master Deed(s) for the Project will provide that the appropriate entity shall have the right to access the public utilities for repair and maintenance.
- g. The Project shall preserve the following natural resources and natural features:
  - i. All regulated wetlands.
  - ii. 54.79 acres of open space, or 46% of the total Project acreage.
  - iii. Existing hedgerows, landmark trees, and woodlands, and wetlands wherever practical and as shown on the site plan (Exhibit B).
- h. The Project shall incorporate the following landscaping improvements:
  - i. Landscaped boulevard entrance providing access from Huron River Drive.
  - ii. One (1) street tree planted every 50 feet throughout the Detached Unit Development. Landscaping per the Zoning Ordinance requirements will be provided for the Attached Unit Development.
  - iii. Trees and berms as depicted on the Landscape Plan (Exhibit B).

- iv. Park benches, picnic tables, trash receptacles and gazebos as shown on the Landscape Plan.
- v. The Master Deed shall require use of plant species permitted by the Township's Zoning Ordinance.
- vi. Viewshed plantings along Huron River Drive shall be installed in conjunction with phase one (1) of the development.

i. The following modifications have been granted as part of PRD approval:

- i. The following five (5) buildings within the Attached Unit Development shall consist of six (6) units each: Building # 10, 12, 14, 21, and 23.
- ii. The requirement of a minimum of 50% brick, stone, or other decorative material on the exterior facade shall be satisfied by using the above referenced materials on a minimum of 50% of the total wall area of the Project which includes the Attached Unit Development and the Detached Unit Development in total. The Detached Units shall have a minimum of 50% brick, stone, or other decorative material on the exterior facade of each unit (total area of all walls minus the area of windows, doors, and gable ends.)
- iii. The requirement of a minimum dwelling unit size of 1800 square feet shall be satisfied by the average dwelling unit size of the entire development (Attached and Detached units) being a minimum of 1800 square feet. The Detached Units shall have a minimum floor area of 1800 square feet and the Attached Units shall have an average floor area of 1689 square feet.
- iv. The construction of rear yard decks shall be permitted in the following locations (the maximum encroachment into the "setback" shall be no more than 15 feet):
  - a) Within the 200 ft. "viewshed setback" along Huron River Drive at Lot #1 through Lot #7 of the Detached Unit Development.
  - b) Within the 75 ft. "water feature setback" for building #4 through building #8 of the Attached Unit Development and for Lot #104 through #107,

Lot #118 through #125, and Lot #130 through #138 of the Detached Unit Development.

- c) Within the 50 ft. "perimeter setback" for building #10 through building #15 of the Attached Unit Development and for Lot #28 through Lot #41 of the Detached Unit Development.
- v. Block lengths in the Detached Unit Development shall be permitted to be less than the required minimum of 500 ft.
- vi. Fences shall not be required around the detention ponds.
- vii. Project signage shall include the following:
  - a) One (1) entrance sign at Huron River Drive entrance
  - b) One (1) entrance sign at each entrance to the attached units (Cobblestone Creek Villas). One (1) at Pinewood Lane off Cobblestone Creek Drive, and one (1) at Chinkapin Drive off Whitewood Circle.
  - c) One (1) entrance sign at each entrance to the detached units (Cobblestone Creek Woodlands). One at Cobblestone Creek Drive east of Pinewood Lane and one (1) on Woodgrove Drive off Whitewood Circle.
- viii. The permitting of three (3) story units in the Attached Unit Development (two (2) units in each of the six (6) unit buildings-buildings 10, 12, 14, 21, and 23.)

6. Each party represents that, to the best of its knowledge, this Agreement and its entry into this Agreement does not violate any law, regulation, or agreement, and that there is no pending or threatened litigation which would encumber the Land or otherwise prohibit it from entering this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the Developer and the Township do hereby agree as follows:

1. The Project may be developed in accordance with the PRD Plan, as defined in Paragraph 4 of the Recitals hereto, and subject to and in accordance with the provisions set forth below and set forth in Paragraph 5 of the Recitals hereto.

2. It is anticipated that the Project will be developed in phases. The Developer will create separate Associations for the Attached Unit Development and the



Detached Unit Development, and separate Master Deeds, Bylaws, and Restrictions for each section of the Project.

3. The Master Deed(s) shall provide for the establishment of the Association(s) of unit owners (the "Association"), to have ownership and control over the common areas within the Project, among other powers and obligations. Open space and amenities shall be set aside by the establishment of Deed Restrictions in the Master Deed and Bylaws, which shall preserve the areas as open space, to be owned and maintained by the Association. Until conveyance of common areas to an Association, the Developer shall be responsible for maintenance, repair, and replacement required within such common areas, and upon conveyance of common areas to an Association, the Developer will be relieved of all subsequent maintenance, repair, and replacement liabilities as to such common areas, and the Association shall succeed to such liabilities; provided, however, that the Master Deed shall provide that after such conveyance to the Association, so long as the Developer continues to own units in that phase, the Developer shall have the same maintenance, repair, and replacement obligation as the other unit owners.

4. Within two (2) years after the date of this Agreement, but prior to any Certificate of Occupancy being granted for any home in the first phase of the development, the Master Deed(s), Bylaws, and Restrictions governing the first phase of development shall be prepared by the Developer and submitted to the Township for final review and approval, which review shall be limited to a determination that they comply with applicable statutes of the State of Michigan and are materially consistent with this Agreement and the Project. Should the Township determine that there are inconsistencies, the Township shall specify the same by notice and promptly deliver such notice to the Developer.

5. Prior to any Certificate of Occupancy being granted for any home in any subsequent phase, the Master Deed(s), Bylaws, and Restrictions governing such subsequent phase of development shall also be prepared by the Developer and submitted to the Township for final review and approval, which review shall be limited to a determination that they comply with applicable statutes of the State of Michigan and are materially consistent with this Agreement and the Project. Should the Township determine that there are inconsistencies, the Township shall specify the same by notice and promptly deliver such notice to the Developer.

6. Within two (2) years after the date of this Agreement, the Developer shall prepare and submit, for applicable reviews and approvals, the overall grading and utility plan for the Project and the detailed engineering plan for improvements to Phase 1 of the Project.

7. The Developer shall prepare and submit, for applicable reviews and approvals, the detailed engineering plan for improvements to subsequent phases of development of the Project. Such plans shall be reviewed by the Township Engineer, the Wayne County Department of Public Services, and the Township Department of

Planning to ensure that they are substantially consistent with the PRD Plan and other applicable requirements. Developer will make diligent and good faith efforts to obtain all approvals and permits on a timely basis, and Township will, in a timely manner, process all reviews and approvals required of it. Developer will require that all contractors working on improvements submit such performance guarantees as required by the Township Engineer, the County Department of Public Services, and any other governmental agency that has supervisory power over the work performed by such contractors. And that they maintain in a company or companies lawfully authorized to do business in Michigan insurance for protection from claims under workers' or workmen's compensation acts and other employee benefit acts which are applicable, claims for damages because of bodily injury, including death, and from claims for damages, other than to the work itself, to property which may arise out of or result from the contractor's operations under the contract, whether such operations be by the contractor or by a sub-contractor or anyone directly or indirectly employed by any of them. This insurance shall be written for not less than limits of liability specified in the contract documents or required by law, whichever coverage is greater, and that they deliver to Developer certificates of such insurance prior to the commencement of their work, showing Developer and the Township as additional insured's.

8. Within four (4) years after the date of this Agreement, and upon receiving approval of all applicable final plans or plats, documentation, and improvement plans, the Developer shall commence construction of the Project in accordance with the PRD Plan and such approved plans, documentation, and improvement plans, and in accordance with all applicable statutes, ordinances, rules and regulations, including but not limited to the Zoning Ordinance, which are not inconsistent with this Agreement.

9. Prior to issuance of the final Certificates of Occupancy for homes in a phase of development of the Project, the Developer shall construct and install all required common amenities and landscape materials and shall complete the development or preparation of any open space which is required to be developed as part of that phase. In lieu thereof, the Developer may escrow with the Township cash or a bond issued by a reputable commercial bonding company licensed in Michigan, in an amount which represents 125% of the estimated cost thereof, as determined by the Developer and approved by the Township; and upon the Developer doing so, the Township shall issue final certificates of occupancy for homes in that phase, provided that the homes are otherwise eligible therefore.

10. The Township shall timely issue, upon payment of the Township's fees, all building and other permits required for the Project and any improvements to be constructed in the Project, which are in compliance with the PRD Plan, this Agreement, and all other applicable Township requirements.

11. The Developer and the Township agree to amend this Agreement and the Exhibits attached hereto as may be necessary or required to comply with the requirements of any federal, state, or county statute, ordinance, rule, regulation, or requirement relating to the Project, and that any such amendment shall be effective as if originally set forth



herein. In addition, the Developer and the Township agree to amend this Agreement and the Exhibits attached hereto as may be appropriate, necessary, or required in order to conform to any final surveys and engineering requirements and any final plats or plans which shall have been approved by the Township from time to time.

12. The approval of the PRD Plan and the terms, provisions, and conditions of this Agreement are for the benefit of the land and shall run with the land, and shall bind and inure to the benefit of the parties to the Agreement and their successors and assigns. Except for the successors and assigns of the parties hereto, no other parties shall have any rights with respect to this Agreement and, without limiting the foregoing, there are and shall be no third party beneficiaries of this Agreement.

13. In the event of a conflict between the provisions of this Agreement and the provisions of the Township's Zoning Ordinance or any other Township ordinance, rule or regulation, the provisions of this Agreement shall control. Any violation of the terms of this Agreement shall be deemed a violation of the Zoning Ordinance, and the remedies of the Township for a violation shall be such remedies as are provided by and for a violation of the Zoning Ordinance.

In the event the Developer breaches any material term or condition of this Agreement, the Township may then terminate this Agreement upon thirty (30) days prior written notice; provided that the Developer may cure the said material breach within this thirty (30) day period unless such breach cannot reasonably be cured within such thirty (30) day period in which event the Developer shall have such further period of time as may be reasonably necessary to cure such default provided that it commences action to cure such default within such thirty (30) day period and thereafter continuously and diligently attempts to cure the same.

The rights and remedies of the parties set forth in this paragraph are in addition to (and not in lieu of) all the rights and remedies which would otherwise be available to them at law or in equity, and all rights and remedies are cumulative, and the exercise by a party of a particular right or remedy upon the party's default shall not preclude the exercise by it of other or additional rights or remedies for the same default or a different default.

14. This Agreement constitutes the entire agreement between the parties relating to the Land and to development of the Project, and may not be modified, replaced or amended, without the prior written consent of the Developer and the Township.

In addition to the termination rights set forth in paragraph 13 above and paragraph 20, the Township may terminate this Agreement upon thirty (30) days prior written notice to the Developer, if any of the following occur and are not remedied within such thirty-day period:

(a) The Developer fails to act in good faith, or fails to make the submissions necessary in order to obtain governmental permits and approvals necessary to the construction of the Project.

(b) The Developer (i) fails to commence, continue or complete construction of the Development or any phase thereof in a reasonably diligent manner; (ii) commences construction but the same is interrupted for a continuous period of more than sixty (60) days for a reason other than as set forth in Paragraph 20, or (iii) constructs any substantial portion of the Project in a manner which is not in compliance with approved plans and this Agreement.

15. The signatories to this Agreement represent that they have been duly authorized to execute this Agreement on behalf of the parties hereto.

16. This Agreement shall be governed by the laws of the State of Michigan.

17. The remedies provided for herein are cumulative. The failure of a party to enforce its rights with respect to any breach hereof will not constitute a waiver by that party of its rights with respect to subsequent breaches.

18. Any notices required by the terms of this Agreement shall be in writing, and mailed to the other party via U.S. mails addressed to such party at the address set forth at the beginning of this Agreement, or to such other address as one party may provide to the other by notice.

19. Each party is excused from performance of any of the requirements of this Agreement when non-performance is the result of acts of God or other conditions, events, or occurrences beyond the control of such party.

20. If development of the Project is not commenced within 4 years from the date hereof, then either party may by notice to the other terminate this Agreement, without further liability or claims hereunder.

21. The parties agree to execute a short form of this Agreement for recording with the Wayne County Register of Deeds.

IN WITNESS WHEREOF, this Agreement has been executed by the Township, and the Developer, as at the date of this Agreement, and shall be effective immediately.

**SIGNED IN THE PRESENCE OF :**

*Ryan Kime*  
Ryan Kime

**C.A. Kime, Inc., a Michigan Corporation**

By: *Curtis A. Kime*  
Curtis A. Kime

Its: President

*Patrick Suman*  
Patrick Suman

**ACKNOWLEDGEMENT**

STATE OF MICHIGAN )

)SS

COUNTY OF WAYNE )

The foregoing instrument was acknowledged before me this 3 day of March 2005 by Curtis Kime, who stated that he is the President of C.A. Kime, Inc., a Michigan Corporation, and who stated that he was duly authorized to execute the instrument on behalf of said corporation.

*Marsha Anderson*  
MARSHA ANDERSON  
Notary Public, Wayne County, Michigan

My Commission expires: 11-19-05

Acting in the County of MACOMB

SIGNED IN THE PRESENCE OF :

**CHARTER TOWNSHIP OF VAN BUREN**

County of Wayne and State of Michigan

a Michigan Municipal Corporation

Santa M. Stevenson

By:

Cindy King

Its:

Supervisor

Kathleen A. Cline

**ACKNOWLEDGEMENT**

STATE OF MICHIGAN )

)SS

COUNTY OF WAYNE )

The foregoing instrument was acknowledged before me this 18<sup>th</sup> day of April, 2005 by Cindy King, who stated that he/she is the Supervisor of Van Buren Township, a Michigan Municipal Corporation, and who stated that he/she was duly authorized to execute the instrument on behalf of said corporation.

Carol E. Towles

Notary Public, Wayne County, Michigan

My Commission expires: Oct 02, 2005

Acting in the County of Wayne

6/18/2004

CAROL E. TOWLES  
NOTARY PUBLIC WAYNE CO. MI  
MY COMMISSION EXPIRES OCT. 02, 2005

SIGNED IN THE PRESENCE OF :

CHARTER TOWNSHIP OF VAN BUREN

County of Wayne and State of Michigan

a Michigan Municipal Corporation

Linda M. Stevenson

By: Joannie Payne

Its: Clerk

Kathleen Allen

ACKNOWLEDGEMENT

STATE OF MICHIGAN )

)SS

COUNTY OF WAYNE )

The foregoing instrument was acknowledged before me this 18<sup>th</sup> day of April, 2005 by Joannie Payne, who stated that he/she is the Clerk of Van Buren Township, a Michigan Municipal Corporation, and who stated that he/she was duly authorized to execute the instrument on behalf of said corporation.

Carol E. Towles

Notary Public, Wayne County, Michigan

My Commission expires: Oct. 02, 2005

Acting in the County of Wayne

6/18/2004

CAROL E. TOWLES  
NOTARY PUBLIC WAYNE CO. MI  
MY COMMISSION EXPIRES OCT. 02, 2005

## Exhibit A

### Legal Description for Cobblestone Creek

Part of the Southwest and Northwest  $\frac{1}{4}$  of Section 29, Town 3 South, Range 8 East, Township of Van Buren, Wayne County, Michigan, being more particularly described as commencing at the North  $\frac{1}{4}$  Corner of Section 29, thence along the North and South  $\frac{1}{4}$  line S. 00 09'23" E., 585.25' to the point of beginning; thence continuing along said North and South  $\frac{1}{4}$  line, S. 00 09'23" E., 2058.80 feet to the Center of Section 29; thence continuing along the North and South  $\frac{1}{4}$  line of section 29, S. 00 12'16" W., 1324.92 feet; thence S. 88 55'57" W., 1323.09 feet; thence N. 00 06'32" E., 1327.74 feet to a point on the East and West  $\frac{1}{4}$  line of Section 29; thence along the East and West line of Section 29 N. 89 03'23" E., 2.74 feet; thence N. 00 13'35" W., 2669.07 feet to a point on the North line of Section 29, also the centerline of Huron River Drive (66' wide); thence S. 89 51'38" E., 662.76 feet along North line of Section 29, also the centerline of said Huron River Drive; thence S. 00 11'24" E., 208.00 feet; thence S. 89 51'38" E., 100.00 feet; thence N. 00 11'24" W., 208.00 feet to a point on the North line of Section 29, also the centerline of said Huron River Drive; thence S. 89 51'38" E., 151.29 feet along the North line of Section 29, and the centerline of said Huron River Drive; thence S. 00 08'39" E., 208.00 feet; thence S. 89 51'38" E., 80.00 feet; thence N. 00 08'39" W., 208.00 feet to a point on the North line of Section 29, also the centerline of said Huron River Drive; thence along said North line of Section 29, also the centerline of said Huron River Drive, S. 89 51'38" E., 148.47 feet; thence S. 00 46'13" E., 585.25 feet; thence S. 89 51'38" E., 176.73 feet to the point of beginning.

Containing 5,130,496.8 s.f. or 117.78 acres of land.

(Also know as Cobblestone Creek Condominiums)

**Exhibit B**

Site Plan package for Cobblestone Creek Condominiums  
Approved by the Township Board of the Charter Township of Van Buren on  
September 7, 2004

ORIGINAL PRD AGREEMENT  
FOR REFERENCE





# VAN BUREN CHARTER TOWNSHIP

RECEIVED

JUL 27 2022

## DEPARTMENT OF PLANNING & ECONOMIC DEVELOPMENT

46425 TYLER ROAD, VAN BUREN TOWNSHIP, MI 48111

PHONE (734) 699-8913 FAX (734) 699-8958

Initial: \_\_\_\_\_

## PLANNING & ZONING APPLICATION

### CASE INFORMATION

CASE NUMBER:	DATE SUBMITTED:
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### APPLICANT INFORMATION

NAME: Chris Garner	PHONE:
ADDRESS: 23944 Eureka Road, Suite 105	CELL PHONE: 734-507-5200
CITY, STATE & ZIP: Taylor, MI 48180	FAX:
EMAIL: chris@livepgm.com	

### PROPERTY OWNER INFORMATION (If different than the applicant)

NAME: SB-Invest L.P.	PHONE:
ADDRESS: 23944 Eureka	CELL PHONE: 734-507-5200
CITY, STATE & ZIP: Taylor, MI 48180	FAX:
EMAIL: chris@livepgm.com	

### BILLING CONTACT

NAME: Chris Garner	PHONE:
ADDRESS: 23944 Eureka Road, Suite 105	CELL PHONE:
CITY, STATE & ZIP: Taylor, MI 48180	FAX:
EMAIL: chris@livepgm.com	

### SITE/PROJECT INFORMATION

NAME OF PROJECT: Van Buren Township Multifamily Residential			
PARCEL ID NO: V125-83- 043-99-0015-000		PROJECT ADDRESS: 0.15 miles east of Tyler & Morton Taylor Road	
*APPLICANT MUST ATTACH LEGAL DESCRIPTION OF PROPERTY			
PROPERTY LOCATION: On the North Side of Tyler Road; Between Morton Taylor Road and Lancaster Road.			
SIZE OF LOT WIDTH: 728 feet	SIZE OF LOT DEPTH: 2,617 feet	ACREAGE OF SITE: 43.78	TOTAL ACRES OF SITE TO REVIEW: 43.78
CURRENT ZONING: RM	IS A REZONING OF THIS PARCEL BEING REQUESTED? Y / (N)		REQUESTED ZONING:
PROJECT DESCRIPTION: 132 unit Multifamily Development			



**SPECIAL PERMIT INFORMATION**

DOES THE PROPOSED USE REQUIRE SPECIAL APPROVAL? <u>Y</u> N	
IF YES, SECTION OF ZONING ORDINANCE FOR WHICH YOU ARE APPLYING FOR SPECIAL APPROVAL: Section 3.104 Permitted Uses by District and Section 3.107 RM, Multiple Dwelling Residential District	
IS THERE AN OFFICIAL WOODLAND WITHIN THE PARCEL? <u>Y</u> N	IF YES, WOODLAND ACREAGE: 14.5 acres
TOTAL NUMBER OF REGULATED TREES OUTSIDE THE WOODLAND AREA: 173 trees	TOTAL NUMBER OF TREES: 979 trees known and surveyed within project area. 2,000 total estimated trees across full property
DETAILED DESCRIPTION FOR CUTTING TREES: Predominantly high-quality hardwood trees in dense woodland; southeast corner includes lower-quality trees and more invasive scrub-shrub area. Trees to be retained will be identified through painting or flagging and tree protection fencing will be placed around the critical root zone for these trees.	
IF APPLICABLE, APPLICATION MUST BE ACCOMPANIED WITH A TREE SURVEY OR STATEMENT OF NO TREES, WHICH INCORPORATES ALL THE REQUIREMENTS LISTED IN SECTION 4.45 OF THE TOWNSHIP'S ZONING ORDINANCE 6-2-92, AS AMENDED.	

**OWNER'S AFFIDAVIT**

Christopher Garner  
PRINT PROPERTY OWNER'S NAME

[Signature]  
SIGNATURE OF PROPERTY OWNER

7/25/22  
DATE

STATE OF MICHIGAN  
COUNTY OF WAYNE

The undersigned, being duly sworn, deposes and says that the foregoing statements and answers herein contained and accompanied information and date are in all respects true and correct.

Subscribed and sworn before me this 27<sup>th</sup> day of July, 2022.

Jessica M. Zilka Notary Public, Wayne County, Michigan My Commission expires 10/30, 2027.

JESSICA M ZILKA  
Notary Public, State of Michigan  
County of Wayne  
My Commission Expires 10-30-2027  
Acting in the County of Wayne



## MEMO

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TO: Van Buren Township Planning Commission  
FROM: Dan Power– Director of Planning and Economic Development  
RE: Case 21-032 – Brookwood Multi-Family Senior Housing Development  
DATE: November 3, 2022

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The Planning Commission will review the request by applicant by Chris Garner on behalf of owner SB – Invest L.P. to construct an independent multi-family residential senior housing development titled “Brookwood”, which will contain 132 dwelling units with a combined gross floor area of approximately 154,110 square feet. The proposed units will be configured as two-, four-, and six-unit singly-story buildings, and the project site will also have a clubhouse. The proposed site is located on the north side of Tyler Road, between Morton Taylor and Haggerty Roads on a 44.4-acre site with tax parcel ID # 83 043 99 0015 000. The site is zoned RM – Multiple Dwelling Residential District. Senior housing developments are a Special Land Use in the RM District, and the proposed Special Land Use requires a public hearing. This hearing is being held in accordance with Article 12, Chapter 3 (Special Land Use Review) of the Zoning Ordinance.

For the Planning Commission’s reference, this review packet contains a completed application form; reports from the Township’s Planning Consultant, Township Engineer and Fire Marshal; a copy of the public hearing notice that was published and distributed for this request; excerpts from a combined civil and architectural plan set for the project dated September 19, 2022; a draft traffic study report dated September 9<sup>th</sup>, 2022 (electronic packet only); and a preapplication letter from EGLE dated April 1, 2022.

The project site includes a significant presence of forested wetlands. This has been a design challenge which has limited certain options for conventional road, water and sanitary sewer connections that would typically be made through the site to other properties. A sanitary sewer pump station has been proposed at the south end of the property. Prior to final site plan review, details will be provided regarding the ongoing maintenance of the pump station, as well details regarding how the pump station is to be screened. The pump station will require approval by the Township Board of Trustees. The applicant has also been requested to consider minor adjustments to the plans to create separated driveways and provide additional clarifying notes on the submitted architectural elevations. The applicant has been working steadily to address staff’s comments and also to coordinate with several of the large homeowners’ associations surrounding the site.

In addition to the recommendations of the other staff, I recommend the following as conditions of approval for the proposed preliminary site plan and special land use:

- The pump station will require Township Board approval as part of any special land use approval by the Board of Trustees;

- The applicant shall make a reasonable attempt to separate all driveways between units, to the satisfaction of the Planning Commission; and
- A final version of the traffic study must be provided with the final site plan submittal.

If the special land use is recommended for approval by the Planning Commission and the preliminary site plan is approved, the project will proceed to the Township Board of Trustees for special land use approval consideration. If the special land use is granted, the project will undergo detailed engineering review by Wayne County and Van Buren Township. The project will then be reviewed again for final site plan approval by the Planning Commission before permits are issued.

I look forward to assisting with this review. Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Power". The signature is fluid and cursive, with the first name "Dan" being more prominent than the last name "Power".

Dan Power, AICP  
Planning and Economic Development Director  
Public Services Department  
Charter Township of Van Buren



**MCKENNA**

October 7, 2022

Planning Commission  
Charter Township of Van Buren  
46425 Tyler Road  
Belleville, Michigan 48111

**Subject: VBT 21-032 Brookwood Senior Housing / Tyler Road; Special Land Use Review #1;  
Revised Site Plans Dated 9/19/2022.**

Dear Commissioners:

The applicant, Chris Garner of Garner Property Management, has submitted a proposal to construct a senior housing development called Brookwood on a 44.23-acre site. The proposed four-phase condominium development will include 132 independent living units, in groupings of 2, 4, and 6-units. The site is located on the north side of Tyler Road, between Morton Taylor Road and Haggerty Roads.

The site is zoned RM (Multiple Family Residential District). Section 3.107 of the Zoning Ordinance permits senior housing as a special land use in the RM District. We have reviewed the special land use request based on Zoning Ordinance standards and sound planning and design principles. Our comments are as follows (items requiring changes or additional information are underlined):

### **Special Land Use Review Comments**

Section 12.306 of the Zoning Ordinance sets forth criteria for the Planning Commission to consider when reviewing special land use proposals. Following is our review of each criterion:

**1. Will promote the use of land in a socially and economically desirable manner for those persons who will use the proposed land use or activity; for those landowners and residents who are adjacent; and for the Township as a whole.**

The need for senior housing in Van Buren has been discussed at several board meetings at the Township previously and a senior housing ordinance has been in place for several years to allow for the construction of such facilities which would provide an opportunity for residents to 'age in place'. The proposed use is independent housing for seniors. The Township recently approved another independent housing facility for seniors on Belleville Road; however, that proposal involved a single 3 story building with 128 living units. The proposed development provides for single story living option for seniors who would prefer to live in an attached single family style unit, to an apartment style unit. The subject site is located along a major thoroughfare in the Township. Therefore, the proposed use will promote the use of the land in a socially and economically desirable manner by providing for much needed housing in the Township. Any impacts resulting from the proposed development on the adjacent properties will be mitigated through setbacks, landscaping and screening, which are reviewed in our site plan review letter under separate cover.

**2. Is necessary for the public convenience at that location.**

The site is zoned RM (Multiple Family Residential District) and has direct access to Tyler Road, providing a convenient location for access to Township services and commercial districts.


**3. Is compatible with adjacent uses of land.**

The proposed senior housing development abuts a multifamily residential use to the east, single family residential uses to the north, single family residential and an assisted living senior facility to the south, and

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commercial, single family residential, and vacant land to the west. With the preservation of extensive natural features on the northern approximately 1/3<sup>rd</sup> of the site, the provision of the required landscaping, and similar uses found in the general area, we find that the proposed development will be compatible with the adjacent uses of land.

**4. Is so designed, located and proposed to be operated that the public health, safety and welfare will be protected.**

The proposed development is designed to comply with the site design requirements for senior housing set forth in the Zoning Ordinance. Therefore, we do not anticipate any adverse impacts on public health, safety, and welfare.

**5. Can be adequately served by public services and facilities without diminishing or adversely effecting public services and facilities to existing land uses in the area.**

The proposed senior housing facility can be adequately served by public services and facilities without diminishing or adversely effecting public services and facilities to existing land uses in the area. The applicant is working with the Township Engineer to meet all utility requirements.

**6. Will not cause injury to other property in the neighborhood in which it is to be located.**

The proposed senior housing facility is not anticipated to cause injury to other property in the neighborhood in which it is to be located.

**7. Will consider the natural environment and help conserve natural resources and energy.**

The subject site has significant wetland and tree cover. Per the applicant the wetlands on the northern portion of the site and to the west are classified as regulated wetlands by EGLE and to be preserved. The plan proposes the removal of a total of 505 trees (equaling 549 tree credits) within the area of disturbance. The landscape plan also proposes extensive landscaping in compliance with the Ordinance requirements. As a result, there isn't any room on the site for additional replacement trees. Therefore, the applicant is proposing to deposit monies worth the 549 tree credits into the Township General Fund Tree Preservation Line. We have reviewed the adequacy of tree credit payment proposed in our site plan review letter under separate cover. In addition to the tree removal permit and replacement credits, the applicant is creating multiple detention ponds to mitigate the impact of increased impervious surfaces and wetland disturbance in the area. This provision has also been reviewed in our site plan review letter. Overall, we find that the proposed project adequately considers the natural environment while conserving (or providing credit to) natural resources of the area.

**8. Is within the provisions of uses requiring special approval as set forth in the various zoning districts herein, is in harmony with the purposes and conforms to the applicable regulations of the zoning district in which it is to be located and meets applicable site design standard for special approval uses.**

The proposed Senior Housing Facility is within the provisions of uses requiring special approval and is in harmony with the purposes and conforms to the applicable regulations of the Multiple Family Residential zoning district and meets applicable site design standard for special approval uses.

**9. Is related to the valid exercise of the Township's police power and purposes which are affected by the proposed use or activity.**

The Senior Housing Facility is related to the valid exercise of the Township's police power and purposes which are affected by the proposed use or activity.



**Specific Approval Criteria for Senior Housing [Section 5.143]:** In pursuit of the purpose and intent of the regulations set forth in Section 5.143, senior housing developments are permitted in RM, RMH, C, C-1, C-2, and M-U zoning districts subject to special use and site plan approval. The subject site is zoned RM (Multiple Family Residential) District and the proposed senior housing development is subject to the following use specific standards:

1. **The minimum senior housing site area shall contain 5,500 square feet per independent living unit, 2,000 square feet per dependent living bed, or the total area required for each type.** This standard has been met. With 132 independent living units proposed and a total site area of 1,934,064 sq. ft., the site contains over 14,000 sq. ft. of land area per unit.
2. **The required minimum usable floor area for two-bedroom independent living units is 850 square feet.** This standard can be met. All units proposed are two-bedroom; however, the square footage of the typical unit must be clearly noted on Sheet C3.0 and must have a minimum area off 850 sq. ft.
3. **The proposed site must have at least one (1) property line abutting an existing or planned major thoroughfare with a right-of-way width of 120' feet or more as described in the Wayne County Master Thoroughfare Plan. All vehicular ingress and egress must be directly from the major thoroughfare.** This standard has been met. The proposed senior housing Facility has frontage and direct access to Tyler Road which to our knowledge and prior records is designated as major thoroughfare with a 120' r-o-w width. Correct the notations on Sheet C-3 to identify the full r-o-w as 120' rather than 66'.
4. **The maximum building height for a senior housing development shall not exceed forty (40') feet.** This standard has been met. The proposed buildings are single-story structures with a maximum height of 20 feet.
5. **The minimum setbacks for senior housing are 50' each for the front rear and side yards.** This standard has been met. The proposed senior housing development exceeds all required setbacks along the property lines.
6. **A minimum of twenty-five (25%) percent of the site, exclusive of existing or planned public road right-of-way, must be maintained as landscaped open space. Courtyards larger than 2,400 square feet may be counted as required open space. Recreation facilities, active and/or passive, including paved walkways and covered sitting areas shall be provided in a manner that meets the needs of the resident population.** This standard has been met. The site plan includes the preservation of large portions of wetlands, provision of outdoor recreation facilities such as pickleball court, walking paths, landscaped and lawn areas. The revised site plan submission includes open space calculations, totaling 72.8% of total site area, or about 32.3 acres. Each unit also includes porch and patio space.
7. **Senior housing buildings must present a residential architectural image in terms of building facades, the composition and use of exterior wall surface materials, and building length. Any building façade longer than 100 feet must provide for variations in the outside wall and roof line. Exterior building materials must be high quality and comply with Ordinance requirements. Building facades must not exceed 600 feet.** This standard has been met. The structures are to be constructed of primarily masonry (Face brick- 58%), with accents of fiber cement siding and trim (18%) and the remaining façade comprised of doors and windows (24%). The percentage of various materials used on each façade complies with section 5.143(l)(1) and we find the variation of façade materials, heights, and depths is appropriate for this development.





8. **Accessory structures and uses are limited to those that are customary or incidental for the servicing of the developments' residents and employees.** This standard has been met. Accessory structures include attached garages and a clubhouse with passive recreational amenities for use by residents only. Additionally, limited guest parking lots are being provided. The proposed uses meet maximum permitted lot coverages for the RM District.
9. **The senior housing development shall comply with the parking requirements of the Ordinance.** This standard can be met. The site plan proposes 284 spaces; 20 lot spaces and 264 garage spaces (2 per unit), over and above the 170 spaces required for the development. To limit excessive impervious surface area and the negative impacts on stormwater management, Van Buren Township prohibits parking in excess of 20% of the minimum required. The site plan includes a note on Sheet C3.0 stating that most of the parking is within garages and that the additional parking area is intended to serve guests and should not impact stormwater run-off. The applicant is seeking relief from this standard from the Planning Commission as allowable per Section 9.101 (I).
10. **The senior housing development shall comply with the landscaping and screening standard set forth in the ordinance.** This standard can be met, provided the few comments on landscaping noted in our site plan review letter under separate cover are addressed.
11. **The senior housing development shall comply with the sign regulations of the Ordinance.** This standard has been met. The applicant has proposed a monument sign at the entry off Tyler Road, 30 feet from the r-o-w, and has provided a rendering of the sign along with material details, not to exceed 40 square feet, per Ordinance requirements.

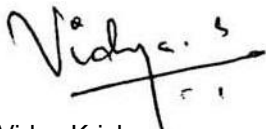
### Recommendation

The applicant has worked with the Township over the past several months to address all of the concerns previously raised. We find that the proposed senior housing development meets the criteria for special land use approval, subject to conditions. Therefore, we recommend that the Planning Commission recommend special approval to the Township Board, subject to the following conditions:

1. Clarification regarding minimum floor area of each unit.
2. Approval of utility plan and storm water detention plan by Township Engineer and Wayne County.
3. That all of the conditions of preliminary site plan approval are met including landscaping and parking.
4. Final site plan approval.

Respectfully,

**McKENNA**



Vidya Krishnan  
Senior Principal Planner



Gage Belko  
Assistant Planner

cc: Dan Power, Director of Planning and Economic Development  
Paul J. Kammer, FTCH, Township Engineers  
Andy Leneghan, Van Buren Township Fire Marshal





**MCKENNA**

October 7, 2022

Planning Commission  
Charter Township of Van Buren  
46425 Tyler Road  
Belleville, Michigan 48111

**Subject: VBT 21-032 SPR & SLU, Brookwood Senior Housing / Tyler Road; Site Plan Review #2;  
Revised Site Plans Dated September 19, 2022**

Dear Commissioners:

The applicant, Chris Garner of Garner Property Management, has submitted a proposal to construct a senior housing development called Brookwood on a 44.23-acre site. The proposed four-phase condominium development will include 132 independent living units, in groupings of 2, 4, and 6-units. The site is located on the north side of Tyler Road, between Morton Taylor Road and Haggerty Roads.

We have reviewed the site plan request based on Zoning Ordinance standards and sound planning and design principles. We have also reviewed the special land use request in a letter under separate cover. Our comments are as follows (items requiring changes or additional information are underlined):

## **COMMENTS**

1. **Zoning and Use.** The site is zoned RM (Multiple Family Residential District). Section 3.107 of the Zoning Ordinance permits senior housing as a special land use in the RM District. The applicant has noted that the site will be developed in four phases, to be determined during the engineering design phase. The proposed timeline for each phase must be noted. Each phase when completed must standalone and be fully self-sufficient.
2. **Required Information.** All of the information required per Section 12.203 of the Zoning Ordinance on a site plan, has been provided.
3. **Lot.** Per the submitted plans, the site is a single parcel comprised of 44.23 acres, with a proposed area of disturbance of 25.9 acres.
4. **Dimensional Requirements.** The minimum lot width and minimum lot area for parcels in the RM, Multiple Family Residential District is 400 ft. and 10 acres. Further, the minimum lot area requirement for 2-bedroom units (which all of the proposed units are), is 5,000 sq. ft. As a result, the minimum required lot area for the site is 15.15 acres. With an area of 44.23 acres, the site complies.

The maximum building height for senior housing is 2 stories, or 30 ft. and the front, side, and rear setbacks in this District are 35 ft., 20 ft., and 35 ft. respectively. The proposed plan complies with all dimensional requirements of the RM District. Additional dimensional requirements for senior housing uses are discussed later in this letter.

## **5. Access and Circulation.**


- a. **Location of Curb Cuts.** The site plan includes one proposed curb cut along the site's Tyler Road frontage. The boulevard access drive has two unidirectional lanes, one for ingress and one for egress, with proposed widths of 20 ft. each with a 20-ft. landscaped divider. Pavement markings

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are proposed. Tyler Road has a single lane in either direction with a left turn lane along the site's frontage. With 132 additional units and corresponding trips in and out of the site, the proposed development is likely to have some impact on the roadway. In prior discussions with the applicant, we had stressed on the need for a detailed traffic study and the possibility of providing a second access drive off Morton Taylor Road by acquiring a parcel along that roadway's frontage. After some research, we were informed by the applicant that an access onto Morton Taylor is not feasible due to the location of regulated wetlands along the frontage of those parcels and EGLE not being in support of any wetland encroachment.

A traffic study dated February 2, 2022 was originally provided by the applicant. An updated traffic study, dated September 9, 2022, was provided with this submission. The most recent study evaluates a complete build, stating that the development will generate 26 weekday morning peak hour trips and 33 weekday afternoon peak hour trips. Per the study's conclusion, post development there will continue to be acceptable service levels at the intersection and no additional turning lanes are needed for site access.

- b. Cross Access.** Cross access is encouraged by the Township wherever feasible. The parcels to the east, west, and north are currently zoned RM, R-1C, and R-1C respectively. The applicant had previously stated that access to the east and north are not feasible due to the existing development's layout to the east, and wetlands to the north. As previously recommended, the revised plan includes a break in the curb on the northwest portion of the site (Area 3) for a potential stub for future connection to Morton Taylor if and when those parcels are developed.
- c. Sidewalks.** The plan notes the construction of a new 5-ft. concrete sidewalk along the site's Tyler Road frontage. The plan also proposes an internal network of 5-ft. concrete sidewalks along all streets (but not necessarily both sides), connecting back to the public sidewalk. The sidewalk continues across the site entry drive, allowing for a differentiation in materials to the effect of a crosswalk.

Part of the proposal includes small parking lots for guest parking. The revised plan proposes sidewalks and crosswalks adjacent to these lots for safer pedestrian access to the units across the street. Additional connections to the interior pond paths have also been provided.

## 6. Parking and Loading.

- a. Space Dimensions.** Parking spaces on the site are dimensioned at 9.5 feet wide by 20 feet long, compliant with Ordinance standards. All parking spaces are proposed to be double striped in accordance with Section 9.104.
- b. Number of Parking Spaces.** The revised plan includes parking calculations for the proposed clubhouse as a 'Non-Commercial Recreational Use Operated by a Resident Organization' with the requirement of 3.5 spaces per 1000 sq. ft of gross floor area plus 3.25 spaces per tennis court (if any), for a total of 18 required spaces. 18 spaces are being proposed, including 4 barrier-free parking spaces.  
The site plan notes the parking standard for "Housing for Seniors: Independent Living" (Section 9.102(A)(3)) is one and a quarter (1.25) space for each dwelling unit plus one (1) for each employee in the largest shift. With 132 units and a maximum of 5 employees, 170 spaces are required. The site plan proposes 284 spaces; 20 lot spaces and 264 garage spaces (2 per unit). To limit excessive impervious surface area and the negative impacts on stormwater management,



Van Buren Township prohibits parking in excess of 20% of the minimum required. The site plan includes a note on Sheet C3.0 stating that most of the parking is within garages and that the additional parking area is intended to serve guests and should not impact stormwater run-off. The Planning Commission can grant relief from this standard per Section 9.101(I).

- c. **Barrier Free Spaces.** The plan indicates six (6) barrier-free spaces, four (4) located at the clubhouse and two (2) within separate guest lots. Given that most of the parking provided is within the garage space for each unit, we find this provision acceptable.
- d. **Loading.** For the clubhouse, one (1) 10 ft. x 25 ft. space must be provided; the revised submission includes one (1) 10 ft. x 27.5 ft loading space.

