



AGENDA
CHARTER TOWNSHIP OF MERIDIAN
PLANNING COMMISSION – REGULAR MEETING
July 12, 2021 7PM

1. CALL MEETING TO ORDER
2. PUBLIC REMARKS
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
 - A. June 14, 2021 Regular Meeting
5. COMMUNICATIONS
 - A. Brent Felton RE: SUP #21071
 - B. John Faichney RE: SUP #21071
 - C. Lynne Page RE: MUPUD #21-19024-2 & SUP #21-19051-2
 - D. Nancy Bennett RE: SUP #21071
6. PUBLIC HEARINGS
 - A. Special Use Permit #21071 (Sparrow), construct a building greater than 25,000 square feet in size on the north side of Jolly Road, east of Kansas Street.
7. UNFINISHED BUSINESS
8. OTHER BUSINESS
9. REPORTS AND ANNOUNCEMENTS
 - A. Township Board update.
 - B. Liaison reports.
10. PROJECT UPDATES
 - A. New Applications
 1. Rezoning 21060 - 2260 Jolly Oak: Request from Becky Beauchine Kulka to rezone property at 2260 Jolly Oak from PO, Professional and Office, to C-2, Commercial.
 - B. Site Plans Received
 1. Site Plan Review #21-06 (Sparrow), new medical office building/freestanding ER building at Jolly Road and Kansas Street
 - C. Site Plans Approved
11. PUBLIC REMARKS
12. ADJOURNMENT

AGENDA page 2
CHARTER TOWNSHIP OF MERIDIAN
PLANNING COMMISSION MEETING
July 12, 2021 7PM

TENTATIVE PLANNING COMMISSION AGENDA
July 26, 2021

1. PUBLIC HEARING
2. UNFINISHED BUSINESS
 - A. Special Use Permit #21071 (Sparrow), construct a building greater than 25,000 square feet in size on the north side of Jolly Road, east of Kansas Street.
3. OTHER BUSINESS - None

Individuals with disabilities requiring auxiliary aids or services should contact: Principal Planner Peter Menser, 5151 Marsh Road, Okemos, MI 48864 or 517.853.4576 - Ten Day Notice is Required.
Meeting Location: Zoom web conferencing application
Meeting ID: 872 0006 8286 Password: 5151

Providing a safe and welcoming, sustainable, prime community.



**CHARTER TOWNSHIP OF MERIDIAN
PLANNING COMMISSION
REGULAR MEETING MINUTES**

June 14, 2021

Meeting held virtually using the Zoom web conferencing application

7:00 P.M.

PRESENT: Chairman Hendrickson, Commissioners McConnell, Premoe, Shrewsbury, Richards, Blumer, Snyder

ABSENT: Commissioners Cordill and Trezise

STAFF: Director of Community Planning & Development Timothy Schmitt, Assistant Planner Keith Chapman, Neighborhoods and Economic Development Director Amber Clark, Information Technology Director Stephen Gebes, Multimedia Producer Samantha Diehl

1. CALL MEETING TO ORDER

Chair Hendrickson called the regular meeting to order at 7:00 P.M.

2. PUBLIC REMARKS

NONE

3. APPROVAL OF AGENDA

**Commissioner Blumer moved to approve the agenda.
Seconded by Commissioner Premoe.**

VOICE VOTE: Motion approved unanimously.

4. APPROVAL OF MINUTES

A. May 10, 2021 Regular Meeting

Commissioner Premoe moved to approve the minutes.
Seconded by Commissioner Richards.

Commissioner Snyder mentioned one spelling correction on page 4 section 9B second paragraph, second sentence. "Discussed two railroad quite zones." The correction being quite zones, to quiet zones.

Commissioner Hendrickson accepted the friendly amendment.

Director of Community Planning & Development Tim Schmitt thanked Michelle Prinz for taking over minutes during staff changes.

VOICE VOTE: Motion approved unanimously.

5. COMMUNICATIONS

NONE

6. PUBLIC HEARINGS

- A. Special Use Permit #21041 (Guthrie), landscape and grading improvements located in the floodplain at 4681 Nakoma Drive.

Chair Hendrickson opened the public hearing at 7:04 p.m.

Assistant Planner Chapman provided an overview of the Special Use Permit (SUP). The subject site is located at 4681 Nakoma Drive, is approximately 0.4 acre and resides in a RAA zoning district. A 2,007 square foot house is located on the property, which was constructed in 1959. The owner wishes to place 9.44 cubic yards of fill in the floodplain to elevate the proposed house above the floodplain. A compensating cut of 10.78 cubic yards is proposed to mitigate the fill in the floodplain. The Future Land Use Map designates the property as R-2 Residential 0.5-3.5 du/acre.

The subject property is located within the 100 year floodplain of the Red Cedar River. The elevation of the floodplain at the site is 843.1 feet above mean sea level. After the fill is placed the house will be located above the floodplain. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) issued a permit for the proposed work in the floodplain on April 30, 2021. The Township's Chief Engineer submitted a letter dated June 10, 2021 approving the project.

The Applicant has requested the Planning Commission make a decision on the SUP the same night as the hearing to allow work on the site to take place as soon as possible. For this to happen Bylaw 6.4a must be suspended by a motion.

Stacy Guthrie 4681 Nakoma Drive stated that a part of the house was originally part of the 500 year floodplain. She had several surveys done and FEMA changed the section to the 100 year floodplain and the project has been approved by the state.

Public Comments: NONE

Planning Commission Discussion:

- Commissioner Premoe asked what the consequences of not approving the SUP tonight would be. Stacy Guthrie replied that a township staff member asked her to submit the application in a way that would allow it to be voted on, on the same day.
- Commissioner Blumer stated that he has no objection to the project.
- Commissioner Premoe stated that he has no objection with the project, but is hesitant to set a precedent allowing anyone to apply for SUP and same day approval.
- Commissioner Richards has no objection to the project or approving the project today.
- Commissioner McConnell asked the applicant clarifying questions about the nature of the project.
- Commissioner Hendrickson stated that the resolution to approve the SUP was missing from the packet. Assistant Planner Chapman shared the resolution with Commissioner Hendrickson.
- Commissioner Shrewsbury stated that this project is small enough that she has no objection to approving the project tonight.

- Commissioner Richards stated that the Planning Committee has done same day approval in the past.
- Commissioner Blumer stated that he did not object to approving the project tonight.

Commissioner Richards moved to suspend the Planning Commission Bylaw 6.4a to consider Special Use Permit #21041 the same night as the public hearing. Seconded By Commissioner Blumer.

ROLL CALL VOTE: YEAS: Commissioners McConnel, Premoe, Shrewsbury, Richards, Blumer, Snyder, Chairman Hendrickson

NAYS: None

Motion carried: 7-0

Commissioner Richards moved to approve Special Use Permit #21041 (Guthrie), landscape and grading improvements. Seconded by Commissioner Blumer.

ROLL CALL VOTE: YEAS: Commissioners McConnel, Premoe, Shrewsbury, Richards, Blumer, Snyder, Chairman Hendrickson

NAYS: None

Motion carried: 7-0

Chair Hendrickson closed the public hearing at 7:26 p.m.

7. UNFINISHED BUSINESS

- A. Rezoning #21030 (New China of Michigan), rezone 0.42 acre RC (Multiple Family-maximum 14 dwelling units per acre) to RCC (multiple Family-maximum 34 dwelling units per acre) at 5114 Jo Don Drive.

Assistant Planner Chapman outlined Rezoning #21030 with amendments.

Planning Commission Discussion:

- Commissioner Richards stated that he wasn't sure about the proposition.
- Chairman Hendrickson spoke in support of the proposition.
- Director Schmitt clarified the definition of what split zoning is.
- Commissioner Blumer asked a clarifying question about the conditions of the rezoning. Director Schmitt answered that if the applicant hasn't applied to rezone the northern portion of the property that it would rezone back to its prior state.

Chairman Hendrickson moved to adopt resolution Rezoning #21030 (New China of Michigan), rezone 0.42 acre RC (Multiple Family-maximum 14 dwelling units per acre) to RCC (multiple

Family-maximum 34 dwelling units per acre) at 5114 Jo Don Drive. Seconded by Commissioner Snyder.

ROLL CALL VOTE: YEAS: Commissioners Shrewsbury, Snyder, Chairman Hendrickson

NAYS: Commissioners McConnel, Richards, Blumer

ABSTAIN due to not being properly informed Commissioner Premoe

Motion fails: 3-3-1

- B. Rezoning #21050 (M & J Management), rezone an approximately 5 acre parcel located at 1999 Saginaw Highway, from C-2 (Commercial) to I (Industrial).

Director Schmitt outlined Rezoning #21050.

Commission McConnel moved to adopt Rezoning #21050 (M & J Management), rezone an approximately 5 acre parcel located at 1999 Saginaw Highway, from C-2 (Commercial) to I (Industrial). Seconded by Commissioner Blumer.

ROLL CALL VOTE: YEAS: Commissioners McConnel, Premoe, Shrewsbury, Richards, Blumer, Snyder, Chairman Hendrickson

NAYS: None

Motion carried: 7-0

- C. Zoning Amendment #21020 (Planning Commission), amend Section 86-440 Mixed Use Planned Unit Development (MUPUD) of the Code of Ordinances.

Director Schmitt outlined Zoning Amendment #21020.

Commissioner Richards move to approve Zoning Amendment #21020 (Planning Commission), amend Section 86-440 Mixed Use Planned Unit Development (MUPUD) of the Code of Ordinances. Seconded by Commissioner Blumer.

ROLL CALL VOTE: YEAS: Commissioners McConnel, Premoe, Shrewsbury, Richards, Blumer, Snyder, Chairman Hendrickson

NAYS: None

Motion carried: 7-0

8. OTHER BUSINESS

None

9. REPORTS AND ANNOUNCEMENTS

A. Township Board update.

Director Schmitt stated the Rezoning for Martin investment properties at Jolly and Kansas road is up for final adoption, and further discussion for a request to rezone former Lafontaine site on Grand River at Powell road is coming. He also said the Downtown Development Authority will be asking for loan forgiveness from the Township Board on June 15th, and that the Township is getting ready to send out a citizen survey.

B. Liaison reports.

Commissioner Blumer attended the latest DDA meeting and noted the requested loan forgiveness will be asked for June 15th. He also stated that commercial interest in the Village of Okemos project has plummeted, but that residential interest remains and has caused changes in the project.

Commissioner Shrewsbury stated the Village of Okemos project is a big investment and hopes it doesn't change too much.

Commissioner Snyder shared information about growing communities, and asked how Meridian Township could grow its young professional populace.

10. PROJECT UPDATES

- A. New Applications
NONE
- B. Site Plans Received
NONE
- C. Site Plans Approved
NONE

11. PUBLIC REMARKS - None

12. ADJOURNMENT

**Commissioner McConnel Moved to Adjourn.
Seconded by Commissioner Blumer.**

VOICE VOTE: Motion approved unanimously.

Commissioner Hendrickson adjourned the regular meeting at 8:08 p.m.

Submitted,
Zachary Lemaster

Tim Schmitt

From: Frank Walsh
Sent: Friday, June 25, 2021 9:35 AM
To: Brent
Subject: RE: Rezoning of Kansas Rd.

Categories: Comms to PC

Dr. Felton,

Thank you for sharing your safety concerns. I note that you forwarded the same message to the Board. I will make sure you are privy to the date and time of the Planning Commission meeting so you can present your safety concerns.

Regards,

Frank

“Best Town in Michigan to Raise a Family” Newsweek Magazine 2021

“Best Small Town in Michigan to Live” Niche 2020

“Be Somebody that Makes Everybody Feel Like Somebody.”



A Prime Community

Frank L. Walsh
Township Manager
walsh@meridian.mi.us
W 517.853.4258 | F 517.853.4251
5151 Marsh Road | Okemos, MI 48864
meridian.mi.us

From: Brent <feltonbr@gmail.com>
Sent: Friday, June 25, 2021 8:39 AM
To: Frank Walsh <walsh@meridian.mi.us>
Subject: Rezoning of Kansas Rd.

Dear Mr. Walsh,

Following the recent meeting addressing the rezoning of Kansas road to allow Sparrow Hospital to begin a new project development in Okemos, my understanding is that the rezoning motion was approved by the board despite the objections of numerous residents living adjacent to the affected area. I was very disappointed to hear the board's decision, and would like information on how the voices of the residents that are opposed to the incorporation of a 24/7 ER at this location may be heard by the planning committee. As an emergency physician who has worked in both Sparrow and McLaren emergency departments, I have a thorough understanding of the risks that are inherent when working in these environments.

I believe I share the sentiments of my fellow neighbors in stating that we are not opposed to attracting health care providers to our area. I believe that the investment in our community to attract primary care providers to our area benefits everyone in the surrounding community. As a result, I believe the residents directly affected by this development would not oppose the development of primary care provider/specialist clinic offices at

this location. However, the development of a dedicated 24/7 emergency department carries significantly greater risks to the safety for everyone involved. As a result, we are asking that our voices be heard by the planning committee in regards to our opposition to the incorporation of an emergency department at this location. The safety of our residents is something I think we can all agree upon.

Any information on how this process will progress from this point forward would be greatly appreciated.

Regards,

Brent Felton, DO
2470 Robins Way

Tim Schmitt

From: Meridian Township, MI <meridian-mi@enotify.visioninternet.com>
Sent: Wednesday, July 7, 2021 9:36 AM
To: Planning Commision (DG)
Subject: Sparrow ER proposal

Categories: Comms to PC

Message submitted from the <Meridian Township, MI> website.

Site Visitor Name: Brent Felton
Site Visitor Email: feltonbr@gmail.com

Good morning,

I was notified that the planning commission will be discussing the proposal for Sparrow Hospital to construct an outpatient services center at the corner of Jolly and Kansas roads. While I am not opposed to bringing primary care providers into the Okemos community, many residents (myself included) have serious safety concerns regarding the incorporation of a free-standing ER at this location that abuts private properties. Unfortunately, I was made aware of the meeting for next Monday only yesterday and I am out of town for work on that date. Is there a format to speak to the planning commission remotely during this meeting to express my concerns?

Thank you,

Brent Felton
2470 Robins Way

To the Meridian Township Planning Committee Board Members:

I am writing to you in opposition to the proposal to establish a freestanding emergency department (ED) at the corner of Jolly and Kansas roads. I am an emergency physician who has worked at both McLaren and Sparrow Hospitals but am no longer affiliated with either health care system as I now work in Huron County and commute from my home in Okemos. As a result, I represent an unbiased opinion toward either health care system. While I welcome Sparrow Hospital's desire to bring providers into the Okemos community (primary care providers/specialist clinics), the development of a freestanding emergency department as part of the proposal carries with it significant safety risks to the nearby residents who are universally opposed to this proposal.

The concept of freestanding emergency departments was intended to bring emergent health care to residents living in rural areas where it was deemed too costly to construct and operate fully functioning hospitals. States such as Texas and Colorado once championed the idea of freestanding EDs as an answer to the health care needs of residents living in rural areas of these states. The reality however is far from the original intent. 75% of freestanding EDs have been built within 6 miles of a hospital-based emergency department and almost exclusively in affluent areas with a goal of maximizing profits. Furthermore, an overwhelming percentage of visits to freestanding EDs when reviewed have been deemed appropriate for urgent care centers. The costs associated with freestanding EDs however are **10-22 times the cost of a similar visit to an urgent care or primary care provider's office** (United Health Group). In Colorado, health officials are offering to pay hospitals to shut down freestanding EDs due to the exorbitant costs associated with these facilities (Phil Galewitz in Kaiser Health News republished in the Denver Post on May 21, 2021).

With the slated opening of McLaren Hospital in 2022 just 4.7 miles from the proposed Sparrow site, Sparrow's intent is clear. Sparrow Hospital is attempting to profit from EMS/ambulance traffic from the surrounding communities that will utilize Jolly Road as a thoroughfare to McLaren Hospital. While I am not opposed to Sparrow or any health system attempting to expand and profit, the potential benefit of a proposed site at Jolly and Kansas roads does not offset the potential safety risks of patients who present to emergency departments for acute agitation/suicidal/homicidal thoughts or behavior. Patients presenting to emergency departments for behavioral issues are commonplace and only increasing in our strained mental health care system. These are patients that must be evaluated and medically cleared before psychiatric evaluation can be performed which can take days to facilitate. Many of these patients become frustrated with the process and attempt to flee from these facilities into the surrounding areas. For the residents living in these adjacent neighborhoods, the risks are simply too great.

In conclusion, I am not opposed to Sparrow Hospital proposing the construction of offices to house primary care providers/specialists at the proposed site. The

incorporation of a 24-hour emergency department however is a very different proposal that carries with it significant safety risks to the surrounding residents. I urge the planning committee to reject this aspect of the proposal and to listen to the voices of the residents who will be directly affected by this development.

I sincerely thank you all for your time and your tireless commitment to our community. If you have any questions, please do not hesitate to contact me by phone or email.

Brent Felton, DO, FACEP
2470 Robins Way
(517) 256-9792
feltonbr@gmail.com

Tim Schmitt

From: Meridian Township, MI <meridian-mi@enotify.visioninternet.com>
Sent: Friday, June 18, 2021 4:10 PM
To: Planning Commision (DG)
Subject: Special use, Kansas Rd., 21020

Categories: Comms to PC

Message submitted from the <Meridian Township, MI> website.

Site Visitor Name: John Faichney, MD
Site Visitor Email: jdfaichney@hotmail.com

I am part of the Kansas Rd Neighborhood with property at 3566 Kansas Rd. Martin/Sparrow originally proposed rezoning for professional office which morphed into a free standing, 24/7 emergency room. This activity is not compatible with residential zoning and should not have been approved by the Board. I urge you to reject the proposal which you will receive for review.

Sincerely, John Faichney, MD 6/18/2021

Tim Schmitt

From: Meridian Township, MI <meridian-mi@enotify.visioninternet.com>
Sent: Friday, July 9, 2021 9:08 AM
To: Planning Commision (DG)
Subject: Kansas Rd, Sparrow Hospital

Message submitted from the <Meridian Township, MI> website.

Site Visitor Name: JD Faichney, MD
Site Visitor Email: jdfaichney@hotmail.com

Sparrow Hospital proposal seriously hampers the ability for our daughter to enjoy our property at 3566 Kansas Rd., Okemos, Michigan. The quietude and safety of this property is undoubtedly at risk. Therefore, we request that Sparrow not destroy the present trees along the property line and add additional natural blocks as well as a protective fence to protect our privacy and person.

Sincerely, JD Faichney. 3566 Kansas, Sheldrake. 7/9/2021

Tim Schmitt

From: Meridian Township, MI <meridian-mi@enotify.visioninternet.com>
Sent: Friday, July 9, 2021 9:33 AM
To: Planning Commision (DG)
Subject: Kansas Rd, Sparrow Hospital Proposal

Message submitted from the <Meridian Township, MI> website.

Site Visitor Name: JD Faichney, MD
Site Visitor Email: jdfaichney@hotmail.com

Because the emergency room increases the public safety risk for this neighborhood, what plans are being made to mitigate this risk?

JD Faichney, MD, 3566 Kansas, Sheldrake, 7/9/2021

Tim Schmitt

From: Lynne Page <page.okemos@gmail.com>
Sent: Monday, July 5, 2021 12:01 PM
To: Tim Schmitt; Planning Commision (DG)
Subject: Public Hearing 07.07.21-Village of Okemos, LLC
Attachments: Village of Okemos MUPUD and SUP Amendments-2.pdf

Categories: Comms to PC

To Director Schmitt and the Planning Commission:

I have attached a letter dated July 5, 2021 in opposition to the proposed amendments for the above-captioned MUPUD/SUP applications. Thank you for considering my input.

Sincerely,
Lynne S. Page
3912 Raleigh Dr.
Okemos, MI 48864

**Lynne S. Page
3912 Raleigh Drive
Okemos, MI 48864
517-347-7403**

July 5, 2021

Tim Schmitt, Director
Community Planning and Development
Charter Township of Meridian
5151 Marsh Road
Okemos, MI 48864

Re: Mixed Use Planned Unit Development #21-19024-2, Special Use Permit #21-19051-2
(Village of Okemos, LLC)

To Director Schmitt:

In response to the public hearing scheduled for July 7, 2021, regarding the proposed amendment to the above-captioned MUPUD and SUP applications, I specifically object to the reduction in commercial space to 15,650 square feet, while retaining the two above-ground parking structures.

The development plan for the Village of Okemos LLC MUPUD has changed significantly from the concept plan initially presented to the public in 2019. The original concept submitted to the Planning Commission included 174 residential units and commercial space of 66,452 square feet, with underground parking garages. The current plan is a far cry from the vision sold to residents and approved by the Planning Commission. After initial approval of the MUPUD/SUP by the Planning Commission, the developer amended the plan prior to submitting it to the Township Board for approval. In January 2021, the developer requested further significant amendments directly from the Director of Community Planning and Development.

Although the developer is now proposing to remove 86 dwelling units, 81 of those were added as a “minor amendment” approved by Director Kieselbach in January 2021. These “minor amendments” included the further reduction of commercial space, together with the conversion of the proposed sub-surface parking garages to two-story parking decks. If 86 dwelling units are being removed and the commercial space is reduced to 15,650 square feet, why are two above-ground parking garages still necessary? If the developer is proposing to revert to the previous building height, the underground parking garages should be restored in accordance with the original plan.

These incremental bait-and-switch development tactics undermine the integrity of the planning process. The significant reduction in commercial space negatively impacts our community by eliminating space for businesses that could provide goods and services to residents. The previous addition of two multi-story parking decks in place of the underground parking previously approved by the Township Board and the Planning Commission is the antithesis of a “village” concept. To recoup the additional costs associated with these above-ground structures, it is likely that the developer will charge parking fees for the use of these garages. You can’t get more urban than that.

Tim Schmitt, Director
Community Planning and Development
July 5, 2021

Page 2

While I am in favor of the revitalization of downtown Okemos, a healthy mix of retail and service businesses is essential to the success of an MUPUD development. From a resident perspective, it appears that the project now consists of high-density, multi-family rental properties and above-ground parking ramps, with most of the commercial space devoted to Douglas J Salon and Spa. I urge you to consider the best interests of our entire community for the long-term and deny the proposed amendments. Please refer all current and future amendments to the Planning Commission for review.

Sincerely,

Lynne S. Page

Lynne S. Page

CC: Meridian Township Planning Commission

Tim Schmitt

From: Frank Walsh
Sent: Friday, July 9, 2021 6:43 AM
To: Tim Schmitt; Ken Plaga; Derek Perry; Amber Clark
Subject: Fwd: Sparrow Health System - Special Use Permit opposition

FYI

Sent from my iPhone

Begin forwarded message:

From: Nancy Bennett <beckerbennett@hotmail.com>
Date: July 8, 2021 at 11:40:14 PM EDT
To: Board <Board@meridian.mi.us>
Subject: Sparrow Health System - Special Use Permit opposition

Dear Meridian Township Board,

I am writing to express my intense opposition to the Sparrow Health System request for a Special Use Permit for a medical office building with an emergency clinic on Jolly Road and Kansas Street.

I have lived in Meridian Township since 1996 and have always enjoyed being a part of this community. Since 2006, my family has lived in The Meadows subdivision directly adjacent to the land the Sparrow Health System has identified for their building/clinic. As we have watched this area and the surrounding neighborhoods along Hulett Road blossom and grow with families and children, we have been very content living here. Throughout these years, I have appreciated Meridian Township's declaration – from the township website –

"We have plenty of reasons why you will find that we are A Prime Community. A destination for raising families, Meridian Township's vision is to achieve and maintain a sustainable and welcoming community with the highest quality of life for our residents. This encompasses protecting our natural environment and our health and safety, and enhancing our prosperity, cultural heritage, diversity and recreational opportunities. We offer an array of quiet neighborhoods and an abundance of natural beauty with four seasons of outdoor activities."

I urge the township to stay committed to and uphold its vision, and to recognize that the proposed Special Use Permit puts this vision in jeopardy. As a long-time resident of the township, this proposed new building will be a game-changer for my family and many other Meridian Township families who have settled in the quiet neighborhoods of this Prime Community with a sense of safety and satisfaction.

As a resident intensely familiar with the day-to-day operations of the area, it is clear that our health and safety will be compromised with the approval of this proposed project as we have unique traffic issues in the area. As you are aware, Jolly Road is a 45-mph throughway that was recently reduced to one lane going eastbound and already experiences congestion at certain times of day with the current traffic patterns. Add to that the presence of newly licensed and inexperienced teenage drivers driving to and from Okemos High School, who live in nearby neighborhoods and frequently travel this way. It will be no surprise when traffic crashes occur with the insertion of additional traffic in the area from those

traveling in crisis to a healthcare setting for emergency care. Knowingly jeopardizing the safety of our young people is of grave concern to me as a caring community member and parent of two teenagers. Further, the main entrance/exit to and from The Meadows subdivision onto Jolly Road has no light and is already frequently very difficult to get across. Again, this would become even more difficult and dangerous for all drivers trying to squeeze in a more congested area. Moreover, the intersection of Jolly and Okemos Roads is extremely busy, and traffic often backs up with current traffic patterns. Again, individuals and families drawn to the area in crisis and in need of emergency care will be in a rush to bring their family and friends to an emergency clinic, creating the potential for safety hazards that I don't even want to imagine. For these and many other reasons, the likelihood for an extreme amount of increased traffic is enough to concern me.

In addition to these health and safety concerns, I am also concerned about the noise from an emergency clinic which threatens our quiet neighborhoods. This is something the township declares to be of value in its vision statement. Ambulances, vehicles and an influx of people on property directly behind a line of houses in my subdivision is not what homeowners signed on for when purchasing homes in this community as that land has always been occupied by residential homes. There was no reason for residents to anticipate that would no longer be the case. This change would infuriate many homeowners and create havoc in our community. There are so many reasons to say no to this request and to maintain our safe, quiet community.

While I appreciate access to urgent medical care, I urge you to consider the reality that our community already has access to a new hospital and emergency center being built by McLaren only 4.3 miles from here. With our community having access to state-of-the-art emergency care within 5 miles already, it is my feeling that Sparrow is simply trying to put a footprint in this area to avoid fiscal loss to McLaren Hospital which was very properly built in an area away from neighborhoods and residential developments. To top that off, please remember that there are already at least four urgent care clinics in Meridian Township, as well as a plethora of health care offices and facilities to provide high quality medical care to township residents. Let's not allow our community to become a pawn in a financial power play between our area's two major medical systems.