**7. Landscaping and Screening.** The site is located in the RM, Multiple Family Residential District. All sites are strongly encouraged to exceed Zoning Ordinance minimums for landscaping, site design, and building appearance among others. Our comments on individual landscaping requirements are reflected in the following comments:

- a. **Landscaping Adjacent to the Right-of-Way.** Section 10.103(A) requires lot frontage landscaping of 1 deciduous tree/40 lineal feet + 1 ornamental tree/100 lineal feet + 8 shrubs/40 lineal feet. The site has a frontage of 680' on Tyler Road, which requires a total of 17 deciduous or evergreen trees + 7 ornamental trees + 136 shrubs. The landscape plan shows 16 deciduous or evergreen trees, 11 ornamental trees, and 136 shrubs. There appears to be a discrepancy between what is shown on the plan and what is noted on Sheet L1.0 – this should be corrected, and we recommend the replacement of one of the ornamental trees for either a deciduous or evergreen tree.
- b. **Parking Lot Landscaping.** Section 10.103(B)(1) requires all parking lots to be landscaped and screened from adjoining public or private rights-of-way. Landscaping shall include a landscaped yard at least five (5) feet in width containing an opaque screen of landscaping (evergreen or deciduous hedge) at least three (3) feet in height. All of the outside parking provided is within small lots. As recommended, to meet the intent of the ordinance the applicant proposes to install shrubs at the ends of the parking lots, screening the view of the parking lot from nearby units.

**Interior parking lot landscaping.** Section 10.103(B)(2) requires the provision of landscaping within islands in a parking lot. Interior landscaping shall account for a minimum of five percent (5%) of all paved parking areas, including parking and loading spaces, driveways, and aisles. Most of the parking is devoted to private driveways for each dwelling unit. Only 38 spaces are proposed in the several small lots throughout the development, including the clubhouse, constituting a negligible landscaping requirement, which is met through the landscaping provided around the parking areas.

- c. **Loading Area Landscaping.** Section 10.103 (C) of the Zoning Ordinance requires an opaque wall or a greenbelt for required screening. Because of the location of the proposed loading zone adjacent to both the clubhouse parking lot and an intersection, screening of this space does not serve any purpose.
- d. **Display Area Buffering.** This requirement is not applicable.
- e. **Greenbelt Buffering.** Section 5.143 (L)(1) of the Zoning Ordinance, requires a 20-foot-wide buffer with one (1) tree per twenty (20) linear feet between the senior housing development and all adjacent uses. The revised landscape plan shows the required 20' wide greenbelt along the



east and west property lines. Existing tree cover may be used to meet greenbelt requirement; however, any gaps in the vegetation must be provided with new tree cover. To ensure that the intent of screening is met, the applicant can use identify gaps in the existing tree survey and note the number of trees being planted to meet this requirement.

- f. **Detention Pond Landscaping.** The site plan includes five detention ponds interspersed throughout the site. The plantings proposed or around the drainage areas are subject to review and approval by Wayne County.
- g. **Other.** Section 5.143 (L)(2) of the Zoning Ordinance, requires specific additional landscaping requirements for senior housing developments pursuant to §10.103(F)(1) of the Zoning Ordinance. Section 10.103(F)(1) of the Zoning Ordinance requires senior housing developments to provide a minimum of two (2) deciduous or evergreen trees and four (4) shrubs per dwelling unit. With 132 units proposed, 264 deciduous or evergreen trees and 528 shrubs are required. The revised plan notes 264 trees and 528 shrubs will be provided.
8. **Tree Removal Permit.** A tree removal permit is required if the applicant proposes to remove any trees of 5" caliper or larger. A detailed tree survey of all the existing trees on the site has been provided. The plan proposes the removal of a total of 505 trees (equaling 549 tree credits) within the area of disturbance. The landscape plan also proposes extensive landscaping in compliance with the Ordinance requirements. As a result, there isn't any room on the site for additional replacement trees. Therefore, the applicant is proposing to deposit monies worth the 549 tree credits into the Township General Fund Tree Preservation Line.
9. **Stormwater Pond.** Storm water detention calculations are subject to review and approval by the Township Engineer and Wayne County.
10. **Lighting.** A detailed photometric plan has been provided, including manufacturers cut sheets for proposed pole mounted fixtures. Illumination intensity for the development complies with the requirements of Section 8.105(B)(2). In this revised submission, additional lighting has been proposed for the guest parking lots to ensure pedestrian and vehicle safety.
11. **Architecture and Building Details.** Section 5.143 includes façade standards for senior living. The applicant has submitted detailed elevations and renderings of the typical dwelling unit. The structures are to be constructed of primarily masonry (face brick - 58%), with accents of fiber cement siding and trim (18%) and the remaining façade comprised of doors and windows (24%). The percentage of various materials used on each façade complies with section 5.143(l)(1).
- Although not applicable to senior housing, the applicant has addressed the Planning Commission's recent concerns regarding developments with predominantly front entry garages. The floor plans and the layouts indicate that the 4 and 6-unit buildings will have the garages placed sideways, along for a driveway in the front, but a façade with a greater number of windows rather than garage doors. The submittal includes a colored rendering of only the 6-unit building. Colored renderings for the proposed 2 and 4-unit buildings must be provided. The proposed clubhouse is a single-story structure designed along the same lines as the units with similar materials and color palette.
12. **Dumpster.** The site plan does not include a dumpster. Curbside trash pickup is anticipated for the site.



**13. Signs.** The site plan includes a monument sign at entrance drive to the site, off Tyler road. Details have been provided on Sheet AC200. The ordinance requires that the sign location must conform to the underlying zoning district. In case of the subject site, the RM zone requires a 30' setback for the sign. The revised plan notes the sign placed 30 feet from the front property line, as required per Section 11.108.

The proposed sign has a 2'5" base with two columns on the sides and a full sign face to be constructed of stone to match the building. The height of the sign is noted as 6'. Sign area is calculated at 32 sq. ft., in compliance with the Ordinance 40 sq. ft. maximum. No signage lighting is being proposed at this time; *if signage lighting is to be included in the future, it must comply with standards of Section 11.114.*

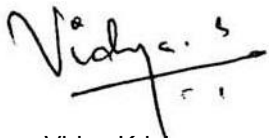
**14. Other.** Per Sheet AU100, mechanical units are to be placed at the rear of each dwelling, with sufficient distance between the units and neighboring dwellings. Since the mechanical units are intended to serve individual dwelling units, they are not anticipated to generate any noise concerns.

## RECOMMENDATION

The site plan includes most of the details required by the Zoning Ordinance. Any items that are either missing or require additional information can be included at final site plan review. Therefore, we recommend that the Planning Commission approve the preliminary site plan for Brookwood Senior Housing, subject to the following conditions:

1. Notation of a detailed phasing timeline and clarification regarding the self-sufficiency of each phase.
2. Planning Commission approval of the additional parking to be provided, to satisfy visitor parking needs.
3. Correction to discrepancy in right-of-way landscaping and substitution of an ornamental tree with a deciduous or evergreen tree.
4. Details of existing tree cover along east and west property lines and trees to be planted, if any, to fill in gaps for screening.
5. Wayne County and Township Engineer approval of detention pond designs and landscaping.
6. Submission of colored rendering of 2 and 4-unit buildings.
7. Special Land Use Approval by Township Board of Trustees.

Respectfully,  
**McKENNA**



Vidya Krishnan  
Senior Principal Planner



Gage Belko  
Assistant Planner

cc: Dan Power, Director of Planning and Economic Development  
Paul J. Kammer, FTCH, Township Engineers  
Andy Leneghan, Van Buren Township Fire Marshal



November 2, 2022  
Fishbeck Project No. 211142  
VBT Project No. 21-032

Dan Power  
Director of Planning and Economic Development  
Van Buren Township  
46425 Tyler Road  
Van Buren Township, MI 48311

## **Brookwood Van Buren TWP Multi Family Residential Site Plan Preliminary Site Plan Review #2**

Dear Director Power:

At the request of Van Buren Township (Township), Fishbeck has reviewed the updated Preliminary Site Plans submitted to the Township and distributed for Preliminary Site Plan review #2 on November 1, 2022 for the Brookwood Multi Family Residential Facility located on Tyler Road in Van Buren Township, Michigan. The accompanying review letter is an update to the previous Preliminary Site Plan review and letter dated October 7, 2022. The updated plans were submitted with changes to some design elements, while others still remain and are listed as open items in this letter.

This project entails construction of 132 housing units (constructed in two, four and six dwelling units) and a club house to the North of Tyler Road and to the East of Morton Taylor Road. The entire site is proposed to be constructed over four phases.

Proposed construction includes: housing units and clubhouse; 304 parking spaces throughout the development (some of which are garage spaces); hot mix asphalt (HMA) paved roadways with concrete curb and gutter and concrete driveways and sidewalks; a full stormwater management system including an enclosed underground storm system and five separate detention ponds; a new public water main system including eleven hydrants and service lines to each housing unit; a 10-inch PVC sanitary piping system with service connections to the proposed buildings; and other various landscaping and site plan improvements.

At this time, Fishbeck is conducting a preliminary site plan review, which looks at the engineering feasibility of the project and provides preliminary review comments for the preparation of the engineering review submittal.

Our review comments are as follows:

### **General**

The following items are general requirements established as part of the Engineering Standards Manual, Charter Township of Van Buren (April 2014). The applicant must include the following items as part of the construction plans:

1. The applicant is responsible for meeting all requirements listed in the Engineering Standards Manual.
2. All easements, proposed and existing, must be indicated on the plans.
3. Soil boring information, including the ground water elevations, must be provided.

4. Existing drainage patterns shall be shown on the plans and any incoming flow to the site must be shown how it will be accounted for.
5. Plans must include the 100-year flood elevation when within the site.
6. Plans must include the following required notes:
  - a. The Developer is responsible for resolving any drainage problems on adjacent properties which are the result of the Developer's actions.
7. Radii of all points of curvature should be indicated.
8. In addition to all the General Plan Requirements and Site Plan Requirements, additional general engineering items will be required as part of the Engineering Plan Review requirements. Those items can be found in the Engineering Standards Manual – Chapter II, as briefly summarized below, and described in each section. The applicant is responsible for verifying all information is included, per the Township Standards. Exclusion of any items from this letter does not preclude the requirement.
  - a. Plan and profile views for all storm sewer, sanitary sewer mains, and water main (all sizes). The labels shall include but are not limited to size, type, class, depth of bury, and inverts. Backfill requirements, utility crossing info (top & bottom of pipes), building leads, tees, etc. must also be included.
  - b. Quantity lists itemizing all proposed items that appear on each sheet, as well as a project wide total quantity.

## Water Main Service

**Existing:** The Township's Geographic Information System (GIS) records and the applicant's plan indicate there is an existing 12-inch asbestos cement (AC) watermain running east-west along the north side of Tyler Rd. Existing information shows 1 hydrant and 1 gate valve in well along the 12-inch water main. There are also two 42-inch GLWA AC pipe watermain running east-west along Tyler Rd.

**Proposed:** The applicants plan shows a new 8-inch public water main system tying into the existing 12-inch AC water main in two locations on the north side of Tyler Rd. A new gate valve and well will be installed on the existing Township 12-inch water main between the proposed 8-inch taps. The new water main system continues north through the development and terminates at a hydrant at the very north end of the site. The new system includes 11 new hydrants and 2-inch domestic service lines at each housing unit.

### Comments:

1. It is noted that a second tap to the Township main in Tyler Rd. is proposed to provide a water main loop through the site. The plans show the second water main tap running along the west side of the site and tying into the water main in the road on the north end of Area II. The applicant shall work with the Township Water and Sewer Director and the Township Engineer to determine the final layout for all water main within the proposed system. The maximum lengths of dead-end main are 450 feet for 8-inch mains.
2. Applicant shall verify a sufficient number of valves are provided per the valve spacing requirements in the Township Engineering standards.
3. Hydrant placement will be subject to review by the Township Fire Marshal and may need adjustment, depending on final property layout. Final say on all hydrant coverage, locations, and accessibility will be made by the Township Fire Marshall.
4. It should be noted that all public water main is now required to be shown in profile view. The applicant shall be prepared to show plan and profiles for all water main on site. This is a new EGLE requirement for all public water main, regardless of size. The applicant will be required to prepare the EGLE Drinking Water application and submit (3) sets of plans for submittal to EGLE upon Township approval of the water main layout. Water main profiles shall include pipe size, class, grade, invert elevations, depth of bury, and rim elevations for gate wells.



5. Verify all water main has a minimum of 10-feet of horizontal separation between all other utilities. In several locations the proposed water main appears to have less than 10-feet of horizontal separation from storm sewer.

***Additional Comments (11/2/2022):***

6. The loop on the plans and as referenced in comment #1 should continue further to the north in order to extend the redundancy of the system, rather than come to a single pinch point on the north side of Area II. The dual taps along Tyler Road become less effective without the transfer of that redundancy further north. The applicant shall look at having two (2) feeds connecting between Area II and Area III.
7. Coordination and discussions between the Applicant and the Township are ongoing with regards to a connection on the north side of the development. In order to create the most reliable and redundant system possible, Fishbeck recommends further research and discussions with EGLE be conducted to fully understand the requirements and regulations of the protected wetlands. It is understood that initial conversations were conducted, as described in the EGLE Preapplication letter (dated April 1, 2022) which requests that the applicant explore alternative designs to help avoid and/or minimize project effects on aquatic resources.

## Sanitary Sewer

**Existing:** The Township's GIS records indicate a 15-inch public reinforced concrete pipe (RCP) sanitary sewer main running east-west along the south side of Tyler Rd with two sanitary manholes, one manhole at the east property line and one at the west property line. The sanitary main flows west towards Morton Taylor Rd. Township GIS records also indicate a 10-inch sanitary stub at the very northeast corner of the site however, the proposed plans do not show the northern most portion of the property being developed.

**Proposed:** The applicant's plan indicates a proposed 10-inch polyvinyl chloride (PVC) pipe sanitary sewer main to be constructed throughout the development with 6-inch PVC leads and cleanouts at each housing unit. The sanitary system is proposed to outlet via a pump station located at the south side of the site on the west side of the entrance drive. A 3-inch sanitary force main is proposed to be directionally drilled under Tyler Rd and connect the pump station to a new manhole constructed over the existing 15-inch sanitary main. The directional drilled sanitary sewer will be crossing under the two (2) existing 42-inch GLWA water mains in Tyler Rd.

***Comments (Updated 11/2/2022):***

1. Township GIS indicates that the stub from the northern segment of the Hickory Woods development to the east has the size and the depth to accommodate the flow from the Brookwood Development if flow is diverted to the north. The applicant shall continue to determine the possibility of discharging to this stubbed segment on the north side. It is understood that similar difficulties to the water main extension exist with the sanitary sewer extension. The applicant has had preliminary discussions with EGLE regarding this disruption which requests the applicant to explore alternate designs (see comment #7 under the water main section). In order to better understand the issues at hand with extension to the north, the applicant is advised to develop a detailed response on the hardships and road blocks that prohibit this path.
2. If it is determined that an extension north is infeasible, the use of a pump station will require Township Board approval.
3. Township staff and the Township Engineer will work with the applicant on the requirements of using a pump station to outlet the sanitary sewer. In previous discussions, it was explained that any pump station or lift station that maintains the flow from more than one (1) public service must be turned over to the Township and become the responsibility of the governing agency. That said, discussions with the applicant continue regarding the ongoing maintenance responsibilities, with the possibility of an SAD for the yearly maintenance.

4. If the use of a pump station is approved, pump station design requirements must follow the Township Engineering Standard Manual. Review of all elements of the pump station design will be required as part of the Engineering review.
5. Profile views of all sanitary sewers will be required during Engineering review. Profiles shall label cover, utility crossing separation minimums, and all other information necessary to show the pipes are meeting minimum criteria. Profiles for sanitary leads are not required.

## Storm Sewer

**Existing:** The applicant's plans show an existing 10-inch RCP storm sewer with two catch basins running east-west along the north side of Tyler Rd. There are no other storm sewers located on the site. Within the property there are several wetland areas that have been surveyed and are shown by the applicant.

**Proposed:** The applicant's plan proposes a full stormwater management system with several catch basins and underground sewers that outlet to five separate detention ponds with sediment forebays. The three southern detention ponds outlet to a storm main that conveys metered flow north through the site and ultimately outlet to the wetlands in the northwest corner of the site. Ponds one and five also connect to this storm main by pond one utilizes the same ultimate outlet to the wetlands.

### Comments:

1. Profile views and storm sewer calculations, per the Engineering Standards Manual, will be required during Engineering review.
2. The included detention volume calculations appear to follow the Wayne County requirements. The Township will request to see that Wayne County has reviewed and commented on the stormwater system prior to reviewing the system itself. It is recommended that the applicant keep an open line of communication with the Township with respect to the storm water design, keeping in mind that the Township standards must be considered when designing the system.

## Paving and Grading

1. As part of the Engineering review process, the applicant will be required to provide more detailed grading plans that show detailed ramp grades and parking grades for Americans with Disabilities Act 2010 (ADA) ramp areas. The current layout of crosswalks does not indicate locations of ADA ramps, and it appears that some ramps may be difficult to properly install due to the proximity of driveway cuts and intersection layout. During Engineering review, all ramp layout and grading must be included with the roadway layout prior to approval.

### ***Additional Comments (11/2/2022):***

2. In general, it is advised the applicant read through Chapter VII of the Van Buren Township Engineering Standards Manual. There are design parameters that must be met and will be more thoroughly reviewed during Engineering Review. The applicant is responsible for meeting all requirements, including the minimum HMA Pavement thickness for Local Residential roadways, including subdivisions, site condos, and other residential entities **MUST BE** a minimum of 4.5 inches of HMA over 8 inches aggregate base.
3. Approval of recycled Asphalt as Aggregate Base will need further discussion and exploration.
4. During Preliminary Site Plan review #1, the Township Fire Marshall expressed concerns with the overall cross section of the roadway and turning radii at many of the intersections. Discussions on the roadway width led to a slight change in the cross section of the road. Roadway width remained at 27 feet from back of curb to back of curb, however, the curb and gutter width was reduced to 18-inches, giving a paved road surface width of 24 feet. This width is acceptable for Engineering.



5. Additionally, the applicant has updated some of the interior intersection radii to better accommodate the turning radii of Township fire trucks. The Township Fire Marshall will have final approval for maneuverability around the site.
6. During Engineering design, roadway profiles must be included and follow all requirements of the Engineering Standards Manual.

## Soil Erosion and Sedimentation Control

1. Make sure the SESC plan provided is clear and concise, showing all elements that are needed for all areas of earth disturbance, and in accordance with the Township *Engineering Standards Manual*, Chapter II, Plan Requirements, Paragraph D, SESC Plan Requirements, and in accordance with Wayne County SESC standards. A permit must be acquired from the Wayne County SESC County Enforcing Agency.  
<https://www.waynecounty.com/departments/environmental/landresources/soil-erosion.aspx>.

## Recommendation

Fishbeck recommends the Planning Commission grant the Brookwood Van Buren TWP Multi Family Residential Site Plan Preliminary Site Plan approval for engineering feasibility, subject to the comments listed above and in accordance with the Township's Engineering Standards manual for the Engineering Review Submittal. A more in-depth engineering review will be completed during the Final Site Plan and Engineering Review stage of the process. It is also recommended that the applicant continue discussions with Township staff regarding the items listed in this letter. It is also recommend that discussions with Wayne County for roadways and stormwater being now, if they haven't already, to determine their requirements before finalizing certain design elements. If you have any questions regarding this project or our comments listed above, please contact me at 248.324.2137 or [pkammer@fishbeck.com](mailto:pkammer@fishbeck.com) or Mike Leppek at 248.324.4796 or [mtleppek@fishbeck.com](mailto:mtleppek@fishbeck.com).

Sincerely,



**Paul J. Kammer, PE**  
Senior Civil Engineer



**Mike Leppek, PE**  
Civil Engineer

Attachment

By email

Copy: Brittney Williams – Township  
Vidya Krishnan– McKenna

Andrew Lenaghan  
Deputy Fire Chief/Fire Marshal  
O: 734-699-8900 Ext 9416  
C: 734-294-7132

Van Buren Fire Department  
46425 Tyler Rd  
Van Buren Twp., MI 48111



October 26, 2022

Director of Planning and Economic Development  
46425 Tyler Road  
Van Buren Township, MI 48111

Wade Trim  
555 S. Saginaw St. STE 201  
Flint, MI 48502

RE: Brook wood Multi-Family Residential Development

A preliminary site plan review was performed on the Brookwood Multi-Family Residential Development for Wade Trim. The focus of this review was Water Supply and Fire Department Access. The Code used in the review is the Van Buren Township adopted fire code IFC 2021. The buildings were classified as Residential Group 2 (R-2).

### Water Supply

The Fire Flow required per building is 2000 gpm for 2 hours  
4801-6200 square feet.

Type 5 (wood frame construction)

**Table B105.1 (2) IFC 2001**

~~For a fire flow of 2000 gpm, the maximum distance from any point on a street or road frontage to a hydrant is 225 feet. Table C102.1 IFC 2021~~

**~~On sheet C5.2 the distance of 225 feet is exceeded. A hydrant will need to be added in the area of unit 20-21.~~**

**Hydrant added in front of Units 20-21 (9/22)**

**Our Mission:** The members of the Van Buren Fire Department shall work together in a professional and caring way to protect life and property from the adverse effects of fire, trauma, illness and dangerous conditions. Our services will be provided in a fair, honest, and ethical manner with the highest respect and dignity to all.

## Fire Department Access

~~Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet, exclusive of shoulders. **D103.1 IFC 2021**~~

### **No Corrections made to Street Width (9/22)**

**Per the last revision of the site plans, the street width is 27 feet, back of curb to back of curb. The mountable curb needs to be reduced from 30 inches to 18 inches. (10/26)**

~~Fire lane signs as specified in Section D103.6 shall be posted on **both sides** of fire apparatus access roads that are 20–26 feet wide. **D103.6.1 IFC 2021**~~

**Noted in latest site plan set, posted signage showing no parking on either side of the street. (10/26)**

~~Multiple family residential projects having more than 100 dwelling units shall be equipped throughout with two separate and approved access roads. **D106.1 IFC 2021**~~

**At the planning staff review meeting on 8/17, it was agreed upon that if the housing units were equipped throughout with an automatic sprinkler system, an exception would be made (Per Code Allowance) to allow one access road.**

The required turning radius of a fire apparatus access road shall be determined by the fire code official. **503.2.4 IFC 2021**

**After review of the sectional site plans, adjustments in the turns need to be made to allow for the ladder truck to turn without having to utilize the mountable portion of the curb.**

If you have any questions regarding this review, please contact me at [alenaghan@vanburen-mi.org](mailto:alenaghan@vanburen-mi.org) or 734-699-9416.

Andrew Lenaghan  
Deputy Fire Chief/Fire Marshal  
Van Buren Township

**CHARTER TOWNSHIP OF VAN BUREN  
PLANNING COMMISSION  
PUBLIC HEARING**

Notice is hereby given that the Charter Township of Van Buren Planning Commission will hold a public hearing on **November 9, 2022 at 5:30 p.m.** The meeting will be held in person at Van Buren Township Hall, located at **46425 Tyler Road, Van Buren Township, MI 48111**, in the Board Room. **Members of the public may additionally participate in the meeting electronically** per guidance provided by the Wayne County Local Public Health Department for meetings of governmental bodies held under public act 228 of 2020, effective January 1, 2022. Instructions for attending the meeting electronically are provided in this notice. The Planning Commission will consider the following request:

**Case 21-032:** A request by Chris Garner on behalf of owner SB – Invest L.P. to construct an independent multi-family residential senior housing development with 132 dwelling units with a combined gross floor area of approximately 154,110 square feet. The project is proposed to be located on the north side of Tyler Road, between Morton Taylor and Haggerty Roads on a 44.4-acre site. The site has tax parcel ID # 83 043 99 0015 000 and is zoned RM – Multiple Dwelling Residential District. Senior housing developments are a Special Land Use in the RM (Multiple Dwelling Residential) District, and the proposed Special Land Use requires a public hearing. This hearing is being held in accordance with Article 12, Chapter 3 (Special Land Use Review) of the Zoning Ordinance.

Members of the public may access the agenda materials via the Township website – [www.vanburen-mi.org](http://www.vanburen-mi.org) by **November 7, 2022**. On the meeting website, members of the public will also gain access to **means of participating in the electronic meeting. On the agenda for the meeting**, a unique Zoom weblink and dial-in phone number with a meeting ID for meeting videoconference or teleconference access will be provided. The meeting will be available to view live on the Van Buren Township YouTube Channel which can be reached from the live meeting link located on the Van Buren Township website home page ([www.vanburen-mi.org](http://www.vanburen-mi.org)). Closed captioning will be available after YouTube fully renders meeting video.

A complete **procedure for public comment by electronic means** is provided on a guide which is accessible on the Van Buren Township website ([www.vanburen-mi.org](http://www.vanburen-mi.org)). Participants may also choose to submit written comments that will be read into record during public comment by the Chairperson. Submit any written comments or questions about the meeting via e-mail to [dpower@vanburen-mi.org](mailto:dpower@vanburen-mi.org).

To comply with the Americans with Disabilities Act (ADA), any citizen requesting accommodation to attend a meeting, and/or to obtain this notice in alternate formats, please contact the Clerk's Office at 734.699.8900 extension 9205.

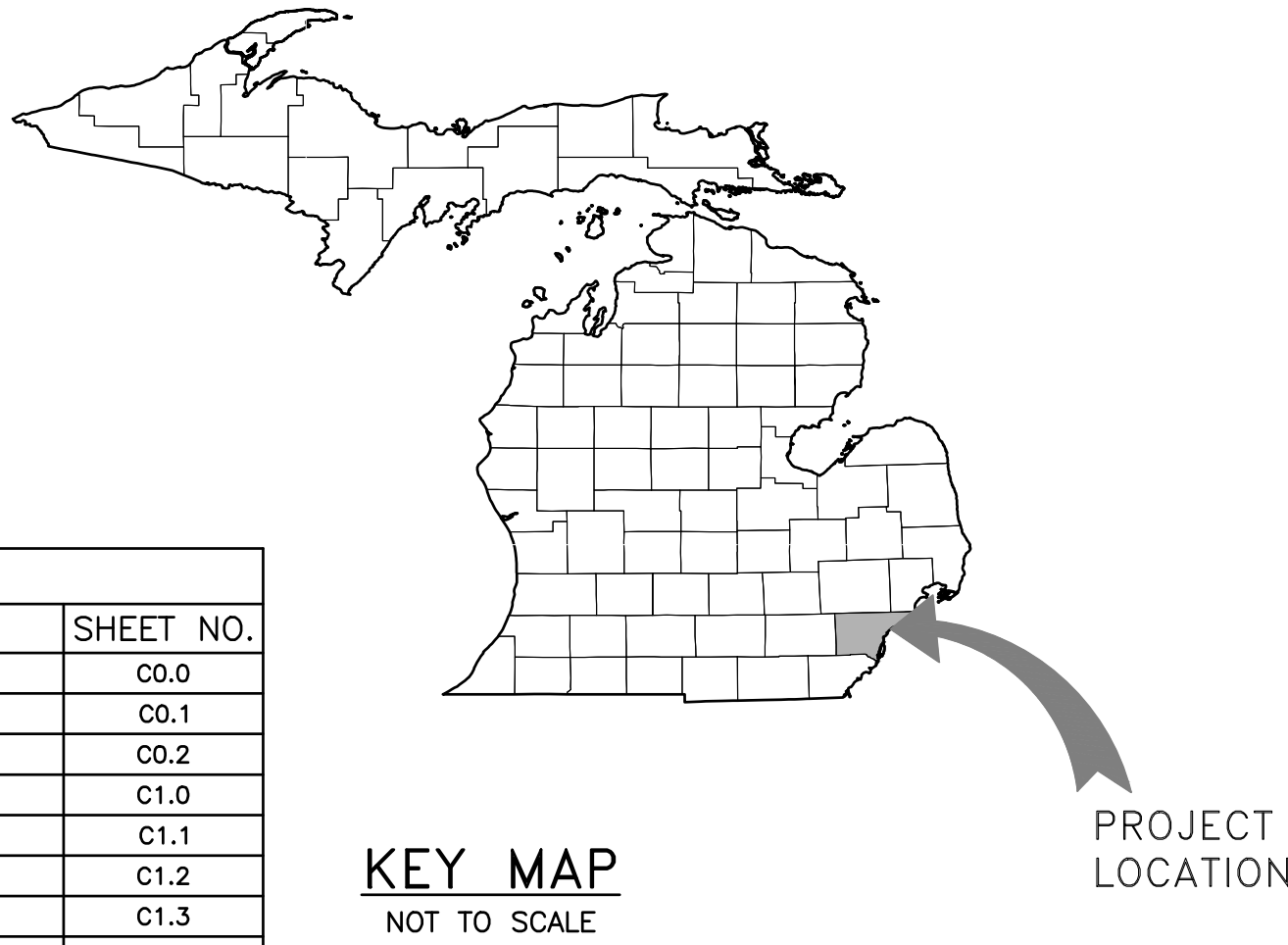
Posted: October 17, 2022  
Published: October 20, 2022





FLOOD PLAIN NOTE:  
THIS SITE IS NOT LOCATED IN THE 100 YEAR FLOOD PLAIN.  
PER FEMA MAP #2616300352E DATED 2/2/2012  
THIS SITE LIES IN ZONE X, AREA OF MIN. FLOOD HAZARD

PRELIMINARY SITE PLANS  
FOR  
BROOKWOOD VAN BUREN TWP MULTI FAMILY RESIDENTIAL  
VAN BUREN TOWNSHIP  
TYLER RD.  
WAYNE COUNTY, VAN BUREN TOWNSHIP, MI 48111



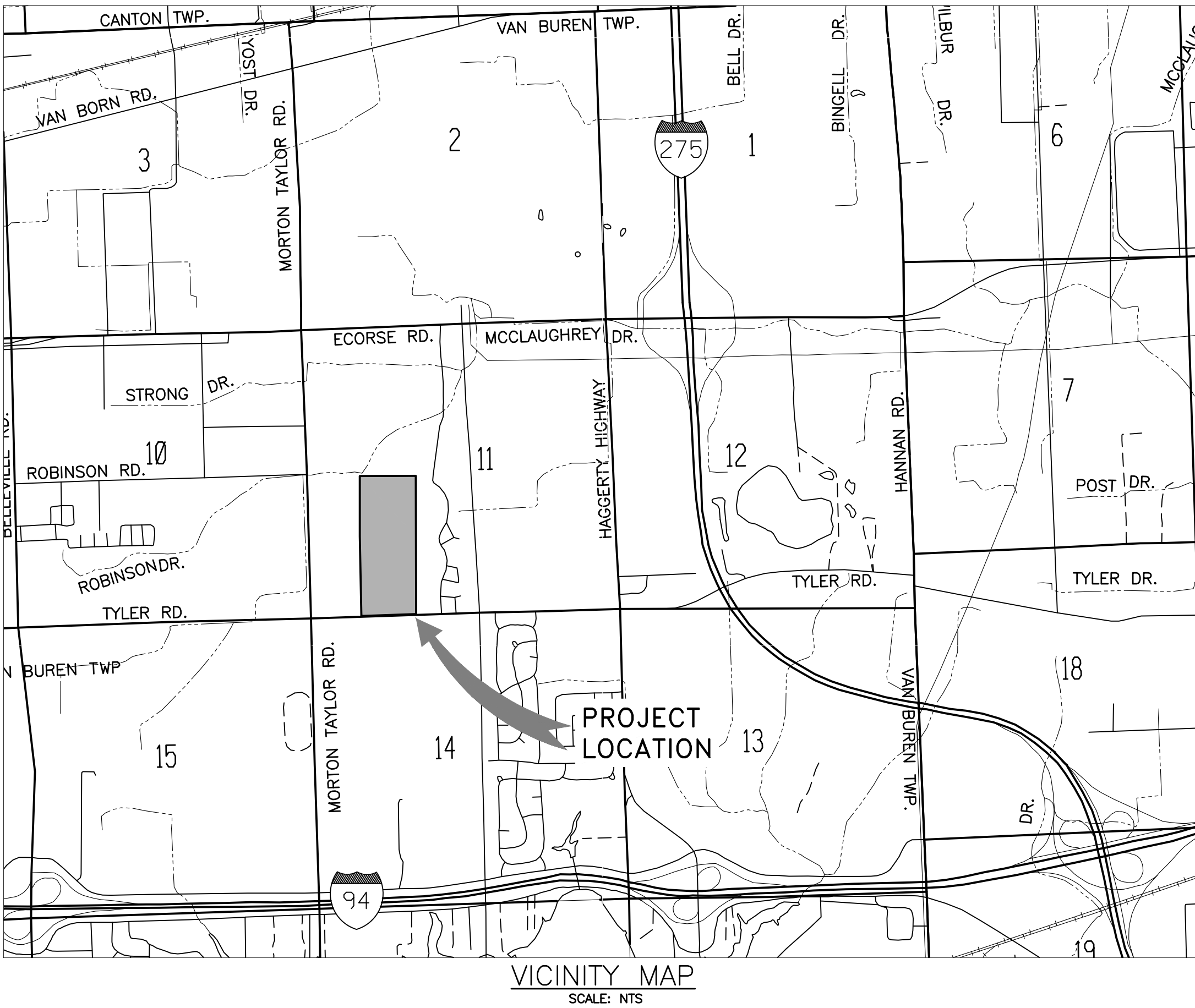
CONTACTS	
OWNER	GARNER PROPERTY MANAGEMENT CHRIS GARNER 23944 EUREKA ROAD, SUITE 105, TAYLOR, MI 48180 CHRIS@LIVEGPM.COM
ARCHITECT	HOBBS+BLACK ARCHITECTS TOM DILLENBECK 100 N STATE STREET, ANN ARBOR, MI 48104 (734)-663-4189 TDILLENBECK@HOBBS-BLACK.COM
GAS	DTE ENERGY ARAS P. BUTKUNAS ONE ENERGY PLAZA, ROOM 570 SB, DETROIT, MI 48226 (800)-477-4747
ELECTRIC	DTE ENERGY SARA KIPP ONE ENERGY PLAZA, ROOM 570 SB, DETROIT, MI 48226 (800)-477-4747
TELEPHONE	AT&T YURI STOUDEMIRE 54 N MILL STREET, PLYMOUTH, MI 48342 (248)-454-4364
CABLE	COMCAST JEFF DOBIES 25626 TELEGRAPH ROAD, SOUTHFIELD, MI 48034 (734)-359-1669
ROADS	WAYNE COUNTY ROADS DIVISION ANDREW KANDREVAS DIRECTOR OF PUBLIC SERVICES (313)-224-7600
WATER & SEWER	GREAT LAKES WATER AUTHORITY DANIEL MILLER 6425 HUBER STREET, DETROIT, MI 48211 (313)-378-4908
SOIL EROSION CONTROL	WAYNE COUNTY SOIL EROSION & SEDIMENTATION CONTROL PATRICK CULLEN-DIVISION DIRECTOR 3600 COMMERCE COURT, WAYNE, MI 48184 (734)-326-3936 PCULLEN@WAYNECOUNTY.COM
STORM WATER MANAGEMENT	WAYNE COUNTY ENVIRONMENTAL SERVICES (313)-224-3620 ESGHELP@WAYNECOUNTY.COM
MUNICIPALITY	VAN BUREN TWP BUILDING, PLANNING, & ECONOMIC DEVELOPMENT DAN POWER-DIRECTOR 46425 TYLER ROAD VAN BUREN TOWNSHIP, MI 48111 (734)-699-8913 DPOWER@VANBUREN-MI.COM

NOTE

1. THE DEVELOPMENT IS PROJECTED TO BE BUILT OUT IN FOUR (4) PHASES.
2. WE ARE PROPOSING A SENIOR (55+) RESTRICTED CONDOMINIUM COMMUNITY. ALL UNITS WILL BE SINGLE-STORY AND ATTACHED TO OTHER UNITS IN DUPLEXES, QUADPLEXES OR SIXPLEXES.
3. IT WILL BE A CONDOMINIUM COMMUNITY. CONDOMINIUM OWNERS AND THE DEVELOPER MAY RENT THEIR UNITS AS THE MARKET DICTATES.
4. IT IS ANTICIPATED THAT THE DEVELOPMENT WILL BE A 55+ RESTRICTED COMMUNITY. COMMON ELEMENTS WITHIN THE COMMUNITY WILL BE SHARED AND MAINTAINED BY THE VARIOUS OWNERS.
5. WADE TRIM WILL BE WORKING WITH EGLE FOR IMPACTS TO WETLANDS.
6. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS, SPECIFICATIONS, AND GENERAL CONDITIONS OF THE CHARTER TOWNSHIP OF VAN BUREN.

PERMIT APPLICATIONS	SUBMITTAL DATES
VAN BUREN TWP PLANNING AND ZONING PERMIT	7/27/2022
VAN BUREN TWP WATER AND SEWER PERMIT	
WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES LAND RESOURCE MANAGEMENT DIVISION SESC PERMIT	
WAYNE COUNTY DPS, PERMIT OFFICE APPLICATION FOR CONSTRUCTION PERMIT	9/29/2022
EGLE JOINT PERMIT	8/26/2022

PLAN DISTRIBUTION TABLE		SUBMITTAL DATES
ROADS	WAYNE COUNTY ROADS DIVISION ANDREW KANDREVAS-DIRECTOR OF PUBLIC SERVICES (313)-224-7600	
WATER & SEWER	VAN BUREN TWP WATER AND SEWER KEVIN LAWRENCE-DIRECTOR 4625 TYLER ROAD VAN BUREN TOWNSHIP, MI 48111 (734)-699-8947 KLAWRENCE@VANBUREN-MI.ORG	
SOIL EROSION CONTROL	WAYNE COUNTY SOIL EROSION & SEDIMENTATION CONTROL PATRICK CULLEN-DIVISION DIRECTOR 3600 COMMERCE COURT, WAYNE, MI 48184 (734)-326-3936 PCULLEN@WAYNECOUNTY.COM	
SURFACE WATER MANAGEMENT	WAYNE COUNTY DPS, PERMIT OFFICE HIKMAT KASSEM, PE 33809 MICHIGAN AVENUE, WAYNE, MI 48184 (734)-858-2757 HKASSEM@WAYNECOUNTY.COM	9/29/2022
SITE PLAN	VAN BUREN TWP BUILDING, PLANNING, AND ECONOMIC DEVELOPMENT DAN POWER-DIRECTOR 46425 TYLER ROAD VAN BUREN TOWNSHIP, MI, 48111 (734)-699-8913 DPOWER@VANBUREN-MI.COM	1ST SUBMITTAL 7/27/2022 2ND SUBMITTAL 9/19/2022
EGLE	EGLE-DETROIT DISTRICT OFFICE CADILLAC PLACE 3058 WEST GRAND BOULEVARD, SUITE 2-300 DETROIT, MI 48202 (313)-224-7600	8/26/2022



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UNIT FLOOR PLAN	AU110
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STANDARD WATER MAIN DETAILS (WM-2)	WM-2

LEGAL DESCRIPTION:  
PARCEL NUMBER: 83-043-99-0015-000  
(OBTAINED FROM WAYNE COUNTY TAX DESCRIPTION)  
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JOB NO.  
GPM2001.01F

SHEET  
C0.0

555 S. Saginaw Street, Suite 201  
Farmington, MI 48302  
810.235.2555  
www.wadetrिम.com

PREPARED UNDER THE SUPERVISION OF:  
  
KEVIN P. ROYSTON, PE

56523  
REGISTRATION NO.



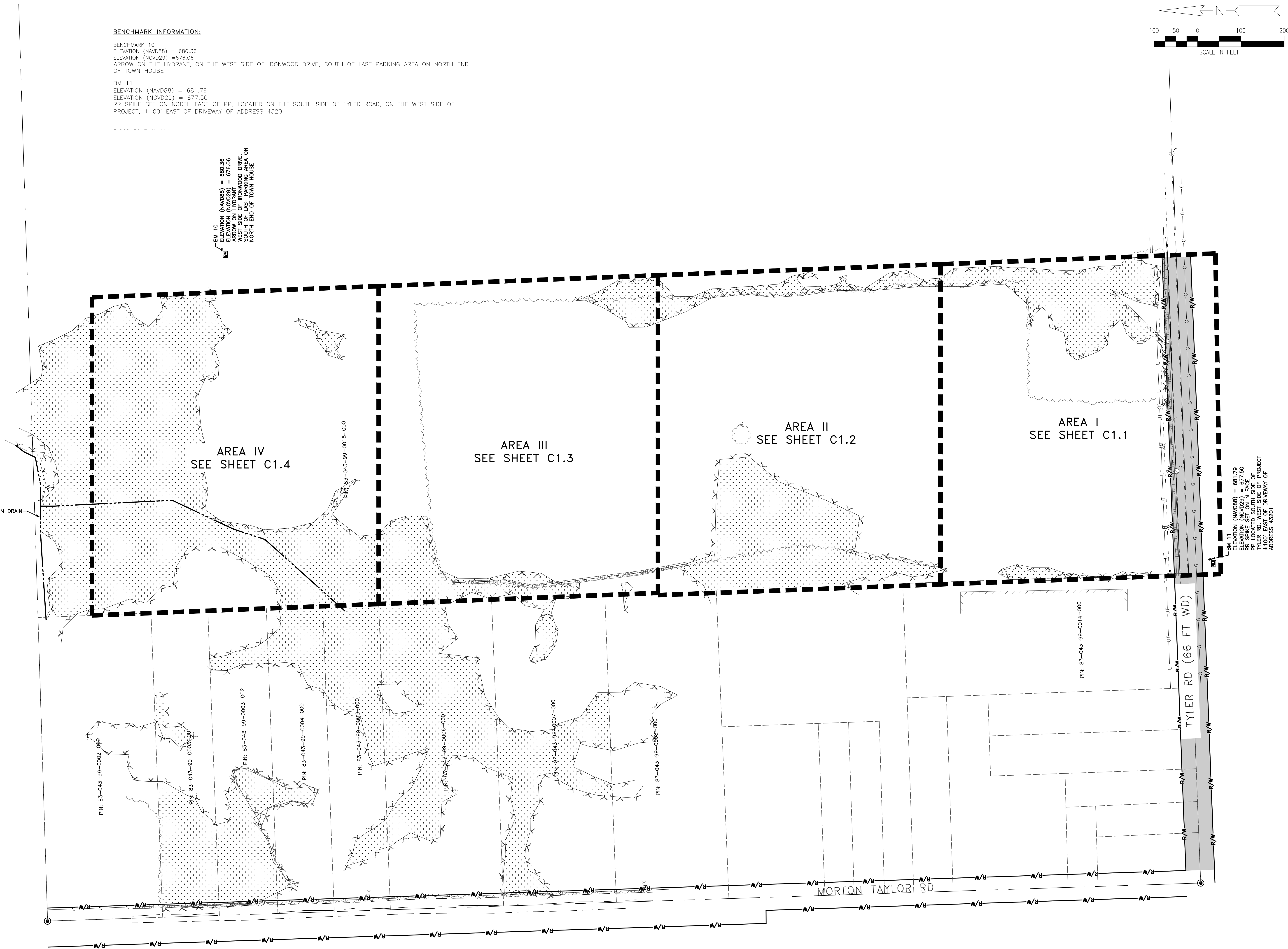


**WAIDE  
TRIM**

PROJECT MANAGER: - C:\PW\_WORK\WADE-TRIM\_VCLARK\01129952\C1.0-PLTS-VSP-OVERALL EXISTING CONDITIONS PLANDWG - C1.0 - PLOTTED 10/28/2022 4:08 PM BY CLARK, VERONICA



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REV#	DATE	DESCRIPTION	BY

855 S. Saginaw Street, Suite 201  
Evanston, IL 60122  
810.235.2552  
www.wadetrim.com

GARNER PROPERTY MANAGEMENT  
23944 EUREKA ROAD, SUITE 105  
TAYLOR, MI 48180

OVERALL EXISTING CONDITIONS PLAN  
FOR  
VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL

ISSUED FOR: SPA	DATE: 7/27/22	BY: KPR
SPA	9/14/22	VBC
JOB NO. GPM2001.01F	SHEET C1.0	

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REV#	DATE	DESCRIPTION	BY

ISSUED FOR: SPA  
DATE: 7/27/22  
BY: KPR  
VBC

DATE: 9/14/22  
BY: VBC

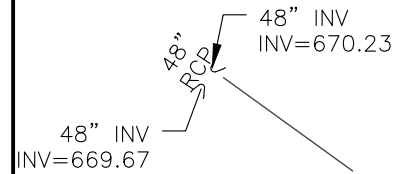
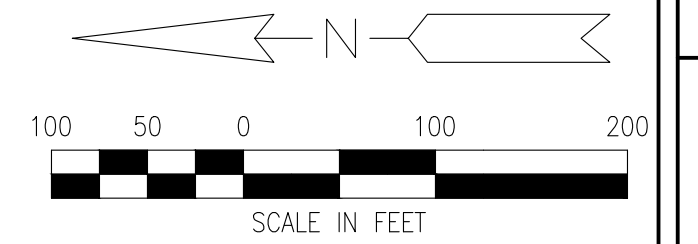
23944 EUREKA ROAD, SUITE 105  
TAYLOR, MI 48180  
WETLAND PLAN  
FOR  
VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL

WADE TRIM  
855 S. Saginaw Street, Suite 201  
Taylor, MI 48180  
810.235.2552  
www.wadetrtrim.com

JOB NO. GPM2001.01F	SHEET C1.5
GPM2001.01F VAN BUREN MULT-FAMILY	



1. CONTRACTOR TO PICK UP DEBRIS WITHIN  
PROPERTY LIMITS WEEKLY OR AS NEEDED



Know what's **below**.  
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Flint, MI 48502  
810.235.2555  
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23944 EUREKA ROAD, SUITE 105  
TAYLOR, MI 48180  
OVERALL SEC PLAN  
FOR  
VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL

ISSUED FOR:	DATE:	BY:
PA	7/27/22	KPR
PA	9/14/22	VBC

OB NO.  
GPM2001.01F

C2.0

© Wode Trim Group, Inc. GPM2001.01F VAN BUREN MULTI-FAMILY



PROJECT MANAGER: C:\PW\WORK\WADE-TRIM\CLARK\01129952\C3.0-PLTS-CSP-OVERALL SITE PLAN.DWG - C3.0 - PLOTTED: 10/28/2022 4:10 PM BY: CLARK, VERONICA

FIELD BOOK INFORMATION:--

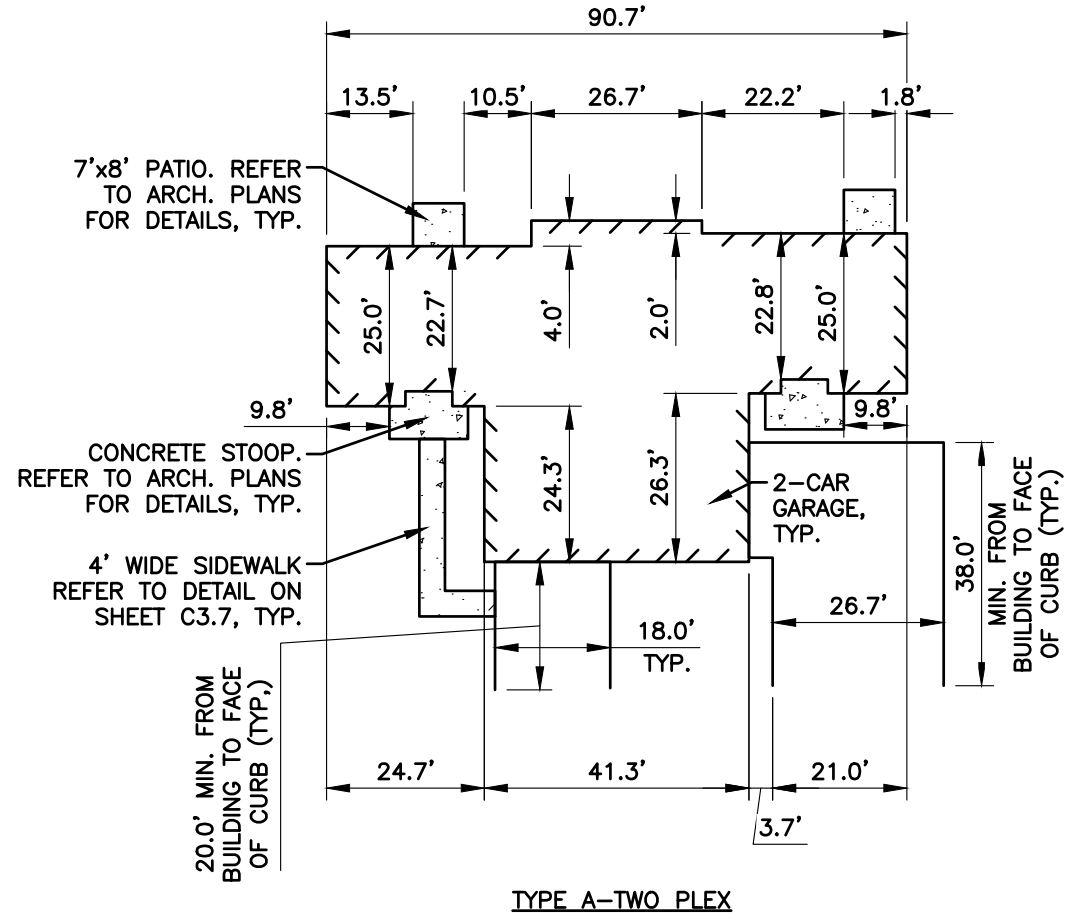


Know what's below.  
Call before you dig.

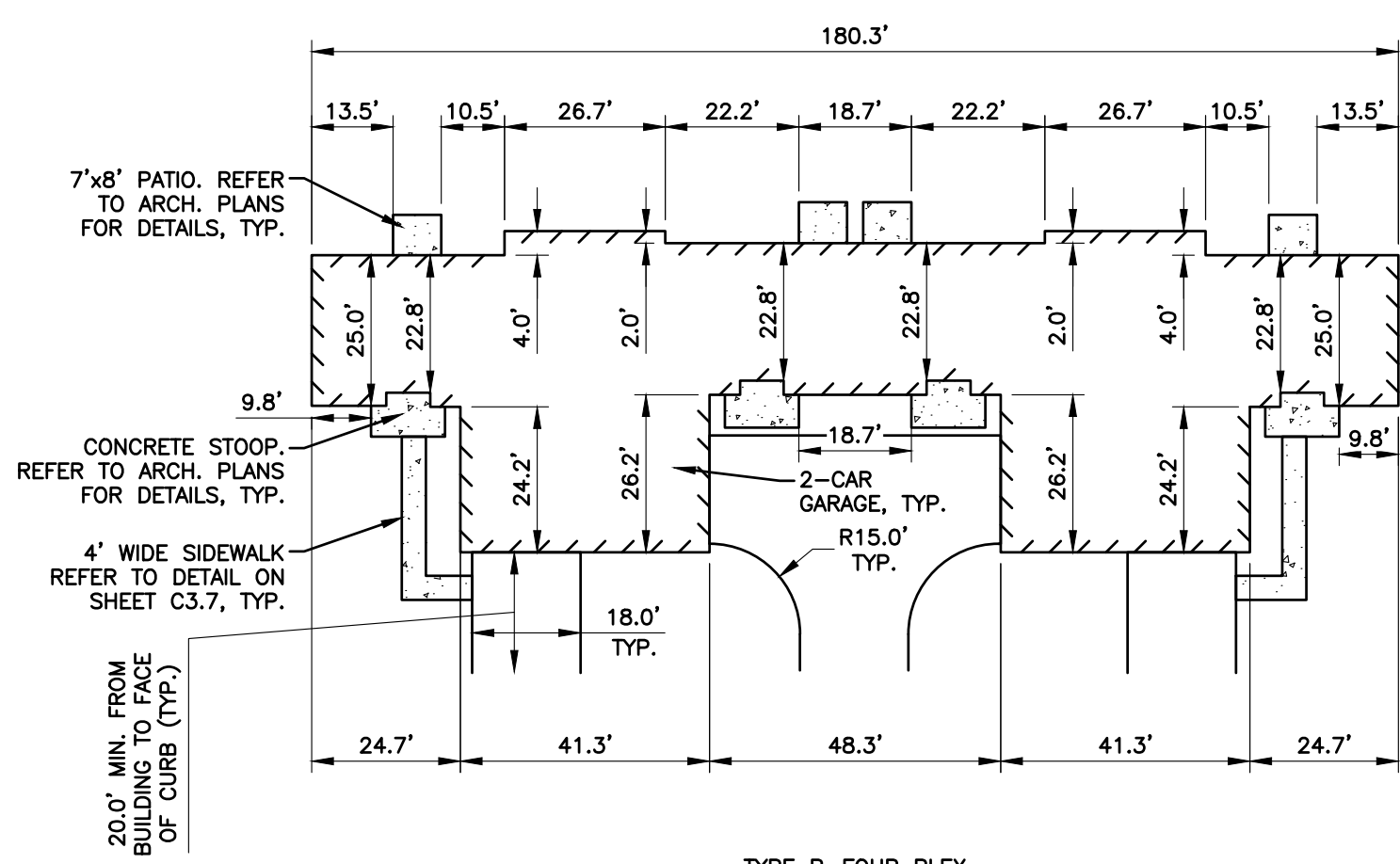
- NOTE**
- GARBAGE COLLECTION CURB SIDE PICK UP IS ANTICIPATED.
  - PAVED SURFACES, WALKWAYS, SIGNS, LIGHTING AND OTHER STRUCTURES AND SURFACES SHALL BE MAINTAINED IN A SAFE, ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED. PARKING LOT STRIPING AND MARKINGS SHALL BE MAINTAINED IN A CLEARLY VISIBLE CONDITION.
  - INFORMATION AND PLANS FOR THE STORAGE, LOADING, DISPOSAL AND TRANSFER OF ANY HAZARDOUS/TOXIC WASTE (GAS, OIL, TRANSMISSION FLUID, LUBRICANTS, SOLVENTS, ETC.), IF ANY UNDERGROUND TANK IS USED, THE LOCATION, SIZE, CONSTRUCTION AND USE OF THE TANK SHALL BE SPECIFIED ON THE SITE PLAN.
  - NO ON-STREET PARKING

- SIGN LEGEND**
- |   |   |
|---|---|
| R1-1: 'STOP' SIGN                       | 1 |
| R7-8: 'BARRIER FREE PARKING' SIGN       | 2 |
| R7-8P: 'VAN ACCESSIBLE' SIGN            | 3 |
| R2-1: '25 MPH SPEED LIMIT' SIGN         | 4 |
| R7-6: 'LOADING ZONE' SIGN               | 5 |
| IFC D103.6: 'NO PARKING FIRE LANE' SIGN | 6 |
| R1-5(L&R): PEDESTRIAN CROSS WALK SIGN   | 7 |
- REFER TO MDT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR INTERNATIONAL FIRE CODE 2021 FOR DETAILS
- REFER TO SITE SIGN BASE AND BARRIER FREE SIGN DETAILS ON SHEET C3.7

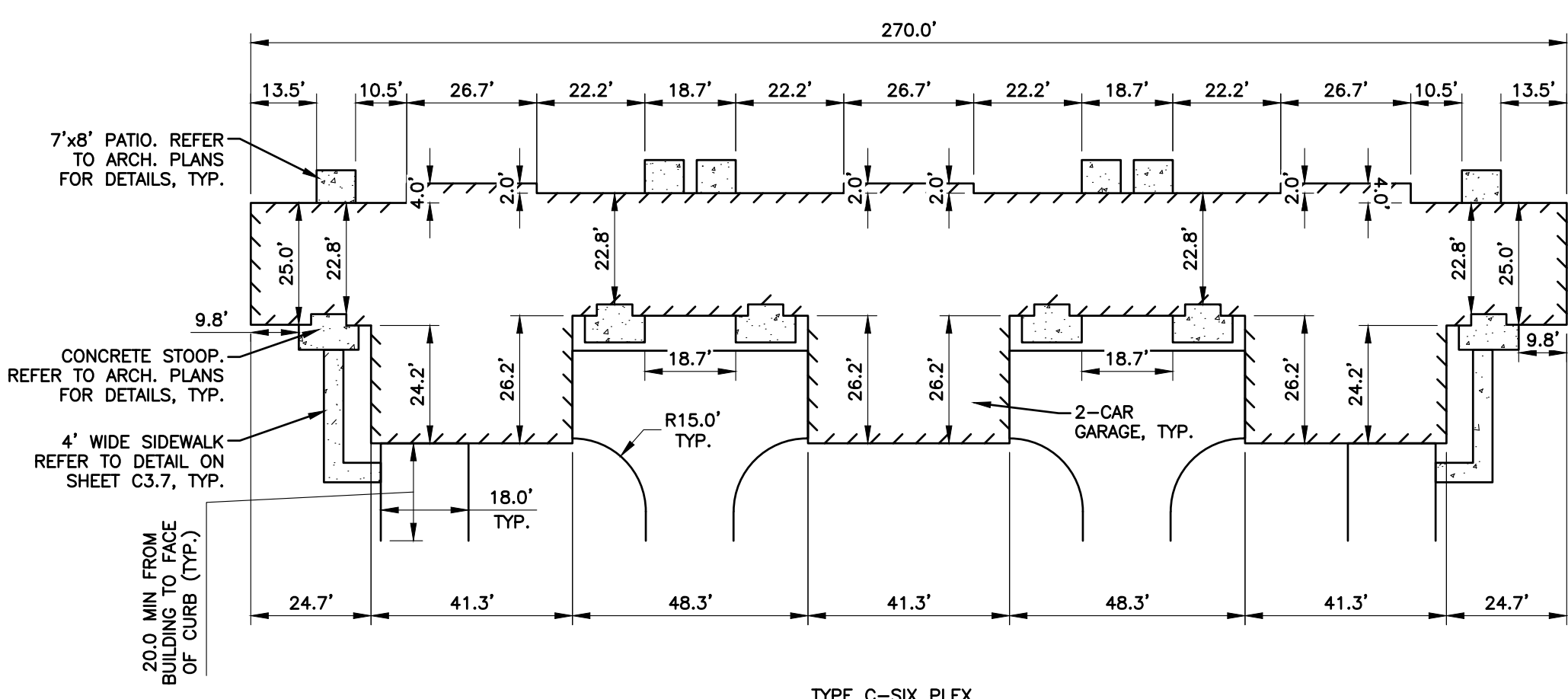
TYPE A-TWO PLEX



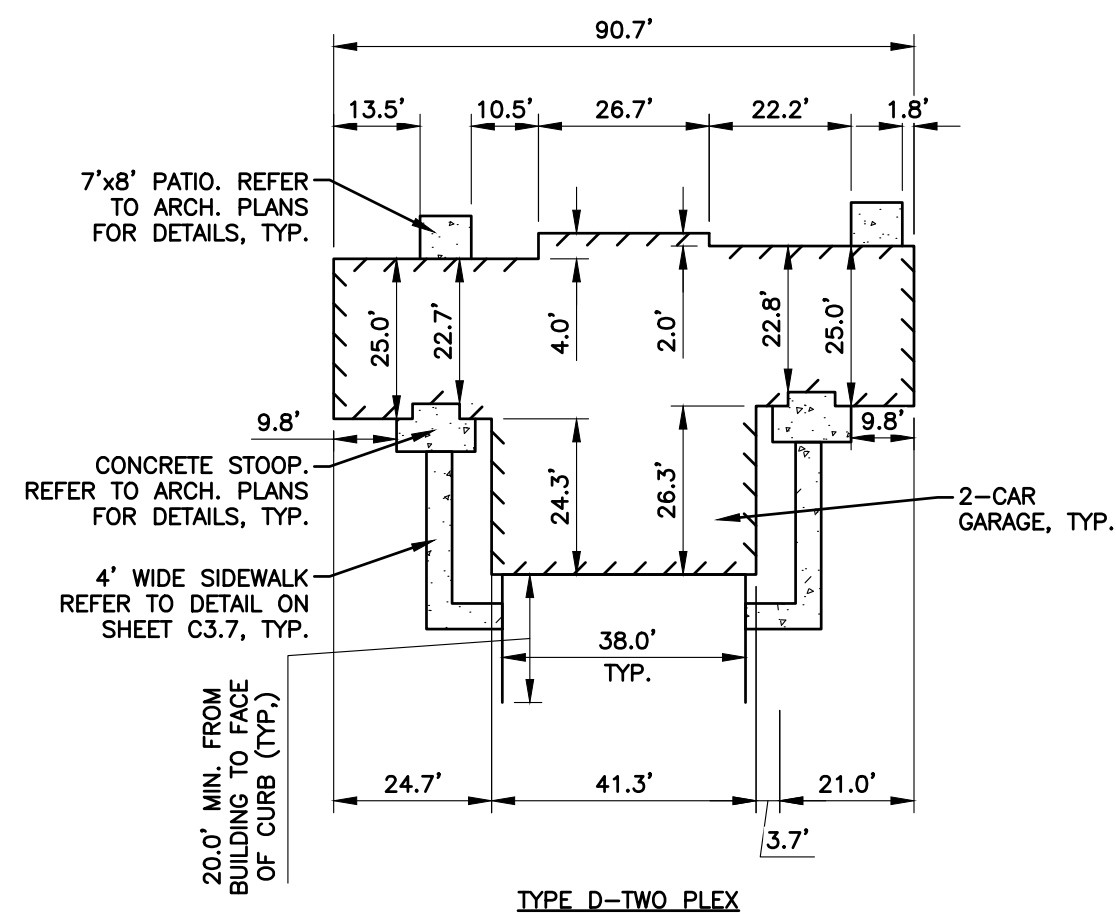
TYPE B-FOUR PLEX



TYPE C-SIX PLEX

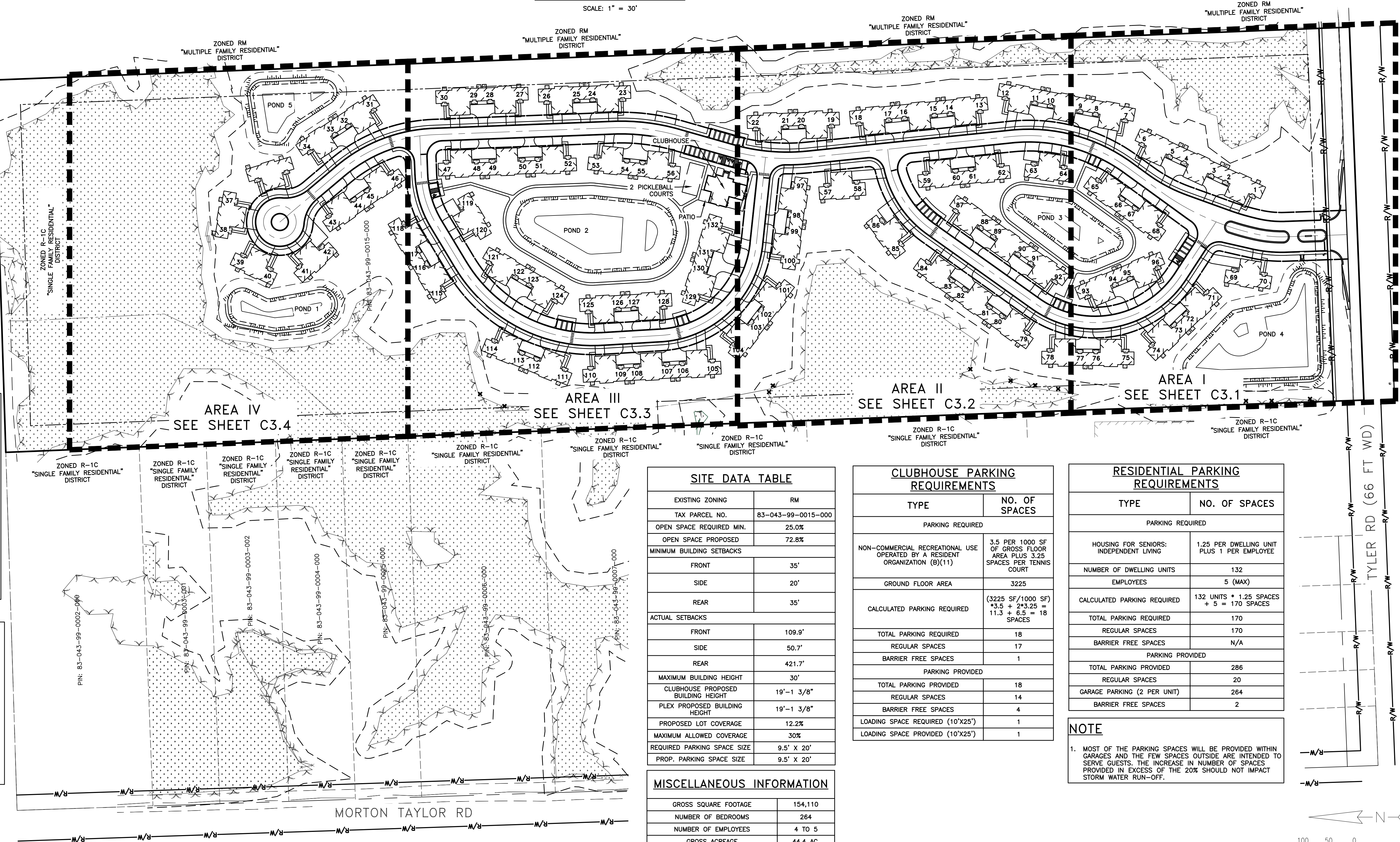


TYPE D-TWO PLEX



**TYPICAL UNIT LAYOUT**

SCALE: 1" = 30'



**SITE DATA TABLE**

EXISTING ZONING	RM
TAX PARCEL NO.	83-043-99-0015-000
OPEN SPACE REQUIRED MIN.	25.0%
OPEN SPACE PROPOSED	72.8%
MINIMUM BUILDING SETBACKS	
FRONT	35'
SIDE	20'
REAR	35'
ACTUAL SETBACKS	
FRONT	109.9'
SIDE	50.7'
REAR	421.7'
MAXIMUM BUILDING HEIGHT	30'
CLUBHOUSE PROPOSED BUILDING HEIGHT	19'-1 3/8"
PLEX PROPOSED BUILDING HEIGHT	19'-1 3/8"
PROPOSED LOT COVERAGE	12.2%
MAXIMUM ALLOWED COVERAGE	30%
REQUIRED PARKING SPACE SIZE	9.5' X 20'
PROP. PARKING SPACE SIZE	9.5' X 20'

**MISCELLANEOUS INFORMATION**

GROSS SQUARE FOOTAGE	154,110
NUMBER OF BEDROOMS	264
NUMBER OF EMPLOYEES	4 TO 5
GROSS ACREAGE	44.4 AC.
BUILDABLE AREA	36.4 AC.
DENSITY - DWELLING UNIT PER ACRE	132 UNITS/ 36.4 AC. 3.62 UNITS/AC.

**CLUBHOUSE PARKING REQUIREMENTS**

TYPE	NO. OF SPACES
PARKING REQUIRED	
NON-COMMERCIAL RECREATIONAL USE OPERATED BY A RESIDENT ORGANIZATION (B)(11)	3.5 PER 1000 SF OF GROSS FLOOR AREA PLUS 3.25 SPACES PER TENNIS COURT
GROUND FLOOR AREA	3225
CALCULATED PARKING REQUIRED	(3225 SF/1000 SF) *3.5 + 2*3.25 = 11.3 + 6.5 = 18 SPACES
TOTAL PARKING REQUIRED	18
REGULAR SPACES	17
BARRIER FREE SPACES	1
PARKING PROVIDED	
TOTAL PARKING PROVIDED	18
REGULAR SPACES	14
BARRIER FREE SPACES	4
LOADING SPACE REQUIRED (10'X25')	1
LOADING SPACE PROVIDED (10'X25')	1

**RESIDENTIAL PARKING REQUIREMENTS**

TYPE	NO. OF SPACES
PARKING REQUIRED	
HOUSING FOR SENIORS: INDEPENDENT LIVING	1.25 PER DWELLING UNIT PLUS 1 PER EMPLOYEE
NUMBER OF DWELLING UNITS	132
EMPLOYEES	5 (MAX)
CALCULATED PARKING REQUIRED	132 UNITS * 1.25 SPACES + 5 = 170 SPACES
TOTAL PARKING REQUIRED	170
REGULAR SPACES	170
BARRIER FREE SPACES	N/A
PARKING PROVIDED	
TOTAL PARKING PROVIDED	286
REGULAR SPACES	20
GARAGE PARKING (2 PER UNIT)	264
BARRIER FREE SPACES	2

**NOTE**

- MOST OF THE PARKING SPACES WILL BE PROVIDED WITHIN GARAGES AND THE FEW SPACES OUTSIDE ARE INTENDED TO SERVE GUESTS. THE INCREASE IN NUMBER OF SPACES PROVIDED IN EXCESS OF THE 20% SHOULD NOT IMPACT STORM WATER RUN-OFF.

**GARNER PROPERTY MANAGEMENT**  
23944 EUREKA ROAD, SUITE 105  
TAYLOR, MI 48180  
OVERALL SITE PLAN  
FOR  
VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL  
GPM2001.01F VAN BUREN MULTI-FAMILY

ISSUED FOR: SPA  
DATE: 7/27/22  
BY: KPR  
VBC

JOB NO. GPM2001.01F

SHEET

C3.0

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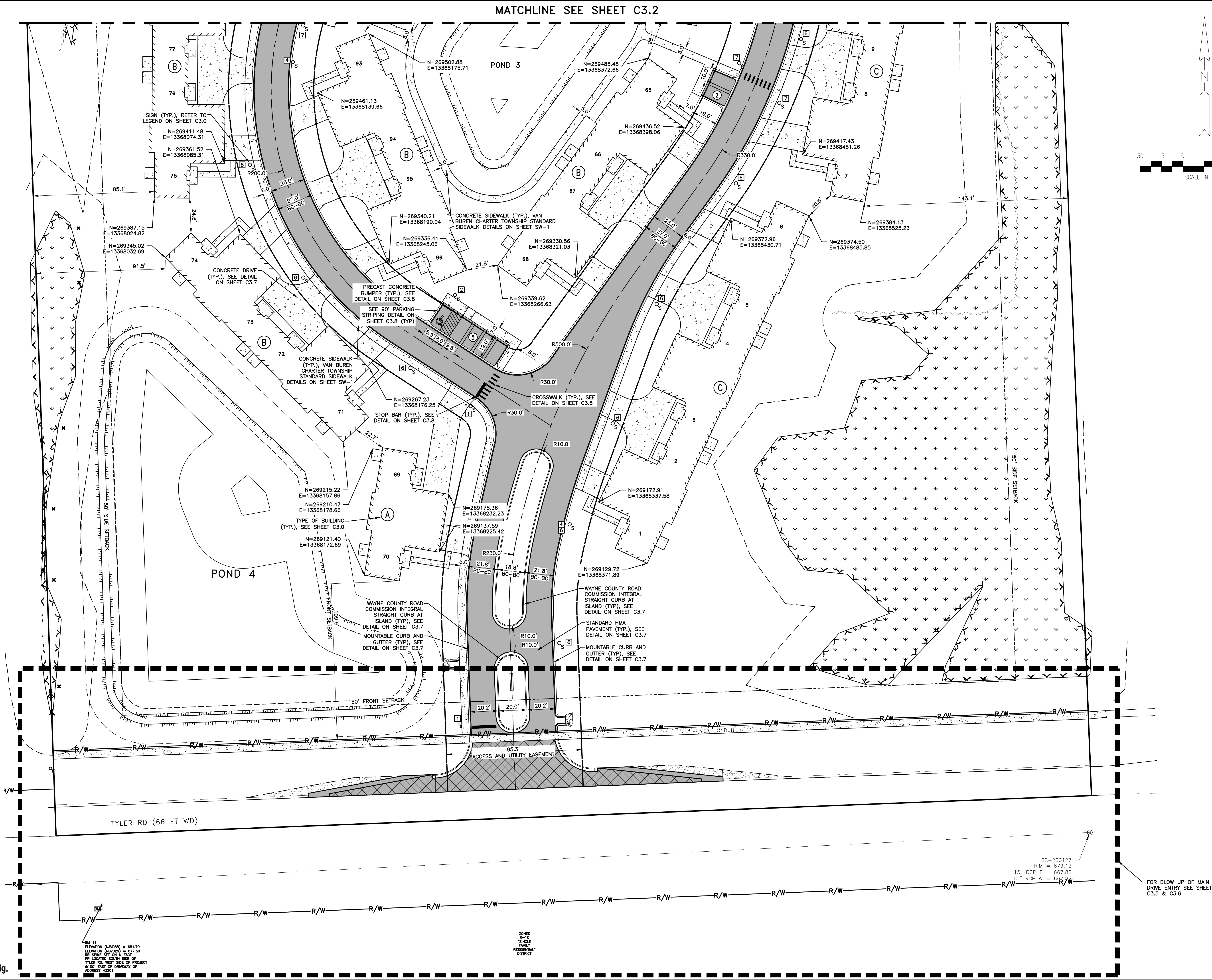
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PROJECT MANAGER: - C:\PW\_WORK\WADE-TRIM\CLARK\01129952\C3.1-PLTS-CSP-SITE PLANDWG - C3.1 - PLOTTED 10/28/2022 4:10 PM BY CLARK, VERONICA



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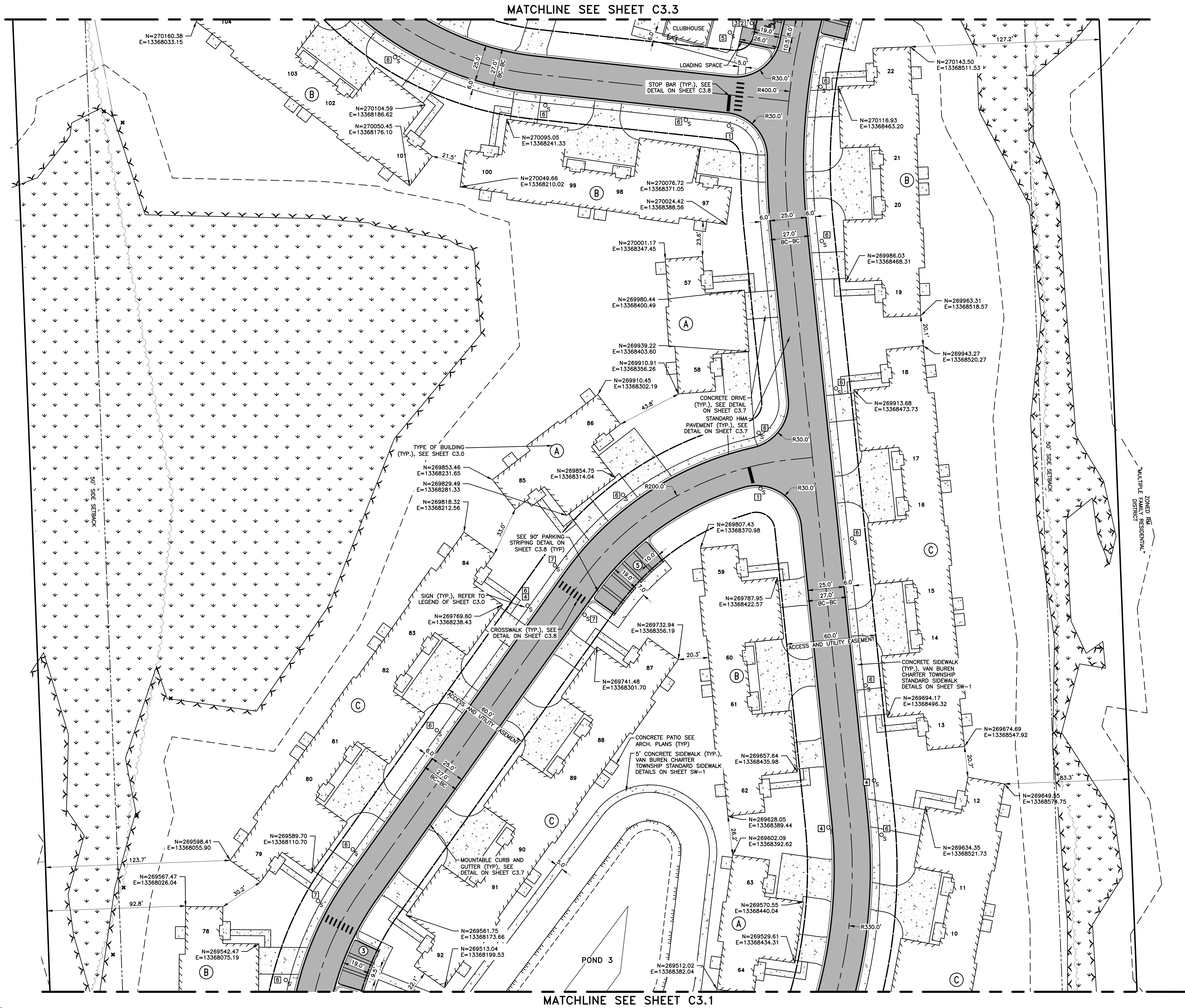
ISSUED FOR: DATE: BY:		JOB NO. GPM2001.01F	
SPA 7/27/22 KPR		SHEET C3.1	
SPA 9/14/22 VBC		FOR VAN BUREN TOWNSHIP MULTIFAMILY RESIDENTIAL	
GPM2001.01F VAN BUREN MULTIFAMILY		GARNER PROPERTY MANAGEMENT 23944 EUREKA ROAD, SUITE 105 TAYLOR, MI 48180 SITE PLAN - I	
WADE TRIM		555 S. Saginaw Street, Suite 201 TAYLOR, MI 48180 810.235.2552 www.wadetrtrim.com	
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REV#		DATE	
BY			



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SITE PLAN - II

ISSUED FOR: SPA DATE: 7/27/22 BY: KPR  
SPA 9/14/22 VBC  
JOB NO. GPM2001.01F  
SHEET C3.2

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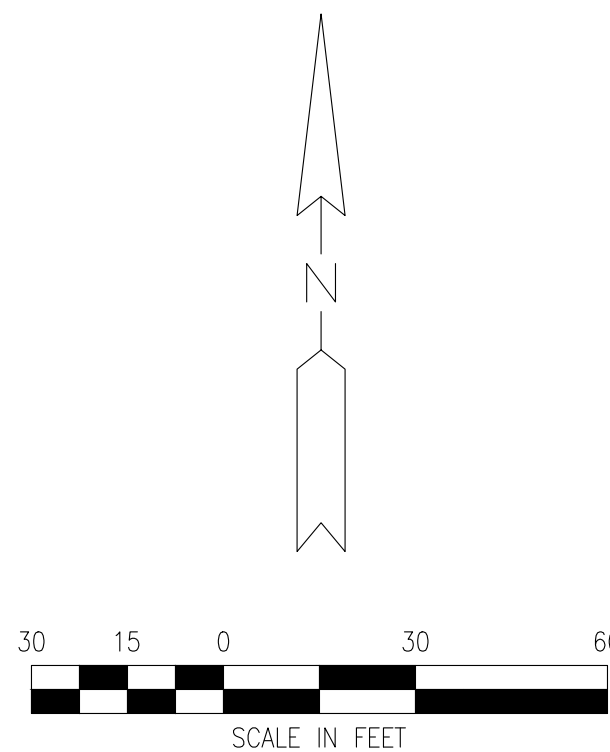
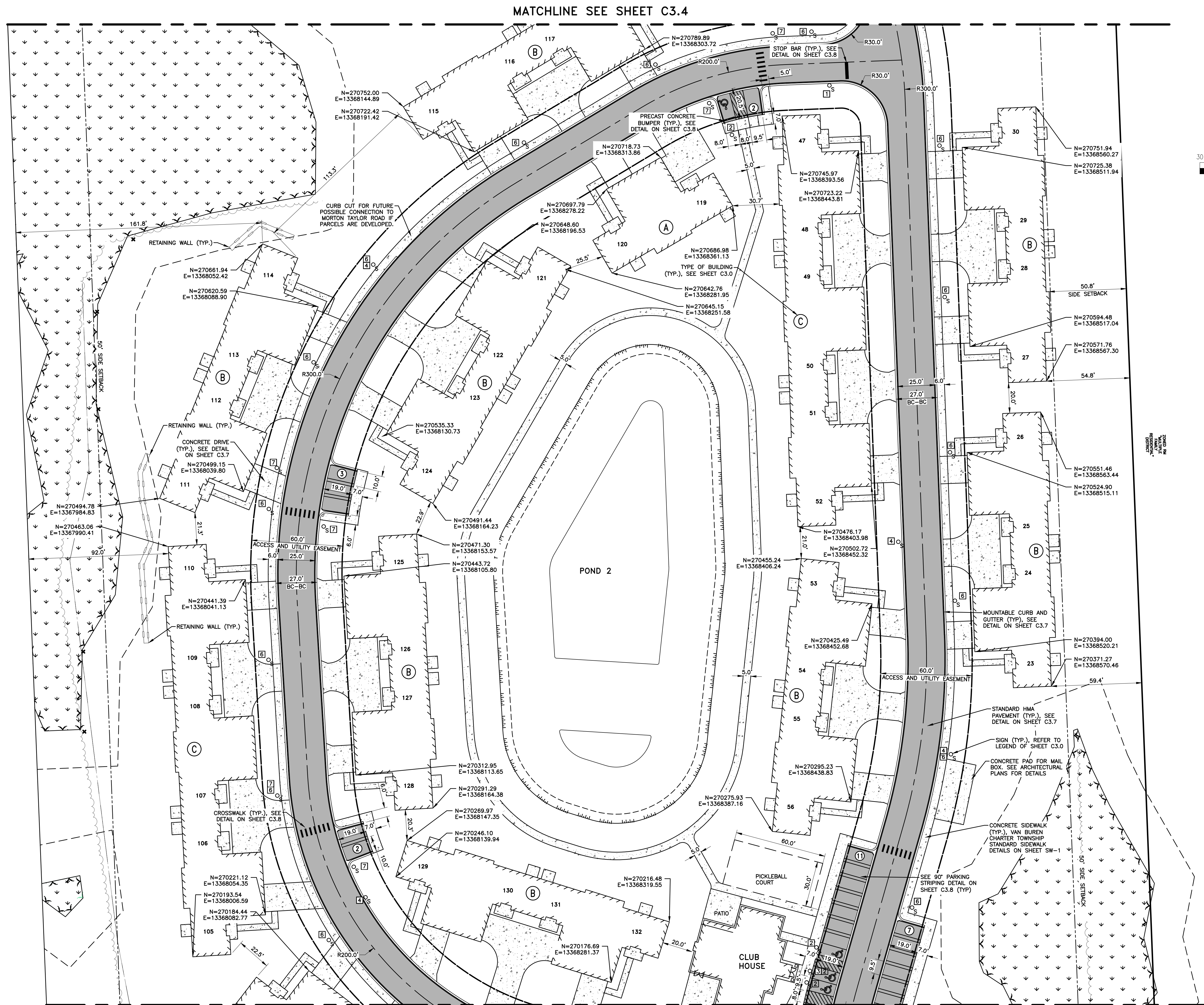
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FOR VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL  
SITE PLAN - III

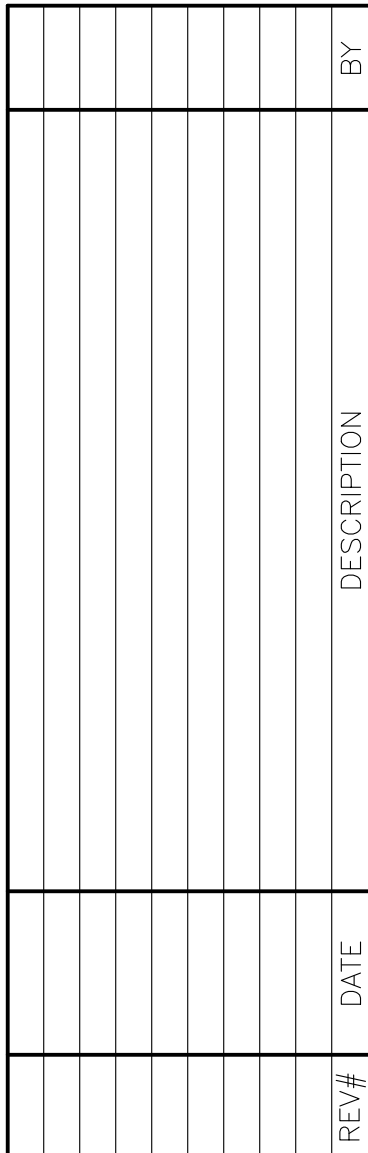
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JOB NO. GPM2001.01F  
SHEET C3.3

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A north arrow pointing upwards and a scale bar in feet. The scale bar is marked from 30 to 0 to 30 to 60 feet.