Meridian Township should take this all into consideration and either select a land plot away from where its residents live for Sparrow to build on or should simply reject their request altogether. This is an easy solution, and it is the residents who make the community prosper, not the health care facilities. I urge the township board to stay committed and steadfast in upholding the vision of Meridian Township and to display its value for the health, safety and satisfaction of tax-paying residents who wish to live in a community committed to those values. Please take the time to demonstrate your commitment to us.

Thank you,
Nancy Bennett
3558 Hyacinth St., Okemos



To: Planning Commission

From: Timothy R. Schmitt, AICP, Community Planning and Development Director

Date: July 8, 2021

Re: Special Use Permit #21071 – Sparrow Health System – Building greater than 25,000 square feet

Thomas Bres, on behalf of the Sparrow Health System, has requested a special use permit to construct a 30,456 square foot building on the six acres of land at the northeast corner of Jolly Road and Kansas Street. The project site consists of Parcels 33-353-016, 33-353-005, and 33-353-004. The property was recently rezoned to PO, Professional and Office, subject to the following series of six conditions which were voluntarily offered by the applicant:

- 1) The use of the north 75 feet along the depth of Parcel Number: 33-02-02-33-353-004 (commonly known as 3558 Kansas Road) would be limited to screening, landscape buffer and storm water detention with associated underground utilities.
- 2) The north property line of Parcel Number: 33-02-02-33-353-004 (commonly known as 3558 Kansas Road) would be landscaped to match or exceed the buffer requirement between Professional Office Zoning and Residential Zoning as outlined in the current Meridian Charter Township Zoning Ordinance Section 86-404 (b)(3) for rear yard buffer.
- 3) The west property line of Parcel Numbers: 33-02-02-33-353-004 and 33-02-02-33-353-005 (commonly known as 3532 and 3558 Kansas Road) to the extent that the properties across Kansas Road are zoned Residential (RA) (to the southern edge of Parcel Number: 33-02-02-33-352-004) would be landscaped to exceed the landscape screening material buffer requirements as outlined in the current Meridian Charter Township Zoning Ordinance Section 86-404 (b)(3). This would require a double row of interlocking trees, primarily evergreens, or the equivalent in addition to general screening standards.
- 4) Driveways would be limited to a primary drive access on Jolly Road, a secondary drive to Woodlake Drive on the east, and a drive on Kansas Road aligning with the current curb cut on Kansas Road for 2476 Jolly Road. This condition would be subject to Ingham County Road Commission approval of the driveways and location of the driveways.
- 5) The Owner will pursue LEED certification for the proposed project.
- 6) As a condition of the rezoning, the developer will provide for the extension and construction of a public water main along Kansas Road subject to the Meridian Department of Public Works specifications and design. In addition, the developer will establish an escrow account to cover the connection costs of up to 14 Residential Houses on Kansas Road to be serviced by such water main extension in an amount not to exceed \$10,000 per Residential House to be used on or before May 31, 2026. <cont.>

Any such funds held in escrow after such date, shall be returned to the developer. “Residential Houses” shall mean the current owner(s) and parcel numbers identified in the attached Exhibit A (on file with the Township).

The construction of any building or group of buildings with a combined gross floor area greater than 25,000 square feet requires a special use permit due to the significant impact such development may have upon adjacent property owners, neighborhoods, and public infrastructure. The Code of Ordinances requires the special use permit to ensure that public utilities, roads, and other infrastructure systems are or will be adequate to support the proposed development.

A single building is proposed, with parking on three sides. The building will have both general medical offices and a freestanding emergency room under the same room. No other uses are proposed for the site. The development will be constructed in a single phase, with work on the water main extension to occur simultaneously offsite.

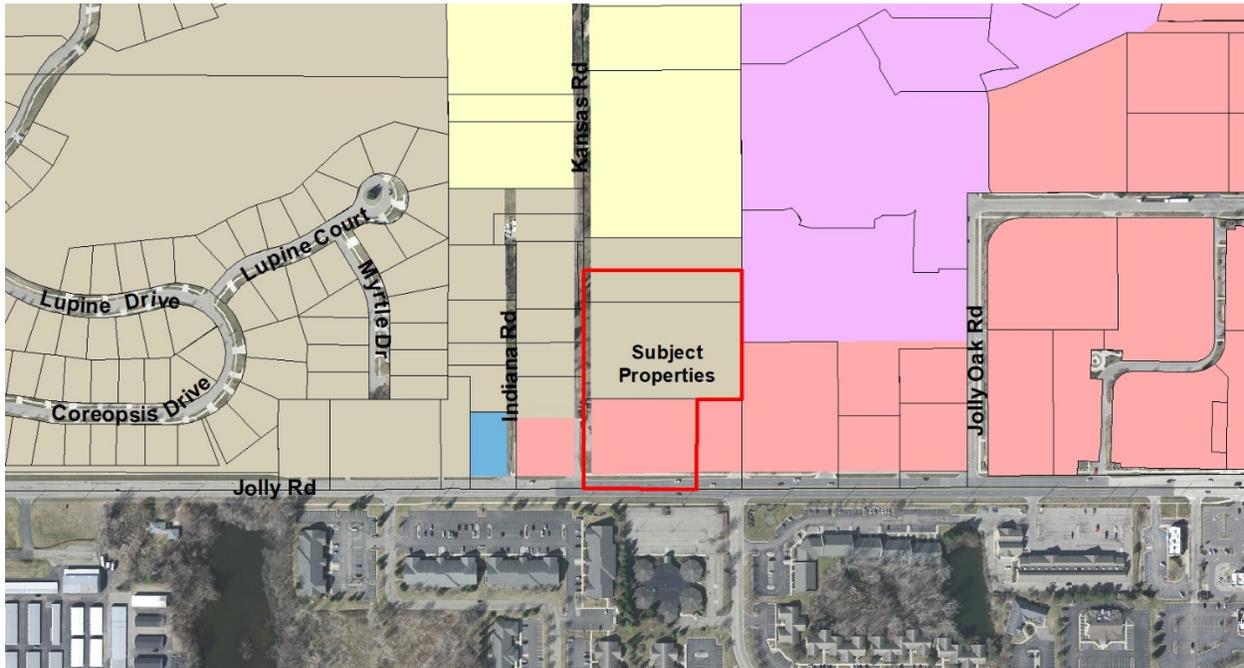
Although not part of the Special Use Permit review, the proposed project meets the main standards for site plan review, including setbacks, height, building coverage, and parking. Minor changes will need to be made with respect to the landscaping and screening to the adjacent uses, in order to limit the negative impact on the surrounding properties. But those items will be finalized during the administrative site plan review for the project.

LOCATION



FUTURE LAND USE

The Future Land Use Map from the 2017 Master Plan has two designations for the subject property. The southern portion of the property adjacent to Jolly road is designated Commercial, while the two parcels to the north on Kansas Road are designated R2-Residential 0.5 – 3.5 dwelling units per acre category.



ZONING

The subject site is zoned PO, Professional and Office, subject to a series of conditions. The rezoning was approved by the Township Board at the June 15th meeting. The conditions of the rezoning that were accepted by the Township Board are:

- 1) The use of the north 75 feet along the depth of Parcel Number: 33-02-02-33-353-004 (commonly known as 3558 Kansas Road) would be limited to screening, landscape buffer and storm water detention with associated underground utilities.
- 2) The north property line of Parcel Number: 33-02-02-33-353-004 (commonly known as 3558 Kansas Road) would be landscaped to match or exceed the buffer requirement between Professional Office Zoning and Residential Zoning as outlined in the current Meridian Charter Township Zoning Ordinance Section 86-404 (b)(3) for rear yard buffer.
- 3) The west property line of Parcel Numbers: 33-02-02-33-353-004 and 33-02-02-33-353-005 (commonly known as 3532 and 3558 Kansas Road) to the extent that the properties across Kansas Road are zoned Residential (RA) (to the southern edge of Parcel Number: 33-02-02-33-352-004) would be landscaped to exceed the landscape screening material buffer requirements as outlined in the current Meridian Charter Township Zoning Ordinance Section 86-404 (b)(3). This would require a double row of interlocking trees, primarily evergreens, or the equivalent in addition to general screening standards.
- 4) Driveways would be limited to a primary drive access on Jolly Road, a secondary drive to Woodlake Drive on the east, and a drive on Kansas Road aligning with the current curb

cut on Kansas Road for 2476 Jolly Road. This condition would be subject to Ingham County Road Commission approval of the driveways and location of the driveways.

- 5) The Owner will pursue LEED certification for the proposed project
- 6) As a condition of the rezoning, the developer will provide for the extension and construction of a public water main along Kansas Road subject to the Meridian Department of Public Works specifications and design. In addition, the developer will establish an escrow account to cover the connection costs of up to 14 Residential Houses on Kansas Road to be serviced by such water main extension in an amount not to exceed \$10,000 per Residential House to be used on or before May 31, 2026. Any such funds held in escrow after such date, shall be returned to the developer. "Residential Houses" shall mean the current owner(s) and parcel numbers identified in the attached Exhibit A (on file with the Township).

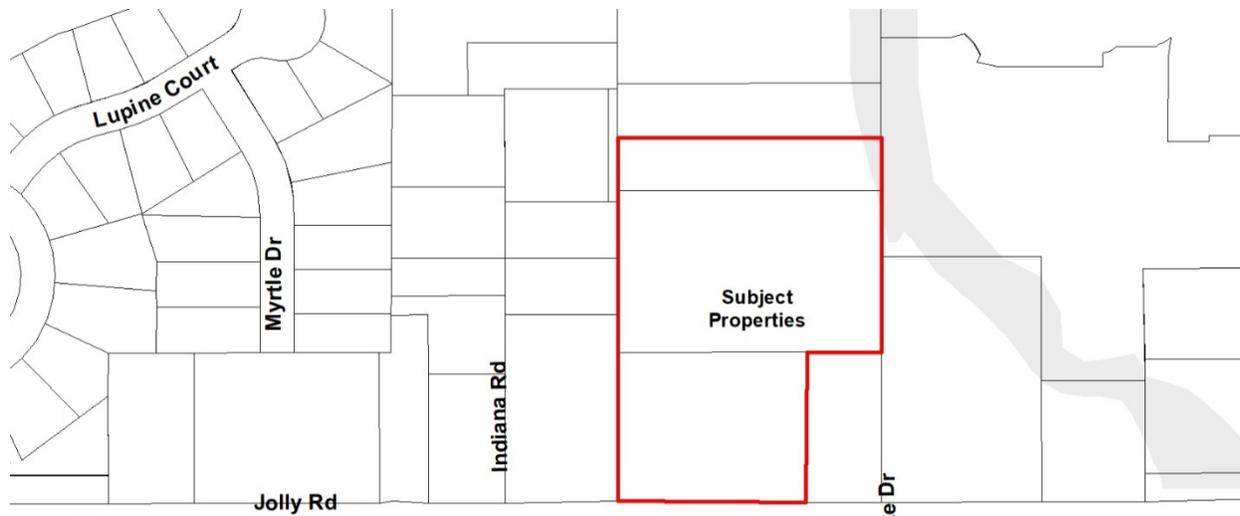
Confirmation that the conditions of the rezoning have been met will occur during the site plan review and the construction process. The first four conditions will be confirmed during the site plan review. LEED certification will occur through construction and certification review afterwards and the applicant will need to provide the Township with evidence of certification at the end of the process. Lastly, the applicant has already reached out the Engineering Department to begin the process for the water main extension, which will take some time, but is expected to be constructed simultaneously with the building.

PHYSICAL FEATURES

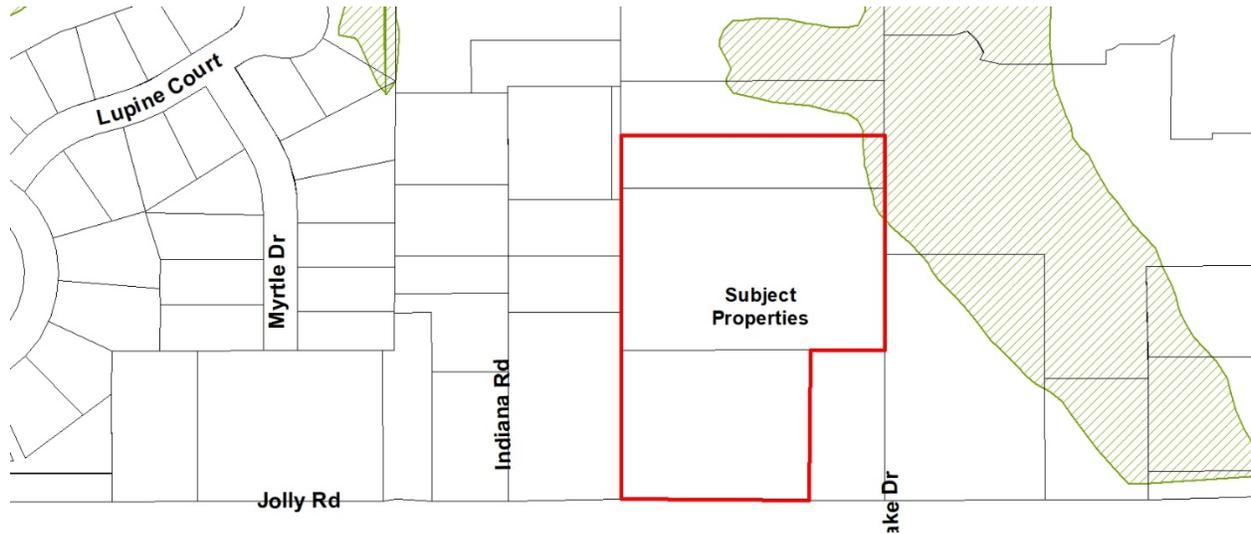
The site is currently partially developed. The area along Jolly Road is the current location of Midwest Power Equipment. Their parking and storage has spilled over onto the property immediately to the north, which is largely vacant. The third property and furthest north currently has a single-family home located on it. The topography of the site, with corresponding elevations, is depicted on the property survey provided by the applicant. There are no natural features of note on the site.

FLOODPLAIN and WETLANDS

There is a small area of floodplain indicated on the Township’s maps at the far northeast corner of the site. This is related to the County drain located on the adjacent property. The applicant has surveyed the area and all construction related to the development is located outside of the floodplain.

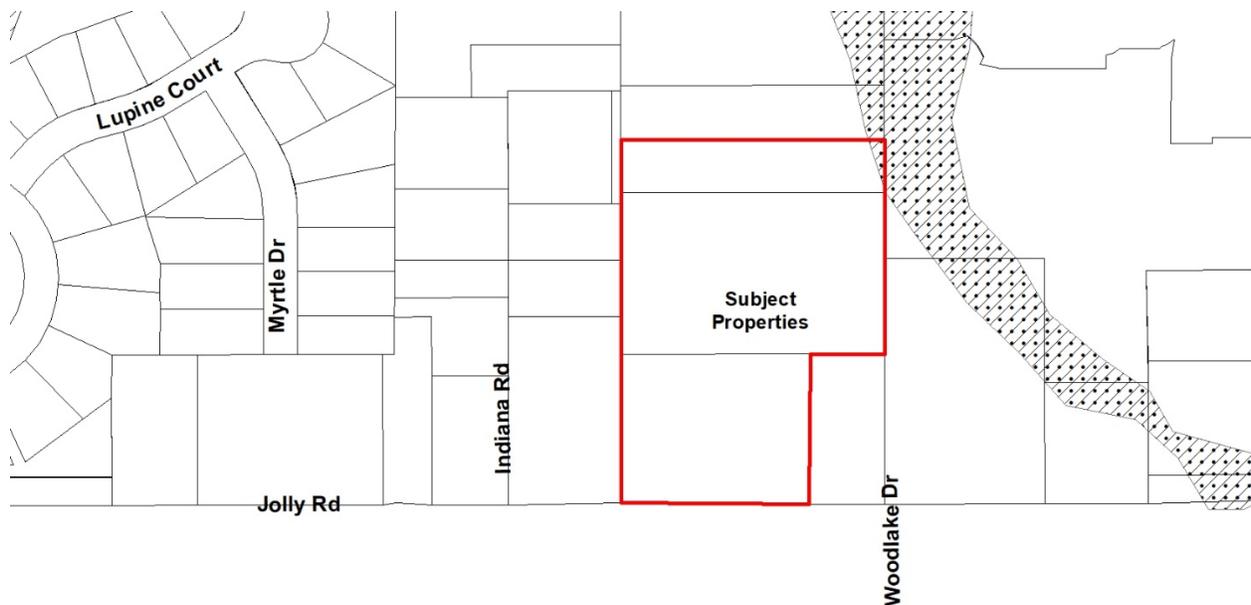


The Township’s wetland maps indicate a potential area of wetland, in the same location as the floodplain area at the northeast corner of the site. The applicant performed a wetland delineation for the site and indicated that no wetlands were actually present on the site. The Township’s consultant, Fishbeck, reviewed the delineation and agrees with the findings that there are no wetlands present on the site.



GREENSPACE

The Township Greenspace Plan shows a Fragile Link area at the far northeastern corner, consistent with the wetland and floodplain map. This map depiction largely covers the intercounty drain located on the adjacent property.



STREETS and TRAFFIC

The site is double fronted, with frontage onto Jolly Road and Kansas Street. Additionally, access to Jolly Oak in the east is available through the neighboring development. As a condition of the rezoning, access on Kansas is limited to a single driveway, aligned with the entry to Portnoy and Tu on the West side of Kansas, subject to the Ingham County Road Department's approval.

The applicant has performed a Traffic Impact Statement, which is included in their application information. The document indicates that the surrounding intersections' performance will not degrade beyond their existing Level of Service "C" with the addition of the proposed development. Additionally, the study indicates that there will be zero vehicles that will leave the property and go north on Kansas Road into the surrounding residential area. No traffic improvements are warranted or required from the proposed development.

PUBLIC UTILITIES

Municipal water and sanitary sewer are available to serve the subject site. The location and capacity of utilities will be reviewed in detail during site plan review if the special use permit is approved. The applicant is proposing to extend the water main north on Kansas Road, as part of the conditions of approval for the rezoning that was approved for the project.

STAFF ANALYSIS

The applicant is requesting a special use permit to construct a 30,456 square foot building on the six acres of land. The Special Use Permit request will be forwarded to the Township Board for a final decision, after the Planning Commission makes a recommendation. The nine general special use permit criteria listed in Section 86-126 of the zoning ordinance should be used for consideration of the request, which are as follows:

- 1) The project is consistent with the intent and purposes of this chapter.
The Professional and Office zoning district is intended for commercial activities that are not retail in nature. It specifically allows for medical offices, hospitals, and medical clinics. The proposed uses in the building are well within the intent and purpose of the zoning district.
- 2) The project is consistent with applicable land use policies contained in the Township's comprehensive development plan of current adoption.
The proposal meets Objective 3.D, Promote Economic Development, Objective 5, Maintain Essential Public Services (specifically 5.A.1 and 5.A.4), and Objective 7.A.8, Explore Incentives for new or redeveloped projects to be LEED certified or equivalent.
- 3) The project is designed, constructed, operated, and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and that such a use will not change the essential character of the same area.
The proposal is being designed in such a way to be sensitive to the residential property to the north and west, while integrating with the commercial development to the south and east. The building will be one-story, and at the maximum point, will

be lower than most residential homes. The traffic will come largely from Jolly Road or the neighboring Elevation project access road. Also, the applicant is proposing substantial landscaping for the site, creating a strong barrier for the surrounding homes.

- 4) The project will not adversely affect or be hazardous to existing neighboring uses.
The building, which is what is under review for the Special Use Permit, will not adversely affect the surrounding uses. The building itself will screen much of the parking lot lighting from the surrounding neighborhood and the remaining lighting will be effectively controlled to prevent spill over. There is nothing hazardous about the building that would impact the surrounding neighborhood.
- 5) The project will not be detrimental to the economic welfare of surrounding properties or the community.
The Township Assessor, Dave Lee, analyzed this question for the Township Board during the rezoning review. His professional conclusion was that the surrounding properties would not be negatively impacted by the proposed development in the long run. In the short term, reductions in value might be made, which is common for properties adjacent to active new projects, but in the long term, in cases where this has happened, the properties have recovered all of their value and increased in value, consistent with any other property in the community.
- 6) The project is adequately served by public facilities, such as existing roads, schools, stormwater drainage, public safety, public transportation, and public recreation, or that the persons or agencies responsible for the establishment of the proposed use shall be able to provide any such service.
The project is adequately served by roads, utilities, and other such public services that will be needed by the project and ultimate end use.
- 7) The project is adequately served by public sanitation facilities if so designed. If on-site sanitation facilities for sewage disposal, potable water supply, and stormwater are proposed, they shall be properly designed and capable of handling the long term needs of the proposed project.
Public sanitation facilities are adequate for the project, as are public water facilities. The water service will be extended to the north by the applicant, to serve the neighboring residential homes.
- 8) The project will not involve uses, activities, processes, materials, and equipment and conditions of operation that will be detrimental to any persons, property, or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare, or odors.
Although this condition does not directly relate to the special use permit being requested (for a building over 25,000 square feet), addressing this based on the proposed use is appropriate at this time. The proposed use of the building as a medical office building and an emergency room facility will not produce excessive traffic, smoke, fumes, glare, or odors. In terms of noise, the applicant has indicated that sirens are rarely used when an ambulance approaches a facility of this nature, so noise concerns should not be an issue here any more than any other location in the community.

- 9) The project will not directly or indirectly have a substantial adverse impact on the natural resources of the Township, including, but not limited to, prime agricultural soils, water recharge areas, lakes, rivers, streams, major forests, wetlands, and wildlife areas.

There are no impacts to the natural resources of the Township that would arise from the proposed building, as the site is a mix of already developed land and upland grasslands. There are a few larger trees that the applicant is proposing to save and utilize as part of the screening for the site.

Planning Commission Options

The Planning Commission may approve, approve with conditions, or deny the special use permit. A draft resolution for approval has been provided for the Planning Commission's initial review.

RESOLUTION TO APPROVE

**Special Use Permit #21071
Sparrow Health Systems
2446 Jolly Road, 3532 Kansas, 3558 Kansas**

RESOLUTION

At a regular meeting of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, held at 5151 Marsh Road, Okemos, MI 48864 on the 12th day of July 2021, at 7:00 p.m., Local Time.

PRESENT: _____

ABSENT: _____

The following resolution was offered by _____ and supported by _____.

WHEREAS, Thomas Bres, on behalf of Sparrow Health Systems, as requested a special use permit (SUP #21071) to construct a 30,456 square foot medical office and standalone emergency room building at 2446 Jolly Road, 3532 Kansas, and 3558 Kansas; and

WHEREAS, the subject site is appropriately zoned PO (Professional and Office), which permits the construction of buildings greater than 25,000 square feet in floor area by special use permit where public water and sewer are available; and

WHEREAS, the Planning Commission held a public hearing for Special Use Permit #21071 at its meeting on July 12, 2021, and has reviewed the staff material forwarded under a cover memorandum dated July 8, 2021; and

WHEREAS, the applicant proposed a series of six conditions along with the rezoning of the property to PO, Professional and Office, which are in the process of being implemented through the site plan review process; and

WHEREAS, the proposed building larger than 25,000 square feet will not be adverse or damaging to public health, safety, or welfare; and

WHEREAS, the proposed project is consistent with the general standards for granting a special use permit found in Section 86-126 of the Code of Ordinances; and

WHEREAS, municipal water and sanitary sewer is available to serve the subject site.

NOW THEREFORE, BE IT RESOLVED THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN hereby recommends approval of Special Use Permit #21071 subject to the following conditions:

1. Approval is granted in accordance with the site plans prepared by Progressive AE dated as follows: Site Layout 6-18-21, Planting Plan 6-3-21.
2. The building elevations shall be modified to show the revised location of the ambulance entrance, which is not permitted be located on the west elevation.

3. The applicant shall obtain any and all other applicable permits, licenses, and approvals necessary to construct the new house. Copies of all permits, licenses, and approvals shall be submitted to the Department of Community Planning and Development.

ADOPTED: YEAS: _____

NAYS: _____

STATE OF MICHIGAN)

) ss

COUNTY OF INGHAM)

I, the undersigned, the duly qualified Chairperson of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, DO HEREBY CERTIFY that the foregoing is a true and a complete copy of a resolution adopted at a regular meeting of the Planning Commission on the 12th day of July, 2021.

Scott Hendrickson, Chair
Meridian Township Planning Commission

**CHARTER TOWNSHIP OF MERIDIAN
DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT
5151 MARSH ROAD, OKEMOS, MI 48864
PLANNING DIVISION PHONE: (517) 853-4560, FAX: (517) 853-4095**

SPECIAL USE PERMIT APPLICATION

Before submitting this application for review, an applicant may meet with the Director of Community Planning and Development to discuss the requirements for a special use permit and/or submit a conceptual plan for review to have preliminary technical deficiencies addressed prior to submittal of the application. If the property or land use is located in the following zoning districts RD, RC, RCC, RN then the applicant must meet with the Planning Director to discuss technical difficulties before filing a formal application.