**WAIDE  
TRIM**

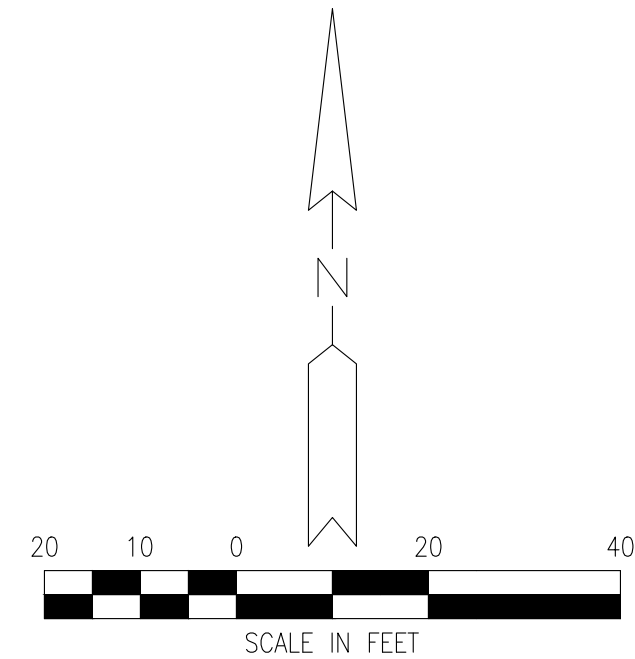
ISSUED FOR:	DATE:	BY:
SPA	7/27/22	KPR
SPA	9/14/22	VBC

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CDM2001.01F

SHEET

C3.4



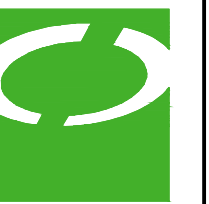


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**WADE  
TRIM**



GARNER PROPERTY MANAGEMENT  
23944 EUREKA ROAD, SUITE 105  
TAYLOR, MI 48180  
DRIVE ENTRY ROW UP - SUITE

FOR  
VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL

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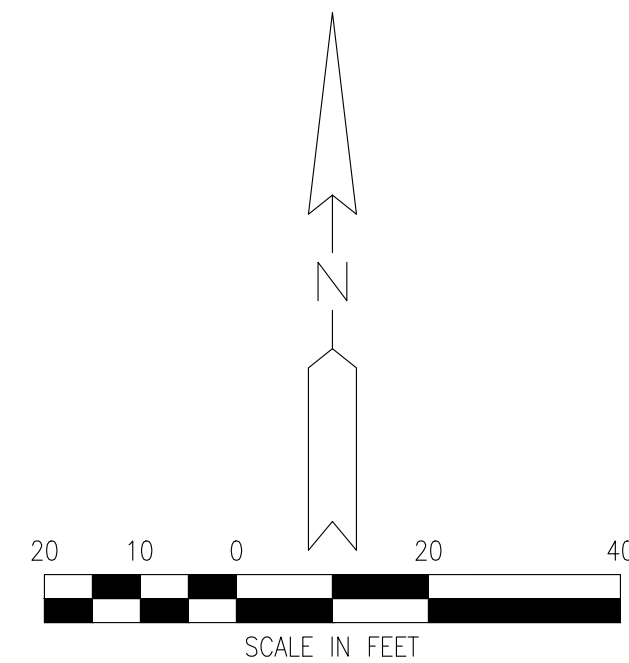
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SHEET

### C3.5

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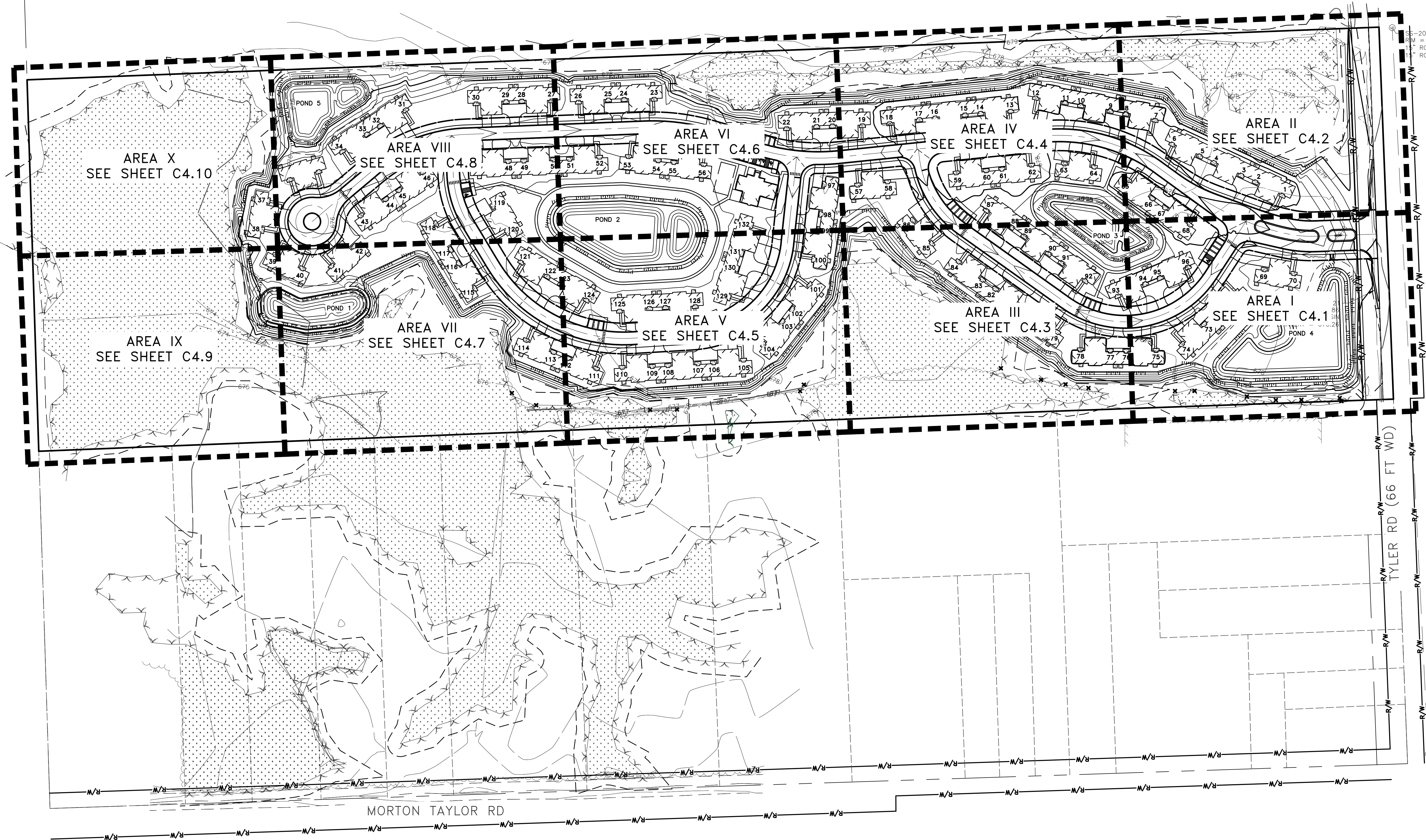
**GARNER PROPERTY MANAGEMENT  
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TAYLOR, MI 48180**  
DRIVE ENTRY BLOW UP - GRADING & UTILITY  
FOR AN BUREN TOWNSHIP MULTI-FAMILY RESIDENTIAL

ISSUED FOR:	DATE:	BY:
PA	7/27/22	KPR
PA	9/14/22	VBC

OB NO.  
GPM2001.01F

C3.6





R/W  
SS-53667/094  
RIM = 679.99

SS-200126  
RIM = 679.99  
15" RCP E =  
15" RCP W =  
24" RCP S =



	<b>GARNER PROPERTY MANAGEMENT</b> <b>23944 EUREKA ROAD, SUITE 105</b> <b>TAYLOR, MI 48180</b> <b>OVERALL GRADING PLAN</b>	<b>FOR</b> <b>VAN BUREN TOWNSHIP MULTI-FAMILY RESIDENTIAL</b>
	ISSUED FOR: SPA DATE: 7/27/22 BY: KRB VBC	
	JOB NO. <b>GPM2001.01F</b>	
	SHEET <b>C4.0</b>	<b>GP2001.01F VAN BUREN MULTI-FAMILY</b> <small>© Waste Firm Group, Inc.</small>

PROJECT MANAGER: - FIELD BOOK INFORMATION:-  
C:\PW\_WORK\WADE-TRIM\CLARK\D1129952\C4.0-PLT-CGP-OVERALL GRADING PLAN.DWG - C4.0 - PLOTTED 10/28/2022 4:11 PM BY CLARK, VERONICA



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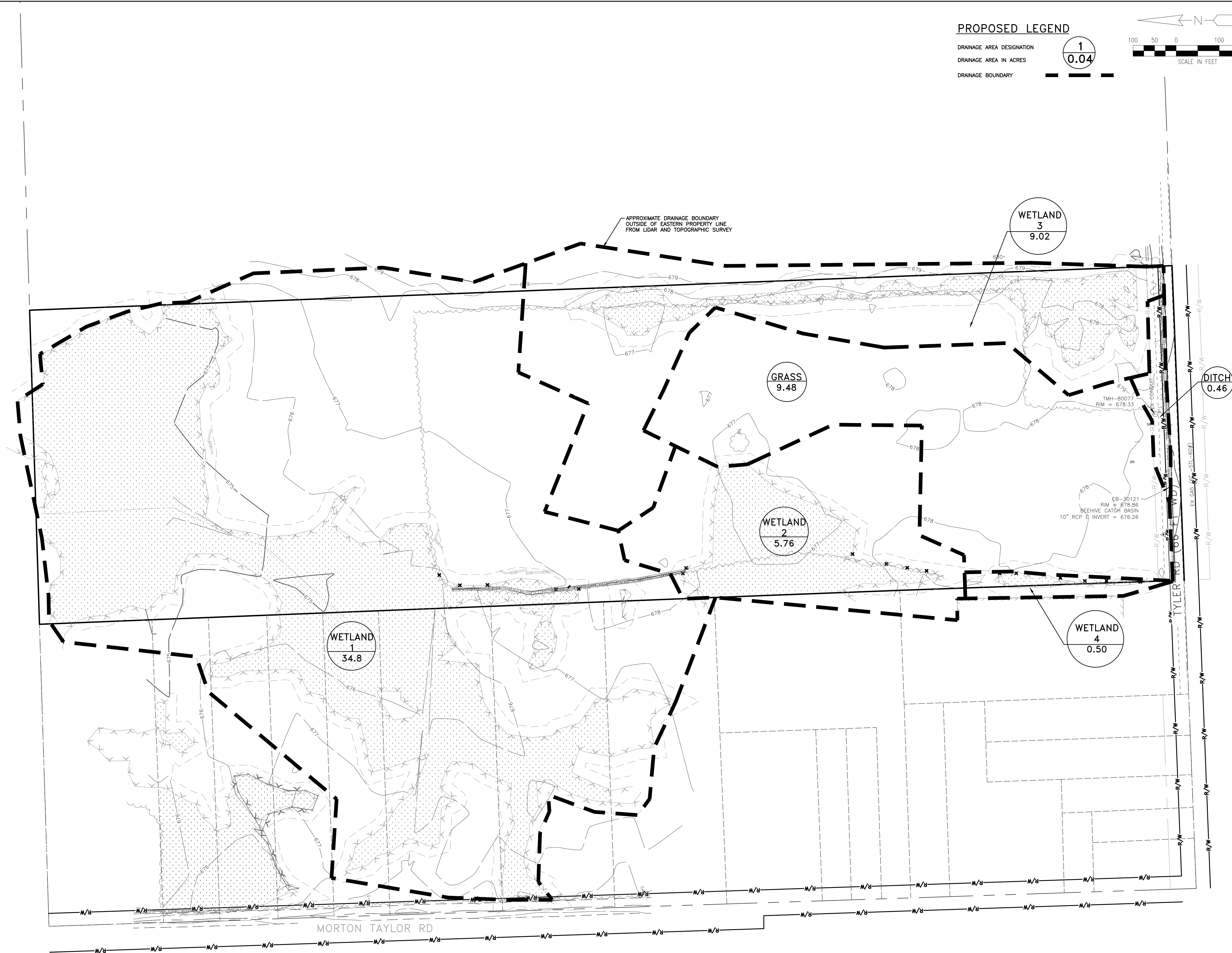
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PROJECT MANAGER: - C:\PW\_WORK\WADE-TRIM\_VCLARK\01129952\C6.0-PLTS-CDD-OVERALL EX. DRAINAGE PLANNING - C6.0 - PLOTTED 10/28/2022 4:13 PM BY CLARK, VERONICA



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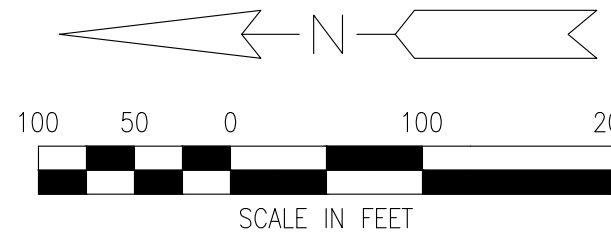
**WADE  
TRIM**

**GARNER PROPERTY MANAGEMENT**  
**23944 EUREKA ROAD, SUITE 105**  
**TAYLOR, MI 48180**  
OVERALL EXISTING DRAINAGE PLAN  
FOR  
VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL  
VAN BUREN MULT-FAMILY

ISSUED FOR: SPA SPA	DATE: 7/27/22 9/14/22	BY: KPR VBC
JOB NO. GPM2001.01F		
SHEET C6.0		



48" RCP



ISSUED FOR:	DATE:	BY:
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SPA	9/14/22	VBC
JOB NO.		
GPM2001.01F		
SHEET		
# # # #		

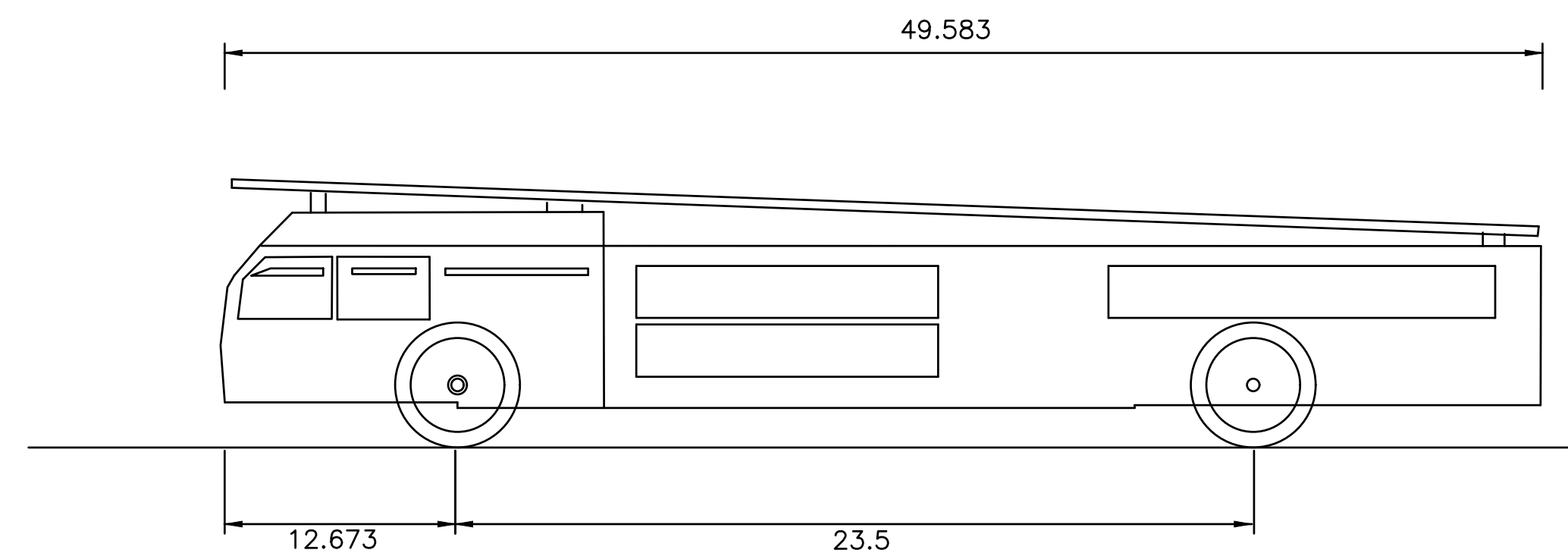
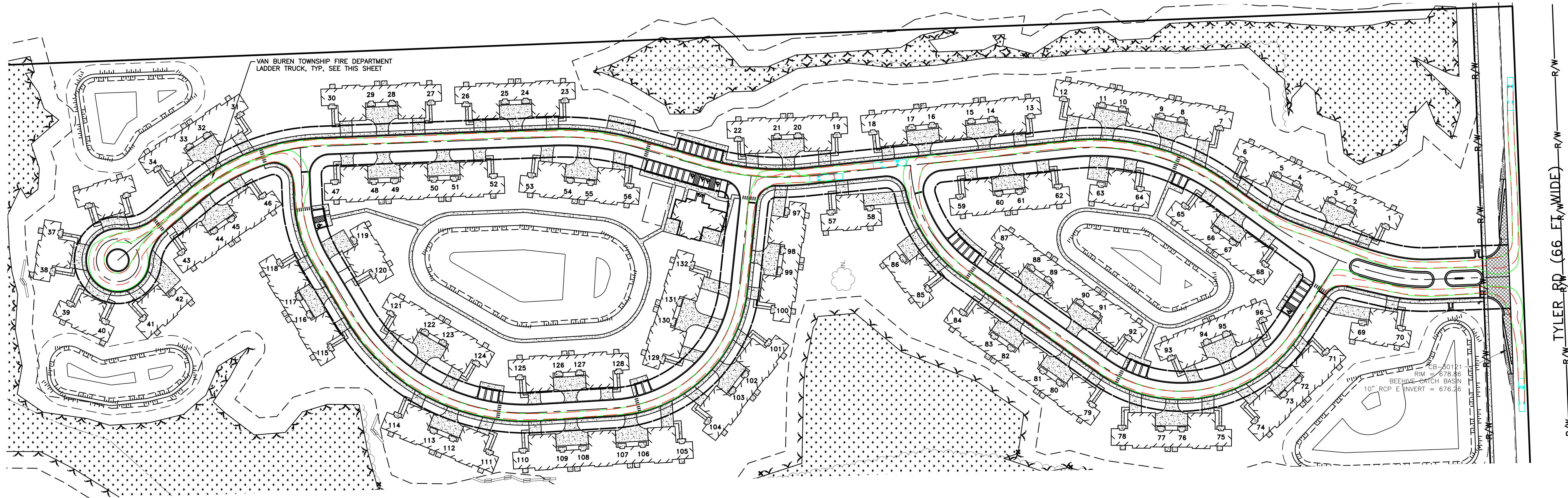
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PROJECT MANAGER: - C:\PW\_WORK\WADE-TRIM\_VCLARK\01129952\PLTS-CSP-TRUCK PLAN WITH VB FIRE TRUCK TURNING - C8.0 - PLOTTED 10/28/2022 4:14 PM BY CLARK, VERONICA



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VAN BUREN TOWNSHIP FIRE DEPARTMENT LADDER TRUCK

Overall Length	49.583ft
Overall Width	8.750ft
Overall Body Height	7.916ft
Min Body Ground Clearance	1.166ft
Track Width	8.420ft
Lock-to-lock time	5.00s
Curb to Curb Turning Radius	37.000ft

GARNER PROPERTY MANAGEMENT  
23944 EUREKA ROAD, SUITE 105  
TAYLOR, MI 48180  
FIRE TRUCK PLAN  
FOR  
VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL

ISSUED FOR: SPA	DATE: 7/27/22	BY: KPR
SPA	9/14/22	VBC
JOB NO.	GPM2001.01F	
SHEET	C8.0	

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PROJECT MANAGER: - G:\FW\_WORK\WADE-TRIM\_VCLARK\01129952\L1.0-PLTS-LLP-OVERALL LANDSCAPE PLANDWG - C3.0 - PLOTTED: 10/28/2022 4:14 PM BY: CLARK, VERONICA



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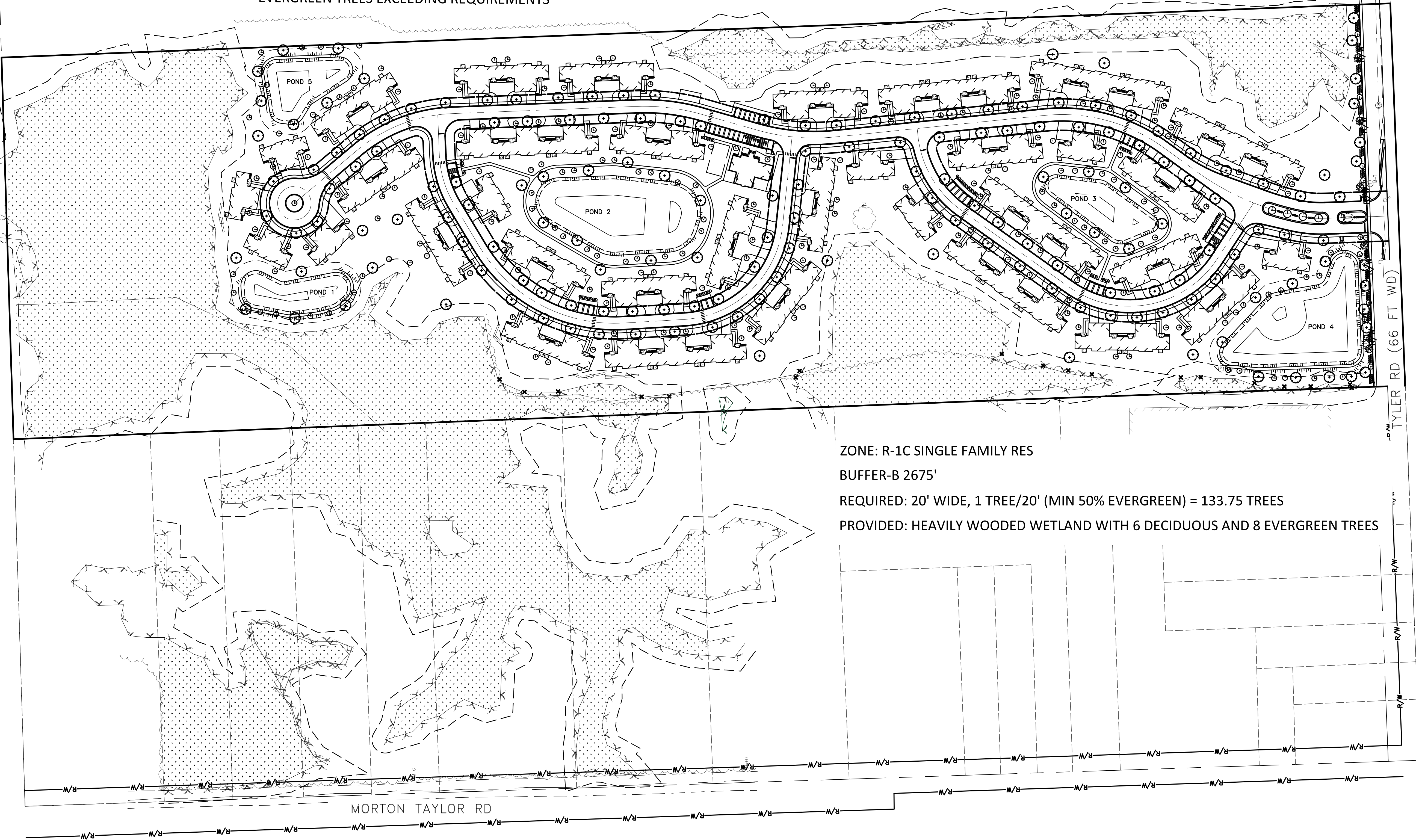
ZONE: R-1C SINGLE FAMILY RES

BUFFER-B: 730'

REQUIRED: 20' WIDE, 1 TREE/20' (MIN 50% EVERGREEN) = 36.5 TREES

PROVIDED: HEAVILY WOODED WETLAND EXCEEDING REQUIREMENTS

48" INV  
INV=670.23



ZONE: R-1C SINGLE FAMILY RES

BUFFER-B 2675'

REQUIRED: 20' WIDE, 1 TREE/20' (MIN 50% EVERGREEN) = 133.75 TREES

PROVIDED: HEAVILY WOODED WETLAND WITH 6 DECIDUOUS AND 8 EVERGREEN TREES

UNITS: 132 TOTAL UNITS

REQUIRED: 2 TREES/UNIT + 4 SHRUBS/UNIT

TOTAL REQUIRED: 264 TREES + 528 SHRUBS

PROVIDED: 2 TREES/UNIT + 4 SHRUBS/UNIT

TOTAL REQUIRED: 264 TREES + 528 SHRUBS

NOTE: ORNAMENTAL TREES LOCATED IN FRONT OF BUILDING WHEN POSSIBLE.

SHRUBS LOCATED IN FRONT OF BUILDING AS FOUNDATION PLANTING.

SEE PLANT LIST SHEET L2.1

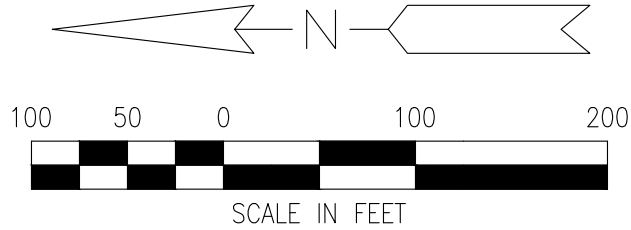
STORMWATER:

SEED + PLUG MIX IN BASINS SURROUNDED

BY DECIDUOUS AND ORNAMENTAL TREES

EASEMENT:

NO EASEMENT



FRONTAGE 730'-50' DRIVE=680'

REQUIRED: 1 DECIDUOUS OR EVERGREEN/40'= 17 TREES, 1 ORNAMENTAL/100'=6.8 TREES, 8 SHRUBS/40'= 136 SHRUBS

PROVIDED: 11 DECIDUOUS TREES, 6 EVERGREEN TREES, 7 ORNAMENTAL TREES, 136 SHRUBS

GARNER PROPERTY MANAGEMENT  
23944 EUREKA ROAD, SUITE 105  
TAYLOR, MI 48180  
OVERALL LANDSCAPE PLAN  
FOR  
VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL

ISSUED FOR: SPA  
DATE: 7/27/22  
BY: KPR  
VBC

JOB NO.  
GPM2001.01F

SHEET  
L1.0



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FIELD BOOK INFORMATION:-



Know what's below.  
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MATCHLINE SEE SHEET L1.3

MATCHLINE SEE SHEET L1.1



EVERGREEN TREE

LAWN

VISITOR PARKING SCREENING

FOUNDATION PLANTING

ORNAMENTAL TREE

DECIDUOUS SHADE TREE

DETENTION POND WITH  
SEED AND PLUG MIX

POND 3

REV#	DATE	DESCRIPTION	BY

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LANDSCAPE PLAN - II  
FOR VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL

ISSUED FOR: SPA  
DATE: 7/27/22  
BY: KPR  
VBC

JOB NO.  
GPM2001.01F

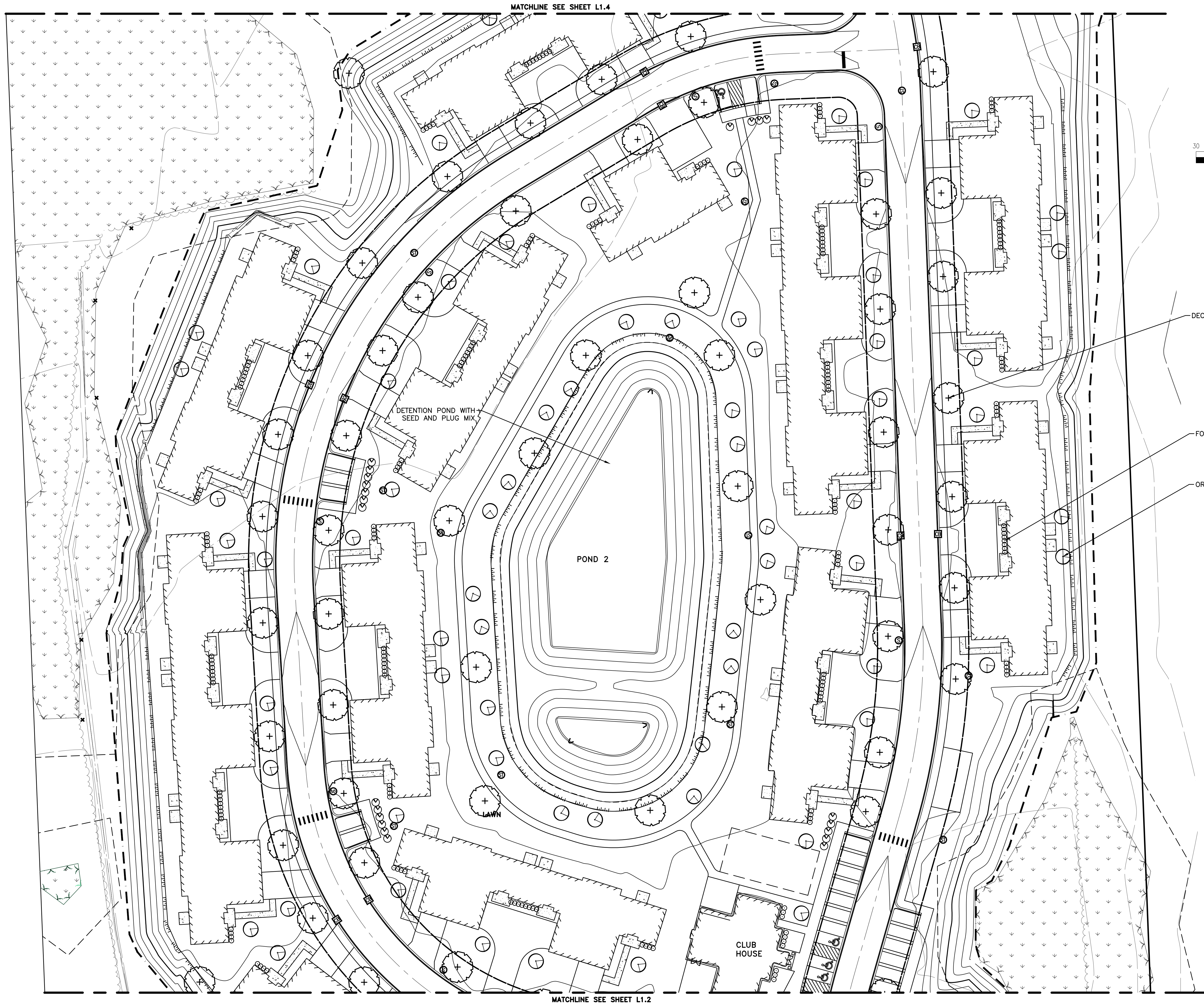
SHEET  
L1.2



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LANDSCAPE PLAN - III  
FOR  
VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL  
VAN BUREN MULT-FAMILY

JOB NO. GPM2001.01F
SHEET L1.3



PROJECT MANAGER: — FIELD BOOK INFORMATION: —  
C:\PW\_WORK\WADE-TRIM\_VCLARK\01129952\L1.1-PLTS-LLP-LANDSCAPE PLANTING - L1.4 - PLOTTED 10/28/2022 4:15 PM BY CLARK, VERONICA



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MATCHLINE SEE SHEET L1.3



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TAYLOR, MI 48180  
LANDSCAPE PLAN - IV  
FOR  
VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL

ISSUED FOR: SPA  
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SHEET

L1.4

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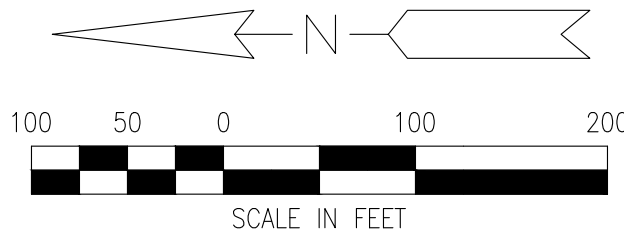
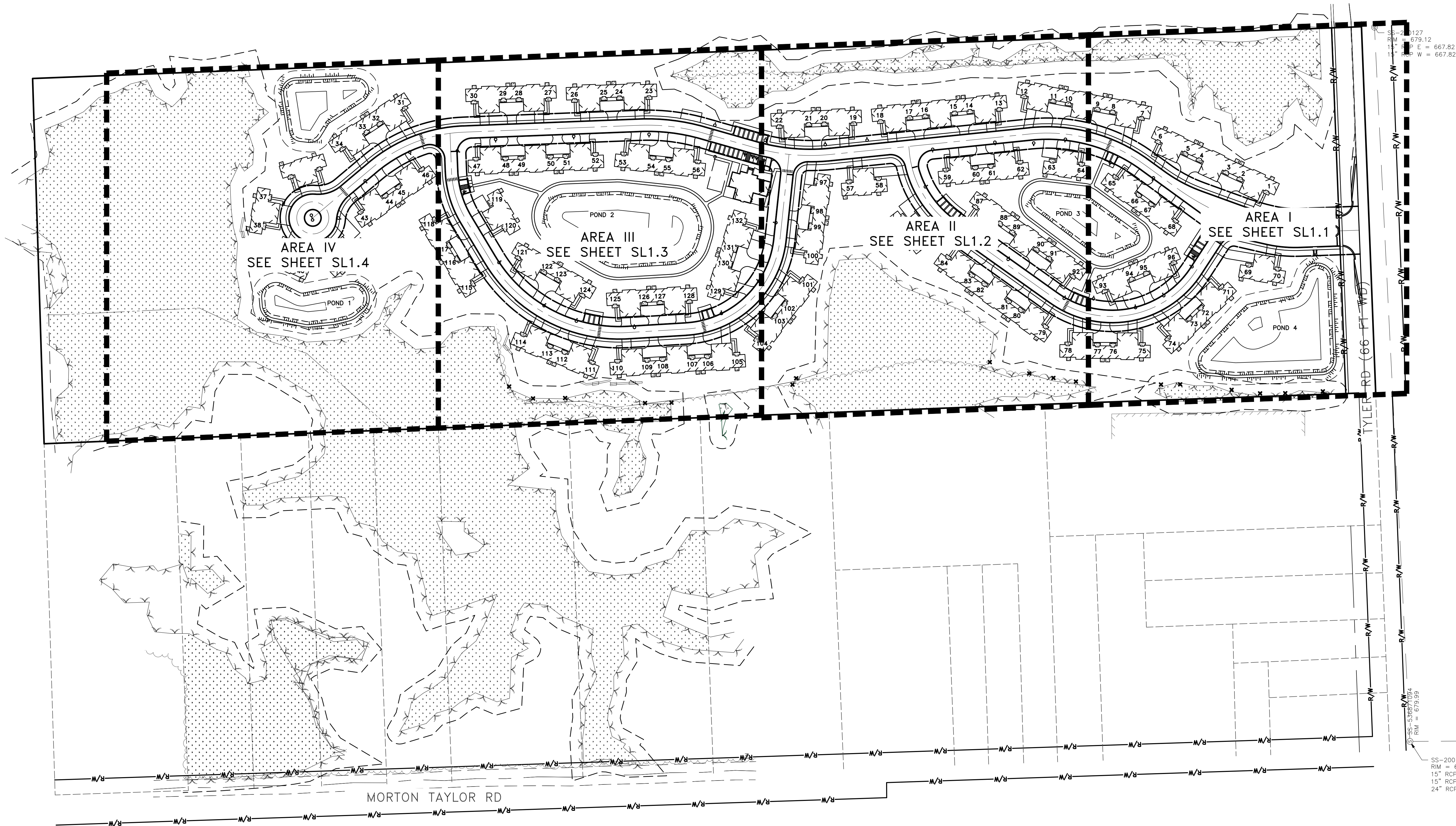
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PROJECT MANAGER: - C:\PW\_WORK\WADE-TRIM\_VCLARK\01129952\PLTS-CUP-OVERALL PHOTOMETRIC PLANDWG - C5.0 - PLOTTED: 10/28/2022 4:15 PM BY: CLARK, VERONICA



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GARNER PROPERTY MANAGEMENT  
23944 EUREKA ROAD, SUITE 105  
TAYLOR, MI 48180  
OVERALL PHOTOMETRIC PLAN  
FOR  
VAN BUREN TOWNSHIP MULT-FAMILY RESIDENTIAL