Part I

- A. Applicant Thomas A. Bres
Address of Applicant Sparrow Professional Building, 1200 E Michigan Ave., Suite 600, Lansing, MI 48912
Telephone - Work 517-364-5007 Home _____ Fax _____ Email _____
Interest in property (circle one): Owner Tenant Option Other _____
(Please attach a list of all persons with an ownership interest in the property.)
- B. Site address / location / parcel number See attached
Legal description (please attach if necessary) See attached
Current zoning PO - Professional Office
Use for which permit is requested / project name _____
Corresponding ordinance number Sec. 86-685 Buildings over 25,000 square feet in gross floor area
- C. Developer (if different than applicant) _____
Address _____
Telephone – Work _____ Home _____ Fax _____
- D. Architect, Engineer Planner or Surveyor responsible for design of project if different from applicant:
Name Progressive AE, Inc. Cheryl Scales, PE
Address 1811 4 Mile Road, NE Grand Rapids, MI 49525
Telephone – Work 616-361-2664 Home _____ Fax _____
- E. Acreage of all parcels in the project: Gross 6 Net _____
- F. Explain the project and development phases: Medical Office building with emergency clinic, one phase. Building will be over 25,000 sf in area
- G. Total number of:
Existing: structures 1 bedrooms _____ offices _____ parking spaces _____ carports _____ garages _____
Proposed: structures 1 bedrooms _____ offices _____ parking spaces _____ carports _____ garages _____
- H. Square footage: existing buildings _____ proposed buildings _____
Usable Floor area: existing buildings _____ proposed buildings 30,456 sf
- I. If employees will work on the site, state the number of full time and part time employees working per shift and hours of operation: See attachment.
- J. Existing Recreation: Type _____ Acreage _____
Proposed Recreation: Type _____ Acreage _____
Existing Open Space: Type _____ Acreage 4.79
Proposed Open Space: Type _____ Acreage 2.49 (41.5%)

- K. If Multiple Housing:
- Total acres of property _____
- Acres in floodplain _____ Percent of total _____
- Acres in wetland (not in floodplain) _____ Percent of total _____
- Total dwelling units _____
- Dwelling unit mix:
- | | | |
|------------------------------------|----------------|-------------|
| Number of single family detached: | for Rent _____ | Condo _____ |
| Number of duplexes: | for Rent _____ | Condo _____ |
| Number of townhouses: | for Rent _____ | Condo _____ |
| Number of garden style apartments: | for Rent _____ | Condo _____ |
| Number of other dwellings: | for Rent _____ | Condo _____ |

L. The following support materials must be submitted with the application:

1. Nonrefundable Fee.
2. Legal Description of the property.
3. Evidence of fee or other ownership of the property.
4. Site Plan containing the information listed in the attachment to this application.
5. Architectural sketches showing all sides and elevations of the proposed buildings or structures, including the project entrance, as they will appear upon completion. The sketches should be accompanied by material samples or a display board of the proposed exterior materials and colors.
6. A Traffic Study, prepared by a qualified traffic engineer, based on the most current edition of *Evaluating Traffic Impact Studies: A Recommended Practice for Michigan Communities*, published by the State Department of Transportation.
 - a. A traffic assessment will be required for the following:
 - 1) New special uses which could, or expansion or change of an existing special use where increase in intensity would, generate between 50 to 99 directional trips during a peak hour of traffic.
 - 2) All other special uses requiring a traffic assessment as specified in the Township Code of Ordinances, Chapter 86, Article IV, Division 2.
 - b. A traffic impact study will be required for the following:
 - 1) New special uses which would, or expansion or change of an existing special use where increase in intensity would, generate over 100 directional trips or more during a peak hour of traffic, or over 750 trips on an average day.
 - 2) All other special uses requiring a traffic assessment as specified in the Township Code of Ordinances, Chapter 86, Article IV, Division 2.
7. Natural features assessment which includes a written description of the anticipated impacts on the natural features at each phase and at project completion that contains the following:
 - a. An inventory of natural features proposed to be retained, removed, or modified. Natural features shall include, but are not limited to, wetlands, significant stands of trees or individual trees greater than 12 inches dbh, floodways, floodplains, waterbodies, identified groundwater vulnerable areas, slopes greater than 20 percent, ravines, and vegetative cover types with potential to sustain significant or endangered wildlife.
 - b. Description of the impacts on natural features.
 - c. Description of any proposed efforts to mitigate any negative impacts.

The natural features assessment may be waived by the Director of Community Planning and Development in certain circumstances.

- M. Any other information specified by the Director of Community Planning and Development which is deemed necessary to evaluate the application.
- N. In addition to the above requirements, for zoning districts, **RD, RC, RCC, RN, and CV** and **Group Housing Residential Developments** the following is required:
1. Existing and proposed contours of the property at two foot intervals based on United States Geological Survey (USGS) data.
 2. Preliminary engineering reports in accordance with the adopted Township water and sewer standards, together with a letter of review from the Township Engineer.
 3. Ten copies of a report on the intent and scope of the project including, but not limited to: Number, size, volume, and dimensions of buildings; number and size of living units; basis of calculations of floor area and density and required parking; number, size, and type of parking spaces; architectural sketches of proposed buildings.
 4. Seven copies of the project plans which the Township shall submit to local agencies for review and comments.
- O. In addition to the above requirements, a special use application in zoning district **RP** requires the following material as part of the site plan:
1. A description of the operations proposed in sufficient detail to indicate the effects of those operations in producing traffic congestion, noise, glare, air pollution, water pollution, fire hazards or safety hazards or the emission of any potentially harmful or obnoxious matter or radiation.
 2. Engineering and architectural plans for the treatment and disposal of sewerage and industrial waste tailings, or unusable by-products.
 3. Engineering and architectural plans for the handling of any excessive traffic congestion, noise, glare, air pollution, or the emission of any potentially harmful or obnoxious matter or radiation.
- P. In addition to the above requirements, a special use application for a use in the Floodway Fringe of zoning district **CV** requires the following:
1. A letter of approval from the State Department of Environmental Quality.
 2. A location map including existing topographic data at two-foot interval contours at a scale of one inch representing 100 feet.
 3. A map showing proposed grading and drainage plans including the location of all public drainage easements, the limits, extent, and elevations of the proposed fill, excavation, and occupation.
 4. A statement from the County Drain Commissioner, County Health Department, and Director of Public Works and Engineering indicating that they have reviewed and approved the proposal.
- Q. In addition to the above requirements, a special use application for a use in the Groundwater Recharge area or zoning district **CV** requires the following:
1. A location map including existing topographic data at two-foot interval contours.
 2. A map showing proposed grading and drainage plans including the location of all public drainage easements, the limits and extent of the proposed fill, excavation, and occupation.
 3. A statement from the County Drain Commissioner, County Health Department, and Director of Public Works and Engineering indicating that they have reviewed and approved the proposal.
- R. In addition to the above requirements, the Township Code of Ordinances, Article VI, should be reviewed for the following special uses: group housing residential developments, mobile home parks, nonresidential structures and uses in residential districts, planned community and regional shopping center developments, sand or gravel pits and quarries, sod farms, junk yards, sewage treatment and disposal installations, camps and clubs for outdoor sports and buildings greater than 25,000 square feet in gross floor area.

Special Use Permit Application Attachment
Site Plan Requirements Per Section 86-124(c)(4)

A site plan, drawn to a legible scale, containing the following information where applicable:

- a. Boundaries of the subject property.
- b. Total area of the subject property.
- c. Location of all existing and proposed structures.
- d. Approximate location and distance of all structures within 100 feet of the subject property.
- e. Uses of existing and proposed buildings, on the subject site.
- f. Proposed means of vehicular and pedestrian ingress and egress to the subject property.
- g. Public and private roads and streets, rights-of-way, and easements, indicating names and widths, which abut or cross the site.
- h. Existing and proposed parking spaces, and vehicular and pedestrian circulation patterns.
- i. The buildable area of the subject property indicating all required setbacks, yards and open space.
- j. Zoning classification of the subject and adjacent properties.
- k. Existing and proposed fencing, screening, landscaping, and buffers.
- l. Location and sizes of existing utilities including power lines and towers, both above and below the ground.
- m. Amount and location of all impervious surfaces.
- n. The verified boundaries of all natural water features and required setback lines.

Part II

SUP REQUEST STANDARDS
Township Code of Ordinances, Section 86-126

Applications for Special Land Uses will be reviewed with the standards stated below. An application that complies with the standards stated in the Township Ordinance, conditions imposed pursuant to the Ordinance, other applicable Ordinances, and State and Federal statutes will be approved. Your responses to the questions below will assist the Planning Commission in its review of your application.

- (1) The project is consistent with the intent and purposes of this chapter.
- (2) The project is consistent with applicable land use policies contained in the Township's Master Plan of current adoption.
- (3) The project is designed, constructed, operated, and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and that such a use will not change the essential character of the same area.
- (4) The project will not adversely affect or be hazardous to existing neighboring uses.
- (5) The project will not be detrimental to the economic welfare of surrounding properties or the community.
- (6) The project is adequately served by public facilities, such as existing roads, schools, stormwater drainage, public safety, public transportation, and public recreation, or that the persons or agencies responsible for the establishment of the proposed use shall be able to provide any such service.
- (7) The project is adequately served by public sanitation facilities if so designed. If on-site sanitation facilities for sewage disposal, potable water supply, and storm water are proposed, they shall be properly designed and capable of handling the longterm needs of the proposed project.
- (8) The project will not involve uses, activities, processes, materials, and equipment and conditions of operation that will be detrimental to any persons, property, or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare, or odors.
- (9) The project will not directly or indirectly have a substantial adverse impact on the natural resources of the Township, including, but not limited to, prime agricultural soils, water recharge areas, lakes, rivers, streams, major forests, wetlands, and wildlife areas.

Part III

I (we) hereby grant permission for members of the Charter Township of Meridian's Boards and/or Commissions, Township staff member(s) and the Township's representatives or experts the right to enter onto the above described property (or as described in the attached information) in my (our) absence for the purpose of gathering information including but not limited to the taking and the use of photographs.

Yes No (Please check one)

By the signature(s) attached hereto, I (we) certify that the information provided within this application and accompanying documentation is, to the best of my (our) knowledge, true and accurate



Signature of Applicant

6-4-21

Date

Type/Print Name

Fee: _____

Received by/Date: _____

Jolly Road Site, Okemos, MI

Special Land Use Supplemental information to application

June 2, 2021

Parcels included:

1. Parcel 1: 33-02-02-33-353-016 : 2446 Jolly Rd, Okemos, MI 48864 : Rezoned Industrial to Professional Office
2. Parcel 2: 33-02-02-33-353-005 : 3532 Kansas, Okemos, MI 48865 : Rezoned Residential to Professional Office
3. Parcel 3: 33-02-02-33-353-004: 3558 Kansas, Okemos, MI 48865 : Rezoned Residential to Professional Office

Legal descriptions

1. Parcel 1: 2446 Jolly Road, , Okemos, MI : (M 33-31) BEG ON S SEC LN 396 FT E OF SW COR OF SEC 33 - N00D 11' 20"W 264 FT - E 330 FT - S00D 11' 20"E 264 FT - W 330 FT ALNG S SEC LN TO POB ON SW 1/4 OF SEC 33 T4NR1W 2 A M/L
2. Parcel 2: M 33-30 COM. 24 RDS. E & 16 RDS. N OF SW COR. OF SEC. 33-E 28 RDS-N. 17 1/7 RDS-W 28 RDS-S 17 1/7 RDS. TO PT OF BEG EXC W 25 FT TO BE USED FOR ROAD PURPOSES SW 1/4 OF SEC. 33, T4N R1W-
3. Parcel 3: M 33-29 COM. 24 RDS. E & 33 1/7 RDS. N OF SW COR. OF SEC-E 28 RDS-N. 5 5/7 RDS-W 28 RDS-S 5 5/7 RDS. TO BEG. ON SW 1/4 OF SEC. 33, T4N R1W-1 A.

COMBINED PARCEL TO BE REZONED – DESCRIPTION

A parcel of land in the Southwest 1/4 of Section 33, T4N, R1W, Meridian Township, Ingham County, Michigan, further described as:

Commencing at the Southwest corner of said Section 33; thence East along the South line of said Section 33, 396 feet to the point of beginning of this description; thence North 641.14 feet; thence East 462 feet; thence South 377.14 feet; thence West 132 feet; thence South 264 feet to a point on the South line of said Section 33; thence along said South line, 330 feet to the point of beginning. Containing 6.00 acres of land, more or less. This description is based on the tax parcel descriptions for the following parcels:

33-02-02-33-353-016: 2446 Jolly Rd, Okemos, MI 48865

33-02-02-33-353-005: 3532 Kansas, Okemos, MI 48865

33-02-02-33-353-004: 3558 Kansas, Okemos, MI 48865

The property was rezoned subject to the following conditions voluntarily offered by the applicant:

1. The use of the north 75 feet along the depth of Parcel Number: 33-02-02-33-353- 004 (commonly known as 3558 Kansas Road) would be limited to screening, landscape buffer and storm water detention with associated underground utilities.
2. The north property line of Parcel Number: 33-02-02—33-353-004 (commonly known as 3558 Kansas Road) would be landscaped to match or exceed the buffer requirement between Professional Office Zoning and Residential Zoning as outlined in the current Meridian Charter Township Zoning Ordinance Section 86-404 (b)(3) for rear yard buffer.
3. The west property line of Parcel Numbers: 33-02-02-33-353-004 and 33-02-02-33- 353-005 (commonly known as 3532 and 3558 Kansas Road) to the extent that the properties across Kansas Road are zoned Residential (RA) (to the southern edge of Parcel Number: 33-02-02-33-352-004) would be landscaped to exceed the landscape screening material buffer requirements as outlined in the current Meridian Charter Township Zoning Ordinance Section 86-404 (b)(3). This would require a double row of interlocking trees, primarily evergreens, or the equivalent in addition to general screening standards.
4. Driveways would be limited to a primary drive access on Jolly Road, a secondary drive to Woodlake Drive on the east, and a drive on Kansas Road aligning with the current curb cut on Kansas Road for 2476 Jolly Road. This condition would be subject to Ingham County Road Commission approval of the driveways and location of the driveways.
5. The Owner will pursue LEED certification for the proposed project.
6. As a condition of the rezoning, the developer will provide for the extension and construction of a public water main along Kansas Road subject to the Meridian Department of Public Works specifications and design. In addition, the developer will establish an escrow account to cover the connection costs of up to 14 Residential Houses on Kansas Road to be serviced by such water main extension in an amount not to exceed \$10,000 per Residential House to be used on or before May 31, 2026. Any such funds held in escrow after such date, shall be returned to the developer. "Residential Houses" shall mean the current owner(s) and parcel numbers identified in the approved rezoning approval documents

SUP Request Standards Response

- (1) The project is consistent with the intent and purposes of this chapter. *The building will be a medical professional office with emergency services. This fits the intent of the use within the Professional Office land use. The areas adjacent to the Residential land use have larger than required landscape buffers and screening.*
- (2) The project is consistent with applicable land use policies contained in the Township's Master Plan of current adoption. *This use fits with the Township Master Plan for land use.*
- (3) The project is designed, constructed, operated, and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and that such a use will not change the essential character of the same area. *The building will be located along Jolly Road and will fit the character of development along that street. Access to Kansas will be limited, and a large rear buffer area will protect the existing residential area.*

- (4) The project will not adversely affect or be hazardous to existing neighboring uses. *As part of the rezoning process, the developer volunteered restrictions that will protect the neighboring residential land uses. See the drawing for a list of these restrictions.*
- (5) The project will not be detrimental to the economic welfare of surrounding properties or the community. *This use will be an improvement in health care for the community.*
- (6) The project is adequately served by public facilities, such as existing roads, schools, stormwater drainage, public safety, public transportation, and public recreation, or that the persons or agencies responsible for the establishment of the proposed use shall be able to provide any such service. *The property is served by public water and sanitary sewer. The developer will extend public water down Kansas street to serve the residential properties. Jolly Road is capable of handling the additional traffic. We are limiting our access to Kansas to protect the neighboring properties. Our staff and ambulance traffic will access the site from a drive on the east connected to Woodlake.*
- (7) The project is adequately served by public sanitation facilities if so designed. If on-site sanitation facilities for sewage disposal, potable water supply, and storm water are proposed, they shall be properly designed and capable of handling the long term needs of the proposed project. *The property is served by public water and sanitary sewer. The developer will extend public water down Kansas street to serve the residential properties.*
- (8) The project will not involve uses, activities, processes, materials, and equipment and conditions of operation that will be detrimental to any persons, property, or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare, or odors. *Rezoning from Industrial to Professional Office will eliminate potential detrimental uses that could increase traffic, noise, smoke, fumes, glare and odors. The site is designed to focus traffic on to Jolly Road. All lighting will meet township standards for photometrics and glare.*
- (9) The project will not directly or indirectly have a substantial adverse impact on the natural resources of the Township, including, but not limited to, prime agricultural soils, water recharge areas, lakes, rivers, streams, major forests, wetlands, and wildlife areas. *The site does not contain major natural resources. We will not be impacting any wetlands.*

Natural Features Assessment for 2446 Jolly Road Special Land Use

The site is currently occupied by Midwest Power Equipment, a retail seller and servicer of lawn maintenance equipment, generators, and snow throwers. This business has outdoor storage of equipment and parts, truck deliveries, and customer parking associated with the building. The remainder of the site includes one residential home.

a. Inventory of natural features

The site is primarily open fields with clumps of trees scattered around the site. There are some larger trees that we are preserving and are shown on our Demolition plan as preserved.

We are adjacent to the Smith Consolidated Drain. There is a floodway on the northeast corner of the site as shown on the drawings. We are not impacting this floodway with our grading.

A review of the National Wetland Inventory Mapping does not show any wetlands on our site. We had the site evaluated by Barr Engineering on June 16, 2021; no wetlands were located on our site. See attached letter.

b. Description of the impacts on natural features

The site development will require the removal of a number of trees over 12". There is a significant 38" maple tree located at the Kansas and Jolly Road intersection that has been severely trimmed to accommodate the power lines that could be saved, but we think that it has been damaged and should be removed.

We will have a natural buffer preserved as required by the Meridian Township ordinance adjacent to the flood way and any wetlands that may be found on site.

c. Description of any proposed efforts to mitigate any negative impacts.

Our development will meet and exceed the landscape standards for development by adding additional evergreen tree screening along the west and north sides of the site. Our new landscape plan will bring the current site into compliance with the Township Landscape ordinance.

We are exceeding the green space requirements for this development by providing 41.5% of the site as green space .

The site and the building will be LEED Certified.

Additional information on Containment Tank

As indicated on the drawings there is a containment recovery pit planned for this project. To keep staff safe while treating a patient who may have come in contact with any dangerous material or liquid, a shower has been provided in the facility to clean these patients off prior to performing any care. The intent of the pit is to trap any of these dangerous materials or liquids and safely dispose of them by removal from someone capable of handling and disposing of these substances in lieu of disposing them into the sanitary system. It is likely that this system will be rarely if ever utilized and is more for precaution.

324 E. Holt Road, LLC
324 E. Holt Road
Williamston, MI 48895
(517) 402-9545

VIA ELECTRONIC MAIL

June 2, 2021

Charter Township of Meridian
Department of Community Planning and Development
5151 Marsh Road
Okemos, MI 48864

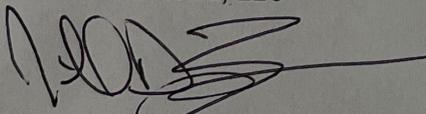
RE: **Special Use Permit Application regarding:**
Parcel 1: 33-02-02-33-353-016: 2446 Jolly Rd., Okemos, MI 48864
Parcel 2: 33-02-02-33-353-005: 3532 Kansas Rd., Okemos, MI 48864
Parcel 3: 33-02-02-33-353-004: 3558 Kansas Rd., Okemos, MI 48864

To Whom It May Concern:

I hereby acknowledge that I am aware of and in support of Sparrow's request for a Special Use Permit for the above-referenced parcels located in Meridian Township, Ingham County, Michigan.

Sincerely,

324 E. Holt Road, LLC



Jonathan D. Brown
Manager

Special Use Permit Application Section I – Approximate Full-Time and Part-Time Employee Counts per Area Per Shift

Medical Office Building

Hours of Operation:

ED: 24/7/365

SMG: Monday-Friday 8:00 a.m.-5:00 p.m. (sometimes longer hours available 6:00 a.m.-8:00 p.m.)

Imaging: 24/7/365

Shift 1 7:00 a.m.-7:00 p.m.

ED: 15 FT, 1 PT

SMG: 20 FT, 3 PT

Imaging: 10 FT

Shift 2 10:00 a.m.-10:00 p.m.

ED: 4 FT

SMG:

Imaging:

Shift 3 11:00 a.m.-7:30 p.m.

ED:

SMG:

Imaging: 6FT

Shift 4 1:00 p.m.-1:00 a.m.

ED: 2 FT

SMG:

Imaging: 8FT

Shift 5 7:00 p.m. – 7:00 a.m.

ED: 15 FT, 1 PT

SMG:

Imaging: 8 FT



June 21, 2021

Mr. Timothy Schmitt
Director of Community Planning and Development
Meridian Township
5151 Marsh Road
Okemos, MI 48864

Re: Special Land Use request for 2446 Jolly Road, Okemos, MI

Dear Tim:

We wanted to update you with additional information for our Special Land Use submittal. Since we submitted our original package, we have completed a Traffic Impact Study, Wetland Determination Study and met with the Ingham County Drain Commission and Road Commission.

The Traffic Impact Study determined that no additional improvements will be required on Jolly Road. The existing Level of Service is at C and the future use will also operate at an acceptable Level of Service of C.

The Wetland Determination, completed by Barr Engineering on June 18, 2021, did not show any wetlands on our site. We do not have a wetland setback on our site.

We met with the Ingham County Drain Commission engineer on June 14, 2021, and they did not have any issues with our concept for stormwater drainage. Our drawings now show the drain setback line on our site plan. We will be submitting an Engineering Design Package to the Drain Commission the week of June 21, 2021.

We met with the Ingham County Road Commission Engineer on June 17, 2021, and they did not have any issues with our driveway locations as shown on the provided Site Plan. We had a minor change to the driveway width and entrances that have been updated. We will be submitting a Site Plan Review package and our Traffic Impact Study to the Road Commission for review the week of June 21, 2021.

The Special Land Use Application has been updated to include the Natural Resources Narrative and an update on a description of the decontamination tank.

Thank you for your help, and if you have any additional questions please do not hesitate to contact me at scalesc@progerssiveae.com or 616-485-5422.

Sincerely,

Cheryl C. Scales, PE

CCS/crg
P:\70760048\01 ADMIN\A9 REGULATORY\b AHJ\2021 06 21 Meridian Township Special Land Use Submittal Letter.docx



Traffic Impact Study Okemos Medical Office Building Meridian Township, Michigan

Prepared for:

Martin Investment Properties, Inc.
1111 Michigan Avenue
East Lansing, Michigan 48823

Prepared by:

Progressive AE
1811 4 Mile Road NE
Grand Rapids, MI 49525

June 2021
Project No. 70760048

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EXECUTIVE SUMMARY

Introduction

Martin Investment Properties is working to construct a proposed 30,000 square-foot medical office building on three parcels located on the northeast corner of Jolly Road and Kansas Street in Meridian Township, Michigan. The site is located on the north side of Jolly Road approximately one-half mile west of Okemos Road. One of the parcels is currently occupied by Midwest Power Equipment and the two other properties are occupied by single-family houses. In total, the proposed site consists of approximately six acres. The project is planned to be constructed in 2022.

Access to the site will be via three proposed driveways: one on Kansas Street, one on Jolly Road and one on Woodlake Drive.

As the site is anticipated to generate more than 750 daily trips, the Township has requested a traffic impact study be prepared based on the *Evaluating Traffic Impact Studies: A Recommended Practice for Michigan Communities*.

The purpose of this traffic impact study was to analyze the potential impacts of the planned development and to identify what physical and/or operational roadway system improvements may be necessary to mitigate existing or anticipated background issues, and/or impacts created by this development's traffic.

Study Area

The study area includes two existing unsignalized intersections and the three proposed site driveways as listed below:

- Jolly Road at Kansas Street
- Jolly Road at Woodlake Drive
- Jolly Road at Proposed Driveway
- Woodlake Drive at Proposed Driveway
- Kansas Street at Proposed Driveway

Data Collection

Morning and afternoon peak hour turning-movement counts at the two existing study area intersections were collected in April 2021 on a typical weekday. While there were no "shutdowns" currently in place due to the COVID-19 pandemic, the traffic data was compared to an ADT count performed in March 2018 along Jolly Road just west of Okemos Road. A comparison of these data indicated that the 2021 traffic volumes were approximately 27% lower during the morning peak hour and 19% lower during the afternoon peak hour. Therefore, the turning movement counts were increased based on these percentages.

Analysis

Two analysis scenarios were completed for the weekday morning and afternoon peak hours as part of the study as follows:

- Existing Conditions
- Future (2022) Conditions

Although there is no known additional proposed development anticipated to be completed in the next year within the study area, an annual traffic growth rate of 2.0% was used to estimate non-development growth on study area roadways based on historical traffic growth in the area. As the analysis year for this study area is 2022 (one year), the COVID-19 adjusted existing traffic volumes were increased by 2.0 percent.

Trip generation for the site was calculated for the typical weekday morning and afternoon peak hours based on the methods of the ITE Trip Generation Manual, 10th Edition, published by the Institute of Transportation Engineers (ITE). The site is expected to generate approximately 957 total weekday trips,

73 new weekday morning peak hour vehicle trips (52 inbound, 21 outbound), and 73 new weekday afternoon peak hour trips (25 inbound, 48 outbound) onto the roadway system. Trips to/from the existing Midwest Power site were not subtracted from the existing traffic volumes resulting in a conservative analysis.

For the existing and future (2022) conditions, a capacity analysis was performed to determine the impacts the site would have on the roadways and intersections within the study area.

Conclusions

Based on the analyses performed as part of this study, the proposed medical office building will have little to no impact to the surrounding roadway network. The findings of this study are as follows:

Existing Conditions

The controlled movements at the two existing unsignalized study area intersections are currently operating at an acceptable LoS "C" or better during the morning and afternoon peak hours.

Future (2022) Conditions

The future (2022) conditions are similar to the existing conditions after the addition of site generated traffic. All controlled movements at the existing two unsignalized study area intersections are anticipated to continue to operate at an acceptable LoS "C" or better during the morning and afternoon peak hours.

The controlled movements at the proposed site driveways are also anticipated to operate at an acceptable LoS "C" or better during the morning and afternoon peak hours.

Recommendations

There are no improvements that would be recommended to mitigate the traffic impacts of the proposed medical office building.

CHAPTER 1

INTRODUCTION

Martin Investment Properties is working to construct a proposed 30,000 square-foot medical office building on three parcels located on the northeast corner of Jolly Road and Kansas Street in Meridian Township, Michigan. The site is located on the north side of Jolly Road approximately one-half mile west of Okemos Road. One of the parcels is currently occupied by Midwest Power Equipment and the two other properties are occupied by single-family houses. In total, the proposed site consists of approximately six acres. The project is planned to be constructed in 2022.

Access to the site will be via three proposed driveways: one on Kansas Street, one on Jolly Road and one on Woodlake Drive. Figure 1 shows the location of the proposed site and access driveways.

As the site is anticipated to generate more than 750 daily trips, the Township has requested a traffic impact study be prepared based on the *Evaluating Traffic Impact Studies: A Recommended Practice for Michigan Communities*.

The purpose of this traffic impact study was to analyze the potential impacts of the planned development and to identify what physical and/or operational roadway system improvements may be necessary to mitigate existing or anticipated background issues, and/or impacts created by this development's traffic. Tasks undertaken to complete the analyses include:

1. **Data Collection.** Morning and afternoon peak hour turning movement counts were completed at the study area intersections in April 2021. This data was adjusted to account for COVID-19 impacts to traffic volumes within the study area based on pre-COVID ADT counts performed in March 2018 along Jolly Road just west of Okemos Road. Information regarding lane configurations, speed limits, traffic controls and other related data for the study area roadways was also collected.