ISSUED FOR: SPA  
DATE: 7/27/22  
BY: KPR  
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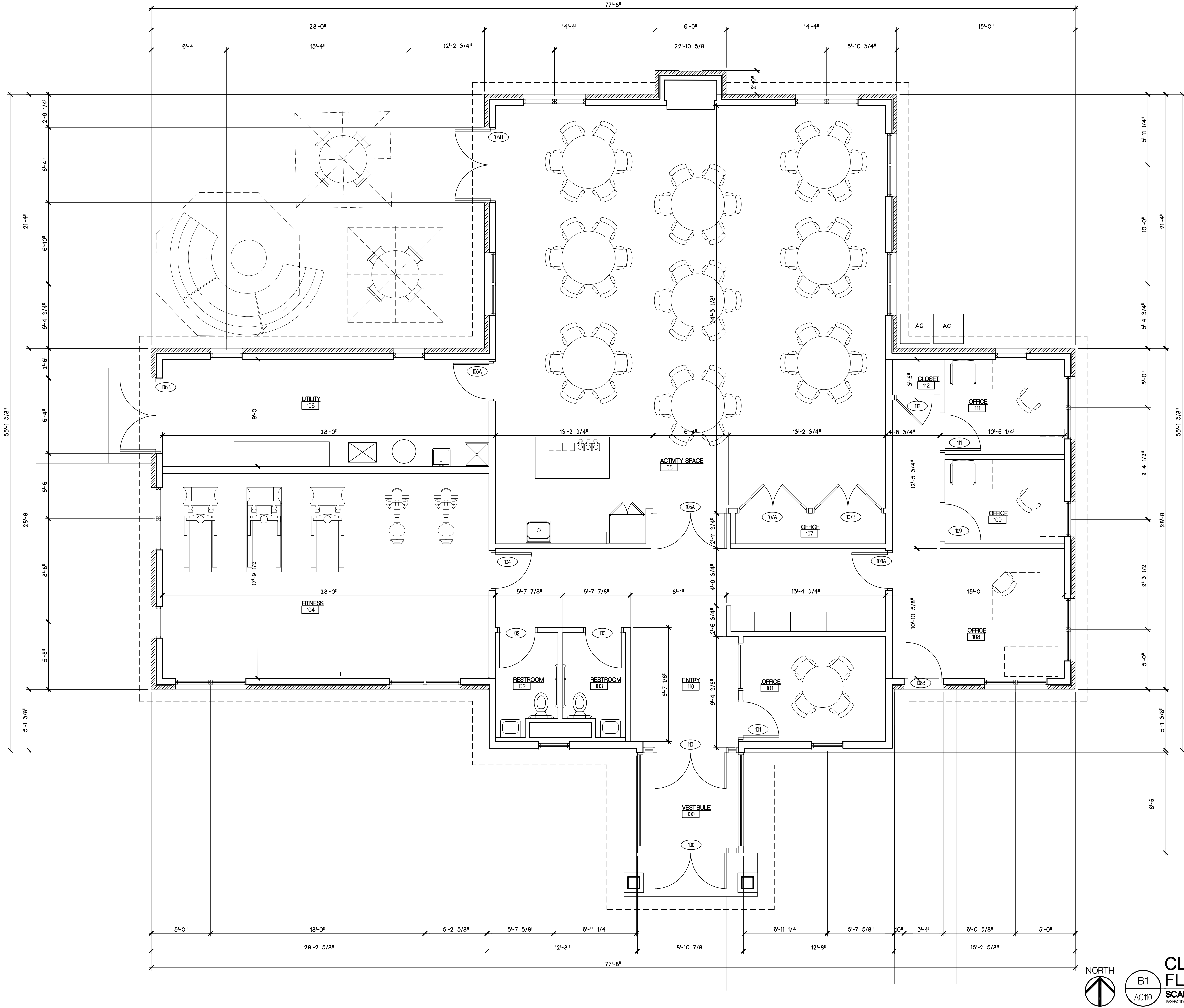
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SHEET  
SL1.0

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Date: Sep 12, 2022, 1:54pm Layout: AC110 Plotted by: jtlasko



B1  
AC110  
SAB\ACT10

CLUBHOUSE  
FLOOR PLAN  
SCALE - 1/4" = 1'-0"

Sheet Size - 24x36  
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REVISED SPA 09/14/2022  
SITE PLAN APPROVAL 07/26/2022  
DATE ISSUED

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Ann Arbor, MI 48104  
P.734.663.4189  
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GARNER PROPERTY MANAGEMENT

**BROOKWOOD  
DEVELOPMENT**

Van Buren Township, MI

PROJECT

CONSULTANT

**CLUBHOUSE  
FLOOR PLAN**

SHEET TITLE

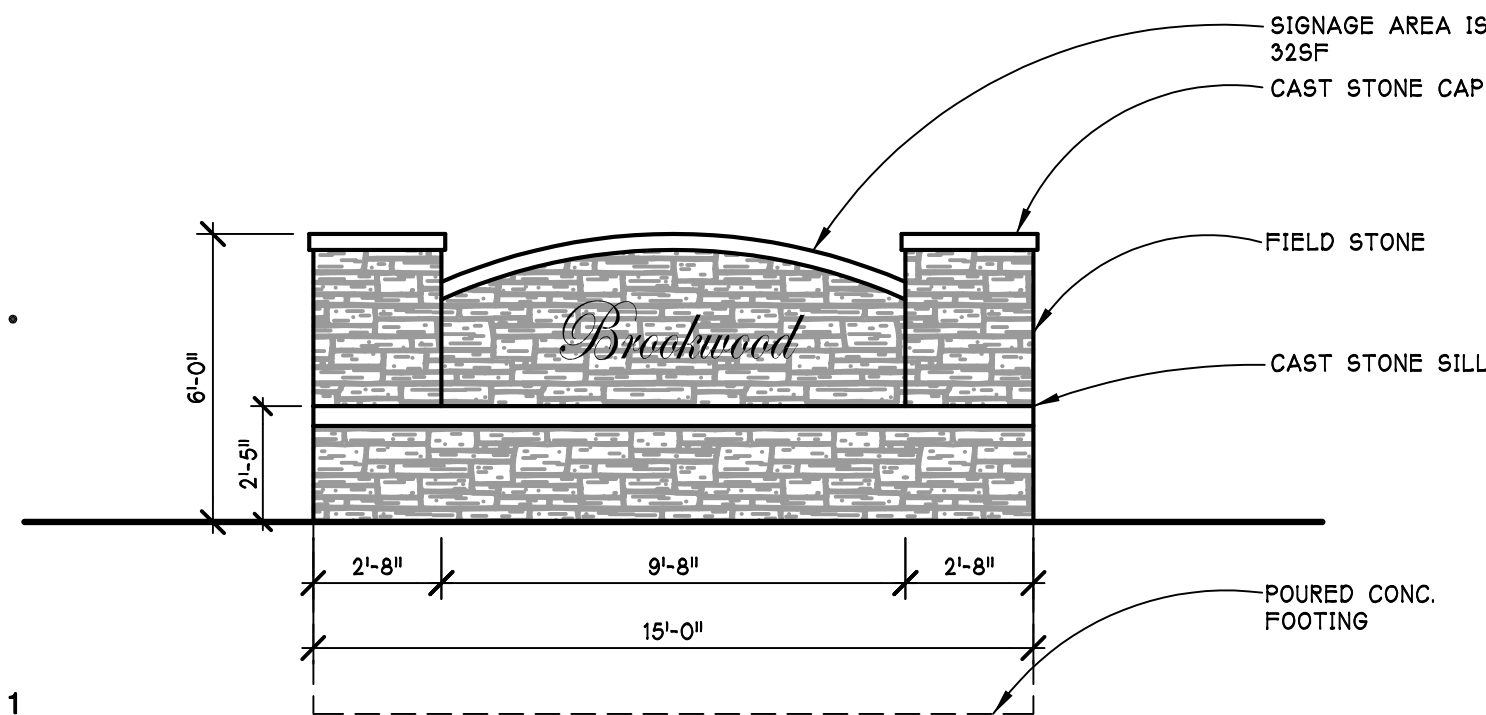
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PROJECT NUMBER

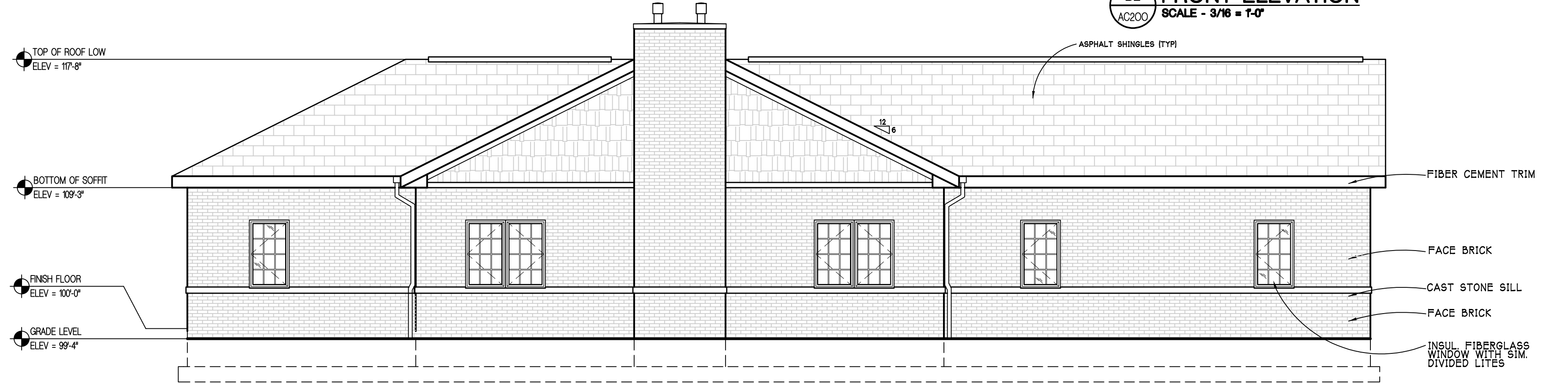
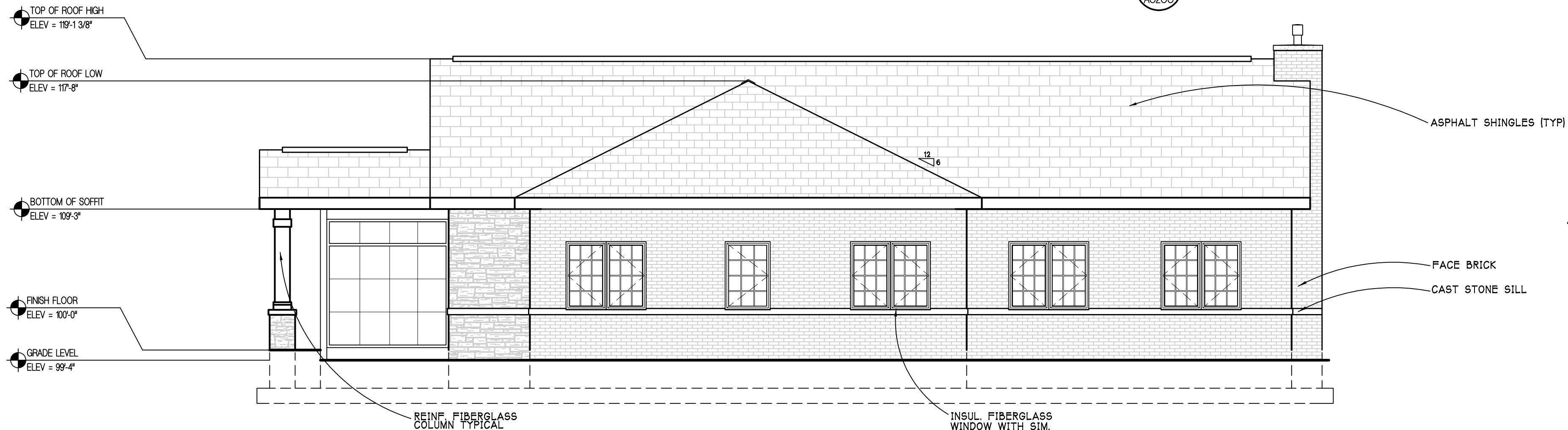
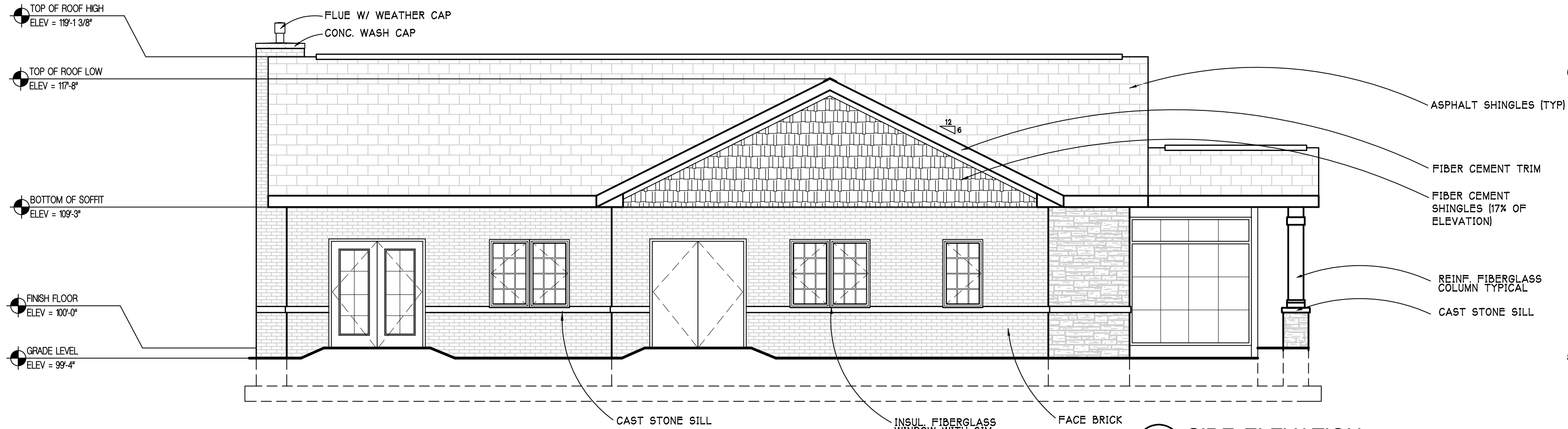
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GARNER PROPERTY MANAGEMENT  
**BROOKWOOD**  
DEVELOPMENT  
Van Buren Township, MI

PROJECT

CONSULTANT

**CLUBHOUSE**  
EXTERIOR  
ELEVATIONS

SHEET TITLE

**21-628**

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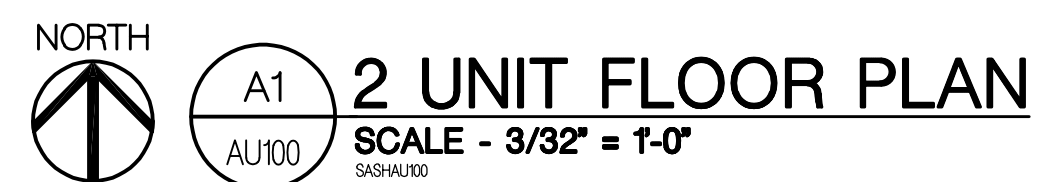
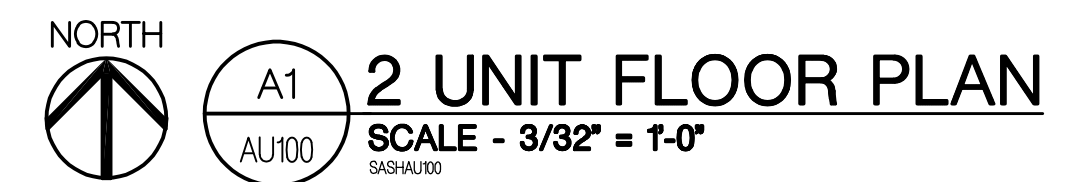
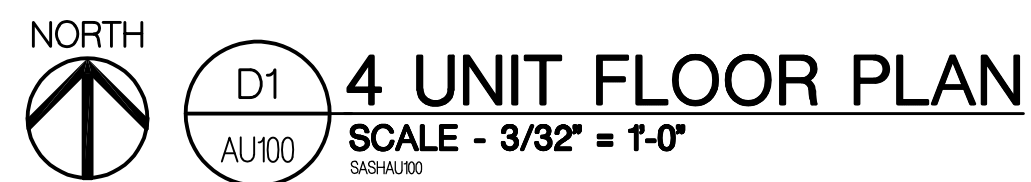
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	SF	%	SF	%	SF	%	SF	%	SF	%
MASONRY	970 SF	58%	670 SF	39%	320 SF	64%	325 SF	72%	2,285 SF	52%
SIDING	295 SF	18%	660 SF	38%	90 SF	18%	90 SF	20%	1,135 SF	26%
DOORS/WINDOWS	415 SF	24%	400 SF	23%	90 SF	18%	35 SF	8%	940 SF	22%
TOTAL	1,680 SF		1,730 SF		500 SF		450 SF		4,360 SF	



**FRONT ELEVATION**  
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SASHAU200



**REAR ELEVATION**  
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SASHAU200



**SIDE A ELEVATION**  
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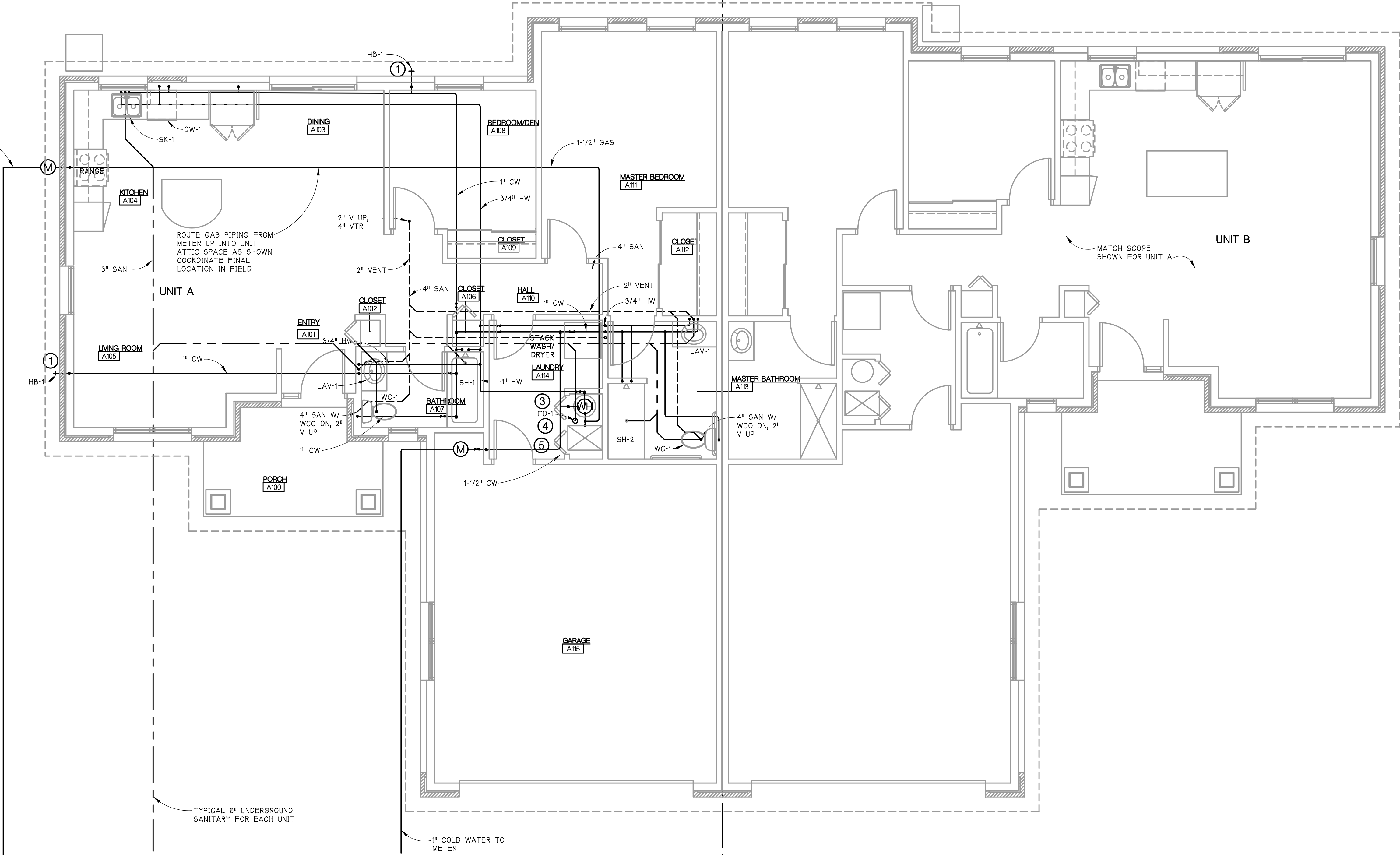


**SIDE B ELEVATION**  
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SASHAU200

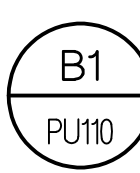


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Plotted by: jlsako

COORDINATE LOCATION  
OF GAS SERVICE IN FIELD  
W/ UTILITY AND SIT  
PLANS. METER TO SERVE  
INDIVIDUAL UNIT



- KEYNOTES:
1. ROUTE 1/2" CW TO HB-1 IN 4" PVC CONDUIT
  2. ROUTE PIPING DOWN FROM ATTIC TO SERVE FURNACE, DRYER AND WATER HEATER. PROVIDE SHUT OFF VALVE
  3. 3/4" CW DN TO WH-1
  4. 1/2" NG TO WH-1
  5. 1/2" NG TO FURNACE
  6. WH-1 FLUE
  7. PROVIDE WASHER BOX FOR WASHER/DRYER CONNECTIONS
  8. COORDINATE INVERT ELEVATIONS W/ UTILITY AND SITE PLANS. INVERTS SHALL BE A MINIMUM OF 42" BELOW GRADE, FOR CONTINUATION SEE CIVIL PLANS



UNIT  
PLUMBING PLAN  
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GARNER PROPERTY MANAGEMENT

**BROOKWOOD  
DEVELOPMENT**

Van Buren Township, MI

PROJECT

CONSULTANT

UNIT  
PLUMBING PLAN

SHEET TITLE

21-628

PROJECT NUMBER

PU110

SHEET NUMBER



# Brookwood Development

## TRAFFIC IMPACT STUDY

DRAFT REPORT  
September 9, 2022



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Appendix B. Signal Timing Permits
Appendix C. Existing Synchro Capacity Reports
Appendix D. Proposed Build Synchro Capacity Reports
Appendix E Validation Logs.
Appendix F Turn Lane Warrant Analyses.

## **DISCLAIMER**

The contents of this report reflect the views of Wade Trim, Inc. who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of Garner Properties & Management Company, the Charter Township of Van Buren, the Wayne County Road Commission, or the Michigan Department of Transportation.



Acronyms	
AAATA	Ann Arbor Area Transportation Authority
AASHTO	American Association of State Highway and Transportation Officials
ADT	Average Daily Traffic
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
MDOT	Michigan Department of Transportation
MMUTCD	Michigan Manual on Uniform Traffic Control Devices (2011 Edition)
NCHRP	National Cooperative Highway Research Program
SCOOT	Split Cycle Offset Optimization Technique
TCAT	Traffic Crash Analysis Tool
TIA	Traffic Improvement Association

## EXECUTIVE SUMMARY

Garner Properties & Management Company is proposing a new age-targeted residential development on the northeast quadrant of the Tyler Road and Morton Taylor Road intersection. The proposed development is expected to consist of a maximum of 132 age-targeted multi-family homes. This study examines the entire development in one phase.

The report analyzes and presents the traffic impacts that the proposed residential development will have on the following intersections in the project study area:

- Tyler Road and Morton Taylor Road
- Tyler Road and Haggerty Road
- Tyler Road and Springwood Boulevard/Lancaster Drive
- Morton Taylor Road and Heatherfield Boulevard

The above-mentioned intersections were analyzed for the morning and afternoon peak hours for the following conditions:

- Existing Year 2021 Conditions
- Projected Year 2022 Build Conditions

The elements to be covered in the traffic study were discussed with Van Buren Township Officials and their traffic engineering consultant prior to the study commencing.

### Existing Year 2021 Conditions

Based on the intersection counts, the overall morning peak hour occurs between 7:15 a.m. and 8:15 a.m., while the afternoon peak hour occurs between 3:45 p.m. and 4:45 p.m. These time periods were selected for analysis of existing and build conditions.

The capacity analyses for existing conditions revealed that all study area intersections and movements operate at an acceptable level of service during the weekday morning and weekday afternoon peak hours.

### Projected Year 2022 Build Conditions

The proposed residential development is expected to consist of 132 age-targeted multi-family units. Access to the residential development is proposed via one full movement access to Tyler Road.

New trips to be generated by the proposed residential development were estimated based on information and procedures contained in the Institute of Transportation Engineer's (ITE) report *Trip Generation, Eleventh Edition, September 2021*. Land Use Code 252 – Senior adult housing-multifamily was used to estimate the trips for the proposed site. The proposed development is

projected to generate a total of 26 weekday morning peak hour trips and 33 weekday afternoon peak hour trips. The estimated number of weekday morning and weekday afternoon peak hour trips was distributed to the surrounding roadway network using existing peak hour 2021 traffic volume distributions. Projected site generated trips were added to the existing traffic volumes to yield the Projected Year 2022 Build Conditions.

The study area intersections were evaluated with the projected build traffic volumes to determine the future intersection operations with the proposed residential development project on the existing road network. The capacity analysis for the projected build conditions indicated that all study area intersections and movements are expected to continue to operate at an acceptable level of service during the weekday morning and weekday afternoon peak hours. Comparing the projected build results to the existing results show that the impact from the additional residential traffic is minimal.

Wayne County Department of Public Services Standards for turn lane warrants were examined to determine if right or left turn lanes would be needed at the project driveway. Based on the warrants, the volumes do not warrant any turn lanes at the site access.

The capacity analysis for the proposed site driveway revealed that all movements at the site access are expected to operate acceptably.

## Summary

This report assessed the traffic impacts that the new Brookwood residential development is expected to have on the adjacent roadways and study area intersections. The traffic impacts described in this report are based on existing traffic volumes and anticipated project traffic generated at full build out of the proposed development. A comparison of existing conditions to the projected build conditions was used to determine the traffic impacts of the proposed development upon the adjacent street system.

The existing conditions analyses revealed that all study area intersections and movements operate at an acceptable level of service during the morning peak hour and during the afternoon peak hour. Crash data was obtained for a five-year period, and it was determined that total crashes and individual crash types all have low frequency at the study area intersections.

The study area intersections were then evaluated with the proposed build traffic volumes to determine the future intersection operations with the proposed residential development project. Traffic volumes for the projected build were derived from developing the trip generation, distribution, and assignment for the proposed residential development and adding these trips to the existing volumes.



The capacity analysis for the projected build conditions revealed that all study area intersections and movements are expected to continue to operate at acceptable levels of service during the weekday morning and weekday afternoon peak hours. The need for right-turn and left-turn lanes was evaluated and found to not be warranted at the site access to the development.

No improvements are needed to accommodate the additional trips from the proposed Brookwood residential development on the local street system.

## 1.0 INTRODUCTION

Garner Properties & Management Company is proposing to construct a new residential development in the northeast quadrant of the Tyler Road and Morton Taylor Road intersection in Van Buren Township, Wayne County, Michigan. The general location of the site is shown in **Figure 1-1 – Project Location Map**, while **Figure 1-2 – Project Area Map** provides context of the surrounding area and transportation networks. This traffic impact study is based on the preliminary schematic design which shows the proposed development consisting of a maximum of 132 residential units.

Access to the development is proposed via one full-movement driveway to Tyler Road. It is our understanding that the driveway will be designed to Van Buren Township standards during the design process. During the site plan review, the driveway will be checked to verify that the turning radii, pavement widths, sight distances, etc. are adequate to accommodate the site traffic, including emergency fire and rescue equipment.

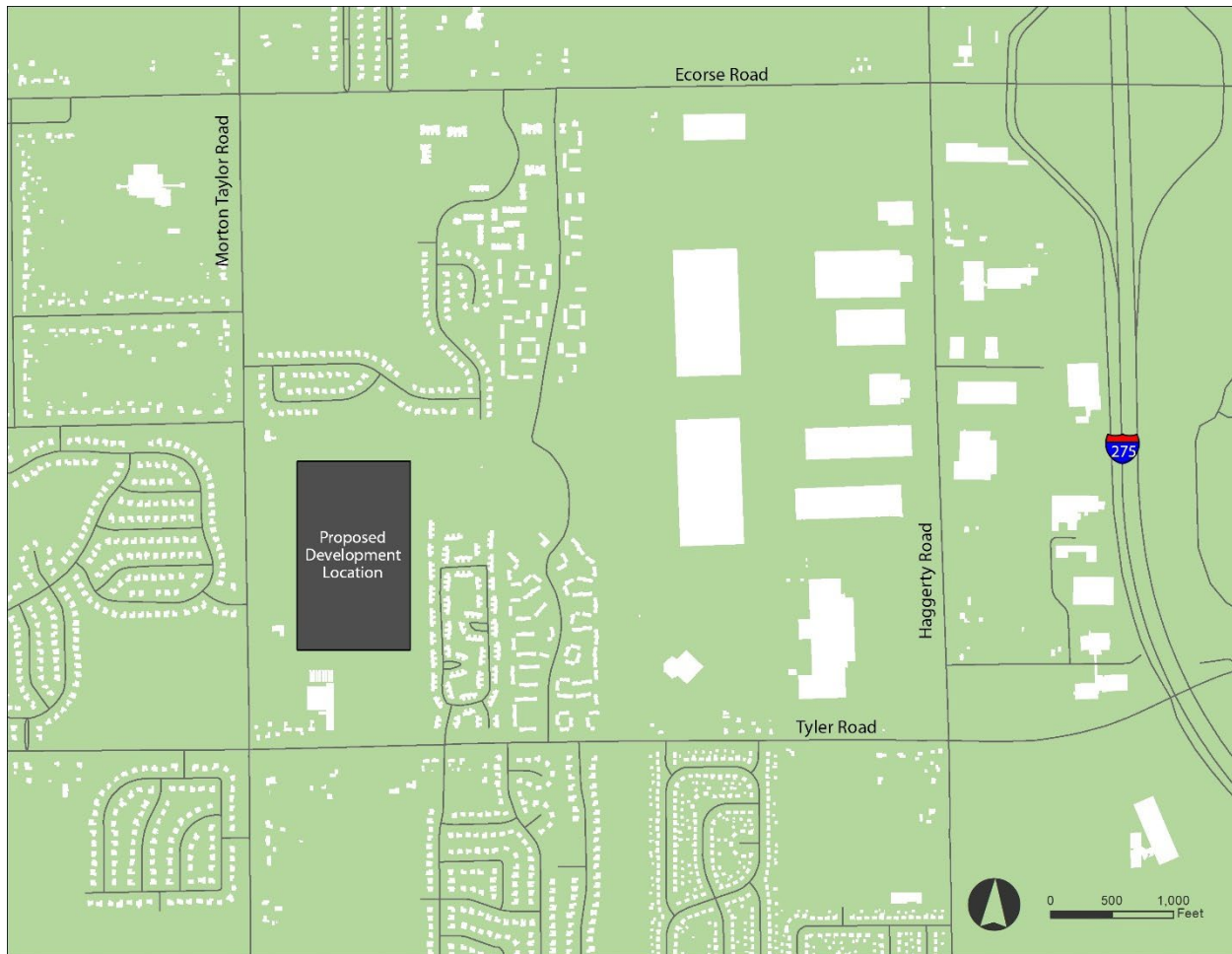
This study examines the entire development as fully constructed and opened in one phase.

Figure 1-1 – Project Location Map.





Figure 1-2 – Project Area Map



## 1.1 OBJECTIVE AND SCOPE

The objective of this study was to determine the traffic impacts that the proposed development is expected to impose on the adjacent street network. The traffic impacts and mitigation measures described in this report are based on existing 2021 traffic volumes and operations; and anticipated future traffic generated at full buildout of the site. The scope of the study included the following items.

- Description of the study area and existing 2021 traffic operations of the street system.
- An evaluation of the morning and afternoon peak hour traffic conditions with and without the residential development, including a level of service evaluation of the study intersections.
- Evaluation of mitigation measures should traffic impacts due to the proposed development require street or intersection improvements.

- A crash analysis to identify any existing safety-related problems and list any corrective treatments for locations with safety problems.

The analysis examined the following conditions:

- Existing Conditions: Year 2021 traffic volumes and operations.
- Proposed Year 2022 Build Conditions: Future build traffic conditions that are anticipated upon full development of the property.

A comparison of existing 2021 conditions to proposed 2022 build conditions was used to determine the traffic impacts of the proposed residential development on the adjacent street system.

## 2.0 METHODOLOGY

The study involved the collection and review of geometric, traffic control, and traffic volume data for roadways and intersections potentially impacted by the proposed development. These data served as input for the highway capacity analyses that were conducted to estimate the traffic impacts of the proposed development. The information collected and the evaluation procedures used to conduct the analyses are described in this section.

### 2.1 TRAFFIC IMPACT STUDY AREA

Based on a review of the road network adjacent to the proposed site and conversations with the Charter Township of Van Buren, Planning and Economic Development Department of Public Services, and the Township traffic engineering Consultant, the impact area for this study was identified. It was established that the study area would include the following intersections:

- Tyler Road and Morton Taylor Road
- Tyler Road and Haggerty Road
- Tyler Road and Springwood Boulevard/Lancaster Drive
- Morton Taylor Road and Heatherfield Boulevard

The site configuration will be examined for the projected Year 2022 build conditions with one access point. The site access point will include a proposed site driveway on Tyler Road.

### 2.2 DATA COLLECTION

Data collection included collection of directional vehicle turning movements and approach truck counts for the morning and afternoon peak periods. Directional turning movement counts were conducted at the intersections of Tyler Road and Morton Taylor Road, Tyler Road and Haggerty Road, Tyler Road and Springwood Boulevard/Lancaster Drive, and Morton Taylor Road and Heatherfield Boulevard.

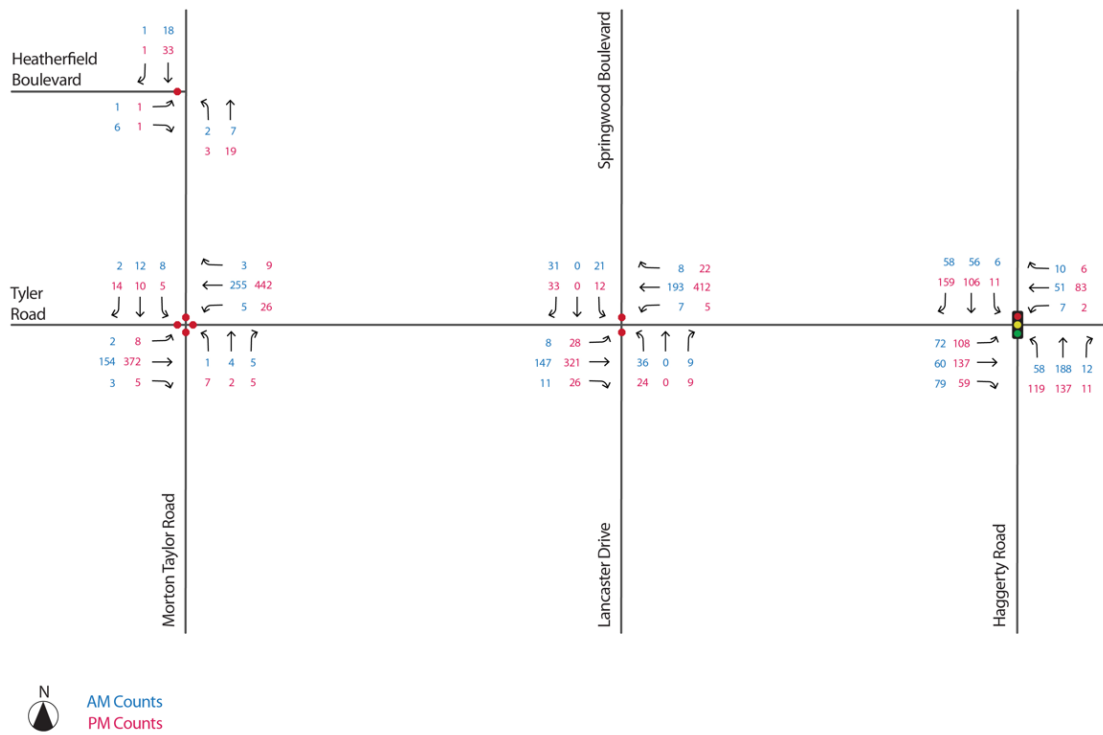
The directional turning movement counts were conducted by Quality Counts for the hours of 7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m. on Tuesday, October 26, 2021. The morning peak hour occurred between 7:15 a.m. and 8:15 a.m., while the afternoon peak hour occurred between 3:45 p.m. and 4:45 p.m. Passenger vehicles, heavy vehicles, pedestrians, and bicycles were counted, and all possible vehicle turning movements at these intersection approaches were recorded in 15-minute intervals. All existing turning movement data that were collected are summarized in Appendix A.



Due to the COVID-19 pandemic, traffic volumes were reduced on all roads in Michigan. To account for the effects of the pandemic, vehicle traffic volumes were compared to pre-COVID19 (historical data) including counts in the MDOT Transportation Data Management System and a previous traffic impact study completed in February 2020. As shown in Table 2-1, the counts on Tyler Road were generally higher in 2021 than in previous counts. So, the 2021 data on Tyler Road were considered to be no longer affected by the pandemic. However, the counts on Morton Taylor Road were about half of the previous volumes. To account for the effects of the Pandemic, the traffic volumes on Morton Taylor Road were doubled. Traffic volumes on the other roads in this area are very low. Previous counts were not available on Haggerty Road. Therefore, the analysis using Haggerty Road does not include an adjustment of the volumes on that roadway. No adjustments to volumes on the other roadways were considered necessary. The adjusted volumes utilized for Existing Conditions analyses are depicted in **Figure 2-1**.

Table 2-1 Comparison of traffic volumes before Covid-19 and 2021 volumes.				
Intersection	COVID-19 Period AM	PM	Year 2021 Period AM	PM
Tyler Road at Morton Taylor Road	EB/WB 2019		EB/WB 2021	
	472	795	422	862
West of Morton Taylor Road, on Tyler Road	EB/WB 2018		EB/WB 2021	
	355	751	417	848
Morton Taylor Road at Tyler Road	NB/SB 2019		NB/SB 2021	
	69	66	24	37

Figure 2-1 – Adjusted Peak Hour Traffic Volumes-2021.



The traffic signal timing permit needed for the network analysis was obtained from the Wayne County, Department of Public Services for the intersection of Tyler Road and Haggerty Road. The signal timing permit is included in Appendix B.

## 2.3 OPERATIONAL ANALYSIS PROCEDURES

The traffic impact analysis includes methodology for trip generation, distribution, and traffic assignment based on the Institute of Transportation Engineers (ITE) standard practices. Applicable technical standards such as the *2000*, *2010*, and *6<sup>th</sup> Edition Highway Capacity Manual*, Wayne County Standards, and the *2011 Michigan Manual on Uniform Traffic Control Devices (MMUTCD)* were also used.

### 2.3.1 Highway Capacity Analysis

Highway capacity analyses were conducted to determine the existing (2021) level of service of the study area intersections, and the level of service expected (2022 Build) when trips generated by the proposed development are added to the existing traffic volumes. *Synchro 11* was used to conduct the analyses.

*Synchro 11* is a software package used for modeling and optimizing traffic signal timing at intersections. The program utilizes the methods of the *2000 Highway Capacity Manual (HCM)*, *2010 Highway Capacity Manual*, and *6<sup>th</sup> Edition Highway Capacity Manual* to calculate capacity. HCM 6<sup>th</sup> Edition was utilized for this analysis. The capacity worksheets for existing year 2021 conditions are provided in Appendix C. The worksheets for the projected 2022 build conditions are provided in Appendix D.

Capacity analyses were conducted to measure the performance of the intersections in terms of level of service. Level of service (LOS) ranges from LOS A, which represents the best traffic conditions, to LOS F, which is the worst condition. Operations at LOS A through D are generally considered acceptable for unsignalized intersections. Quantitative measures of level of service are given in the following paragraphs.

The level of service measurement for stop-controlled intersections is average control delay, which is also quantified in terms of seconds of delay per vehicle. Control delay includes the initial deceleration delay, queue move-up time, stopped delay, and acceleration delay. The level of service criteria for signalized intersections, taken from the *HCM 6<sup>th</sup> Edition*, is shown in **Table 2-1** and for unsignalized intersections the level of service is shown in **Table 2-2**.