Figure 1. Location Map and Study Area

2. **Background Growth.** An annual background traffic growth rate of 2.0% was used to estimate non-development traffic increases by the 2022 horizon year based on historical growth in the area.
3. **Trip Generation/Distribution.** The number of trips the proposed development is expected to generate during peak hours was identified. These trips were then assigned to the adjacent street system based upon the patterns followed by existing traffic and engineering judgment.
4. **Levels of Service.** Capacity calculations were completed at the study area intersections and the site access points to identify existing and anticipated future peak hour operational characteristics.
5. **Mitigation.** Roadway/intersection improvements were identified, when applicable, that will enable the adjacent roadways and study area intersections to maintain equal and/or acceptable levels-of-service under future conditions upon the addition of background traffic growth and/or due to development traffic.

Pre-study coordination was completed with Meridian Township staff to help identify the required study area, study parameters, and any specific areas of concern. The following chapters outline the results of analyses completed during the study process.

CHAPTER 2

EXISTING CONDITIONS

The first step in the identification of potential traffic impacts is to determine how well the adjacent streets are operating under current conditions. The existing conditions provide a comparison to subsequent future conditions analyses. This chapter summarizes the data collection and existing operating conditions analysis procedures.

Key Study Area Roadways

Jolly Road

Jolly Road is an east-west arterial roadway within the study area under Ingham County Road Department operational jurisdiction. Within the study area, it has an unbalanced four-lane cross section with two westbound lanes, a two-way left-turn lane, and one eastbound lane. The roadway widens to a traditional five-lane cross section between Kansas Street and Woodlake Drive. The speed limit along Jolly Road is 45 miles per hour. Weekday 24-hour traffic volumes along Jolly Road in the vicinity of the site average approximately 13,000 vehicles per day.

Existing Intersections

The study area includes two existing unsignalized intersections along Jolly Road at Kansas Street and Woodlake Drive. The side-street movements at both intersections are stop-controlled for turning onto Jolly Road.

Data Collection

Morning and afternoon peak hour turning-movement counts at the two existing study area intersections were collected in April 2021 on a typical weekday. Detailed printouts of the count reports are included in the appendix.

While there were no “shutdowns” currently in place due to the COVID-19 pandemic, the traffic data was compared to an ADT count performed in March 2018 along Jolly Road just west of Okemos Road. A comparison of this data indicated that the 2021 traffic volumes were approximately 27% lower during the morning peak hour and 19% lower during the afternoon peak hour. Therefore, the turning movement counts were increased based on these percentages. Figure 2 shows the adjusted existing morning and afternoon peak hour volumes at the study area intersections.

These counts indicated that the typical weekday morning peak hour occurs between 8:00 to 9:00 a.m. and the typical afternoon peak hour occurs between 4:30 to 5:30 p.m.

Existing Conditions Capacity Analysis

Intersection “level-of-service” (LoS) calculations were completed to evaluate the current operational efficiency of the study area intersections. These calculations were completed using techniques outlined in the Highway Capacity Manual, published by the Transportation Research Board. Per MDOT standards, Synchro® traffic analysis software, version 11, based on the Highway Capacity Manual methodologies, was used in the analysis.



Eastbound Jolly Road at Kansas Street



Eastbound Jolly Road at Woodlake Drive

Levels-of-service at signalized and unsignalized intersections relates to the delay, traffic volumes, and intersection geometry. Levels-of-service are expressed in a range from "A" to "F", with "A" denoting the highest, or best, operating conditions. Generally, a LoS "D" rating is considered the minimum acceptable service level for signalized and unsignalized intersections in most areas, although a LoS "E" can be deemed as acceptable during the peak hours. The criteria for determining the levels-of-service at signalized and unsignalized intersections are outlined in the appendix of this report.

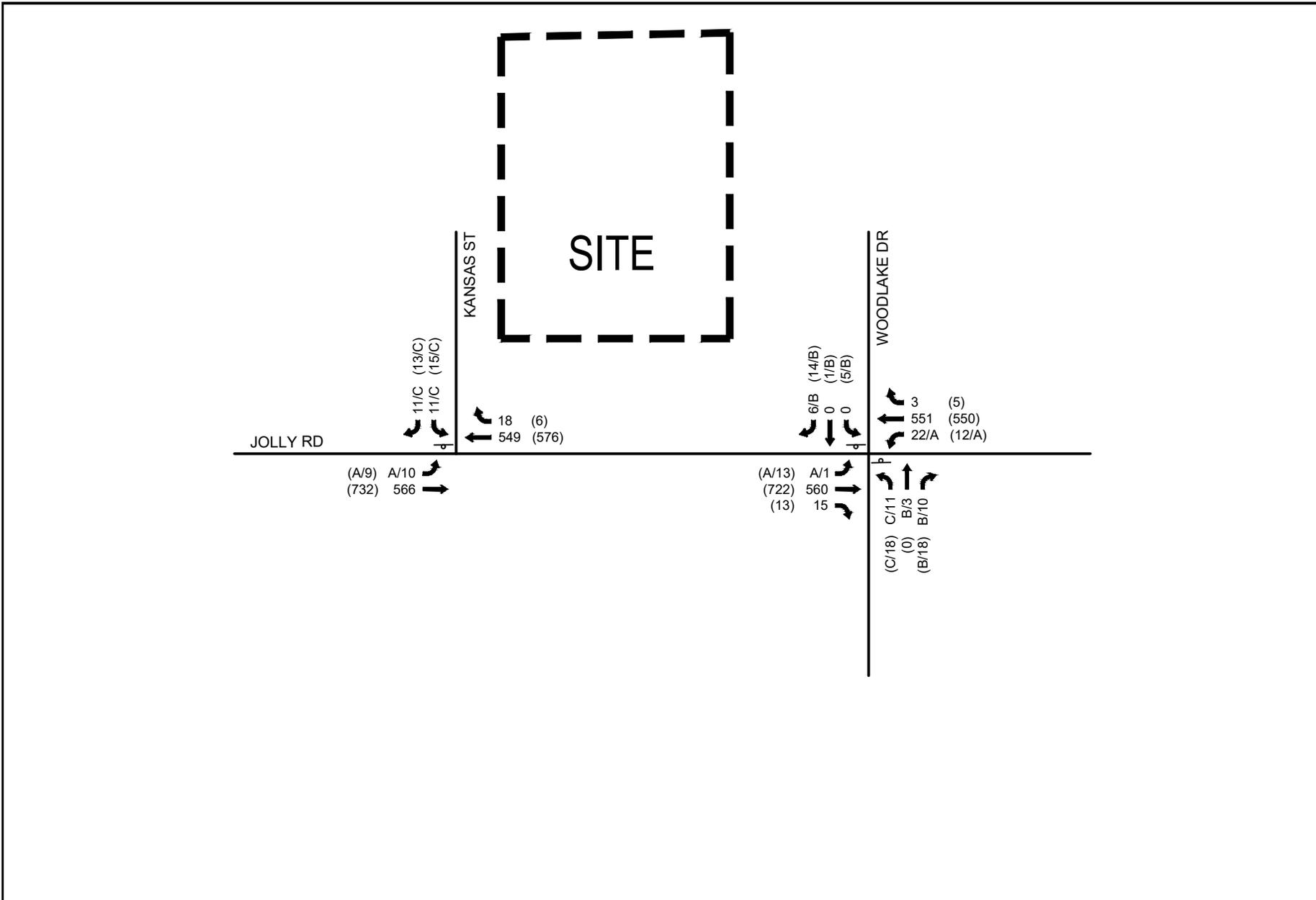
The existing morning and afternoon peak hours were analyzed at the two existing study area intersections. Table 1 and Figure 2 show the levels-of-service for the two unsignalized study area intersections. Copies of the *Synchro*[®] analyses are included in the appendix.

As shown in Table 1, all controlled movements at the study area intersections are currently operating at an acceptable LoS "C" or better during the morning and afternoon peak hours.

Table 1. Existing Levels-of-Service and Delay

Intersection/ Movement	Existing Conditions			
	AM		PM	
	LoS	Delay (s)	LoS	Delay (s)
Jolly Road / Kansas Street¹				
<i>EBL</i>	A	9.1	A	8.9
<i>SB</i>	C	15.5	C	16.2
Jolly Road/ Woodlake Drive¹				
<i>NBL</i>	C	19.6	C	21.9
<i>NBT/R</i>	B	13.4	B	11.5
<i>EBL</i>	A	9.0	A	8.9
<i>WBL</i>	A	9.3	A	9.5
<i>SB</i>	B	10.6	B	13.1

¹Unsignalized intersection, controlled movement(s) shown
Source: Progressive AE, June 2021



OKEMOS MEDICAL OFFICE BUILDING TRAFFIC IMPACT STUDY

LEGEND

- XX (XX) = AM (PM)
- A = LEVEL-OF-SERVICE
- Ⓢ = SIGNALIZED INTERSECTION
- ⊥ = STOP-CONTROLLED

EXISTING PEAK-HOUR VOLUMES + LEVELS-OF-SERVICE



FIGURE
2

CHAPTER 3

FUTURE (2022) CONDITIONS

The purpose of this chapter is to summarize the anticipated future (2022) traffic conditions within the study area with background traffic growth and the proposed development traffic in place. These analyses provide the before/after comparison of future conditions and helps define the timing and applicability of any potential roadway improvements necessary to mitigate the impact of the proposed development.

Background Traffic Growth

Although there is no known additional proposed development anticipated to be completed in the next year within the study area, an annual traffic growth rate of 2.0% was used to estimate non-development growth on study area roadways based on historical traffic growth in the area. As the analysis year for this study area is 2022 (one year), the COVID-19 adjusted existing traffic volumes were increased by 2.0 percent. A separate analysis of the background traffic volumes was not completed as the results would largely be the same as the existing conditions.

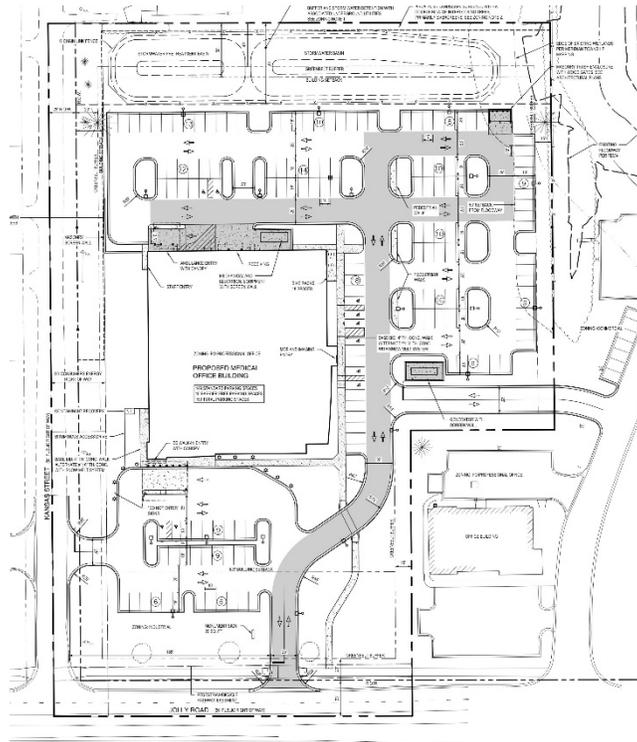
Proposed Development

Martin Investment Properties is working to construct a proposed 30,000 square-foot medical office building on three parcels located on the northeast corner of Jolly Road and Kansas Street in Meridian Township, Michigan. The site is located on the north side of Jolly Road approximately one-half mile west of Okemos Road. One of the parcels is currently occupied by Midwest Power Equipment and the two other properties are occupied by single-family houses. In total, the proposed site consists of approximately six acres. A copy of the proposed site plan is included in the appendix.

Site Access

Access to the site will be via three proposed driveways: one on Kansas Street, one on Jolly Road and one on Woodlake Drive. The existing two-way left-turn lane along Jolly Road will serve as a left-turn lane into the proposed driveway along Jolly Road.

The site driveways located on Kansas Street and Jolly Road will be for patients only, while all employees will be directed to utilize the access driveway from Woodlake Drive.



Trip Generation

The Trip Generation Manual, Tenth Edition, by the Institute of Transportation Engineers (ITE) was used to calculate the anticipated traffic that may be generated by the proposed site. Trips are measured individually for inbound and outbound movements; therefore, a visit to the site by an employee or visitor, for instance, generates two trips—one inbound and one outbound.

Based on the land use descriptions provided within the ITE Trip Generation Manual, the most applicable land uses for the proposed site would be the Medical Clinic (Land Use Code 630) and Free-Standing Emergency Room (Land Use Code 650).

Trips for the site were calculated for the typical weekday morning and afternoon peak hours. Trips to/from the existing Midwest Power site were not subtracted from the existing traffic volumes resulting in a conservative analysis. Table 2 shows the typical peak hour trips anticipated to be generated by the proposed development after completion.

As shown in Table 2, the site is expected to generate approximately 957 total weekday trips, 73 new weekday morning peak hour vehicle trips (52 inbound, 21 outbound), and 73 new weekday afternoon peak hour trips (25 inbound, 48 outbound) onto the roadway system.

Table 2. Proposed Medical Office Building Trip Generation

Land Use	ITE Code	Size	AM			PM			Daily Trips
			Total	Enter	Exit	Total	Enter	Exit	
Medical Clinic	630	14,800 sft	55	43	12	49	14	35	565
Free-Standing Emergency Room	650	15,700 sft	18	9	9	24	11	13	392
Total			73	52	21	73	25	48	957

Source: ITE Trip Generation Manual, 10th Edition

Trip Distribution

The directional distribution of the site-generated trips was based upon existing travel patterns and engineering judgment. Directional distribution to/from the proposed development for site-generated trips is expected to be approximately as follows:

To/from Jolly Road west 40% To/from Jolly Road east 60%

Based upon the above distribution patterns for new trips and the current site plan layout, the anticipated peak hour project traffic was assigned to the proposed site access driveways and the two existing study area intersections. As the majority of the trips occurring during the morning and afternoon peak hours will likely be employees, approximately 50% of the trips were assigned to the Woodlake Drive access point and 25% to each of the Kansas Street and Jolly Road access points. Figure 3 shows the total anticipated morning and afternoon peak hour trips for site-generated traffic upon full completion and occupancy of the proposed site.

The anticipated site trips were added to the background (2022) peak hour volumes to depict the estimated total future (2022) volumes during the morning and afternoon peak hours. Figure 4 shows the total anticipated future (2022) volumes.

Future (2022) Capacity Analysis

Intersection level-of-service calculations were completed to evaluate the future (2022) morning and afternoon peak hour conditions at the site access driveways and the existing study area intersections

assuming the completion of the site. The results of the level-of-service analyses are shown in Table 3 on the next page. Copies of the *Synchro*® analyses are included in the appendix.

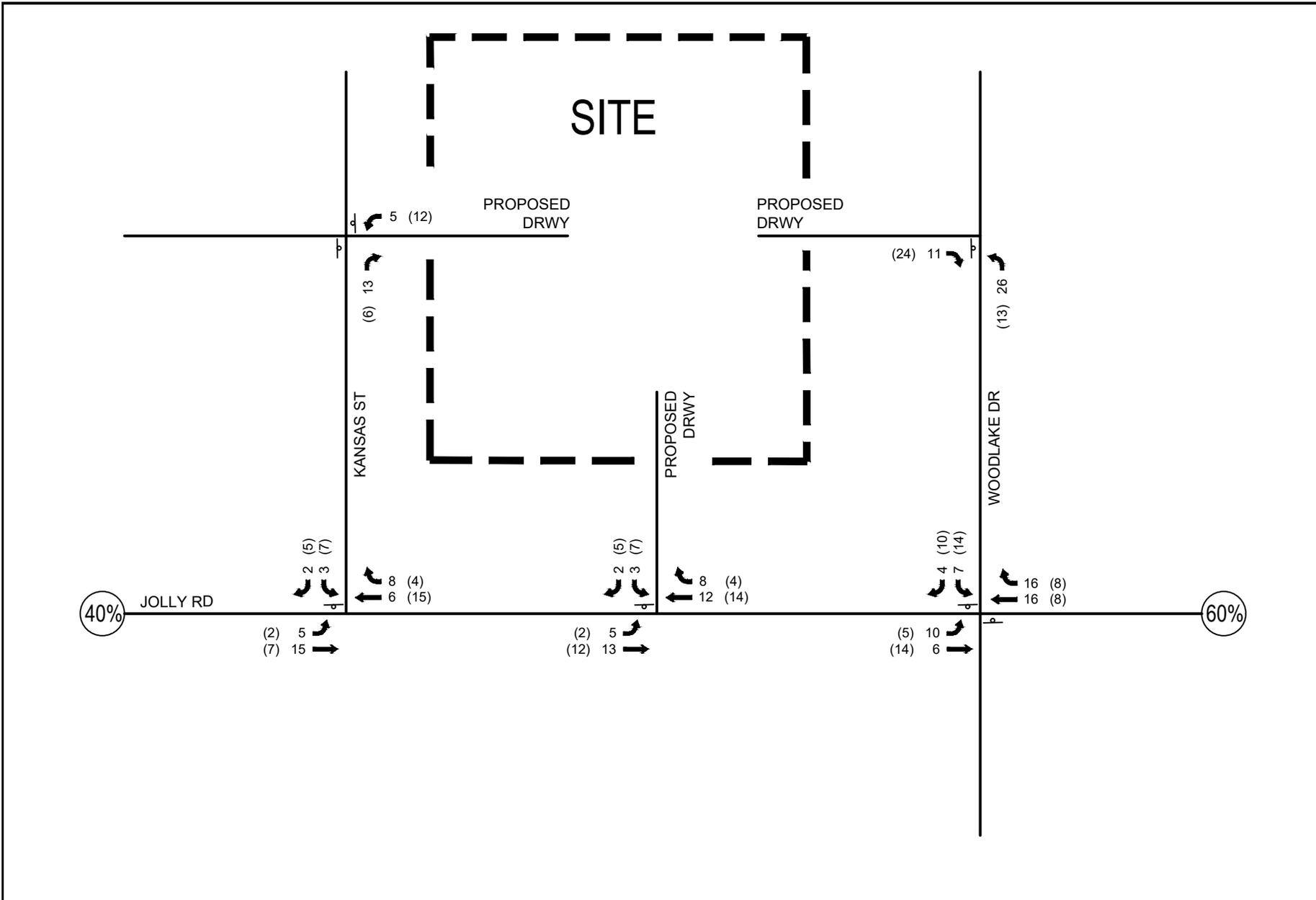
The future (2022) conditions are similar to the existing conditions, with all controlled movements at the existing two unsignalized study area intersections anticipated to continue to operate at an acceptable LoS “C” or better during the morning and afternoon peak hours.

The controlled movements at the proposed site driveways are also anticipated to operate at an acceptable LoS “C” or better during the morning and afternoon peak hours.

Table 3. Future (2022) Conditions Levels-of-Service and Delay

Intersection/ Movement	Existing Conditions				Future (2022) Conditions			
	AM		PM		AM		PM	
	LoS	Delay (s)	LoS	Delay (s)	LoS	Delay (s)	LoS	Delay (s)
Jolly Road / Kansas Street¹								
<i>EBL</i>	A	9.1	A	8.9	A	9.3	A	9.0
<i>SB</i>	C	15.5	C	16.2	C	16.5	C	17.7
Jolly Road / Woodlake Drive¹								
<i>NBL</i>	C	19.6	C	21.9	C	21.1	C	23.3
<i>NBT/R</i>	B	13.4	B	11.5	B	13.9	B	11.6
<i>EBL</i>	A	9.0	A	8.9	A	9.2	A	9.0
<i>WBL</i>	A	9.3	A	9.5	A	9.4	A	9.6
<i>SB</i>	B	10.6	B	13.1	C	15.1	C	15.7
Jolly Road / Proposed Driveway¹								
<i>EBL</i>	-	-	-	-	A	9.3	A	9.1
<i>SB</i>	-	-	-	-	C	16.2	C	16.3
Woodlake Drive / Proposed Driveway¹								
<i>NBL</i>	-	-	-	-	A	7.3	A	7.3
<i>EB</i>	-	-	-	-	A	8.4	A	8.5
Kansas Street / Proposed Driveway¹								
<i>NBL</i>	-	-	-	-	A	7.3	A	7.3
<i>EB</i>	-	-	-	-	A	8.4	A	8.4
<i>WB</i>	-	-	-	-	A	9.0	A	8.9

¹Unsignalized intersection, controlled movements shown
Source: Progressive AE, June 2021



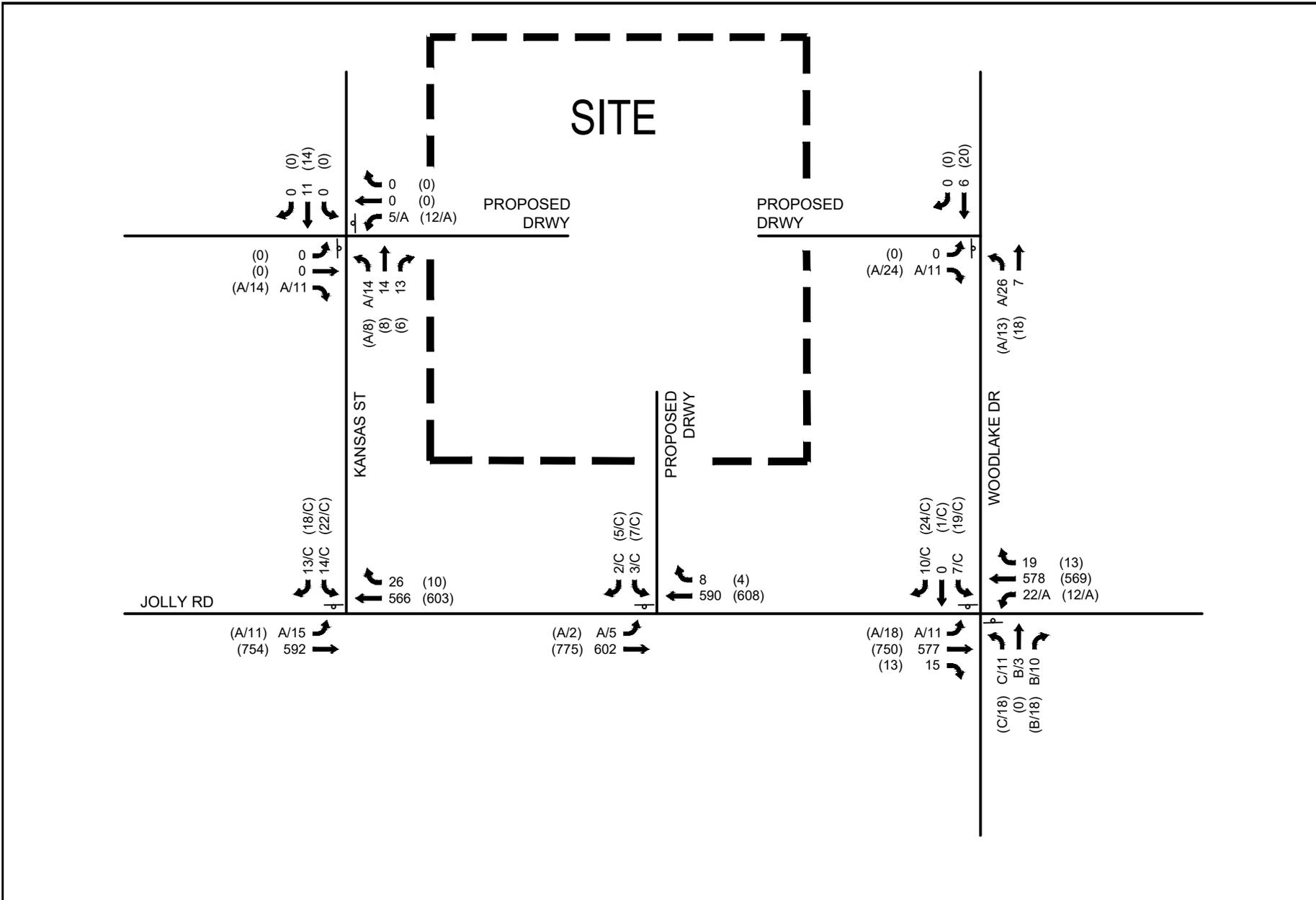
OKEMOS MEDICAL OFFICE BUILDING TRAFFIC IMPACT STUDY

LEGEND
 XX (XX) = AM (PM) GENERATED TRIPS
 (X%) = DISTRIBUTION FOR NEW TRIPS

FUTURE (2022) TRIP DISTRIBUTION
 + TRAFFIC ASSIGNMENT



FIGURE
3



OKEMOS MEDICAL OFFICE BUILDING TRAFFIC IMPACT STUDY

LEGEND

- XX (XX) = AM (PM)
- A = LEVEL-OF-SERVICE
- Ⓢ = SIGNALIZED INTERSECTION
- ⊥ = STOP-CONTROLLED

FUTURE (2022) PEAK-HOUR VOLUMES
+ LEVELS-OF-SERVICE



FIGURE
4

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

The chapter summarizes the results of the analyses performed as part of the study. Recommendations to improve the surrounding roadway network are also presented.

Conclusions

Based on the analyses performed as part of this study, the proposed medical office building will have little to no impact to the surrounding roadway network. The findings of this study are as follows:

Existing Conditions

The controlled movements at the two existing unsignalized study area intersections are currently operating at an acceptable LoS "C" or better during the morning and afternoon peak hours.

Future (2022) Conditions

The future (2022) conditions are similar to the existing conditions after the addition of site generated traffic. All controlled movements at the existing two unsignalized study area intersections are anticipated to continue to operate at an acceptable LoS "C" or better during the morning and afternoon peak hours.

The controlled movements at the proposed site driveways are also anticipated to operate at an acceptable LoS "C" or better during the morning and afternoon peak hours.

Recommendations

There are no improvements that would be recommended to mitigate the traffic impacts of the proposed medical office building.