**Table 2-2. Level of Service Criteria for Signalized Intersections.**

Level of Service	Description	Average Control Delay, Seconds per vehicle
A	Little or no delay.	<10.0
B	Short traffic delays.	Between 10 and 20
C	Average traffic delays.	Between 20 and 35
D	Long traffic delays.	Between 35 and 55
E	Very long traffic delays.	Between 55 and 80
F	Demand exceeds capacity.	>80

Source: Transportation Research Board, *Highway Capacity Manual 2000*.

**Table 2-3. Level of Service Criteria for Unsignalized Intersections.**

Level of Service	Description	Average Control Delay, Seconds per vehicle
A	Little or no delay.	<10.0
B	Short traffic delays.	Between 10 and 15
C	Average traffic delays.	Between 15 and 25
D	Long traffic delays.	Between 25 and 35
E	Very long traffic delays.	Between 35 and 50
F	Demand exceeds capacity.	>50

Source: Transportation Research Board, *Highway Capacity Manual 2000*.

One important factor used in calculating capacity at intersections is the peak hour factor. The peak hour factor is found by dividing the total hourly volume observed on a road or intersection by 4 times the highest 15-minute volume. Because manual traffic counts based on 15-minute data were collected for the study area intersections, the peak hour factors used in the existing condition analyses are based on actual counts. The peak hour factors are applied by intersection approach. The peak hour factors were kept the same for the proposed build analyses.

### 3.0 ANALYSIS

The traffic impact study included a review of the study area, an estimation of the amount of peak-period traffic generated by the proposed development, distribution of the site traffic onto the local streets, assignment of traffic volumes to the study area intersections, and capacity analyses to determine the impact of the proposed development on the level of service and operations. Traffic projections were made to estimate future traffic volumes on the area roads when the proposed residential development is completed.

#### 3.1 EXISTING YEAR 2021 CONDITIONS

The existing transportation network in the vicinity of the project site is comprised of the road system and pedestrian facilities. A summary of the existing network is described below.

##### 3.1.1 Road System

**Tyler Road** in the vicinity of the proposed development is a three-lane minor arterial roadway running east-west in Van Buren Township. Tyler Road has one travel lane in each direction and a shared two-way center left-turn lane. Sidewalks are present on both sides of the roadway, but sidewalks are not contiguous. The surrounding land use is primarily single-family residential and farmland/open space. Based on the MDOT counts taken in June 2021, the Average Daily Traffic (ADT) is estimated at approximately 9,280 vehicles per day. The speed limit is posted at 45 miles per hour.

**Morton Taylor Road** in the vicinity of the proposed development is a two-lane local roadway running north-south in Van Buren Township with one travel lane in each direction. North of Tyler Road, Morton Taylor Road is an unpaved road without striping. South of Tyler Road, Morton Taylor Road is a paved two-lane road with one travel lane in each direction. Sidewalks are present on the west side of the roadway, but sidewalks are not contiguous. The surrounding land use is primarily single family residential and farmland/open space. ADT counts were not available on this roadway. The speed limit is unposted at 55 miles per hour.

**Haggerty Road** in the vicinity of the proposed development is a curbed four-lane minor arterial roadway running north-south in Van Buren Township. Haggerty Road has two travel lanes in each direction. Sidewalks are present on both sides of the roadway, but sidewalks are not contiguous. The surrounding land use is primarily large-lot development setback from the roadway. Single family residential and farmland/open space are also present in the vicinity. Based on the MDOT counts taken north of Ecorse Road and estimated in 2020, the ADT is approximately 9,227 vehicles per day. The speed limit is posted at 45 miles per hour.

##### 3.1.2 Intersection Geometry and Traffic Control

Tyler Road and Morton Taylor Road is an unsignalized intersection with four approaches. Traffic on the east and west bound approaches on Tyler Road as well as the northbound and southbound Morton Taylor Road approaches is controlled by STOP signs. At its intersection with Tyler Road, both

approaches of Morton Taylor Road consist of a single lane which share left, through, and right-turn movements. At its intersection with Morton Taylor Road, both approaches of Tyler Road consist of one left-turn lane and one shared through and right-turn lane.

Tyler Road and Haggerty Road is a signalized intersection with four approaches. At its intersection with Tyler Road, both approaches of Haggerty Road consist of one shared through and left-turn lane and one shared through and right-turn lane. There are no pavement arrows or signing that confirms these turning movements to the driver. At its intersection with Haggerty Road, both approaches of Tyler Road consist of one left-turn lane and one shared through and right-turn lane. Pedestrian signals are not present for crossing any of the intersection approaches.

### 3.1.3 Pedestrian Facilities

There are non-contiguous sidewalks present on both sides of Tyler Road in the study area. On the north side of Tyler Road sidewalk is present from Springwood Boulevard to approximately 250 west of the Tyler Elementary School driveway. Sidewalks are also present on the north side of Tyler Road between Ecorse Street and Haggerty Road. On the south side of Tyler Road sidewalk is present from Andover Drive to Van Buren Street. No marked midblock crosswalks are present within the limits of the study area on Tyler Road. Sidewalks are present on the west side of Morton Taylor Road, north of Heatherfield Boulevard, and south of Tyler Road.

### 3.1.4 Operational Analysis

The analysis of existing operations was initiated with the preparation of existing condition models using Synchro 11 and the aerial and field obtained geometric data. Highway capacity analyses were conducted for existing geometric conditions and traffic control. The capacity analysis included an examination of the weekday morning and weekday afternoon peak hours. The results of the capacity analyses for existing year 2021 conditions are summarized in **Table 3-1**, which provides the LOS, delay values, and volume to capacity ratios at each intersection for each movement and approach that currently exist throughout the study area

The capacity analyses for existing conditions revealed that all study area intersections and movements operate at an acceptable level of service during the weekday morning and weekday afternoon peak hours for Existing conditions. All approaches and intersection totals operate at an acceptable LOS D or better.



**Table 3-1. Existing Year 2021 Synchro Analyses Results.**

Intersection	Measure	AM Peak Hour					PM Peak Hour				
		EB	WB	NB	SB	Total	EB	WB	NB	SB	Total
Tyler Road and Morton Taylor Road (All Way Stop)	LOS	A	B	A	A	B	C	C	A	A	C
	Delay (sec)	9.6	10.7	8.2	8.6	10.1	15.2	22.0	9.7	9.6	18.7
Tyler Road and Haggerty Road (Signal)	LOS	C	C	A	A	B	C	C	A	A	B
	Delay (sec)	29.0	25.7	6.2	5.7	15.0	33.2	26.0	6.9	6.1	18.2
Tyler Road and Springwood Boulevard/Lancaster Drive (Stop)	LOS	A	A	B	B	A	A	A	D	C	A
	Delay (sec)	0.4	0.3	13.8	11.9	2.8	0.7	0.1	25.4	17	2.2
Morton Taylor Road and Heatherfield Boulevard (Stop)	LOS	A	-	A	A	A	A	-	A	A	A
	Delay (sec)	8.5	-	1.7	0.0	1.7	8.8	-	1.0	0.0	0.7

### 3.1.5 SimTraffic Model Calibration and Validation

After completing the Synchro analysis for existing conditions, the SimTraffic models were calibrated and validated to ensure that they reflected actual field operations. This is an essential step in Synchro modeling and was conducted prior to the analysis and simulation of any future conditions.

The SimTraffic results for existing conditions were calibrated and validated for weekday morning and weekday afternoon peak hour conditions. The process involved comparing the actual traffic volumes collected at each intersection with the SimTraffic Volume Exited report. The models were considered validated when the field counts, and model results were within the greater of  $\pm 10$  percent or  $\pm 20$  vehicles.

In order to meet the calibration targets, adjustments can be made to a number of simulation parameters including headway factors, actual link speeds, vehicle and driver options, mandatory lane change distances, and lost time values. When there are differences, changing one or more of these parameters often will bring the model values within the acceptable range of the vehicle counts.

Ten simulations of each peak period were performed and the average of the volumes for each turning movement was reported in a SimTraffic Performance Report. During both peak periods for each turning movement, the differences between the actual field counts and the average values from 10 simulation runs were within the acceptable range. The SimTraffic Performance Reports for the peak periods are provided in Appendix E.

## 3.2 PROPOSED YEAR 2022 BUILD CONDITIONS

The traffic impact analysis for the proposed year 2022 conditions with traffic from the proposed residential development began with the development of turning movement volumes for the weekday morning and weekday afternoon peak hours. These future traffic volumes were derived from developing the trip generation, distribution, and assignment for the proposed residential development and adding them to the existing traffic volumes. After conversations with the Township, no growth factor was used on the existing counts. Typically, MDOT uses a 0.05 growth factor per year for roadways in this area, therefore, not using a growth factor for a one-year period does not have a significant effect on traffic volumes. The proposed residential development will be located on the north side of Tyler Road east of Morton Taylor Road. The proposed development is expected to have a maximum of 132 age-targeted multifamily units. The traffic impact study for this proposed development examines full build of the development.

### 3.2.1 Site Access

Access to the development is proposed via one full-movement driveway on Tyler Road. The location of the driveway was previously shown in **Figure 1-1 – Project Location Map**.

### 3.2.2 Trip Generation

New trips to be generated by the proposed residential development were estimated based on information and procedures contained in the Institute of Transportation Engineer's (ITE) report *Trip Generation, Eleventh Edition (Web Application Version 6.0 - December 2021)*. **Table 3-2** provides the morning and afternoon peak hour trip generation summary for vehicles.

The residential development is planned to have 132 units. Senior adult housing – multifamily was used to generate trips for this purpose (Land Use 252).

The proposed residential development is expected to generate a total of 26 new trips during the morning peak hour and 33 new trips during the afternoon peak hour. The estimated number of weekday morning and weekday afternoon peak hour trips were assigned to the surrounding roadway based on existing travel patterns. **Table 3-2** provides the morning and afternoon peak hour trip generation summary.

**Table 3-2. Trip Generation – Motor Vehicles.**

Land Use	Size	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out
Senior Adult Housing (Multifamily)	132 UNITS	26	9	17	33	18	15

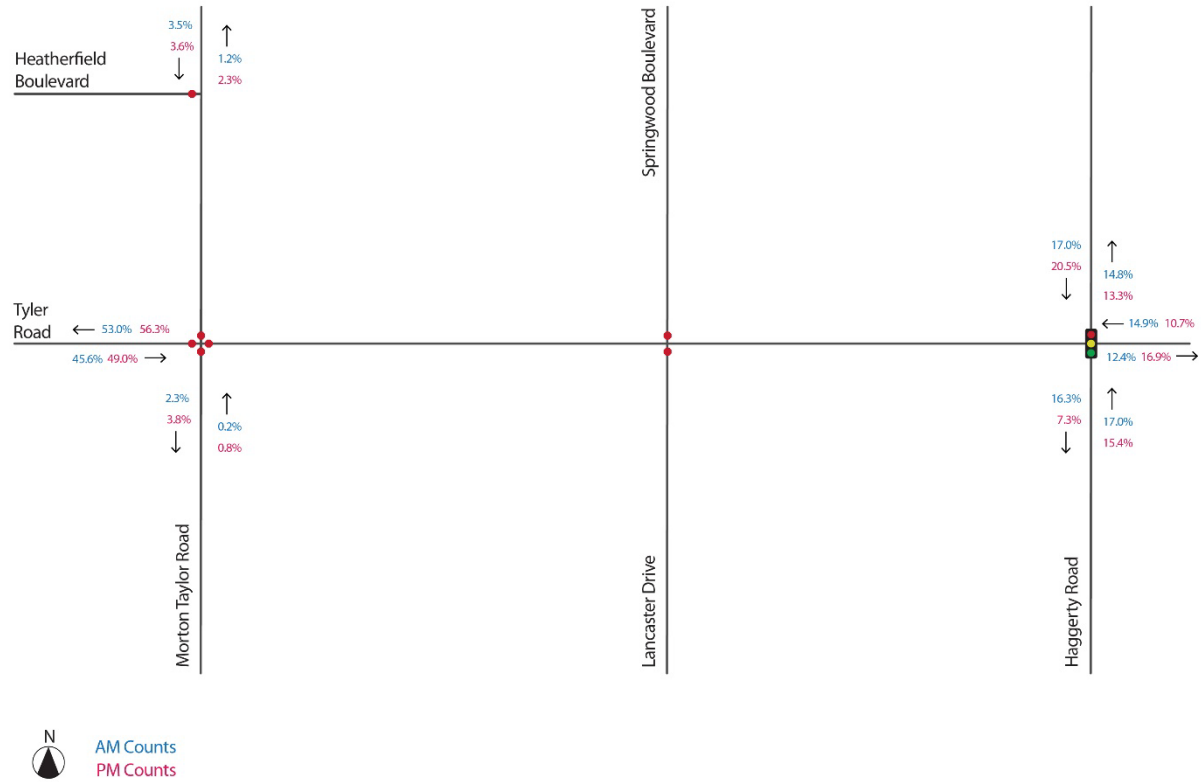
Source: Institute of Transportation Engineers, Trip Generation, 11<sup>th</sup> Edition

### 3.2.3 Directional Distribution and Trip Assignment

Trip distribution for the site was determined based on existing peak hour traffic volumes on the study area roadways, existing traffic control, site access, and the proposed site layout. When assigning traffic by direction, it is also important to consider what route a vehicle might take given the existing traffic conditions in the area. **Figure 3-1** shows the directional distribution of the existing peak hour traffic.



Figure 3-1 – Directional Distribution of Existing Peak Hour Traffic.



### 3.2.4 Proposed Year 2022 Build Traffic Volumes

The estimated number of weekday morning and afternoon peak hour trips was distributed to the surrounding roadway network using the above distributions. **Figure 3-2** shows the corresponding site generated traffic volumes distributed on the study area network at full build out of the development.

Projected site generated trips were added to the existing traffic volumes to yield the proposed Year 2022 build conditions. **Figure 3-3** illustrates the weekday morning and weekday afternoon peak hour traffic volumes for the proposed build conditions.

### 3.2.5 Access Configuration

The site access from Tyler Road is proposed to consist of one inbound and one outbound lane. Wayne County turn-lane warrants were examined to determine if left- or right-turn lanes would be needed at the proposed site access along Tyler Road. Based on the warrants, it was found that neither left- nor right-turn lanes were warranted at the proposed driveway based on proposed build traffic volumes. The turning lane warrant analyses are included in Appendix F.

Figure 3-2 – Projected Build Peak Hour Site Generated Trips.

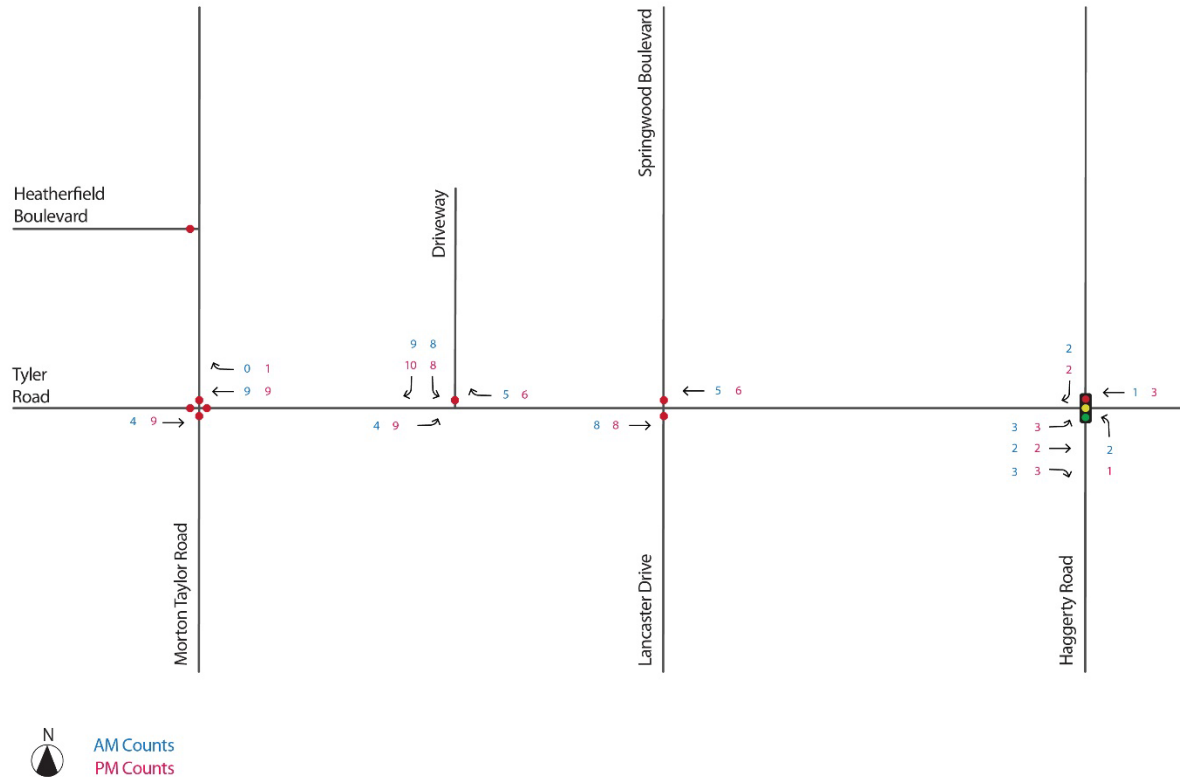
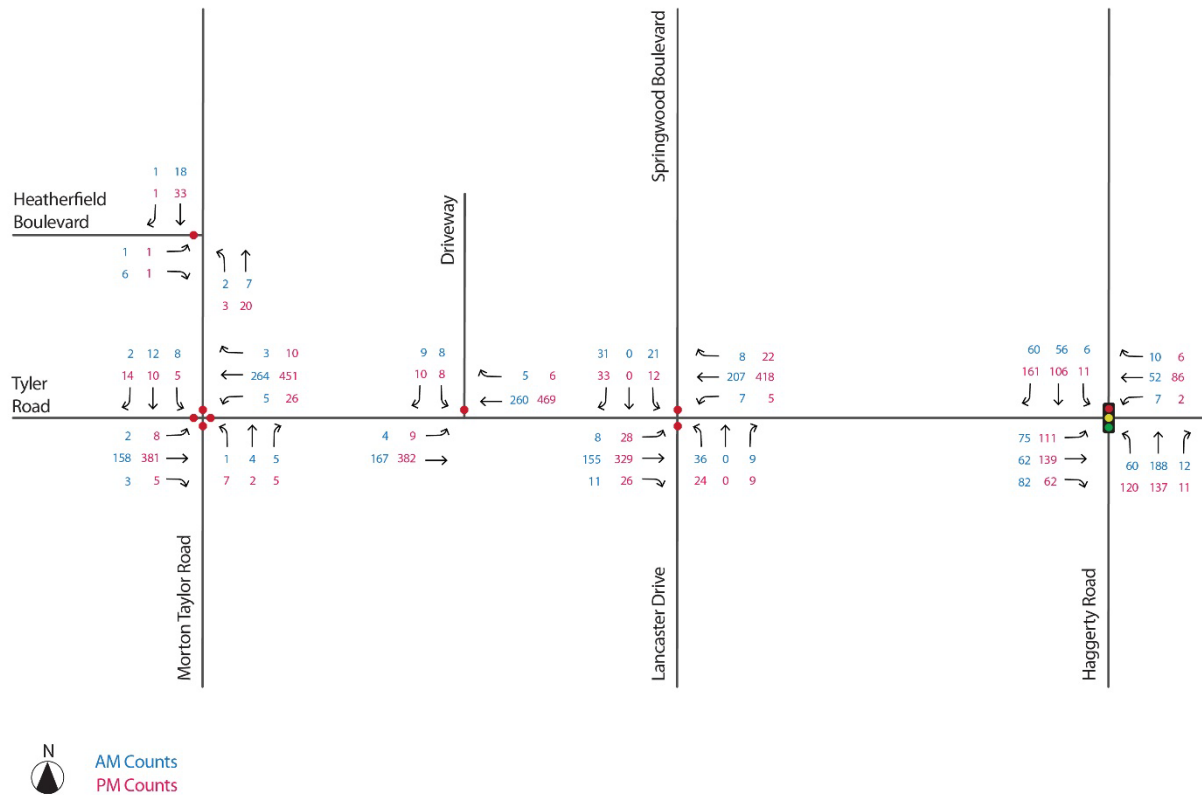




Figure 3-3 – Projected Build Peak Hour Traffic Volumes.



### 3.2.6 Proposed Year 2022 Build Operational Analysis

Each of the existing study area intersections were evaluated with the projected build traffic volumes to determine the future intersection operations with the proposed residential development project. The existing signal timing was used, and no adjustments were made to the timing in this analysis. Highway capacity analyses were conducted for the existing year 2021 geometric conditions and traffic control, and projected traffic volumes for the future year 2022 conditions, and the results are summarized in **Table 3-3**.

The capacity analysis for the projected year 2022 build conditions indicated that all study area intersections and movements are expected to continue to operate at an acceptable level of service during the weekday morning and weekday afternoon peak hours. The capacity analysis for the intersections and approach movements are expected to experience negligible increase in delays of 1.0 seconds or less and are expected to continue operating at the same level of service as the existing scenario.

The capacity of the proposed site driveway was analyzed and is expected to operate at a LOS A or B or better for all movements during the morning and afternoon peak hours.

**Table 3-3. Proposed Year 2022 Build Synchro Analyses Results.**

Intersection	Measure	AM Peak Hour					PM Peak Hour				
		EB	WB	NB	SB	Total	EB	WB	NB	SB	Total
Tyler Road and Morton Taylor Road (All Way Stop)	LOS	A	B	A	A	B	C	C	A	A	C
	Delay (sec)	9.6	10.9	8.3	8.7	10.2	15.7	23.4	9.8	9.6	19.7
Tyler Road and Haggerty Road (Signal)	LOS	C	C	A	A	B	C	C	A	A	B
	Delay (sec)	29.2	25.7	6.2	5.7	15.2	33.6	26.1	6.9	6.1	18.5
Tyler Road and Springwood Boulevard/Lancaster Drive (Stop)	LOS	A	A	B	B	A	A	A	D	C	A
	Delay (sec)	0.4	0.2	14.3	12.2	2.7	0.6	0.1	26.0	17.3	2.2
Morton Taylor Road and Heatherfield Boulevard (Stop)	LOS	A	-	A	A	A	A	-	A	A	A
	Delay (sec)	8.5	-	1.7	0.0	1.7	8.8	-	1.0	0.0	0.7

Driveway and Tyler Road (Stop)	LOS	A	A	-	B	A	A	A	-	B	A
	Delay (sec)	0.2	0.0	-	10.8	0.4	0.2	0.0	-	13.6	0.3

In general, the capacity analysis indicates that the intersections in the study area are currently operating with acceptable levels of service. The year 2022 build capacity analysis for generated traffic accessing the site during the morning and afternoon peak hours is estimated to have minimal delays at the proposed site driveway.



### 3.3 CRASH ANALYSIS

To examine the crash history of the four study intersections, police crash data were obtained from Traffic Improvement Association's (TIA) Traffic Crash Analysis Tool (TCAT) website files for the five-year period of January 1, 2016, through December 31, 2020. The most recent five years of traffic crash data within a 250-foot radius of each intersection was reviewed to determine if any crash patterns were present. Further details of each crash are provided in the following intersection analysis.

### 3.4.1 Morton Taylor Road and Heatherfield Boulevard

The results of the analysis at the intersection of Morton Taylor Road at Heatherfield Boulevard are shown in **Table 3-4**. Between 2016 to 2020, there was one single motor vehicle crash, creating an average of 0.2 crashes per year. No crashes involving fatalities or injuries were recorded. No crashes involving a pedestrian or cyclist were reported during the analysis period.

Table 3-4. Intersection Crash Summary – Morton Taylor Road and Heatherfield Boulevard.		
Crash Type	Number of Crashes	Number of Crashes / Year
Single Motor Vehicle	1	0.2
<b>Total</b>	<b>1</b>	<b>0.2</b>

### 3.4.2 Tyler Road and Morton Taylor Road

The results of the analysis at the intersection of Tyler Road at Morton Taylor Road are shown in **Table 3-5**. Between 2016 to 2020, there was an average of 3.6 crashes per year. There were 13 rear end crashes, 3 single motor vehicle crashes, one angle crash, and one sideswipe – same direction collision. Two Type B and three Type C crashes were recorded during the five years, and no fatalities or Type A crashes were recorded. No crashes involving a pedestrian or cyclist were reported during the analysis period.

Table 3-5. Intersection Crash Summary – Tyler Road and Morton Taylor Road.		
Crash Type	Number of Crashes	Number of Crashes / Year
Rear End	13	2.6
Single Motor Vehicle	3	0.6
Angle	1	0.2
Sideswipe – Same Direction	1	0.2
<b>Total</b>	<b>18</b>	<b>3.6</b>

### 3.4.3 Tyler Road and Springwood Boulevard/Lancaster Drive

There were no reported crashes within 250 feet of the intersection of Tyler Road and Springwood Boulevard/Lancaster Drive between January 1, 2016, and December 31, 2020.

### 3.4.4 Tyler Road and Haggerty Road

The results of the analysis at the intersection of Tyler Road at Haggerty Road are shown in **Table 3-6**. Between 2016 to 2020, there was an average of 9.8 crashes per year. There were 20 angle crashes, 13 rear end crashes, five head on – left turn crashes, and four single motor vehicle crashes. One Type A, six Type B, and eleven Type C crashes were recorded during the five years, and no fatalities were recorded. No crashes involving a pedestrian or cyclist were reported during the analysis period. The small increase in traffic volumes at this intersection due to the residential development is not expected to have a significant impact on safety at this intersection.

**Table 3-6. Intersection Crash Summary –Tyler Road and Haggerty Road.**

Crash Type	Number of Crashes	Number of Crashes / Year
Angle	20	13.8
Rear End	13	2.6
Head On – Left Turn	5	1.0
Sideswipe – Same Direction	4	0.8
Single Motor Vehicle	2	0.4
Backing	1	0.2
Head On	1	0.2
Other	1	0.2
Rear End – Left Turn	1	0.2
Rear End – Right Turn	1	0.2
<b>Total</b>	<b>49</b>	<b>9.8</b>



## 4.0 CONCLUSION & RECOMMENDATIONS

This report assessed the traffic impacts that the new Brookwood residential development is expected to have on the adjacent roadways and study area intersections. The traffic impacts described in this report are based on existing year 2021 no build traffic volumes and anticipated projected year 2022 traffic generated at full build out of the proposed development. A comparison of existing no build conditions to the proposed build conditions was used to determine the traffic impacts of the proposed development upon the adjacent street system.

The existing conditions analyses revealed that all study area intersections and movements operate at an acceptable level of service during the morning peak hour and during the afternoon peak hour. The study area intersections were then evaluated with the proposed build traffic volumes to determine the intersection operations with the proposed residential development project. Traffic volumes for the projected year 2022 build were derived from developing the trip generation, distribution, and assignment for the proposed residential development and adding these trips to the existing traffic volumes.

The capacity analysis for the projected build conditions revealed that all study area intersections and movements are expected to continue to operate at an acceptable level of service during the weekday morning and weekday afternoon peak hours. Comparing the projected build results to the existing results show that the impact from the additional residential traffic is minimal.

Right turn and left turn lanes were evaluated and found to not be warranted at the proposed site driveway to the development.

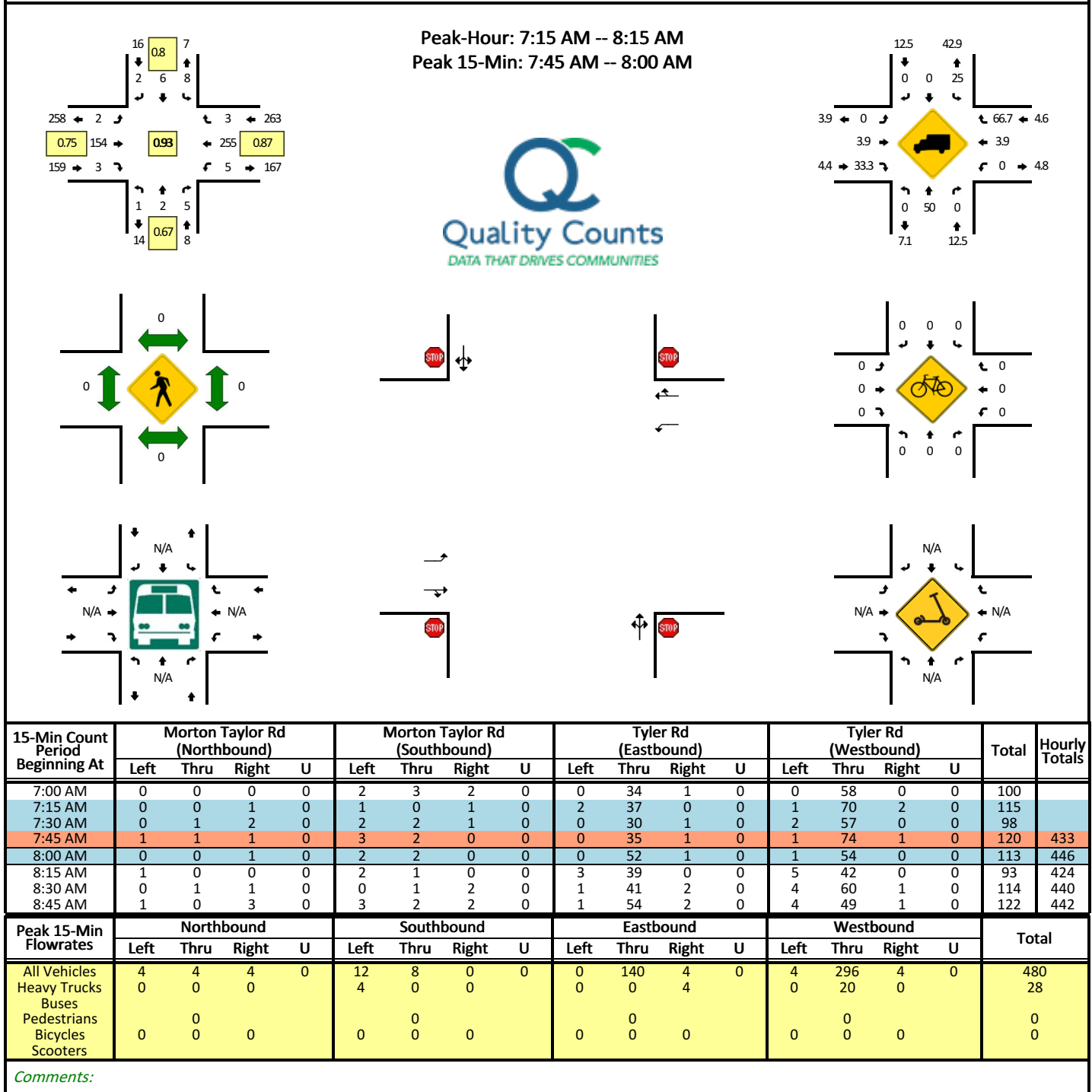
No further improvements are needed to accommodate the additional vehicle trips from the proposed Brookwood residential development.



## **Appendix A. Traffic Data**

**LOCATION:** Morton Taylor Rd -- Tyler Rd  
**CITY/STATE:** Wayne, MI

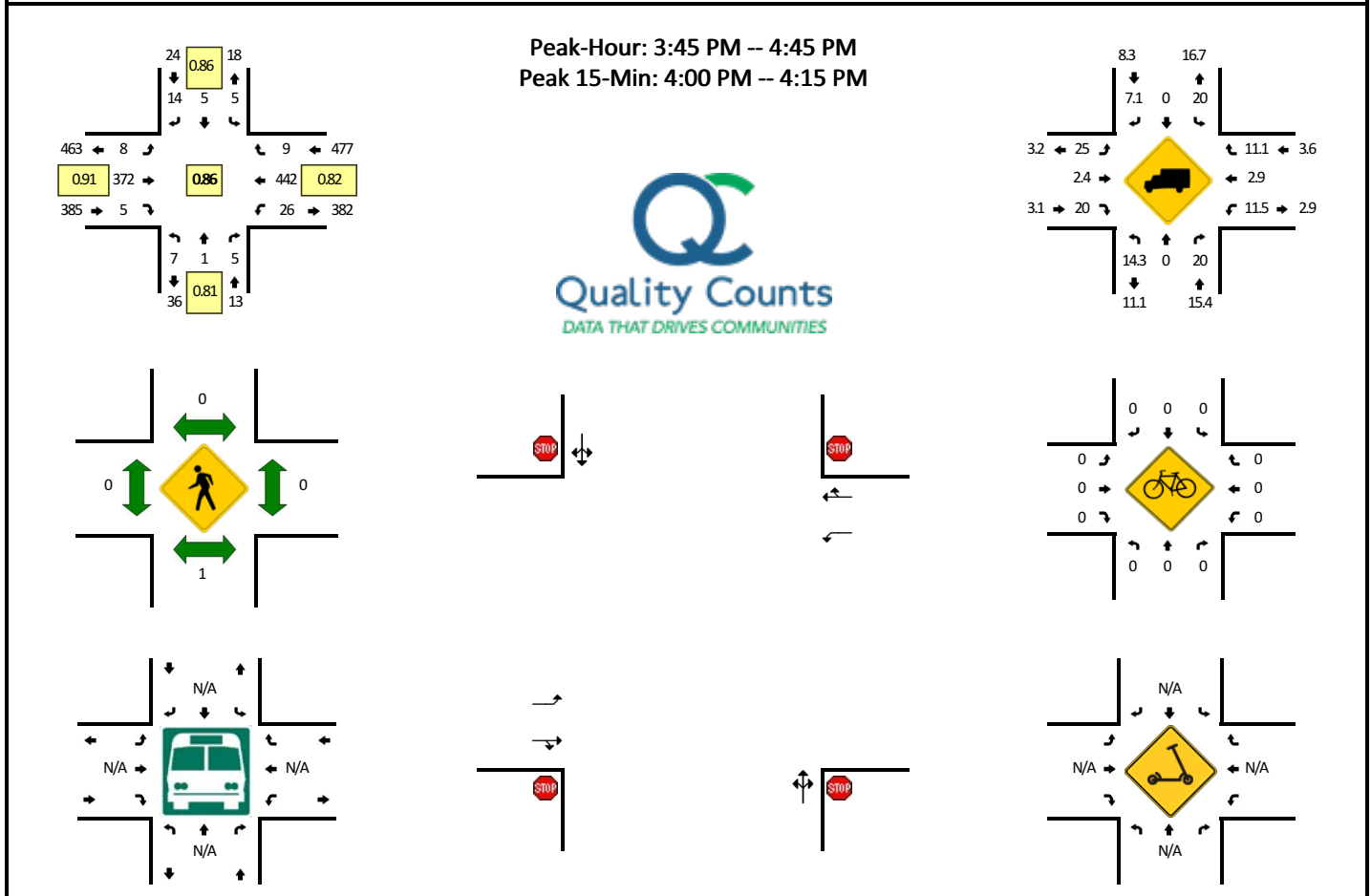
**QC JOB #:** 15596201  
**DATE:** Tue, Oct 26 2021





**LOCATION:** Morton Taylor Rd -- Tyler Rd  
**CITY/STATE:** Wayne, MI

**QC JOB #:** 15596202  
**DATE:** Tue, Oct 26 2021

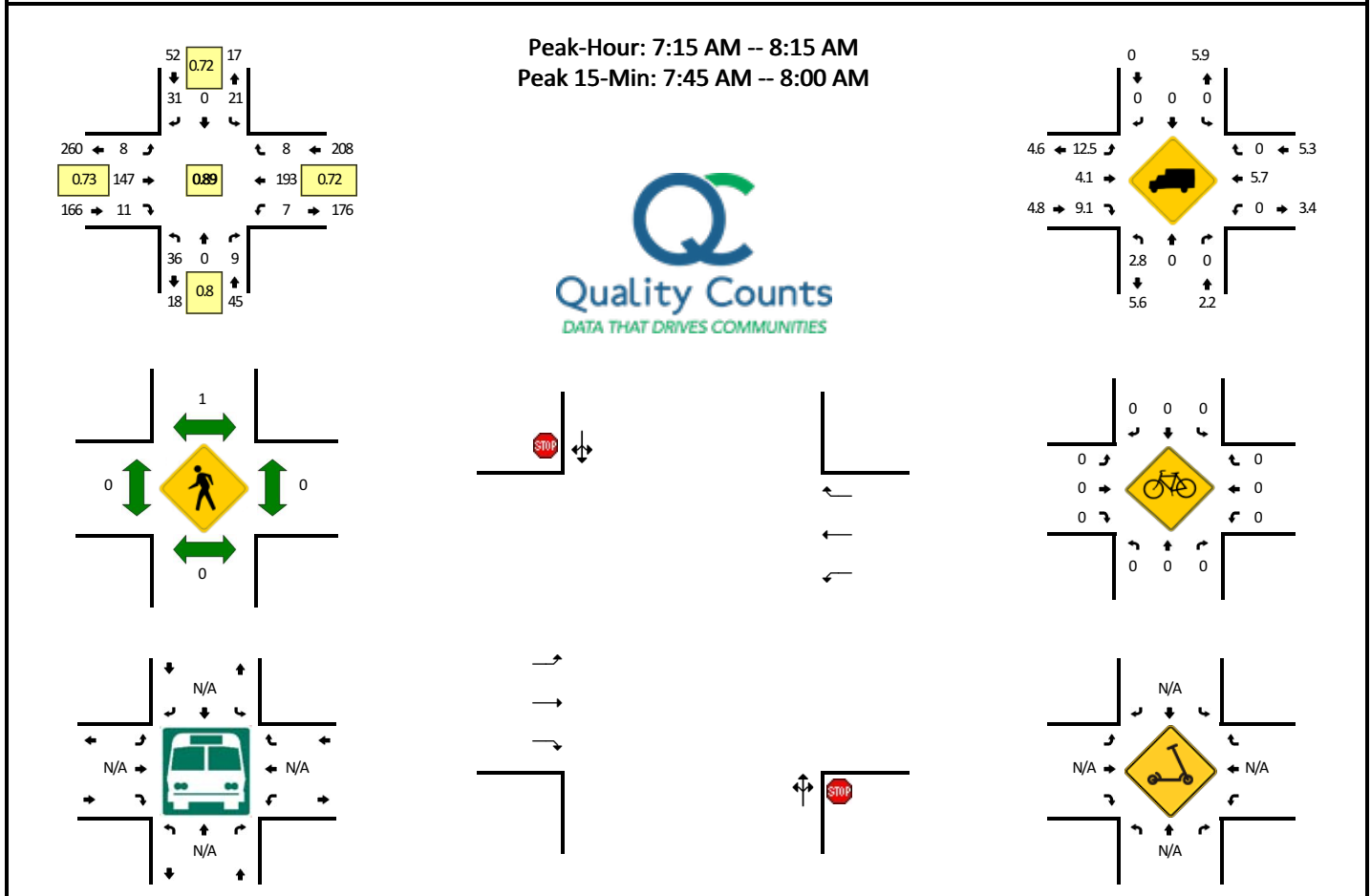


15-Min Count Period Beginning At	Morton Taylor Rd (Northbound)				Morton Taylor Rd (Southbound)				Tyler Rd (Eastbound)				Tyler Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	3	2	0	2	0	1	0	2	65	0	0	8	71	2	0	156	
3:15 PM	1	0	1	0	3	1	1	0	1	85	2	0	8	92	1	0	196	
3:30 PM	1	1	2	0	3	0	1	0	4	69	3	0	6	103	1	0	194	
3:45 PM	2	1	1	0	2	2	1	0	2	90	3	0	6	92	2	0	204	750
4:00 PM	2	0	1	0	2	2	3	0	0	105	1	0	4	140	2	0	262	856
4:15 PM	1	0	2	0	1	0	6	0	3	84	1	0	8	110	2	0	218	878
4:30 PM	2	0	1	0	0	1	4	0	3	93	0	0	8	100	3	0	215	899
4:45 PM	1	1	0	0	2	2	2	0	4	63	5	0	6	97	4	0	187	882
5:00 PM	1	1	0	0	3	3	4	0	1	107	0	0	5	101	1	0	227	847
5:15 PM	2	1	0	0	2	1	1	0	4	84	1	0	6	95	2	0	199	828
5:30 PM	2	0	3	0	1	2	3	0	1	81	4	0	5	91	2	0	195	808
5:45 PM	0	0	0	0	0	3	2	0	3	79	2	0	3	91	5	0	188	809
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	0	4	0	8	8	12	0	0	420	4	0	16	560	8	0	1048	
Heavy Trucks	0	0	0	0	4	0	0	0	0	12	0	0	0	12	0	0	28	
Buses																		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scooters																		