Technical Appendix

Okemos Medical Office Building TIS

- **Level of Service Definitions**
- **Glossary**
- **Site Plan**
- **Traffic Count Data**
- **Synchro Analyses Results**

Level of Service Definitions

Signalized Intersections

- Level of Service A:** Describes operations with very low average stopped delay, i.e., less than 10.0 seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
- Level of Service B:** Describes operations with an average stopped delay in the range of 10.0 to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
- Level of Service C:** Describes operations with an average stopped delay in the range of 20.1 to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
- Level of Service D:** Describes operations with an average stopped delay in the range of 35.1 to 55.0 seconds per vehicle. At Level of Service D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c (volume/capacity) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
- Level of Service E:** Describes operations with an average stopped delay in the range of 55.1 to 80.0 seconds per vehicle. This is considered to be the limit of acceptable delay in many cases. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are a frequent occurrence.
- Level of Service F:** Describes operations with an average stopped delay in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over-saturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Level of Service Definitions

Unsignalized Intersections

Level of Service A:	Average delay per vehicles for impeded movements is less than 10 seconds. There is little or no delay with typically low side street and/or main street traffic.
Level of Service B:	Average stopped delays from 10.1 seconds to 15.0 seconds. Short delays, many acceptable gaps in main street traffic stream.
Level of Service C:	Average delay per vehicle ranges from 15.1 to 25.0 seconds. Average traffic delays with frequent gaps in main street traffic.
Level of Service D:	Average delays from 25.1 to 35.0 seconds for impeded movements. Long traffic delays for impeded movements due in part to a limited number of acceptable gaps.
Level of Service E:	Average delays in the 35.1 to 50.0 second range. May experience very long delays for impeded movements with a very small number of acceptable gaps in the traffic stream.
Level of Service F:	Average vehicle delays of over 50.0 seconds. Extreme traffic delays with virtually no acceptable gaps in main street traffic.

Glossary

Approach: A set of lanes accommodating all left-turn, through, and right-turn movements arriving at an intersection from a given direction.

Arterial: Signalized streets that serve primarily through traffic and provide access to abutting properties as a secondary function.

Average Stopped Delay: The total time vehicles are stopped in an intersection approach or lane group during a specified time interval divided by the volume departing from the approach or lane group during the same time period, in seconds per vehicle.

Background Traffic: Traffic volumes that will be on the roadway network without the presence of the proposed development.

Bypass Lane: A one-lane widening on a two-lane roadway that allows through traffic to pass by waiting left-turn traffic.

Capacity: The maximum rate of flow at which persons or vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions; usually expressed as vehicles per hour or persons per hour.

Conflicting Traffic Volume: The volume of traffic which conflicts with a specific movement at an intersection.

Corridor: A lineal study area aligned with a roadway facility in which traffic, land use, right-of-way, environmental, and other factors are evaluated to determine future transportation facility needs.

Cycle: Any complete sequence of traffic signal indications.

Cycle Length: The total time for a traffic signal to complete one cycle.

Design Hour Volume: The traffic volume for the design hour, usually a forecast of the relevant peak hour volume, in vehicles per hour.

Diverted Linked Trips: Trips from the traffic volume on roadways within the vicinity of the generator but which requires a diversion from that roadway to another roadway to gain access to the site.

Driveway Offset: Distance between driveways on opposite sides of a roadway, measured parallel to roadway.

Freeway: A multi-lane divided highway having a minimum of two lanes for exclusive use of traffic in each direction and full control of access and egress.

Gaps (Critical Gap): The median time headway between vehicles in a major traffic stream which will permit side-street vehicles to cross through or merge with the major traffic stream.

Green Time: The actual length of the "green" indication for a given movement at a signalized intersection.

Level of Service: A qualitative measure describing operational conditions within a traffic stream; generally described in terms of such factors as speed and travel time, delay, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.

Operational Analysis: A use of capacity analysis to determine the prevailing level of service on an existing or projected facility, with known or projected traffic, roadway, and control conditions. This analysis can involve a particular location, such as an intersection or a corridor.

Pass-by Trips: Trips made as intermediate stops on the way from an origin to a primary trip destination.

Peak Hour (AM): The one hour period in the morning representing the highest hourly volume of traffic flow on the adjacent public street system.

Peak Hour (PM): The one hour period in the afternoon or evening representing the highest hourly volume of traffic flow on the adjacent public street system.

Peak Hour Factor: The hourly volume during the maximum volume hour of the day divided by four times the peak 15-minute flow within the peak hour; a measure of traffic demand fluctuation within the peak hour.

Phase: The part of the signal cycle allocated to any combination of traffic movements receiving the right-of-way simultaneously during one or more intervals.

Roadway Conditions: Geometric characteristics of a street or highway, including the type of facility, number and width of lanes (by direction), shoulder widths and lateral clearances, design speed, etc.

Service Drive: A roadway (usually private) that provides internal access to two or more uses.

Site Traffic: Existing or projected vehicular traffic generated by the development.

Study Area: The geographic area containing site access points and critical intersections (and connecting highway segments) which are impacted by the site-traffic generated by the development, and should be evaluated.

System Improvements: Added lanes, signal improvements, and other roadway improvements not considered site-related improvements.

Traffic Impact: The adverse impact on intersection Level of Service and/or street and highway safety and operations as determined by the criteria and procedures set forth in this handbook.

Trip (Directional Trip): A single or one-direction vehicle movement with either the origin or the destination (exiting or entering) inside a study site.

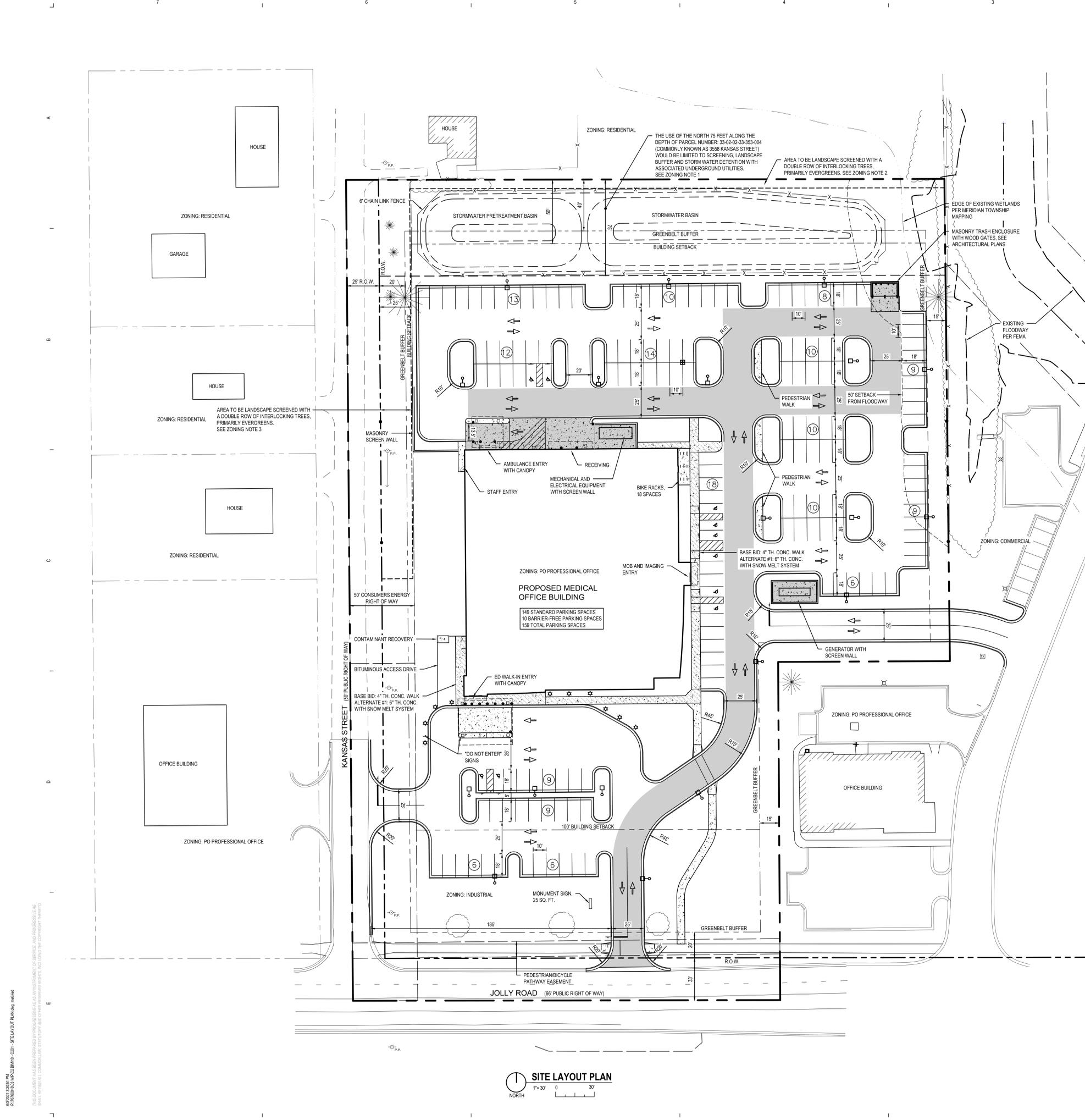
Trip Distribution: The distribution or assignment of site traffic into site driveways and study area roadways/intersections based upon expected direction of approach and departure.

Unsignalized Intersection: Any intersection not controlled by traffic signals.

Volume: The number of persons or vehicles passing a point on a lane or roadway during some time interval, such as one hour or during an average day.

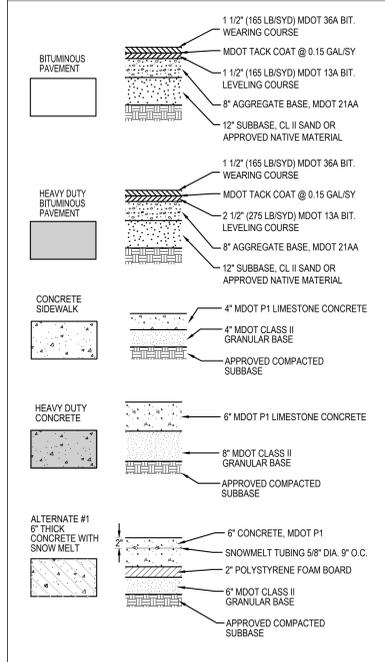
Volume-to-Capacity Ratio (V/C): The ratio of demand flow rate to capacity for a traffic facility.

Site Plan



SITE LAYOUT PLAN
 1" = 30'
 NORTH

PAVEMENT LEGEND



ZONING NOTES

ZONE DISTRICT: PROFESSIONAL OFFICE
ADJACENT ZONING: PROFESSIONAL OFFICE AND RESIDENTIAL
PARCEL SIZE: 5.99 ACRES GROSS, 5.40 ACRES NET (EXCLUDING RIGHTS OF WAY)

REQUIRED BUILDING SETBACKS:
 FRONT: 100 FEET FROM ROAD CENTERLINE
 EAST SIDE: 15 FEET
 WEST SIDE: 25 FEET
 REAR: 50 FEET
REQUIRED GREENSPACE BUFFER:
 REAR: 40 FEET
 EAST SIDE: 15 FEET
 WEST SIDE: 20 FEET FROM R.O.W.
 SOUTH SIDE: 20 FEET FROM R.O.W.

PARKING REQUIRED:
 MEDICAL OFFICE: 5 SPACES PER 1,000 SQ. FT. GROSS FLOOR AREA
 TOTAL REQUIRED: 152

PARKING PROVIDED:
 STANDARD (10X18): 149
 BARRIER FREE: 10
 TOTAL SPACES: 159

BIKE PARKING REQUIRED: 16
 1 SPACE PER 10 PARKING SPACES

BIKE PARKING PROVIDED: 18

IMPERVIOUS AREA (BUILDING + PAVEMENT): 152,791 SQ. FT.
GREENSPACE: 108,314 SQ. FT.
GREENSPACE REQUIRED: 25%
GREENSPACE PROVIDED: 41.5%

PRE-DEVELOPMENT IMPERVIOUS AREA (BUILDING + PAVEMENT): 52,390 SQ. FT.
PRE-DEVELOPMENT GREENSPACE: 208,715 SQ. FT.

THE PROPERTY WAS REZONED SUBJECT TO THE FOLLOWING CONDITIONS VOLUNTARILY OFFERED BY THE APPLICANT.

- THE USE OF THE NORTH 75 FEET ALONG THE DEPTH OF PARCEL NUMBER 33-02-02-33-353-004 (COMMONLY KNOWN AS 3558 KANSAS STREET) WOULD BE LIMITED TO SCREENING, LANDSCAPE BUFFER AND STORM WATER DETENTION WITH ASSOCIATED UNDERGROUND UTILITIES.
- THE NORTH PROPERTY LINE OF PARCEL NUMBER 33-02-02-33-353-004 (COMMONLY KNOWN AS 3558 KANSAS STREET) WOULD BE LANDSCAPED TO MATCH OR EXCEED THE BUFFER REQUIREMENT BETWEEN PROFESSIONAL OFFICE ZONING AND RESIDENTIAL ZONING AS OUTLINED IN THE CURRENT MERIDIAN CHARTER TOWNSHIP ZONING ORDINANCE SECTION 88-404 (b)(3). THIS WOULD REQUIRE A DOUBLE ROW OF INTERLOCKING TREES, PRIMARILY EVERGREENS, OR THE EQUIVALENT IN ADDITION TO GENERAL SCREENING STANDARDS.
- THE WEST PROPERTY LINE OF PARCEL NUMBERS 33-02-02-33-353-004 AND 33-02-02-33-353-005 (COMMONLY KNOWN AS 3532 AND 3558 KANSAS STREET) TO THE EXTENT THAT THE PROPERTIES ACROSS KANSAS STREET ARE ZONED RESIDENTIAL (RA) (TO THE SOUTHERN EDGE OF PARCEL NUMBER 33-02-02-33-352-004) WOULD BE LANDSCAPED TO EXCEED THE LANDSCAPE SCREENING MATERIAL BUFFER REQUIREMENTS AS OUTLINED IN THE CURRENT MERIDIAN CHARTER TOWNSHIP ZONING ORDINANCE SECTION 88-404 (b)(3). THIS WOULD REQUIRE A DOUBLE ROW OF INTERLOCKING TREES, PRIMARILY EVERGREENS, OR THE EQUIVALENT IN ADDITION TO GENERAL SCREENING STANDARDS.
- DRIVEWAYS WOULD BE LIMITED TO A PRIMARY DRIVE ACCESS ON JOLLY ROAD, A SECONDARY DRIVE TO WOODLAKE DRIVE ON THE EAST, AND A DRIVE ON KANSAS STREET ALIGNING WITH THE CURRENT CURB CUT ON KANSAS STREET FOR 2476 JOLLY ROAD. THIS CONDITION WOULD BE SUBJECT TO INGHAM COUNTY ROAD COMMISSION APPROVAL OF THE DRIVEWAYS AND LOCATION OF THE DRIVEWAYS.
- THE OWNER WILL PURSUE LEED CERTIFICATION FOR THE PROPOSED PROJECT.
- AS A CONDITION OF THE REZONING, THE DEVELOPER WILL PROVIDE FOR THE EXTENSION AND CONSTRUCTION OF A PUBLIC WATER MAIN ALONG KANSAS STREET, SUBJECT TO THE MERIDIAN TOWNSHIP DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS AND DESIGN. IN ADDITION, THE DEVELOPER WILL ESTABLISH AN ESCROW ACCOUNT TO COVER THE CONNECTION COSTS OF UP TO 14 RESIDENTIAL HOUSES ON KANSAS STREET TO BE SERVICED BY SUCH WATER MAIN EXTENSION IN AN AMOUNT NOT TO EXCEED \$1,000 PER RESIDENTIAL HOUSE TO BE USED ON OR BEFORE MAY 31, 2026. ANY SUCH FUNDS HELD IN ESCROW AFTER SUCH DATE SHALL BE RETURNED TO THE DEVELOPER. "RESIDENTIAL HOUSES" SHALL MEAN THE CURRENT OWNER(S) AND PARCEL NUMBER(S) IDENTIFIED IN THE ATTACHED EXHIBIT A.

GENERAL SITE LAYOUT NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE ACCORDING TO THE CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION (M.D.O.T.) STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- CONTACT "MISS DIG" TOLL FREE AT 1-800-482-7171 THREE (3) DAYS PRIOR TO THE START OF CONSTRUCTION, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS.
- NO DIMENSION MAY BE SCALED. REFER UNCLER ITEMS TO THE ENGINEER FOR INTERPRETATION.
- DIMENSIONS SHOWN ARE TO FACE OF CURB UNLESS OTHERWISE NOTED AS B-B (BACK TO BACK) OR E-E (EDGE OF METAL TO EDGE OF METAL).
- CONTRACTOR TO PAINT STRIPE ALL PARKING SPACES SHOWN. PAINT COLOR TO BE WHITE, BARRIER-FREE SPACES TO BE BLUE.
- UPON REQUEST, ELECTRONIC INFORMATION WILL BE PROVIDED FOR SITE LAYOUT PURPOSES. CONTRACTOR SHALL REQUEST ALL INFORMATION IN WRITING THROUGH PROGRESSIVE AE. LAYOUT OF ALL NEW CONSTRUCTION SHALL BE DONE BY A LICENSED SURVEYOR.
- ALL CONCRETE JOINTS SHALL BE TOOLED PER SPECIFICATIONS.
- CONTRACTOR MUST RESTORE AND REPAIR ANY EXISTING CONDITIONS DISTURBED BY CONSTRUCTION, INCLUDING BURIED UTILITIES, LIGHTING, LANDSCAPING, SPRINKLING, ETC., TO CONDITION EQUAL TO OR BETTER THAN BEFORE CONSTRUCTION BEGAN.
- ALL PAVEMENT, CURB & GUTTER, SIDEWALK AND UTILITIES WITHIN PUBLIC RIGHT OF WAY SHALL MEET INGHAM COUNTY ROAD COMMISSION STANDARDS.

ISSUANCE
 SPECIAL LAND USE PERMIT
 6/3/2021

REVISIONS
 NO. DATE DESCRIPTION

FILE NUMBER: 70760048
 PROJECT MANAGER: CJC
 PROFESSIONAL: CCS
 DRAWN BY: DCM
 CHECKED BY: CCS

6/3/2021 3:30:51 PM
 P:\2020\60321\60321.dwg: csh: SITE LAYOUT PLAN.dwg issued

THIS DOCUMENT HAS BEEN PREPARED BY PROGRESSIVE AE AS AN INSTRUMENT OF SERVICE AND PROGRESSIVE AE SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT THEREIN.

Traffic Count Data



Progressive AE
1811 4 Mile Rd NE

Grand Rapids, Michigan, United States 49525
(616) 361-2664

Count Name: Jolly Rd at Kansas St
Site Code:
Start Date: 04/22/2021
Page No: 1

Turning Movement Data

Start Time	Jolly Rd Eastbound			Jolly Rd Westbound			Kansas St Southbound			Int. Total
	Left	Thru	App. Total	Thru	Right	App. Total	Left	Right	App. Total	
7:00 AM	0	40	40	53	0	53	1	0	1	94
7:15 AM	0	43	43	70	0	70	0	0	0	113
7:30 AM	2	58	60	85	1	86	0	0	0	146
7:45 AM	1	109	110	133	3	136	1	0	1	247
Hourly Total	3	250	253	341	4	345	2	0	2	600
8:00 AM	1	88	89	85	4	89	0	3	3	181
8:15 AM	2	94	96	87	1	88	2	0	2	186
8:30 AM	3	94	97	94	4	98	3	2	5	200
8:45 AM	1	134	135	124	4	128	3	3	6	269
Hourly Total	7	410	417	390	13	403	8	8	16	836
*** BREAK ***	-	-	-	-	-	-	-	-	-	-
4:00 PM	4	139	143	110	3	113	7	8	15	271
4:15 PM	4	122	126	101	2	103	3	6	9	238
4:30 PM	2	131	133	105	2	107	2	4	6	246
4:45 PM	0	133	133	101	1	102	1	1	2	237
Hourly Total	10	525	535	417	8	425	13	19	32	992
5:00 PM	4	153	157	115	1	116	2	0	2	275
5:15 PM	1	155	156	129	1	130	7	5	12	298
5:30 PM	1	105	106	98	0	98	0	2	2	206
5:45 PM	1	114	115	79	0	79	3	1	4	198
Hourly Total	7	527	534	421	2	423	12	8	20	977
Grand Total	27	1712	1739	1569	27	1596	35	35	70	3405
Approach %	1.6	98.4	-	98.3	1.7	-	50.0	50.0	-	-
Total %	0.8	50.3	51.1	46.1	0.8	46.9	1.0	1.0	2.1	-
Lights	26	1671	1697	1526	25	1551	33	34	67	3315
% Lights	96.3	97.6	97.6	97.3	92.6	97.2	94.3	97.1	95.7	97.4
Mediums	0	37	37	35	2	37	2	1	3	77
% Mediums	0.0	2.2	2.1	2.2	7.4	2.3	5.7	2.9	4.3	2.3
Articulated Trucks	1	4	5	8	0	8	0	0	0	13
% Articulated Trucks	3.7	0.2	0.3	0.5	0.0	0.5	0.0	0.0	0.0	0.4



Progressive AE
1811 4 Mile Rd NE

Grand Rapids, Michigan, United States 49525
(616) 361-2664

Count Name: Jolly Rd at Kansas St
Site Code:
Start Date: 04/22/2021
Page No: 2

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Jolly Rd Eastbound			Jolly Rd Westbound			Kansas St Southbound			Int. Total
	Left	Thru	App. Total	Thru	Right	App. Total	Left	Right	App. Total	
8:00 AM	1	88	89	85	4	89	0	3	3	181
8:15 AM	2	94	96	87	1	88	2	0	2	186
8:30 AM	3	94	97	94	4	98	3	2	5	200
8:45 AM	1	134	135	124	4	128	3	3	6	269
Total	7	410	417	390	13	403	8	8	16	836
Approach %	1.7	98.3	-	96.8	3.2	-	50.0	50.0	-	-
Total %	0.8	49.0	49.9	46.7	1.6	48.2	1.0	1.0	1.9	-
PHF	0.583	0.765	0.772	0.786	0.813	0.787	0.667	0.667	0.667	0.777
Lights	6	392	398	368	13	381	7	8	15	794
% Lights	85.7	95.6	95.4	94.4	100.0	94.5	87.5	100.0	93.8	95.0
Mediums	0	16	16	18	0	18	1	0	1	35
% Mediums	0.0	3.9	3.8	4.6	0.0	4.5	12.5	0.0	6.3	4.2
Articulated Trucks	1	2	3	4	0	4	0	0	0	7
% Articulated Trucks	14.3	0.5	0.7	1.0	0.0	1.0	0.0	0.0	0.0	0.8



Progressive AE
1811 4 Mile Rd NE

Grand Rapids, Michigan, United States 49525
(616) 361-2664

Count Name: Jolly Rd at
Woodlake Dr
Site Code:
Start Date: 04/22/2021
Page No: 1

Turning Movement Data

Start Time	Jolly Rd Eastbound				Jolly Rd Westbound				Woodlake Dr Northbound				Woodlake Dr Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
7:00 AM	0	40	2	42	0	51	0	51	0	0	0	0	0	0	0	0	93
7:15 AM	0	39	3	42	1	69	0	70	1	0	0	1	0	0	1	1	114
7:30 AM	0	56	2	58	2	82	0	84	1	0	0	1	0	0	0	0	143
7:45 AM	0	94	2	96	1	133	0	134	1	0	0	1	0	0	2	2	233
Hourly Total	0	229	9	238	4	335	0	339	3	0	0	3	0	0	3	3	583
8:00 AM	1	88	0	89	4	91	0	95	3	0	0	3	0	0	0	0	187
8:15 AM	0	88	8	96	4	85	0	89	2	1	4	7	0	0	2	2	194
8:30 AM	0	95	0	95	4	98	0	102	1	0	2	3	0	0	0	0	200
8:45 AM	0	132	3	135	4	125	2	131	2	1	1	4	0	0	2	2	272
Hourly Total	1	403	11	415	16	399	2	417	8	2	7	17	0	0	4	4	853
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	4	141	3	148	0	112	1	113	1	0	5	6	2	0	2	4	271
4:15 PM	0	121	4	125	2	95	0	97	4	0	2	6	2	0	4	6	234
4:30 PM	1	131	1	133	1	98	1	100	6	0	4	10	1	0	2	3	246
4:45 PM	5	124	4	133	4	99	0	103	3	0	2	5	2	0	3	5	246
Hourly Total	10	517	12	539	7	404	2	413	14	0	13	27	7	0	11	18	997
5:00 PM	2	154	0	156	2	105	2	109	3	0	5	8	1	1	3	5	278
5:15 PM	2	155	5	162	2	125	1	128	2	0	3	5	0	0	3	3	298
5:30 PM	4	97	3	104	1	92	2	95	4	1	1	6	4	0	3	7	212
5:45 PM	4	108	4	116	0	72	3	75	4	0	1	5	0	0	2	2	198
Hourly Total	12	514	12	538	5	394	8	407	13	1	10	24	5	1	11	17	986
Grand Total	23	1663	44	1730	32	1532	12	1576	38	3	30	71	12	1	29	42	3419
Approach %	1.3	96.1	2.5	-	2.0	97.2	0.8	-	53.5	4.2	42.3	-	28.6	2.4	69.0	-	-
Total %	0.7	48.6	1.3	50.6	0.9	44.8	0.4	46.1	1.1	0.1	0.9	2.1	0.4	0.0	0.8	1.2	-
Lights	23	1622	43	1688	31	1490	12	1533	37	3	29	69	12	1	28	41	3331
% Lights	100.0	97.5	97.7	97.6	96.9	97.3	100.0	97.3	97.4	100.0	96.7	97.2	100.0	100.0	96.6	97.6	97.4
Mediums	0	36	1	37	1	35	0	36	0	0	1	1	0	0	1	1	75
% Mediums	0.0	2.2	2.3	2.1	3.1	2.3	0.0	2.3	0.0	0.0	3.3	1.4	0.0	0.0	3.4	2.4	2.2
Articulated Trucks	0	5	0	5	0	7	0	7	1	0	0	1	0	0	0	0	13
% Articulated Trucks	0.0	0.3	0.0	0.3	0.0	0.5	0.0	0.4	2.6	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.4



Progressive AE
1811 4 Mile Rd NE

Grand Rapids, Michigan, United States 49525
(616) 361-2664

Count Name: Jolly Rd at
Woodlake Dr
Site Code:
Start Date: 04/22/2021
Page No: 2

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Jolly Rd Eastbound				Jolly Rd Westbound				Woodlake Dr Northbound				Woodlake Dr Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
8:00 AM	1	88	0	89	4	91	0	95	3	0	0	3	0	0	0	0	187
8:15 AM	0	88	8	96	4	85	0	89	2	1	4	7	0	0	2	2	194
8:30 AM	0	95	0	95	4	98	0	102	1	0	2	3	0	0	0	0	200
8:45 AM	0	132	3	135	4	125	2	131	2	1	1	4	0	0	2	2	272
Total	1	403	11	415	16	399	2	417	8	2	7	17	0	0	4	4	853
Approach %	0.2	97.1	2.7	-	3.8	95.7	0.5	-	47.1	11.8	41.2	-	0.0	0.0	100.0	-	-
Total %	0.1	47.2	1.3	48.7	1.9	46.8	0.2	48.9	0.9	0.2	0.8	2.0	0.0	0.0	0.5	0.5	-
PHF	0.250	0.763	0.344	0.769	1.000	0.798	0.250	0.796	0.667	0.500	0.438	0.607	0.000	0.000	0.500	0.500	0.784
Lights	1	385	10	396	15	379	2	396	7	2	6	15	0	0	4	4	811
% Lights	100.0	95.5	90.9	95.4	93.8	95.0	100.0	95.0	87.5	100.0	85.7	88.2	-	-	100.0	100.0	95.1
Mediums	0	16	1	17	1	18	0	19	0	0	1	1	0	0	0	0	37
% Mediums	0.0	4.0	9.1	4.1	6.3	4.5	0.0	4.6	0.0	0.0	14.3	5.9	-	-	0.0	0.0	4.3
Articulated Trucks	0	2	0	2	0	2	0	2	1	0	0	1	0	0	0	0	5
% Articulated Trucks	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5	12.5	0.0	0.0	5.9	-	-	0.0	0.0	0.6

Location Info	
Location ID	33-5078_EB
County ID	33
Station ID	8_EB
Type	I-SECTION
Functional Class	3
Located On	JOLLY RD
WEST OF	Okemos Rd
Direction	EB
Community	-
MPO_ID	
HPMS ID	
Agency	Michigan Department of Transportation

Count Data Info	
Start Date	3/27/2018
End Date	3/28/2018
Start Time	12:00 PM
End Time	12:00 PM
Direction	EB
Notes	
Count Source	33-5078
File Name	33-5078_D_506818_03-27-2018.prn
Weather	
Study	
Owner	hundtc
QC Status	Accepted

Interval: 15 mins					
Time	15 Min				Hourly Count
	1st	2nd	3rd	4th	
00:00 - 01:00	4	5	0	3	12
01:00 - 02:00	3	2	3	0	8
02:00 - 03:00	1	2	5	3	11
03:00 - 04:00	1	2	2	1	6
04:00 - 05:00	1	12	6	8	27
05:00 - 06:00	9	10	7	18	44
06:00 - 07:00	21	22	26	36	105
07:00 - 08:00	46	59	120	92	317
08:00 - 09:00	86	112	94	108	400
09:00 - 10:00	87	82	102	90	361
10:00 - 11:00	95	89	79	103	366
11:00 - 12:00	114	111	148	143	516
12:00 - 13:00	188	130	140	104	562
13:00 - 14:00	115	104	121	107	447
14:00 - 15:00	94	103	168	201	566
15:00 - 16:00	132	151	136	139	558
16:00 - 17:00	147	150	161	174	632
17:00 - 18:00	216	204	169	162	751
18:00 - 19:00	109	97	99	74	379
19:00 - 20:00	71	60	61	47	239
20:00 - 21:00	55	59	49	40	203
21:00 - 22:00	48	26	48	23	145
22:00 - 23:00	24	19	20	15	78
23:00 - 24:00	6	9	10	8	33
TOTAL					6766

Location Info	
Location ID	33-5078_WB
County ID	33
Station ID	8_WB
Type	I-SECTION
Functional Class	3
Located On	JOLLY RD
WEST OF	Okemos Rd
Direction	WB
Community	-
MPO_ID	
HPMS ID	
Agency	Michigan Department of Transportation

Count Data Info	
Start Date	3/27/2018
End Date	3/28/2018
Start Time	12:00 PM
End Time	12:00 PM
Direction	WB
Notes	
Count Source	33-5078
File Name	33-5078_D_506818_03-27-2018.prn
Weather	
Study	
Owner	hundtc
QC Status	Accepted

Interval: 15 mins					
Time	15 Min				Hourly Count
	1st	2nd	3rd	4th	
00:00 - 01:00	8	3	2	1	14
01:00 - 02:00	3	1	2	2	8
02:00 - 03:00	2	2	1	2	7
03:00 - 04:00	2	1	4	0	7
04:00 - 05:00	2	2	6	4	14
05:00 - 06:00	7	5	11	12	35
06:00 - 07:00	19	26	39	49	133
07:00 - 08:00	78	207	258	163	706
08:00 - 09:00	125	117	140	135	517
09:00 - 10:00	97	86	110	86	379
10:00 - 11:00	74	86	82	92	334
11:00 - 12:00	94	90	113	94	391
12:00 - 13:00	138	128	112	90	468
13:00 - 14:00	120	125	103	92	440
14:00 - 15:00	110	88	122	104	424
15:00 - 16:00	91	91	111	122	415
16:00 - 17:00	132	96	107	143	478
17:00 - 18:00	143	132	102	102	479
18:00 - 19:00	90	93	92	61	336
19:00 - 20:00	68	64	48	48	228
20:00 - 21:00	54	47	27	28	156
21:00 - 22:00	49	29	13	24	115
22:00 - 23:00	31	26	11	20	88
23:00 - 24:00	16	13	9	11	49
TOTAL					6221

Synchro Analysis Results

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	566	549	18	11	11
Future Vol, veh/h	10	566	549	18	11	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	79	79	67	67
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	13	735	695	23	16	16

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	718	0	-	0	1468 359
Stage 1	-	-	-	-	707 -
Stage 2	-	-	-	-	761 -
Critical Hdwy	4.115	-	-	-	6.615 6.915
Critical Hdwy Stg 1	-	-	-	-	5.815 -
Critical Hdwy Stg 2	-	-	-	-	5.415 -
Follow-up Hdwy	2.2095	-	-	-	3.5095 3.3095
Pot Cap-1 Maneuver	887	-	-	-	130 641
Stage 1	-	-	-	-	453 -
Stage 2	-	-	-	-	463 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	887	-	-	-	128 641
Mov Cap-2 Maneuver	-	-	-	-	266 -
Stage 1	-	-	-	-	446 -
Stage 2	-	-	-	-	463 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	887	-	-	-	376
HCM Lane V/C Ratio	0.015	-	-	-	0.087
HCM Control Delay (s)	9.1	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↗		↖	↕↗		↖	↗			↕↗	
Traffic Vol, veh/h	1	560	15	22	551	3	11	3	10	0	0	6
Future Vol, veh/h	1	560	15	22	551	3	11	3	10	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	80	80	80	61	61	61	60	60	60
Heavy Vehicles, %	1	1	1	1	1	1	6	6	6	1	1	1
Mvmt Flow	1	727	19	28	689	4	18	5	16	0	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	693	0	0	746	0	0	1140	1488	373	1115	1495	347
Stage 1	-	-	-	-	-	-	739	739	-	747	747	-
Stage 2	-	-	-	-	-	-	401	749	-	368	748	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.62	6.62	7.02	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.62	5.62	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.62	5.62	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.56	4.06	3.36	3.51	4.01	3.31
Pot Cap-1 Maneuver	905	-	-	865	-	-	151	119	613	164	123	652
Stage 1	-	-	-	-	-	-	366	412	-	373	421	-
Stage 2	-	-	-	-	-	-	586	408	-	627	420	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	905	-	-	865	-	-	145	115	613	153	119	652
Mov Cap-2 Maneuver	-	-	-	-	-	-	264	236	-	272	237	-
Stage 1	-	-	-	-	-	-	366	412	-	373	408	-
Stage 2	-	-	-	-	-	-	558	395	-	602	420	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.4			16.2			10.6		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	264	448	905	-	-	865	-	-	652
HCM Lane V/C Ratio	0.068	0.048	0.001	-	-	0.032	-	-	0.015
HCM Control Delay (s)	19.6	13.4	9	-	-	9.3	-	-	10.6
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	0	-	-	0.1	-	-	0

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	732	576	6	15	13
Future Vol, veh/h	9	732	576	6	15	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	88	88	60	60
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	10	796	655	7	25	22

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	662	0	0 1475 331
Stage 1	-	-	- 659 -
Stage 2	-	-	- 816 -
Critical Hdwy	4.115	-	- 6.615 6.915
Critical Hdwy Stg 1	-	-	- 5.815 -
Critical Hdwy Stg 2	-	-	- 5.415 -
Follow-up Hdwy	2.2095	-	- 3.5095 3.3095
Pot Cap-1 Maneuver	930	-	- 129 668
Stage 1	-	-	- 480 -
Stage 2	-	-	- 436 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	930	-	- 128 668
Mov Cap-2 Maneuver	-	-	- 266 -
Stage 1	-	-	- 475 -
Stage 2	-	-	- 436 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	930	-	-	-	369
HCM Lane V/C Ratio	0.011	-	-	-	0.126
HCM Control Delay (s)	8.9	-	-	-	16.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕			↕	
Traffic Vol, veh/h	13	722	13	12	550	5	18	0	18	5	1	14
Future Vol, veh/h	13	722	13	12	550	5	18	0	18	5	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	86	86	86	70	70	70	80	80	80
Heavy Vehicles, %	1	1	1	1	1	1	6	6	6	1	1	1
Mvmt Flow	14	802	14	14	640	6	26	0	26	6	1	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	646	0	0	816	0	0	1186	1511	408	1100	1515	323
Stage 1	-	-	-	-	-	-	837	837	-	671	671	-
Stage 2	-	-	-	-	-	-	349	674	-	429	844	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.62	6.62	7.02	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.62	5.62	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.62	5.62	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.56	4.06	3.36	3.51	4.01	3.31
Pot Cap-1 Maneuver	942	-	-	814	-	-	140	115	581	168	120	676
Stage 1	-	-	-	-	-	-	319	371	-	415	456	-
Stage 2	-	-	-	-	-	-	629	442	-	577	380	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	942	-	-	814	-	-	133	111	581	157	116	676
Mov Cap-2 Maneuver	-	-	-	-	-	-	239	229	-	280	234	-
Stage 1	-	-	-	-	-	-	314	365	-	409	448	-
Stage 2	-	-	-	-	-	-	600	434	-	543	374	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			16.7			13.1		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	239	581	942	-	-	814	-	-	467
HCM Lane V/C Ratio	0.108	0.044	0.015	-	-	0.017	-	-	0.054
HCM Control Delay (s)	21.9	11.5	8.9	-	-	9.5	-	-	13.1
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.1	0	-	-	0.1	-	-	0.2

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	592	566	26	14	13
Future Vol, veh/h	15	592	566	26	14	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	79	79	67	67
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	19	769	716	33	21	19

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	749	0	-	0	1540 375
Stage 1	-	-	-	-	733 -
Stage 2	-	-	-	-	807 -
Critical Hdwy	4.115	-	-	-	6.615 6.915
Critical Hdwy Stg 1	-	-	-	-	5.815 -
Critical Hdwy Stg 2	-	-	-	-	5.415 -
Follow-up Hdwy	2.2095	-	-	-	3.5095 3.3095
Pot Cap-1 Maneuver	863	-	-	-	117 626
Stage 1	-	-	-	-	439 -
Stage 2	-	-	-	-	440 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	863	-	-	-	114 626
Mov Cap-2 Maneuver	-	-	-	-	250 -
Stage 1	-	-	-	-	429 -
Stage 2	-	-	-	-	440 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	16.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	863	-	-	-	352
HCM Lane V/C Ratio	0.023	-	-	-	0.114
HCM Control Delay (s)	9.3	-	-	-	16.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↗		↖	↕↗		↖	↗			↕↗	
Traffic Vol, veh/h	11	577	15	22	578	19	11	3	10	7	0	10
Future Vol, veh/h	11	577	15	22	578	19	11	3	10	7	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	80	80	80	61	61	61	60	60	60
Heavy Vehicles, %	1	1	1	1	1	1	6	6	6	1	1	1
Mvmt Flow	14	749	19	28	723	24	18	5	16	12	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	747	0	0	768	0	0	1205	1590	384	1196	1587	374
Stage 1	-	-	-	-	-	-	787	787	-	791	791	-
Stage 2	-	-	-	-	-	-	418	803	-	405	796	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.62	6.62	7.02	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.62	5.62	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.62	5.62	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.56	4.06	3.36	3.51	4.01	3.31
Pot Cap-1 Maneuver	864	-	-	848	-	-	135	102	603	143	108	626
Stage 1	-	-	-	-	-	-	342	392	-	351	402	-
Stage 2	-	-	-	-	-	-	572	385	-	596	399	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	864	-	-	848	-	-	126	97	603	132	103	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	241	214	-	248	219	-
Stage 1	-	-	-	-	-	-	337	386	-	345	389	-
Stage 2	-	-	-	-	-	-	538	372	-	563	393	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.3			17.2			15.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	241	425	864	-	-	848	-	-	385
HCM Lane V/C Ratio	0.075	0.05	0.017	-	-	0.032	-	-	0.074
HCM Control Delay (s)	21.1	13.9	9.2	-	-	9.4	-	-	15.1
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.2	0.1	-	-	0.1	-	-	0.2

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	602	590	8	3	2
Future Vol, veh/h	5	602	590	8	3	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	79	79	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	782	747	10	3	2

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	757	0	-	0	1546 379
Stage 1	-	-	-	-	752 -
Stage 2	-	-	-	-	794 -
Critical Hdwy	4.13	-	-	-	6.63 6.93
Critical Hdwy Stg 1	-	-	-	-	5.83 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	2.219	-	-	-	3.519 3.319
Pot Cap-1 Maneuver	852	-	-	-	115 620
Stage 1	-	-	-	-	427 -
Stage 2	-	-	-	-	444 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	852	-	-	-	114 620
Mov Cap-2 Maneuver	-	-	-	-	250 -
Stage 1	-	-	-	-	424 -
Stage 2	-	-	-	-	444 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	852	-	-	-	328
HCM Lane V/C Ratio	0.008	-	-	-	0.017
HCM Control Delay (s)	9.3	-	-	-	16.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	11	26	7	6	0
Future Vol, veh/h	0	11	26	7	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	28	8	7	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	71	7	7	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	64	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	933	1075	1614	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	917	1075	1614	-	-	-
Mov Cap-2 Maneuver	917	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	5.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1614	-	1075	-	-
HCM Lane V/C Ratio	0.018	-	0.011	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	-	-

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	11	5	0	0	14	14	13	0	11	0
Future Vol, veh/h	0	0	11	5	0	0	14	14	13	0	11	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	12	5	0	0	15	15	14	0	12	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	64	71	12	70	64	22	12	0	0	29	0	0
Stage 1	12	12	-	52	52	-	-	-	-	-	-	-
Stage 2	52	59	-	18	12	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	930	819	1069	922	827	1055	1607	-	-	1584	-	-
Stage 1	1009	886	-	961	852	-	-	-	-	-	-	-
Stage 2	961	846	-	1001	886	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	923	811	1069	904	819	1055	1607	-	-	1584	-	-
Mov Cap-2 Maneuver	923	811	-	904	819	-	-	-	-	-	-	-
Stage 1	999	886	-	951	843	-	-	-	-	-	-	-
Stage 2	951	838	-	990	886	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.4	9	2.5	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1607	-	-	1069	904	1584	-
HCM Lane V/C Ratio	0.009	-	-	0.011	0.006	-	-
HCM Control Delay (s)	7.3	0	-	8.4	9	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	754	603	10	22	18
Future Vol, veh/h	11	754	603	10	22	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	88	88	60	60
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	12	820	685	11	37	30

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	696	0	-	0	1535 348
Stage 1	-	-	-	-	691 -
Stage 2	-	-	-	-	844 -
Critical Hdwy	4.115	-	-	-	6.615 6.915
Critical Hdwy Stg 1	-	-	-	-	5.815 -
Critical Hdwy Stg 2	-	-	-	-	5.415 -
Follow-up Hdwy	2.2095	-	-	-	3.5095 3.3095
Pot Cap-1 Maneuver	904	-	-	-	118 651
Stage 1	-	-	-	-	462 -
Stage 2	-	-	-	-	423 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	904	-	-	-	116 651
Mov Cap-2 Maneuver	-	-	-	-	253 -
Stage 1	-	-	-	-	456 -
Stage 2	-	-	-	-	423 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	904	-	-	-	349
HCM Lane V/C Ratio	0.013	-	-	-	0.191
HCM Control Delay (s)	9	-	-	-	17.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕			↕	
Traffic Vol, veh/h	18	750	13	12	569	13	18	0	18	19	1	24
Future Vol, veh/h	18	750	13	12	569	13	18	0	18	19	1	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	86	86	86	70	70	70	80	80	80
Heavy Vehicles, %	1	1	1	1	1	1	6	6	6	1	1	1
Mvmt Flow	20	833	14	14	662	15	26	0	26	24	1	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	677	0	0	847	0	0	1240	1585	424	1155	1585	339
Stage 1	-	-	-	-	-	-	880	880	-	698	698	-
Stage 2	-	-	-	-	-	-	360	705	-	457	887	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.62	6.62	7.02	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.62	5.62	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.62	5.62	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.56	4.06	3.36	3.51	4.01	3.31
Pot Cap-1 Maneuver	917	-	-	792	-	-	127	103	568	153	108	660
Stage 1	-	-	-	-	-	-	300	354	-	399	443	-
Stage 2	-	-	-	-	-	-	620	428	-	556	363	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	917	-	-	792	-	-	117	99	568	142	104	660
Mov Cap-2 Maneuver	-	-	-	-	-	-	222	214	-	264	221	-
Stage 1	-	-	-	-	-	-	293	346	-	390	435	-
Stage 2	-	-	-	-	-	-	580	420	-	519	355	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			17.5			15.7		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	222	568	917	-	-	792	-	-	390
HCM Lane V/C Ratio	0.116	0.045	0.022	-	-	0.018	-	-	0.141
HCM Control Delay (s)	23.3	11.6	9	-	-	9.6	-	-	15.7
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0.1	0.1	-	-	0.1	-	-	0.5

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	775	608	4	7	5
Future Vol, veh/h	2	775	608	4	7	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	86	86	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	861	707	5	8	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	712	0	-	0	1575 356
Stage 1	-	-	-	-	710 -
Stage 2	-	-	-	-	865 -
Critical Hdwy	4.13	-	-	-	6.63 6.93
Critical Hdwy Stg 1	-	-	-	-	5.83 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	2.219	-	-	-	3.519 3.319
Pot Cap-1 Maneuver	886	-	-	-	110 641
Stage 1	-	-	-	-	449 -
Stage 2	-	-	-	-	411 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	886	-	-	-	110 641
Mov Cap-2 Maneuver	-	-	-	-	246 -
Stage 1	-	-	-	-	448 -
Stage 2	-	-	-	-	411 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	886	-	-	-	331
HCM Lane V/C Ratio	0.003	-	-	-	0.039
HCM Control Delay (s)	9.1	-	-	-	16.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	0	24	13	18	20	0
Future Vol, veh/h	0	24	13	18	20	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	26	14	20	22	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	70	22	22	0	-	0
Stage 1	22	-	-	-	-	-
Stage 2	48	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	934	1055	1593	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	926	1055	1593	-	-	-
Mov Cap-2 Maneuver	926	-	-	-	-	-
Stage 1	992	-	-	-	-	-
Stage 2	974	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	3.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1593	-	1055	-	-
HCM Lane V/C Ratio	0.009	-	0.025	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	14	12	0	0	8	8	6	0	14	0
Future Vol, veh/h	0	0	14	12	0	0	8	8	6	0	14	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	15	13	0	0	9	9	7	0	15	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	46	49	15	54	46	13	15	0	0	16	0	0
Stage 1	15	15	-	31	31	-	-	-	-	-	-	-
Stage 2	31	34	-	23	15	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	955	843	1065	944	846	1067	1603	-	-	1602	-	-
Stage 1	1005	883	-	986	869	-	-	-	-	-	-	-
Stage 2	986	867	-	995	883	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	950	838	1065	926	841	1067	1603	-	-	1602	-	-
Mov Cap-2 Maneuver	950	838	-	926	841	-	-	-	-	-	-	-
Stage 1	999	883	-	980	864	-	-	-	-	-	-	-
Stage 2	980	862	-	981	883	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.4		8.9		2.6		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1603	-	-	1065	926	1602	-
HCM Lane V/C Ratio	0.005	-	-	0.014	0.014	-	-
HCM Control Delay (s)	7.3	0	-	8.4	8.9	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

June 21, 2021

Cheryl Scales, PE
ProgressiveAE
1811 4 Mile Road, NE
Grand Rapids, MI 49525

**Re: Wetland Delineation Report – Jolly Road Parcels 33-02-02-33-353-004, 005, 016
Meridian Township, Ingham County, Michigan**

Dear Ms. Scales:

At your request, Barr Engineering Co. (Barr) conducted a wetland delineation of the above-referenced property. The purpose of this report is to summarize the results of the wetland delineation conducted on June 18, 2021.

1.0 Area of Investigation Description

The Area of Investigation (AOI) is an approximately 6-acre property (consisting of the three above referenced parcels) located near 2446 Jolly Road, in Meridian Township. The dominant land cover within the AOI consists of an existing business (Midwest Power Equipment), one residence, open mowed fields, and scattered shrubs and trees. The surrounding land use is characterized by a mixture of commercial and residential development.

1.1 Desktop Review

Barr conducted a desktop review to evaluate aerial imagery, topography, soil types, and mapped wetlands within the AOI prior to the wetland delineation. As part of the desktop review, Barr staff reviewed resources such as the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS; Figure 1), Michigan Final Wetlands Inventory (MFWI; Figure 2), and aerial photography.

According to the WSS, the AOI includes poorly drained Colwood loam, 0 to 2 percent slopes, and very poorly drained Brookston loam, 0 to 2 percent slopes (Co); somewhat poorly drained Conover loam, 0 to 4 percent slopes (CvraaB); somewhat poorly drained Matherton sandy loam, 0 to 3 percent slopes (MrA); poorly drained Sebewa loam, 0 to 2 percent slopes (Sb); and well drained Spinks loamy sand, 0 to 6 percent slopes (SpB). The hydric (wetland) soils on the site are the Colwood loam, Brookston loam, and Sebewa loam soils. Hydric soils are soils that developed under prolonged periods of saturation or inundation and typically support wetland habitats in an undrained condition.

The MFWI shows the AOI to contain both wetland and soil areas which include hydric (wetland) soils.

1.2 Methodology

The wetland delineation was conducted in a manner consistent with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0, USACE 2012)*. The wetland delineation

procedures outlined in these manuals require the evaluation of on-site vegetation, soils, and hydrologic characteristics. Site observations are described in the sections below.

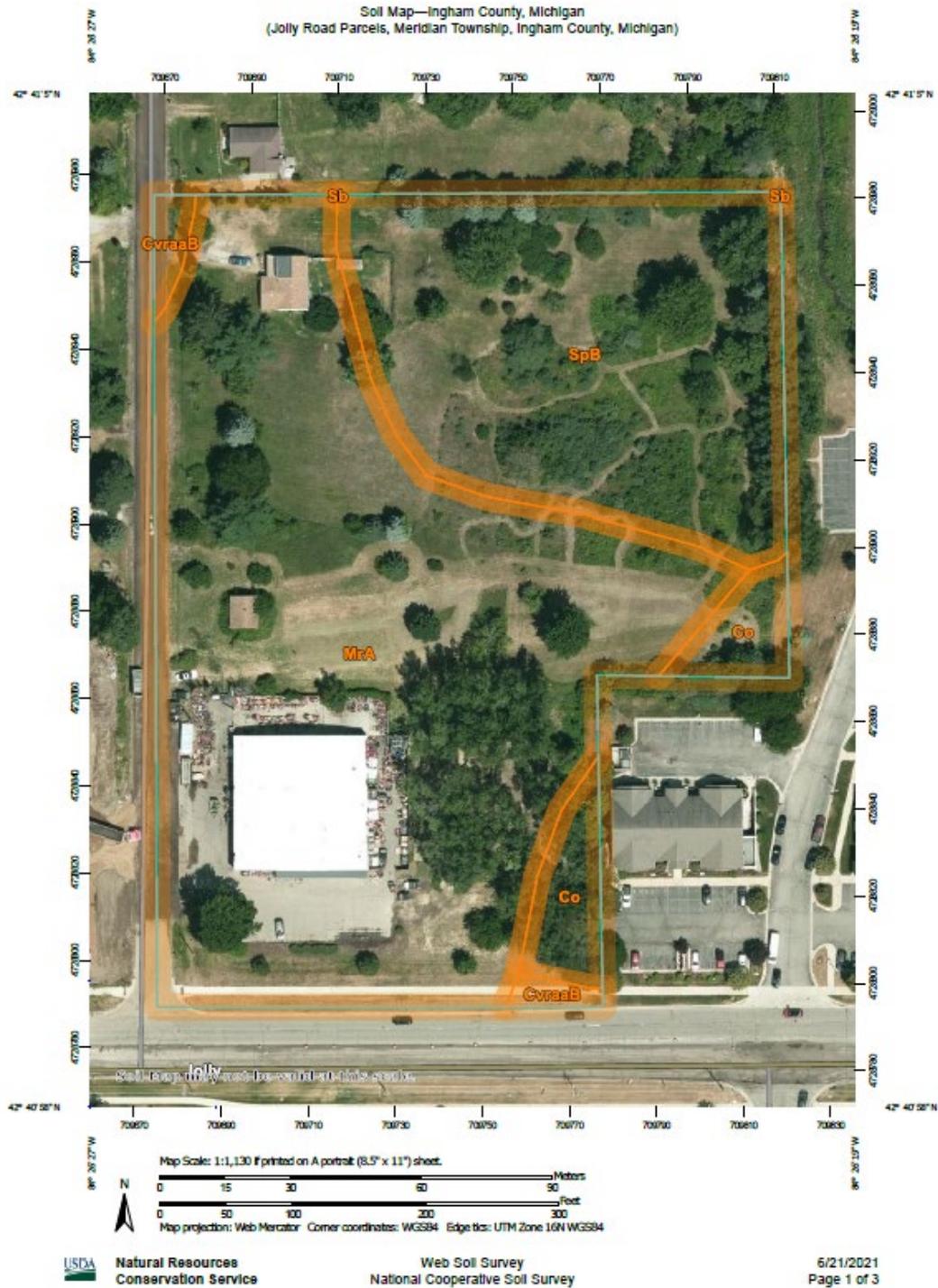


Figure 1. NRCS Web Soil Survey

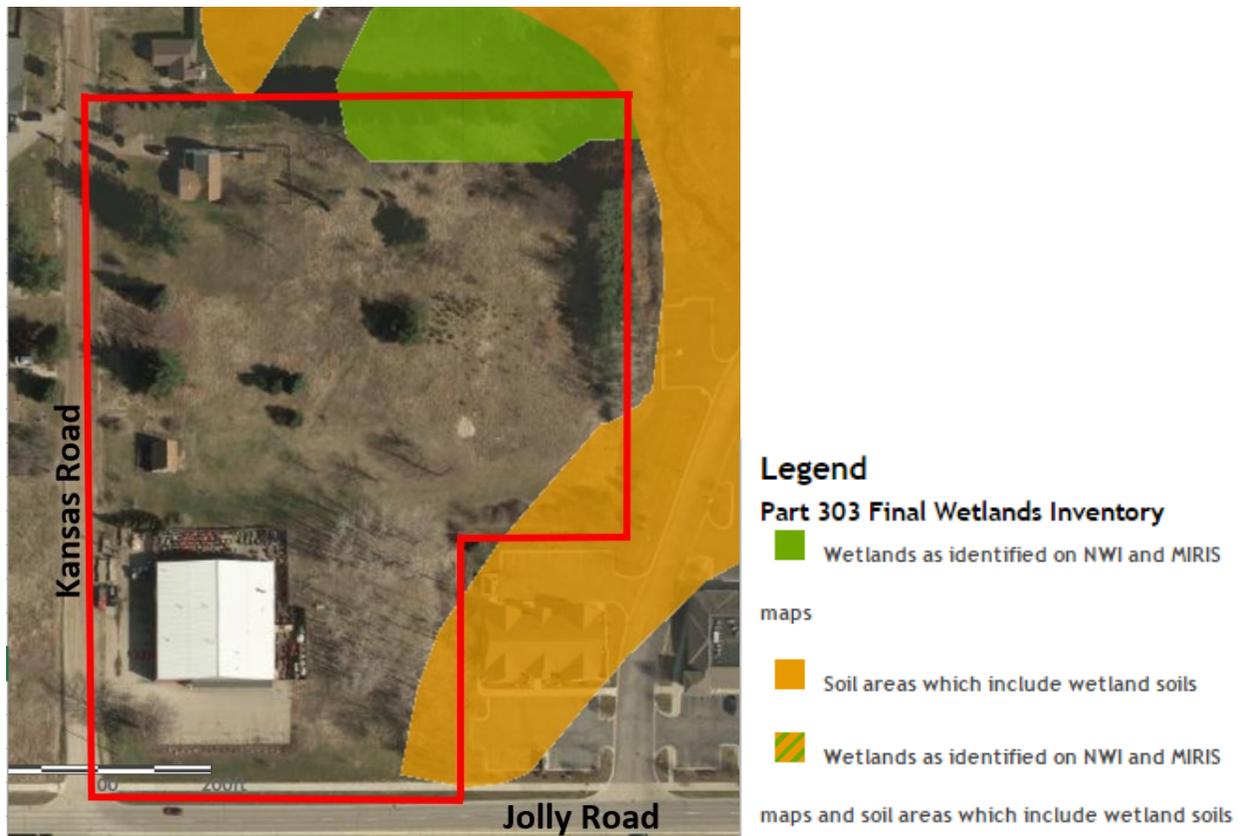


Figure 2. Michigan Final Wetlands Inventory

1.3 Results

The AOI includes an existing commercial building, parking lot, one single family residence, and upland mowed fields with scattered trees and shrubs. The on-site investigation did not identify any wetlands within the AOI.