**Comments:**

**LOCATION:** Springwood Blvd/Lancaster Dr -- Tyler Rd  
**CITY/STATE:** Wayne, MI

**QC JOB #:** 15596203  
**DATE:** Tue, Oct 26 2021

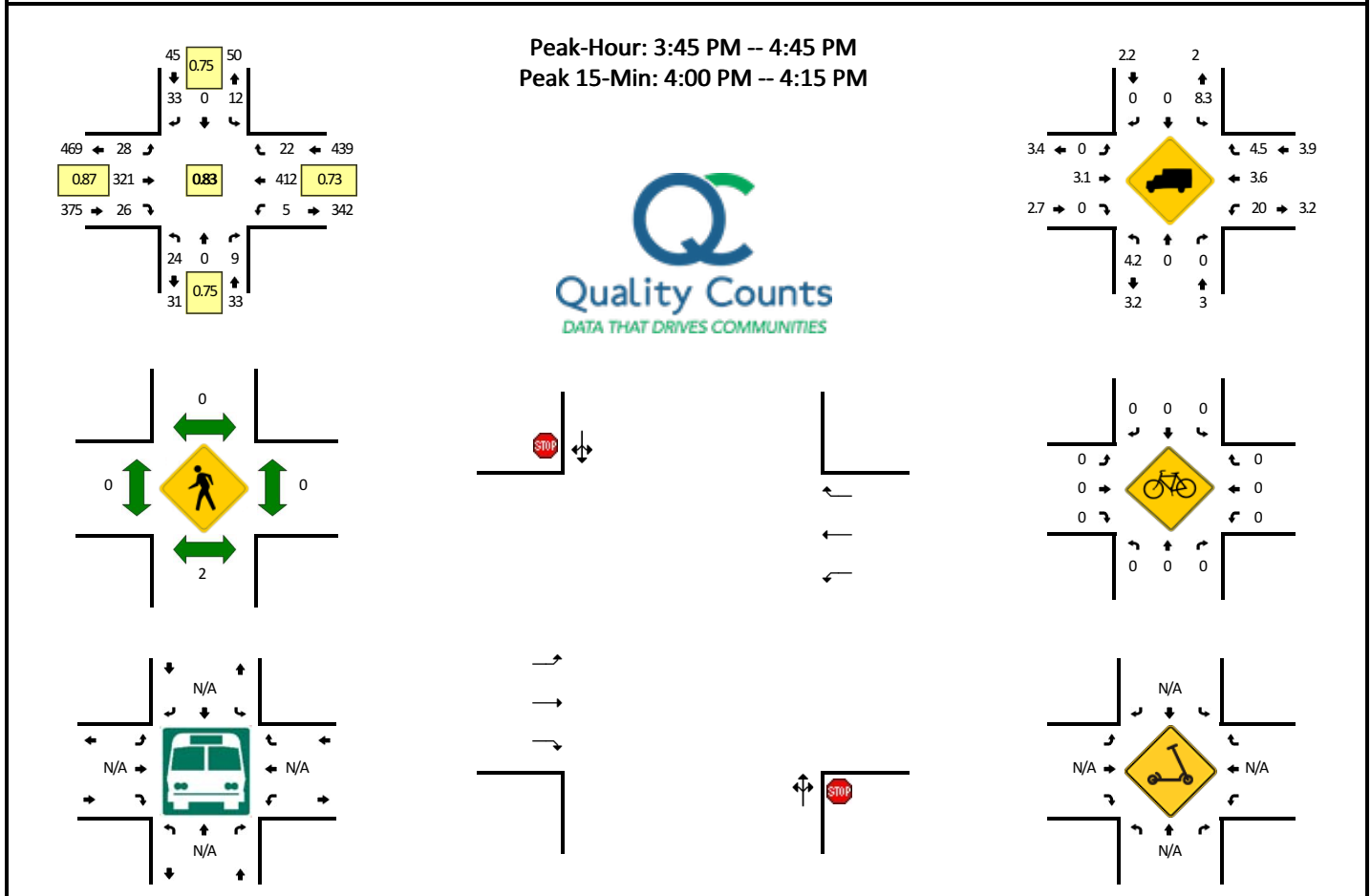


15-Min Count Period Beginning At	Springwood Blvd/Lancaster Dr (Northbound)				Springwood Blvd/Lancaster Dr (Southbound)				Tyler Rd (Eastbound)				Tyler Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	7	0	3	0	3	0	7	0	1	33	2	0	1	44	2	0	103	
7:15 AM	12	0	2	0	5	0	8	1	2	37	0	0	0	50	2	0	119	
7:30 AM	5	0	4	0	4	0	14	0	2	26	3	0	2	41	0	0	101	
7:45 AM	9	0	3	0	4	0	5	0	0	36	3	0	1	67	4	0	132	455
8:00 AM	10	0	0	0	7	0	4	0	4	48	5	0	4	35	2	0	119	471
8:15 AM	8	0	2	0	2	0	3	0	0	36	2	0	0	38	0	0	91	443
8:30 AM	5	0	0	0	0	0	2	0	3	39	1	0	0	55	2	0	107	449
8:45 AM	9	0	2	0	3	0	4	0	0	56	5	0	0	42	1	0	122	439
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	36	0	12	0	16	0	20	0	0	144	12	0	4	268	16	0	528	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	20	
Buses																		
Pedestrians	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scoters																		

Comments:

**LOCATION:** Springwood Blvd/Lancaster Dr -- Tyler Rd  
**CITY/STATE:** Wayne, MI

**QC JOB #:** 15596204  
**DATE:** Tue, Oct 26 2021



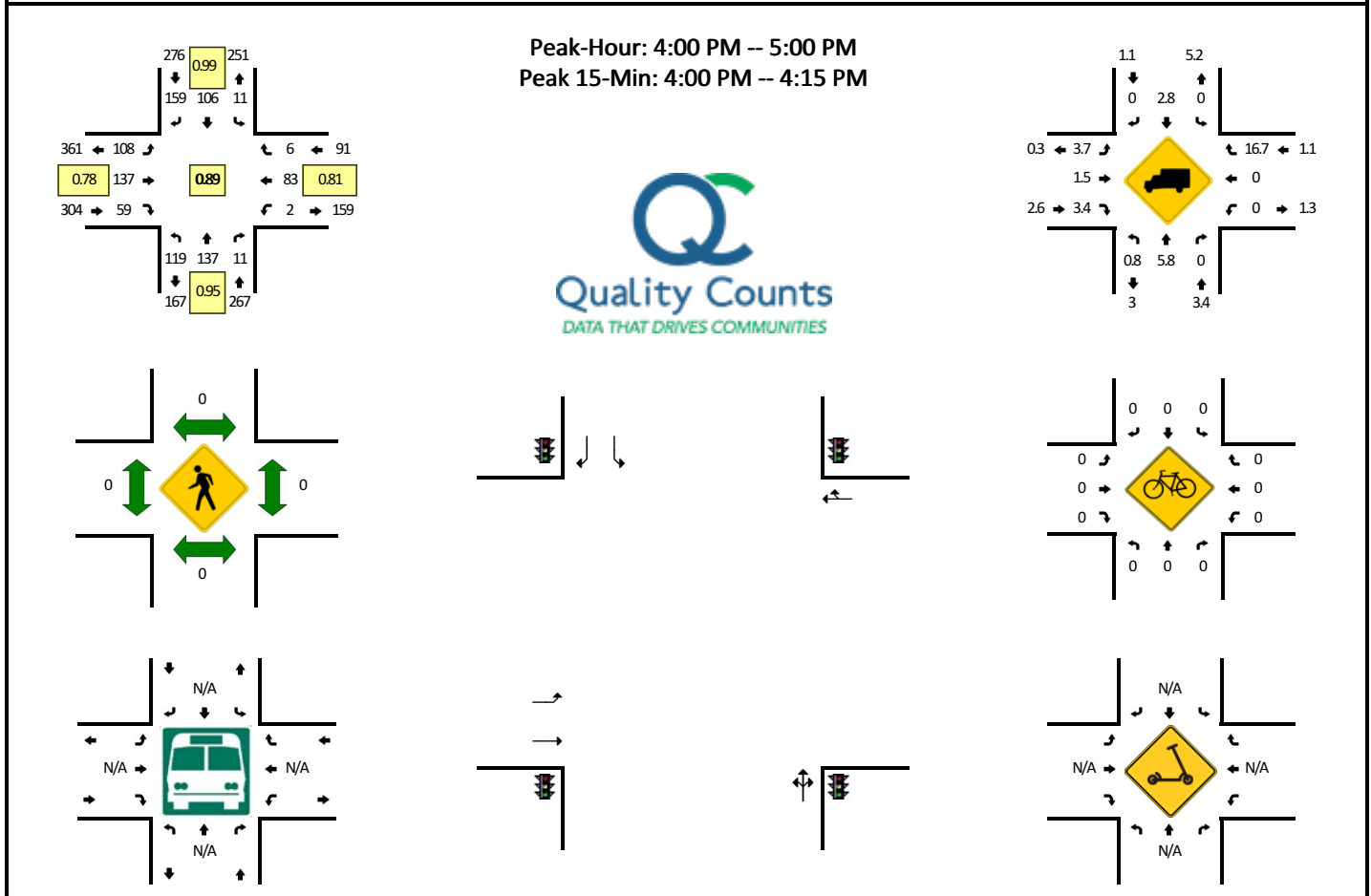
15-Min Count Period Beginning At	Springwood Blvd/Lancaster Dr (Northbound)				Springwood Blvd/Lancaster Dr (Southbound)				Tyler Rd (Eastbound)				Tyler Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	1	0	2	0	3	0	2	0	4	61	5	0	2	82	4	0	166	
3:15 PM	5	0	3	0	3	0	6	0	11	67	12	0	4	92	2	0	205	
3:30 PM	6	0	1	0	0	0	8	0	5	66	6	0	3	103	3	0	201	
3:45 PM	5	0	6	0	3	0	9	0	7	76	6	0	2	77	3	0	194	766
4:00 PM	2	0	1	0	1	0	7	0	6	93	9	0	3	139	9	0	270	870
4:15 PM	11	0	0	0	2	0	8	0	7	80	3	0	0	99	6	0	216	881
4:30 PM	6	0	2	0	6	0	9	0	8	72	8	0	0	97	4	0	212	892
4:45 PM	7	0	6	0	0	0	5	0	10	57	7	0	0	92	7	0	191	889
5:00 PM	2	0	2	0	2	0	3	0	9	93	7	0	8	100	2	0	228	847
5:15 PM	2	0	3	0	5	0	5	0	8	71	7	0	4	99	7	0	211	842
5:30 PM	10	0	1	0	2	0	6	0	5	67	9	0	4	81	9	0	194	824
5:45 PM	2	0	4	0	2	2	7	0	9	60	7	0	5	86	5	0	189	822
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	0	4	0	4	0	28	0	24	372	36	0	12	556	36	0	1080	
Heavy Trucks	0	0	0		0	0	0		0	16	0		4	12	4		36	
Buses																		
Pedestrians	0	0			0	0			0	0			0	0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

**Comments:**



**LOCATION:** Haggerty Rd -- Tyler Rd  
**CITY/STATE:** Wayne, MI

**QC JOB #:** 15596206  
**DATE:** Wed, Dec 8 2021



15-Min Count Period Beginning At	Haggerty Rd (Northbound)				Haggerty Rd (Southbound)				Tyler Rd (Eastbound)				Tyler Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	16	32	3	0	10	44	31	0	17	19	4	0	0	21	0	0	197	
3:15 PM	32	23	3	0	6	21	26	0	20	25	5	0	0	23	3	0	187	
3:30 PM	22	32	2	0	6	21	33	0	11	25	7	0	0	25	0	0	184	
3:45 PM	33	31	2	0	1	11	49	0	16	27	8	0	0	24	4	0	206	774
4:00 PM	33	33	1	0	1	29	40	0	38	41	19	0	1	26	1	0	263	840
4:15 PM	33	34	2	0	2	21	46	0	28	30	14	0	0	22	2	0	234	887
4:30 PM	19	39	3	0	1	36	33	0	17	26	11	0	0	13	2	0	200	903
4:45 PM	34	31	5	0	7	20	40	0	25	40	15	0	1	22	1	0	241	938
5:00 PM	26	34	3	0	4	27	40	0	30	30	7	0	2	20	3	0	226	901
5:15 PM	25	30	5	0	3	25	41	0	15	33	5	0	2	10	2	0	196	863
5:30 PM	27	24	4	0	2	15	46	0	13	22	8	0	0	22	1	0	184	847
5:45 PM	28	21	5	0	4	25	45	0	18	25	13	0	2	23	1	0	210	816
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	132	132	4	0	4	116	160	0	152	164	76	0	4	104	4	0	1052	
Heavy Trucks	0	4	0	0	0	4	0	0	8	4	8	0	0	0	0	0	28	
Buses																		
Pedestrians	0	0			0	0			0	0			0	0			0	
Bicycles	0	0			0	0			0	0			0	0			0	
Scooters																		

**Comments:**

**Wade Trim Associates, Inc.**  
 25251 Northline Road  
 Taylor, MI  
 48180

Intersection: Tyler Rd and Haggerty Rd  
 Date: December 17, 2021  
 Counted by: Wade Trim  
 Job #: GPM2001

File Name : Tyler and Haggerty 12-17-21  
 Site Code : 00000000  
 Start Date : 12/17/2021  
 Page No : 1

Groups Printed- Unshifted - Bank 1

	Southbound					Westbound					Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	8	14	1	0	23	5	10	1	0	16	4	42	9	0	55	21	14	17	0	52	146
07:15 AM	12	7	0	0	19	1	14	1	0	16	7	43	8	0	58	14	10	16	0	40	133
07:30 AM	15	9	2	0	26	2	17	4	0	23	1	48	3	0	52	22	9	19	0	50	151
07:45 AM	16	22	2	0	40	2	12	2	0	16	8	58	22	0	88	23	21	16	0	60	204
Total	51	52	5	0	108	10	53	8	0	71	20	191	42	0	253	80	54	68	0	202	634
08:00 AM	16	17	1	0	34	4	12	0	0	16	1	40	17	0	58	19	19	19	0	57	165
08:15 AM	11	8	1	0	20	2	10	1	0	13	2	42	16	0	60	15	11	18	0	44	137
08:30 AM	17	24	0	0	41	1	4	0	1	6	3	37	13	0	53	15	19	17	0	51	151
08:45 AM	28	13	1	0	42	2	23	2	0	27	1	43	20	0	64	21	17	19	0	57	190
Total	72	62	3	0	137	9	49	3	1	62	7	162	66	0	235	70	66	73	0	209	643
Grand Total	123	114	8	0	245	19	102	11	1	133	27	353	108	0	488	150	120	141	0	411	1277
Apprch %	50.2	46.5	3.3	0		14.3	76.7	8.3	0.8		5.5	72.3	22.1	0		36.5	29.2	34.3	0		
Total %	9.6	8.9	0.6	0	19.2	1.5	8	0.9	0.1	10.4	2.1	27.6	8.5	0	38.2	11.7	9.4	11	0	32.2	
Unshifted	114	102	8	0	224	18	99	11	1	129	27	318	105	0	450	148	116	135	0	399	1202
% Unshifted	92.7	89.5	100	0	91.4	94.7	97.1	100	100	97	100	90.1	97.2	0	92.2	98.7	96.7	95.7	0	97.1	94.1
Bank 1	9	12	0	0	21	1	3	0	0	4	0	35	3	0	38	2	4	6	0	12	75
% Bank 1	7.3	10.5	0	0	8.6	5.3	2.9	0	0	3	0	9.9	2.8	0	7.8	1.3	3.3	4.3	0	2.9	5.9

# Wade Trim Associates, Inc.

25251 Northline Road

Taylor, MI

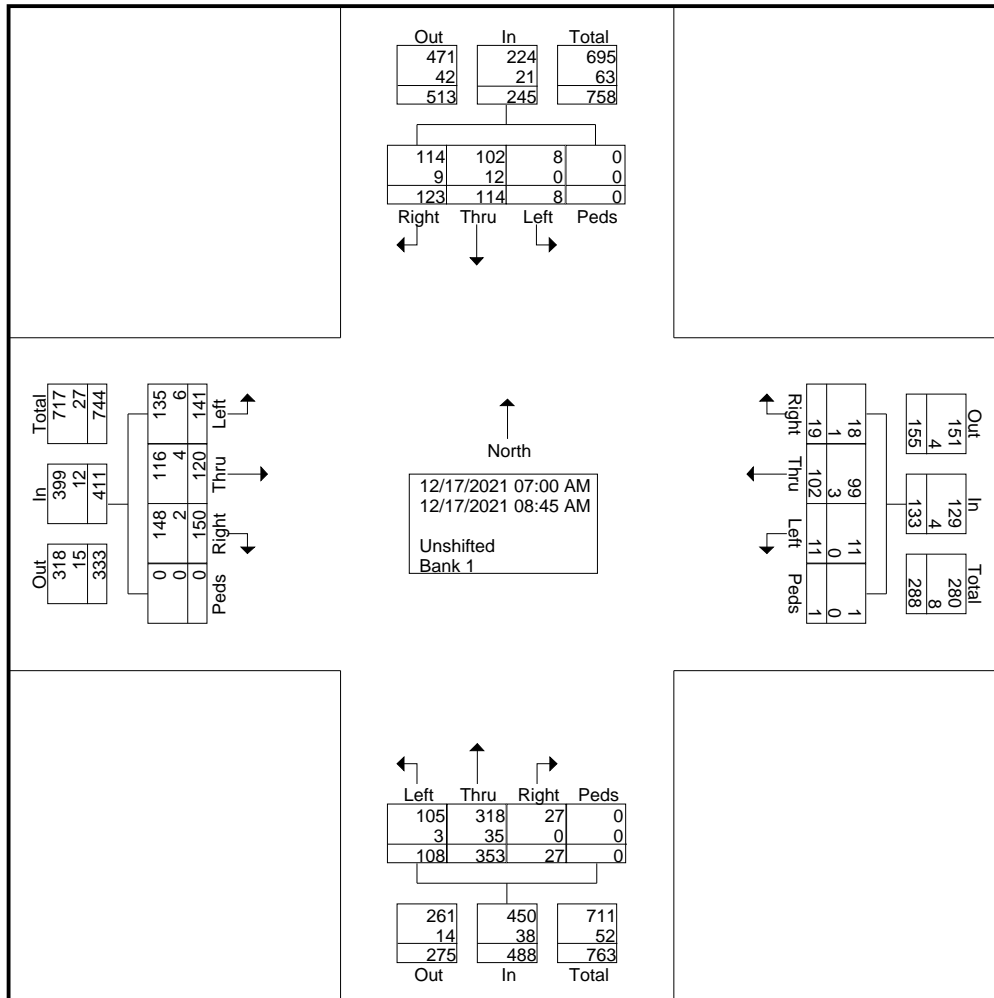
48180

File Name : Tyler and Haggerty 12-17-21

Site Code : 00000000

Start Date : 12/17/2021

Page No : 2



# Wade Trim Associates, Inc.

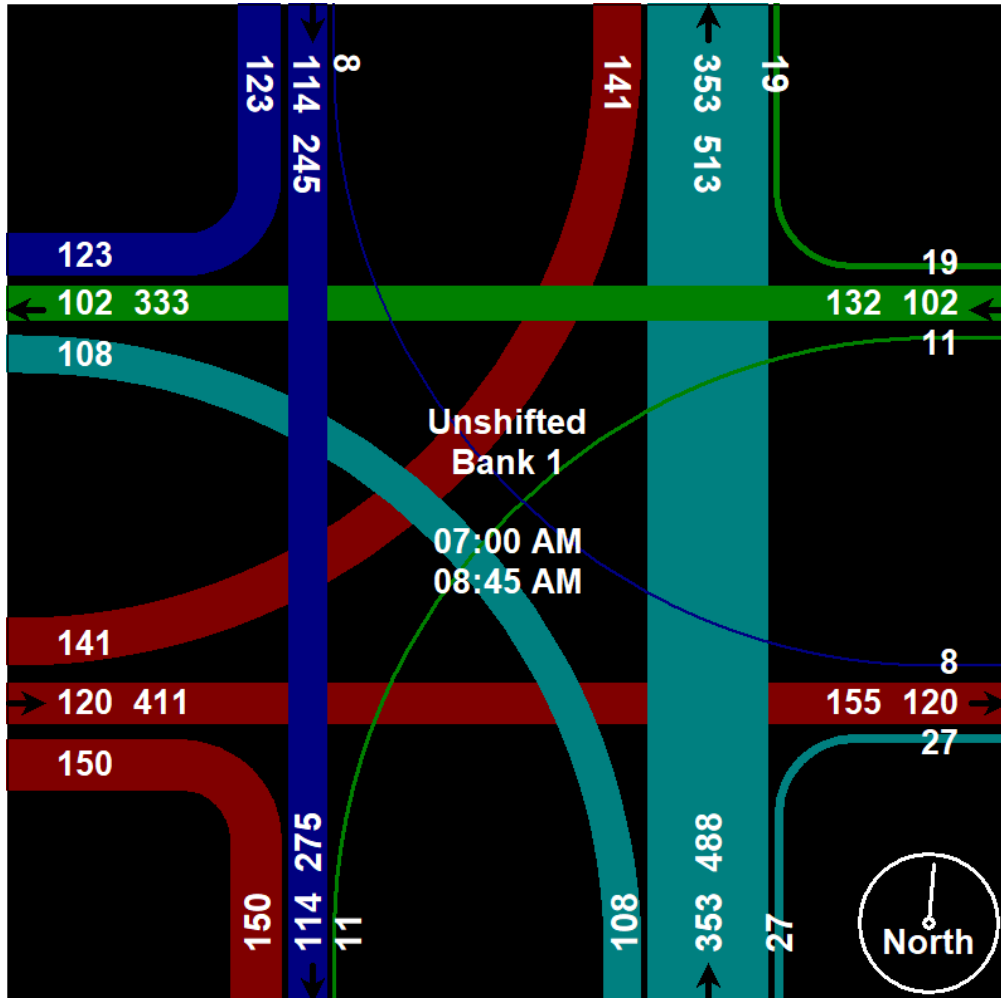
25251 Northline Road  
Taylor, MI  
48180

File Name : Tyler and Haggerty 12-17-21

Site Code : 00000000

Start Date : 12/17/2021

Page No : 3





# Wade Trim Associates, Inc.

25251 Northline Road

Taylor, MI

48180

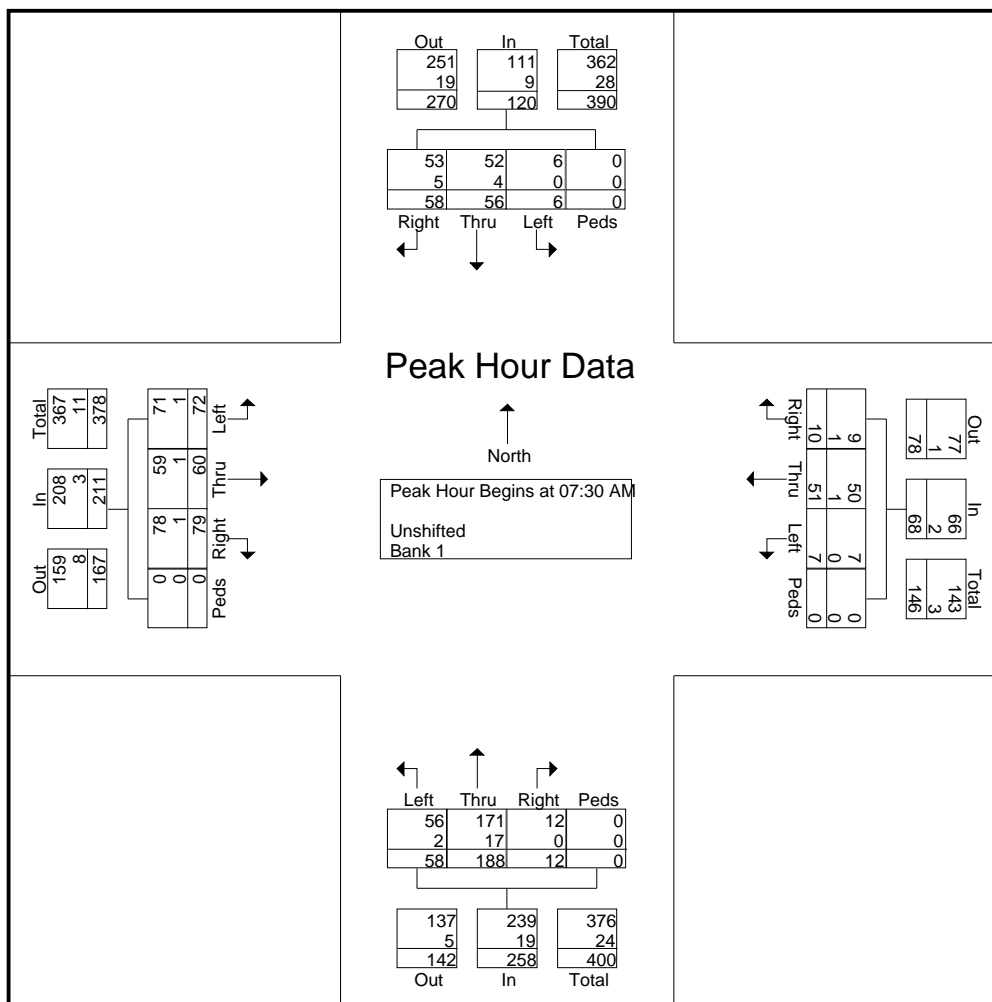
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Site Code : 00000000

Start Date : 12/17/2021

Page No : 4

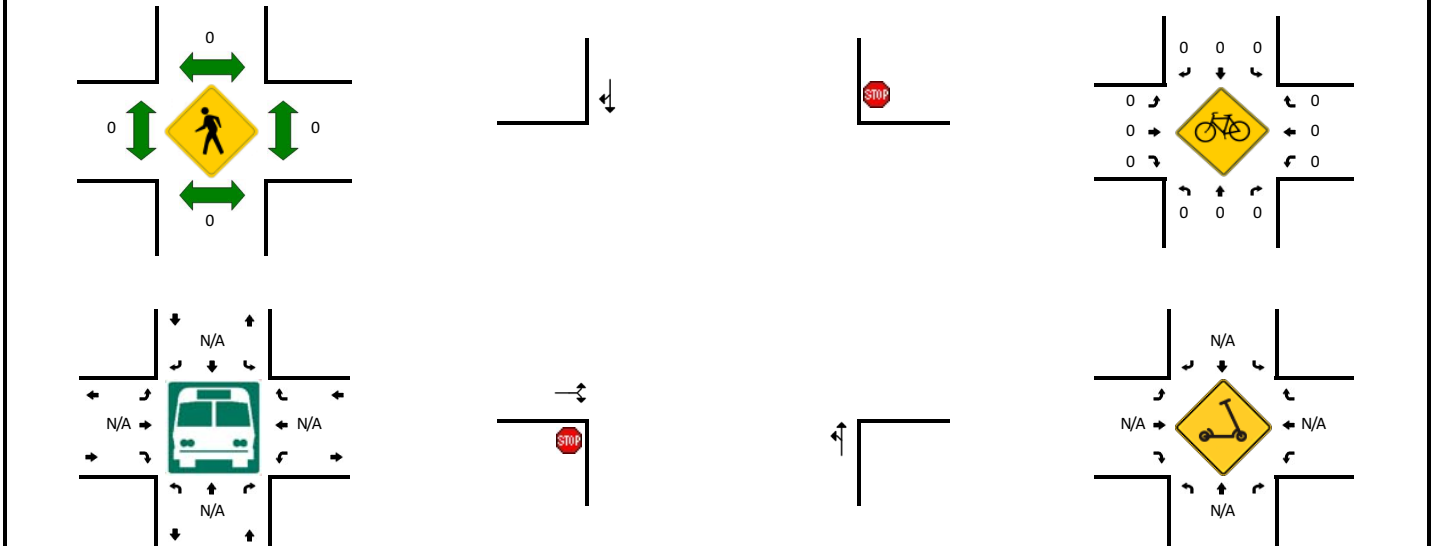
	Southbound					Westbound					Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	15	9	2	0	26	2	17	4	0	23	1	48	3	0	52	22	9	19	0	50	151
07:45 AM	16	22	2	0	40	2	12	2	0	16	8	58	22	0	88	23	21	16	0	60	204
08:00 AM	16	17	1	0	34	4	12	0	0	16	1	40	17	0	58	19	19	19	0	57	165
08:15 AM	11	8	1	0	20	2	10	1	0	13	2	42	16	0	60	15	11	18	0	44	137
Total Volume	58	56	6	0	120	10	51	7	0	68	12	188	58	0	258	79	60	72	0	211	657
% App. Total	48.3	46.7	5	0		14.7	75	10.3	0		4.7	72.9	22.5	0		37.4	28.4	34.1	0		
PHF	.906	.636	.750	.000	.750	.625	.750	.438	.000	.739	.375	.810	.659	.000	.733	.859	.714	.947	.000	.879	.805
Unshifted	53	52	6	0	111	9	50	7	0	66	12	171	56	0	239	78	59	71	0	208	624
% Unshifted	91.4	92.9	100	0	92.5	90.0	98.0	100	0	97.1	100	91.0	96.6	0	92.6	98.7	98.3	98.6	0	98.6	95.0
Bank 1	5	4	0	0	9	1	1	0	0	2	0	17	2	0	19	1	1	1	0	3	33
% Bank 1	8.6	7.1	0	0	7.5	10.0	2.0	0	0	2.9	0	9.0	3.4	0	7.4	1.3	1.7	1.4	0	1.4	5.0



**LOCATION:** Morton Taylor Rd -- Heatherfield Blvd  
**CITY/STATE:** Wayne, MI

**QC JOB #:** 15596207  
**DATE:** Tue, Oct 26 2021

Peak-Hour: 7:00 AM -- 8:00 AM  
 Peak 15-Min: 7:00 AM -- 7:15 AM

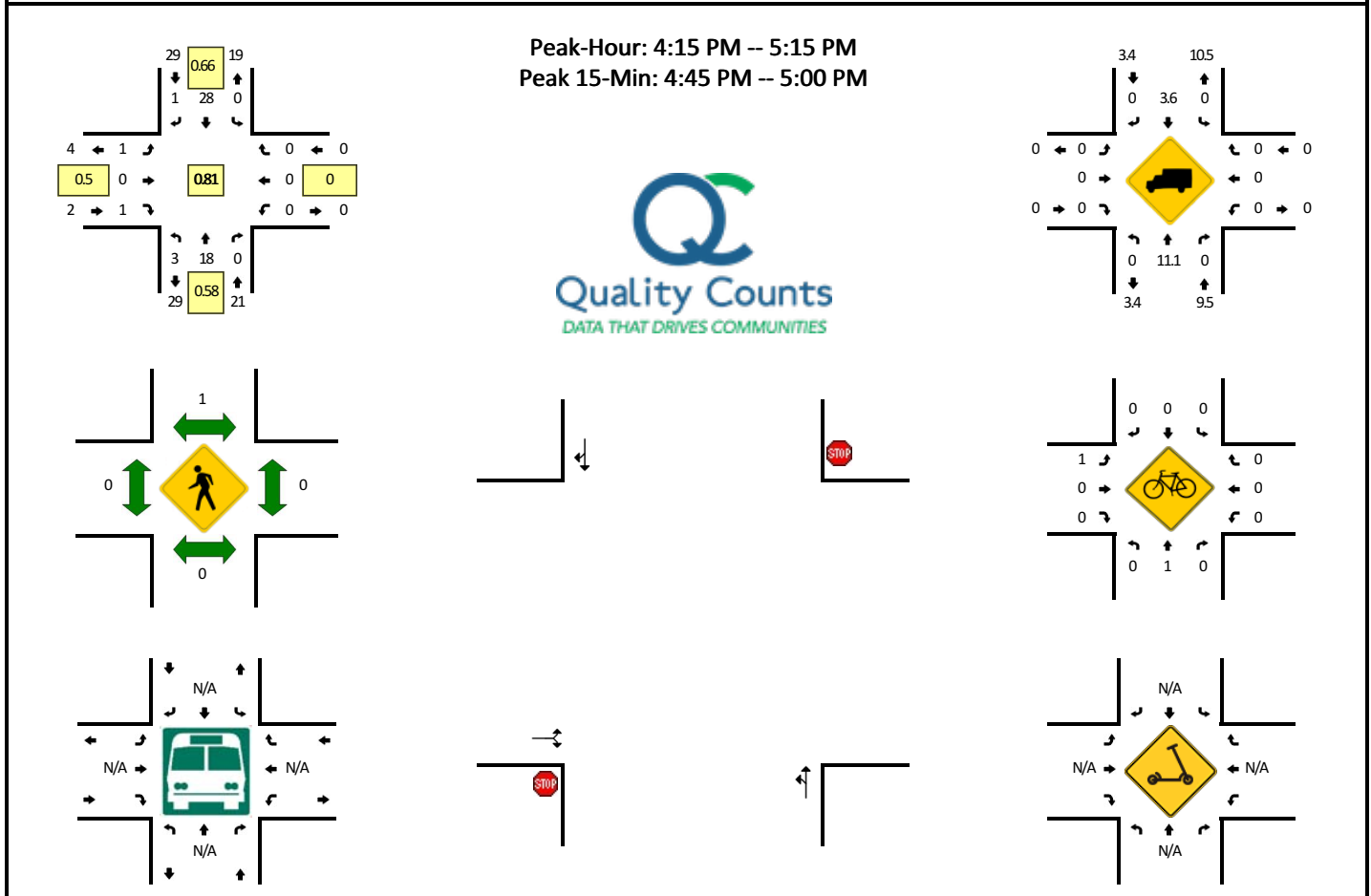


15-Min Count Period Beginning At	Morton Taylor Rd (Northbound)				Morton Taylor Rd (Southbound)				Heatherfield Blvd (Eastbound)				Heatherfield Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	5	1	0	0	0	2	0	0	0	0	0	8	
7:15 AM	0	3	0	0	0	1	0	0	0	0	1	0	0	0	0	0	5	
7:30 AM	1	1	0	0	0	3	0	0	0	0	1	1	0	0	0	0	7	
7:45 AM	1	1	0	0	0	3	0	0	0	0	2	0	0	0	0	0	7	27
8:00 AM	1	0	0	0	0	3	0	0	1	0	1	0	0	0	0	0	6	25
8:15 AM	0	3	0	0	0	2	0	0	0	0	1	0	0	0	0	0	6	26
8:30 AM	1	2	0	0	0	3	0	0	0	0	1	0	0	0	0	0	7	26
8:45 AM	1	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0	8	27
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	0	20	4	0	0	0	8	0	0	0	0	0	32	
Heavy Trucks	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

**LOCATION:** Morton Taylor Rd -- Heatherfield Blvd  
**CITY/STATE:** Wayne, MI

**QC JOB #:** 15596208  
**DATE:** Tue, Oct 26 2021



15-Min Count Period Beginning At	Morton Taylor Rd (Northbound)				Morton Taylor Rd (Southbound)				Heatherfield Blvd (Eastbound)				Heatherfield Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	6	0	0	0	2	1	0	1	0	1	1	0	0	0	0	12	
3:15 PM	1	3	0	0	0	4	0	0	0	0	1	0	0	0	0	0	9	
3:30 PM	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9	
3:45 PM	1	5	0	0	0	4	0	0	0	0	1	2	0	0	0	0	13	43
4:00 PM	0	2	0	0	0	5	1	0	1	0	1	1	0	0	0	0	11	42
4:15 PM	0	5	0	0	0	6	0	0	0	0	1	0	0	0	0	0	12	45
4:30 PM	2	3	0	0	0	6	0	0	0	0	0	0	0	0	0	0	11	47
4:45 PM	1	8	0	0	0	5	1	0	1	0	0	0	0	0	0	0	16	50
5:00 PM	0	2	0	0	0	11	0	0	0	0	0	0	0	0	0	0	13	52
5:15 PM	1	5	0	0	0	1	1	0	1	0	1	1	0	0	0	0	11	51
5:30 PM	0	2	0	1	0	4	0	0	1	0	3	0	0	0	0	0	11	51
5:45 PM	1	7	0	0	0	0	3	0	0	0	0	0	0	0	0	0	11	46
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	32	0	0	0	20	4	0	4	0	0	0	0	0	0	0	64	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																		
Pedestrians	0	0			0	0			0	0			0	0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

**Comments:**



## **Appendix B. Signal Timing Permits**



[illegible]























## **Appendix C. Existing Synchro Capacity Reports**

# HCM 6th Signalized Intersection Summary




## 1001: Haggerty Road & Tyler Road

Existing AM -2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (veh/h)	72	60	79	7	51	10	58	188	12	6	56	58
Future Volume (veh/h)	72	60	79	7	51	10	58	188	12	6	56	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1856	1856	1856	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	89	74	98	9	69	14	79	258	16	8	75	77
Peak Hour Factor	0.81	0.81	0.81	0.74	0.74	0.74	0.73	0.73	0.73	0.75	0.75	0.75
Percent Heavy Veh, %	1	1	1	3	3	3	7	7	7	7	7	7
Cap, veh/h	358	176	233	275	357	73	460	1482	94	118	1031	885
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1325	736	974	1203	1497	304	619	2321	147	107	1615	1385
Grp Volume(v), veh/h	89	0	172	9	0	83	177	0	176	83	0	77
Grp Sat Flow(s),veh/h/ln	1325	0	1710	1203	0	1801	1478	0	1608	1722	0	1385
Q Serve(g_s), s	4.6	0.0	6.8	0.5	0.0	2.9	0.9	0.0	3.5	0.0	0.0	1.7
Cycle Q Clear(g_c), s	7.5	0.0	6.8	7.3	0.0	2.9	3.3	0.0	3.5	1.4	0.0	1.7
Prop In Lane	1.00		0.57	1.00		0.17	0.45		0.09	0.10		1.00
Lane Grp Cap(c), veh/h	358	0	408	275	0	430	1009	0	1027	1149	0	885
V/C Ratio(X)	0.25	0.00	0.42	0.03	0.00	0.19	0.18	0.00	0.17	0.07	0.00	0.09
Avail Cap(c_a), veh/h	358	0	408	275	0	430	1009	0	1027	1149	0	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.3	0.0	25.8	28.9	0.0	24.3	5.8	0.0	5.9	5.5	0.0	5.5
Incr Delay (d2), s/veh	1.7	0.0	3.2	0.2	0.0	1.0	0.4	0.0	0.4	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	2.9	0.2	0.0	1.3	1.0	0.0	1.0	0.4	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	0.0	28.9	29.1	0.0	25.3	6.2	0.0	6.2	5.6	0.0	5.7
LnGrp LOS	C	A	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h	261		92			353			160			
Approach Delay, s/veh	29.0		25.7			6.2			5.7			
Approach LOS	C		C			A			A			
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	56.0		24.0		56.0		24.0					
Change Period (Y+Rc), s	* 4.9		* 4.9		* 4.9		* 4.9					
Max Green Setting (Gmax), s	* 51		* 19		* 51		* 19					
Max Q Clear Time (g_c+I1), s	0.0		0.0		0.0		0.0					
Green Ext Time (p_c), s	0.0		0.0		0.0		0.0					
Intersection Summary												
HCM 6th Ctrl Delay	15.0											
HCM 6th LOS	B											
Notes												

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	6	2	7	18	1
Future Vol, veh/h	1	6	2	7	18	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	60	60	60	60
Heavy Vehicles, %	0	0	43	43	23	23
Mvmt Flow	1	7	3	12	30	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	49	31	32
Stage 1	31	-	-
Stage 2	18	-	-
Critical Hdwy	6.4	6.2	4.53
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.587
Pot Cap-1 Maneuver	965	1049	1352
Stage 1	997	-	-
Stage 2	1010	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	963	1049	1352
Mov Cap-2 Maneuver	963	-	-
Stage 1	995	-	-
Stage 2	1010	-	-







Approach	EB	NB	SB
HCM Control Delay, s	8.5	1.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1352	-	1036	-	-
HCM Lane V/C Ratio	0.002	-	0.008	-	-
HCM Control Delay (s)	7.7	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-









Intersection

Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	154	3	5	255	3	1	4	5	8	12	2
Future Vol, veh/h	2	154	3	5	255	3	1	4	5	8	12	2
Peak Hour Factor	0.75	0.75	0.75	0.87	0.87	0.87	0.67	0.67	0.67	0.80	0.80	0.80
Heavy Vehicles, %	4	4	4	5	5	5	12	12	12	12	12	12
Mvmt Flow	3	205	4	6	293	3	1	6	7	10	15	3
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.6	10.7	8.2	8.6
HCM LOS	A	B	A	A





















Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	100%	0%	100%	0%	36%
Vol Thru, %	40%	0%	98%	0%	99%	55%
Vol Right, %	50%	0%	2%	0%	1%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	2	157	5	258	22
LT Vol	1	2	0	5	0	8
Through Vol	4	0	154	0	255	12
RT Vol	5	0	3	0	3	2
Lane Flow Rate	15	3	209	6	297	28
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.021	0.004	0.285	0.009	0.401	0.041
Departure Headway (Hd)	5.098	5.411	4.895	5.374	4.865	5.375
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	702	663	737	670	744	666
Service Time	3.13	3.128	2.613	3.074	2.565	3.406
HCM Lane V/C Ratio	0.021	0.005	0.284	0.009	0.399	0.042
HCM Control Delay	8.2	8.1	9.6	8.1	10.8	8.6
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.1	0	1.2	0	1.9	0.1

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	147	11	7	193	8	36	0	9	21	0	31
Future Vol, veh/h	8	147	11	7	193	8	36	0	9	21	0	31
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	72	72	72	80	80	80	72	72	72
Heavy Vehicles, %	5	5	5	5	5	5	2	2	2	0	0	0
Mvmt Flow	11	201	15	10	268	11	45	0	11	29	0	43
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	280	0	0	216	0	0	546	531	209	531	533	275
Stage 1	-	-	-	-	-	-	231	231	-	295	295	-
Stage 2	-	-	-	-	-	-	315	300	-	236	238	-
Critical Hdwy	4.15	-	-	4.15	-	-	7.12	6.52	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Follow-up Hdwy	2.245	-	-	2.245	-	-	3.518	4.018	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1266	-	-	1336	-	-	448	454	831	462	456	769
Stage 1	-	-	-	-	-	-	772	713	-	718	673	-
Stage 2	-	-	-	-	-	-	696	666	-	772	712	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1265	-	-	1336	-	-	418	446	831	450	448	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	418	446	-	450	448	-
Stage 1	-	-	-	-	-	-	765	707	-	711	668	-
Stage 2	-	-	-	-	-	-	652	661	-	755	706	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.3			13.8			11.9		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	464	1265	-	-	1336	-	-	597				
HCM Lane V/C Ratio	0.121	0.009	-	-	0.007	-	-	0.121				
HCM Control Delay (s)	13.8	7.9	-	-	7.7	-	-	11.9				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.4				

# HCM 6th Signalized Intersection Summary




## 1001: Haggerty Road & Tyler Road

Existing PM - 2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (veh/h)	108	137	59	2	83	6	119	137	11	11	106	159
Future Volume (veh/h)	108	137	59	2	83	6	119	137	11	11	106	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1885	1885	1885	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	138	176	76	2	102	7	125	144	12	12	112	167
Peak Hour Factor	0.78	0.78	0.78	0.81	0.81	0.81	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	1	1	1	3	3	3	1	1	1
Cap, veh/h	334	293	127	217	416	29	714	1014	85	123	1093	929
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1274	1229	531	1137	1744	120	981	1587	134	115	1710	1454
Grp Volume(v), veh/h	138	0	252	2	0	109	132	0	149	124	0	167
Grp Sat Flow(s),veh/h/ln	1274	0	1760	1137	0	1864	1037	0	1664	1825	0	1454
Q Serve(g_s), s	7.9	0.0	10.2	0.1	0.0	3.8	4.2	0.0	2.8	0.0	0.0	3.8
Cycle Q Clear(g_c), s	11.6	0.0	10.2	10.3	0.0	3.8	7.9	0.0	2.8	2.0	0.0	3.8
Prop In Lane	1.00		0.30	1.00		0.06	0.95		0.08	0.10		1.00
Lane Grp Cap(c), veh/h	334	0	420	217	0	445	750	0	1063	1215	0	929
V/C Ratio(X)	0.41	0.00	0.60	0.01	0.00	0.24	0.18	0.00	0.14	0.10	0.00	0.18
Avail Cap(c_a), veh/h	334	0	420	217	0	445	750	0	1063	1215	0	929
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.3	0.0	27.1	31.6	0.0	24.6	7.4	0.0	5.7	5.6	0.0	5.9
Incr Delay (d2), s/veh	3.7	0.0	6.2	0.1	0.0	1.3	0.5	0.0	0.3	0.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	4.6	0.0	0.0	1.7	0.9	0.0	0.8	0.7	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	0.0	33.3	31.7	0.0	25.9	7.9	0.0	6.0	5.8	0.0	6.3
LnGrp LOS	C	A	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h	390				111				281			
Approach Delay, s/veh	33.2				26.0				6.9			
Approach LOS	C				C				A			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	56.0			24.0			56.0			24.0		
Change Period (Y+Rc), s	* 4.9			* 4.9			* 4.9			* 4.9		
Max Green Setting (Gmax), s	* 51			* 19			* 51			* 19		
Max Q Clear Time (g_c+I1), s	0.0			0.0			0.0			0.0		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	18.2											
HCM 6th LOS	B											
Notes												

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	3	19	33	1
Future Vol, veh/h	1	1	3	19	33	1
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	60	66	66
Heavy Vehicles, %	0	0	9	9	4	4
Mvmt Flow	2	2	5	32	50	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	94	51	52
Stage 1	51	-	-
Stage 2	43	-	-
Critical Hdwy	6.4	6.2	4.19
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.281
Pot Cap-1 Maneuver	911	1023	1510
Stage 1	977	-	-
Stage 2	985	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	908	1023	1510
Mov Cap-2 Maneuver	908	-	-
Stage 1	974	-	-
Stage 2	985	-	-







Approach	EB	NB	SB
HCM Control Delay, s	8.8	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1510	-	962	-	-
HCM Lane V/C Ratio	0.003	-	0.003	-	-
HCM Control Delay (s)	7.4	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-









Intersection

Intersection Delay, s/veh	18.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	372	5	26	442	9	7	2	5	5	10	14
Future Vol, veh/h	8	372	5	26	442	9	7	2	5	5	10	14
Peak Hour Factor	0.91	0.91	0.91	0.82	0.82	0.82	0.81	0.81	0.81	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	4	4	4	15	15	15	8	8	8
Mvmt Flow	9	409	5	32	539	11	9	2	6	6	12	16
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	15.2	22	9.7	9.6
HCM LOS	C	C	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	100%	0%	100%	0%	17%
Vol Thru, %	14%	0%	99%	0%	98%	34%
Vol Right, %	36%	0%	1%	0%	2%	48%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	8	377	26	451	29
LT Vol	7	8	0	26	0	5
Through Vol	2	0	372	0	442	10
RT Vol	5	0	5	0	9	14
Lane Flow Rate	17	9	414	32	550	34
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.031	0.014	0.595	0.049	0.771	0.057
Departure Headway (Hd)	6.509	5.684	5.171	5.564	5.047	6.101
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	553	628	696	642	715	582
Service Time	4.509	3.431	2.918	3.308	2.791	4.194
HCM Lane V/C Ratio	0.031	0.014	0.595	0.05	0.769	0.058
HCM Control Delay	9.7	8.5	15.3	8.6	22.8	9.6
HCM Lane LOS	A	A	C	A	C	A
HCM 95th-tile Q	0.1	0	4	0.2	7.4	0.2

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	321	26	5	412	22	24	0	9	12	0	33
Future Vol, veh/h	28	321	26	5	412	22	24	0	9	12	0	33
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	73	73	73	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	4	4	4	3	3	3	2	2	2
Mvmt Flow	32	369	30	7	564	30	32	0	12	16	0	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	594	0	0	401	0	0	1065	1058	386	1047	1058	579
Stage 1	-	-	-	-	-	-	450	450	-	593	593	-
Stage 2	-	-	-	-	-	-	615	608	-	454	465	-
Critical Hdwy	4.13	-	-	4.14	-	-	7.13	6.53	6.23	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.236	-	-	3.527	4.027	3.327	3.518	4.018	3.318
Pot Cap-1 Maneuver	977	-	-	1147	-	-	199	224	660	206	225	515
Stage 1	-	-	-	-	-	-	587	570	-	492	493	-
Stage 2	-	-	-	-	-	-	477	484	-	586	563	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	977	-	-	1145	-	-	176	215	659	196	216	515
Mov Cap-2 Maneuver	-	-	-	-	-	-	176	215	-	196	216	-
Stage 1	-	-	-	-	-	-	566	550	-	476	490	-
Stage 2	-	-	-	-	-	-	434	481	-	556	543	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.1			25.4			17		
HCM LOS							D			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	220	977	-	-	1145	-	-	359
HCM Lane V/C Ratio	0.2	0.033	-	-	0.006	-	-	0.167
HCM Control Delay (s)	25.4	8.8	-	-	8.2	-	-	17
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0	-	-	0.6






















## **Appendix D. Proposed Build Synchro Capacity Reports**

# HCM 6th Signalized Intersection Summary

1001: Haggerty Road & Tyler Road

Proposed AM - 2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	62	82	7	52	10	60	188	12	6	56	60
Future Volume (veh/h)	75	62	82	7	52	10	60	188	12	6	56	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1856	1856	1856	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	93	77	101	9	70	14	82	258	16	8	75	80
Peak Hour Factor	0.81	0.81	0.81	0.74	0.74	0.74	0.73	0.73	0.73	0.75	0.75	0.75
Percent Heavy Veh, %	1	1	1	3	3	3	7	7	7	7	7	7
Cap, veh/h	357	177	232	270	358	72	472	1466	93	118	1031	885
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1324	740	971	1197	1501	300	635	2295	145	107	1615	1385
Grp Volume(v), veh/h	93	0	178	9	0	84	179	0	177	83	0	80
Grp Sat Flow(s),veh/h/ln	1324	0	1710	1197	0	1801	1467	0	1608	1722	0	1385
Q Serve(g_s), s	4.8	0.0	7.1	0.5	0.0	3.0	1.1	0.0	3.6	0.0	0.0	1.8
Cycle Q Clear(g_c), s	7.8	0.0	7.1	7.6	0.0	3.0	3.4	0.0	3.6	1.4	0.0	1.8
Prop In Lane	1.00		0.57	1.00		0.17	0.46		0.09	0.10		1.00
Lane Grp Cap(c), veh/h	357	0	408	270	0	430	1003	0	1027	1149	0	885
V/C Ratio(X)	0.26	0.00	0.44	0.03	0.00	0.20	0.18	0.00	0.17	0.07	0.00	0.09
Avail Cap(c_a), veh/h	357	0	408	270	0	430	1003	0	1027	1149	0	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.4	0.0	25.9	29.1	0.0	24.3	5.8	0.0	5.9	5.5	0.0	5.5
Incr Delay (d2), s/veh	1.8	0.0	3.4	0.2	0.0	1.0	0.4	0.0	0.4	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	3.0	0.2	0.0	1.3	1.0	0.0	1.0	0.4	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	0.0	29.2	29.3	0.0	25.3	6.2	0.0	6.2	5.6	0.0	5.7
LnGrp LOS	C	A	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h	271			93			356			163		
Approach Delay, s/veh	29.2			25.7			6.2			5.7		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	56.0			24.0			56.0			24.0		
Change Period (Y+Rc), s	* 4.9			* 4.9			* 4.9			* 4.9		
Max Green Setting (Gmax), s	* 51			* 19			* 51			* 19		
Max Q Clear Time (g_c+l1), s	0.0			0.0			0.0			0.0		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	15.2											
HCM 6th LOS	B											
Notes												






HCM 6th TWSC  
9001: Morton Taylor Road & Heatherfield Boulevard

Proposed AM - 2022

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	6	2	7	18	1
Future Vol, veh/h	1	6	2	7	18	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	60	60	60	60
Heavy Vehicles, %	0	0	43	43	23	23
Mvmt Flow	1	7	3	12	30	2







Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	49	31	32
Stage 1	31	-	-
Stage 2	18	-	-
Critical Hdwy	6.4	6.2	4.53
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.587
Pot Cap-1 Maneuver	965	1049	1352
Stage 1	997	-	-
Stage 2	1010	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	963	1049	1352
Mov Cap-2 Maneuver	963	-	-
Stage 1	995	-	-
Stage 2	1010	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	1.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1352	-	1036	-	-
HCM Lane V/C Ratio	0.002	-	0.008	-	-
HCM Control Delay (s)	7.7	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-







Intersection

Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	158	3	5	264	3	1	4	5	8	12	2
Future Vol, veh/h	2	158	3	5	264	3	1	4	5	8	12	2
Peak Hour Factor	0.75	0.75	0.75	0.87	0.87	0.87	0.67	0.67	0.67	0.80	0.80	0.80
Heavy Vehicles, %	4	4	4	5	5	5	12	12	12	12	12	12
Mvmt Flow	3	211	4	6	303	3	1	6	7	10	15	3
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0





Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.6	10.9	8.3	8.7
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	100%	0%	100%	0%	36%
Vol Thru, %	40%	0%	98%	0%	99%	55%
Vol Right, %	50%	0%	2%	0%	1%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	2	161	5	267	22
LT Vol	1	2	0	5	0	8
Through Vol	4	0	158	0	264	12
RT Vol	5	0	3	0	3	2
Lane Flow Rate	15	3	215	6	307	28
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.021	0.004	0.293	0.009	0.415	0.041
Departure Headway (Hd)	5.134	5.421	4.906	5.379	4.87	5.412
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	697	662	734	669	743	662
Service Time	3.168	3.136	2.621	3.079	2.57	3.443
HCM Lane V/C Ratio	0.022	0.005	0.293	0.009	0.413	0.042
HCM Control Delay	8.3	8.2	9.6	8.1	11	8.7
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.1	0	1.2	0	2.1	0.1

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	155	11	7	207	8	36	0	9	21	0	31
Future Vol, veh/h	8	155	11	7	207	8	36	0	9	21	0	31
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	72	72	72	80	80	80	72	72	72
Heavy Vehicles, %	5	5	5	5	5	5	2	2	2	0	0	0
Mvmt Flow	11	212	15	10	288	11	45	0	11	29	0	43
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	300	0	0	227	0	0	577	562	220	562	564	295
Stage 1	-	-	-	-	-	-	242	242	-	315	315	-
Stage 2	-	-	-	-	-	-	335	320	-	247	249	-
Critical Hdwy	4.15	-	-	4.15	-	-	7.12	6.52	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Follow-up Hdwy	2.245	-	-	2.245	-	-	3.518	4.018	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1244	-	-	1324	-	-	428	436	820	441	438	749
Stage 1	-	-	-	-	-	-	762	705	-	700	659	-
Stage 2	-	-	-	-	-	-	679	652	-	761	704	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1243	-	-	1324	-	-	398	428	820	429	430	748
Mov Cap-2 Maneuver	-	-	-	-	-	-	398	428	-	429	430	-
Stage 1	-	-	-	-	-	-	755	699	-	693	653	-
Stage 2	-	-	-	-	-	-	635	646	-	744	698	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.2			14.3			12.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	444	1243	-	-	1324	-	-	575				
HCM Lane V/C Ratio	0.127	0.009	-	-	0.007	-	-	0.126				
HCM Control Delay (s)	14.3	7.9	-	-	7.7	-	-	12.2				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.4				

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	167	260	5	8	9
Future Vol, veh/h	4	167	260	5	8	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	74	74	80	80	92	92
Heavy Vehicles, %	0	5	5	0	0	0
Mvmt Flow	5	226	325	6	9	10

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	331	0	0 564 328
Stage 1	-	-	- 328 -
Stage 2	-	-	- 236 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1240	-	- 490 718
Stage 1	-	-	- 734 -
Stage 2	-	-	- 808 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1240	-	- 488 718
Mov Cap-2 Maneuver	-	-	- 572 -
Stage 1	-	-	- 731 -
Stage 2	-	-	- 808 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.8
HCM LOS			B





















Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1240	-	-	-	641
HCM Lane V/C Ratio	0.004	-	-	-	0.029
HCM Control Delay (s)	7.9	-	-	-	10.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1






# HCM 6th Signalized Intersection Summary

1001: Haggerty Road & Tyler Road







09/01/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (veh/h)	111	139	62	2	86	6	120	137	11	11	106	161
Future Volume (veh/h)	111	139	62	2	86	6	120	137	11	11	106	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1885	1885	1885	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	142	178	79	2	106	7	126	144	12	12	112	169
Peak Hour Factor	0.78	0.78	0.78	0.81	0.81	0.81	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	1	1	1	3	3	3	1	1	1
Cap, veh/h	331	291	129	213	418	28	715	1010	85	123	1093	929
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1270	1218	540	1131	1749	115	981	1581	133	115	1710	1454
Grp Volume(v), veh/h	142	0	257	2	0	113	132	0	150	124	0	169
Grp Sat Flow(s),veh/h/ln	1270	0	1758	1131	0	1864	1031	0	1665	1825	0	1454
Q Serve(g_s), s	8.2	0.0	10.4	0.1	0.0	3.9	4.2	0.0	2.9	0.0	0.0	3.8
Cycle Q Clear(g_c), s	12.1	0.0	10.4	10.6	0.0	3.9	8.0	0.0	2.9	2.0	0.0	3.8
Prop In Lane	1.00		0.31	1.00		0.06	0.96		0.08	0.10		1.00
Lane Grp Cap(c), veh/h	331	0	420	213	0	445	746	0	1063	1215	0	929
V/C Ratio(X)	0.43	0.00	0.61	0.01	0.00	0.25	0.18	0.00	0.14	0.10	0.00	0.18
Avail Cap(c_a), veh/h	331	0	420	213	0	445	746	0	1063	1215	0	929
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	0.0	27.1	31.9	0.0	24.7	7.5	0.0	5.7	5.6	0.0	5.9
Incr Delay (d2), s/veh	4.0	0.0	6.5	0.1	0.0	1.4	0.5	0.0	0.3	0.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	4.8	0.0	0.0	1.8	0.9	0.0	0.8	0.7	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.6	0.0	33.7	31.9	0.0	26.0	8.0	0.0	6.0	5.8	0.0	6.3
LnGrp LOS	C	A	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h	399			115			282			293		
Approach Delay, s/veh	33.6			26.1			6.9			6.1		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	56.0			24.0			56.0			24.0		
Change Period (Y+Rc), s	* 4.9			* 4.9			* 4.9			* 4.9		
Max Green Setting (Gmax), s	* 51			* 19			* 51			* 19		
Max Q Clear Time (g_c+l1), s	0.0			0.0			0.0			0.0		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	18.5											
HCM 6th LOS	B											
Notes												

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	3	20	33	1
Future Vol, veh/h	1	1	3	20	33	1
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	60	60	66	66
Heavy Vehicles, %	0	0	9	9	4	4
Mvmt Flow	2	2	5	33	50	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	95	51	52	0	-	0
Stage 1	51	-	-	-	-	-
Stage 2	44	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.19	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.281	-	-	-
Pot Cap-1 Maneuver	909	1023	1510	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	984	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	906	1023	1510	-	-	-
Mov Cap-2 Maneuver	906	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	984	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.8	1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1510	-	961	-	-	
HCM Lane V/C Ratio	0.003	-	0.003	-	-	
HCM Control Delay (s)	7.4	0	8.8	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	







Intersection

Intersection Delay, s/veh 19.7  
Intersection LOS C





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	381	5	26	451	10	7	2	5	5	10	14
Future Vol, veh/h	8	381	5	26	451	10	7	2	5	5	10	14
Peak Hour Factor	0.91	0.91	0.91	0.82	0.82	0.82	0.81	0.81	0.81	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	4	4	4	15	15	15	8	8	8
Mvmt Flow	9	419	5	32	550	12	9	2	6	6	12	16
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	15.7	23.4	9.8	9.6
HCM LOS	C	C	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	100%	0%	100%	0%	17%
Vol Thru, %	14%	0%	99%	0%	98%	34%
Vol Right, %	36%	0%	1%	0%	2%	48%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	8	386	26	461	29
LT Vol	7	8	0	26	0	5
Through Vol	2	0	381	0	451	10
RT Vol	5	0	5	0	10	14
Lane Flow Rate	17	9	424	32	562	34
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.032	0.014	0.611	0.049	0.79	0.058
Departure Headway (Hd)	6.563	5.697	5.184	5.574	5.056	6.147
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	549	626	696	641	714	577
Service Time	4.563	3.448	2.935	3.322	2.804	4.247
HCM Lane V/C Ratio	0.031	0.014	0.609	0.05	0.787	0.059
HCM Control Delay	9.8	8.5	15.8	8.6	24.2	9.6
HCM Lane LOS	A	A	C	A	C	A
HCM 95th-tile Q	0.1	0	4.2	0.2	7.9	0.2

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	329	26	5	418	22	24	0	9	12	0	33
Future Vol, veh/h	28	329	26	5	418	22	24	0	9	12	0	33
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	73	73	73	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	4	4	4	3	3	3	2	2	2
Mvmt Flow	32	378	30	7	573	30	32	0	12	16	0	44
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	603	0	0	410	0	0	1083	1076	395	1065	1076	588
Stage 1	-	-	-	-	-	-	459	459	-	602	602	-
Stage 2	-	-	-	-	-	-	624	617	-	463	474	-
Critical Hdwy	4.13	-	-	4.14	-	-	7.13	6.53	6.23	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.236	-	-	3.527	4.027	3.327	3.518	4.018	3.318
Pot Cap-1 Maneuver	970	-	-	1138	-	-	194	218	652	200	219	509
Stage 1	-	-	-	-	-	-	580	565	-	486	489	-
Stage 2	-	-	-	-	-	-	471	480	-	579	558	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	970	-	-	1136	-	-	172	209	651	190	210	509
Mov Cap-2 Maneuver	-	-	-	-	-	-	172	209	-	190	210	-
Stage 1	-	-	-	-	-	-	560	545	-	470	486	-
Stage 2	-	-	-	-	-	-	428	477	-	550	538	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.1			26			17.3		
HCM LOS							D			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	215	970	-	-	1136	-	-	352				
HCM Lane V/C Ratio	0.205	0.033	-	-	0.006	-	-	0.17				
HCM Control Delay (s)	26	8.8	-	-	8.2	-	-	17.3				
HCM Lane LOS	D	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0	-	-	0.6				



Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	382	469	6	8	10
Future Vol, veh/h	9	382	469	6	8	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	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	78	78	92	92
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	10	429	601	8	9	11
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	609	0	-	0	1054	605
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	449	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	979	-	-	-	252	501
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	647	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	979	-	-	-	249	501
Mov Cap-2 Maneuver	-	-	-	-	382	-
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	647	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		13.6		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	979	-	-	-	440	
HCM Lane V/C Ratio	0.01	-	-	-	0.044	
HCM Control Delay (s)	8.7	-	-	-	13.6	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	



## **Appendix E. Validation Logs**

### 1001: Haggerty Road & Tyler Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicles Entered	69	63	83	6	50	10	55	191	15	5	54	58
Vehicles Exited	70	62	83	6	51	10	55	191	15	5	54	58
Hourly Exit Rate	70	62	83	6	51	10	55	191	15	5	54	58
Input Volume	72	63	79	7	51	10	58	188	12	6	56	58
% of Volume	98	98	105	89	100	98	95	101	122	87	96	100

### 1001: Haggerty Road & Tyler Road Performance by movement

Movement	All
Vehicles Entered	659
Vehicles Exited	660
Hourly Exit Rate	660
Input Volume	661
% of Volume	100

### 9001: Morton Taylor Road & Heatherfield Boulevard Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Vehicles Entered	1	7	1	11	18	2	40
Vehicles Exited	1	7	1	12	18	2	41
Hourly Exit Rate	1	7	1	12	18	2	41
Input Volume	1	6	2	10	18	1	39
% of Volume	100	112	44	117	100	160	105

### 9002: Morton Taylor Road & Tyler Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicles Entered	2	156	3	5	264	3	0	3	5	7	16	2
Vehicles Exited	2	156	3	5	265	3	0	4	5	7	16	2
Hourly Exit Rate	2	156	3	5	265	3	0	4	5	7	16	2
Input Volume	2	154	3	5	268	3	1	4	5	8	15	2
% of Volume	89	101	92	95	99	100	0	107	105	90	107	89

### 9002: Morton Taylor Road & Tyler Road Performance by movement

Movement	All
Vehicles Entered	466
Vehicles Exited	468
Hourly Exit Rate	468
Input Volume	471
% of Volume	99

9003: Lancaster Drive/Springwood Boulevard & Tyler Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Vehicles Entered	7	152	12	6	192	7	34	5	20	31	466
Vehicles Exited	7	152	12	6	192	8	34	5	20	31	467
Hourly Exit Rate	7	152	12	6	192	8	34	5	20	31	467
Input Volume	8	149	11	7	195	8	36	9	21	31	475
% of Volume	88	102	107	86	98	100	94	57	96	100	98

9004: Dummy B/Dummy A & Tyler Road Performance by movement

Movement	EBT	WBT	NBR	SBR	All
Vehicles Entered	183	166	35	40	424
Vehicles Exited	184	166	35	40	425
Hourly Exit Rate	184	166	35	40	425
Input Volume	184	170	34	41	429
% of Volume	100	98	103	97	99

Total Network Performance

Vehicles Entered			843	
Vehicles Exited			850	
Hourly Exit Rate			850	
Input Volume			3290	
% of Volume			26	



### 1001: Haggerty Road & Tyler Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicles Entered	100	145	60	1	83	8	123	138	11	12	105	164
Vehicles Exited	100	146	60	1	82	7	123	138	10	12	105	164
Hourly Exit Rate	100	146	60	1	82	7	123	138	10	12	105	164
Input Volume	108	144	59	2	83	6	119	137	11	11	106	159
% of Volume	93	101	102	50	98	112	103	101	89	107	99	103

### 1001: Haggerty Road & Tyler Road Performance by movement

Movement	All
Vehicles Entered	950
Vehicles Exited	948
Hourly Exit Rate	948
Input Volume	946
% of Volume	100

### 9001: Morton Taylor Road & Heatherfield Boulevard Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Vehicles Entered	1	2	2	22	28	1	56
Vehicles Exited	1	2	2	22	28	1	56
Hourly Exit Rate	1	2	2	22	28	1	56
Input Volume	1	1	3	21	33	1	60
% of Volume	80	160	73	106	85	80	93

### 9002: Morton Taylor Road & Tyler Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicles Entered	8	359	5	25	458	9	5	2	6	4	14	13
Vehicles Exited	8	360	5	25	459	9	5	2	6	4	14	14
Hourly Exit Rate	8	360	5	25	459	9	5	2	6	4	14	14
Input Volume	8	372	5	26	457	9	7	2	5	5	16	14
% of Volume	97	97	100	96	100	103	74	100	114	76	89	102

### 9002: Morton Taylor Road & Tyler Road Performance by movement

Movement	All
Vehicles Entered	908
Vehicles Exited	911
Hourly Exit Rate	911
Input Volume	926
% of Volume	98

9003: Lancaster Drive/Springwood Boulevard & Tyler Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Vehicles Entered	28	321	23	5	445	23	25	7	12	31	920
Vehicles Exited	28	321	23	5	444	23	26	7	12	31	920
Hourly Exit Rate	28	321	23	5	444	23	26	7	12	31	920
Input Volume	28	331	26	5	439	22	24	9	12	33	928
% of Volume	99	97	88	105	101	106	109	78	98	95	99

9004: Driveway B/Driveway A & Tyler Road Performance by movement

Movement	EBT	EBR	WBT	SBR	All
Vehicles Entered	302	35	380	78	795
Vehicles Exited	303	35	379	79	796
Hourly Exit Rate	303	35	379	79	796
Input Volume	310	38	370	78	796
% of Volume	98	93	102	101	100

Total Network Performance

Vehicles Entered			1295	
Vehicles Exited			1302	
Hourly Exit Rate			1302	
Input Volume			5315	
% of Volume			24	

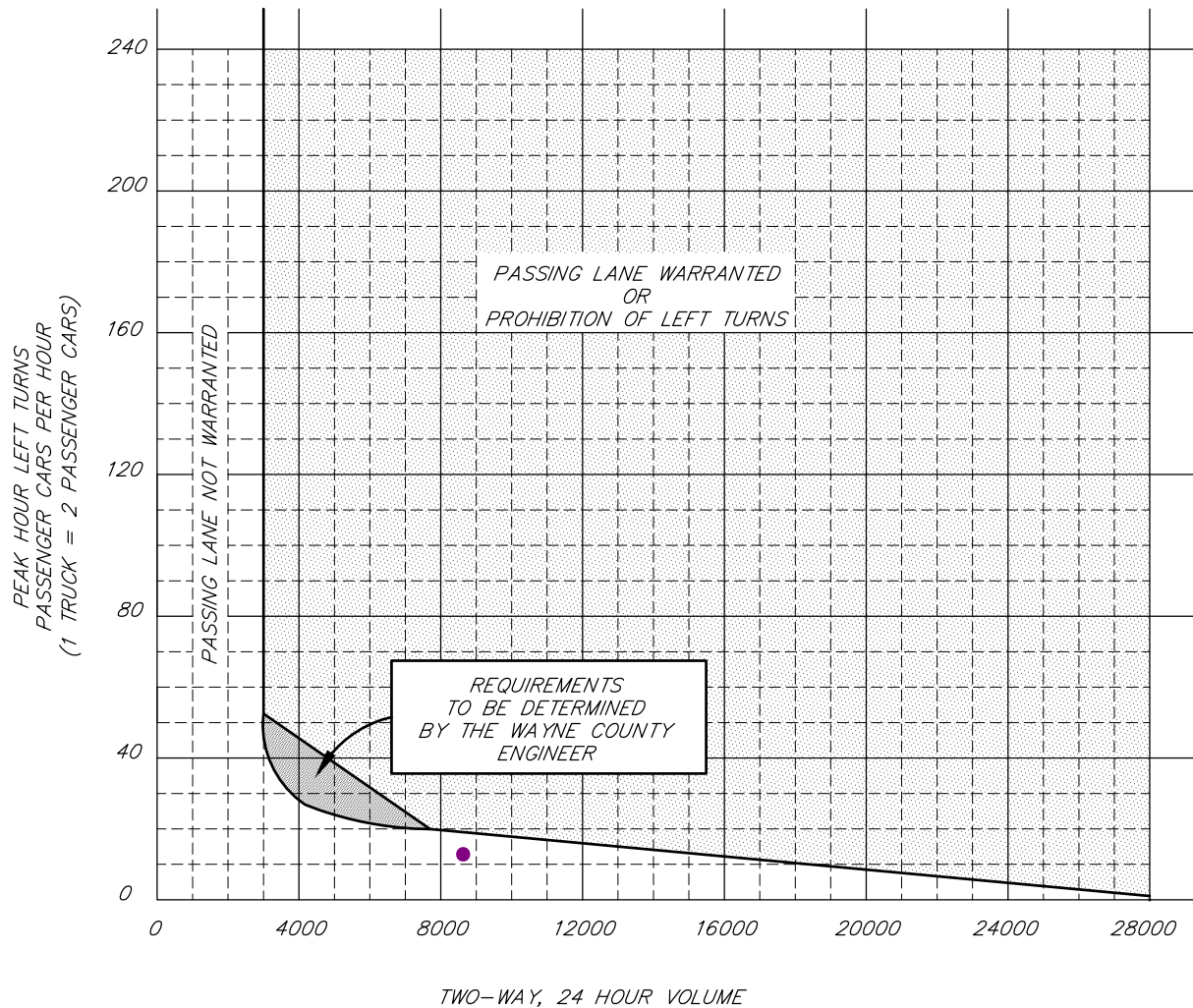


## **Appendix F. Turn Lane Warrant Analyses**

# WARRANT FOR LEFT TURN PASSING LANE

TWO-LANE HIGHWAY

(BASED ON ULTIMATE DEVELOPMENT)



REVISION DATE:

DIRECTOR OF ENGINEERING

DIVISION PERMIT ENGINEER

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES  
ENGINEERING DIVISION/PERMIT OFFICE  
PERMIT STANDARDS

## WARRANT FOR LEFT TURN PASSING LANE

SCALE  
NOT TO SCALE

AL-1

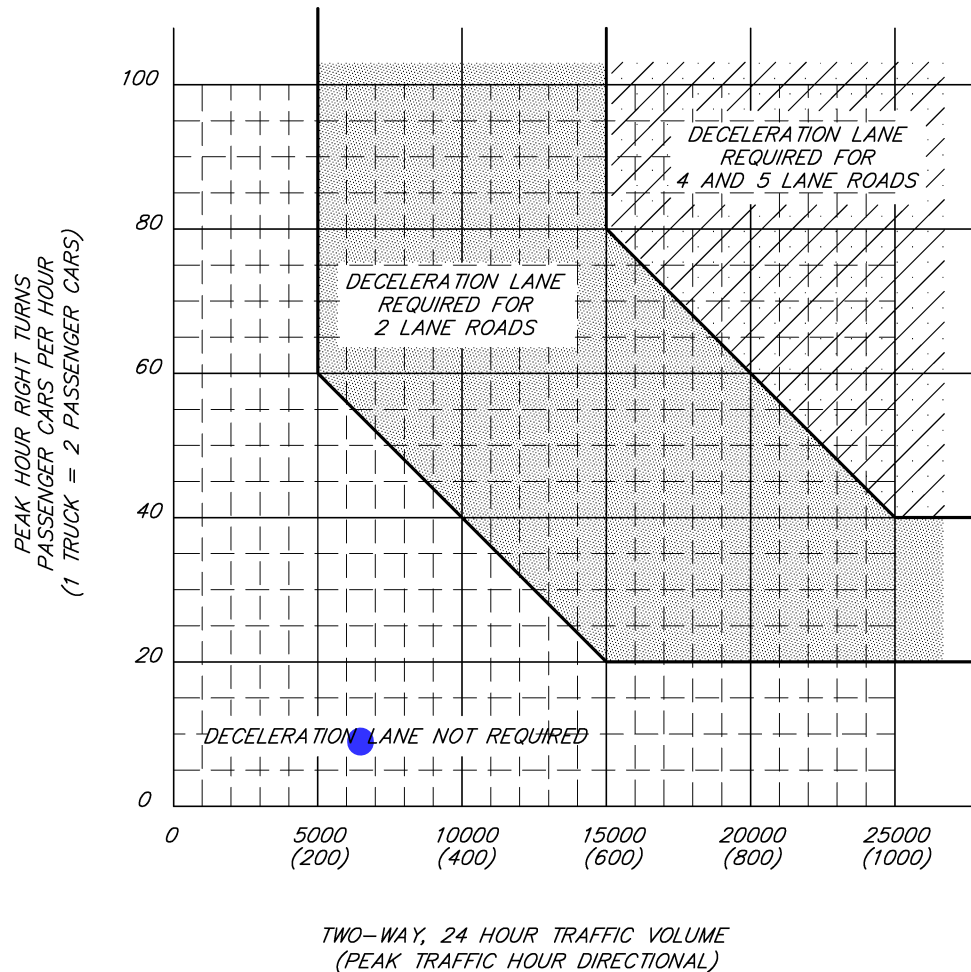
SHEET  
1 OF 1

NOTE: THIS IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY FOR PUBLICATION IS KEPT ON FILE AT THE WAYNE COUNTY ENGINEERING OFFICES.



# WARRANT FOR RIGHT TURN DECELERATION LANE

(BASED ON ULTIMATE DEVELOPMENT)



REVISION DATE:

DIRECTOR OF ENGINEERING

DIVISION PERMIT ENGINEER

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES  
ENGINEERING DIVISION/PERMIT OFFICE  
PERMIT STANDARDS

## WARRANT FOR RIGHT TURN DECELERATION LANE

SCALE  
NOT TO SCALE

**AL-4**

SHEET  
1 OF 1

NOTE: THIS IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY FOR PUBLICATION IS KEPT ON FILE AT THE WAYNE COUNTY ENGINEERING OFFICES.



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY  
WARREN DISTRICT OFFICE



LIESL EICHLER CLARK  
DIRECTOR

April 1, 2022

VIA E-MAIL

Chris Garner  
23944 Eureka Road  
Taylor MI 48180

Dear Chris Garner:

SUBJECT: Preapplication Meeting  
MiWaters Site Name: 82-Tyler Rd & Morton Tyler Rd-Belleville  
Submission Number: HPF-CQDZ-XPBYK  
T03S, R08E, Section 11, Van Buren Township, Wayne County

This letter is a follow up to our March 15, 2022, onsite pre-application meeting regarding the proposed project in Van Buren Township, Wayne County. The purpose of a preapplication meeting is to provide you with information that will clarify the permit process, answer preliminary questions about your specific project in order to avoid delays at a later date, and to determine, if possible, the need for wetland or inland lakes and streams permits.

During this meeting, we reviewed the need to obtain a permit under Part 301, Inland Lakes and Streams; and Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The review was based on discussion of the proposed project and/or draft permit application, the proposed site, and potential modifications to the project discussed during our meeting.

Based on the information provided with the draft permit application, including your delineation of wetlands on the proposed project site, the Michigan Department of Environment, Great Lakes, and Energy's (EGLE) Water Resources Division (WRD) has determined that a permit is required under Part 303 of the NREPA. Please reference the submission number at the top of this letter when submitting a permit application for this project.

This determination is based on the enclosed project plan prepared by Wade Trim and dated December 15, 2021, along with other enclosed information provided at the time of this meeting only. Provided that the proposed project and location are not altered, this determination is binding on EGLE for a period of two years from the date of this meeting.

During the review of the proposed project, the WRD noted activities that, as currently designed, would require authorization under:

Floodplain Regulatory Authority in Part 31, Water Resources Protection, of the NREPA.

Section 404 of the federal Clean Water Act and/or the federal Rivers and Harbors Act from the United States Army Corps of Engineers.

Please note that projects including activities defined as a major discharge in accordance with the current Memorandum of Agreement (MOA) between EGLE the United States Environmental Protection Agency, Region 5 (USEPA), Administration of the Section 404 Program of the Clean Water Act will require concurrent USEPA review. Major discharges are defined in applications for permits that:

- o Affecting one or more acres of wetland,
- o Include new construction of breakwaters or seawalls with a total length of more than 1,000 feet,
- o Include enclosure of more than 300 feet of a stream in one or more segments, or
- o Require relocation or channelization of more than 1,000 feet of a stream in one or more segments.

During the meeting, we also discussed a number of issues related to the project, including the following:

- Information on completing an application form. Please submit the Joint Permit Application (JPA) using the same MiWaters site as was used for this preapplication meeting request.
- Possible alternative design options to minimize project effects on aquatic resources; specifically, avoiding the proposed development in forested wetland areas on the north end of the project site and removing or re-locating the road connection to Morton Taylor Road to avoid and minimize impacts to forested areas.
- The need to more clearly define the purpose of your project in the permit application.
- The need for a more thorough analysis of alternative methods or locations in the permit application; specifically site designs that utilize all available upland area within the agricultural field and avoids the forested area on the north end of the site.
- Potential adverse effects to aquatic resources on the site that may result from the proposed project and the need for mitigation for unavoidable adverse impacts.
- The potential presence of state- or federally-listed threatened or endangered species on the site. We recommend review of the material available on the Michigan Department of Natural Resources' Web site at [Michigan.gov/Threatened and Endangered Species](https://www.michigan.gov/Threatened_and_Endangered_Species).
- Potential floodplain effects. We recommend that you discuss this issue further with the WRD District Floodplain Engineer, Pat Durack at [durackp@michigan.gov](mailto:durackp@michigan.gov).
- Potential for additional wetlands located on the east side of the agricultural field that was not identified during the onsite pre-application meeting.

Please note that this is not a permit. The WRD cannot indicate during a preapplication meeting whether or not a permit will be issued. The WRD cannot make a decision regarding a permit until it has considered all of the information provided in the final permit application, and, in some

instances, has also considered comments received in response to a public notice of the project. Therefore, the WRD cannot legally tell you whether the project will be permitted in advance of a permit application being submitted and reviewed.

The EGLE submission number assigned to this project is HPF-CQDZ-XPBYK. Please keep a record of this submission number and use it when submitting a final application or otherwise corresponding with our office on this project.

We appreciate the opportunity to meet with you or your representative to address these concerns. We have established a submission for this project, and the information submitted to date will be used to facilitate processing of the final application. If you should have follow-up questions before then, please contact me at; richardsonj1@michigan.gov; or EGLE, WRD, Warren District Office, 27700 Donald Court, Warren, Michigan 48092-2793.

Sincerely,

A handwritten signature in black ink that reads "Jeremy Richardson". The signature is fluid and cursive, with the first name "Jeremy" and last name "Richardson" clearly distinguishable.

Jeremy Richardson  
Water Resources Division

Attachments

cc: Van Buren Township Clerk  
Bryana Guevara, Marx Wetlands LLC  
Luke Bonner, Bonner Advisory Group