Vegetation, Soil, and Hydrology

UPLAND

The mowed upland areas of the site were characterized by species such as perennial rye (*Lolium perenne*), dandelion (*Taraxacum officinale*), narrow-leaf plantain (*Plantago lanceolata*), chickory (*Cichorium intybus*), yellow hawkweed (*Hieracium caespitosum*), wild carrot (*Daucus carota*), white clover (*Trifolium repens*), yellow sweet clover (*Melilotus officinalis*), and tall fescue (*Schedonorus arundinaceus*). The scattered shrubs and trees identified on the site included species such as autumn olive (*Elaeagnus umbellata*), multiflora rose (*Rosa multiflora*), box elder (*Acer negundo*), silver maple (*Acer saccharinum*), sugar maple (*Acer saccharum*), Norway spruce (*Picea abies*), Colorado blue spruce (*Picea pungens*), black pine (*Pinus nigra*), and white pine (*Pinus strobus*). Figures 3 and 4 show representative areas of the site.

A Wetland Determination Data Form is enclosed for further detailed information on the upland areas observed within the AOI.



Figure 3. View of property facing north from Jolly Road.



Figure 4. View of property facing east from Kansas Road.

1.4 Conclusions

Based on observations of topography, vegetation, soil, and indicators of hydrology, Barr has determined that wetland habitat is not present within the AOI. According to Part 303, Wetlands Protection, of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, wetlands regulated by the State of Michigan include wetlands that are:

1. Located within 500 feet of, or having a direct surface water connection to, an inland lake, pond, river, or stream; or
2. Greater than 5 acres in size; or
3. Located within 1,000 feet of, or having a direct surface water connection to, the Great Lakes or Lake St. Clair; or
4. A water of the United States as that term is used in section 502(7) of the Federal Water Pollution Control Act, 33 USC 1362; or
5. Known to have a documented presence of an endangered or threatened species under Part 365 of State of Michigan 1994 PA 451, as amended or the Federal Endangered Species Act of 1973, Public Law 93-205; or
6. Rare or imperiled.

A Part 303 permit is required from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) in most instances to place fill, remove soil, drain surface water from, or make use of regulated wetlands.

Meridian Township regulates all EGLE-regulated wetlands. In addition, Meridian Township regulates noncontiguous wetlands larger than two acres in size. Meridian Township may also regulate noncontiguous wetlands equal to or greater than one-quarter acre in size if the wetland is determined to be essential to the preservation of the natural resources of the Township.

Please be advised that EGLE, Meridian Township, and in some coastal cases the USACE have regulatory authority regarding the wetland boundary location(s) and jurisdictional status of wetlands in the State of Michigan. Barr's wetland determination was performed in general accordance with accepted procedures for conducting wetland determinations. Barr provides no warranty, guarantee, or other agreement in respect to the period of time for which this wetland determination will remain valid. Barr's conclusions reflect our professional opinion based on the site conditions within the AOI observed during the site visits. Discrepancies may arise between current and future wetland determinations and delineations due to changes in vegetation and/or hydrology as the result of land use practices or other environmental factors, whether on-site or on adjacent or nearby properties. We recommend our wetland boundary determination and jurisdictional opinion be reviewed by EGLE and Meridian Township prior to undertaking any activity within any identified wetlands.

Thank you for the opportunity to provide this wetland delineation. If you have any questions, please contact me at your convenience at 734-634-5702 or JSallee@barr.com.

Sincerely,



BARR ENGINEERING CO.
James Sallee, Professional Wetland Scientist #2472

Enclosure

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Jolly Road Parcels City/County: Meridian Twp/Ingham Co. Sampling Date: 6/18/21
 Applicant/Owner: ProgressiveAE State: MI Sampling Point: 1
 Investigator(s): James Sallee, Barr Engineering Co. Section, Township, Range: S33, T4N, R1W
 Landform (hillside, terrace, etc.): outwash plain Local relief (concave, convex, none): convex Slope %: 0-3
 Subregion (LRR or MLRA): LRR L Lat: 42.68385 Long: -84.43996 Datum: NAD 83
 Soil Map Unit Name: Matherton sandy loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Preceding three months have been below normal precipitation. Sampling point is located approximately 130 feet northeast of the northeast corner of the commercial building. All three wetland criteria are not met. Sampling point is upland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) _____ <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
---	--

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 1

<u>Tree Stratum</u> (Plot size: <u>NA</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
				=Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft</u>)				
1. <u><i>Elaeagnus umbellata</i></u>	5	Yes	UPL	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
				5 =Total Cover
<u>Herb Stratum</u> (Plot size: <u>5 ft</u>)				
1. <u><i>Daucus carota</i></u>	40	Yes	UPL	
2. <u><i>Schedonorus arundinaceus</i></u>	25	Yes	FACU	
3. <u><i>Plantago lanceolata</i></u>	15	No	FACU	
4. <u><i>Hieracium caespitosum</i></u>	5	No	UPL	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
				85 =Total Cover
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				=Total Cover

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>40</u>	x 4 = <u>160</u>
UPL species <u>50</u>	x 5 = <u>250</u>
Column Totals: <u>90</u> (A)	<u>410</u> (B)
Prevalence Index = B/A = <u>4.56</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)

LEGAL DESCRIPTION:

Located in the Township of Meridian, County of Ingham, State of Michigan,

Parcel 1: Beginning on the South line of said Section 33, Town 4 North, Range 1 West, Meridian Township, Ingham County, Michigan, at a point 396.00 feet (24 rods) East of the Southwest corner of Section 33, Town 4 North, Range 1 West; thence North 00°11'20" West 264.00 feet; thence East 177.50 feet; thence South 00°11'20" East 264.00 feet; thence West 177.50 feet on the South line of Section 33 to the Point of Beginning.

Also Beginning on the South line of said Section 33, Town 4 North, Range 1 West, Meridian Township, Ingham County, Michigan, at a point 573.50 feet East of the Southwest corner of Section 33, Town 4 North, Range 1 West; thence North 00°11'20" West 264.00 feet; thence East 152.50 feet; thence South 00°11'20" East 264.00 feet; thence West 152.50 feet on the South line of Section 33 to the Point of Beginning.

Parcel 2: Commencing 24 rods East and 16 rods North of the Southwest corner of Section 33, Town 4 North, Range 1 West, Meridian Township, Ingham County, Michigan, and running thence East 28 rods; thence North 22 6/7 rods; thence West 28 rods; thence South 22 6/7 rods to the place of beginning. EXCEPT: Commencing 24 rods East and 33 1/7 rods North of Southwest corner of Section 33, Town 4 North, Range 1 West, Meridian Township; thence East 28 rods; thence North 5 5/7 rods; thence West 28 rods; thence South 5 5/7 rods to beginning.

Parcel 3: Commencing 24 rods East and 33 1/7 rods North of the Southwest corner of Section 33, Town 4 North, Range 1 West, Meridian Township, Ingham County, Michigan; thence East 28 rods; thence North 5 5/7 rods; thence West 28 rods; thence South 5 5/7 rods to beginning.

Assurance Note: The above legal description describes the same property as in Schedule A of Title Commitment No. 330971/LANS of Transaction Title Agency bearing a commitment date of October 21, 2020 at 8:00 A.M.

LEGAL DESCRIPTION - COMBINED PARCELS (AS SURVEYED)

Part of the Southwest 1/4 of Section 33, T4N, R1W, Meridian Township, Ingham County, Michigan, described as: Commencing at the Southwest corner of Section 33, T4N, R1W; thence North 89°54'07" East, 396.00 feet along the South line of Section 33 to the point of beginning of the following described parcel; thence North 00°28'31" West, 639.84 feet; thence North 89°53'58" East, 462.08 feet; thence South 00°38'47" East, 375.89 feet; thence South 89°43'08" West, 132.63 feet; thence South 00°21'03" East, 263.55 feet; thence South 89°54'07" West, 330.00 feet along the South line of Section 33 to the point of beginning.

NOTES CORRESPONDING TO SCHEDULE B:

- Easement granted to Consumers Energy Company recorded in Liber 13 Misc., Page 46. (It is not on or does not touch the subject property.)
- Easement granted to Consumers Energy Company recorded in Liber 15 Misc., Page 24. (It is not on or does not touch the subject property.)
- Easement granted to Consumers Energy Company recorded in Liber 27 Misc., Page 400. (Located on the subject property, as shown.)
- Easement granted to Consumers Energy Company recorded in Liber 27 Misc., Page 401. (Located on the subject property, as shown.)
- Release of Right of Way as recorded in Liber 42 Misc., Page 59. (Located on the subject property, as shown.)
- Release of Right of Way as recorded in Liber 42 Misc., Page 61. (Located on the subject property, as shown.)
- Drainage Easement as recorded in Liber 72 Misc., Page 528. (Document is illegible. Approximate centerline of Smith Consolidated Drain is graphically plotted per field observations and maps available from the Ingham County Drain Commission web site: http://inghamdrains.org/Drains/Drain_Records.html. Portions are located on the subject property as shown, width is undefined.)
- Grant of Easement as recorded in Liber 3367, Page 308. (Located on the subject property, as shown.)
- Grant of Easement as recorded in Liber 3367, Page 334. (Located on the subject property, as shown.)
- Survey as recorded in Instrument No. 2012-019959. (Survey is of Parcel 2 but does not include any plottable easements or restrictions.)

GENERAL NOTES:

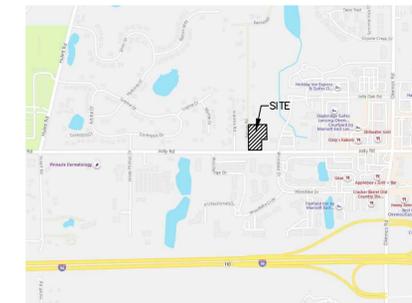
- Bearings are based upon the Michigan State Plane Coordinate System, South Zone.
- This property is in Zone(s) **X & AE** of the Flood Insurance Rate Map, Community Panel No. 26065C0162D, which bears an effective date of 8/16/2011 and is partially in a Special Flood Hazard Area.
- 100 Year Base Flood Elevation: 870.8± (NAVD 88)
- There was no observable evidence of cemeteries / burial grounds on the subject property.
- Pursuant to Table A Item 6, a current zoning letter or report was not provided to the surveyor.
- Pursuant to Table A Item 10a, there were no party walls observed on the subject property in the process of conducting the field work.
- There was no evidence of current earth moving work, building construction or building additions observed in the process of conducting the field work.
- No proposed changes in street right of way lines were made available to the surveyor. There is no evidence of recent street or sidewalk construction or repairs observed in the process of conducting the field work.
- Pursuant to Table A Item 18, no wetland delineation was observed in the process of conducting the field work.
- Pursuant to Table A Item 19, there were no offsite easements noted in Schedule A of the title commitment.
- Per phone conversation with the Ingham County Road Commission, Kansas Road is public.
- Parcel 1 2.00± acres, 87,001± sq. ft.
Parcel 2 2.99± acres, 130,598± sq. ft.
Parcel 3 1.00± acres, 43,506± sq. ft.
Total 5.99± acres, 261,105± sq. ft.

BENCHMARKS:

- BM 1 - Set MAG nail in the South side of power pole located 13.5± North of the North line of subject property and 5± East of the East right of way of Kansas Road.
Elevation: 876.38 (NAVD 88)
- BM 2 - Found large nail in the South side of power pole located 36± North of the North right of way line of Jolly Road and 5± East of the East right of way of Kansas Road.
Elevation: 878.98 (NAVD 88)
- BM 3 - Northwest flange bolt under the "A" in JORDAN on the fire hydrant located 12± North of the North right of way line of Jolly Road and 140± West of the East line of subject property.
Elevation: 882.34 (NAVD 88)

STRUCTURE INVENTORY:

- STORM SEWER**
STM MH 1
RIM ELEVATION: 881.79
N 12" CONC. - 876.23
E 12" CONC. - 876.0±
SW 12" CONC. - 876.0±
NW 8" PLASTIC - 876.95
- CB 4
RIM ELEVATION: 873.80
NE 24" CONC. - 869.35
S 24" CONC. - 869.40
SE 12" CONC. - 866.2±
N 12" CMP - 865.2±
- STM MH 5
RIM ELEVATION: 875.94
E 12" CONC. - 870.40
S 12" CONC. - 870.44
S 24" CONC. - 867.90
N 24" CONC. - 867.86
W 12" CONC. - 869.12
NE 8" PVC - 871.34
- CB 6
RIM ELEVATION: 870.05
NE 24" CONC. - 865.2±
S 24" CONC. - 865.2±
SE 12" CONC. - 866.2±
N 12" CMP - 865.2±
- CB 7
RIM ELEVATION: 875.02
NW 12" CONC. - 869.32
SE 12" CONC. - 869.42
- SANITARY SEWER**
SAN MH A
RIM ELEVATION: 878.01
N 8" PVC - 870.56
S 8" CLAY - 870.54
- SAN MH B
RIM ELEVATION: 881.03
W 8" CLAY - 869.50
N 8" CLAY - 869.16
E 8" CLAY - 869.11
- SAN MH C
RIM ELEVATION: 879.94
E 8" CLAY - 867.70
W 8" CLAY - 867.70



SITE LOCATION MAP
NOT TO SCALE

PARKING SPACE TABLE	
TYPE OF SPACE	EXISTING STRIPED SPACES
REGULAR	17
HANDICAP	1
TOTAL	18

LEGEND:

- ⊕ = STORM MANHOLE
- ⊖ = CATCHBASIN
- STM — = STORM LINE
- ⊕ = SANITARY MANHOLE
- ⊖ = SANITARY CLEANOUT
- SAN — = SANITARY LINE
- ⊕ = ELECTRIC MANHOLE
- ⊖ = UTILITY POLE
- OH — = OVERHEAD UTILITY LINE
- UG — = UNDERGROUND UTILITY LINE
- ⊕ = TRANSFORMER
- ⊖ = AC-UNIT
- ⊕ = TELEPHONE MANHOLE
- ⊖ = ROOF DRAIN
- ⊕ = TELEPHONE PEDESTAL
- ⊖ = ELECTRIC PEDESTAL
- ⊕ = LIGHT POLE
- ⊖ = SIGN
- ⊕ = MONUMENT SIGN
- ⊖ = WATER MANHOLE
- ⊕ = WELL
- W — = WATER LINE
- ⊕ = WATER VALVE
- ⊖ = FIRE HYDRANT
- ⊕ = MONITORING WELL
- ⊖ = GAS METER
- ⊕ = GAS VALVE
- GAS — = GAS LINE
- ⊕ = FENCE LINE
- ⊖ = DECIDUOUS TREE
- ⊕ = CONIFEROUS TREE
- ⊖ = CURB AND GUTTER
- ⊕ = TREE LINE
- ⊖ = SET IRON & CAP #47269
- ⊕ = FOUND IRON AS NOTED
- ⊖ = SECTION CORNER
- ⊕ = DISTANCE NOT TO SCALE
- ⊖ = YARBASIN
- ⊕ = POST INDICATOR VALVE
- ⊖ = WALL HYDRANT
- ⊕ = MAIL BOX
- ⊖ = ASPHALT
- ⊕ = CONCRETE
- (R) = RECORDED
- (M) = MEASURED

ALTA/NSPS LAND TITLE SURVEY CERTIFICATE:

To: Martin Investment Properties, Inc., a Michigan corporation; and Transnation Title Agency;

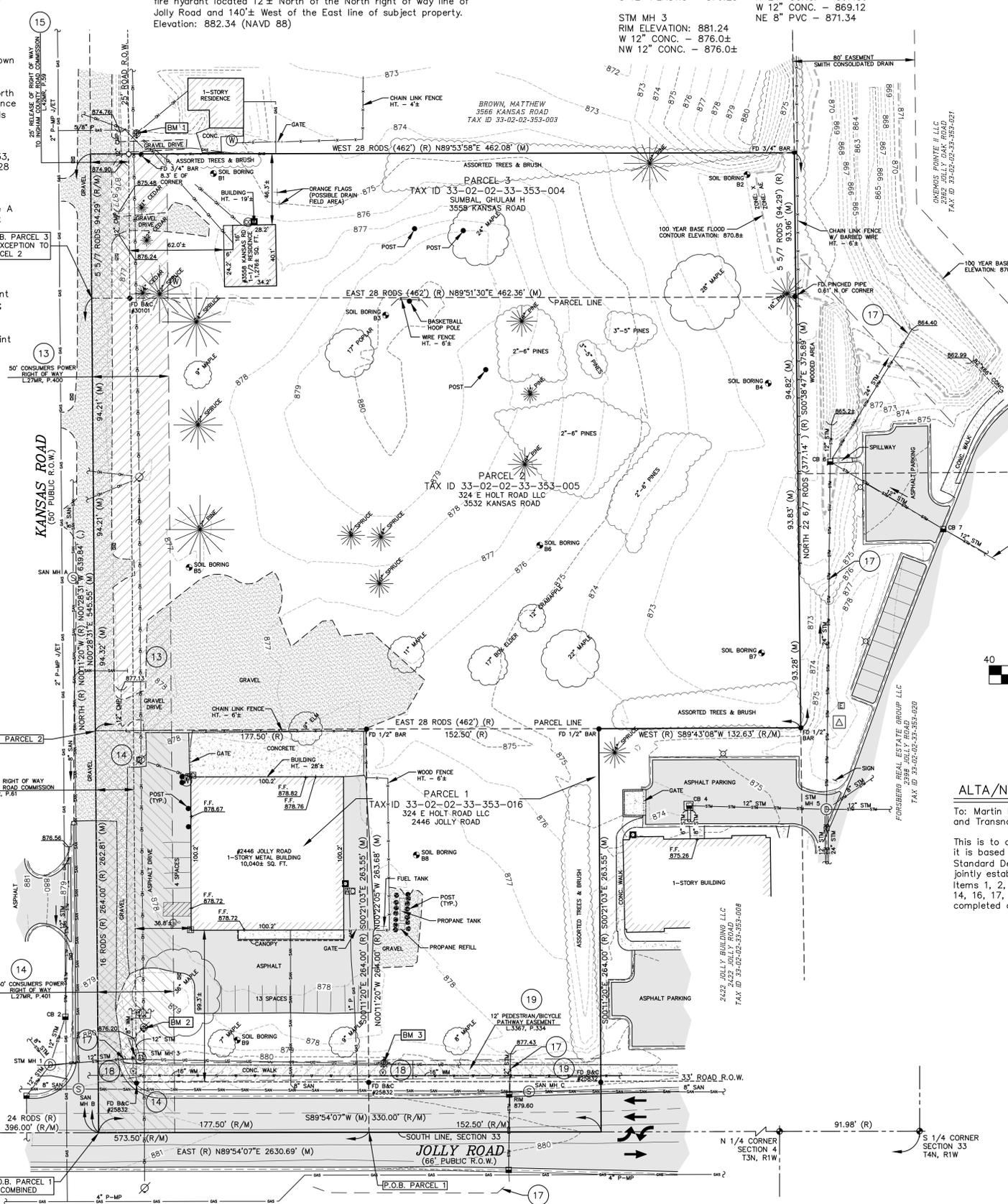
This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 5, 6(c), 7(a), 7(b)(1), 7(c), 8, 9, 10(a), 11, 13, 14, 16, 17, 18, and 19 of Table A thereof. The field work was completed on November 23, 2020.

W.S. Fuller
Wendy S. Fuller
Professional Surveyor No. 47969
email: fuller@lsg-es.com
Date: December 2, 2020
Date of Last Revision:

NOTE: This survey is for the exclusive use and benefit of the parties indicated and is not intended for future transactions.



NOTE: THE UNDERGROUND UTILITIES SHOWN ARE THE RESULT OF FIELD OBSERVATION. AVAILABLE PLAN INFORMATION, AND AN 811 DESIGN TICKET REQUEST. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES OTHER THAN ANY STRUCTURE INVENTORY SHOWN HEREON.



NO.	DESCRIPTION	DATE

LSG
Engineers & Surveyors
3135 PINE TREE ROAD
SUITE D
LANSING, MI 48911
PH. (517) 393-2902
FAX (517) 393-2608
www.lsg-es.com

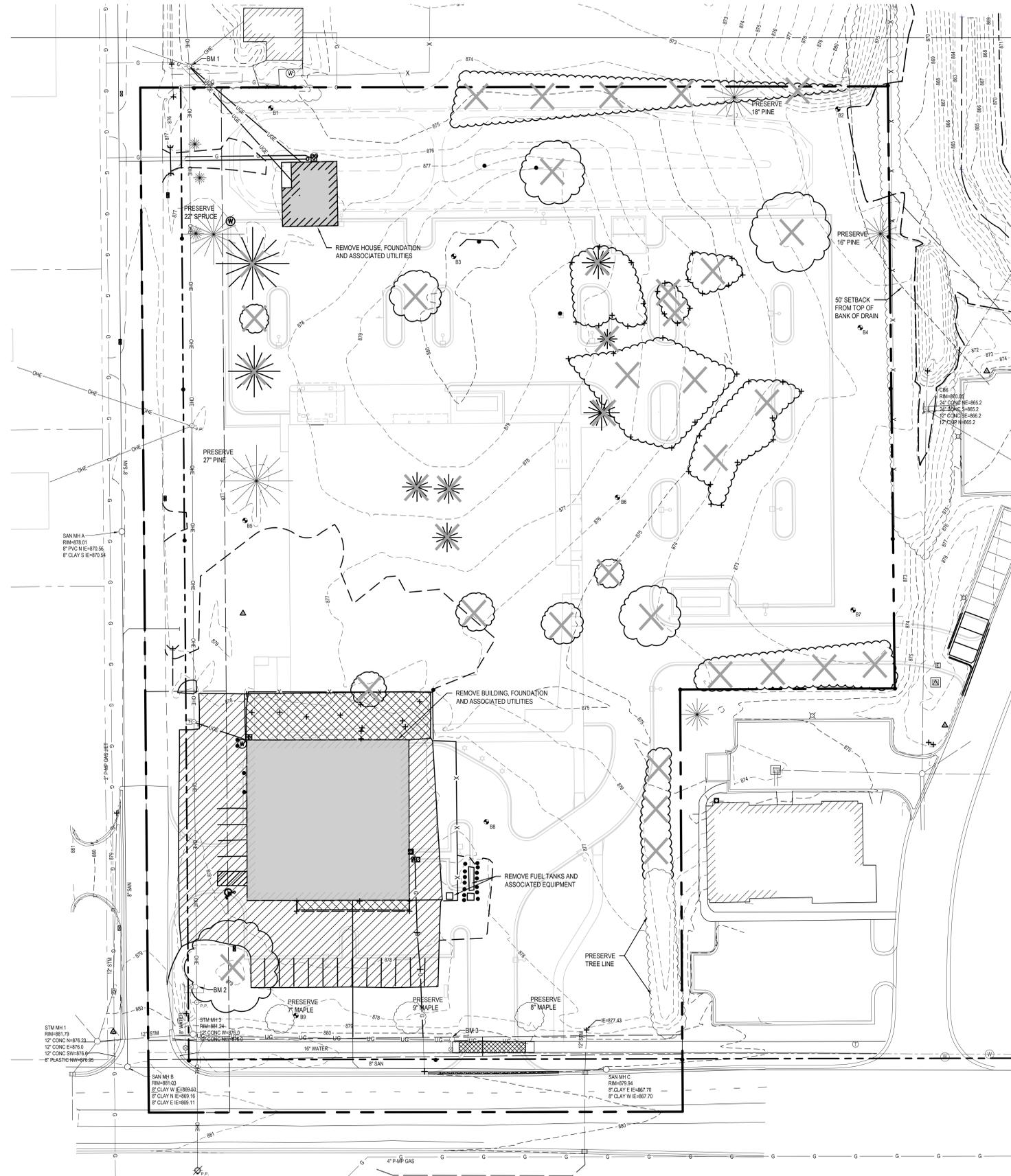
FOSTER, SWIFT, COLLINS & SMITH, P.C.
313 SOUTH WASHINGTON SQUARE
LANSING, MICHIGAN 48933

TOPOGRAPHIC & ALTA/NSPS LAND TITLE SURVEY
OF
2446 JOLLY ROAD, 3532 & 3558 KANSAS ROAD
OKEMOS, MICHIGAN 48864

MISS DIG 811
Know what's below.
Call before you dig.

FILE	2555.dwg
FIELD WORK	JZ
DRAWN BY	JML
CHECKED BY	WSF
DATE OF SURVEY	11/23/2020
SCALE	1" = 40'
HOR.	N/A
VERT.	N/A
PROJECT NO.	2555
SHEET NO.	1 OF 1

FILE: L12555 (JOLLY RD & KANSAS RD, OKEMOS) (S) 2555.DWG - PLOT DATE: 12/2/2020 9:51 AM BY: Joseph Levi SCALE: 1:1



EXISTING CONDITIONS AND SITE DEMOLITION PLAN
 NORTH
 1" = 30'

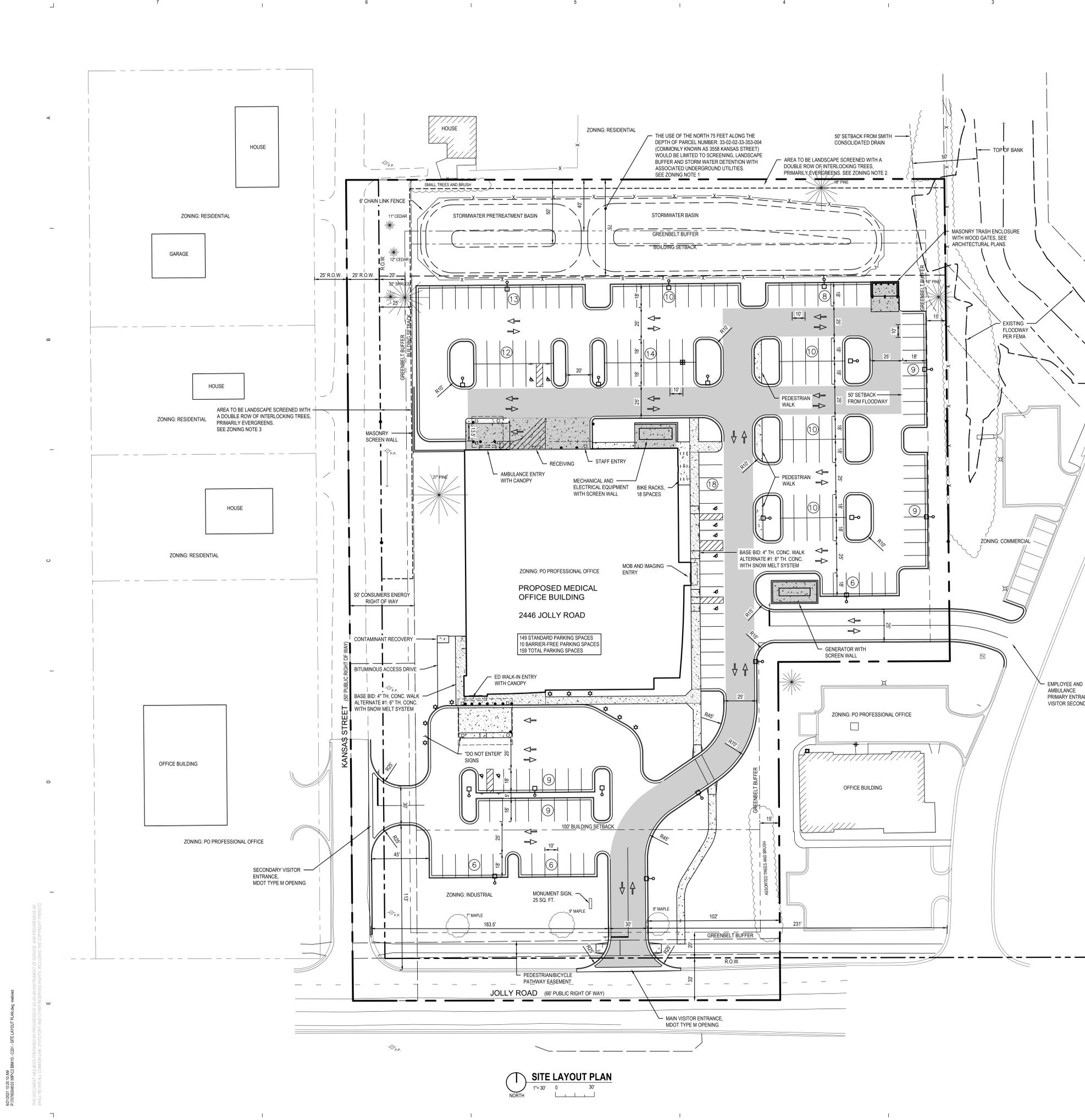
DEMOLITION LEGEND

-  BUILDING REMOVAL
 -  BITUMINOUS PAVEMENT REMOVAL
 -  CONCRETE REMOVAL
 -  TREE REMOVAL
 -  ABANDON UTILITY LINE
 -  REMOVE UTILITY LINE
- ALL ITEMS IN BOLD TO BE REMOVED UNLESS OTHERWISE NOTED.

SITE CLEARING AND DEMOLITION NOTES

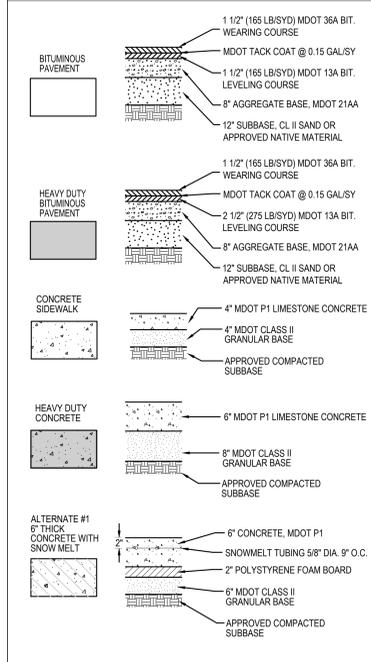
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE DEMOLITION AND CLEARING REQUIREMENTS.
2. NO REMOVAL, DEMOLITION, CLEARING OR TOPSOIL REMOVAL SHALL OCCUR ON SITE UNTIL THE SECC AND STORMWATER PERMITS HAVE BEEN ISSUED AND THE CONTRACTOR HAS VERIFIED AND STAKED THE LIMITS OF REMOVAL IN THE FIELD. NOTIFY SITE CONSULTANT OF THE START OF CONSTRUCTION AND DATE WHEN THE LIMITS LINE WILL BE ESTABLISHED FOR REVIEW AND APPROVAL.
3. ALL MATERIALS NOTED TO BE SALVAGED SHALL BE TURNED OVER TO THE OWNER OR REINSTALLED ON SITE AS NOTED.
4. NO BURNING OR BURYING OF CLEARED OR DEMOLITION MATERIAL SHALL BE ALLOWED ON SITE.
5. REMOVE ALL STRUCTURES, FOUNDATIONS, BITUMINOUS PAVEMENT, CONCRETE SIDEWALK STEPS AND OTHER EXISTING SITE FEATURES AS INDICATED ON THE DRAWINGS. ALSO, REMOVE ALL DEBRIS FROM WITHIN CONSTRUCTION LIMITS ON SITE. ALL DEMOLITION MATERIALS SHALL BE REMOVED FROM THE SITE AND, UNLESS OTHERWISE NOTED, DISPOSED OF IN A MANNER ACCEPTABLE TO LOCAL JURISDICTION HAVING AUTHORITY.
6. THE CONTRACTOR SHALL BE LICENSED BY THE STATE OF MICHIGAN FOR DEMOLITION REMOVAL AND HAULING OF MATERIALS.
7. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL PERMITS AND FEES FOR THIS WORK.
8. EXISTING UTILITIES ARE LOCATED TO THE BEST OF OUR KNOWLEDGE. THE CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING EXISTING UTILITY LOCATIONS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL PROTECT AND MAINTAIN EXISTING UTILITY SERVICES AT ALL TIMES.
9. ALL EXCESS OR UNSUITABLE TOPSOIL OR SUBSOIL TO BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED OFFSITE.
10. PROTECT EXISTING TREES UNLESS OTHERWISE NOTED. NO PARKING OR STORAGE OF MATERIALS WITHIN TREE ROOT ZONE. PLACE TREE PROTECTION FENCE WHERE SHOWN ON PLAN.
11. TREE PROTECTION FENCE - ORANGE SAFETY FENCE AROUND TREES SUPPORTED BY STEEL T-BAR FENCE POSTS. ZIP THE FABRIC TO POSTS. INSTALL PRIOR TO ANY CONSTRUCTION ACTIVITY AND MAINTAIN DURING ENTIRE CONSTRUCTION PERIOD.
12. CONTRACTOR TO CALL 811 AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION, TO CONFIRM LOCATION OF EXISTING UTILITIES.
13. CONTRACTOR MUST RESTORE AND REPAIR ANY EXISTING CONDITIONS DISTURBED BY CONSTRUCTION TO CONDITION EQUAL TO OR BETTER THAN BEFORE CONSTRUCTION BEGAN. PATCH PAVEMENT IN-KIND IF REQUIRED.
14. SAWCUT FULL DEPTH ALL EDGES OF PAVEMENT TO BE REMOVED.
15. ALL GROUND AREAS DISTURBED BY CONSTRUCTION TO BE TOPSOILED AND SEEDED PER THE SITE LANDSCAPE PLAN UNLESS SHOWN OTHERWISE ON PLANS.

6/3/2021 4:28:47 PM
 PHOTOGRAPHED BY PROGRESSIVE AP AS AN INSTRUMENT OF SERVICE AND PROGRESSIVE AP SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT RIGHTS.



SITE LAYOUT PLAN
 1" = 30'
 NORTH

PAVEMENT LEGEND



NOTE: A WETLAND DETERMINATION EVALUATION WAS PERFORMED BY BARR ENGINEERING ON JUNE 18, 2021. NO EVIDENCE OF WETLANDS WERE FOUND ON THIS SITE.

ZONING NOTES

ZONE DISTRICT: PROFESSIONAL OFFICE
ADJACENT ZONING: PROFESSIONAL OFFICE AND RESIDENTIAL
PARCEL SIZE: 5.99 ACRES GROSS, 5.40 ACRES NET (EXCLUDING RIGHTS OF WAY)

REQUIRED BUILDING SETBACKS:
 FRONT: 100 FEET FROM ROAD CENTERLINE
 EAST SIDE: 15 FEET
 WEST SIDE: 25 FEET
 REAR: 50 FEET
REQUIRED GREENSPACE BUFFER:
 REAR: 40 FEET
 EAST SIDE: 15 FEET
 WEST SIDE: 20 FEET FROM R.O.W.
 SOUTH SIDE: 20 FEET FROM R.O.W.

PARKING REQUIRED:
 MEDICAL OFFICE: 5 SPACES PER 1,000 SQ. FT. GROSS FLOOR AREA
 TOTAL REQUIRED: 152

PARKING PROVIDED:
 STANDARD (10X18): 149
 BARRIER FREE: 10
 TOTAL SPACES: 159

BIKE PARKING REQUIRED: 16
BIKE PARKING PROVIDED: 18

IMPERVIOUS AREA (BUILDING + PAVEMENT): 152,791 SQ. FT.
GREENSPACE: 108,314 SQ. FT.
GREENSPACE REQUIRED: 25%
GREENSPACE PROVIDED: 41.5%

PRE-DEVELOPMENT IMPERVIOUS AREA (BUILDING + PAVEMENT): 52,390 SQ. FT.
PRE-DEVELOPMENT GREENSPACE: 208,715 SQ. FT.

THE PROPERTY WAS REZONED SUBJECT TO THE FOLLOWING CONDITIONS VOLUNTARILY OFFERED BY THE APPLICANT.

- THE USE OF THE NORTH 75 FEET ALONG THE DEPTH OF PARCEL NUMBER: 33-02-02-33-353-004 (COMMONLY KNOWN AS 3558 KANSAS STREET) WOULD BE LIMITED TO SCREENING, LANDSCAPE BUFFER AND STORM WATER DETENTION WITH ASSOCIATED UNDERGROUND UTILITIES.
- THE NORTH PROPERTY LINE OF PARCEL NUMBER: 33-02-02-33-353-004 (COMMONLY KNOWN AS 3558 KANSAS STREET) WOULD BE LANDSCAPED TO MATCH OR EXCEED THE BUFFER REQUIREMENT BETWEEN PROFESSIONAL OFFICE ZONING AND RESIDENTIAL ZONING AS OUTLINED IN THE CURRENT MERIDIAN CHARTER TOWNSHIP ZONING ORDINANCE SECTION 86-404 (b)(3). THIS WOULD REQUIRE A DOUBLE ROW OF INTERLOCKING TREES, PRIMARILY EVERGREENS, OR THE EQUIVALENT IN ADDITION TO GENERAL SCREENING STANDARDS.
- THE WEST PROPERTY LINE OF PARCEL NUMBERS: 33-02-02-33-353-004 AND 33-02-02-33-353-005 (COMMONLY KNOWN AS 3532 AND 3558 KANSAS STREET) TO THE EXTENT THAT THE PROPERTIES ACROSS KANSAS STREET ARE ZONED RESIDENTIAL (RA) (TO THE SOUTHERN EDGE OF PARCEL NUMBER: 33-02-02-33-352-004) WOULD BE LANDSCAPED TO EXCEED THE LANDSCAPE SCREENING MATERIAL BUFFER REQUIREMENTS AS OUTLINED IN THE CURRENT MERIDIAN CHARTER TOWNSHIP ZONING ORDINANCE SECTION 86-404 (b)(3). THIS WOULD REQUIRE A DOUBLE ROW OF INTERLOCKING TREES, PRIMARILY EVERGREENS, OR THE EQUIVALENT IN ADDITION TO GENERAL SCREENING STANDARDS.
- DRIVEWAYS WOULD BE LIMITED TO A PRIMARY DRIVE ACCESS ON JOLLY ROAD, A SECONDARY DRIVE TO WOODLAKE DRIVE ON THE EAST, AND A DRIVE ON KANSAS STREET ALIGNING WITH THE CURRENT CURB CUT ON KANSAS STREET FOR 2476 JOLLY ROAD. THIS CONDITION WOULD BE SUBJECT TO INGHAM COUNTY ROAD COMMISSION APPROVAL OF THE DRIVEWAYS AND LOCATION OF THE DRIVEWAYS.
- THE OWNER WILL PURSUE LEED CERTIFICATION FOR THE PROPOSED PROJECT.
- AS A CONDITION OF THE REZONING, THE DEVELOPER WILL PROVIDE FOR THE EXTENSION AND CONSTRUCTION OF A PUBLIC WATER MAIN ALONG KANSAS STREET, SUBJECT TO THE MERIDIAN TOWNSHIP DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS AND DESIGN. IN ADDITION, THE DEVELOPER WILL ESTABLISH AN ESCROW ACCOUNT TO COVER THE CONNECTION COSTS OF UP TO 14 RESIDENTIAL HOUSES ON KANSAS STREET TO BE SERVICED BY SUCH WATER MAIN EXTENSION IN AN AMOUNT NOT TO EXCEED \$1,000 PER RESIDENTIAL HOUSE TO BE USED ON OR BEFORE MAY 31, 2026. ANY SUCH FUNDS HELD IN ESCROW AFTER SUCH DATE SHALL BE RETURNED TO THE DEVELOPER. "RESIDENTIAL HOUSES" SHALL MEAN THE CURRENT OWNER(S) AND PARCEL NUMBER(S) IDENTIFIED IN THE ATTACHED EXHIBIT A.

GENERAL SITE LAYOUT NOTES

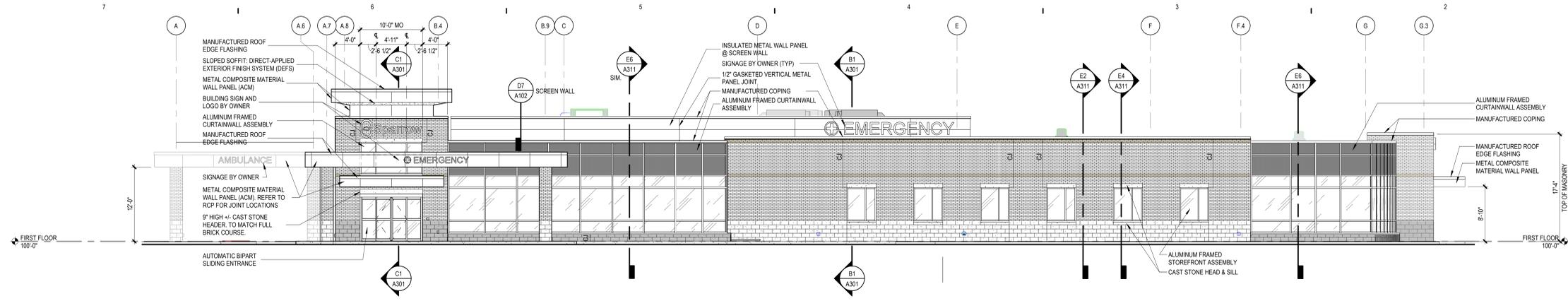
- ALL WORKMANSHIP AND MATERIALS SHALL BE ACCORDING TO THE CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION (M.D.O.T) STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- CONTACT "MISS DIG" TOLL FREE AT 1-800-482-7171 THREE (3) DAYS PRIOR TO THE START OF CONSTRUCTION, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS.
- NO DIMENSION MAY BE SCALED. REFER UNCLER ITEMS TO THE ENGINEER FOR INTERPRETATION.
- DIMENSIONS SHOWN ARE TO FACE OF CURB UNLESS OTHERWISE NOTED AS B-B (BACK TO BACK) OR E-E (EDGE OF METAL TO EDGE OF METAL).
- CONTRACTOR TO PAINT STRIPE ALL PARKING SPACES SHOWN. PAINT COLOR TO BE WHITE, BARRIER-FREE SPACES TO BE BLUE.
- UPON REQUEST, ELECTRONIC INFORMATION WILL BE PROVIDED FOR SITE LAYOUT PURPOSES. CONTRACTOR SHALL REQUEST ALL INFORMATION IN WRITING THROUGH PROGRESSIVE AE. LAYOUT OF ALL NEW CONSTRUCTION SHALL BE DONE BY A LICENSED SURVEYOR.
- ALL CONCRETE JOINTS SHALL BE TOOLED PER SPECIFICATIONS.
- CONTRACTOR MUST RESTORE AND REPAIR ANY EXISTING CONDITIONS DISTURBED BY CONSTRUCTION, INCLUDING BURIED UTILITIES, LIGHTING, LANDSCAPING, SPRINKLING, ETC. TO CONDITION EQUAL TO OR BETTER THAN BEFORE CONSTRUCTION BEGAN.
- ALL PAVEMENT, CURB & GUTTER, SIDEWALK AND UTILITIES WITHIN PUBLIC RIGHT OF WAY SHALL MEET INGHAM COUNTY ROAD COMMISSION STANDARDS.

ISSUANCE
 SPECIAL LAND USE PERMIT
 6/3/2021

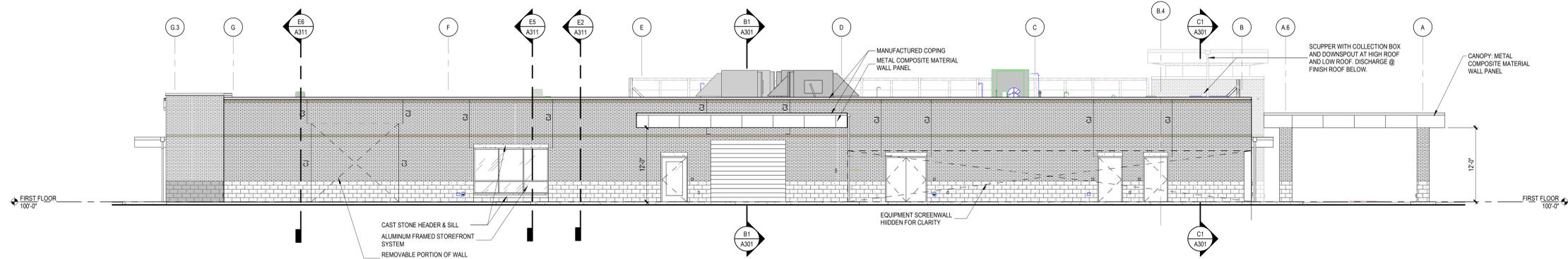
REVISIONS
 NO. DATE DESCRIPTION
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 PROFESSIONAL: CCS
 DRAWN BY: DCM
 CHECKED BY: CCS

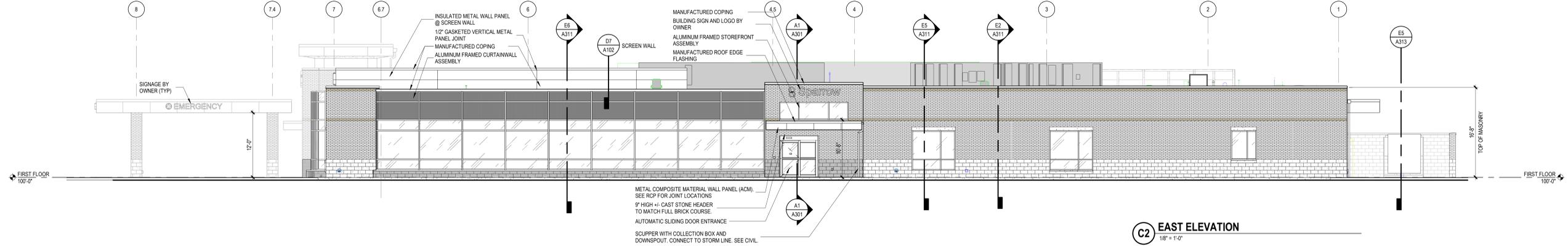
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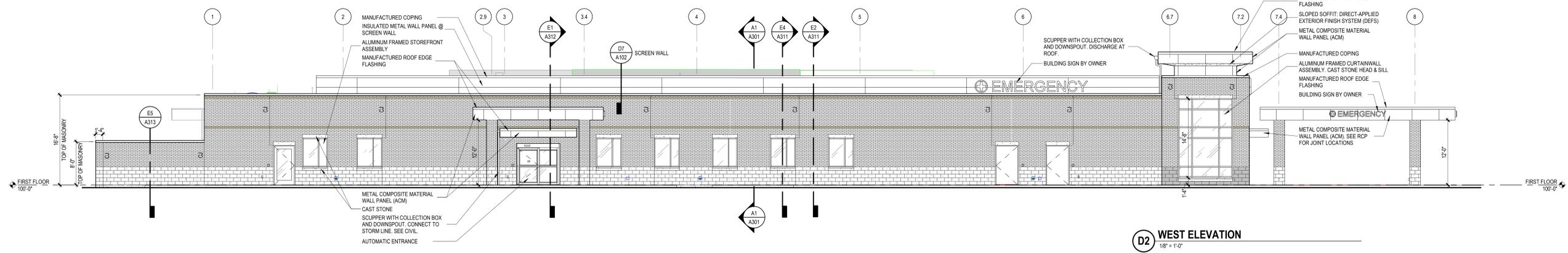
A2 SOUTH ELEVATION
1/8" = 1'-0"



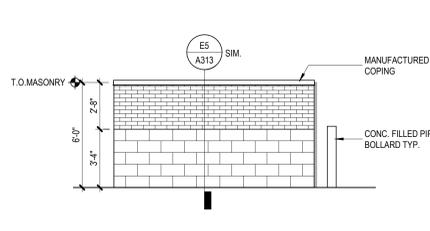
B2 NORTH ELEVATION
1/8" = 1'-0"



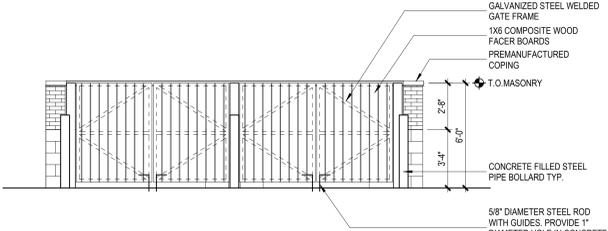
C2 EAST ELEVATION
1/8" = 1'-0"



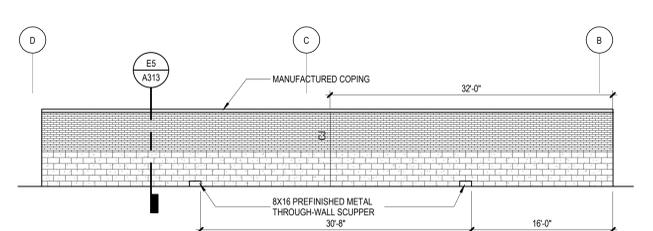
D2 WEST ELEVATION
1/8" = 1'-0"



E4 ELEVATION - TRASH/RECYCLE END WALL
1/4" = 1'-0"



E3 ELEVATION - TRASH/RECYCLE GATE
1/4" = 1'-0"



E1 NORTH ELEVATION @ EQUIPMENT SCREENWALL
1/8" = 1'-0"

EXTERIOR MATERIALS LEGEND	
	CONCRETE MASONRY UNIT - SPLIT FACE (CMU-1); PATTERN AS SHOWN
	CONCRETE MASONRY UNIT - GROUND FACE (CMU-2); OWNER FURNISHED CMU, CONTRACTOR INSTALLED
	FACE BRICK (BR-2) RUNNING BOND
	FACE BRICK (BR-1) RUNNING BOND
	METAL COMPOSITE MATERIAL WALL PANEL (ACM)
	1" INSULATED GLAZING (IG-1)
	1" INSULATED SPANDREL GLAZING (IG-2)
	CONTROL JOINT / MOVEMENT JOINT

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05/04/2021

REVISIONS
NO. DATE DESCRIPTION

FILE NUMBER 70760048
PROJECT MANAGER CJC
PROFESSIONAL JC
DRAWN BY DPN
CHECKED BY

EXTERIOR ELEVATIONS
A201

SPARROW HEALTH SYSTEM
OKEMOS MEDICAL OFFICE BUILDING

progressive ae

1811 4 Mile Rd NE Grand Rapids, MI 49525 616.361.2964 www.progressiveae.com

SPARROW PROJECT NO. 20043

7 6 5 4 3 2 1

A
B
C
D
E



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